

FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

90056109

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-S-40 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.55 g	Lab Sample ID	B6138_18820_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	79.4 %	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:18:53

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	549				ES 2378-TCDD	88.4	
12378-PeCDD	7.32				ES 12378-PeCDD	73.9	
123478-HxCDD	ND	0.565			ES 123478-HxCDD	101	
123678-HxCDD	1.5			J	ES 123678-HxCDD	111	
123789-HxCDD	1.67			J	ES 123789-HxCDD	97.1	
1234678-HpCDD	57.9				ES 1234678-HpCDD	94	
OCDD	890				ES OCDD	69.8	
2378-TCDF	1,940			E	ES 2378-TCDF	88.2	
12378-PeCDF	97.1				ES 12378-PeCDF	91.3	
23478-PeCDF	64.5				ES 23478-PeCDF	92.1	
123478-HxCDF	183				ES 123478-HxCDF	92.1	
123678-HxCDF	45.6				ES 123678-HxCDF	109	
234678-HxCDF	7.86				ES 234678-HxCDF	150	V
123789-HxCDF	ND	0.774			ES 123789-HxCDF	99.8	
1234678-HpCDF	47.5				ES 1234678-HpCDF	114	
1234789-HpCDF	19.4				ES 1234789-HpCDF	103	
OCDF	29				ES OCDF	75.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.9	
Total TCDD	613		617		CS 12347-PeCDD	85.3	
Total PeCDD	9.91		10.9		CS 12346-PeCDF	98.9	
Total HxCDD	24.4		24.8		CS 123469-HxCDF	113	
Total HpCDD	135		135		CS 1234689-HpCDF	129	
Total TCDF	3,770		3,770				
Total PeCDF	238		240				
Total HxCDF	265		265				
Total HpCDF	83		83				
Total PCDD/Fs	**6,060**		**6,070**				
WHO-2005 TEQs							
TEQ: ND=0	798		798				
TEQ: ND=DL/2	798	1.06	798				
TEQ: ND=DL	798	2.11	798				

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Sample ID: 11215131-010522-S-BN-SW-S-40 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.55 g	Lab Sample ID:	B6138_18820_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	79.4 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:18:53

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.636)		12479/12468D	(0.774)		124679/124689D	15		1234679D	76.6	
1379D	(0.636)		12469D	1.65	J	123468D	(0.567)		1234678D	57.9	
1369D	(0.636)		12368D	[0.997]	J	123679/123689D	6.24				
1469D	2.21		12478D	(0.774)		123469D	[0.446]	J			
1247D...[4]	1.42		12379D	(0.774)		123478D	(0.565)				
1378D	1.56		12369D...[3]	(0.774)		123678D	1.5	J			
1268D	(0.636)		12346/12347D	(0.774)		123467D	(0.567)				
1478D	1.23		12378D	7.32		123789D	1.67	J	**Conc.**	135	
1279D	(0.636)		12367D	0.939	J				**EMPC**	135	
1234/1269D	(0.636)		12389D	(0.774)							
1236D	(0.636)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	9.01										
1239D	(0.636)								OCDD	890	
2378D	549										
1278D	47.9										
1267D	[1.85]										
1289D	[2.14]										
Conc.	613		**Conc.**	9.91		**Conc.**	24.4				
EMPC	617		**EMPC**	10.9		**EMPC**	24.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	798	798
TEQ: ND=DL/2	798	798
TEQ: ND=DL	798	798

	Conc.	EMPC
Total PCDD/Fs	6,060	6,070

Checkcode: 023-229-MZH

Report Created: 12-Jan-2022 09:21 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-S-40 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.55 g	Lab Sample ID:	B6138_18820_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	79.4 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:18:53

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.756		13468/12468F	(0.625)		123468F	1.28	J	1234678F	47.5	
1468F	3.05		13678F...[3]	[0.868]	J	124678/134678F	10.8		1234679F	0.707	J
2468F	[1.86]		12368F...[3]	36.7		134679F	(0.666)		1234689F	15.3	
1346/1246F	2.12		14678F	1.81	J	124679F	(0.666)		1234789F	19.4	
1347F...[3]	19.5		13479F	(0.544)		124689F	5.22				
1348F	6.39		13469/12479F	(0.544)		123467F	(0.666)				
1248F...[3]	85.5		12346F	(0.544)		123478F	183				
1268F	27.5		23468/12469F	0.867	J	123678F	45.6				
1467F	4.11		12347F	[1.17]	J	123479F	(0.666)				
1478F	73.7		12348F	7.37		123469F	(0.666)				
1369/1237F	19.3		12378F	97.1		123679F	(0.666)				
2467F	2.4		12678/12367F	25.6		234678F	7.86		**Conc.**	83	
2368F	54		12379F	(0.544)		234678/123689F	0		**EMPC**	83	
1238F...[5]	92.2		12679F	(0.544)		123689F	(0.666)				
1278F	871		23467/12369F	1.08	J	123789F	(0.774)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.687)		23478F	64.5		123789/123489F	0				
1267F	45.3		23478/12489F	0		123489F	11.2		OCDF	29	
2346/1249F	5.83		12489F	(0.544)							
2347/1279F	19.5		12349F	(0.544)							
2348F	170		12389F	3.31							
2378F	1940	E									
2367/3467F	150										
1269F	29.1										
1239F	(0.687)										
1289F	152										
Conc.	3,770		**Conc.**	238		**Conc.**	265				
EMPC	3,770		**EMPC**	240		**EMPC**	265				

Checkcode: 023-229-MZH

Report Created: 12-Jan-2022 09:21 Analyst: pw

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Sample ID: 11215131-010522-S-BN-SW-S-40 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6138_18820_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.55 g	QC Batch No.:	18820
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	11-Jan-2022 21:18
Lab Project No:	B6138	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	549		0.636	549	549	549
12378-PeCDD	7.32		0.774	3.66	7.32	7.32
123478-HxCDD	(0.565)		0.565	(0.0565)	(0.0565)	(0.0565)
123678-HxCDD	1.5	J	0.561	0.15	0.15	0.15
123789-HxCDD	1.67	J	0.576	0.167	0.167	0.167
1234678-HpCDD	57.9		0.635	0.579	0.579	0.579
OCDD	890		1.7	0.89	0.089	0.267
2378-TCDF	1940	E	0.687	194	194	194
12378-PeCDF	97.1		0.57	4.85	4.85	2.91
23478-PeCDF	64.5		0.518	32.3	32.3	19.4
123478-HxCDF	183		0.814	18.3	18.3	18.3
123678-HxCDF	45.6		0.663	4.56	4.56	4.56
234678-HxCDF	7.86		0.516	0.786	0.786	0.786
123789-HxCDF	(0.774)		0.774	(0.0774)	(0.0774)	(0.0774)
1234678-HpCDF	47.5		0.4	0.475	0.475	0.475
1234789-HpCDF	19.4		0.525	0.194	0.194	0.194
OCDF	29		1.03	0.029	0.0029	0.00871

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TEQ Summaries			
EMPC = 0, ND = 0	810	813	798
EMPC = 0, ND = DL / 2	810	813	798
EMPC = 0, ND = DL	810	813	798
EMPC = 0, < J-level = 0	810	812	798
EMPC = EMPC, ND = 0	810	813	798
EMPC = EMPC, ND = DL / 2	810	813	798
EMPC = EMPC, ND = DL	810	813	798
EMPC = EMPC, < J-level = 0	810	812	798

Checkcode: 023-229-MZH

SGS North America - DF v0.99

Sample ID: 11215131-010522-S-BN-SW-S-41 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6138_18820_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	78.3 %	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:06:26

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,420			E	ES 2378-TCDD	85.5	
12378-PeCDD	17.2				ES 12378-PeCDD	76.5	
123478-HxCDD	1.34			J	ES 123478-HxCDD	93.7	
123678-HxCDD	EMPC		3.18		ES 123678-HxCDD	101	
123789-HxCDD	EMPC		2.12	J	ES 123789-HxCDD	86.6	
1234678-HpCDD	172				ES 1234678-HpCDD	85.2	
OCDD	8,420				ES OCDD	78.2	
2378-TCDF	4,650			E	ES 2378-TCDF	89.5	
12378-PeCDF	196				ES 12378-PeCDF	84.7	
23478-PeCDF	145				ES 23478-PeCDF	93.1	
123478-HxCDF	353				ES 123478-HxCDF	89.6	
123678-HxCDF	89.1				ES 123678-HxCDF	100	
234678-HxCDF	15.6				ES 234678-HxCDF	136	
123789-HxCDF	ND	0.84			ES 123789-HxCDF	92.3	
1234678-HpCDF	106				ES 1234678-HpCDF	103	
1234789-HpCDF	45.7				ES 1234789-HpCDF	99	
OCDF	68.2				ES OCDF	72.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.5	
Total TCDD	1,550		1,590		CS 12347-PeCDD	91.4	
Total PeCDD	21.4		25.1		CS 12346-PeCDF	98.9	
Total HxCDD	37.5		45.6		CS 123469-HxCDF	107	
Total HpCDD	378		378		CS 1234689-HpCDF	123	
Total TCDF	9,130		9,130				
Total PeCDF	520		520				
Total HxCDF	514		517				
Total HpCDF	193		194				
Total PCDD/Fs	**20,800**		**20,900**				
WHO-2005 TEQs							
TEQ: ND=0	2010		2010				
TEQ: ND=DL/2	2010	1.11	2010				
TEQ: ND=DL	2010	2.23	2010				

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Sample ID: 11215131-010522-S-BN-SW-S-41 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6138_18820_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	78.3 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:06:26

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.89]		12479/12468D	[1.26]	J	124679/124689D	22.2		1234679D	206	
1379D	[0.686]		12469D	2.37	J	123468D	[1.06]	J	1234678D	172	
1369D	(0.621)		12368D	1.88	J	123679/123689D	13.9				
1469D	2.72		12478D	[1.31]	J	123469D	[0.948]	J			
1247D...[4]	[2.73]		12379D	(0.901)		123478D	1.34	J			
1378D	3.99		12369D...[3]	(0.901)		123678D	[3.18]				
1268D	(0.621)		12346/12347D	(0.901)		123467D	[0.825]	J			
1478D	3.34		12378D	17.2		123789D	[2.12]	J	**Conc.**	378	
1279D	(0.621)		12367D	[1.07]	J				**EMPC**	378	
1234/1269D	(0.621)		12389D	(0.901)							
1236D	(0.621)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[20.4]										
1239D	(0.621)								OCDD	8420	
2378D	1420	E									
1278D	115										
1267D	[5.89]										
1289D	[7.2]										
Conc.	1,550		**Conc.**	21.4		**Conc.**	37.5				
EMPC	1,590		**EMPC**	25.1		**EMPC**	45.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,010	2,010
TEQ: ND=DL/2	2,010	2,010
TEQ: ND=DL	2,010	2,010

	Conc.	EMPC
Total PCDD/Fs	20,800	20,900

Checkcode: 866-080-ZSK

Report Created: 12-Jan-2022 09:21 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-S-41 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received: 07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6138_18820_DF_002	Date Extracted: 10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	78.3 %	QC Batch No.:	18820	Date Analyzed: 11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 22:06:26

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.939		13468/12468F	4.57		123468F	[2.45]	J	1234678F	106	
1468F	8		13678F...[3]	2.11	J	124678/134678F	22.3		1234679F	[1.32]	J
2468F	5.25		12368F...[3]	78.8		134679F	(0.682)		1234689F	41.1	
1346/1246F	6.52		14678F	1.57	J	124679F	(0.682)		1234789F	45.7	
1347F...[3]	47.2		13479F	(0.556)		124689F	11.1				
1348F	13		13469/12479F	(0.556)		123467F	1.27	J			
1248F...[3]	216		12346F	(0.556)		123478F	353				
1268F	69		23468/12469F	3.15		123678F	89.1				
1467F	9.92		12347F	3.95		123479F	(0.682)				
1478F	180		12348F	16.7		123469F	(0.682)				
1369/1237F	46.1		12378F	196		123679F	(0.682)				
2467F	5.41		12678/12367F	58.2		234678F	15.6		**Conc.**	193	
2368F	118		12379F	(0.556)		234678/123689F	0		**EMPC**	194	
1238F...[5]	245		12679F	(0.556)		123689F	(0.682)				
1278F	2090	E	23467/12369F	2.72		123789F	(0.84)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.525)		23478F	145		123789/123489F	0				
1267F	109		23478/12489F	0		123489F	22		OCDF	68.2	
2346/1249F	14.8		12489F	(0.556)							
2347/1279F	48.8		12349F	(0.556)							
2348F	439		12389F	7.5							
2378F	4650	E									
2367/3467F	361										
1269F	75.9										
1239F	7.04										
1289F	370										
Conc.	9,130		**Conc.**	520		**Conc.**	514				
EMPC	9,130		**EMPC**	520		**EMPC**	517				

Checkcode: 866-080-ZSK

Report Created: 12-Jan-2022 09:21 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-S-41 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6138_18820_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18820
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	11-Jan-2022 22:06
Lab Project No:	B6138	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1420	E	0.621	1420	1420	1420
12378-PeCDD	17.2		0.901	8.59	17.2	17.2
123478-HxCDD	1.34	J	0.595	0.134	0.134	0.134
123678-HxCDD	[3.18]		0.594	[0.318]	[0.318]	[0.318]
123789-HxCDD	[2.12]	J	0.695	[0.212]	[0.212]	[0.212]
1234678-HpCDD	172		0.595	1.72	1.72	1.72
OCDD	8420		0.998	8.42	0.842	2.52
2378-TCDF	4650	E	0.525	465	465	465
12378-PeCDF	196		0.609	9.81	9.81	5.88
23478-PeCDF	145		0.507	72.5	72.5	43.5
123478-HxCDF	353		0.762	35.3	35.3	35.3
123678-HxCDF	89.1		0.714	8.91	8.91	8.91
234678-HxCDF	15.6		0.509	1.56	1.56	1.56
123789-HxCDF	(0.84)		0.84	(0.084)	(0.084)	(0.084)
1234678-HpCDF	106		0.309	1.06	1.06	1.06
1234789-HpCDF	45.7		0.372	0.457	0.457	0.457
OCDF	68.2		0.954	0.0682	0.00682	0.0205

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TEQ Summaries			
EMPC = 0, ND = 0	2040	2040	2010
EMPC = 0, ND = DL / 2	2040	2040	2010
EMPC = 0, ND = DL	2040	2040	2010
EMPC = 0, < J-level = 0	2040	2040	2010
EMPC = EMPC, ND = 0	2040	2040	2010
EMPC = EMPC, ND = DL / 2	2040	2040	2010
EMPC = EMPC, ND = DL	2040	2040	2010
EMPC = EMPC, < J-level = 0	2040	2040	2010

Checkcode: 866-080-ZSK

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Sample ID: Method Blank B6138_18820 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18820_DF_TLX	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:31:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.596			ES 2378-TCDD	97.8	
12378-PeCDD	ND	0.587			ES 12378-PeCDD	88.4	
123478-HxCDD	ND	0.592			ES 123478-HxCDD	104	
123678-HxCDD	ND	0.599			ES 123678-HxCDD	114	
123789-HxCDD	ND	0.696			ES 123789-HxCDD	95	
1234678-HpCDD	ND	0.57			ES 1234678-HpCDD	90.6	
OCDD	ND	1.72			ES OCDD	63	
2378-TCDF	ND	0.497			ES 2378-TCDF	94.6	
12378-PeCDF	ND	0.517			ES 12378-PeCDF	97.8	
23478-PeCDF	ND	0.516			ES 23478-PeCDF	95.2	
123478-HxCDF	ND	0.448			ES 123478-HxCDF	92.7	
123678-HxCDF	ND	0.393			ES 123678-HxCDF	114	
234678-HxCDF	ND	0.307			ES 234678-HxCDF	152	V
123789-HxCDF	ND	0.538			ES 123789-HxCDF	101	
1234678-HpCDF	ND	0.334			ES 1234678-HpCDF	112	
1234789-HpCDF	ND	0.384			ES 1234789-HpCDF	106	
OCDF	ND	1.12			ES OCDF	71.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.5	
Total TCDD	ND	0.596	ND		CS 12347-PeCDD	93	
Total PeCDD	ND	0.587	ND		CS 12346-PeCDF	99.4	
Total HxCDD	ND	0.628	ND		CS 123469-HxCDF	106	
Total HpCDD	ND	0.57	ND		CS 1234689-HpCDF	118	
Total TCDF	ND	0.497	ND				
Total PeCDF	ND	0.517	ND				
Total HxCDF	ND	0.404	ND				
Total HpCDF	ND	0.357	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.887	0.887	0.887				
TEQ: ND=DL	1.77	1.77	1.77				

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Sample ID: Method Blank B6138_18820 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18820_DF_TLX	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:31:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.596)		12479/12468D	(0.587)		124679/124689D	(0.628)		1234679D	(0.57)	
1379D	(0.596)		12469D	(0.587)		123468D	(0.628)		1234678D	(0.57)	
1369D	(0.596)		12368D	(0.587)		123679/123689D	(0.628)				
1469D	(0.596)		12478D	(0.587)		123469D	(0.628)				
1247D...[4]	(0.596)		12379D	(0.587)		123478D	(0.592)				
1378D	(0.596)		12369D...[3]	(0.587)		123678D	(0.599)				
1268D	(0.596)		12346/12347D	(0.587)		123467D	(0.628)				
1478D	(0.596)		12378D	(0.587)		123789D	(0.696)		**Conc.**	0	
1279D	(0.596)		12367D	(0.587)					**EMPC**	0	
1234/1269D	(0.596)		12389D	(0.587)							
1236D	(0.596)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.596)									**(pg/g)**	
1239D	(0.596)								OCDD	(1.72)	
2378D	(0.596)										
1278D	(0.596)										
1267D	(0.596)										
1289D	(0.596)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.887	0.887
TEQ: ND=DL	1.77	1.77

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 844-424-LBM

Report Created: 12-Jan-2022 09:21 Analyst: pw

Sample ID: Method Blank B6138_18820 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18820_DF_TLX	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:31:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.497)		13468/12468F	(0.743)		123468F	(0.404)		1234678F	(0.334)	
1468F	(0.497)		13678F...[3]	(0.517)		124678/134678F	(0.404)		1234679F	(0.357)	
2468F	(0.497)		12368F...[3]	(0.517)		134679F	(0.404)		1234689F	(0.357)	
1346/1246F	(0.497)		14678F	(0.517)		124679F	(0.404)		1234789F	(0.384)	
1347F...[3]	(0.497)		13479F	(0.517)		124689F	(0.404)				
1348F	(0.497)		13469/12479F	(0.517)		123467F	(0.404)				
1248F...[3]	(0.497)		12346F	(0.517)		123478F	(0.448)				
1268F	(0.497)		23468/12469F	(0.517)		123678F	(0.393)				
1467F	(0.497)		12347F	(0.517)		123479F	(0.404)				
1478F	(0.497)		12348F	(0.517)		123469F	(0.404)				
1369/1237F	(0.497)		12378F	(0.517)		123679F	(0.404)				
2467F	(0.497)		12678/12367F	(0.517)		234678F	(0.307)		**Conc.**	0	
2368F	(0.497)		12379F	(0.517)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.497)		12679F	(0.517)		123689F	(0.404)				
1278F	(0.497)		23467/12369F	(0.517)		123789F	(0.538)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.497)		23478F	(0.516)		123789/123489F	0				
1267F	(0.497)		23478/12489F	0		123489F	(0.404)		OCDF	(1.12)	
2346/1249F	(0.497)		12489F	(0.517)							
2347/1279F	(0.497)		12349F	(0.517)							
2348F	(0.497)		12389F	(0.517)							
2378F	(0.497)										
2367/3467F	(0.497)										
1269F	(0.497)										
1239F	(0.497)										
1289F	(0.497)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 844-424-LBM

Report Created: 12-Jan-2022 09:21 Analyst: pw

Sample ID: Method Blank B6138_18820 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18820_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18820
Date Collected:	n/a	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	11-Jan-2022 20:31
Lab Project No:	B6138	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.596)		0.596	(0.596)	(0.596)	(0.596)
12378-PeCDD	(0.587)		0.587	(0.294)	(0.587)	(0.587)
123478-HxCDD	(0.592)		0.592	(0.0592)	(0.0592)	(0.0592)
123678-HxCDD	(0.599)		0.599	(0.0599)	(0.0599)	(0.0599)
123789-HxCDD	(0.696)		0.696	(0.0696)	(0.0696)	(0.0696)
1234678-HpCDD	(0.57)		0.57	(0.0057)	(0.0057)	(0.0057)
OCDD	(1.72)		1.72	(0.00172)	(0.000172)	(0.000517)
2378-TCDF	(0.497)		0.497	(0.0497)	(0.0497)	(0.0497)
12378-PeCDF	(0.517)		0.517	(0.0259)	(0.0259)	(0.0155)
23478-PeCDF	(0.516)		0.516	(0.258)	(0.258)	(0.155)
123478-HxCDF	(0.448)		0.448	(0.0448)	(0.0448)	(0.0448)
123678-HxCDF	(0.393)		0.393	(0.0393)	(0.0393)	(0.0393)
234678-HxCDF	(0.307)		0.307	(0.0307)	(0.0307)	(0.0307)
123789-HxCDF	(0.538)		0.538	(0.0538)	(0.0538)	(0.0538)
1234678-HpCDF	(0.334)		0.334	(0.00334)	(0.00334)	(0.00334)
1234789-HpCDF	(0.384)		0.384	(0.00384)	(0.00384)	(0.00384)
OCDF	(1.12)		1.12	(0.00112)	(0.000112)	(0.000336)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.798	0.944	0.887
EMPC = 0, ND = DL	1.6	1.89	1.77
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.798	0.944	0.887
EMPC = EMPC, ND = DL	1.6	1.89	1.77
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 844-424-LBM

Sample ID: 0_18820_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18820_DF	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:21:29

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.44				ES 2378-TCDD	93.5	
12378-PeCDD	45.2				ES 12378-PeCDD	85.6	
123478-HxCDD	55.9				ES 123478-HxCDD	99.3	
123678-HxCDD	53.8				ES 123678-HxCDD	107	
123789-HxCDD	51.9				ES 123789-HxCDD	92	
1234678-HpCDD	56.9				ES 1234678-HpCDD	90.1	
OCDD	112				ES OCDD	61.9	
2378-TCDF	11.4				ES 2378-TCDF	90.6	
12378-PeCDF	56.8				ES 12378-PeCDF	89.1	
23478-PeCDF	61.6				ES 23478-PeCDF	90.7	
123478-HxCDF	56.7				ES 123478-HxCDF	91.5	
123678-HxCDF	56.9				ES 123678-HxCDF	107	
234678-HxCDF	55				ES 234678-HxCDF	143	
123789-HxCDF	52.6				ES 123789-HxCDF	95.9	
1234678-HpCDF	55.6				ES 1234678-HpCDF	108	
1234789-HpCDF	52.8				ES 1234789-HpCDF	101	
OCDF	108				ES OCDF	69.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.2	
Total TCDD	47		47		CS 12347-PeCDD	89.9	
Total PeCDD	69.9		69.9		CS 12346-PeCDF	95	
Total HxCDD	175		175		CS 123469-HxCDF	108	
Total HpCDD	70.1		70.1		CS 1234689-HpCDF	120	
Total TCDF	71.9		71.9				
Total PeCDF	254		254				
Total HxCDF	350		350				
Total HpCDF	108		108				
Total PCDD/Fs	**1,370**		**1,370**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.542	116				
TEQ: ND=DL	116	1.08	116				

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Sample ID: 0_18820_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6138	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18820_DF	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:08:55

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.24				ES 2378-TCDD	98.6	
12378-PeCDD	44.7				ES 12378-PeCDD	88.2	
123478-HxCDD	53.6				ES 123478-HxCDD	109	
123678-HxCDD	55.5				ES 123678-HxCDD	111	
123789-HxCDD	52.1				ES 123789-HxCDD	102	
1234678-HpCDD	54.8				ES 1234678-HpCDD	96.3	
OCDD	110				ES OCDD	63.2	
2378-TCDF	11.8				ES 2378-TCDF	94.9	
12378-PeCDF	57.1				ES 12378-PeCDF	89.8	
23478-PeCDF	59.8				ES 23478-PeCDF	89.3	
123478-HxCDF	56.5				ES 123478-HxCDF	101	
123678-HxCDF	55.6				ES 123678-HxCDF	117	
234678-HxCDF	52.7				ES 234678-HxCDF	159	
123789-HxCDF	53.7				ES 123789-HxCDF	104	
1234678-HpCDF	52.5				ES 1234678-HpCDF	121	
1234789-HpCDF	54.1				ES 1234789-HpCDF	107	
OCDF	113				ES OCDF	69.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87	
Total TCDD	47		47		CS 12347-PeCDD	92.2	
Total PeCDD	69.1		69.1		CS 12346-PeCDF	95.9	
Total HxCDD	175		175		CS 123469-HxCDF	116	
Total HpCDD	68.6		68.6		CS 1234689-HpCDF	125	
Total TCDF	70		70				
Total PeCDF	254		254				
Total HxCDF	344		344				
Total HpCDF	107		107				
Total PCDD/Fs	**1,360**		**1,360**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.572	114				
TEQ: ND=DL	114	1.14	114				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample DUP

Method 1613B

Sample ID: 0_18820_OPR001

Analyte	OPR1_18820_DF pg/uL	OPR2_18820_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	9.44	9.24	2.1%
1,2,3,7,8-PeCDD	45.2	44.7	1.3%
1,2,3,4,7,8-HxCDD	55.9	53.6	4.2%
1,2,3,6,7,8-HxCDD	53.8	55.5	3.1%
1,2,3,7,8,9-HxCDD	51.9	52.1	0.4%
1,2,3,4,6,7,8-HpCDD	56.9	54.8	3.8%
OCDD	112	110	1.7%
2,3,7,8-TCDF	11.4	11.8	2.9%
1,2,3,7,8-PeCDF	56.8	57.1	0.6%
2,3,4,7,8-PeCDF	61.6	59.8	3.0%
1,2,3,4,7,8-HxCDF	56.7	56.5	0.5%
1,2,3,6,7,8-HxCDF	56.9	55.6	2.2%
2,3,4,6,7,8-HxCDF	55	52.7	4.2%
1,2,3,7,8,9-HxCDF	52.6	53.7	2.0%
1,2,3,4,6,7,8-HpCDF	55.6	52.5	5.7%
1,2,3,4,7,8,9-HpCDF	52.8	54.1	2.5%
OCDF	108	113	4.9%
Totals			
Total TCDD	47	47	0.1%
Total PeCDD	69.9	69.1	1.1%
Total HxCDD	175	175	0.1%
Total HpCDD	70.1	68.6	2.2%
Total TCDF	71.9	70	2.7%
Total PeCDF	254	254	0.1%
Total HxCDF	350	344	1.7%
Total HpCDF	108	107	1.7%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6138*
Requested TAT:	*3 business days*
Projected due date:	*12-Jan-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-S-40	B6138_001	Soil	1	4 oz	05-Jan-22	10:35	1.3	1	4905 2704 3561
11215131-010522-S-BN-SW-S-41	B6138_002	Soil	1	4 oz	05-Jan-22	10:45	1.3	1	4905 2704 3561

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* AK 7 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6138

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Rema
REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
None

ANALYSIS & METHOD
M1613B (D/F)

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B (D/F)	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-010522-S-BN-SW-S-4	1-5-22	1035	C	S	4 oz	X				1	RUSH
11215131-010522-S-BN-SW-S-41	"	1045	"	"	4 oz	X				1	RUSH
11215131-010522-S-BN-SW-D-19	"	1055	"	"	4 oz	X				1	
11215131-010522-S-BN-SW-B-19	"	1105	"	"	4 oz	X				1	
11215131-010522-S-BN-SW-B-MIII	↓	1115	↓	↓	4 oz	X				1	HOLD
					4 oz						
					4 oz						
					4 oz						
					4 oz						
					4 oz						

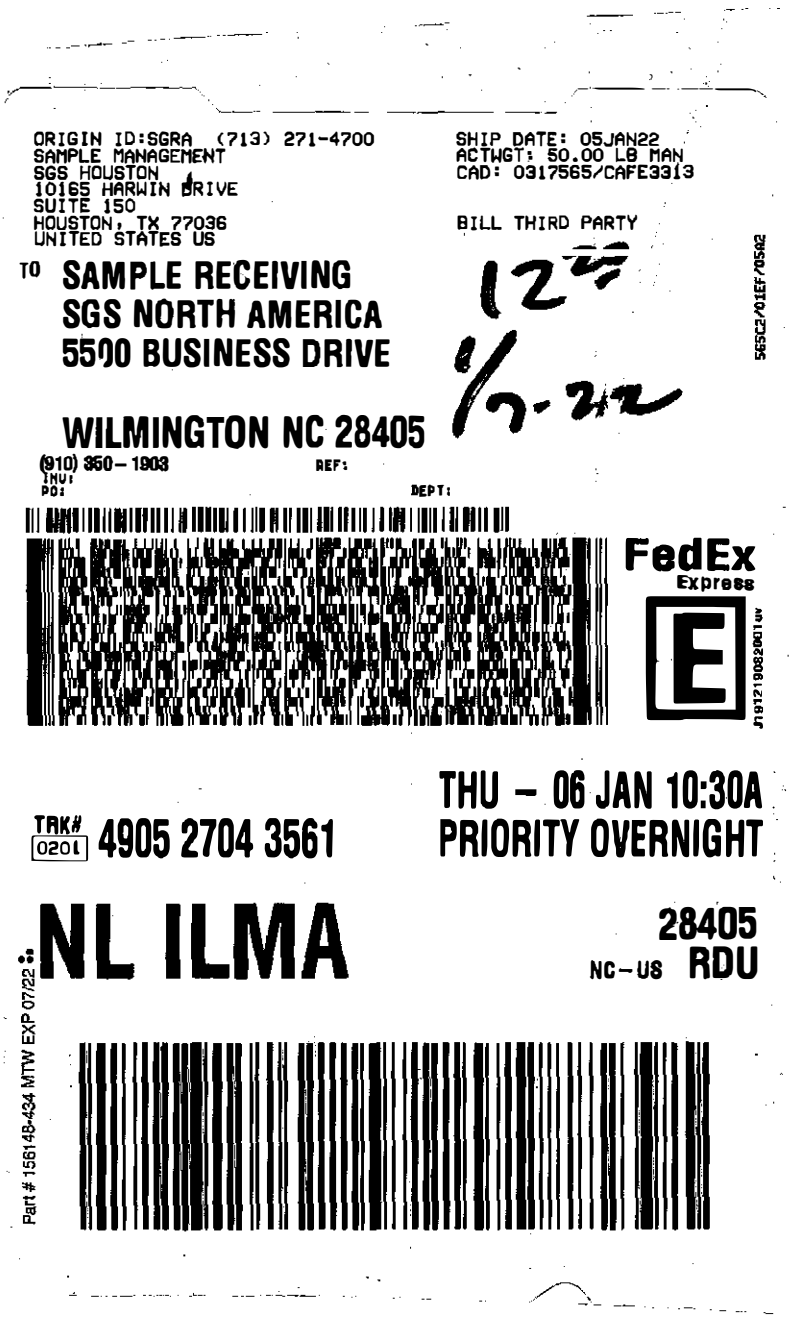
SEE SSOW

COLLECTED/RELINQUISHED BY (1): Breanna Novak	DATE: 1-5-22	TIME: 1240	RECEIVED BY: Eddie Custo
RELINQUISHED BY (2): Eddie Custo	DATE: 1-5-22	TIME: 1405	RECEIVED BY: Joey Nee
RELINQUISHED BY (3): Joey Nee	DATE: 1/5/22	TIME: 1405	RECEIVED BY:

1/5/22 1405

RECEIVED BY LABORATORY: DATE: 1-7-22 TIME: 1220
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 1.3°
TRACKING #:

SGS NORTH AMERICA INC. ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs
Member of the SGS Group (SGS SA)



ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 05JAN22
ACTWGT: 50.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405

(910) 350-1903 REF:
INV:
PO: DEPT:

12
1/7-22

565C2/01EF/0542

FedEx Express

J191219082001uv

TRK# 0201 4905 2704 3561

THU - 06 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

no custody seal
on ice
TB

Project Initiation Form

Project Number: B6138

Initiation Date: 07-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: VE TDS 1/10/22 1/11/22

HRMS Lab: ZDW 1/12/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: 1/12/22

PM Initials: akornegay Date: 07-Jan-2022

SGS

Methods: PCB / PAH; PCDD/F / WHO-2; QUANTICS / USV; DoD PCDD/F / PEST

Extraction Type: SDS / CLL; TALEX Carbon SPE

Solid

Final Volume: 20µL

Batch# 18820

Split: 1/2 1/4

Extract Initial/Date: JRH 1/10/22

Cleanup Initial/Date: TB 1/11/22

Transfer Init/Date: TB 1/11/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6138_18820_001	4	13.30				gray/brown, clay-like
B6138_18820_002	5	12.83				gray/brown, JRH 1/10/22 clay-like
B6146_18820_001	6	12.35				gray, clay-like
B6146_18820_002	7	13.10				gray, clay-like
B6146_18820_003	8	13.39		TB 1/12/22		gray, clay-like
MB1_18820	1	10.00				Sodium Sulfate
OPR1_18820	2	10.00				Sodium sulfate
OPR2_18820	3	10.00				Sodium JRH 1/10/22 sulfate

RGB 1/11/22

Supply IDs

Toluene	STL1423
MeCHL	STL14.21
Florisil	SPLS-70
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-76
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-75
Sodium Sulfate	SPLS-28c

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 1/12/22
GPC Date/Initial:	1/12/22
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1500 / Stop: 0900
HEX	Start: / Stop:
DCM	Start: / Stop:

TB 1/12/22

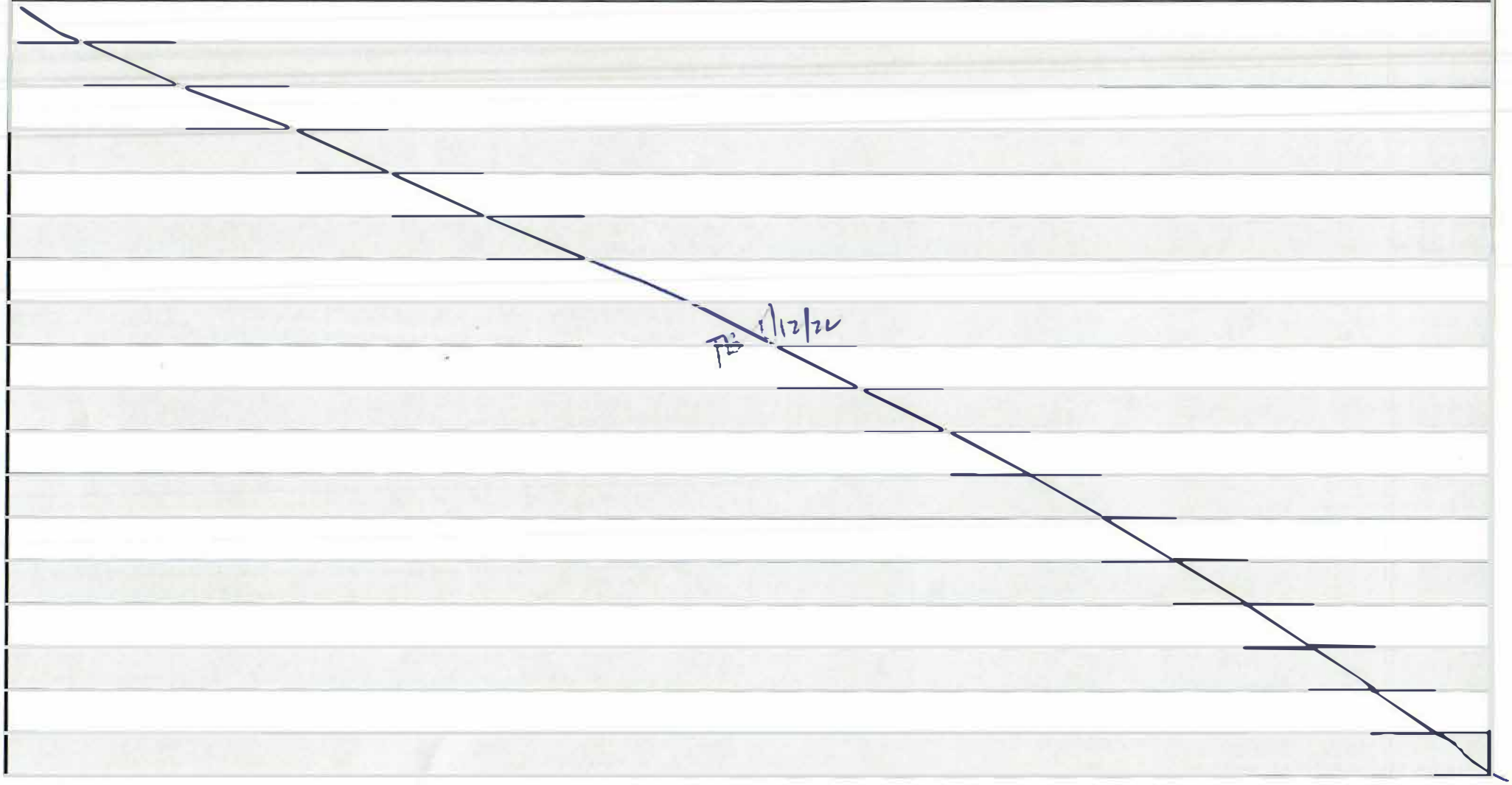
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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18820

Inter-Department Communication Sheet



SGS

Wt. Volume Results

Batch #: 18820

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6138_001	0.8	5.16	4.26	79.36%	79.36%			12.6	13.3	10.55
B6138_002	0.8	3.98	3.29	78.30%	78.30%			12.77	12.83	10.05
B6146_001	0.8	4.06	3.56	84.66%	84.66%			11.81	12.35	10.46
B6146_002	0.8	4.66	3.89	80.05%	80.05%			12.49	13.1	10.49
B6146_003	0.8	3.9	3.16	76.13%	76.13%			13.14	13.39	10.19

TB 1/12/22

TB 1/12/22

% Solid Determination WorkSheet

SGS

Batch: 18820

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	109 DWE	Comments
B6138_18820_001	0.80	5.16	4.26/4.26	12.60	
B6138_18820_002	0.80	3.98	3.29/3.29	12.77	
B6146_18820_001	0.80	4.06	3.56/3.56	11.81	
B6146_18820_002	0.80	4.66	3.89/3.89	12.49	
B6146_18820_003	0.80	3.90	3.16/3.16	13.14	
Date/Initials:					

1/14/21

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18820

Lab Sample ID	Spiker Initials/Date: JRH 1/10/22	JRH 1/10/22	JRH 1/10/22	1/11/22	1/11/22		
	DIF An-A	DIF An-B	DIF ES	DIF CS	DIF JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6138_18820_001	—	—	KE	JRH	KE		
B6138_18820_002	—	—	KE	JRH	KE		
B6146_18820_001	—	—	KE	JRH	KE		
B6146_18820_002	—	—	KE	JRH	KE		
B6146_18820_003	—	—	KE	JRH	KE		
MB1_18820	—	—	KE	JRH	KE		
OPR1_18820	KE	KE	KE	JRH	KE		
OPR2_18820	KE	KE	KE	JRH	KE		

1/12/22

Standard Information

Pipette ID							
Spike ID	DIF An-A	DIF An-B	DIF ES	DIF CS	DIF JS		
SIL #	An-2-S	QS-187-2	QB-209	25.338.1	25.309.1		
Concentration	10 PG/µL	10 PG/µL	100 PG/µL	100 PG/µL	100 PG/µL		
Expiration Date	7/a/22	6/22/22	8/2022	11/16/22.	10/8/22.		

JRH 1/11/22

REVIEWED
Tamara Burkamper , 1/12/2022, 10:55:34 AM

SGS Environmental Services — Run Log

Project: B6138_18820_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
10	220111R10	3	CS3_220111_DF_RB ✓	1.00	SIL 25-347-1	PSW	198-293	11-Jan-2022	16:34:51
11	220111R11	28	OPR1_18820_DF	1.00	0_18820_OPR001	PSW	179-349	11-Jan-2022	17:21:29
12	220111R12	29	OPR2_18820_DF	1.00	0_18820_OPR002	PSW	411-693	11-Jan-2022	18:08:55
14	220111R14	2	SBS_220111_DF_RC	1.00	SIL 20-61-1	PSW	006-315	11-Jan-2022	19:43:51
15	220111R15	27	MB1_18820_DF_TLX	10.00	Method Blank	PSW	844-424	11-Jan-2022	20:31:25
16	220111R16	30	B6138_18820_DF_001	10.55	11215131-010522-S-BN-SW-S-40	PSW	023-229	11-Jan-2022	21:18:53
17	220111R17	31	B6138_18820_DF_002 ✓	10.05	11215131-010522-S-BN-SW-S-41	PSW	866-080	11-Jan-2022	22:06:26

REVIEWED
paul_walton , 1/12/2022, 9:28:41 AM

Lab ID: MB1_18820_DF_TLX **Acq'd:** 11 Jan 2022 20:31 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6138_18820 **UTP:** 12-Jan-2022 09:20:28 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 844-424-LBM

Datafile: 220111R15 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	7027.218	0.596
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	6157.476	0.587
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	6465.478	0.592
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.08	-	6465.478	0.599
123789-HxCDD	NotFnd		1.0117	-		-	-	-	1.02	-	6465.478	0.696
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	6317.333	0.57
OCDD	NotFnd		1.0003	-		-	-	-	1.07	-	8400.888	1.72
2378-TCDF	NotFnd		1.0008	-		-	-	-	0.96	-	6086.435	0.497
12378-PeCDF	NotFnd		1.0005	-		-	-	-	0.95	-	6624.494	0.517
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	6624.494	0.516
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.23	-	6176.395	0.448
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	6176.395	0.393
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	6176.395	0.307
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	6176.395	0.538
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	5740.803	0.334
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	5740.803	0.384
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	7391.574	1.12

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.48		1.0251	1.0254	+0.5	1.92E+07	0.75	Y	1.03	97.8
ES 12378-PeCDD	32.99		1.2290	1.2309	+3.8	1.73E+07	1.58	Y	1.03	88.4
ES 123478-HxCDD	36.91		0.9915	0.9915	0	1.70E+07	1.28	Y	0.99	104
ES 123678-HxCDD	37.03		0.9947	0.9946	-0.2	1.82E+07	1.25	Y	0.97	114
ES 123789-HxCDD	37.33		1.0028	1.0029	+0.2	1.76E+07	1.31	Y	1.12	95
ES 1234678-HpCDD	40.13		1.0771	1.0781	+2.4	1.48E+07	1.11	Y	0.99	90.6
ES OCDD	42.62		1.1441	1.1450	+2.3	1.61E+07	0.89	Y	0.78	63
ES 2378-TCDF	26.58		1.0562	1.0569	+1.1	2.85E+07	0.80	Y	1.08	94.6
ES 12378-PeCDF	31.51		1.2501	1.2527	+4.9	2.54E+07	1.54	Y	0.93	97.8
ES 23478-PeCDF	32.65		1.2950	1.2980	+5.9	2.44E+07	1.54	Y	0.92	95.2
ES 123478-HxCDF	35.94		0.9654	0.9653	-0.2	1.74E+07	0.49	Y	1.14	92.7
ES 123678-HxCDF	36.08		0.9691	0.9692	+0.2	2.43E+07	0.54	Y	1.30	114
ES 234678-HxCDF	36.73	V	0.9867	0.9866	-0.2	3.01E+07	0.54	Y	1.20	152
ES 123789-HxCDF	37.73		1.0134	1.0134	0	1.89E+07	0.52	Y	1.14	101
ES 1234678-HpCDF	39.22		1.0527	1.0535	+1.9	1.75E+07	0.44	Y	0.95	112
ES 1234789-HpCDF	40.57		1.0887	1.0897	+2.4	1.48E+07	0.47	Y	0.85	106
ES OCDF	42.79		1.1487	1.1495	+2.1	2.17E+07	0.89	Y	0.93	71.4

Lab ID: MB1_18820_DF_TLX | **Acq'd:** 11 Jan 2022 20:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6138_18820 | **UTP:** 12-Jan-2022 09:20:28 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 844-424-LBM

Datafile: 220111R15 | **Report:** 12 Jan 2022 09:21 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.80		-	-	-	1.90E+07	0.83	Y	-	-
JS 1234-TCDF	25.15		-	-	-	2.78E+07	0.76	Y	-	-
JS 123467-HxCDD	37.23		-	-	-	8.21E+06	1.31	Y	-	-
CS 37Cl-2378-TCDD	27.50		1.0260	1.0262	+0.3	8.40E+06	n/a	-	1.31	84.5
CS 12347-PeCDD	32.48		1.2102	1.2121	+3.7	1.58E+07	1.50	Y	0.89	93
CS 12346-PeCDF	30.97		1.2289	1.2313	+4.5	2.40E+07	1.54	Y	0.87	99.4
CS 123469-HxCDF	36.39		0.9774	0.9774	0	1.90E+07	0.55	Y	1.09	106
CS 1234689-HpCDF	39.63		1.0636	1.0646	+2.4	1.67E+07	0.45	Y	0.86	118
~~SS 37Cl-2378-TCDD~~	~~27.50~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~8.40E+06~~	~~n/a~~		~~1.26~~	~~86.8~~
~~SS 12347-PeCDD~~	~~32.48~~		~~1.2102~~	~~1.2121~~	~~+3.7~~	~~1.58E+07~~	~~1.50~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~30.97~~		~~1.2289~~	~~1.2313~~	~~+4.5~~	~~2.40E+07~~	~~1.54~~	~~Y~~	~~0.93~~	~~101~~
~~SS 123469-HxCDF~~	~~36.39~~		~~0.9774~~	~~0.9774~~	~~0~~	~~1.90E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~92.8~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.67E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~105~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18820_DF_TLX **Acq'd: 11 Jan 2022 20:31 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6138_18820 **UTP: 12-Jan-2022 09:20:28 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 844-424-LBM**

Datafile: 220111R15 **Report: 12 Jan 2022 09:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8626						1.34		7027.218	0.596
1379-TCDD	NotFnd		0.8763						1.34		7027.218	0.596
1369-TCDD	NotFnd		0.8929						1.34		7027.218	0.596
1469-TCDD	NotFnd		0.9227						1.34		7027.218	0.596
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		7027.218	0.596
1378-TCDD	NotFnd		0.9389						1.34		7027.218	0.596
1268-TCDD	NotFnd		0.9463						1.34		7027.218	0.596
1478-TCDD	NotFnd		0.9556						1.34		7027.218	0.596
1279-TCDD	NotFnd		0.9620						1.34		7027.218	0.596
1234/1269-TCDD	NotFnd		0.9753						1.34		7027.218	0.596
1236-TCDD	NotFnd		0.9806						1.34		7027.218	0.596
1237/1238-TCDD	NotFnd		0.9900						1.34		7027.218	0.596
1239-TCDD	NotFnd		0.9951						1.34		7027.218	0.596
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**7027.218**	**0.596**
1278-TCDD	NotFnd		1.0131						1.34		7027.218	0.596
1267-TCDD	NotFnd		1.0182						1.34		7027.218	0.596
1289-TCDD	NotFnd		1.0373						1.34		7027.218	0.596
12479/12468-PeCDD	NotFnd		0.9237						1.06		6157.476	0.587
12469-PeCDD	NotFnd		0.9402						1.06		6157.476	0.587
12368-PeCDD	NotFnd		0.9572						1.06		6157.476	0.587
12478-PeCDD	NotFnd		0.9629						1.06		6157.476	0.587
12379-PeCDD	NotFnd		0.9660						1.06		6157.476	0.587
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		6157.476	0.587
12346/12347-PeCDD	NotFnd		0.9854						1.06		6157.476	0.587
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**6157.476**	**0.587**
12367-PeCDD	NotFnd		1.0034						1.06		6157.476	0.587
12389-PeCDD	NotFnd		1.0141						1.06		6157.476	0.587
124679/124689-HxCDD	NotFnd		0.9542						1.05		6465.478	0.628
123468-HxCDD	NotFnd		0.9720						1.05		6465.478	0.628
123679/123689-HxCDD	NotFnd		0.9798						1.05		6465.478	0.628
123469-HxCDD	NotFnd		0.9836						1.05		6465.478	0.628
123478-HxCDD	NotFnd		**1.0004**						1.06		**6465.478**	**0.592**
123678-HxCDD	NotFnd		**1.0035**						1.08		**6465.478**	**0.599**
123467-HxCDD	NotFnd		1.0089						1.05		6465.478	0.628
123789-HxCDD	NotFnd		**1.0117**						1.02		**6465.478**	**0.696**

Lab ID: MB1_18820_DF_TLX | **Acq'd:** 11 Jan 2022 20:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6138_18820 | **UTP:** 12-Jan-2022 09:20:28 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 844-424-LBM

Datafile: 220111R15 | **Report:** 12 Jan 2022 09:21 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9842						0.97		6317.333	0.57
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**6317.333**	**0.57**
OCDD	**NotFnd**		**1.0003**						**1.07**		**8400.888**	**1.72**
OCDD-a	NotFnd		1.0002						0.07		12487.108	41.5
1368-TCDF	NotFnd		0.8080						0.96		6086.435	0.497
1468-TCDF	NotFnd		0.8299						0.96		6086.435	0.497
2468-TCDF	NotFnd		0.8555						0.96		6086.435	0.497
1346/1246-TCDF	NotFnd		0.8688						0.96		6086.435	0.497
1347/1378/1247-TCDF	NotFnd		0.8753						0.96		6086.435	0.497
1348-TCDF	NotFnd		0.8863						0.96		6086.435	0.497
1248/1367/1379-TCDF	NotFnd		0.8915						0.96		6086.435	0.497
1268-TCDF	NotFnd		0.9065						0.96		6086.435	0.497
1467-TCDF	NotFnd		0.9119						0.96		6086.435	0.497
1478-TCDF	NotFnd		0.9186						0.96		6086.435	0.497
1369/1237-TCDF	NotFnd		0.9331						0.96		6086.435	0.497
2467-TCDF	NotFnd		0.9384						0.96		6086.435	0.497
2368-TCDF	NotFnd		0.9445						0.96		6086.435	0.497
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9476						0.96		6086.435	0.497
1278-TCDF	NotFnd		0.9656						0.96		6086.435	0.497
1349-TCDF	NotFnd		0.9703						0.96		6086.435	0.497
1267-TCDF	NotFnd		0.9765						0.96		6086.435	0.497
2346/1249-TCDF	NotFnd		0.9836						0.96		6086.435	0.497
2347/1279-TCDF	NotFnd		0.9921						0.96		6086.435	0.497
2348-TCDF	NotFnd		0.9965						0.96		6086.435	0.497
2378-TCDF	**NotFnd**		**1.0008**						**0.96**		**6086.435**	**0.497**
2367/3467-TCDF	NotFnd		1.0150						0.96		6086.435	0.497
1269-TCDF	NotFnd		1.0243						0.96		6086.435	0.497
1239-TCDF	NotFnd		1.0345						0.96		6086.435	0.497
1289-TCDF	NotFnd		1.0780						0.96		6086.435	0.497
13468/12468-PeCDF	NotFnd		0.9095						0.94		9524.196	0.743
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		6624.494	0.517
12368/13478/12478-PeCDF	NotFnd		0.9646						0.94		6624.494	0.517
14678-PeCDF	NotFnd		0.9678						0.94		6624.494	0.517
13479-PeCDF	NotFnd		0.9710						0.94		6624.494	0.517
13469/12479-PeCDF	NotFnd		0.9790						0.94		6624.494	0.517
12346-PeCDF	NotFnd		0.9835						0.94		6624.494	0.517

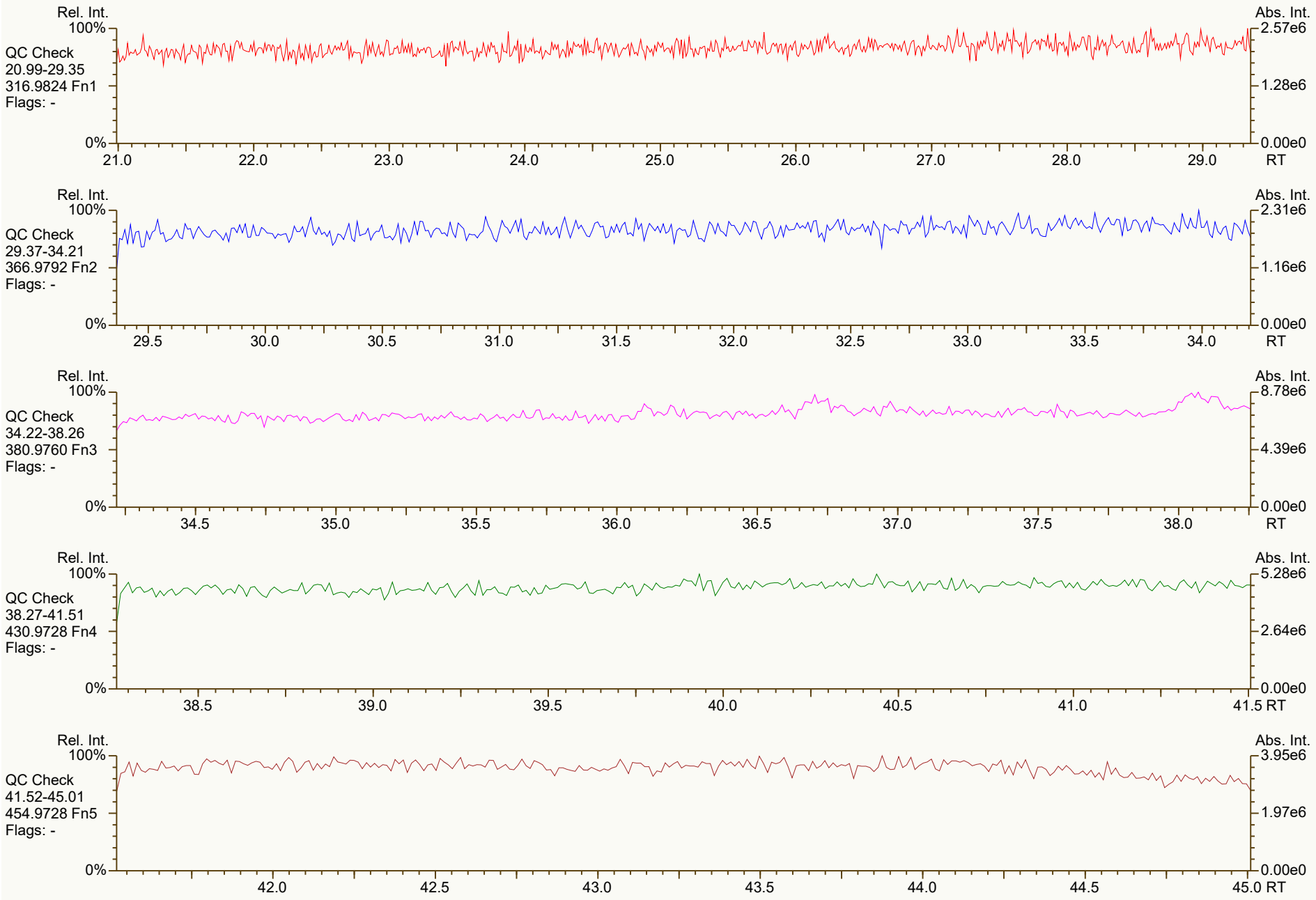
Lab ID: MB1_18820_DF_TLX **Acq'd:** 11 Jan 2022 20:31 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6138_18820 **UTP:** 12-Jan-2022 09:20:28 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 844-424-LBM

Datafile: 220111R15 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		6624.494	0.517
12347-PeCDF	NotFnd		0.9888						0.94		6624.494	0.517
12348-PeCDF	NotFnd		0.9939						0.94		6624.494	0.517
12378-PeCDF	**NotFnd**		**1.0005**						**0.95**		**6624.494**	**0.517**
12678/12367-PeCDF	NotFnd		1.0094						0.94		6624.494	0.517
12379-PeCDF	NotFnd		1.0149						0.94		6624.494	0.517
12679-PeCDF	NotFnd		0.9925						0.94		6624.494	0.517
23467/12369-PeCDF	NotFnd		0.9965						0.94		6624.494	0.517
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**6624.494**	**0.516**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		6624.494	0.517
12349-PeCDF	NotFnd		1.0104						0.94		6624.494	0.517
12389-PeCDF	NotFnd		1.0336						0.94		6624.494	0.517
123468-HxCDF	NotFnd		0.9618						1.16		6176.395	0.404
124678/134678-HxCDF	NotFnd		0.9673						1.16		6176.395	0.404
134679-HxCDF	NotFnd		0.9737						1.16		6176.395	0.404
124679-HxCDF	NotFnd		0.9793						1.16		6176.395	0.404
124689-HxCDF	NotFnd		0.9855						1.16		6176.395	0.404
123467-HxCDF	NotFnd		0.9972						1.16		6176.395	0.404
123478-HxCDF	**NotFnd**		**1.0004**						**1.23**		**6176.395**	**0.448**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**6176.395**	**0.393**
123479-HxCDF	NotFnd		1.0049						1.16		6176.395	0.404
123469-HxCDF	NotFnd		1.0089						1.16		6176.395	0.404
123679-HxCDF	NotFnd		0.9944						1.16		6176.395	0.404
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**6176.395**	**0.307**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		6176.395	0.404
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**6176.395**	**0.538**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		6176.395	0.404
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**5740.803**	**0.334**
1234679-HpCDF	NotFnd		1.0071						1.33		5740.803	0.357
1234689-HpCDF	NotFnd		1.0106						1.33		5740.803	0.357
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**5740.803**	**0.384**
OCDF	**NotFnd**		**1.0003**						**1.03**		**7391.574**	**1.12**
OCDF-a	NotFnd		1.0002						0.06		11633.09	30.5

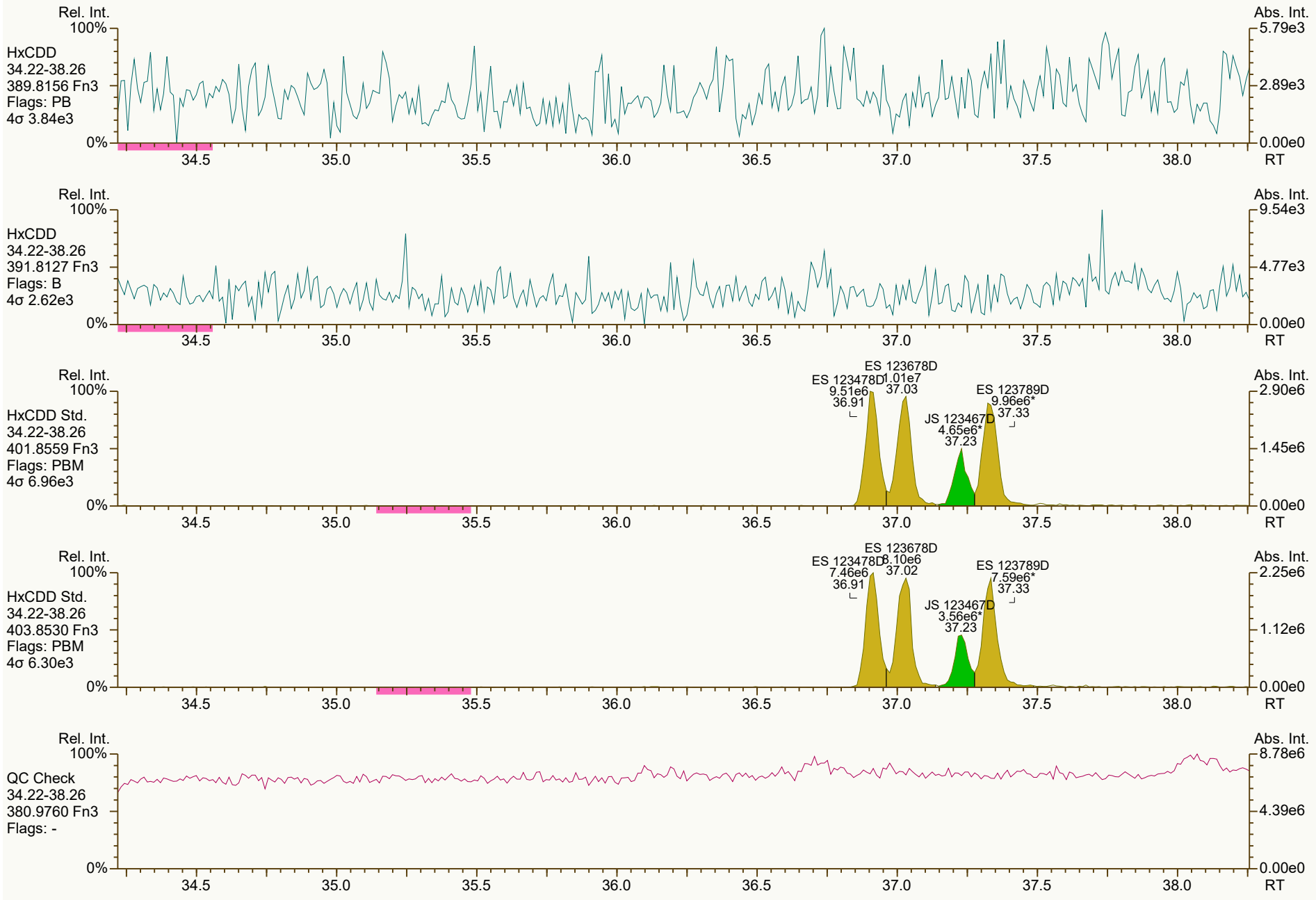
SGS ID: MB1_18820_DF_TLX | **Sample ID: Method Blank** | **Acq: 11-Jan-2022 20:31:25**
Instr: [ILM] AutoSpec-Ultima MM3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27** | **User: PSW Datafile: 220111R15**



Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\MB1_18820_DF_TLX.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 844-424
PKD: n/a Printed: 12-Jan-2022 09:25 Page 1 of 12


Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: B
4σ 3.25e3
0%
Abs. Int.
9.15e3
4.58e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: B
4σ 3.78e3
0%
Abs. Int.
9.77e3
4.89e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.06e3
0%
CS 37Cl-2378D
8.40e6
27.50
Abs. Int.
2.10e6
1.05e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 6.67e3
0%
JS 1234D
8.60e6
26.80
ES 2378D
8.24e6
27.48
Abs. Int.
1.97e6
9.86e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 5.80e3
0%
JS 1234D
1.04e7
26.80
ES 2378D
1.09e7
27.48
Abs. Int.
2.50e6
1.25e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: B
4σ 4.06e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 2.10e3
0%
Abs. Int.
5.87e3
2.94e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 4.67e3
0%
CS 12347D
9.44e6
32.48
ES 12378D
1.06e7
32.99
Abs. Int.
3.03e6
1.52e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 4.84e3
0%
CS 12347D
6.31e6
32.48
ES 12378D
6.72e6
32.99
Abs. Int.
1.93e6
9.65e5
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.31e6
1.16e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT

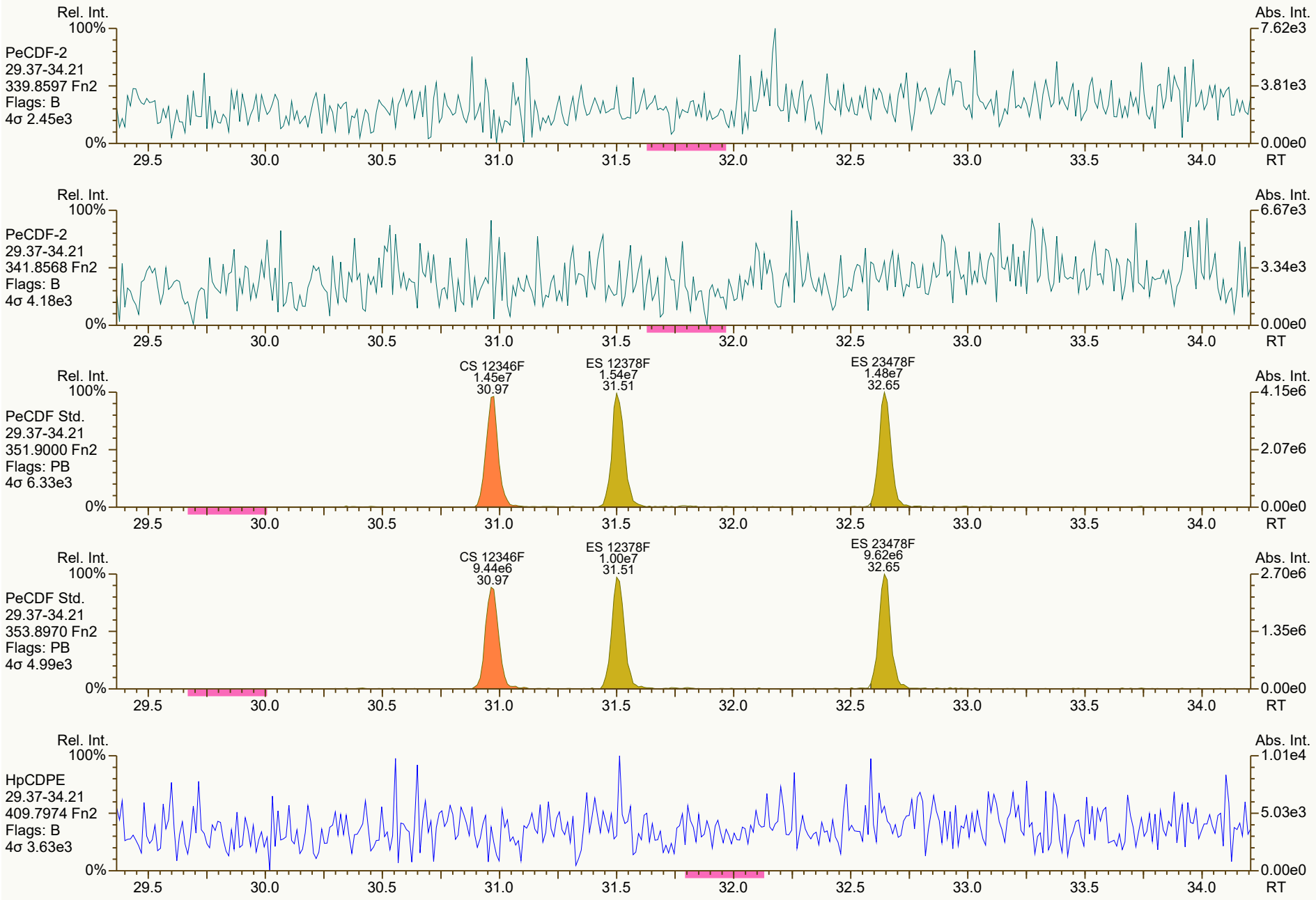

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.84e3
0%
Abs. Int.
5.79e3
2.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PBM
4σ 6.96e3
0%
ES 123678D
1.01e7
37.03
ES 123478D
9.51e6
36.91
ES 123789D
9.96e6*
37.33
JS 123467D
4.65e6*
37.23
Abs. Int.
2.90e6
1.45e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PBM
4σ 6.30e3
0%
ES 123678D
8.10e6
37.02
ES 123478D
7.46e6
36.91
ES 123789D
7.59e6*
37.33
JS 123467D
3.56e6*
37.23
Abs. Int.
2.25e6
1.12e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.78e6
4.39e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

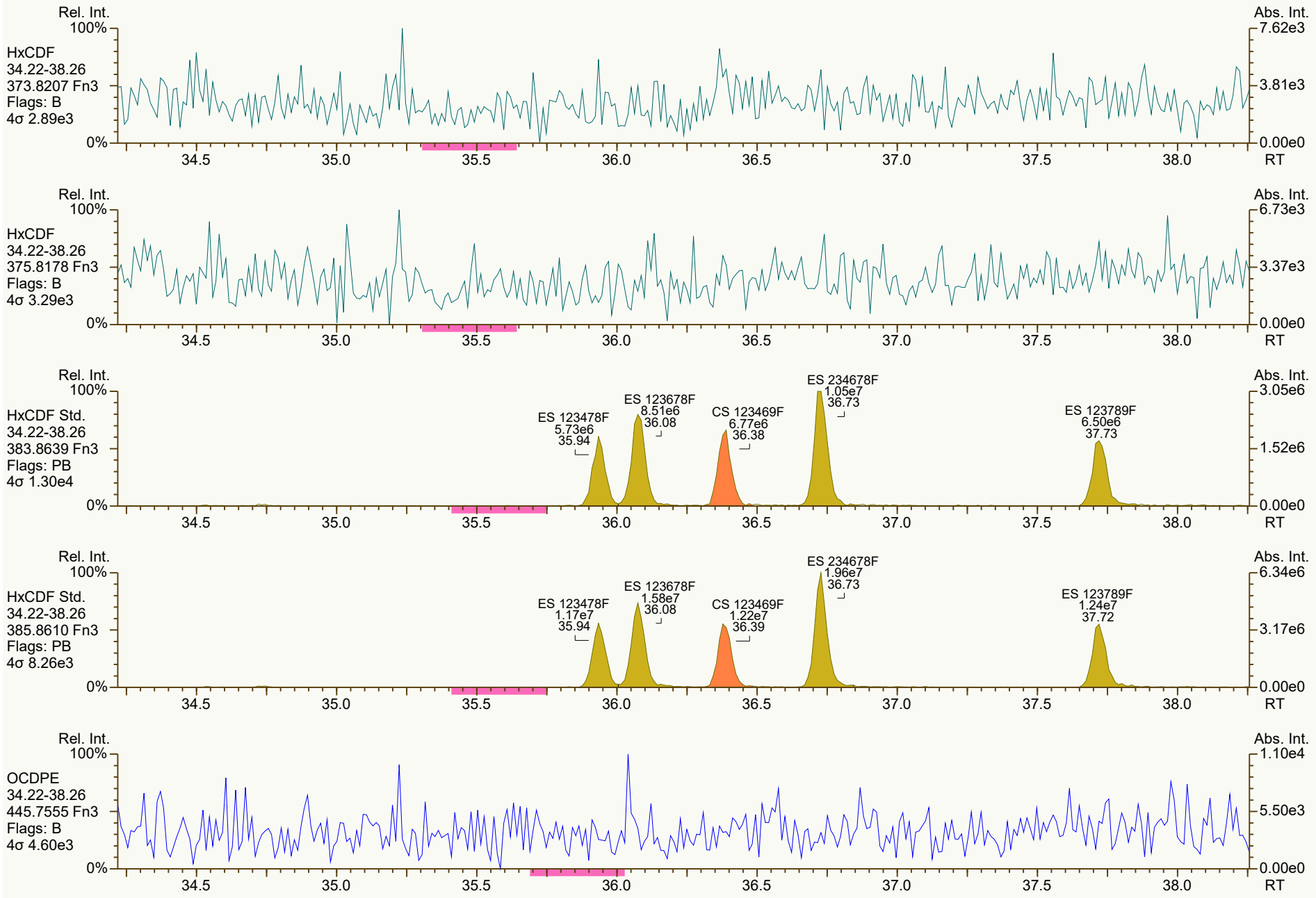

Rel. Int.
100%
HpCDD
38.27-41.51
423.7767 Fn4
Flags: B
4σ 3.34e3
0%
Abs. Int.
9.95e3
4.97e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.27-41.51
425.7737 Fn4
Flags: B
4σ 2.98e3
0%
Abs. Int.
6.78e3
3.39e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
ES 1234678D
7.77e6
40.13
Rel. Int.
100%
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 7.44e3
0%
Abs. Int.
3.00e6
1.50e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
ES 1234678D
6.99e6
40.13
Rel. Int.
100%
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 6.27e3
0%
Abs. Int.
2.55e6
1.28e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.28e6
2.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

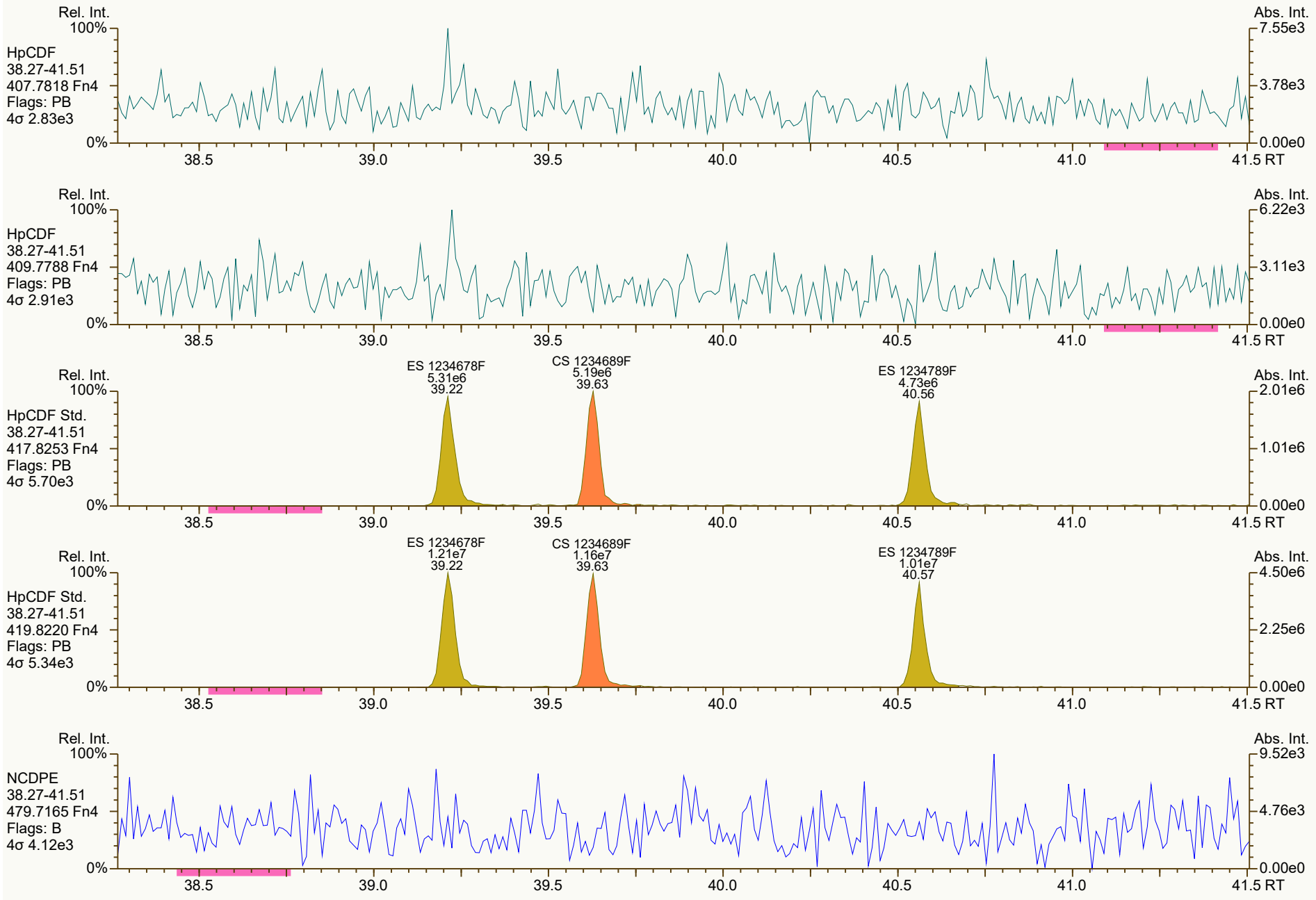

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 4.04e3
0%
Abs. Int.
1.64e4
8.18e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 4.36e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.56e6
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.54e3
0%
Abs. Int.
2.15e6
1.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.52e6
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.41e3
0%
Abs. Int.
2.46e6
1.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.95e6
1.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

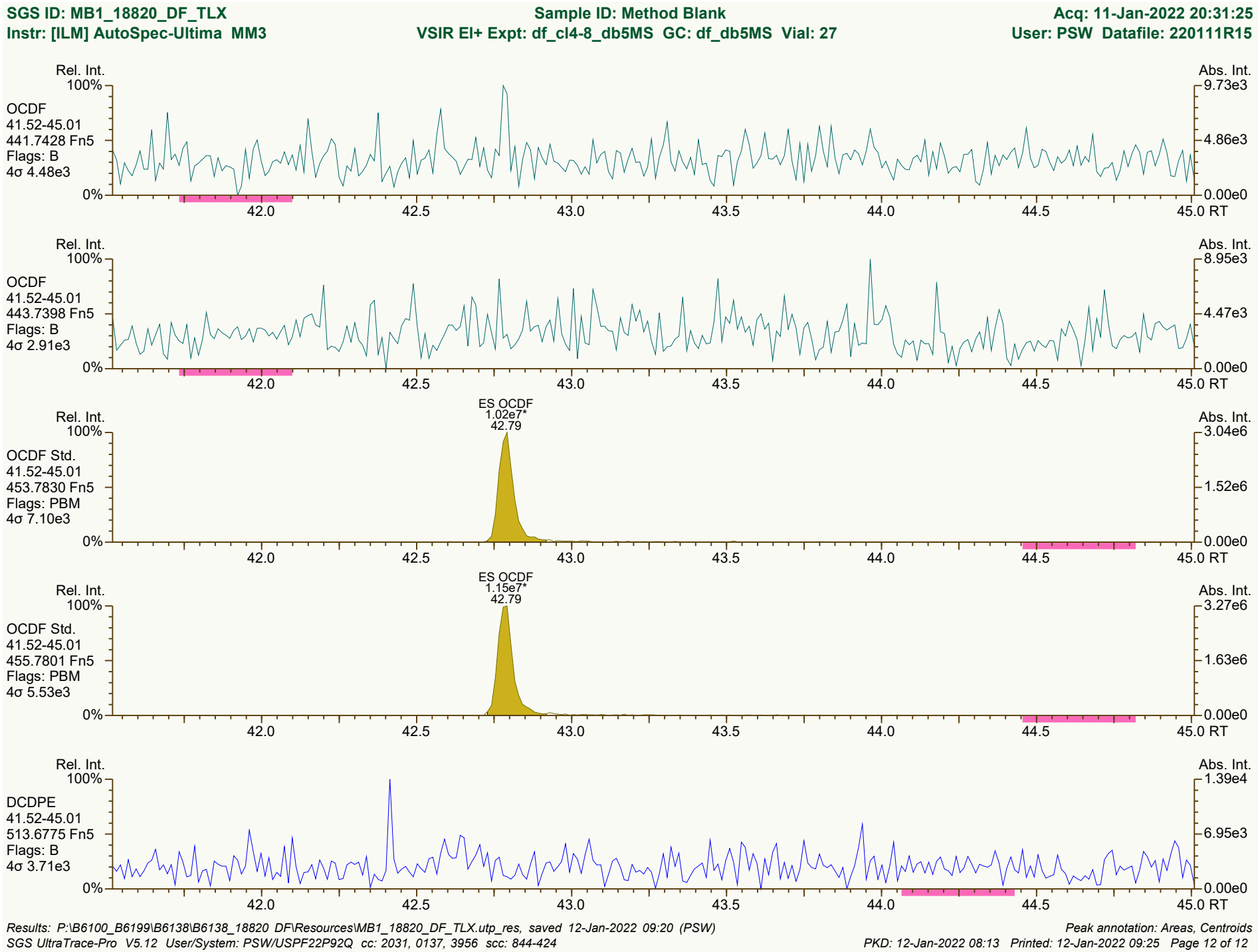

SGS ID: MB1_18820_DF_TLX
Sample ID: Method Blank
Acq: 11-Jan-2022 20:31:25
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220111R15
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: B
4σ 2.18e3
7.93e3
3.97e3
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: B
4σ 3.91e3
9.86e3
4.93e3
JS 1234F
1.20e7
25.15
ES 2378F
1.26e7
26.58
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.56e4
2.83e6
1.42e6
JS 1234F
1.58e7
25.15
ES 2378F
1.59e7
26.58
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 7.29e3
3.27e6
1.64e6
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.55e3
1.21e4
6.04e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\MB1_18820_DF_TLX.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0339, 9967, 3699 scc: 844-424
PKD: 12-Jan-2022 08:13 Printed: 12-Jan-2022 09:25 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 4.79e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 4.73e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: B
4σ 2.45e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: B
4σ 4.18e3
0%
Abs. Int.
6.67e3
3.34e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 6.33e3
0%
CS 12346F
1.45e7
30.97
ES 12378F
1.54e7
31.51
ES 23478F
1.48e7
32.65
Abs. Int.
4.15e6
2.07e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 4.99e3
0%
CS 12346F
9.44e6
30.97
ES 12378F
1.00e7
31.51
ES 23478F
9.62e6
32.65
Abs. Int.
2.70e6
1.35e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 3.63e3
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: B
4σ 2.89e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: B
4σ 3.29e3
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 1.30e4
0%
ES 123478F
5.73e6
35.94
ES 123678F
8.51e6
36.08
CS 123469F
6.77e6
36.38
ES 234678F
1.05e7
36.73
ES 123789F
6.50e6
37.73
Abs. Int.
3.05e6
1.52e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 8.26e3
0%
ES 123478F
1.17e7
35.94
ES 123678F
1.58e7
36.08
CS 123469F
1.22e7
36.39
ES 234678F
1.96e7
36.73
ES 123789F
1.24e7
37.72
Abs. Int.
6.34e6
3.17e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 4.60e3
0%
Abs. Int.
1.10e4
5.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 2.83e3
0%
Abs. Int.
7.55e3
3.78e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 2.91e3
0%
Abs. Int.
6.22e3
3.11e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 5.70e3
0%
ES 1234678F
5.31e6
39.22
CS 1234689F
5.19e6
39.63
ES 1234789F
4.73e6
40.56
Abs. Int.
2.01e6
1.01e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 5.34e3
0%
ES 1234678F
1.21e7
39.22
CS 1234689F
1.16e7
39.63
ES 1234789F
1.01e7
40.57
Abs. Int.
4.50e6
2.25e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.12e3
0%
Abs. Int.
9.52e3
4.76e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: MB1_18820_DF_TLX
Sample ID: Method Blank
Acq: 11-Jan-2022 20:31:25
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220111R15
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 4.48e3
9.73e3
4.86e3
0.00e0
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 2.91e3
8.95e3
4.47e3
ES OCDF
1.02e7*
42.79
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 7.10e3
3.04e6
1.52e6
ES OCDF
1.15e7*
42.79
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 5.53e3
3.27e6
1.63e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.71e3
1.39e4
6.95e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\MB1_18820_DF_TLX.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2031, 0137, 3956 scc: 844-424
PKD: 12-Jan-2022 08:13 Printed: 12-Jan-2022 09:25 Page 12 of 12

Lab ID: B6138_18820_DF_001 **Acq'd:** 11 Jan 2022 21:18 PSW **Wt/Vol:** 10.55 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-40 **UTP:** 12-Jan-2022 09:20:28 PSW **J-level:** 0.474 pg/g **Split:** 1 **Checkcode:** 023-229-MZH

Datafile: 220111R16 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.51		1.0008	1.0009	+0.2	7.06E+07	0.80	Y	1.34	549	7640.895	0.636
12378-PeCDD	33.02		1.0006	1.0007	+0.2	6.21E+05	1.48	Y	1.06	7.32	7550.298	0.774
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	5944.506	0.565
123678-HxCDD	37.04	J	1.0035	1.0034	-0.2	1.44E+05	1.19	Y	1.08	1.5	5944.506	0.561
123789-HxCDD	37.36	J	1.0117	1.0118	+0.2	1.53E+05	1.34	Y	1.02	1.67	5944.506	0.576
1234678-HpCDD	40.15		1.0003	1.0003	0	4.35E+06	1.07	Y	0.97	57.9	7692.996	0.635
OCDD	42.64		1.0003	1.0003	0	4.27E+07	0.91	Y	1.07	890	9612.54	1.7
2378-TCDF	26.61	E	1.0008	1.0009	+0.2	2.66E+08	0.79	Y	0.96	1,940	9193.108	0.687
12378-PeCDF	31.53		1.0005	1.0005	0	1.17E+07	1.56	Y	0.95	97.1	7465.5	0.57
23478-PeCDF	32.68		1.0006	1.0007	+0.2	7.69E+06	1.59	Y	0.94	64.5	7465.5	0.518
123478-HxCDF	35.96		1.0004	1.0005	+0.2	1.97E+07	1.28	Y	1.23	183	10575.646	0.814
123678-HxCDF	36.10		1.0004	1.0005	+0.2	6.02E+06	1.25	Y	1.13	45.6	10575.646	0.663
234678-HxCDF	36.75		1.0004	1.0004	0	1.35E+06	1.32	Y	1.15	7.86	10575.646	0.516
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	10575.646	0.774
1234678-HpCDF	39.23		1.0003	1.0003	0	5.78E+06	1.04	Y	1.36	47.5	7194.722	0.4
1234789-HpCDF	40.58		1.0002	1.0002	0	1.82E+06	1.02	Y	1.30	19.4	7194.722	0.525
OCDF	42.81		1.0003	1.0002	-0.3	1.73E+06	0.82	Y	1.03	29	7326.198	1.03

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.49		1.0251	1.0252	+0.2	1.81E+07	0.78	Y	1.03	88.4
ES 12378-PeCDD	33.00		1.2290	1.2308	+3.6	1.52E+07	1.63	Y	1.03	73.9
ES 123478-HxCDD	36.92		0.9915	0.9916	+0.2	1.57E+07	1.22	Y	0.99	101
ES 123678-HxCDD	37.03		0.9947	0.9946	-0.2	1.69E+07	1.27	Y	0.97	111
ES 123789-HxCDD	37.34		1.0028	1.0028	0	1.71E+07	1.24	Y	1.12	97.1
ES 1234678-HpCDD	40.14		1.0771	1.0781	+2.4	1.46E+07	1.12	Y	0.99	94
ES OCDD	42.63		1.1441	1.1449	+2.0	1.70E+07	0.95	Y	0.78	69.8
ES 2378-TCDF	26.59		1.0562	1.0569	+1.1	2.71E+07	0.76	Y	1.08	88.2
ES 12378-PeCDF	31.52		1.2501	1.2527	+4.9	2.42E+07	1.61	Y	0.93	91.3
ES 23478-PeCDF	32.66		1.2950	1.2980	+5.9	2.41E+07	1.58	Y	0.92	92.1
ES 123478-HxCDF	35.95		0.9654	0.9654	0	1.65E+07	0.49	Y	1.14	92.1
ES 123678-HxCDF	36.09		0.9691	0.9692	+0.2	2.22E+07	0.55	Y	1.30	109
ES 234678-HxCDF	36.74	V	0.9867	0.9868	+0.2	2.83E+07	0.52	Y	1.20	150
ES 123789-HxCDF	37.73		1.0134	1.0134	0	1.78E+07	0.53	Y	1.14	99.8
ES 1234678-HpCDF	39.22		1.0527	1.0534	+1.6	1.70E+07	0.46	Y	0.95	114
ES 1234789-HpCDF	40.57		1.0887	1.0897	+2.4	1.37E+07	0.47	Y	0.85	103
ES OCDF	42.80		1.1487	1.1495	+2.1	2.20E+07	0.89	Y	0.93	75.7

Lab ID: B6138_18820_DF_001 **Acq'd:** 11 Jan 2022 21:18 PSW **Wt/Vol:** 10.55 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-40 **UTP:** 12-Jan-2022 09:20:28 PSW **J-level:** 0.474 pg/g **Split:** 1 **Checkcode:** 023-229-MZH

Datafile: 220111R16 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.81		-	-	-	1.98E+07	0.77	Y	-	-
JS 1234-TCDF	25.16		-	-	-	2.83E+07	0.79	Y	-	-
JS 123467-HxCDD	37.23		-	-	-	7.84E+06	1.21	Y	-	-
CS 37Cl-2378-TCDD	27.51		1.0260	1.0262	+0.3	8.62E+06	n/a	-	1.31	82.9
CS 12347-PeCDD	32.49		1.2102	1.2119	+3.3	1.51E+07	1.64	Y	0.89	85.3
CS 12346-PeCDF	30.98		1.2289	1.2313	+4.5	2.43E+07	1.60	Y	0.87	98.9
CS 123469-HxCDF	36.40		0.9774	0.9775	+0.2	1.92E+07	0.51	Y	1.09	113
CS 1234689-HpCDF	39.64		1.0636	1.0646	+2.4	1.75E+07	0.43	Y	0.86	129
~~SS 37Cl-2378-TCDD~~	~~27.51~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~8.62E+06~~	~~n/a~~		~~1.26~~	~~94.3~~
~~SS 12347-PeCDD~~	~~32.49~~		~~1.2102~~	~~1.2119~~	~~+3.3~~	~~1.51E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~30.98~~		~~1.2289~~	~~1.2313~~	~~+4.5~~	~~2.43E+07~~	~~1.60~~	~~Y~~	~~0.93~~	~~100~~
~~SS 123469-HxCDF~~	~~36.40~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~1.92E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~103~~
~~SS 1234689-HpCDF~~	~~39.64~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.75E+07~~	~~0.43~~	~~Y~~	~~0.91~~	~~113~~

Totals	Conc	EMPC
Total TCDD	613	617
Total PeCDD	9.91	10.9
Total HxCDD	24.4	24.8
Total HpCDD	135	135
Total Tetra-Octa Dioxins	1670	1680
Total TCDF	3,770	3770
Total PeCDF	238	240
Total HxCDF	265	265
Total HpCDF	83	83
Total Tetra-Octa Furans	4,380	4390
Total Tetra-Octa Dioxins & Furans	6060	6070

Lab ID: B6138_18820_DF_001 **Acq'd: 11 Jan 2022 21:18 PSW** **Wt/Vol: 10.55 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-010522-S-BN-SW-S-40 **UTP: 12-Jan-2022 09:20:28 PSW** **J-level: 0.474 pg/g** **Split: 1** **Checkcode: 023-229-MZH**

Datafile: 220111R16 **Report: 12 Jan 2022 09:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8626						1.34		7640.895	0.636
1379-TCDD	NotFnd		0.8763						1.34		7640.895	0.636
1369-TCDD	NotFnd		0.8929						1.34		7640.895	0.636
1469-TCDD	25.34		0.9227	0.9218	-1.4	2.84E+05	0.83	Y	1.34	2.21	7640.895	0.636
1247/1246/1248/1249-TCDD	25.61		0.9317	0.9317	0	1.82E+05	0.85	Y	1.34	1.42	7640.895	0.636
1378-TCDD	25.78		0.9389	0.9380	-1.4	2.00E+05	0.88	Y	1.34	1.56	7640.895	0.636
1268-TCDD	NotFnd		0.9463						1.34		7640.895	0.636
1478-TCDD	26.26		0.9556	0.9555	-0.2	1.58E+05	0.80	Y	1.34	1.23	7640.895	0.636
1279-TCDD	NotFnd		0.9620						1.34		7640.895	0.636
1234/1269-TCDD	NotFnd		0.9753						1.34		7640.895	0.636
1236-TCDD	NotFnd		0.9806						1.34		7640.895	0.636
1237/1238-TCDD	27.19		0.9900	0.9893	-1.1	1.16E+06	0.83	Y	1.34	9.01	7640.895	0.636
1239-TCDD	NotFnd		0.9951						1.34		7640.895	0.636
2378-TCDD	**27.51**		**1.0008**	1.0009	**+0.2**	7.06E+07	0.80	Y	**1.34**	**549**	**7640.895**	**0.636**
1278-TCDD	27.86		1.0131	1.0135	+0.7	6.16E+06	0.79	Y	1.34	47.9	7640.895	0.636
1267-TCDD	28.00	EMPC	1.0182	1.0185	+0.5	2.37E+05	1.11	N	1.34	1.85	7640.895	0.636
1289-TCDD	28.47	EMPC	1.0373	1.0357	-2.7	2.76E+05	1.33	N	1.34	2.14	7640.895	0.636
12479/12468-PeCDD	NotFnd		0.9237						1.06		7550.298	0.774
12469-PeCDD	31.01	J	0.9402	0.9399	-0.6	1.40E+05	1.58	Y	1.06	1.65	7550.298	0.774
12368-PeCDD	31.58	J EMPC	0.9572	0.9570	-0.4	8.45E+04	1.15	N	1.06	0.997	7550.298	0.774
12478-PeCDD	NotFnd		0.9629						1.06		7550.298	0.774
12379-PeCDD	NotFnd		0.9660						1.06		7550.298	0.774
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		7550.298	0.774
12346/12347-PeCDD	NotFnd		0.9854						1.06		7550.298	0.774
12378-PeCDD	33.02		**1.0006**	**1.0007**	**+0.2**	**6.21E+05**	**1.48**	**Y**	**1.06**	**7.32**	**7550.298**	**0.774**
12367-PeCDD	33.15	J	1.0034	1.0045	+2.2	7.96E+04	1.52	Y	1.06	0.939	7550.298	0.774
12389-PeCDD	NotFnd		1.0141						1.06		7550.298	0.774
124679/124689-HxCDD	35.23		0.9542	0.9541	-0.2	1.37E+06	1.22	Y	1.05	15	5944.506	0.567
123468-HxCDD	NotFnd		0.9720						1.05		5944.506	0.567
123679/123689-HxCDD	36.17		0.9798	0.9798	0	5.73E+05	1.32	Y	1.05	6.24	5944.506	0.567
123469-HxCDD	36.30	J EMPC	0.9836	0.9831	-1.1	4.09E+04	0.81	N	1.05	0.446	5944.506	0.567
123478-HxCDD	NotFnd		**1.0004**						1.06		**5944.506**	**0.565**
123678-HxCDD	37.04	J	**1.0035**	**1.0034**	**-0.2**	**1.44E+05**	**1.19**	**Y**	1.08	**1.5**	**5944.506**	**0.561**
123467-HxCDD	NotFnd		1.0089						1.05		5944.506	0.567
123789-HxCDD	37.36	J	**1.0117**	**1.0118**	**+0.2**	**1.53E+05**	**1.34**	**Y**	1.02	**1.67**	**5944.506**	**0.576**

Lab ID: B6138_18820_DF_001 **Acq'd:** 11 Jan 2022 21:18 PSW **Wt/Vol:** 10.55 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-40 **UTP:** 12-Jan-2022 09:20:28 PSW **J-level:** 0.474 pg/g **Split:** 1 **Checkcode:** 023-229-MZH

Datafile: 220111R16 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

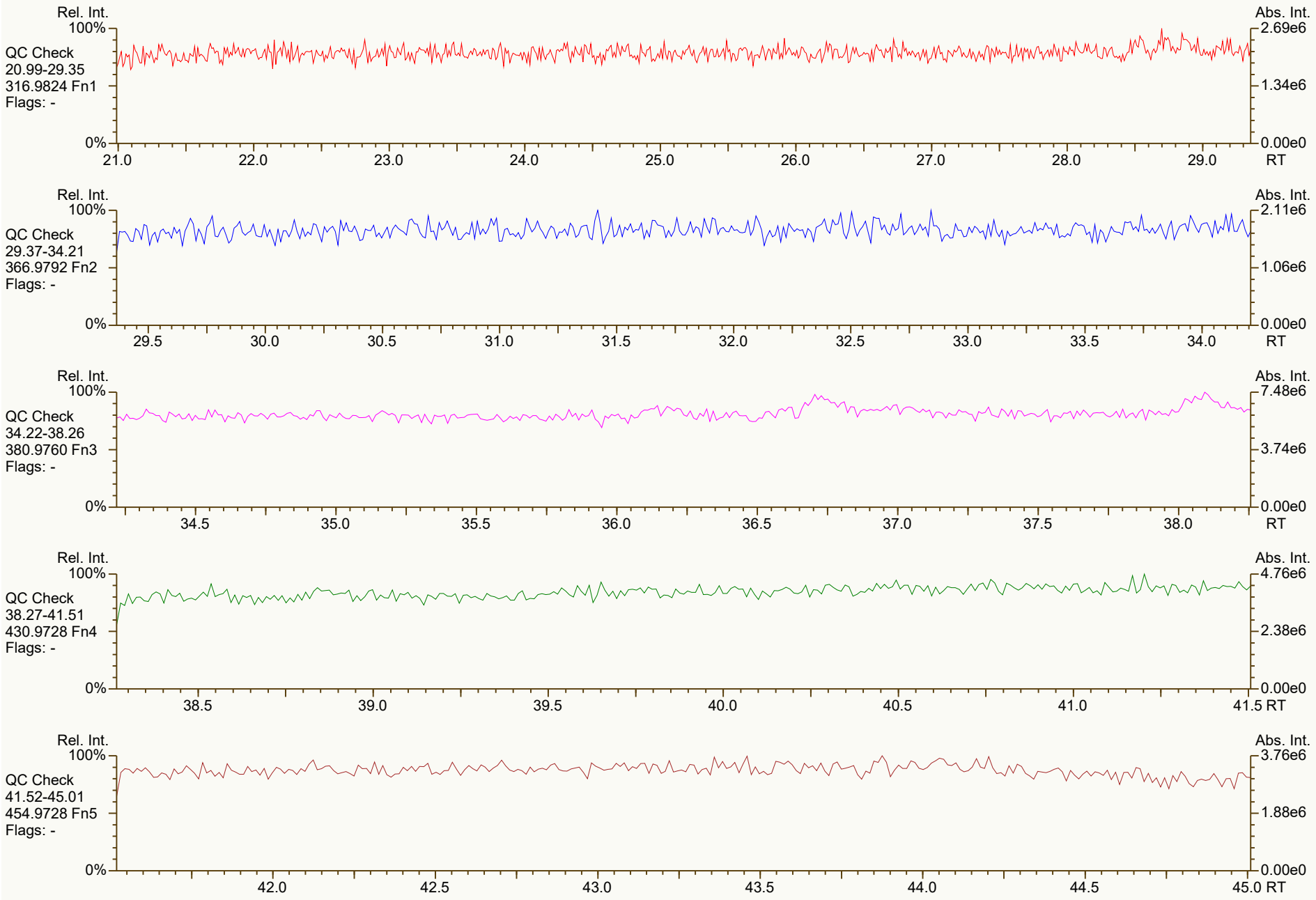
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.50		0.9842	0.9842	0	5.75E+06	1.04	Y	0.97	76.6	7692.996	0.635
1234678-HpCDD	**40.15**		**1.0003**	**1.0003**	**0**	**4.35E+06**	**1.07**	**Y**	**0.97**	**57.9**	**7692.996**	**0.635**
OCDD	**42.64**		**1.0003**	**1.0003**	**0**	**4.27E+07**	**0.91**	**Y**	**1.07**	**890**	**9612.54**	**1.7**
OCDD-a	42.64		1.0002	1.0002	0	2.64E+06	2.78	Y	0.07	893	14244.241	40.7
1368-TCDF	21.44		0.8080	0.8064	-2.1	1.04E+05	0.75	Y	0.96	0.756	9193.108	0.687
1468-TCDF	22.01		0.8299	0.8277	-2.9	4.19E+05	0.78	Y	0.96	3.05	9193.108	0.687
2468-TCDF	22.70	EMPC	0.8555	0.8536	-2.6	2.56E+05	0.90	N	0.96	1.86	9193.108	0.687
1346/1246-TCDF	23.13		0.8688	0.8699	+1.5	2.90E+05	0.85	Y	0.96	2.12	9193.108	0.687
1347/1378/1247-TCDF	23.27		0.8753	0.8751	-0.3	2.68E+06	0.75	Y	0.96	19.5	9193.108	0.687
1348-TCDF	23.53		0.8863	0.8848	-2.1	8.77E+05	0.79	Y	0.96	6.39	9193.108	0.687
1248/1367/1379-TCDF	23.64		0.8915	0.8890	-3.5	1.17E+07	0.77	Y	0.96	85.5	9193.108	0.687
1268-TCDF	24.08		0.9065	0.9056	-1.3	3.78E+06	0.81	Y	0.96	27.5	9193.108	0.687
1467-TCDF	24.22		0.9119	0.9110	-1.3	5.64E+05	0.78	Y	0.96	4.11	9193.108	0.687
1478-TCDF	24.40		0.9186	0.9176	-1.5	1.01E+07	0.80	Y	0.96	73.7	9193.108	0.687
1369/1237-TCDF	24.80		0.9331	0.9326	-0.7	2.65E+06	0.75	Y	0.96	19.3	9193.108	0.687
2467-TCDF	24.94		0.9384	0.9378	-0.9	3.29E+05	0.69	Y	0.96	2.4	9193.108	0.687
2368-TCDF	25.10		0.9445	0.9439	-0.9	7.40E+06	0.77	Y	0.96	54	9193.108	0.687
1238/1234/1678/1469/1236-TCDF	25.18		0.9476	0.9469	-1.1	1.26E+07	0.79	Y	0.96	92.2	9193.108	0.687
1278-TCDF	25.67		0.9656	0.9652	-0.6	1.20E+08	0.79	Y	0.96	871	9193.108	0.687
1349-TCDF	NotFnd		0.9703						0.96		9193.108	0.687
1267-TCDF	25.96		0.9765	0.9761	-0.6	6.21E+06	0.75	Y	0.96	45.3	9193.108	0.687
2346/1249-TCDF	26.18		0.9836	0.9844	+1.3	8.00E+05	0.84	Y	0.96	5.83	9193.108	0.687
2347/1279-TCDF	26.37		0.9921	0.9918	-0.5	2.68E+06	0.84	Y	0.96	19.5	9193.108	0.687
2348-TCDF	26.50		0.9965	0.9967	+0.3	2.33E+07	0.78	Y	0.96	170	9193.108	0.687
2378-TCDF	**26.61**	E	**1.0008**	**1.0009**	**+0.2**	**2.66E+08**	**0.79**	**Y**	**0.96**	**1,940**	**9193.108**	**0.687**
2367/3467-TCDF	26.98		1.0150	1.0148	-0.3	2.06E+07	0.77	Y	0.96	150	9193.108	0.687
1269-TCDF	27.24		1.0243	1.0245	+0.3	3.99E+06	0.83	Y	0.96	29.1	9193.108	0.687
1239-TCDF	NotFnd		1.0345						0.96		9193.108	0.687
1289-TCDF	28.70		1.0780	1.0794	+2.4	2.08E+07	0.82	Y	0.96	152	9193.108	0.687
13468/12468-PeCDF	NotFnd		0.9095						0.94		8571.321	0.625
13678/13467/12467-PeCDF	30.25	J EMPC	0.9595	0.9598	+0.5	1.04E+05	2.44	N	0.94	0.868	7465.5	0.544
12368/13478/12478-PeCDF	30.42		0.9646	0.9651	+0.9	4.39E+06	1.50	Y	0.94	36.7	7465.5	0.544
14678-PeCDF	30.49	J	0.9678	0.9675	-0.5	2.17E+05	1.58	Y	0.94	1.81	7465.5	0.544
13479-PeCDF	NotFnd		0.9710						0.94		7465.5	0.544
13469/12479-PeCDF	NotFnd		0.9790						0.94		7465.5	0.544
12346-PeCDF	NotFnd		0.9835						0.94		7465.5	0.544

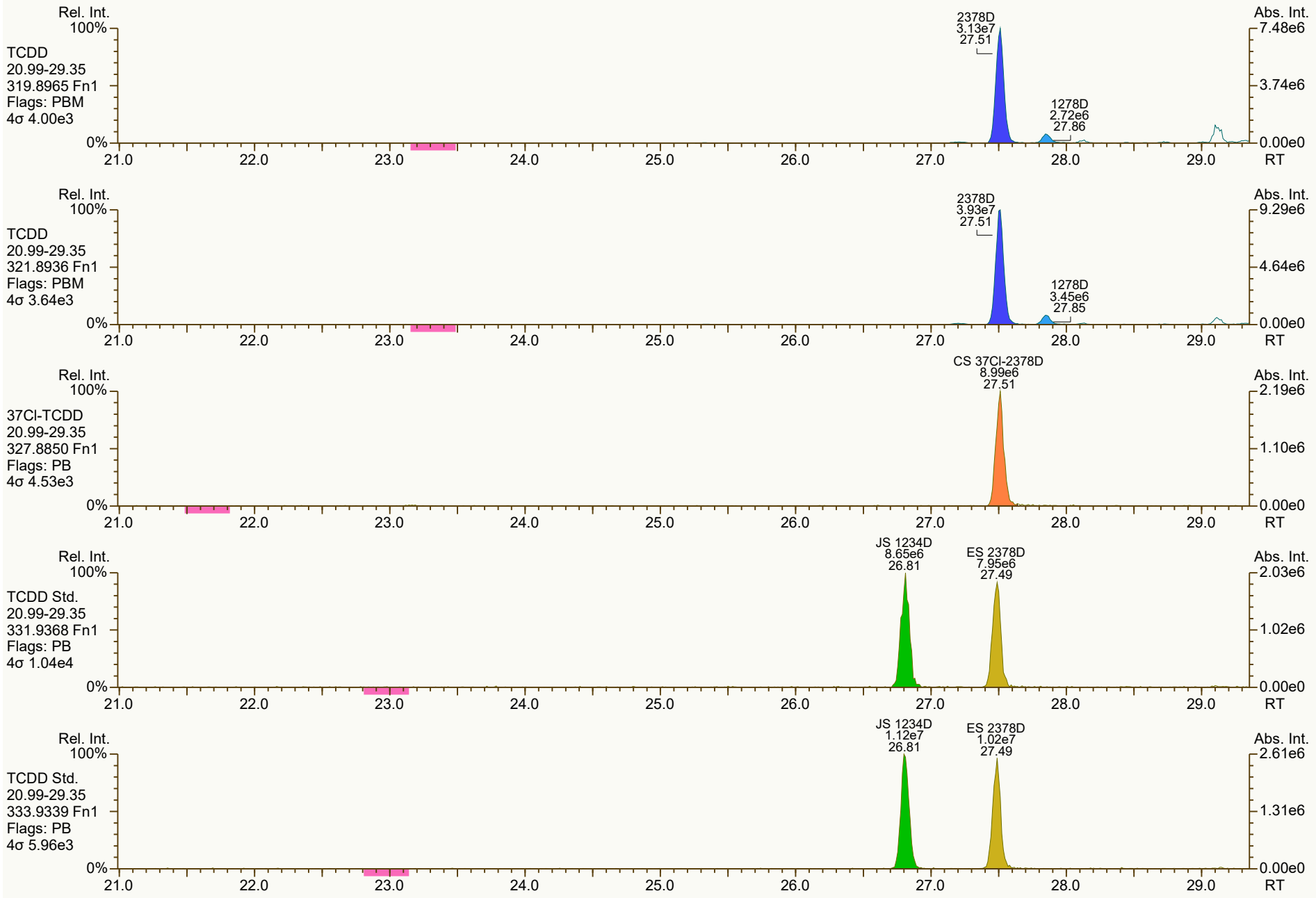
Lab ID: B6138_18820_DF_001 **Acq'd: 11 Jan 2022 21:18 PSW** **Wt/Vol: 10.55 g** **ICAL: MM3_DF_10272021_27JUL2021**

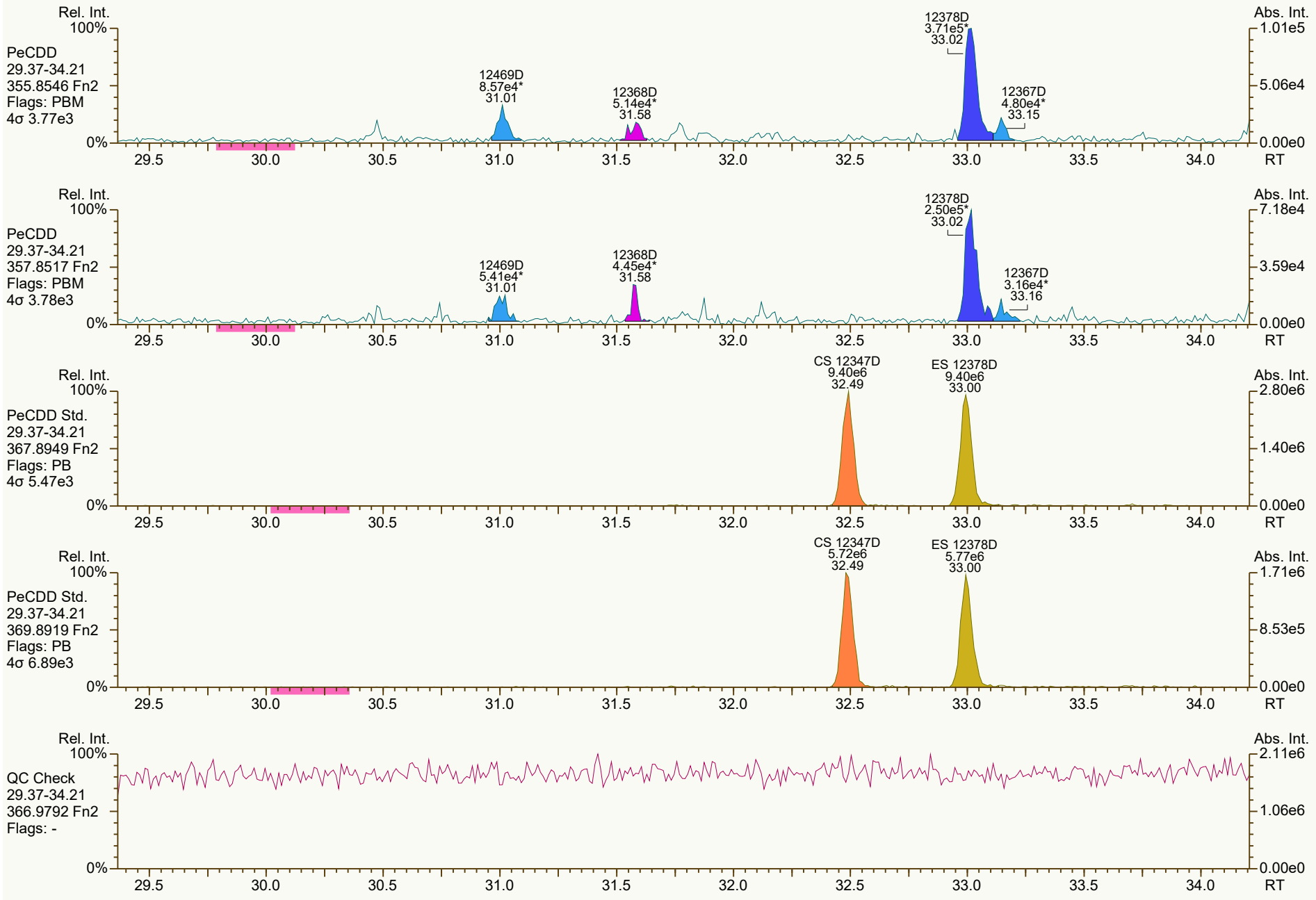
Client ID: 11215131-010522-S-BN-SW-S-40 **UTP: 12-Jan-2022 09:20:28 PSW** **J-level: 0.474 pg/g** **Split: 1** **Checkcode: 023-229-MZH**

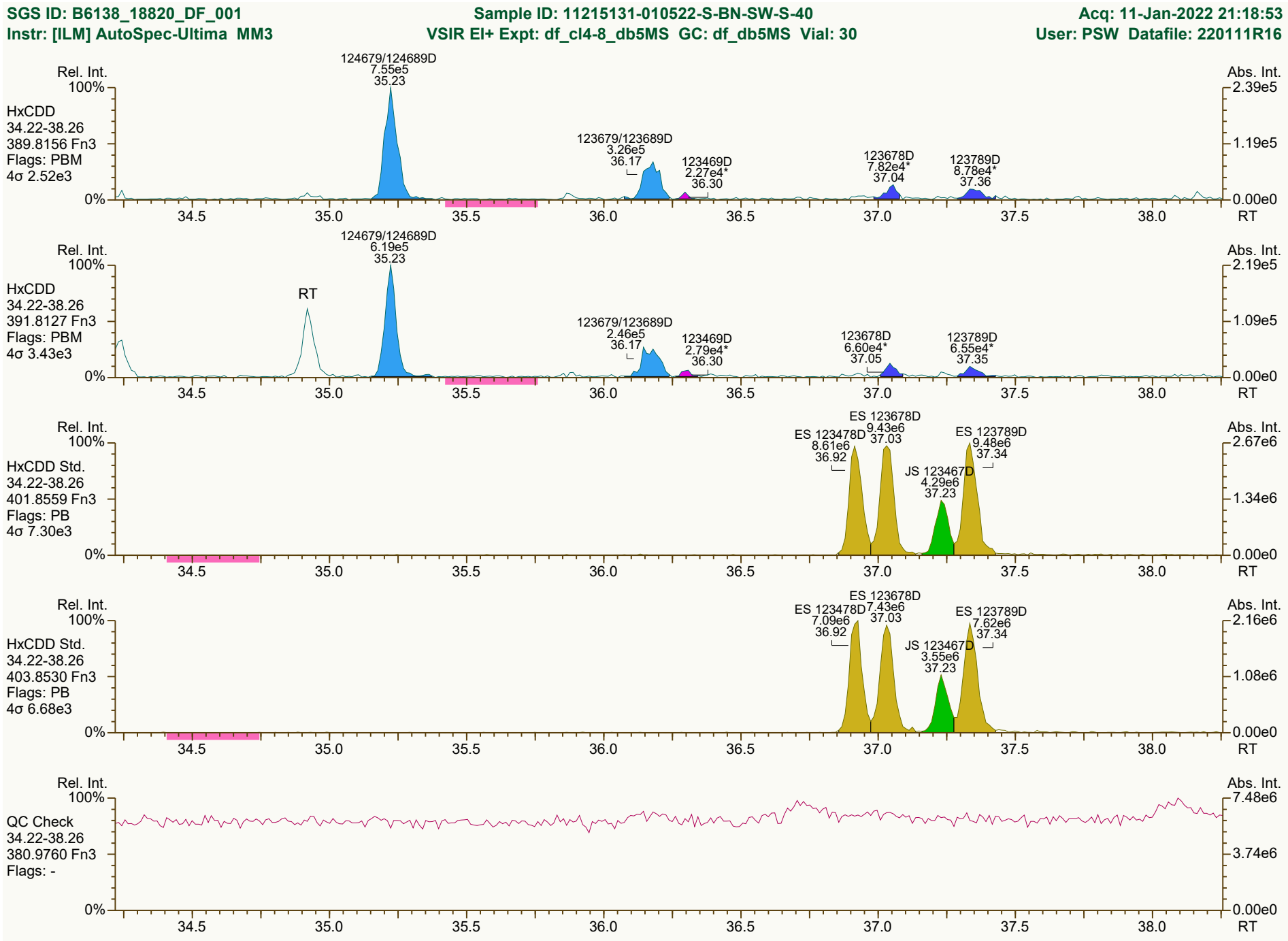
Datafile: 220111R16 **Report: 12 Jan 2022 09:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

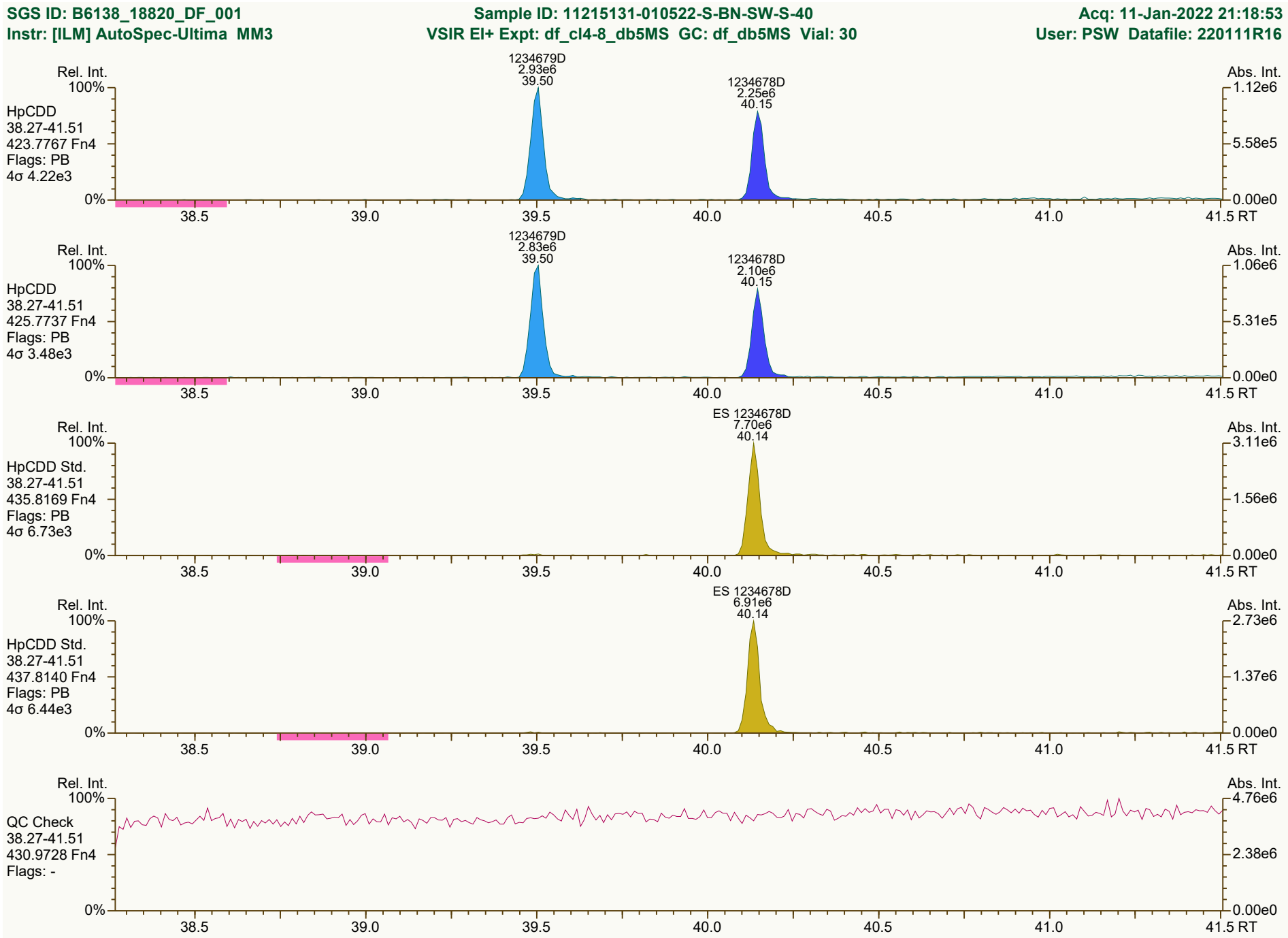
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.08	J	0.9864	0.9861	-0.6	1.04E+05	1.49	Y	0.94	0.867	7465.5	0.544
12347-PeCDF	31.15	J EMPC	0.9888	0.9883	-0.9	1.40E+05	2.40	N	0.94	1.17	7465.5	0.544
12348-PeCDF	31.32		0.9939	0.9938	-0.2	8.83E+05	1.59	Y	0.94	7.37	7465.5	0.544
12378-PeCDF	**31.53**		**1.0005**	**1.0005**	**0**	**1.17E+07**	**1.56**	**Y**	**0.95**	**97.1**	**7465.5**	**0.57**
12678/12367-PeCDF	31.83		1.0094	1.0101	+1.3	3.07E+06	1.56	Y	0.94	25.6	7465.5	0.544
12379-PeCDF	NotFnd		1.0149						0.94		7465.5	0.544
12679-PeCDF	NotFnd		0.9925						0.94		7465.5	0.544
23467/12369-PeCDF	32.54	J	0.9965	0.9964	-0.2	1.30E+05	1.56	Y	0.94	1.08	7465.5	0.544
23478-PeCDF	**32.68**		**1.0006**	**1.0007**	**+0.2**	**7.69E+06**	**1.59**	**Y**	**0.94**	**64.5**	**7465.5**	**0.518**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7465.5	0.544
12349-PeCDF	NotFnd		1.0104						0.94		7465.5	0.544
12389-PeCDF	33.76		1.0336	1.0337	+0.2	3.97E+05	1.65	Y	0.94	3.31	7465.5	0.544
123468-HxCDF	34.56	J	0.9618	0.9615	-0.6	1.67E+05	1.22	Y	1.16	1.28	10575.646	0.666
124678/134678-HxCDF	34.76		0.9673	0.9671	-0.4	1.40E+06	1.33	Y	1.16	10.8	10575.646	0.666
134679-HxCDF	NotFnd		0.9737						1.16		10575.646	0.666
124679-HxCDF	NotFnd		0.9793						1.16		10575.646	0.666
124689-HxCDF	35.43		0.9855	0.9856	+0.2	6.78E+05	1.21	Y	1.16	5.22	10575.646	0.666
123467-HxCDF	NotFnd		0.9972						1.16		10575.646	0.666
123478-HxCDF	**35.96**		**1.0004**	**1.0005**	**+0.2**	**1.97E+07**	**1.28**	**Y**	**1.23**	**183**	**10575.646**	**0.814**
123678-HxCDF	**36.10**		**1.0004**	**1.0005**	**+0.2**	**6.02E+06**	**1.25**	**Y**	**1.13**	**45.6**	**10575.646**	**0.663**
123479-HxCDF	NotFnd		1.0049						1.16		10575.646	0.666
123469-HxCDF	NotFnd		1.0089						1.16		10575.646	0.666
123679-HxCDF	NotFnd		0.9944						1.16		10575.646	0.666
234678-HxCDF	**36.75**		**1.0004**	**1.0004**	**0**	**1.35E+06**	**1.32**	**Y**	**1.15**	**7.86**	**10575.646**	**0.516**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		10575.646	0.666
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**10575.646**	**0.774**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.78		1.0007	1.0012	+1.1	1.45E+06	1.19	Y	1.16	11.2	10575.646	0.666
1234678-HpCDF	**39.23**		**1.0003**	**1.0003**	**0**	**5.78E+06**	**1.04**	**Y**	**1.36**	**47.5**	**7194.722**	**0.4**
1234679-HpCDF	39.49	**J**	1.0071	1.0069	-0.5	7.59E+04	1.15	Y	1.33	0.707	7194.722	0.455
1234689-HpCDF	39.64		1.0106	1.0108	+0.5	1.64E+06	1.15	Y	1.33	15.3	7194.722	0.455
1234789-HpCDF	**40.58**		**1.0002**	**1.0002**	**0**	**1.82E+06**	**1.02**	**Y**	**1.30**	**19.4**	**7194.722**	**0.525**
OCDF	**42.81**		**1.0003**	**1.0002**	**-0.3**	**1.73E+06**	**0.82**	**Y**	**1.03**	**29**	**7326.198**	**1.03**
OCDF-a	42.81		1.0002	1.0002	0	8.17E+04	2.19	Y	0.06	23.8	10948.825	26.7

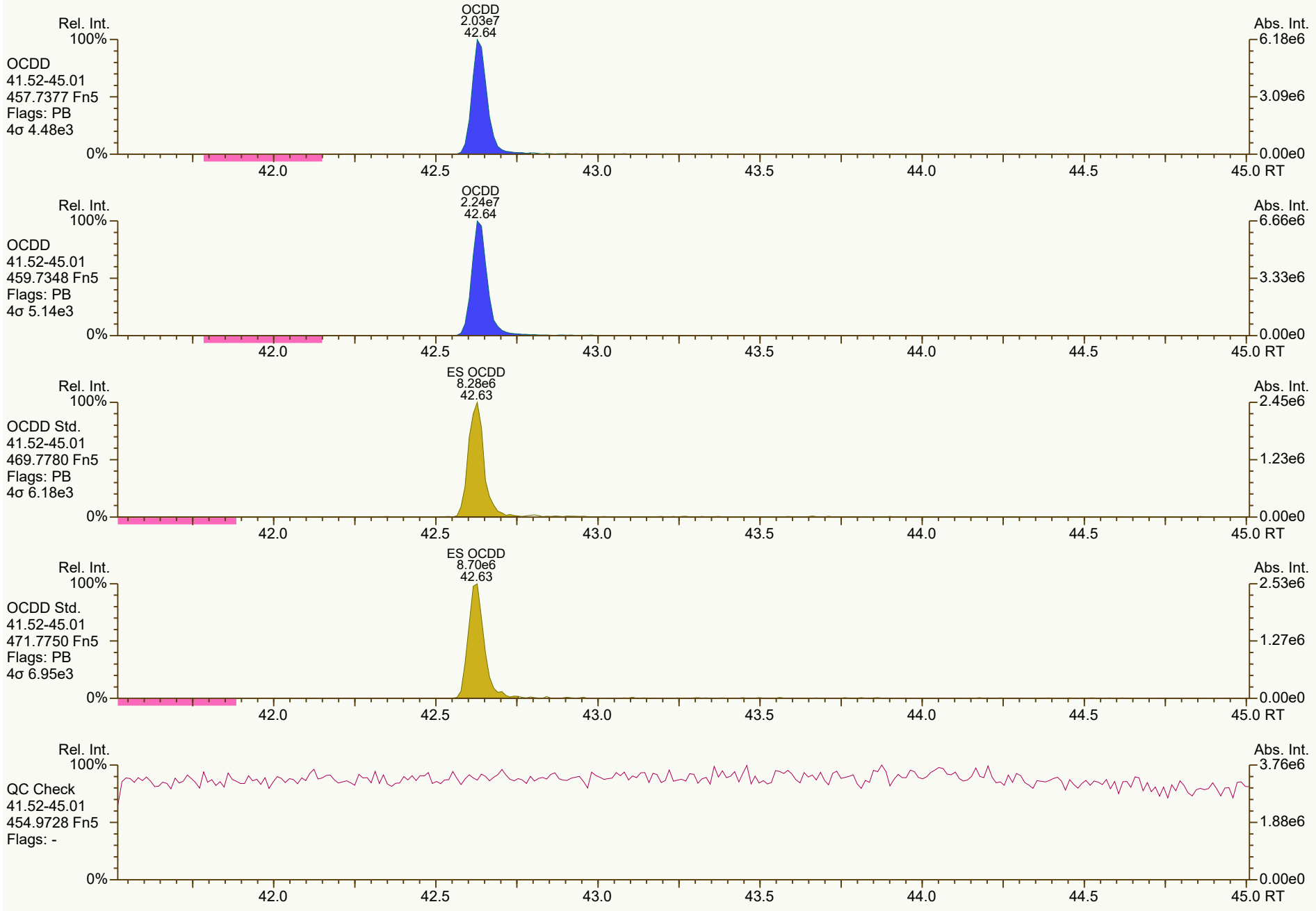

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316.9824 Fn1
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Abs. Int.
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1.34e6
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21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.11e6
1.06e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
7.48e6
3.74e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.76e6
1.88e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 4.00e3
2378D
3.13e7
27.51
1278D
2.72e6
27.86
Abs. Int.
7.48e6
3.74e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 3.64e3
2378D
3.93e7
27.51
1278D
3.45e6
27.85
Abs. Int.
9.29e6
4.64e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.53e3
CS 37Cl-2378D
8.99e6
27.51
Abs. Int.
2.19e6
1.10e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 1.04e4
JS 1234D
8.65e6
26.81
ES 2378D
7.95e6
27.49
Abs. Int.
2.03e6
1.02e6
0.00e0
0%
21.0
22.0
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24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 5.96e3
JS 1234D
1.12e7
26.81
ES 2378D
1.02e7
27.49
Abs. Int.
2.61e6
1.31e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PBM
4σ 3.77e3
12469D
8.57e4*
31.01
12368D
5.14e4*
31.58
12378D
3.71e5*
33.02
12367D
4.80e4*
33.15
Abs. Int.
1.01e5
5.06e4
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PBM
4σ 3.78e3
12469D
5.41e4*
31.01
12368D
4.45e4*
31.58
12378D
2.50e5*
33.02
12367D
3.16e4*
33.16
Abs. Int.
7.18e4
3.59e4
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 5.47e3
CS 12347D
9.40e6
32.49
ES 12378D
9.40e6
33.00
Abs. Int.
2.80e6
1.40e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 6.89e3
CS 12347D
5.72e6
32.49
ES 12378D
5.77e6
33.00
Abs. Int.
1.71e6
8.53e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: B6138_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-40
Acq: 11-Jan-2022 21:18:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220111R16
Rel. Int.
Abs. Int.
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PBM
4σ 2.52e3
124679/124689D
7.55e5
35.23
123679/123689D
3.26e5
36.17
123469D
2.27e4*
36.30
123678D
7.82e4*
37.04
123789D
8.78e4*
37.36
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PBM
4σ 3.43e3
RT
124679/124689D
6.19e5
35.23
123679/123689D
2.46e5
36.17
123469D
2.79e4*
36.30
123678D
6.60e4*
37.05
123789D
6.55e4*
37.35
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PB
4σ 7.30e3
ES 123678D
9.43e6
37.03
ES 123478D
8.61e6
36.92
ES 123789D
9.48e6
37.34
JS 123467D
4.29e6
37.23
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PB
4σ 6.68e3
ES 123678D
7.43e6
37.03
ES 123478D
7.09e6
36.92
ES 123789D
7.62e6
37.34
JS 123467D
3.55e6
37.23
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_001.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3351, 2635 scc: 023-229
PKD: 12-Jan-2022 08:37 Printed: 12-Jan-2022 09:25 Page 4 of 12

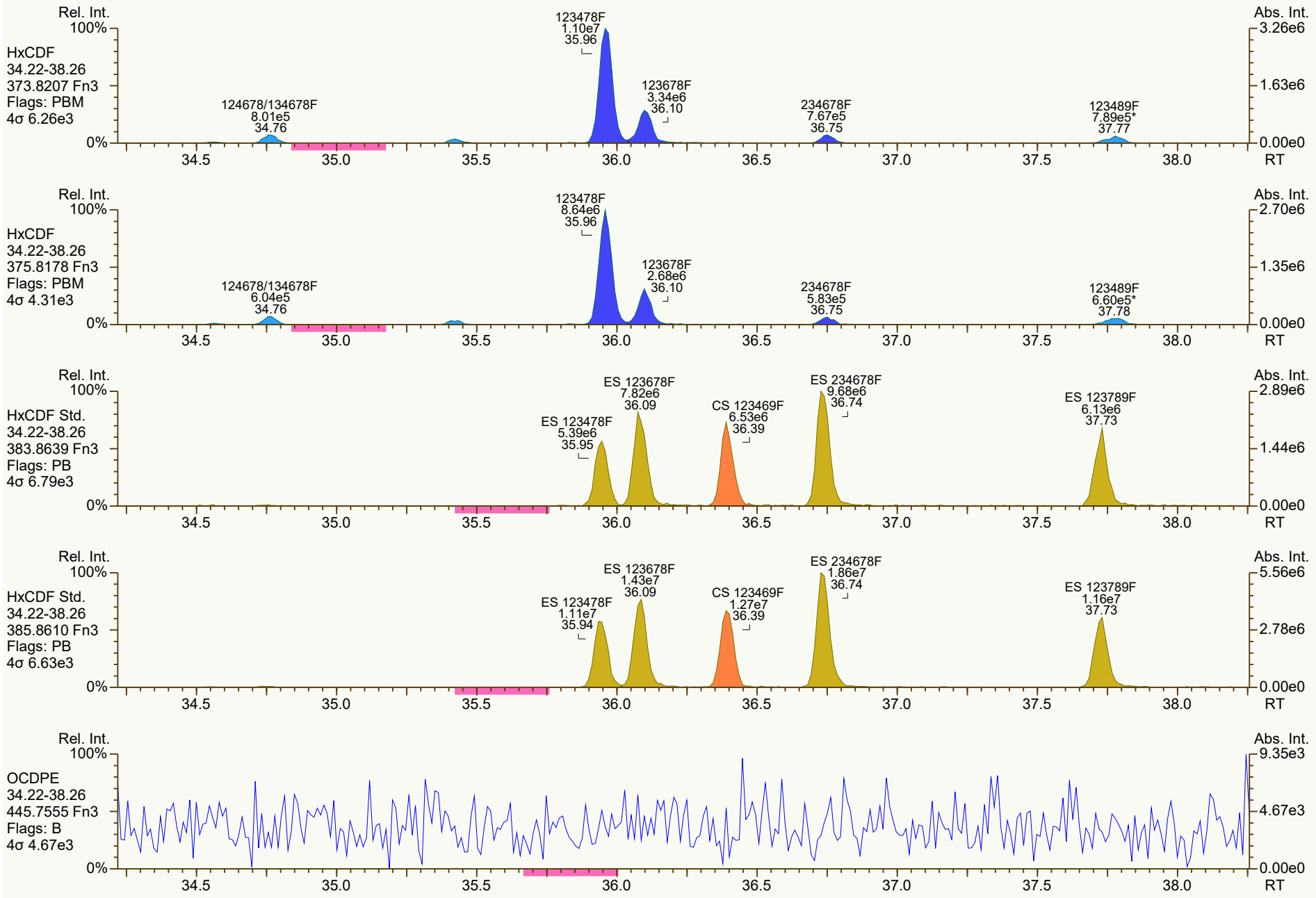

SGS ID: B6138_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-40
Acq: 11-Jan-2022 21:18:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220111R16
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 4.22e3
1234679D
2.93e6
39.50
1234678D
2.25e6
40.15
1.12e6
5.58e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.48e3
1234679D
2.83e6
39.50
1234678D
2.10e6
40.15
1.06e6
5.31e5
0.00e0
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 6.73e3
ES 1234678D
7.70e6
40.14
3.11e6
1.56e6
0.00e0
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 6.44e3
ES 1234678D
6.91e6
40.14
2.73e6
1.37e6
0.00e0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
4.76e6
2.38e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_001.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3292, 3717 scc: 023-229
PKD: 12-Jan-2022 08:37 Printed: 12-Jan-2022 09:25 Page 5 of 12

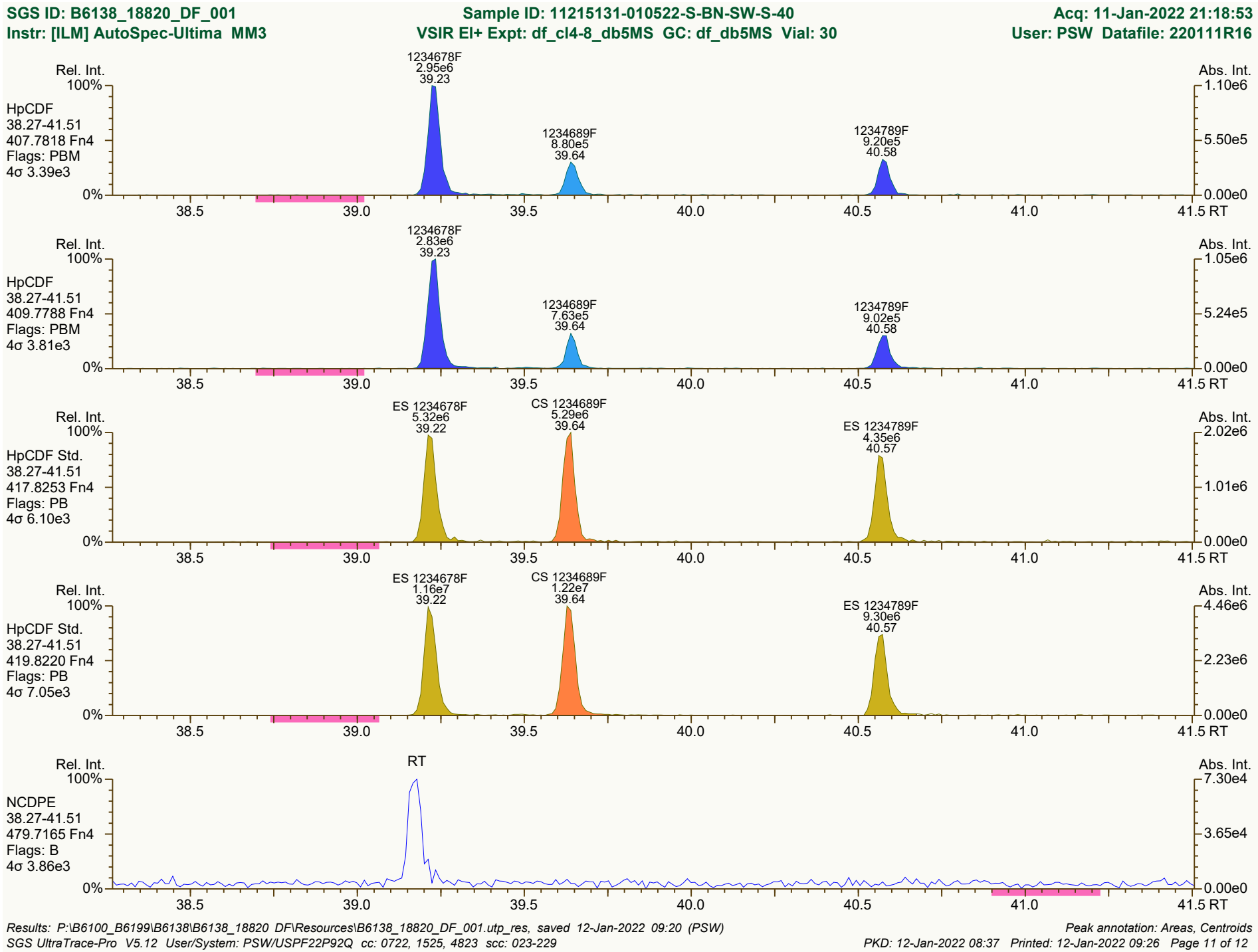

OCDD
2.03e7
42.64
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 4.48e3
0%
Abs. Int.
6.18e6
3.09e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.24e7
42.64
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 5.14e3
0%
Abs. Int.
6.66e6
3.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.28e6
42.63
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.18e3
0%
Abs. Int.
2.45e6
1.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.70e6
42.63
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.95e3
0%
Abs. Int.
2.53e6
1.27e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.76e6
1.88e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

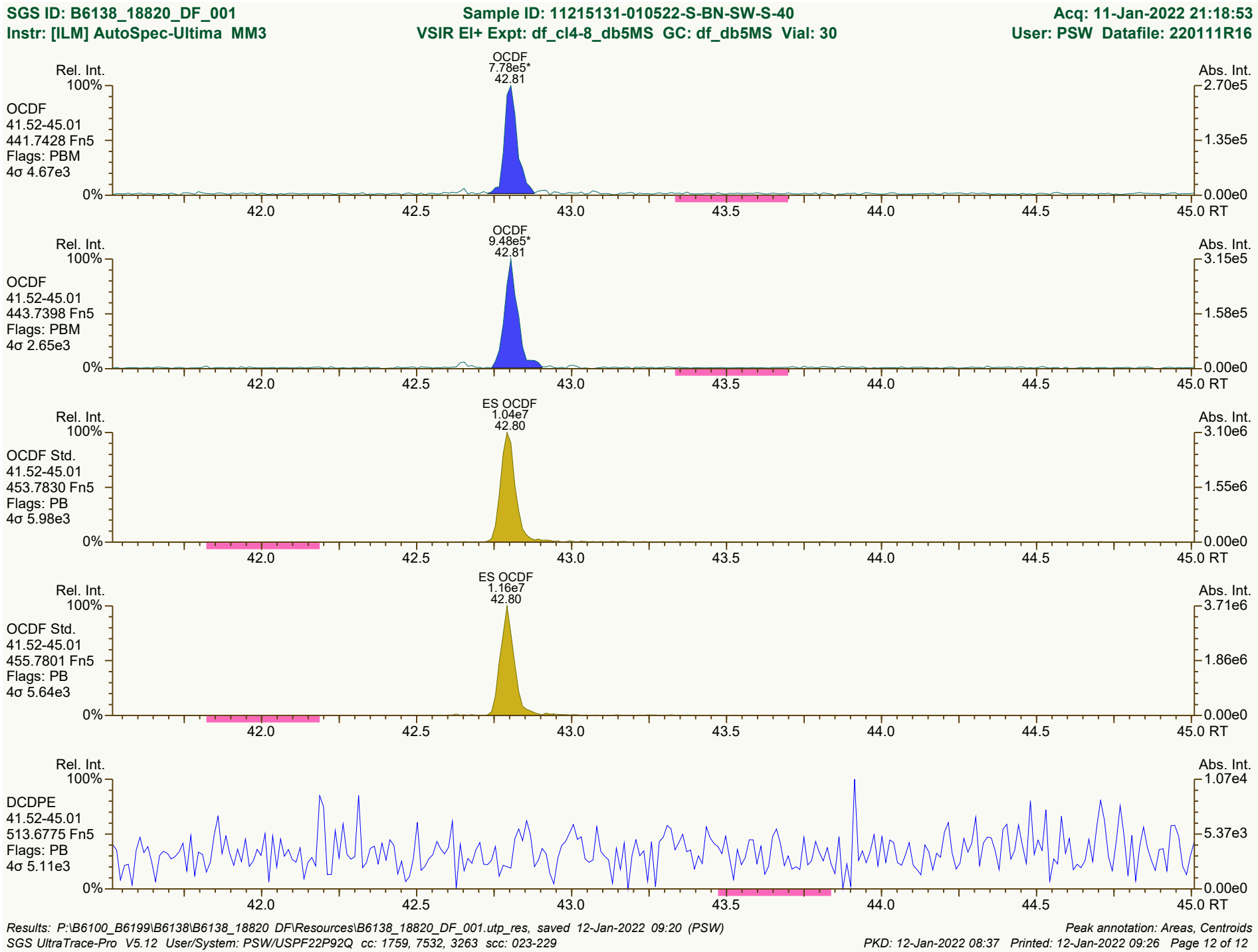

SGS ID: B6138_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-40
Acq: 11-Jan-2022 21:18:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220111R16
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 4.10e3
2378F
1.17e8
26.61
1278F
5.27e7
25.67
2348F
1.02e7
26.50
2367/3467F
8.99e6
26.98
1289F
9.37e6
28.70
2.59e7
1.30e7
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 5.09e3
2378F
1.48e8
26.61
1278F
6.68e7
25.67
2348F
1.31e7
26.50
2367/3467F
1.16e7
26.98
1289F
1.15e7
28.70
3.25e7
1.62e7
0.00e0
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.31e4
JS 1234F
1.25e7
25.16
ES 2378F
1.17e7
26.59
2.86e6
1.43e6
0.00e0
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 7.72e3
JS 1234F
1.58e7
25.16
ES 2378F
1.54e7
26.59
3.44e6
1.72e6
0.00e0
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 5.11e3
2.11e4
1.06e4
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_001.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7978, 0393, 0782 scc: 023-229
PKD: 12-Jan-2022 08:37 Printed: 12-Jan-2022 09:25 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
5.77e4
2.88e4
0.00e0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 3.94e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.05e4
2.03e4
0.00e0
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 4.63e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.69e6
1.34e6
0.00e0
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: B6138_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-40
Acq: 11-Jan-2022 21:18:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220111R16
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PBM
4σ 3.76e3
12368F...[3] 2.64e6* 30.42
12348F 5.42e5 31.32
12378F 7.14e6 31.53
12678/12367F 1.87e6 31.83
23478F 4.73e6* 32.68
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PBM
4σ 3.70e3
12368F...[3] 1.76e6* 30.42
12348F 3.41e5 31.32
12378F 4.56e6 31.53
12678/12367F 1.20e6 31.83
23478F 2.97e6* 32.68
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 5.85e3
CS 12346F 1.50e7 30.98
ES 12378F 1.49e7 31.52
ES 23478F 1.47e7 32.66
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 7.80e3
CS 12346F 9.36e6 30.98
ES 12378F 9.27e6 31.52
ES 23478F 9.33e6 32.66
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.34e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_001.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0920, 9350, 2499 scc: 023-229
PKD: 12-Jan-2022 08:37 Printed: 12-Jan-2022 09:25 Page 9 of 12


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 6.26e3
123478F
1.10e7
35.96
123678F
3.34e6
36.10
124678/134678F
8.01e5
34.76
234678F
7.67e5
36.75
123489F
7.89e5*
37.77
0%
Abs. Int.
3.26e6
1.63e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 4.31e3
123478F
8.64e6
35.96
123678F
2.68e6
36.10
124678/134678F
6.04e5
34.76
234678F
5.83e5
36.75
123489F
6.60e5*
37.78
0%
Abs. Int.
2.70e6
1.35e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 6.79e3
ES 123678F
7.82e6
36.09
ES 234678F
9.68e6
36.74
CS 123469F
6.53e6
36.39
ES 123478F
5.39e6
35.95
ES 123789F
6.13e6
37.73
0%
Abs. Int.
2.89e6
1.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 6.63e3
ES 123678F
1.43e7
36.09
ES 234678F
1.86e7
36.74
CS 123469F
1.27e7
36.39
ES 123478F
1.11e7
35.94
ES 123789F
1.16e7
37.73
0%
Abs. Int.
5.56e6
2.78e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 4.67e3
0%
Abs. Int.
9.35e3
4.67e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: B6138_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-40
Acq: 11-Jan-2022 21:18:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220111R16
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PBM
4σ 3.39e3
1234678F
2.95e6
39.23
1234689F
8.80e5
39.64
1234789F
9.20e5
40.58
1.10e6
5.50e5
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PBM
4σ 3.81e3
1234678F
2.83e6
39.23
1234689F
7.63e5
39.64
1234789F
9.02e5
40.58
1.05e6
5.24e5
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.10e3
ES 1234678F
5.32e6
39.22
CS 1234689F
5.29e6
39.64
ES 1234789F
4.35e6
40.57
2.02e6
1.01e6
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 7.05e3
ES 1234678F
1.16e7
39.22
CS 1234689F
1.22e7
39.64
ES 1234789F
9.30e6
40.57
4.46e6
2.23e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 3.86e3
RT
7.30e4
3.65e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_001.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0722, 1525, 4823 scc: 023-229
PKD: 12-Jan-2022 08:37 Printed: 12-Jan-2022 09:26 Page 11 of 12


SGS ID: B6138_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-40
Acq: 11-Jan-2022 21:18:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220111R16
OCDF
7.78e5*
42.81
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.67e3
0%
Abs. Int.
2.70e5
1.35e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.48e5*
42.81
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.65e3
0%
Abs. Int.
3.15e5
1.58e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.04e7
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 5.98e3
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.16e7
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 5.64e3
0%
Abs. Int.
3.71e6
1.86e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 5.11e3
0%
Abs. Int.
1.07e4
5.37e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_001.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1759, 7532, 3263 scc: 023-229
PKD: 12-Jan-2022 08:37 Printed: 12-Jan-2022 09:26 Page 12 of 12

Lab ID: B6138_18820_DF_002 **Acq'd:** 11 Jan 2022 22:06 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-41 **UTP:** 12-Jan-2022 09:20:29 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 866-080-ZSK

Datafile: 220111R17 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.51	E	1.0008	1.0008	0	2.10E+08	0.78	Y	1.34	1,420	8291.785	0.621
12378-PeCDD	33.01		1.0006	1.0008	+0.4	1.79E+06	1.56	Y	1.06	17.2	9843.022	0.901
123478-HxCDD	36.93	J	1.0004	1.0006	+0.4	1.41E+05	1.18	Y	1.06	1.34	8218.469	0.595
123678-HxCDD	37.04	EMPC	1.0035	1.0034	-0.2	3.61E+05	1.00	N	1.08	3.18	8218.469	0.594
123789-HxCDD	37.34	J EMPC	1.0117	1.0118	+0.2	2.24E+05	1.84	N	1.02	2.12	8218.469	0.695
1234678-HpCDD	40.14		1.0003	1.0003	0	1.52E+07	1.06	Y	0.97	172	8256.442	0.595
OCDD	42.63		1.0003	1.0003	0	5.85E+08	0.89	Y	1.07	8,420	8911.506	0.998
2378-TCDF	26.61	E	1.0008	1.0009	+0.2	7.84E+08	0.80	Y	0.96	4,650	7922.718	0.525
12378-PeCDF	31.52		1.0005	1.0006	+0.2	2.65E+07	1.57	Y	0.95	196	8753.881	0.609
23478-PeCDF	32.67		1.0006	1.0007	+0.2	2.11E+07	1.61	Y	0.94	145	8753.881	0.507
123478-HxCDF	35.95		1.0004	1.0005	+0.2	4.77E+07	1.24	Y	1.23	353	12830.988	0.762
123678-HxCDF	36.09		1.0004	1.0005	+0.2	1.40E+07	1.22	Y	1.13	89.1	12830.988	0.714
234678-HxCDF	36.74		1.0004	1.0004	0	3.12E+06	1.22	Y	1.15	15.6	12830.988	0.509
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	12830.988	0.84
1234678-HpCDF	39.22		1.0003	1.0003	0	1.51E+07	1.05	Y	1.36	106	6948.89	0.309
1234789-HpCDF	40.57		1.0002	1.0003	+0.2	5.32E+06	1.07	Y	1.30	45.7	6948.89	0.372
OCDF	42.80		1.0003	1.0003	0	5.00E+06	0.97	Y	1.03	68.2	8858.096	0.954

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.48	1.0251	1.0252	+0.2	2.19E+07	0.78	Y	1.03	85.5
ES 12378-PeCDD	32.99	1.2290	1.2306	+3.2	1.96E+07	1.64	Y	1.03	76.5
ES 123478-HxCDD	36.91	0.9915	0.9915	0	1.98E+07	1.33	Y	0.99	93.7
ES 123678-HxCDD	37.02	0.9947	0.9946	-0.2	2.09E+07	1.21	Y	0.97	101
ES 123789-HxCDD	37.33	1.0028	1.0029	+0.2	2.07E+07	1.24	Y	1.12	86.6
ES 1234678-HpCDD	40.13	1.0771	1.0780	+2.2	1.80E+07	1.08	Y	0.99	85.2
ES OCDD	42.62	1.1441	1.1450	+2.3	2.58E+07	0.97	Y	0.78	78.2
ES 2378-TCDF	26.59	1.0562	1.0568	+1.0	3.49E+07	0.79	Y	1.08	89.5
ES 12378-PeCDF	31.51	1.2501	1.2523	+4.2	2.85E+07	1.52	Y	0.93	84.7
ES 23478-PeCDF	32.65	1.2950	1.2977	+5.3	3.09E+07	1.50	Y	0.92	93.1
ES 123478-HxCDF	35.93	0.9654	0.9653	-0.2	2.18E+07	0.49	Y	1.14	89.6
ES 123678-HxCDF	36.08	0.9691	0.9692	+0.2	2.77E+07	0.51	Y	1.30	100
ES 234678-HxCDF	36.73	0.9867	0.9867	0	3.46E+07	0.55	Y	1.20	136
ES 123789-HxCDF	37.72	1.0134	1.0133	-0.2	2.23E+07	0.51	Y	1.14	92.3
ES 1234678-HpCDF	39.21	1.0527	1.0534	+1.6	2.08E+07	0.47	Y	0.95	103
ES 1234789-HpCDF	40.56	1.0887	1.0896	+2.2	1.78E+07	0.44	Y	0.85	99
ES OCDF	42.79	1.1487	1.1495	+2.1	2.84E+07	0.92	Y	0.93	72.2

Lab ID: B6138_18820_DF_002 **Acq'd:** 11 Jan 2022 22:06 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-41 **UTP:** 12-Jan-2022 09:20:29 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 866-080-ZSK

Datafile: 220111R17 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.81		-	-	-	2.48E+07	0.78	Y	-	-
JS 1234-TCDF	25.16		-	-	-	3.60E+07	0.74	Y	-	-
JS 123467-HxCDD	37.22		-	-	-	1.06E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	27.51		1.0260	1.0261	+0.2	1.12E+07	n/a	-	1.31	86.5
CS 12347-PeCDD	32.48		1.2102	1.2117	+2.9	2.02E+07	1.53	Y	0.89	91.4
CS 12346-PeCDF	30.97		1.2289	1.2310	+3.9	3.09E+07	1.56	Y	0.87	98.9
CS 123469-HxCDF	36.38		0.9774	0.9774	0	2.48E+07	0.54	Y	1.09	107
CS 1234689-HpCDF	39.63		1.0636	1.0645	+2.1	2.27E+07	0.44	Y	0.86	123
~~SS 37Cl-2378-TCDD~~	~~27.51~~		~~1.0260~~	~~1.0261~~	~~+0.2~~	~~1.12E+07~~	~~n/a~~		~~1.26~~	~~102~~
~~SS 12347-PeCDD~~	~~32.48~~		~~1.2102~~	~~1.2117~~	~~+2.9~~	~~2.02E+07~~	~~1.53~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~30.97~~		~~1.2289~~	~~1.2310~~	~~+3.9~~	~~3.09E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~117~~
~~SS 123469-HxCDF~~	~~36.38~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.48E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0645~~	~~+2.1~~	~~2.27E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~119~~

Totals	Conc	EMPC
Total TCDD	1550	1590
Total PeCDD	21.4	25.1
Total HxCDD	37.5	45.6
Total HpCDD	378	378
Total Tetra-Octa Dioxins	10400	10500
Total TCDF	9,130	9130
Total PeCDF	520	520
Total HxCDF	514	517
Total HpCDF	193	194
Total Tetra-Octa Furans	10,400	10400
Total Tetra-Octa Dioxins & Furans	20800	20900

Lab ID: B6138_18820_DF_002 **Acq'd:** 11 Jan 2022 22:06 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-41 **UTP:** 12-Jan-2022 09:20:29 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 866-080-ZSK

Datafile: 220111R17 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.67	EMPC	0.8626	0.8614	-1.7	2.80E+05	0.89	N	1.34	1.89	8291.785	0.621
1379-TCDD	24.04	EMPC	0.8763	0.8747	-2.3	1.01E+05	1.10	N	1.34	0.686	8291.785	0.621
1369-TCDD	NotFnd		0.8929						1.34		8291.785	0.621
1469-TCDD	25.34		0.9227	0.9219	-1.2	4.02E+05	0.79	Y	1.34	2.72	8291.785	0.621
1247/1246/1248/1249-TCDD	25.59	EMPC	0.9317	0.9311	-0.9	4.04E+05	1.02	N	1.34	2.73	8291.785	0.621
1378-TCDD	25.79		0.9389	0.9383	-0.9	5.90E+05	0.83	Y	1.34	3.99	8291.785	0.621
1268-TCDD	NotFnd		0.9463						1.34		8291.785	0.621
1478-TCDD	26.26		0.9556	0.9554	-0.3	4.95E+05	0.81	Y	1.34	3.34	8291.785	0.621
1279-TCDD	NotFnd		0.9620						1.34		8291.785	0.621
1234/1269-TCDD	NotFnd		0.9753						1.34		8291.785	0.621
1236-TCDD	NotFnd		0.9806						1.34		8291.785	0.621
1237/1238-TCDD	27.19	EMPC	0.9900	0.9893	-1.1	3.02E+06	0.90	N	1.34	20.4	8291.785	0.621
1239-TCDD	NotFnd		0.9951						1.34		8291.785	0.621
2378-TCDD	**27.51**	E	**1.0008**	1.0008	**0**	2.10E+08	0.78	Y	**1.34**	**1,420**	**8291.785**	**0.621**
1278-TCDD	27.85		1.0131	1.0133	+0.3	1.71E+07	0.80	Y	1.34	115	8291.785	0.621
1267-TCDD	27.98	EMPC	1.0182	1.0179	-0.5	8.72E+05	1.26	N	1.34	5.89	8291.785	0.621
1289-TCDD	28.49	EMPC	1.0373	1.0368	-0.9	1.06E+06	1.50	N	1.34	7.2	8291.785	0.621
12479/12468-PeCDD	30.45	J EMPC	0.9237	0.9232	-0.9	1.31E+05	2.42	N	1.06	1.26	9843.022	0.901
12469-PeCDD	31.01	J	0.9402	0.9401	-0.2	2.47E+05	1.43	Y	1.06	2.37	9843.022	0.901
12368-PeCDD	31.57	J	0.9572	0.9569	-0.6	1.96E+05	1.60	Y	1.06	1.88	9843.022	0.901
12478-PeCDD	31.76	J EMPC	0.9629	0.9628	-0.2	1.37E+05	1.89	N	1.06	1.31	9843.022	0.901
12379-PeCDD	NotFnd		0.9660						1.06		9843.022	0.901
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		9843.022	0.901
12346/12347-PeCDD	NotFnd		0.9854						1.06		9843.022	0.901
12378-PeCDD	33.01		**1.0006**	**1.0008**	**+0.4**	**1.79E+06**	**1.56**	**Y**	**1.06**	**17.2**	**9843.022**	**0.901**
12367-PeCDD	33.13	J EMPC	1.0034	1.0043	+1.8	1.11E+05	2.31	N	1.06	1.07	9843.022	0.901
12389-PeCDD	NotFnd		1.0141						1.06		9843.022	0.901
124679/124689-HxCDD	35.22		0.9542	0.9542	0	2.40E+06	1.13	Y	1.05	22.2	8218.469	0.627
123468-HxCDD	35.87	J EMPC	0.9720	0.9719	-0.2	1.15E+05	1.77	N	1.05	1.06	8218.469	0.627
123679/123689-HxCDD	36.16		0.9798	0.9798	0	1.51E+06	1.19	Y	1.05	13.9	8218.469	0.627
123469-HxCDD	36.28	J EMPC	0.9836	0.9830	-1.3	1.03E+05	1.60	N	1.05	0.948	8218.469	0.627
123478-HxCDD	36.93	J	**1.0004**	**1.0006**	**+0.4**	**1.41E+05**	**1.18**	**Y**	1.06	**1.34**	**8218.469**	**0.595**
123678-HxCDD	37.04	EMPC	**1.0035**	**1.0034**	**-0.2**	**3.61E+05**	**1.00**	**N**	1.08	**3.18**	**8218.469**	**0.594**
123467-HxCDD	37.24	J EMPC	1.0089	1.0088	-0.2	8.92E+04	1.59	N	1.05	0.825	8218.469	0.627
123789-HxCDD	37.34	J EMPC	**1.0117**	**1.0118**	**+0.2**	**2.24E+05**	**1.84**	**N**	1.02	**2.12**	**8218.469**	**0.695**

Lab ID: B6138_18820_DF_002 **Acq'd:** 11 Jan 2022 22:06 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-41 **UTP:** 12-Jan-2022 09:20:29 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 866-080-ZSK

Datafile: 220111R17 **Report:** 12 Jan 2022 09:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

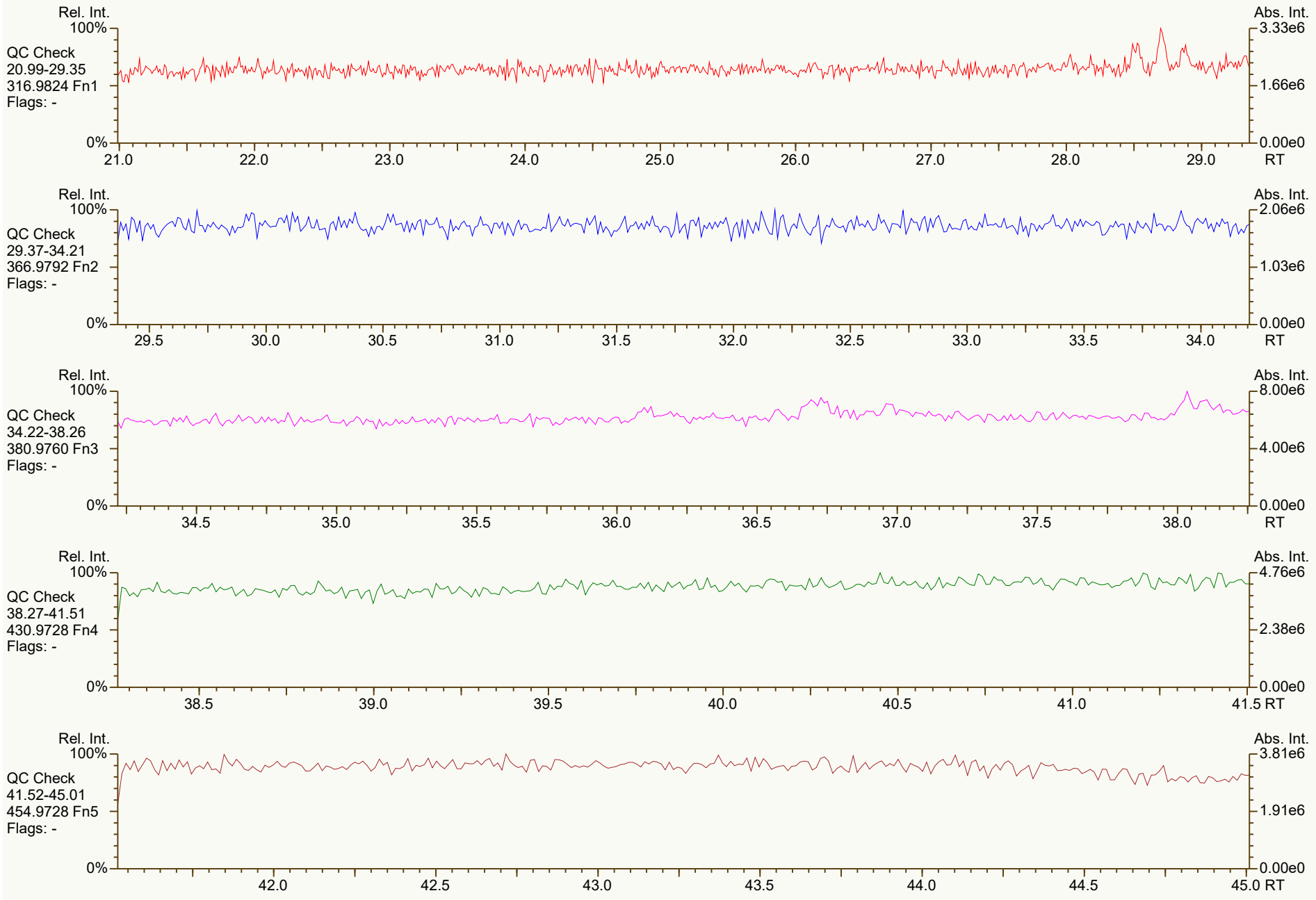
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.49		0.9842	0.9842	0	1.81E+07	1.06	Y	0.97	206	8256.442	0.595
1234678-HpCDD	**40.14**		**1.0003**	**1.0003**	**0**	**1.52E+07**	**1.06**	**Y**	**0.97**	**172**	**8256.442**	**0.595**
OCDD	**42.63**		**1.0003**	**1.0003**	**0**	**5.85E+08**	**0.89**	**Y**	**1.07**	**8,420**	**8911.506**	**0.998**
OCDD-a	42.63		1.0002	1.0002	0	3.54E+07	2.50	Y	0.07	8,270	14266.192	25.9
1368-TCDF	21.44		0.8080	0.8064	-2.1	1.58E+05	0.76	Y	0.96	0.939	7922.718	0.525
1468-TCDF	22.03		0.8299	0.8284	-2.0	1.35E+06	0.81	Y	0.96	8	7922.718	0.525
2468-TCDF	22.70		0.8555	0.8538	-2.3	8.86E+05	0.83	Y	0.96	5.25	7922.718	0.525
1346/1246-TCDF	23.16		0.8688	0.8711	+3.2	1.10E+06	0.74	Y	0.96	6.52	7922.718	0.525
1347/1378/1247-TCDF	23.29		0.8753	0.8758	+0.7	7.96E+06	0.80	Y	0.96	47.2	7922.718	0.525
1348-TCDF	23.53		0.8863	0.8848	-2.1	2.18E+06	0.77	Y	0.96	13	7922.718	0.525
1248/1367/1379-TCDF	23.64		0.8915	0.8892	-3.3	3.64E+07	0.81	Y	0.96	216	7922.718	0.525
1268-TCDF	24.08		0.9065	0.9057	-1.2	1.16E+07	0.76	Y	0.96	69	7922.718	0.525
1467-TCDF	24.22		0.9119	0.9111	-1.2	1.67E+06	0.78	Y	0.96	9.92	7922.718	0.525
1478-TCDF	24.40		0.9186	0.9177	-1.3	3.04E+07	0.80	Y	0.96	180	7922.718	0.525
1369/1237-TCDF	24.80		0.9331	0.9326	-0.7	7.78E+06	0.83	Y	0.96	46.1	7922.718	0.525
2467-TCDF	24.93		0.9384	0.9377	-1.0	9.12E+05	0.77	Y	0.96	5.41	7922.718	0.525
2368-TCDF	25.09		0.9445	0.9436	-1.4	1.99E+07	0.80	Y	0.96	118	7922.718	0.525
1238/1234/1678/1469/1236-TCDF	25.17		0.9476	0.9467	-1.4	4.14E+07	0.81	Y	0.96	245	7922.718	0.525
1278-TCDF	25.66	E	0.9656	0.9651	-0.8	3.52E+08	0.80	Y	0.96	2,090	7922.718	0.525
1349-TCDF	NotFnd		0.9703						0.96		7922.718	0.525
1267-TCDF	25.95		0.9765	0.9761	-0.6	1.85E+07	0.79	Y	0.96	109	7922.718	0.525
2346/1249-TCDF	26.17		0.9836	0.9841	+0.8	2.50E+06	0.87	Y	0.96	14.8	7922.718	0.525
2347/1279-TCDF	26.37		0.9921	0.9918	-0.5	8.23E+06	0.80	Y	0.96	48.8	7922.718	0.525
2348-TCDF	26.50		0.9965	0.9968	+0.5	7.40E+07	0.77	Y	0.96	439	7922.718	0.525
2378-TCDF	**26.61**	E	**1.0008**	**1.0009**	**+0.2**	**7.84E+08**	**0.80**	**Y**	**0.96**	**4,650**	**7922.718**	**0.525**
2367/3467-TCDF	26.98		1.0150	1.0147	-0.5	6.08E+07	0.80	Y	0.96	361	7922.718	0.525
1269-TCDF	27.24		1.0243	1.0245	+0.3	1.28E+07	0.79	Y	0.96	75.9	7922.718	0.525
1239-TCDF	27.50		1.0345	1.0344	-0.2	1.19E+06	0.81	Y	0.96	7.04	7922.718	0.525
1289-TCDF	28.70		1.0780	1.0793	+2.2	6.23E+07	0.79	Y	0.96	370	7922.718	0.525
13468/12468-PeCDF	28.66		0.9095	0.9098	+0.5	6.43E+05	1.52	Y	0.94	4.57	9580.231	0.608
13678/13467/12467-PeCDF	30.25	J	0.9595	0.9601	+1.1	2.96E+05	1.70	Y	0.94	2.11	8753.881	0.556
12368/13478/12478-PeCDF	30.41		0.9646	0.9652	+1.1	1.11E+07	1.57	Y	0.94	78.8	8753.881	0.556
14678-PeCDF	30.50	J	0.9678	0.9681	+0.5	2.20E+05	1.59	Y	0.94	1.57	8753.881	0.556
13479-PeCDF	NotFnd		0.9710						0.94		8753.881	0.556
13469/12479-PeCDF	NotFnd		0.9790						0.94		8753.881	0.556
12346-PeCDF	NotFnd		0.9835						0.94		8753.881	0.556

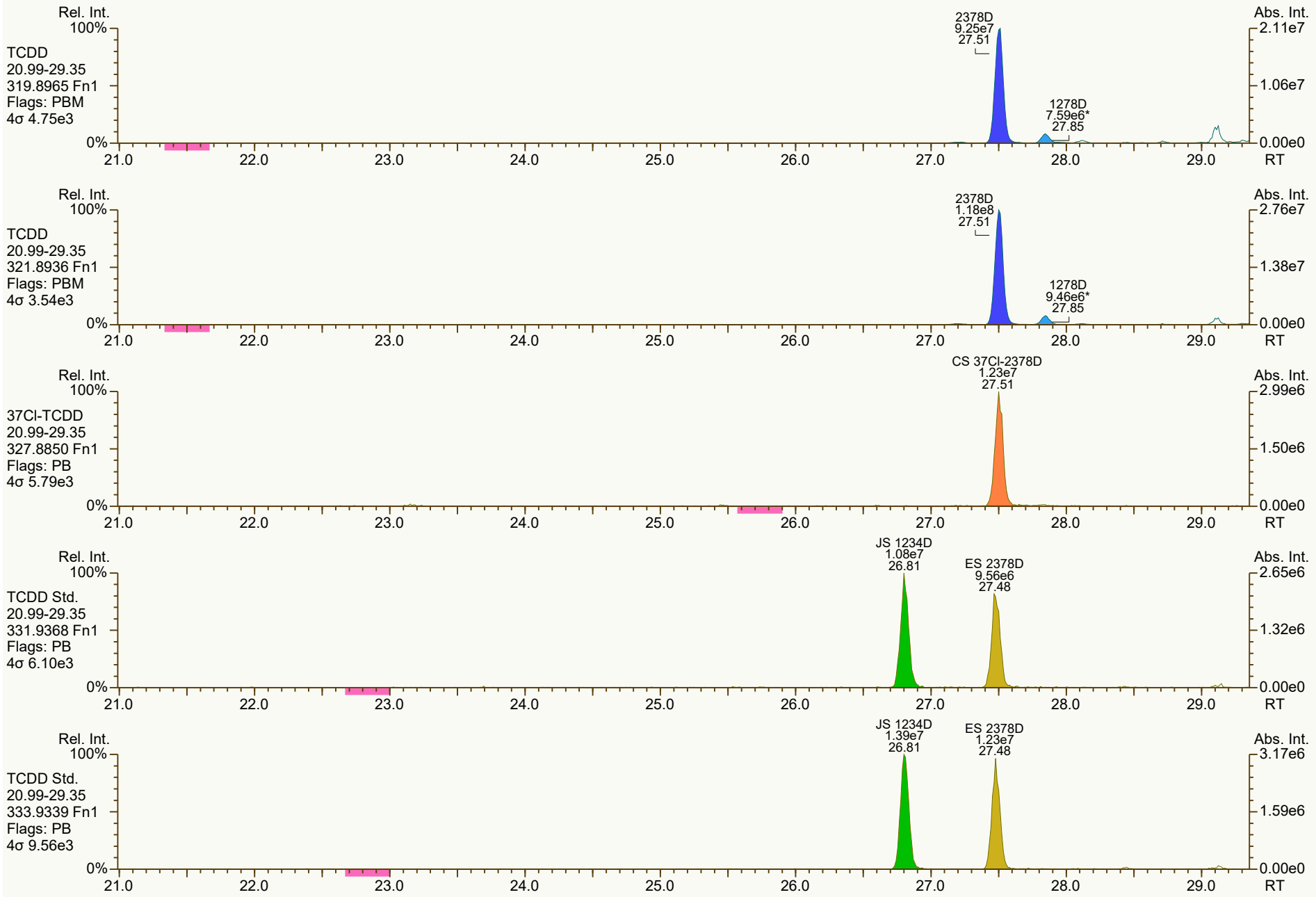
Lab ID: B6138_18820_DF_002 | **Acq'd: 11 Jan 2022 22:06 PSW** | **Wt/Vol: 10.05 g** | **ICAL: MM3_DF_10272021_27JUL2021**

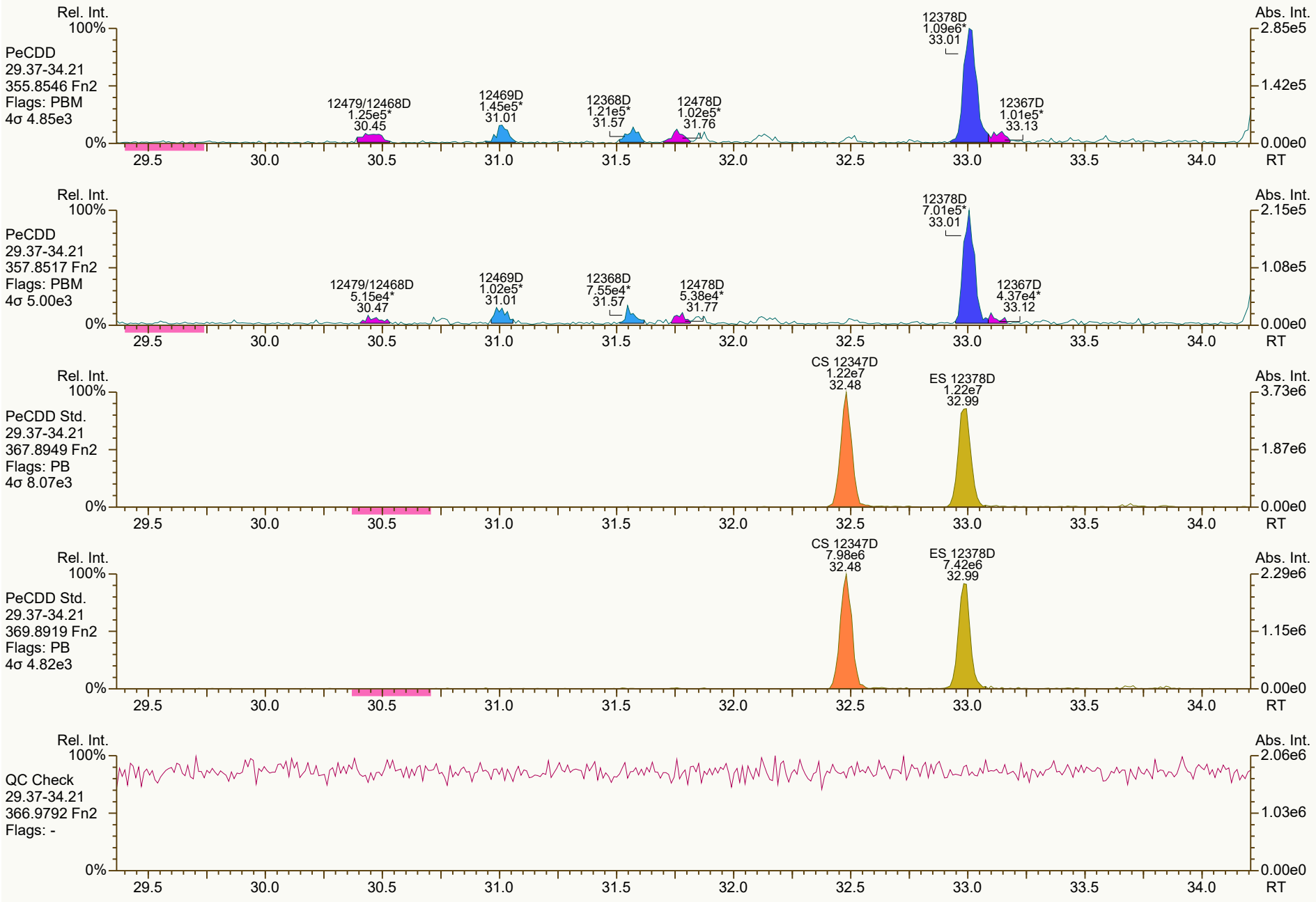
Client ID: 11215131-010522-S-BN-SW-S-41 | **UTP: 12-Jan-2022 09:20:29 PSW** | **J-level: 0.498 pg/g** | **Split: 1** | **Checkcode: 866-080-ZSK**

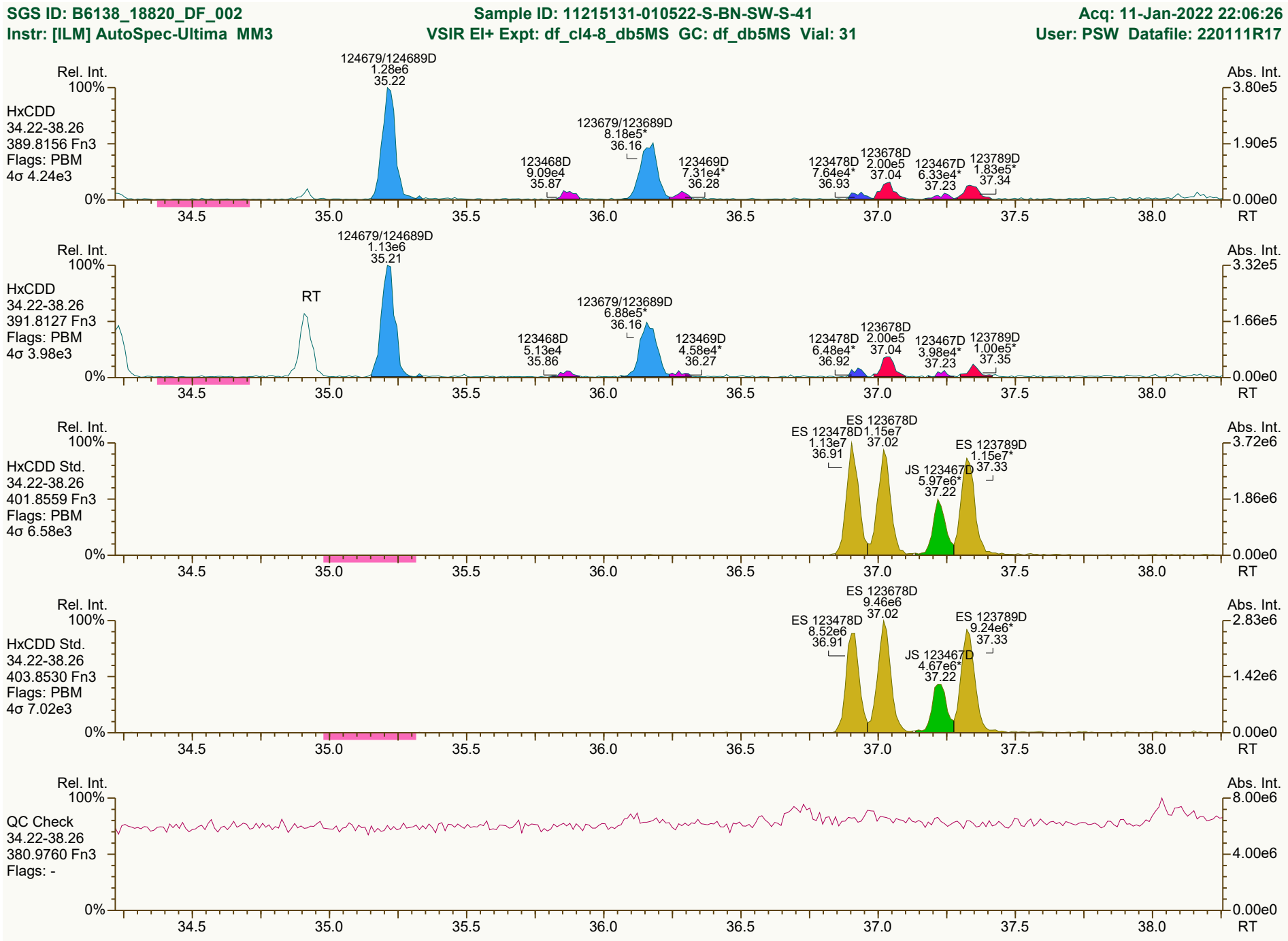
Datafile: 220111R17 | **Report: 12 Jan 2022 09:21 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

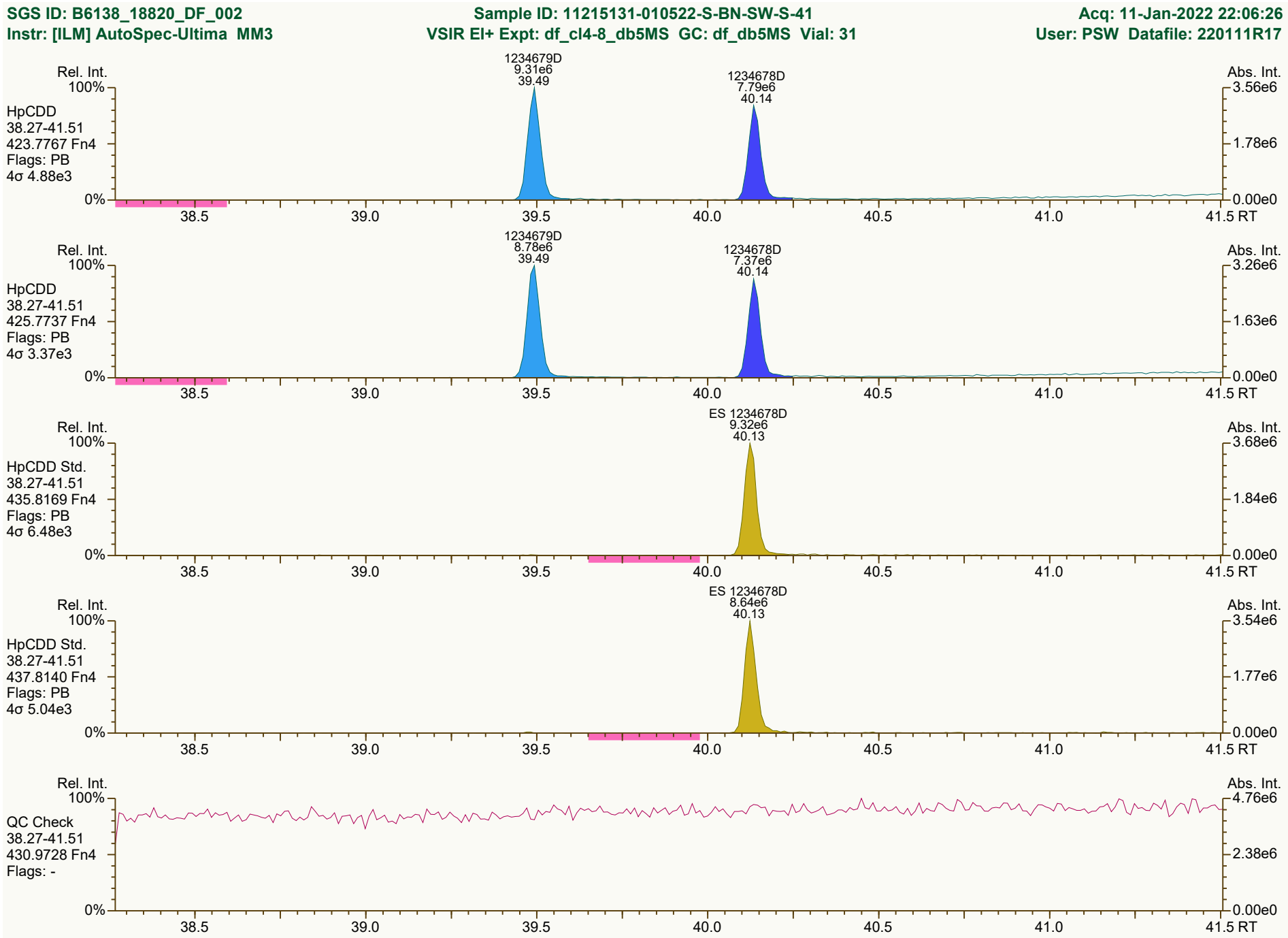
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.07		0.9864	0.9861	-0.6	4.43E+05	1.35	Y	0.94	3.15	8753.881	0.556
12347-PeCDF	31.15		0.9888	0.9885	-0.6	5.55E+05	1.61	Y	0.94	3.95	8753.881	0.556
12348-PeCDF	31.31		0.9939	0.9938	-0.2	2.35E+06	1.50	Y	0.94	16.7	8753.881	0.556
12378-PeCDF	**31.52**		**1.0005**	**1.0006**	**+0.2**	**2.65E+07**	**1.57**	**Y**	**0.95**	**196**	**8753.881**	**0.609**
12678/12367-PeCDF	31.83		1.0094	1.0102	+1.5	8.19E+06	1.53	Y	0.94	58.2	8753.881	0.556
12379-PeCDF	NotFnd		1.0149						0.94		8753.881	0.556
12679-PeCDF	NotFnd		0.9925						0.94		8753.881	0.556
23467/12369-PeCDF	32.53		0.9965	0.9964	-0.2	3.82E+05	1.40	Y	0.94	2.72	8753.881	0.556
23478-PeCDF	**32.67**		**1.0006**	**1.0007**	**+0.2**	**2.11E+07**	**1.61**	**Y**	**0.94**	**145**	**8753.881**	**0.507**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		8753.881	0.556
12349-PeCDF	NotFnd		1.0104						0.94		8753.881	0.556
12389-PeCDF	33.75		1.0336	1.0337	+0.2	1.05E+06	1.54	Y	0.94	7.5	8753.881	0.556
123468-HxCDF	34.56	J EMPC	0.9618	0.9617	-0.2	3.81E+05	1.43	N	1.16	2.45	12830.988	0.682
124678/134678-HxCDF	34.75		0.9673	0.9672	-0.2	3.47E+06	1.21	Y	1.16	22.3	12830.988	0.682
134679-HxCDF	NotFnd		0.9737						1.16		12830.988	0.682
124679-HxCDF	NotFnd		0.9793						1.16		12830.988	0.682
124689-HxCDF	35.42		0.9855	0.9855	0	1.73E+06	1.23	Y	1.16	11.1	12830.988	0.682
123467-HxCDF	35.83	J	0.9972	0.9972	0	1.97E+05	1.10	Y	1.16	1.27	12830.988	0.682
123478-HxCDF	**35.95**		**1.0004**	**1.0005**	**+0.2**	**4.77E+07**	**1.24**	**Y**	**1.23**	**353**	**12830.988**	**0.762**
123678-HxCDF	**36.09**		**1.0004**	**1.0005**	**+0.2**	**1.40E+07**	**1.22**	**Y**	**1.13**	**89.1**	**12830.988**	**0.714**
123479-HxCDF	NotFnd		1.0049						1.16		12830.988	0.682
123469-HxCDF	NotFnd		1.0089						1.16		12830.988	0.682
123679-HxCDF	NotFnd		0.9944						1.16		12830.988	0.682
234678-HxCDF	**36.74**		**1.0004**	**1.0004**	**0**	**3.12E+06**	**1.22**	**Y**	**1.15**	**15.6**	**12830.988**	**0.509**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12830.988	0.682
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**12830.988**	**0.84**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.77		1.0007	1.0013	+1.4	3.43E+06	1.23	Y	1.16	22	12830.988	0.682
1234678-HpCDF	**39.22**		**1.0003**	**1.0003**	**0**	**1.51E+07**	**1.05**	**Y**	**1.36**	**106**	**6948.89**	**0.309**
1234679-HpCDF	39.49	**J EMPC**	1.0071	1.0071	0	1.71E+05	0.83	N	1.33	1.32	6948.89	0.338
1234689-HpCDF	39.64		1.0106	1.0109	+0.7	5.31E+06	1.09	Y	1.33	41.1	6948.89	0.338
1234789-HpCDF	**40.57**		**1.0002**	**1.0003**	**+0.2**	**5.32E+06**	**1.07**	**Y**	**1.30**	**45.7**	**6948.89**	**0.372**
OCDF	**42.80**		**1.0003**	**1.0003**	**0**	**5.00E+06**	**0.97**	**Y**	**1.03**	**68.2**	**8858.096**	**0.954**
OCDF-a	42.80		1.0002	1.0002	0	3.20E+05	2.18	Y	0.06	75.5	11354.315	21.2

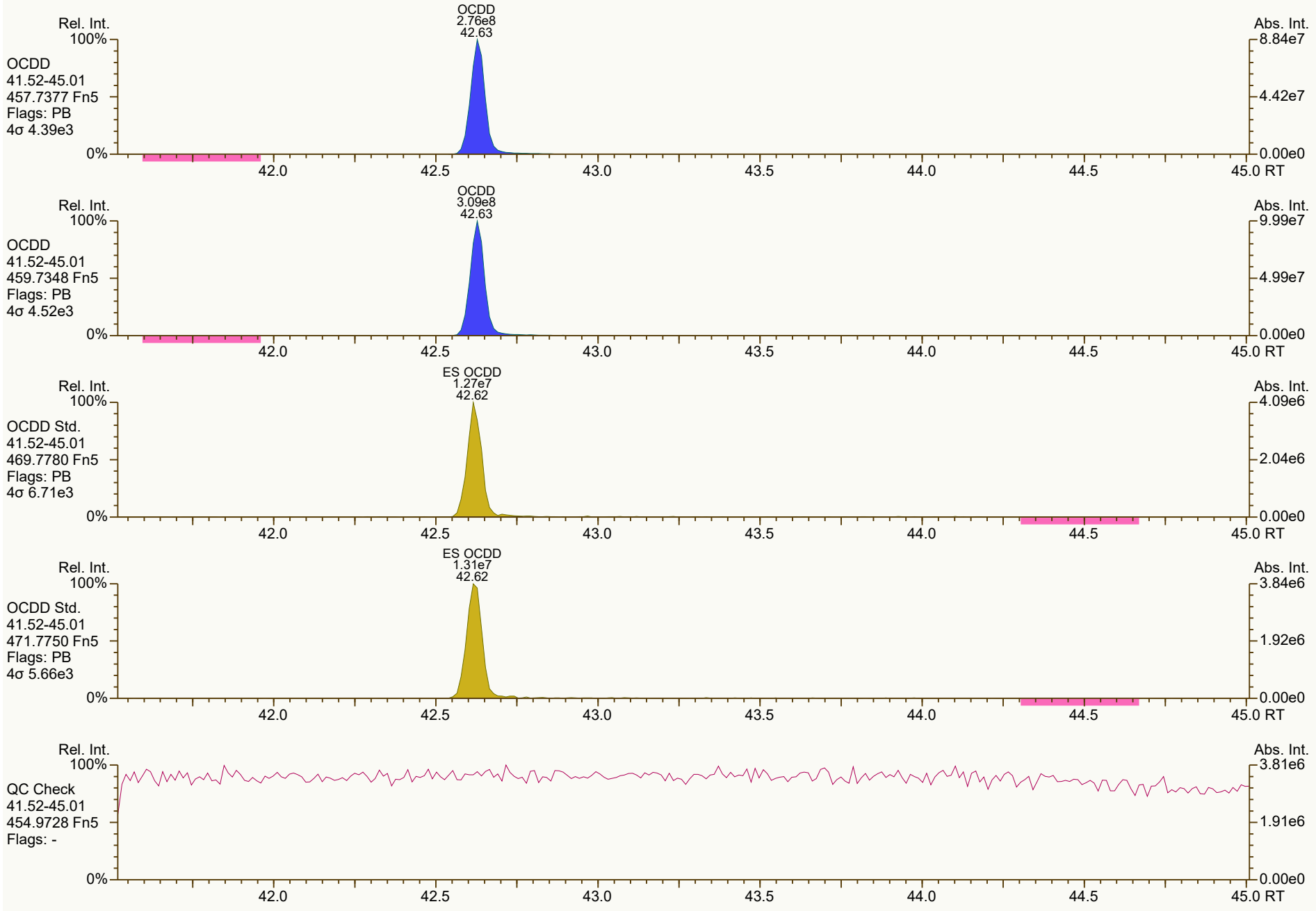

Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.33e6
1.66e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.06e6
1.03e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.00e6
4.00e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.81e6
1.91e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 4.75e3
2378D
9.25e7
27.51
1278D
7.59e6*
27.85
Abs. Int.
2.11e7
1.06e7
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 3.54e3
2378D
1.18e8
27.51
1278D
9.46e6*
27.85
Abs. Int.
2.76e7
1.38e7
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 5.79e3
CS 37Cl-2378D
1.23e7
27.51
Abs. Int.
2.99e6
1.50e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 6.10e3
JS 1234D
1.08e7
26.81
ES 2378D
9.56e6
27.48
Abs. Int.
2.65e6
1.32e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 9.56e3
JS 1234D
1.39e7
26.81
ES 2378D
1.23e7
27.48
Abs. Int.
3.17e6
1.59e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

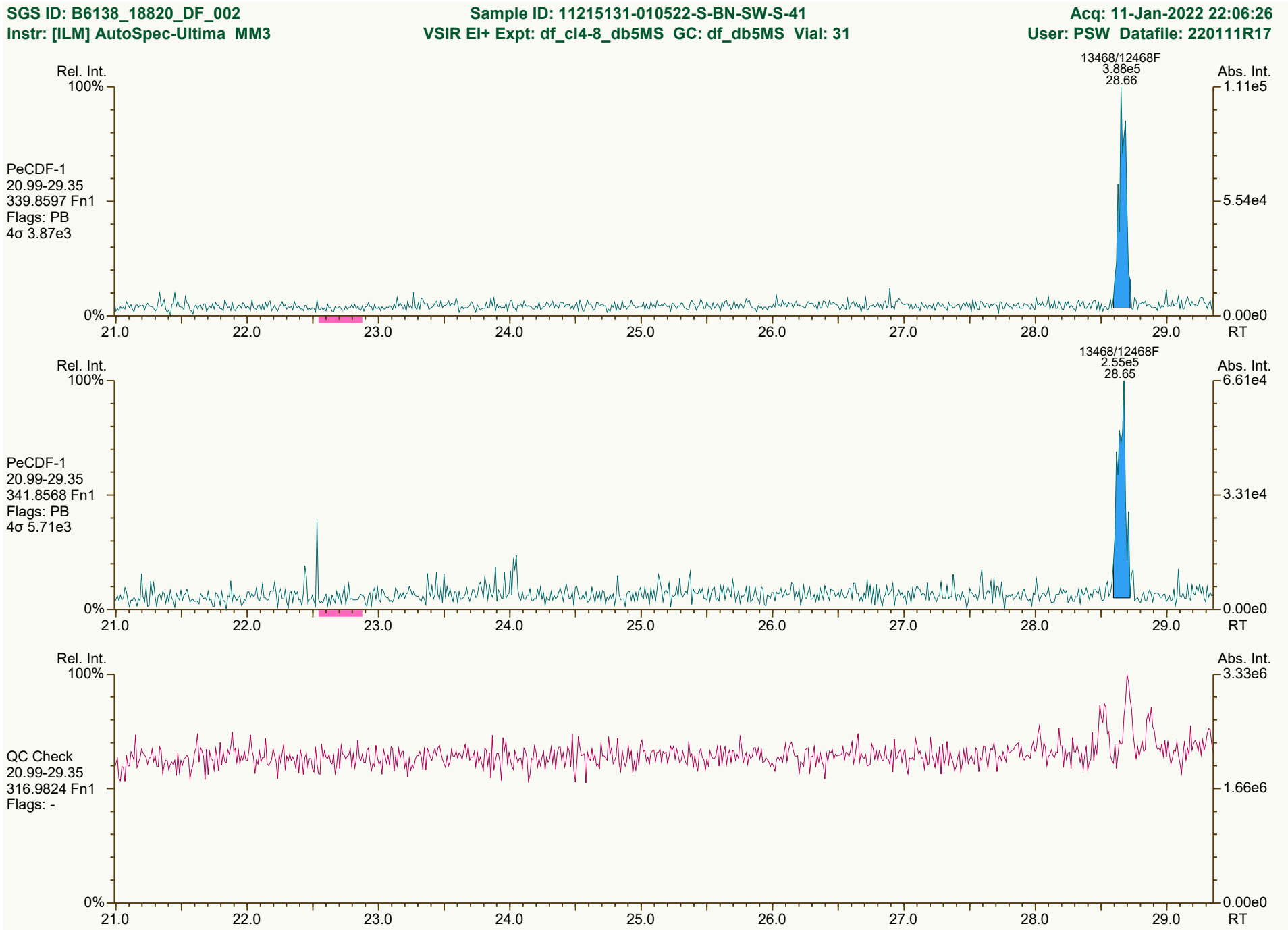

Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PBM
4σ 4.85e3
0%
12479/12468D
1.25e5*
30.45
12469D
1.45e5*
31.01
12368D
1.21e5*
31.57
12478D
1.02e5*
31.76
12378D
1.09e6*
33.01
12367D
1.01e5*
33.13
Abs. Int.
2.85e5
1.42e5
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PBM
4σ 5.00e3
0%
12479/12468D
5.15e4*
30.47
12469D
1.02e5*
31.01
12368D
7.55e4*
31.57
12478D
5.38e4*
31.77
12378D
7.01e5*
33.01
12367D
4.37e4*
33.12
Abs. Int.
2.15e5
1.08e5
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 8.07e3
0%
CS 12347D
1.22e7
32.48
ES 12378D
1.22e7
32.99
Abs. Int.
3.73e6
1.87e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 4.82e3
0%
CS 12347D
7.98e6
32.48
ES 12378D
7.42e6
32.99
Abs. Int.
2.29e6
1.15e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.06e6
1.03e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT

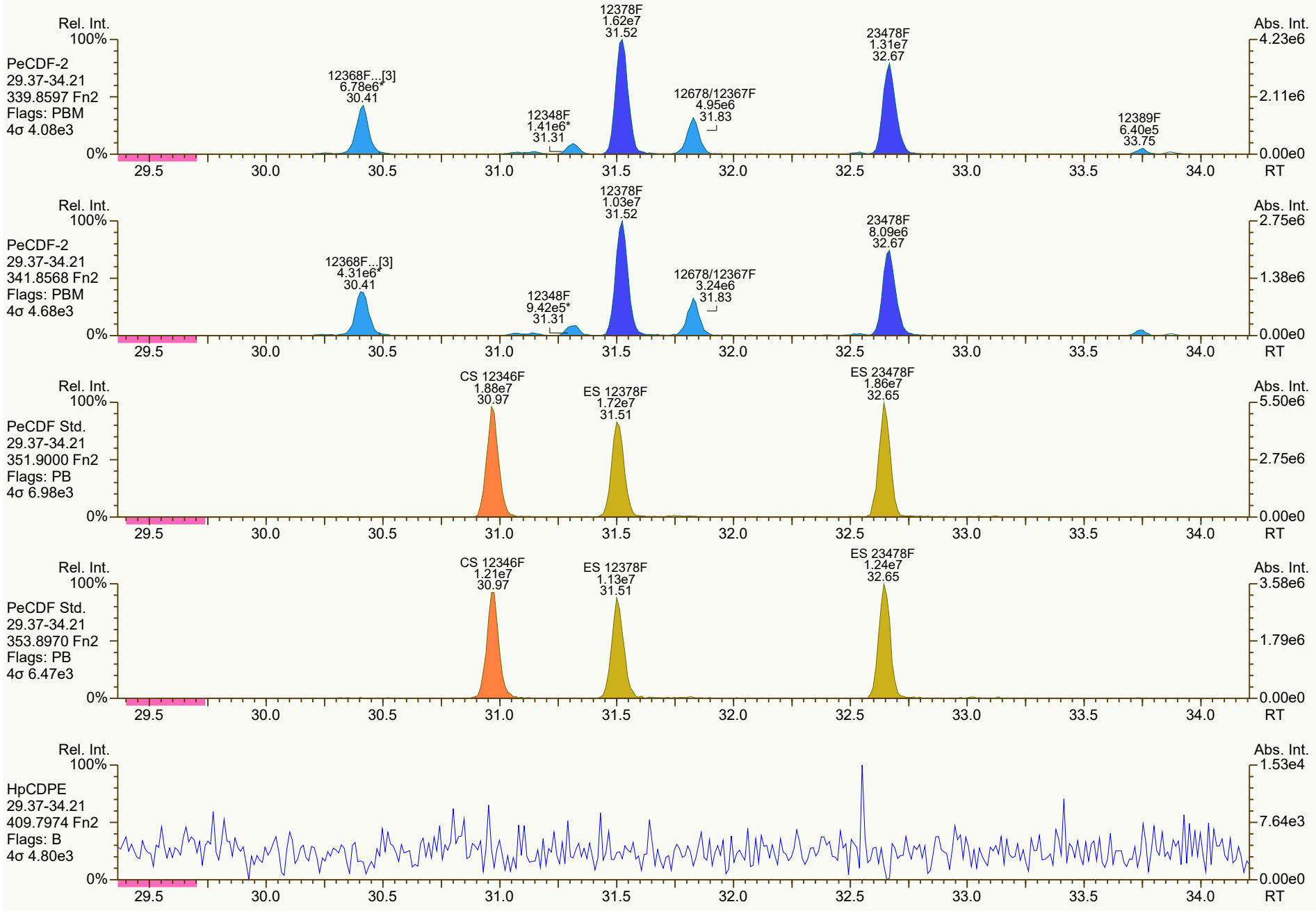

SGS ID: B6138_18820_DF_002
Sample ID: 11215131-010522-S-BN-SW-S-41
Acq: 11-Jan-2022 22:06:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220111R17
Rel. Int.
Abs. Int.
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PBM
4σ 4.24e3
124679/124689D
1.28e6
35.22
123679/123689D
8.18e5*
36.16
123468D
9.09e4
35.87
123469D
7.31e4*
36.28
123478D
7.64e4*
36.93
123678D
2.00e5
37.04
123467D
6.33e4*
37.23
123789D
1.83e5*
37.34
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PBM
4σ 3.98e3
RT
124679/124689D
1.13e6
35.21
123679/123689D
6.88e5*
36.16
123468D
5.13e4
35.86
123469D
4.58e4*
36.27
123478D
6.48e4*
36.92
123678D
2.00e5
37.04
123467D
3.98e4*
37.23
123789D
1.00e5*
37.35
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PBM
4σ 6.58e3
ES 123678D
1.15e7
37.02
ES 123478D
1.13e7
36.91
ES 123789D
1.15e7*
37.33
JS 123467D
5.97e6*
37.22
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PBM
4σ 7.02e3
ES 123678D
9.46e6
37.02
ES 123478D
8.52e6
36.91
ES 123789D
9.24e6*
37.33
JS 123467D
4.67e6*
37.22
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_002.utp_res, saved 12-Jan-2022 09:23 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2802, 1620 scc: 866-080
PKD: 12-Jan-2022 08:44 Printed: 12-Jan-2022 09:26 Page 4 of 12

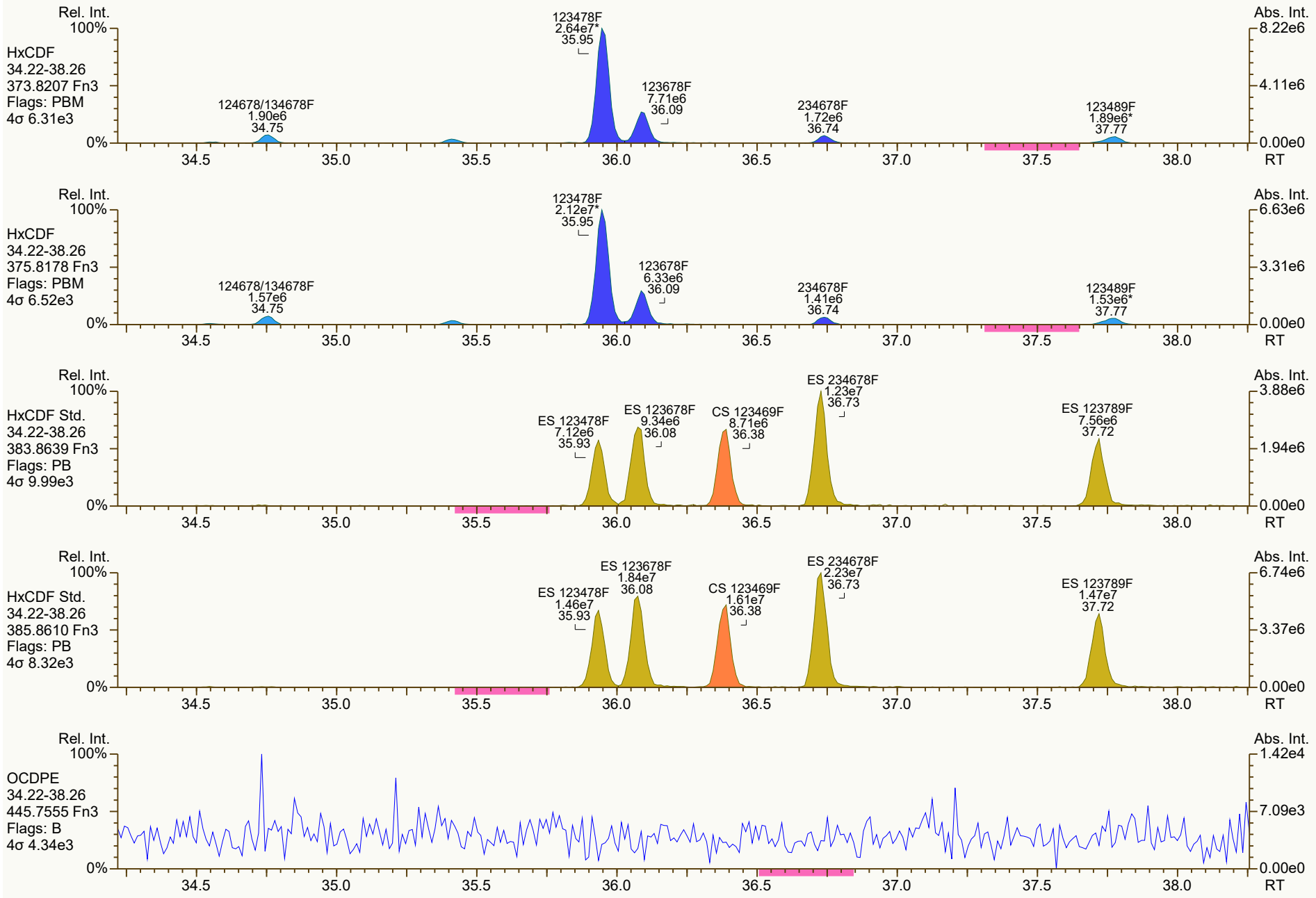

SGS ID: B6138_18820_DF_002
Sample ID: 11215131-010522-S-BN-SW-S-41
Acq: 11-Jan-2022 22:06:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220111R17
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 4.88e3
1234679D
9.31e6
39.49
1234678D
7.79e6
40.14
3.56e6
1.78e6
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.37e3
1234679D
8.78e6
39.49
1234678D
7.37e6
40.14
3.26e6
1.63e6
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 6.48e3
ES 1234678D
9.32e6
40.13
3.68e6
1.84e6
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 5.04e3
ES 1234678D
8.64e6
40.13
3.54e6
1.77e6
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
4.76e6
2.38e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_002.utp_res, saved 12-Jan-2022 09:23 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0720, 2522 scc: 866-080
PKD: 12-Jan-2022 08:44 Printed: 12-Jan-2022 09:26 Page 5 of 12

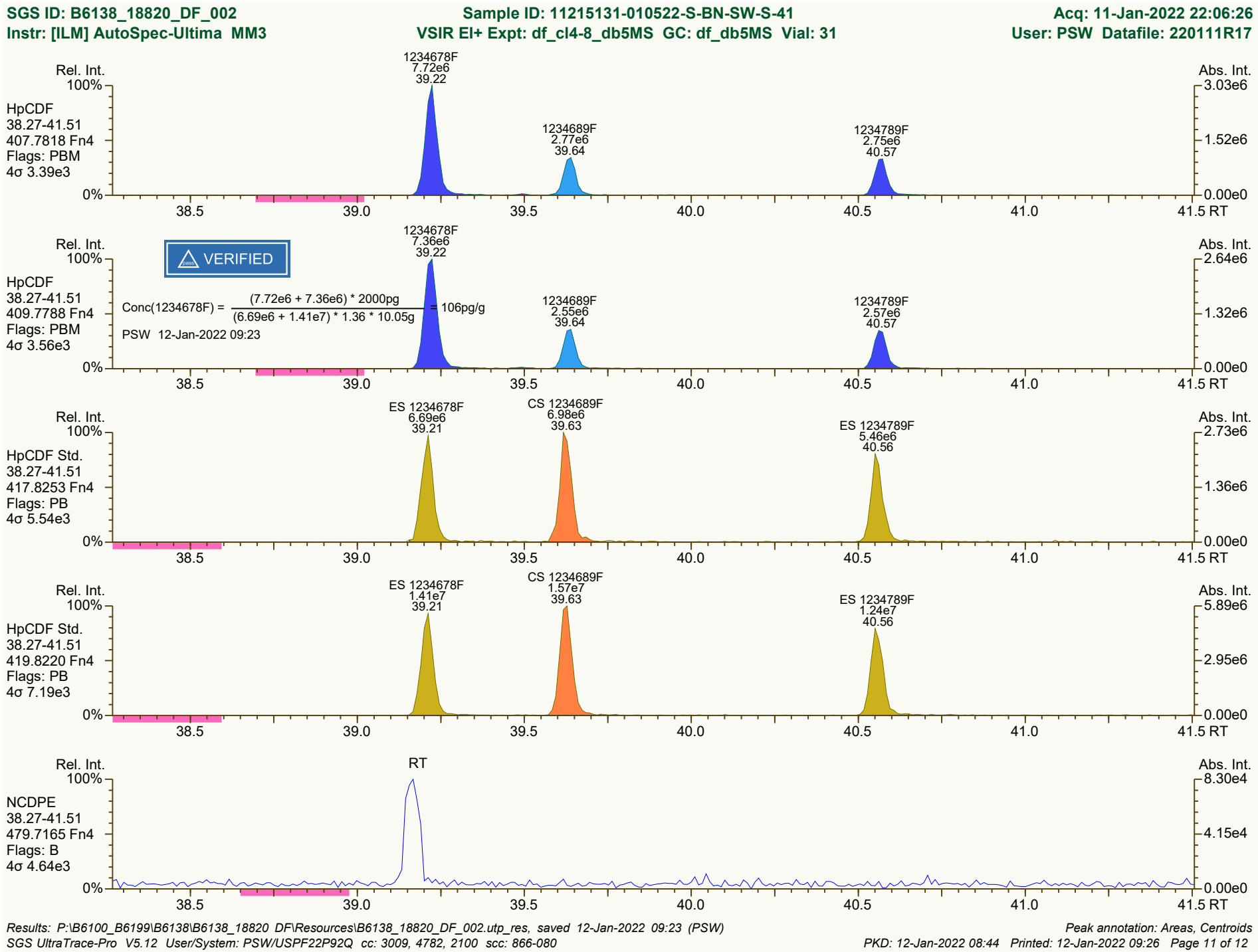

OCDD
2.76e8
42.63
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 4.39e3
0%
Abs. Int.
8.84e7
4.42e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.09e8
42.63
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 4.52e3
0%
Abs. Int.
9.99e7
4.99e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.27e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.71e3
0%
Abs. Int.
4.09e6
2.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.31e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 5.66e3
0%
Abs. Int.
3.84e6
1.92e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.81e6
1.91e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

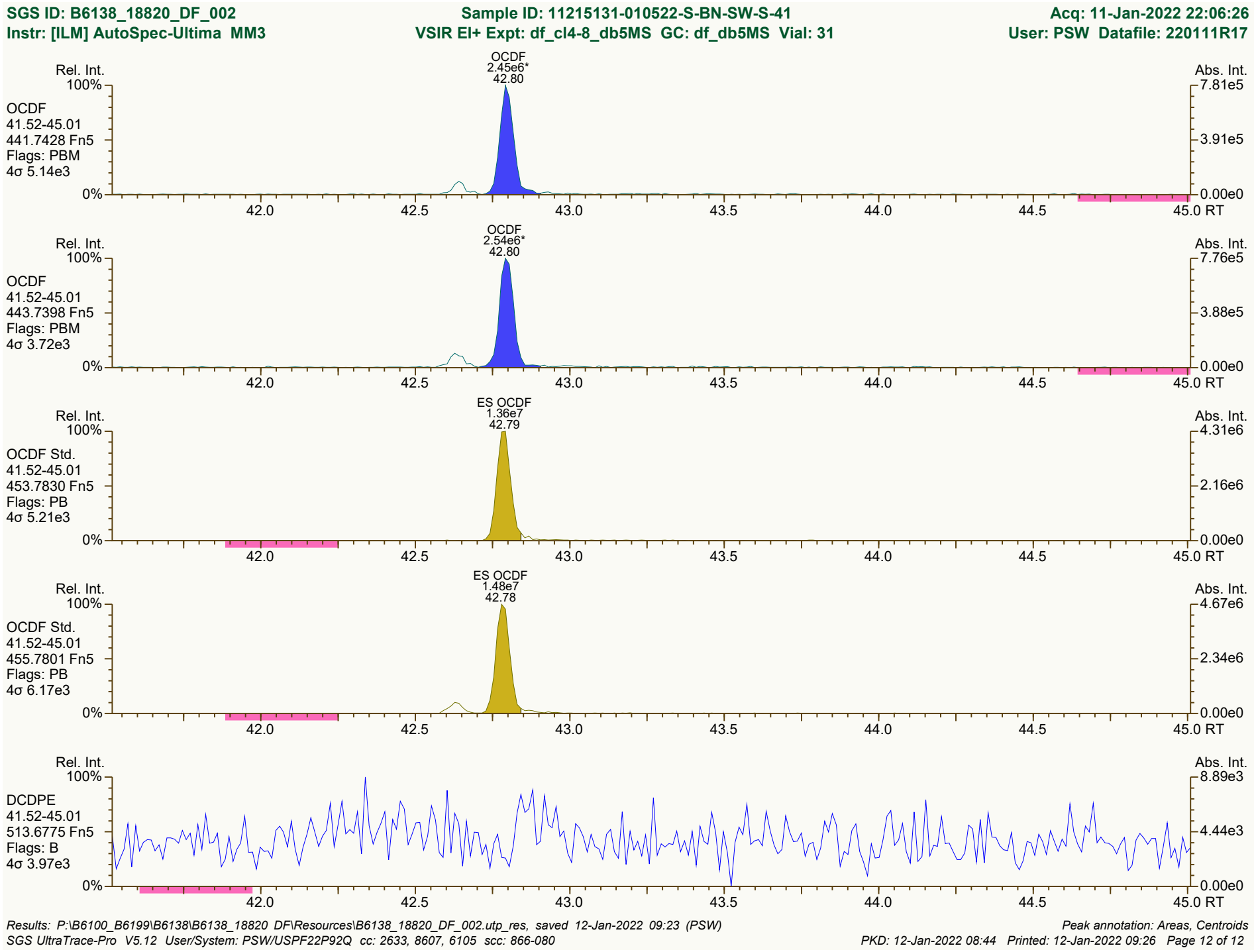

SGS ID: B6138_18820_DF_002
Sample ID: 11215131-010522-S-BN-SW-S-41
Acq: 11-Jan-2022 22:06:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220111R17
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 3.67e3
1278F 1.56e8 25.66
2348F 3.22e7 26.50
2378F 3.48e8 26.61
2367/3467F 2.71e7 26.98
1289F 2.75e7 28.70
7.93e7
3.97e7
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 4.25e3
1278F 1.96e8 25.66
2348F 4.19e7 26.50
2378F 4.36e8 26.61
2367/3467F 3.37e7 26.98
1289F 3.48e7 28.69
1.00e8
5.02e7
0.00e0
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.21e4
JS 1234F 1.53e7 25.16
ES 2378F 1.55e7 26.59
3.46e6
1.73e6
0.00e0
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 8.86e3
JS 1234F 2.07e7 25.15
ES 2378F 1.95e7 26.59
4.42e6
2.21e6
0.00e0
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 5.13e3
3.46e4
1.73e4
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_002.utp_res, saved 12-Jan-2022 09:23 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3031, 8133, 0482 scc: 866-080
PKD: 12-Jan-2022 08:44 Printed: 12-Jan-2022 09:26 Page 7 of 12


SGS ID: B6138_18820_DF_002
Sample ID: 11215131-010522-S-BN-SW-S-41
Acq: 11-Jan-2022 22:06:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220111R17
Rel. Int.
100%
0%
Abs. Int.
1.11e5
5.54e4
0.00e0
RT
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
13468/12468F
3.88e5
28.66
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: PB
4σ 3.87e3
13468/12468F
2.55e5
28.65
6.61e4
3.31e4
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: PB
4σ 5.71e3
3.33e6
1.66e6
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_002.utp_res, saved 12-Jan-2022 09:23 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3417 scc: 866-080
PKD: 12-Jan-2022 08:44 Printed: 12-Jan-2022 09:26 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PBM
4σ 4.08e3
0%
12368F...[3]
6.78e6*
30.41
12348F
1.41e6*
31.31
12378F
1.62e7
31.52
12678/12367F
4.95e6
31.83
23478F
1.31e7
32.67
12389F
6.40e5
33.75
Abs. Int.
4.23e6
2.11e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PBM
4σ 4.68e3
0%
12368F...[3]
4.31e6*
30.41
12348F
9.42e5*
31.31
12378F
1.03e7
31.52
12678/12367F
3.24e6
31.83
23478F
8.09e6
32.67
Abs. Int.
2.75e6
1.38e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 6.98e3
0%
CS 12346F
1.88e7
30.97
ES 12378F
1.72e7
31.51
ES 23478F
1.86e7
32.65
Abs. Int.
5.50e6
2.75e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 6.47e3
0%
CS 12346F
1.21e7
30.97
ES 12378F
1.13e7
31.51
ES 23478F
1.24e7
32.65
Abs. Int.
3.58e6
1.79e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.80e3
0%
Abs. Int.
1.53e4
7.64e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 6.31e3
0%
123478F
2.64e7*
35.95
123678F
7.71e6
36.09
124678/134678F
1.90e6
34.75
234678F
1.72e6
36.74
123489F
1.89e6*
37.77
Abs. Int.
8.22e6
4.11e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 6.52e3
0%
123478F
2.12e7*
35.95
123678F
6.33e6
36.09
124678/134678F
1.57e6
34.75
234678F
1.41e6
36.74
123489F
1.53e6*
37.77
Abs. Int.
6.63e6
3.31e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 9.99e3
0%
ES 123478F
7.12e6
35.93
ES 123678F
9.34e6
36.08
CS 123469F
8.71e6
36.38
ES 234678F
1.23e7
36.73
ES 123789F
7.56e6
37.72
Abs. Int.
3.88e6
1.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 8.32e3
0%
ES 123478F
1.46e7
35.93
ES 123678F
1.84e7
36.08
CS 123469F
1.61e7
36.38
ES 234678F
2.23e7
36.73
ES 123789F
1.47e7
37.72
Abs. Int.
6.74e6
3.37e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 4.34e3
0%
Abs. Int.
1.42e4
7.09e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: B6138_18820_DF_002
Sample ID: 11215131-010522-S-BN-SW-S-41
Acq: 11-Jan-2022 22:06:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220111R17
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PBM
4σ 3.39e3
1234678F
7.72e6
39.22
1234689F
2.77e6
39.64
1234789F
2.75e6
40.57
3.03e6
1.52e6
0.00e0
VERIFIED
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PBM
4σ 3.56e3
Conc(1234678F) = (7.72e6 + 7.36e6) * 2000pg / (6.69e6 + 1.41e7) * 1.36 * 10.05g = 106pg/g
PSW 12-Jan-2022 09:23
1234678F
7.36e6
39.22
1234689F
2.55e6
39.64
1234789F
2.57e6
40.57
2.64e6
1.32e6
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 5.54e3
ES 1234678F
6.69e6
39.21
CS 1234689F
6.98e6
39.63
ES 1234789F
5.46e6
40.56
2.73e6
1.36e6
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 7.19e3
ES 1234678F
1.41e7
39.21
CS 1234689F
1.57e7
39.63
ES 1234789F
1.24e7
40.56
5.89e6
2.95e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.64e3
RT
8.30e4
4.15e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_002.utp_res, saved 12-Jan-2022 09:23 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3009, 4782, 2100 scc: 866-080
PKD: 12-Jan-2022 08:44 Printed: 12-Jan-2022 09:26 Page 11 of 12


SGS ID: B6138_18820_DF_002
Sample ID: 11215131-010522-S-BN-SW-S-41
Acq: 11-Jan-2022 22:06:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220111R17
OCDF
2.45e6*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 5.14e3
0%
Abs. Int.
7.81e5
3.91e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.54e6*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.72e3
0%
Abs. Int.
7.76e5
3.88e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
42.79
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 5.21e3
0%
Abs. Int.
4.31e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.48e7
42.78
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 6.17e3
0%
Abs. Int.
4.67e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.97e3
0%
Abs. Int.
8.89e3
4.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\B6138_18820_DF_002.utp_res, saved 12-Jan-2022 09:23 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2633, 8607, 6105 scc: 866-080
PKD: 12-Jan-2022 08:44 Printed: 12-Jan-2022 09:26 Page 12 of 12

REVIEWED
Tamara Burkamper , 1/12/2022, 10:44:39 AM

SGS Environmental Services — Run Log

Project: B6138_18820_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
10	220111R10	3	CS3_220111_DF_RB ✓	1.00	SIL 25-347-1	PSW	198-293	11-Jan-2022	16:34:51
11	220111R11	28	OPR1_18820_DF	1.00	0_18820_OPR001	PSW	179-349	11-Jan-2022	17:21:29
12	220111R12	29	OPR2_18820_DF	1.00	0_18820_OPR002	PSW	411-693	11-Jan-2022	18:08:55
14	220111R14	2	SBS_220111_DF_RC	1.00	SIL 20-61-1	PSW	006-315	11-Jan-2022	19:43:51
15	220111R15	27	MB1_18820_DF_TLX	10.00	Method Blank	PSW	844-424	11-Jan-2022	20:31:25
16	220111R16	30	B6138_18820_DF_001	10.55	11215131-010522-S-BN-SW-S-40	PSW	023-229	11-Jan-2022	21:18:53
17	220111R17	31	B6138_18820_DF_002 ✓	10.05	11215131-010522-S-BN-SW-S-41	PSW	866-080	11-Jan-2022	22:06:26

REVIEWED
paul_walton , 1/12/2022, 9:28:41 AM

Dioxin/Furan QC Summary	Acq'd: 11 Jan 2022 16:34 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220111_DF_RB	UTP: 12-Jan-2022 09:20:26 PSW	Checkcode: 198-293-MJX
Sample ID: SIL 25-347-1	Report: 12 Jan 2022 09:20 pw	Datafile: 220111R10

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.51	2.40E+06	0.86	Y	1.34	1.07	-21% *
12378-PeCDD	33.01	1.02E+07	1.60	Y	1.06	1.01	-4%
123478-HxCDD	36.93	9.09E+06	1.24	Y	1.06	1.02	-4%
123678-HxCDD	37.04	9.34E+06	1.27	Y	1.08	1.04	-4%
123789-HxCDD	37.35	9.83E+06	1.27	Y	1.02	0.99	-3%
1234678-HpCDD	40.15	8.80E+06	1.04	Y	0.97	0.99	1%
OCDD	42.64	1.21E+07	0.88	Y	1.07	1.06	-1%
2378-TCDF	26.61	3.42E+06	0.78	Y	0.96	0.97	1%
12378-PeCDF	31.53	1.54E+07	1.54	Y	0.95	1.04	10%
23478-PeCDF	32.67	1.54E+07	1.54	Y	0.94	1.02	8%
123478-HxCDF	35.96	1.42E+07	1.30	Y	1.23	1.27	3%
123678-HxCDF	36.10	1.46E+07	1.27	Y	1.13	1.16	2%
234678-HxCDF	36.75	1.42E+07	1.26	Y	1.15	1.19	3%
123789-HxCDF	37.74	1.29E+07	1.25	Y	1.14	1.19	5%
1234678-HpCDF	39.23	1.33E+07	1.07	Y	1.36	1.42	4%
1234789-HpCDF	40.58	1.18E+07	1.03	Y	1.30	1.33	2%
OCDF	42.81	1.54E+07	0.90	Y	1.03	1.05	3%
ES 2378-TCDD	27.49	2.25E+07	0.76	Y	1.03	0.96	-7%
ES 12378-PeCDD	32.993	2.01E+07	1.57	Y	1.03	0.86	-17%
ES 123478-HxCDD	36.914	1.79E+07	1.27	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.03	1.79E+07	1.27	Y	0.97	0.97	0%
ES 123789-HxCDD	37.334	1.99E+07	1.28	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.134	1.78E+07	1.00	Y	0.99	0.97	-2%
ES OCDD	42.624	2.29E+07	0.95	Y	0.78	0.62	-20%
ES 2378-TCDF	26.588	3.52E+07	0.78	Y	1.08	1.05	-3%
ES 12378-PeCDF	31.514	2.96E+07	1.59	Y	0.93	0.88	-6%
ES 23478-PeCDF	32.651	3.02E+07	1.63	Y	0.92	0.90	-2%
ES 123478-HxCDF	35.939	2.24E+07	0.56	Y	1.14	1.22	7%
ES 123678-HxCDF	36.078	2.52E+07	0.52	Y	1.30	1.37	6%
ES 234678-HxCDF	36.733	2.39E+07	0.51	Y	1.20	1.30	8%
ES 123789-HxCDF	37.723	2.16E+07	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.218	1.87E+07	0.49	Y	0.95	1.02	7%
ES 1234789-HpCDF	40.567	1.78E+07	0.47	Y	0.85	0.97	14%
ES OCDF	42.795	2.92E+07	0.91	Y	0.93	0.79	-14%

*meets M1613B criteria
TB 01/12/2022

Dioxin/Furan QC Summary	Acq'd: 11 Jan 2022 16:34 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220111_DF_RB	UTP: 12-Jan-2022 09:20:26 PSW	Checkcode: 198-293-MJX
Sample ID: SIL 25-347-1	Report: 12 Jan 2022 09:20 pw	Datafile: 220111R10

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.81	2.34E+07	0.78	Y	-	-	-
JS 1234-TCDF	25.16	3.36E+07	0.77	Y	-	-	-
JS 123467-HxCDD	37.23	9.19E+06	1.18	Y	-	-	-
CS 37Cl-2378-TCDD	27.51	2.75E+06	n/a	-	1.31	1.18	-10%
CS 12347-PeCDD	32.49	1.85E+07	1.62	Y	0.89	0.79	-11%
CS 12346-PeCDF	30.98	2.85E+07	1.62	Y	0.87	0.85	-2%
CS 123469-HxCDF	36.39	2.25E+07	0.50	Y	1.09	1.22	12%
CS 1234689-HpCDF	39.63	1.94E+07	0.45	Y	0.86	1.06	22%
~~SS 37Cl-2378-TCDD~~	~~27.51~~	~~2.75E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.22~~	~~-3%~~
~~SS 12347-PeCDD~~	~~32.49~~	~~1.85E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~0.92~~	~~6%~~
~~SS 12346-PeCDF~~	~~30.98~~	~~2.85E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~0.96~~	~~4%~~
~~SS 123469-HxCDF~~	~~36.39~~	~~2.25E+07~~	~~0.50~~	~~Y~~	~~0.84~~	~~0.89~~	~~6%~~
~~SS 1234689-HpCDF~~	~~39.63~~	~~1.94E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~1.04~~	~~14%~~
~~OCDD-a~~	~~42.63~~	~~7.56E+05~~	~~2.08~~	~~N~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~42.80~~	~~7.75E+05~~	~~2.26~~	~~Y~~	~~0.06~~	~~0.05~~	~~-10%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220111R10 Analysis Date: 11-JAN-2022 16:34:51

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.86	0.65 - 0.89	Y	7.94	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32 - 1.78	Y	47.8	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	48.1	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDD	M+2/M+4	0.88	0.76 - 1.02	Y	98.6	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	54.9	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	54.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.30	1.05 - 1.43	Y	51.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	51.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	51.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	52.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88 - 1.20	Y	52.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	51.1	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 12 Jan 2022 09:20 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

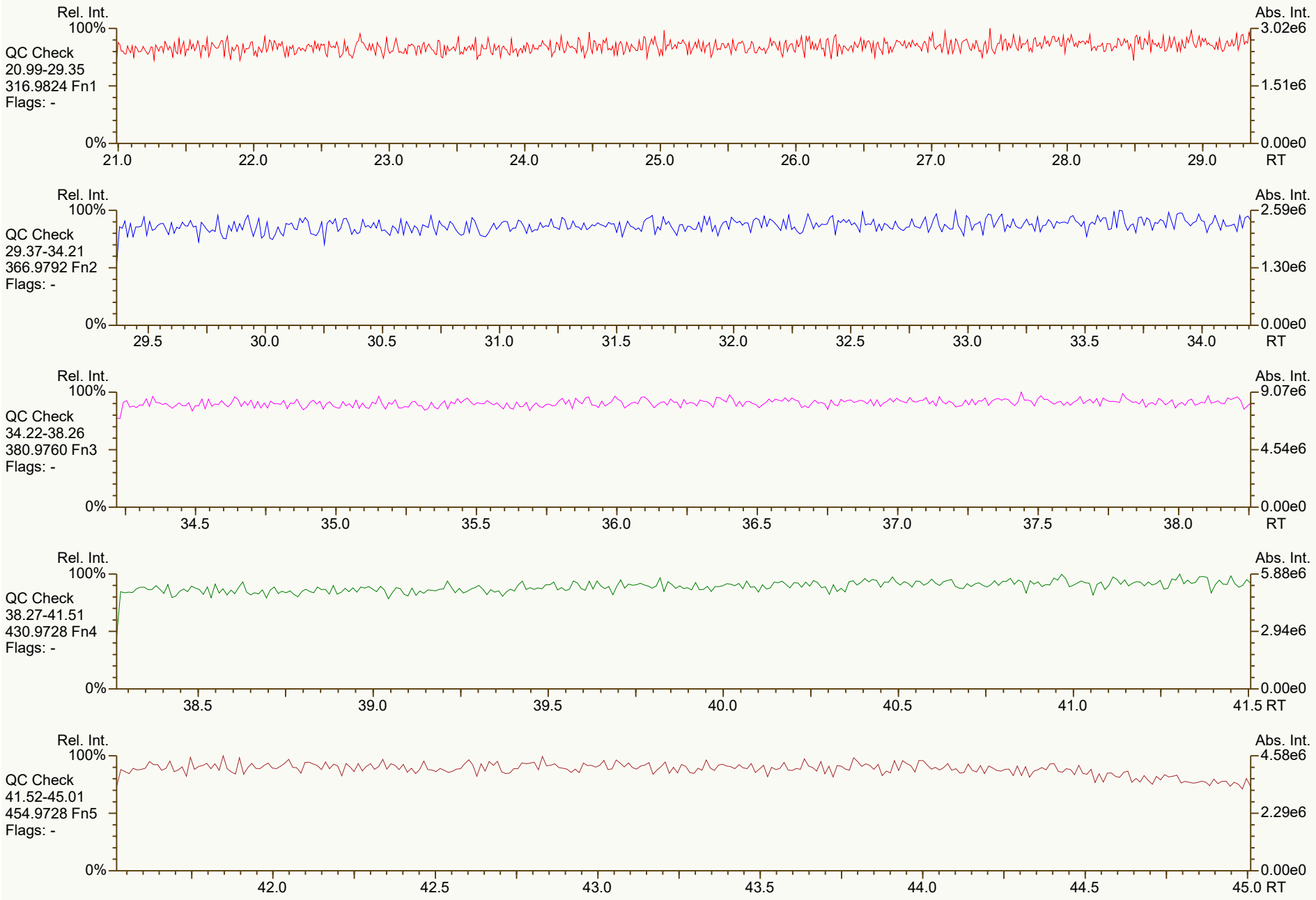
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

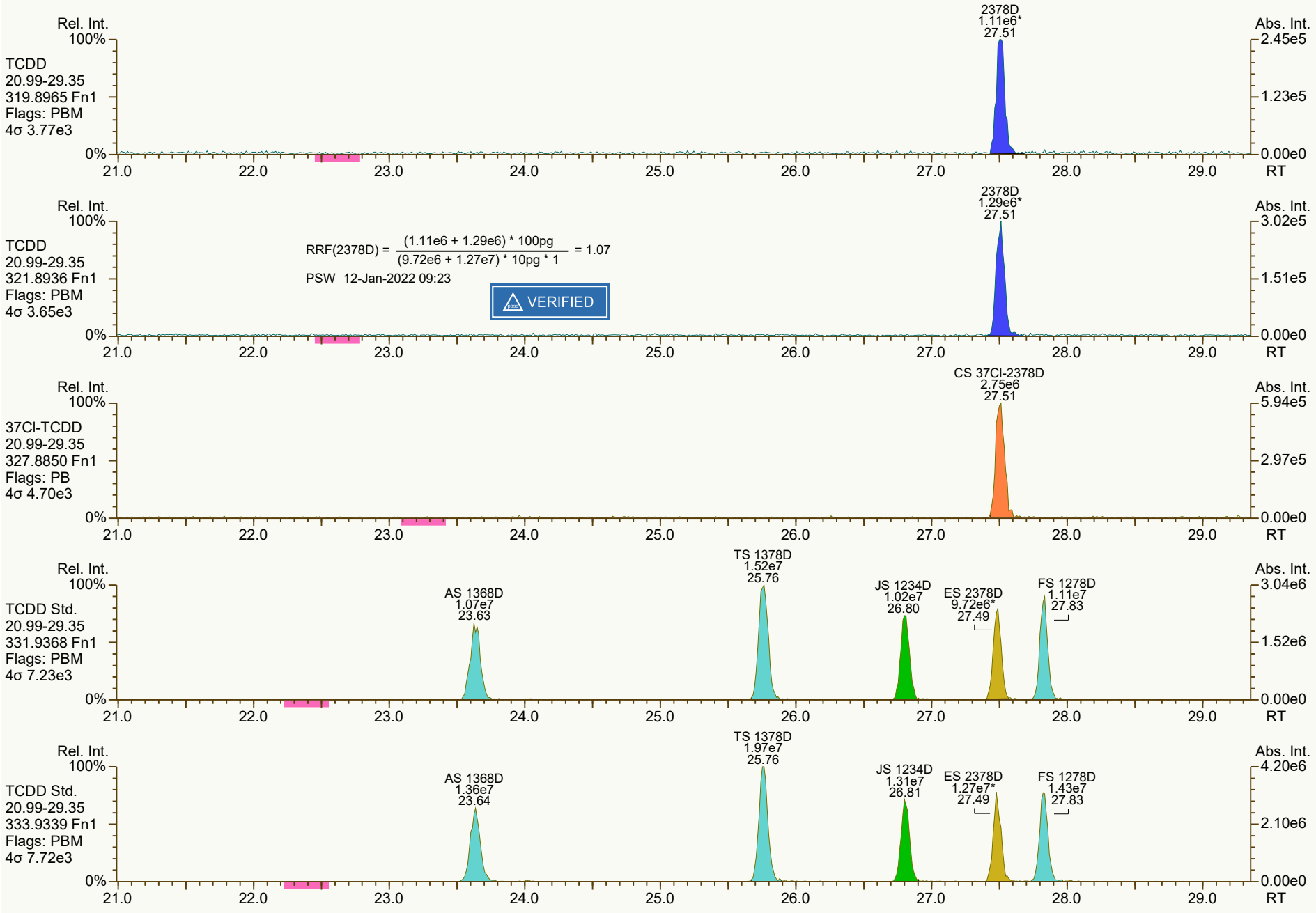
Instrument ID: MM3 GC Column ID: ZB-5ms

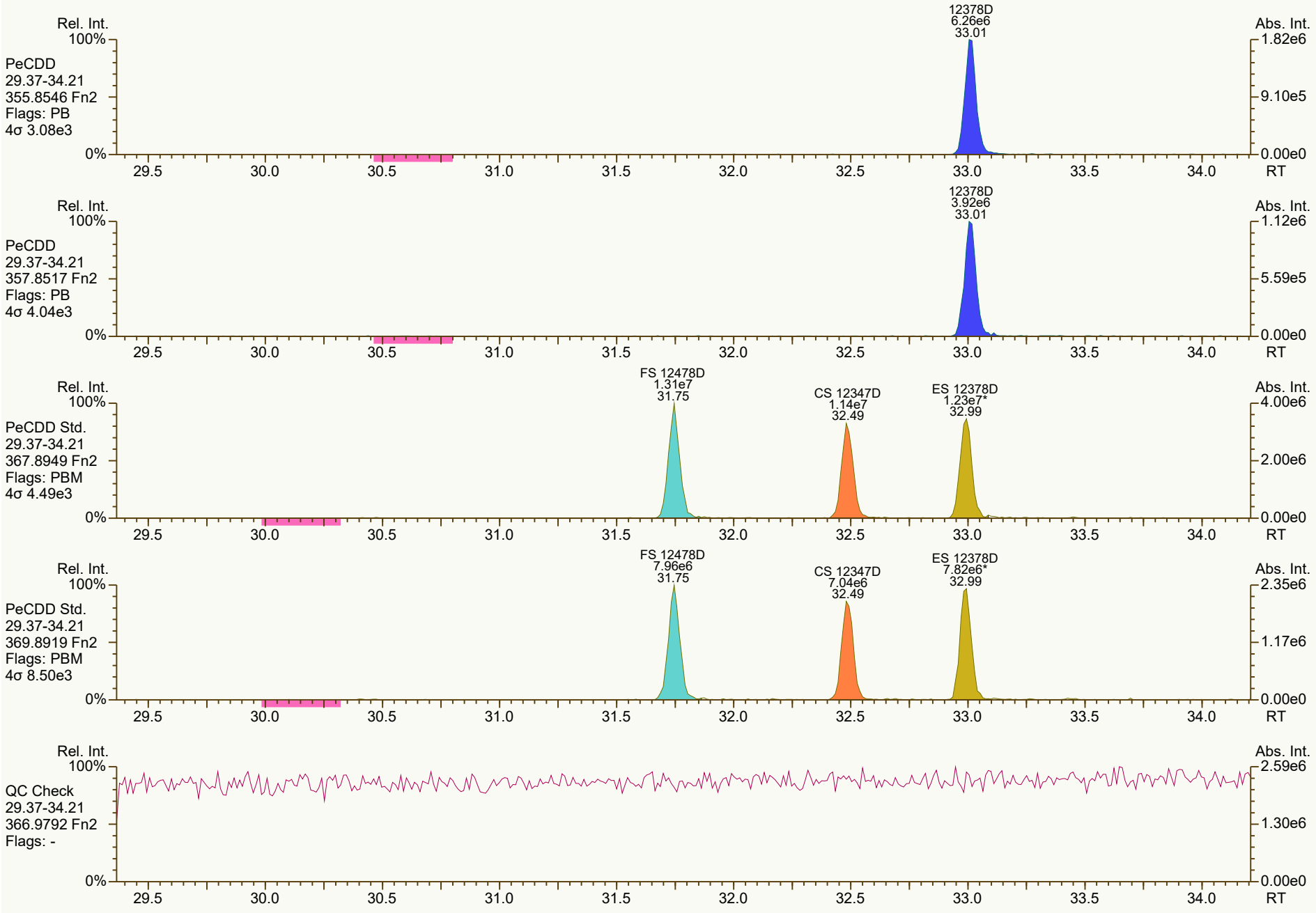
VER Data Filename: 220111R10 Analysis Date: 11-JAN-2022 16:34:51

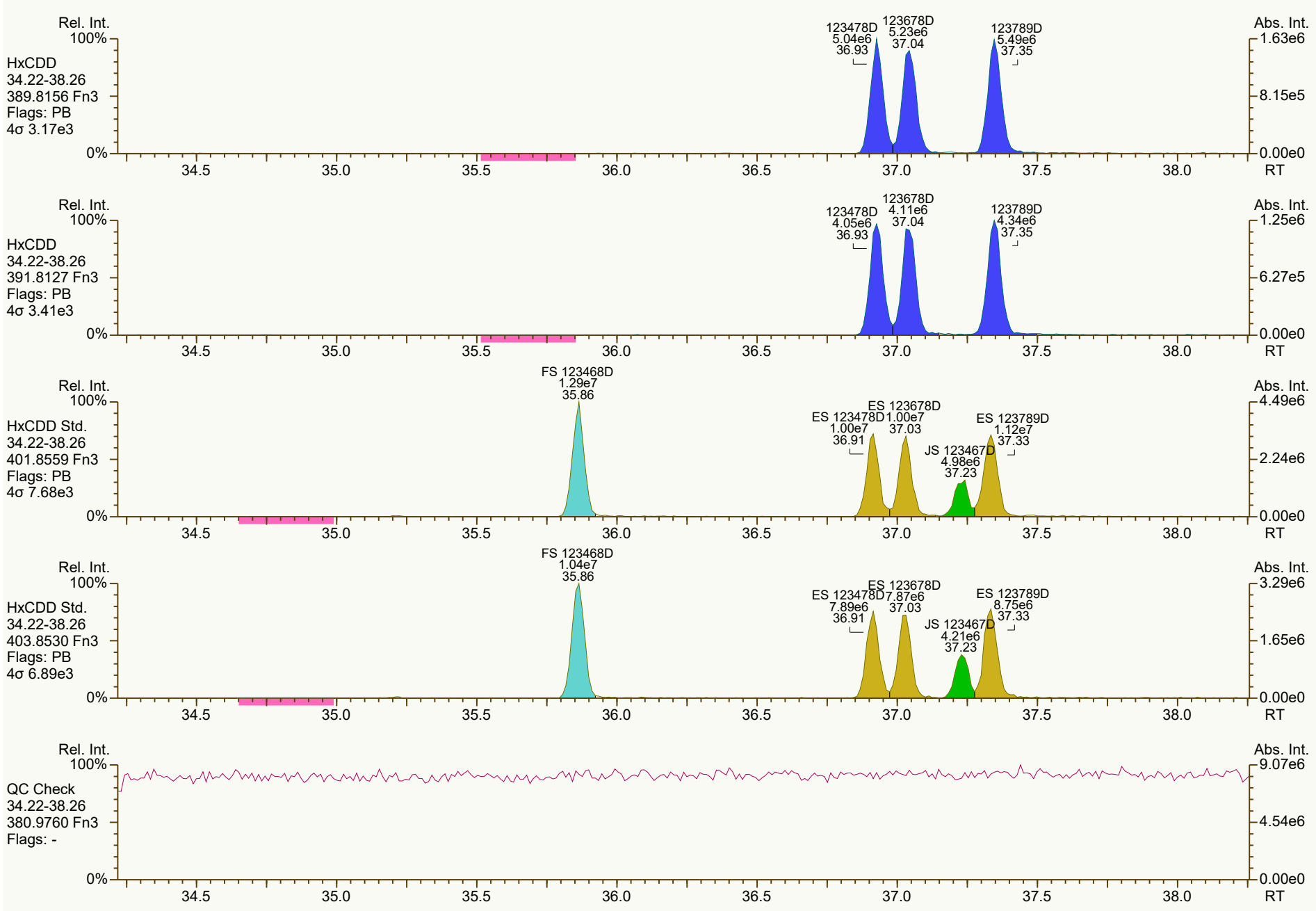
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65	-	0.89	Y	93	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	83.2	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	97.8	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	96.5	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	0.88	-	1.20	Y	97.6	72	-	138	Y
13C-OCDD	M+2/M+4	0.95	0.76	-	1.02	Y	160	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	96.6	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	94.3	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32	-	1.78	Y	97.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43	-	0.59	Y	107	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	106	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	108	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.49	0.37	-	0.51	Y	107	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	114	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	171	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						8.98	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	88.6	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	97.7	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	112	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	122	70	-	130	Y

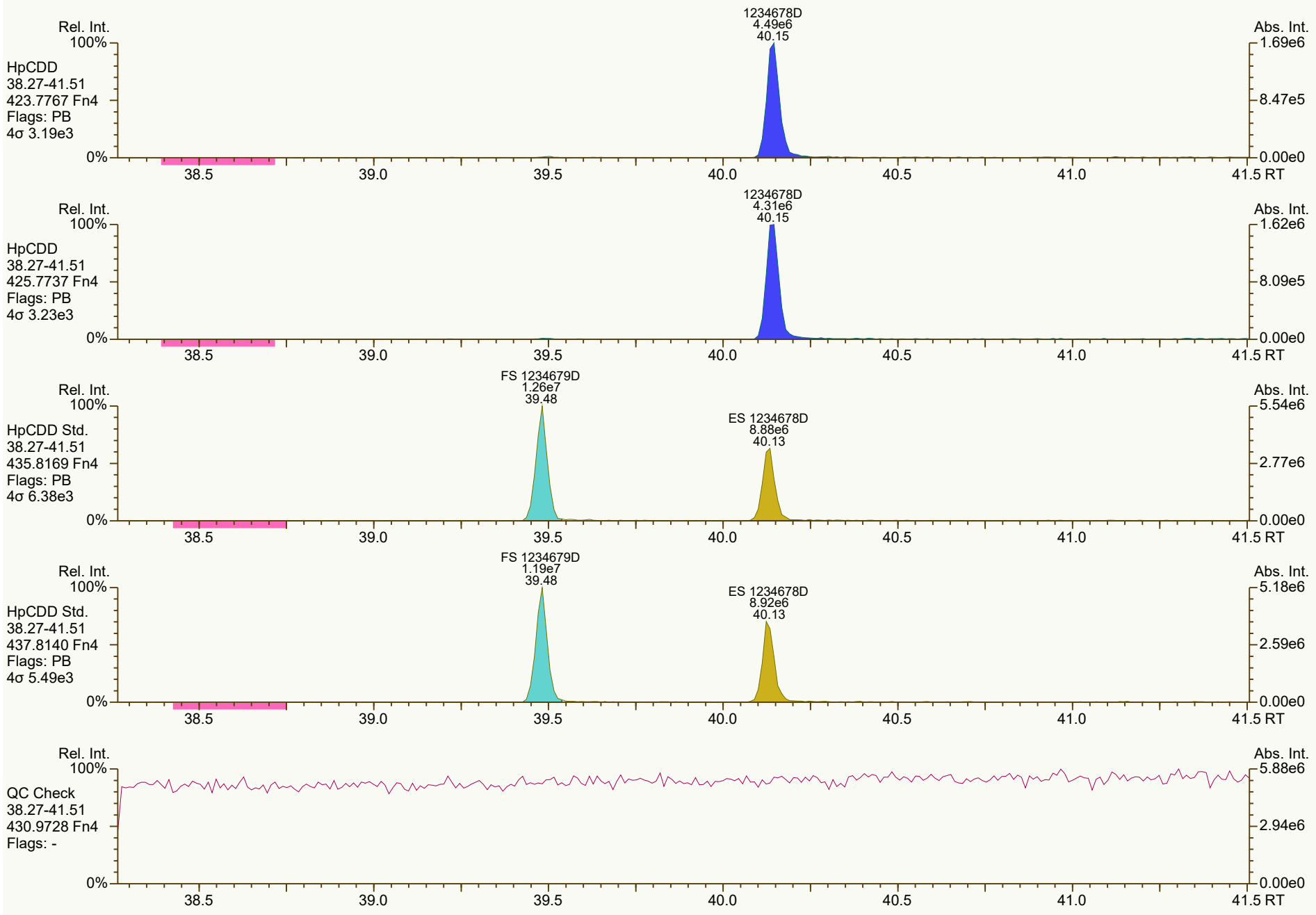
Processed: 12 Jan 2022 09:20 Analyst: pw

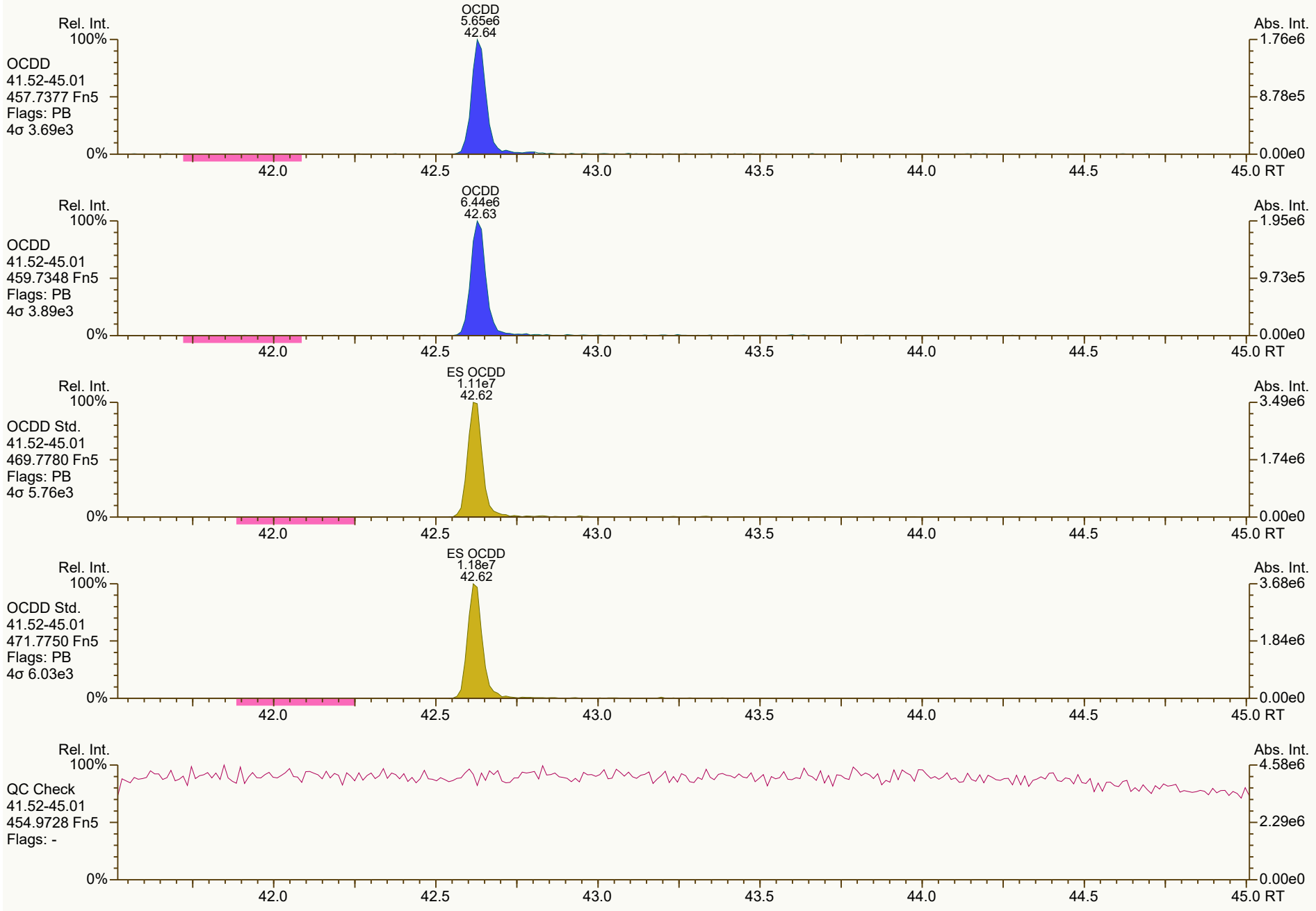

Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.02e6
1.51e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.59e6
1.30e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.07e6
4.54e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.88e6
2.94e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

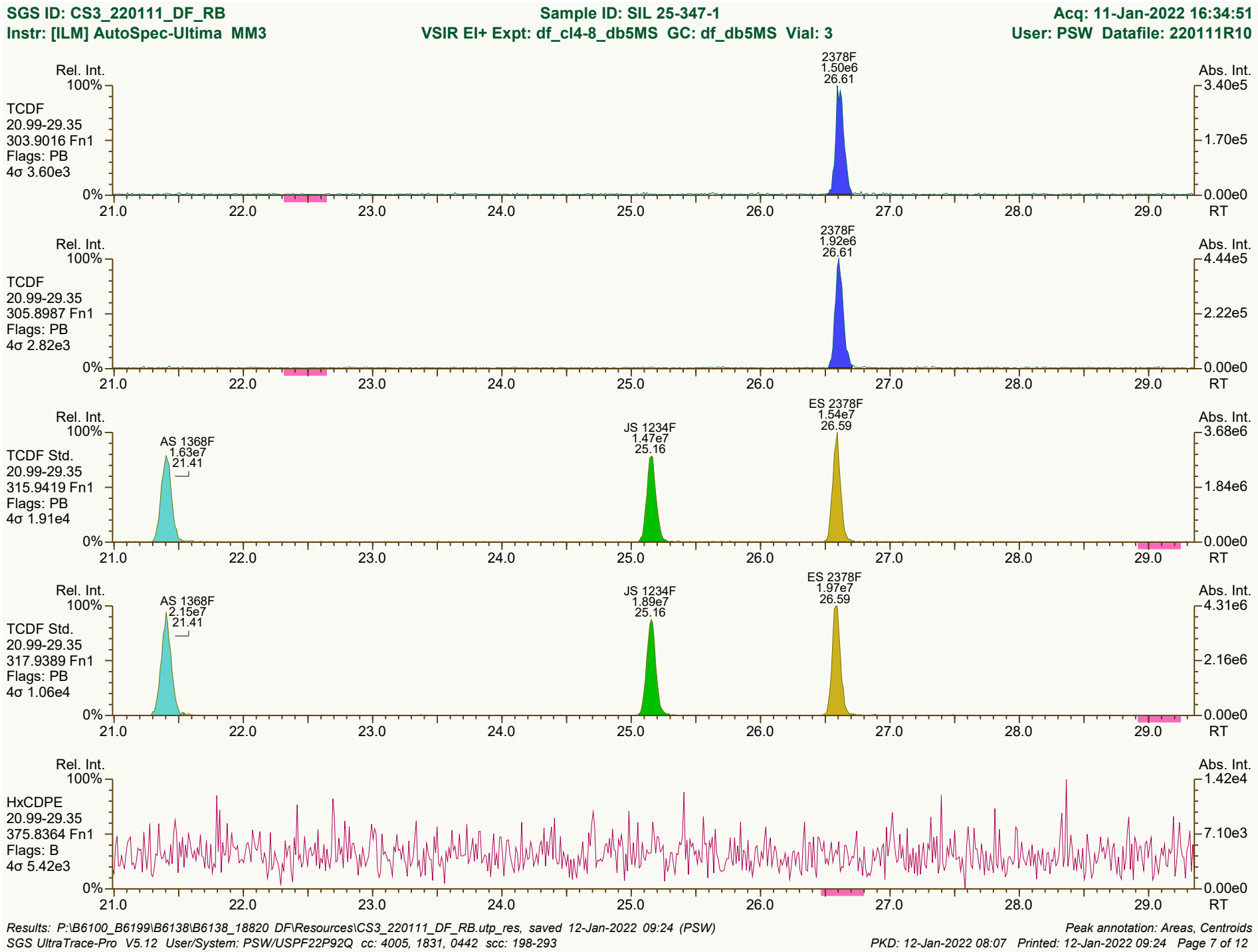

Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 3.77e3
0%
2378D
1.11e6*
27.51
Abs. Int.
2.45e5
1.23e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 3.65e3
RRF(2378D) = (1.11e6 + 1.29e6) * 100pg / (9.72e6 + 1.27e7) * 10pg * 1 = 1.07
PSW 12-Jan-2022 09:23
VERIFIED
2378D
1.29e6*
27.51
Abs. Int.
3.02e5
1.51e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.70e3
CS 37Cl-2378D
2.75e6
27.51
Abs. Int.
5.94e5
2.97e5
0.00e0
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PBM
4σ 7.23e3
AS 1368D
1.07e7
23.63
TS 1378D
1.52e7
25.76
JS 1234D
1.02e7
26.80
ES 2378D
9.72e6*
27.49
FS 1278D
1.11e7
27.83
Abs. Int.
3.04e6
1.52e6
0.00e0
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PBM
4σ 7.72e3
AS 1368D
1.36e7
23.64
TS 1378D
1.97e7
25.76
JS 1234D
1.31e7
26.81
ES 2378D
1.27e7*
27.49
FS 1278D
1.43e7
27.83
Abs. Int.
4.20e6
2.10e6
0.00e0


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PB
4σ 3.08e3
0%
12378D
6.26e6
33.01
Abs. Int.
1.82e6
9.10e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 4.04e3
0%
12378D
3.92e6
33.01
Abs. Int.
1.12e6
5.59e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PBM
4σ 4.49e3
0%
FS 12478D
1.31e7
31.75
CS 12347D
1.14e7
32.49
ES 12378D
1.23e7*
32.99
Abs. Int.
4.00e6
2.00e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PBM
4σ 8.50e3
0%
FS 12478D
7.96e6
31.75
CS 12347D
7.04e6
32.49
ES 12378D
7.82e6*
32.99
Abs. Int.
2.35e6
1.17e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.59e6
1.30e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

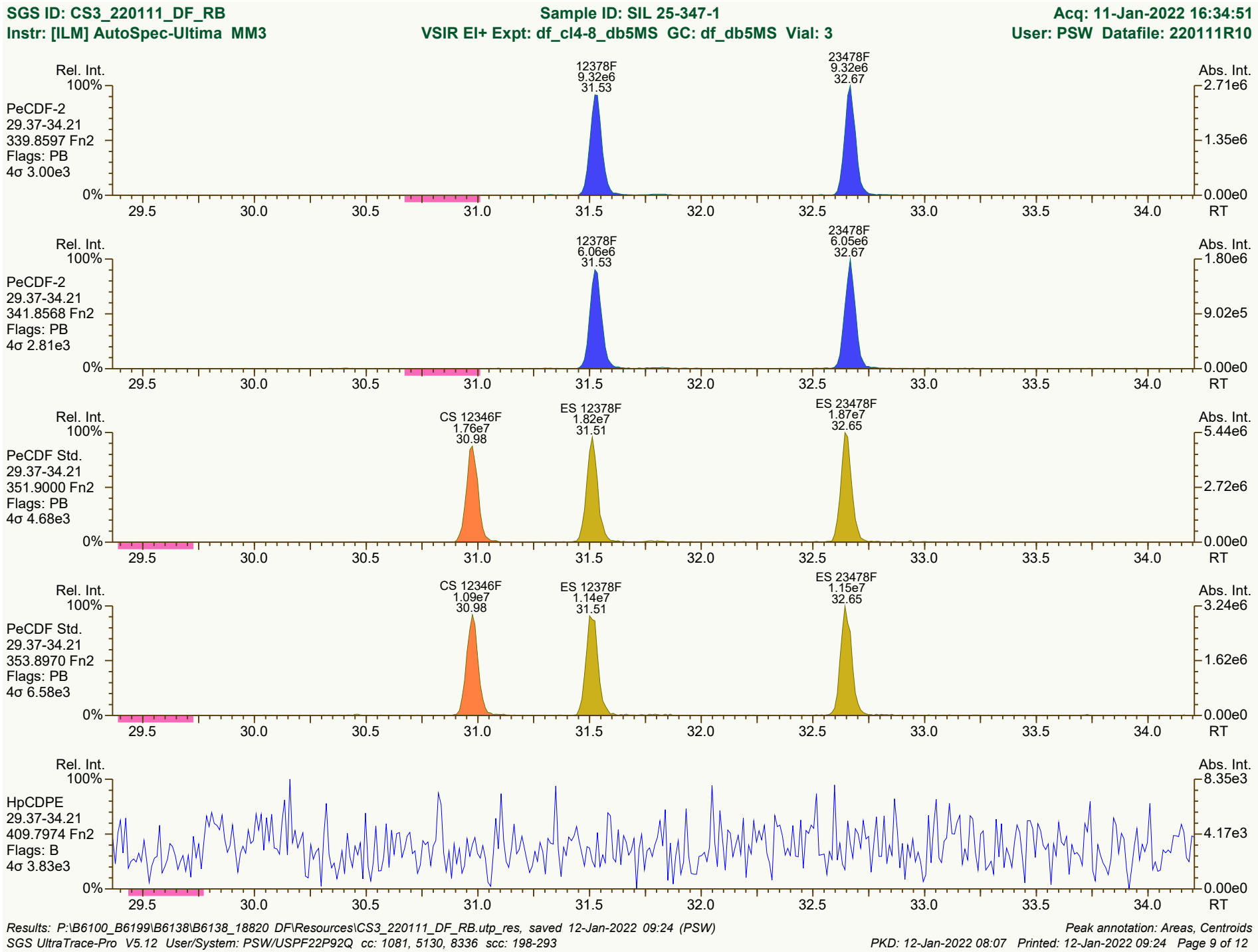

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.17e3
123478D
5.04e6
36.93
123678D
5.23e6
37.04
123789D
5.49e6
37.35
Abs. Int.
1.63e6
8.15e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PB
4σ 3.41e3
123478D
4.05e6
36.93
123678D
4.11e6
37.04
123789D
4.34e6
37.35
Abs. Int.
1.25e6
6.27e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PB
4σ 7.68e3
FS 123468D
1.29e7
35.86
ES 123478D
1.00e7
36.91
ES 123678D
1.00e7
37.03
JS 123467D
4.98e6
37.23
ES 123789D
1.12e7
37.33
Abs. Int.
4.49e6
2.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PB
4σ 6.89e3
FS 123468D
1.04e7
35.86
ES 123478D
7.89e6
36.91
ES 123678D
7.87e6
37.03
JS 123467D
4.21e6
37.23
ES 123789D
8.75e6
37.33
Abs. Int.
3.29e6
1.65e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
Abs. Int.
9.07e6
4.54e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

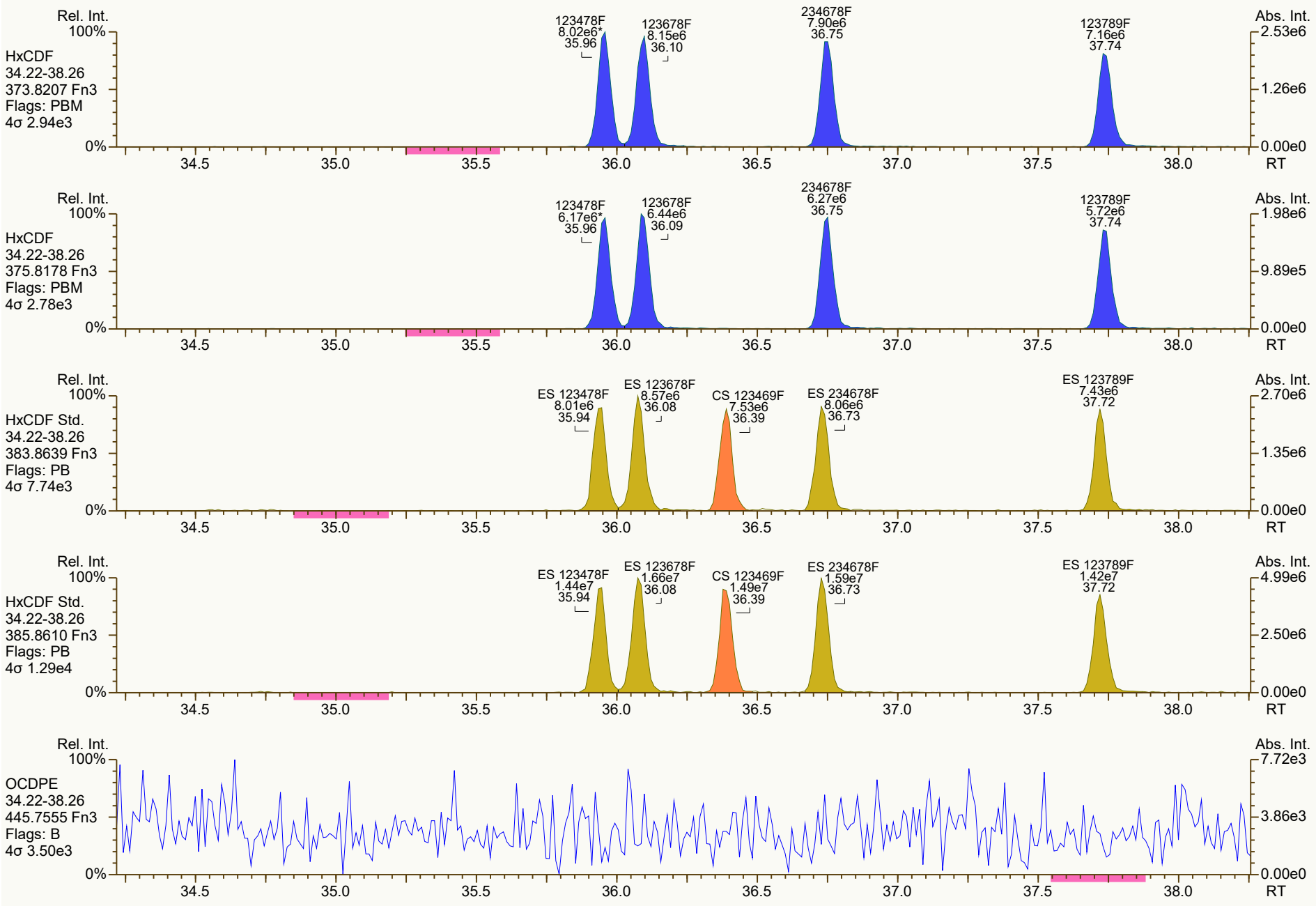

Rel. Int.
100%
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 3.19e3
1234678D
4.49e6
40.15
Abs. Int.
1.69e6
8.47e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.23e3
1234678D
4.31e6
40.15
Abs. Int.
1.62e6
8.09e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 6.38e3
FS 1234679D
1.26e7
39.48
ES 1234678D
8.88e6
40.13
Abs. Int.
5.54e6
2.77e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 5.49e3
FS 1234679D
1.19e7
39.48
ES 1234678D
8.92e6
40.13
Abs. Int.
5.18e6
2.59e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
Abs. Int.
5.88e6
2.94e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

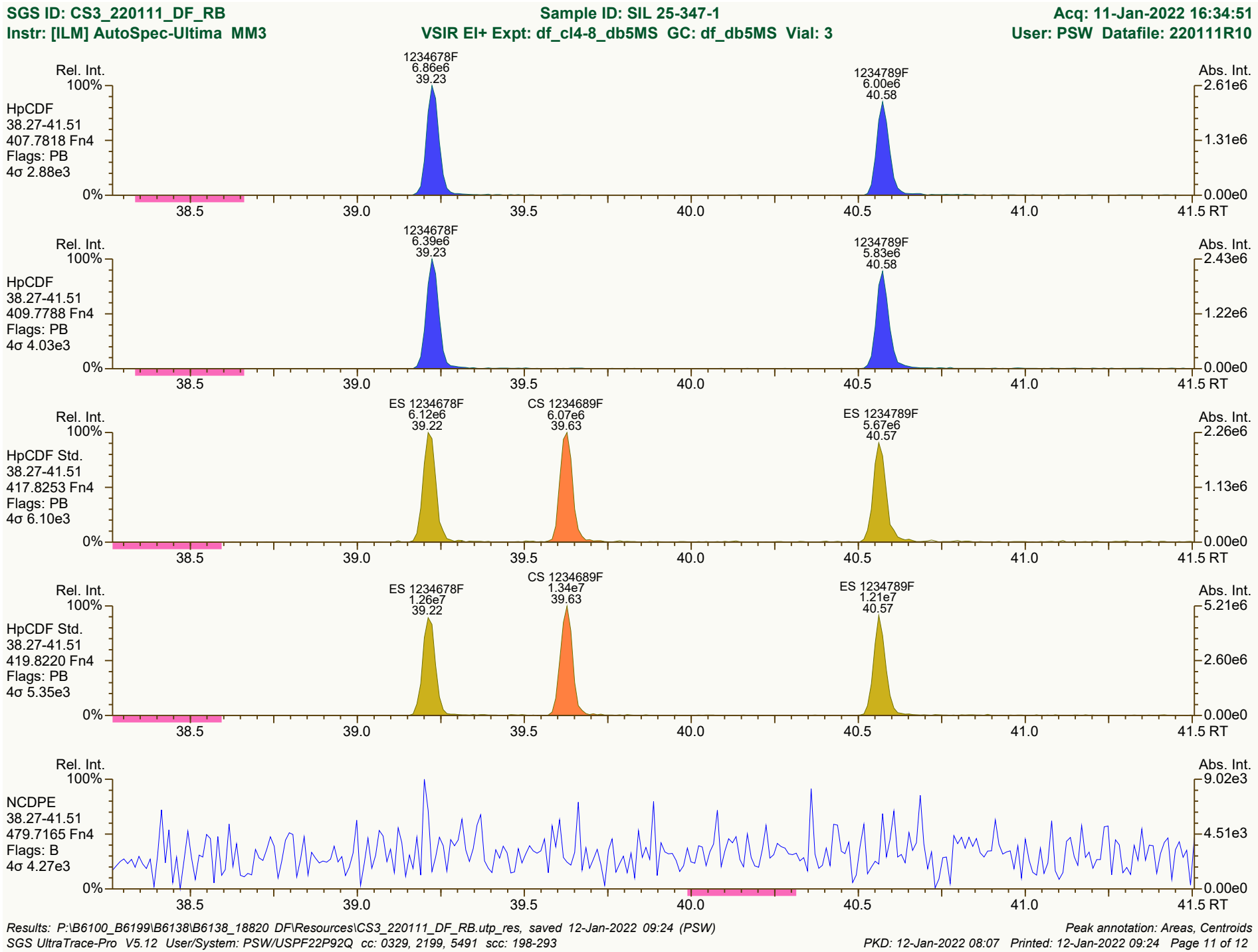

OCDD
5.65e6
42.64
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.69e3
0%
Abs. Int.
1.76e6
8.78e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.44e6
42.63
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.89e3
0%
Abs. Int.
1.95e6
9.73e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.11e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.76e3
0%
Abs. Int.
3.49e6
1.74e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.18e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.03e3
0%
Abs. Int.
3.68e6
1.84e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

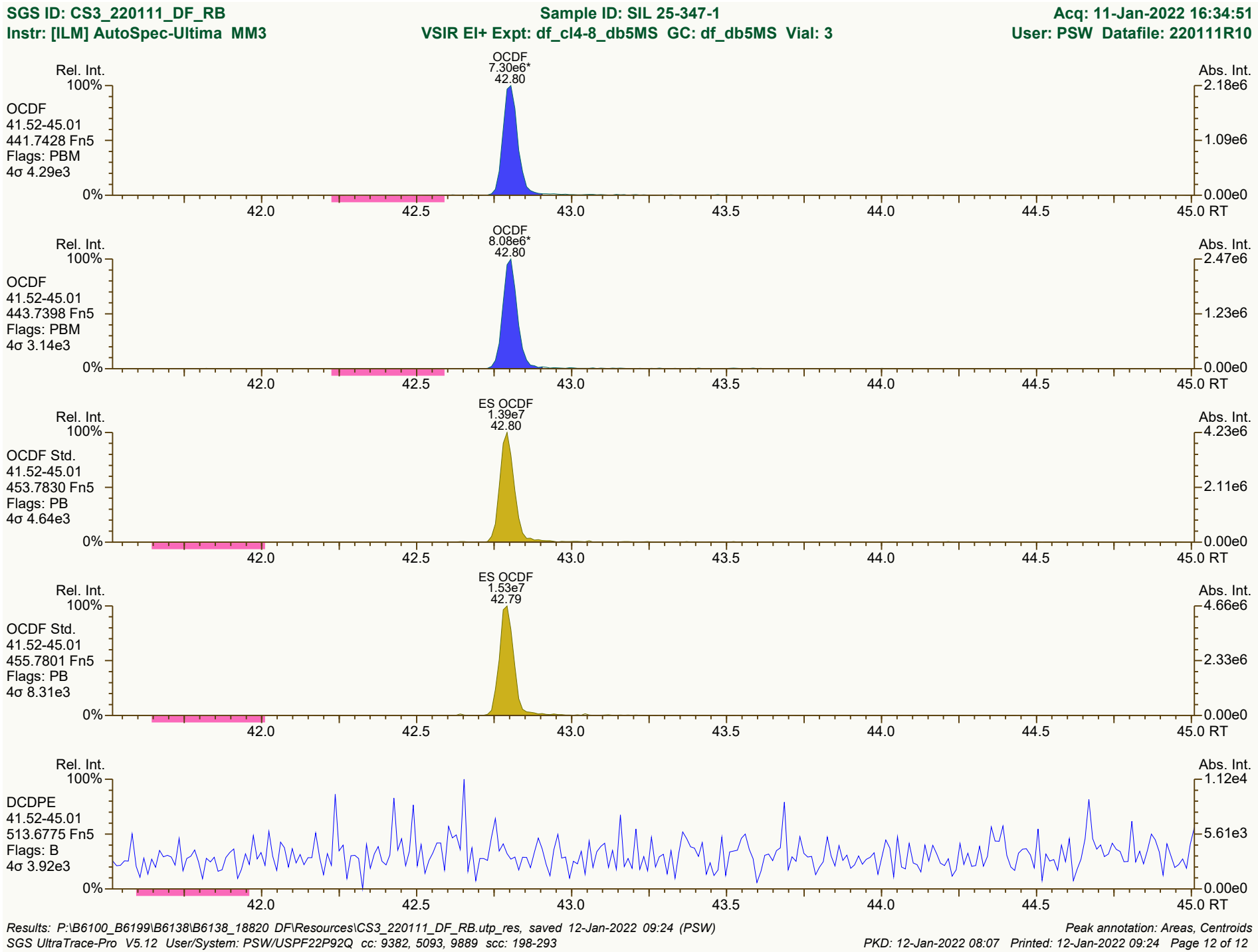

SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PB
4σ 3.60e3
2378F
1.50e6
26.61
3.40e5
1.70e5
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: PB
4σ 2.82e3
2378F
1.92e6
26.61
4.44e5
2.22e5
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.91e4
AS 1368F
1.63e7
21.41
JS 1234F
1.47e7
25.16
ES 2378F
1.54e7
26.59
3.68e6
1.84e6
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 1.06e4
AS 1368F
2.15e7
21.41
JS 1234F
1.89e7
25.16
ES 2378F
1.97e7
26.59
4.31e6
2.16e6
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 5.42e3
1.42e4
7.10e3
0%
100%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4005, 1831, 0442 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:24 Page 7 of 12

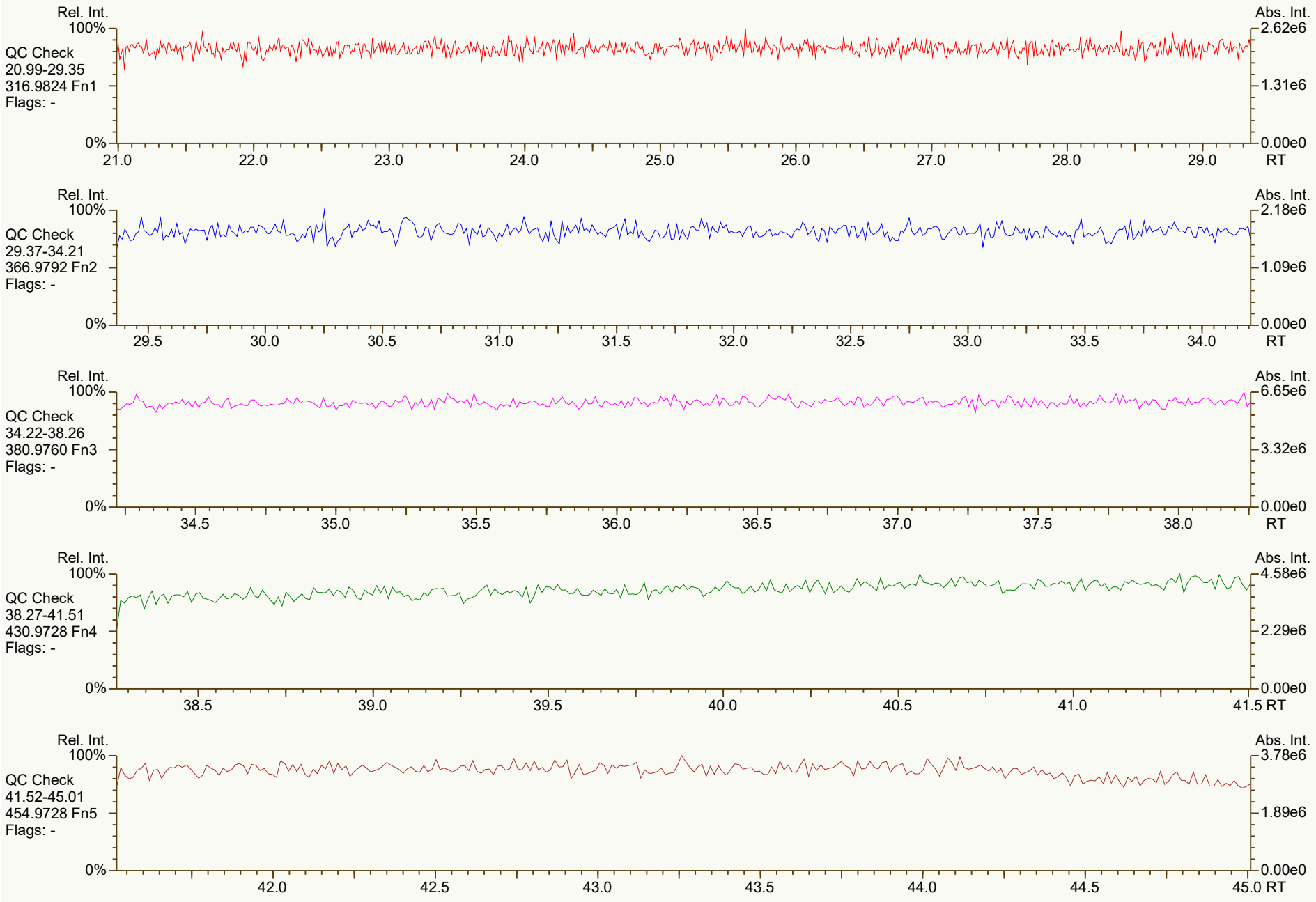

Rel. Int.
100%
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
RT
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 5.56e3
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 4.09e3
9.50e3
4.75e3
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
3.02e6
1.51e6


SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PB
4σ 3.00e3
12378F
9.32e6
31.53
23478F
9.32e6
32.67
2.71e6
1.35e6
0.00e0
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PB
4σ 2.81e3
12378F
6.06e6
31.53
23478F
6.05e6
32.67
1.80e6
9.02e5
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 4.68e3
CS 12346F
1.76e7
30.98
ES 12378F
1.82e7
31.51
ES 23478F
1.87e7
32.65
5.44e6
2.72e6
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 6.58e3
CS 12346F
1.09e7
30.98
ES 12378F
1.14e7
31.51
ES 23478F
1.15e7
32.65
3.24e6
1.62e6
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 3.83e3
8.35e3
4.17e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1081, 5130, 8336 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:24 Page 9 of 12


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 2.94e3
0%
123478F
8.02e6*
35.96
123678F
8.15e6
36.10
234678F
7.90e6
36.75
123789F
7.16e6
37.74
Abs. Int.
2.53e6
1.26e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 2.78e3
0%
123478F
6.17e6*
35.96
123678F
6.44e6
36.09
234678F
6.27e6
36.75
123789F
5.72e6
37.74
Abs. Int.
1.98e6
9.89e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 7.74e3
0%
ES 123478F
8.01e6
35.94
ES 123678F
8.57e6
36.08
CS 123469F
7.53e6
36.39
ES 234678F
8.06e6
36.73
ES 123789F
7.43e6
37.72
Abs. Int.
2.70e6
1.35e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 1.29e4
0%
ES 123478F
1.44e7
35.94
ES 123678F
1.66e7
36.08
CS 123469F
1.49e7
36.39
ES 234678F
1.59e7
36.73
ES 123789F
1.42e7
37.72
Abs. Int.
4.99e6
2.50e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 3.50e3
0%
Abs. Int.
7.72e3
3.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 2.88e3
1234678F
6.86e6
39.23
1234789F
6.00e6
40.58
2.61e6
1.31e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 4.03e3
1234678F
6.39e6
39.23
1234789F
5.83e6
40.58
2.43e6
1.22e6
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.10e3
ES 1234678F
6.12e6
39.22
CS 1234689F
6.07e6
39.63
ES 1234789F
5.67e6
40.57
2.26e6
1.13e6
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 5.35e3
ES 1234678F
1.26e7
39.22
CS 1234689F
1.34e7
39.63
ES 1234789F
1.21e7
40.57
5.21e6
2.60e6
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.27e3
9.02e3
4.51e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0329, 2199, 5491 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:24 Page 11 of 12


SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
OCDF
7.30e6*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.29e3
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.08e6*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.14e3
0%
Abs. Int.
2.47e6
1.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.39e7
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 4.64e3
0%
Abs. Int.
4.23e6
2.11e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.53e7
42.79
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 8.31e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.92e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9382, 5093, 9889 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:24 Page 12 of 12

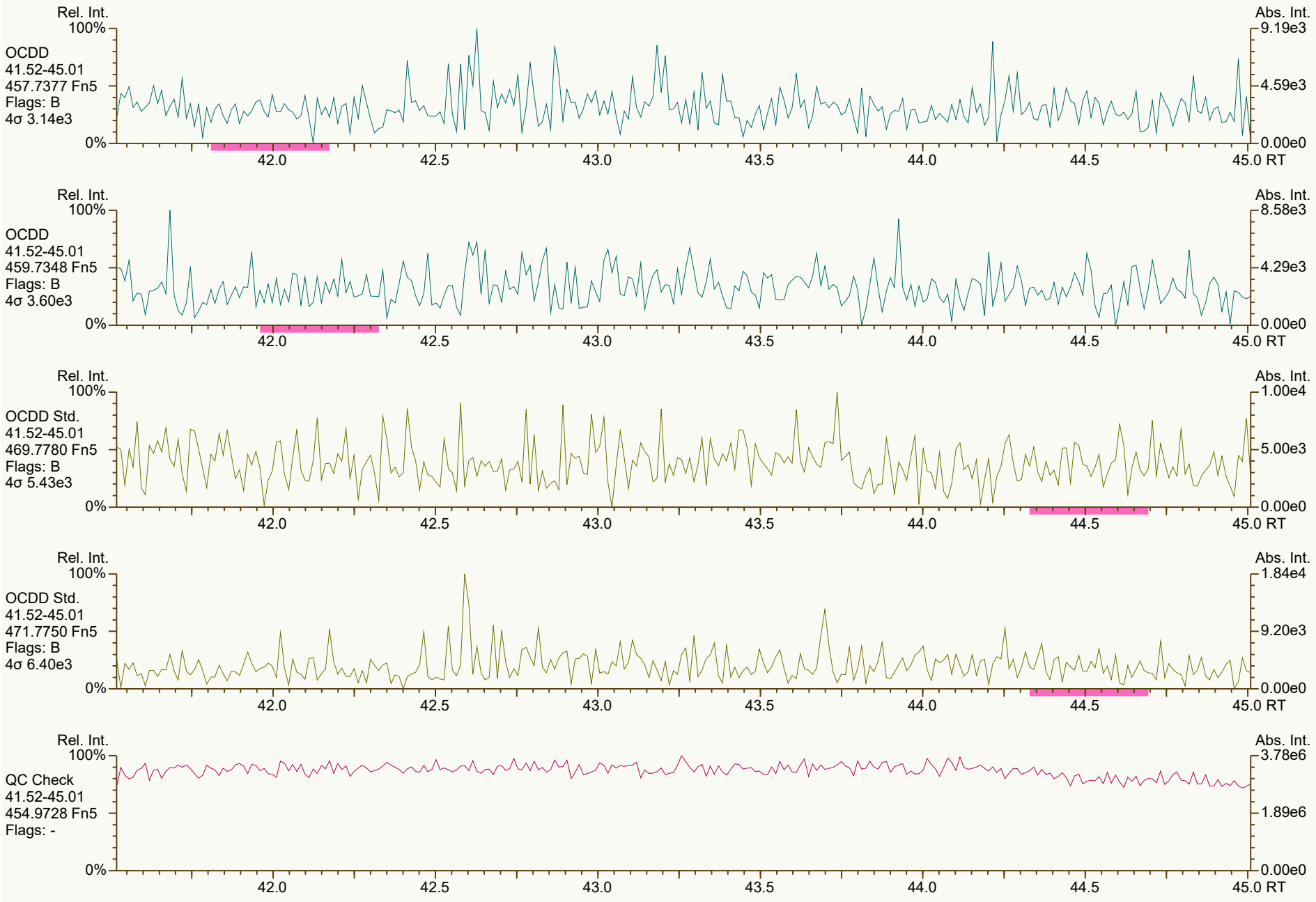

Rel. Int.
100%
0%
Abs. Int.
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
2.62e6
1.31e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
2.18e6
1.09e6
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
6.65e6
3.32e6
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
4.58e6
2.29e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
3.78e6
1.89e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0

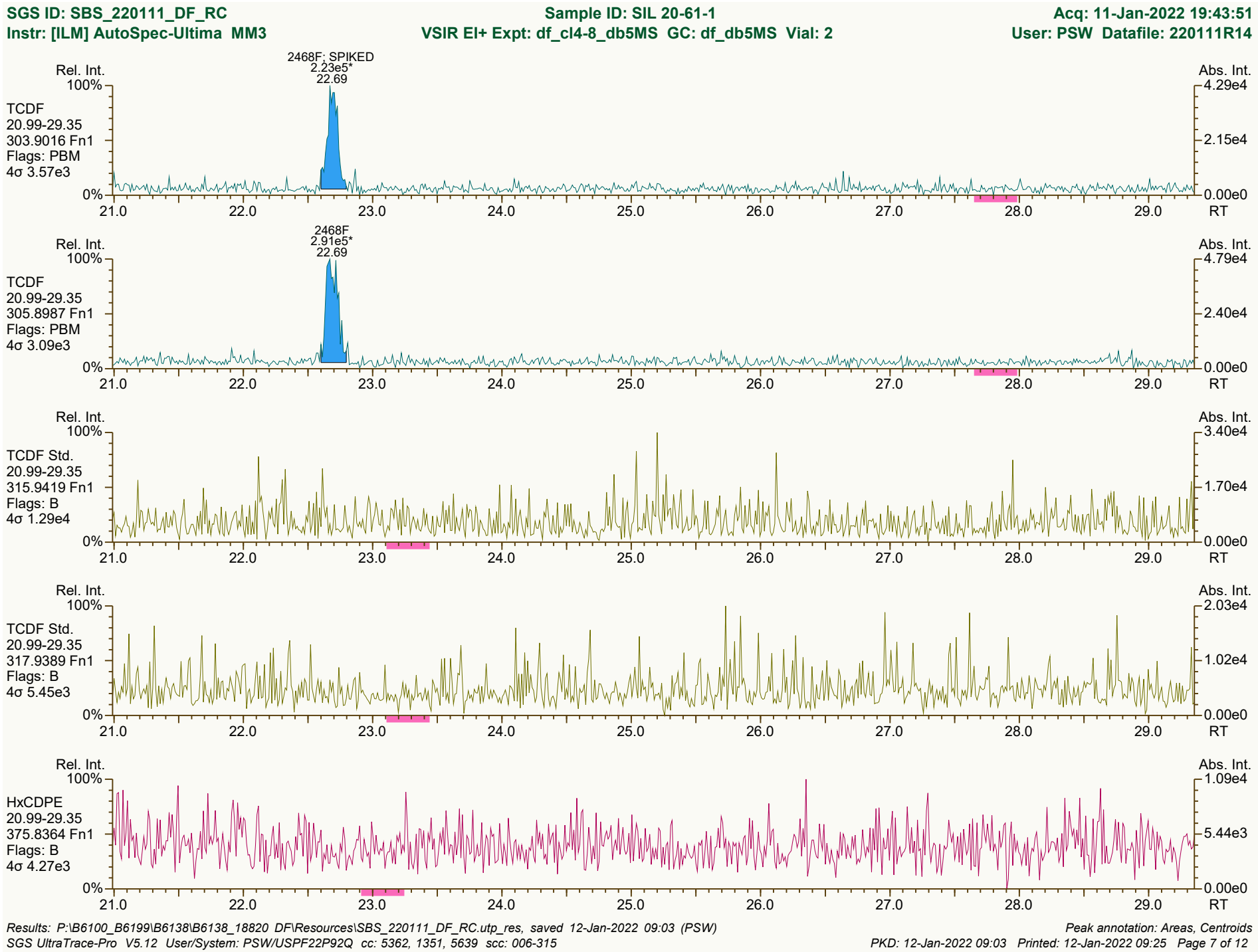

Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: B
4σ 3.70e3
0%
Abs. Int.
8.17e3
4.08e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: B
4σ 3.35e3
0%
Abs. Int.
7.07e3
3.54e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: B
4σ 4.13e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: B
4σ 4.69e3
0%
Abs. Int.
3.04e4
1.52e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: B
4σ 7.47e3
0%
Abs. Int.
1.97e4
9.84e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: B
4σ 4.55e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: B
4σ 2.39e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: B
4σ 6.44e3
0%
Abs. Int.
1.61e4
8.06e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: B
4σ 4.97e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
RT

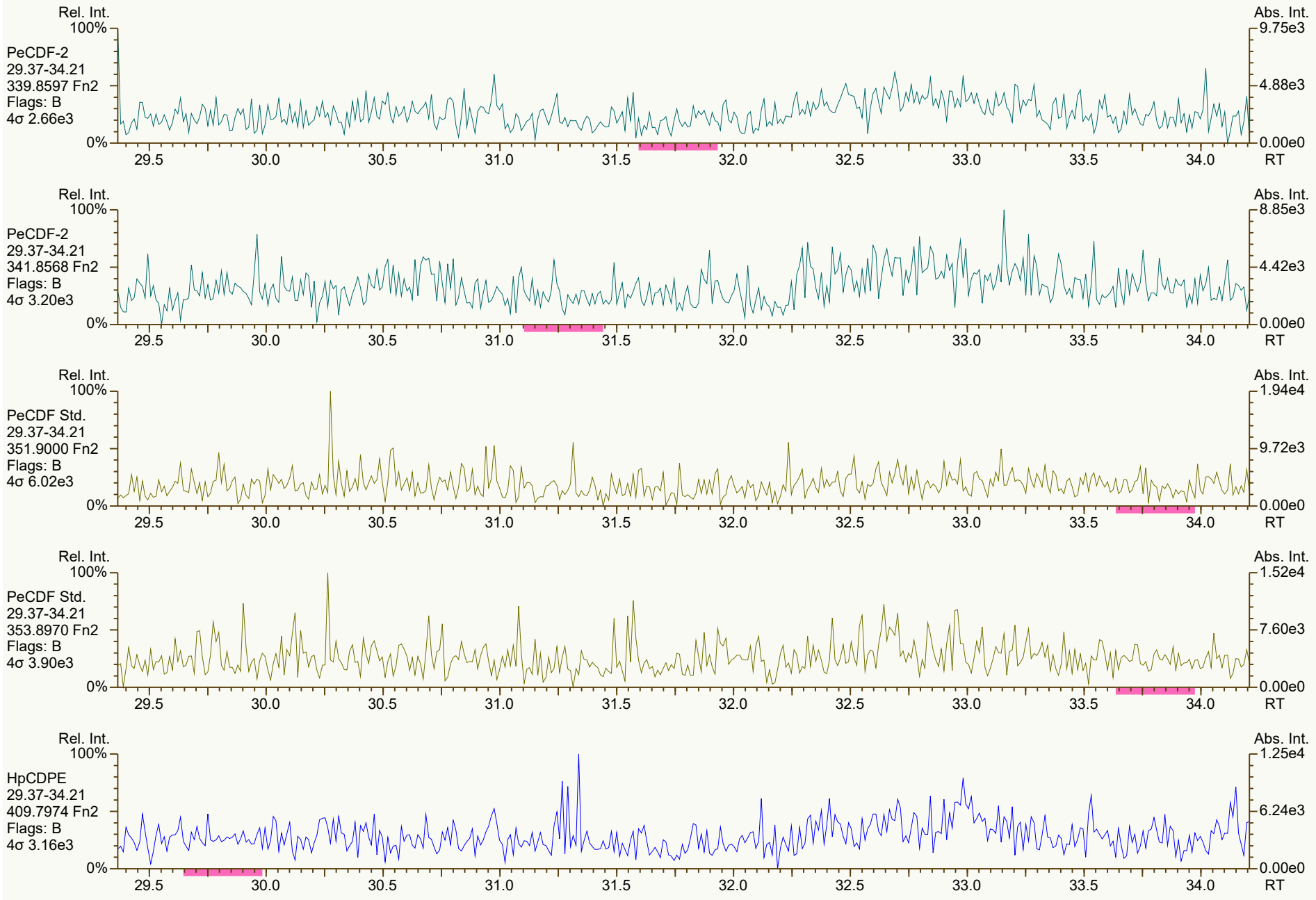

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.31e3
0%
Abs. Int.
6.01e3
3.00e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: B
4σ 2.38e3
0%
Abs. Int.
6.74e3
3.37e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: B
4σ 6.16e3
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: B
4σ 7.28e3
0%
Abs. Int.
1.84e4
9.18e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.27-41.51
423.7767 Fn4
Flags: B
4σ 2.45e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.27-41.51
425.7737 Fn4
Flags: B
4σ 2.79e3
0%
Abs. Int.
7.03e3
3.51e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: B
4σ 5.98e3
0%
Abs. Int.
1.98e4
9.92e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: B
4σ 4.95e3
0%
Abs. Int.
1.69e4
8.47e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

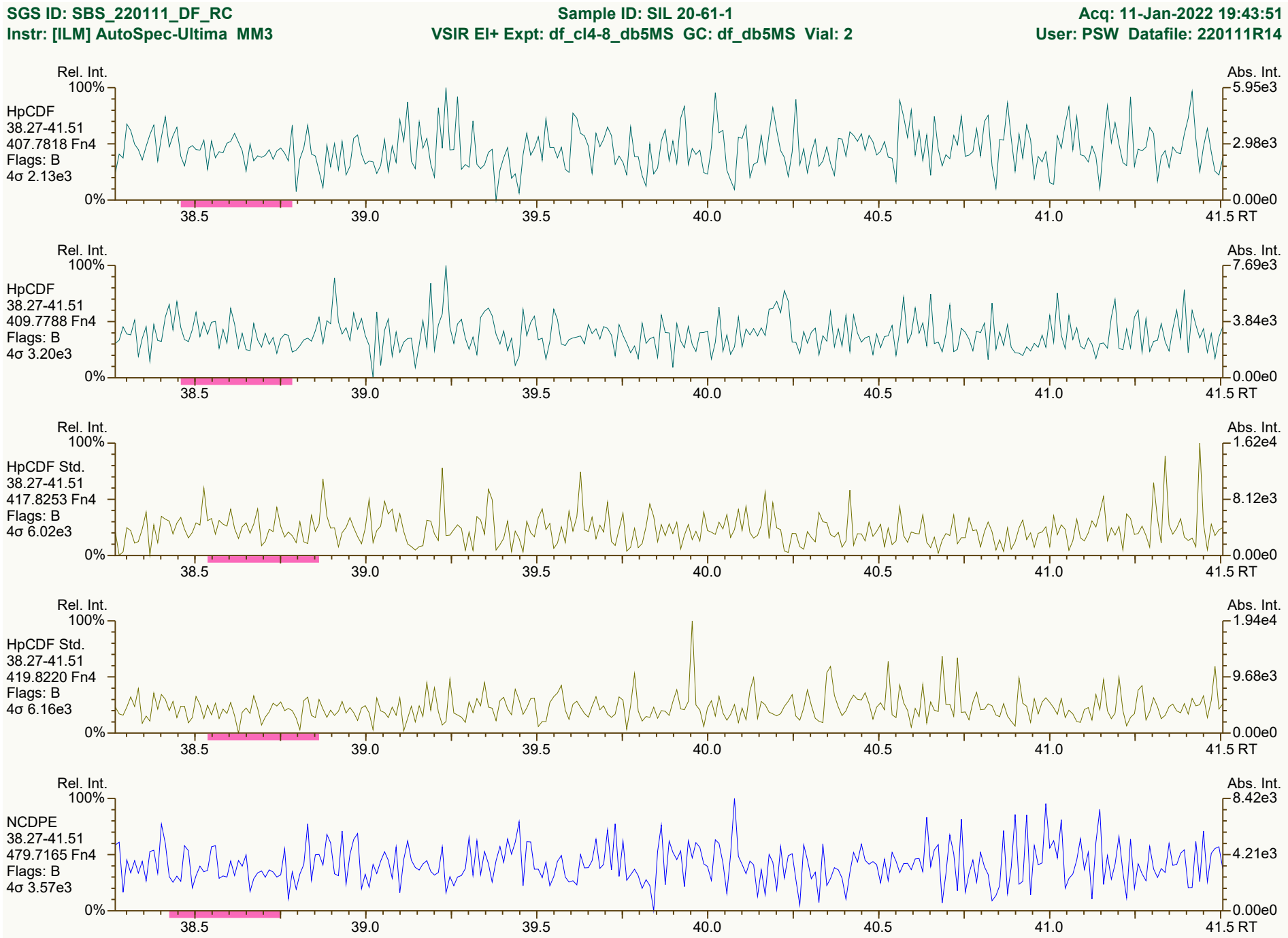

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 3.14e3
0%
Abs. Int.
9.19e3
4.59e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 3.60e3
0%
Abs. Int.
8.58e3
4.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 5.43e3
0%
Abs. Int.
1.00e4
5.00e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 6.40e3
0%
Abs. Int.
1.84e4
9.20e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.78e6
1.89e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

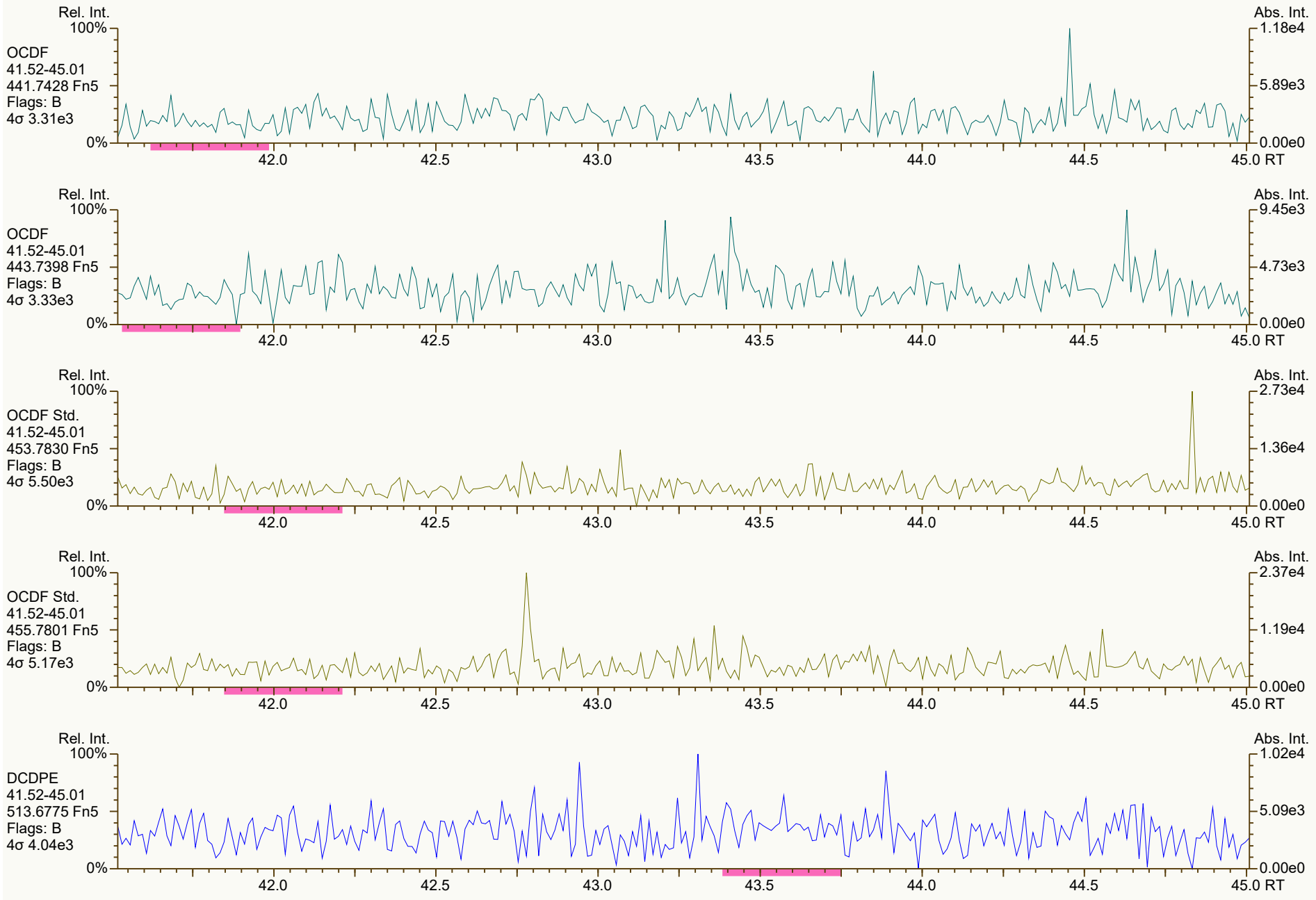

SGS ID: SBS_220111_DF_RC
Sample ID: SIL 20-61-1
Acq: 11-Jan-2022 19:43:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220111R14
2468F: SPIKED
2.23e5*
22.69
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 3.57e3
2468F
2.91e5*
22.69
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 3.09e3
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: B
4σ 1.29e4
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: B
4σ 5.45e3
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.27e3
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\SBS_220111_DF_RC.utp_res, saved 12-Jan-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5362, 1351, 5639 scc: 006-315
PKD: 12-Jan-2022 09:03 Printed: 12-Jan-2022 09:25 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.63e3
0.00e0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 5.24e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 3.89e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: B
4σ 2.66e3
0%
Abs. Int.
9.75e3
4.88e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: B
4σ 3.20e3
0%
Abs. Int.
8.85e3
4.42e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: B
4σ 6.02e3
0%
Abs. Int.
1.94e4
9.72e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: B
4σ 3.90e3
0%
Abs. Int.
1.52e4
7.60e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 3.16e3
0%
Abs. Int.
1.25e4
6.24e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT

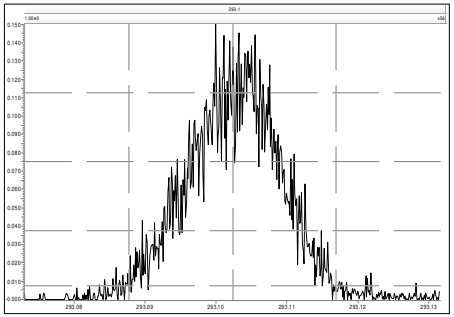

Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: B
4σ 2.51e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: B
4σ 3.62e3
0%
Abs. Int.
6.20e3
3.10e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: B
4σ 4.31e3
0%
Abs. Int.
1.73e4
8.64e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.58e4
1.29e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: PB
4σ 3.70e3
0%
Abs. Int.
8.04e3
4.02e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: SBS_220111_DF_RC
Sample ID: SIL 20-61-1
Acq: 11-Jan-2022 19:43:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220111R14
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: B
4σ 2.13e3
5.95e3
2.98e3
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: B
4σ 3.20e3
7.69e3
3.84e3
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: B
4σ 6.02e3
1.62e4
8.12e3
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: B
4σ 6.16e3
1.94e4
9.68e3
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 3.57e3
8.42e3
4.21e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\SBS_220111_DF_RC.utp_res, saved 12-Jan-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8088, 5781, 1237 scc: 006-315
PKD: 12-Jan-2022 09:03 Printed: 12-Jan-2022 09:25 Page 11 of 12

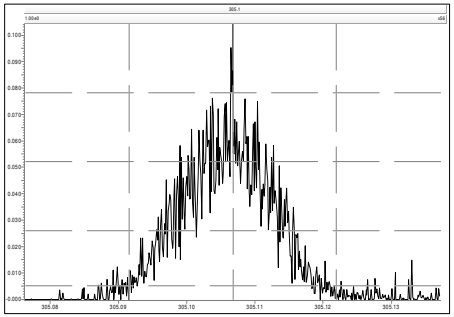

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 3.31e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 3.33e3
0%
Abs. Int.
9.45e3
4.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 5.50e3
0%
Abs. Int.
2.73e4
1.36e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 5.17e3
0%
Abs. Int.
2.37e4
1.19e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 4.04e3
0%
Abs. Int.
1.02e4
5.09e3
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42.0
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43.0
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44.0
44.5
45.0 RT

Printed: Tuesday, January 11, 2022 16:33:06 Eastern Standard Time

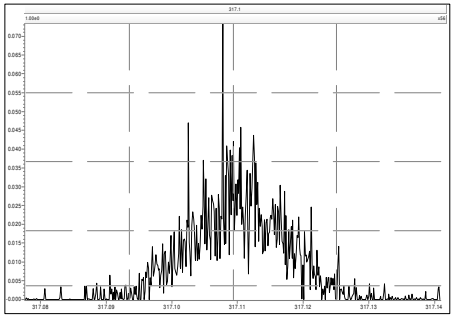
M 292.9824 R 10339



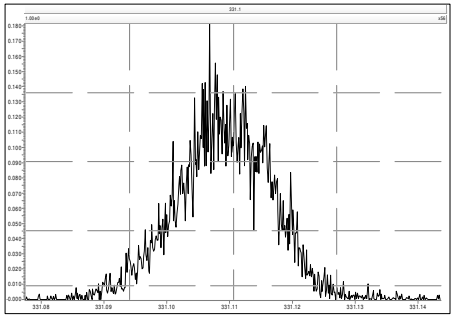
M 304.9824 R 11576



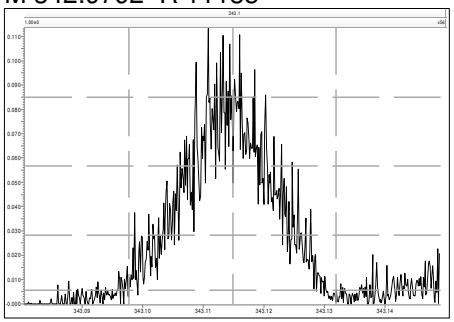
M 316.9824 R 12754



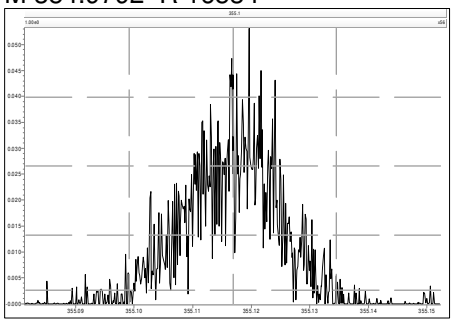
M 330.9792 R 10466



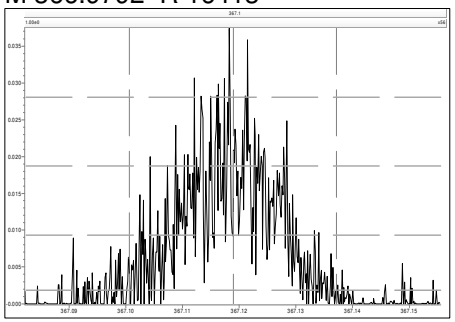
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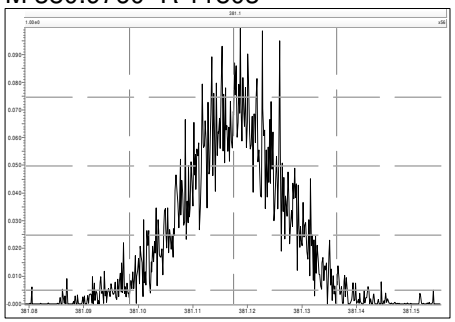
M 354.9792 R 16534



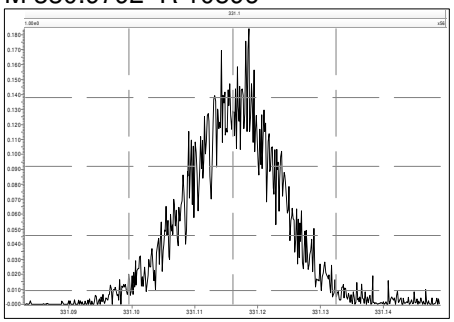
M 366.9792 R 16413



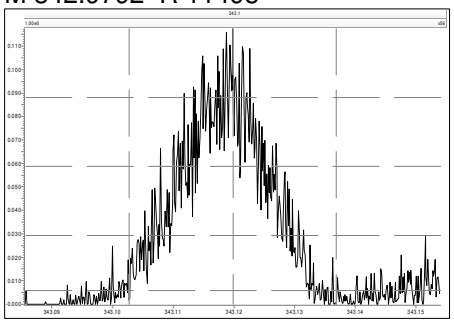
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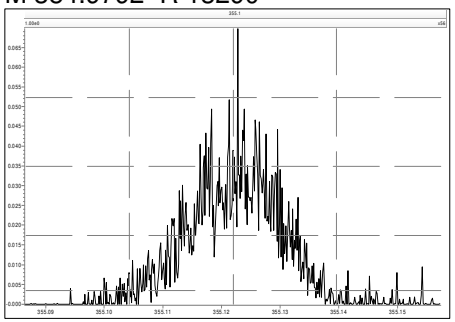
M 330.9792 R 10596



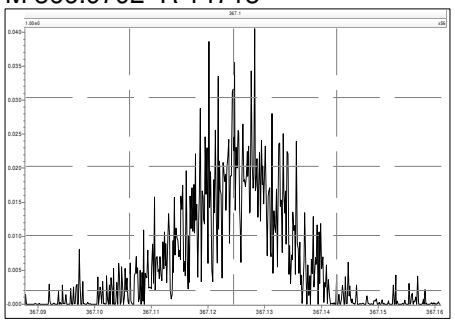
M 342.9792 R 11495



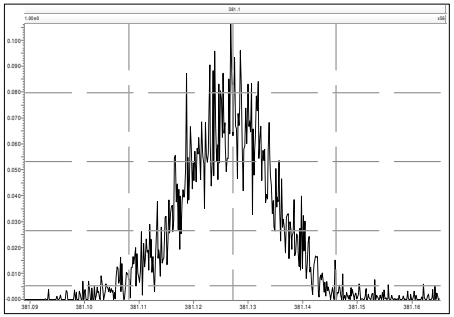
M 354.9792 R 13290



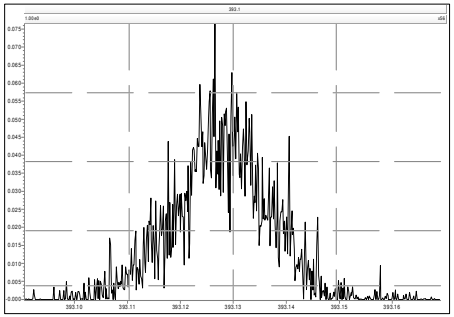
M 366.9792 R 14718



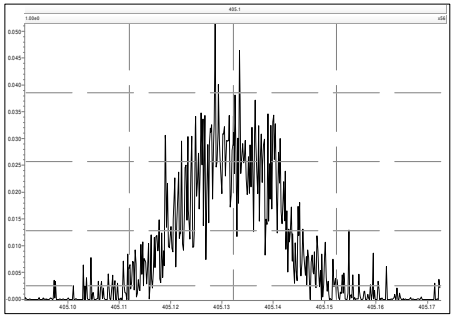
M 380.9760 R 11682



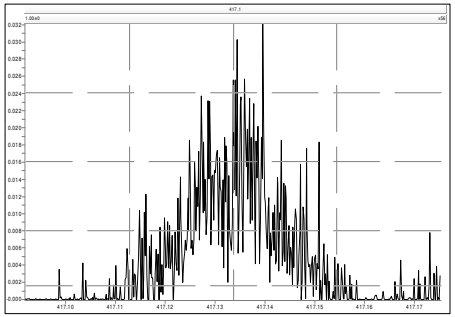
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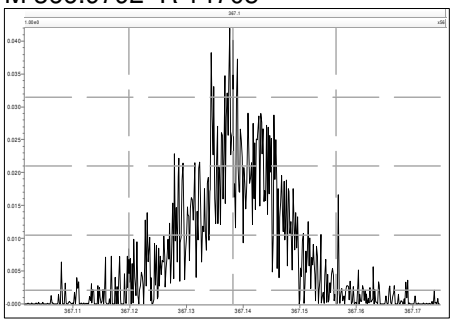
M 404.9760 R 12515



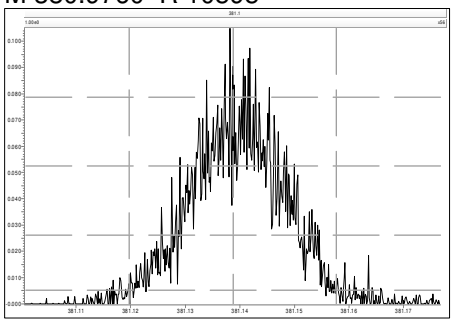
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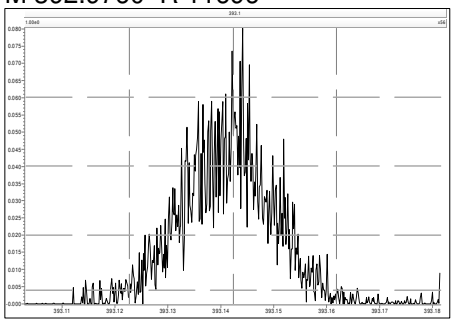
M 366.9792 R 14705



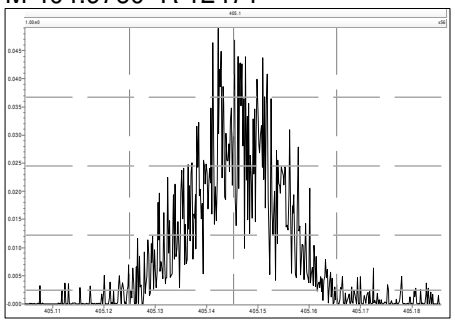
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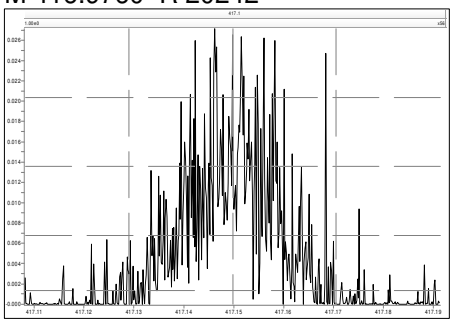
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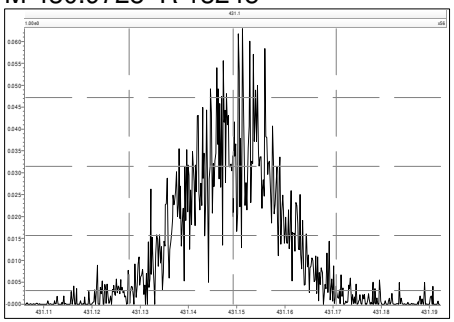
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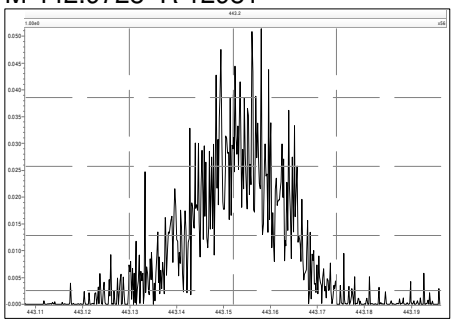
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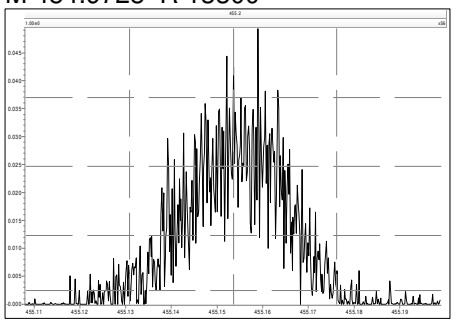
M 430.9728 R 13245



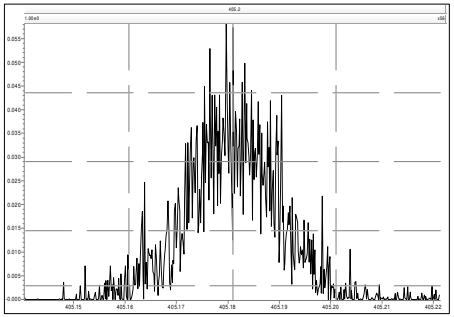
M 442.9728 R 12981



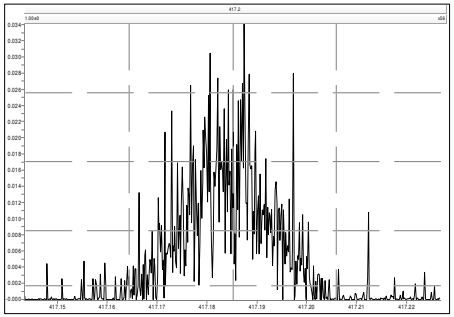
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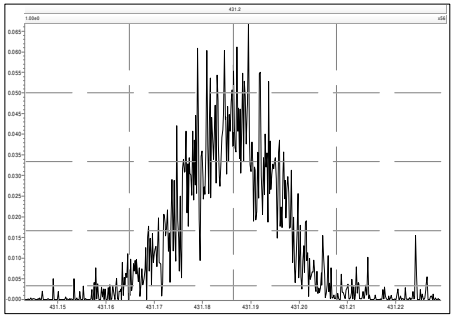
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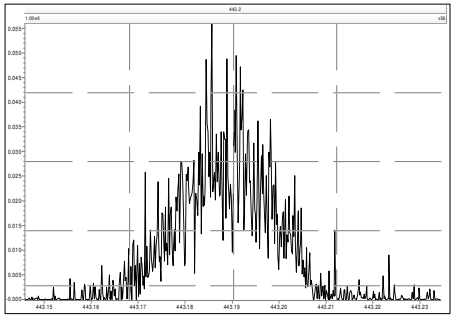
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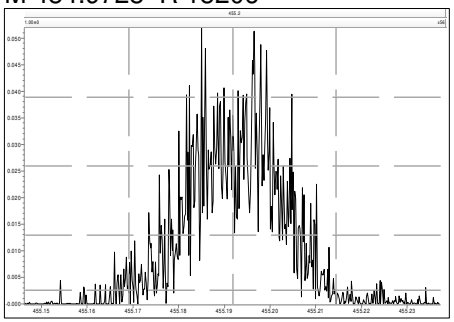
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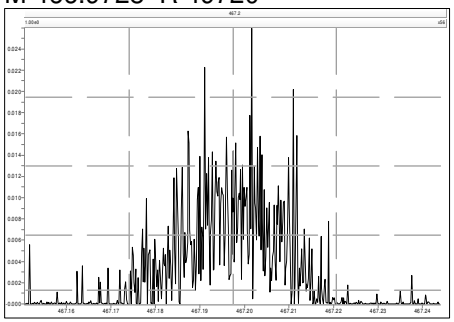
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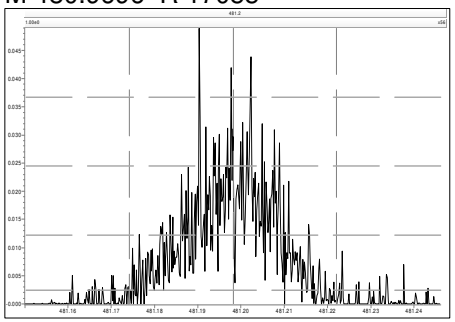
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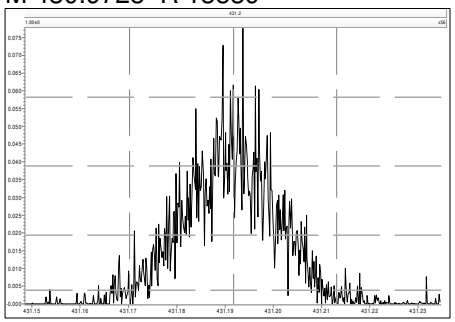
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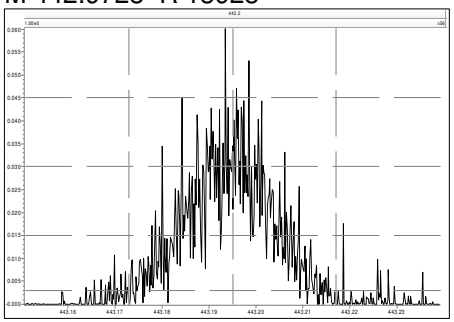
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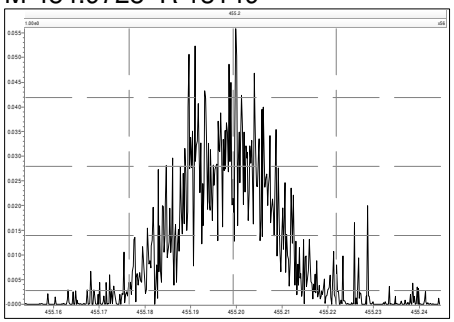
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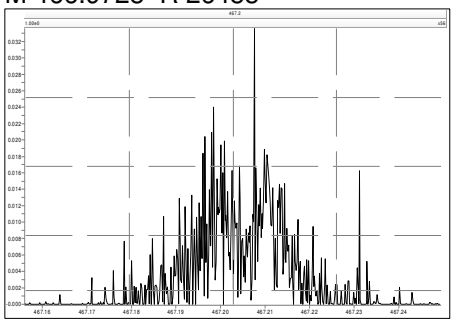
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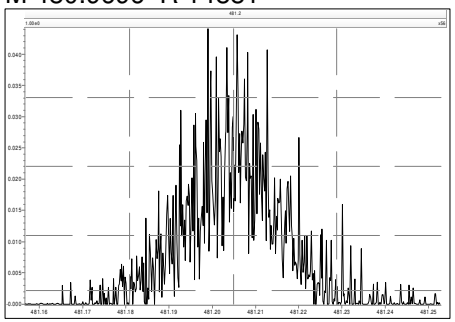
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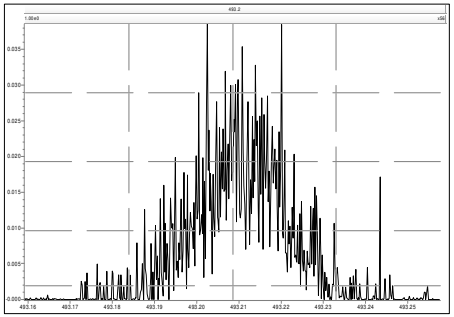


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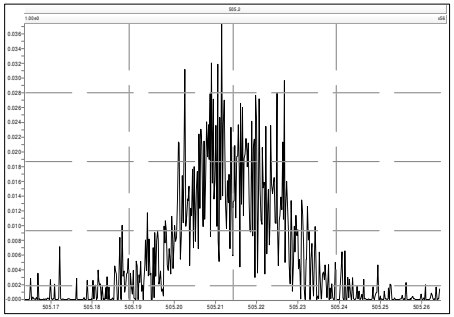


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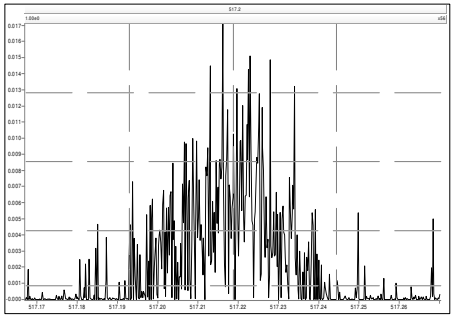
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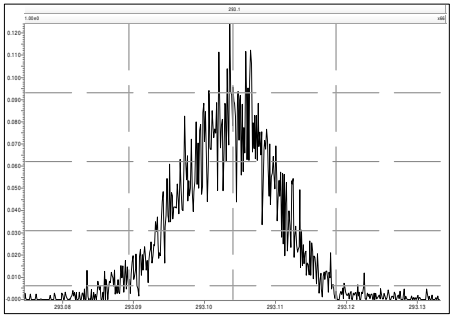


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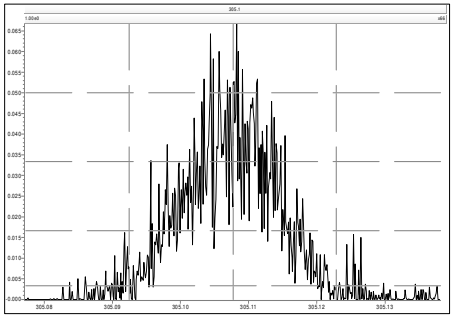


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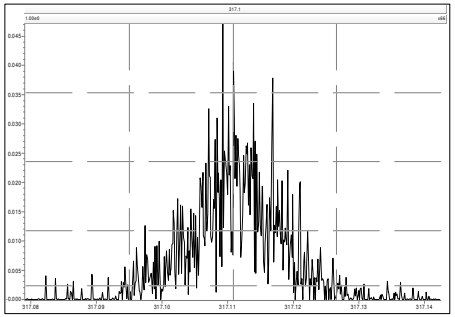
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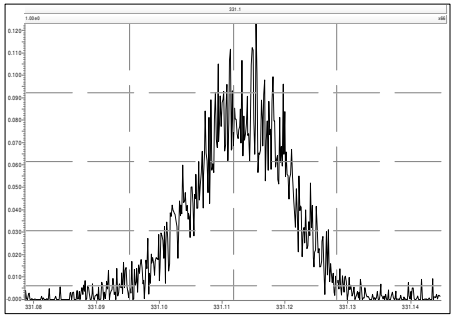
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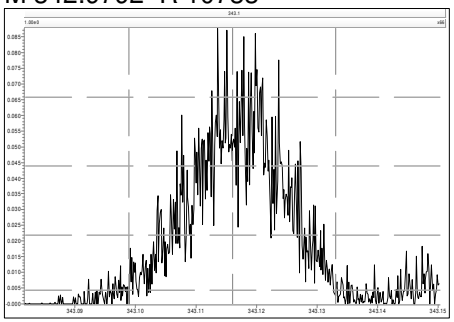
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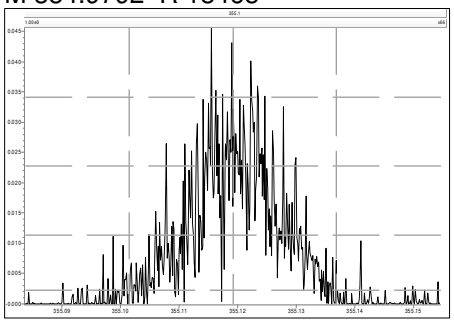
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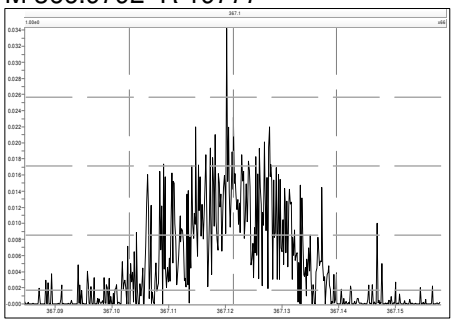
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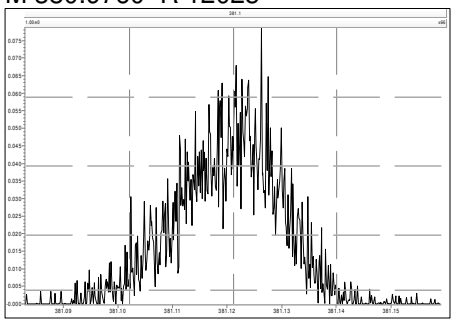
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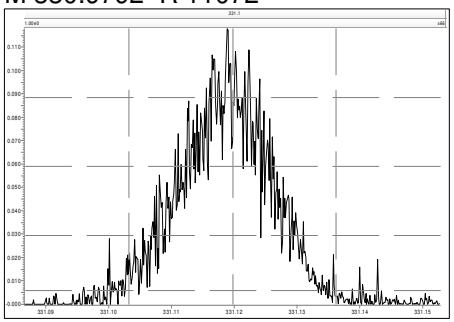
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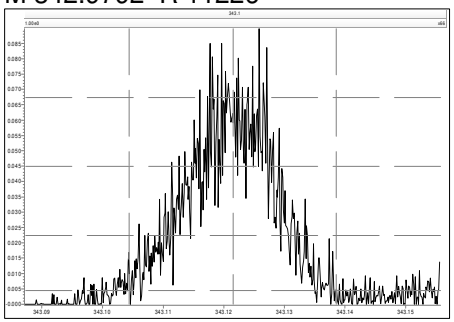
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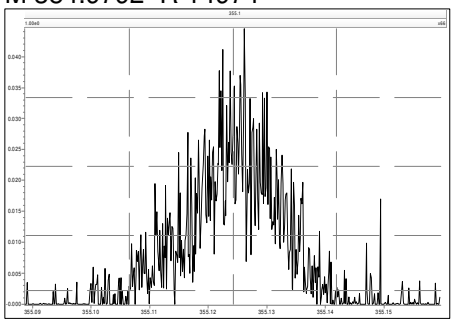
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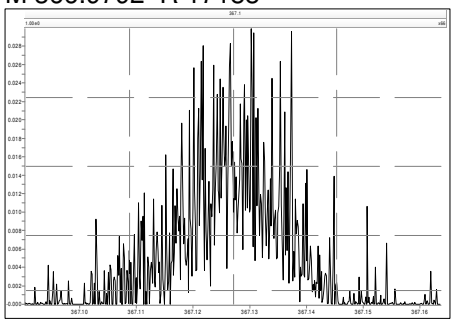
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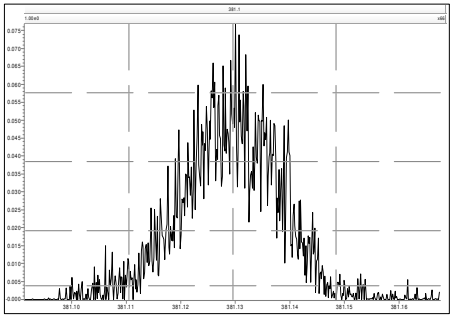
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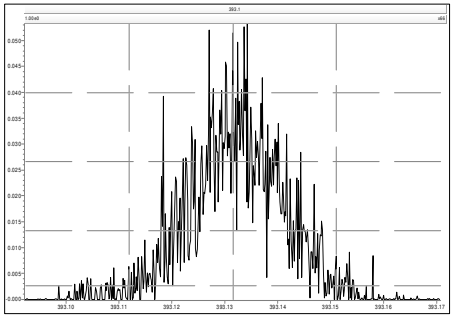
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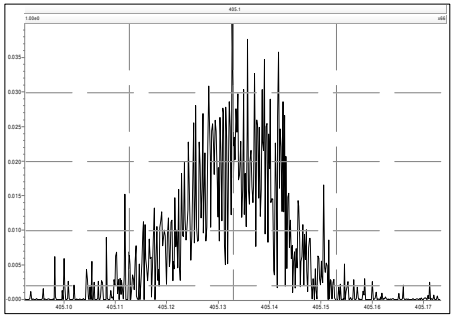
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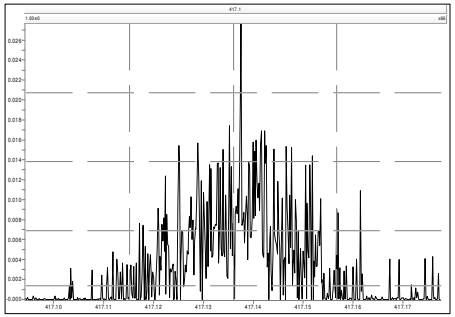
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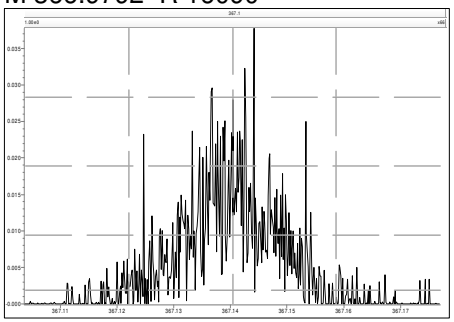
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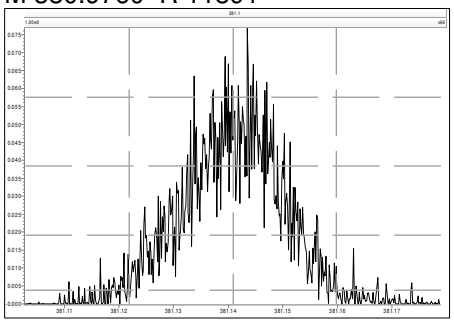
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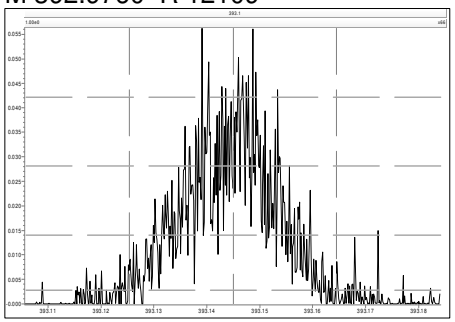
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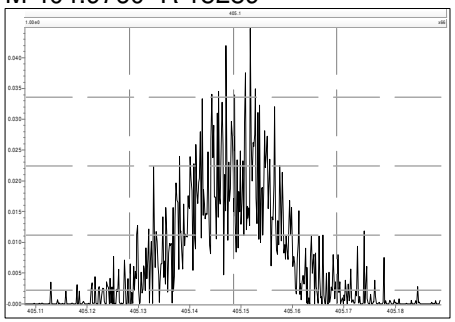
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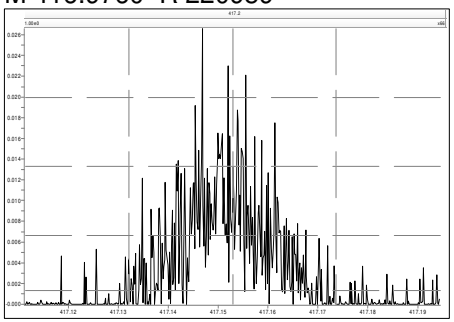
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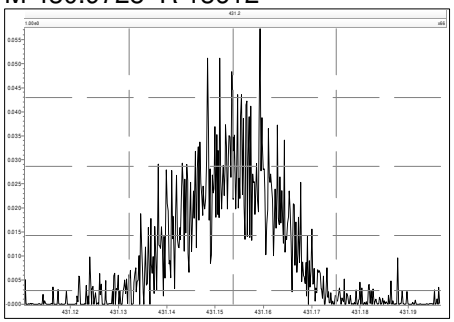
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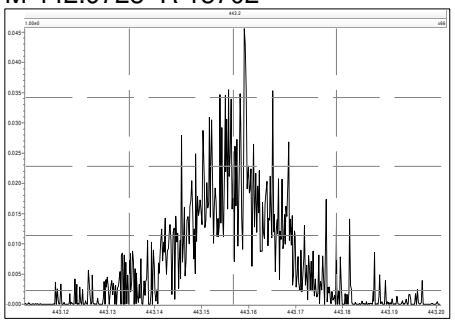
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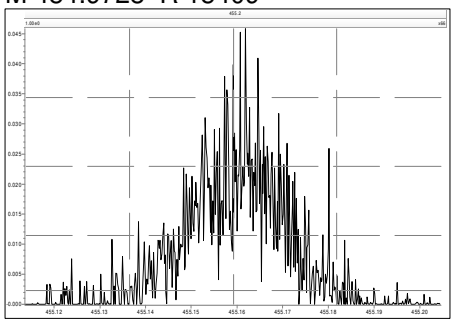
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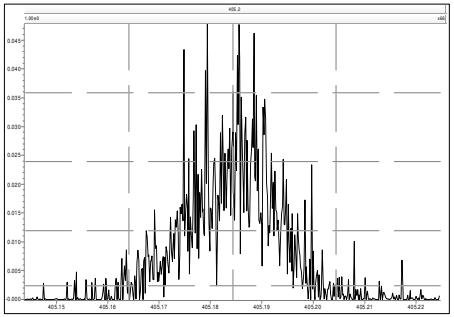
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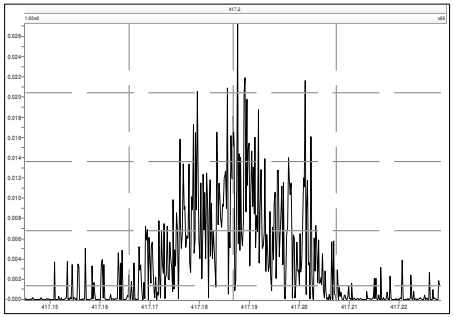
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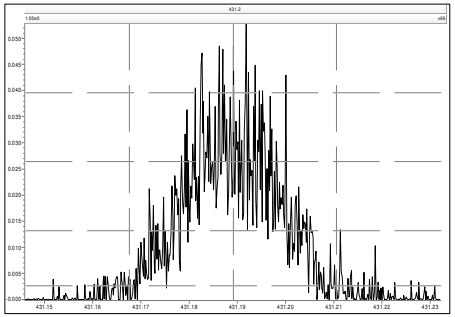
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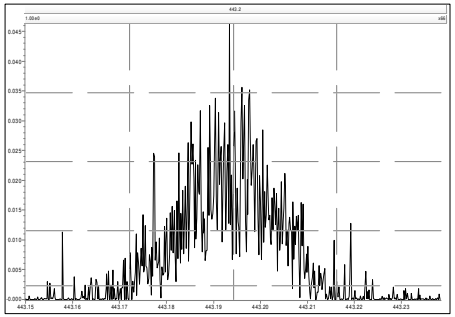
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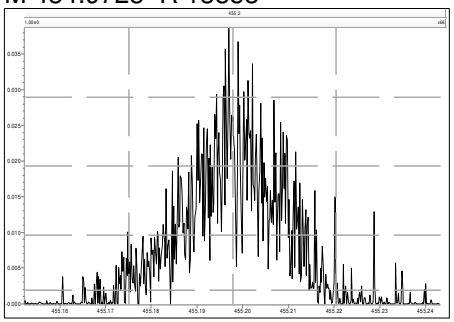
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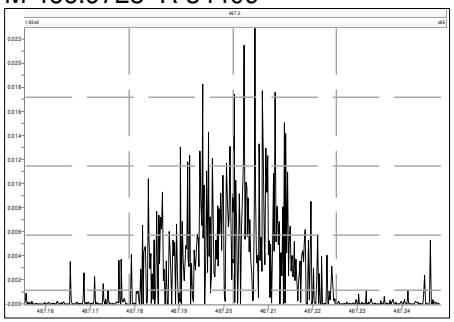
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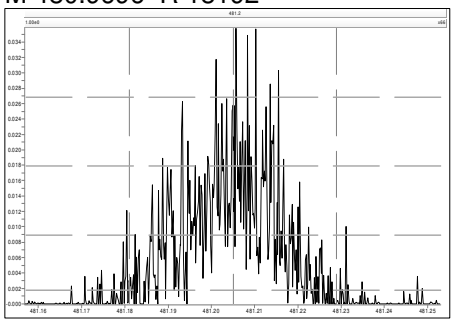
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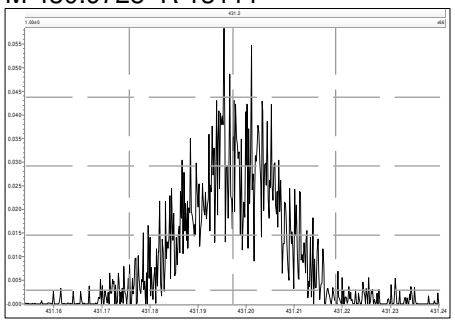
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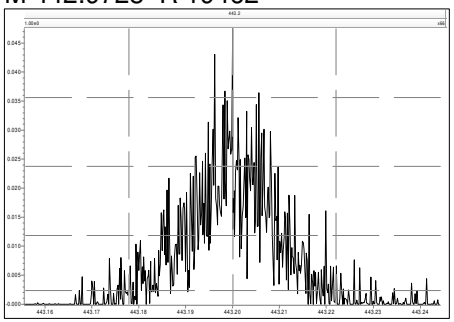
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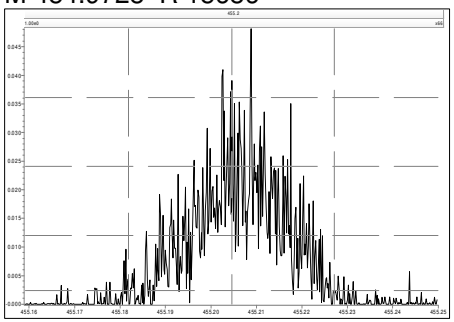
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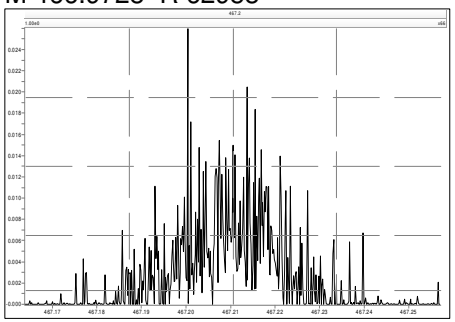
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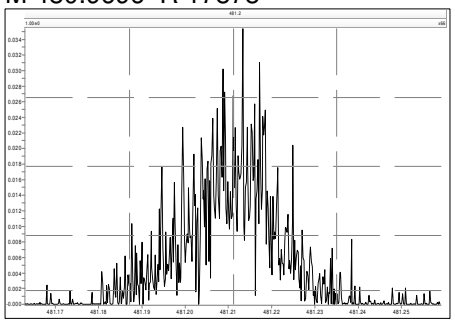
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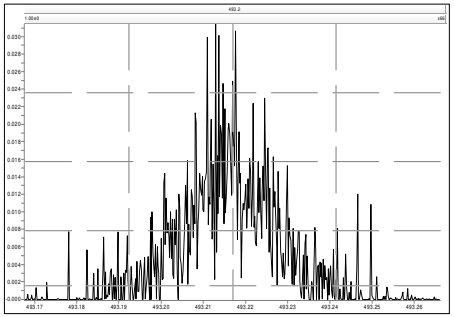
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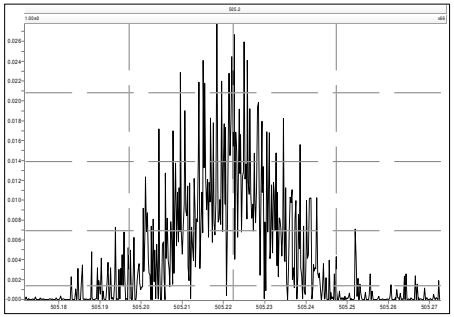
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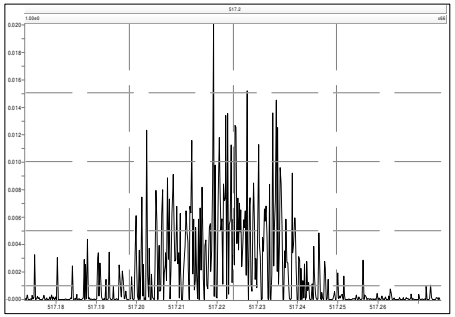
M 492.9696 R 20295



M 504.9696 R 39141



M 516.9697 R 200319



Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 0.25 pg/uL CS0	210727R03 0.5 pg/uL CS1	210727R04 2 pg/uL CS2	210727R05 10 pg/uL CS3	210727R06 40 pg/uL CS4	210727R07 200 pg/uL CS5	210727R08 500 pg/uL CS6
2378-TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
12378-PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
123478-HxCDD	1.06	3.3%	1.10	1.10	0.99	1.05	1.05	1.06	1.05
123678-HxCDD	1.08	2.9%	1.12	1.07	1.02	1.08	1.10	1.10	1.09
123789-HxCDD	1.02	4.8%	1.10	1.05	0.95	0.99	0.99	1.01	1.00
1234678-HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
OCDD	1.07	4.2%	1.15	1.04	1.01	1.07	1.08	1.06	1.08
2378-TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
12378-PeCDF	0.95	3.2%	1.00	0.94	0.90	0.94	0.95	0.93	0.96
23478-PeCDF	0.94	3.7%	0.99	0.90	0.90	0.92	0.93	0.96	0.96
123478-HxCDF	1.23	3.3%	1.32	1.23	1.19	1.22	1.24	1.24	1.22
123678-HxCDF	1.13	3.0%	1.17	1.16	1.07	1.10	1.13	1.14	1.14
234678-HxCDF	1.15	4.2%	1.23	1.19	1.08	1.14	1.13	1.15	1.15
123789-HxCDF	1.14	3.5%	1.19	1.08	1.09	1.14	1.14	1.15	1.16
1234678-HpCDF	1.36	3.6%	1.46	1.35	1.31	1.34	1.33	1.37	1.36
1234789-HpCDF	1.30	4.0%	1.34	1.20	1.26	1.34	1.30	1.35	1.33
OCDF	1.03	4.1%	1.01	1.01	0.95	1.03	1.05	1.06	1.08
ES 2378-TCDD	1.03	1.7%	1.02	1.02	1.02	1.05	1.06	1.04	1.02
ES 12378-PeCDD	1.03	3.5%	1.01	1.02	0.99	1.01	1.03	1.07	1.10
ES 123478-HxCDD	0.99	4.4%	0.97	0.93	0.99	1.00	0.98	1.03	1.07
ES 123678-HxCDD	0.97	5.2%	0.94	0.91	0.95	1.01	0.94	1.02	1.05
ES 123789-HxCDD	1.12	5.1%	1.09	1.04	1.12	1.14	1.09	1.17	1.22
ES 1234678-HpCDD	0.99	5.2%	0.95	0.92	0.98	1.02	0.97	1.05	1.06
ES OCDD	0.78	8.4%	0.73	0.71	0.74	0.77	0.75	0.85	0.89
ES 2378-TCDF	1.08	1.2%	1.06	1.08	1.07	1.09	1.09	1.08	1.10
ES 12378-PeCDF	0.93	2.7%	0.91	0.91	0.92	0.93	0.95	0.95	0.98
ES 23478-PeCDF	0.92	2.4%	0.90	0.91	0.90	0.93	0.93	0.93	0.96
ES 123478-HxCDF	1.14	5.9%	1.09	1.04	1.13	1.18	1.12	1.21	1.23
ES 123678-HxCDF	1.30	4.9%	1.24	1.21	1.27	1.35	1.27	1.36	1.37
ES 234678-HxCDF	1.20	4.9%	1.14	1.12	1.18	1.23	1.20	1.27	1.27
ES 123789-HxCDF	1.14	5.9%	1.06	1.07	1.11	1.16	1.12	1.20	1.24
ES 1234678-HpCDF	0.95	5.7%	0.90	0.88	0.92	0.98	0.94	1.00	1.03
ES 1234789-HpCDF	0.85	7.0%	0.79	0.78	0.82	0.86	0.83	0.90	0.94
ES OCDF	0.93	8.9%	0.86	0.83	0.88	0.93	0.90	1.01	1.06

APPROVED
Carla_Lyon , 7/28/2021, 12:24:59 PM

Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 **0.25 pg/uL CS0**	210727R03 **0.5 pg/uL CS1**	210727R04 **2 pg/uL CS2**	210727R05 **10 pg/uL CS3**	210727R06 **40 pg/uL CS4**	210727R07 **200 pg/uL CS5**	210727R08 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.31	2.3%	-	1.32	1.27	1.30	1.31	1.35	-
CS 12347-PeCDD	0.89	2.1%	0.89	0.91	0.88	0.87	0.93	0.88	0.89
CS 12346-PeCDF	0.87	1.7%	0.86	0.88	0.86	0.89	0.88	0.86	0.85
CS 123469-HxCDF	1.09	2.8%	1.06	1.04	1.08	1.14	1.09	1.12	1.09
CS 1234689-HpCDF	0.86	3.3%	0.86	0.84	0.86	0.92	0.86	0.86	0.84
SS 37Cl-2378-TCDD	1.26	2.3%	-	1.29	1.25	1.24	1.23	1.29	-
SS 12347-PeCDD	0.86	4.0%	0.88	0.89	0.89	0.86	0.90	0.82 ✓	0.81
SS 12346-PeCDF	0.93	3.5%	0.94	0.97	0.93	0.96	0.93	0.91	0.87
SS 123469-HxCDF	0.84	2.8%	0.86	0.86	0.85	0.84	0.86	0.82	0.80
SS 1234689-HpCDF	0.91	6.0%	0.96	0.96	0.94	0.94	0.92	0.86	0.81
AS 1368-TCDD	1.02	0.7%	1.01	1.03	1.02	1.02 ✓	1.02	1.04	1.02
AS 1368-TCDF	1.08	1.9%	1.05	1.06	1.07	1.10	1.09	1.10	1.07
~~OCDD-a~~	~~0.07~~	~~7.2%~~	~~0.06~~	~~0.08~~	~~0.07~~	~~0.07~~	~~0.07~~	~~0.06~~	~~0.07~~
~~OCDF-a~~	~~0.06~~	~~7.0%~~	~~0.05~~	~~0.06~~	~~0.05~~	~~0.06~~	~~0.06~~	~~0.06~~	~~0.06~~
Not reported from this ICAL - CL 28Jul21									
Totals									
Total TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
Total PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
Total HxCDD	1.05	3.3%	1.11	1.07	0.99	1.04	1.05	1.06	1.05
Total HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
Total TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
Total PeCDF	0.94	3.3%	1.00	0.92	0.90	0.93	0.94	0.95	0.96
Total HxCDF	1.16	3.1%	1.23	1.16	1.11	1.15	1.16	1.17	1.17
Total HpCDF	1.33	3.2%	1.40	1.28	1.28	1.34	1.32	1.36	1.34
FS 1278-TCDD	1.08	0.7%	1.08	1.08	1.09	1.08	1.08	1.08	1.10
FS 12478-PeCDD	1.09	3.7%	1.10	1.10 ✓	1.12	1.13	1.13	1.07	1.01
FS 123468-HxCDD	1.26	4.2%	1.27	1.30	1.28	1.32	1.28	1.24	1.16
FS 1234679-HpCDD	1.36	5.0%	1.41	1.37	1.38	1.42	1.38 ✓	1.30	1.23
TS 1378-TCDD	1.35	2.3%	1.36 ✓	1.38	1.36	1.31	1.30	1.35	1.37

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	210727R01	2	SBS_210727_DF_RA	1.00	SIL 20-61-1	PSW	638-037	27-Jul-2021	08:17:39
2	210727R02	85	CS0_210727_DF_RA	1.00	SIL 25-6-3	PSW	693-472	27-Jul-2021	09:04:23
3	210727R03	86	CS1_210727_DF_RA	1.00	SIL 25-6-2	PSW	554-132	27-Jul-2021	09:54:34
4	210727R04	87	CS2_210727_DF_RA	1.00	SIL 25-6-1	PSW	377-233	27-Jul-2021	10:44:24
5	210727R05	3	CS3_210727_DF_RA	1.00	SIL 23-672-1	PSW	230-891	27-Jul-2021	11:32:33
6	210727R06	88	CS4_210727_DF_RA	1.00	SIL 25-5-4	PSW	602-590	27-Jul-2021	12:19:16
7	210727R07	89	CS5_210727_DF_RA	1.00	SIL 25-5-3	PSW	147-553	27-Jul-2021	13:09:36
8	210727R08	90	CS6_210727_DF_RA	1.00	SIL 25-5-2	PSW	783-472	27-Jul-2021	13:58:27

Alternate OCDD/OCDF - NR in this ICAL. CL 28Jul21

REVIEWED
paul_walton , 7/28/2021, 8:31:00 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:08 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

2378-TCDD	ES 2378-TCDD
12378-PeCDD	ES 12378-PeCDD
123478-HxCDD	ES 123478-HxCDD
123678-HxCDD	ES 123678-HxCDD
123789-HxCDD	ES 123789-HxCDD
1234678-HpCDD	ES 1234678-HpCDD
OCDD	ES OCDD
2378-TCDF	ES 2378-TCDF
12378-PeCDF	ES 12378-PeCDF
23478-PeCDF	ES 23478-PeCDF
123478-HxCDF	ES 123478-HxCDF
123678-HxCDF	ES 123678-HxCDF
234678-HxCDF	ES 234678-HxCDF
123789-HxCDF	ES 123789-HxCDF
1234678-HpCDF	ES 1234678-HpCDF
1234789-HpCDF	ES 1234789-HpCDF
OCDF	ES OCDF

Cleanup/Sampling Standards

CS 37Cl-2378-TCDD	1234 TCDD 13C12
CS 12347-PeCDD	1234 TCDD 13C12
CS 12346-PeCDF	1234 TCDF 13C12
CS 123469-HxCDF	123467 HxCDD 13C12
CS 1234689-HpCDF	123467 HxCDD 13C12

Alternate Standards

AS 1368-TCDD	1234 TCDD 13C12
AS 1368-TCDF	1234 TCDF 13C12

Shipping Standards

FS 1278-TCDD	ES 2378-TCDD
FS 12478-PeCDD	ES 12378-PeCDD
FS 123468-HxCDD	ES 123478-HxCDD
FS 1234679-HpCDD	ES 1234678-HpCDD
TS 1378-TCDD	ES 2378-TCDD

Extraction Standards

ES 2378-TCDD	1234 TCDD 13C12
ES 12378-PeCDD	1234 TCDD 13C12
ES 123478-HxCDD	123467 HxCDD 13C12
ES 123678-HxCDD	123467 HxCDD 13C12
ES 123789-HxCDD	123467 HxCDD 13C12
ES 1234678-HpCDD	123467 HxCDD 13C12
ES OCDD	123467 HxCDD 13C12
ES 2378-TCDF	1234 TCDF 13C12
ES 12378-PeCDF	1234 TCDF 13C12
ES 23478-PeCDF	1234 TCDF 13C12
ES 123478-HxCDF	123467 HxCDD 13C12
ES 123678-HxCDF	123467 HxCDD 13C12
ES 234678-HxCDF	123467 HxCDD 13C12
ES 123789-HxCDF	123467 HxCDD 13C12
ES 1234678-HpCDF	123467 HxCDD 13C12
ES 1234789-HpCDF	123467 HxCDD 13C12
ES OCDF	123467 HxCDD 13C12

Injection Standards

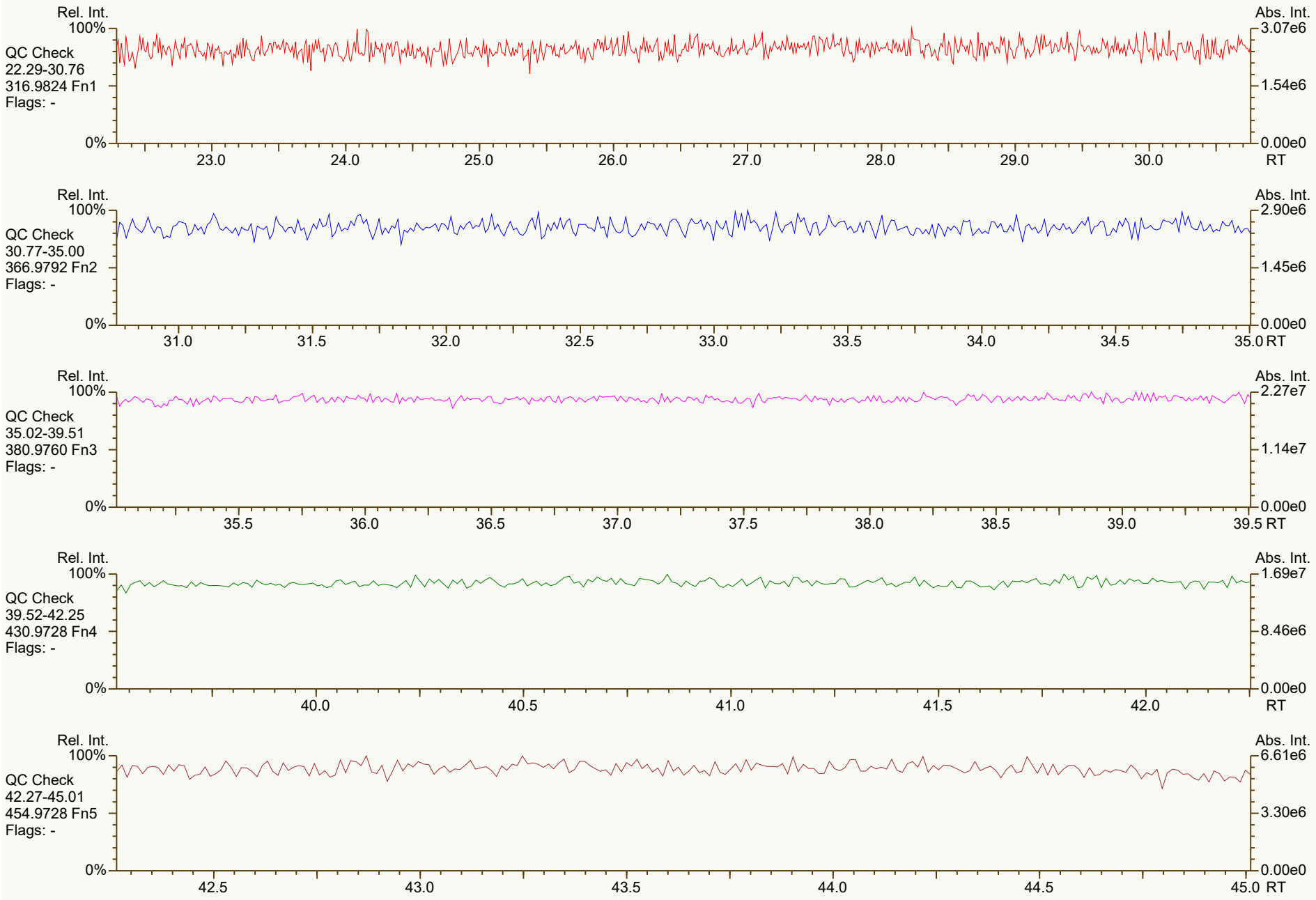
1234 TCDD 13C12
1234 TCDF 13C12
123467 HxCDD 13C12

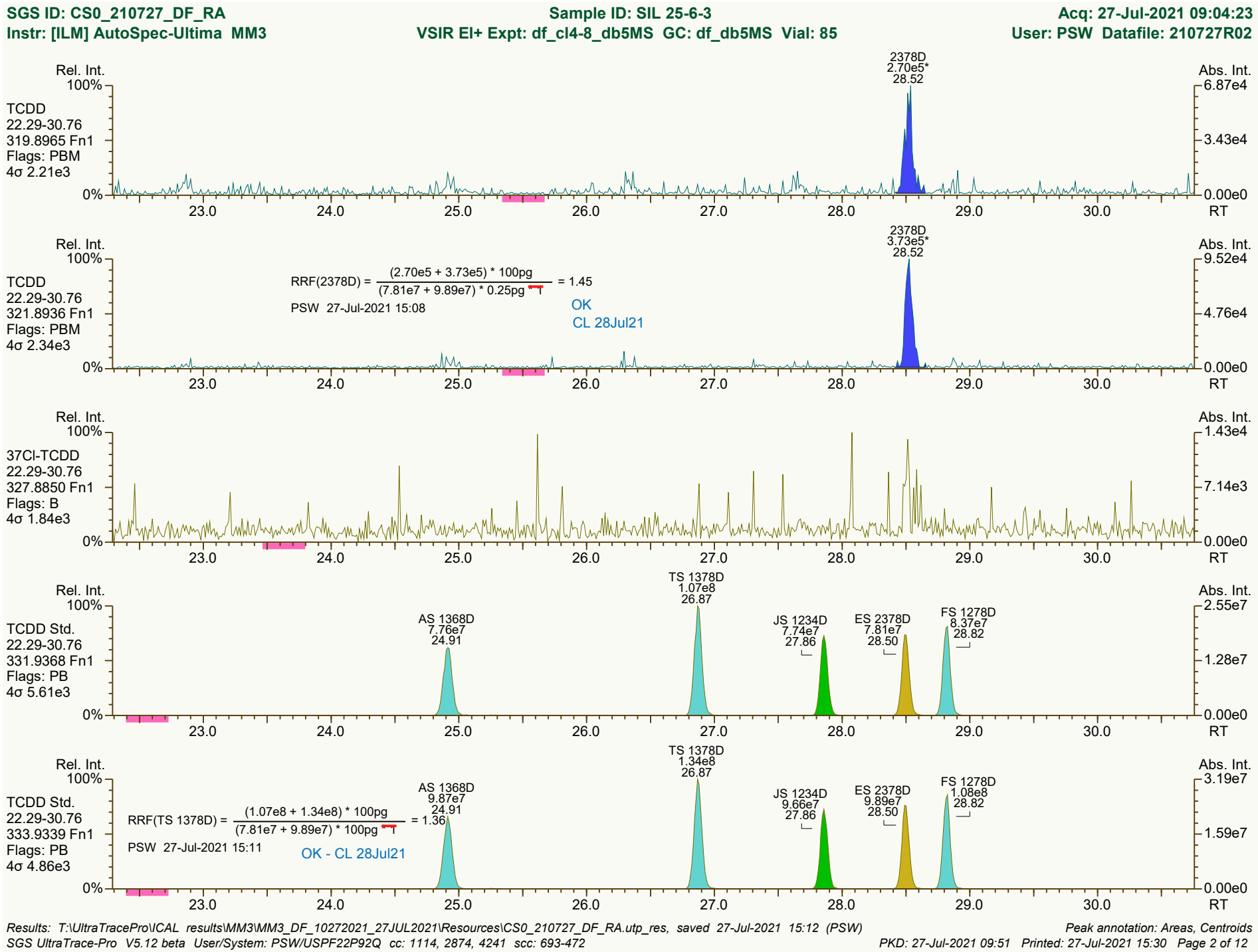
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	6.43E+05	0.73	Y	1.34	1.45	8%
12378-PeCDD	33.80	2.41E+06	1.48	Y	1.06	1.09	3%
123478-HxCDD	37.67	2.24E+06	1.35	Y	1.06	1.10	4%
123678-HxCDD	37.78	2.20E+06	1.31	Y	1.08	1.12	3%
123789-HxCDD	38.07	2.52E+06	1.21	Y	1.02	1.10	9%
1234678-HpCDD	40.66	2.08E+06	0.99	Y	0.97	1.05	7%
OCDD	43.22	3.52E+06	0.85	Y	1.07	1.15	8%
2378-TCDF	27.66	7.49E+05	0.72	Y	0.96	1.01	5%
12378-PeCDF	32.38	3.19E+06	1.44	Y	0.95	1.00	5%
23478-PeCDF	33.46	3.11E+06	1.57	Y	0.94	0.99	6%
123478-HxCDF	36.68	3.00E+06	1.23	Y	1.23	1.32	7%
123678-HxCDF	36.82	3.05E+06	1.18	Y	1.13	1.17	4%
234678-HxCDF	37.49	2.95E+06	1.17	Y	1.15	1.23	7%
123789-HxCDF	38.42	2.65E+06	1.30	Y	1.14	1.19	5%
1234678-HpCDF	39.76	2.75E+06	1.00	Y	1.36	1.46	7%
1234789-HpCDF	41.10	2.20E+06	1.11	Y	1.30	1.34	3%
OCDF	43.40	3.66E+06	0.85	Y	1.03	1.01	-1%
ES 2378-TCDD	28.50	1.77E+08	0.79	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.781	1.77E+08	1.63	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.653	1.63E+08	1.26	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.766	1.57E+08	1.27	Y	0.97	0.94	-3%
ES 123789-HxCDD	38.056	1.82E+08	1.26	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.643	1.59E+08	1.05	Y	0.99	0.95	-4%
ES OCDD	43.205	2.44E+08	0.92	Y	0.78	0.73	-6%
ES 2378-TCDF	27.645	2.97E+08	0.78	Y	1.08	1.06	-2%
ES 12378-PeCDF	32.355	2.55E+08	1.55	Y	0.93	0.91	-2%
ES 23478-PeCDF	33.445	2.50E+08	1.56	Y	0.92	0.90	-3%
ES 123478-HxCDF	36.661	1.82E+08	0.53	Y	1.14	1.09	-5%
ES 123678-HxCDF	36.801	2.08E+08	0.53	Y	1.30	1.24	-4%
ES 234678-HxCDF	37.466	1.92E+08	0.53	Y	1.20	1.14	-5%
ES 123789-HxCDF	38.399	1.78E+08	0.52	Y	1.14	1.06	-7%
ES 1234678-HpCDF	39.748	1.51E+08	0.44	Y	0.95	0.90	-5%
ES 1234789-HpCDF	41.09	1.32E+08	0.45	Y	0.85	0.79	-7%
ES OCDF	43.389	2.89E+08	0.89	Y	0.93	0.86	-7%

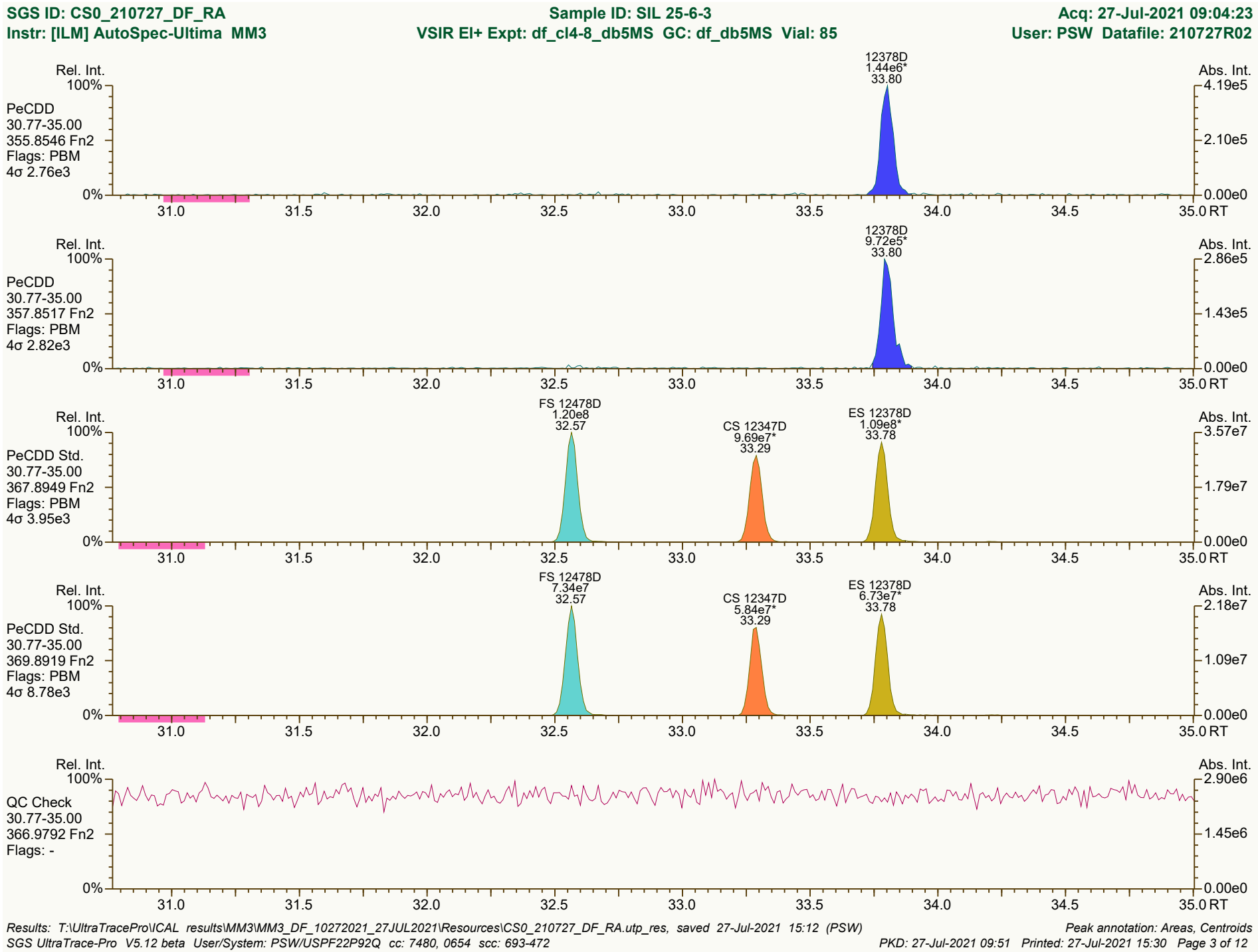
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 09:04 PSW					ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA		UTP: 27-Jul-2021 15:00:19 PSW					Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3		Report: 27 Jul 2021 15:02 pw					Datafile: 210727R02
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.07~~	~~0.06~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.81~~	~~Y~~	~~0.06~~	~~0.05~~	~~-7%~~

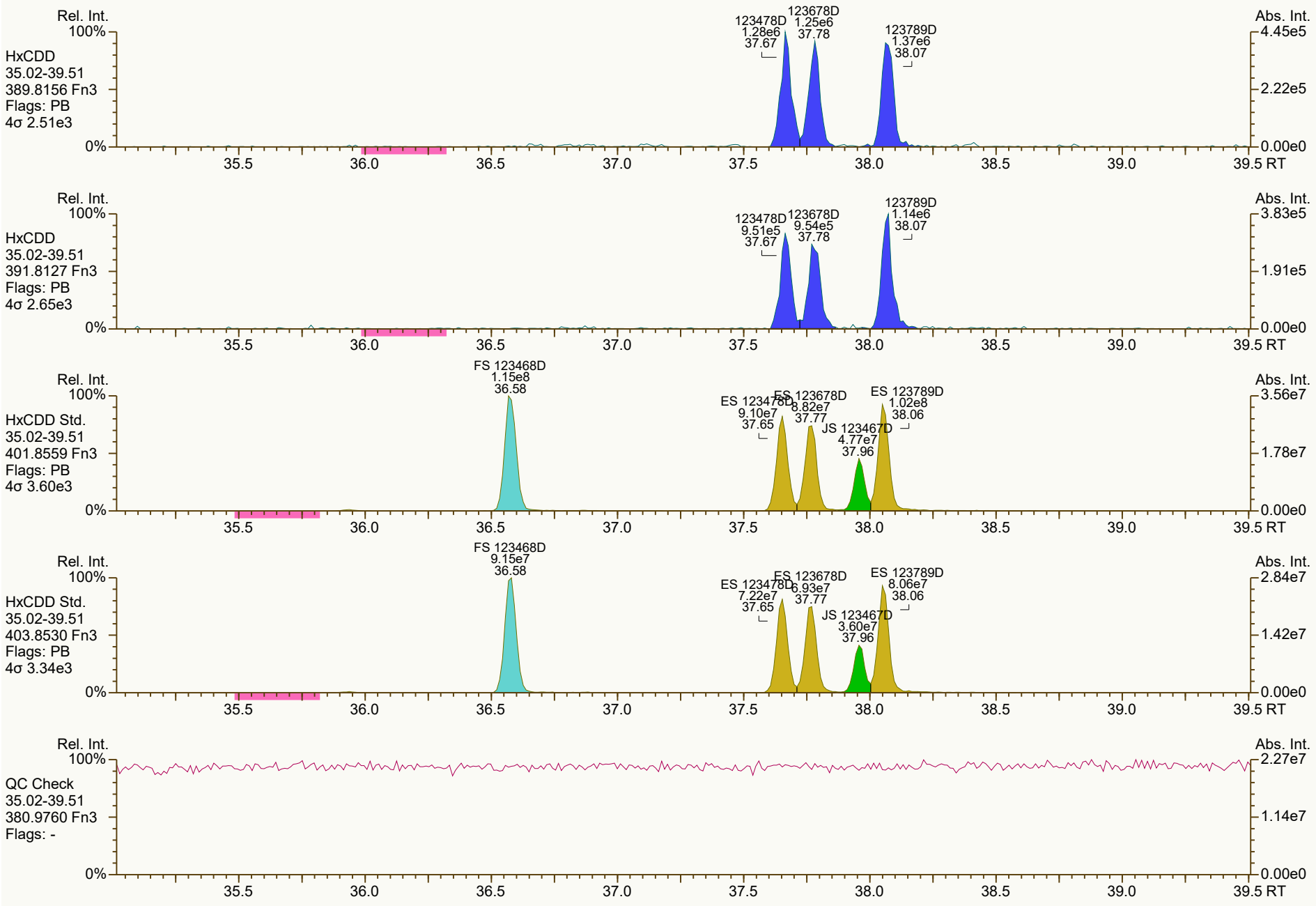
Not reported from this ICAL - CL 28Jul21

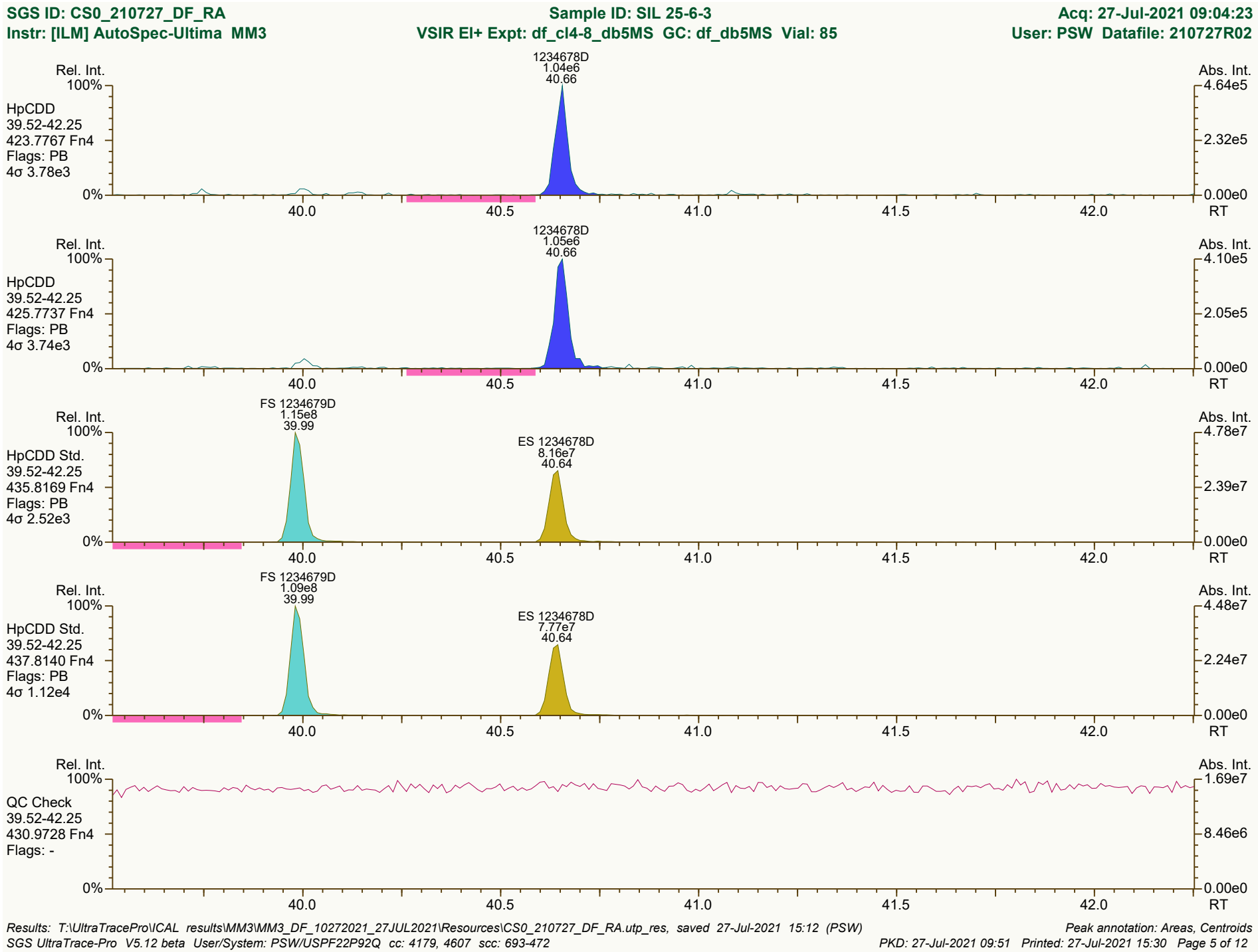

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.07e6
1.54e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.69e7
8.46e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

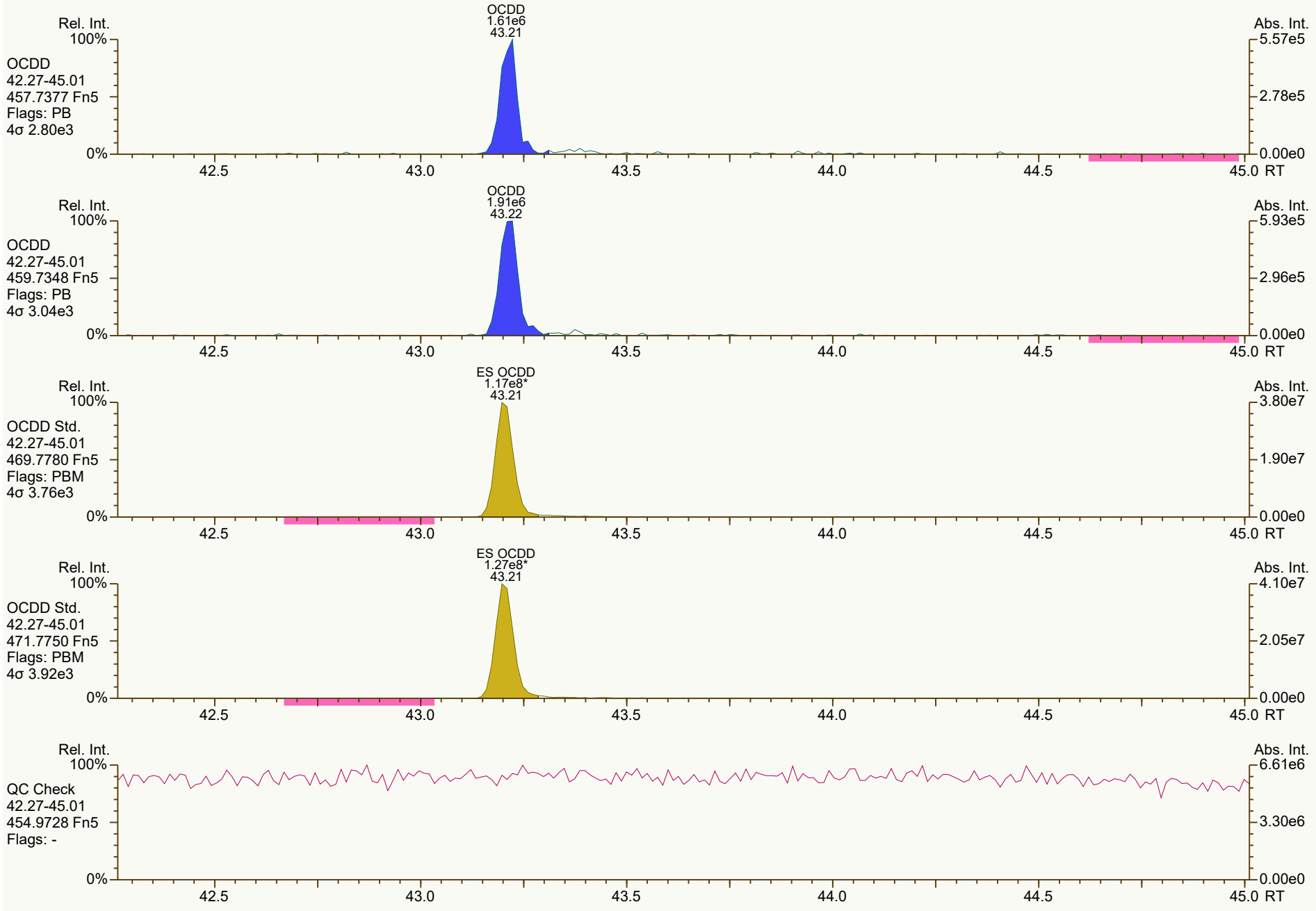


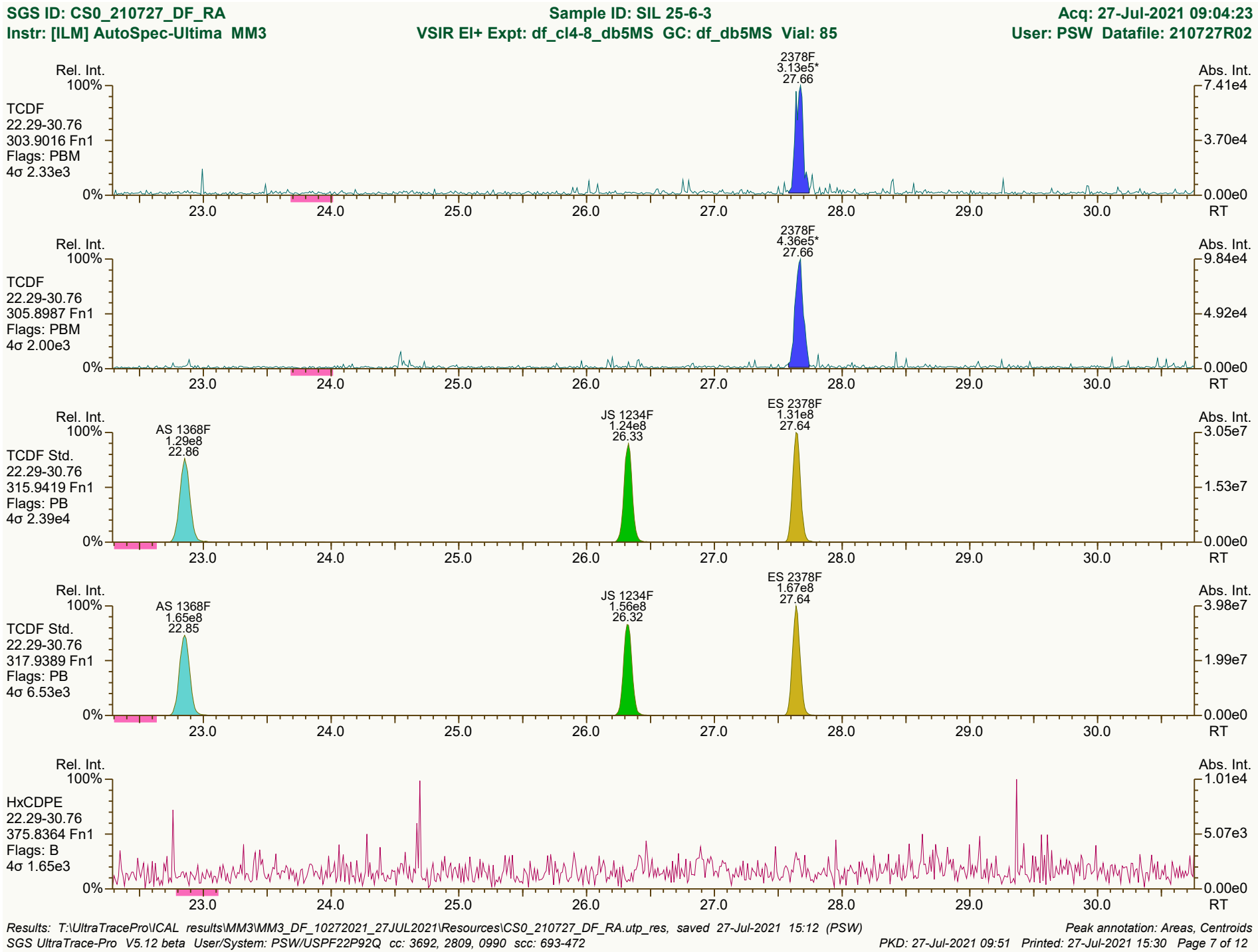
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1114, 2874, 4241 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 2 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 2.76e3
12378D
1.44e6*
33.80
4.19e5
2.10e5
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.82e3
12378D
9.72e5*
33.80
2.86e5
1.43e5
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.95e3
FS 12478D
1.20e8
32.57
CS 12347D
9.69e7*
33.29
ES 12378D
1.09e8*
33.78
3.57e7
1.79e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 8.78e3
FS 12478D
7.34e7
32.57
CS 12347D
5.84e7*
33.29
ES 12378D
6.73e7*
33.78
2.18e7
1.09e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.90e6
1.45e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7480, 0654 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 3 of 12


Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.51e3
123478D 1.28e6 37.67
123678D 1.25e6 37.78
123789D 1.37e6 38.07
4.45e5
2.22e5
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.65e3
123478D 9.51e5 37.67
123678D 9.54e5 37.78
123789D 1.14e6 38.07
3.83e5
1.91e5
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.60e3
FS 123468D 1.15e8 36.58
ES 123478D 9.10e7 37.65
ES 123678D 8.82e7 37.77
JS 123467D 4.77e7 37.96
ES 123789D 1.02e8 38.06
3.56e7
1.78e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.34e3
FS 123468D 9.15e7 36.58
ES 123478D 7.22e7 37.65
ES 123678D 6.93e7 37.77
JS 123467D 3.60e7 37.96
ES 123789D 8.06e7 38.06
2.84e7
1.42e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.27e7
1.14e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 3.78e3
1234678D
1.04e6
40.66
4.64e5
2.32e5
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.74e3
1234678D
1.05e6
40.66
4.10e5
2.05e5
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.52e3
FS 1234679D
1.15e8
39.99
ES 1234678D
8.16e7
40.64
4.78e7
2.39e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.12e4
FS 1234679D
1.09e8
39.99
ES 1234678D
7.77e7
40.64
4.48e7
2.24e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.69e7
8.46e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4179, 4607 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 5 of 12


OCDD
1.61e6
43.21
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
5.57e5
2.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
5.93e5
2.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PBM
4σ 3.76e3
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.27e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PBM
4σ 3.92e3
0%
Abs. Int.
4.10e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.33e3
2378F
3.13e5*
27.66
7.41e4
3.70e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.00e3
2378F
4.36e5*
27.66
9.84e4
4.92e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.39e4
AS 1368F
1.29e8
22.86
JS 1234F
1.24e8
26.33
ES 2378F
1.31e8
27.64
3.05e7
1.53e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 6.53e3
AS 1368F
1.65e8
22.85
JS 1234F
1.56e8
26.32
ES 2378F
1.67e8
27.64
3.98e7
1.99e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.65e3
1.01e4
5.07e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3692, 2809, 0990 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 7 of 12

SGS ID: CS0_210727_DF_RA | Sample ID: SIL 25-6-3 | Acq: 27-Jul-2021 09:04:23

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: PSW Datafile: 210727R02

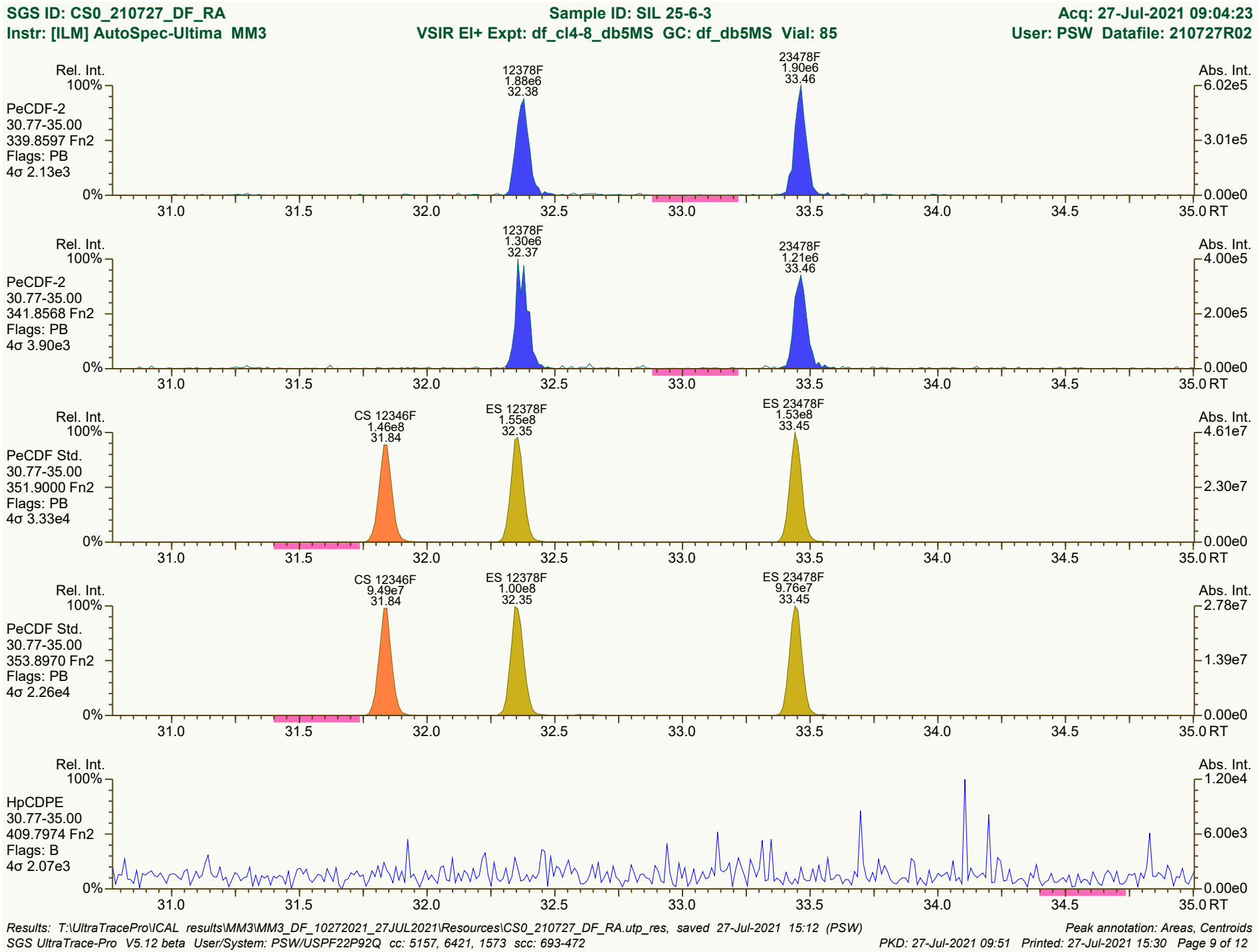


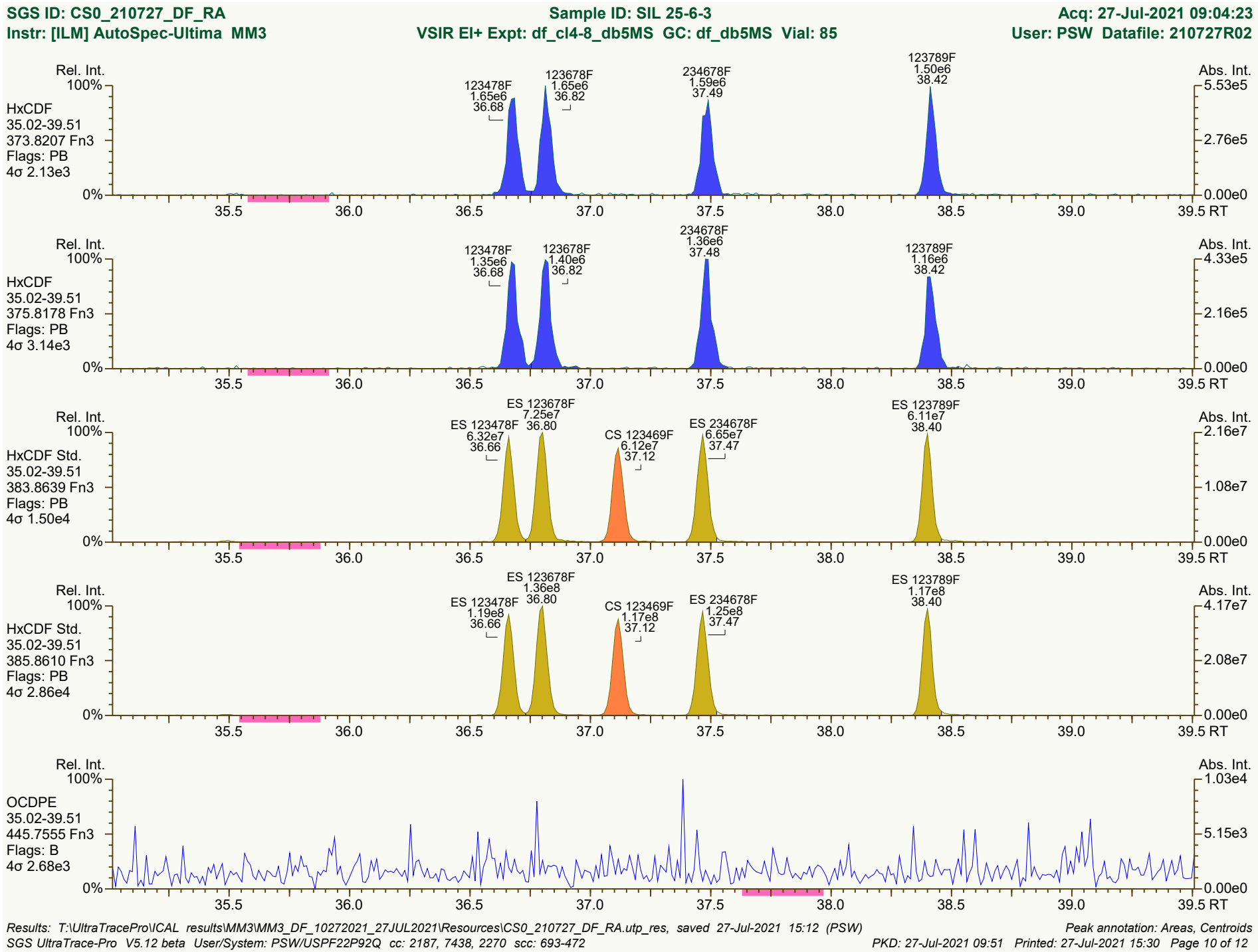
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)

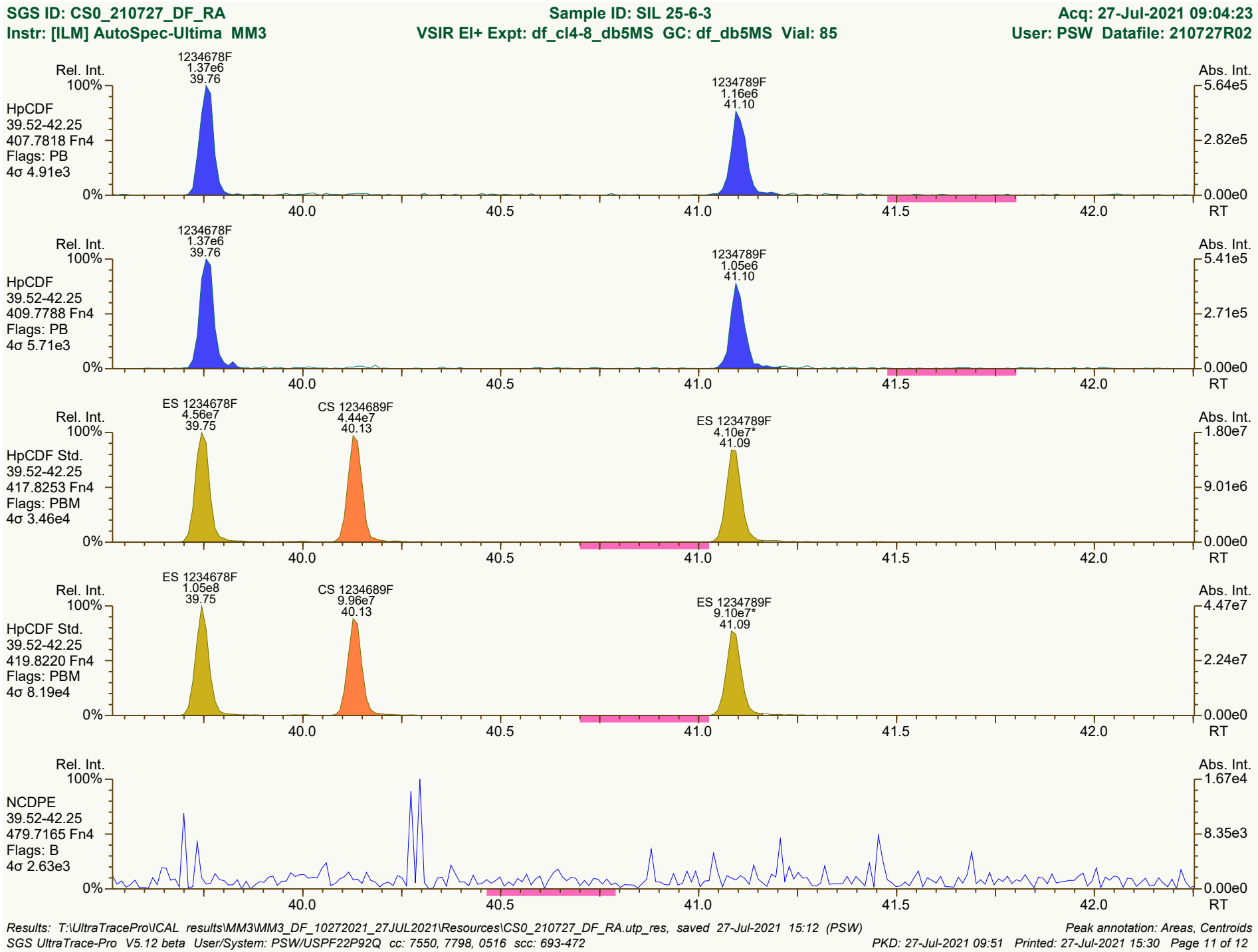
Peak annotation: Areas, Centroids

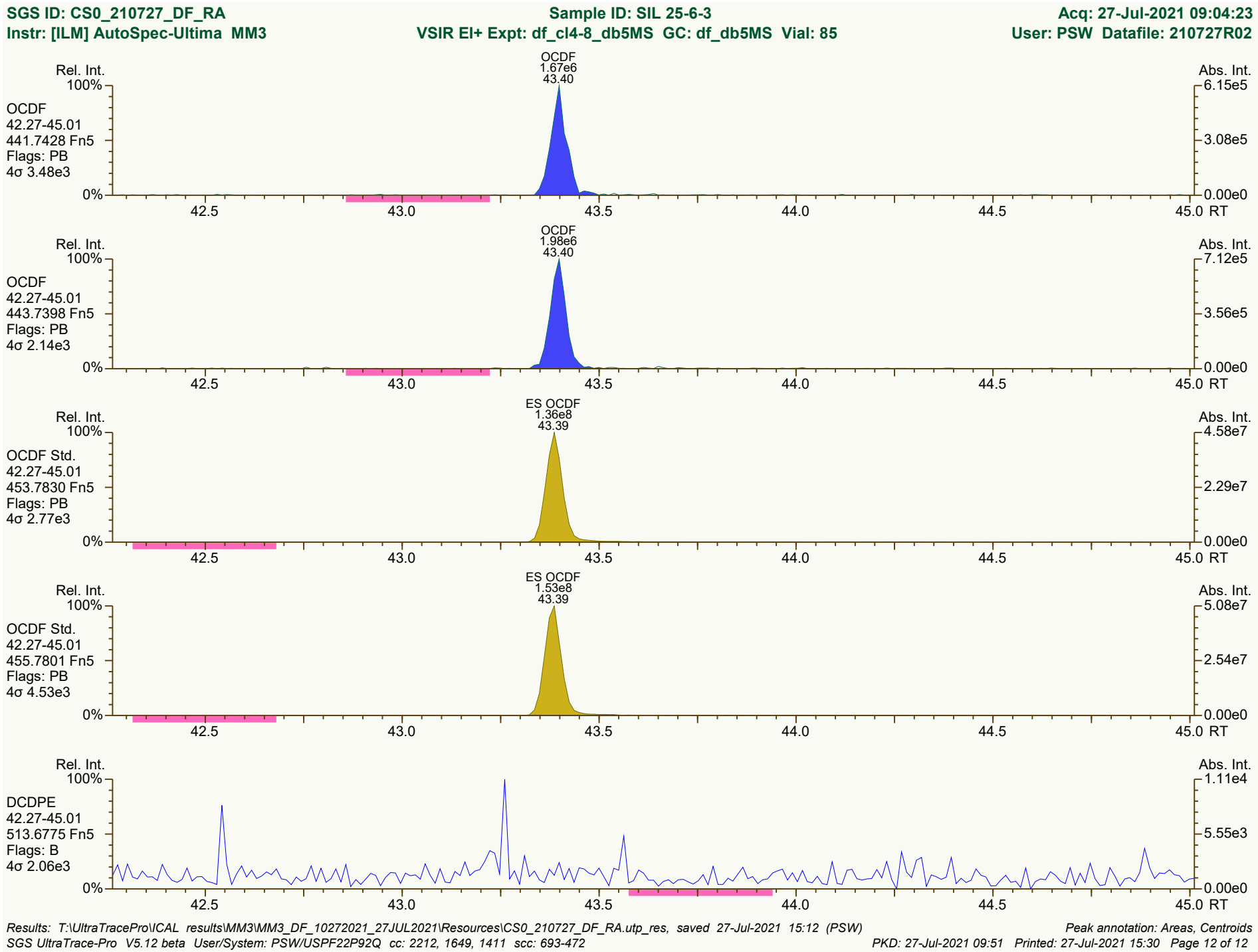
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1474 scc: 693-472

PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 8 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.13e3
12378F
1.88e6
32.38
23478F
1.90e6
33.46
6.02e5
3.01e5
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.90e3
12378F
1.30e6
32.37
23478F
1.21e6
33.46
4.00e5
2.00e5
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 3.33e4
CS 12346F
1.46e8
31.84
ES 12378F
1.55e8
32.35
ES 23478F
1.53e8
33.45
4.61e7
2.30e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.26e4
CS 12346F
9.49e7
31.84
ES 12378F
1.00e8
32.35
ES 23478F
9.76e7
33.45
2.78e7
1.39e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.07e3
1.20e4
6.00e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5157, 6421, 1573 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
123478F 1.65e6 36.68
123678F 1.65e6 36.82
234678F 1.59e6 37.49
123789F 1.50e6 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
123478F 1.35e6 36.68
123678F 1.40e6 36.82
234678F 1.36e6 37.48
123789F 1.16e6 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
ES 123478F 6.32e7 36.66
ES 123678F 7.25e7 36.80
CS 123469F 6.12e7 37.12
ES 234678F 6.65e7 37.47
ES 123789F 6.11e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
ES 123478F 1.19e8 36.66
ES 123678F 1.36e8 36.80
CS 123469F 1.17e8 37.12
ES 234678F 1.25e8 37.47
ES 123789F 1.17e8 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
5.53e5
2.76e5
0.00e0
4.33e5
2.16e5
2.16e7
1.08e7
4.17e7
2.08e7
1.03e4
5.15e3
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2187, 7438, 2270 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e3
1234678F
1.37e6
39.76
1234789F
1.16e6
41.10
5.64e5
2.82e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.71e3
1234678F
1.37e6
39.76
1234789F
1.05e6
41.10
5.41e5
2.71e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.46e4
ES 1234678F
4.56e7
39.75
CS 1234689F
4.44e7
40.13
ES 1234789F
4.10e7*
41.09
1.80e7
9.01e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 8.19e4
ES 1234678F
1.05e8
39.75
CS 1234689F
9.96e7
40.13
ES 1234789F
9.10e7*
41.09
4.47e7
2.24e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
1.67e4
8.35e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7550, 7798, 0516 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
OCDF
1.67e6
43.40
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 3.48e3
0%
Abs. Int.
6.15e5
3.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.98e6
43.40
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.14e3
7.12e5
3.56e5
ES OCDF
1.36e8
43.39
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 2.77e3
4.58e7
2.29e7
ES OCDF
1.53e8
43.39
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.53e3
5.08e7
2.54e7
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.06e3
1.11e4
5.55e3
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2212, 1649, 1411 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 12 of 12

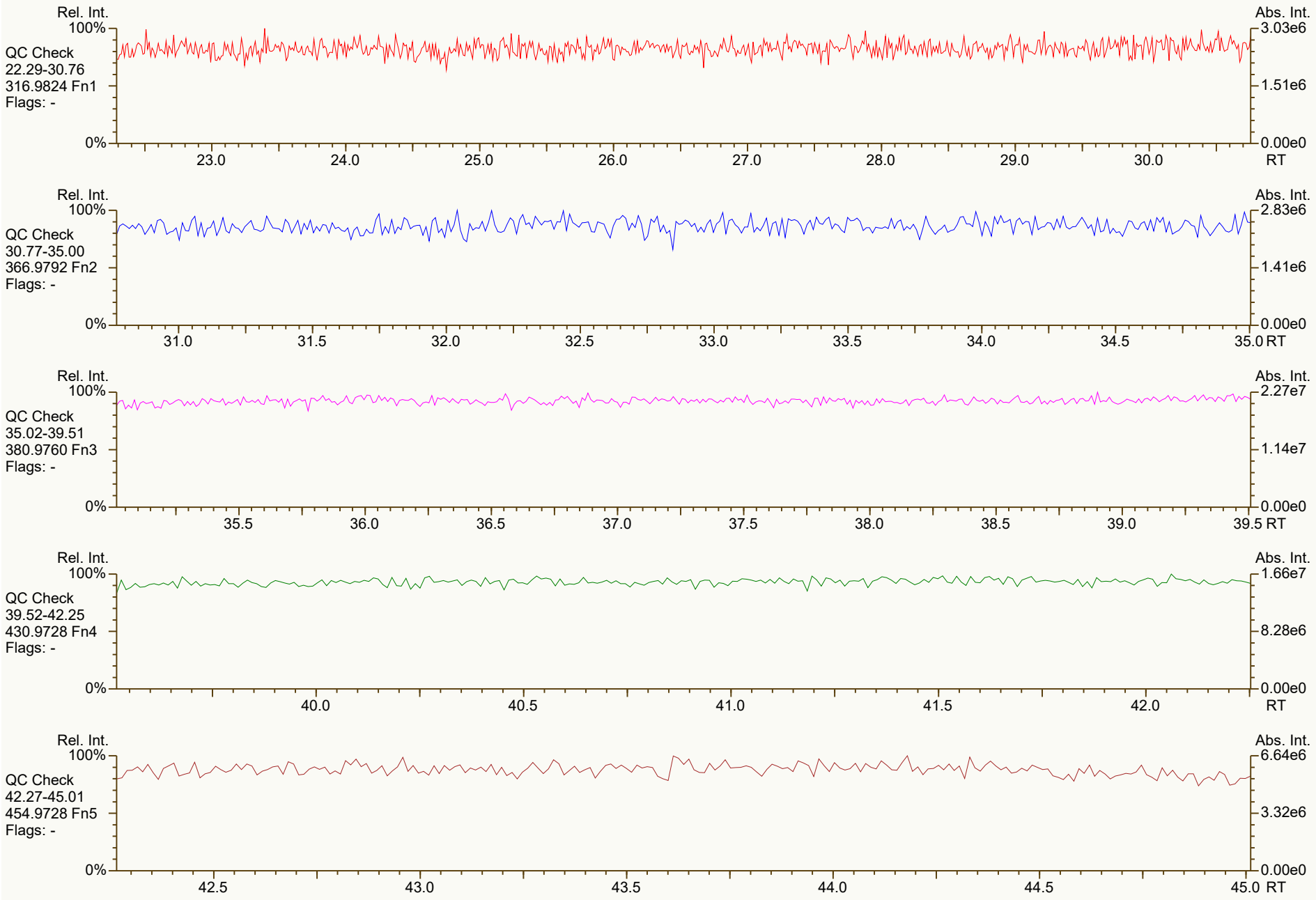
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

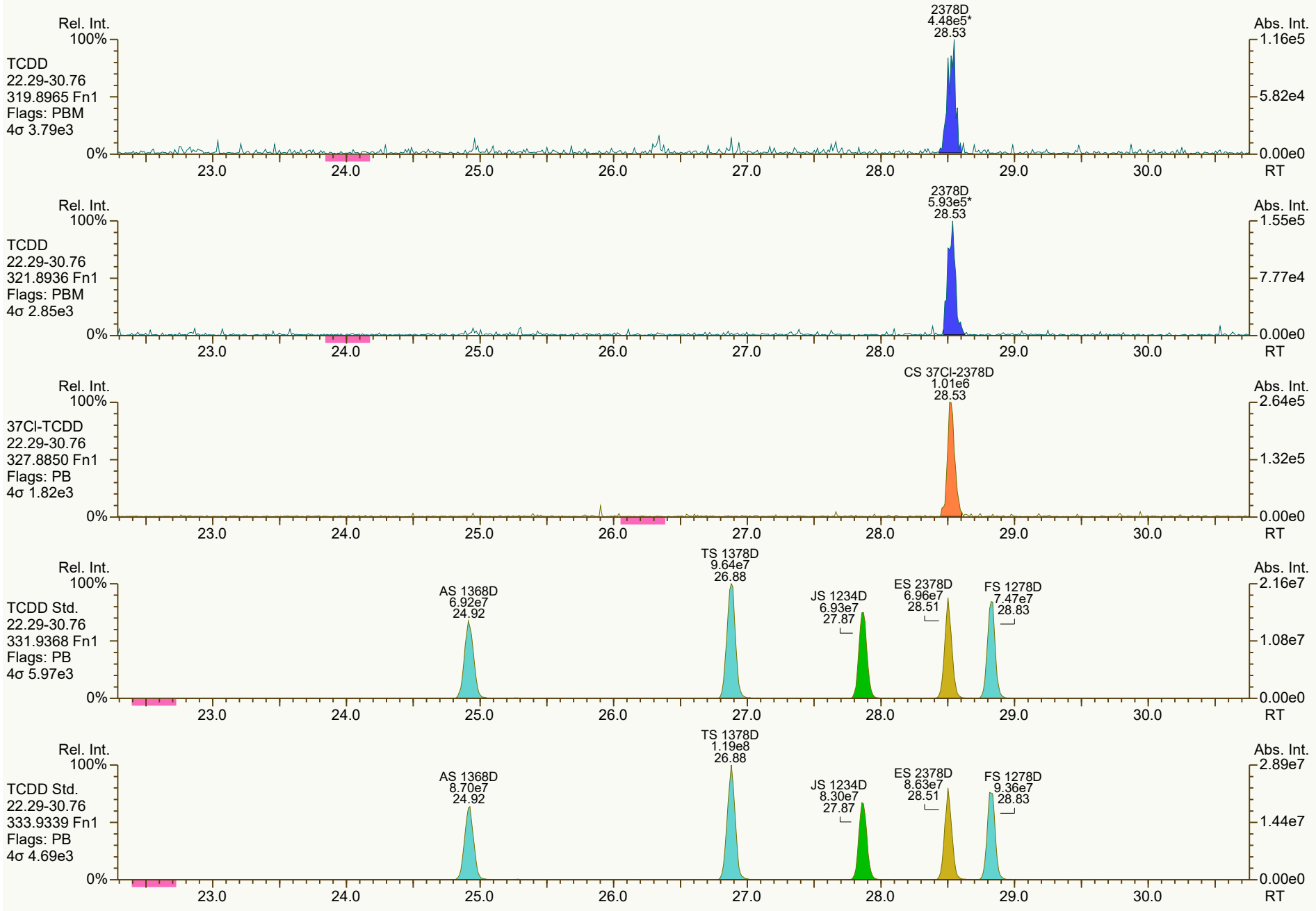
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD	40.66	3.34E+06	1.16	Y	0.97	0.95	-3%
OCDD	43.23	5.66E+06	0.85	Y	1.07	1.04	-3%
2378-TCDF	27.67	1.25E+06	0.72	Y	0.96	0.94	-2%
12378-PeCDF	32.38	5.24E+06	1.54	Y	0.95	0.94	0%
23478-PeCDF	33.47	5.06E+06	1.63	Y	0.94	0.90	-4%
123478-HxCDF	36.69	4.92E+06	1.14	Y	1.23	1.23	-1%
123678-HxCDF	36.83	5.41E+06	1.33	Y	1.13	1.16	3%
234678-HxCDF	37.49	5.10E+06	1.23	Y	1.15	1.19	3%
123789-HxCDF	38.42	4.41E+06	1.28	Y	1.14	1.08	-5%
1234678-HpCDF	39.76	4.59E+06	0.97	Y	1.36	1.35	0%
1234789-HpCDF	41.11	3.63E+06	1.08	Y	1.30	1.20	-7%
OCDF	43.41	6.46E+06	0.90	Y	1.03	1.01	-2%
ES 2378-TCDD	28.51	1.56E+08	0.81	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.789	1.56E+08	1.63	Y	1.03	1.02	-1%
ES 123478-HxCDD	37.66	1.43E+08	1.26	Y	0.99	0.93	-6%
ES 123678-HxCDD	37.773	1.40E+08	1.27	Y	0.97	0.91	-6%
ES 123789-HxCDD	38.062	1.60E+08	1.24	Y	1.12	1.04	-7%
ES 1234678-HpCDD	40.65	1.41E+08	1.06	Y	0.99	0.92	-8%
ES OCDD	43.215	2.18E+08	0.91	Y	0.78	0.71	-9%
ES 2378-TCDF	27.651	2.66E+08	0.77	Y	1.08	1.08	0%
ES 12378-PeCDF	32.362	2.22E+08	1.59	Y	0.93	0.91	-3%
ES 23478-PeCDF	33.454	2.24E+08	1.55	Y	0.92	0.91	-1%
ES 123478-HxCDF	36.667	1.60E+08	0.52	Y	1.14	1.04	-9%
ES 123678-HxCDF	36.807	1.86E+08	0.54	Y	1.30	1.21	-7%
ES 234678-HxCDF	37.474	1.72E+08	0.53	Y	1.20	1.12	-7%
ES 123789-HxCDF	38.407	1.64E+08	0.51	Y	1.14	1.07	-6%
ES 1234678-HpCDF	39.755	1.36E+08	0.46	Y	0.95	0.88	-7%
ES 1234789-HpCDF	41.099	1.21E+08	0.45	Y	0.85	0.78	-7%
ES OCDF	43.396	2.56E+08	0.88	Y	0.93	0.83	-10%

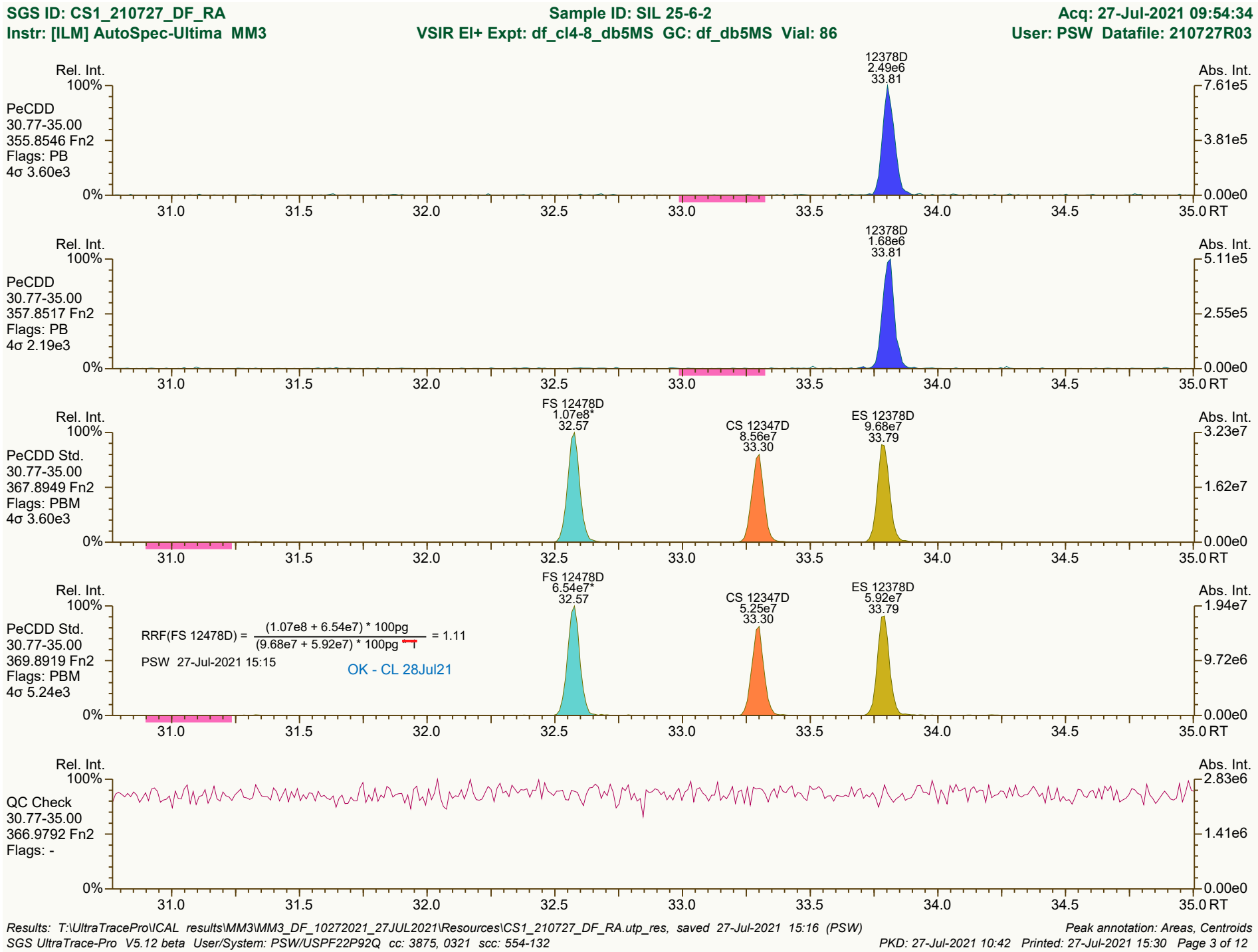
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

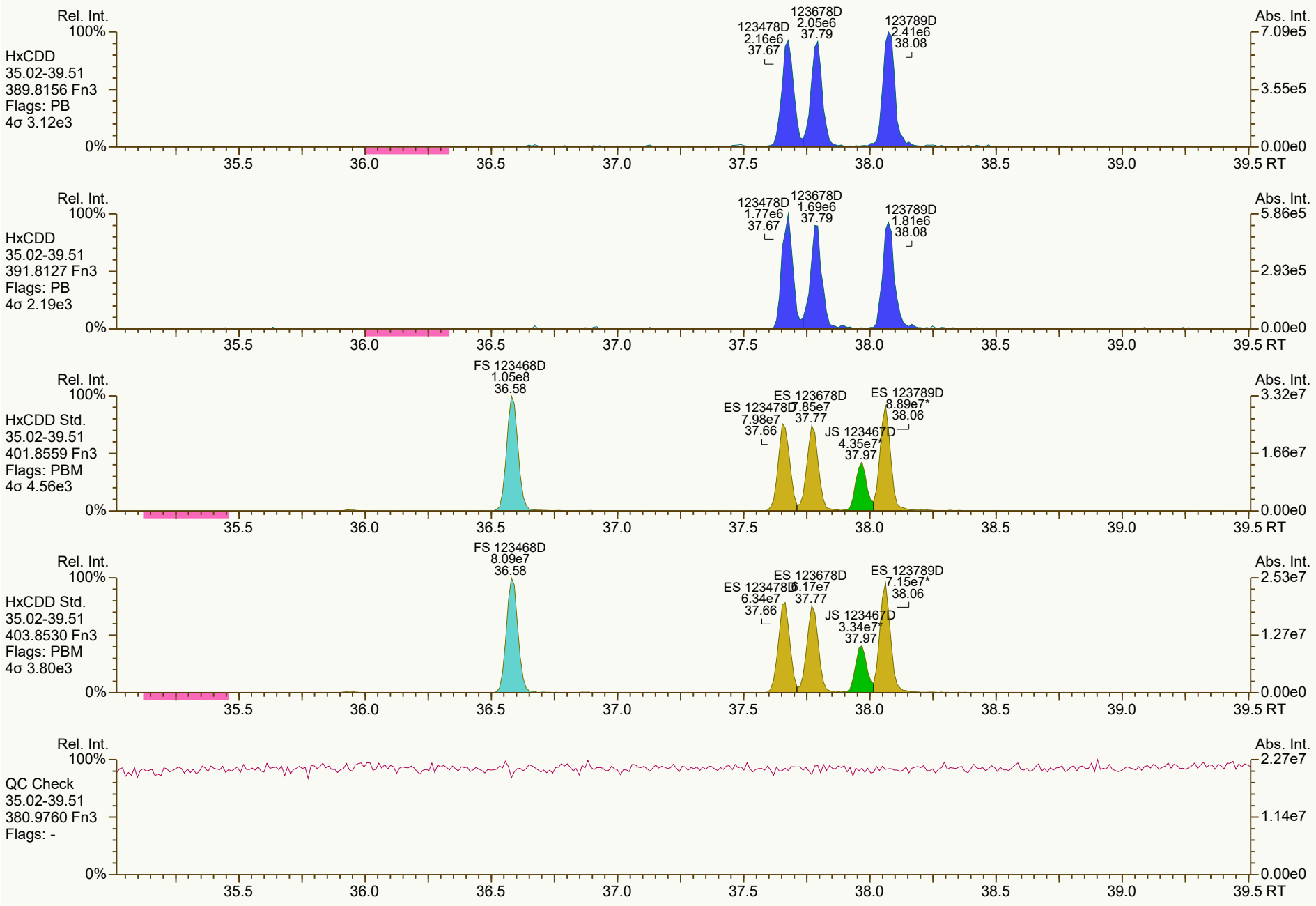
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.87	0.88	1%
CS 123469-HxCDF	37.12	1.61E+08	0.52	Y	1.09	1.04	-4%
CS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.86	0.84	-2%
SS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.26	1.29	2%
SS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.86	0.89	2%
SS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.61E+08	0.52	Y	0.84	0.86	3%
SS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.91	0.96	5%
AS 1368-TCDD	24.92	1.56E+08	0.80	Y	1.02	1.03	0%
AS 1368-TCDF	22.86	2.59E+08	0.77	Y	1.08	1.06	-2%
FS 1278-TCDD	28.83	1.68E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.72E+08	1.63	Y	1.09	1.10	1%
FS 123468-HxCDD	36.59	1.86E+08	1.29	Y	1.26	1.30	3%
FS 1234679-HpCDD	39.99	1.93E+08	1.05	Y	1.36	1.37	1%
TS 1378-TCDD	26.88	2.16E+08	0.81	Y	1.35	1.38	3%
~~OCDD-a~~	~~43.23~~	~~4.10E+05~~	~~2.91~~	~~N~~	~~0.07~~	~~0.08~~	~~14%~~
~~OCDF-a~~	~~43.40~~	~~3.79E+05~~	~~1.92~~	~~N~~	~~0.06~~	~~0.06~~	~~0%~~

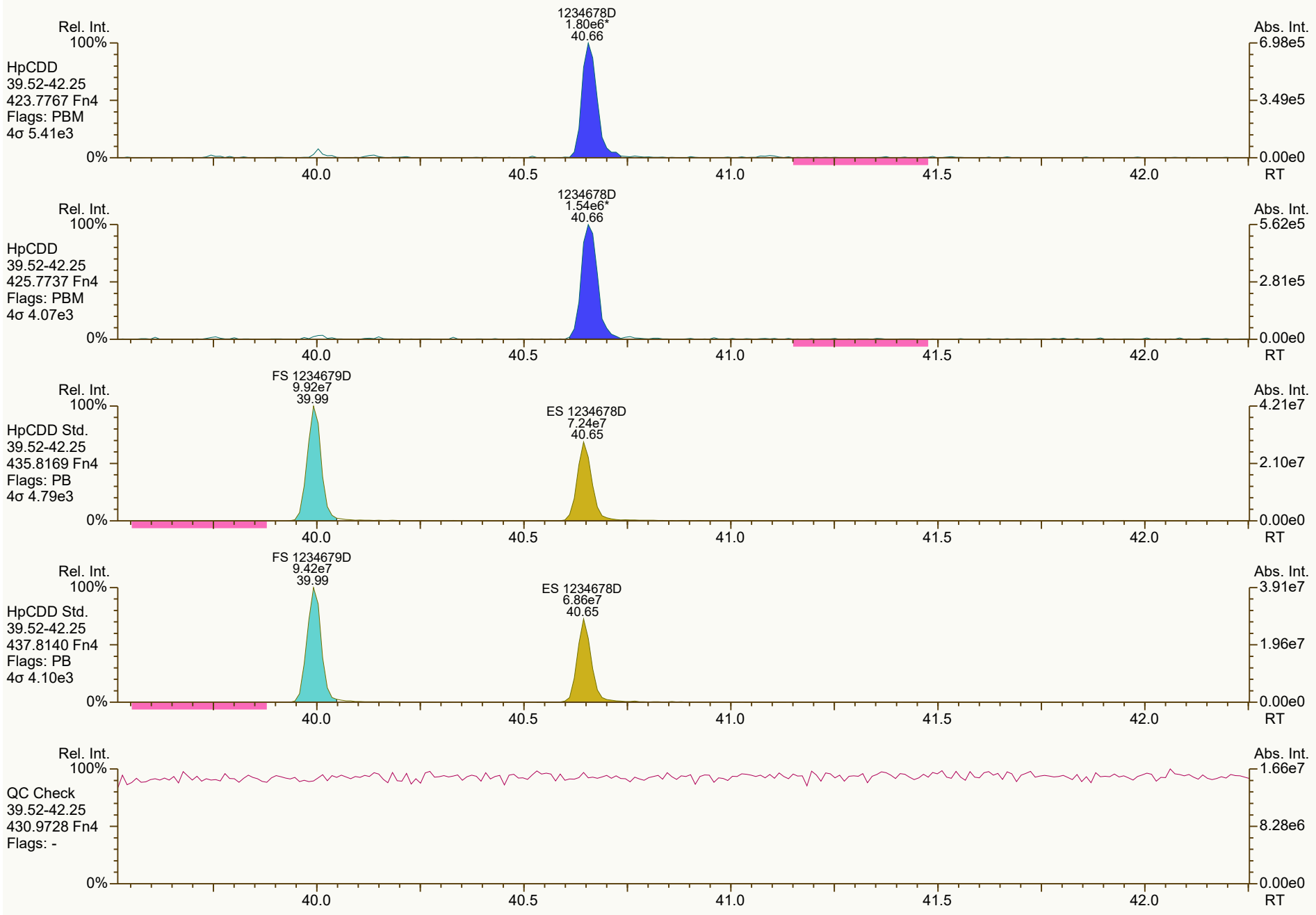
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.66e7
8.28e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

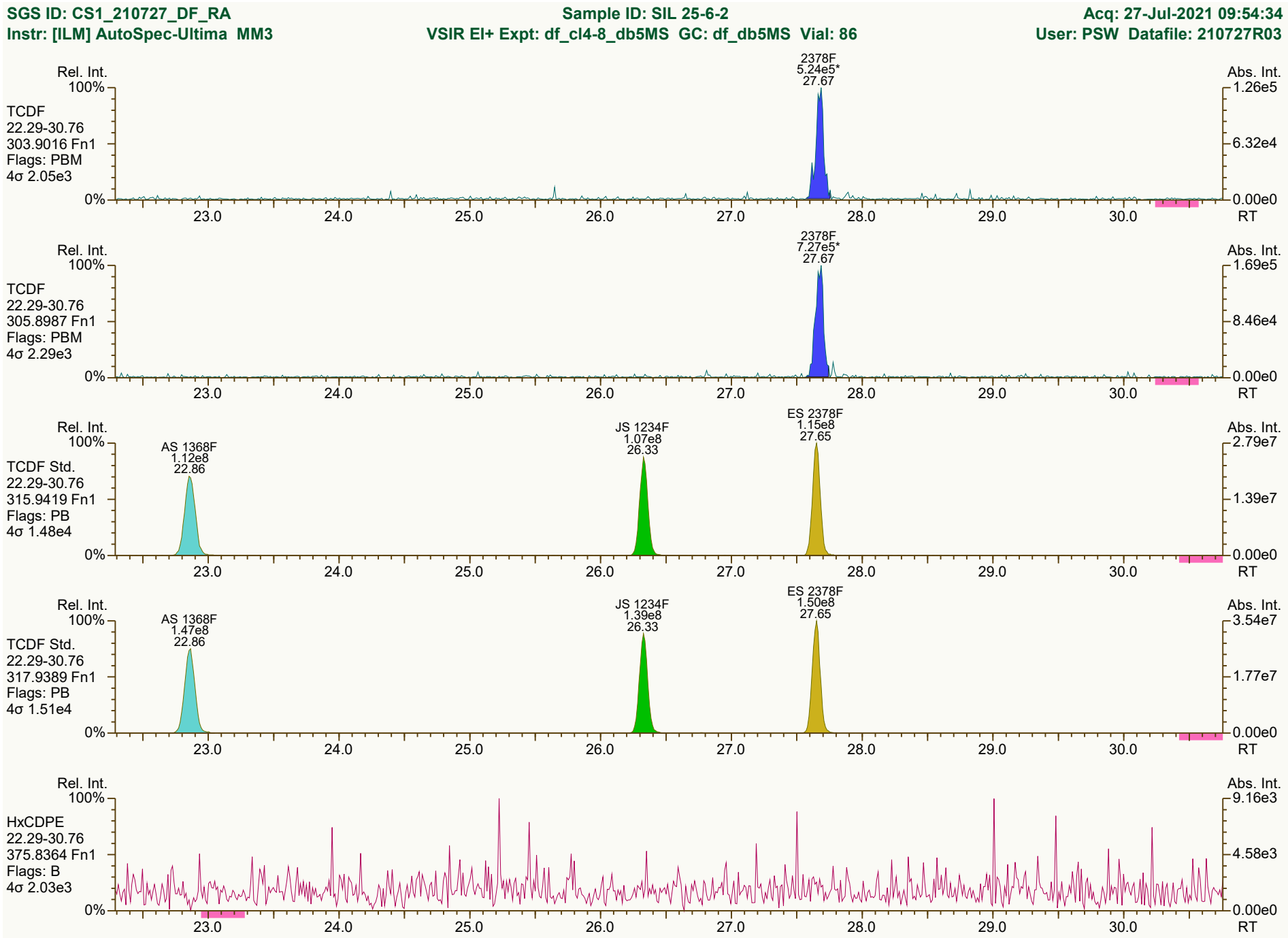

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 3.79e3
0%
2378D
4.48e5*
28.53
Abs. Int.
1.16e5
5.82e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.85e3
0%
2378D
5.93e5*
28.53
Abs. Int.
1.55e5
7.77e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.82e3
0%
CS 37Cl-2378D
1.01e6
28.53
Abs. Int.
2.64e5
1.32e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.97e3
0%
AS 1368D
6.92e7
24.92
TS 1378D
9.64e7
26.88
JS 1234D
6.93e7
27.87
ES 2378D
6.96e7
28.51
FS 1278D
7.47e7
28.83
Abs. Int.
2.16e7
1.08e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.69e3
0%
AS 1368D
8.70e7
24.92
TS 1378D
1.19e8
26.88
JS 1234D
8.30e7
27.87
ES 2378D
8.63e7
28.51
FS 1278D
9.36e7
28.83
Abs. Int.
2.89e7
1.44e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
12378D
2.49e6
33.81
7.61e5
3.81e5
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
12378D
1.68e6
33.81
5.11e5
2.55e5
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
FS 12478D
1.07e8*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.68e7
33.79
3.23e7
1.62e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
1.94e7
9.72e6
RRF(FS 12478D) = (1.07e8 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg * 1 = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
100%
0%
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3875, 0321 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.12e3
123478D
2.16e6
37.67
123678D
2.05e6
37.79
123789D
2.41e6
38.08
Abs. Int.
7.09e5
3.55e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.19e3
123478D
1.77e6
37.67
123678D
1.69e6
37.79
123789D
1.81e6
38.08
Abs. Int.
5.86e5
2.93e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.56e3
FS 123468D
1.05e8
36.58
ES 123478D
7.98e7
37.66
ES 123678D
7.85e7
37.77
JS 123467D
4.35e7*
37.97
ES 123789D
8.89e7*
38.06
Abs. Int.
3.32e7
1.66e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.80e3
FS 123468D
8.09e7
36.58
ES 123478D
6.34e7
37.66
ES 123678D
6.17e7
37.77
JS 123467D
3.34e7*
37.97
ES 123789D
7.15e7*
38.06
Abs. Int.
2.53e7
1.27e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.14e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 5.41e3
0%
1234678D
1.80e6*
40.66
Abs. Int.
6.98e5
3.49e5
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 4.07e3
0%
1234678D
1.54e6*
40.66
Abs. Int.
5.62e5
2.81e5
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 4.79e3
0%
FS 1234679D
9.92e7
39.99
ES 1234678D
7.24e7
40.65
Abs. Int.
4.21e7
2.10e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.10e3
0%
FS 1234679D
9.42e7
39.99
ES 1234678D
6.86e7
40.65
Abs. Int.
3.91e7
1.96e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.66e7
8.28e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


OCDD
2.61e6
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.60e3
0%
Abs. Int.
8.02e5
4.01e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.05e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.89e3
0%
Abs. Int.
1.09e6
5.45e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.04e8
43.22
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 2.94e3
0%
Abs. Int.
3.50e7
1.75e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.14e8
43.22
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 3.15e3
0%
Abs. Int.
3.84e7
1.92e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
2378F
5.24e5*
27.67
1.26e5
6.32e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
2378F
7.27e5*
27.67
1.69e5
8.46e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
2.79e7
1.39e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
3.54e7
1.77e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
9.16e3
4.58e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0890, 2579, 1486 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 7 of 12

SGS ID: CS1_210727_DF_RA | **Sample ID: SIL 25-6-2** | **Acq: 27-Jul-2021 09:54:34**

Instr: [ILM] AutoSpec-Ultima MM3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86** | **User: PSW Datafile: 210727R03**

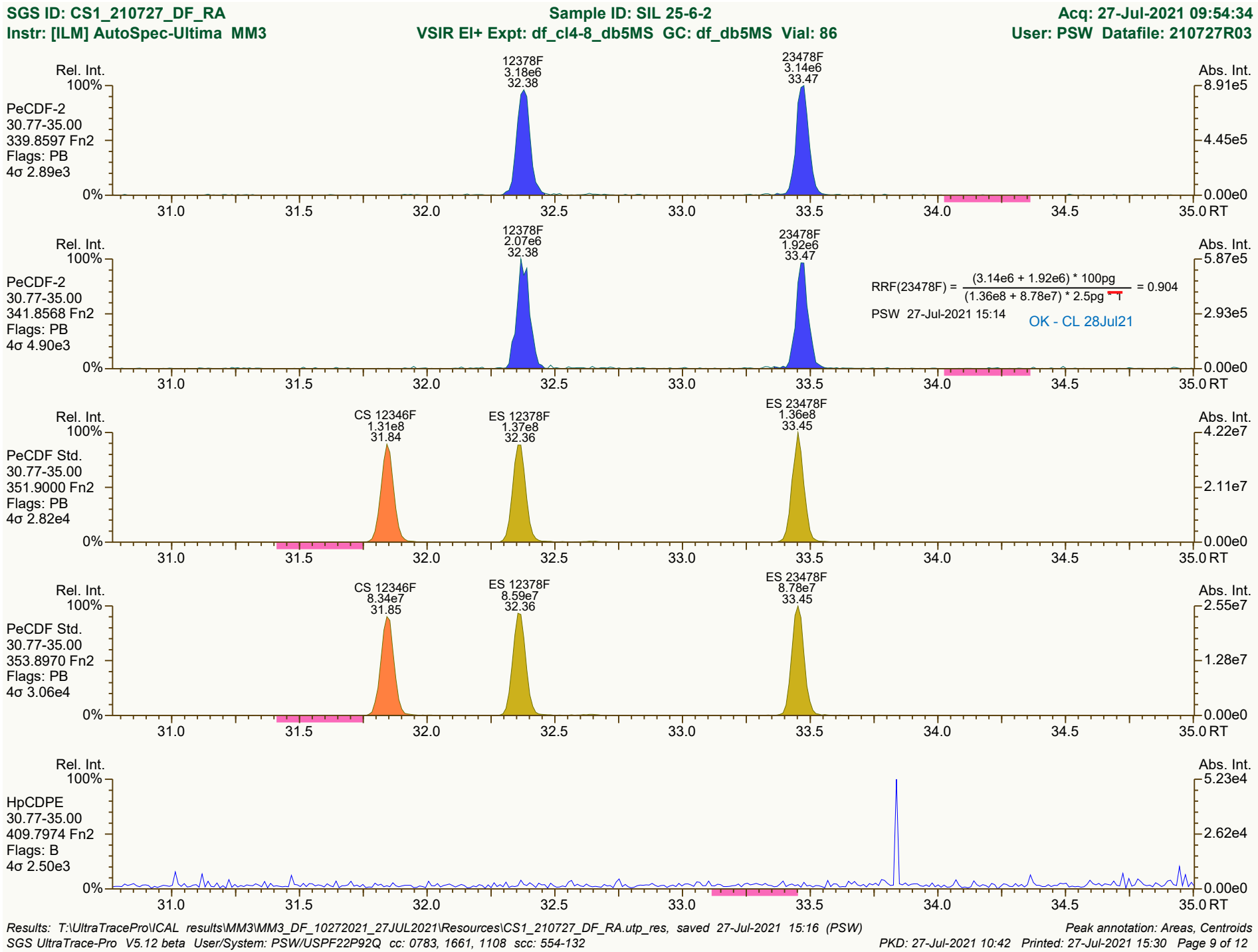


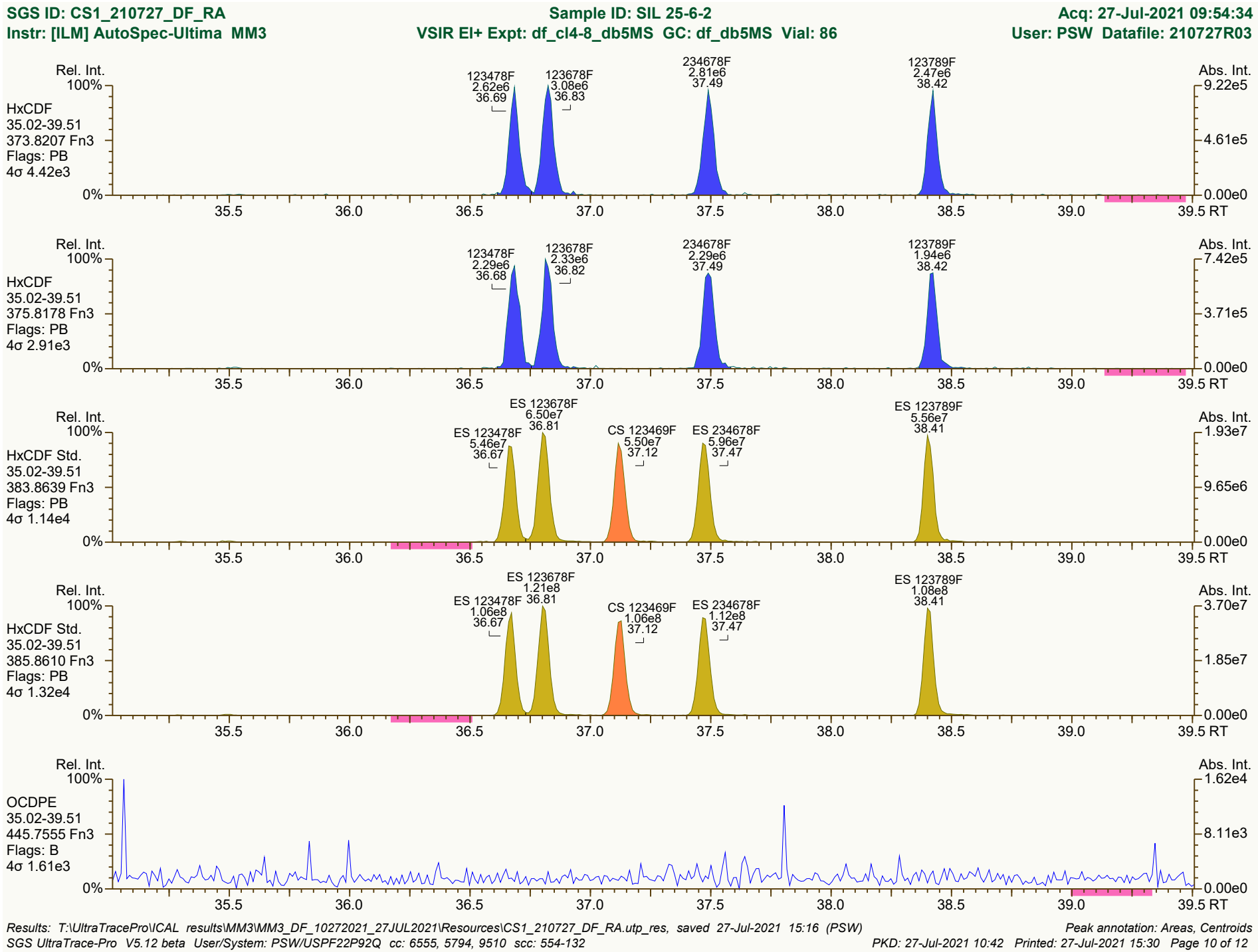
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)

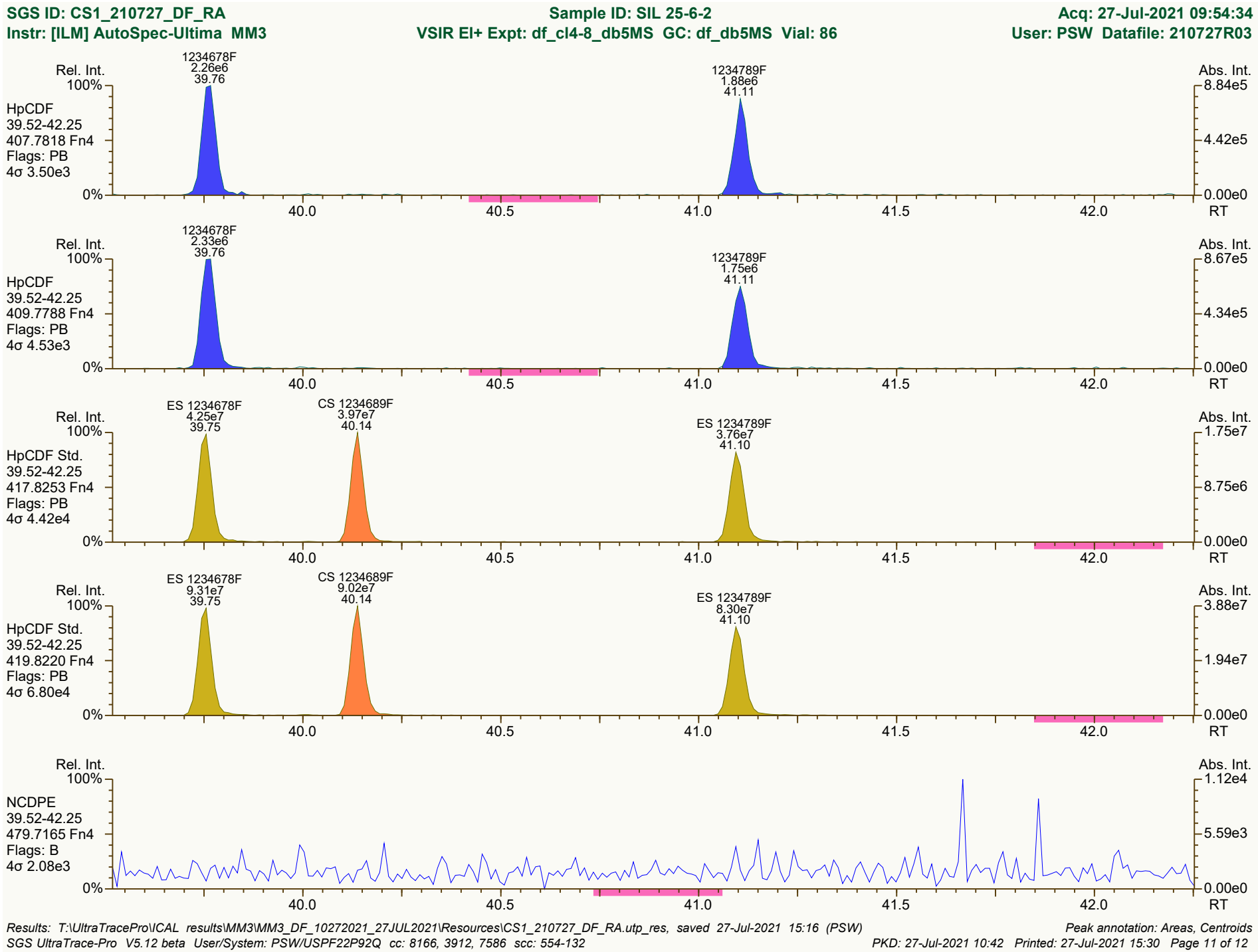
Peak annotation: Areas, Centroids

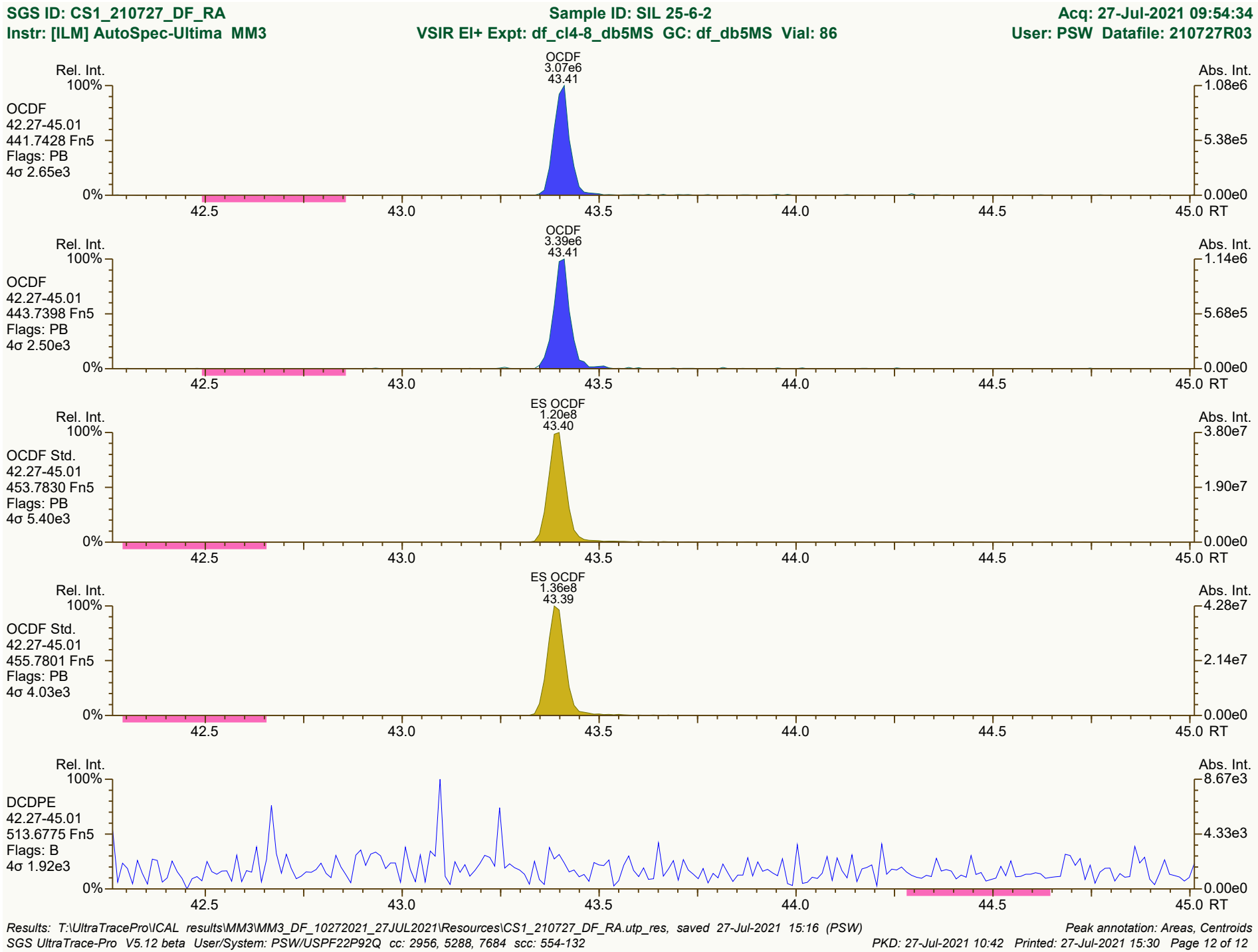
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5879 scc: 554-132

PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 8 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.89e3
12378F
3.18e6
32.38
23478F
3.14e6
33.47
8.91e5
4.45e5
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 4.90e3
12378F
2.07e6
32.38
23478F
1.92e6
33.47
RRF(23478F) = (3.14e6 + 1.92e6) * 100pg / (1.36e8 + 8.78e7) * 2.5pg * T = 0.904
PSW 27-Jul-2021 15:14
OK - CL 28Jul21
5.87e5
2.93e5
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.82e4
CS 12346F
1.31e8
31.84
ES 12378F
1.37e8
32.36
ES 23478F
1.36e8
33.45
4.22e7
2.11e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 3.06e4
CS 12346F
8.34e7
31.85
ES 12378F
8.59e7
32.36
ES 23478F
8.78e7
33.45
2.55e7
1.28e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.50e3
5.23e4
2.62e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0783, 1661, 1108 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 4.42e3
123478F 2.62e6 36.69
123678F 3.08e6 36.83
234678F 2.81e6 37.49
123789F 2.47e6 38.42
9.22e5
4.61e5
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.91e3
123478F 2.29e6 36.68
123678F 2.33e6 36.82
234678F 2.29e6 37.49
123789F 1.94e6 38.42
7.42e5
3.71e5
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123478F 5.46e7 36.67
ES 123678F 6.50e7 36.81
CS 123469F 5.50e7 37.12
ES 234678F 5.96e7 37.47
ES 123789F 5.56e7 38.41
1.93e7
9.65e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F 1.06e8 36.67
ES 123678F 1.21e8 36.81
CS 123469F 1.06e8 37.12
ES 234678F 1.12e8 37.47
ES 123789F 1.08e8 38.41
3.70e7
1.85e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.61e3
1.62e4
8.11e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6555, 5794, 9510 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
100%
0%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 3.50e3
1234678F
2.26e6
39.76
1234789F
1.88e6
41.11
8.84e5
4.42e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 4.53e3
1234678F
2.33e6
39.76
1234789F
1.75e6
41.11
8.67e5
4.34e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 4.42e4
ES 1234678F
4.25e7
39.75
CS 1234689F
3.97e7
40.14
ES 1234789F
3.76e7
41.10
1.75e7
8.75e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 6.80e4
ES 1234678F
9.31e7
39.75
CS 1234689F
9.02e7
40.14
ES 1234789F
8.30e7
41.10
3.88e7
1.94e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.08e3
1.12e4
5.59e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8166, 3912, 7586 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
OCDF
3.07e6
43.41
Rel. Int.
Abs. Int.
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
OCDF
3.39e6
43.41
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
ES OCDF
1.20e8
43.40
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
ES OCDF
1.36e8
43.39
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2956, 5288, 7684 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 12 of 12

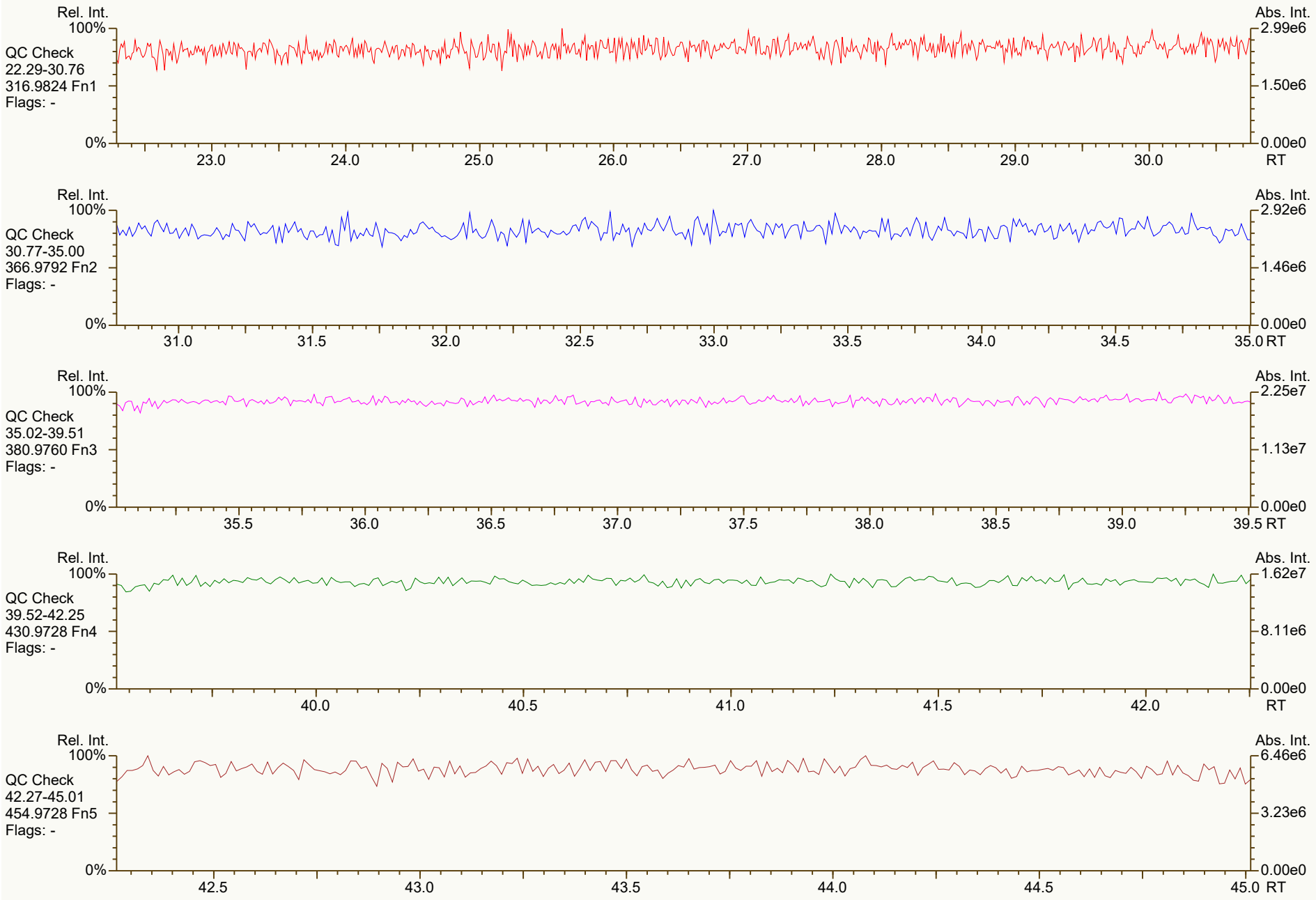
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

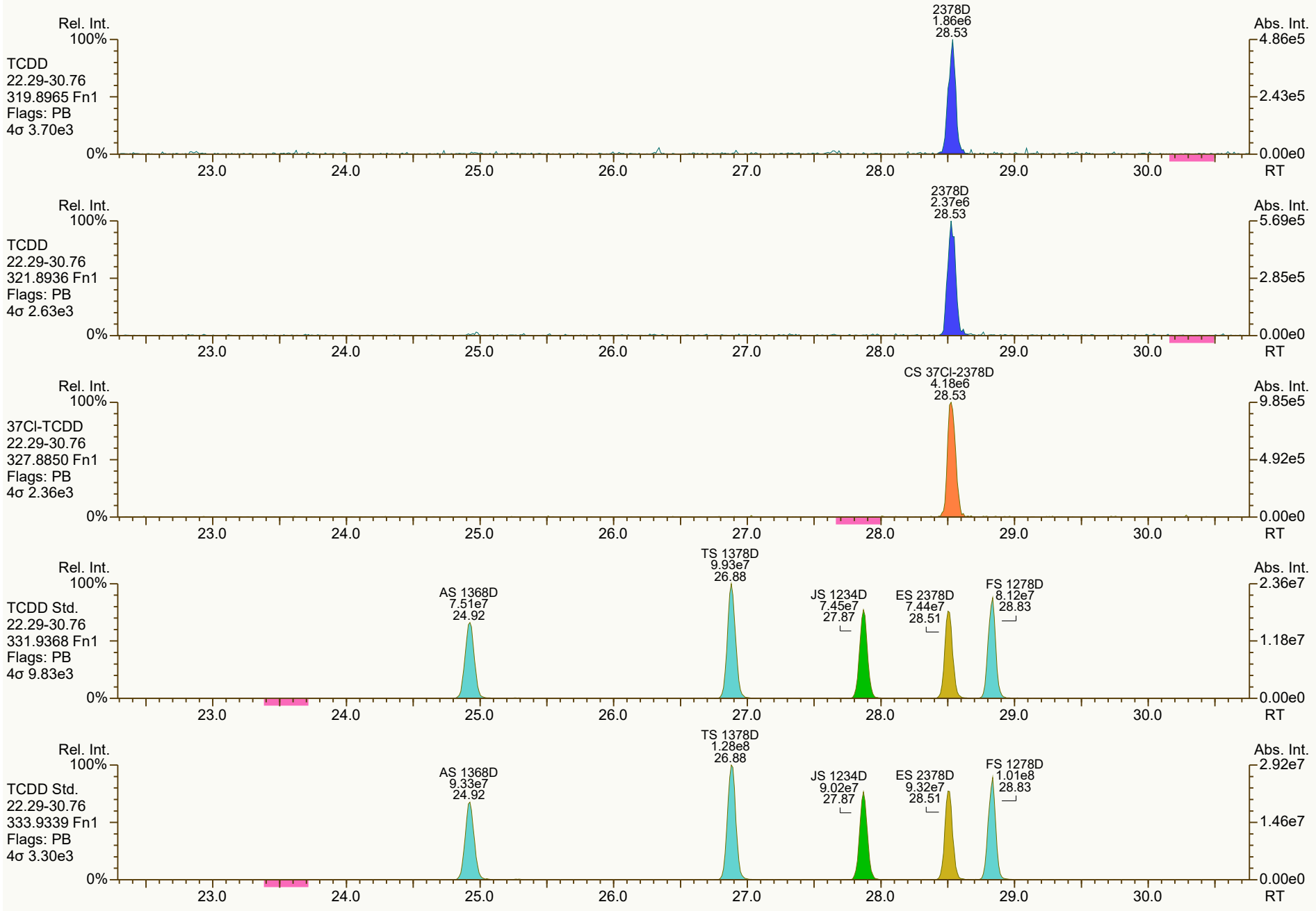
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD	40.67	1.41E+07	1.01	Y	0.97	0.92	-6%
OCDD	43.23	2.33E+07	0.88	Y	1.07	1.01	-6%
2378-TCDF	27.68	5.04E+06	0.83	Y	0.96	0.90	-6%
12378-PeCDF	32.39	2.16E+07	1.63	Y	0.95	0.90	-5%
23478-PeCDF	33.48	2.12E+07	1.52	Y	0.94	0.90	-4%
123478-HxCDF	36.69	2.09E+07	1.25	Y	1.23	1.19	-4%
123678-HxCDF	36.83	2.13E+07	1.24	Y	1.13	1.07	-5%
234678-HxCDF	37.50	1.98E+07	1.20	Y	1.15	1.08	-6%
123789-HxCDF	38.43	1.89E+07	1.24	Y	1.14	1.09	-4%
1234678-HpCDF	39.77	1.87E+07	1.01	Y	1.36	1.31	-4%
1234789-HpCDF	41.12	1.60E+07	1.02	Y	1.30	1.26	-3%
OCDF	43.41	2.61E+07	0.92	Y	1.03	0.95	-7%
ES 2378-TCDD	28.51	1.68E+08	0.80	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.794	1.63E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.667	1.54E+08	1.28	Y	0.99	0.99	-1%
ES 123678-HxCDD	37.781	1.49E+08	1.24	Y	0.97	0.95	-2%
ES 123789-HxCDD	38.07	1.75E+08	1.26	Y	1.12	1.12	0%
ES 1234678-HpCDD	40.658	1.53E+08	1.06	Y	0.99	0.98	-1%
ES OCDD	43.222	2.31E+08	0.90	Y	0.78	0.74	-5%
ES 2378-TCDF	27.656	2.80E+08	0.80	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.368	2.40E+08	1.55	Y	0.93	0.92	-2%
ES 23478-PeCDF	33.459	2.36E+08	1.59	Y	0.92	0.90	-2%
ES 123478-HxCDF	36.674	1.76E+08	0.52	Y	1.14	1.13	-1%
ES 123678-HxCDF	36.814	1.99E+08	0.52	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.481	1.84E+08	0.52	Y	1.20	1.18	-2%
ES 123789-HxCDF	38.416	1.73E+08	0.52	Y	1.14	1.11	-2%
ES 1234678-HpCDF	39.761	1.43E+08	0.44	Y	0.95	0.92	-3%
ES 1234789-HpCDF	41.105	1.28E+08	0.46	Y	0.85	0.82	-3%
ES OCDF	43.404	2.74E+08	0.87	Y	0.93	0.88	-5%

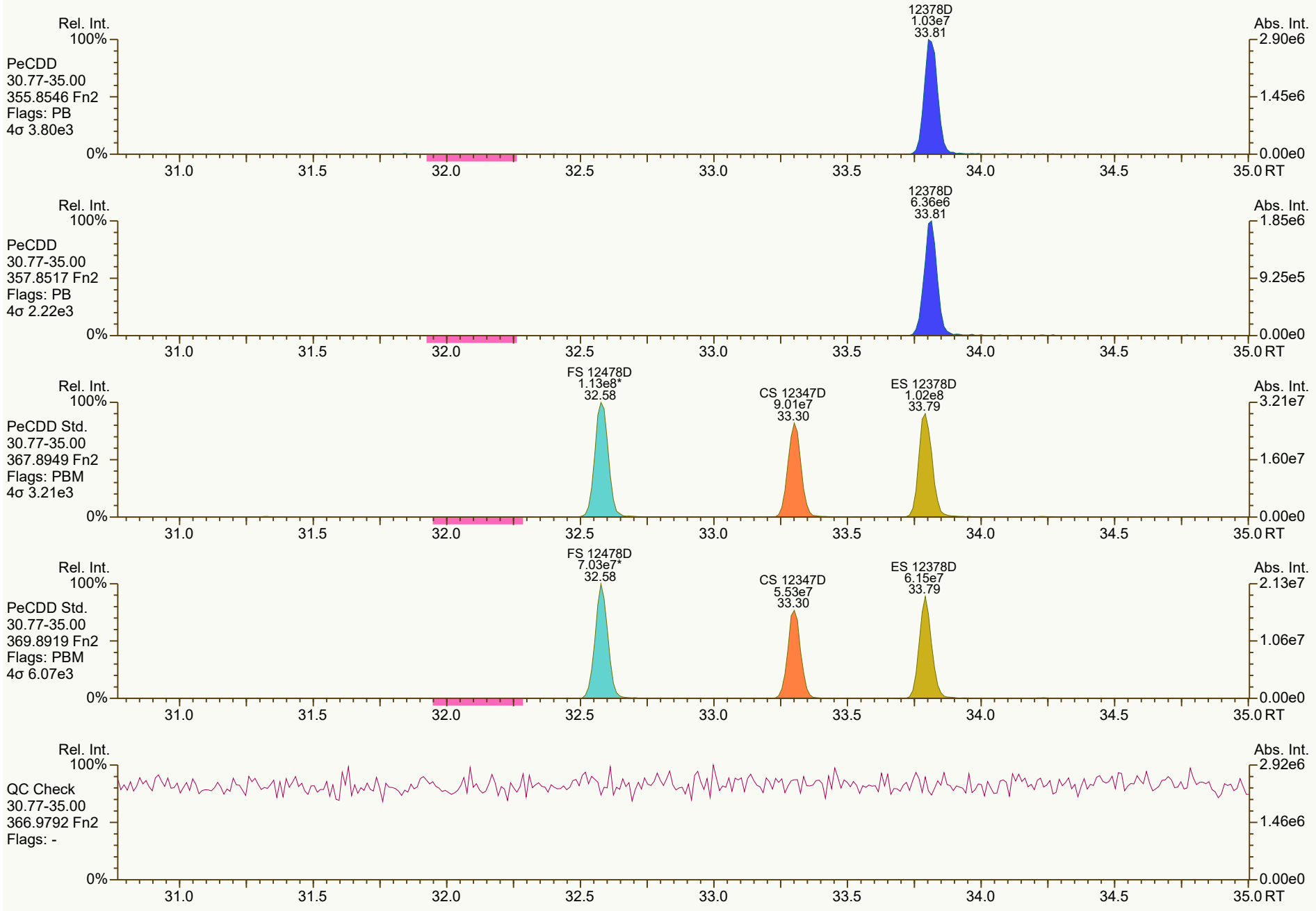
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

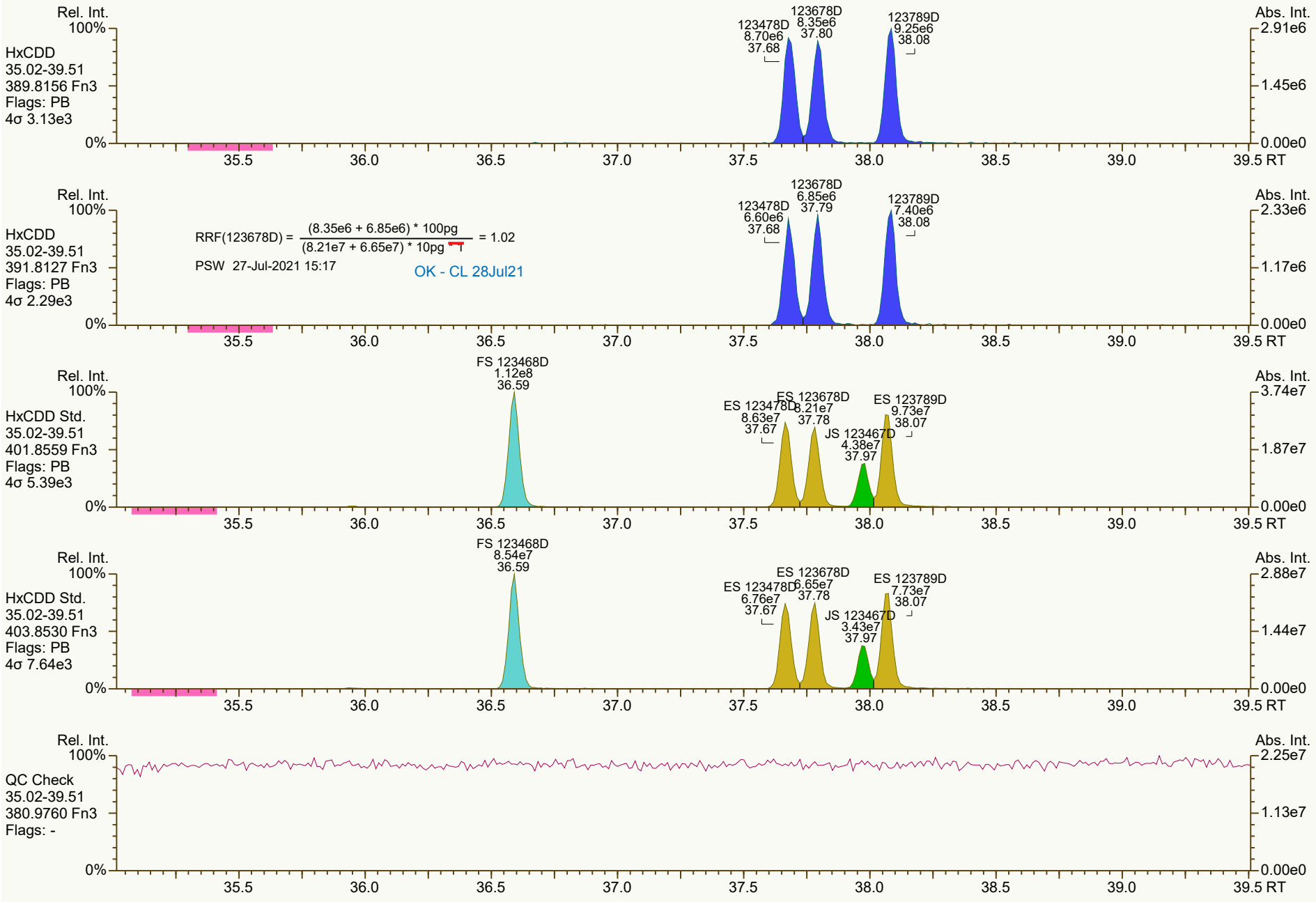
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.13	1.69E+08	0.52	Y	1.09	1.08	-1%
CS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.86	0.89	3%
SS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.13	1.69E+08	0.52	Y	0.84	0.85	1%
SS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.92	1.68E+08	0.81	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.81E+08	0.77	Y	1.08	1.07	-1%
FS 1278-TCDD	28.83	1.83E+08	0.80	Y	1.08	1.09	0%
FS 12478-PeCDD	32.58	1.83E+08	1.61	Y	1.09	1.12	3%
FS 123468-HxCDD	36.59	1.97E+08	1.31	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	2.12E+08	1.04	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	2.27E+08	0.78	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.23~~	~~1.51E+06~~	~~2.07~~	~~N~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.41~~	~~1.45E+06~~	~~3.13~~	~~N~~	~~0.06~~	~~0.05~~	~~-11%~~

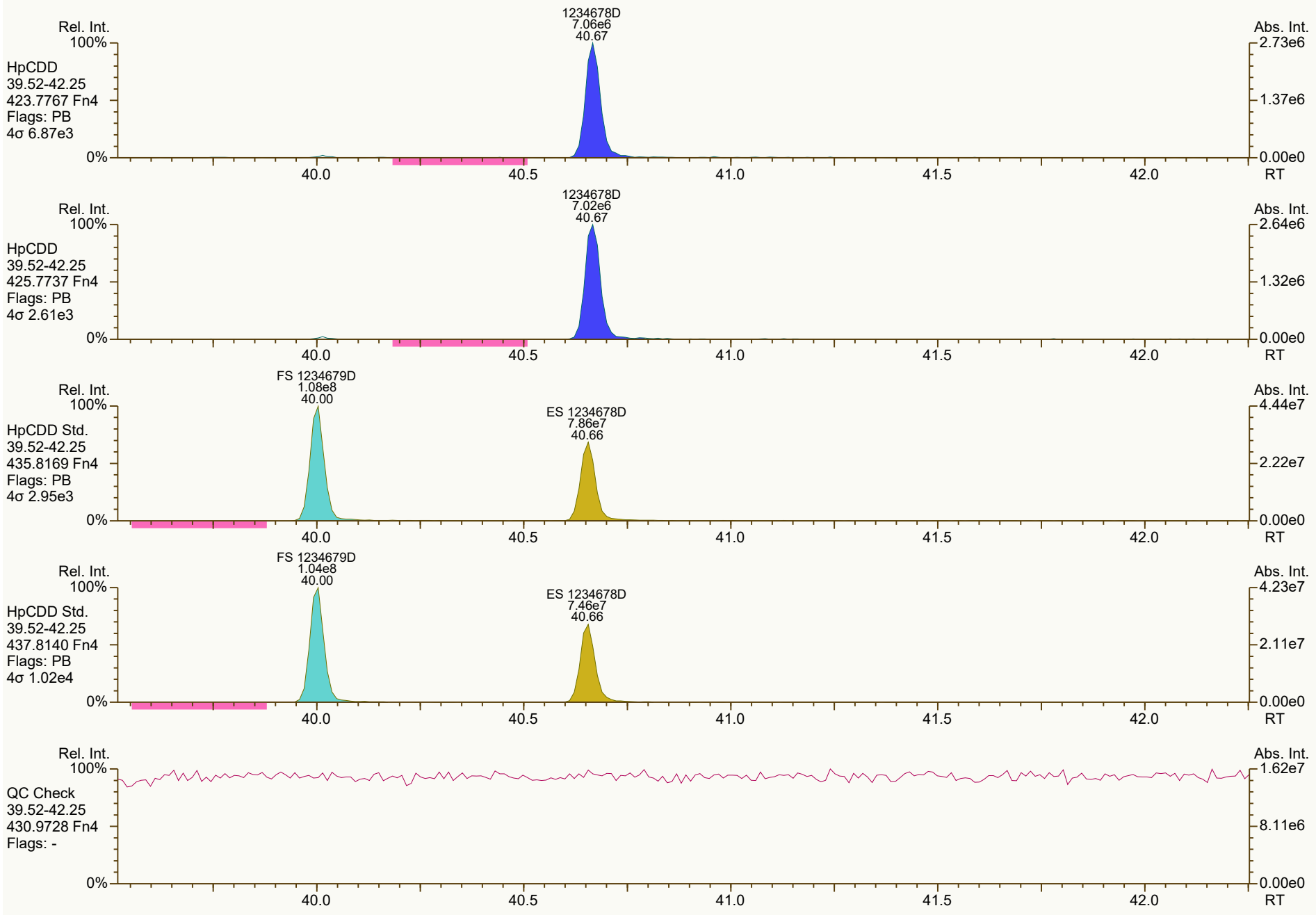
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.25e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

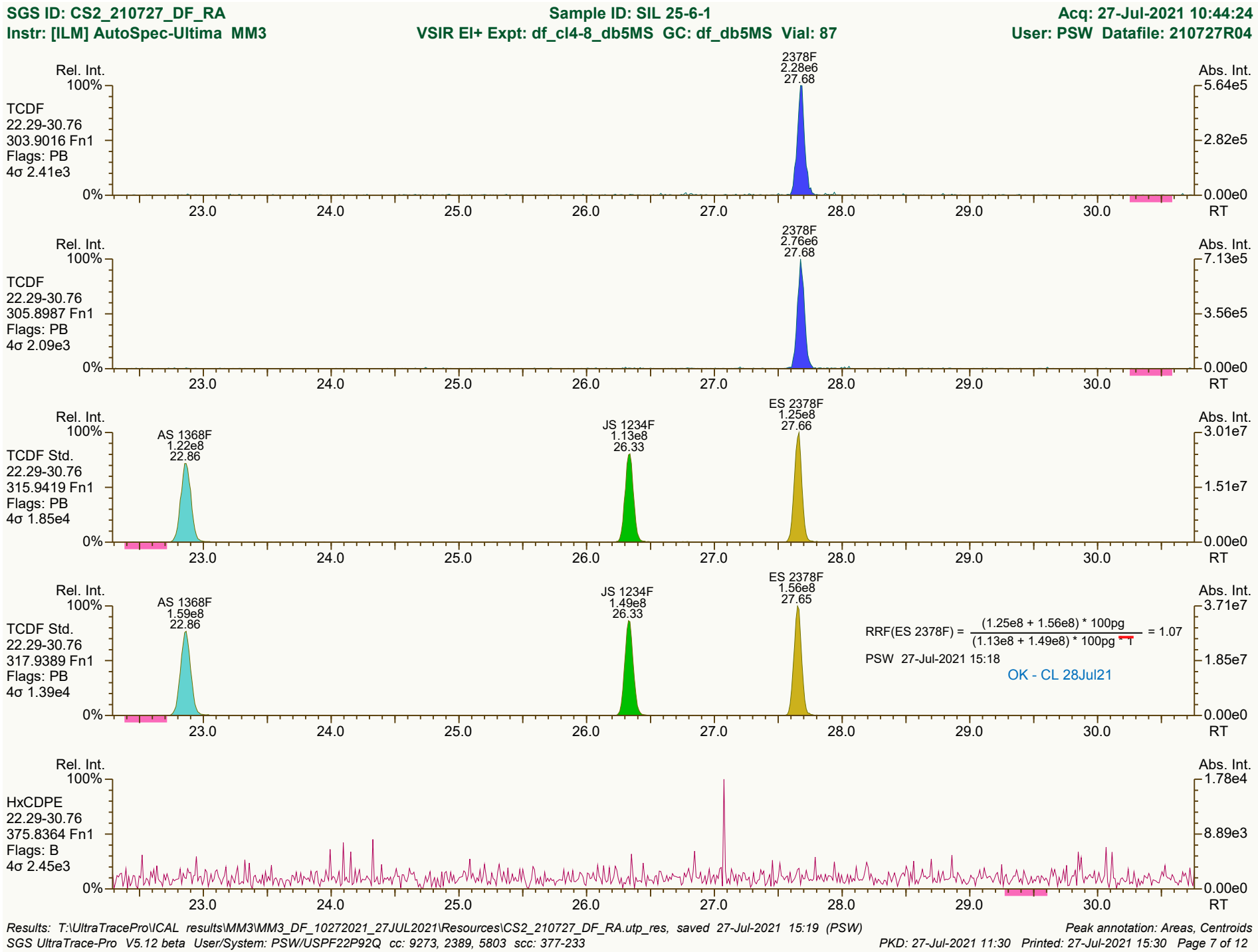

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
0%
2378D
1.86e6
28.53
Abs. Int.
4.86e5
2.43e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
0%
2378D
2.37e6
28.53
Abs. Int.
5.69e5
2.85e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.36e3
0%
CS 37Cl-2378D
4.18e6
28.53
Abs. Int.
9.85e5
4.92e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 9.83e3
0%
AS 1368D
7.51e7
24.92
TS 1378D
9.93e7
26.88
JS 1234D
7.45e7
27.87
ES 2378D
7.44e7
28.51
FS 1278D
8.12e7
28.83
Abs. Int.
2.36e7
1.18e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.30e3
0%
AS 1368D
9.33e7
24.92
TS 1378D
1.28e8
26.88
JS 1234D
9.02e7
27.87
ES 2378D
9.32e7
28.51
FS 1278D
1.01e8
28.83
Abs. Int.
2.92e7
1.46e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.80e3
12378D
1.03e7
33.81
Abs. Int.
2.90e6
1.45e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.22e3
12378D
6.36e6
33.81
Abs. Int.
1.85e6
9.25e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.21e3
FS 12478D
1.13e8*
32.58
CS 12347D
9.01e7
33.30
ES 12378D
1.02e8
33.79
Abs. Int.
3.21e7
1.60e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 6.07e3
FS 12478D
7.03e7*
32.58
CS 12347D
5.53e7
33.30
ES 12378D
6.15e7
33.79
Abs. Int.
2.13e7
1.06e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

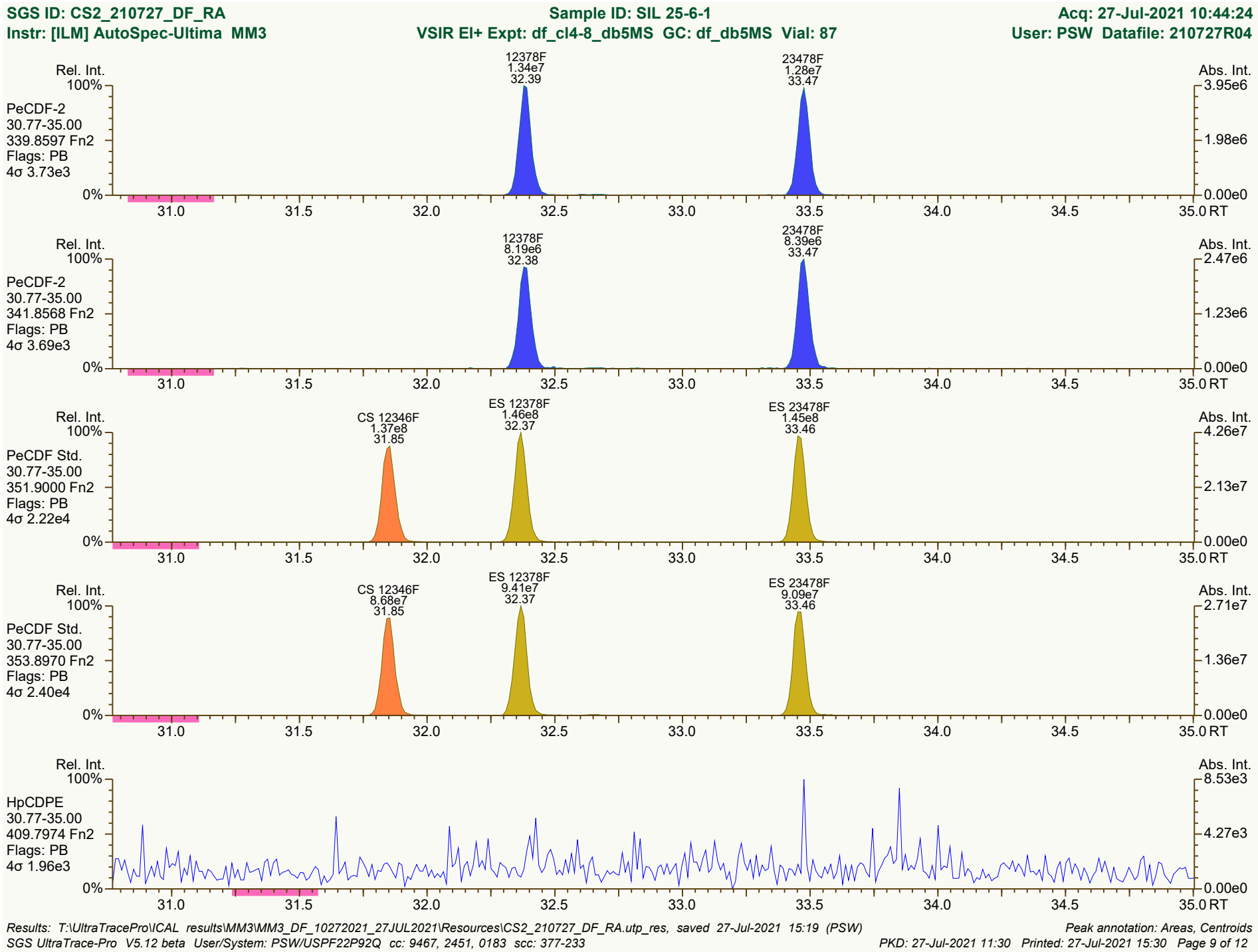

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123478D 8.70e6 37.68
123678D 8.35e6 37.80
123789D 9.25e6 38.08
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg / (8.21e7 + 6.65e7) * 10pg = 1.02
PSW 27-Jul-2021 15:17
OK - CL 28Jul21
123478D 6.60e6 37.68
123678D 6.85e6 37.79
123789D 7.40e6 38.08
2.33e6
1.17e6
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 5.39e3
FS 123468D 1.12e8 36.59
ES 123478D 8.63e7 37.67
ES 123678D 8.21e7 37.78
JS 123467D 4.38e7 37.97
ES 123789D 9.73e7 38.07
3.74e7
1.87e7
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 7.64e3
FS 123468D 8.54e7 36.59
ES 123478D 6.76e7 37.67
ES 123678D 6.65e7 37.78
JS 123467D 3.43e7 37.97
ES 123789D 7.73e7 38.07
2.88e7
1.44e7
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.25e7
1.13e7

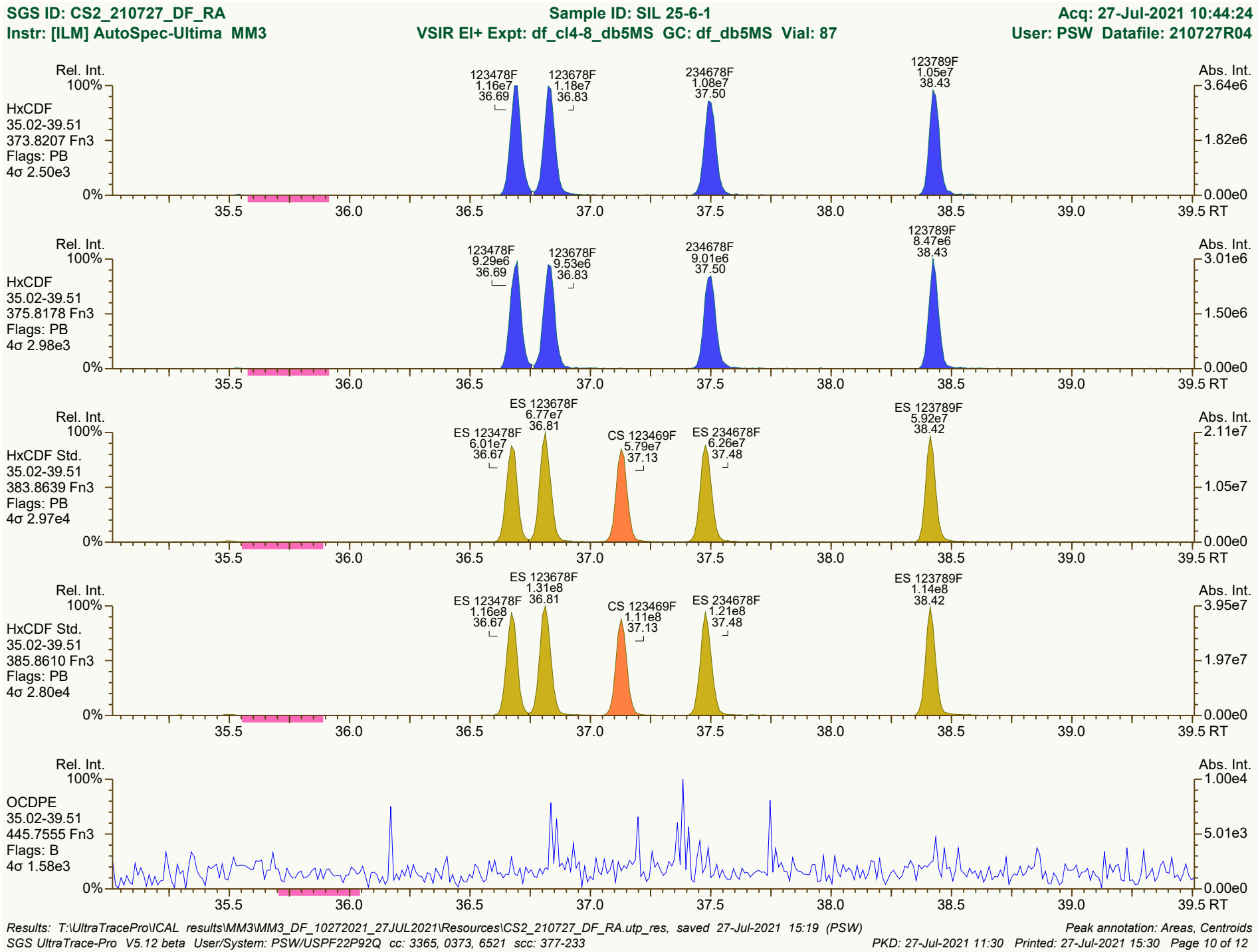

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 6.87e3
0%
1234678D
7.06e6
40.67
Abs. Int.
2.73e6
1.37e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 2.61e3
0%
1234678D
7.02e6
40.67
Abs. Int.
2.64e6
1.32e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.95e3
0%
FS 1234679D
1.08e8
40.00
ES 1234678D
7.86e7
40.66
Abs. Int.
4.44e7
2.22e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.02e4
0%
FS 1234679D
1.04e8
40.00
ES 1234678D
7.46e7
40.66
Abs. Int.
4.23e7
2.11e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0

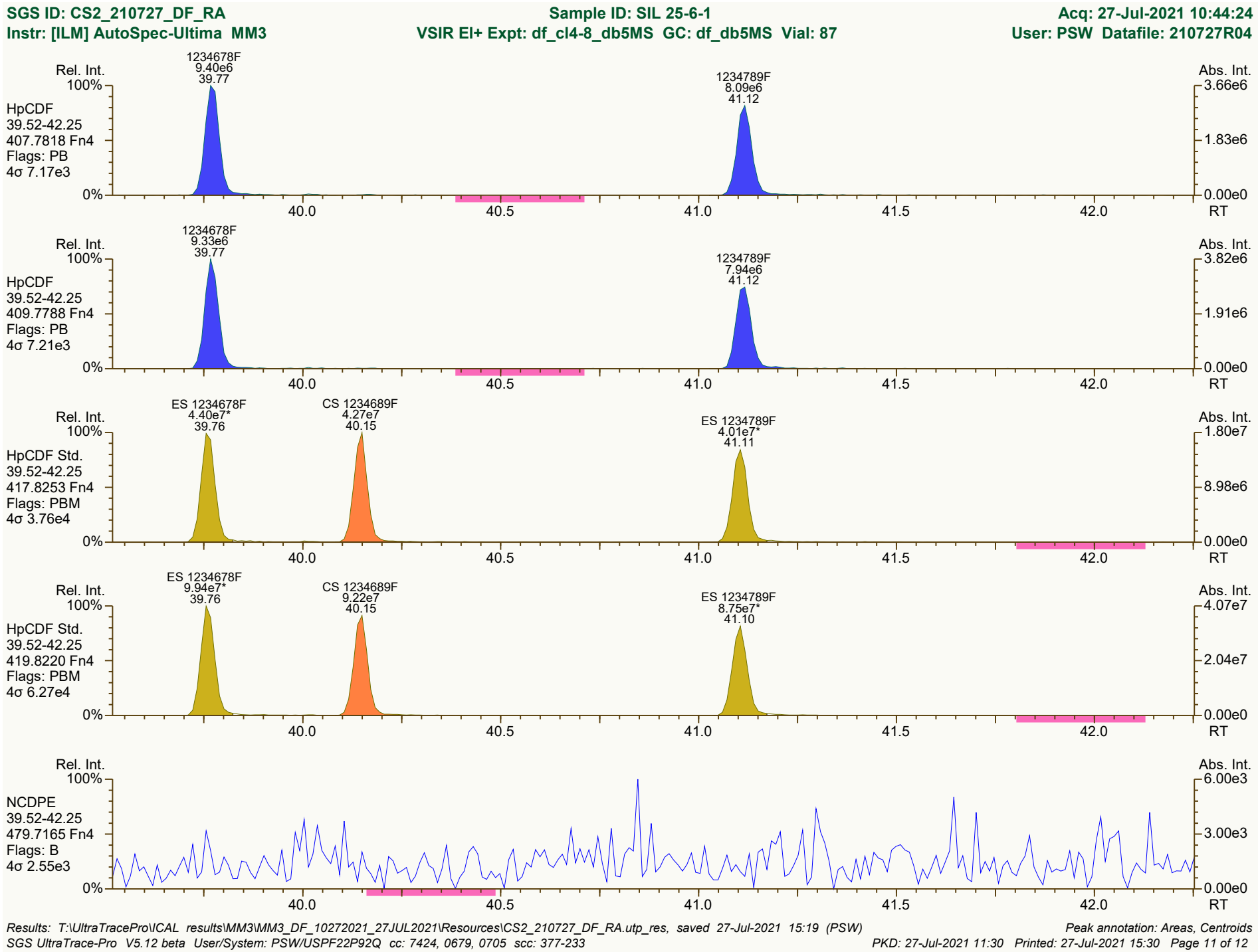

OCDD
1.09e7
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 3.62e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.24e7
43.23
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 1.67e3
4.01e6
2.00e6
ES OCDD
1.10e8
43.22
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 3.79e3
3.53e7
1.77e7
ES OCDD
1.22e8
43.22
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 7.59e3
3.84e7
1.92e7
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
6.46e6
3.23e6

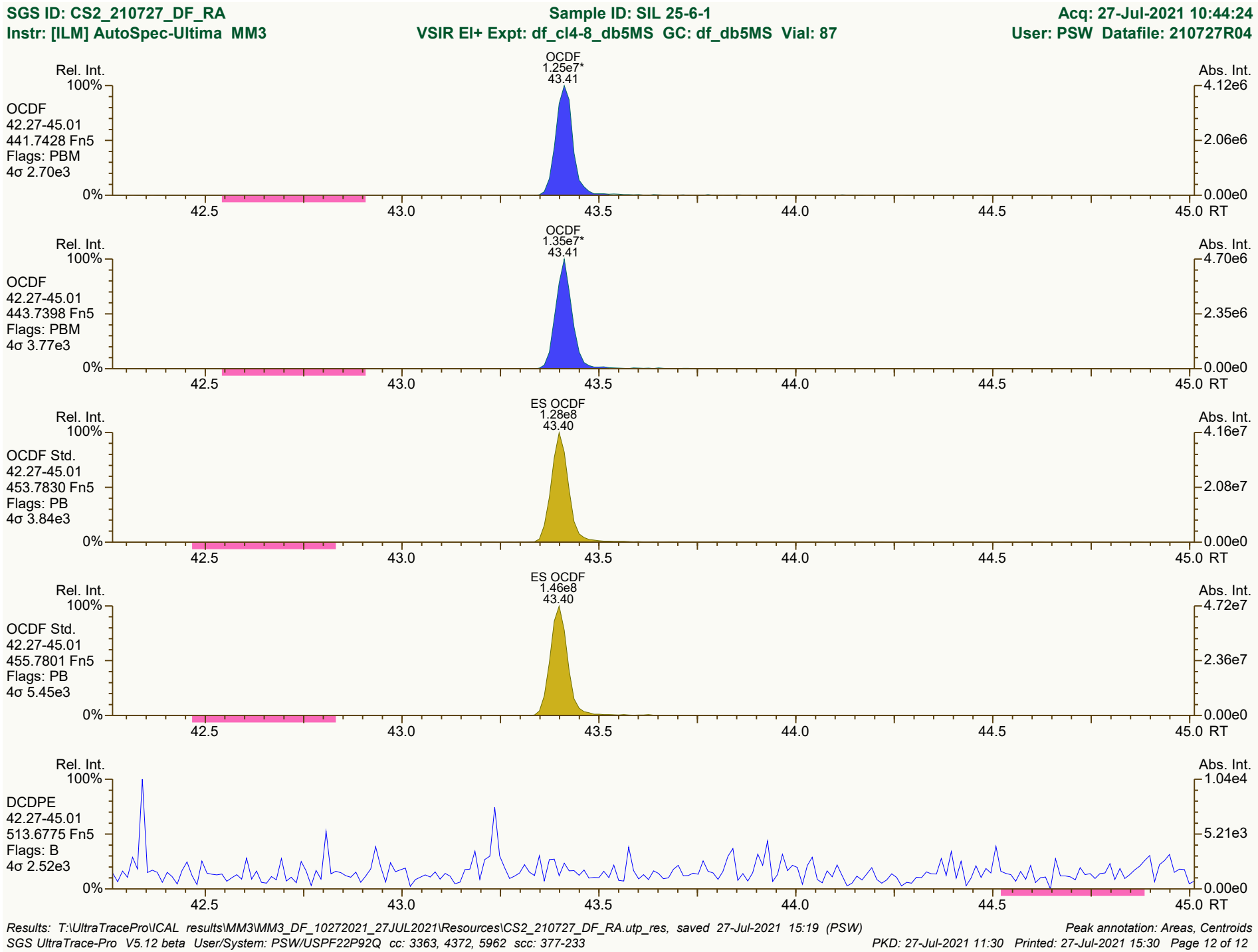

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.41e3
2378F
2.28e6
27.68
5.64e5
2.82e5
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.09e3
2378F
2.76e6
27.68
7.13e5
3.56e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.85e4
AS 1368F
1.22e8
22.86
JS 1234F
1.13e8
26.33
ES 2378F
1.25e8
27.66
3.01e7
1.51e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.39e4
AS 1368F
1.59e8
22.86
JS 1234F
1.49e8
26.33
ES 2378F
1.56e8
27.65
RRF(ES 2378F) = (1.25e8 + 1.56e8) * 100pg / (1.13e8 + 1.49e8) * 100pg * 1 = 1.07
PSW 27-Jul-2021 15:18
OK - CL 28Jul21
3.71e7
1.85e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.45e3
1.78e4
8.89e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9273, 2389, 5803 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.30e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.64e4
1.32e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.23e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.73e3
12378F
1.34e7
32.39
23478F
1.28e7
33.47
3.95e6
1.98e6
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.69e3
12378F
8.19e6
32.38
23478F
8.39e6
33.47
2.47e6
1.23e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.22e4
CS 12346F
1.37e8
31.85
ES 12378F
1.46e8
32.37
ES 23478F
1.45e8
33.46
4.26e7
2.13e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.40e4
CS 12346F
8.68e7
31.85
ES 12378F
9.41e7
32.37
ES 23478F
9.09e7
33.46
2.71e7
1.36e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: PB
4σ 1.96e3
8.53e3
4.27e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9467, 2451, 0183 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.50e3
123478F 1.16e7 36.69
123678F 1.18e7 36.83
234678F 1.08e7 37.50
123789F 1.05e7 38.43
3.64e6
1.82e6
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.98e3
123478F 9.29e6 36.69
123678F 9.53e6 36.83
234678F 9.01e6 37.50
123789F 8.47e6 38.43
3.01e6
1.50e6
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 2.97e4
ES 123478F 6.01e7 36.67
ES 123678F 6.77e7 36.81
CS 123469F 5.79e7 37.13
ES 234678F 6.26e7 37.48
ES 123789F 5.92e7 38.42
2.11e7
1.05e7
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.80e4
ES 123478F 1.16e8 36.67
ES 123678F 1.31e8 36.81
CS 123469F 1.11e8 37.13
ES 234678F 1.21e8 37.48
ES 123789F 1.14e8 38.42
3.95e7
1.97e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.58e3
1.00e4
5.01e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3365, 0373, 6521 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 7.17e3
1234678F
9.40e6
39.77
1234789F
8.09e6
41.12
3.66e6
1.83e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 7.21e3
1234678F
9.33e6
39.77
1234789F
7.94e6
41.12
3.82e6
1.91e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.76e4
ES 1234678F
4.40e7*
39.76
CS 1234689F
4.27e7
40.15
ES 1234789F
4.01e7*
41.11
1.80e7
8.98e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 6.27e4
ES 1234678F
9.94e7*
39.76
CS 1234689F
9.22e7
40.15
ES 1234789F
8.75e7*
41.10
4.07e7
2.04e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.55e3
6.00e3
3.00e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7424, 0679, 0705 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
OCDF
1.25e7*
43.41
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.35e7*
43.41
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
0%
Abs. Int.
4.70e6
2.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e8
43.40
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
0%
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.46e8
43.40
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
0%
Abs. Int.
4.72e7
2.36e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3363, 4372, 5962 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 12 of 12

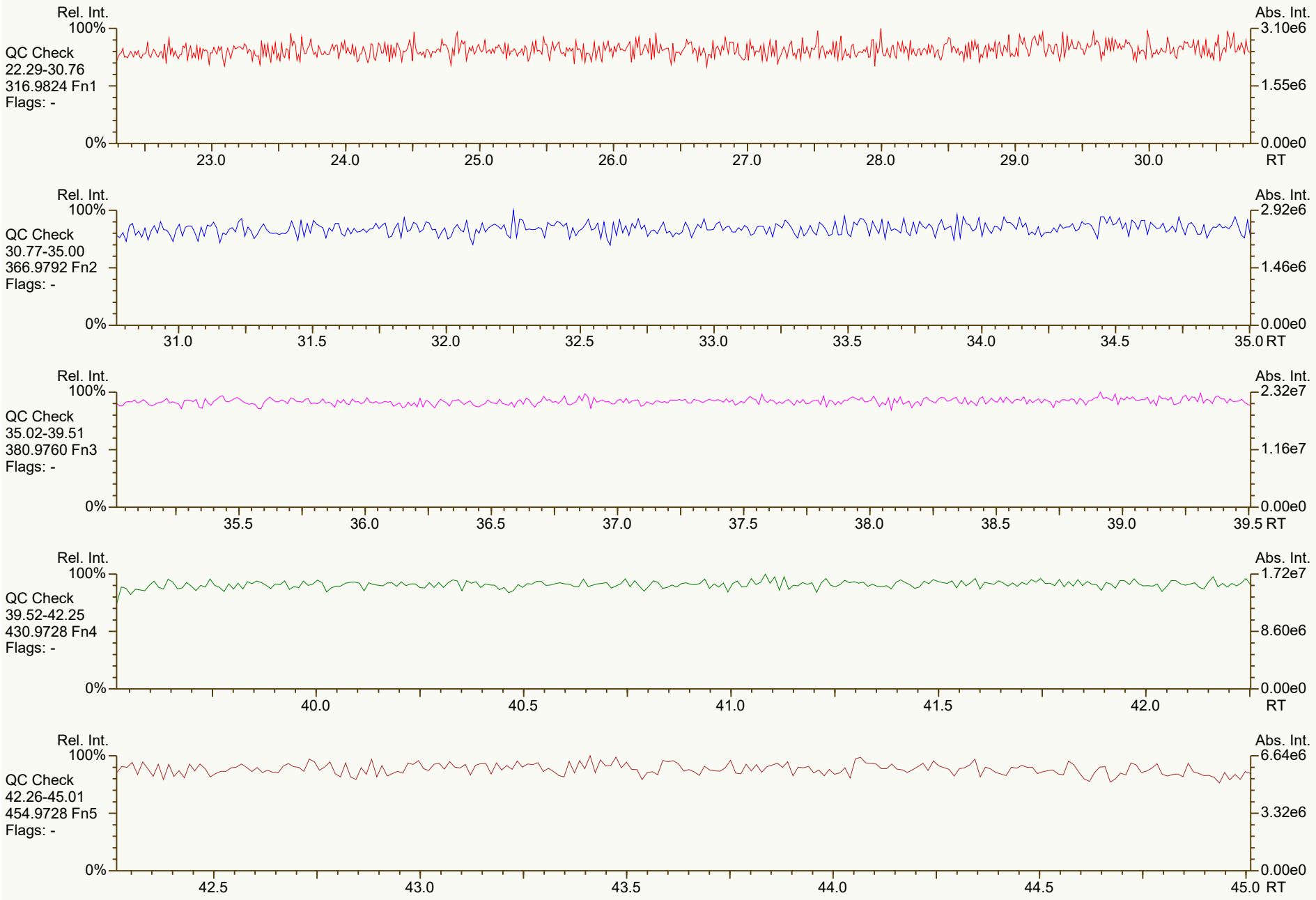
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

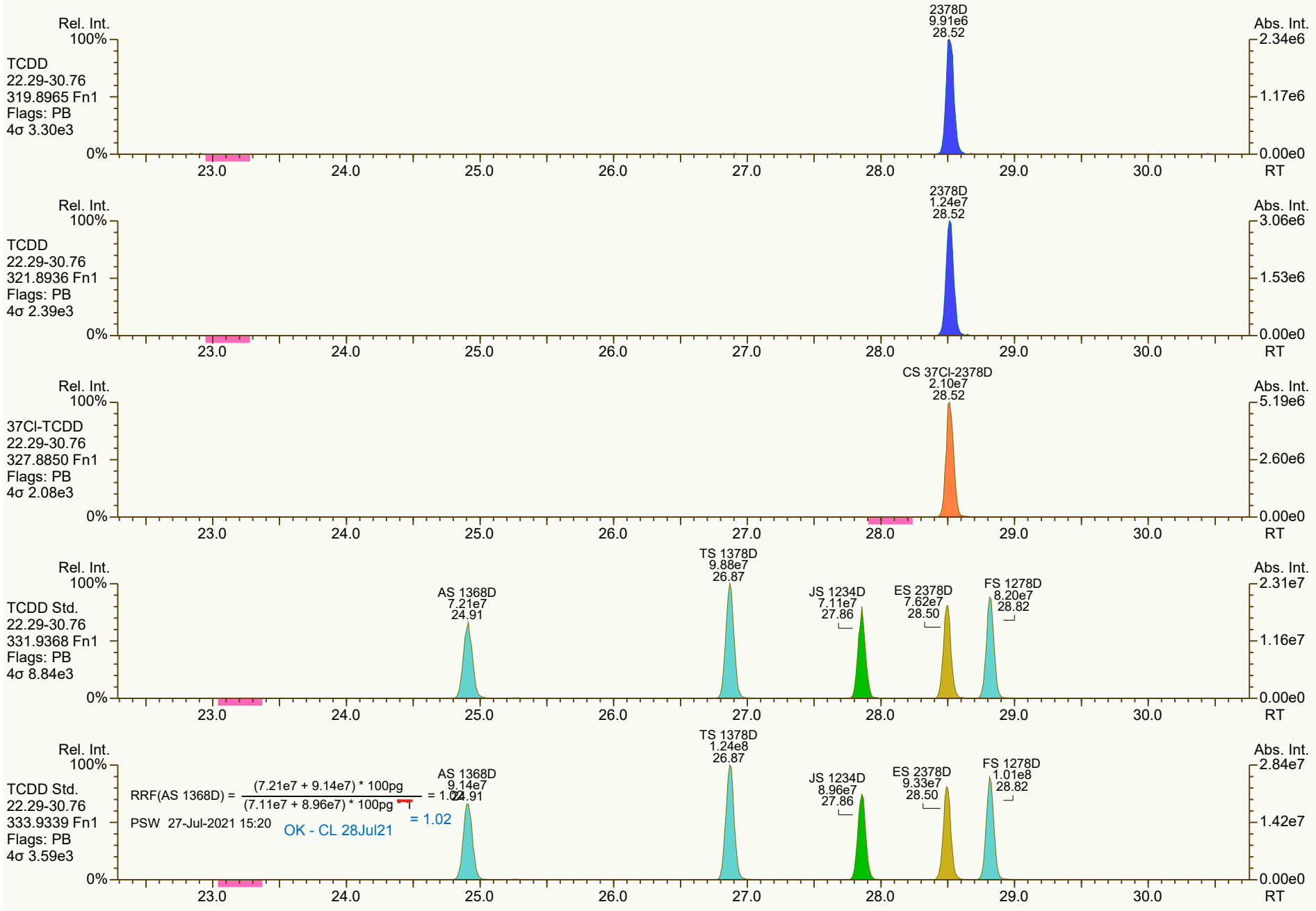
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.23E+07	0.80	Y	1.34	1.32	-2%
12378-PeCDD	33.80	8.56E+07	1.57	Y	1.06	1.05	-1%
123478-HxCDD	37.67	7.63E+07	1.25	Y	1.06	1.05	-1%
123678-HxCDD	37.78	7.89E+07	1.25	Y	1.08	1.08	0%
123789-HxCDD	38.07	8.22E+07	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.66	7.06E+07	1.03	Y	0.97	0.95	-2%
OCDD	43.22	1.21E+08	0.89	Y	1.07	1.07	0%
2378-TCDF	27.66	2.66E+07	0.80	Y	0.96	0.95	-1%
12378-PeCDF	32.37	1.11E+08	1.56	Y	0.95	0.94	-1%
23478-PeCDF	33.46	1.09E+08	1.56	Y	0.94	0.92	-2%
123478-HxCDF	36.68	1.05E+08	1.22	Y	1.23	1.22	-2%
123678-HxCDF	36.82	1.08E+08	1.25	Y	1.13	1.10	-2%
234678-HxCDF	37.49	1.02E+08	1.24	Y	1.15	1.14	-1%
123789-HxCDF	38.42	9.59E+07	1.23	Y	1.14	1.14	0%
1234678-HpCDF	39.76	9.62E+07	1.03	Y	1.36	1.34	-1%
1234789-HpCDF	41.10	8.35E+07	1.03	Y	1.30	1.34	3%
OCDF	43.41	1.40E+08	0.89	Y	1.03	1.03	0%
ES 2378-TCDD	28.50	1.70E+08	0.82	Y	1.03	1.05	2%
ES 12378-PeCDD	33.782	1.63E+08	1.65	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.654	1.45E+08	1.26	Y	0.99	1.00	0%
ES 123678-HxCDD	37.768	1.46E+08	1.27	Y	0.97	1.01	3%
ES 123789-HxCDD	38.057	1.66E+08	1.23	Y	1.12	1.14	1%
ES 1234678-HpCDD	40.644	1.48E+08	1.08	Y	0.99	1.02	3%
ES OCDD	43.211	2.25E+08	0.88	Y	0.78	0.77	-1%
ES 2378-TCDF	27.643	2.80E+08	0.79	Y	1.08	1.09	1%
ES 12378-PeCDF	32.354	2.37E+08	1.58	Y	0.93	0.93	-1%
ES 23478-PeCDF	33.446	2.37E+08	1.53	Y	0.92	0.93	0%
ES 123478-HxCDF	36.661	1.72E+08	0.52	Y	1.14	1.18	4%
ES 123678-HxCDF	36.801	1.96E+08	0.52	Y	1.30	1.35	4%
ES 234678-HxCDF	37.469	1.79E+08	0.54	Y	1.20	1.23	2%
ES 123789-HxCDF	38.404	1.68E+08	0.52	Y	1.14	1.16	2%
ES 1234678-HpCDF	39.75	1.43E+08	0.45	Y	0.95	0.98	4%
ES 1234789-HpCDF	41.092	1.25E+08	0.44	Y	0.85	0.86	1%
ES OCDF	43.395	2.71E+08	0.89	Y	0.93	0.93	1%

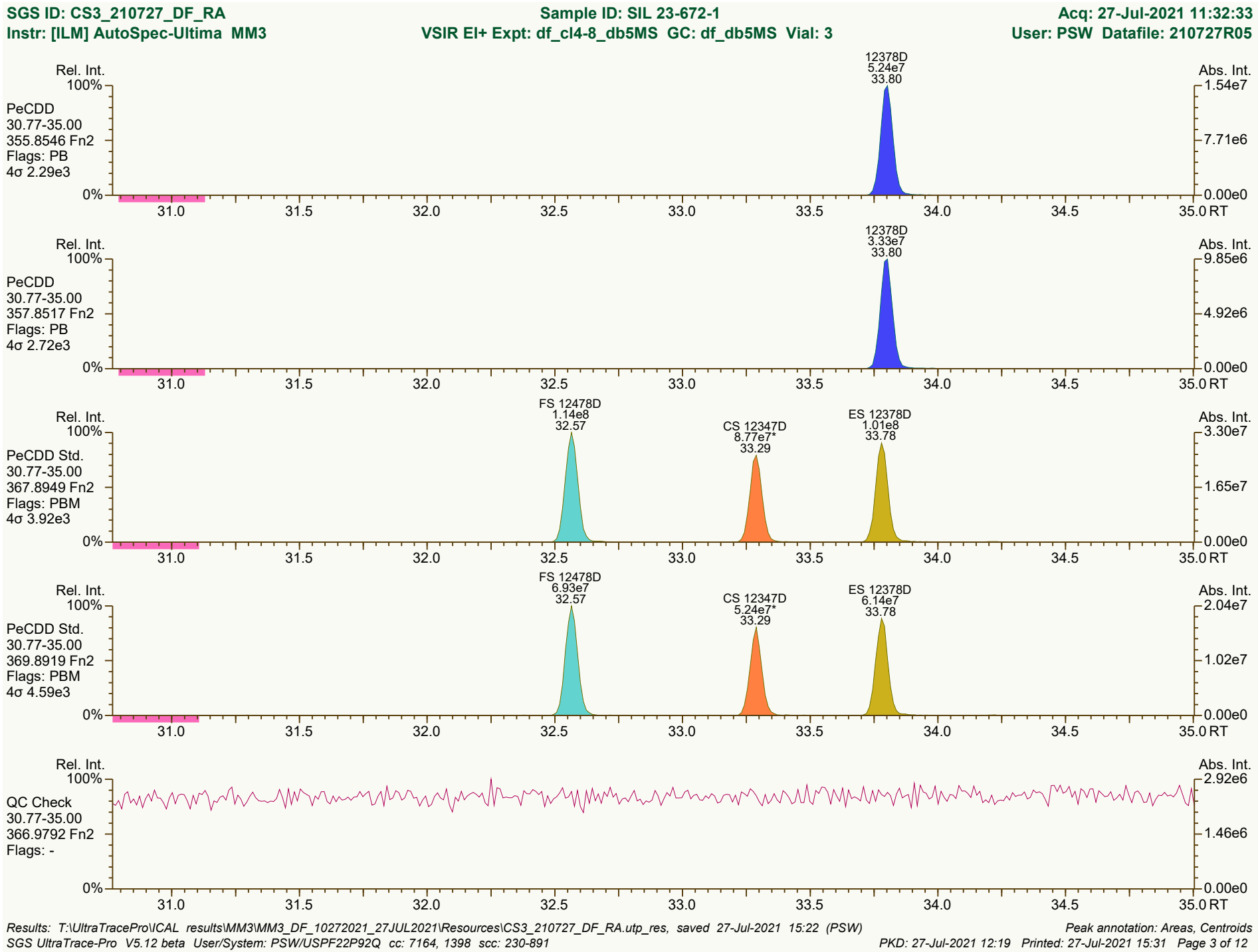
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

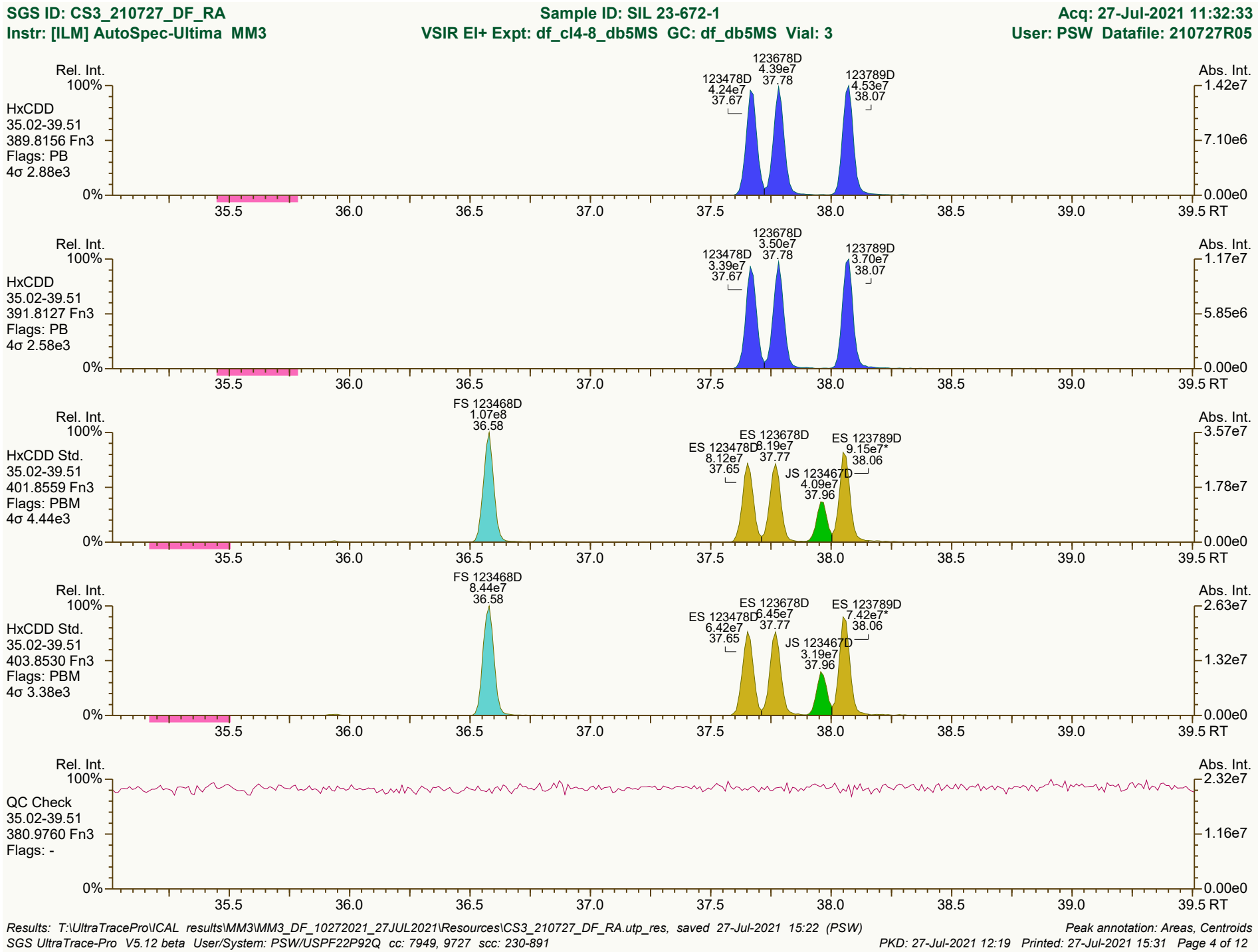
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.87	0.89	2%
CS 123469-HxCDF	37.12	1.65E+08	0.52	Y	1.09	1.14	4%
CS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.86	0.92	7%
SS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.26	1.24	-2%
SS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.86	0.86	0%
SS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.93	0.96	3%
SS 123469-HxCDF	37.12	1.65E+08	0.52	Y	0.84	0.84	0%
SS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.91	1.64E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.85	2.82E+08	0.79	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.83E+08	0.81	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.84E+08	1.65	Y	1.09	1.13	3%
FS 123468-HxCDD	36.58	1.91E+08	1.27	Y	1.26	1.32	4%
FS 1234679-HpCDD	39.99	2.10E+08	1.06	Y	1.36	1.42	5%
TS 1378-TCDD	26.87	2.23E+08	0.80	Y	1.35	1.31	-3%
~~OCDD-a~~	~~43.22~~	~~7.32E+06~~	~~2.45~~	~~Y~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.40~~	~~8.14E+06~~	~~2.47~~	~~Y~~	~~0.06~~	~~0.06~~	~~1%~~

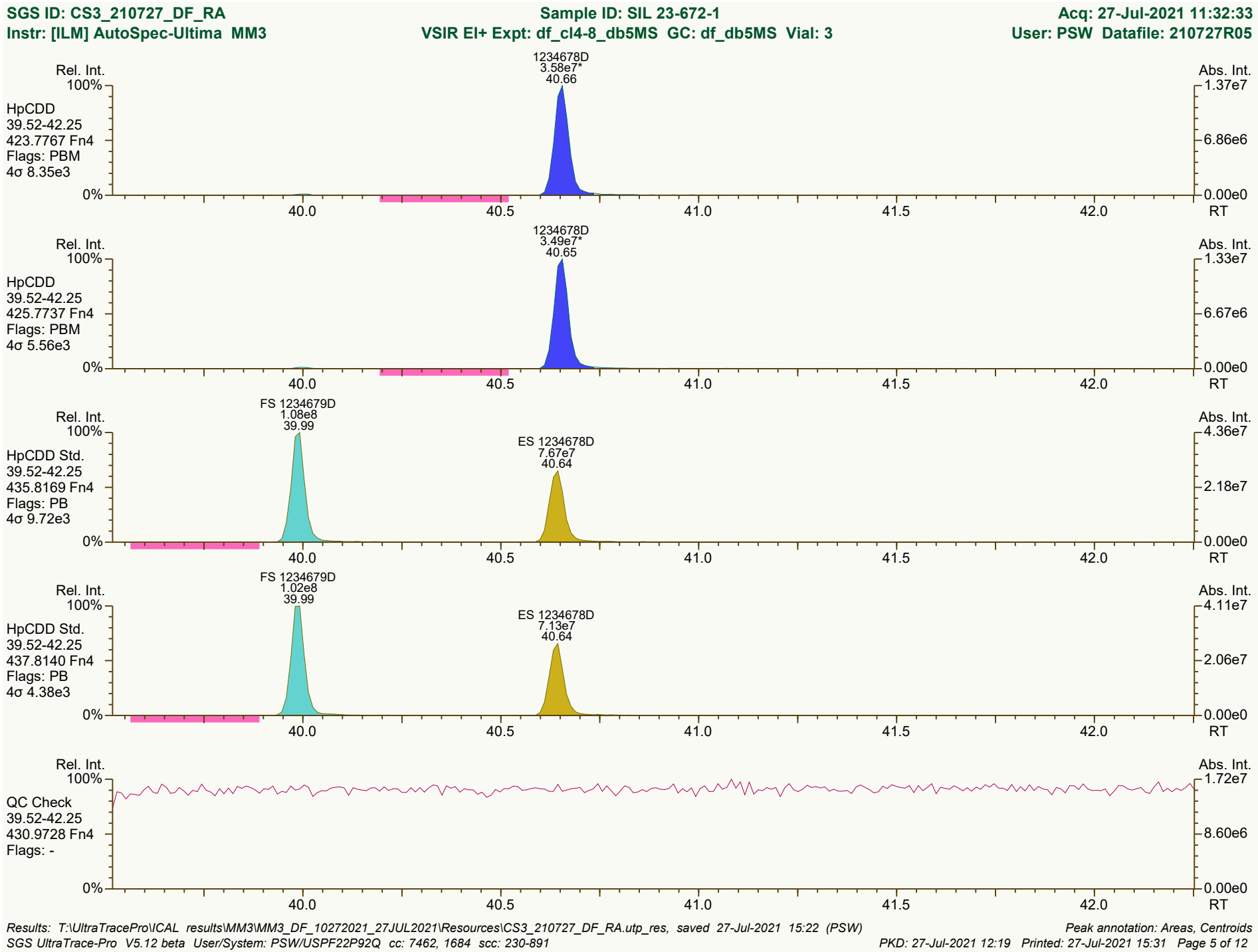
Not reported from this ICAL - CL 28Jul21

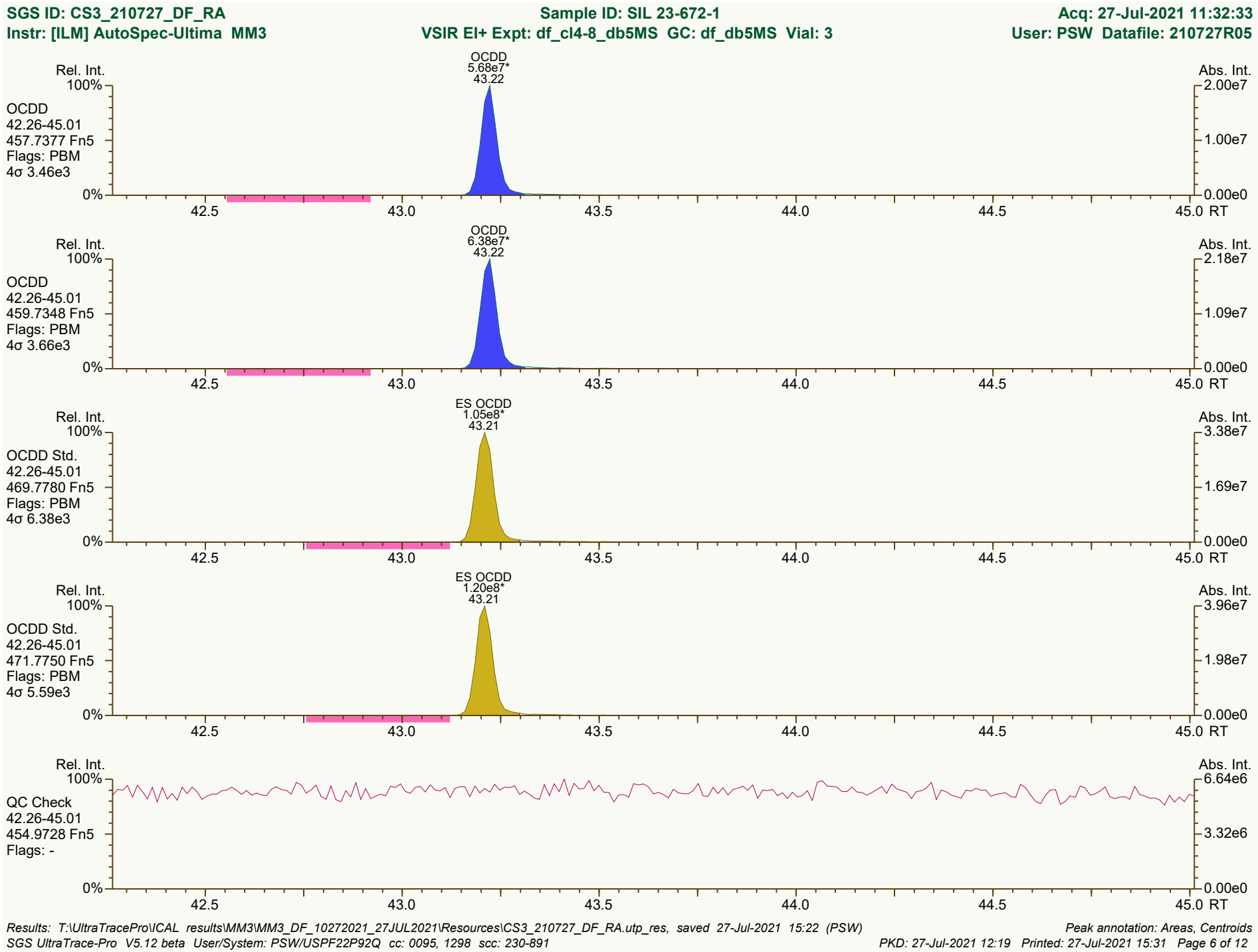

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.72e7
8.60e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

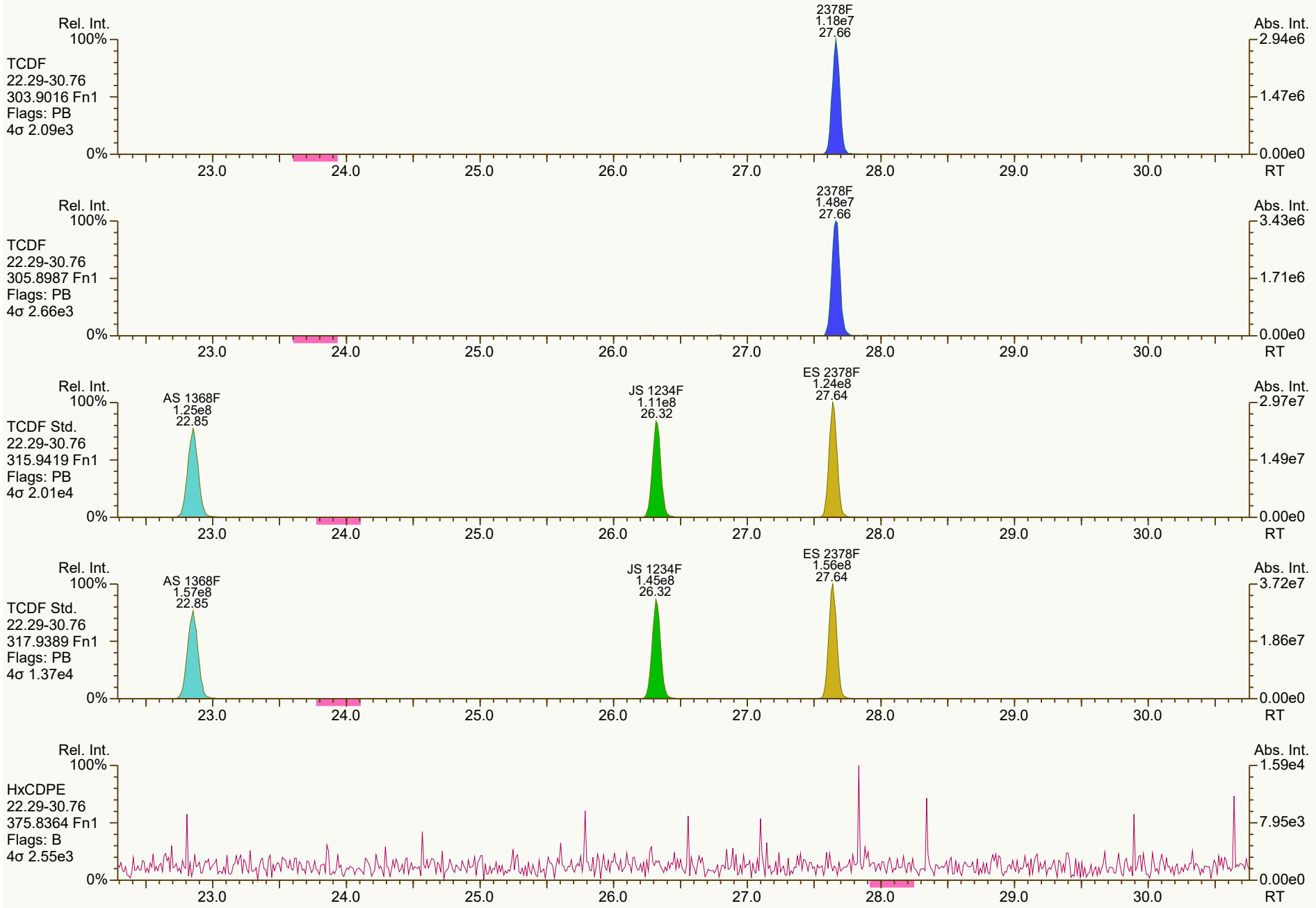

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
2378D
9.91e6
28.52
2.34e6
1.17e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
2378D
1.24e7
28.52
3.06e6
1.53e6
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.08e3
CS 37Cl-2378D
2.10e7
28.52
5.19e6
2.60e6
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 8.84e3
AS 1368D
7.21e7
24.91
TS 1378D
9.88e7
26.87
JS 1234D
7.11e7
27.86
ES 2378D
7.62e7
28.50
FS 1278D
8.20e7
28.82
2.31e7
1.16e7
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.59e3
RRF(AS 1368D) = (7.21e7 + 9.14e7) * 100pg / (7.11e7 + 8.96e7) * 100pg = 1.02
PSW 27-Jul-2021 15:20
OK - CL 28Jul21
= 1.02
AS 1368D
9.14e7
24.91
TS 1378D
1.24e8
26.87
JS 1234D
8.96e7
27.86
ES 2378D
9.33e7
28.50
FS 1278D
1.01e8
28.82
2.84e7
1.42e7
0.00e0


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
12378D
5.24e7
33.80
1.54e7
7.71e6
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
12378D
3.33e7
33.80
9.85e6
4.92e6
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
3.30e7
1.65e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
2.04e7
1.02e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.92e6
1.46e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7164, 1398 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 3 of 12

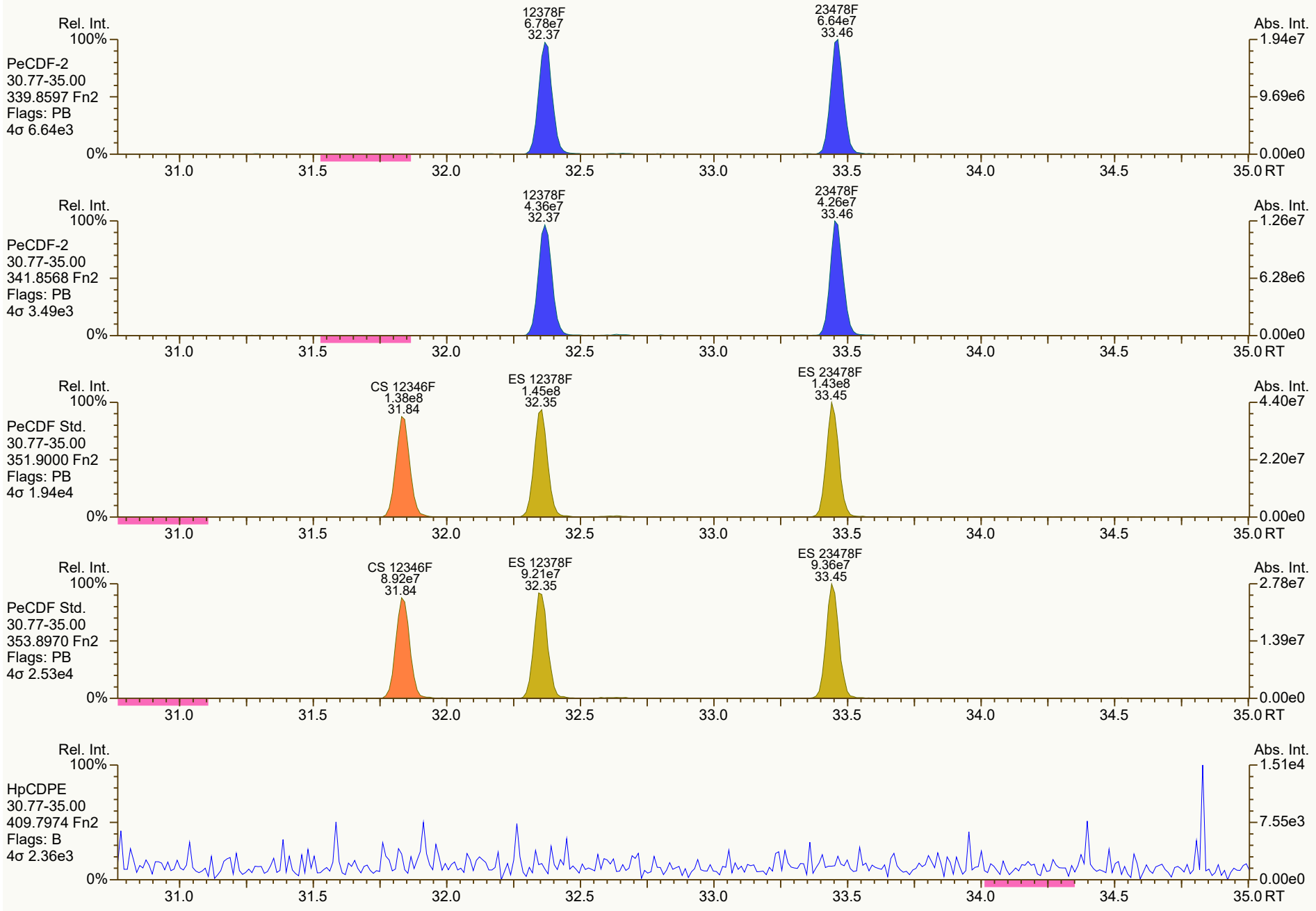

SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D
4.39e7
37.78
123478D
4.24e7
37.67
123789D
4.53e7
38.07
1.42e7
7.10e6
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D
3.50e7
37.78
123478D
3.39e7
37.67
123789D
3.70e7
38.07
1.17e7
5.85e6
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D
1.07e8
36.58
ES 123678D
8.19e7
37.77
ES 123478D
8.12e7
37.65
ES 123789D
9.15e7*
38.06
JS 123467D
4.09e7
37.96
3.57e7
1.78e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D
8.44e7
36.58
ES 123678D
6.45e7
37.77
ES 123478D
6.42e7
37.65
ES 123789D
7.42e7*
38.06
JS 123467D
3.19e7
37.96
2.63e7
1.32e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.32e7
1.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7949, 9727 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 4 of 12

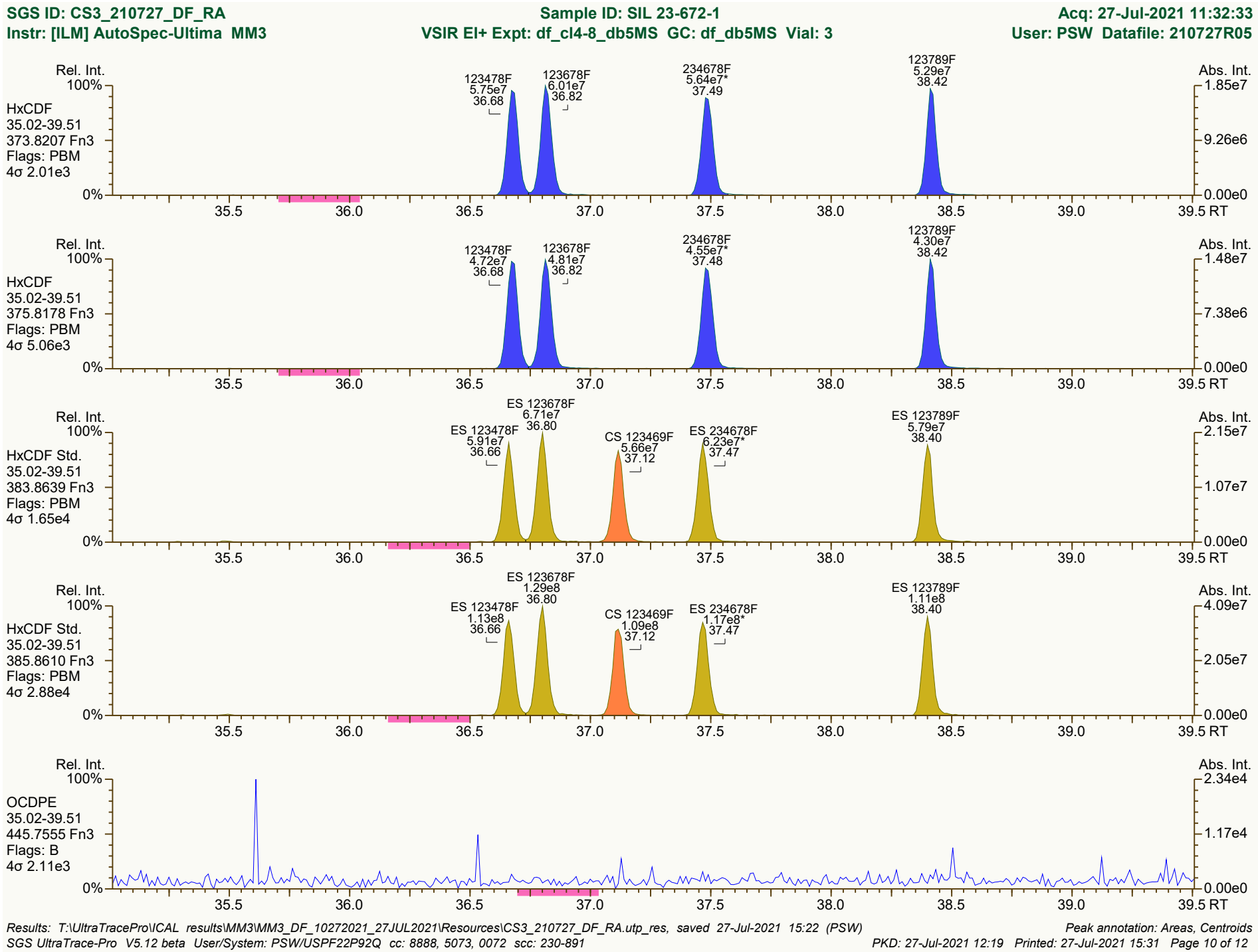

SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 8.35e3
1234678D
3.58e7*
40.66
1.37e7
6.86e6
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7462, 1684 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 5 of 12

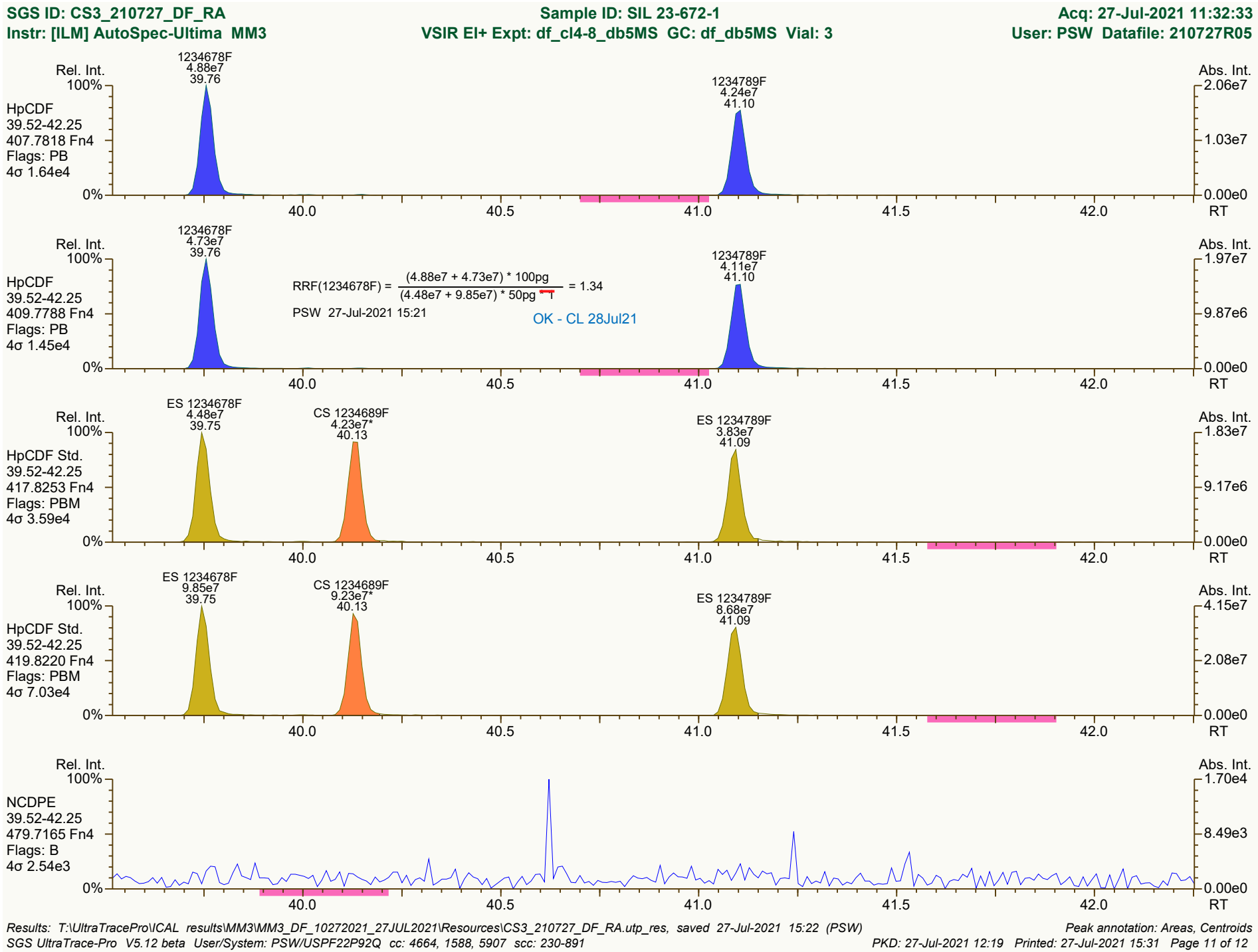

SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
OCDD
5.68e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.46e3
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.38e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 3.66e3
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.05e8*
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 6.38e3
0%
Abs. Int.
3.38e7
1.69e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.20e8*
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.59e3
0%
Abs. Int.
3.96e7
1.98e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0095, 1298 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 6 of 12

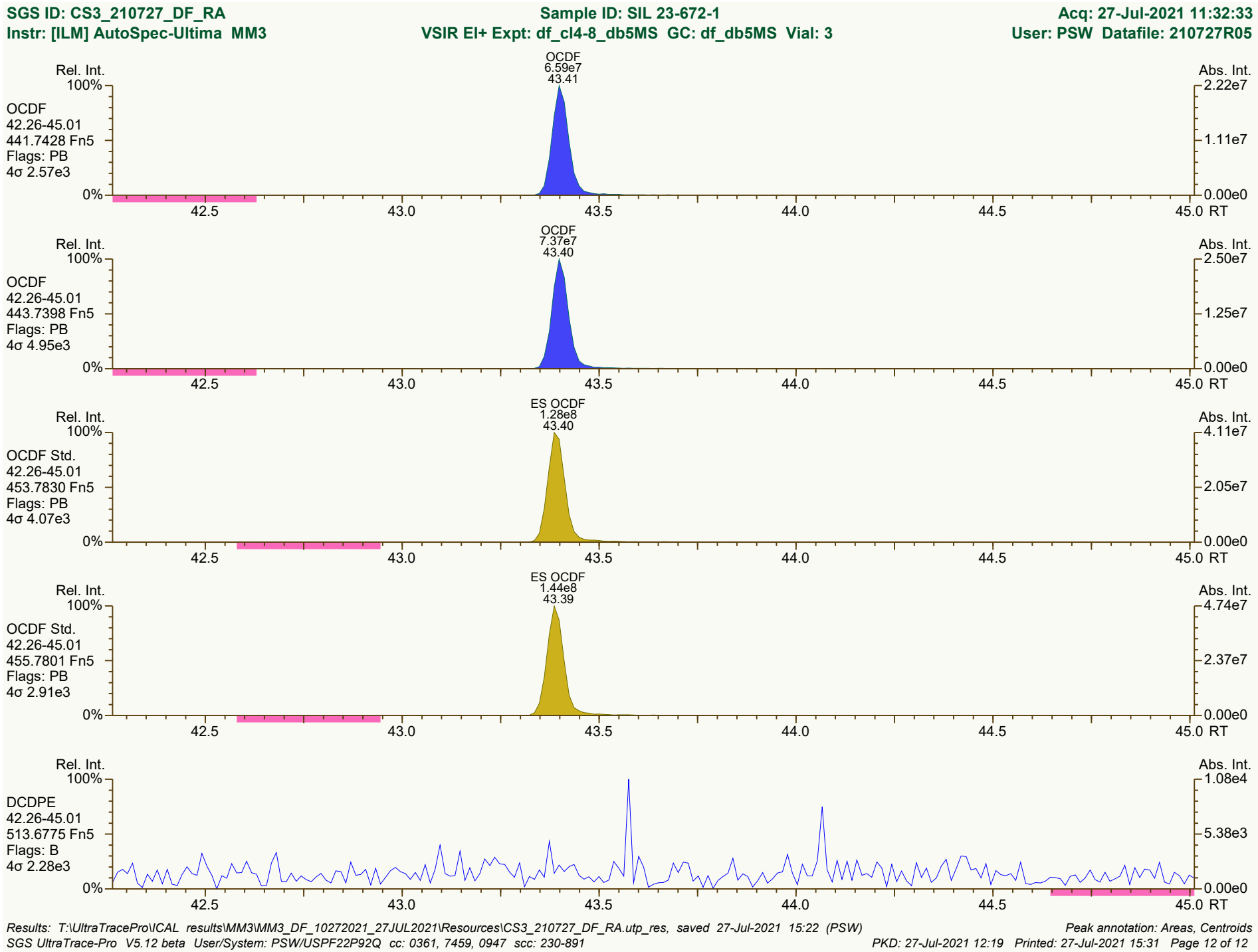

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.09e3
0%
2378F
1.18e7
27.66
Abs. Int.
2.94e6
1.47e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.66e3
0%
2378F
1.48e7
27.66
Abs. Int.
3.43e6
1.71e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.01e4
0%
AS 1368F
1.25e8
22.85
JS 1234F
1.11e8
26.32
ES 2378F
1.24e8
27.64
Abs. Int.
2.97e7
1.49e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.37e4
0%
AS 1368F
1.57e8
22.85
JS 1234F
1.45e8
26.32
ES 2378F
1.56e8
27.64
Abs. Int.
3.72e7
1.86e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.55e3
0%
Abs. Int.
1.59e4
7.95e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.35e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.27e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 6.64e3
0%
12378F
6.78e7
32.37
23478F
6.64e7
33.46
Abs. Int.
1.94e7
9.69e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.49e3
0%
12378F
4.36e7
32.37
23478F
4.26e7
33.46
Abs. Int.
1.26e7
6.28e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 1.94e4
0%
CS 12346F
1.38e8
31.84
ES 12378F
1.45e8
32.35
ES 23478F
1.43e8
33.45
Abs. Int.
4.40e7
2.20e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.53e4
0%
CS 12346F
8.92e7
31.84
ES 12378F
9.21e7
32.35
ES 23478F
9.36e7
33.45
Abs. Int.
2.78e7
1.39e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.36e3
0%
Abs. Int.
1.51e4
7.55e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 2.01e3
123478F 5.75e7 36.68
123678F 6.01e7 36.82
234678F 5.64e7* 37.49
123789F 5.29e7 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 5.06e3
123478F 4.72e7 36.68
123678F 4.81e7 36.82
234678F 4.55e7* 37.48
123789F 4.30e7 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 1.65e4
ES 123478F 5.91e7 36.66
ES 123678F 6.71e7 36.80
CS 123469F 5.66e7 37.12
ES 234678F 6.23e7* 37.47
ES 123789F 5.79e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.88e4
ES 123478F 1.13e8 36.66
ES 123678F 1.29e8 36.80
CS 123469F 1.09e8 37.12
ES 234678F 1.17e8* 37.47
ES 123789F 1.11e8 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.11e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8888, 5073, 0072 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
2.06e7
1.03e7
0.00e0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
1234789F
4.11e7
41.10
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1.97e7
9.87e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.48e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.85e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3
100%
0%
40.0
40.5
41.0
41.5
42.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4664, 1588, 5907 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
OCDF
6.59e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.57e3
0%
Abs. Int.
2.22e7
1.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.37e7
43.40
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 4.95e3
0%
Abs. Int.
2.50e7
1.25e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 4.07e3
0%
Abs. Int.
4.11e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e8
43.39
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.91e3
0%
Abs. Int.
4.74e7
2.37e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0361, 7459, 0947 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 12 of 12

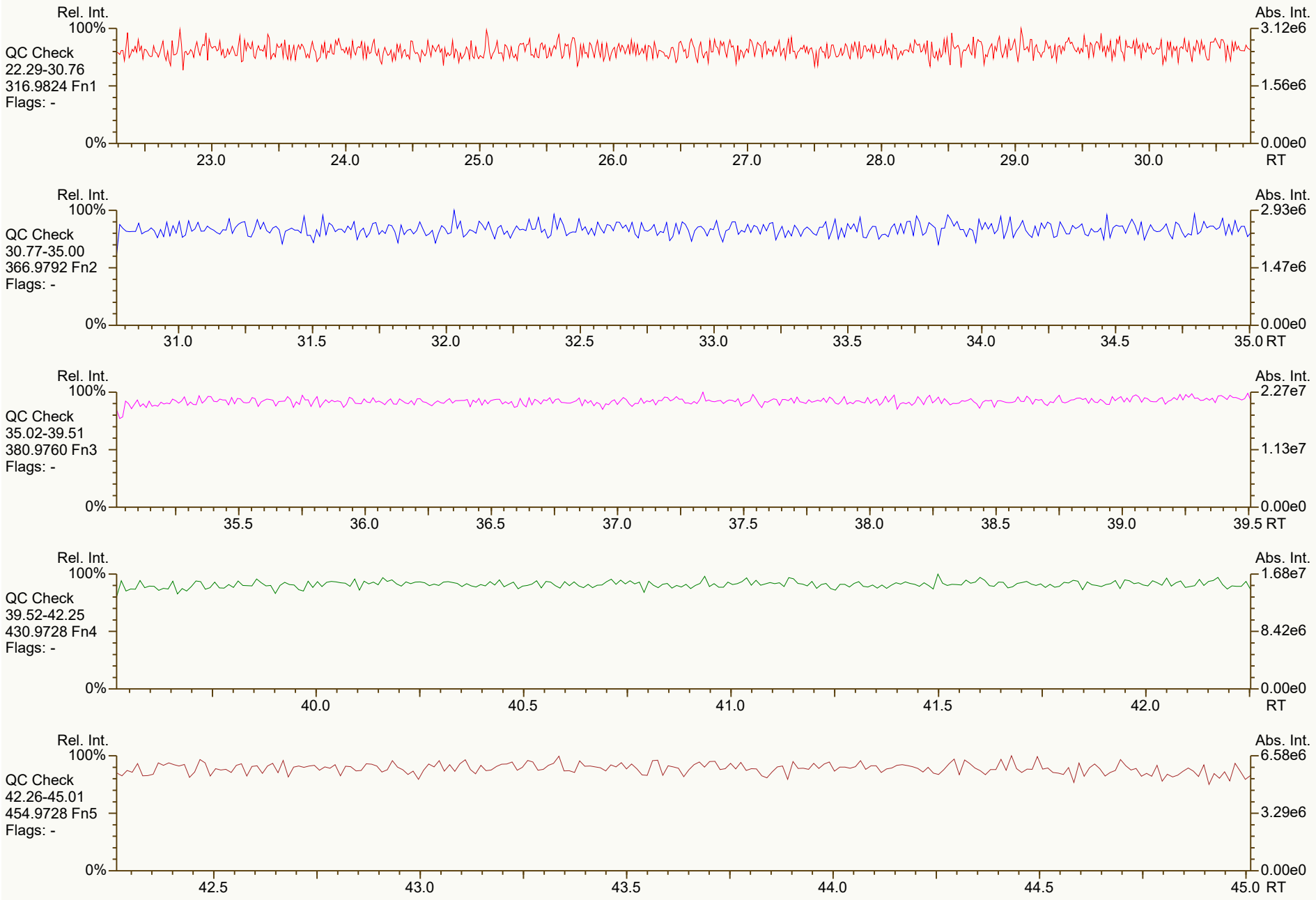
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	7.77E+07	0.76	Y	1.34	1.30	-4%
12378-PeCDD	33.81	3.10E+08	1.55	Y	1.06	1.06	0%
123478-HxCDD	37.68	2.82E+08	1.23	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.84E+08	1.24	Y	1.08	1.10	2%
123789-HxCDD	38.08	2.99E+08	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.67	2.61E+08	1.03	Y	0.97	0.98	0%
OCDD	43.23	4.49E+08	0.90	Y	1.07	1.08	1%
2378-TCDF	27.67	9.59E+07	0.77	Y	0.96	0.96	0%
12378-PeCDF	32.38	4.09E+08	1.58	Y	0.95	0.95	0%
23478-PeCDF	33.47	3.96E+08	1.56	Y	0.94	0.93	-1%
123478-HxCDF	36.69	3.82E+08	1.23	Y	1.23	1.24	0%
123678-HxCDF	36.83	3.97E+08	1.25	Y	1.13	1.13	0%
234678-HxCDF	37.49	3.75E+08	1.25	Y	1.15	1.13	-2%
123789-HxCDF	38.43	3.51E+08	1.24	Y	1.14	1.14	0%
1234678-HpCDF	39.77	3.45E+08	1.03	Y	1.36	1.33	-2%
1234789-HpCDF	41.11	2.99E+08	1.04	Y	1.30	1.30	0%
OCDF	43.41	5.22E+08	0.91	Y	1.03	1.05	2%
ES 2378-TCDD	28.50	1.50E+08	0.79	Y	1.03	1.06	2%
ES 12378-PeCDD	33.789	1.46E+08	1.59	Y	1.03	1.03	0%
ES 123478-HxCDD	37.662	1.34E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.775	1.29E+08	1.28	Y	0.97	0.94	-4%
ES 123789-HxCDD	38.064	1.51E+08	1.27	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.654	1.33E+08	1.06	Y	0.99	0.97	-2%
ES OCDD	43.216	2.07E+08	0.92	Y	0.78	0.75	-3%
ES 2378-TCDF	27.649	2.49E+08	0.80	Y	1.08	1.09	1%
ES 12378-PeCDF	32.362	2.16E+08	1.57	Y	0.93	0.95	2%
ES 23478-PeCDF	33.454	2.12E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.668	1.54E+08	0.51	Y	1.14	1.12	-2%
ES 123678-HxCDF	36.808	1.75E+08	0.53	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.477	1.66E+08	0.53	Y	1.20	1.20	0%
ES 123789-HxCDF	38.409	1.54E+08	0.52	Y	1.14	1.12	-1%
ES 1234678-HpCDF	39.757	1.30E+08	0.45	Y	0.95	0.94	-1%
ES 1234789-HpCDF	41.102	1.15E+08	0.45	Y	0.85	0.83	-2%
ES OCDF	43.398	2.49E+08	0.90	Y	0.93	0.90	-2%

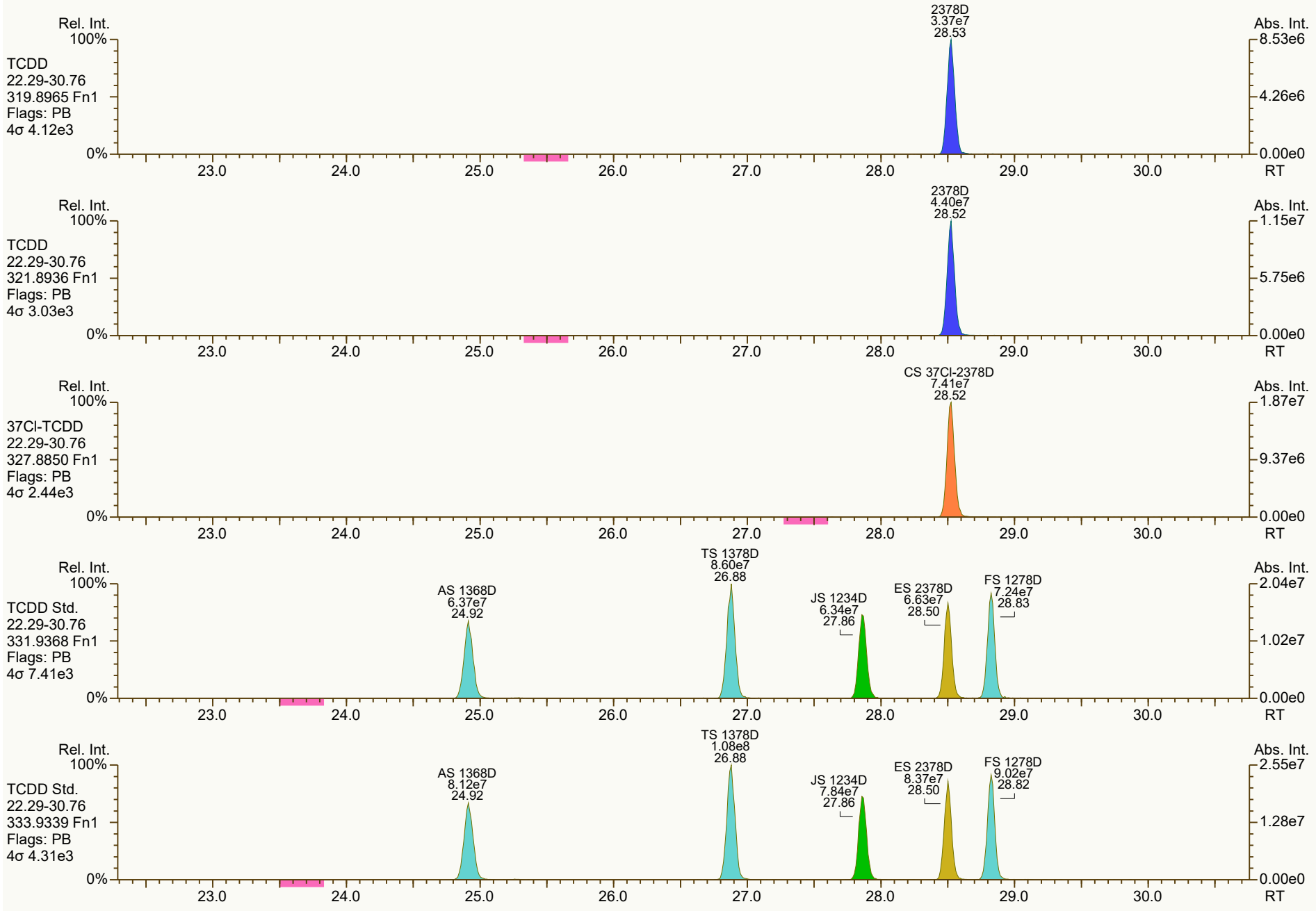
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

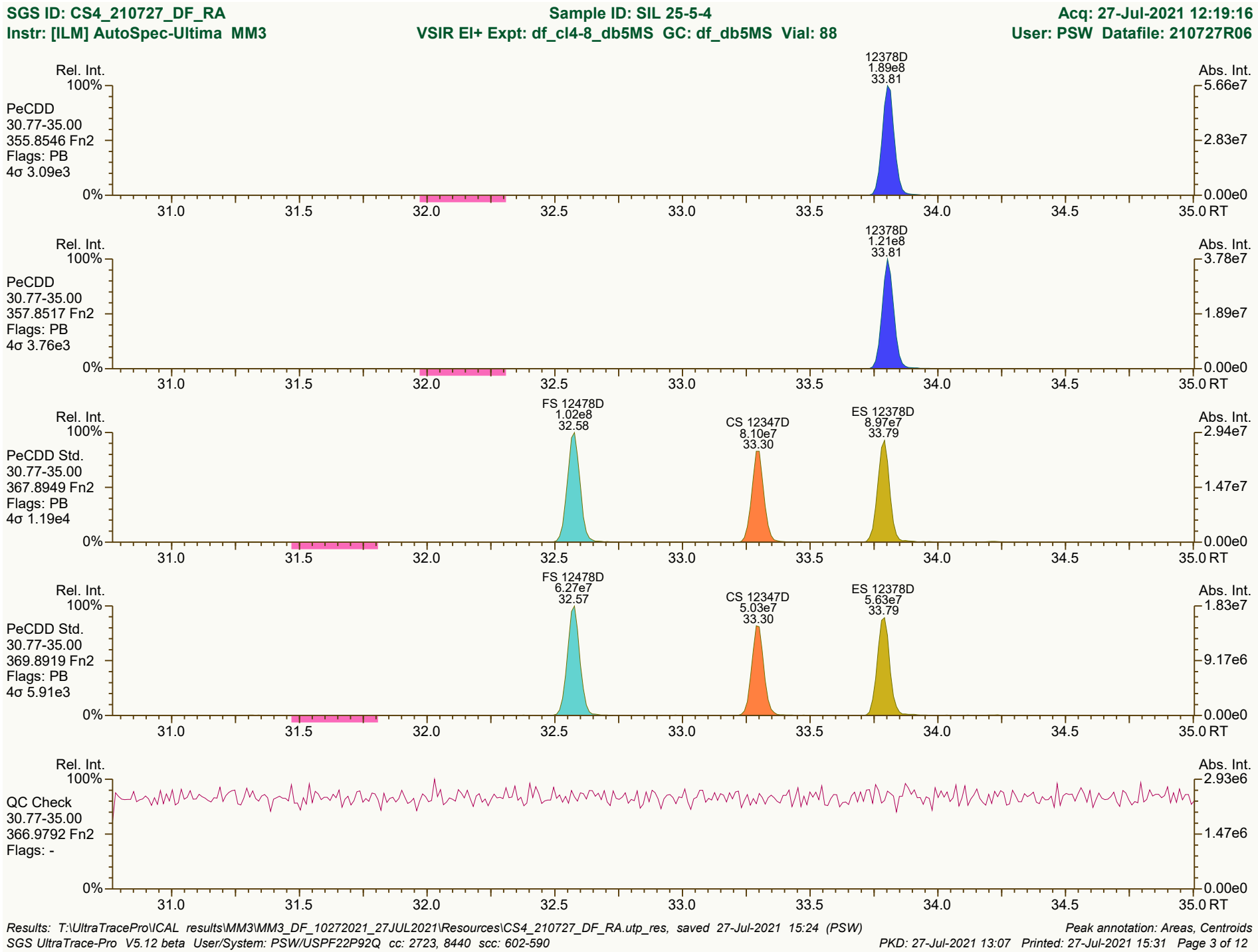
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.87	0.88	2%
CS 123469-HxCDF	37.12	1.50E+08	0.54	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.26	1.23	-2%
SS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.86	0.90	4%
SS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.12	1.50E+08	0.54	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.91	0.92	1%
AS 1368-TCDD	24.92	1.45E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.49E+08	0.79	Y	1.08	1.09	1%
FS 1278-TCDD	28.83	1.63E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.64E+08	1.62	Y	1.09	1.13	3%
FS 123468-HxCDD	36.59	1.73E+08	1.29	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	1.84E+08	1.07	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	1.94E+08	0.79	Y	1.35	1.30	-4%
~~OCDD-a~~	~~43.22~~	~~2.77E+07~~	~~2.50~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~
~~OCDF-a~~	~~43.41~~	~~3.08E+07~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~4%~~

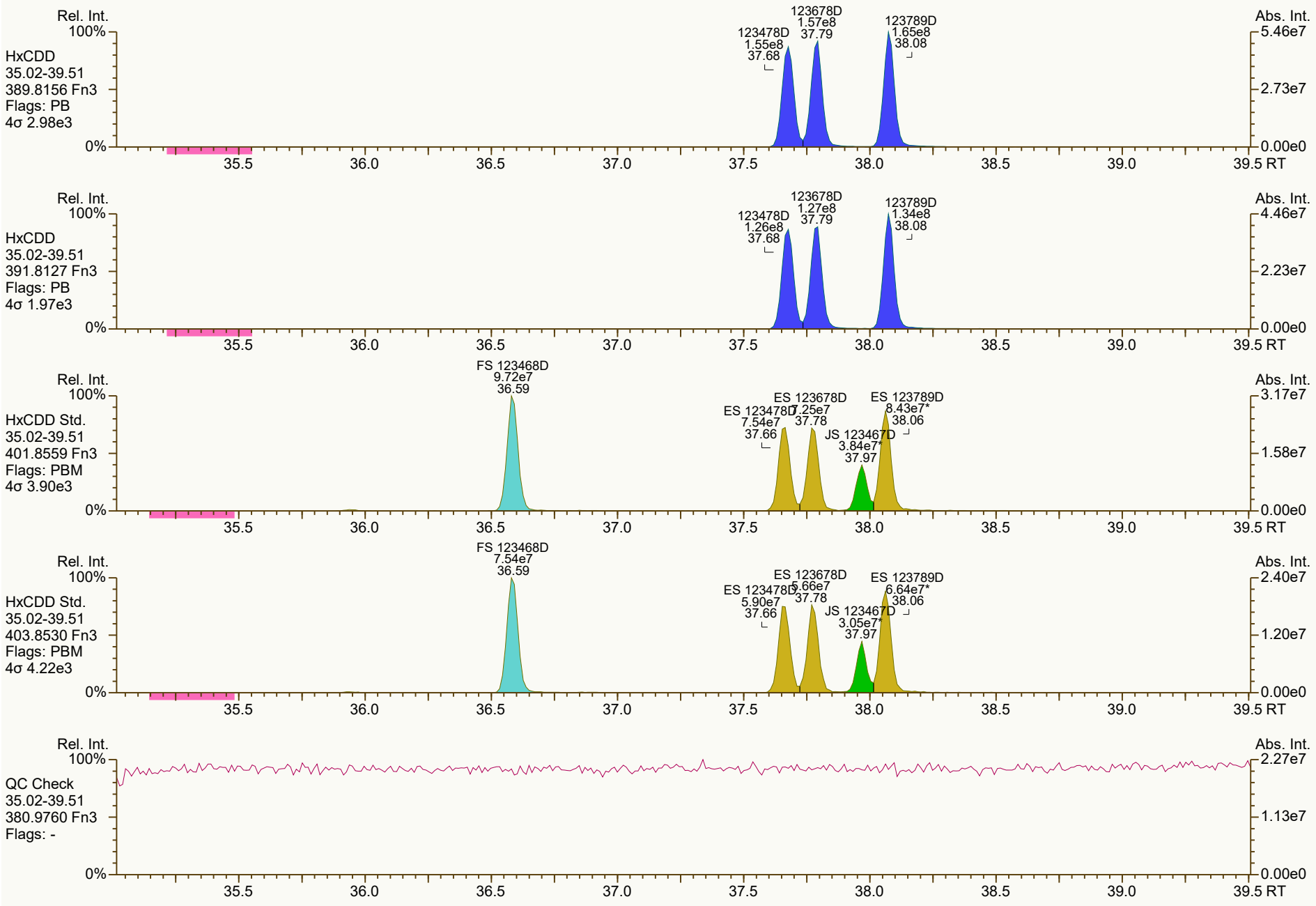
Not reported from this ICAL - CL 28Jul21

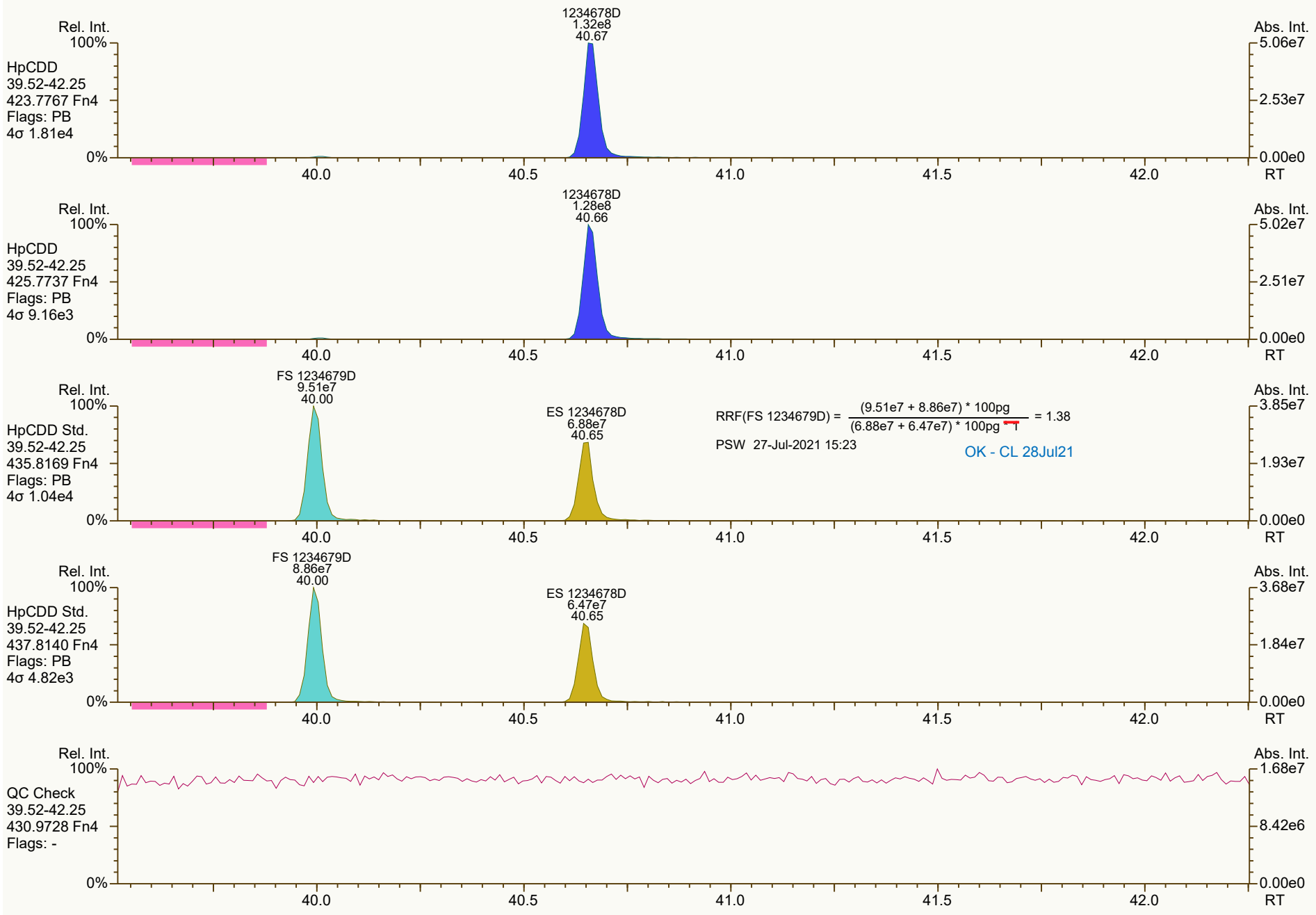


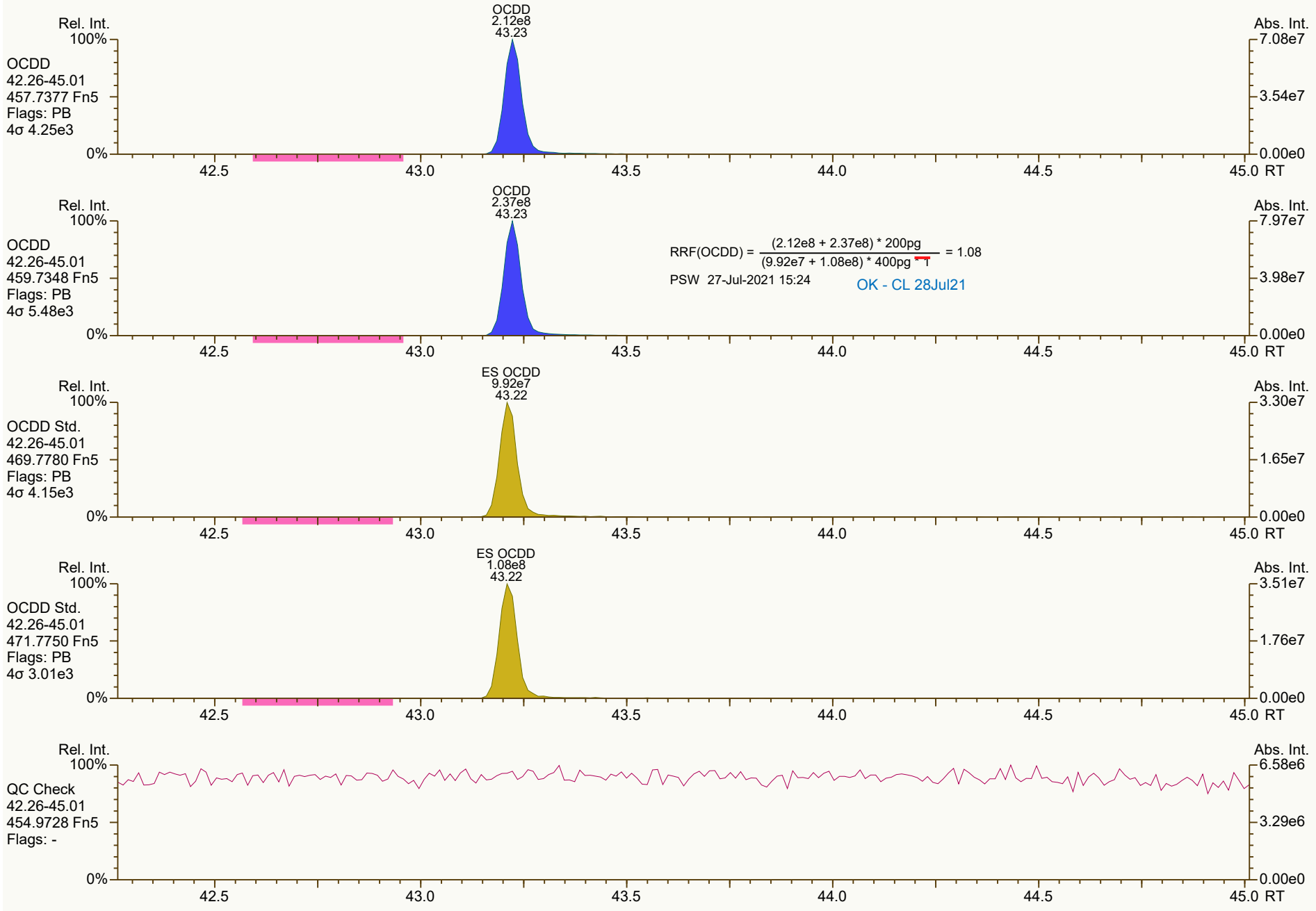
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 602-590
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12

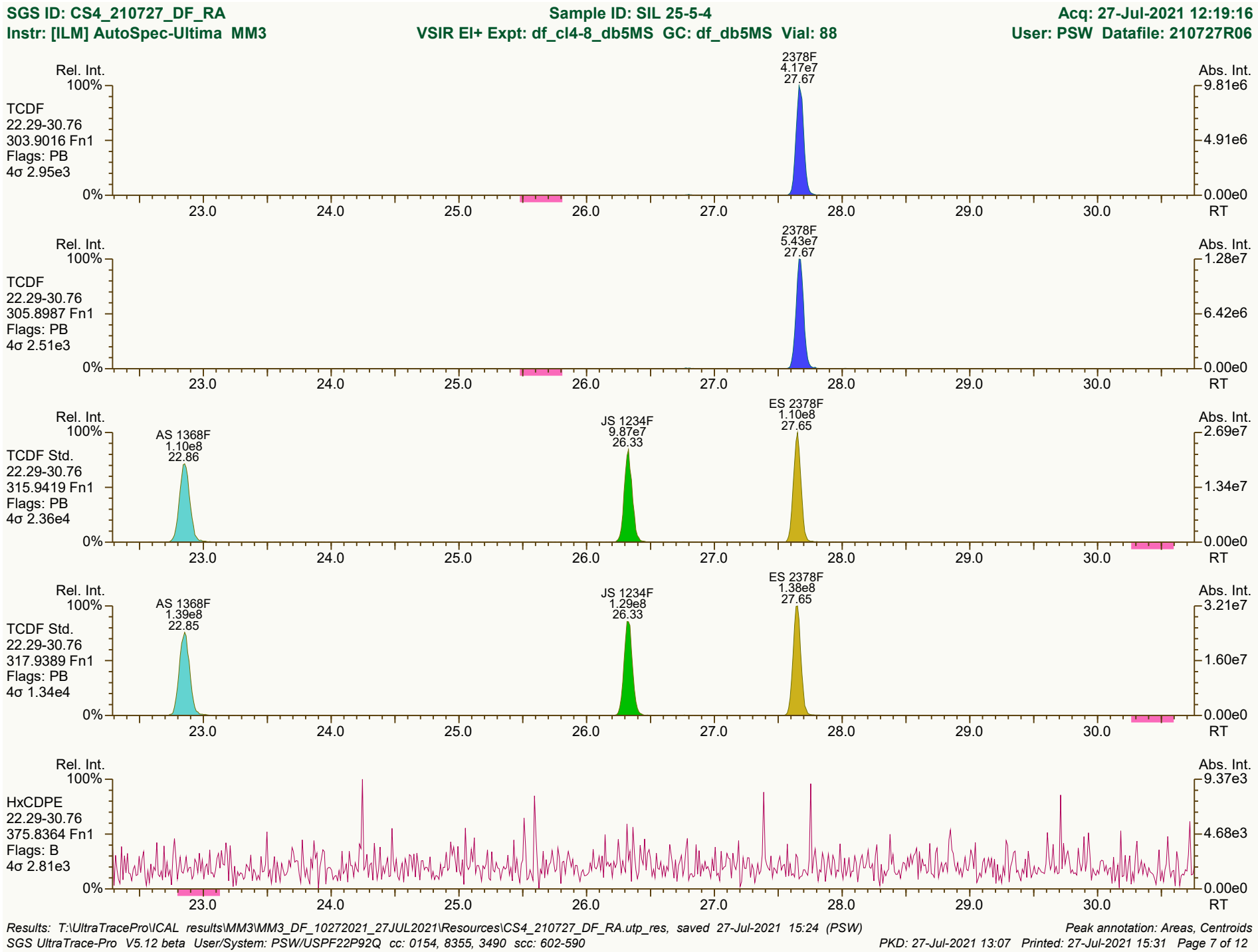

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 4.12e3
2378D
3.37e7
28.53
8.53e6
4.26e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 3.03e3
2378D
4.40e7
28.52
1.15e7
5.75e6
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.44e3
CS 37Cl-2378D
7.41e7
28.52
1.87e7
9.37e6
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.41e3
AS 1368D
6.37e7
24.92
TS 1378D
8.60e7
26.88
JS 1234D
6.34e7
27.86
ES 2378D
6.63e7
28.50
FS 1278D
7.24e7
28.83
2.04e7
1.02e7
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.31e3
AS 1368D
8.12e7
24.92
TS 1378D
1.08e8
26.88
JS 1234D
7.84e7
27.86
ES 2378D
8.37e7
28.50
FS 1278D
9.02e7
28.82
2.55e7
1.28e7
0.00e0


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.09e3
12378D
1.89e8
33.81
5.66e7
2.83e7
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 3.76e3
12378D
1.21e8
33.81
3.78e7
1.89e7
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 1.19e4
FS 12478D
1.02e8
32.58
CS 12347D
8.10e7
33.30
ES 12378D
8.97e7
33.79
2.94e7
1.47e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 5.91e3
FS 12478D
6.27e7
32.57
CS 12347D
5.03e7
33.30
ES 12378D
5.63e7
33.79
1.83e7
9.17e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.93e6
1.47e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2723, 8440 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 3 of 12

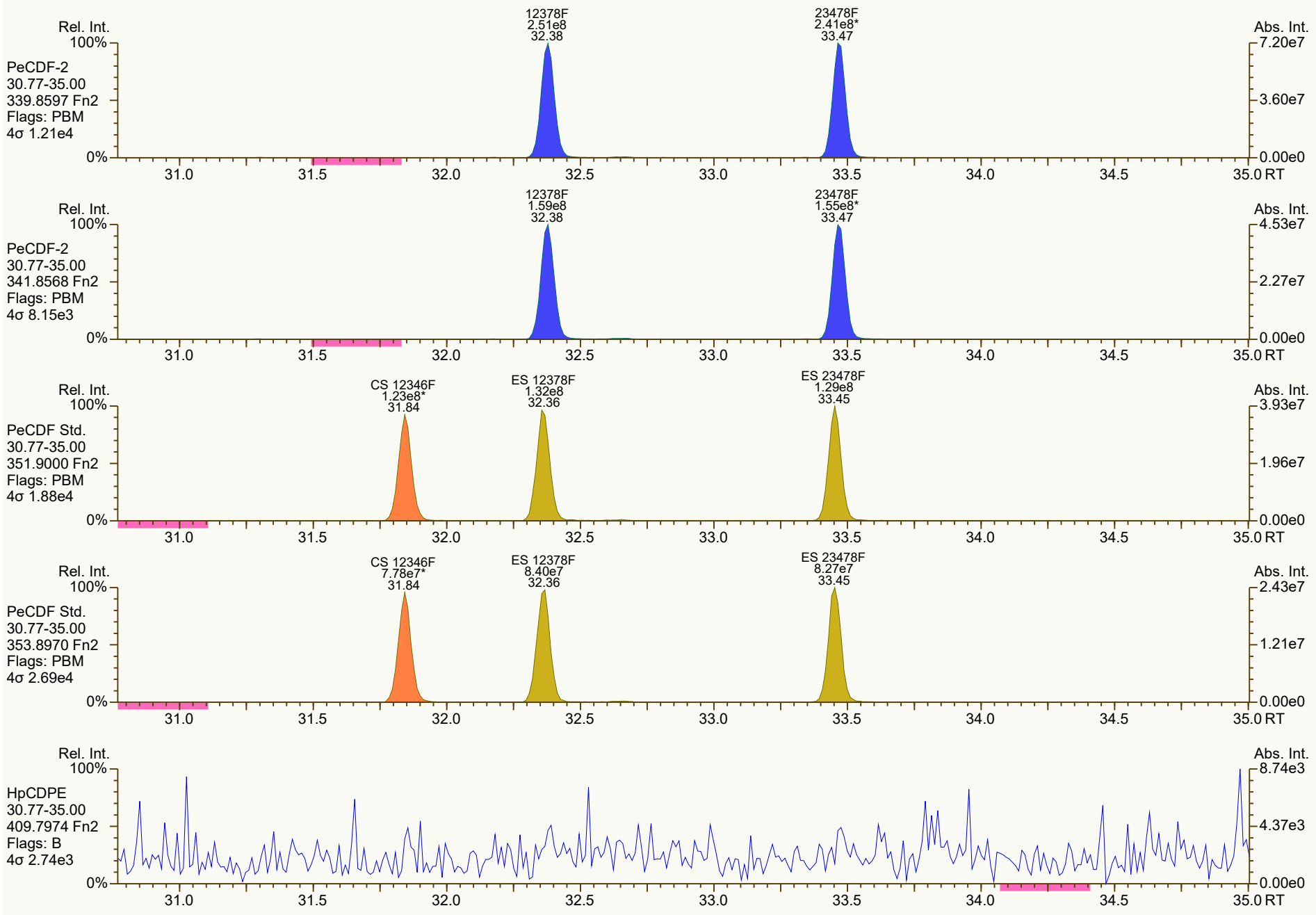

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D
1.57e8
37.79
123478D
1.55e8
37.68
123789D
1.65e8
38.08
Abs. Int.
5.46e7
2.73e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D
1.27e8
37.79
123478D
1.26e8
37.68
123789D
1.34e8
38.08
Abs. Int.
4.46e7
2.23e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.90e3
FS 123468D
9.72e7
36.59
ES 123678D
7.25e7
37.78
ES 123478D
7.54e7
37.66
ES 123789D
8.43e7*
38.06
JS 123467D
3.84e7*
37.97
Abs. Int.
3.17e7
1.58e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 4.22e3
FS 123468D
7.54e7
36.59
ES 123678D
5.66e7
37.78
ES 123478D
5.90e7
37.66
ES 123789D
6.64e7*
38.06
JS 123467D
3.05e7*
37.97
Abs. Int.
2.40e7
1.20e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.13e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

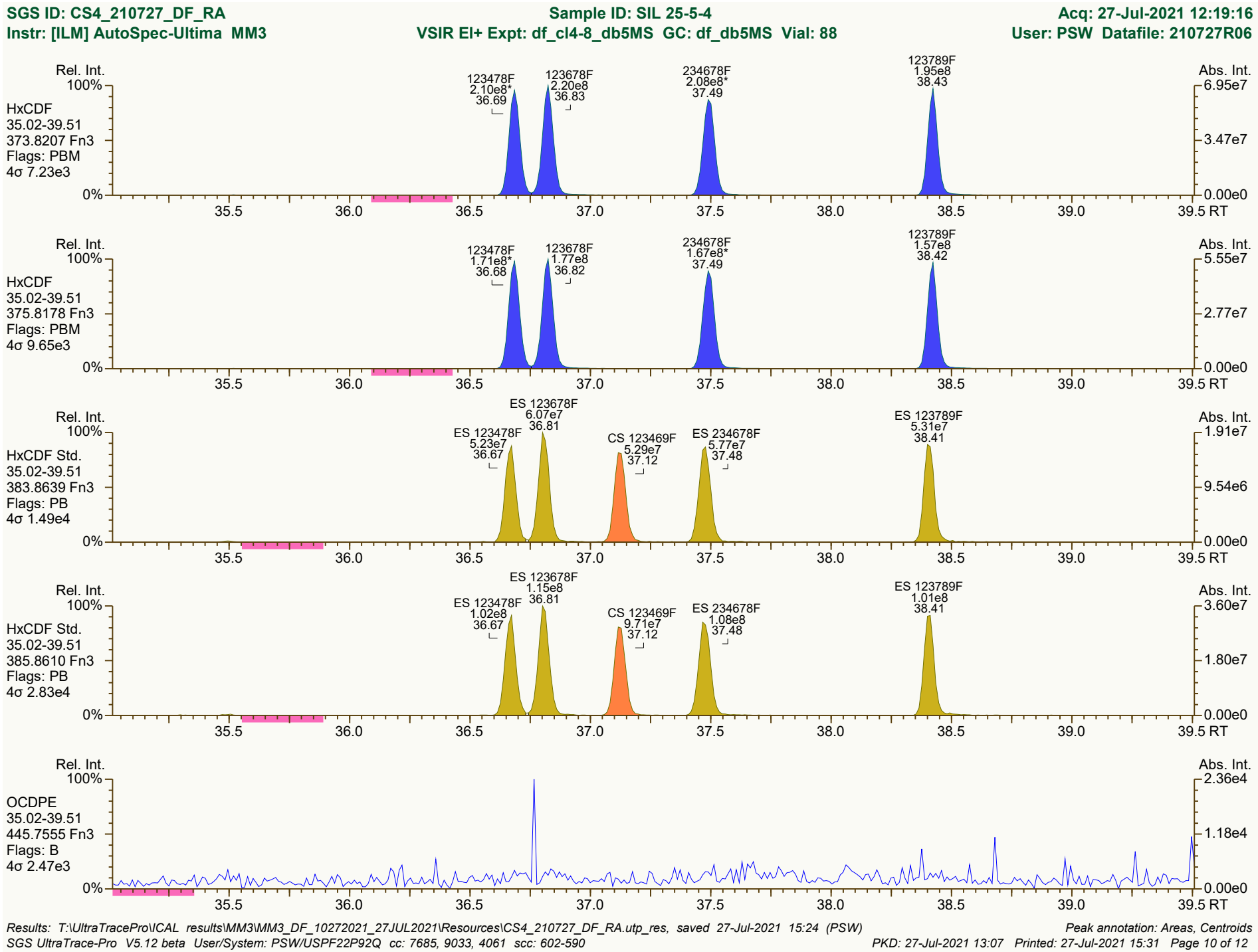

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
1234678D
1.32e8
40.67
Abs. Int.
5.06e7
2.53e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
1234678D
1.28e8
40.66
5.02e7
2.51e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.04e4
FS 1234679D
9.51e7
40.00
ES 1234678D
6.88e7
40.65
RRF(FS 1234679D) = (9.51e7 + 8.86e7) * 100pg / (6.88e7 + 6.47e7) * 100pg = 1.38
PSW 27-Jul-2021 15:23
OK - CL 28Jul21
3.85e7
1.93e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.82e3
FS 1234679D
8.86e7
40.00
ES 1234678D
6.47e7
40.65
3.68e7
1.84e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.68e7
8.42e6

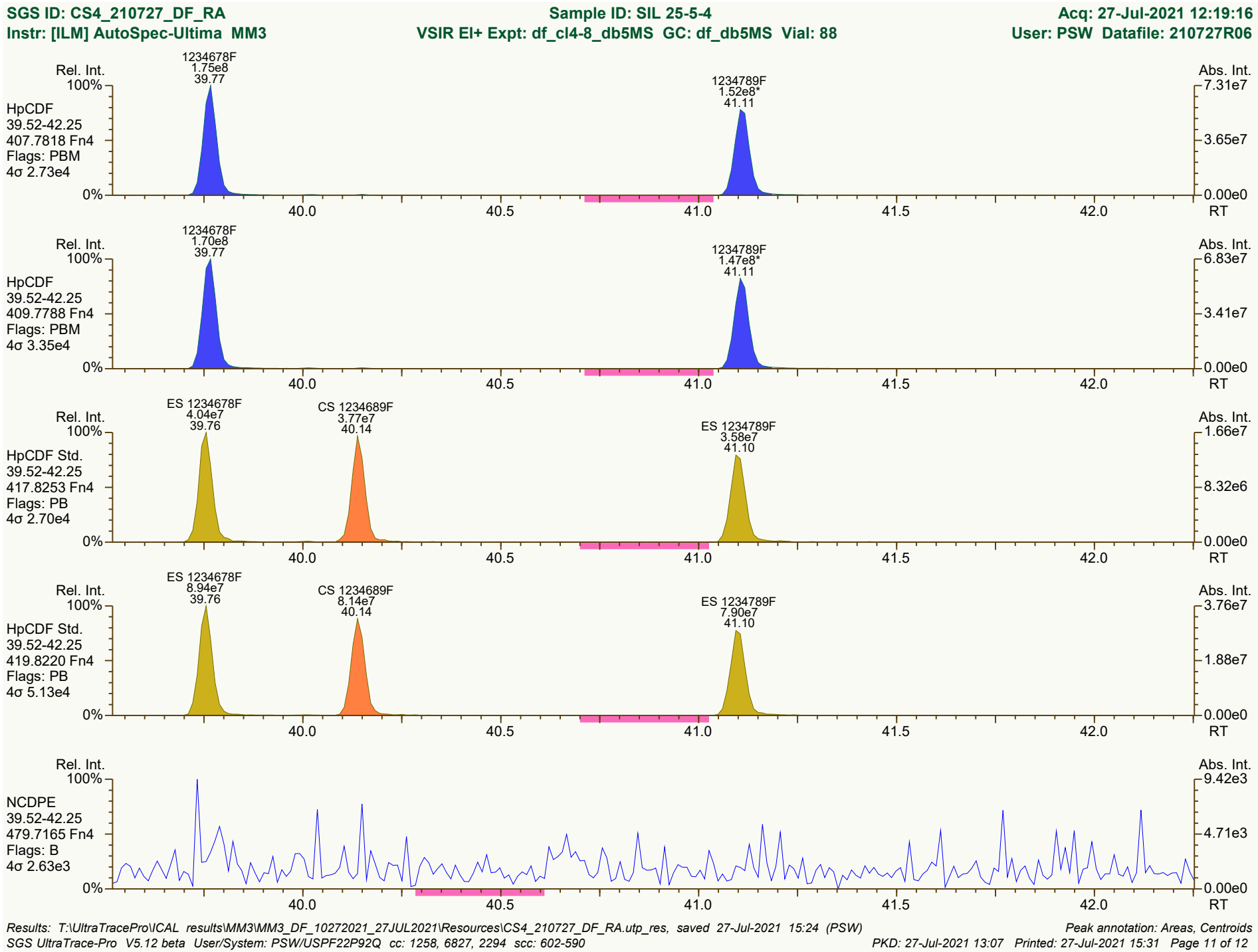

OCDD
2.12e8
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
0%
Abs. Int.
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.37e8
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
7.97e7
3.98e7
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08
PSW 27-Jul-2021 15:24
OK - CL 28Jul21
ES OCDD
9.92e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.15e3
3.30e7
1.65e7
ES OCDD
1.08e8
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.01e3
3.51e7
1.76e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.58e6
3.29e6

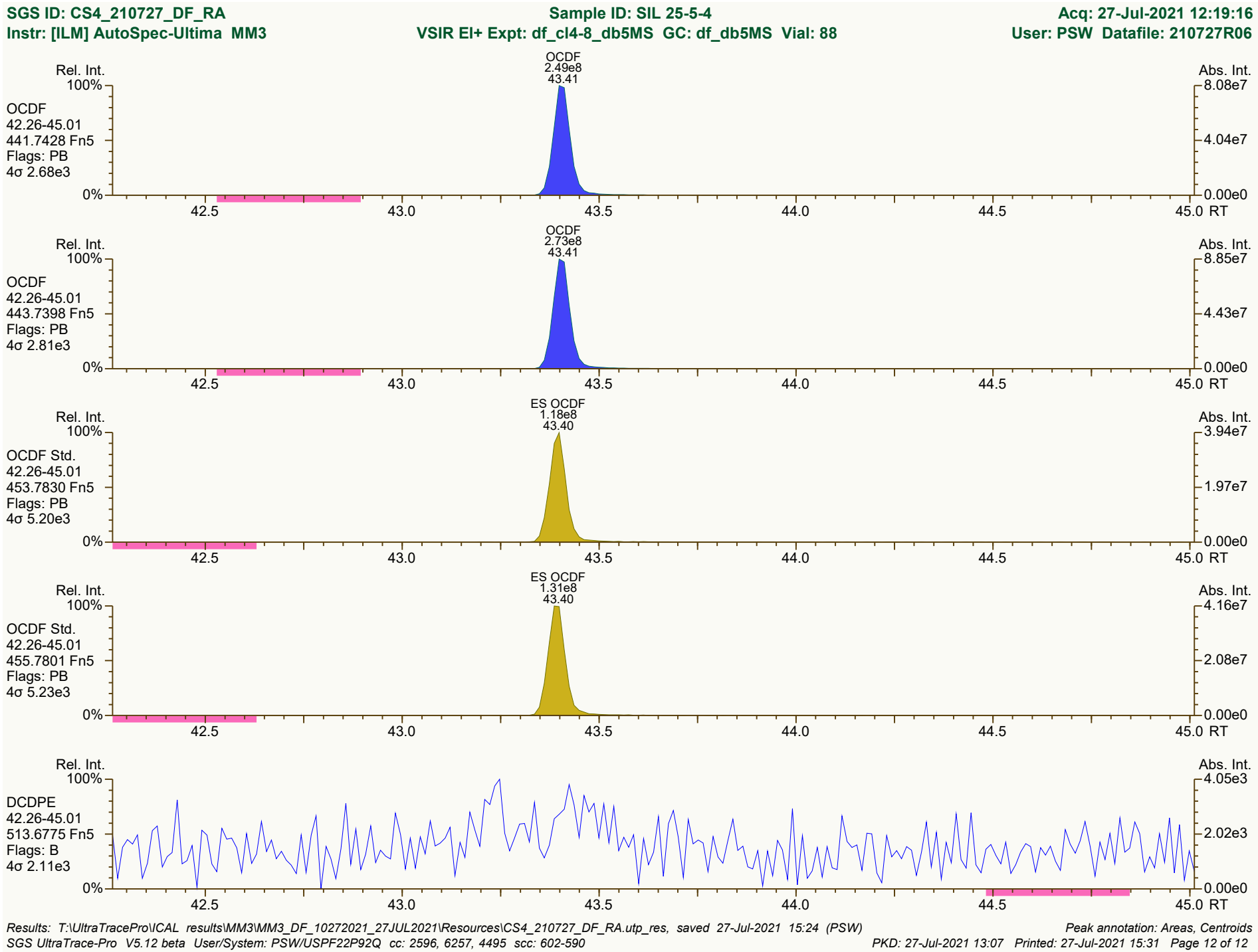

SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
2378F
4.17e7
27.67
9.81e6
4.91e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
2378F
5.43e7
27.67
1.28e7
6.42e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
2.69e7
1.34e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
3.21e7
1.60e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
9.37e3
4.68e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0154, 8355, 3490 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.55e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.14e4
1.07e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.28e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PBM
4σ 1.21e4
0%
12378F
2.51e8
32.38
23478F
2.41e8*
33.47
Abs. Int.
7.20e7
3.60e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PBM
4σ 8.15e3
0%
12378F
1.59e8
32.38
23478F
1.55e8*
33.47
Abs. Int.
4.53e7
2.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 1.88e4
0%
CS 12346F
1.23e8*
31.84
ES 12378F
1.32e8
32.36
ES 23478F
1.29e8
33.45
Abs. Int.
3.93e7
1.96e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.69e4
0%
CS 12346F
7.78e7*
31.84
ES 12378F
8.40e7
32.36
ES 23478F
8.27e7
33.45
Abs. Int.
2.43e7
1.21e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.74e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 7.23e3
123478F 2.10e8* 36.69
123678F 2.20e8 36.83
234678F 2.08e8* 37.49
123789F 1.95e8 38.43
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.65e3
123478F 1.71e8* 36.68
123678F 1.77e8 36.82
234678F 1.67e8* 37.49
123789F 1.57e8 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.49e4
ES 123478F 5.23e7 36.67
ES 123678F 6.07e7 36.81
CS 123469F 5.29e7 37.12
ES 234678F 5.77e7 37.48
ES 123789F 5.31e7 38.41
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.83e4
ES 123478F 1.02e8 36.67
ES 123678F 1.15e8 36.81
CS 123469F 9.71e7 37.12
ES 234678F 1.08e8 37.48
ES 123789F 1.01e8 38.41
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.47e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7685, 9033, 4061 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PBM
4σ 2.73e4
1234678F
1.75e8
39.77
1234789F
1.52e8*
41.11
7.31e7
3.65e7
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PBM
4σ 3.35e4
1234678F
1.70e8
39.77
1234789F
1.47e8*
41.11
6.83e7
3.41e7
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.70e4
ES 1234678F
4.04e7
39.76
CS 1234689F
3.77e7
40.14
ES 1234789F
3.58e7
41.10
1.66e7
8.32e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.13e4
ES 1234678F
8.94e7
39.76
CS 1234689F
8.14e7
40.14
ES 1234789F
7.90e7
41.10
3.76e7
1.88e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
9.42e3
4.71e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1258, 6827, 2294 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
OCDF
2.49e8
43.41
Rel. Int.
Abs. Int.
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
OCDF
2.73e8
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
ES OCDF
1.18e8
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
ES OCDF
1.31e8
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2596, 6257, 4495 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 12 of 12

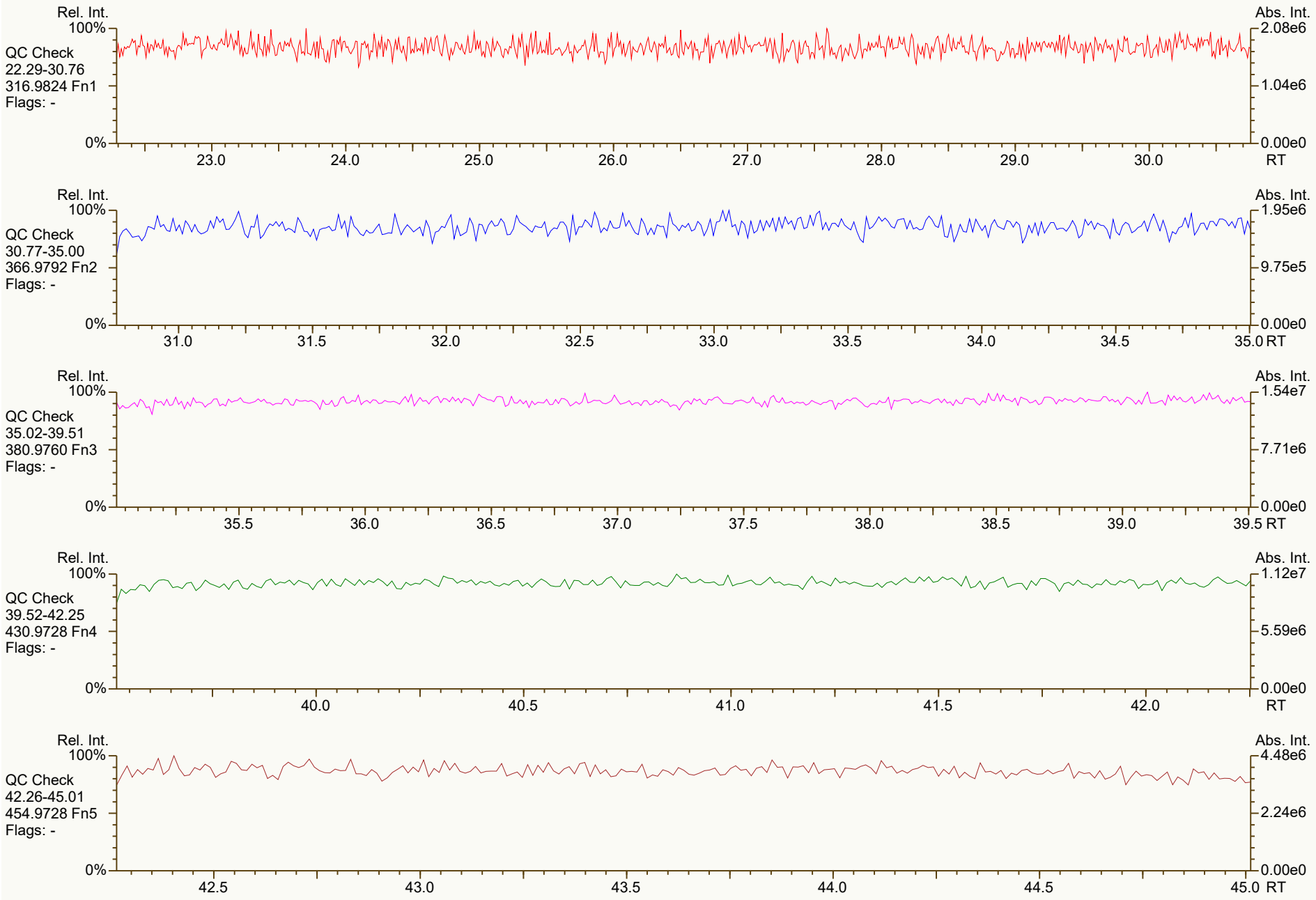
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD	40.66	8.94E+08	1.04	Y	0.97	0.98	1%
OCDD	43.22	1.57E+09	0.88	Y	1.07	1.06	-1%
2378-TCDF	27.66	3.19E+08	0.77	Y	0.96	0.97	1%
12378-PeCDF	32.37	1.33E+09	1.51	Y	0.95	0.93	-1%
23478-PeCDF	33.46	1.36E+09	1.58	Y	0.94	0.96	3%
123478-HxCDF	36.68	1.30E+09	1.25	Y	1.23	1.24	0%
123678-HxCDF	36.82	1.35E+09	1.25	Y	1.13	1.14	1%
234678-HxCDF	37.49	1.27E+09	1.24	Y	1.15	1.15	0%
123789-HxCDF	38.42	1.20E+09	1.24	Y	1.14	1.15	2%
1234678-HpCDF	39.76	1.19E+09	1.03	Y	1.36	1.37	1%
1234789-HpCDF	41.10	1.06E+09	1.03	Y	1.30	1.35	4%
OCDF	43.40	1.87E+09	0.90	Y	1.03	1.06	3%
ES 2378-TCDD	28.49	9.72E+07	0.78	Y	1.03	1.04	1%
ES 12378-PeCDD	33.782	9.96E+07	1.62	Y	1.03	1.07	3%
ES 123478-HxCDD	37.654	8.99E+07	1.27	Y	0.99	1.03	4%
ES 123678-HxCDD	37.768	8.89E+07	1.27	Y	0.97	1.02	5%
ES 123789-HxCDD	38.058	1.02E+08	1.27	Y	1.12	1.17	4%
ES 1234678-HpCDD	40.644	9.11E+07	1.06	Y	0.99	1.05	6%
ES OCDD	43.21	1.48E+08	0.89	Y	0.78	0.85	9%
ES 2378-TCDF	27.639	1.64E+08	0.80	Y	1.08	1.08	0%
ES 12378-PeCDF	32.354	1.43E+08	1.61	Y	0.93	0.95	1%
ES 23478-PeCDF	33.446	1.41E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.662	1.05E+08	0.52	Y	1.14	1.21	6%
ES 123678-HxCDF	36.801	1.19E+08	0.53	Y	1.30	1.36	5%
ES 234678-HxCDF	37.468	1.11E+08	0.51	Y	1.20	1.27	6%
ES 123789-HxCDF	38.402	1.04E+08	0.54	Y	1.14	1.20	5%
ES 1234678-HpCDF	39.749	8.70E+07	0.46	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.092	7.84E+07	0.46	Y	0.85	0.90	6%
ES OCDF	43.392	1.76E+08	0.89	Y	0.93	1.01	9%

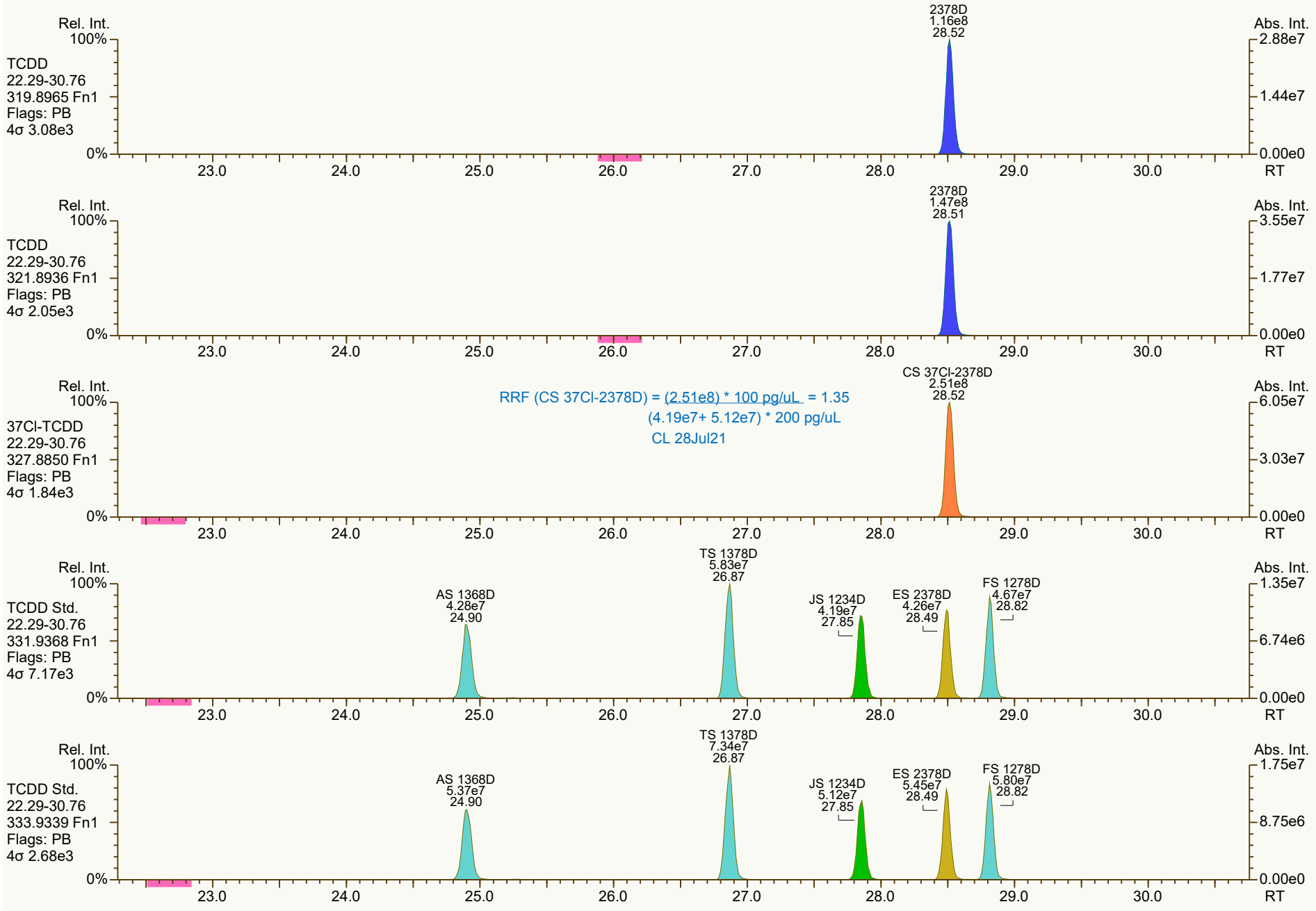
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

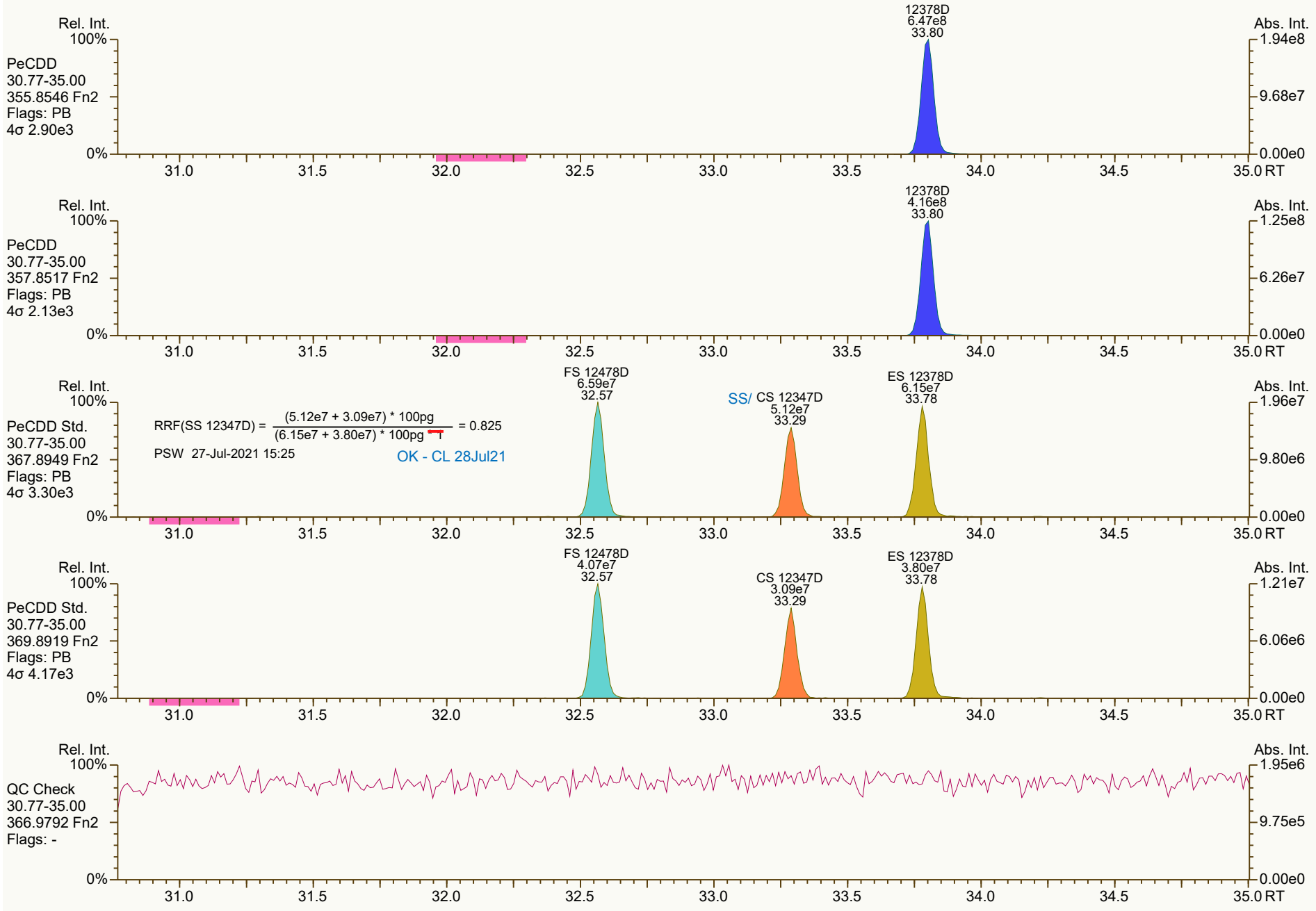
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.11	9.75E+07	0.53	Y	1.09	1.12	3%
CS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.26	1.29	3%
SS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.86	0.82	-5%
SS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.93	0.91	-2%
SS 123469-HxCDF	37.11	9.75E+07	0.53	Y	0.84	0.82	-2%
SS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.91	0.86	-6%
AS 1368-TCDD	24.90	9.65E+07	0.80	Y	1.02	1.04	1%
AS 1368-TCDF	22.84	1.66E+08	0.78	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.05E+08	0.81	Y	1.08	1.08	-1%
FS 12478-PeCDD	32.57	1.07E+08	1.62	Y	1.09	1.07	-2%
FS 123468-HxCDD	36.58	1.11E+08	1.30	Y	1.26	1.24	-2%
FS 1234679-HpCDD	39.99	1.18E+08	1.06	Y	1.36	1.30	-4%
TS 1378-TCDD	26.87	1.32E+08	0.79	Y	1.35	1.35	1%
~~OCDD-a~~	~~43.22~~	~~9.57E+07~~	~~2.52~~	~~Y~~	~~0.07~~	~~0.06~~	~~-2%~~
~~OCDF-a~~	~~43.40~~	~~1.10E+08~~	~~2.51~~	~~Y~~	~~0.06~~	~~0.06~~	~~5%~~

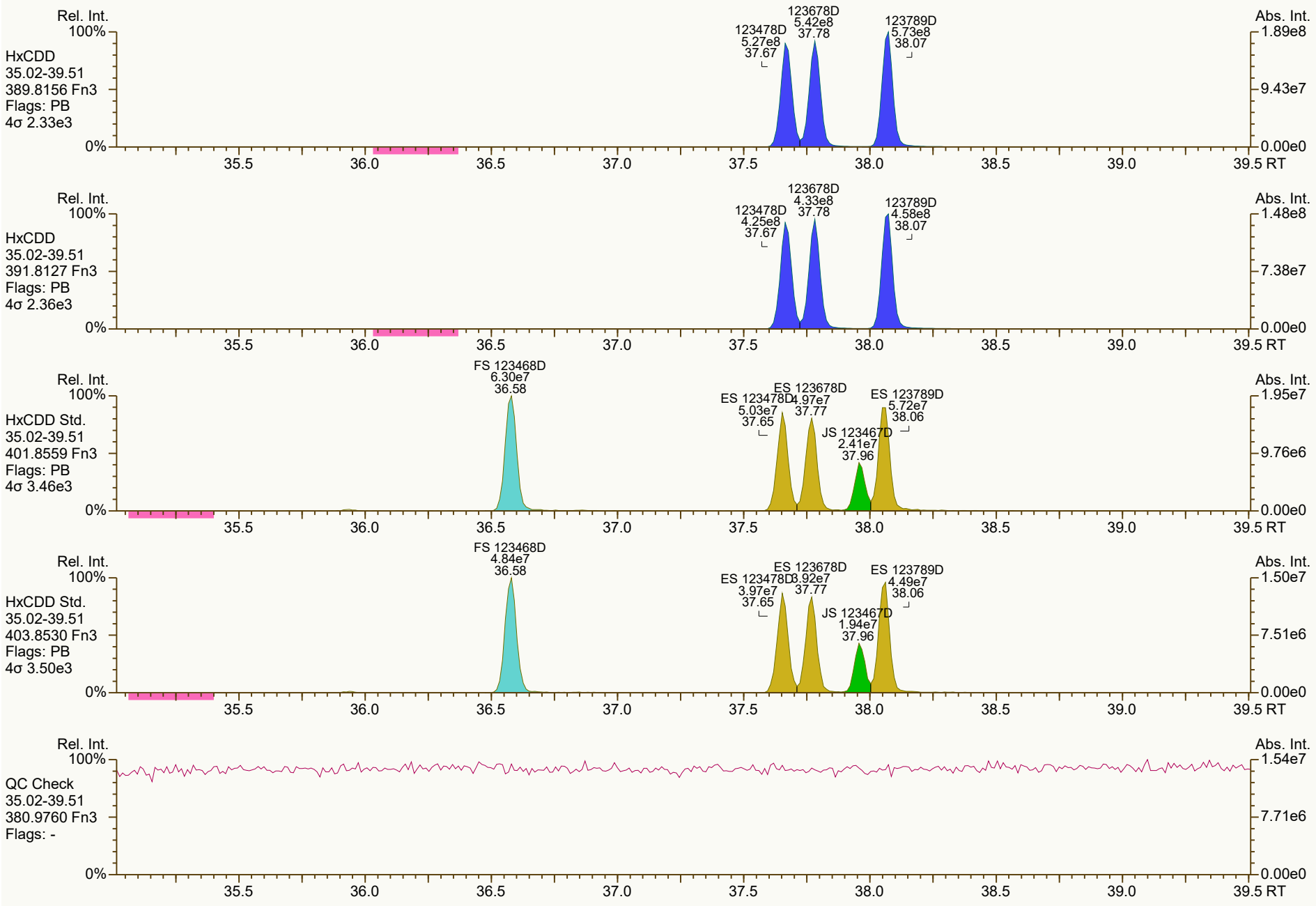
Not reported from this ICAL - CL 28Jul21

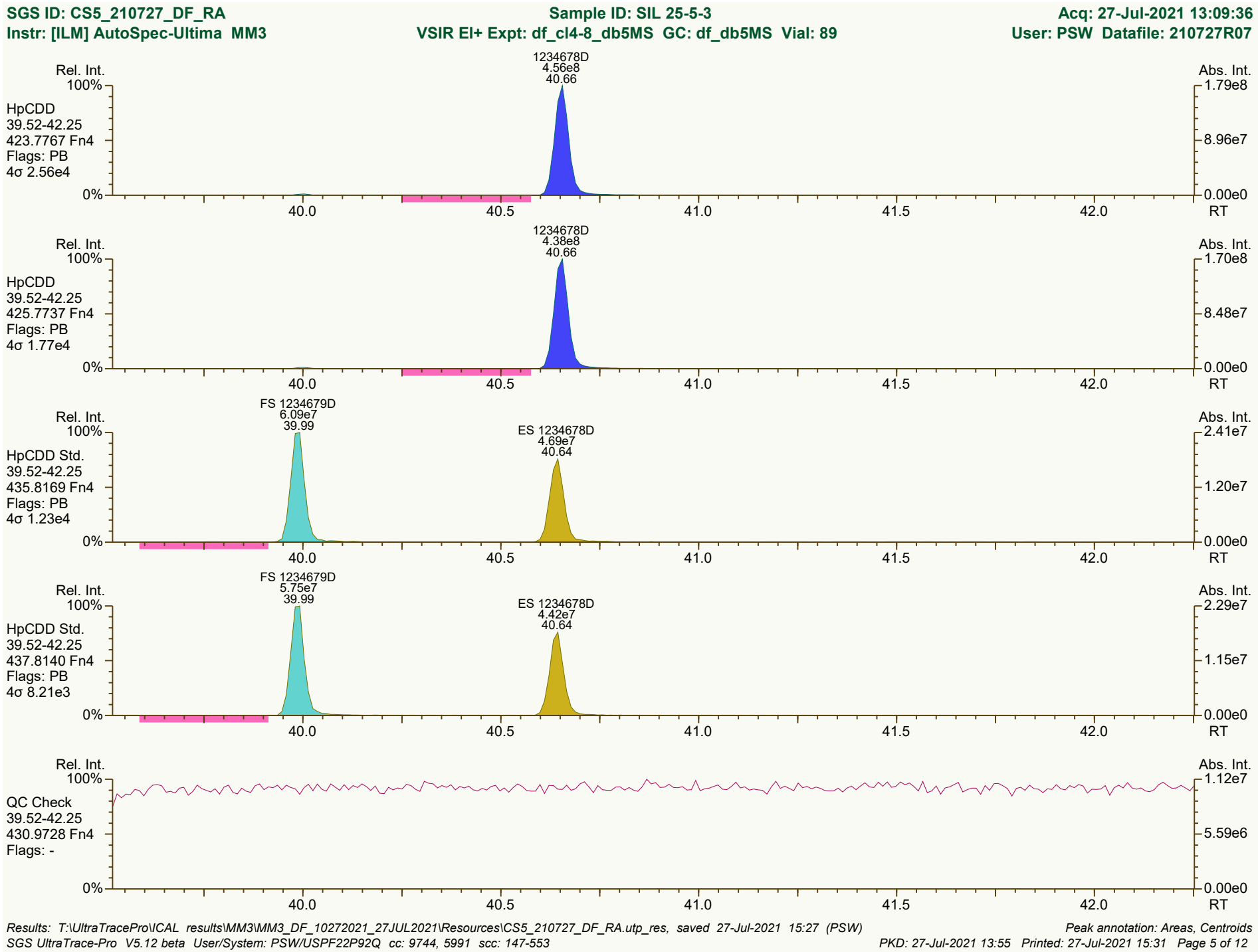


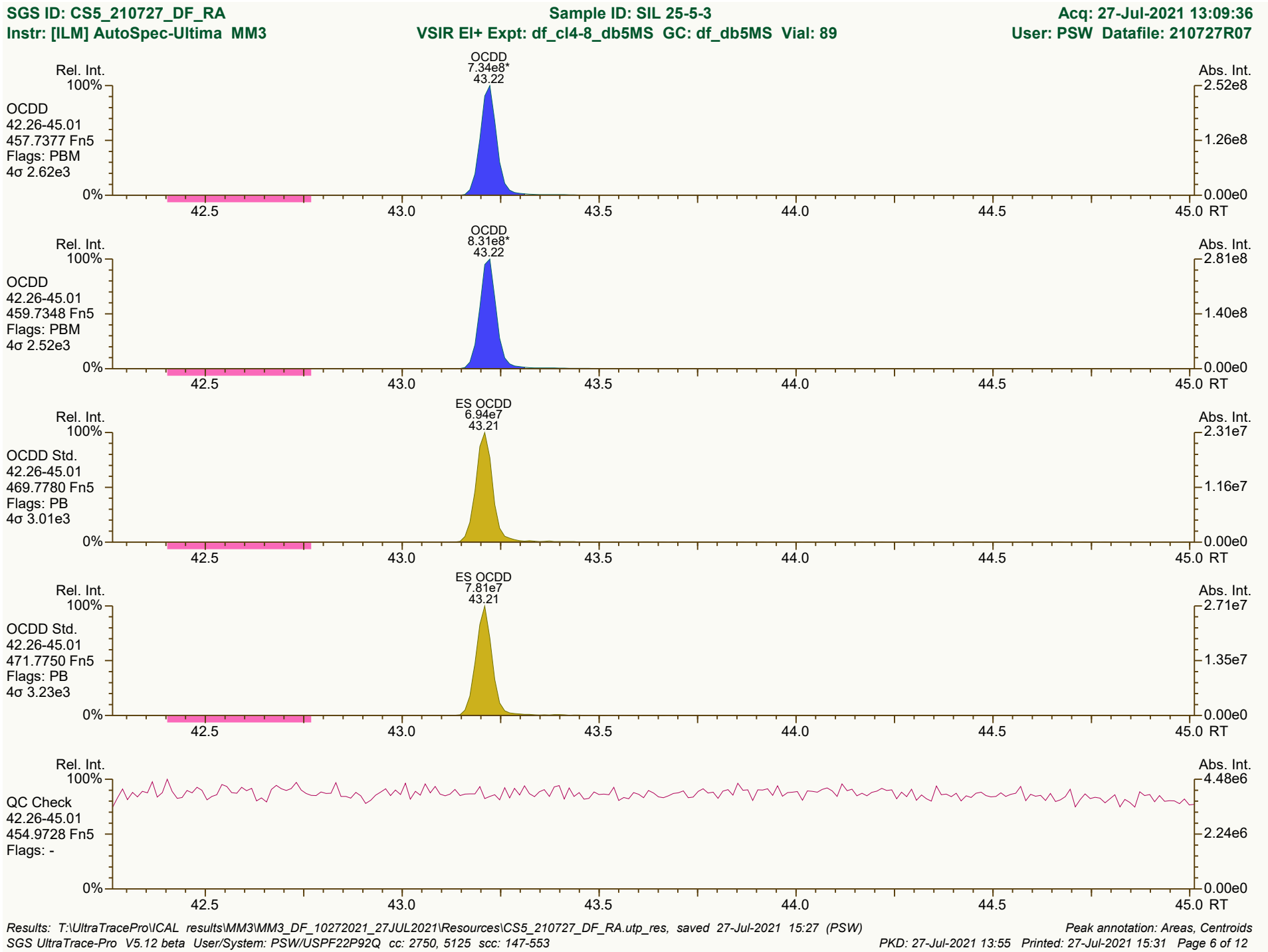
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 147-553
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12

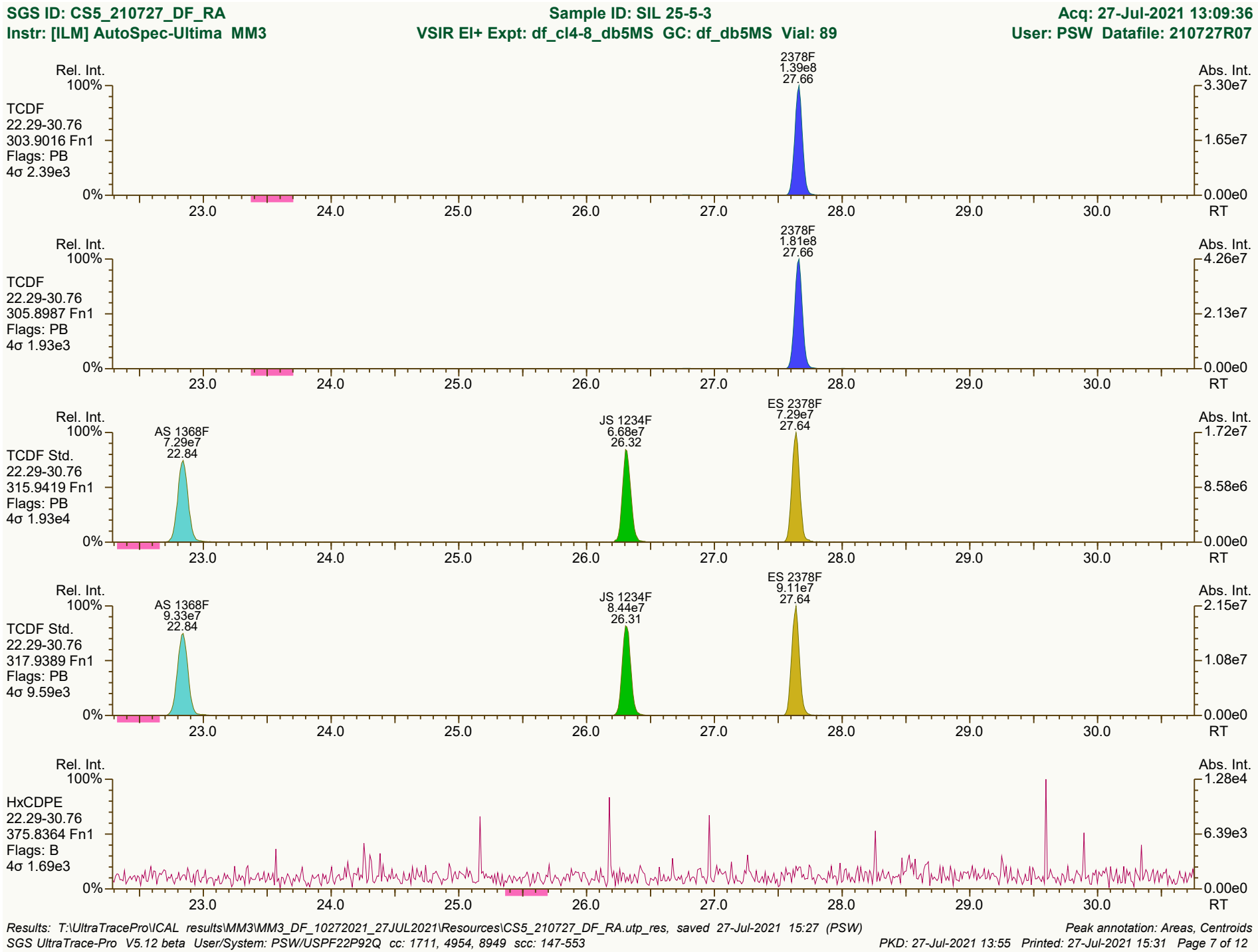

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.08e3
2378D
1.16e8
28.52
2.88e7
1.44e7
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.05e3
2378D
1.47e8
28.51
3.55e7
1.77e7
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.84e3
RRF (CS 37Cl-2378D) = (2.51e8) * 100 pg/uL = 1.35
(4.19e7+ 5.12e7) * 200 pg/uL
CL 28Jul21
CS 37Cl-2378D
2.51e8
28.52
6.05e7
3.03e7
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.17e3
AS 1368D
4.28e7
24.90
TS 1378D
5.83e7
26.87
JS 1234D
4.19e7
27.85
ES 2378D
4.26e7
28.49
FS 1278D
4.67e7
28.82
1.35e7
6.74e6
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.68e3
AS 1368D
5.37e7
24.90
TS 1378D
7.34e7
26.87
JS 1234D
5.12e7
27.85
ES 2378D
5.45e7
28.49
FS 1278D
5.80e7
28.82
1.75e7
8.75e6
0.00e0

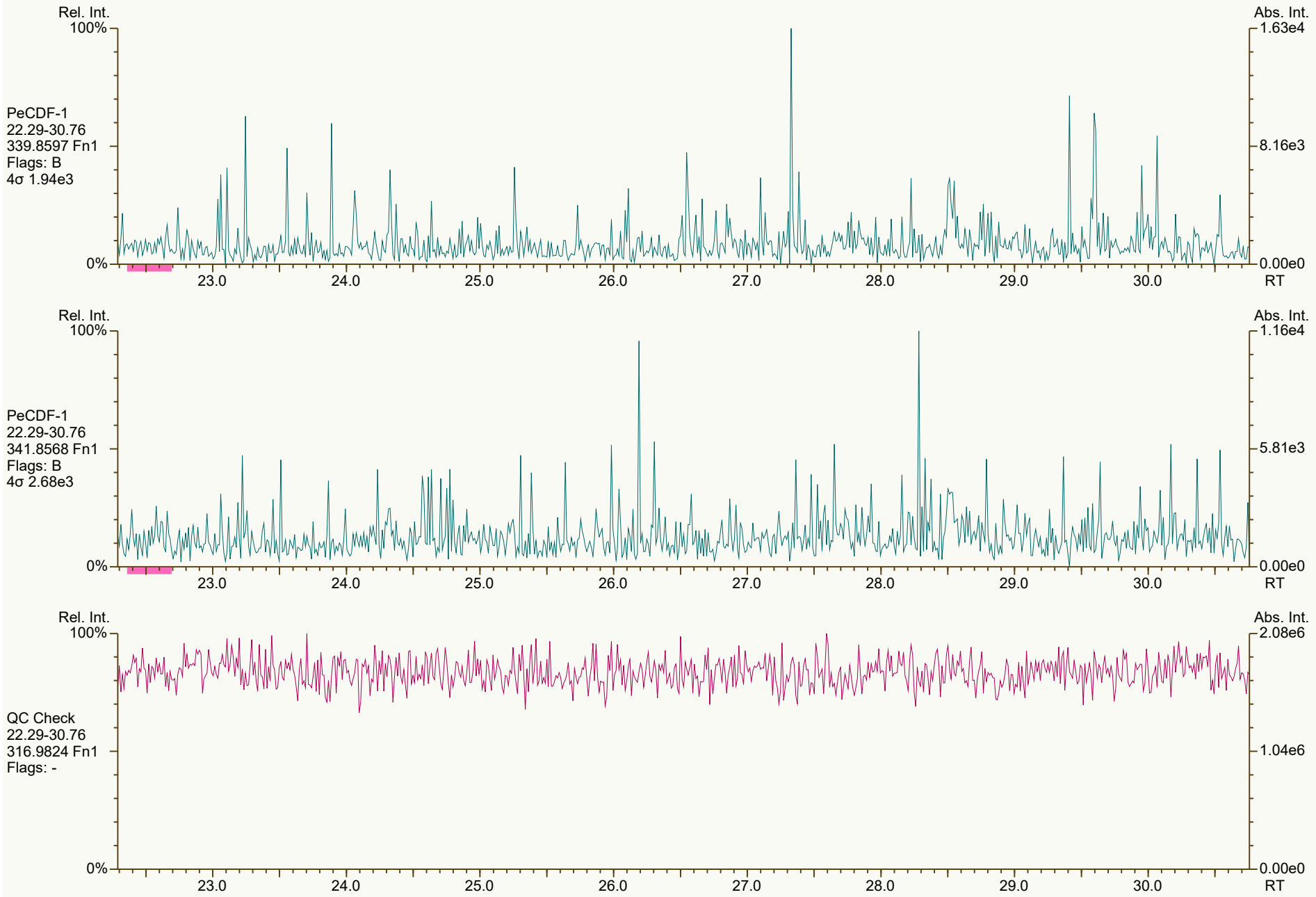

Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
0%
12378D
6.47e8
33.80
Abs. Int.
1.94e8
9.68e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
0%
12378D
4.16e8
33.80
Abs. Int.
1.25e8
6.26e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.30e3
0%
RRF(SS 12347D) = (5.12e7 + 3.09e7) * 100pg / (6.15e7 + 3.80e7) * 100pg = 0.825
PSW 27-Jul-2021 15:25
OK - CL 28Jul21
FS 12478D
6.59e7
32.57
SS/ CS 12347D
5.12e7
33.29
ES 12378D
6.15e7
33.78
Abs. Int.
1.96e7
9.80e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.17e3
0%
FS 12478D
4.07e7
32.57
CS 12347D
3.09e7
33.29
ES 12378D
3.80e7
33.78
Abs. Int.
1.21e7
6.06e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

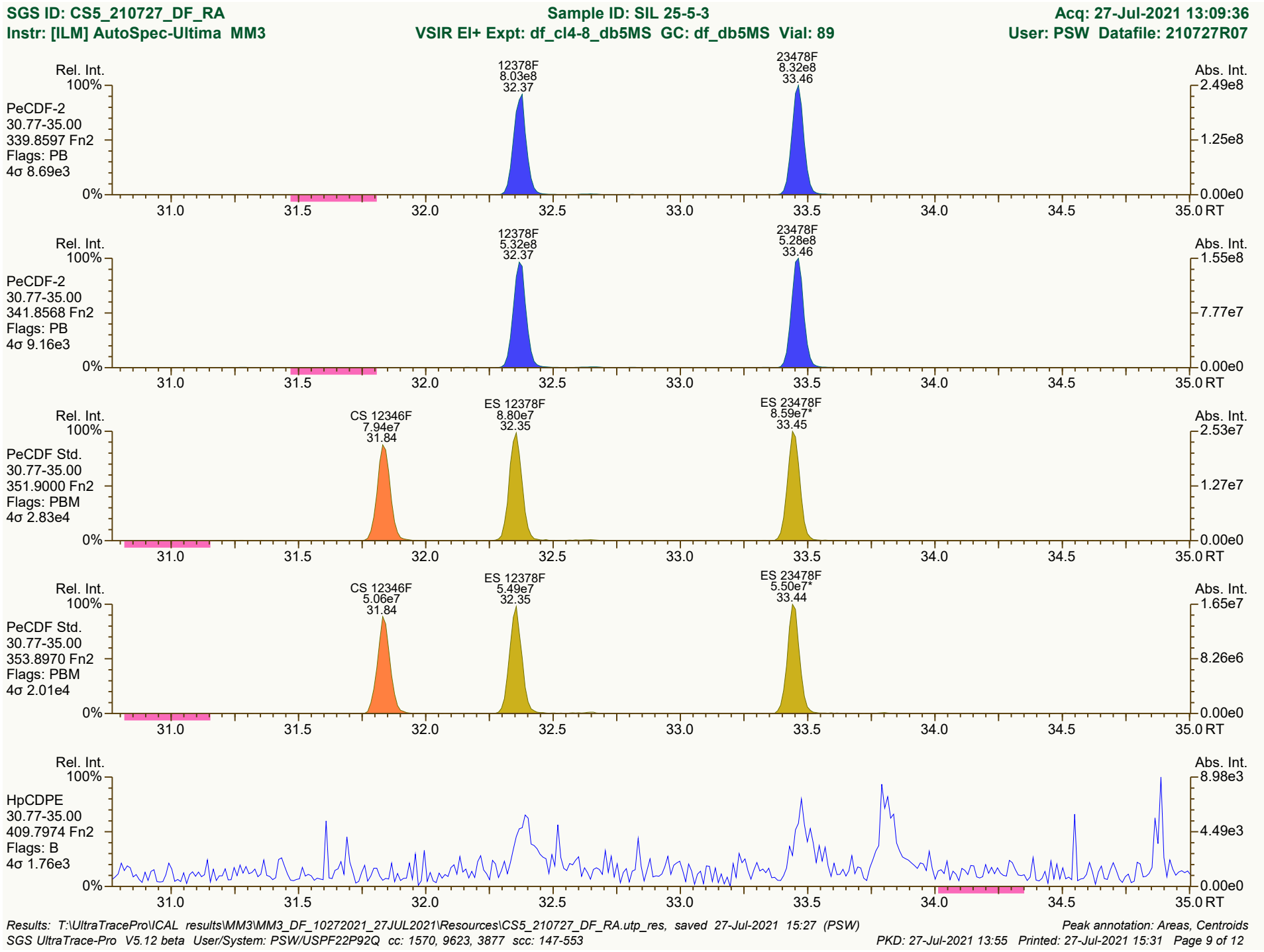

Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123478D 5.27e8 37.67
123678D 5.42e8 37.78
123789D 5.73e8 38.07
1.89e8
9.43e7
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123478D 4.25e8 37.67
123678D 4.33e8 37.78
123789D 4.58e8 38.07
1.48e8
7.38e7
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.46e3
FS 123468D 6.30e7 36.58
ES 123478D 5.03e7 37.65
ES 123678D 4.97e7 37.77
JS 123467D 2.41e7 37.96
ES 123789D 5.72e7 38.06
1.95e7
9.76e6
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.50e3
FS 123468D 4.84e7 36.58
ES 123478D 3.97e7 37.65
ES 123678D 3.92e7 37.77
JS 123467D 1.94e7 37.96
ES 123789D 4.49e7 38.06
1.50e7
7.51e6
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.54e7
7.71e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
1234678D
4.56e8
40.66
1.79e8
8.96e7
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
1234678D
4.38e8
40.66
1.70e8
8.48e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
2.41e7
1.20e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
2.29e7
1.15e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.12e7
5.59e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9744, 5991 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 5 of 12


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
OCDD
7.34e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
2.52e8
1.26e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.31e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.52e3
0%
Abs. Int.
2.81e8
1.40e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.94e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 3.01e3
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.81e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.23e3
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2750, 5125 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 6 of 12

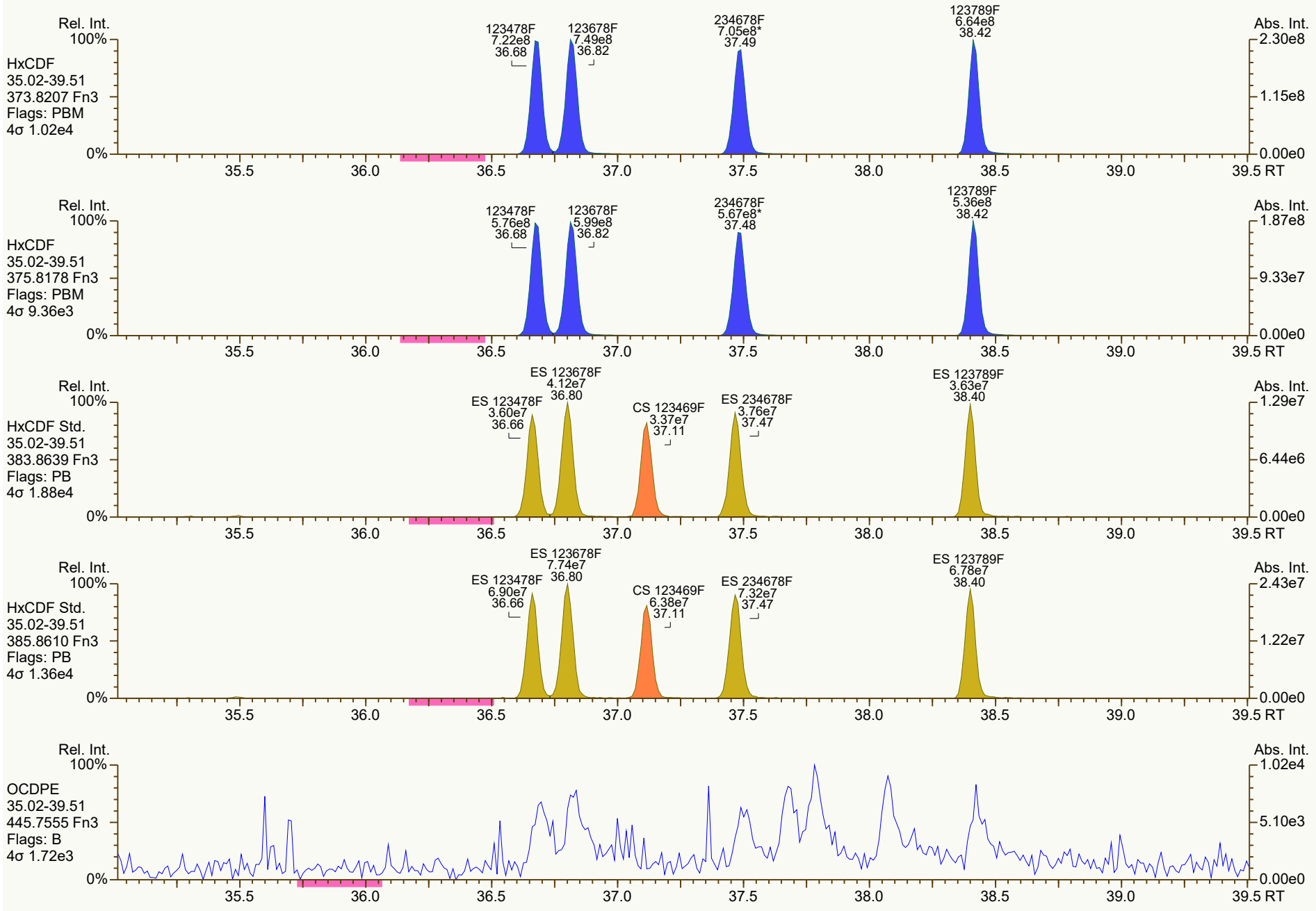

SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.39e3
2378F
1.39e8
27.66
3.30e7
1.65e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 1.93e3
2378F
1.81e8
27.66
4.26e7
2.13e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.93e4
AS 1368F
7.29e7
22.84
JS 1234F
6.68e7
26.32
ES 2378F
7.29e7
27.64
1.72e7
8.58e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 9.59e3
AS 1368F
9.33e7
22.84
JS 1234F
8.44e7
26.31
ES 2378F
9.11e7
27.64
2.15e7
1.08e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.69e3
1.28e4
6.39e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1711, 4954, 8949 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 1.94e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.68e3
1.16e4
5.81e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.08e6
1.04e6


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 8.69e3
12378F
8.03e8
32.37
23478F
8.32e8
33.46
2.49e8
1.25e8
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 9.16e3
12378F
5.32e8
32.37
23478F
5.28e8
33.46
1.55e8
7.77e7
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.83e4
CS 12346F
7.94e7
31.84
ES 12378F
8.80e7
32.35
ES 23478F
8.59e7*
33.45
2.53e7
1.27e7
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.01e4
CS 12346F
5.06e7
31.84
ES 12378F
5.49e7
32.35
ES 23478F
5.50e7*
33.44
1.65e7
8.26e6
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 1.76e3
8.98e3
4.49e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
0.00e0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1570, 9623, 3877 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 9 of 12

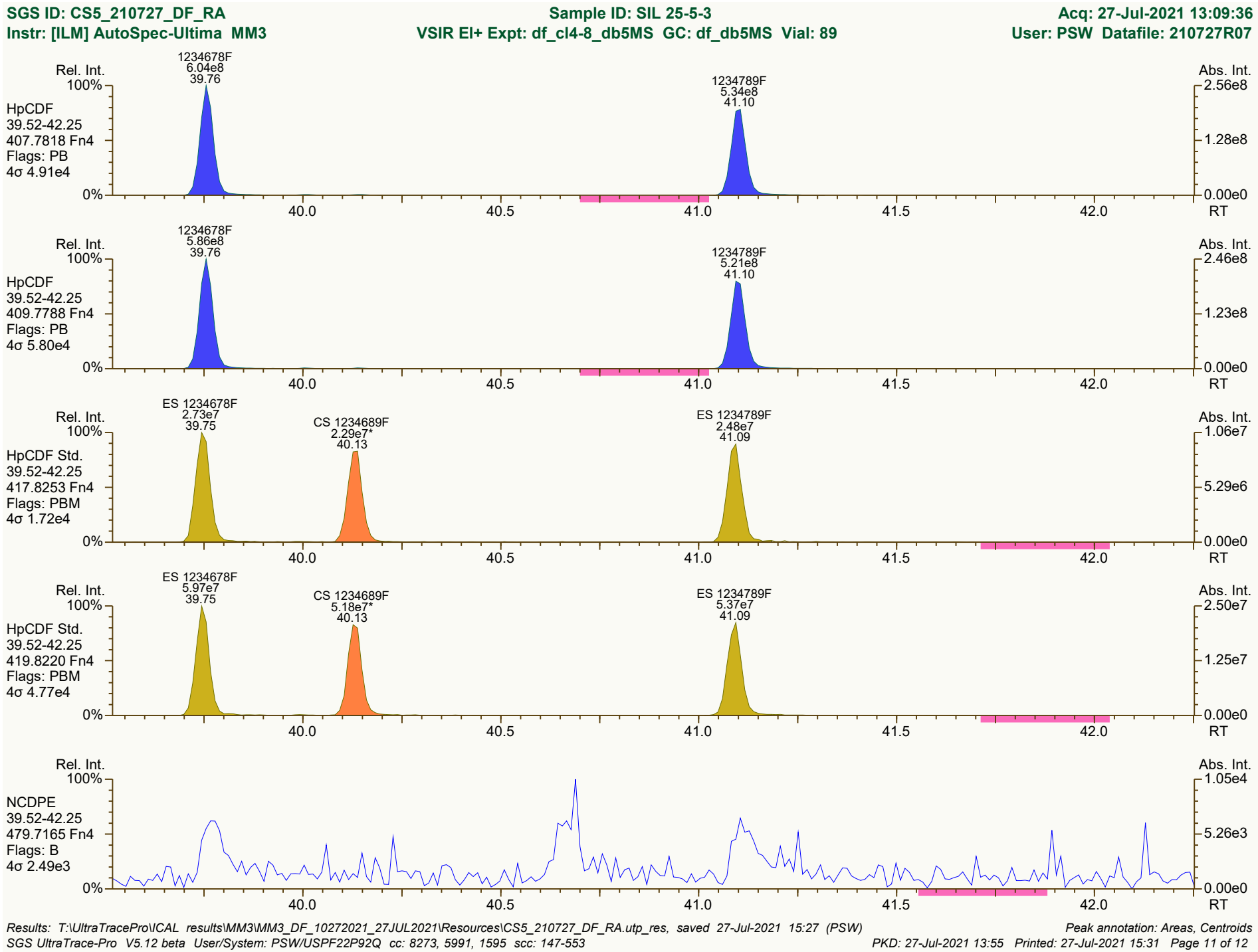
SGS ID: CS5_210727_DF_RA | Sample ID: SIL 25-5-3 | Acq: 27-Jul-2021 13:09:36

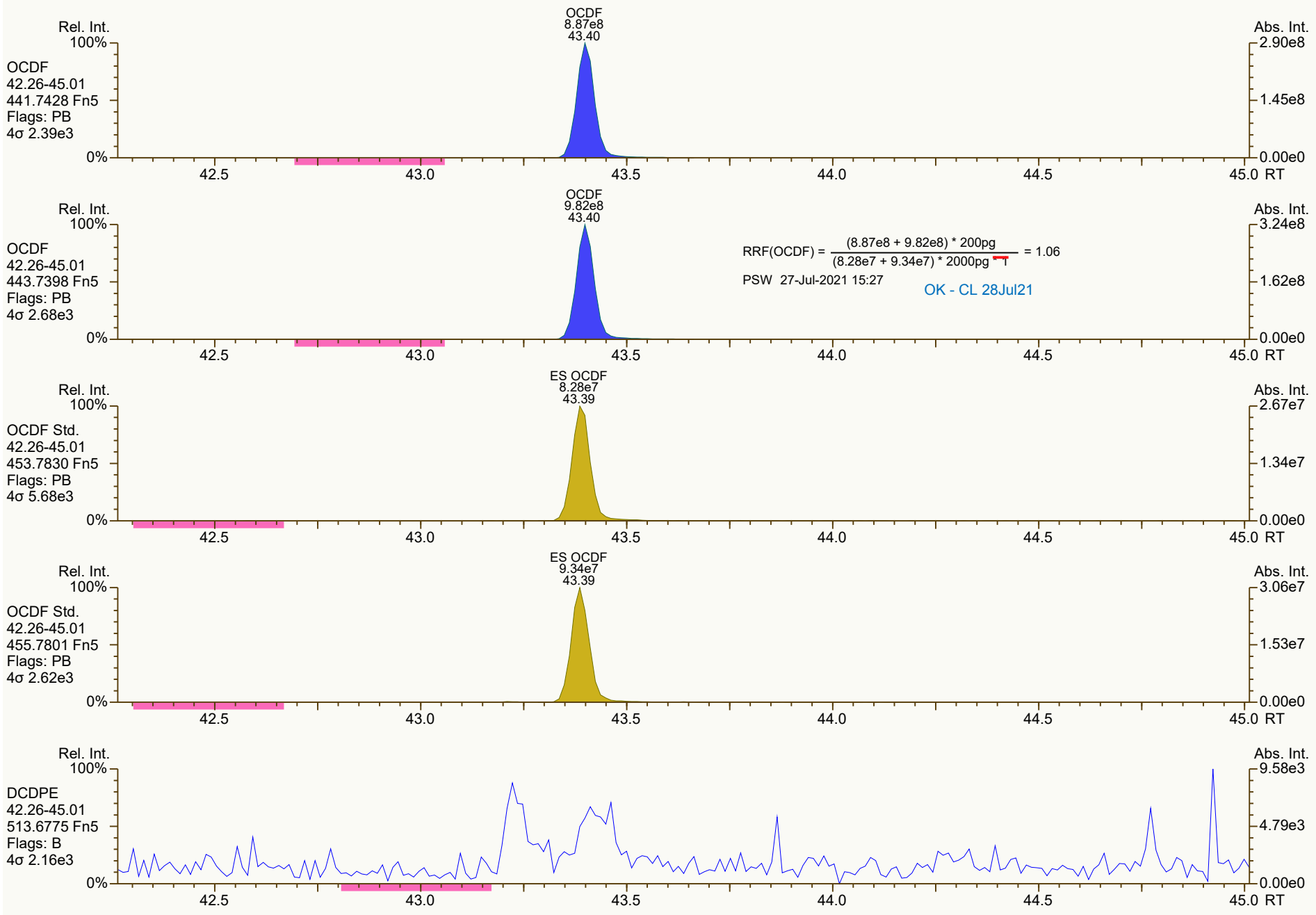
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89 | User: PSW Datafile: 210727R07



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5016, 0733, 9416 scc: 147-553 *PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 10 of 12*


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e4
1234678F
6.04e8
39.76
1234789F
5.34e8
41.10
2.56e8
1.28e8
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.80e4
1234678F
5.86e8
39.76
1234789F
5.21e8
41.10
2.46e8
1.23e8
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 1.72e4
ES 1234678F
2.73e7
39.75
CS 1234689F
2.29e7*
40.13
ES 1234789F
2.48e7
41.09
1.06e7
5.29e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 4.77e4
ES 1234678F
5.97e7
39.75
CS 1234689F
5.18e7*
40.13
ES 1234789F
5.37e7
41.09
2.50e7
1.25e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.49e3
1.05e4
5.26e3
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8273, 5991, 1595 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 11 of 12


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.39e3
0%
OCDF
8.87e8
43.40
Abs. Int.
2.90e8
1.45e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.68e3
0%
OCDF
9.82e8
43.40
RRF(OCDF) = (8.87e8 + 9.82e8) * 200pg / (8.28e7 + 9.34e7) * 2000pg = 1.06
PSW 27-Jul-2021 15:27
OK - CL 28Jul21
Abs. Int.
3.24e8
1.62e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.68e3
0%
ES OCDF
8.28e7
43.39
Abs. Int.
2.67e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.62e3
0%
ES OCDF
9.34e7
43.39
Abs. Int.
3.06e7
1.53e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.16e3
0%
Abs. Int.
9.58e3
4.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

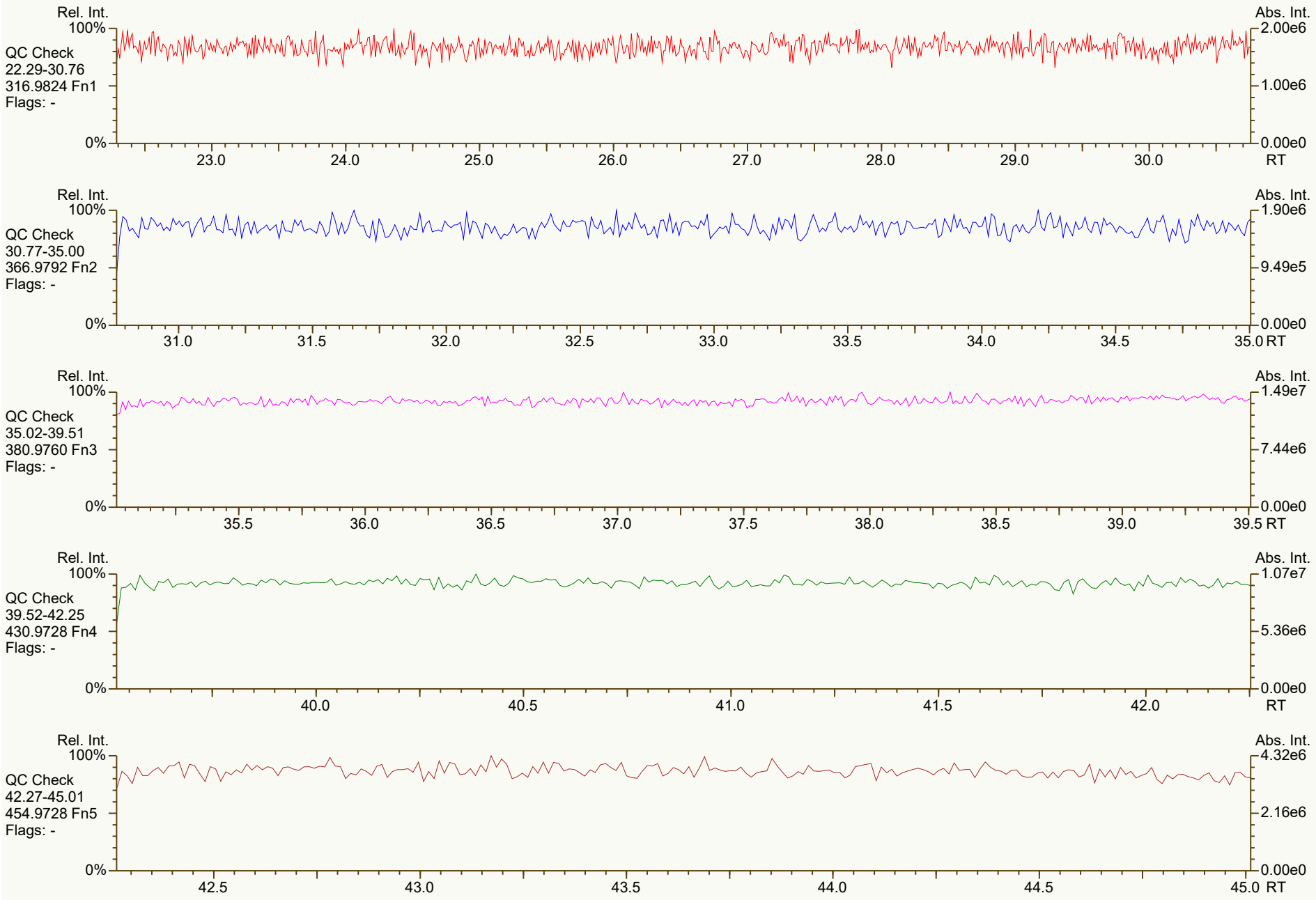
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD	40.66	2.28E+09	1.03	Y	0.97	1.00	2%
OCDD	43.24	4.13E+09	0.89	Y	1.07	1.08	1%
2378-TCDF	27.67	7.99E+08	0.77	Y	0.96	0.99	3%
12378-PeCDF	32.38	3.47E+09	1.57	Y	0.95	0.96	2%
23478-PeCDF	33.47	3.38E+09	1.55	Y	0.94	0.96	2%
123478-HxCDF	36.69	3.24E+09	1.24	Y	1.23	1.22	-1%
123678-HxCDF	36.83	3.36E+09	1.24	Y	1.13	1.14	0%
234678-HxCDF	37.49	3.14E+09	1.25	Y	1.15	1.15	0%
123789-HxCDF	38.43	3.10E+09	1.25	Y	1.14	1.16	2%
1234678-HpCDF	39.77	3.01E+09	1.04	Y	1.36	1.36	0%
1234789-HpCDF	41.11	2.70E+09	1.03	Y	1.30	1.33	2%
OCDF	43.42	4.91E+09	0.91	Y	1.03	1.08	5%
ES 2378-TCDD	28.50	9.29E+07	0.78	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.791	9.93E+07	1.63	Y	1.03	1.10	6%
ES 123478-HxCDD	37.663	9.19E+07	1.24	Y	0.99	1.07	7%
ES 123678-HxCDD	37.778	9.02E+07	1.27	Y	0.97	1.05	7%
ES 123789-HxCDD	38.067	1.05E+08	1.27	Y	1.12	1.22	8%
ES 1234678-HpCDD	40.65	9.14E+07	1.03	Y	0.99	1.06	7%
ES OCDD	43.227	1.53E+08	0.91	Y	0.78	0.89	14%
ES 2378-TCDF	27.65	1.62E+08	0.78	Y	1.08	1.10	2%
ES 12378-PeCDF	32.365	1.44E+08	1.56	Y	0.93	0.98	5%
ES 23478-PeCDF	33.455	1.42E+08	1.59	Y	0.92	0.96	4%
ES 123478-HxCDF	36.671	1.06E+08	0.53	Y	1.14	1.23	8%
ES 123678-HxCDF	36.81	1.18E+08	0.53	Y	1.30	1.37	6%
ES 234678-HxCDF	37.477	1.09E+08	0.52	Y	1.20	1.27	5%
ES 123789-HxCDF	38.411	1.07E+08	0.52	Y	1.14	1.24	9%
ES 1234678-HpCDF	39.757	8.85E+07	0.45	Y	0.95	1.03	8%
ES 1234789-HpCDF	41.1	8.15E+07	0.45	Y	0.85	0.94	12%
ES OCDF	43.407	1.83E+08	0.90	Y	0.93	1.06	14%

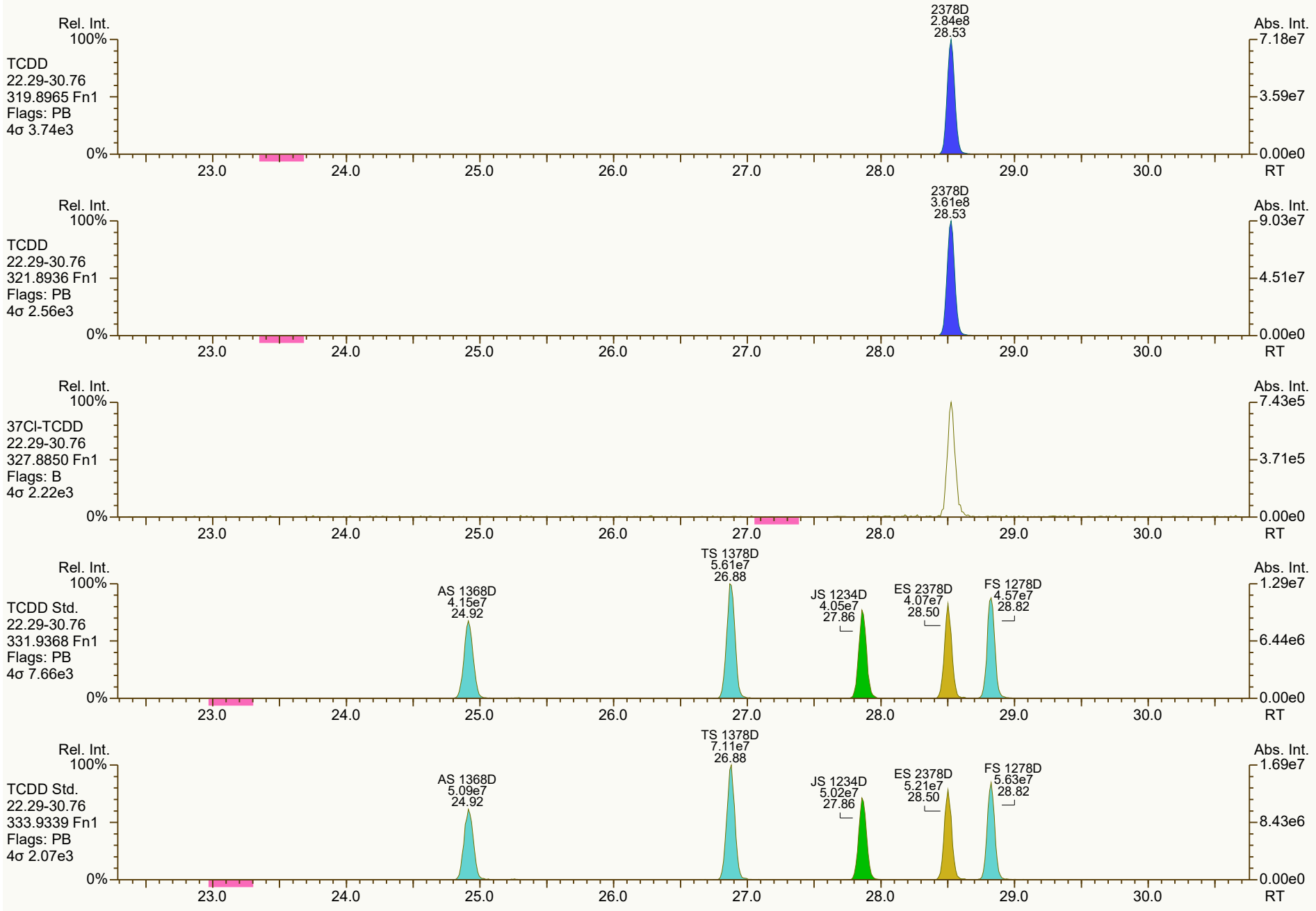
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

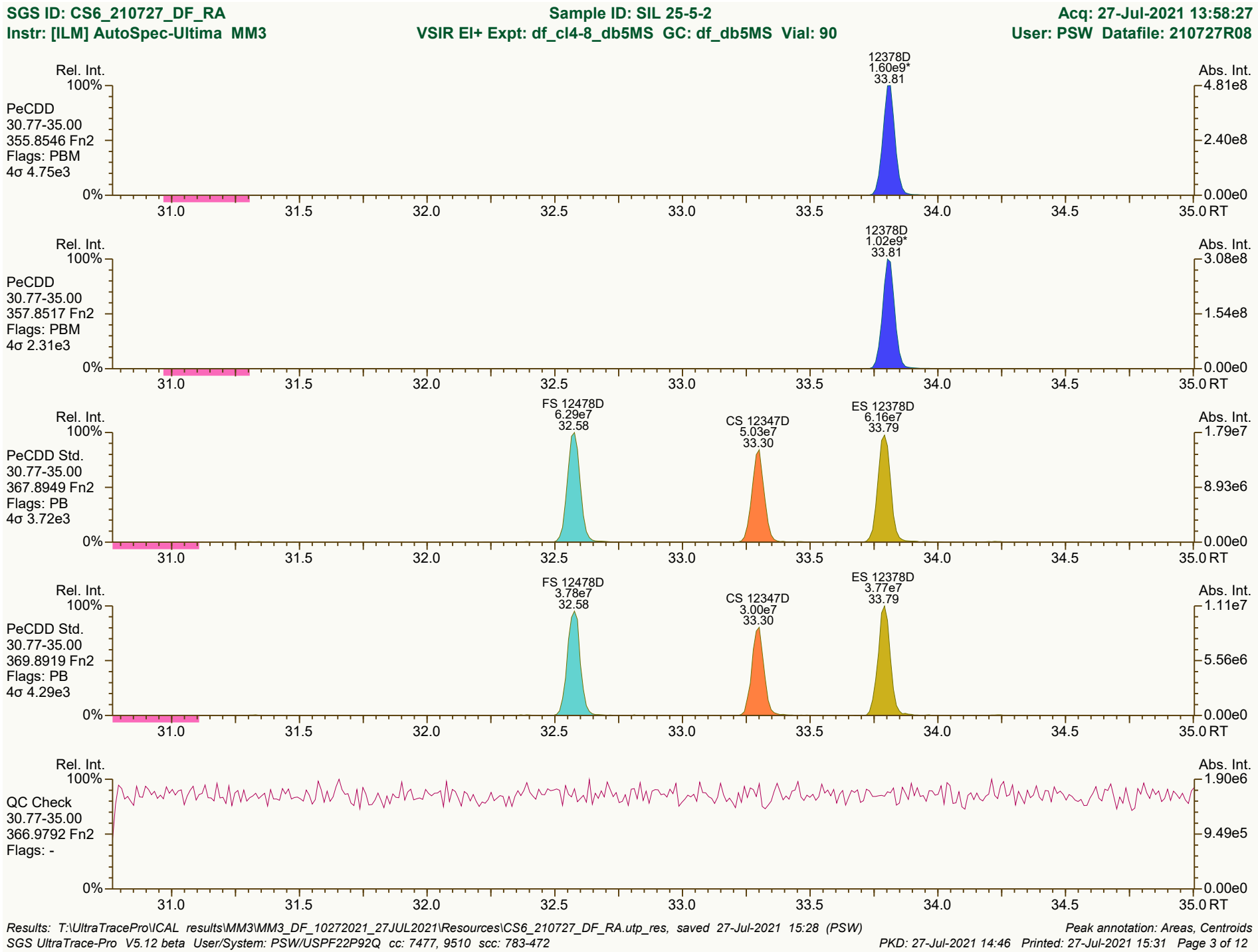
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.87	0.85	-2%
CS 123469-HxCDF	37.12	9.43E+07	0.51	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.86	0.84	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.86	0.81	-6%
SS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.93	0.87	-7%
SS 123469-HxCDF	37.12	9.43E+07	0.51	Y	0.84	0.80	-5%
SS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.91	0.81	-11%
AS 1368-TCDD	24.92	9.24E+07	0.82	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	1.58E+08	0.79	Y	1.08	1.07	0%
FS 1278-TCDD	28.83	1.02E+08	0.81	Y	1.08	1.10	1%
FS 12478-PeCDD	32.58	1.01E+08	1.67	Y	1.09	1.01	-7%
FS 123468-HxCDD	36.59	1.06E+08	1.23	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.99	1.12E+08	1.07	Y	1.36	1.23	-9%
TS 1378-TCDD	26.88	1.27E+08	0.79	Y	1.35	1.37	2%
~~OCDD-a~~	~~43.23~~	~~2.53E+08~~	~~2.47~~	~~Y~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~43.42~~	~~2.93E+08~~	~~2.57~~	~~Y~~	~~0.06~~	~~0.06~~	~~8%~~

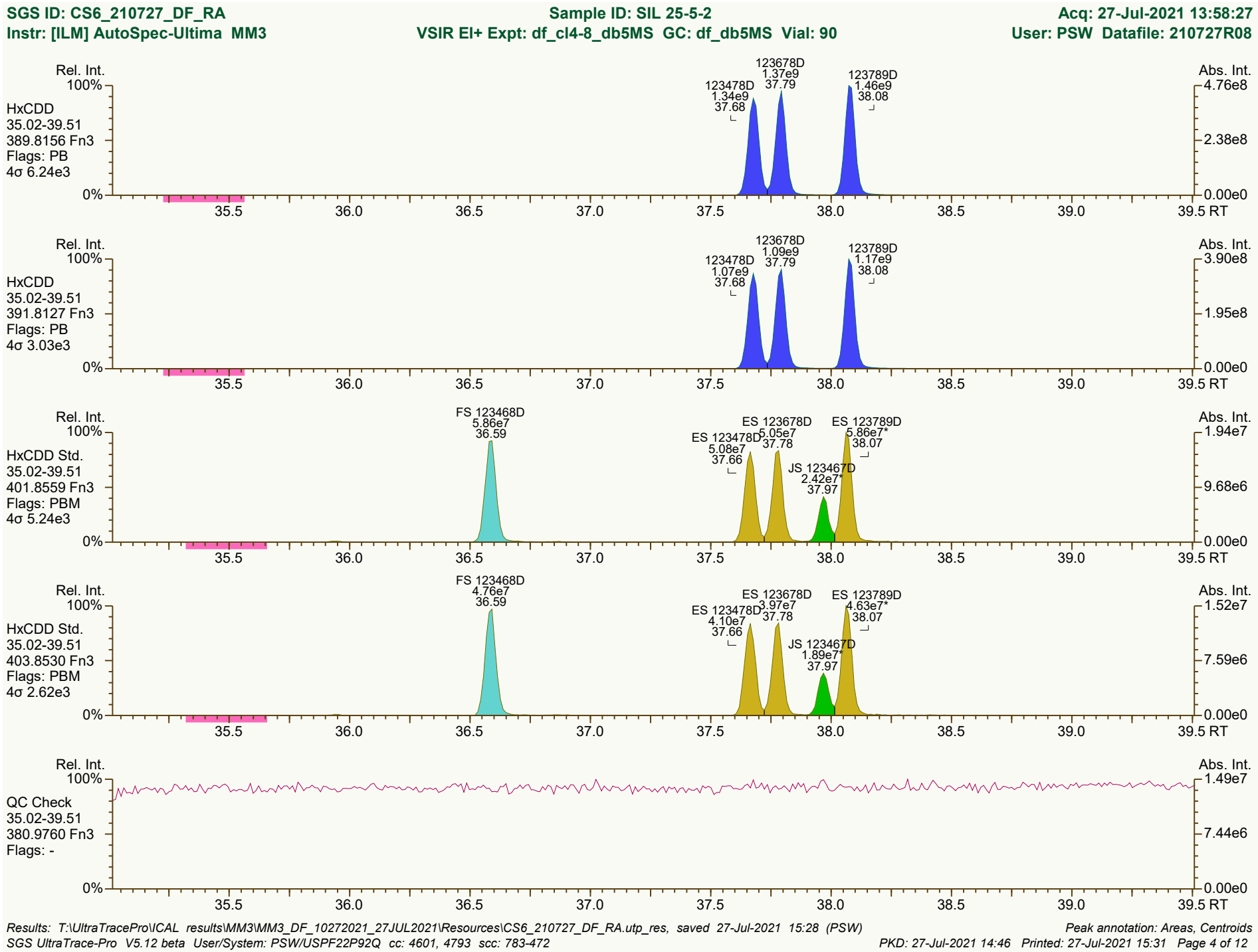
Not reported from this ICAL - CL 28Jul21



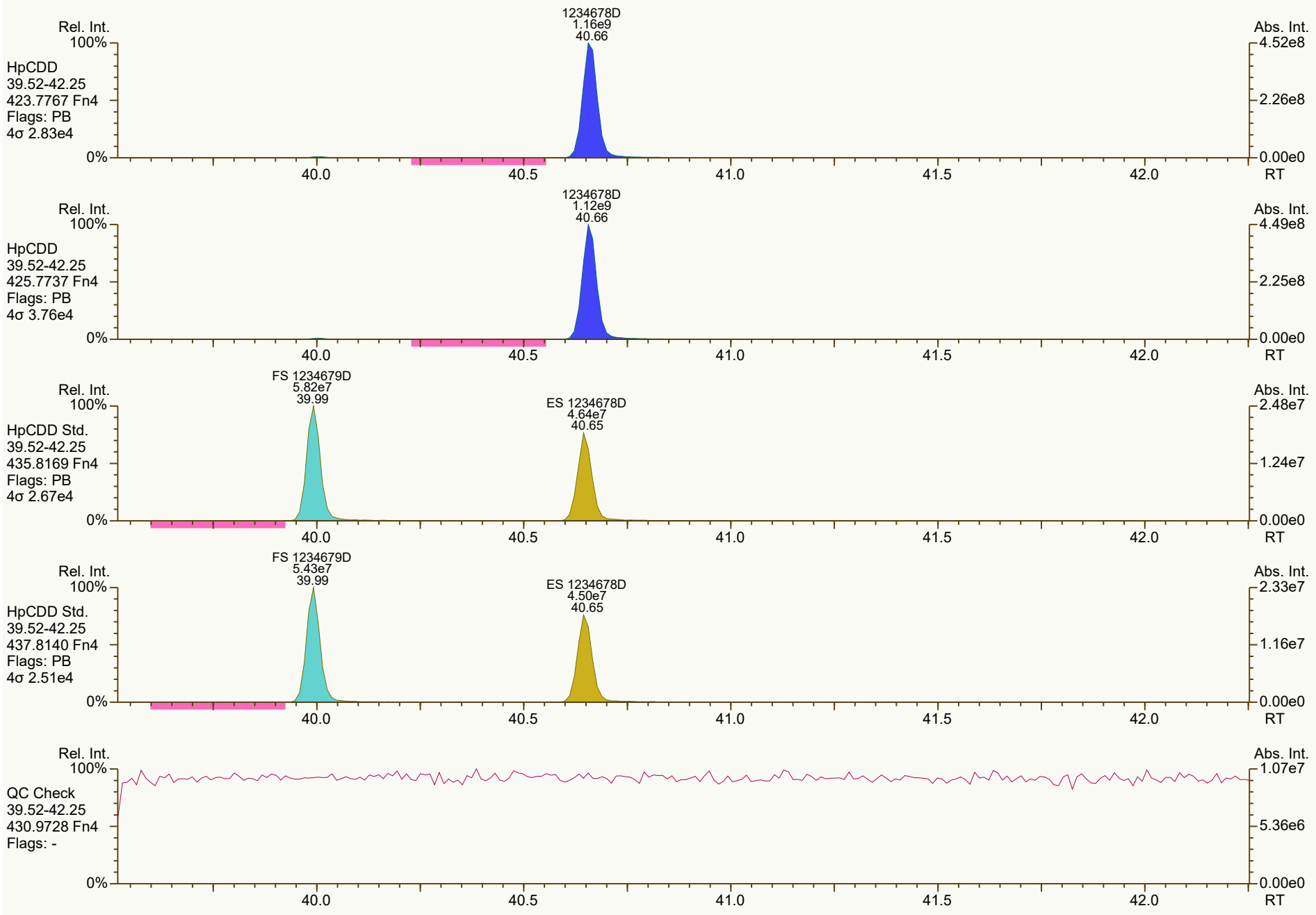
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 783-472
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12

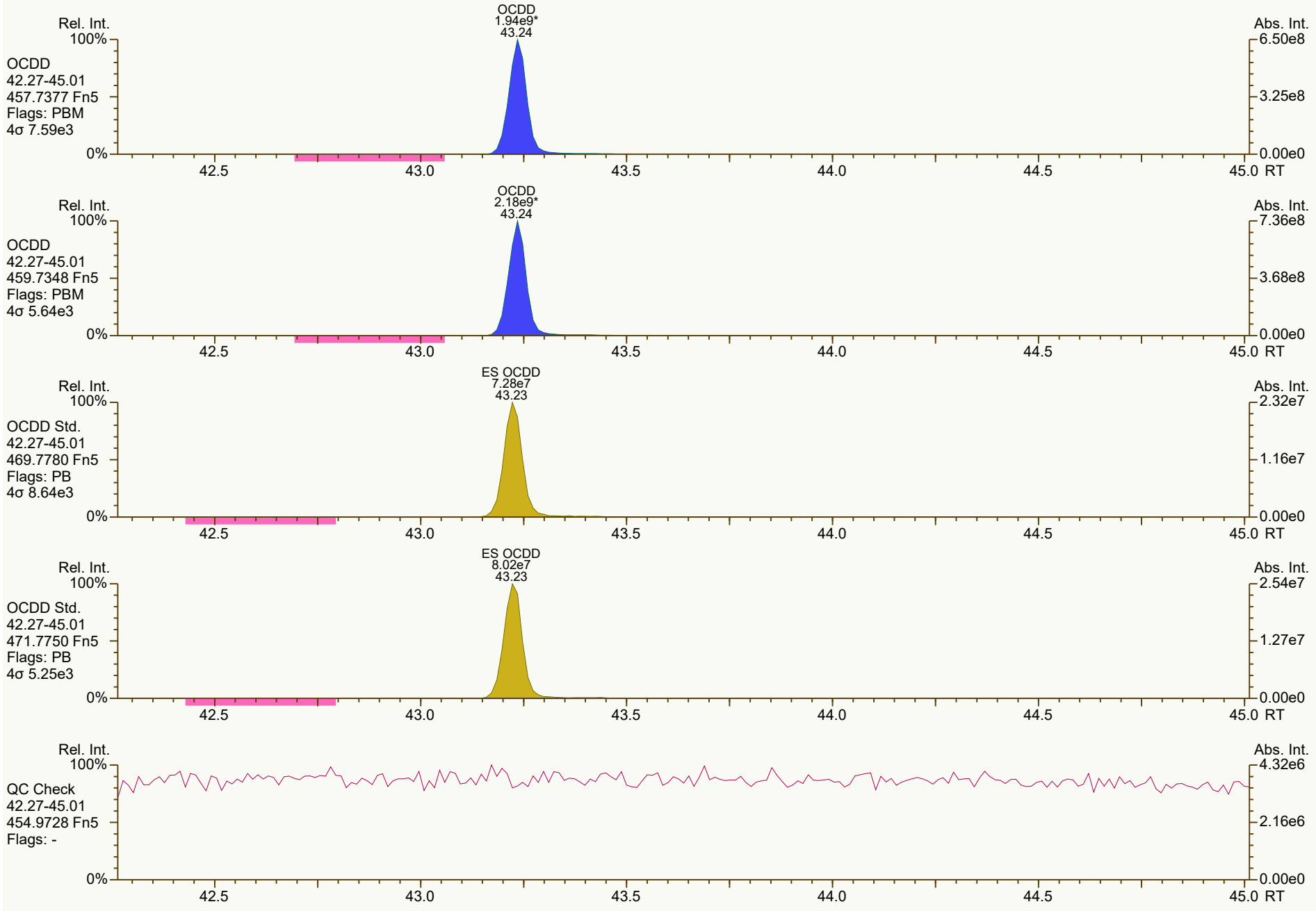

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.74e3
0%
2378D
2.84e8
28.53
Abs. Int.
7.18e7
3.59e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.56e3
0%
2378D
3.61e8
28.53
Abs. Int.
9.03e7
4.51e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
7.43e5
3.71e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.66e3
0%
AS 1368D
4.15e7
24.92
TS 1378D
5.61e7
26.88
JS 1234D
4.05e7
27.86
ES 2378D
4.07e7
28.50
FS 1278D
4.57e7
28.82
Abs. Int.
1.29e7
6.44e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.07e3
0%
AS 1368D
5.09e7
24.92
TS 1378D
7.11e7
26.88
JS 1234D
5.02e7
27.86
ES 2378D
5.21e7
28.50
FS 1278D
5.63e7
28.82
Abs. Int.
1.69e7
8.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

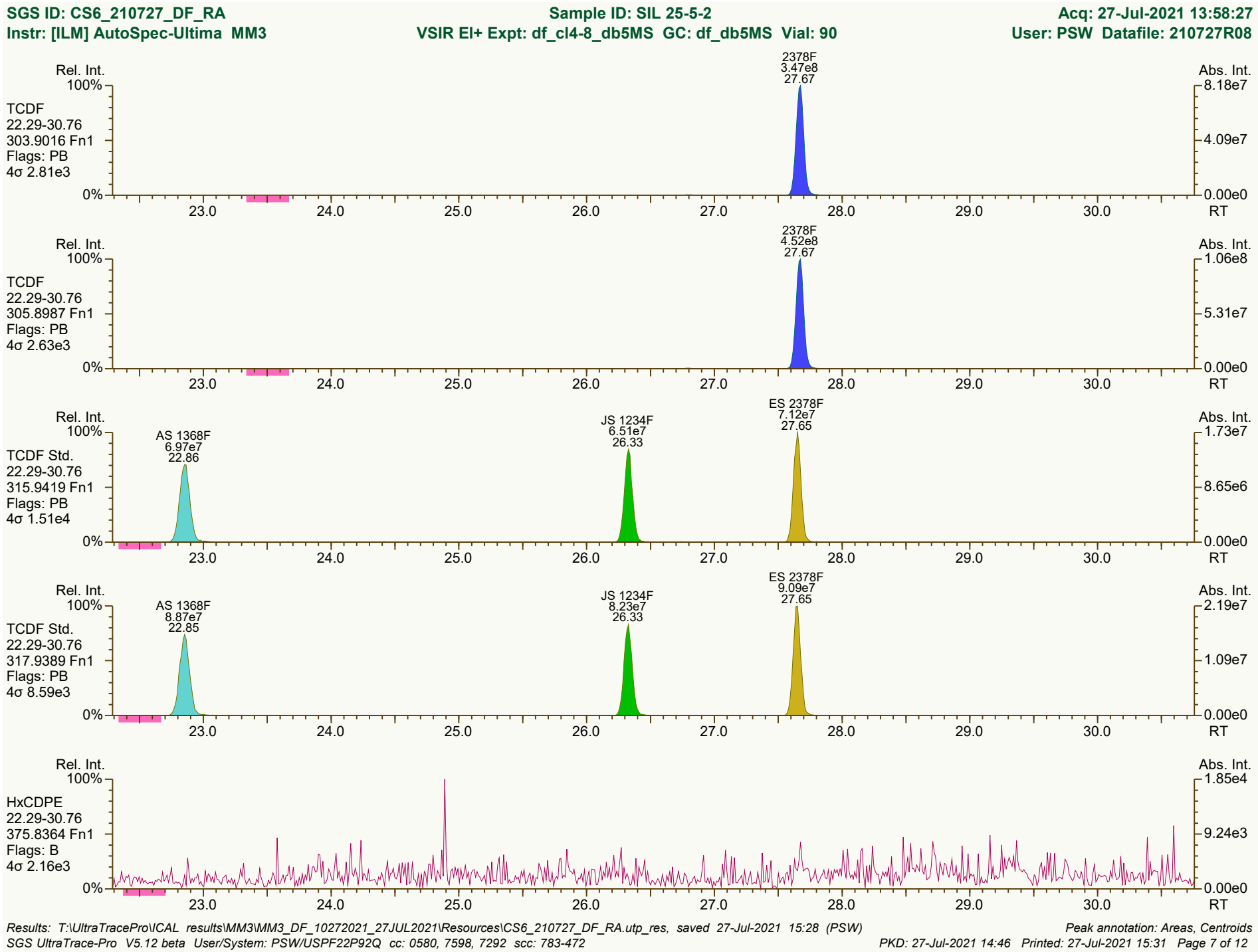

SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 4.75e3
12378D
1.60e9*
33.81
4.81e8
2.40e8
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.31e3
12378D
1.02e9*
33.81
3.08e8
1.54e8
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.72e3
FS 12478D
6.29e7
32.58
CS 12347D
5.03e7
33.30
ES 12378D
6.16e7
33.79
1.79e7
8.93e6
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.29e3
FS 12478D
3.78e7
32.58
CS 12347D
3.00e7
33.30
ES 12378D
3.77e7
33.79
1.11e7
5.56e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
1.90e6
9.49e5
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7477, 9510 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 3 of 12



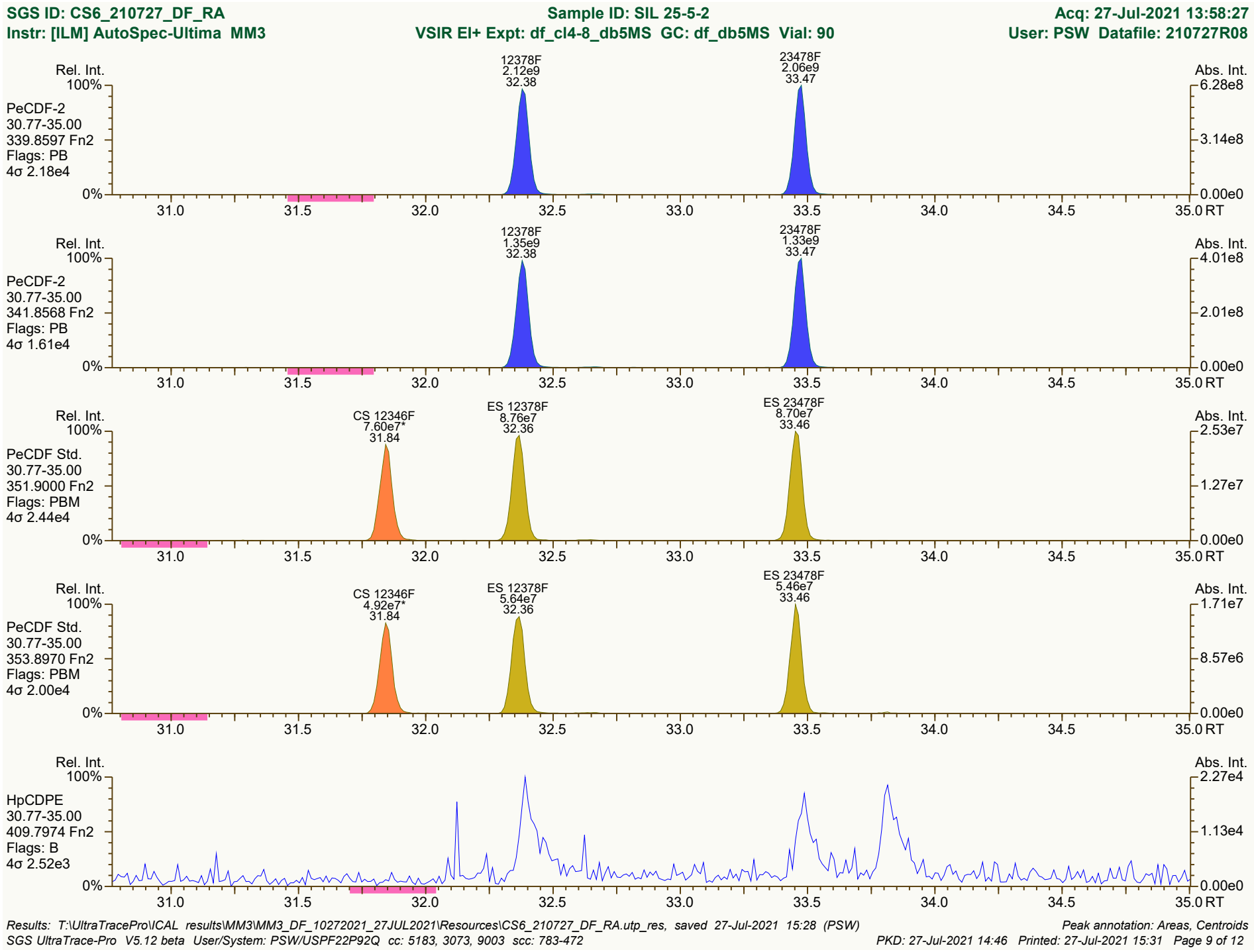
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4601, 4793 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 4 of 12

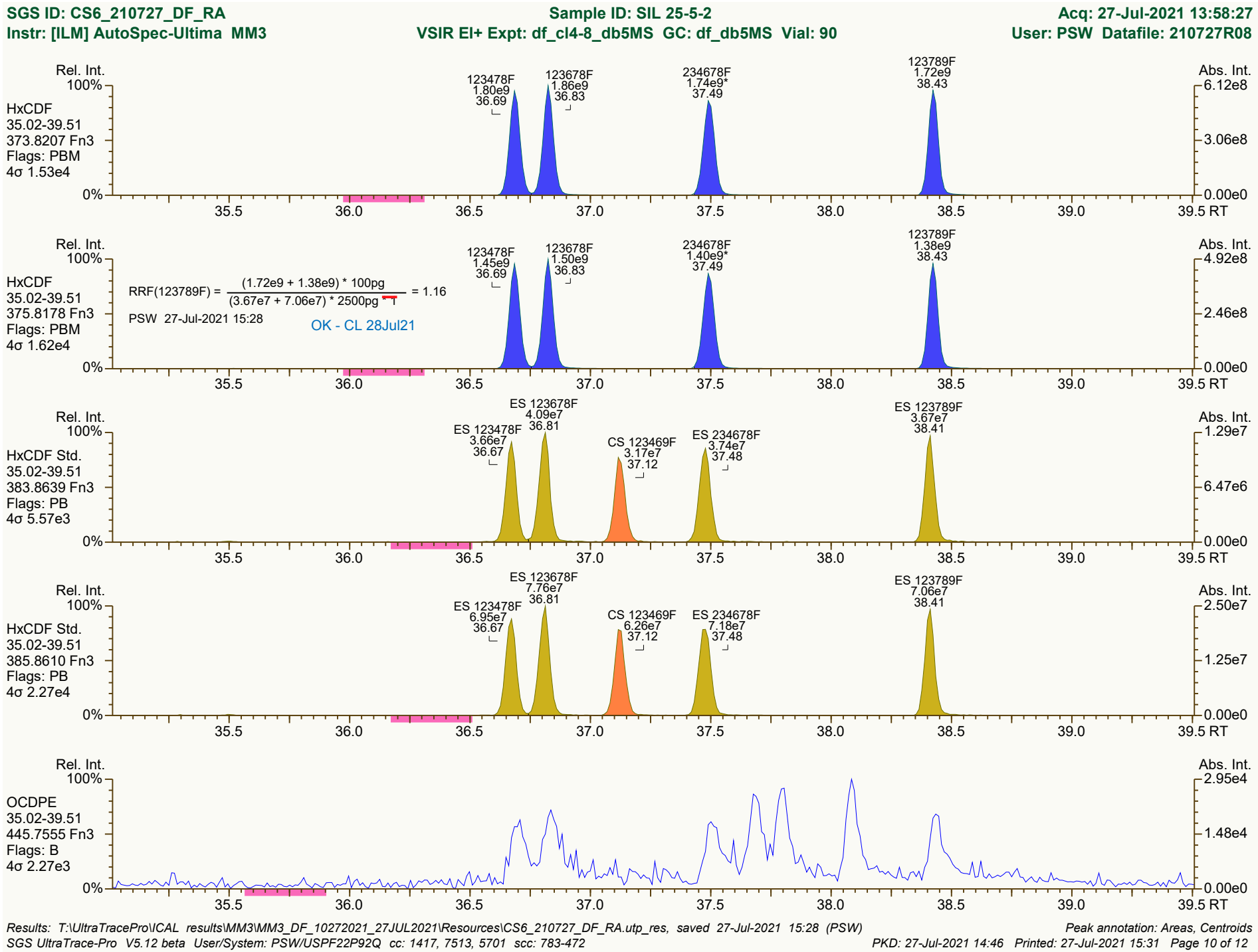

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.83e4
0%
1234678D
1.16e9
40.66
Abs. Int.
4.52e8
2.26e8
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.76e4
0%
1234678D
1.12e9
40.66
Abs. Int.
4.49e8
2.25e8
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.67e4
0%
FS 1234679D
5.82e7
39.99
ES 1234678D
4.64e7
40.65
Abs. Int.
2.48e7
1.24e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 2.51e4
0%
FS 1234679D
5.43e7
39.99
ES 1234678D
4.50e7
40.65
Abs. Int.
2.33e7
1.16e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.36e6
0.00e0
RT

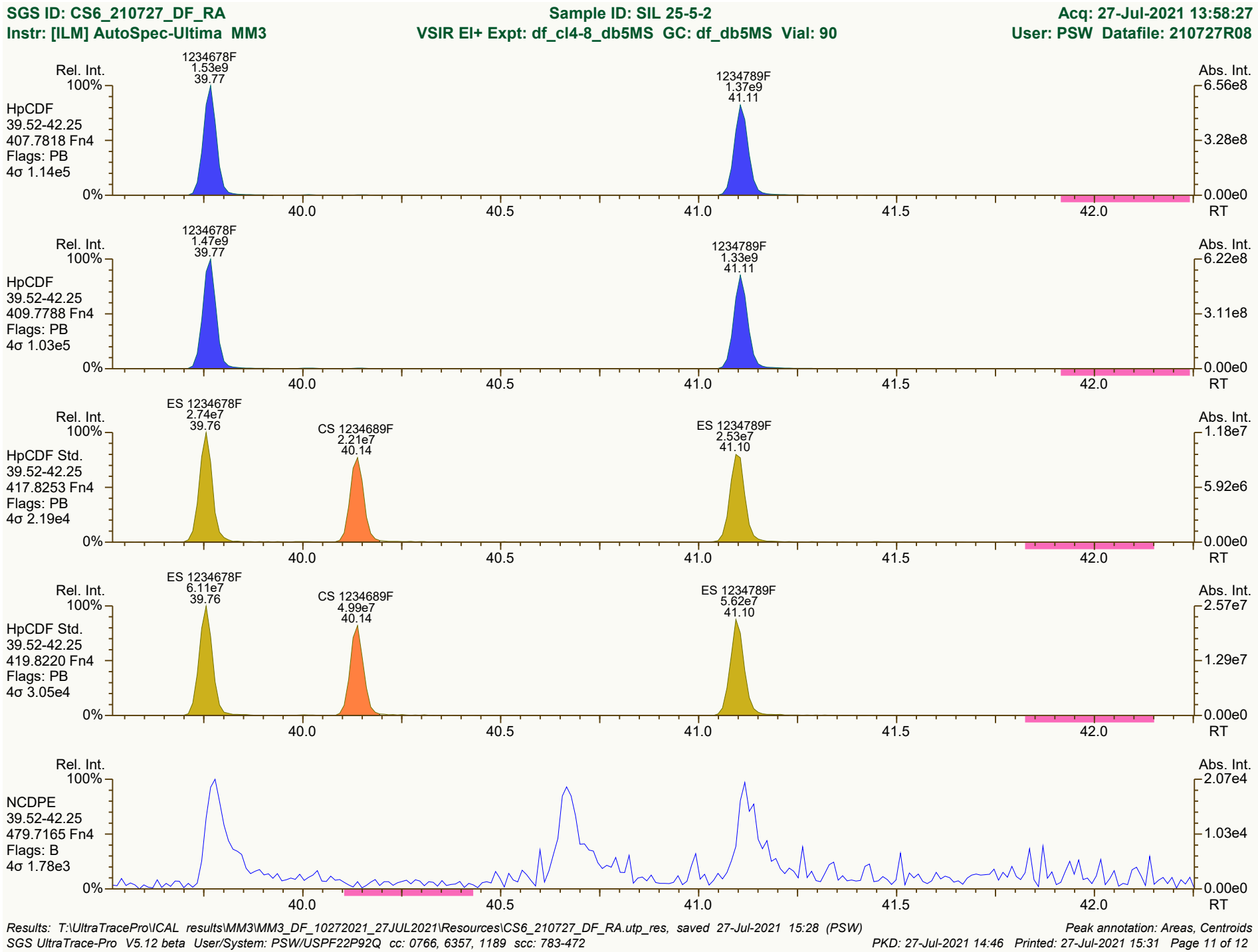

OCDD
1.94e9*
43.24
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PBM
4σ 7.59e3
0%
Abs. Int.
6.50e8
3.25e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.18e9*
43.24
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PBM
4σ 5.64e3
0%
Abs. Int.
7.36e8
3.68e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.28e7
43.23
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 8.64e3
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.02e7
43.23
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 5.25e3
0%
Abs. Int.
2.54e7
1.27e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

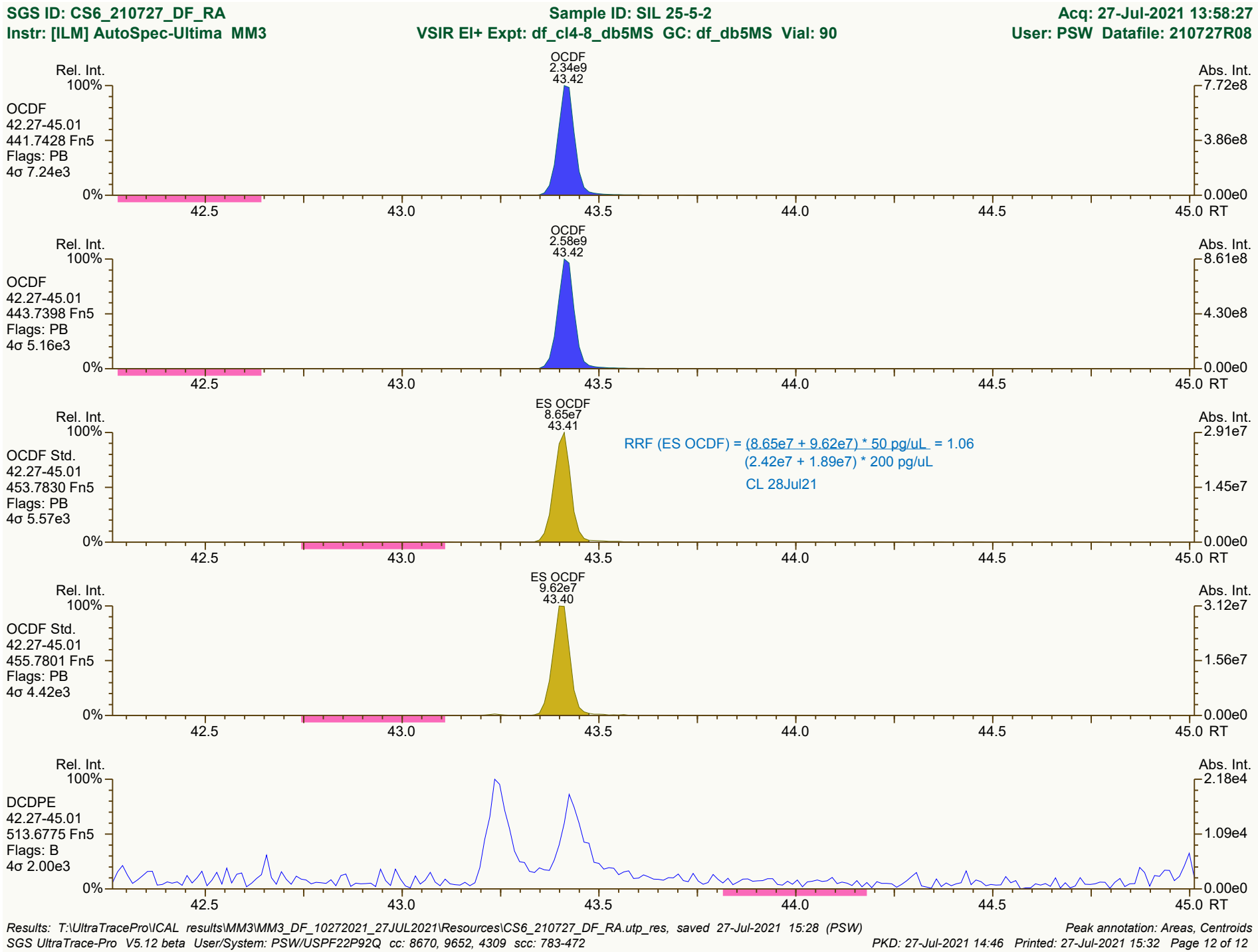

SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
2378F
3.47e8
27.67
8.18e7
4.09e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
2378F
4.52e8
27.67
1.06e8
5.31e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
6.97e7
22.86
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
1.73e7
8.65e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
2.19e7
1.09e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
1.85e4
9.24e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0580, 7598, 7292 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 7 of 12

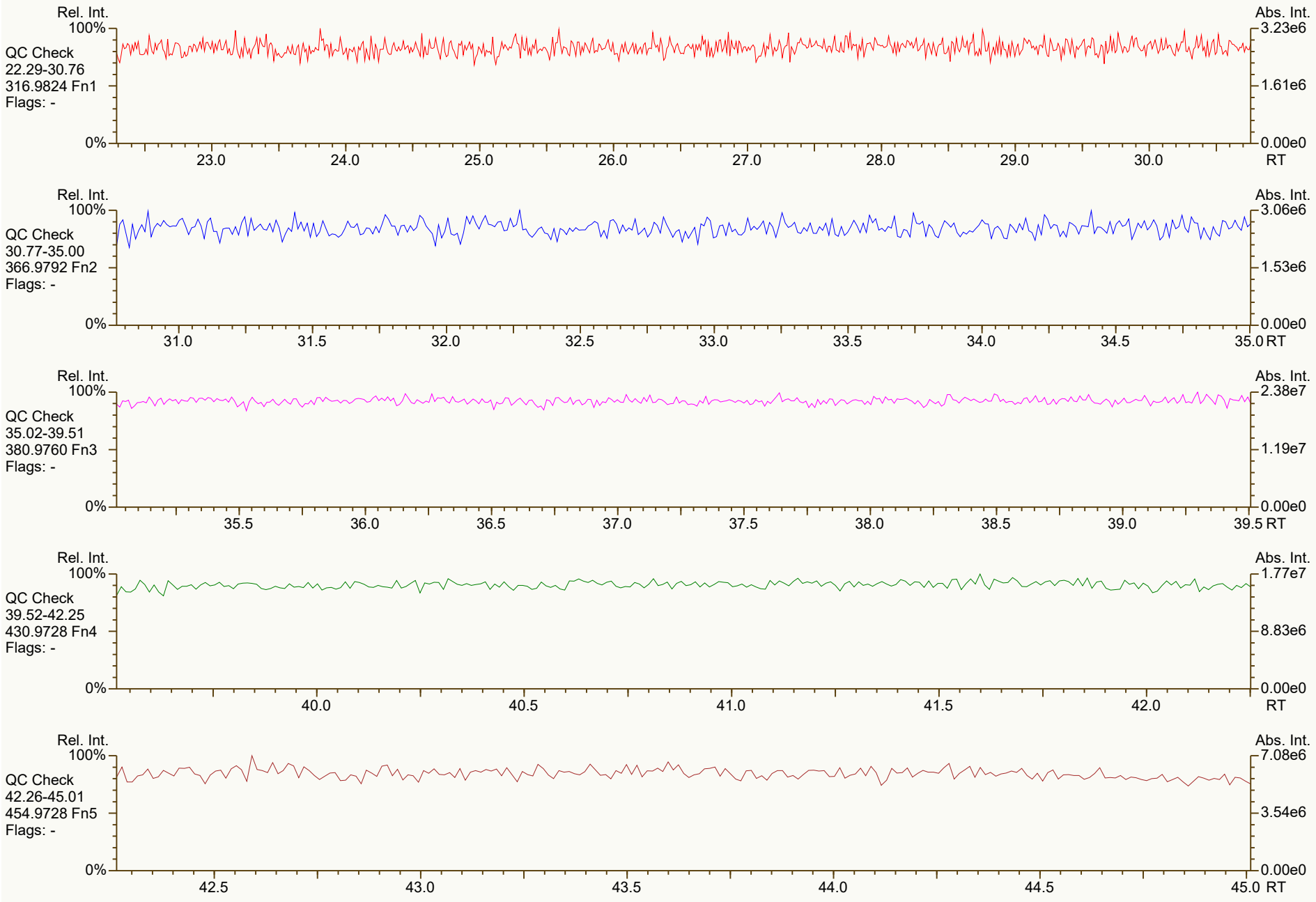

Rel. Int.
100%
0%
Abs. Int.
2.08e4
1.04e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.81e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 4.96e3
1.40e4
7.01e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.00e6
1.00e6


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.18e4
12378F
2.12e9
32.38
23478F
2.06e9
33.47
6.28e8
3.14e8
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 1.61e4
12378F
1.35e9
32.38
23478F
1.33e9
33.47
4.01e8
2.01e8
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.44e4
CS 12346F
7.60e7*
31.84
ES 12378F
8.76e7
32.36
ES 23478F
8.70e7
33.46
2.53e7
1.27e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.00e4
CS 12346F
4.92e7*
31.84
ES 12378F
5.64e7
32.36
ES 23478F
5.46e7
33.46
1.71e7
8.57e6
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.52e3
2.27e4
1.13e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5183, 3073, 9003 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.53e4
123478F 1.80e9 36.69
123678F 1.86e9 36.83
234678F 1.74e9* 37.49
123789F 1.72e9 38.43
6.12e8
3.06e8
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 1.62e4
RRF(123789F) = (1.72e9 + 1.38e9) * 100pg / (3.67e7 + 7.06e7) * 2500pg = 1.16
PSW 27-Jul-2021 15:28
OK - CL 28Jul21
123478F 1.45e9 36.69
123678F 1.50e9 36.83
234678F 1.40e9* 37.49
123789F 1.38e9 38.43
4.92e8
2.46e8
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.57e3
ES 123478F 3.66e7 36.67
ES 123678F 4.09e7 36.81
CS 123469F 3.17e7 37.12
ES 234678F 3.74e7 37.48
ES 123789F 3.67e7 38.41
1.29e7
6.47e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.27e4
ES 123478F 6.95e7 36.67
ES 123678F 7.76e7 36.81
CS 123469F 6.26e7 37.12
ES 234678F 7.18e7 37.48
ES 123789F 7.06e7 38.41
2.50e7
1.25e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.27e3
2.95e4
1.48e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1417, 7513, 5701 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 10 of 12

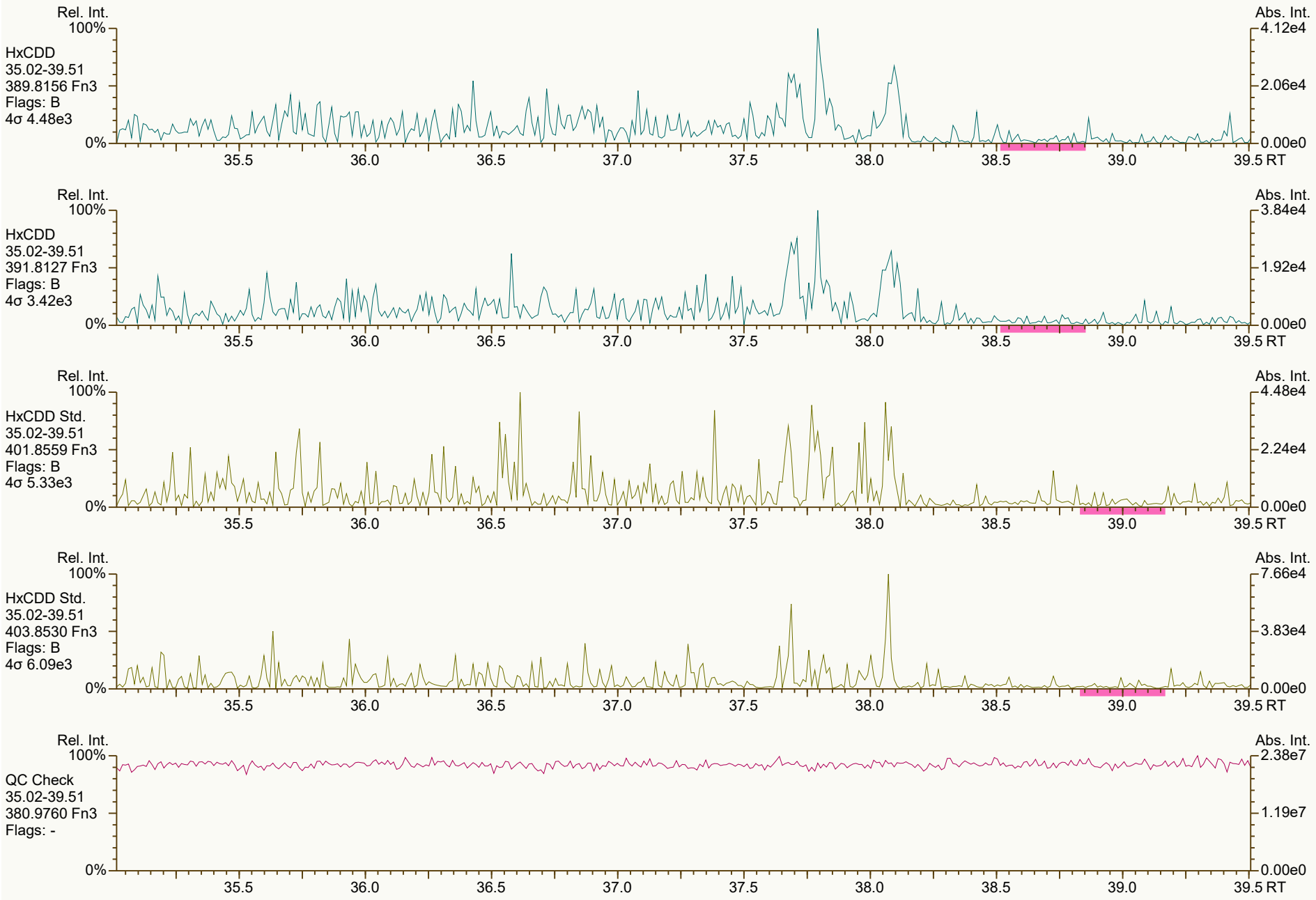

SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
100%
0%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.14e5
1234678F
1.53e9
39.77
1234789F
1.37e9
41.11
6.56e8
3.28e8
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.03e5
1234678F
1.47e9
39.77
1234789F
1.33e9
41.11
6.22e8
3.11e8
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.19e4
ES 1234678F
2.74e7
39.76
CS 1234689F
2.21e7
40.14
ES 1234789F
2.53e7
41.10
1.18e7
5.92e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 3.05e4
ES 1234678F
6.11e7
39.76
CS 1234689F
4.99e7
40.14
ES 1234789F
5.62e7
41.10
2.57e7
1.29e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 1.78e3
2.07e4
1.03e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0766, 6357, 1189 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
OCDF
2.34e9
43.42
Rel. Int.
Abs. Int.
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
OCDF
2.58e9
43.42
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
ES OCDF
8.65e7
43.41
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
ES OCDF
9.62e7
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8670, 9652, 4309 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:32 Page 12 of 12

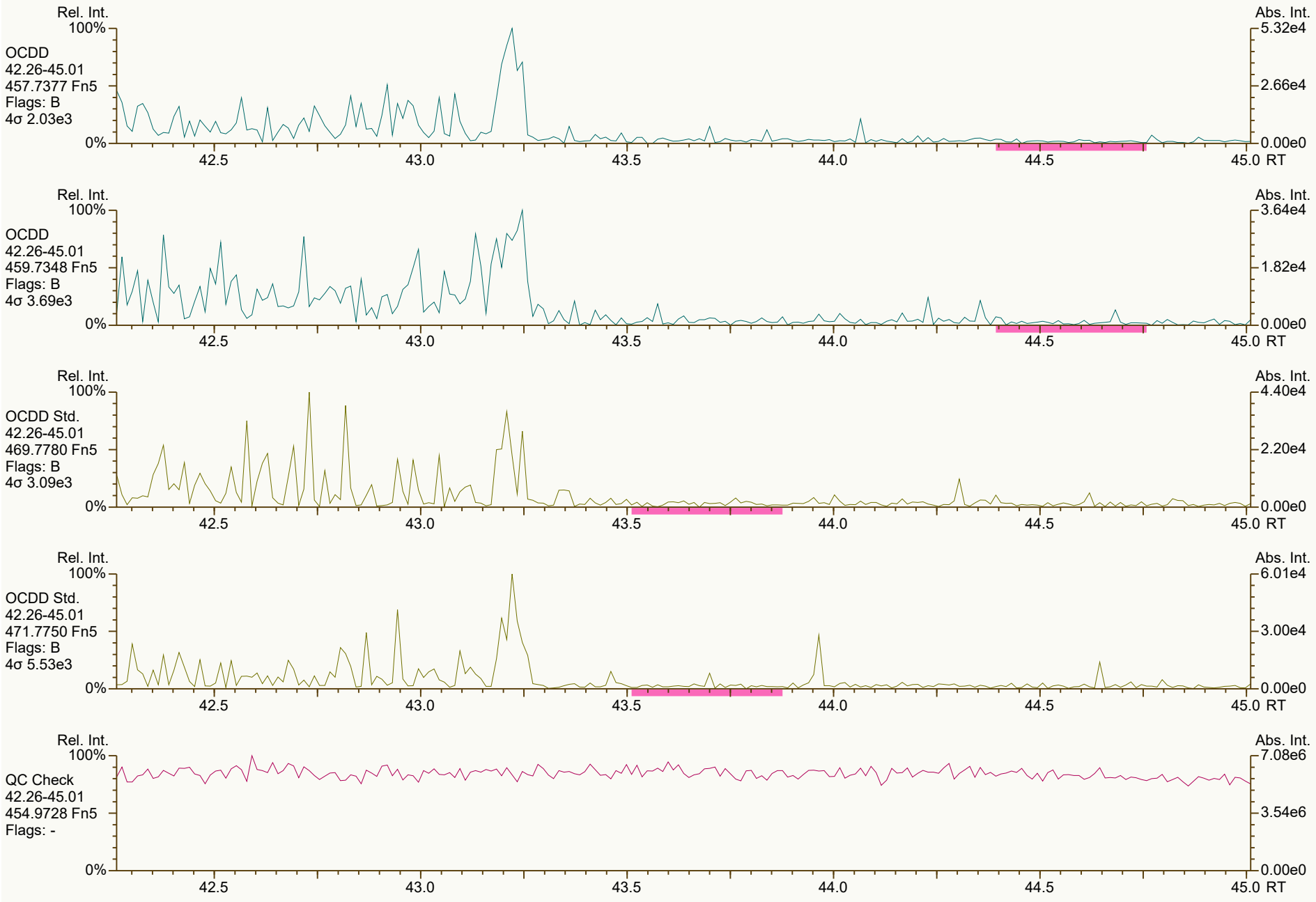

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

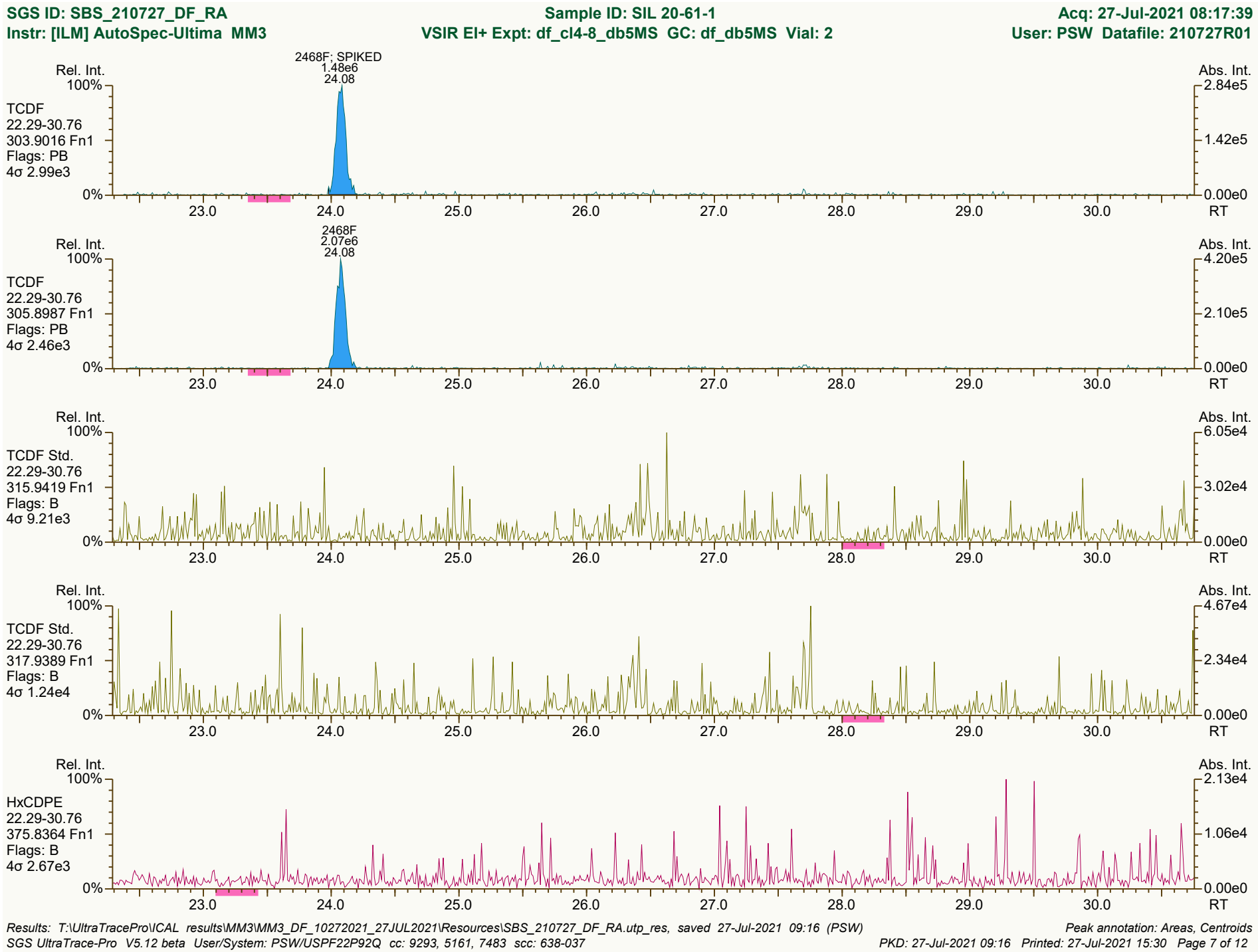

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: B
4σ 5.46e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.72e4
8.58e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.57e4
7.86e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: B
4σ 1.19e4
0%
Abs. Int.
4.60e4
2.30e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: B
4σ 4.18e3
0%
Abs. Int.
4.81e4
2.40e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

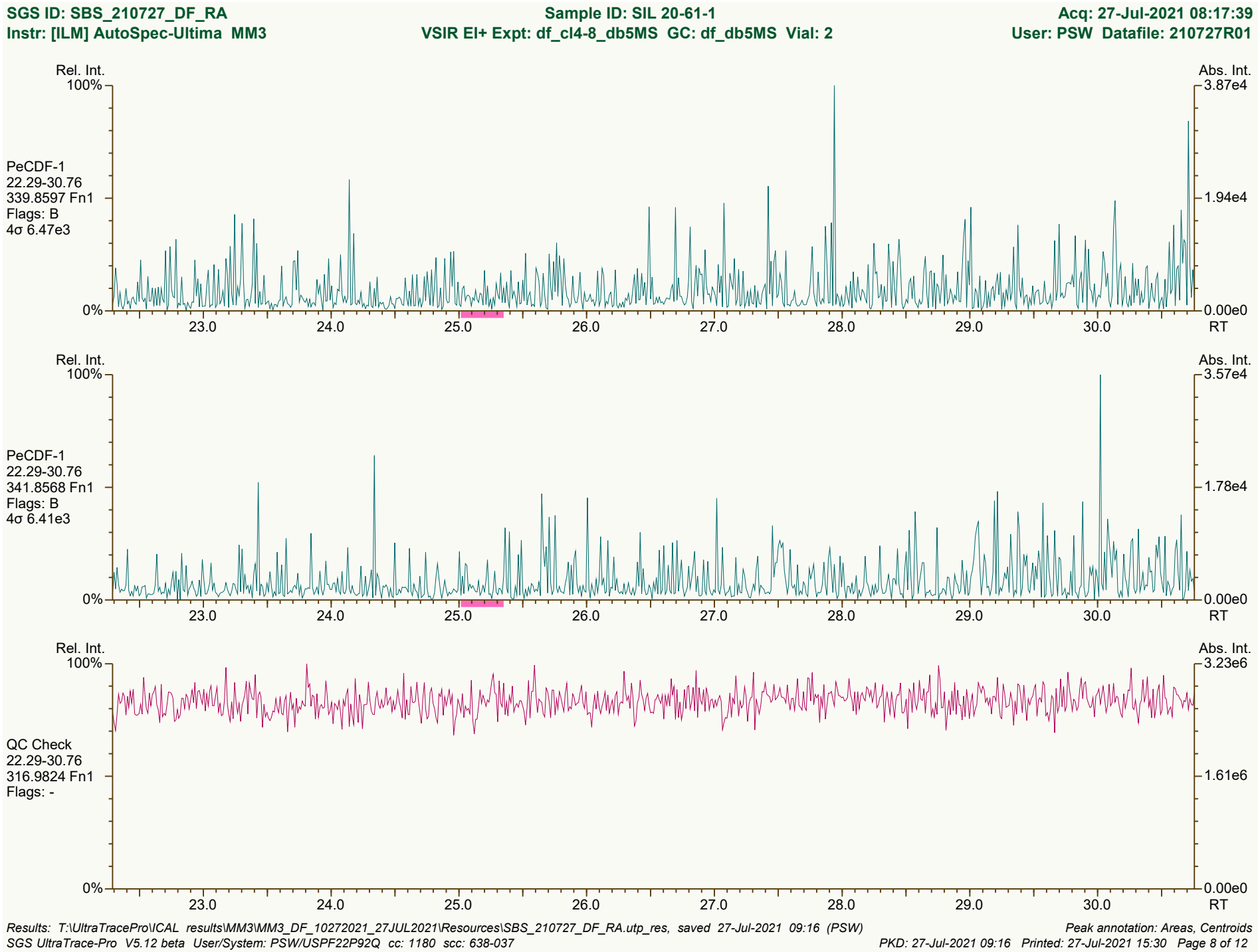

Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: B
4σ 9.54e3
0%
Abs. Int.
3.89e4
1.94e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: B
4σ 5.05e3
0%
Abs. Int.
2.54e4
1.27e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: B
4σ 5.45e3
0%
Abs. Int.
6.36e4
3.18e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: B
4σ 4.94e3
0%
Abs. Int.
2.95e4
1.48e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: B
4σ 4.48e3
0%
Abs. Int.
4.12e4
2.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: B
4σ 3.42e3
0%
Abs. Int.
3.84e4
1.92e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: B
4σ 5.33e3
0%
Abs. Int.
4.48e4
2.24e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: B
4σ 6.09e3
0%
Abs. Int.
7.66e4
3.83e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: B
4σ 8.10e3
0%
Abs. Int.
5.65e4
2.82e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: B
4σ 9.20e3
0%
Abs. Int.
3.29e4
1.64e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: B
4σ 7.86e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: B
4σ 3.02e3
0%
Abs. Int.
6.85e4
3.43e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT

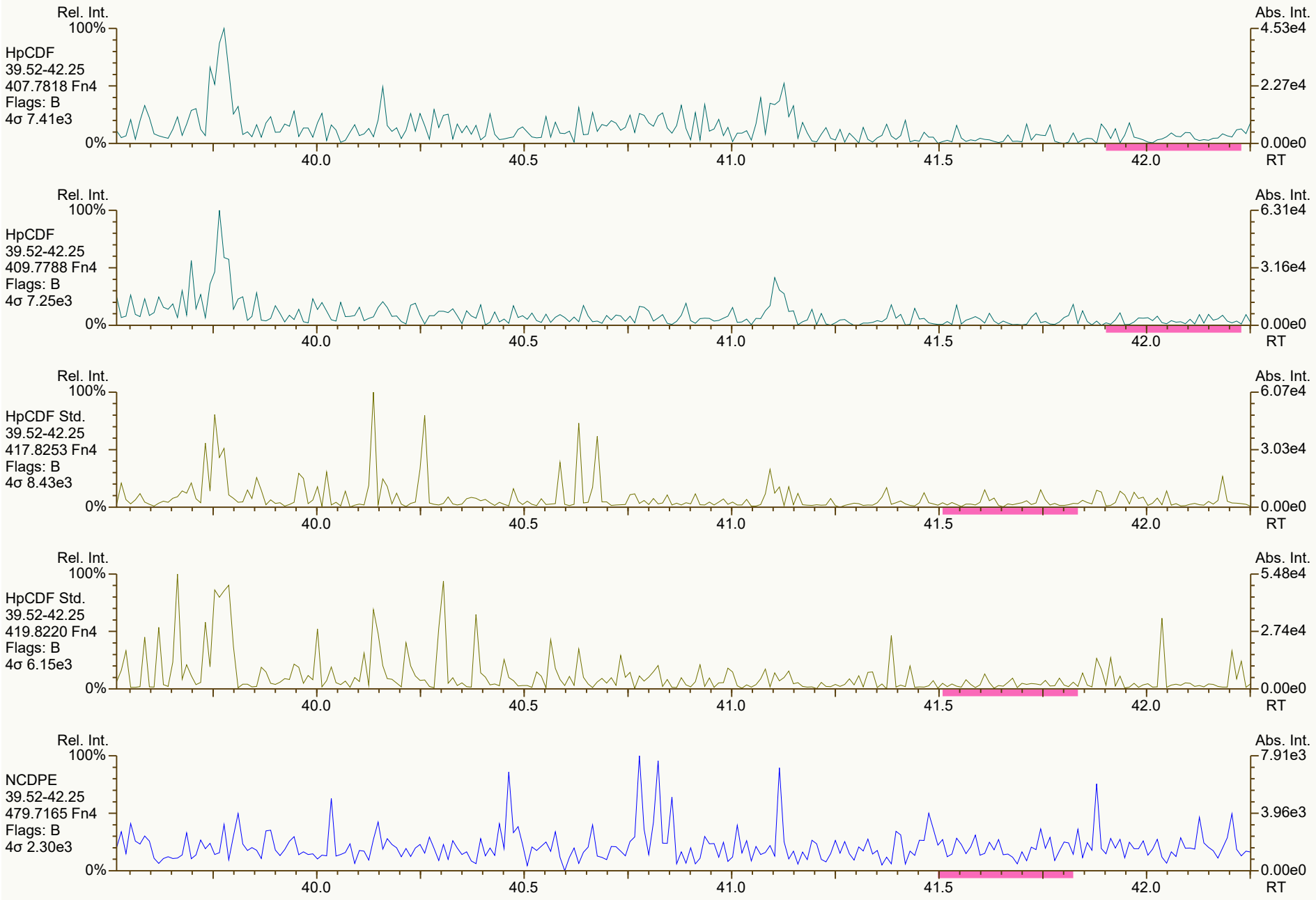

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: B
4σ 2.03e3
0%
Abs. Int.
5.32e4
2.66e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: B
4σ 3.69e3
0%
Abs. Int.
3.64e4
1.82e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: B
4σ 3.09e3
0%
Abs. Int.
4.40e4
2.20e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: B
4σ 5.53e3
0%
Abs. Int.
6.01e4
3.00e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
2468F: SPIKED
1.48e6
24.08
Rel. Int.
Abs. Int.
100%
0%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.99e3
2.84e5
1.42e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
2468F
2.07e6
24.08
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.46e3
4.20e5
2.10e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: B
4σ 9.21e3
6.05e4
3.02e4
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: B
4σ 1.24e4
4.67e4
2.34e4
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.67e3
2.13e4
1.06e4
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9293, 5161, 7483 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 7 of 12


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
Rel. Int.
100%
0%
Abs. Int.
3.87e4
1.94e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 6.47e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.57e4
1.78e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 6.41e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1180 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: B
4σ 6.52e3
0%
Abs. Int.
4.88e4
2.44e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: B
4σ 6.57e3
0%
Abs. Int.
3.28e4
1.64e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: B
4σ 2.11e3
0%
Abs. Int.
6.19e4
3.10e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: B
4σ 3.42e3
0%
Abs. Int.
5.42e4
2.71e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.38e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: B
4σ 6.81e3
0%
Abs. Int.
5.46e4
2.73e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: B
4σ 4.05e3
0%
Abs. Int.
3.51e4
1.76e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: B
4σ 6.70e3
0%
Abs. Int.
4.23e4
2.11e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: B
4σ 1.33e4
0%
Abs. Int.
8.19e4
4.10e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.51e3
0%
Abs. Int.
2.13e4
1.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: B
4σ 7.41e3
0%
Abs. Int.
4.53e4
2.27e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: B
4σ 7.25e3
0%
Abs. Int.
6.31e4
3.16e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: B
4σ 8.43e3
0%
Abs. Int.
6.07e4
3.03e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: B
4σ 6.15e3
0%
Abs. Int.
5.48e4
2.74e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.30e3
0%
Abs. Int.
7.91e3
3.96e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: B
4σ 2.18e3
0%
Abs. Int.
4.13e4
2.06e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
5.82e4
2.91e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: B
4σ 3.42e3
0%
Abs. Int.
6.44e4
3.22e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: B
4σ 2.75e3
0%
Abs. Int.
6.15e4
3.08e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 2.12e3
0%
Abs. Int.
5.85e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	210727R15	3	CS3_210727_DF_RB ✓	1.00	SIL 23-672-1	PSW	320-816	27-Jul-2021	19:43:55
16	210727R16	92	CS3_210727_DF_RC	1.00	ICV SIL 24-11-9 ✓	PSW	537-883	27-Jul-2021	20:31:28

REVIEWED
paul_walton , 7/28/2021, 8:29:53 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:21 PM

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 19:43 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RB	UTP: 28-Jul-2021 08:16:58 PSW	Checkcode: 320-816-PRY
Sample ID: SIL 23-672-1	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.67E+07	0.81	Y	1.34	1.35	0%
12378-PeCDD	33.81	6.38E+07	1.58	Y	1.06	1.06	0%
123478-HxCDD	37.68	5.49E+07	1.25	Y	1.06	1.06	1%
123678-HxCDD	37.79	5.63E+07	1.26	Y	1.08	1.10	2%
123789-HxCDD	38.08	5.86E+07	1.24	Y	1.02	1.00	-2%
1234678-HpCDD	40.66	4.96E+07	1.04	Y	0.97	0.98	0%
OCDD	43.23	8.27E+07	0.89	Y	1.07	1.07	0%
2378-TCDF	27.67	2.12E+07	0.80	Y	0.96	0.97	1%
12378-PeCDF	32.38	8.71E+07	1.57	Y	0.95	0.97	2%
23478-PeCDF	33.47	7.79E+07	1.46	Y	0.94	0.92	-2%
123478-HxCDF	36.69	7.88E+07	1.25	Y	1.23	1.25	2%
123678-HxCDF	36.83	8.26E+07	1.26	Y	1.13	1.13	0%
234678-HxCDF	37.49	7.73E+07	1.25	Y	1.15	1.18	2%
123789-HxCDF	38.43	6.95E+07	1.26	Y	1.14	1.13	0%
1234678-HpCDF	39.77	7.02E+07	1.03	Y	1.36	1.34	-2%
1234789-HpCDF	41.11	5.97E+07	1.05	Y	1.30	1.36	5%
OCDF	43.41	9.92E+07	0.91	Y	1.03	1.06	3%
ES 2378-TCDD	28.50	1.24E+08	0.80	Y	1.03	1.03	-1%
ES 12378-PeCDD	33.788	1.20E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.661	1.03E+08	1.29	Y	0.99	0.98	-1%
ES 123678-HxCDD	37.775	1.02E+08	1.32	Y	0.97	0.97	0%
ES 123789-HxCDD	38.065	1.17E+08	1.31	Y	1.12	1.12	-1%
ES 1234678-HpCDD	40.653	1.01E+08	1.07	Y	0.99	0.96	-3%
ES OCDD	43.218	1.54E+08	0.91	Y	0.78	0.73	-6%
ES 2378-TCDF	27.65	2.18E+08	0.77	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.362	1.80E+08	1.58	Y	0.93	0.89	-5%
ES 23478-PeCDF	33.452	1.68E+08	1.62	Y	0.92	0.83	-10%
ES 123478-HxCDF	36.669	1.26E+08	0.54	Y	1.14	1.19	4%
ES 123678-HxCDF	36.809	1.47E+08	0.50	Y	1.30	1.39	7%
ES 234678-HxCDF	37.476	1.31E+08	0.52	Y	1.20	1.25	4%
ES 123789-HxCDF	38.411	1.23E+08	0.52	Y	1.14	1.17	3%
ES 1234678-HpCDF	39.758	1.05E+08	0.47	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.102	8.75E+07	0.45	Y	0.85	0.83	-2%
ES OCDF	43.399	1.88E+08	0.89	Y	0.93	0.89	-4%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 19:43 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RB	UTP: 28-Jul-2021 08:16:58 PSW	Checkcode: 320-816-PRY
Sample ID: SIL 23-672-1	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.21E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.33	2.03E+08	0.78	Y	-	-	-
JS 123467-HxCDD	37.97	5.27E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.31	1.28	-2%
CS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.89	0.87	-3%
CS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.22E+08	0.52	Y	1.09	1.16	7%
CS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.86	0.90	4%
SS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.86	0.87	1%
SS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.22E+08	0.52	Y	0.84	0.83	-1%
SS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.91	0.90	-1%
~~OCDD-a~~	~~43.22~~	~~4.70E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.06~~	~~-8%~~
~~OCDF-a~~	~~43.41~~	~~5.40E+06~~	~~2.31~~	~~Y~~	~~0.06~~	~~0.06~~	~~-3%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	10	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	50.1	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	50.3	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	50.9	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	49.1	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	50.1	40	-	60	Y
OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	10.1	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	51.2	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32	-	1.78	Y	49.2	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	50.8	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	51.1	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.1	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88	-	1.20	Y	52.4	40	-	60	Y
OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	103	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	70	-	130	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	70	-	130	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	140	-	260	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32 - 1.78	Y	49.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52.4	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

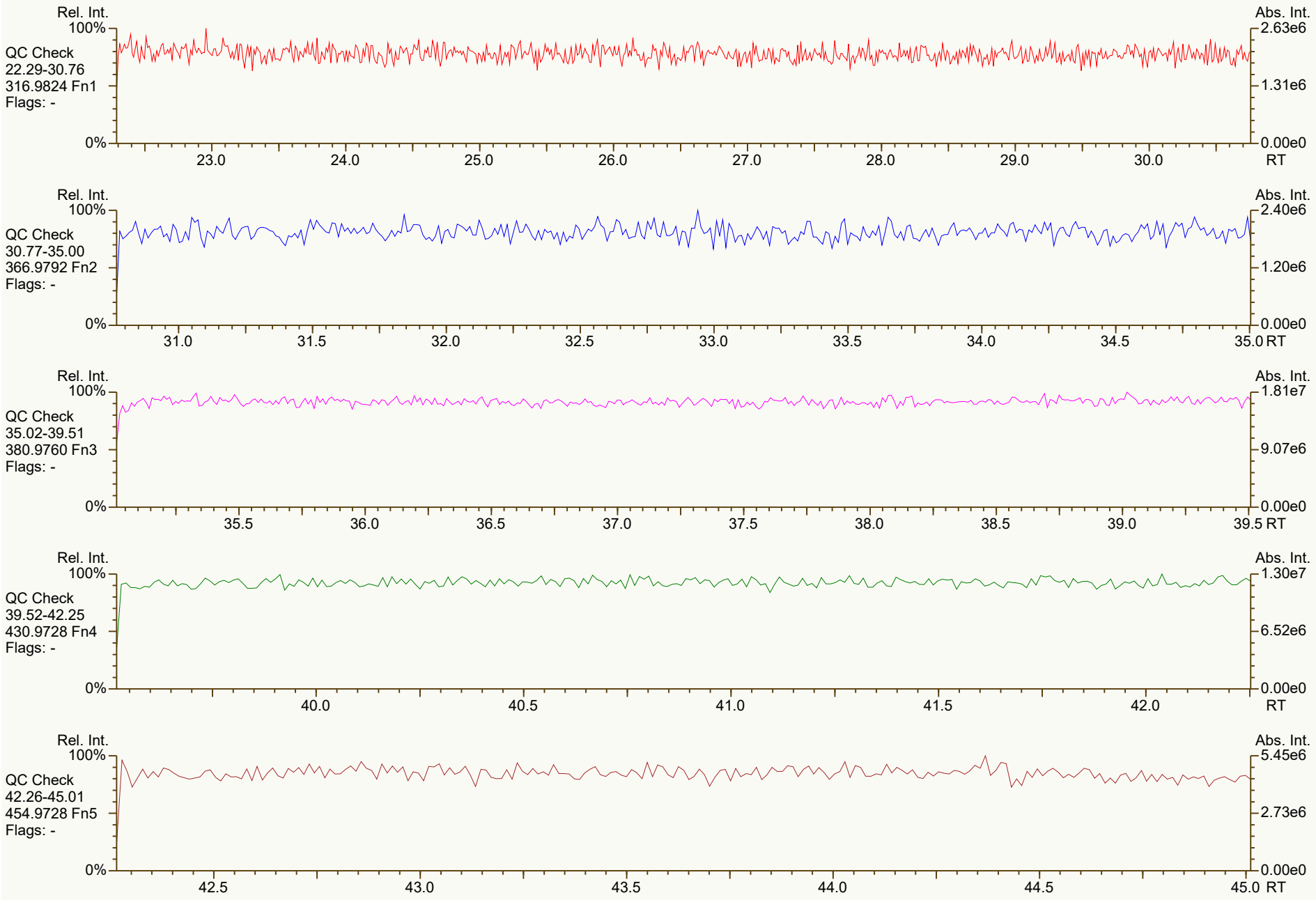
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

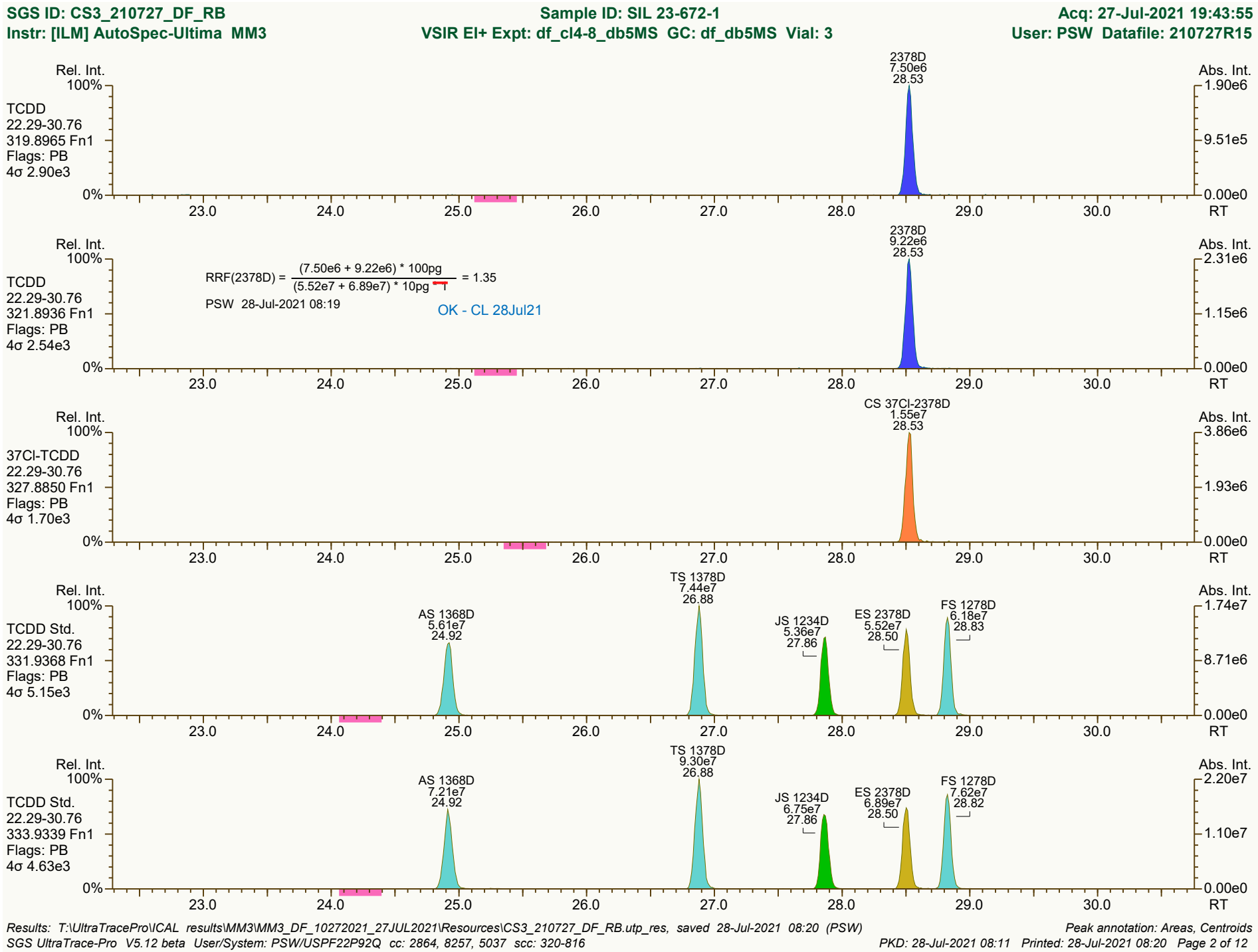
Instrument ID: MM3 GC Column ID: ZB-5ms

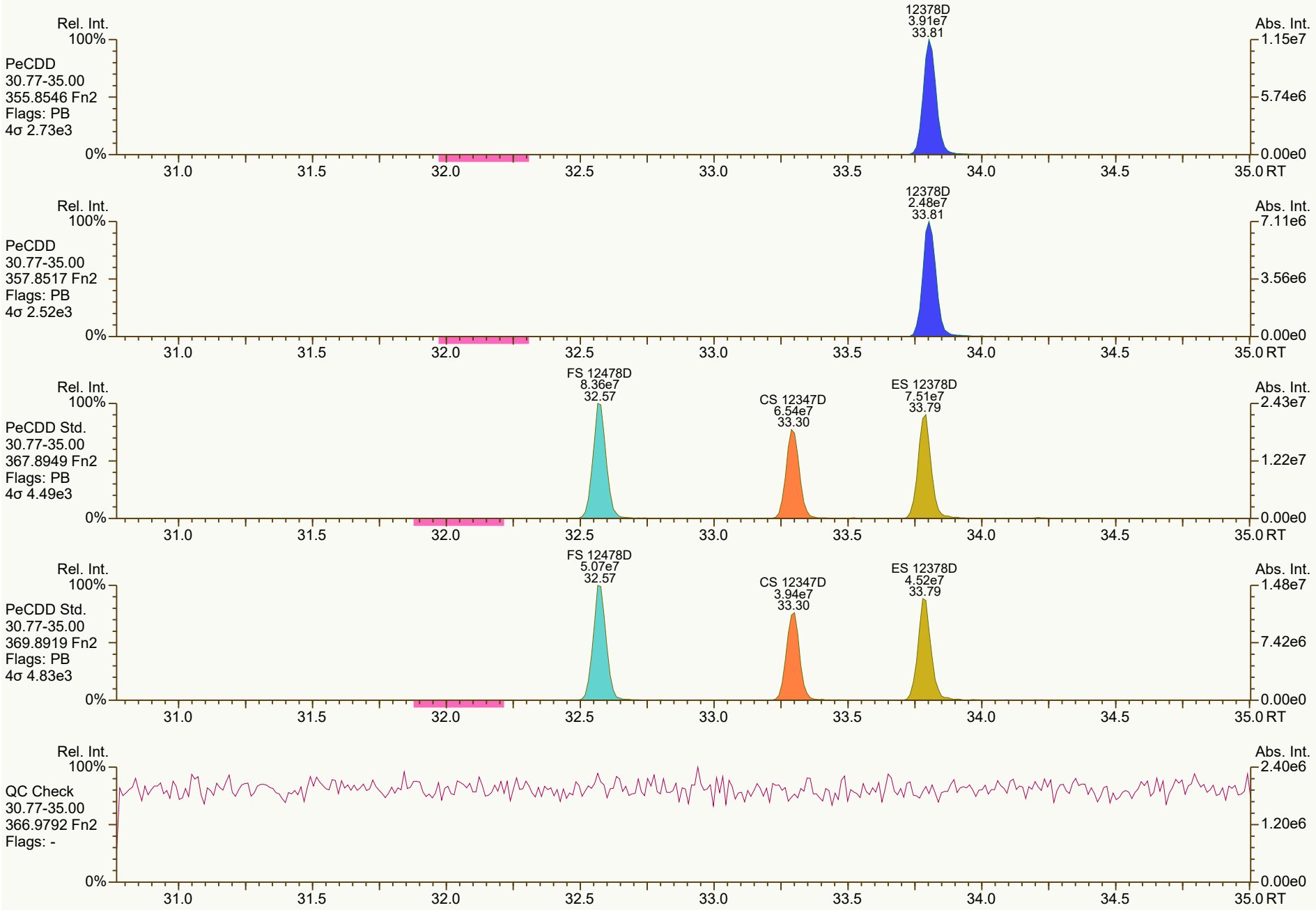
VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

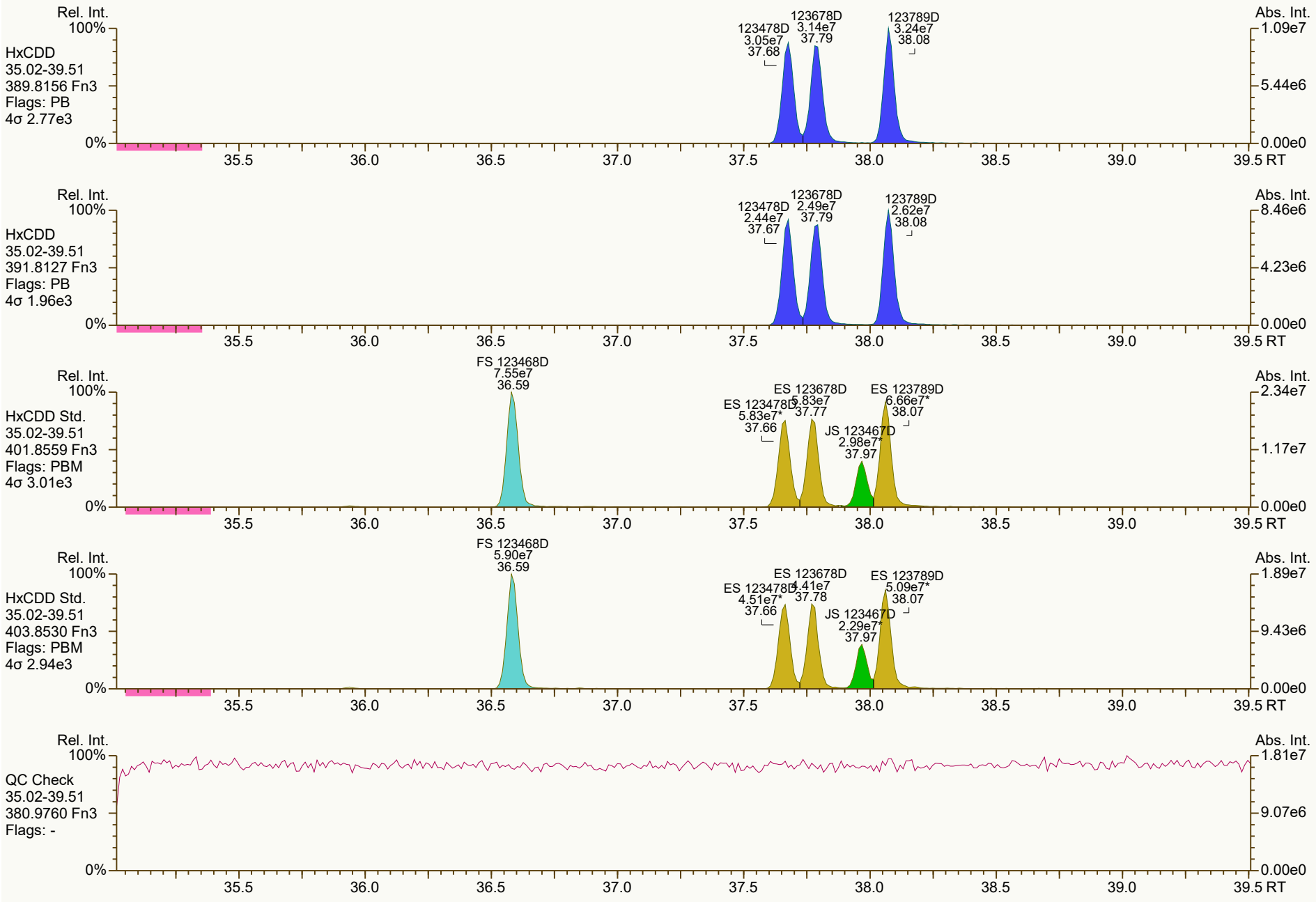
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	77	-	129	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

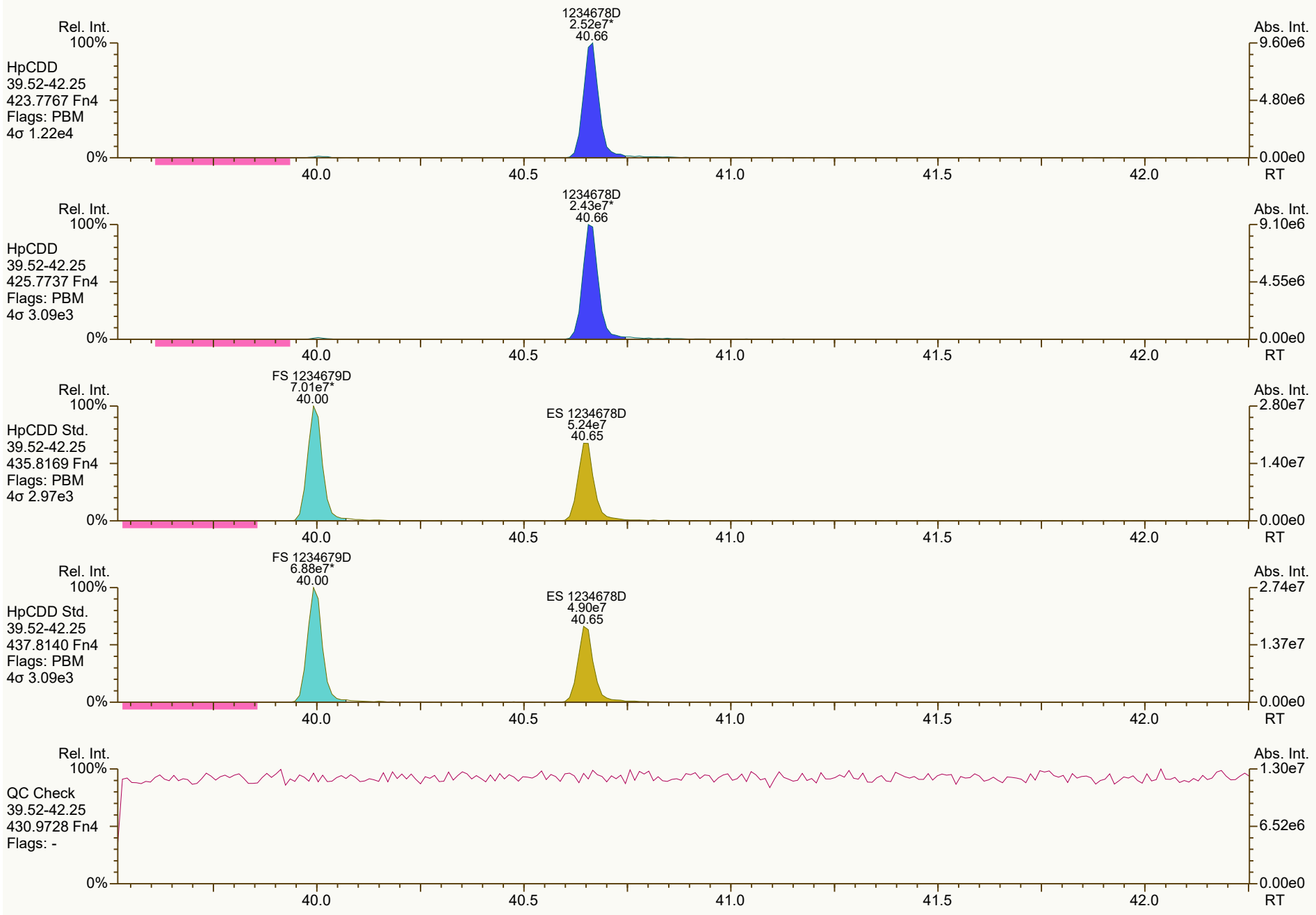
Processed: 28 Jul 2021 08:18 Analyst: pw

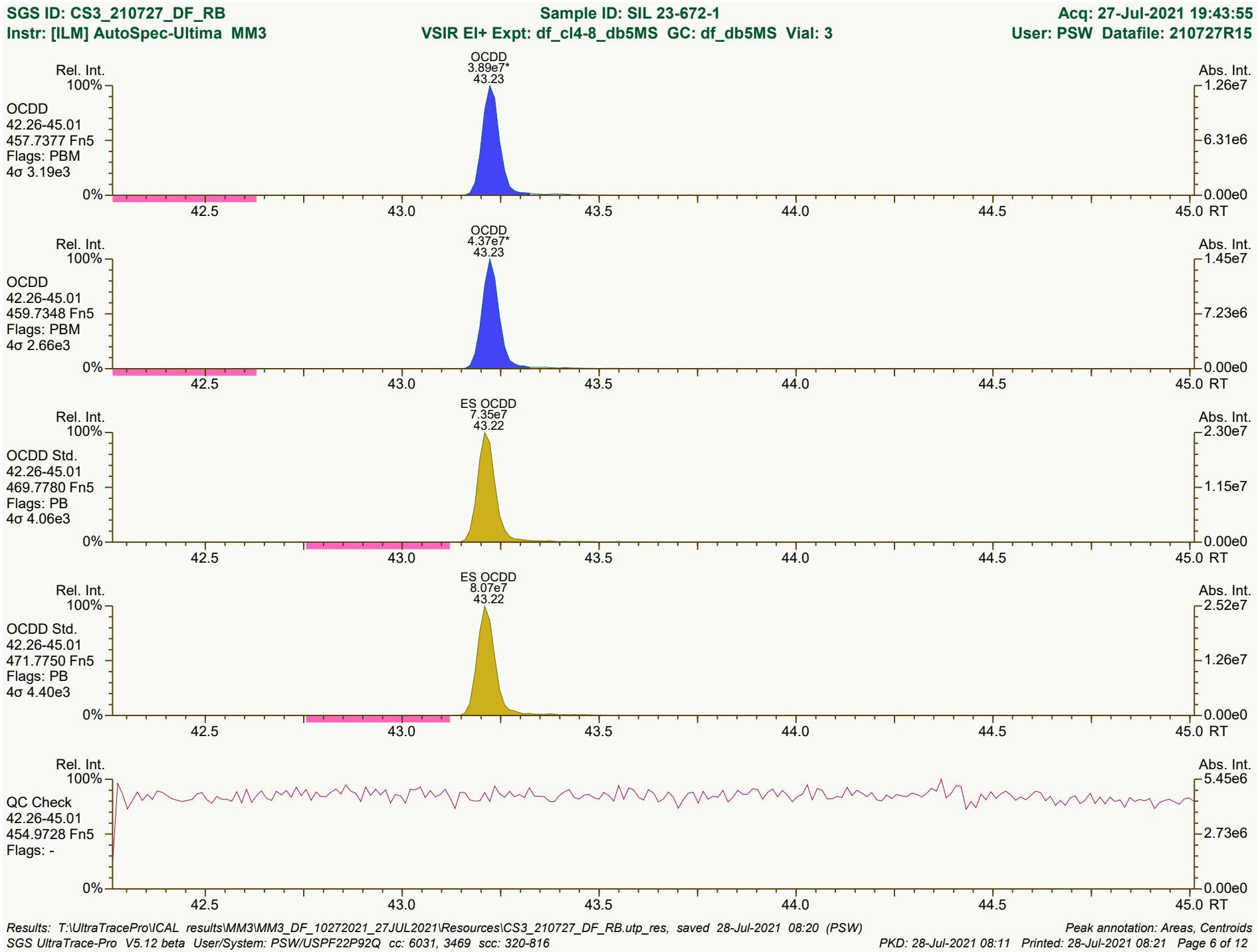

Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
RT
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.40e6
1.20e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.81e7
9.07e6
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.30e7
6.52e6
40.0
40.5
41.0
41.5
42.0
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
5.45e6
2.73e6
42.5
43.0
43.5
44.0
44.5
45.0

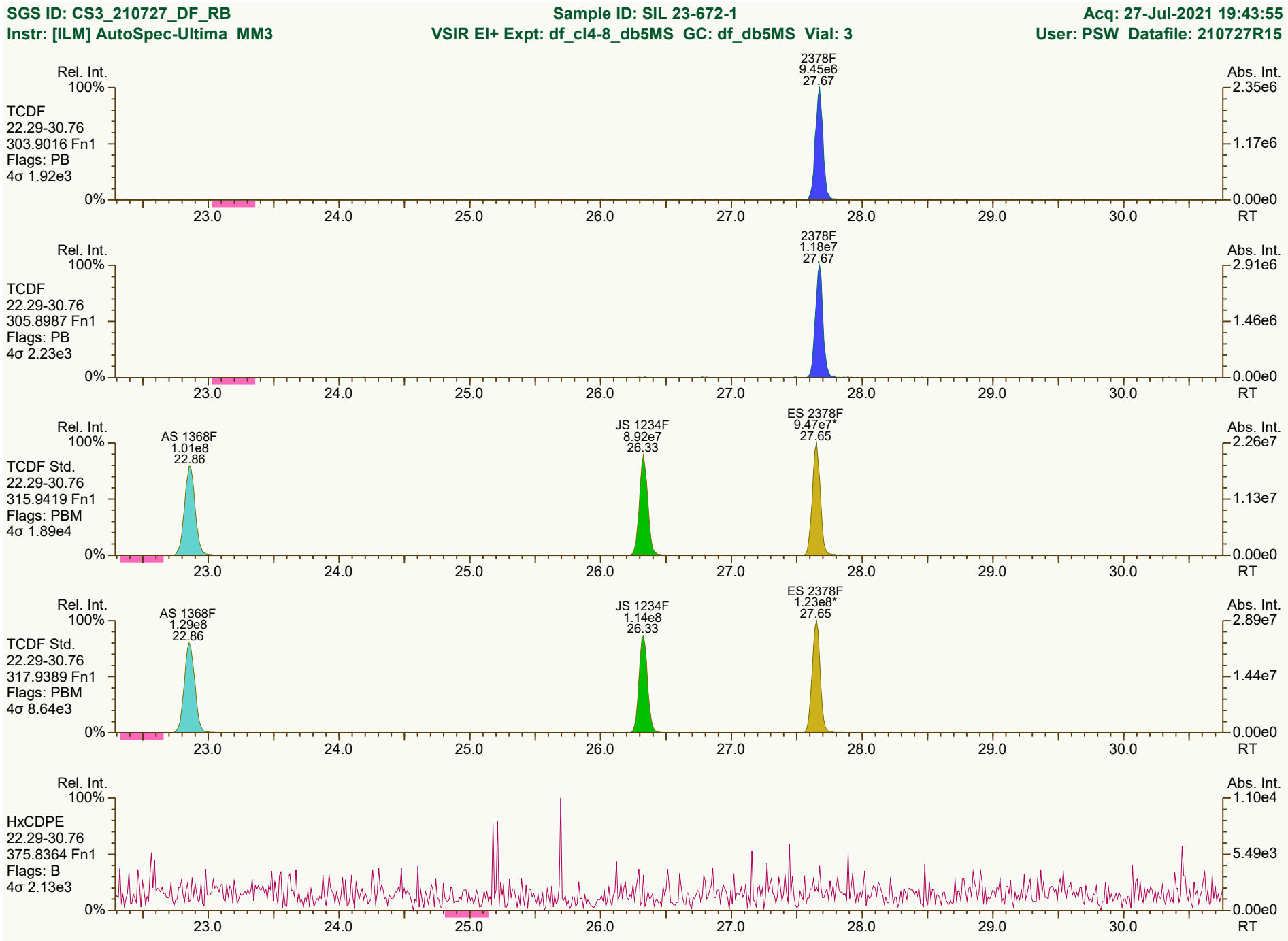

SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
2378D
7.50e6
28.53
1.90e6
9.51e5
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
6.75e7
27.86
ES 2378D
6.89e7
28.50
FS 1278D
7.62e7
28.82
2.20e7
1.10e7
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
0%
100%
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2864, 8257, 5037 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 2 of 12


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.73e3
0%
12378D
3.91e7
33.81
Abs. Int.
1.15e7
5.74e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.52e3
0%
12378D
2.48e7
33.81
Abs. Int.
7.11e6
3.56e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 4.49e3
0%
FS 12478D
8.36e7
32.57
CS 12347D
6.54e7
33.30
ES 12378D
7.51e7
33.79
Abs. Int.
2.43e7
1.22e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
5.07e7
32.57
CS 12347D
3.94e7
33.30
ES 12378D
4.52e7
33.79
Abs. Int.
1.48e7
7.42e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.77e3
123478D 3.05e7 37.68
123678D 3.14e7 37.79
123789D 3.24e7 38.08
Abs. Int.
1.09e7
5.44e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.96e3
123478D 2.44e7 37.67
123678D 2.49e7 37.79
123789D 2.62e7 38.08
Abs. Int.
8.46e6
4.23e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.01e3
FS 123468D 7.55e7 36.59
ES 123478D 5.83e7* 37.66
ES 123678D 5.83e7* 37.77
JS 123467D 2.98e7* 37.97
ES 123789D 6.66e7* 38.07
Abs. Int.
2.34e7
1.17e7
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.94e3
FS 123468D 5.90e7 36.59
ES 123478D 4.51e7* 37.66
ES 123678D 4.41e7* 37.78
JS 123467D 2.29e7* 37.97
ES 123789D 5.09e7* 38.07
Abs. Int.
1.89e7
9.43e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.81e7
9.07e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 1.22e4
0%
1234678D
2.52e7*
40.66
Abs. Int.
9.60e6
4.80e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 3.09e3
0%
1234678D
2.43e7*
40.66
Abs. Int.
9.10e6
4.55e6
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 2.97e3
0%
FS 1234679D
7.01e7*
40.00
ES 1234678D
5.24e7
40.65
Abs. Int.
2.80e7
1.40e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 3.09e3
0%
FS 1234679D
6.88e7*
40.00
ES 1234678D
4.90e7
40.65
Abs. Int.
2.74e7
1.37e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.30e7
6.52e6
0.00e0
RT

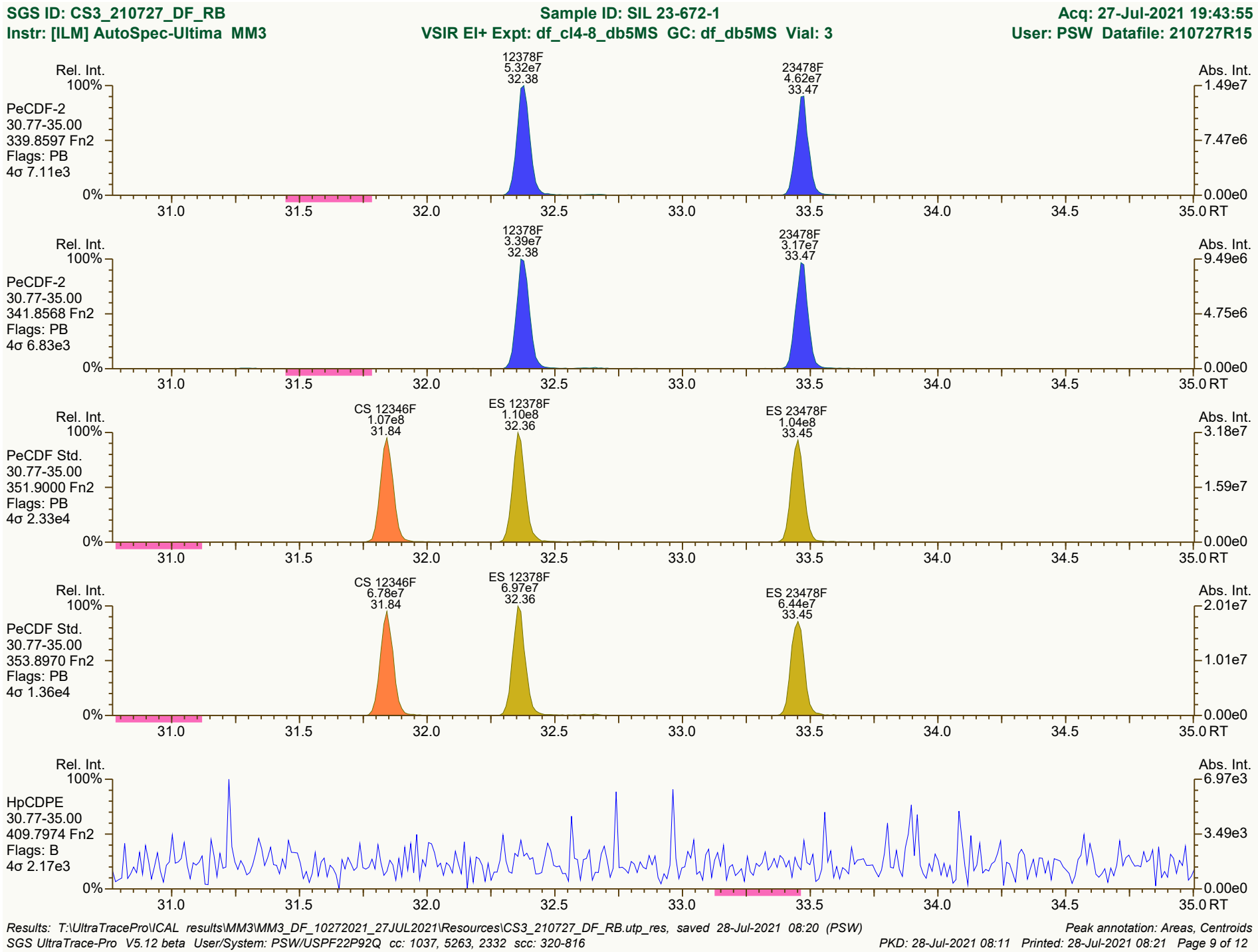

SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
OCDD
3.89e7*
43.23
Rel. Int.
Abs. Int.
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.19e3
OCDD
4.37e7*
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.66e3
ES OCDD
7.35e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.06e3
ES OCDD
8.07e7
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6031, 3469 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 6 of 12

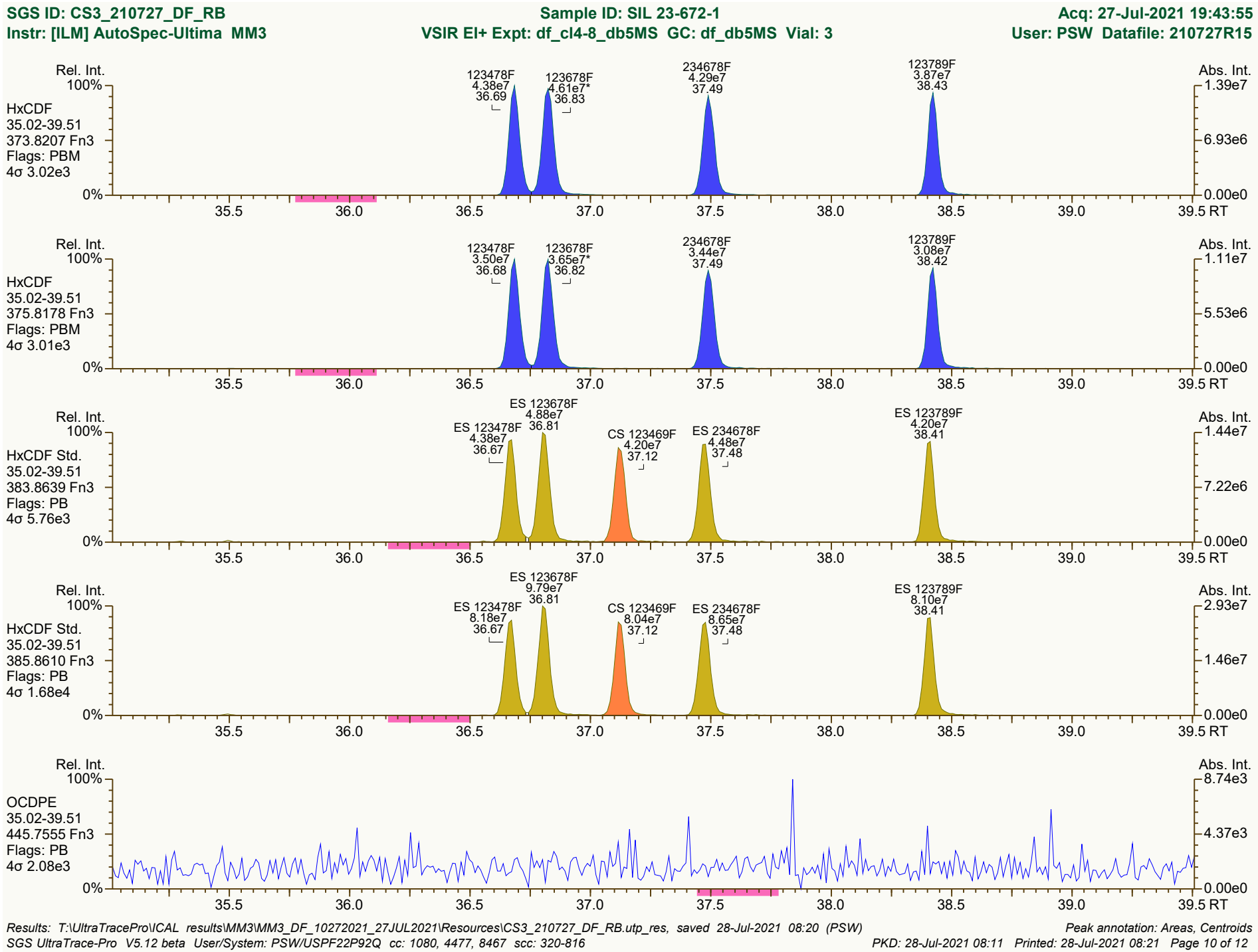

SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 1.92e3
2378F
9.45e6
27.67
2.35e6
1.17e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.23e3
2378F
1.18e7
27.67
2.91e6
1.46e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PBM
4σ 1.89e4
AS 1368F
1.01e8
22.86
JS 1234F
8.92e7
26.33
ES 2378F
9.47e7*
27.65
2.26e7
1.13e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PBM
4σ 8.64e3
AS 1368F
1.29e8
22.86
JS 1234F
1.14e8
26.33
ES 2378F
1.23e8*
27.65
2.89e7
1.44e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.13e3
1.10e4
5.49e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0914, 1634, 7773 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 7 of 12

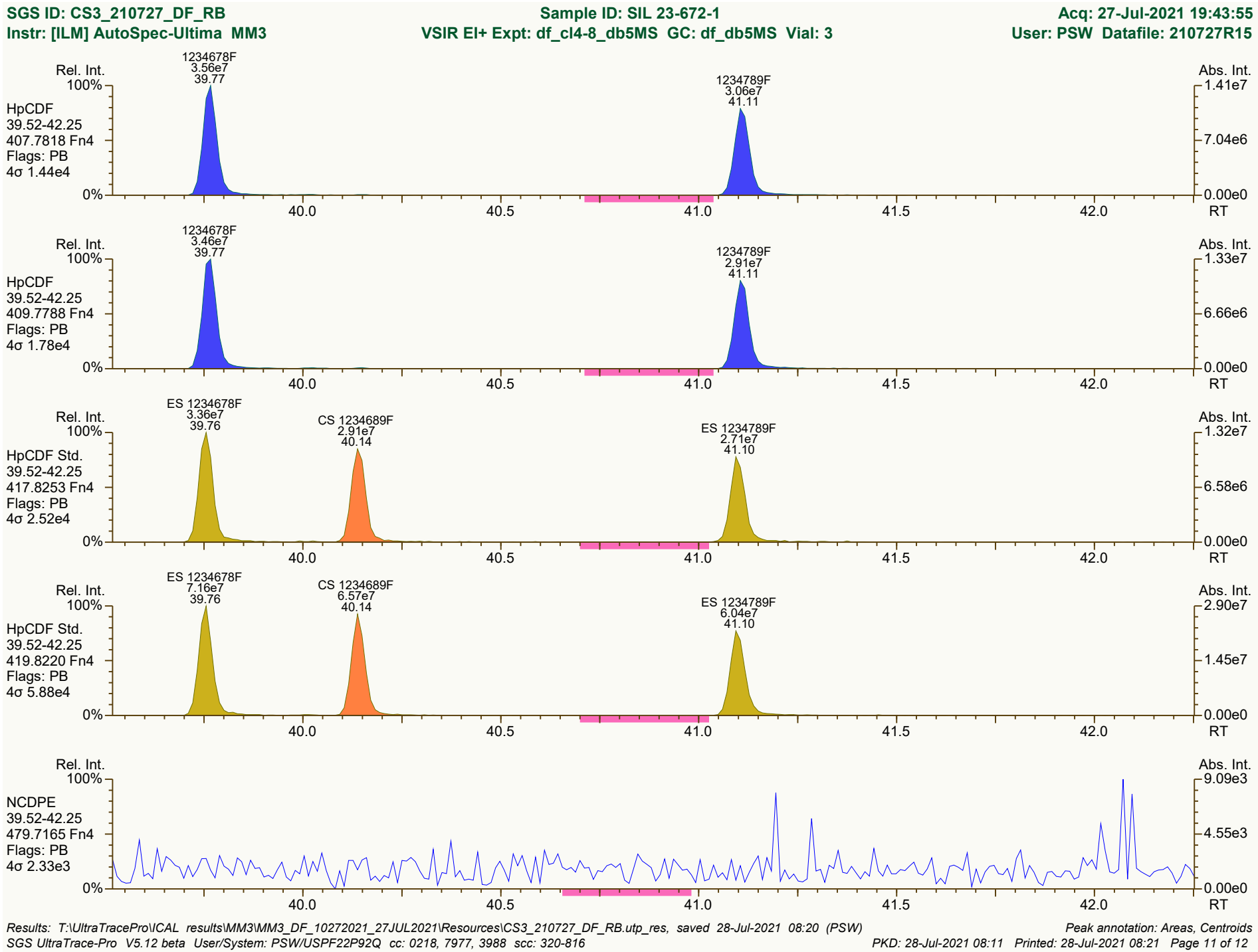
SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15

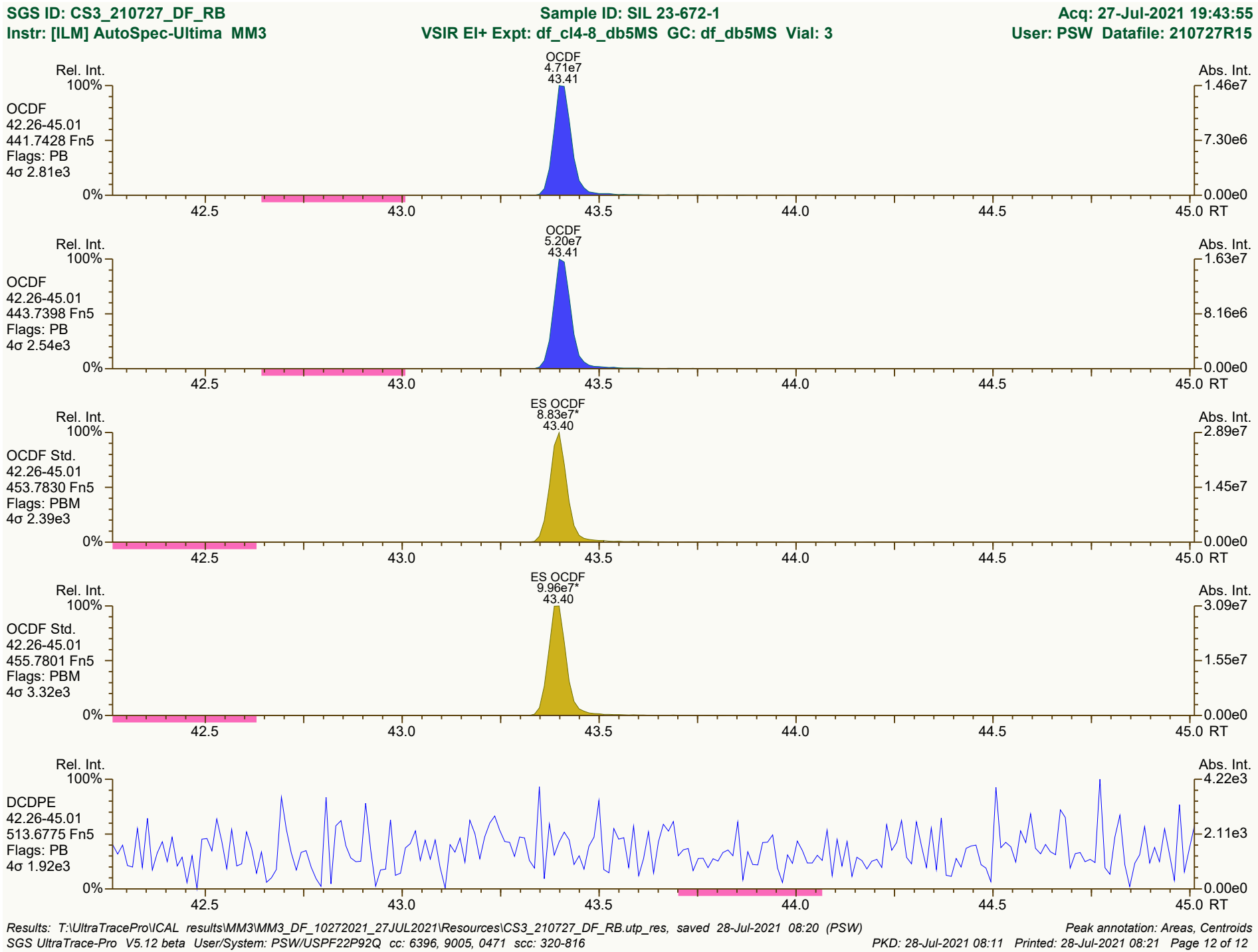


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5181 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 8 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 7.11e3
12378F
5.32e7
32.38
23478F
4.62e7
33.47
1.49e7
7.47e6
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 6.83e3
12378F
3.39e7
32.38
23478F
3.17e7
33.47
9.49e6
4.75e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.33e4
CS 12346F
1.07e8
31.84
ES 12378F
1.10e8
32.36
ES 23478F
1.04e8
33.45
3.18e7
1.59e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.36e4
CS 12346F
6.78e7
31.84
ES 12378F
6.97e7
32.36
ES 23478F
6.44e7
33.45
2.01e7
1.01e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.17e3
6.97e3
3.49e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1037, 5263, 2332 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 9 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
123478F 4.38e7 36.69
123678F 4.61e7* 36.83
234678F 4.29e7 37.49
123789F 3.87e7 38.43
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
123478F 3.50e7 36.68
123678F 3.65e7* 36.82
234678F 3.44e7 37.49
123789F 3.08e7 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
ES 123478F 4.38e7 36.67
ES 123678F 4.88e7 36.81
CS 123469F 4.20e7 37.12
ES 234678F 4.48e7 37.48
ES 123789F 4.20e7 38.41
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
ES 123478F 8.18e7 36.67
ES 123678F 9.79e7 36.81
CS 123469F 8.04e7 37.12
ES 234678F 8.65e7 37.48
ES 123789F 8.10e7 38.41
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1080, 4477, 8467 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 10 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.44e4
1234678F
3.56e7
39.77
1234789F
3.06e7
41.11
1.41e7
7.04e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.78e4
1234678F
3.46e7
39.77
1234789F
2.91e7
41.11
1.33e7
6.66e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.52e4
ES 1234678F
3.36e7
39.76
CS 1234689F
2.91e7
40.14
ES 1234789F
2.71e7
41.10
1.32e7
6.58e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.88e4
ES 1234678F
7.16e7
39.76
CS 1234689F
6.57e7
40.14
ES 1234789F
6.04e7
41.10
2.90e7
1.45e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.33e3
9.09e3
4.55e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0218, 7977, 3988 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 11 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
OCDF
4.71e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.81e3
0%
Abs. Int.
1.46e7
7.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.20e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
1.63e7
8.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.83e7*
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
2.89e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.96e7*
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PBM
4σ 3.32e3
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 1.92e3
0%
Abs. Int.
4.22e3
2.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6396, 9005, 0471 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 12 of 12

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	2.48E+07	0.79	Y	1.34	1.22	-9%
12378-PeCDD	33.81	9.55E+07	1.55	Y	1.06	0.98	-8%
123478-HxCDD	37.68	8.89E+07	1.25	Y	1.06	1.04	-1%
123678-HxCDD	37.80	9.70E+07	1.25	Y	1.08	1.14	5%
123789-HxCDD	38.09	9.52E+07	1.24	Y	1.02	0.95	-7%
1234678-HpCDD	40.67	8.40E+07	1.03	Y	0.97	0.99	1%
OCDD	43.24	1.45E+08	0.90	Y	1.07	1.07	0%
2378-TCDF	27.68	3.32E+07	0.79	Y	0.96	0.95	-1%
12378-PeCDF	32.38	1.28E+08	1.52	Y	0.95	0.87	-8%
23478-PeCDF	33.48	1.47E+08	1.58	Y	0.94	1.00	6%
123478-HxCDF	36.69	1.27E+08	1.27	Y	1.23	1.25	1%
123678-HxCDF	36.83	1.34E+08	1.26	Y	1.13	1.11	-2%
234678-HxCDF	37.50	1.26E+08	1.24	Y	1.15	1.17	1%
123789-HxCDF	38.43	1.13E+08	1.25	Y	1.14	1.10	-3%
1234678-HpCDF	39.77	1.18E+08	1.02	Y	1.36	1.34	-2%
1234789-HpCDF	41.12	9.93E+07	1.03	Y	1.30	1.29	-1%
OCDF	43.42	1.67E+08	0.90	Y	1.03	1.02	-1%
ES 2378-TCDD	28.51	2.04E+08	0.81	Y	1.03	0.96	-7%
ES 12378-PeCDD	33.795	1.95E+08	1.65	Y	1.03	0.92	-11%
ES 123478-HxCDD	37.667	1.70E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.781	1.70E+08	1.29	Y	0.97	0.97	0%
ES 123789-HxCDD	38.071	2.01E+08	1.25	Y	1.12	1.15	2%
ES 1234678-HpCDD	40.656	1.70E+08	1.05	Y	0.99	0.97	-2%
ES OCDD	43.225	2.69E+08	0.90	Y	0.78	0.77	-1%
ES 2378-TCDF	27.654	3.51E+08	0.77	Y	1.08	0.99	-9%
ES 12378-PeCDF	32.366	2.97E+08	1.58	Y	0.93	0.84	-10%
ES 23478-PeCDF	33.459	2.95E+08	1.56	Y	0.92	0.84	-9%
ES 123478-HxCDF	36.673	2.04E+08	0.52	Y	1.14	1.17	2%
ES 123678-HxCDF	36.814	2.41E+08	0.53	Y	1.30	1.38	7%
ES 234678-HxCDF	37.481	2.17E+08	0.52	Y	1.20	1.24	3%
ES 123789-HxCDF	38.414	2.06E+08	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.764	1.76E+08	0.46	Y	0.95	1.01	6%
ES 1234789-HpCDF	41.106	1.54E+08	0.45	Y	0.85	0.88	4%
ES OCDF	43.408	3.28E+08	0.88	Y	0.93	0.94	2%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	2.13E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	3.53E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	8.73E+07	1.21	Y	-	-	-
~~OCDD-a~~	~~43.23~~	~~9.07E+06~~	~~2.21~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~
~~OCDF-a~~	~~43.42~~	~~9.95E+06~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~2%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	9.05	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	46.2	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	49.4	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	52.7	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	46.7	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	50.7	40	-	60	Y
OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	9.87	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	45.8	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	53.1	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05	-	1.43	Y	50.5	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.2	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05	-	1.43	Y	50.6	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	48.4	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	49.2	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.7	40	-	60	Y
OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	99.5	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	70	-	130	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	70	-	130	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	140	-	260	Y
CLEANUP STANDARDS n/a - CL 28Jul21											
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	9.05	7.8	-	12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	46.2	39	-	65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	49.4	39	-	64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	52.7	39	-	64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	46.7	41	-	61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	50.7	43	-	58	Y
OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	100	79	-	126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	9.87	8.4	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	45.8	41	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	53.1	41	-	61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05	-	1.43	Y	50.5	45	-	56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.2	44	-	57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05	-	1.43	Y	50.6	44	-	57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	48.4	45	-	56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	49.2	45	-	55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.7	43	-	58	Y
OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	99.5	63	-	159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

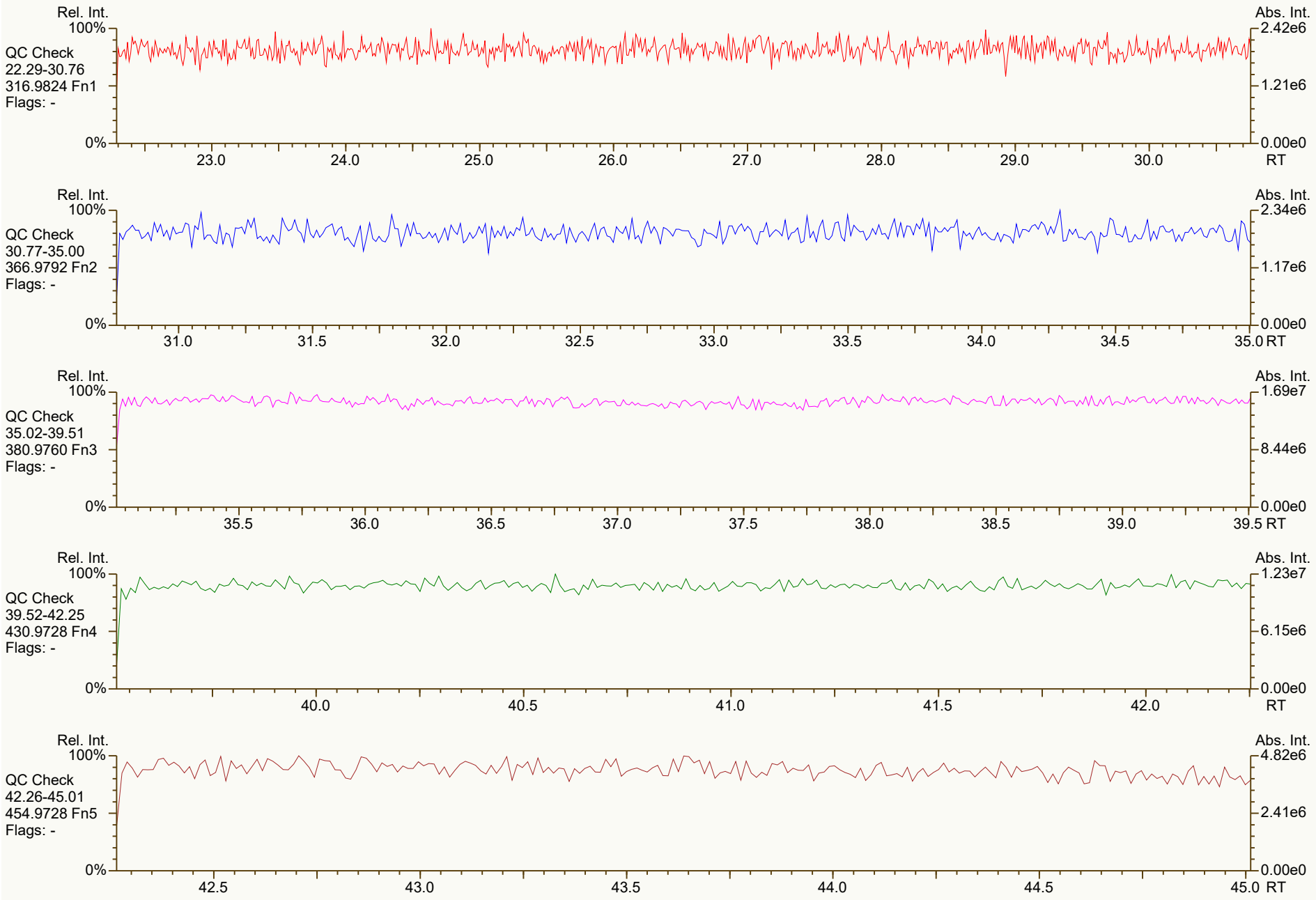
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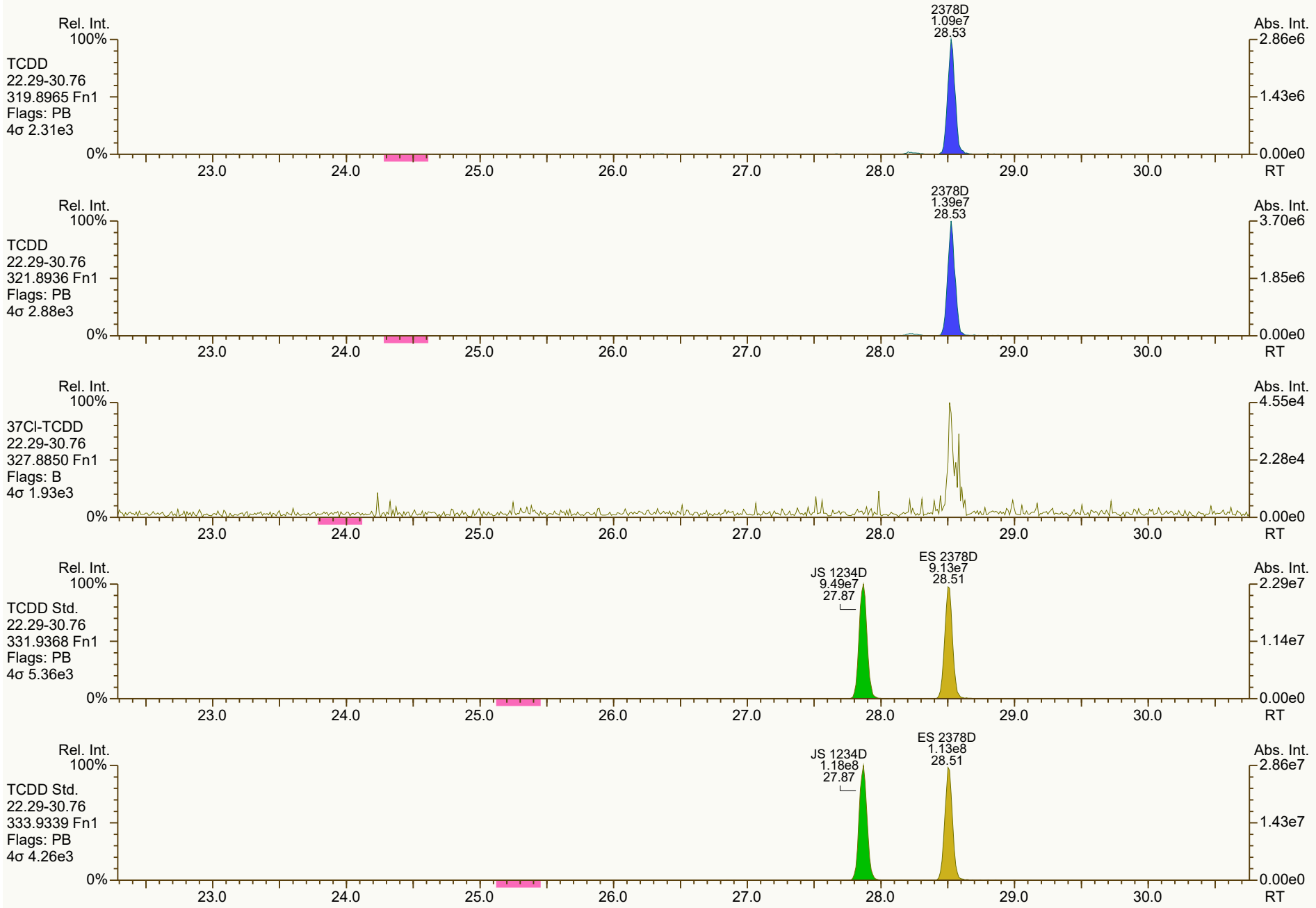
Instrument ID: MM3 GC Column ID: ZB-5ms

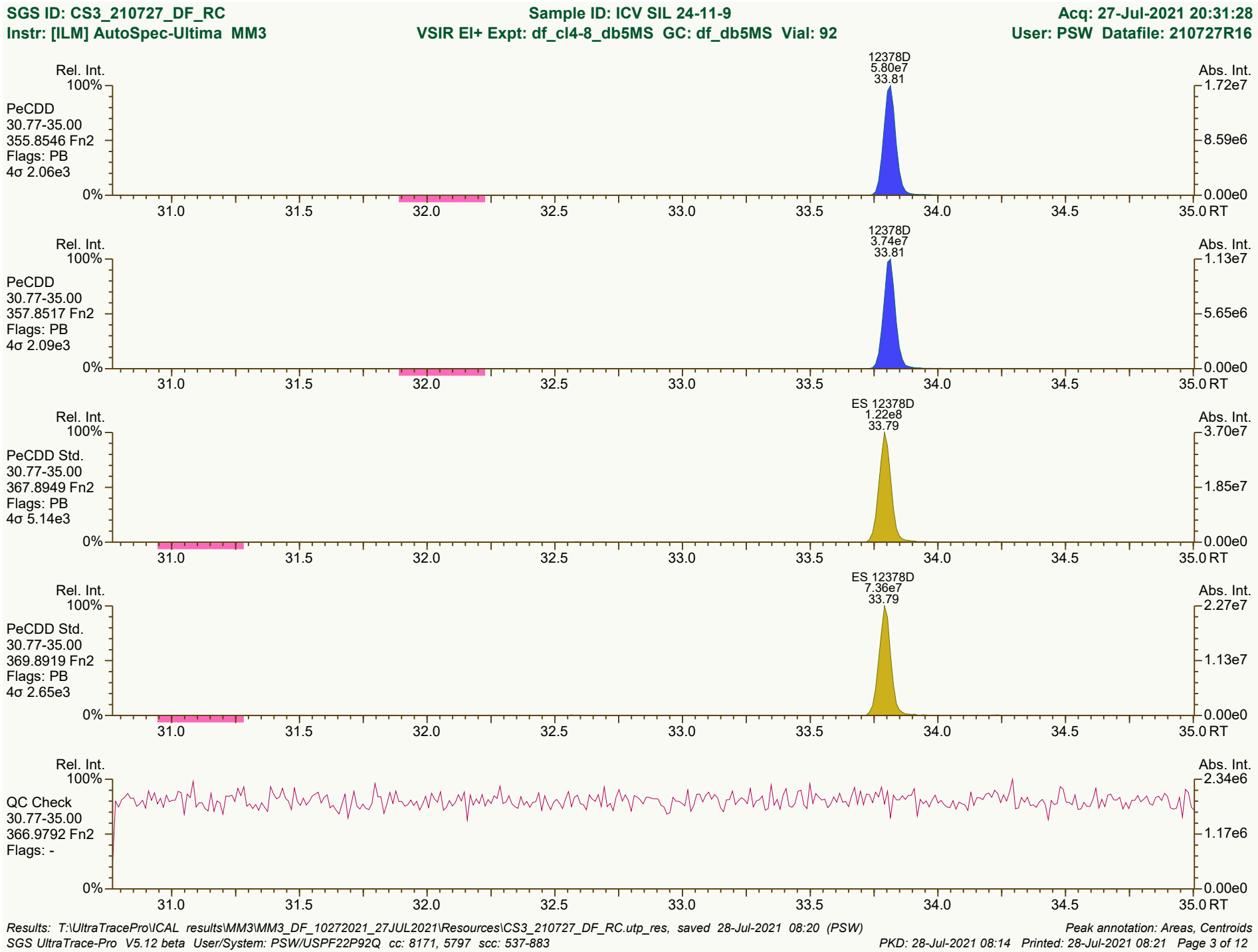
VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

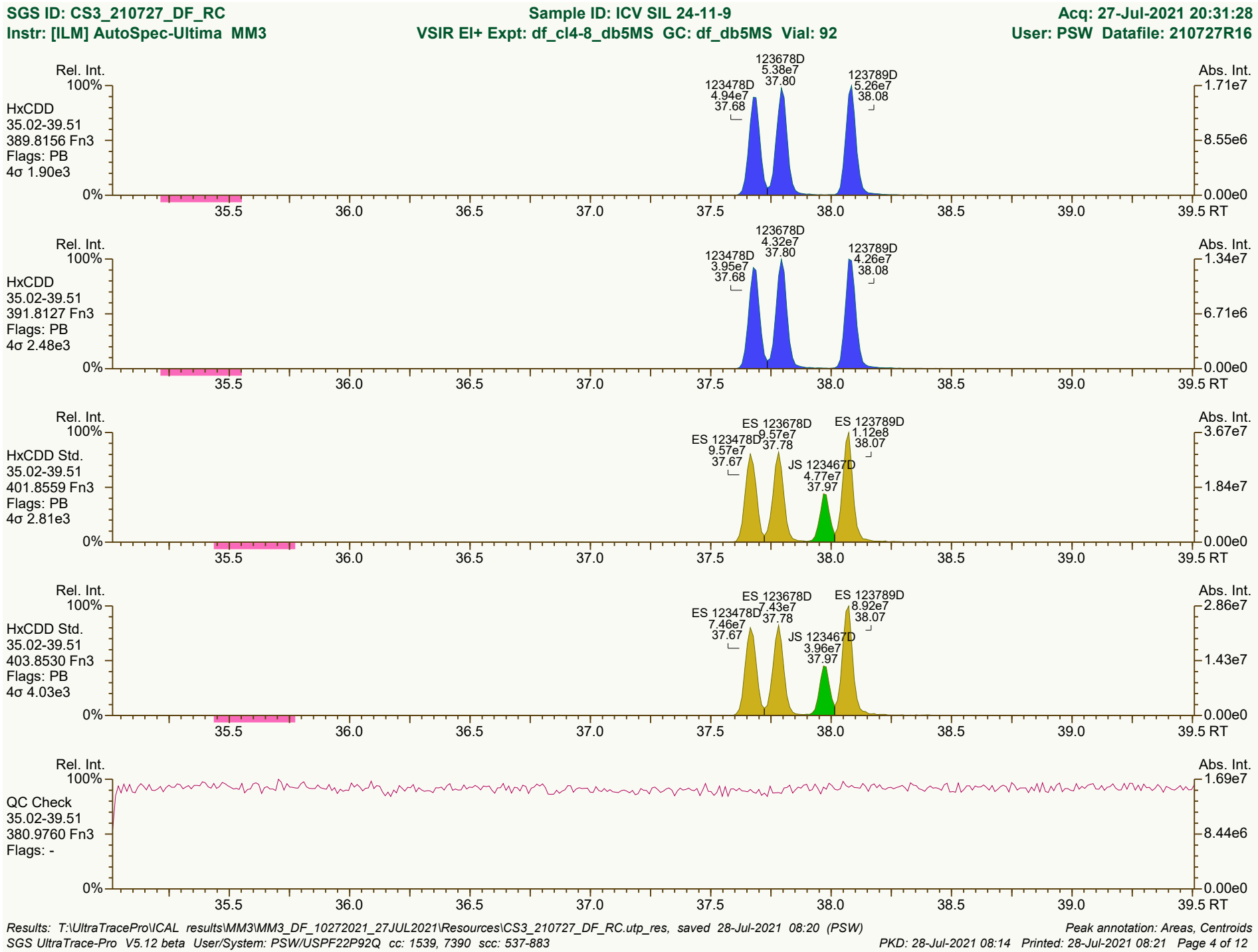
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	96	-	415	Y
CLEANUP STANDARDS	n/a - CL 28Jul21										
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

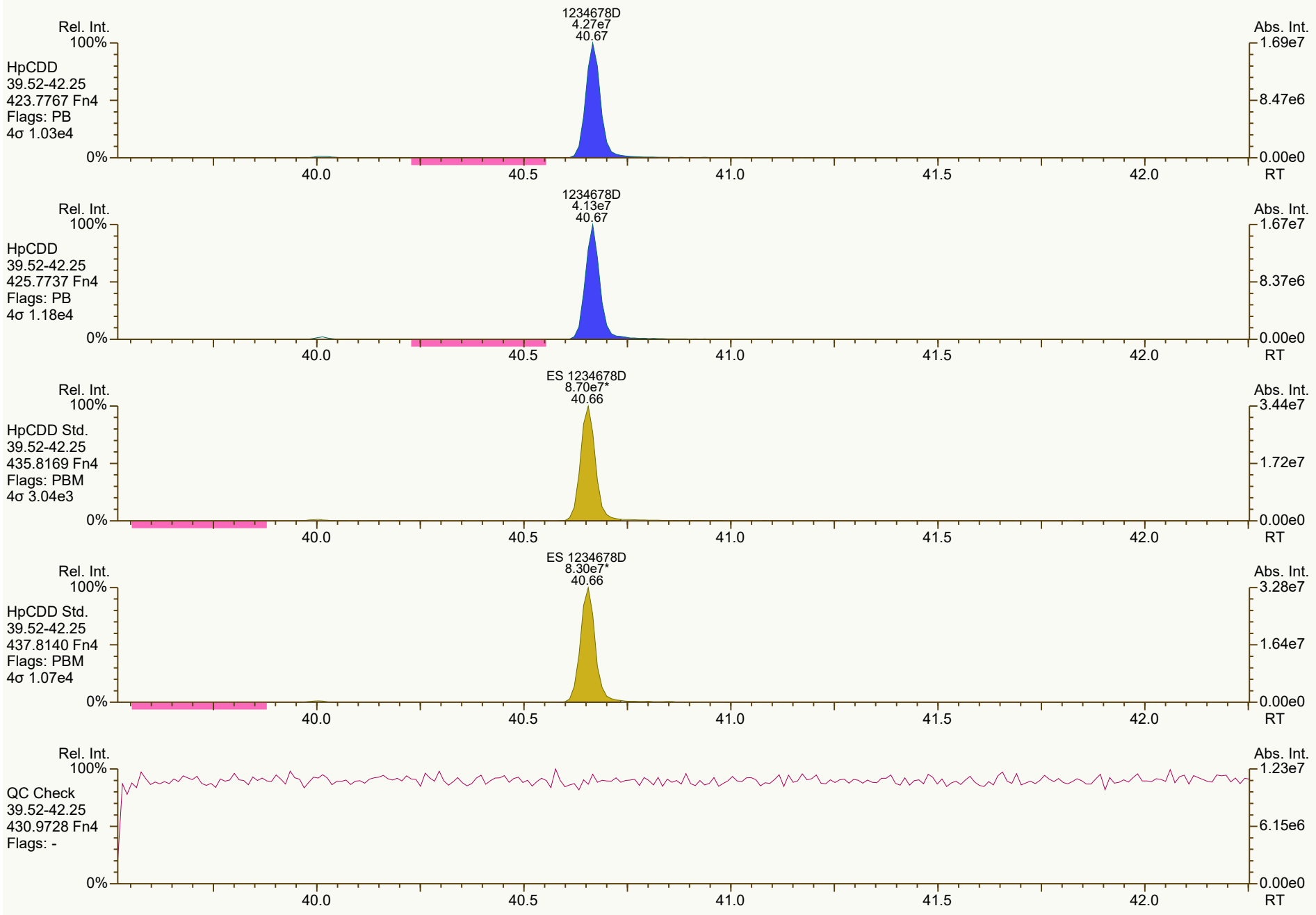
Processed: 28 Jul 2021 08:18 Analyst: pw


Rel. Int.
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QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
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42.5
43.0
43.5
44.0
44.5
45.0 RT

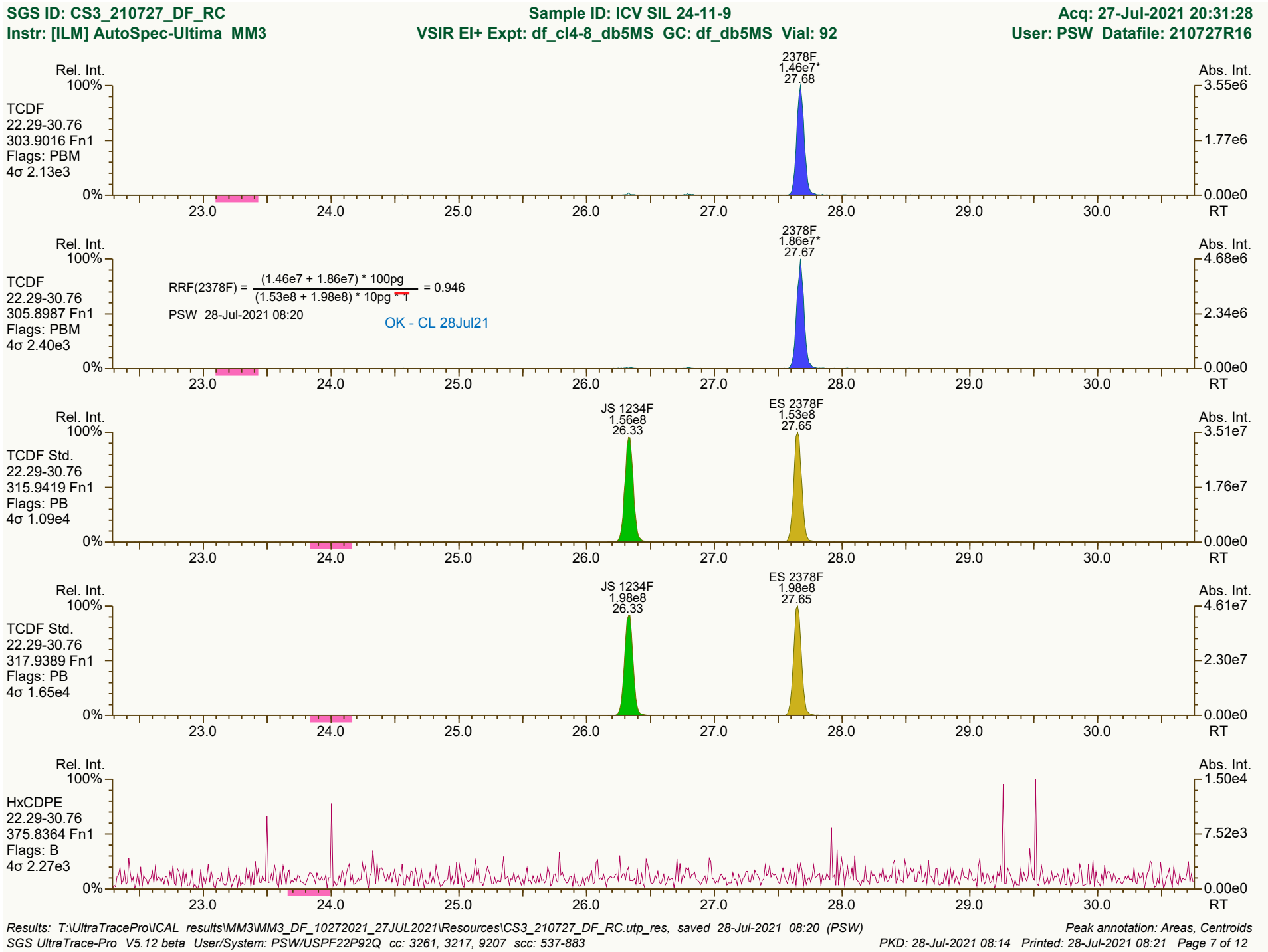

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.31e3
0%
2378D
1.09e7
28.53
Abs. Int.
2.86e6
1.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.88e3
0%
2378D
1.39e7
28.53
Abs. Int.
3.70e6
1.85e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
4.55e4
2.28e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.36e3
0%
JS 1234D
9.49e7
27.87
ES 2378D
9.13e7
28.51
Abs. Int.
2.29e7
1.14e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
1.18e8
27.87
ES 2378D
1.13e8
28.51
Abs. Int.
2.86e7
1.43e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.06e3
12378D
5.80e7
33.81
Abs. Int.
1.72e7
8.59e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.09e3
12378D
3.74e7
33.81
Abs. Int.
1.13e7
5.65e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 5.14e3
ES 12378D
1.22e8
33.79
Abs. Int.
3.70e7
1.85e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 2.65e3
ES 12378D
7.36e7
33.79
Abs. Int.
2.27e7
1.13e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
Abs. Int.
2.34e6
1.17e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8171, 5797 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 3 of 12

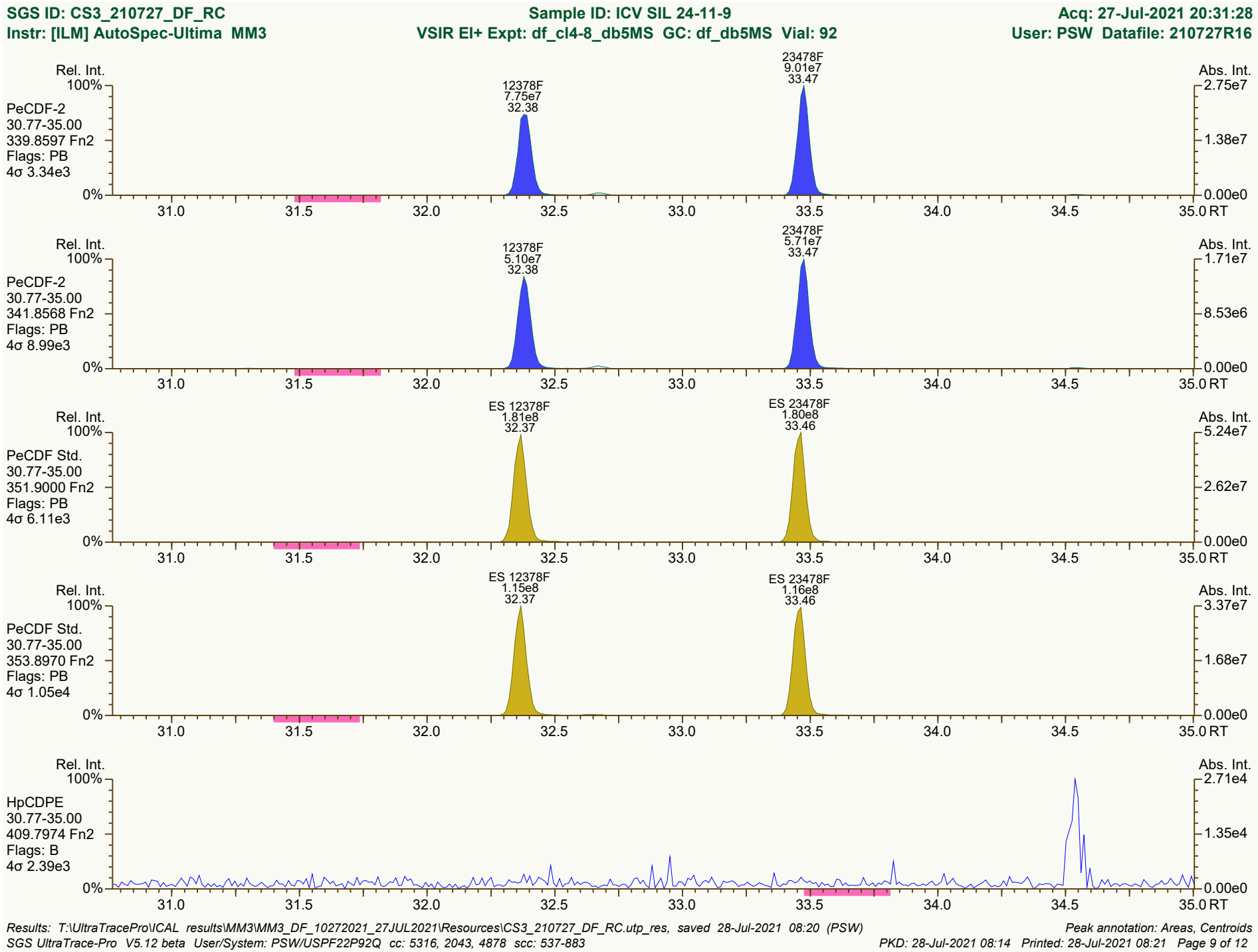

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 1.90e3
123678D
5.38e7
37.80
123478D
4.94e7
37.68
123789D
5.26e7
38.08
1.71e7
8.55e6
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.48e3
123678D
4.32e7
37.80
123478D
3.95e7
37.68
123789D
4.26e7
38.08
1.34e7
6.71e6
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
9.57e7
37.78
ES 123478D
9.57e7
37.67
ES 123789D
1.12e8
38.07
JS 123467D
4.77e7
37.97
3.67e7
1.84e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 4.03e3
ES 123678D
7.43e7
37.78
ES 123478D
7.46e7
37.67
ES 123789D
8.92e7
38.07
JS 123467D
3.96e7
37.97
2.86e7
1.43e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.69e7
8.44e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1539, 7390 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 4 of 12

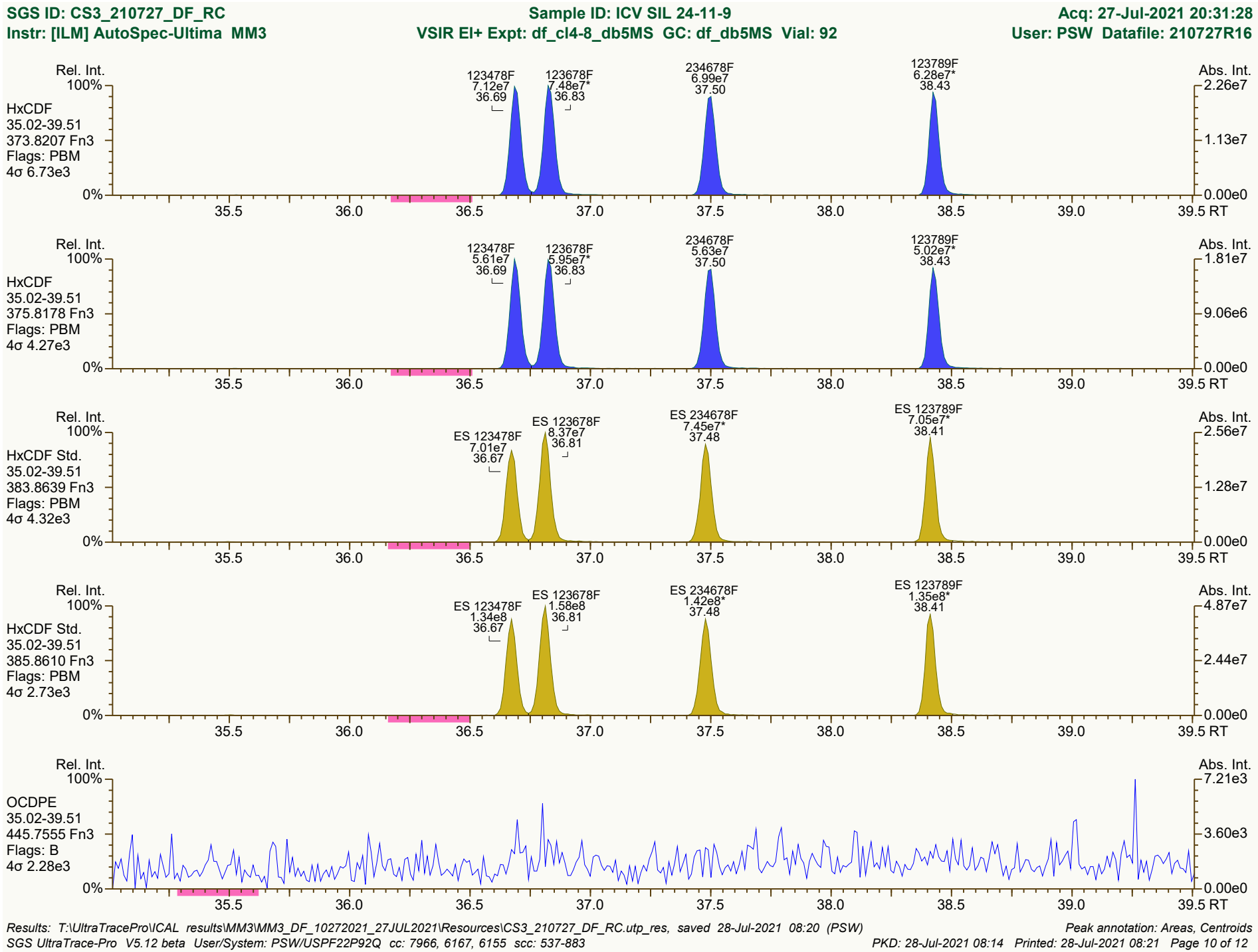

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.03e4
0%
1234678D
4.27e7
40.67
Abs. Int.
1.69e7
8.47e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.18e4
0%
1234678D
4.13e7
40.67
Abs. Int.
1.67e7
8.37e6
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 3.04e3
0%
ES 1234678D
8.70e7*
40.66
Abs. Int.
3.44e7
1.72e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 1.07e4
0%
ES 1234678D
8.30e7*
40.66
Abs. Int.
3.28e7
1.64e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
RT


Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
0%
OCDD
6.83e7*
43.24
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 4.65e3
0%
OCDD
7.63e7*
43.23
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 3.40e3
0%
ES OCDD
1.28e8*
43.22
Abs. Int.
4.34e7
2.17e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.30e3
0%
ES OCDD
1.41e8*
43.22
Abs. Int.
4.68e7
2.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

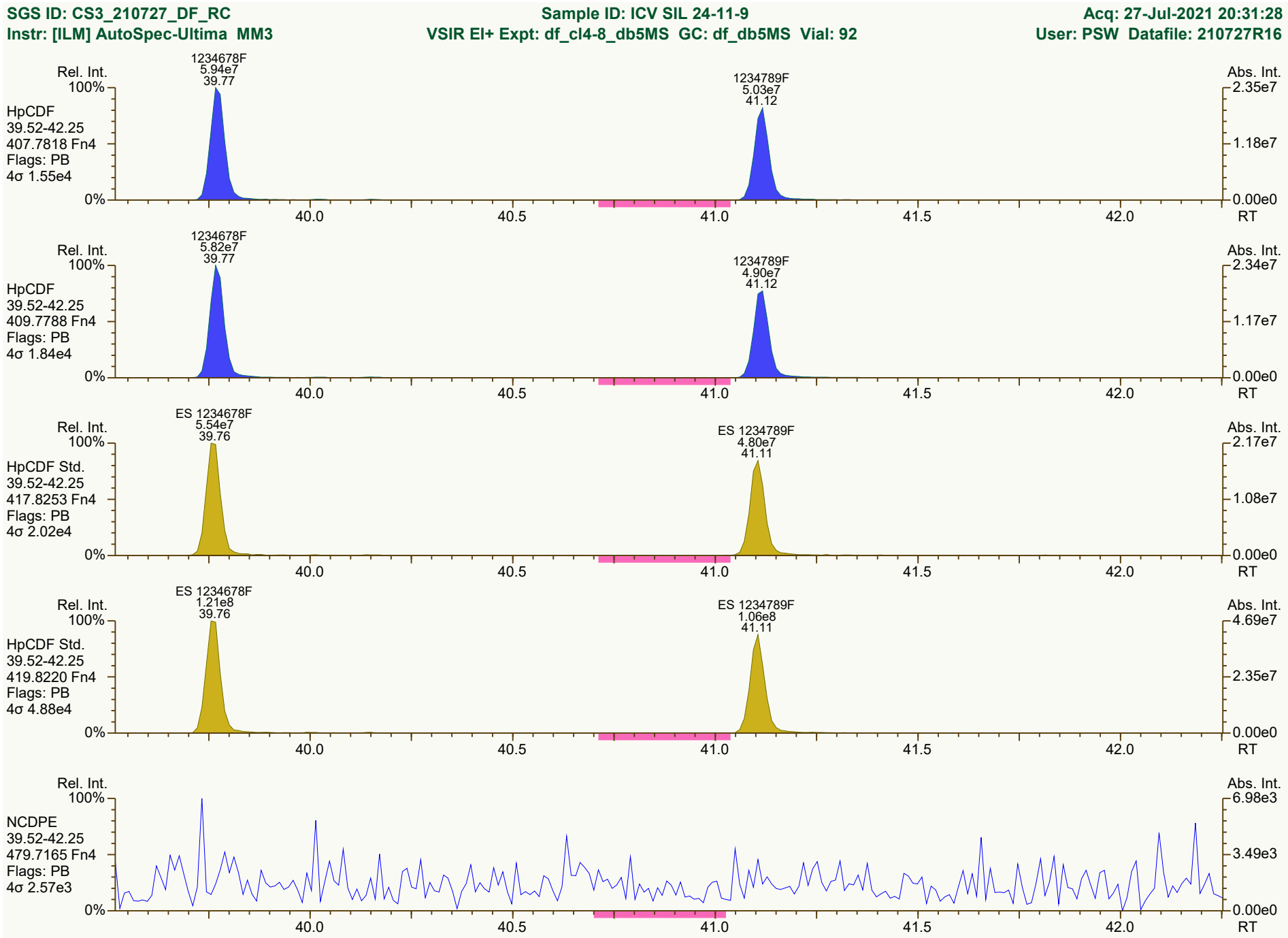

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
2378F
1.46e7*
27.68
3.55e6
1.77e6
0.00e0
RT
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg * 1 = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
2378F
1.86e7*
27.67
4.68e6
2.34e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
3.51e7
1.76e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
4.61e7
2.30e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
1.50e4
7.52e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3261, 3217, 9207 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 7 of 12

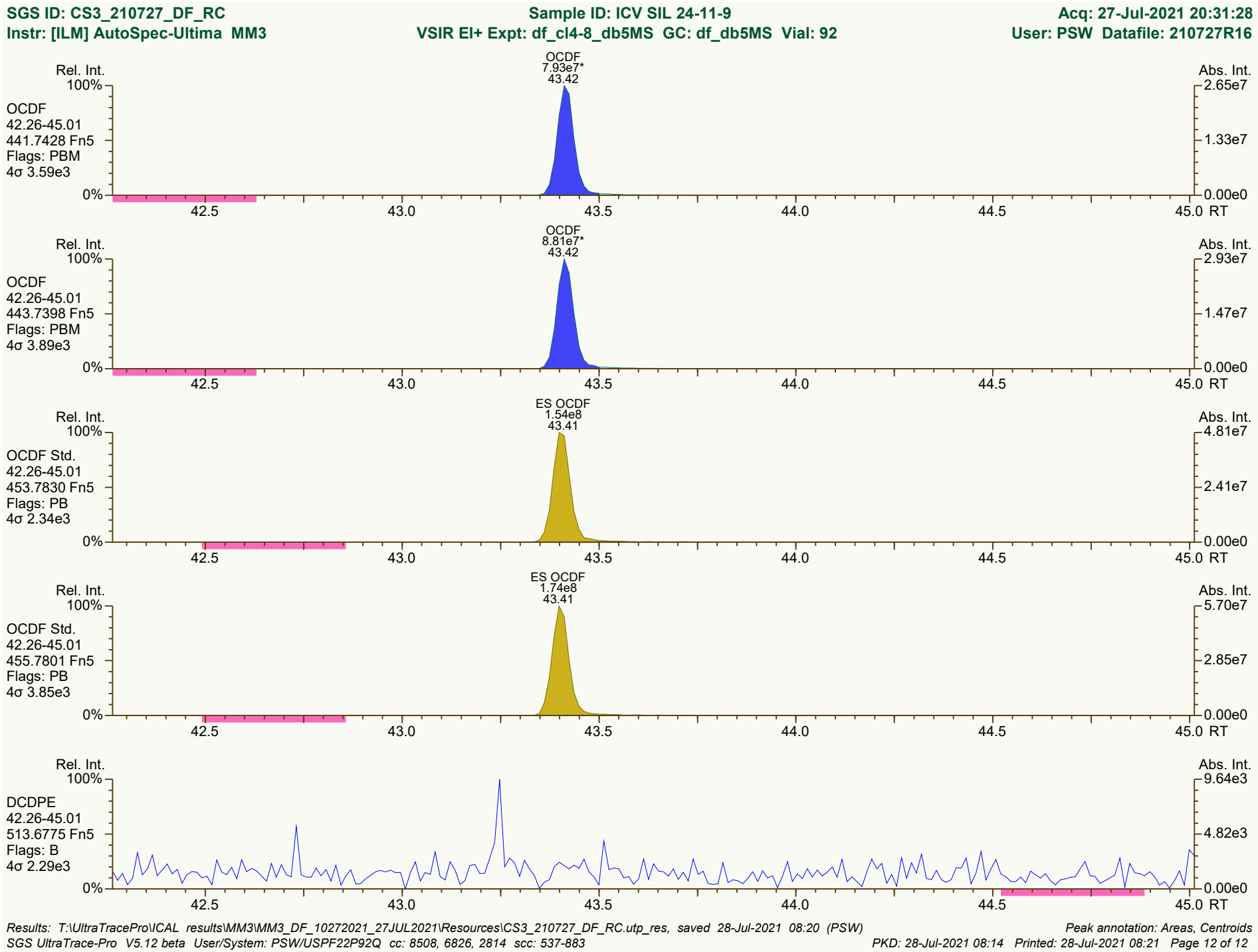

Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.61e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.75e4
8.73e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.05e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.34e3
12378F
7.75e7
32.38
23478F
9.01e7
33.47
2.75e7
1.38e7
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 8.99e3
12378F
5.10e7
32.38
23478F
5.71e7
33.47
1.71e7
8.53e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 6.11e3
ES 12378F
1.81e8
32.37
ES 23478F
1.80e8
33.46
5.24e7
2.62e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.05e4
ES 12378F
1.15e8
32.37
ES 23478F
1.16e8
33.46
3.37e7
1.68e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.39e3
2.71e4
1.35e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5316, 2043, 4878 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 9 of 12



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7966, 6167, 6155 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 10 of 12

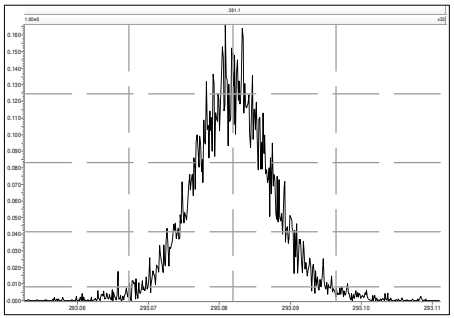

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.55e4
1234678F
5.94e7
39.77
1234789F
5.03e7
41.12
2.35e7
1.18e7
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.84e4
1234678F
5.82e7
39.77
1234789F
4.90e7
41.12
2.34e7
1.17e7
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.02e4
ES 1234678F
5.54e7
39.76
ES 1234789F
4.80e7
41.11
2.17e7
1.08e7
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 4.88e4
ES 1234678F
1.21e8
39.76
ES 1234789F
1.06e8
41.11
4.69e7
2.35e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.57e3
6.98e3
3.49e3
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6305, 0778, 6253 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 11 of 12


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
OCDF
7.93e7*
43.42
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
2.65e7
1.33e7
0.00e0
OCDF
8.81e7*
43.42
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
2.93e7
1.47e7
ES OCDF
1.54e8
43.41
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
4.81e7
2.41e7
ES OCDF
1.74e8
43.41
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
5.70e7
2.85e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
9.64e3
4.82e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8508, 6826, 2814 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 12 of 12

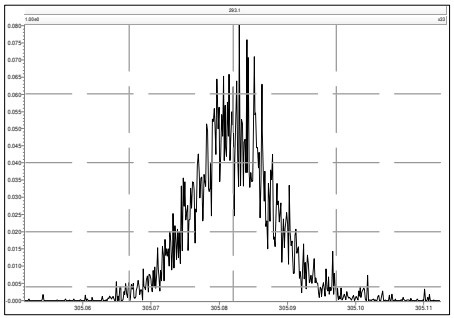
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:15:38 Eastern Daylight Time

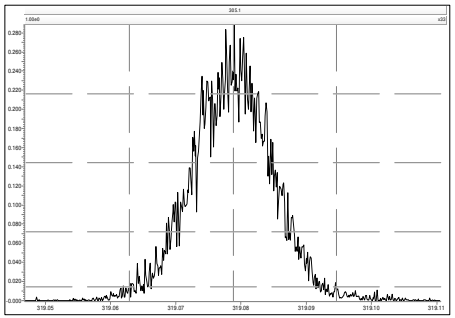
M 292.9824 R 12951



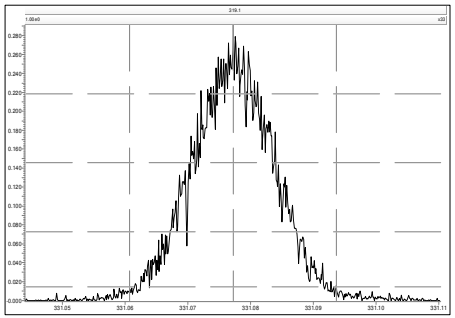
M 304.9824 R 13589



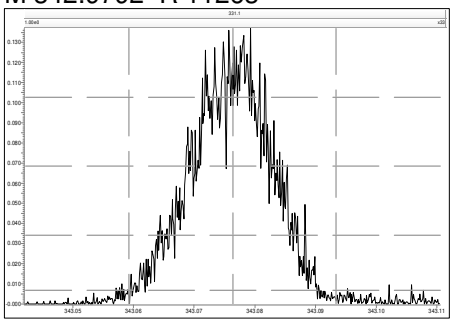
M 318.9792 R 11848



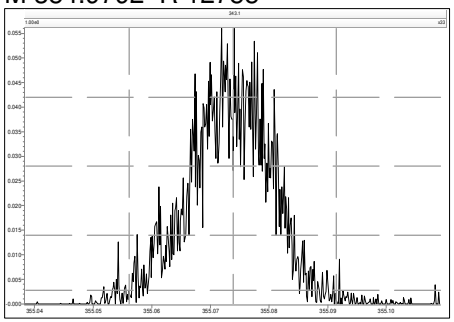
M 330.9792 R 11310



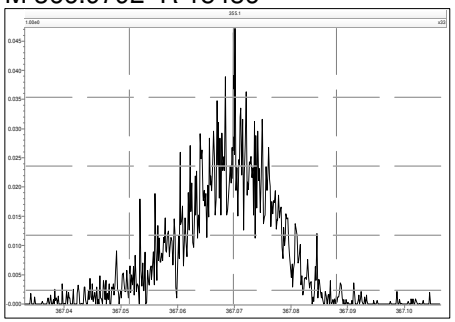
M 342.9792 R 11263



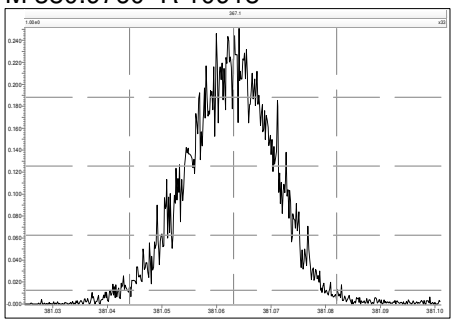
M 354.9792 R 12755



M 366.9792 R 15436



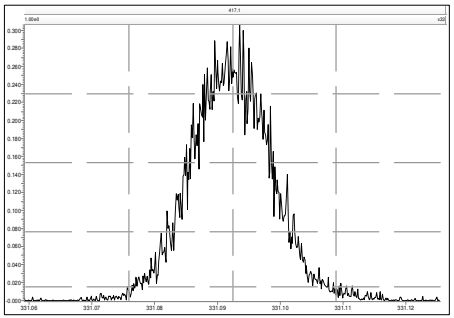
M 380.9760 R 10918



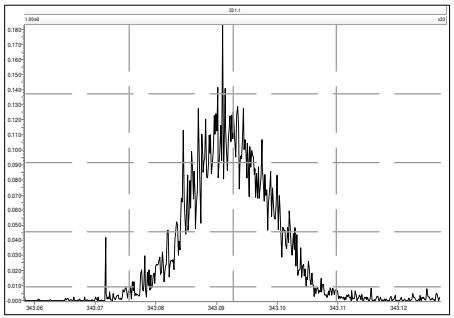
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:03 Eastern Daylight Time

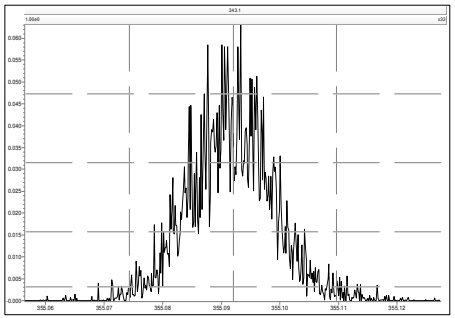
M 330.9792 R 11165



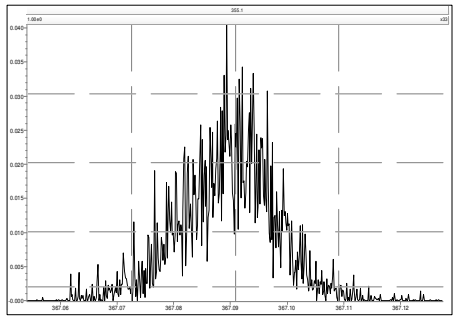
M 342.9792 R 12440



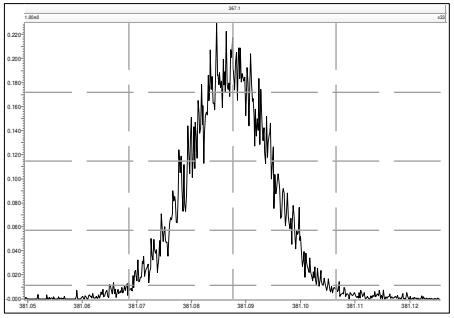
M 354.9792 R 12626



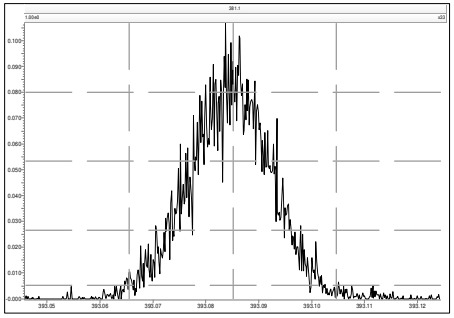
M 366.9792 R 12134



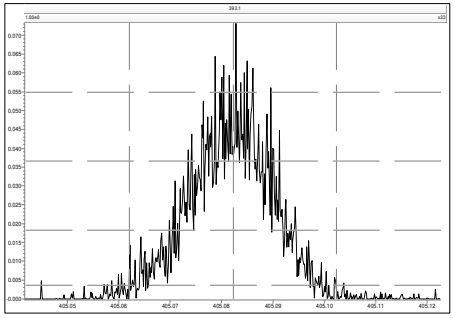
M 380.9760 R 10727



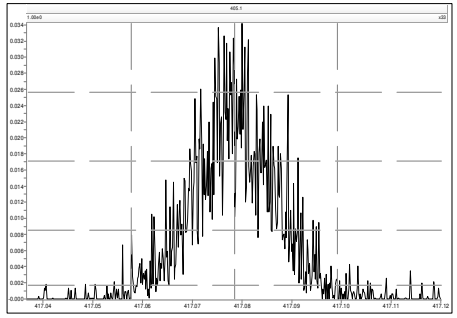
M 392.9760 R 12019



M 404.9760 R 11685



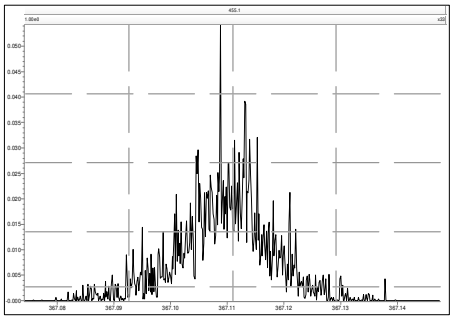
M 416.9760 R 14046



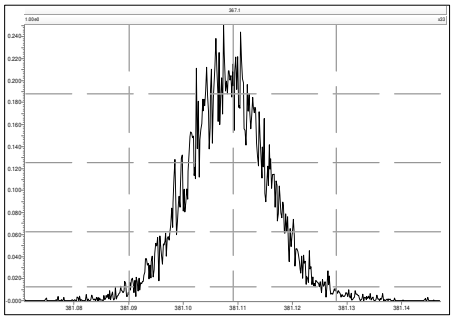
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:24 Eastern Daylight Time

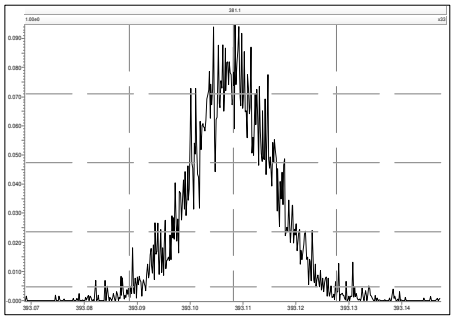
M 366.9792 R 13020



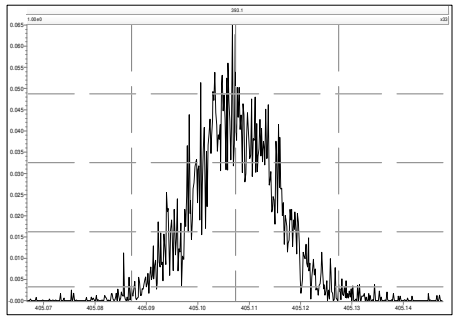
M 380.9760 R 11361



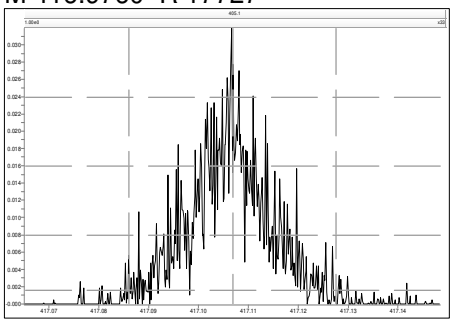
M 392.9760 R 11464



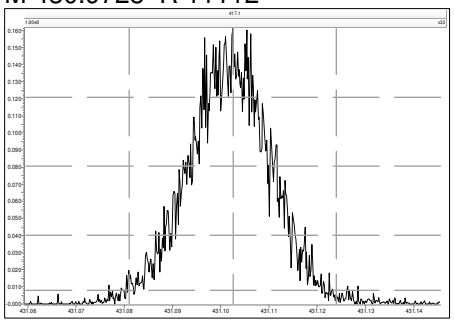
M 404.9760 R 12314



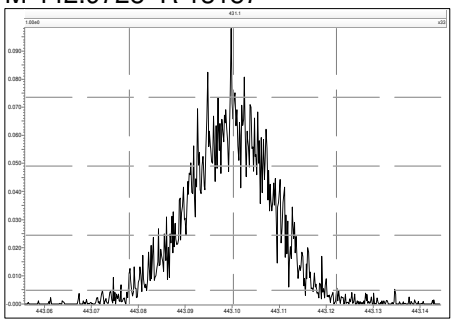
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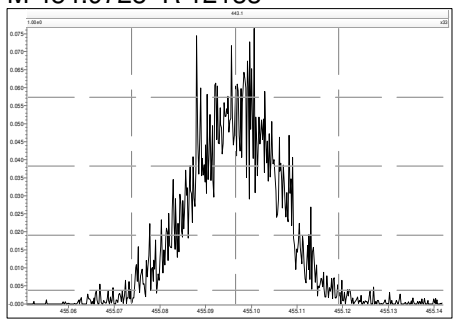
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M 442.9728 R 13157



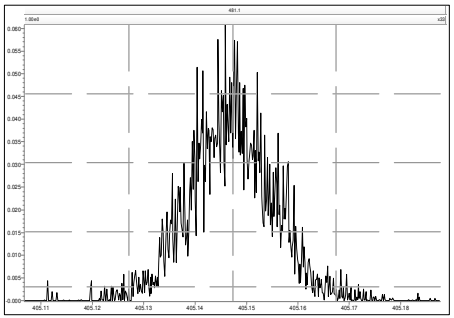
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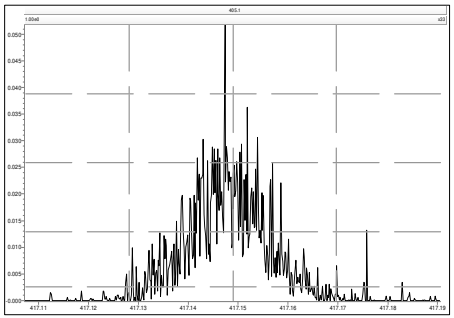
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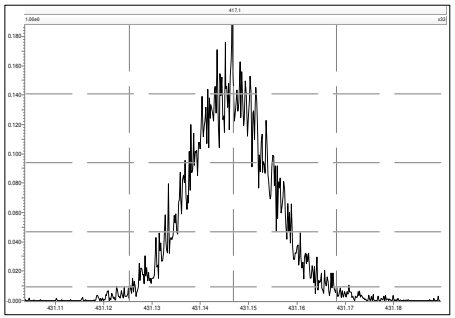
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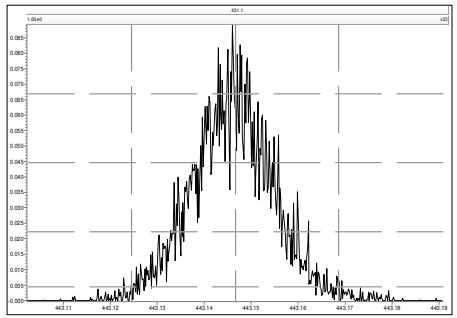
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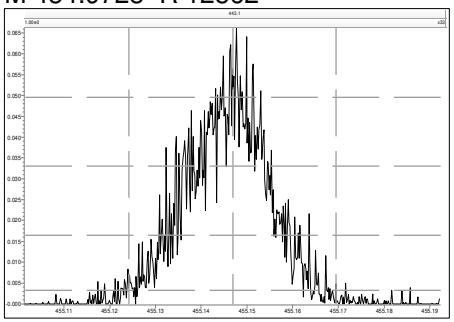
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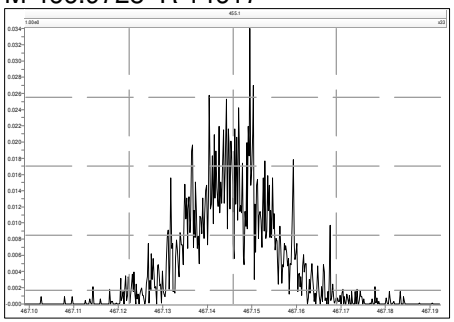
M 442.9728 R 11849



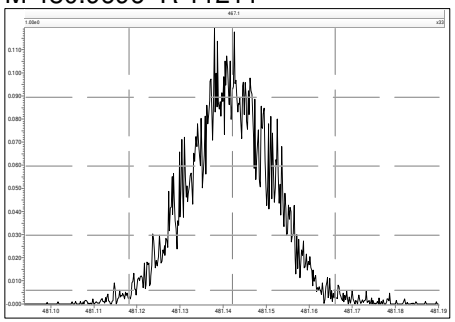
M 454.9728 R 12562



M 466.9728 R 14617



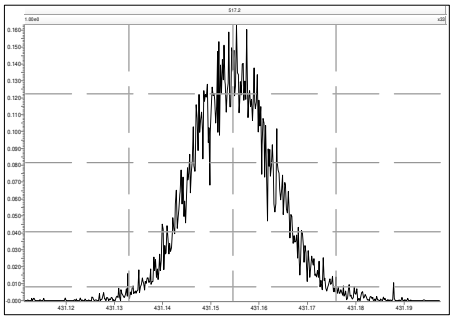
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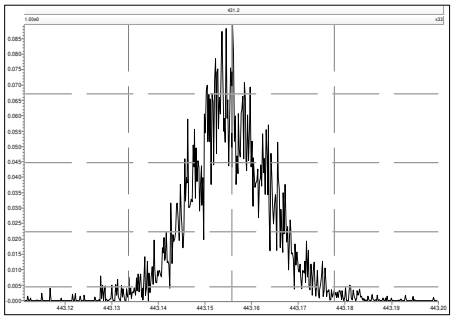
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

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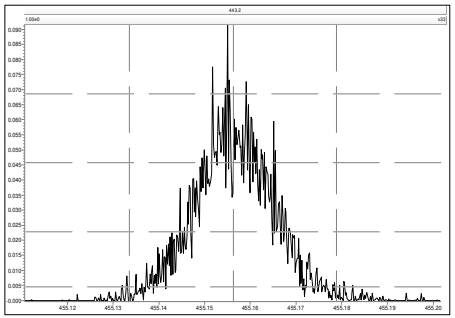
M 430.9728 R 11739



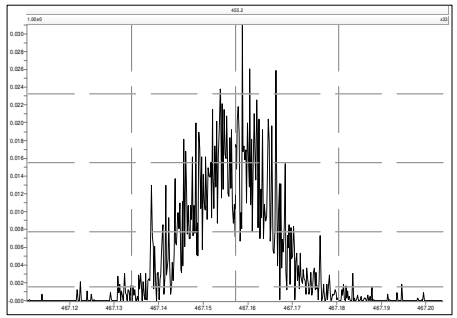
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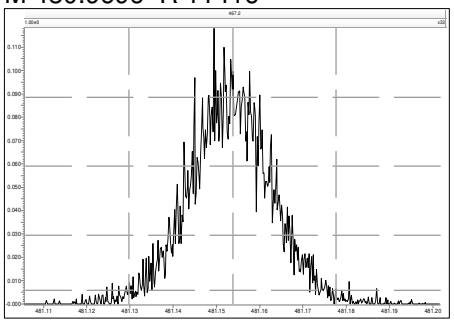
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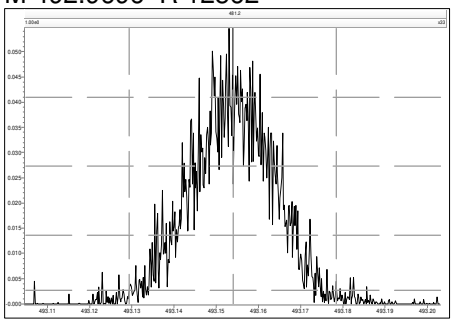
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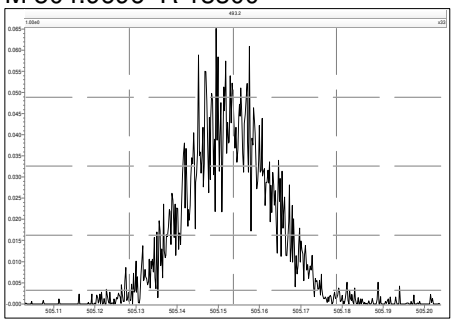
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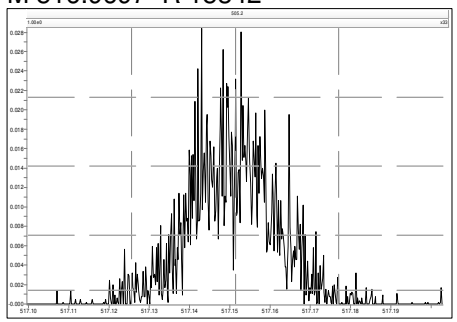
M 492.9696 R 12562



M 504.9696 R 13300

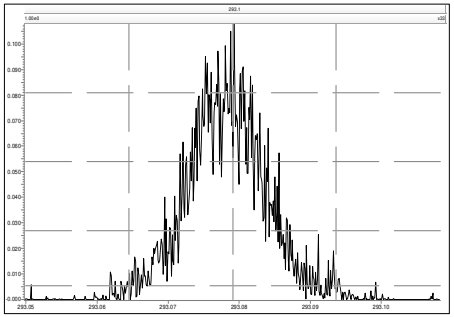


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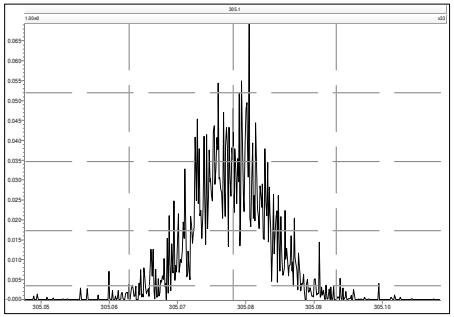


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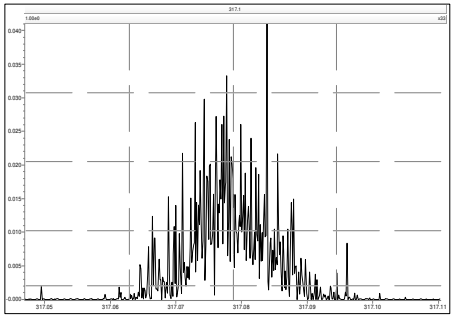
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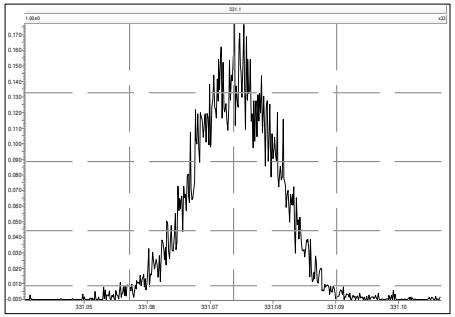
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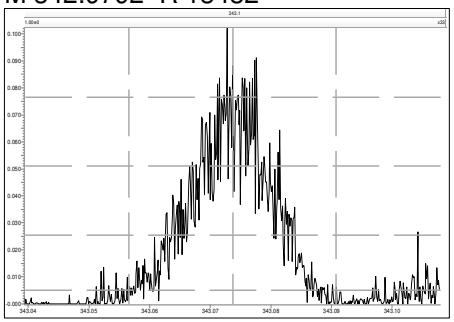
M 316.9824 R 17537



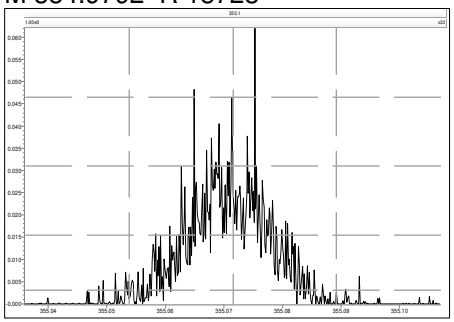
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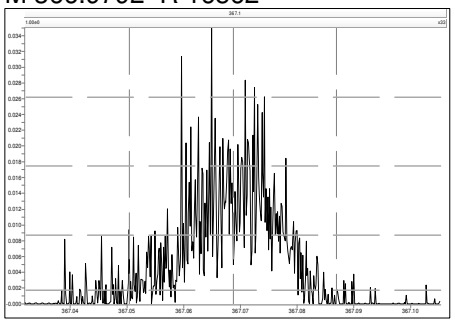
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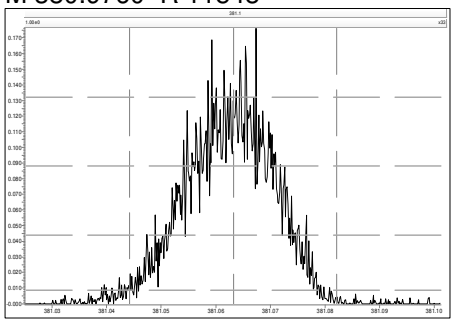
M 354.9792 R 15723



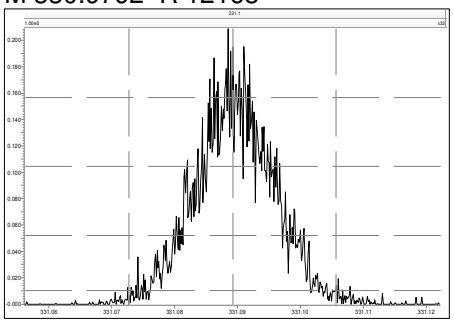
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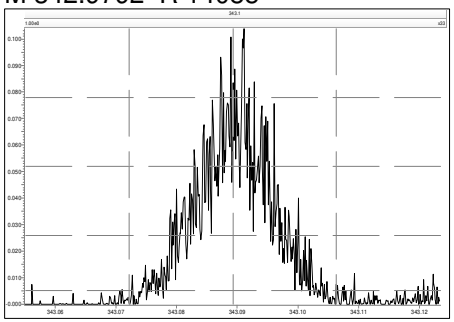
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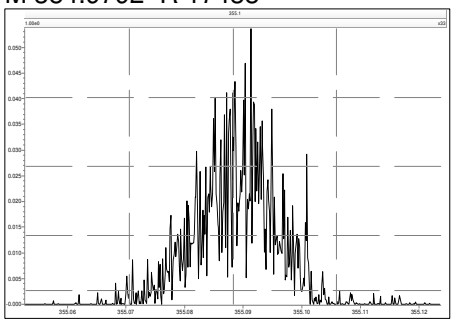
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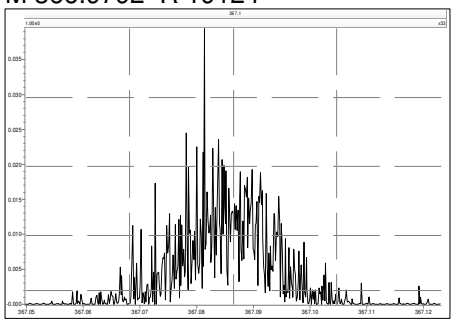
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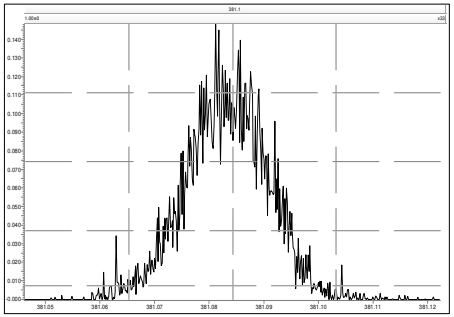
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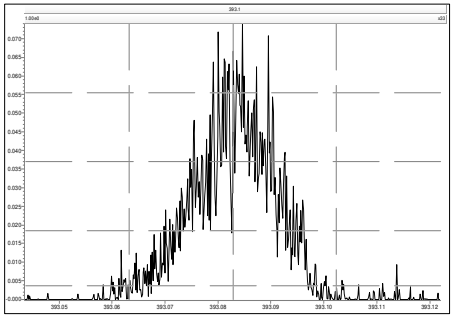
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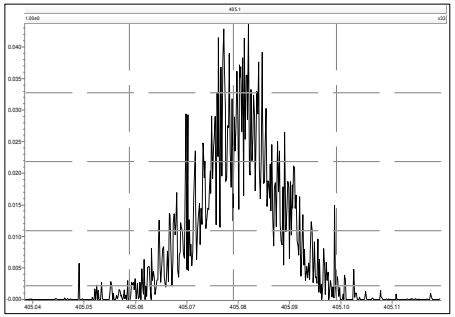
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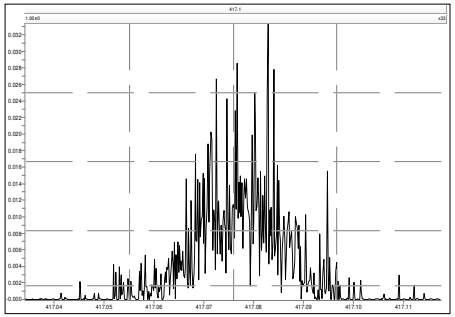
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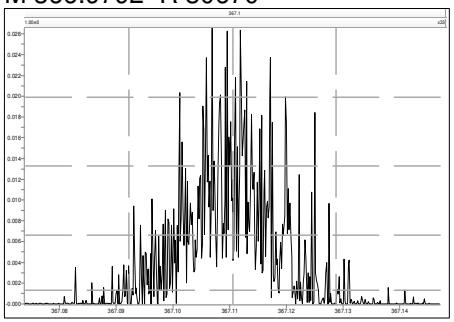
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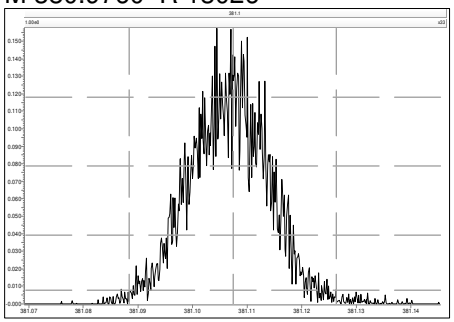
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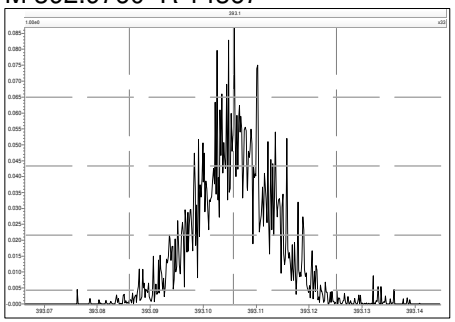
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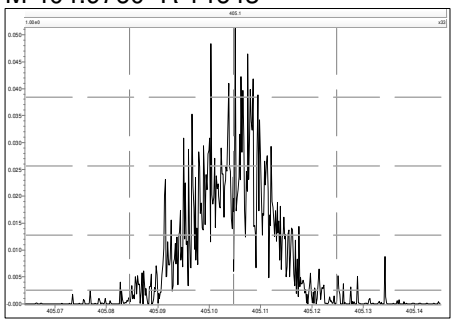
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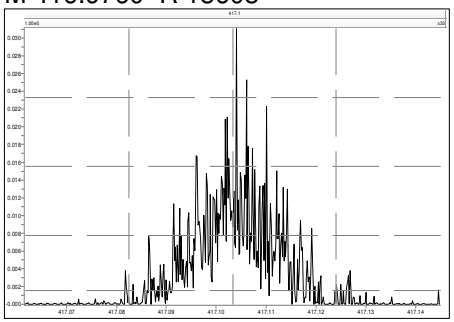
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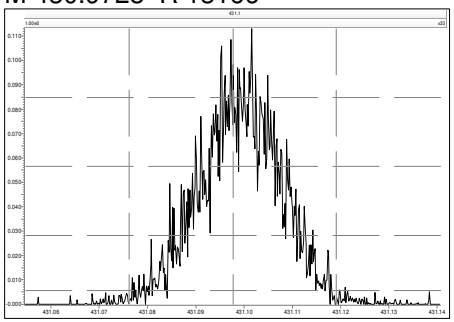
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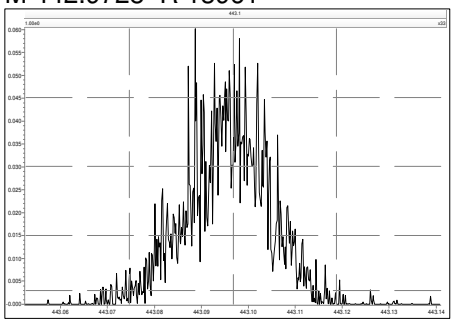
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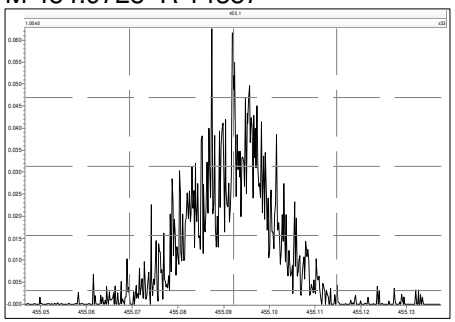
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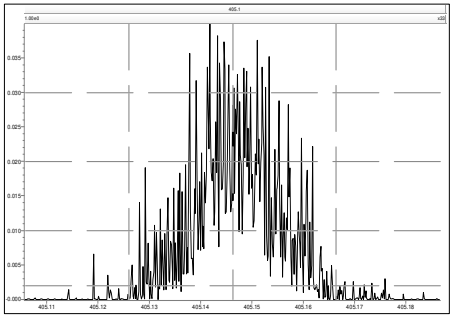
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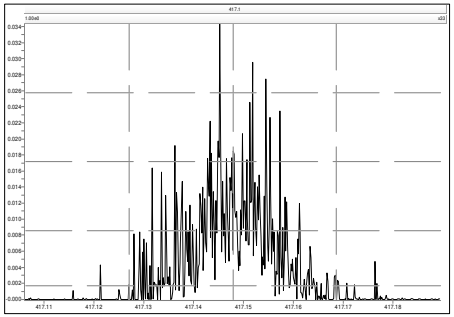
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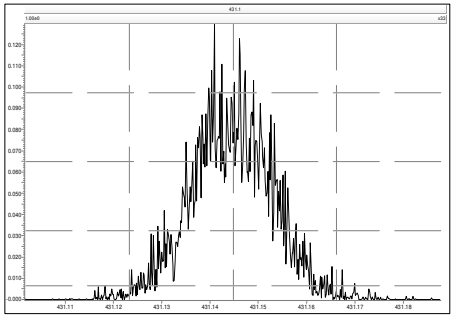
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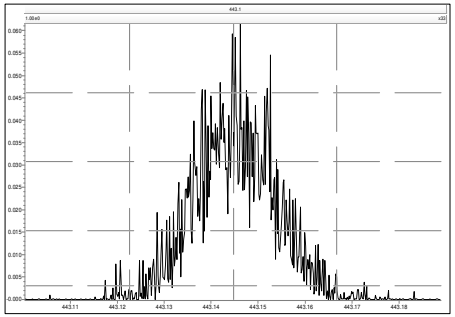
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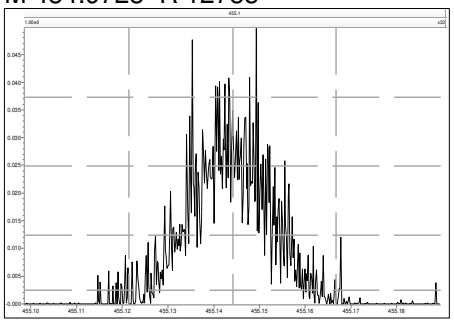
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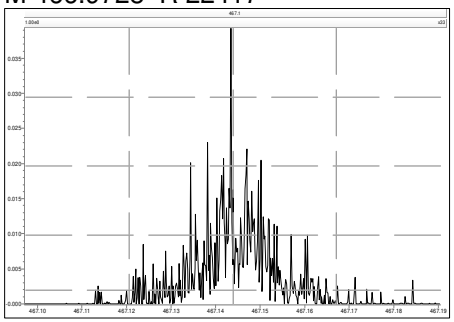
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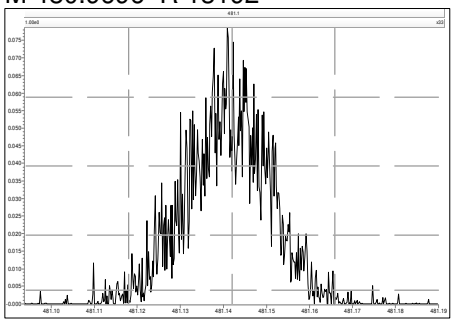
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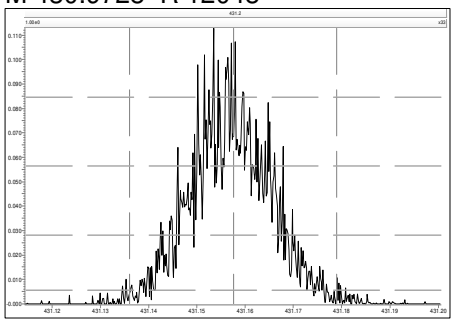
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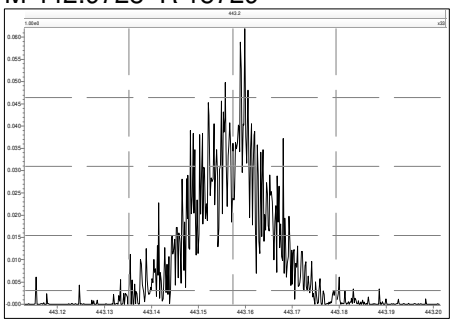
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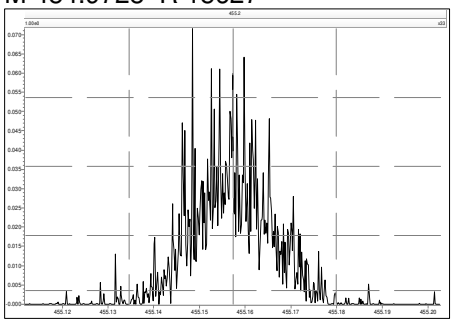
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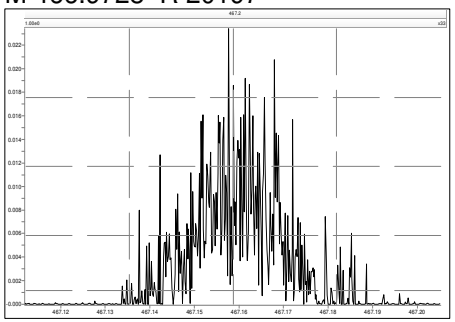
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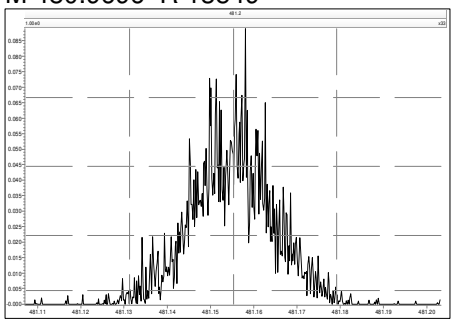
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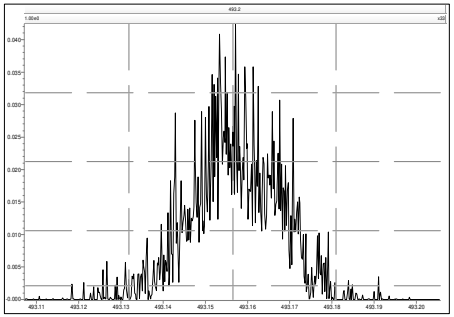
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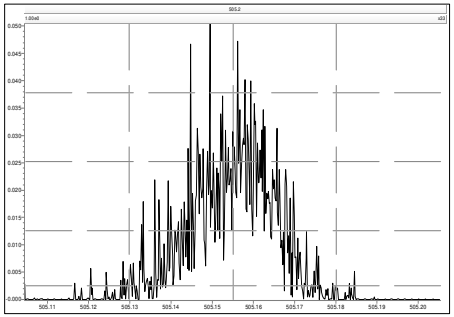
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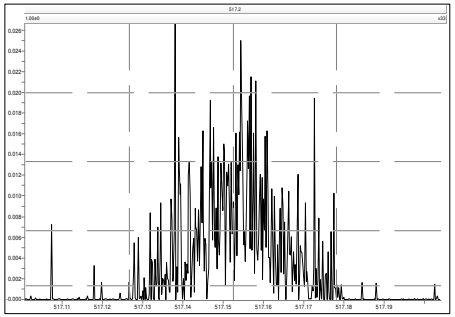
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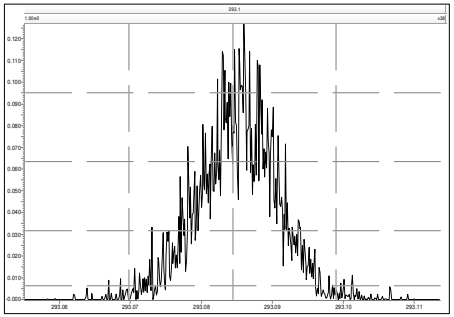


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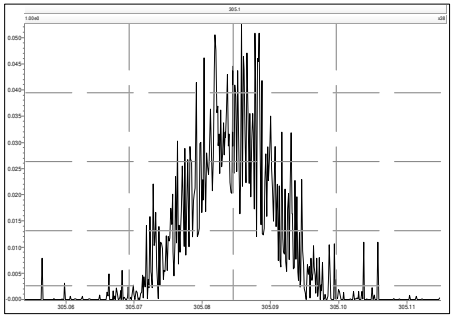


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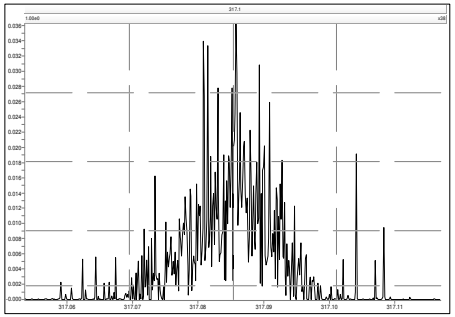
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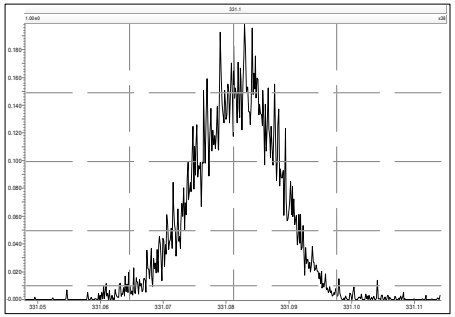
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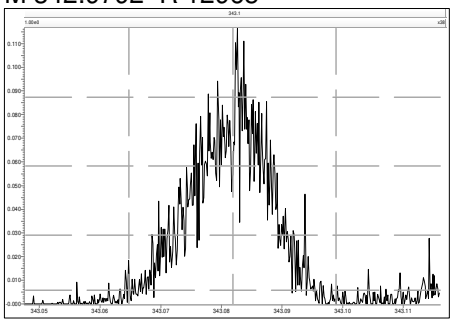
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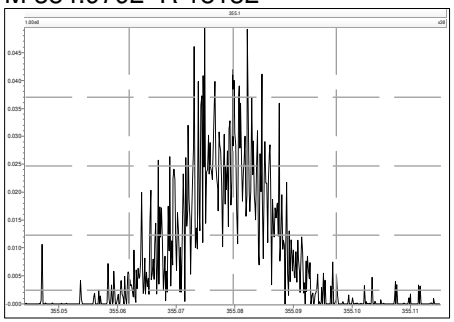
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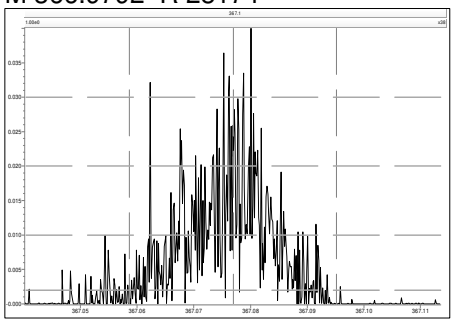
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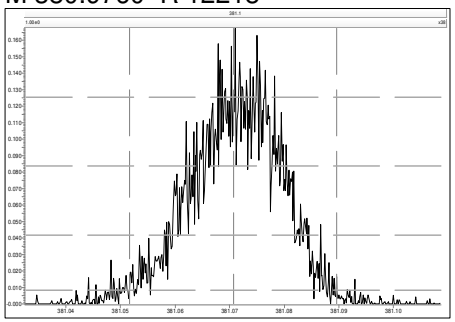
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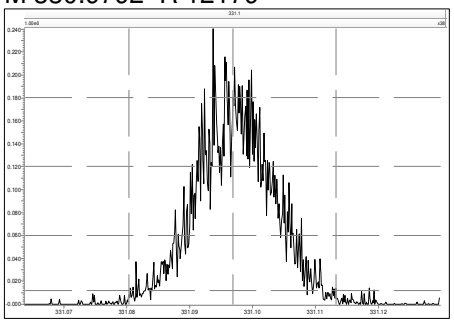
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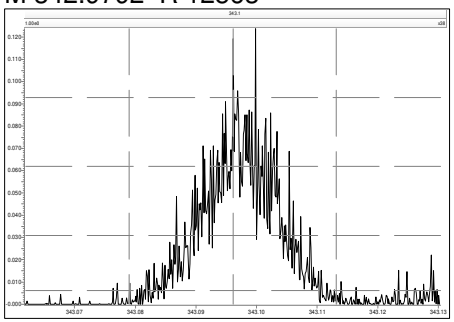
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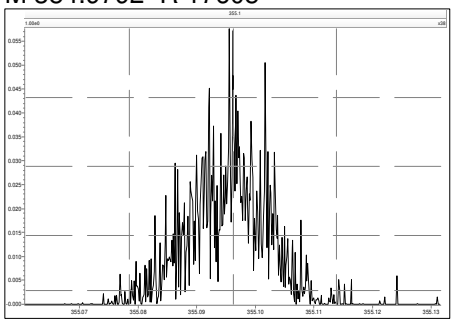
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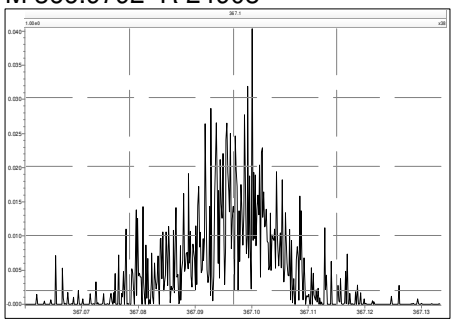
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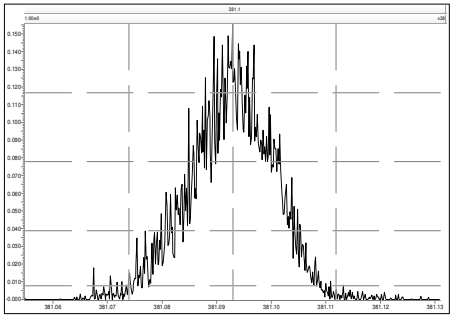
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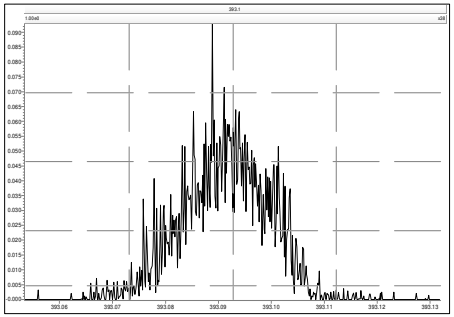
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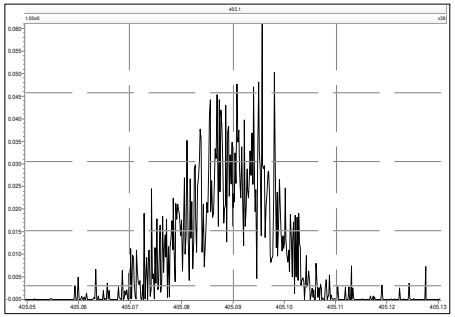
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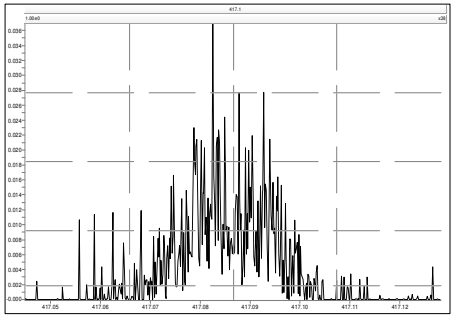
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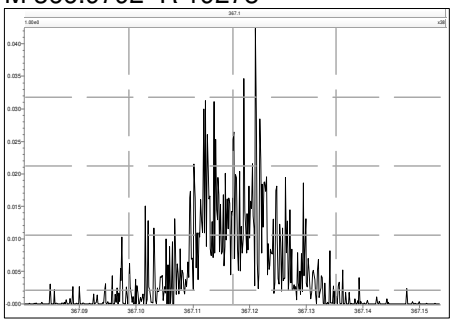
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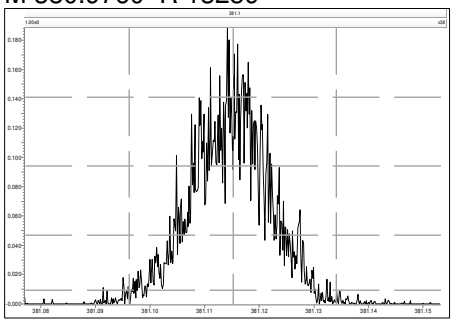
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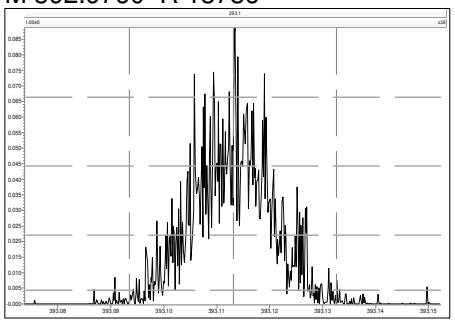
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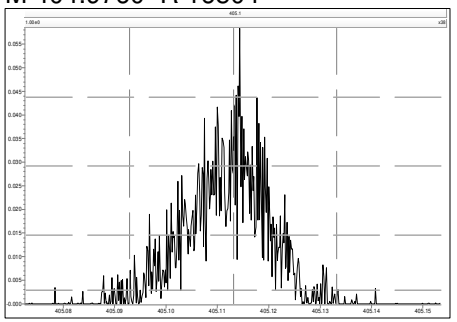
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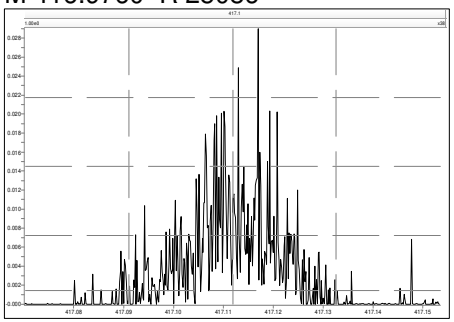
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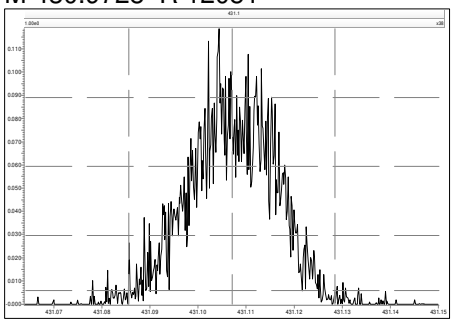
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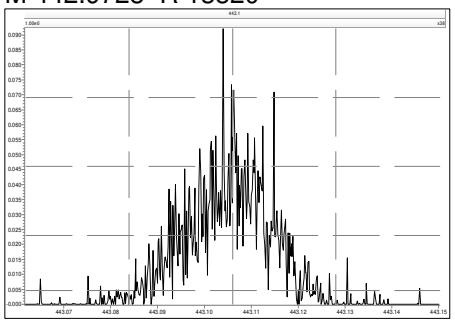
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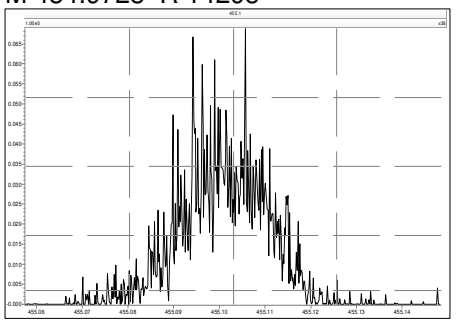
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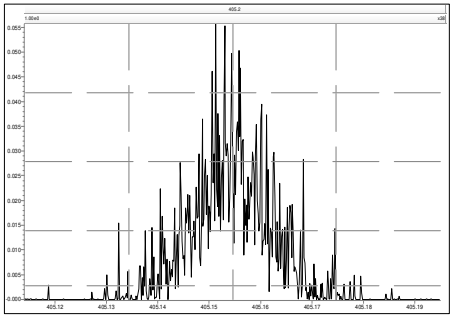
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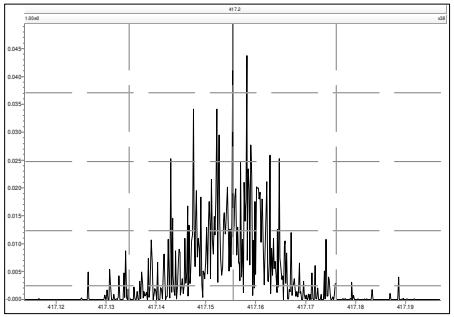
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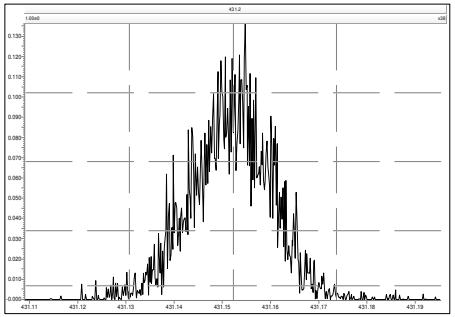
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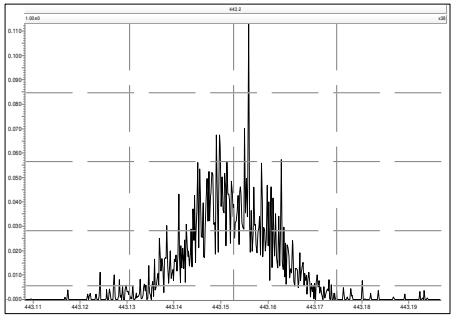
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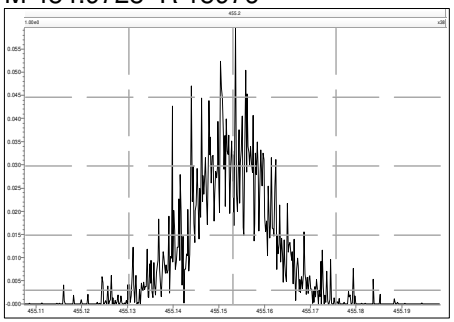
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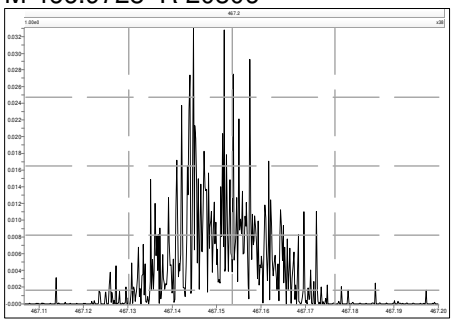
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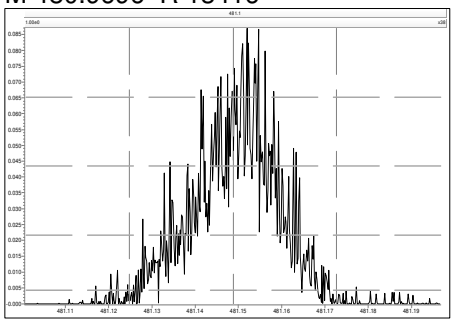
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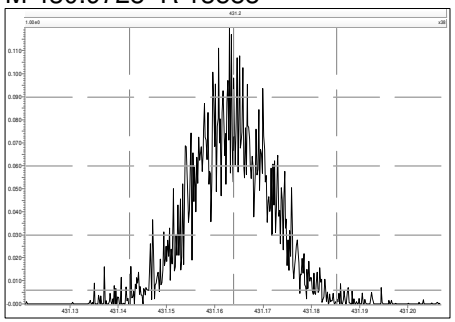
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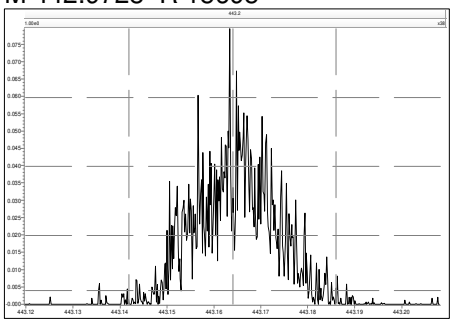
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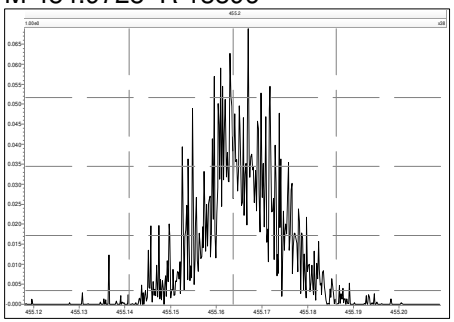
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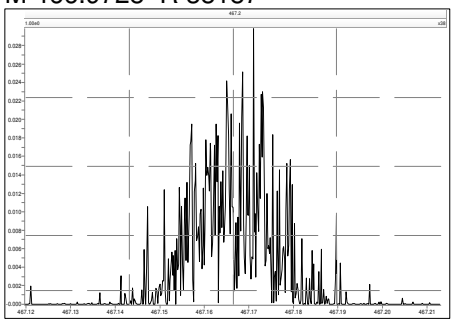
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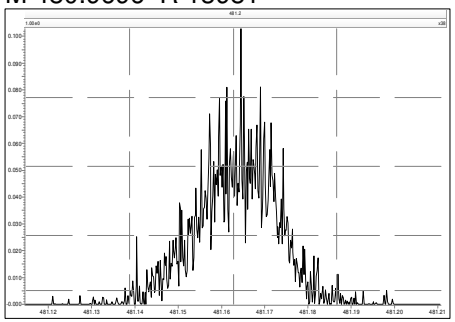
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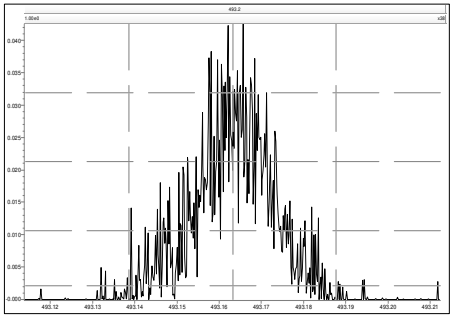
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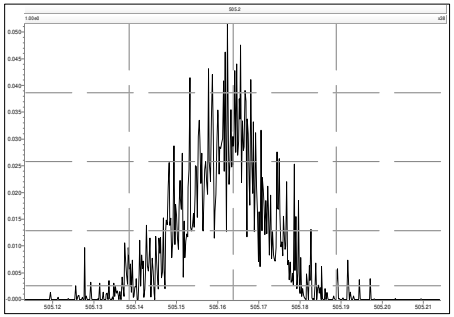
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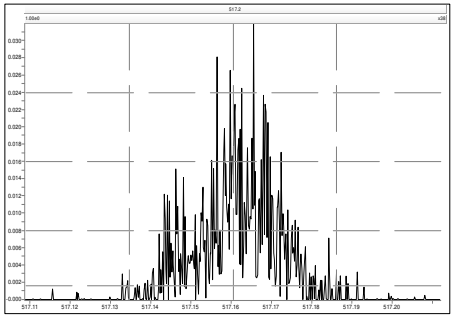
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Lab ID: OPR1_18820_DF

REVIEWED
Tamara Burkamper , 1/12/2022, 10:49:06 AM

Acq'd: 11 Jan 2022 17:21 PSW

Wt/Vol: 1 uL

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Client ID: 0_18820_OPR001

UTP: 12-Jan-2022 09:20:27 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 179-349-MNQ

Datafile: 220111R11

Report: 12 Jan 2022 09:21 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.52		1.0008	1.0008	0	2.65E+06	0.80	Y	1.34	9.44	7470.343	0.28
12378-PeCDD	33.02		1.0006	1.0006	0	9.17E+06	1.50	Y	1.06	45.2	8375.957	0.354
123478-HxCDD	36.94		1.0004	1.0004	0	1.08E+07	1.24	Y	1.06	55.9	7259.219	0.296
123678-HxCDD	37.05		1.0035	1.0035	0	1.13E+07	1.24	Y	1.08	53.8	7259.219	0.298
123789-HxCDD	37.36		1.0117	1.0118	+0.2	1.01E+07	1.26	Y	1.02	51.9	7259.219	0.334
1234678-HpCDD	40.15		1.0003	1.0004	+0.2	9.20E+06	1.05	Y	0.97	56.9	7890.123	0.302
OCDD	42.64		1.0003	1.0003	0	1.07E+07	0.89	Y	1.07	112	8033.868	0.643
2378-TCDF	26.62		1.0008	1.0009	+0.2	3.48E+06	0.82	Y	0.96	11.4	8121.216	0.305
12378-PeCDF	31.54		1.0005	1.0006	+0.2	1.44E+07	1.57	Y	0.95	56.8	11266.855	0.41
23478-PeCDF	32.68		1.0006	1.0005	-0.2	1.56E+07	1.56	Y	0.94	61.6	11266.855	0.374
123478-HxCDF	35.97		1.0004	1.0005	+0.2	1.36E+07	1.24	Y	1.23	56.7	15791.009	0.58
123678-HxCDF	36.11		1.0004	1.0005	+0.2	1.65E+07	1.27	Y	1.13	56.9	15791.009	0.456
234678-HxCDF	36.76		1.0004	1.0005	+0.2	2.03E+07	1.27	Y	1.15	55	15791.009	0.34
123789-HxCDF	37.75		1.0005	1.0005	0	1.21E+07	1.25	Y	1.14	52.6	15791.009	0.584
1234678-HpCDF	39.24		1.0003	1.0003	0	1.44E+07	1.06	Y	1.36	55.6	7815.77	0.183
1234789-HpCDF	40.58		1.0002	1.0003	+0.2	1.10E+07	1.04	Y	1.30	52.8	7815.77	0.232
OCDF	42.81		1.0003	1.0003	0	1.33E+07	0.93	Y	1.03	108	8793.087	0.563

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.49	1.0251	1.0254	+0.5	2.09E+07	0.79	Y	1.03	93.5
ES 12378-PeCDD	33.00	1.2290	1.2308	+3.6	1.91E+07	1.56	Y	1.03	85.6
ES 123478-HxCDD	36.92	0.9915	0.9915	0	1.84E+07	1.31	Y	0.99	99.3
ES 123678-HxCDD	37.04	0.9947	0.9946	-0.2	1.94E+07	1.22	Y	0.97	107
ES 123789-HxCDD	37.34	1.0028	1.0028	0	1.92E+07	1.26	Y	1.12	92
ES 1234678-HpCDD	40.14	1.0771	1.0779	+1.9	1.66E+07	1.03	Y	0.99	90.1
ES OCDD	42.63	1.1441	1.1447	+1.5	1.79E+07	0.89	Y	0.78	61.9
ES 2378-TCDF	26.60	1.0562	1.0569	+1.1	3.17E+07	0.78	Y	1.08	90.6
ES 12378-PeCDF	31.52	1.2501	1.2526	+4.7	2.68E+07	1.59	Y	0.93	89.1
ES 23478-PeCDF	32.66	1.2950	1.2978	+5.5	2.70E+07	1.64	Y	0.92	90.7
ES 123478-HxCDF	35.95	0.9654	0.9654	0	1.94E+07	0.53	Y	1.14	91.5
ES 123678-HxCDF	36.09	0.9691	0.9692	+0.2	2.57E+07	0.53	Y	1.30	107
ES 234678-HxCDF	36.74	0.9867	0.9867	0	3.20E+07	0.54	Y	1.20	143
ES 123789-HxCDF	37.73	1.0134	1.0133	-0.2	2.03E+07	0.53	Y	1.14	95.9
ES 1234678-HpCDF	39.22	1.0527	1.0533	+1.4	1.90E+07	0.46	Y	0.95	108
ES 1234789-HpCDF	40.57	1.0887	1.0895	+1.9	1.60E+07	0.44	Y	0.85	101
ES OCDF	42.80	1.1487	1.1493	+1.5	2.40E+07	0.87	Y	0.93	69.7

Lab ID: OPR1_18820_DF | **Acq'd:** 11 Jan 2022 17:21 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR001 | **UTP:** 12-Jan-2022 09:20:27 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 179-349-MNQ

Datafile: 220111R11 | **Report:** 12 Jan 2022 09:21 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.81		-	-	-	2.16E+07	0.78	Y	-	-
JS 1234-TCDF	25.16		-	-	-	3.23E+07	0.76	Y	-	-
JS 123467-HxCDD	37.24		-	-	-	9.29E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	27.52		1.0260	1.0262	+0.3	9.30E+06	n/a	-	1.31	82.2
CS 12347-PeCDD	32.50		1.2102	1.2119	+3.3	1.73E+07	1.55	Y	0.89	89.9
CS 12346-PeCDF	30.98		1.2289	1.2312	+4.3	2.66E+07	1.62	Y	0.87	95
CS 123469-HxCDF	36.40		0.9774	0.9775	+0.2	2.18E+07	0.55	Y	1.09	108
CS 1234689-HpCDF	39.64		1.0636	1.0645	+2.1	1.93E+07	0.44	Y	0.86	120
~~SS 37Cl-2378-TCDD~~	~~27.52~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~9.30E+06~~	~~n/a~~		~~1.26~~	~~88.4~~
~~SS 12347-PeCDD~~	~~32.50~~		~~1.2102~~	~~1.2119~~	~~+3.3~~	~~1.73E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~30.98~~		~~1.2289~~	~~1.2312~~	~~+4.3~~	~~2.66E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~107~~
~~SS 123469-HxCDF~~	~~36.40~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~2.18E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~101~~
~~SS 1234689-HpCDF~~	~~39.64~~		~~1.0636~~	~~1.0645~~	~~+2.1~~	~~1.93E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~111~~

Totals	Conc	EMPC
Total TCDD	47	47
Total PeCDD	69.9	69.9
Total HxCDD	175	175
Total HpCDD	70.1	70.1
Total Tetra-Octa Dioxins	474	474
Total TCDF	71.9	71.9
Total PeCDF	254	254
Total HxCDF	350	350
Total HpCDF	108	108
Total Tetra-Octa Furans	892	892
Total Tetra-Octa Dioxins & Furans	1370	1370

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.799	0.80
Response	2.66E+06	2.65E+06

Lab ID: OPR1_18820_DF **Acq'd: 11 Jan 2022 17:21 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR001 **UTP: 12-Jan-2022 09:20:27 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 179-349-MNQ**

Datafile: 220111R11 **Report: 12 Jan 2022 09:21 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.67		0.8626	0.8610	-2.3	3.84E+06	0.73	Y	1.34	13.7	7470.343	0.28
1379-TCDD	NotFnd		0.8763						1.34		7470.343	0.28
1369-TCDD	NotFnd		0.8929						1.34		7470.343	0.28
1469-TCDD	NotFnd		0.9227						1.34		7470.343	0.28
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		7470.343	0.28
1378-TCDD	NotFnd		0.9389						1.34		7470.343	0.28
1268-TCDD	NotFnd		0.9463						1.34		7470.343	0.28
1478-TCDD	NotFnd		0.9556						1.34		7470.343	0.28
1279-TCDD	NotFnd		0.9620						1.34		7470.343	0.28
1234/1269-TCDD	NotFnd		0.9753						1.34		7470.343	0.28
1236-TCDD	NotFnd		0.9806						1.34		7470.343	0.28
1237/1238-TCDD	NotFnd		0.9900						1.34		7470.343	0.28
1239-TCDD	27.36		0.9951	0.9950	-0.2	2.72E+06	0.80	Y	1.34	9.69	7470.343	0.28
2378-TCDD	**27.52**		**1.0008**	1.0008	**0**	2.65E+06	0.80	Y	**1.34**	**9.44**	**7470.343**	**0.28**
1278-TCDD	NotFnd		1.0131						1.34		7470.343	0.28
1267-TCDD	NotFnd		1.0182						1.34		7470.343	0.28
1289-TCDD	28.53		1.0373	1.0375	+0.3	3.99E+06	0.76	Y	1.34	14.2	7470.343	0.28
12479/12468-PeCDD	30.48		0.9237	0.9234	-0.5	2.38E+06	1.60	Y	1.06	11.7	8375.957	0.354
12469-PeCDD	NotFnd		0.9402						1.06		8375.957	0.354
12368-PeCDD	NotFnd		0.9572						1.06		8375.957	0.354
12478-PeCDD	NotFnd		0.9629						1.06		8375.957	0.354
12379-PeCDD	NotFnd		0.9660						1.06		8375.957	0.354
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		8375.957	0.354
12346/12347-PeCDD	NotFnd		0.9854						1.06		8375.957	0.354
12378-PeCDD	33.02		**1.0006**	**1.0006**	**0**	**9.17E+06**	**1.50**	**Y**	**1.06**	**45.2**	**8375.957**	**0.354**
12367-PeCDD	NotFnd		1.0034						1.06		8375.957	0.354
12389-PeCDD	33.47		1.0141	1.0141	0	2.63E+06	1.67	Y	1.06	13	8375.957	0.354
124679/124689-HxCDD	35.23		0.9542	0.9542	0	2.64E+06	1.29	Y	1.05	13.2	7259.219	0.309
123468-HxCDD	NotFnd		0.9720						1.05		7259.219	0.309
123679/123689-HxCDD	NotFnd		0.9798						1.05		7259.219	0.309
123469-HxCDD	NotFnd		0.9836						1.05		7259.219	0.309
123478-HxCDD	36.94		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.24**	**Y**	1.06	**55.9**	**7259.219**	**0.296**
123678-HxCDD	37.05		**1.0035**	**1.0035**	**0**	**1.13E+07**	**1.24**	**Y**	1.08	**53.8**	**7259.219**	**0.298**
123467-HxCDD	NotFnd		1.0089						1.05		7259.219	0.309
123789-HxCDD	37.36		**1.0117**	**1.0118**	**+0.2**	**1.01E+07**	**1.26**	**Y**	1.02	**51.9**	**7259.219**	**0.334**

Lab ID: OPR1_18820_DF **Acq'd: 11 Jan 2022 17:21 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR001 **UTP: 12-Jan-2022 09:20:27 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 179-349-MNQ**

Datafile: 220111R11 **Report: 12 Jan 2022 09:21 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.50		0.9842	0.9842	0	2.14E+06	1.13	Y	0.97	13.2	7890.123	0.302
1234678-HpCDD	**40.15**		**1.0003**	**1.0004**	**+0.2**	**9.20E+06**	**1.05**	**Y**	**0.97**	**56.9**	**7890.123**	**0.302**
OCDD	**42.64**		**1.0003**	**1.0003**	**0**	**1.07E+07**	**0.89**	**Y**	**1.07**	**112**	**8033.868**	**0.643**
OCDD-a	NotFnd		1.0002						0.07		12687.381	16.5
1368-TCDF	21.44		0.8080	0.8062	-2.3	5.19E+06	0.76	Y	0.96	17.1	8121.216	0.305
1468-TCDF	NotFnd		0.8299						0.96		8121.216	0.305
2468-TCDF	22.71		0.8555	0.8537	-2.5	1.29E+06	0.71	Y	0.96	4.25	8121.216	0.305
1346/1246-TCDF	NotFnd		0.8688						0.96		8121.216	0.305
1347/1378/1247-TCDF	NotFnd		0.8753						0.96		8121.216	0.305
1348-TCDF	NotFnd		0.8863						0.96		8121.216	0.305
1248/1367/1379-TCDF	NotFnd		0.8915						0.96		8121.216	0.305
1268-TCDF	NotFnd		0.9065						0.96		8121.216	0.305
1467-TCDF	NotFnd		0.9119						0.96		8121.216	0.305
1478-TCDF	NotFnd		0.9186						0.96		8121.216	0.305
1369/1237-TCDF	NotFnd		0.9331						0.96		8121.216	0.305
2467-TCDF	NotFnd		0.9384						0.96		8121.216	0.305
2368-TCDF	NotFnd		0.9445						0.96		8121.216	0.305
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9476						0.96		8121.216	0.305
1278-TCDF	NotFnd		0.9656						0.96		8121.216	0.305
1349-TCDF	NotFnd		0.9703						0.96		8121.216	0.305
1267-TCDF	NotFnd		0.9765						0.96		8121.216	0.305
2346/1249-TCDF	NotFnd		0.9836						0.96		8121.216	0.305
2347/1279-TCDF	NotFnd		0.9921						0.96		8121.216	0.305
2348-TCDF	26.51		0.9965	0.9967	+0.3	5.69E+06	0.77	Y	0.96	18.7	8121.216	0.305
2378-TCDF	**26.62**		**1.0008**	**1.0009**	**+0.2**	**3.48E+06**	**0.82**	**Y**	**0.96**	**11.4**	**8121.216**	**0.305**
2367/3467-TCDF	NotFnd		1.0150						0.96		8121.216	0.305
1269-TCDF	NotFnd		1.0243						0.96		8121.216	0.305
1239-TCDF	NotFnd		1.0345						0.96		8121.216	0.305
1289-TCDF	28.70		1.0780	1.0791	+1.9	6.22E+06	0.78	Y	0.96	20.4	8121.216	0.305
13468/12468-PeCDF	28.64		0.9095	0.9085	-1.7	3.10E+07	1.59	Y	0.94	122	9015.806	0.314
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		11266.855	0.392
12368/13478/12478-PeCDF	NotFnd		0.9646						0.94		11266.855	0.392
14678-PeCDF	NotFnd		0.9678						0.94		11266.855	0.392
13479-PeCDF	NotFnd		0.9710						0.94		11266.855	0.392
13469/12479-PeCDF	NotFnd		0.9790						0.94		11266.855	0.392
12346-PeCDF	NotFnd		0.9835						0.94		11266.855	0.392

Lab ID: OPR1_18820_DF | **Acq'd: 11 Jan 2022 17:21 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR001 | **UTP: 12-Jan-2022 09:20:27 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 179-349-MNQ**

Datafile: 220111R11 | **Report: 12 Jan 2022 09:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		11266.855	0.392
12347-PeCDF	NotFnd		0.9888						0.94		11266.855	0.392
12348-PeCDF	NotFnd		0.9939						0.94		11266.855	0.392
12378-PeCDF	**31.54**		**1.0005**	**1.0006**	**+0.2**	**1.44E+07**	**1.57**	**Y**	**0.95**	**56.8**	**11266.855**	**0.41**
12678/12367-PeCDF	NotFnd		1.0094						0.94		11266.855	0.392
12379-PeCDF	NotFnd		1.0149						0.94		11266.855	0.392
12679-PeCDF	NotFnd		0.9925						0.94		11266.855	0.392
23467/12369-PeCDF	NotFnd		0.9965						0.94		11266.855	0.392
23478-PeCDF	**32.68**		**1.0006**	**1.0005**	**-0.2**	**1.56E+07**	**1.56**	**Y**	**0.94**	**61.6**	**11266.855**	**0.374**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		11266.855	0.392
12349-PeCDF	NotFnd		1.0104						0.94		11266.855	0.392
12389-PeCDF	33.76		1.0336	1.0338	+0.4	3.38E+06	1.54	Y	0.94	13.3	11266.855	0.392
123468-HxCDF	34.57		0.9618	0.9617	-0.2	3.65E+07	1.26	Y	1.16	129	15791.009	0.469
124678/134678-HxCDF	NotFnd		0.9673						1.16		15791.009	0.469
134679-HxCDF	NotFnd		0.9737						1.16		15791.009	0.469
124679-HxCDF	NotFnd		0.9793						1.16		15791.009	0.469
124689-HxCDF	NotFnd		0.9855						1.16		15791.009	0.469
123467-HxCDF	NotFnd		0.9972						1.16		15791.009	0.469
123478-HxCDF	**35.97**		**1.0004**	**1.0005**	**+0.2**	**1.36E+07**	**1.24**	**Y**	**1.23**	**56.7**	**15791.009**	**0.58**
123678-HxCDF	**36.11**		**1.0004**	**1.0005**	**+0.2**	**1.65E+07**	**1.27**	**Y**	**1.13**	**56.9**	**15791.009**	**0.456**
123479-HxCDF	NotFnd		1.0049						1.16		15791.009	0.469
123469-HxCDF	NotFnd		1.0089						1.16		15791.009	0.469
123679-HxCDF	NotFnd		0.9944						1.16		15791.009	0.469
234678-HxCDF	**36.76**		**1.0004**	**1.0005**	**+0.2**	**2.03E+07**	**1.27**	**Y**	**1.15**	**55**	**15791.009**	**0.34**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		15791.009	0.469
123789-HxCDF	**37.75**		**1.0005**	**1.0005**	**0**	**1.21E+07**	**1.25**	**Y**	**1.14**	**52.6**	**15791.009**	**0.584**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		15791.009	0.469
1234678-HpCDF	**39.24**		**1.0003**	**1.0003**	**0**	**1.44E+07**	**1.06**	**Y**	**1.36**	**55.6**	**7815.77**	**0.183**
1234679-HpCDF	NotFnd		1.0071						1.33		7815.77	0.205
1234689-HpCDF	NotFnd		1.0106						1.33		7815.77	0.205
1234789-HpCDF	**40.58**		**1.0002**	**1.0003**	**+0.2**	**1.10E+07**	**1.04**	**Y**	**1.30**	**52.8**	**7815.77**	**0.232**
OCDF	**42.81**		**1.0003**	**1.0003**	**0**	**1.33E+07**	**0.93**	**Y**	**1.03**	**108**	**8793.087**	**0.563**
OCDF-a	42.80		1.0002	1.0001	-0.3	7.11E+05	2.53	Y	0.06	100	13985.05	15.5

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R11	Analysis Date:	11-JAN-2022 17:21:29
Lab ID:	OPR1_18820_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.44	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	45.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	11.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	56.8	40	-	67	Y
2,3,4,7,8-PeCDF	50	61.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.7	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	56.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	55	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	52.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	55.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.8	39	-	69	Y
OCDF	100	108	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:21 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R11	Analysis Date:	11-JAN-2022 17:21:29
Lab ID:	OPR1_18820_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	93.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	85.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	99.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	107	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	90.1	26	-	166	Y
13C-OCDD	200	124	26	-	397	Y
13C-2,3,7,8-TCDF	100	90.6	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	90.7	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	107	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	143	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	95.9	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	108	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	101	20	-	186	Y
13C-OCDF	200	139	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	32.9	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 12 Jan 2022 09:21 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220111R11	Analysis Date:	11-JAN-2022 17:21:29
Lab ID:	OPR1_18820_DF		

Window Defining Standards Results

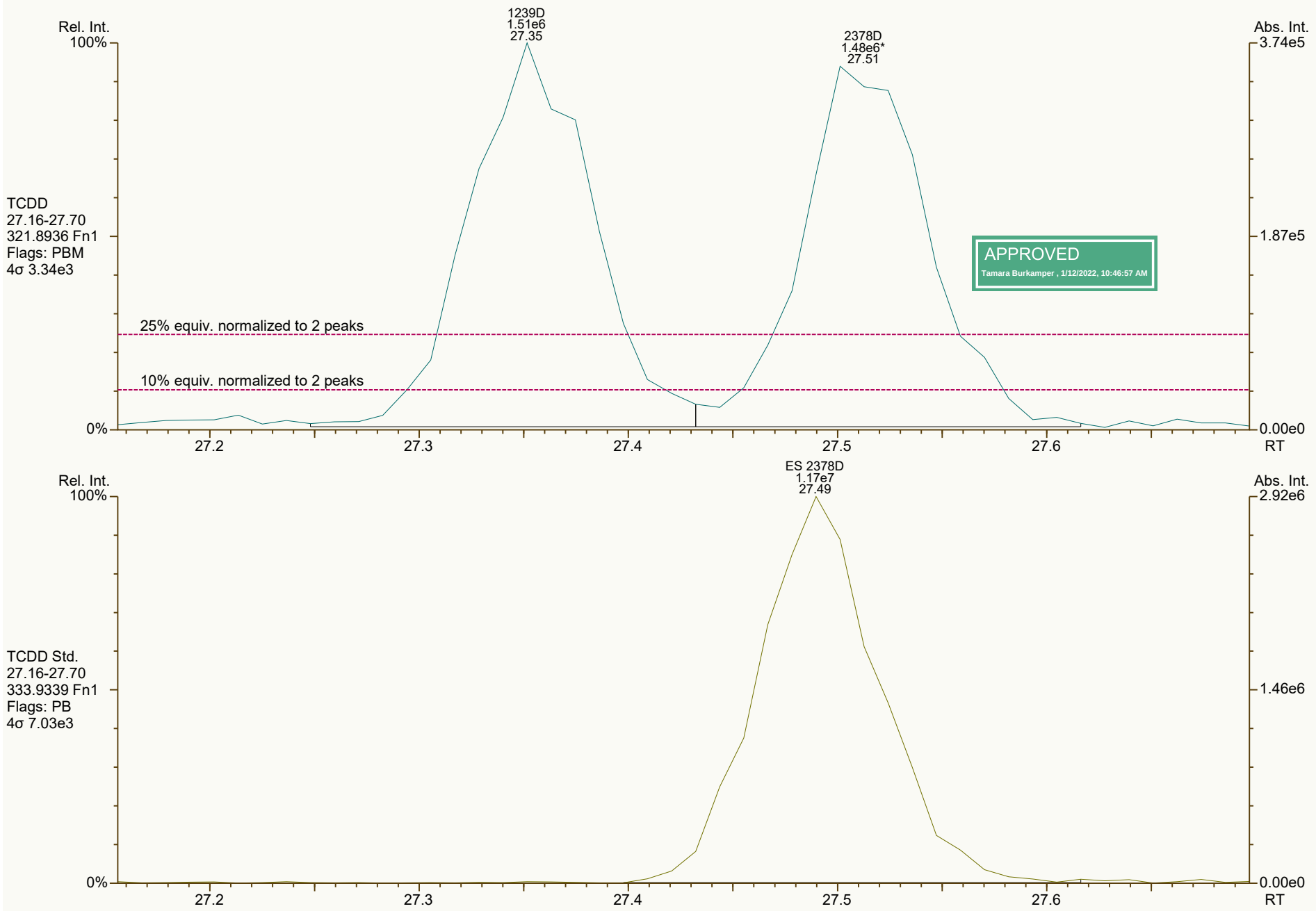
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	23.67	1289-TCDD	28.53
12479/12468-PeCDD	30.48	12389-PeCDD	33.47
124679/124689-HxCDD	35.23	123789-HxCDD	37.36
1234679-HpCDD	39.50	1234678-HpCDD	40.15
1368-TCDF	21.44	1289-TCDF	28.70
13468/12468-PeCDF	28.64	12389-PeCDF	33.76
123468-HxCDF	34.57	123789-HxCDF	37.75
1234678-HpCDF	39.24	1234789-HpCDF	40.58

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	27.36	2378-TCDD	27.52
2348-TCDF	26.51	2378-TCDF	26.62

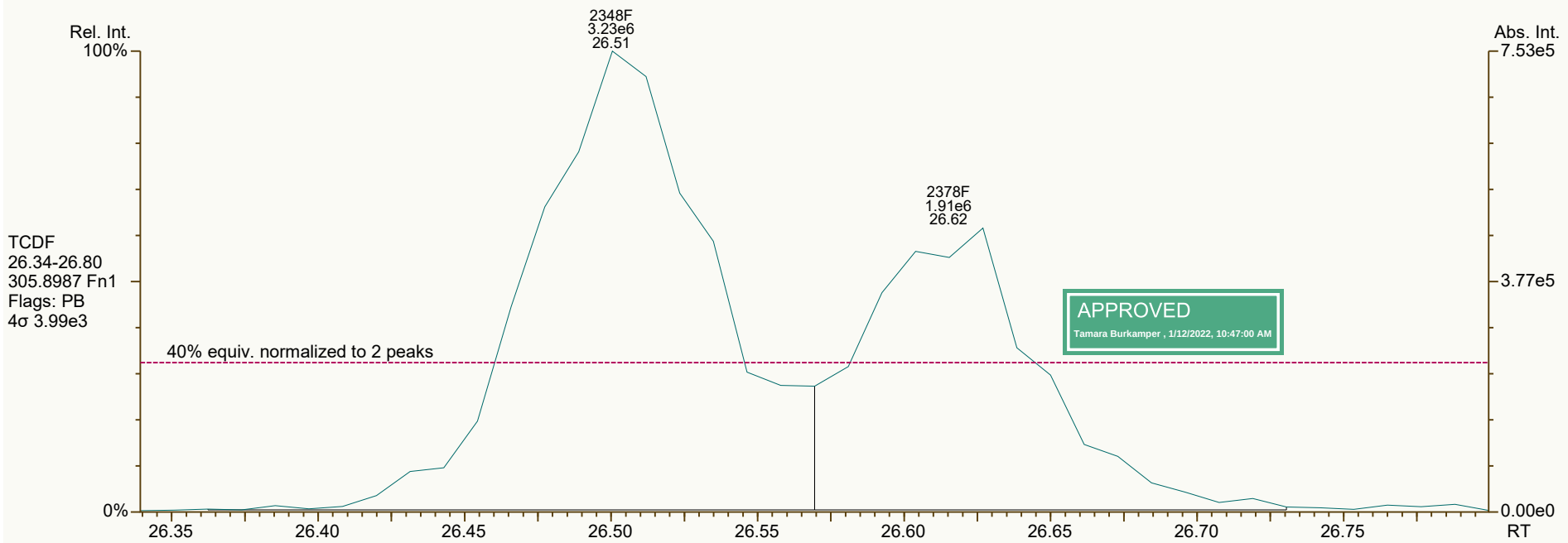
Processed: 12 Jan 2022 09:21 Analyst: pw

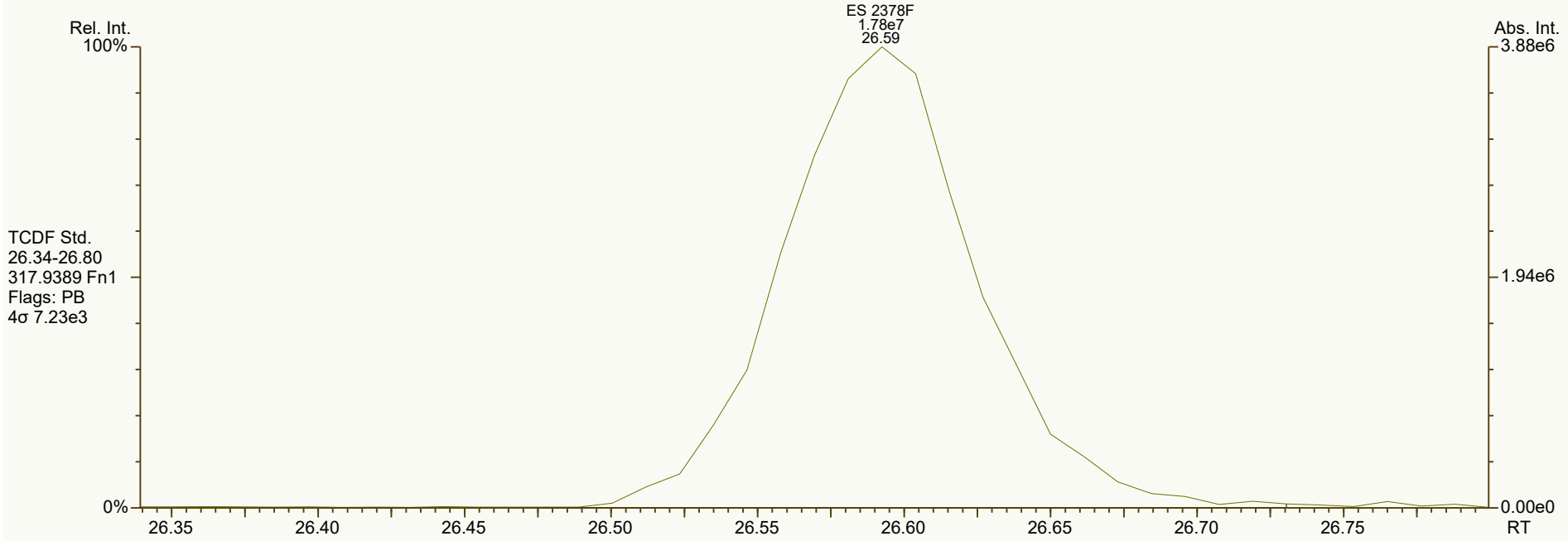
SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11



Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:23

SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11

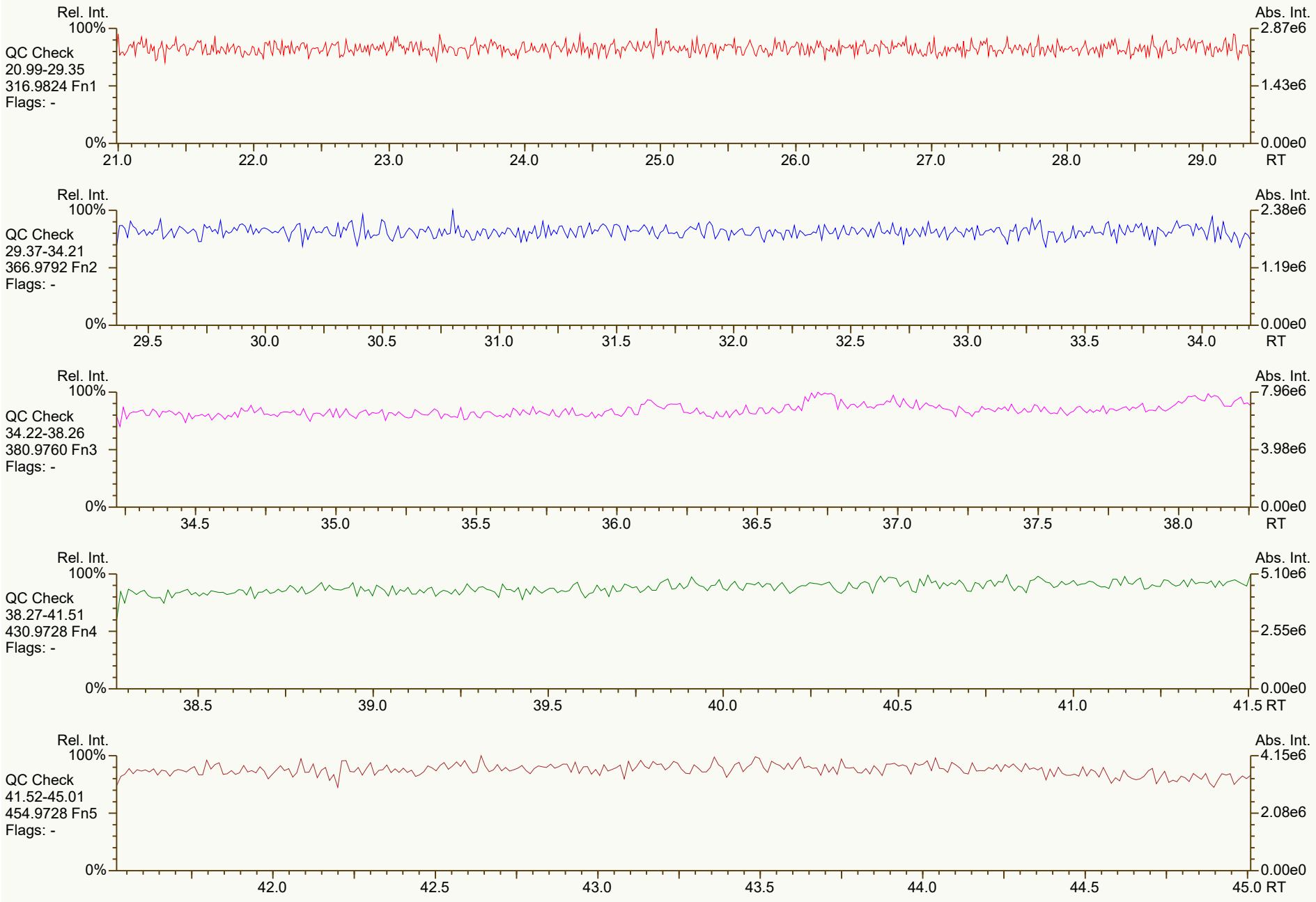




Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:23

SGS ID: OPR1_18820_DF | Sample ID: 0_18820_OPR001 | Acq: 11-Jan-2022 17:21:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220111R11



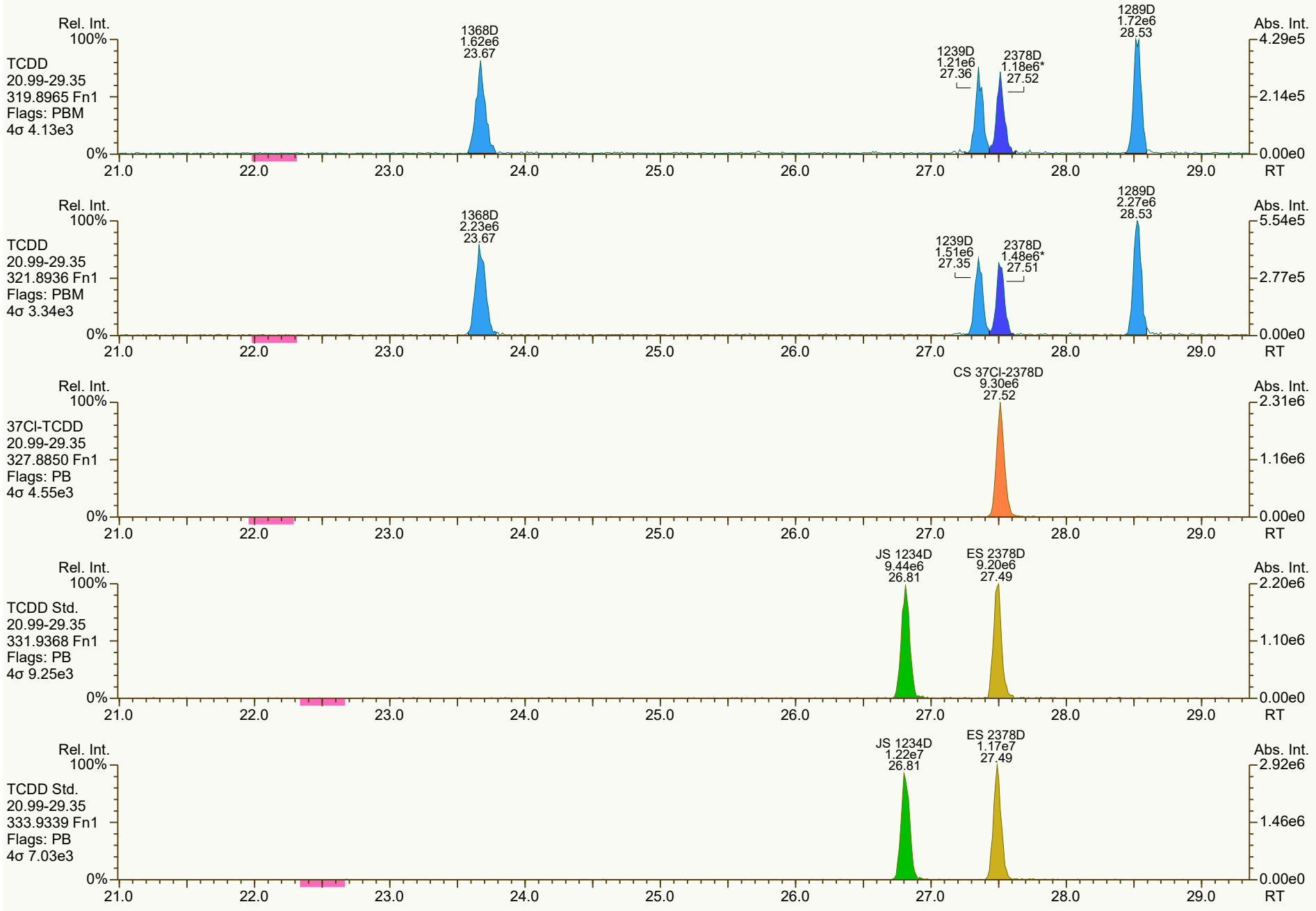
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)

Peak annotation: Areas, Centroids

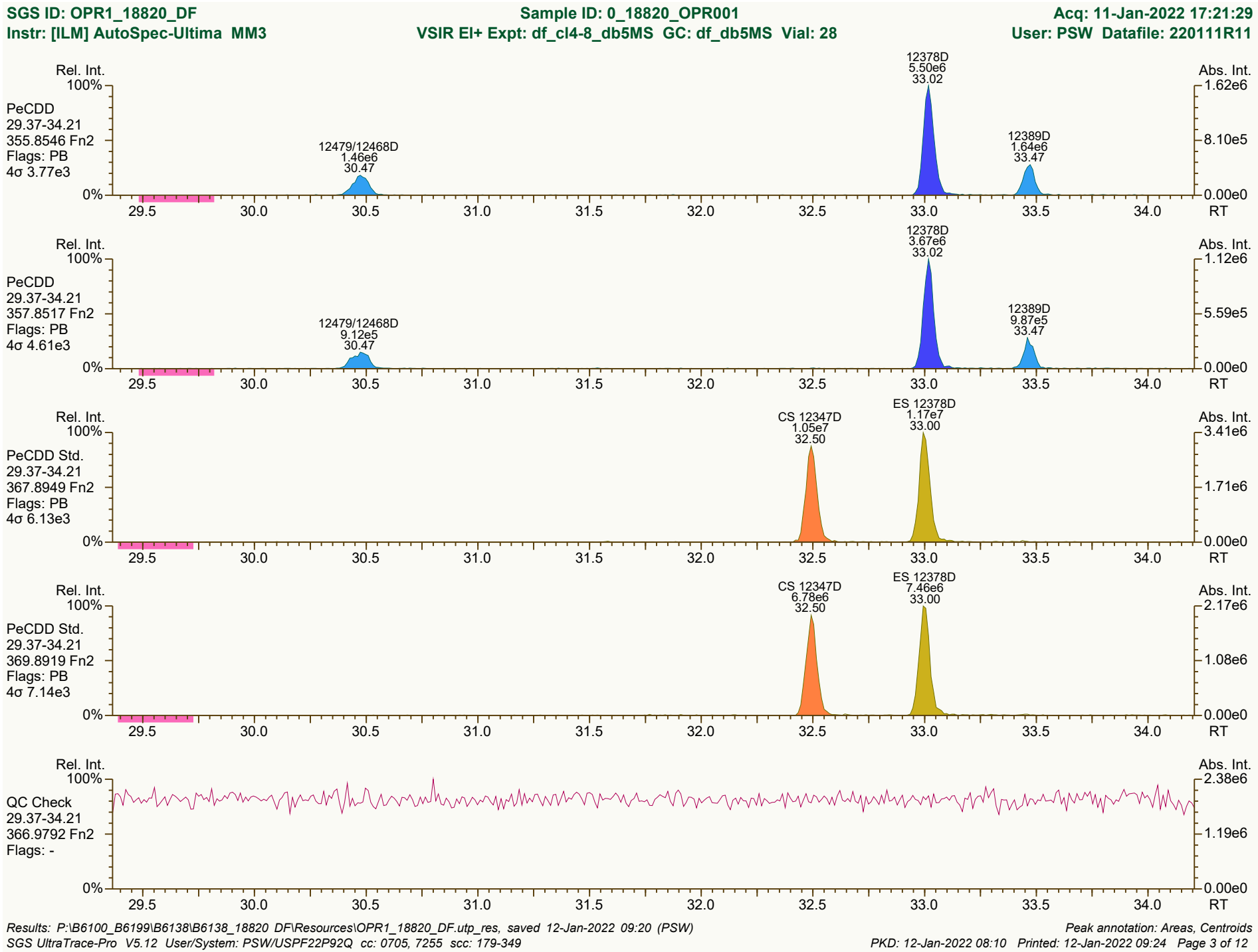
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 179-349

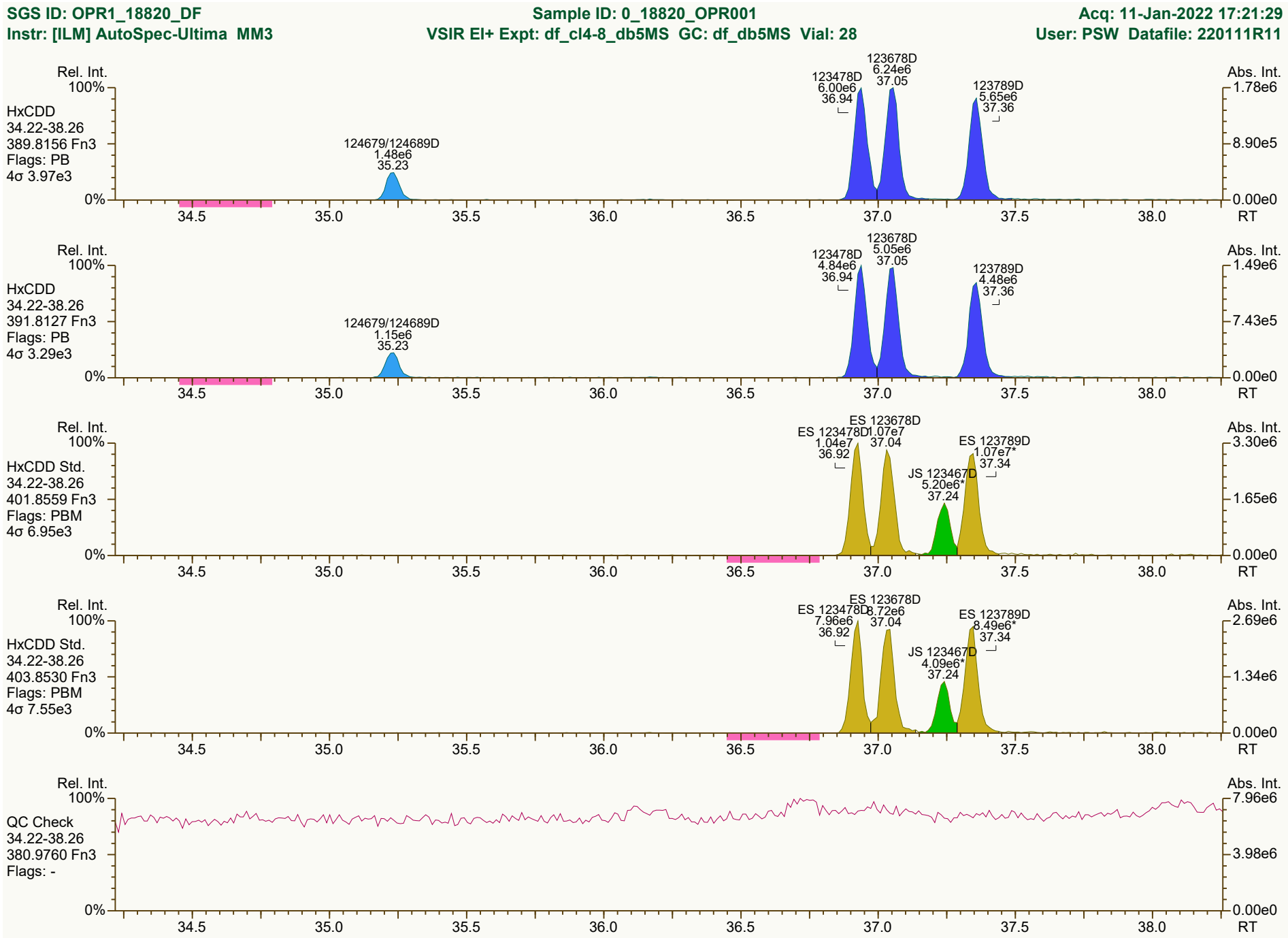
PKD: n/a Printed: 12-Jan-2022 09:24 Page 1 of 12

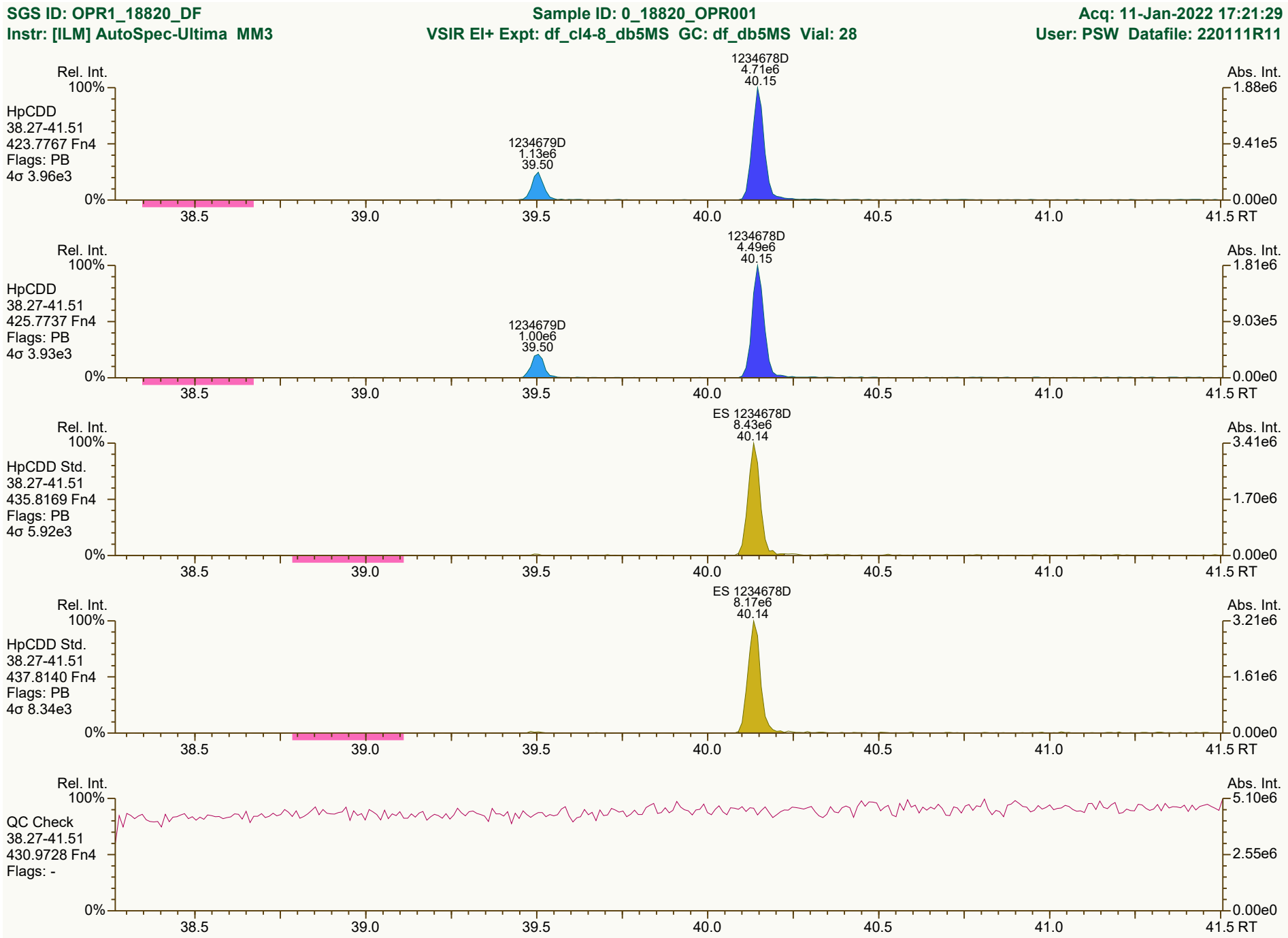
SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11

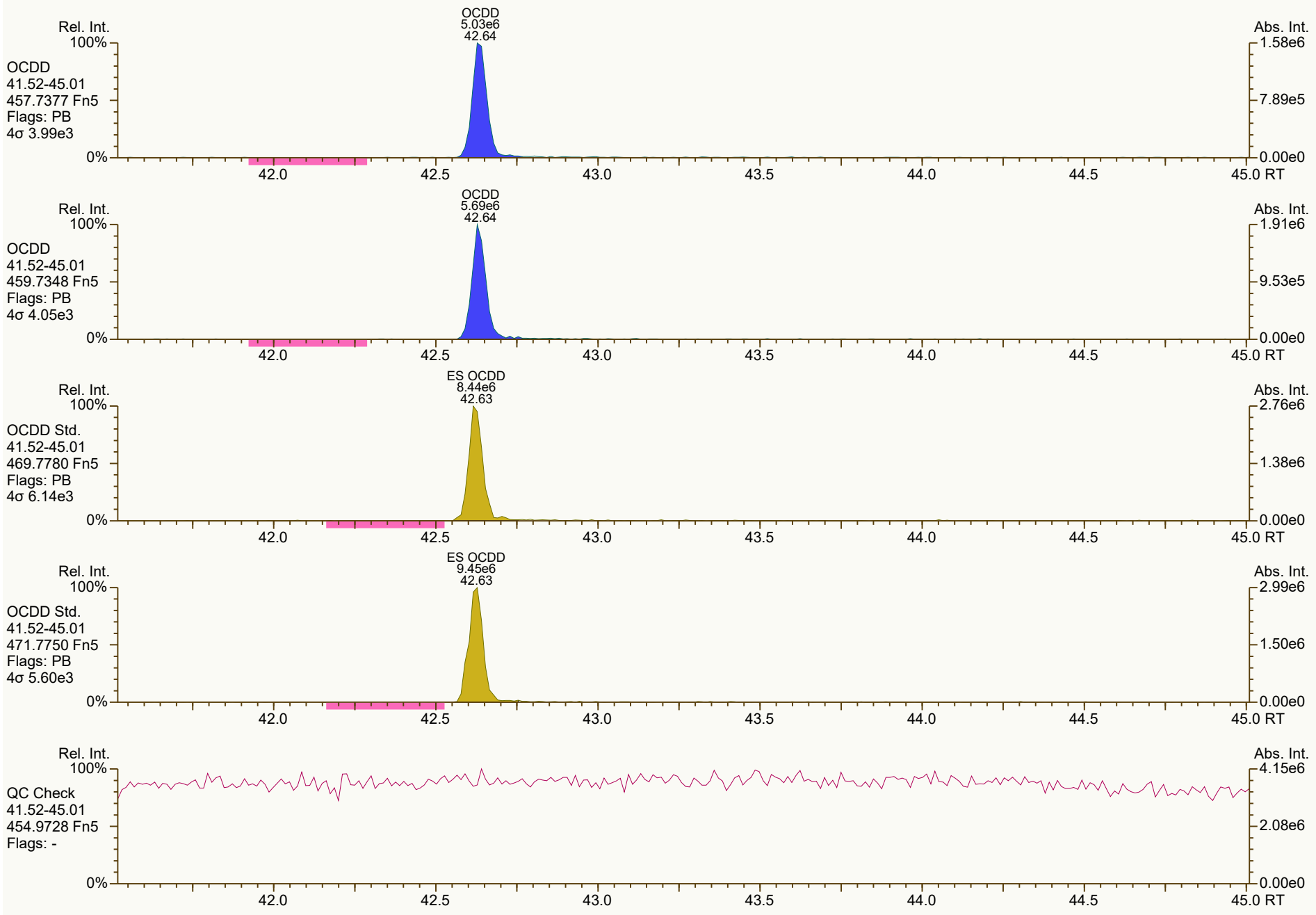


Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8234, 3100, 6803 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 2 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PB
4σ 3.77e3
12479/12468D
1.46e6
30.47
12378D
5.50e6
33.02
12389D
1.64e6
33.47
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 4.61e3
12479/12468D
9.12e5
30.47
12378D
3.67e6
33.02
12389D
9.87e5
33.47
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 6.13e3
CS 12347D
1.05e7
32.50
ES 12378D
1.17e7
33.00
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 7.14e3
CS 12347D
6.78e6
32.50
ES 12378D
7.46e6
33.00
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0705, 7255 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 3 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.97e3
124679/124689D
1.48e6
35.23
123478D
6.00e6
36.94
123678D
6.24e6
37.05
123789D
5.65e6
37.36
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PB
4σ 3.29e3
124679/124689D
1.15e6
35.23
123478D
4.84e6
36.94
123678D
5.05e6
37.05
123789D
4.48e6
37.36
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PBM
4σ 6.95e3
ES 123478D
1.04e7
36.92
ES 123678D
1.07e7
37.04
JS 123467D
5.20e6*
37.24
ES 123789D
1.07e7*
37.34
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PBM
4σ 7.55e3
ES 123478D
7.96e6
36.92
ES 123678D
8.72e6
37.04
JS 123467D
4.09e6*
37.24
ES 123789D
8.49e6*
37.34
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9210, 2936 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 4 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 3.96e3
1234678D
4.71e6
40.15
1234679D
1.13e6
39.50
1.88e6
9.41e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.93e3
1234678D
4.49e6
40.15
1234679D
1.00e6
39.50
1.81e6
9.03e5
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 5.92e3
ES 1234678D
8.43e6
40.14
3.41e6
1.70e6
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 8.34e3
ES 1234678D
8.17e6
40.14
3.21e6
1.61e6
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.10e6
2.55e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9674, 4971 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 5 of 12

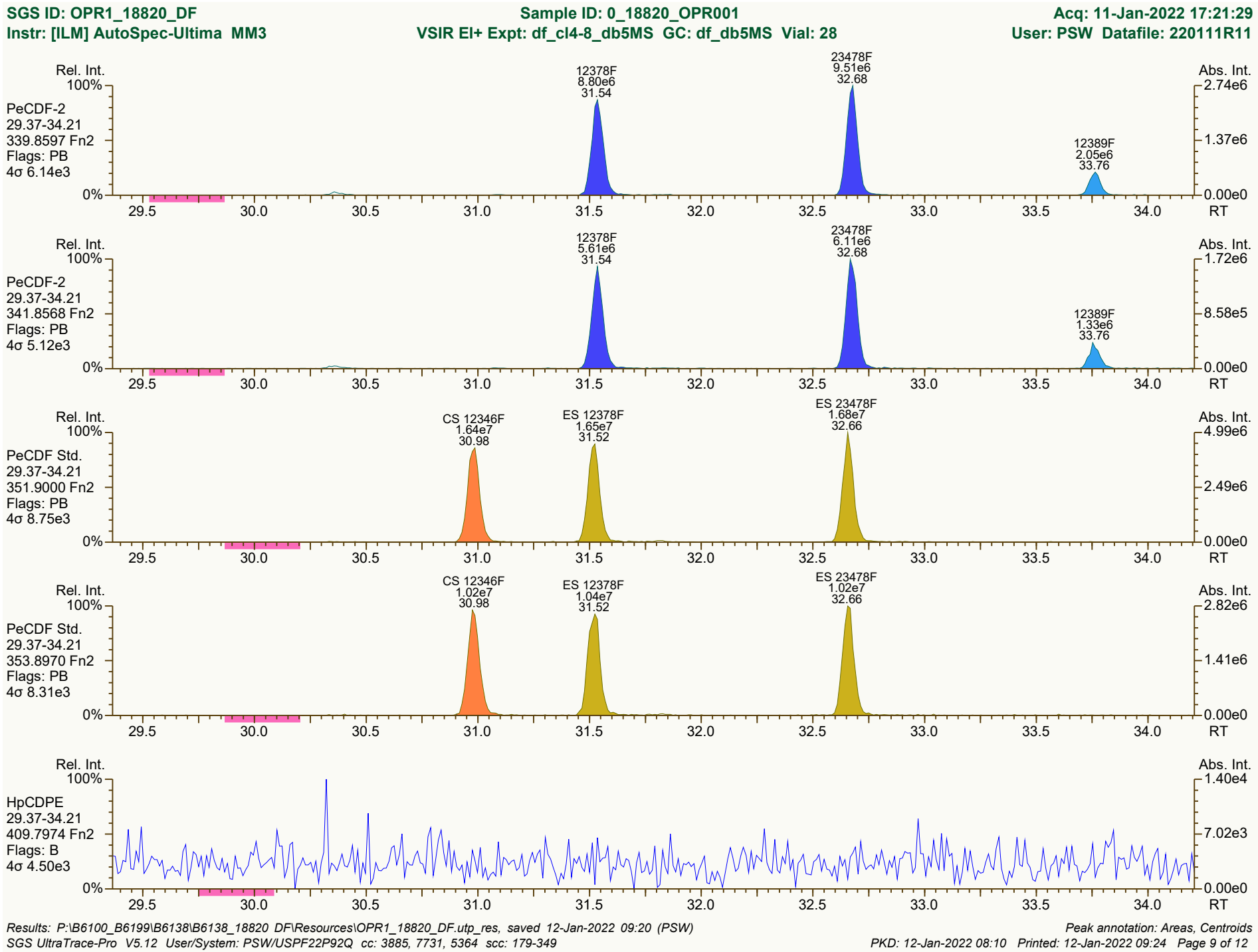

OCDD
5.03e6
42.64
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.99e3
0%
Abs. Int.
1.58e6
7.89e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.69e6
42.64
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 4.05e3
1.91e6
9.53e5
ES OCDD
8.44e6
42.63
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.14e3
2.76e6
1.38e6
ES OCDD
9.45e6
42.63
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 5.60e3
2.99e6
1.50e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
4.15e6
2.08e6


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 4.13e3
1368F
2.25e6*
21.44
2468F
5.38e5
22.71
2348F
2.47e6
26.51
2378F
1.56e6
26.62
1289F
2.71e6
28.70
6.10e5
3.05e5
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 3.99e3
1368F
2.95e6*
21.44
2468F
7.54e5
22.70
2348F
3.23e6
26.51
2378F
1.91e6
26.62
1289F
3.50e6
28.70
7.71e5
3.86e5
0.00e0
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.48e4
JS 1234F
1.40e7
25.16
ES 2378F
1.39e7
26.60
3.05e6
1.52e6
0.00e0
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 7.23e3
JS 1234F
1.83e7
25.16
ES 2378F
1.78e7
26.59
3.88e6
1.94e6
0.00e0
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.95e3
1.40e4
7.02e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11

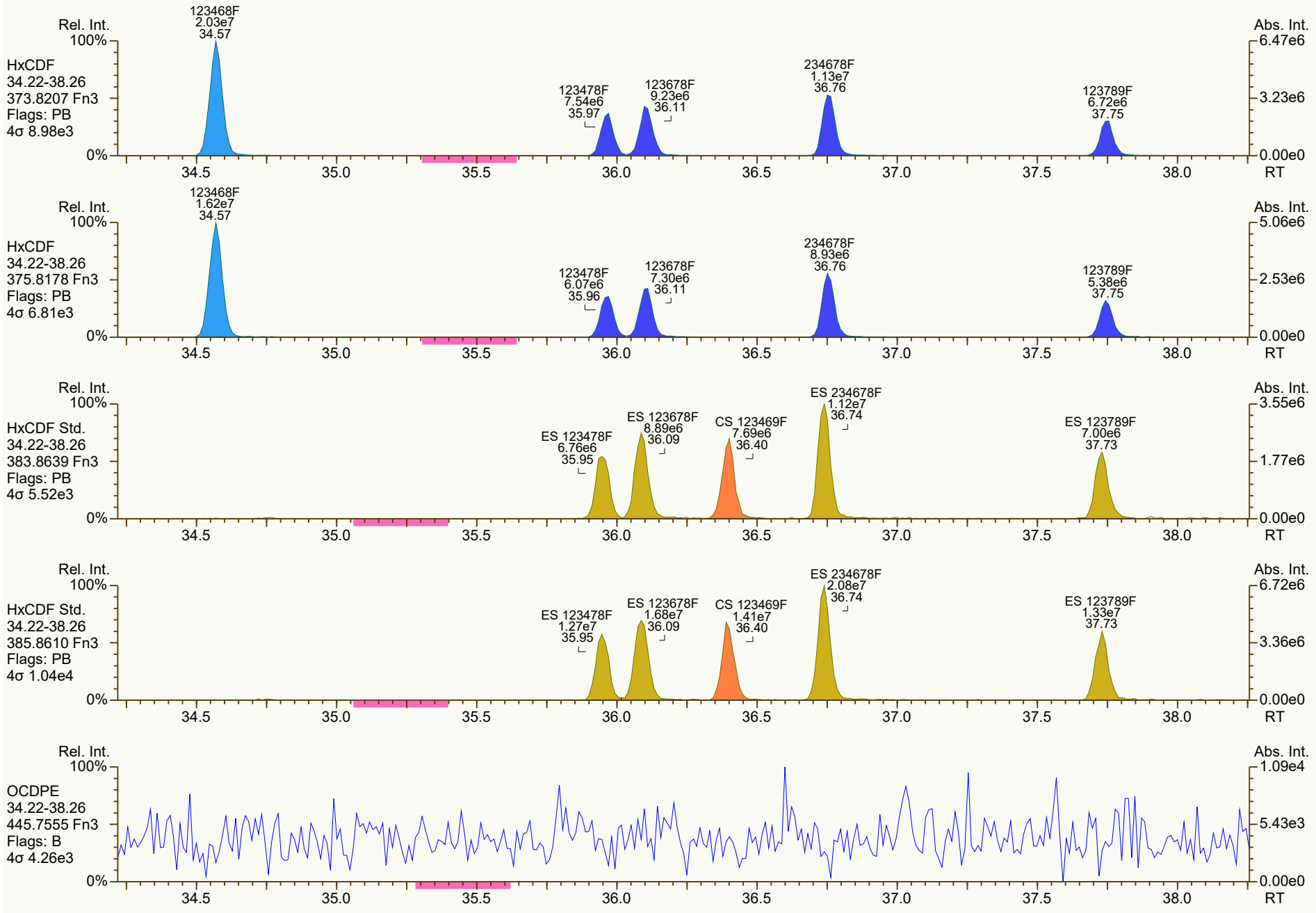


Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2116 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 8 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PB
4σ 6.14e3
12378F
8.80e6
31.54
23478F
9.51e6
32.68
12389F
2.05e6
33.76
2.74e6
1.37e6
0.00e0
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PB
4σ 5.12e3
12378F
5.61e6
31.54
23478F
6.11e6
32.68
12389F
1.33e6
33.76
1.72e6
8.58e5
0.00e0
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 8.75e3
CS 12346F
1.64e7
30.98
ES 12378F
1.65e7
31.52
ES 23478F
1.68e7
32.66
4.99e6
2.49e6
0.00e0
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 8.31e3
CS 12346F
1.02e7
30.98
ES 12378F
1.04e7
31.52
ES 23478F
1.02e7
32.66
2.82e6
1.41e6
0.00e0
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.50e3
1.40e4
7.02e3
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3885, 7731, 5364 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 9 of 12

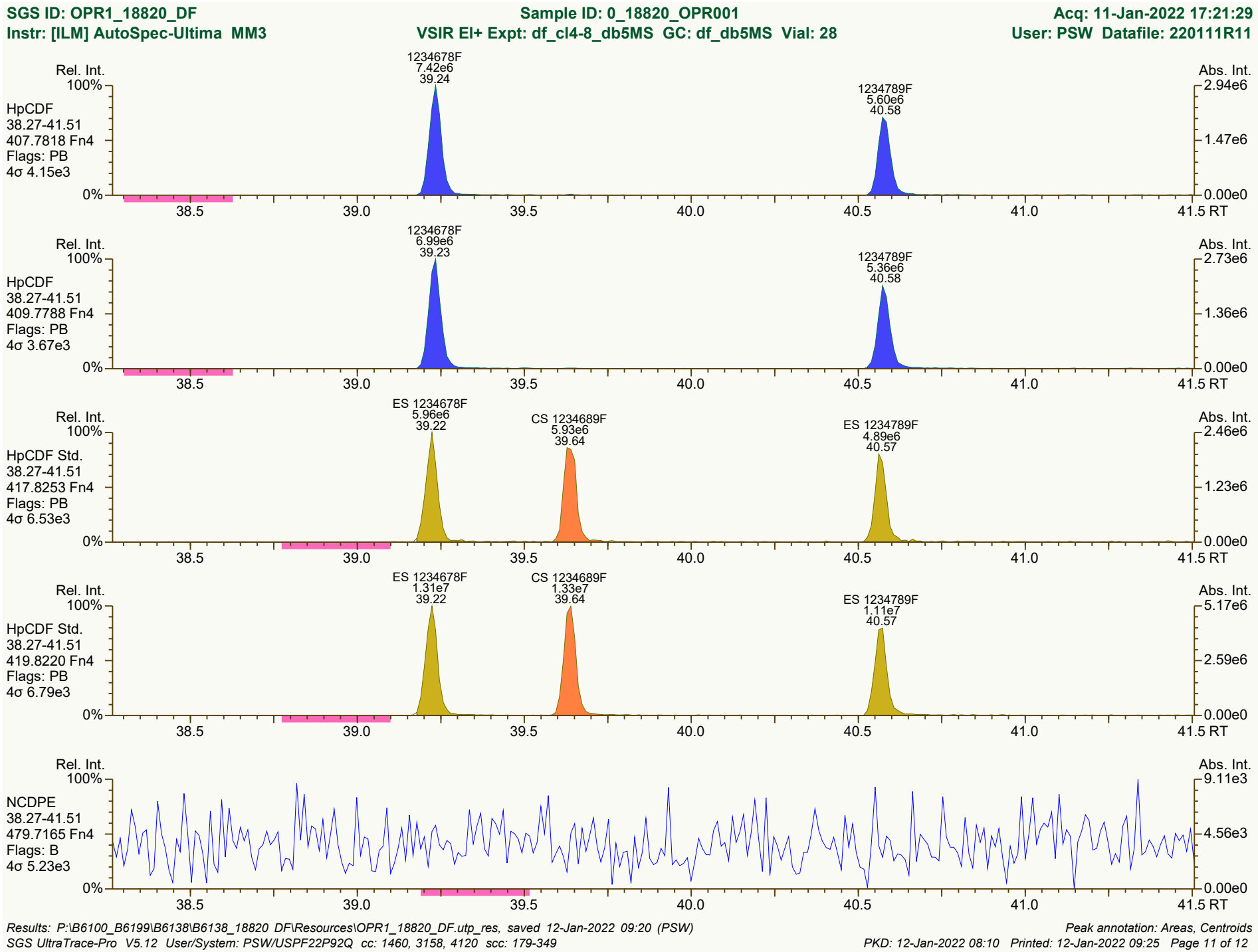
SGS ID: OPR1_18820_DF | Sample ID: 0_18820_OPR001 | Acq: 11-Jan-2022 17:21:29

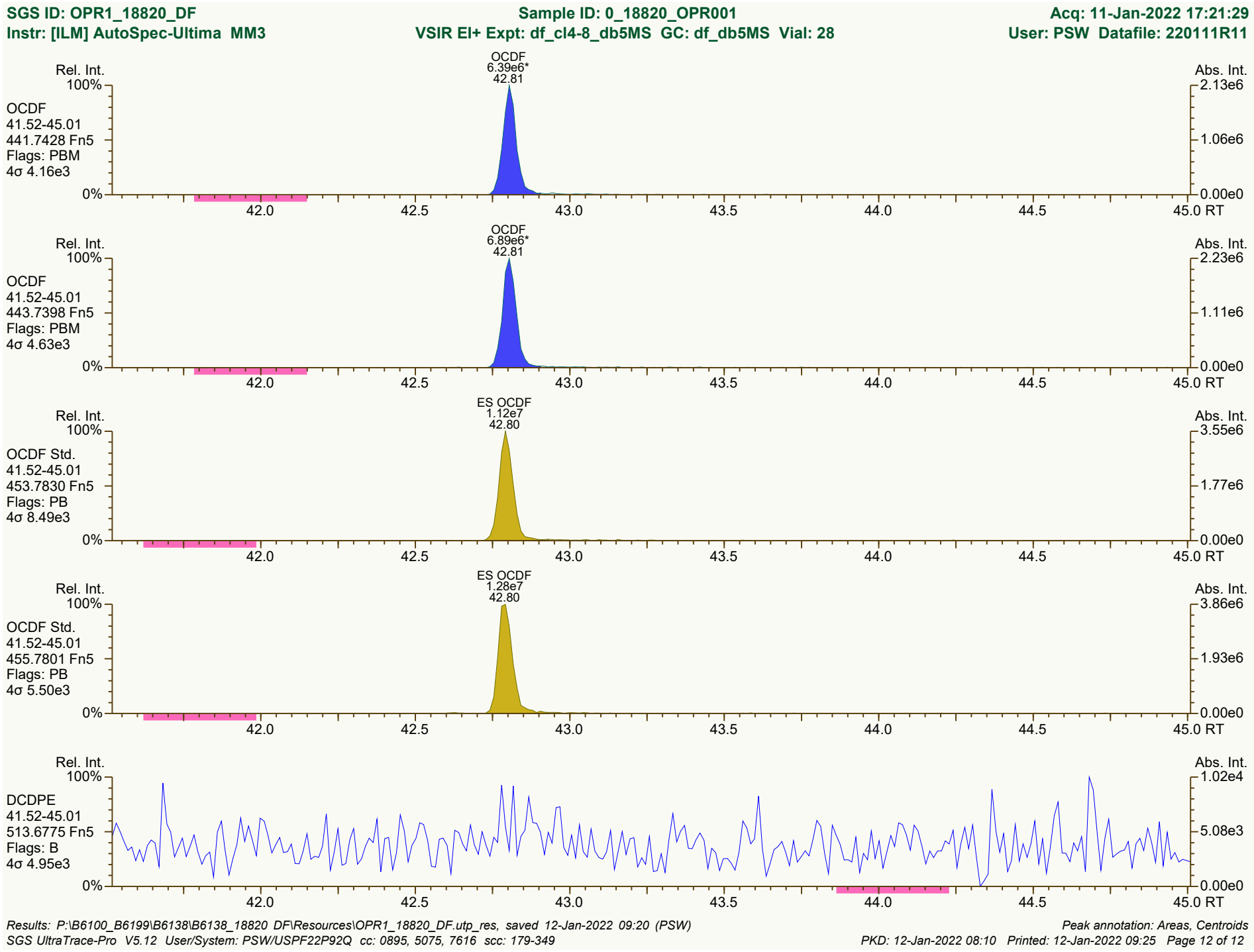
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220111R11



Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0199, 8912, 4582 scc: 179-349 | *PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:24 Page 10 of 12*


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 4.15e3
1234678F
7.42e6
39.24
1234789F
5.60e6
40.58
2.94e6
1.47e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 3.67e3
1234678F
6.99e6
39.23
1234789F
5.36e6
40.58
2.73e6
1.36e6
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.53e3
ES 1234678F
5.96e6
39.22
CS 1234689F
5.93e6
39.64
ES 1234789F
4.89e6
40.57
2.46e6
1.23e6
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 6.79e3
ES 1234678F
1.31e7
39.22
CS 1234689F
1.33e7
39.64
ES 1234789F
1.11e7
40.57
5.17e6
2.59e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 5.23e3
9.11e3
4.56e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1460, 3158, 4120 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:25 Page 11 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
OCDF
6.39e6*
42.81
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.16e3
2.13e6
1.06e6
0.00e0
OCDF
6.89e6*
42.81
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 4.63e3
2.23e6
1.11e6
ES OCDF
1.12e7
42.80
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 8.49e3
3.55e6
1.77e6
ES OCDF
1.28e7
42.80
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 5.50e3
3.86e6
1.93e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 4.95e3
1.02e4
5.08e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0895, 5075, 7616 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:25 Page 12 of 12

Lab ID: OPR2_18820_DF | **Acq'd:** 11 Jan 2022 18:08 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR002 | **UTP:** 12-Jan-2022 09:20:27 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 411-693-NYC

Datafile: 220111R12 | **Report:** 12 Jan 2022 09:21 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.50		1.0008	1.0008	0	2.19E+06	0.80	Y	1.34	9.24	7103.053	0.33
12378-PeCDD	33.01		1.0006	1.0006	0	7.47E+06	1.53	Y	1.06	44.7	7354.172	0.383
123478-HxCDD	36.93		1.0004	1.0004	0	8.44E+06	1.30	Y	1.06	53.6	6906.152	0.353
123678-HxCDD	37.04		1.0035	1.0035	0	8.91E+06	1.24	Y	1.08	55.5	6906.152	0.339
123789-HxCDD	37.35		1.0117	1.0118	+0.2	8.33E+06	1.25	Y	1.02	52.1	6906.152	0.379
1234678-HpCDD	40.14		1.0003	1.0003	0	7.02E+06	1.08	Y	0.97	54.8	7025.993	0.326
OCDD	42.63		1.0003	1.0003	0	7.98E+06	0.93	Y	1.07	110	8066.072	0.839
2378-TCDF	26.60		1.0008	1.0007	-0.2	3.07E+06	0.74	Y	0.96	11.8	8081.008	0.362
12378-PeCDF	31.53		1.0005	1.0006	+0.2	1.19E+07	1.60	Y	0.95	57.1	7883.698	0.35
23478-PeCDF	32.66		1.0006	1.0005	-0.2	1.22E+07	1.54	Y	0.94	59.8	7883.698	0.334
123478-HxCDF	35.95		1.0004	1.0005	+0.2	1.11E+07	1.22	Y	1.23	56.5	11806.77	0.447
123678-HxCDF	36.09		1.0004	1.0004	0	1.32E+07	1.23	Y	1.13	55.6	11806.77	0.435
234678-HxCDF	36.75		1.0004	1.0005	+0.2	1.60E+07	1.25	Y	1.15	52.7	11806.77	0.302
123789-HxCDF	37.74		1.0005	1.0005	0	9.88E+06	1.29	Y	1.14	53.7	11806.77	0.506
1234678-HpCDF	39.23		1.0003	1.0003	0	1.14E+07	1.07	Y	1.36	52.5	6514.605	0.212
1234789-HpCDF	40.57		1.0002	1.0003	+0.2	8.80E+06	1.09	Y	1.30	54.1	6514.605	0.256
OCDF	42.80		1.0003	1.0003	0	1.02E+07	0.89	Y	1.03	113	7795.498	0.679

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.48	1.0251	1.0255	+0.7	1.76E+07	0.79	Y	1.03	98.6
ES 12378-PeCDD	32.99	1.2290	1.2311	+4.2	1.58E+07	1.53	Y	1.03	88.2
ES 123478-HxCDD	36.91	0.9915	0.9916	+0.2	1.49E+07	1.29	Y	0.99	109
ES 123678-HxCDD	37.03	0.9947	0.9947	0	1.48E+07	1.20	Y	0.97	111
ES 123789-HxCDD	37.33	1.0028	1.0028	0	1.57E+07	1.28	Y	1.12	102
ES 1234678-HpCDD	40.13	1.0771	1.0779	+1.9	1.32E+07	1.10	Y	0.99	96.3
ES OCDD	42.62	1.1441	1.1448	+1.8	1.35E+07	0.92	Y	0.78	63.2
ES 2378-TCDF	26.58	1.0562	1.0570	+1.3	2.71E+07	0.78	Y	1.08	94.9
ES 12378-PeCDF	31.51	1.2501	1.2530	+5.5	2.21E+07	1.61	Y	0.93	89.8
ES 23478-PeCDF	32.65	1.2950	1.2982	+6.3	2.17E+07	1.58	Y	0.92	89.3
ES 123478-HxCDF	35.94	0.9654	0.9654	0	1.59E+07	0.50	Y	1.14	101
ES 123678-HxCDF	36.08	0.9691	0.9692	+0.2	2.10E+07	0.52	Y	1.30	117
ES 234678-HxCDF	36.73	0.9867	0.9867	0	2.64E+07	0.52	Y	1.20	159
ES 123789-HxCDF	37.72	1.0134	1.0133	-0.2	1.62E+07	0.53	Y	1.14	104
ES 1234678-HpCDF	39.21	1.0527	1.0534	+1.6	1.59E+07	0.46	Y	0.95	121
ES 1234789-HpCDF	40.56	1.0887	1.0896	+2.2	1.25E+07	0.43	Y	0.85	107
ES OCDF	42.79	1.1487	1.1495	+2.1	1.76E+07	0.93	Y	0.93	69.1

Lab ID: OPR2_18820_DF | **Acq'd:** 11 Jan 2022 18:08 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR002 | **UTP:** 12-Jan-2022 09:20:27 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 411-693-NYC

Datafile: 220111R12 | **Report:** 12 Jan 2022 09:21 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.80		-	-	-	1.73E+07	0.73	Y	-	-
JS 1234-TCDF	25.15		-	-	-	2.64E+07	0.79	Y	-	-
JS 123467-HxCDD	37.22		-	-	-	6.89E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	27.50		1.0260	1.0264	+0.7	7.89E+06	n/a	-	1.31	87
CS 12347-PeCDD	32.48		1.2102	1.2121	+3.7	1.42E+07	1.68	Y	0.89	92.2
CS 12346-PeCDF	30.97		1.2289	1.2315	+4.8	2.19E+07	1.58	Y	0.87	95.9
CS 123469-HxCDF	36.39		0.9774	0.9775	+0.2	1.75E+07	0.51	Y	1.09	116
CS 1234689-HpCDF	39.63		1.0636	1.0646	+2.4	1.49E+07	0.45	Y	0.86	125
~~SS 37Cl-2378-TCDD~~	~~27.50~~		~~1.0260~~	~~1.0264~~	~~+0.7~~	~~7.89E+06~~	~~n/a~~		~~1.26~~	~~88.7~~
~~SS 12347-PeCDD~~	~~32.48~~		~~1.2102~~	~~1.2121~~	~~+3.7~~	~~1.42E+07~~	~~1.68~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~30.97~~		~~1.2289~~	~~1.2315~~	~~+4.8~~	~~2.19E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~107~~
~~SS 123469-HxCDF~~	~~36.39~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~1.75E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~98.8~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.49E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~103~~

Totals	Conc	EMPC
Total TCDD	47	47
Total PeCDD	69.1	69.1
Total HxCDD	175	175
Total HpCDD	68.6	68.6
Total Tetra-Octa Dioxins	470	470
Total TCDF	70	70
Total PeCDF	254	254
Total HxCDF	344	344
Total HpCDF	107	107
Total Tetra-Octa Furans	889	889
Total Tetra-Octa Dioxins & Furans	1360	1360

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	2.20E+06	2.19E+06

Lab ID: OPR2_18820_DF | **Acq'd: 11 Jan 2022 18:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR002 | **UTP: 12-Jan-2022 09:20:27 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 411-693-NYC**

Datafile: 220111R12 | **Report: 12 Jan 2022 09:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.65		0.8626	0.8607	-2.7	3.33E+06	0.82	Y	1.34	14	7103.053	0.33
1379-TCDD	NotFnd		0.8763						1.34		7103.053	0.33
1369-TCDD	NotFnd		0.8929						1.34		7103.053	0.33
1469-TCDD	NotFnd		0.9227						1.34		7103.053	0.33
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		7103.053	0.33
1378-TCDD	NotFnd		0.9389						1.34		7103.053	0.33
1268-TCDD	NotFnd		0.9463						1.34		7103.053	0.33
1478-TCDD	NotFnd		0.9556						1.34		7103.053	0.33
1279-TCDD	NotFnd		0.9620						1.34		7103.053	0.33
1234/1269-TCDD	NotFnd		0.9753						1.34		7103.053	0.33
1236-TCDD	NotFnd		0.9806						1.34		7103.053	0.33
1237/1238-TCDD	NotFnd		0.9900						1.34		7103.053	0.33
1239-TCDD	27.34		0.9951	0.9950	-0.2	2.25E+06	0.79	Y	1.34	9.48	7103.053	0.33
2378-TCDD	**27.50**		**1.0008**	1.0008	**0**	2.19E+06	0.80	Y	**1.34**	**9.24**	**7103.053**	**0.33**
1278-TCDD	NotFnd		1.0131						1.34		7103.053	0.33
1267-TCDD	NotFnd		1.0182						1.34		7103.053	0.33
1289-TCDD	28.52		1.0373	1.0377	+0.7	3.38E+06	0.74	Y	1.34	14.2	7103.053	0.33
12479/12468-PeCDD	30.46		0.9237	0.9234	-0.5	1.96E+06	1.49	Y	1.06	11.7	7354.172	0.383
12469-PeCDD	NotFnd		0.9402						1.06		7354.172	0.383
12368-PeCDD	NotFnd		0.9572						1.06		7354.172	0.383
12478-PeCDD	NotFnd		0.9629						1.06		7354.172	0.383
12379-PeCDD	NotFnd		0.9660						1.06		7354.172	0.383
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		7354.172	0.383
12346/12347-PeCDD	NotFnd		0.9854						1.06		7354.172	0.383
12378-PeCDD	33.01		**1.0006**	**1.0006**	**0**	**7.47E+06**	**1.53**	**Y**	**1.06**	**44.7**	**7354.172**	**0.383**
12367-PeCDD	NotFnd		1.0034						1.06		7354.172	0.383
12389-PeCDD	33.46		1.0141	1.0142	+0.2	2.13E+06	1.57	Y	1.06	12.7	7354.172	0.383
124679/124689-HxCDD	35.22		0.9542	0.9541	-0.2	2.18E+06	1.25	Y	1.05	13.7	6906.152	0.357
123468-HxCDD	NotFnd		0.9720						1.05		6906.152	0.357
123679/123689-HxCDD	NotFnd		0.9798						1.05		6906.152	0.357
123469-HxCDD	NotFnd		0.9836						1.05		6906.152	0.357
123478-HxCDD	36.93		**1.0004**	**1.0004**	**0**	**8.44E+06**	**1.30**	**Y**	1.06	**53.6**	**6906.152**	**0.353**
123678-HxCDD	37.04		**1.0035**	**1.0035**	**0**	**8.91E+06**	**1.24**	**Y**	1.08	**55.5**	**6906.152**	**0.339**
123467-HxCDD	NotFnd		1.0089						1.05		6906.152	0.357
123789-HxCDD	37.35		**1.0117**	**1.0118**	**+0.2**	**8.33E+06**	**1.25**	**Y**	1.02	**52.1**	**6906.152**	**0.379**

Lab ID: OPR2_18820_DF | **Acq'd: 11 Jan 2022 18:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR002 | **UTP: 12-Jan-2022 09:20:27 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 411-693-NYC**

Datafile: 220111R12 | **Report: 12 Jan 2022 09:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.49		0.9842	0.9843	+0.2	1.78E+06	1.01	Y	0.97	13.8	7025.993	0.326
1234678-HpCDD	**40.14**		**1.0003**	**1.0003**	**0**	**7.02E+06**	**1.08**	**Y**	**0.97**	**54.8**	**7025.993**	**0.326**
OCDD	**42.63**		**1.0003**	**1.0003**	**0**	**7.98E+06**	**0.93**	**Y**	**1.07**	**110**	**8066.072**	**0.839**
OCDD-a	42.63		1.0002	1.0002	0	3.45E+05	2.44	Y	0.07	77.2	11375.181	19.2
1368-TCDF	21.42		0.8080	0.8059	-2.7	4.27E+06	0.81	Y	0.96	16.4	8081.008	0.362
1468-TCDF	NotFnd		0.8299						0.96		8081.008	0.362
2468-TCDF	22.68		0.8555	0.8534	-2.9	1.17E+06	0.74	Y	0.96	4.5	8081.008	0.362
1346/1246-TCDF	NotFnd		0.8688						0.96		8081.008	0.362
1347/1378/1247-TCDF	NotFnd		0.8753						0.96		8081.008	0.362
1348-TCDF	NotFnd		0.8863						0.96		8081.008	0.362
1248/1367/1379-TCDF	NotFnd		0.8915						0.96		8081.008	0.362
1268-TCDF	NotFnd		0.9065						0.96		8081.008	0.362
1467-TCDF	NotFnd		0.9119						0.96		8081.008	0.362
1478-TCDF	NotFnd		0.9186						0.96		8081.008	0.362
1369/1237-TCDF	NotFnd		0.9331						0.96		8081.008	0.362
2467-TCDF	NotFnd		0.9384						0.96		8081.008	0.362
2368-TCDF	NotFnd		0.9445						0.96		8081.008	0.362
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9476						0.96		8081.008	0.362
1278-TCDF	NotFnd		0.9656						0.96		8081.008	0.362
1349-TCDF	NotFnd		0.9703						0.96		8081.008	0.362
1267-TCDF	NotFnd		0.9765						0.96		8081.008	0.362
2346/1249-TCDF	NotFnd		0.9836						0.96		8081.008	0.362
2347/1279-TCDF	NotFnd		0.9921						0.96		8081.008	0.362
2348-TCDF	26.49		0.9965	0.9966	+0.2	4.65E+06	0.76	Y	0.96	17.8	8081.008	0.362
2378-TCDF	**26.60**		**1.0008**	**1.0007**	**-0.2**	**3.07E+06**	**0.74**	**Y**	**0.96**	**11.8**	**8081.008**	**0.362**
2367/3467-TCDF	NotFnd		1.0150						0.96		8081.008	0.362
1269-TCDF	NotFnd		1.0243						0.96		8081.008	0.362
1239-TCDF	NotFnd		1.0345						0.96		8081.008	0.362
1289-TCDF	28.69		1.0780	1.0792	+2.1	5.07E+06	0.81	Y	0.96	19.5	8081.008	0.362
13468/12468-PeCDF	28.62		0.9095	0.9084	-1.9	2.55E+07	1.61	Y	0.94	123	9667.428	0.419
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		7883.698	0.342
12368/13478/12478-PeCDF	NotFnd		0.9646						0.94		7883.698	0.342
14678-PeCDF	NotFnd		0.9678						0.94		7883.698	0.342
13479-PeCDF	NotFnd		0.9710						0.94		7883.698	0.342
13469/12479-PeCDF	NotFnd		0.9790						0.94		7883.698	0.342
12346-PeCDF	NotFnd		0.9835						0.94		7883.698	0.342

Lab ID: OPR2_18820_DF | **Acq'd: 11 Jan 2022 18:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR002 | **UTP: 12-Jan-2022 09:20:27 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 411-693-NYC**

Datafile: 220111R12 | **Report: 12 Jan 2022 09:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		7883.698	0.342
12347-PeCDF	NotFnd		0.9888						0.94		7883.698	0.342
12348-PeCDF	NotFnd		0.9939						0.94		7883.698	0.342
12378-PeCDF	**31.53**		**1.0005**	**1.0006**	**+0.2**	**1.19E+07**	**1.60**	**Y**	**0.95**	**57.1**	**7883.698**	**0.35**
12678/12367-PeCDF	NotFnd		1.0094						0.94		7883.698	0.342
12379-PeCDF	NotFnd		1.0149						0.94		7883.698	0.342
12679-PeCDF	NotFnd		0.9925						0.94		7883.698	0.342
23467/12369-PeCDF	NotFnd		0.9965						0.94		7883.698	0.342
23478-PeCDF	**32.66**		**1.0006**	**1.0005**	**-0.2**	**1.22E+07**	**1.54**	**Y**	**0.94**	**59.8**	**7883.698**	**0.334**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7883.698	0.342
12349-PeCDF	NotFnd		1.0104						0.94		7883.698	0.342
12389-PeCDF	33.75		1.0336	1.0339	+0.6	2.92E+06	1.62	Y	0.94	14.1	7883.698	0.342
123468-HxCDF	34.56		0.9618	0.9616	-0.4	2.91E+07	1.23	Y	1.16	126	11806.77	0.407
124678/134678-HxCDF	NotFnd		0.9673						1.16		11806.77	0.407
134679-HxCDF	NotFnd		0.9737						1.16		11806.77	0.407
124679-HxCDF	NotFnd		0.9793						1.16		11806.77	0.407
124689-HxCDF	NotFnd		0.9855						1.16		11806.77	0.407
123467-HxCDF	NotFnd		0.9972						1.16		11806.77	0.407
123478-HxCDF	**35.95**		**1.0004**	**1.0005**	**+0.2**	**1.11E+07**	**1.22**	**Y**	**1.23**	**56.5**	**11806.77**	**0.447**
123678-HxCDF	**36.09**		**1.0004**	**1.0004**	**0**	**1.32E+07**	**1.23**	**Y**	**1.13**	**55.6**	**11806.77**	**0.435**
123479-HxCDF	NotFnd		1.0049						1.16		11806.77	0.407
123469-HxCDF	NotFnd		1.0089						1.16		11806.77	0.407
123679-HxCDF	NotFnd		0.9944						1.16		11806.77	0.407
234678-HxCDF	**36.75**		**1.0004**	**1.0005**	**+0.2**	**1.60E+07**	**1.25**	**Y**	**1.15**	**52.7**	**11806.77**	**0.302**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		11806.77	0.407
123789-HxCDF	**37.74**		**1.0005**	**1.0005**	**0**	**9.88E+06**	**1.29**	**Y**	**1.14**	**53.7**	**11806.77**	**0.506**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		11806.77	0.407
1234678-HpCDF	**39.23**		**1.0003**	**1.0003**	**0**	**1.14E+07**	**1.07**	**Y**	**1.36**	**52.5**	**6514.605**	**0.212**
1234679-HpCDF	NotFnd		1.0071						1.33		6514.605	0.231
1234689-HpCDF	NotFnd		1.0106						1.33		6514.605	0.231
1234789-HpCDF	**40.57**		**1.0002**	**1.0003**	**+0.2**	**8.80E+06**	**1.09**	**Y**	**1.30**	**54.1**	**6514.605**	**0.256**
OCDF	**42.80**		**1.0003**	**1.0003**	**0**	**1.02E+07**	**0.89**	**Y**	**1.03**	**113**	**7795.498**	**0.679**
OCDF-a	42.79	**EMPC**	1.0002	1.0000	-0.5	5.78E+05	1.92	N	0.06	111	10018.994	15.1

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R12	Analysis Date:	11-JAN-2022 18:08:55
Lab ID:	OPR2_18820_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.24	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	44.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.6	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.8	35	-	70	Y
OCDD	100	110	78	-	144	Y
2,3,7,8-TCDF	10	11.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	57.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	59.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	53.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.5	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54.1	39	-	69	Y
OCDF	100	113	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:21 Analyst: pw

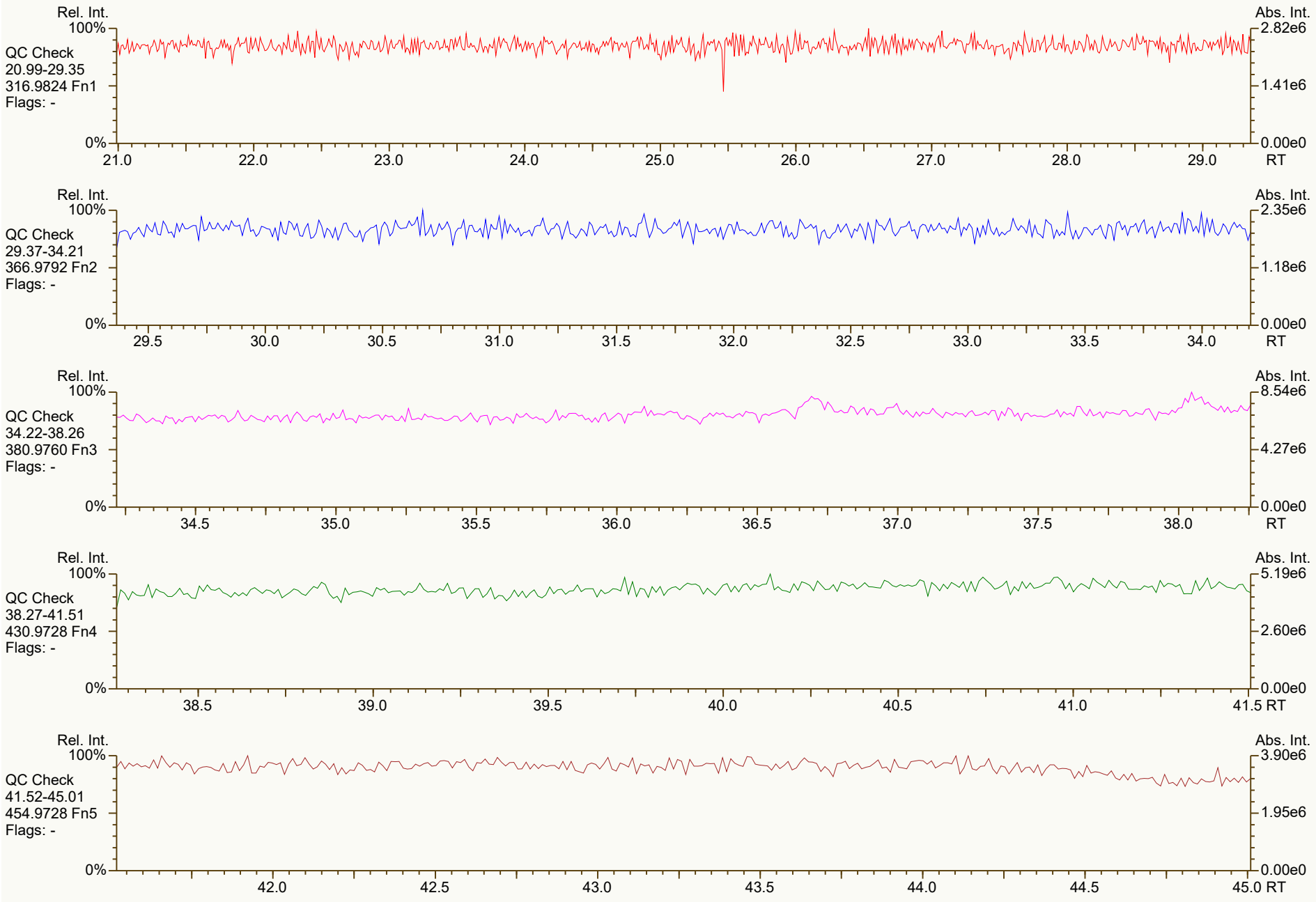
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

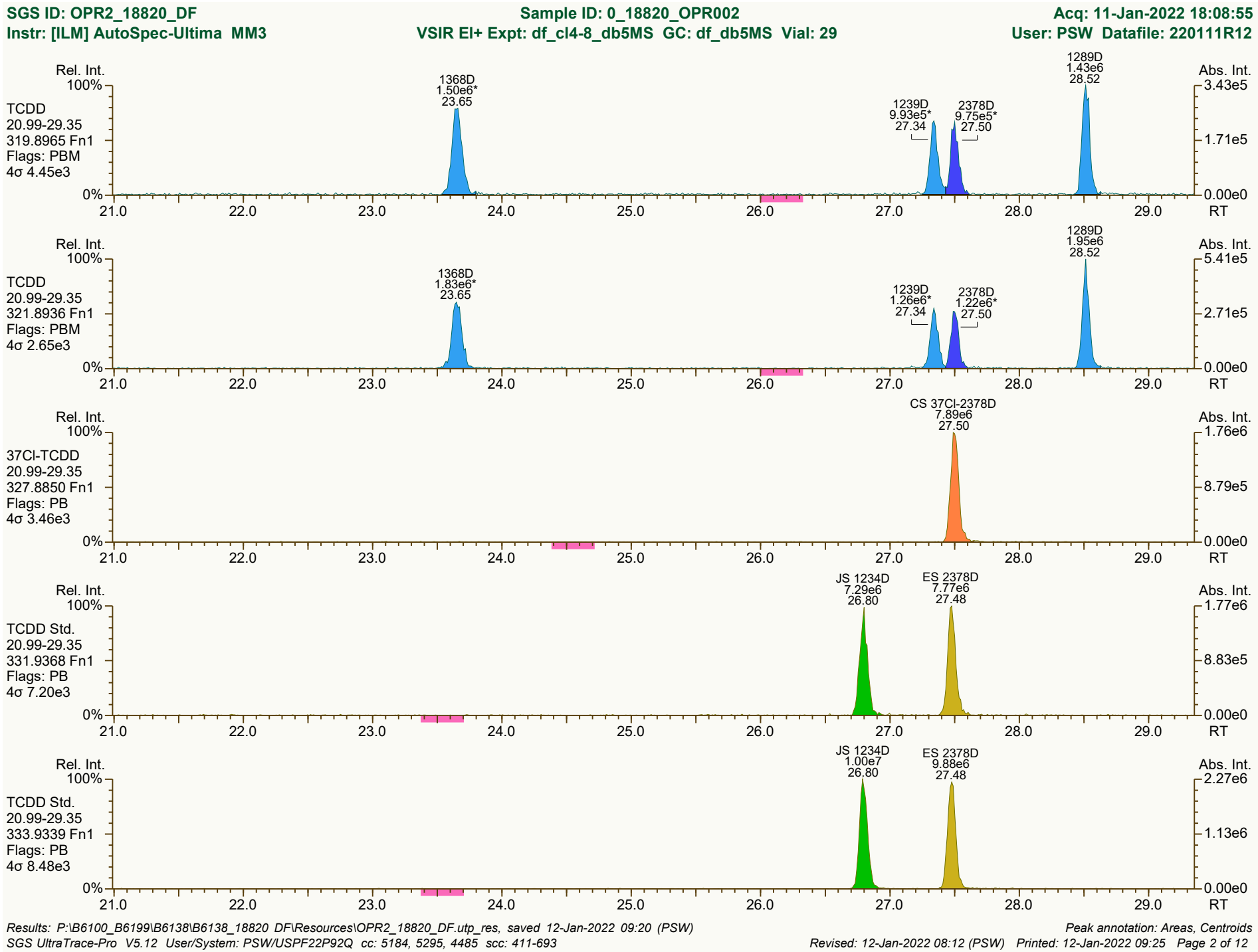
Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R12	Analysis Date:	11-JAN-2022 18:08:55
Lab ID:	OPR2_18820_DF		

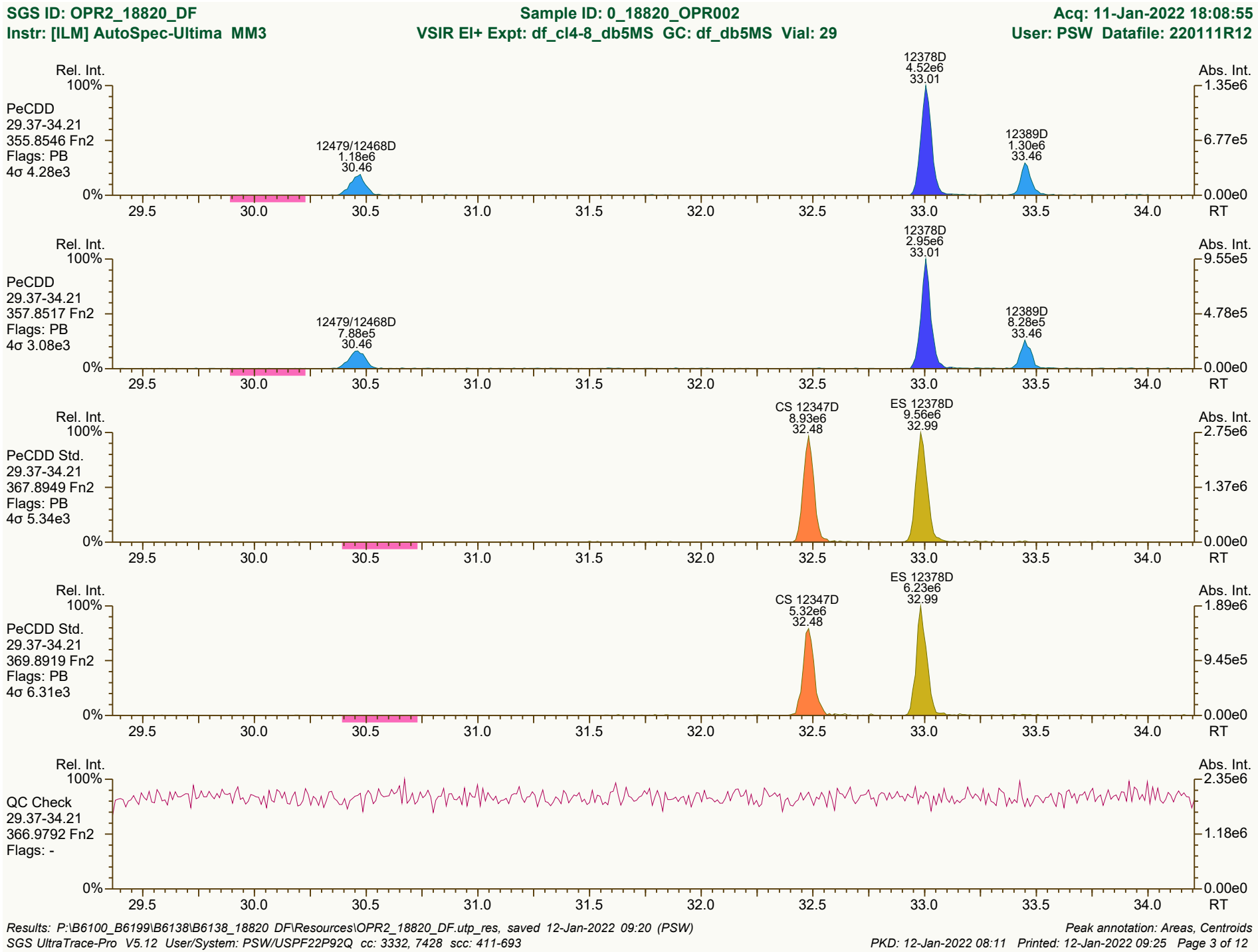
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	98.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	88.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	109	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	111	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	102	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	96.3	26	-	166	Y
13C-OCDD	200	126	26	-	397	Y
13C-2,3,7,8-TCDF	100	94.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.8	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	89.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	117	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	159	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	104	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	121	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	107	20	-	186	Y
13C-OCDF	200	138	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	34.8	12.4	-	76.4	Y

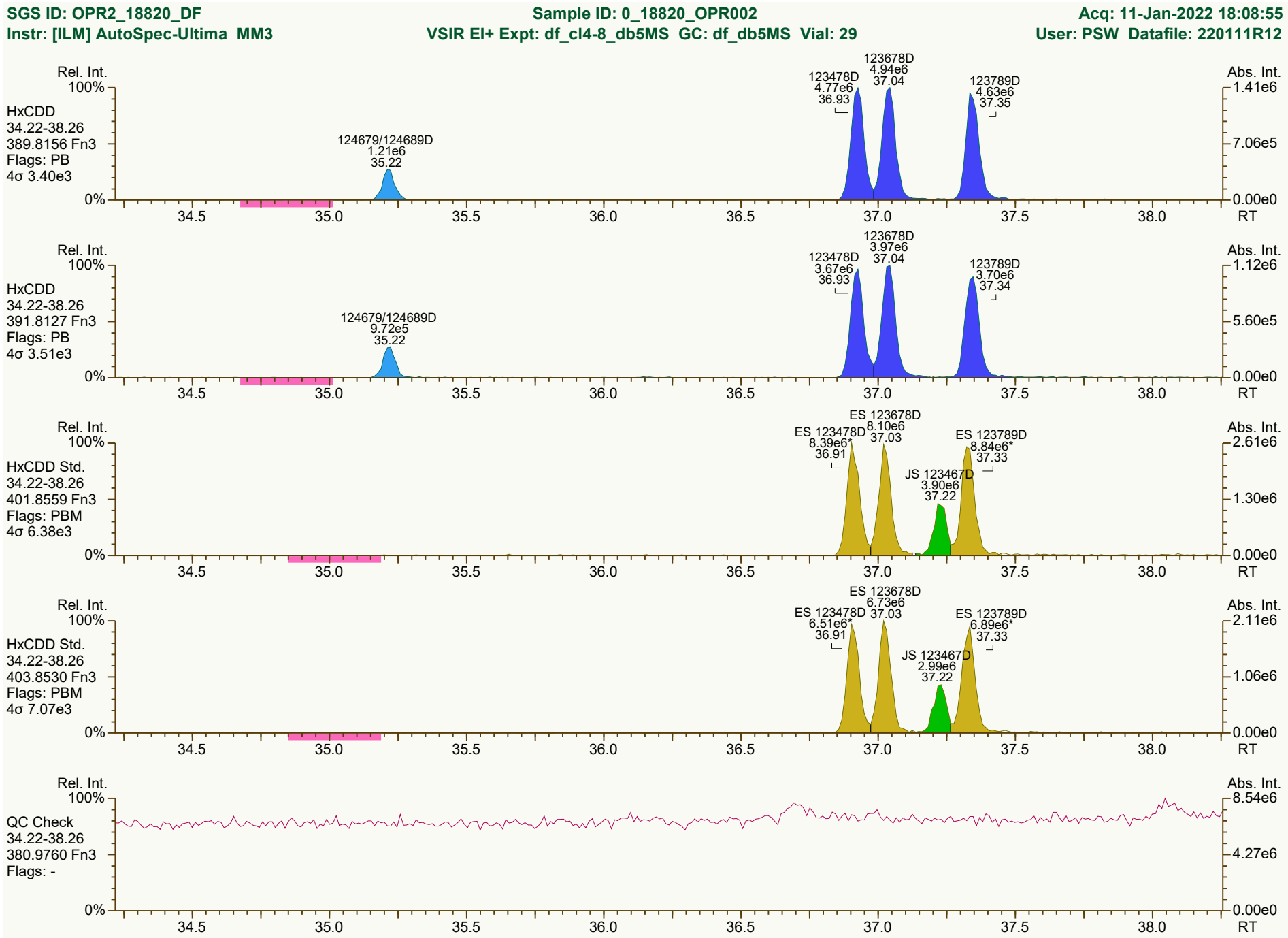
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:21 Analyst: pw

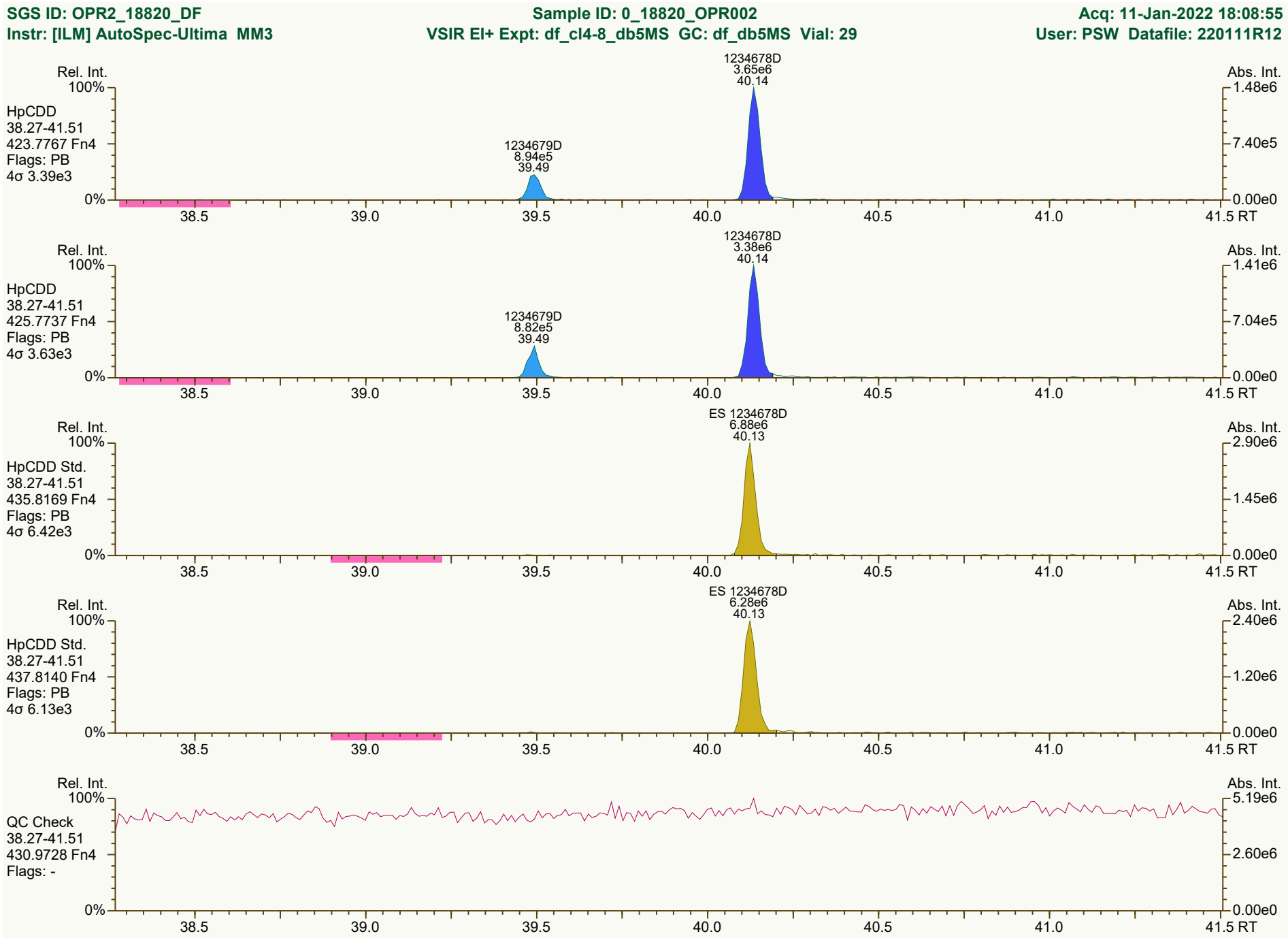

Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.35e6
1.18e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.54e6
4.27e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.19e6
2.60e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

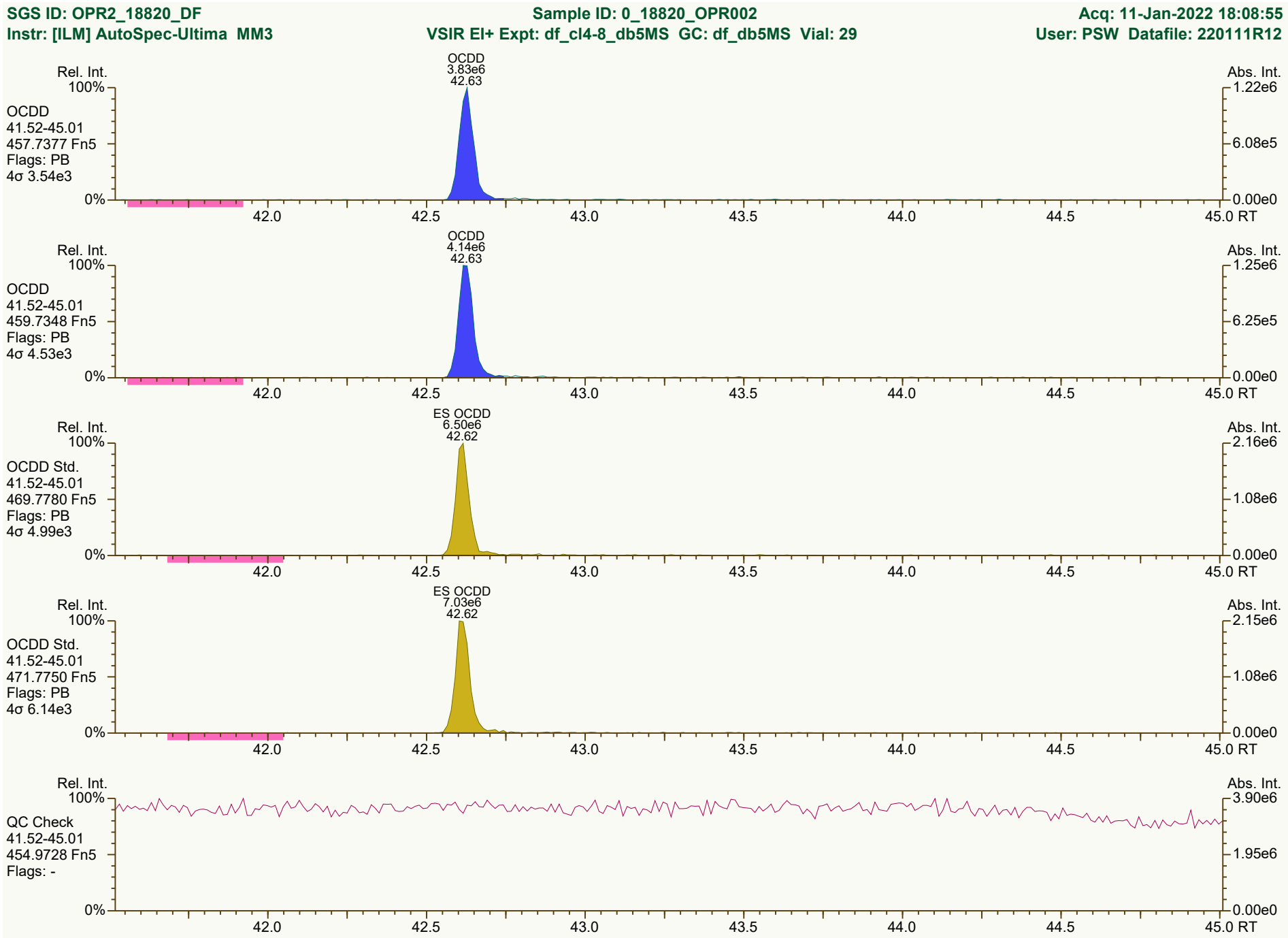

SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 4.45e3
1368D 1.50e6* 23.65
1239D 9.93e5* 27.34
2378D 9.75e5* 27.50
1289D 1.43e6 28.52
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 2.65e3
1368D 1.83e6* 23.65
1239D 1.26e6* 27.34
2378D 1.22e6* 27.50
1289D 1.95e6 28.52
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 3.46e3
CS 37Cl-2378D 7.89e6 27.50
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 7.20e3
JS 1234D 7.29e6 26.80
ES 2378D 7.77e6 27.48
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 8.48e3
JS 1234D 1.00e7 26.80
ES 2378D 9.88e6 27.48
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5184, 5295, 4485 scc: 411-693
Revised: 12-Jan-2022 08:12 (PSW) Printed: 12-Jan-2022 09:25 Page 2 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PB
4σ 4.28e3
12479/12468D
1.18e6
30.46
12378D
4.52e6
33.01
12389D
1.30e6
33.46
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 3.08e3
12479/12468D
7.88e5
30.46
12378D
2.95e6
33.01
12389D
8.28e5
33.46
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 5.34e3
CS 12347D
8.93e6
32.48
ES 12378D
9.56e6
32.99
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 6.31e3
CS 12347D
5.32e6
32.48
ES 12378D
6.23e6
32.99
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3332, 7428 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 3 of 12

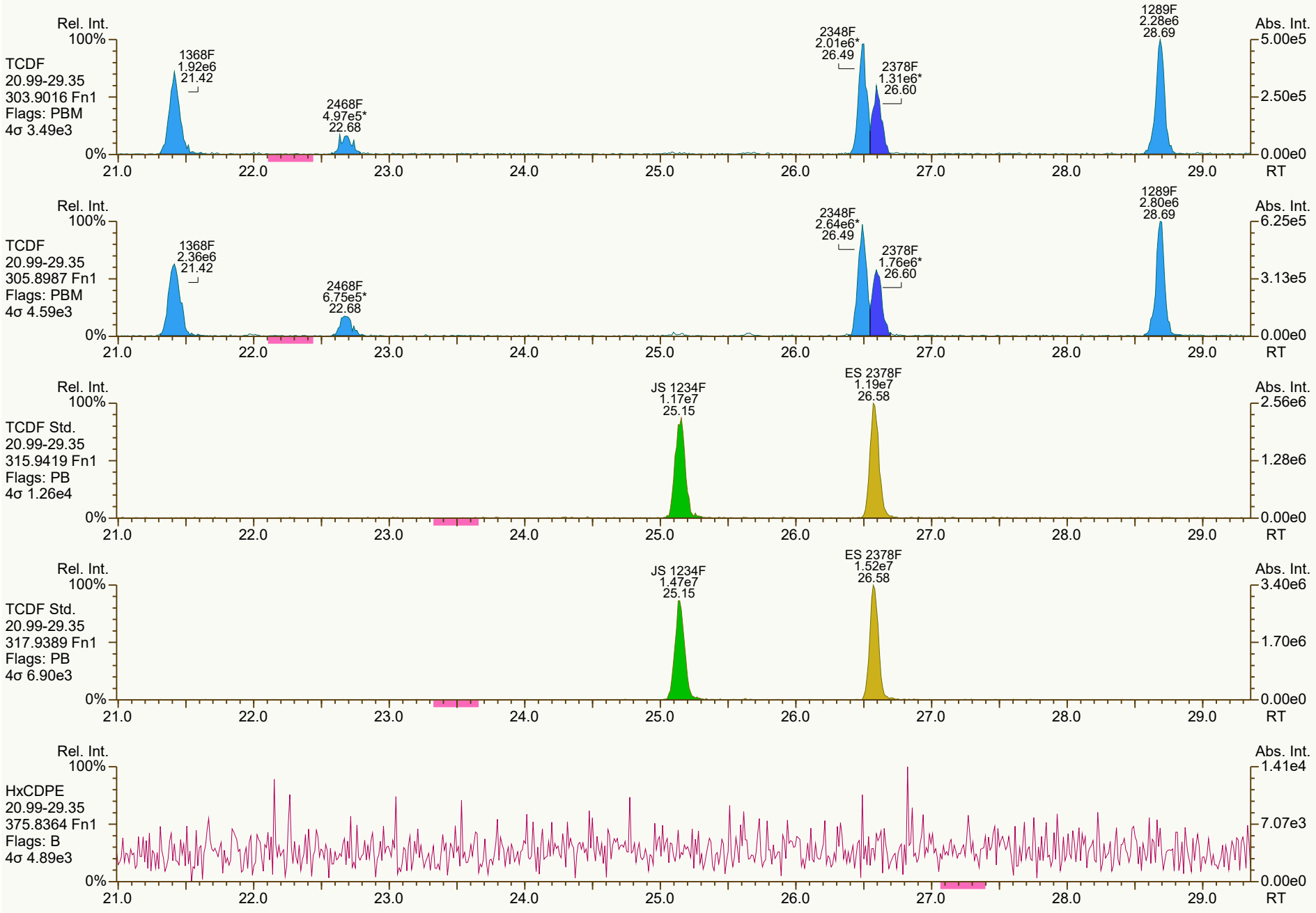


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5050, 8191 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 4 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 3.39e3
1234678D
3.65e6
40.14
1234679D
8.94e5
39.49
1.48e6
7.40e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.63e3
1234678D
3.38e6
40.14
1234679D
8.82e5
39.49
1.41e6
7.04e5
0.00e0
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 6.42e3
ES 1234678D
6.88e6
40.13
2.90e6
1.45e6
0.00e0
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 6.13e3
ES 1234678D
6.28e6
40.13
2.40e6
1.20e6
0.00e0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.19e6
2.60e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1563, 9184 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 5 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
OCDD
3.83e6
42.63
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.54e3
OCDD
4.14e6
42.63
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 4.53e3
ES OCDD
6.50e6
42.62
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 4.99e3
ES OCDD
7.03e6
42.62
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.14e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6854, 8273 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 6 of 12

SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12

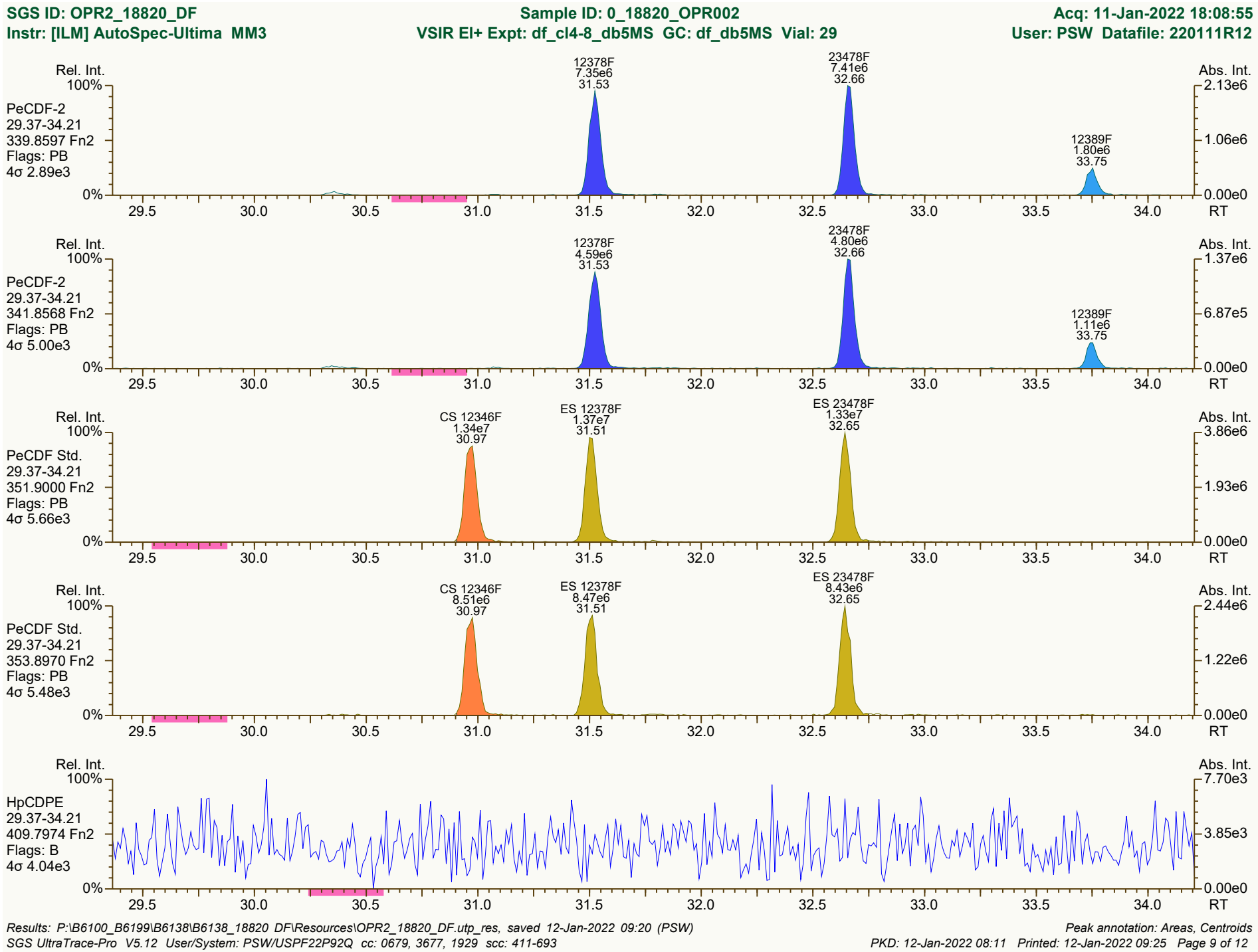


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8734, 4699, 1102 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 7 of 12

SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12



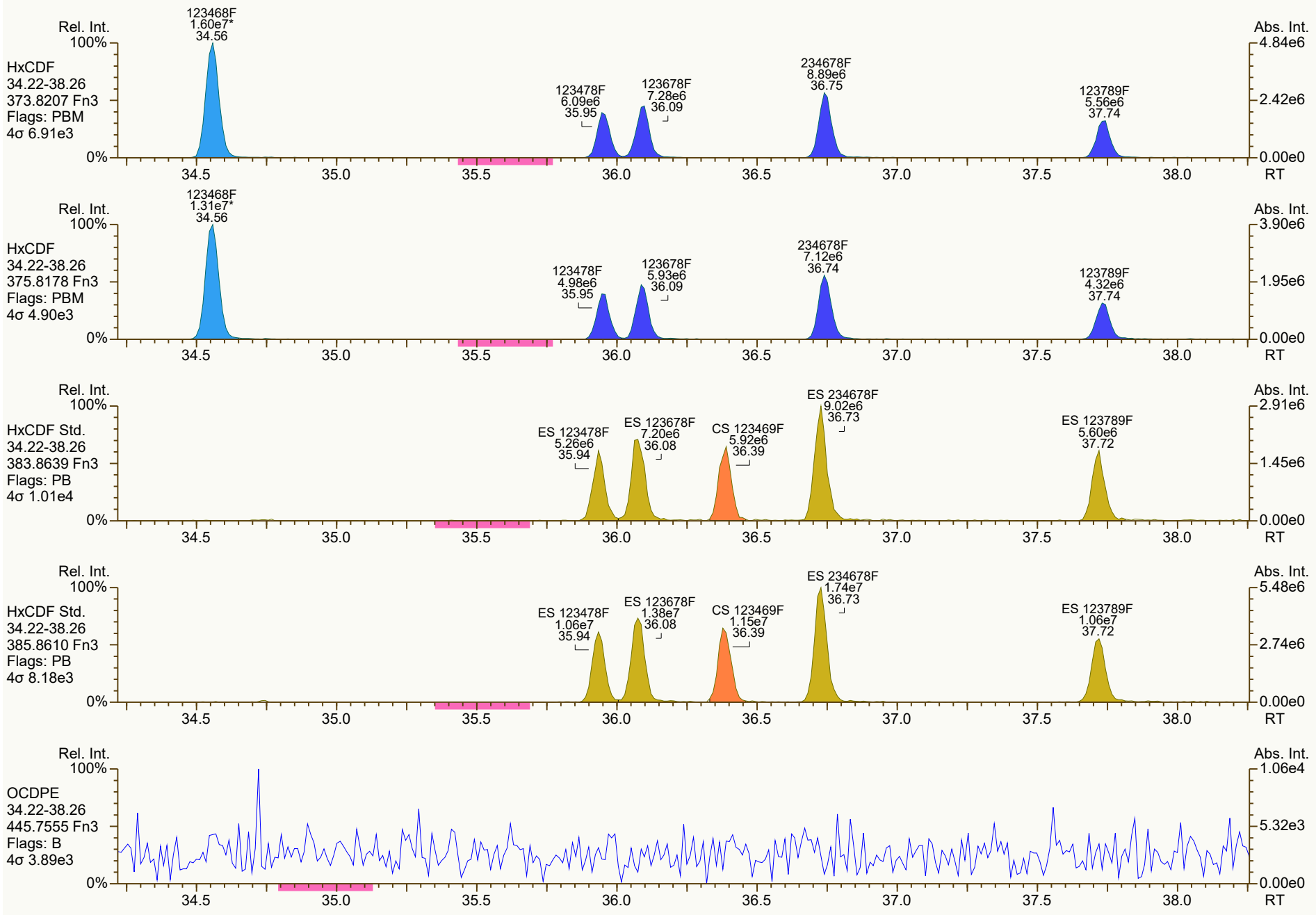
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0290 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 8 of 12



Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0679, 3677, 1929 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 9 of 12

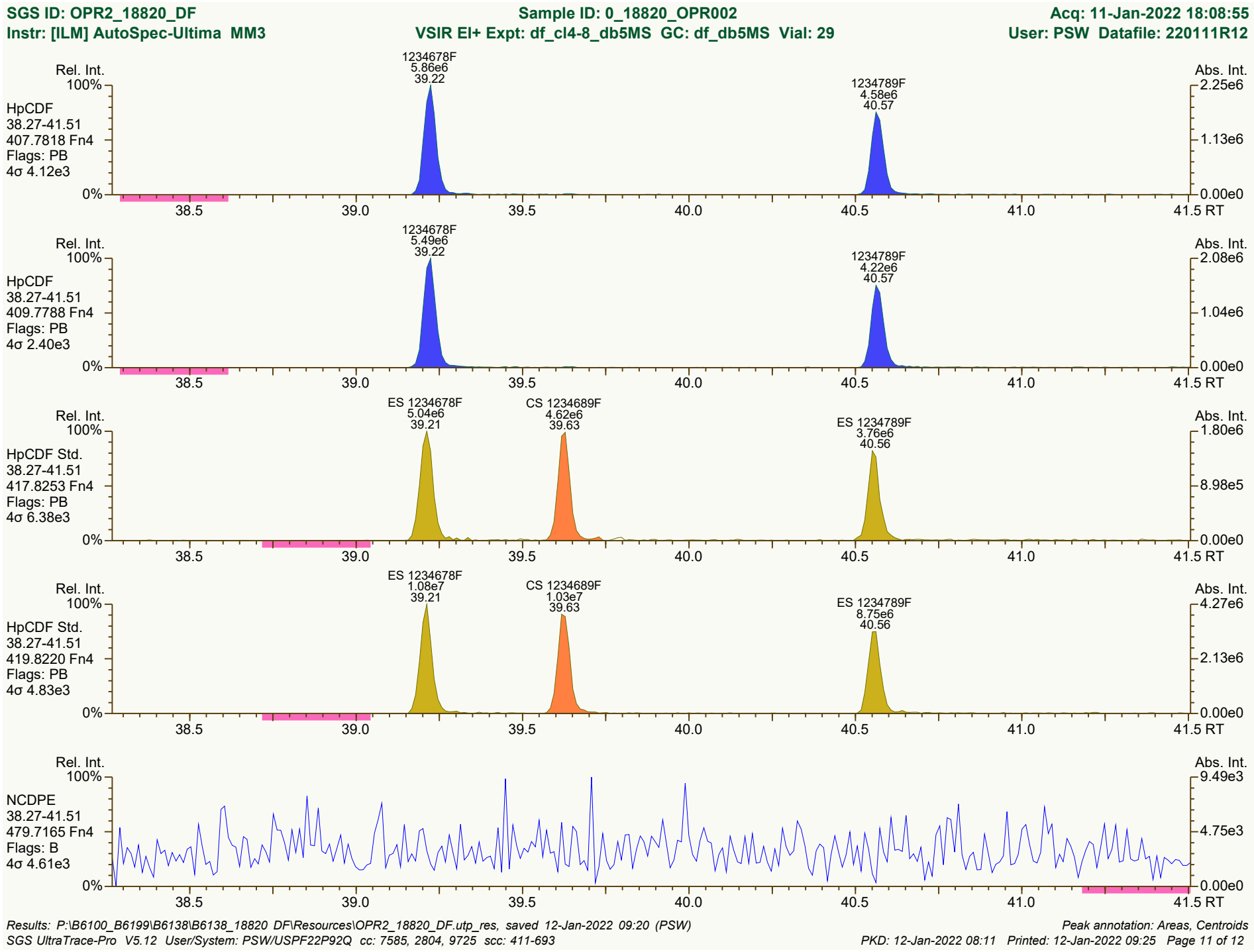
SGS ID: OPR2_18820_DF | Sample ID: 0_18820_OPR002 | Acq: 11-Jan-2022 18:08:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220111R12



Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4507, 7410, 2979 scc: 411-693 | *PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 10 of 12*


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 4.12e3
1234678F
5.86e6
39.22
1234789F
4.58e6
40.57
2.25e6
1.13e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 2.40e3
1234678F
5.49e6
39.22
1234789F
4.22e6
40.57
2.08e6
1.04e6
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.38e3
ES 1234678F
5.04e6
39.21
CS 1234689F
4.62e6
39.63
ES 1234789F
3.76e6
40.56
1.80e6
8.98e5
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 4.83e3
ES 1234678F
1.08e7
39.21
CS 1234689F
1.03e7
39.63
ES 1234789F
8.75e6
40.56
4.27e6
2.13e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.61e3
9.49e3
4.75e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7585, 2804, 9725 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 11 of 12

SGS ID: OPR2_18820_DF | Sample ID: 0_18820_OPR002 | Acq: 11-Jan-2022 18:08:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220111R12



Results: P:\B6100_B6199\B6138\B6138_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:20 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2236, 6169, 0135 scc: 411-693 | *PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:25 Page 12 of 12*



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-O-17 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6139_18829_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	82.1 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:09:02

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	3.8				ES 2378-TCDD	86.2	
12378-PeCDD	0.769			J	ES 12378-PeCDD	97.6	
123478-HxCDD	1.13			J	ES 123478-HxCDD	99.8	
123678-HxCDD	1.31			J	ES 123678-HxCDD	105	
123789-HxCDD	EMPC		1.42	J	ES 123789-HxCDD	95.2	
1234678-HpCDD	76.3				ES 1234678-HpCDD	90.5	
OCDD	8,190				ES OCDD	105	
2378-TCDF	10.6				ES 2378-TCDF	89.5	
12378-PeCDF	0.961			J	ES 12378-PeCDF	94.6	
23478-PeCDF	0.713			J	ES 23478-PeCDF	96.1	
123478-HxCDF	EMPC		1.83	J	ES 123478-HxCDF	101	
123678-HxCDF	ND	0.259			ES 123678-HxCDF	118	
234678-HxCDF	ND	0.344			ES 234678-HxCDF	94.3	
123789-HxCDF	ND	0.369			ES 123789-HxCDF	97.4	
1234678-HpCDF	2.34			J	ES 1234678-HpCDF	122	
1234789-HpCDF	EMPC		0.396	J	ES 1234789-HpCDF	91.4	
OCDF	EMPC		4.56	J	ES OCDF	97.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.6	
Total TCDD	3.8		3.8		CS 12347-PeCDD	106	
Total PeCDD	2.35		2.35		CS 12346-PeCDF	106	
Total HxCDD	16.1		18.3		CS 123469-HxCDF	136	V
Total HpCDD	198		198		CS 1234689-HpCDF	131	V
Total TCDF	17.3		17.3				
Total PeCDF	1.67		1.67				
Total HxCDF	1.08		2.9				
Total HpCDF	4.76		5.16				
Total PCDD/Fs	**8,440**		**8,450**				
WHO-2005 TEQs							
TEQ: ND=0	9.36		9.69				
TEQ: ND=DL/2	9.4	0.755	9.73				
TEQ: ND=DL	9.45	1.51	9.78				

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Sample ID: 11215131-010522-S-BN-SW-O-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6139_18829_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	82.1 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:09:02

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.601)		12479/12468D	0.778	J	124679/124689D	7.06		1234679D	121	
1379D	(0.601)		12469D	(0.451)		123468D	(0.525)		1234678D	76.3	
1369D	(0.601)		12368D	(0.451)		123679/123689D	6.14				
1469D	(0.601)		12478D	0.804	J	123469D	[0.806]	J			
1247D...[4]	(0.601)		12379D	(0.451)		123478D	1.13	J			
1378D	(0.601)		12369D...[3]	(0.451)		123678D	1.31	J			
1268D	(0.601)		12346/12347D	(0.451)		123467D	0.439	J			
1478D	(0.601)		12378D	0.769	J	123789D	[1.42]	J	**Conc.**	198	
1279D	(0.601)		12367D	(0.451)					**EMPC**	198	
1234/1269D	(0.601)		12389D	(0.451)							
1236D	(0.601)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.601)										
1239D	(0.601)								OCDD	8190	
2378D	3.8										
1278D	(0.601)										
1267D	(0.601)										
1289D	(0.601)										
Conc.	3.8		**Conc.**	2.35		**Conc.**	16.1				
EMPC	3.8		**EMPC**	2.35		**EMPC**	18.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	9.36	9.69
TEQ: ND=DL/2	9.4	9.73
TEQ: ND=DL	9.45	9.78

	Conc.	EMPC
Total PCDD/Fs	8,440	8,450

Checkcode: 068-614-NKW

Report Created: 24-Jan-2022 11:56 Analyst: MS

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Sample ID: 11215131-010522-S-BN-SW-O-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6139_18829_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	82.1 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:09:02

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.462)		13468/12468F	(0.316)		123468F	(0.313)		1234678F	2.34	J
1468F	(0.462)		13678F...[3]	(0.353)		124678/134678F	1.08	J	1234679F	(0.285)	
2468F	(0.462)		12368F...[3]	(0.353)		134679F	(0.313)		1234689F	2.43	J
1346/1246F	(0.462)		14678F	(0.353)		124679F	(0.313)		1234789F	[0.396]	J
1347F...[3]	(0.462)		13479F	(0.353)		124689F	(0.313)				
1348F	(0.462)		13469/12479F	(0.353)		123467F	(0.313)				
1248F...[3]	(0.462)		12346F	(0.353)		123478F	[1.83]	J			
1268F	(0.462)		23468/12469F	(0.353)		123678F	(0.259)				
1467F	(0.462)		12347F	(0.353)		123479F	(0.313)				
1478F	(0.462)		12348F	(0.353)		123469F	(0.313)				
1369/1237F	(0.462)		12378F	0.961	J	123679F	(0.313)				
2467F	(0.462)		12678/12367F	(0.353)		234678F	(0.344)		**Conc.**	4.76	
2368F	(0.462)		12379F	(0.353)		234678/123689F	0		**EMPC**	5.16	
1238F...[5]	(0.462)		12679F	(0.353)		123689F	(0.313)				
1278F	4.36		23467/12369F	(0.353)		123789F	(0.369)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.462)		23478F	0.713	J	123789/123489F	0			**(pg/g)**	
1267F	(0.462)		23478/12489F	0		123489F	(0.313)		OCDF	[4.56]	J
2346/1249F	(0.462)		12489F	(0.353)							
2347/1279F	(0.462)		12349F	(0.353)							
2348F	0.657		12389F	(0.353)							
2378F	10.6										
2367/3467F	0.89										
1269F	(0.462)										
1239F	(0.462)										
1289F	0.864										
Conc.	17.3		**Conc.**	1.67		**Conc.**	1.08				
EMPC	17.3		**EMPC**	1.67		**EMPC**	2.9				

Checkcode: 068-614-NKW

Report Created: 24-Jan-2022 11:56 Analyst: MS

Sample ID: 11215131-010522-S-BN-SW-O-17 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6139_18829_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18829
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 15:09
Lab Project No:	B6139	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	3.8		0.601	3.8	3.8	3.8
12378-PeCDD	0.769	J	0.451	0.384	0.769	0.769
123478-HxCDD	1.13	J	0.502	0.113	0.113	0.113
123678-HxCDD	1.31	J	0.515	0.131	0.131	0.131
123789-HxCDD	[1.42]	J	0.558	[0.142]	[0.142]	[0.142]
1234678-HpCDD	76.3		0.424	0.763	0.763	0.763
OCDD	8190		0.733	8.19	0.819	2.46
2378-TCDF	10.6		0.462	1.06	1.06	1.06
12378-PeCDF	0.961	J	0.355	0.048	0.048	0.0288
23478-PeCDF	0.713	J	0.35	0.357	0.357	0.214
123478-HxCDF	[1.83]	J	0.306	[0.183]	[0.183]	[0.183]
123678-HxCDF	(0.259)		0.259	(0.0259)	(0.0259)	(0.0259)
234678-HxCDF	(0.344)		0.344	(0.0344)	(0.0344)	(0.0344)
123789-HxCDF	(0.369)		0.369	(0.0369)	(0.0369)	(0.0369)
1234678-HpCDF	2.34	J	0.214	0.0234	0.0234	0.0234
1234789-HpCDF	[0.396]	J	0.396	[0.00396]	[0.00396]	[0.00396]
OCDF	[4.56]	J	0.74	[0.00456]	[0.000456]	[0.00137]

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TEQ Summaries			
EMPC = 0, ND = 0	14.9	7.88	9.36
EMPC = 0, ND = DL / 2	14.9	7.93	9.4
EMPC = 0, ND = DL	15	7.98	9.45
EMPC = 0, < J-level = 0	13.8	6.44	8.08
EMPC = EMPC, ND = 0	15.2	8.21	9.69
EMPC = EMPC, ND = DL / 2	15.3	8.26	9.73
EMPC = EMPC, ND = DL	15.3	8.31	9.78
EMPC = EMPC, < J-level = 0	13.8	6.44	8.08

Checkcode: 068-614-NKW

SGS North America - DF v0.99

Sample ID: 11215131-010522-S-BN-SW-B-19 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6139_18829_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	79.4 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:55:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	5.81				ES 2378-TCDD	90.6	
12378-PeCDD	ND	0.467			ES 12378-PeCDD	104	
123478-HxCDD	ND	0.488			ES 123478-HxCDD	102	
123678-HxCDD	0.773			J	ES 123678-HxCDD	112	
123789-HxCDD	EMPC		1.32	J	ES 123789-HxCDD	101	
1234678-HpCDD	22.1				ES 1234678-HpCDD	96.3	
OCDD	445				ES OCDD	92.4	
2378-TCDF	14.3				ES 2378-TCDF	85.7	
12378-PeCDF	ND	0.349			ES 12378-PeCDF	97.2	
23478-PeCDF	ND	0.346			ES 23478-PeCDF	95.8	
123478-HxCDF	0.957			J	ES 123478-HxCDF	103	
123678-HxCDF	ND	0.231			ES 123678-HxCDF	117	
234678-HxCDF	ND	0.272			ES 234678-HxCDF	103	
123789-HxCDF	ND	0.313			ES 123789-HxCDF	93.1	
1234678-HpCDF	EMPC		0.277	J	ES 1234678-HpCDF	124	
1234789-HpCDF	ND	0.331			ES 1234789-HpCDF	91.5	
OCDF	ND	0.74			ES OCDF	92.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.7	
Total TCDD	8.63		8.63		CS 12347-PeCDD	112	
Total PeCDD	ND		2.19		CS 12346-PeCDF	101	
Total HxCDD	20		21.3		CS 123469-HxCDF	131	V
Total HpCDD	70.1		70.1		CS 1234689-HpCDF	132	V
Total TCDF	27.4		28.9				
Total PeCDF	ND	0.347	ND				
Total HxCDF	0.957		0.957				
Total HpCDF	ND		0.277				
Total PCDD/Fs	**572**		**577**				
WHO-2005 TEQs							
TEQ: ND=0	7.78		7.91				
TEQ: ND=DL/2	8.13	0.75	8.27				
TEQ: ND=DL	8.49	1.5	8.63				

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Sample ID: 11215131-010522-S-BN-SW-B-19 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6139_18829_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	79.4 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:55:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.616)		12479/12468D	[0.621]	J	124679/124689D	14.3		1234679D	48	
1379D	(0.616)		12469D	[1.57]	J	123468D	(0.477)		1234678D	22.1	
1369D	(0.616)		12368D	(0.467)		123679/123689D	4.91				
1469D	2.81		12478D	(0.467)		123469D	(0.477)				
1247D...[4]	(0.616)		12379D	(0.467)		123478D	(0.488)				
1378D	(0.616)		12369D...[3]	(0.467)		123678D	0.773	J			
1268D	(0.616)		12346/12347D	(0.467)		123467D	(0.477)				
1478D	(0.616)		12378D	(0.467)		123789D	[1.32]	J	**Conc.**	70.1	
1279D	(0.616)		12367D	(0.467)					**EMPC**	70.1	
1234/1269D	(0.616)		12389D	(0.467)							
1236D	(0.616)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.616)										
1239D	(0.616)								OCDD	445	
2378D	5.81										
1278D	(0.616)										
1267D	(0.616)										
1289D	(0.616)										
Conc.	8.63		**Conc.**	0		**Conc.**	20				
EMPC	8.63		**EMPC**	2.19		**EMPC**	21.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	7.78	7.91
TEQ: ND=DL/2	8.13	8.27
TEQ: ND=DL	8.49	8.63

	Conc.	EMPC
Total PCDD/Fs	572	577

Checkcode: 687-762-DJX

Report Created: 24-Jan-2022 11:56 Analyst: MS

Sample ID: 11215131-010522-S-BN-SW-B-19 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6139_18829_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	79.4 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:55:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.434)		13468/12468F	(0.329)		123468F	(0.257)		1234678F	[0.277]	J
1468F	(0.434)		13678F...[3]	(0.347)		124678/134678F	(0.257)		1234679F	(0.233)	
2468F	1.19		12368F...[3]	(0.347)		134679F	(0.257)		1234689F	(0.233)	
1346/1246F	(0.434)		14678F	(0.347)		124679F	(0.257)		1234789F	(0.331)	
1347F...[3]	(0.434)		13479F	(0.347)		124689F	(0.257)				
1348F	(0.434)		13469/12479F	(0.347)		123467F	(0.257)				
1248F...[3]	1.07		12346F	(0.347)		123478F	0.957	J			
1268F	(0.434)		23468/12469F	(0.347)		123678F	(0.231)				
1467F	(0.434)		12347F	(0.347)		123479F	(0.257)				
1478F	(0.434)		12348F	(0.347)		123469F	(0.257)				
1369/1237F	(0.434)		12378F	(0.349)		123679F	(0.257)				
2467F	(0.434)		12678/12367F	(0.347)		234678F	(0.272)		**Conc.**	0	
2368F	[0.839]		12379F	(0.347)		234678/123689F	0		**EMPC**	0.277	
1238F...[5]	[0.691]		12679F	(0.347)		123689F	(0.257)				
1278F	6.8		23467/12369F	(0.347)		123789F	(0.313)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.434)		23478F	(0.346)		123789/123489F	0			**(pg/g)**	
1267F	(0.434)		23478/12489F	0		123489F	(0.257)		OCDF	(0.74)	
2346/1249F	(0.434)		12489F	(0.347)							
2347/1279F	(0.434)		12349F	(0.347)							
2348F	1.13		12389F	(0.347)							
2378F	14.3										
2367/3467F	1.33										
1269F	(0.434)										
1239F	(0.434)										
1289F	1.55										
Conc.	27.4		**Conc.**	0		**Conc.**	0.957				
EMPC	28.9		**EMPC**	0		**EMPC**	0.957				

Checkcode: 687-762-DJX

Report Created: 24-Jan-2022 11:56 Analyst: MS

Sample ID: 11215131-010522-S-BN-SW-B-19 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6139_18829_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18829
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 15:55
Lab Project No:	B6139	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	5.81		0.616	5.81	5.81	5.81
12378-PeCDD	(0.467)		0.467	(0.233)	(0.467)	(0.467)
123478-HxCDD	(0.488)		0.488	(0.0488)	(0.0488)	(0.0488)
123678-HxCDD	0.773	J	0.465	0.0773	0.0773	0.0773
123789-HxCDD	[1.32]	J	0.48	[0.132]	[0.132]	[0.132]
1234678-HpCDD	22.1		0.571	0.221	0.221	0.221
OCDD	445		1.28	0.445	0.0445	0.133
2378-TCDF	14.3		0.434	1.43	1.43	1.43
12378-PeCDF	(0.349)		0.349	(0.0174)	(0.0174)	(0.0105)
23478-PeCDF	(0.346)		0.346	(0.173)	(0.173)	(0.104)
123478-HxCDF	0.957	J	0.229	0.0957	0.0957	0.0957
123678-HxCDF	(0.231)		0.231	(0.0231)	(0.0231)	(0.0231)
234678-HxCDF	(0.272)		0.272	(0.0272)	(0.0272)	(0.0272)
123789-HxCDF	(0.313)		0.313	(0.0313)	(0.0313)	(0.0313)
1234678-HpCDF	[0.277]	J	0.17	[0.00277]	[0.00277]	[0.00277]
1234789-HpCDF	(0.331)		0.331	(0.00331)	(0.00331)	(0.00331)
OCDF	(0.74)		0.74	(0.00074)	(0.000074)	(0.000222)

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TEQ Summaries			
EMPC = 0, ND = 0	8.09	7.69	7.78
EMPC = 0, ND = DL / 2	8.37	8.08	8.13
EMPC = 0, ND = DL	8.65	8.48	8.49
EMPC = 0, < J-level = 0	7.91	7.51	7.6
EMPC = EMPC, ND = 0	8.22	7.82	7.91
EMPC = EMPC, ND = DL / 2	8.5	8.22	8.27
EMPC = EMPC, ND = DL	8.78	8.61	8.63
EMPC = EMPC, < J-level = 0	7.91	7.51	7.6

Checkcode: 687-762-DJX

Sample ID: Method Blank B6139_18829 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18829_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:22:43

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.567			ES 2378-TCDD	93.2	
12378-PeCDD	ND	0.409			ES 12378-PeCDD	108	
123478-HxCDD	ND	0.364			ES 123478-HxCDD	100	
123678-HxCDD	ND	0.3			ES 123678-HxCDD	122	
123789-HxCDD	ND	0.386			ES 123789-HxCDD	106	
1234678-HpCDD	ND	0.388			ES 1234678-HpCDD	96.3	
OCDD	ND	0.723			ES OCDD	80.7	
2378-TCDF	ND	0.494			ES 2378-TCDF	84.1	
12378-PeCDF	ND	0.353			ES 12378-PeCDF	99.1	
23478-PeCDF	ND	0.33			ES 23478-PeCDF	98.2	
123478-HxCDF	ND	0.262			ES 123478-HxCDF	94.3	
123678-HxCDF	ND	0.229			ES 123678-HxCDF	114	
234678-HxCDF	ND	0.291			ES 234678-HxCDF	102	
123789-HxCDF	ND	0.306			ES 123789-HxCDF	90.4	
1234678-HpCDF	ND	0.175			ES 1234678-HpCDF	122	
1234789-HpCDF	ND	0.363			ES 1234789-HpCDF	82.5	
OCDF	ND	0.763			ES OCDF	81.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.2	
Total TCDD	ND	0.567	ND		CS 12347-PeCDD	119	
Total PeCDD	ND	0.409	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	0.348	ND		CS 123469-HxCDF	132	V
Total HpCDD	ND	0.388	ND		CS 1234689-HpCDF	129	
Total TCDF	ND	0.494	ND				
Total PeCDF	ND	0.341	ND				
Total HxCDF	ND	0.268	ND				
Total HpCDF	ND	0.244	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.679	0.679	0.679				
TEQ: ND=DL	1.36	1.36	1.36				

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Sample ID: Method Blank B6139_18829 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18829_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:22:43

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.567)		12479/12468D	(0.409)		124679/124689D	(0.348)		1234679D	(0.388)	
1379D	(0.567)		12469D	(0.409)		123468D	(0.348)		1234678D	(0.388)	
1369D	(0.567)		12368D	(0.409)		123679/123689D	(0.348)				
1469D	(0.567)		12478D	(0.409)		123469D	(0.348)				
1247D...[4]	(0.567)		12379D	(0.409)		123478D	(0.364)				
1378D	(0.567)		12369D...[3]	(0.409)		123678D	(0.3)				
1268D	(0.567)		12346/12347D	(0.409)		123467D	(0.348)				
1478D	(0.567)		12378D	(0.409)		123789D	(0.386)		**Conc.**	0	
1279D	(0.567)		12367D	(0.409)					**EMPC**	0	
1234/1269D	(0.567)		12389D	(0.409)							
1236D	(0.567)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.567)										
1239D	(0.567)								OCDD	(0.723)	
2378D	(0.567)										
1278D	(0.567)										
1267D	(0.567)										
1289D	(0.567)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.679	0.679
TEQ: ND=DL	1.36	1.36

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 970-966-WKG

Report Created: 24-Jan-2022 11:55 Analyst: MS

Sample ID: Method Blank B6139_18829 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18829_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:22:43

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.494)		13468/12468F	(0.275)		123468F	(0.268)		1234678F	(0.175)	
1468F	(0.494)		13678F...[3]	(0.341)		124678/134678F	(0.268)		1234679F	(0.244)	
2468F	(0.494)		12368F...[3]	(0.341)		134679F	(0.268)		1234689F	(0.244)	
1346/1246F	(0.494)		14678F	(0.341)		124679F	(0.268)		1234789F	(0.363)	
1347F...[3]	(0.494)		13479F	(0.341)		124689F	(0.268)				
1348F	(0.494)		13469/12479F	(0.341)		123467F	(0.268)				
1248F...[3]	(0.494)		12346F	(0.341)		123478F	(0.262)				
1268F	(0.494)		23468/12469F	(0.341)		123678F	(0.229)				
1467F	(0.494)		12347F	(0.341)		123479F	(0.268)				
1478F	(0.494)		12348F	(0.341)		123469F	(0.268)				
1369/1237F	(0.494)		12378F	(0.353)		123679F	(0.268)				
2467F	(0.494)		12678/12367F	(0.341)		234678F	(0.291)		**Conc.**	0	
2368F	(0.494)		12379F	(0.341)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.494)		12679F	(0.341)		123689F	(0.268)				
1278F	(0.494)		23467/12369F	(0.341)		123789F	(0.306)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.494)		23478F	(0.33)		123789/123489F	0				
1267F	(0.494)		23478/12489F	0		123489F	(0.268)		OCDF	(0.763)	
2346/1249F	(0.494)		12489F	(0.341)							
2347/1279F	(0.494)		12349F	(0.341)							
2348F	(0.494)		12389F	(0.341)							
2378F	(0.494)										
2367/3467F	(0.494)										
1269F	(0.494)										
1239F	(0.494)										
1289F	(0.494)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 970-966-WKG

Report Created: 24-Jan-2022 11:55 Analyst: MS

Sample ID: Method Blank B6139_18829 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	MB1_18829_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18829
Date Collected:	n/a	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	21-Jan-2022 14:22
Lab Project No:	B6139	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.567)		0.567	(0.567)	(0.567)	(0.567)
12378-PeCDD	(0.409)		0.409	(0.205)	(0.409)	(0.409)
123478-HxCDD	(0.364)		0.364	(0.0364)	(0.0364)	(0.0364)
123678-HxCDD	(0.3)		0.3	(0.03)	(0.03)	(0.03)
123789-HxCDD	(0.386)		0.386	(0.0386)	(0.0386)	(0.0386)
1234678-HpCDD	(0.388)		0.388	(0.00388)	(0.00388)	(0.00388)
OCDD	(0.723)		0.723	(0.000723)	(0.0000723)	(0.000217)
2378-TCDF	(0.494)		0.494	(0.0494)	(0.0494)	(0.0494)
12378-PeCDF	(0.353)		0.353	(0.0176)	(0.0176)	(0.0106)
23478-PeCDF	(0.33)		0.33	(0.165)	(0.165)	(0.099)
123478-HxCDF	(0.262)		0.262	(0.0262)	(0.0262)	(0.0262)
123678-HxCDF	(0.229)		0.229	(0.0229)	(0.0229)	(0.0229)
234678-HxCDF	(0.291)		0.291	(0.0291)	(0.0291)	(0.0291)
123789-HxCDF	(0.306)		0.306	(0.0306)	(0.0306)	(0.0306)
1234678-HpCDF	(0.175)		0.175	(0.00175)	(0.00175)	(0.00175)
1234789-HpCDF	(0.363)		0.363	(0.00363)	(0.00363)	(0.00363)
OCDF	(0.763)		0.763	(0.000763)	(0.0000763)	(0.000229)

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613; Toll-Free 866 846-8290
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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.614	0.716	0.679
EMPC = 0, ND = DL	1.23	1.43	1.36
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.614	0.716	0.679
EMPC = EMPC, ND = DL	1.23	1.43	1.36
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 970-966-WKG

SGS North America - DF v0.99

Sample ID: 0_18829_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18829_DF	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:03:47

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.3				ES 2378-TCDD	89.6	
12378-PeCDD	51.5				ES 12378-PeCDD	107	
123478-HxCDD	56.9				ES 123478-HxCDD	89.7	
123678-HxCDD	58.2				ES 123678-HxCDD	111	
123789-HxCDD	50.8				ES 123789-HxCDD	93.8	
1234678-HpCDD	56.8				ES 1234678-HpCDD	83.4	
OCDD	117				ES OCDD	76.8	
2378-TCDF	12				ES 2378-TCDF	82	
12378-PeCDF	54.2				ES 12378-PeCDF	94.3	
23478-PeCDF	57.8				ES 23478-PeCDF	92.9	
123478-HxCDF	54.5				ES 123478-HxCDF	84.1	
123678-HxCDF	61.7				ES 123678-HxCDF	105	
234678-HxCDF	58.8				ES 234678-HxCDF	89.8	
123789-HxCDF	57				ES 123789-HxCDF	72.2	
1234678-HpCDF	57.4				ES 1234678-HpCDF	112	
1234789-HpCDF	61.9				ES 1234789-HpCDF	70.3	
OCDF	111				ES OCDF	73.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.9	
Total TCDD	57.1		57.1		CS 12347-PeCDD	124	
Total PeCDD	77		77		CS 12346-PeCDF	104	
Total HxCDD	180		180		CS 123469-HxCDF	122	
Total HpCDD	68.9		68.9		CS 1234689-HpCDF	115	
Total TCDF	63		63				
Total PeCDF	213		213				
Total HxCDF	373		373				
Total HpCDF	119		119				
Total PCDD/Fs	**1,380**		**1,380**				
WHO-2005 TEQs							
TEQ: ND=0	126		126				
TEQ: ND=DL/2	126	0.47	126				
TEQ: ND=DL	126	0.939	126				

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Sample ID: 0_18829_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6139	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18829_DF	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:50:06

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.3				ES 2378-TCDD	91.6	
12378-PeCDD	51.4				ES 12378-PeCDD	109	
123478-HxCDD	55.4				ES 123478-HxCDD	97.1	
123678-HxCDD	55.2				ES 123678-HxCDD	119	
123789-HxCDD	54.9				ES 123789-HxCDD	94.3	
1234678-HpCDD	60.3				ES 1234678-HpCDD	86.8	
OCDD	120				ES OCDD	79	
2378-TCDF	12.7				ES 2378-TCDF	82.9	
12378-PeCDF	52				ES 12378-PeCDF	103	
23478-PeCDF	55.7				ES 23478-PeCDF	98.1	
123478-HxCDF	55.4				ES 123478-HxCDF	92.9	
123678-HxCDF	57.9				ES 123678-HxCDF	115	
234678-HxCDF	56.4				ES 234678-HxCDF	92.4	
123789-HxCDF	55.6				ES 123789-HxCDF	76.7	
1234678-HpCDF	56.2				ES 1234678-HpCDF	123	
1234789-HpCDF	56.1				ES 1234789-HpCDF	80.2	
OCDF	111				ES OCDF	75.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.6	
Total TCDD	55.7		55.7		CS 12347-PeCDD	120	
Total PeCDD	76		76		CS 12346-PeCDF	109	
Total HxCDD	180		180		CS 123469-HxCDF	127	
Total HpCDD	73.6		73.6		CS 1234689-HpCDF	119	
Total TCDF	65.2		65.2				
Total PeCDF	201		201				
Total HxCDF	364		364				
Total HpCDF	112		112				
Total PCDD/Fs	**1,360**		**1,360**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.405	124				
TEQ: ND=DL	124	0.81	124				

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Sample DUP

Method 1613B

Sample ID: 0_18829_OPR001

Analyte	OPR1_18829_DF pg/uL	OPR2_18829_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.3	12.3	0.1%
1,2,3,7,8-PeCDD	51.5	51.4	0.3%
1,2,3,4,7,8-HxCDD	56.9	55.4	2.7%
1,2,3,6,7,8-HxCDD	58.2	55.2	5.4%
1,2,3,7,8,9-HxCDD	50.8	54.9	7.8%
1,2,3,4,6,7,8-HpCDD	56.8	60.3	5.9%
OCDD	117	120	2.2%
2,3,7,8-TCDF	12	12.7	5.2%
1,2,3,7,8-PeCDF	54.2	52	4.1%
2,3,4,7,8-PeCDF	57.8	55.7	3.7%
1,2,3,4,7,8-HxCDF	54.5	55.4	1.5%
1,2,3,6,7,8-HxCDF	61.7	57.9	6.3%
2,3,4,6,7,8-HxCDF	58.8	56.4	4.2%
1,2,3,7,8,9-HxCDF	57	55.6	2.5%
1,2,3,4,6,7,8-HpCDF	57.4	56.2	2.1%
1,2,3,4,7,8,9-HpCDF	61.9	56.1	9.9%
OCDF	111	111	0.3%
Totals			
Total TCDD	57.1	55.7	2.4%
Total PeCDD	77	76	1.4%
Total HxCDD	180	180	0.3%
Total HpCDD	68.9	73.6	6.6%
Total TCDF	63	65.2	3.4%
Total PeCDF	213	201	5.7%
Total HxCDF	373	364	2.4%
Total HpCDF	119	112	6.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6139*
Requested TAT:	*10 business days*
Projected due date:	*21-Jan-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-O-17	B6139_001	Soil	1	4 oz	05-Jan-22	10:55	1.3	1	4905 2704 3561
11215131-010522-S-BN-SW-B-19	B6139_002	Soil	1	4 oz	05-Jan-22	11:05	1.3	1	4905 2704 3561

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* AK 7 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6139

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remark
REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis
INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS (SEE SSOW)
11215131-010522-S-BN-SW-S-4	1-5-22	1035	C	S	4 oz	X					1	RUSH
11215131-010522-S-BN-SW-S-41		1045			4 oz	X					1	RUSH
11215131-010522-S-BN-SW-D-11		1055			4 oz	X					1	
11215131-010522-S-BN-SW-B-19		1105			4 oz	X					1	
11215131-010522-S-BN-SW-B-MH		1115			4 oz	X					1	HOLD
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							

	DATE:	TIME:		
COLLECTED/RELINQUISHED BY (1): Breanna Nosek	1-5-22	1210	RECEIVED BY: Eddie Custer	
RELINQUISHED BY (2): Eddie Custer	1-5-22	1405	RECEIVED BY: Joe Ney	1/5/22 1405
RELINQUISHED BY (3): Joe Ney	1/5/22	1405	RECEIVED BY:	

RECEIVED BY LABORATORY: Rob Bingham DATE: 1/7-22 TIME: 12:20 p
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 1.3°
TRACKING #:

B6139

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 05JAN22
ACTWGT: 50.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405

(910) 350-1903 REF:
INV:
PO: DEPT:

12#
1/7-22

SSSC2/011EF/05A2

FedEx Express

J191219082001en

THU - 06 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3561**

NL ILMA

28405
NC-US **RDU**

Part # 155148-434 MTW EXP 07/22

No custody seal
on ice
TB

Project Initiation Form

Project Number: B6139

Initiation Date: 07-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: JRH 1/17/22 RAS

HRMS Lab: 1/24/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: 1/24/22

PM Initials: akornegay Date: 07-Jan-2022

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Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18829 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 1/12/22 | Clean-up Initial/Date: [illegible] 1/17/22 | Transfer Init/Date: [illegible] 1/18/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6139_18829_001	4	12.31				brown, clay-like
B6139_18829_002	5	12.77				gray, clay-like
B6153_18829_001	6	11.32				brown, dry, powdery
B6153_18829_002	7	13.56				gray, sandy, clay-like
B6153_18829_003	8	13.65				gray, clay-like
B6153_18829_004	9	11.97				brown, sandy, clay-like
B6153_18829_005	10	12.47		CL		gray, clay-like
B6153_18829_006	11	13.00		25 Jan 22		gray, clay-like
MB1_18829	1	10.00				sodium sulfate
OPR1_18829	2	10.00				sodium sulfate
OPR2_18829	3	10.00				sodium sulfate

Supply IDs

Toluene	STL14-23
MeCHL	STL14-21
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-28C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CL
GPC Date/Initial:	25 Jan 22
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1615 Stop: 0930
HEX	Start: Stop:
DCM	Start: Stop:

RA3 1/18/22

CL 25 Jan 22

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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18829

Inter-Department Communication Sheet

25 Jan 22

G

SGS

Wt. Volume Results

Batch #: 18829 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6139_001	0.8	4.66	3.97	82.12%	82.12%			12.18	12.31	10.11
B6139_002	0.8	4.98	4.12	79.43%	79.43%			12.59	12.77	10.14
B6153_001	0.81	4.11	3.74	88.79%	88.79%			11.26	11.32	10.05
B6153_002	0.8	4.1	3.28	75.15%	75.15%			13.31	13.56	10.19
B6153_003	0.8	4.7	3.71	74.62%	74.62%		CL 25Jan22	13.4	13.65	10.19
B6153_004	0.8	4.97	4.32	84.41%	84.41%			11.85	11.97	10.1
B6153_005	0.8	4.7	3.96	81.03%	81.03%			12.34	12.47	10.1
B6153_006	0.81	5.14	4.19	78.06%	78.06%			12.81	13	10.15

reviewed
CL
25Jan22

% Solid Determination WorkSheet

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Batch: 18829

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6139_18829_001	0.80	4.66	3.97	12.18	
B6139_18829_002	0.80	4.98	4.12	12.59	
B6153_18829_001	0.81	4.11	3.74	11.26	
B6153_18829_002	0.80	4.10	3.28	13.31	
B6153_18829_003	0.80	4.70	3.71	13.40	
B6153_18829_004	0.80	4.97	4.32	11.85	
B6153_18829_005	0.80	4.70	3.96	12.34	
B6153_18829_006	0.81	5.14	4.19	12.81	

1/10/22

Date/Initials: KE 1/12/22

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Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Sol id

Batch # 18829

Lab Sample ID	Spiker Initials/Date: JRH 1/12/22 D/F Ax-A Amount: 20 µL Observer Initials	JRH 1/12/22 D/F Ax-B Amount: 20 µL Observer Initials	JRH 1/12/22 D/F ES Amount: 20 µL Observer Initials	RDB 1/17/22 D/F CS Amount: 20 µL Observer Initials	RDB 1/17/22 D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6139_18829_001	–	–	KE	KE	KE		
B6139_18829_002	–	–	KE	KE	KE		
B6153_18829_001	–	–	KE	KE	KE		
B6153_18829_002	–	–	KE	KE	KE		
B6153_18829_003	–	–	KE	KE	KE		
B6153_18829_004	–	–	KE	KE	KE		
B6153_18829_005	–	–	KE	KE	KE		
B6153_18829_006	–	–	KE	KE	KE		
MB1_18829	–	–	KE	KE	KE		
OPR1_18829	KE	KE	KE	KE	KE		
OPR2_18829	KE	KE	KE	KE	KE		

RAB 1/18/22

Standard Information							
Pipette ID							RAB 1/18/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	25.309.1		
Concentration	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/[illegible]/22	[illegible]	11/16/22	10/8/22		

REVIEWED
Megan_Shannahan , 1/24/2022, 12:13:09 PM

SGS Environmental Services — Run Log **Project: B6139_18829_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

APPROVED
Carla_Lyon , 1/25/2022, 1:39:45 PM

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220121C01	3	CS3_220121_DF_CA	1.00	SIL 25-347-1	DTF, MLS	341-966	21-Jan-2022	10:39:28
2	220121C02	71	OPR1_18829_DF	1.00	0_18829_OPR001	DTF, MLS	507-844	21-Jan-2022	12:03:47
3	220121C03	72	OPR2_18829_DF	1.00	0_18829_OPR002	DTF, MLS	338-214	21-Jan-2022	12:50:06
4	220121C04	2	SBS_220121_DF_CA	1.00	20-61-1	DTF	458-089	21-Jan-2022	13:36:24
5	220121C05	70	MB1_18829_DF_SDS	10.00	Method Blank	DTF, MLS	970-966	21-Jan-2022	14:22:43
6	220121C06	73	B6139_18829_DF_001	10.11	11215131-010522-S-BN-SW-O-17	DTF, MLS	068-614	21-Jan-2022	15:09:02
7	220121C07	74	B6139_18829_DF_002	10.14	11215131-010522-S-BN-SW-B-19	DTF, MLS	687-762	21-Jan-2022	15:55:19

Lab ID: MB1_18829_DF_SDS **Acq'd:** 21 Jan 2022 14:22 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6139_18829 **UTP:** 24-Jan-2022 11:51:59 MLS **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 970-966-WKG

Datafile: 220121C05 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5113.583	0.567
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3550.145	0.409
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3101.614	0.364
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3101.614	0.3
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3101.614	0.386
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3220.233	0.388
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2801.233	0.723
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	6250.861	0.494
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4695.612	0.353
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4695.612	0.33
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3122.794	0.262
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3122.794	0.229
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3122.794	0.291
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3122.794	0.306
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2777.399	0.175
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2777.399	0.363
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3796.085	0.763

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63		1.0233	1.0236	+0.5	1.79E+07	0.82	Y	1.05	93.2
ES 12378-PeCDD	33.94		1.2121	1.2133	+2.4	1.73E+07	1.56	Y	0.88	108
ES 123478-HxCDD	37.83		0.9921	0.9922	+0.2	1.47E+07	1.26	Y	0.97	100
ES 123678-HxCDD	37.95		0.9951	0.9953	+0.5	1.74E+07	1.28	Y	0.94	122
ES 123789-HxCDD	38.24		1.0025	1.0029	+0.9	1.75E+07	1.35	Y	1.09	106
ES 1234678-HpCDD	40.86		1.0709	1.0717	+2.0	1.33E+07	1.02	Y	0.91	96.3
ES OCDD	43.51		1.1403	1.1412	+2.3	1.52E+07	0.90	Y	0.62	80.7
ES 2378-TCDF	27.78		1.0506	1.0511	+0.8	2.70E+07	0.80	Y	1.06	84.1
ES 12378-PeCDF	32.50		1.2281	1.2297	+3.1	2.74E+07	1.58	Y	0.91	99.1
ES 23478-PeCDF	33.61		1.2698	1.2715	+3.4	2.63E+07	1.58	Y	0.88	98.2
ES 123478-HxCDF	36.83		0.9657	0.9658	+0.2	1.70E+07	0.52	Y	1.20	94.3
ES 123678-HxCDF	36.97		0.9695	0.9696	+0.2	2.33E+07	0.54	Y	1.35	114
ES 234678-HxCDF	37.65	QI	0.9874	0.9875	+0.2	1.91E+07	0.53	Y	1.24	102
ES 123789-HxCDF	38.59		1.0116	1.0121	+1.2	1.57E+07	0.56	Y	1.16	90.4
ES 1234678-HpCDF	39.93		1.0467	1.0473	+1.4	1.78E+07	0.45	Y	0.97	122
ES 1234789-HpCDF	41.32		1.0830	1.0838	+2.0	1.06E+07	0.46	Y	0.85	82.5
ES OCDF	43.70		1.1451	1.1461	+2.6	1.99E+07	0.90	Y	0.81	81.9

Lab ID: MB1_18829_DF_SDS | **Acq'd:** 21 Jan 2022 14:22 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6139_18829 | **UTP:** 24-Jan-2022 11:51:59 MLS | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 970-966-WKG

Datafile: 220121C05 | **Report:** 24 Jan 2022 11:56 MS | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.83E+07	0.80	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.04E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.53E+06	1.16	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.13E+06	n/a	-	1.20	92.2	
CS 12347-PeCDD	33.44		1.1943	1.1954	+2.2	1.64E+07	1.64	Y	0.75	119	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.70E+07	1.68	Y	0.85	105	
CS 123469-HxCDF	37.28	V	0.9778	0.9779	+0.2	2.22E+07	0.53	Y	1.12	132	
CS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.73E+07	0.46	Y	0.89	129	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.13E+06~~	~~n/a~~		~~1.15~~	~~99.1~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.64E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~110~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.70E+07~~	~~1.68~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.22E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~115~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.73E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18829_DF_SDS **Acq'd:** 21 Jan 2022 14:22 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6139_18829 **UTP:** 24-Jan-2022 11:51:59 MLS **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 970-966-WKG

Datafile: 220121C05 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5113.583	0.567
1379-TCDD	NotFnd		0.8876						1.18		5113.583	0.567
1369-TCDD	NotFnd		0.9023						1.18		5113.583	0.567
1469-TCDD	NotFnd		0.9291						1.18		5113.583	0.567
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5113.583	0.567
1378-TCDD	NotFnd		0.9440						1.18		5113.583	0.567
1268-TCDD	NotFnd		0.9506						1.18		5113.583	0.567
1478-TCDD	NotFnd		0.9591						1.18		5113.583	0.567
1279-TCDD	NotFnd		0.9649						1.18		5113.583	0.567
1234/1269-TCDD	NotFnd		0.9771						1.18		5113.583	0.567
1236-TCDD	NotFnd		0.9820						1.18		5113.583	0.567
1237/1238-TCDD	NotFnd		0.9908						1.18		5113.583	0.567
1239-TCDD	NotFnd		0.9954						1.18		5113.583	0.567
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**5113.583**	**0.567**
1278-TCDD	NotFnd		1.0121						1.18		5113.583	0.567
1267-TCDD	NotFnd		1.0167						1.18		5113.583	0.567
1289-TCDD	NotFnd		1.0341						1.18		5113.583	0.567
12479/12468-PeCDD	NotFnd		0.9273						1.04		3550.145	0.409
12469-PeCDD	NotFnd		0.9430						1.04		3550.145	0.409
12368-PeCDD	NotFnd		0.9592						1.04		3550.145	0.409
12478-PeCDD	NotFnd		0.9647						1.04		3550.145	0.409
12379-PeCDD	NotFnd		0.9676						1.04		3550.145	0.409
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3550.145	0.409
12346/12347-PeCDD	NotFnd		0.9860						1.04		3550.145	0.409
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3550.145**	**0.409**
12367-PeCDD	NotFnd		1.0034						1.04		3550.145	0.409
12389-PeCDD	NotFnd		1.0134						1.04		3550.145	0.409
124679/124689-HxCDD	NotFnd		0.9545						1.10		3101.614	0.348
123468-HxCDD	NotFnd		0.9715						1.10		3101.614	0.348
123679/123689-HxCDD	NotFnd		0.9793						1.10		3101.614	0.348
123469-HxCDD	NotFnd		0.9829						1.10		3101.614	0.348
123478-HxCDD	NotFnd		**1.0004**						1.09		**3101.614**	**0.364**
123678-HxCDD	NotFnd		**1.0034**						1.15		**3101.614**	**0.3**
123467-HxCDD	NotFnd		1.0082						1.10		3101.614	0.348
123789-HxCDD	NotFnd		**1.0109**						1.05		**3101.614**	**0.386**

Lab ID: MB1_18829_DF_SDS | Acq'd: 21 Jan 2022 14:22 DTF | Wt/Vol: 10.00 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6139_18829 | UTP: 24-Jan-2022 11:51:59 MLS | J-level: 0.5 pg/g | Split: 1 | Checkcode: 970-966-WKG

Datafile: 220121C05 | Report: 24 Jan 2022 11:56 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

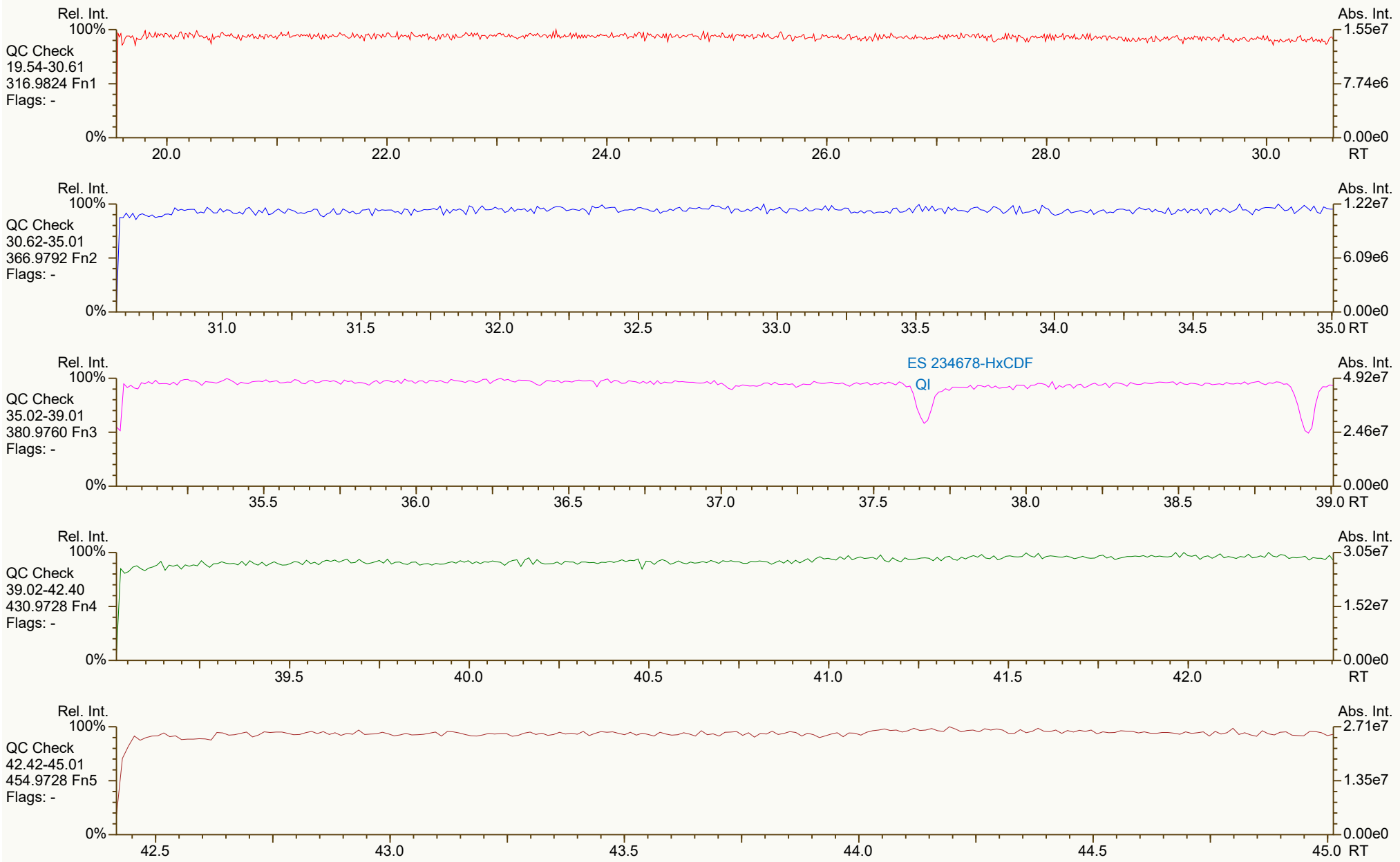
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3220.233	0.388
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3220.233**	**0.388**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2801.233**	**0.723**
OCDD-a	NotFnd		1.0002						0.07		3401.691	13.7
1368-TCDF	NotFnd		0.8282						1.08		6250.861	0.494
1468-TCDF	NotFnd		0.8485						1.08		6250.861	0.494
2468-TCDF	NotFnd		0.8709						1.08		6250.861	0.494
1346/1246-TCDF	NotFnd		0.8829						1.08		6250.861	0.494
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6250.861	0.494
1348-TCDF	NotFnd		0.8980						1.08		6250.861	0.494
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6250.861	0.494
1268-TCDF	NotFnd		0.9158						1.08		6250.861	0.494
1467-TCDF	NotFnd		0.9206						1.08		6250.861	0.494
1478-TCDF	NotFnd		0.9266						1.08		6250.861	0.494
1369/1237-TCDF	NotFnd		0.9397						1.08		6250.861	0.494
2467-TCDF	NotFnd		0.9440						1.08		6250.861	0.494
2368-TCDF	NotFnd		0.9497						1.08		6250.861	0.494
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6250.861	0.494
1278-TCDF	NotFnd		0.9690						1.08		6250.861	0.494
1349-TCDF	NotFnd		0.9730						1.08		6250.861	0.494
1267-TCDF	NotFnd		0.9787						1.08		6250.861	0.494
2346/1249-TCDF	NotFnd		0.9850						1.08		6250.861	0.494
2347/1279-TCDF	NotFnd		0.9929						1.08		6250.861	0.494
2348-TCDF	NotFnd		0.9970						1.08		6250.861	0.494
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**6250.861**	**0.494**
2367/3467-TCDF	NotFnd		1.0136						1.08		6250.861	0.494
1269-TCDF	NotFnd		1.0221						1.08		6250.861	0.494
1239-TCDF	NotFnd		1.0319						1.08		6250.861	0.494
1289-TCDF	NotFnd		1.0740						1.08		6250.861	0.494
13468/12468-PeCDF	NotFnd		0.9145						1.02		3776.219	0.275
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4695.612	0.341
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4695.612	0.341
14678-PeCDF	NotFnd		0.9695						1.02		4695.612	0.341
13479-PeCDF	NotFnd		0.9724						1.02		4695.612	0.341
13469/12479-PeCDF	NotFnd		0.9801						1.02		4695.612	0.341
12346-PeCDF	NotFnd		0.9842						1.02		4695.612	0.341

Lab ID: MB1_18829_DF_SDS **Acq'd:** 21 Jan 2022 14:22 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6139_18829 **UTP:** 24-Jan-2022 11:51:59 MLS **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 970-966-WKG

Datafile: 220121C05 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

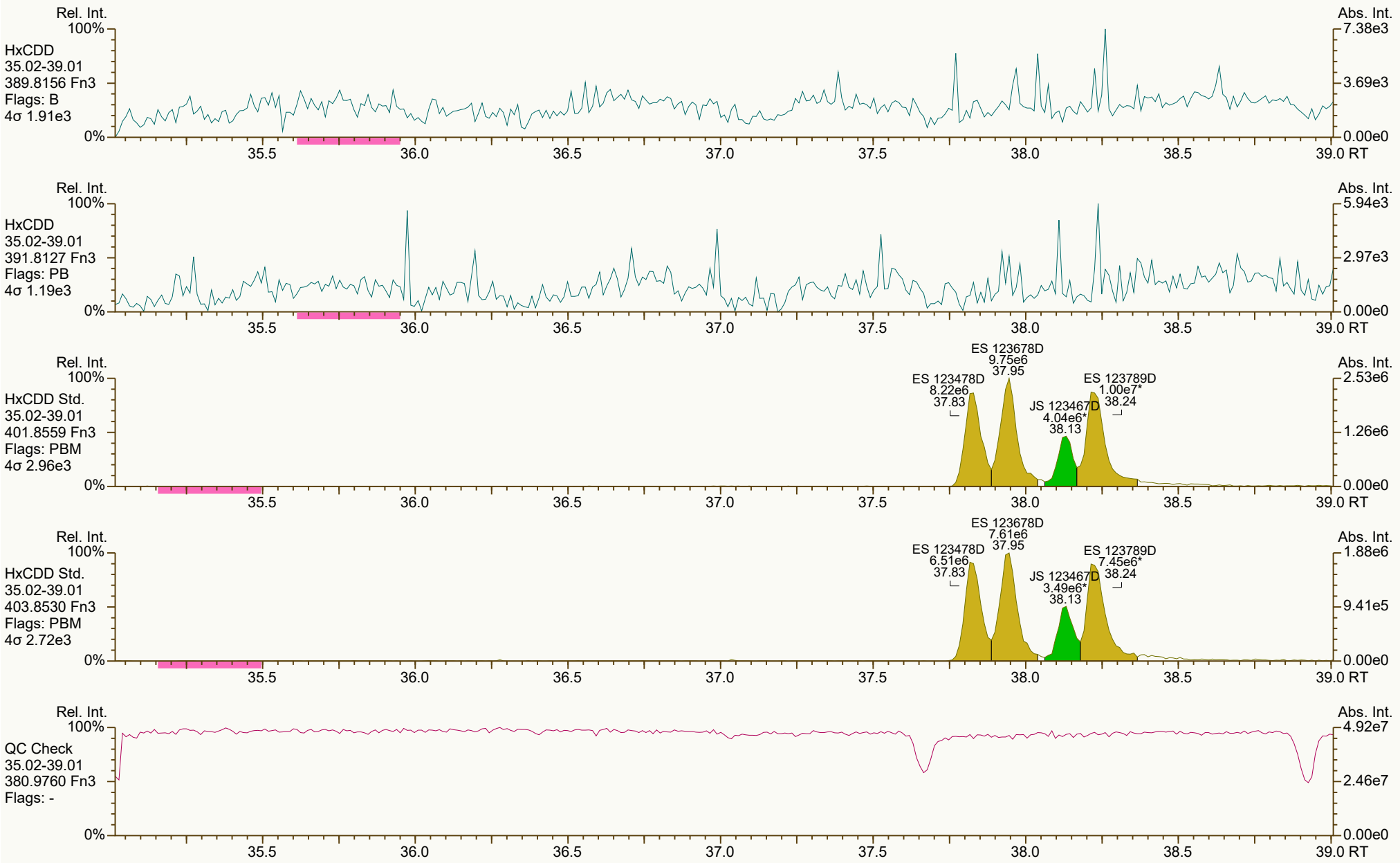
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4695.612	0.341
12347-PeCDF	NotFnd		0.9895						1.02		4695.612	0.341
12348-PeCDF	NotFnd		0.9941						1.02		4695.612	0.341
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4695.612**	**0.353**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4695.612	0.341
12379-PeCDF	NotFnd		1.0142						1.02		4695.612	0.341
12679-PeCDF	NotFnd		0.9931						1.02		4695.612	0.341
23467/12369-PeCDF	NotFnd		0.9966						1.02		4695.612	0.341
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4695.612**	**0.33**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4695.612	0.341
12349-PeCDF	NotFnd		1.0101						1.02		4695.612	0.341
12389-PeCDF	NotFnd		1.0322						1.02		4695.612	0.341
123468-HxCDF	NotFnd		0.9627						1.19		3122.794	0.268
124678/134678-HxCDF	NotFnd		0.9684						1.19		3122.794	0.268
134679-HxCDF	NotFnd		0.9747						1.19		3122.794	0.268
124679-HxCDF	NotFnd		0.9802						1.19		3122.794	0.268
124689-HxCDF	NotFnd		0.9858						1.19		3122.794	0.268
123467-HxCDF	NotFnd		0.9972						1.19		3122.794	0.268
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3122.794**	**0.262**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3122.794**	**0.229**
123479-HxCDF	NotFnd		1.0051						1.19		3122.794	0.268
123469-HxCDF	NotFnd		1.0091						1.19		3122.794	0.268
123679-HxCDF	NotFnd		0.9943						1.19		3122.794	0.268
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3122.794**	**0.291**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3122.794	0.268
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3122.794**	**0.306**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3122.794	0.268
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2777.399**	**0.175**
1234679-HpCDF	NotFnd		1.0067						1.34		2777.399	0.244
1234689-HpCDF	NotFnd		1.0101						1.34		2777.399	0.244
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2777.399**	**0.363**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3796.085**	**0.763**
OCDF-a	NotFnd		1.0002						0.07		3542.055	11.5


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.55e7
7.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.22e7
6.09e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.92e7
2.46e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.05e7
1.52e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.19e3
0%
Abs. Int.
9.86e3
4.93e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.67e3
3.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
8.13e6
28.65
Abs. Int.
1.81e6
9.03e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 1.11e4
0%
JS 1234D
8.13e6
27.97
ES 2378D
8.07e6
28.63
Abs. Int.
1.81e6
9.07e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.01e3
0%
JS 1234D
1.02e7
27.97
ES 2378D
9.82e6
28.63
Abs. Int.
2.60e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6100_B6199\B6139\B6139_18829 DF\Resources\MB1_18829_DF_SDS.utp_res, saved 24-Jan-2022 11:52 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 4999, 7082 scc: 970-966
Revised: 24-Jan-2022 08:44 (DTF) Printed: 24-Jan-2022 12:06 Page 3 of 12

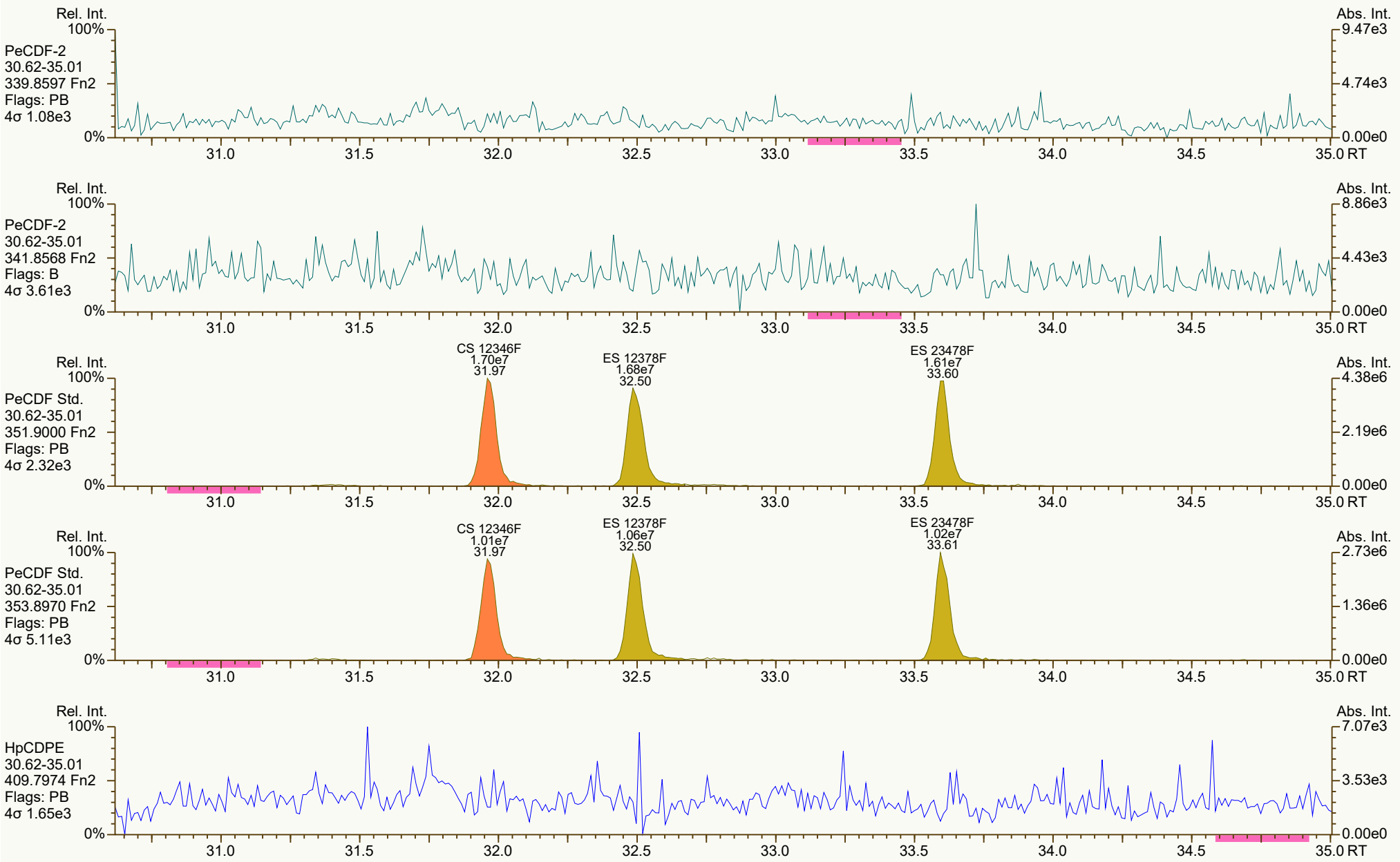

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.91e3
7.38e3
3.69e3
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.19e3
5.94e3
2.97e3
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.96e3
ES 123678D
9.75e6
37.95
ES 123478D
8.22e6
37.83
ES 123789D
1.00e7*
38.24
JS 123467D
4.04e6*
38.13
2.53e6
1.26e6
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.72e3
ES 123678D
7.61e6
37.95
ES 123478D
6.51e6
37.83
ES 123789D
7.45e6*
38.24
JS 123467D
3.49e6*
38.13
1.88e6
9.41e5
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.92e7
2.46e7
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
0.00e0

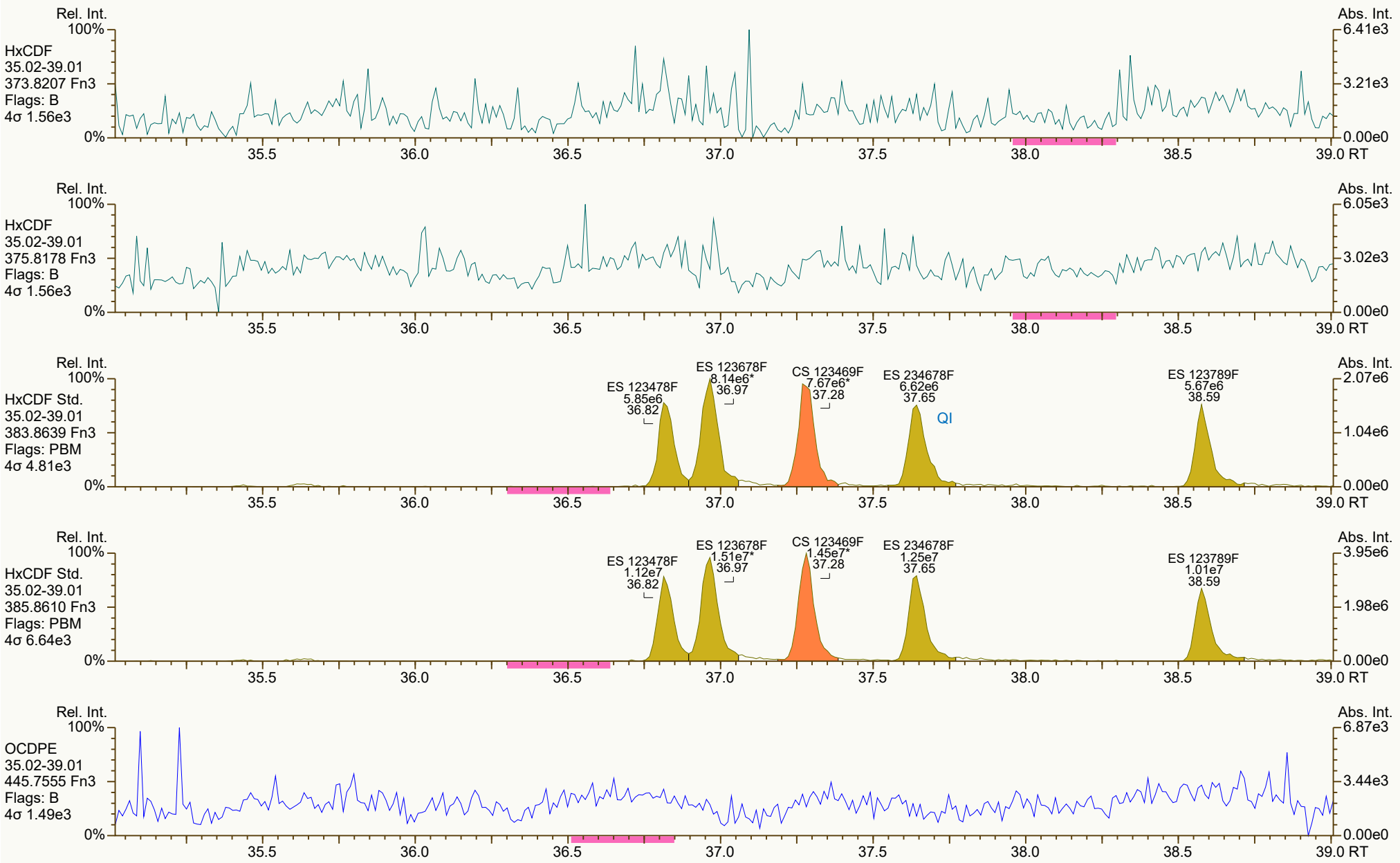

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.75e3
0%
Abs. Int.
6.16e3
3.08e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.47e3
0%
Abs. Int.
5.47e3
2.74e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.70e6*
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.94e3
0%
Abs. Int.
1.98e6
9.91e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.56e6*
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.16e3
0%
Abs. Int.
1.75e6
8.76e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.05e7
1.52e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

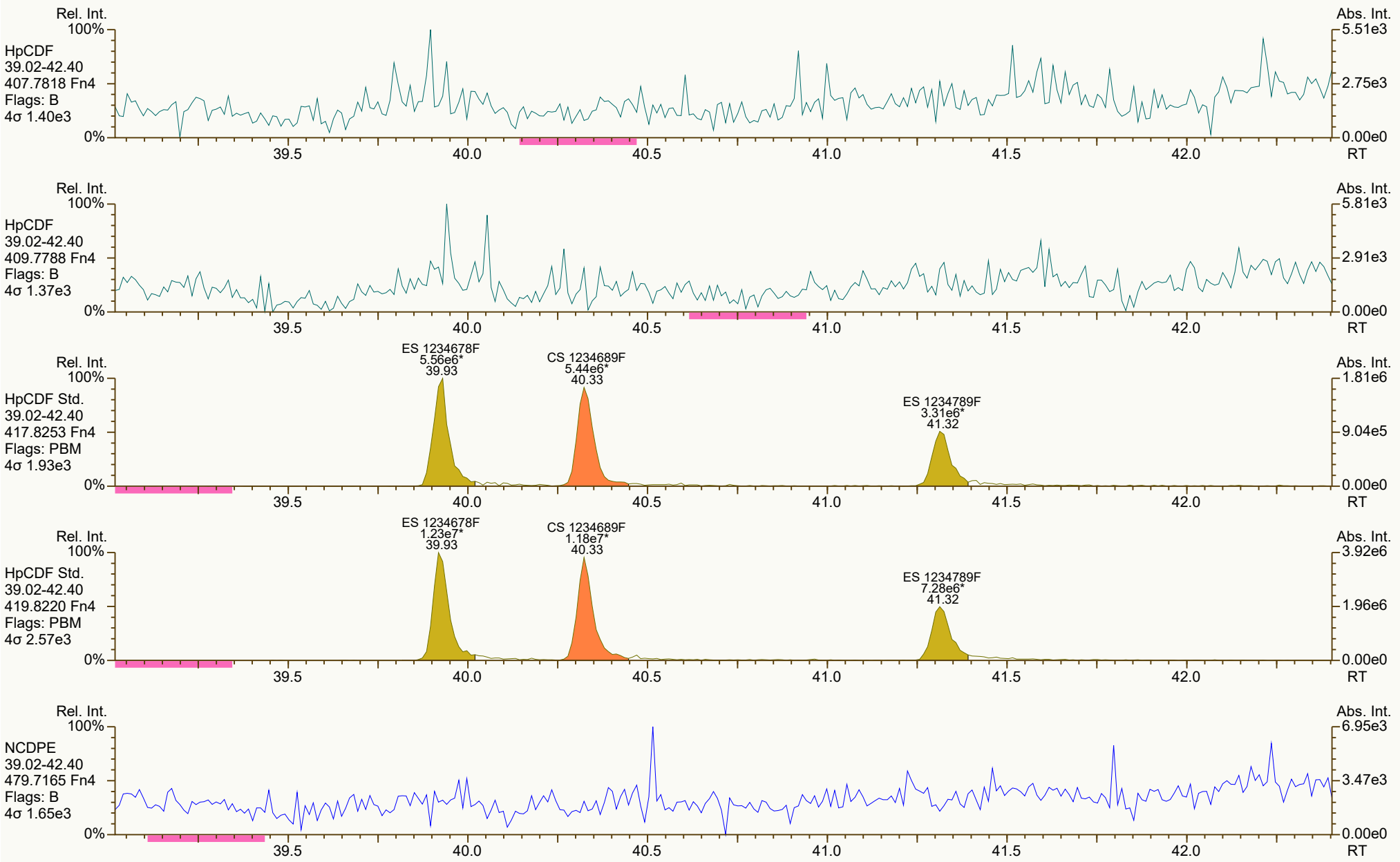

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
5.09e3
2.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.42e3
0%
Abs. Int.
4.07e3
2.04e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.66e3
0%
ES OCDD
7.21e6*
43.51
Abs. Int.
1.63e6
8.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 3.08e3
0%
ES OCDD
7.98e6*
43.51
Abs. Int.
1.77e6
8.83e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.73e3
0%
Abs. Int.
8.91e3
4.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 4.52e3
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 9.40e3
JS 1234F
1.36e7
26.43
ES 2378F
1.21e7
27.78
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 5.45e3
JS 1234F
1.67e7
26.43
ES 2378F
1.50e7
27.78
0%
Abs. Int.
3.63e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.53e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.21e3
4.60e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.60e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.17e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.55e7
7.74e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 1.08e3
0%
Abs. Int.
9.47e3
4.74e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: B
4σ 3.61e3
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.32e3
0%
CS 12346F
1.70e7
31.97
ES 12378F
1.68e7
32.50
ES 23478F
1.61e7
33.60
Abs. Int.
4.38e6
2.19e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 5.11e3
0%
CS 12346F
1.01e7
31.97
ES 12378F
1.06e7
32.50
ES 23478F
1.02e7
33.61
Abs. Int.
2.73e6
1.36e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.65e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.56e3
6.41e3
3.21e3
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.56e3
6.05e3
3.02e3
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.81e3
ES 123478F
5.85e6
36.82
ES 123678F
8.14e6*
36.97
CS 123469F
7.67e6*
37.28
ES 234678F
6.62e6
37.65
QI
ES 123789F
5.67e6
38.59
2.07e6
1.04e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 6.64e3
ES 123478F
1.12e7
36.82
ES 123678F
1.51e7*
36.97
CS 123469F
1.45e7*
37.28
ES 234678F
1.25e7
37.65
ES 123789F
1.01e7
38.59
3.95e6
1.98e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.49e3
6.87e3
3.44e3
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
5.51e3
2.75e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
5.81e3
2.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
0%
ES 1234678F
5.56e6*
39.93
CS 1234689F
5.44e6*
40.33
ES 1234789F
3.31e6*
41.32
Abs. Int.
1.81e6
9.04e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.57e3
0%
ES 1234678F
1.23e7*
39.93
CS 1234689F
1.18e7*
40.33
ES 1234789F
7.28e6*
41.32
Abs. Int.
3.92e6
1.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.65e3
0%
Abs. Int.
6.95e3
3.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.83e3
0%
Abs. Int.
6.89e3
3.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.96e3
0%
Abs. Int.
6.25e3
3.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
ES OCDF
9.44e6*
43.70
Abs. Int.
2.20e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.40e3
0%
ES OCDF
1.05e7*
43.70
Abs. Int.
2.37e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.14e3
0%
Abs. Int.
9.23e3
4.61e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6139_18829_DF_001 **Acq'd:** 21 Jan 2022 15:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-17 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 068-614-NKW

Datafile: 220121C06 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0008	0	3.91E+05	0.69	Y	1.18	3.8	5681.537	0.601
12378-PeCDD	33.96	J	1.0006	1.0005	-0.2	6.58E+04	1.64	Y	1.04	0.769	3973.809	0.451
123478-HxCDD	37.85	J	1.0004	1.0003	-0.2	8.92E+04	1.42	Y	1.09	1.13	4441.081	0.502
123678-HxCDD	37.97	J	1.0034	1.0034	0	1.11E+05	1.29	Y	1.15	1.31	4441.081	0.515
123789-HxCDD	38.25	J EMPC	1.0109	1.0109	0	1.16E+05	0.96	N	1.05	1.42	4441.081	0.558
1234678-HpCDD	40.88		1.0003	1.0003	0	5.01E+06	1.05	Y	1.06	76.3	3119.449	0.424
OCDD	43.53		1.0002	1.0003	+0.3	4.53E+08	0.89	Y	1.13	8,190	3807.393	0.733
2378-TCDF	27.81		1.0008	1.0007	-0.2	1.67E+06	0.78	Y	1.08	10.6	6442.456	0.462
12378-PeCDF	32.52	J	1.0005	1.0006	+0.2	1.31E+05	1.52	Y	1.02	0.961	4920.774	0.355
23478-PeCDF	33.63	J	1.0005	1.0007	+0.4	9.53E+04	1.71	Y	1.02	0.713	4920.774	0.35
123478-HxCDF	36.85	J EMPC	1.0004	1.0004	0	2.11E+05	1.56	N	1.27	1.83	3787.104	0.306
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3787.104	0.259
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3787.104	0.344
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3787.104	0.369
1234678-HpCDF	39.95	J	1.0002	1.0002	0	2.84E+05	1.16	Y	1.37	2.34	3398.354	0.214
1234789-HpCDF	41.33	J EMPC	1.0003	1.0000	-0.7	3.02E+04	1.36	N	1.31	0.396	3398.354	0.396
OCDF	43.71	J EMPC	1.0002	1.0001	-0.3	2.88E+05	0.73	N	1.07	4.56	4324.004	0.74

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64		1.0233	1.0236	+0.5	1.72E+07	0.79	Y	1.05	86.2
ES 12378-PeCDD	33.94		1.2121	1.2133	+2.4	1.63E+07	1.61	Y	0.88	97.6
ES 123478-HxCDD	37.84		0.9921	0.9921	0	1.44E+07	1.26	Y	0.97	99.8
ES 123678-HxCDD	37.95		0.9951	0.9950	-0.2	1.47E+07	1.25	Y	0.94	105
ES 123789-HxCDD	38.24		1.0025	1.0026	+0.2	1.54E+07	1.24	Y	1.09	95.2
ES 1234678-HpCDD	40.87		1.0709	1.0715	+1.5	1.23E+07	1.05	Y	0.91	90.5
ES OCDD	43.52		1.1403	1.1411	+2.1	1.94E+07	0.92	Y	0.62	105
ES 2378-TCDF	27.79		1.0506	1.0511	+0.8	2.89E+07	0.80	Y	1.06	89.5
ES 12378-PeCDF	32.50		1.2281	1.2295	+2.7	2.63E+07	1.61	Y	0.91	94.6
ES 23478-PeCDF	33.61		1.2698	1.2713	+3.0	2.59E+07	1.50	Y	0.88	96.1
ES 123478-HxCDF	36.83		0.9657	0.9656	-0.2	1.79E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.97		0.9695	0.9694	-0.2	2.36E+07	0.53	Y	1.35	118
ES 234678-HxCDF	37.66	QI	0.9874	0.9873	-0.2	1.74E+07	0.54	Y	1.24	94.3
ES 123789-HxCDF	38.60		1.0116	1.0120	+0.9	1.67E+07	0.53	Y	1.16	97.4
ES 1234678-HpCDF	39.94		1.0467	1.0471	+1.0	1.75E+07	0.45	Y	0.97	122
ES 1234789-HpCDF	41.33		1.0830	1.0836	+1.5	1.15E+07	0.45	Y	0.85	91.4
ES OCDF	43.71		1.1451	1.1459	+2.1	2.33E+07	0.93	Y	0.81	97.4

Lab ID: B6139_18829_DF_001 **Acq'd:** 21 Jan 2022 15:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-17 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 068-614-NKW

Datafile: 220121C06 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.98		-	-	-	1.91E+07	0.83	Y	-	-
JS 1234-TCDF	26.44		-	-	-	3.05E+07	0.79	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	7.41E+06	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	8.39E+06	n/a	-	1.20	91.6
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.52E+07	1.58	Y	0.75	106
CS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.75E+07	1.51	Y	0.85	106
CS 123469-HxCDF	37.29	V	0.9778	0.9778	0	2.25E+07	0.55	Y	1.12	136
CS 1234689-HpCDF	40.34	V	1.0571	1.0575	+1.0	1.72E+07	0.45	Y	0.89	131
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.39E+06~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.52E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~108~~
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~2.75E+07~~	~~1.51~~	~~Y~~	~~0.94~~	~~111~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.25E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~115~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0575~~	~~+1.0~~	~~1.72E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	3.8	3.8
Total PeCDD	2.35	2.35
Total HxCDD	16.1	18.3
Total HpCDD	198	198
Total Tetra-Octa Dioxins	8410	8420
Total TCDF	17.3	17.3
Total PeCDF	1.67	1.67
Total HxCDF	1.08	2.9
Total HpCDF	4.76	5.16
Total Tetra-Octa Furans	24.8	31.6
Total Tetra-Octa Dioxins & Furans	8440	8450

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.675	0.69
Response	3.96E+05	3.91E+05

Lab ID: B6139_18829_DF_001 **Acq'd:** 21 Jan 2022 15:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-17 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 068-614-NKW

Datafile: 220121C06 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5681.537	0.601
1379-TCDD	NotFnd		0.8876						1.18		5681.537	0.601
1369-TCDD	NotFnd		0.9023						1.18		5681.537	0.601
1469-TCDD	NotFnd		0.9291						1.18		5681.537	0.601
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5681.537	0.601
1378-TCDD	NotFnd		0.9440						1.18		5681.537	0.601
1268-TCDD	NotFnd		0.9506						1.18		5681.537	0.601
1478-TCDD	NotFnd		0.9591						1.18		5681.537	0.601
1279-TCDD	NotFnd		0.9649						1.18		5681.537	0.601
1234/1269-TCDD	NotFnd		0.9771						1.18		5681.537	0.601
1236-TCDD	NotFnd		0.9820						1.18		5681.537	0.601
1237/1238-TCDD	NotFnd		0.9908						1.18		5681.537	0.601
1239-TCDD	NotFnd		0.9954						1.18		5681.537	0.601
2378-TCDD	**28.66**		**1.0008**	1.0008	**0**	3.91E+05	0.69	Y	**1.18**	**3.8**	**5681.537**	**0.601**
1278-TCDD	NotFnd		1.0121						1.18		5681.537	0.601
1267-TCDD	NotFnd		1.0167						1.18		5681.537	0.601
1289-TCDD	NotFnd		1.0341						1.18		5681.537	0.601
12479/12468-PeCDD	31.45	J	0.9273	0.9266	-1.3	6.67E+04	1.61	Y	1.04	0.778	3973.809	0.451
12469-PeCDD	NotFnd		0.9430						1.04		3973.809	0.451
12368-PeCDD	NotFnd		0.9592						1.04		3973.809	0.451
12478-PeCDD	32.74	J	0.9647	0.9644	-0.6	6.89E+04	1.49	Y	1.04	0.804	3973.809	0.451
12379-PeCDD	NotFnd		0.9676						1.04		3973.809	0.451
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3973.809	0.451
12346/12347-PeCDD	NotFnd		0.9860						1.04		3973.809	0.451
12378-PeCDD	33.96	J	**1.0006**	**1.0005**	**-0.2**	**6.58E+04**	**1.64**	**Y**	**1.04**	**0.769**	**3973.809**	**0.451**
12367-PeCDD	NotFnd		1.0034						1.04		3973.809	0.451
12389-PeCDD	NotFnd		1.0134						1.04		3973.809	0.451
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	5.79E+05	1.24	Y	1.10	7.06	4441.081	0.525
123468-HxCDD	NotFnd		0.9715						1.10		4441.081	0.525
123679/123689-HxCDD	37.05		0.9793	0.9792	-0.2	5.04E+05	1.25	Y	1.10	6.14	4441.081	0.525
123469-HxCDD	37.19	J EMPC	0.9829	0.9827	-0.4	6.61E+04	1.64	N	1.10	0.806	4441.081	0.525
123478-HxCDD	37.85	J	**1.0004**	**1.0003**	**-0.2**	**8.92E+04**	**1.42**	**Y**	1.09	**1.13**	**4441.081**	**0.502**
123678-HxCDD	37.97	J	**1.0034**	**1.0034**	**0**	**1.11E+05**	**1.29**	**Y**	1.15	**1.31**	**4441.081**	**0.515**
123467-HxCDD	38.15	J	1.0082	1.0083	+0.2	3.60E+04	1.33	Y	1.10	0.439	4441.081	0.525
123789-HxCDD	38.25	J EMPC	**1.0109**	**1.0109**	**0**	**1.16E+05**	**0.96**	**N**	1.05	**1.42**	**4441.081**	**0.558**

Lab ID: B6139_18829_DF_001 **Acq'd:** 21 Jan 2022 15:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-17 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 068-614-NKW

Datafile: 220121C06 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

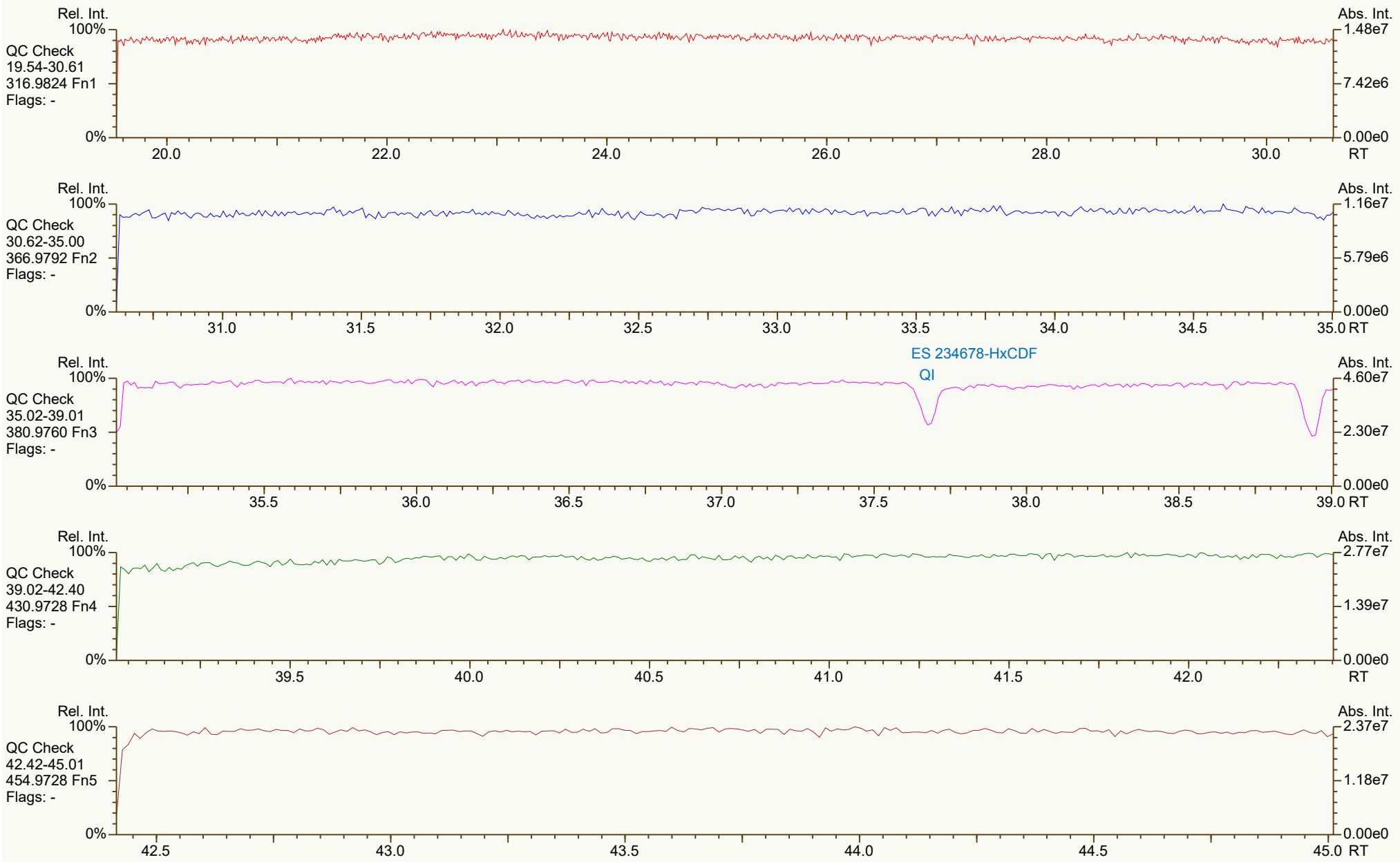
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	7.97E+06	1.07	Y	1.06	121	3119.449	0.424
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**5.01E+06**	**1.05**	**Y**	**1.06**	**76.3**	**3119.449**	**0.424**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**4.53E+08**	**0.89**	**Y**	**1.13**	**8,190**	**3807.393**	**0.733**
OCDD-a	43.53		1.0002	1.0002	0	2.80E+07	2.54	Y	0.07	7,910	3647.237	11
1368-TCDF	NotFnd		0.8282						1.08		6442.456	0.462
1468-TCDF	NotFnd		0.8485						1.08		6442.456	0.462
2468-TCDF	NotFnd		0.8709						1.08		6442.456	0.462
1346/1246-TCDF	NotFnd		0.8829						1.08		6442.456	0.462
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6442.456	0.462
1348-TCDF	NotFnd		0.8980						1.08		6442.456	0.462
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6442.456	0.462
1268-TCDF	NotFnd		0.9158						1.08		6442.456	0.462
1467-TCDF	NotFnd		0.9206						1.08		6442.456	0.462
1478-TCDF	NotFnd		0.9266						1.08		6442.456	0.462
1369/1237-TCDF	NotFnd		0.9397						1.08		6442.456	0.462
2467-TCDF	NotFnd		0.9440						1.08		6442.456	0.462
2368-TCDF	NotFnd		0.9497						1.08		6442.456	0.462
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6442.456	0.462
1278-TCDF	26.91		0.9690	0.9686	-0.6	6.88E+05	0.78	Y	1.08	4.36	6442.456	0.462
1349-TCDF	NotFnd		0.9730						1.08		6442.456	0.462
1267-TCDF	NotFnd		0.9787						1.08		6442.456	0.462
2346/1249-TCDF	NotFnd		0.9850						1.08		6442.456	0.462
2347/1279-TCDF	NotFnd		0.9929						1.08		6442.456	0.462
2348-TCDF	27.70		0.9970	0.9969	-0.2	1.04E+05	0.79	Y	1.08	0.657	6442.456	0.462
2378-TCDF	**27.81**		**1.0008**	**1.0007**	**-0.2**	**1.67E+06**	**0.78**	**Y**	**1.08**	**10.6**	**6442.456**	**0.462**
2367/3467-TCDF	28.16		1.0136	1.0134	-0.3	1.41E+05	0.83	Y	1.08	0.89	6442.456	0.462
1269-TCDF	NotFnd		1.0221						1.08		6442.456	0.462
1239-TCDF	NotFnd		1.0319						1.08		6442.456	0.462
1289-TCDF	29.80		1.0740	1.0725	-2.7	1.36E+05	0.73	Y	1.08	0.864	6442.456	0.462
13468/12468-PeCDF	NotFnd		0.9145						1.02		4410.019	0.316
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4920.774	0.353
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4920.774	0.353
14678-PeCDF	NotFnd		0.9695						1.02		4920.774	0.353
13479-PeCDF	NotFnd		0.9724						1.02		4920.774	0.353
13469/12479-PeCDF	NotFnd		0.9801						1.02		4920.774	0.353
12346-PeCDF	NotFnd		0.9842						1.02		4920.774	0.353

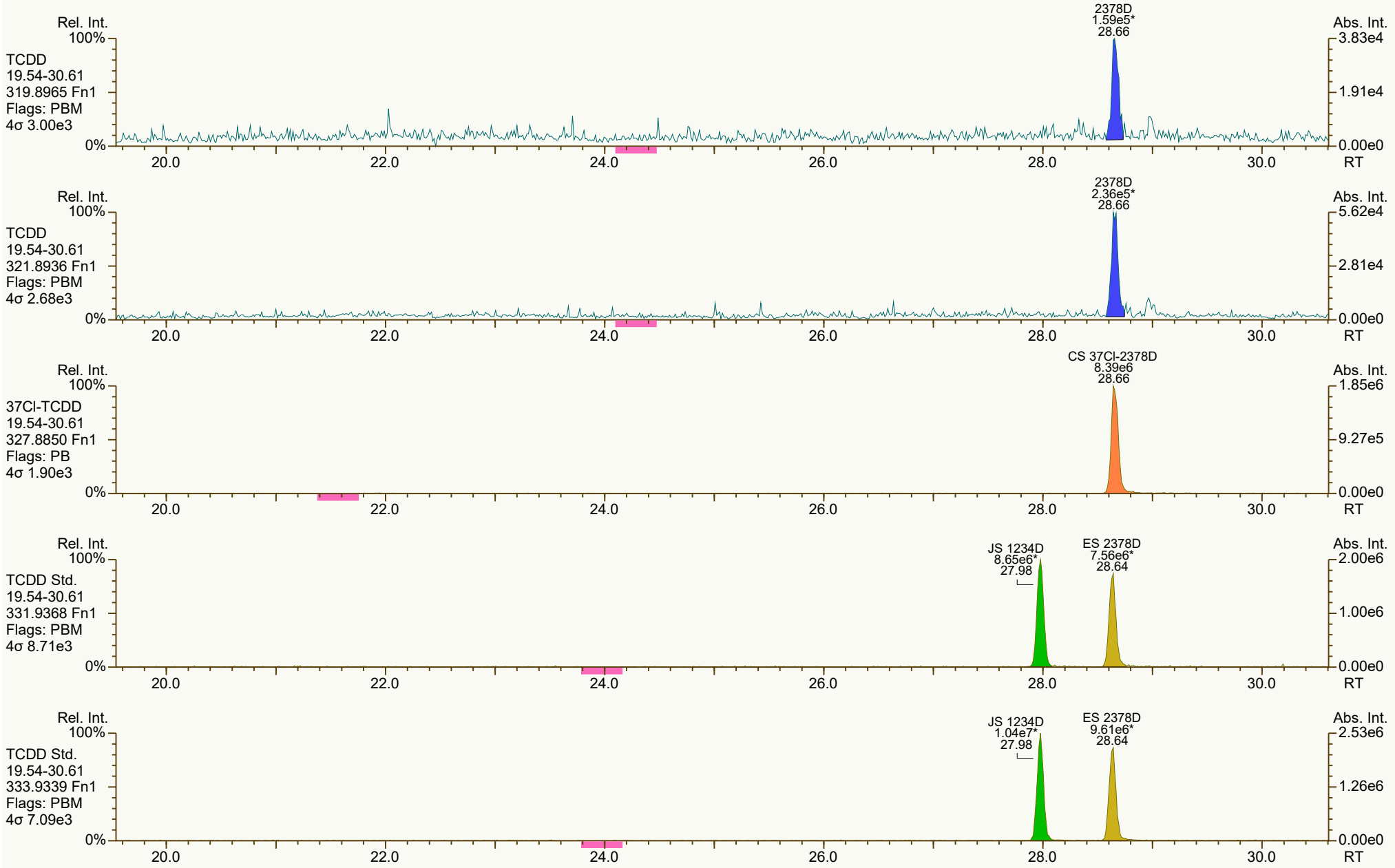
Lab ID: B6139_18829_DF_001 **Acq'd:** 21 Jan 2022 15:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-17 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 068-614-NKW

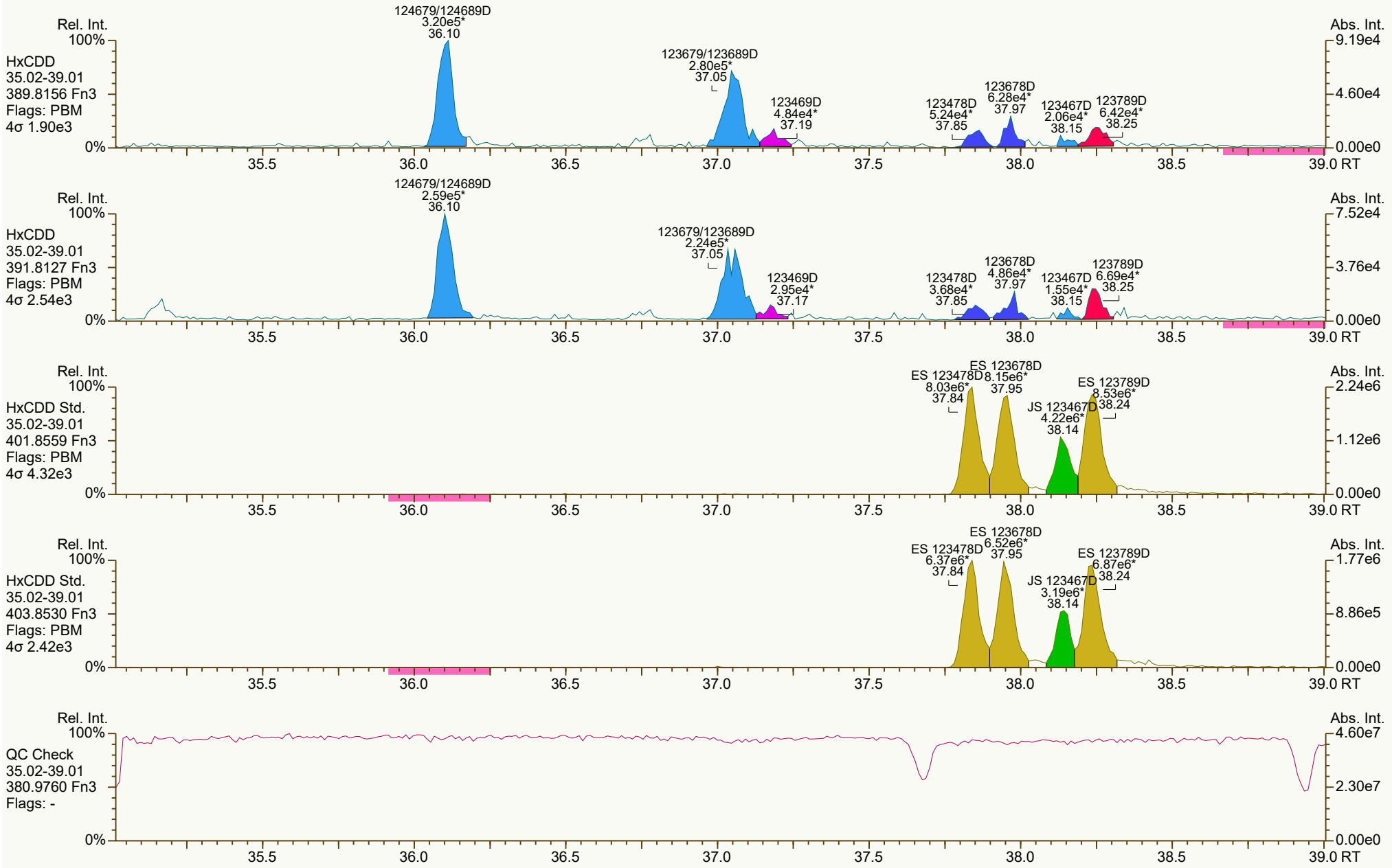
Datafile: 220121C06 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

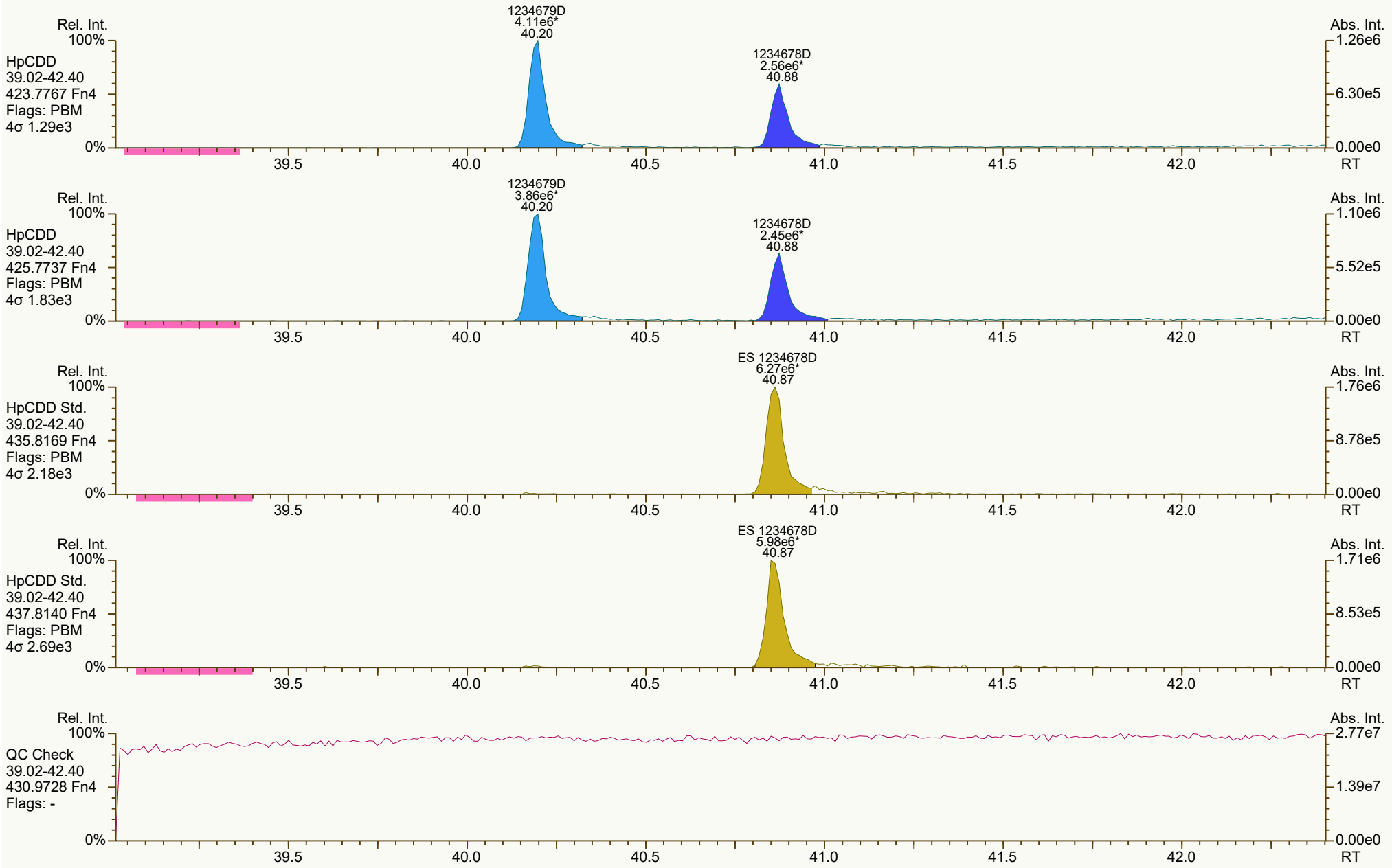
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4920.774	0.353
12347-PeCDF	NotFnd		0.9895						1.02		4920.774	0.353
12348-PeCDF	NotFnd		0.9941						1.02		4920.774	0.353
12378-PeCDF	**32.52**	J	**1.0005**	**1.0006**	**+0.2**	**1.31E+05**	**1.52**	**Y**	**1.02**	**0.961**	**4920.774**	**0.355**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4920.774	0.353
12379-PeCDF	NotFnd		1.0142						1.02		4920.774	0.353
12679-PeCDF	NotFnd		0.9931						1.02		4920.774	0.353
23467/12369-PeCDF	NotFnd		0.9966						1.02		4920.774	0.353
23478-PeCDF	**33.63**	J	**1.0005**	**1.0007**	**+0.4**	**9.53E+04**	**1.71**	**Y**	**1.02**	**0.713**	**4920.774**	**0.35**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4920.774	0.353
12349-PeCDF	NotFnd		1.0101						1.02		4920.774	0.353
12389-PeCDF	NotFnd		1.0322						1.02		4920.774	0.353
123468-HxCDF	NotFnd		0.9627						1.19		3787.104	0.313
124678/134678-HxCDF	35.65	J	0.9684	0.9680	-0.9	1.23E+05	1.36	Y	1.19	1.08	3787.104	0.313
134679-HxCDF	NotFnd		0.9747						1.19		3787.104	0.313
124679-HxCDF	NotFnd		0.9802						1.19		3787.104	0.313
124689-HxCDF	NotFnd		0.9858						1.19		3787.104	0.313
123467-HxCDF	NotFnd		0.9972						1.19		3787.104	0.313
123478-HxCDF	**36.85**	J EMPC	**1.0004**	**1.0004**	**0**	**2.11E+05**	**1.56**	**N**	**1.27**	**1.83**	**3787.104**	**0.306**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3787.104**	**0.259**
123479-HxCDF	NotFnd		1.0051						1.19		3787.104	0.313
123469-HxCDF	NotFnd		1.0091						1.19		3787.104	0.313
123679-HxCDF	NotFnd		0.9943						1.19		3787.104	0.313
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3787.104**	**0.344**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3787.104	0.313
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3787.104**	**0.369**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3787.104	0.313
1234678-HpCDF	**39.95**	**J**	**1.0002**	**1.0002**	**0**	**2.84E+05**	**1.16**	**Y**	**1.37**	**2.34**	**3398.354**	**0.214**
1234679-HpCDF	NotFnd		1.0067						1.34		3398.354	0.285
1234689-HpCDF	40.34	**J**	1.0101	1.0101	0	2.38E+05	0.94	Y	1.34	2.43	3398.354	0.285
1234789-HpCDF	**41.33**	**J EMPC**	**1.0003**	**1.0000**	**-0.7**	**3.02E+04**	**1.36**	**N**	**1.31**	**0.396**	**3398.354**	**0.396**
OCDF	**43.71**	**J EMPC**	**1.0002**	**1.0001**	**-0.3**	**2.88E+05**	**0.73**	**N**	**1.07**	**4.56**	**4324.004**	**0.74**
OCDF-a	NotFnd		1.0002						0.07		6426.464	17.8

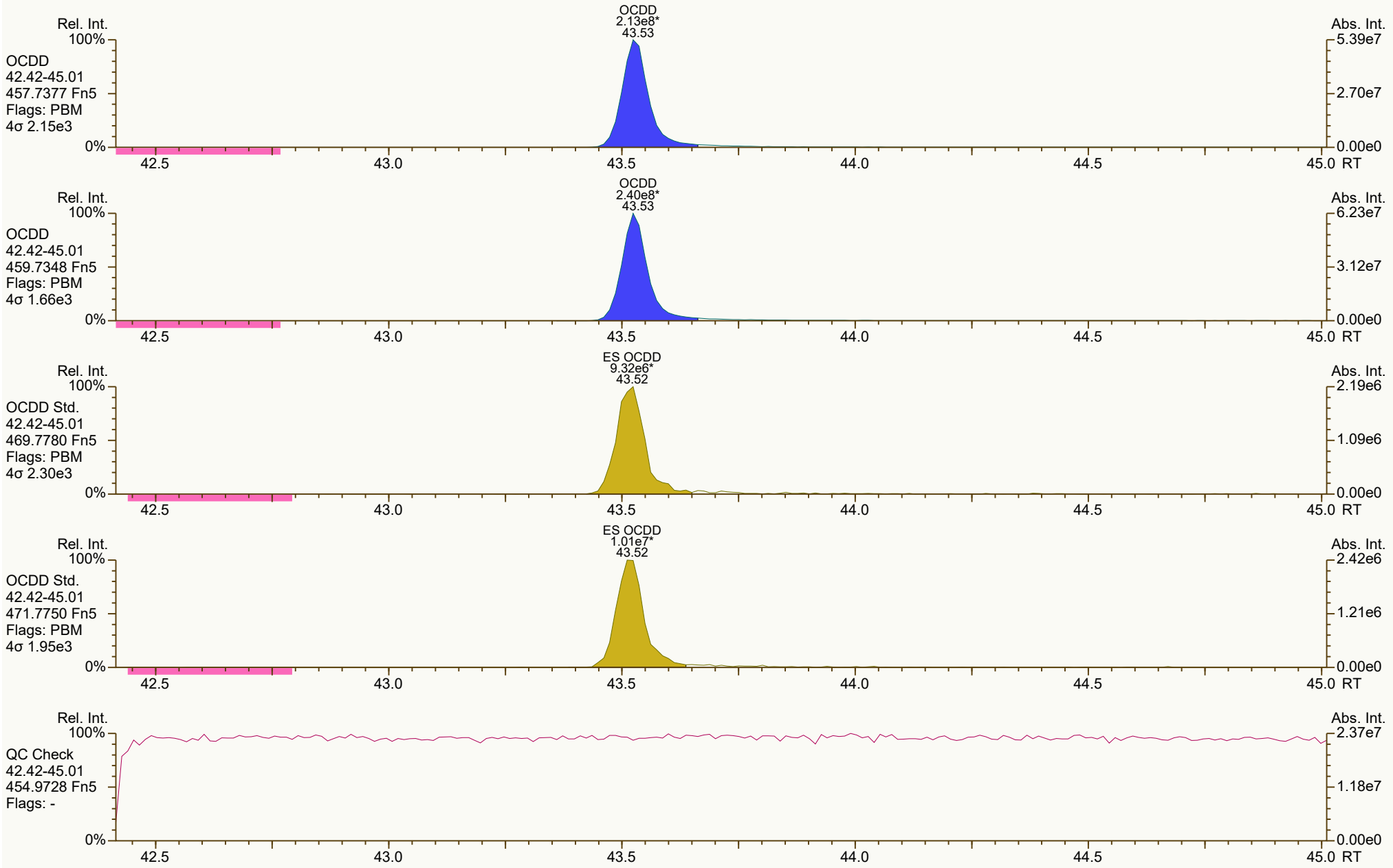

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.48e7
7.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.16e7
5.79e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
4.60e7
2.30e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.77e7
1.39e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

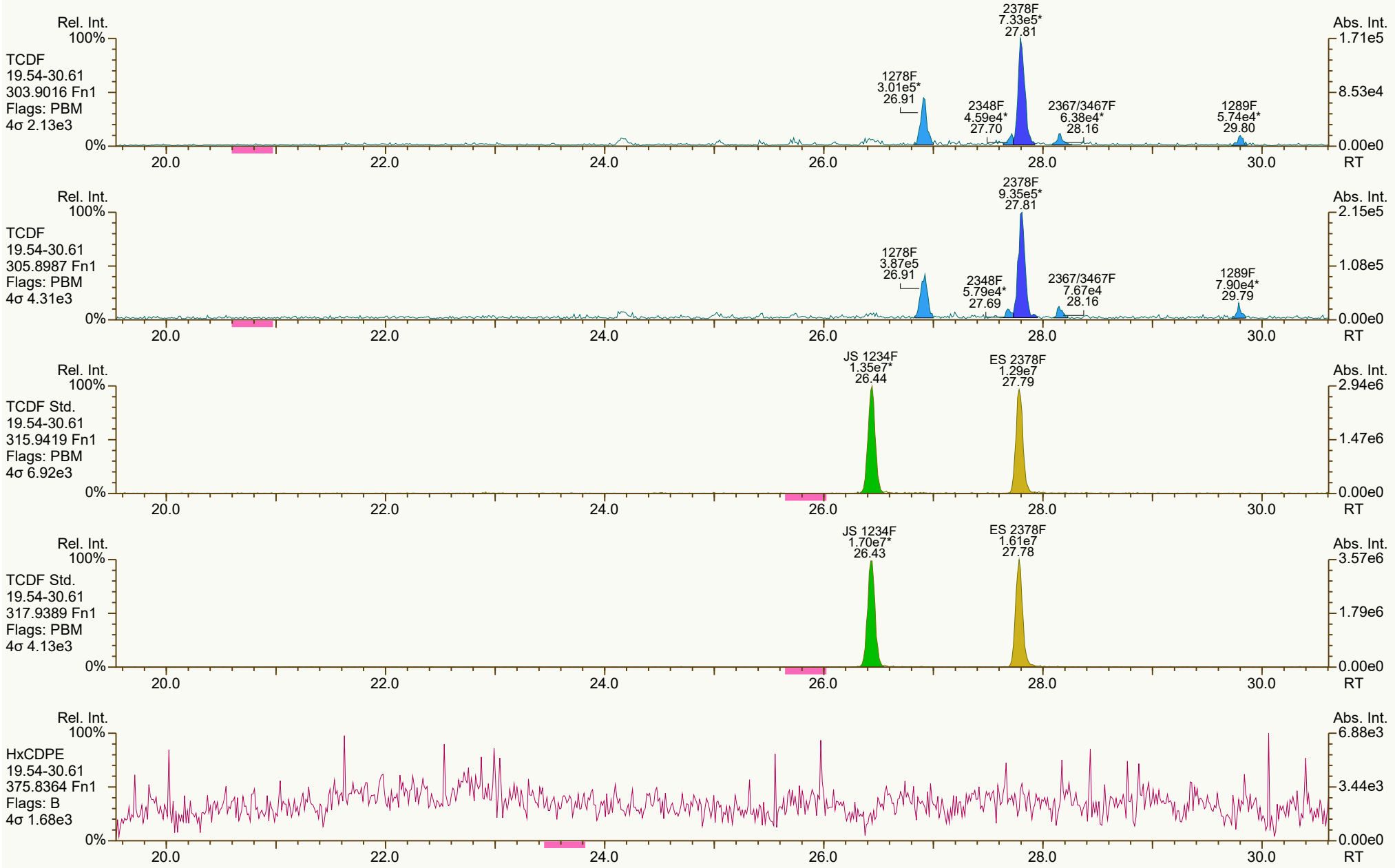

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.00e3
0%
2378D
1.59e5*
28.66
Abs. Int.
3.83e4
1.91e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.68e3
0%
2378D
2.36e5*
28.66
Abs. Int.
5.62e4
2.81e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.90e3
0%
CS 37Cl-2378D
8.39e6
28.66
Abs. Int.
1.85e6
9.27e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 8.71e3
0%
JS 1234D
8.65e6*
27.98
ES 2378D
7.56e6*
28.64
Abs. Int.
2.00e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 7.09e3
0%
JS 1234D
1.04e7*
27.98
ES 2378D
9.61e6*
28.64
Abs. Int.
2.53e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.86e3
0%
12479/12468D
4.12e4*
31.45
12478D
4.12e4*
32.74
12378D
4.09e4*
33.96
Abs. Int.
1.71e4
8.57e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 2.11e3
0%
12479/12468D
2.55e4*
31.46
12478D
2.76e4*
32.74
12378D
2.50e4
33.96
Abs. Int.
1.10e4
5.50e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 2.28e3
0%
CS 12347D
9.28e6*
33.44
ES 12378D
1.01e7*
33.94
Abs. Int.
2.63e6
1.32e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 2.50e3
0%
CS 12347D
5.88e6*
33.44
ES 12378D
6.26e6*
33.94
Abs. Int.
1.68e6
8.38e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.16e7
5.79e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.90e3
124679/124689D
3.20e5*
36.10
123679/123689D
2.80e5*
37.05
123469D
4.84e4*
37.19
123478D
5.24e4*
37.85
123678D
6.28e4*
37.97
123467D
2.06e4*
38.15
123789D
6.42e4*
38.25
Abs. Int.
9.19e4
4.60e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.54e3
124679/124689D
2.59e5*
36.10
123679/123689D
2.24e5*
37.05
123469D
2.95e4*
37.17
123478D
3.68e4*
37.85
123678D
4.86e4*
37.97
123467D
1.55e4*
38.15
123789D
6.69e4*
38.25
Abs. Int.
7.52e4
3.76e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.32e3
ES 123678D
8.15e6*
37.95
ES 123478D
8.03e6*
37.84
ES 123789D
8.53e6*
38.24
JS 123467D
4.22e6*
38.14
Abs. Int.
2.24e6
1.12e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.42e3
ES 123678D
6.52e6*
37.95
ES 123478D
6.37e6*
37.84
ES 123789D
6.87e6*
38.24
JS 123467D
3.19e6*
38.14
Abs. Int.
1.77e6
8.86e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.60e7
2.30e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

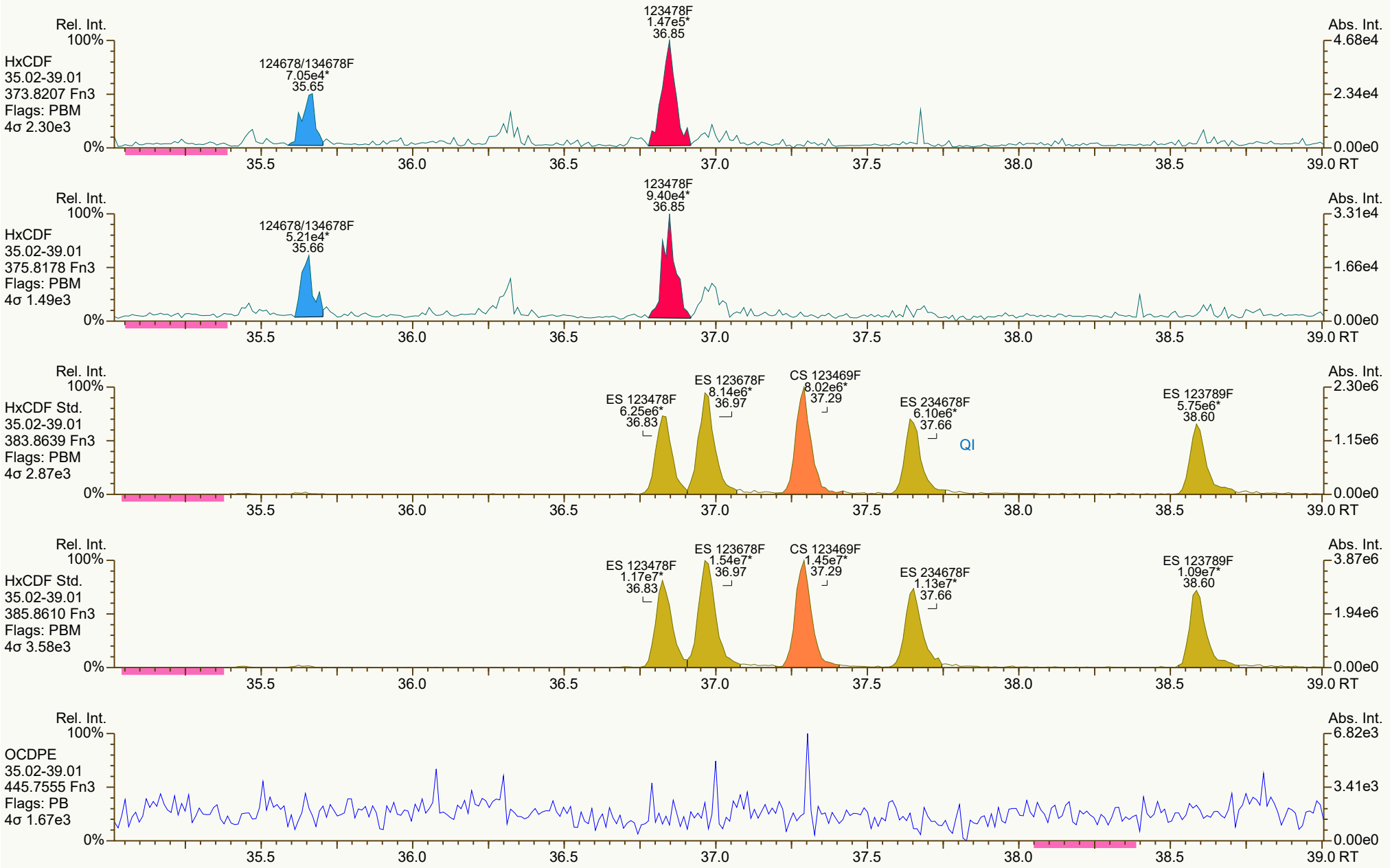

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.29e3
1234679D
4.11e6*
40.20
1234678D
2.56e6*
40.88
Abs. Int.
1.26e6
6.30e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.83e3
1234679D
3.86e6*
40.20
1234678D
2.45e6*
40.88
Abs. Int.
1.10e6
5.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.18e3
ES 1234678D
6.27e6*
40.87
Abs. Int.
1.76e6
8.78e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.69e3
ES 1234678D
5.98e6*
40.87
Abs. Int.
1.71e6
8.53e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.77e7
1.39e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

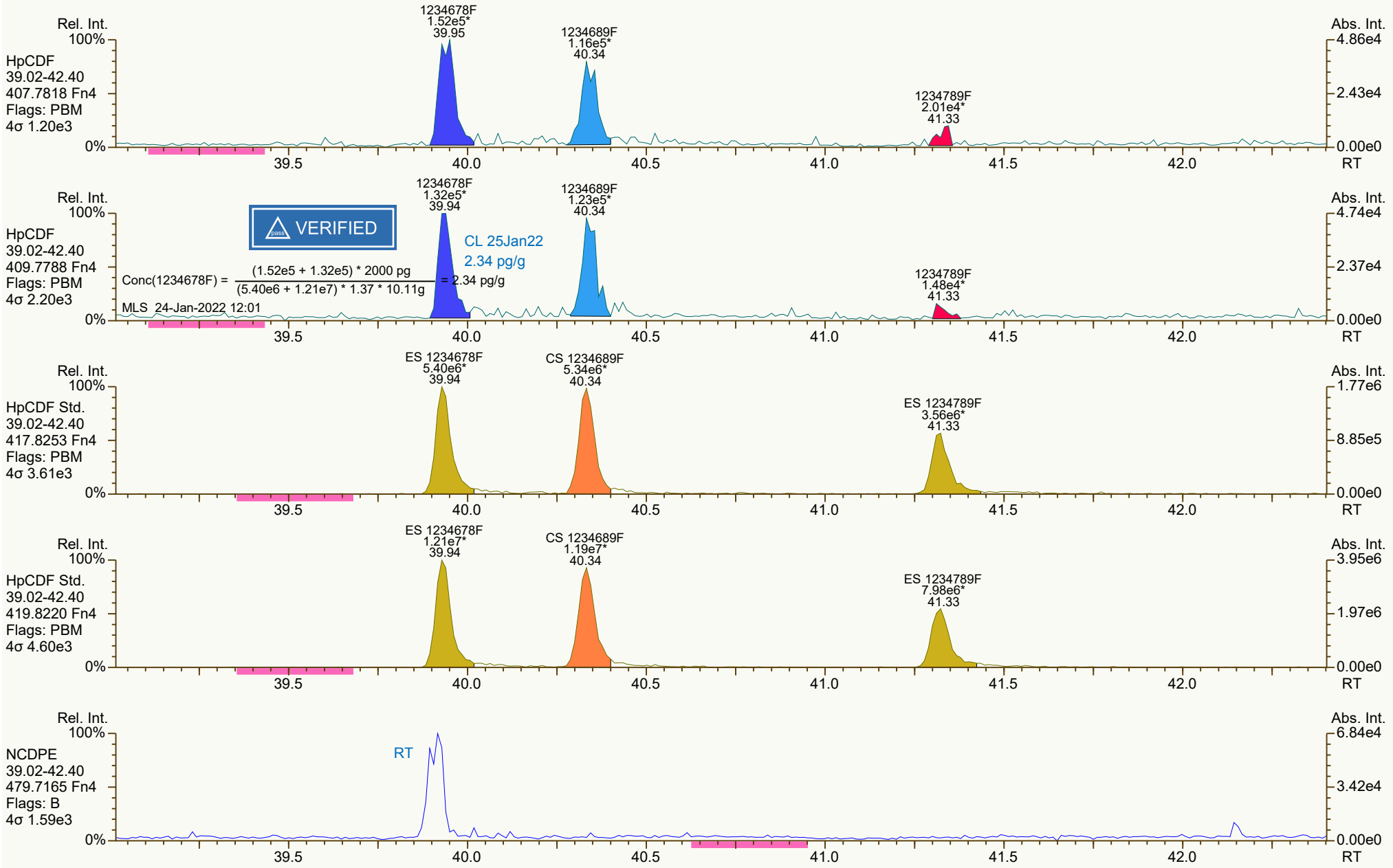

OCDD
2.13e8*
43.53
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 2.15e3
0%
Abs. Int.
5.39e7
2.70e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.40e8*
43.53
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.66e3
0%
Abs. Int.
6.23e7
3.12e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.32e6*
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.30e3
0%
Abs. Int.
2.19e6
1.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.01e7*
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.95e3
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.37e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

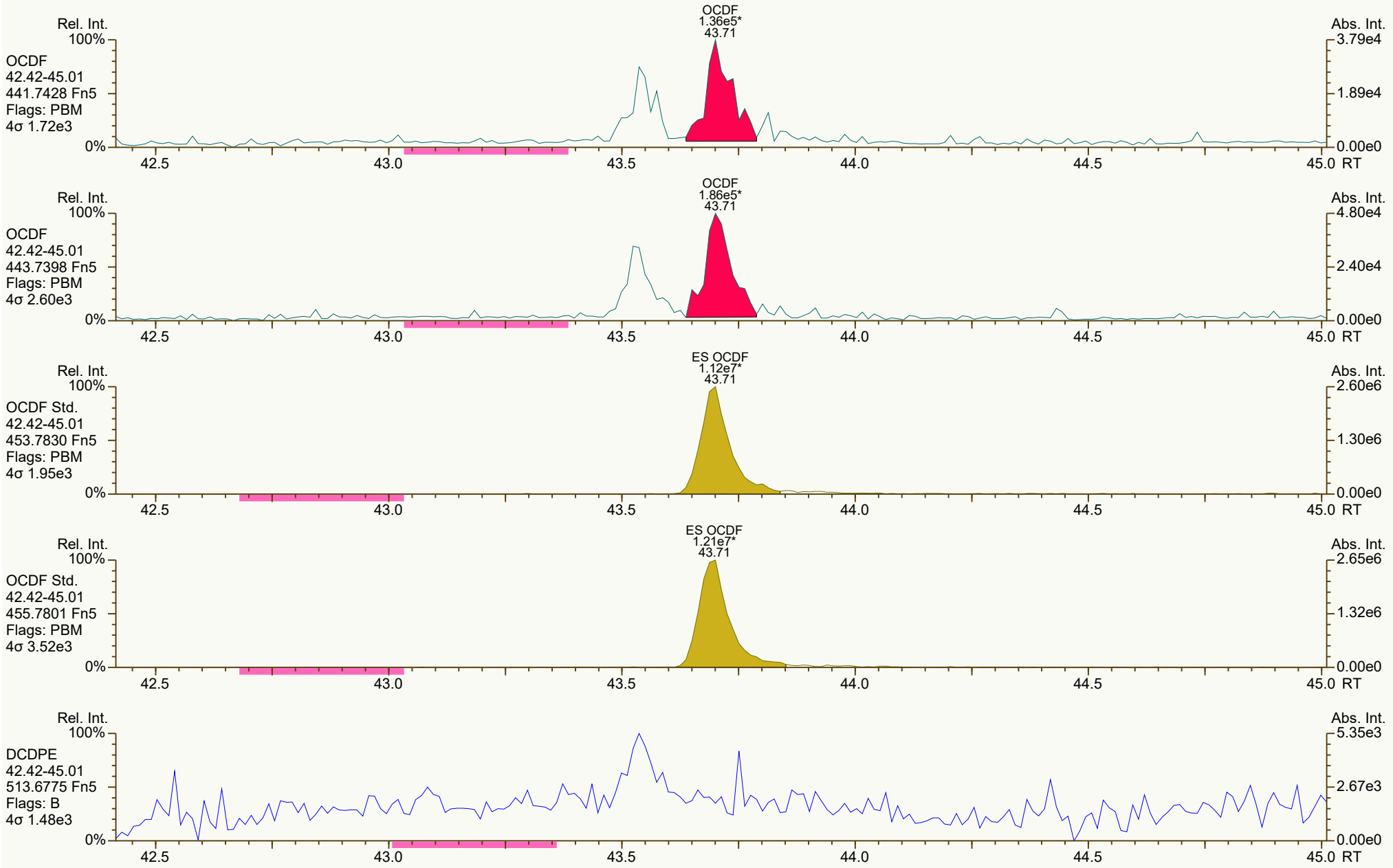

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.13e3
0%
2378F
7.33e5*
27.81
1278F
3.01e5*
26.91
2348F
4.59e4*
27.70
2367/3467F
6.38e4*
28.16
1289F
5.74e4*
29.80
Abs. Int.
1.71e5
8.53e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.31e3
0%
2378F
9.35e5*
27.81
1278F
3.87e5
26.91
2348F
5.79e4*
27.69
2367/3467F
7.67e4
28.16
1289F
7.90e4*
29.79
Abs. Int.
2.15e5
1.08e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 6.92e3
0%
JS 1234F
1.35e7*
26.44
ES 2378F
1.29e7
27.79
Abs. Int.
2.94e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 4.13e3
0%
JS 1234F
1.70e7*
26.43
ES 2378F
1.61e7
27.78
Abs. Int.
3.57e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.68e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.16e4
5.80e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 2.20e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.29e4
6.47e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.21e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.48e7
7.42e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 1.70e3
12378F
7.89e4*
32.52
23478F
6.01e4*
33.63
2.28e4
1.14e4
0.00e0
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 3.22e3
12378F
5.20e4*
32.52
23478F
3.52e4*
33.63
1.70e4
8.49e3
0.00e0
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 2.70e3
CS 12346F
1.65e7*
31.97
ES 12378F
1.62e7*
32.50
ES 23478F
1.55e7*
33.61
4.26e6
2.13e6
0.00e0
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 2.41e3
CS 12346F
1.09e7*
31.97
ES 12378F
1.01e7*
32.50
ES 23478F
1.04e7*
33.61
2.89e6
1.45e6
0.00e0
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: PB
4σ 1.67e3
8.82e3
4.41e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.30e3
124678/134678F
7.05e4*
35.65
123478F
1.47e5*
36.85
4.68e4
2.34e4
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.49e3
124678/134678F
5.21e4*
35.66
123478F
9.40e4*
36.85
3.31e4
1.66e4
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.87e3
ES 123478F
6.25e6*
36.83
ES 123678F
8.14e6*
36.97
CS 123469F
8.02e6*
37.29
ES 234678F
6.10e6*
37.66
QI
ES 123789F
5.75e6*
38.60
2.30e6
1.15e6
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.58e3
ES 123478F
1.17e7*
36.83
ES 123678F
1.54e7*
36.97
CS 123469F
1.45e7*
37.29
ES 234678F
1.13e7*
37.66
ES 123789F
1.09e7*
38.60
3.87e6
1.94e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.67e3
6.82e3
3.41e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.20e3
1234678F
1.52e5*
39.95
1234689F
1.16e5*
40.34
1234789F
2.01e4*
41.33
Abs. Int.
4.86e4
2.43e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.20e3
VERIFIED
1234678F
1.32e5*
39.94
1234689F
1.23e5*
40.34
CL 25Jan22
2.34 pg/g
Conc(1234678F) = (1.52e5 + 1.32e5) * 2000 pg / (5.40e6 + 1.21e7) * 1.37 * 10.11g = 2.34 pg/g
MLS 24-Jan-2022 12:01
1234789F
1.48e4*
41.33
Abs. Int.
4.74e4
2.37e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 3.61e3
ES 1234678F
5.40e6*
39.94
CS 1234689F
5.34e6*
40.34
ES 1234789F
3.56e6*
41.33
Abs. Int.
1.77e6
8.85e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 4.60e3
ES 1234678F
1.21e7*
39.94
CS 1234689F
1.19e7*
40.34
ES 1234789F
7.98e6*
41.33
Abs. Int.
3.95e6
1.97e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.59e3
RT
Abs. Int.
6.84e4
3.42e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.36e5*
43.71
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.72e3
0%
Abs. Int.
3.79e4
1.89e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.86e5*
43.71
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.60e3
0%
Abs. Int.
4.80e4
2.40e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.12e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.95e3
0%
Abs. Int.
2.60e6
1.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.21e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.52e3
0%
Abs. Int.
2.65e6
1.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.48e3
0%
Abs. Int.
5.35e3
2.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6139_18829_DF_002 **Acq'd:** 21 Jan 2022 15:55 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 687-762-DJX

Datafile: 220121C07 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	6.02E+05	0.70	Y	1.18	5.81	5685.348	0.616
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	4077.045	0.467
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	4468.868	0.488
123678-HxCDD	37.96	J	1.0034	1.0035	+0.2	7.17E+04	1.41	Y	1.15	0.773	4468.868	0.465
123789-HxCDD	38.24	J EMPC	1.0109	1.0110	+0.2	1.16E+05	1.58	N	1.05	1.32	4468.868	0.48
1234678-HpCDD	40.87		1.0003	1.0003	0	1.57E+06	1.06	Y	1.06	22.1	4790.833	0.571
OCDD	43.52		1.0002	1.0003	+0.3	2.20E+07	0.91	Y	1.13	445	5797.11	1.28
2378-TCDF	27.80		1.0008	1.0008	0	2.17E+06	0.81	Y	1.08	14.3	5968.218	0.434
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4918.926	0.349
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4918.926	0.346
123478-HxCDF	36.83	J	1.0004	1.0004	0	1.14E+05	1.15	Y	1.27	0.957	3334.186	0.229
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3334.186	0.231
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3334.186	0.272
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3334.186	0.313
1234678-HpCDF	39.94	J EMPC	1.0002	1.0003	+0.2	3.47E+04	0.60	N	1.37	0.277	2903.117	0.17
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2903.117	0.331
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	4227.97	0.74

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62		1.0233	1.0236	+0.5	1.72E+07	0.78	Y	1.05	90.6
ES 12378-PeCDD	33.93		1.2121	1.2134	+2.6	1.67E+07	1.57	Y	0.88	104
ES 123478-HxCDD	37.83		0.9921	0.9921	0	1.49E+07	1.25	Y	0.97	102
ES 123678-HxCDD	37.94		0.9951	0.9951	0	1.59E+07	1.30	Y	0.94	112
ES 123789-HxCDD	38.23		1.0025	1.0027	+0.5	1.65E+07	1.28	Y	1.09	101
ES 1234678-HpCDD	40.85		1.0709	1.0714	+1.2	1.32E+07	1.03	Y	0.91	96.3
ES OCDD	43.51		1.1403	1.1410	+1.8	1.73E+07	0.96	Y	0.62	92.4
ES 2378-TCDF	27.77		1.0506	1.0511	+0.8	2.76E+07	0.82	Y	1.06	85.7
ES 12378-PeCDF	32.49		1.2281	1.2297	+3.1	2.69E+07	1.57	Y	0.91	97.2
ES 23478-PeCDF	33.60		1.2698	1.2715	+3.4	2.57E+07	1.50	Y	0.88	95.8
ES 123478-HxCDF	36.82		0.9657	0.9656	-0.2	1.85E+07	0.54	Y	1.20	103
ES 123678-HxCDF	36.96		0.9695	0.9694	-0.2	2.38E+07	0.55	Y	1.35	117
ES 234678-HxCDF	37.65	QI	0.9874	0.9873	-0.2	1.93E+07	0.56	Y	1.24	103
ES 123789-HxCDF	38.58		1.0116	1.0118	+0.5	1.62E+07	0.54	Y	1.16	93.1
ES 1234678-HpCDF	39.92		1.0467	1.0470	+0.7	1.81E+07	0.47	Y	0.97	124
ES 1234789-HpCDF	41.32		1.0830	1.0836	+1.5	1.17E+07	0.46	Y	0.85	91.5
ES OCDF	43.69		1.1451	1.1458	+1.8	2.24E+07	0.86	Y	0.81	92.2

Lab ID: B6139_18829_DF_002 **Acq'd:** 21 Jan 2022 15:55 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 687-762-DJX

Datafile: 220121C07 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.82E+07	0.82	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.05E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.52E+06	1.38	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	7.85E+06	n/a	-	1.20	89.7	
CS 12347-PeCDD	33.43		1.1943	1.1955	+2.4	1.54E+07	1.67	Y	0.75	112	
CS 12346-PeCDF	31.96		1.2083	1.2096	+2.5	2.61E+07	1.59	Y	0.85	101	
CS 123469-HxCDF	37.28	V	0.9778	0.9777	-0.2	2.20E+07	0.54	Y	1.12	131	
CS 1234689-HpCDF	40.32	V	1.0571	1.0575	+1.0	1.76E+07	0.45	Y	0.89	132	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~7.05E+06~~	~~n/a~~		~~1.15~~	~~99.3~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1955~~	~~+2.4~~	~~1.54E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~107~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.61E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~103~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~2.20E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~112~~	
~~SS 1234689-HpCDF~~	~~40.32~~		~~1.0571~~	~~1.0575~~	~~+1.0~~	~~1.76E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~106~~	

Totals	Conc	EMPC
Total TCDD	8.63	8.63
Total PeCDD	0	2.19
Total HxCDD	20	21.3
Total HpCDD	70.1	70.1
Total Tetra-Octa Dioxins	544	547
Total TCDF	27.4	28.9
Total PeCDF	0	0
Total HxCDF	0.957	0.957
Total HpCDF	0	0.277
Total Tetra-Octa Furans	28.4	30.2
Total Tetra-Octa Dioxins & Furans	572	577

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.694	0.70
Response	6.06E+05	6.02E+05

Lab ID: B6139_18829_DF_002 **Acq'd:** 21 Jan 2022 15:55 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 687-762-DJX

Datafile: 220121C07 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5685.348	0.616
1379-TCDD	NotFnd		0.8876						1.18		5685.348	0.616
1369-TCDD	NotFnd		0.9023						1.18		5685.348	0.616
1469-TCDD	26.58		0.9291	0.9286	-0.8	2.91E+05	0.83	Y	1.18	2.81	5685.348	0.616
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5685.348	0.616
1378-TCDD	NotFnd		0.9440						1.18		5685.348	0.616
1268-TCDD	NotFnd		0.9506						1.18		5685.348	0.616
1478-TCDD	NotFnd		0.9591						1.18		5685.348	0.616
1279-TCDD	NotFnd		0.9649						1.18		5685.348	0.616
1234/1269-TCDD	NotFnd		0.9771						1.18		5685.348	0.616
1236-TCDD	NotFnd		0.9820						1.18		5685.348	0.616
1237/1238-TCDD	NotFnd		0.9908						1.18		5685.348	0.616
1239-TCDD	NotFnd		0.9954						1.18		5685.348	0.616
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	6.02E+05	0.70	Y	**1.18**	**5.81**	**5685.348**	**0.616**
1278-TCDD	NotFnd		1.0121						1.18		5685.348	0.616
1267-TCDD	NotFnd		1.0167						1.18		5685.348	0.616
1289-TCDD	NotFnd		1.0341						1.18		5685.348	0.616
12479/12468-PeCDD	31.45	J EMPC	0.9273	0.9268	-0.9	5.45E+04	1.20	N	1.04	0.621	4077.045	0.467
12469-PeCDD	31.98	J EMPC	0.9430	0.9425	-1.0	1.38E+05	1.23	N	1.04	1.57	4077.045	0.467
12368-PeCDD	NotFnd		0.9592						1.04		4077.045	0.467
12478-PeCDD	NotFnd		0.9647						1.04		4077.045	0.467
12379-PeCDD	NotFnd		0.9676						1.04		4077.045	0.467
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		4077.045	0.467
12346/12347-PeCDD	NotFnd		0.9860						1.04		4077.045	0.467
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**4077.045**	**0.467**
12367-PeCDD	NotFnd		1.0034						1.04		4077.045	0.467
12389-PeCDD	NotFnd		1.0134						1.04		4077.045	0.467
124679/124689-HxCDD	36.09		0.9545	0.9542	-0.6	1.26E+06	1.32	Y	1.10	14.3	4468.868	0.477
123468-HxCDD	NotFnd		0.9715						1.10		4468.868	0.477
123679/123689-HxCDD	37.05		0.9793	0.9793	0	4.30E+05	1.43	Y	1.10	4.91	4468.868	0.477
123469-HxCDD	NotFnd		0.9829						1.10		4468.868	0.477
123478-HxCDD	NotFnd		**1.0004**						1.09		**4468.868**	**0.488**
123678-HxCDD	37.96	J	**1.0034**	**1.0035**	**+0.2**	**7.17E+04**	**1.41**	**Y**	1.15	**0.773**	**4468.868**	**0.465**
123467-HxCDD	NotFnd		1.0082						1.10		4468.868	0.477
123789-HxCDD	38.24	J EMPC	**1.0109**	**1.0110**	**+0.2**	**1.16E+05**	**1.58**	**N**	1.05	**1.32**	**4468.868**	**0.48**

Lab ID: B6139_18829_DF_002 **Acq'd:** 21 Jan 2022 15:55 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19 **UTP:** 24-Jan-2022 11:52:00 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 687-762-DJX

Datafile: 220121C07 **Report:** 24 Jan 2022 11:56 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

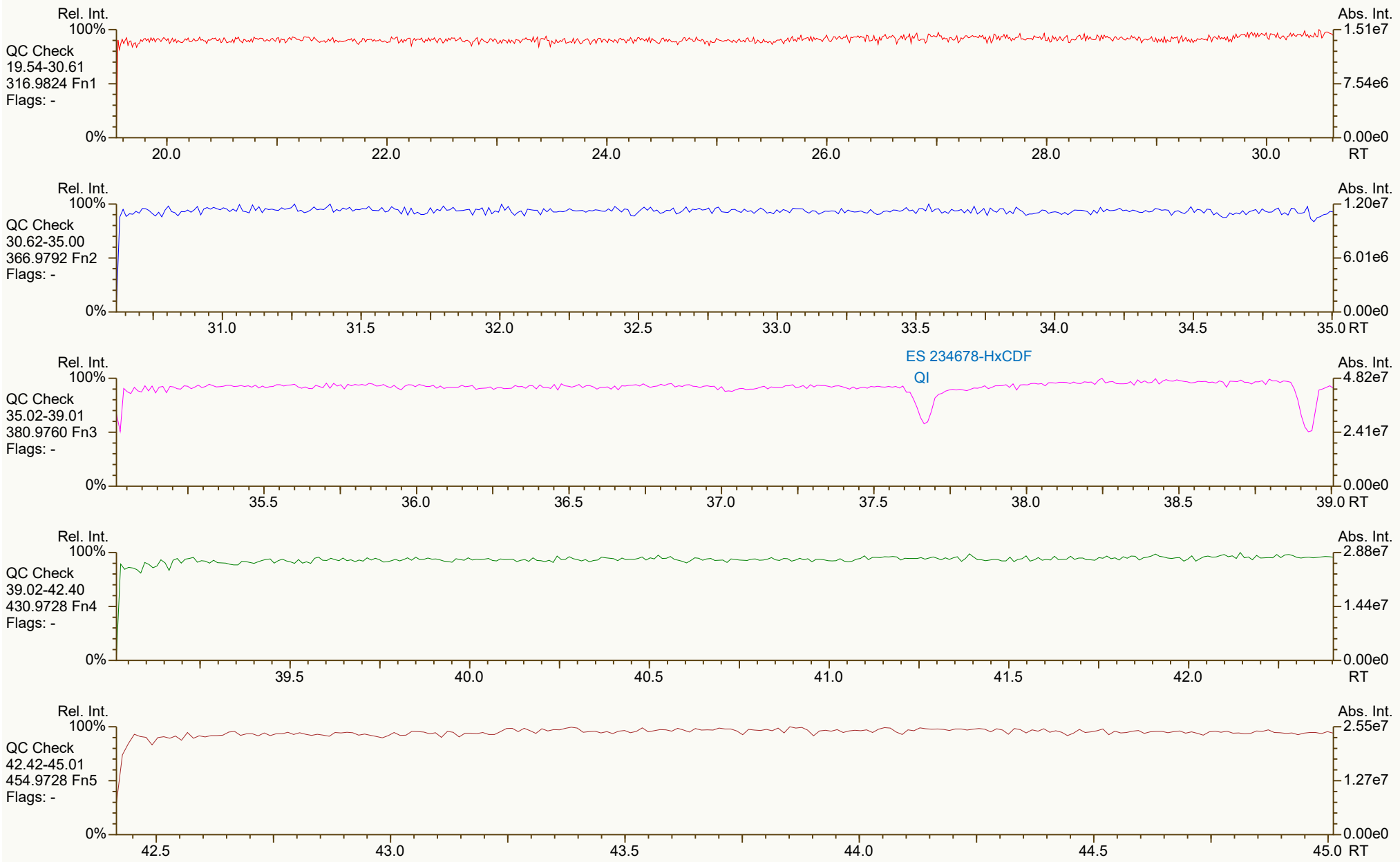
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	3.41E+06	1.05	Y	1.06	48	4790.833	0.571
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**1.57E+06**	**1.06**	**Y**	**1.06**	**22.1**	**4790.833**	**0.571**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**2.20E+07**	**0.91**	**Y**	**1.13**	**445**	**5797.11**	**1.28**
OCDD-a	43.51		1.0002	1.0001	-0.3	1.31E+06	2.62	Y	0.07	415	3971.626	13.7
1368-TCDF	NotFnd		0.8282						1.08		5968.218	0.434
1468-TCDF	NotFnd		0.8485						1.08		5968.218	0.434
2468-TCDF	24.15		0.8709	0.8695	-2.0	1.81E+05	0.68	Y	1.08	1.19	5968.218	0.434
1346/1246-TCDF	NotFnd		0.8829						1.08		5968.218	0.434
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5968.218	0.434
1348-TCDF	NotFnd		0.8980						1.08		5968.218	0.434
1248/1367/1379-TCDF	25.02		0.9026	0.9008	-2.7	1.62E+05	0.74	Y	1.08	1.07	5968.218	0.434
1268-TCDF	NotFnd		0.9158						1.08		5968.218	0.434
1467-TCDF	NotFnd		0.9206						1.08		5968.218	0.434
1478-TCDF	NotFnd		0.9266						1.08		5968.218	0.434
1369/1237-TCDF	NotFnd		0.9397						1.08		5968.218	0.434
2467-TCDF	NotFnd		0.9440						1.08		5968.218	0.434
2368-TCDF	26.39	EMPC	0.9497	0.9501	+0.6	1.27E+05	1.05	N	1.08	0.839	5968.218	0.434
1238/1234/1678/1469/1236-TCDF	26.48	EMPC	0.9528	0.9533	+0.8	1.04E+05	0.93	N	1.08	0.691	5968.218	0.434
1278-TCDF	26.90		0.9690	0.9686	-0.6	1.03E+06	0.78	Y	1.08	6.8	5968.218	0.434
1349-TCDF	NotFnd		0.9730						1.08		5968.218	0.434
1267-TCDF	NotFnd		0.9787						1.08		5968.218	0.434
2346/1249-TCDF	NotFnd		0.9850						1.08		5968.218	0.434
2347/1279-TCDF	NotFnd		0.9929						1.08		5968.218	0.434
2348-TCDF	27.68		0.9970	0.9966	-0.7	1.71E+05	0.80	Y	1.08	1.13	5968.218	0.434
2378-TCDF	**27.80**		**1.0008**	**1.0008**	**0**	**2.17E+06**	**0.81**	**Y**	**1.08**	**14.3**	**5968.218**	**0.434**
2367/3467-TCDF	28.15		1.0136	1.0134	-0.3	2.01E+05	0.81	Y	1.08	1.33	5968.218	0.434
1269-TCDF	NotFnd		1.0221						1.08		5968.218	0.434
1239-TCDF	NotFnd		1.0319						1.08		5968.218	0.434
1289-TCDF	29.79		1.0740	1.0724	-2.9	2.34E+05	0.85	Y	1.08	1.55	5968.218	0.434
13468/12468-PeCDF	NotFnd		0.9145						1.02		4658.989	0.329
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4918.926	0.347
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4918.926	0.347
14678-PeCDF	NotFnd		0.9695						1.02		4918.926	0.347
13479-PeCDF	NotFnd		0.9724						1.02		4918.926	0.347
13469/12479-PeCDF	NotFnd		0.9801						1.02		4918.926	0.347
12346-PeCDF	NotFnd		0.9842						1.02		4918.926	0.347

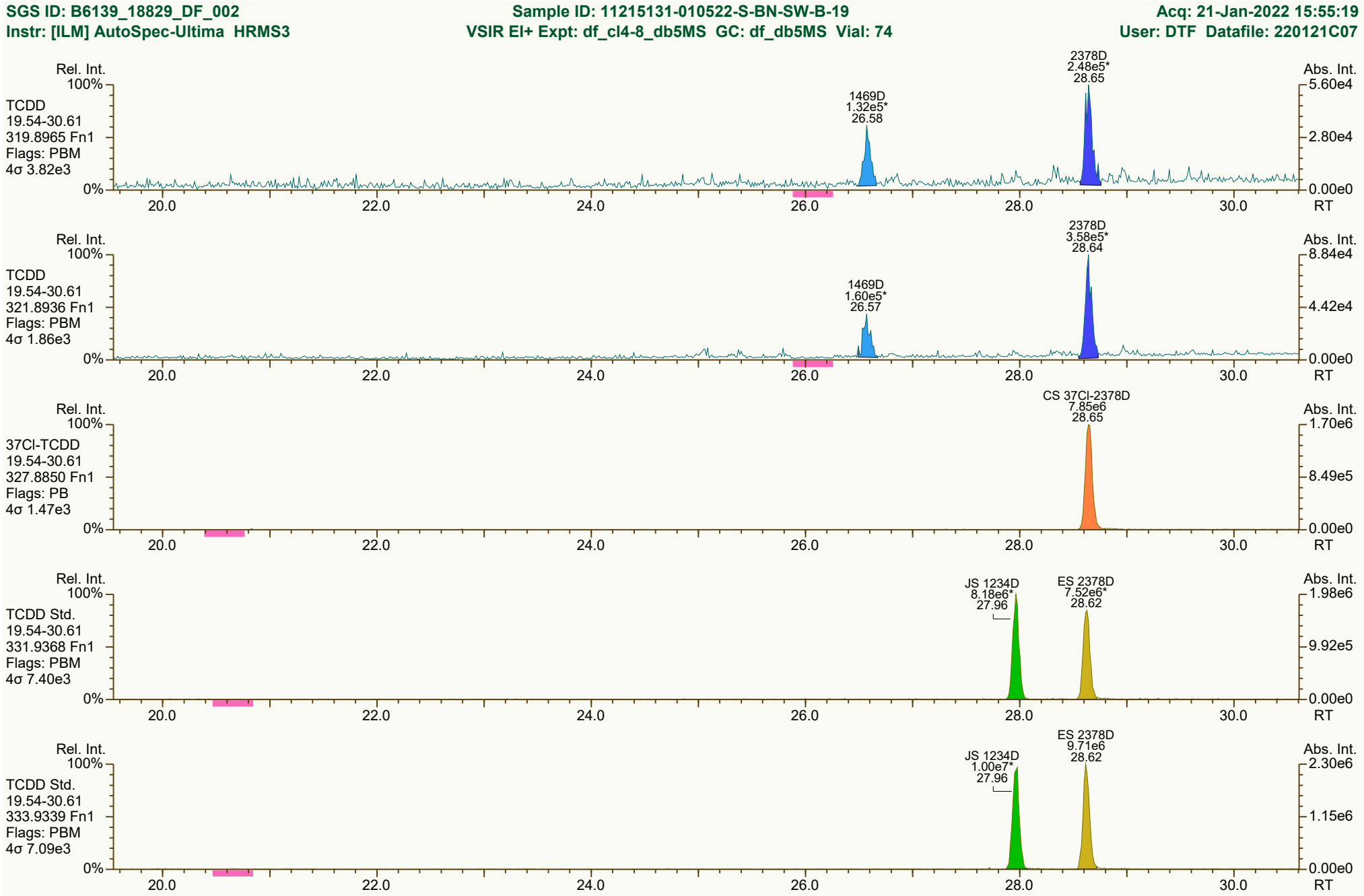
Lab ID: B6139_18829_DF_002 | Acq'd: 21 Jan 2022 15:55 DTF | Wt/Vol: 10.14 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19 | UTP: 24-Jan-2022 11:52:00 MLS | J-level: 0.493 pg/g | Split: 1 | Checkcode: 687-762-DJX

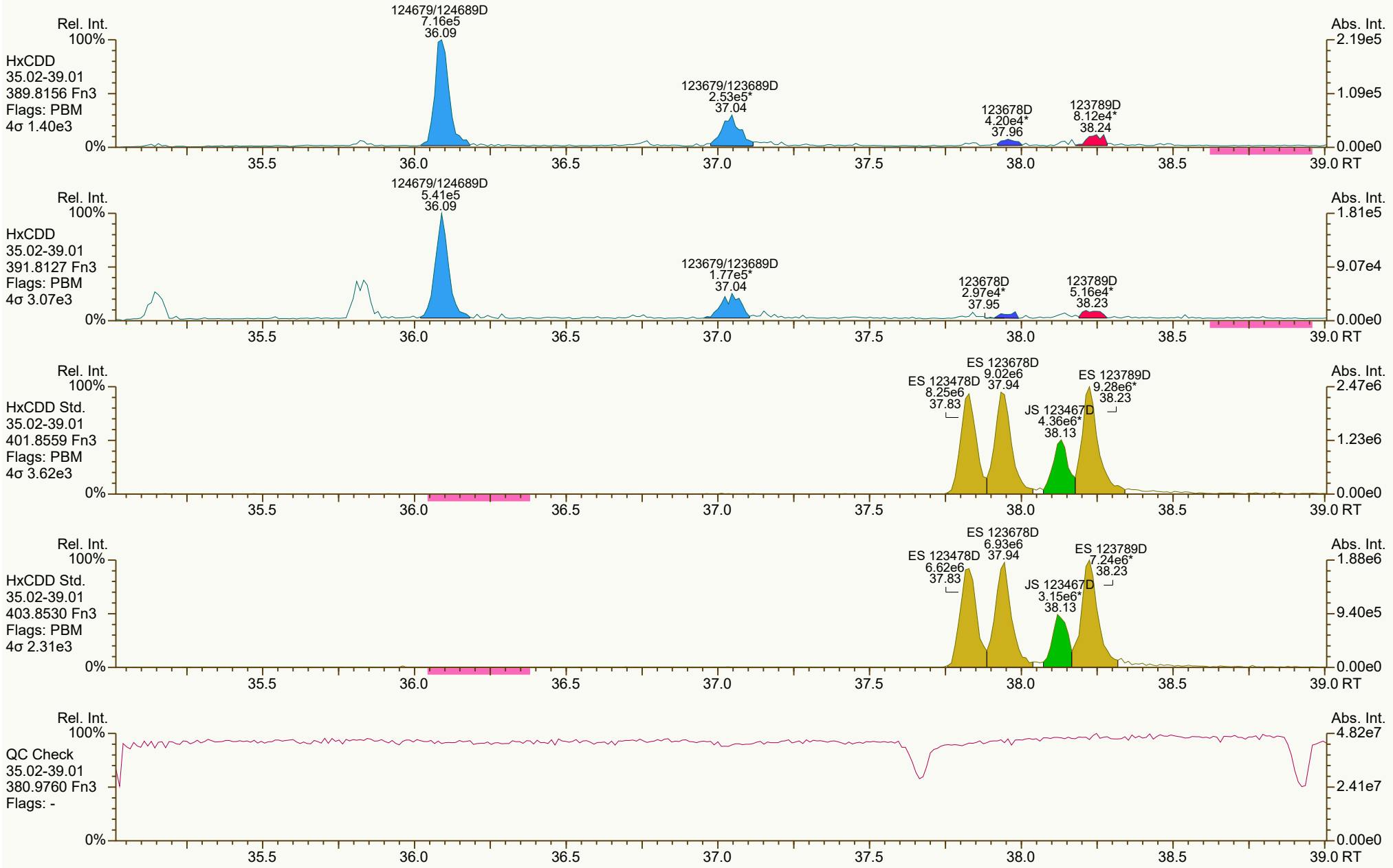
Datafile: 220121C07 | Report: 24 Jan 2022 11:56 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

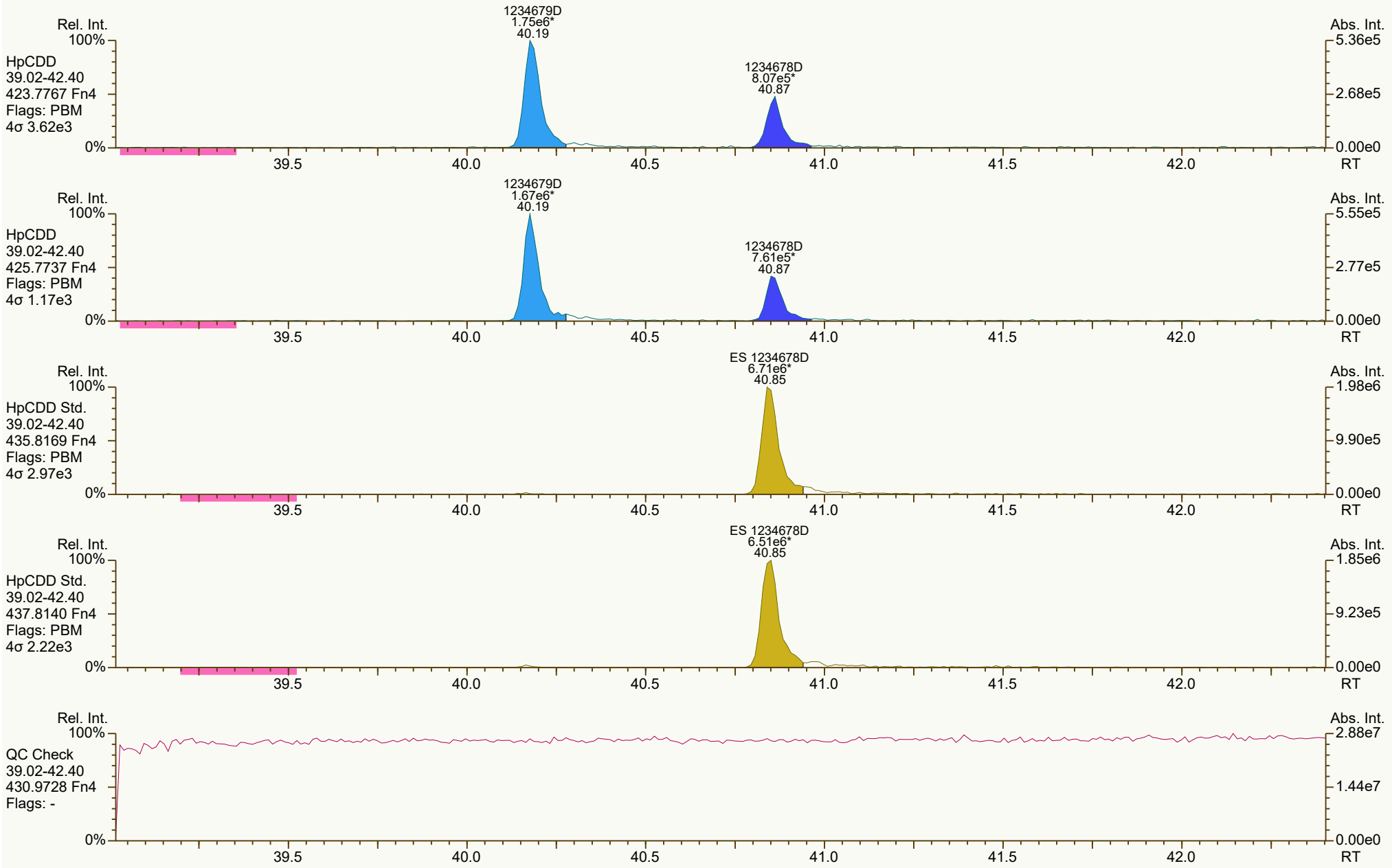
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4918.926	0.347
12347-PeCDF	NotFnd		0.9895						1.02		4918.926	0.347
12348-PeCDF	NotFnd		0.9941						1.02		4918.926	0.347
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4918.926**	**0.349**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4918.926	0.347
12379-PeCDF	NotFnd		1.0142						1.02		4918.926	0.347
12679-PeCDF	NotFnd		0.9931						1.02		4918.926	0.347
23467/12369-PeCDF	NotFnd		0.9966						1.02		4918.926	0.347
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4918.926**	**0.346**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4918.926	0.347
12349-PeCDF	NotFnd		1.0101						1.02		4918.926	0.347
12389-PeCDF	NotFnd		1.0322						1.02		4918.926	0.347
123468-HxCDF	NotFnd		0.9627						1.19		3334.186	0.257
124678/134678-HxCDF	NotFnd		0.9684						1.19		3334.186	0.257
134679-HxCDF	NotFnd		0.9747						1.19		3334.186	0.257
124679-HxCDF	NotFnd		0.9802						1.19		3334.186	0.257
124689-HxCDF	NotFnd		0.9858						1.19		3334.186	0.257
123467-HxCDF	NotFnd		0.9972						1.19		3334.186	0.257
123478-HxCDF	**36.83**	J	**1.0004**	**1.0004**	**0**	**1.14E+05**	**1.15**	**Y**	**1.27**	**0.957**	**3334.186**	**0.229**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3334.186**	**0.231**
123479-HxCDF	NotFnd		1.0051						1.19		3334.186	0.257
123469-HxCDF	NotFnd		1.0091						1.19		3334.186	0.257
123679-HxCDF	NotFnd		0.9943						1.19		3334.186	0.257
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3334.186**	**0.272**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3334.186	0.257
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3334.186**	**0.313**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3334.186	0.257
1234678-HpCDF	**39.94**	**J EMPC**	**1.0002**	**1.0003**	**+0.2**	**3.47E+04**	**0.60**	**N**	**1.37**	**0.277**	**2903.117**	**0.17**
1234679-HpCDF	NotFnd		1.0067						1.34		2903.117	0.233
1234689-HpCDF	NotFnd		1.0101						1.34		2903.117	0.233
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2903.117**	**0.331**
OCDF	**NotFnd**		**1.0002**						**1.07**		**4227.97**	**0.74**
OCDF-a	NotFnd		1.0002						0.07		3944.092	11.1

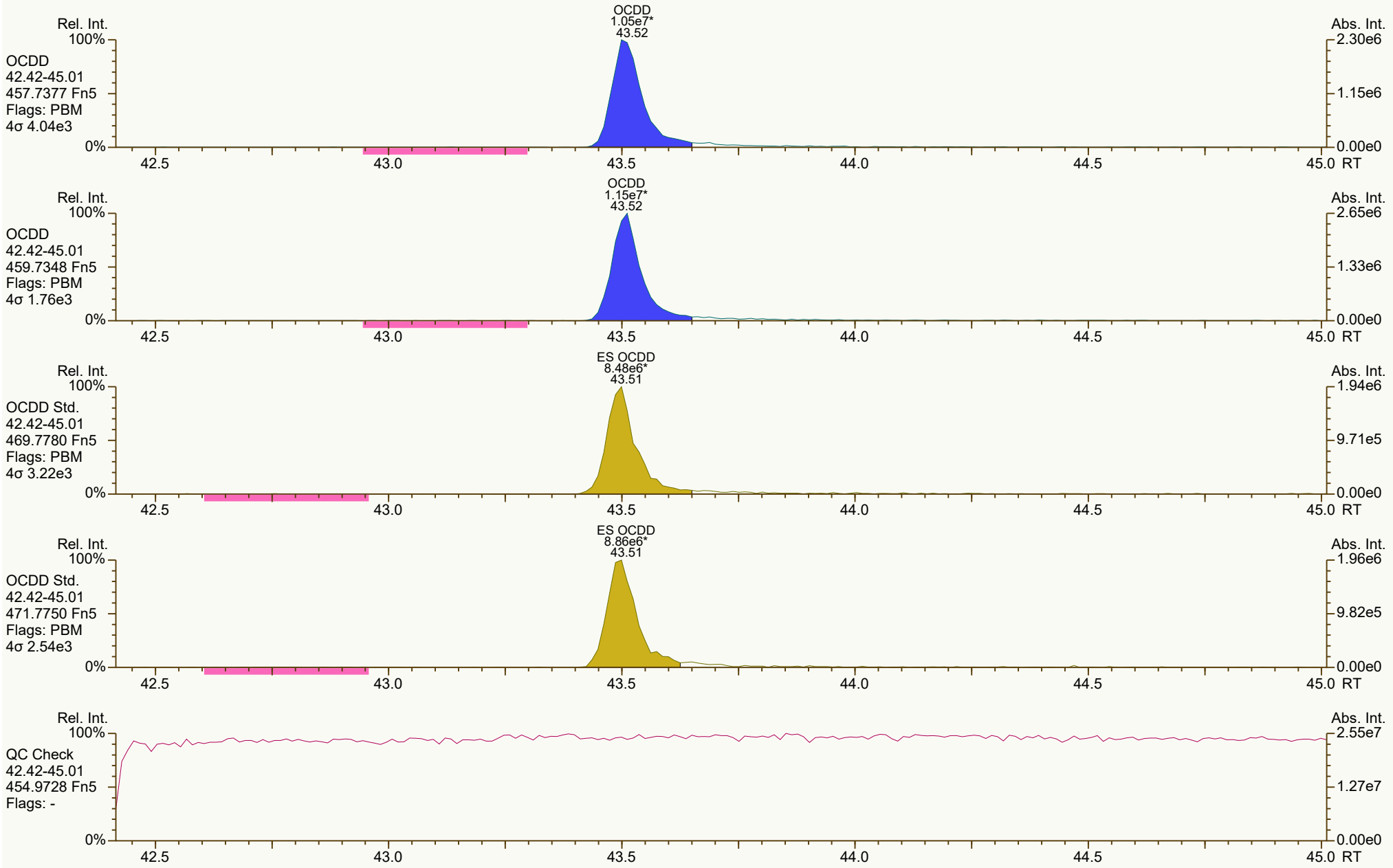

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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.20e7
6.01e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.82e7
2.41e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.88e7
1.44e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.55e7
1.27e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


SGS ID: B6139_18829_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-19
Acq: 21-Jan-2022 15:55:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220121C07
Rel. Int.
Abs. Int.
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.82e3
1469D
1.32e5*
26.58
2378D
2.48e5*
28.65
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.86e3
1469D
1.60e5*
26.57
2378D
3.58e5*
28.64
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.47e3
CS 37Cl-2378D
7.85e6
28.65
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 7.40e3
JS 1234D
8.18e6*
27.96
ES 2378D
7.52e6*
28.62
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 7.09e3
JS 1234D
1.00e7*
27.96
ES 2378D
9.71e6
28.62
RT
Results: P:\B6100_B6199\B6139\B6139_18829 DF\Resources\B6139_18829_DF_002.utp_res, saved 24-Jan-2022 11:52 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 7507, 1706, 8866 scc: 687-762
PKD: 24-Jan-2022 11:48 Printed: 24-Jan-2022 12:07 Page 2 of 12

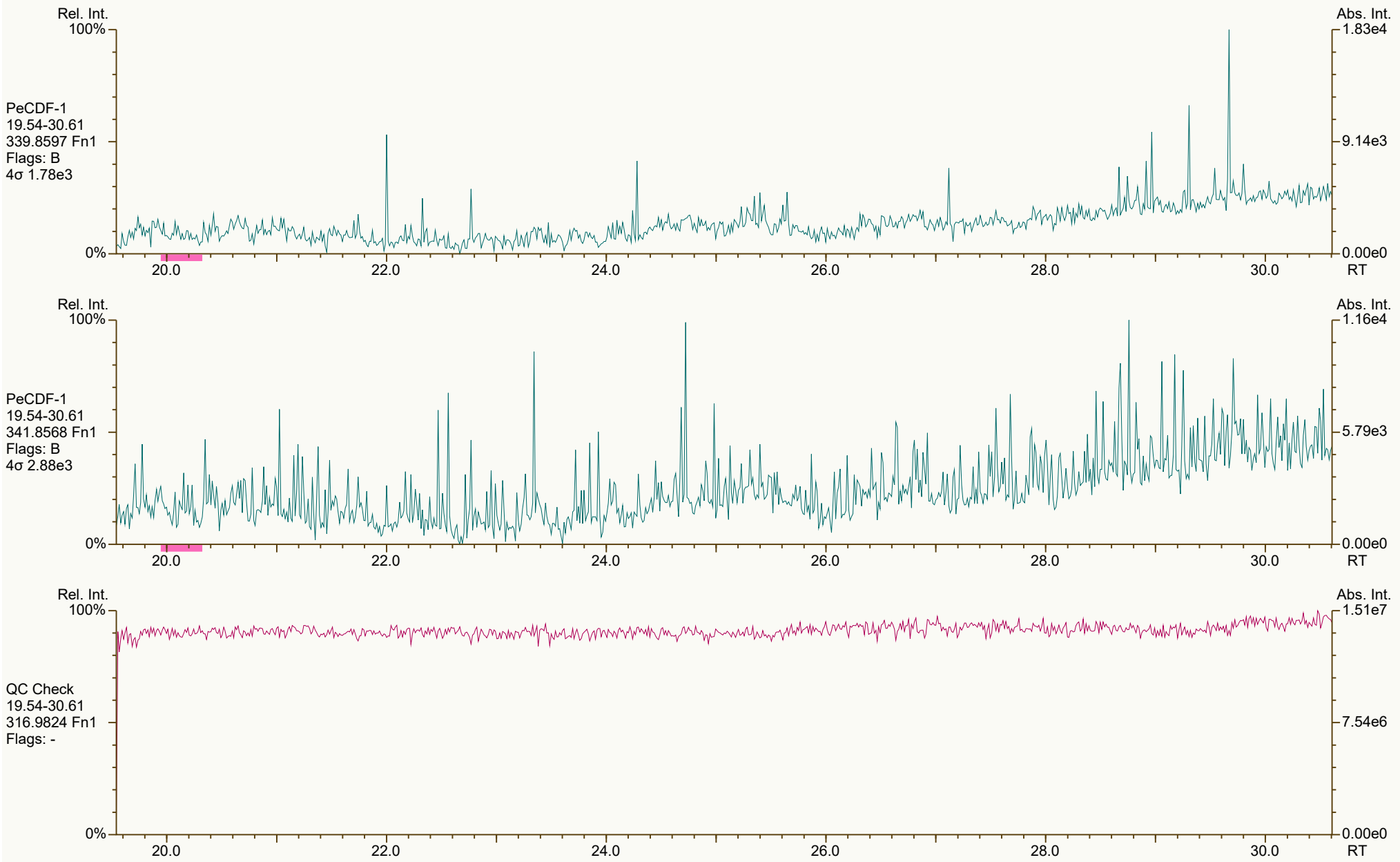

Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.32e3
12479/12468D
3.31e4*
31.45
12469D
8.38e4*
31.98
Abs. Int.
2.15e4
1.07e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.76e3
12479/12468D
2.77e4*
31.45
12469D
6.84e4*
31.99
Abs. Int.
2.40e4
1.20e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 4.65e3
CS 12347D
9.61e6*
33.43
ES 12378D
1.02e7*
33.93
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 1.97e3
CS 12347D
5.76e6*
33.43
ES 12378D
6.49e6*
33.93
Abs. Int.
1.67e6
8.34e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
1.20e7
6.01e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.40e3
124679/124689D
7.16e5
36.09
123679/123689D
2.53e5*
37.04
123678D
4.20e4*
37.96
123789D
8.12e4*
38.24
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.07e3
124679/124689D
5.41e5
36.09
123679/123689D
1.77e5*
37.04
123678D
2.97e4*
37.95
123789D
5.16e4*
38.23
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.62e3
ES 123678D
9.02e6
37.94
ES 123478D
8.25e6
37.83
JS 123467D
4.36e6*
38.13
ES 123789D
9.28e6*
38.23
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.31e3
ES 123678D
6.93e6
37.94
ES 123478D
6.62e6
37.83
JS 123467D
3.15e6*
38.13
ES 123789D
7.24e6*
38.23
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

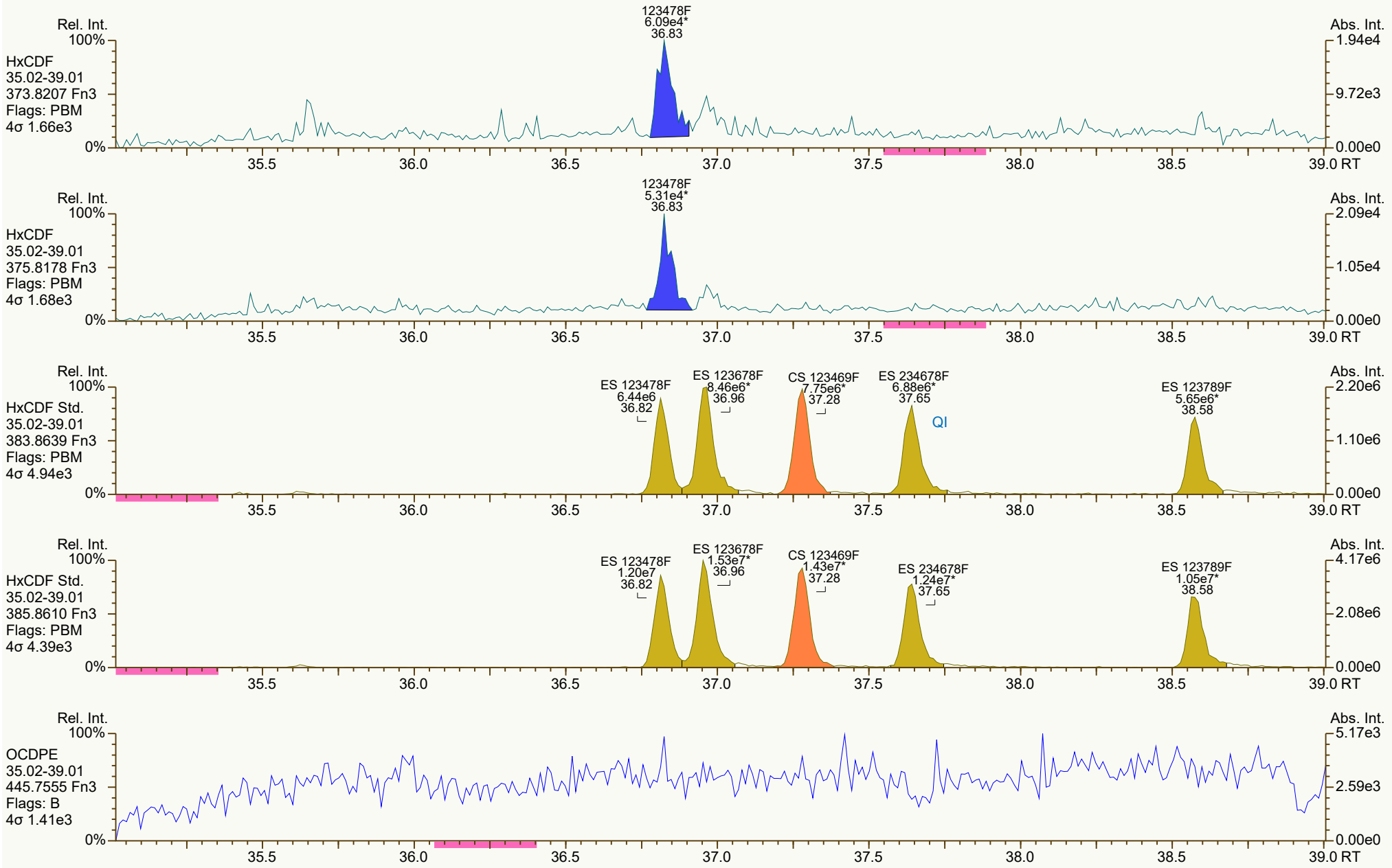

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 3.62e3
1234679D
1.75e6*
40.19
1234678D
8.07e5*
40.87
Abs. Int.
5.36e5
2.68e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.17e3
1234679D
1.67e6*
40.19
1234678D
7.61e5*
40.87
Abs. Int.
5.55e5
2.77e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678D
6.71e6*
40.85
Abs. Int.
1.98e6
9.90e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.22e3
ES 1234678D
6.51e6*
40.85
Abs. Int.
1.85e6
9.23e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.88e7
1.44e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.05e7*
43.52
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 4.04e3
OCDD
1.15e7*
43.52
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.76e3
ES OCDD
8.48e6*
43.51
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 3.22e3
ES OCDD
8.86e6*
43.51
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.54e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
RT

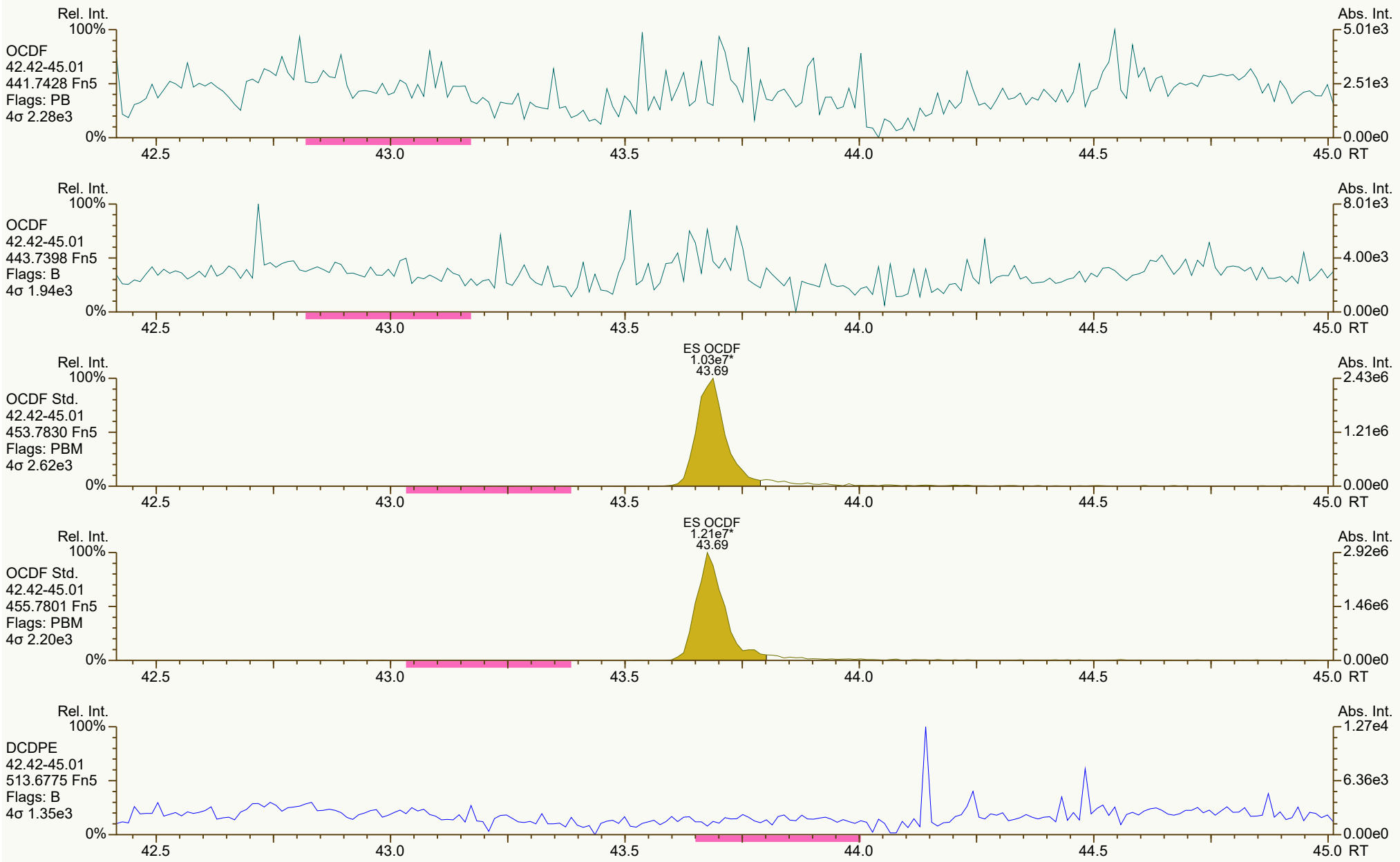

Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.34e3
2468F 7.32e4* 24.15
1248F...[3] 6.86e4 25.02
2368F 7.54e4* 26.39
1278F 4.49e5* 26.90
2378F 9.72e5* 27.80
2348F 7.63e4* 27.68
2367/3467F 8.97e4* 28.15
1289F 1.08e5* 29.79
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.62e3
2468F 1.07e5 24.15
1248F...[3] 9.32e4* 25.03
2368F 7.16e4* 26.38
1238F...[5] 5.90e4* 26.46
1278F 5.78e5* 26.90
2378F 1.20e6* 27.79
2348F 9.49e4* 27.68
2367/3467F 1.11e5* 28.15
1289F 1.26e5* 29.78
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 9.10e3
JS 1234F 1.34e7 26.42
ES 2378F 1.24e7 27.77
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 6.38e3
JS 1234F 1.71e7 26.42
ES 2378F 1.52e7 27.77
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.57e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.83e4
9.14e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.78e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.16e4
5.79e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.88e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.51e7
7.54e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 1.81e3
0%
Abs. Int.
1.57e4
7.86e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 3.11e3
0%
Abs. Int.
1.49e4
7.44e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 2.75e3
0%
CS 12346F
1.60e7*
31.96
ES 12378F
1.65e7
32.49
ES 23478F
1.54e7*
33.60
Abs. Int.
4.15e6
2.07e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 3.76e3
0%
CS 12346F
1.01e7*
31.96
ES 12378F
1.05e7
32.49
ES 23478F
1.03e7*
33.60
Abs. Int.
2.74e6
1.37e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 1.66e3
123478F
6.09e4*
36.83
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.68e3
123478F
5.31e4*
36.83
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.94e3
ES 123478F
6.44e6
36.82
ES 123678F
8.46e6*
36.96
CS 123469F
7.75e6*
37.28
ES 234678F
6.88e6*
37.65
QI
ES 123789F
5.65e6*
38.58
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.39e3
ES 123478F
1.20e7
36.82
ES 123678F
1.53e7*
36.96
CS 123469F
1.43e7*
37.28
ES 234678F
1.24e7*
37.65
ES 123789F
1.05e7*
38.58
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.41e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.69e3
1234678F
1.77e4*
39.94
Abs. Int.
9.17e3
4.58e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.21e3
1234678F
2.95e4*
39.93
Abs. Int.
1.47e4
7.35e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
5.81e6*
39.92
CS 1234689F
5.45e6*
40.32
ES 1234789F
3.70e6*
41.32
Abs. Int.
1.97e6
9.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.02e3
ES 1234678F
1.23e7*
39.92
CS 1234689F
1.22e7*
40.32
ES 1234789F
8.01e6*
41.31
Abs. Int.
3.98e6
1.99e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.46e3
RT
Abs. Int.
5.71e4
2.85e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.28e3
0%
Abs. Int.
5.01e3
2.51e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.94e3
0%
Abs. Int.
8.01e3
4.00e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.03e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
2.43e6
1.21e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.21e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.20e3
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Megan_Shannahan , 1/24/2022, 12:13:09 PM

SGS Environmental Services — Run Log **Project: B6139_18829_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

APPROVED
Carla_Lyon , 1/25/2022, 12:58:52 PM

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220121C01	3	CS3_220121_DF_CA	1.00	SIL 25-347-1	DTF, MLS	341-966	21-Jan-2022	10:39:28
2	220121C02	71	OPR1_18829_DF	1.00	0_18829_OPR001	DTF, MLS	507-844	21-Jan-2022	12:03:47
3	220121C03	72	OPR2_18829_DF	1.00	0_18829_OPR002	DTF, MLS	338-214	21-Jan-2022	12:50:06
4	220121C04	2	SBS_220121_DF_CA	1.00	20-61-1	DTF	458-089	21-Jan-2022	13:36:24
5	220121C05	70	MB1_18829_DF_SDS	10.00	Method Blank	DTF, MLS	970-966	21-Jan-2022	14:22:43
6	220121C06	73	B6139_18829_DF_001	10.11	11215131-010522-S-BN-SW-O-17	DTF, MLS	068-614	21-Jan-2022	15:09:02
7	220121C07	74	B6139_18829_DF_002	10.14	11215131-010522-S-BN-SW-B-19	DTF, MLS	687-762	21-Jan-2022	15:55:19

Dioxin/Furan QC Summary	Acq'd: 21 Jan 2022 10:39 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220121_DF_CA	UTP: 24-Jan-2022 11:51:58 MLS	Checkcode: 341-966-GBL
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 11:52 MS	Datafile: 220121C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.67	2.03E+06	0.81	Y	1.18	1.09	-8%
12378-PeCDD	33.97	8.10E+06	1.57	Y	1.04	1.01	-2%
123478-HxCDD	37.85	6.79E+06	1.24	Y	1.09	1.02	-7%
123678-HxCDD	37.96	8.26E+06	1.23	Y	1.15	1.11	-4%
123789-HxCDD	38.26	7.93E+06	1.26	Y	1.05	0.96	-9%
1234678-HpCDD	40.87	6.44E+06	1.04	Y	1.06	1.01	-5%
OCDD	43.52	9.68E+06	0.94	Y	1.13	1.13	0%
2378-TCDF	27.81	3.06E+06	0.80	Y	1.08	1.06	-2%
12378-PeCDF	32.53	1.29E+07	1.59	Y	1.02	1.02	0%
23478-PeCDF	33.63	1.30E+07	1.55	Y	1.02	1.05	3%
123478-HxCDF	36.85	1.13E+07	1.26	Y	1.27	1.26	-1%
123678-HxCDF	37.00	1.34E+07	1.26	Y	1.15	1.13	-2%
234678-HxCDF	37.68	1.24E+07	1.24	Y	1.19	1.18	0%
123789-HxCDF	38.62	9.95E+06	1.22	Y	1.16	1.21	4%
1234678-HpCDF	39.95	1.11E+07	1.06	Y	1.37	1.40	2%
1234789-HpCDF	41.34	8.71E+06	1.03	Y	1.31	1.40	7%
OCDF	43.71	1.46E+07	0.93	Y	1.07	1.07	0%
ES 2378-TCDD	28.64	1.87E+07	0.80	Y	1.05	1.04	0%
ES 12378-PeCDD	33.946	1.60E+07	1.62	Y	0.88	0.89	1%
ES 123478-HxCDD	37.839	1.33E+07	1.27	Y	0.97	0.97	0%
ES 123678-HxCDD	37.952	1.49E+07	1.26	Y	0.94	1.09	15%
ES 123789-HxCDD	38.247	1.66E+07	1.21	Y	1.09	1.21	10%
ES 1234678-HpCDD	40.86	1.28E+07	1.08	Y	0.91	0.93	2%
ES OCDD	43.509	1.72E+07	0.94	Y	0.62	0.62	0%
ES 2378-TCDF	27.791	2.89E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	32.51	2.51E+07	1.58	Y	0.91	0.90	-1%
ES 23478-PeCDF	33.613	2.49E+07	1.52	Y	0.88	0.89	1%
ES 123478-HxCDF	36.83	1.79E+07	0.52	Y	1.20	1.30	8%
ES 123678-HxCDF	36.978	2.37E+07	0.55	Y	1.35	1.72	27%
ES 234678-HxCDF	37.659	2.09E+07	0.55	Y	1.24	1.52	22%
ES 123789-HxCDF	38.6	1.64E+07	0.54	Y	1.16	1.19	3%
ES 1234678-HpCDF	39.938	1.59E+07	0.45	Y	0.97	1.16	20%
ES 1234789-HpCDF	41.321	1.24E+07	0.44	Y	0.85	0.90	6%
ES OCDF	43.697	2.72E+07	0.88	Y	0.81	0.99	23%

Dioxin/Furan QC Summary	Acq'd: 21 Jan 2022 10:39 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220121_DF_CA	UTP: 24-Jan-2022 11:51:58 MLS	Checkcode: 341-966-GBL
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 11:52 MS	Datafile: 220121C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.98	1.79E+07	0.80	Y	-	-	-
JS 1234-TCDF	26.44	2.79E+07	0.82	Y	-	-	-
JS 123467-HxCDD	38.13	6.88E+06	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.67	2.39E+06	n/a	-	1.20	1.33	11%
CS 12347-PeCDD	33.45	1.43E+07	1.57	Y	0.75	0.80	6%
CS 12346-PeCDF	31.98	2.37E+07	1.62	Y	0.85	0.85	0%
CS 123469-HxCDF	37.29	2.05E+07	0.55	Y	1.12	1.49	33% **
CS 1234689-HpCDF	40.33	1.68E+07	0.44	Y	0.89	1.22	38% **
~~SS 37Cl-2378-TCDD~~	~~28.67~~	~~2.39E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.28~~	~~11%~~
~~SS 12347-PeCDD~~	~~33.45~~	~~1.43E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~0.90~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.98~~	~~2.37E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~0.94~~	~~1%~~
~~SS 123469-HxCDF~~	~~37.29~~	~~2.05E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.86~~	~~4%~~
~~SS 1234689-HpCDF~~	~~40.33~~	~~1.68E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~1.06~~	~~15%~~
Not used in this project.						** No criteria specified in M1613B	
CL 25Jan22						CL 25Jan22	
~~OCDD a~~	~~43.52~~	~~5.66E+05~~	~~2.90~~	~~N~~	~~0.07~~	~~0.07~~	~~-9%~~
~~OCDF a~~	~~43.70~~	~~9.22E+05~~	~~2.26~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220121C01 Analysis Date: 21-JAN-2022 10:39:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	9.18	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	49	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.7	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	45.6	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	47.5	43 - 58	Y
OCDD	M+2/M+4	0.94	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	9.79	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	50	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	51.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.1	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.8	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	52	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	51	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	53.7	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	99.7	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 24 Jan 2022 11:52 Analyst: MS

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

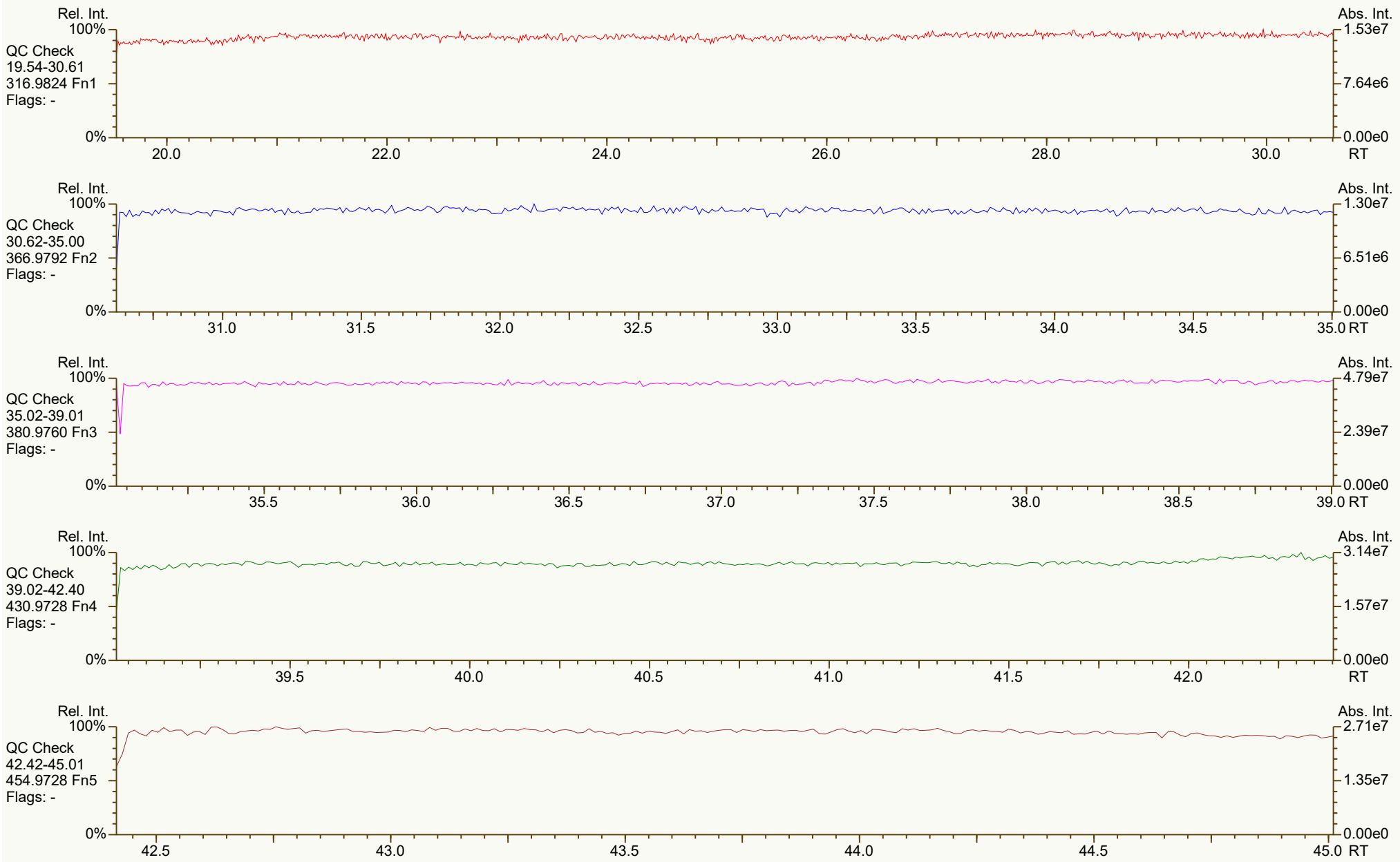
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220121C01 Analysis Date: 21-JAN-2022 10:39:28

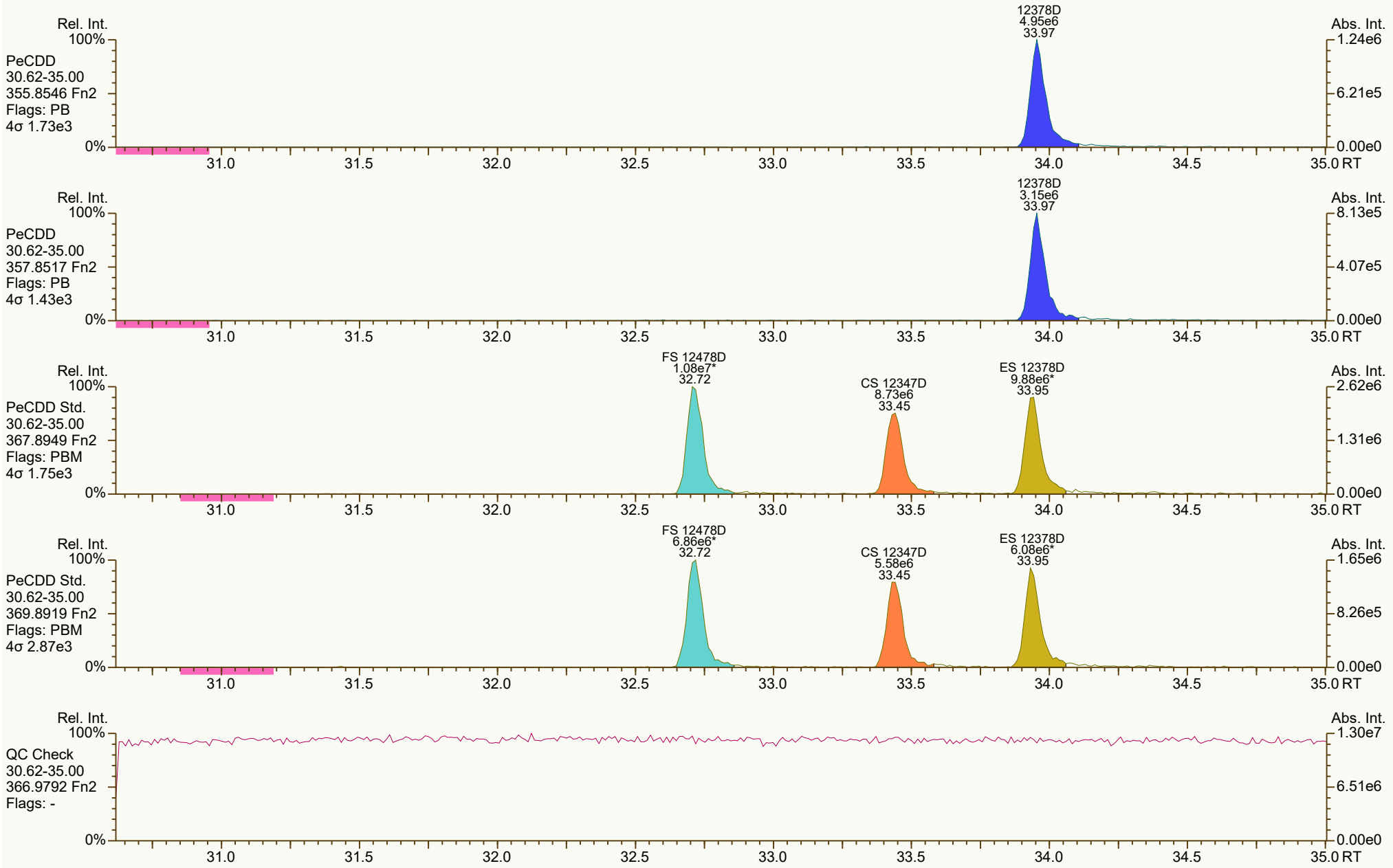
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.7	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	101	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	99.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	115	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05	-	1.43	Y	110	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88	-	1.20	Y	102	72	-	138	Y
13C-OCDD	M+2/M+4	0.94	0.76	-	1.02	Y	200	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	97.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	98.9	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	101	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	108	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	127	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	122	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	120	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	106	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	245	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.1	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	106	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	99.7	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	133 *	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	138 *	70	-	130	N

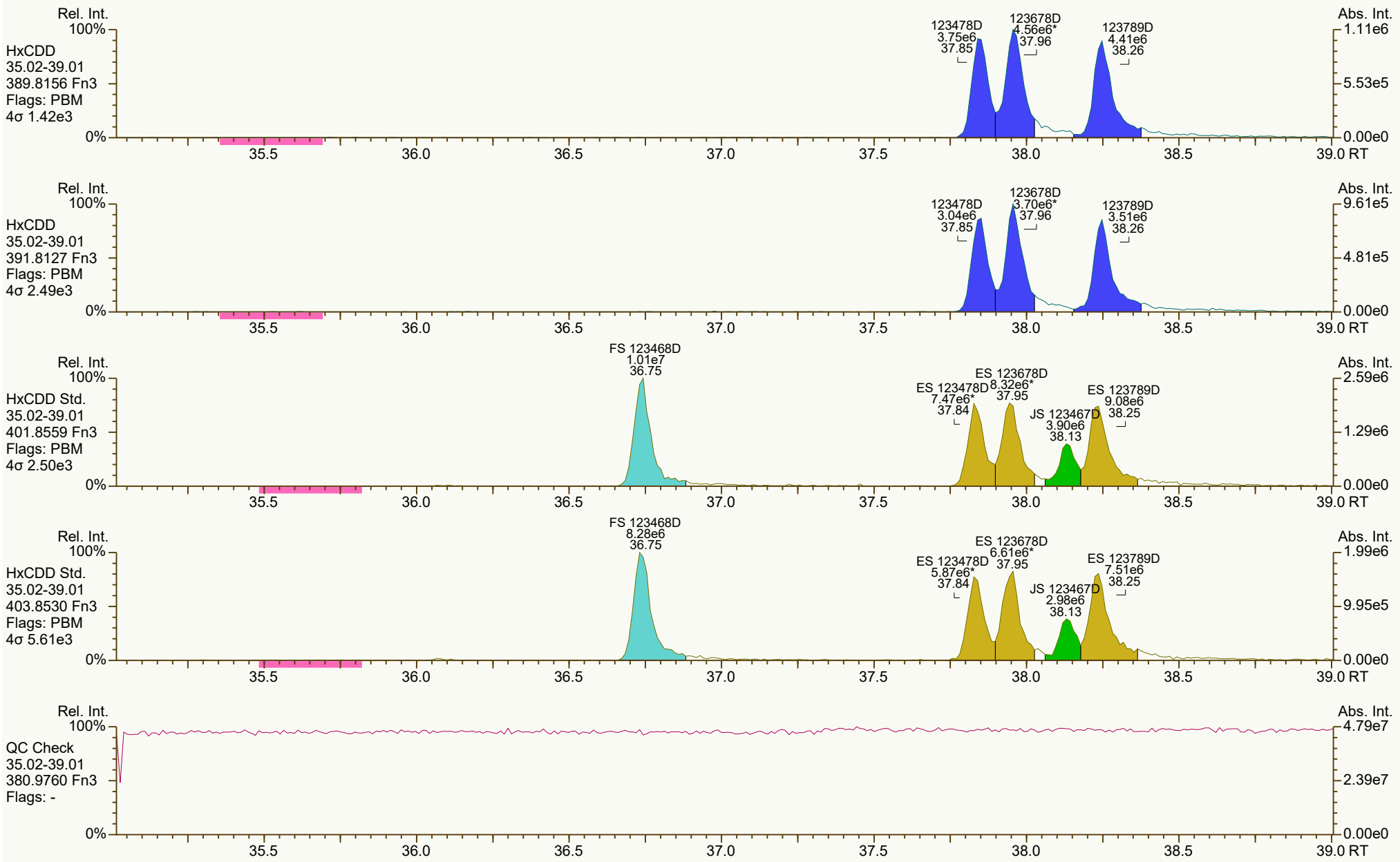
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CL 25Jan22

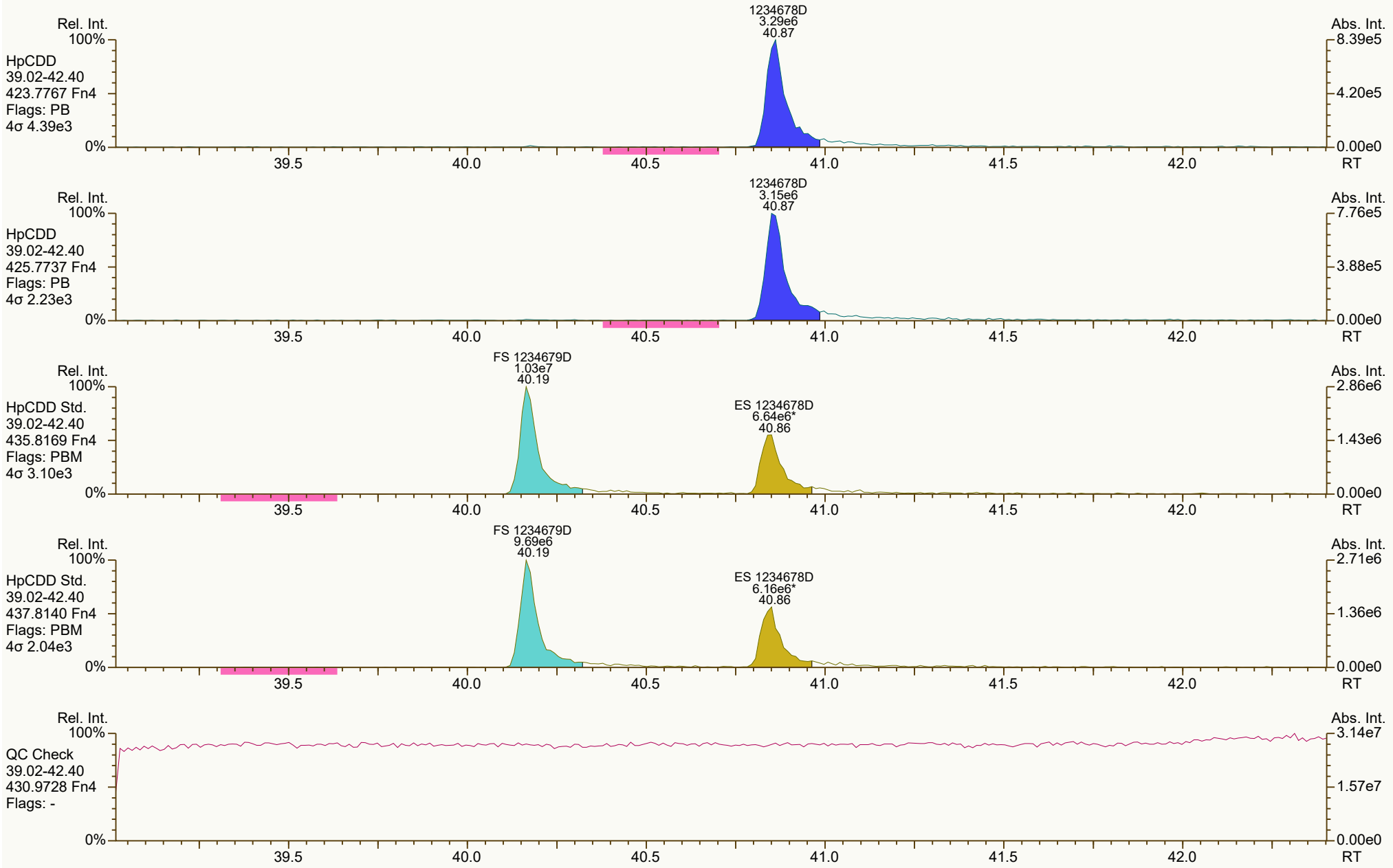
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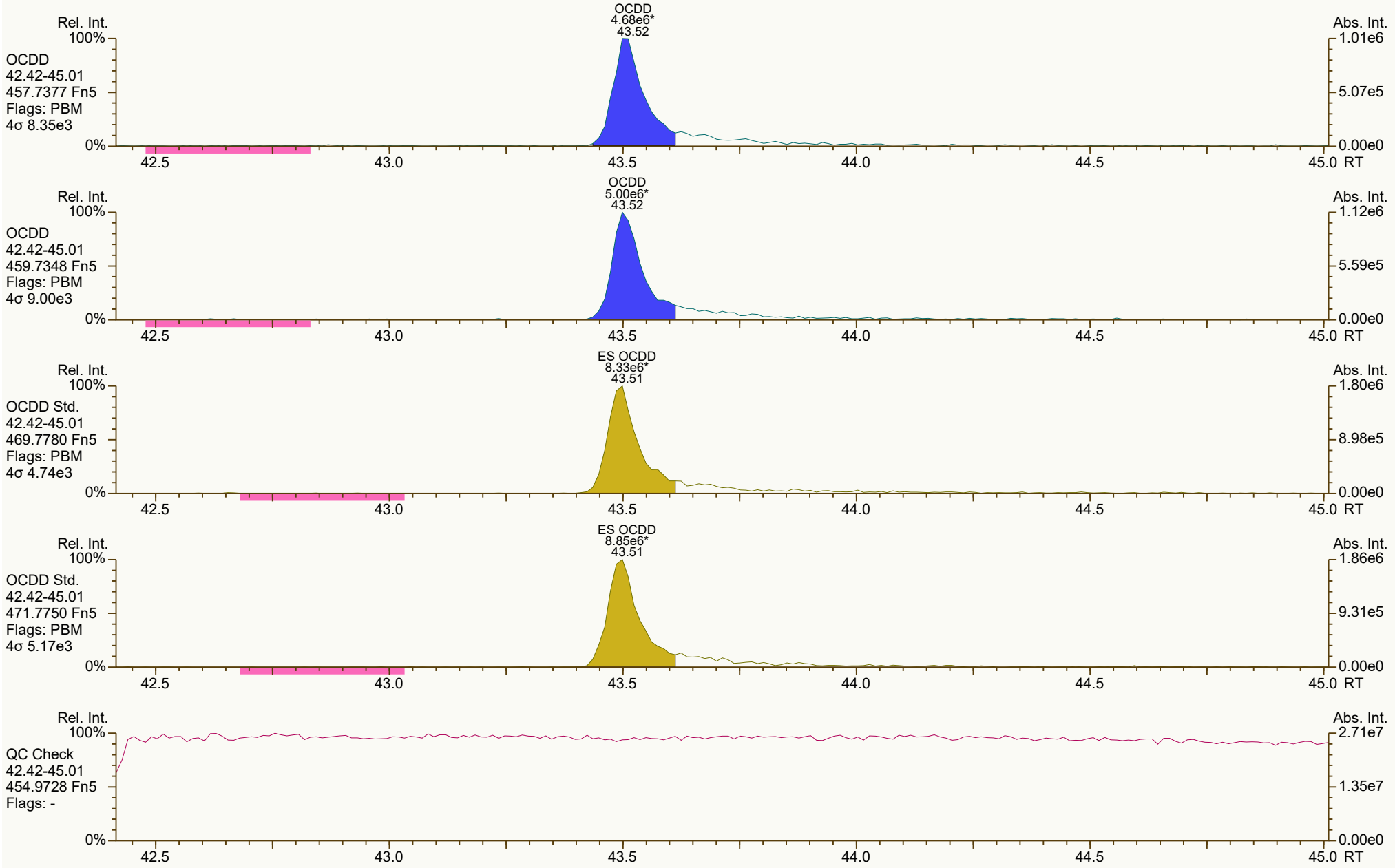

Rel. Int.
100%
0%
Abs. Int.
1.53e7
7.64e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.30e7
6.51e6
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.79e7
2.39e7
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.14e7
1.57e7
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.33e3
0%
2378D
9.10e5
28.67
Abs. Int.
1.90e5
9.51e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 1.82e3
RRF(2378D) = (9.10e5 + 1.12e6) * 100 pg/uL / (8.31e6 + 1.04e7) * 10pg/uL = 1.08
MLS 24-Jan-2022 11:59
VERIFIED
2378D
1.12e6
28.66
Abs. Int.
2.50e5
1.25e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
2.39e6
28.67
Abs. Int.
5.68e5
2.84e5
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.17e3
AS 1368D
8.86e6
25.02
TS 1378D
1.25e7
27.00
JS 1234D
7.98e6
27.98
ES 2378D
8.31e6
28.64
FS 1278D
8.95e6
28.96
Abs. Int.
2.65e6
1.32e6
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.61e3
AS 1368D
1.12e7
25.02
TS 1378D
1.56e7
27.00
JS 1234D
9.94e6
27.98
ES 2378D
1.04e7
28.64
FS 1278D
1.13e7
28.96
Abs. Int.
3.43e6
1.71e6
0.00e0


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.73e3
0%
12378D
4.95e6
33.97
Abs. Int.
1.24e6
6.21e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.43e3
0%
12378D
3.15e6
33.97
Abs. Int.
8.13e5
4.07e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 1.75e3
0%
FS 12478D
1.08e7*
32.72
CS 12347D
8.73e6
33.45
ES 12378D
9.88e6*
33.95
Abs. Int.
2.62e6
1.31e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 2.87e3
0%
FS 12478D
6.86e6*
32.72
CS 12347D
5.58e6
33.45
ES 12378D
6.08e6*
33.95
Abs. Int.
1.65e6
8.26e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.30e7
6.51e6
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32.0
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34.0
34.5
35.0 RT

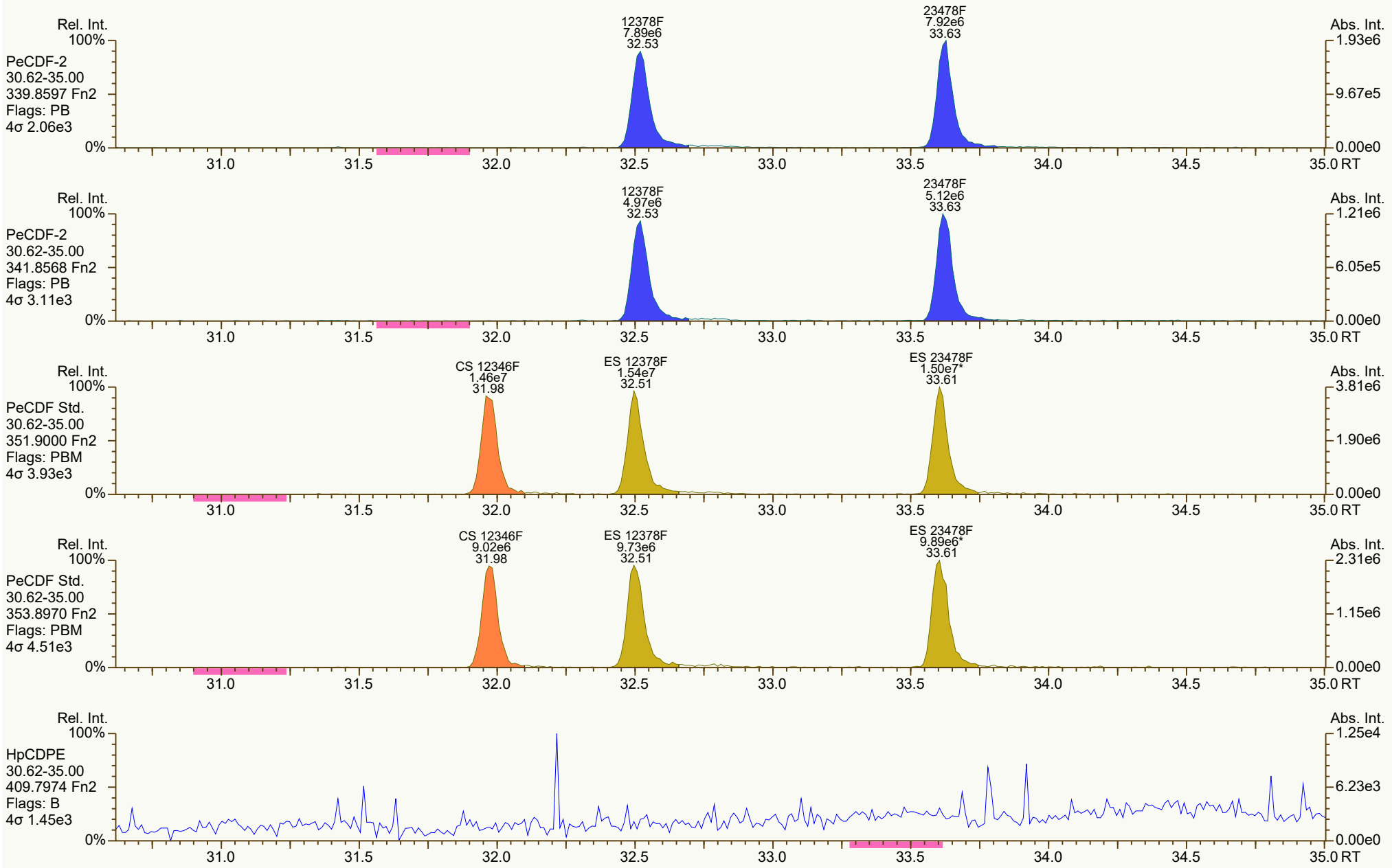

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.42e3
123478D 3.75e6 37.85
123678D 4.56e6* 37.96
123789D 4.41e6 38.26
1.11e6
5.53e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.49e3
123478D 3.04e6 37.85
123678D 3.70e6* 37.96
123789D 3.51e6 38.26
9.61e5
4.81e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.50e3
FS 123468D 1.01e7 36.75
ES 123478D 7.47e6* 37.84
ES 123678D 8.32e6* 37.95
JS 123467D 3.90e6 38.13
ES 123789D 9.08e6 38.25
2.59e6
1.29e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 5.61e3
FS 123468D 8.28e6 36.75
ES 123478D 5.87e6* 37.84
ES 123678D 6.61e6* 37.95
JS 123467D 2.98e6 38.13
ES 123789D 7.51e6 38.25
1.99e6
9.95e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.79e7
2.39e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

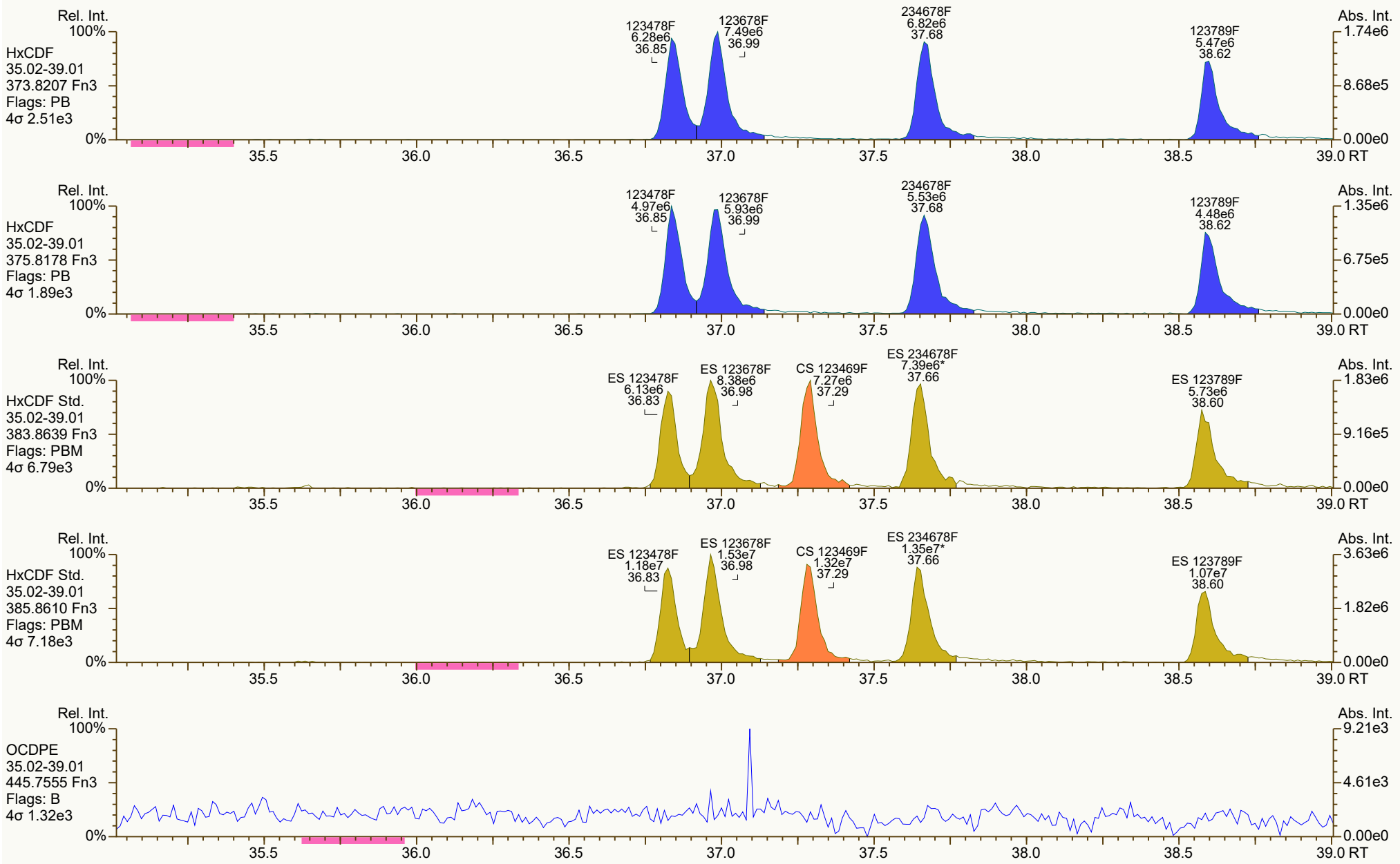

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 4.39e3
1234678D
3.29e6
40.87
Abs. Int.
8.39e5
4.20e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.23e3
1234678D
3.15e6
40.87
Abs. Int.
7.76e5
3.88e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.10e3
FS 1234679D
1.03e7
40.19
ES 1234678D
6.64e6*
40.86
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.04e3
FS 1234679D
9.69e6
40.19
ES 1234678D
6.16e6*
40.86
Abs. Int.
2.71e6
1.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.14e7
1.57e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

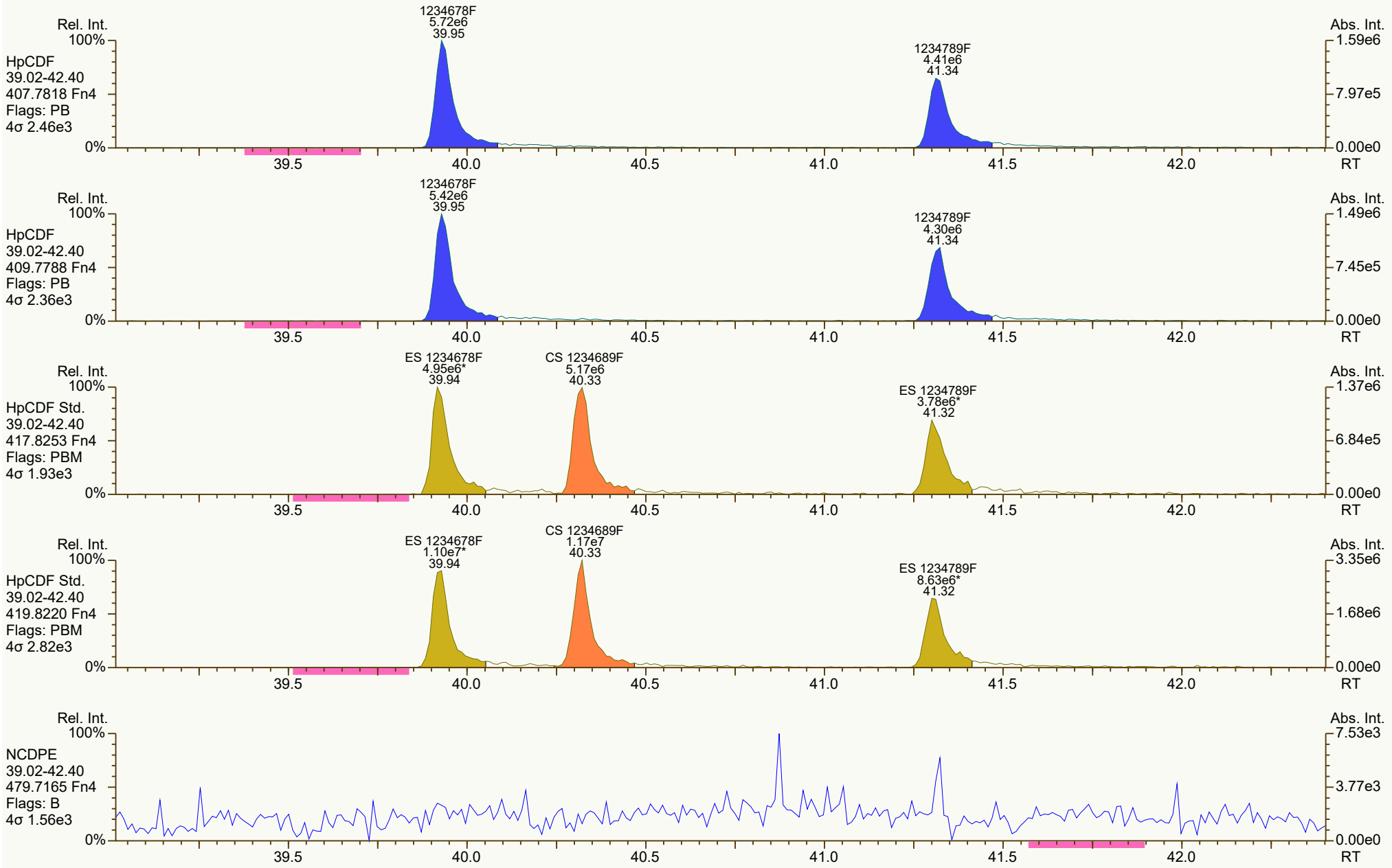

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 8.35e3
0%
OCDD
4.68e6*
43.52
Abs. Int.
1.01e6
5.07e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 9.00e3
0%
OCDD
5.00e6*
43.52
Abs. Int.
1.12e6
5.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 4.74e3
0%
ES OCDD
8.33e6*
43.51
Abs. Int.
1.80e6
8.98e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 5.17e3
0%
ES OCDD
8.85e6*
43.51
Abs. Int.
1.86e6
9.31e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

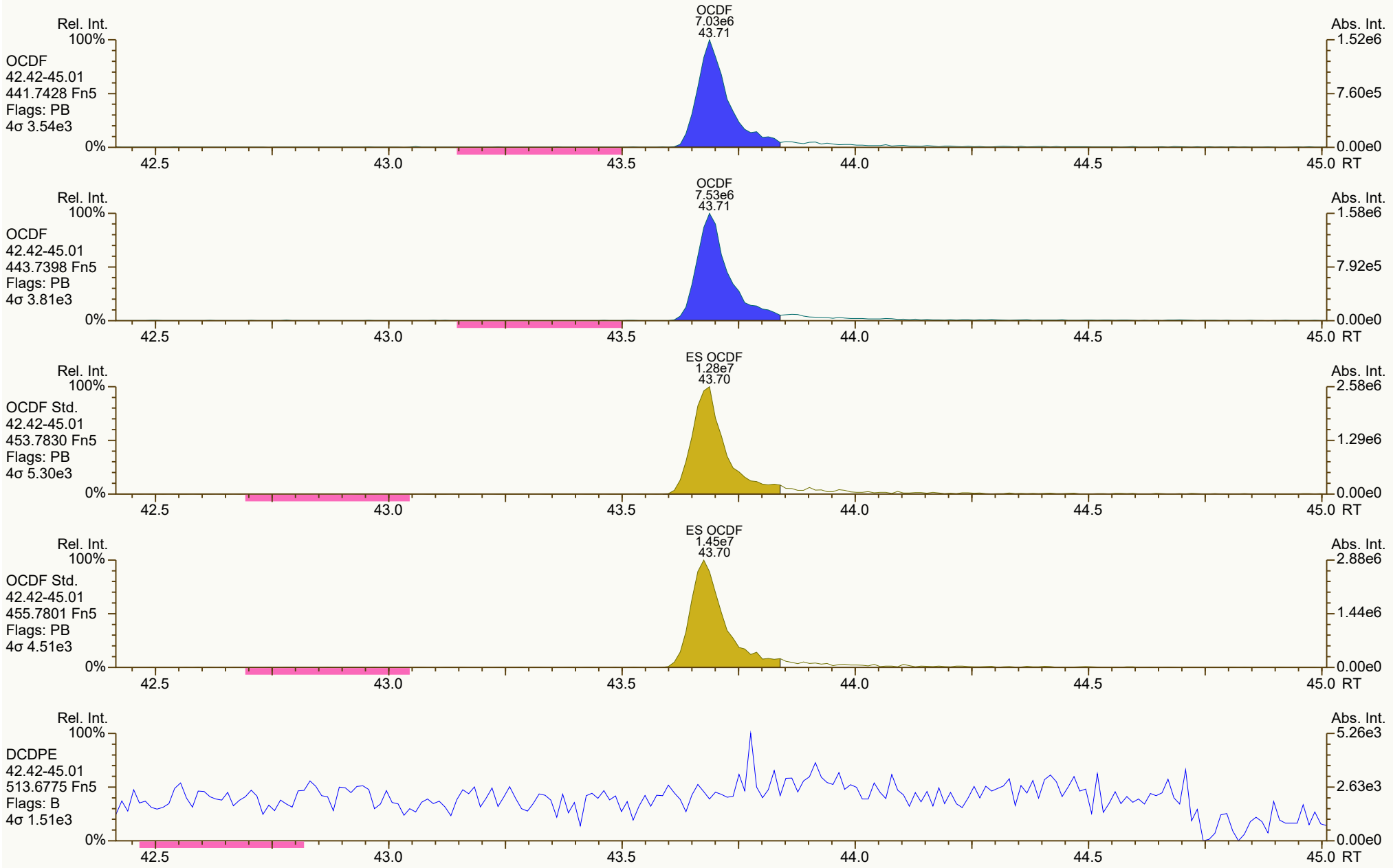

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.99e3
0%
2378F
1.35e6
27.81
Abs. Int.
2.72e5
1.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 3.61e3
0%
2378F
1.70e6
27.81
Abs. Int.
3.50e5
1.75e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 1.27e4
0%
AS 1368F
1.52e7
22.95
JS 1234F
1.26e7
26.44
ES 2378F
1.28e7
27.79
Abs. Int.
2.79e6
1.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 8.43e3
0%
AS 1368F
1.87e7
22.95
JS 1234F
1.53e7
26.44
ES 2378F
1.61e7
27.79
Abs. Int.
3.47e6
1.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.81e4
9.06e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

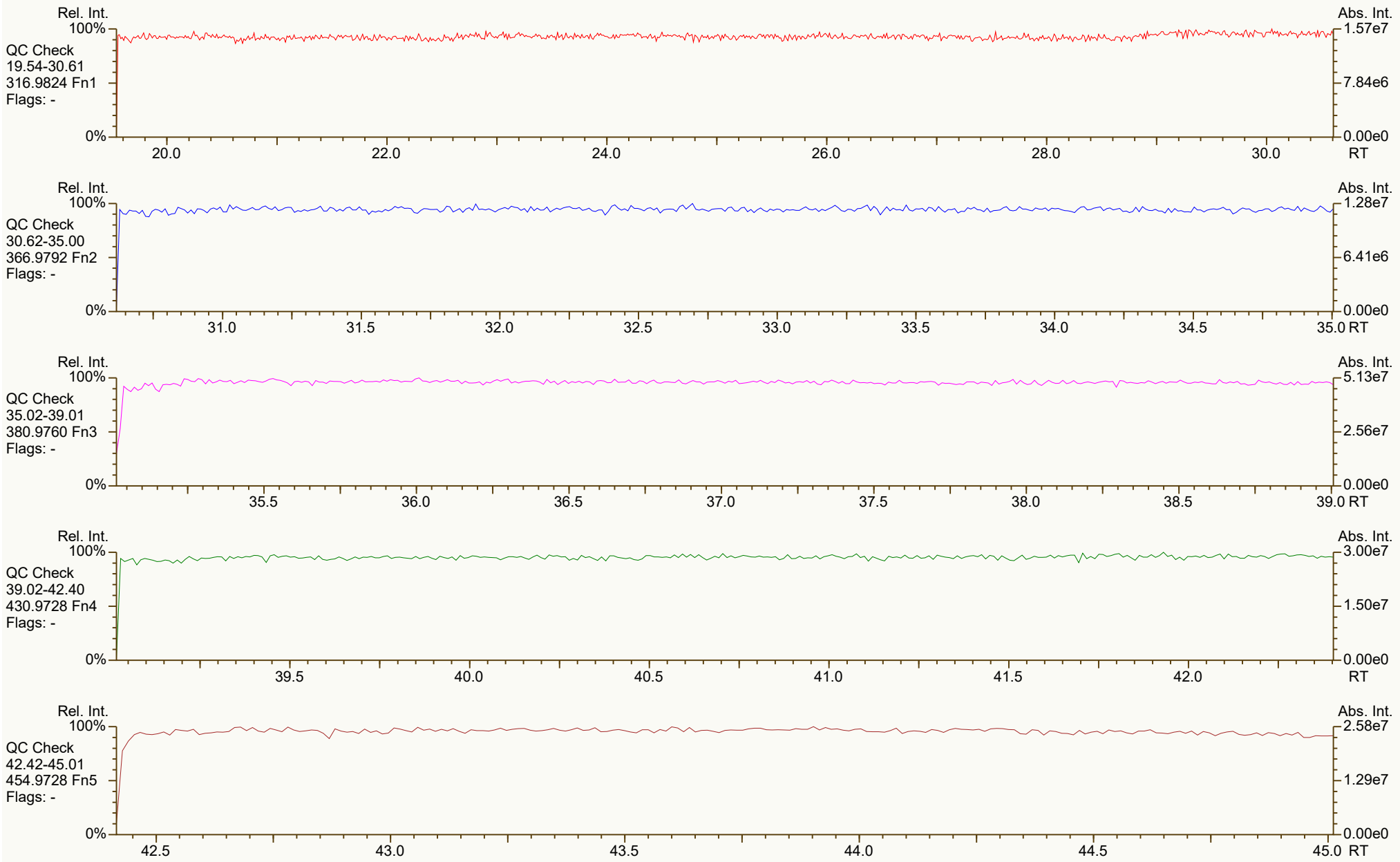

Rel. Int.
100%
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.19e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e7
7.64e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 2.06e3
12378F
7.89e6
32.53
23478F
7.92e6
33.63
Abs. Int.
1.93e6
9.67e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 3.11e3
12378F
4.97e6
32.53
23478F
5.12e6
33.63
Abs. Int.
1.21e6
6.05e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 3.93e3
CS 12346F
1.46e7
31.98
ES 12378F
1.54e7
32.51
ES 23478F
1.50e7*
33.61
Abs. Int.
3.81e6
1.90e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 4.51e3
CS 12346F
9.02e6
31.98
ES 12378F
9.73e6
32.51
ES 23478F
9.89e6*
33.61
Abs. Int.
2.31e6
1.15e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.45e3
Abs. Int.
1.25e4
6.23e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

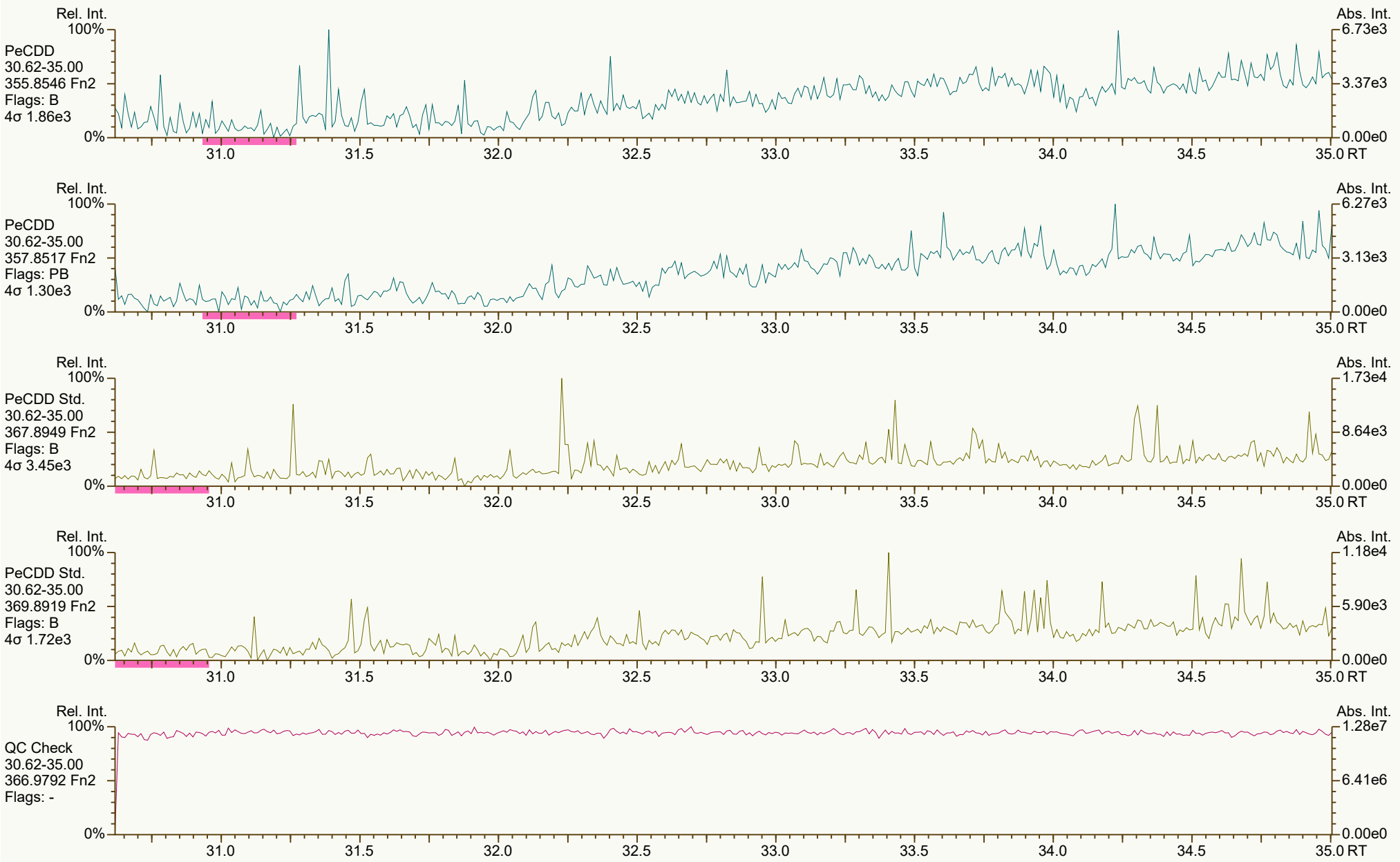

Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 2.51e3
123478F
6.28e6
36.85
123678F
7.49e6
36.99
234678F
6.82e6
37.68
123789F
5.47e6
38.62
Abs. Int.
1.74e6
8.68e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.89e3
123478F
4.97e6
36.85
123678F
5.93e6
36.99
234678F
5.53e6
37.68
123789F
4.48e6
38.62
Abs. Int.
1.35e6
6.75e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 6.79e3
ES 123478F
6.13e6
36.83
ES 123678F
8.38e6
36.98
CS 123469F
7.27e6
37.29
ES 234678F
7.39e6*
37.66
ES 123789F
5.73e6
38.60
Abs. Int.
1.83e6
9.16e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 7.18e3
ES 123478F
1.18e7
36.83
ES 123678F
1.53e7
36.98
CS 123469F
1.32e7
37.29
ES 234678F
1.35e7*
37.66
ES 123789F
1.07e7
38.60
Abs. Int.
3.63e6
1.82e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.32e3
Abs. Int.
9.21e3
4.61e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.46e3
1234678F
5.72e6
39.95
1234789F
4.41e6
41.34
Abs. Int.
1.59e6
7.97e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.36e3
1234678F
5.42e6
39.95
1234789F
4.30e6
41.34
Abs. Int.
1.49e6
7.45e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
ES 1234678F
4.95e6*
39.94
CS 1234689F
5.17e6
40.33
ES 1234789F
3.78e6*
41.32
Abs. Int.
1.37e6
6.84e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.10e7*
39.94
CS 1234689F
1.17e7
40.33
ES 1234789F
8.63e6*
41.32
Abs. Int.
3.35e6
1.68e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.56e3
Abs. Int.
7.53e3
3.77e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
7.03e6
43.71
Rel. Int.
Abs. Int.
100%
0%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 3.54e3
1.52e6
7.60e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.53e6
43.71
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 3.81e3
1.58e6
7.92e5
ES OCDF
1.28e7
43.70
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 5.30e3
2.58e6
1.29e6
ES OCDF
1.45e7
43.70
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 4.51e3
2.88e6
1.44e6
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.51e3
5.26e3
2.63e3

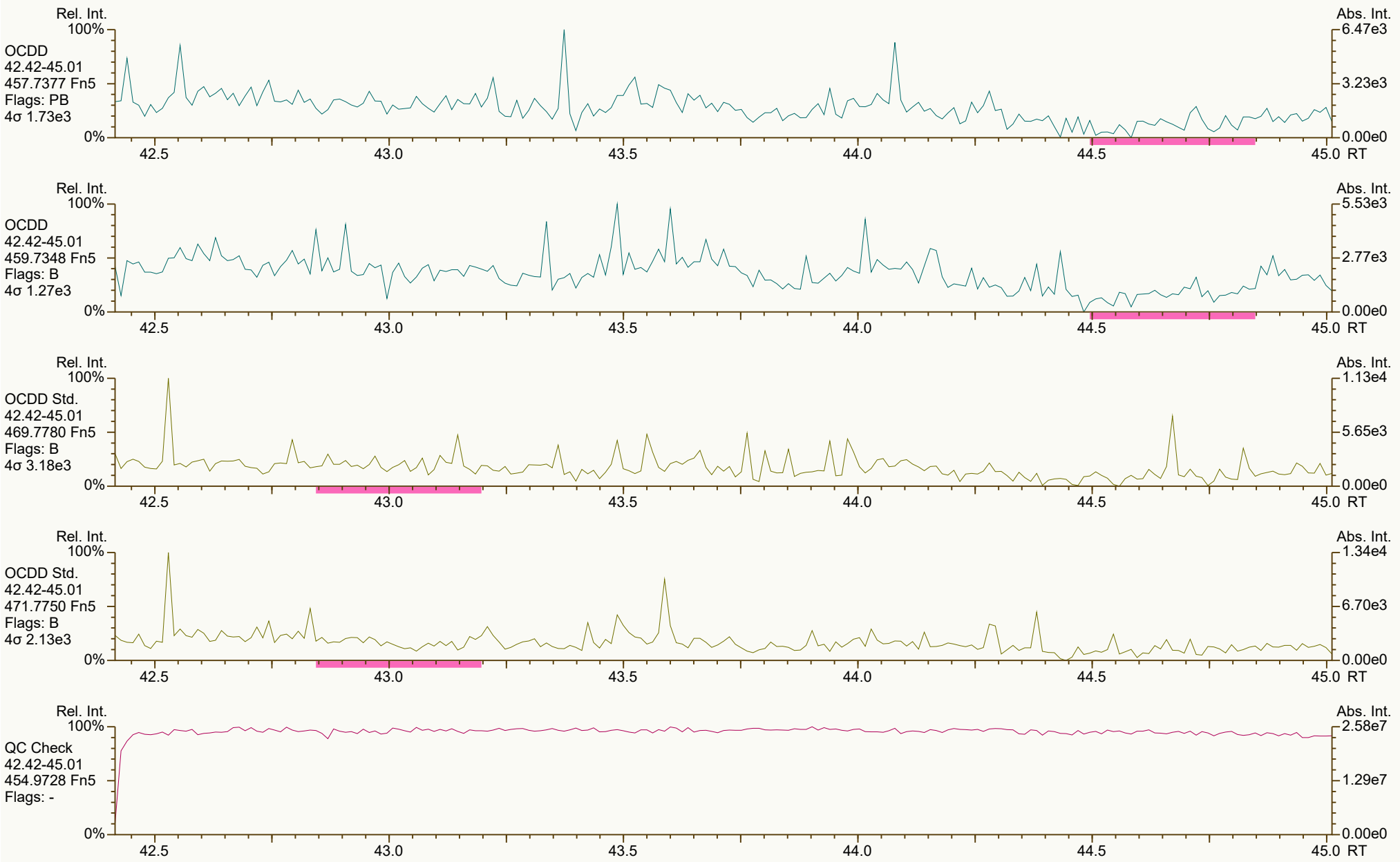

Rel. Int.
100%
0%
Abs. Int.
1.57e7
7.84e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
1.28e7
6.41e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
5.13e7
2.56e7
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
3.00e7
1.50e7
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
2.58e7
1.29e7
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.52e3
9.49e3
4.74e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.44e3
6.93e3
3.46e3
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.46e3
9.49e3
4.75e3
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 8.04e3
3.61e4
1.80e4
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 6.86e3
2.23e4
1.11e4


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
Abs. Int.
6.27e3
3.13e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: B
4σ 3.45e3
0%
Abs. Int.
1.73e4
8.64e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: B
4σ 1.72e3
0%
Abs. Int.
1.18e4
5.90e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.28e7
6.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.71e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 2.18e3
0%
Abs. Int.
7.68e3
3.84e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 2.91e3
0%
Abs. Int.
1.53e4
7.67e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 3.42e3
0%
Abs. Int.
1.09e4
5.46e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
5.13e7
2.56e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

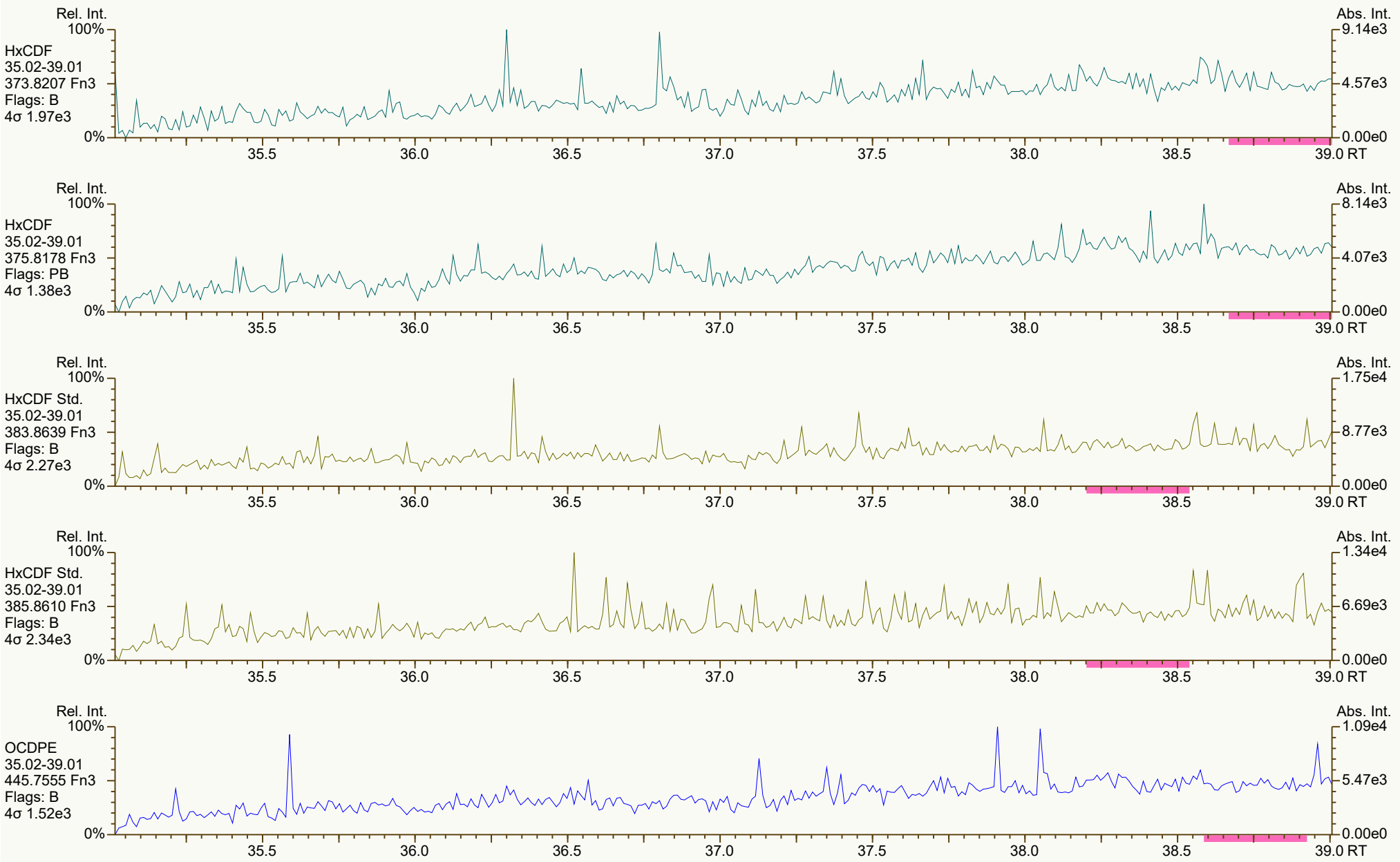

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.02e3
0%
Abs. Int.
7.60e3
3.80e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.47e3
0%
Abs. Int.
4.94e3
2.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.90e3
0%
Abs. Int.
1.44e4
7.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.67e3
0%
Abs. Int.
7.83e3
3.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.00e7
1.50e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
5.53e3
2.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: B
4σ 3.18e3
0%
Abs. Int.
1.13e4
5.65e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: B
4σ 2.13e3
0%
Abs. Int.
1.34e4
6.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.13e3
2468F
2.40e5*
24.16
SBS
Abs. Int.
4.94e4
2.47e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.79e3
2468F
3.13e5*
24.16
Abs. Int.
7.52e4
3.76e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 9.07e3
Abs. Int.
4.49e4
2.25e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 6.17e3
Abs. Int.
2.21e4
1.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.53e3
Abs. Int.
1.66e4
8.32e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.59e4
7.97e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e7
7.84e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.53e3
0%
Abs. Int.
1.58e4
7.88e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.77e3
0%
Abs. Int.
9.04e3
4.52e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.63e4
8.14e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.29e4
6.46e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.98e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.97e3
0%
Abs. Int.
9.14e3
4.57e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.38e3
0%
Abs. Int.
8.14e3
4.07e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 2.27e3
0%
Abs. Int.
1.75e4
8.77e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 2.34e3
0%
Abs. Int.
1.34e4
6.69e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

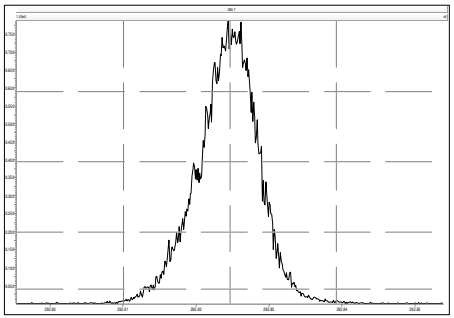

Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.71e3
0%
Abs. Int.
6.31e3
3.16e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.38e3
0%
Abs. Int.
5.30e3
2.65e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 2.43e3
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
8.83e3
4.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.63e3
0%
Abs. Int.
4.42e3
2.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.17e3
0%
Abs. Int.
1.06e4
5.28e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.87e3
0%
Abs. Int.
5.89e3
2.95e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: B
4σ 1.82e3
0%
Abs. Int.
1.48e4
7.40e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.71e3
0%
Abs. Int.
7.55e3
3.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

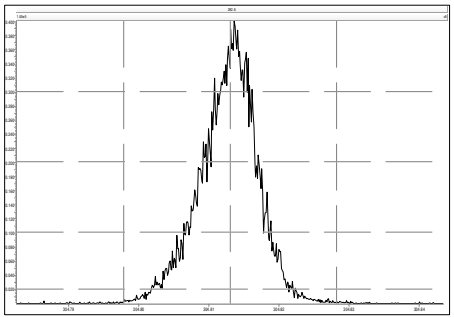
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:02 Eastern Standard Time

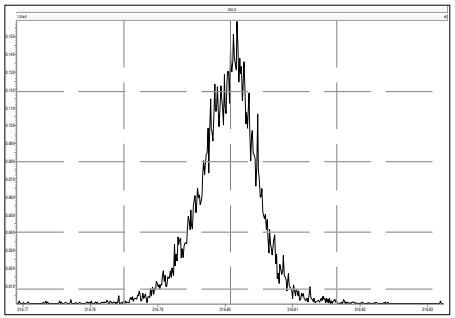
M 292.9824 R 14368



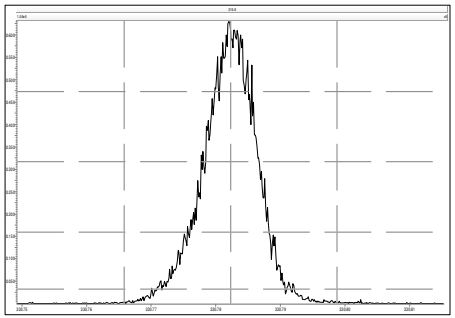
M 304.9824 R 14885



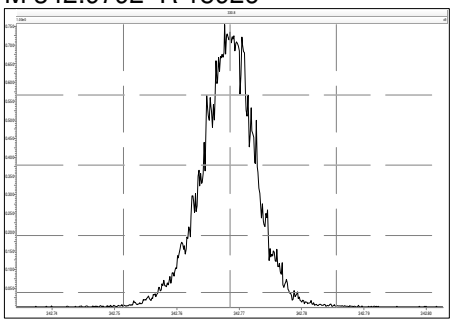
M 316.9824 R 15425



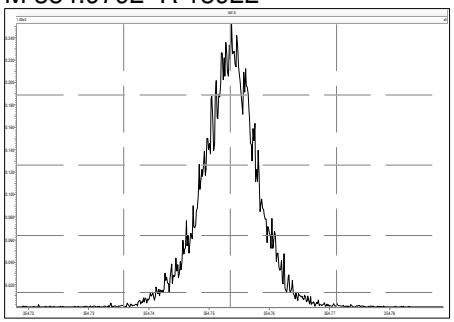
M 330.9792 R 16665



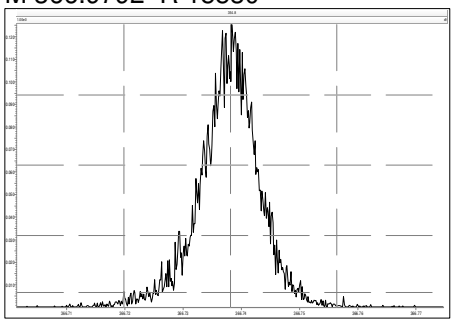
M 342.9792 R 15926



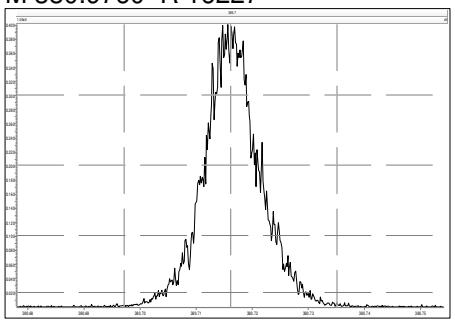
M 354.9792 R 15922



M 366.9792 R 15530



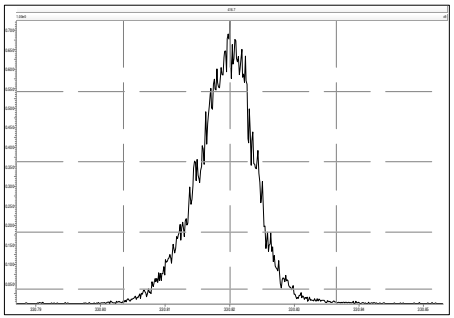
M 380.9760 R 16227



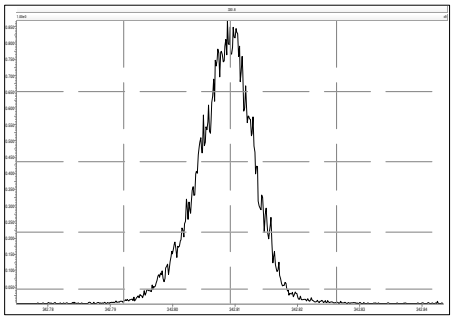
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:19 Eastern Standard Time

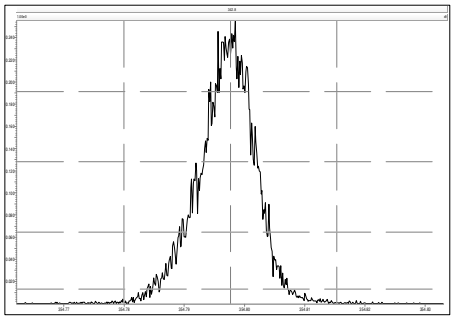
M 330.9792 R 14970



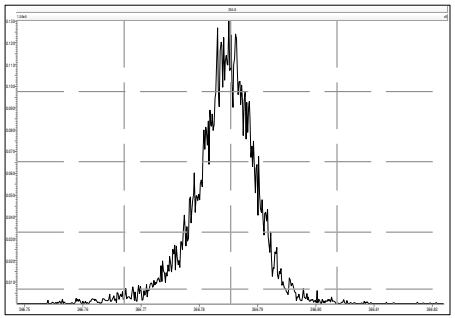
M 342.9792 R 15525



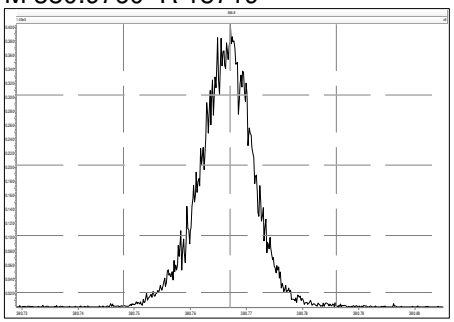
M 354.9792 R 16448



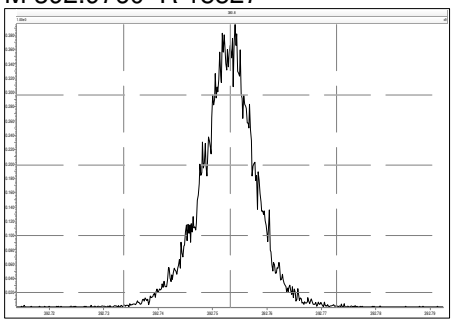
M 366.9792 R 15335



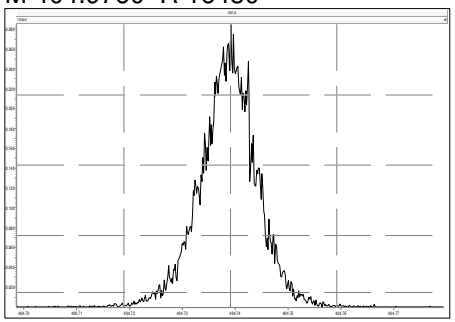
M 380.9760 R 15719



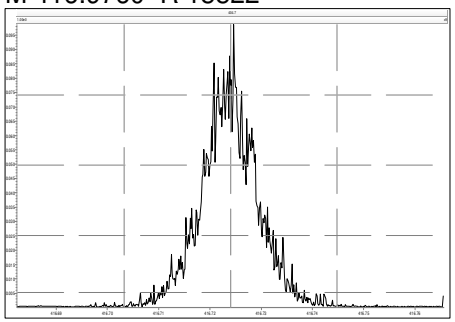
M 392.9760 R 15527



M 404.9760 R 16450



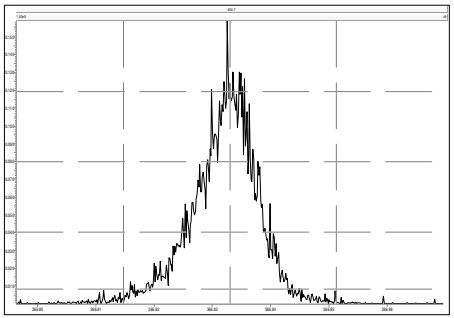
M 416.9760 R 15522



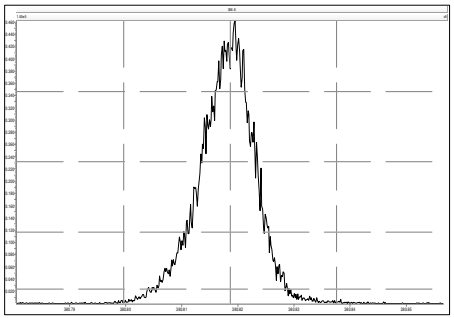
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:36 Eastern Standard Time

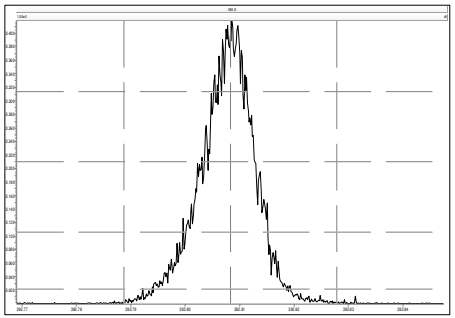
M 366.9792 R 14793



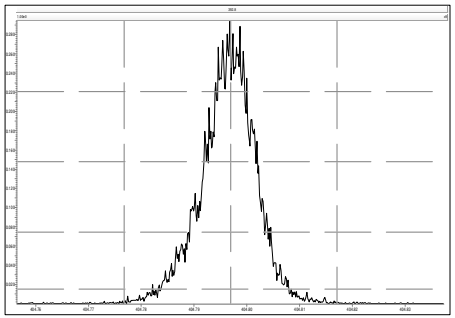
M 380.9760 R 16664



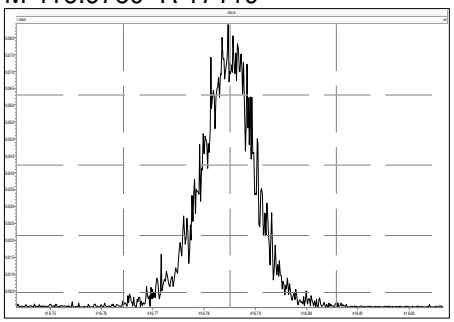
M 392.9760 R 15824



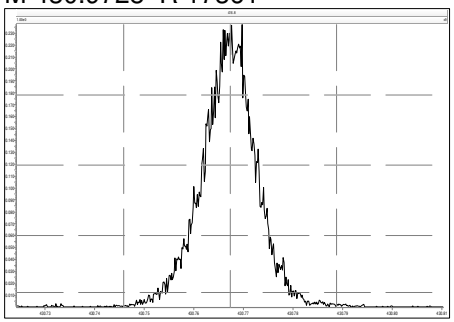
M 404.9760 R 16555



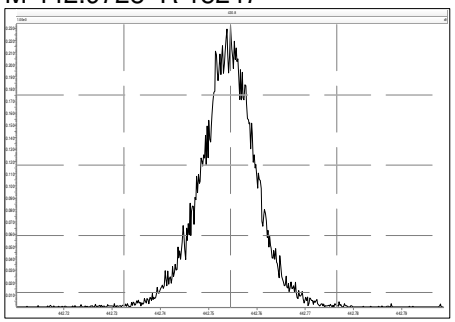
M 416.9760 R 17119



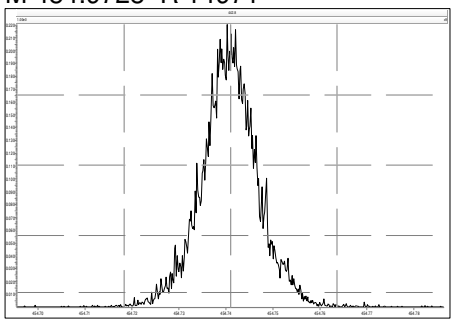
M 430.9728 R 17361



M 442.9728 R 15247



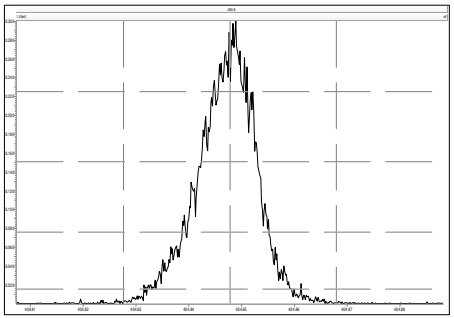
M 454.9728 R 14971



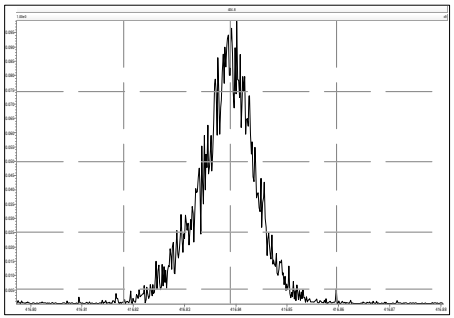
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:51 Eastern Standard Time

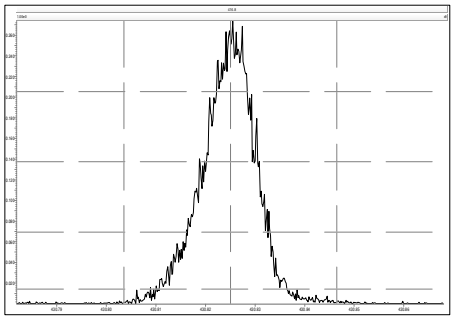
M 404.9760 R 14620



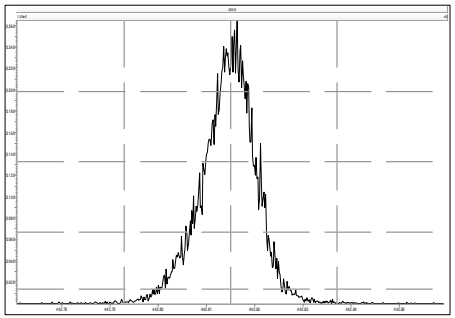
M 416.9760 R 15827



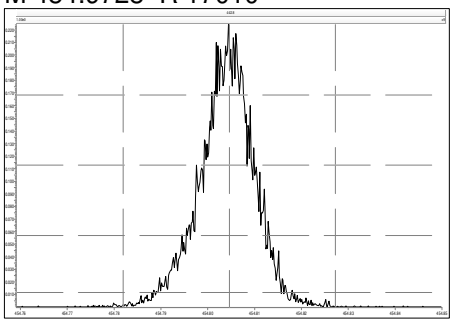
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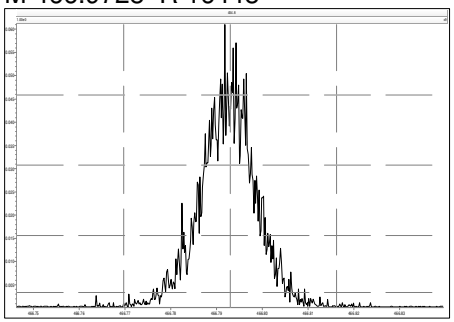
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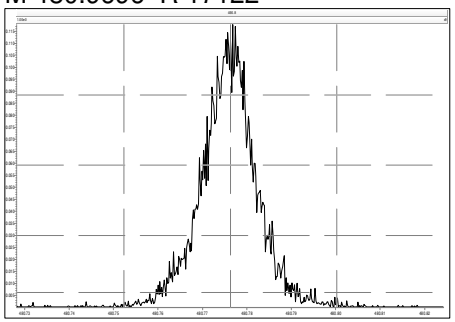
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M 466.9728 R 16448



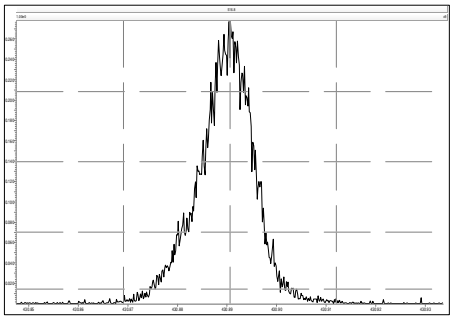
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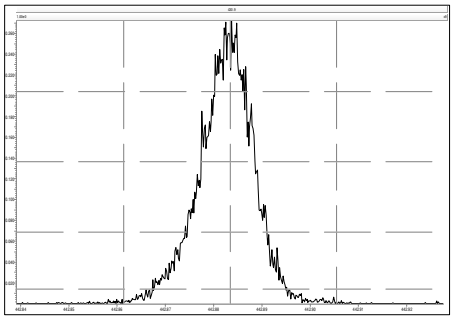
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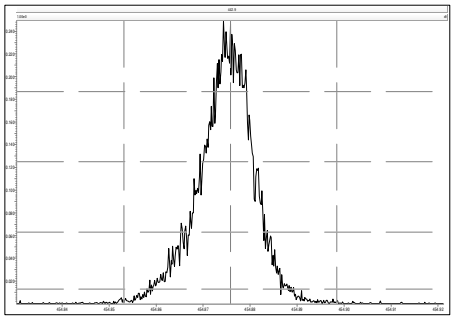
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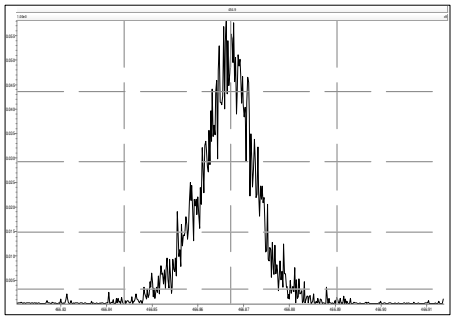
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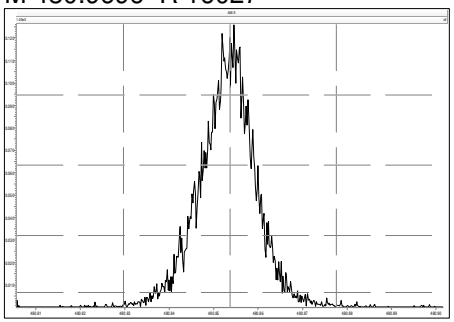
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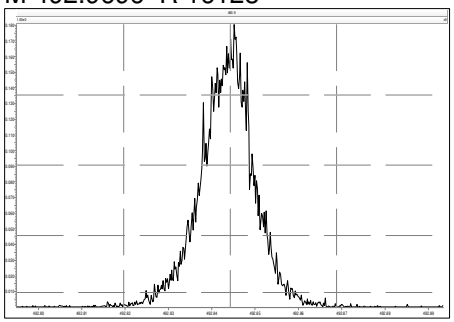
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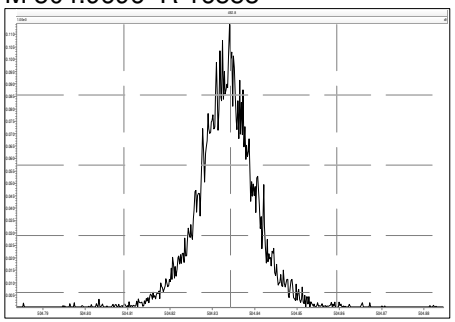
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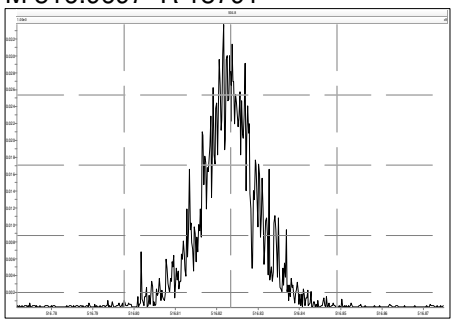
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M 504.9696 R 16558

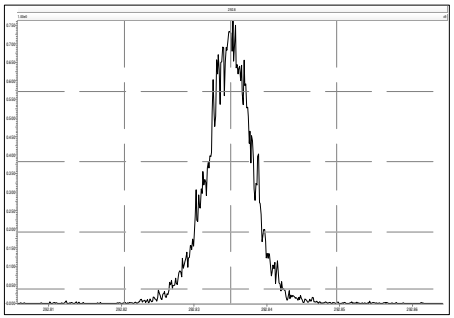


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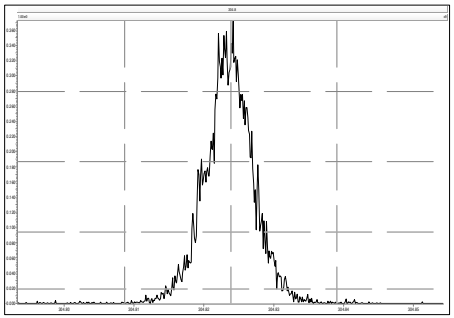


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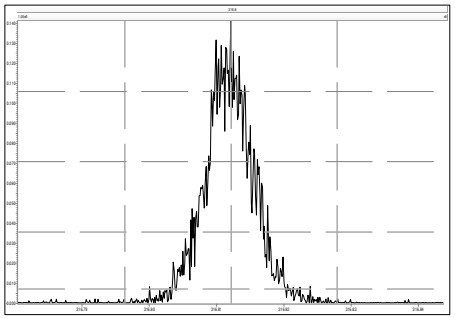
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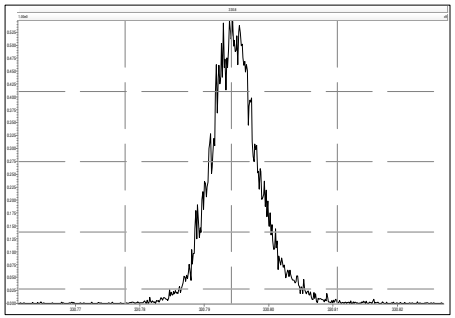
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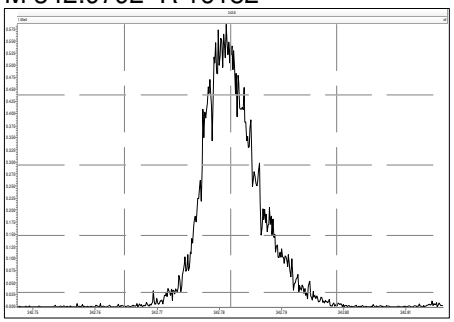
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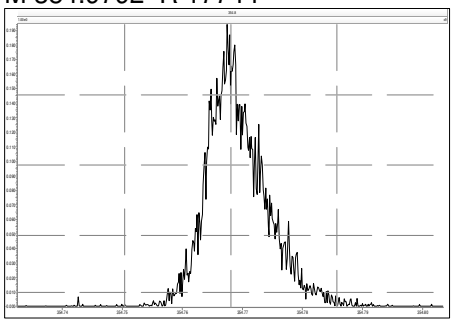
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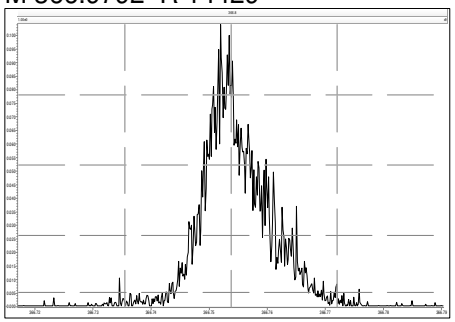
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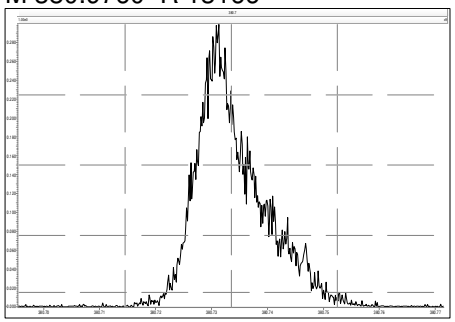
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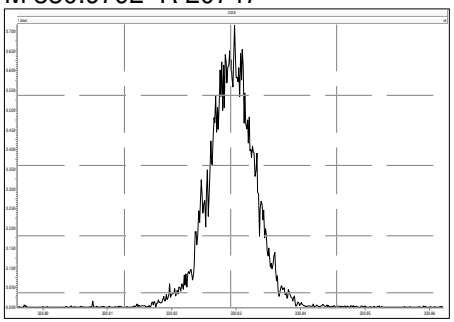
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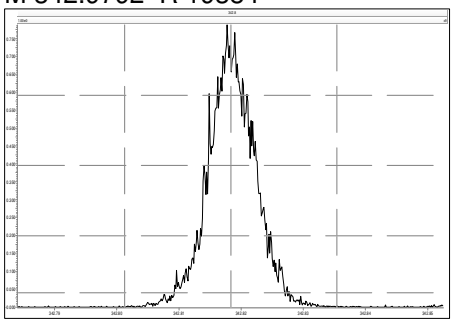
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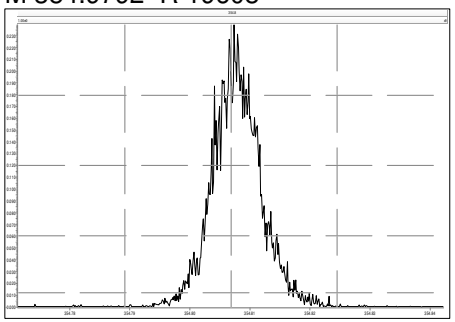
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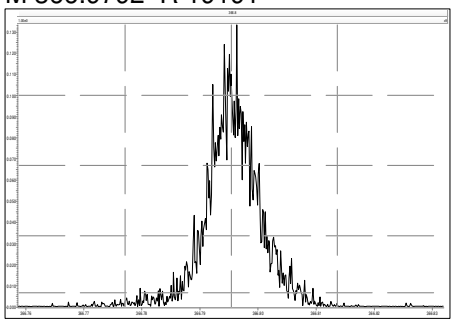
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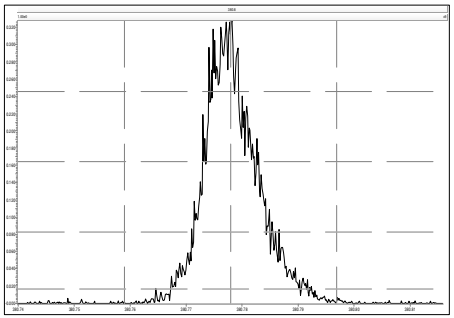
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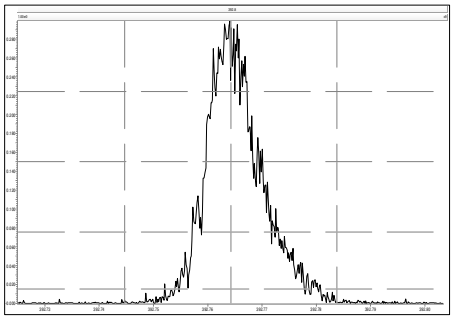
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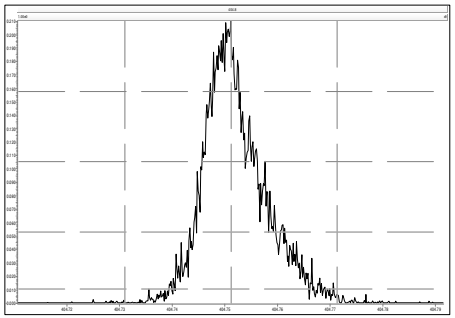
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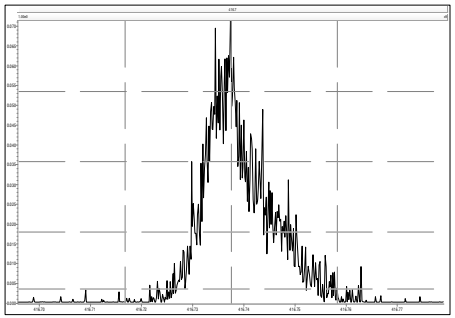
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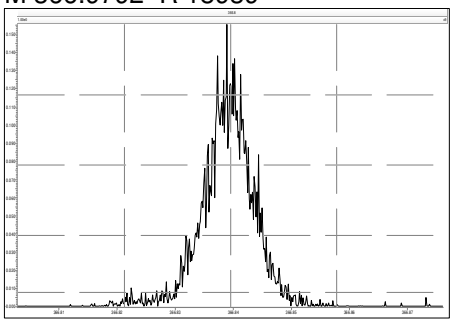
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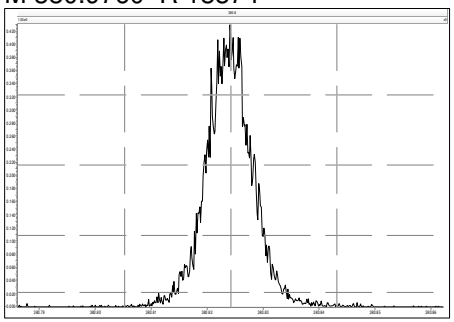
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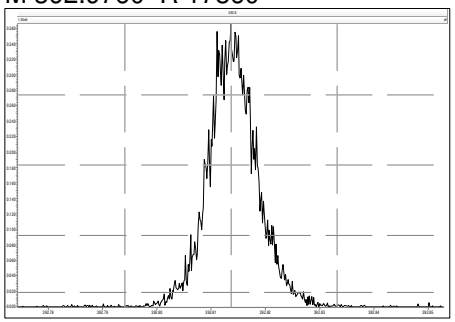
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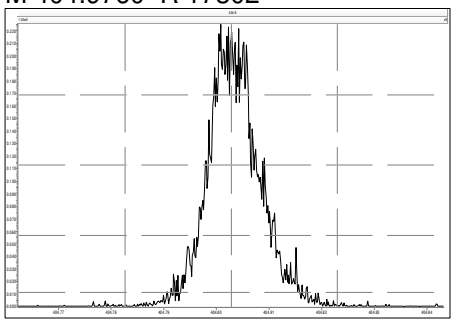
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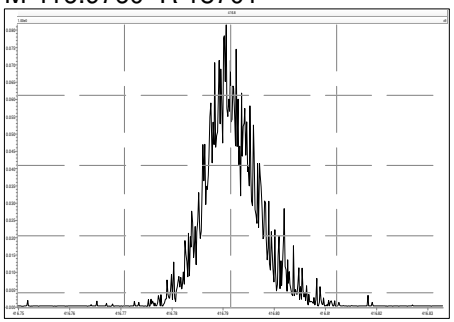
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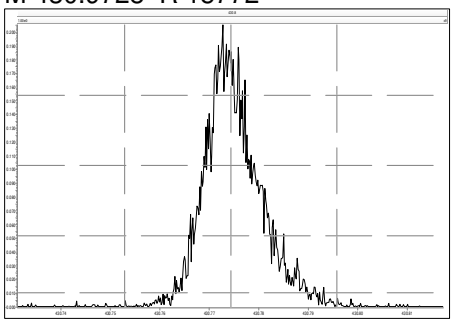
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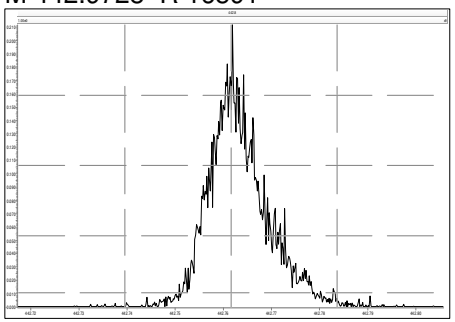
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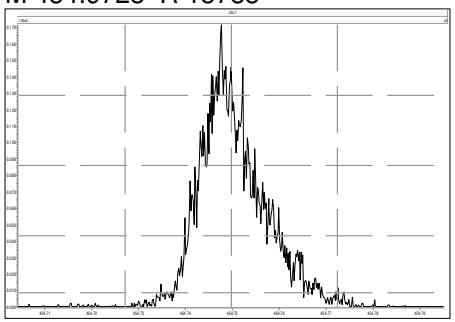
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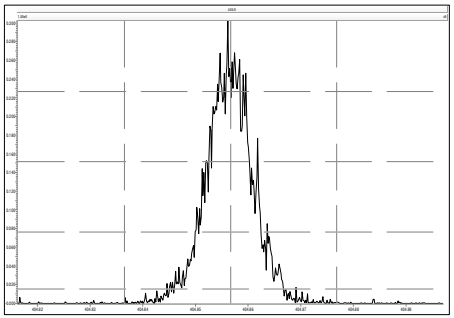
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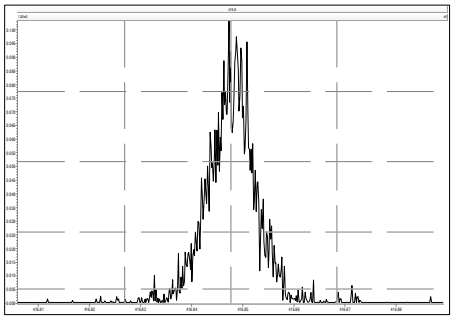
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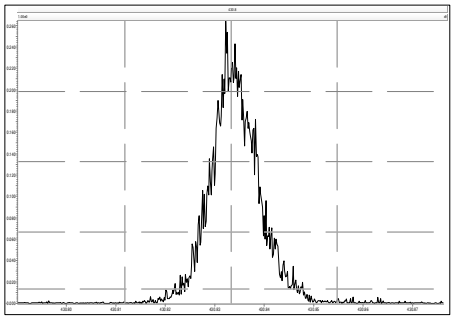
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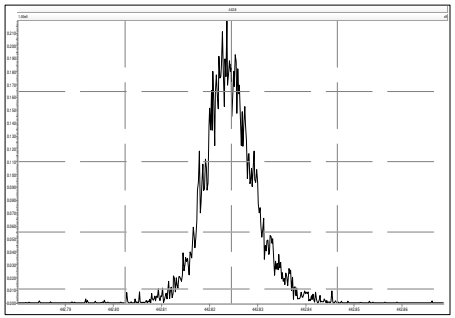
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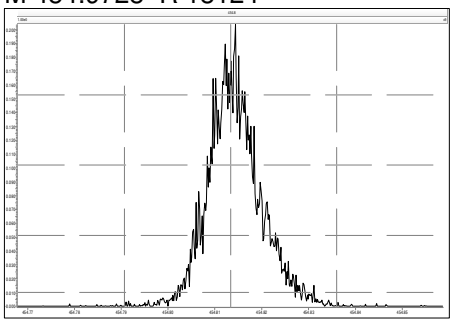
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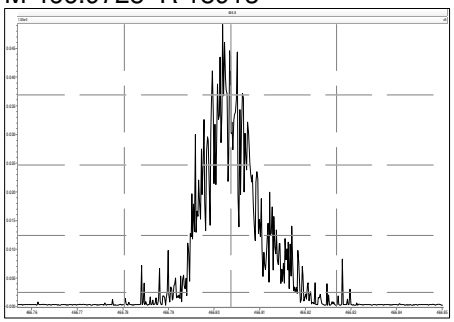
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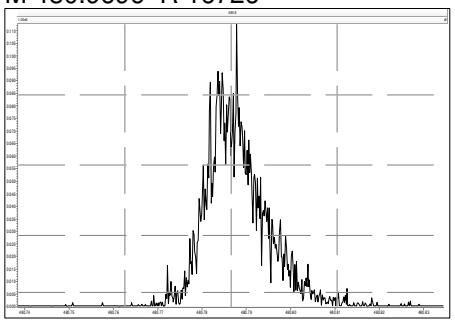
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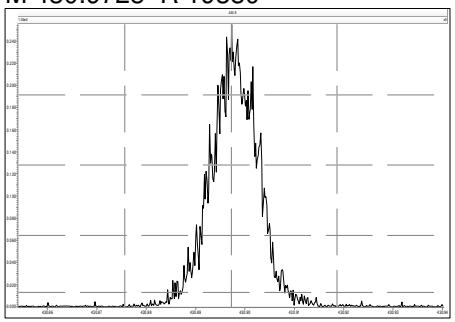
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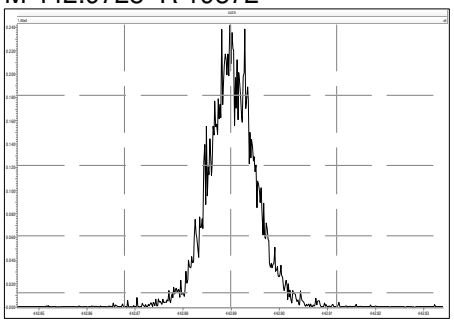
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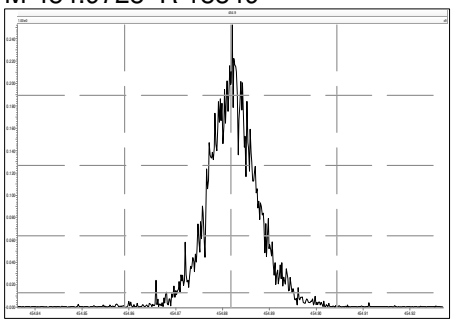
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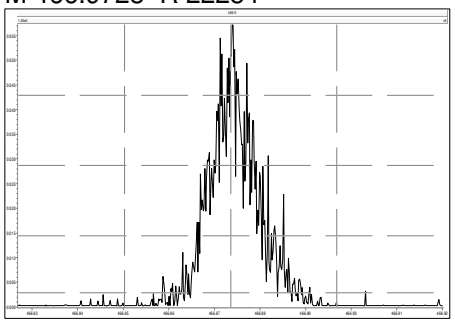
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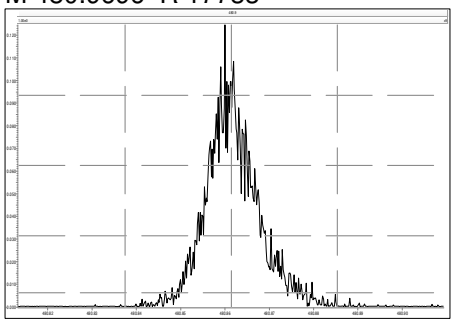
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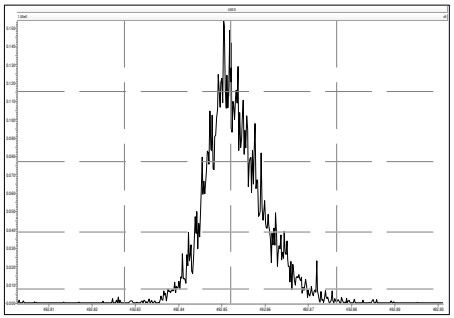
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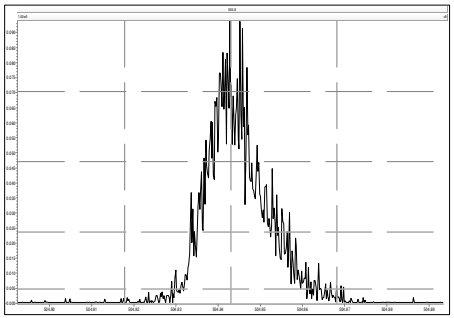
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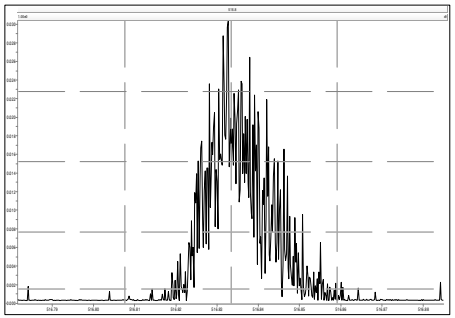
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M 504.9696 R 16077



M 516.9697 R 19942



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

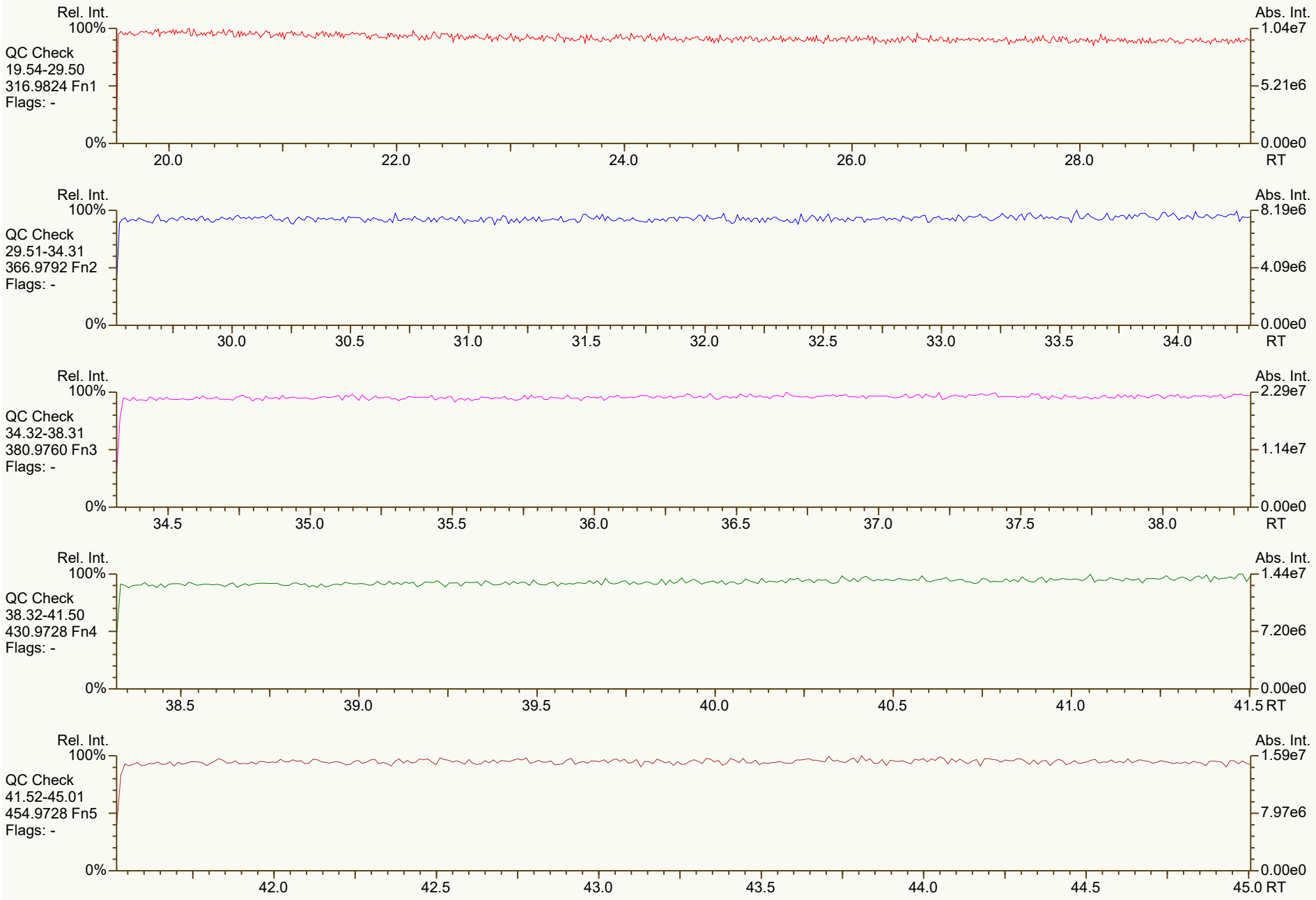
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

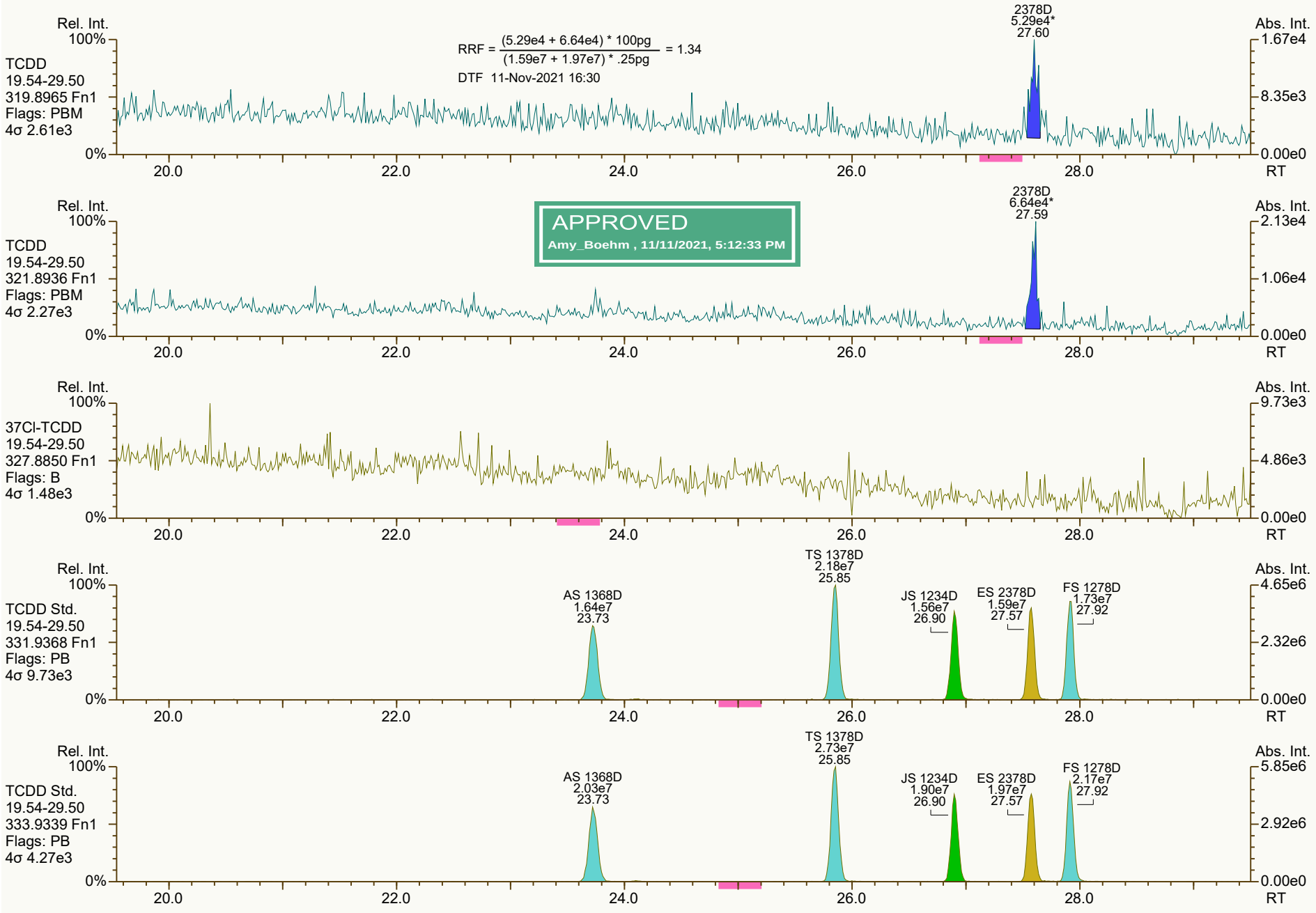
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

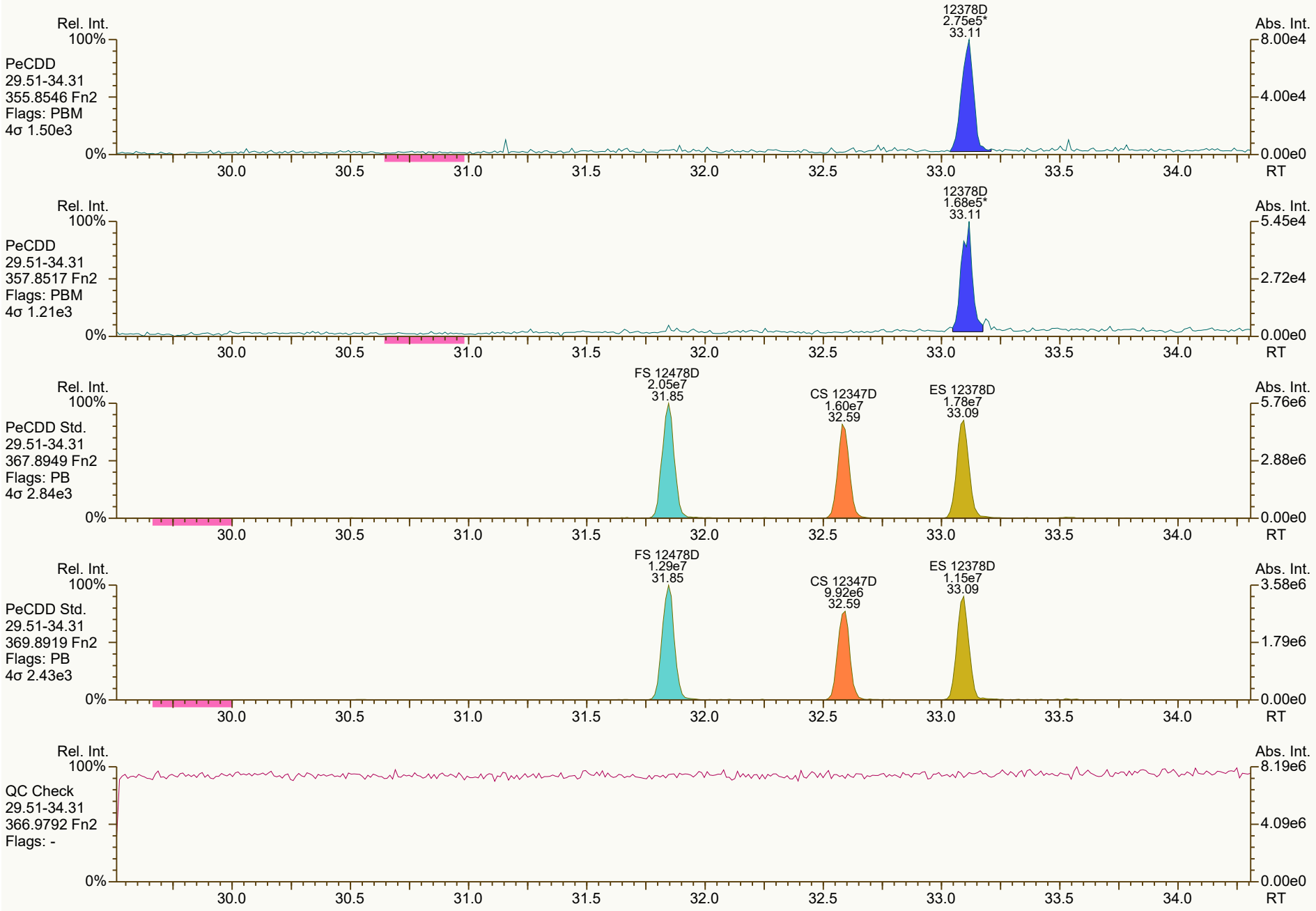
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

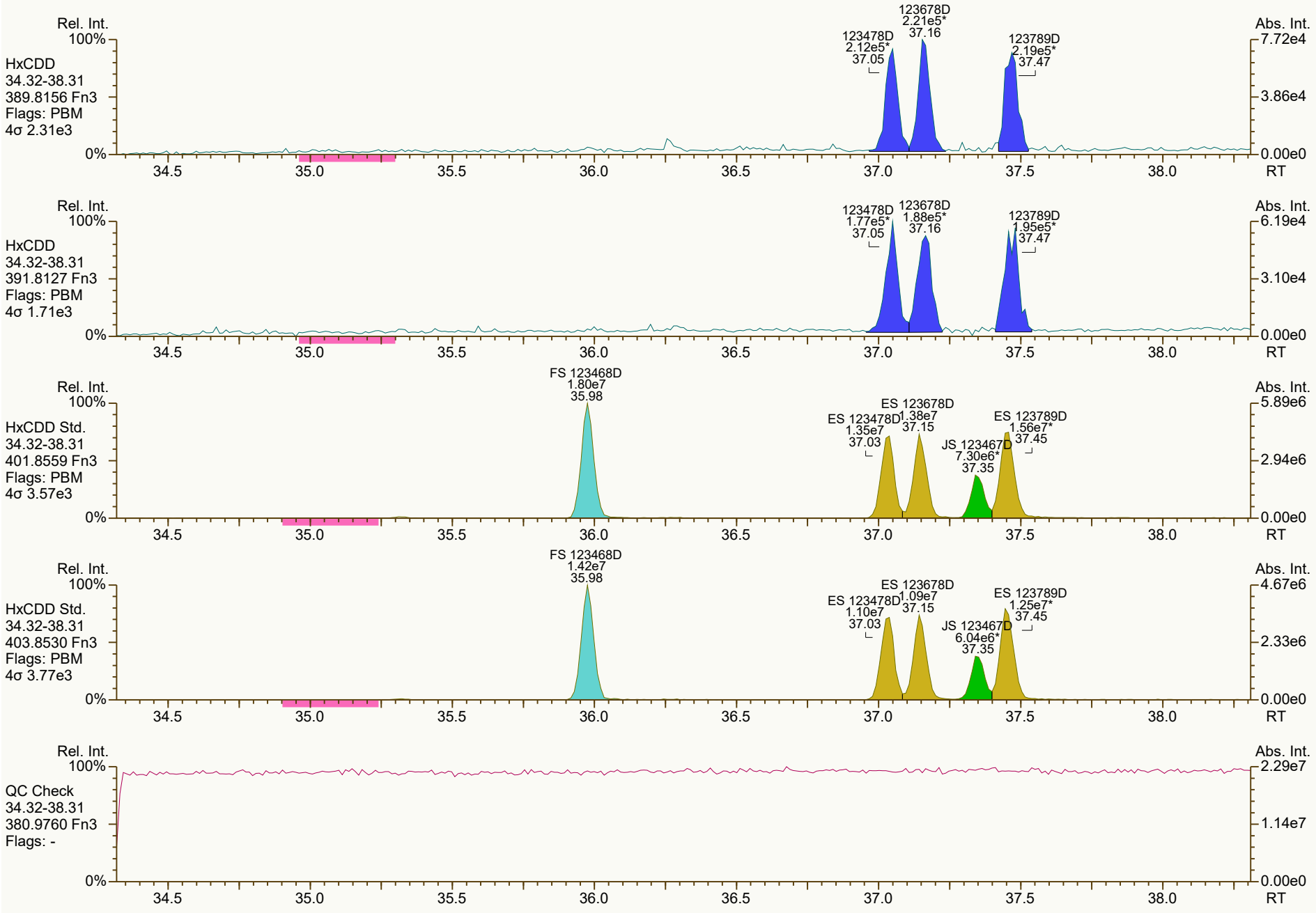
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

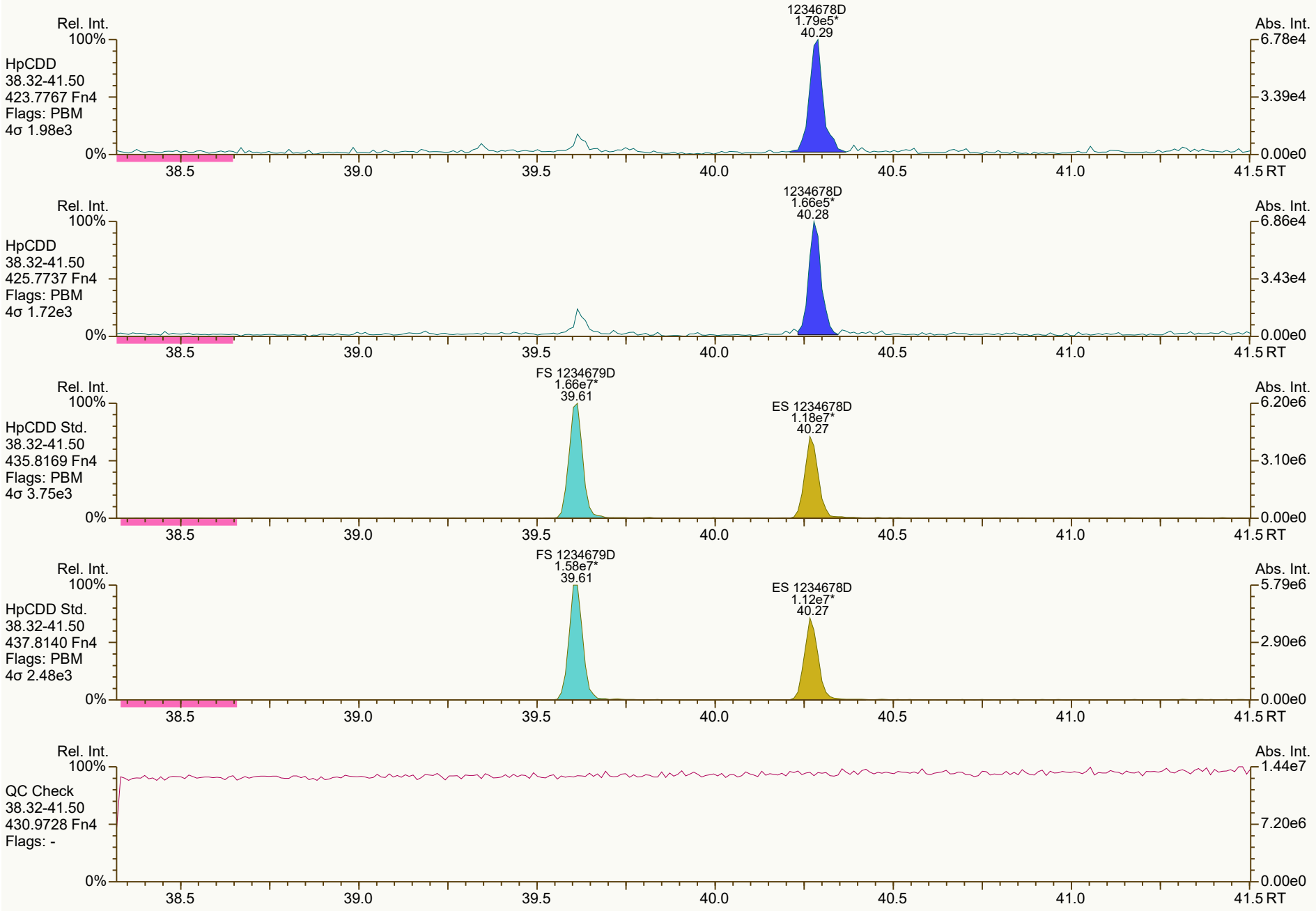
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

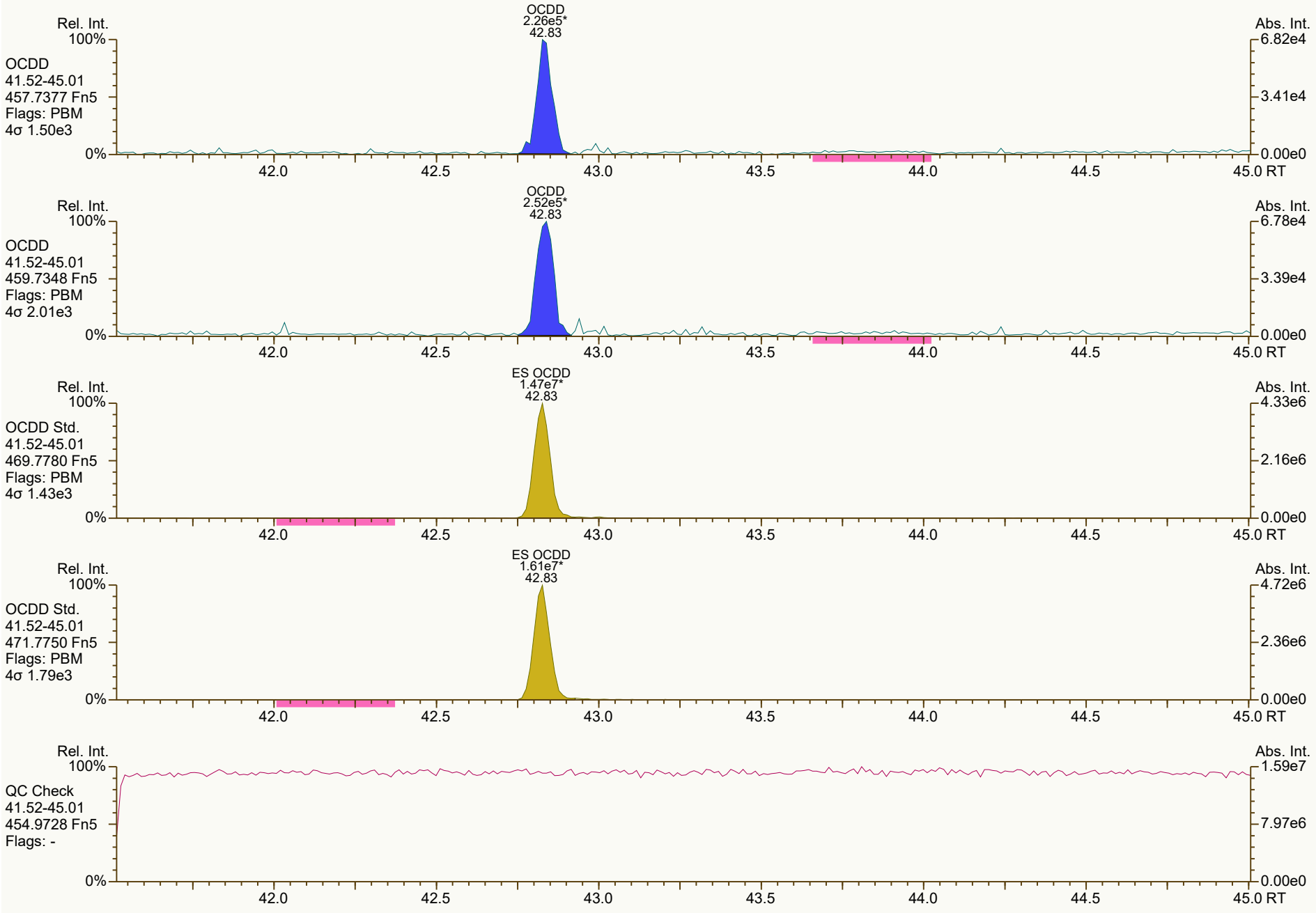

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24.0
26.0
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RT
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Abs. Int.
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QC Check
29.51-34.31
366.9792 Fn2
Flags: -
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31.5
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Abs. Int.
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1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

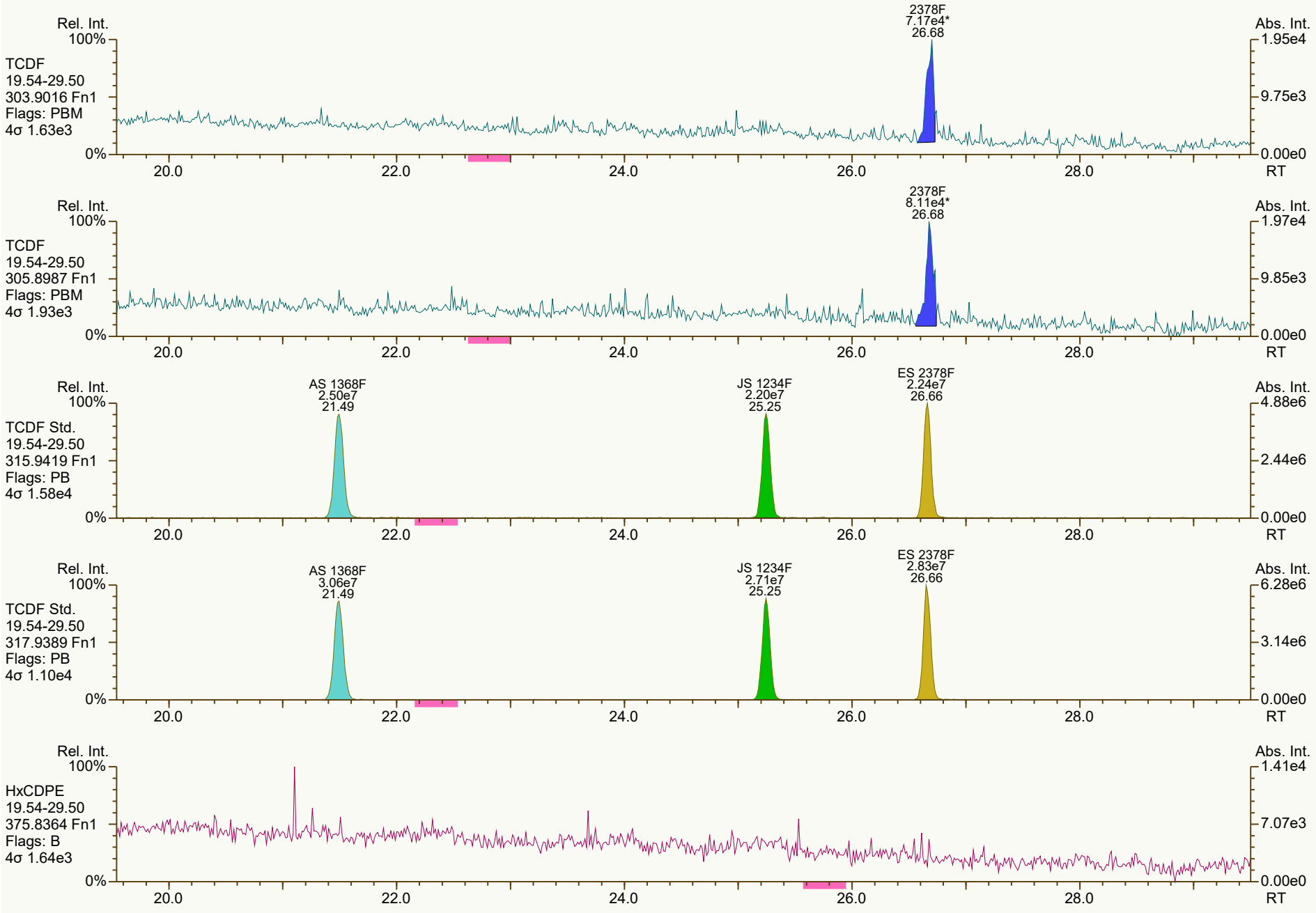

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

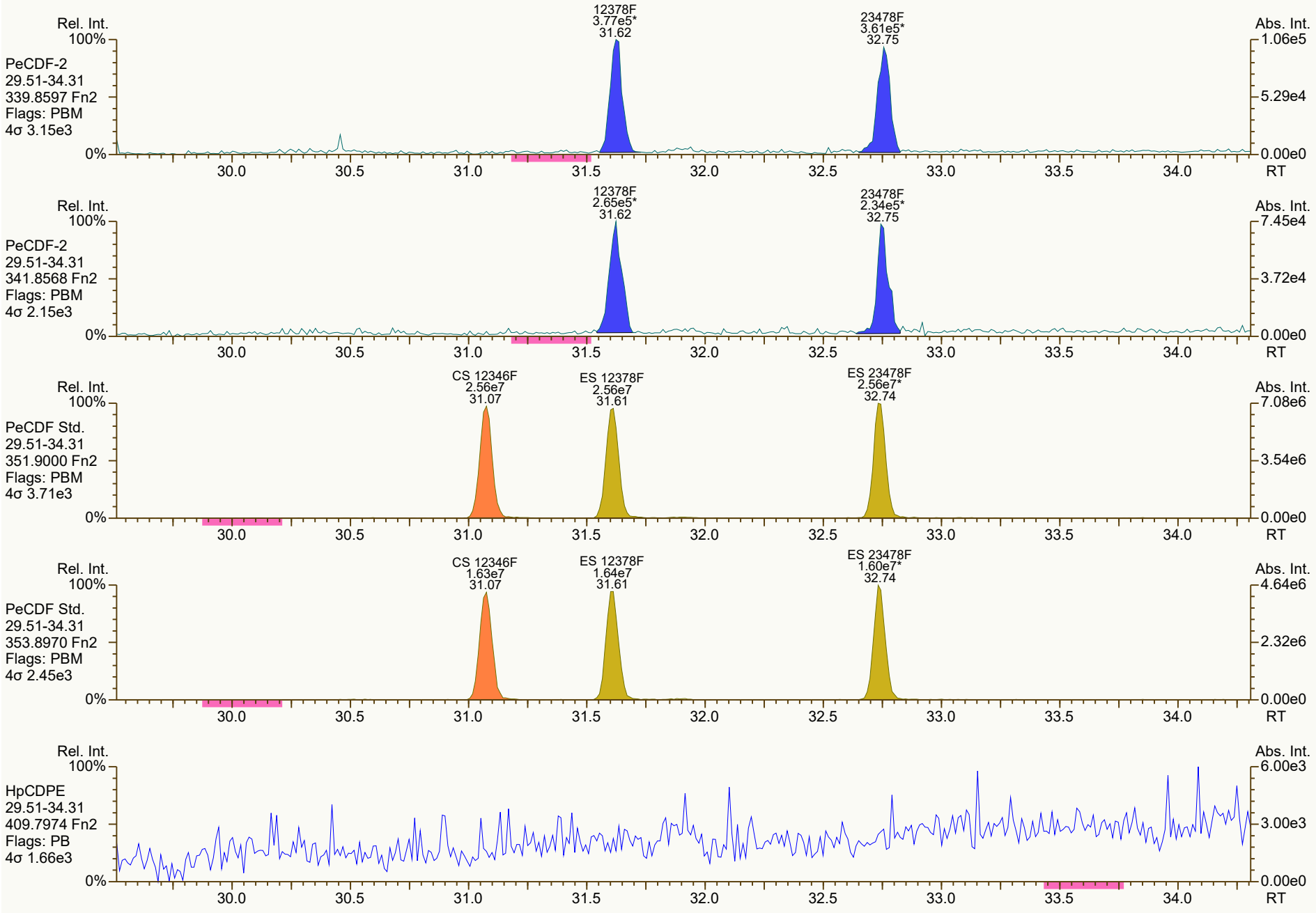

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

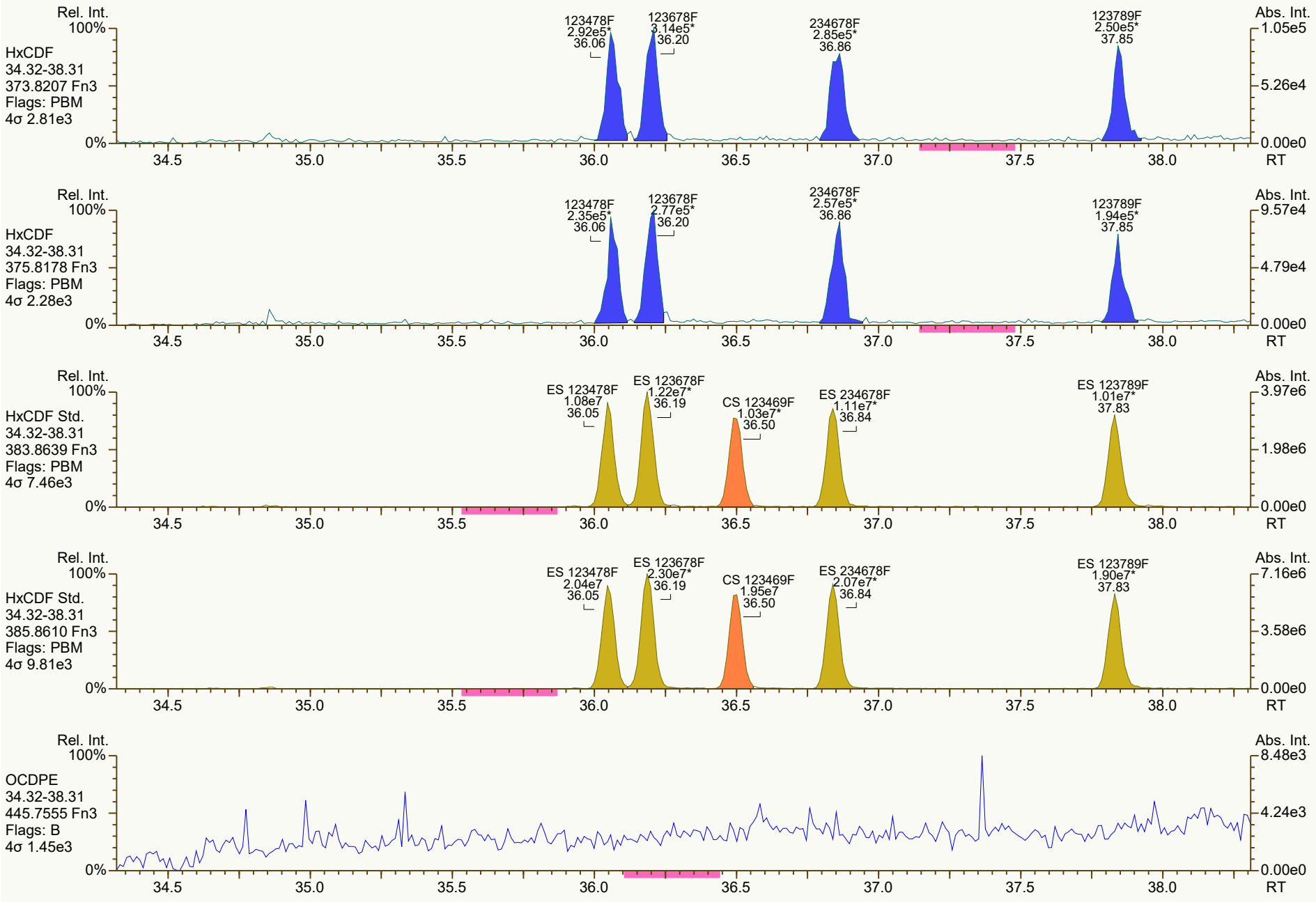

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

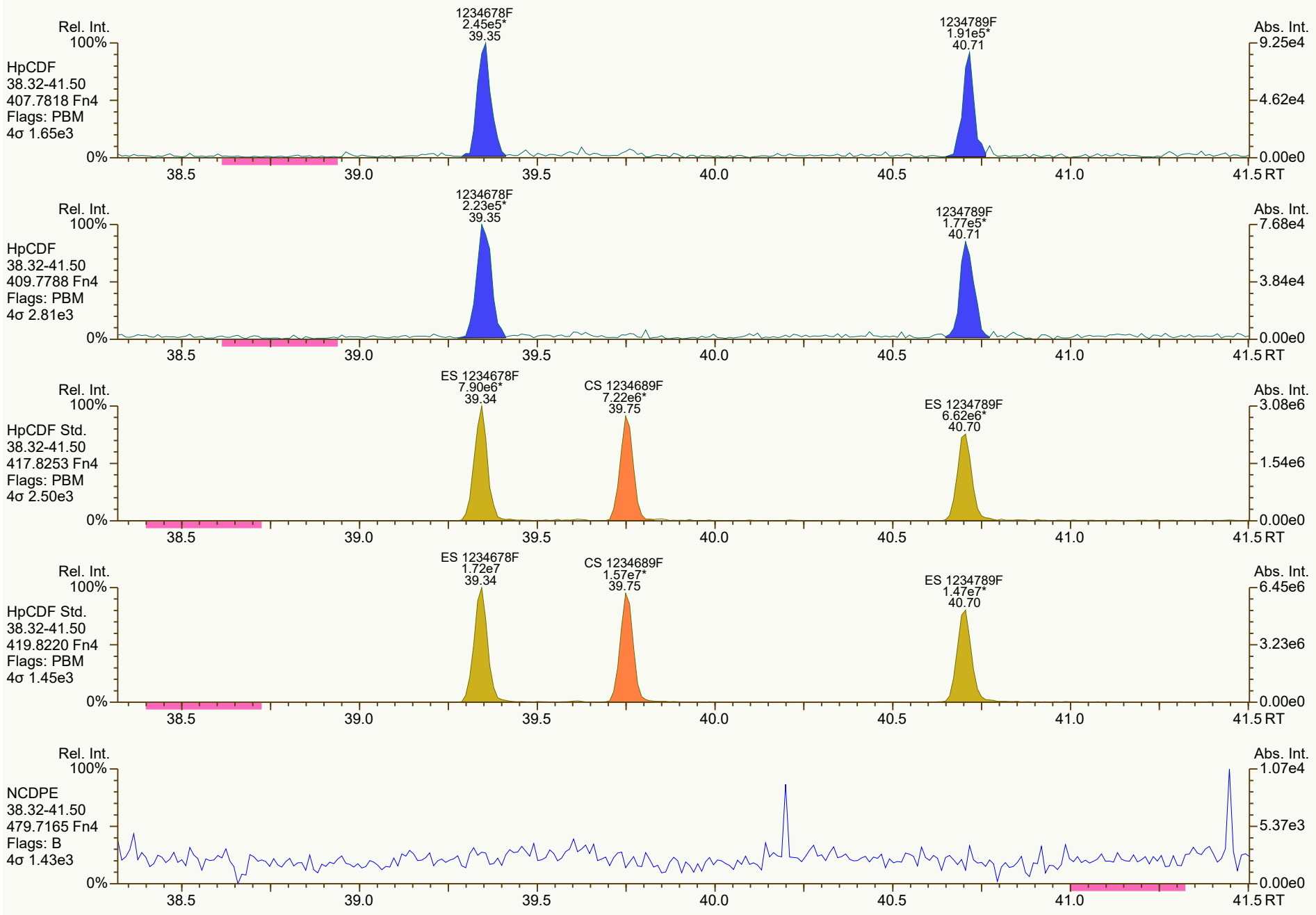

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

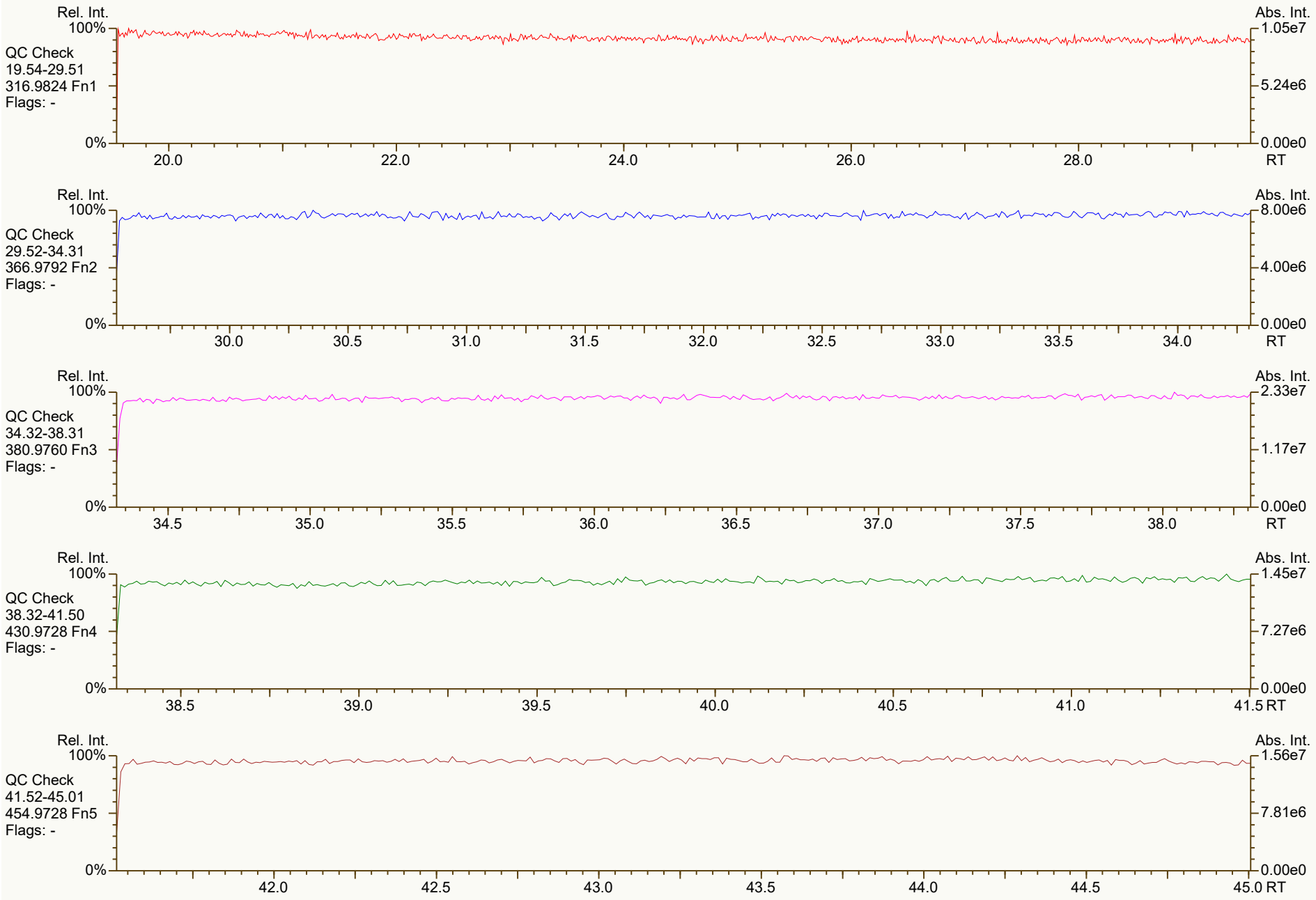

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

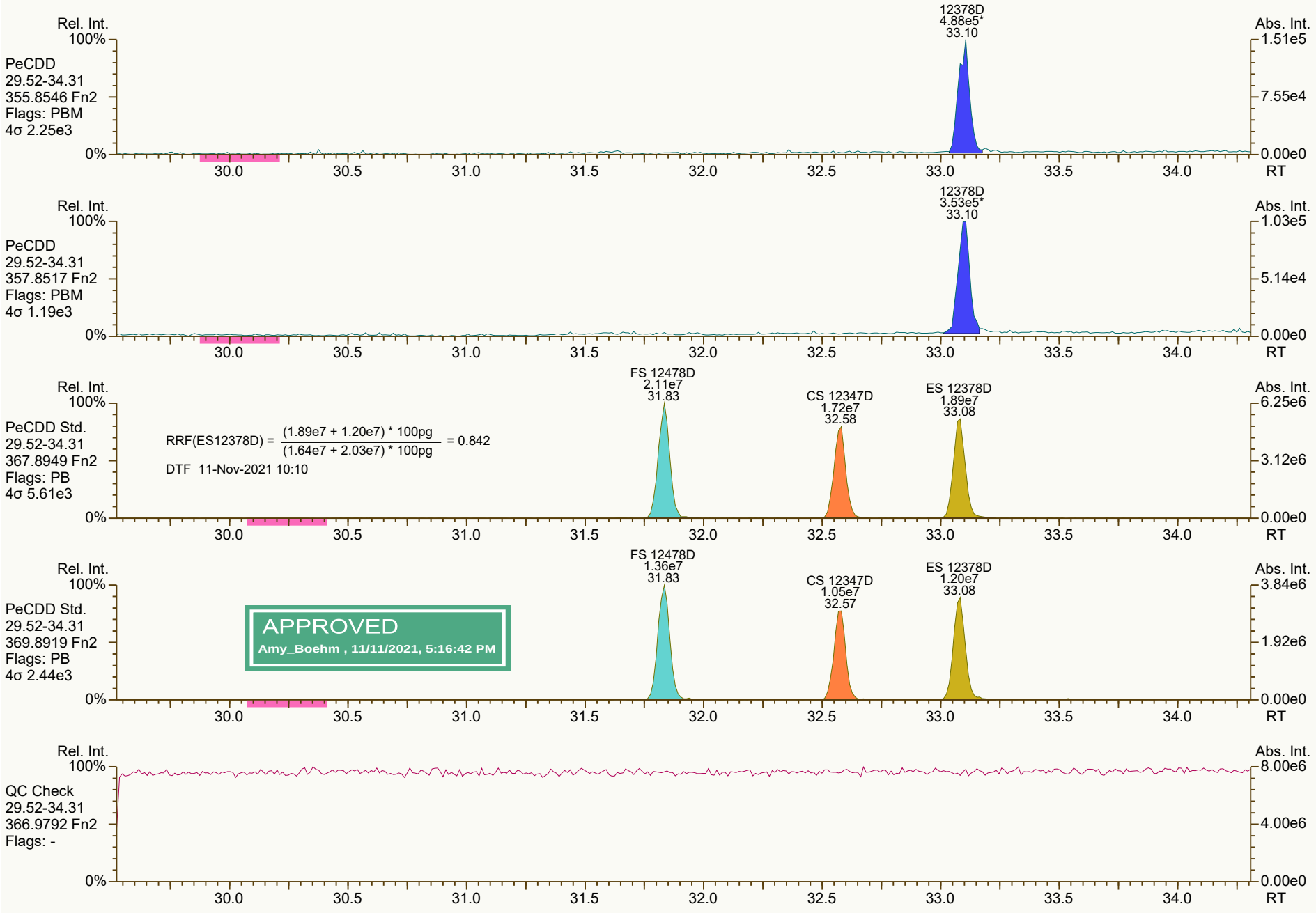
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

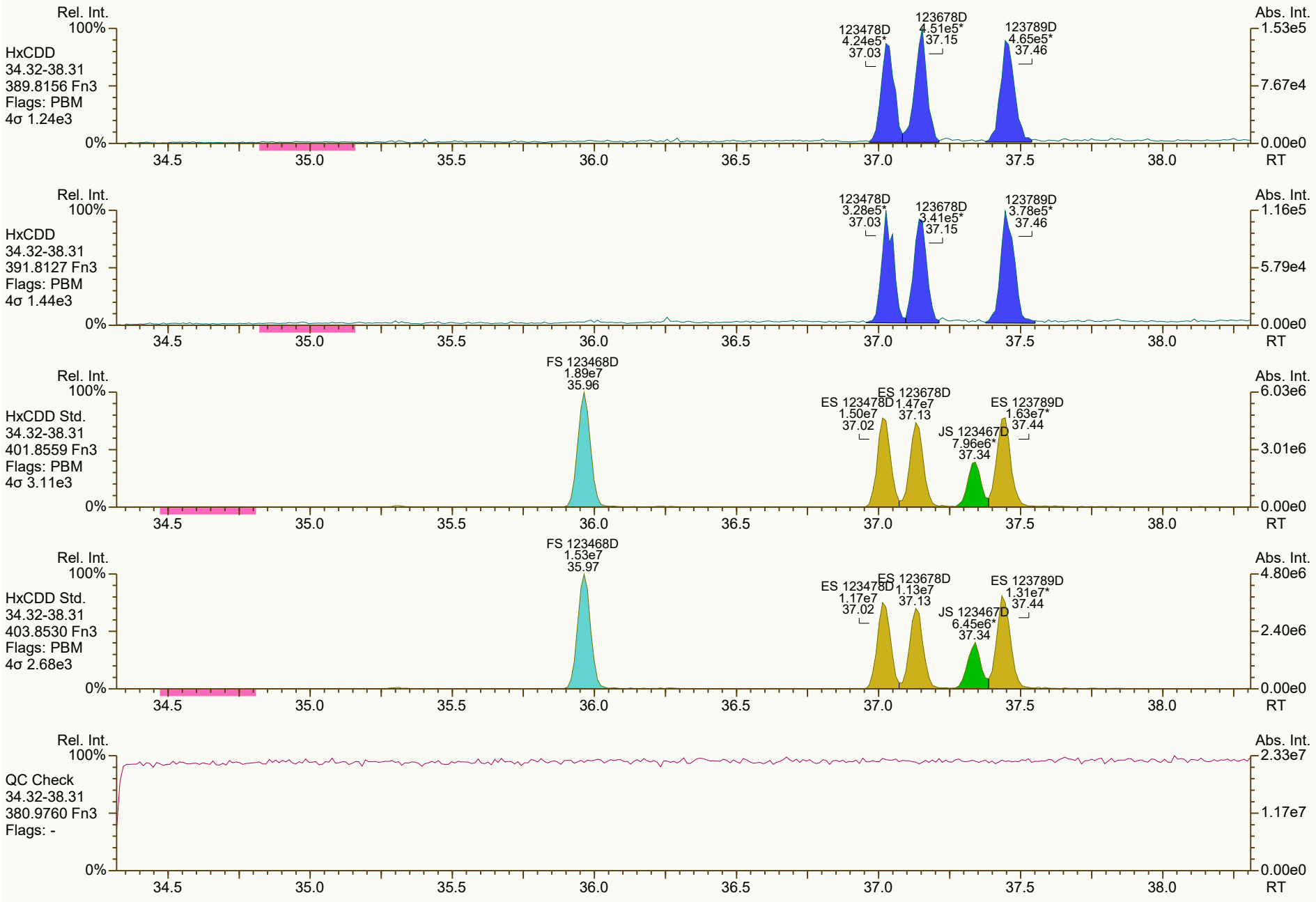
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

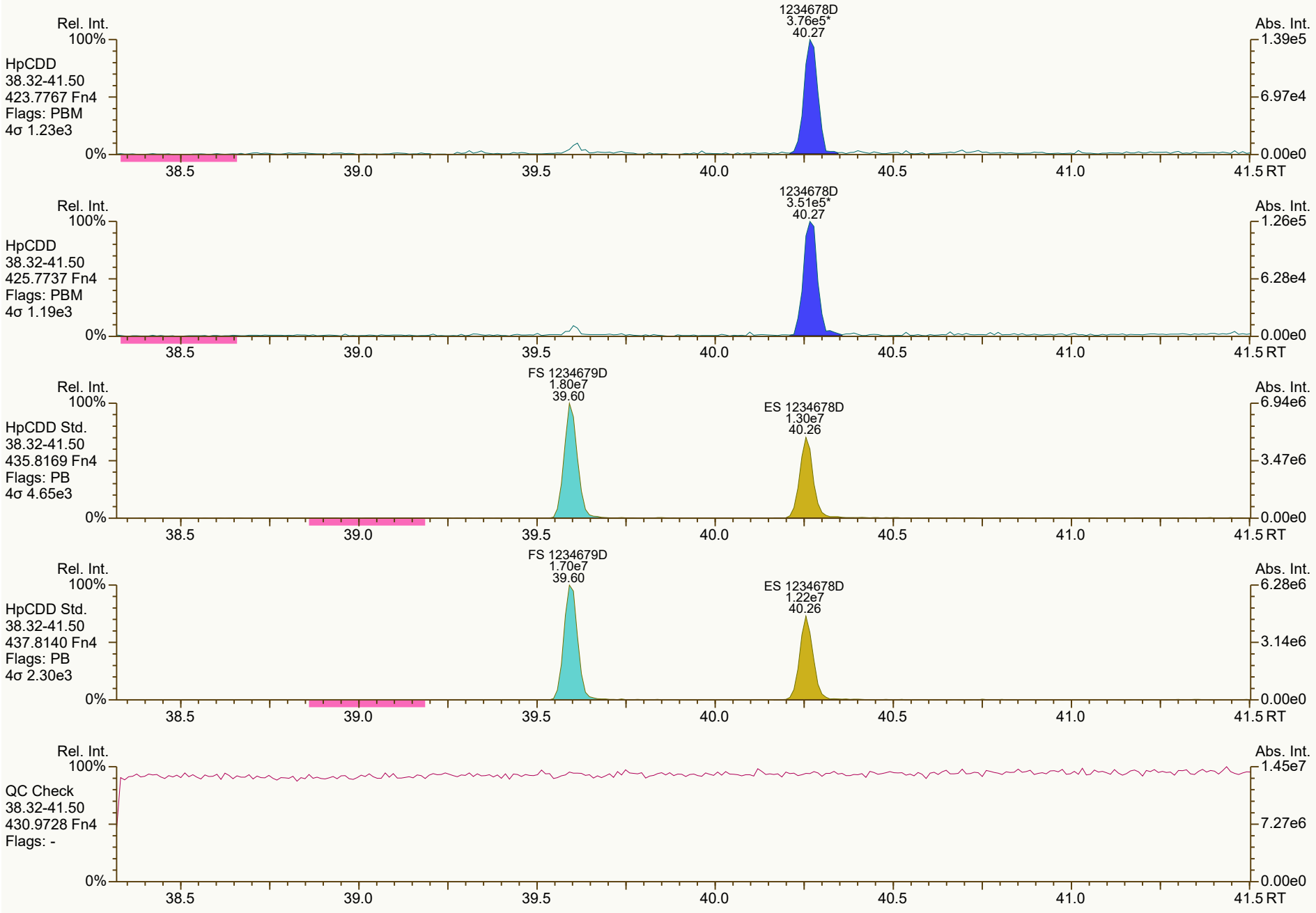


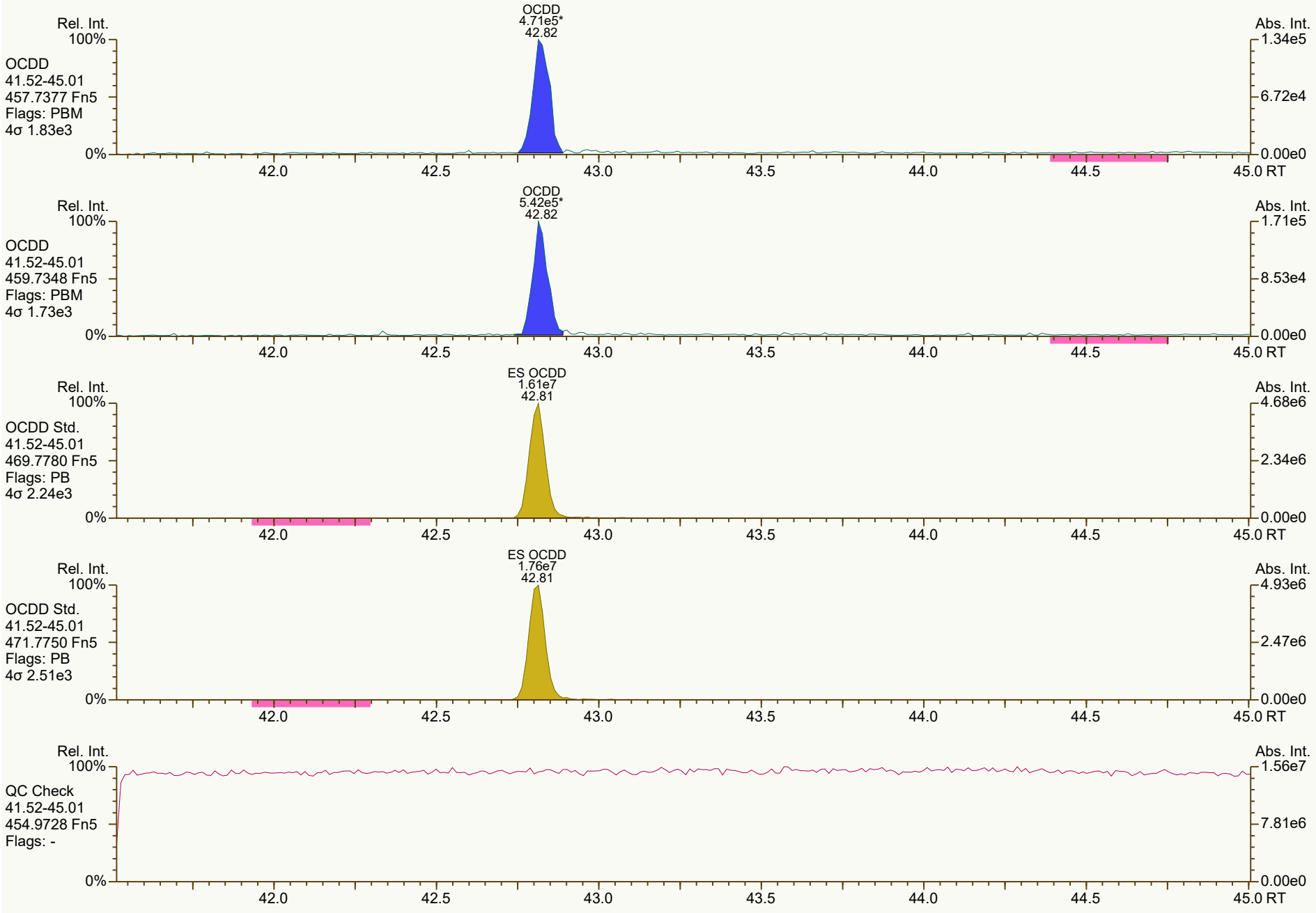
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

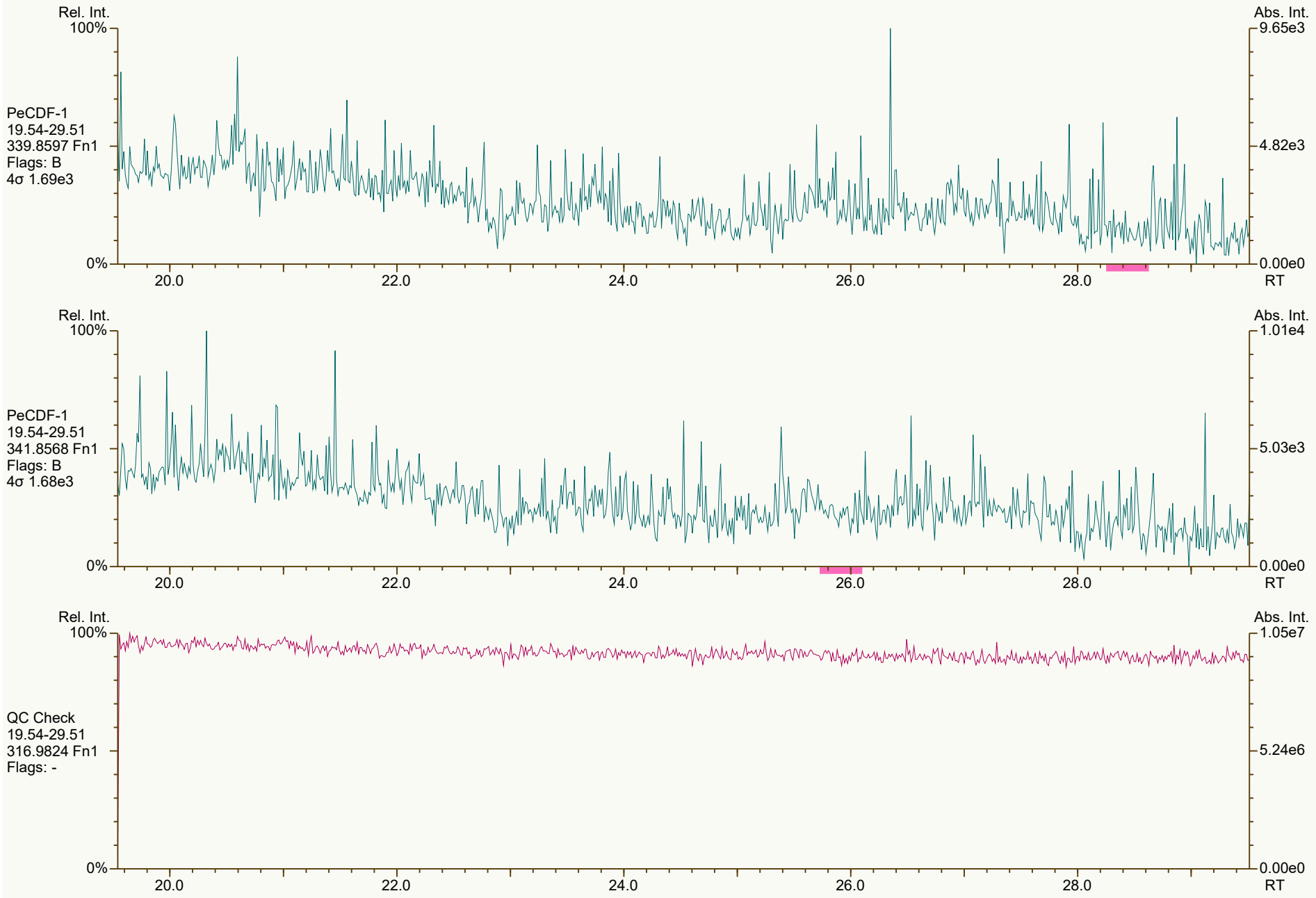

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

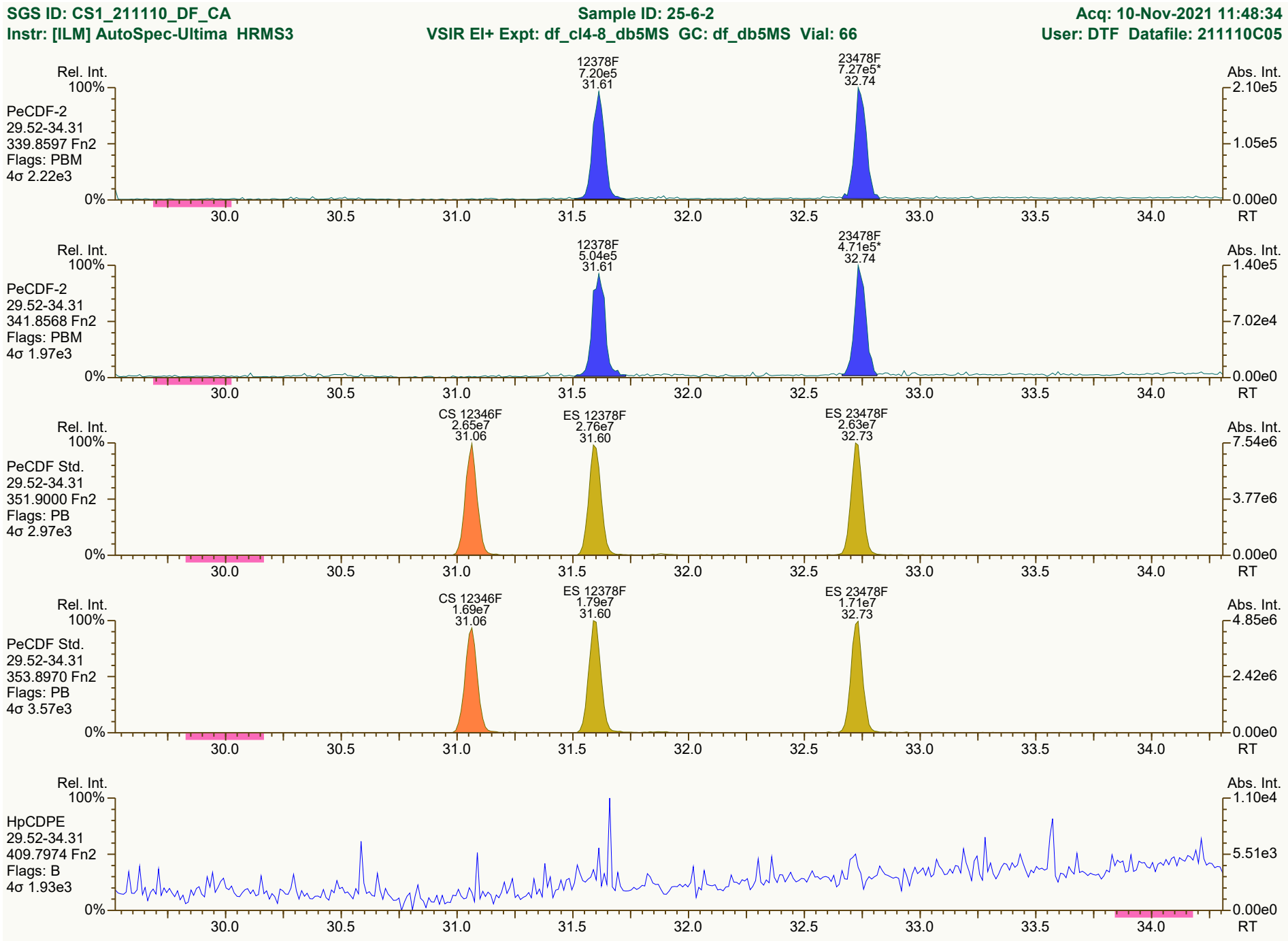

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

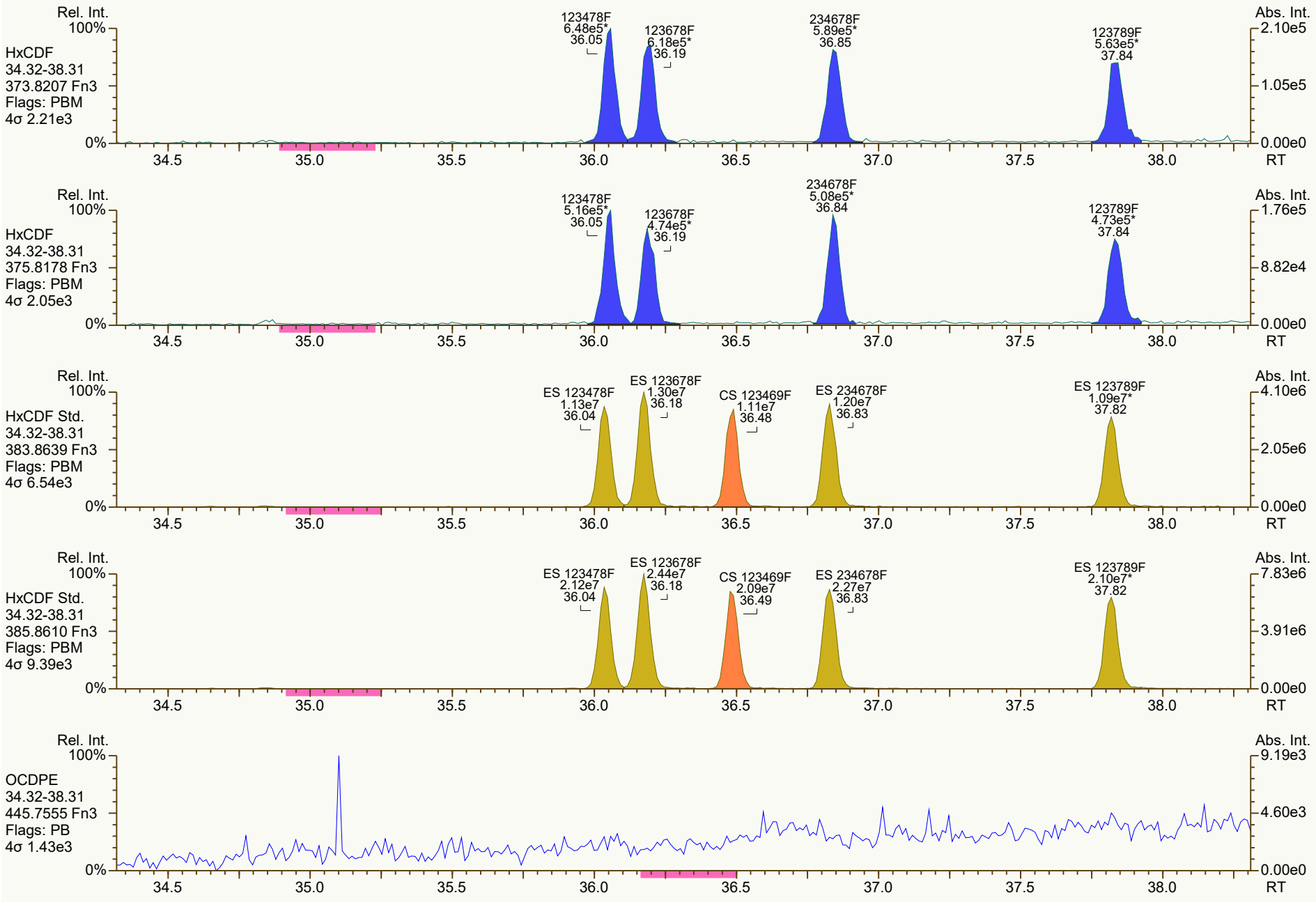

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

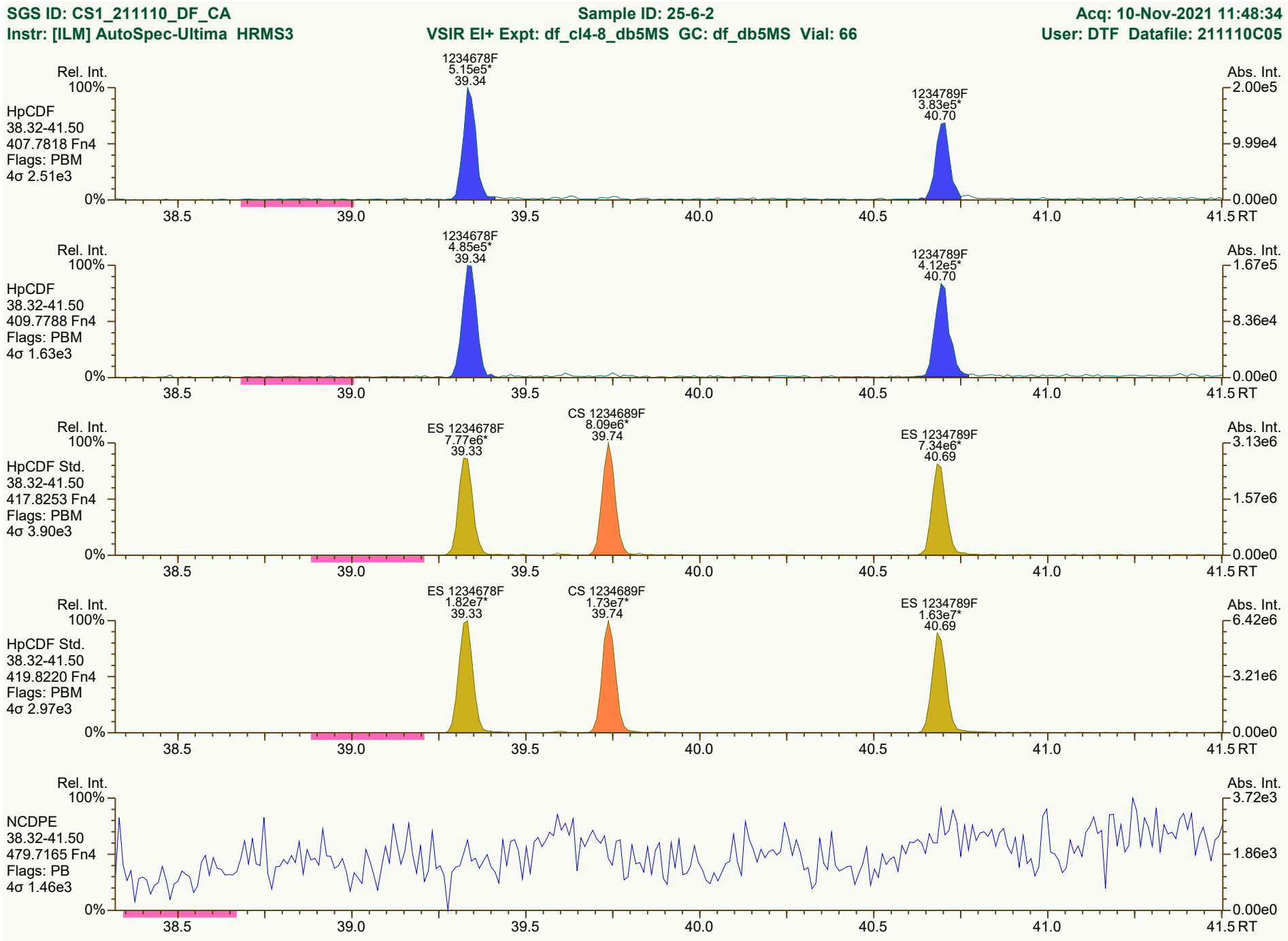

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

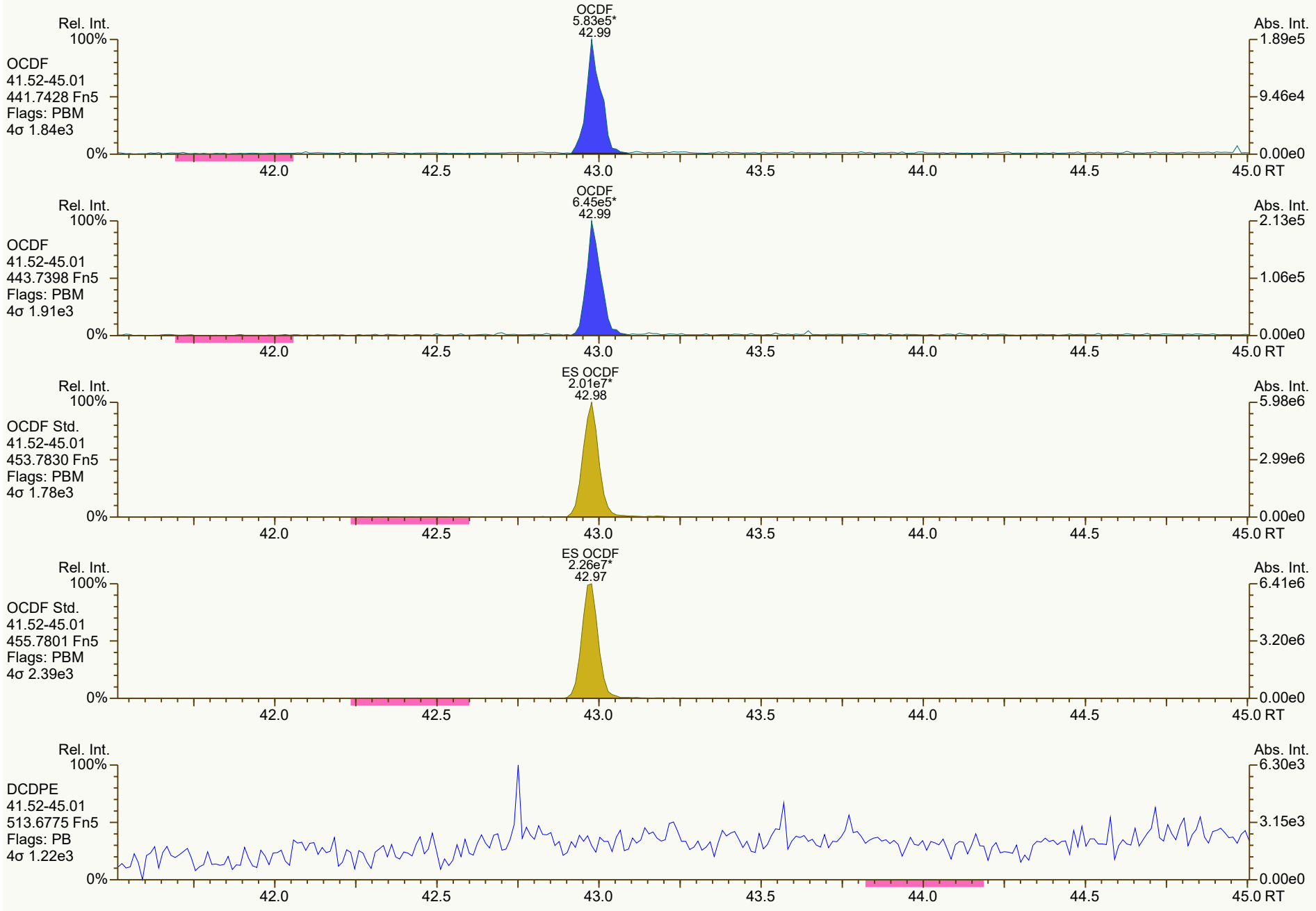

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.28e5*
26.67
2.58e4
1.29e4
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.70e5*
26.67
3.72e4
1.86e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
5.19e6
2.60e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
6.71e6
3.36e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
8.27e3
4.13e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6036, 5912, 9463 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

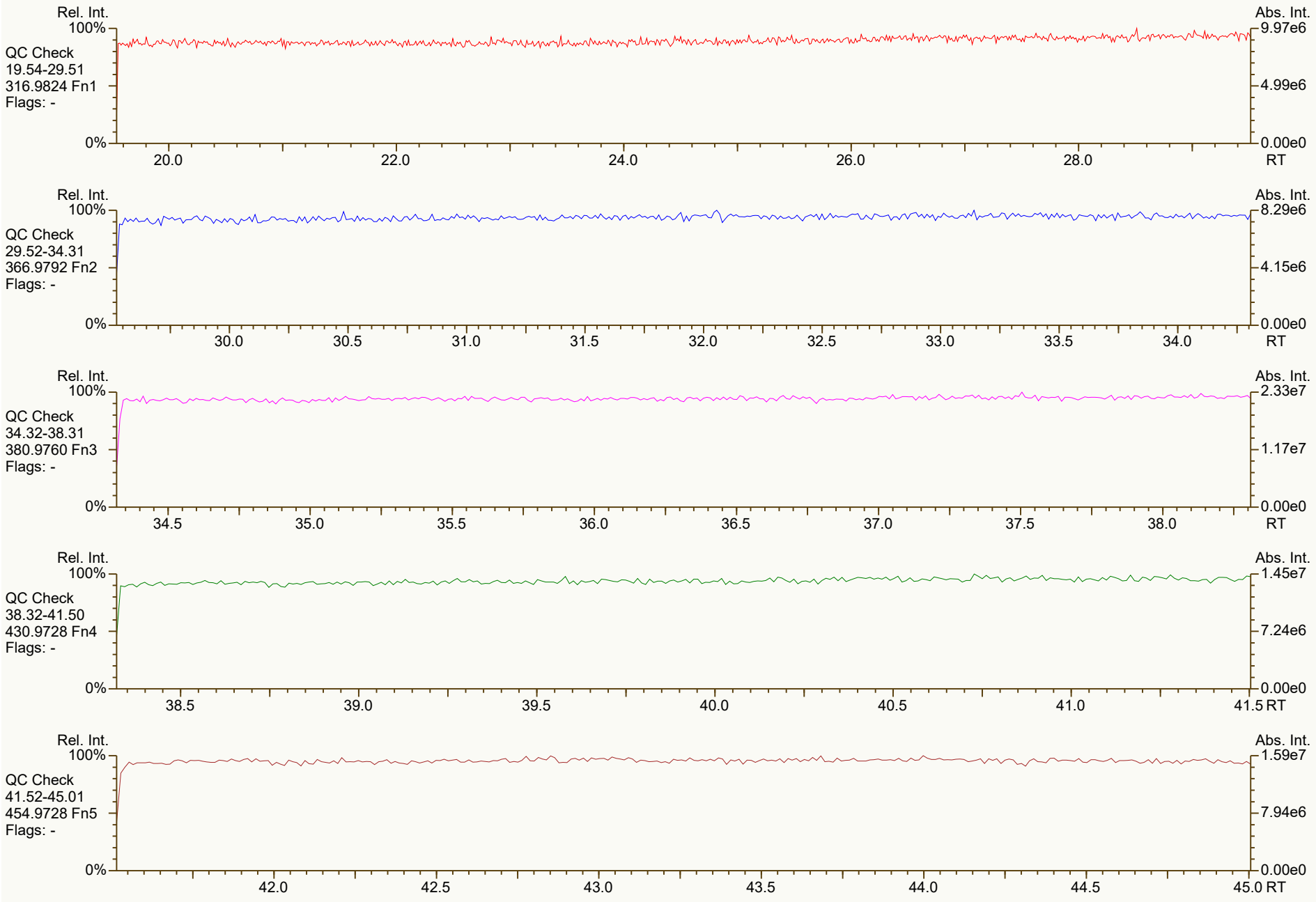

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

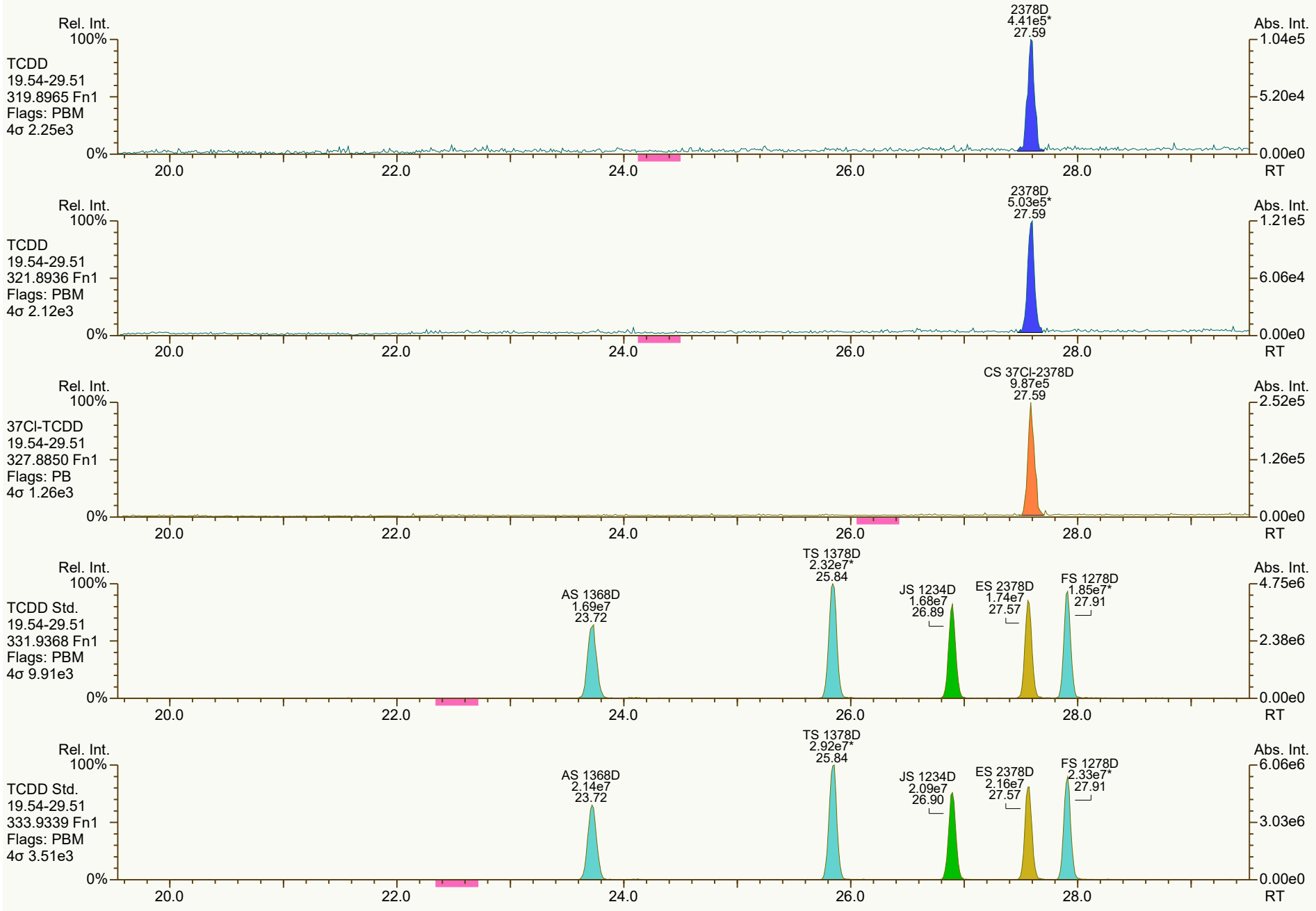
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

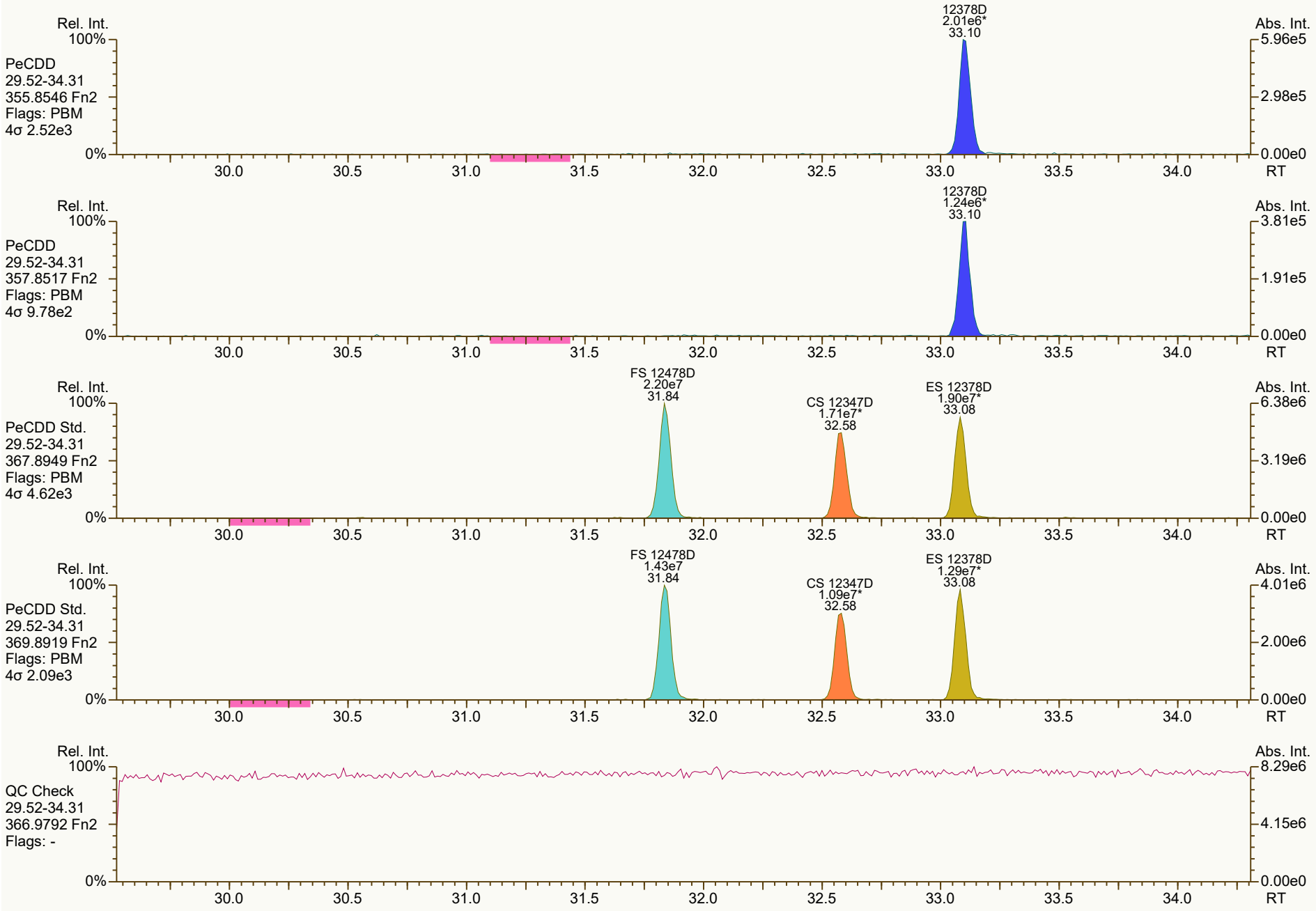
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

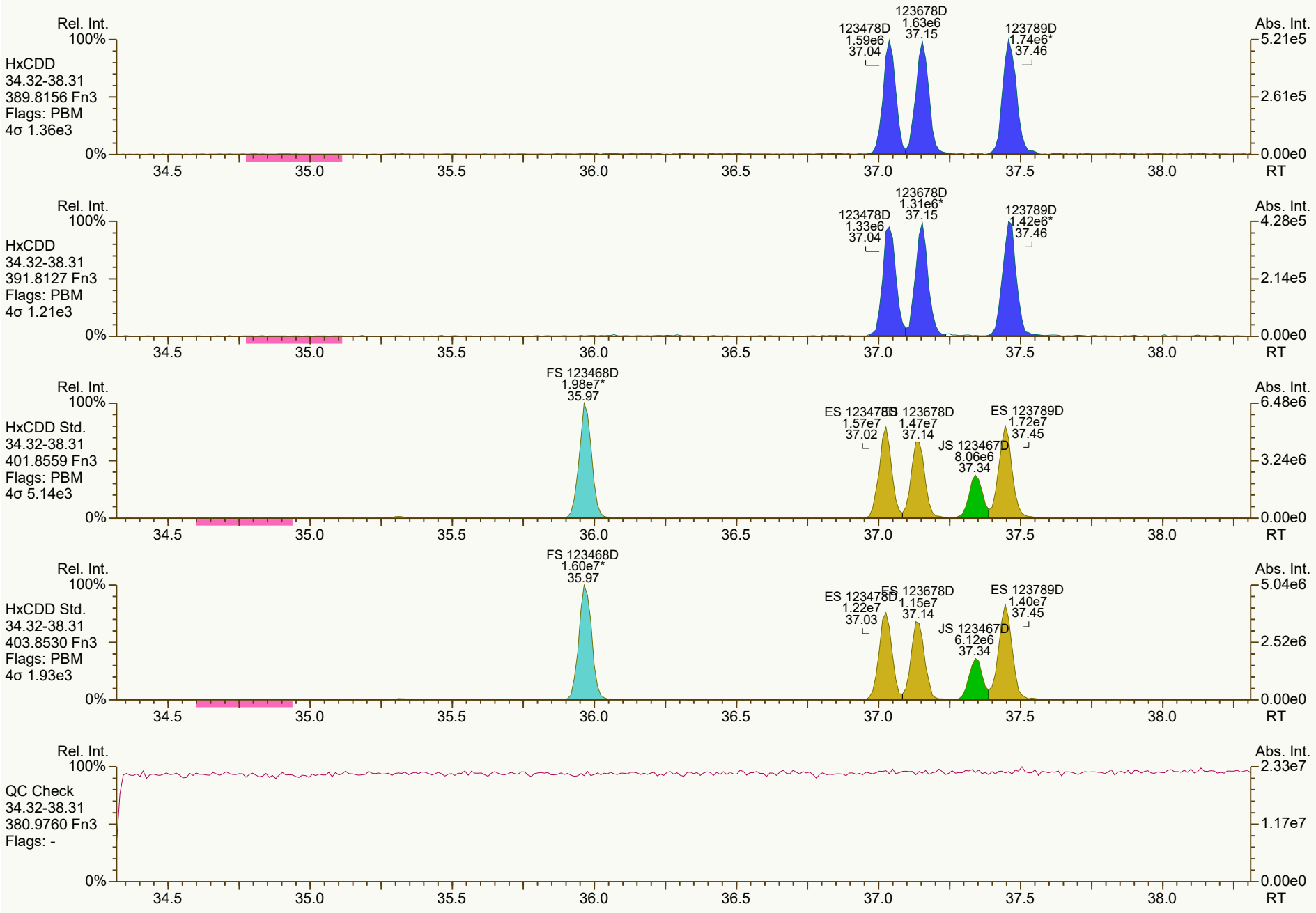
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

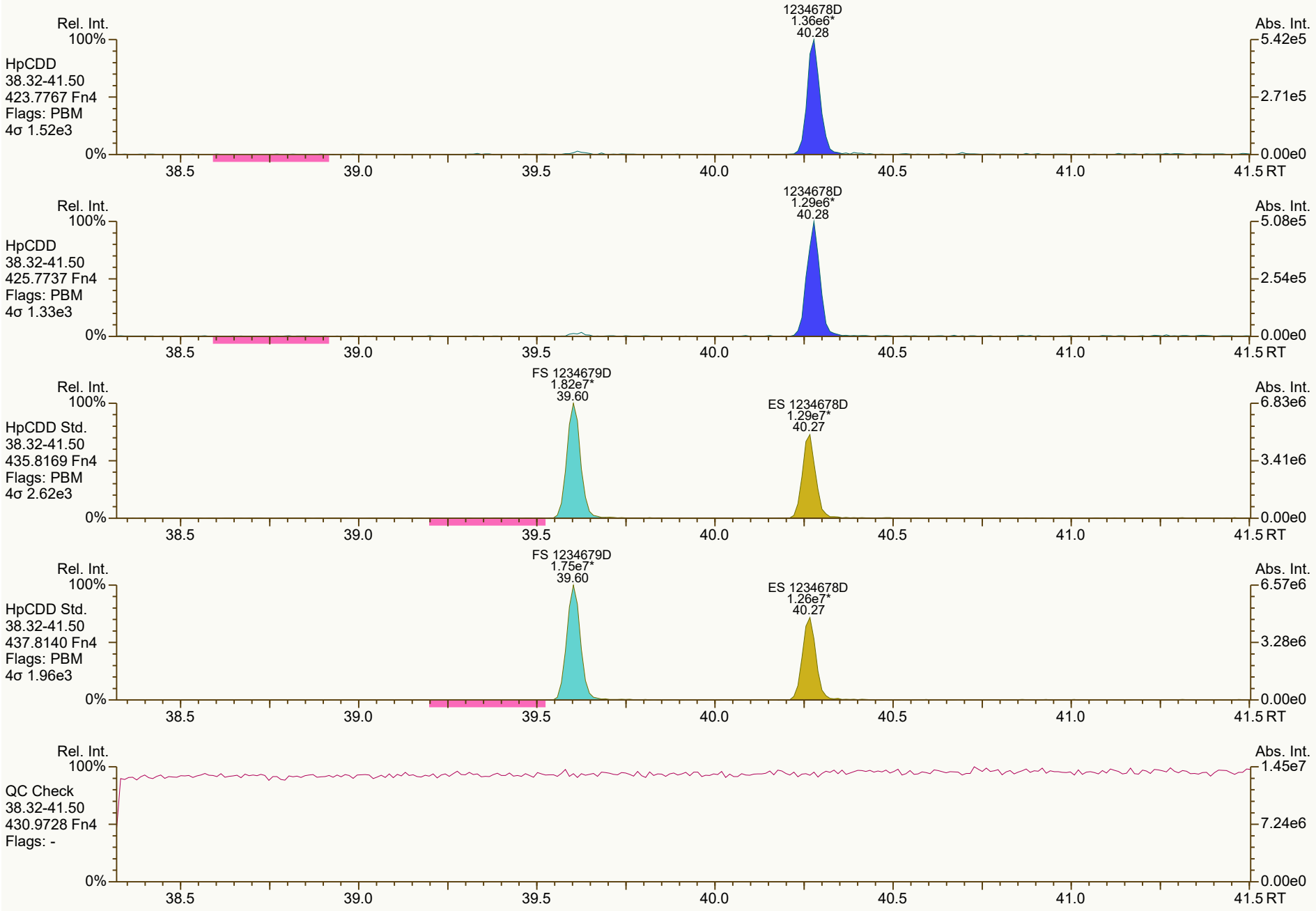
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

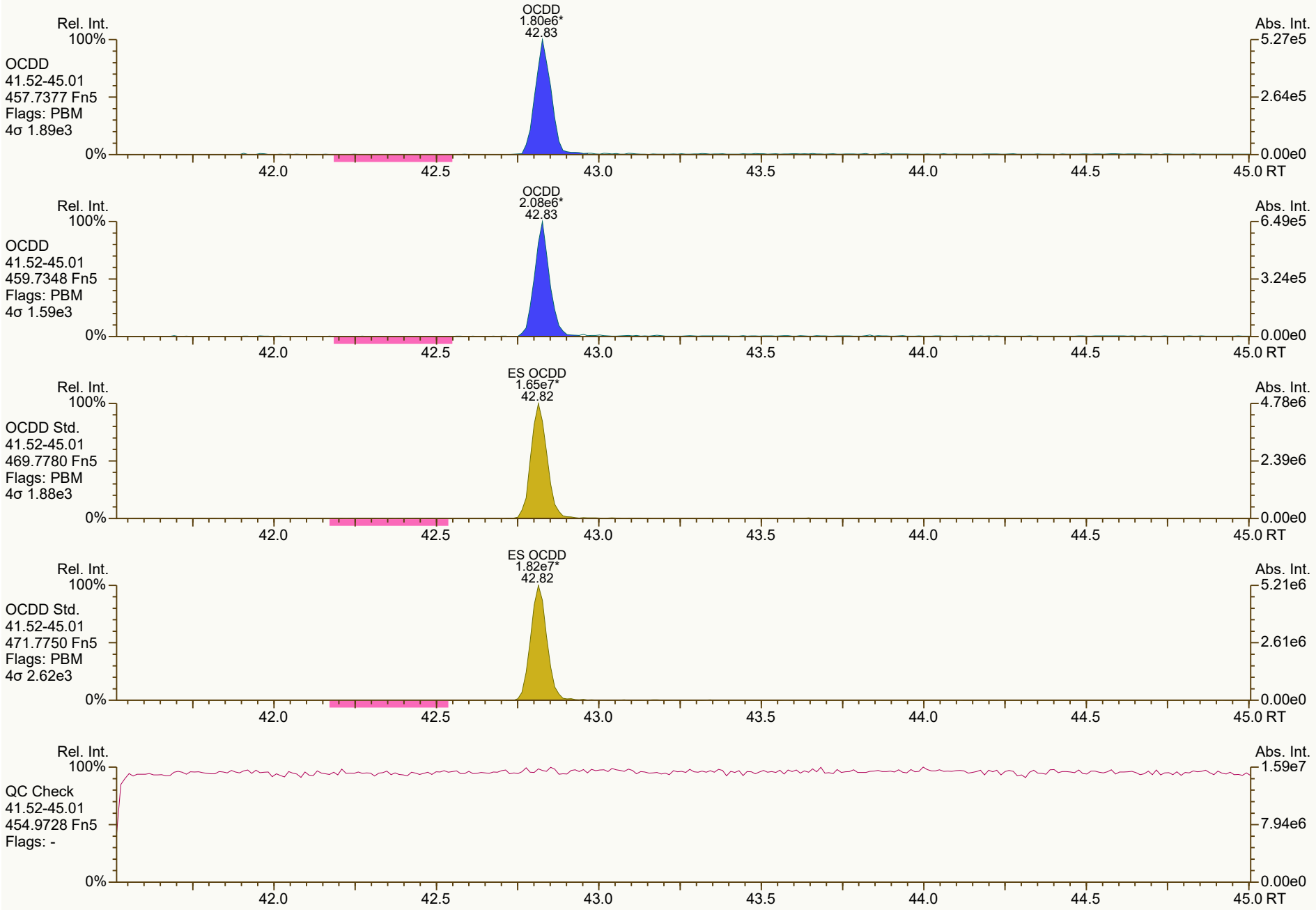

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

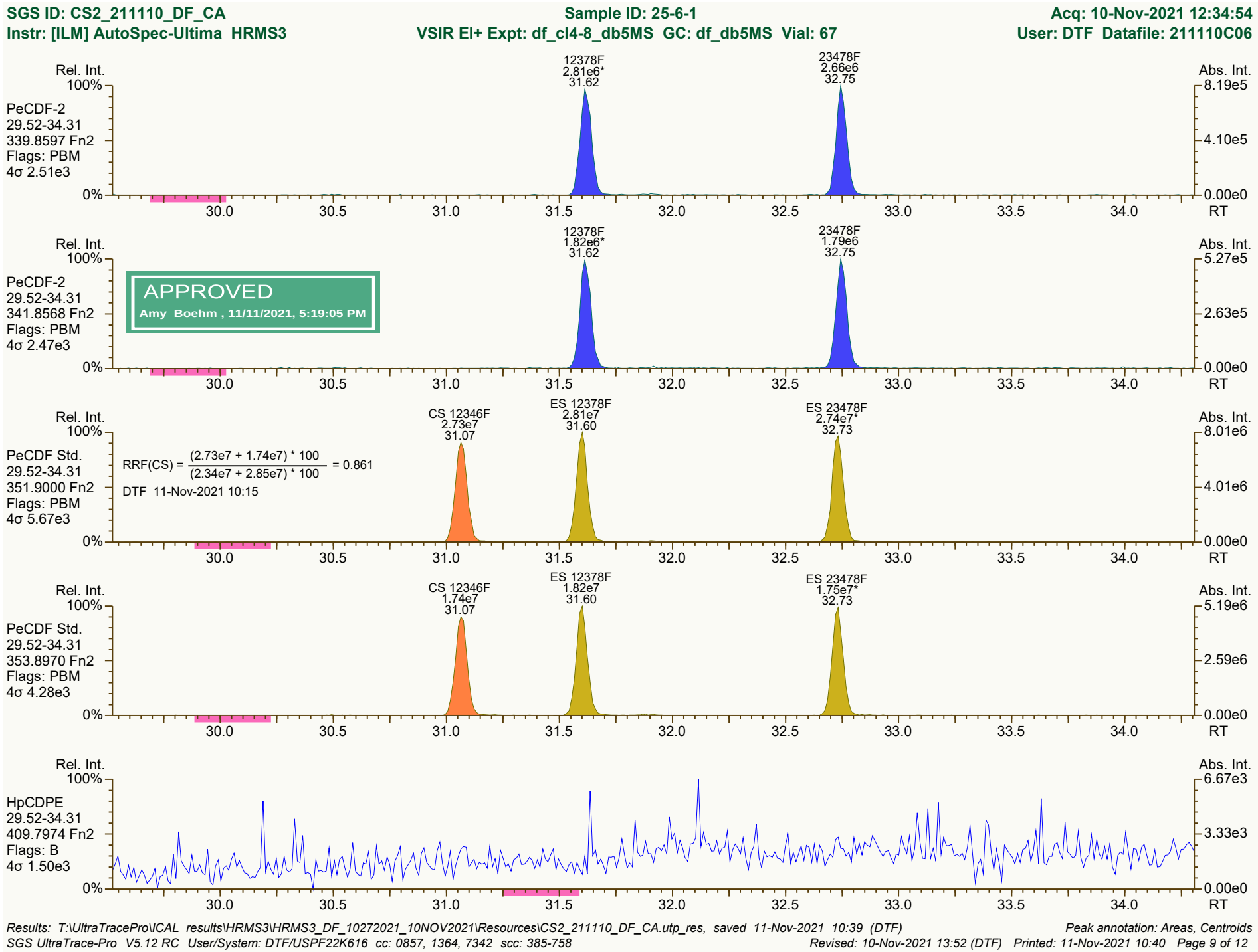

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

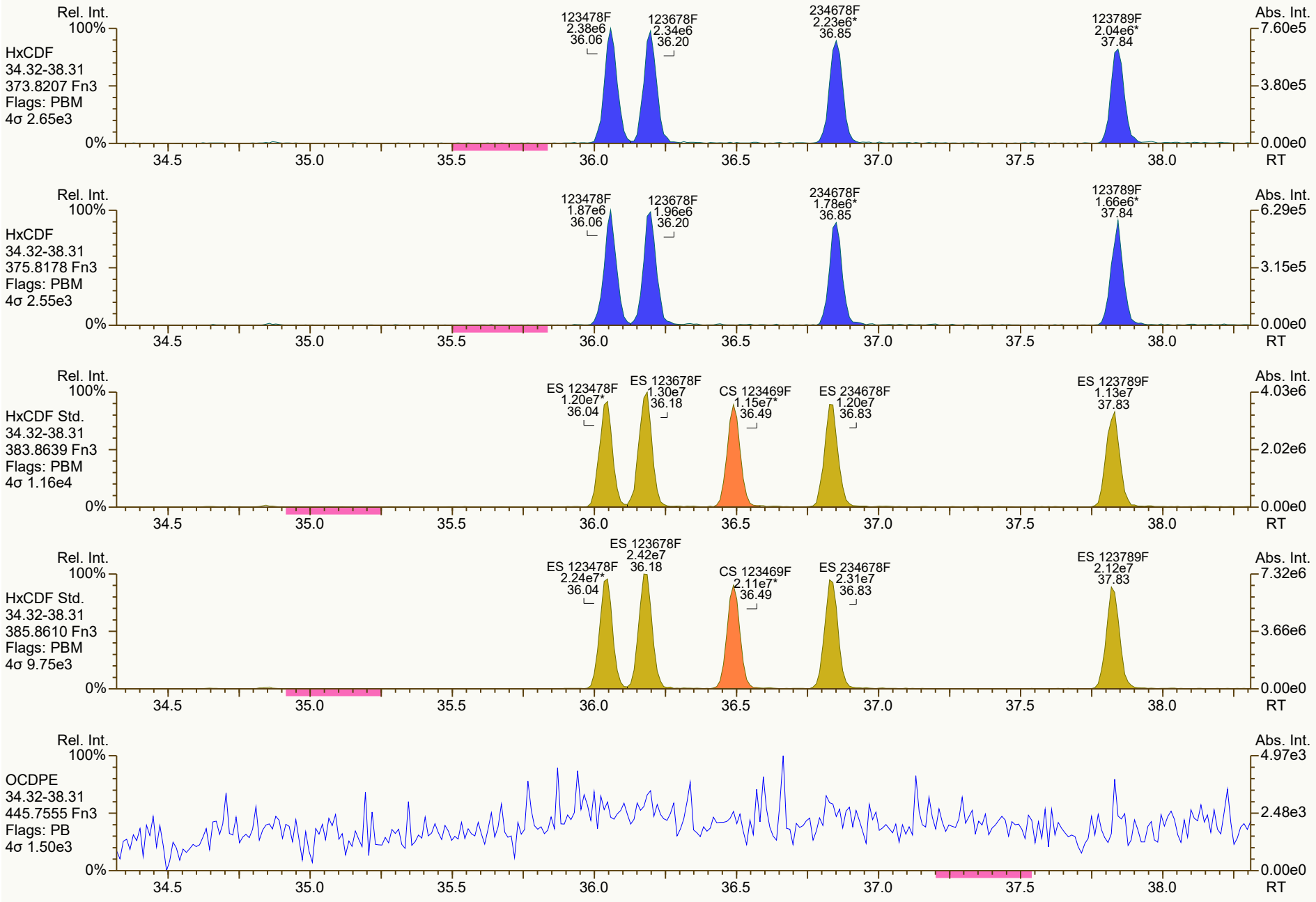

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

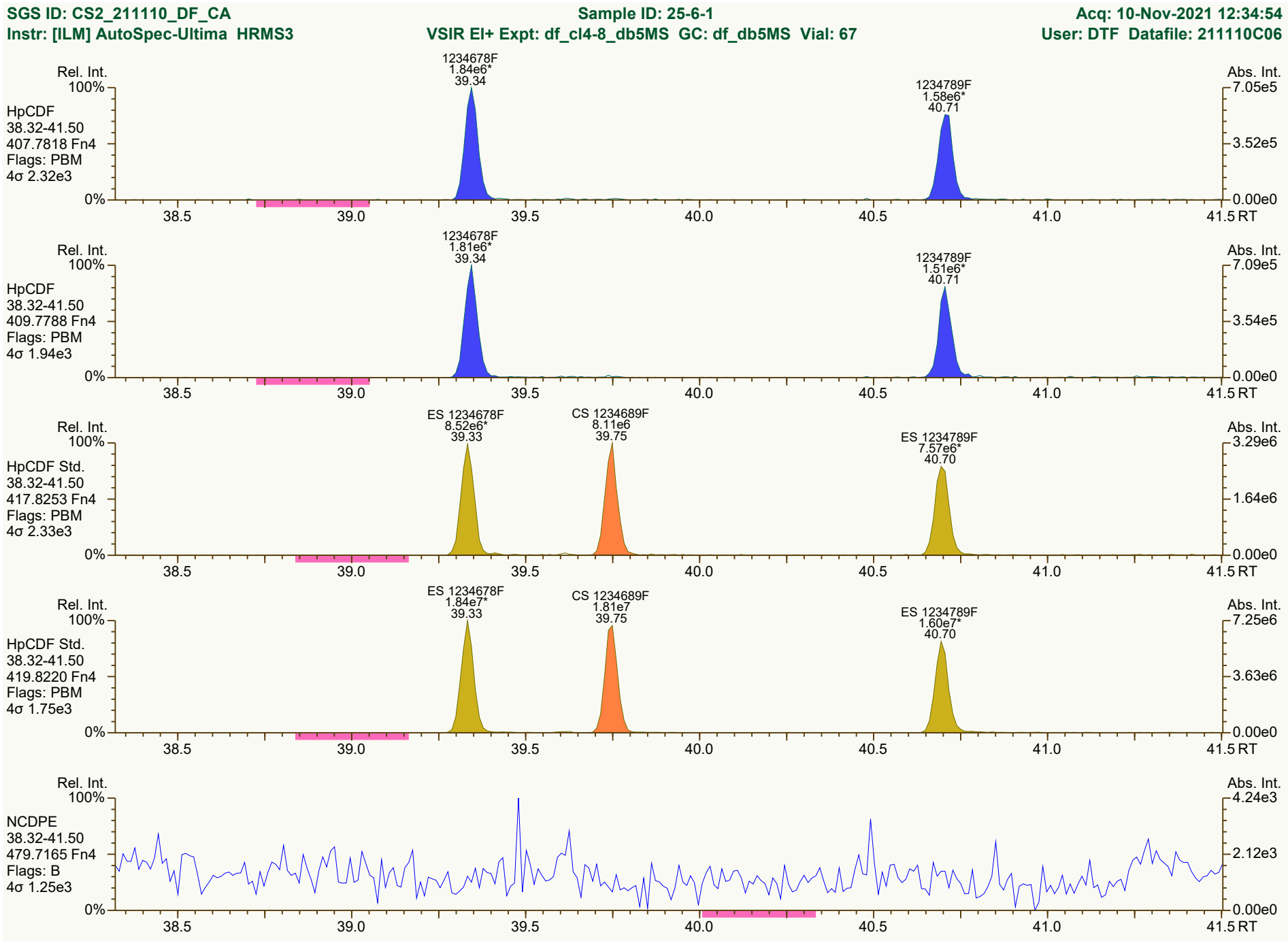

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

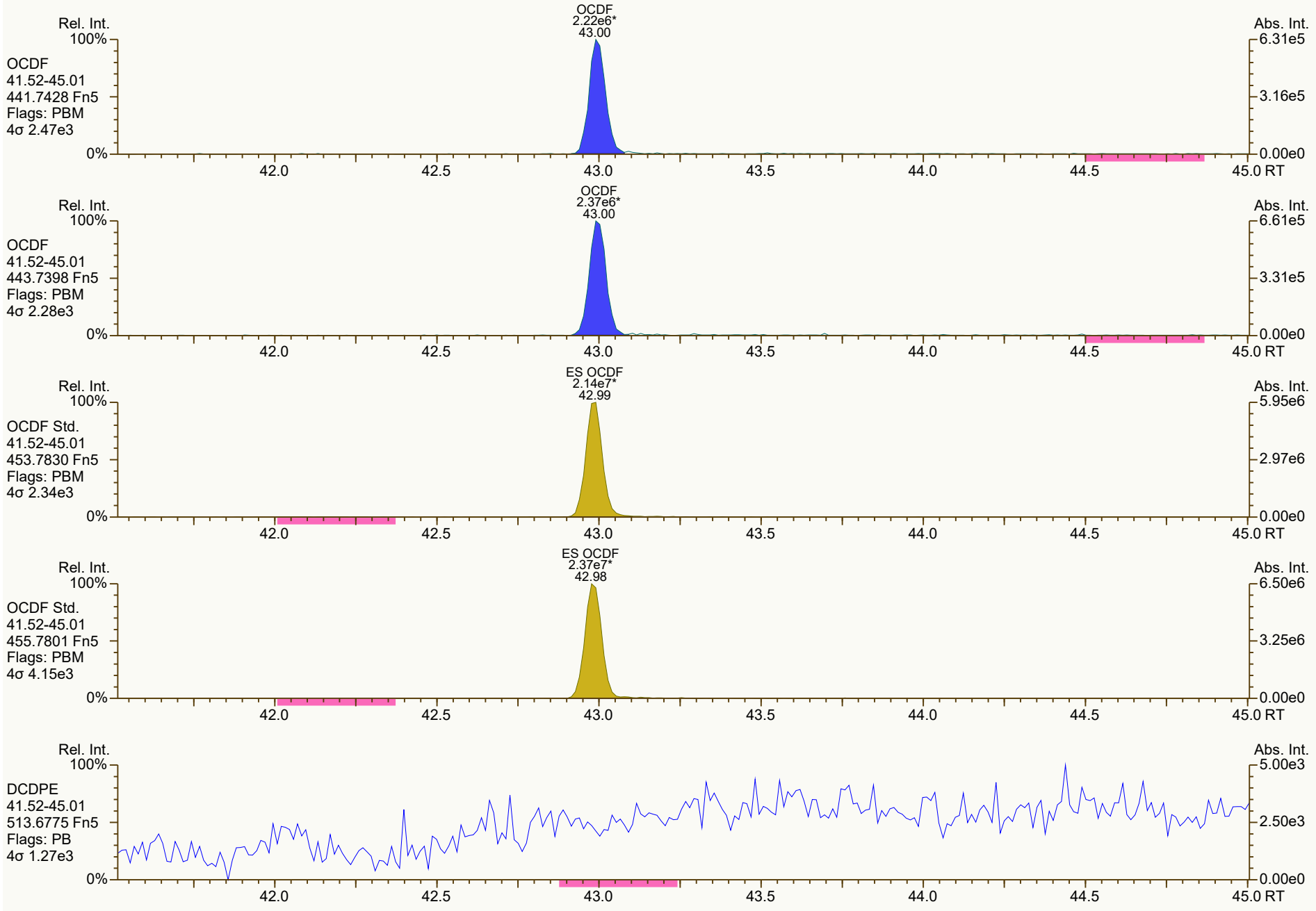

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

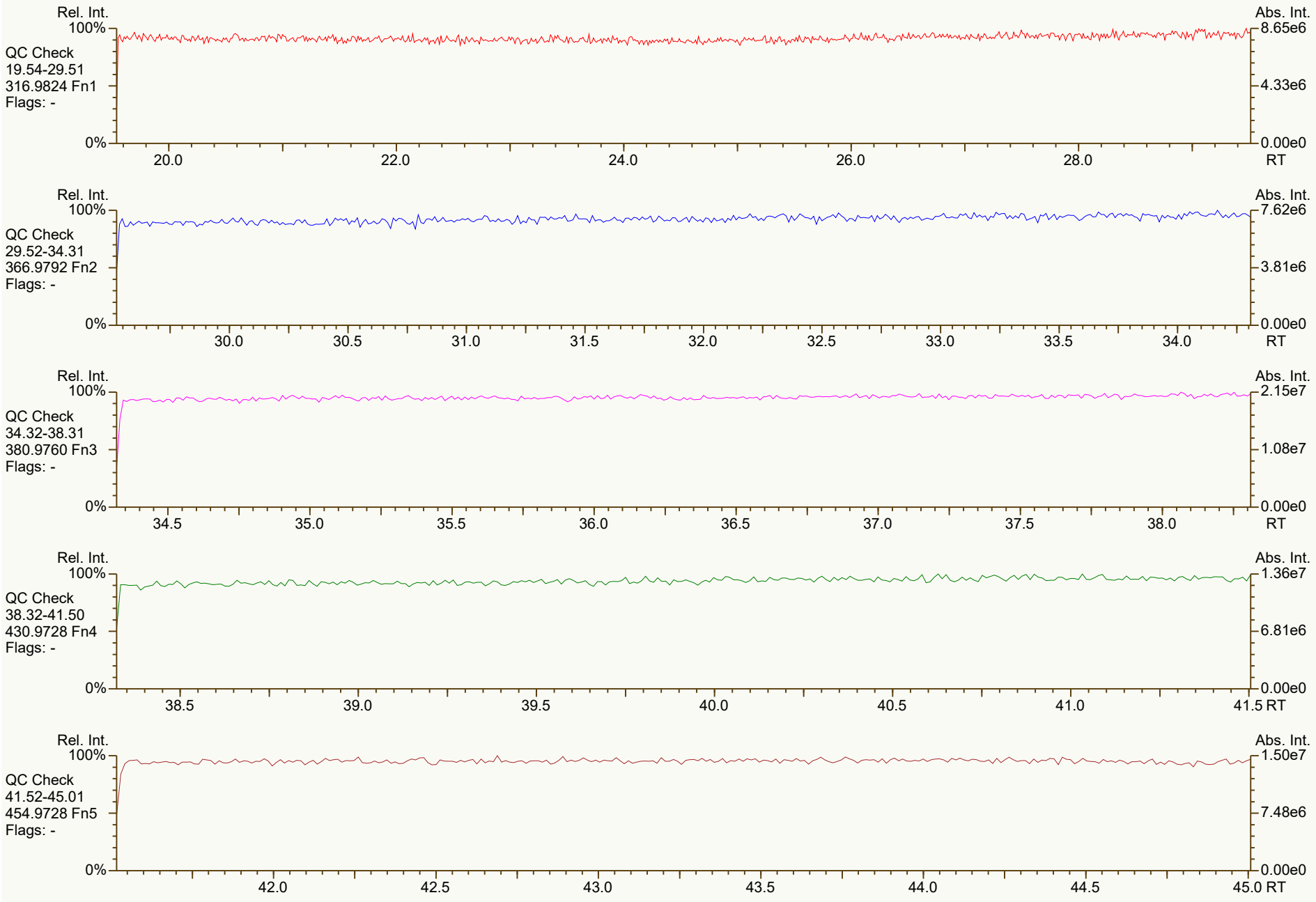

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

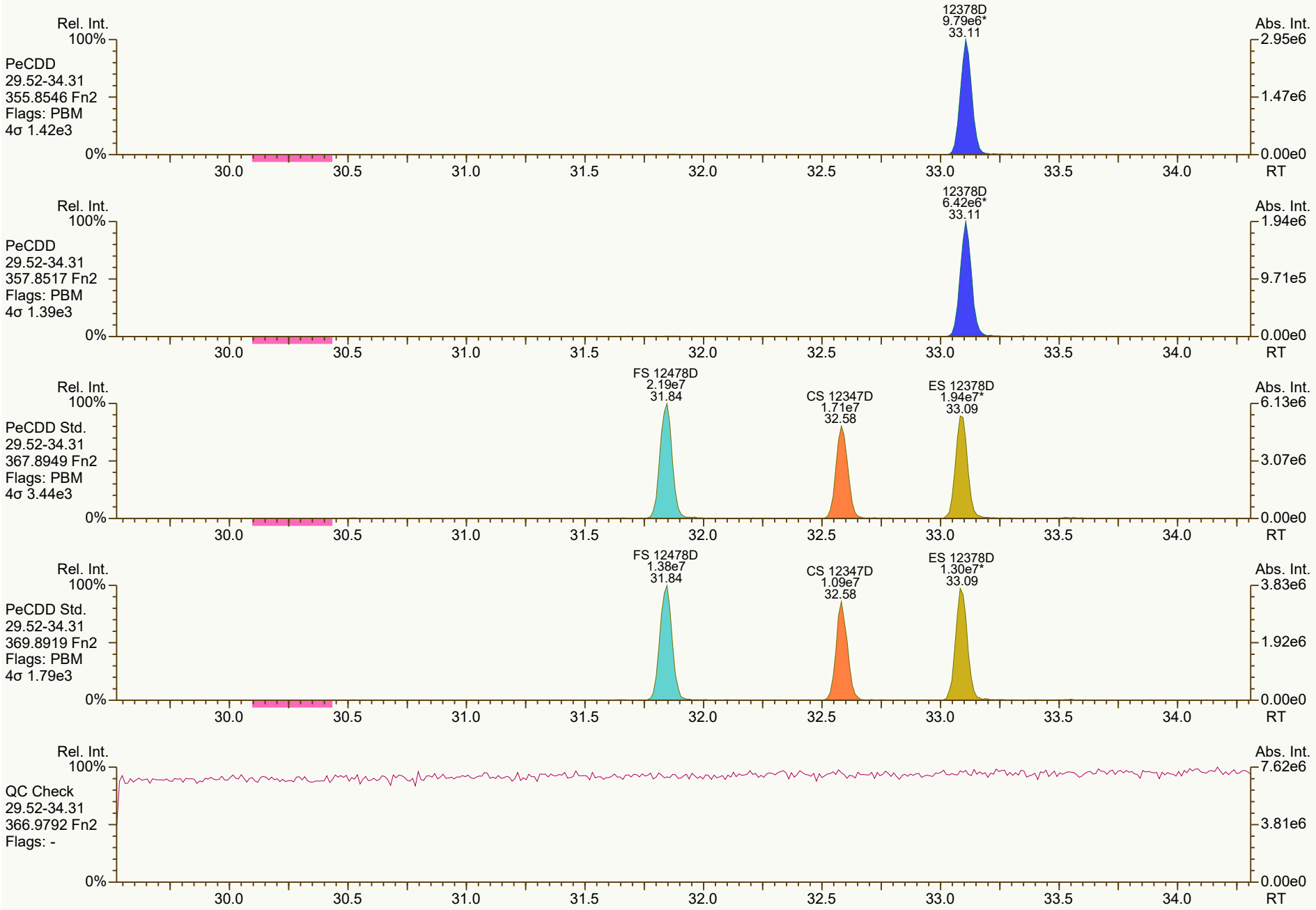
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

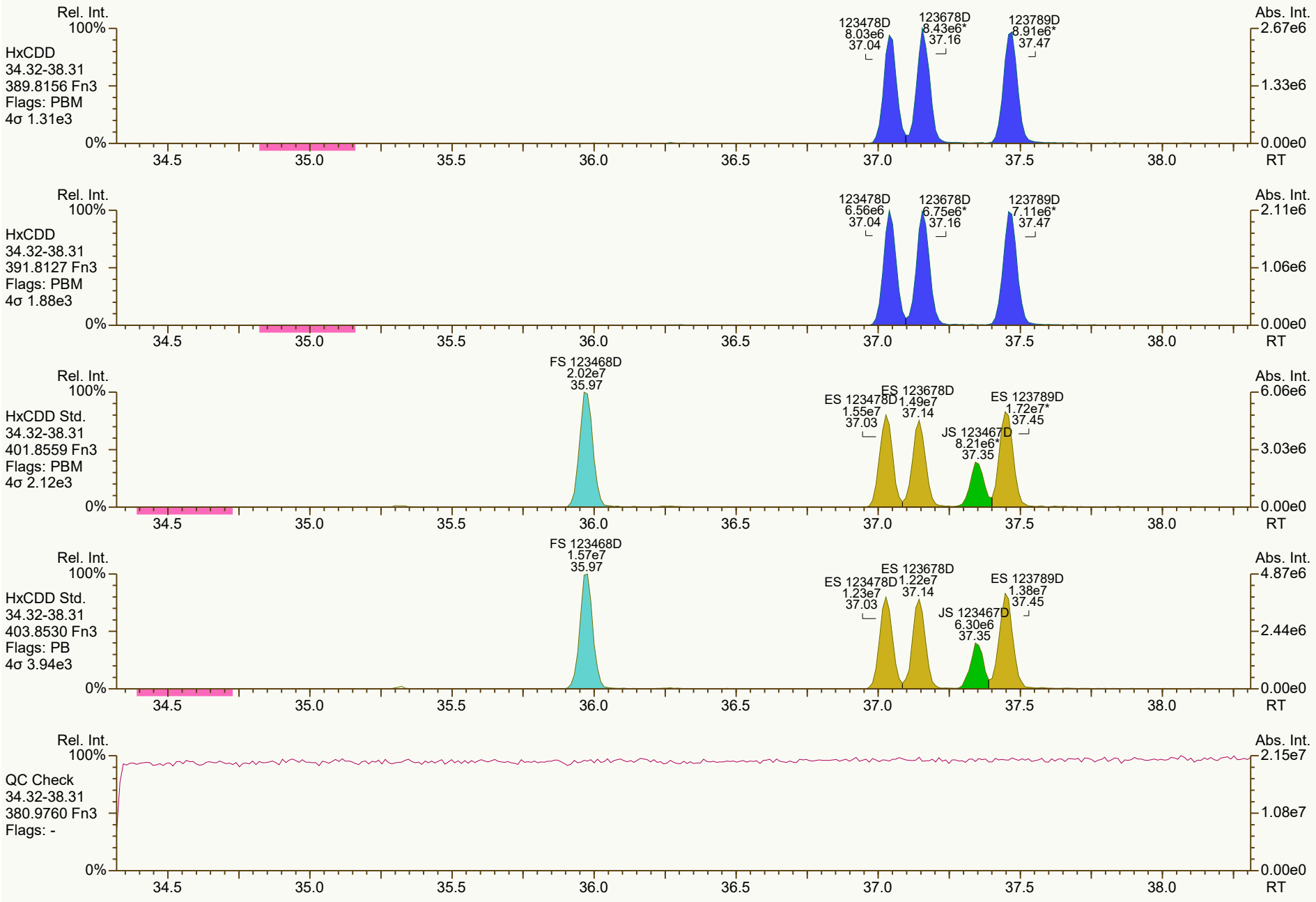
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

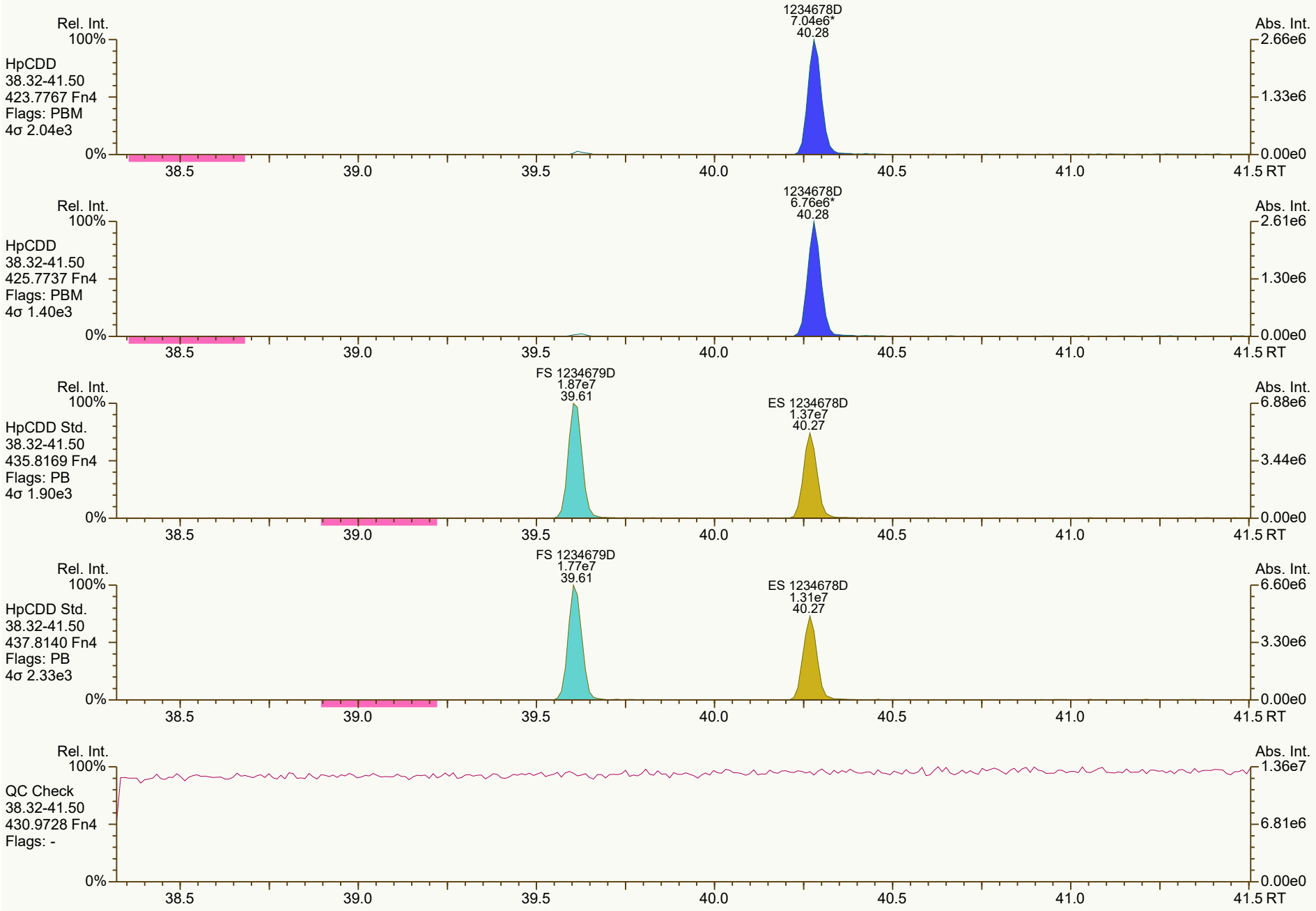
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

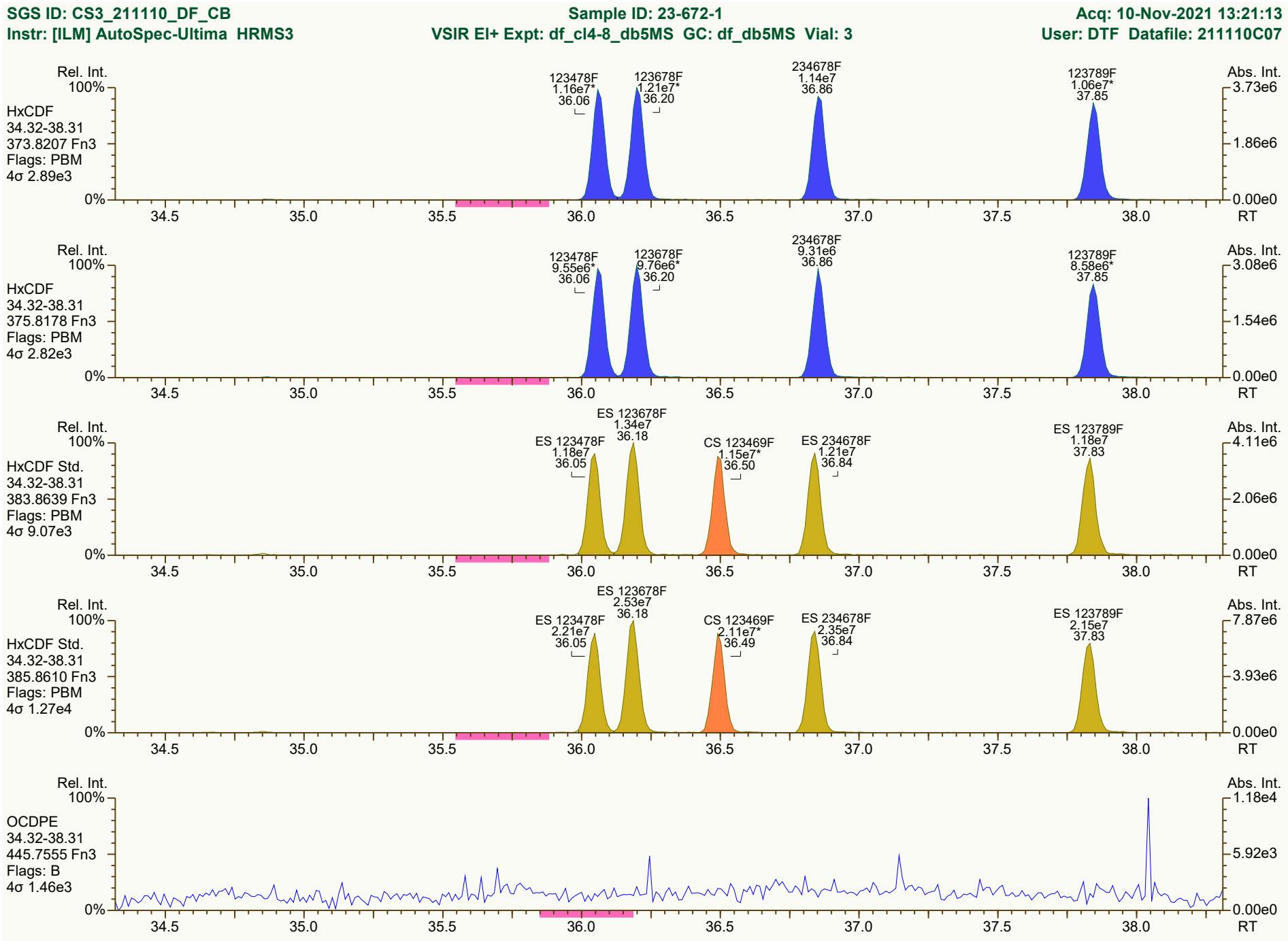

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

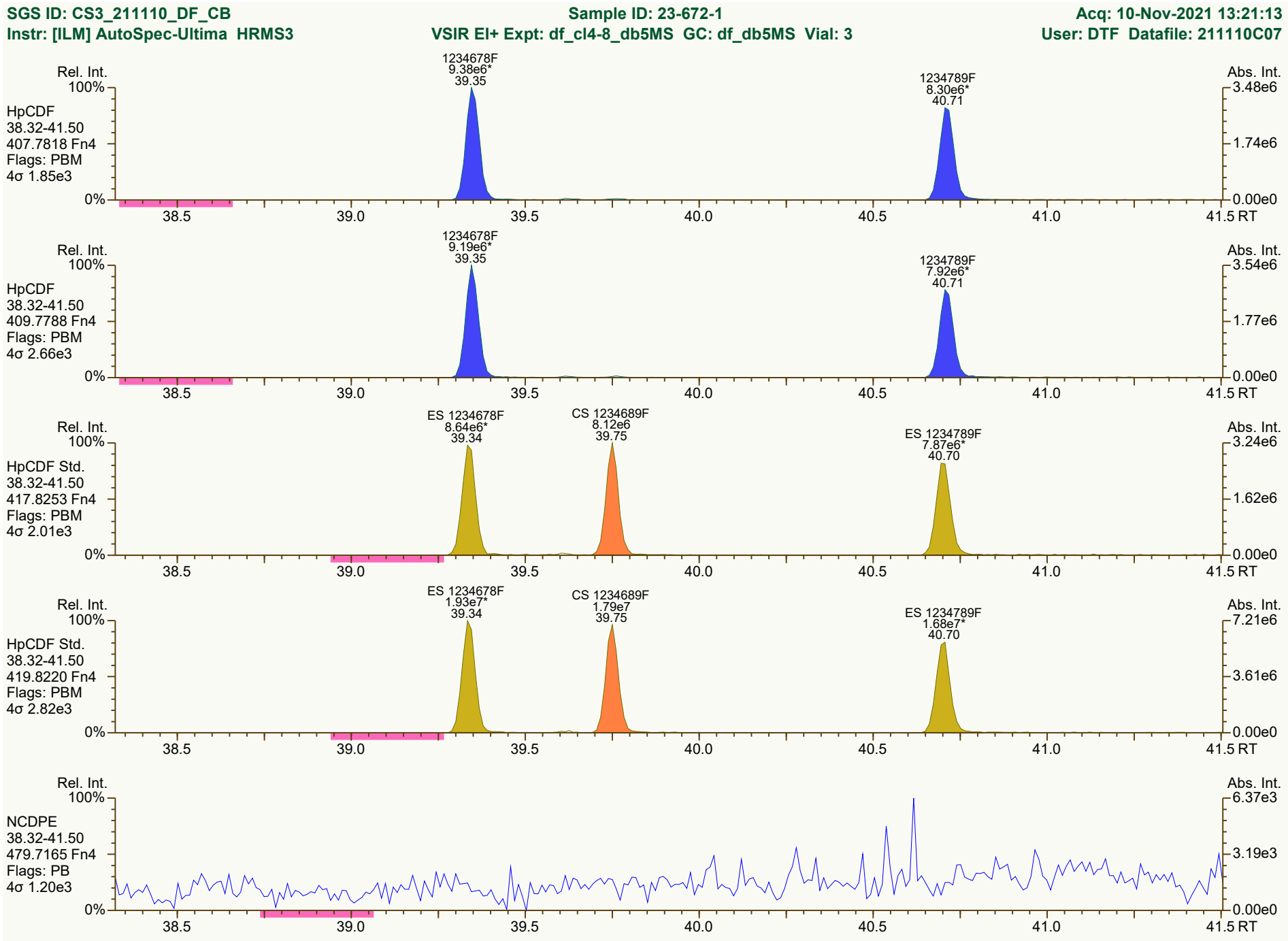

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

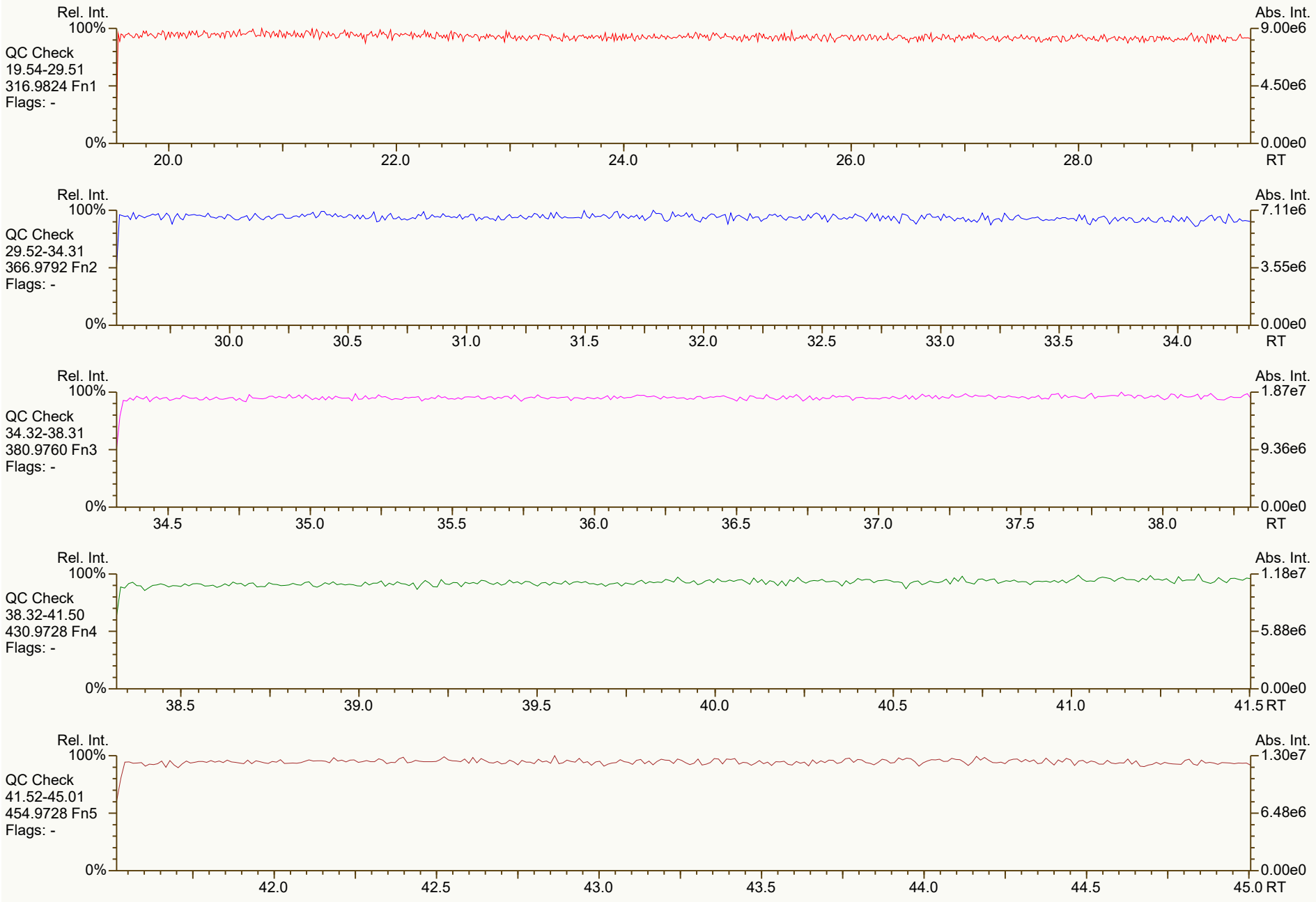

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

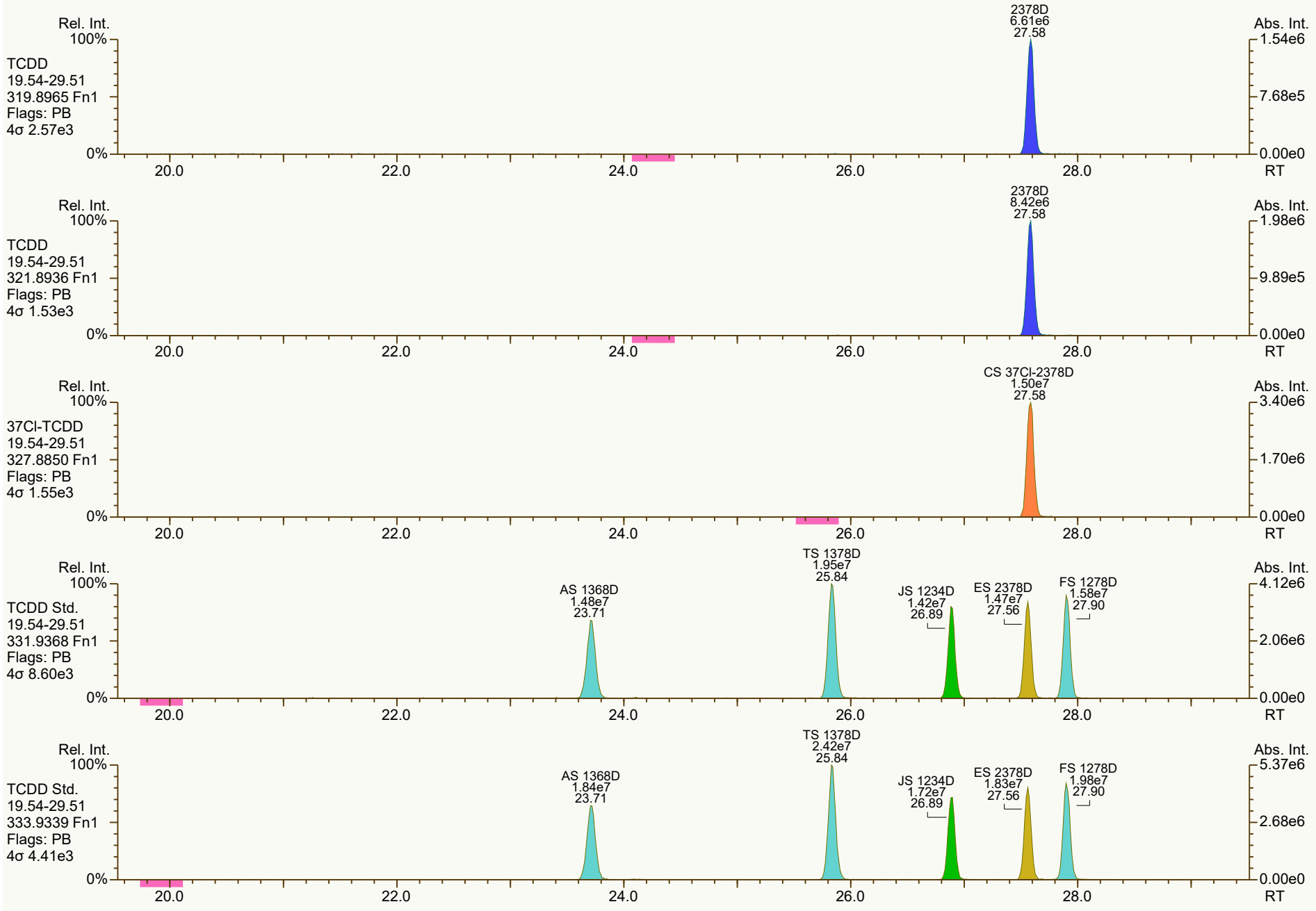
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

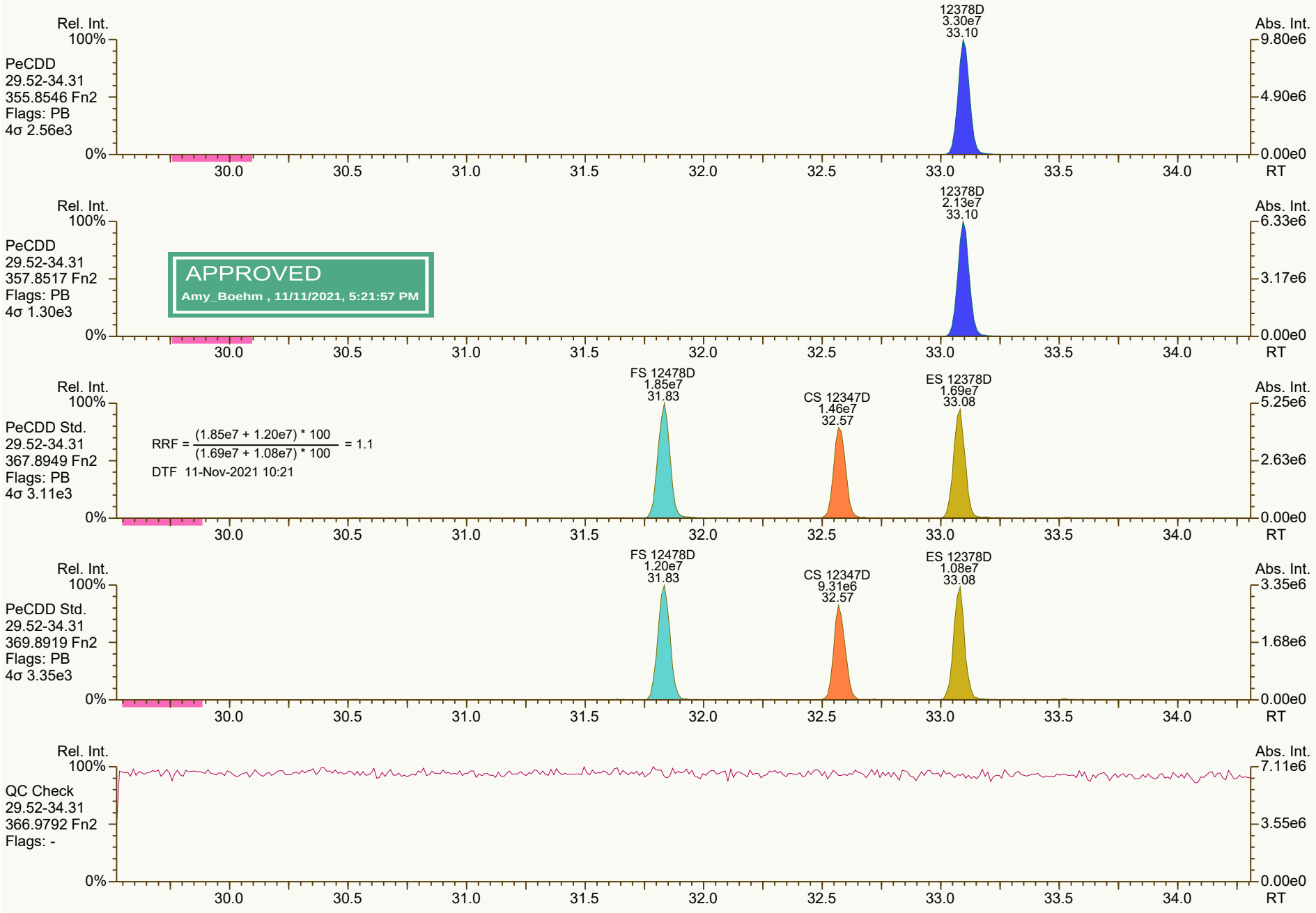
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

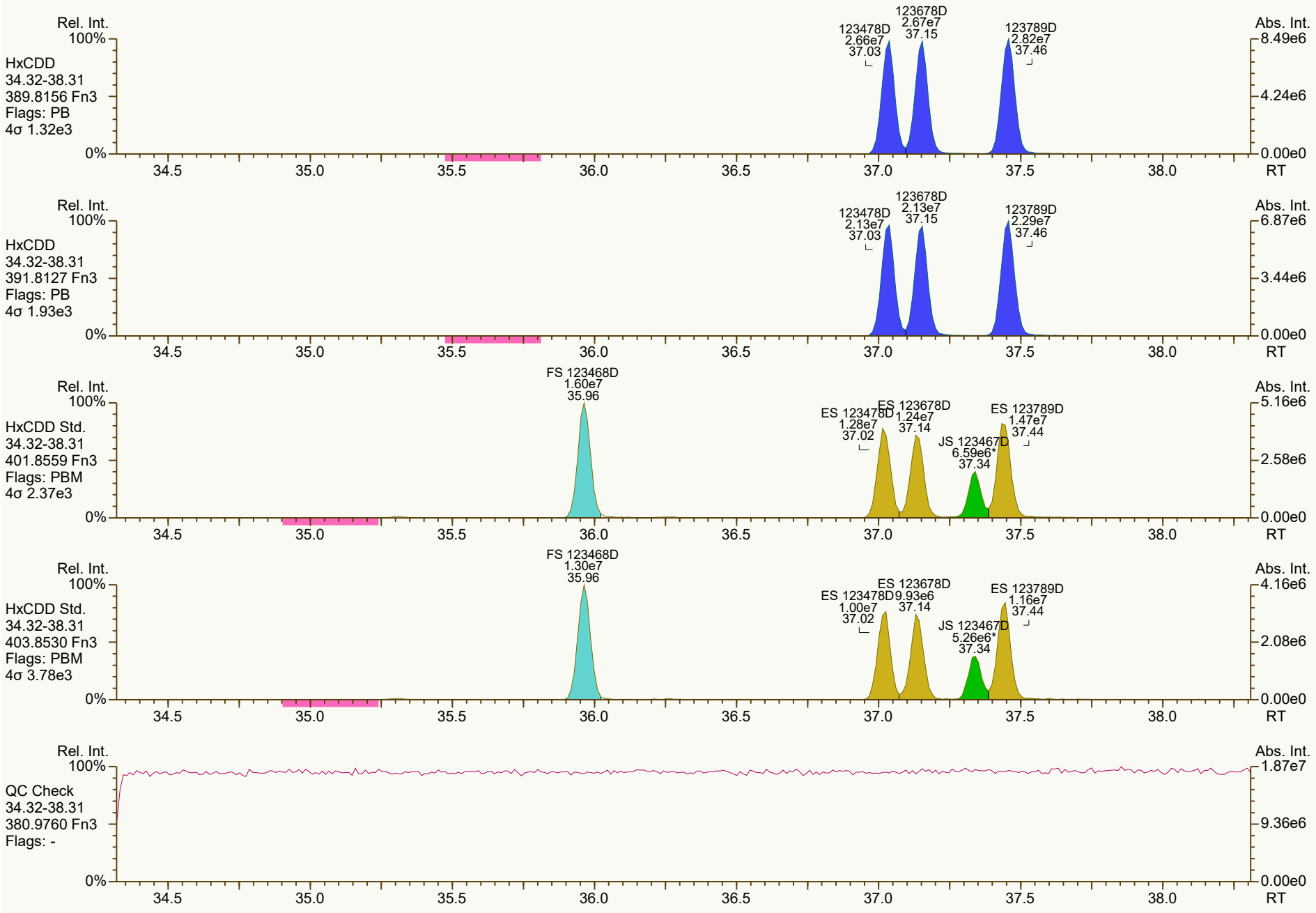
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

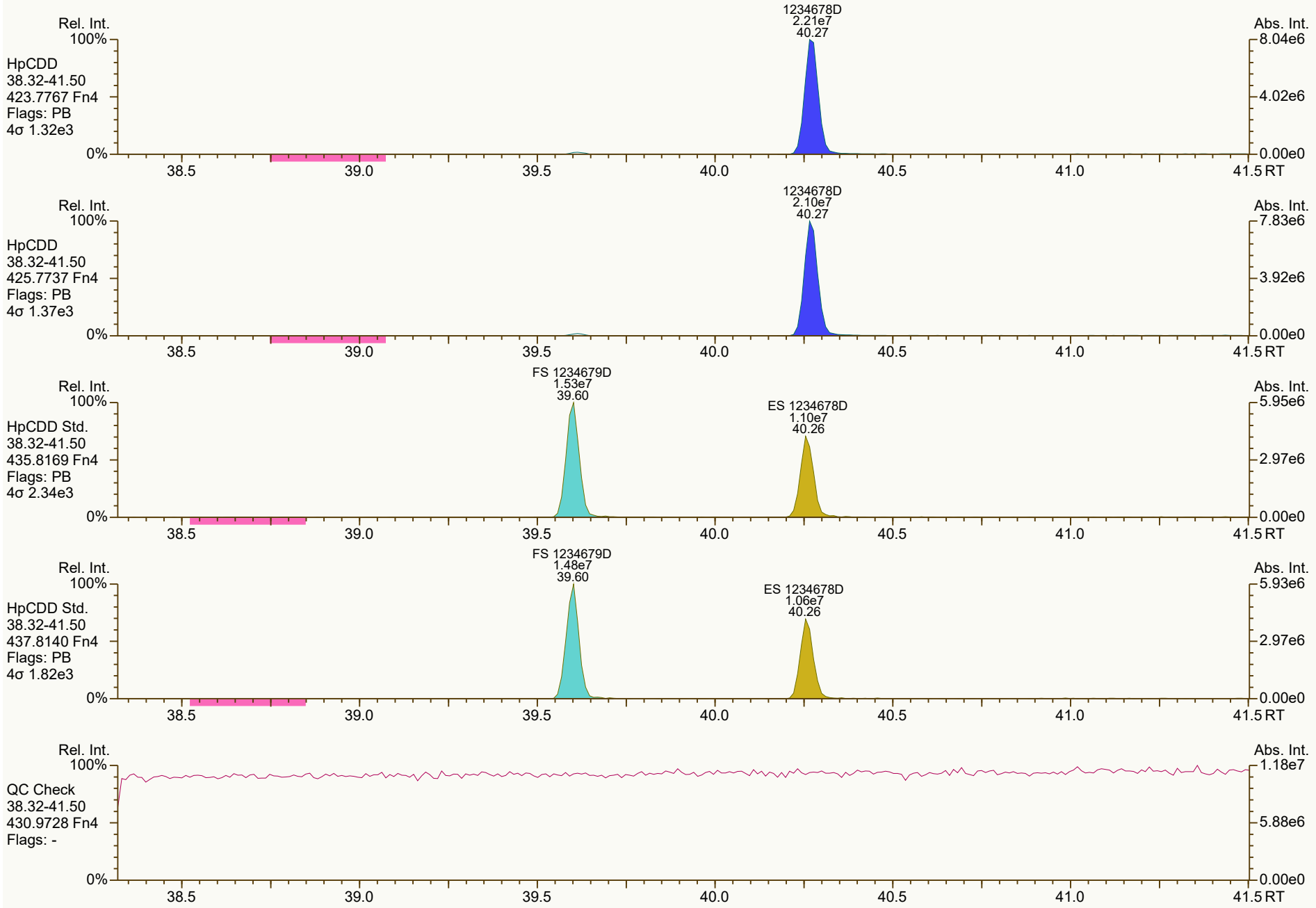
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

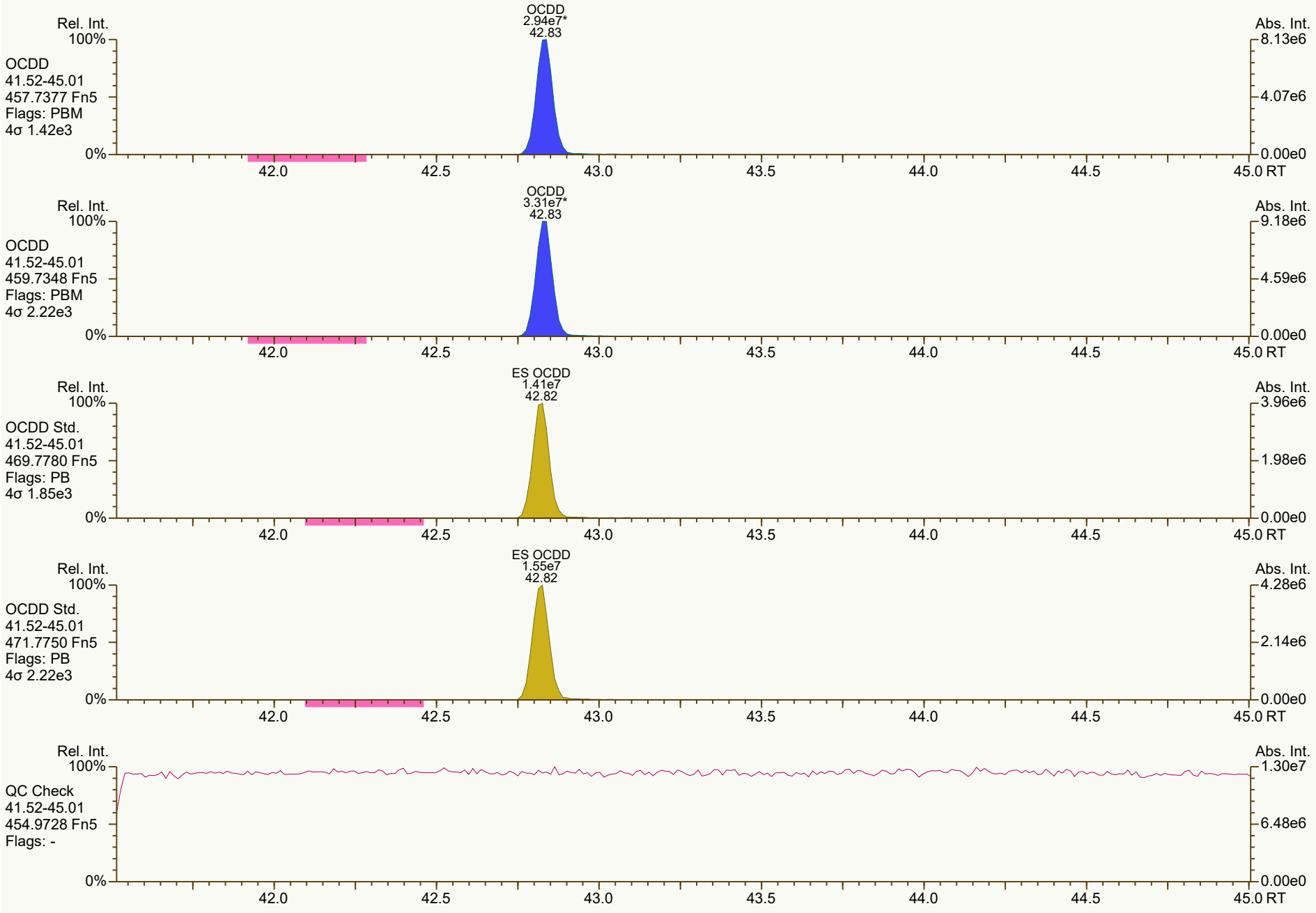

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

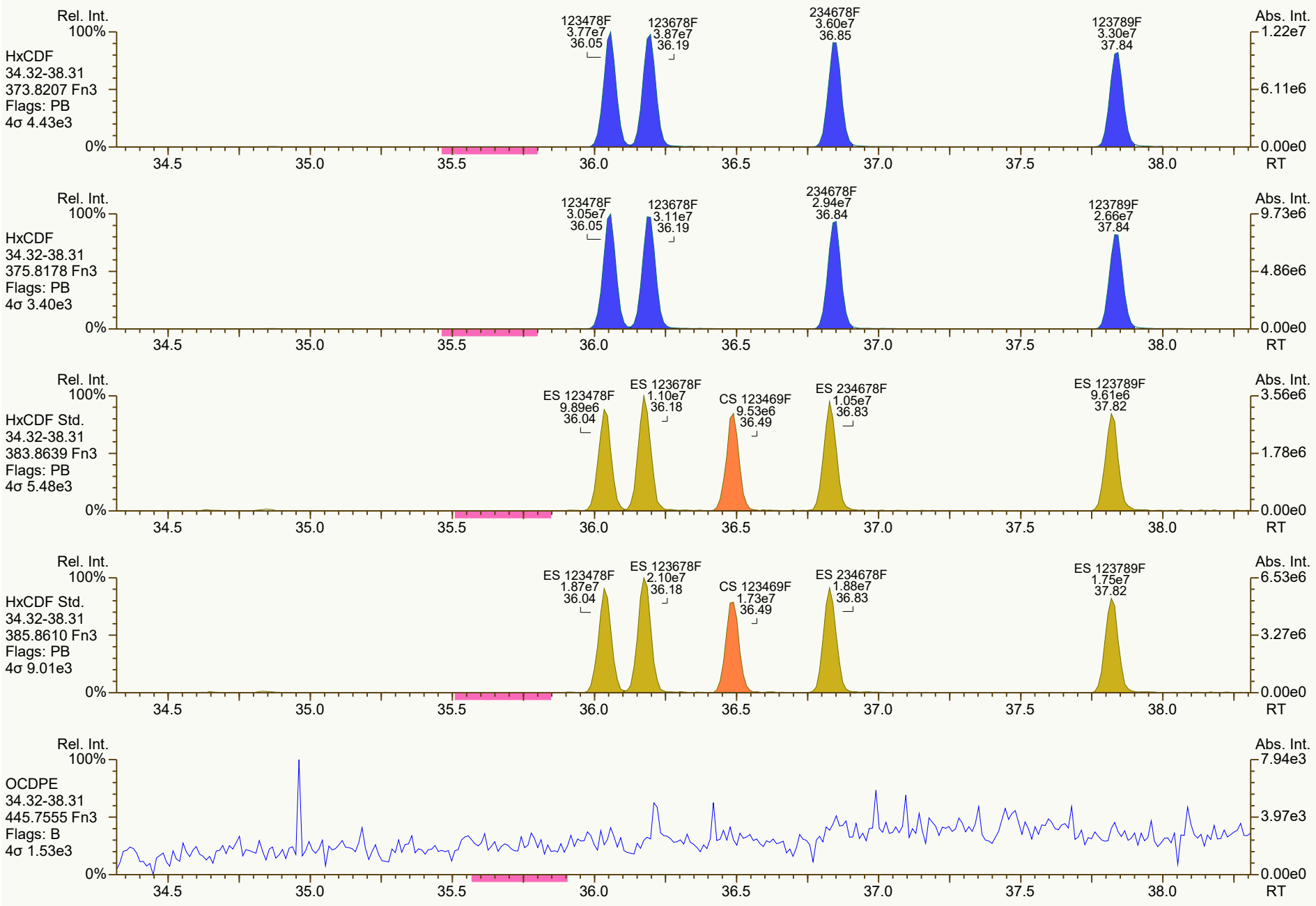

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

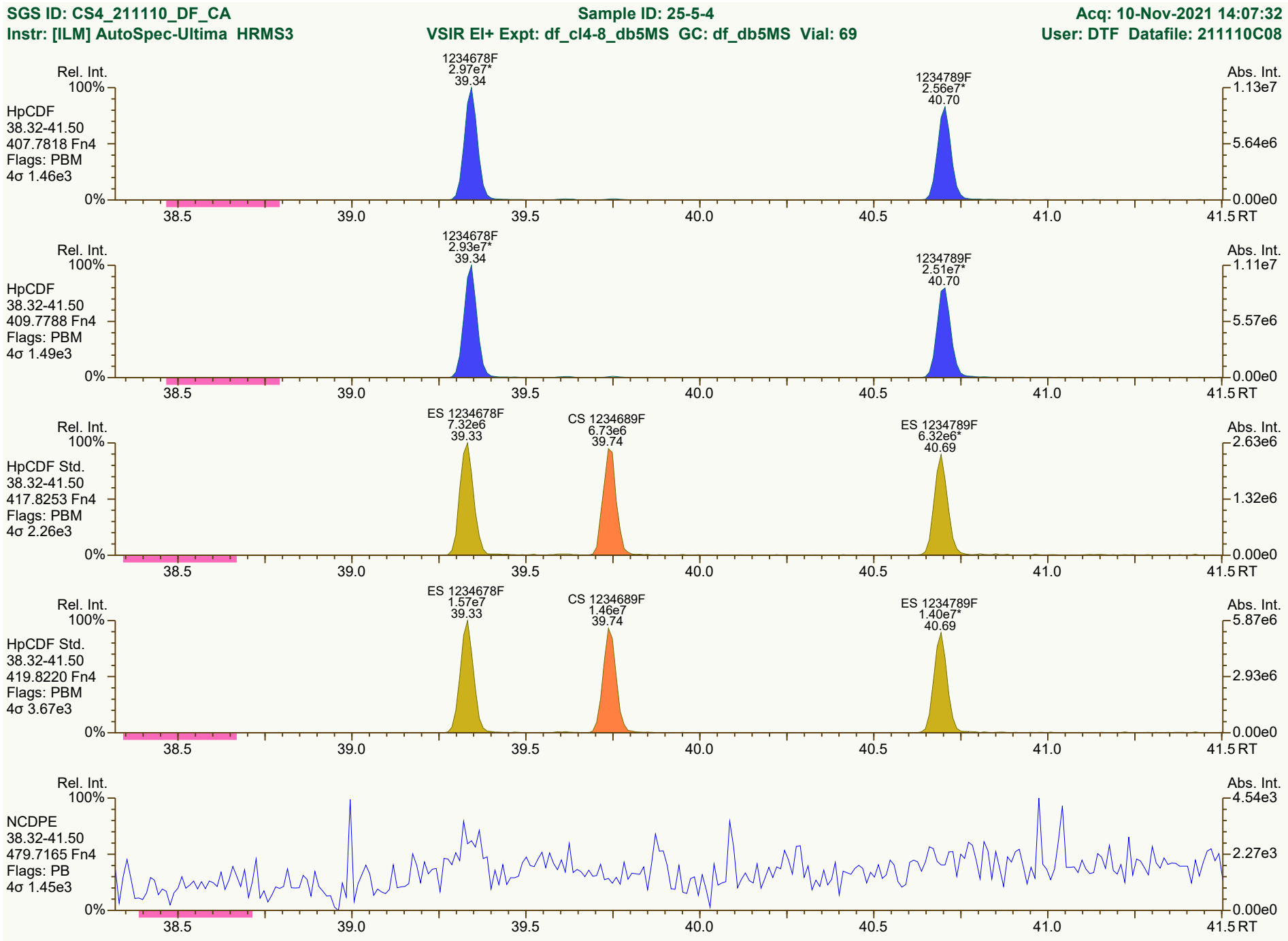

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

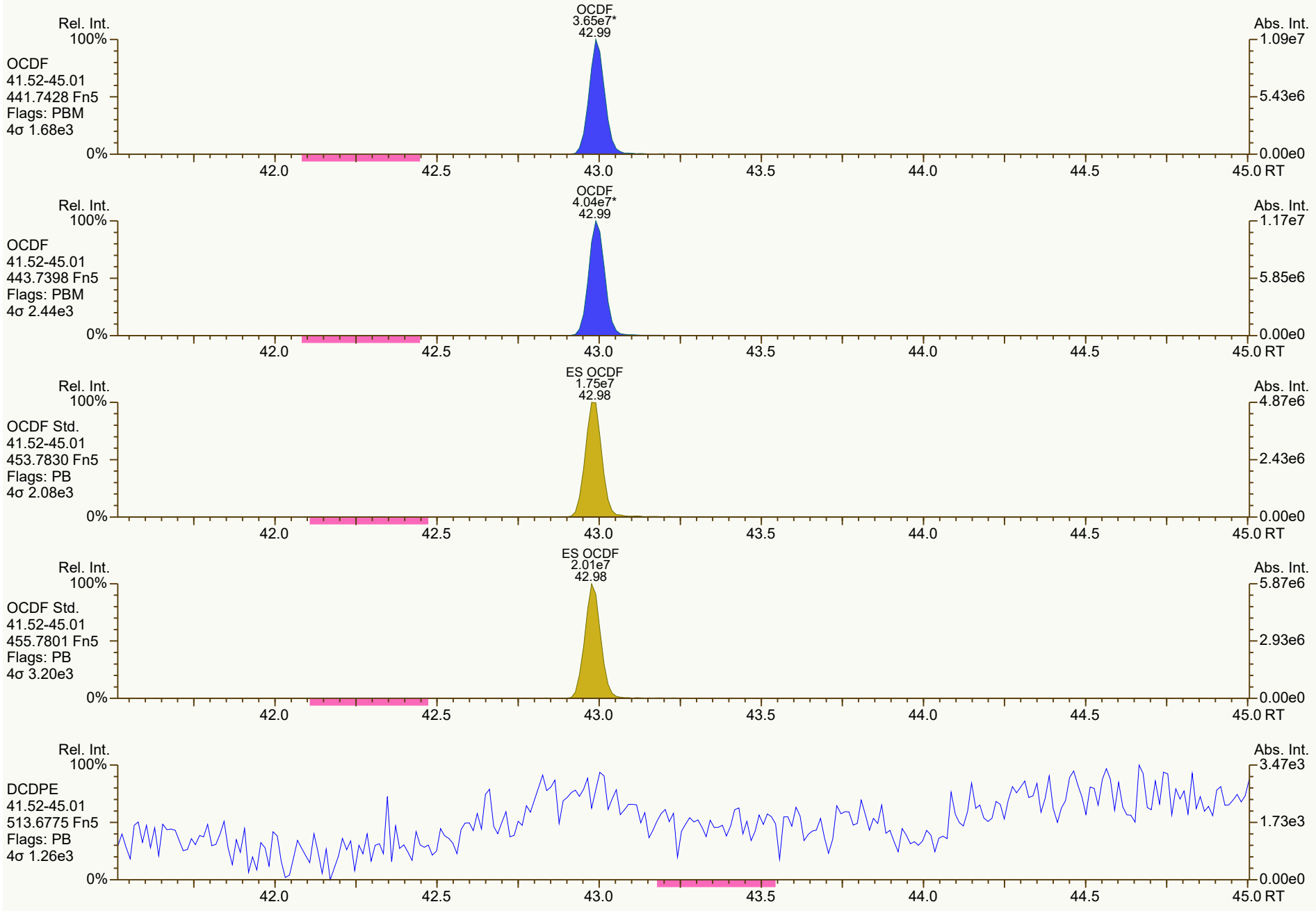

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
0%
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
0%
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
0%
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
0%
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

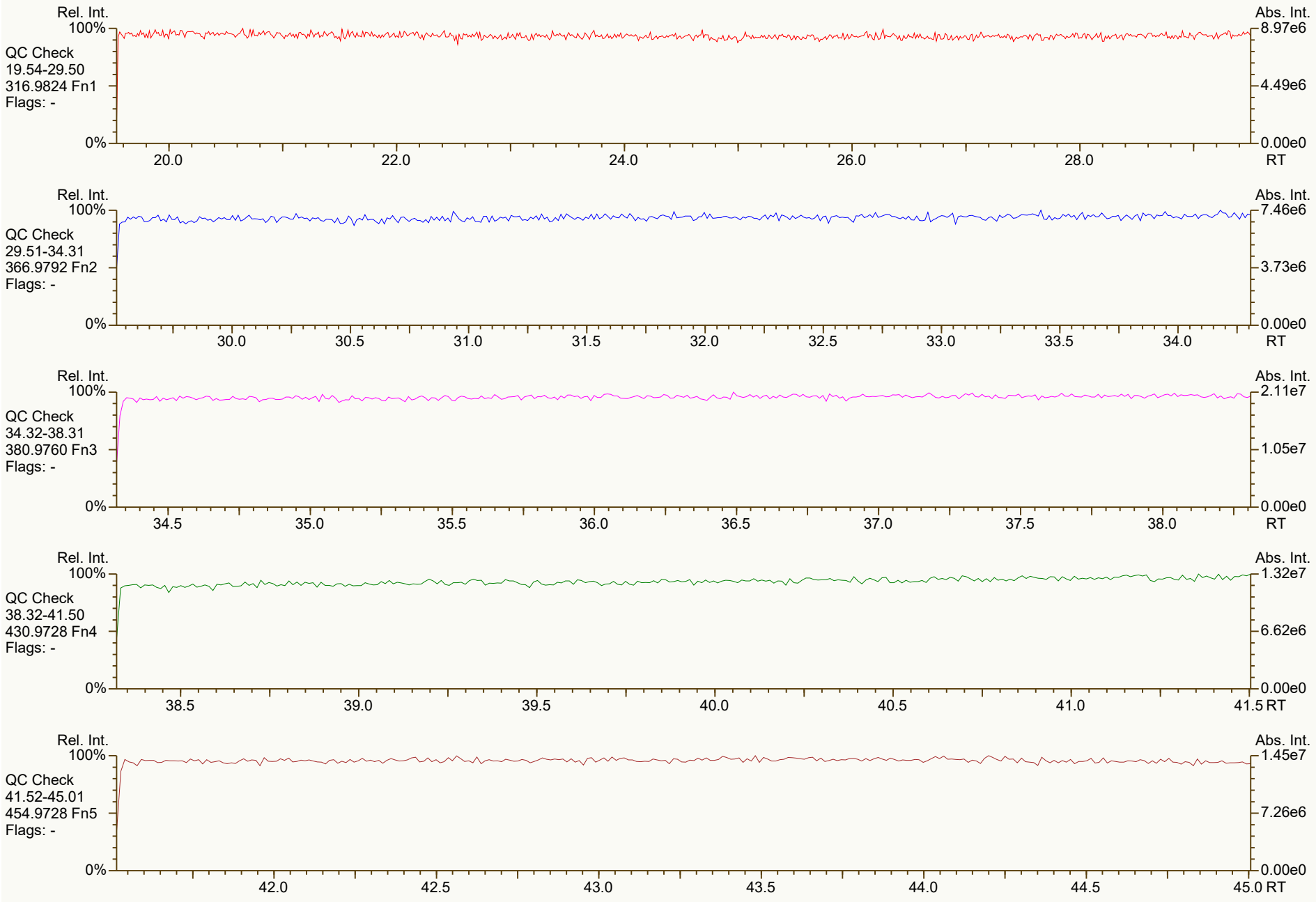

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

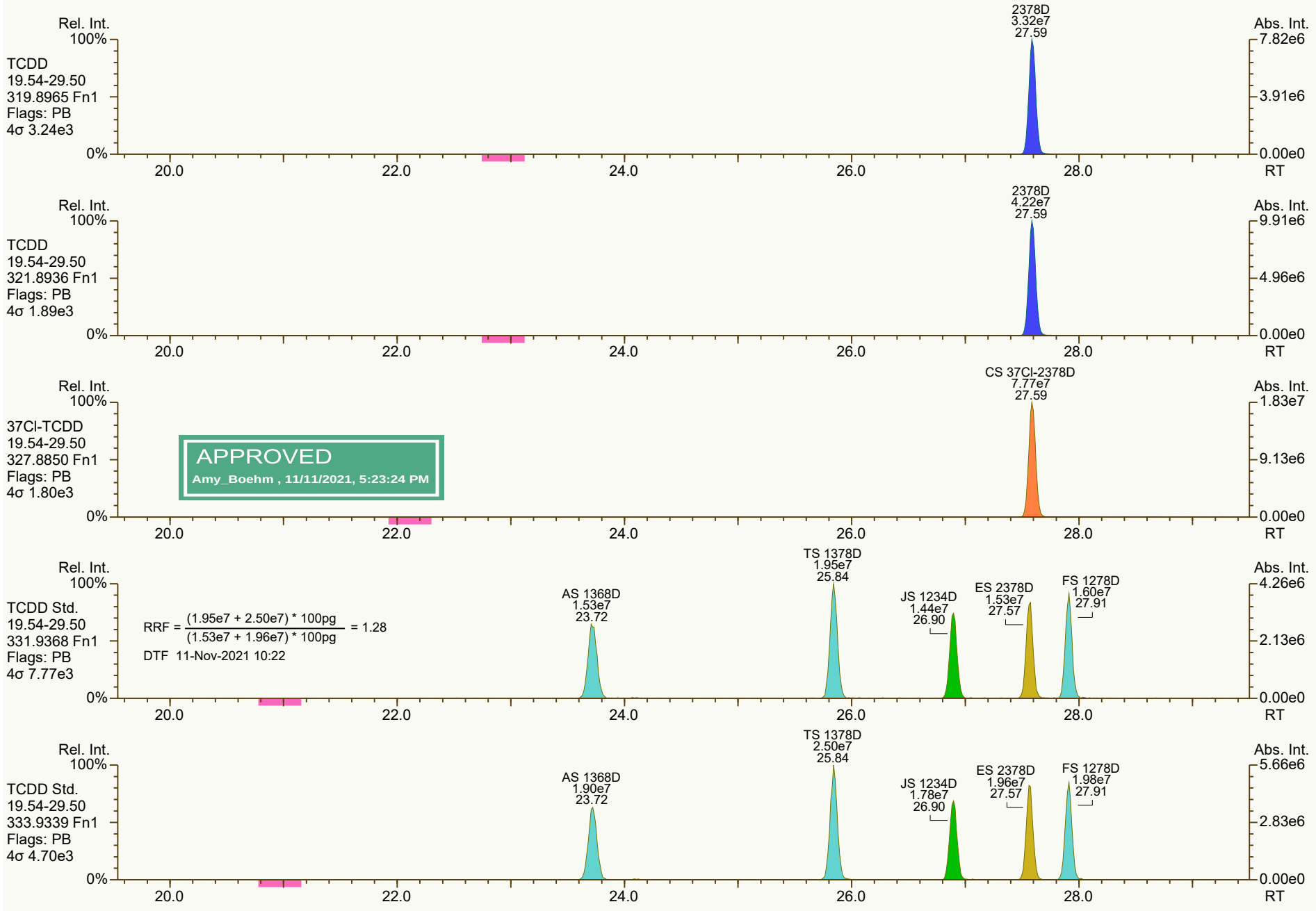
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

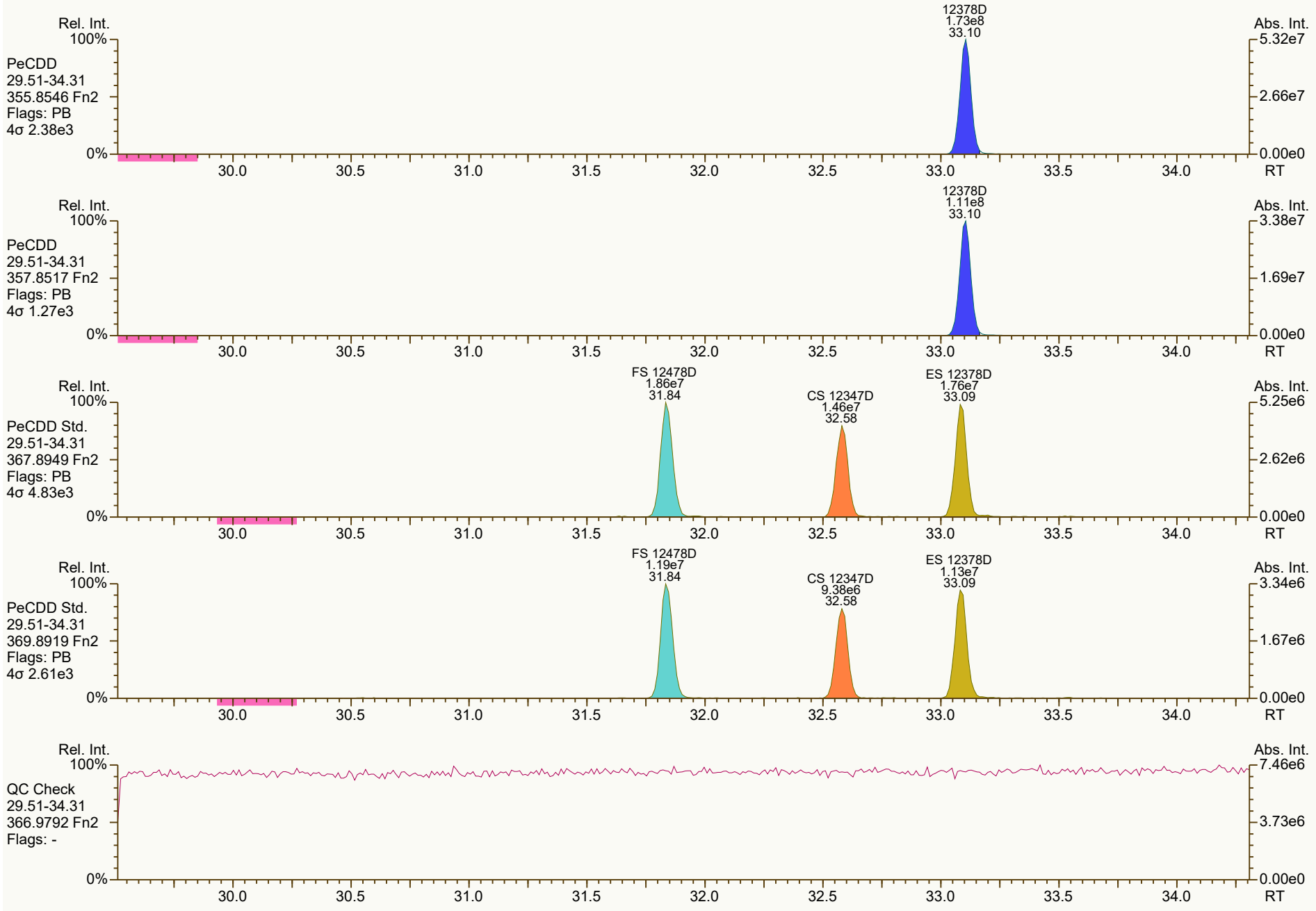
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

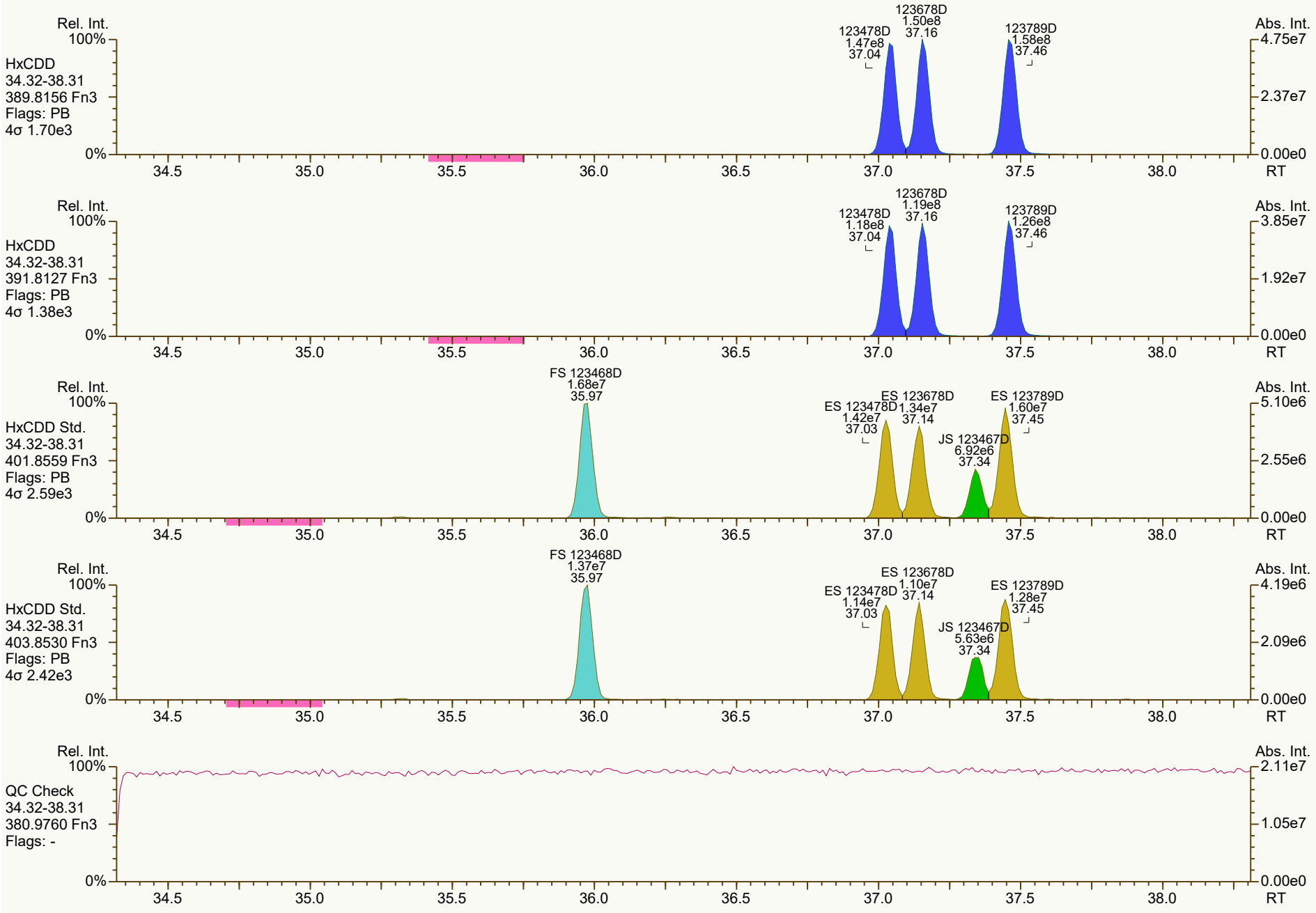
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

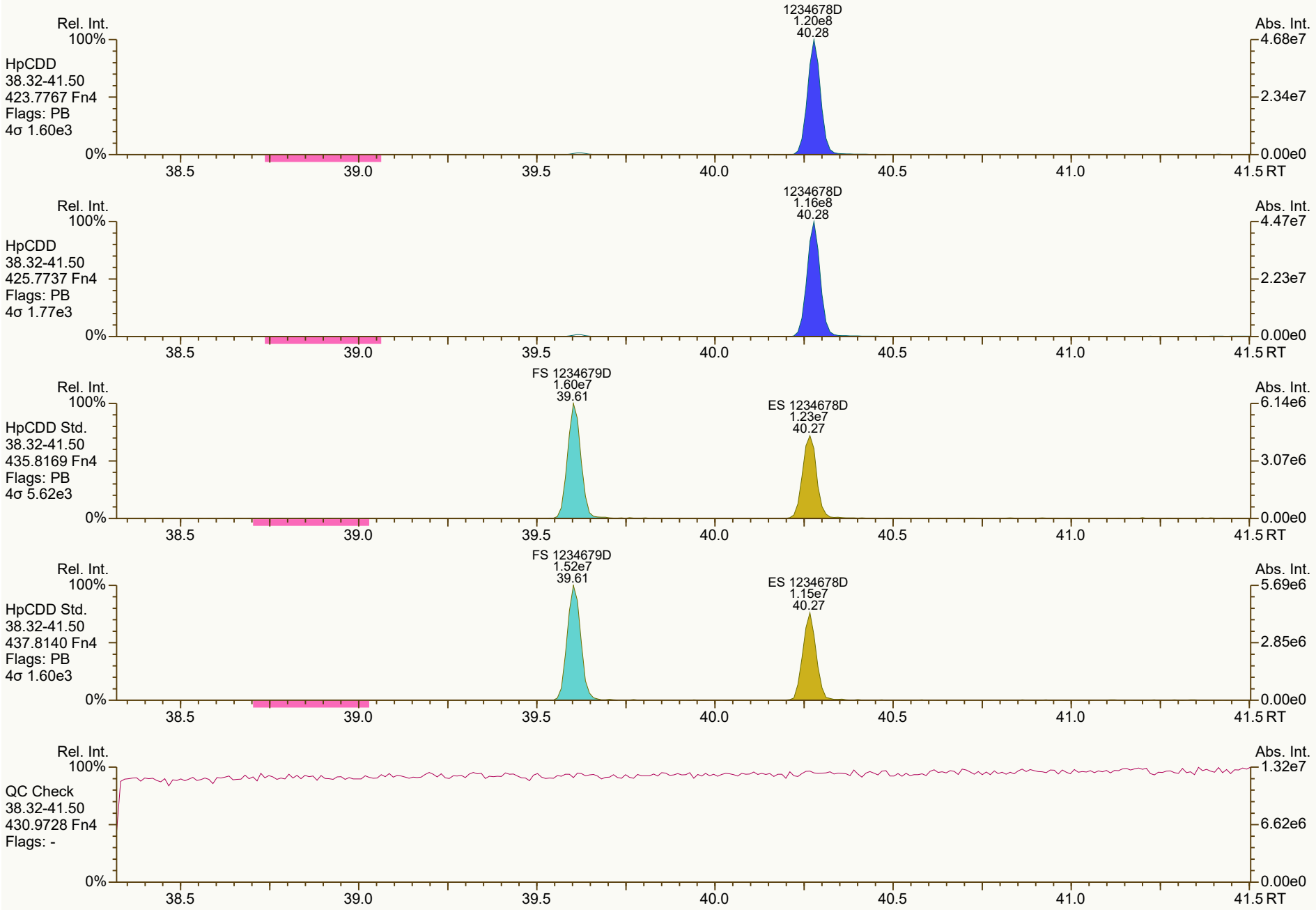
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

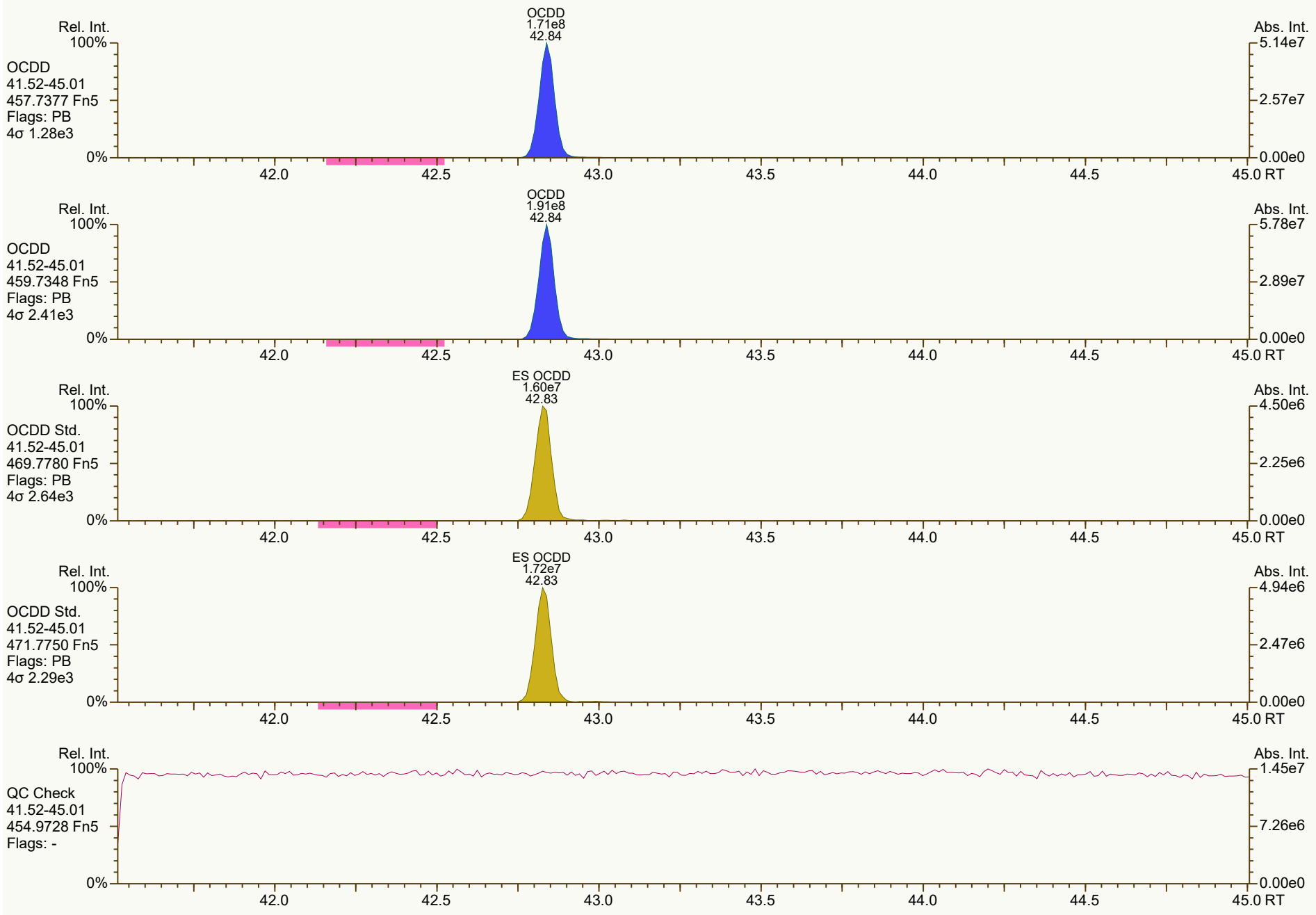

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

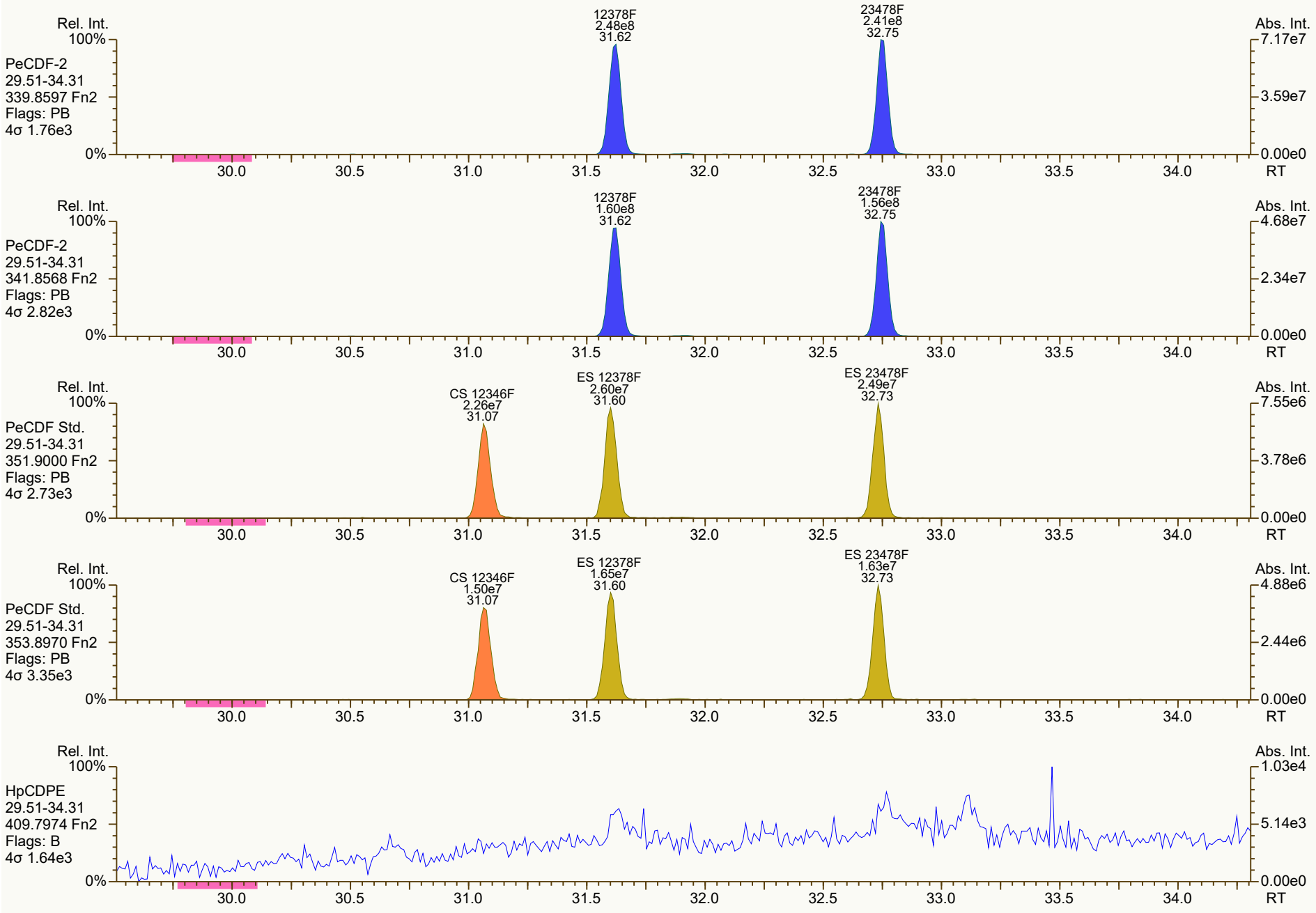

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

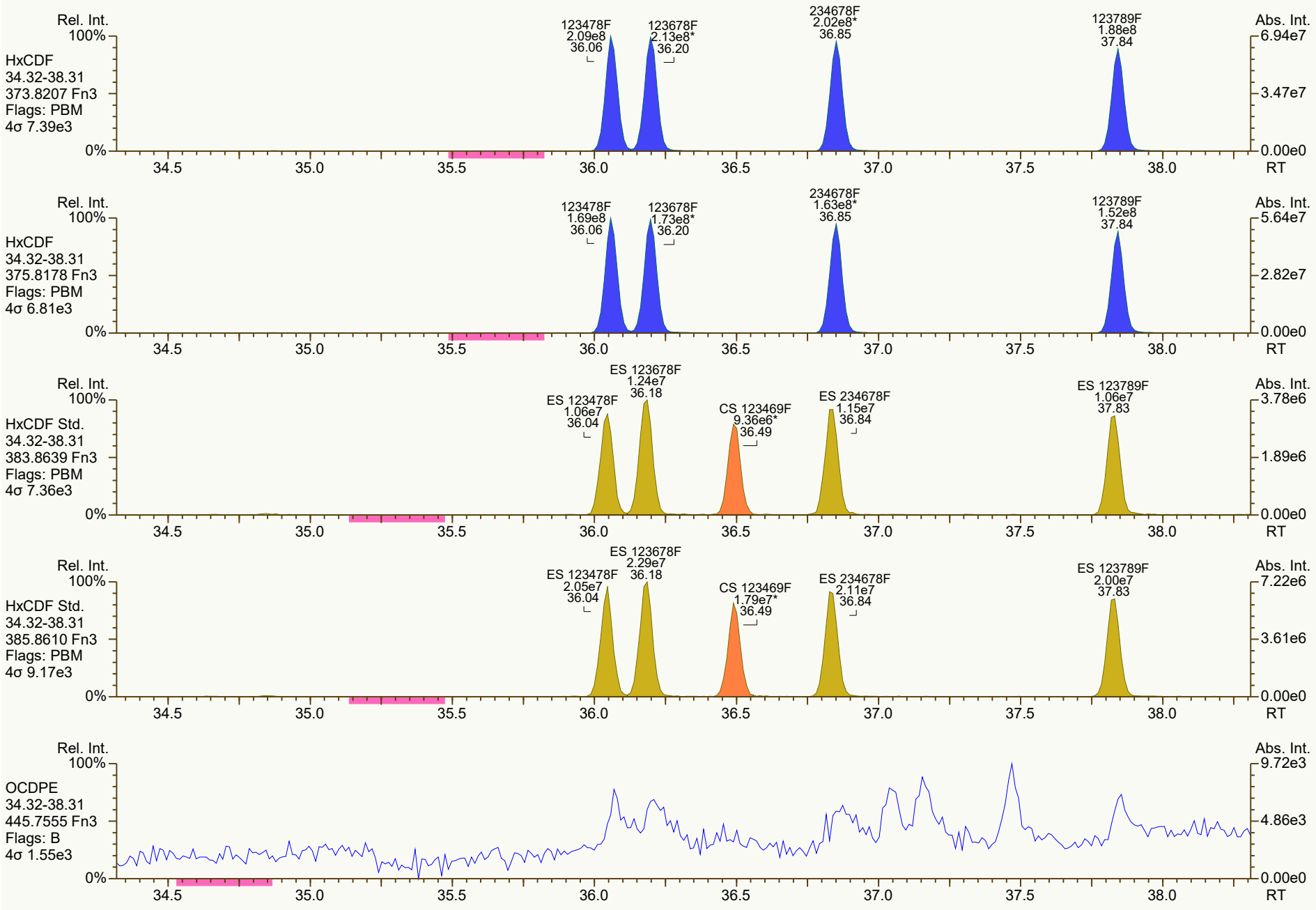

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

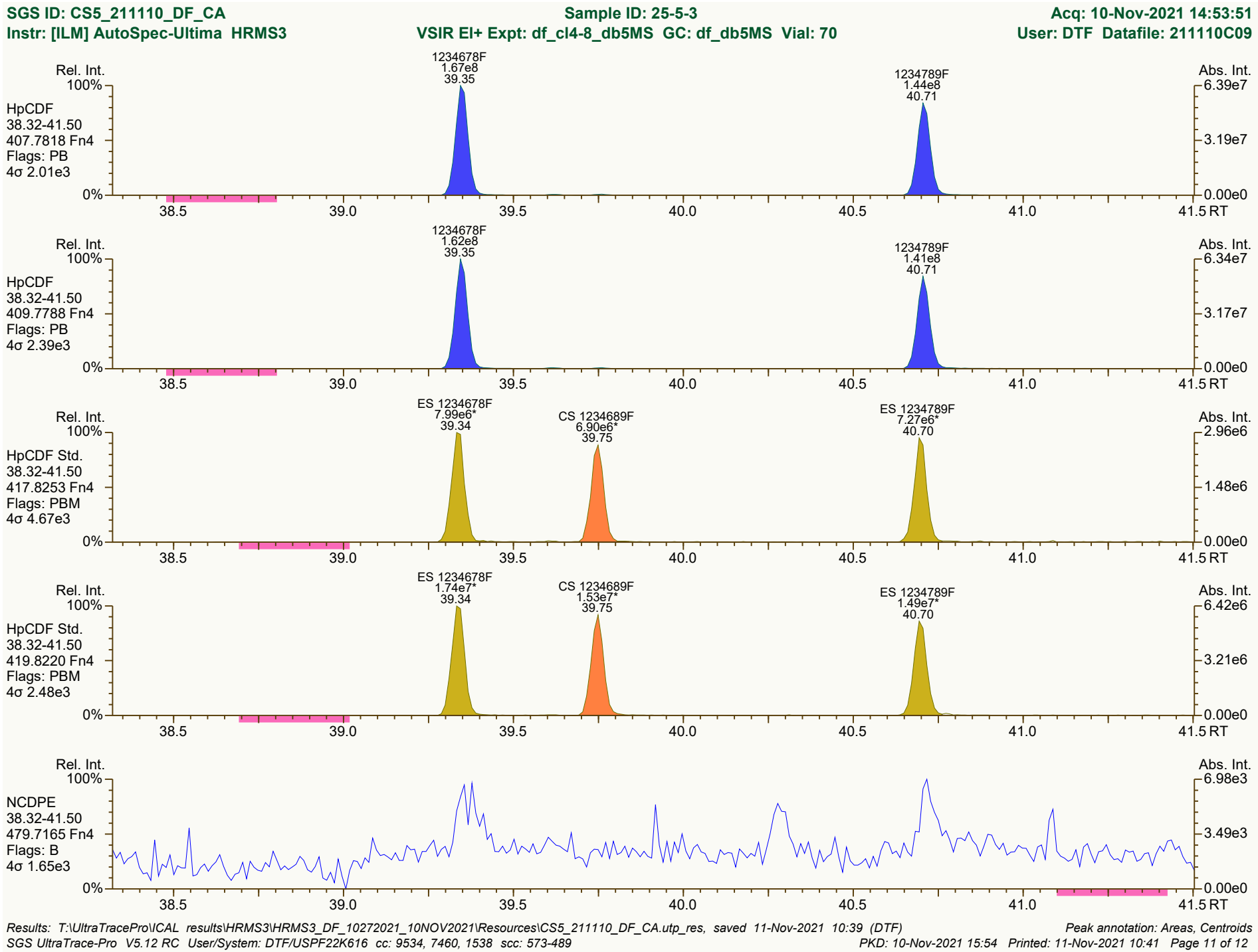

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

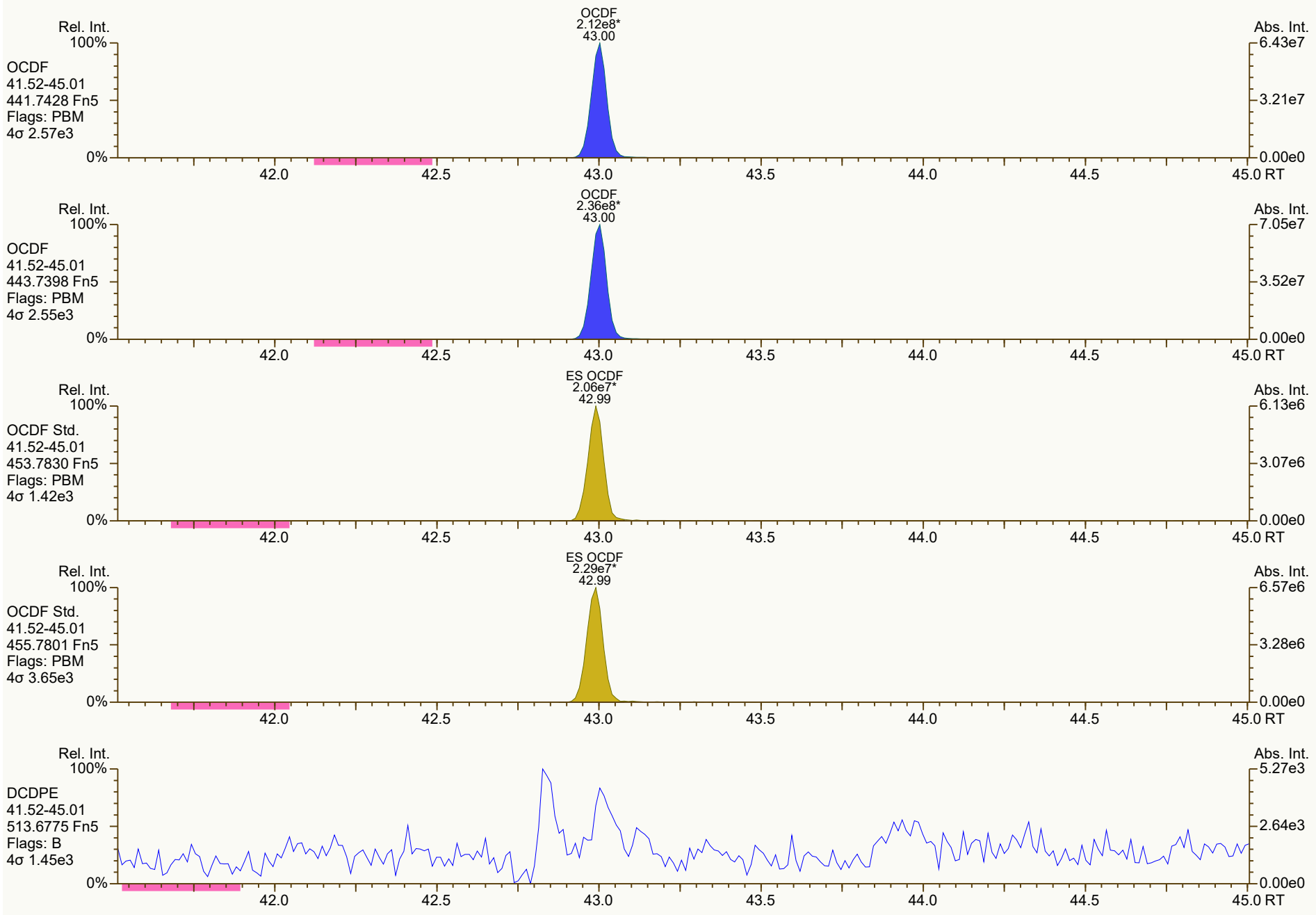

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

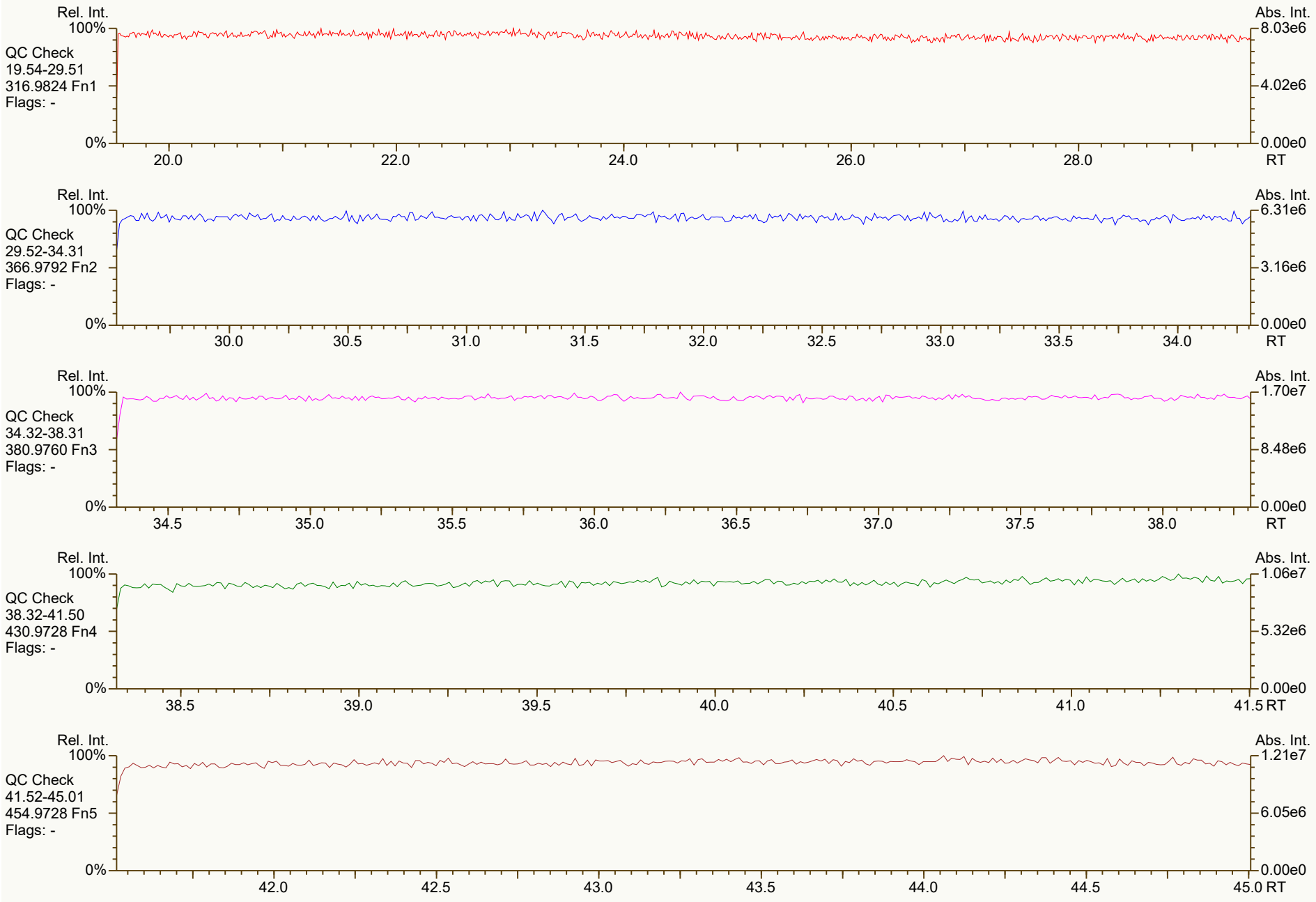

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

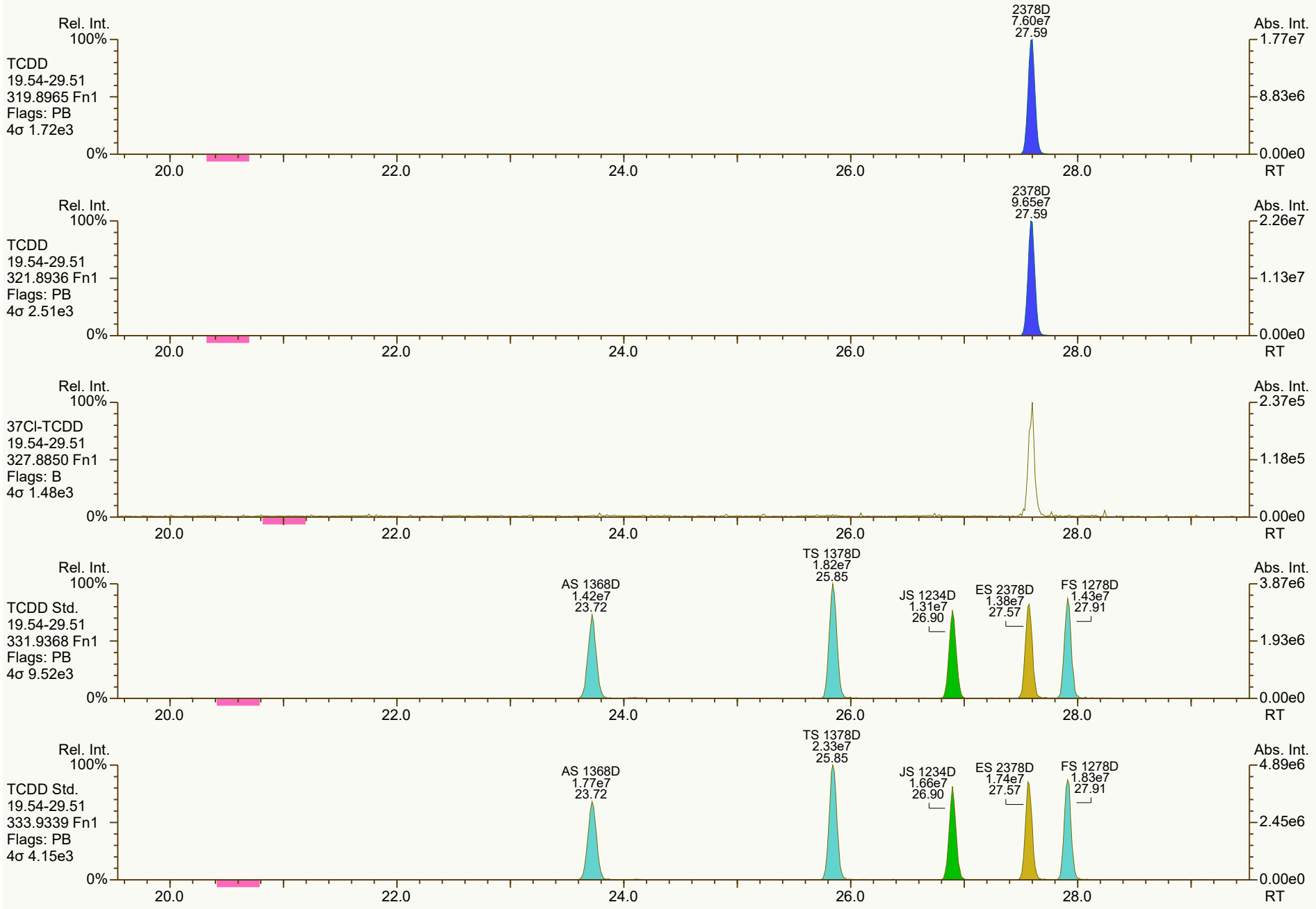

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

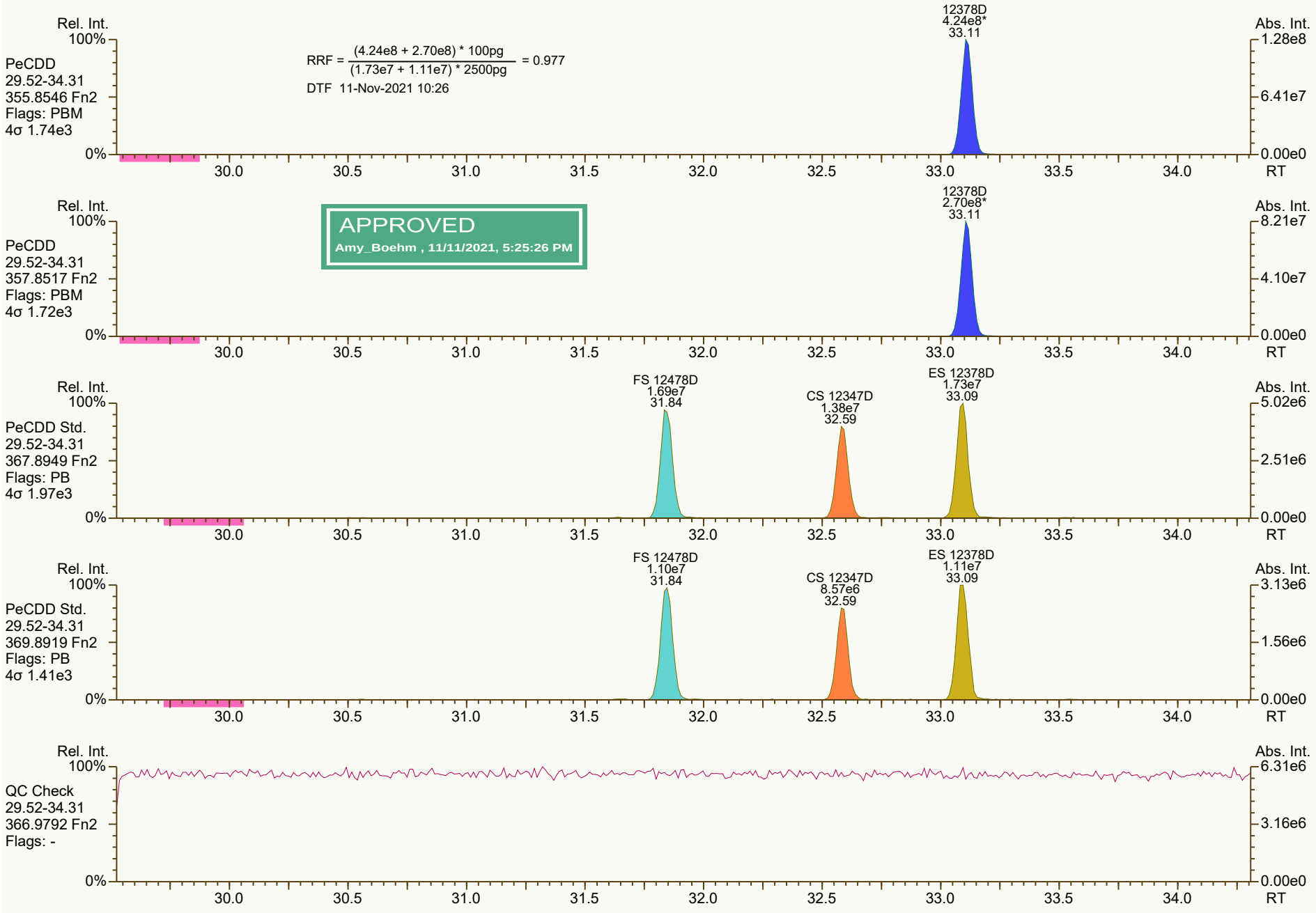

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

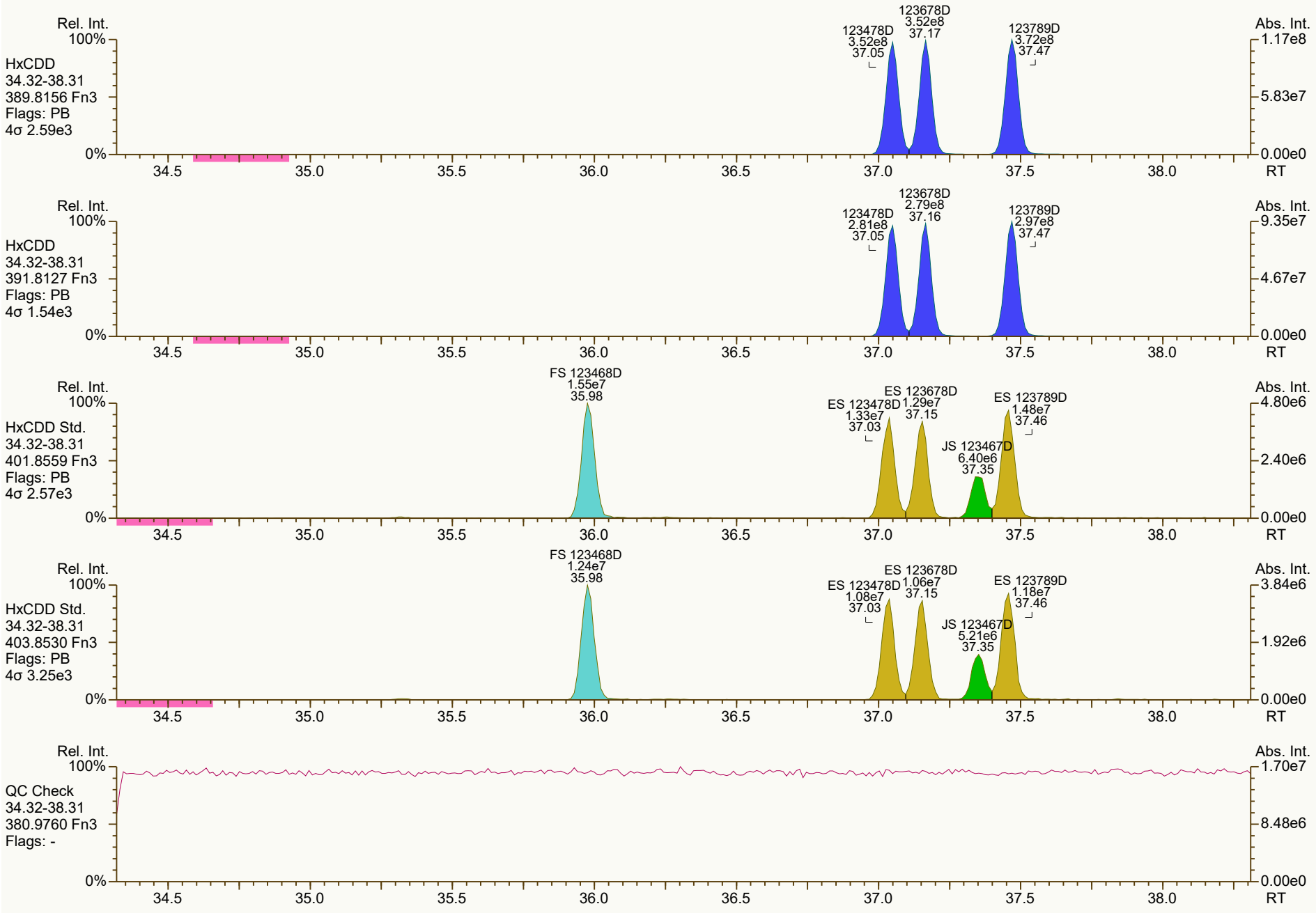
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

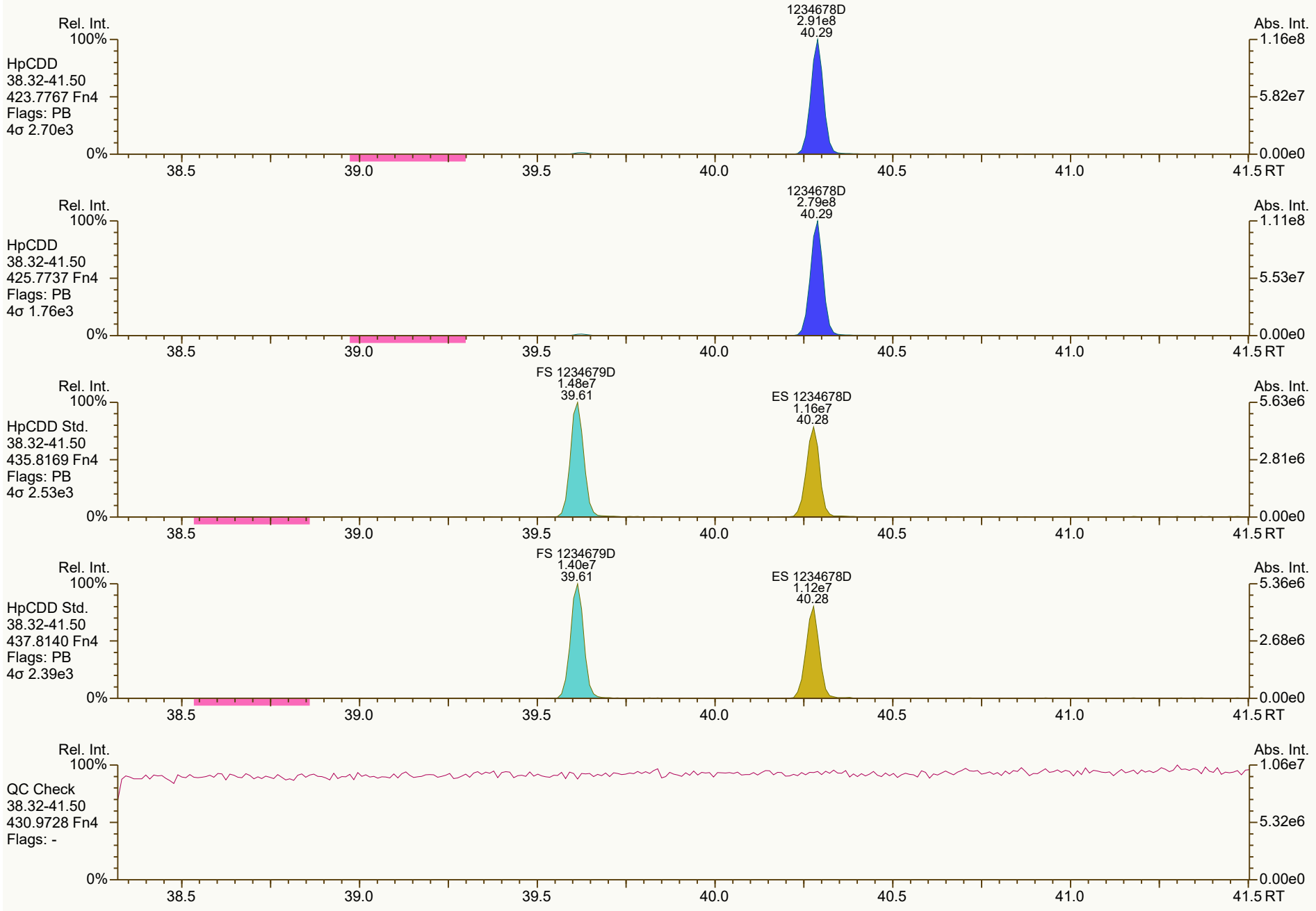
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

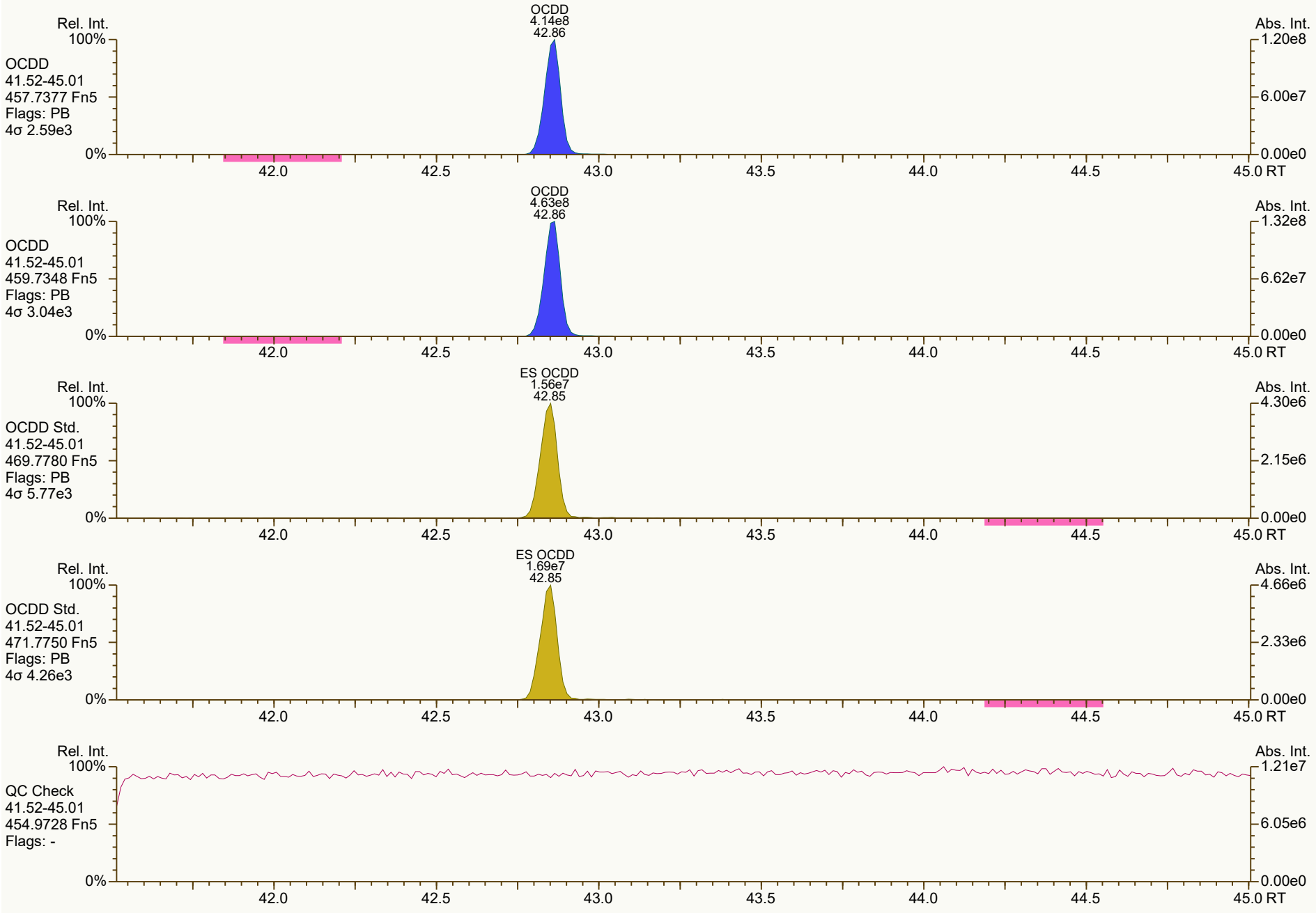

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0

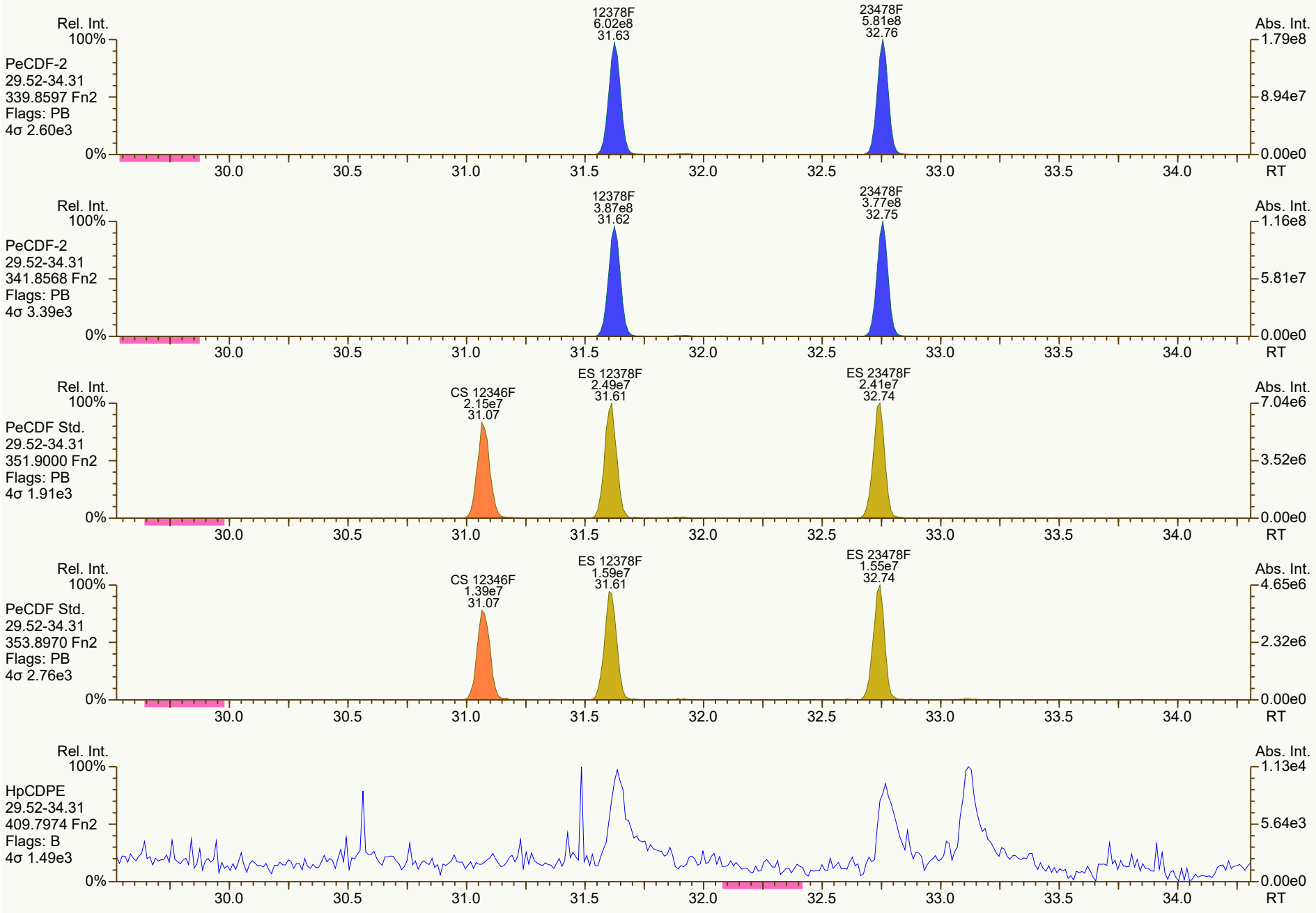

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

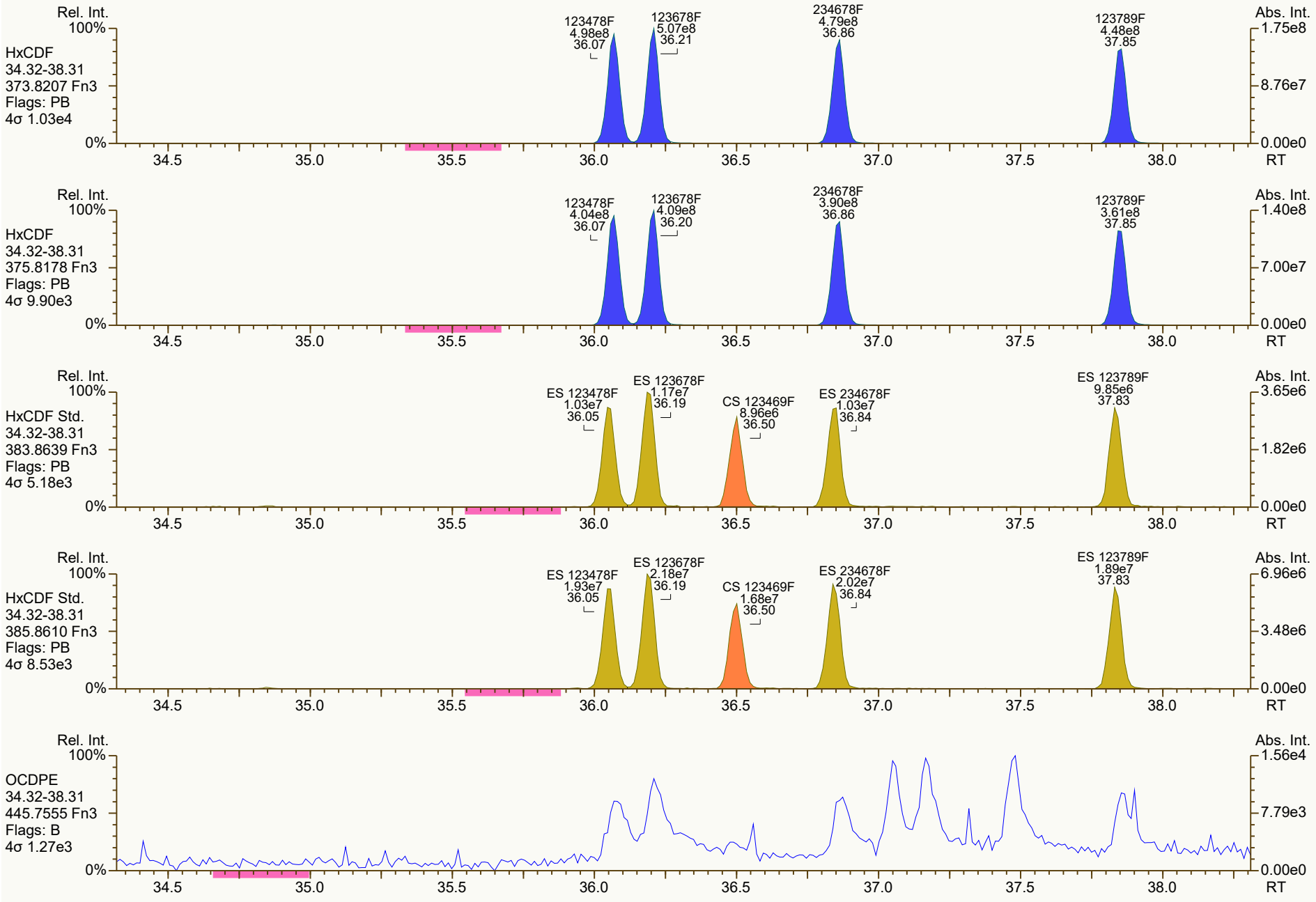

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

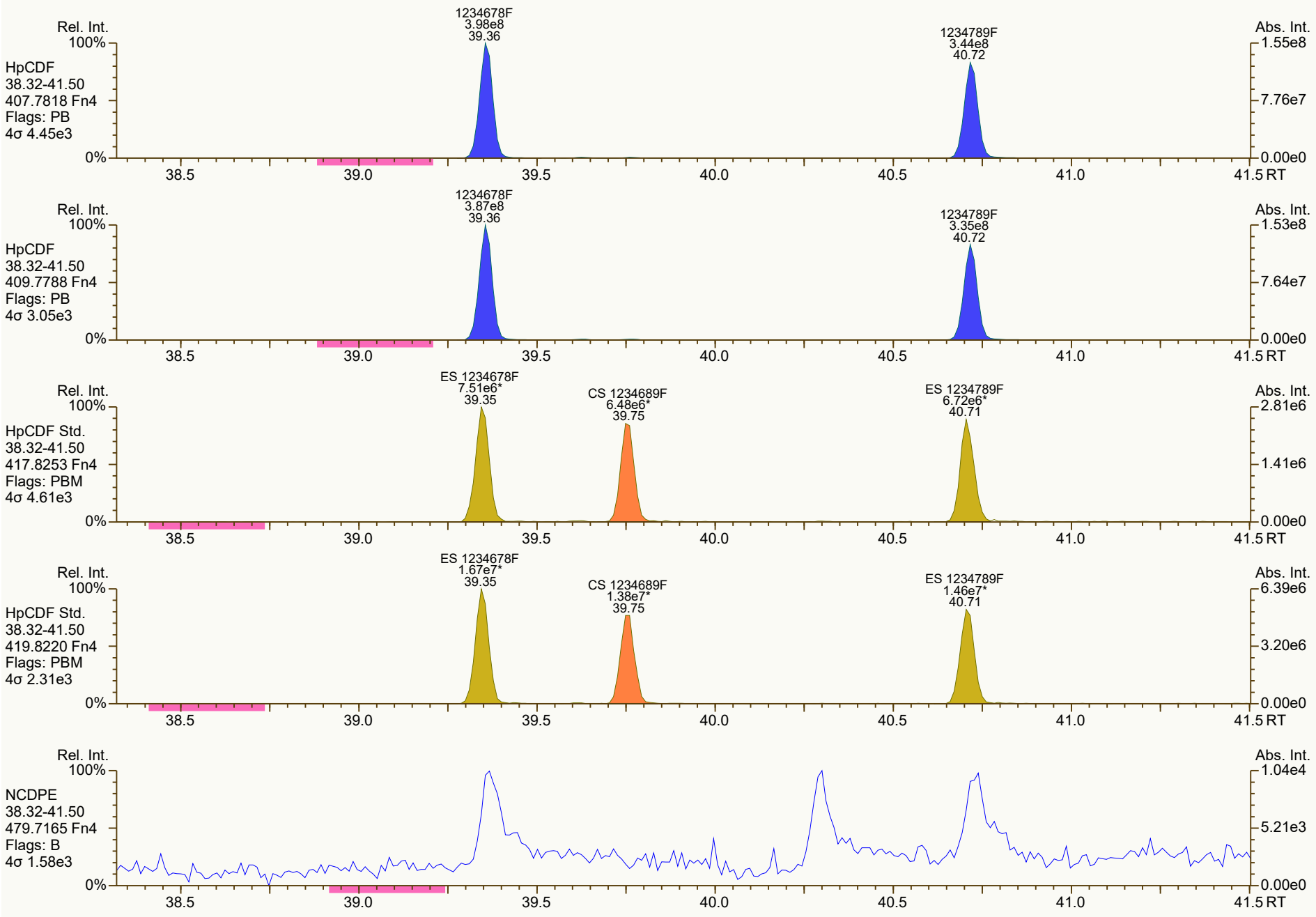

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

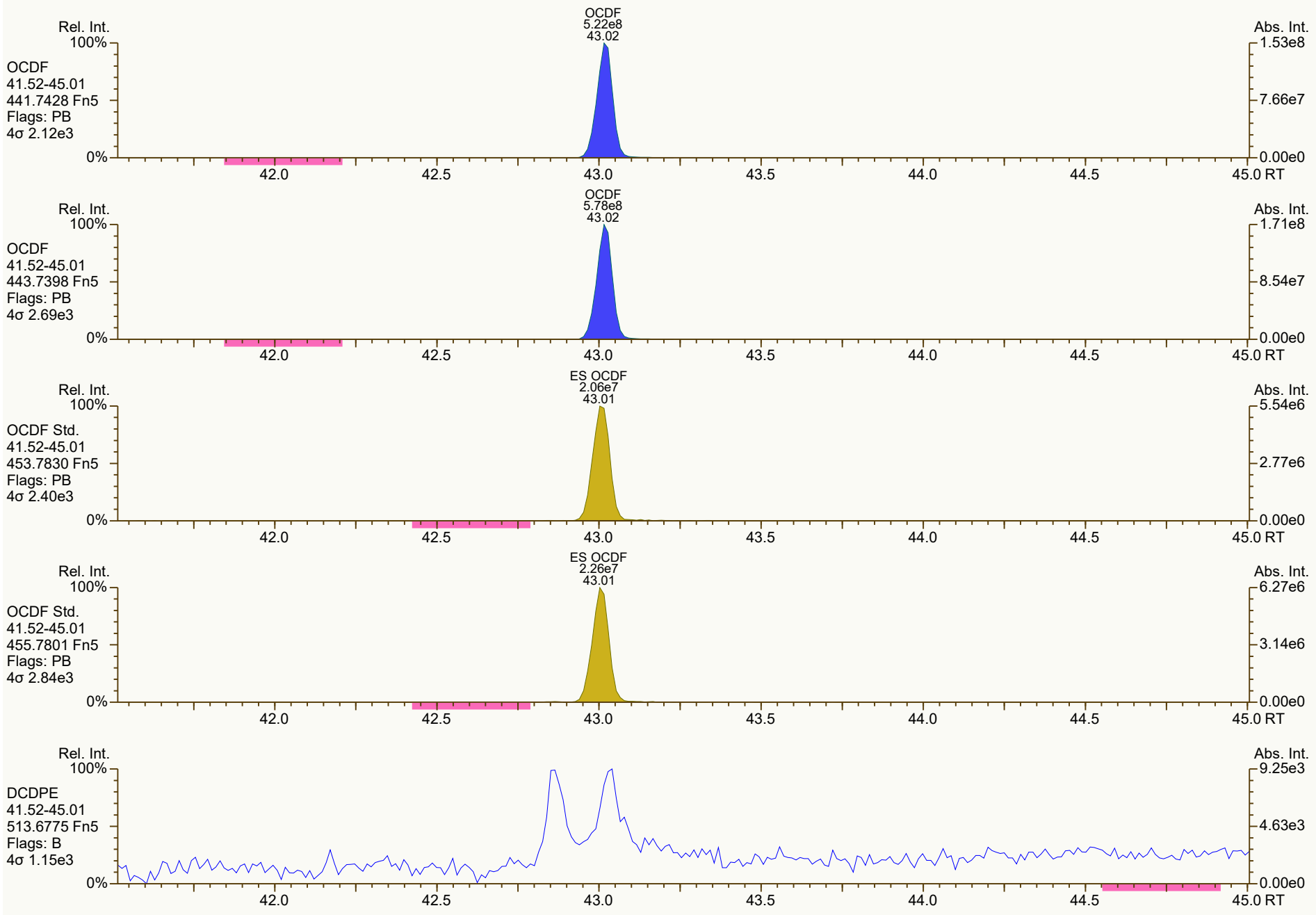

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

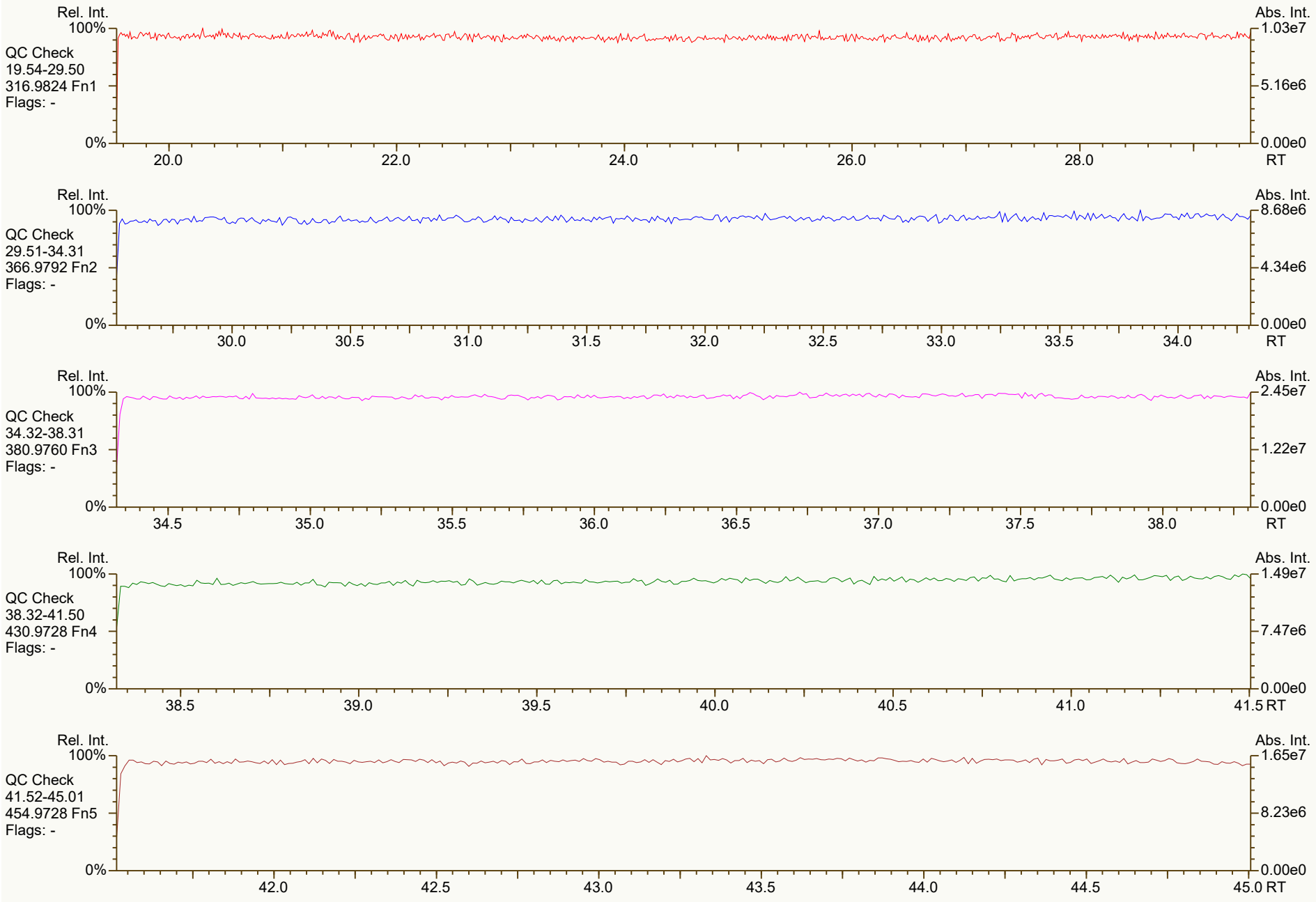

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

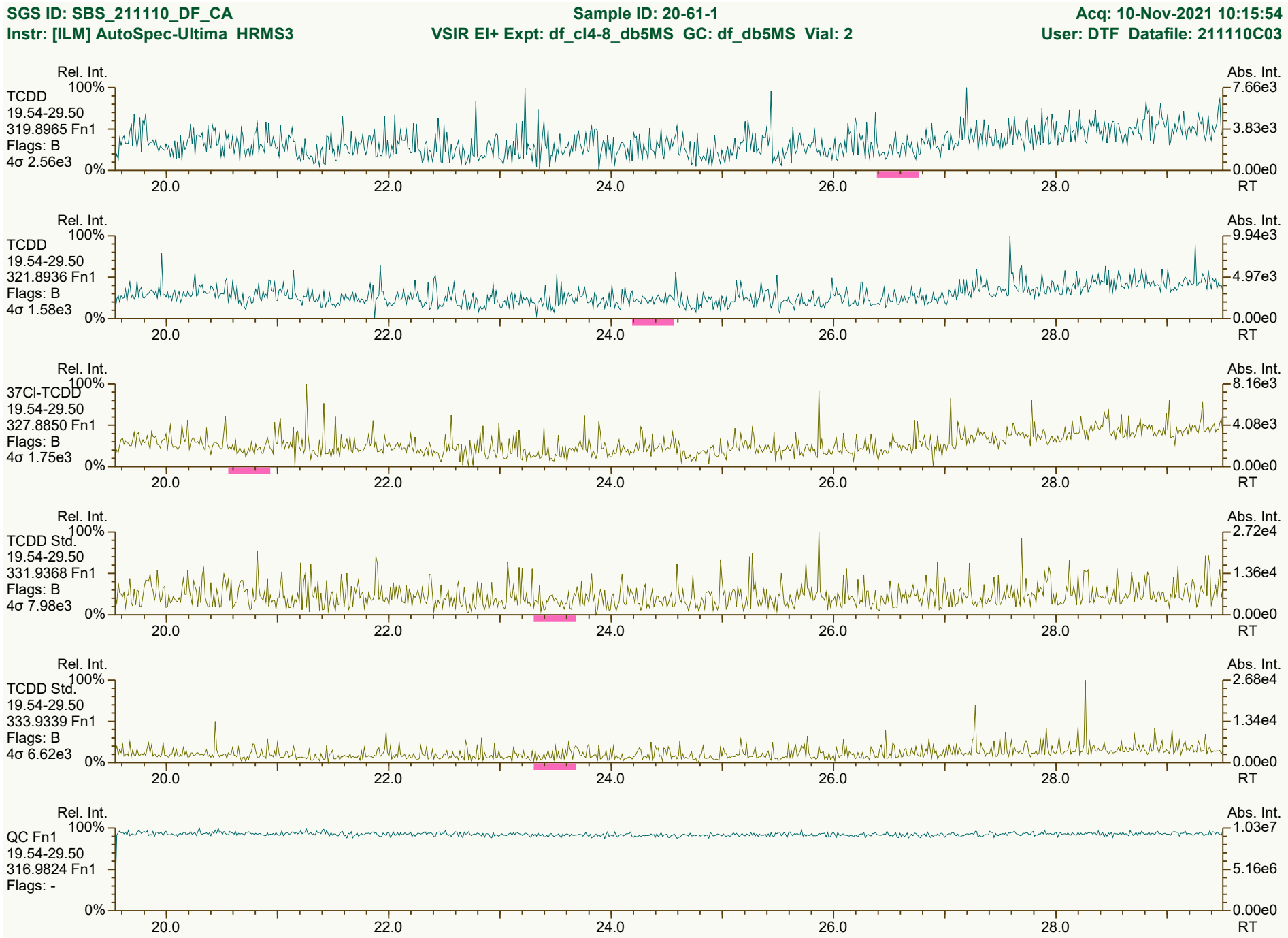

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

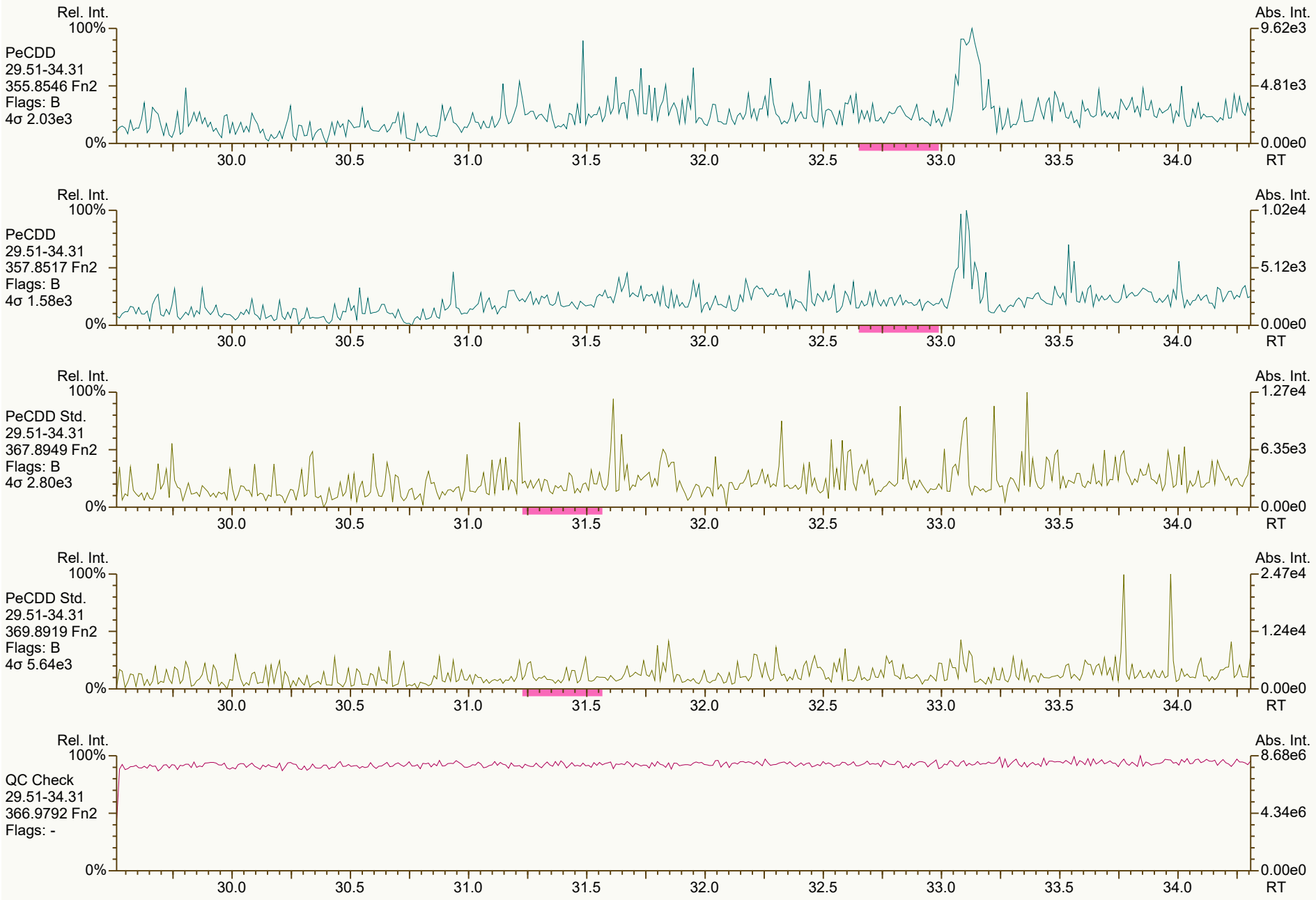

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

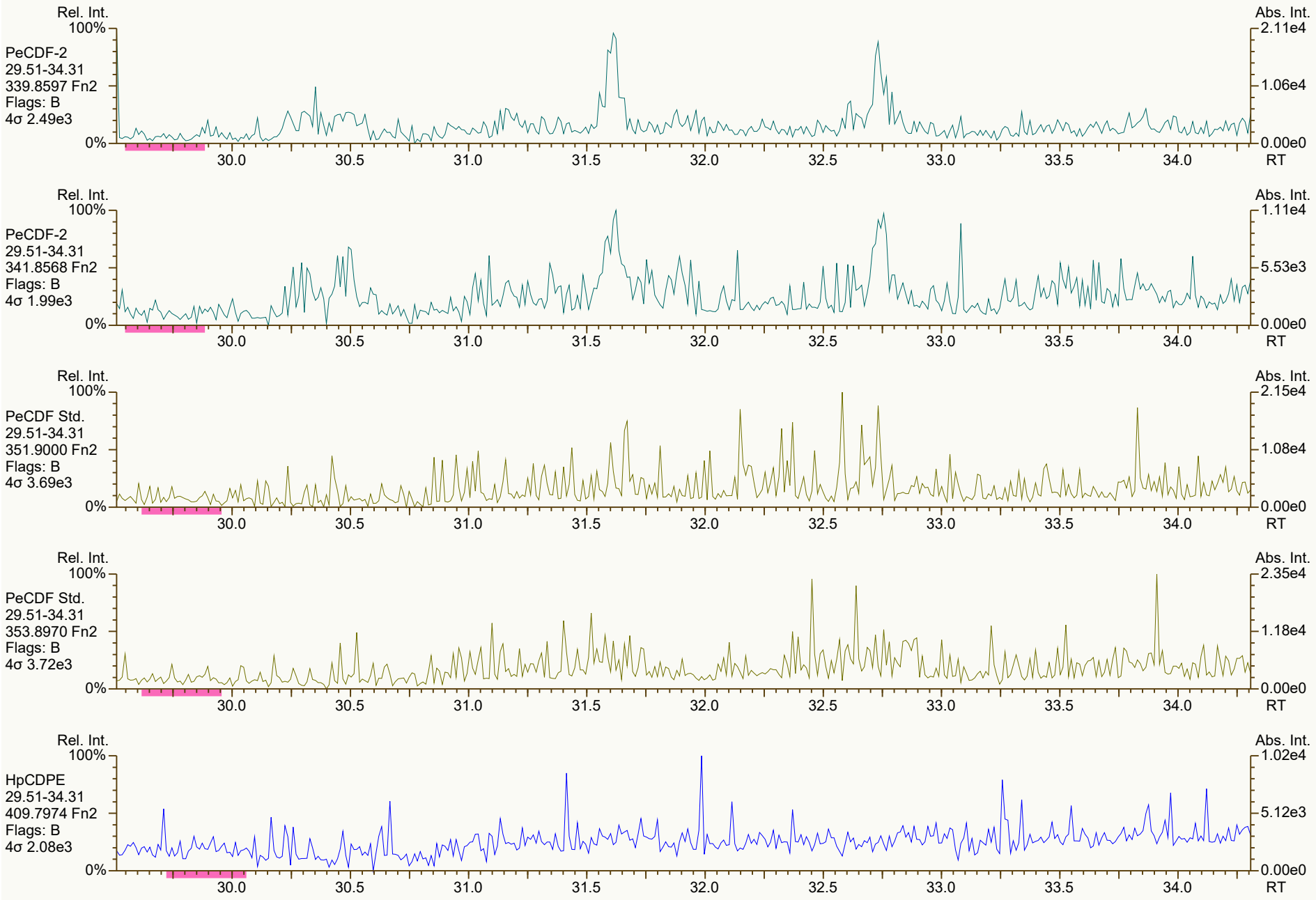
SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

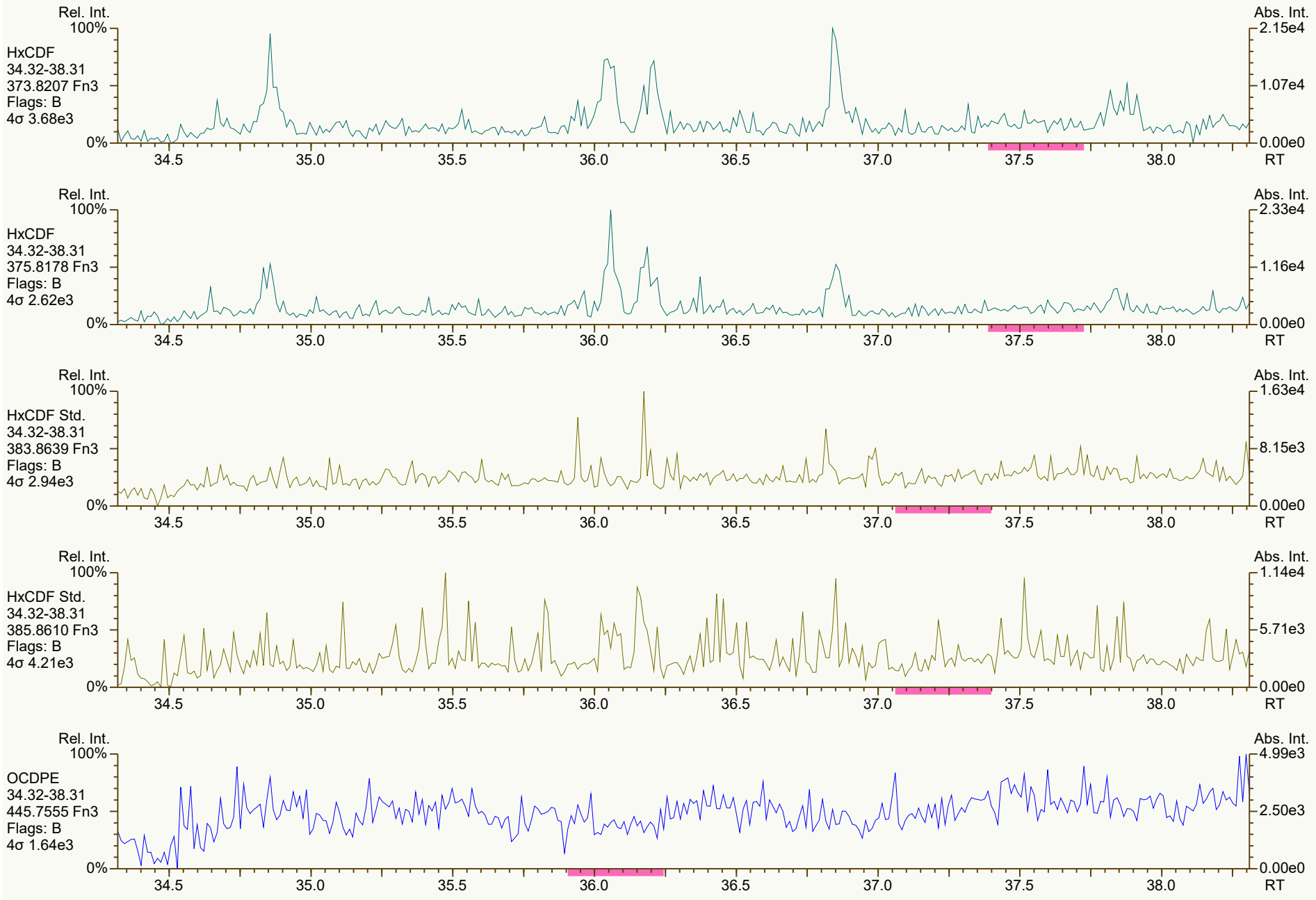
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4115 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:39 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

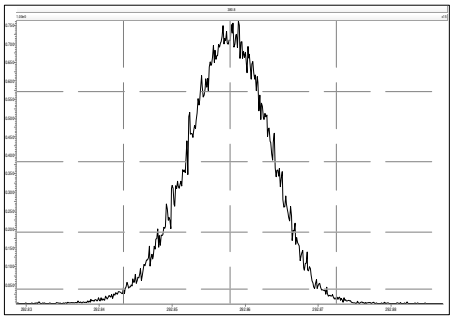

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

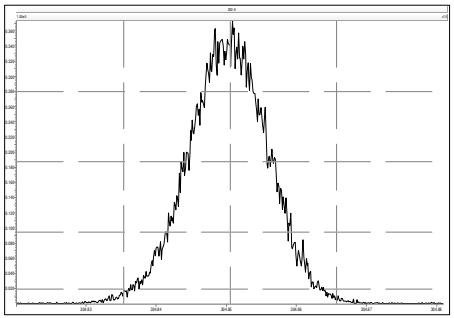
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

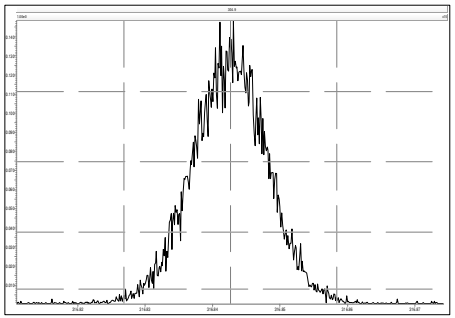
M 292.9824 R 10731



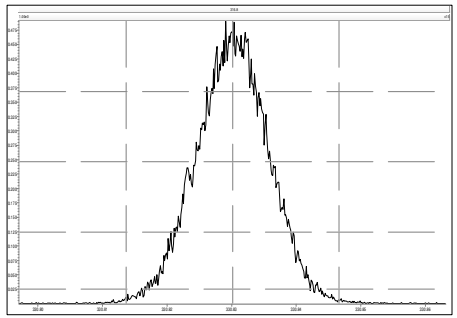
M 304.9824 R 11311



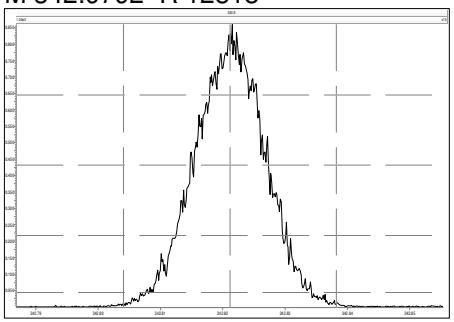
M 316.9824 R 12373



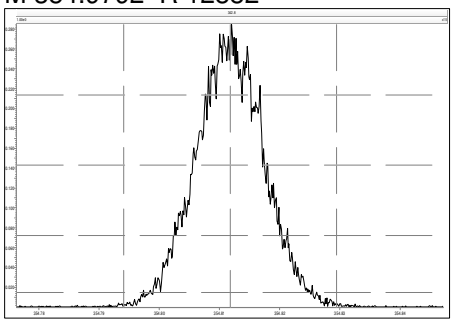
M 330.9792 R 12887



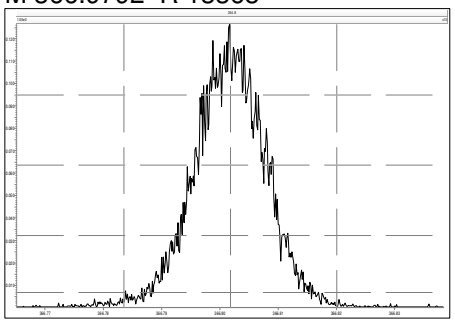
M 342.9792 R 12818



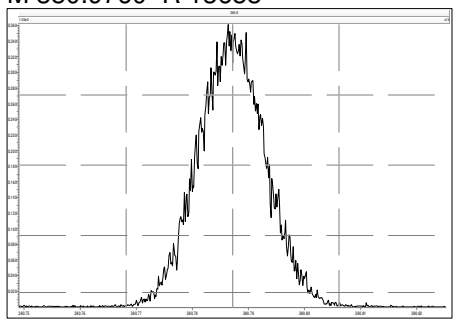
M 354.9792 R 12882



M 366.9792 R 13368



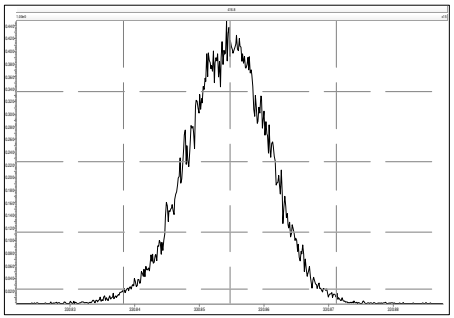
M 380.9760 R 13658



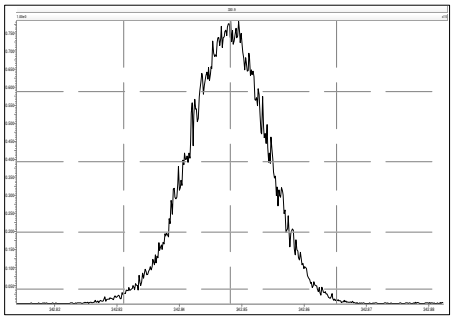
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

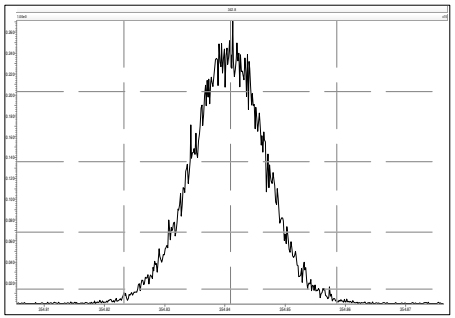
M 330.9792 R 11112



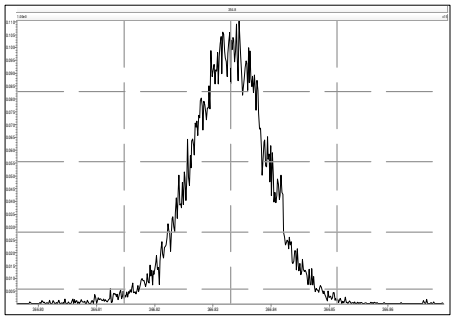
M 342.9792 R 11909



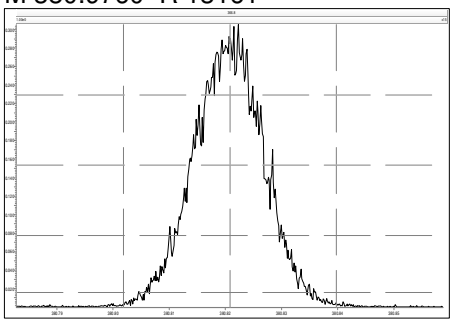
M 354.9792 R 11684



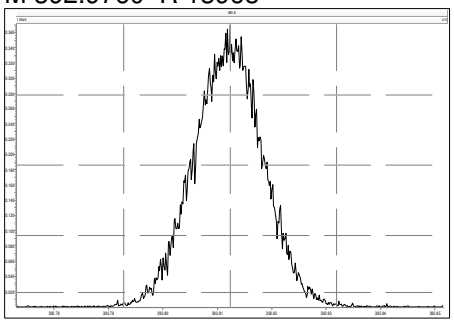
M 366.9792 R 11962



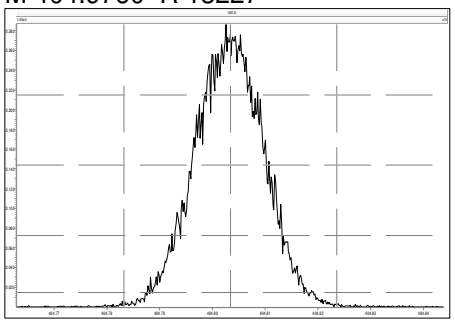
M 380.9760 R 13161



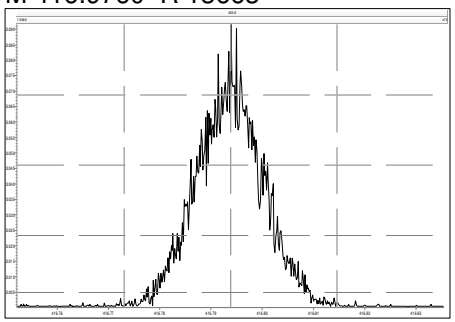
M 392.9760 R 13968



M 404.9760 R 13227



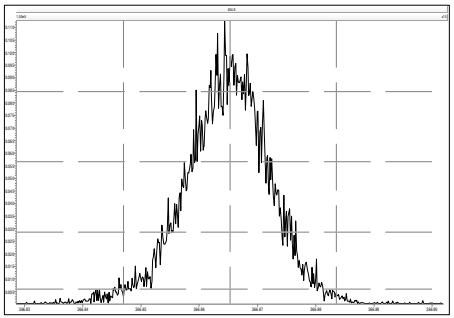
M 416.9760 R 13663



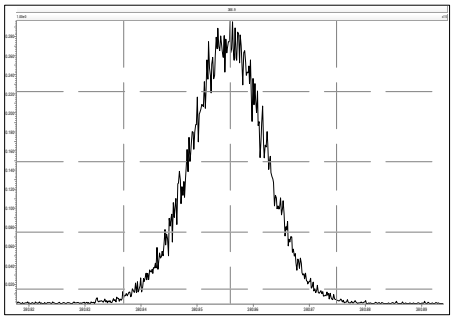
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

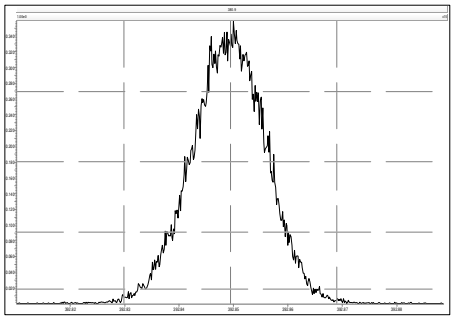
M 366.9792 R 10680



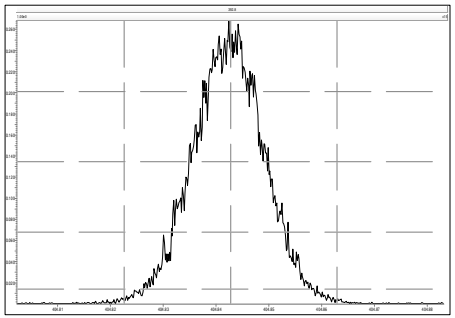
M 380.9760 R 12315



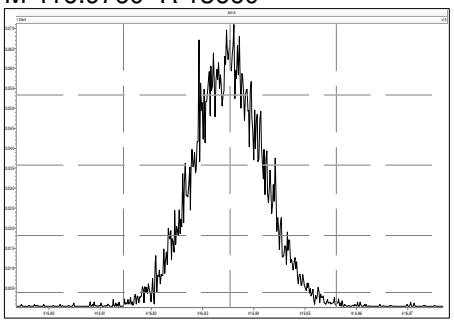
M 392.9760 R 12197



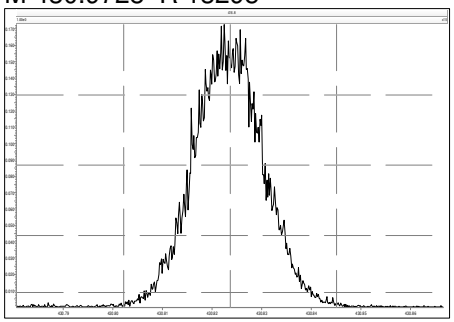
M 404.9760 R 12433



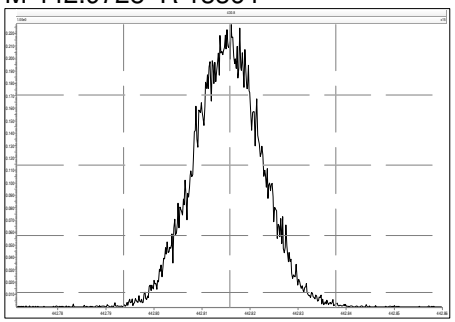
M 416.9760 R 13660



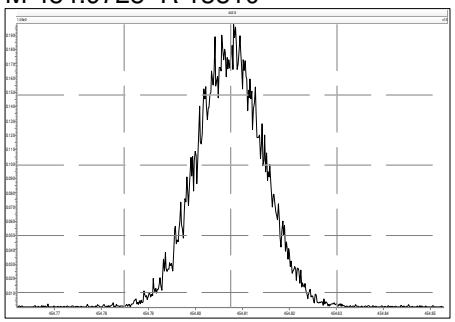
M 430.9728 R 13295



M 442.9728 R 13364



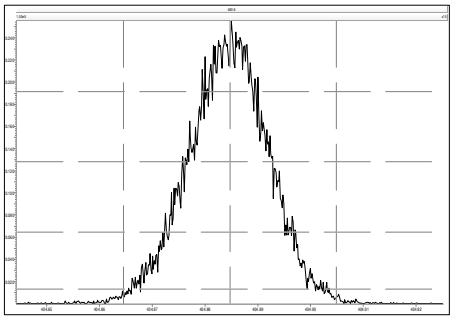
M 454.9728 R 13810



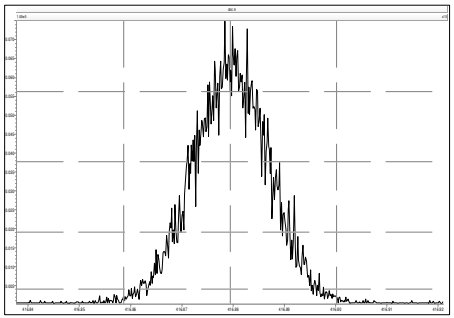
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

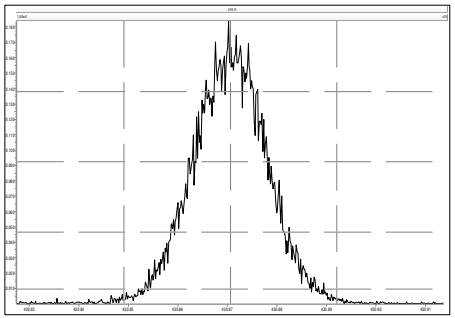
M 404.9760 R 11679



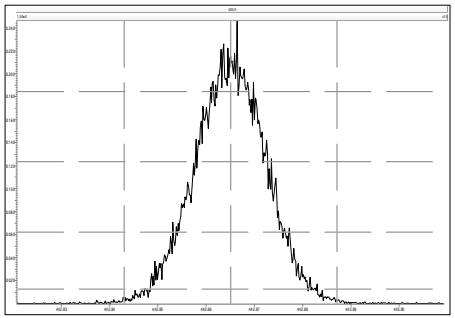
M 416.9760 R 12886



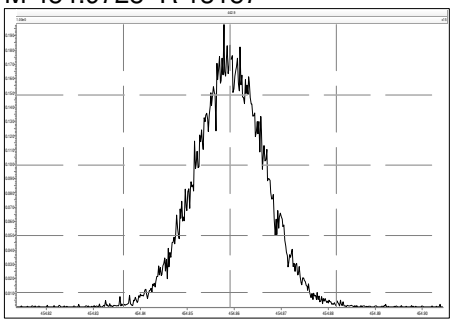
M 430.9728 R 12253



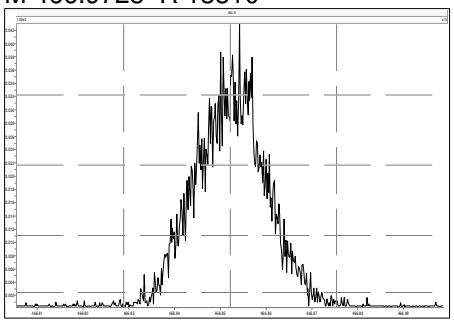
M 442.9728 R 12756



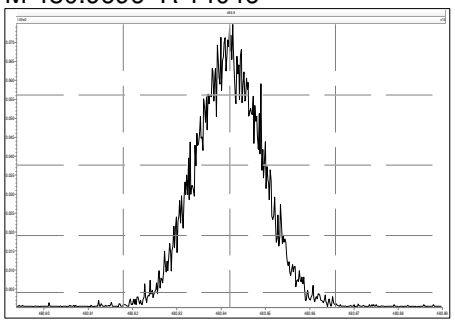
M 454.9728 R 13157



M 466.9728 R 13810



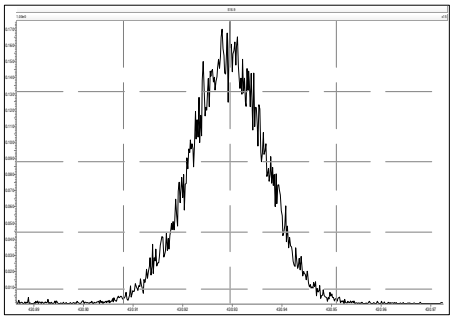
M 480.9696 R 14046



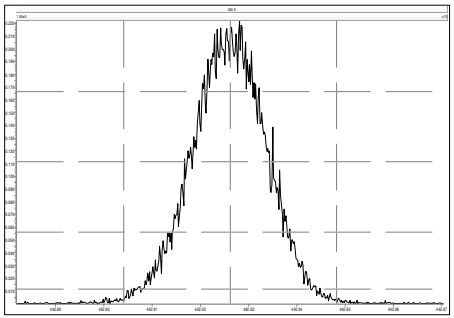
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

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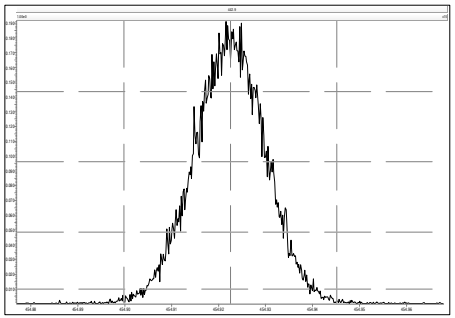
M 430.9728 R 11574



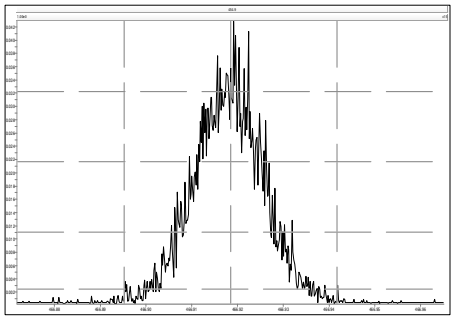
M 442.9728 R 12198



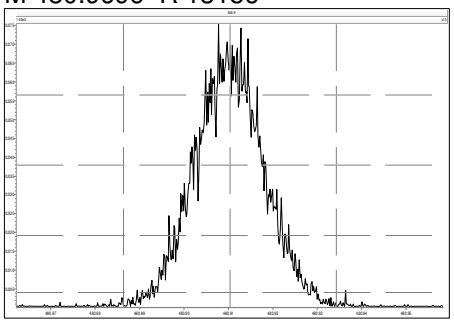
M 454.9728 R 12950



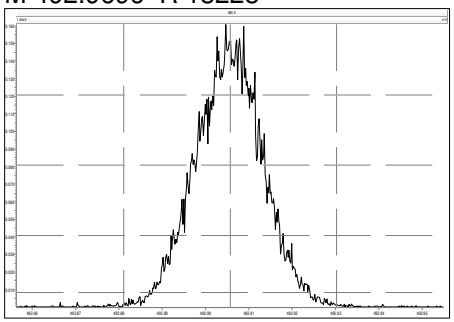
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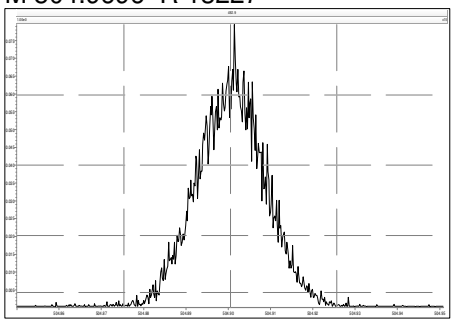
M 480.9696 R 13156



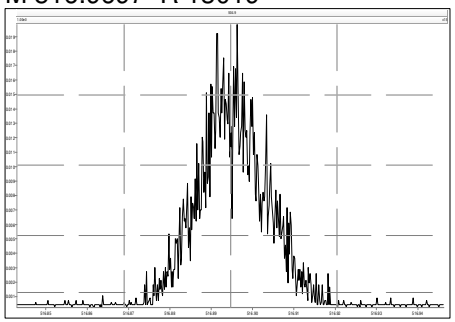
M 492.9696 R 13228



M 504.9696 R 13227



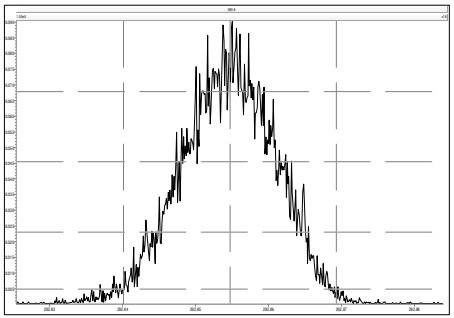
M 516.9697 R 13019



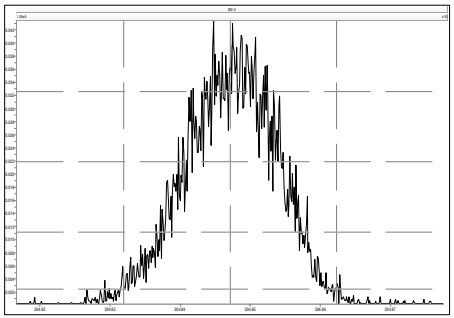
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

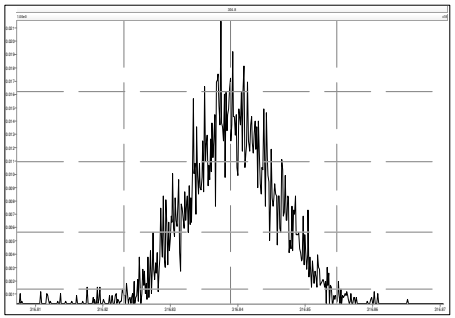
M 292.9824 R 10122



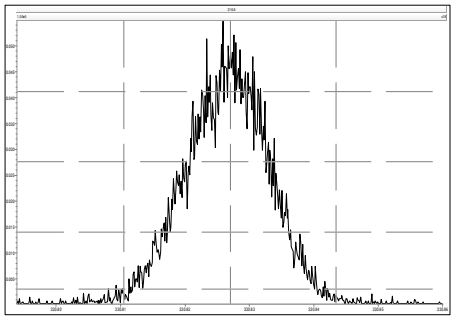
M 304.9824 R 10329



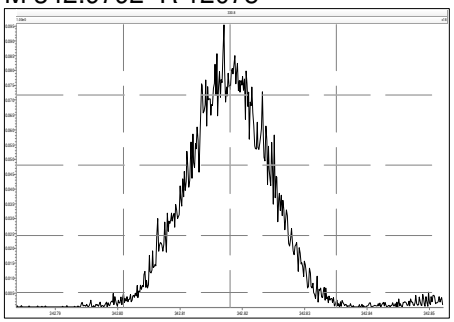
M 316.9824 R 11964



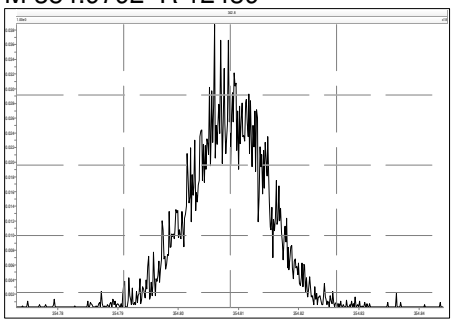
M 330.9792 R 11062



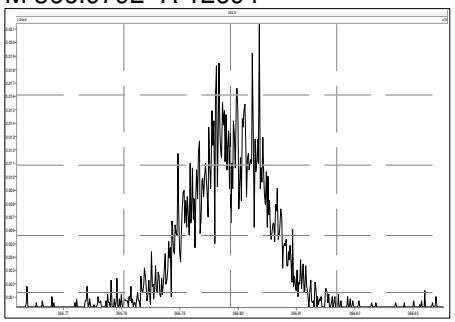
M 342.9792 R 12075



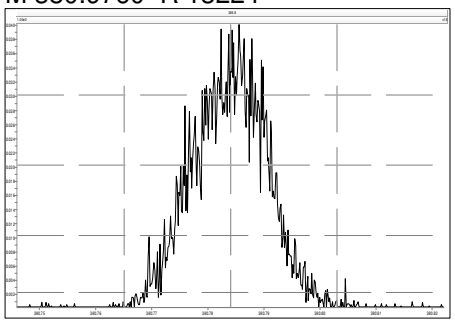
M 354.9792 R 12439



M 366.9792 R 12694



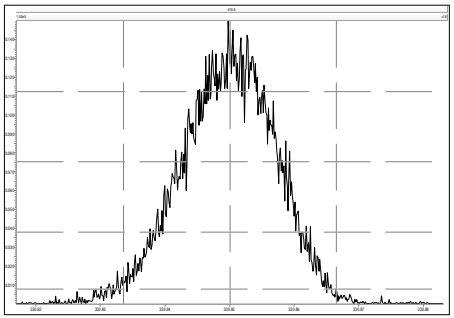
M 380.9760 R 13224



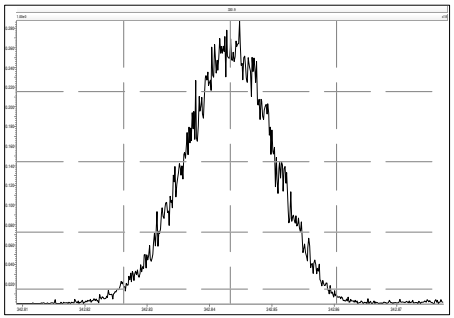
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

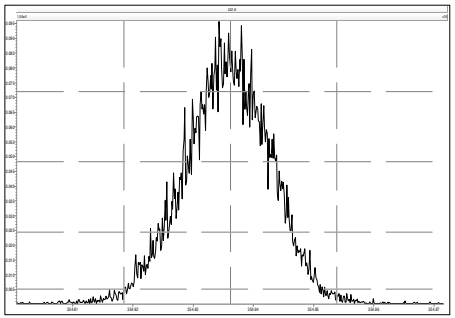
M 330.9792 R 10730



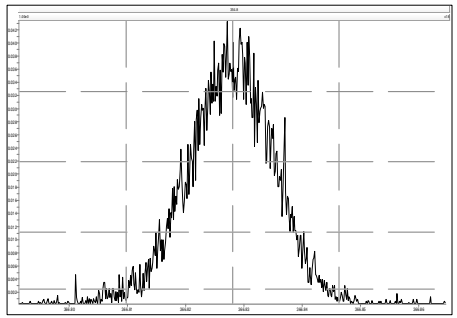
M 342.9792 R 10039



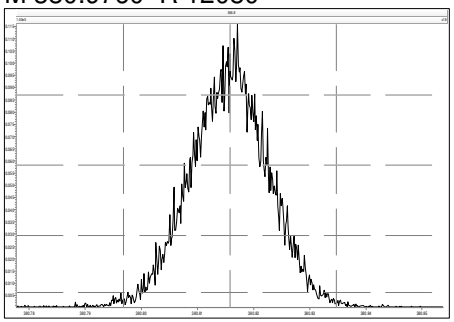
M 354.9792 R 11108



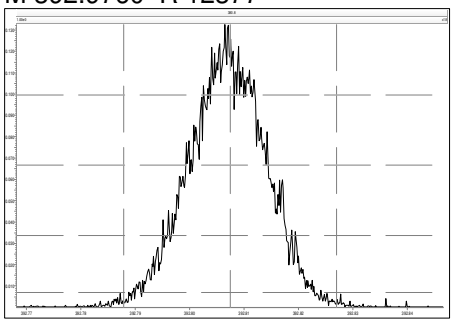
M 366.9792 R 11520



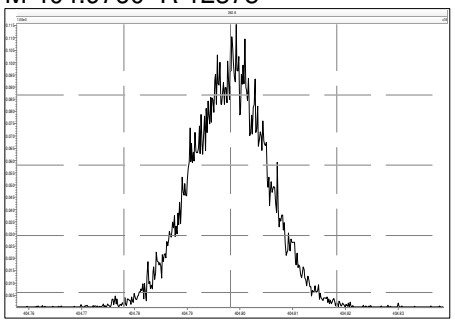
M 380.9760 R 12080



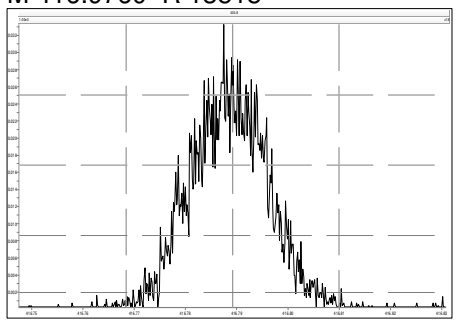
M 392.9760 R 12377



M 404.9760 R 12375



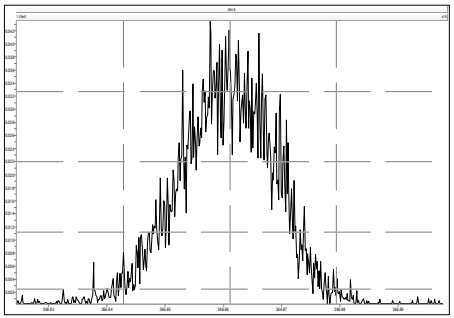
M 416.9760 R 13515



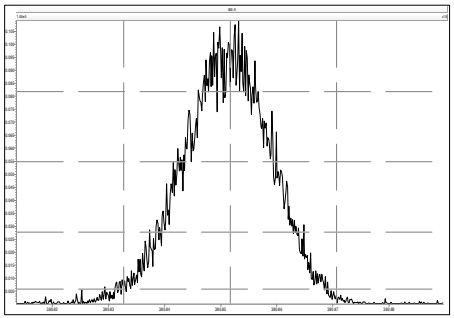
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

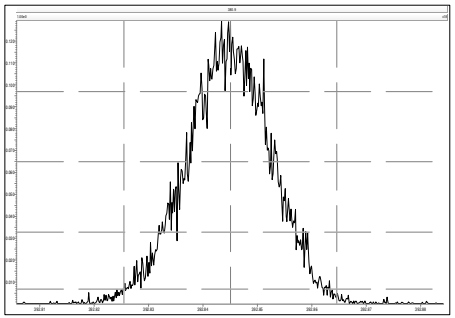
M 366.9792 R 10866



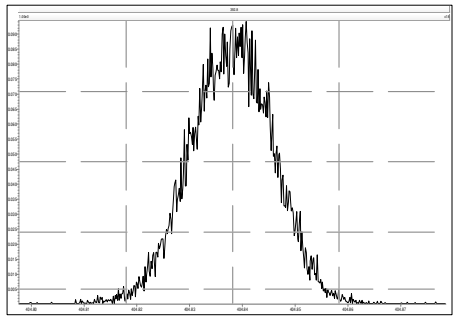
M 380.9760 R 10416



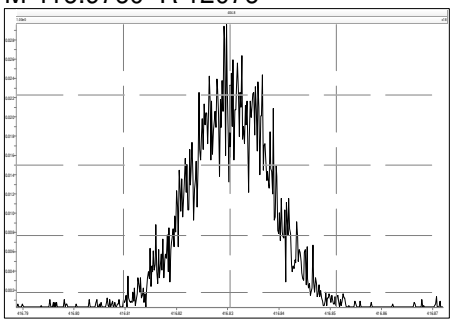
M 392.9760 R 10640



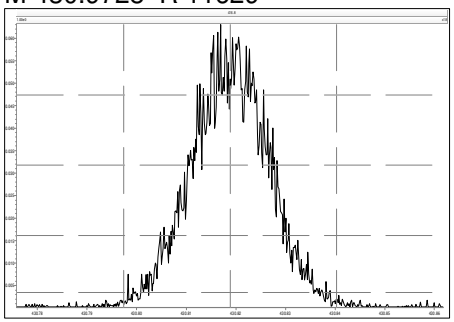
M 404.9760 R 11957



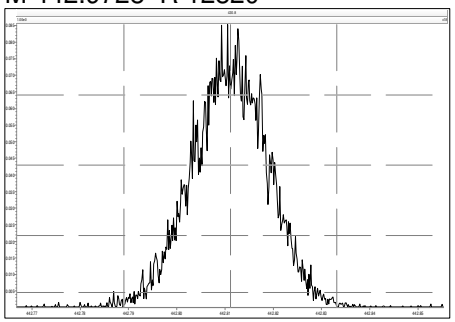
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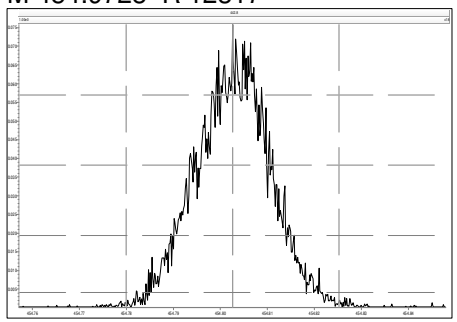
M 430.9728 R 11629



M 442.9728 R 12820



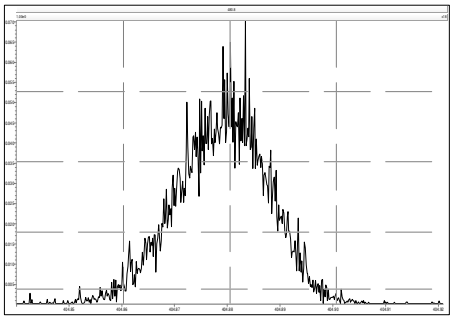
M 454.9728 R 12317



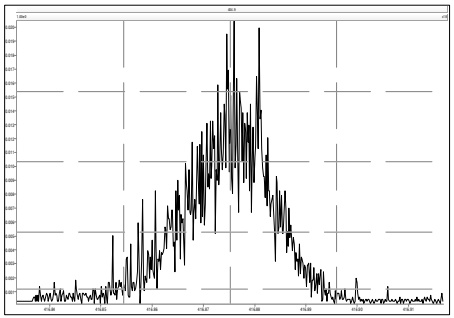
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

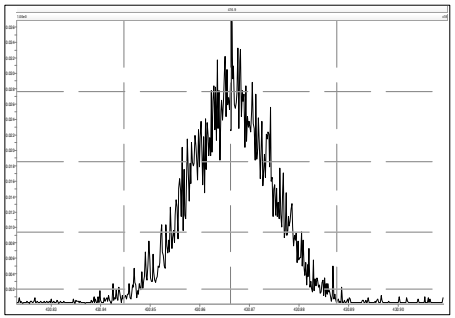
M 404.9760 R 10505



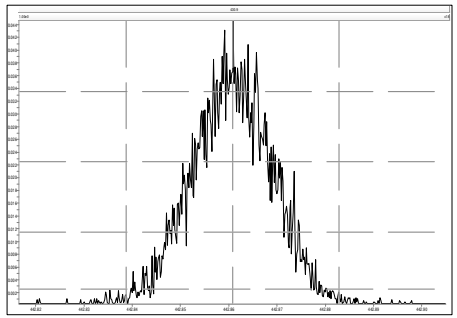
M 416.9760 R 12500



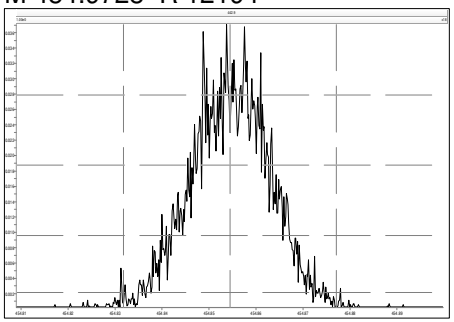
M 430.9728 R 11362



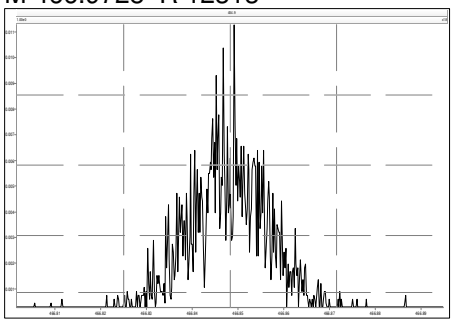
M 442.9728 R 12756



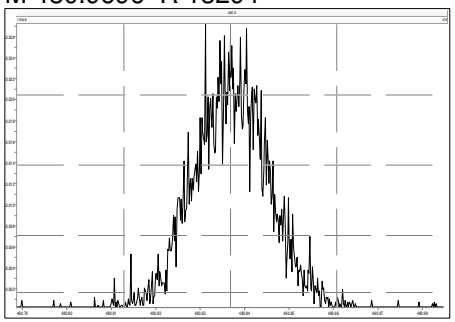
M 454.9728 R 12194



M 466.9728 R 12313



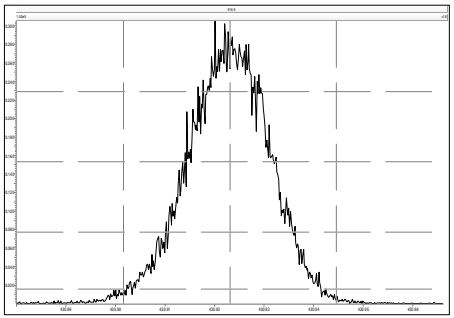
M 480.9696 R 13294



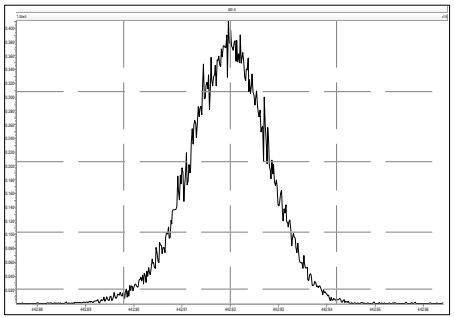
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

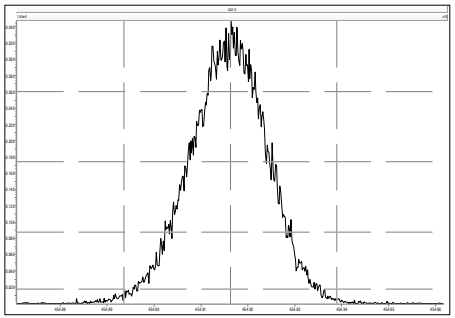
M 430.9728 R 11312



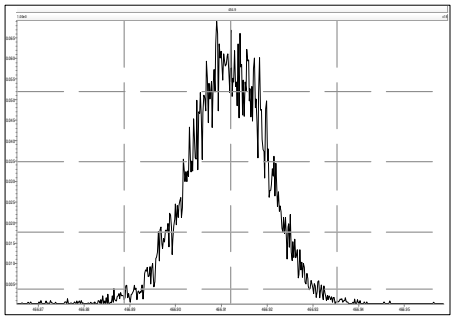
M 442.9728 R 11110



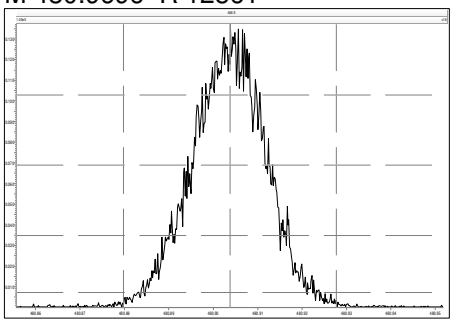
M 454.9728 R 11906



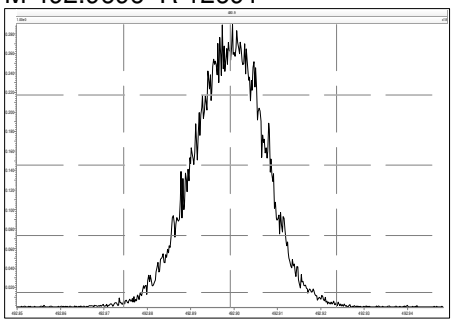
M 466.9728 R 12562



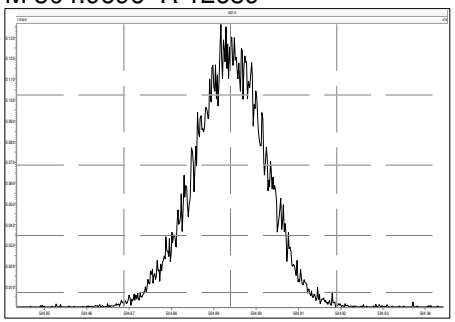
M 480.9696 R 12561



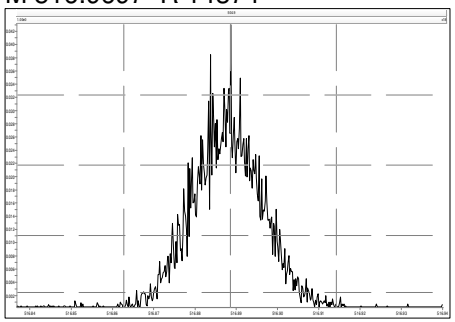
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18829_DF

APPROVED
Carla_Lyon , 1/25/2022, 1:15:38 PM

Acq'd: 21 Jan 2022 12:03 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR001

UTP: 24-Jan-2022 11:51:58 MLS

J-level: 0.25 pg/uL Split: 1

Checkcode: 507-844-HKB

Datafile: 220121C02

Report: 24 Jan 2022 11:55 MS

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0007	-0.2	2.26E+06	0.88	Y	1.18	12.3	5730.765	0.377
12378-PeCDD	33.96		1.0006	1.0005	-0.2	8.32E+06	1.54	Y	1.04	51.5	3984.834	0.251
123478-HxCDD	37.85		1.0004	1.0004	0	8.19E+06	1.28	Y	1.09	56.9	3016.341	0.185
123678-HxCDD	37.96		1.0034	1.0034	0	1.06E+07	1.28	Y	1.15	58.2	3016.341	0.168
123789-HxCDD	38.25		1.0109	1.0111	+0.5	8.25E+06	1.29	Y	1.05	50.8	3016.341	0.204
1234678-HpCDD	40.87		1.0003	1.0003	0	6.94E+06	1.04	Y	1.06	56.8	4347.222	0.346
OCDD	43.52		1.0002	1.0002	0	9.55E+06	0.91	Y	1.13	117	3799.646	0.583
2378-TCDF	27.81		1.0008	1.0007	-0.2	3.22E+06	0.72	Y	1.08	12	6178.313	0.279
12378-PeCDF	32.53		1.0005	1.0006	+0.2	1.36E+07	1.57	Y	1.02	54.2	7686.037	0.322
23478-PeCDF	33.63		1.0005	1.0005	0	1.38E+07	1.62	Y	1.02	57.8	7686.037	0.314
123478-HxCDF	36.84		1.0004	1.0004	0	1.06E+07	1.25	Y	1.27	54.5	5437.82	0.255
123678-HxCDF	36.99		1.0004	1.0006	+0.4	1.52E+07	1.27	Y	1.15	61.7	5437.82	0.25
234678-HxCDF	37.68		1.0004	1.0006	+0.5	1.18E+07	1.22	Y	1.19	58.8	5437.82	0.273
123789-HxCDF	38.61		1.0004	1.0005	+0.2	8.38E+06	1.27	Y	1.16	57	5437.82	0.332
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	1.29E+07	1.02	Y	1.37	57.4	7094.721	0.261
1234789-HpCDF	41.34		1.0003	1.0005	+0.5	7.34E+06	1.07	Y	1.31	61.9	7094.721	0.554
OCDF	43.70		1.0002	1.0002	0	1.07E+07	0.91	Y	1.07	111	5316.514	0.615

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64		1.0233	1.0236	+0.5	1.54E+07	0.79	Y	1.05	89.6
ES 12378-PeCDD	33.95		1.2121	1.2133	+2.4	1.56E+07	1.56	Y	0.88	107
ES 123478-HxCDD	37.83		0.9921	0.9921	0	1.32E+07	1.27	Y	0.97	89.7
ES 123678-HxCDD	37.95		0.9951	0.9952	+0.2	1.58E+07	1.26	Y	0.94	111
ES 123789-HxCDD	38.24		1.0025	1.0028	+0.7	1.55E+07	1.28	Y	1.09	93.8
ES 1234678-HpCDD	40.86		1.0709	1.0715	+1.5	1.15E+07	1.09	Y	0.91	83.4
ES OCDD	43.51		1.1403	1.1410	+1.8	1.45E+07	0.90	Y	0.62	76.8
ES 2378-TCDF	27.79		1.0506	1.0512	+1.0	2.48E+07	0.83	Y	1.06	82
ES 12378-PeCDF	32.51		1.2281	1.2296	+2.9	2.45E+07	1.59	Y	0.91	94.3
ES 23478-PeCDF	33.61		1.2698	1.2715	+3.4	2.34E+07	1.53	Y	0.88	92.9
ES 123478-HxCDF	36.83		0.9657	0.9658	+0.2	1.53E+07	0.55	Y	1.20	84.1
ES 123678-HxCDF	36.97		0.9695	0.9696	+0.2	2.14E+07	0.57	Y	1.35	105
ES 234678-HxCDF	37.65	QI	0.9874	0.9874	0	1.69E+07	0.52	Y	1.24	89.8
ES 123789-HxCDF	38.59		1.0116	1.0120	+0.9	1.26E+07	0.52	Y	1.16	72.2
ES 1234678-HpCDF	39.93		1.0467	1.0473	+1.4	1.64E+07	0.47	Y	0.97	112
ES 1234789-HpCDF	41.32		1.0830	1.0835	+1.2	9.07E+06	0.45	Y	0.85	70.3
ES OCDF	43.69		1.1451	1.1458	+1.8	1.79E+07	0.94	Y	0.81	73.2

Lab ID: OPR1_18829_DF **Acq'd:** 21 Jan 2022 12:03 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR001 **UTP:** 24-Jan-2022 11:51:58 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 507-844-HKB

Datafile: 220121C02 **Report:** 24 Jan 2022 11:55 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	1.65E+07	0.83	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	2.86E+07	0.76	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.57E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0245	+0.7	7.36E+06	n/a	-	1.20	92.9	
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.54E+07	1.56	Y	0.75	124	
CS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.52E+07	1.54	Y	0.85	104	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.07E+07	0.55	Y	1.12	122	
CS 1234689-HpCDF	40.33		1.0571	1.0575	+1.0	1.55E+07	0.46	Y	0.89	115	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0245~~	~~+0.7~~	~~7.36E+06~~	~~n/a~~		~~1.15~~	~~104~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.54E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~115~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~2.52E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~110~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.07E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~117~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0575~~	~~+1.0~~	~~1.55E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~103~~	

Totals	Conc	EMPC
Total TCDD	57.1	57.1
Total PeCDD	77	77
Total HxCDD	180	180
Total HpCDD	68.9	68.9
Total Tetra-Octa Dioxins	500	500
Total TCDF	63	63
Total PeCDF	213	213
Total HxCDF	373	373
Total HpCDF	119	119
Total Tetra-Octa Furans	880	880
Total Tetra-Octa Dioxins & Furans	1380	1380

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.873	0.88
Response	2.26E+06	2.26E+06

Lab ID: OPR1_18829_DF **Acq'd: 21 Jan 2022 12:03 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR001 **UTP: 24-Jan-2022 11:51:58 MLS** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 507-844-HKB**

Datafile: 220121C02 **Report: 24 Jan 2022 11:55 MS** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8748	-1.1	3.09E+06	0.83	Y	1.18	16.9	5730.765	0.377
1379-TCDD	NotFnd		0.8876						1.18		5730.765	0.377
1369-TCDD	NotFnd		0.9023						1.18		5730.765	0.377
1469-TCDD	NotFnd		0.9291						1.18		5730.765	0.377
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5730.765	0.377
1378-TCDD	NotFnd		0.9440						1.18		5730.765	0.377
1268-TCDD	NotFnd		0.9506						1.18		5730.765	0.377
1478-TCDD	NotFnd		0.9591						1.18		5730.765	0.377
1279-TCDD	NotFnd		0.9649						1.18		5730.765	0.377
1234/1269-TCDD	NotFnd		0.9771						1.18		5730.765	0.377
1236-TCDD	NotFnd		0.9820						1.18		5730.765	0.377
1237/1238-TCDD	NotFnd		0.9908						1.18		5730.765	0.377
1239-TCDD	28.50		0.9954	0.9950	-0.7	1.97E+06	0.86	Y	1.18	10.8	5730.765	0.377
2378-TCDD	**28.66**		**1.0008**	1.0007	**-0.2**	2.26E+06	0.88	Y	**1.18**	**12.3**	**5730.765**	**0.377**
1278-TCDD	NotFnd		1.0121						1.18		5730.765	0.377
1267-TCDD	NotFnd		1.0167						1.18		5730.765	0.377
1289-TCDD	29.62		1.0341	1.0344	+0.5	3.12E+06	0.79	Y	1.18	17.1	5730.765	0.377
12479/12468-PeCDD	31.47		0.9273	0.9270	-0.6	1.98E+06	1.75	Y	1.04	12.3	3984.834	0.251
12469-PeCDD	NotFnd		0.9430						1.04		3984.834	0.251
12368-PeCDD	NotFnd		0.9592						1.04		3984.834	0.251
12478-PeCDD	NotFnd		0.9647						1.04		3984.834	0.251
12379-PeCDD	NotFnd		0.9676						1.04		3984.834	0.251
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3984.834	0.251
12346/12347-PeCDD	NotFnd		0.9860						1.04		3984.834	0.251
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**8.32E+06**	**1.54**	**Y**	**1.04**	**51.5**	**3984.834**	**0.251**
12367-PeCDD	NotFnd		1.0034						1.04		3984.834	0.251
12389-PeCDD	34.40		1.0134	1.0134	0	2.13E+06	1.54	Y	1.04	13.2	3984.834	0.251
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	2.33E+06	1.35	Y	1.10	14.3	3016.341	0.185
123468-HxCDD	NotFnd		0.9715						1.10		3016.341	0.185
123679/123689-HxCDD	NotFnd		0.9793						1.10		3016.341	0.185
123469-HxCDD	NotFnd		0.9829						1.10		3016.341	0.185
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**8.19E+06**	**1.28**	**Y**	1.09	**56.9**	**3016.341**	**0.185**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.06E+07**	**1.28**	**Y**	1.15	**58.2**	**3016.341**	**0.168**
123467-HxCDD	NotFnd		1.0082						1.10		3016.341	0.185
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**8.25E+06**	**1.29**	**Y**	1.05	**50.8**	**3016.341**	**0.204**

Lab ID: OPR1_18829_DF **Acq'd:** 21 Jan 2022 12:03 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR001 **UTP:** 24-Jan-2022 11:51:58 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 507-844-HKB

Datafile: 220121C02 **Report:** 24 Jan 2022 11:55 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	1.48E+06	1.13	Y	1.06	12.1	4347.222	0.346
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**6.94E+06**	**1.04**	**Y**	**1.06**	**56.8**	**4347.222**	**0.346**
OCDD	**43.52**		**1.0002**	**1.0002**	**0**	**9.55E+06**	**0.91**	**Y**	**1.13**	**117**	**3799.646**	**0.583**
OCDD-a	NotFnd		1.0002						0.07		4255.896	10.2
1368-TCDF	22.98		0.8282	0.8271	-1.5	4.34E+06	0.80	Y	1.08	16.2	6178.313	0.279
1468-TCDF	NotFnd		0.8485						1.08		6178.313	0.279
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.12E+06	0.79	Y	1.08	4.19	6178.313	0.279
1346/1246-TCDF	NotFnd		0.8829						1.08		6178.313	0.279
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6178.313	0.279
1348-TCDF	NotFnd		0.8980						1.08		6178.313	0.279
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6178.313	0.279
1268-TCDF	NotFnd		0.9158						1.08		6178.313	0.279
1467-TCDF	NotFnd		0.9206						1.08		6178.313	0.279
1478-TCDF	NotFnd		0.9266						1.08		6178.313	0.279
1369/1237-TCDF	NotFnd		0.9397						1.08		6178.313	0.279
2467-TCDF	NotFnd		0.9440						1.08		6178.313	0.279
2368-TCDF	NotFnd		0.9497						1.08		6178.313	0.279
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6178.313	0.279
1278-TCDF	NotFnd		0.9690						1.08		6178.313	0.279
1349-TCDF	NotFnd		0.9730						1.08		6178.313	0.279
1267-TCDF	NotFnd		0.9787						1.08		6178.313	0.279
2346/1249-TCDF	NotFnd		0.9850						1.08		6178.313	0.279
2347/1279-TCDF	NotFnd		0.9929						1.08		6178.313	0.279
2348-TCDF	27.70		0.9970	0.9968	-0.3	3.99E+06	0.82	Y	1.08	14.9	6178.313	0.279
2378-TCDF	**27.81**		**1.0008**	**1.0007**	**-0.2**	**3.22E+06**	**0.72**	**Y**	**1.08**	**12**	**6178.313**	**0.279**
2367/3467-TCDF	NotFnd		1.0136						1.08		6178.313	0.279
1269-TCDF	NotFnd		1.0221						1.08		6178.313	0.279
1239-TCDF	NotFnd		1.0319						1.08		6178.313	0.279
1289-TCDF	29.79		1.0740	1.0722	-3.2	4.21E+06	0.78	Y	1.08	15.7	6178.313	0.279
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	2.23E+07	1.57	Y	1.02	90.8	4585.232	0.19
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7686.037	0.318
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7686.037	0.318
14678-PeCDF	NotFnd		0.9695						1.02		7686.037	0.318
13479-PeCDF	NotFnd		0.9724						1.02		7686.037	0.318
13469/12479-PeCDF	NotFnd		0.9801						1.02		7686.037	0.318
12346-PeCDF	NotFnd		0.9842						1.02		7686.037	0.318

Lab ID: OPR1_18829_DF | **Acq'd: 21 Jan 2022 12:03 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR001 | **UTP: 24-Jan-2022 11:51:58 MLS** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 507-844-HKB**

Datafile: 220121C02 | **Report: 24 Jan 2022 11:55 MS** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7686.037	0.318
12347-PeCDF	NotFnd		0.9895						1.02		7686.037	0.318
12348-PeCDF	NotFnd		0.9941						1.02		7686.037	0.318
12378-PeCDF	**32.53**		**1.0005**	**1.0006**	**+0.2**	**1.36E+07**	**1.57**	**Y**	**1.02**	**54.2**	**7686.037**	**0.322**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7686.037	0.318
12379-PeCDF	NotFnd		1.0142						1.02		7686.037	0.318
12679-PeCDF	NotFnd		0.9931						1.02		7686.037	0.318
23467/12369-PeCDF	NotFnd		0.9966						1.02		7686.037	0.318
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.38E+07**	**1.62**	**Y**	**1.02**	**57.8**	**7686.037**	**0.314**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7686.037	0.318
12349-PeCDF	NotFnd		1.0101						1.02		7686.037	0.318
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.52E+06	1.55	Y	1.02	10.3	7686.037	0.318
123468-HxCDF	35.46		0.9627	0.9629	+0.4	2.79E+07	1.24	Y	1.19	141	5437.82	0.272
124678/134678-HxCDF	NotFnd		0.9684						1.19		5437.82	0.272
134679-HxCDF	NotFnd		0.9747						1.19		5437.82	0.272
124679-HxCDF	NotFnd		0.9802						1.19		5437.82	0.272
124689-HxCDF	NotFnd		0.9858						1.19		5437.82	0.272
123467-HxCDF	NotFnd		0.9972						1.19		5437.82	0.272
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**1.06E+07**	**1.25**	**Y**	**1.27**	**54.5**	**5437.82**	**0.255**
123678-HxCDF	**36.99**		**1.0004**	**1.0006**	**+0.4**	**1.52E+07**	**1.27**	**Y**	**1.15**	**61.7**	**5437.82**	**0.25**
123479-HxCDF	NotFnd		1.0051						1.19		5437.82	0.272
123469-HxCDF	NotFnd		1.0091						1.19		5437.82	0.272
123679-HxCDF	NotFnd		0.9943						1.19		5437.82	0.272
234678-HxCDF	**37.68**		**1.0004**	**1.0006**	**+0.5**	**1.18E+07**	**1.22**	**Y**	**1.19**	**58.8**	**5437.82**	**0.273**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5437.82	0.272
123789-HxCDF	**38.61**		**1.0004**	**1.0005**	**+0.2**	**8.38E+06**	**1.27**	**Y**	**1.16**	**57**	**5437.82**	**0.332**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		5437.82	0.272
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**1.29E+07**	**1.02**	**Y**	**1.37**	**57.4**	**7094.721**	**0.261**
1234679-HpCDF	NotFnd		1.0067						1.34		7094.721	0.365
1234689-HpCDF	NotFnd		1.0101						1.34		7094.721	0.365
1234789-HpCDF	**41.34**		**1.0003**	**1.0005**	**+0.5**	**7.34E+06**	**1.07**	**Y**	**1.31**	**61.9**	**7094.721**	**0.554**
OCDF	**43.70**		**1.0002**	**1.0002**	**0**	**1.07E+07**	**0.91**	**Y**	**1.07**	**111**	**5316.514**	**0.615**
OCDF-a	NotFnd		1.0002						0.07		4026.139	7.52

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C02	Analysis Date:	21-JAN-2022 12:03:47
Lab ID:	OPR1_18829_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.8	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56.8	35	-	70	Y
OCDD	100	117	78	-	144	Y
2,3,7,8-TCDF	10	12	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	54.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	61.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	58.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	57	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	57.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	61.9	39	-	69	Y
OCDF	100	111	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 11:55 Analyst: MS

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C02	Analysis Date:	21-JAN-2022 12:03:47
Lab ID:	OPR1_18829_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	89.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	107	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	89.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	111	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	83.4	26	-	166	Y
13C-OCDD	200	154	26	-	397	Y
13C-2,3,7,8-TCDF	100	82	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	84.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	105	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	89.8	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	72.2	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	112	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	70.3	20	-	186	Y
13C-OCDF	200	146	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 11:55 Analyst: MS

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220121C02	Analysis Date:	21-JAN-2022 12:03:47
Lab ID:	OPR1_18829_DF		

Window Defining Standards Results

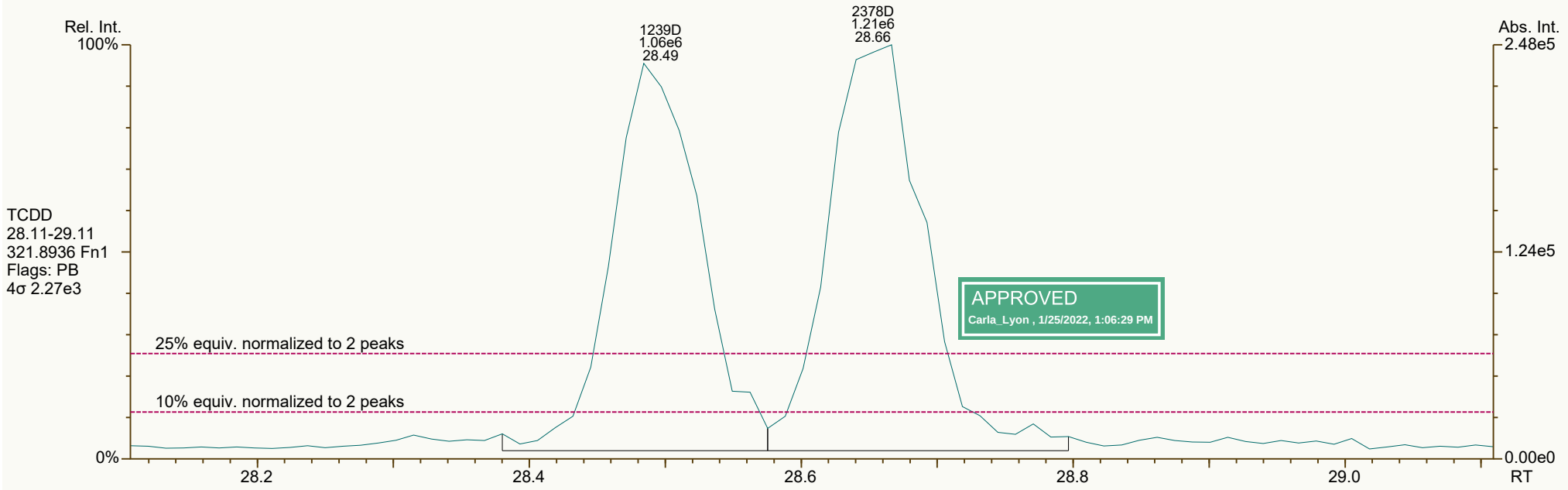
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.05	1289-TCDD	29.62
12479/12468-PeCDD	31.47	12389-PeCDD	34.40
124679/124689-HxCDD	36.10	123789-HxCDD	38.25
1234679-HpCDD	40.19	1234678-HpCDD	40.87
1368-TCDF	22.98	1289-TCDF	29.79
13468/12468-PeCDF	29.70	12389-PeCDF	34.70
123468-HxCDF	35.46	123789-HxCDF	38.61
1234678-HpCDF	39.94	1234789-HpCDF	41.34

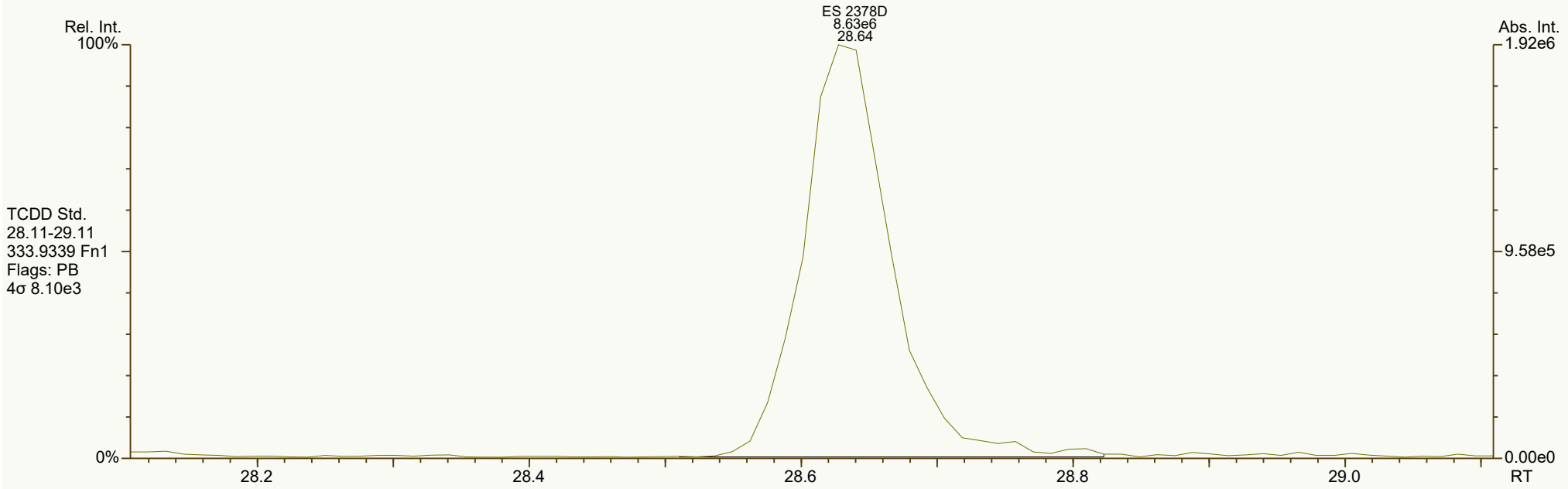
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.50	2378-TCDD	28.66
2348-TCDF	27.70	2378-TCDF	27.81

Processed: 24 Jan 2022 11:55 Analyst: MS

SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02



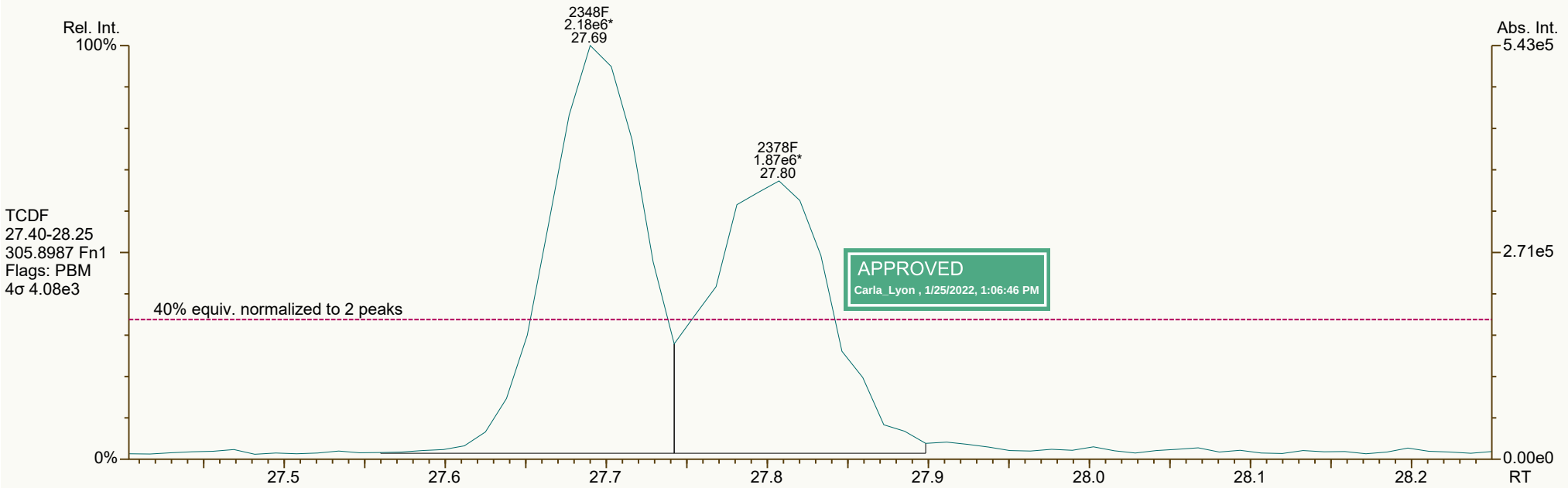


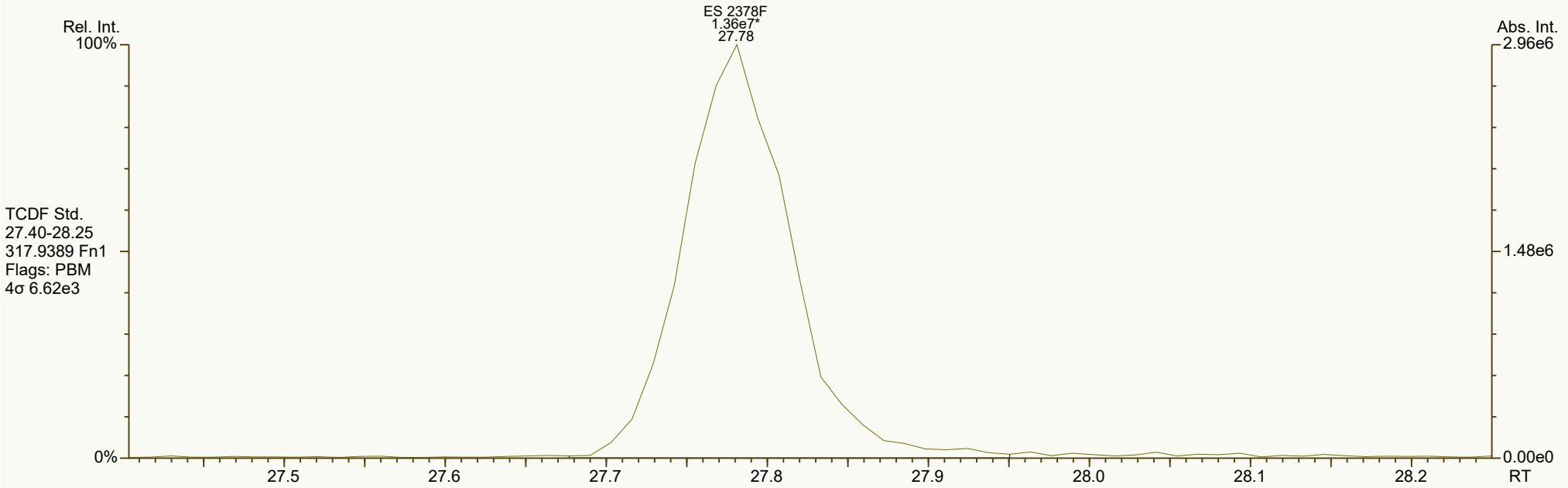
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW
Revised: 24-Jan-2022 08:36 (DTF) Printed: 24-Jan-2022 12:09

SGS ID: OPR1_18829_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18829_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71

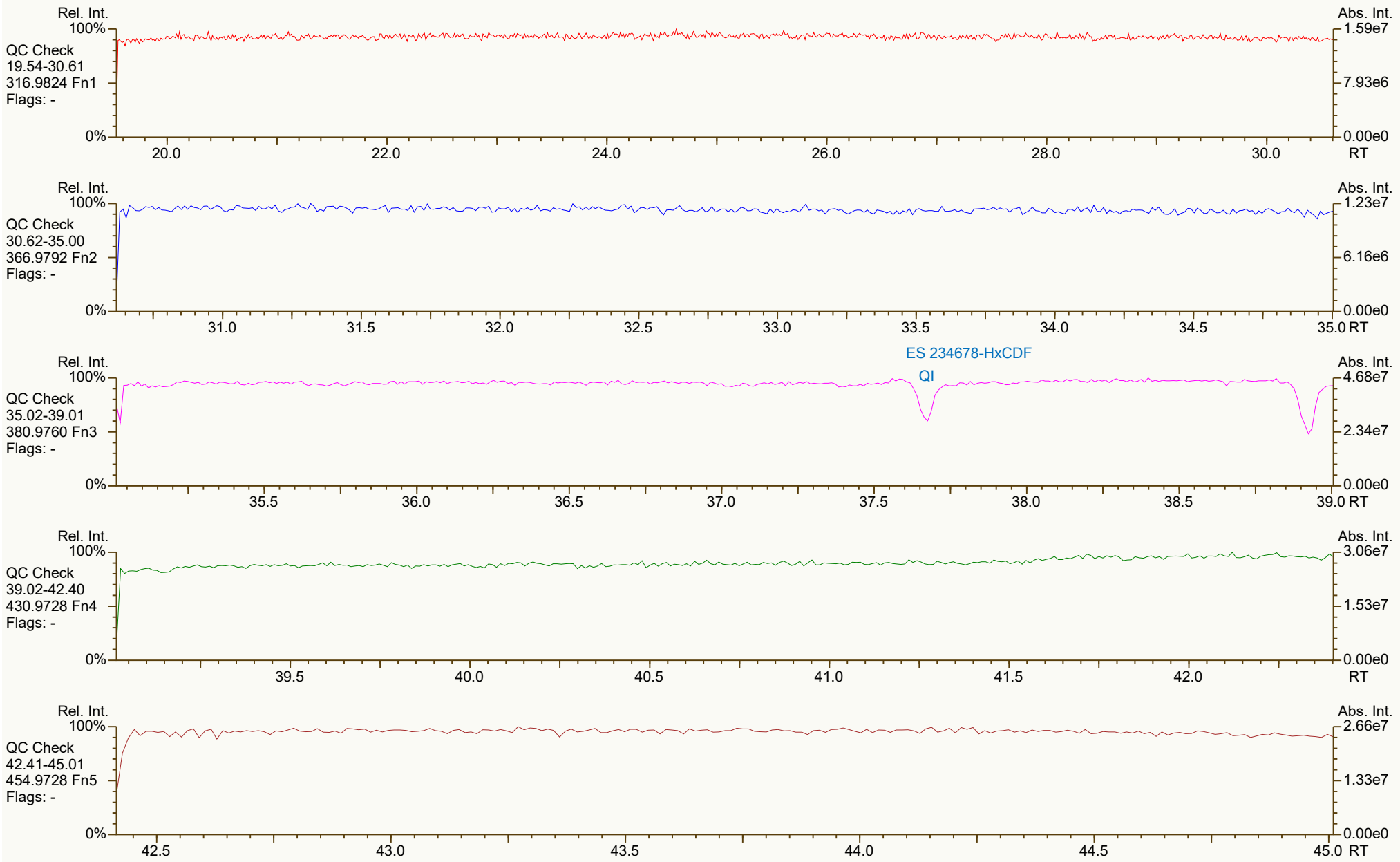
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User: DTF Datafile: 220121C02

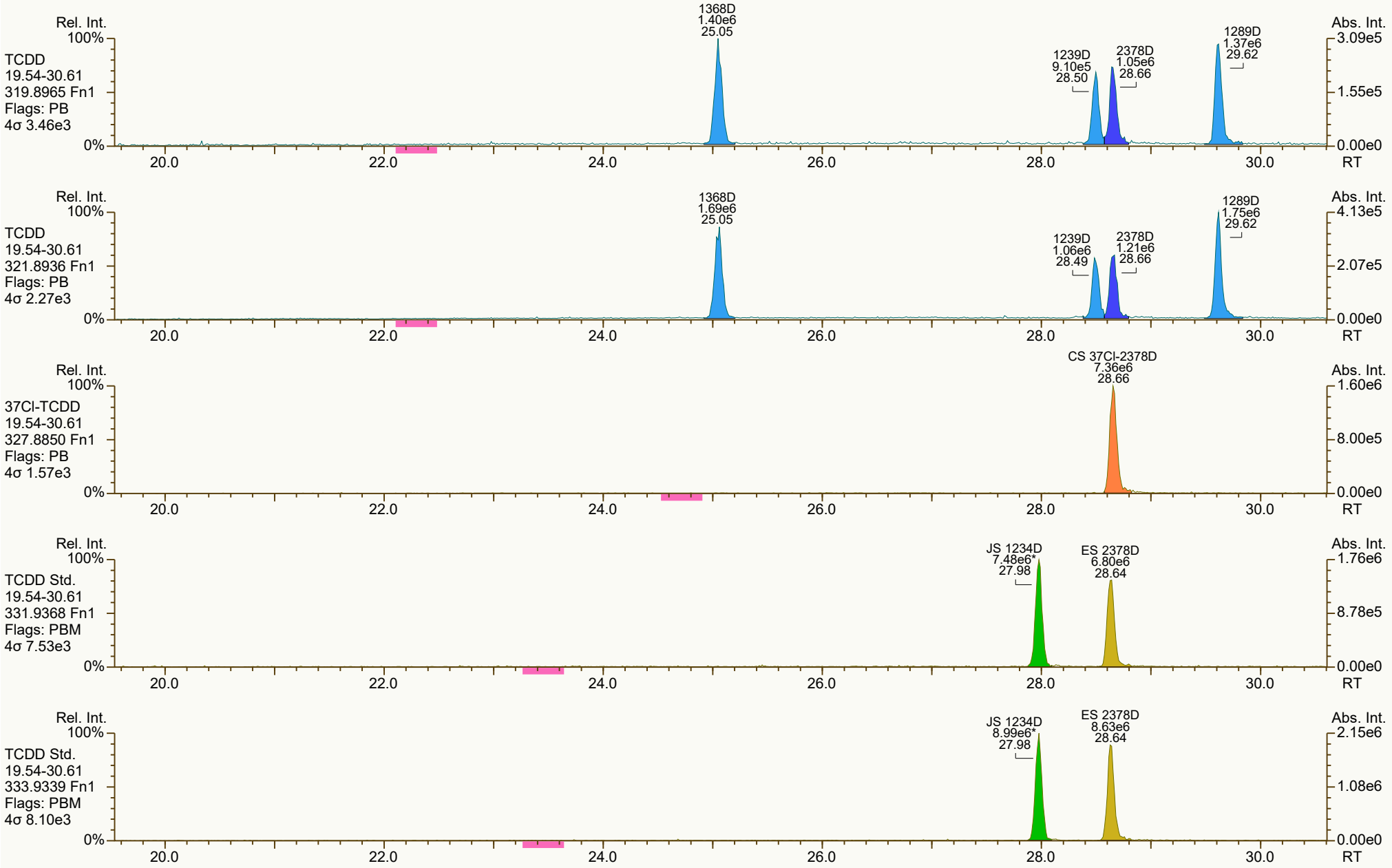


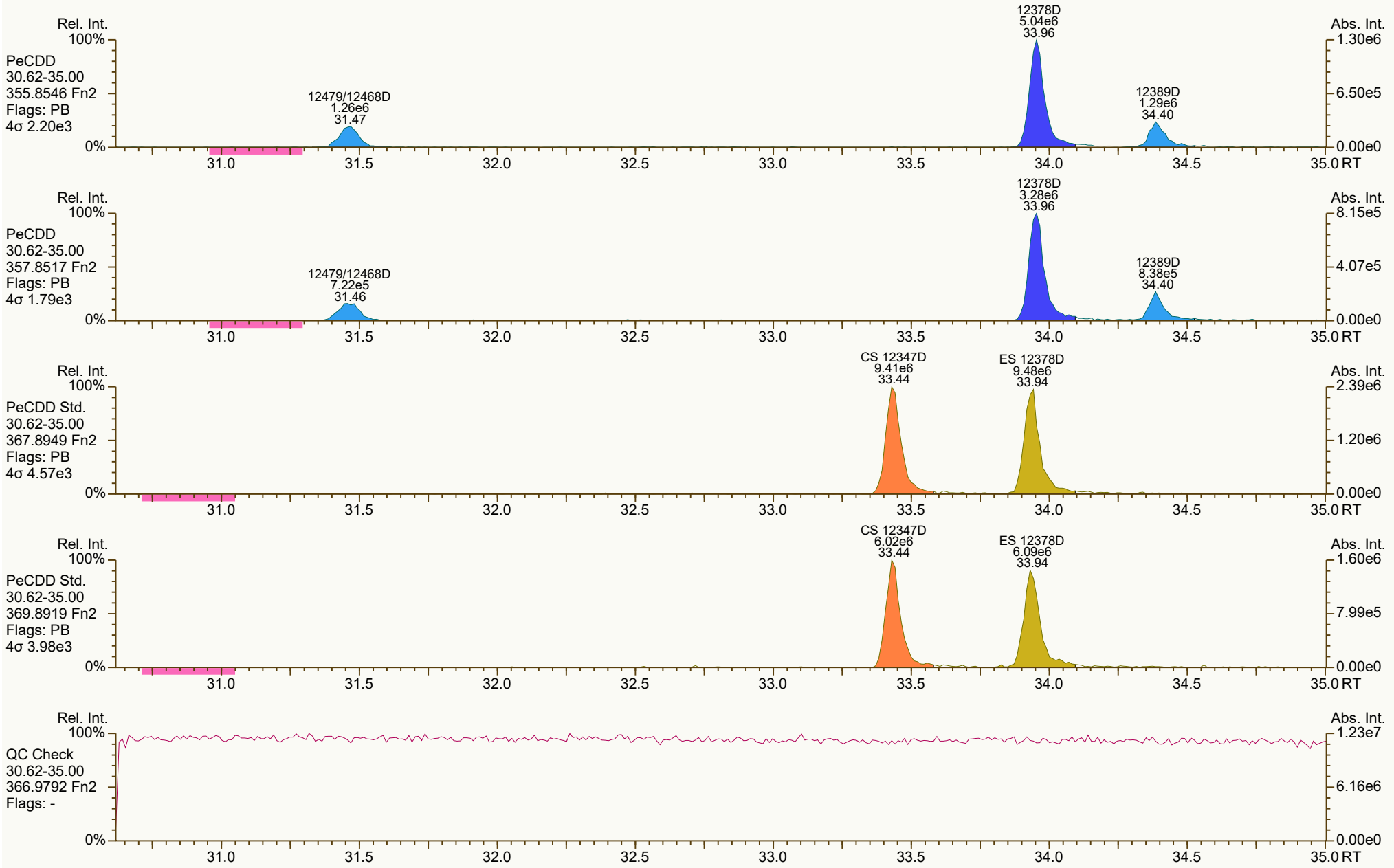


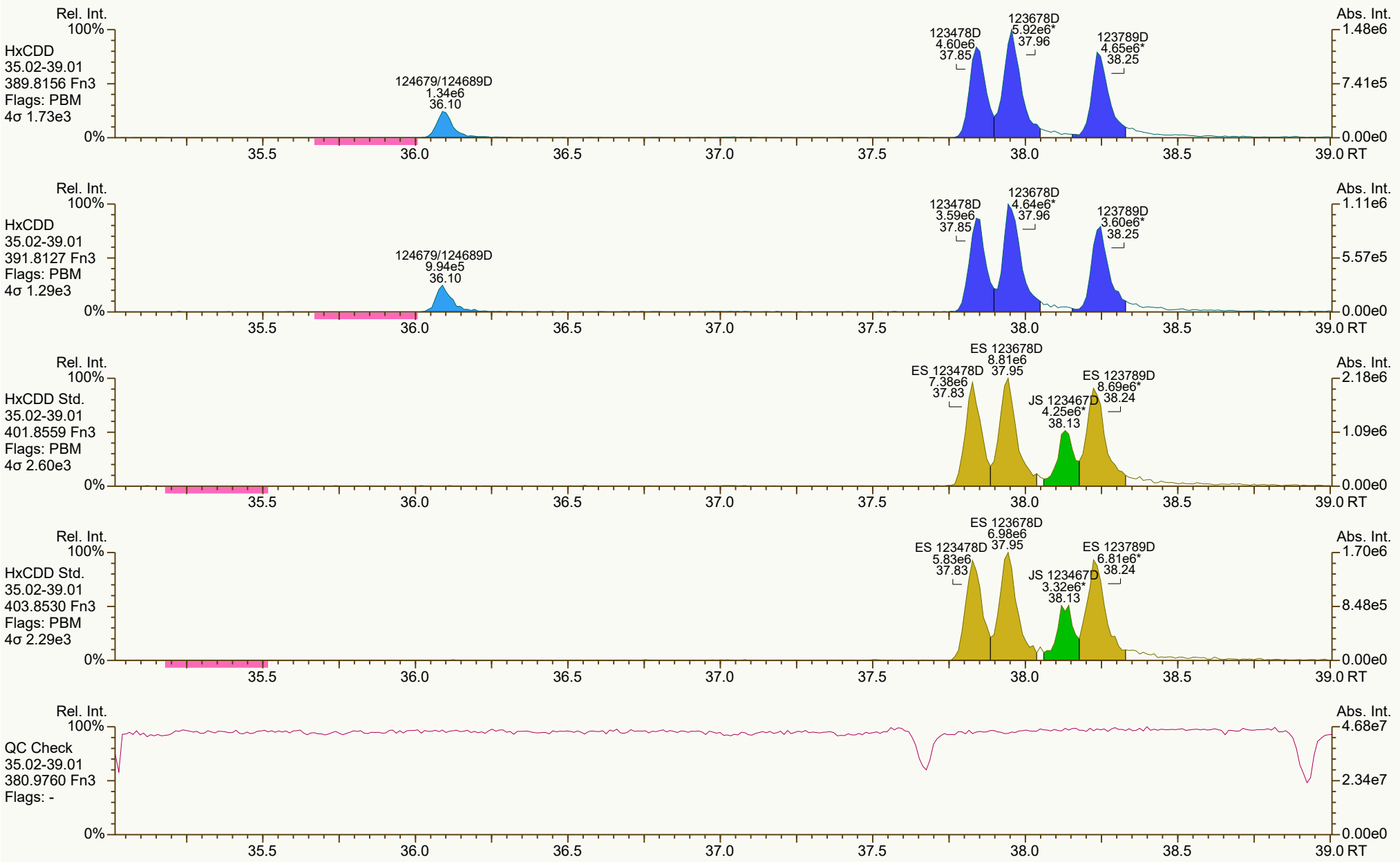
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SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW

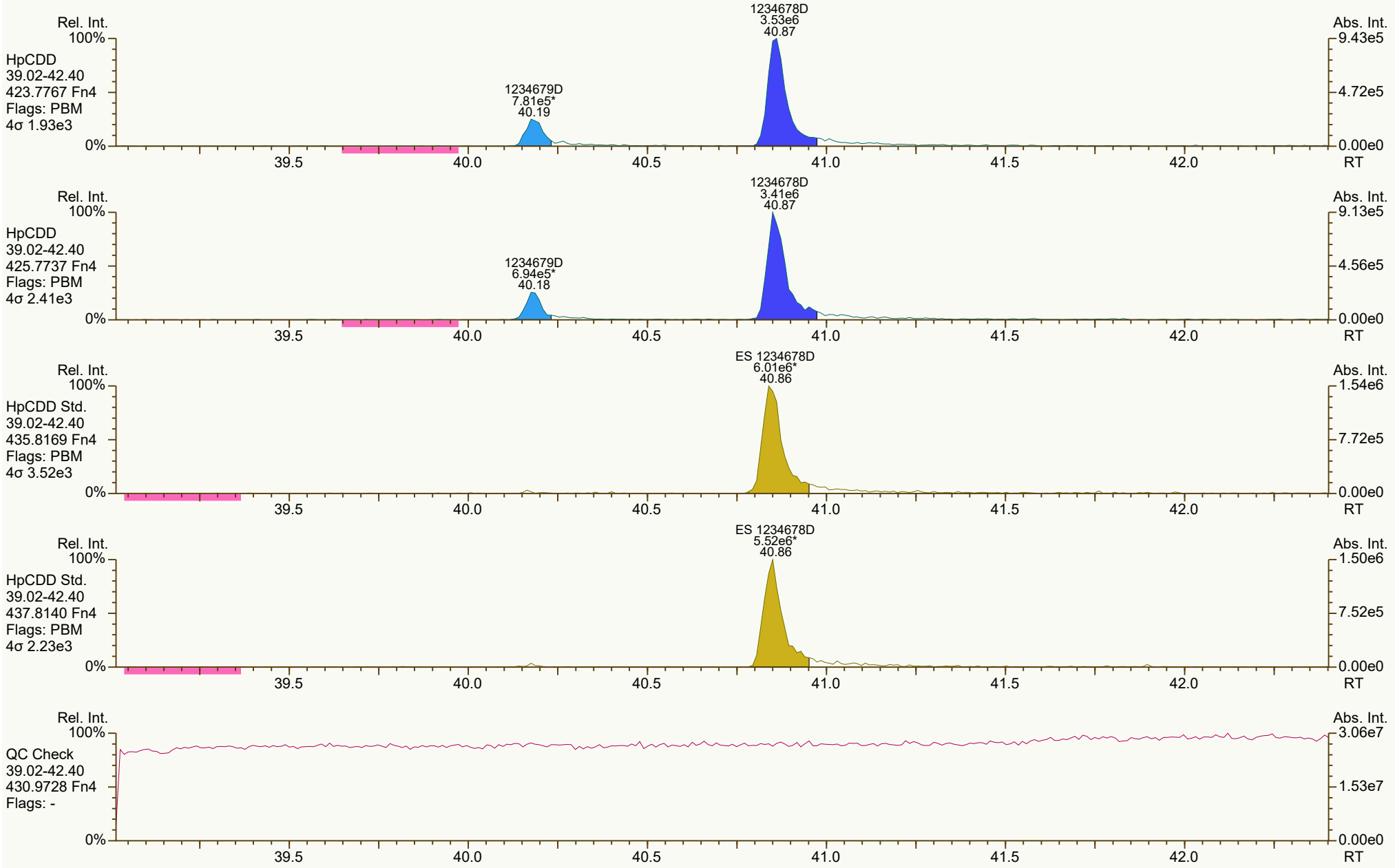
Peak annotation: Areas, Centroids
Revised: 24-Jan-2022 08:37 (DTF) Printed: 24-Jan-2022 12:09

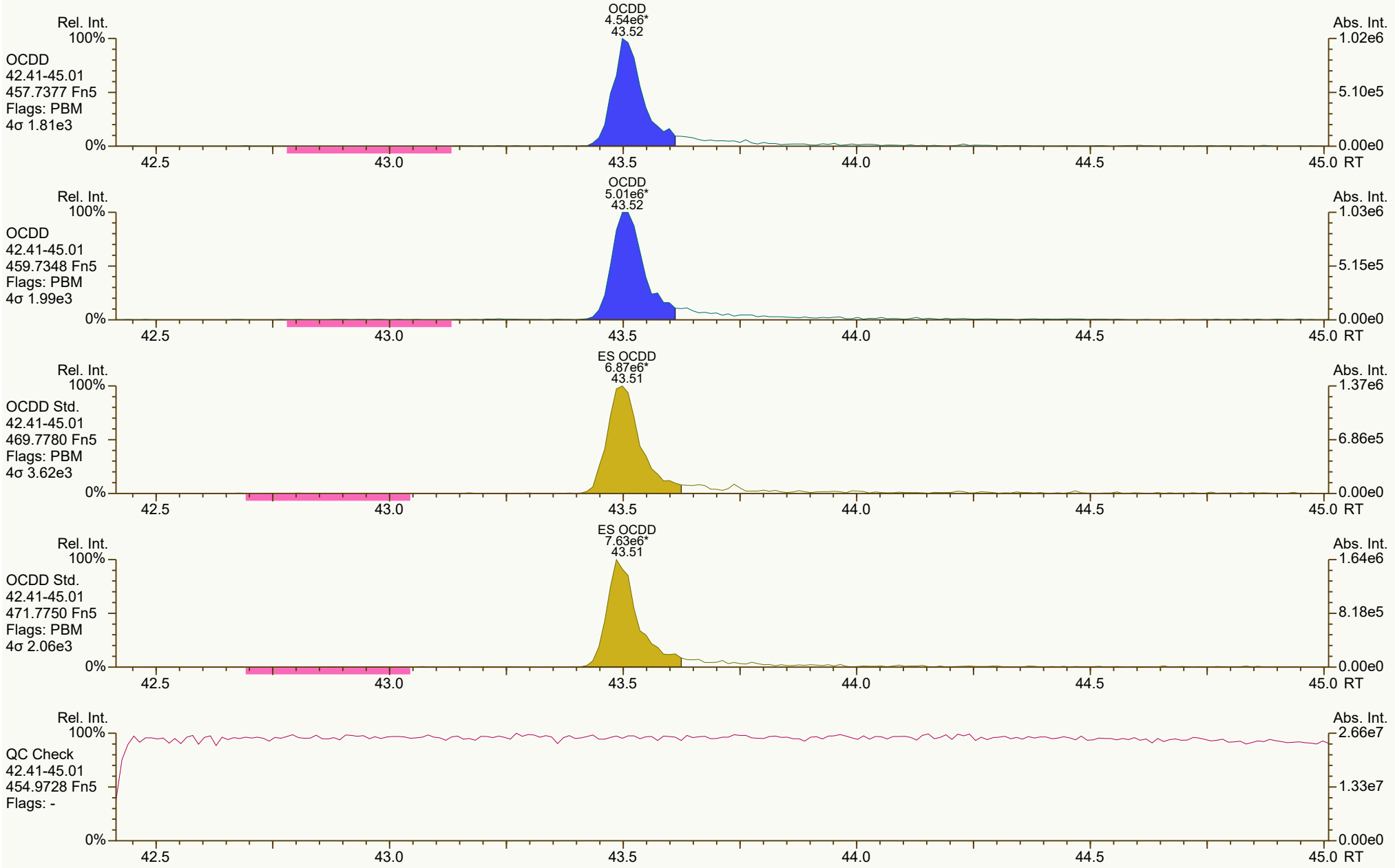

Rel. Int.
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QC Check
19.54-30.61
316.9824 Fn1
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0%
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7.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.23e7
6.16e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.68e7
2.34e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.06e7
1.53e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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1.33e7
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43.0
43.5
44.0
44.5
45.0
RT

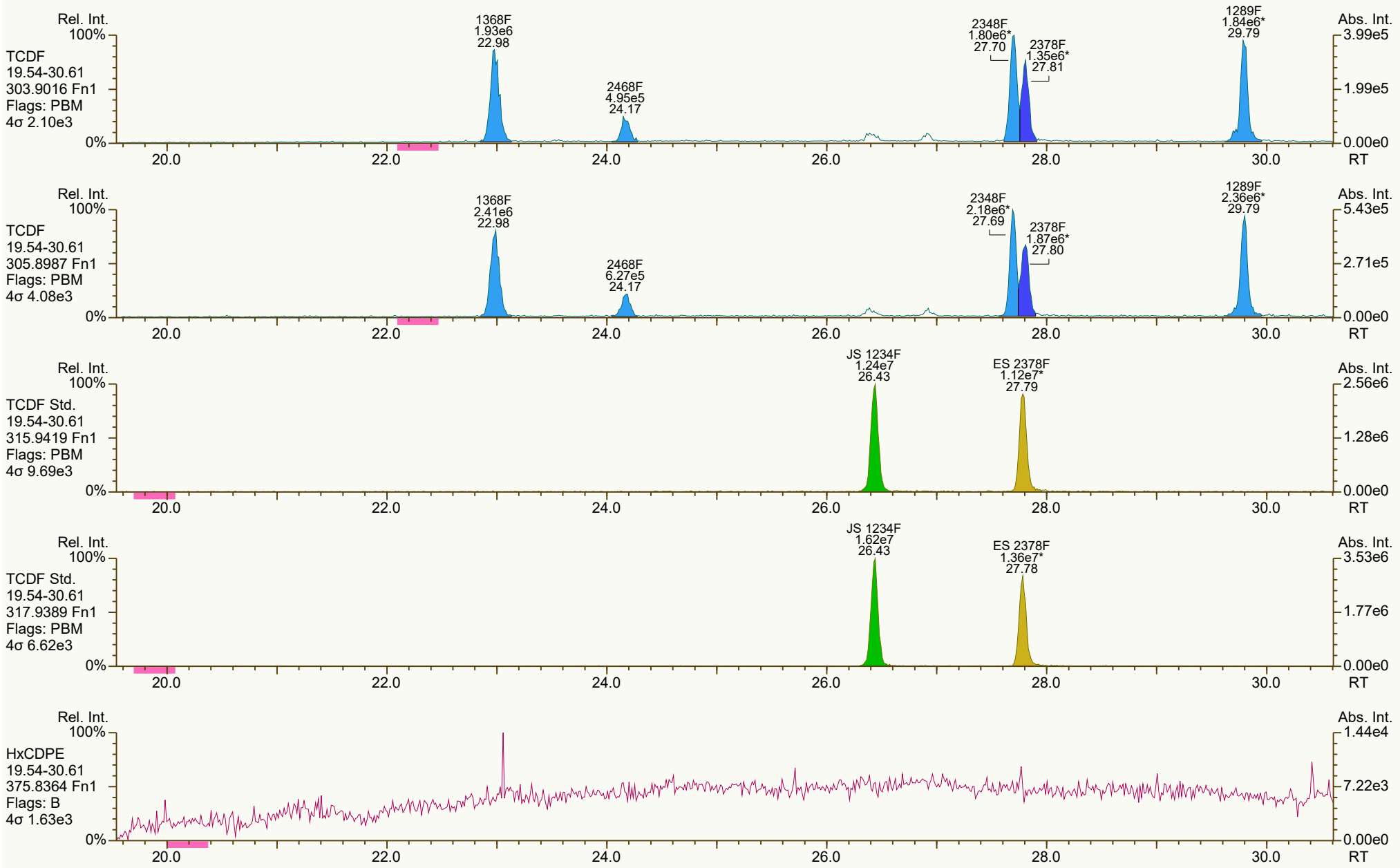

Rel. Int.
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TCDD
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319.8965 Fn1
Flags: PB
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1368D
1.40e6
25.05
1239D
9.10e5
28.50
2378D
1.05e6
28.66
1289D
1.37e6
29.62
Abs. Int.
3.09e5
1.55e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.27e3
1368D
1.69e6
25.05
1239D
1.06e6
28.49
2378D
1.21e6
28.66
1289D
1.75e6
29.62
Abs. Int.
4.13e5
2.07e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.57e3
CS 37Cl-2378D
7.36e6
28.66
Abs. Int.
1.60e6
8.00e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 7.53e3
JS 1234D
7.48e6*
27.98
ES 2378D
6.80e6
28.64
Abs. Int.
1.76e6
8.78e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 8.10e3
JS 1234D
8.99e6*
27.98
ES 2378D
8.63e6
28.64
Abs. Int.
2.15e6
1.08e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 2.20e3
12479/12468D
1.26e6
31.47
12378D
5.04e6
33.96
12389D
1.29e6
34.40
Abs. Int.
1.30e6
6.50e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.79e3
12479/12468D
7.22e5
31.46
12378D
3.28e6
33.96
12389D
8.38e5
34.40
Abs. Int.
8.15e5
4.07e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 4.57e3
CS 12347D
9.41e6
33.44
ES 12378D
9.48e6
33.94
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 3.98e3
CS 12347D
6.02e6
33.44
ES 12378D
6.09e6
33.94
Abs. Int.
1.60e6
7.99e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
1.23e7
6.16e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.73e3
124679/124689D
1.34e6
36.10
123478D
4.60e6
37.85
123678D
5.92e6*
37.96
123789D
4.65e6*
38.25
1.48e6
7.41e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.29e3
124679/124689D
9.94e5
36.10
123478D
3.59e6
37.85
123678D
4.64e6*
37.96
123789D
3.60e6*
38.25
1.11e6
5.57e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.60e3
ES 123678D
8.81e6
37.95
ES 123478D
7.38e6
37.83
ES 123789D
8.69e6*
38.24
JS 123467D
4.25e6*
38.13
2.18e6
1.09e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.29e3
ES 123678D
6.98e6
37.95
ES 123478D
5.83e6
37.83
ES 123789D
6.81e6*
38.24
JS 123467D
3.32e6*
38.13
1.70e6
8.48e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.68e7
2.34e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

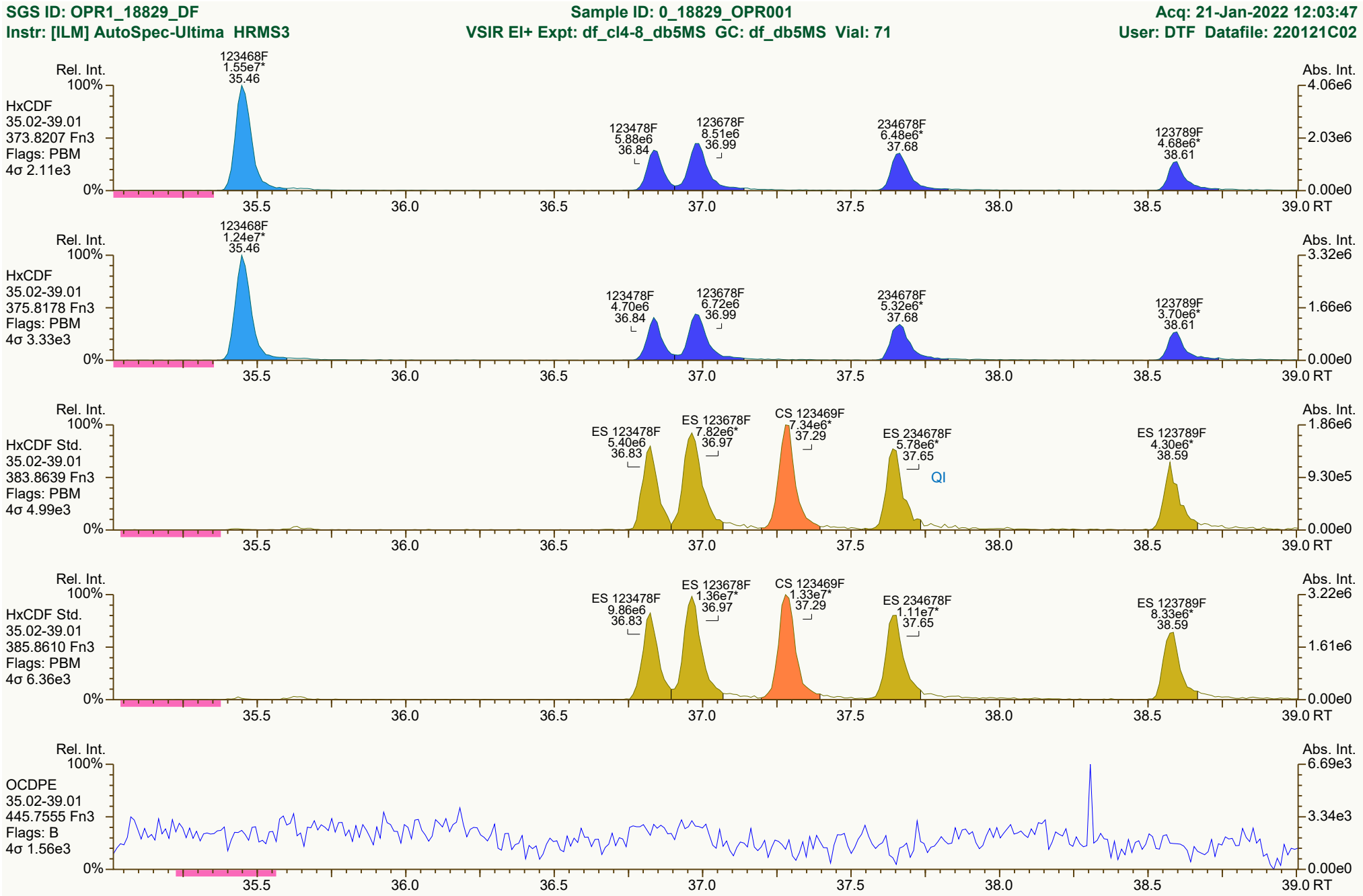

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.93e3
1234678D
3.53e6
40.87
1234679D
7.81e5*
40.19
Abs. Int.
9.43e5
4.72e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.41e3
1234678D
3.41e6
40.87
1234679D
6.94e5*
40.18
Abs. Int.
9.13e5
4.56e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.52e3
ES 1234678D
6.01e6*
40.86
Abs. Int.
1.54e6
7.72e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.23e3
ES 1234678D
5.52e6*
40.86
Abs. Int.
1.50e6
7.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.06e7
1.53e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

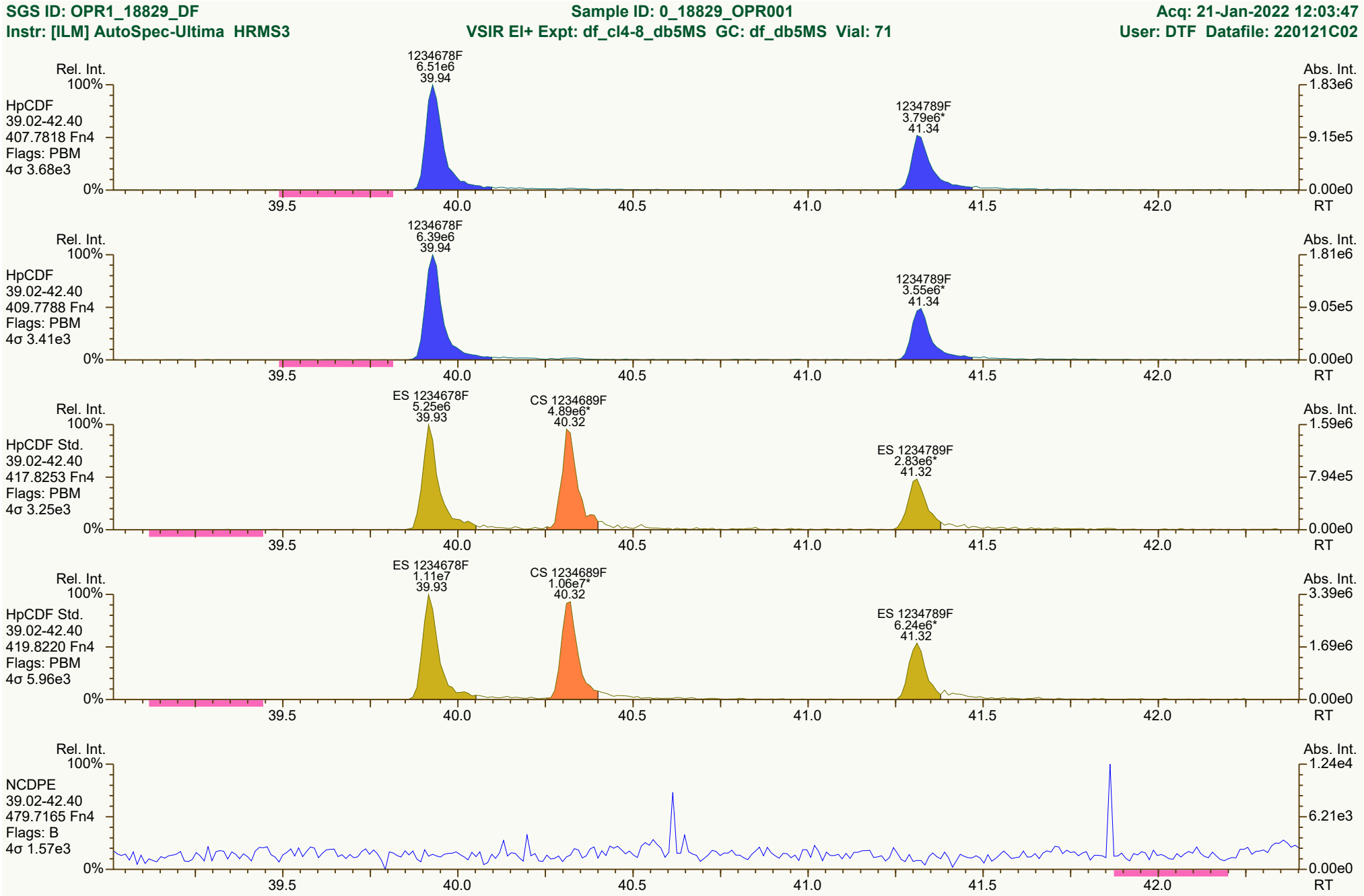

Rel. Int.
Abs. Int.
OCDD
4.54e6*
43.52
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.81e3
1.02e6
5.10e5
0.00e0
OCDD
5.01e6*
43.52
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.99e3
1.03e6
5.15e5
ES OCDD
6.87e6*
43.51
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.62e3
1.37e6
6.86e5
ES OCDD
7.63e6*
43.51
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.06e3
1.64e6
8.18e5
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
2.66e7
1.33e7
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.10e3
1368F
1.93e6
22.98
2468F
4.95e5
24.17
2348F
1.80e6*
27.70
2378F
1.35e6*
27.81
1289F
1.84e6*
29.79
Abs. Int.
3.99e5
1.99e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.08e3
1368F
2.41e6
22.98
2468F
6.27e5
24.17
2348F
2.18e6*
27.69
2378F
1.87e6*
27.80
1289F
2.36e6*
29.79
Abs. Int.
5.43e5
2.71e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 9.69e3
JS 1234F
1.24e7
26.43
ES 2378F
1.12e7*
27.79
Abs. Int.
2.56e6
1.28e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 6.62e3
JS 1234F
1.62e7
26.43
ES 2378F
1.36e7*
27.78
Abs. Int.
3.53e6
1.77e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.63e3
Abs. Int.
1.44e4
7.22e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.93e3
13468/12468F
1.36e7
29.70
Abs. Int.
3.30e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 2.66e3
13468/12468F
8.65e6
29.70
Abs. Int.
2.00e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.59e7
7.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 3.13e3
0%
12378F
8.33e6
32.52
23478F
8.54e6
33.63
12389F
1.53e6
34.70
Abs. Int.
2.19e6
1.09e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 4.56e3
0%
12378F
5.30e6
32.52
23478F
5.28e6
33.62
12389F
9.86e5
34.70
Abs. Int.
1.41e6
7.03e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 6.48e3
0%
CS 12346F
1.53e7*
31.97
ES 12378F
1.51e7
32.50
ES 23478F
1.42e7
33.61
Abs. Int.
3.90e6
1.95e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 7.65e3
0%
CS 12346F
9.92e6*
31.97
ES 12378F
9.48e6
32.51
ES 23478F
9.28e6
33.61
Abs. Int.
2.46e6
1.23e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 2.20e3
0%
Abs. Int.
7.39e3
3.70e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.11e3
123468F 1.55e7* 35.46
123478F 5.88e6 36.84
123678F 8.51e6 36.99
234678F 6.48e6* 37.68
123789F 4.68e6* 38.61
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 3.33e3
123468F 1.24e7* 35.46
123478F 4.70e6 36.84
123678F 6.72e6 36.99
234678F 5.32e6* 37.68
123789F 3.70e6* 38.61
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.99e3
ES 123478F 5.40e6 36.83
ES 123678F 7.82e6* 36.97
CS 123469F 7.34e6* 37.29
ES 234678F 5.78e6* 37.65
QI
ES 123789F 4.30e6* 38.59
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 6.36e3
ES 123478F 9.86e6 36.83
ES 123678F 1.36e7* 36.97
CS 123469F 1.33e7* 37.29
ES 234678F 1.11e7* 37.65
ES 123789F 8.33e6* 38.59
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.56e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
4.06e6
2.03e6
0.00e0
3.32e6
1.66e6
1.86e6
9.30e5
3.22e6
1.61e6
6.69e3
3.34e3
Results: P:\B6100_B6199\B6139\B6139_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 11:51 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 1135, 1661, 7770 scc: 507-844
PKD: 24-Jan-2022 08:38 Printed: 24-Jan-2022 12:06 Page 10 of 12


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 3.68e3
1234678F
6.51e6
39.94
1234789F
3.79e6*
41.34
1.83e6
9.15e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 3.41e3
1234678F
6.39e6
39.94
1234789F
3.55e6*
41.34
1.81e6
9.05e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 3.25e3
ES 1234678F
5.25e6
39.93
CS 1234689F
4.89e6*
40.32
ES 1234789F
2.83e6*
41.32
1.59e6
7.94e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 5.96e3
ES 1234678F
1.11e7
39.93
CS 1234689F
1.06e7*
40.32
ES 1234789F
6.24e6*
41.32
3.39e6
1.69e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.57e3
1.24e4
6.21e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6139\B6139_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 11:51 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 7627, 8571, 8516 scc: 507-844
PKD: 24-Jan-2022 08:38 Printed: 24-Jan-2022 12:06 Page 11 of 12


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.61e3
0%
OCDF
5.10e6*
43.70
Abs. Int.
1.14e6
5.72e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.71e3
0%
OCDF
5.58e6*
43.70
Abs. Int.
1.23e6
6.15e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.17e3
0%
ES OCDF
8.66e6*
43.69
Abs. Int.
1.95e6
9.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.47e3
0%
ES OCDF
9.23e6*
43.69
Abs. Int.
2.09e6
1.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
3.98e3
1.99e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18829_DF **Acq'd:** 21 Jan 2022 12:50 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR002 **UTP:** 24-Jan-2022 11:51:59 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 338-214-YGX

Datafile: 220121C03 **Report:** 24 Jan 2022 11:55 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	2.76E+06	0.82	Y	1.18	12.3	5987.704	0.299
12378-PeCDD	33.96		1.0006	1.0005	-0.2	1.01E+07	1.59	Y	1.04	51.4	4924.328	0.245
123478-HxCDD	37.85		1.0004	1.0004	0	9.69E+06	1.25	Y	1.09	55.4	4383.678	0.225
123678-HxCDD	37.96		1.0034	1.0034	0	1.21E+07	1.28	Y	1.15	55.2	4383.678	0.201
123789-HxCDD	38.25		1.0109	1.0111	+0.5	1.01E+07	1.22	Y	1.05	54.9	4383.678	0.263
1234678-HpCDD	40.88		1.0003	1.0004	+0.2	8.61E+06	1.09	Y	1.06	60.3	3168.479	0.206
OCDD	43.52		1.0002	1.0002	0	1.13E+07	0.92	Y	1.13	120	3800.529	0.423
2378-TCDF	27.80		1.0008	1.0007	-0.2	3.97E+06	0.80	Y	1.08	12.7	6679.135	0.233
12378-PeCDF	32.52		1.0005	1.0005	0	1.65E+07	1.52	Y	1.02	52	8009.978	0.255
23478-PeCDF	33.63		1.0005	1.0005	0	1.63E+07	1.51	Y	1.02	55.7	8009.978	0.261
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.33E+07	1.24	Y	1.27	55.4	4855.308	0.204
123678-HxCDF	36.99		1.0004	1.0006	+0.4	1.77E+07	1.26	Y	1.15	57.9	4855.308	0.147
234678-HxCDF	37.67		1.0004	1.0006	+0.5	1.31E+07	1.29	Y	1.19	56.4	4855.308	0.205
123789-HxCDF	38.61		1.0004	1.0005	+0.2	9.74E+06	1.21	Y	1.16	55.6	4855.308	0.265
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	1.56E+07	1.03	Y	1.37	56.2	3592.468	0.0975
1234789-HpCDF	41.33		1.0003	1.0004	+0.2	8.51E+06	1.02	Y	1.31	56.1	3592.468	0.205
OCDF	43.71		1.0002	1.0003	+0.3	1.23E+07	0.90	Y	1.07	111	3516.723	0.357

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63		1.0233	1.0235	+0.3	1.89E+07	0.78	Y	1.05	91.6
ES 12378-PeCDD	33.94		1.2121	1.2134	+2.6	1.90E+07	1.57	Y	0.88	109
ES 123478-HxCDD	37.83		0.9921	0.9921	0	1.60E+07	1.23	Y	0.97	97.1
ES 123678-HxCDD	37.95		0.9951	0.9952	+0.2	1.91E+07	1.26	Y	0.94	119
ES 123789-HxCDD	38.24		1.0025	1.0027	+0.5	1.75E+07	1.25	Y	1.09	94.3
ES 1234678-HpCDD	40.86		1.0709	1.0714	+1.2	1.35E+07	1.13	Y	0.91	86.8
ES OCDD	43.51		1.1403	1.1409	+1.6	1.68E+07	0.93	Y	0.62	79
ES 2378-TCDF	27.78		1.0506	1.0511	+0.8	2.91E+07	0.82	Y	1.06	82.9
ES 12378-PeCDF	32.50		1.2281	1.2297	+3.1	3.09E+07	1.60	Y	0.91	103
ES 23478-PeCDF	33.61		1.2698	1.2715	+3.4	2.87E+07	1.53	Y	0.88	98.1
ES 123478-HxCDF	36.83		0.9657	0.9657	0	1.89E+07	0.53	Y	1.20	92.9
ES 123678-HxCDF	36.97		0.9695	0.9695	0	2.65E+07	0.54	Y	1.35	115
ES 234678-HxCDF	37.65	QI	0.9874	0.9873	-0.2	1.95E+07	0.56	Y	1.24	92.4
ES 123789-HxCDF	38.59		1.0116	1.0118	+0.5	1.51E+07	0.54	Y	1.16	76.7
ES 1234678-HpCDF	39.93		1.0467	1.0471	+1.0	2.03E+07	0.46	Y	0.97	123
ES 1234789-HpCDF	41.32		1.0830	1.0835	+1.2	1.16E+07	0.44	Y	0.85	80.2
ES OCDF	43.70		1.1451	1.1458	+1.8	2.07E+07	0.92	Y	0.81	75.6

Lab ID: OPR2_18829_DF | Acq'd: 21 Jan 2022 12:50 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR002 | UTP: 24-Jan-2022 11:51:59 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 338-214-YGX

Datafile: 220121C03 | Report: 24 Jan 2022 11:55 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.97E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.31E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	8.49E+06	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	9.17E+06	n/a	-	1.20	96.6	
CS 12347-PeCDD	33.44		1.1943	1.1954	+2.2	1.78E+07	1.61	Y	0.75	120	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	3.08E+07	1.49	Y	0.85	109	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.41E+07	0.54	Y	1.12	127	
CS 1234689-HpCDF	40.33		1.0571	1.0576	+1.2	1.80E+07	0.47	Y	0.89	119	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~9.17E+06~~	~~n/a~~		~~1.15~~	~~106~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.70E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~109~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~3.08E+07~~	~~1.49~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.41E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.80E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~96.7~~	

Totals	Conc	EMPC
Total TCDD	55.7	55.7
Total PeCDD	76	76
Total HxCDD	180	180
Total HpCDD	73.6	73.6
Total Tetra-Octa Dioxins	505	505
Total TCDF	65.2	65.2
Total PeCDF	201	201
Total HxCDF	364	364
Total HpCDF	112	112
Total Tetra-Octa Furans	854	854
Total Tetra-Octa Dioxins & Furans	1360	1360

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.816	0.82
Response	2.77E+06	2.76E+06

Lab ID: OPR2_18829_DF **Acq'd:** 21 Jan 2022 12:50 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR002 **UTP:** 24-Jan-2022 11:51:59 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 338-214-YGX

Datafile: 220121C03 **Report:** 24 Jan 2022 11:55 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8747	-1.2	3.65E+06	0.78	Y	1.18	16.3	5987.704	0.299
1379-TCDD	NotFnd		0.8876						1.18		5987.704	0.299
1369-TCDD	NotFnd		0.9023						1.18		5987.704	0.299
1469-TCDD	NotFnd		0.9291						1.18		5987.704	0.299
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5987.704	0.299
1378-TCDD	NotFnd		0.9440						1.18		5987.704	0.299
1268-TCDD	NotFnd		0.9506						1.18		5987.704	0.299
1478-TCDD	NotFnd		0.9591						1.18		5987.704	0.299
1279-TCDD	NotFnd		0.9649						1.18		5987.704	0.299
1234/1269-TCDD	NotFnd		0.9771						1.18		5987.704	0.299
1236-TCDD	NotFnd		0.9820						1.18		5987.704	0.299
1237/1238-TCDD	NotFnd		0.9908						1.18		5987.704	0.299
1239-TCDD	28.50		0.9954	0.9952	-0.3	2.39E+06	0.84	Y	1.18	10.7	5987.704	0.299
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	2.76E+06	0.82	Y	**1.18**	**12.3**	**5987.704**	**0.299**
1278-TCDD	NotFnd		1.0121						1.18		5987.704	0.299
1267-TCDD	NotFnd		1.0167						1.18		5987.704	0.299
1289-TCDD	29.62		1.0341	1.0343	+0.4	3.68E+06	0.79	Y	1.18	16.4	5987.704	0.299
12479/12468-PeCDD	31.46		0.9273	0.9269	-0.8	2.44E+06	1.54	Y	1.04	12.4	4924.328	0.245
12469-PeCDD	NotFnd		0.9430						1.04		4924.328	0.245
12368-PeCDD	NotFnd		0.9592						1.04		4924.328	0.245
12478-PeCDD	NotFnd		0.9647						1.04		4924.328	0.245
12379-PeCDD	NotFnd		0.9676						1.04		4924.328	0.245
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		4924.328	0.245
12346/12347-PeCDD	NotFnd		0.9860						1.04		4924.328	0.245
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**1.01E+07**	**1.59**	**Y**	**1.04**	**51.4**	**4924.328**	**0.245**
12367-PeCDD	NotFnd		1.0034						1.04		4924.328	0.245
12389-PeCDD	34.40		1.0134	1.0133	-0.2	2.40E+06	1.68	Y	1.04	12.2	4924.328	0.245
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.73E+06	1.25	Y	1.10	14.2	4383.678	0.228
123468-HxCDD	NotFnd		0.9715						1.10		4383.678	0.228
123679/123689-HxCDD	NotFnd		0.9793						1.10		4383.678	0.228
123469-HxCDD	NotFnd		0.9829						1.10		4383.678	0.228
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**9.69E+06**	**1.25**	**Y**	1.09	**55.4**	**4383.678**	**0.225**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.21E+07**	**1.28**	**Y**	1.15	**55.2**	**4383.678**	**0.201**
123467-HxCDD	NotFnd		1.0082						1.10		4383.678	0.228
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**1.01E+07**	**1.22**	**Y**	1.05	**54.9**	**4383.678**	**0.263**

Lab ID: OPR2_18829_DF | **Acq'd:** 21 Jan 2022 12:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR002 | **UTP:** 24-Jan-2022 11:51:59 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 338-214-YGX

Datafile: 220121C03 | **Report:** 24 Jan 2022 11:55 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9838	0	1.90E+06	1.13	Y	1.06	13.3	3168.479	0.206
1234678-HpCDD	**40.88**		**1.0003**	**1.0004**	**+0.2**	**8.61E+06**	**1.09**	**Y**	**1.06**	**60.3**	**3168.479**	**0.206**
OCDD	**43.52**		**1.0002**	**1.0002**	**0**	**1.13E+07**	**0.92**	**Y**	**1.13**	**120**	**3800.529**	**0.423**
OCDD-a	43.52		1.0002	1.0003	+0.3	6.43E+05	2.41	Y	0.07	106	4061.67	7.08
1368-TCDF	22.98		0.8282	0.8270	-1.7	5.05E+06	0.76	Y	1.08	16.1	6679.135	0.233
1468-TCDF	NotFnd		0.8485						1.08		6679.135	0.233
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.24E+06	0.81	Y	1.08	3.96	6679.135	0.233
1346/1246-TCDF	NotFnd		0.8829						1.08		6679.135	0.233
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6679.135	0.233
1348-TCDF	NotFnd		0.8980						1.08		6679.135	0.233
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6679.135	0.233
1268-TCDF	NotFnd		0.9158						1.08		6679.135	0.233
1467-TCDF	NotFnd		0.9206						1.08		6679.135	0.233
1478-TCDF	NotFnd		0.9266						1.08		6679.135	0.233
1369/1237-TCDF	NotFnd		0.9397						1.08		6679.135	0.233
2467-TCDF	NotFnd		0.9440						1.08		6679.135	0.233
2368-TCDF	NotFnd		0.9497						1.08		6679.135	0.233
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6679.135	0.233
1278-TCDF	NotFnd		0.9690						1.08		6679.135	0.233
1349-TCDF	NotFnd		0.9730						1.08		6679.135	0.233
1267-TCDF	NotFnd		0.9787						1.08		6679.135	0.233
2346/1249-TCDF	NotFnd		0.9850						1.08		6679.135	0.233
2347/1279-TCDF	NotFnd		0.9929						1.08		6679.135	0.233
2348-TCDF	27.69		0.9970	0.9967	-0.5	4.73E+06	0.80	Y	1.08	15.1	6679.135	0.233
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**3.97E+06**	**0.80**	**Y**	**1.08**	**12.7**	**6679.135**	**0.233**
2367/3467-TCDF	NotFnd		1.0136						1.08		6679.135	0.233
1269-TCDF	NotFnd		1.0221						1.08		6679.135	0.233
1239-TCDF	NotFnd		1.0319						1.08		6679.135	0.233
1289-TCDF	29.79		1.0740	1.0722	-3.2	5.45E+06	0.77	Y	1.08	17.4	6679.135	0.233
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	2.57E+07	1.61	Y	1.02	84.3	4347.841	0.14
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		8009.978	0.258
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		8009.978	0.258
14678-PeCDF	NotFnd		0.9695						1.02		8009.978	0.258
13479-PeCDF	NotFnd		0.9724						1.02		8009.978	0.258
13469/12479-PeCDF	NotFnd		0.9801						1.02		8009.978	0.258
12346-PeCDF	NotFnd		0.9842						1.02		8009.978	0.258

Lab ID: OPR2_18829_DF | **Acq'd: 21 Jan 2022 12:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR002 | **UTP: 24-Jan-2022 11:51:59 MLS** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 338-214-YGX**

Datafile: 220121C03 | **Report: 24 Jan 2022 11:55 MS** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		8009.978	0.258
12347-PeCDF	NotFnd		0.9895						1.02		8009.978	0.258
12348-PeCDF	NotFnd		0.9941						1.02		8009.978	0.258
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.65E+07**	**1.52**	**Y**	**1.02**	**52**	**8009.978**	**0.255**
12678/12367-PeCDF	NotFnd		1.0090						1.02		8009.978	0.258
12379-PeCDF	NotFnd		1.0142						1.02		8009.978	0.258
12679-PeCDF	NotFnd		0.9931						1.02		8009.978	0.258
23467/12369-PeCDF	NotFnd		0.9966						1.02		8009.978	0.258
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.63E+07**	**1.51**	**Y**	**1.02**	**55.7**	**8009.978**	**0.261**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8009.978	0.258
12349-PeCDF	NotFnd		1.0101						1.02		8009.978	0.258
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.77E+06	1.41	Y	1.02	9.09	8009.978	0.258
123468-HxCDF	35.46		0.9627	0.9629	+0.4	3.31E+07	1.24	Y	1.19	139	4855.308	0.197
124678/134678-HxCDF	NotFnd		0.9684						1.19		4855.308	0.197
134679-HxCDF	NotFnd		0.9747						1.19		4855.308	0.197
124679-HxCDF	NotFnd		0.9802						1.19		4855.308	0.197
124689-HxCDF	NotFnd		0.9858						1.19		4855.308	0.197
123467-HxCDF	NotFnd		0.9972						1.19		4855.308	0.197
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.33E+07**	**1.24**	**Y**	**1.27**	**55.4**	**4855.308**	**0.204**
123678-HxCDF	**36.99**		**1.0004**	**1.0006**	**+0.4**	**1.77E+07**	**1.26**	**Y**	**1.15**	**57.9**	**4855.308**	**0.147**
123479-HxCDF	NotFnd		1.0051						1.19		4855.308	0.197
123469-HxCDF	NotFnd		1.0091						1.19		4855.308	0.197
123679-HxCDF	NotFnd		0.9943						1.19		4855.308	0.197
234678-HxCDF	**37.67**		**1.0004**	**1.0006**	**+0.5**	**1.31E+07**	**1.29**	**Y**	**1.19**	**56.4**	**4855.308**	**0.205**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4855.308	0.197
123789-HxCDF	**38.61**		**1.0004**	**1.0005**	**+0.2**	**9.74E+06**	**1.21**	**Y**	**1.16**	**55.6**	**4855.308**	**0.265**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4855.308	0.197
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**1.56E+07**	**1.03**	**Y**	**1.37**	**56.2**	**3592.468**	**0.0975**
1234679-HpCDF	NotFnd		1.0067						1.34		3592.468	0.136
1234689-HpCDF	NotFnd		1.0101						1.34		3592.468	0.136
1234789-HpCDF	**41.33**		**1.0003**	**1.0004**	**+0.2**	**8.51E+06**	**1.02**	**Y**	**1.31**	**56.1**	**3592.468**	**0.205**
OCDF	**43.71**		**1.0002**	**1.0003**	**+0.3**	**1.23E+07**	**0.90**	**Y**	**1.07**	**111**	**3516.723**	**0.357**
OCDF-a	43.70		1.0002	1.0002	0	7.17E+05	2.16	Y	0.07	104	4265.743	6.98

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C03	Analysis Date:	21-JAN-2022 12:50:06
Lab ID:	OPR2_18829_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	60.3	35	-	70	Y
OCDD	100	120	78	-	144	Y
2,3,7,8-TCDF	10	12.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	57.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	56.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	55.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	56.2	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	56.1	39	-	69	Y
OCDF	100	111	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 11:55 Analyst: MS

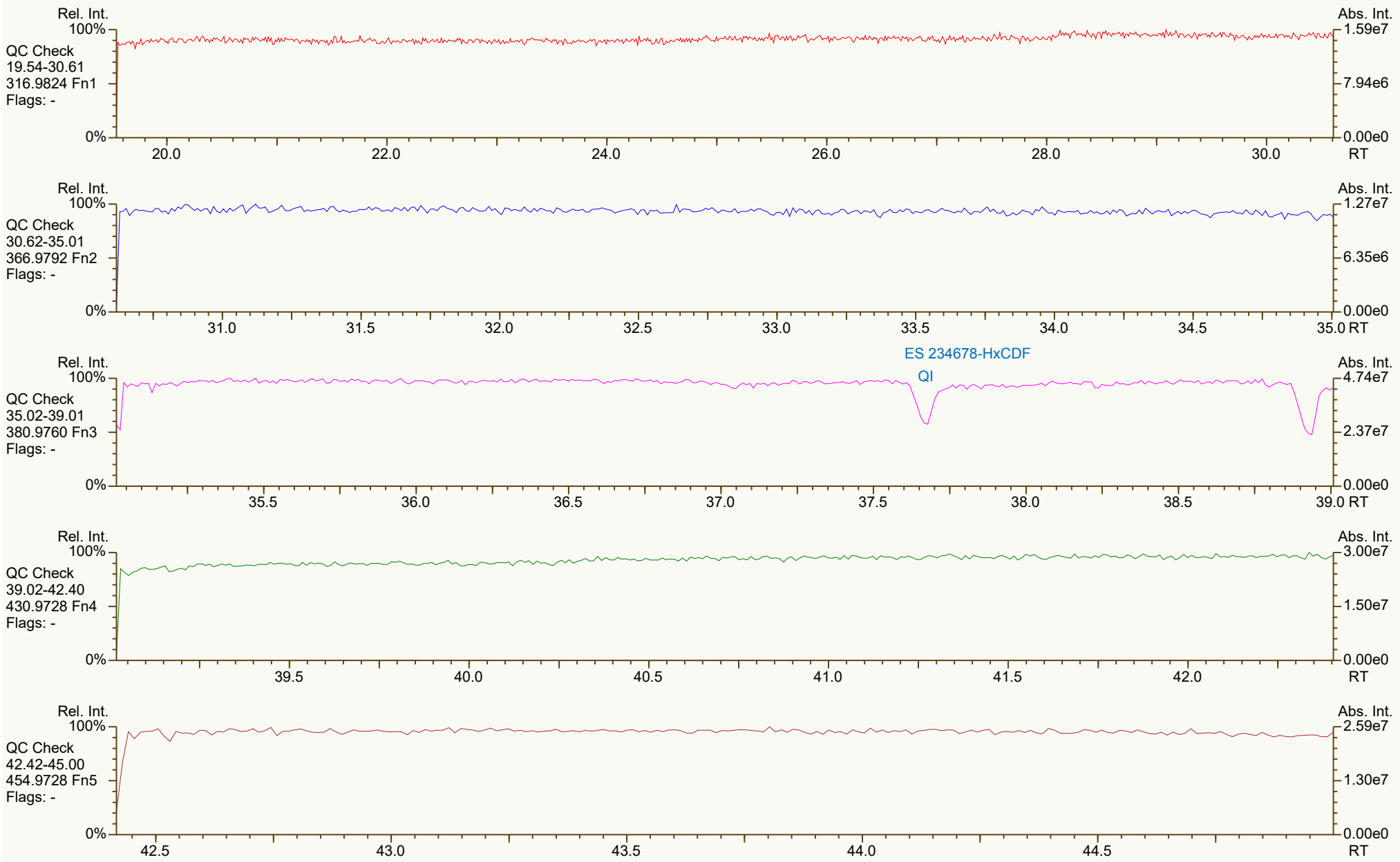
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

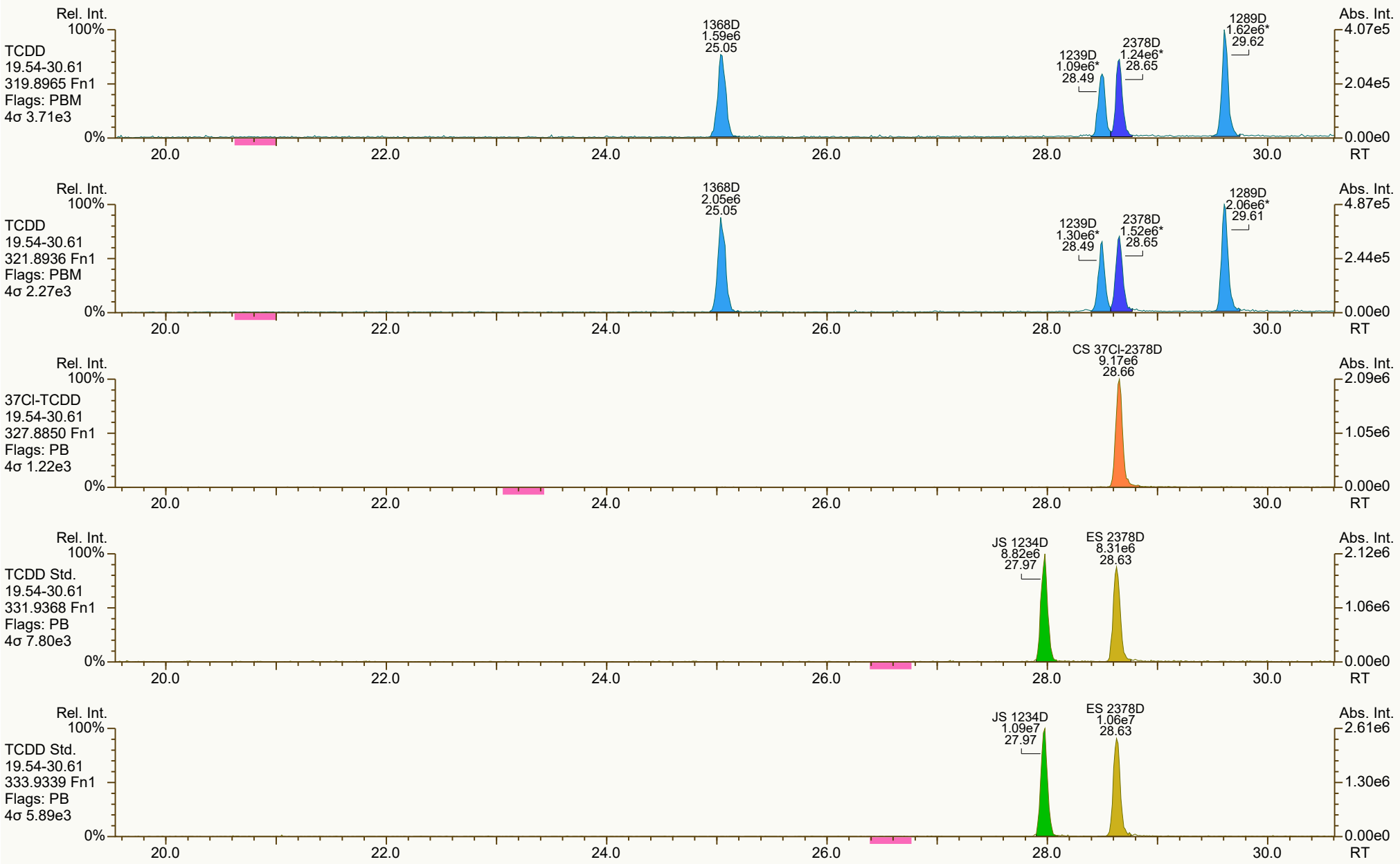
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C03	Analysis Date:	21-JAN-2022 12:50:06
Lab ID:	OPR2_18829_DF		

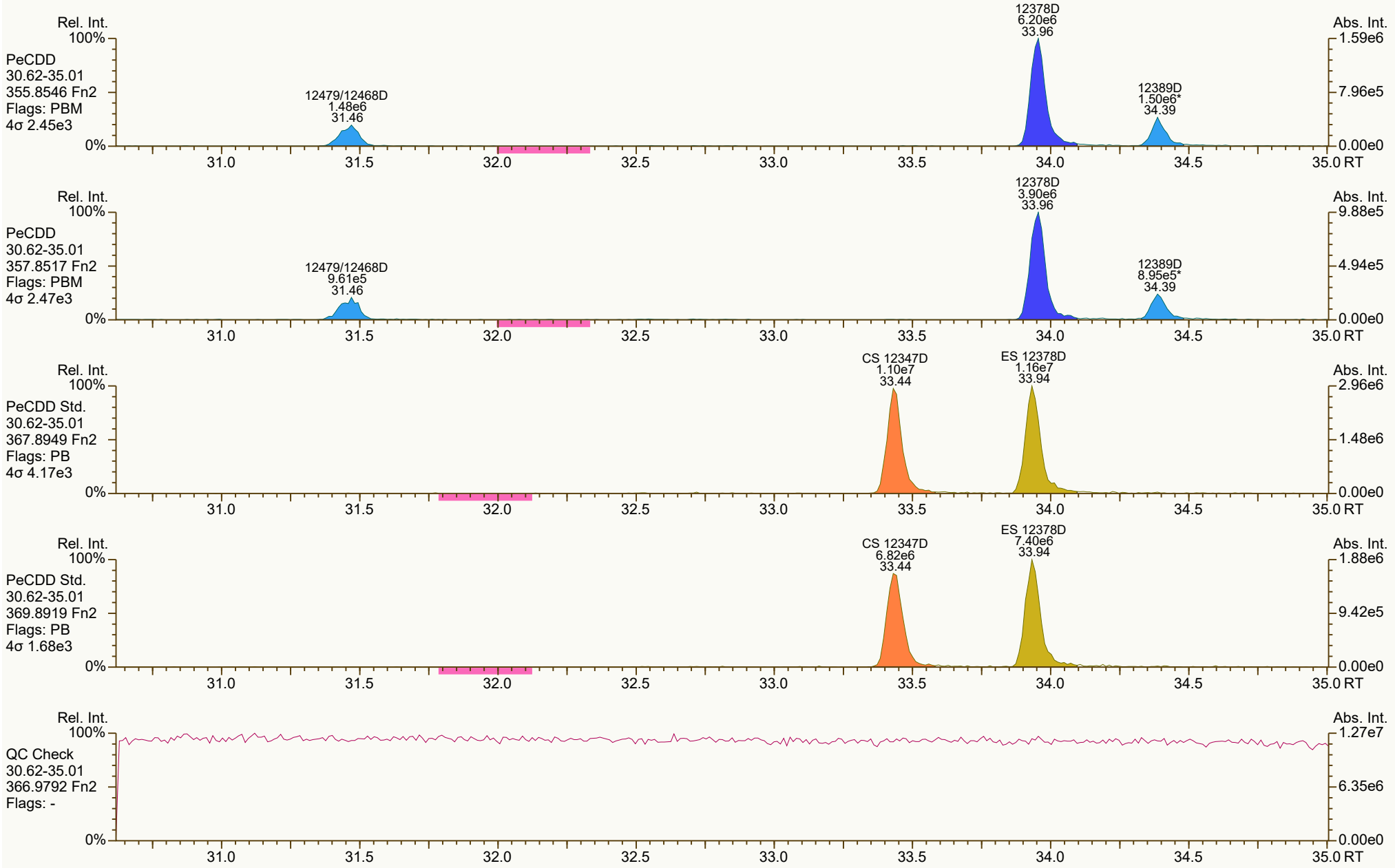
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	109	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	97.1	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	119	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	86.8	26	-	166	Y
13C-OCDD	200	158	26	-	397	Y
13C-2,3,7,8-TCDF	100	82.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	103	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	98.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	92.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	115	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	92.4	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	76.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	123	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	80.2	20	-	186	Y
13C-OCDF	200	151	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.6	12.4	-	76.4	Y

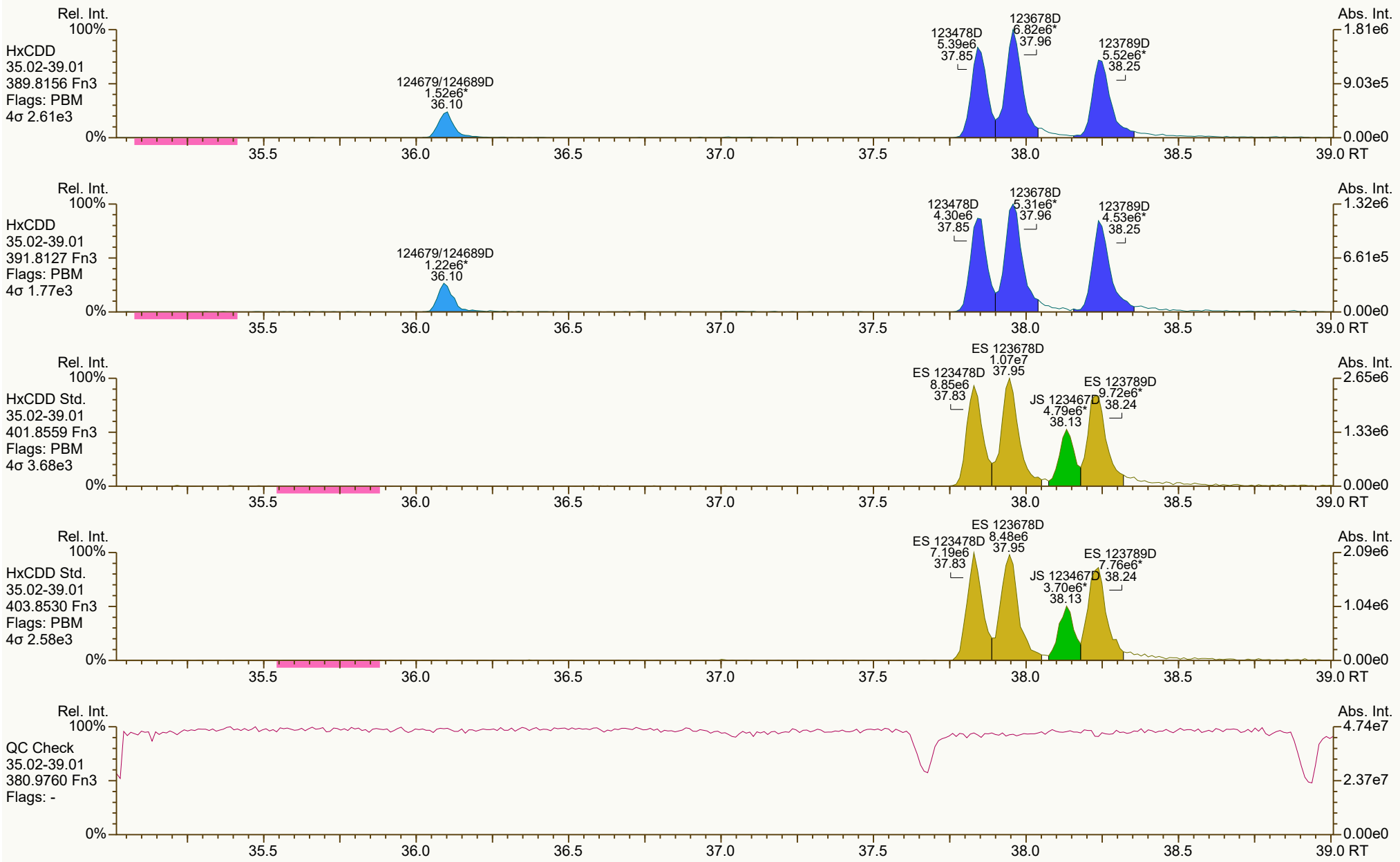
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

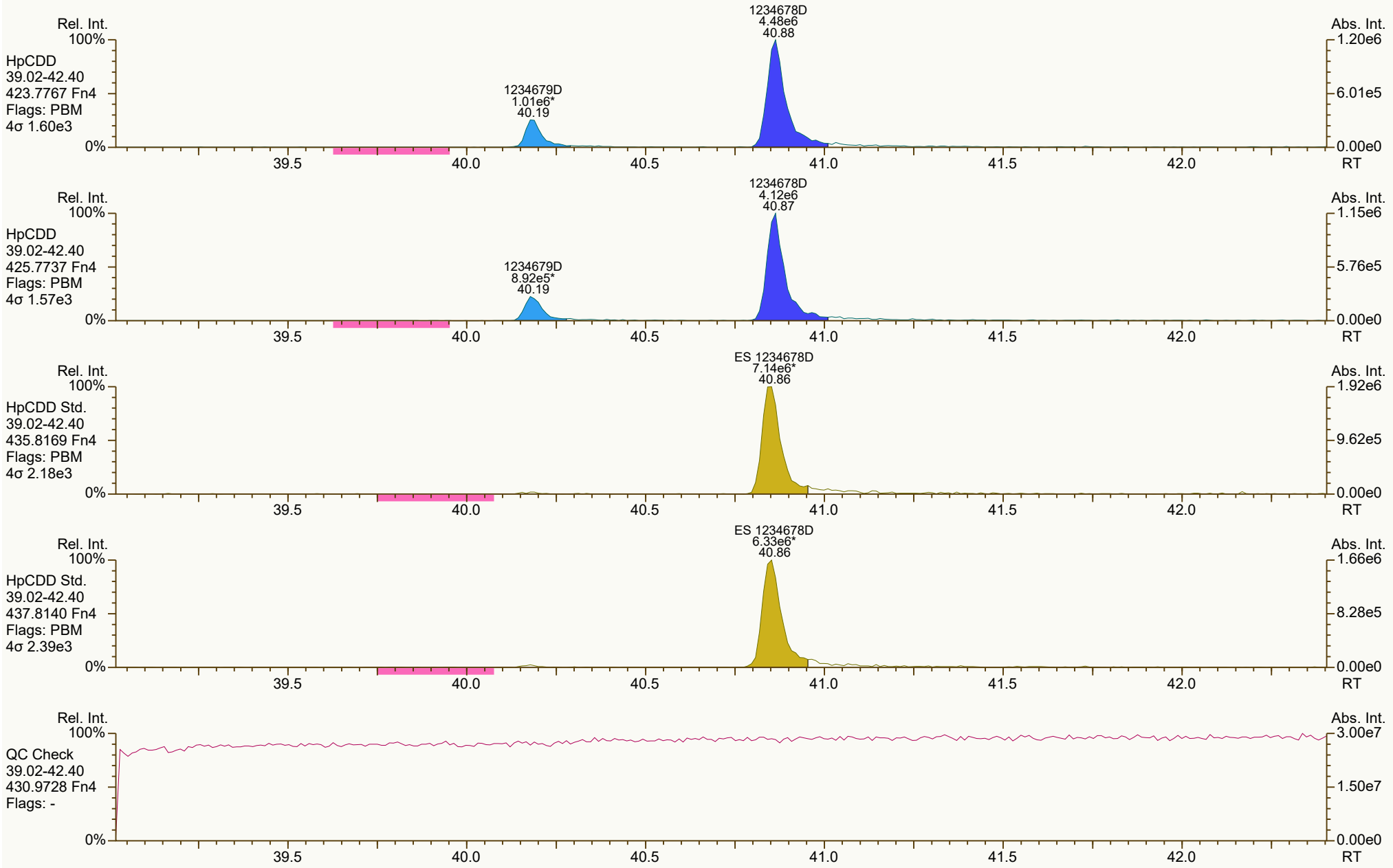
Processed: 24 Jan 2022 11:55 Analyst: MS

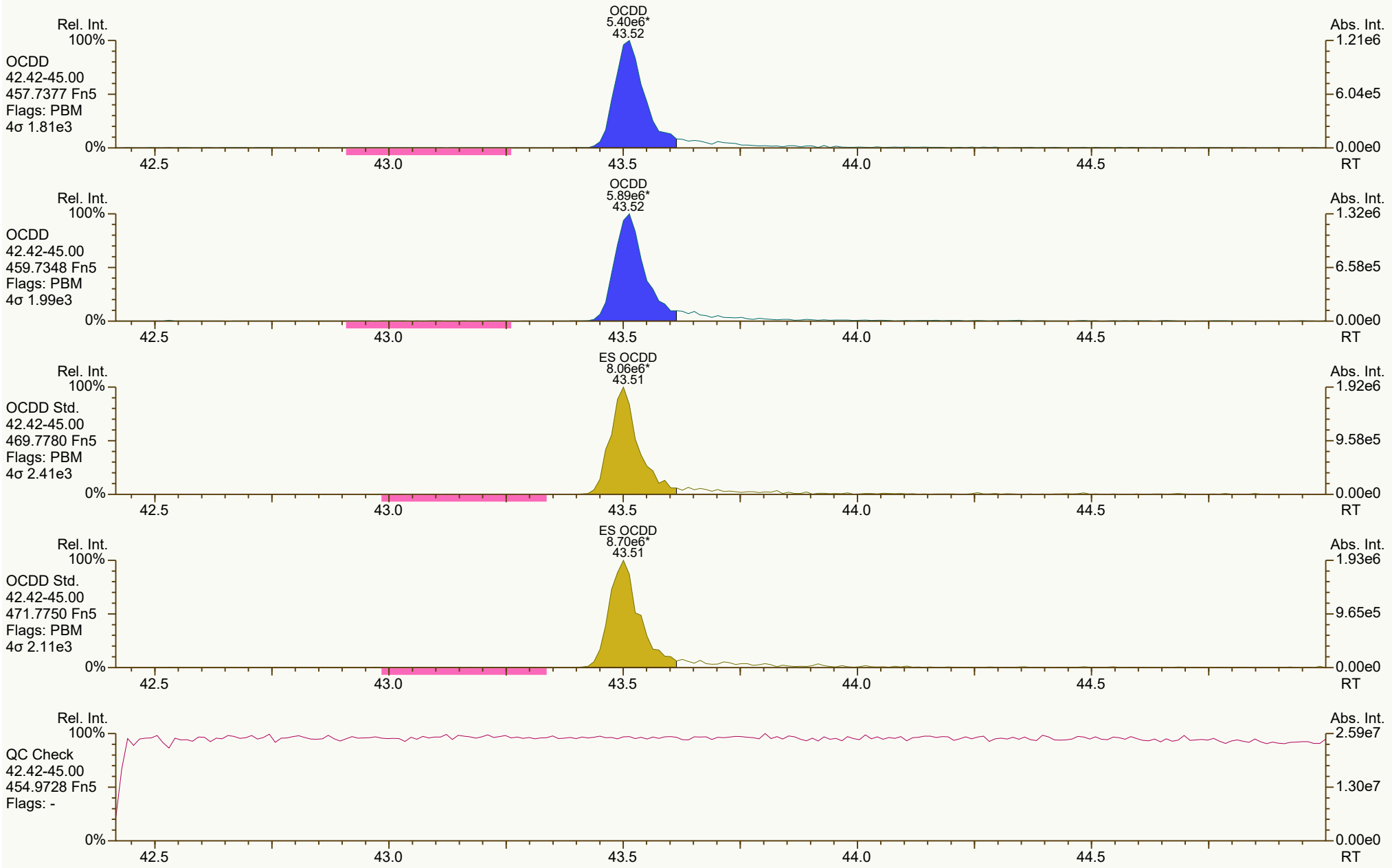

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.27e7
6.35e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.74e7
2.37e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.00e7
1.50e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.59e7
1.30e7
0.00e0
42.5
43.0
43.5
44.0
44.5
RT

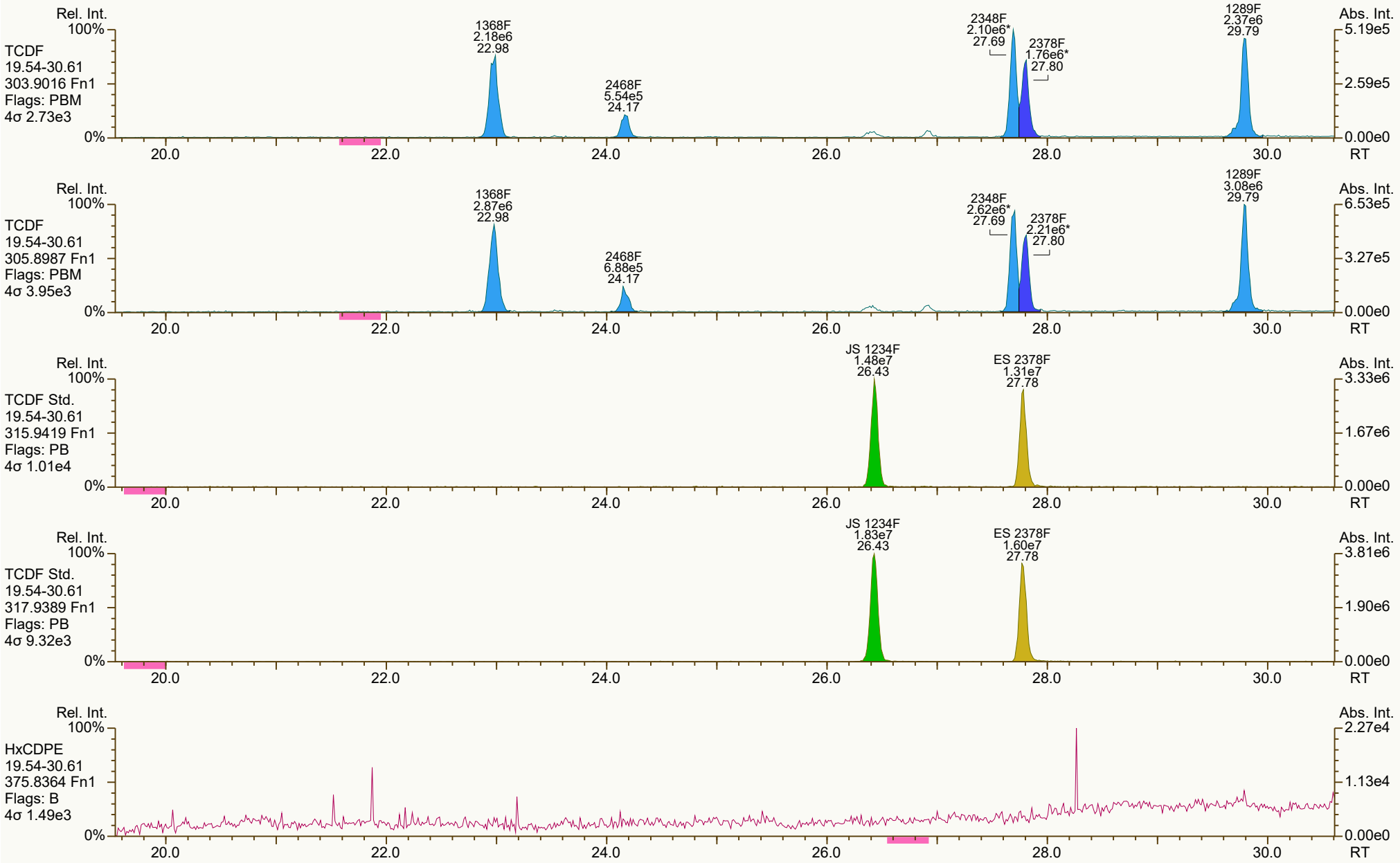

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.71e3
1368D
1.59e6
25.05
1239D
1.09e6*
28.49
2378D
1.24e6*
28.65
1289D
1.62e6*
29.62
Abs. Int.
4.07e5
2.04e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.27e3
1368D
2.05e6
25.05
1239D
1.30e6*
28.49
2378D
1.52e6*
28.65
1289D
2.06e6*
29.61
Abs. Int.
4.87e5
2.44e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.22e3
CS 37Cl-2378D
9.17e6
28.66
Abs. Int.
2.09e6
1.05e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 7.80e3
JS 1234D
8.82e6
27.97
ES 2378D
8.31e6
28.63
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.89e3
JS 1234D
1.09e7
27.97
ES 2378D
1.06e7
28.63
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 2.45e3
12479/12468D
1.48e6
31.46
12378D
6.20e6
33.96
12389D
1.50e6*
34.39
1.59e6
7.96e5
0.00e0
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 2.47e3
12479/12468D
9.61e5
31.46
12378D
3.90e6
33.96
12389D
8.95e5*
34.39
9.88e5
4.94e5
0.00e0
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 4.17e3
CS 12347D
1.10e7
33.44
ES 12378D
1.16e7
33.94
2.96e6
1.48e6
0.00e0
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 1.68e3
CS 12347D
6.82e6
33.44
ES 12378D
7.40e6
33.94
1.88e6
9.42e5
0.00e0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
1.27e7
6.35e6
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.61e3
124679/124689D
1.52e6*
36.10
123478D
5.39e6
37.85
123678D
6.82e6*
37.96
123789D
5.52e6*
38.25
1.81e6
9.03e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.77e3
124679/124689D
1.22e6*
36.10
123478D
4.30e6
37.85
123678D
5.31e6*
37.96
123789D
4.53e6*
38.25
1.32e6
6.61e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.68e3
ES 123478D
8.85e6
37.83
ES 123678D
1.07e7
37.95
JS 123467D
4.79e6*
38.13
ES 123789D
9.72e6*
38.24
2.65e6
1.33e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.58e3
ES 123478D
7.19e6
37.83
ES 123678D
8.48e6
37.95
JS 123467D
3.70e6*
38.13
ES 123789D
7.76e6*
38.24
2.09e6
1.04e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.74e7
2.37e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

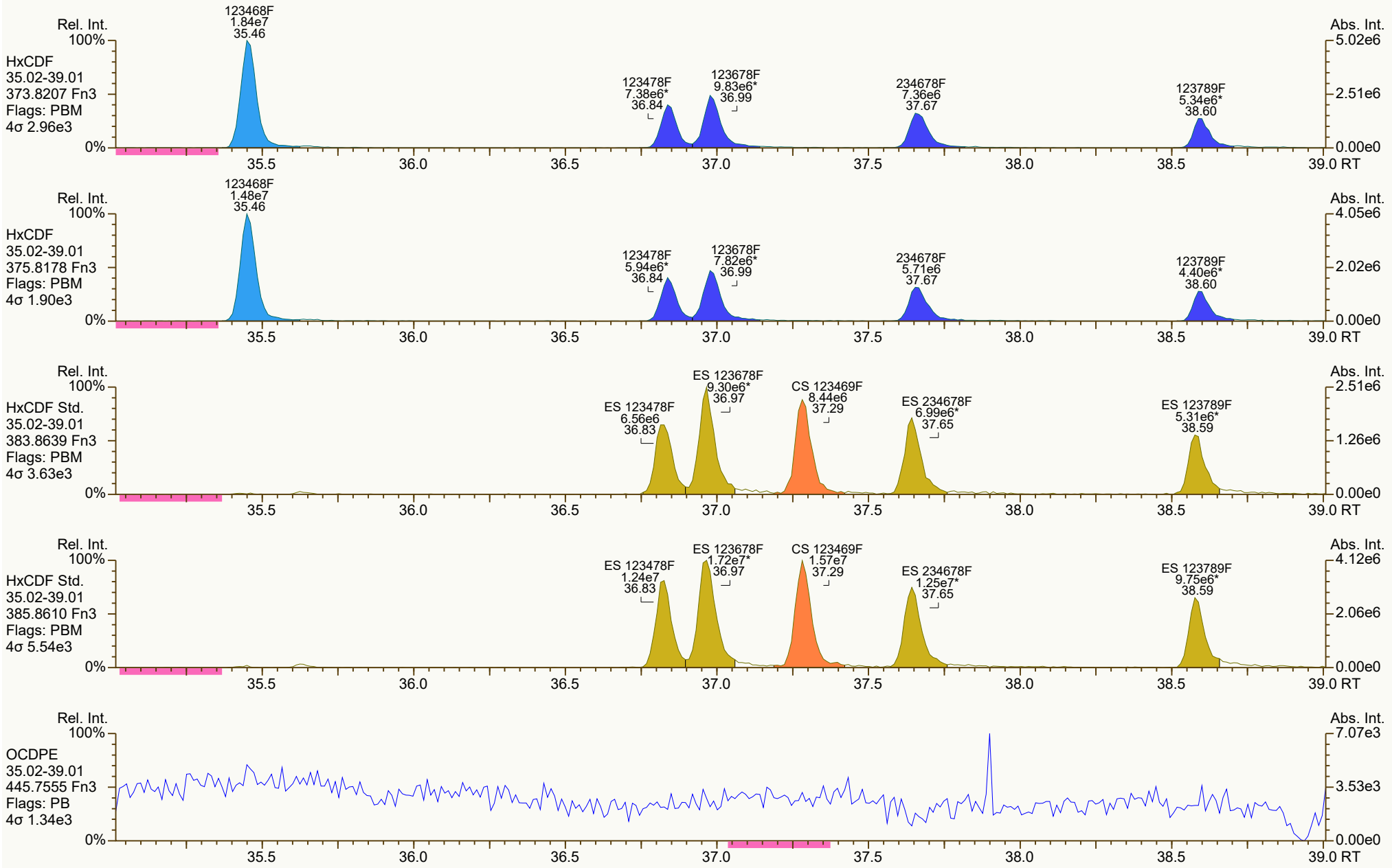

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.60e3
1234678D
4.48e6
40.88
1234679D
1.01e6*
40.19
Abs. Int.
1.20e6
6.01e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.57e3
1234678D
4.12e6
40.87
1234679D
8.92e5*
40.19
Abs. Int.
1.15e6
5.76e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.18e3
ES 1234678D
7.14e6*
40.86
Abs. Int.
1.92e6
9.62e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.39e3
ES 1234678D
6.33e6*
40.86
Abs. Int.
1.66e6
8.28e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.00e7
1.50e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

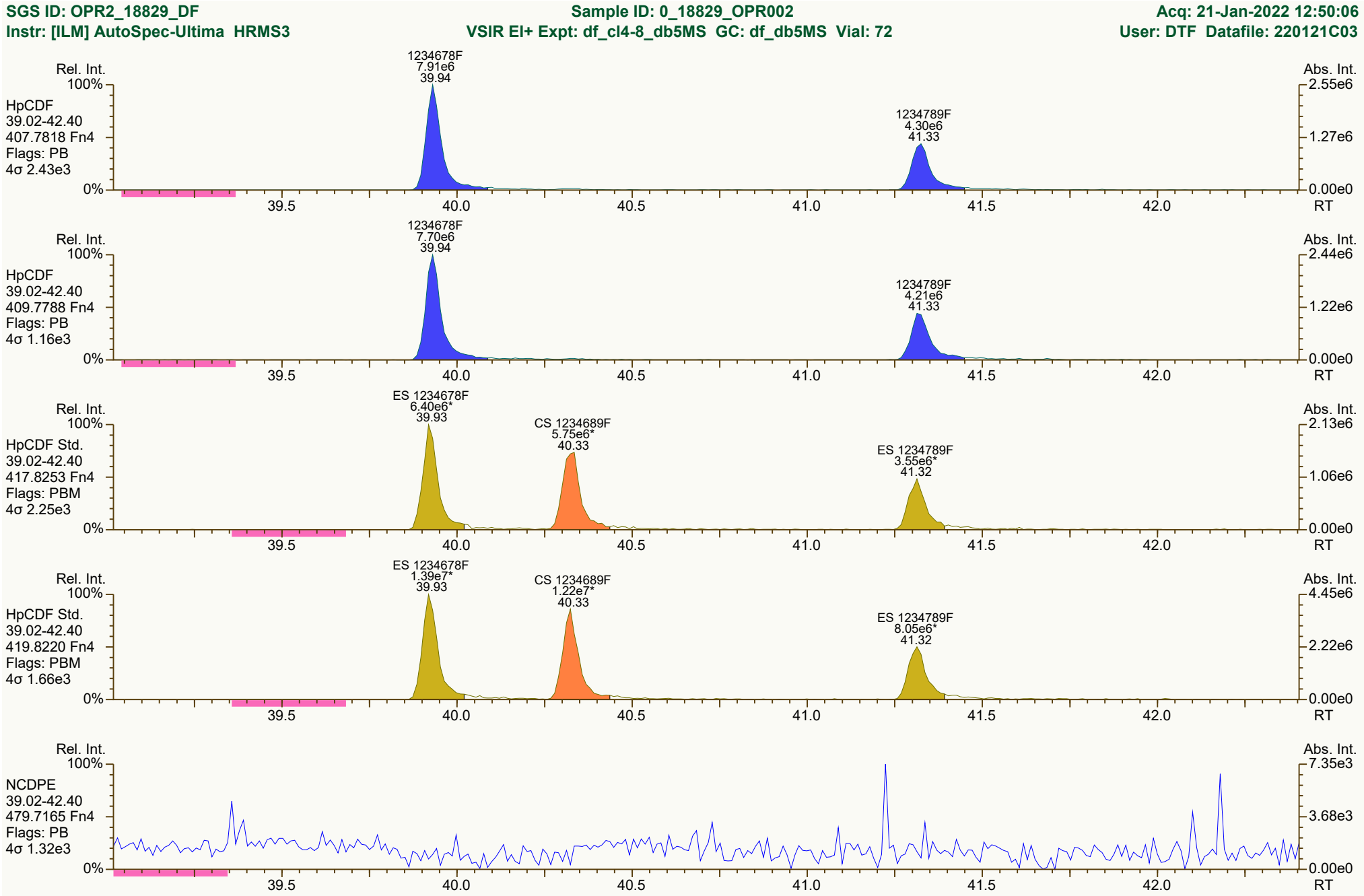

OCDD
5.40e6*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.81e3
0%
Abs. Int.
1.21e6
6.04e5
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
OCDD
5.89e6*
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.99e3
1.32e6
6.58e5
ES OCDD
8.06e6*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.41e3
1.92e6
9.58e5
ES OCDD
8.70e6*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.11e3
1.93e6
9.65e5
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
2.59e7
1.30e7


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.73e3
1368F
2.18e6
22.98
2468F
5.54e5
24.17
2348F
2.10e6*
27.69
2378F
1.76e6*
27.80
1289F
2.37e6
29.79
Abs. Int.
5.19e5
2.59e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.95e3
1368F
2.87e6
22.98
2468F
6.88e5
24.17
2348F
2.62e6*
27.69
2378F
2.21e6*
27.80
1289F
3.08e6
29.79
Abs. Int.
6.53e5
3.27e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 1.01e4
JS 1234F
1.48e7
26.43
ES 2378F
1.31e7
27.78
Abs. Int.
3.33e6
1.67e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 9.32e3
JS 1234F
1.83e7
26.43
ES 2378F
1.60e7
27.78
Abs. Int.
3.81e6
1.90e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.49e3
Abs. Int.
2.27e4
1.13e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.84e3
13468/12468F
1.58e7
29.69
Abs. Int.
4.07e6
2.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 2.51e3
13468/12468F
9.83e6
29.69
Abs. Int.
2.34e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.59e7
7.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 4.14e3
12378F
9.94e6
32.52
23478F
9.78e6
33.62
12389F
1.62e6
34.70
2.56e6
1.28e6
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 3.87e3
12378F
6.53e6
32.52
23478F
6.50e6
33.62
12389F
1.15e6
34.69
1.66e6
8.28e5
0.00e0
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 1.77e3
CS 12346F
1.84e7
31.97
ES 12378F
1.90e7
32.50
ES 23478F
1.73e7
33.61
4.72e6
2.36e6
0.00e0
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.50e3
CS 12346F
1.23e7
31.97
ES 12378F
1.19e7
32.50
ES 23478F
1.13e7
33.61
3.12e6
1.56e6
0.00e0
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.97e3
9.54e3
4.77e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.96e3
123468F 1.84e7 35.46
123478F 7.38e6* 36.84
123678F 9.83e6* 36.99
234678F 7.36e6 37.67
123789F 5.34e6* 38.60
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.90e3
123468F 1.48e7 35.46
123478F 5.94e6* 36.84
123678F 7.82e6* 36.99
234678F 5.71e6 37.67
123789F 4.40e6* 38.60
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.63e3
ES 123478F 6.56e6 36.83
ES 123678F 9.30e6* 36.97
CS 123469F 8.44e6 37.29
ES 234678F 6.99e6* 37.65
ES 123789F 5.31e6* 38.59
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.54e3
ES 123478F 1.24e7 36.83
ES 123678F 1.72e7* 36.97
CS 123469F 1.57e7 37.29
ES 234678F 1.25e7* 37.65
ES 123789F 9.75e6* 38.59
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.34e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
5.02e6
2.51e6
0.00e0
4.05e6
2.02e6
2.51e6
1.26e6
4.12e6
2.06e6
7.07e3
3.53e3


SGS ID: OPR2_18829_DF
Sample ID: 0_18829_OPR002
Acq: 21-Jan-2022 12:50:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220121C03
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.43e3
1234678F
7.91e6
39.94
1234789F
4.30e6
41.33
2.55e6
1.27e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.16e3
1234678F
7.70e6
39.94
1234789F
4.21e6
41.33
2.44e6
1.22e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.25e3
ES 1234678F
6.40e6*
39.93
CS 1234689F
5.75e6*
40.33
ES 1234789F
3.55e6*
41.32
2.13e6
1.06e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.66e3
ES 1234678F
1.39e7*
39.93
CS 1234689F
1.22e7*
40.33
ES 1234789F
8.05e6*
41.32
4.45e6
2.22e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.32e3
7.35e3
3.68e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6139\B6139_18829 DF\Resources\OPR2_18829_DF.utp_res, saved 24-Jan-2022 11:51 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 4604, 0402, 4270 scc: 338-214
Revised: 24-Jan-2022 08:42 (DTF) Printed: 24-Jan-2022 12:06 Page 11 of 12


OCDF
5.85e6*
43.71
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.41e3
0%
Abs. Int.
1.35e6
6.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
OCDF
6.50e6*
43.71
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.10e3
0%
Abs. Int.
1.42e6
7.12e5
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
ES OCDF
9.95e6*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 3.00e3
0%
Abs. Int.
2.21e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
ES OCDF
1.08e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.94e3
0%
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-B-19H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	Lab Sample ID	B6140_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	77.8 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:47:44

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.2				ES 2378-TCDD	84.8	
12378-PeCDD	0.464			J	ES 12378-PeCDD	99	
123478-HxCDD	EMPC		0.405	J	ES 123478-HxCDD	92.2	
123678-HxCDD	0.833			J	ES 123678-HxCDD	96.9	
123789-HxCDD	EMPC		0.998	J	ES 123789-HxCDD	92.8	
1234678-HpCDD	22.5				ES 1234678-HpCDD	98.3	
OCDD	423				ES OCDD	98.6	
2378-TCDF	31				ES 2378-TCDF	79.7	
12378-PeCDF	1.5			J	ES 12378-PeCDF	92.7	
23478-PeCDF	EMPC		0.796	J	ES 23478-PeCDF	90.2	
123478-HxCDF	2.82				ES 123478-HxCDF	91.4	
123678-HxCDF	EMPC		0.672	J	ES 123678-HxCDF	99.3	
234678-HxCDF	ND	0.188			ES 234678-HxCDF	102	
123789-HxCDF	ND	0.22			ES 123789-HxCDF	88.3	
1234678-HpCDF	1.16			J	ES 1234678-HpCDF	114	
1234789-HpCDF	0.3			J	ES 1234789-HpCDF	92.3	
OCDF	EMPC		1.39	J	ES OCDF	88.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.2	
Total TCDD	17.1		19.6		CS 12347-PeCDD	108	
Total PeCDD	3.84		4.35		CS 12346-PeCDF	100	
Total HxCDD	21.9		23.4		CS 123469-HxCDF	108	
Total HpCDD	71		71		CS 1234689-HpCDF	112	
Total TCDF	62.2		66.7				
Total PeCDF	2.28		3.51				
Total HxCDF	2.82		3.96				
Total HpCDF	1.46		1.89				
Total PCDD/Fs	**606**		**619**				
WHO-2005 TEQs							
TEQ: ND=0	16.5		16.9				
TEQ: ND=DL/2	16.5	0.583	17				
TEQ: ND=DL	16.5	1.17	17				

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Sample ID: 11215131-010522-S-BN-SW-B-19H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	Lab Sample ID:	B6140_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	77.8 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:47:44

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.508		12479/12468D	[0.51]	J	124679/124689D	15.4		1234679D	48.5	
1379D	(0.455)		12469D	2.42	J	123468D	(0.407)		1234678D	22.5	
1369D	(0.455)		12368D	(0.401)		123679/123689D	4.64				
1469D	4.47		12478D	(0.401)		123469D	0.581	J			
1247D...[4]	(0.455)		12379D	(0.401)		123478D	[0.405]	J			
1378D	(0.455)		12369D...[3]	0.958	J	123678D	0.833	J			
1268D	(0.455)		12346/12347D	(0.401)		123467D	0.5	J			
1478D	(0.455)		12378D	0.464	J	123789D	[0.998]	J	**Conc.**	71	
1279D	(0.455)		12367D	(0.401)					**EMPC**	71	
1234/1269D	[0.812]		12389D	(0.401)							
1236D	(0.455)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.455)										
1239D	(0.455)								OCDD	423	
2378D	12.2										
1278D	[1.68]										
1267D	(0.455)										
1289D	(0.455)										
Conc.	17.1		**Conc.**	3.84		**Conc.**	21.9				
EMPC	19.6		**EMPC**	4.35		**EMPC**	23.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	16.5	16.9
TEQ: ND=DL/2	16.5	17
TEQ: ND=DL	16.5	17

	Conc.	EMPC
Total PCDD/Fs	606	619

Checkcode: 330-266-BXB

Report Created: 21-Feb-2022 10:21 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-B-19H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	Lab Sample ID:	B6140_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	77.8 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:47:44

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.218)		13468/12468F	(0.152)		123468F	(0.191)		1234678F	1.16	J
1468F	(0.218)		13678F...[3]	(0.236)		124678/134678F	[0.263]	J	1234679F	(0.237)	
2468F	0.84		12368F...[3]	0.777	J	134679F	(0.191)		1234689F	[0.435]	J
1346/1246F	(0.218)		14678F	(0.236)		124679F	(0.191)		1234789F	0.3	J
1347F...[3]	[1.24]		13479F	(0.236)		124689F	(0.191)				
1348F	(0.218)		13469/12479F	(0.236)		123467F	(0.191)				
1248F...[3]	1.92		12346F	(0.236)		123478F	2.82				
1268F	[0.683]		23468/12469F	(0.236)		123678F	[0.672]	J			
1467F	(0.218)		12347F	(0.236)		123479F	(0.191)				
1478F	[1.15]		12348F	(0.236)		123469F	(0.191)				
1369/1237F	0.763		12378F	1.5	J	123679F	(0.191)				
2467F	0.368	J	12678/12367F	[0.441]	J	234678F	(0.188)		**Conc.**	1.46	
2368F	1.2		12379F	(0.236)		234678/123689F	0		**EMPC**	1.89	
1238F...[5]	2.25		12679F	(0.236)		123689F	(0.191)				
1278F	14.5		23467/12369F	(0.236)		123789F	(0.22)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.218)		23478F	[0.796]	J	123789/123489F	0				
1267F	1.24		23478/12489F	0		123489F	[0.206]	J	OCDF	[1.39]	J
2346/1249F	(0.218)		12489F	(0.236)							
2347/1279F	[0.953]		12349F	(0.236)							
2348F	2.8		12389F	(0.236)							
2378F	31										
2367/3467F	2.72										
1269F	[0.491]										
1239F	(0.218)										
1289F	2.62										
Conc.	62.2		**Conc.**	2.28		**Conc.**	2.82				
EMPC	66.7		**EMPC**	3.51		**EMPC**	3.96				

Checkcode: 330-266-BXB

Report Created: 21-Feb-2022 10:21 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-B-19H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6140_18911_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	QC Batch No.:	18911
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 01:47
Lab Project No:	B6140	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	12.2		0.455	12.2	12.2	12.2
12378-PeCDD	0.464	J	0.401	0.232	0.464	0.464
123478-HxCDD	[0.405]	J	0.416	[0.0405]	[0.0405]	[0.0405]
123678-HxCDD	0.833	J	0.4	0.0833	0.0833	0.0833
123789-HxCDD	[0.998]	J	0.406	[0.0998]	[0.0998]	[0.0998]
1234678-HpCDD	22.5		0.406	0.225	0.225	0.225
OCDD	423		1.03	0.423	0.0423	0.127
2378-TCDF	31		0.218	3.1	3.1	3.1
12378-PeCDF	1.5	J	0.23	0.0749	0.0749	0.045
23478-PeCDF	[0.796]	J	0.241	[0.398]	[0.398]	[0.239]
123478-HxCDF	2.82		0.191	0.282	0.282	0.282
123678-HxCDF	[0.672]	J	0.173	[0.0672]	[0.0672]	[0.0672]
234678-HxCDF	(0.188)		0.188	(0.0188)	(0.0188)	(0.0188)
123789-HxCDF	(0.22)		0.22	(0.022)	(0.022)	(0.022)
1234678-HpCDF	1.16	J	0.18	0.0116	0.0116	0.0116
1234789-HpCDF	0.3	J	0.319	0.003	0.003	0.003
OCDF	[1.39]	J	0.509	[0.00139]	[0.000139]	[0.000416]

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TEQ Summaries			
EMPC = 0, ND = 0	16.6	16.4	16.5
EMPC = 0, ND = DL / 2	16.6	16.5	16.5
EMPC = 0, ND = DL	16.6	16.5	16.5
EMPC = 0, < J-level = 0	16.2	15.8	15.9
EMPC = EMPC, ND = 0	17.2	17	16.9
EMPC = EMPC, ND = DL / 2	17.2	17.1	17
EMPC = EMPC, ND = DL	17.2	17.1	17
EMPC = EMPC, < J-level = 0	16.2	15.8	15.9

Checkcode: 330-266-BXB

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Sample ID: Method Blank B6140_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.388			ES 2378-TCDD	89.5	
12378-PeCDD	ND	0.236			ES 12378-PeCDD	98.9	
123478-HxCDD	ND	0.269			ES 123478-HxCDD	90.6	
123678-HxCDD	ND	0.25			ES 123678-HxCDD	95.4	
123789-HxCDD	ND	0.266			ES 123789-HxCDD	88.3	
1234678-HpCDD	ND	0.39			ES 1234678-HpCDD	93.1	
OCDD	ND	0.598			ES OCDD	88.9	
2378-TCDF	ND	0.224			ES 2378-TCDF	79.3	
12378-PeCDF	ND	0.182			ES 12378-PeCDF	93.4	
23478-PeCDF	ND	0.183			ES 23478-PeCDF	93.7	
123478-HxCDF	ND	0.184			ES 123478-HxCDF	90.9	
123678-HxCDF	ND	0.173			ES 123678-HxCDF	102	
234678-HxCDF	ND	0.178			ES 234678-HxCDF	106	
123789-HxCDF	ND	0.198			ES 123789-HxCDF	88.6	
1234678-HpCDF	ND	0.211			ES 1234678-HpCDF	97.9	
1234789-HpCDF	ND	0.31			ES 1234789-HpCDF	89.8	
OCDF	ND	0.451			ES OCDF	88.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	ND	0.388	ND		CS 12347-PeCDD	120	
Total PeCDD	ND	0.236	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	0.261	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.39	ND		CS 1234689-HpCDF	106	
Total TCDF	ND	0.224	ND				
Total PeCDF	ND	0.183	ND				
Total HxCDF	ND	0.182	ND				
Total HpCDF	ND	0.254	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.434	0.434	0.434				
TEQ: ND=DL	0.868	0.868	0.868				

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Sample ID: Method Blank B6140_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.388)		12479/12468D	(0.236)		124679/124689D	(0.261)		1234679D	(0.39)	
1379D	(0.388)		12469D	(0.236)		123468D	(0.261)		1234678D	(0.39)	
1369D	(0.388)		12368D	(0.236)		123679/123689D	(0.261)				
1469D	(0.388)		12478D	(0.236)		123469D	(0.261)				
1247D...[4]	(0.388)		12379D	(0.236)		123478D	(0.269)				
1378D	(0.388)		12369D...[3]	(0.236)		123678D	(0.25)				
1268D	(0.388)		12346/12347D	(0.236)		123467D	(0.261)				
1478D	(0.388)		12378D	(0.236)		123789D	(0.266)		**Conc.**	0	
1279D	(0.388)		12367D	(0.236)					**EMPC**	0	
1234/1269D	(0.388)		12389D	(0.236)							
1236D	(0.388)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.388)										
1239D	(0.388)								OCDD	(0.598)	
2378D	(0.388)										
1278D	(0.388)										
1267D	(0.388)										
1289D	(0.388)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.434	0.434
TEQ: ND=DL	0.868	0.868

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 10:20 Analyst: pw

Sample ID: Method Blank B6140_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.224)		13468/12468F	(0.17)		123468F	(0.182)		1234678F	(0.211)	
1468F	(0.224)		13678F...[3]	(0.183)		124678/134678F	(0.182)		1234679F	(0.254)	
2468F	(0.224)		12368F...[3]	(0.183)		134679F	(0.182)		1234689F	(0.254)	
1346/1246F	(0.224)		14678F	(0.183)		124679F	(0.182)		1234789F	(0.31)	
1347F...[3]	(0.224)		13479F	(0.183)		124689F	(0.182)				
1348F	(0.224)		13469/12479F	(0.183)		123467F	(0.182)				
1248F...[3]	(0.224)		12346F	(0.183)		123478F	(0.184)				
1268F	(0.224)		23468/12469F	(0.183)		123678F	(0.173)				
1467F	(0.224)		12347F	(0.183)		123479F	(0.182)				
1478F	(0.224)		12348F	(0.183)		123469F	(0.182)				
1369/1237F	(0.224)		12378F	(0.182)		123679F	(0.182)				
2467F	(0.224)		12678/12367F	(0.183)		234678F	(0.178)		**Conc.**	0	
2368F	(0.224)		12379F	(0.183)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.224)		12679F	(0.183)		123689F	(0.182)				
1278F	(0.224)		23467/12369F	(0.183)		123789F	(0.198)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.224)		23478F	(0.183)		123789/123489F	0			**(pg/g)**	
1267F	(0.224)		23478/12489F	0		123489F	(0.182)		OCDF	(0.451)	
2346/1249F	(0.224)		12489F	(0.183)							
2347/1279F	(0.224)		12349F	(0.183)							
2348F	(0.224)		12389F	(0.183)							
2378F	(0.224)										
2367/3467F	(0.224)										
1269F	(0.224)										
1239F	(0.224)										
1289F	(0.224)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 10:20 Analyst: pw

Sample ID: Method Blank B6140_18911 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18911_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18911
Date Collected:	n/a	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	19-Feb-2022 19:37
Lab Project No:	B6140	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.388)		0.388	(0.388)	(0.388)	(0.388)
12378-PeCDD	(0.236)		0.236	(0.118)	(0.236)	(0.236)
123478-HxCDD	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
123678-HxCDD	(0.25)		0.25	(0.025)	(0.025)	(0.025)
123789-HxCDD	(0.266)		0.266	(0.0266)	(0.0266)	(0.0266)
1234678-HpCDD	(0.39)		0.39	(0.0039)	(0.0039)	(0.0039)
OCDD	(0.598)		0.598	(0.000598)	(0.0000598)	(0.000179)
2378-TCDF	(0.224)		0.224	(0.0224)	(0.0224)	(0.0224)
12378-PeCDF	(0.182)		0.182	(0.00912)	(0.00912)	(0.00547)
23478-PeCDF	(0.183)		0.183	(0.0915)	(0.0915)	(0.0549)
123478-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
123678-HxCDF	(0.173)		0.173	(0.0173)	(0.0173)	(0.0173)
234678-HxCDF	(0.178)		0.178	(0.0178)	(0.0178)	(0.0178)
123789-HxCDF	(0.198)		0.198	(0.0198)	(0.0198)	(0.0198)
1234678-HpCDF	(0.211)		0.211	(0.00211)	(0.00211)	(0.00211)
1234789-HpCDF	(0.31)		0.31	(0.0031)	(0.0031)	(0.0031)
OCDF	(0.451)		0.451	(0.000451)	(0.0000451)	(0.000135)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.395	0.454	0.434
EMPC = 0, ND = DL	0.791	0.908	0.868
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.395	0.454	0.434
EMPC = EMPC, ND = DL	0.791	0.908	0.868
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 399-492-BMX

Sample ID: 0_18911_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:04:19

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.7				ES 2378-TCDD	91.5	
12378-PeCDD	50.5				ES 12378-PeCDD	90.9	
123478-HxCDD	54.5				ES 123478-HxCDD	98.2	
123678-HxCDD	56.6				ES 123678-HxCDD	102	
123789-HxCDD	52.2				ES 123789-HxCDD	92	
1234678-HpCDD	54.9				ES 1234678-HpCDD	97.5	
OCDD	112				ES OCDD	90	
2378-TCDF	10.9				ES 2378-TCDF	77.7	
12378-PeCDF	48.7				ES 12378-PeCDF	91.4	
23478-PeCDF	54.1				ES 23478-PeCDF	85.6	
123478-HxCDF	51.5				ES 123478-HxCDF	96.2	
123678-HxCDF	53.7				ES 123678-HxCDF	103	
234678-HxCDF	54.4				ES 234678-HxCDF	111	
123789-HxCDF	48.7				ES 123789-HxCDF	94.4	
1234678-HpCDF	50.9				ES 1234678-HpCDF	104	
1234789-HpCDF	51.7				ES 1234789-HpCDF	95.5	
OCDF	103				ES OCDF	91.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.6	
Total TCDD	53.1		53.1		CS 12347-PeCDD	108	
Total PeCDD	77.7		77.7		CS 12346-PeCDF	98.4	
Total HxCDD	179		179		CS 123469-HxCDF	119	
Total HpCDD	68.4		68.4		CS 1234689-HpCDF	113	
Total TCDF	63.5		63.5				
Total PeCDF	206		206				
Total HxCDF	334		334				
Total HpCDF	103		103				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.265	120				
TEQ: ND=DL	120	0.53	120				

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Sample ID: 0_18911_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6140	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:55:34

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.1				ES 2378-TCDD	97.9	
12378-PeCDD	47.5				ES 12378-PeCDD	103	
123478-HxCDD	52.2				ES 123478-HxCDD	98.4	
123678-HxCDD	54.5				ES 123678-HxCDD	104	
123789-HxCDD	51.6				ES 123789-HxCDD	91.9	
1234678-HpCDD	52.2				ES 1234678-HpCDD	98	
OCDD	109				ES OCDD	92.5	
2378-TCDF	10.7				ES 2378-TCDF	85.1	
12378-PeCDF	49.7				ES 12378-PeCDF	96.4	
23478-PeCDF	50.9				ES 23478-PeCDF	100	
123478-HxCDF	51.4				ES 123478-HxCDF	91.9	
123678-HxCDF	50.6				ES 123678-HxCDF	105	
234678-HxCDF	50.7				ES 234678-HxCDF	114	
123789-HxCDF	47.8				ES 123789-HxCDF	94	
1234678-HpCDF	49.8				ES 1234678-HpCDF	107	
1234789-HpCDF	49.1				ES 1234789-HpCDF	95.3	
OCDF	103				ES OCDF	92.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	101	
Total TCDD	52.3		52.3		CS 12347-PeCDD	116	
Total PeCDD	73.6		73.6		CS 12346-PeCDF	105	
Total HxCDD	174		174		CS 123469-HxCDF	109	
Total HpCDD	65.2		65.2		CS 1234689-HpCDF	106	
Total TCDF	63.4		63.4				
Total PeCDF	197		197				
Total HxCDF	320		320				
Total HpCDF	98.8		98.8				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.279	114				
TEQ: ND=DL	114	0.558	114				

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Sample DUP

Method 1613B

Sample ID: 0_18911_OPR001

Analyte	OPR1_18911_DF pg/uL	OPR2_18911_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.7	11.1	5.3%
1,2,3,7,8-PeCDD	50.5	47.5	6.1%
1,2,3,4,7,8-HxCDD	54.5	52.2	4.3%
1,2,3,6,7,8-HxCDD	56.6	54.5	3.9%
1,2,3,7,8,9-HxCDD	52.2	51.6	1.2%
1,2,3,4,6,7,8-HpCDD	54.9	52.2	5.0%
OCDD	112	109	2.6%
2,3,7,8-TCDF	10.9	10.7	2.1%
1,2,3,7,8-PeCDF	48.7	49.7	2.1%
2,3,4,7,8-PeCDF	54.1	50.9	6.3%
1,2,3,4,7,8-HxCDF	51.5	51.4	0.2%
1,2,3,6,7,8-HxCDF	53.7	50.6	5.9%
2,3,4,6,7,8-HxCDF	54.4	50.7	7.0%
1,2,3,7,8,9-HxCDF	48.7	47.8	1.9%
1,2,3,4,6,7,8-HpCDF	50.9	49.8	2.3%
1,2,3,4,7,8,9-HpCDF	51.7	49.1	5.3%
OCDF	103	103	0.9%
Totals			
Total TCDD	53.1	52.3	1.6%
Total PeCDD	77.7	73.6	5.4%
Total HxCDD	179	174	3.0%
Total HpCDD	68.4	65.2	4.8%
Total TCDF	63.5	63.4	0.1%
Total PeCDF	206	197	4.6%
Total HxCDF	334	320	4.2%
Total HpCDF	103	98.8	3.8%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6140*
Requested TAT:	*10 business days*
Projected due date:	*21-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-B-19H	B6140_001	Soil	1	4 oz	05-Jan-22	11:15	1.3	1	4905 2704 3561

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact; sample taken off HOLD per email dated 02/04/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* TB 02/07/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6140 1/1

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remar
REPORT LEVEL: Level I Level II ■ Level IV
SPECIAL DELIVERABLES:
DoD ■ EDD/Version: GHD EQuIS 4-file
State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
None

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	ANALYSIS & METHOD M1613B (D/F)	QC MS	QC MSD	QC DUP	QTY	REMARKS (SEE SSOW)
11215131-010522-S-BN-SW-S-4	1-5-22	1035	C	S	4 oz	X				1	RUSH
11215131-010522-S-BN-SW-S-11		1045			4 oz	X				1	RUSH
11215131-010522-S-BN-SW-B-19		1055			4 oz	X				1	
11215131-010522-S-BN-SW-B-19		1105			4 oz	X				1	
11215131-010522-S-BN-SW-B-19H	^	1115			4 oz	X				1	HOLD
					4 oz						
					4 oz						
					4 oz						
					4 oz						
					4 oz						

COLLECTED/RELINQUISHED BY (1): Breanna North	DATE: 1-5-22	TIME: 1240	RECEIVED BY: Eddie Castro	RECEIVED BY LABORATORY: Ryan Shaw DATE: 1-7-22 TIME: 12 PM
RELINQUISHED BY (2): Eddie Castro	DATE: 1-5-22	TIME: 1405	RECEIVED BY: Jon Ney 1/5/22 1405	COOLER SEAL: INTACT BROKEN ABSENT
RELINQUISHED BY (3): Jon Ney	DATE: 1/5/22	TIME: 1405	RECEIVED BY:	CONTAINER SEALS: INTACT BROKEN ABSENT
				CARRIER: TEMP: °C 1.3°
				TRACKING #:

^11215131-010522-S-BN-SW-B-19H (no 1) per email dated 2/7/2022
TB

B6140

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 05JAN22
ACTWGT: 50.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405

(910) 350-1903 REF:
INV:
PO: DEPT:

12°C
1/7-22

565C2/01EF/05A2

FedEx Express

J191219082001uv

TRK# 0201 **4905 2704 3561**

THU - 06 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US **RDU**

Part # 156145-434 MTN EXP 07/22

no custody seal
on ice
TB

Project Initiation Form

Project Number:	B6140	Initiation Date:	07-Feb-22
Client Name:	GHD Services Inc.	Sample Matrix:	Soil
Analysis Method:	1613 PCDD/F	TAT:	10 days
		Project Manager:	Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: tburkamper Date: 07-Feb-2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Extraction Type: SDS CLL | TALEX Carbon SPE

Solid

Final Volume: 20µL

Batch# 18911 | Split: 1/2 1/4 | Extract Initial/Date: JAH 2/16/22 | Clean-up Initial/Date: SAB 2/18/22 | Transfer Init/Date: 2/18/22

Lab Sample ID	Extraction Position	Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B5962_18911_003	4		15.46				black/gray, sticky, clay-like
B5964_18911_007	5		13.65				black/gray, sticky, clay-like
B5992_18911_002	6		13.35				fuel smell, gray, clay-like
B6008_18911_001	7		13.84				black/gray, sticky, clay-like
B6008_18911_003	8		13.82				black/gray, clay-like
B6080_18911_002	9		16.54				black/gray, clay-like, moist, fuel smell
B6110_18911_002	10		14.58				black/gray, clay-like
B6140_18911_001	11		13.22				black/gray, clay-like
B6148_18911_002	12		14.15				black/gray, clay-like
B6148_18911_004	13		13.42				black/gray, clay-like
B6154_18911_001	14		12.82				gray, sandy/clay-like
B6154_18911_002	15		14.03				gray, clay-like
B6208_18911_001	16		12.78				gray, clay-like
B6208_18911_002	17		14.25				gray, clay-like, fuel smell
B6208_18911_003	18		13.32				gray, clay-like, fuel smell
B6208_18911_004	19		13.66				black/gray, clay-like, strong fuel smell
MBI_18911	1		10.00				sodium sulfate
OPR1_18911	2		10.00				sodium sulfate
OPR2_18911	3		10.00				sodium sulfate

TB 2/21/2022

Supply IDs

Toluene	STL 14-26
MeCHL	STL14-17
Florisil	SPLS-83
Hexane	STL14-29
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	SPLS-808

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/21/2022
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1650	
	Stop: 0900	
HEX	Start:	
	Stop:	TB 2/21/2022
DCM	Start:	
	Stop:	

2/16/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18911

Inter-Department Communication Sheet

TB
2/21/2022

SGS

REVIEWED
Tamara Burkamper , 2/21/2022, 1:35:52 PM

Wt. Volume Results

Batch #: 18911

Comments:

QAC 2/22/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B5962_003	2.36	5.09	4.16	65.93%	65.93%			15.17	15.46	10.19
B5964_007	2.3	4.53	4	76.23%	76.23%			13.12	13.65	10.41
B5992_002	2.37	4.8	4.22	76.13%	76.13%			13.14	13.35	10.16
B6008_001	2.37	4.44	3.92	74.88%	74.88%			13.35	13.84	10.36
B6008_003	2.41	4.46	3.98	76.59%	76.59%			13.06	13.22	10.13
B6080_002	2.39	4.82	3.98	65.43%	65.43%			15.28	16.54	10.82
B6110_002	2.4	4.86	4.13	70.33%	70.33%			14.22	14.58	10.25
B6140_001	2.36	5.24	4.6	77.78%	77.78%			12.86	13.22	10.28
B6148_002	2.35	4.43	3.93	75.96%	75.96%			13.16	14.15	10.75
B6148_004	2.36	4.55	4.03	76.26%	76.26%			13.11	13.42	10.23
B6154_001	2.33	5.22	4.64	79.93%	79.93%			12.51	12.82	10.25
B6154_002	2.38	4.5	3.96	74.53%	74.53%			13.42	14.03	10.46
B6208_001	2.33	5.5	4.85	79.50%	79.50%			12.58	12.78	10.16
B6208_002	2.33	4.77	4.1	72.54%	72.54%			13.79	14.25	10.34
B6208_003	2.33	5.23	4.56	76.90%	76.90%			13	13.32	10.24
B6208_004	2.32	5.1	4.45	76.62%	76.62%			13.05	13.66	10.47

TB 2/21/2022

TB 2/21/2022

% Solid Determination WorkSheet

SGS

Batch: 18911

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	110g ONE	Comments
B5962_18911_003	2.36	5.09	4.16	15.17	
B5964_18911_007	2.36	4.53	4.00	13.17	
B5992_18911_002	2.37	4.80	4.22	13.14	
B6008_18911_001	2.37	4.44	3.92	13.35	
B6008_18911_003	2.41	4.46	3.98	13.06	
B6080_18911_002	2.39	4.82	3.97	15.28	
B6110_18911_002	2.40	4.86	4.13	14.22	
B6140_18911_001	2.36	5.24	4.60	12.86	
B6148_18911_002	2.35	4.43	3.93	13.16	
B6148_18911_004	2.36	4.55	4.03	13.11	
B6154_18911_001	2.33	5.22	4.64	12.51	
B6154_18911_002	2.38	4.50	3.96	13.42	
B6208_18911_001	2.33	5.50	4.85	12.58	
B6208_18911_002	2.33	4.77	4.11	13.79	
B6208_18911_003	2.33	5.23	4.56	13.00	
B6208_18911_004	2.32	5.10	4.45	13.05	

~~B33~~
2/18/22

Date/Initials: JRH 2/14/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18911

Spiker Initials/Date:	JRH 2/16/22	JRH 2/16/22	JRH 2/16/22	RBS 2/18/22	RBS 2/18/22		
Lab Sample ID	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B5962_18911_003	–	–	RBS	JRH	JRH		
B5964_18911_007	–	–	RBS	JRH	JRH		
B5992_18911_002	–	–	RBS	JRH	JRH		
B6008_18911_001	–	–	RBS	JRH	JRH		
B6008_18911_003	–	–	RBS	JRH	JRH		
B6080_18911_002	–	–	RBS	JRH	JRH		
B6110_18911_002	–	–	RBS	JRH	JRH		
B6140_18911_001	–	–	RBS	JRH	JRH		
B6148_18911_002	–	–	RBS	JRH	JRH		
B6148_18911_004	–	–	RBS	JRH	JRH		
B6154_18911_001	–	–	RBS	JRH	JRH		
B6154_18911_002	–	–	RBS	JRH	JRH		
B6208_18911_001	–	–	RBS	JRH	JRH		
B6208_18911_002	–	–	RBS	JRH	JRH		
B6208_18911_003	–	–	RBS	JRH	JRH		
B6208_18911_004	–	–	RBS	JRH	JRH		
MB1_18911	–	–	RBS	JRH	JRH		
OPR1_18911	RBS	RBS	RBS	JRH	JRH		
OPR2_18911	RBS	RBS	RBS	JRH	JRH		
		RBS 2/18/22					

Standard Information

Pipette ID							RBS 2/18/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	28-187-2	26-2-9	25-338-1	25-384-1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/24	6/22/22	8/2018	11/16/22	1/28/23		

REVIEWED
Tamara Burkamper , 2/21/2022, 1:00:50 PM

SGS Environmental Services — Run Log **Project: B6140_18911_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA ✓	1.00	25-347-1	DTF, PSW	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF, PSW	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
3	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF, PSW	399-492	19-Feb-2022	19:37:00
4	220219C12	35	B6140_18911_DF_001 ✓	10.28	11215131-010522-S-BN-SW-B-19H	DTF, PSW	330-266	20-Feb-2022	01:47:44
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF, PSW	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF, PSW	488-895	20-Feb-2022	05:55:34

REVIEWED
paul_walton , 2/21/2022, 10:29:13 AM

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6140_18911 | **UTP:** 21-Feb-2022 10:19:33 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:21 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4631.374	0.388
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2783.22	0.236
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3118.687	0.269
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	3118.687	0.25
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	3118.687	0.266
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	4399.488	0.39
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3230.665	0.598
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3471.373	0.224
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.182
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.183
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3096.37	0.184
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3096.37	0.173
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3096.37	0.178
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3096.37	0.198
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3605.552	0.211
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3605.552	0.31
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2961.523	0.451

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.20E+07	0.81	Y	1.05	89.5
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.05E+07	1.59	Y	0.88	98.9
ES 123478-HxCDD	37.56	0.9916	0.9916	0	1.85E+07	1.28	Y	0.97	90.6
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	1.89E+07	1.29	Y	0.94	95.4
ES 123789-HxCDD	37.99	1.0029	1.0028	-0.2	2.02E+07	1.23	Y	1.09	88.3
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	1.78E+07	1.06	Y	0.91	93.1
ES OCDD	43.41	1.1460	1.1460	0	2.32E+07	0.89	Y	0.62	88.9
ES 2378-TCDF	27.36	1.0531	1.0534	+0.5	3.24E+07	0.79	Y	1.06	79.3
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	3.28E+07	1.56	Y	0.91	93.4
ES 23478-PeCDF	33.29	1.2810	1.2818	+1.6	3.19E+07	1.50	Y	0.88	93.7
ES 123478-HxCDF	36.55	0.9650	0.9650	0	2.28E+07	0.54	Y	1.20	90.9
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.90E+07	0.56	Y	1.35	102
ES 234678-HxCDF	37.38	0.9866	0.9867	+0.2	2.76E+07	0.53	Y	1.24	106
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.14E+07	0.55	Y	1.16	88.6
ES 1234678-HpCDF	39.78	1.0501	1.0500	-0.2	1.98E+07	0.44	Y	0.97	97.9
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	1.60E+07	0.46	Y	0.85	89.8
ES OCDF	43.59	1.1505	1.1505	0	3.00E+07	0.93	Y	0.81	88.7

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6140_18911 | **UTP:** 21-Feb-2022 10:19:33 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:21 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.35E+07	0.80	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.86E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.05E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.08E+07	n/a	-	1.20	95.7
CS 12347-PeCDD	33.12		1.2016	1.2020	+0.8	2.12E+07	1.58	Y	0.75	120
CS 12346-PeCDF	31.63		1.2172	1.2180	+1.5	3.45E+07	1.61	Y	0.85	105
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.65E+07	0.53	Y	1.12	113
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	1.98E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~2.12E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.45E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.65E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.98E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18911_DF_SDS **Acq'd: 19 Feb 2022 19:37 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6140_18911 **UTP: 21-Feb-2022 10:19:33 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 399-492-BMX**

Datafile: 220219C04 **Report: 21 Feb 2022 10:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4631.374	0.388
1379-TCDD	NotFnd		0.8829						1.18		4631.374	0.388
1369-TCDD	NotFnd		0.8982						1.18		4631.374	0.388
1469-TCDD	NotFnd		0.9261						1.18		4631.374	0.388
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4631.374	0.388
1378-TCDD	NotFnd		0.9417						1.18		4631.374	0.388
1268-TCDD	NotFnd		0.9487						1.18		4631.374	0.388
1478-TCDD	NotFnd		0.9576						1.18		4631.374	0.388
1279-TCDD	NotFnd		0.9636						1.18		4631.374	0.388
1234/1269-TCDD	NotFnd		0.9761						1.18		4631.374	0.388
1236-TCDD	NotFnd		0.9812						1.18		4631.374	0.388
1237/1238-TCDD	NotFnd		0.9905						1.18		4631.374	0.388
1239-TCDD	NotFnd		0.9951						1.18		4631.374	0.388
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4631.374**	**0.388**
1278-TCDD	NotFnd		1.0124						1.18		4631.374	0.388
1267-TCDD	NotFnd		1.0172						1.18		4631.374	0.388
1289-TCDD	NotFnd		1.0354						1.18		4631.374	0.388
12479/12468-PeCDD	NotFnd		0.9255						1.04		2783.22	0.236
12469-PeCDD	NotFnd		0.9416						1.04		2783.22	0.236
12368-PeCDD	NotFnd		0.9582						1.04		2783.22	0.236
12478-PeCDD	NotFnd		0.9637						1.04		2783.22	0.236
12379-PeCDD	NotFnd		0.9668						1.04		2783.22	0.236
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2783.22	0.236
12346/12347-PeCDD	NotFnd		0.9858						1.04		2783.22	0.236
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2783.22**	**0.236**
12367-PeCDD	NotFnd		1.0036						1.04		2783.22	0.236
12389-PeCDD	NotFnd		1.0137						1.04		2783.22	0.236
124679/124689-HxCDD	NotFnd		0.9540						1.10		3118.687	0.261
123468-HxCDD	NotFnd		0.9715						1.10		3118.687	0.261
123679/123689-HxCDD	NotFnd		0.9793						1.10		3118.687	0.261
123469-HxCDD	NotFnd		0.9829						1.10		3118.687	0.261
123478-HxCDD	NotFnd		**1.0004**						1.09		**3118.687**	**0.269**
123678-HxCDD	NotFnd		**1.0036**						1.15		**3118.687**	**0.25**
123467-HxCDD	NotFnd		1.0089						1.10		3118.687	0.261
123789-HxCDD	NotFnd		**1.0118**						1.05		**3118.687**	**0.266**

Lab ID: MB1_18911_DF_SDS | **Acq'd: 19 Feb 2022 19:37 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6140_18911 | **UTP: 21-Feb-2022 10:19:33 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 399-492-BMX**

Datafile: 220219C04 | **Report: 21 Feb 2022 10:21 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

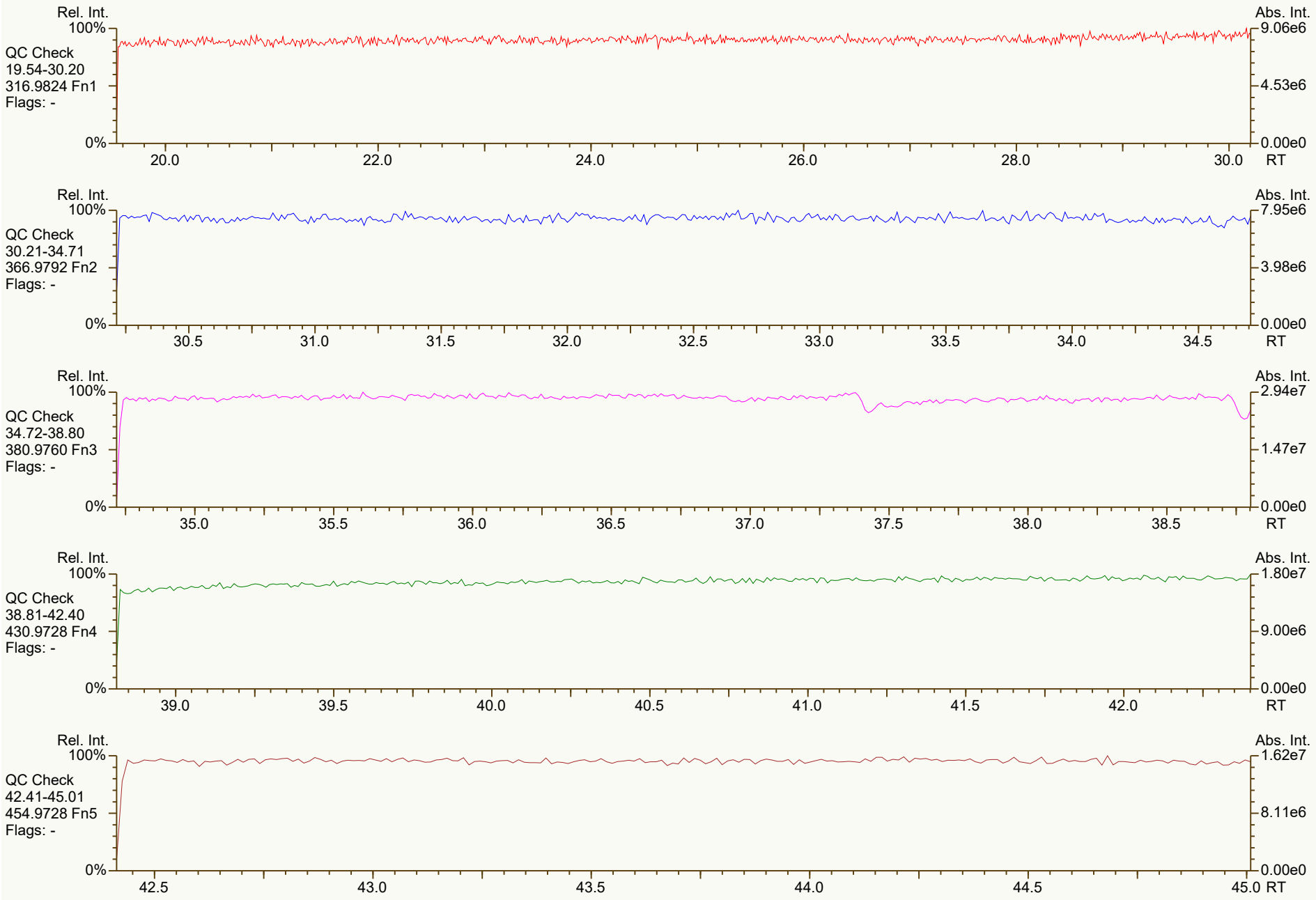
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		4399.488	0.39
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**4399.488**	**0.39**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3230.665**	**0.598**
OCDD-a	NotFnd		1.0002						0.07		3130.658	9.06
1368-TCDF	NotFnd		0.8191						1.08		3471.373	0.224
1468-TCDF	NotFnd		0.8408						1.08		3471.373	0.224
2468-TCDF	NotFnd		0.8645						1.08		3471.373	0.224
1346/1246-TCDF	NotFnd		0.8772						1.08		3471.373	0.224
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3471.373	0.224
1348-TCDF	NotFnd		0.8932						1.08		3471.373	0.224
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3471.373	0.224
1268-TCDF	NotFnd		0.9119						1.08		3471.373	0.224
1467-TCDF	NotFnd		0.9170						1.08		3471.373	0.224
1478-TCDF	NotFnd		0.9234						1.08		3471.373	0.224
1369/1237-TCDF	NotFnd		0.9369						1.08		3471.373	0.224
2467-TCDF	NotFnd		0.9415						1.08		3471.373	0.224
2368-TCDF	NotFnd		0.9475						1.08		3471.373	0.224
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3471.373	0.224
1278-TCDF	NotFnd		0.9676						1.08		3471.373	0.224
1349-TCDF	NotFnd		0.9722						1.08		3471.373	0.224
1267-TCDF	NotFnd		0.9777						1.08		3471.373	0.224
2346/1249-TCDF	NotFnd		0.9843						1.08		3471.373	0.224
2347/1279-TCDF	NotFnd		0.9926						1.08		3471.373	0.224
2348-TCDF	NotFnd		0.9968						1.08		3471.373	0.224
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3471.373**	**0.224**
2367/3467-TCDF	NotFnd		1.0142						1.08		3471.373	0.224
1269-TCDF	NotFnd		1.0235						1.08		3471.373	0.224
1239-TCDF	NotFnd		1.0329						1.08		3471.373	0.224
1289-TCDF	NotFnd		1.0742						1.08		3471.373	0.224
13468/12468-PeCDF	NotFnd		0.9122						1.02		2974.037	0.17
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3188.391	0.183
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3188.391	0.183
14678-PeCDF	NotFnd		0.9685						1.02		3188.391	0.183
13479-PeCDF	NotFnd		0.9716						1.02		3188.391	0.183
13469/12479-PeCDF	NotFnd		0.9794						1.02		3188.391	0.183
12346-PeCDF	NotFnd		0.9836						1.02		3188.391	0.183

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6140_18911 | **UTP:** 21-Feb-2022 10:19:33 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:21 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3188.391	0.183
12347-PeCDF	NotFnd		0.9891						1.02		3188.391	0.183
12348-PeCDF	NotFnd		0.9938						1.02		3188.391	0.183
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.182**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3188.391	0.183
12379-PeCDF	NotFnd		1.0144						1.02		3188.391	0.183
12679-PeCDF	NotFnd		0.9927						1.02		3188.391	0.183
23467/12369-PeCDF	NotFnd		0.9965						1.02		3188.391	0.183
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.183**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3188.391	0.183
12349-PeCDF	NotFnd		1.0101						1.02		3188.391	0.183
12389-PeCDF	NotFnd		1.0330						1.02		3188.391	0.183
123468-HxCDF	NotFnd		0.9622						1.19		3096.37	0.182
124678/134678-HxCDF	NotFnd		0.9678						1.19		3096.37	0.182
134679-HxCDF	NotFnd		0.9741						1.19		3096.37	0.182
124679-HxCDF	NotFnd		0.9795						1.19		3096.37	0.182
124689-HxCDF	NotFnd		0.9856						1.19		3096.37	0.182
123467-HxCDF	NotFnd		0.9972						1.19		3096.37	0.182
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3096.37**	**0.184**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3096.37**	**0.173**
123479-HxCDF	NotFnd		1.0048						1.19		3096.37	0.182
123469-HxCDF	NotFnd		1.0089						1.19		3096.37	0.182
123679-HxCDF	NotFnd		0.9942						1.19		3096.37	0.182
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3096.37**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3096.37	0.182
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3096.37**	**0.198**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3096.37	0.182
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3605.552**	**0.211**
1234679-HpCDF	NotFnd		1.0068						1.34		3605.552	0.254
1234689-HpCDF	NotFnd		1.0104						1.34		3605.552	0.254
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3605.552**	**0.31**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2961.523**	**0.451**
OCDF-a	NotFnd		1.0001						0.07		3481.601	8.57

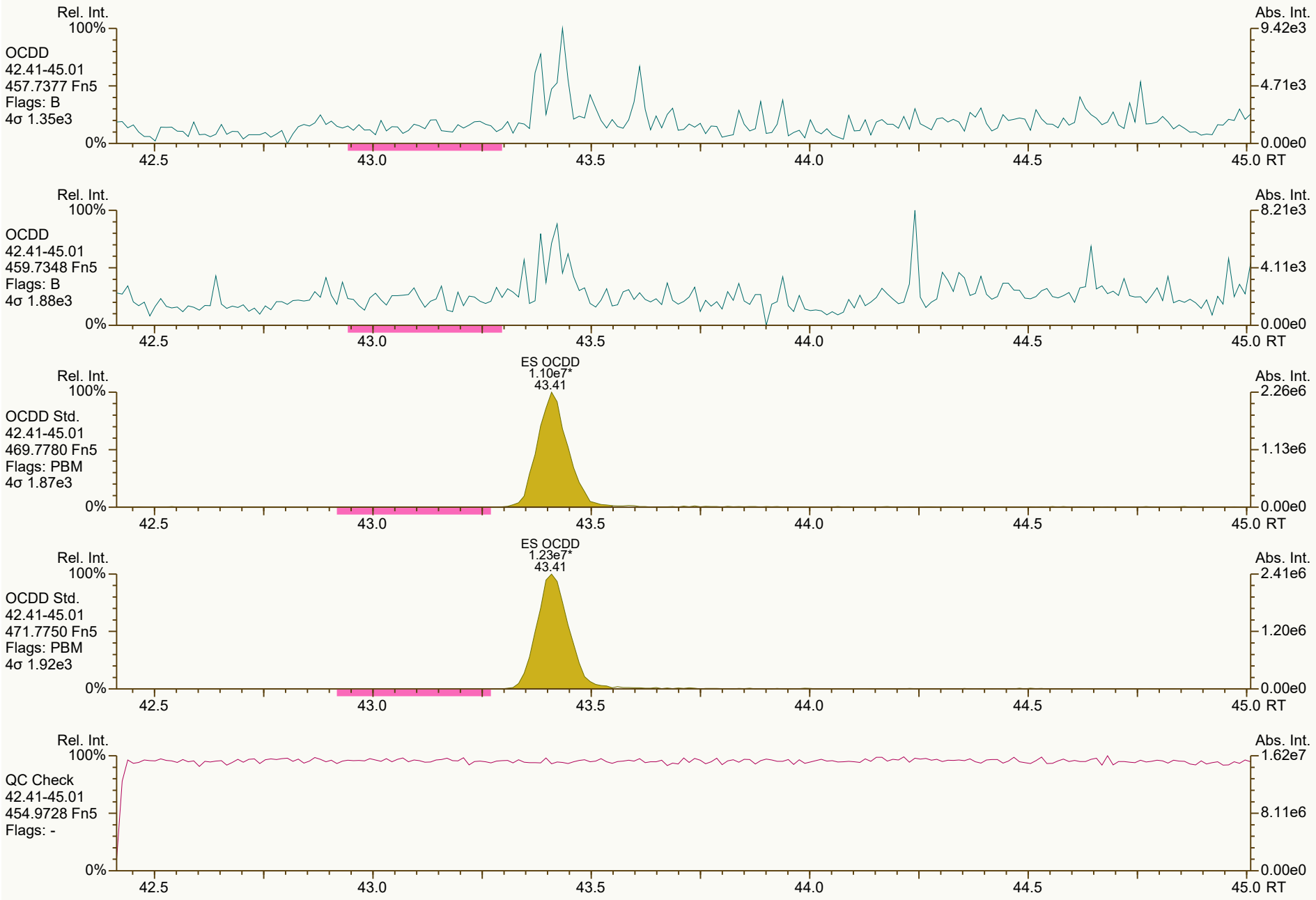

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.06e6
4.53e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.95e6
3.98e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.94e7
1.47e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.80e7
9.00e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.62e7
8.11e6
0.00e0

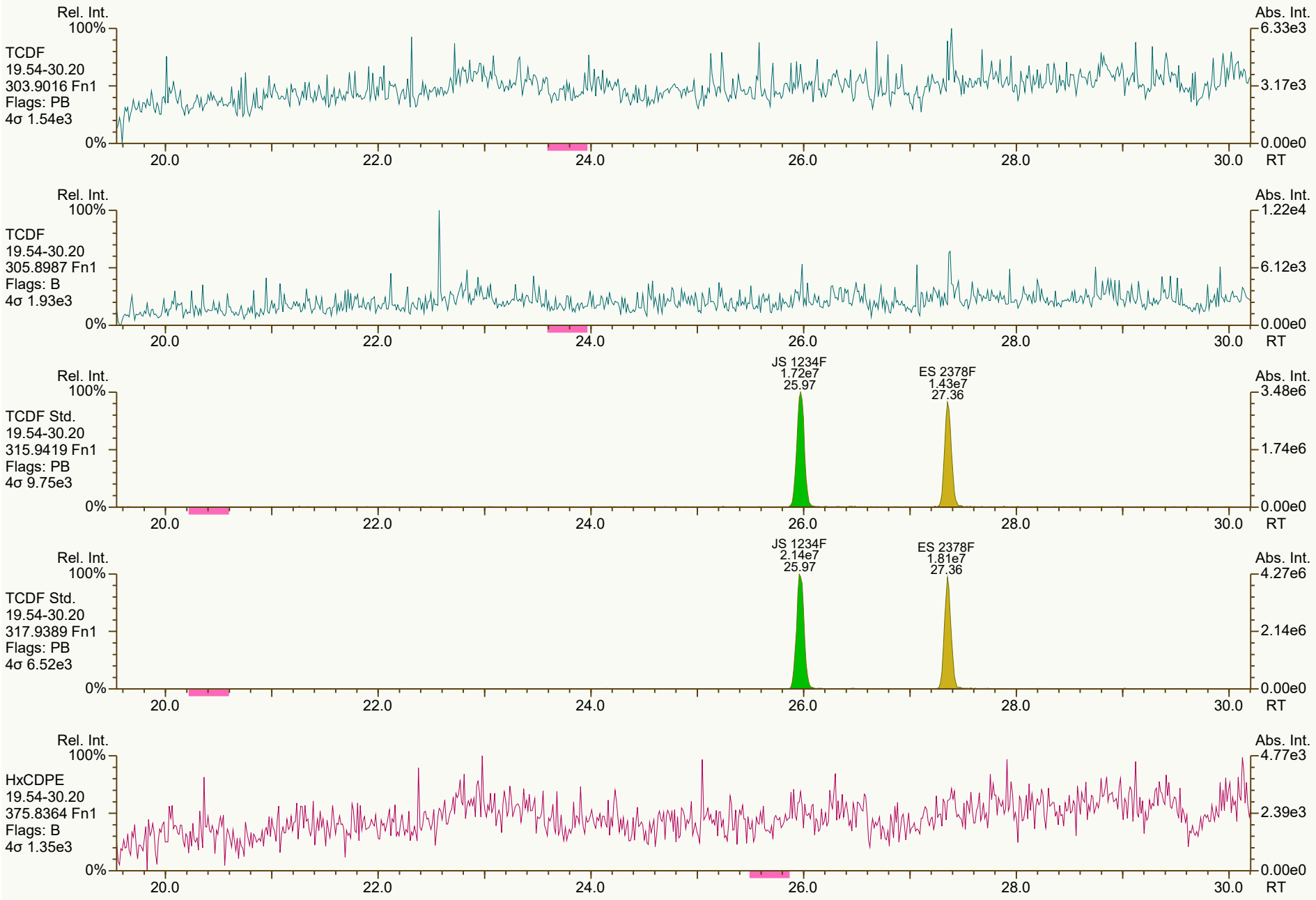

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.16e3
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.01e3
3.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
1.08e7
28.25
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.73e3
0%
JS 1234D
1.05e7
27.56
ES 2378D
9.82e6
28.23
Abs. Int.
2.47e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.28e3
0%
JS 1234D
1.30e7
27.56
ES 2378D
1.22e7
28.23
Abs. Int.
2.91e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
6.65e3
3.33e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.18e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.81e3
0%
CS 12347D
1.30e7
33.12
ES 12378D
1.26e7
33.63
Abs. Int.
3.80e6
1.90e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.42e3
0%
CS 12347D
8.22e6
33.12
ES 12378D
7.89e6
33.63
Abs. Int.
2.29e6
1.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.95e6
3.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

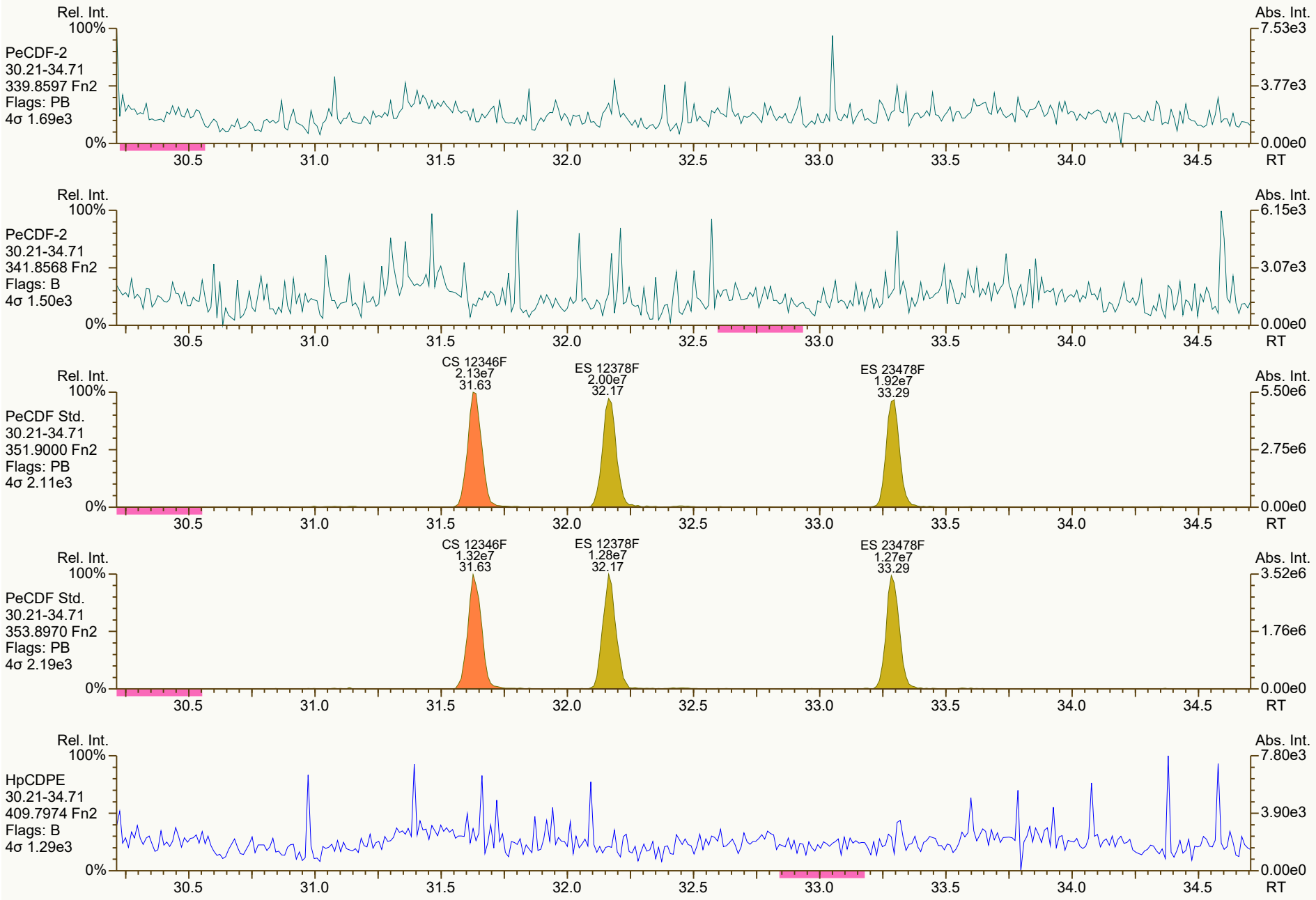

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.60e3
0%
Abs. Int.
7.73e3
3.86e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.67e3
0%
ES 123678D
1.06e7
37.68
ES 123478D
1.04e7
37.56
ES 123789D
1.11e7
37.99
JS 123467D
5.95e6
37.88
Abs. Int.
3.09e6
1.55e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.29e3
0%
ES 123678D
8.25e6
37.68
ES 123478D
8.10e6
37.56
ES 123789D
9.03e6
37.99
JS 123467D
4.51e6
37.88
Abs. Int.
2.52e6
1.26e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

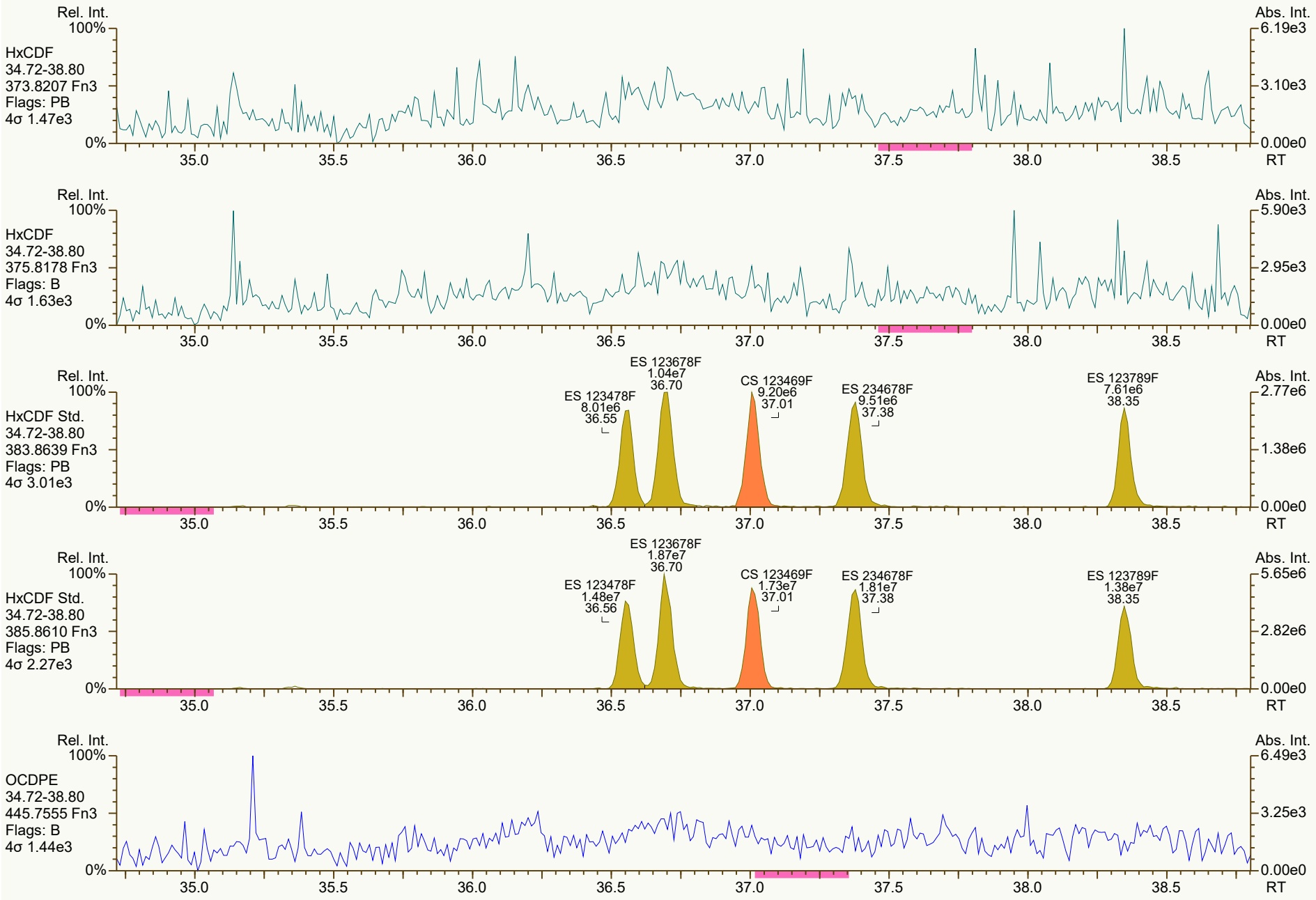

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.98e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.15e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.66e3
0%
Abs. Int.
2.73e6
1.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.65e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.85e3
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
9.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

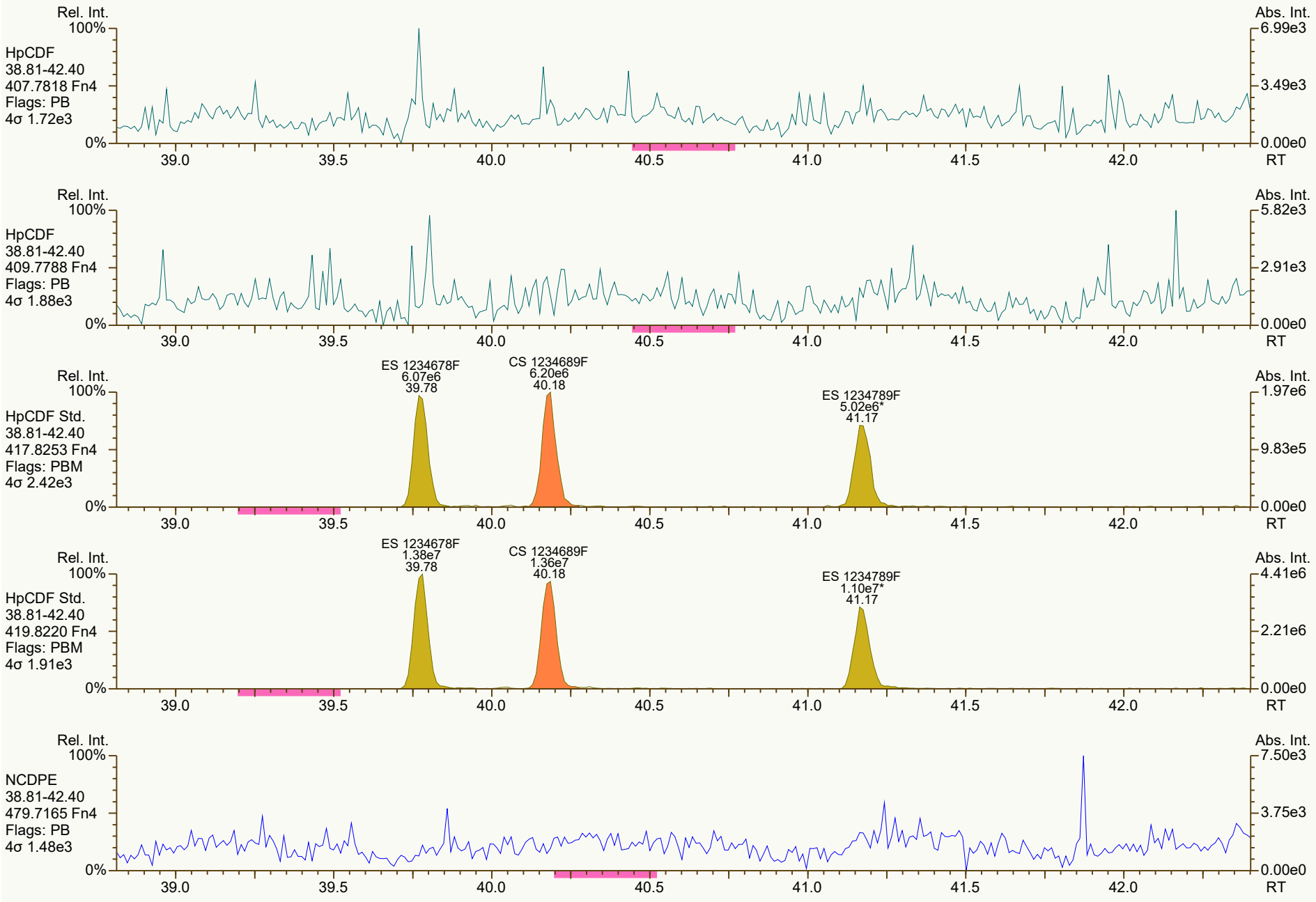

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.42e3
4.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.88e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.10e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.87e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.23e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.92e3
0%
Abs. Int.
2.41e6
1.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.33e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.22e4
6.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.75e3
0%
JS 1234F
1.72e7
25.97
ES 2378F
1.43e7
27.36
Abs. Int.
3.48e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.52e3
0%
JS 1234F
2.14e7
25.97
ES 2378F
1.81e7
27.36
Abs. Int.
4.27e6
2.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
0%
Abs. Int.
4.77e3
2.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.41e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.06e6
4.53e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.69e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.15e3
3.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.11e3
0%
CS 12346F
2.13e7
31.63
ES 12378F
2.00e7
32.17
ES 23478F
1.92e7
33.29
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12346F
1.32e7
31.63
ES 12378F
1.28e7
32.17
ES 23478F
1.27e7
33.29
Abs. Int.
3.52e6
1.76e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.47e3
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.63e3
5.90e3
2.95e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.01e3
ES 123678F
1.04e7
36.70
ES 123478F
8.01e6
36.55
CS 123469F
9.20e6
37.01
ES 234678F
9.51e6
37.38
ES 123789F
7.61e6
38.35
2.77e6
1.38e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.27e3
ES 123678F
1.87e7
36.70
ES 123478F
1.48e7
36.56
CS 123469F
1.73e7
37.01
ES 234678F
1.81e7
37.38
ES 123789F
1.38e7
38.35
5.65e6
2.82e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.44e3
6.49e3
3.25e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.72e3
0%
Abs. Int.
6.99e3
3.49e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.88e3
0%
Abs. Int.
5.82e3
2.91e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.42e3
0%
ES 1234678F
6.07e6
39.78
CS 1234689F
6.20e6
40.18
ES 1234789F
5.02e6*
41.17
Abs. Int.
1.97e6
9.83e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.91e3
0%
ES 1234678F
1.38e7
39.78
CS 1234689F
1.36e7
40.18
ES 1234789F
1.10e7*
41.17
Abs. Int.
4.41e6
2.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
4.39e3
2.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
4.25e3
2.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.56e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.28e3
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6140_18911_DF_001 **Acq'd:** 20 Feb 2022 01:47 DTF **Wt/Vol:** 10.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19H **UTP:** 21-Feb-2022 10:19:34 PSW **J-level:** 0.486 pg/g **Split:** 1 **Checkcode:** 330-266-BXB

Datafile: 220219C12 **Report:** 21 Feb 2022 10:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	1.70E+06	0.81	Y	1.18	12.2	5655.784	0.455
12378-PeCDD	33.64	J	1.0007	1.0007	0	5.58E+04	1.49	Y	1.04	0.464	5292.202	0.401
123478-HxCDD	37.57	J EMPC	1.0004	1.0004	0	4.65E+04	0.87	N	1.09	0.405	5689.88	0.416
123678-HxCDD	37.69	J	1.0036	1.0037	+0.2	1.03E+05	1.19	Y	1.15	0.833	5689.88	0.4
123789-HxCDD	37.99	J EMPC	1.0118	1.0118	0	1.25E+05	0.82	N	1.05	0.998	5689.88	0.406
1234678-HpCDD	40.72		1.0002	1.0004	+0.5	2.52E+06	1.02	Y	1.06	22.5	5592.86	0.406
OCDD	43.42		1.0003	1.0003	0	3.46E+07	0.91	Y	1.13	423	6497.04	1.03
2378-TCDF	27.37		1.0008	1.0008	0	5.99E+06	0.81	Y	1.08	31	3955.937	0.218
12378-PeCDF	32.18	J	1.0005	1.0005	0	2.75E+05	1.44	Y	1.02	1.5	4624.59	0.23
23478-PeCDF	33.30	J EMPC	1.0005	1.0006	+0.2	1.37E+05	2.30	N	1.02	0.796	4624.59	0.241
123478-HxCDF	36.56		1.0004	1.0005	+0.2	4.62E+05	1.15	Y	1.27	2.82	3671.513	0.191
123678-HxCDF	36.70	J EMPC	1.0004	1.0002	-0.4	1.23E+05	1.03	N	1.15	0.672	3671.513	0.173
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3671.513	0.188
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3671.513	0.22
1234678-HpCDF	39.77	J	1.0003	1.0002	-0.2	2.06E+05	1.05	Y	1.37	1.16	4341.993	0.18
1234789-HpCDF	41.18	J	1.0003	1.0004	+0.2	3.63E+04	0.94	Y	1.31	0.3	4341.993	0.319
OCDF	43.59	J EMPC	1.0002	1.0003	+0.3	1.25E+05	1.05	N	1.07	1.39	3777.776	0.509

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0244	+0.2	2.29E+07	0.80	Y	1.05	84.8
ES 12378-PeCDD	33.62		1.2198	1.2205	+1.4	2.25E+07	1.57	Y	0.88	99
ES 123478-HxCDD	37.55		0.9916	0.9916	0	2.05E+07	1.28	Y	0.97	92.2
ES 123678-HxCDD	37.67		0.9947	0.9948	+0.2	2.10E+07	1.26	Y	0.94	96.9
ES 123789-HxCDD	37.98		1.0029	1.0028	-0.2	2.32E+07	1.29	Y	1.09	92.8
ES 1234678-HpCDD	40.71		1.0749	1.0749	0	2.06E+07	1.07	Y	0.91	98.3
ES OCDD	43.40		1.1460	1.1461	+0.3	2.82E+07	0.92	Y	0.62	98.6
ES 2378-TCDF	27.35		1.0531	1.0534	+0.5	3.49E+07	0.81	Y	1.06	79.7
ES 12378-PeCDF	32.16		1.2378	1.2387	+1.7	3.48E+07	1.56	Y	0.91	92.7
ES 23478-PeCDF	33.28		1.2810	1.2820	+2.0	3.29E+07	1.55	Y	0.88	90.2
ES 123478-HxCDF	36.55		0.9650	0.9650	0	2.51E+07	0.55	Y	1.20	91.4
ES 123678-HxCDF	36.69		0.9688	0.9688	0	3.08E+07	0.56	Y	1.35	99.3
ES 234678-HxCDF	37.37		0.9866	0.9866	0	2.91E+07	0.54	Y	1.24	102
ES 123789-HxCDF	38.34		1.0125	1.0124	-0.2	2.34E+07	0.53	Y	1.16	88.3
ES 1234678-HpCDF	39.76		1.0501	1.0500	-0.2	2.54E+07	0.46	Y	0.97	114
ES 1234789-HpCDF	41.17		1.0870	1.0870	0	1.80E+07	0.48	Y	0.85	92.3
ES OCDF	43.58		1.1505	1.1506	+0.3	3.27E+07	0.92	Y	0.81	88.3

Lab ID: B6140_18911_DF_001 **Acq'd:** 20 Feb 2022 01:47 DTF **Wt/Vol:** 10.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-19H **UTP:** 21-Feb-2022 10:19:34 PSW **J-level:** 0.486 pg/g **Split:** 1 **Checkcode:** 330-266-BXB

Datafile: 220219C12 **Report:** 21 Feb 2022 10:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.59E+07	0.81	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.13E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.15E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	1.11E+07	n/a	-	1.20	89.2
CS 12347-PeCDD	33.11		1.2016	1.2021	+1.0	2.11E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.62		1.2172	1.2181	+1.7	3.52E+07	1.57	Y	0.85	100
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.76E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	2.28E+07	0.49	Y	0.89	112
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~105~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2021~~	~~+1.0~~	~~2.11E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2181~~	~~+1.7~~	~~3.52E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.76E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~2.28E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~98~~

Totals	Conc	EMPC
Total TCDD	17.1	19.6
Total PeCDD	3.84	4.35
Total HxCDD	21.9	23.4
Total HpCDD	71	71
Total Tetra-Octa Dioxins	537	542
Total TCDF	62.2	66.7
Total PeCDF	2.28	3.51
Total HxCDF	2.82	3.96
Total HpCDF	1.46	1.89
Total Tetra-Octa Furans	68.7	77.5
Total Tetra-Octa Dioxins & Furans	606	619

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.805	0.81
Response	1.71E+06	1.70E+06

Lab ID: B6140_18911_DF_001 **Acq'd: 20 Feb 2022 01:47 DTF** **Wt/Vol: 10.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-19H **UTP: 21-Feb-2022 10:19:34 PSW** **J-level: 0.486 pg/g** **Split: 1** **Checkcode: 330-266-BXB**

Datafile: 220219C12 **Report: 21 Feb 2022 10:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8693	-1.2	7.10E+04	0.84	Y	1.18	0.508	5655.784	0.455
1379-TCDD	NotFnd		0.8829						1.18		5655.784	0.455
1369-TCDD	NotFnd		0.8982						1.18		5655.784	0.455
1469-TCDD	26.13		0.9261	0.9260	-0.2	6.25E+05	0.77	Y	1.18	4.47	5655.784	0.455
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		5655.784	0.455
1378-TCDD	NotFnd		0.9417						1.18		5655.784	0.455
1268-TCDD	NotFnd		0.9487						1.18		5655.784	0.455
1478-TCDD	NotFnd		0.9576						1.18		5655.784	0.455
1279-TCDD	NotFnd		0.9636						1.18		5655.784	0.455
1234/1269-TCDD	27.53	EMPC	0.9761	0.9756	-0.8	1.13E+05	0.91	N	1.18	0.812	5655.784	0.455
1236-TCDD	NotFnd		0.9812						1.18		5655.784	0.455
1237/1238-TCDD	NotFnd		0.9905						1.18		5655.784	0.455
1239-TCDD	NotFnd		0.9951						1.18		5655.784	0.455
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	1.70E+06	0.81	Y	**1.18**	**12.2**	**5655.784**	**0.455**
1278-TCDD	28.59	EMPC	1.0124	1.0133	+1.5	2.34E+05	0.94	N	1.18	1.68	5655.784	0.455
1267-TCDD	NotFnd		1.0172						1.18		5655.784	0.455
1289-TCDD	NotFnd		1.0354						1.18		5655.784	0.455
12479/12468-PeCDD	31.11	J EMPC	0.9255	0.9255	0	6.13E+04	2.18	N	1.04	0.51	5292.202	0.401
12469-PeCDD	31.65	J	0.9416	0.9414	-0.4	2.91E+05	1.67	Y	1.04	2.42	5292.202	0.401
12368-PeCDD	NotFnd		0.9582						1.04		5292.202	0.401
12478-PeCDD	NotFnd		0.9637						1.04		5292.202	0.401
12379-PeCDD	NotFnd		0.9668						1.04		5292.202	0.401
12369/12467/12489-PeCDD	32.76	J	0.9746	0.9745	-0.2	1.15E+05	1.78	Y	1.04	0.958	5292.202	0.401
12346/12347-PeCDD	NotFnd		0.9858						1.04		5292.202	0.401
12378-PeCDD	33.64	J	**1.0007**	**1.0007**	**0**	**5.58E+04**	**1.49**	**Y**	**1.04**	**0.464**	**5292.202**	**0.401**
12367-PeCDD	NotFnd		1.0036						1.04		5292.202	0.401
12389-PeCDD	NotFnd		1.0137						1.04		5292.202	0.401
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	1.87E+06	1.27	Y	1.10	15.4	5689.88	0.407
123468-HxCDD	NotFnd		0.9715						1.10		5689.88	0.407
123679/123689-HxCDD	36.77		0.9793	0.9792	-0.2	5.63E+05	1.26	Y	1.10	4.64	5689.88	0.407
123469-HxCDD	36.90	J	0.9829	0.9825	-0.9	7.05E+04	1.27	Y	1.10	0.581	5689.88	0.407
123478-HxCDD	37.57	J EMPC	**1.0004**	**1.0004**	**0**	**4.65E+04**	**0.87**	**N**	1.09	**0.405**	**5689.88**	**0.416**
123678-HxCDD	37.69	J	**1.0036**	**1.0037**	**+0.2**	**1.03E+05**	**1.19**	**Y**	1.15	**0.833**	**5689.88**	**0.4**
123467-HxCDD	37.88	J	1.0089	1.0088	-0.2	6.07E+04	1.43	Y	1.10	0.5	5689.88	0.407
123789-HxCDD	37.99	J EMPC	**1.0118**	**1.0118**	**0**	**1.25E+05**	**0.82**	**N**	1.05	**0.998**	**5689.88**	**0.406**

Lab ID: B6140_18911_DF_001 **Acq'd: 20 Feb 2022 01:47 DTF** **Wt/Vol: 10.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-19H **UTP: 21-Feb-2022 10:19:34 PSW** **J-level: 0.486 pg/g** **Split: 1** **Checkcode: 330-266-BXB**

Datafile: 220219C12 **Report: 21 Feb 2022 10:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

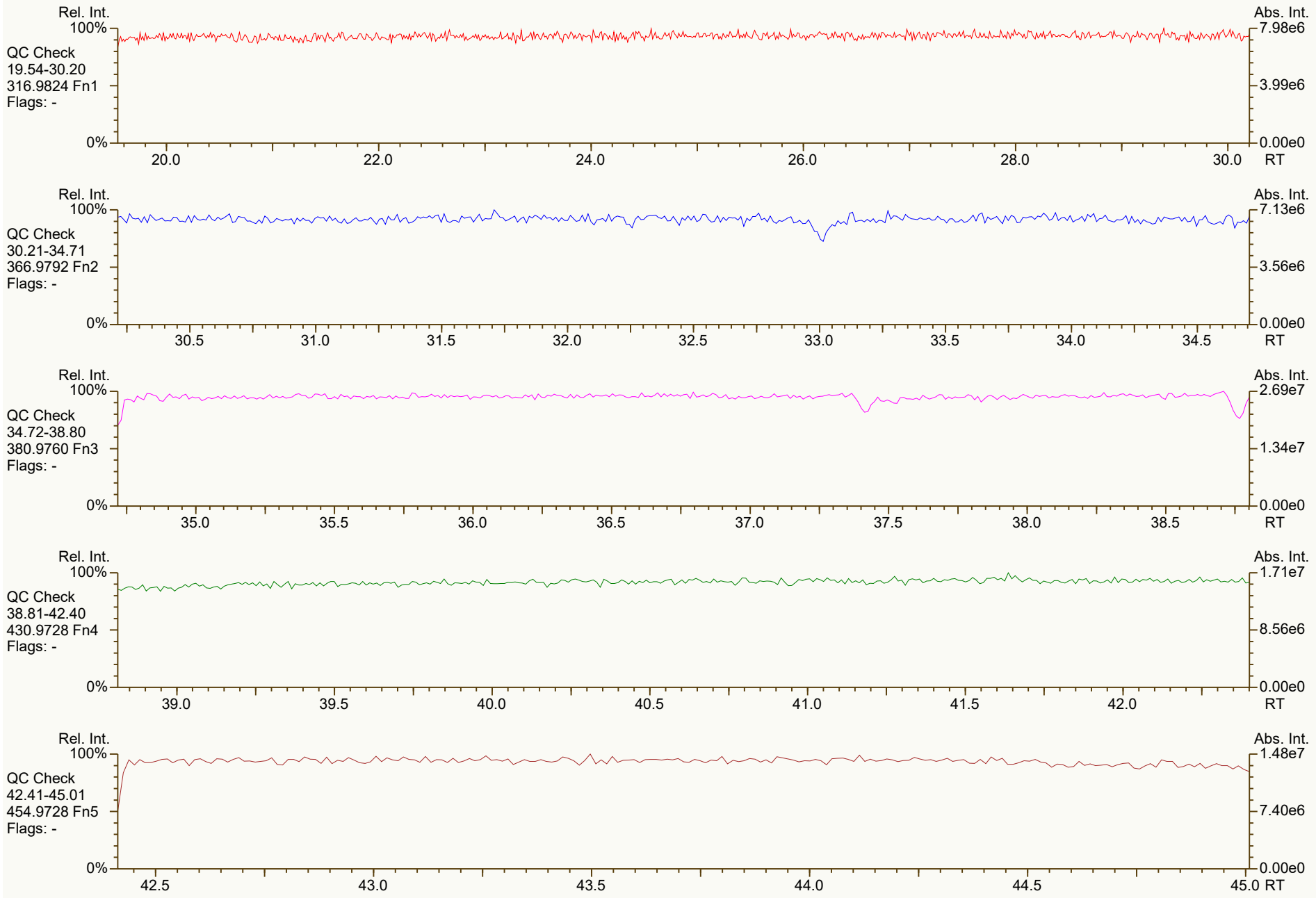
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9837	+0.2	5.43E+06	1.05	Y	1.06	48.5	5592.86	0.406
1234678-HpCDD	**40.72**		**1.0002**	**1.0004**	**+0.5**	**2.52E+06**	**1.02**	**Y**	**1.06**	**22.5**	**5592.86**	**0.406**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**3.46E+07**	**0.91**	**Y**	**1.13**	**423**	**6497.04**	**1.03**
OCDD-a	43.41		1.0002	1.0001	-0.3	2.04E+06	2.37	Y	0.07	390	4492.054	11.2
1368-TCDF	NotFnd		0.8191						1.08		3955.937	0.218
1468-TCDF	NotFnd		0.8408						1.08		3955.937	0.218
2468-TCDF	23.62		0.8645	0.8639	-0.9	1.63E+05	0.86	Y	1.08	0.84	3955.937	0.218
1346/1246-TCDF	NotFnd		0.8772						1.08		3955.937	0.218
1347/1378/1247-TCDF	24.16	EMPC	0.8833	0.8834	+0.1	2.41E+05	0.93	N	1.08	1.24	3955.937	0.218
1348-TCDF	NotFnd		0.8932						1.08		3955.937	0.218
1248/1367/1379-TCDF	24.52		0.8980	0.8966	-2.1	3.72E+05	0.79	Y	1.08	1.92	3955.937	0.218
1268-TCDF	24.92	EMPC	0.9119	0.9112	-1.0	1.32E+05	0.63	N	1.08	0.683	3955.937	0.218
1467-TCDF	NotFnd		0.9170						1.08		3955.937	0.218
1478-TCDF	25.24	EMPC	0.9234	0.9229	-0.8	2.22E+05	0.61	N	1.08	1.15	3955.937	0.218
1369/1237-TCDF	25.63		0.9369	0.9373	+0.6	1.48E+05	0.76	Y	1.08	0.763	3955.937	0.218
2467-TCDF	25.75	J	0.9415	0.9416	+0.2	7.11E+04	0.67	Y	1.08	0.368	3955.937	0.218
2368-TCDF	25.90		0.9475	0.9472	-0.5	2.32E+05	0.80	Y	1.08	1.2	3955.937	0.218
1238/1234/1678/1469/1236-TCDF	25.98		0.9507	0.9499	-1.2	4.36E+05	0.66	Y	1.08	2.25	3955.937	0.218
1278-TCDF	26.46		0.9676	0.9674	-0.3	2.80E+06	0.81	Y	1.08	14.5	3955.937	0.218
1349-TCDF	NotFnd		0.9722						1.08		3955.937	0.218
1267-TCDF	26.73		0.9777	0.9774	-0.5	2.41E+05	0.83	Y	1.08	1.24	3955.937	0.218
2346/1249-TCDF	NotFnd		0.9843						1.08		3955.937	0.218
2347/1279-TCDF	27.14	EMPC	0.9926	0.9925	-0.2	1.84E+05	0.92	N	1.08	0.953	3955.937	0.218
2348-TCDF	27.25		0.9968	0.9963	-0.8	5.42E+05	0.78	Y	1.08	2.8	3955.937	0.218
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**5.99E+06**	**0.81**	**Y**	**1.08**	**31**	**3955.937**	**0.218**
2367/3467-TCDF	27.73		1.0142	1.0138	-0.7	5.27E+05	0.83	Y	1.08	2.72	3955.937	0.218
1269-TCDF	27.99	EMPC	1.0235	1.0234	-0.2	9.50E+04	0.95	N	1.08	0.491	3955.937	0.218
1239-TCDF	NotFnd		1.0329						1.08		3955.937	0.218
1289-TCDF	29.40		1.0742	1.0751	+1.6	5.07E+05	0.87	Y	1.08	2.62	3955.937	0.218
13468/12468-PeCDF	NotFnd		0.9122						1.02		2975.328	0.152
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		4624.59	0.236
12368/13478/12478-PeCDF	31.07	J	0.9655	0.9661	+1.1	1.38E+05	1.32	Y	1.02	0.777	4624.59	0.236
14678-PeCDF	NotFnd		0.9685						1.02		4624.59	0.236
13479-PeCDF	NotFnd		0.9716						1.02		4624.59	0.236
13469/12479-PeCDF	NotFnd		0.9794						1.02		4624.59	0.236
12346-PeCDF	NotFnd		0.9836						1.02		4624.59	0.236

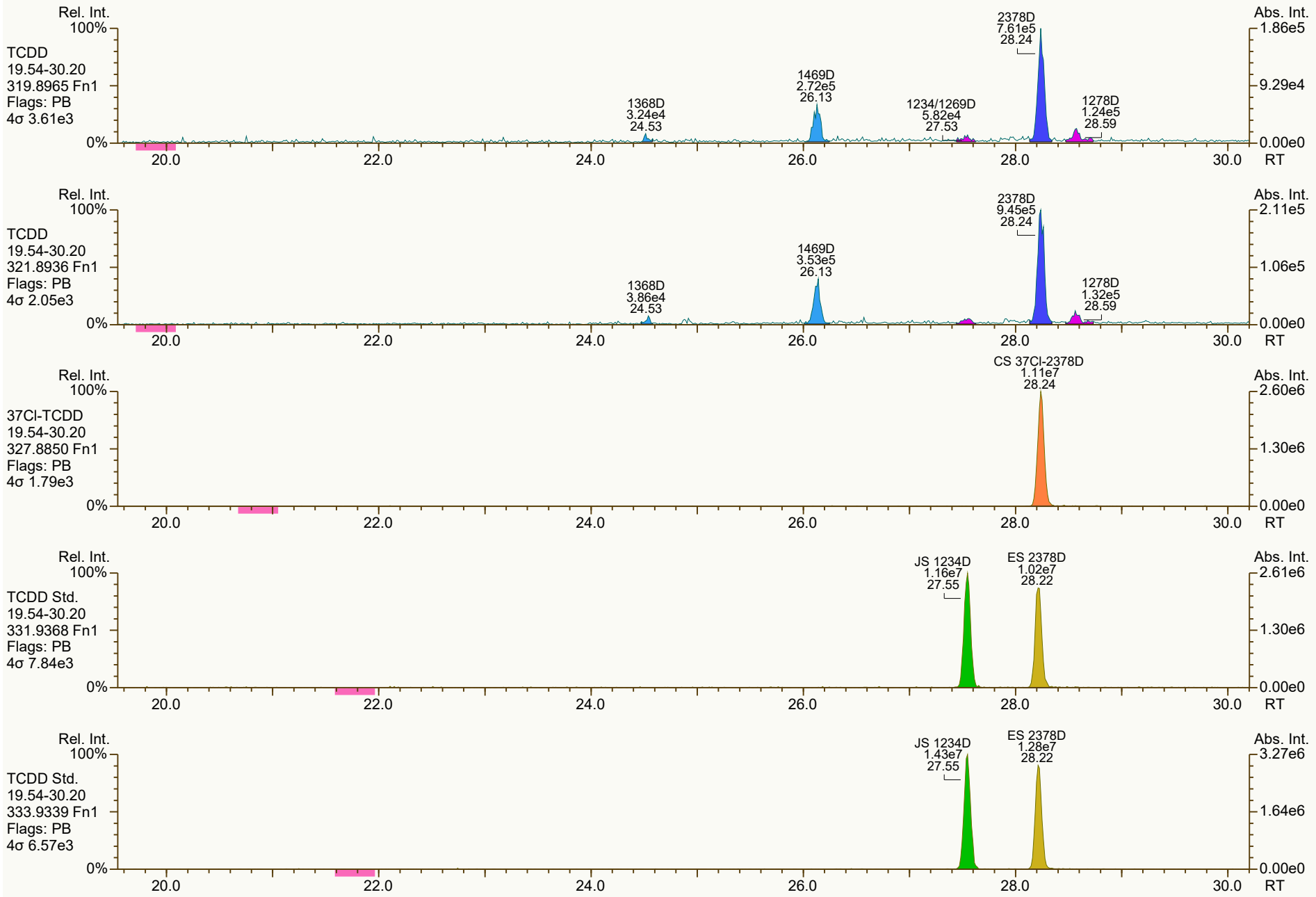
Lab ID: B6140_18911_DF_001 **Acq'd: 20 Feb 2022 01:47 DTF** **Wt/Vol: 10.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

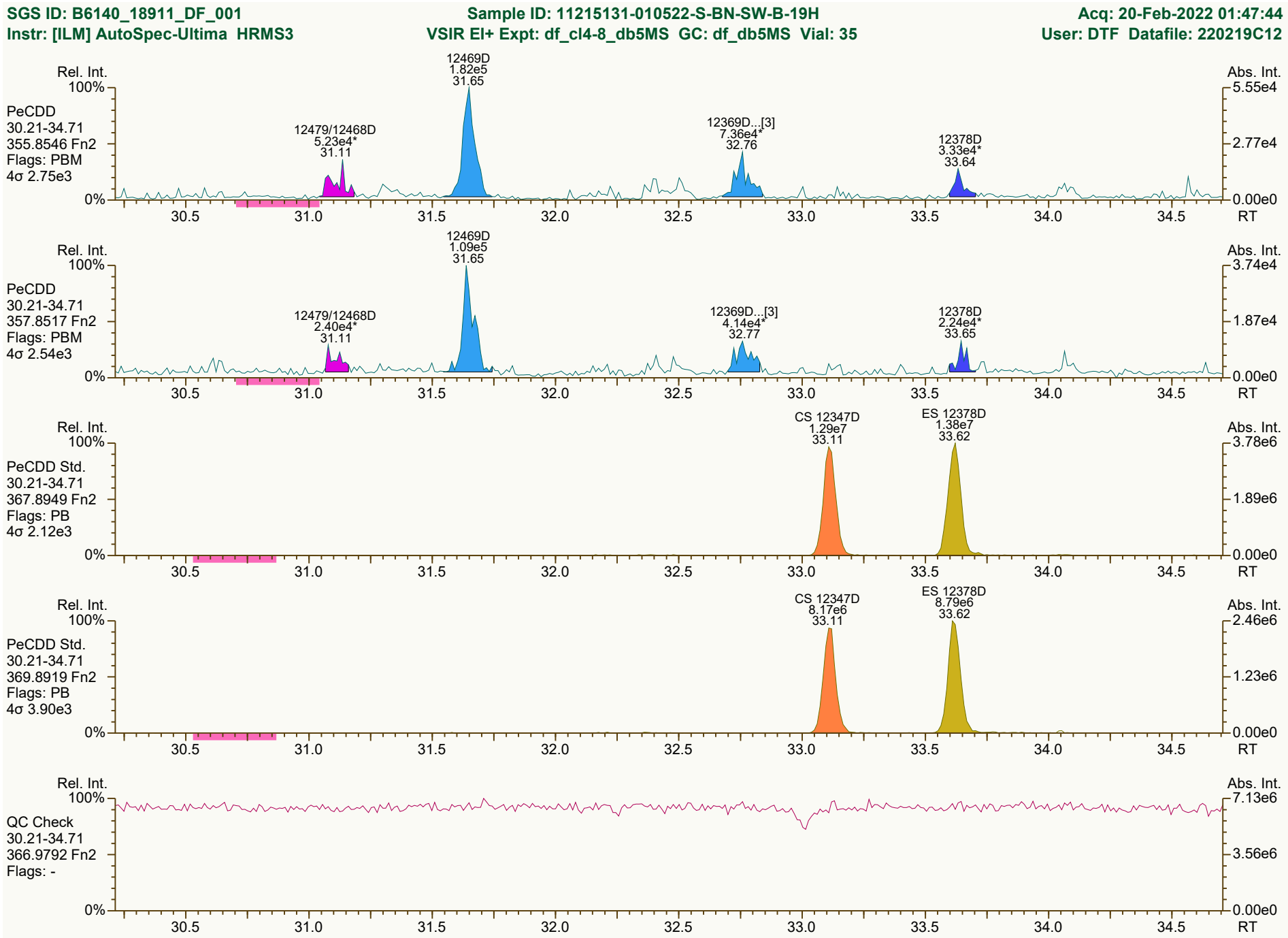
Client ID: 11215131-010522-S-BN-SW-B-19H **UTP: 21-Feb-2022 10:19:34 PSW** **J-level: 0.486 pg/g** **Split: 1** **Checkcode: 330-266-BXB**

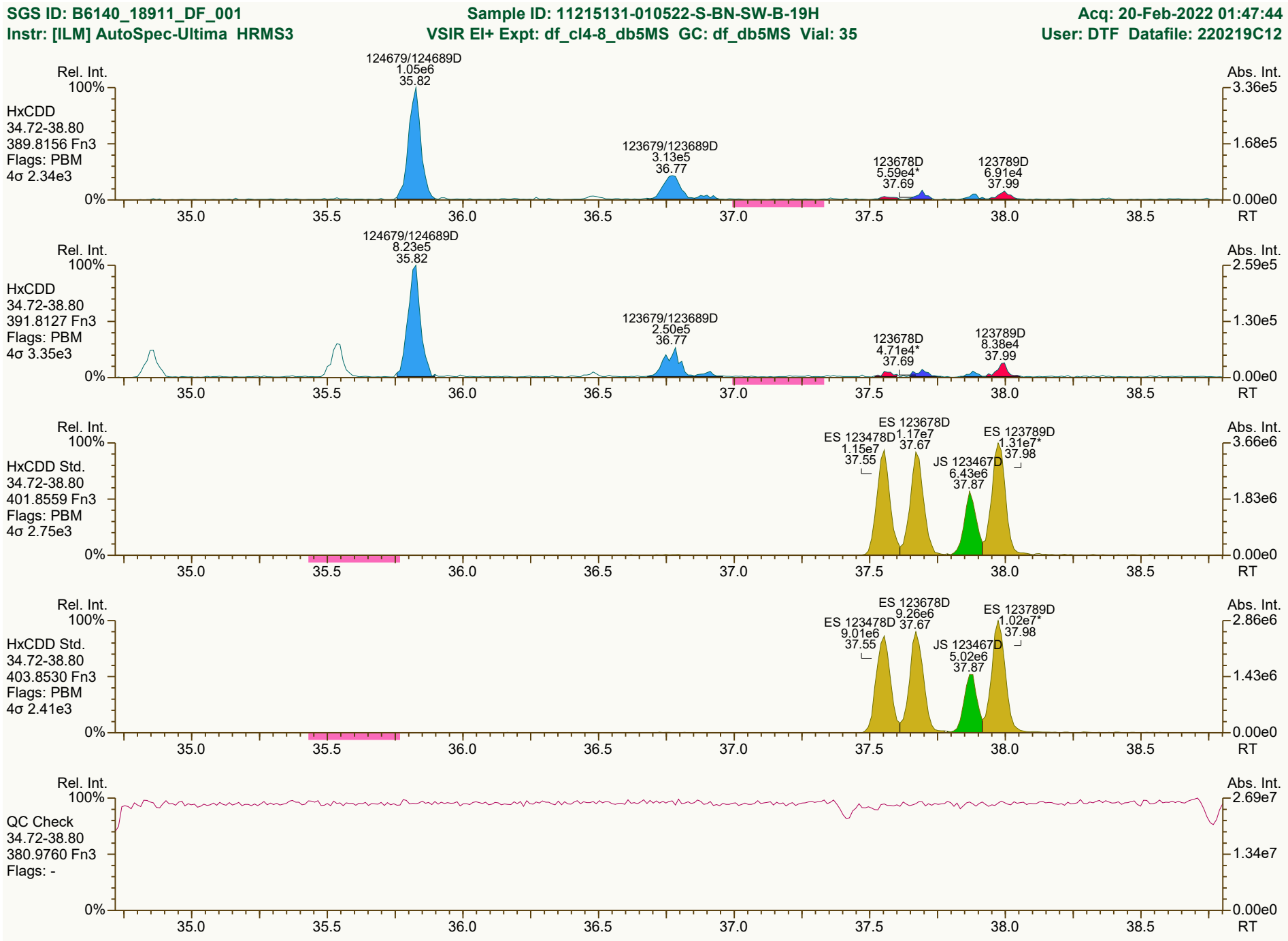
Datafile: 220219C12 **Report: 21 Feb 2022 10:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

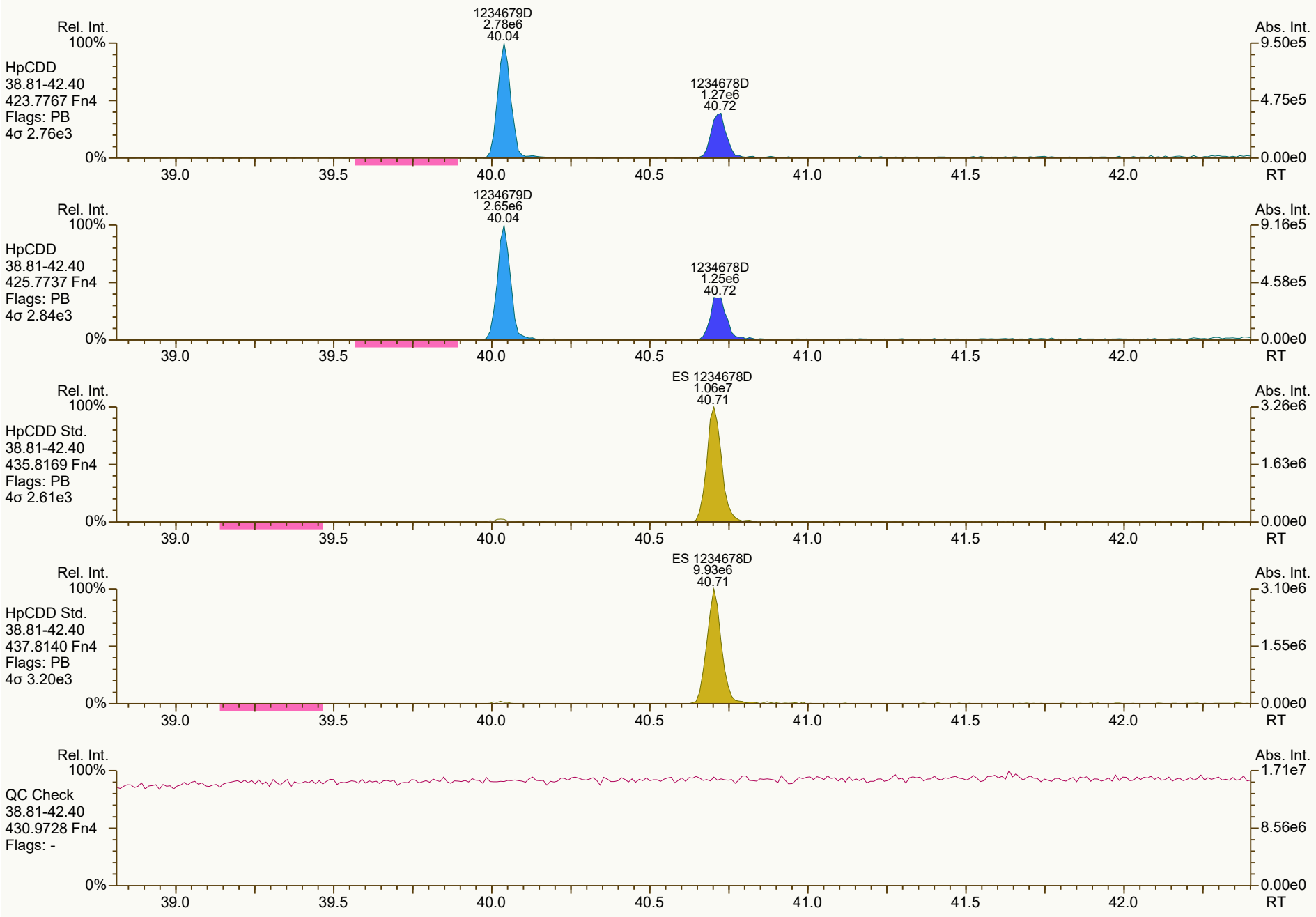
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		4624.59	0.236
12347-PeCDF	NotFnd		0.9891						1.02		4624.59	0.236
12348-PeCDF	NotFnd		0.9938						1.02		4624.59	0.236
12378-PeCDF	**32.18**	J	**1.0005**	**1.0005**	**0**	**2.75E+05**	**1.44**	**Y**	**1.02**	**1.5**	**4624.59**	**0.23**
12678/12367-PeCDF	32.46	J EMPC	1.0091	1.0094	+0.6	7.84E+04	1.89	N	1.02	0.441	4624.59	0.236
12379-PeCDF	NotFnd		1.0144						1.02		4624.59	0.236
12679-PeCDF	NotFnd		0.9927						1.02		4624.59	0.236
23467/12369-PeCDF	NotFnd		0.9965						1.02		4624.59	0.236
23478-PeCDF	**33.30**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**1.37E+05**	**2.30**	**N**	**1.02**	**0.796**	**4624.59**	**0.241**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4624.59	0.236
12349-PeCDF	NotFnd		1.0101						1.02		4624.59	0.236
12389-PeCDF	NotFnd		1.0330						1.02		4624.59	0.236
123468-HxCDF	NotFnd		0.9622						1.19		3671.513	0.191
124678/134678-HxCDF	35.36	J EMPC	0.9678	0.9676	-0.4	4.38E+04	1.95	N	1.19	0.263	3671.513	0.191
134679-HxCDF	NotFnd		0.9741						1.19		3671.513	0.191
124679-HxCDF	NotFnd		0.9795						1.19		3671.513	0.191
124689-HxCDF	NotFnd		0.9856						1.19		3671.513	0.191
123467-HxCDF	NotFnd		0.9972						1.19		3671.513	0.191
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**4.62E+05**	**1.15**	**Y**	**1.27**	**2.82**	**3671.513**	**0.191**
123678-HxCDF	**36.70**	J EMPC	**1.0004**	**1.0002**	**-0.4**	**1.23E+05**	**1.03**	**N**	**1.15**	**0.672**	**3671.513**	**0.173**
123479-HxCDF	NotFnd		1.0048						1.19		3671.513	0.191
123469-HxCDF	NotFnd		1.0089						1.19		3671.513	0.191
123679-HxCDF	NotFnd		0.9942						1.19		3671.513	0.191
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3671.513**	**0.188**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3671.513	0.191
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3671.513**	**0.22**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.37	J EMPC	1.0006	1.0007	+0.2	3.42E+04	1.01	N	1.19	0.206	3671.513	0.191
1234678-HpCDF	**39.77**	**J**	**1.0003**	**1.0002**	**-0.2**	**2.06E+05**	**1.05**	**Y**	**1.37**	**1.16**	**4341.993**	**0.18**
1234679-HpCDF	NotFnd		1.0068						1.34		4341.993	0.237
1234689-HpCDF	40.18	**J EMPC**	1.0104	1.0105	+0.2	6.49E+04	0.71	N	1.34	0.435	4341.993	0.237
1234789-HpCDF	**41.18**	**J**	**1.0003**	**1.0004**	**+0.2**	**3.63E+04**	**0.94**	**Y**	**1.31**	**0.3**	**4341.993**	**0.319**
OCDF	**43.59**	**J EMPC**	**1.0002**	**1.0003**	**+0.3**	**1.25E+05**	**1.05**	**N**	**1.07**	**1.39**	**3777.776**	**0.509**
OCDF-a	NotFnd		1.0001						0.07		3785.101	8.23

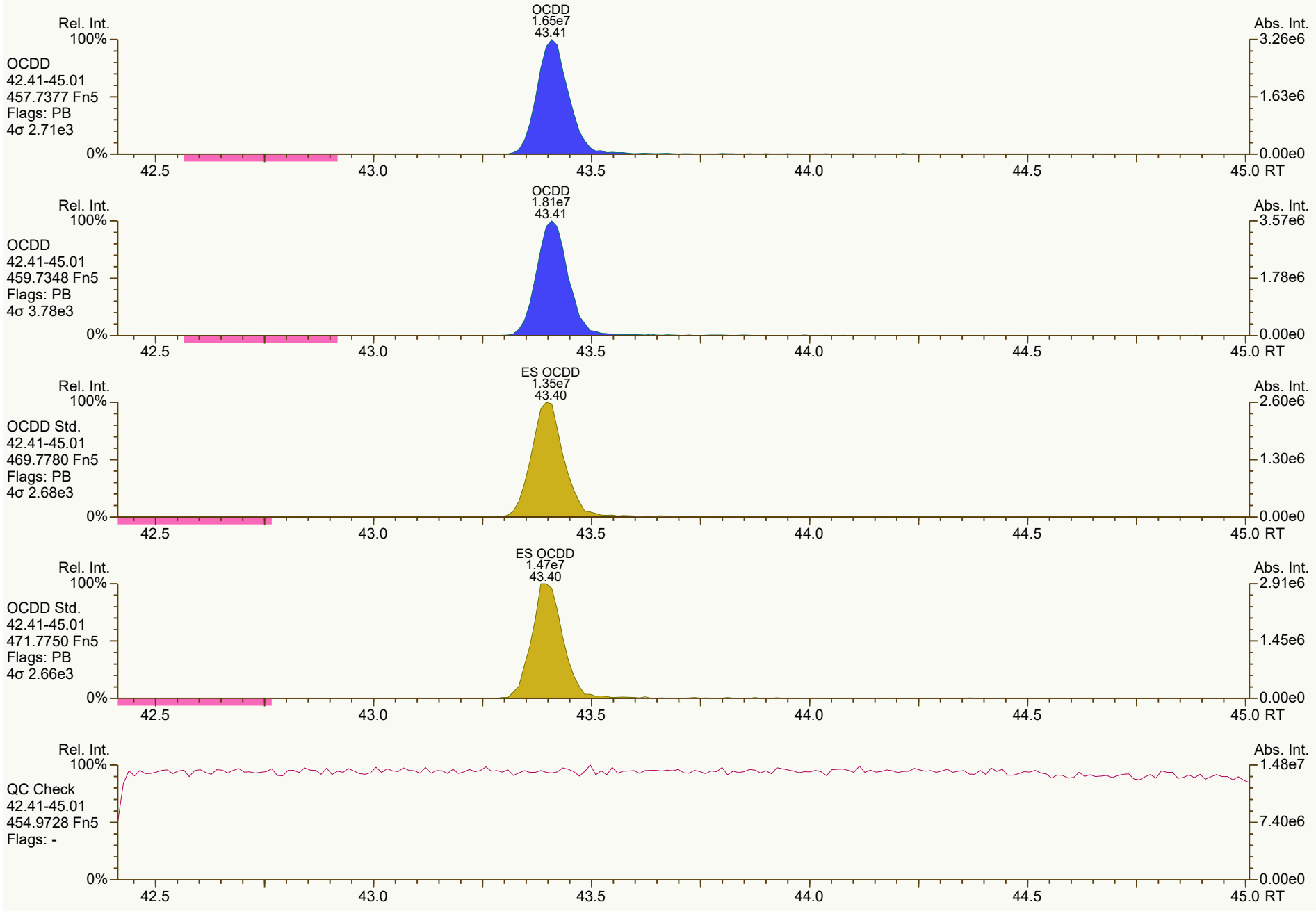

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.98e6
3.99e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.13e6
3.56e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.69e7
1.34e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.71e7
8.56e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.48e7
7.40e6
0.00e0

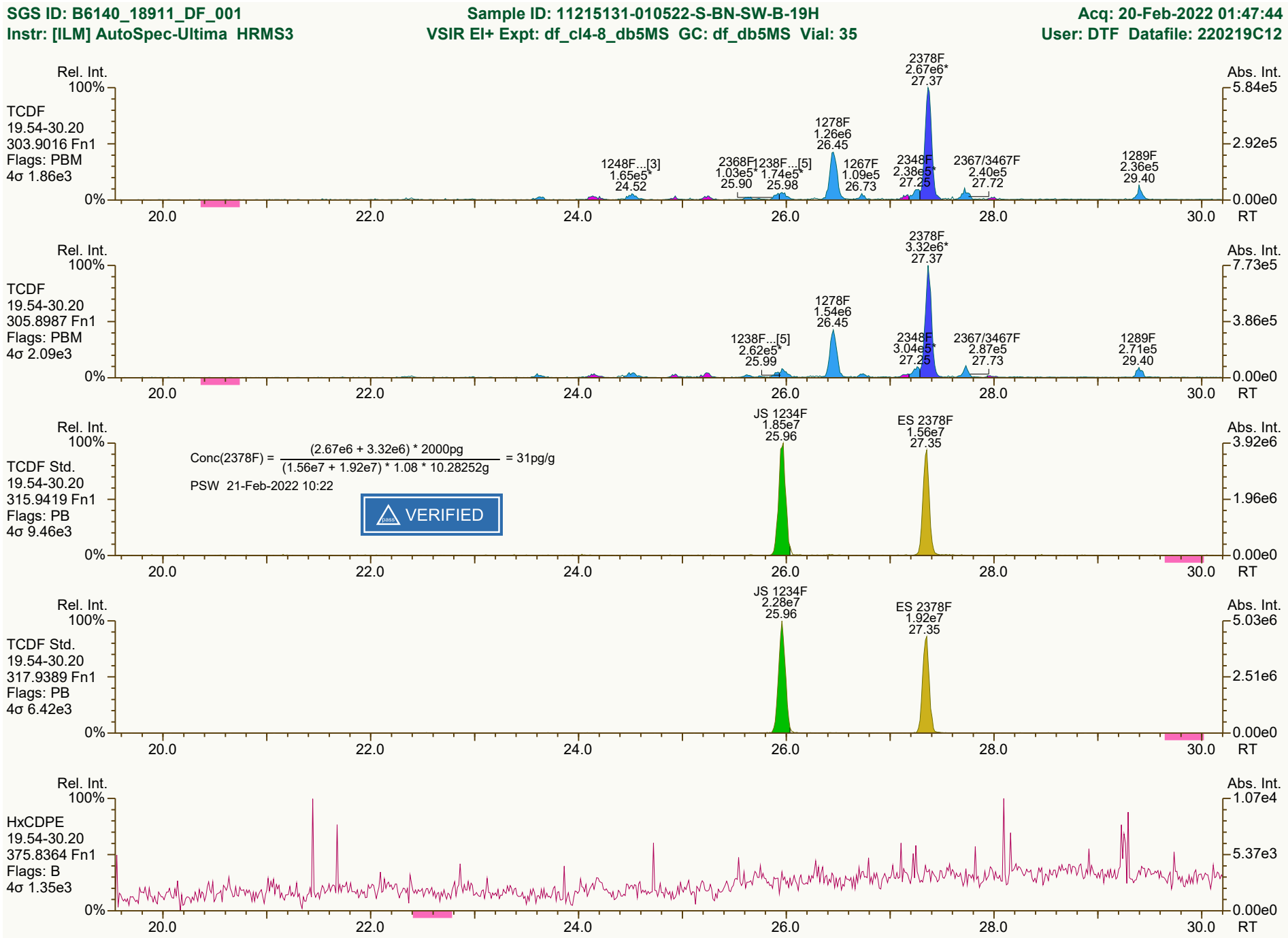

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 3.61e3
0%
1368D
3.24e4
24.53
1469D
2.72e5
26.13
1234/1269D
5.82e4
27.53
2378D
7.61e5
28.24
1278D
1.24e5
28.59
Abs. Int.
1.86e5
9.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.05e3
0%
1368D
3.86e4
24.53
1469D
3.53e5
26.13
2378D
9.45e5
28.24
1278D
1.32e5
28.59
Abs. Int.
2.11e5
1.06e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.79e3
0%
CS 37Cl-2378D
1.11e7
28.24
Abs. Int.
2.60e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.84e3
0%
JS 1234D
1.16e7
27.55
ES 2378D
1.02e7
28.22
Abs. Int.
2.61e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.57e3
0%
JS 1234D
1.43e7
27.55
ES 2378D
1.28e7
28.22
Abs. Int.
3.27e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6140_18911_DF_001
Sample ID: 11215131-010522-S-BN-SW-B-19H
Acq: 20-Feb-2022 01:47:44
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220219C12
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.75e3
12469D
1.82e5
31.65
12479/12468D
5.23e4*
31.11
12369D...[3]
7.36e4*
32.76
12378D
3.33e4*
33.64
5.55e4
2.77e4
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.54e3
12469D
1.09e5
31.65
12479/12468D
2.40e4*
31.11
12369D...[3]
4.14e4*
32.77
12378D
2.24e4*
33.65
3.74e4
1.87e4
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.12e3
CS 12347D
1.29e7
33.11
ES 12378D
1.38e7
33.62
3.78e6
1.89e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.90e3
CS 12347D
8.17e6
33.11
ES 12378D
8.79e6
33.62
2.46e6
1.23e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.13e6
3.56e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\B6140_18911_DF_001.utp_res, saved 21-Feb-2022 10:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9310, 6944 scc: 330-266
PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 3 of 12


SGS ID: B6140_18911_DF_001
Sample ID: 11215131-010522-S-BN-SW-B-19H
Acq: 20-Feb-2022 01:47:44
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220219C12
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.34e3
124679/124689D
1.05e6
35.82
123679/123689D
3.13e5
36.77
123678D
5.59e4*
37.69
123789D
6.91e4
37.99
3.36e5
1.68e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 3.35e3
124679/124689D
8.23e5
35.82
123679/123689D
2.50e5
36.77
123678D
4.71e4*
37.69
123789D
8.38e4
37.99
2.59e5
1.30e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.75e3
ES 123478D
1.15e7
37.55
ES 123678D
1.17e7
37.67
JS 123467D
6.43e6
37.87
ES 123789D
1.31e7*
37.98
3.66e6
1.83e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.41e3
ES 123478D
9.01e6
37.55
ES 123678D
9.26e6
37.67
JS 123467D
5.02e6
37.87
ES 123789D
1.02e7*
37.98
2.86e6
1.43e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.69e7
1.34e7
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\B6140_18911_DF_001.utp_res, saved 21-Feb-2022 10:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4363, 7299 scc: 330-266
PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.76e3
1234679D
2.78e6
40.04
1234678D
1.27e6
40.72
Abs. Int.
9.50e5
4.75e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.84e3
1234679D
2.65e6
40.04
1234678D
1.25e6
40.72
Abs. Int.
9.16e5
4.58e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.61e3
ES 1234678D
1.06e7
40.71
Abs. Int.
3.26e6
1.63e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 3.20e3
ES 1234678D
9.93e6
40.71
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.71e7
8.56e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.65e7
43.41
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.71e3
0%
Abs. Int.
3.26e6
1.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.81e7
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.78e3
3.57e6
1.78e6
ES OCDD
1.35e7
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.68e3
2.60e6
1.30e6
ES OCDD
1.47e7
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.66e3
2.91e6
1.45e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.48e7
7.40e6



Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\B6140_18911_DF_001.utp_res, saved 21-Feb-2022 10:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2999, 3737, 6755 scc: 330-266
PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 7 of 12

SGS ID: B6140_18911_DF_001 | Sample ID: 11215131-010522-S-BN-SW-B-19H | Acq: 20-Feb-2022 01:47:44

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35 | User: DTF Datafile: 220219C12

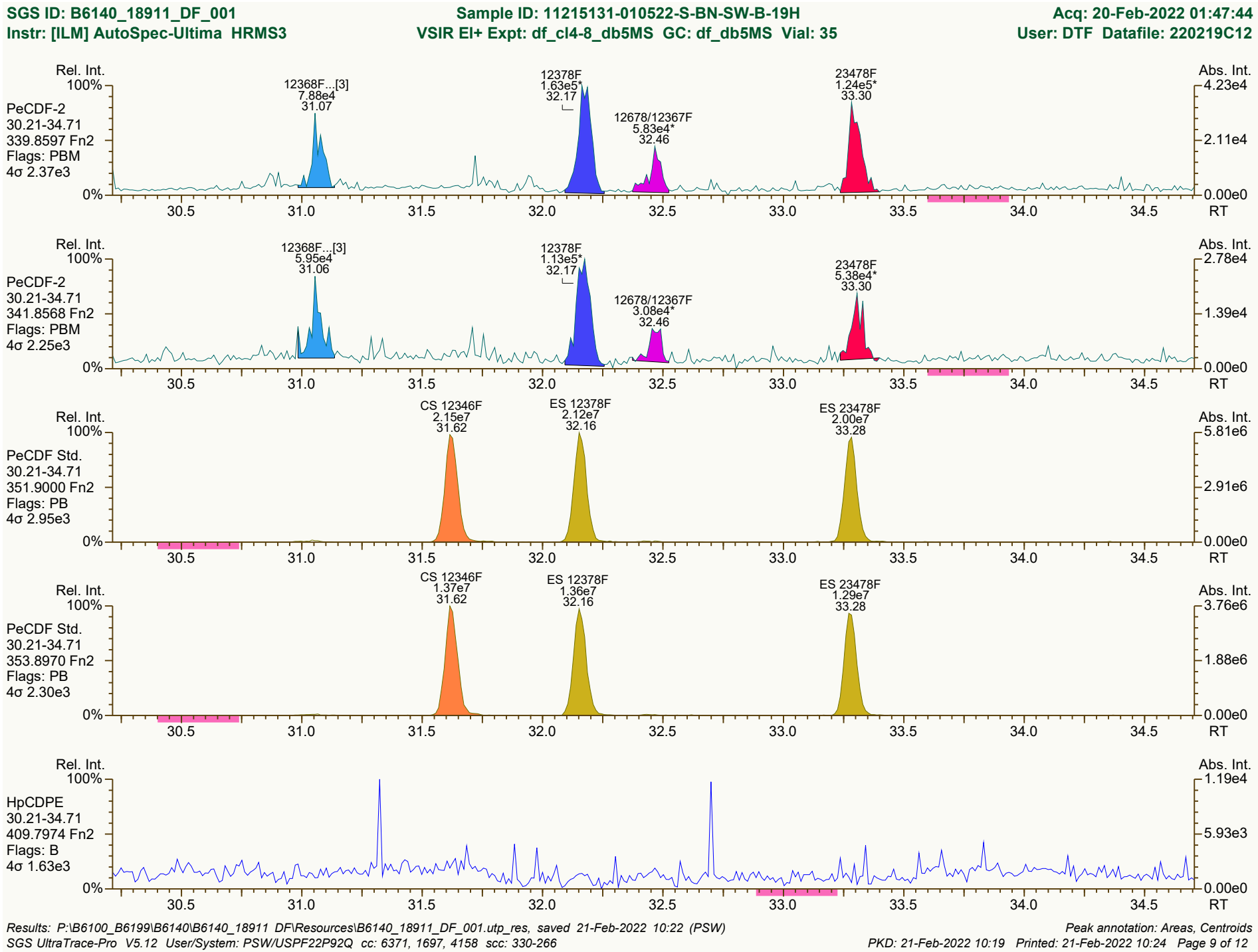


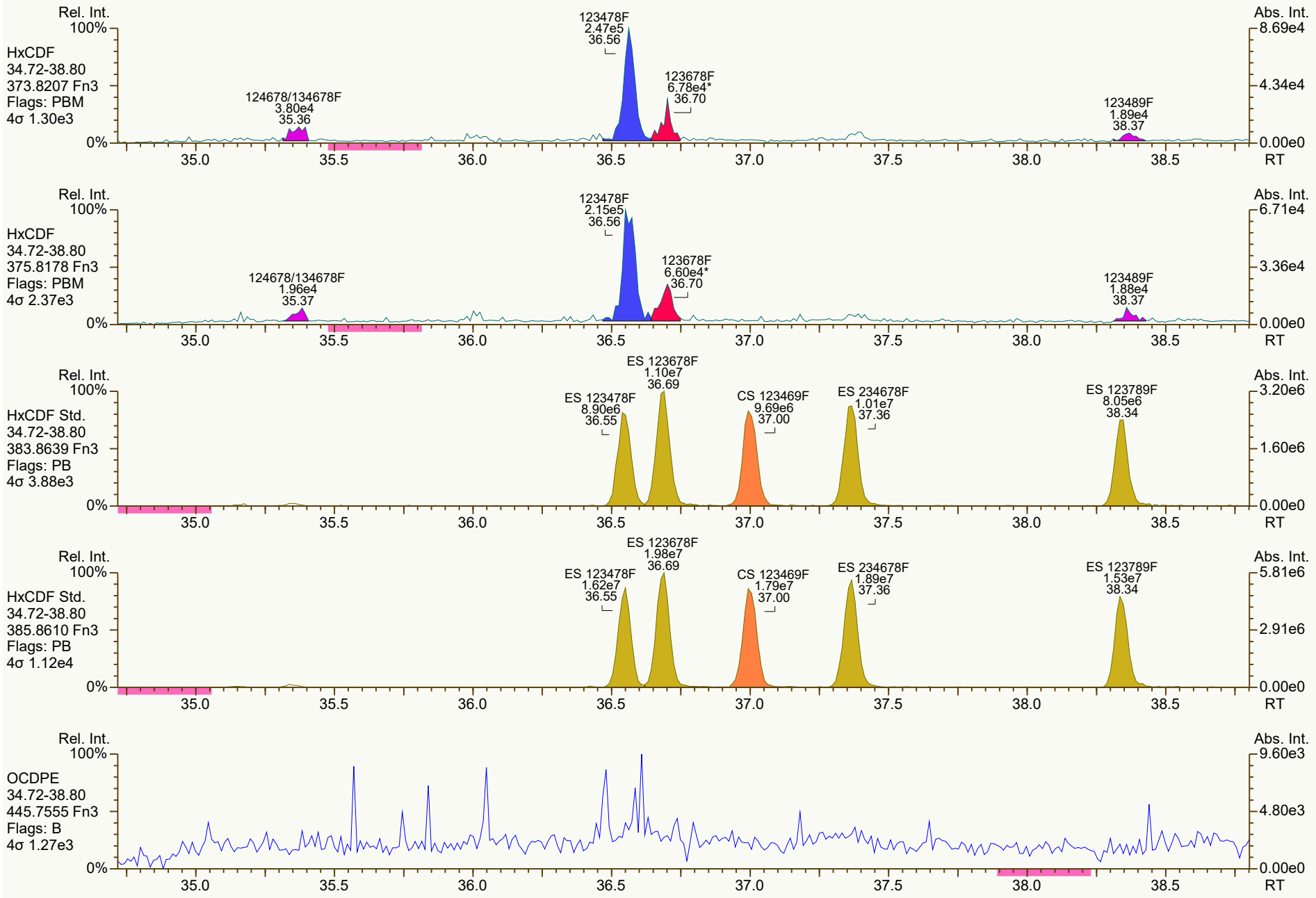
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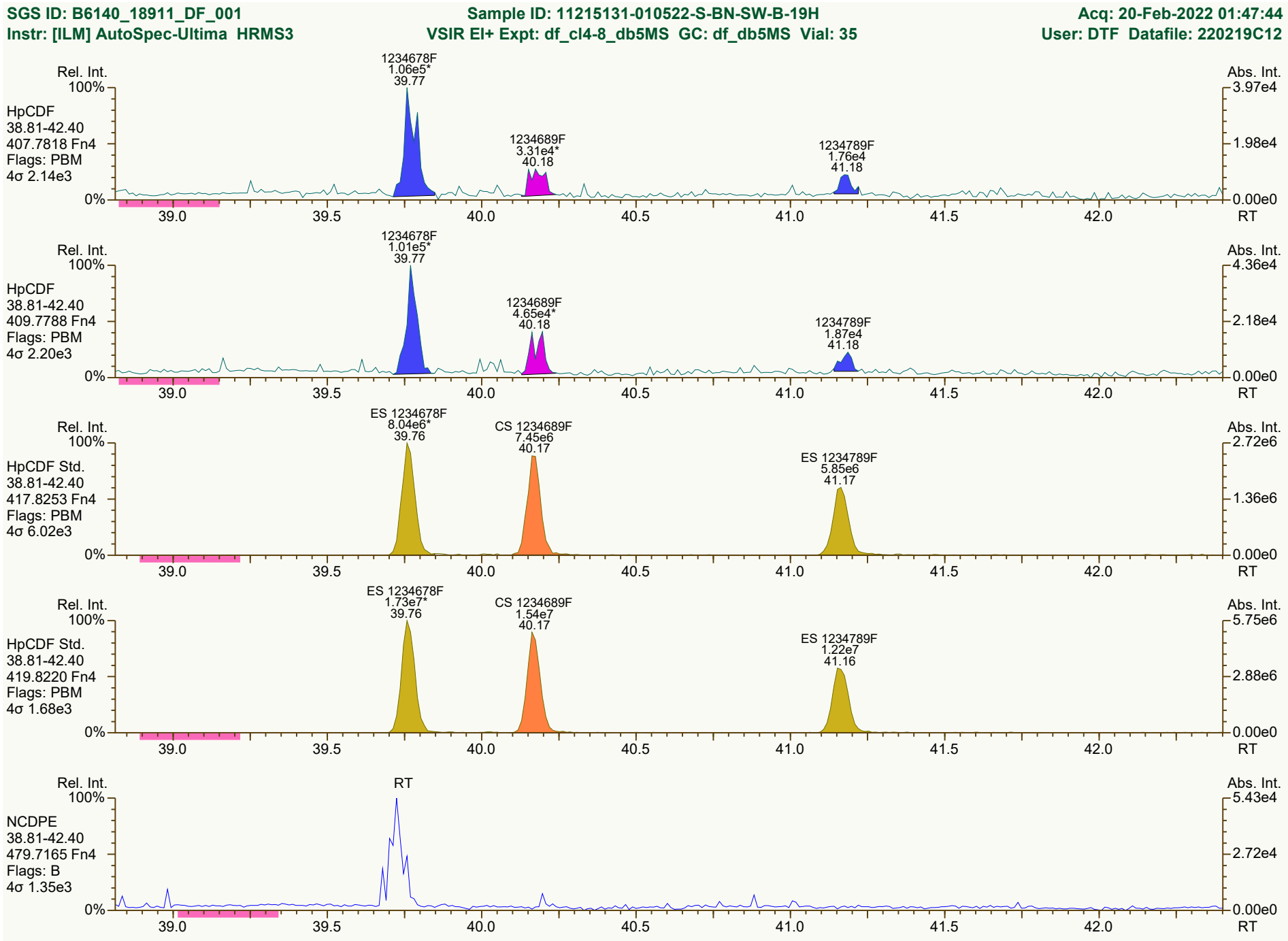
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5146 scc: 330-266

PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 8 of 12


SGS ID: B6140_18911_DF_001
Sample ID: 11215131-010522-S-BN-SW-B-19H
Acq: 20-Feb-2022 01:47:44
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220219C12
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.37e3
12368F...[3]
7.88e4
31.07
12378F
1.63e5*
32.17
12678/12367F
5.83e4*
32.46
23478F
1.24e5*
33.30
4.23e4
2.11e4
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.25e3
12368F...[3]
5.95e4
31.06
12378F
1.13e5*
32.17
12678/12367F
3.08e4*
32.46
23478F
5.38e4*
33.30
2.78e4
1.39e4
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.95e3
CS 12346F
2.15e7
31.62
ES 12378F
2.12e7
32.16
ES 23478F
2.00e7
33.28
5.81e6
2.91e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.30e3
CS 12346F
1.37e7
31.62
ES 12378F
1.36e7
32.16
ES 23478F
1.29e7
33.28
3.76e6
1.88e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.63e3
1.19e4
5.93e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\B6140_18911_DF_001.utp_res, saved 21-Feb-2022 10:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6371, 1697, 4158 scc: 330-266
PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.30e3
123478F
2.47e5
36.56
123678F
6.78e4*
36.70
124678/134678F
3.80e4
35.36
123489F
1.89e4
38.37
Abs. Int.
8.69e4
4.34e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.37e3
123478F
2.15e5
36.56
123678F
6.60e4*
36.70
124678/134678F
1.96e4
35.37
123489F
1.88e4
38.37
Abs. Int.
6.71e4
3.36e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.88e3
ES 123678F
1.10e7
36.69
ES 123478F
8.90e6
36.55
CS 123469F
9.69e6
37.00
ES 234678F
1.01e7
37.36
ES 123789F
8.05e6
38.34
Abs. Int.
3.20e6
1.60e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.12e4
ES 123678F
1.98e7
36.69
ES 123478F
1.62e7
36.55
CS 123469F
1.79e7
37.00
ES 234678F
1.89e7
37.36
ES 123789F
1.53e7
38.34
Abs. Int.
5.81e6
2.91e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
9.60e3
4.80e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\B6140_18911_DF_001.utp_res, saved 21-Feb-2022 10:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3876, 7807, 7928 scc: 330-266
PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 11 of 12

SGS ID: B6140_18911_DF_001 Sample ID: 11215131-010522-S-BN-SW-B-19H Acq: 20-Feb-2022 01:47:44
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35 User: DTF Datafile: 220219C12



Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\B6140_18911_DF_001.utp_res, saved 21-Feb-2022 10:22 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2213, 8550, 0104 scc: 330-266 *PKD: 21-Feb-2022 10:19 Printed: 21-Feb-2022 10:24 Page 12 of 12*

REVIEWED
Tamara Burkamper , 2/21/2022, 12:54:13 PM

SGS Environmental Services — Run Log

Project: B6140_18911_DF

Instrument: HRMS3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA ✓	1.00	25-347-1	DTF, PSW	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF, PSW	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
3	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF, PSW	399-492	19-Feb-2022	19:37:00
4	220219C12	35	B6140_18911_DF_001 ✓	10.28	11215131-010522-S-BN-SW-B-19H	DTF, PSW	330-266	20-Feb-2022	01:47:44
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF, PSW	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF, PSW	488-895	20-Feb-2022	05:55:34

REVIEWED
paul_walton , 2/21/2022, 10:29:13 AM

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 10:19:32 PSW	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 10:20 pw	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.26	4.72E+06	0.82	Y	1.18	1.22	3%
12378-PeCDD	33.64	1.81E+07	1.55	Y	1.04	1.03	0%
123478-HxCDD	37.57	1.64E+07	1.25	Y	1.09	1.11	2%
123678-HxCDD	37.69	1.71E+07	1.27	Y	1.15	1.15	1%
123789-HxCDD	38.00	1.80E+07	1.23	Y	1.05	1.03	-2%
1234678-HpCDD	40.72	1.61E+07	1.04	Y	1.06	1.07	1%
OCDD	43.42	2.64E+07	0.91	Y	1.13	1.10	-2%
2378-TCDF	27.39	6.75E+06	0.78	Y	1.08	1.12	4%
12378-PeCDF	32.18	2.71E+07	1.55	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.62E+07	1.50	Y	1.02	0.98	-3%
123478-HxCDF	36.57	2.44E+07	1.23	Y	1.27	1.23	-3%
123678-HxCDF	36.71	2.56E+07	1.23	Y	1.15	1.13	-2%
234678-HxCDF	37.39	2.43E+07	1.25	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.22E+07	1.26	Y	1.16	1.11	-5%
1234678-HpCDF	39.78	2.21E+07	1.06	Y	1.37	1.37	0%
1234789-HpCDF	41.17	1.96E+07	1.01	Y	1.31	1.30	0%
OCDF	43.59	3.40E+07	0.93	Y	1.07	1.05	-2%
ES 2378-TCDD	28.23	3.87E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.623	3.49E+07	1.62	Y	0.88	0.91	4%
ES 123478-HxCDD	37.554	2.95E+07	1.26	Y	0.97	0.98	1%
ES 123678-HxCDD	37.673	2.96E+07	1.28	Y	0.94	0.98	4%
ES 123789-HxCDD	37.979	3.50E+07	1.25	Y	1.09	1.16	6%
ES 1234678-HpCDD	40.706	3.01E+07	1.10	Y	0.91	1.00	10%
ES OCDD	43.406	4.79E+07	0.89	Y	0.62	0.80	28%
ES 2378-TCDF	27.366	6.03E+07	0.80	Y	1.06	1.01	-5%
ES 12378-PeCDF	32.162	5.31E+07	1.64	Y	0.91	0.89	-2%
ES 23478-PeCDF	33.285	5.33E+07	1.61	Y	0.88	0.89	1%
ES 123478-HxCDF	36.549	3.97E+07	0.54	Y	1.20	1.32	10%
ES 123678-HxCDF	36.689	4.53E+07	0.54	Y	1.35	1.51	11%
ES 234678-HxCDF	37.366	4.22E+07	0.55	Y	1.24	1.40	13%
ES 123789-HxCDF	38.343	4.00E+07	0.54	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.764	3.22E+07	0.46	Y	0.97	1.07	11%
ES 1234789-HpCDF	41.161	3.02E+07	0.47	Y	0.85	1.00	18%
ES OCDF	43.579	6.45E+07	0.91	Y	0.81	1.07	33%*

*meets M1613B criteria
TB 2/21/2022

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 10:19:32 PSW	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 10:20 pw	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.57	3.82E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.99	5.98E+07	0.83	Y	-	-	-
JS 123467-HxCDD	37.87	1.50E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.26	5.16E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.12	3.13E+07	1.61	Y	0.75	0.82	8%
CS 12346-PeCDF	31.63	5.27E+07	1.55	Y	0.85	0.88	4%
CS 123469-HxCDF	37.00	4.17E+07	0.54	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.17	3.39E+07	0.48	Y	0.89	1.13	27%
~~SS 37Cl-2378-TCDD~~	~~28.26~~	~~5.16E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.33~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.12~~	~~3.13E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.27E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.17E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.92~~	~~11%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.39E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~1.05~~	~~14%~~
~~OCDD-a~~	~~43.42~~	~~1.55E+06~~	~~2.64~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~
~~OCDF-a~~	~~43.59~~	~~2.17E+06~~	~~2.56~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	49.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	49	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.3	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.8	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.4	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	49.7	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	48.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	49	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	50.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 10:20 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

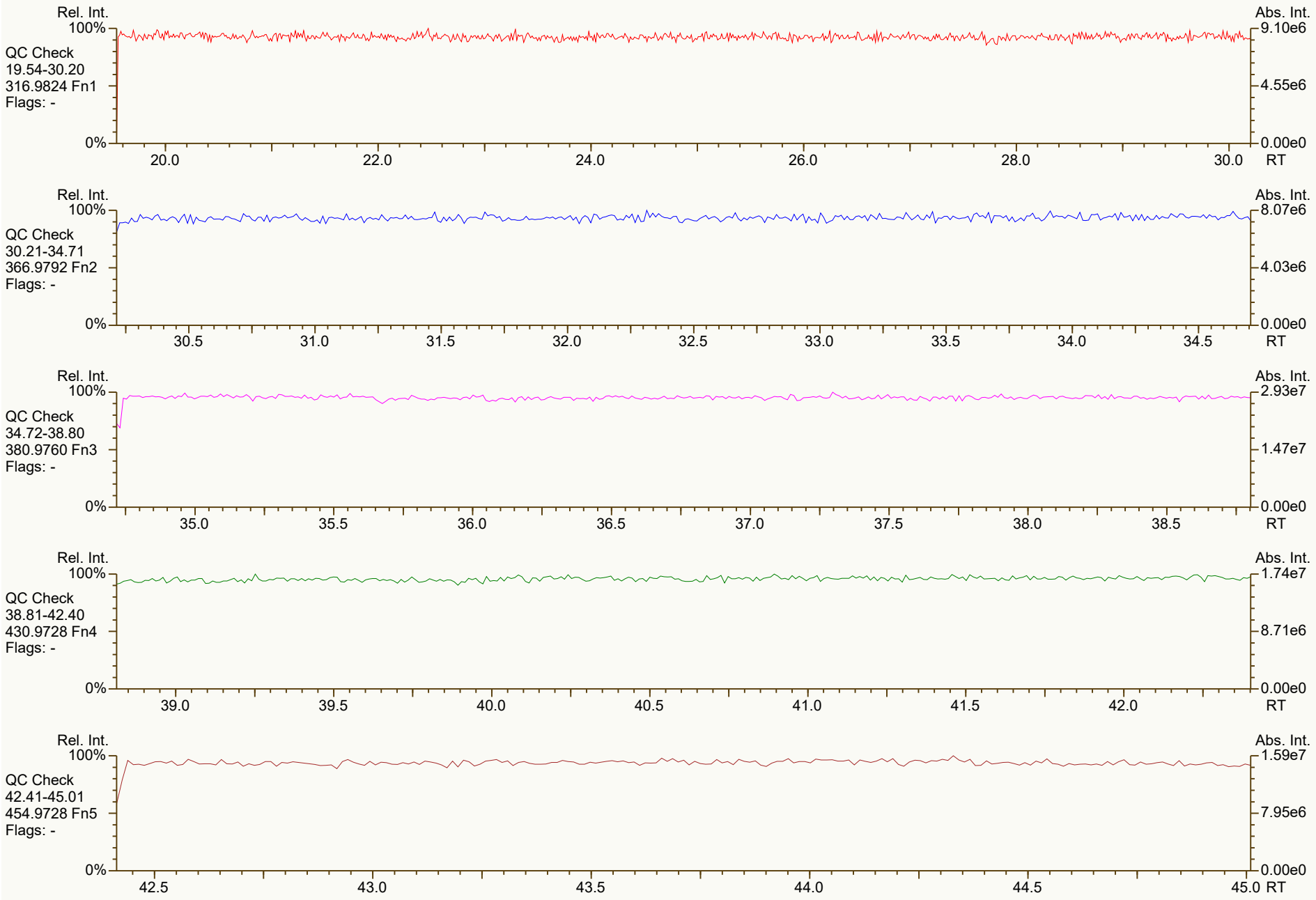
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

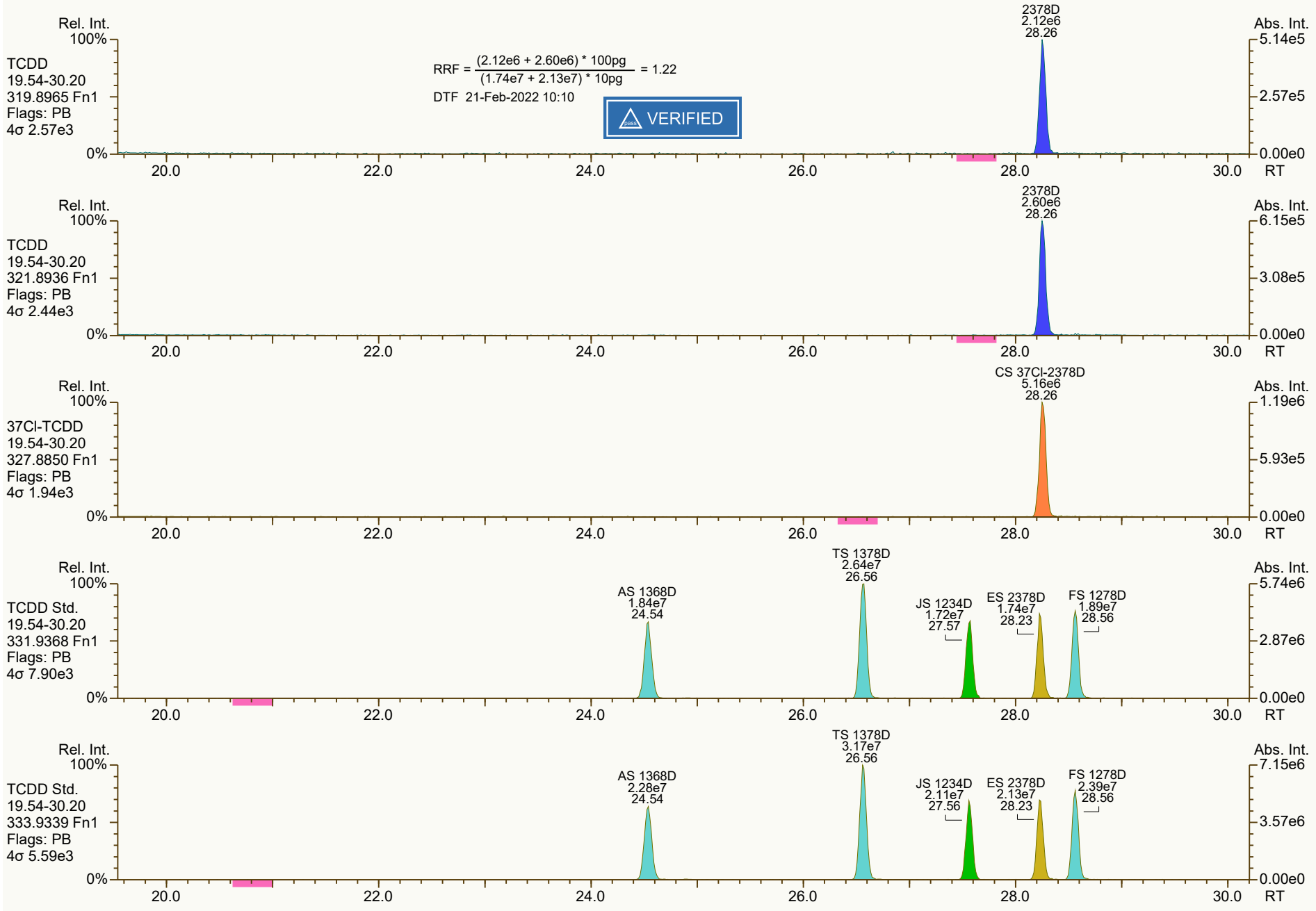
Instrument ID: HRMS3 GC Column ID: ZB-5ms

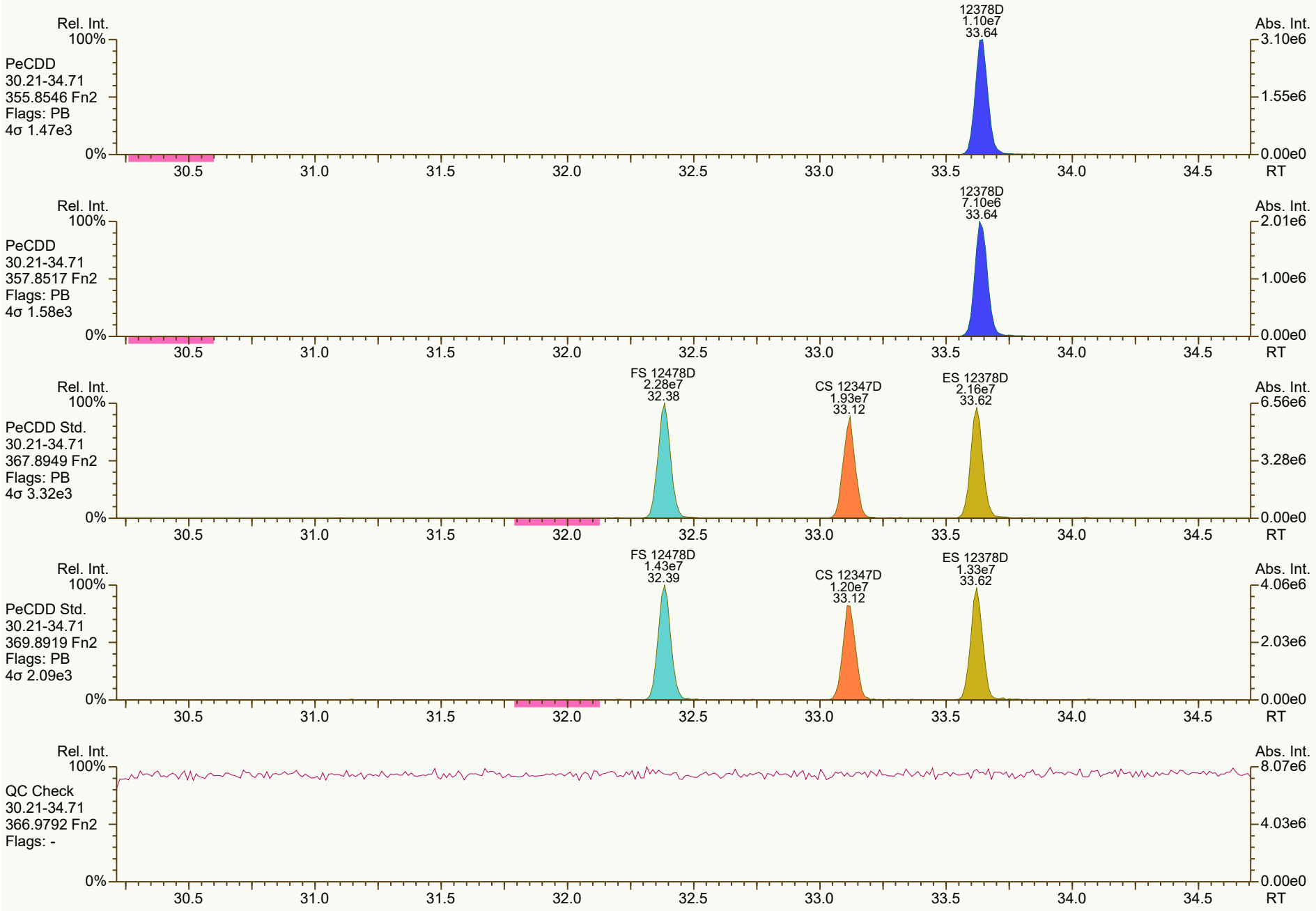
VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

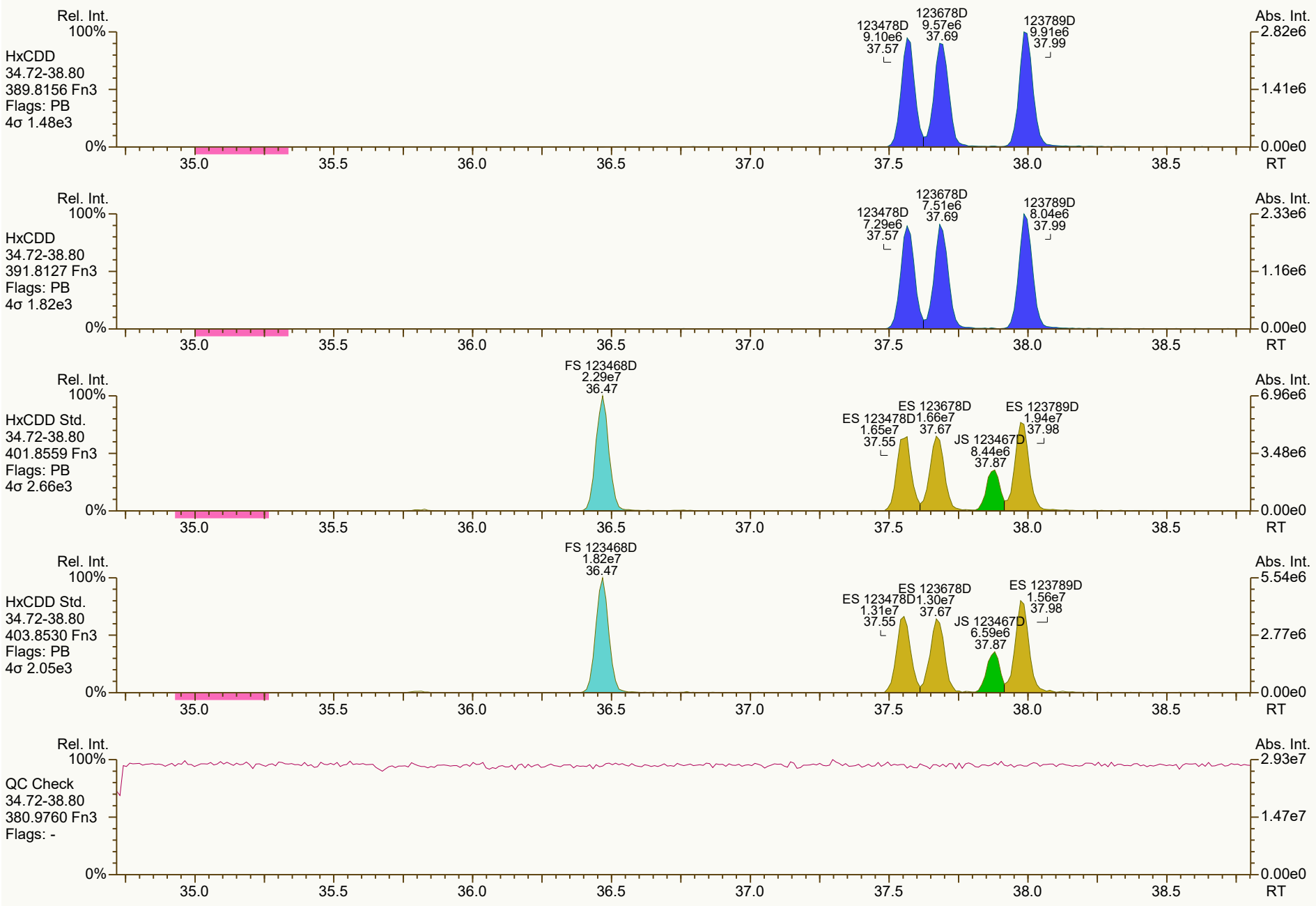
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	96.7	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	104	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	101	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	104	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	106	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88	-	1.20	Y	110	72	-	138	Y
13C-OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	255	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	95.2	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32	-	1.78	Y	97.6	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32	-	1.78	Y	101	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	110	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	111	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	113	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	115	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	111	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	118	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	266	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.2	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	108	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	104	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	127	70	-	130	Y

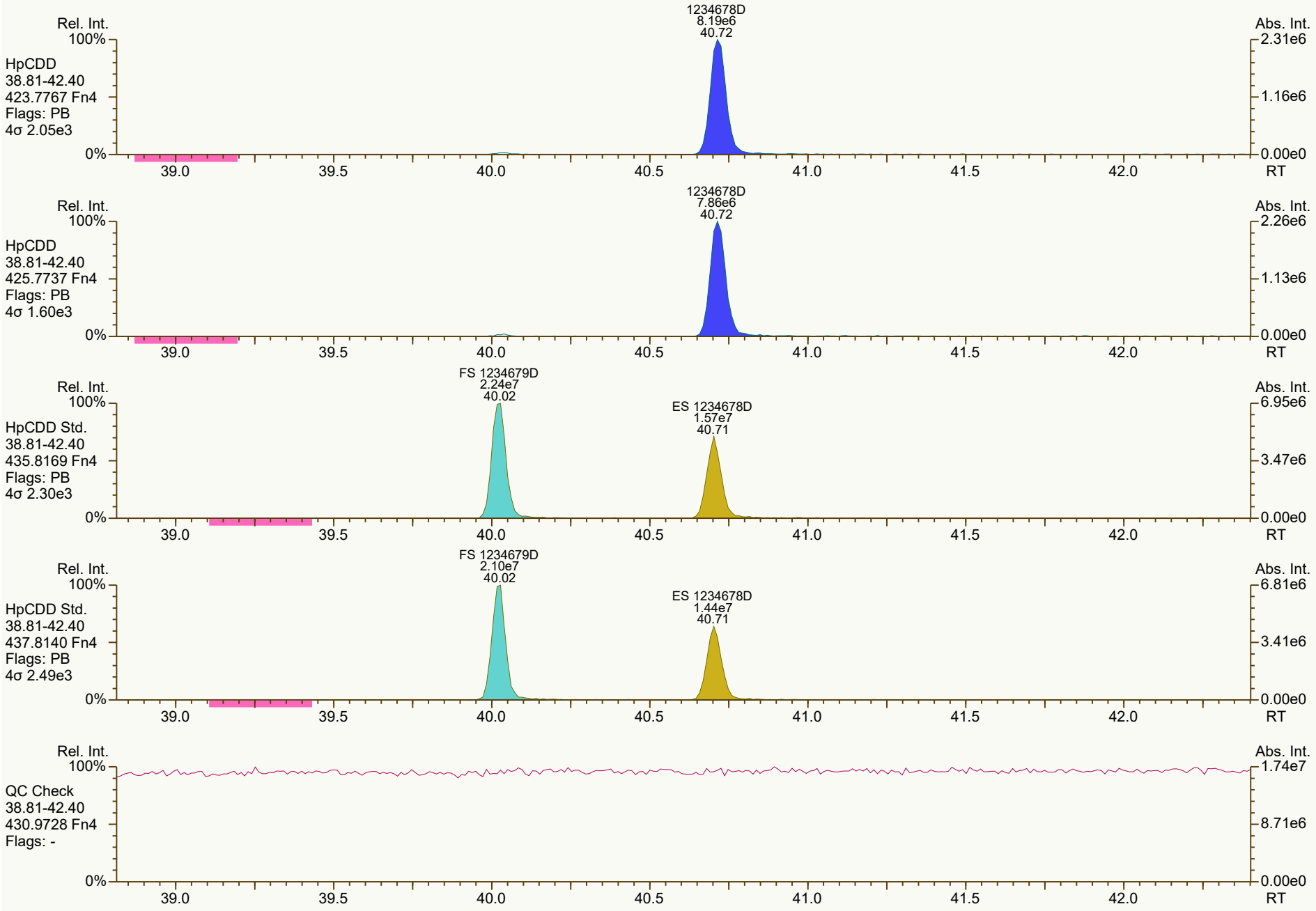
Processed: 21 Feb 2022 10:20 Analyst: pw

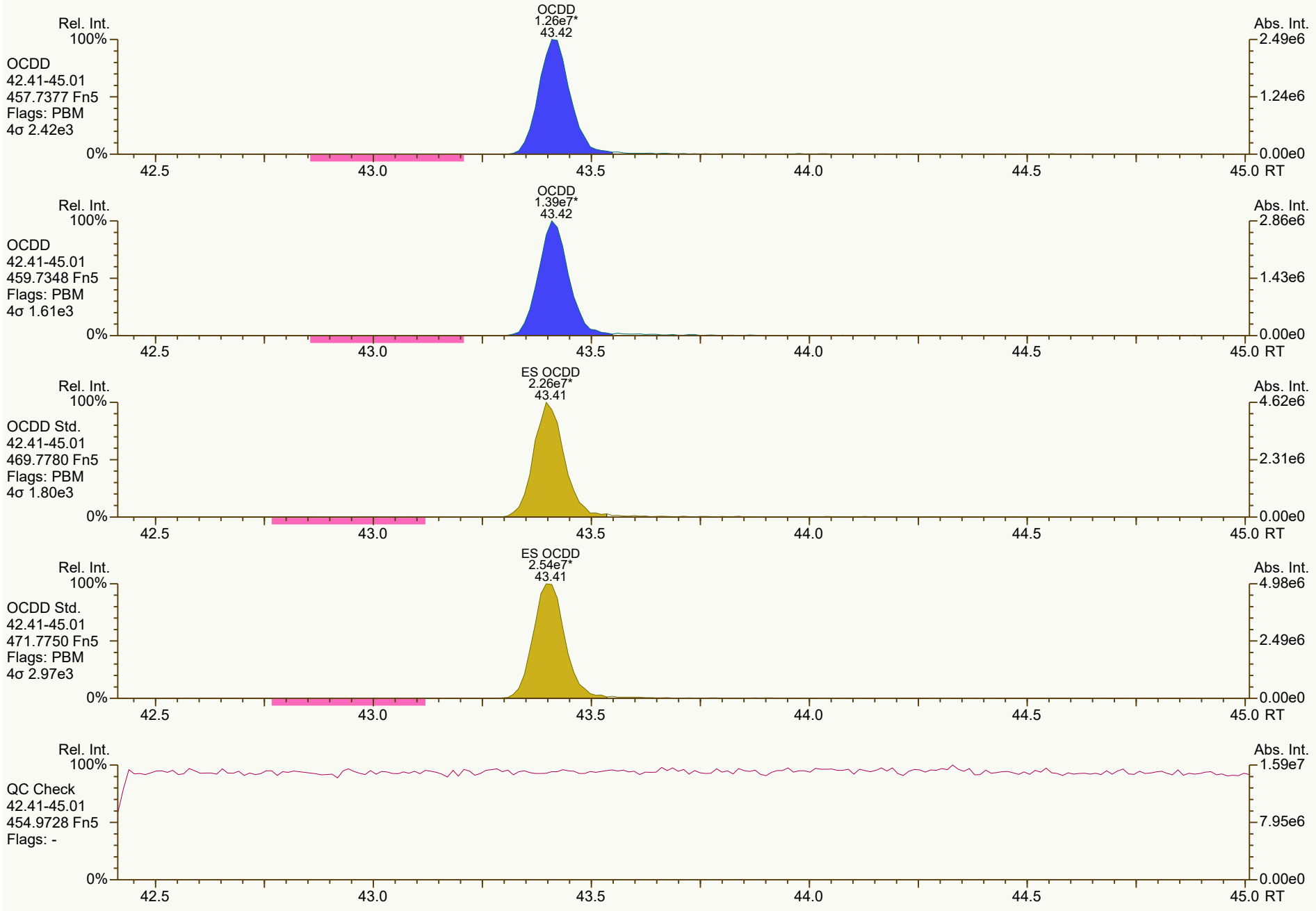

Rel. Int.
100%
0%
Abs. Int.
9.10e6
4.55e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.07e6
4.03e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
2.93e7
1.47e7
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.74e7
8.71e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.95e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

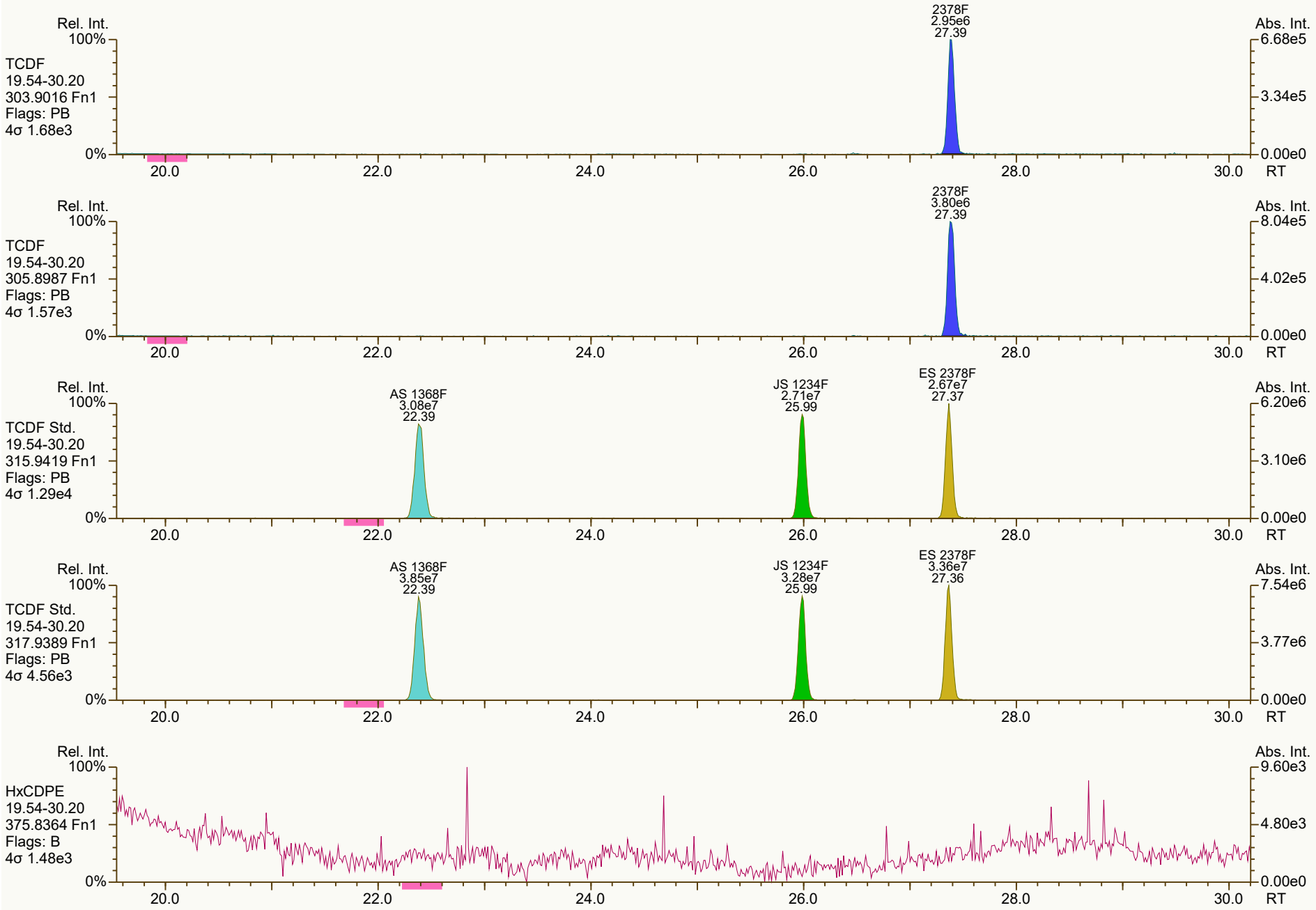

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
RRF = (2.12e6 + 2.60e6) * 100pg / (1.74e7 + 2.13e7) * 10pg = 1.22
DTF 21-Feb-2022 10:10
VERIFIED
2378D
2.12e6
28.26
Abs. Int.
5.14e5
2.57e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.44e3
2378D
2.60e6
28.26
6.15e5
3.08e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.94e3
CS 37Cl-2378D
5.16e6
28.26
1.19e6
5.93e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.90e3
AS 1368D
1.84e7
24.54
TS 1378D
2.64e7
26.56
JS 1234D
1.72e7
27.57
ES 2378D
1.74e7
28.23
FS 1278D
1.89e7
28.56
5.74e6
2.87e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.28e7
24.54
TS 1378D
3.17e7
26.56
JS 1234D
2.11e7
27.56
ES 2378D
2.13e7
28.23
FS 1278D
2.39e7
28.56
7.15e6
3.57e6


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.47e3
12378D
1.10e7
33.64
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.58e3
12378D
7.10e6
33.64
Abs. Int.
2.01e6
1.00e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.32e3
FS 12478D
2.28e7
32.38
CS 12347D
1.93e7
33.12
ES 12378D
2.16e7
33.62
Abs. Int.
6.56e6
3.28e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.09e3
FS 12478D
1.43e7
32.39
CS 12347D
1.20e7
33.12
ES 12378D
1.33e7
33.62
Abs. Int.
4.06e6
2.03e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
8.07e6
4.03e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.48e3
123478D 9.10e6 37.57
123678D 9.57e6 37.69
123789D 9.91e6 37.99
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.82e3
123478D 7.29e6 37.57
123678D 7.51e6 37.69
123789D 8.04e6 37.99
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.66e3
FS 123468D 2.29e7 36.47
ES 123478D 1.65e7 37.55
ES 123678D 1.66e7 37.67
JS 123467D 8.44e6 37.87
ES 123789D 1.94e7 37.98
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.05e3
FS 123468D 1.82e7 36.47
ES 123478D 1.31e7 37.55
ES 123678D 1.30e7 37.67
JS 123467D 6.59e6 37.87
ES 123789D 1.56e7 37.98
Abs. Int.
5.54e6
2.77e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.93e7
1.47e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

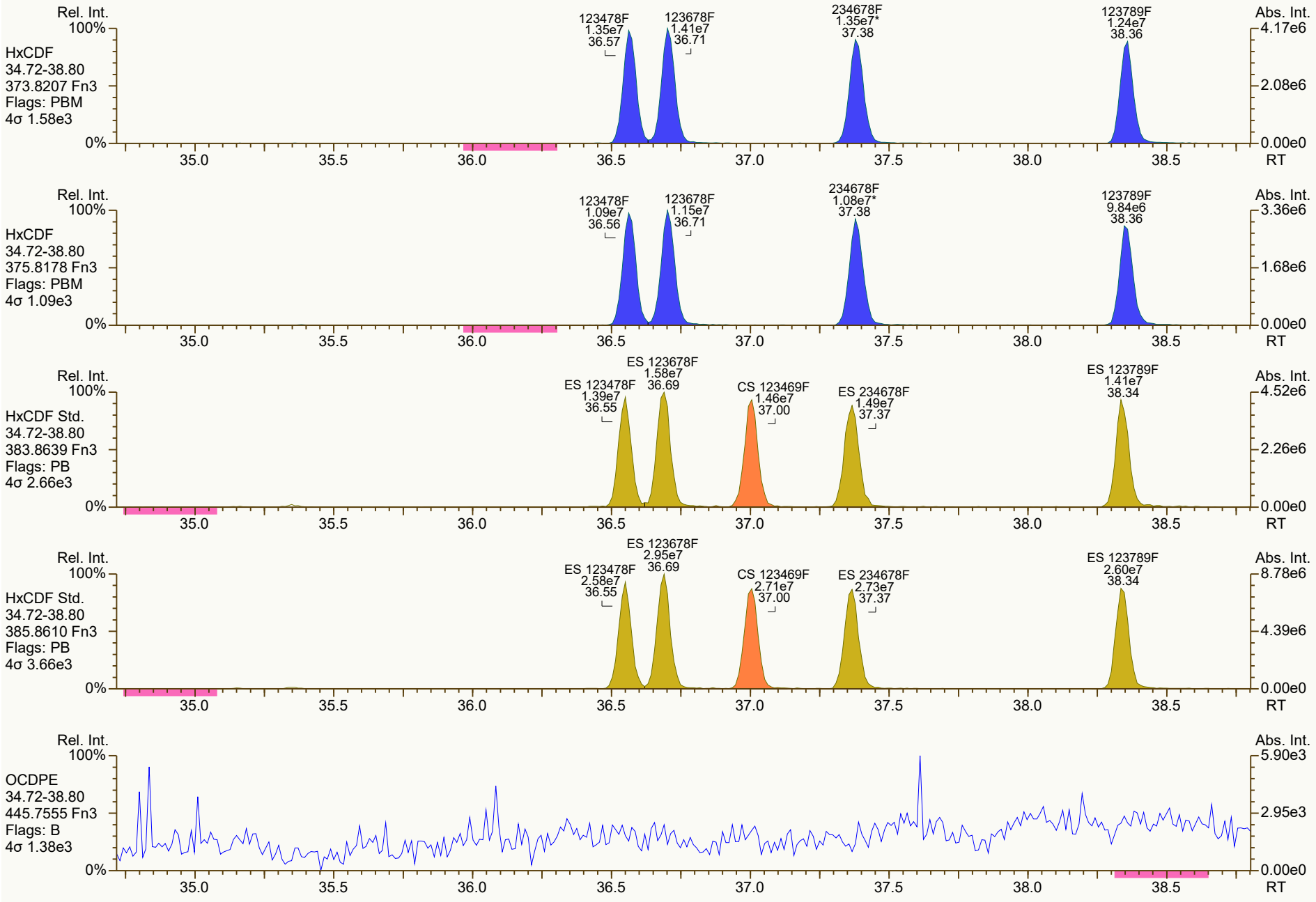

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.05e3
1234678D
8.19e6
40.72
Abs. Int.
2.31e6
1.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.60e3
1234678D
7.86e6
40.72
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
2.24e7
40.02
ES 1234678D
1.57e7
40.71
Abs. Int.
6.95e6
3.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.49e3
FS 1234679D
2.10e7
40.02
ES 1234678D
1.44e7
40.71
Abs. Int.
6.81e6
3.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.74e7
8.71e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

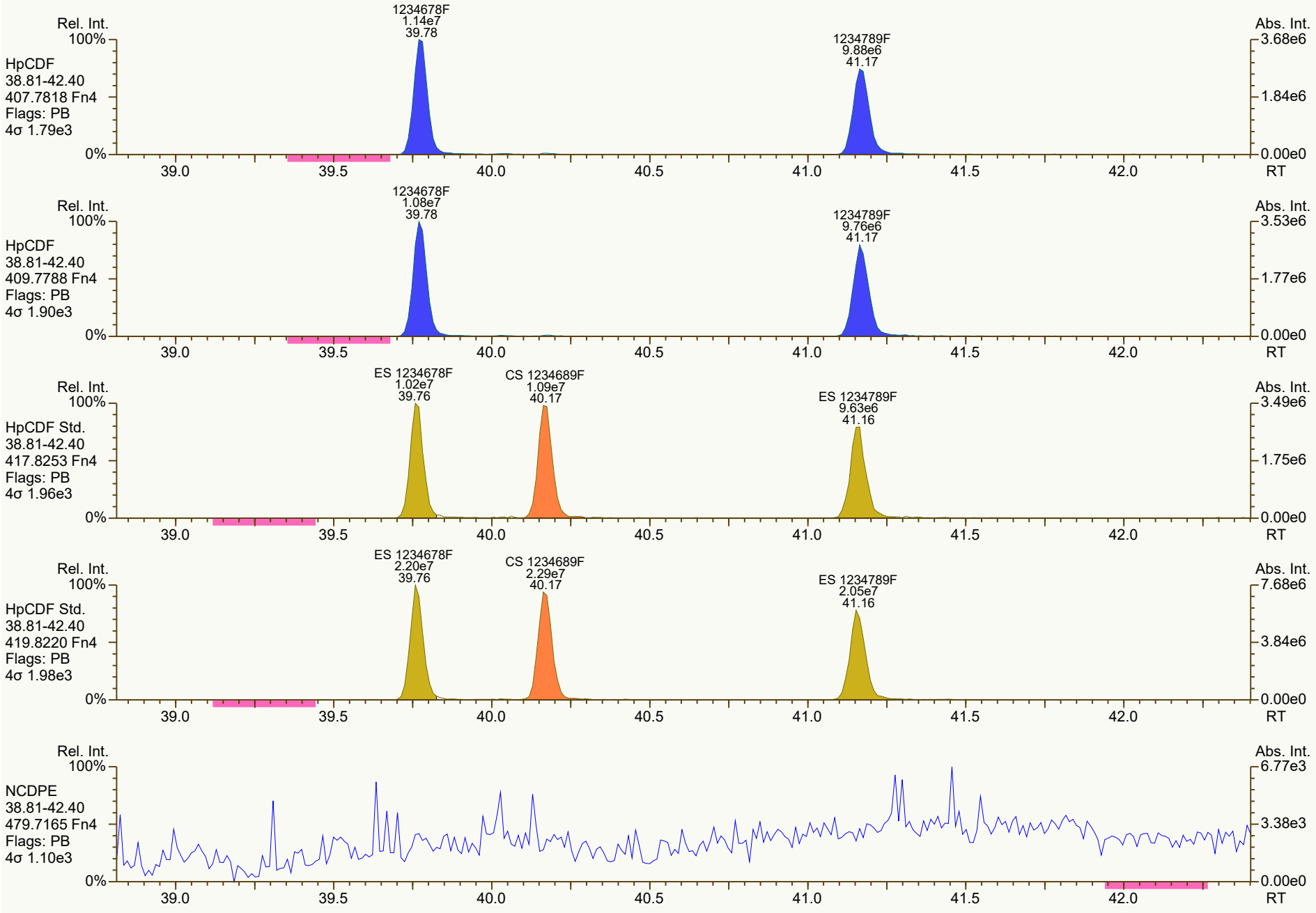

OCDD
1.26e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.39e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.61e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.26e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
4.62e6
2.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.54e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.97e3
0%
Abs. Int.
4.98e6
2.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.68e3
0%
2378F
2.95e6
27.39
Abs. Int.
6.68e5
3.34e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.57e3
0%
2378F
3.80e6
27.39
Abs. Int.
8.04e5
4.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.29e4
0%
AS 1368F
3.08e7
22.39
JS 1234F
2.71e7
25.99
ES 2378F
2.67e7
27.37
Abs. Int.
6.20e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.56e3
0%
AS 1368F
3.85e7
22.39
JS 1234F
3.28e7
25.99
ES 2378F
3.36e7
27.36
Abs. Int.
7.54e6
3.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.53e3
4.77e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.89e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.53e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.10e6
4.55e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.48e3
0%
12378F
1.64e7
32.18
23478F
1.57e7
33.30
Abs. Int.
4.37e6
2.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.45e3
0%
12378F
1.06e7
32.18
23478F
1.05e7
33.30
Abs. Int.
2.92e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.28e3
0%
CS 12346F
3.20e7
31.63
ES 12378F
3.30e7
32.16
ES 23478F
3.28e7
33.28
Abs. Int.
9.50e6
4.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.27e3
0%
CS 12346F
2.07e7
31.63
ES 12378F
2.02e7
32.16
ES 23478F
2.04e7
33.28
Abs. Int.
6.24e6
3.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
8.07e3
4.04e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.58e3
123478F
1.35e7
36.57
123678F
1.41e7
36.71
234678F
1.35e7*
37.38
123789F
1.24e7
38.36
Abs. Int.
4.17e6
2.08e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.09e3
123478F
1.09e7
36.56
123678F
1.15e7
36.71
234678F
1.08e7*
37.38
123789F
9.84e6
38.36
Abs. Int.
3.36e6
1.68e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.66e3
ES 123478F
1.39e7
36.55
ES 123678F
1.58e7
36.69
CS 123469F
1.46e7
37.00
ES 234678F
1.49e7
37.37
ES 123789F
1.41e7
38.34
Abs. Int.
4.52e6
2.26e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.66e3
ES 123478F
2.58e7
36.55
ES 123678F
2.95e7
36.69
CS 123469F
2.71e7
37.00
ES 234678F
2.73e7
37.37
ES 123789F
2.60e7
38.34
Abs. Int.
8.78e6
4.39e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.38e3
Abs. Int.
5.90e3
2.95e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
1234678F
1.14e7
39.78
1234789F
9.88e6
41.17
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.90e3
1234678F
1.08e7
39.78
1234789F
9.76e6
41.17
Abs. Int.
3.53e6
1.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.96e3
ES 1234678F
1.02e7
39.76
CS 1234689F
1.09e7
40.17
ES 1234789F
9.63e6
41.16
Abs. Int.
3.49e6
1.75e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.98e3
ES 1234678F
2.20e7
39.76
CS 1234689F
2.29e7
40.17
ES 1234789F
2.05e7
41.16
Abs. Int.
7.68e6
3.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.10e3
Abs. Int.
6.77e3
3.38e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.64e7
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.19e3
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.77e7
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.63e3
3.65e6
1.83e6
ES OCDF
3.07e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.53e3
6.19e6
3.09e6
ES OCDF
3.38e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.73e3
6.71e6
3.36e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.48e3
6.60e3
3.30e3

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 10:19:34 PSW	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 10:20 pw	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.25	4.70E+06	0.75	Y	1.18	1.18	0%
12378-PeCDD	33.64	1.87E+07	1.58	Y	1.04	1.05	1%
123478-HxCDD	37.57	1.68E+07	1.28	Y	1.09	1.10	1%
123678-HxCDD	37.69	1.73E+07	1.30	Y	1.15	1.18	2%
123789-HxCDD	37.99	1.84E+07	1.25	Y	1.05	1.05	0%
1234678-HpCDD	40.72	1.66E+07	1.05	Y	1.06	1.04	-2%
OCDD	43.40	2.76E+07	0.92	Y	1.13	1.14	1%
2378-TCDF	27.39	6.83E+06	0.79	Y	1.08	1.07	-1%
12378-PeCDF	32.18	2.81E+07	1.56	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.73E+07	1.53	Y	1.02	1.02	0%
123478-HxCDF	36.56	2.55E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.71	2.64E+07	1.21	Y	1.15	1.13	-2%
234678-HxCDF	37.38	2.50E+07	1.27	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.27E+07	1.24	Y	1.16	1.14	-2%
1234678-HpCDF	39.77	2.31E+07	1.04	Y	1.37	1.31	-4%
1234789-HpCDF	41.17	2.06E+07	1.03	Y	1.31	1.28	-2%
OCDF	43.58	3.51E+07	0.93	Y	1.07	1.06	-1%
ES 2378-TCDD	28.23	3.98E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.621	3.55E+07	1.56	Y	0.88	0.90	3%
ES 123478-HxCDD	37.55	3.06E+07	1.24	Y	0.97	0.95	-2%
ES 123678-HxCDD	37.672	2.94E+07	1.24	Y	0.94	0.91	-3%
ES 123789-HxCDD	37.977	3.51E+07	1.23	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.707	3.19E+07	1.07	Y	0.91	0.99	8%
ES OCDD	43.391	4.86E+07	0.91	Y	0.62	0.75	21%
ES 2378-TCDF	27.363	6.37E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	32.159	5.53E+07	1.61	Y	0.91	0.90	-2%
ES 23478-PeCDF	33.282	5.37E+07	1.59	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.547	4.21E+07	0.54	Y	1.20	1.31	9%
ES 123678-HxCDF	36.688	4.69E+07	0.53	Y	1.35	1.45	8%
ES 234678-HxCDF	37.364	4.34E+07	0.53	Y	1.24	1.35	8%
ES 123789-HxCDF	38.343	3.96E+07	0.54	Y	1.16	1.23	6%
ES 1234678-HpCDF	39.764	3.53E+07	0.49	Y	0.97	1.10	13%
ES 1234789-HpCDF	41.162	3.21E+07	0.47	Y	0.85	1.00	17%
ES OCDF	43.572	6.63E+07	0.90	Y	0.81	1.03	27%

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 10:19:34 PSW	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 10:20 pw	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.56	3.94E+07	0.80	Y	-	-	-
JS 1234-TCDF	25.98	6.18E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.88	1.61E+07	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.25	5.65E+06	n/a	-	1.20	1.44	19%
CS 12347-PeCDD	33.11	3.20E+07	1.61	Y	0.75	0.81	8%
CS 12346-PeCDF	31.63	5.28E+07	1.56	Y	0.85	0.85	0%
CS 123469-HxCDF	37.00	4.19E+07	0.54	Y	1.12	1.30	16%
CS 1234689-HpCDF	40.17	3.57E+07	0.46	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.25~~	~~5.65E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.42~~	~~24%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~3.20E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.28E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~0.95~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.19E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.89~~	~~8%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.57E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.40~~	~~1.62E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.07~~	~~-8%~~
~~OCDF-a~~	~~43.58~~	~~2.27E+06~~	~~2.26~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.75	0.65 - 0.89	Y	9.95	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.6	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	51.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	49	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.93	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	49.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	49.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.6	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	48.9	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.8	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 10:20 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

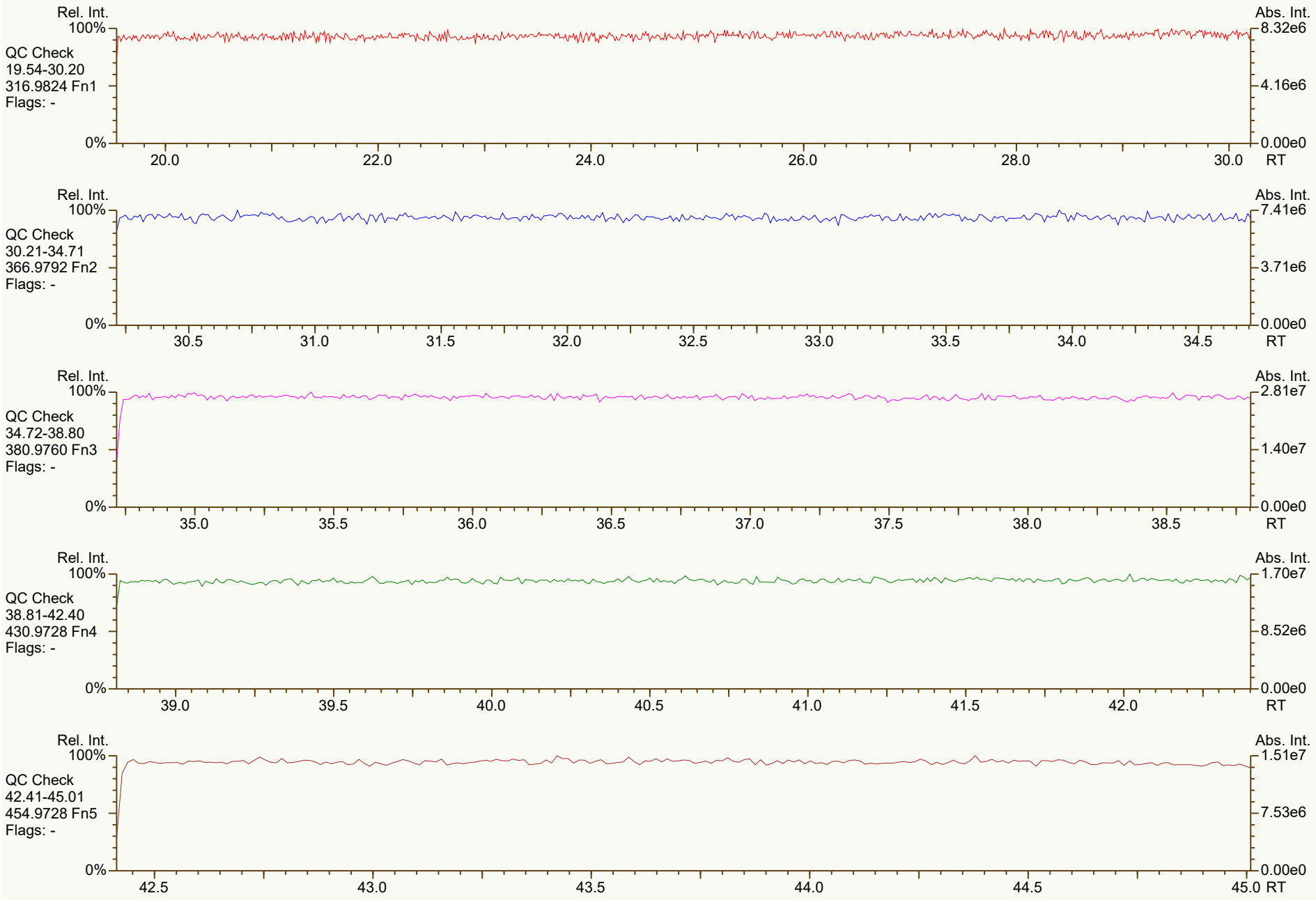
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

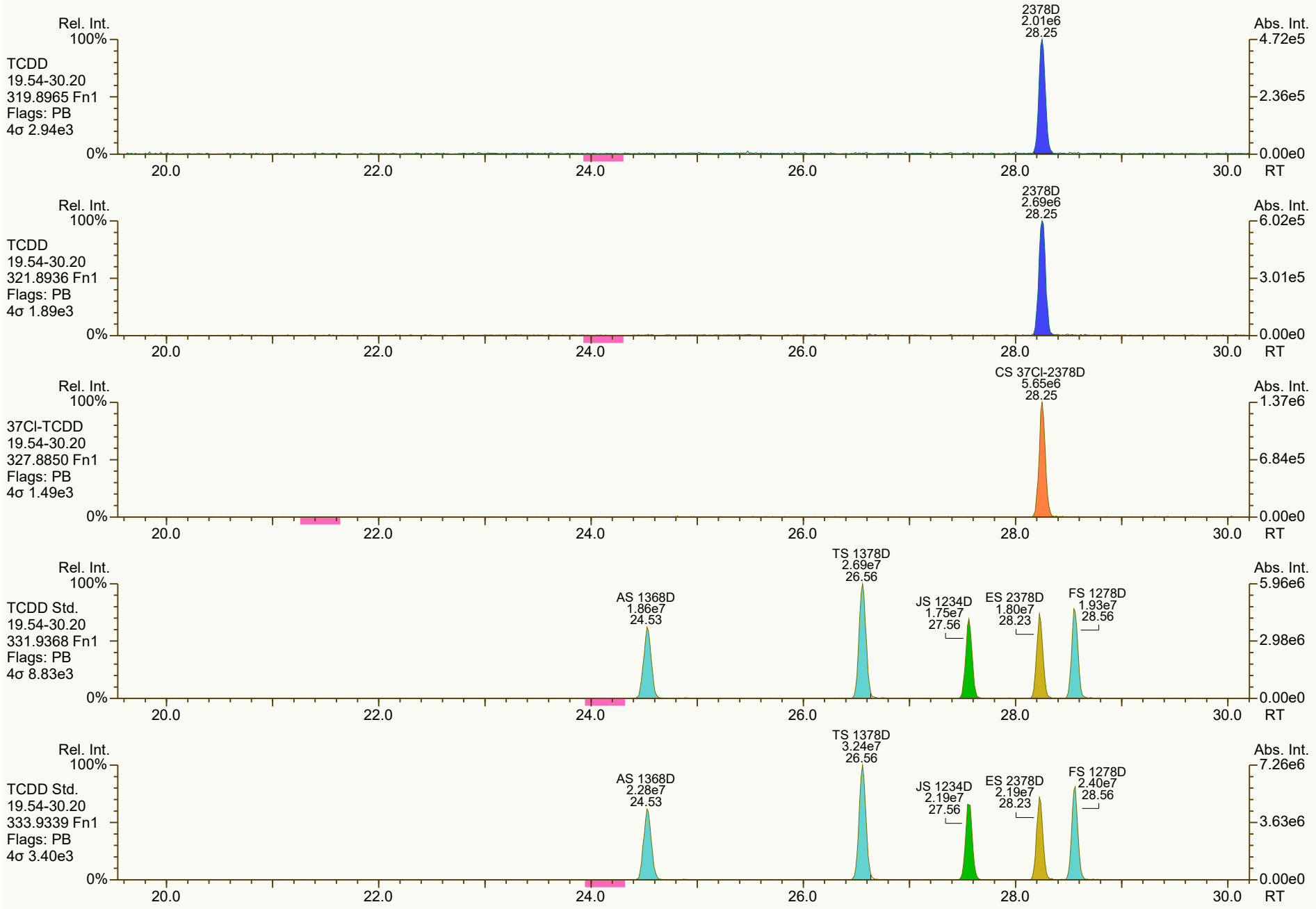
Instrument ID: HRMS3 GC Column ID: ZB-5ms

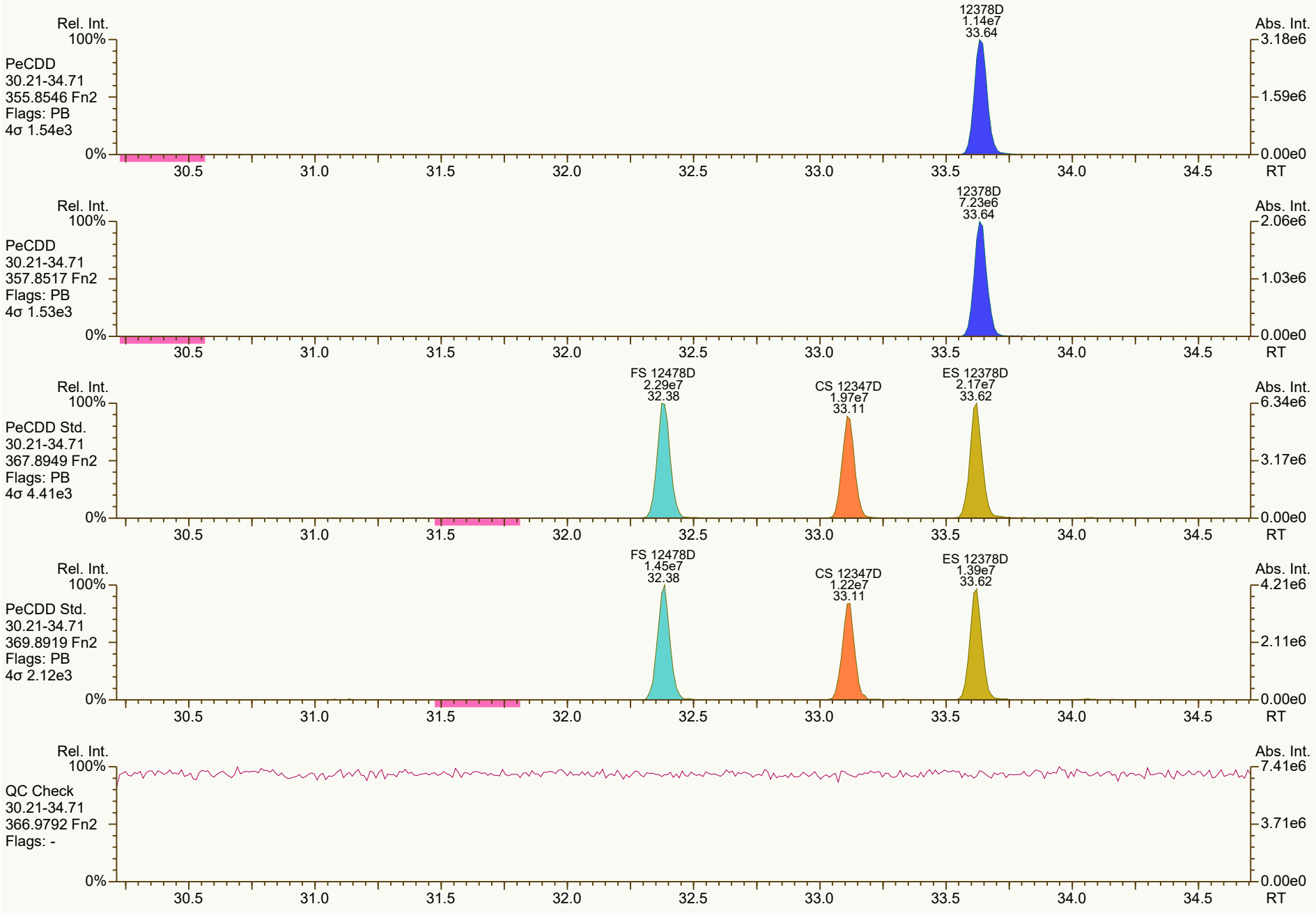
VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

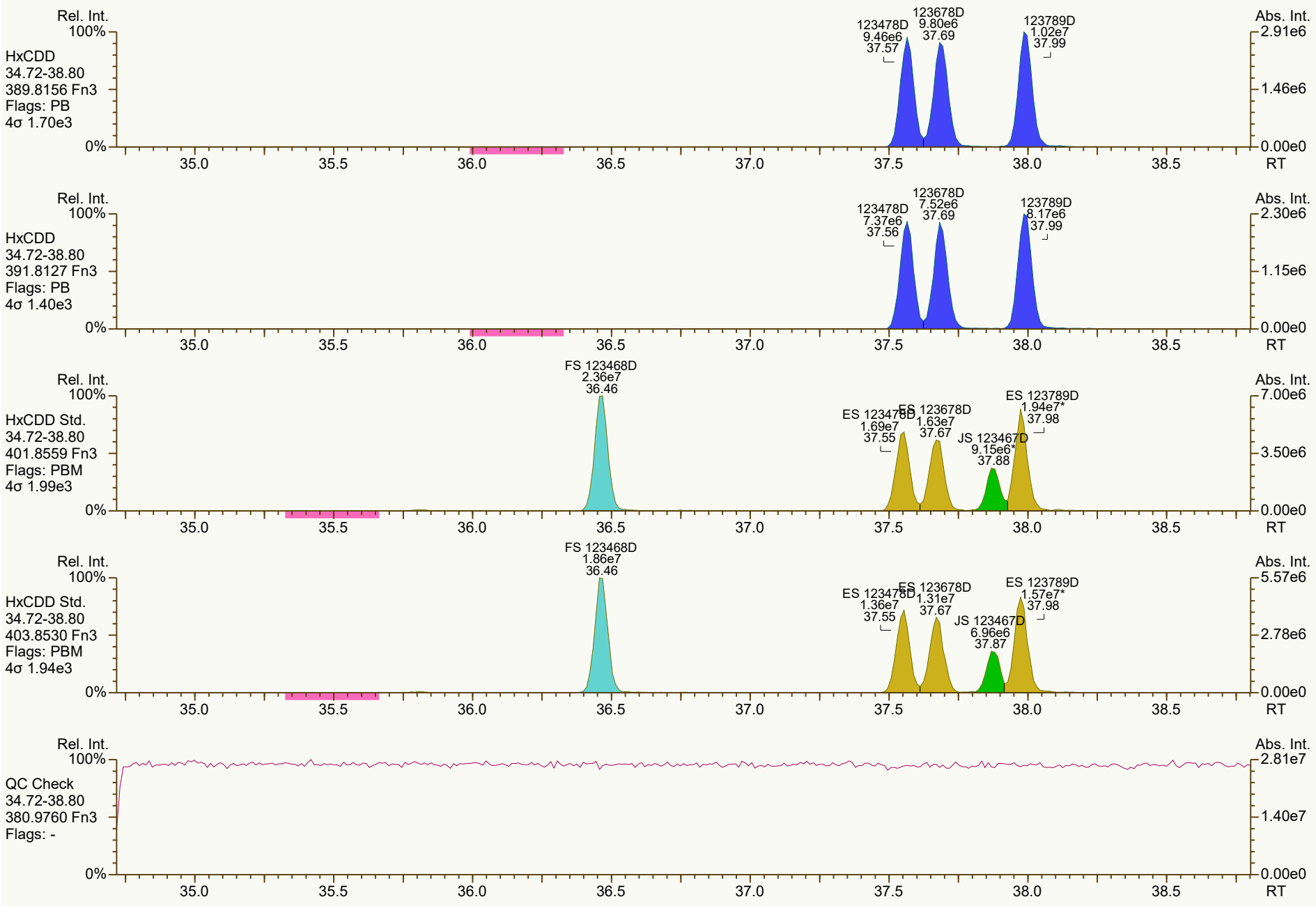
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	96.8	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	103	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	97.5	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	96.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	99.7	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	108	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	242	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	97.4	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32	-	1.78	Y	98.4	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	98.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	106	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.49	0.37	-	0.51	Y	113	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	117	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	255	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.9	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	108	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	116	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	125	70	-	130	Y

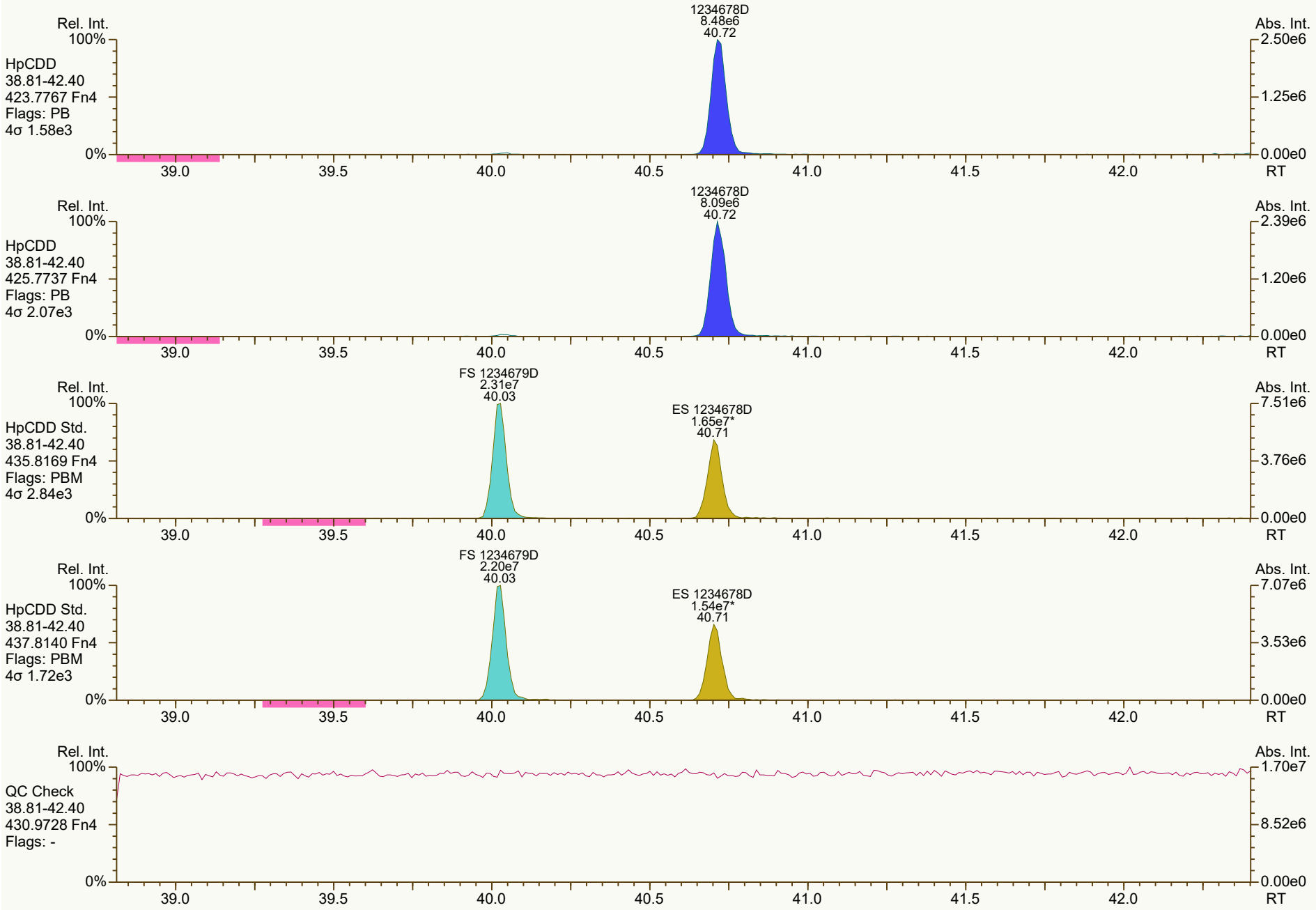
Processed: 21 Feb 2022 10:20 Analyst: pw

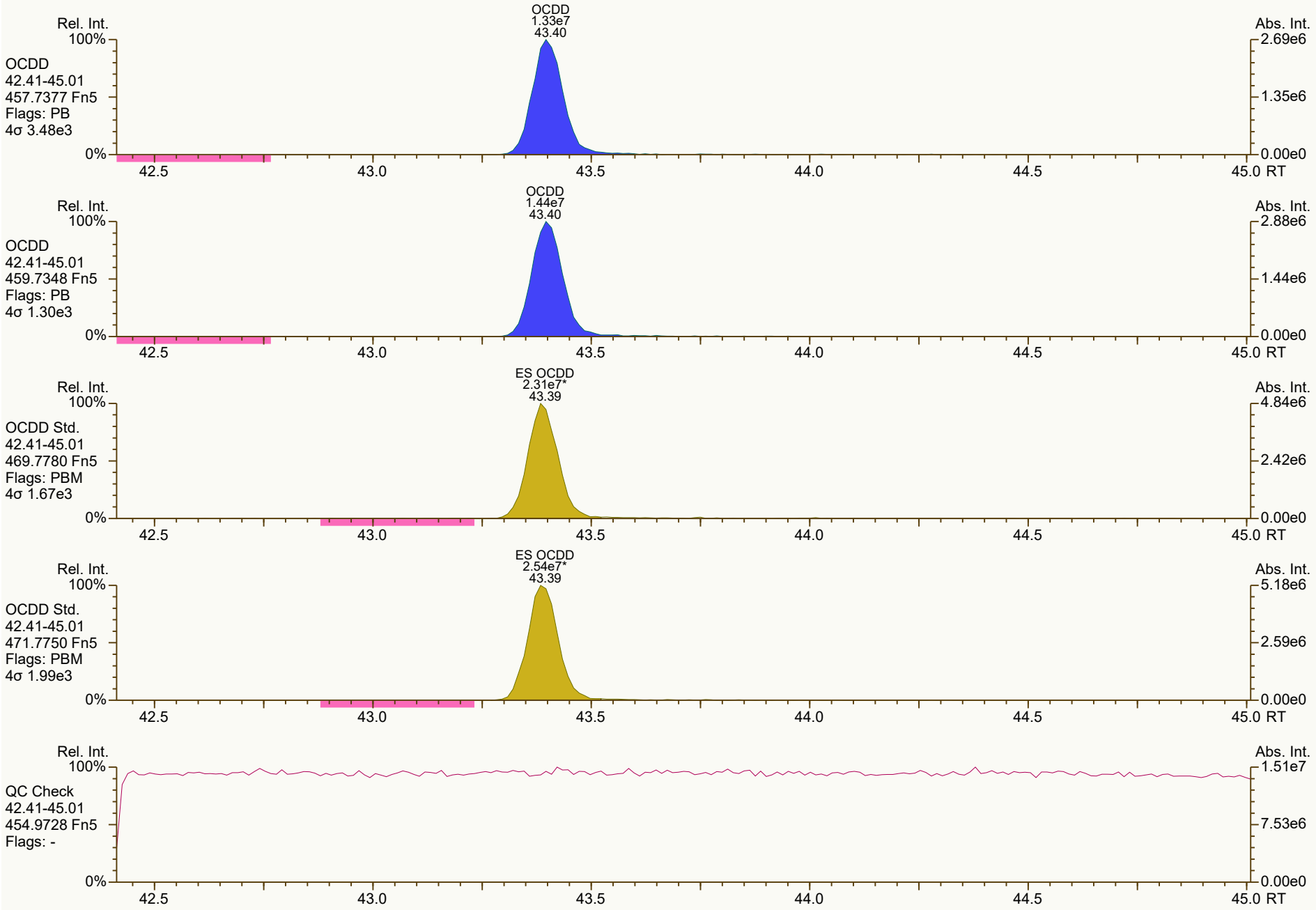

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.32e6
4.16e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.41e6
3.71e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.81e7
1.40e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.70e7
8.52e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.51e7
7.53e6
0.00e0

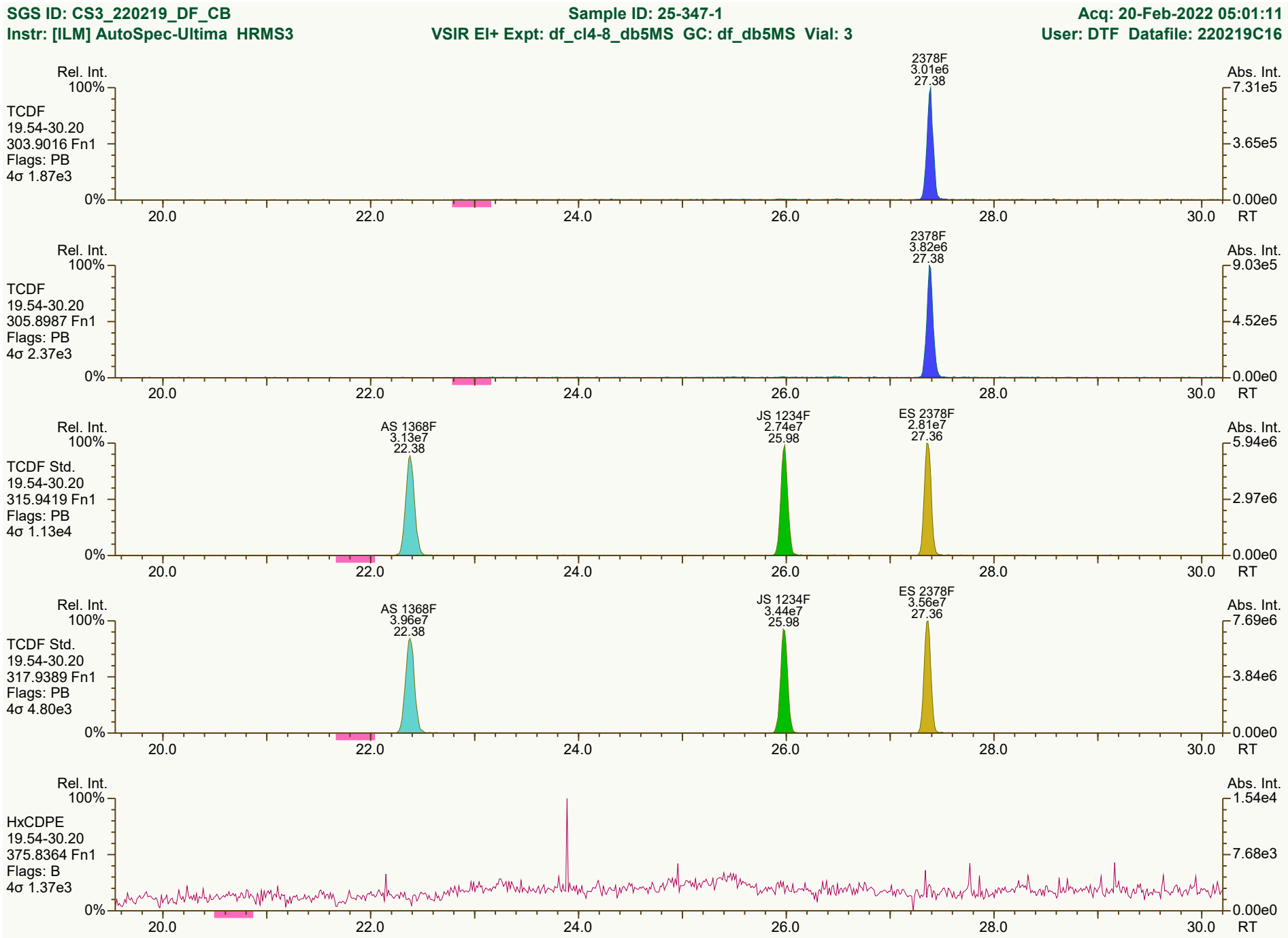

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.94e3
0%
2378D
2.01e6
28.25
Abs. Int.
4.72e5
2.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
2.69e6
28.25
Abs. Int.
6.02e5
3.01e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
5.65e6
28.25
Abs. Int.
1.37e6
6.84e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.83e3
0%
AS 1368D
1.86e7
24.53
TS 1378D
2.69e7
26.56
JS 1234D
1.75e7
27.56
ES 2378D
1.80e7
28.23
FS 1278D
1.93e7
28.56
Abs. Int.
5.96e6
2.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.40e3
0%
AS 1368D
2.28e7
24.53
TS 1378D
3.24e7
26.56
JS 1234D
2.19e7
27.56
ES 2378D
2.19e7
28.23
FS 1278D
2.40e7
28.56
Abs. Int.
7.26e6
3.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.54e3
12378D
1.14e7
33.64
3.18e6
1.59e6
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.53e3
12378D
7.23e6
33.64
2.06e6
1.03e6
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.41e3
FS 12478D
2.29e7
32.38
CS 12347D
1.97e7
33.11
ES 12378D
2.17e7
33.62
6.34e6
3.17e6
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.12e3
FS 12478D
1.45e7
32.38
CS 12347D
1.22e7
33.11
ES 12378D
1.39e7
33.62
4.21e6
2.11e6
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.41e6
3.71e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

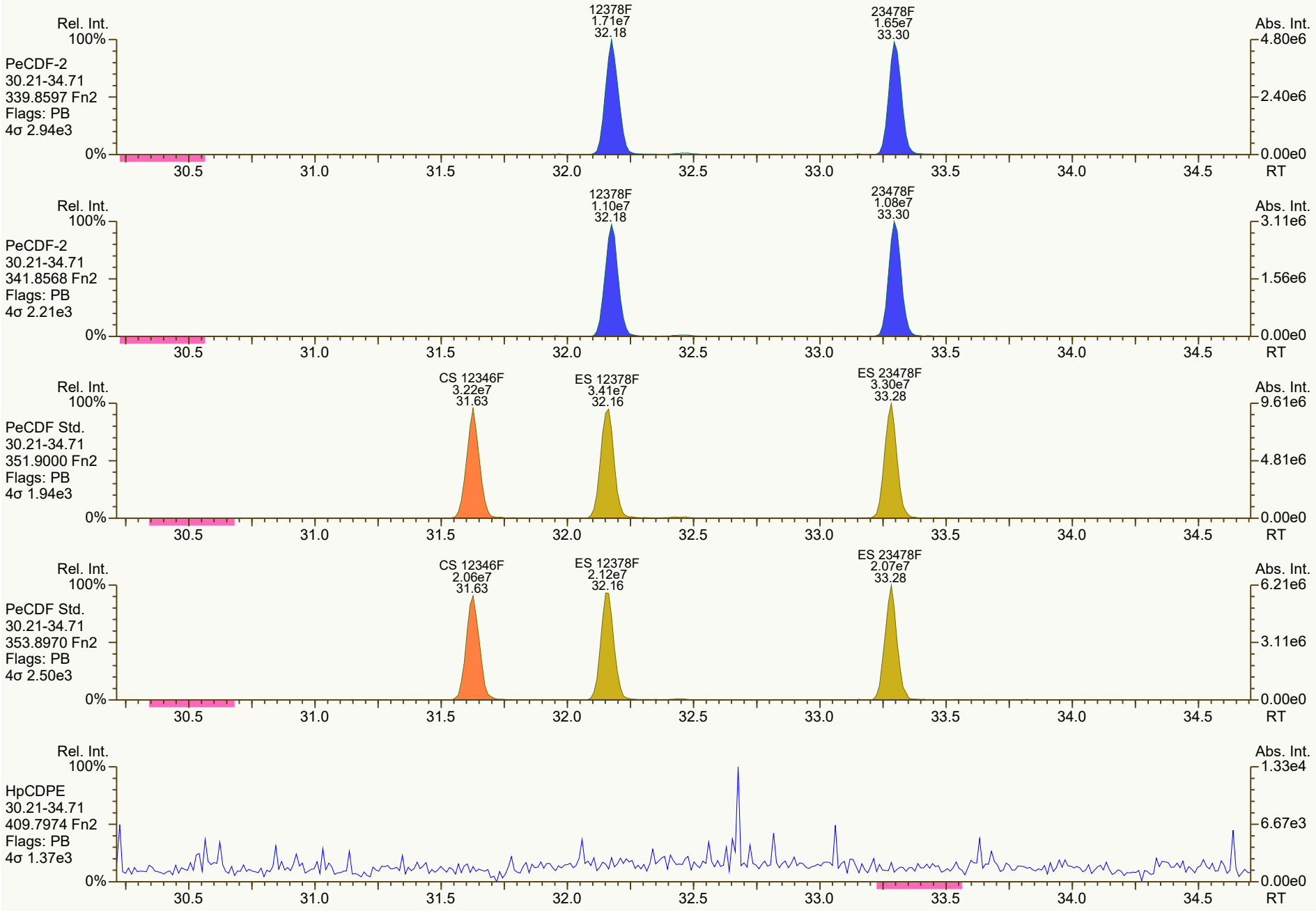

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D 9.46e6 37.57
123678D 9.80e6 37.69
123789D 1.02e7 37.99
Abs. Int.
2.91e6
1.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.40e3
123478D 7.37e6 37.56
123678D 7.52e6 37.69
123789D 8.17e6 37.99
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.99e3
FS 123468D 2.36e7 36.46
ES 123478D 1.69e7 37.55
ES 123678D 1.63e7 37.67
JS 123467D 9.15e6* 37.88
ES 123789D 1.94e7* 37.98
Abs. Int.
7.00e6
3.50e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.94e3
FS 123468D 1.86e7 36.46
ES 123478D 1.36e7 37.55
ES 123678D 1.31e7 37.67
JS 123467D 6.96e6 37.87
ES 123789D 1.57e7* 37.98
Abs. Int.
5.57e6
2.78e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.81e7
1.40e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

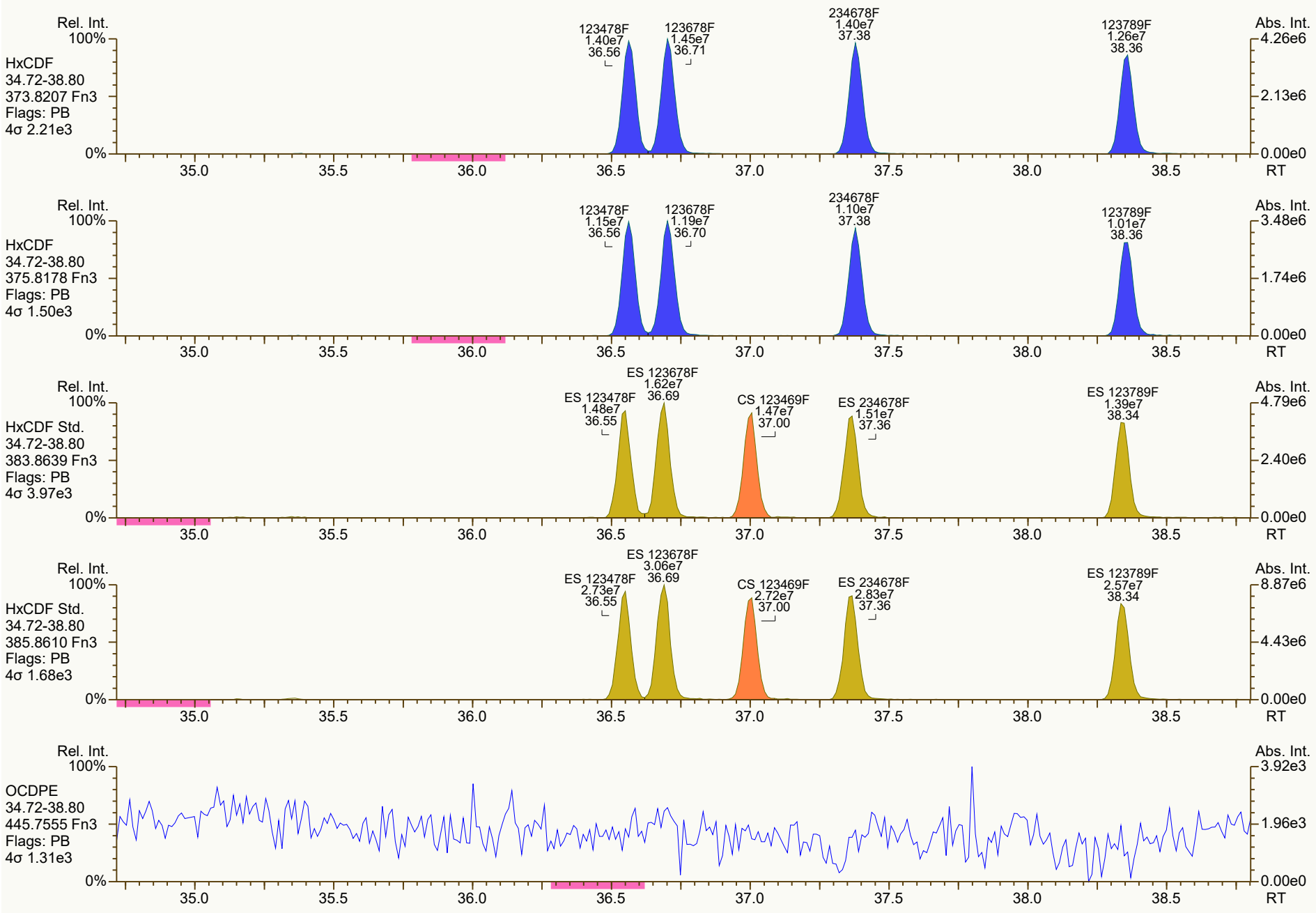

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.58e3
1234678D
8.48e6
40.72
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.07e3
1234678D
8.09e6
40.72
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.84e3
FS 1234679D
2.31e7
40.03
ES 1234678D
1.65e7*
40.71
Abs. Int.
7.51e6
3.76e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.72e3
FS 1234679D
2.20e7
40.03
ES 1234678D
1.54e7*
40.71
Abs. Int.
7.07e6
3.53e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.70e7
8.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

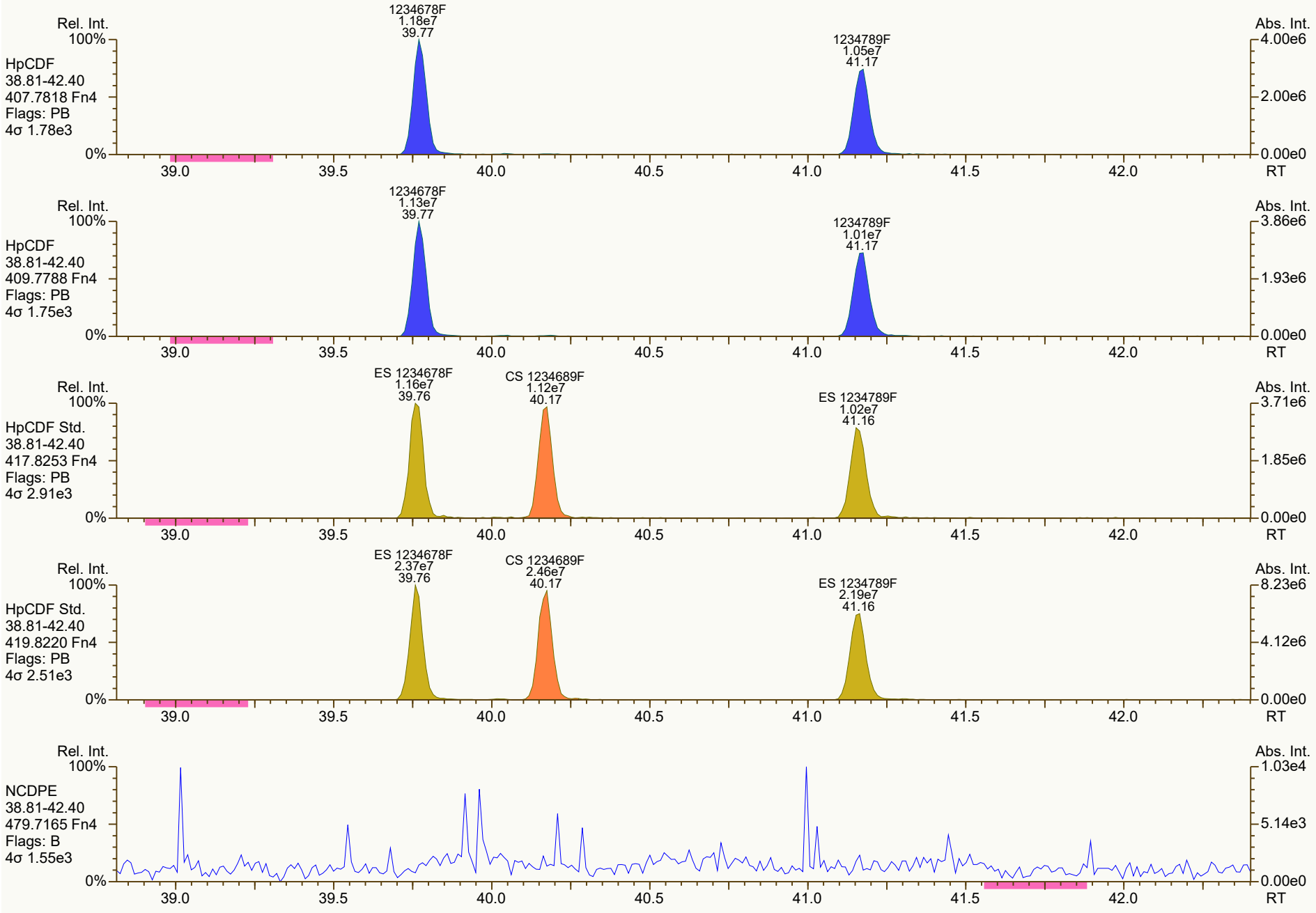

OCDD
1.33e7
43.40
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.48e3
OCDD
1.44e7
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.30e3
ES OCDD
2.31e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.67e3
ES OCDD
2.54e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.99e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
2.69e6
1.35e6
0.00e0
2.88e6
1.44e6
4.84e6
2.42e6
5.18e6
2.59e6
1.51e7
7.53e6


SGS ID: CS3_220219_DF_CB
Sample ID: 25-347-1
Acq: 20-Feb-2022 05:01:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C16
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.87e3
2378F
3.01e6
27.38
7.31e5
3.65e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.37e3
2378F
3.82e6
27.38
9.03e5
4.52e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.13e4
AS 1368F
3.13e7
22.38
JS 1234F
2.74e7
25.98
ES 2378F
2.81e7
27.36
5.94e6
2.97e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.80e3
AS 1368F
3.96e7
22.38
JS 1234F
3.44e7
25.98
ES 2378F
3.56e7
27.36
7.69e6
3.84e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.37e3
1.54e4
7.68e3
0%
100%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\CS3_220219_DF_CB.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3507, 1910, 6890 scc: 111-739
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 10:24 Page 7 of 12

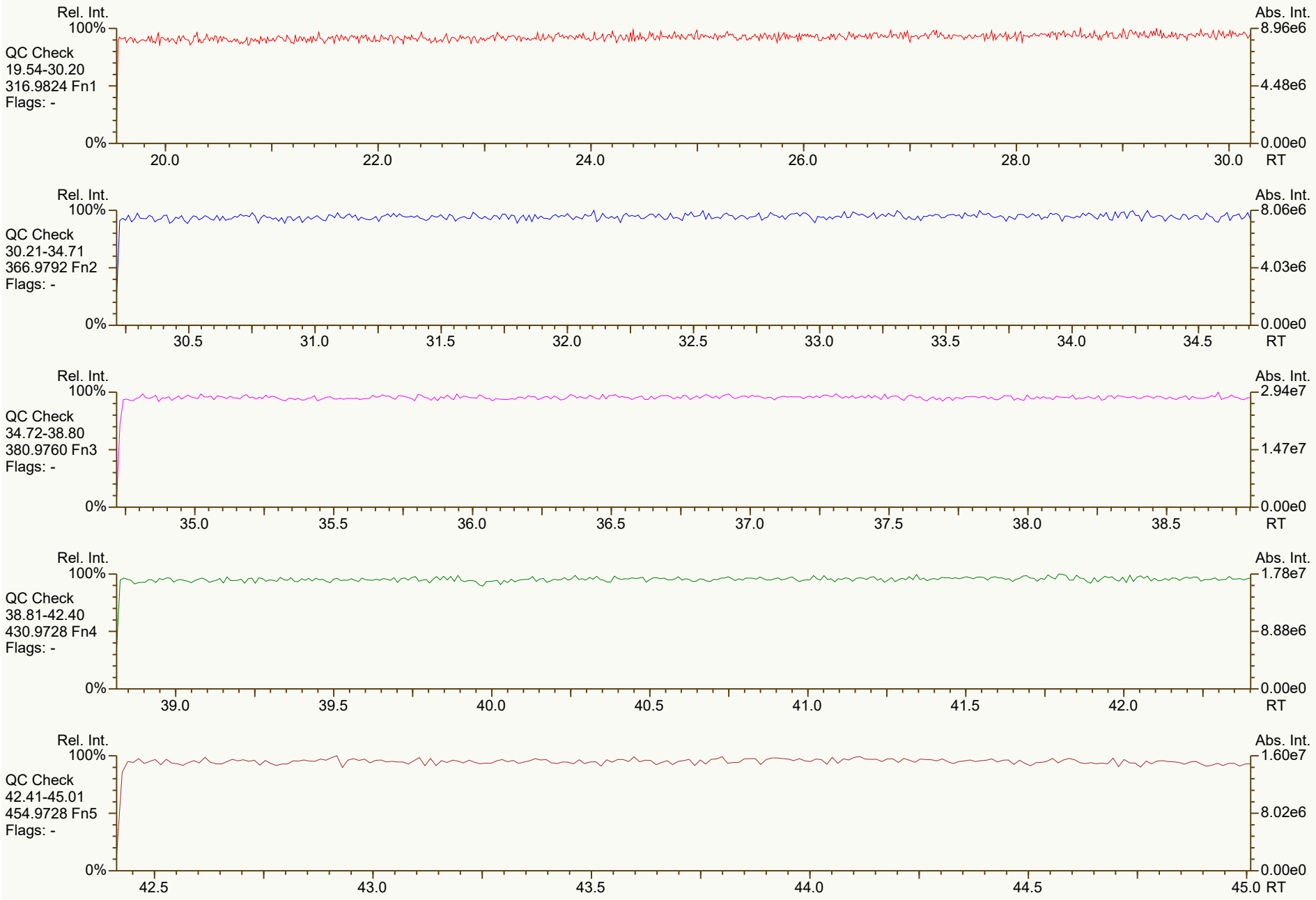

Rel. Int.
100%
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.09e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.76e4
8.80e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.32e6
4.16e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.94e3
0%
12378F
1.71e7
32.18
23478F
1.65e7
33.30
Abs. Int.
4.80e6
2.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.21e3
0%
12378F
1.10e7
32.18
23478F
1.08e7
33.30
Abs. Int.
3.11e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
0%
CS 12346F
3.22e7
31.63
ES 12378F
3.41e7
32.16
ES 23478F
3.30e7
33.28
Abs. Int.
9.61e6
4.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.50e3
0%
CS 12346F
2.06e7
31.63
ES 12378F
2.12e7
32.16
ES 23478F
2.07e7
33.28
Abs. Int.
6.21e6
3.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.37e3
0%
Abs. Int.
1.33e4
6.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

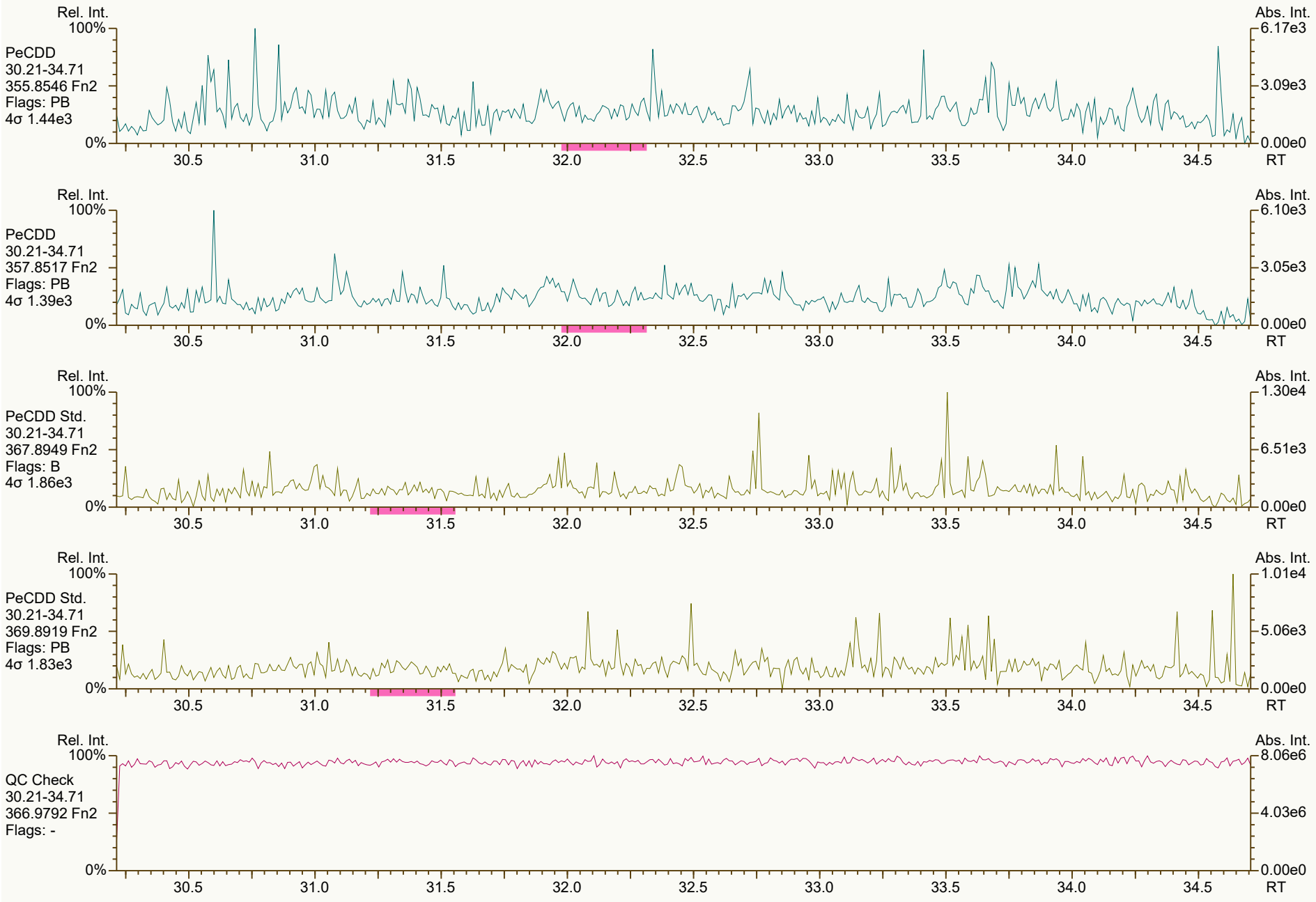

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 2.21e3
0%
123478F
1.40e7
36.56
123678F
1.45e7
36.71
234678F
1.40e7
37.38
123789F
1.26e7
38.36
Abs. Int.
4.26e6
2.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.50e3
123478F
1.15e7
36.56
123678F
1.19e7
36.70
234678F
1.10e7
37.38
123789F
1.01e7
38.36
3.48e6
1.74e6
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.97e3
ES 123478F
1.48e7
36.55
ES 123678F
1.62e7
36.69
CS 123469F
1.47e7
37.00
ES 234678F
1.51e7
37.36
ES 123789F
1.39e7
38.34
4.79e6
2.40e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.68e3
ES 123478F
2.73e7
36.55
ES 123678F
3.06e7
36.69
CS 123469F
2.72e7
37.00
ES 234678F
2.83e7
37.36
ES 123789F
2.57e7
38.34
8.87e6
4.43e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.31e3
3.92e3
1.96e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.78e3
1234678F
1.18e7
39.77
1234789F
1.05e7
41.17
Abs. Int.
4.00e6
2.00e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.75e3
1234678F
1.13e7
39.77
1234789F
1.01e7
41.17
Abs. Int.
3.86e6
1.93e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.91e3
ES 1234678F
1.16e7
39.76
CS 1234689F
1.12e7
40.17
ES 1234789F
1.02e7
41.16
Abs. Int.
3.71e6
1.85e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.51e3
ES 1234678F
2.37e7
39.76
CS 1234689F
2.46e7
40.17
ES 1234789F
2.19e7
41.16
Abs. Int.
8.23e6
4.12e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.55e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.69e7*
43.58
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.33e3
OCDF
1.82e7*
43.58
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.30e3
ES OCDF
3.14e7
43.57
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.35e3
ES OCDF
3.49e7
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.39e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.36e3
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.96e6
4.48e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
8.06e6
4.03e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.94e7
1.47e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.78e7
8.88e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.60e7
8.02e6
0.00e0

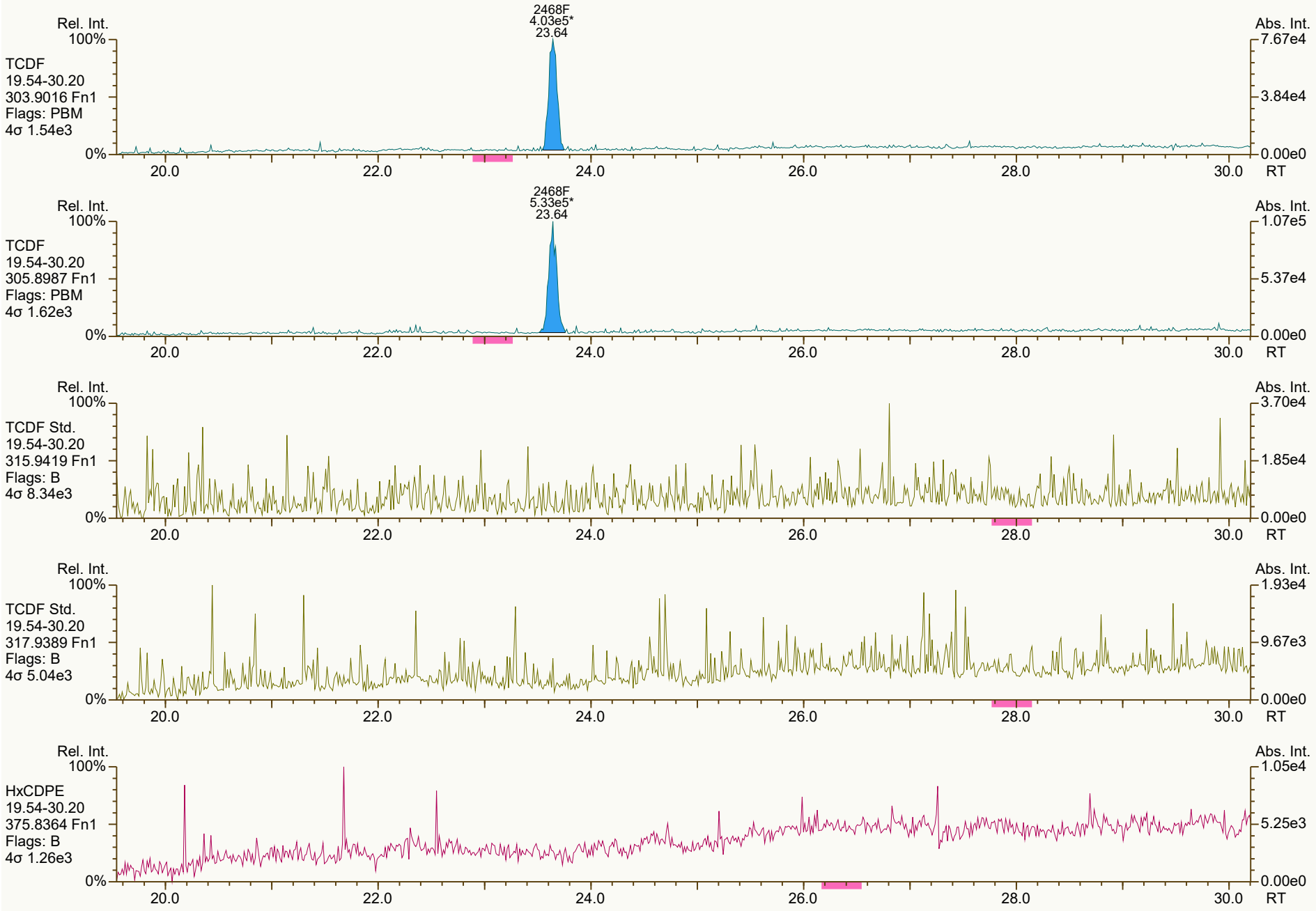

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.21e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.39e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 9.01e3
0%
Abs. Int.
3.19e4
1.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.90e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.44e3
0%
Abs. Int.
6.17e3
3.09e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.83e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.33e4
6.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.57e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.82e3
0%
Abs. Int.
3.19e4
1.60e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 2.05e3
0%
Abs. Int.
8.35e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.42e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 2.23e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.88e3
0%
Abs. Int.
9.38e3
4.69e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.78e7
8.88e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

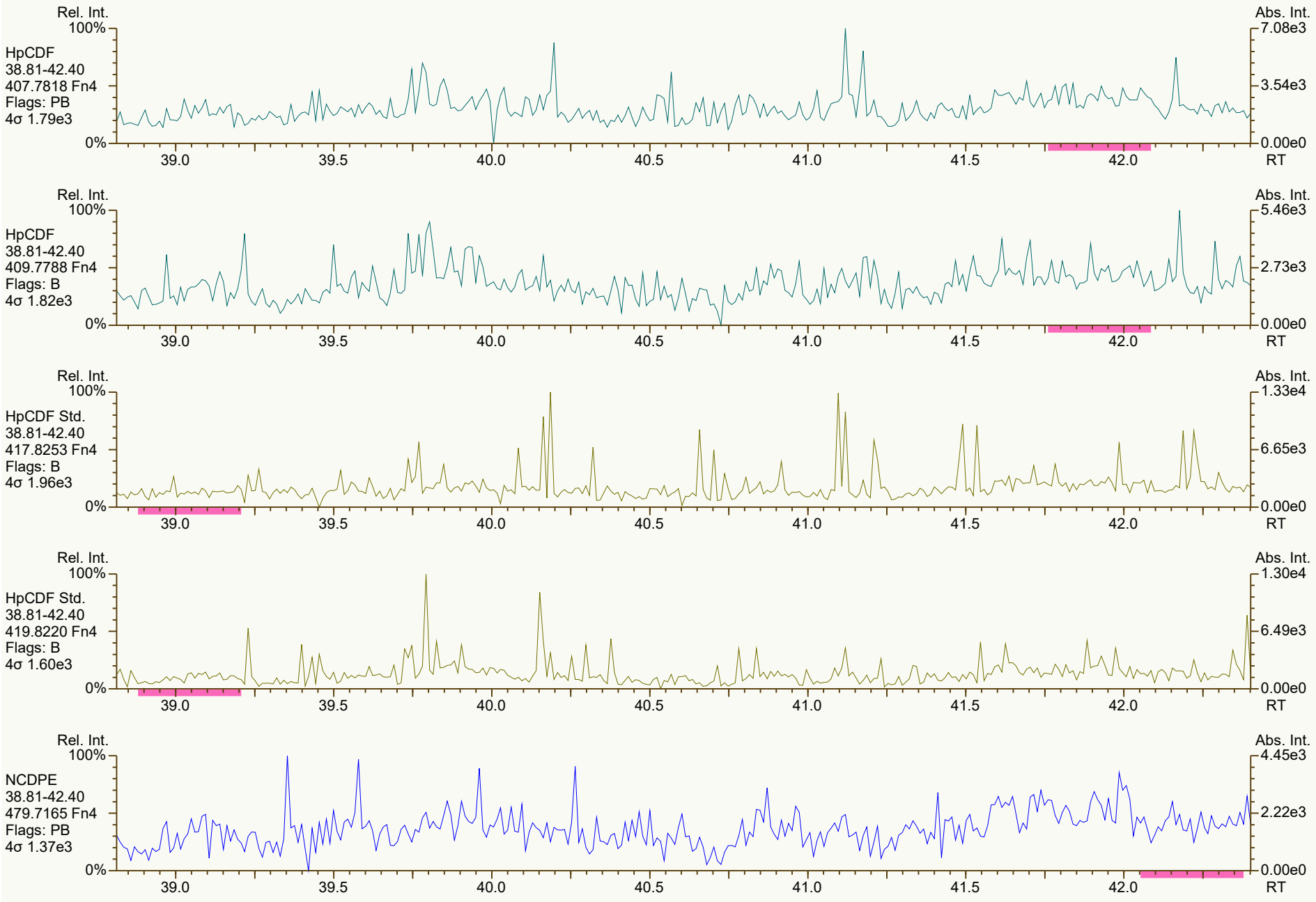

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.84e3
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.60e7
8.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
4.03e5*
23.64
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
7.67e4
3.84e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.33e5*
23.64
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.62e3
1.07e5
5.37e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 8.34e3
3.70e4
1.85e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 5.04e3
1.93e4
9.67e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
1.05e4
5.25e3


Rel. Int.
100%
0%
Abs. Int.
9.51e3
4.75e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e4
7.22e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.63e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.96e6
4.48e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.96e3
0%
Abs. Int.
8.41e3
4.21e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.54e3
0%
Abs. Int.
7.96e3
3.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

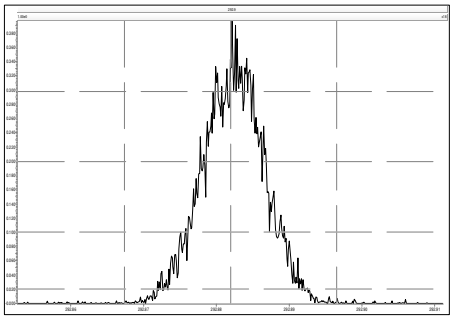

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.74e3
0%
Abs. Int.
6.81e3
3.41e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.11e3
0%
Abs. Int.
8.37e3
4.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.37e4
6.84e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.35e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
0%
Abs. Int.
7.08e3
3.54e3
0.00e0
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.96e3
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.37e3
0%
Abs. Int.
4.45e3
2.22e3
0.00e0
RT

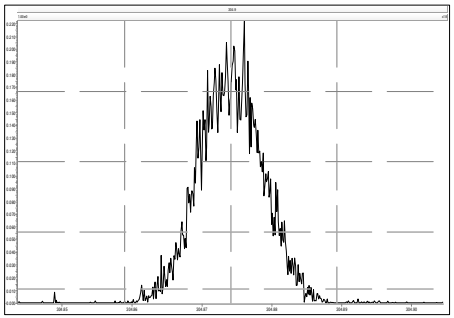

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.72e3
4.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.29e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 2.55e3
0%
Abs. Int.
4.05e4
2.02e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.46e3
3.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Saturday, February 19, 2022 17:17:54 Eastern Standard Time

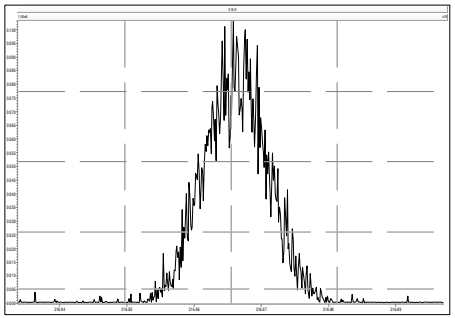
M 292.9824 R 14749



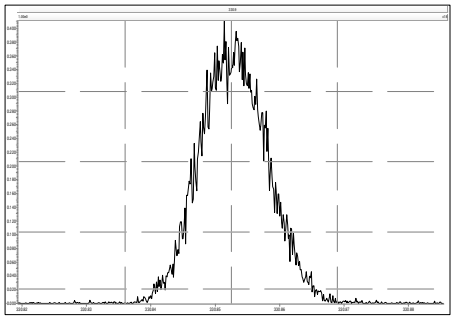
M 304.9824 R 15151



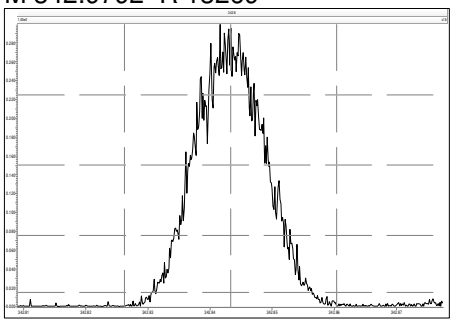
M 316.9824 R 15549



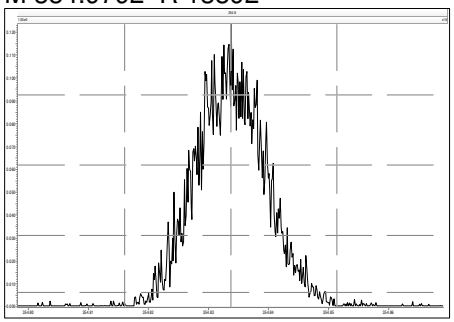
M 330.9792 R 14014



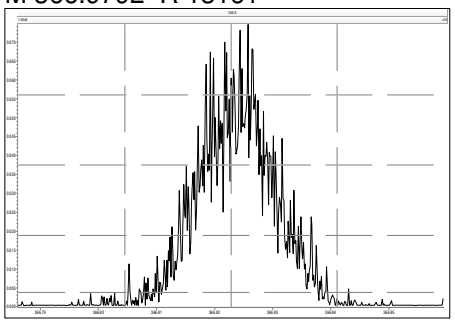
M 342.9792 R 13269



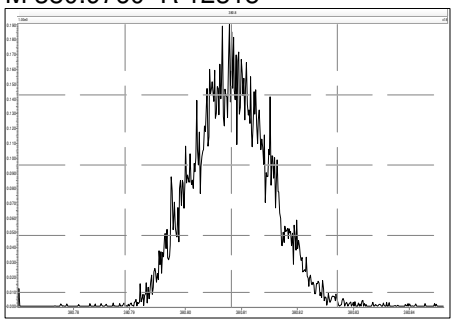
M 354.9792 R 13892



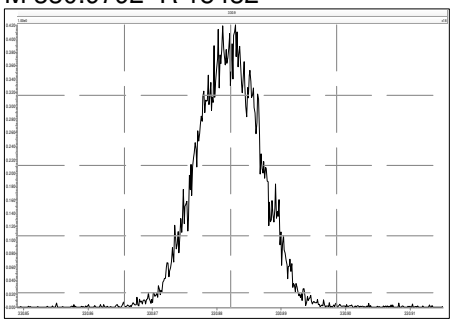
M 366.9792 R 13161



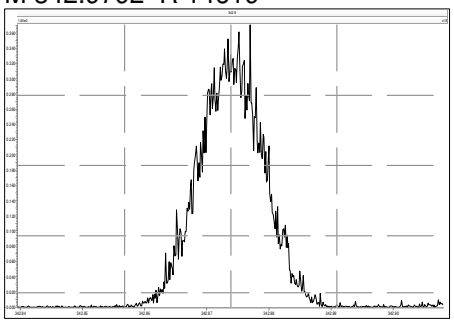
M 380.9760 R 12315



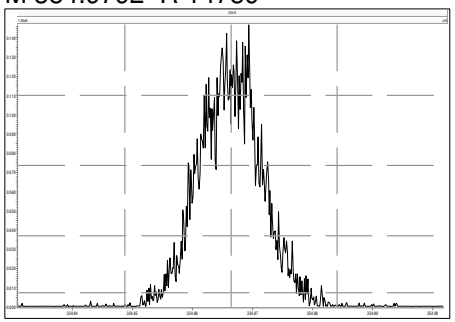
M 330.9792 R 15432



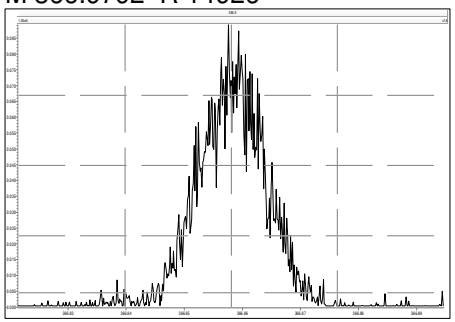
M 342.9792 R 14619



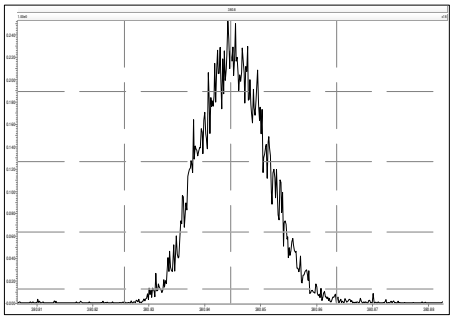
M 354.9792 R 14759



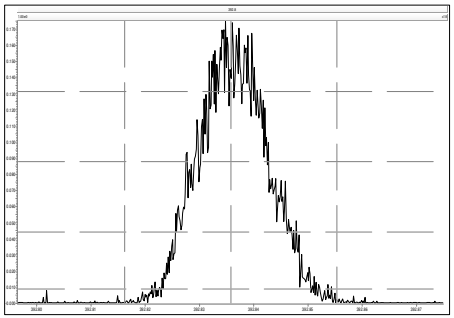
M 366.9792 R 14926



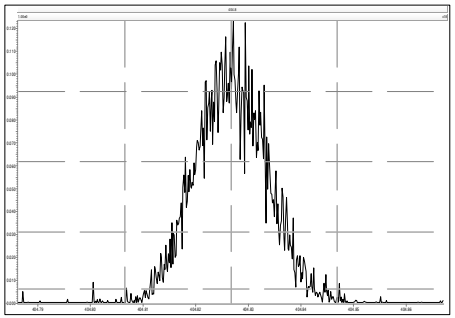
M 380.9760 R 14018



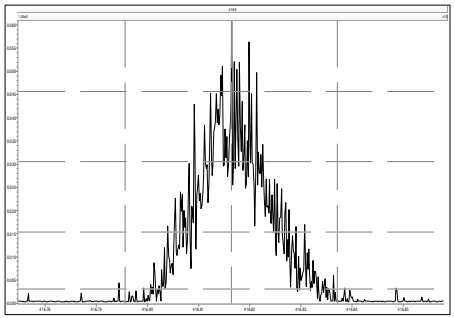
M 392.9760 R 13554



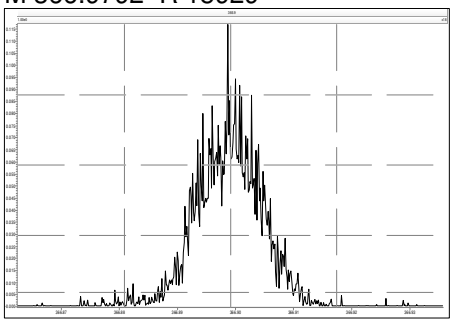
M 404.9760 R 14125



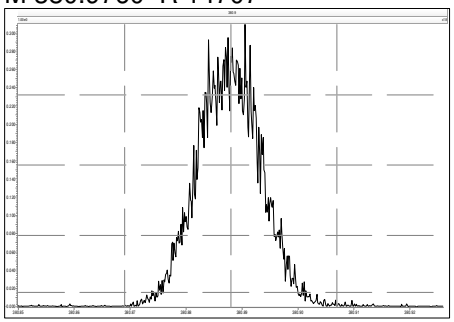
M 416.9760 R 15156



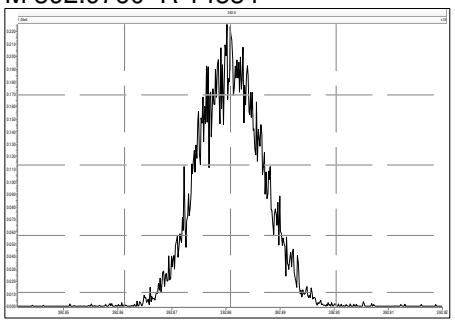
M 366.9792 R 15929



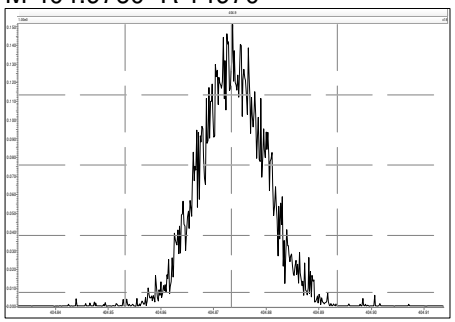
M 380.9760 R 14707



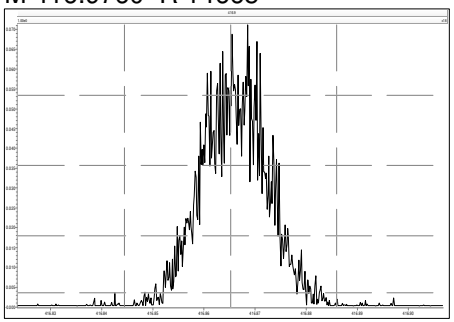
M 392.9760 R 14534



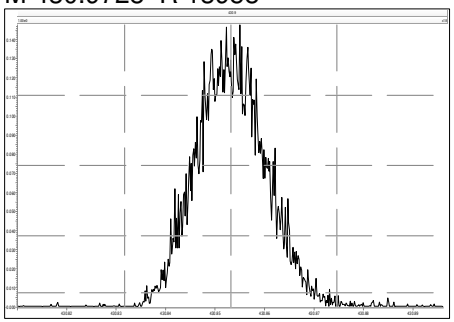
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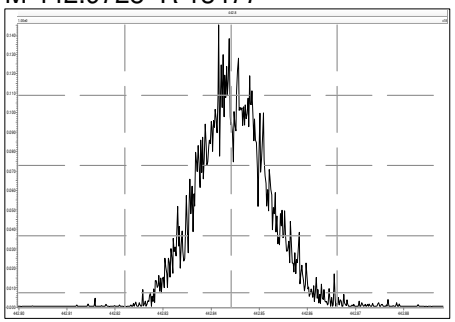
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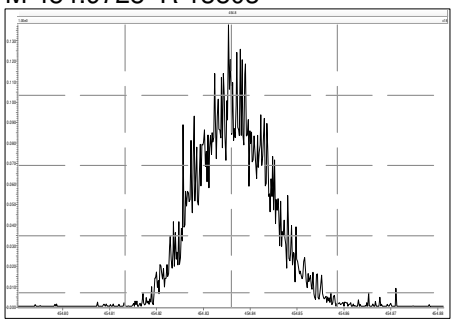
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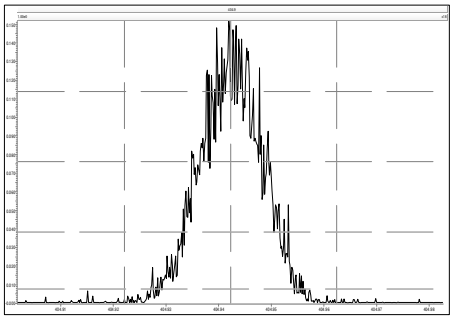
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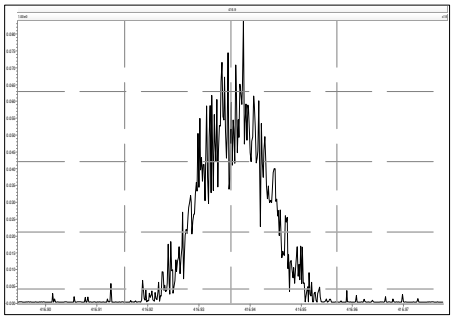
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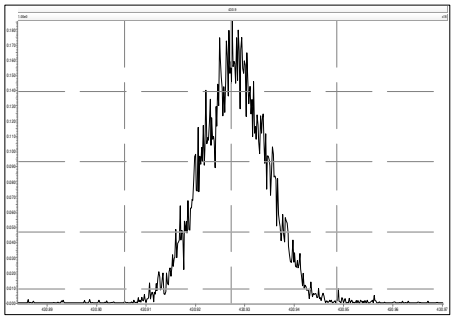
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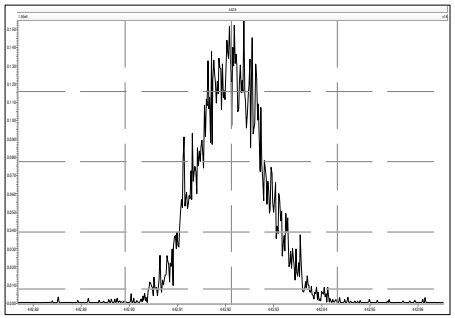
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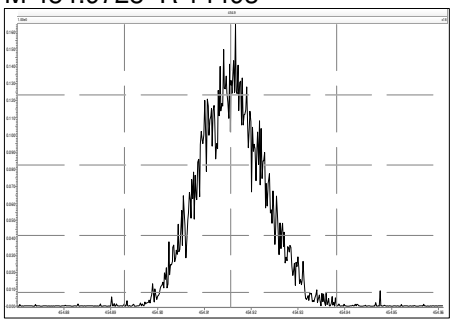
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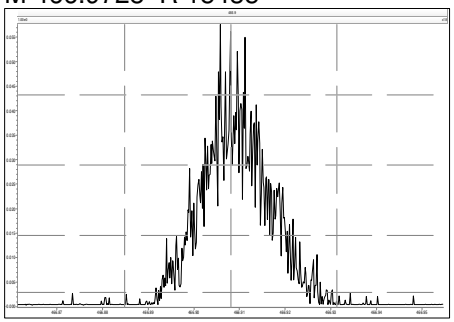
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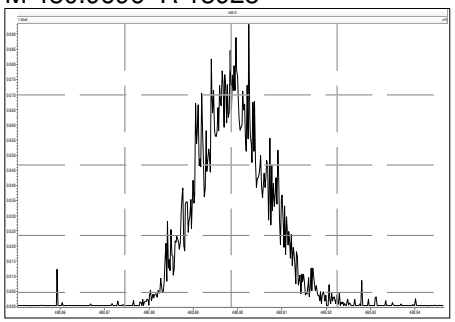
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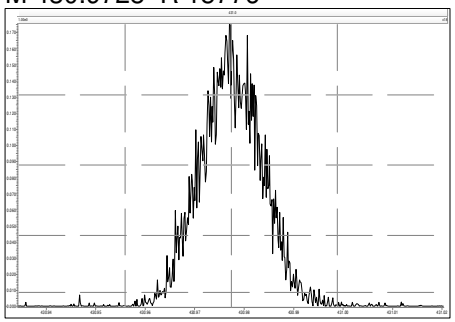
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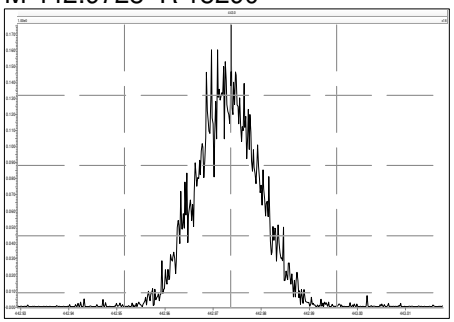
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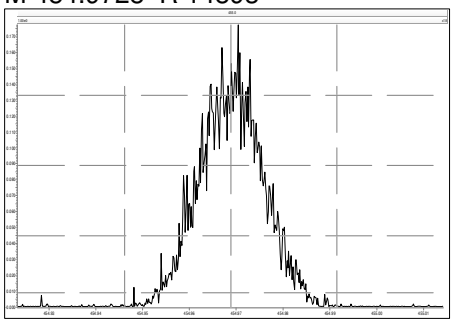
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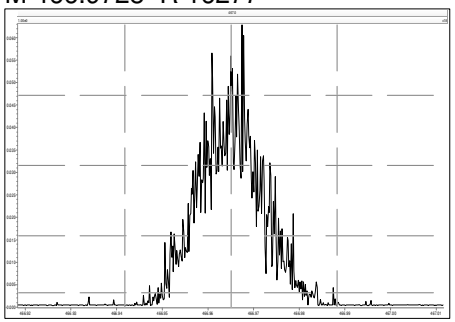
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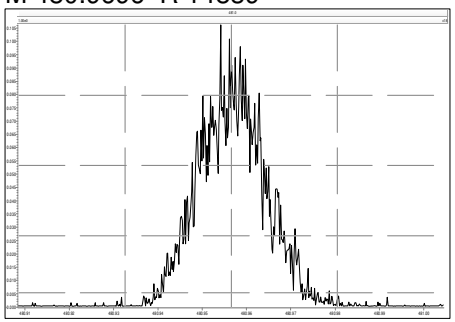
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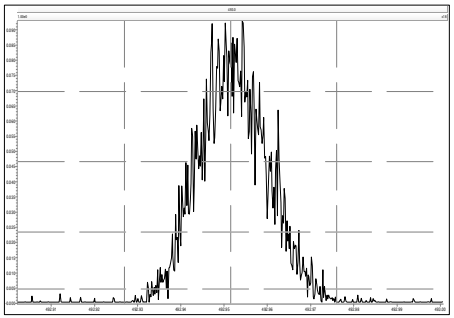
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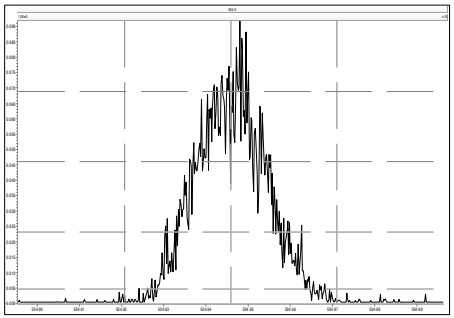
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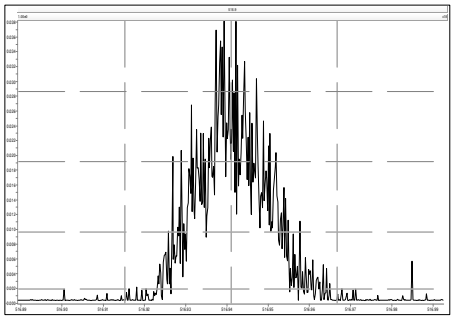
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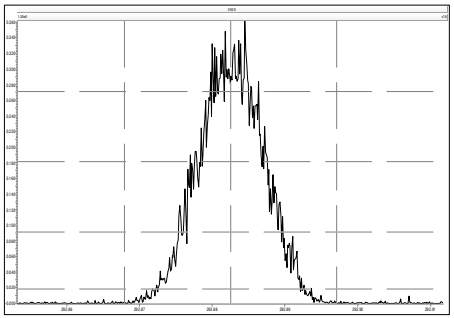


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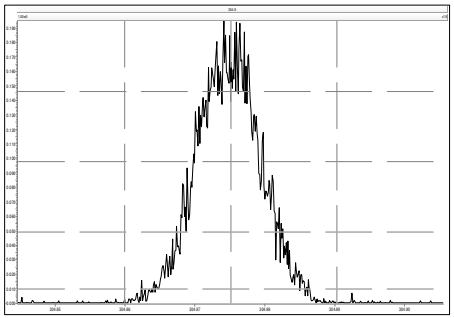


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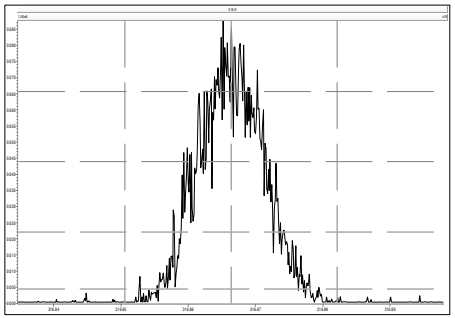
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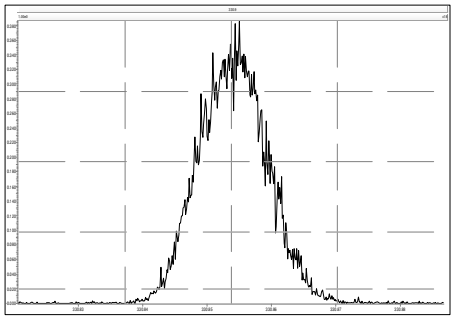
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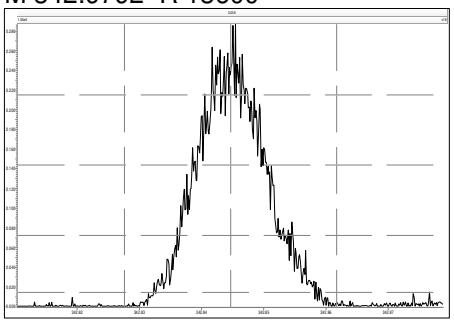
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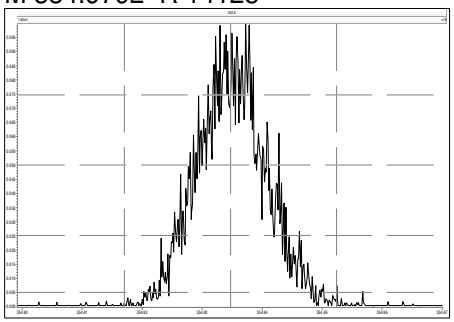
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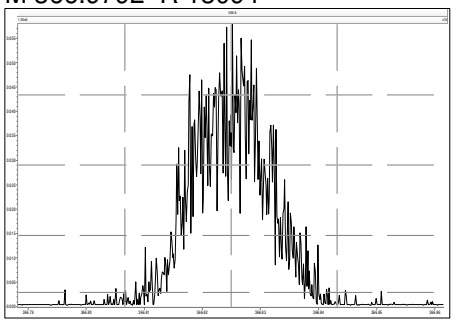
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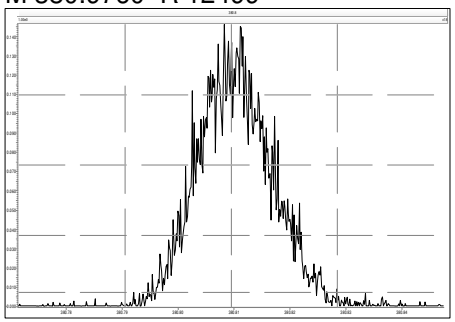
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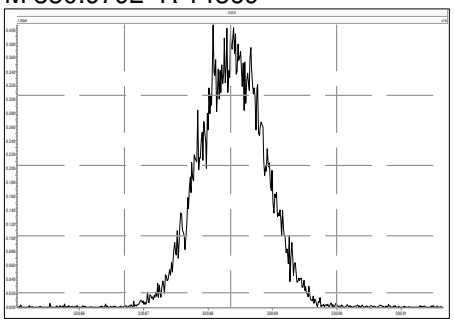
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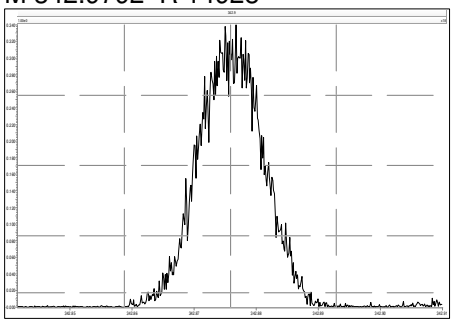
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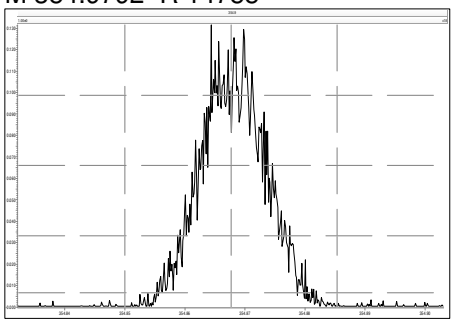
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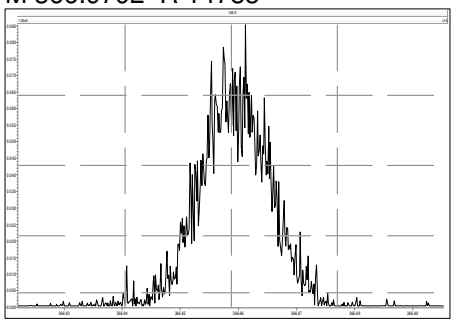
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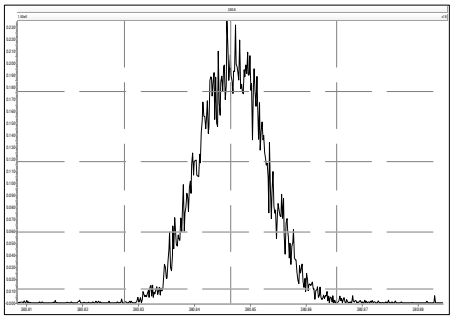
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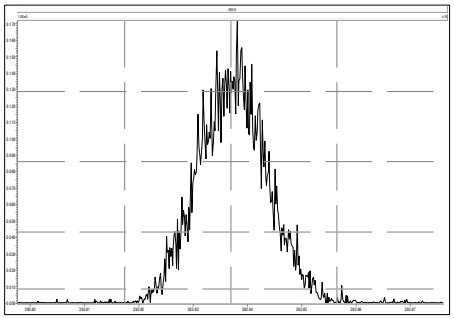
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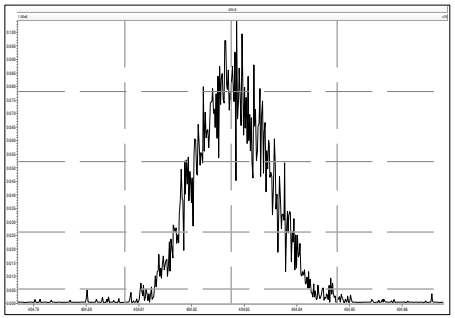
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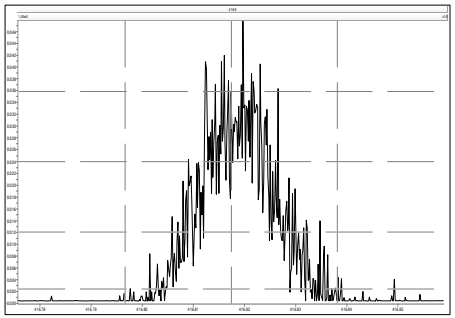
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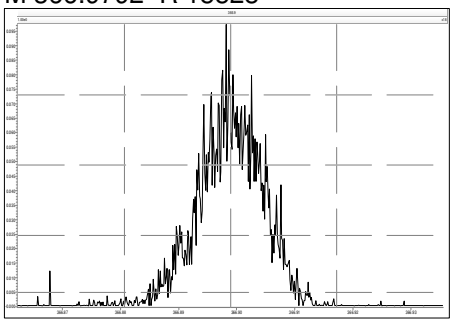
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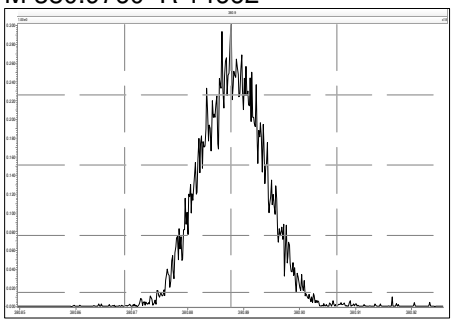
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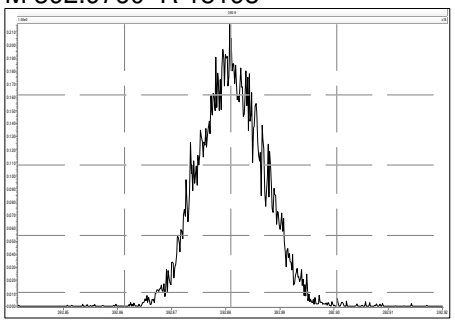
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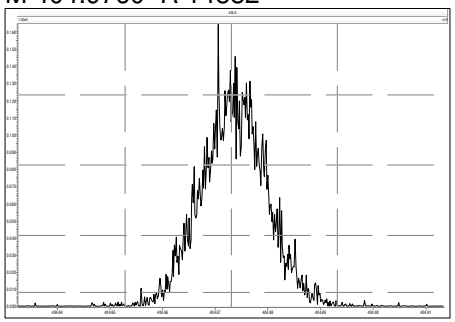
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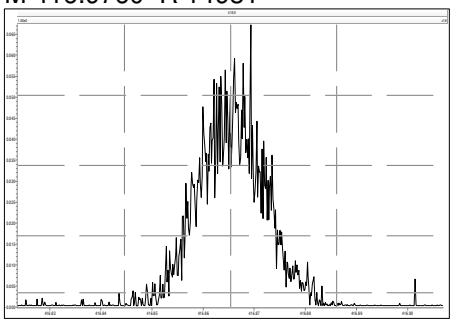
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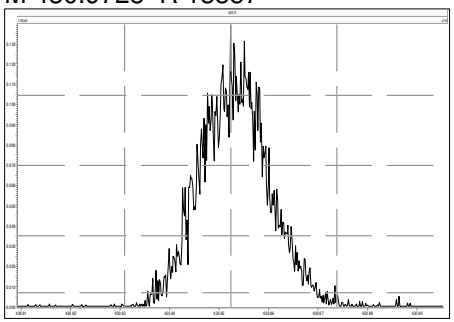
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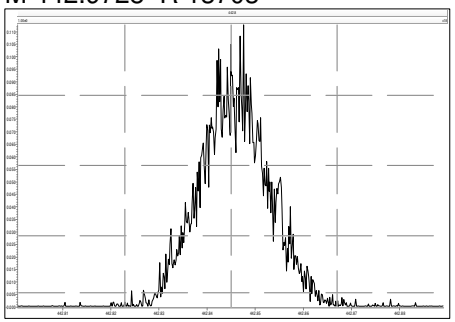
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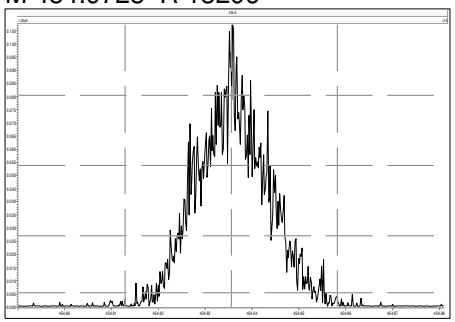
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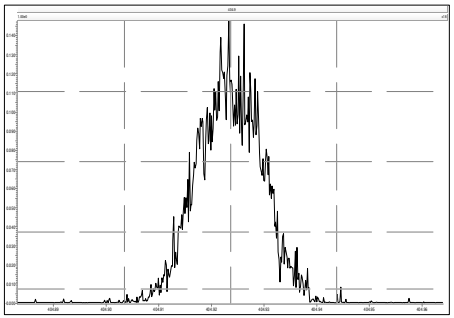
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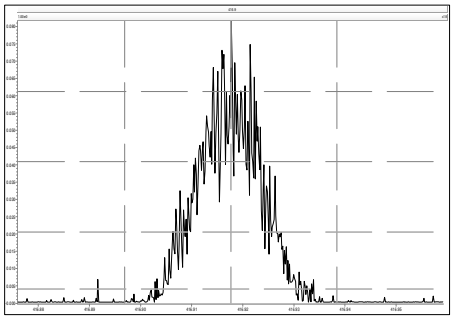
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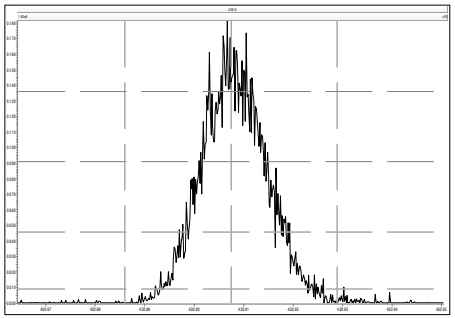
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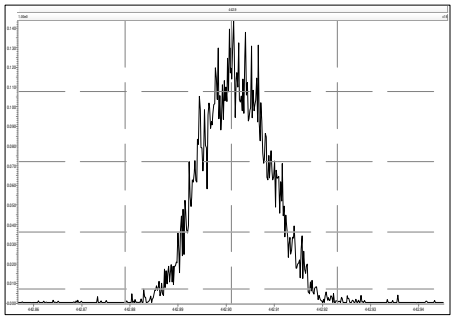
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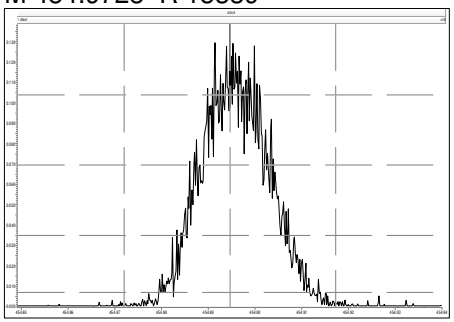
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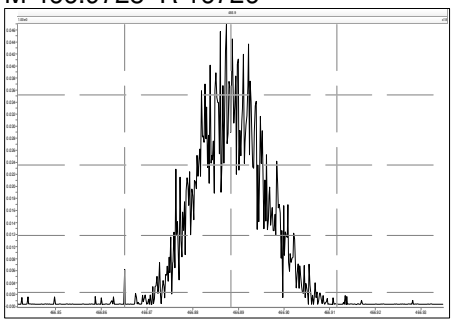
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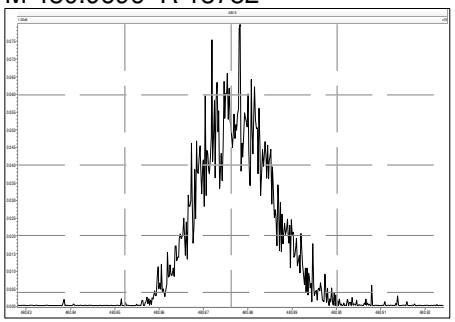
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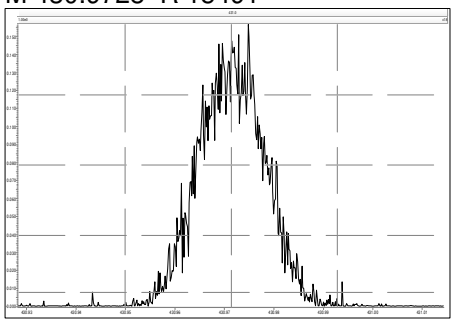
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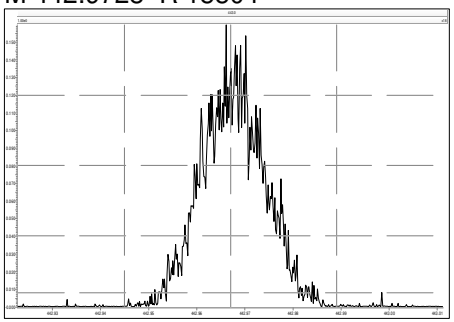
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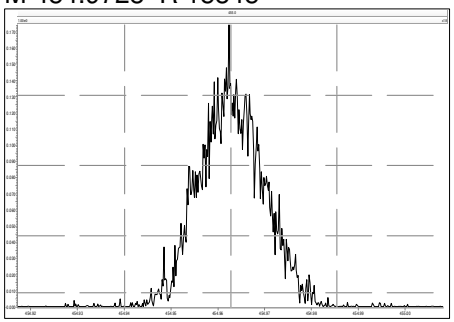
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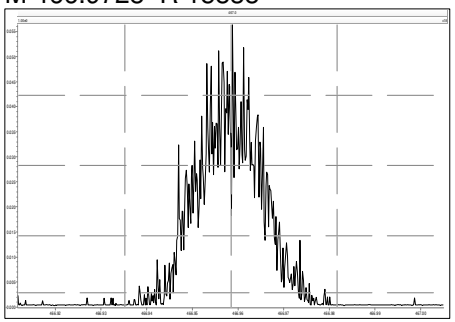
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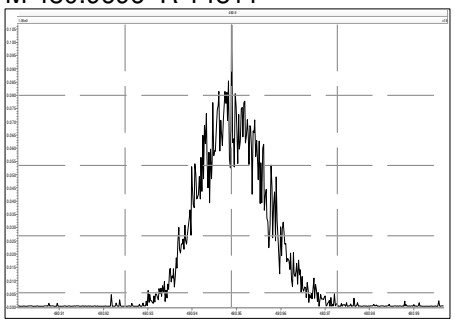
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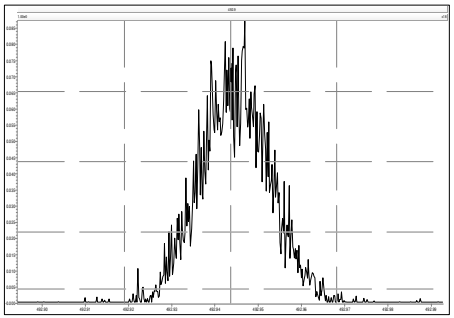
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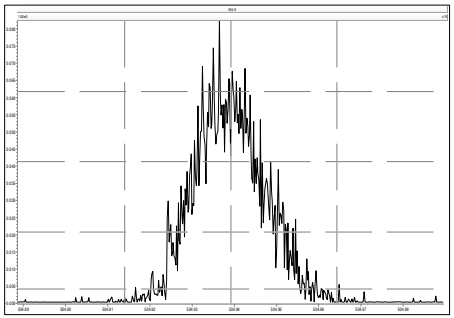
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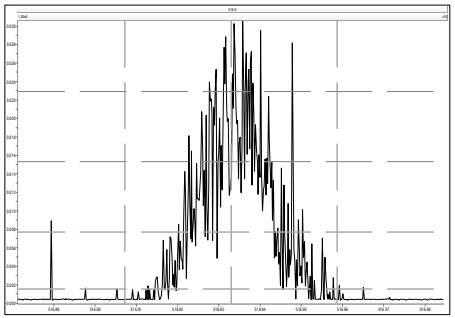
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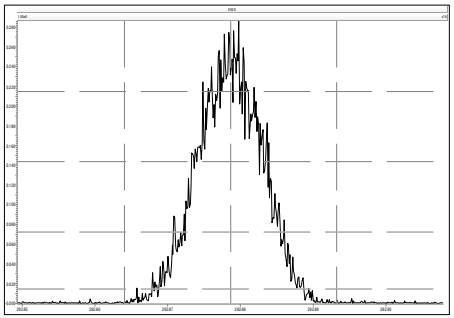


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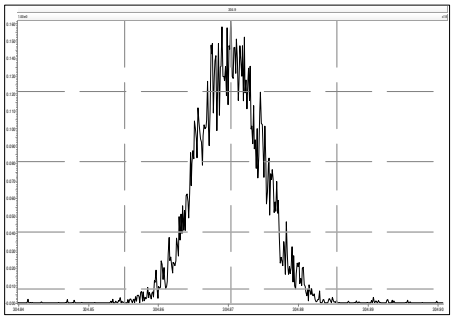


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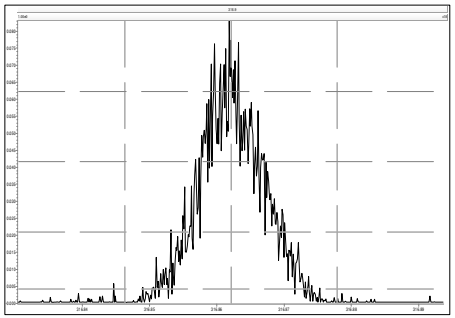
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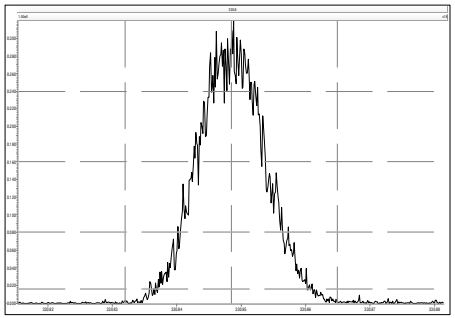
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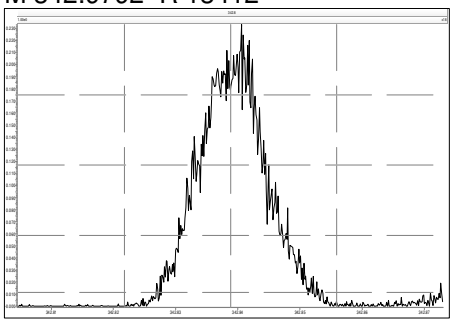
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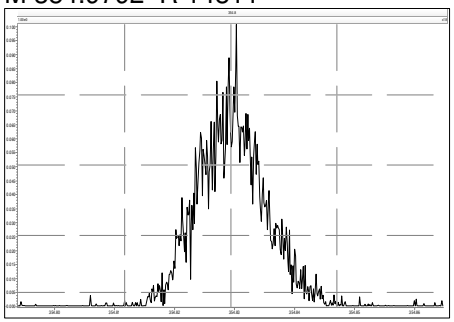
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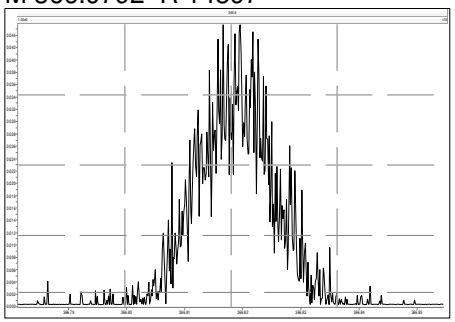
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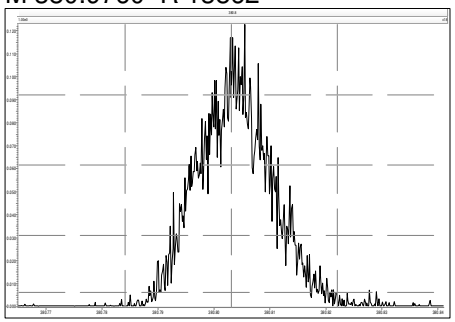
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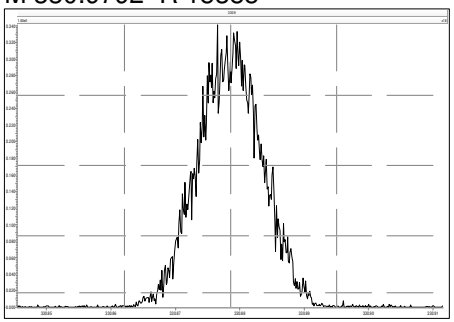
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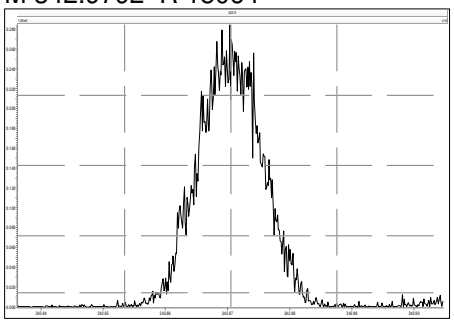
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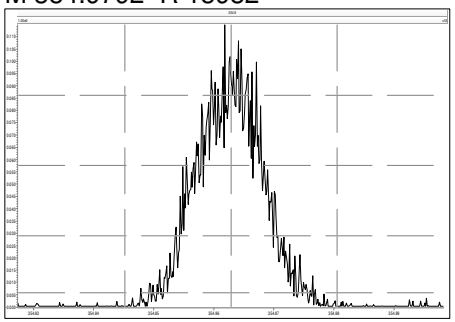
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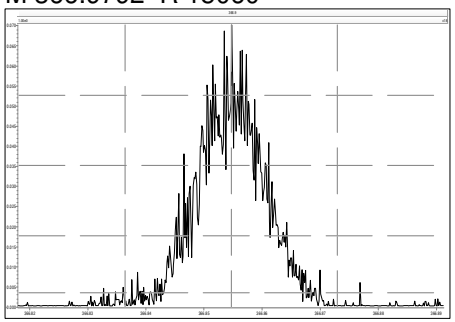
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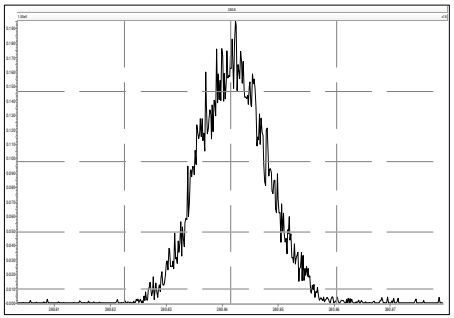
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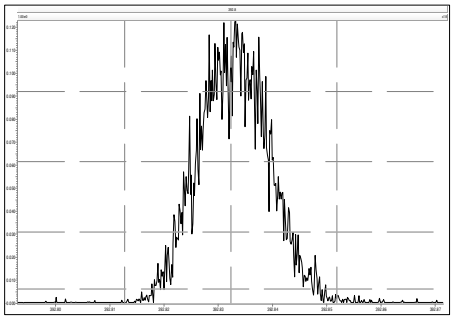
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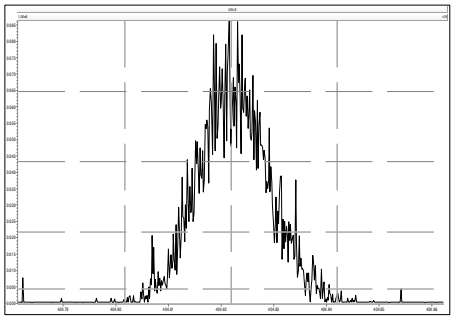
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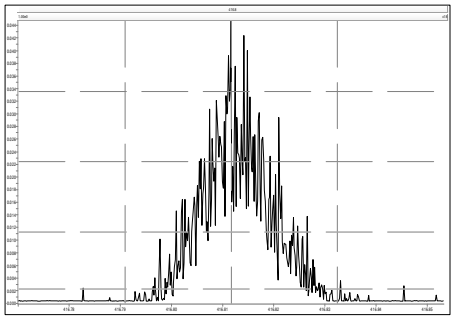
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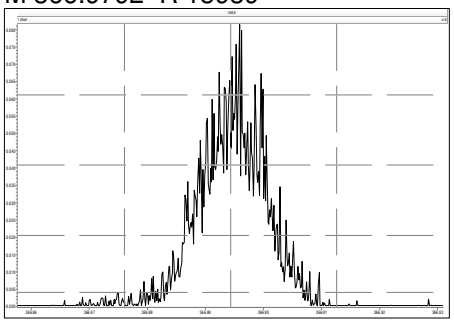
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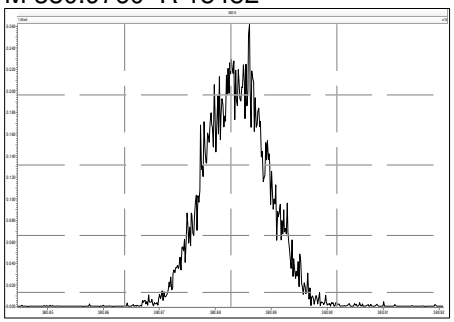
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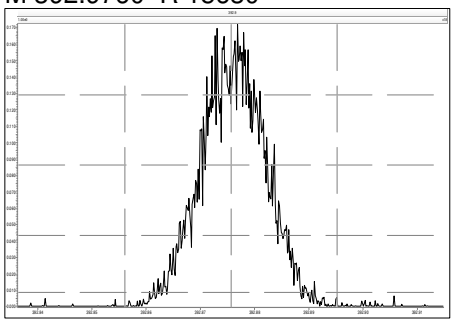
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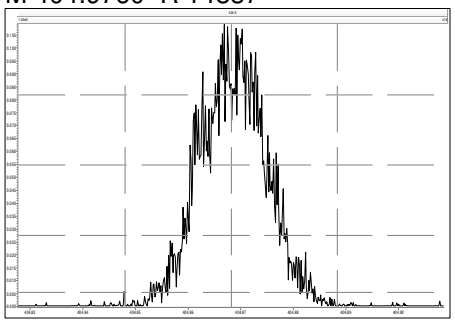
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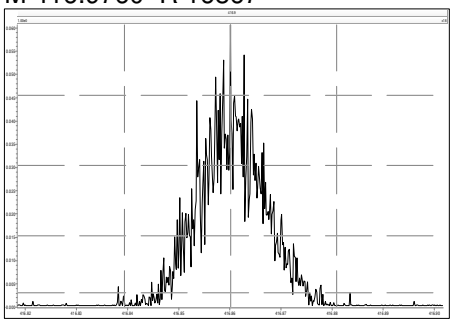
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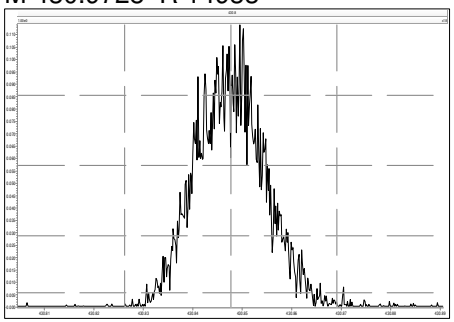
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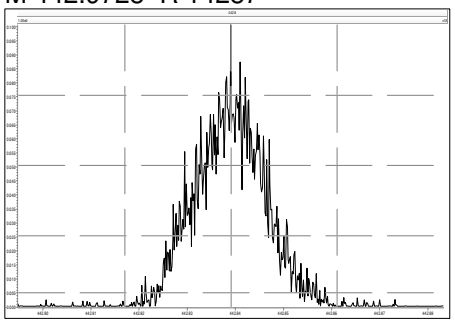
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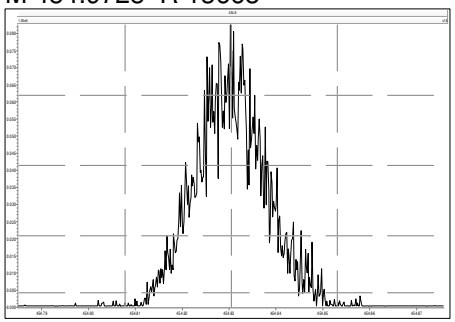
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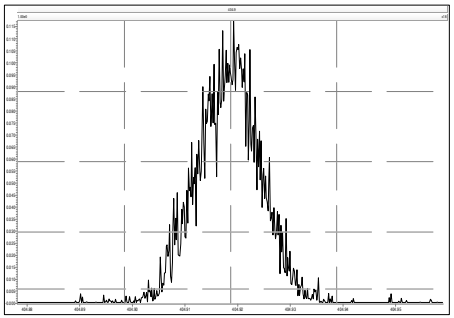
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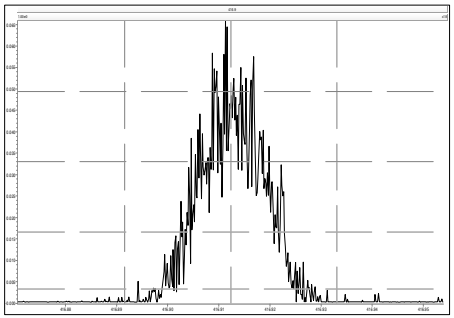
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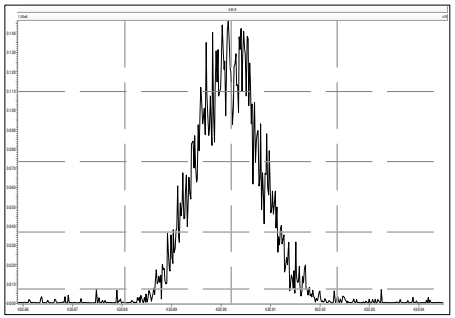
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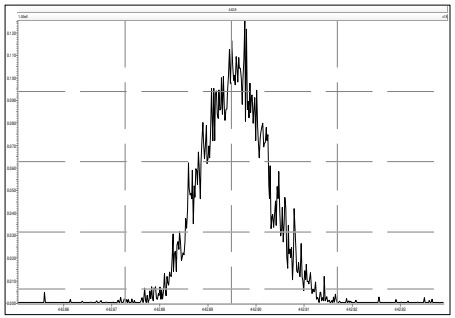
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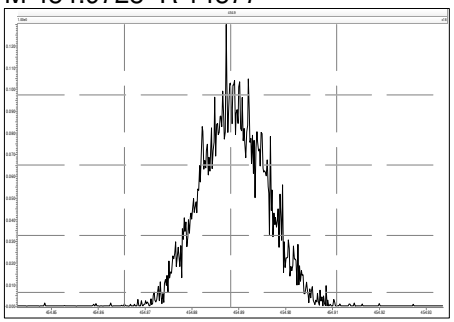
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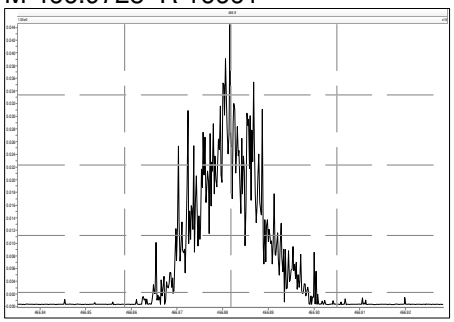
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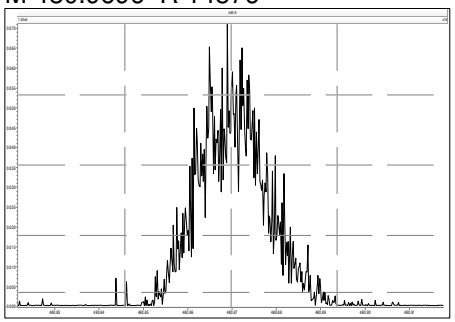
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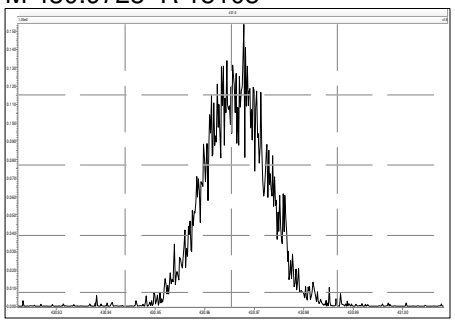
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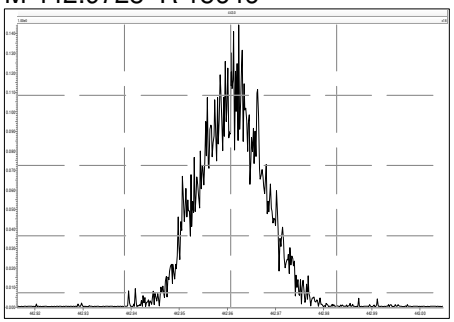
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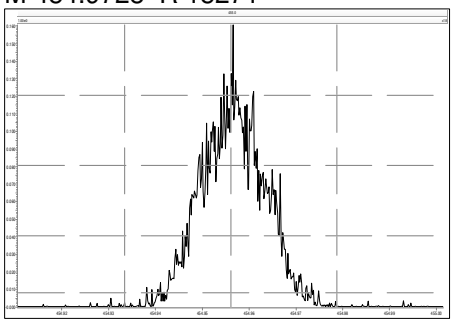
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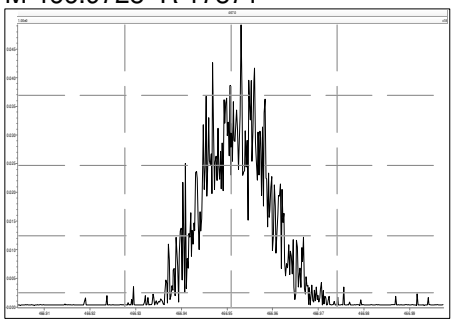
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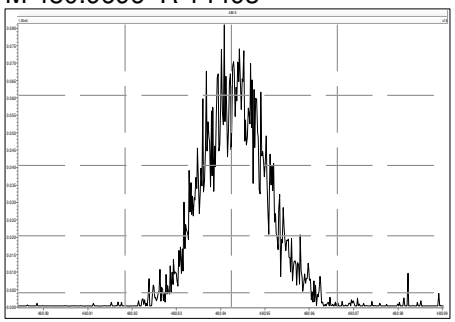
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M 466.9728 R 17871

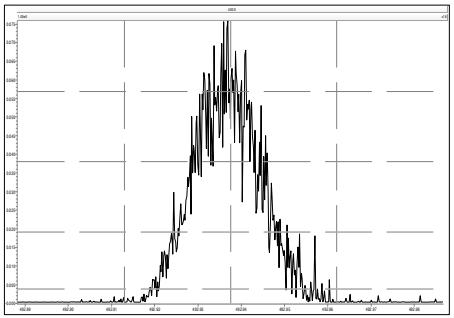


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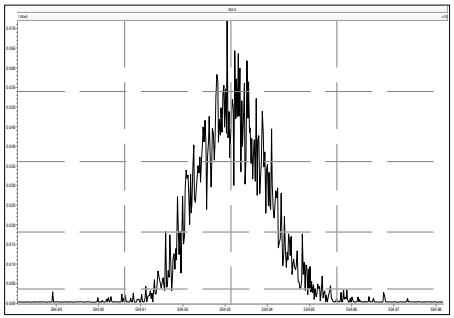


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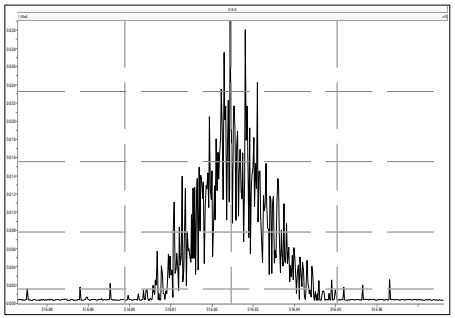
M 492.9696 R 15013



M 504.9696 R 14189



M 516.9697 R 15975



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

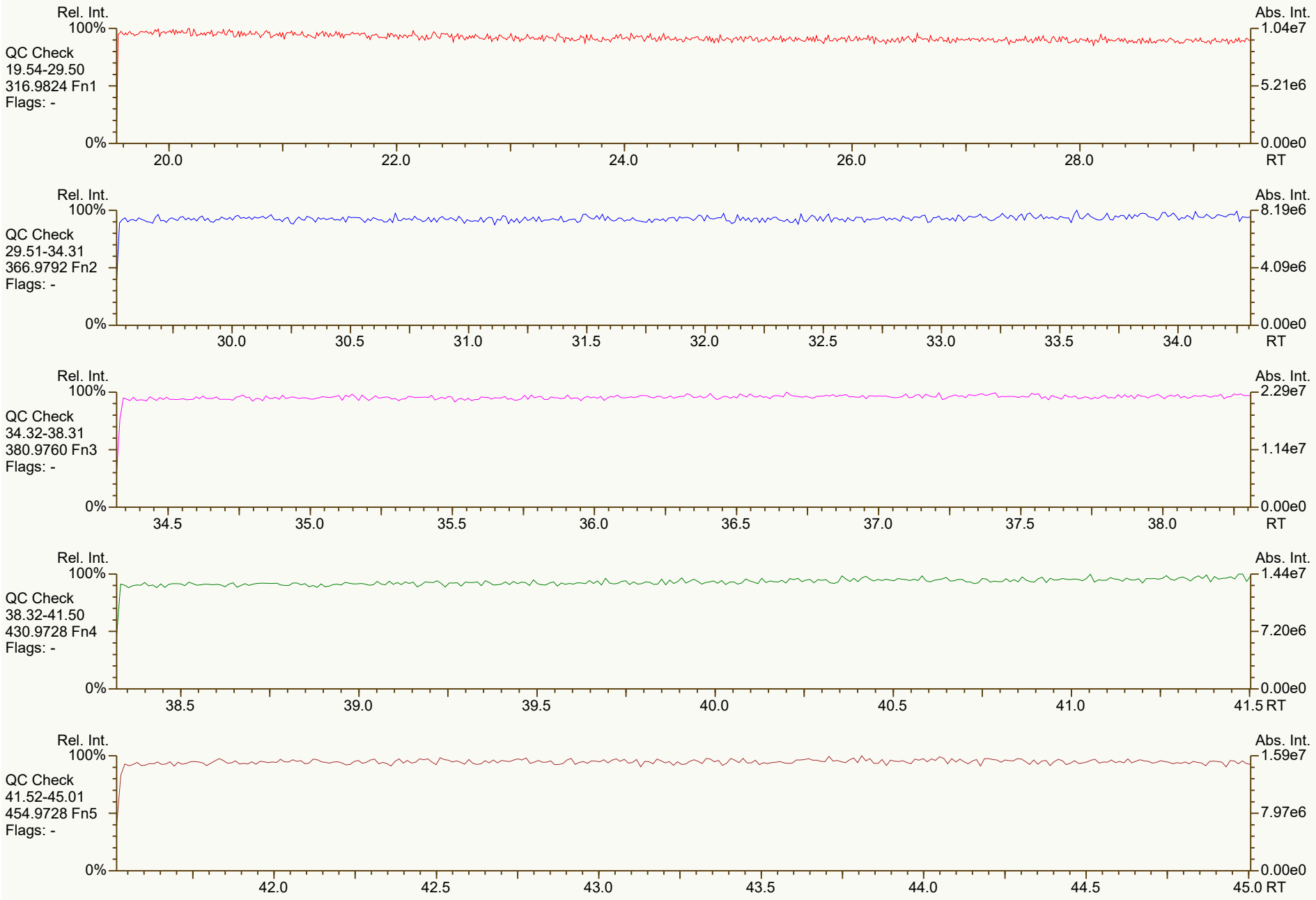
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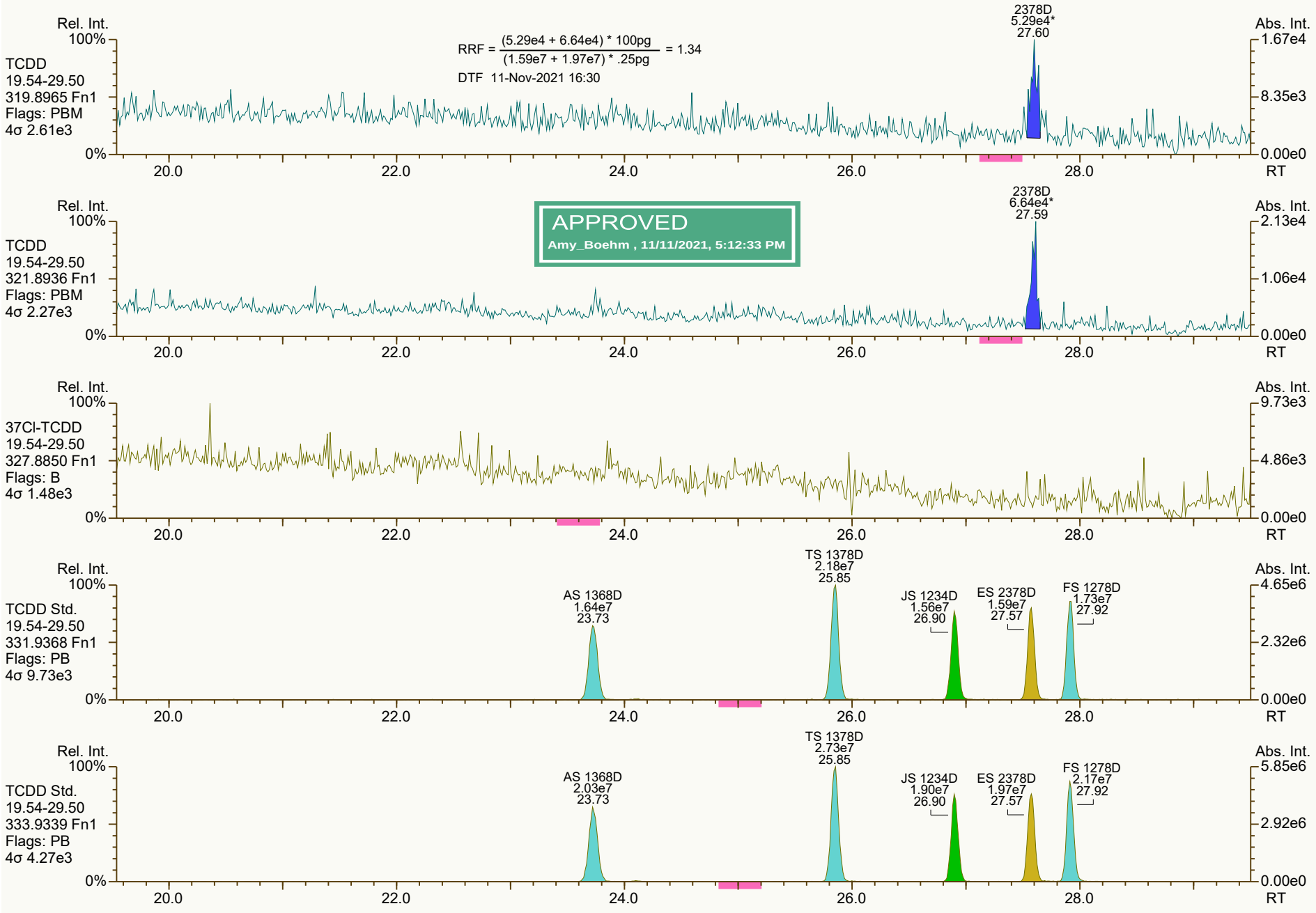
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

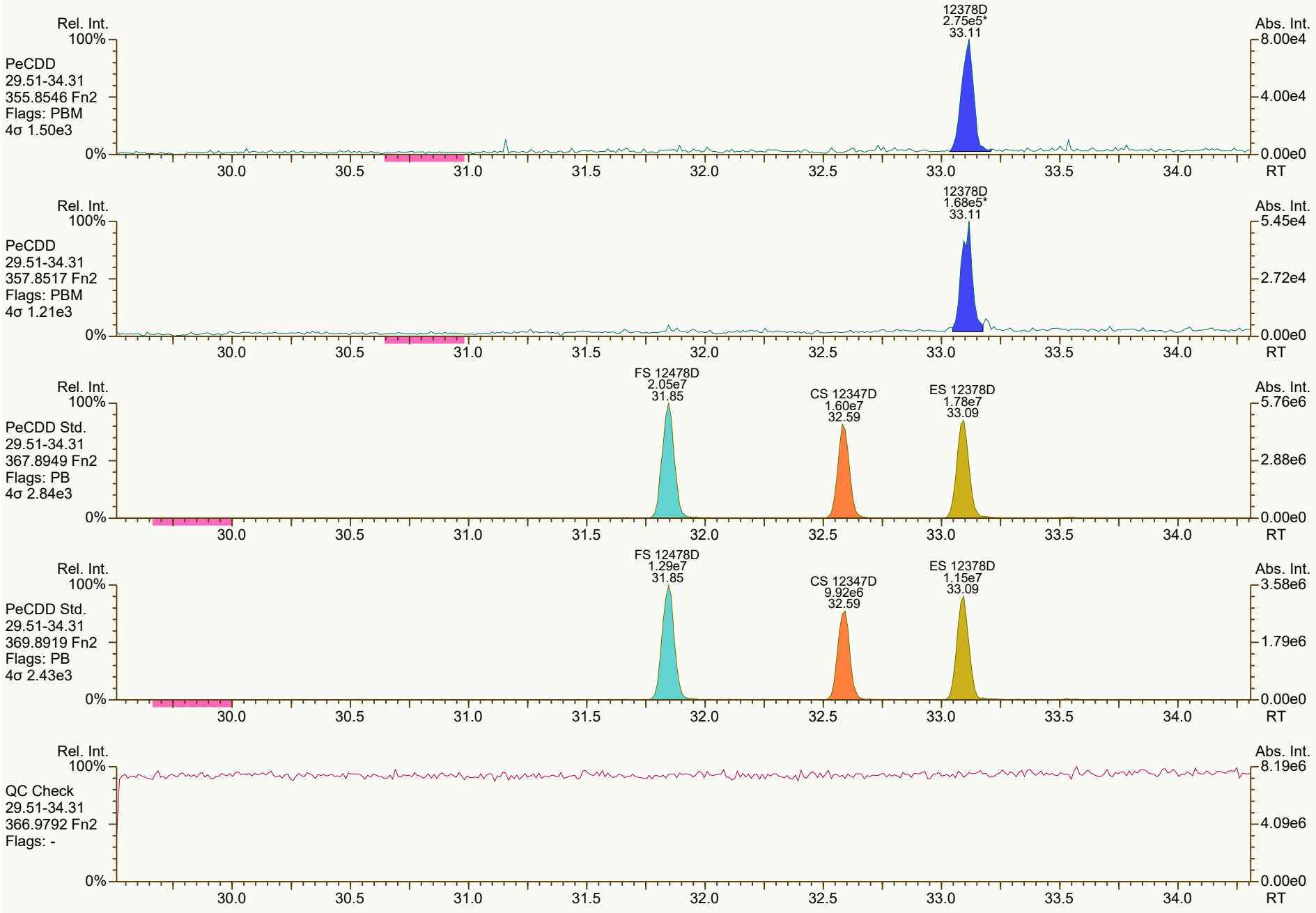
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

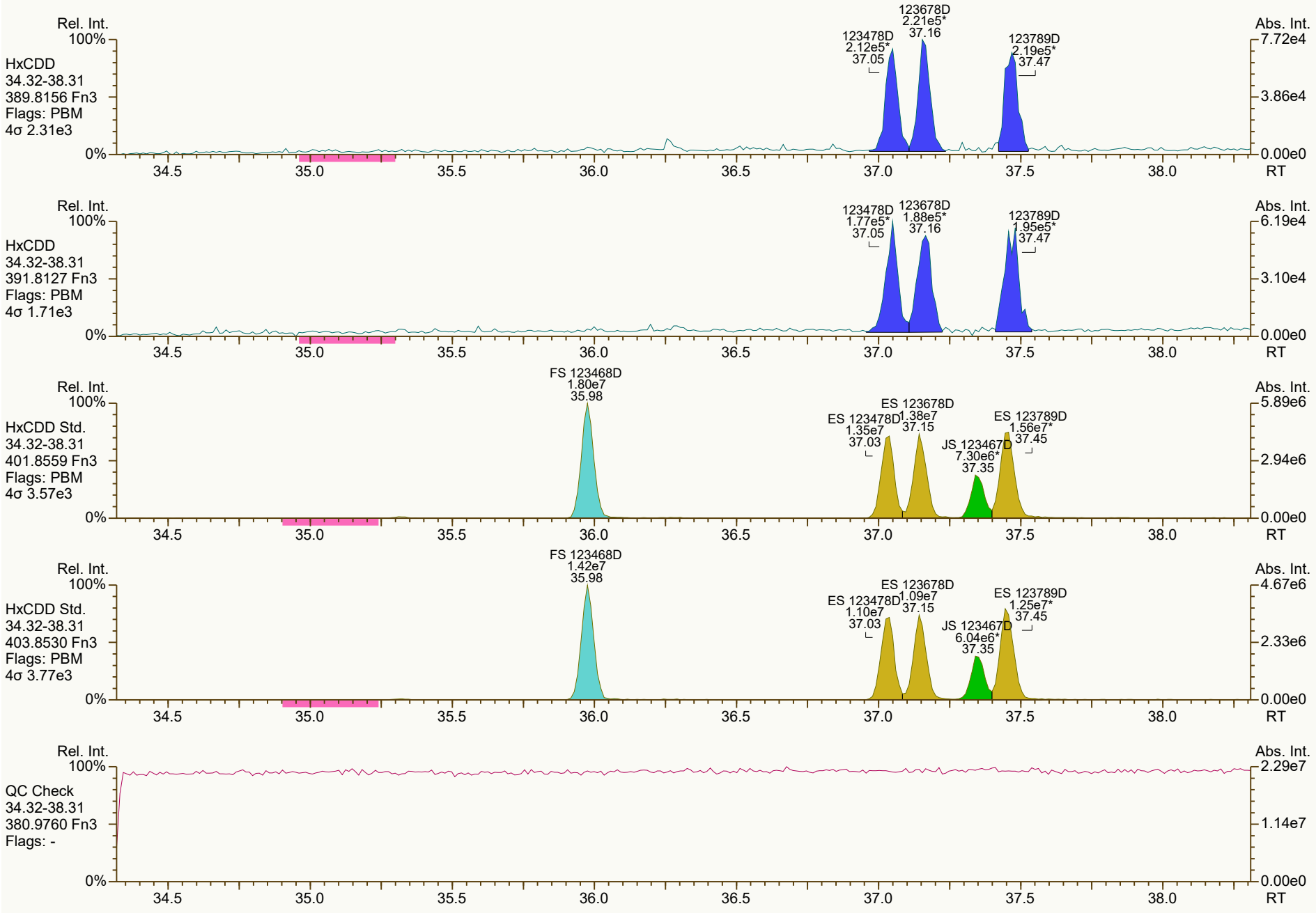
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

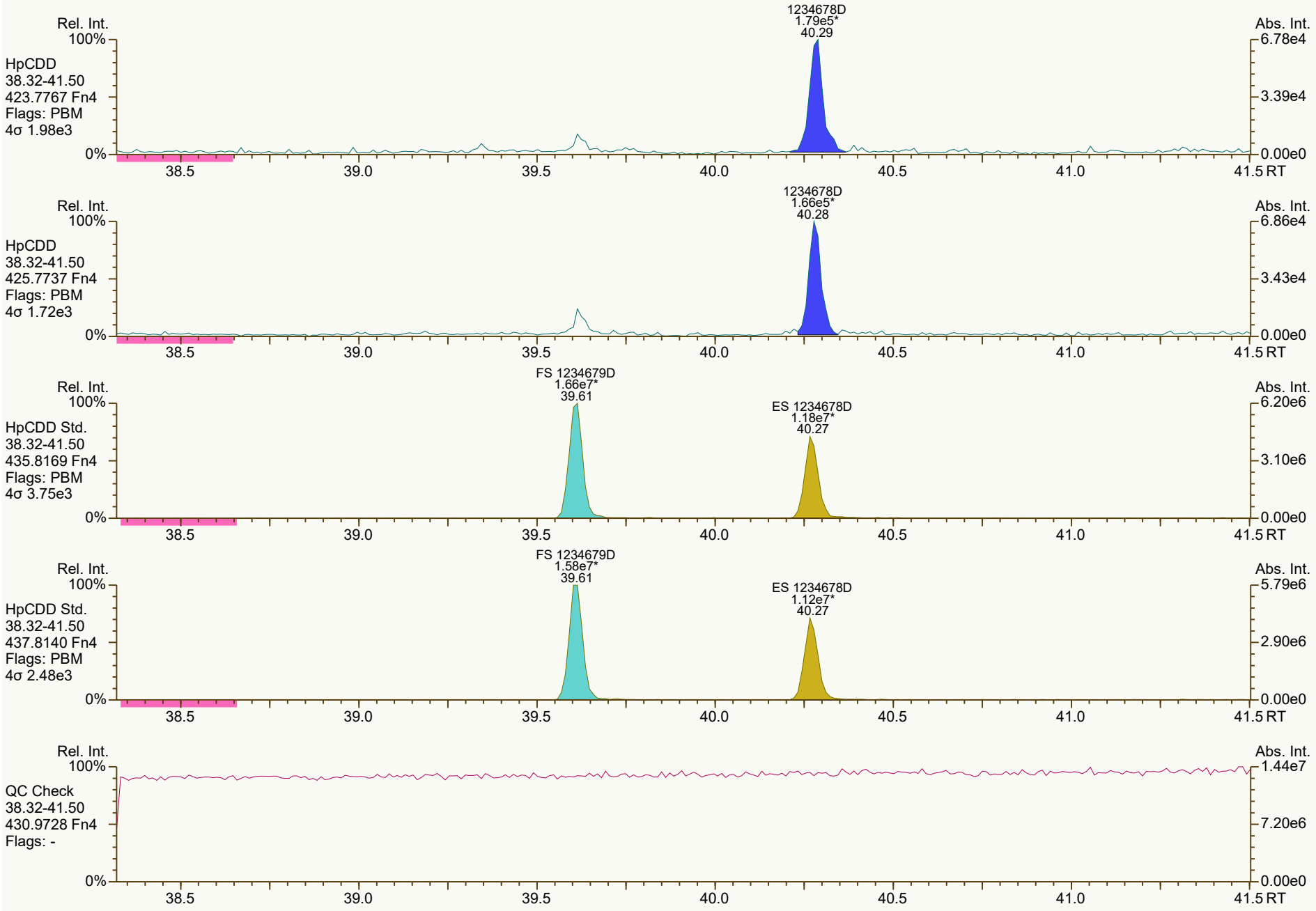
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

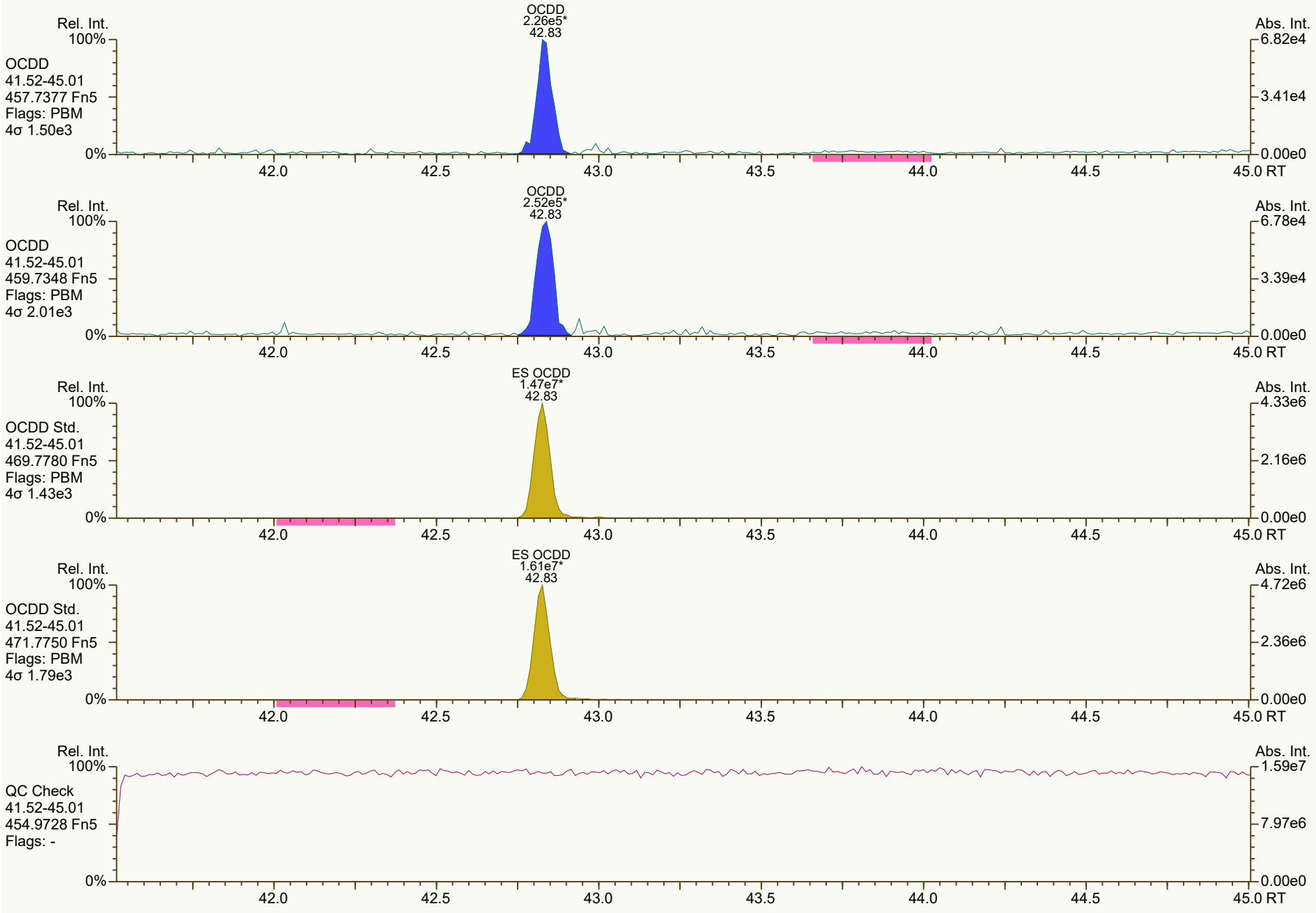

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
8.19e6
4.09e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.44e7
7.20e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
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7.97e6
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42.5
43.0
43.5
44.0
44.5
45.0

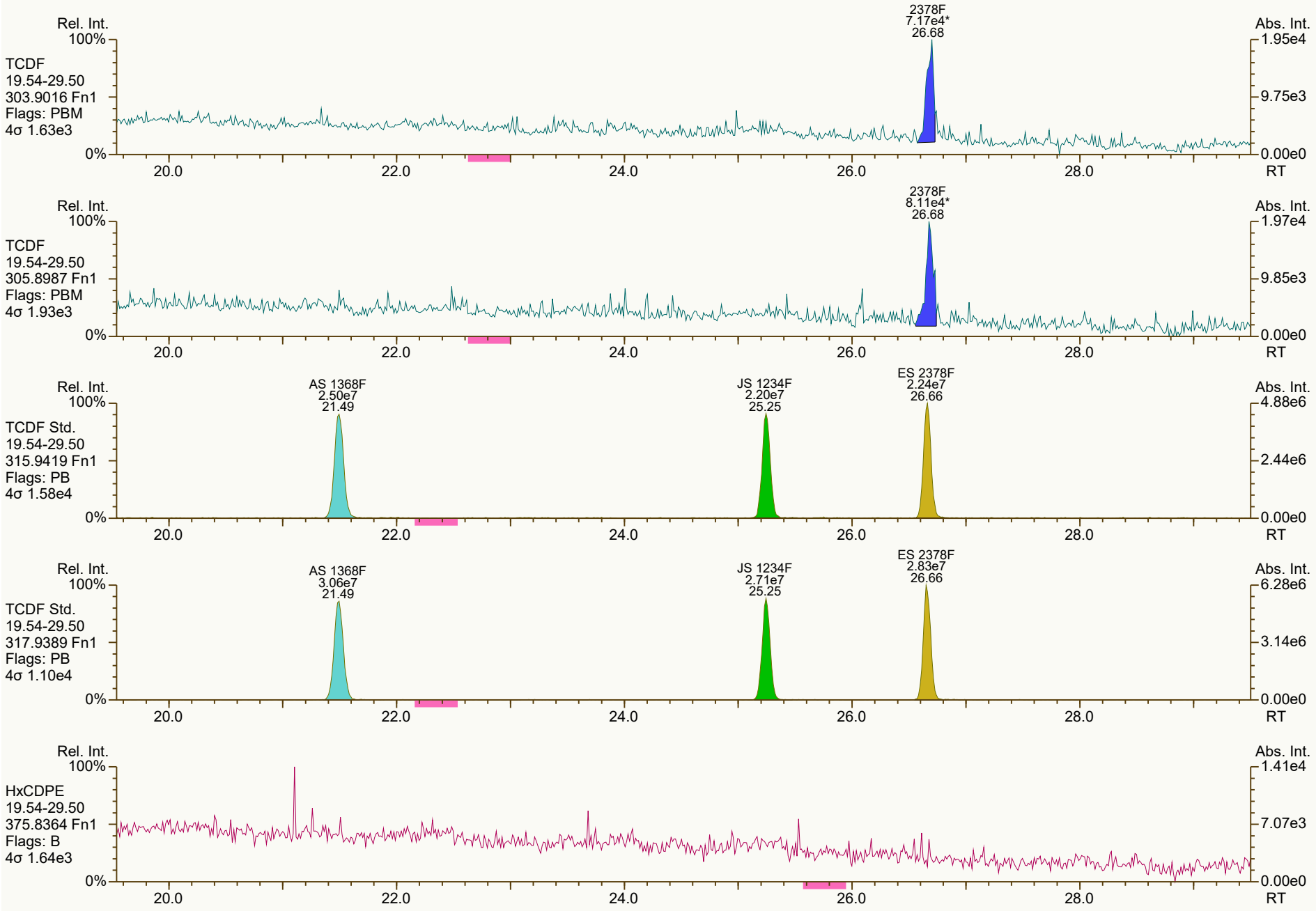

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

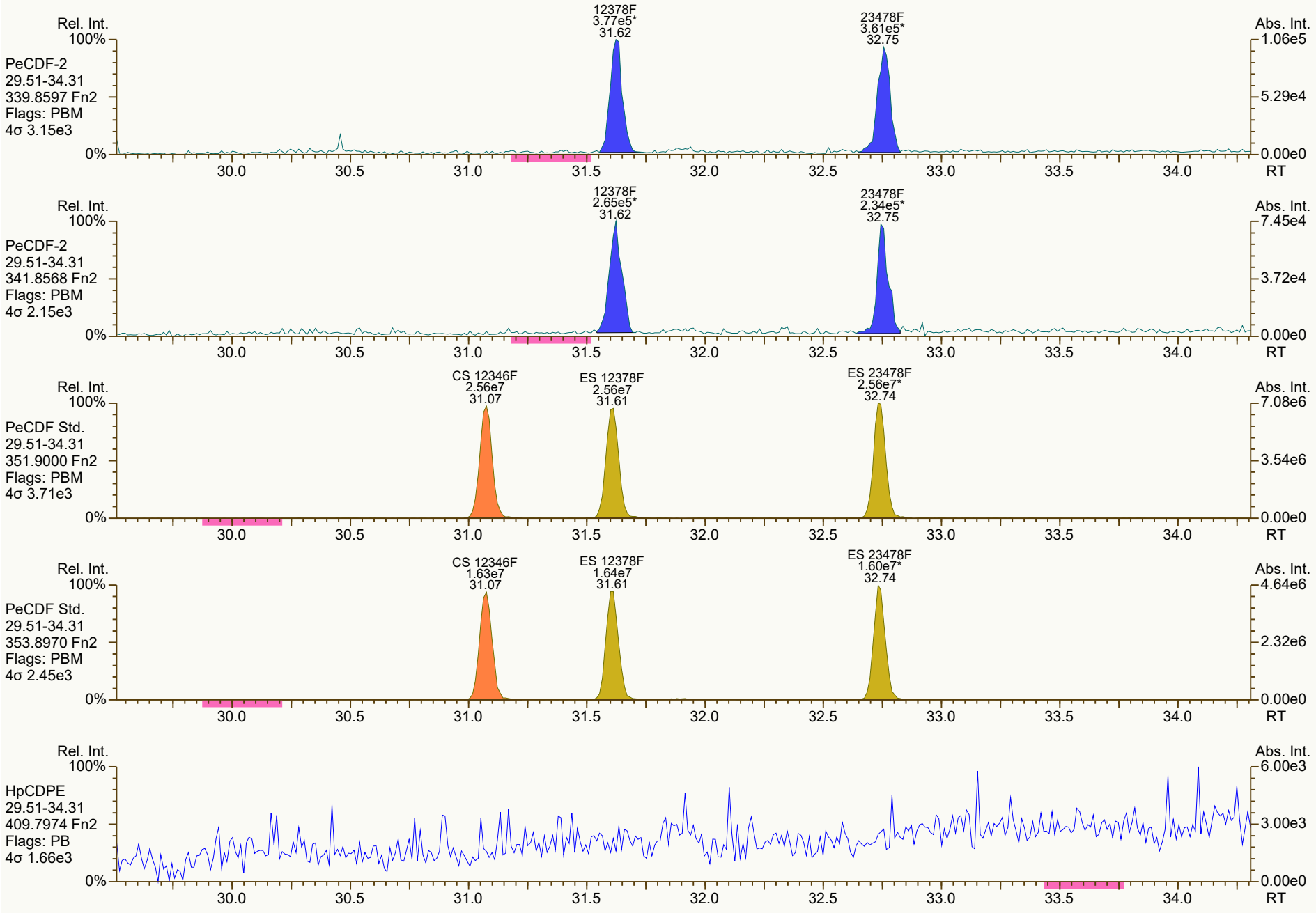

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

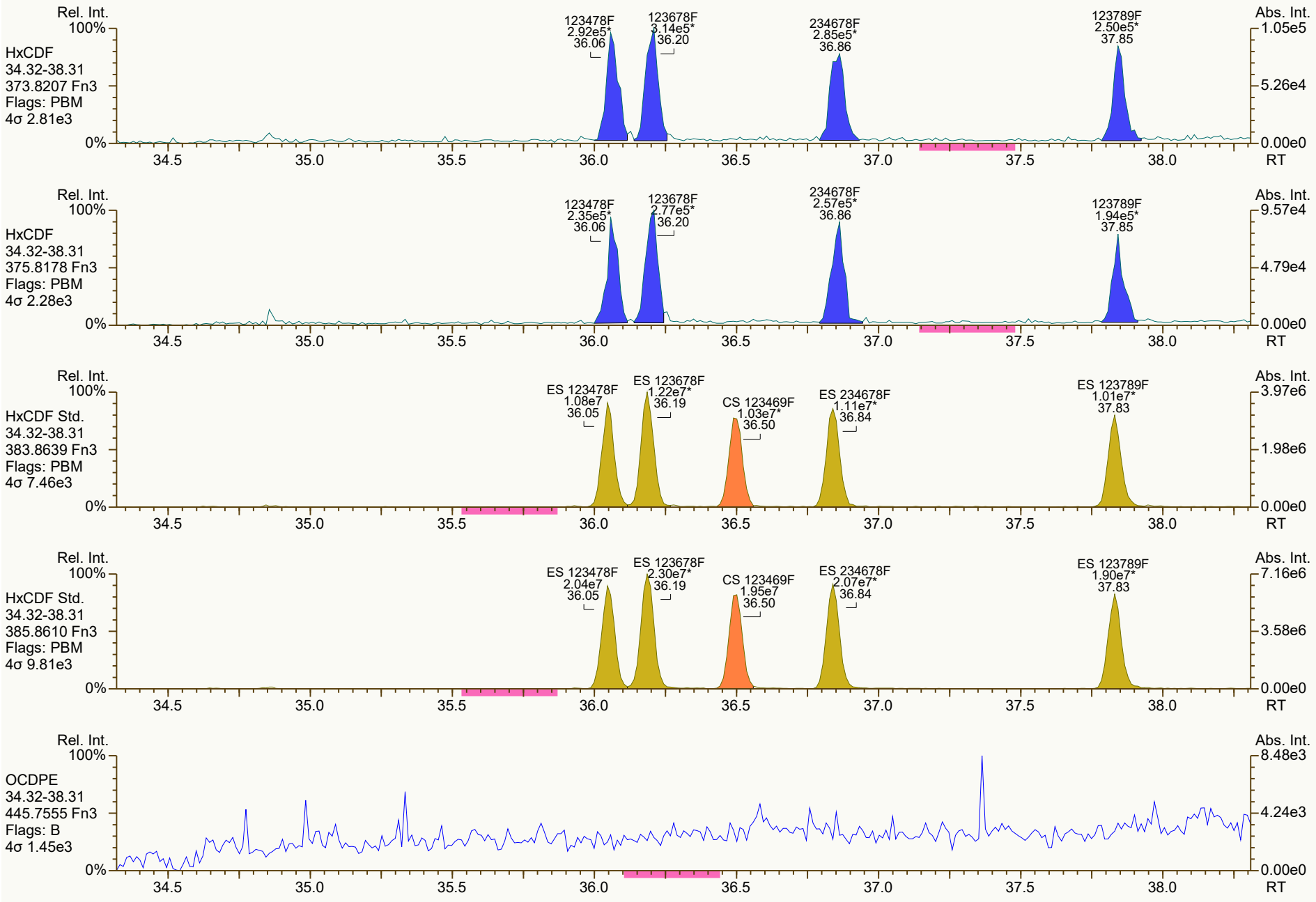

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

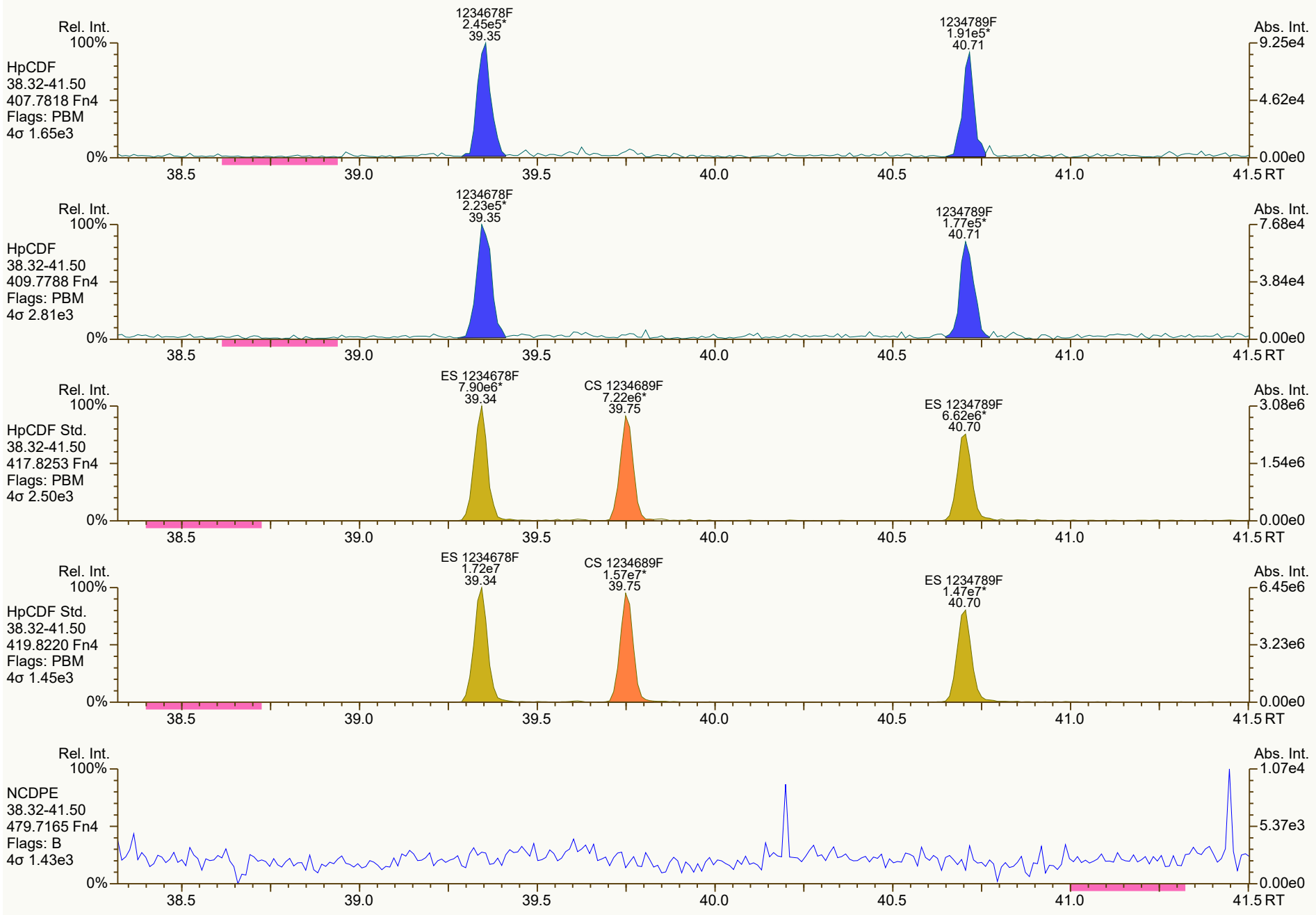

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04




Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

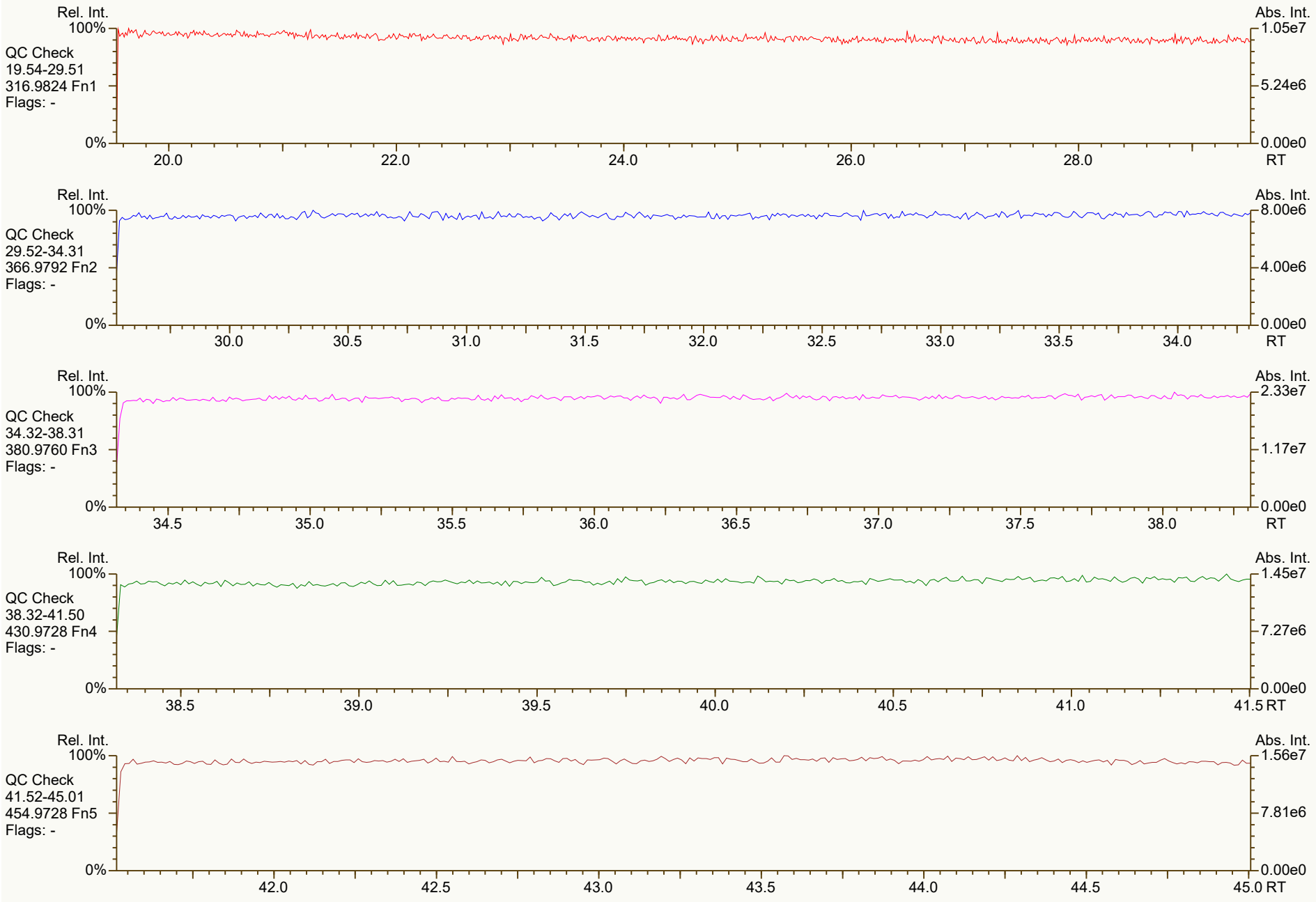

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

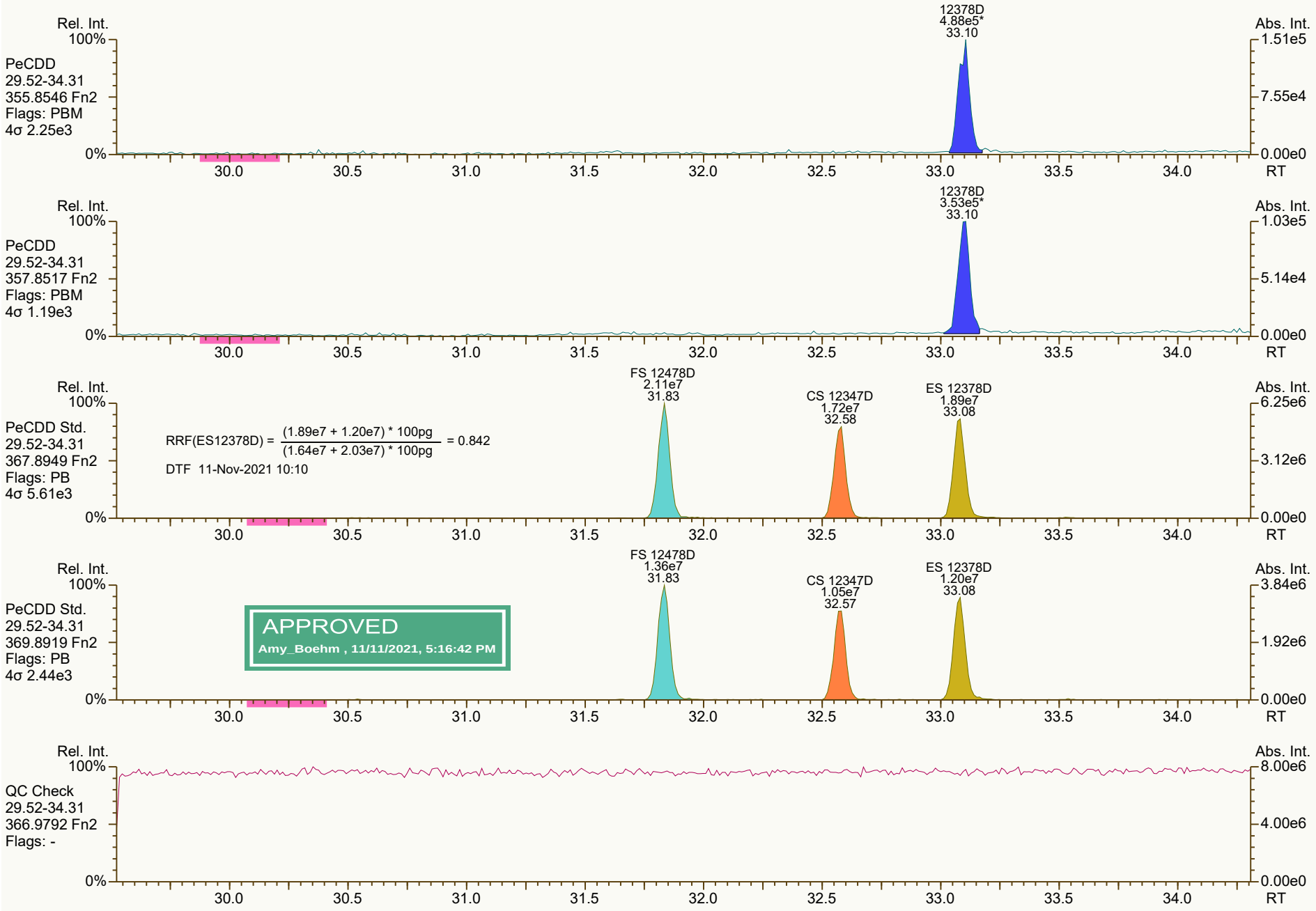

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

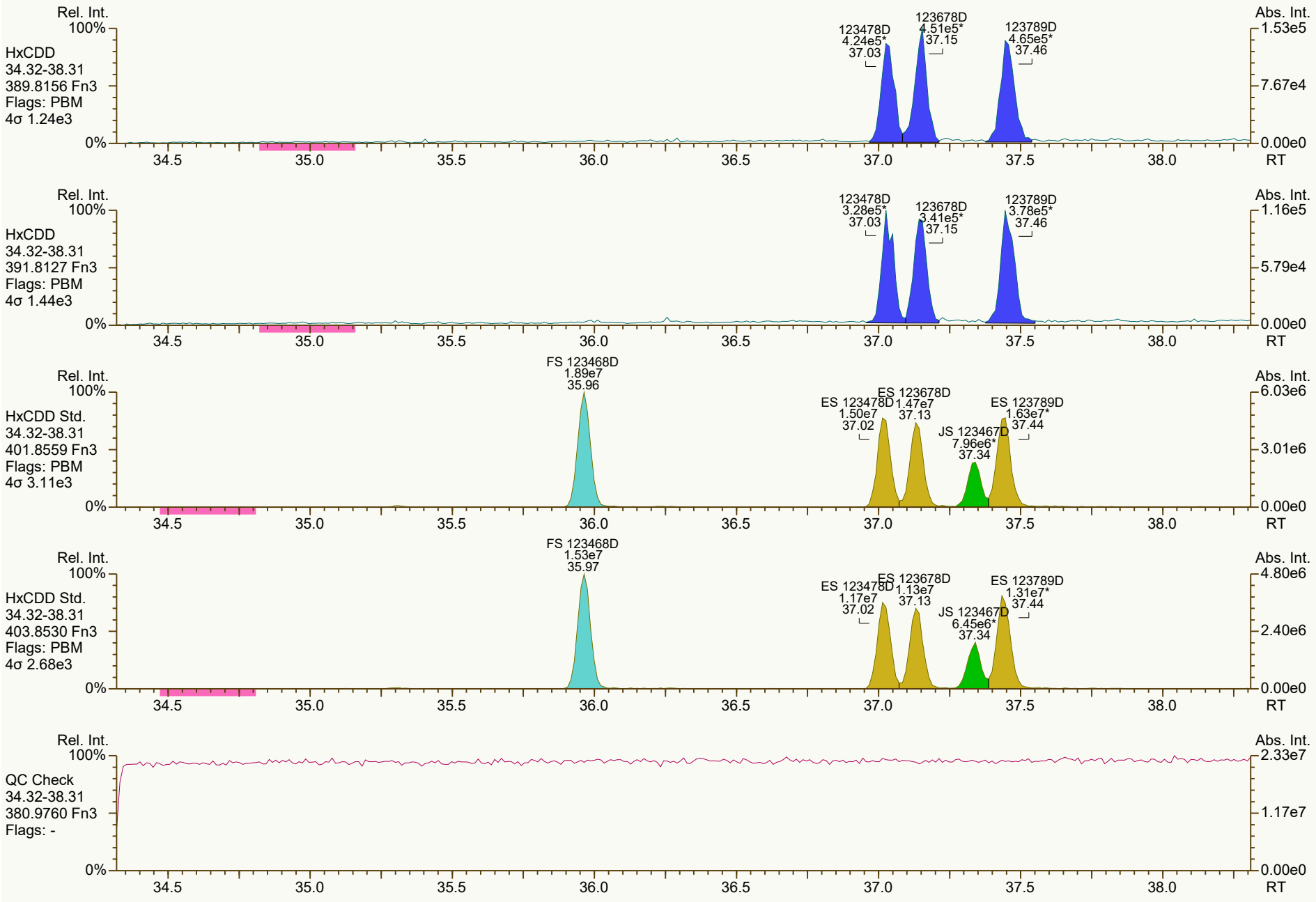
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

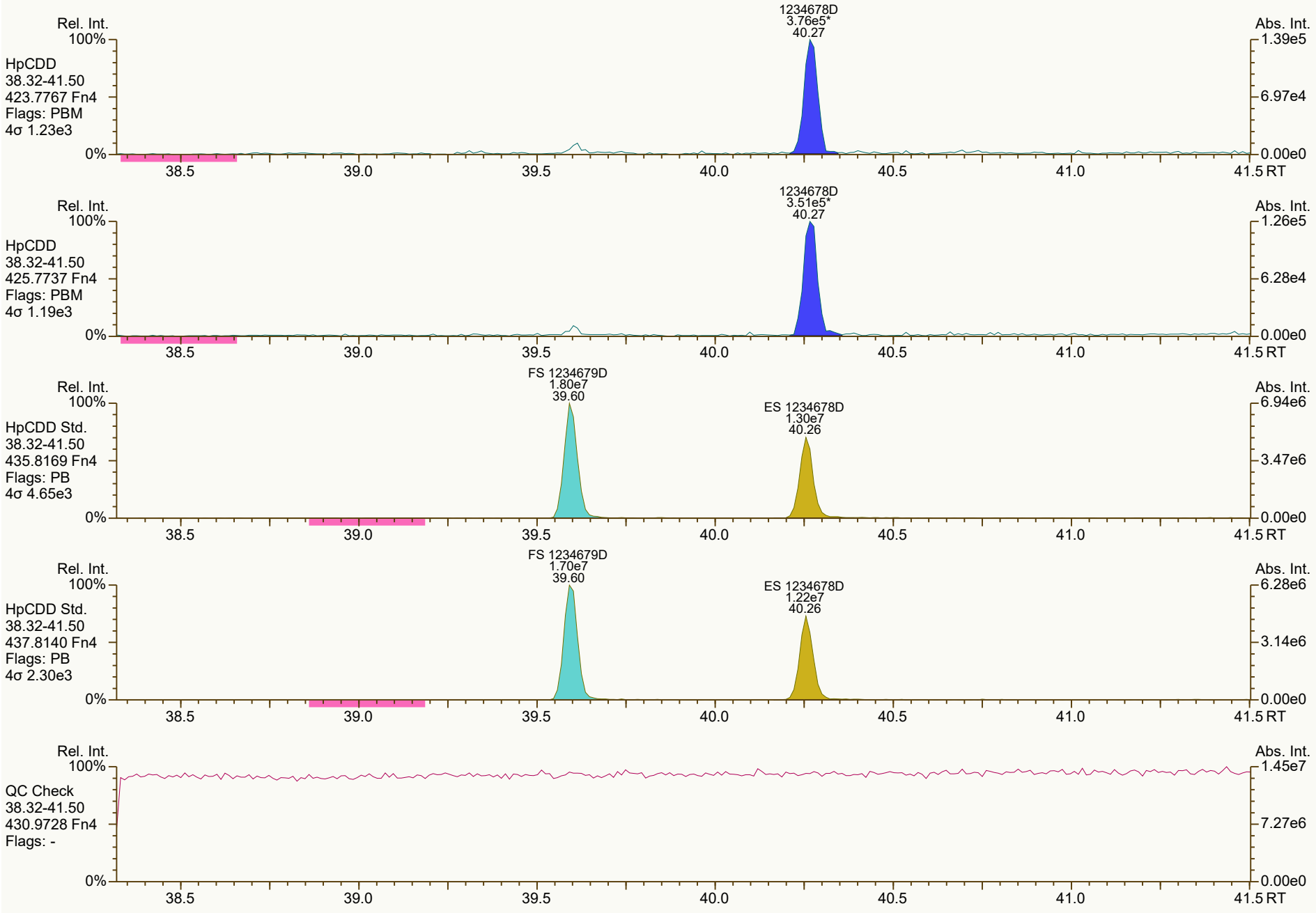
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

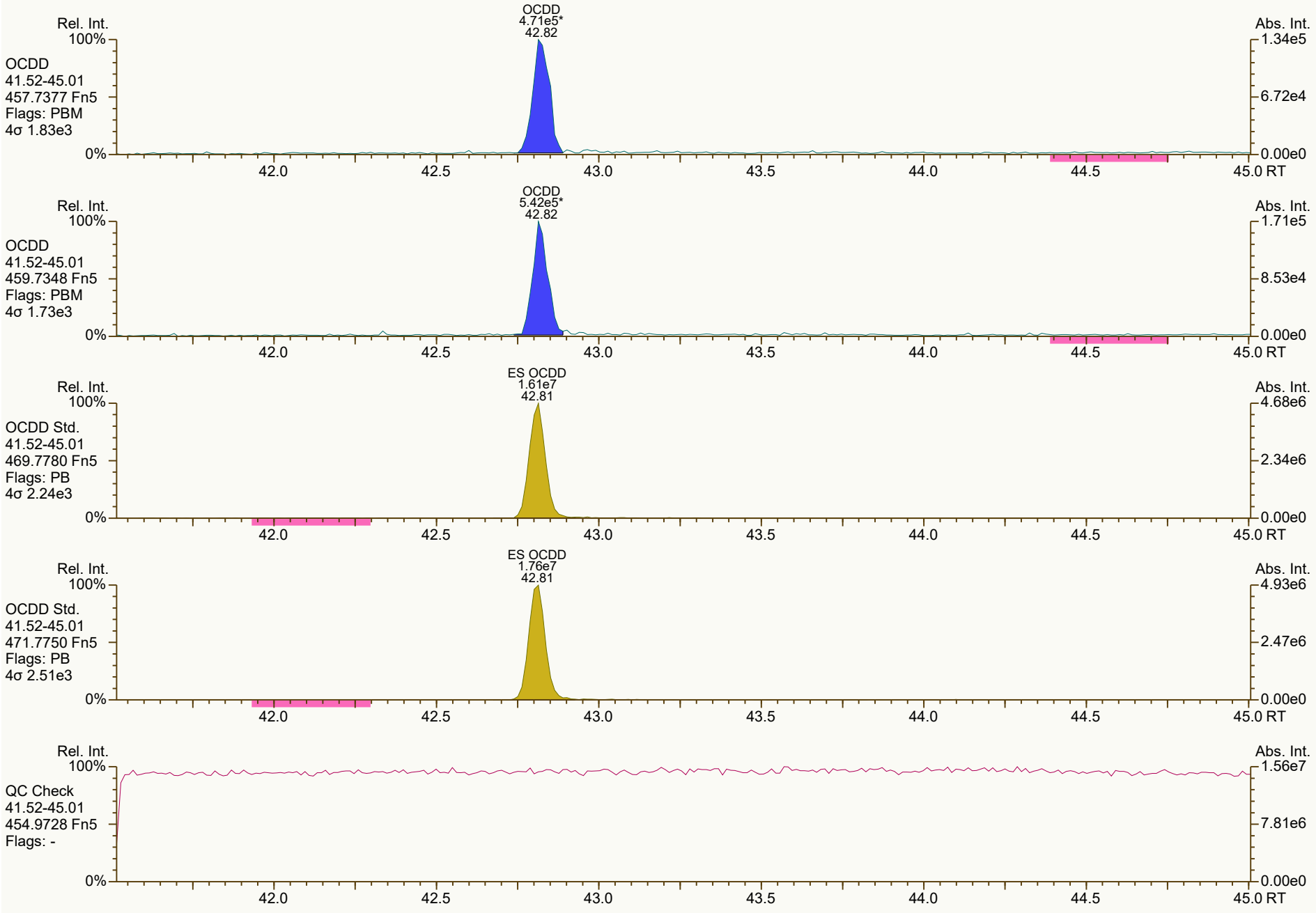

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.05e7
5.24e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.00e6
4.00e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.33e7
1.17e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.45e7
7.27e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.56e7
7.81e6
0.00e0
RT

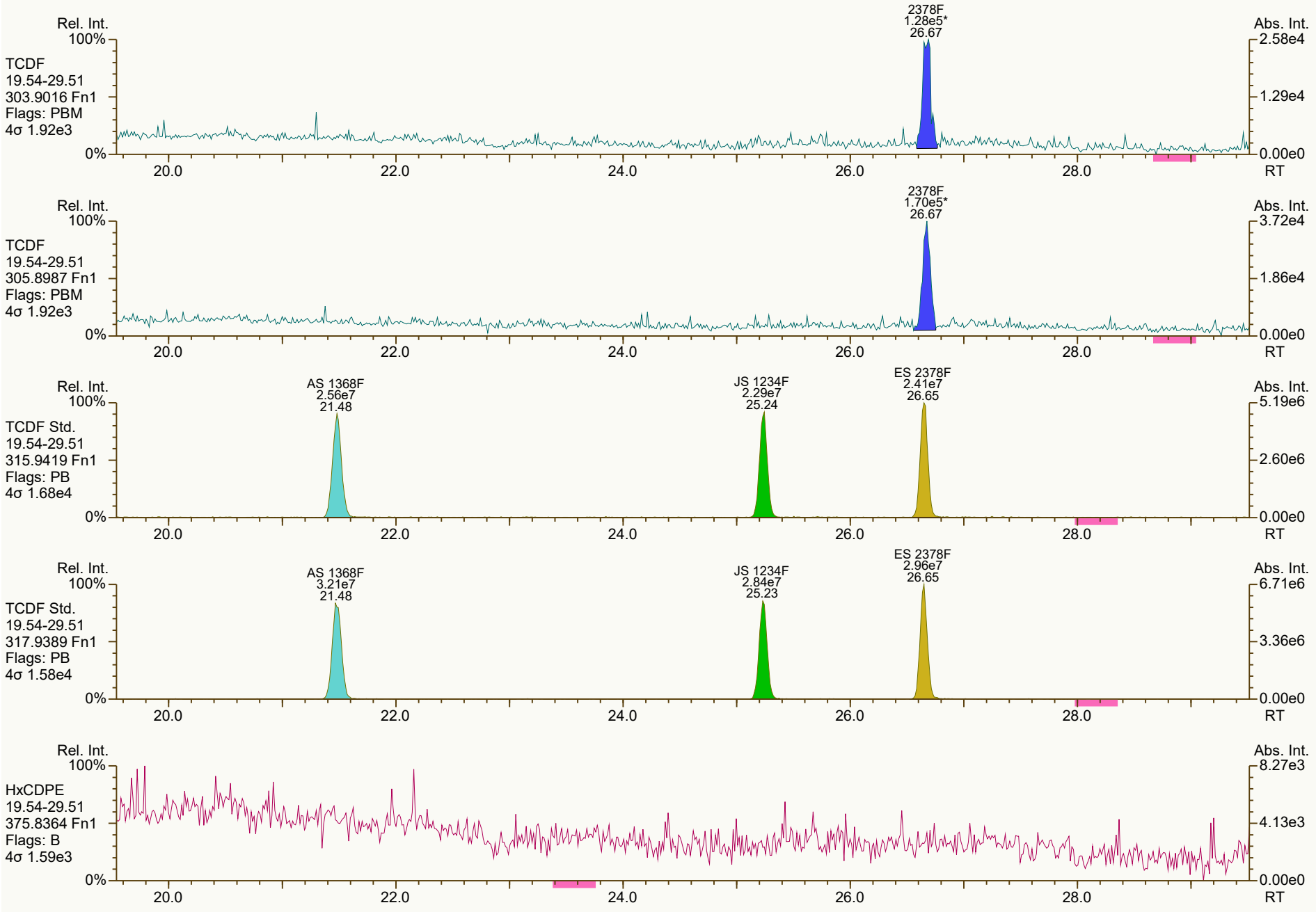

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

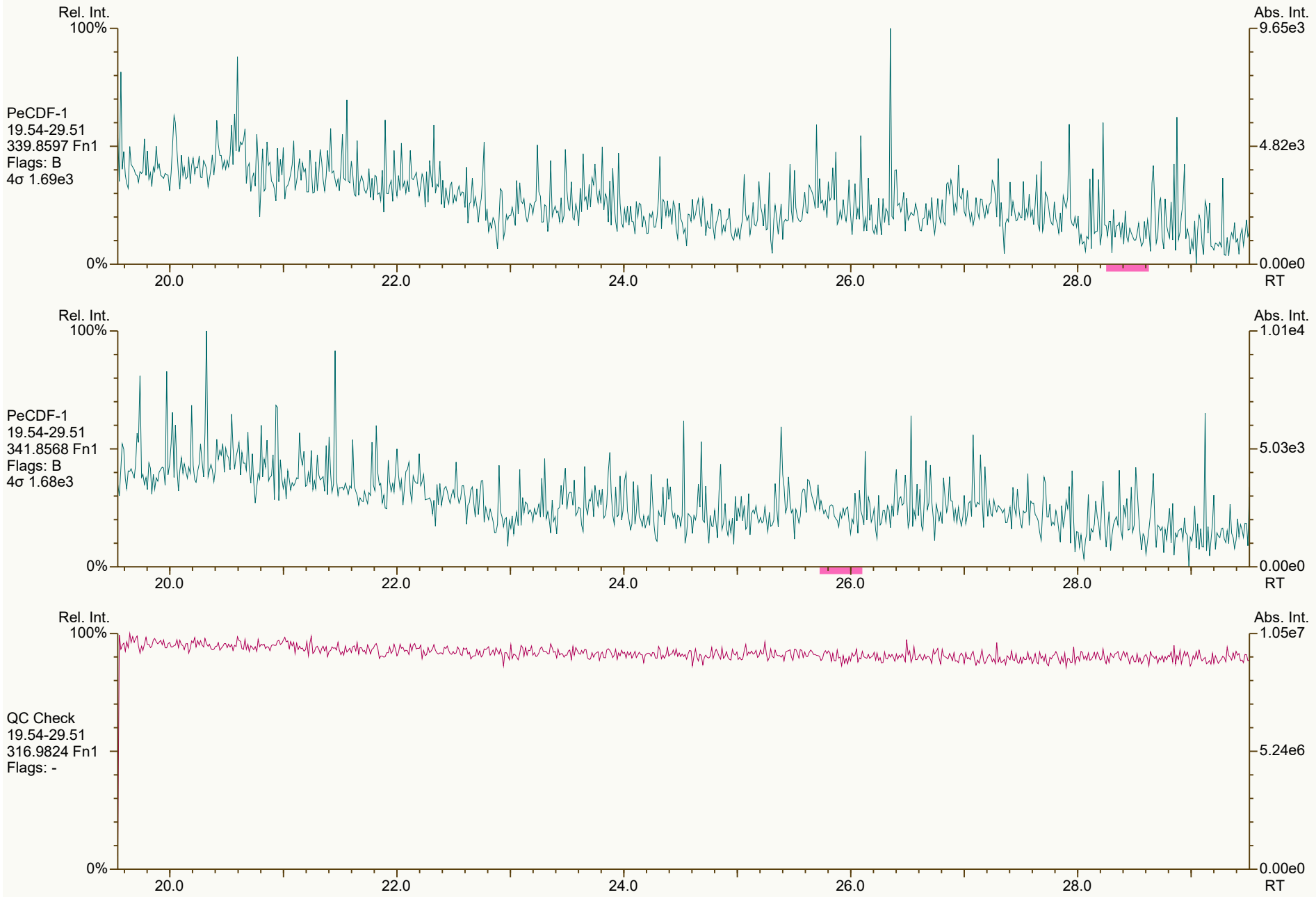

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

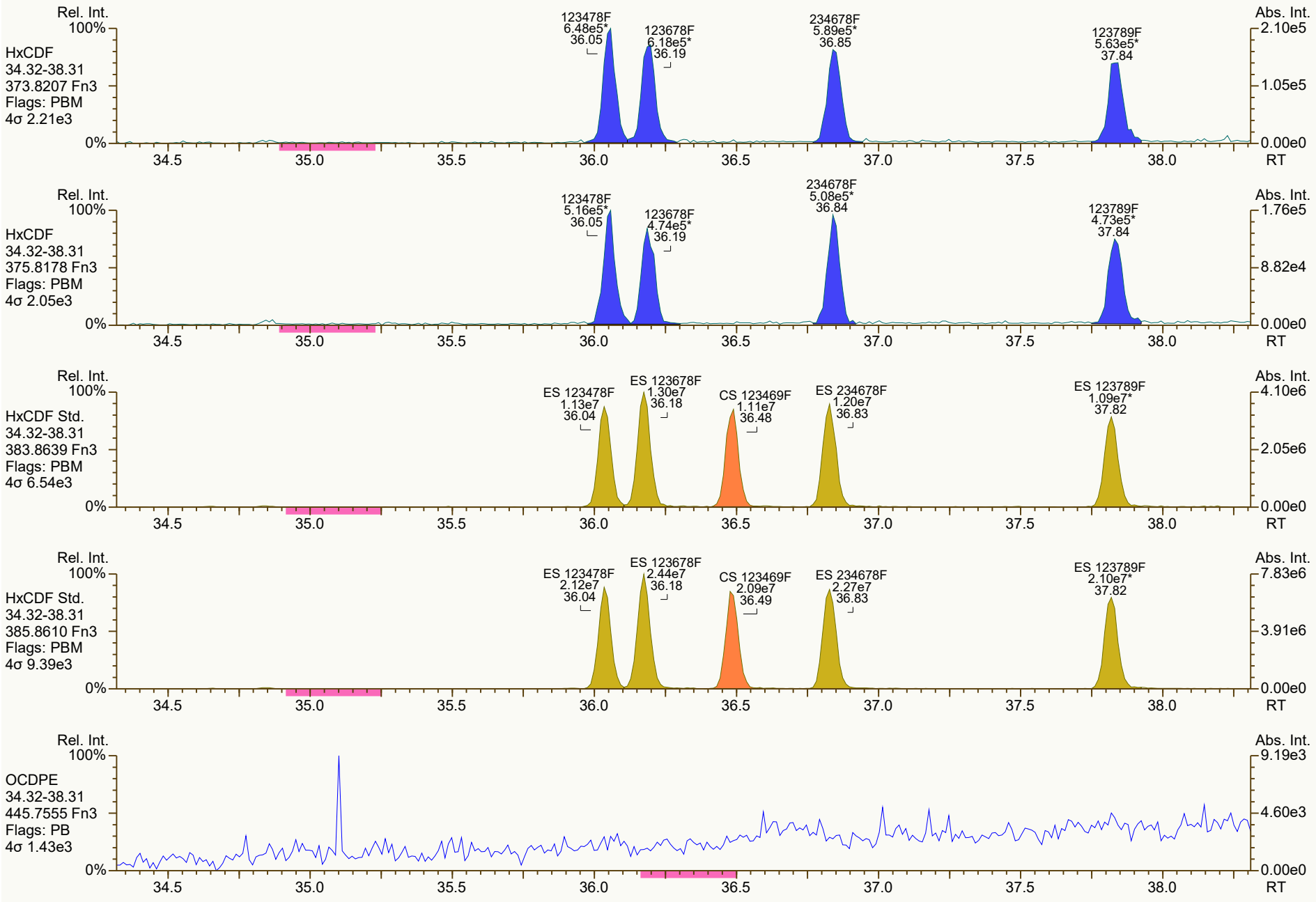

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

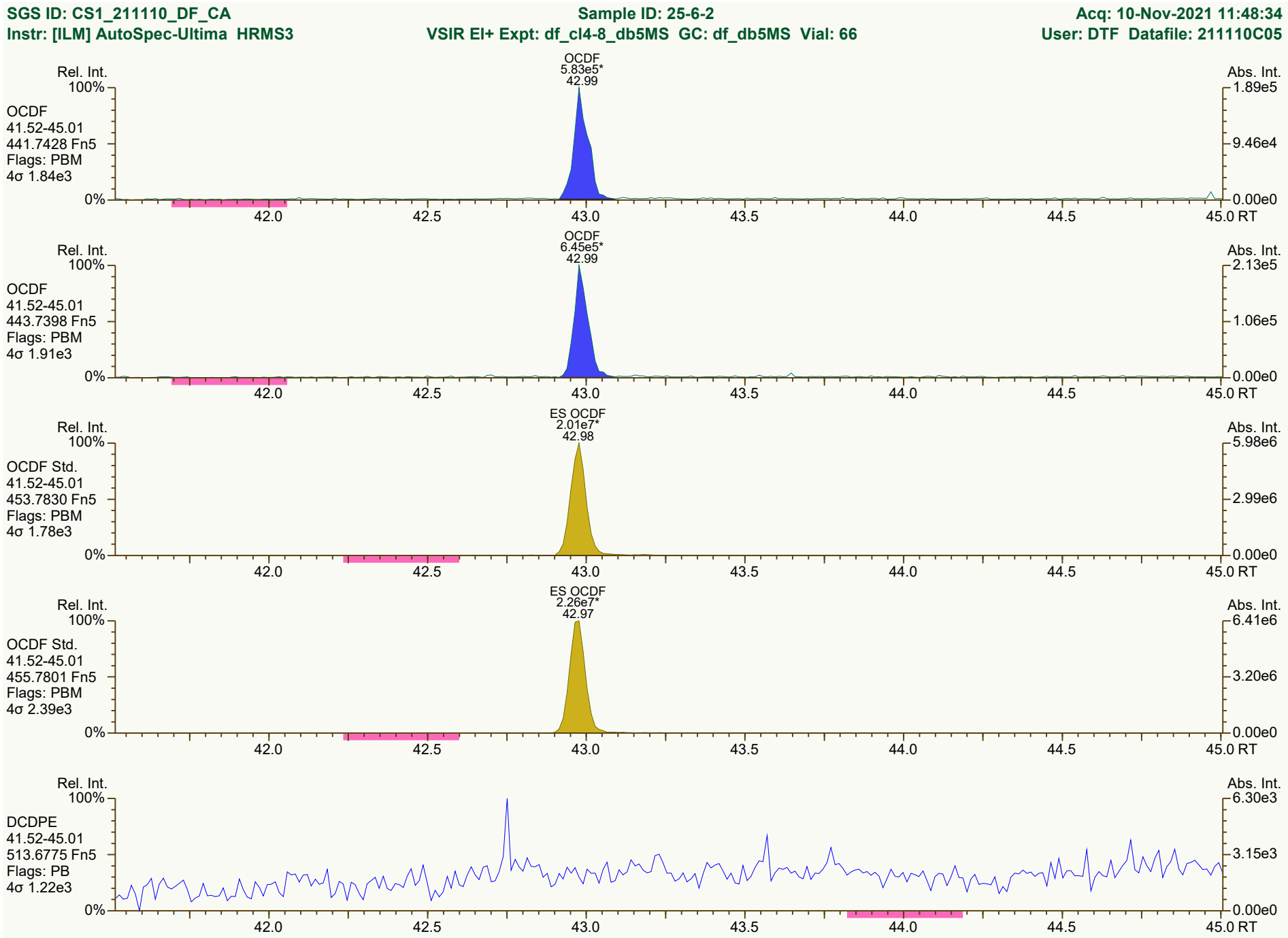

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

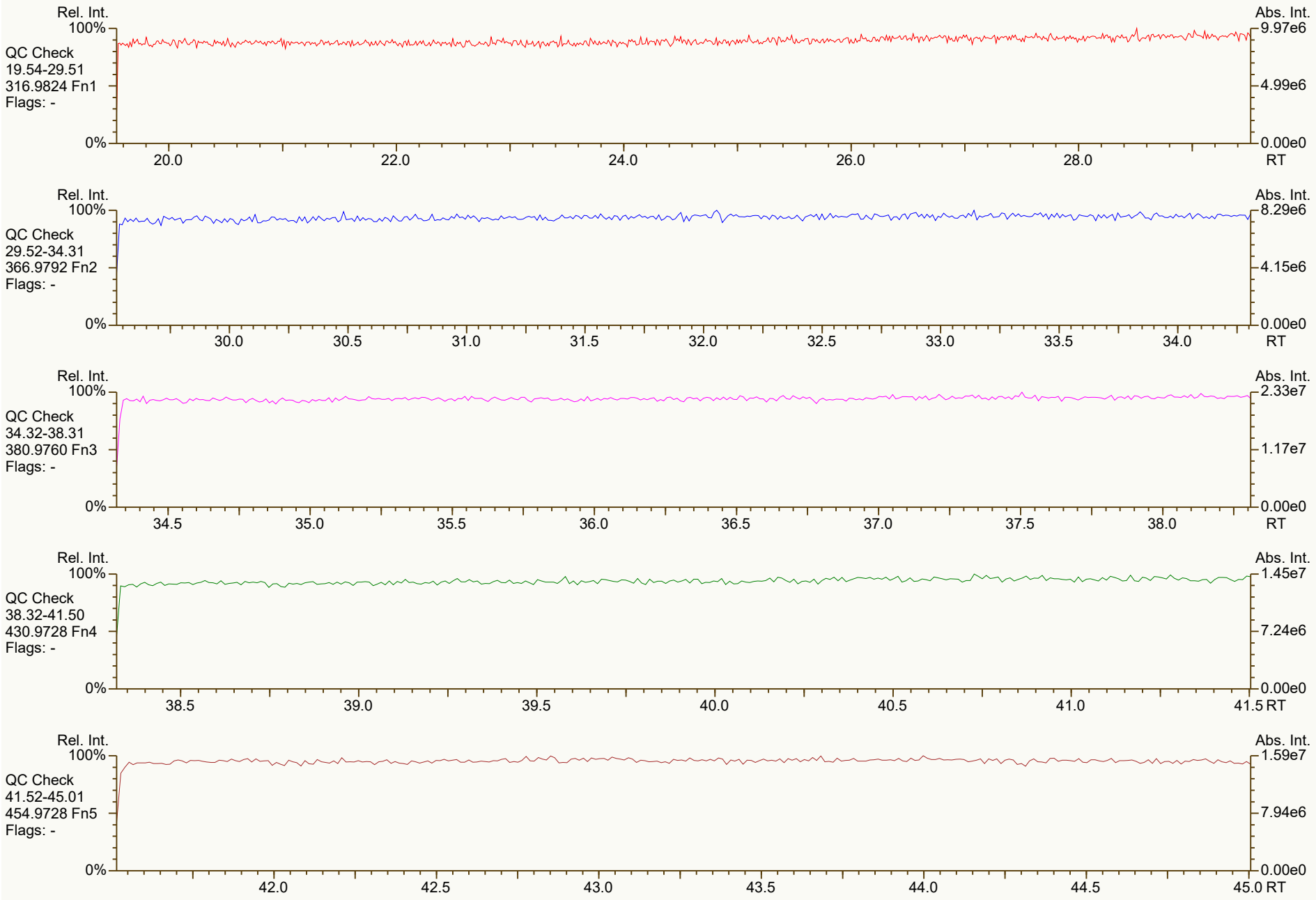

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
OCDF
5.83e5*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
1.89e5
9.46e4
0.00e0
OCDF
6.45e5*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
2.13e5
1.06e5
0.00e0
ES OCDF
2.01e7*
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
5.98e6
2.99e6
0.00e0
ES OCDF
2.26e7*
42.97
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
6.41e6
3.20e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
6.30e3
3.15e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1506, 2210, 2191 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

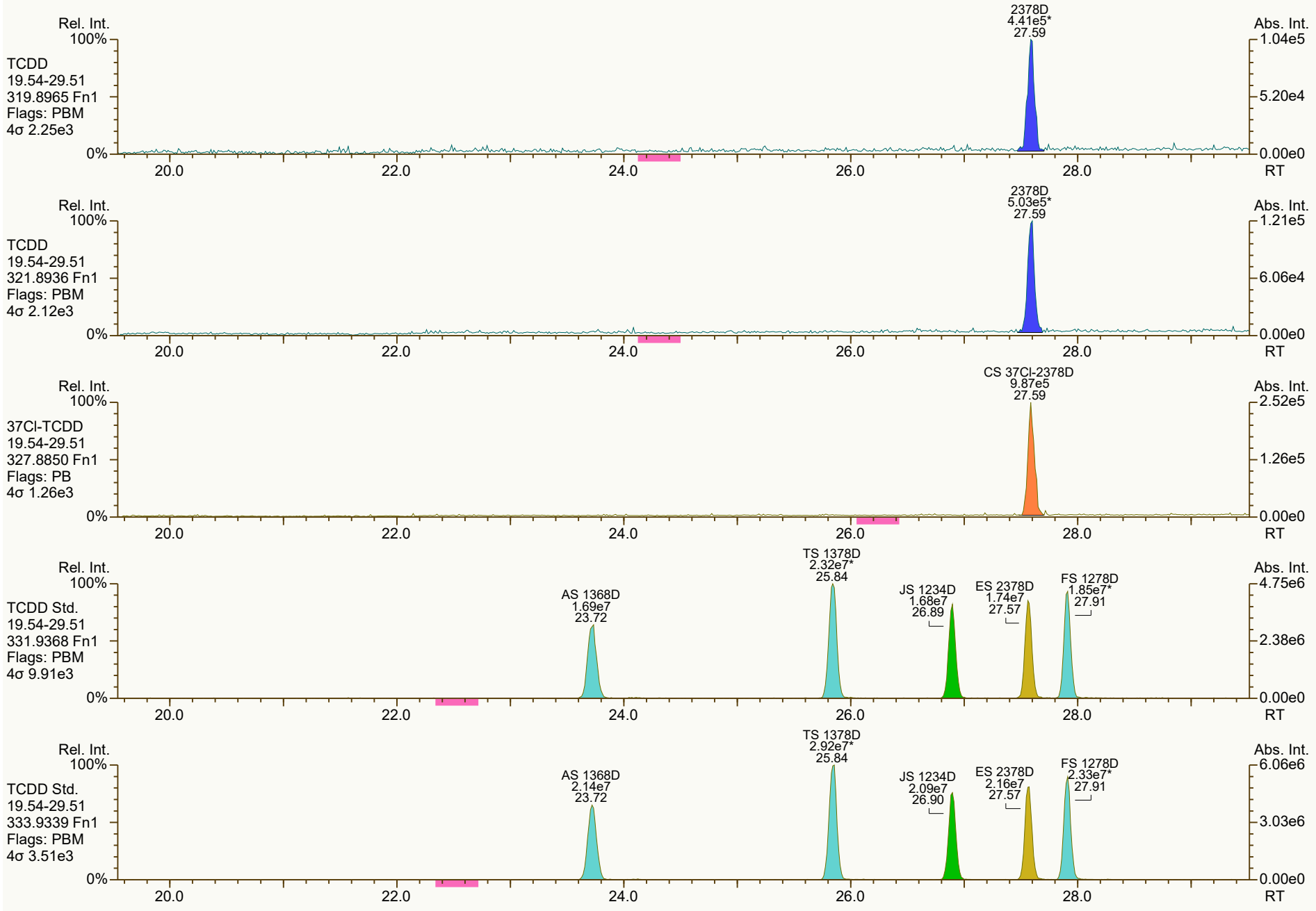
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

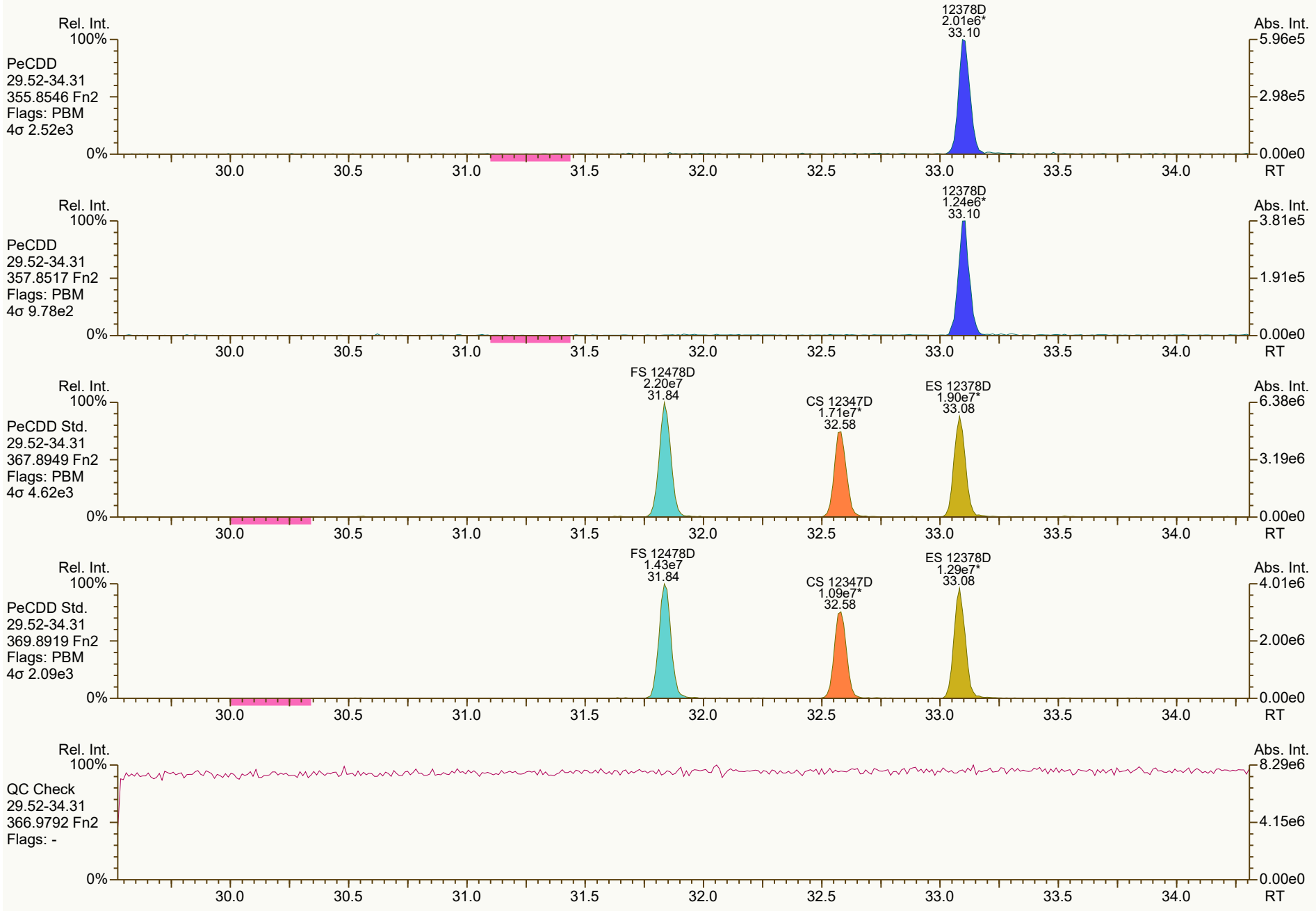
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

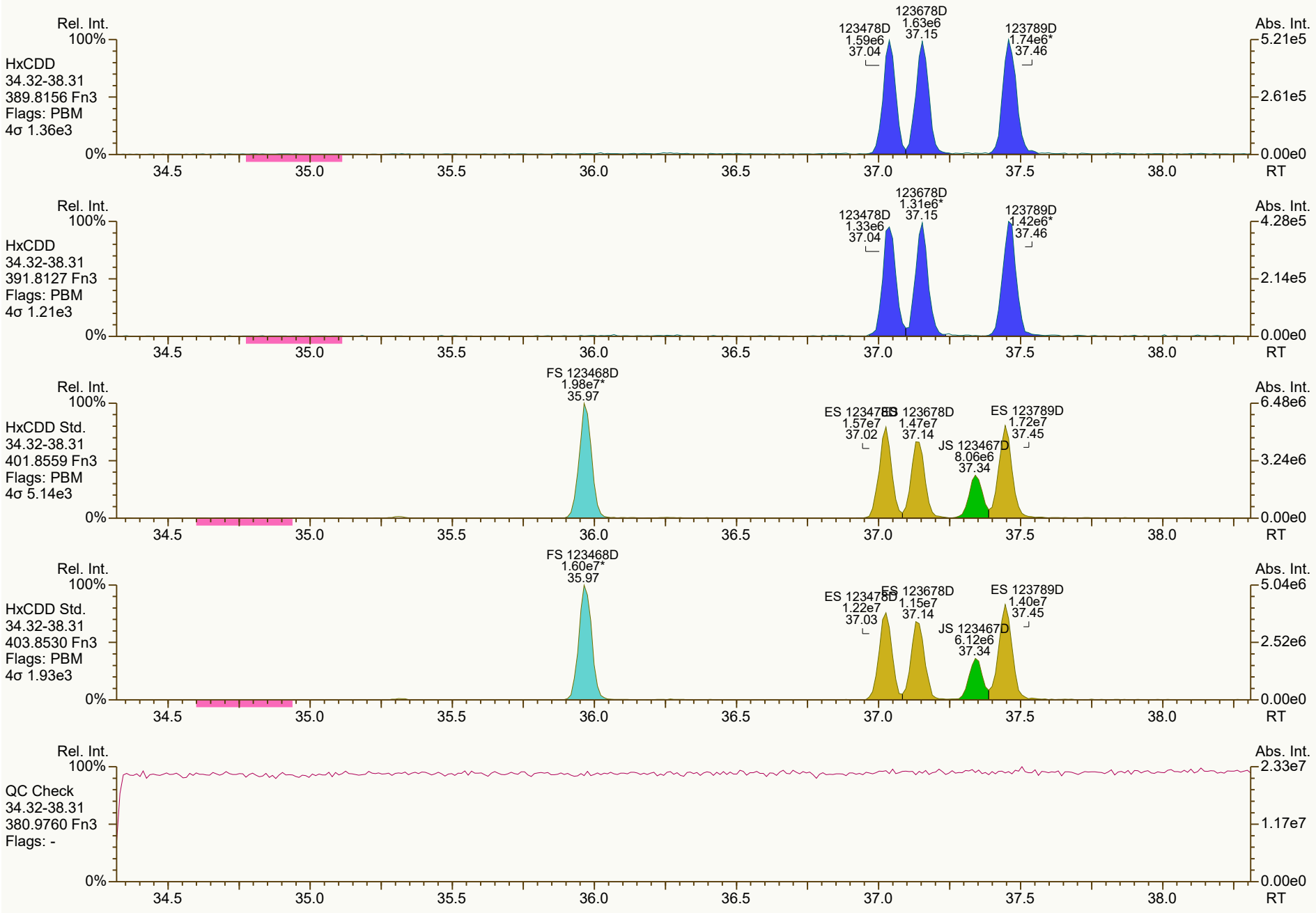
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

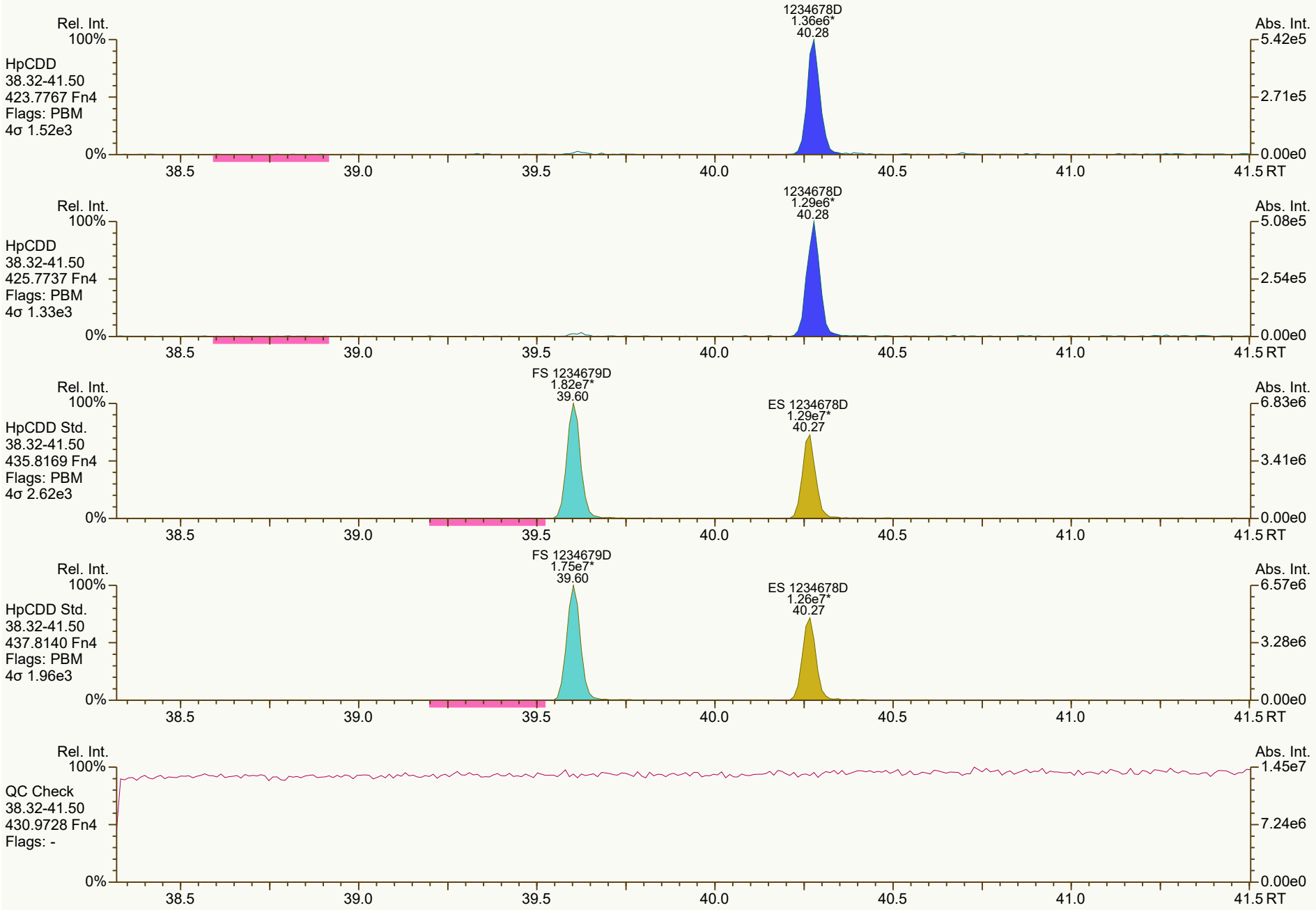
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

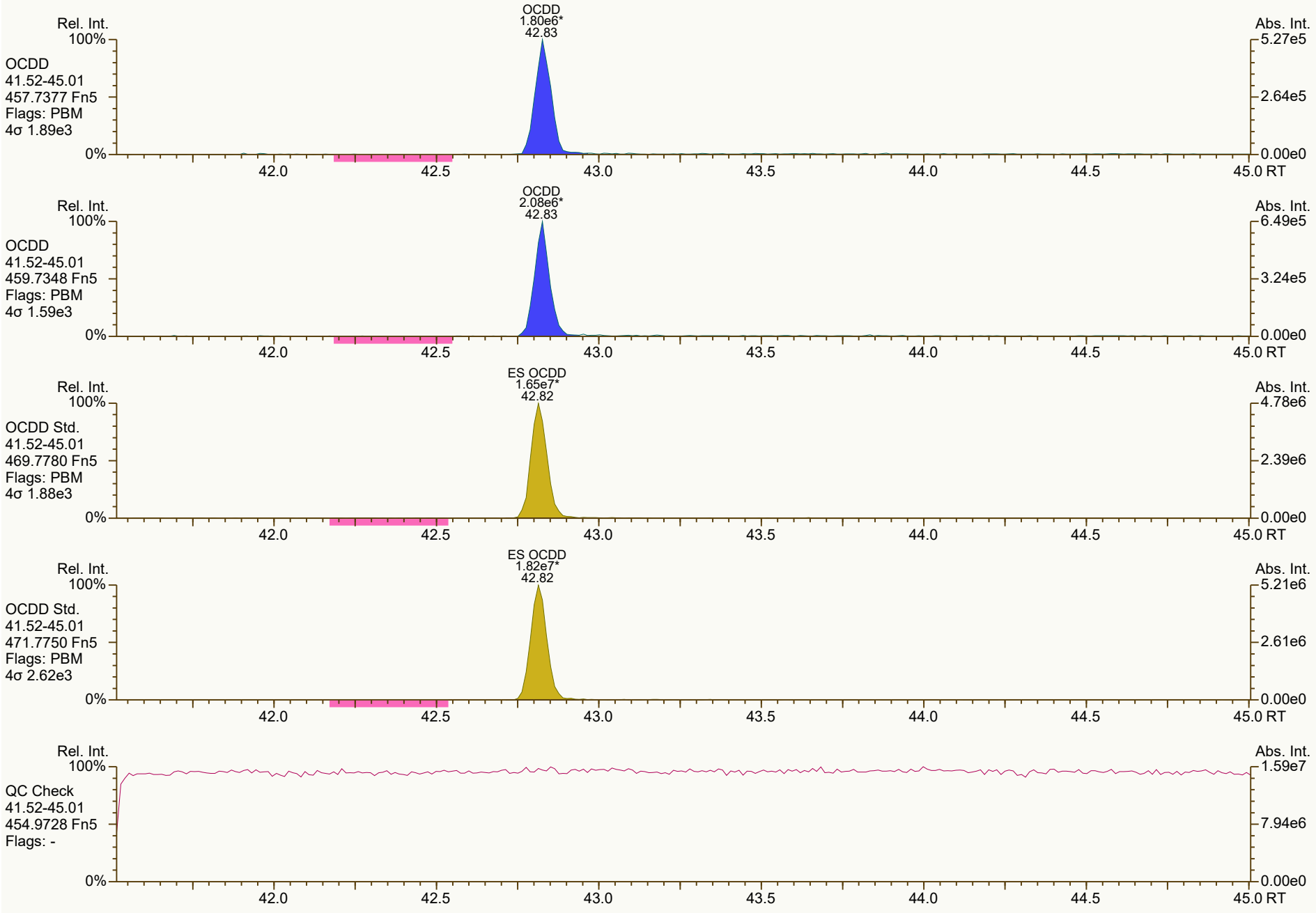

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

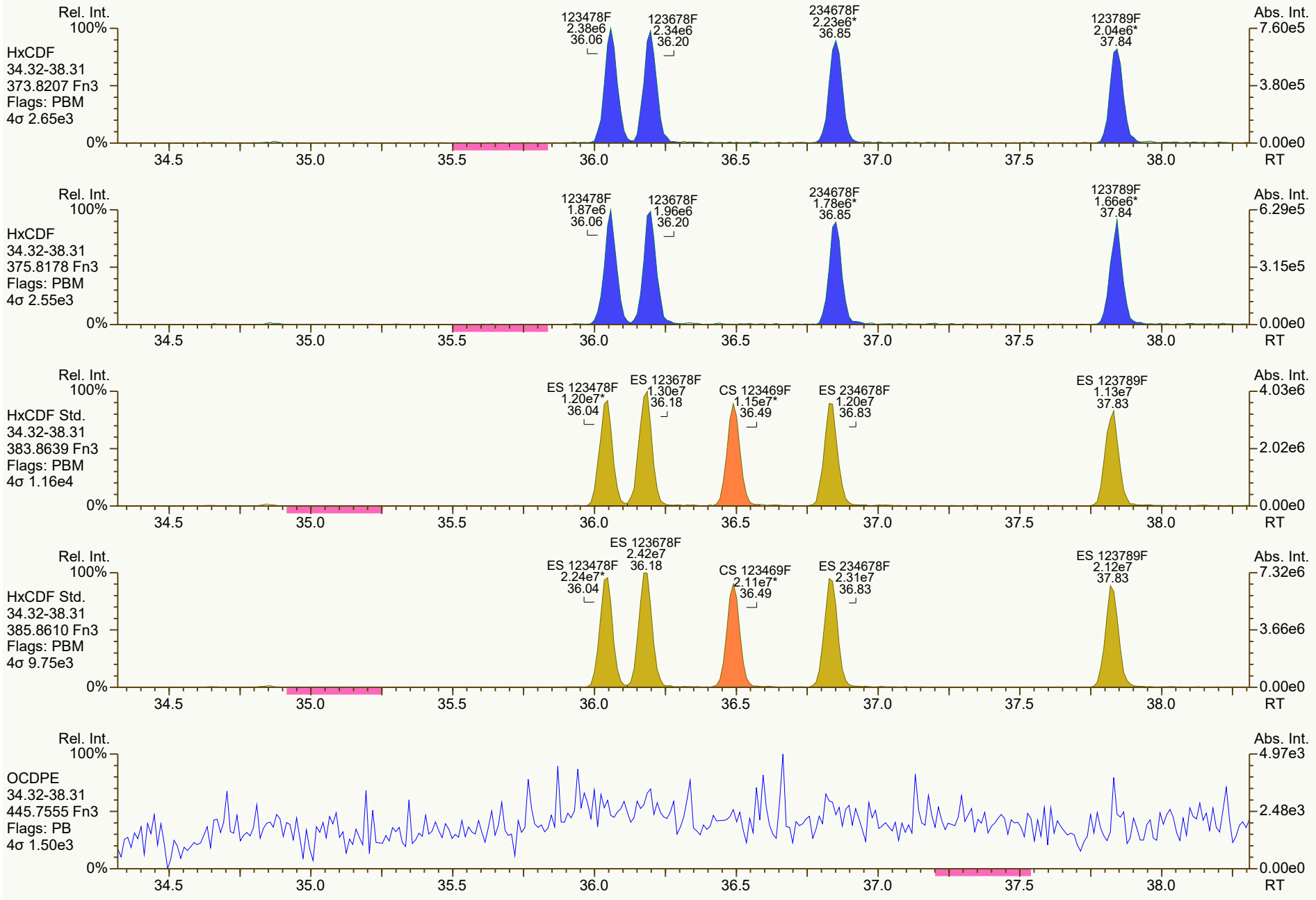

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

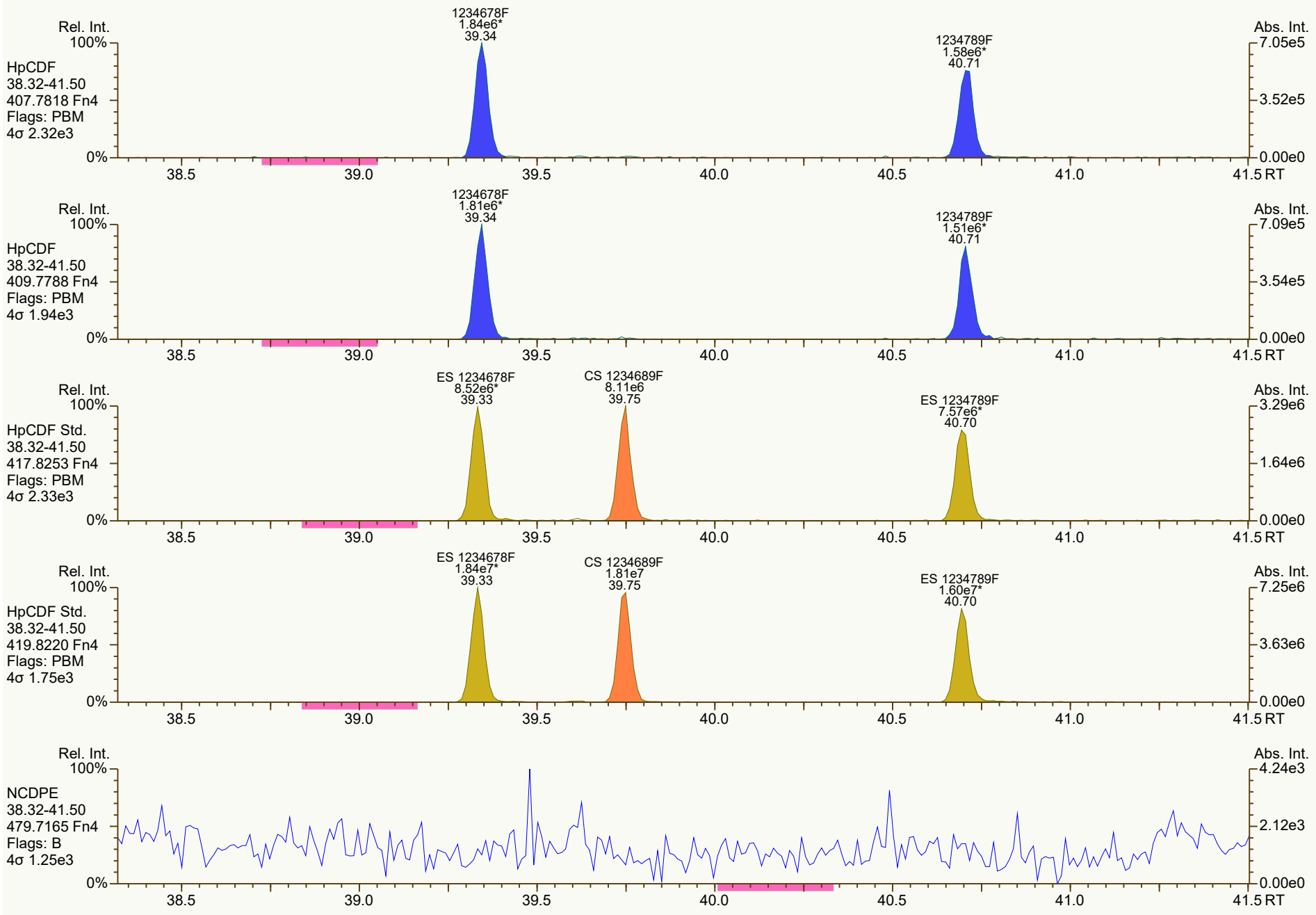

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

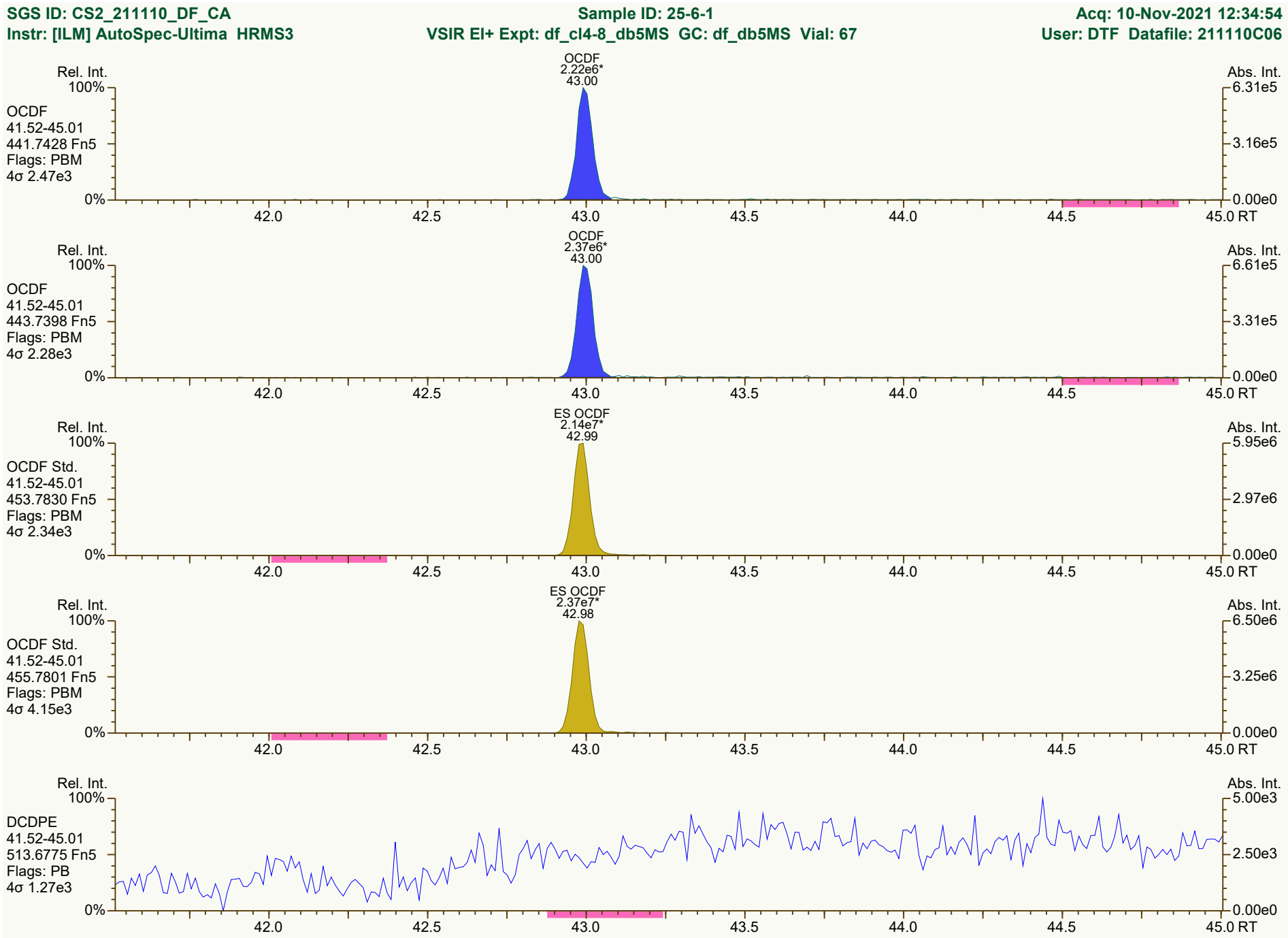

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

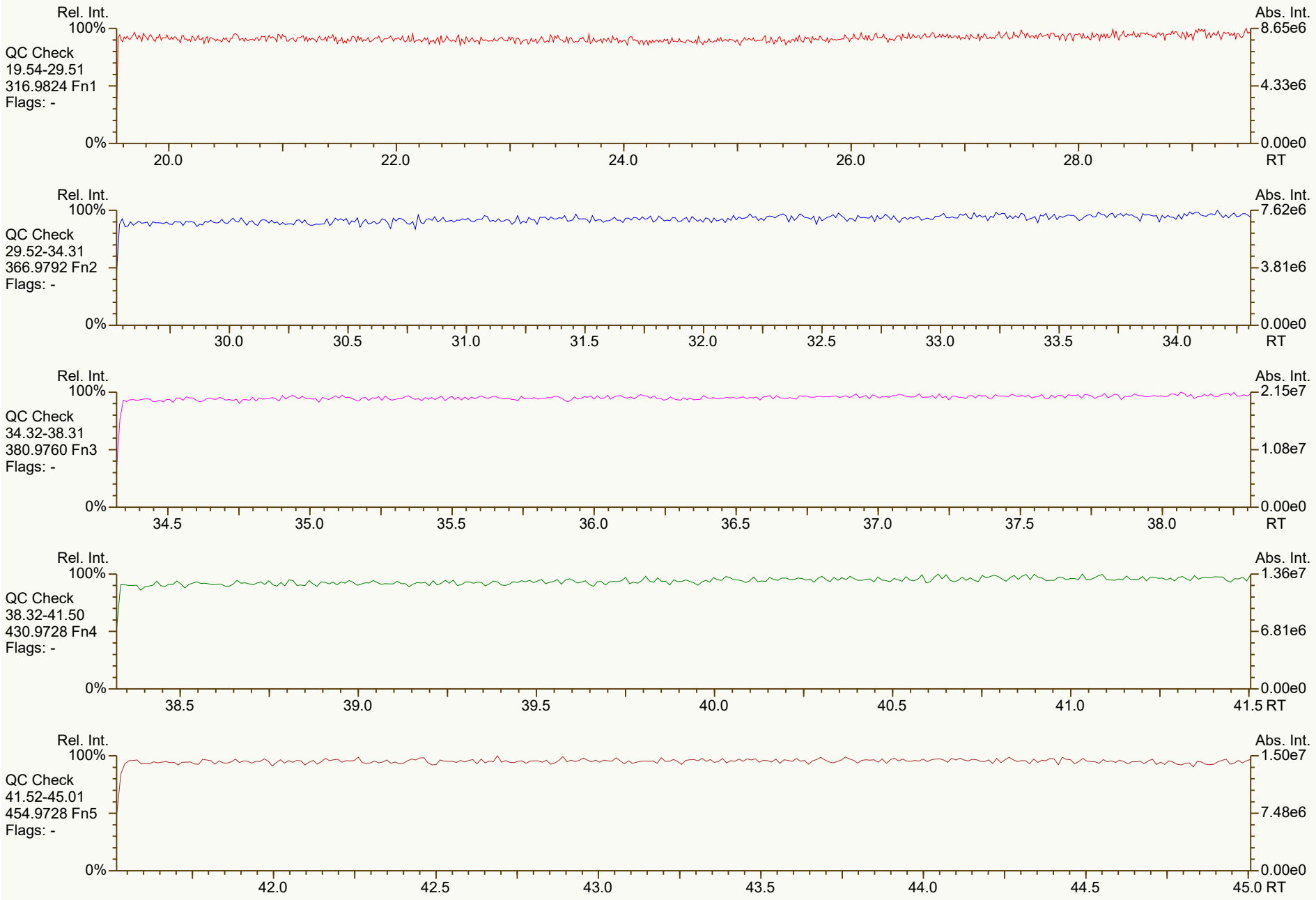

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
0.00e0
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
0.00e0
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

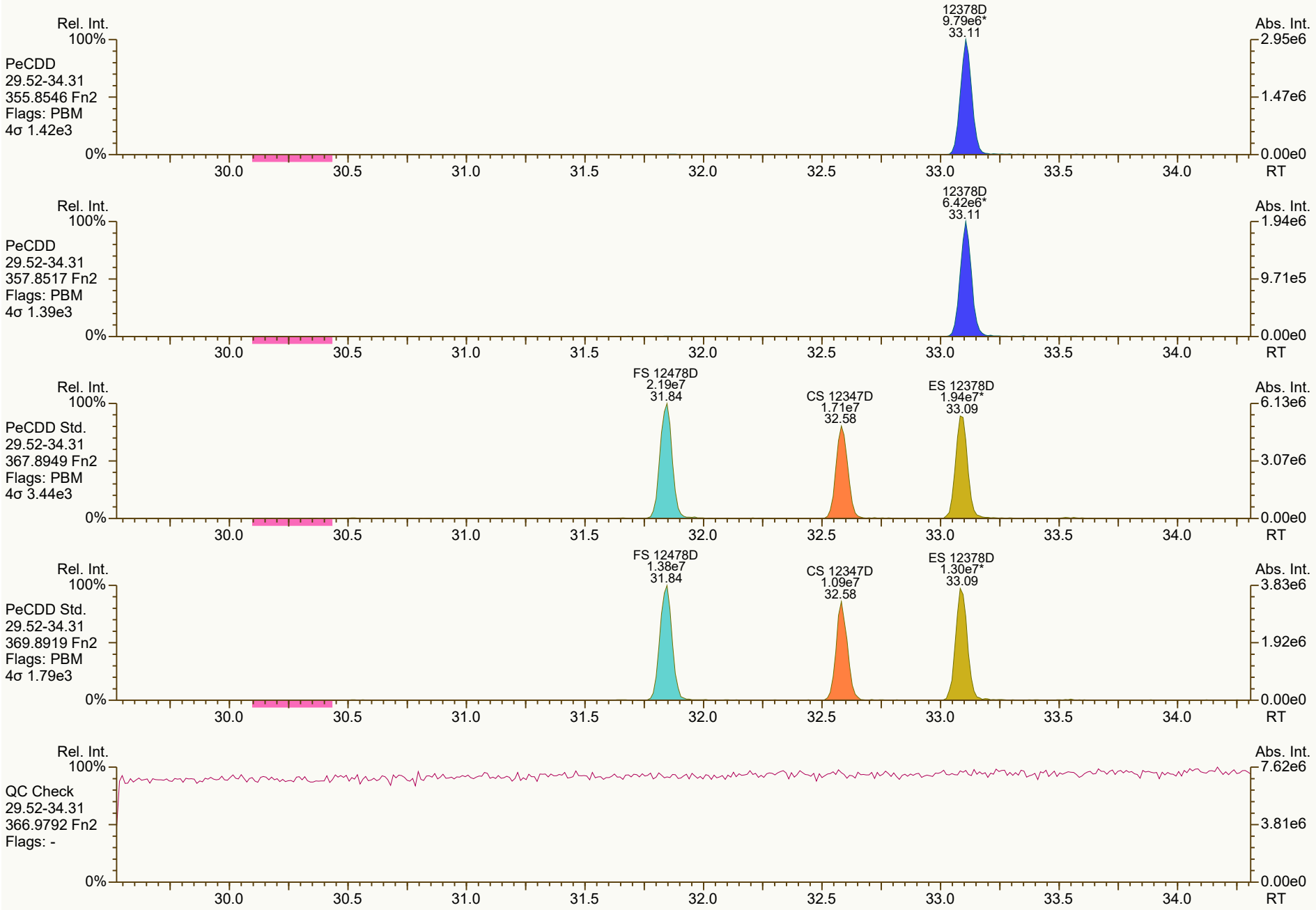
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

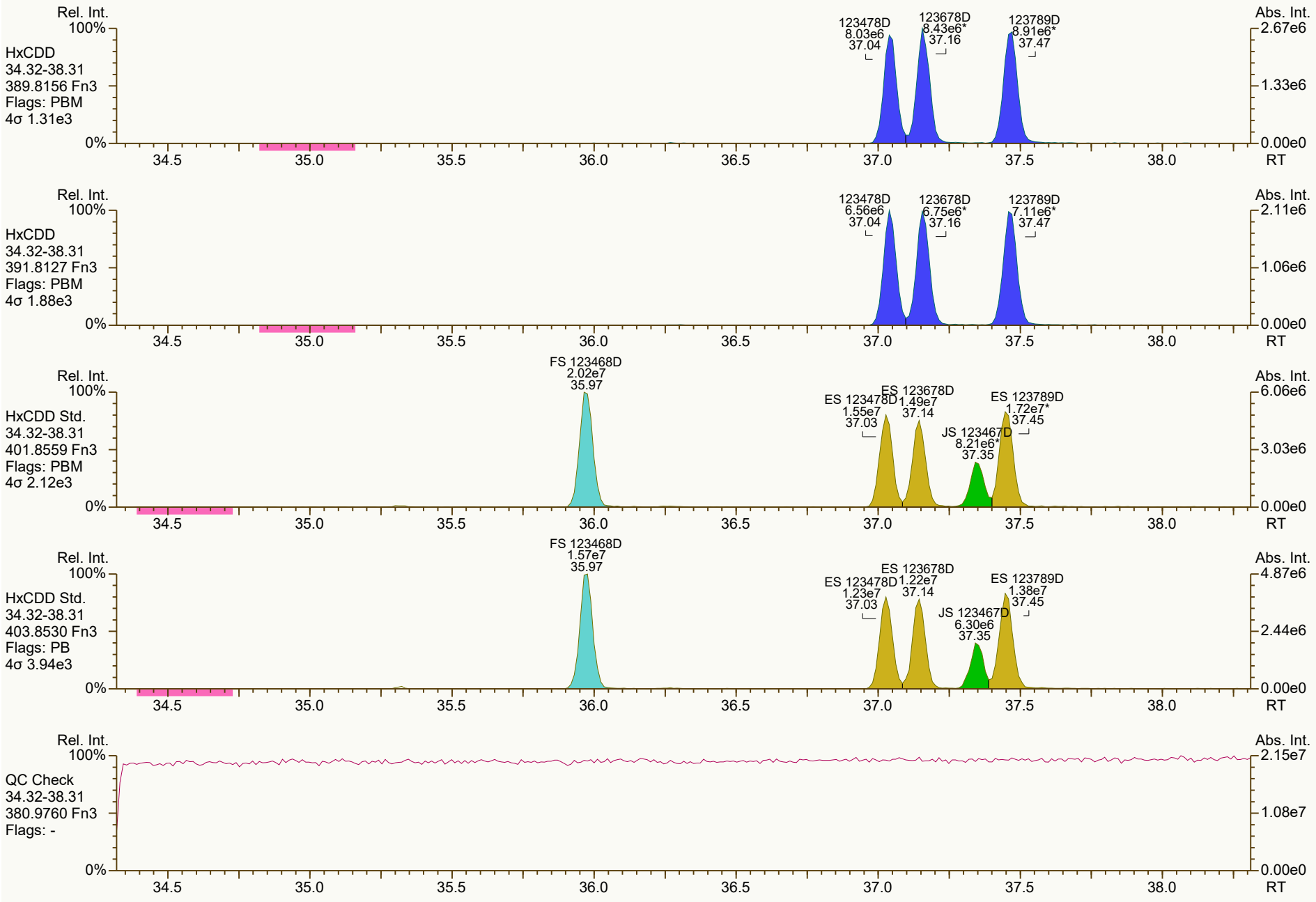
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

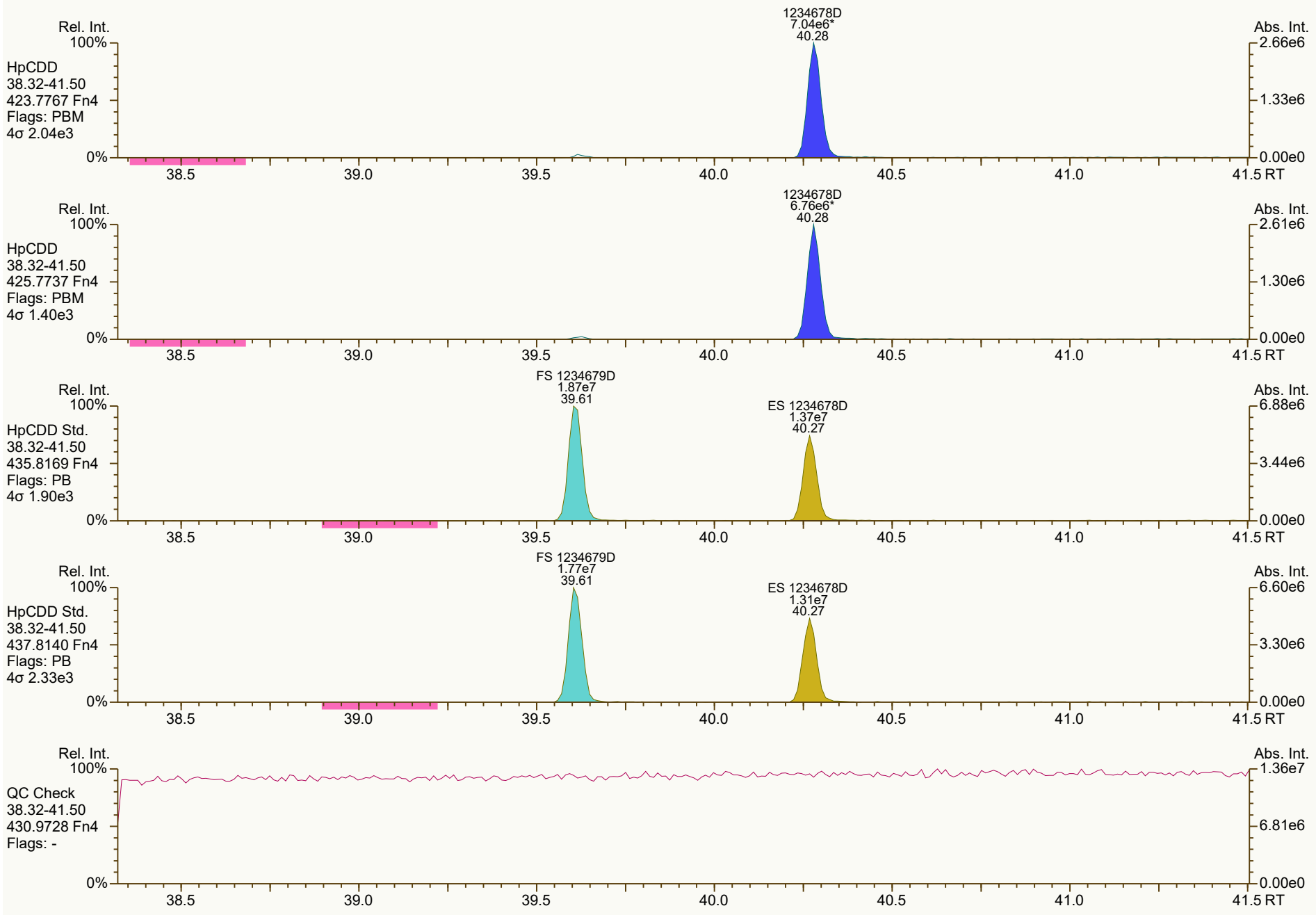
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

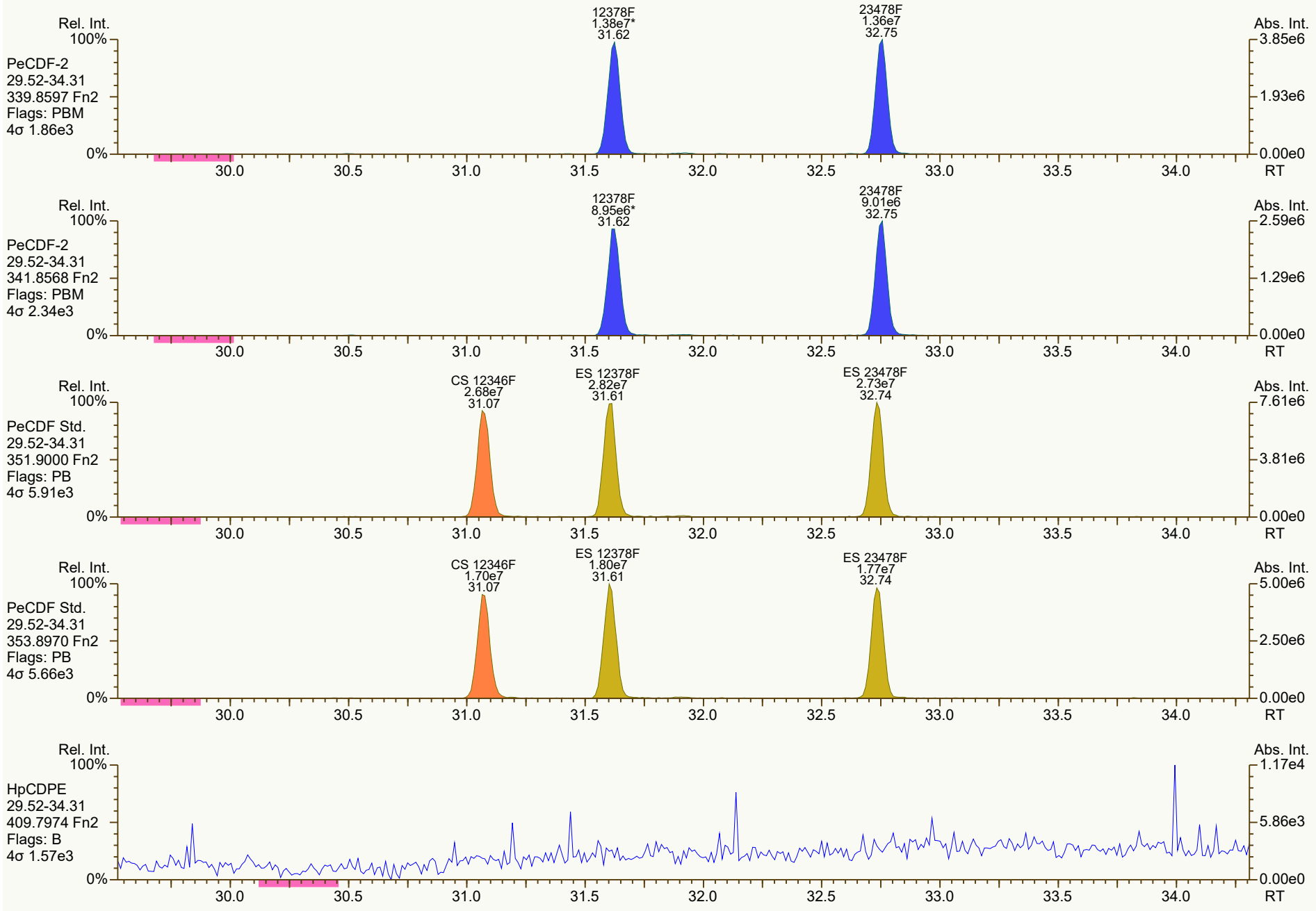

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

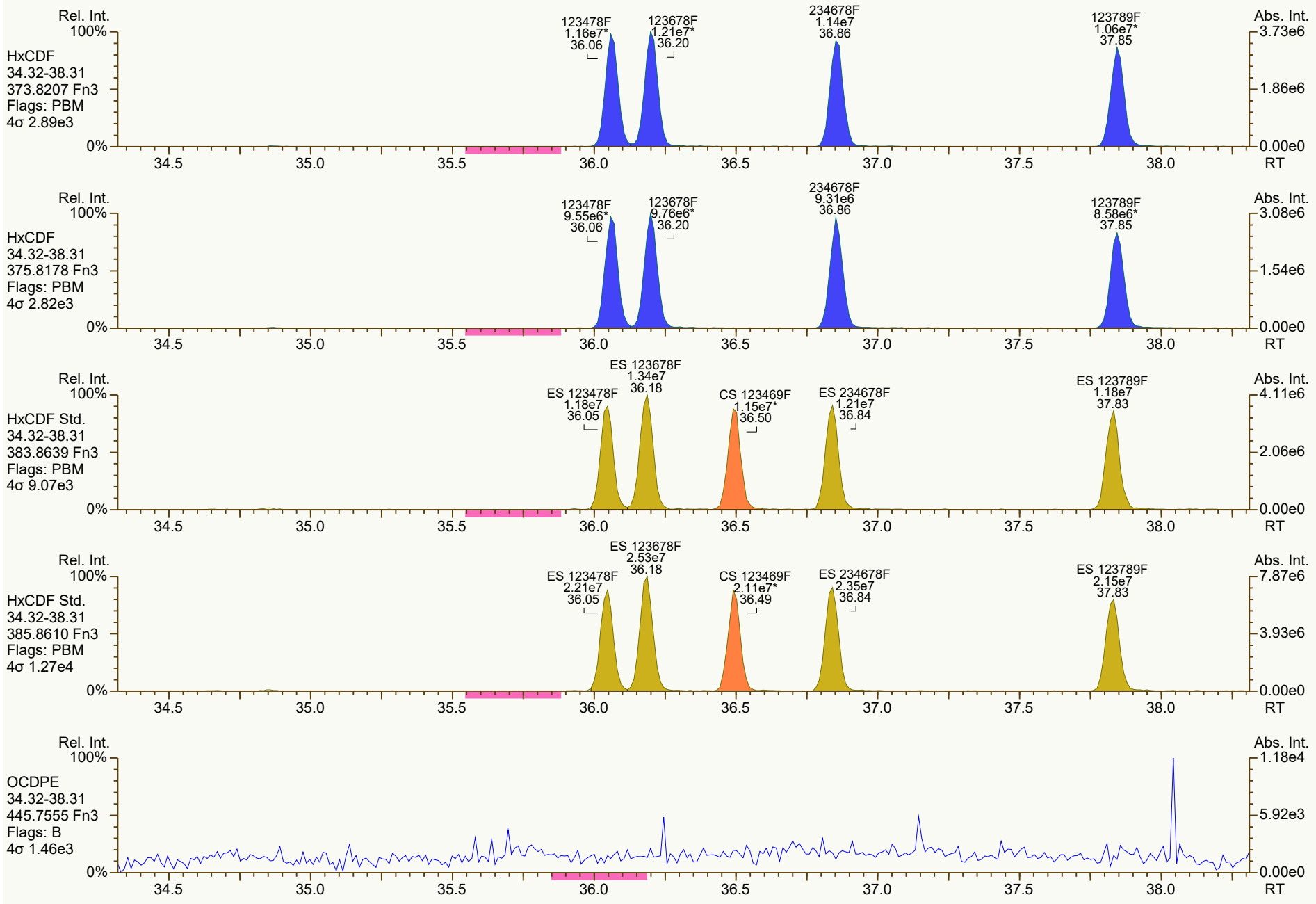

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

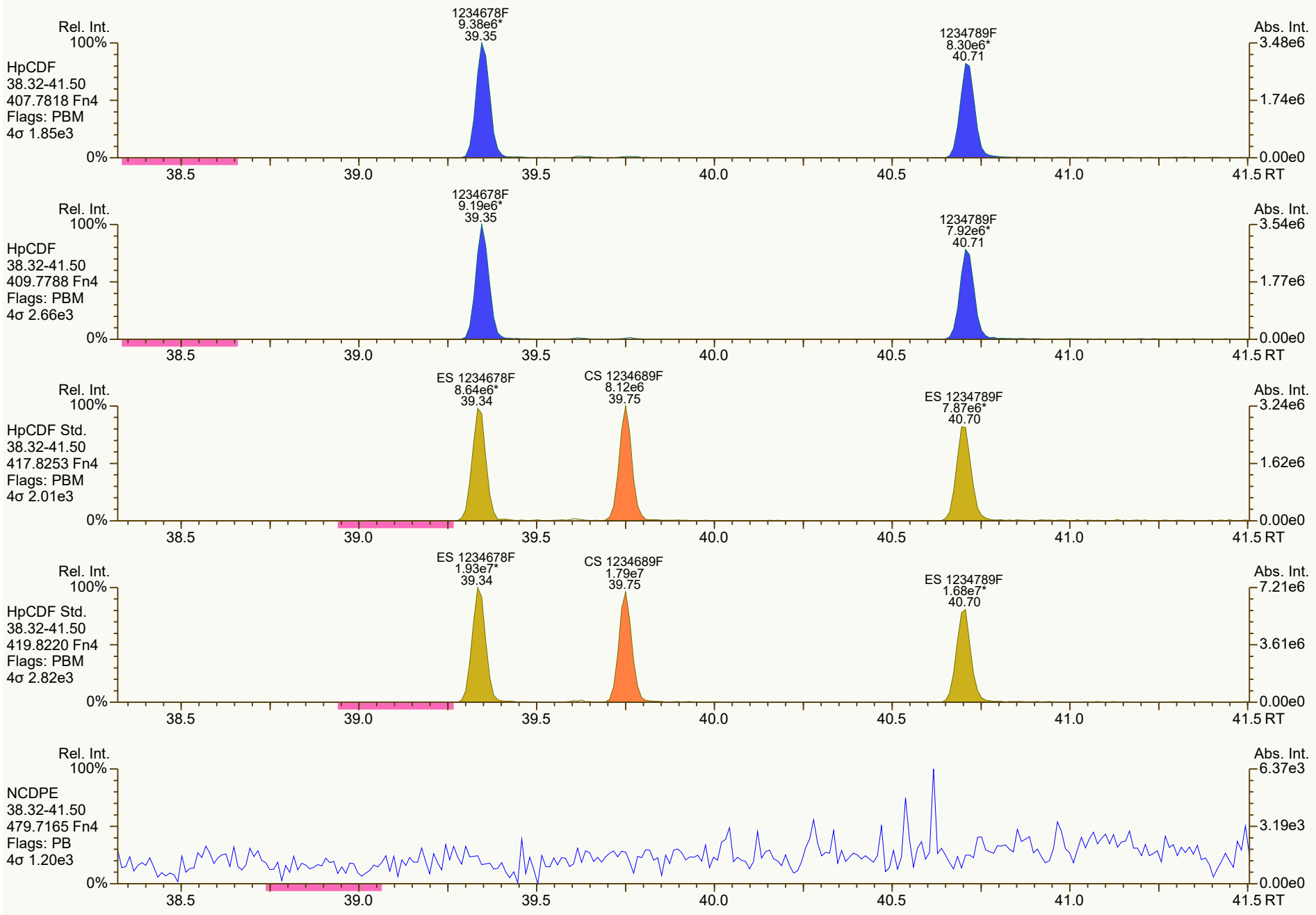

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT

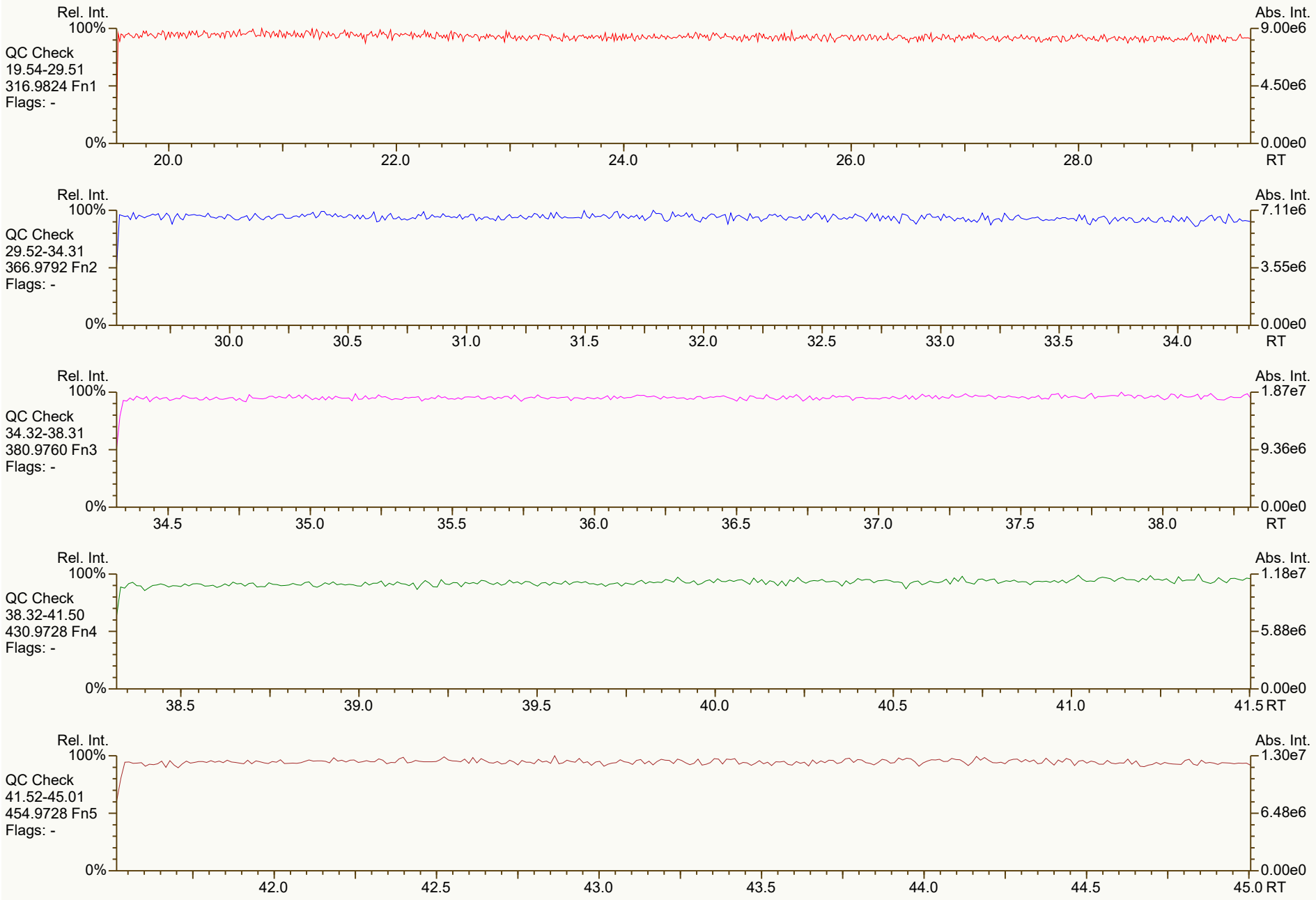

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

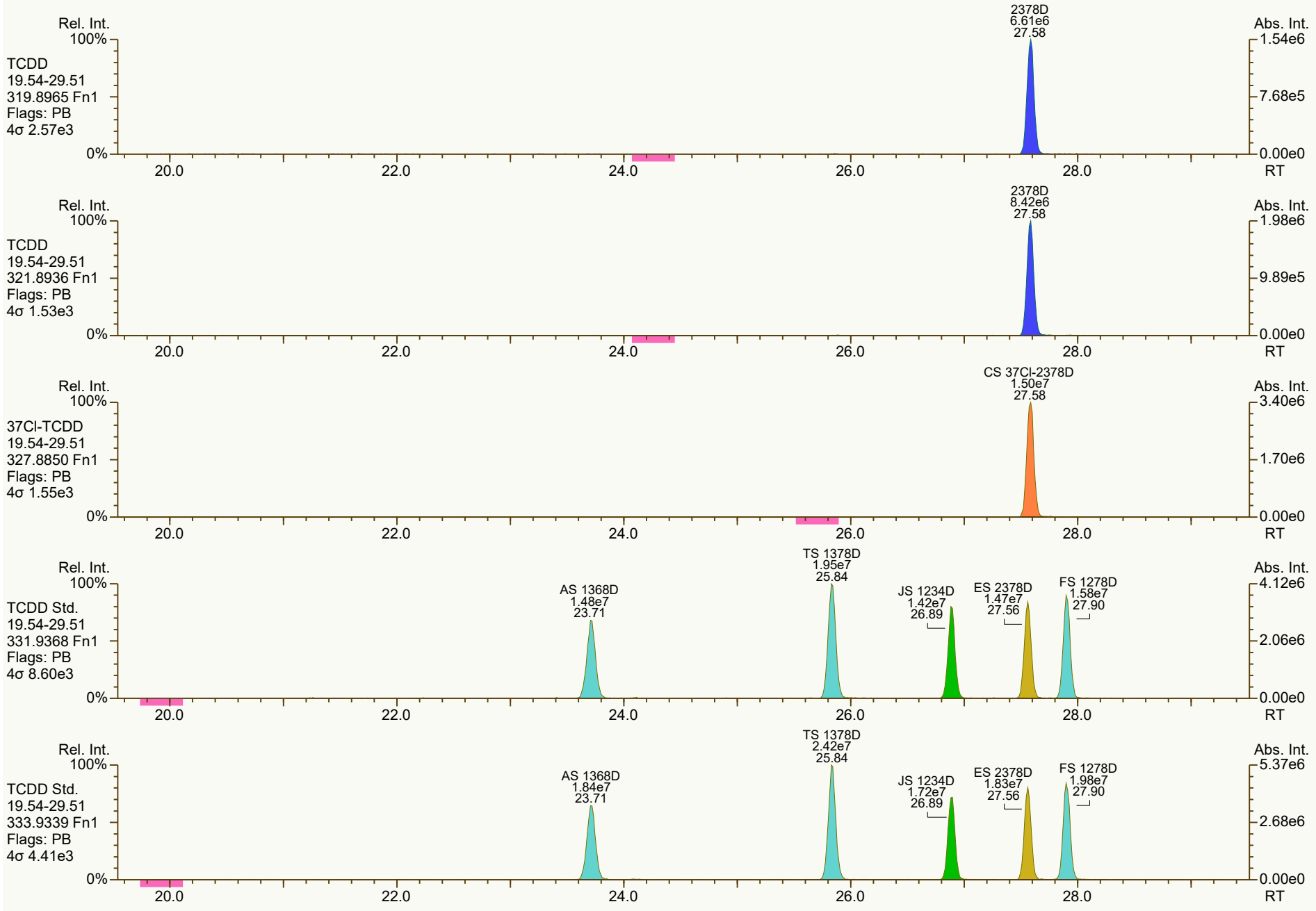

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

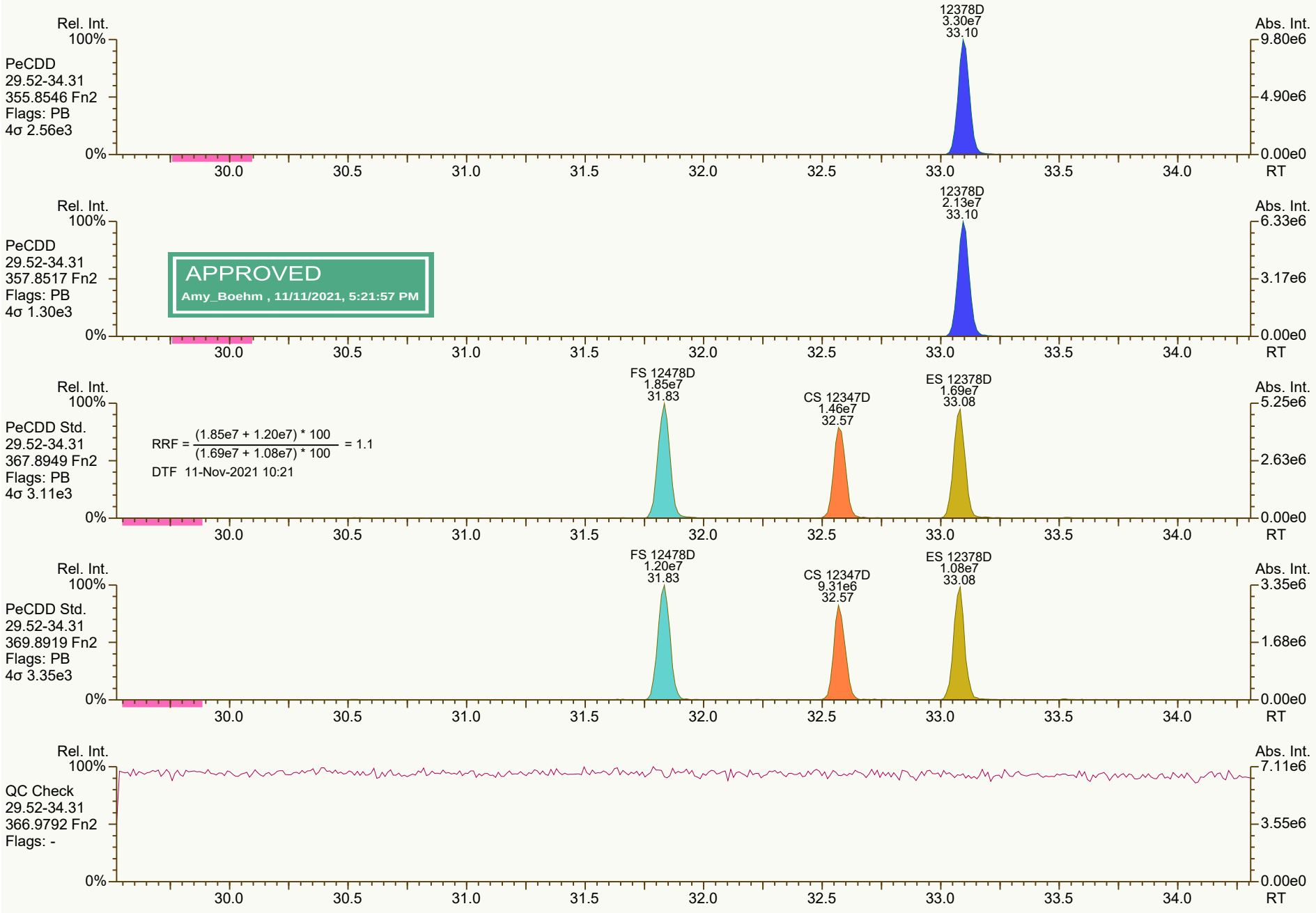
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

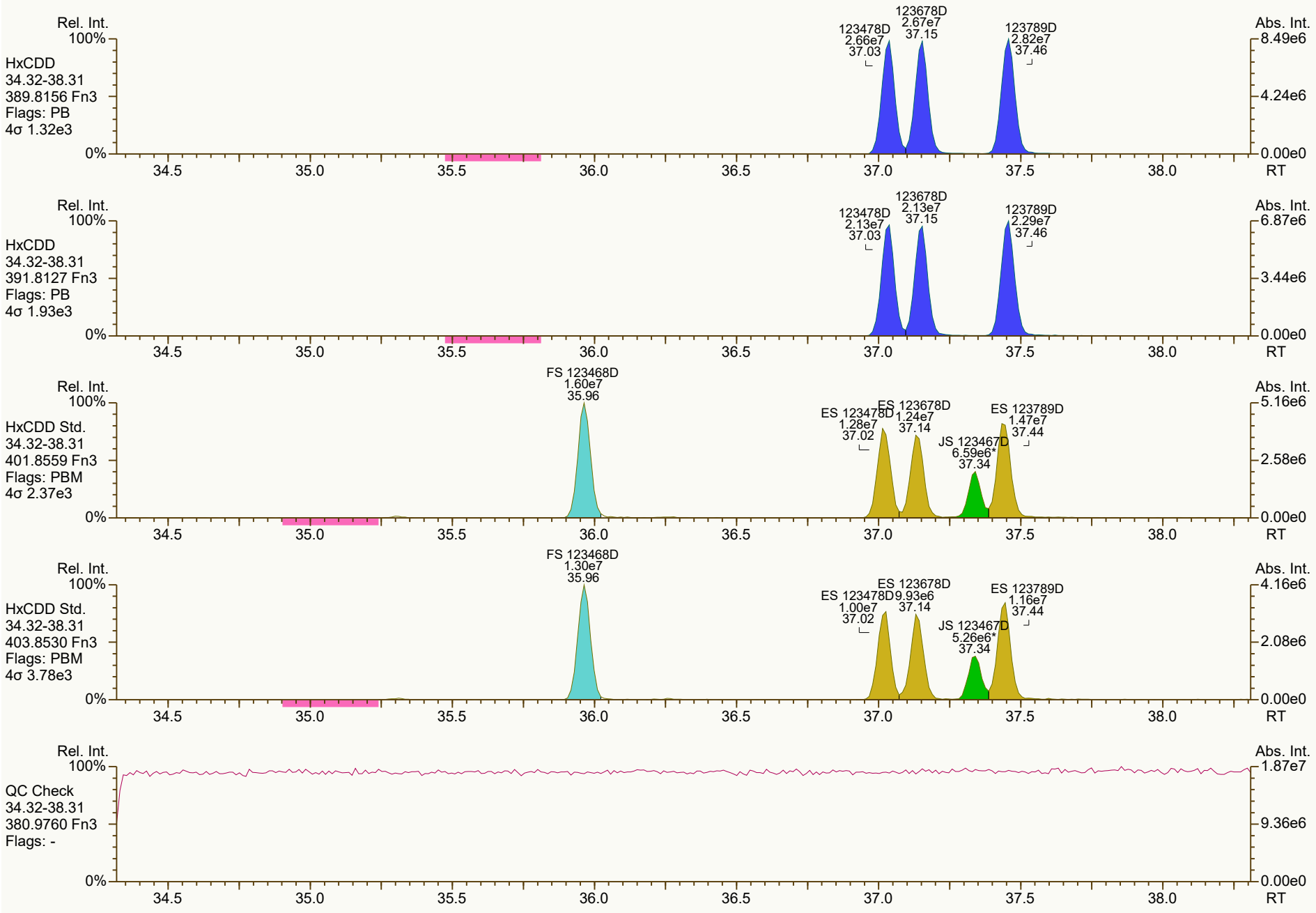
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

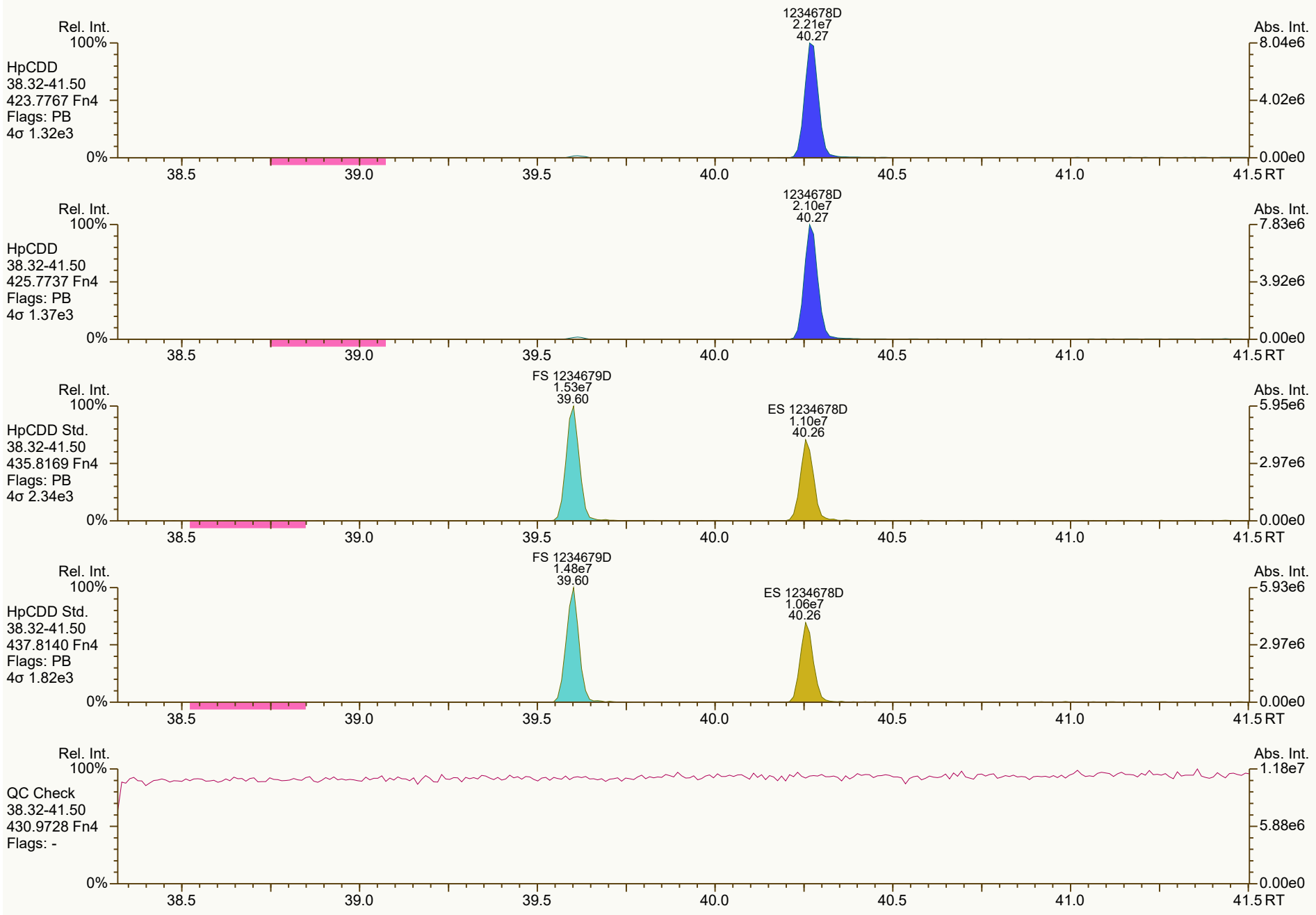
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

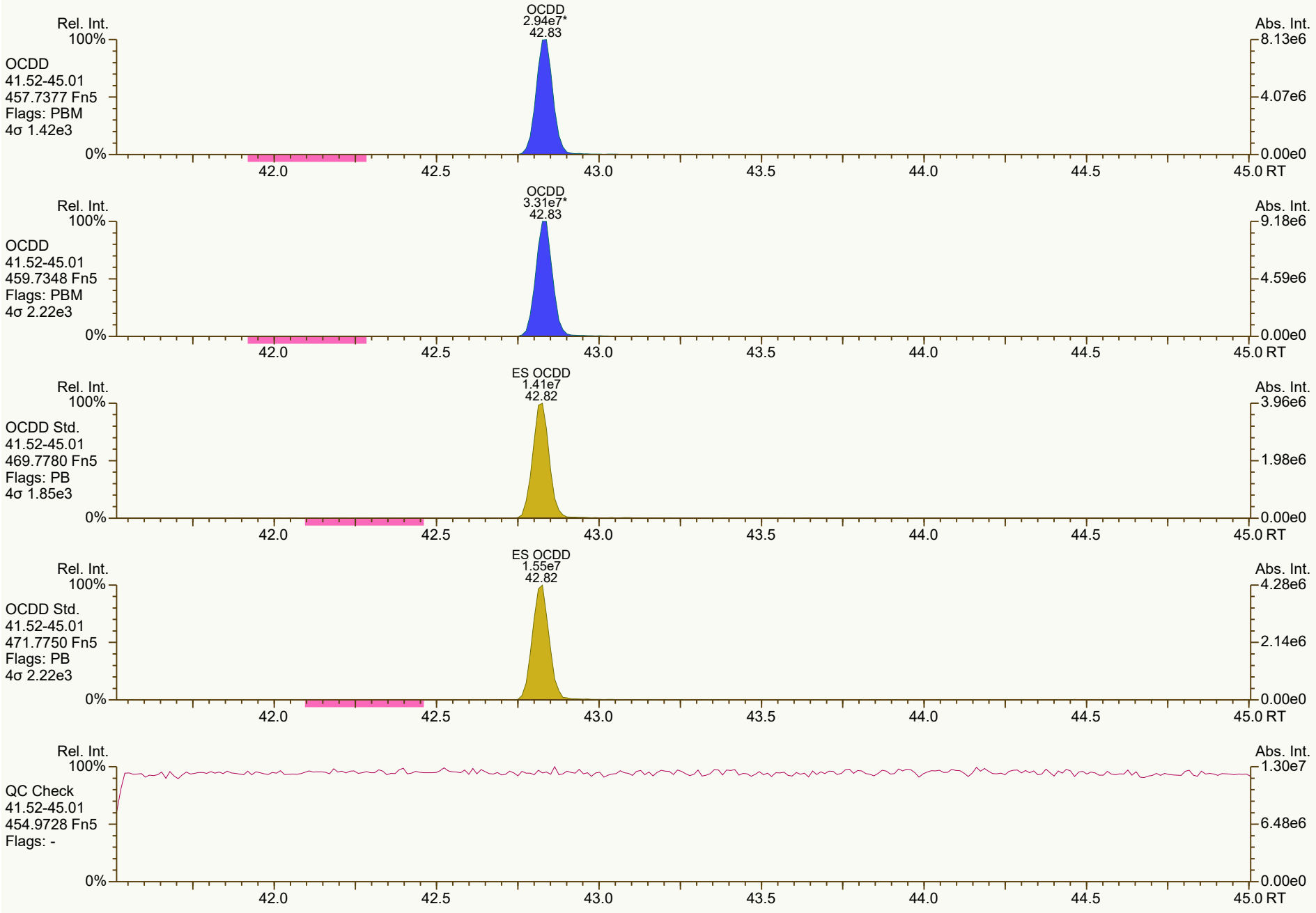

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

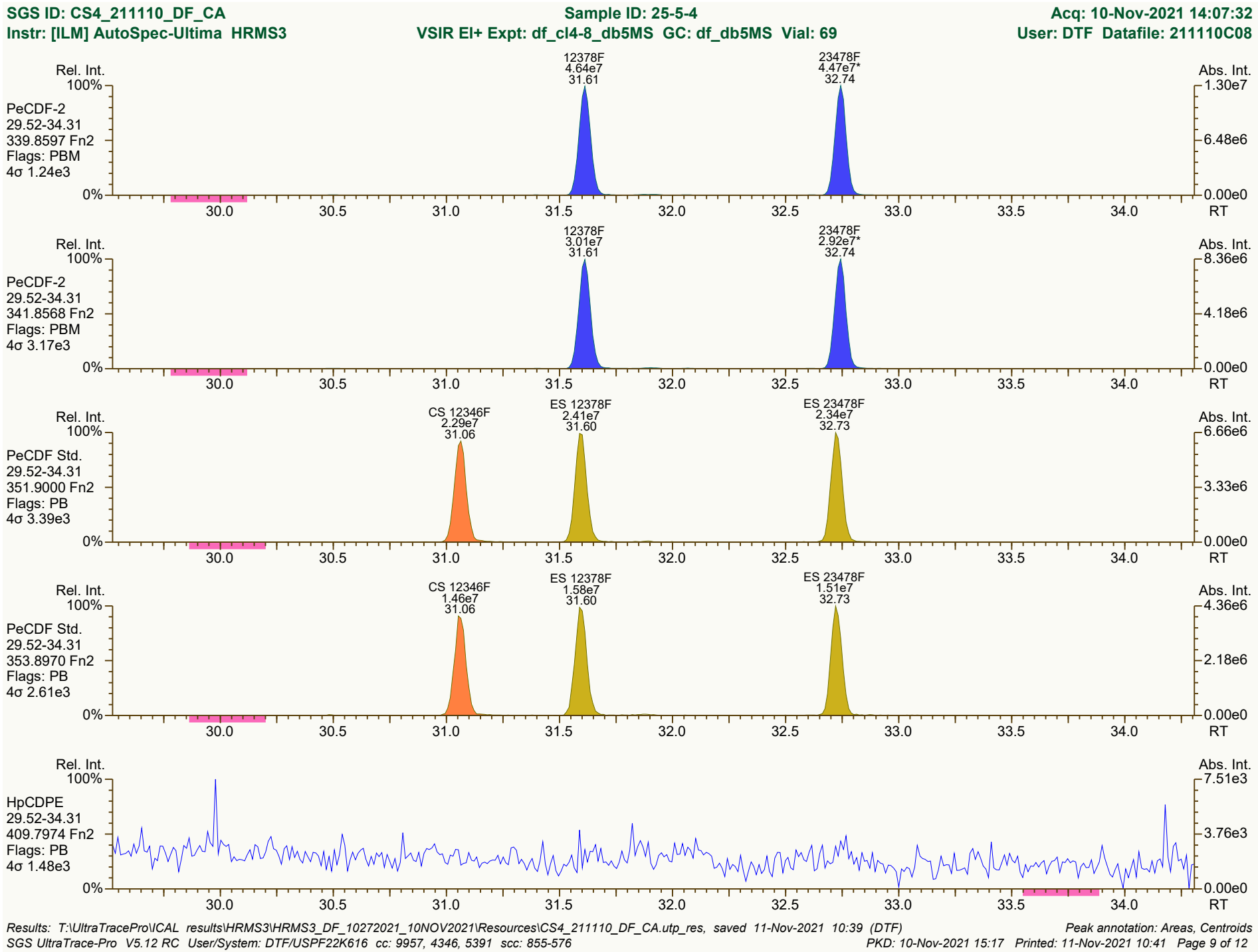

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

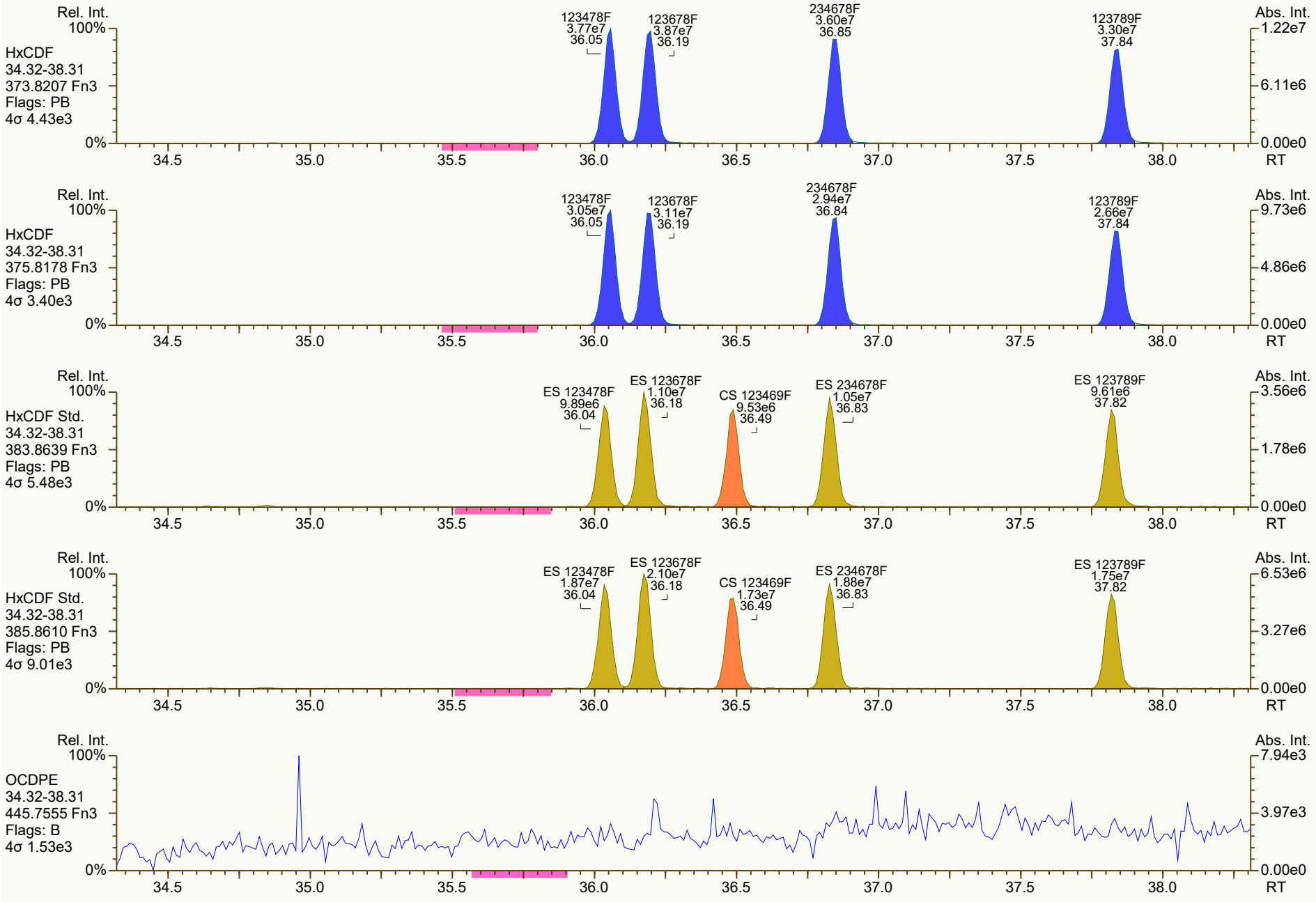

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

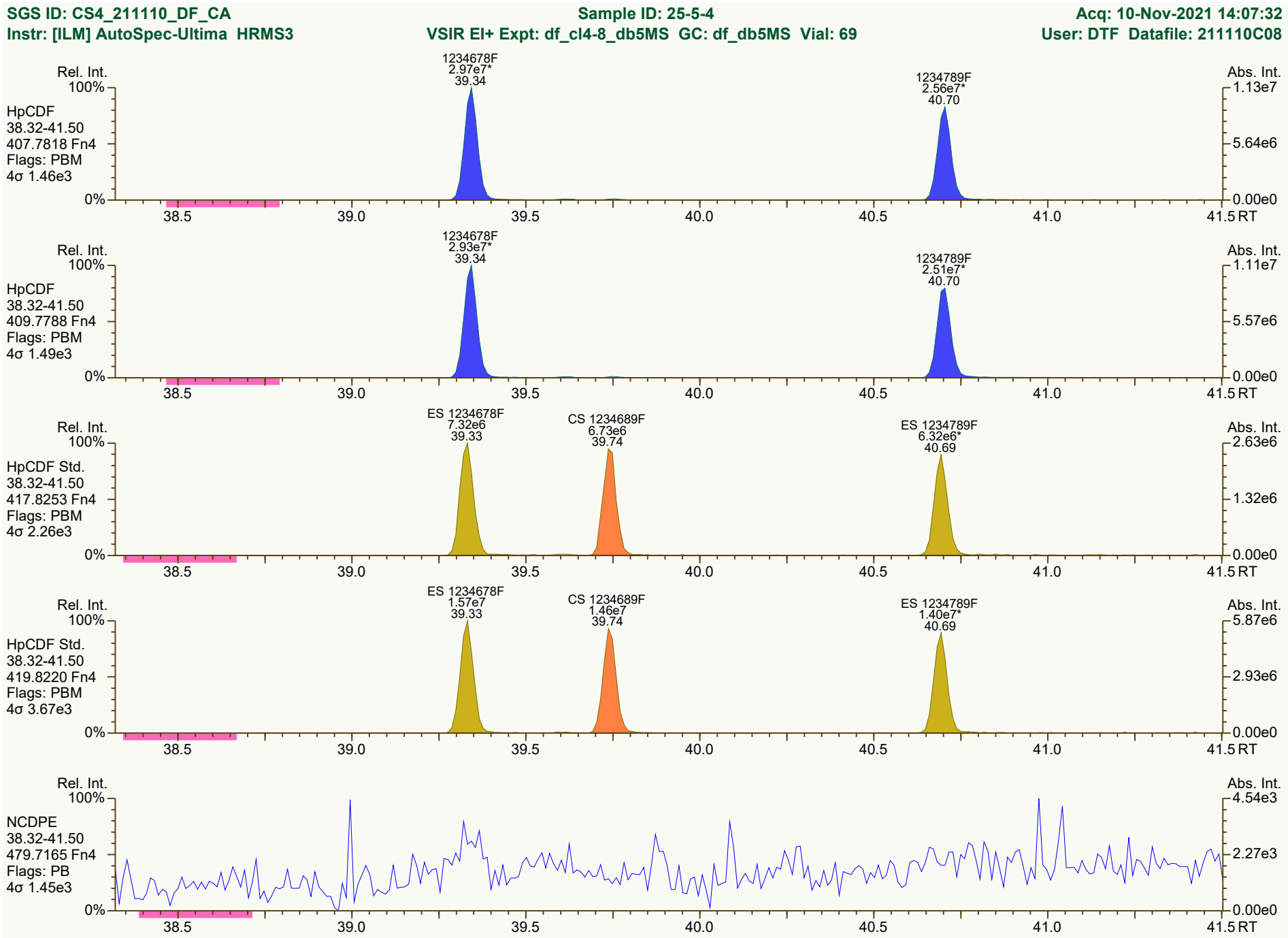

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

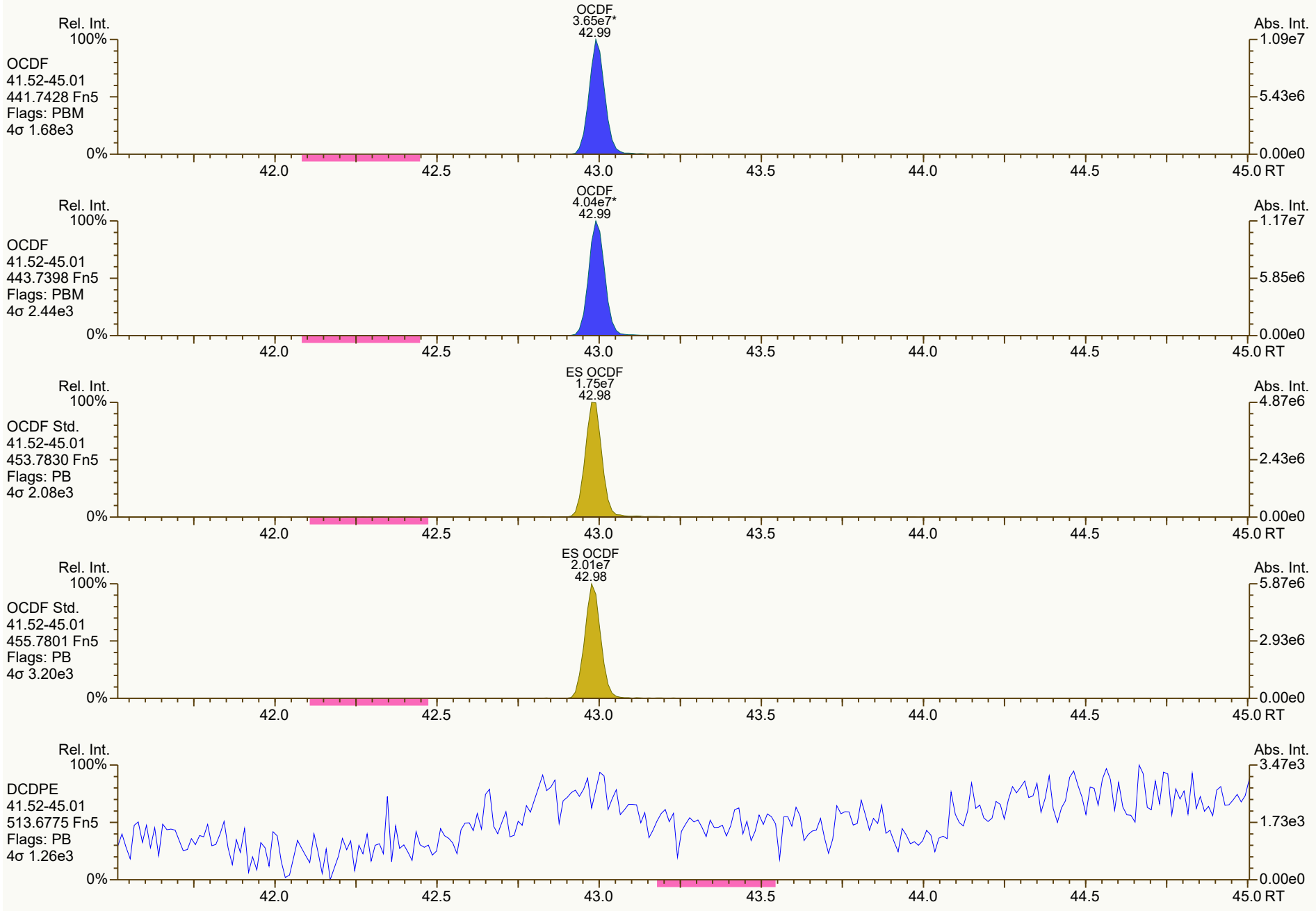

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
1.30e7
6.48e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
8.36e6
4.18e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
6.66e6
3.33e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
4.36e6
2.18e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
7.51e3
3.76e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

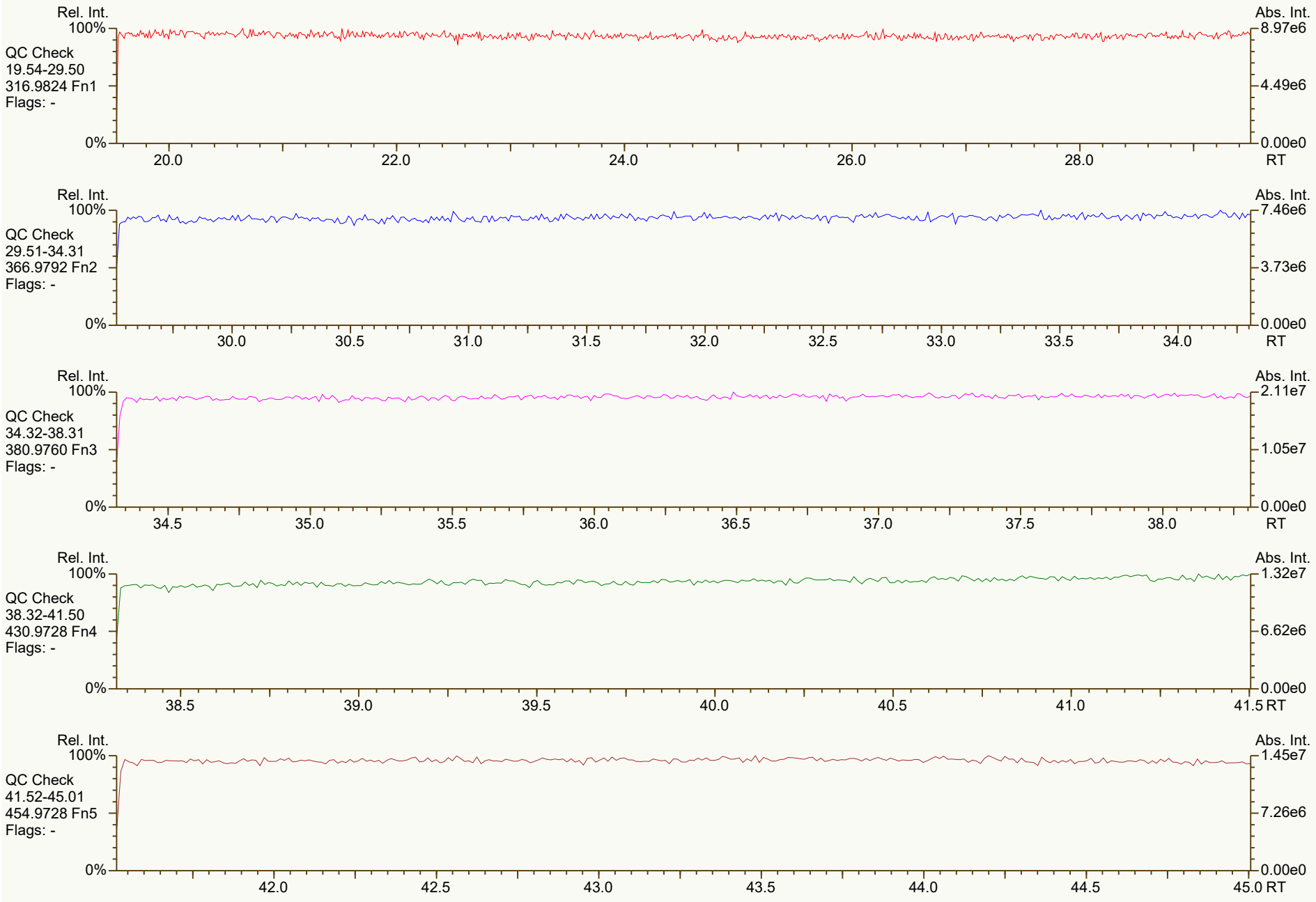

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

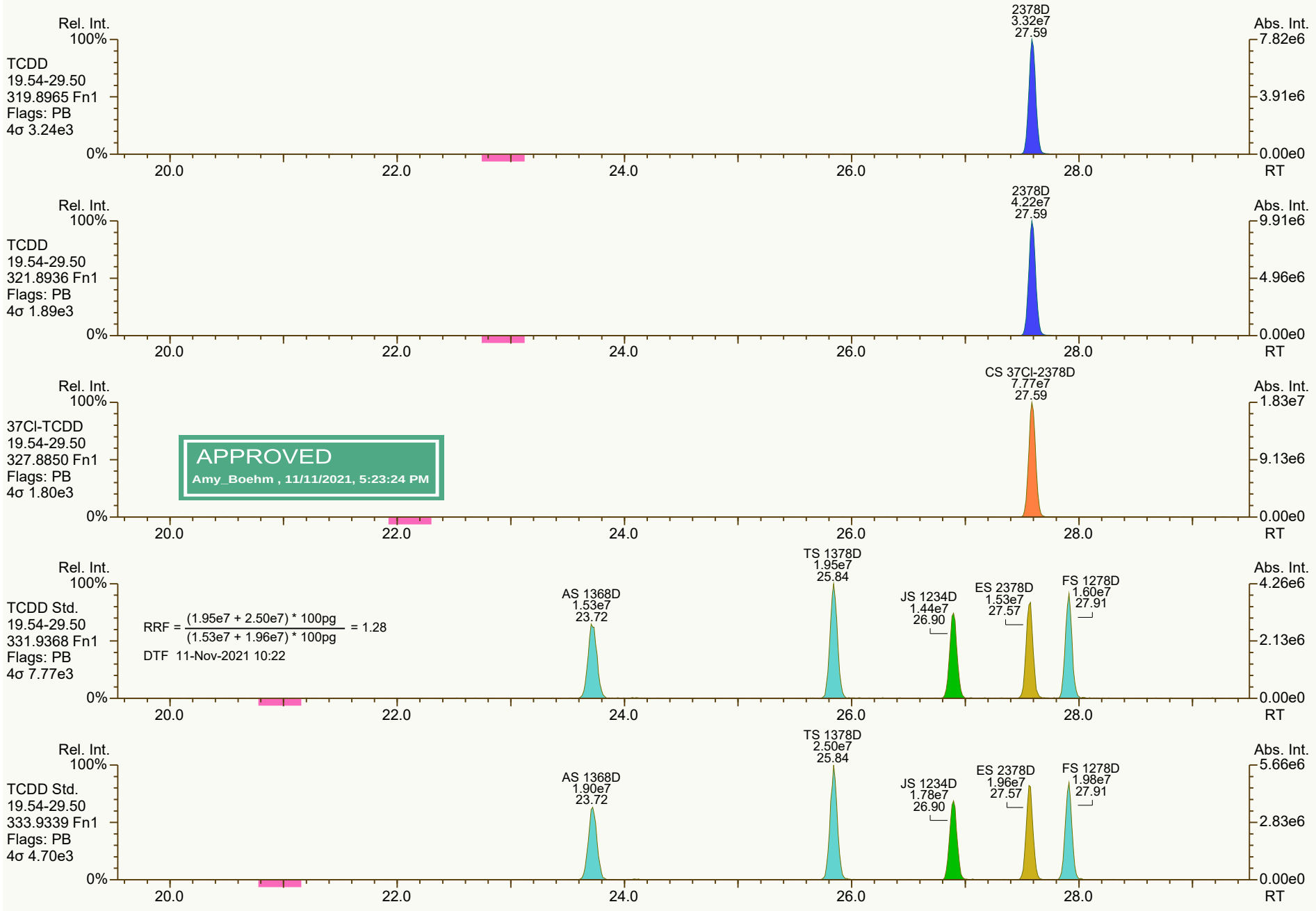

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

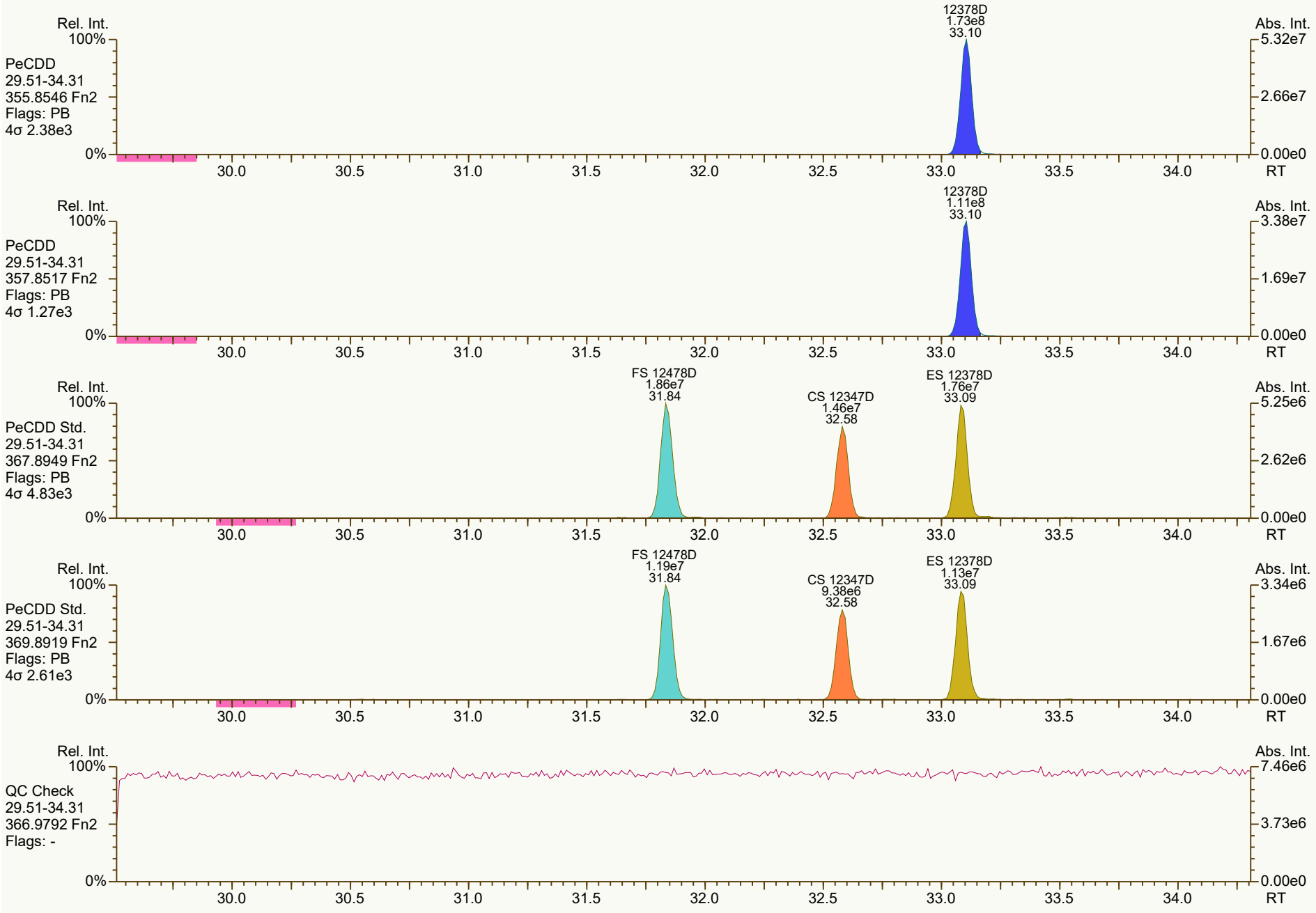
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

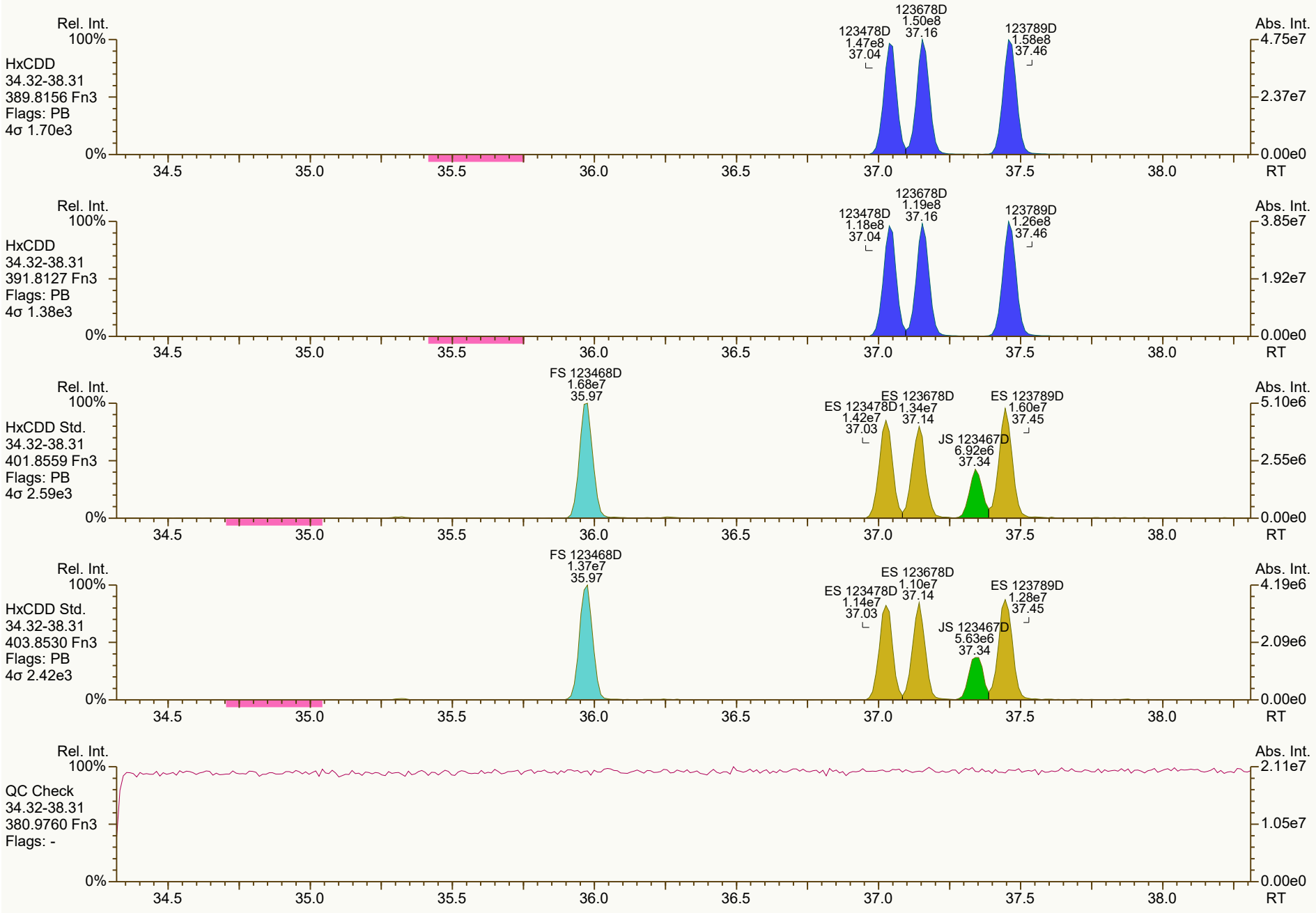
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

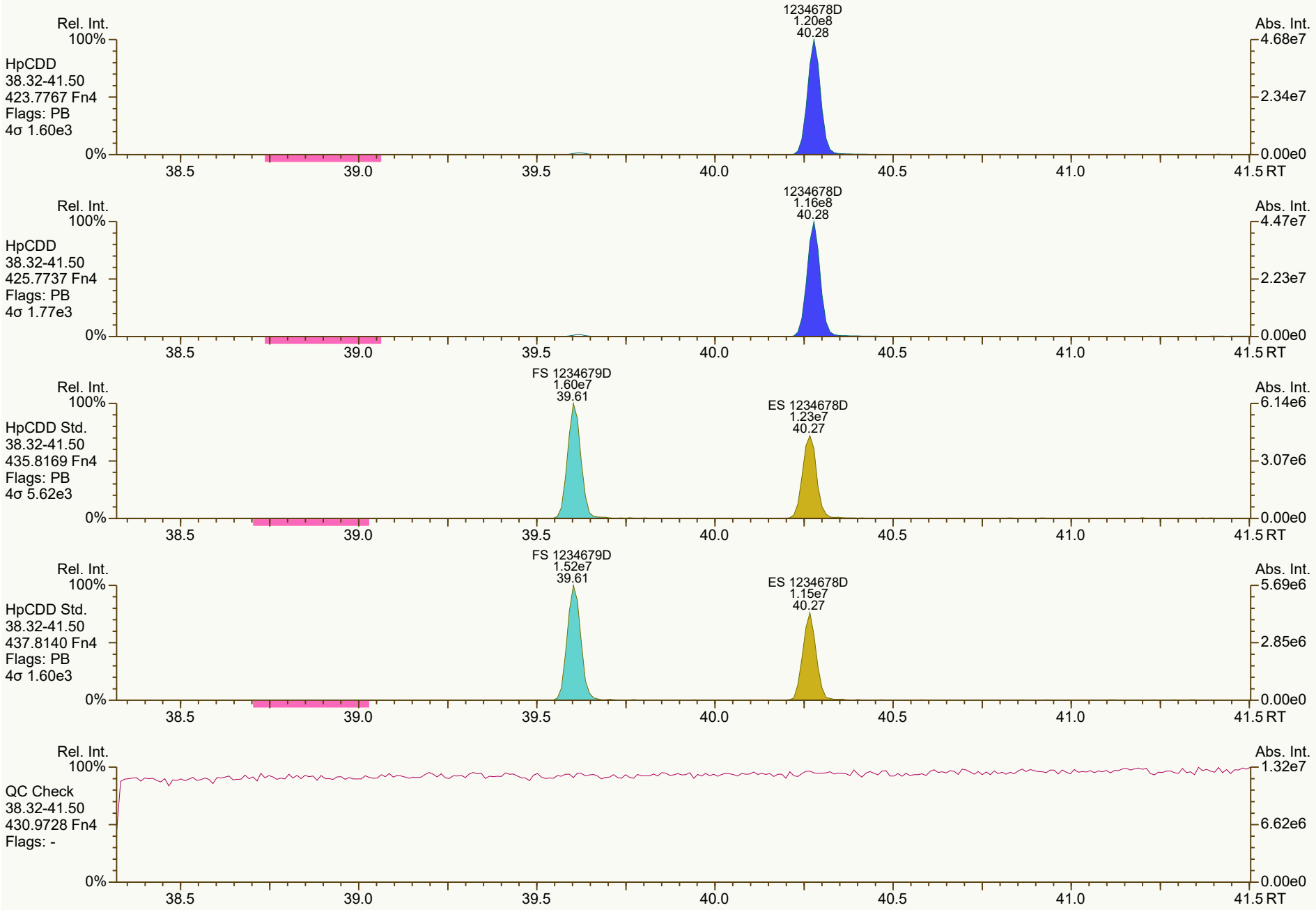
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

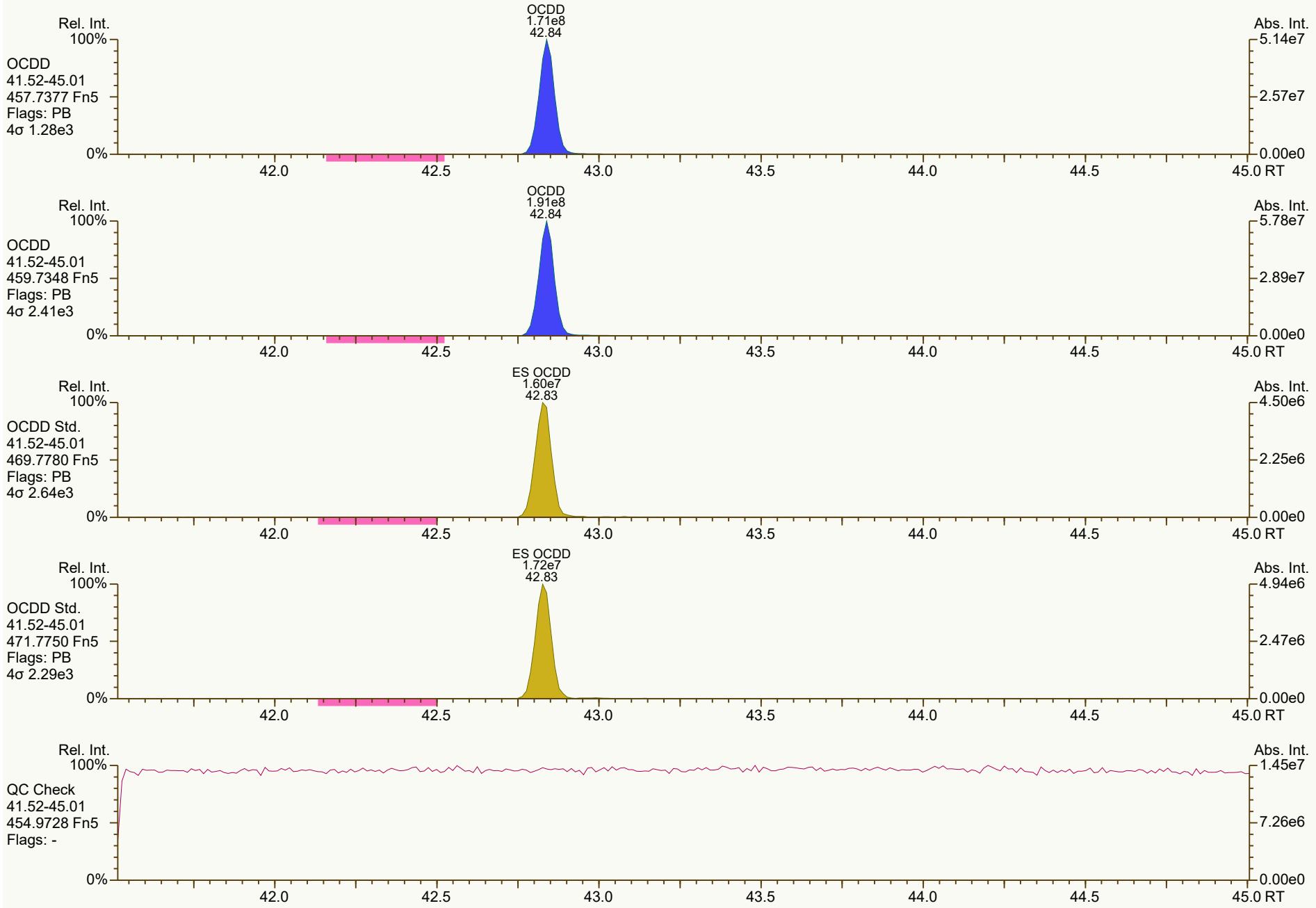

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

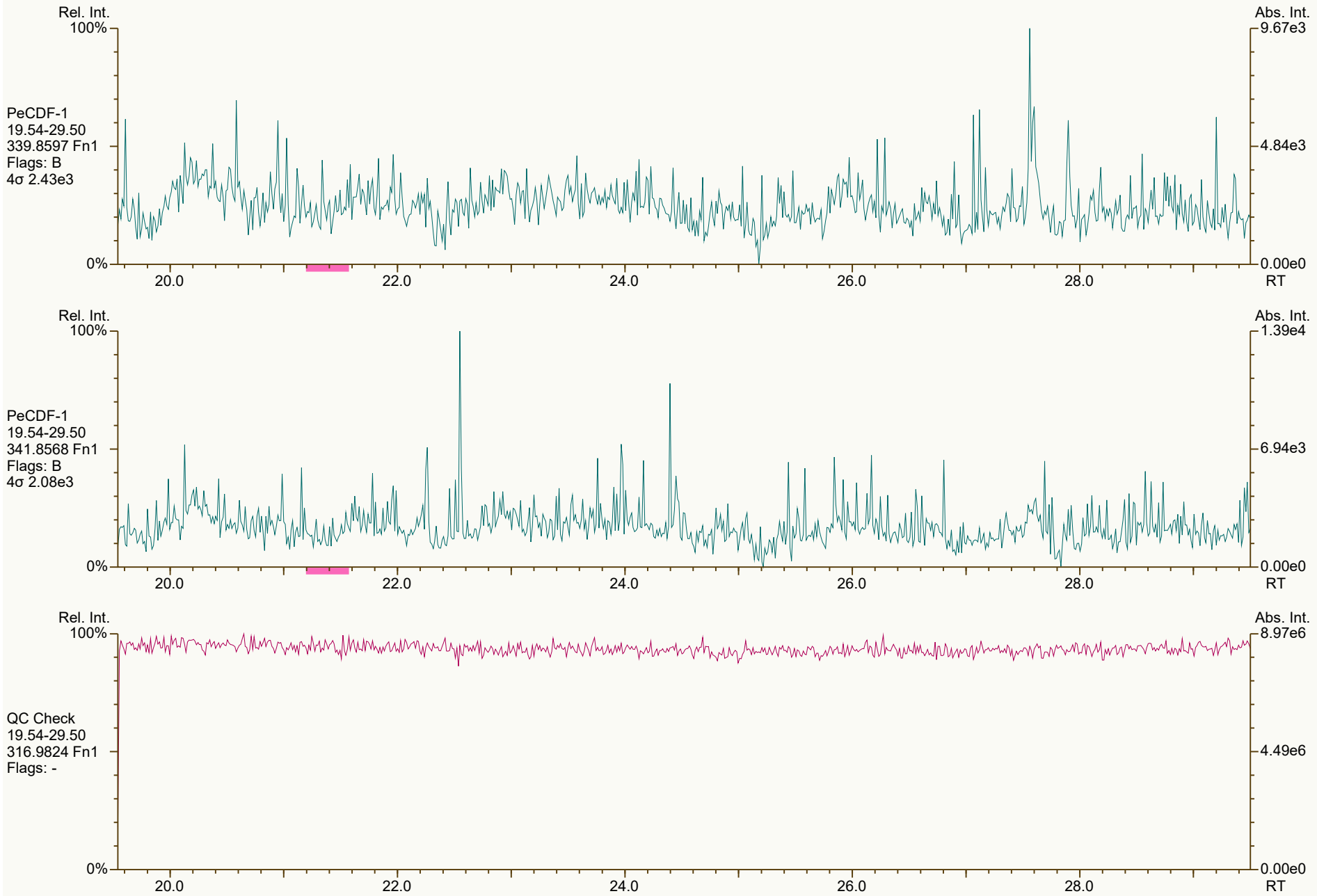

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

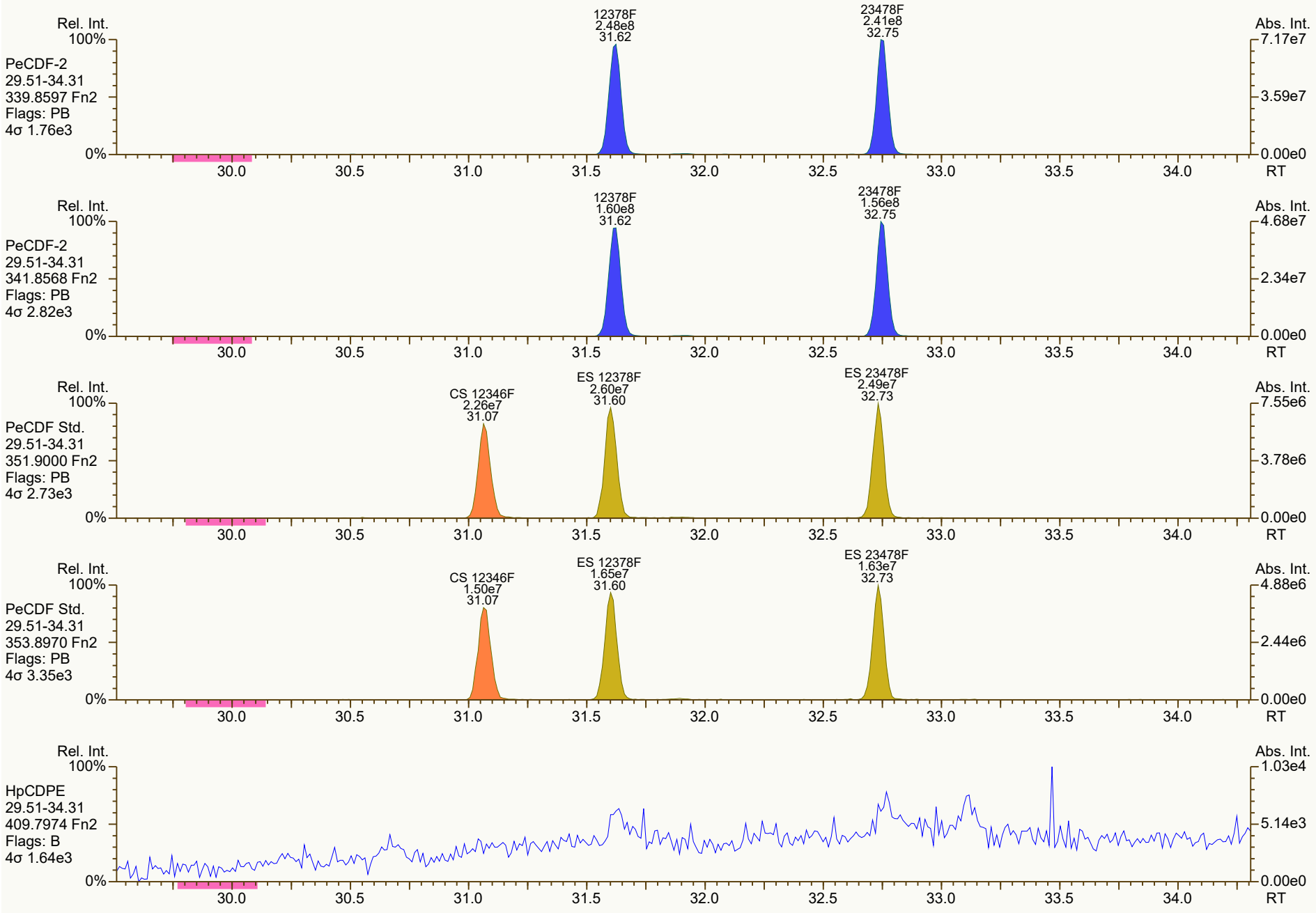
SGS ID: CS5_211110_DF_CA | Sample ID: 25-5-3 | Acq: 10-Nov-2021 14:53:51

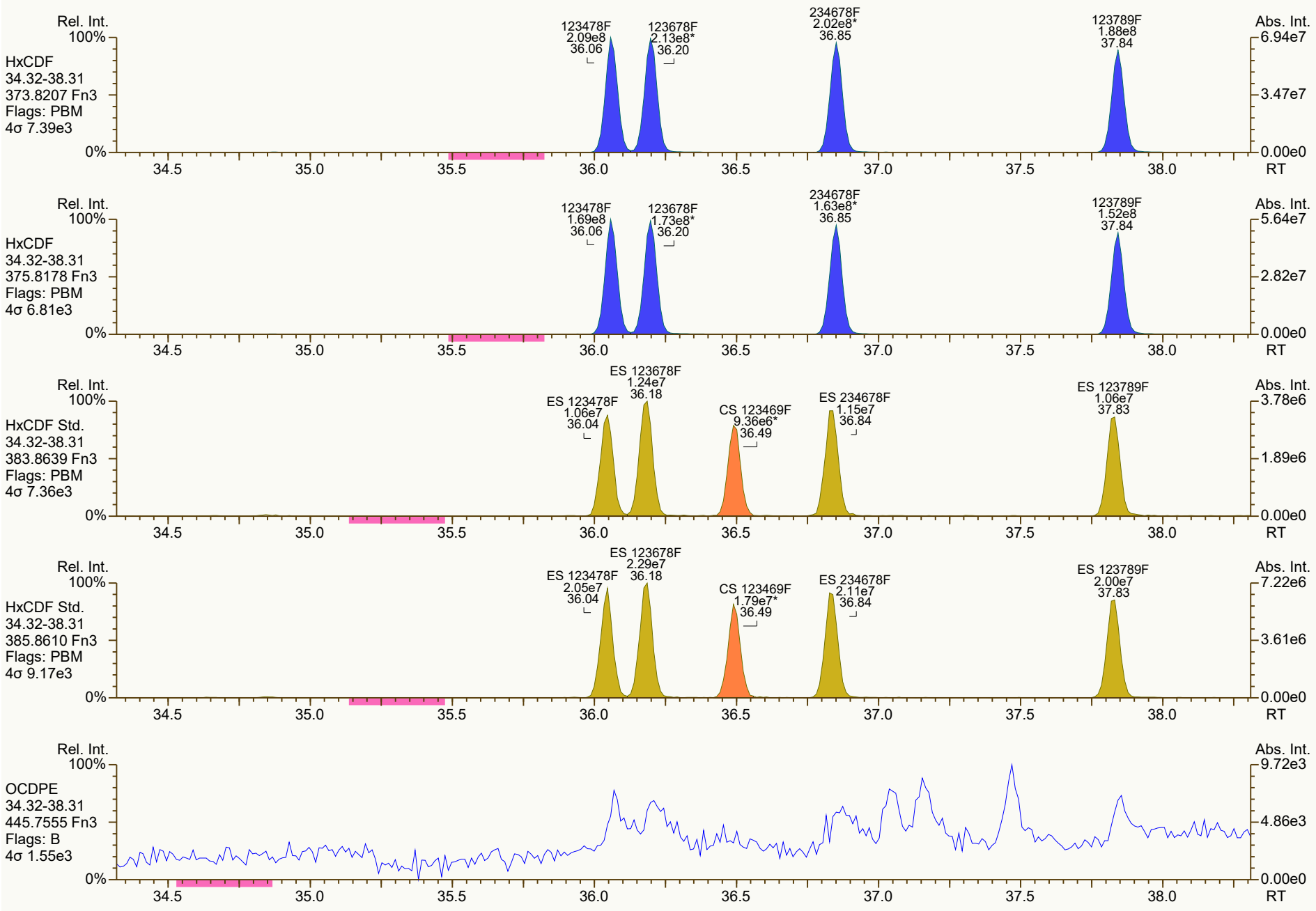
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: DTF Datafile: 211110C09

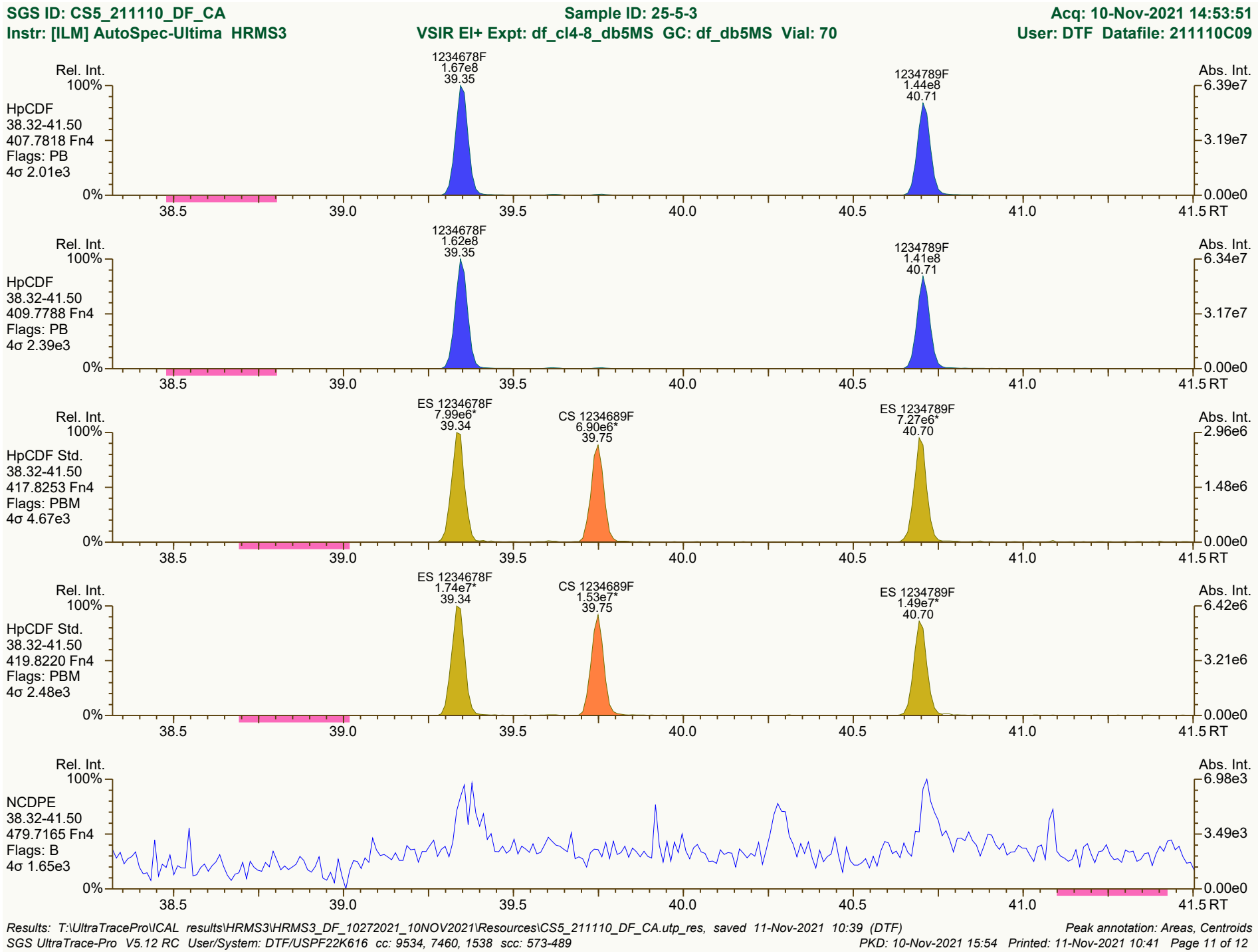


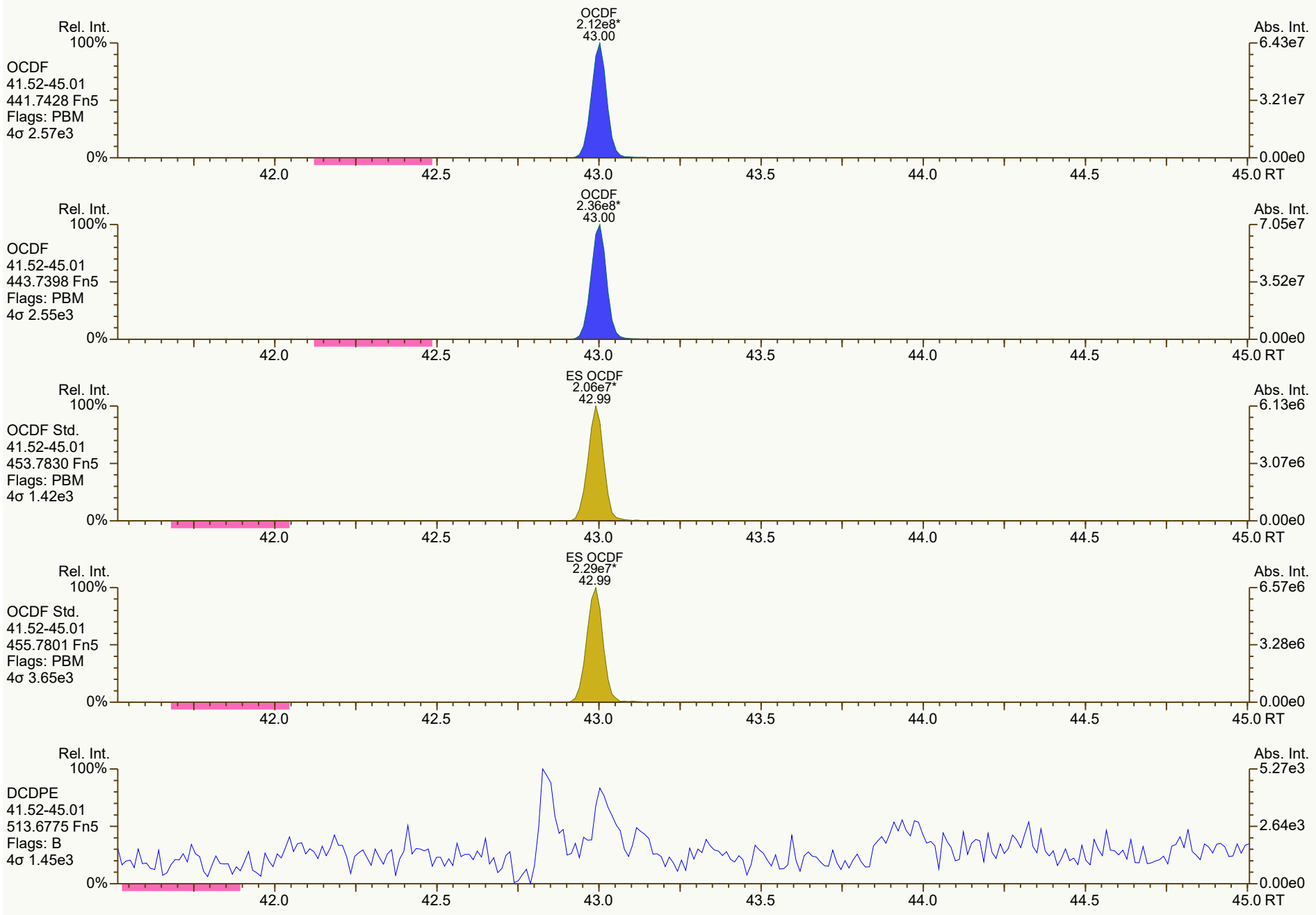
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1231 scc: 573-489 *PKD: 10-Nov-2021 15:53 Printed: 11-Nov-2021 10:41 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

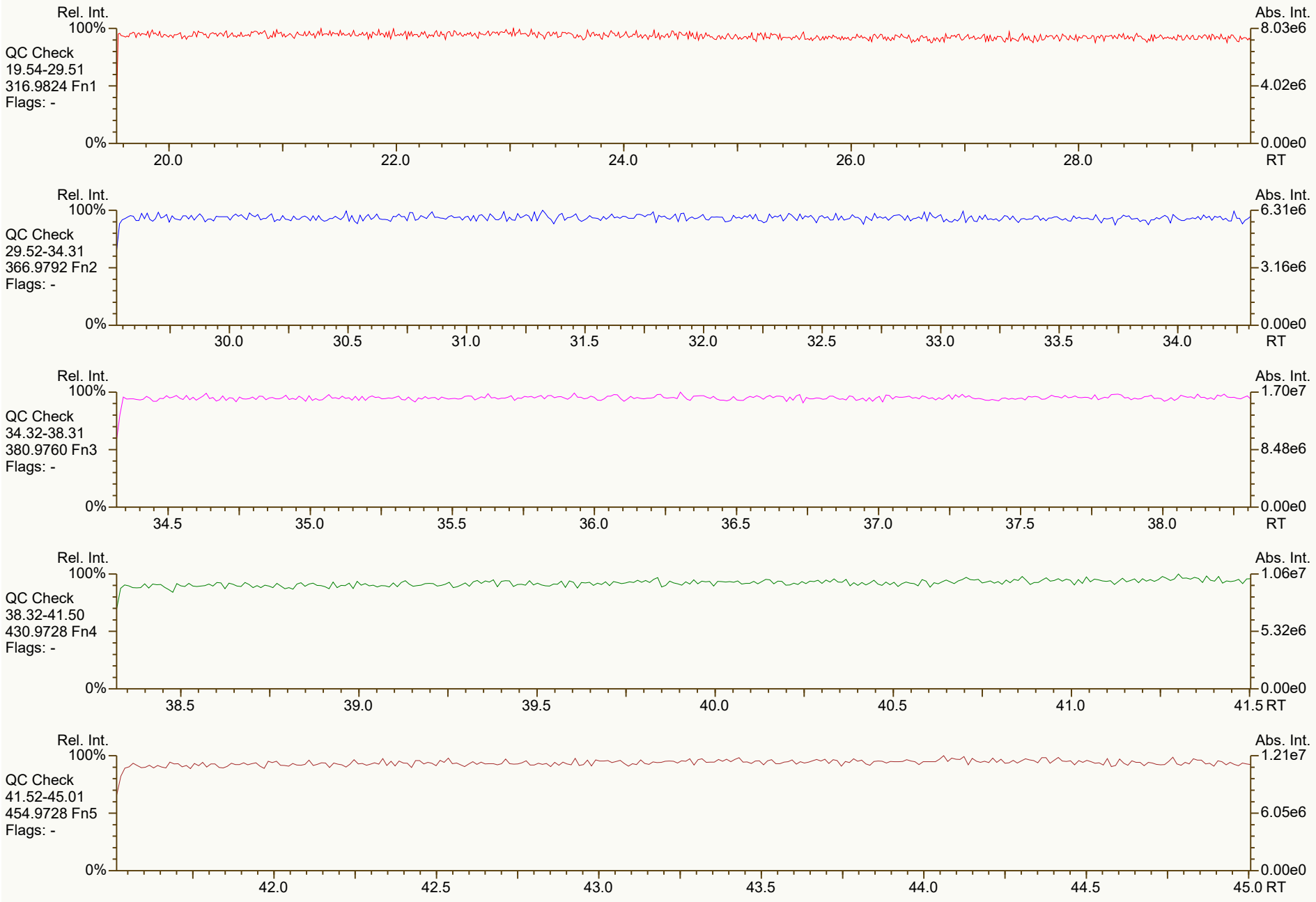

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

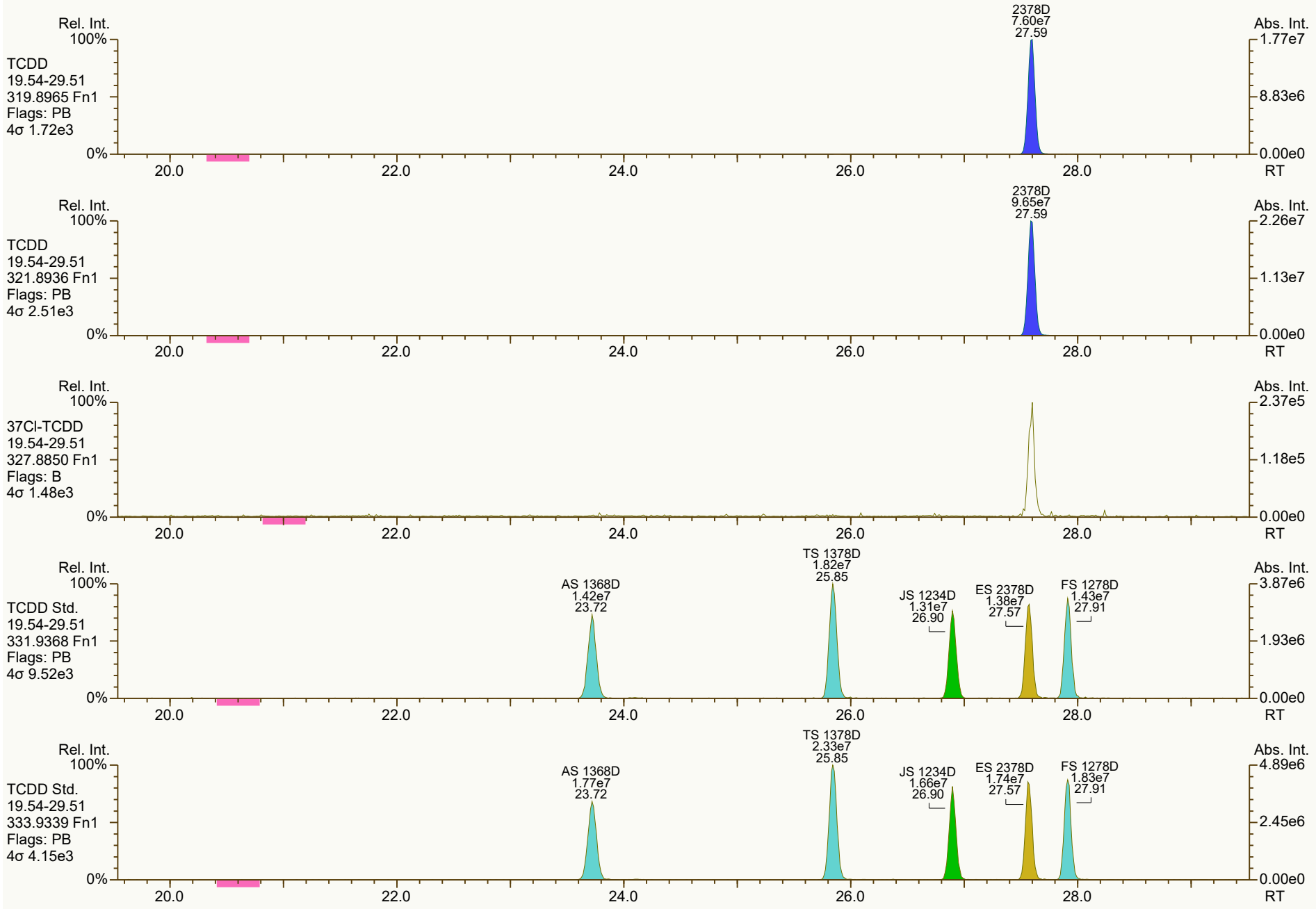
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

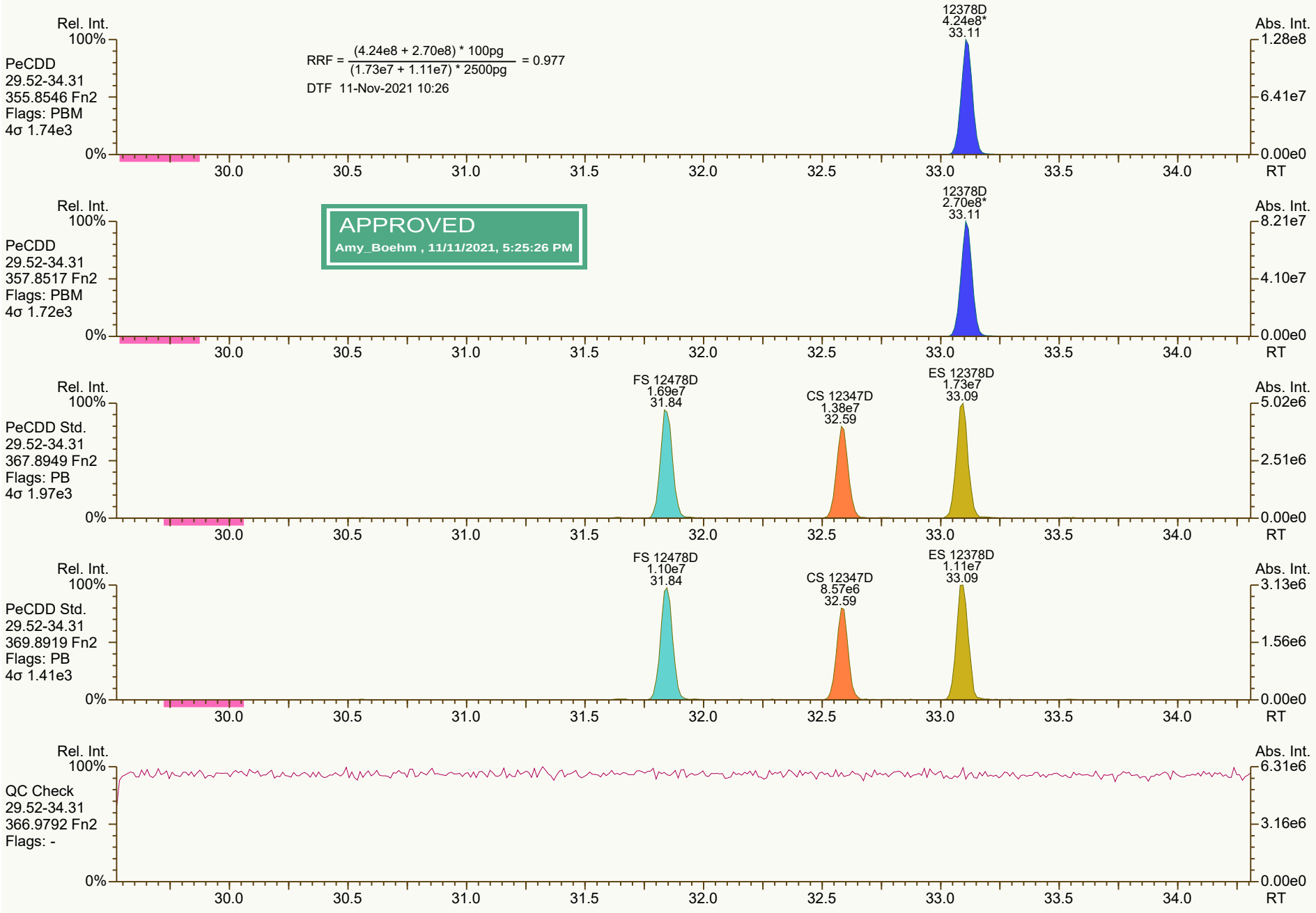
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

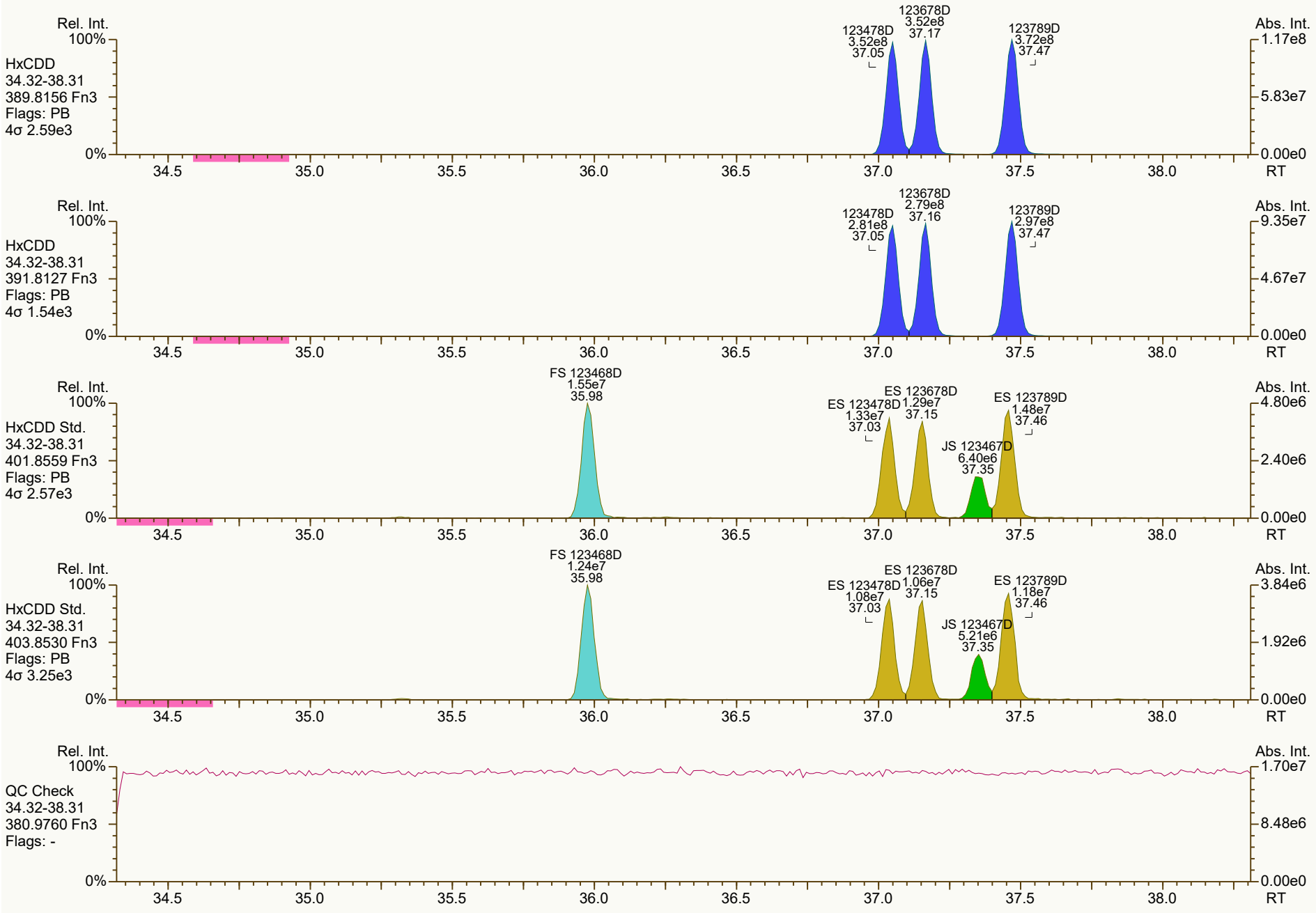
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

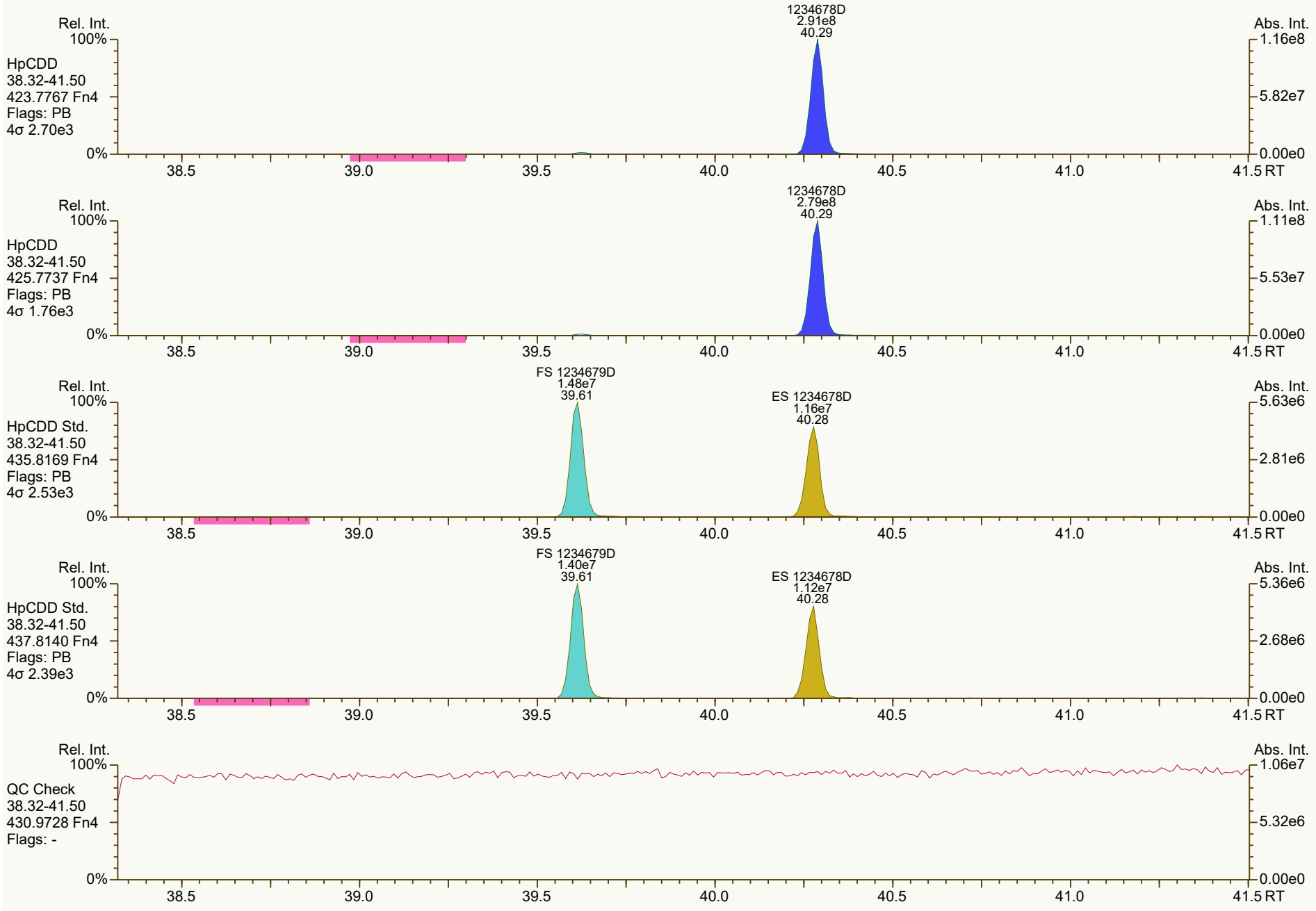
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

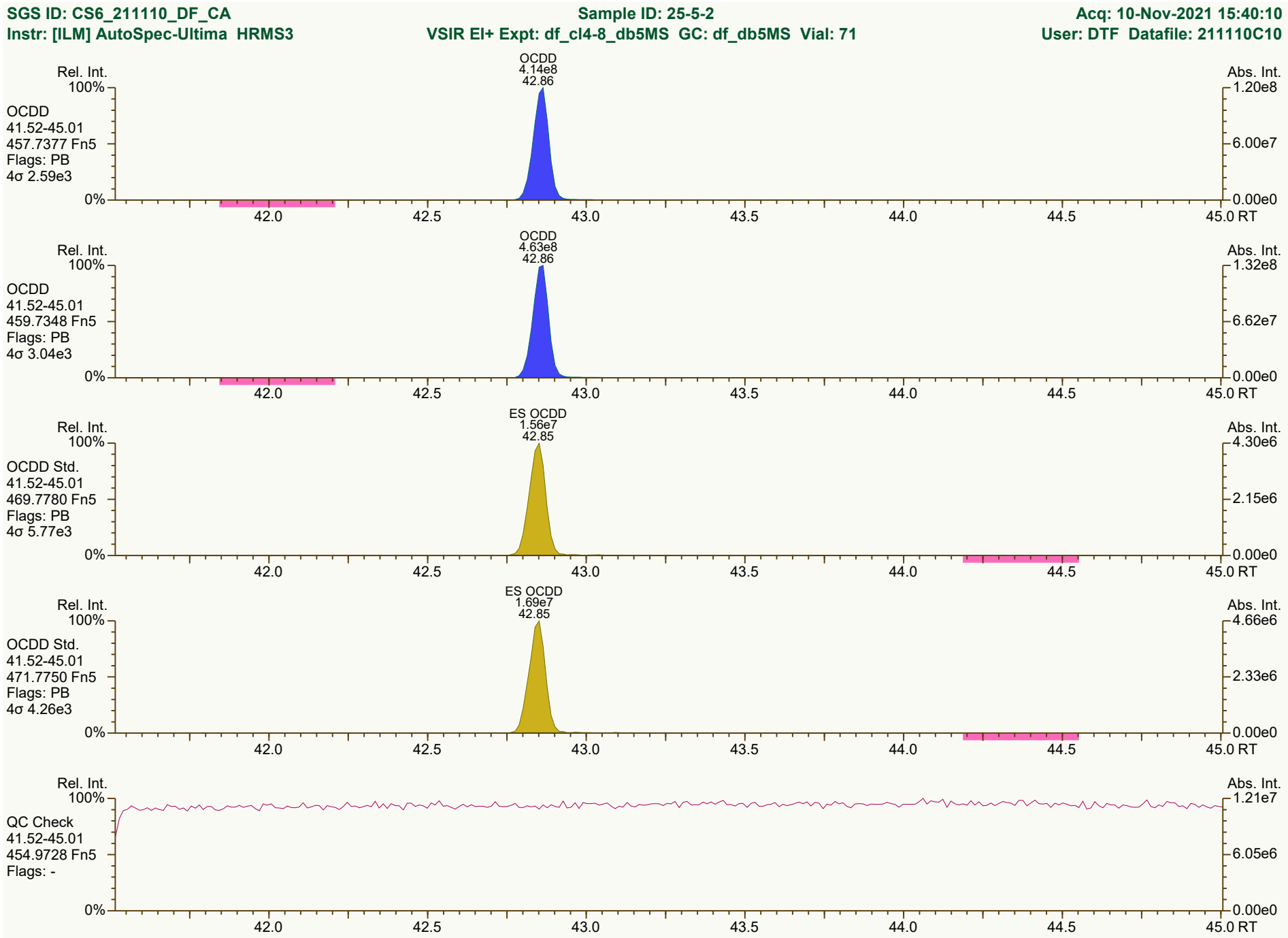

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

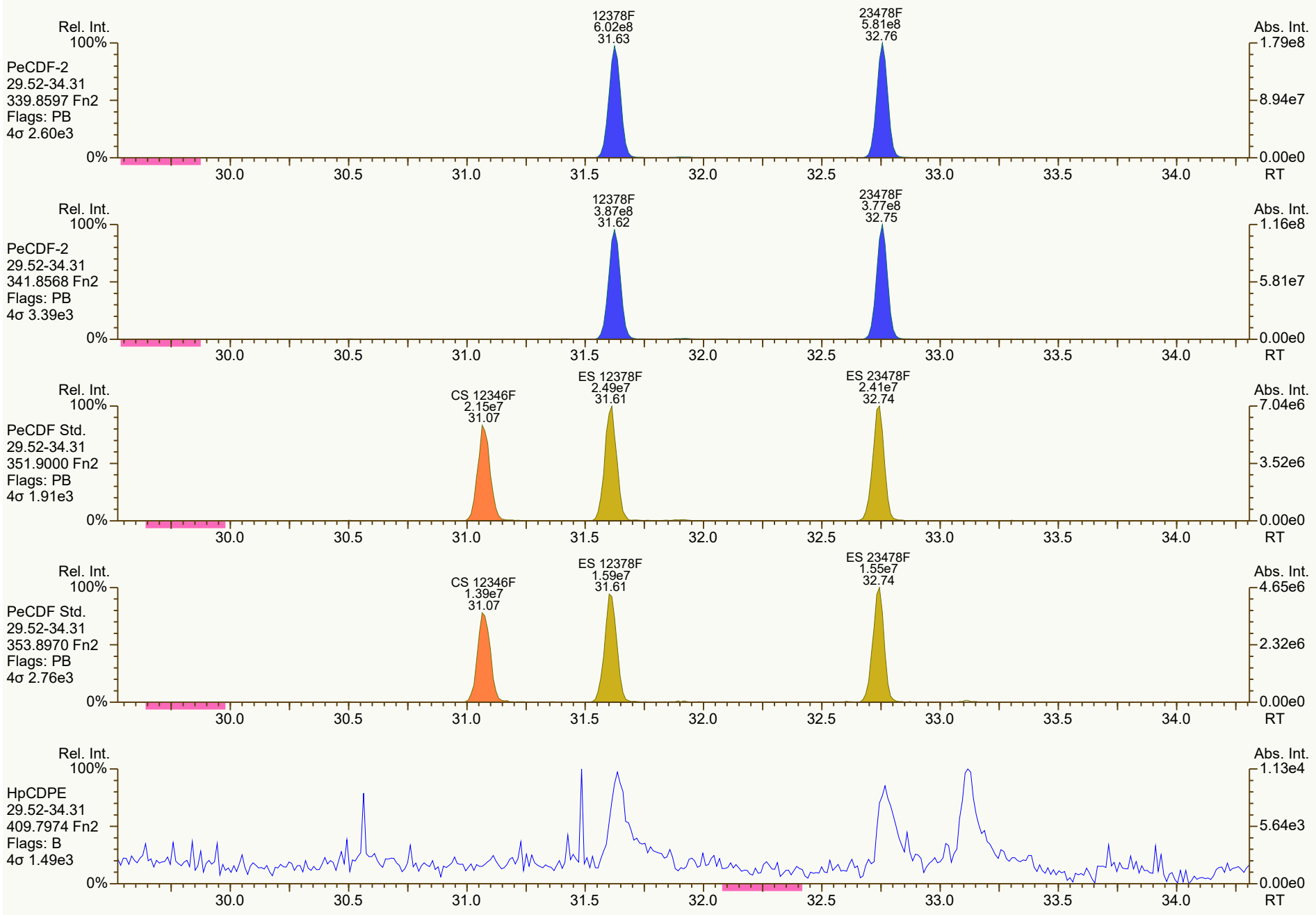

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

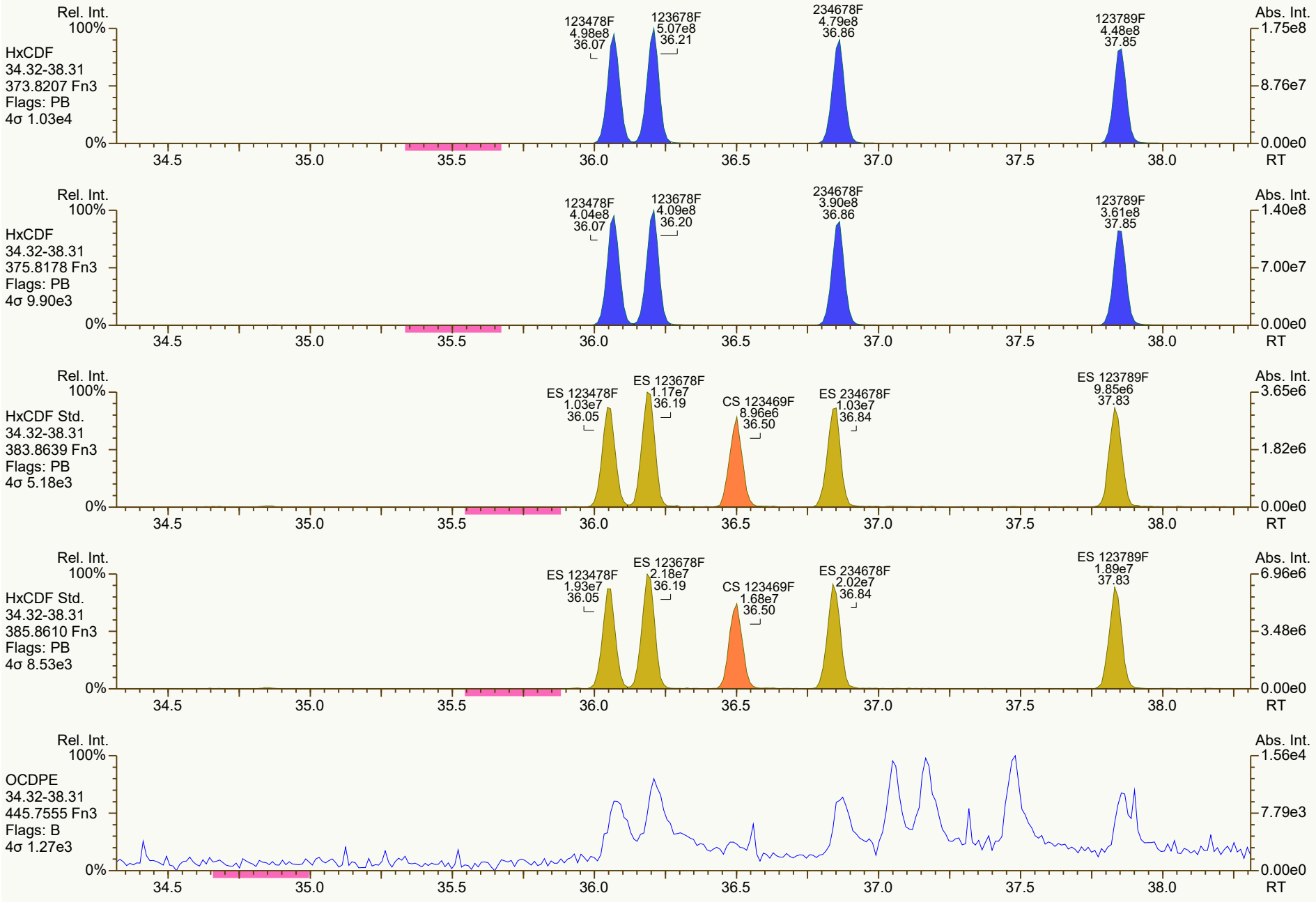

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

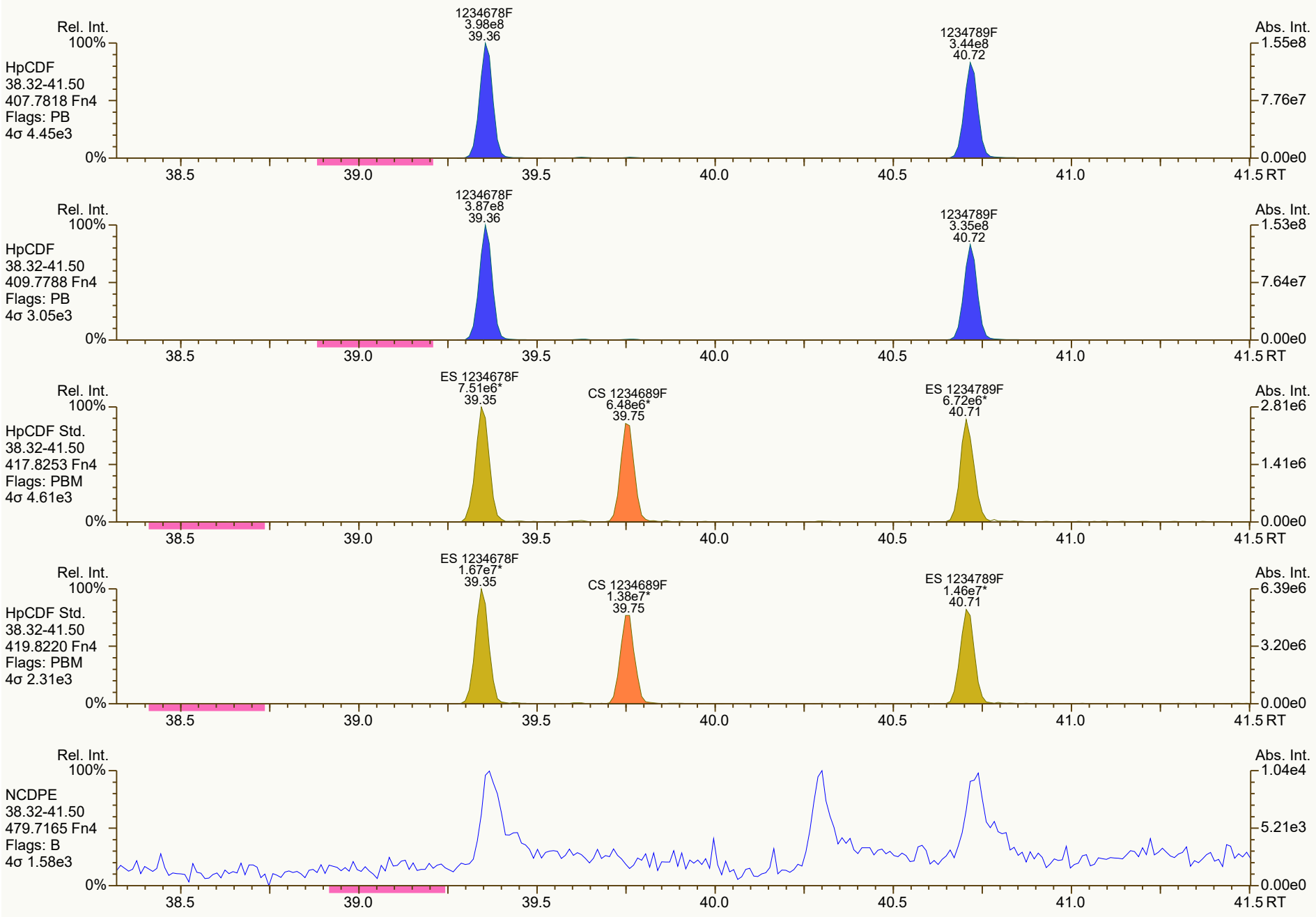

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
OCDD
4.14e8
42.86
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
1.20e8
6.00e7
0.00e0
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
1.32e8
6.62e7
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
4.30e6
2.15e6
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
4.66e6
2.33e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.21e7
6.05e6
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

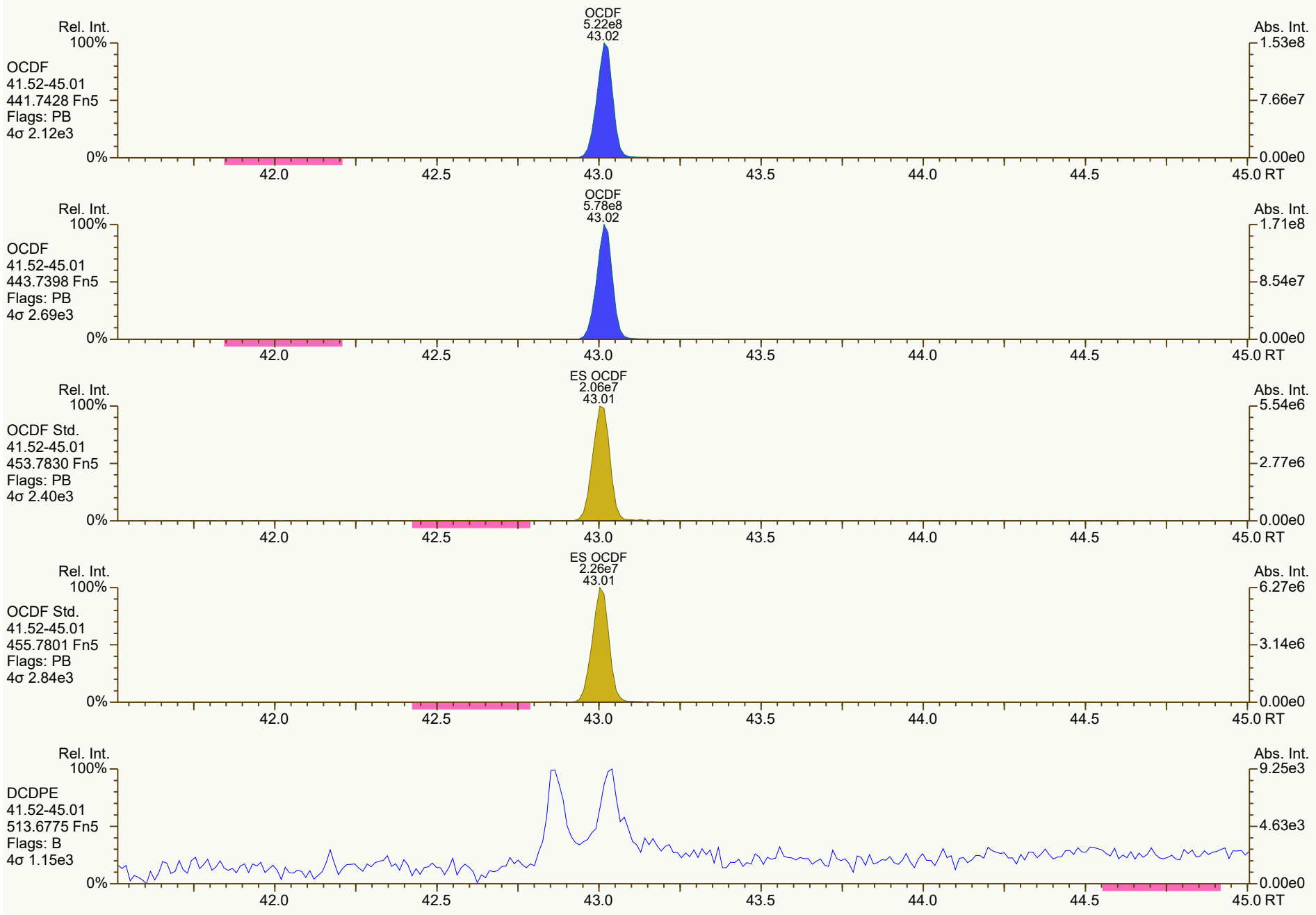

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

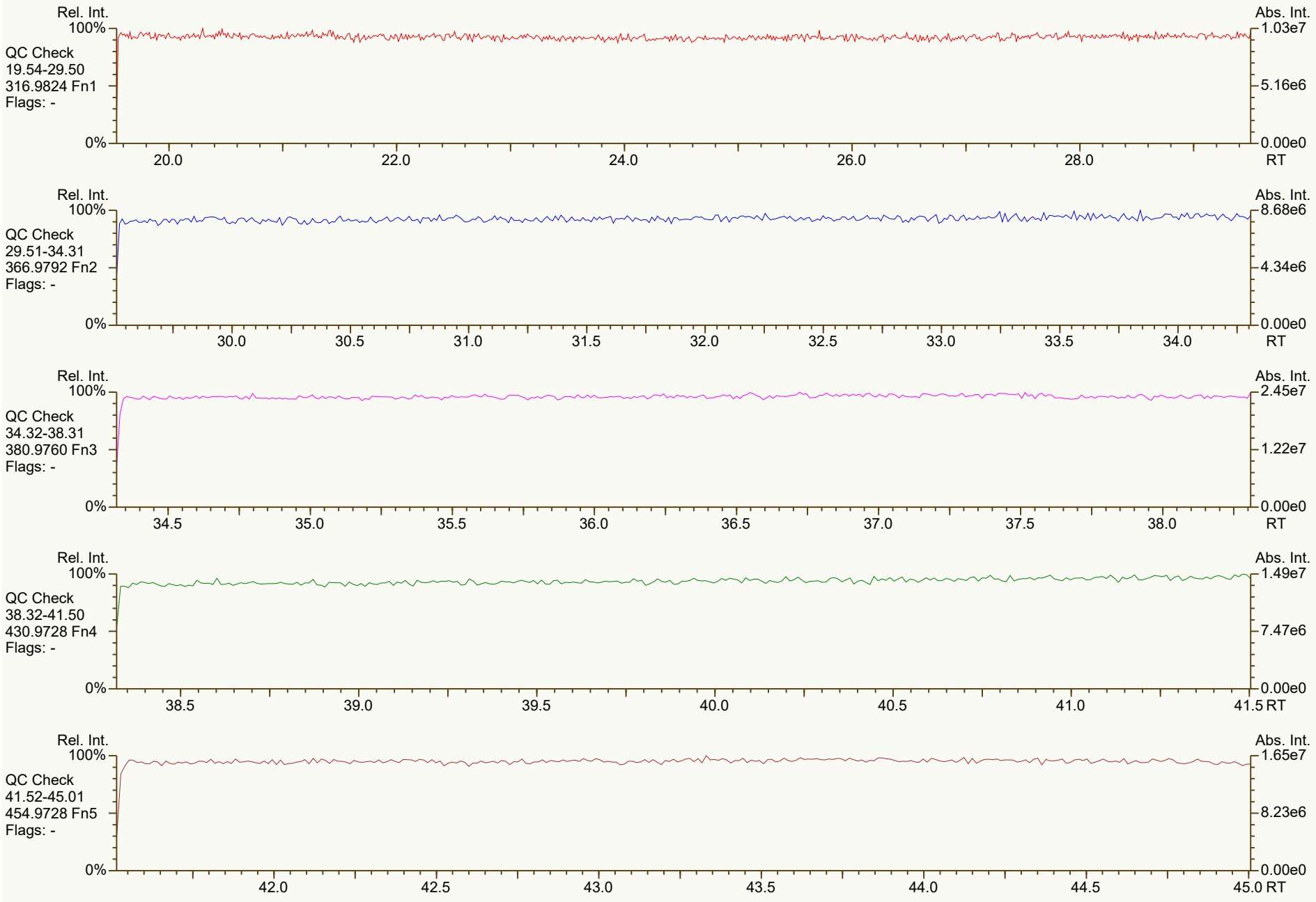

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

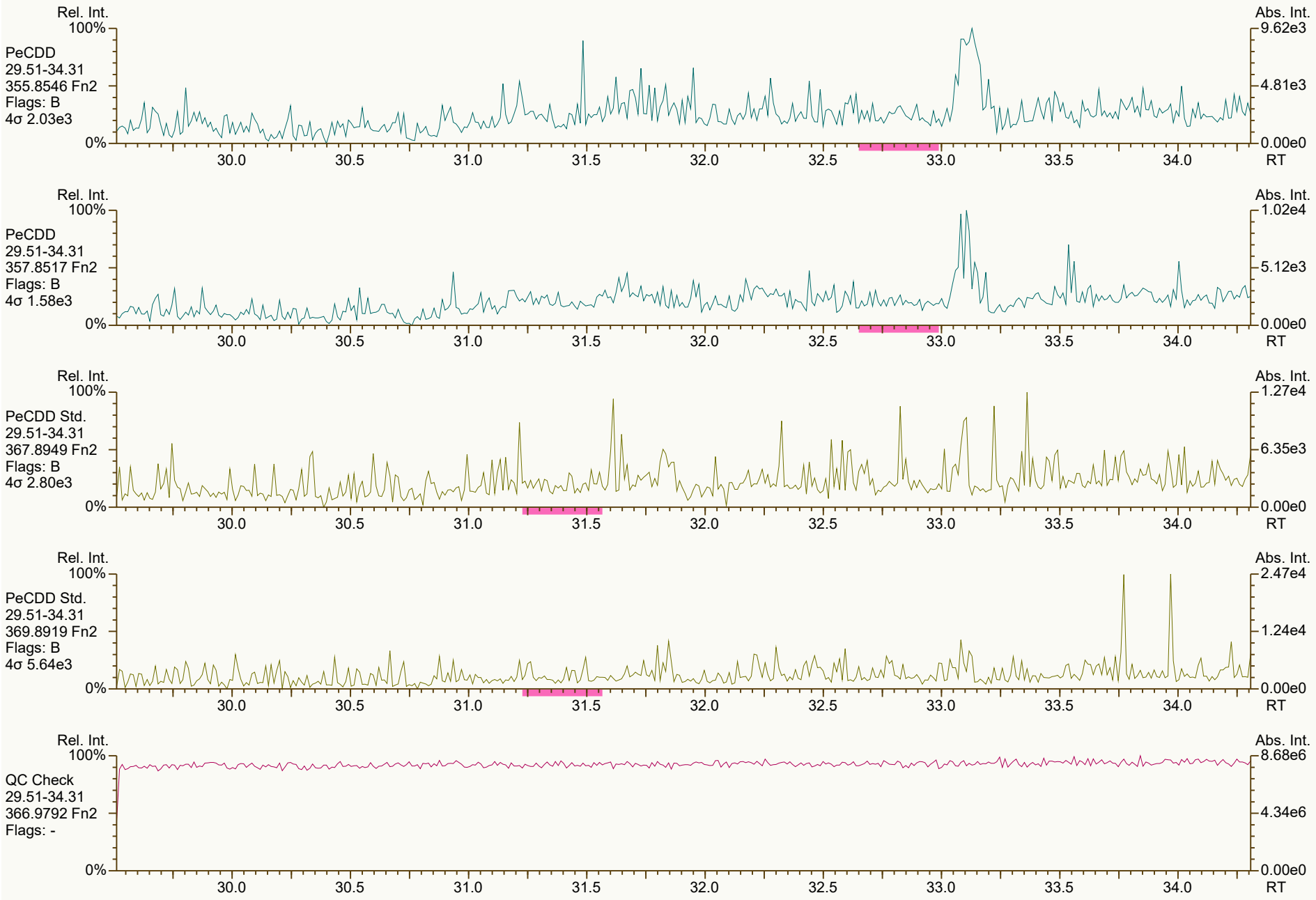
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

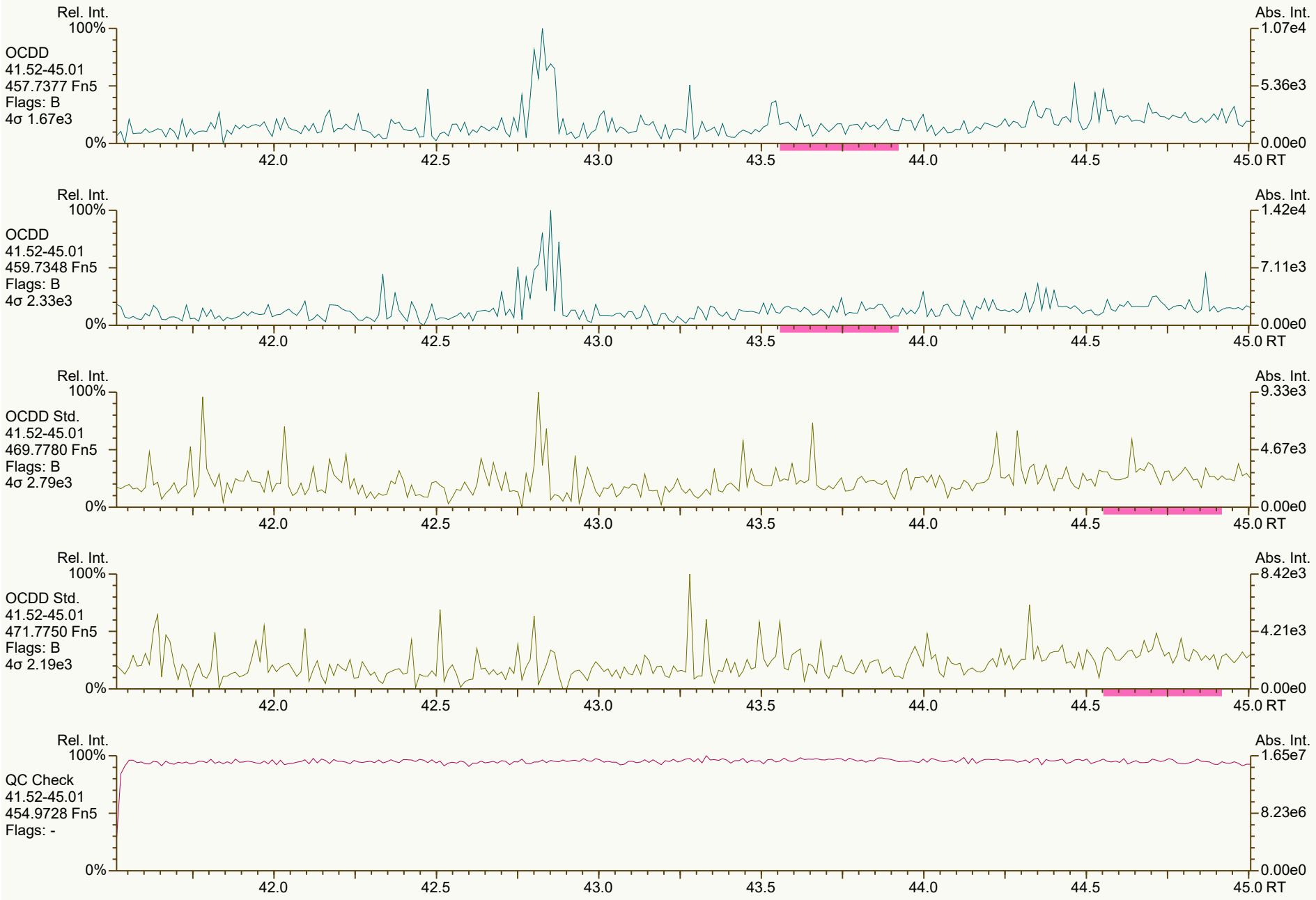
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

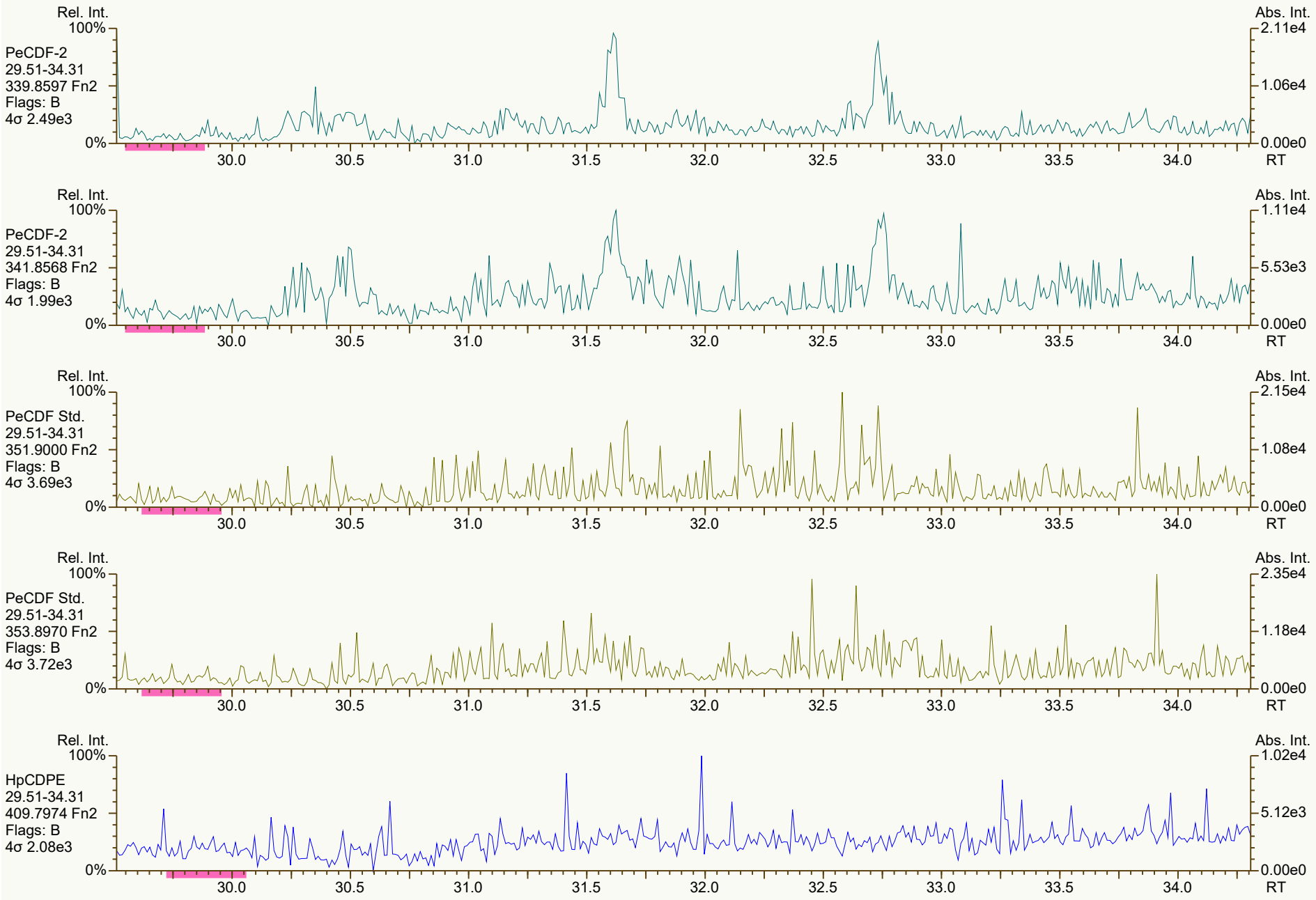

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

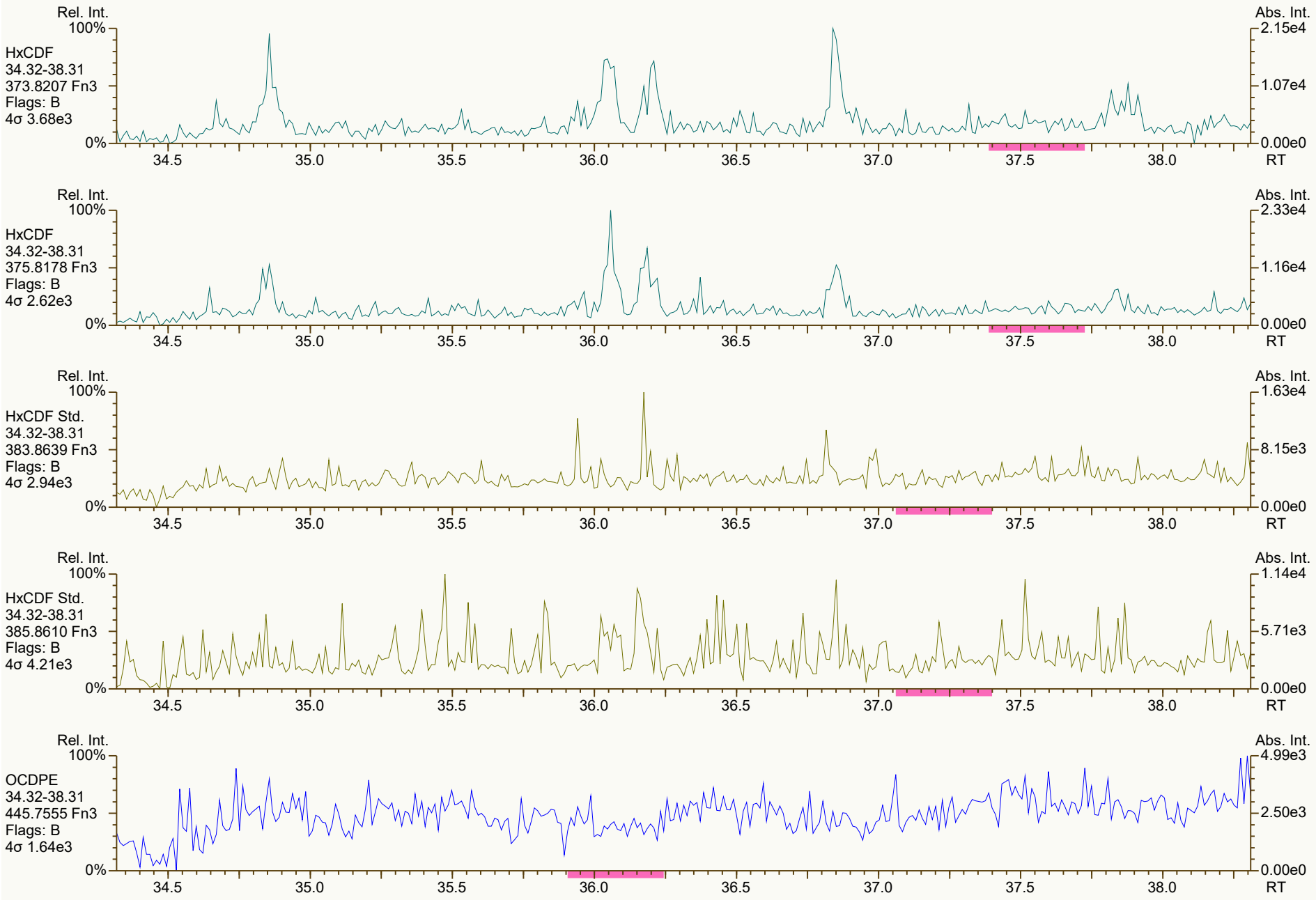

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

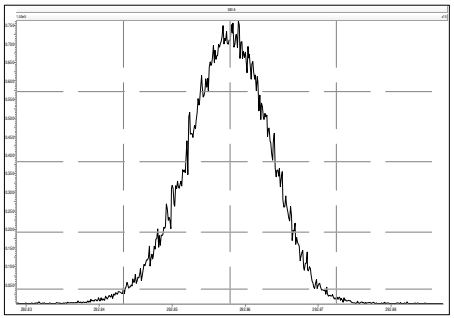

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

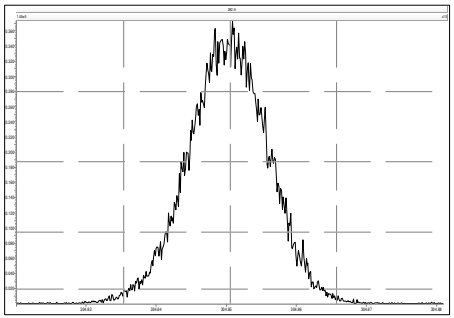
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

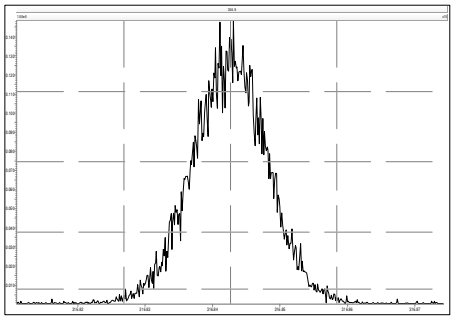
M 292.9824 R 10731



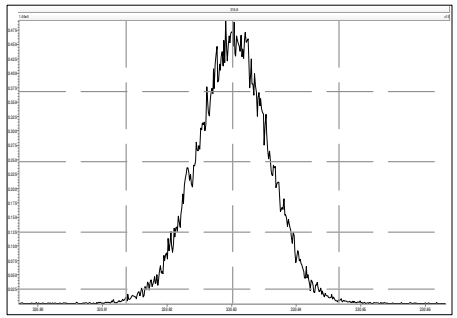
M 304.9824 R 11311



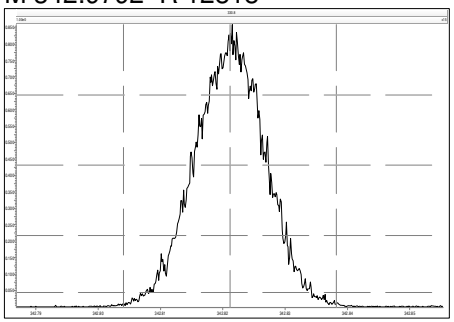
M 316.9824 R 12373



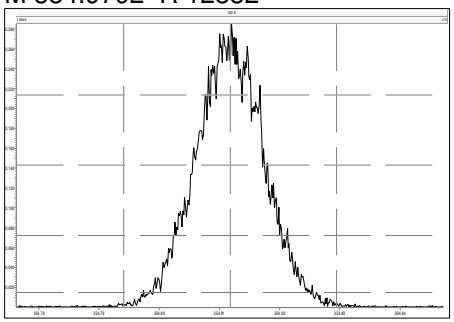
M 330.9792 R 12887



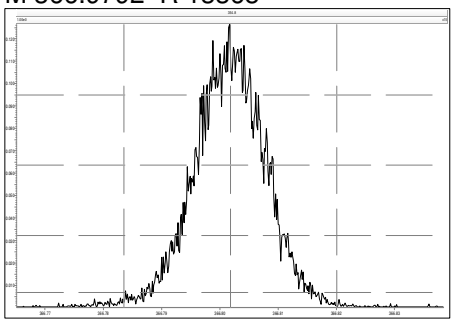
M 342.9792 R 12818



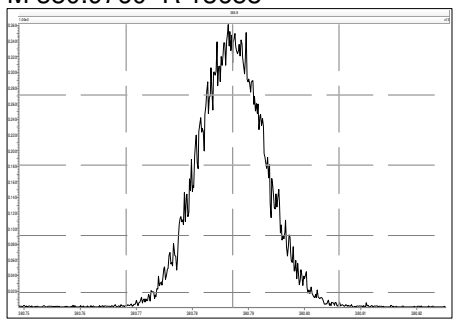
M 354.9792 R 12882



M 366.9792 R 13368



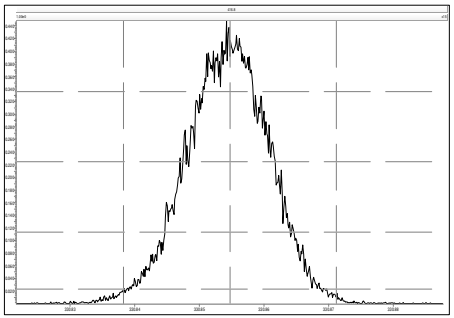
M 380.9760 R 13658



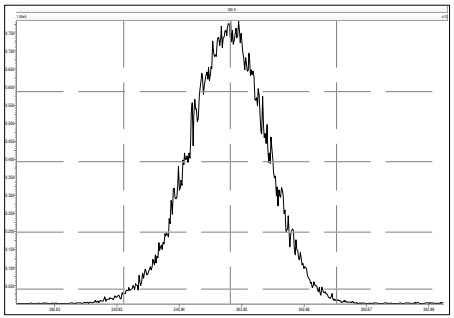
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

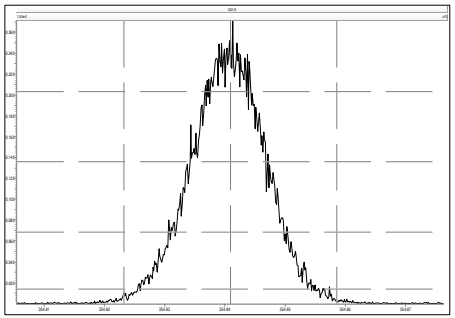
M 330.9792 R 11112



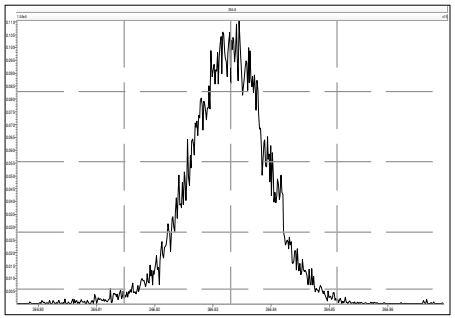
M 342.9792 R 11909



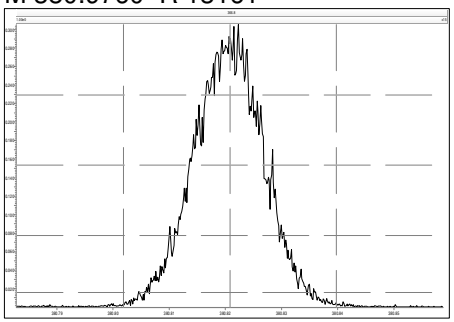
M 354.9792 R 11684



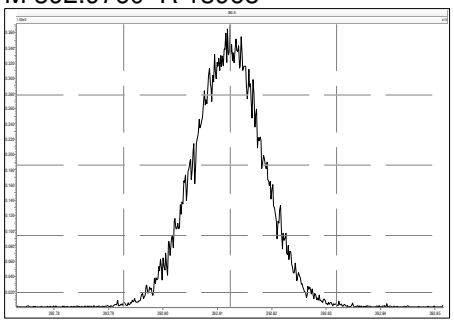
M 366.9792 R 11962



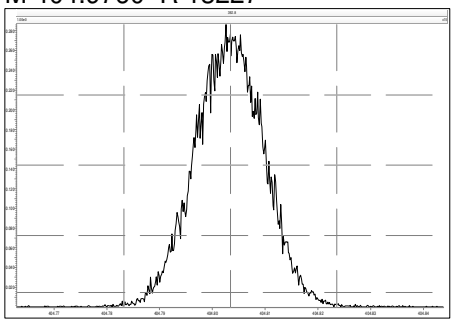
M 380.9760 R 13161



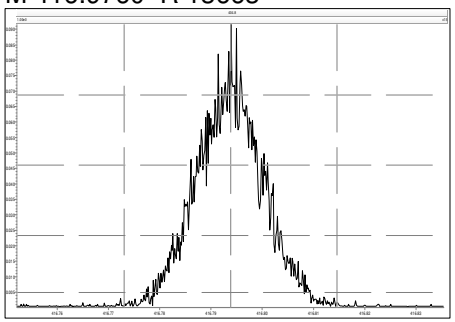
M 392.9760 R 13968



M 404.9760 R 13227



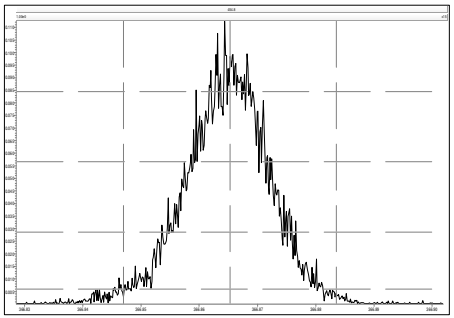
M 416.9760 R 13663



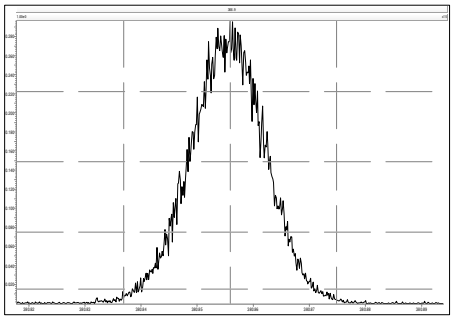
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

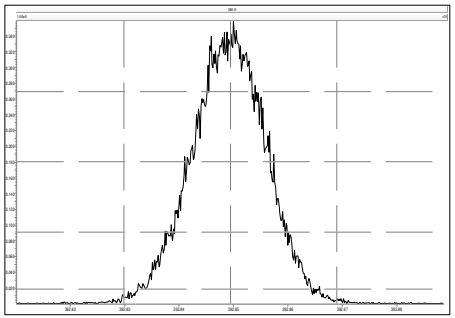
M 366.9792 R 10680



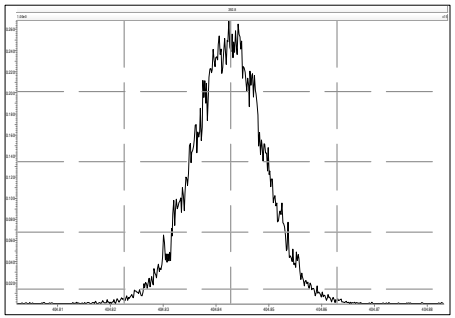
M 380.9760 R 12315



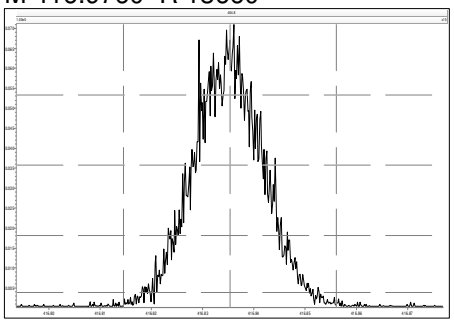
M 392.9760 R 12197



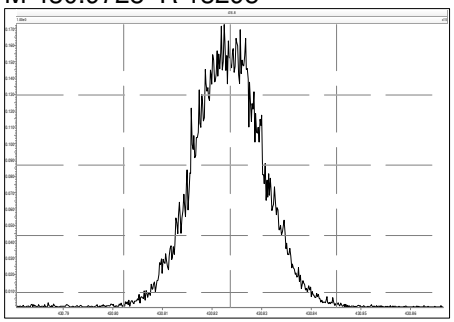
M 404.9760 R 12433



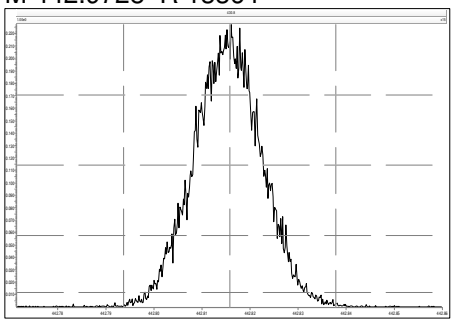
M 416.9760 R 13660



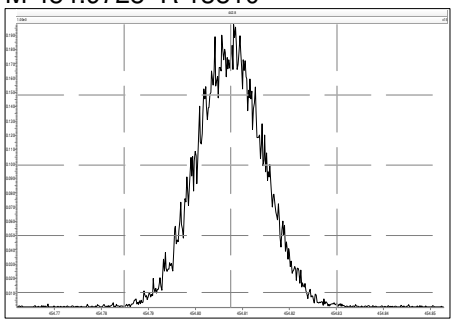
M 430.9728 R 13295



M 442.9728 R 13364



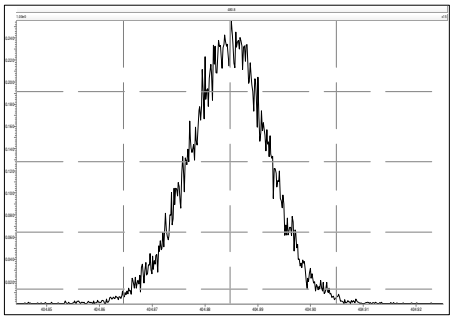
M 454.9728 R 13810



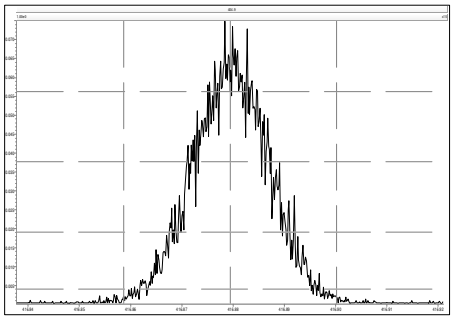
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

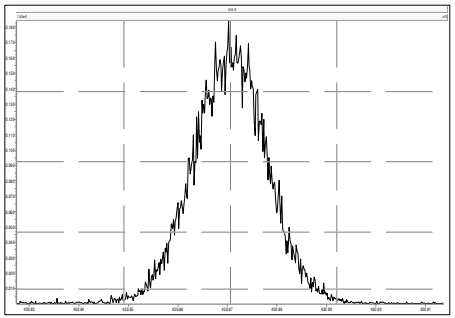
M 404.9760 R 11679



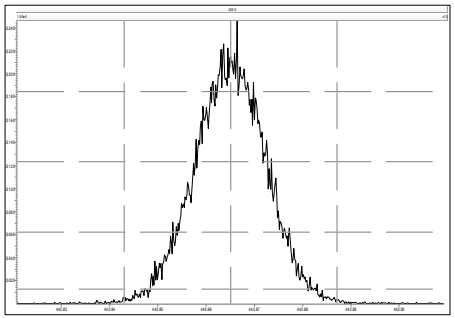
M 416.9760 R 12886



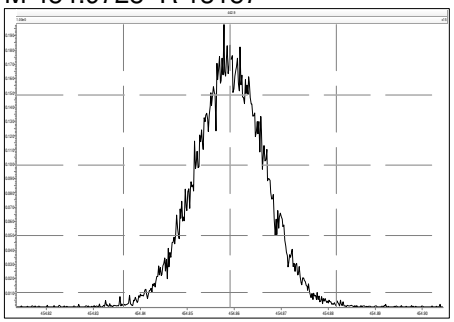
M 430.9728 R 12253



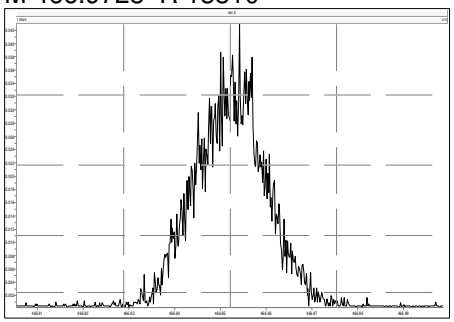
M 442.9728 R 12756



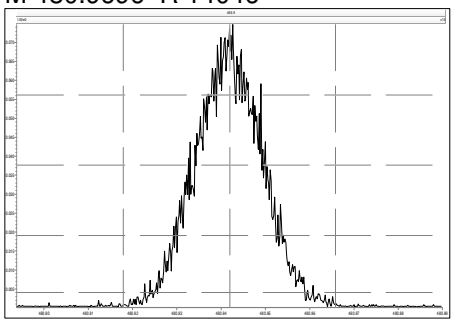
M 454.9728 R 13157



M 466.9728 R 13810



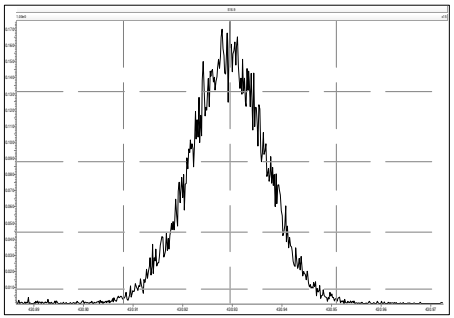
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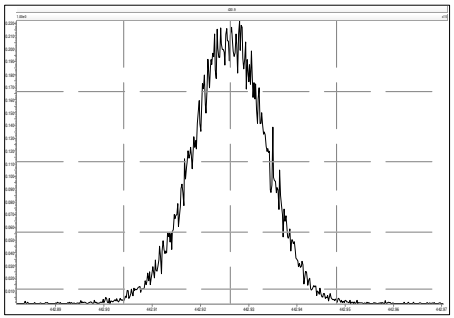
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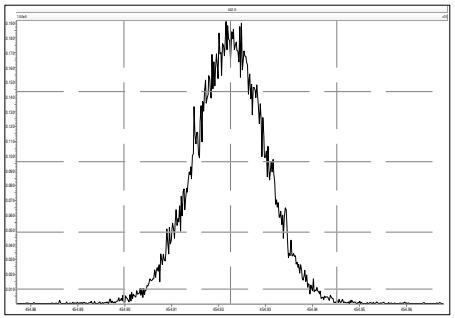
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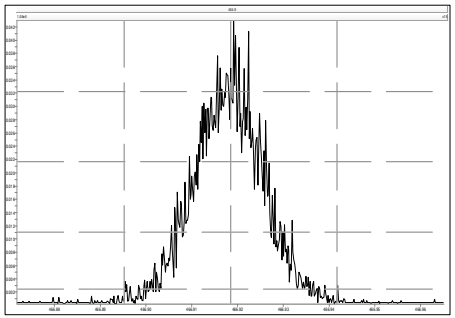
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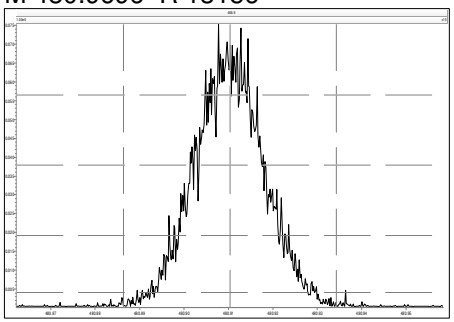
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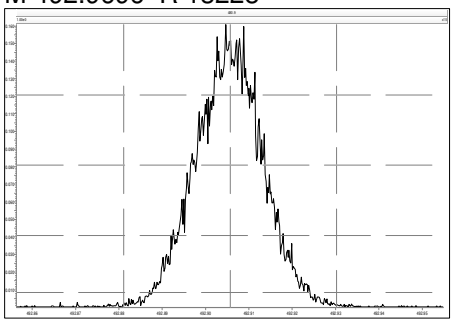
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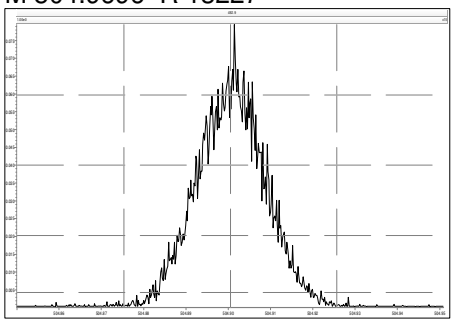
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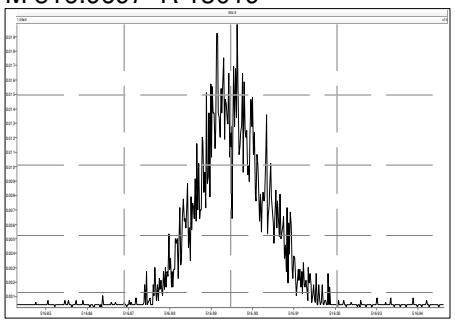
M 492.9696 R 13228



M 504.9696 R 13227



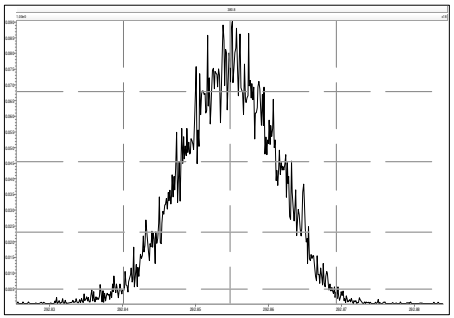
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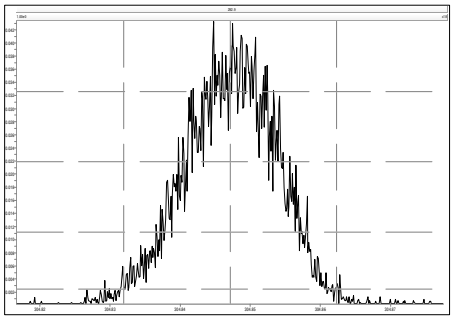
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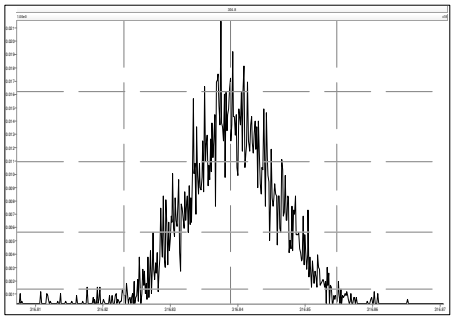
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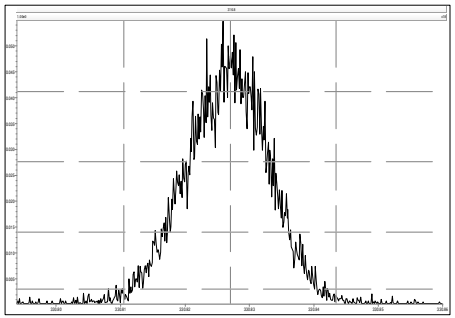
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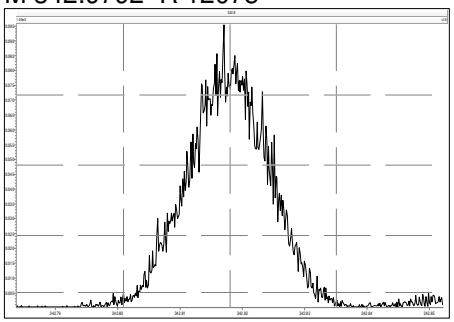
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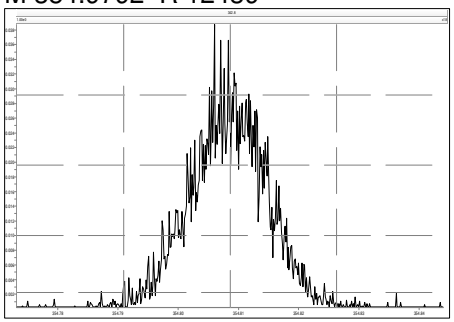
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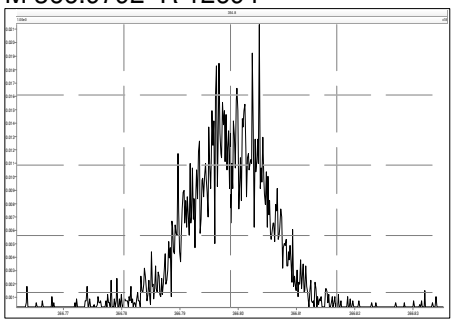
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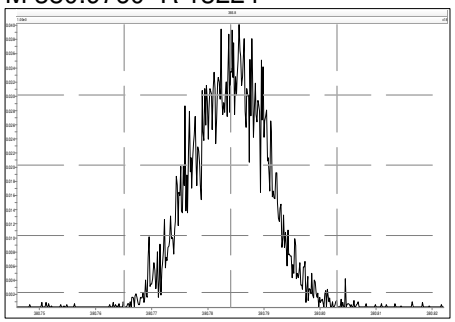
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M 366.9792 R 12694



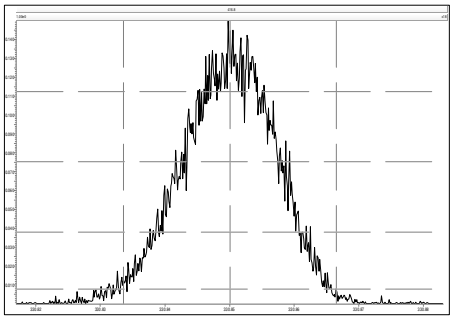
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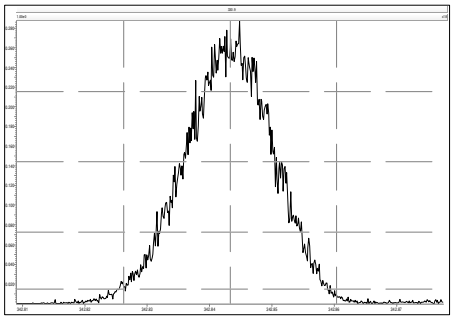
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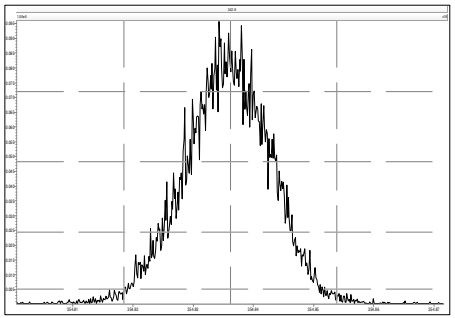
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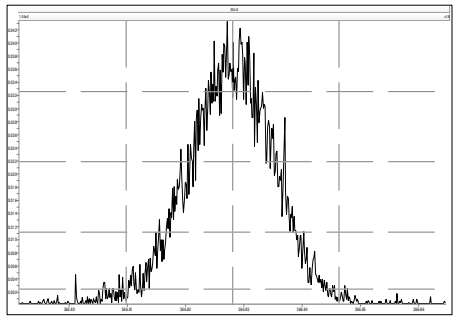
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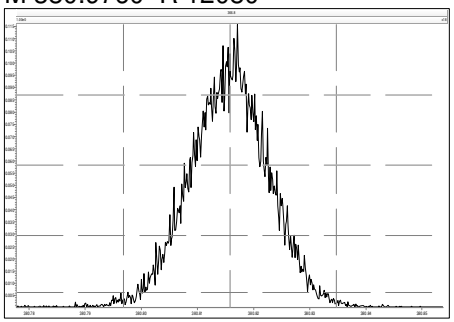
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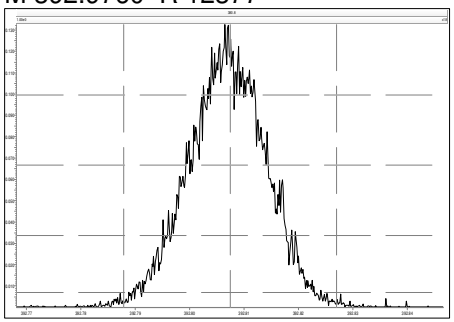
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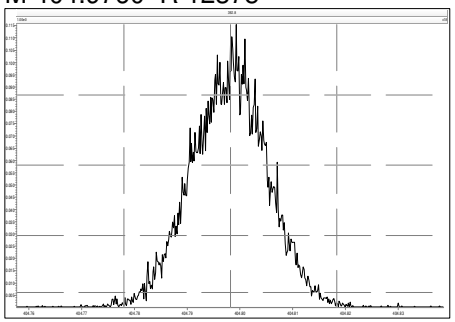
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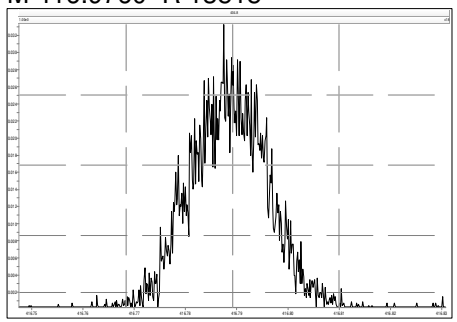
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M 404.9760 R 12375



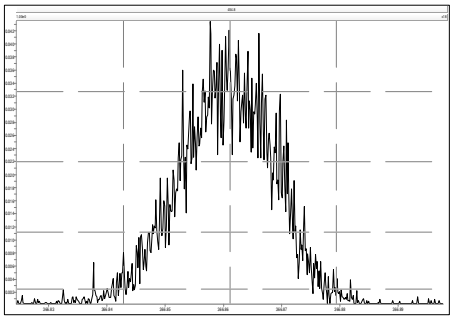
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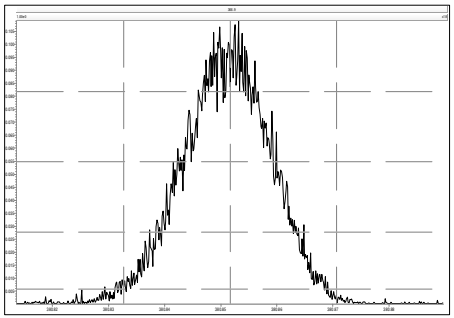
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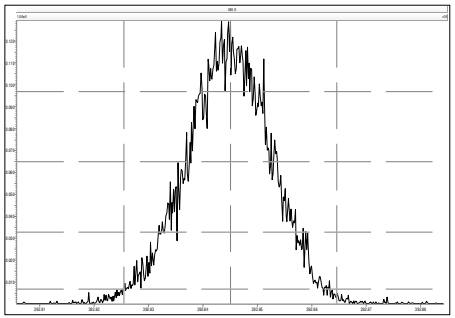
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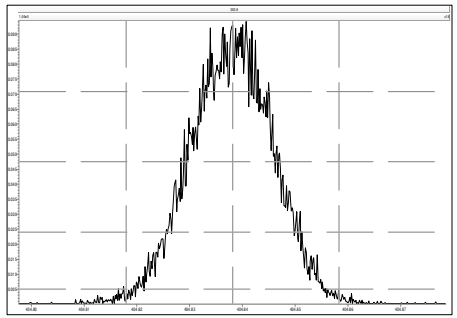
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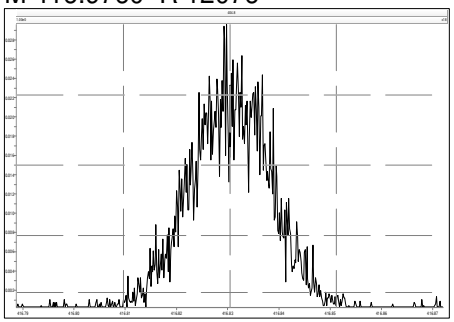
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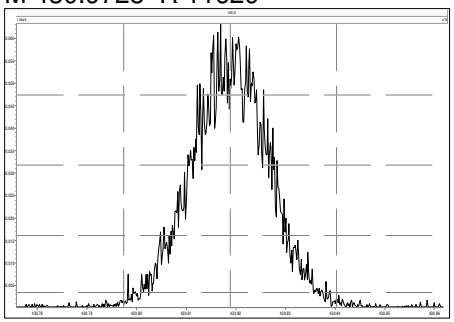
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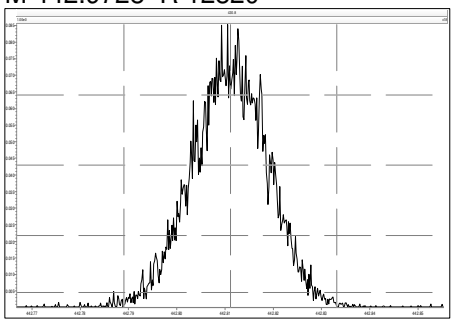
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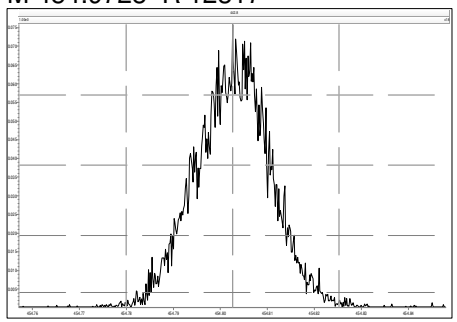
M 430.9728 R 11629



M 442.9728 R 12820



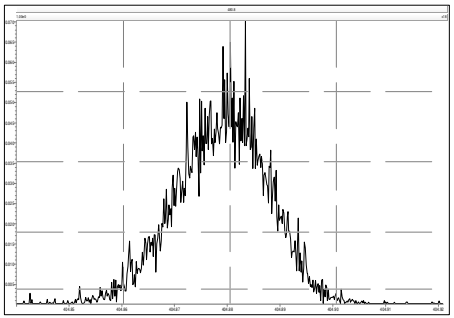
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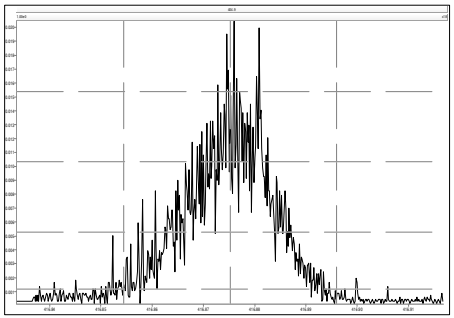
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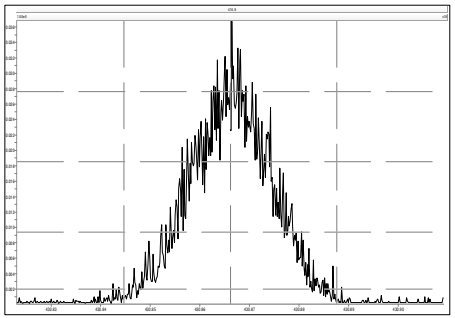
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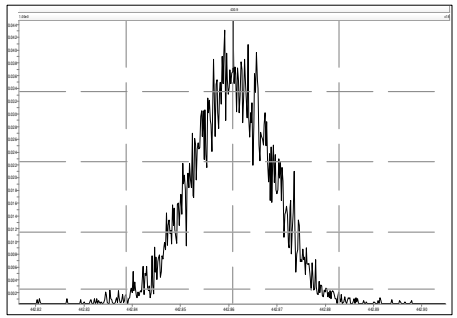
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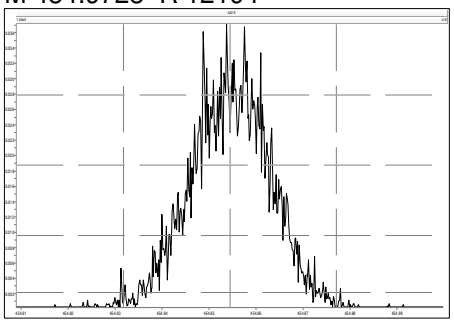
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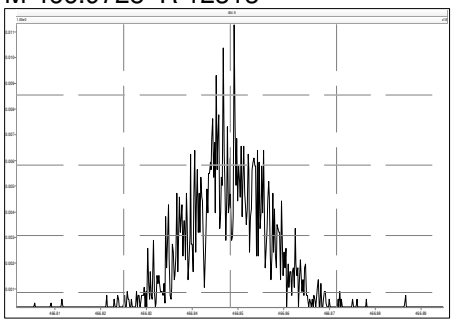
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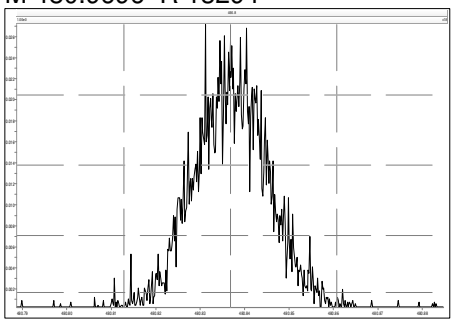
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M 466.9728 R 12313



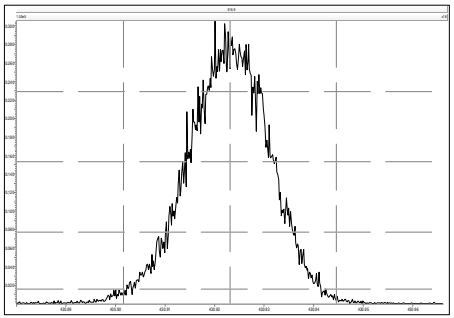
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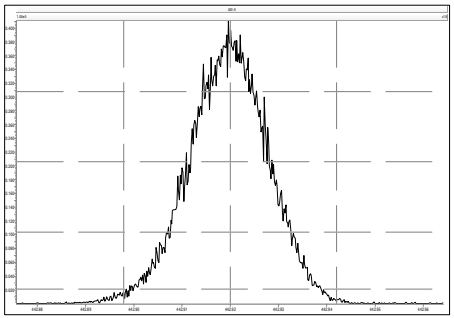
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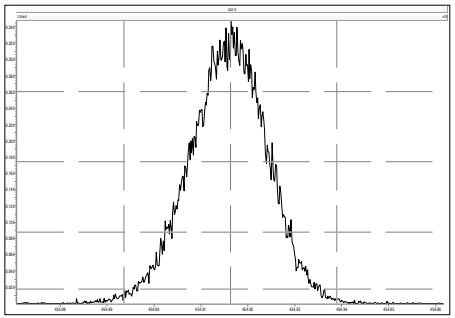
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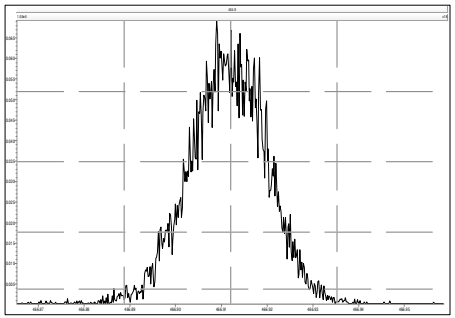
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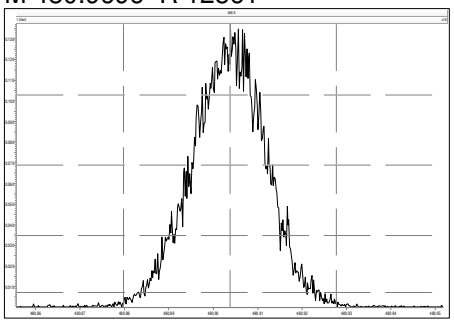
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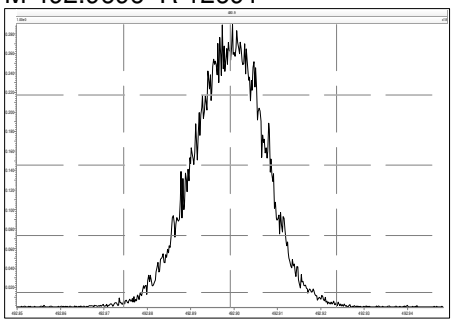
M 466.9728 R 12562



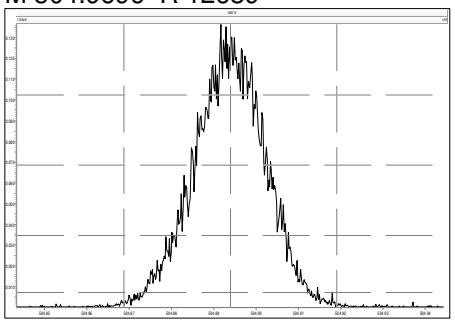
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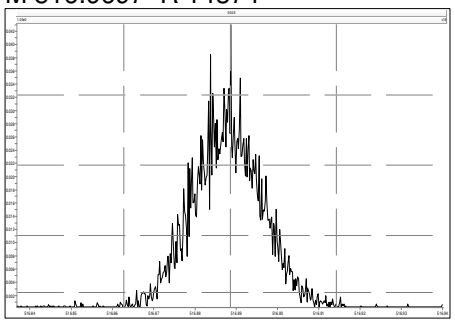
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18911_DF

REVIEWED
Tamara Burkamper , 2/21/2022, 12:57:47 PM

Acq'd: 19 Feb 2022 18:04 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001

UTP: 21-Feb-2022 10:19:33 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 320-676-ZPS

Datafile: 220219C02

Report: 21 Feb 2022 10:20 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

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12378-PeCDD	33.63		1.0007	1.0006	-0.2	1.13E+07	1.58	Y	1.04	50.5	4309.427	0.179
123478-HxCDD	37.56		1.0004	1.0004	0	1.18E+07	1.29	Y	1.09	54.5	3601.285	0.148
123678-HxCDD	37.68		1.0036	1.0036	0	1.31E+07	1.25	Y	1.15	56.6	3601.285	0.146
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.15E+07	1.29	Y	1.05	52.2	3601.285	0.148
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.08E+07	1.02	Y	1.06	54.9	4312.014	0.183
OCDD	43.42		1.0003	1.0003	0	1.48E+07	0.91	Y	1.13	112	3115.786	0.284
2378-TCDF	27.36		1.0008	1.0008	0	4.24E+06	0.74	Y	1.08	10.9	2688.114	0.0822
12378-PeCDF	32.17		1.0005	1.0006	+0.2	1.82E+07	1.53	Y	1.02	48.7	8840.749	0.222
23478-PeCDF	33.29		1.0005	1.0005	0	1.83E+07	1.54	Y	1.02	54.1	8840.749	0.238
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.58E+07	1.23	Y	1.27	51.5	4297.3	0.112
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.80E+07	1.23	Y	1.15	53.7	4297.3	0.107
234678-HxCDF	37.38		1.0005	1.0005	0	1.87E+07	1.23	Y	1.19	54.4	4297.3	0.116
123789-HxCDF	38.35		1.0004	1.0004	0	1.29E+07	1.22	Y	1.16	48.7	4297.3	0.129
1234678-HpCDF	39.77		1.0003	1.0003	0	1.47E+07	1.03	Y	1.37	50.9	2466.46	0.0653
1234789-HpCDF	41.18		1.0003	1.0003	0	1.15E+07	1.03	Y	1.31	51.7	2466.46	0.0967
OCDF	43.59		1.0002	1.0002	0	1.69E+07	0.89	Y	1.07	103	4841.252	0.375

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	2.57E+07	0.79	Y	1.05	91.5
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	2.15E+07	1.57	Y	0.88	90.9
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.99E+07	1.24	Y	0.97	98.2
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	2.01E+07	1.25	Y	0.94	102
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.10E+07	1.19	Y	1.09	92
ES 1234678-HpCDD	40.71	1.0749	1.0749	0	1.86E+07	1.12	Y	0.91	97.5
ES OCDD	43.40	1.1460	1.1462	+0.5	2.35E+07	0.91	Y	0.62	90
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	3.60E+07	0.80	Y	1.06	77.7
ES 12378-PeCDF	32.15	1.2378	1.2387	+1.7	3.64E+07	1.55	Y	0.91	91.4
ES 23478-PeCDF	33.27	1.2810	1.2820	+2.0	3.31E+07	1.61	Y	0.88	85.6
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.41E+07	0.52	Y	1.20	96.2
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.91E+07	0.53	Y	1.35	103
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.89E+07	0.54	Y	1.24	111
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.28E+07	0.51	Y	1.16	94.4
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.11E+07	0.49	Y	0.97	104
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.70E+07	0.46	Y	0.85	95.5
ES OCDF	43.58	1.1505	1.1508	+0.8	3.08E+07	0.89	Y	0.81	91.2

Lab ID: OPR1_18911_DF | Acq'd: 19 Feb 2022 18:04 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001 | UTP: 21-Feb-2022 10:19:33 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 320-676-ZPS

Datafile: 220219C02 | Report: 21 Feb 2022 10:20 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.69E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.38E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.04E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	1.26E+07	n/a	-	1.20	97.6
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	2.18E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	3.66E+07	1.61	Y	0.85	98.4
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.77E+07	0.54	Y	1.12	119
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	2.10E+07	0.45	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.26E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.18E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2182~~	~~+1.9~~	~~3.66E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.77E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~115~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0608~~	~~0~~	~~2.10E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	53.1	53.1
Total PeCDD	77.7	77.7
Total HxCDD	179	179
Total HpCDD	68.4	68.4
Total Tetra-Octa Dioxins	490	490
Total TCDF	63.5	63.5
Total PeCDF	206	206
Total HxCDF	334	334
Total HpCDF	103	103
Total Tetra-Octa Furans	809	809
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.795	0.80
Response	3.56E+06	3.56E+06

Lab ID: OPR1_18911_DF **Acq'd: 19 Feb 2022 18:04 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 **UTP: 21-Feb-2022 10:19:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 320-676-ZPS**

Datafile: 220219C02 **Report: 21 Feb 2022 10:20 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8695	-0.9	4.68E+06	0.83	Y	1.18	15.4	4737.647	0.171
1379-TCDD	NotFnd		0.8829						1.18		4737.647	0.171
1369-TCDD	NotFnd		0.8982						1.18		4737.647	0.171
1469-TCDD	NotFnd		0.9261						1.18		4737.647	0.171
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4737.647	0.171
1378-TCDD	NotFnd		0.9417						1.18		4737.647	0.171
1268-TCDD	NotFnd		0.9487						1.18		4737.647	0.171
1478-TCDD	NotFnd		0.9576						1.18		4737.647	0.171
1279-TCDD	NotFnd		0.9636						1.18		4737.647	0.171
1234/1269-TCDD	NotFnd		0.9761						1.18		4737.647	0.171
1236-TCDD	NotFnd		0.9812						1.18		4737.647	0.171
1237/1238-TCDD	NotFnd		0.9905						1.18		4737.647	0.171
1239-TCDD	28.07		0.9951	0.9951	0	3.39E+06	0.82	Y	1.18	11.1	4737.647	0.171
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	3.56E+06	0.80	Y	**1.18**	**11.7**	**4737.647**	**0.171**
1278-TCDD	NotFnd		1.0124						1.18		4737.647	0.171
1267-TCDD	NotFnd		1.0172						1.18		4737.647	0.171
1289-TCDD	29.21		1.0354	1.0356	+0.4	4.56E+06	0.77	Y	1.18	15	4737.647	0.171
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	2.98E+06	1.53	Y	1.04	13.4	4309.427	0.179
12469-PeCDD	NotFnd		0.9416						1.04		4309.427	0.179
12368-PeCDD	NotFnd		0.9582						1.04		4309.427	0.179
12478-PeCDD	NotFnd		0.9637						1.04		4309.427	0.179
12379-PeCDD	NotFnd		0.9668						1.04		4309.427	0.179
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4309.427	0.179
12346/12347-PeCDD	NotFnd		0.9858						1.04		4309.427	0.179
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**1.13E+07**	**1.58**	**Y**	**1.04**	**50.5**	**4309.427**	**0.179**
12367-PeCDD	NotFnd		1.0036						1.04		4309.427	0.179
12389-PeCDD	34.07		1.0137	1.0137	0	3.06E+06	1.61	Y	1.04	13.8	4309.427	0.179
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	3.45E+06	1.27	Y	1.10	15.5	3601.285	0.147
123468-HxCDD	NotFnd		0.9715						1.10		3601.285	0.147
123679/123689-HxCDD	NotFnd		0.9793						1.10		3601.285	0.147
123469-HxCDD	NotFnd		0.9829						1.10		3601.285	0.147
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.18E+07**	**1.29**	**Y**	1.09	**54.5**	**3601.285**	**0.148**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**1.31E+07**	**1.25**	**Y**	1.15	**56.6**	**3601.285**	**0.146**
123467-HxCDD	NotFnd		1.0089						1.10		3601.285	0.147
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.15E+07**	**1.29**	**Y**	1.05	**52.2**	**3601.285**	**0.148**

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 10:19:33 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 10:20 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	2.67E+06	1.00	Y	1.06	13.5	4312.014	0.183
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.08E+07**	**1.02**	**Y**	**1.06**	**54.9**	**4312.014**	**0.183**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.48E+07**	**0.91**	**Y**	**1.13**	**112**	**3115.786**	**0.284**
OCDD-a	43.41	**EMPC**	1.0002	1.0002	0	6.52E+05	3.38	N	0.07	77.2	4555.212	6.49
1368-TCDF	22.37		0.8191	0.8181	-1.3	6.15E+06	0.76	Y	1.08	15.8	2688.114	0.0822
1468-TCDF	NotFnd		0.8408						1.08		2688.114	0.0822
2468-TCDF	23.62		0.8645	0.8639	-0.9	1.47E+06	0.84	Y	1.08	3.77	2688.114	0.0822
1346/1246-TCDF	NotFnd		0.8772						1.08		2688.114	0.0822
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2688.114	0.0822
1348-TCDF	NotFnd		0.8932						1.08		2688.114	0.0822
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2688.114	0.0822
1268-TCDF	NotFnd		0.9119						1.08		2688.114	0.0822
1467-TCDF	NotFnd		0.9170						1.08		2688.114	0.0822
1478-TCDF	NotFnd		0.9234						1.08		2688.114	0.0822
1369/1237-TCDF	NotFnd		0.9369						1.08		2688.114	0.0822
2467-TCDF	NotFnd		0.9415						1.08		2688.114	0.0822
2368-TCDF	NotFnd		0.9475						1.08		2688.114	0.0822
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2688.114	0.0822
1278-TCDF	NotFnd		0.9676						1.08		2688.114	0.0822
1349-TCDF	NotFnd		0.9722						1.08		2688.114	0.0822
1267-TCDF	NotFnd		0.9777						1.08		2688.114	0.0822
2346/1249-TCDF	NotFnd		0.9843						1.08		2688.114	0.0822
2347/1279-TCDF	NotFnd		0.9926						1.08		2688.114	0.0822
2348-TCDF	27.25		0.9968	0.9968	0	6.14E+06	0.83	Y	1.08	15.8	2688.114	0.0822
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**4.24E+06**	**0.74**	**Y**	**1.08**	**10.9**	**2688.114**	**0.0822**
2367/3467-TCDF	NotFnd		1.0142						1.08		2688.114	0.0822
1269-TCDF	NotFnd		1.0235						1.08		2688.114	0.0822
1239-TCDF	NotFnd		1.0329						1.08		2688.114	0.0822
1289-TCDF	29.39		1.0742	1.0748	+1.1	6.68E+06	0.76	Y	1.08	17.2	2688.114	0.0822
13468/12468-PeCDF	29.31		0.9122	0.9116	-1.1	3.29E+07	1.55	Y	1.02	92.6	3214.62	0.0834
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		8840.749	0.229
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		8840.749	0.229
14678-PeCDF	NotFnd		0.9685						1.02		8840.749	0.229
13479-PeCDF	NotFnd		0.9716						1.02		8840.749	0.229
13469/12479-PeCDF	NotFnd		0.9794						1.02		8840.749	0.229
12346-PeCDF	NotFnd		0.9836						1.02		8840.749	0.229

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 10:19:33 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 10:20 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		8840.749	0.229
12347-PeCDF	NotFnd		0.9891						1.02		8840.749	0.229
12348-PeCDF	NotFnd		0.9938						1.02		8840.749	0.229
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**1.82E+07**	**1.53**	**Y**	**1.02**	**48.7**	**8840.749**	**0.222**
12678/12367-PeCDF	NotFnd		1.0091						1.02		8840.749	0.229
12379-PeCDF	NotFnd		1.0144						1.02		8840.749	0.229
12679-PeCDF	NotFnd		0.9927						1.02		8840.749	0.229
23467/12369-PeCDF	NotFnd		0.9965						1.02		8840.749	0.229
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.83E+07**	**1.54**	**Y**	**1.02**	**54.1**	**8840.749**	**0.238**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8840.749	0.229
12349-PeCDF	NotFnd		1.0101						1.02		8840.749	0.229
12389-PeCDF	34.37		1.0330	1.0330	0	3.90E+06	1.60	Y	1.02	11	8840.749	0.229
123468-HxCDF	35.16		0.9622	0.9622	0	3.94E+07	1.25	Y	1.19	126	4297.3	0.115
124678/134678-HxCDF	NotFnd		0.9678						1.19		4297.3	0.115
134679-HxCDF	NotFnd		0.9741						1.19		4297.3	0.115
124679-HxCDF	NotFnd		0.9795						1.19		4297.3	0.115
124689-HxCDF	NotFnd		0.9856						1.19		4297.3	0.115
123467-HxCDF	NotFnd		0.9972						1.19		4297.3	0.115
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.58E+07**	**1.23**	**Y**	**1.27**	**51.5**	**4297.3**	**0.112**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.80E+07**	**1.23**	**Y**	**1.15**	**53.7**	**4297.3**	**0.107**
123479-HxCDF	NotFnd		1.0048						1.19		4297.3	0.115
123469-HxCDF	NotFnd		1.0089						1.19		4297.3	0.115
123679-HxCDF	NotFnd		0.9942						1.19		4297.3	0.115
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.87E+07**	**1.23**	**Y**	**1.19**	**54.4**	**4297.3**	**0.116**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4297.3	0.115
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.29E+07**	**1.22**	**Y**	**1.16**	**48.7**	**4297.3**	**0.129**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4297.3	0.115
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.47E+07**	**1.03**	**Y**	**1.37**	**50.9**	**2466.46**	**0.0653**
1234679-HpCDF	NotFnd		1.0068						1.34		2466.46	0.0792
1234689-HpCDF	NotFnd		1.0104						1.34		2466.46	0.0792
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.15E+07**	**1.03**	**Y**	**1.31**	**51.7**	**2466.46**	**0.0967**
OCDF	**43.59**		**1.0002**	**1.0002**	**0**	**1.69E+07**	**0.89**	**Y**	**1.07**	**103**	**4841.252**	**0.375**
OCDF-a	43.58		1.0001	1.0001	0	1.01E+06	2.78	Y	0.07	99.1	3888.99	4.86

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	10.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.1	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.9	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.7	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:20 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C02 Analysis Date: 19-FEB-2022 18:04:19

Lab ID: OPR1_18911_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.9	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.5	26	-	166	Y
13C-OCDD	200	180	26	-	397	Y
13C-2,3,7,8-TCDF	100	77.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	85.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	103	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	111	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.5	20	-	186	Y
13C-OCDF	200	182	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 21 Feb 2022 10:20 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

Window Defining Standards Results

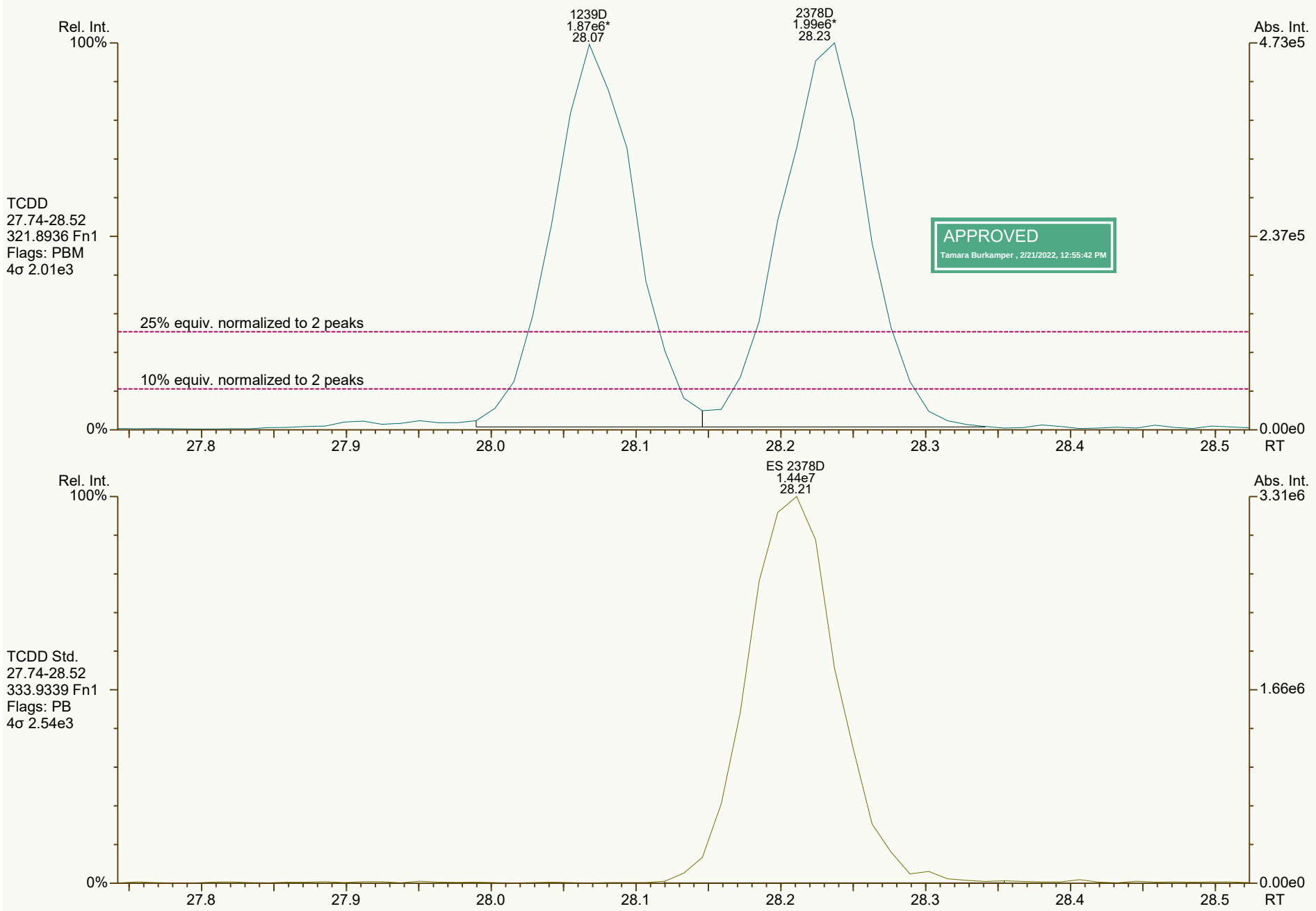
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.53	1289-TCDD	29.21
12479/12468-PeCDD	31.11	12389-PeCDD	34.07
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.37	1289-TCDF	29.39
13468/12468-PeCDF	29.31	12389-PeCDF	34.37
123468-HxCDF	35.16	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.18

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.07	2378-TCDD	28.23
2348-TCDF	27.25	2378-TCDF	27.36

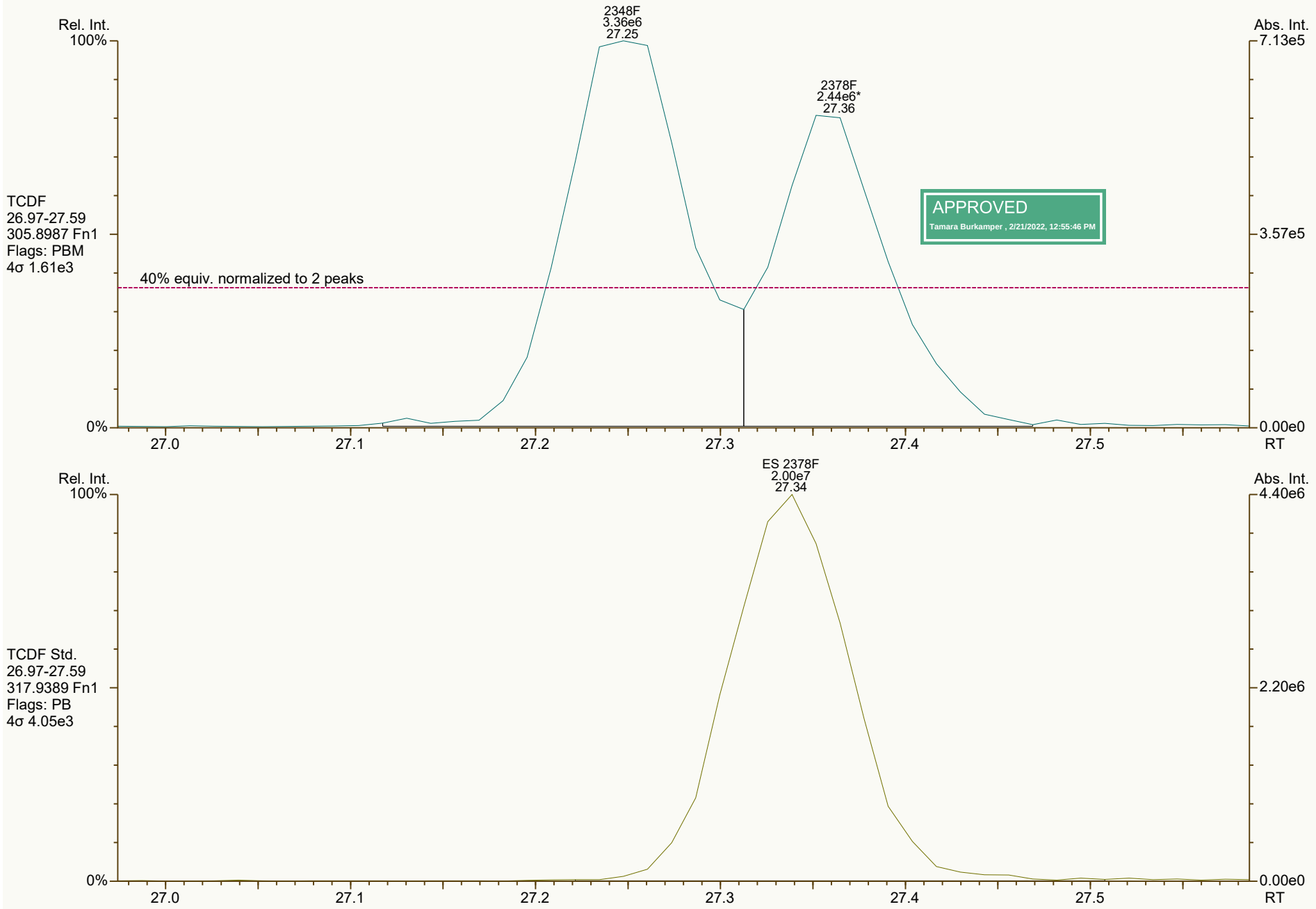
Processed: 21 Feb 2022 10:20 Analyst: pw

SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02

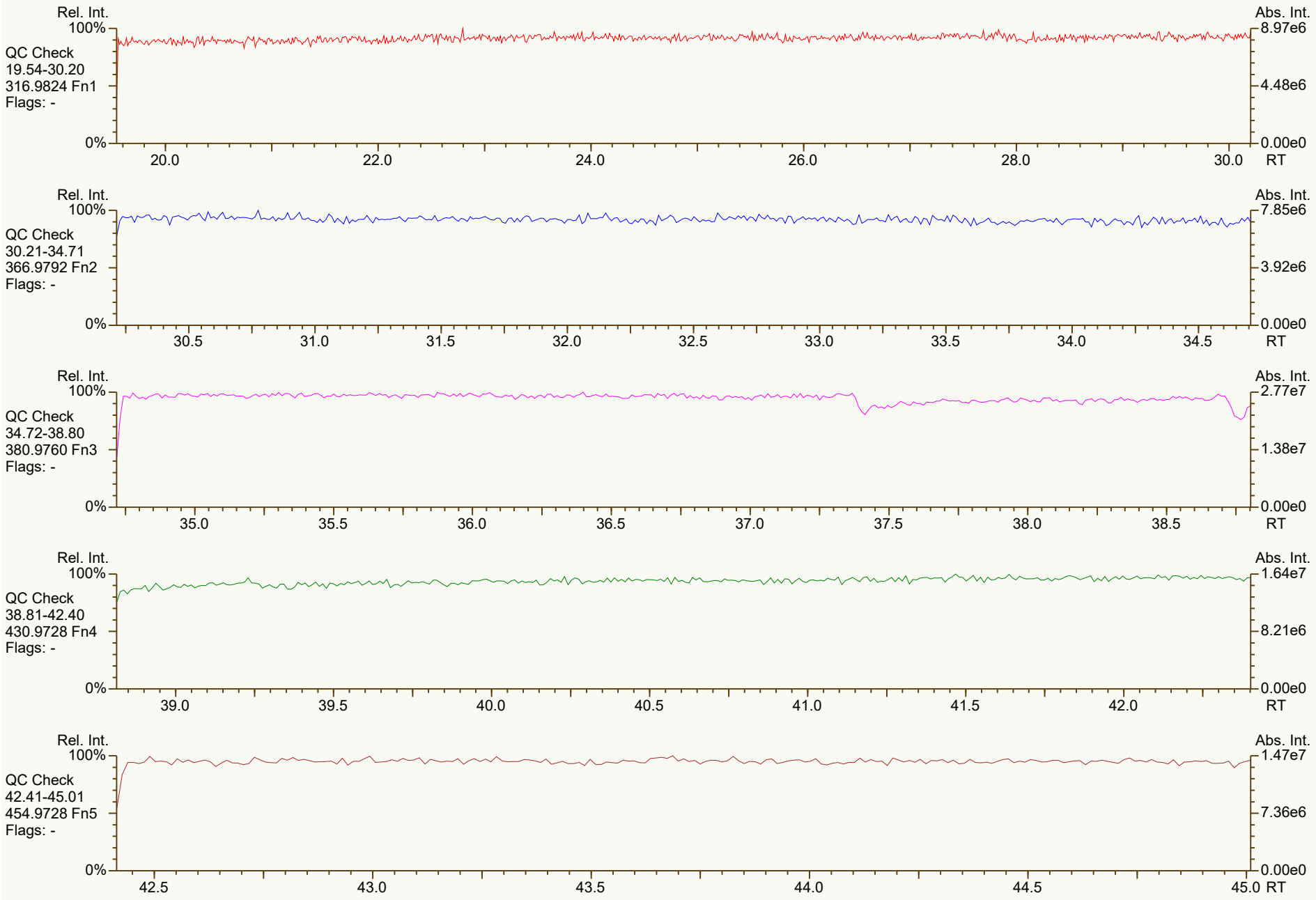


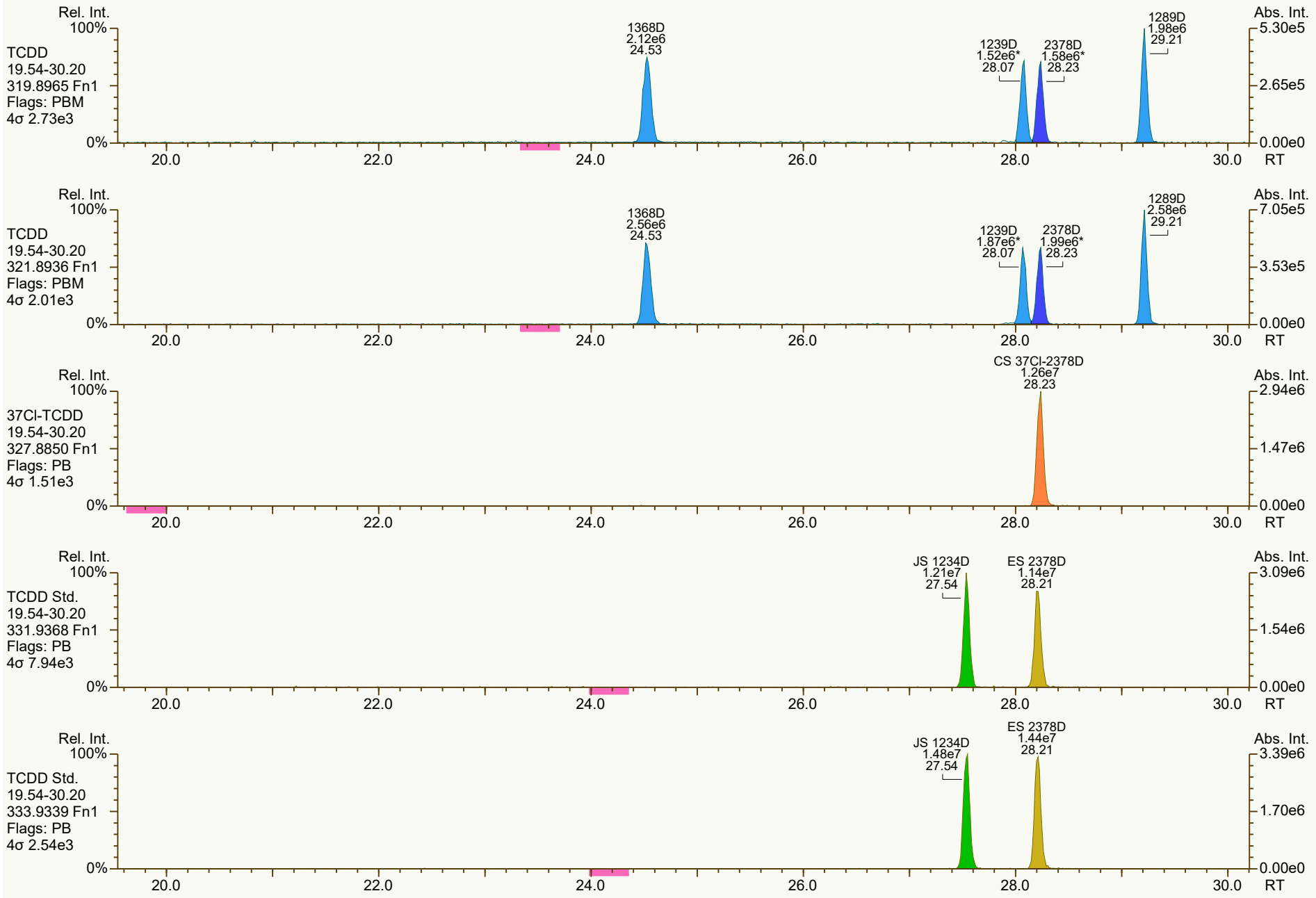
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:22

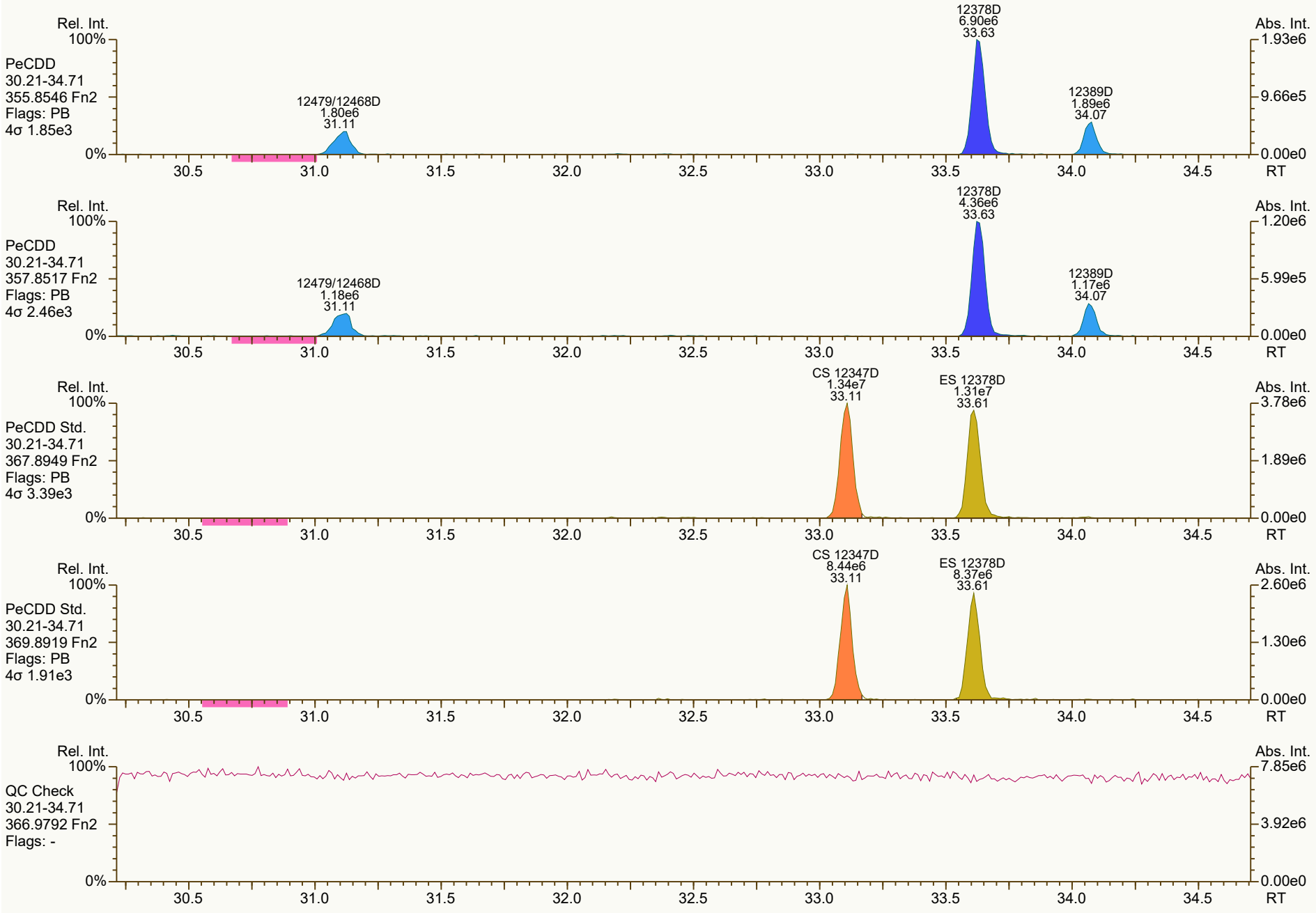
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Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02

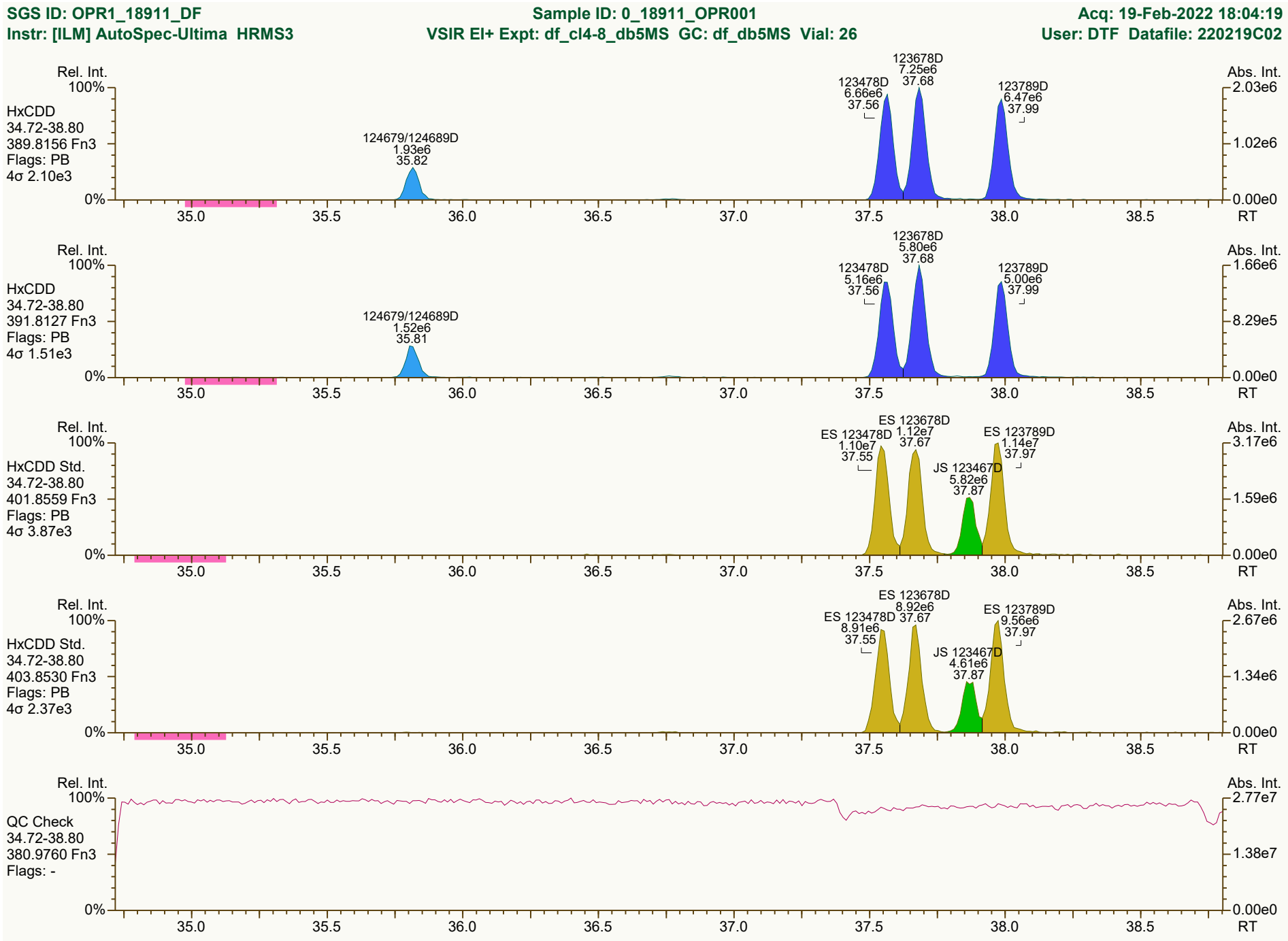


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:22

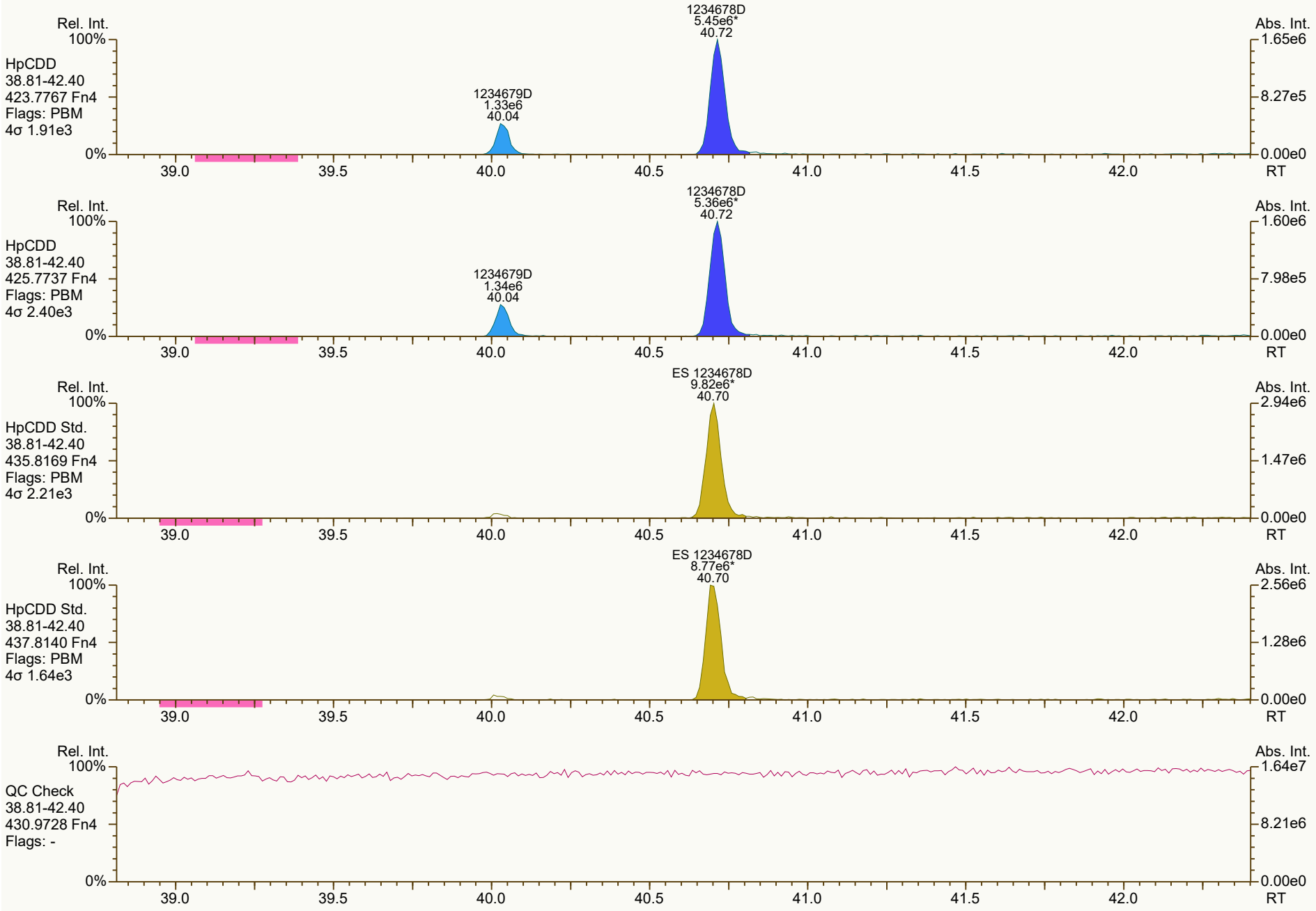

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.48e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.85e6
3.92e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.77e7
1.38e7
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.64e7
8.21e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.36e6
42.5
43.0
43.5
44.0
44.5
45.0

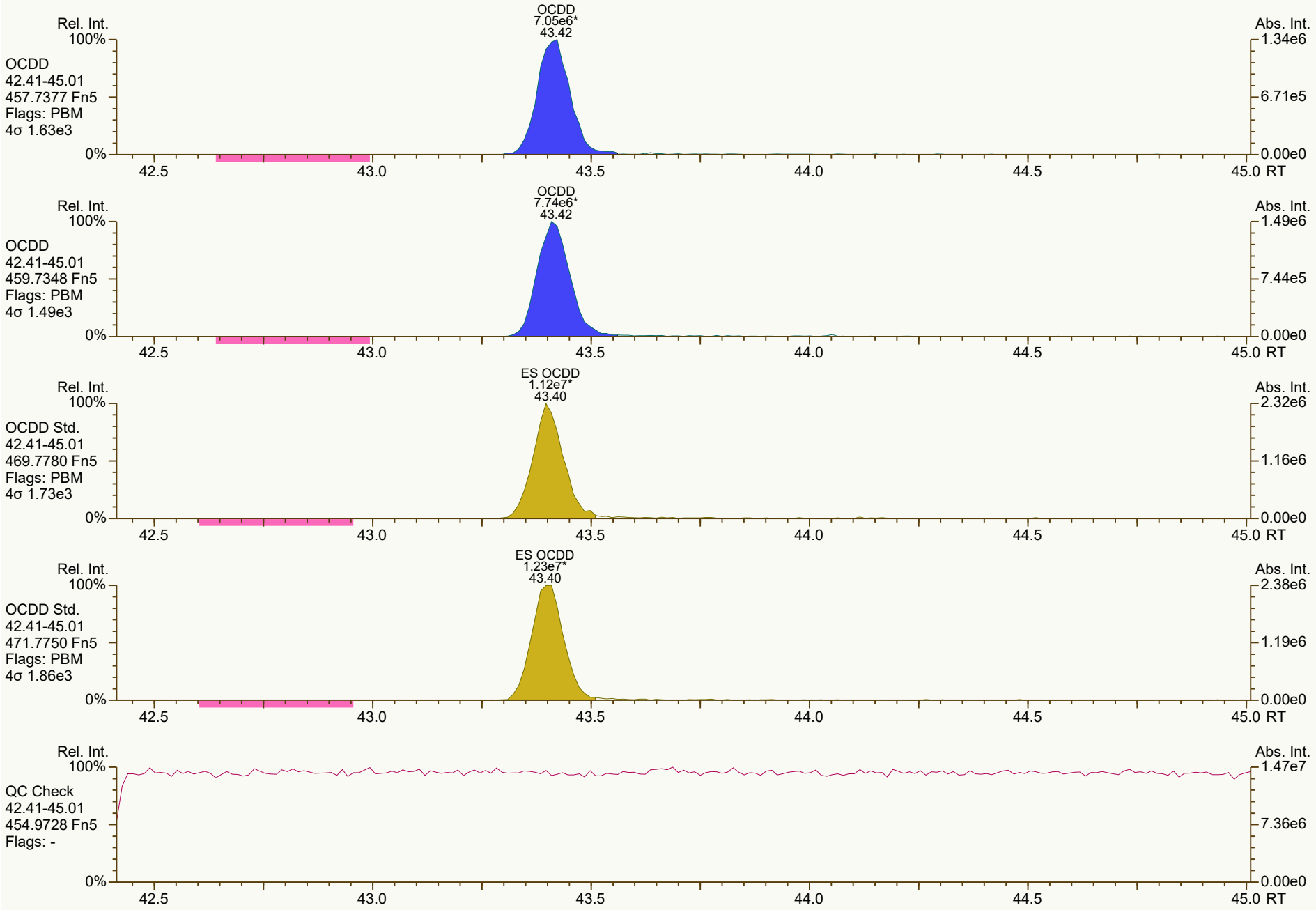

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.73e3
0%
1368D
2.12e6
24.53
1239D
1.52e6*
28.07
2378D
1.58e6*
28.23
1289D
1.98e6
29.21
Abs. Int.
5.30e5
2.65e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.01e3
0%
1368D
2.56e6
24.53
1239D
1.87e6*
28.07
2378D
1.99e6*
28.23
1289D
2.58e6
29.21
Abs. Int.
7.05e5
3.53e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.51e3
0%
CS 37Cl-2378D
1.26e7
28.23
Abs. Int.
2.94e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.94e3
0%
JS 1234D
1.21e7
27.54
ES 2378D
1.14e7
28.21
Abs. Int.
3.09e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.54e3
0%
JS 1234D
1.48e7
27.54
ES 2378D
1.44e7
28.21
Abs. Int.
3.39e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

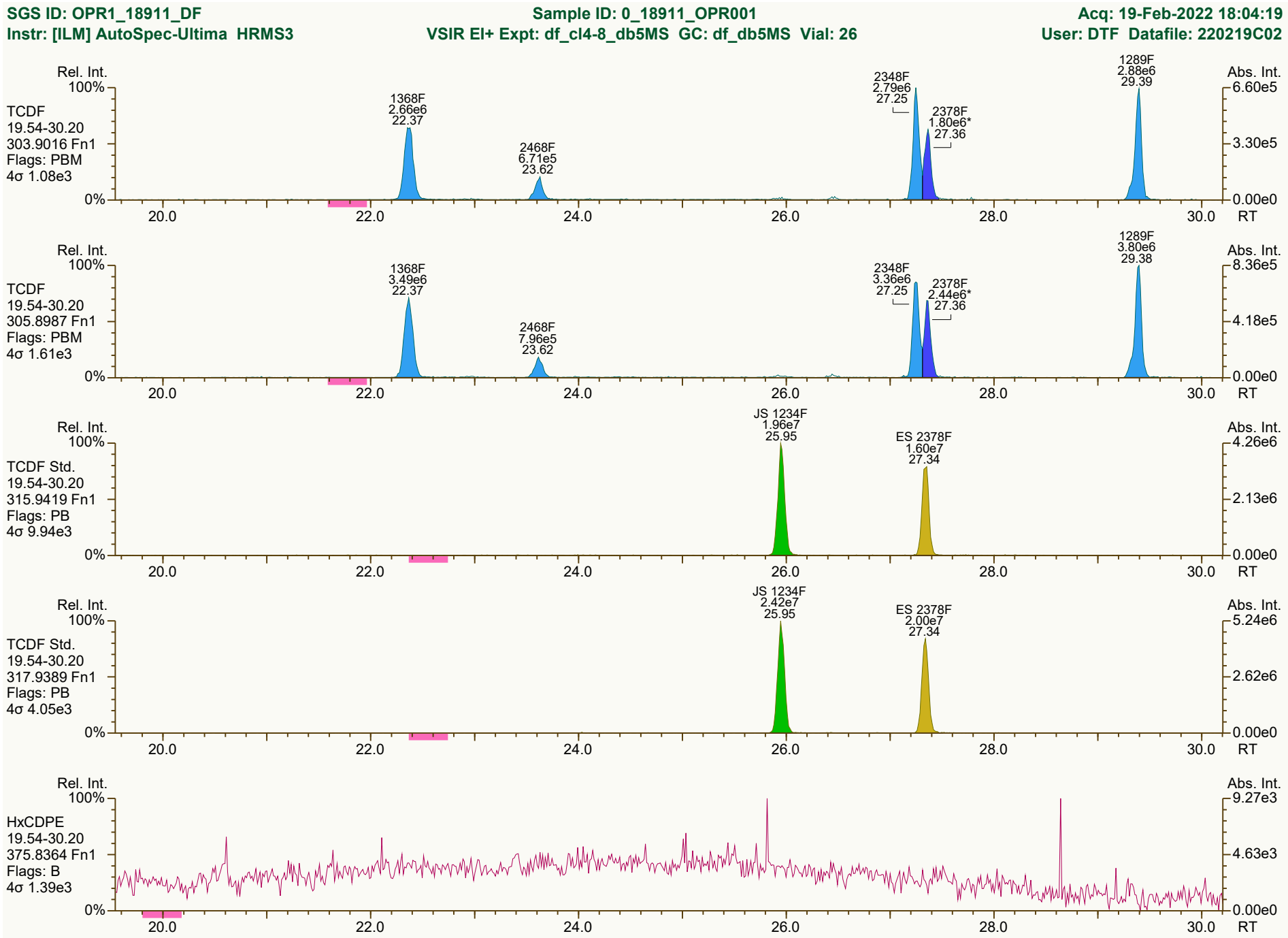

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.85e3
12479/12468D
1.80e6
31.11
12378D
6.90e6
33.63
12389D
1.89e6
34.07
Abs. Int.
1.93e6
9.66e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.46e3
12479/12468D
1.18e6
31.11
12378D
4.36e6
33.63
12389D
1.17e6
34.07
Abs. Int.
1.20e6
5.99e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.39e3
CS 12347D
1.34e7
33.11
ES 12378D
1.31e7
33.61
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
8.44e6
33.11
ES 12378D
8.37e6
33.61
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.85e6
3.92e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



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PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 10:23 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.91e3
1234678D
5.45e6*
40.72
1234679D
1.33e6
40.04
Abs. Int.
1.65e6
8.27e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.40e3
1234678D
5.36e6*
40.72
1234679D
1.34e6
40.04
Abs. Int.
1.60e6
7.98e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.21e3
ES 1234678D
9.82e6*
40.70
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.64e3
ES 1234678D
8.77e6*
40.70
Abs. Int.
2.56e6
1.28e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.64e7
8.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.05e6*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
1.34e6
6.71e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.74e6*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.49e3
1.49e6
7.44e5
ES OCDD
1.12e7*
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.73e3
2.32e6
1.16e6
ES OCDD
1.23e7*
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.86e3
2.38e6
1.19e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.36e6

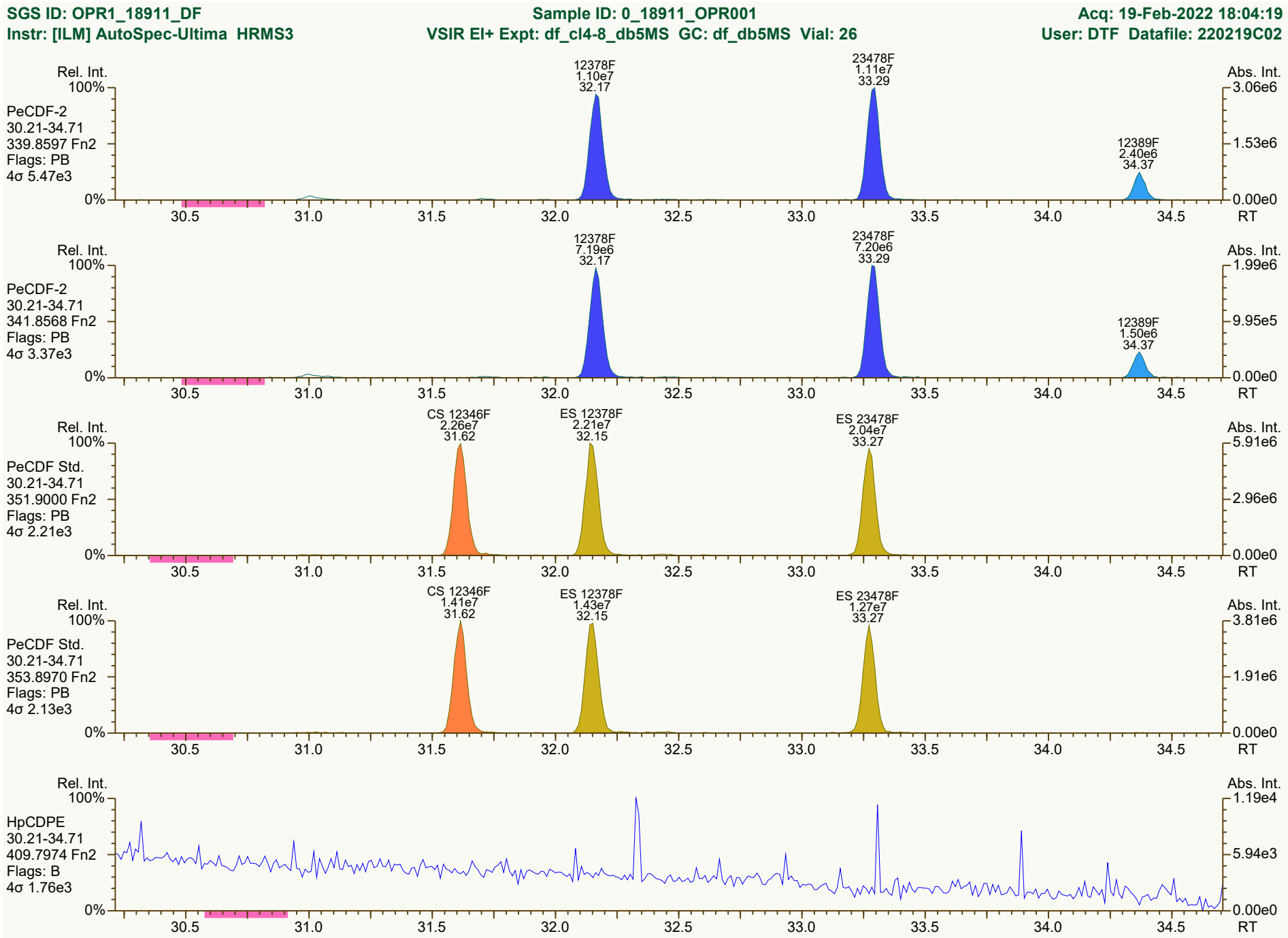


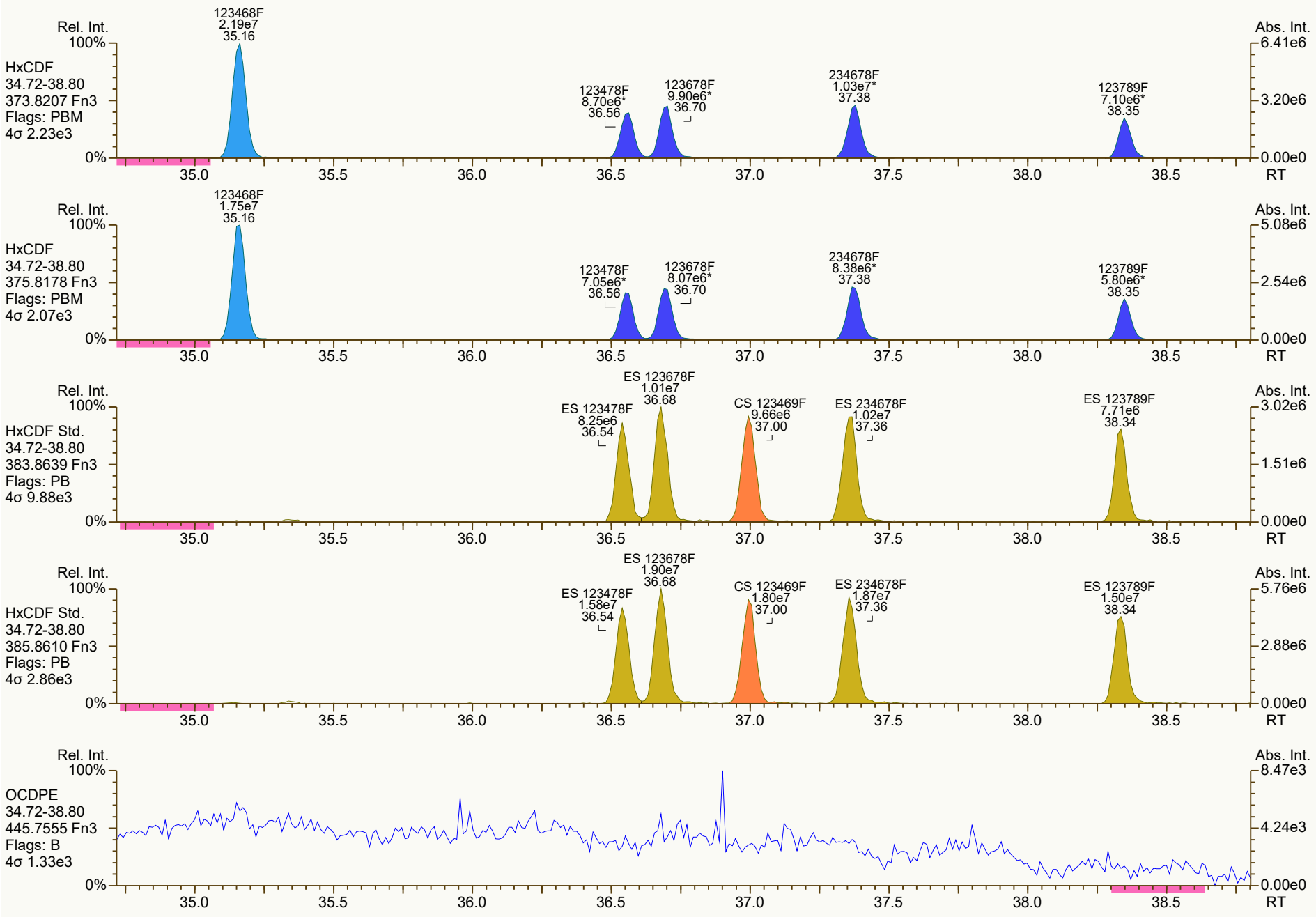
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1430, 6706, 7026 scc: 320-676
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:23 Page 7 of 12

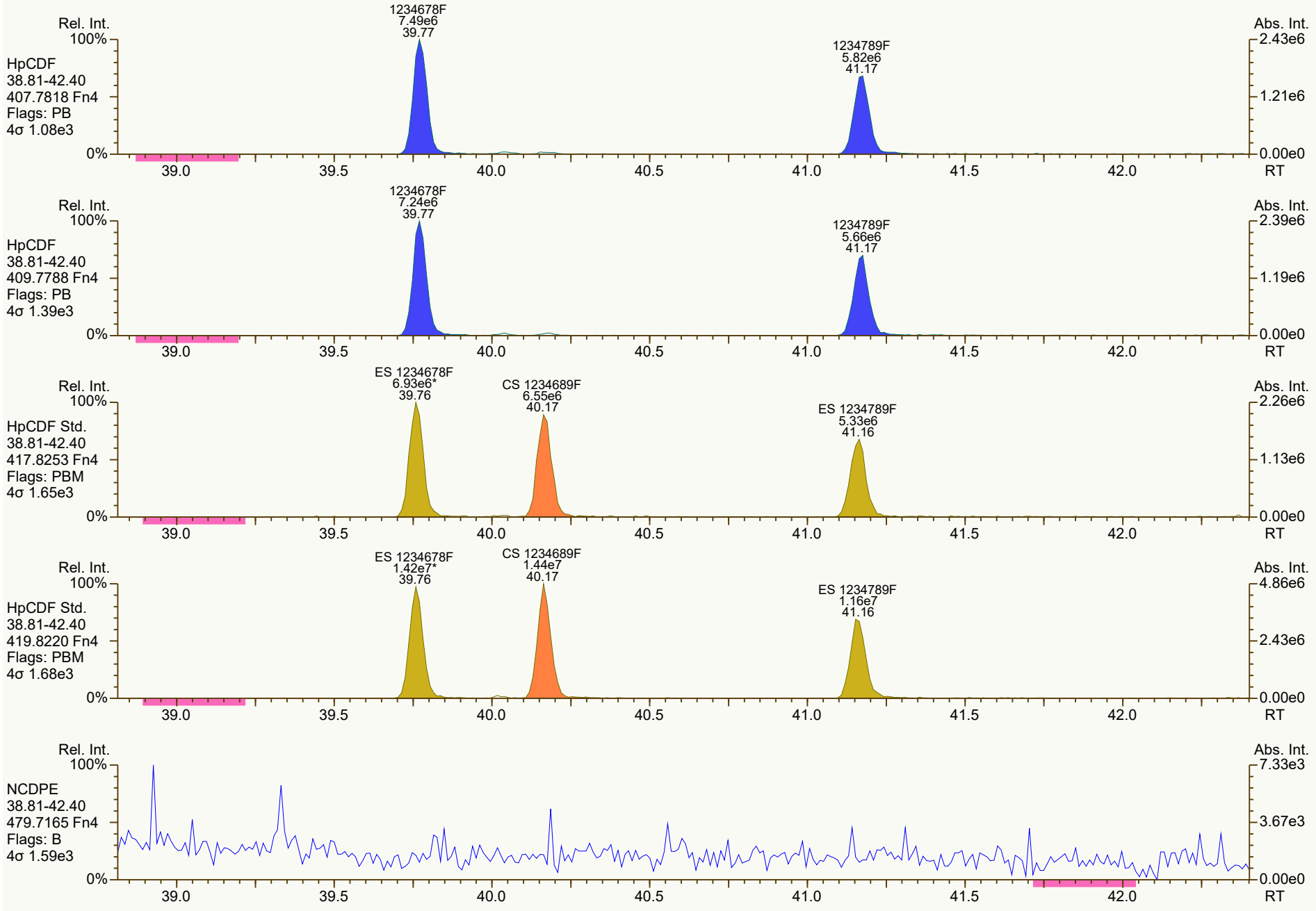
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Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02



Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6476 scc: 320-676
PKD: 21-Feb-2022 09:55 Printed: 21-Feb-2022 10:23 Page 8 of 12


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 5.47e3
12378F
1.10e7
32.17
23478F
1.11e7
33.29
12389F
2.40e6
34.37
3.06e6
1.53e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.37e3
12378F
7.19e6
32.17
23478F
7.20e6
33.29
12389F
1.50e6
34.37
1.99e6
9.95e5
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.21e3
CS 12346F
2.26e7
31.62
ES 12378F
2.21e7
32.15
ES 23478F
2.04e7
33.27
5.91e6
2.96e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.13e3
CS 12346F
1.41e7
31.62
ES 12378F
1.43e7
32.15
ES 23478F
1.27e7
33.27
3.81e6
1.91e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.76e3
1.19e4
5.94e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.23e3
0%
123468F
2.19e7
35.16
123478F
8.70e6*
36.56
123678F
9.90e6*
36.70
234678F
1.03e7*
37.38
123789F
7.10e6*
38.35
Abs. Int.
6.41e6
3.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.07e3
0%
123468F
1.75e7
35.16
123478F
7.05e6*
36.56
123678F
8.07e6*
36.70
234678F
8.38e6*
37.38
123789F
5.80e6*
38.35
Abs. Int.
5.08e6
2.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 9.88e3
0%
ES 123678F
1.01e7
36.68
ES 123478F
8.25e6
36.54
CS 123469F
9.66e6
37.00
ES 234678F
1.02e7
37.36
ES 123789F
7.71e6
38.34
Abs. Int.
3.02e6
1.51e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.86e3
0%
ES 123678F
1.90e7
36.68
ES 123478F
1.58e7
36.54
CS 123469F
1.80e7
37.00
ES 234678F
1.87e7
37.36
ES 123789F
1.50e7
38.34
Abs. Int.
5.76e6
2.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.33e3
0%
Abs. Int.
8.47e3
4.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.08e3
1234678F
7.49e6
39.77
1234789F
5.82e6
41.17
Abs. Int.
2.43e6
1.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.39e3
1234678F
7.24e6
39.77
1234789F
5.66e6
41.17
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.65e3
ES 1234678F
6.93e6*
39.76
CS 1234689F
6.55e6
40.17
ES 1234789F
5.33e6
41.16
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.68e3
ES 1234678F
1.42e7*
39.76
CS 1234689F
1.44e7
40.17
ES 1234789F
1.16e7
41.16
Abs. Int.
4.86e6
2.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.59e3
Abs. Int.
7.33e3
3.67e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
7.97e6*
43.59
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
8.93e6*
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 3.16e3
ES OCDF
1.44e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.14e3
ES OCDF
1.63e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.74e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.21e3
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 10:19:34 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 10:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	3.07E+06	0.81	Y	1.18	11.1	3950.923	0.148
12378-PeCDD	33.64		1.0007	1.0006	-0.2	1.02E+07	1.56	Y	1.04	47.5	5313.903	0.214
123478-HxCDD	37.56		1.0004	1.0004	0	1.08E+07	1.27	Y	1.09	52.2	4150.967	0.177
123678-HxCDD	37.69		1.0036	1.0036	0	1.22E+07	1.26	Y	1.15	54.5	4150.967	0.16
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.08E+07	1.25	Y	1.05	51.6	4150.967	0.164
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	9.84E+06	1.04	Y	1.06	52.2	4096.641	0.179
OCDD	43.40		1.0003	1.0003	0	1.41E+07	0.87	Y	1.13	109	3700.127	0.359
2378-TCDF	27.38		1.0008	1.0008	0	3.77E+06	0.76	Y	1.08	10.7	4704.21	0.149
12378-PeCDF	32.18		1.0005	1.0005	0	1.62E+07	1.53	Y	1.02	49.7	5913.964	0.17
23478-PeCDF	33.30		1.0005	1.0005	0	1.67E+07	1.53	Y	1.02	50.9	5913.964	0.162
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.43E+07	1.20	Y	1.27	51.4	6194.584	0.187
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.64E+07	1.24	Y	1.15	50.6	6194.584	0.157
234678-HxCDF	37.38		1.0005	1.0004	-0.2	1.70E+07	1.22	Y	1.19	50.7	6194.584	0.164
123789-HxCDF	38.35		1.0004	1.0004	0	1.20E+07	1.28	Y	1.16	47.8	6194.584	0.216
1234678-HpCDF	39.77		1.0003	1.0003	0	1.40E+07	1.02	Y	1.37	49.8	3861.13	0.103
1234789-HpCDF	41.17		1.0003	1.0003	0	1.03E+07	1.04	Y	1.31	49.1	3861.13	0.152
OCDF	43.57		1.0002	1.0002	0	1.64E+07	0.92	Y	1.07	103	4020.581	0.297

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.34E+07	0.80	Y	1.05	97.9
ES 12378-PeCDD	33.62	1.2198	1.2200	+0.4	2.07E+07	1.60	Y	0.88	103
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.90E+07	1.28	Y	0.97	98.4
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	1.96E+07	1.24	Y	0.94	104
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.00E+07	1.24	Y	1.09	91.9
ES 1234678-HpCDD	40.70	1.0749	1.0747	-0.5	1.78E+07	1.04	Y	0.91	98
ES OCDD	43.39	1.1460	1.1458	-0.5	2.30E+07	0.90	Y	0.62	92.5
ES 2378-TCDF	27.36	1.0531	1.0533	+0.3	3.27E+07	0.80	Y	1.06	85.1
ES 12378-PeCDF	32.16	1.2378	1.2382	+0.8	3.18E+07	1.60	Y	0.91	96.4
ES 23478-PeCDF	33.28	1.2810	1.2814	+0.8	3.21E+07	1.62	Y	0.88	100
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.19E+07	0.52	Y	1.20	91.9
ES 123678-HxCDF	36.69	0.9688	0.9688	0	2.81E+07	0.55	Y	1.35	105
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.82E+07	0.56	Y	1.24	114
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.16E+07	0.54	Y	1.16	94
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.05E+07	0.47	Y	0.97	107
ES 1234789-HpCDF	41.15	1.0870	1.0868	-0.5	1.61E+07	0.50	Y	0.85	95.3
ES OCDF	43.56	1.1505	1.1503	-0.5	2.97E+07	0.89	Y	0.81	92.3

Lab ID: OPR2_18911_DF | **Acq'd:** 20 Feb 2022 05:55 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR002 | **UTP:** 21-Feb-2022 10:19:34 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 488-895-CRP

Datafile: 220219C17 | **Report:** 21 Feb 2022 10:21 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.29E+07	0.79	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.62E+07	0.85	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.94E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.11E+07	n/a	-	1.20	101
CS 12347-PeCDD	33.11		1.2016	1.2017	+0.2	2.00E+07	1.54	Y	0.75	116
CS 12346-PeCDF	31.63		1.2172	1.2177	+0.9	3.25E+07	1.62	Y	0.85	105
CS 123469-HxCDF	37.00		0.9771	0.9771	0	2.43E+07	0.52	Y	1.12	109
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	1.87E+07	0.47	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2017~~	~~+0.2~~	~~2.00E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2177~~	~~+0.9~~	~~3.25E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9771~~	~~0~~	~~2.43E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.87E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	52.3	52.3
Total PeCDD	73.6	73.6
Total HxCDD	174	174
Total HpCDD	65.2	65.2
Total Tetra-Octa Dioxins	474	474
Total TCDF	63.4	63.4
Total PeCDF	197	197
Total HxCDF	320	320
Total HpCDF	98.8	98.8
Total Tetra-Octa Furans	783	783
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.804	0.81
Response	3.07E+06	3.07E+06

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 10:19:34 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 10:21 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8699	-0.3	4.12E+06	0.81	Y	1.18	14.9	3950.923	0.148
1379-TCDD	NotFnd		0.8829						1.18		3950.923	0.148
1369-TCDD	NotFnd		0.8982						1.18		3950.923	0.148
1469-TCDD	NotFnd		0.9261						1.18		3950.923	0.148
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3950.923	0.148
1378-TCDD	NotFnd		0.9417						1.18		3950.923	0.148
1268-TCDD	NotFnd		0.9487						1.18		3950.923	0.148
1478-TCDD	NotFnd		0.9576						1.18		3950.923	0.148
1279-TCDD	NotFnd		0.9636						1.18		3950.923	0.148
1234/1269-TCDD	NotFnd		0.9761						1.18		3950.923	0.148
1236-TCDD	NotFnd		0.9812						1.18		3950.923	0.148
1237/1238-TCDD	NotFnd		0.9905						1.18		3950.923	0.148
1239-TCDD	28.09		0.9951	0.9951	0	3.30E+06	0.85	Y	1.18	11.9	3950.923	0.148
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	3.07E+06	0.81	Y	**1.18**	**11.1**	**3950.923**	**0.148**
1278-TCDD	NotFnd		1.0124						1.18		3950.923	0.148
1267-TCDD	NotFnd		1.0172						1.18		3950.923	0.148
1289-TCDD	29.23		1.0354	1.0356	+0.4	3.99E+06	0.80	Y	1.18	14.4	3950.923	0.148
12479/12468-PeCDD	31.12		0.9255	0.9257	+0.4	2.80E+06	1.51	Y	1.04	13.1	5313.903	0.214
12469-PeCDD	NotFnd		0.9416						1.04		5313.903	0.214
12368-PeCDD	NotFnd		0.9582						1.04		5313.903	0.214
12478-PeCDD	NotFnd		0.9637						1.04		5313.903	0.214
12379-PeCDD	NotFnd		0.9668						1.04		5313.903	0.214
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		5313.903	0.214
12346/12347-PeCDD	NotFnd		0.9858						1.04		5313.903	0.214
12378-PeCDD	33.64		**1.0007**	**1.0006**	**-0.2**	**1.02E+07**	**1.56**	**Y**	**1.04**	**47.5**	**5313.903**	**0.214**
12367-PeCDD	NotFnd		1.0036						1.04		5313.903	0.214
12389-PeCDD	34.08		1.0137	1.0137	0	2.78E+06	1.56	Y	1.04	13	5313.903	0.214
124679/124689-HxCDD	35.82		0.9540	0.9540	0	3.28E+06	1.31	Y	1.10	15.4	4150.967	0.167
123468-HxCDD	NotFnd		0.9715						1.10		4150.967	0.167
123679/123689-HxCDD	NotFnd		0.9793						1.10		4150.967	0.167
123469-HxCDD	NotFnd		0.9829						1.10		4150.967	0.167
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.27**	**Y**	1.09	**52.2**	**4150.967**	**0.177**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.22E+07**	**1.26**	**Y**	1.15	**54.5**	**4150.967**	**0.16**
123467-HxCDD	NotFnd		1.0089						1.10		4150.967	0.167
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.08E+07**	**1.25**	**Y**	1.05	**51.6**	**4150.967**	**0.164**

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 10:19:34 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 10:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	2.46E+06	1.02	Y	1.06	13	4096.641	0.179
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**9.84E+06**	**1.04**	**Y**	**1.06**	**52.2**	**4096.641**	**0.179**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**0.87**	**Y**	**1.13**	**109**	**3700.127**	**0.359**
OCDD-a	NotFnd		1.0002						0.07		3841.736	5.82
1368-TCDF	22.40		0.8191	0.8187	-0.5	5.60E+06	0.78	Y	1.08	15.9	4704.21	0.149
1468-TCDF	NotFnd		0.8408						1.08		4704.21	0.149
2468-TCDF	23.64		0.8645	0.8643	-0.3	1.46E+06	0.78	Y	1.08	4.15	4704.21	0.149
1346/1246-TCDF	NotFnd		0.8772						1.08		4704.21	0.149
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		4704.21	0.149
1348-TCDF	NotFnd		0.8932						1.08		4704.21	0.149
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		4704.21	0.149
1268-TCDF	NotFnd		0.9119						1.08		4704.21	0.149
1467-TCDF	NotFnd		0.9170						1.08		4704.21	0.149
1478-TCDF	NotFnd		0.9234						1.08		4704.21	0.149
1369/1237-TCDF	NotFnd		0.9369						1.08		4704.21	0.149
2467-TCDF	NotFnd		0.9415						1.08		4704.21	0.149
2368-TCDF	NotFnd		0.9475						1.08		4704.21	0.149
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4704.21	0.149
1278-TCDF	NotFnd		0.9676						1.08		4704.21	0.149
1349-TCDF	NotFnd		0.9722						1.08		4704.21	0.149
1267-TCDF	NotFnd		0.9777						1.08		4704.21	0.149
2346/1249-TCDF	NotFnd		0.9843						1.08		4704.21	0.149
2347/1279-TCDF	NotFnd		0.9926						1.08		4704.21	0.149
2348-TCDF	27.27		0.9968	0.9967	-0.2	5.44E+06	0.82	Y	1.08	15.4	4704.21	0.149
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**3.77E+06**	**0.76**	**Y**	**1.08**	**10.7**	**4704.21**	**0.149**
2367/3467-TCDF	NotFnd		1.0142						1.08		4704.21	0.149
1269-TCDF	NotFnd		1.0235						1.08		4704.21	0.149
1239-TCDF	NotFnd		1.0329						1.08		4704.21	0.149
1289-TCDF	29.40		1.0742	1.0746	+0.7	6.08E+06	0.81	Y	1.08	17.2	4704.21	0.149
13468/12468-PeCDF	29.32		0.9122	0.9118	-0.7	2.80E+07	1.58	Y	1.02	85.7	3202.845	0.0899
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5913.964	0.166
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5913.964	0.166
14678-PeCDF	NotFnd		0.9685						1.02		5913.964	0.166
13479-PeCDF	NotFnd		0.9716						1.02		5913.964	0.166
13469/12479-PeCDF	NotFnd		0.9794						1.02		5913.964	0.166
12346-PeCDF	NotFnd		0.9836						1.02		5913.964	0.166

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 10:19:34 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 10:21 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5913.964	0.166
12347-PeCDF	NotFnd		0.9891						1.02		5913.964	0.166
12348-PeCDF	NotFnd		0.9938						1.02		5913.964	0.166
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**1.62E+07**	**1.53**	**Y**	**1.02**	**49.7**	**5913.964**	**0.17**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5913.964	0.166
12379-PeCDF	NotFnd		1.0144						1.02		5913.964	0.166
12679-PeCDF	NotFnd		0.9927						1.02		5913.964	0.166
23467/12369-PeCDF	NotFnd		0.9965						1.02		5913.964	0.166
23478-PeCDF	**33.30**		**1.0005**	**1.0005**	**0**	**1.67E+07**	**1.53**	**Y**	**1.02**	**50.9**	**5913.964**	**0.162**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5913.964	0.166
12349-PeCDF	NotFnd		1.0101						1.02		5913.964	0.166
12389-PeCDF	34.38		1.0330	1.0329	-0.2	3.53E+06	1.50	Y	1.02	10.8	5913.964	0.166
123468-HxCDF	35.17		0.9622	0.9623	+0.2	3.57E+07	1.24	Y	1.19	120	6194.584	0.178
124678/134678-HxCDF	NotFnd		0.9678						1.19		6194.584	0.178
134679-HxCDF	NotFnd		0.9741						1.19		6194.584	0.178
124679-HxCDF	NotFnd		0.9795						1.19		6194.584	0.178
124689-HxCDF	NotFnd		0.9856						1.19		6194.584	0.178
123467-HxCDF	NotFnd		0.9972						1.19		6194.584	0.178
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.43E+07**	**1.20**	**Y**	**1.27**	**51.4**	**6194.584**	**0.187**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.64E+07**	**1.24**	**Y**	**1.15**	**50.6**	**6194.584**	**0.157**
123479-HxCDF	NotFnd		1.0048						1.19		6194.584	0.178
123469-HxCDF	NotFnd		1.0089						1.19		6194.584	0.178
123679-HxCDF	NotFnd		0.9942						1.19		6194.584	0.178
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**1.70E+07**	**1.22**	**Y**	**1.19**	**50.7**	**6194.584**	**0.164**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6194.584	0.178
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.20E+07**	**1.28**	**Y**	**1.16**	**47.8**	**6194.584**	**0.216**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6194.584	0.178
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**1.02**	**Y**	**1.37**	**49.8**	**3861.13**	**0.103**
1234679-HpCDF	NotFnd		1.0068						1.34		3861.13	0.124
1234689-HpCDF	NotFnd		1.0104						1.34		3861.13	0.124
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.04**	**Y**	**1.31**	**49.1**	**3861.13**	**0.152**
OCDF	**43.57**		**1.0002**	**1.0002**	**0**	**1.64E+07**	**0.92**	**Y**	**1.07**	**103**	**4020.581**	**0.297**
OCDF-a	43.57		1.0001	1.0002	+0.3	1.04E+06	2.23	Y	0.07	105	3176.37	3.79

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.2	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	10.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.1	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:21 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	97.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	104	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.9	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	98	26	-	166	Y
13C-OCDD	200	185	26	-	397	Y
13C-2,3,7,8-TCDF	100	85.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	100	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	105	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	114	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	107	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.3	20	-	186	Y
13C-OCDF	200	185	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	40.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:21 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

Window Defining Standards Results

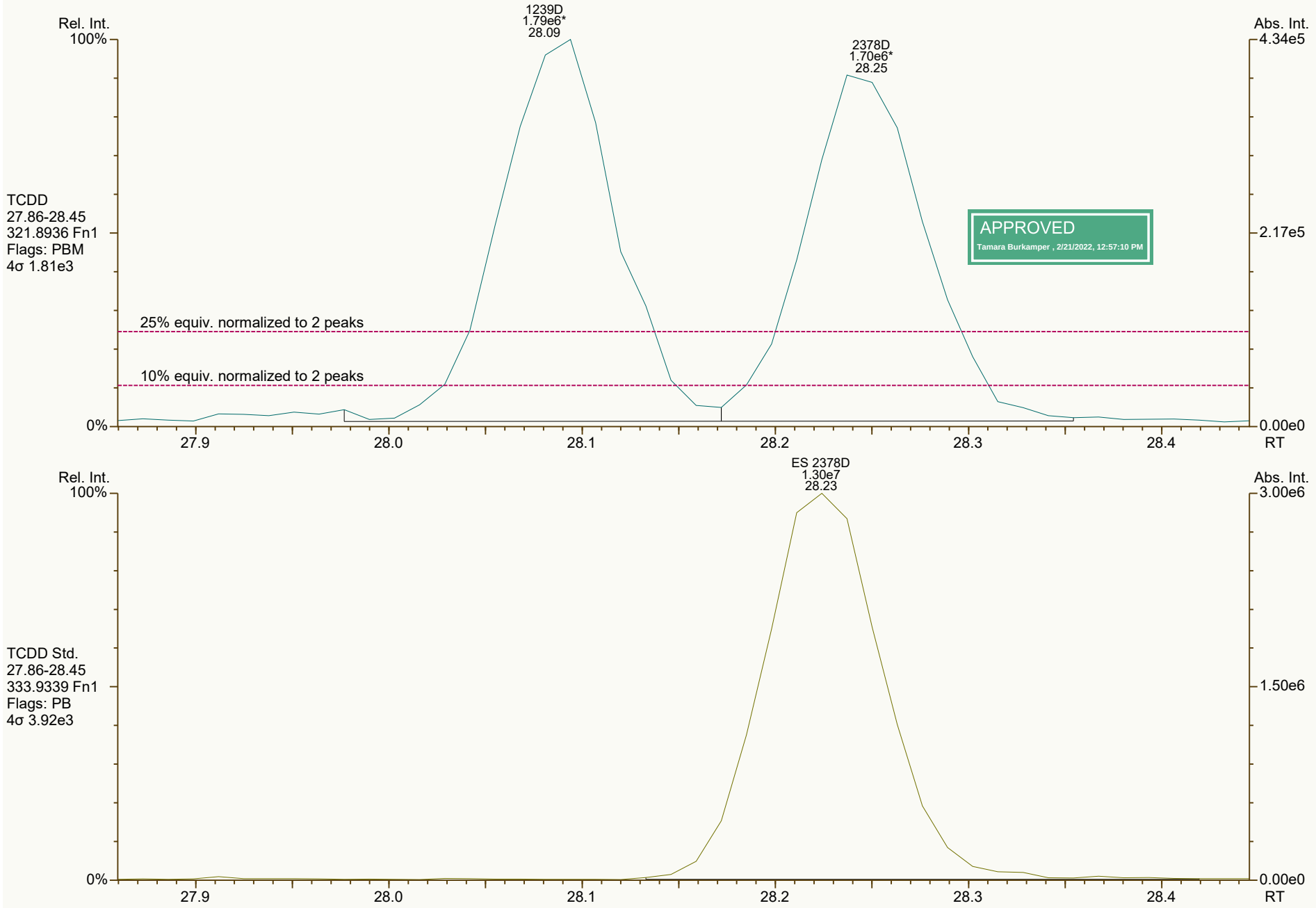
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.55	1289-TCDD	29.23
12479/12468-PeCDD	31.12	12389-PeCDD	34.08
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.03	1234678-HpCDD	40.71
1368-TCDF	22.40	1289-TCDF	29.40
13468/12468-PeCDF	29.32	12389-PeCDF	34.38
123468-HxCDF	35.17	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.17

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.09	2378-TCDD	28.25
2348-TCDF	27.27	2378-TCDF	27.38

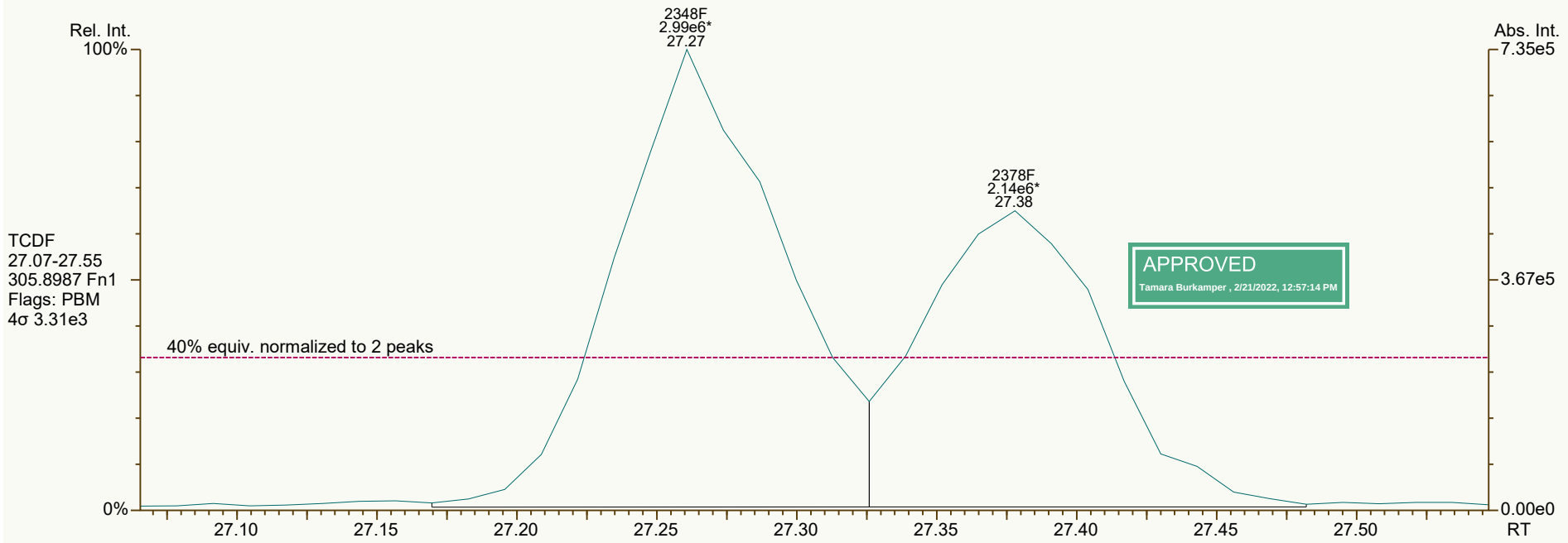
Processed: 21 Feb 2022 10:21 Analyst: pw

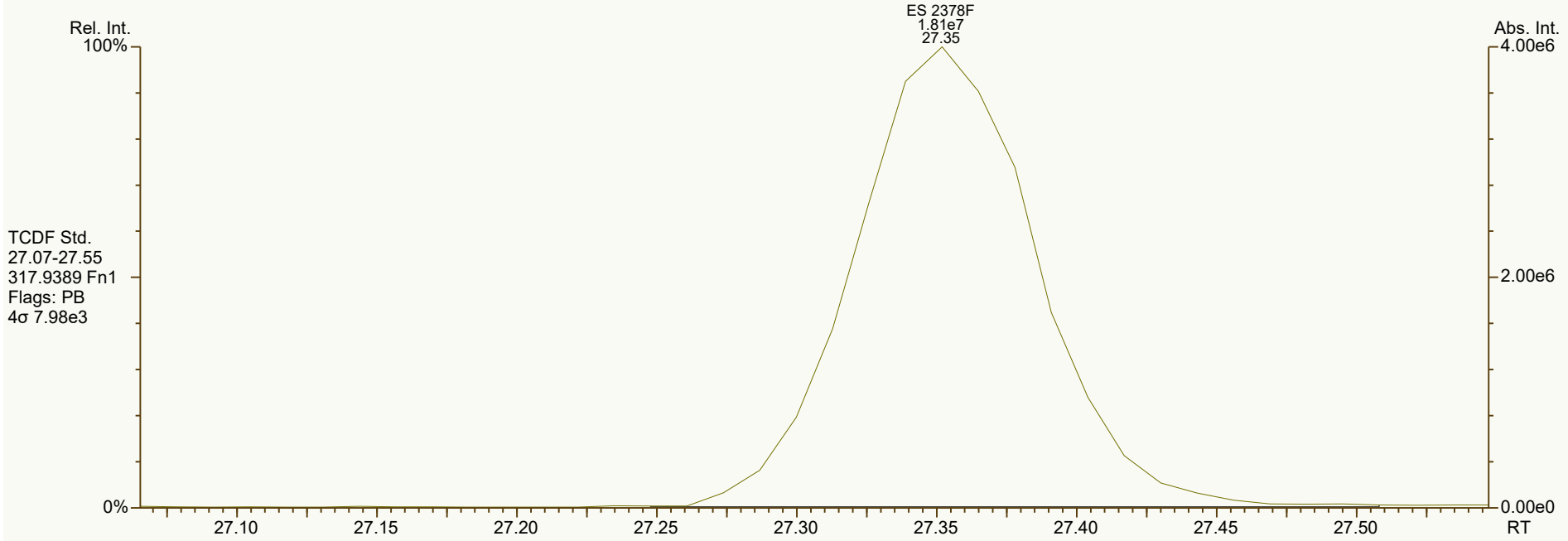
SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17



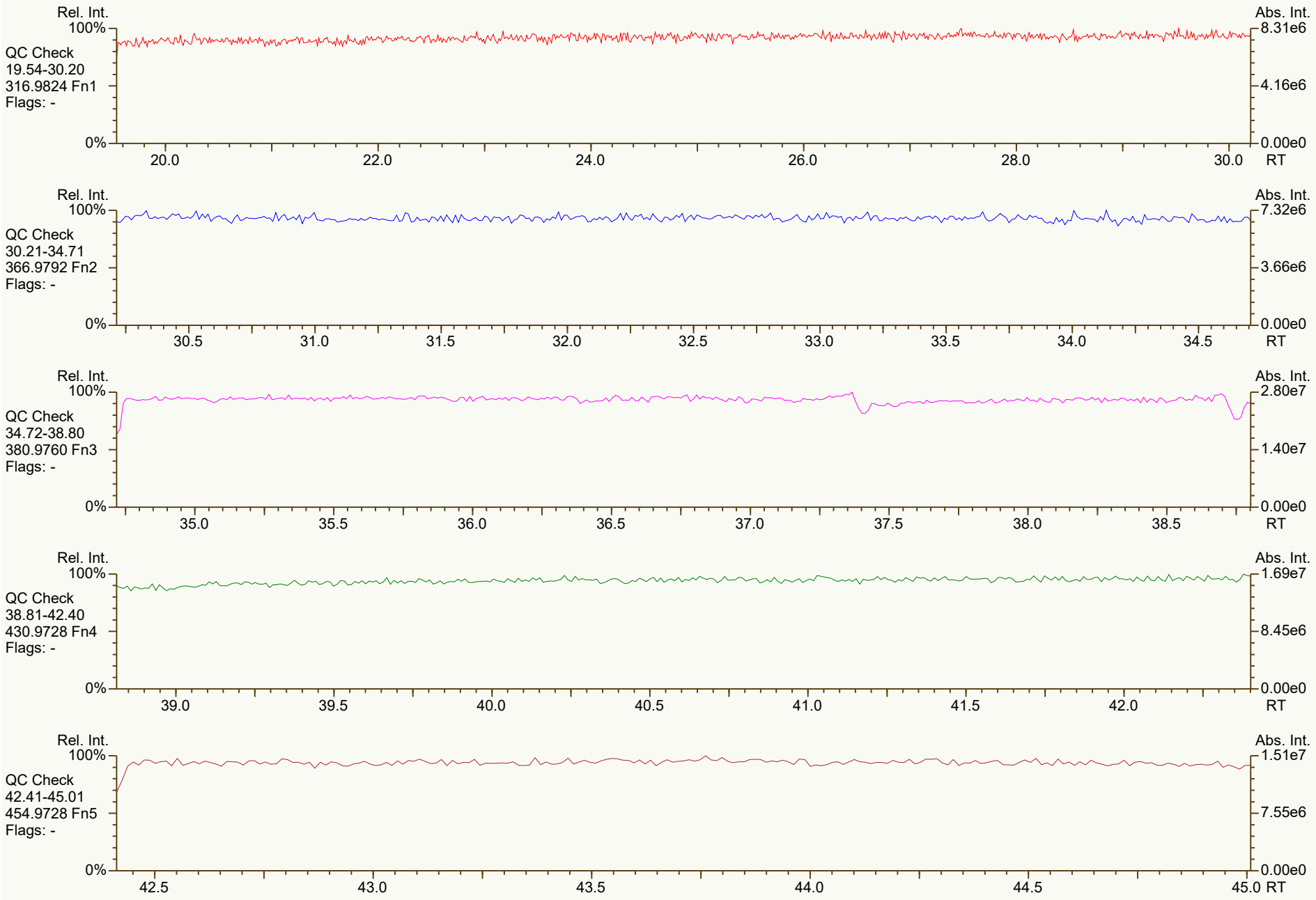
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:23

SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17



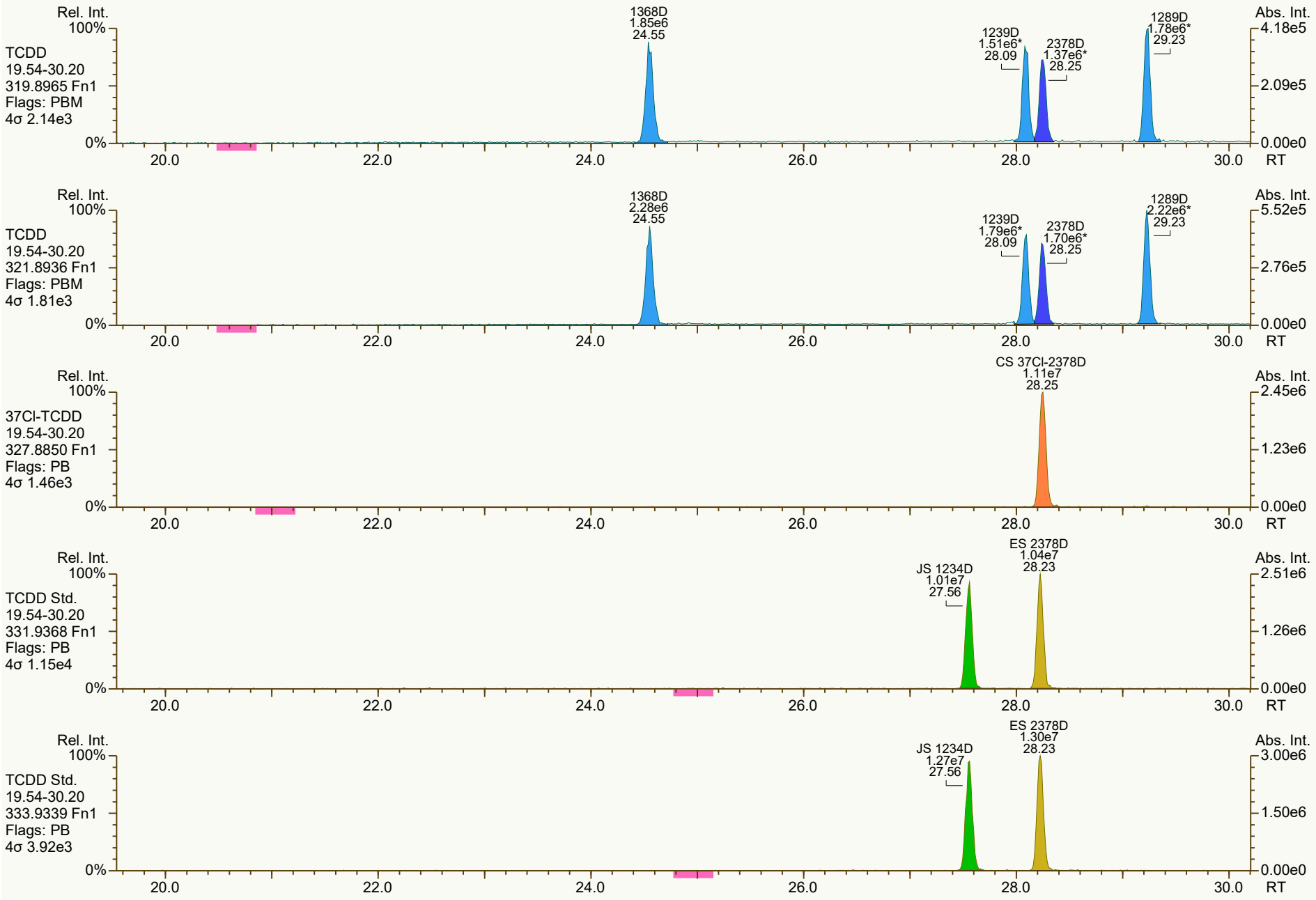


Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:23


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.31e6
4.16e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.32e6
3.66e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.80e7
1.40e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.69e7
8.45e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.51e7
7.55e6
0.00e0

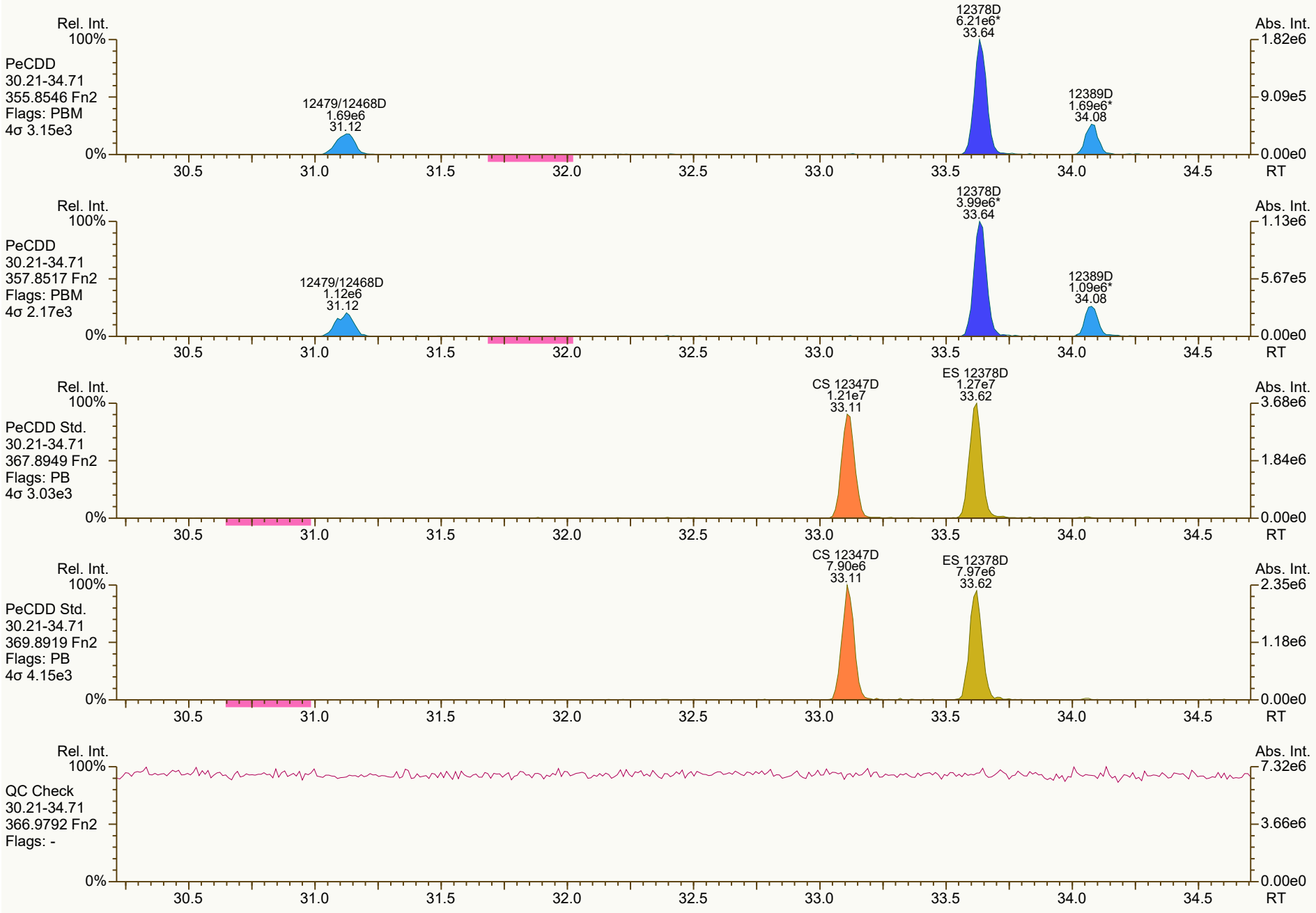
SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34

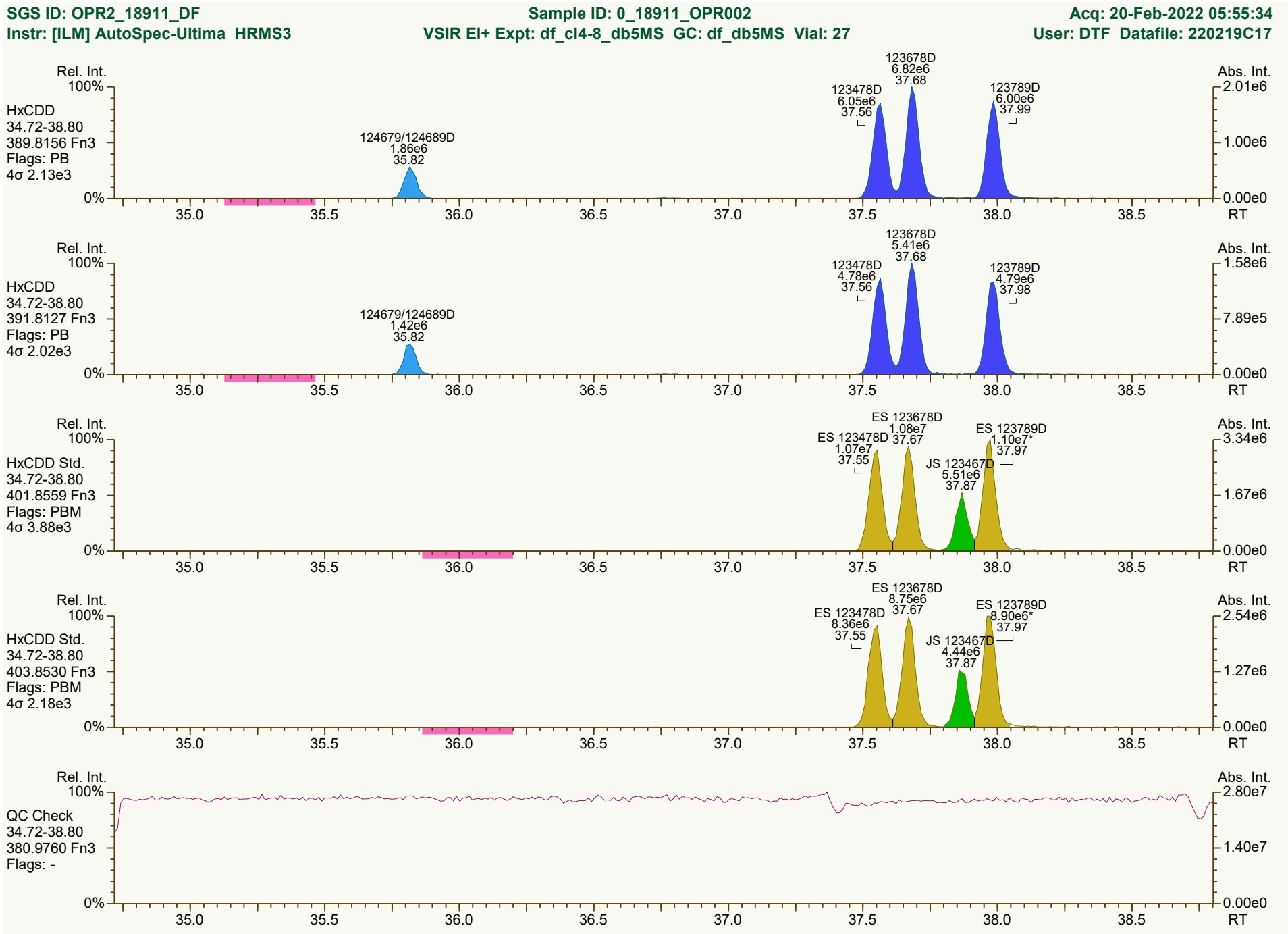
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17

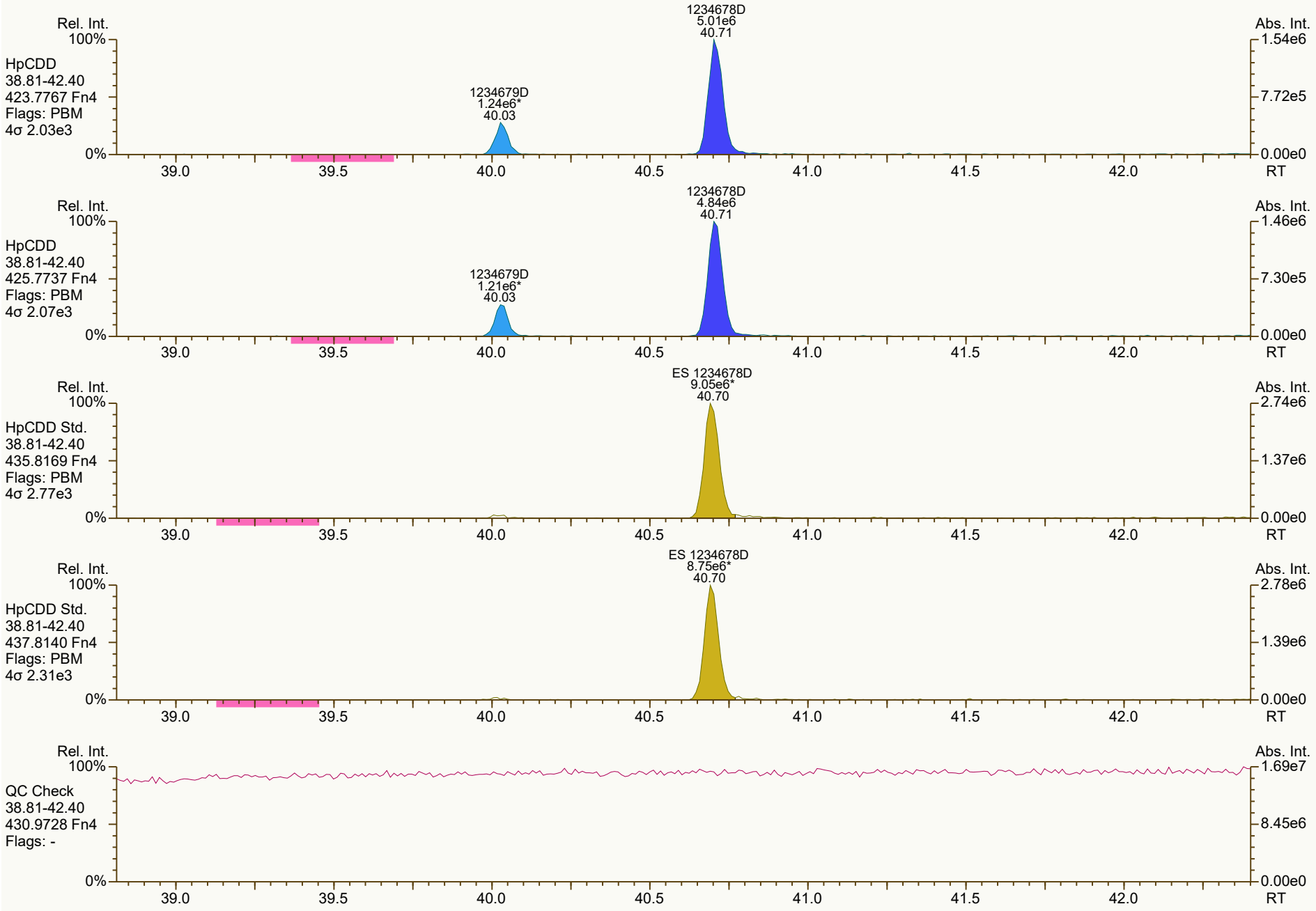


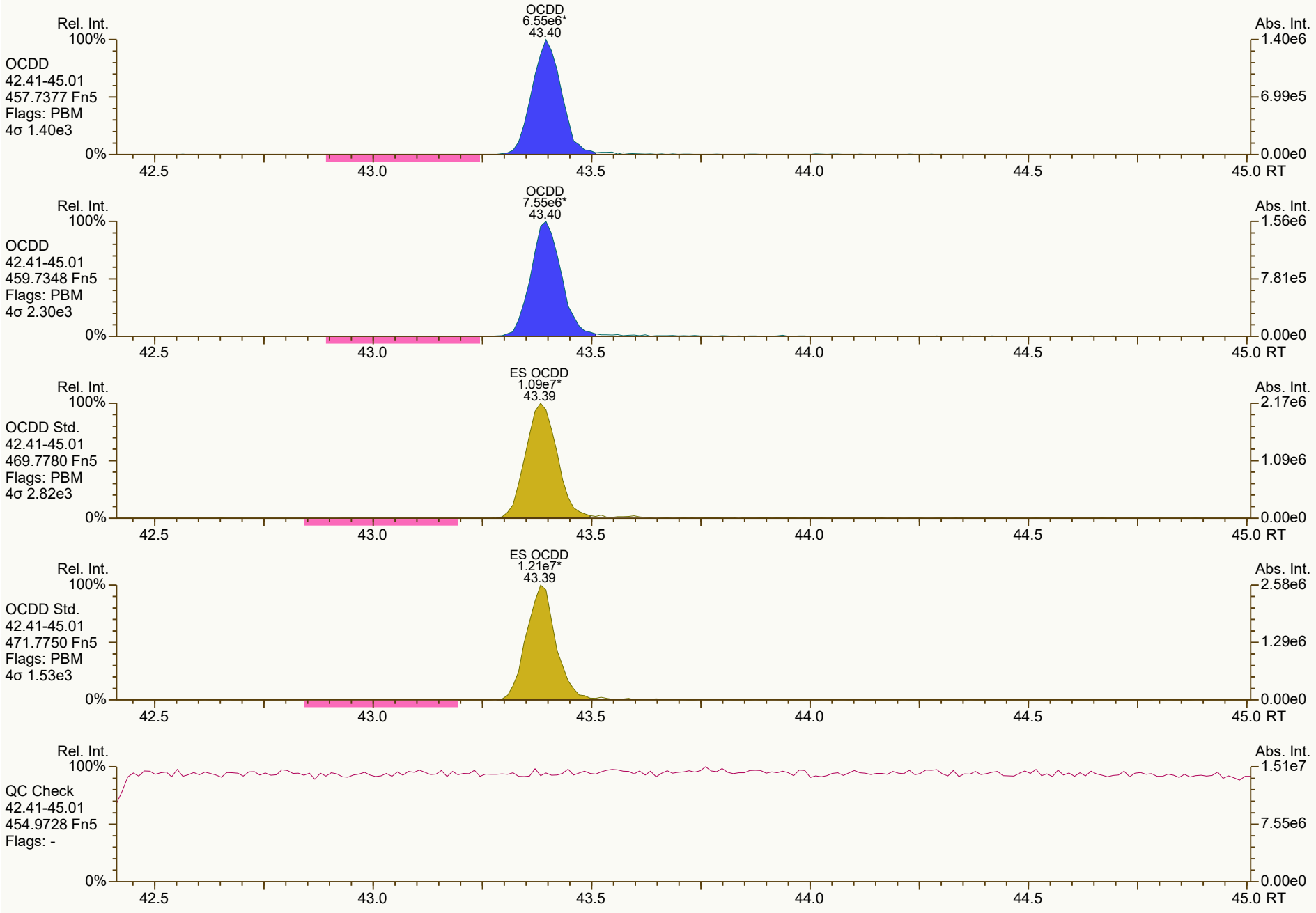
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW) | *Peak annotation: Areas, Centroids*

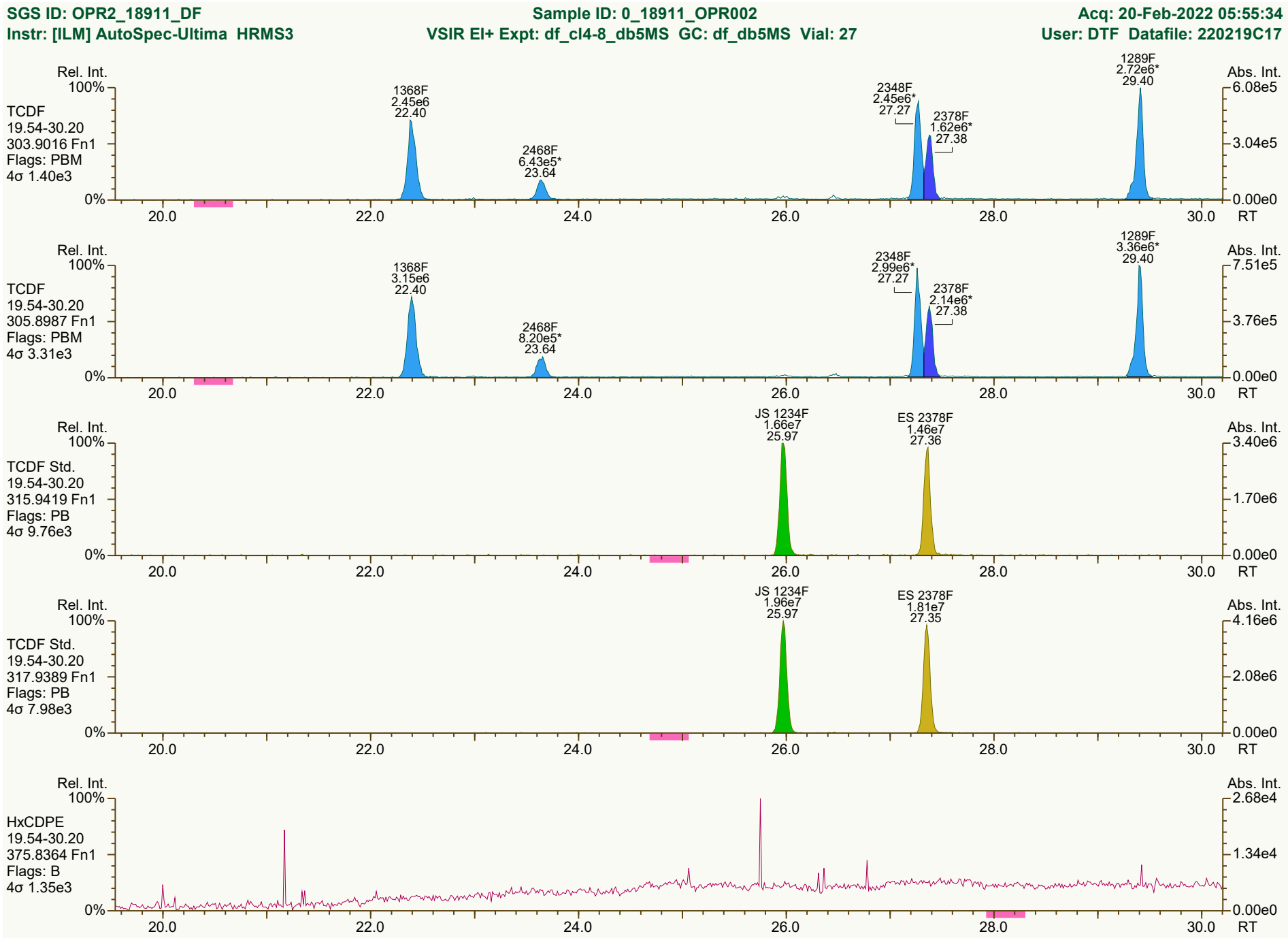
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9435, 7389, 0515 scc: 488-895 | *Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:24 Page 2 of 12*


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
1.69e6
31.12
12378D
6.21e6*
33.64
12389D
1.69e6*
34.08
Abs. Int.
1.82e6
9.09e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.17e3
12479/12468D
1.12e6
31.12
12378D
3.99e6*
33.64
12389D
1.09e6*
34.08
Abs. Int.
1.13e6
5.67e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.03e3
CS 12347D
1.21e7
33.11
ES 12378D
1.27e7
33.62
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 4.15e3
CS 12347D
7.90e6
33.11
ES 12378D
7.97e6
33.62
Abs. Int.
2.35e6
1.18e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.32e6
3.66e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.13e3
124679/124689D
1.86e6
35.82
123478D
6.05e6
37.56
123678D
6.82e6
37.68
123789D
6.00e6
37.99
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.02e3
124679/124689D
1.42e6
35.82
123478D
4.78e6
37.56
123678D
5.41e6
37.68
123789D
4.79e6
37.98
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.88e3
ES 123478D
1.07e7
37.55
ES 123678D
1.08e7
37.67
JS 123467D
5.51e6
37.87
ES 123789D
1.10e7*
37.97
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.18e3
ES 123478D
8.36e6
37.55
ES 123678D
8.75e6
37.67
JS 123467D
4.44e6
37.87
ES 123789D
8.90e6*
37.97
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0675, 7530 scc: 488-895
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 10:24 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.03e3
1234678D
5.01e6
40.71
1234679D
1.24e6*
40.03
Abs. Int.
1.54e6
7.72e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.07e3
1234678D
4.84e6
40.71
1234679D
1.21e6*
40.03
Abs. Int.
1.46e6
7.30e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.77e3
ES 1234678D
9.05e6*
40.70
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678D
8.75e6*
40.70
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.69e7
8.45e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.40e3
0%
OCDD
6.55e6*
43.40
Abs. Int.
1.40e6
6.99e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.30e3
0%
OCDD
7.55e6*
43.40
Abs. Int.
1.56e6
7.81e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.82e3
0%
ES OCDD
1.09e7*
43.39
Abs. Int.
2.17e6
1.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.53e3
0%
ES OCDD
1.21e7*
43.39
Abs. Int.
2.58e6
1.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.51e7
7.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3357, 9674, 4960 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:24 Page 7 of 12

SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17

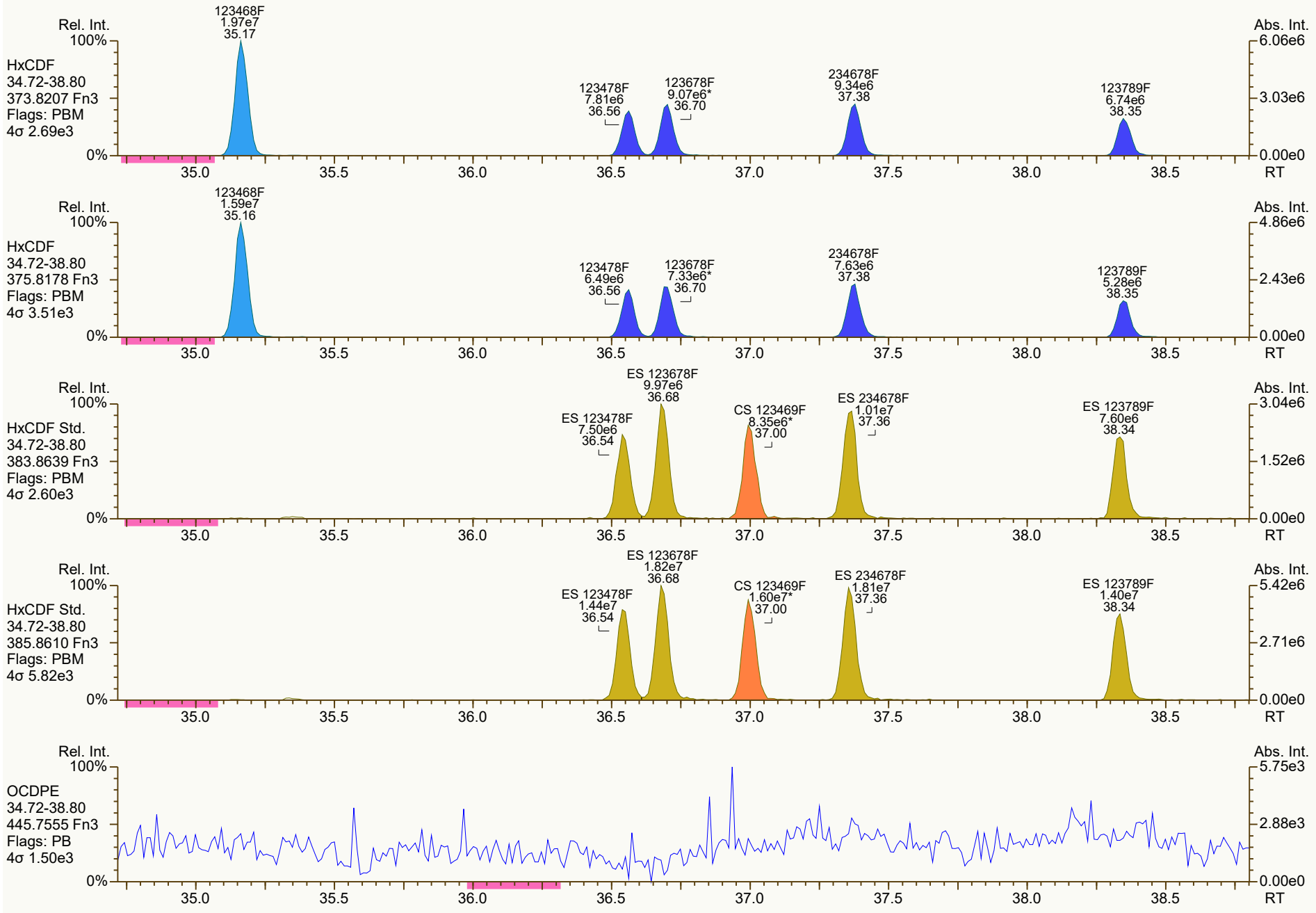


Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9329 scc: 488-895
PKD: 21-Feb-2022 09:58 Printed: 21-Feb-2022 10:24 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.34e3
12378F
9.80e6*
32.18
23478F
1.01e7*
33.30
12389F
2.12e6*
34.38
Abs. Int.
2.90e6
1.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.57e3
12378F
6.40e6*
32.18
23478F
6.59e6*
33.30
12389F
1.41e6*
34.38
Abs. Int.
1.88e6
9.38e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
CS 12346F
2.01e7
31.63
ES 12378F
1.96e7
32.16
ES 23478F
1.98e7
33.28
Abs. Int.
5.52e6
2.76e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.96e3
CS 12346F
1.24e7
31.63
ES 12378F
1.22e7
32.16
ES 23478F
1.23e7
33.28
Abs. Int.
3.63e6
1.81e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.62e3
Abs. Int.
1.03e4
5.17e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

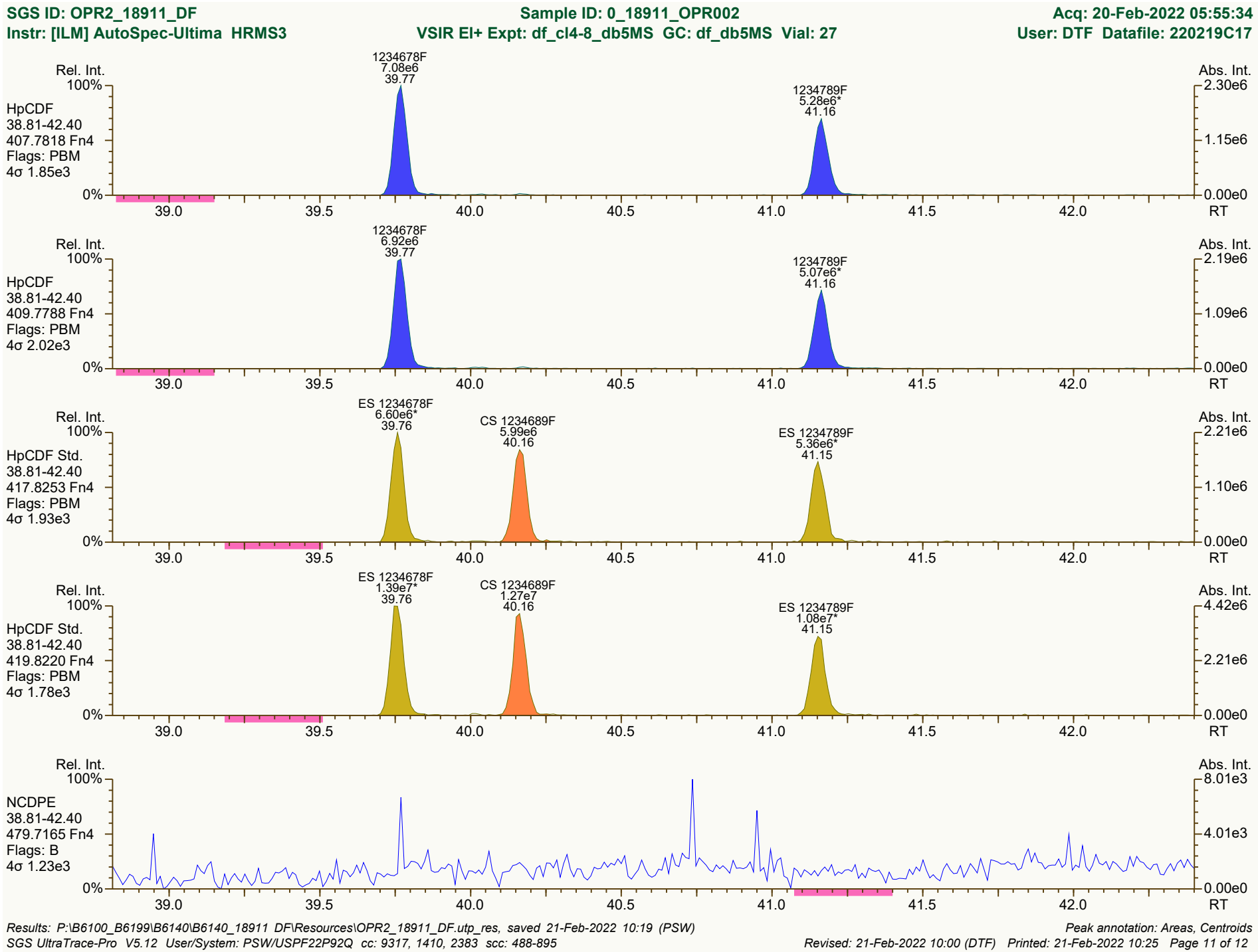
SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17



Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1624, 5513, 1896 scc: 488-895 | *Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:25 Page 10 of 12*


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
7.08e6
39.77
1234789F
5.28e6*
41.16
2.30e6
1.15e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.02e3
1234678F
6.92e6
39.77
1234789F
5.07e6*
41.16
2.19e6
1.09e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
ES 1234678F
6.60e6*
39.76
CS 1234689F
5.99e6
40.16
ES 1234789F
5.36e6*
41.15
2.21e6
1.10e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.78e3
ES 1234678F
1.39e7*
39.76
CS 1234689F
1.27e7
40.16
ES 1234789F
1.08e7*
41.15
4.42e6
2.21e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.23e3
8.01e3
4.01e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6140\B6140_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9317, 1410, 2383 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:25 Page 11 of 12


OCDF
7.88e6*
43.57
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.24e3
0%
Abs. Int.
1.68e6
8.41e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.57e6*
43.57
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
1.84e6
9.21e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.40e7*
43.56
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.70e3
0%
Abs. Int.
2.98e6
1.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.57e7*
43.56
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.28e3
0%
Abs. Int.
3.27e6
1.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-S-36 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	Lab Sample ID	B6146_18820_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	84.7 %	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:53:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	114				ES 2378-TCDD	93.7	
12378-PeCDD	2.24			J	ES 12378-PeCDD	81.6	
123478-HxCDD	ND	0.798			ES 123478-HxCDD	105	
123678-HxCDD	1.24			J	ES 123678-HxCDD	114	
123789-HxCDD	EMPC		0.945	J	ES 123789-HxCDD	97.5	
1234678-HpCDD	47				ES 1234678-HpCDD	95.1	
OCDD	2,260				ES OCDD	68.3	
2378-TCDF	426				ES 2378-TCDF	91.3	
12378-PeCDF	20.4				ES 12378-PeCDF	95.2	
23478-PeCDF	15				ES 23478-PeCDF	93.7	
123478-HxCDF	36.4				ES 123478-HxCDF	98.1	
123678-HxCDF	9.63				ES 123678-HxCDF	116	
234678-HxCDF	1.96			J	ES 234678-HxCDF	156	V
123789-HxCDF	ND	0.869			ES 123789-HxCDF	97.1	
1234678-HpCDF	10.7				ES 1234678-HpCDF	120	
1234789-HpCDF	4.86				ES 1234789-HpCDF	101	
OCDF	EMPC		11.5		ES OCDF	68.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.6	
Total TCDD	126		126		CS 12347-PeCDD	90.6	
Total PeCDD	5.2		6.11		CS 12346-PeCDF	99.4	
Total HxCDD	27.9		28.9		CS 123469-HxCDF	111	
Total HpCDD	130		130		CS 1234689-HpCDF	125	
Total TCDF	813		813				
Total PeCDF	52		52.8				
Total HxCDF	53.3		54.4				
Total HpCDF	21.1		21.1				
Total PCDD/Fs	**3,490**		**3,500**				
WHO-2005 TEQs							
TEQ: ND=0	170		170				
TEQ: ND=DL/2	170	1.25	170				
TEQ: ND=DL	170	2.5	170				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-010522-S-BN-SW-S-36 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	Lab Sample ID:	B6146_18820_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	84.7 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:53:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.898)		12479/12468D	[0.906]	J	124679/124689D	21.3		1234679D	82.6	
1379D	(0.898)		12469D	2.96		123468D	(0.794)		1234678D	47	
1369D	(0.898)		12368D	(0.771)		123679/123689D	5.4				
1469D	2.44		12478D	(0.771)		123469D	(0.794)				
1247D...[4]	(0.898)		12379D	(0.771)		123478D	(0.798)				
1378D	(0.898)		12369D...[3]	(0.771)		123678D	1.24	J			
1268D	(0.898)		12346/12347D	(0.771)		123467D	(0.794)				
1478D	(0.898)		12378D	2.24	J	123789D	[0.945]	J	**Conc.**	130	
1279D	(0.898)		12367D	(0.771)					**EMPC**	130	
1234/1269D	(0.898)		12389D	(0.771)							
1236D	(0.898)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.898)										
1239D	(0.898)								OCDD	2260	
2378D	114										
1278D	9.86										
1267D	(0.898)										
1289D	(0.898)										
Conc.	126		**Conc.**	5.2		**Conc.**	27.9				
EMPC	126		**EMPC**	6.11		**EMPC**	28.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	170	170
TEQ: ND=DL/2	170	170
TEQ: ND=DL	170	170

	Conc.	EMPC
Total PCDD/Fs	3,490	3,500

Checkcode: 619-522-CNL

Report Created: 12-Jan-2022 09:30 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-S-36 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	Lab Sample ID:	B6146_18820_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	84.7 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:53:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.943)		13468/12468F	(0.795)		123468F	(0.628)		1234678F	10.7	
1468F	(0.943)		13678F...[3]	(0.636)		124678/134678F	2.88		1234679F	(0.577)	
2468F	1.22		12368F...[3]	8.54		134679F	(0.628)		1234689F	5.58	
1346/1246F	0.641		14678F	(0.636)		124679F	(0.628)		1234789F	4.86	
1347F...[3]	4.23		13479F	(0.636)		124689F	[1.04]	J			
1348F	1.87		13469/12479F	(0.636)		123467F	(0.628)				
1248F...[3]	17.1		12346F	(0.636)		123478F	36.4				
1268F	6.74		23468/12469F	(0.636)		123678F	9.63				
1467F	1.17		12347F	(0.636)		123479F	(0.628)				
1478F	15.5		12348F	1.74	J	123469F	(0.628)				
1369/1237F	4.67		12378F	20.4		123679F	(0.628)				
2467F	0.748		12678/12367F	6.28		234678F	1.96	J	**Conc.**	21.1	
2368F	11.9		12379F	(0.636)		234678/123689F	0		**EMPC**	21.1	
1238F...[5]	20.7		12679F	(0.636)		123689F	(0.628)				
1278F	183		23467/12369F	(0.636)		123789F	(0.869)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	2.1		23478F	15		123789/123489F	0				
1267F	10.4		23478/12489F	0		123489F	2.53		OCDF	[11.5]	
2346/1249F	(0.943)		12489F	(0.636)							
2347/1279F	4.92		12349F	(0.636)							
2348F	24.9		12389F	[0.88]	J						
2378F	426										
2367/3467F	32.3										
1269F	8.22										
1239F	(0.943)										
1289F	34										
Conc.	813		**Conc.**	52		**Conc.**	53.3				
EMPC	813		**EMPC**	52.8		**EMPC**	54.4				

Checkcode: 619-522-CNL

Report Created: 12-Jan-2022 09:30 Analyst: pw

Sample ID: 11215131-010522-S-BN-SW-S-36 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6146_18820_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	QC Batch No.:	18820
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	11-Jan-2022 22:53
Lab Project No:	B6146	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	114		0.898	114	114	114
12378-PeCDD	2.24	J	0.771	1.12	2.24	2.24
123478-HxCDD	(0.798)		0.798	(0.0798)	(0.0798)	(0.0798)
123678-HxCDD	1.24	J	0.742	0.124	0.124	0.124
123789-HxCDD	[0.945]	J	0.848	[0.0945]	[0.0945]	[0.0945]
1234678-HpCDD	47		0.912	0.47	0.47	0.47
OCDD	2260		2.95	2.26	0.226	0.677
2378-TCDF	426		0.943	42.6	42.6	42.6
12378-PeCDF	20.4		0.621	1.02	1.02	0.613
23478-PeCDF	15		0.651	7.48	7.48	4.49
123478-HxCDF	36.4		0.718	3.64	3.64	3.64
123678-HxCDF	9.63		0.6	0.963	0.963	0.963
234678-HxCDF	1.96	J	0.459	0.196	0.196	0.196
123789-HxCDF	(0.869)		0.869	(0.0869)	(0.0869)	(0.0869)
1234678-HpCDF	10.7		0.469	0.107	0.107	0.107
1234789-HpCDF	4.86		0.724	0.0486	0.0486	0.0486
OCDF	[11.5]		1.51	[0.0115]	[0.00115]	[0.00346]

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TEQ Summaries			
EMPC = 0, ND = 0	174	173	170
EMPC = 0, ND = DL / 2	174	173	170
EMPC = 0, ND = DL	174	173	170
EMPC = 0, < J-level = 0	172	170	167
EMPC = EMPC, ND = 0	174	173	170
EMPC = EMPC, ND = DL / 2	174	173	170
EMPC = EMPC, ND = DL	174	173	170
EMPC = EMPC, < J-level = 0	172	170	167

Sample ID: 11215131-010622-S-BN-SW-S-30 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.49 g	Lab Sample ID	B6146_18820_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	80.1 %	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:41:21

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	6.79				ES 2378-TCDD	88.8	
12378-PeCDD	ND	0.753			ES 12378-PeCDD	80.7	
123478-HxCDD	ND	0.886			ES 123478-HxCDD	91.8	
123678-HxCDD	EMPC		0.753	J	ES 123678-HxCDD	96	
123789-HxCDD	EMPC		0.971	J	ES 123789-HxCDD	87.3	
1234678-HpCDD	27.1				ES 1234678-HpCDD	83.5	
OCDD	550				ES OCDD	52.5	
2378-TCDF	24.4				ES 2378-TCDF	83	
12378-PeCDF	EMPC		1.66	J	ES 12378-PeCDF	88.5	
23478-PeCDF	EMPC		1.02	J	ES 23478-PeCDF	87.6	
123478-HxCDF	2.9				ES 123478-HxCDF	80.8	
123678-HxCDF	1			J	ES 123678-HxCDF	99.3	
234678-HxCDF	ND	0.323			ES 234678-HxCDF	128	
123789-HxCDF	ND	0.522			ES 123789-HxCDF	82	
1234678-HpCDF	EMPC		1.71	J	ES 1234678-HpCDF	105	
1234789-HpCDF	ND	0.576			ES 1234789-HpCDF	82.7	
OCDF	5.1				ES OCDF	52.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.8	
Total TCDD	6.79		8.91		CS 12347-PeCDD	100	
Total PeCDD	2.14		2.14		CS 12346-PeCDF	95.2	
Total HxCDD	17.1		23.4		CS 123469-HxCDF	105	
Total HpCDD	95.5		95.5		CS 1234689-HpCDF	120	
Total TCDF	50		57.6				
Total PeCDF	1.25		3.94				
Total HxCDF	3.9		4.55				
Total HpCDF	2.38		4.09				
Total PCDD/Fs	**734**		**755**				
WHO-2005 TEQs							
TEQ: ND=0	10.1		10.6				
TEQ: ND=DL/2	10.5	1.17	11.1				
TEQ: ND=DL	11	2.35	11.5				

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Sample ID: 11215131-010622-S-BN-SW-S-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.49 g	Lab Sample ID:	B6146_18820_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	80.1 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:41:21

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.882)		12479/12468D	(0.753)		124679/124689D	17.1		1234679D	68.4	
1379D	(0.882)		12469D	2.14	J	123468D	(0.884)		1234678D	27.1	
1369D	(0.882)		12368D	(0.753)		123679/123689D	[4.51]				
1469D	[2.12]		12478D	(0.753)		123469D	(0.884)				
1247D...[4]	(0.882)		12379D	(0.753)		123478D	(0.886)				
1378D	(0.882)		12369D...[3]	(0.753)		123678D	[0.753]	J			
1268D	(0.882)		12346/12347D	(0.753)		123467D	(0.884)				
1478D	(0.882)		12378D	(0.753)		123789D	[0.971]	J	**Conc.**	95.5	
1279D	(0.882)		12367D	(0.753)					**EMPC**	95.5	
1234/1269D	(0.882)		12389D	(0.753)							
1236D	(0.882)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.882)										
1239D	(0.882)								OCDD	550	
2378D	6.79										
1278D	(0.882)										
1267D	(0.882)										
1289D	(0.882)										
Conc.	6.79		**Conc.**	2.14		**Conc.**	17.1				
EMPC	8.91		**EMPC**	2.14		**EMPC**	23.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	10.1	10.6
TEQ: ND=DL/2	10.5	11.1
TEQ: ND=DL	11	11.5

	Conc.	EMPC
Total PCDD/Fs	734	755

Checkcode: 211-648-MGK

Report Created: 12-Jan-2022 09:30 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-S-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.49 g	Lab Sample ID:	B6146_18820_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	80.1 %	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:41:21

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.729)		13468/12468F	(0.698)		123468F	(0.431)		1234678F	[1.71]	J
1468F	(0.729)		13678F...[3]	(0.546)		124678/134678F	[0.644]	J	1234679F	(0.48)	
2468F	0.735		12368F...[3]	1.25	J	134679F	(0.431)		1234689F	2.38	J
1346/1246F	(0.729)		14678F	(0.546)		124679F	(0.431)		1234789F	(0.576)	
1347F...[3]	1.12		13479F	(0.546)		124689F	(0.431)				
1348F	(0.729)		13469/12479F	(0.546)		123467F	(0.431)				
1248F...[3]	[1.34]		12346F	(0.546)		123478F	2.9				
1268F	(0.729)		23468/12469F	(0.546)		123678F	1	J			
1467F	(0.729)		12347F	(0.546)		123479F	(0.431)				
1478F	[1.05]		12348F	(0.546)		123469F	(0.431)				
1369/1237F	[0.925]		12378F	[1.66]	J	123679F	(0.431)				
2467F	(0.729)		12678/12367F	(0.546)		234678F	(0.323)		**Conc.**	2.38	
2368F	1.09		12379F	(0.546)		234678/123689F	0		**EMPC**	4.09	
1238F...[5]	2.74		12679F	(0.546)		123689F	(0.431)				
1278F	11.6		23467/12369F	(0.546)		123789F	(0.522)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.729)		23478F	[1.02]	J	123789/123489F	0				
1267F	1.04		23478/12489F	0		123489F	(0.431)		OCDF	5.1	
2346/1249F	(0.729)		12489F	(0.546)							
2347/1279F	[0.546]		12349F	(0.546)							
2348F	[1.63]		12389F	(0.546)							
2378F	24.4										
2367/3467F	2.9										
1269F	[2.1]										
1239F	(0.729)										
1289F	4.45										
Conc.	50		**Conc.**	1.25		**Conc.**	3.9				
EMPC	57.6		**EMPC**	3.94		**EMPC**	4.55				

Checkcode: 211-648-MGK

Report Created: 12-Jan-2022 09:30 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-S-30 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6146_18820_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.49 g	QC Batch No.:	18820
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	11-Jan-2022 23:41
Lab Project No:	B6146	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	6.79		0.882	6.79	6.79	6.79
12378-PeCDD	(0.753)		0.753	(0.376)	(0.753)	(0.753)
123478-HxCDD	(0.886)		0.886	(0.0886)	(0.0886)	(0.0886)
123678-HxCDD	[0.753]	J	0.853	[0.0753]	[0.0753]	[0.0753]
123789-HxCDD	[0.971]	J	0.916	[0.0971]	[0.0971]	[0.0971]
1234678-HpCDD	27.1		0.624	0.271	0.271	0.271
OCDD	550		2.03	0.55	0.055	0.165
2378-TCDF	24.4		0.729	2.44	2.44	2.44
12378-PeCDF	[1.66]	J	0.55	[0.0832]	[0.0832]	[0.0499]
23478-PeCDF	[1.02]	J	0.541	[0.511]	[0.511]	[0.307]
123478-HxCDF	2.9		0.538	0.29	0.29	0.29
123678-HxCDF	1	J	0.418	0.1	0.1	0.1
234678-HxCDF	(0.323)		0.323	(0.0323)	(0.0323)	(0.0323)
123789-HxCDF	(0.522)		0.522	(0.0522)	(0.0522)	(0.0522)
1234678-HpCDF	[1.71]	J	0.413	[0.0171]	[0.0171]	[0.0171]
1234789-HpCDF	(0.576)		0.576	(0.00576)	(0.00576)	(0.00576)
OCDF	5.1		1.48	0.0051	0.00051	0.00153

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TEQ Summaries			
EMPC = 0, ND = 0	10.4	9.95	10.1
EMPC = 0, ND = DL / 2	10.7	10.4	10.5
EMPC = 0, ND = DL	11	10.9	11
EMPC = 0, < J-level = 0	10.3	9.85	9.96
EMPC = EMPC, ND = 0	11.2	10.7	10.6
EMPC = EMPC, ND = DL / 2	11.5	11.2	11.1
EMPC = EMPC, ND = DL	11.8	11.7	11.5
EMPC = EMPC, < J-level = 0	10.3	9.85	9.96

Checkcode: 211-648-MGK

Sample ID: 11215131-010622-S-BN-SW-S-35 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6146_18820_DF_003	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.1 %	QC Batch No:	18820	Date Analyzed:	12-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:28:48

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	3,100			E	ES 2378-TCDD	93.5	
12378-PeCDD	37.9				ES 12378-PeCDD	83.6	
123478-HxCDD	2.06			J	ES 123478-HxCDD	108	
123678-HxCDD	EMPC		7.04		ES 123678-HxCDD	107	
123789-HxCDD	EMPC		3.75		ES 123789-HxCDD	102	
1234678-HpCDD	242				ES 1234678-HpCDD	99.6	
OCDD	4,170				ES OCDD	82.1	
2378-TCDF	10,700			E	ES 2378-TCDF	100	
12378-PeCDF	704				ES 12378-PeCDF	98.7	
23478-PeCDF	462				ES 23478-PeCDF	112	
123478-HxCDF	1,100				ES 123478-HxCDF	102	
123678-HxCDF	269				ES 123678-HxCDF	114	
234678-HxCDF	51.5				ES 234678-HxCDF	142	V
123789-HxCDF	ND	1.52			ES 123789-HxCDF	102	
1234678-HpCDF	331				ES 1234678-HpCDF	114	
1234789-HpCDF	122				ES 1234789-HpCDF	112	
OCDF	1,320				ES OCDF	85	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.4	
Total TCDD	3,320		3,400		CS 12347-PeCDD	89.4	
Total PeCDD	45.3		55.6		CS 12346-PeCDF	110	
Total HxCDD	63.4		75.8		CS 123469-HxCDF	110	
Total HpCDD	602		602		CS 1234689-HpCDF	123	
Total TCDF	20,400		20,400				
Total PeCDF	1,800		1,800				
Total HxCDF	1,630		1,630				
Total HpCDF	565		570				
Total PCDD/Fs	**34,000**		**34,100**				
WHO-2005 TEQs							
TEQ: ND=0	4520		4520				
TEQ: ND=DL/2	4520	1.03	4520				
TEQ: ND=DL	4520	2.06	4520				

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Sample ID: 11215131-010622-S-BN-SW-S-35 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6146_18820_DF_003	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.1 %	QC Batch No.:	18820	Date Analyzed:	12-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:28:48

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.31		12479/12468D	[2.96]		124679/124689D	29.5		1234679D	360	
1379D	[1.07]		12469D	2.18	J	123468D	3.76		1234678D	242	
1369D	(0.46)		12368D	3.1		123679/123689D	25.4				
1469D	2.68		12478D	[2.61]		123469D	2.73				
1247D...[4]	[5.01]		12379D	[1.44]	J	123478D	2.06	J			
1378D	7.52		12369D...[3]	2.12	J	123678D	[7.04]				
1268D	0.554		12346/12347D	[0.807]	J	123467D	[1.58]	J			
1478D	6.86		12378D	37.9		123789D	[3.75]		**Conc.**	602	
1279D	(0.46)		12367D	[2.47]					**EMPC**	602	
1234/1269D	[1.24]		12389D	(0.591)							
1236D	[0.733]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[45.1]										
1239D	(0.46)								OCDD	4170	
2378D	3100	E									
1278D	192										
1267D	[17.5]										
1289D	[13.2]										
Conc.	3,320		**Conc.**	45.3		**Conc.**	63.4				
EMPC	3,400		**EMPC**	55.6		**EMPC**	75.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	4,520	4,520
TEQ: ND=DL/2	4,520	4,520
TEQ: ND=DL	4,520	4,520

	Conc.	EMPC
Total PCDD/Fs	34,000	34,100

Checkcode: 123-215-NLT

Report Created: 12-Jan-2022 09:31 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-S-35 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6146_18820_DF_003	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.1 %	QC Batch No.:	18820	Date Analyzed:	12-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:28:48

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	2.41		13468/12468F	26.4		123468F	9.23		1234678F	331	
1468F	14.7		13678F...[3]	7.39		124678/134678F	77.2		1234679F	[5.29]	
2468F	12.2		12368F...[3]	277		134679F	(1.29)		1234689F	112	
1346/1246F	12.9		14678F	7.35		124679F	(1.29)		1234789F	122	
1347F...[3]	100		13479F	1.19	J	124689F	38.8				
1348F	30.6		13469/12479F	[1.76]	J	123467F	4.99				
1248F...[3]	473		12346F	[1.1]	J	123478F	1100				
1268F	147		23468/12469F	11.5		123678F	269				
1467F	21.8		12347F	6.13		123479F	(1.29)				
1478F	384		12348F	54.6		123469F	3.4				
1369/1237F	98.6		12378F	704		123679F	(1.29)				
2467F	9.27		12678/12367F	207		234678F	51.5		**Conc.**	565	
2368F	227		12379F	(0.519)		234678/123689F	0		**EMPC**	570	
1238F...[5]	516		12679F	1.95	J	123689F	(1.29)				
1278F	4650	E	23467/12369F	7.05		123789F	(1.52)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.545)		23478F	462		123789/123489F	0			**(pg/g)**	
1267F	244		23478/12489F	0		123489F	72.1		OCDF	1320	
2346/1249F	32.1		12489F	(0.519)							
2347/1279F	100		12349F	(0.519)							
2348F	849		12389F	25.4							
2378F	10700	E									
2367/3467F	834										
1269F	171										
1239F	14										
1289F	819										
Conc.	20,400		**Conc.**	1,800		**Conc.**	1,630				
EMPC	20,400		**EMPC**	1,800		**EMPC**	1,630				

Checkcode: 123-215-NLT

Report Created: 12-Jan-2022 09:31 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-S-35 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6146_18820_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18820
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	12-Jan-2022 00:28
Lab Project No:	B6146	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	3100	E	0.46	3100	3100	3100
12378-PeCDD	37.9		0.591	19	37.9	37.9
123478-HxCDD	2.06	J	0.777	0.206	0.206	0.206
123678-HxCDD	[7.04]		0.911	[0.704]	[0.704]	[0.704]
123789-HxCDD	[3.75]		0.818	[0.375]	[0.375]	[0.375]
1234678-HpCDD	242		0.553	2.42	2.42	2.42
OCDD	4170		1.33	4.17	0.417	1.25
2378-TCDF	10700	E	0.545	1070	1070	1070
12378-PeCDF	704		0.543	35.2	35.2	21.1
23478-PeCDF	462		0.498	231	231	138
123478-HxCDF	1100		1.52	110	110	110
123678-HxCDF	269		1.2	26.9	26.9	26.9
234678-HxCDF	51.5		1.04	5.15	5.15	5.15
123789-HxCDF	(1.52)		1.52	(0.152)	(0.152)	(0.152)
1234678-HpCDF	331		0.328	3.31	3.31	3.31
1234789-HpCDF	122		0.376	1.22	1.22	1.22
OCDF	1320		0.812	1.32	0.132	0.397

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TEQ Summaries			
EMPC = 0, ND = 0	4610	4620	4520
EMPC = 0, ND = DL / 2	4610	4620	4520
EMPC = 0, ND = DL	4610	4620	4520
EMPC = 0, < J-level = 0	4610	4620	4520
EMPC = EMPC, ND = 0	4610	4630	4520
EMPC = EMPC, ND = DL / 2	4610	4630	4520
EMPC = EMPC, ND = DL	4610	4630	4520
EMPC = EMPC, < J-level = 0	4610	4630	4520

Checkcode: 123-215-NLT

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Sample ID: Method Blank B6146_18820 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18820_DF_TLX	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:31:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.596			ES 2378-TCDD	97.8	
12378-PeCDD	ND	0.587			ES 12378-PeCDD	88.4	
123478-HxCDD	ND	0.592			ES 123478-HxCDD	104	
123678-HxCDD	ND	0.599			ES 123678-HxCDD	114	
123789-HxCDD	ND	0.696			ES 123789-HxCDD	95	
1234678-HpCDD	ND	0.57			ES 1234678-HpCDD	90.6	
OCDD	ND	1.72			ES OCDD	63	
2378-TCDF	ND	0.497			ES 2378-TCDF	94.6	
12378-PeCDF	ND	0.517			ES 12378-PeCDF	97.8	
23478-PeCDF	ND	0.516			ES 23478-PeCDF	95.2	
123478-HxCDF	ND	0.448			ES 123478-HxCDF	92.7	
123678-HxCDF	ND	0.393			ES 123678-HxCDF	114	
234678-HxCDF	ND	0.307			ES 234678-HxCDF	152	V
123789-HxCDF	ND	0.538			ES 123789-HxCDF	101	
1234678-HpCDF	ND	0.334			ES 1234678-HpCDF	112	
1234789-HpCDF	ND	0.384			ES 1234789-HpCDF	106	
OCDF	ND	1.12			ES OCDF	71.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.5	
Total TCDD	ND	0.596	ND		CS 12347-PeCDD	93	
Total PeCDD	ND	0.587	ND		CS 12346-PeCDF	99.4	
Total HxCDD	ND	0.628	ND		CS 123469-HxCDF	106	
Total HpCDD	ND	0.57	ND		CS 1234689-HpCDF	118	
Total TCDF	ND	0.497	ND				
Total PeCDF	ND	0.517	ND				
Total HxCDF	ND	0.404	ND				
Total HpCDF	ND	0.357	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.887	0.887	0.887				
TEQ: ND=DL	1.77	1.77	1.77				

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Sample ID: Method Blank B6146_18820 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18820_DF_TLX	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:31:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.596)		12479/12468D	(0.587)		124679/124689D	(0.628)		1234679D	(0.57)	
1379D	(0.596)		12469D	(0.587)		123468D	(0.628)		1234678D	(0.57)	
1369D	(0.596)		12368D	(0.587)		123679/123689D	(0.628)				
1469D	(0.596)		12478D	(0.587)		123469D	(0.628)				
1247D...[4]	(0.596)		12379D	(0.587)		123478D	(0.592)				
1378D	(0.596)		12369D...[3]	(0.587)		123678D	(0.599)				
1268D	(0.596)		12346/12347D	(0.587)		123467D	(0.628)				
1478D	(0.596)		12378D	(0.587)		123789D	(0.696)		**Conc.**	0	
1279D	(0.596)		12367D	(0.587)					**EMPC**	0	
1234/1269D	(0.596)		12389D	(0.587)							
1236D	(0.596)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.596)									**(pg/g)**	
1239D	(0.596)								OCDD	(1.72)	
2378D	(0.596)										
1278D	(0.596)										
1267D	(0.596)										
1289D	(0.596)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.887	0.887
TEQ: ND=DL	1.77	1.77

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 844-424-LBM

Report Created: 12-Jan-2022 09:30 Analyst: pw

Sample ID: Method Blank B6146_18820 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18820_DF_TLX	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:31:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.497)		13468/12468F	(0.743)		123468F	(0.404)		1234678F	(0.334)	
1468F	(0.497)		13678F...[3]	(0.517)		124678/134678F	(0.404)		1234679F	(0.357)	
2468F	(0.497)		12368F...[3]	(0.517)		134679F	(0.404)		1234689F	(0.357)	
1346/1246F	(0.497)		14678F	(0.517)		124679F	(0.404)		1234789F	(0.384)	
1347F...[3]	(0.497)		13479F	(0.517)		124689F	(0.404)				
1348F	(0.497)		13469/12479F	(0.517)		123467F	(0.404)				
1248F...[3]	(0.497)		12346F	(0.517)		123478F	(0.448)				
1268F	(0.497)		23468/12469F	(0.517)		123678F	(0.393)				
1467F	(0.497)		12347F	(0.517)		123479F	(0.404)				
1478F	(0.497)		12348F	(0.517)		123469F	(0.404)				
1369/1237F	(0.497)		12378F	(0.517)		123679F	(0.404)				
2467F	(0.497)		12678/12367F	(0.517)		234678F	(0.307)		**Conc.**	0	
2368F	(0.497)		12379F	(0.517)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.497)		12679F	(0.517)		123689F	(0.404)				
1278F	(0.497)		23467/12369F	(0.517)		123789F	(0.538)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.497)		23478F	(0.516)		123789/123489F	0				
1267F	(0.497)		23478/12489F	0		123489F	(0.404)		OCDF	(1.12)	
2346/1249F	(0.497)		12489F	(0.517)							
2347/1279F	(0.497)		12349F	(0.517)							
2348F	(0.497)		12389F	(0.517)							
2378F	(0.497)										
2367/3467F	(0.497)										
1269F	(0.497)										
1239F	(0.497)										
1289F	(0.497)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 844-424-LBM

Report Created: 12-Jan-2022 09:30 Analyst: pw

Sample ID: Method Blank B6146_18820 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18820_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18820
Date Collected:	n/a	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	11-Jan-2022 20:31
Lab Project No:	B6146	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.596)		0.596	(0.596)	(0.596)	(0.596)
12378-PeCDD	(0.587)		0.587	(0.294)	(0.587)	(0.587)
123478-HxCDD	(0.592)		0.592	(0.0592)	(0.0592)	(0.0592)
123678-HxCDD	(0.599)		0.599	(0.0599)	(0.0599)	(0.0599)
123789-HxCDD	(0.696)		0.696	(0.0696)	(0.0696)	(0.0696)
1234678-HpCDD	(0.57)		0.57	(0.0057)	(0.0057)	(0.0057)
OCDD	(1.72)		1.72	(0.00172)	(0.000172)	(0.000517)
2378-TCDF	(0.497)		0.497	(0.0497)	(0.0497)	(0.0497)
12378-PeCDF	(0.517)		0.517	(0.0259)	(0.0259)	(0.0155)
23478-PeCDF	(0.516)		0.516	(0.258)	(0.258)	(0.155)
123478-HxCDF	(0.448)		0.448	(0.0448)	(0.0448)	(0.0448)
123678-HxCDF	(0.393)		0.393	(0.0393)	(0.0393)	(0.0393)
234678-HxCDF	(0.307)		0.307	(0.0307)	(0.0307)	(0.0307)
123789-HxCDF	(0.538)		0.538	(0.0538)	(0.0538)	(0.0538)
1234678-HpCDF	(0.334)		0.334	(0.00334)	(0.00334)	(0.00334)
1234789-HpCDF	(0.384)		0.384	(0.00384)	(0.00384)	(0.00384)
OCDF	(1.12)		1.12	(0.00112)	(0.000112)	(0.000336)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.798	0.944	0.887
EMPC = 0, ND = DL	1.6	1.89	1.77
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.798	0.944	0.887
EMPC = EMPC, ND = DL	1.6	1.89	1.77
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 844-424-LBM

SGS North America - DF v0.99

Sample ID: 0_18820_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18820_DF	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:21:29

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.44				ES 2378-TCDD	93.5	
12378-PeCDD	45.2				ES 12378-PeCDD	85.6	
123478-HxCDD	55.9				ES 123478-HxCDD	99.3	
123678-HxCDD	53.8				ES 123678-HxCDD	107	
123789-HxCDD	51.9				ES 123789-HxCDD	92	
1234678-HpCDD	56.9				ES 1234678-HpCDD	90.1	
OCDD	112				ES OCDD	61.9	
2378-TCDF	11.4				ES 2378-TCDF	90.6	
12378-PeCDF	56.8				ES 12378-PeCDF	89.1	
23478-PeCDF	61.6				ES 23478-PeCDF	90.7	
123478-HxCDF	56.7				ES 123478-HxCDF	91.5	
123678-HxCDF	56.9				ES 123678-HxCDF	107	
234678-HxCDF	55				ES 234678-HxCDF	143	
123789-HxCDF	52.6				ES 123789-HxCDF	95.9	
1234678-HpCDF	55.6				ES 1234678-HpCDF	108	
1234789-HpCDF	52.8				ES 1234789-HpCDF	101	
OCDF	108				ES OCDF	69.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.2	
Total TCDD	47		47		CS 12347-PeCDD	89.9	
Total PeCDD	69.9		69.9		CS 12346-PeCDF	95	
Total HxCDD	175		175		CS 123469-HxCDF	108	
Total HpCDD	70.1		70.1		CS 1234689-HpCDF	120	
Total TCDF	71.9		71.9				
Total PeCDF	254		254				
Total HxCDF	350		350				
Total HpCDF	108		108				
Total PCDD/Fs	**1,370**		**1,370**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.542	116				
TEQ: ND=DL	116	1.08	116				

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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18820_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6146	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18820_DF	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18820	Date Analyzed:	11-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:08:55

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.24				ES 2378-TCDD	98.6	
12378-PeCDD	44.7				ES 12378-PeCDD	88.2	
123478-HxCDD	53.6				ES 123478-HxCDD	109	
123678-HxCDD	55.5				ES 123678-HxCDD	111	
123789-HxCDD	52.1				ES 123789-HxCDD	102	
1234678-HpCDD	54.8				ES 1234678-HpCDD	96.3	
OCDD	110				ES OCDD	63.2	
2378-TCDF	11.8				ES 2378-TCDF	94.9	
12378-PeCDF	57.1				ES 12378-PeCDF	89.8	
23478-PeCDF	59.8				ES 23478-PeCDF	89.3	
123478-HxCDF	56.5				ES 123478-HxCDF	101	
123678-HxCDF	55.6				ES 123678-HxCDF	117	
234678-HxCDF	52.7				ES 234678-HxCDF	159	
123789-HxCDF	53.7				ES 123789-HxCDF	104	
1234678-HpCDF	52.5				ES 1234678-HpCDF	121	
1234789-HpCDF	54.1				ES 1234789-HpCDF	107	
OCDF	113				ES OCDF	69.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87	
Total TCDD	47		47		CS 12347-PeCDD	92.2	
Total PeCDD	69.1		69.1		CS 12346-PeCDF	95.9	
Total HxCDD	175		175		CS 123469-HxCDF	116	
Total HpCDD	68.6		68.6		CS 1234689-HpCDF	125	
Total TCDF	70		70				
Total PeCDF	254		254				
Total HxCDF	344		344				
Total HpCDF	107		107				
Total PCDD/Fs	**1,360**		**1,360**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.572	114				
TEQ: ND=DL	114	1.14	114				

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Sample DUP

Method 1613B

Sample ID: 0_18820_OPR001

Analyte	OPR1_18820_DF pg/uL	OPR2_18820_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	9.44	9.24	2.1%
1,2,3,7,8-PeCDD	45.2	44.7	1.3%
1,2,3,4,7,8-HxCDD	55.9	53.6	4.2%
1,2,3,6,7,8-HxCDD	53.8	55.5	3.1%
1,2,3,7,8,9-HxCDD	51.9	52.1	0.4%
1,2,3,4,6,7,8-HpCDD	56.9	54.8	3.8%
OCDD	112	110	1.7%
2,3,7,8-TCDF	11.4	11.8	2.9%
1,2,3,7,8-PeCDF	56.8	57.1	0.6%
2,3,4,7,8-PeCDF	61.6	59.8	3.0%
1,2,3,4,7,8-HxCDF	56.7	56.5	0.5%
1,2,3,6,7,8-HxCDF	56.9	55.6	2.2%
2,3,4,6,7,8-HxCDF	55	52.7	4.2%
1,2,3,7,8,9-HxCDF	52.6	53.7	2.0%
1,2,3,4,6,7,8-HpCDF	55.6	52.5	5.7%
1,2,3,4,7,8,9-HpCDF	52.8	54.1	2.5%
OCDF	108	113	4.9%
Totals			
Total TCDD	47	47	0.1%
Total PeCDD	69.9	69.1	1.1%
Total HxCDD	175	175	0.1%
Total HpCDD	70.1	68.6	2.2%
Total TCDF	71.9	70	2.7%
Total PeCDF	254	254	0.1%
Total HxCDF	350	344	1.7%
Total HpCDF	108	107	1.7%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6146*
Requested TAT:	*3 business days*
Projected due date:	*12-Jan-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-S-36	B6146_001	S	1	4 oz Amber	05-Jan-22	14:40	2.5	1	490527043610
11215131-010622-S-BN-SW-S-30	B6146_002	S	1	4 oz Amber	06-Jan-22	09:30	2.5	1	490527043610
11215131-010622-S-BN-SW-S-35	B6146_003	S	1	4 oz Amber	06-Jan-22	09:40	2.5	1	490527043610

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Amy Boehm* *QC'ed by:* AK 7 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B61461/1

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remar
REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

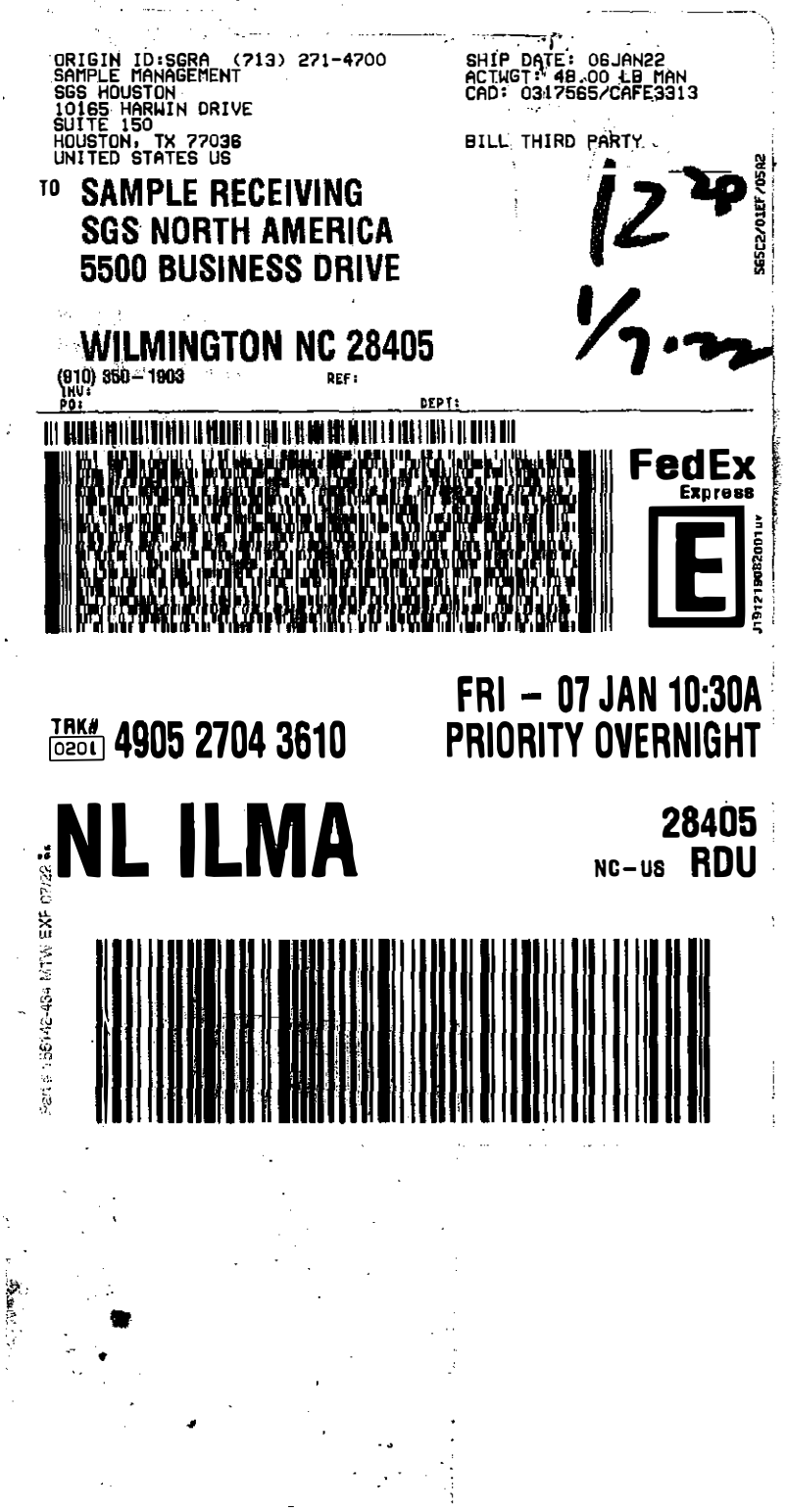
SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-371 EMAIL: Meagan.Willis
INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS (SEE SSOW)
11215131-010522-S-BN-SW-S-3	1-5-22	1440	C	S	4 oz	X					1	RUSH
11215131-010522-S-BN-SW-0-1		1450	C	S	4 oz	X					1	
11215131-010522-S-BN-SW-B-1		1500	C	S	4 oz	X					1	
11215131-010522-S-BN-SW-B-17		1510	C	S	4 oz	X					1	HOLD
11215131-010522-S-BN-SW-B-17		1520	C	S	4 oz	X					1	HOLD
11215131-010622-S-BN-SW-S-3	1-6-22	0930	C	S	4 oz	X					1	RUSH
11215131-010622-S-BN-SW-S-2		0940	C	S	4 oz	X					1	RUSH
11215131-010622-S-BN-SW-0-12		0950	C	S	4 oz	X					1	
11215131-010622-S-BN-SW-B-1		1000	C	S	4 oz	X		X	X		1	MS/MSD
11215131-010622-S-BN-SW-B-15		1010	C	S	4 oz	X					1	HOLD

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna North	1-6-22	1435	Eddie Cust
RELINQUISHED BY (2): Eddie Cust	DATE: 1-6-22	TIME: 1533	RECEIVED BY: 1/6/22 1533
RELINQUISHED BY (3):	DATE: 1/6/22	TIME: 1533	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1/7/22 TIME: 1220
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 2.5°
TRACKING #:



ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 06JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903 REF:
INV:
PO: DEPT:

12
1/7.22

FedEx Express

TRK# 0201 4905 2704 3610

FRI - 07 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

SGS

Custome
DATE
SIGNATURE

11409

Project Initiation Form

Project Number: B6146

Initiation Date: 07-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: KE 1/10/22

HRMS Lab: BDW 1/12/22

Reporting Instructions

M1613B
Full Report

OPR/●PRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood initial and date: HRMS Lab: BDW 1/12/22

PM Initials: akornegay Date: 07-Jan-2022

SGS

Methods: PCB / PAH; (PCDD/F) WHO-2; QUANTICS USV; DoD PCDD/F PEST

Extraction Type: (SDS) CLL; TALEX Carbon SPE

Solid

Final Volume: 20µL

Batch# 18820

Split: 1/2 1/4

Extract Initial/Date: JRH 1/10/22

Cleanup Initial/Date: TB 1/11/22

Transfer Init/Date: TB 1/11/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6138_18820_001	4	13.30				gray/brown, clay-like
B6138_18820_002	5	12.83				gray/brown, JRH 1/10/22 clay-like
B6146_18820_001	6	12.35				gray, clay-like
B6146_18820_002	7	13.10				gray, clay-like
B6146_18820_003	8	13.39		TB 1/12/22		gray, clay-like
MB1_18820	1	10.00				Sodium Sulfate
OPR1_18820	2	10.00				Sodium sulfate
OPR2_18820	3	10.00				Sodium JRH 1/10/22 sulfate Sulfate

TB 1/11/22

Supply IDs

Toluene	STL 1423
MeCHL	STL14.21
Florisil	SPLS-70
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-76
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-75
Sodium Sulfate	SPLS-28c

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 1/12/22
GPC Date/Initial:	1/12/22
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1500
	Stop: 0900
HEX	Start:
	Stop:
DCM	Start:
	Stop:

TB 1/12/22

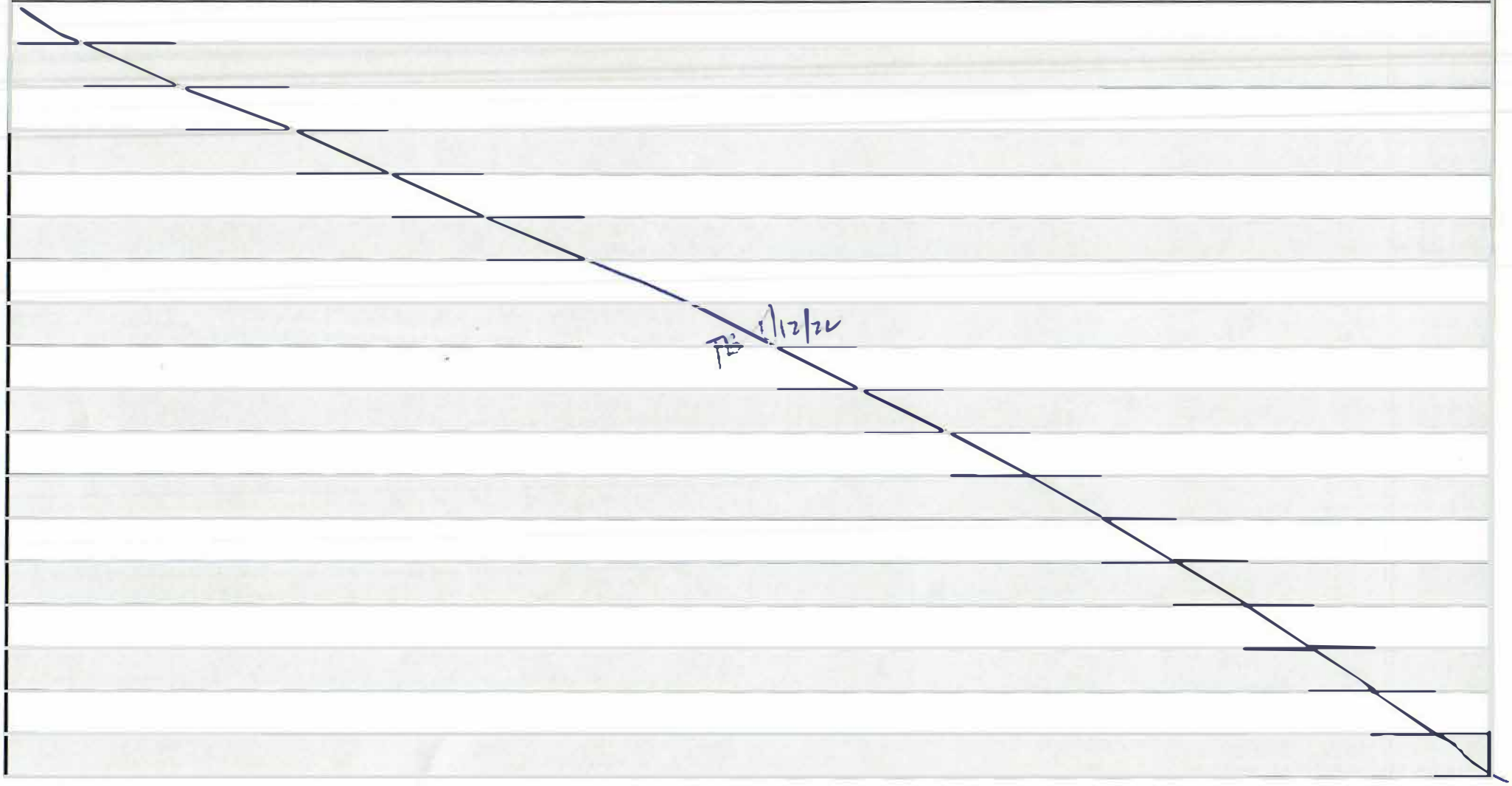
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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18820

Inter-Department Communication Sheet



SGS

Wt. Volume Results

Batch #: 18820

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6138_001	0.8	5.16	4.26	79.36%	79.36%			12.6	13.3	10.55
B6138_002	0.8	3.98	3.29	78.30%	78.30%			12.77	12.83	10.05
B6146_001	0.8	4.06	3.56	84.66%	84.66%			11.81	12.35	10.46
B6146_002	0.8	4.66	3.89	80.05%	80.05%			12.49	13.1	10.49
B6146_003	0.8	3.9	3.16	76.13%	76.13%			13.14	13.39	10.19

TB 1/12/22

TB 1/12/22

% Solid Determination WorkSheet

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Batch: 18820

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	100 DWE	Comments
B6138_18820_001	0.80	5.16	4.26/4.26	12.60	
B6138_18820_002	0.80	3.98	3.29/3.29	12.77	
B6146_18820_001	0.80	4.06	3.36/3.56	11.81	
B6146_18820_002	0.80	4.66	3.89/3.89	12.49	
B6146_18820_003	0.80	3.90	3.16/3.16	13.14	

1/14/21

Date/Initials:

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18820

Lab Sample ID	Spiker Initials/Date: JRH 1/10/22	JRH 1/10/22	JRH 1/10/22	1/11/22	1/11/22		
	DIF An-A	DIF An-B	DIF ES	DIF CS	DIF JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6138_18820_001	–	–	KE	JRH	KE		
B6138_18820_002	–	–	KE	JRH	KE		
B6146_18820_001	–	–	KE	JRH	KE		
B6146_18820_002	–	–	KE	JRH	KE		
B6146_18820_003	–	–	KE	JRH	KE		
MB1_18820	–	–	KE	JRH	KE		
OPR1_18820	KE	KE	KE	JRH	KE		
OPR2_18820	KE	KE	KE	JRH	KE		

JRH 1/11/22

Standard Information

Pipette ID							
Spike ID	DIF An-A	DIF An-B	DIF ES	DIF CS	DIF JS		
SIL #	An-2-S	QS-187-2	QS-209	25.338.1	25.309.1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/a/22	6/22/22	8/2022	11/16/22	10/8/22		

JRH 1/11/22

REVIEWED
Tamara Burkamper , 1/12/2022, 11:34:36 AM

SGS Environmental Services — Run Log

Project: B6146_18820_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
10	220111R10	3	CS3_220111_DF_RB ✓	1.00	SIL 25-347-1	PSW	198-293	11-Jan-2022	16:34:51
11	220111R11	28	OPR1_18820_DF	1.00	0_18820_OPR001	PSW	179-349	11-Jan-2022	17:21:29
12	220111R12	29	OPR2_18820_DF	1.00	0_18820_OPR002	PSW	411-693	11-Jan-2022	18:08:55
14	220111R14	2	SBS_220111_DF_RC	1.00	SIL 20-61-1	PSW	006-315	11-Jan-2022	19:43:51
15	220111R15	27	MB1_18820_DF_TLX	10.00	Method Blank	PSW	844-424	11-Jan-2022	20:31:25
18	220111R18	32	B6146_18820_DF_001	10.46	11215131-010522-S-BN-SW-S-36	PSW	619-522	11-Jan-2022	22:53:54
19	220111R19	33	B6146_18820_DF_002	10.49	11215131-010622-S-BN-SW-S-30	PSW	211-648	11-Jan-2022	23:41:21
20	220111R20	34	B6146_18820_DF_003 ✓	10.19	11215131-010622-S-BN-SW-S-35	PSW	123-215	12-Jan-2022	00:28:48

REVIEWED
paul_walton , 1/12/2022, 9:40:51 AM

Lab ID: MB1_18820_DF_TLX **Acq'd:** 11 Jan 2022 20:31 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6146_18820 **UTP:** 12-Jan-2022 09:29:55 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 844-424-LBM

Datafile: 220111R15 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	7027.218	0.596
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	6157.476	0.587
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	6465.478	0.592
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.08	-	6465.478	0.599
123789-HxCDD	NotFnd		1.0117	-		-	-	-	1.02	-	6465.478	0.696
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	6317.333	0.57
OCDD	NotFnd		1.0003	-		-	-	-	1.07	-	8400.888	1.72
2378-TCDF	NotFnd		1.0008	-		-	-	-	0.96	-	6086.435	0.497
12378-PeCDF	NotFnd		1.0005	-		-	-	-	0.95	-	6624.494	0.517
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	6624.494	0.516
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.23	-	6176.395	0.448
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	6176.395	0.393
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	6176.395	0.307
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	6176.395	0.538
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	5740.803	0.334
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	5740.803	0.384
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	7391.574	1.12

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.48		1.0251	1.0254	+0.5	1.92E+07	0.75	Y	1.03	97.8
ES 12378-PeCDD	32.99		1.2290	1.2309	+3.8	1.73E+07	1.58	Y	1.03	88.4
ES 123478-HxCDD	36.91		0.9915	0.9915	0	1.70E+07	1.28	Y	0.99	104
ES 123678-HxCDD	37.03		0.9947	0.9946	-0.2	1.82E+07	1.25	Y	0.97	114
ES 123789-HxCDD	37.33		1.0028	1.0029	+0.2	1.76E+07	1.31	Y	1.12	95
ES 1234678-HpCDD	40.13		1.0771	1.0781	+2.4	1.48E+07	1.11	Y	0.99	90.6
ES OCDD	42.62		1.1441	1.1450	+2.3	1.61E+07	0.89	Y	0.78	63
ES 2378-TCDF	26.58		1.0562	1.0569	+1.1	2.85E+07	0.80	Y	1.08	94.6
ES 12378-PeCDF	31.51		1.2501	1.2527	+4.9	2.54E+07	1.54	Y	0.93	97.8
ES 23478-PeCDF	32.65		1.2950	1.2980	+5.9	2.44E+07	1.54	Y	0.92	95.2
ES 123478-HxCDF	35.94		0.9654	0.9653	-0.2	1.74E+07	0.49	Y	1.14	92.7
ES 123678-HxCDF	36.08		0.9691	0.9692	+0.2	2.43E+07	0.54	Y	1.30	114
ES 234678-HxCDF	36.73	V	0.9867	0.9866	-0.2	3.01E+07	0.54	Y	1.20	152
ES 123789-HxCDF	37.73		1.0134	1.0134	0	1.89E+07	0.52	Y	1.14	101
ES 1234678-HpCDF	39.22		1.0527	1.0535	+1.9	1.75E+07	0.44	Y	0.95	112
ES 1234789-HpCDF	40.57		1.0887	1.0897	+2.4	1.48E+07	0.47	Y	0.85	106
ES OCDF	42.79		1.1487	1.1495	+2.1	2.17E+07	0.89	Y	0.93	71.4

Lab ID: MB1_18820_DF_TLX | **Acq'd:** 11 Jan 2022 20:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6146_18820 | **UTP:** 12-Jan-2022 09:29:55 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 844-424-LBM

Datafile: 220111R15 | **Report:** 12 Jan 2022 09:30 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.80		-	-	-	1.90E+07	0.83	Y	-	-
JS 1234-TCDF	25.15		-	-	-	2.78E+07	0.76	Y	-	-
JS 123467-HxCDD	37.23		-	-	-	8.21E+06	1.31	Y	-	-
CS 37Cl-2378-TCDD	27.50		1.0260	1.0262	+0.3	8.40E+06	n/a	-	1.31	84.5
CS 12347-PeCDD	32.48		1.2102	1.2121	+3.7	1.58E+07	1.50	Y	0.89	93
CS 12346-PeCDF	30.97		1.2289	1.2313	+4.5	2.40E+07	1.54	Y	0.87	99.4
CS 123469-HxCDF	36.39		0.9774	0.9774	0	1.90E+07	0.55	Y	1.09	106
CS 1234689-HpCDF	39.63		1.0636	1.0646	+2.4	1.67E+07	0.45	Y	0.86	118
~~SS 37Cl-2378-TCDD~~	~~27.50~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~8.40E+06~~	~~n/a~~		~~1.26~~	~~86.8~~
~~SS 12347-PeCDD~~	~~32.48~~		~~1.2102~~	~~1.2121~~	~~+3.7~~	~~1.58E+07~~	~~1.50~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~30.97~~		~~1.2289~~	~~1.2313~~	~~+4.5~~	~~2.40E+07~~	~~1.54~~	~~Y~~	~~0.93~~	~~101~~
~~SS 123469-HxCDF~~	~~36.39~~		~~0.9774~~	~~0.9774~~	~~0~~	~~1.90E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~92.8~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.67E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~105~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18820_DF_TLX **Acq'd: 11 Jan 2022 20:31 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6146_18820 **UTP: 12-Jan-2022 09:29:55 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 844-424-LBM**

Datafile: 220111R15 **Report: 12 Jan 2022 09:30 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8626						1.34		7027.218	0.596
1379-TCDD	NotFnd		0.8763						1.34		7027.218	0.596
1369-TCDD	NotFnd		0.8929						1.34		7027.218	0.596
1469-TCDD	NotFnd		0.9227						1.34		7027.218	0.596
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		7027.218	0.596
1378-TCDD	NotFnd		0.9389						1.34		7027.218	0.596
1268-TCDD	NotFnd		0.9463						1.34		7027.218	0.596
1478-TCDD	NotFnd		0.9556						1.34		7027.218	0.596
1279-TCDD	NotFnd		0.9620						1.34		7027.218	0.596
1234/1269-TCDD	NotFnd		0.9753						1.34		7027.218	0.596
1236-TCDD	NotFnd		0.9806						1.34		7027.218	0.596
1237/1238-TCDD	NotFnd		0.9900						1.34		7027.218	0.596
1239-TCDD	NotFnd		0.9951						1.34		7027.218	0.596
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**7027.218**	**0.596**
1278-TCDD	NotFnd		1.0131						1.34		7027.218	0.596
1267-TCDD	NotFnd		1.0182						1.34		7027.218	0.596
1289-TCDD	NotFnd		1.0373						1.34		7027.218	0.596
12479/12468-PeCDD	NotFnd		0.9237						1.06		6157.476	0.587
12469-PeCDD	NotFnd		0.9402						1.06		6157.476	0.587
12368-PeCDD	NotFnd		0.9572						1.06		6157.476	0.587
12478-PeCDD	NotFnd		0.9629						1.06		6157.476	0.587
12379-PeCDD	NotFnd		0.9660						1.06		6157.476	0.587
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		6157.476	0.587
12346/12347-PeCDD	NotFnd		0.9854						1.06		6157.476	0.587
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**6157.476**	**0.587**
12367-PeCDD	NotFnd		1.0034						1.06		6157.476	0.587
12389-PeCDD	NotFnd		1.0141						1.06		6157.476	0.587
124679/124689-HxCDD	NotFnd		0.9542						1.05		6465.478	0.628
123468-HxCDD	NotFnd		0.9720						1.05		6465.478	0.628
123679/123689-HxCDD	NotFnd		0.9798						1.05		6465.478	0.628
123469-HxCDD	NotFnd		0.9836						1.05		6465.478	0.628
123478-HxCDD	NotFnd		**1.0004**						1.06		**6465.478**	**0.592**
123678-HxCDD	NotFnd		**1.0035**						1.08		**6465.478**	**0.599**
123467-HxCDD	NotFnd		1.0089						1.05		6465.478	0.628
123789-HxCDD	NotFnd		**1.0117**						1.02		**6465.478**	**0.696**

Lab ID: MB1_18820_DF_TLX | **Acq'd:** 11 Jan 2022 20:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6146_18820 | **UTP:** 12-Jan-2022 09:29:55 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 844-424-LBM

Datafile: 220111R15 | **Report:** 12 Jan 2022 09:30 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

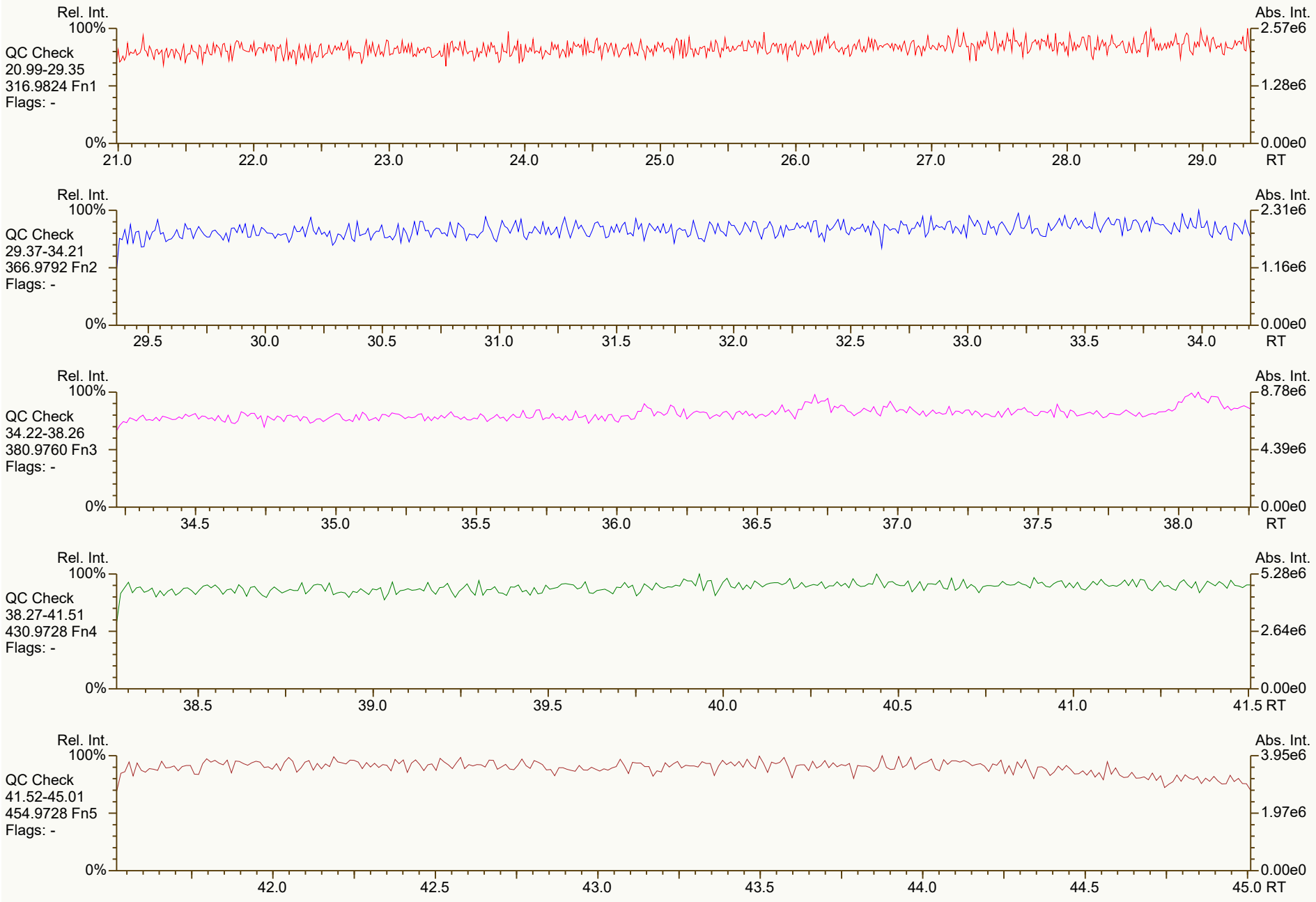
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9842						0.97		6317.333	0.57
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**6317.333**	**0.57**
OCDD	**NotFnd**		**1.0003**						**1.07**		**8400.888**	**1.72**
OCDD-a	NotFnd		1.0002						0.07		12487.108	41.5
1368-TCDF	NotFnd		0.8080						0.96		6086.435	0.497
1468-TCDF	NotFnd		0.8299						0.96		6086.435	0.497
2468-TCDF	NotFnd		0.8555						0.96		6086.435	0.497
1346/1246-TCDF	NotFnd		0.8688						0.96		6086.435	0.497
1347/1378/1247-TCDF	NotFnd		0.8753						0.96		6086.435	0.497
1348-TCDF	NotFnd		0.8863						0.96		6086.435	0.497
1248/1367/1379-TCDF	NotFnd		0.8915						0.96		6086.435	0.497
1268-TCDF	NotFnd		0.9065						0.96		6086.435	0.497
1467-TCDF	NotFnd		0.9119						0.96		6086.435	0.497
1478-TCDF	NotFnd		0.9186						0.96		6086.435	0.497
1369/1237-TCDF	NotFnd		0.9331						0.96		6086.435	0.497
2467-TCDF	NotFnd		0.9384						0.96		6086.435	0.497
2368-TCDF	NotFnd		0.9445						0.96		6086.435	0.497
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9476						0.96		6086.435	0.497
1278-TCDF	NotFnd		0.9656						0.96		6086.435	0.497
1349-TCDF	NotFnd		0.9703						0.96		6086.435	0.497
1267-TCDF	NotFnd		0.9765						0.96		6086.435	0.497
2346/1249-TCDF	NotFnd		0.9836						0.96		6086.435	0.497
2347/1279-TCDF	NotFnd		0.9921						0.96		6086.435	0.497
2348-TCDF	NotFnd		0.9965						0.96		6086.435	0.497
2378-TCDF	**NotFnd**		**1.0008**						**0.96**		**6086.435**	**0.497**
2367/3467-TCDF	NotFnd		1.0150						0.96		6086.435	0.497
1269-TCDF	NotFnd		1.0243						0.96		6086.435	0.497
1239-TCDF	NotFnd		1.0345						0.96		6086.435	0.497
1289-TCDF	NotFnd		1.0780						0.96		6086.435	0.497
13468/12468-PeCDF	NotFnd		0.9095						0.94		9524.196	0.743
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		6624.494	0.517
12368/13478/12478-PeCDF	NotFnd		0.9646						0.94		6624.494	0.517
14678-PeCDF	NotFnd		0.9678						0.94		6624.494	0.517
13479-PeCDF	NotFnd		0.9710						0.94		6624.494	0.517
13469/12479-PeCDF	NotFnd		0.9790						0.94		6624.494	0.517
12346-PeCDF	NotFnd		0.9835						0.94		6624.494	0.517

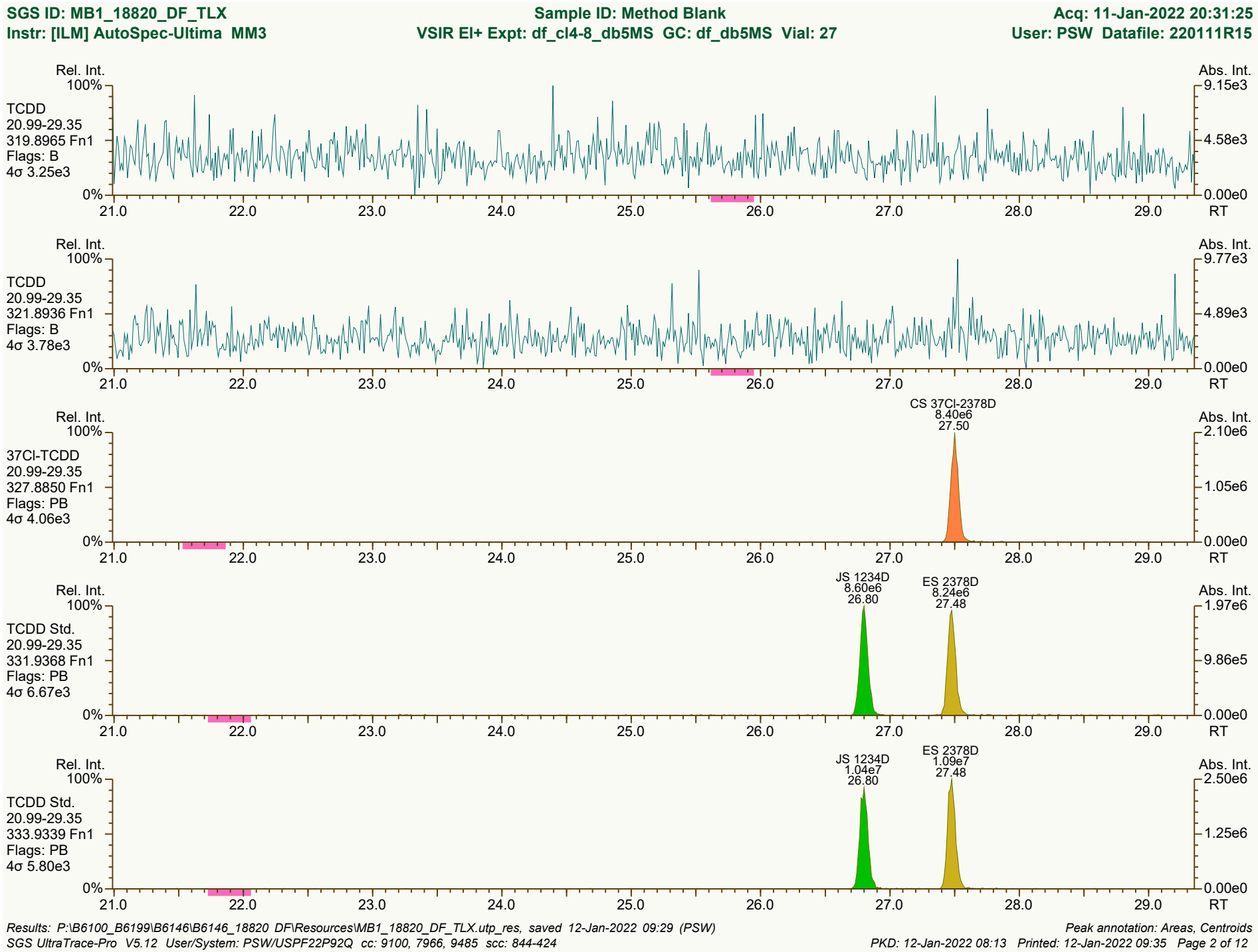
Lab ID: MB1_18820_DF_TLX | **Acq'd: 11 Jan 2022 20:31 PSW** | **Wt/Vol: 10.00 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6146_18820 | **UTP: 12-Jan-2022 09:29:55 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 844-424-LBM**

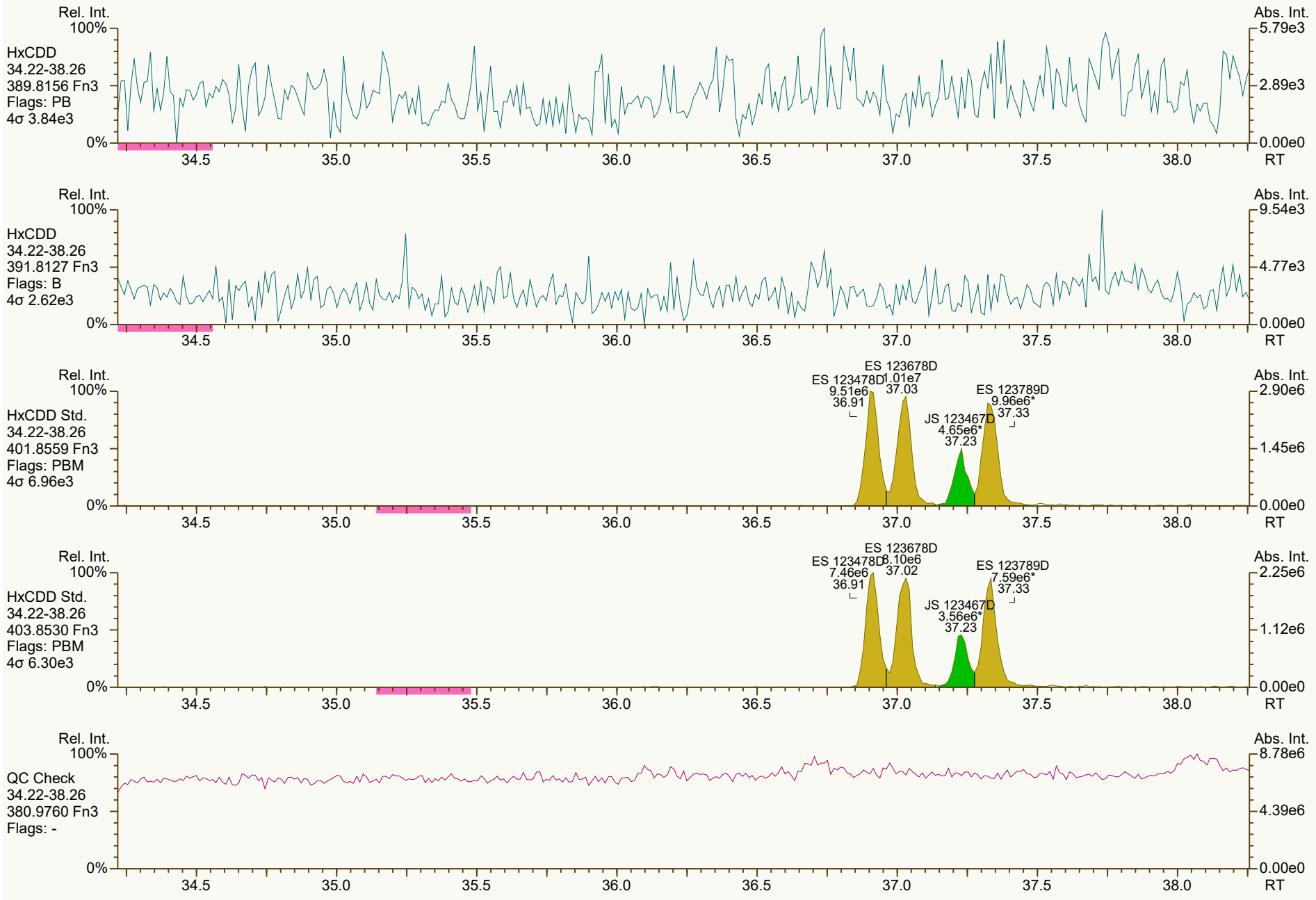
Datafile: 220111R15 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		6624.494	0.517
12347-PeCDF	NotFnd		0.9888						0.94		6624.494	0.517
12348-PeCDF	NotFnd		0.9939						0.94		6624.494	0.517
12378-PeCDF	**NotFnd**		**1.0005**						**0.95**		**6624.494**	**0.517**
12678/12367-PeCDF	NotFnd		1.0094						0.94		6624.494	0.517
12379-PeCDF	NotFnd		1.0149						0.94		6624.494	0.517
12679-PeCDF	NotFnd		0.9925						0.94		6624.494	0.517
23467/12369-PeCDF	NotFnd		0.9965						0.94		6624.494	0.517
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**6624.494**	**0.516**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		6624.494	0.517
12349-PeCDF	NotFnd		1.0104						0.94		6624.494	0.517
12389-PeCDF	NotFnd		1.0336						0.94		6624.494	0.517
123468-HxCDF	NotFnd		0.9618						1.16		6176.395	0.404
124678/134678-HxCDF	NotFnd		0.9673						1.16		6176.395	0.404
134679-HxCDF	NotFnd		0.9737						1.16		6176.395	0.404
124679-HxCDF	NotFnd		0.9793						1.16		6176.395	0.404
124689-HxCDF	NotFnd		0.9855						1.16		6176.395	0.404
123467-HxCDF	NotFnd		0.9972						1.16		6176.395	0.404
123478-HxCDF	**NotFnd**		**1.0004**						**1.23**		**6176.395**	**0.448**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**6176.395**	**0.393**
123479-HxCDF	NotFnd		1.0049						1.16		6176.395	0.404
123469-HxCDF	NotFnd		1.0089						1.16		6176.395	0.404
123679-HxCDF	NotFnd		0.9944						1.16		6176.395	0.404
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**6176.395**	**0.307**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		6176.395	0.404
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**6176.395**	**0.538**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		6176.395	0.404
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**5740.803**	**0.334**
1234679-HpCDF	NotFnd		1.0071						1.33		5740.803	0.357
1234689-HpCDF	NotFnd		1.0106						1.33		5740.803	0.357
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**5740.803**	**0.384**
OCDF	**NotFnd**		**1.0003**						**1.03**		**7391.574**	**1.12**
OCDF-a	NotFnd		1.0002						0.06		11633.09	30.5


Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.31e6
1.16e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.78e6
4.39e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.28e6
2.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.95e6
1.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18820_DF_TLX
Sample ID: Method Blank
Acq: 11-Jan-2022 20:31:25
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220111R15
Rel. Int.
Abs. Int.
TCDD
20.99-29.35
319.8965 Fn1
Flags: B
4σ 3.25e3
9.15e3
4.58e3
0.00e0
TCDD
20.99-29.35
321.8936 Fn1
Flags: B
4σ 3.78e3
9.77e3
4.89e3
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.06e3
CS 37Cl-2378D
8.40e6
27.50
2.10e6
1.05e6
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 6.67e3
JS 1234D
8.60e6
26.80
ES 2378D
8.24e6
27.48
1.97e6
9.86e5
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 5.80e3
JS 1234D
1.04e7
26.80
ES 2378D
1.09e7
27.48
2.50e6
1.25e6
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\MB1_18820_DF_TLX.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9100, 7966, 9485 scc: 844-424
PKD: 12-Jan-2022 08:13 Printed: 12-Jan-2022 09:35 Page 2 of 12


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: B
4σ 4.06e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 2.10e3
0%
Abs. Int.
5.87e3
2.94e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 4.67e3
0%
CS 12347D
9.44e6
32.48
ES 12378D
1.06e7
32.99
Abs. Int.
3.03e6
1.52e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 4.84e3
0%
CS 12347D
6.31e6
32.48
ES 12378D
6.72e6
32.99
Abs. Int.
1.93e6
9.65e5
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.31e6
1.16e6
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT

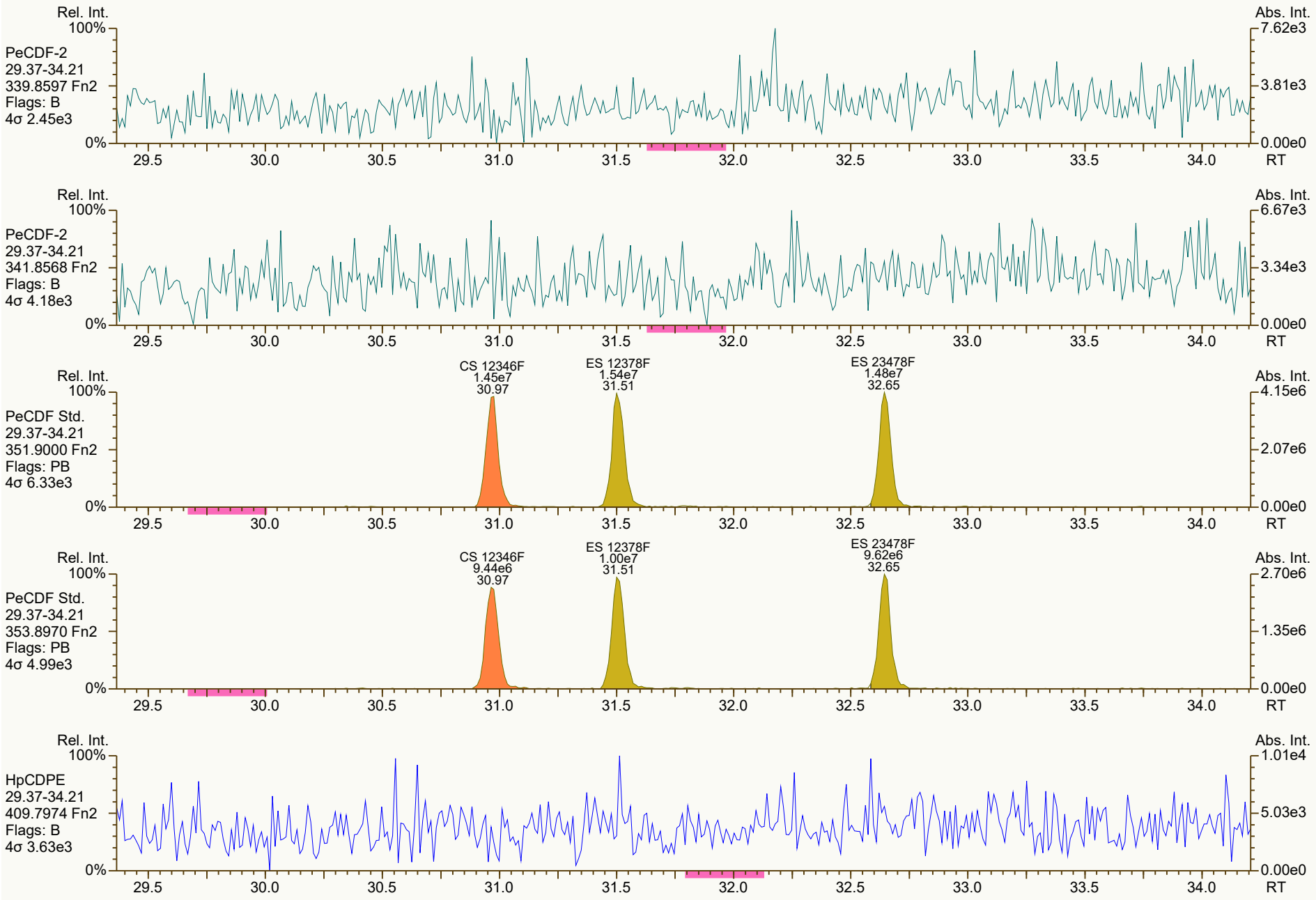

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.84e3
0%
Abs. Int.
5.79e3
2.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PBM
4σ 6.96e3
0%
ES 123678D
1.01e7
37.03
ES 123478D
9.51e6
36.91
ES 123789D
9.96e6*
37.33
JS 123467D
4.65e6*
37.23
Abs. Int.
2.90e6
1.45e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PBM
4σ 6.30e3
0%
ES 123678D
8.10e6
37.02
ES 123478D
7.46e6
36.91
ES 123789D
7.59e6*
37.33
JS 123467D
3.56e6*
37.23
Abs. Int.
2.25e6
1.12e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.78e6
4.39e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

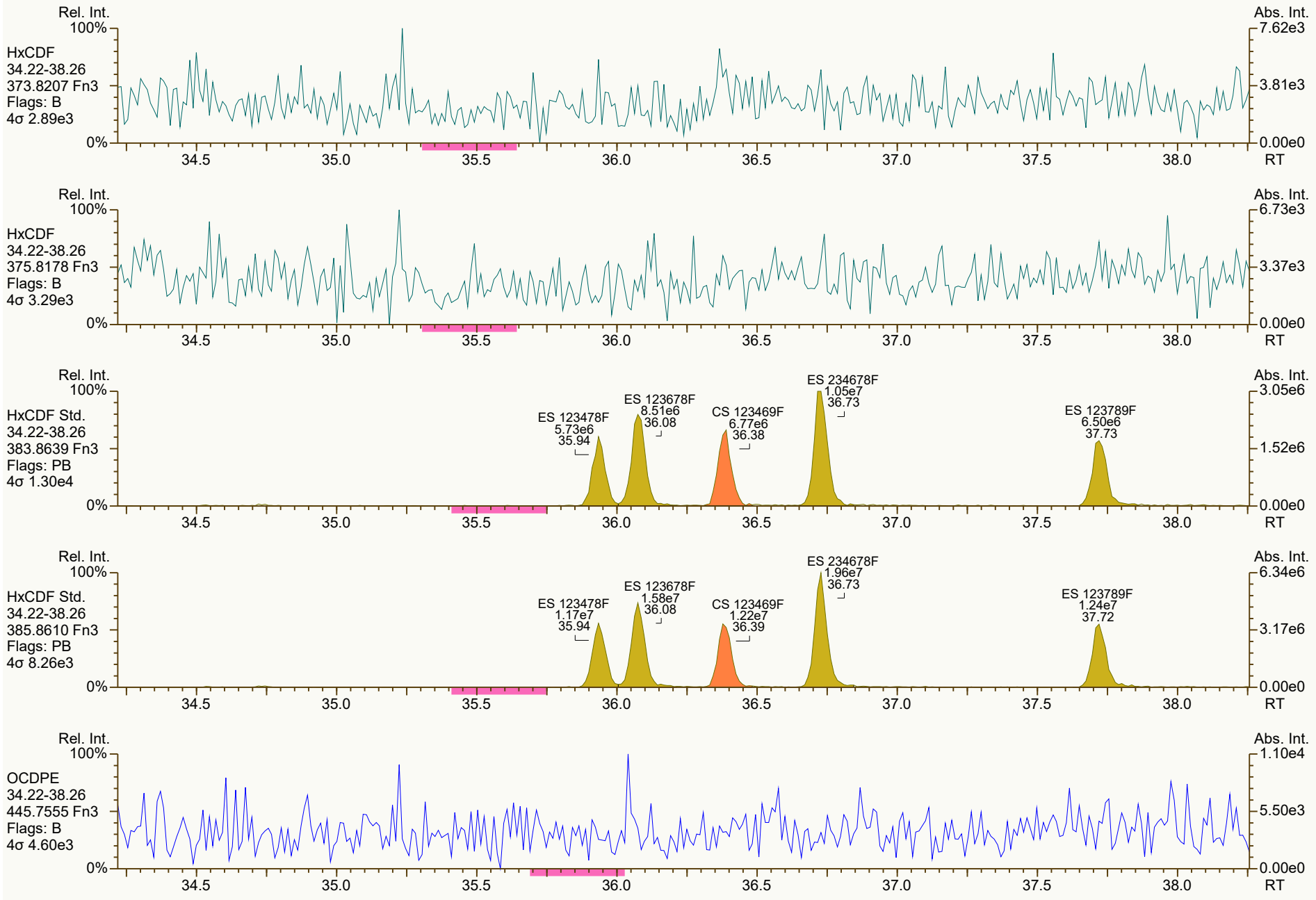

Rel. Int.
100%
HpCDD
38.27-41.51
423.7767 Fn4
Flags: B
4σ 3.34e3
0%
Abs. Int.
9.95e3
4.97e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.27-41.51
425.7737 Fn4
Flags: B
4σ 2.98e3
0%
Abs. Int.
6.78e3
3.39e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
ES 1234678D
7.77e6
40.13
Rel. Int.
100%
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 7.44e3
0%
Abs. Int.
3.00e6
1.50e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
ES 1234678D
6.99e6
40.13
Rel. Int.
100%
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 6.27e3
0%
Abs. Int.
2.55e6
1.28e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.28e6
2.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

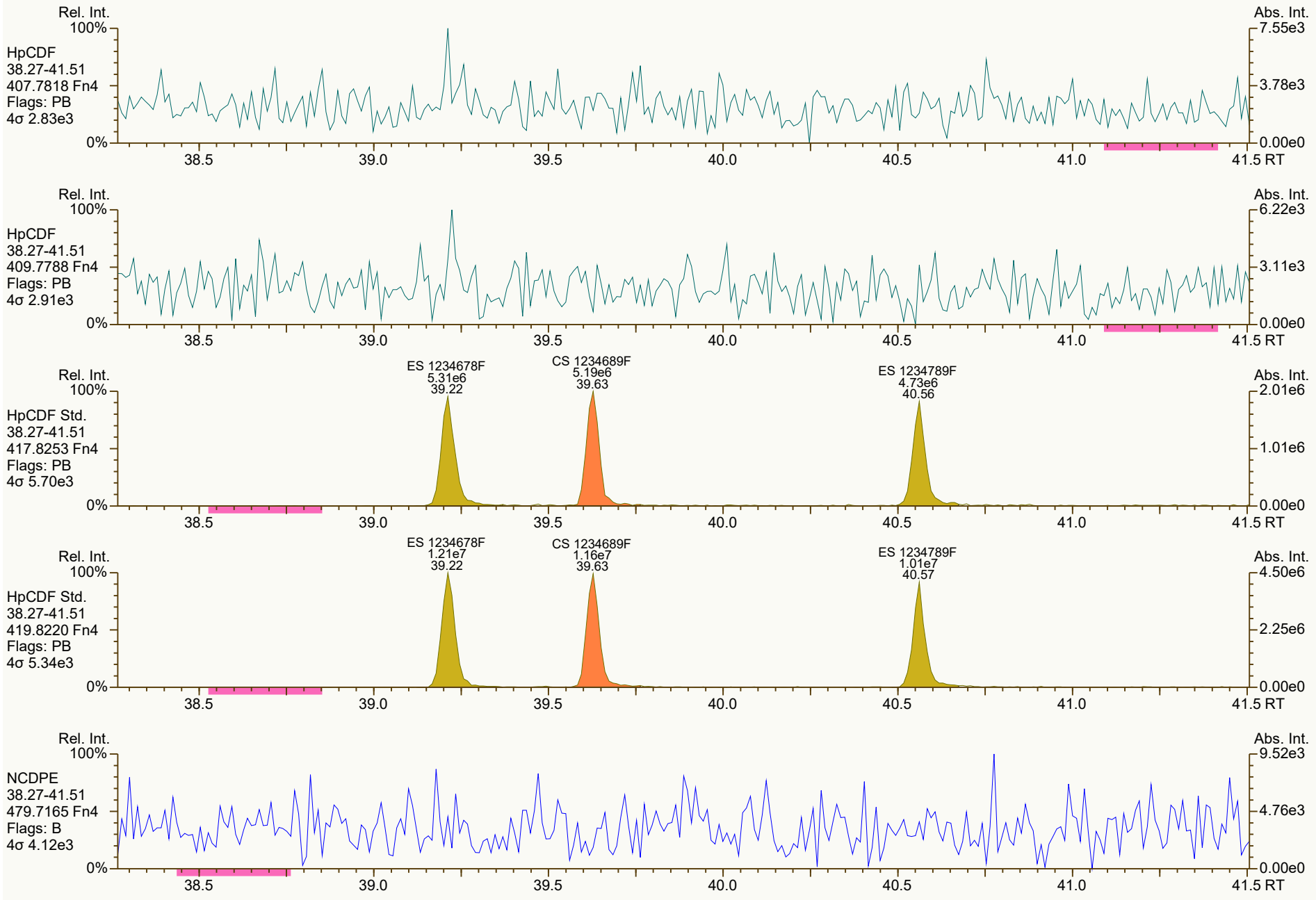

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 4.04e3
0%
Abs. Int.
1.64e4
8.18e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 4.36e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.56e6
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.54e3
0%
Abs. Int.
2.15e6
1.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.52e6
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.41e3
0%
Abs. Int.
2.46e6
1.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.95e6
1.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

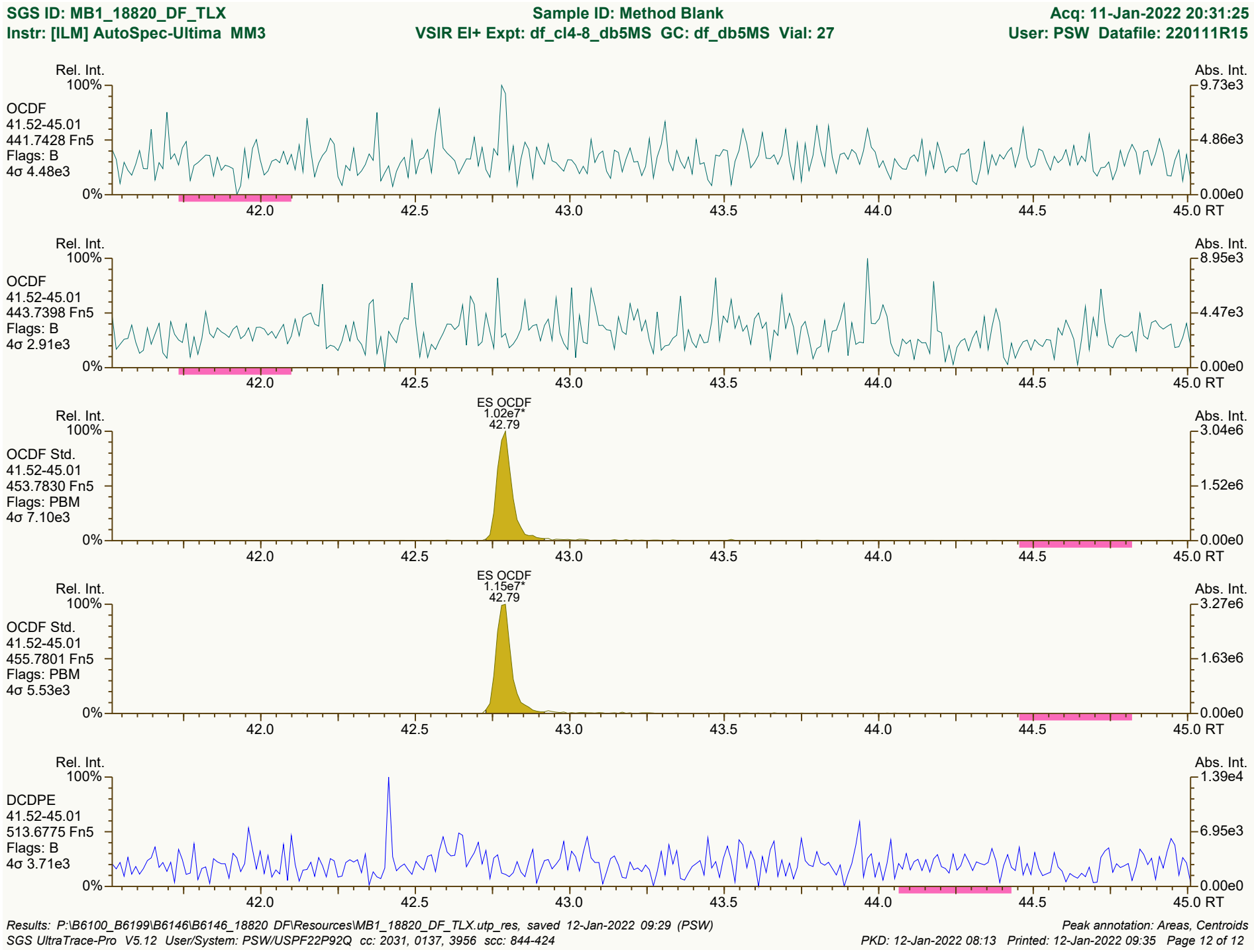

SGS ID: MB1_18820_DF_TLX
Sample ID: Method Blank
Acq: 11-Jan-2022 20:31:25
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220111R15
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: B
4σ 2.18e3
7.93e3
3.97e3
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: B
4σ 3.91e3
9.86e3
4.93e3
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.56e4
JS 1234F
1.20e7
25.15
ES 2378F
1.26e7
26.58
2.83e6
1.42e6
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 7.29e3
JS 1234F
1.58e7
25.15
ES 2378F
1.59e7
26.58
3.27e6
1.64e6
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.55e3
1.21e4
6.04e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\MB1_18820_DF_TLX.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0339, 9967, 3699 scc: 844-424
PKD: 12-Jan-2022 08:13 Printed: 12-Jan-2022 09:35 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 4.79e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 4.73e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: B
4σ 2.45e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: B
4σ 4.18e3
0%
Abs. Int.
6.67e3
3.34e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 6.33e3
0%
CS 12346F
1.45e7
30.97
ES 12378F
1.54e7
31.51
ES 23478F
1.48e7
32.65
Abs. Int.
4.15e6
2.07e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 4.99e3
0%
CS 12346F
9.44e6
30.97
ES 12378F
1.00e7
31.51
ES 23478F
9.62e6
32.65
Abs. Int.
2.70e6
1.35e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 3.63e3
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: B
4σ 2.89e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: B
4σ 3.29e3
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 1.30e4
0%
ES 123478F
5.73e6
35.94
ES 123678F
8.51e6
36.08
CS 123469F
6.77e6
36.38
ES 234678F
1.05e7
36.73
ES 123789F
6.50e6
37.73
Abs. Int.
3.05e6
1.52e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 8.26e3
0%
ES 123478F
1.17e7
35.94
ES 123678F
1.58e7
36.08
CS 123469F
1.22e7
36.39
ES 234678F
1.96e7
36.73
ES 123789F
1.24e7
37.72
Abs. Int.
6.34e6
3.17e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 4.60e3
0%
Abs. Int.
1.10e4
5.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 2.83e3
0%
Abs. Int.
7.55e3
3.78e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 2.91e3
0%
Abs. Int.
6.22e3
3.11e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 5.70e3
0%
ES 1234678F
5.31e6
39.22
CS 1234689F
5.19e6
39.63
ES 1234789F
4.73e6
40.56
Abs. Int.
2.01e6
1.01e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 5.34e3
0%
ES 1234678F
1.21e7
39.22
CS 1234689F
1.16e7
39.63
ES 1234789F
1.01e7
40.57
Abs. Int.
4.50e6
2.25e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.12e3
0%
Abs. Int.
9.52e3
4.76e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: MB1_18820_DF_TLX
Sample ID: Method Blank
Acq: 11-Jan-2022 20:31:25
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220111R15
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 4.48e3
9.73e3
4.86e3
0.00e0
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 2.91e3
8.95e3
4.47e3
ES OCDF
1.02e7*
42.79
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 7.10e3
3.04e6
1.52e6
ES OCDF
1.15e7*
42.79
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 5.53e3
3.27e6
1.63e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.71e3
1.39e4
6.95e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\MB1_18820_DF_TLX.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2031, 0137, 3956 scc: 844-424
PKD: 12-Jan-2022 08:13 Printed: 12-Jan-2022 09:35 Page 12 of 12

Lab ID: B6146_18820_DF_001 **Acq'd:** 11 Jan 2022 22:53 PSW **Wt/Vol:** 10.46 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-36 **UTP:** 12-Jan-2022 09:29:55 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 619-522-CNL

Datafile: 220111R18 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.50		1.0008	1.0008	0	1.33E+07	0.77	Y	1.34	114	9447.547	0.898
12378-PeCDD	33.02	J	1.0006	1.0008	+0.4	1.81E+05	1.59	Y	1.06	2.24	6823.812	0.771
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	7367.177	0.798
123678-HxCDD	37.05	J	1.0035	1.0035	0	1.09E+05	1.34	Y	1.08	1.24	7367.177	0.742
123789-HxCDD	37.35	J EMPC	1.0117	1.0116	-0.2	7.73E+04	1.68	N	1.02	0.945	7367.177	0.848
1234678-HpCDD	40.16		1.0003	1.0005	+0.5	3.17E+06	1.05	Y	0.97	47	9048.872	0.912
OCDD	42.64		1.0003	1.0003	0	9.42E+07	0.89	Y	1.07	2,260	14442.37	2.95
2378-TCDF	26.60		1.0008	1.0008	0	5.34E+07	0.81	Y	0.96	426	9893.018	0.943
12378-PeCDF	31.53		1.0005	1.0006	+0.2	2.26E+06	1.47	Y	0.95	20.4	7492.335	0.621
23478-PeCDF	32.68		1.0006	1.0007	+0.2	1.60E+06	1.60	Y	0.94	15	7492.335	0.651
123478-HxCDF	35.96		1.0004	1.0005	+0.2	3.70E+06	1.26	Y	1.23	36.4	8829.305	0.718
123678-HxCDF	36.10		1.0004	1.0004	0	1.20E+06	1.26	Y	1.13	9.63	8829.305	0.6
234678-HxCDF	36.75	J	1.0004	1.0004	0	3.10E+05	1.25	Y	1.15	1.96	8829.305	0.459
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8829.305	0.869
1234678-HpCDF	39.23		1.0003	1.0003	0	1.22E+06	1.03	Y	1.36	10.7	8014.426	0.469
1234789-HpCDF	40.58		1.0002	1.0003	+0.2	3.98E+05	1.07	Y	1.30	4.86	8014.426	0.724
OCDF	42.81	EMPC	1.0003	1.0004	+0.3	5.52E+05	1.12	N	1.03	11.5	9407.054	1.51

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.48		1.0251	1.0255	+0.7	1.67E+07	0.78	Y	1.03	93.7
ES 12378-PeCDD	32.99		1.2290	1.2311	+4.2	1.46E+07	1.56	Y	1.03	81.6
ES 123478-HxCDD	36.92		0.9915	0.9916	+0.2	1.46E+07	1.33	Y	0.99	105
ES 123678-HxCDD	37.03		0.9947	0.9946	-0.2	1.56E+07	1.24	Y	0.97	114
ES 123789-HxCDD	37.34		1.0028	1.0028	0	1.54E+07	1.19	Y	1.12	97.5
ES 1234678-HpCDD	40.14		1.0771	1.0781	+2.4	1.33E+07	1.11	Y	0.99	95.1
ES OCDD	42.63		1.1441	1.1450	+2.3	1.49E+07	0.87	Y	0.78	68.3
ES 2378-TCDF	26.58		1.0562	1.0571	+1.4	2.49E+07	0.77	Y	1.08	91.3
ES 12378-PeCDF	31.51		1.2501	1.2531	+5.7	2.24E+07	1.65	Y	0.93	95.2
ES 23478-PeCDF	32.65		1.2950	1.2984	+6.7	2.18E+07	1.60	Y	0.92	93.7
ES 123478-HxCDF	35.94		0.9654	0.9654	0	1.57E+07	0.52	Y	1.14	98.1
ES 123678-HxCDF	36.08		0.9691	0.9692	+0.2	2.11E+07	0.52	Y	1.30	116
ES 234678-HxCDF	36.74	V	0.9867	0.9868	+0.2	2.63E+07	0.51	Y	1.20	156
ES 123789-HxCDF	37.73		1.0134	1.0134	0	1.55E+07	0.55	Y	1.14	97.1
ES 1234678-HpCDF	39.22		1.0527	1.0535	+1.9	1.61E+07	0.44	Y	0.95	120
ES 1234789-HpCDF	40.57		1.0887	1.0897	+2.4	1.20E+07	0.43	Y	0.85	101
ES OCDF	42.80		1.1487	1.1495	+2.1	1.78E+07	0.87	Y	0.93	68.4

Lab ID: B6146_18820_DF_001 **Acq'd:** 11 Jan 2022 22:53 PSW **Wt/Vol:** 10.46 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-36 **UTP:** 12-Jan-2022 09:29:55 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 619-522-CNL

Datafile: 220111R18 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.80		-	-	-	1.72E+07	0.78	Y	-	-
JS 1234-TCDF	25.15		-	-	-	2.52E+07	0.79	Y	-	-
JS 123467-HxCDD	37.23		-	-	-	7.03E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	27.50		1.0260	1.0262	+0.3	7.91E+06	n/a	-	1.31	87.6
CS 12347-PeCDD	32.49		1.2102	1.2123	+4.1	1.39E+07	1.64	Y	0.89	90.6
CS 12346-PeCDF	30.98		1.2289	1.2318	+5.4	2.17E+07	1.49	Y	0.87	99.4
CS 123469-HxCDF	36.39		0.9774	0.9775	+0.2	1.69E+07	0.53	Y	1.09	111
CS 1234689-HpCDF	39.63		1.0636	1.0646	+2.4	1.51E+07	0.44	Y	0.86	125
~~SS 37Cl-2378-TCDD~~	~~27.50~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~7.91E+06~~	~~n/a~~		~~1.26~~	~~94~~
~~SS 12347-PeCDD~~	~~32.49~~		~~1.2102~~	~~1.2123~~	~~+4.1~~	~~1.39E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~30.98~~		~~1.2289~~	~~1.2318~~	~~+5.4~~	~~2.17E+07~~	~~1.49~~	~~Y~~	~~0.93~~	~~104~~
~~SS 123469-HxCDF~~	~~36.39~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~1.69E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~95.6~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.51E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~103~~

Totals	Conc	EMPC
Total TCDD	126	126
Total PeCDD	5.2	6.11
Total HxCDD	27.9	28.9
Total HpCDD	130	130
Total Tetra-Octa Dioxins	2550	2550
Total TCDF	813	813
Total PeCDF	52	52.8
Total HxCDF	53.3	54.4
Total HpCDF	21.1	21.1
Total Tetra-Octa Furans	940	953
Total Tetra-Octa Dioxins & Furans	3490	3500

Lab ID: B6146_18820_DF_001 **Acq'd: 11 Jan 2022 22:53 PSW** **Wt/Vol: 10.46 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-010522-S-BN-SW-S-36 **UTP: 12-Jan-2022 09:29:55 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 619-522-CNL**

Datafile: 220111R18 **Report: 12 Jan 2022 09:30 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8626						1.34		9447.547	0.898
1379-TCDD	NotFnd		0.8763						1.34		9447.547	0.898
1369-TCDD	NotFnd		0.8929						1.34		9447.547	0.898
1469-TCDD	25.33		0.9227	0.9216	-1.7	2.86E+05	0.87	Y	1.34	2.44	9447.547	0.898
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		9447.547	0.898
1378-TCDD	NotFnd		0.9389						1.34		9447.547	0.898
1268-TCDD	NotFnd		0.9463						1.34		9447.547	0.898
1478-TCDD	NotFnd		0.9556						1.34		9447.547	0.898
1279-TCDD	NotFnd		0.9620						1.34		9447.547	0.898
1234/1269-TCDD	NotFnd		0.9753						1.34		9447.547	0.898
1236-TCDD	NotFnd		0.9806						1.34		9447.547	0.898
1237/1238-TCDD	NotFnd		0.9900						1.34		9447.547	0.898
1239-TCDD	NotFnd		0.9951						1.34		9447.547	0.898
2378-TCDD	**27.50**		**1.0008**	1.0008	**0**	1.33E+07	0.77	Y	**1.34**	**114**	**9447.547**	**0.898**
1278-TCDD	27.85		1.0131	1.0133	+0.3	1.16E+06	0.86	Y	1.34	9.86	9447.547	0.898
1267-TCDD	NotFnd		1.0182						1.34		9447.547	0.898
1289-TCDD	NotFnd		1.0373						1.34		9447.547	0.898
12479/12468-PeCDD	30.46	J EMPC	0.9237	0.9232	-0.9	7.31E+04	1.07	N	1.06	0.906	6823.812	0.771
12469-PeCDD	31.01		0.9402	0.9399	-0.6	2.39E+05	1.47	Y	1.06	2.96	6823.812	0.771
12368-PeCDD	NotFnd		0.9572						1.06		6823.812	0.771
12478-PeCDD	NotFnd		0.9629						1.06		6823.812	0.771
12379-PeCDD	NotFnd		0.9660						1.06		6823.812	0.771
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		6823.812	0.771
12346/12347-PeCDD	NotFnd		0.9854						1.06		6823.812	0.771
12378-PeCDD	33.02	J	**1.0006**	**1.0008**	**+0.4**	**1.81E+05**	**1.59**	**Y**	**1.06**	**2.24**	**6823.812**	**0.771**
12367-PeCDD	NotFnd		1.0034						1.06		6823.812	0.771
12389-PeCDD	NotFnd		1.0141						1.06		6823.812	0.771
124679/124689-HxCDD	35.23		0.9542	0.9542	0	1.78E+06	1.18	Y	1.05	21.3	7367.177	0.794
123468-HxCDD	NotFnd		0.9720						1.05		7367.177	0.794
123679/123689-HxCDD	36.17		0.9798	0.9798	0	4.51E+05	1.23	Y	1.05	5.4	7367.177	0.794
123469-HxCDD	NotFnd		0.9836						1.05		7367.177	0.794
123478-HxCDD	NotFnd		**1.0004**						1.06		**7367.177**	**0.798**
123678-HxCDD	37.05	J	**1.0035**	**1.0035**	**0**	**1.09E+05**	**1.34**	**Y**	1.08	**1.24**	**7367.177**	**0.742**
123467-HxCDD	NotFnd		1.0089						1.05		7367.177	0.794
123789-HxCDD	37.35	J EMPC	**1.0117**	**1.0116**	**-0.2**	**7.73E+04**	**1.68**	**N**	1.02	**0.945**	**7367.177**	**0.848**

Lab ID: B6146_18820_DF_001 **Acq'd:** 11 Jan 2022 22:53 PSW **Wt/Vol:** 10.46 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010522-S-BN-SW-S-36 **UTP:** 12-Jan-2022 09:29:55 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 619-522-CNL

Datafile: 220111R18 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.50		0.9842	0.9842	0	5.58E+06	1.05	Y	0.97	82.6	9048.872	0.912
1234678-HpCDD	**40.16**		**1.0003**	**1.0005**	**+0.5**	**3.17E+06**	**1.05**	**Y**	**0.97**	**47**	**9048.872**	**0.912**
OCDD	**42.64**		**1.0003**	**1.0003**	**0**	**9.42E+07**	**0.89**	**Y**	**1.07**	**2,260**	**14442.37**	**2.95**
OCDD-a	42.63		1.0002	1.0001	-0.3	5.66E+06	2.61	Y	0.07	2,200	14051.641	46.5
1368-TCDF	NotFnd		0.8080						0.96		9893.018	0.943
1468-TCDF	NotFnd		0.8299						0.96		9893.018	0.943
2468-TCDF	22.68		0.8555	0.8533	-3.0	1.52E+05	0.76	Y	0.96	1.22	9893.018	0.943
1346/1246-TCDF	23.17		0.8688	0.8715	+3.8	8.02E+04	0.67	Y	0.96	0.641	9893.018	0.943
1347/1378/1247-TCDF	23.26		0.8753	0.8751	-0.3	5.30E+05	0.74	Y	0.96	4.23	9893.018	0.943
1348-TCDF	23.52		0.8863	0.8849	-2.0	2.34E+05	0.83	Y	0.96	1.87	9893.018	0.943
1248/1367/1379-TCDF	23.63		0.8915	0.8889	-3.7	2.14E+06	0.83	Y	0.96	17.1	9893.018	0.943
1268-TCDF	24.06		0.9065	0.9053	-1.7	8.43E+05	0.81	Y	0.96	6.74	9893.018	0.943
1467-TCDF	24.20		0.9119	0.9104	-2.2	1.46E+05	0.75	Y	0.96	1.17	9893.018	0.943
1478-TCDF	24.39		0.9186	0.9175	-1.6	1.94E+06	0.79	Y	0.96	15.5	9893.018	0.943
1369/1237-TCDF	24.79		0.9331	0.9325	-0.9	5.84E+05	0.81	Y	0.96	4.67	9893.018	0.943
2467-TCDF	24.91		0.9384	0.9372	-1.8	9.36E+04	0.87	Y	0.96	0.748	9893.018	0.943
2368-TCDF	25.09		0.9445	0.9438	-1.1	1.49E+06	0.73	Y	0.96	11.9	9893.018	0.943
1238/1234/1678/1469/1236-TCDF	25.17		0.9476	0.9469	-1.1	2.59E+06	0.79	Y	0.96	20.7	9893.018	0.943
1278-TCDF	25.66		0.9656	0.9651	-0.8	2.29E+07	0.79	Y	0.96	183	9893.018	0.943
1349-TCDF	25.79		0.9703	0.9704	+0.2	2.63E+05	0.74	Y	0.96	2.1	9893.018	0.943
1267-TCDF	25.95		0.9765	0.9762	-0.5	1.30E+06	0.87	Y	0.96	10.4	9893.018	0.943
2346/1249-TCDF	NotFnd		0.9836						0.96		9893.018	0.943
2347/1279-TCDF	26.36		0.9921	0.9918	-0.5	6.15E+05	0.71	Y	0.96	4.92	9893.018	0.943
2348-TCDF	26.48		0.9965	0.9961	-0.6	3.11E+06	0.80	Y	0.96	24.9	9893.018	0.943
2378-TCDF	**26.60**		**1.0008**	**1.0008**	**0**	**5.34E+07**	**0.81**	**Y**	**0.96**	**426**	**9893.018**	**0.943**
2367/3467-TCDF	26.97		1.0150	1.0147	-0.5	4.05E+06	0.85	Y	0.96	32.3	9893.018	0.943
1269-TCDF	27.24		1.0243	1.0246	+0.5	1.03E+06	0.78	Y	0.96	8.22	9893.018	0.943
1239-TCDF	NotFnd		1.0345						0.96		9893.018	0.943
1289-TCDF	28.69		1.0780	1.0794	+2.4	4.25E+06	0.81	Y	0.96	34	9893.018	0.943
13468/12468-PeCDF	NotFnd		0.9095						0.94		9366.291	0.795
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		7492.335	0.636
12368/13478/12478-PeCDF	30.42		0.9646	0.9652	+1.1	9.30E+05	1.66	Y	0.94	8.54	7492.335	0.636
14678-PeCDF	NotFnd		0.9678						0.94		7492.335	0.636
13479-PeCDF	NotFnd		0.9710						0.94		7492.335	0.636
13469/12479-PeCDF	NotFnd		0.9790						0.94		7492.335	0.636
12346-PeCDF	NotFnd		0.9835						0.94		7492.335	0.636

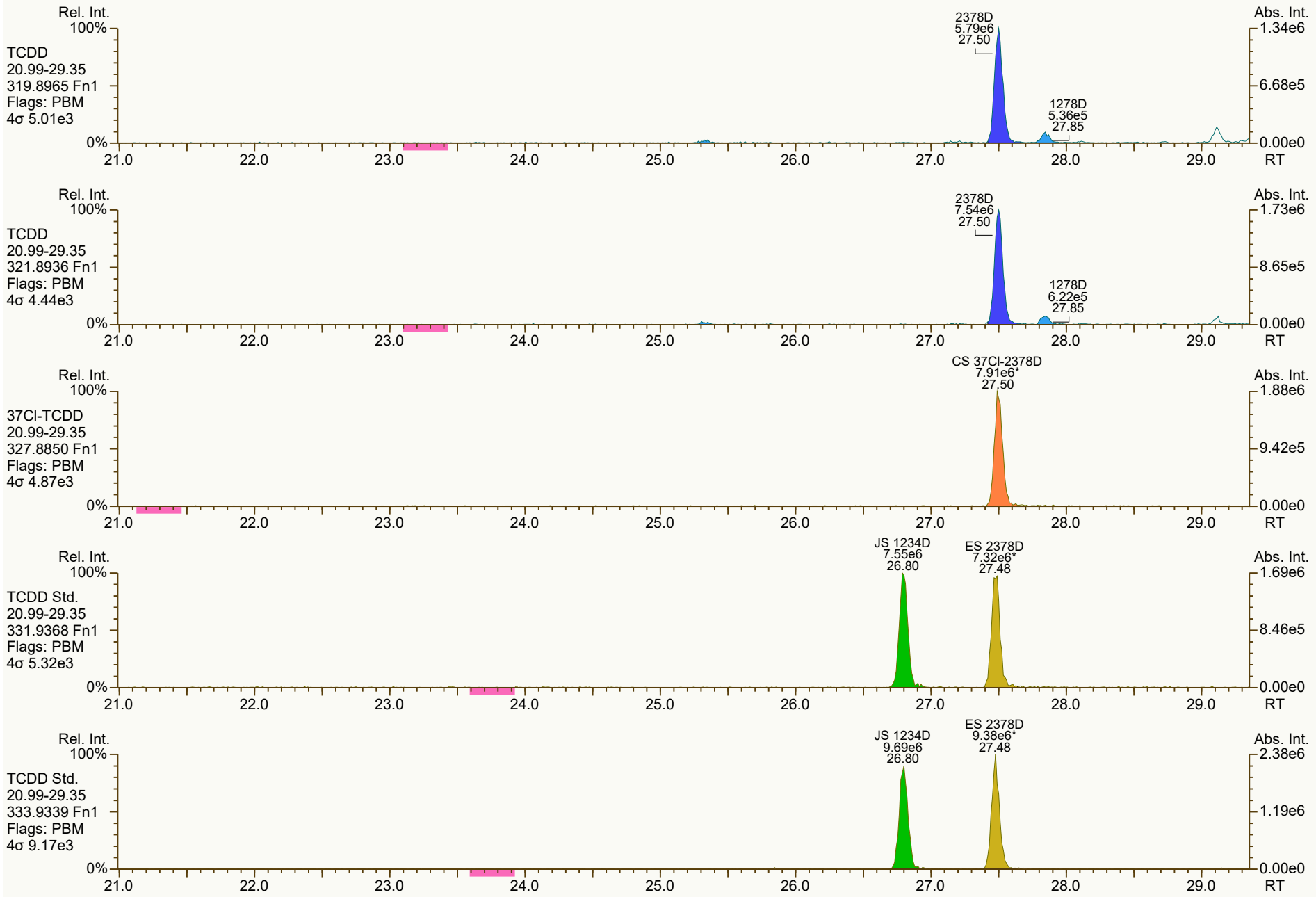
Lab ID: B6146_18820_DF_001 **Acq'd: 11 Jan 2022 22:53 PSW** **Wt/Vol: 10.46 g** **ICAL: MM3_DF_10272021_27JUL2021**

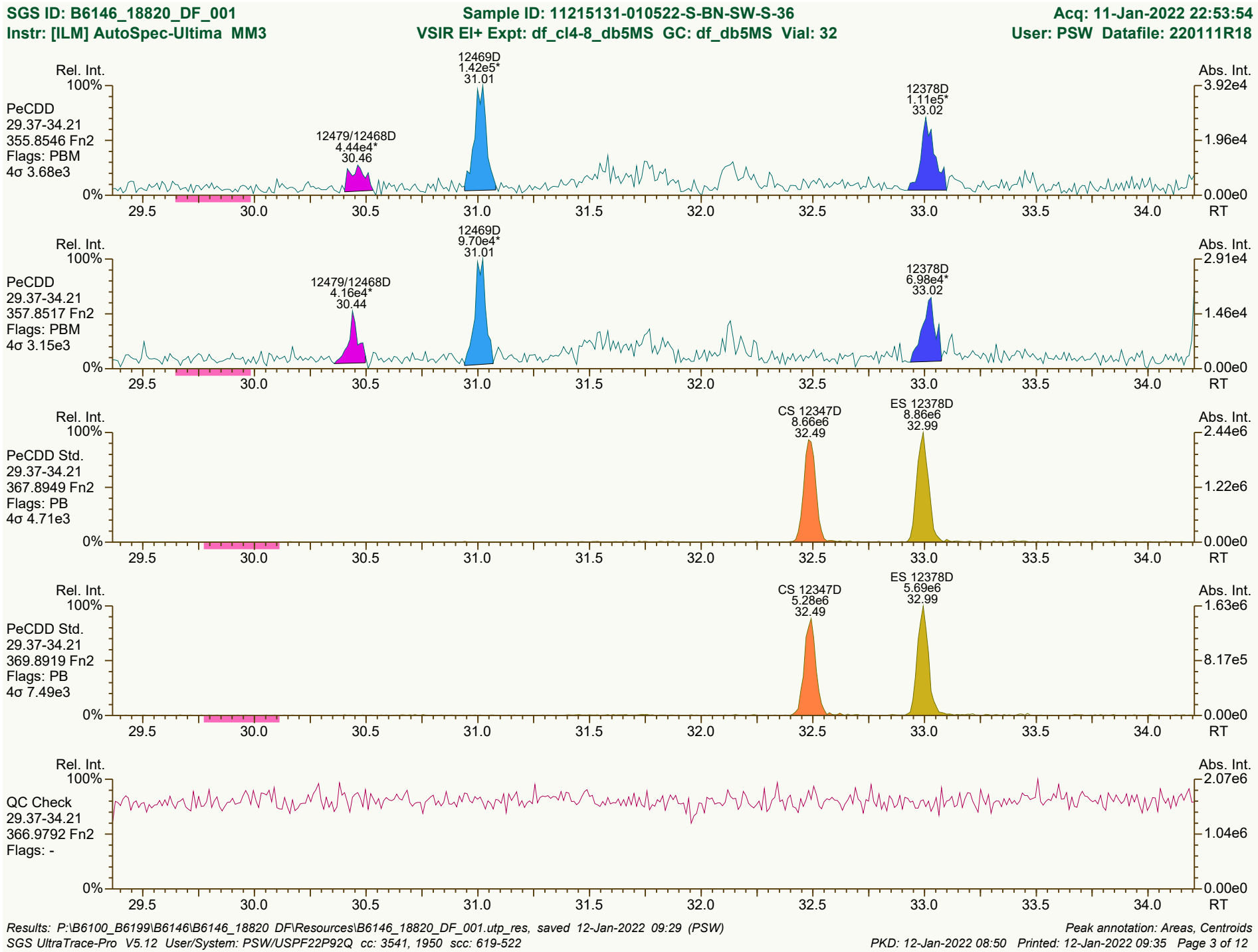
Client ID: 11215131-010522-S-BN-SW-S-36 **UTP: 12-Jan-2022 09:29:55 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 619-522-CNL**

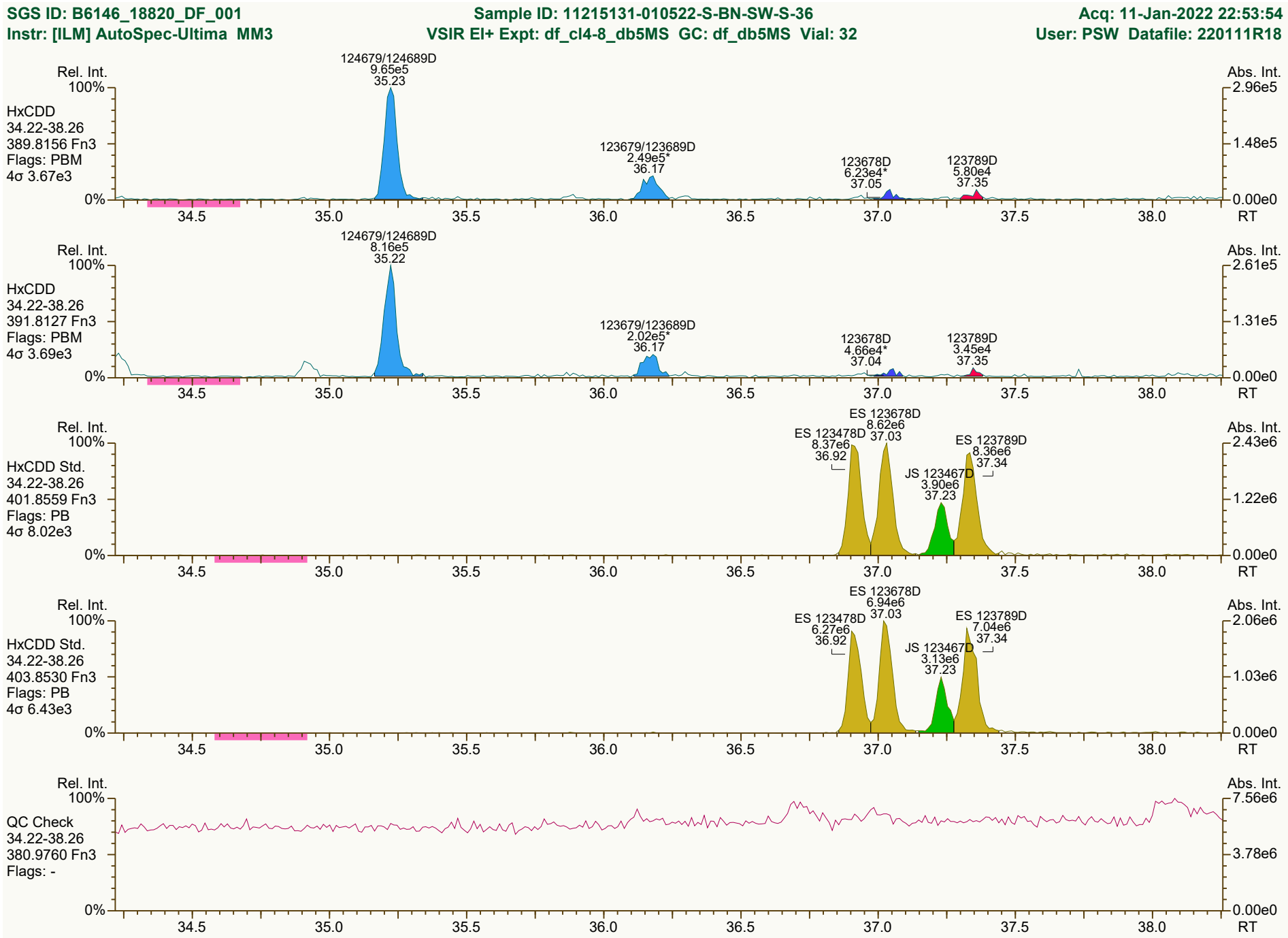
Datafile: 220111R18 **Report: 12 Jan 2022 09:30 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		7492.335	0.636
12347-PeCDF	NotFnd		0.9888						0.94		7492.335	0.636
12348-PeCDF	31.32	J	0.9939	0.9940	+0.2	1.89E+05	1.45	Y	0.94	1.74	7492.335	0.636
12378-PeCDF	**31.53**		**1.0005**	**1.0006**	**+0.2**	**2.26E+06**	**1.47**	**Y**	**0.95**	**20.4**	**7492.335**	**0.621**
12678/12367-PeCDF	31.83		1.0094	1.0100	+1.1	6.83E+05	1.70	Y	0.94	6.28	7492.335	0.636
12379-PeCDF	NotFnd		1.0149						0.94		7492.335	0.636
12679-PeCDF	NotFnd		0.9925						0.94		7492.335	0.636
23467/12369-PeCDF	NotFnd		0.9965						0.94		7492.335	0.636
23478-PeCDF	**32.68**		**1.0006**	**1.0007**	**+0.2**	**1.60E+06**	**1.60**	**Y**	**0.94**	**15**	**7492.335**	**0.651**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7492.335	0.636
12349-PeCDF	NotFnd		1.0104						0.94		7492.335	0.636
12389-PeCDF	33.75	J EMPC	1.0336	1.0338	+0.4	9.58E+04	1.95	N	0.94	0.88	7492.335	0.636
123468-HxCDF	NotFnd		0.9618						1.16		8829.305	0.628
124678/134678-HxCDF	34.76		0.9673	0.9671	-0.4	3.44E+05	1.33	Y	1.16	2.88	8829.305	0.628
134679-HxCDF	NotFnd		0.9737						1.16		8829.305	0.628
124679-HxCDF	NotFnd		0.9793						1.16		8829.305	0.628
124689-HxCDF	35.42	J EMPC	0.9855	0.9855	0	1.24E+05	0.96	N	1.16	1.04	8829.305	0.628
123467-HxCDF	NotFnd		0.9972						1.16		8829.305	0.628
123478-HxCDF	**35.96**		**1.0004**	**1.0005**	**+0.2**	**3.70E+06**	**1.26**	**Y**	**1.23**	**36.4**	**8829.305**	**0.718**
123678-HxCDF	**36.10**		**1.0004**	**1.0004**	**0**	**1.20E+06**	**1.26**	**Y**	**1.13**	**9.63**	**8829.305**	**0.6**
123479-HxCDF	NotFnd		1.0049						1.16		8829.305	0.628
123469-HxCDF	NotFnd		1.0089						1.16		8829.305	0.628
123679-HxCDF	NotFnd		0.9944						1.16		8829.305	0.628
234678-HxCDF	**36.75**	J	**1.0004**	**1.0004**	**0**	**3.10E+05**	**1.25**	**Y**	**1.15**	**1.96**	**8829.305**	**0.459**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8829.305	0.628
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8829.305**	**0.869**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.78		1.0007	1.0012	+1.1	3.02E+05	1.35	Y	1.16	2.53	8829.305	0.628
1234678-HpCDF	**39.23**		**1.0003**	**1.0003**	**0**	**1.22E+06**	**1.03**	**Y**	**1.36**	**10.7**	**8014.426**	**0.469**
1234679-HpCDF	NotFnd		1.0071						1.33		8014.426	0.577
1234689-HpCDF	39.64		1.0106	1.0108	+0.5	5.45E+05	1.12	Y	1.33	5.58	8014.426	0.577
1234789-HpCDF	**40.58**		**1.0002**	**1.0003**	**+0.2**	**3.98E+05**	**1.07**	**Y**	**1.30**	**4.86**	**8014.426**	**0.724**
OCDF	**42.81**	**EMPC**	**1.0003**	**1.0004**	**+0.3**	**5.52E+05**	**1.12**	**N**	**1.03**	**11.5**	**9407.054**	**1.51**
OCDF-a	NotFnd		1.0002						0.06		13770.585	38.3

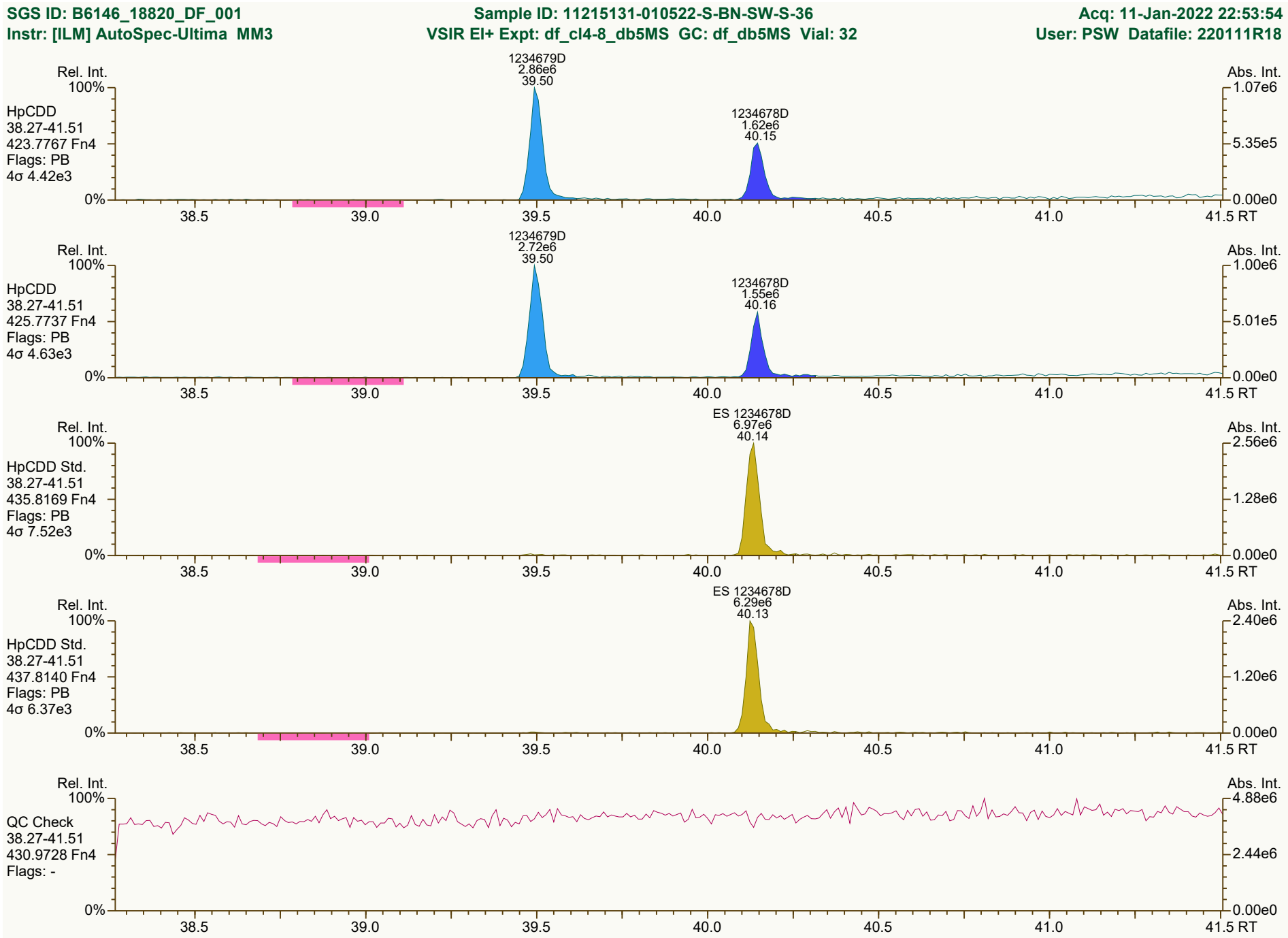

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100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.37e6
1.18e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.07e6
1.04e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
7.56e6
3.78e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.88e6
2.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.94e6
1.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

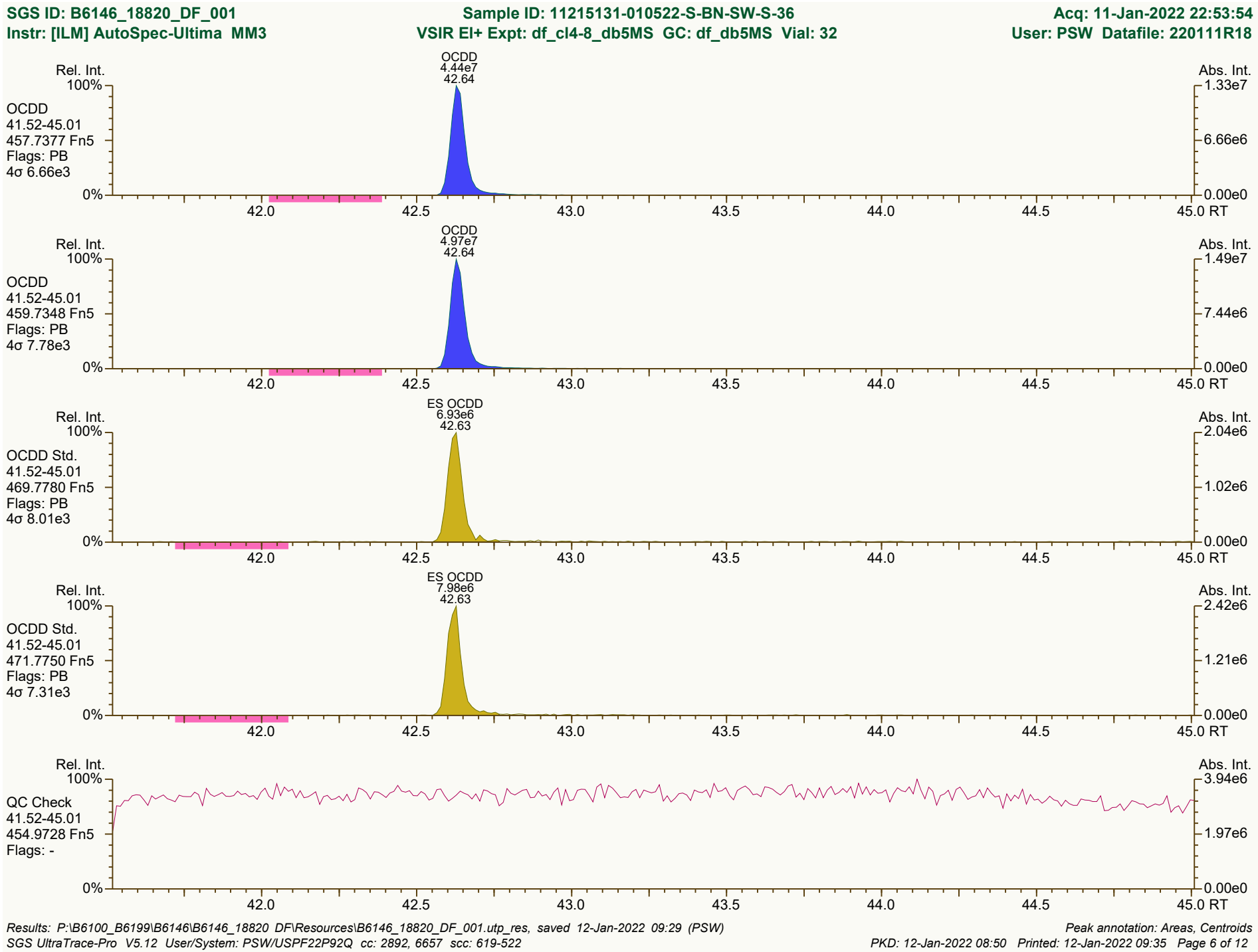

Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 5.01e3
2378D
5.79e6
27.50
1278D
5.36e5
27.85
Abs. Int.
1.34e6
6.68e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 4.44e3
2378D
7.54e6
27.50
1278D
6.22e5
27.85
Abs. Int.
1.73e6
8.65e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PBM
4σ 4.87e3
CS 37Cl-2378D
7.91e6*
27.50
Abs. Int.
1.88e6
9.42e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PBM
4σ 5.32e3
JS 1234D
7.55e6
26.80
ES 2378D
7.32e6*
27.48
Abs. Int.
1.69e6
8.46e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PBM
4σ 9.17e3
JS 1234D
9.69e6
26.80
ES 2378D
9.38e6*
27.48
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

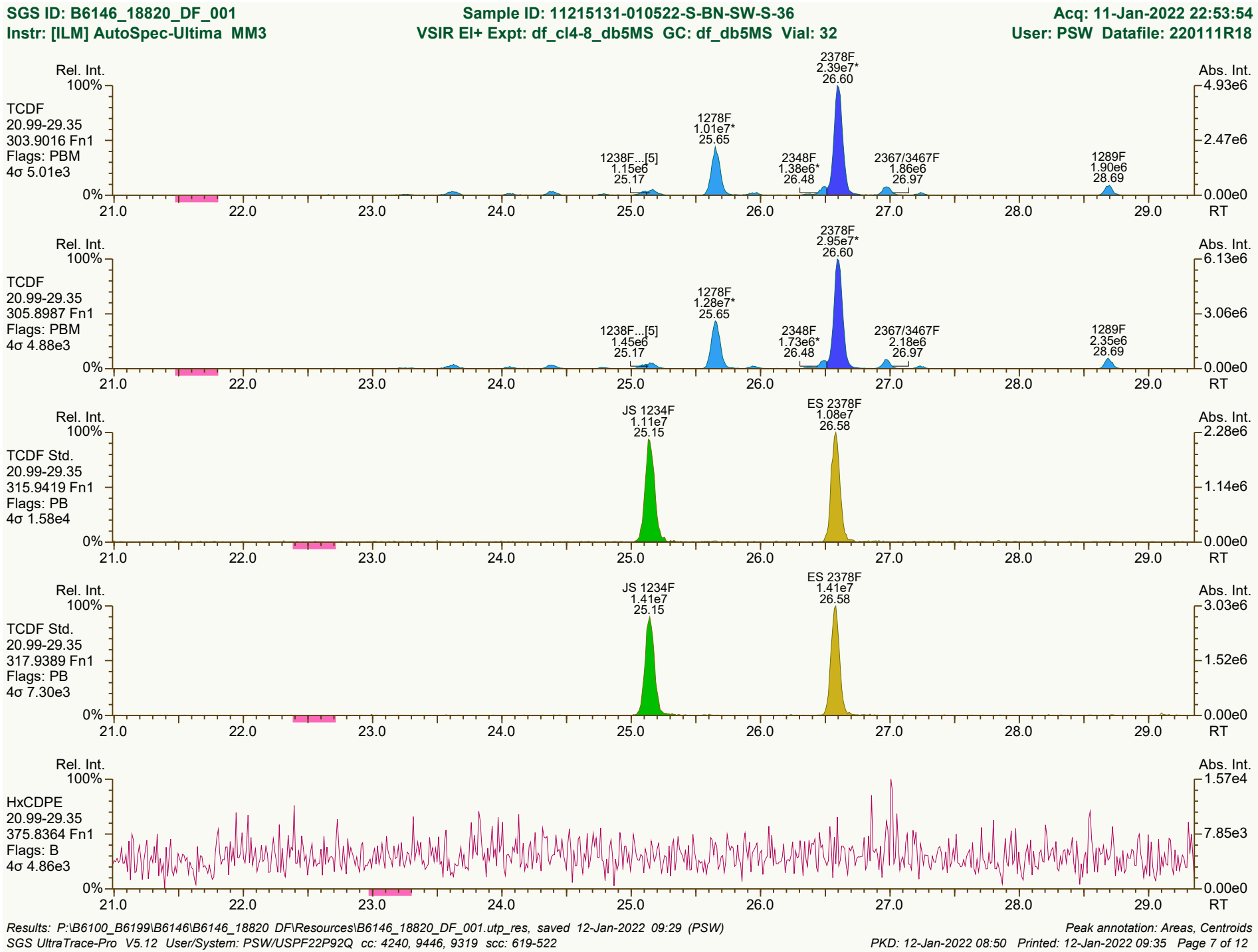

SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
Rel. Int.
Abs. Int.
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PBM
4σ 3.68e3
12469D
1.42e5*
31.01
12479/12468D
4.44e4*
30.46
12378D
1.11e5*
33.02
3.92e4
1.96e4
0.00e0
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PBM
4σ 3.15e3
12469D
9.70e4*
31.01
12479/12468D
4.16e4*
30.44
12378D
6.98e4*
33.02
2.91e4
1.46e4
0.00e0
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 4.71e3
CS 12347D
8.66e6
32.49
ES 12378D
8.86e6
32.99
2.44e6
1.22e6
0.00e0
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 7.49e3
CS 12347D
5.28e6
32.49
ES 12378D
5.69e6
32.99
1.63e6
8.17e5
0.00e0
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
2.07e6
1.04e6
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3541, 1950 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 3 of 12



Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8795, 3416 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 4 of 12


SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 4.42e3
1234679D
2.86e6
39.50
1234678D
1.62e6
40.15
1.07e6
5.35e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 4.63e3
1234679D
2.72e6
39.50
1234678D
1.55e6
40.16
1.00e6
5.01e5
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 7.52e3
ES 1234678D
6.97e6
40.14
2.56e6
1.28e6
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 6.37e3
ES 1234678D
6.29e6
40.13
2.40e6
1.20e6
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
4.88e6
2.44e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7066, 4990 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 5 of 12


SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
OCDD
4.44e7
42.64
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 6.66e3
OCDD
4.97e7
42.64
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 7.78e3
ES OCDD
6.93e6
42.63
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 8.01e3
ES OCDD
7.98e6
42.63
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 7.31e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2892, 6657 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 6 of 12


SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 5.01e3
2378F
2.39e7*
26.60
1278F
1.01e7*
25.65
1238F...[5]
1.15e6
25.17
2348F
1.38e6*
26.48
2367/3467F
1.86e6
26.97
1289F
1.90e6
28.69
4.93e6
2.47e6
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 4.88e3
2378F
2.95e7*
26.60
1278F
1.28e7*
25.65
1238F...[5]
1.45e6
25.17
2348F
1.73e6*
26.48
2367/3467F
2.18e6
26.97
1289F
2.35e6
28.69
6.13e6
3.06e6
0.00e0
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.58e4
JS 1234F
1.11e7
25.15
ES 2378F
1.08e7
26.58
2.28e6
1.14e6
0.00e0
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 7.30e3
JS 1234F
1.41e7
25.15
ES 2378F
1.41e7
26.58
3.03e6
1.52e6
0.00e0
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.86e3
1.57e4
7.85e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4240, 9446, 9319 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 7 of 12

SGS ID: B6146_18820_DF_001 | Sample ID: 11215131-010522-S-BN-SW-S-36 | Acq: 11-Jan-2022 22:53:54

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32 | User: PSW Datafile: 220111R18

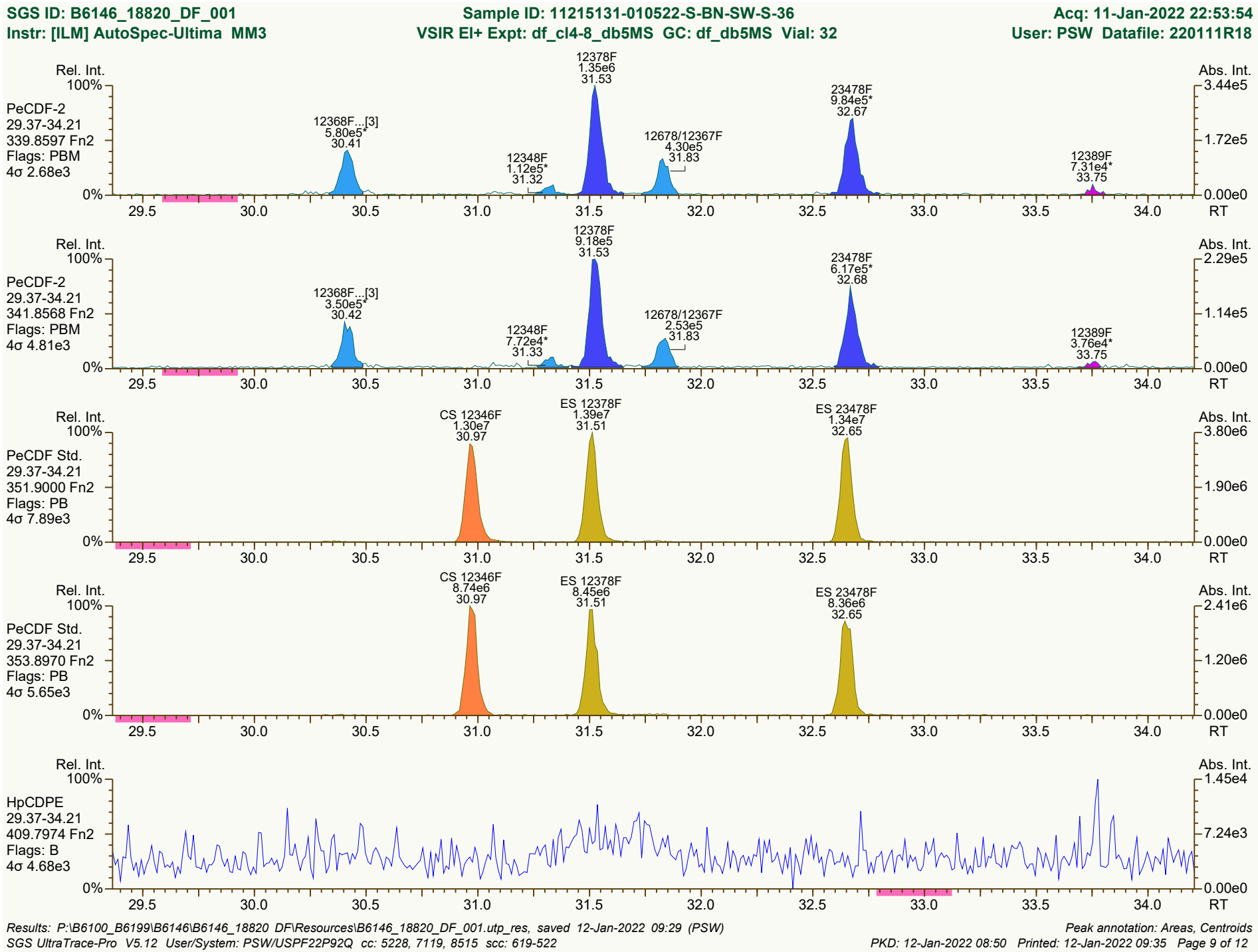


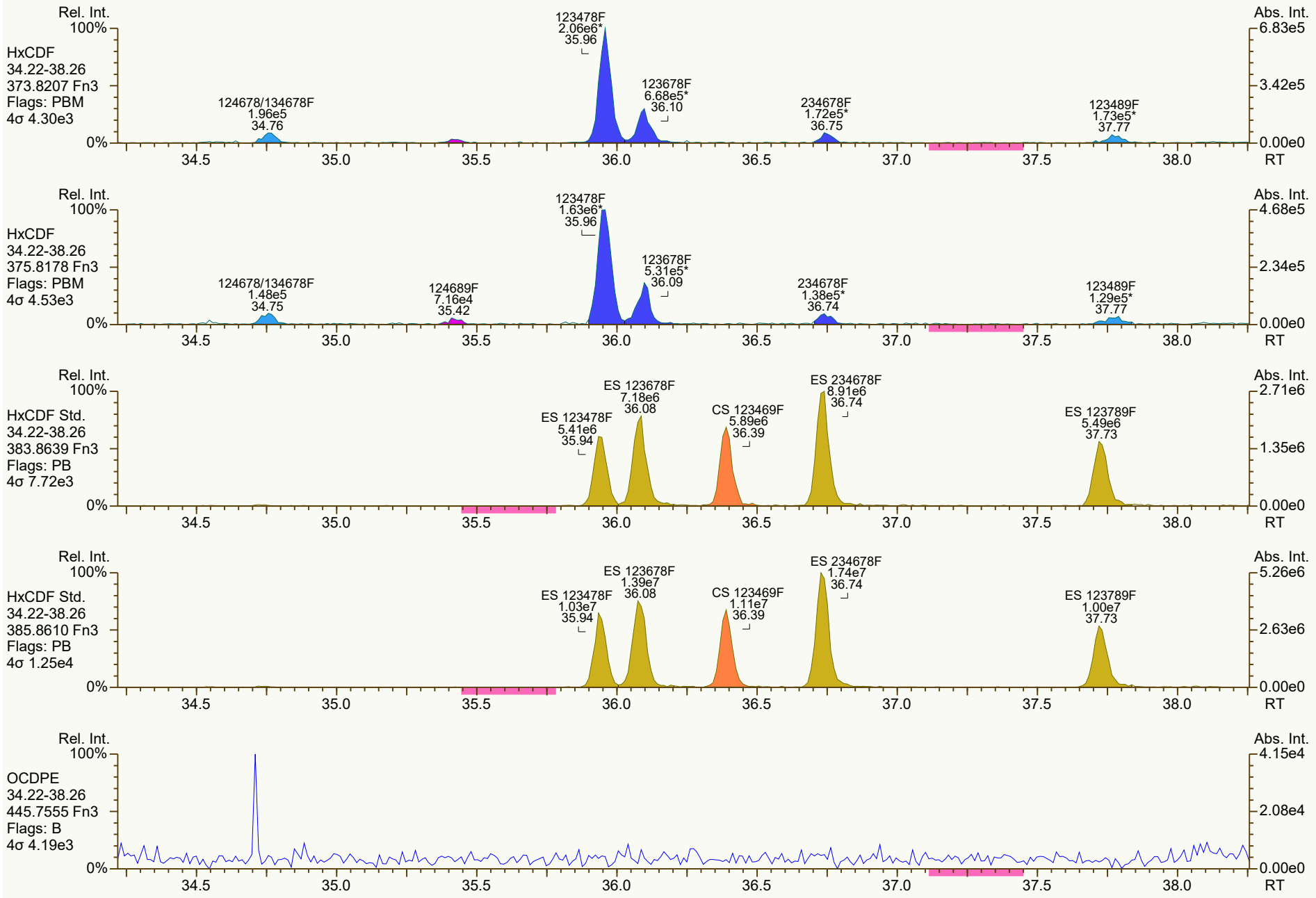
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)

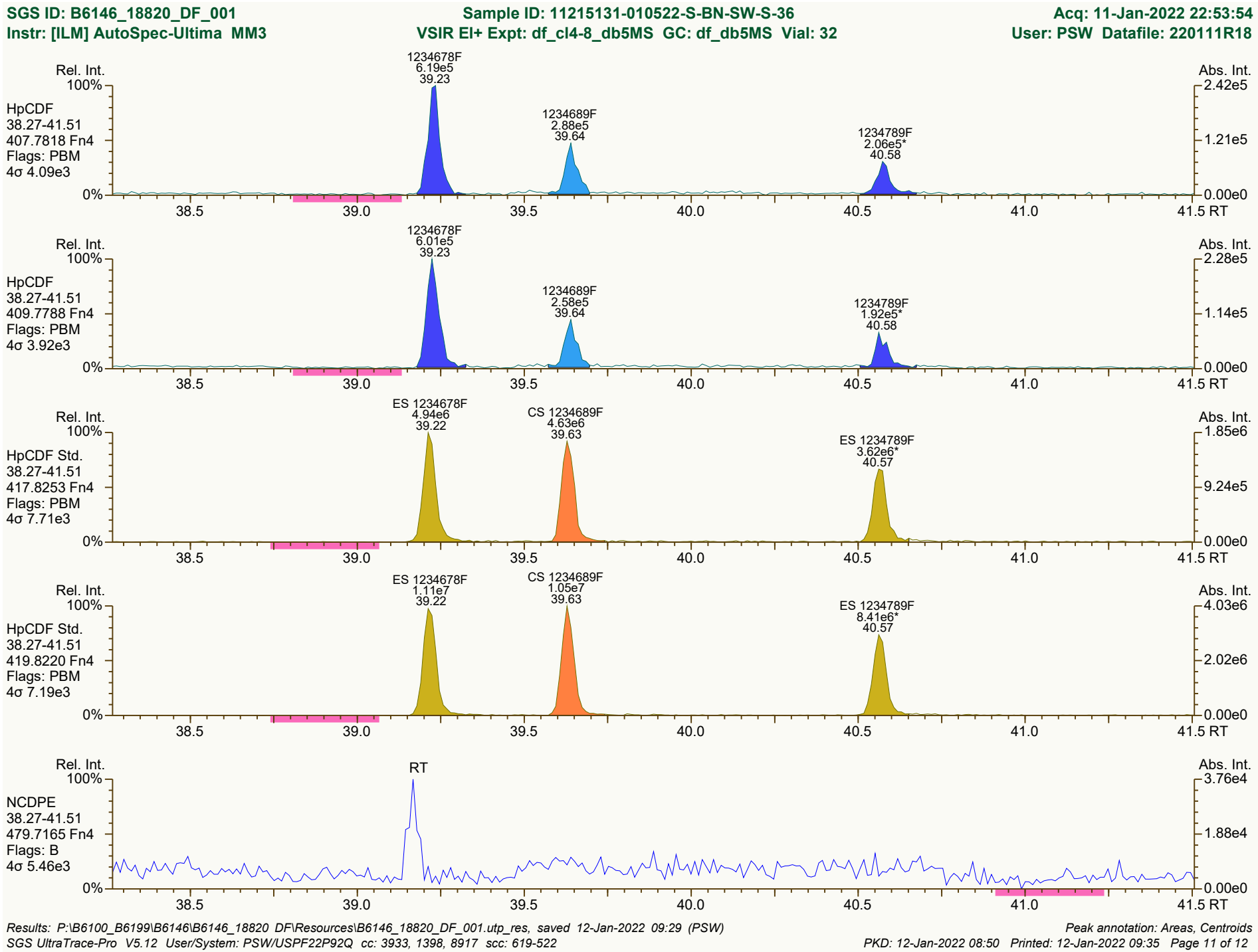
Peak annotation: Areas, Centroids

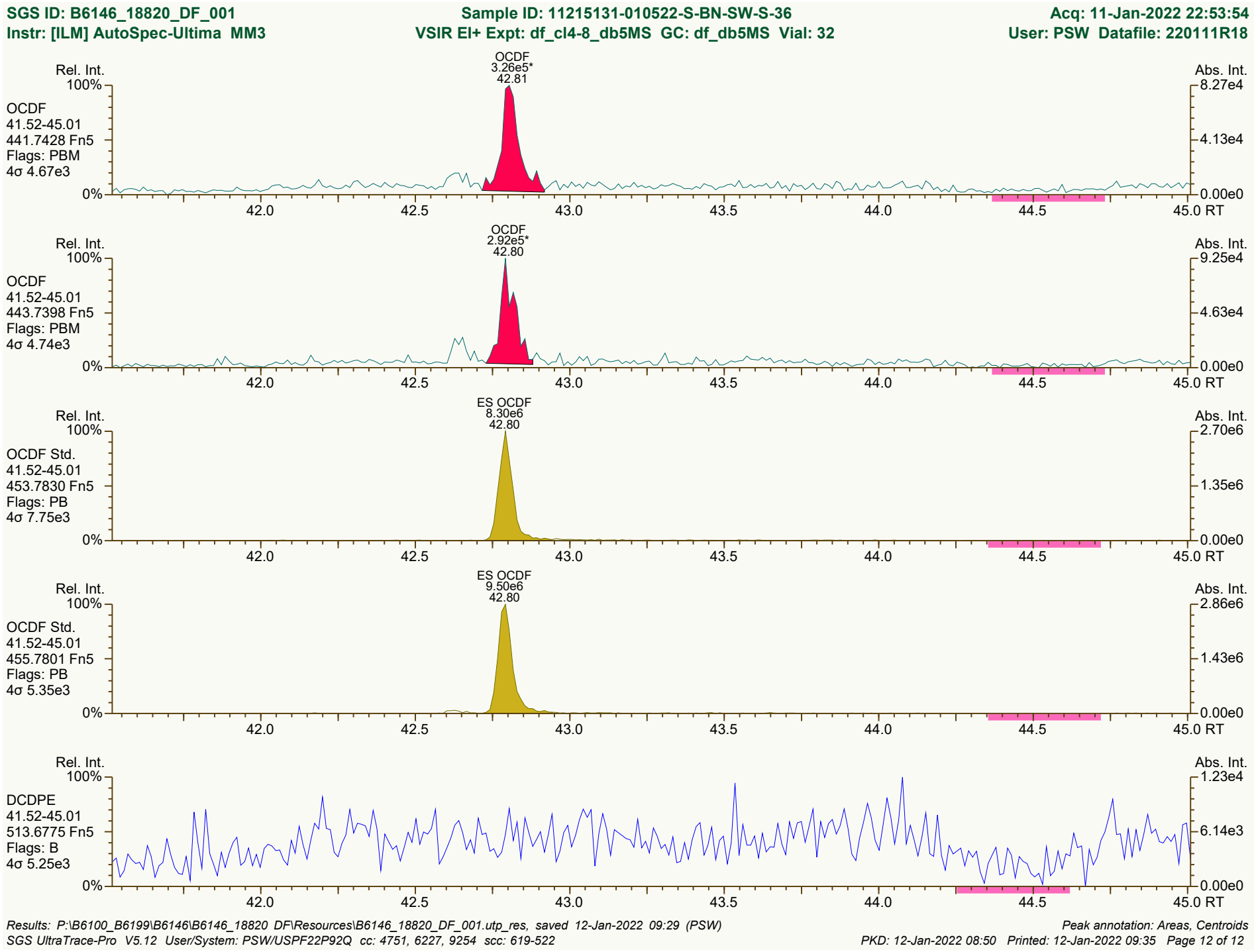
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1266 scc: 619-522

PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 8 of 12


SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PBM
4σ 2.68e3
12368F...[3] 5.80e5* 30.41
12348F 1.12e5* 31.32
12378F 1.35e6 31.53
12678/12367F 4.30e5 31.83
23478F 9.84e5* 32.67
12389F 7.31e4* 33.75
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PBM
4σ 4.81e3
12368F...[3] 3.50e5* 30.42
12348F 7.72e4* 31.33
12378F 9.18e5 31.53
12678/12367F 2.53e5 31.83
23478F 6.17e5* 32.68
12389F 3.76e4* 33.75
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 7.89e3
CS 12346F 1.30e7 30.97
ES 12378F 1.39e7 31.51
ES 23478F 1.34e7 32.65
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 5.65e3
CS 12346F 8.74e6 30.97
ES 12378F 8.45e6 31.51
ES 23478F 8.36e6 32.65
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.68e3
RT


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 4.30e3
123478F
2.06e6*
35.96
123678F
6.68e5*
36.10
124678/134678F
1.96e5
34.76
234678F
1.72e5*
36.75
123489F
1.73e5*
37.77
Abs. Int.
6.83e5
3.42e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 4.53e3
123478F
1.63e6*
35.96
123678F
5.31e5*
36.09
124678/134678F
1.48e5
34.75
124689F
7.16e4
35.42
234678F
1.38e5*
36.74
123489F
1.29e5*
37.77
4.68e5
2.34e5
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 7.72e3
ES 123678F
7.18e6
36.08
ES 123478F
5.41e6
35.94
CS 123469F
5.89e6
36.39
ES 234678F
8.91e6
36.74
ES 123789F
5.49e6
37.73
2.71e6
1.35e6
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 1.25e4
ES 123678F
1.39e7
36.08
ES 123478F
1.03e7
35.94
CS 123469F
1.11e7
36.39
ES 234678F
1.74e7
36.74
ES 123789F
1.00e7
37.73
5.26e6
2.63e6
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 4.19e3
4.15e4
2.08e4


SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PBM
4σ 4.09e3
1234678F
6.19e5
39.23
1234689F
2.88e5
39.64
1234789F
2.06e5*
40.58
2.42e5
1.21e5
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PBM
4σ 3.92e3
1234678F
6.01e5
39.23
1234689F
2.58e5
39.64
1234789F
1.92e5*
40.58
2.28e5
1.14e5
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PBM
4σ 7.71e3
ES 1234678F
4.94e6
39.22
CS 1234689F
4.63e6
39.63
ES 1234789F
3.62e6*
40.57
1.85e6
9.24e5
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PBM
4σ 7.19e3
ES 1234678F
1.11e7
39.22
CS 1234689F
1.05e7
39.63
ES 1234789F
8.41e6*
40.57
4.03e6
2.02e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 5.46e3
RT
3.76e4
1.88e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3933, 1398, 8917 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 11 of 12


SGS ID: B6146_18820_DF_001
Sample ID: 11215131-010522-S-BN-SW-S-36
Acq: 11-Jan-2022 22:53:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220111R18
OCDF
3.26e5*
42.81
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.67e3
0%
Abs. Int.
8.27e4
4.13e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.92e5*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 4.74e3
0%
Abs. Int.
9.25e4
4.63e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.30e6
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 7.75e3
0%
Abs. Int.
2.70e6
1.35e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.50e6
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 5.35e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 5.25e3
0%
Abs. Int.
1.23e4
6.14e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_001.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4751, 6227, 9254 scc: 619-522
PKD: 12-Jan-2022 08:50 Printed: 12-Jan-2022 09:35 Page 12 of 12

Lab ID: B6146_18820_DF_002 **Acq'd:** 11 Jan 2022 23:41 PSW **Wt/Vol:** 10.49 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010622-S-BN-SW-S-30 **UTP:** 12-Jan-2022 09:29:56 PSW **J-level:** 0.477 pg/g **Split:** 1 **Checkcode:** 211-648-MGK

Datafile: 220111R19 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.52		1.0008	1.0010	+0.3	8.51E+05	0.71	Y	1.34	6.79	9825.237	0.882
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	7228.933	0.753
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	9105.196	0.886
123678-HxCDD	37.05	J EMPC	1.0035	1.0035	0	7.13E+04	1.48	N	1.08	0.753	9105.196	0.853
123789-HxCDD	37.36	J EMPC	1.0117	1.0118	+0.2	9.06E+04	0.96	N	1.02	0.971	9105.196	0.916
1234678-HpCDD	40.16		1.0003	1.0003	0	2.04E+06	1.07	Y	0.97	27.1	7043.059	0.624
OCDD	42.65		1.0003	1.0003	0	2.25E+07	0.87	Y	1.07	550	10094.198	2.03
2378-TCDF	26.62		1.0008	1.0008	0	3.16E+06	0.77	Y	0.96	24.4	9138.448	0.729
12378-PeCDF	31.54	J EMPC	1.0005	1.0006	+0.2	1.95E+05	1.27	N	0.95	1.66	7086.422	0.55
23478-PeCDF	32.68	J EMPC	1.0006	1.0007	+0.2	1.16E+05	2.21	N	0.94	1.02	7086.422	0.541
123478-HxCDF	35.97		1.0004	1.0004	0	3.10E+05	1.34	Y	1.23	2.9	6555.571	0.538
123678-HxCDF	36.11	J	1.0004	1.0006	+0.4	1.37E+05	1.09	Y	1.13	1	6555.571	0.418
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	6555.571	0.323
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	6555.571	0.522
1234678-HpCDF	39.24	J EMPC	1.0003	1.0002	-0.2	2.16E+05	0.82	N	1.36	1.71	7543.674	0.413
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	7543.674	0.576
OCDF	42.82		1.0003	1.0003	0	2.39E+05	0.91	Y	1.03	5.1	8221.471	1.48

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.49	1.0251	1.0254	+0.5	1.78E+07	0.79	Y	1.03	88.8
ES 12378-PeCDD	33.00	1.2290	1.2308	+3.6	1.62E+07	1.59	Y	1.03	80.7
ES 123478-HxCDD	36.92	0.9915	0.9915	0	1.63E+07	1.25	Y	0.99	91.8
ES 123678-HxCDD	37.04	0.9947	0.9946	-0.2	1.67E+07	1.26	Y	0.97	96
ES 123789-HxCDD	37.35	1.0028	1.0029	+0.2	1.75E+07	1.22	Y	1.12	87.3
ES 1234678-HpCDD	40.14	1.0771	1.0780	+2.2	1.48E+07	1.12	Y	0.99	83.5
ES OCDD	42.64	1.1441	1.1449	+2.0	1.46E+07	0.91	Y	0.78	52.5
ES 2378-TCDF	26.60	1.0562	1.0568	+1.0	2.57E+07	0.79	Y	1.08	83
ES 12378-PeCDF	31.52	1.2501	1.2525	+4.5	2.36E+07	1.54	Y	0.93	88.5
ES 23478-PeCDF	32.66	1.2950	1.2977	+5.3	2.31E+07	1.69	Y	0.92	87.6
ES 123478-HxCDF	35.95	0.9654	0.9654	0	1.65E+07	0.53	Y	1.14	80.8
ES 123678-HxCDF	36.09	0.9691	0.9691	0	2.30E+07	0.52	Y	1.30	99.3
ES 234678-HxCDF	36.74	0.9867	0.9867	0	2.76E+07	0.55	Y	1.20	128
ES 123789-HxCDF	37.74	1.0134	1.0133	-0.2	1.66E+07	0.52	Y	1.14	82
ES 1234678-HpCDF	39.23	1.0527	1.0534	+1.6	1.78E+07	0.45	Y	0.95	105
ES 1234789-HpCDF	40.58	1.0887	1.0896	+2.2	1.25E+07	0.46	Y	0.85	82.7
ES OCDF	42.81	1.1487	1.1495	+2.1	1.74E+07	0.96	Y	0.93	52.7

Lab ID: B6146_18820_DF_002 **Acq'd:** 11 Jan 2022 23:41 PSW **Wt/Vol:** 10.49 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010622-S-BN-SW-S-30 **UTP:** 12-Jan-2022 09:29:56 PSW **J-level:** 0.477 pg/g **Split:** 1 **Checkcode:** 211-648-MGK

Datafile: 220111R19 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.81		-	-	-	1.94E+07	0.77	Y	-	-
JS 1234-TCDF	25.17		-	-	-	2.86E+07	0.78	Y	-	-
JS 123467-HxCDD	37.24		-	-	-	8.93E+06	1.26	Y	-	-
CS 37Cl-2378-TCDD	27.51		1.0260	1.0262	+0.3	8.70E+06	n/a	-	1.31	85.8
CS 12347-PeCDD	32.49		1.2102	1.2119	+3.3	1.73E+07	1.69	Y	0.89	100
CS 12346-PeCDF	30.98		1.2289	1.2311	+4.1	2.36E+07	1.56	Y	0.87	95.2
CS 123469-HxCDF	36.40		0.9774	0.9774	0	2.04E+07	0.52	Y	1.09	105
CS 1234689-HpCDF	39.64		1.0636	1.0646	+2.4	1.86E+07	0.44	Y	0.86	120
~~SS 37Cl-2378-TCDD~~	~~27.51~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~8.70E+06~~	~~n/a~~		~~1.26~~	~~97.1~~
~~SS 12347-PeCDD~~	~~32.49~~		~~1.2102~~	~~1.2119~~	~~+3.3~~	~~1.73E+07~~	~~1.69~~	~~Y~~	~~0.86~~	~~124~~
~~SS 12346-PeCDF~~	~~30.98~~		~~1.2289~~	~~1.2311~~	~~+4.1~~	~~2.36E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~100~~
~~SS 123469-HxCDF~~	~~36.40~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.04E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.64~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.86E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~114~~

Totals	Conc	EMPC
Total TCDD	6.79	8.91
Total PeCDD	2.14	2.14
Total HxCDD	17.1	23.4
Total HpCDD	95.5	95.5
Total Tetra-Octa Dioxins	672	680
Total TCDF	50	57.6
Total PeCDF	1.25	3.94
Total HxCDF	3.9	4.55
Total HpCDF	2.38	4.09
Total Tetra-Octa Furans	62.7	75.3
Total Tetra-Octa Dioxins & Furans	734	755

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.704	0.71
Response	8.56E+05	8.51E+05

Lab ID: B6146_18820_DF_002 **Acq'd: 11 Jan 2022 23:41 PSW** **Wt/Vol: 10.49 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-010622-S-BN-SW-S-30 **UTP: 12-Jan-2022 09:29:56 PSW** **J-level: 0.477 pg/g** **Split: 1** **Checkcode: 211-648-MGK**

Datafile: 220111R19 **Report: 12 Jan 2022 09:30 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8626						1.34		9825.237	0.882
1379-TCDD	NotFnd		0.8763						1.34		9825.237	0.882
1369-TCDD	NotFnd		0.8929						1.34		9825.237	0.882
1469-TCDD	25.35	EMPC	0.9227	0.9219	-1.2	2.66E+05	0.94	N	1.34	2.12	9825.237	0.882
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		9825.237	0.882
1378-TCDD	NotFnd		0.9389						1.34		9825.237	0.882
1268-TCDD	NotFnd		0.9463						1.34		9825.237	0.882
1478-TCDD	NotFnd		0.9556						1.34		9825.237	0.882
1279-TCDD	NotFnd		0.9620						1.34		9825.237	0.882
1234/1269-TCDD	NotFnd		0.9753						1.34		9825.237	0.882
1236-TCDD	NotFnd		0.9806						1.34		9825.237	0.882
1237/1238-TCDD	NotFnd		0.9900						1.34		9825.237	0.882
1239-TCDD	NotFnd		0.9951						1.34		9825.237	0.882
2378-TCDD	**27.52**		**1.0008**	1.0010	**+0.3**	8.51E+05	0.71	Y	**1.34**	**6.79**	**9825.237**	**0.882**
1278-TCDD	NotFnd		1.0131						1.34		9825.237	0.882
1267-TCDD	NotFnd		1.0182						1.34		9825.237	0.882
1289-TCDD	NotFnd		1.0373						1.34		9825.237	0.882
12479/12468-PeCDD	NotFnd		0.9237						1.06		7228.933	0.753
12469-PeCDD	31.01	J	0.9402	0.9398	-0.7	1.92E+05	1.61	Y	1.06	2.14	7228.933	0.753
12368-PeCDD	NotFnd		0.9572						1.06		7228.933	0.753
12478-PeCDD	NotFnd		0.9629						1.06		7228.933	0.753
12379-PeCDD	NotFnd		0.9660						1.06		7228.933	0.753
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		7228.933	0.753
12346/12347-PeCDD	NotFnd		0.9854						1.06		7228.933	0.753
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**7228.933**	**0.753**
12367-PeCDD	NotFnd		1.0034						1.06		7228.933	0.753
12389-PeCDD	NotFnd		1.0141						1.06		7228.933	0.753
124679/124689-HxCDD	35.23		0.9542	0.9542	0	1.59E+06	1.18	Y	1.05	17.1	9105.196	0.884
123468-HxCDD	NotFnd		0.9720						1.05		9105.196	0.884
123679/123689-HxCDD	36.18	EMPC	0.9798	0.9798	0	4.19E+05	0.96	N	1.05	4.51	9105.196	0.884
123469-HxCDD	NotFnd		0.9836						1.05		9105.196	0.884
123478-HxCDD	NotFnd		**1.0004**						1.06		**9105.196**	**0.886**
123678-HxCDD	37.05	J EMPC	**1.0035**	**1.0035**	**0**	**7.13E+04**	**1.48**	**N**	1.08	**0.753**	**9105.196**	**0.853**
123467-HxCDD	NotFnd		1.0089						1.05		9105.196	0.884
123789-HxCDD	37.36	J EMPC	**1.0117**	**1.0118**	**+0.2**	**9.06E+04**	**0.96**	**N**	1.02	**0.971**	**9105.196**	**0.916**

Lab ID: B6146_18820_DF_002 **Acq'd:** 11 Jan 2022 23:41 PSW **Wt/Vol:** 10.49 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010622-S-BN-SW-S-30 **UTP:** 12-Jan-2022 09:29:56 PSW **J-level:** 0.477 pg/g **Split:** 1 **Checkcode:** 211-648-MGK

Datafile: 220111R19 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

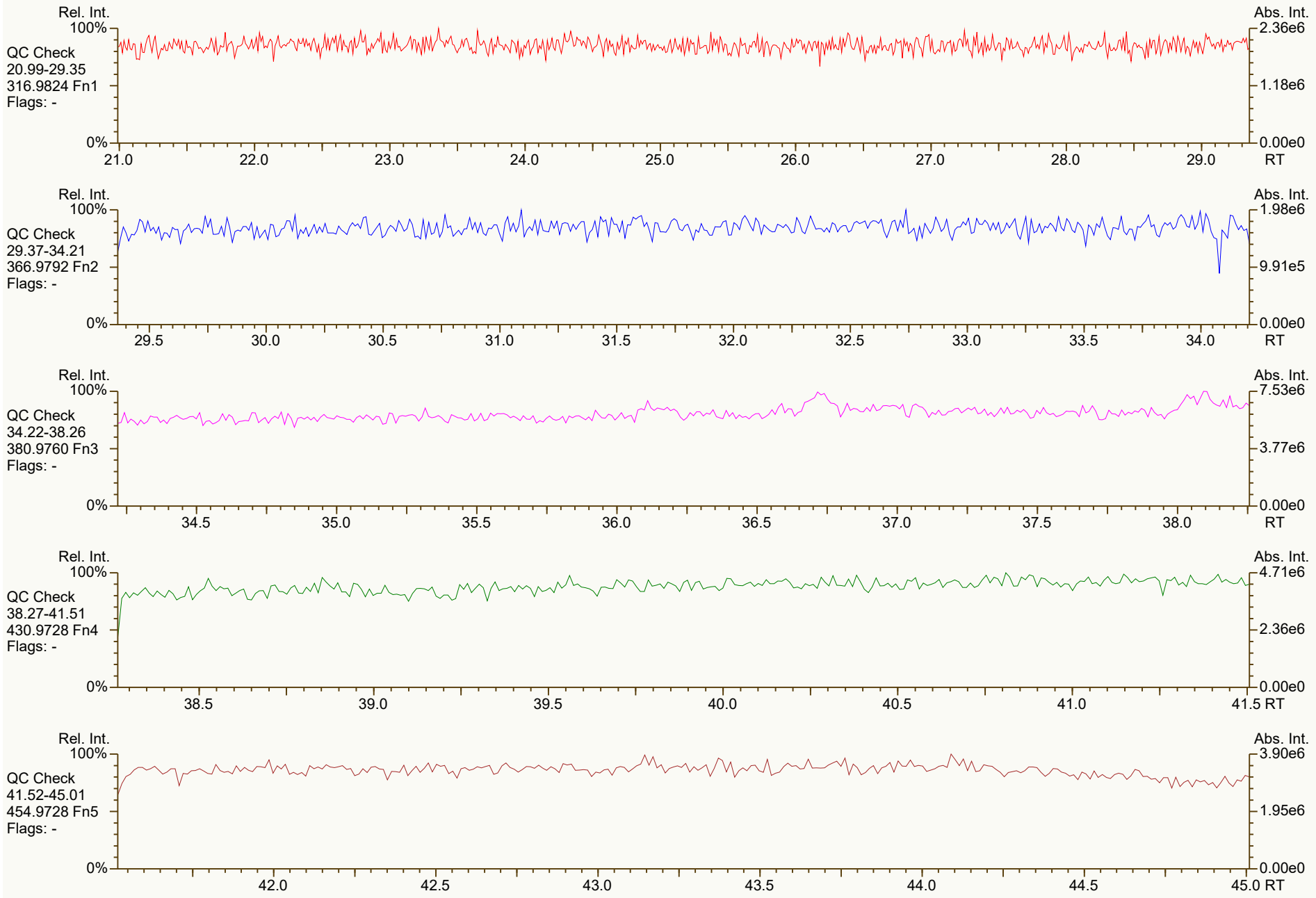
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.51		0.9842	0.9842	0	5.16E+06	1.03	Y	0.97	68.4	7043.059	0.624
1234678-HpCDD	**40.16**		**1.0003**	**1.0003**	**0**	**2.04E+06**	**1.07**	**Y**	**0.97**	**27.1**	**7043.059**	**0.624**
OCDD	**42.65**		**1.0003**	**1.0003**	**0**	**2.25E+07**	**0.87**	**Y**	**1.07**	**550**	**10094.198**	**2.03**
OCDD-a	42.64		1.0002	1.0001	-0.3	1.41E+06	2.81	Y	0.07	559	12884.003	41.9
1368-TCDF	NotFnd		0.8080						0.96		9138.448	0.729
1468-TCDF	NotFnd		0.8299						0.96		9138.448	0.729
2468-TCDF	22.70		0.8555	0.8535	-2.7	9.53E+04	0.83	Y	0.96	0.735	9138.448	0.729
1346/1246-TCDF	NotFnd		0.8688						0.96		9138.448	0.729
1347/1378/1247-TCDF	23.26		0.8753	0.8745	-1.1	1.45E+05	0.82	Y	0.96	1.12	9138.448	0.729
1348-TCDF	NotFnd		0.8863						0.96		9138.448	0.729
1248/1367/1379-TCDF	23.65	EMPC	0.8915	0.8892	-3.3	1.74E+05	0.64	N	0.96	1.34	9138.448	0.729
1268-TCDF	NotFnd		0.9065						0.96		9138.448	0.729
1467-TCDF	NotFnd		0.9119						0.96		9138.448	0.729
1478-TCDF	24.41	EMPC	0.9186	0.9178	-1.2	1.36E+05	0.96	N	0.96	1.05	9138.448	0.729
1369/1237-TCDF	24.81	EMPC	0.9331	0.9329	-0.3	1.20E+05	0.99	N	0.96	0.925	9138.448	0.729
2467-TCDF	NotFnd		0.9384						0.96		9138.448	0.729
2368-TCDF	25.11		0.9445	0.9443	-0.3	1.41E+05	0.87	Y	0.96	1.09	9138.448	0.729
1238/1234/1678/1469/1236-TCDF	25.19		0.9476	0.9472	-0.6	3.55E+05	0.71	Y	0.96	2.74	9138.448	0.729
1278-TCDF	25.67		0.9656	0.9653	-0.5	1.50E+06	0.82	Y	0.96	11.6	9138.448	0.729
1349-TCDF	NotFnd		0.9703						0.96		9138.448	0.729
1267-TCDF	25.97		0.9765	0.9763	-0.3	1.34E+05	0.71	Y	0.96	1.04	9138.448	0.729
2346/1249-TCDF	NotFnd		0.9836						0.96		9138.448	0.729
2347/1279-TCDF	26.38	EMPC	0.9921	0.9920	-0.2	7.08E+04	0.94	N	0.96	0.546	9138.448	0.729
2348-TCDF	26.49	EMPC	0.9965	0.9961	-0.6	2.11E+05	0.96	N	0.96	1.63	9138.448	0.729
2378-TCDF	**26.62**		**1.0008**	**1.0008**	**0**	**3.16E+06**	**0.77**	**Y**	**0.96**	**24.4**	**9138.448**	**0.729**
2367/3467-TCDF	26.99		1.0150	1.0150	0	3.75E+05	0.85	Y	0.96	2.9	9138.448	0.729
1269-TCDF	27.25	EMPC	1.0243	1.0245	+0.3	2.72E+05	0.64	N	0.96	2.1	9138.448	0.729
1239-TCDF	NotFnd		1.0345						0.96		9138.448	0.729
1289-TCDF	28.70		1.0780	1.0793	+2.2	5.77E+05	0.85	Y	0.96	4.45	9138.448	0.729
13468/12468-PeCDF	NotFnd		0.9095						0.94		9069.932	0.698
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		7086.422	0.546
12368/13478/12478-PeCDF	30.43	J	0.9646	0.9654	+1.5	1.44E+05	1.68	Y	0.94	1.25	7086.422	0.546
14678-PeCDF	NotFnd		0.9678						0.94		7086.422	0.546
13479-PeCDF	NotFnd		0.9710						0.94		7086.422	0.546
13469/12479-PeCDF	NotFnd		0.9790						0.94		7086.422	0.546
12346-PeCDF	NotFnd		0.9835						0.94		7086.422	0.546

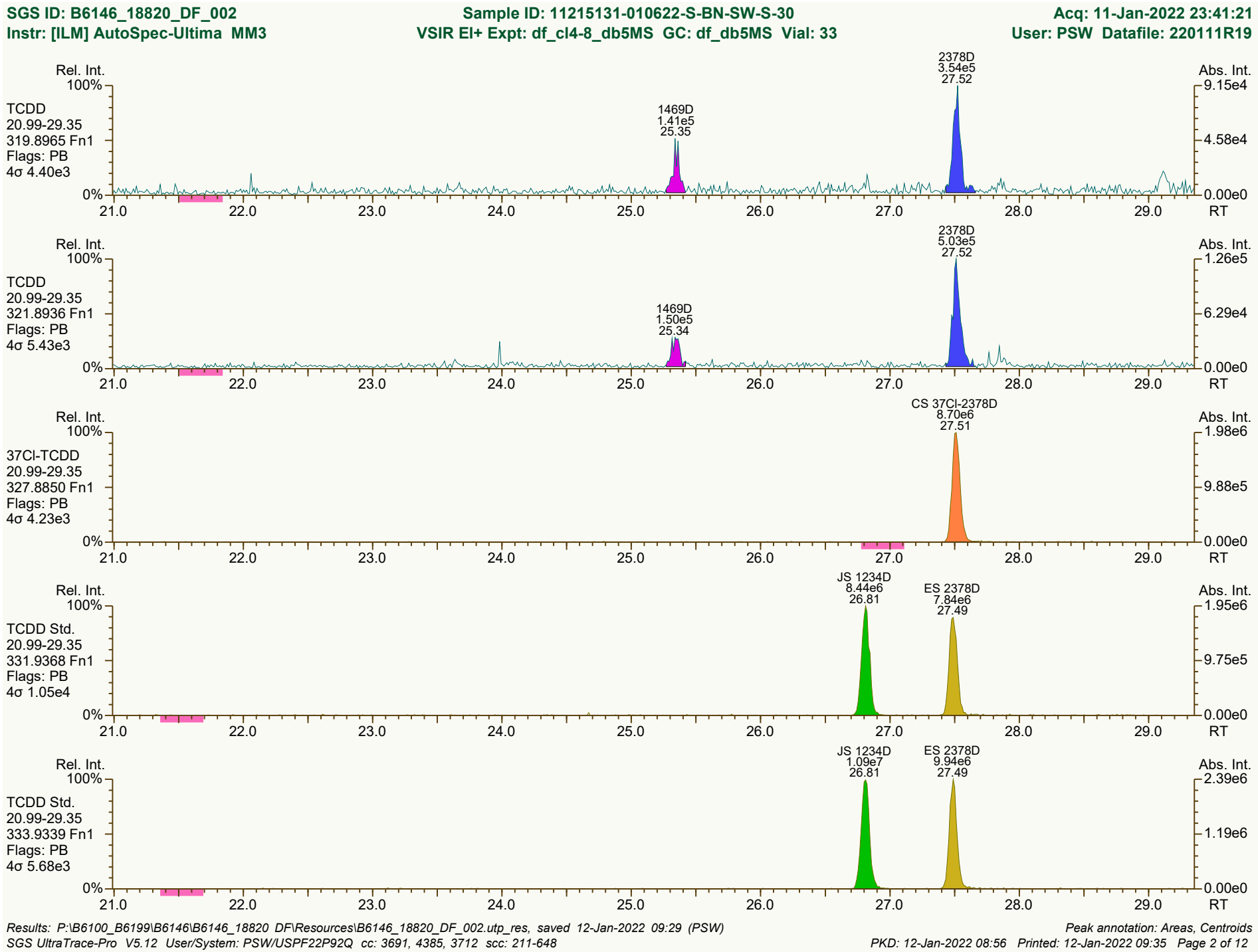
Lab ID: B6146_18820_DF_002 | **Acq'd: 11 Jan 2022 23:41 PSW** | **Wt/Vol: 10.49 g** | **ICAL: MM3_DF_10272021_27JUL2021**

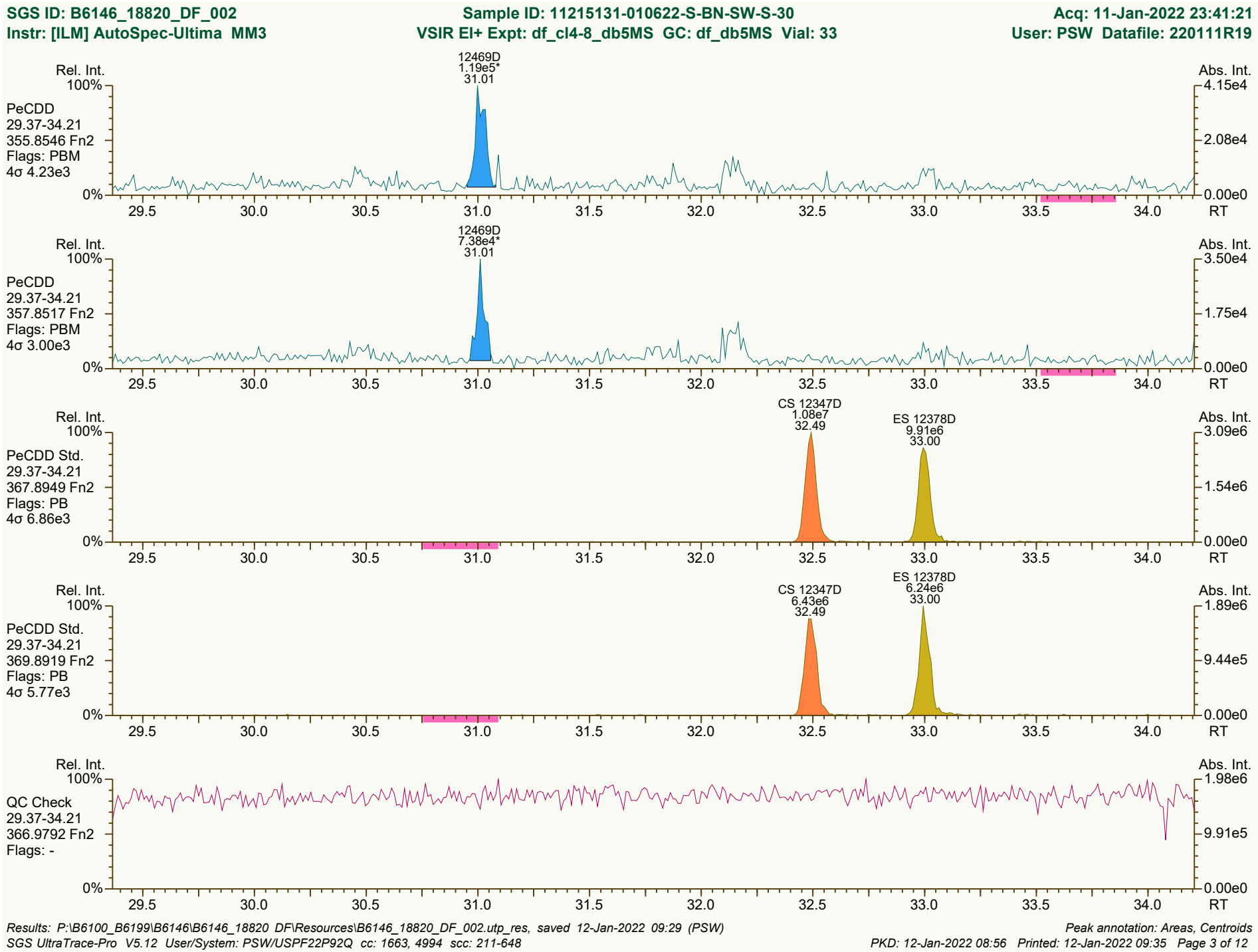
Client ID: 11215131-010622-S-BN-SW-S-30 | **UTP: 12-Jan-2022 09:29:56 PSW** | **J-level: 0.477 pg/g** | **Split: 1** | **Checkcode: 211-648-MGK**

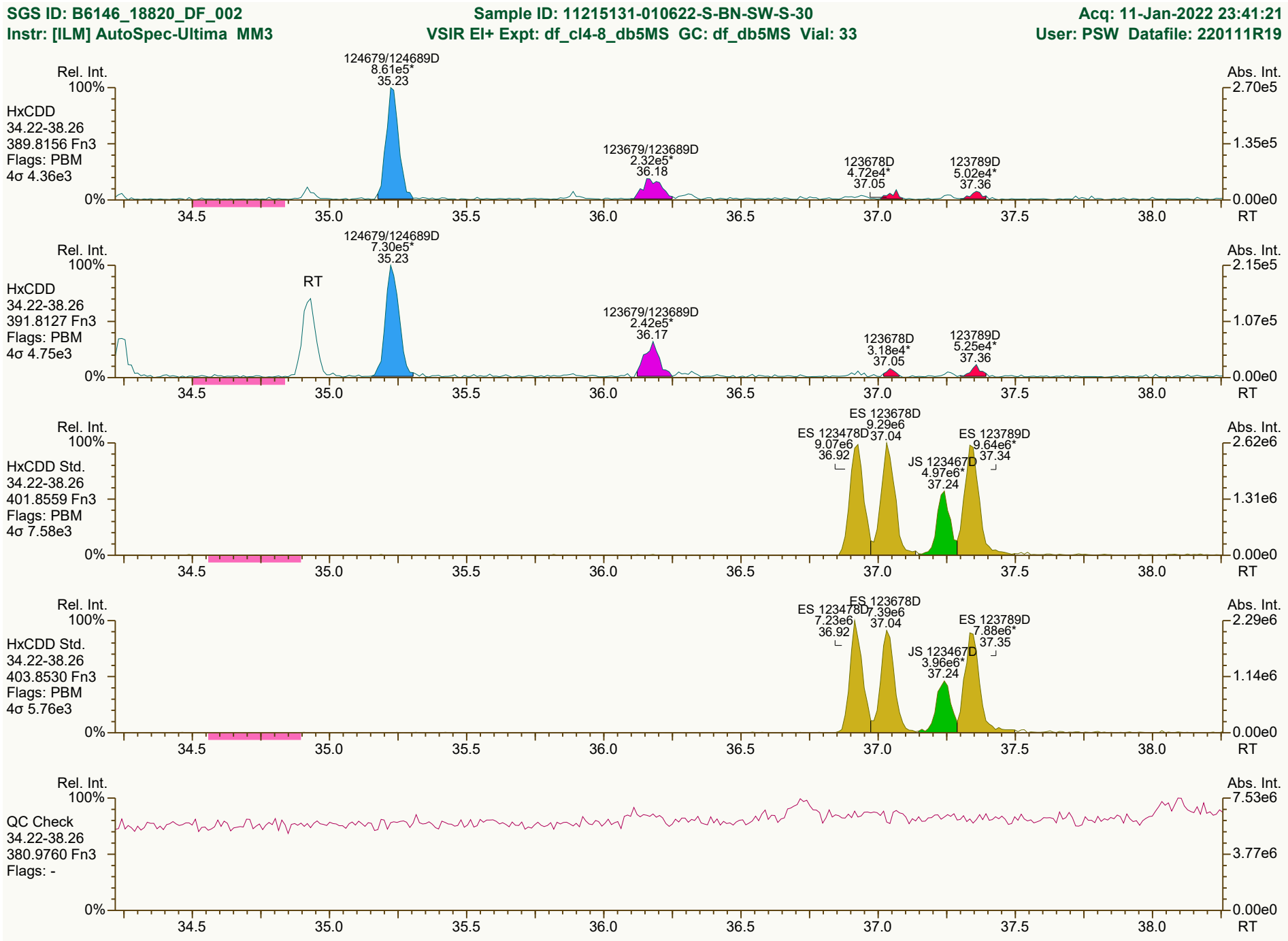
Datafile: 220111R19 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

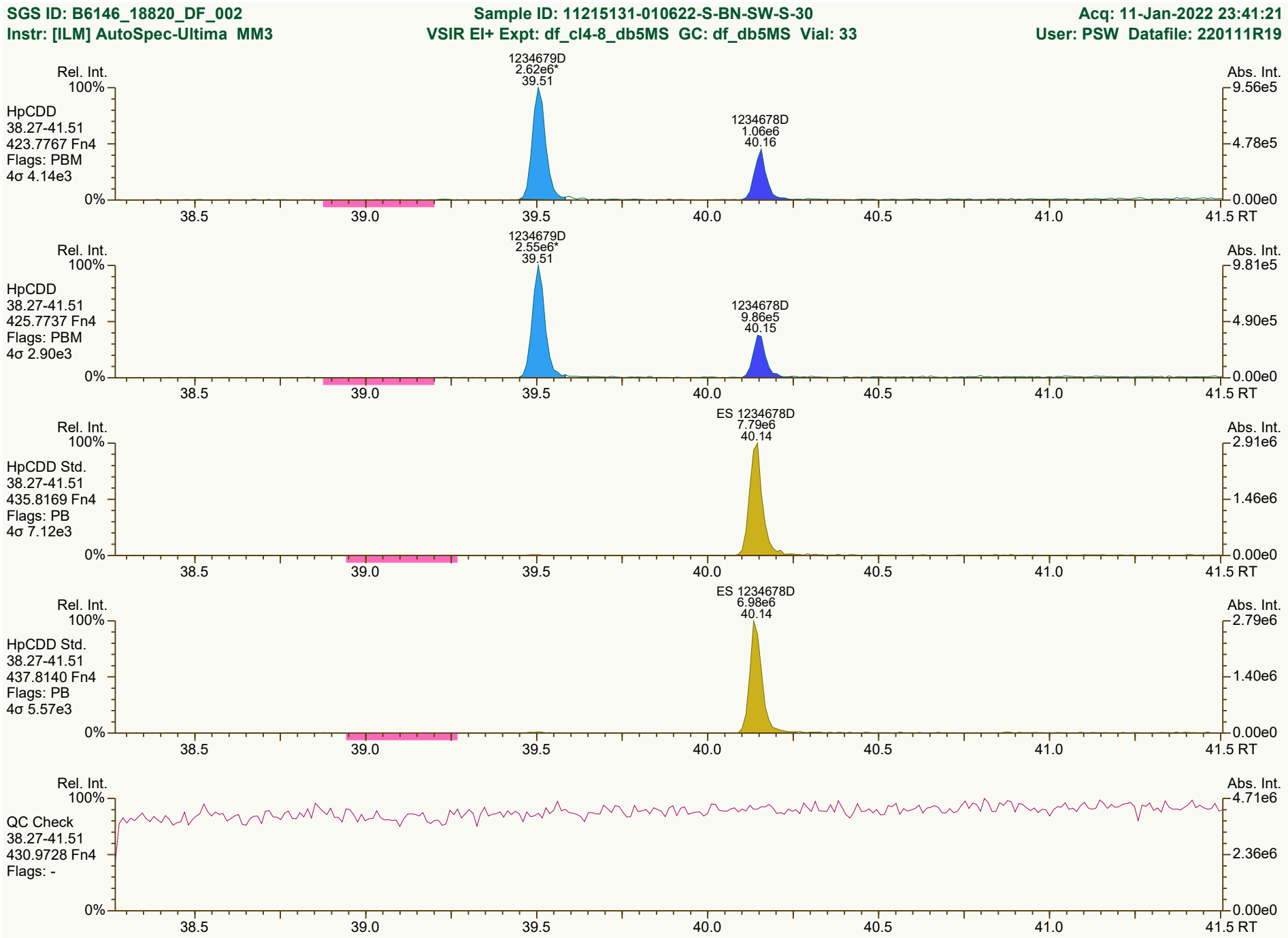
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		7086.422	0.546
12347-PeCDF	NotFnd		0.9888						0.94		7086.422	0.546
12348-PeCDF	NotFnd		0.9939						0.94		7086.422	0.546
12378-PeCDF	**31.54**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**1.95E+05**	**1.27**	**N**	**0.95**	**1.66**	**7086.422**	**0.55**
12678/12367-PeCDF	NotFnd		1.0094						0.94		7086.422	0.546
12379-PeCDF	NotFnd		1.0149						0.94		7086.422	0.546
12679-PeCDF	NotFnd		0.9925						0.94		7086.422	0.546
23467/12369-PeCDF	NotFnd		0.9965						0.94		7086.422	0.546
23478-PeCDF	**32.68**	J EMPC	**1.0006**	**1.0007**	**+0.2**	**1.16E+05**	**2.21**	**N**	**0.94**	**1.02**	**7086.422**	**0.541**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7086.422	0.546
12349-PeCDF	NotFnd		1.0104						0.94		7086.422	0.546
12389-PeCDF	NotFnd		1.0336						0.94		7086.422	0.546
123468-HxCDF	NotFnd		0.9618						1.16		6555.571	0.431
124678/134678-HxCDF	34.77	J EMPC	0.9673	0.9672	-0.2	8.22E+04	1.89	N	1.16	0.644	6555.571	0.431
134679-HxCDF	NotFnd		0.9737						1.16		6555.571	0.431
124679-HxCDF	NotFnd		0.9793						1.16		6555.571	0.431
124689-HxCDF	NotFnd		0.9855						1.16		6555.571	0.431
123467-HxCDF	NotFnd		0.9972						1.16		6555.571	0.431
123478-HxCDF	**35.97**		**1.0004**	**1.0004**	**0**	**3.10E+05**	**1.34**	**Y**	**1.23**	**2.9**	**6555.571**	**0.538**
123678-HxCDF	**36.11**	J	**1.0004**	**1.0006**	**+0.4**	**1.37E+05**	**1.09**	**Y**	**1.13**	**1**	**6555.571**	**0.418**
123479-HxCDF	NotFnd		1.0049						1.16		6555.571	0.431
123469-HxCDF	NotFnd		1.0089						1.16		6555.571	0.431
123679-HxCDF	NotFnd		0.9944						1.16		6555.571	0.431
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**6555.571**	**0.323**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		6555.571	0.431
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**6555.571**	**0.522**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		6555.571	0.431
1234678-HpCDF	**39.24**	**J EMPC**	**1.0003**	**1.0002**	**-0.2**	**2.16E+05**	**0.82**	**N**	**1.36**	**1.71**	**7543.674**	**0.413**
1234679-HpCDF	NotFnd		1.0071						1.33		7543.674	0.48
1234689-HpCDF	39.65	**J**	1.0106	1.0108	+0.5	2.52E+05	1.06	Y	1.33	2.38	7543.674	0.48
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**7543.674**	**0.576**
OCDF	**42.82**		**1.0003**	**1.0003**	**0**	**2.39E+05**	**0.91**	**Y**	**1.03**	**5.1**	**8221.471**	**1.48**
OCDF-a	NotFnd		1.0002						0.06		12351.297	38.6

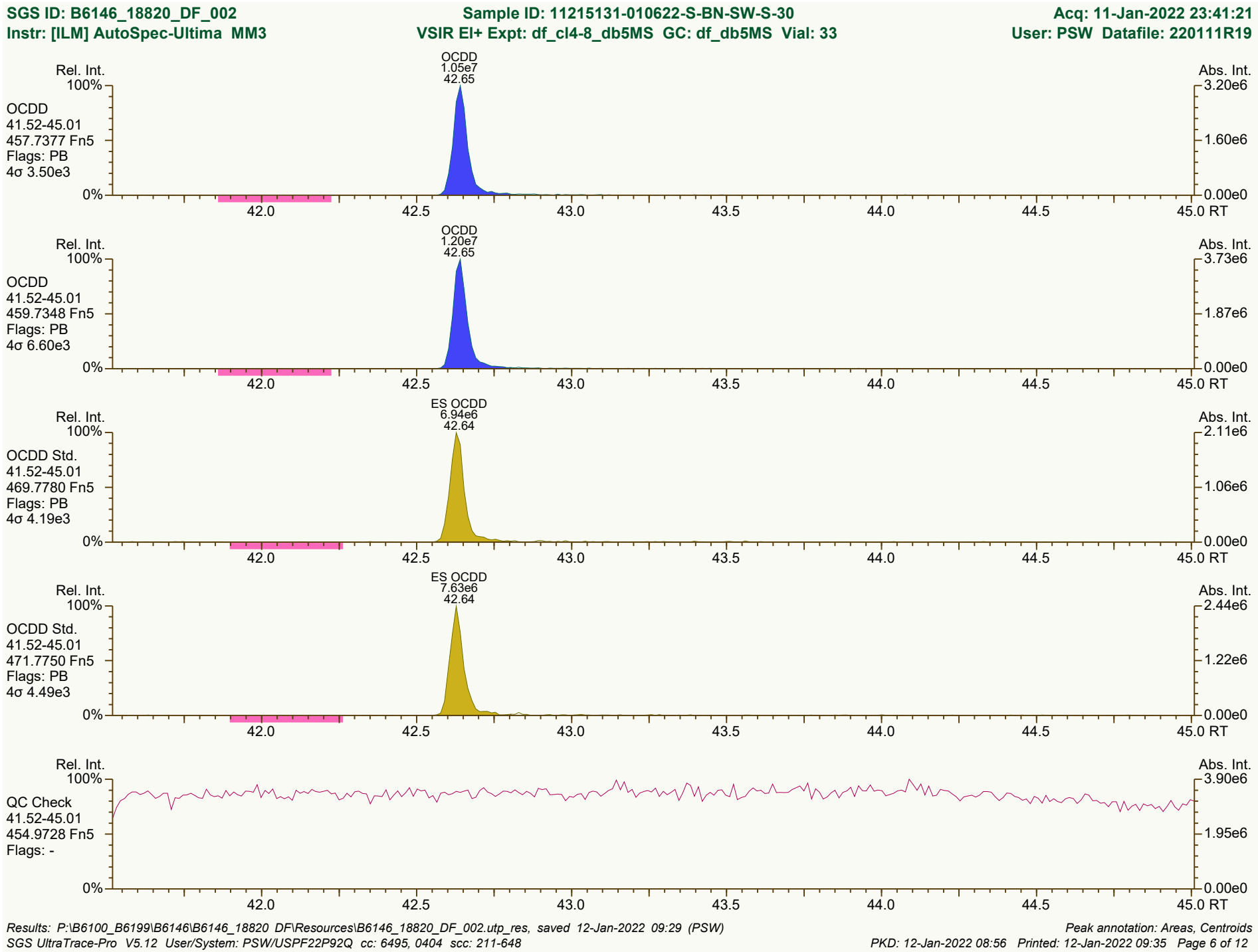

Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.98e6
9.91e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
7.53e6
3.77e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.71e6
2.36e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

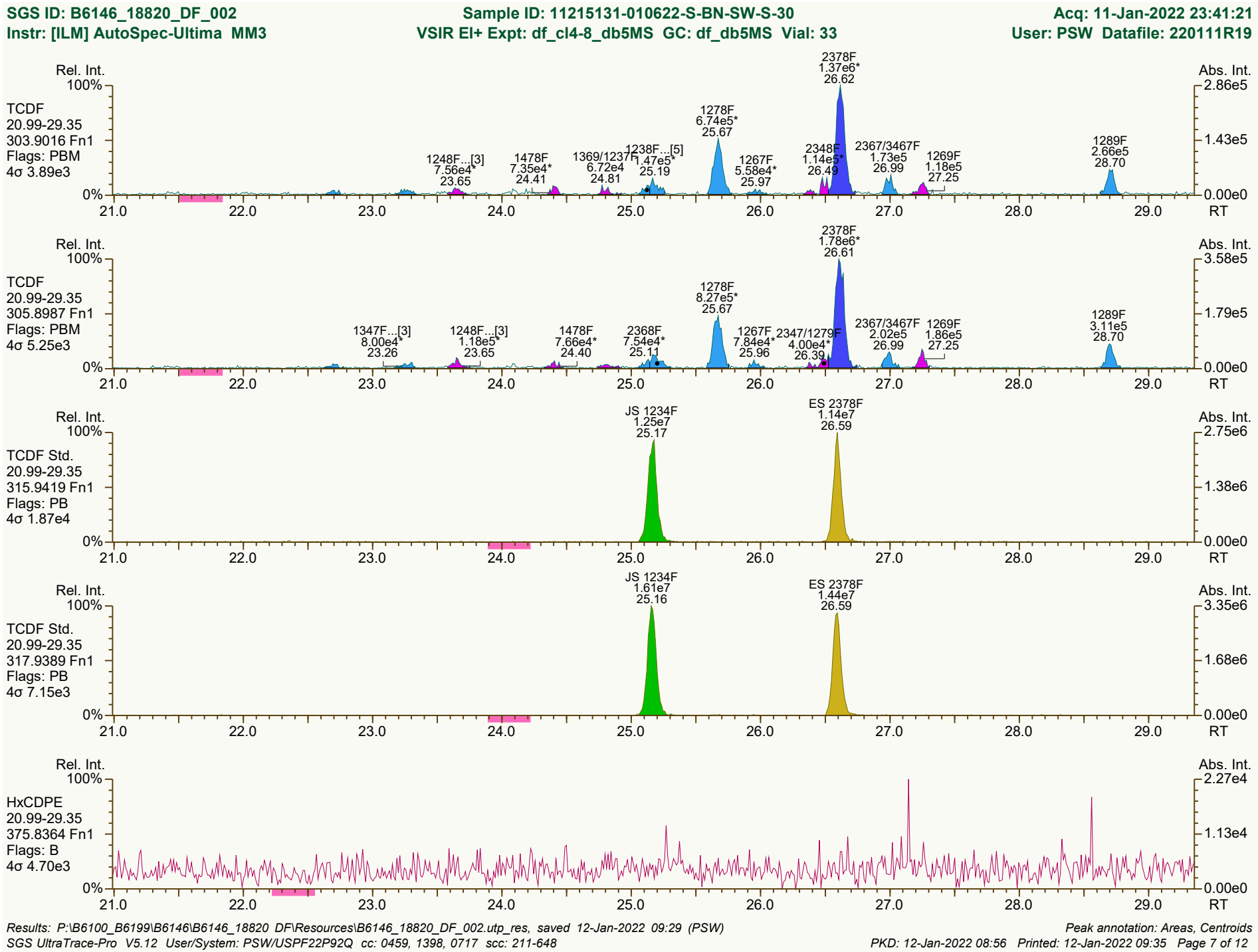

SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PB
4σ 4.40e3
1469D
1.41e5
25.35
2378D
3.54e5
27.52
Abs. Int.
9.15e4
4.58e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: PB
4σ 5.43e3
1469D
1.50e5
25.34
2378D
5.03e5
27.52
Abs. Int.
1.26e5
6.29e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.23e3
CS 37Cl-2378D
8.70e6
27.51
Abs. Int.
1.98e6
9.88e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 1.05e4
JS 1234D
8.44e6
26.81
ES 2378D
7.84e6
27.49
Abs. Int.
1.95e6
9.75e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 5.68e3
JS 1234D
1.09e7
26.81
ES 2378D
9.94e6
27.49
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3691, 4385, 3712 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 2 of 12


SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
Abs. Int.
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PBM
4σ 4.23e3
12469D
1.19e5*
31.01
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PBM
4σ 3.00e3
12469D
7.38e4*
31.01
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 6.86e3
CS 12347D
1.08e7
32.49
ES 12378D
9.91e6
33.00
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 5.77e3
CS 12347D
6.43e6
32.49
ES 12378D
6.24e6
33.00
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1663, 4994 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 3 of 12


SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
Abs. Int.
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PBM
4σ 4.36e3
124679/124689D
8.61e5*
35.23
123679/123689D
2.32e5*
36.18
123678D
4.72e4*
37.05
123789D
5.02e4*
37.36
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PBM
4σ 4.75e3
RT
124679/124689D
7.30e5*
35.23
123679/123689D
2.42e5*
36.17
123678D
3.18e4*
37.05
123789D
5.25e4*
37.36
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PBM
4σ 7.58e3
ES 123678D
9.29e6
37.04
ES 123478D
9.07e6
36.92
ES 123789D
9.64e6*
37.34
JS 123467D
4.97e6*
37.24
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PBM
4σ 5.76e3
ES 123678D
7.39e6
37.04
ES 123478D
7.23e6
36.92
ES 123789D
7.88e6*
37.35
JS 123467D
3.96e6*
37.24
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
RT

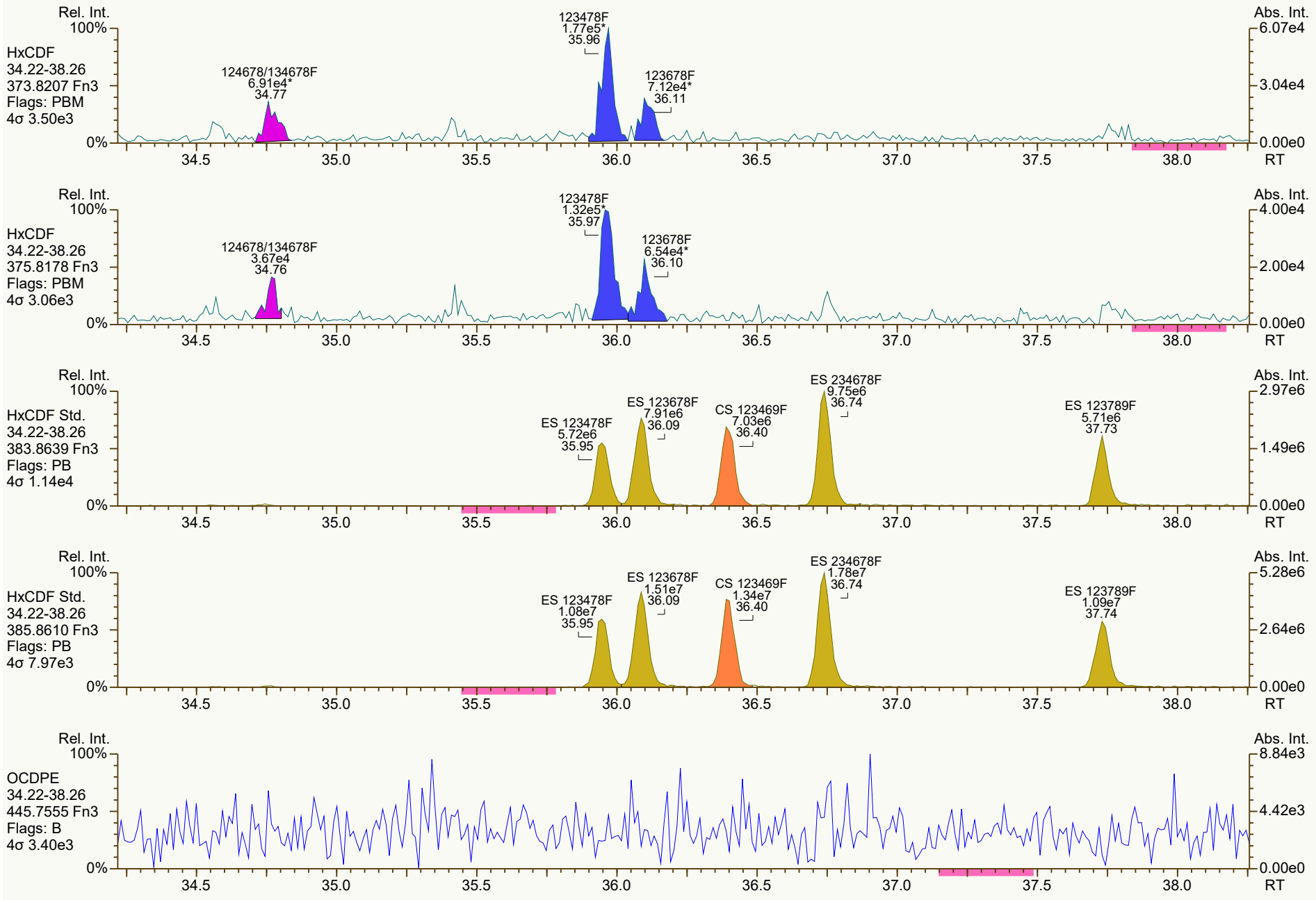

SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PBM
4σ 4.14e3
1234679D
2.62e6*
39.51
1234678D
1.06e6
40.16
9.56e5
4.78e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PBM
4σ 2.90e3
1234679D
2.55e6*
39.51
1234678D
9.86e5
40.15
9.81e5
4.90e5
0.00e0
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 7.12e3
ES 1234678D
7.79e6
40.14
2.91e6
1.46e6
0.00e0
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 5.57e3
ES 1234678D
6.98e6
40.14
2.79e6
1.40e6
0.00e0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
4.71e6
2.36e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5160, 2531 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 5 of 12

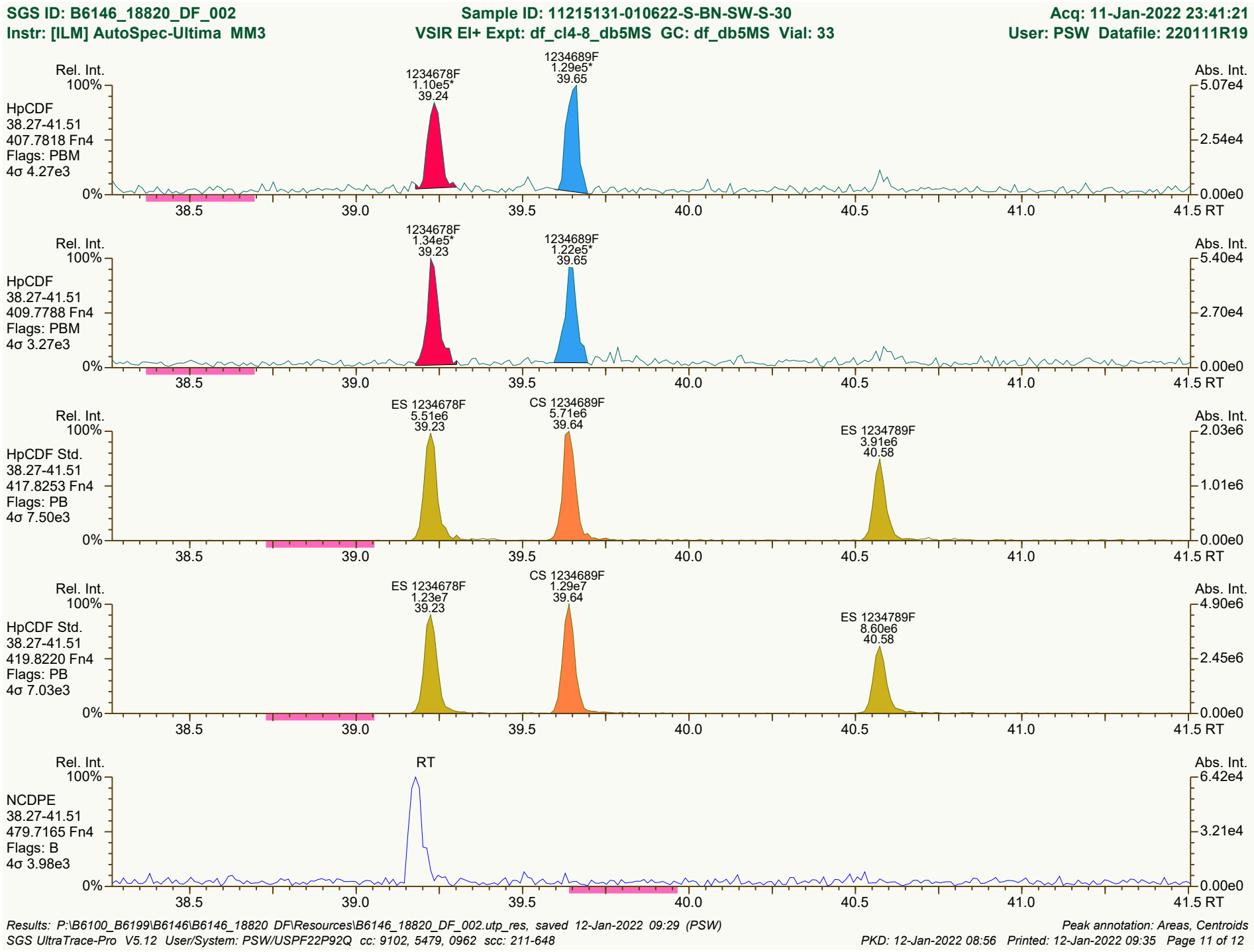

SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
OCDD
1.05e7
42.65
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.50e3
OCDD
1.20e7
42.65
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 6.60e3
ES OCDD
6.94e6
42.64
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 4.19e3
ES OCDD
7.63e6
42.64
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.49e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6495, 0404 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 6 of 12

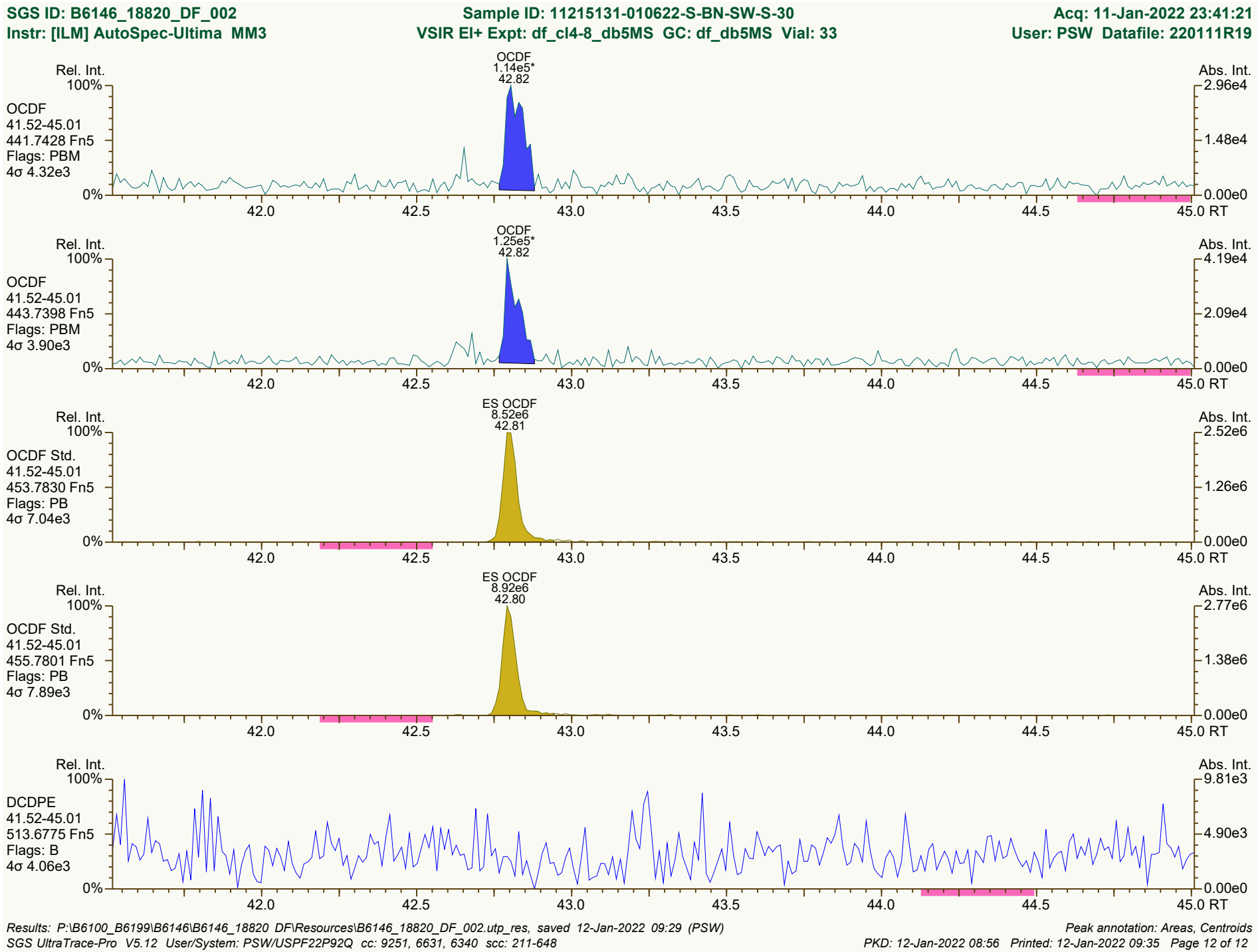

SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 3.89e3
2378F 1.37e6* 26.62
1278F 6.74e5* 25.67
1248F...[3] 7.56e4* 23.65
1478F 7.35e4* 24.41
1369/1237F 6.72e4 24.81
1238F...[5] 1.47e5* 25.19
1267F 5.58e4* 25.97
2348F 1.14e5* 26.49
2367/3467F 1.73e5 26.99
1269F 1.18e5 27.25
1289F 2.66e5 28.70
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 5.25e3
2378F 1.78e6* 26.61
1278F 8.27e5* 25.67
1347F...[3] 8.00e4* 23.26
1248F...[3] 1.18e5* 23.65
1478F 7.66e4* 24.40
2368F 7.54e4* 25.11
1267F 7.84e4* 25.96
2347/1279F 4.00e4* 26.39
2367/3467F 2.02e5 26.99
1269F 1.86e5 27.25
1289F 3.11e5 28.70
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.87e4
JS 1234F 1.25e7 25.17
ES 2378F 1.14e7 26.59
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 7.15e3
JS 1234F 1.61e7 25.16
ES 2378F 1.44e7 26.59
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.70e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
2.86e5
1.43e5
0.00e0
3.58e5
1.79e5
2.75e6
1.38e6
3.35e6
1.68e6
2.27e4
1.13e4
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0459, 1398, 0717 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.62e4
8.09e3
0.00e0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 5.06e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 4.01e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PBM
4σ 3.16e3
12368F...[3]
9.04e4*
30.43
12378F
1.19e5*
31.54
23478F
1.01e5*
32.68
3.90e4
1.95e4
0.00e0
RT
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PBM
4σ 3.93e3
12368F...[3]
5.39e4*
30.43
12378F
9.32e4*
31.53
23478F
4.56e4*
32.69
3.12e4
1.56e4
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PBM
4σ 5.49e3
CS 12346F
1.44e7
30.98
ES 12378F
1.43e7
31.52
ES 23478F
1.45e7*
32.66
4.18e6
2.09e6
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PBM
4σ 7.54e3
CS 12346F
9.22e6
30.98
ES 12378F
9.30e6
31.52
ES 23478F
8.60e6*
32.66
2.57e6
1.28e6
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.20e3
1.07e4
5.35e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0791, 9346, 1126 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 9 of 12


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 3.50e3
124678/134678F
6.91e4*
34.77
123478F
1.77e5*
35.96
123678F
7.12e4*
36.11
Abs. Int.
6.07e4
3.04e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 3.06e3
124678/134678F
3.67e4
34.76
123478F
1.32e5*
35.97
123678F
6.54e4*
36.10
Abs. Int.
4.00e4
2.00e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123478F
5.72e6
35.95
ES 123678F
7.91e6
36.09
CS 123469F
7.03e6
36.40
ES 234678F
9.75e6
36.74
ES 123789F
5.71e6
37.73
Abs. Int.
2.97e6
1.49e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 7.97e3
ES 123478F
1.08e7
35.95
ES 123678F
1.51e7
36.09
CS 123469F
1.34e7
36.40
ES 234678F
1.78e7
36.74
ES 123789F
1.09e7
37.74
Abs. Int.
5.28e6
2.64e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 3.40e3
Abs. Int.
8.84e3
4.42e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PBM
4σ 4.27e3
1234678F
1.10e5*
39.24
1234689F
1.29e5*
39.65
5.07e4
2.54e4
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PBM
4σ 3.27e3
1234678F
1.34e5*
39.23
1234689F
1.22e5*
39.65
5.40e4
2.70e4
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 7.50e3
ES 1234678F
5.51e6
39.23
CS 1234689F
5.71e6
39.64
ES 1234789F
3.91e6
40.58
2.03e6
1.01e6
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 7.03e3
ES 1234678F
1.23e7
39.23
CS 1234689F
1.29e7
39.64
ES 1234789F
8.60e6
40.58
4.90e6
2.45e6
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 3.98e3
RT
6.42e4
3.21e4
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9102, 5479, 0962 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 11 of 12


SGS ID: B6146_18820_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-30
Acq: 11-Jan-2022 23:41:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220111R19
OCDF
1.14e5*
42.82
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.32e3
0%
Abs. Int.
2.96e4
1.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.25e5*
42.82
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.90e3
0%
Abs. Int.
4.19e4
2.09e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.52e6
42.81
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 7.04e3
0%
Abs. Int.
2.52e6
1.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.92e6
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 7.89e3
0%
Abs. Int.
2.77e6
1.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 4.06e3
0%
Abs. Int.
9.81e3
4.90e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_002.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9251, 6631, 6340 scc: 211-648
PKD: 12-Jan-2022 08:56 Printed: 12-Jan-2022 09:35 Page 12 of 12

Lab ID: B6146_18820_DF_003 **Acq'd:** 12 Jan 2022 00:28 PSW **Wt/Vol:** 10.19 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010622-S-BN-SW-S-35 **UTP:** 12-Jan-2022 09:31:48 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 123-215-NLT

Datafile: 220111R20 **Report:** 12 Jan 2022 09:32 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.52	E	1.0008	1.0008	0	5.21E+08	0.80	Y	1.34	3,100	7216.45	0.46
12378-PeCDD	33.02		1.0006	1.0007	+0.2	4.49E+06	1.71	Y	1.06	37.9	8212.092	0.591
123478-HxCDD	36.93	J	1.0004	1.0004	0	2.44E+05	1.14	Y	1.06	2.06	12113.812	0.777
123678-HxCDD	37.05	EMPC	1.0035	1.0035	0	8.25E+05	1.47	N	1.08	7.04	12113.812	0.911
123789-HxCDD	37.35	EMPC	1.0117	1.0118	+0.2	4.54E+05	1.43	N	1.02	3.75	12113.812	0.818
1234678-HpCDD	40.14		1.0003	1.0003	0	2.43E+07	1.06	Y	0.97	242	8665.726	0.553
OCDD	42.64		1.0003	1.0003	0	2.97E+08	0.89	Y	1.07	4,170	11499.973	1.33
2378-TCDF	26.63	E	1.0008	1.0009	+0.2	1.93E+09	0.79	Y	0.96	10,700	8827.64	0.545
12378-PeCDF	31.54		1.0005	1.0006	+0.2	1.06E+08	1.55	Y	0.95	704	9081.904	0.543
23478-PeCDF	32.69		1.0006	1.0008	+0.4	7.79E+07	1.58	Y	0.94	462	9081.904	0.498
123478-HxCDF	35.96		1.0004	1.0005	+0.2	1.66E+08	1.25	Y	1.23	1,100	26569.23	1.52
123678-HxCDF	36.10		1.0004	1.0005	+0.2	4.70E+07	1.26	Y	1.13	269	26569.23	1.2
234678-HxCDF	36.75		1.0004	1.0004	0	1.06E+07	1.26	Y	1.15	51.5	26569.23	1.04
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	26569.23	1.52
1234678-HpCDF	39.23		1.0003	1.0003	0	5.09E+07	1.04	Y	1.36	331	7330.061	0.328
1234789-HpCDF	40.58		1.0002	1.0003	+0.2	1.57E+07	1.01	Y	1.30	122	7330.061	0.376
OCDF	42.80		1.0003	1.0002	-0.3	1.12E+08	0.90	Y	1.03	1,320	9467.638	0.812

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.50		1.0251	1.0250	-0.2	2.45E+07	0.81	Y	1.03	93.5
ES 12378-PeCDD	33.00		1.2290	1.2301	+2.2	2.19E+07	1.57	Y	1.03	83.6
ES 123478-HxCDD	36.92		0.9915	0.9915	0	2.20E+07	1.21	Y	0.99	108
ES 123678-HxCDD	37.03		0.9947	0.9946	-0.2	2.13E+07	1.26	Y	0.97	107
ES 123789-HxCDD	37.34		1.0028	1.0028	0	2.34E+07	1.20	Y	1.12	102
ES 1234678-HpCDD	40.13		1.0771	1.0779	+1.9	2.02E+07	1.06	Y	0.99	99.6
ES OCDD	42.62		1.1441	1.1449	+2.0	2.61E+07	0.92	Y	0.78	82.1
ES 2378-TCDF	26.60		1.0562	1.0569	+1.1	3.69E+07	0.77	Y	1.08	100
ES 12378-PeCDF	31.52		1.2501	1.2524	+4.4	3.14E+07	1.55	Y	0.93	98.7
ES 23478-PeCDF	32.67		1.2950	1.2977	+5.3	3.53E+07	1.59	Y	0.92	112
ES 123478-HxCDF	35.94		0.9654	0.9654	0	2.39E+07	0.52	Y	1.14	102
ES 123678-HxCDF	36.08		0.9691	0.9692	+0.2	3.03E+07	0.54	Y	1.30	114
ES 234678-HxCDF	36.73	V	0.9867	0.9867	0	3.50E+07	0.54	Y	1.20	142
ES 123789-HxCDF	37.72		1.0134	1.0132	-0.5	2.38E+07	0.53	Y	1.14	102
ES 1234678-HpCDF	39.22		1.0527	1.0533	+1.4	2.22E+07	0.46	Y	0.95	114
ES 1234789-HpCDF	40.56		1.0887	1.0895	+1.9	1.94E+07	0.45	Y	0.85	112
ES OCDF	42.79		1.1487	1.1494	+1.8	3.23E+07	0.89	Y	0.93	85

Lab ID: B6146_18820_DF_003 **Acq'd:** 12 Jan 2022 00:28 PSW **Wt/Vol:** 10.19 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010622-S-BN-SW-S-35 **UTP:** 12-Jan-2022 09:31:48 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 123-215-NLT

Datafile: 220111R20 **Report:** 12 Jan 2022 09:32 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.83		-	-	-	2.53E+07	0.79	Y	-	-
JS 1234-TCDF	25.17		-	-	-	3.40E+07	0.80	Y	-	-
JS 123467-HxCDD	37.23		-	-	-	1.02E+07	1.31	Y	-	-
CS 37Cl-2378-TCDD	27.52		1.0260	1.0258	-0.3	1.09E+07	n/a	-	1.31	82.4
CS 12347-PeCDD	32.50		1.2102	1.2113	+2.1	2.02E+07	1.59	Y	0.89	89.4
CS 12346-PeCDF	30.99		1.2289	1.2312	+4.3	3.23E+07	1.62	Y	0.87	110
CS 123469-HxCDF	36.39		0.9774	0.9775	+0.2	2.46E+07	0.55	Y	1.09	110
CS 1234689-HpCDF	39.63		1.0636	1.0645	+2.1	2.18E+07	0.45	Y	0.86	123
~~SS 37Cl-2378-TCDD~~	~~27.52~~		~~1.0260~~	~~1.0258~~	~~-0.3~~	~~1.09E+07~~	~~n/a~~		~~1.26~~	~~88.6~~
~~SS 12347-PeCDD~~	~~32.50~~		~~1.2102~~	~~1.2113~~	~~+2.1~~	~~2.02E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~30.99~~		~~1.2289~~	~~1.2312~~	~~+4.3~~	~~3.23E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~111~~
~~SS 123469-HxCDF~~	~~36.39~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~2.46E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~96.4~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0645~~	~~+2.1~~	~~2.18E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~107~~

Totals	Conc	EMPC
Total TCDD	3320	3400
Total PeCDD	45.3	55.6
Total HxCDD	63.4	75.8
Total HpCDD	602	602
Total Tetra-Octa Dioxins	8200	8310
Total TCDF	20,400	20400
Total PeCDF	1,800	1800
Total HxCDF	1,630	1630
Total HpCDF	565	570
Total Tetra-Octa Furans	25,800	25800
Total Tetra-Octa Dioxins & Furans	34000	34100

Lab ID: B6146_18820_DF_003 **Acq'd: 12 Jan 2022 00:28 PSW** **Wt/Vol: 10.19 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-010622-S-BN-SW-S-35 **UTP: 12-Jan-2022 09:31:48 PSW** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 123-215-NLT**

Datafile: 220111R20 **Report: 12 Jan 2022 09:32 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.68		0.8626	0.8613	-1.8	5.55E+05	0.71	Y	1.34	3.31	7216.45	0.46
1379-TCDD	24.06	EMPC	0.8763	0.8751	-1.7	1.79E+05	1.02	N	1.34	1.07	7216.45	0.46
1369-TCDD	NotFnd		0.8929						1.34		7216.45	0.46
1469-TCDD	25.35		0.9227	0.9220	-1.1	4.51E+05	0.68	Y	1.34	2.68	7216.45	0.46
1247/1246/1248/1249-TCDD	25.62	EMPC	0.9317	0.9315	-0.3	8.41E+05	1.17	N	1.34	5.01	7216.45	0.46
1378-TCDD	25.80		0.9389	0.9382	-1.1	1.26E+06	0.73	Y	1.34	7.52	7216.45	0.46
1268-TCDD	25.99		0.9463	0.9453	-1.6	9.30E+04	0.72	Y	1.34	0.554	7216.45	0.46
1478-TCDD	26.27		0.9556	0.9555	-0.2	1.15E+06	0.83	Y	1.34	6.86	7216.45	0.46
1279-TCDD	NotFnd		0.9620						1.34		7216.45	0.46
1234/1269-TCDD	26.82	EMPC	0.9753	0.9753	0	2.07E+05	0.95	N	1.34	1.24	7216.45	0.46
1236-TCDD	26.97	EMPC	0.9806	0.9807	+0.2	1.23E+05	1.68	N	1.34	0.733	7216.45	0.46
1237/1238-TCDD	27.21	EMPC	0.9900	0.9896	-0.7	7.57E+06	0.91	N	1.34	45.1	7216.45	0.46
1239-TCDD	NotFnd		0.9951						1.34		7216.45	0.46
2378-TCDD	**27.52**	E	**1.0008**	1.0008	**0**	5.21E+08	0.80	Y	**1.34**	**3,100**	**7216.45**	**0.46**
1278-TCDD	27.86		1.0131	1.0131	0	3.22E+07	0.77	Y	1.34	192	7216.45	0.46
1267-TCDD	28.00	EMPC	1.0182	1.0182	0	2.94E+06	1.23	N	1.34	17.5	7216.45	0.46
1289-TCDD	28.49	EMPC	1.0373	1.0361	-2.1	2.22E+06	1.47	N	1.34	13.2	7216.45	0.46
12479/12468-PeCDD	30.47	EMPC	0.9237	0.9234	-0.5	3.50E+05	2.07	N	1.06	2.96	8212.092	0.591
12469-PeCDD	31.03	J	0.9402	0.9403	+0.2	2.58E+05	1.45	Y	1.06	2.18	8212.092	0.591
12368-PeCDD	31.58		0.9572	0.9571	-0.2	3.67E+05	1.42	Y	1.06	3.1	8212.092	0.591
12478-PeCDD	31.78	EMPC	0.9629	0.9629	0	3.09E+05	1.85	N	1.06	2.61	8212.092	0.591
12379-PeCDD	31.88	J EMPC	0.9660	0.9659	-0.2	1.70E+05	1.99	N	1.06	1.44	8212.092	0.591
12369/12467/12489-PeCDD	32.15	J	0.9741	0.9741	0	2.51E+05	1.68	Y	1.06	2.12	8212.092	0.591
12346/12347-PeCDD	32.52	J EMPC	0.9854	0.9853	-0.2	9.55E+04	1.23	N	1.06	0.807	8212.092	0.591
12378-PeCDD	33.02		**1.0006**	**1.0007**	**+0.2**	**4.49E+06**	**1.71**	**Y**	**1.06**	**37.9**	**8212.092**	**0.591**
12367-PeCDD	33.15	EMPC	1.0034	1.0047	+2.6	2.92E+05	2.25	N	1.06	2.47	8212.092	0.591
12389-PeCDD	NotFnd		1.0141						1.06		8212.092	0.591
124679/124689-HxCDD	35.23		0.9542	0.9543	+0.2	3.51E+06	1.35	Y	1.05	29.5	12113.812	0.834
123468-HxCDD	35.88		0.9720	0.9720	0	4.48E+05	1.31	Y	1.05	3.76	12113.812	0.834
123679/123689-HxCDD	36.17		0.9798	0.9799	+0.2	3.03E+06	1.19	Y	1.05	25.4	12113.812	0.834
123469-HxCDD	36.30		0.9836	0.9833	-0.7	3.25E+05	1.26	Y	1.05	2.73	12113.812	0.834
123478-HxCDD	36.93	J	**1.0004**	**1.0004**	**0**	**2.44E+05**	**1.14**	**Y**	1.06	**2.06**	**12113.812**	**0.777**
123678-HxCDD	37.05	EMPC	**1.0035**	**1.0035**	**0**	**8.25E+05**	**1.47**	**N**	1.08	**7.04**	**12113.812**	**0.911**
123467-HxCDD	37.24	J EMPC	1.0089	1.0087	-0.4	1.89E+05	1.55	N	1.05	1.58	12113.812	0.834
123789-HxCDD	37.35	EMPC	**1.0117**	**1.0118**	**+0.2**	**4.54E+05**	**1.43**	**N**	1.02	**3.75**	**12113.812**	**0.818**

Lab ID: B6146_18820_DF_003 **Acq'd:** 12 Jan 2022 00:28 PSW **Wt/Vol:** 10.19 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010622-S-BN-SW-S-35 **UTP:** 12-Jan-2022 09:31:48 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 123-215-NLT

Datafile: 220111R20 **Report:** 12 Jan 2022 09:32 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.50		0.9842	0.9843	+0.2	3.62E+07	1.05	Y	0.97	360	8665.726	0.553
1234678-HpCDD	**40.14**		**1.0003**	**1.0003**	**0**	**2.43E+07**	**1.06**	**Y**	**0.97**	**242**	**8665.726**	**0.553**
OCDD	**42.64**		**1.0003**	**1.0003**	**0**	**2.97E+08**	**0.89**	**Y**	**1.07**	**4,170**	**11499.973**	**1.33**
OCDD-a	42.63		1.0002	1.0001	-0.3	1.79E+07	2.46	Y	0.07	4,070	15168.197	28.5
1368-TCDF	21.46		0.8080	0.8065	-1.9	4.35E+05	0.69	Y	0.96	2.41	8827.64	0.545
1468-TCDF	22.05		0.8299	0.8287	-1.6	2.65E+06	0.75	Y	0.96	14.7	8827.64	0.545
2468-TCDF	22.73		0.8555	0.8543	-1.6	2.21E+06	0.80	Y	0.96	12.2	8827.64	0.545
1346/1246-TCDF	23.19		0.8688	0.8718	+4.2	2.33E+06	0.86	Y	0.96	12.9	8827.64	0.545
1347/1378/1247-TCDF	23.32		0.8753	0.8767	+2.0	1.81E+07	0.80	Y	0.96	100	8827.64	0.545
1348-TCDF	23.56		0.8863	0.8856	-1.0	5.53E+06	0.79	Y	0.96	30.6	8827.64	0.545
1248/1367/1379-TCDF	23.67		0.8915	0.8897	-2.6	8.54E+07	0.79	Y	0.96	473	8827.64	0.545
1268-TCDF	24.10		0.9065	0.9057	-1.2	2.64E+07	0.79	Y	0.96	147	8827.64	0.545
1467-TCDF	24.24		0.9119	0.9111	-1.2	3.93E+06	0.76	Y	0.96	21.8	8827.64	0.545
1478-TCDF	24.42		0.9186	0.9179	-1.0	6.93E+07	0.79	Y	0.96	384	8827.64	0.545
1369/1237-TCDF	24.82		0.9331	0.9328	-0.4	1.78E+07	0.78	Y	0.96	98.6	8827.64	0.545
2467-TCDF	24.95		0.9384	0.9377	-1.0	1.67E+06	0.74	Y	0.96	9.27	8827.64	0.545
2368-TCDF	25.10		0.9445	0.9435	-1.5	4.10E+07	0.78	Y	0.96	227	8827.64	0.545
1238/1234/1678/1469/1236-TCDF	25.18		0.9476	0.9466	-1.5	9.31E+07	0.80	Y	0.96	516	8827.64	0.545
1278-TCDF	25.68	E	0.9656	0.9651	-0.8	8.39E+08	0.82	Y	0.96	4,650	8827.64	0.545
1349-TCDF	NotFnd		0.9703						0.96		8827.64	0.545
1267-TCDF	25.97		0.9765	0.9761	-0.6	4.40E+07	0.78	Y	0.96	244	8827.64	0.545
2346/1249-TCDF	26.17		0.9836	0.9837	+0.2	5.78E+06	0.83	Y	0.96	32.1	8827.64	0.545
2347/1279-TCDF	26.38		0.9921	0.9917	-0.6	1.81E+07	0.78	Y	0.96	100	8827.64	0.545
2348-TCDF	26.52		0.9965	0.9967	+0.3	1.53E+08	0.78	Y	0.96	849	8827.64	0.545
2378-TCDF	**26.63**	E	**1.0008**	**1.0009**	**+0.2**	**1.93E+09**	**0.79**	**Y**	**0.96**	**10,700**	**8827.64**	**0.545**
2367/3467-TCDF	27.00		1.0150	1.0147	-0.5	1.50E+08	0.79	Y	0.96	834	8827.64	0.545
1269-TCDF	27.26		1.0243	1.0246	+0.5	3.08E+07	0.80	Y	0.96	171	8827.64	0.545
1239-TCDF	27.52		1.0345	1.0346	+0.2	2.52E+06	0.76	Y	0.96	14	8827.64	0.545
1289-TCDF	28.72		1.0780	1.0794	+2.4	1.48E+08	0.79	Y	0.96	819	8827.64	0.545
13468/12468-PeCDF	28.68		0.9095	0.9099	+0.7	4.22E+06	1.50	Y	0.94	26.4	8302.952	0.475
13678/13467/12467-PeCDF	30.26		0.9595	0.9601	+1.1	1.18E+06	1.57	Y	0.94	7.39	9081.904	0.519
12368/13478/12478-PeCDF	30.43		0.9646	0.9653	+1.3	4.43E+07	1.58	Y	0.94	277	9081.904	0.519
14678-PeCDF	30.52		0.9678	0.9681	+0.5	1.18E+06	1.78	Y	0.94	7.35	9081.904	0.519
13479-PeCDF	30.61	J	0.9710	0.9710	0	1.90E+05	1.63	Y	0.94	1.19	9081.904	0.519
13469/12479-PeCDF	30.81	J EMPC	0.9790	0.9775	-2.8	2.81E+05	1.87	N	0.94	1.76	9081.904	0.519
12346-PeCDF	31.00	J EMPC	0.9835	0.9833	-0.4	1.75E+05	1.84	N	0.94	1.1	9081.904	0.519

Lab ID: B6146_18820_DF_003 | **Acq'd: 12 Jan 2022 00:28 PSW** | **Wt/Vol: 10.19 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-010622-S-BN-SW-S-35 | **UTP: 12-Jan-2022 09:31:48 PSW** | **J-level: 0.491 pg/g** | **Split: 1** | **Checkcode: 123-215-NLT**

Datafile: 220111R20 | **Report: 12 Jan 2022 09:32 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.10		0.9864	0.9867	+0.6	1.83E+06	1.56	Y	0.94	11.5	9081.904	0.519
12347-PeCDF	31.18		0.9888	0.9890	+0.4	9.81E+05	1.76	Y	0.94	6.13	9081.904	0.519
12348-PeCDF	31.33		0.9939	0.9939	0	8.74E+06	1.57	Y	0.94	54.6	9081.904	0.519
12378-PeCDF	**31.54**		**1.0005**	**1.0006**	**+0.2**	**1.06E+08**	**1.55**	**Y**	**0.95**	**704**	**9081.904**	**0.543**
12678/12367-PeCDF	31.84		1.0094	1.0102	+1.5	3.31E+07	1.56	Y	0.94	207	9081.904	0.519
12379-PeCDF	NotFnd		1.0149						0.94		9081.904	0.519
12679-PeCDF	32.42	J	0.9925	0.9924	-0.2	3.13E+05	1.53	Y	0.94	1.95	9081.904	0.519
23467/12369-PeCDF	32.54		0.9965	0.9962	-0.6	1.13E+06	1.61	Y	0.94	7.05	9081.904	0.519
23478-PeCDF	**32.69**		**1.0006**	**1.0008**	**+0.4**	**7.79E+07**	**1.58**	**Y**	**0.94**	**462**	**9081.904**	**0.498**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		9081.904	0.519
12349-PeCDF	NotFnd		1.0104						0.94		9081.904	0.519
12389-PeCDF	33.76		1.0336	1.0334	-0.4	4.06E+06	1.45	Y	0.94	25.4	9081.904	0.519
123468-HxCDF	34.57		0.9618	0.9618	0	1.54E+06	1.23	Y	1.16	9.23	26569.23	1.29
124678/134678-HxCDF	34.77		0.9673	0.9673	0	1.29E+07	1.22	Y	1.16	77.2	26569.23	1.29
134679-HxCDF	NotFnd		0.9737						1.16		26569.23	1.29
124679-HxCDF	NotFnd		0.9793						1.16		26569.23	1.29
124689-HxCDF	35.42		0.9855	0.9856	+0.2	6.50E+06	1.27	Y	1.16	38.8	26569.23	1.29
123467-HxCDF	35.84		0.9972	0.9971	-0.2	8.35E+05	1.25	Y	1.16	4.99	26569.23	1.29
123478-HxCDF	**35.96**		**1.0004**	**1.0005**	**+0.2**	**1.66E+08**	**1.25**	**Y**	**1.23**	**1,100**	**26569.23**	**1.52**
123678-HxCDF	**36.10**		**1.0004**	**1.0005**	**+0.2**	**4.70E+07**	**1.26**	**Y**	**1.13**	**269**	**26569.23**	**1.2**
123479-HxCDF	NotFnd		1.0049						1.16		26569.23	1.29
123469-HxCDF	36.40		1.0089	1.0087	-0.4	5.69E+05	1.13	Y	1.16	3.4	26569.23	1.29
123679-HxCDF	NotFnd		0.9944						1.16		26569.23	1.29
234678-HxCDF	**36.75**		**1.0004**	**1.0004**	**0**	**1.06E+07**	**1.26**	**Y**	**1.15**	**51.5**	**26569.23**	**1.04**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		26569.23	1.29
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**26569.23**	**1.52**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.77		1.0007	1.0013	+1.4	1.21E+07	1.23	Y	1.16	72.1	26569.23	1.29
1234678-HpCDF	**39.23**		**1.0003**	**1.0003**	**0**	**5.09E+07**	**1.04**	**Y**	**1.36**	**331**	**7330.061**	**0.328**
1234679-HpCDF	39.50	**EMPC**	1.0071	1.0072	+0.2	7.46E+05	0.85	N	1.33	5.29	7330.061	0.35
1234689-HpCDF	39.64		1.0106	1.0109	+0.7	1.58E+07	1.04	Y	1.33	112	7330.061	0.35
1234789-HpCDF	**40.58**		**1.0002**	**1.0003**	**+0.2**	**1.57E+07**	**1.01**	**Y**	**1.30**	**122**	**7330.061**	**0.376**
OCDF	**42.80**		**1.0003**	**1.0002**	**-0.3**	**1.12E+08**	**0.90**	**Y**	**1.03**	**1,320**	**9467.638**	**0.812**
OCDF-a	42.80		1.0002	1.0001	-0.3	6.52E+06	2.61	Y	0.06	1,340	12346.192	18.3

SGS ID: B6146_18820_DF_003 | Sample ID: 11215131-010622-S-BN-SW-S-35 | Acq: 12-Jan-2022 00:28:48

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34 | User: PSW Datafile: 220111R20

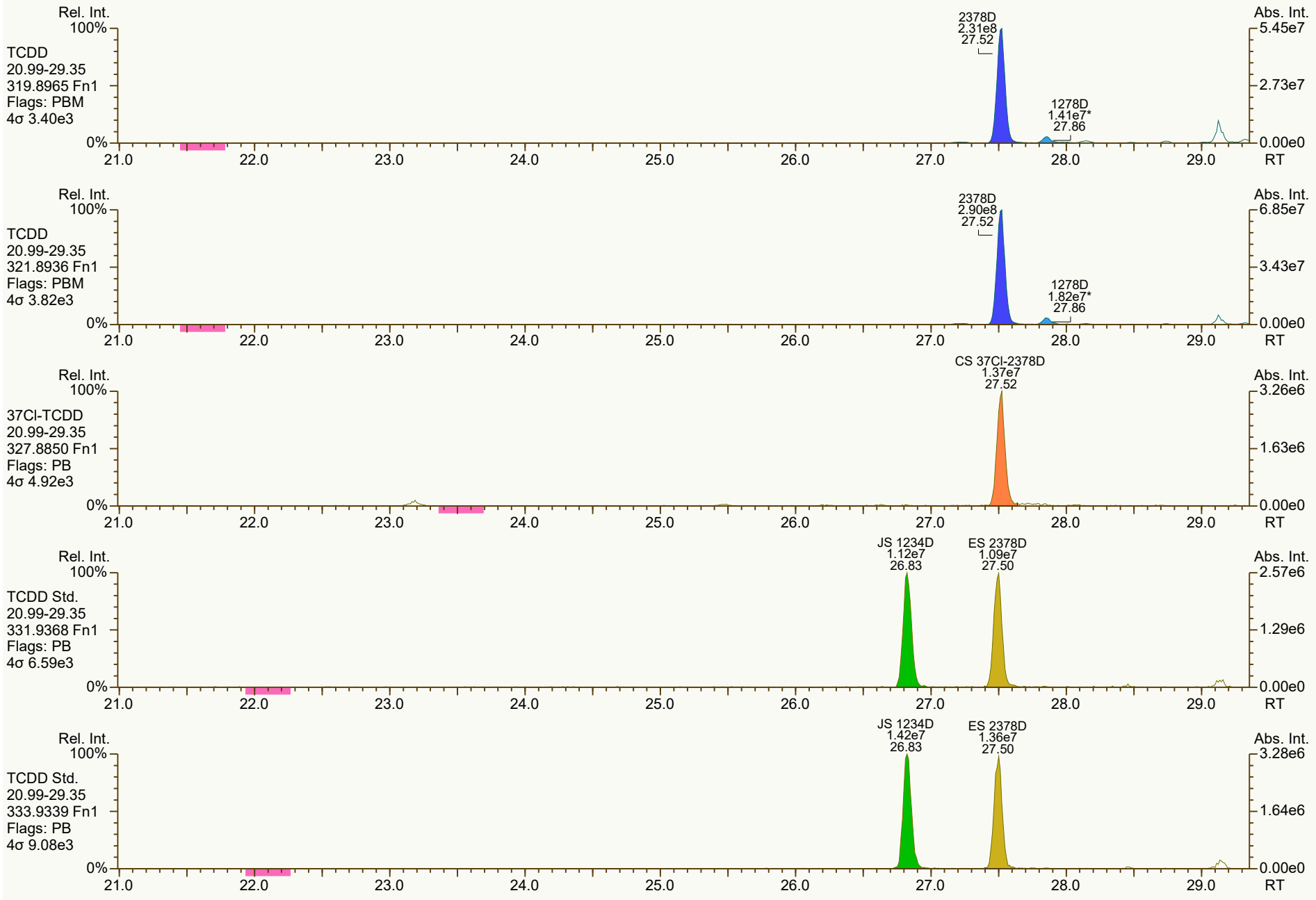


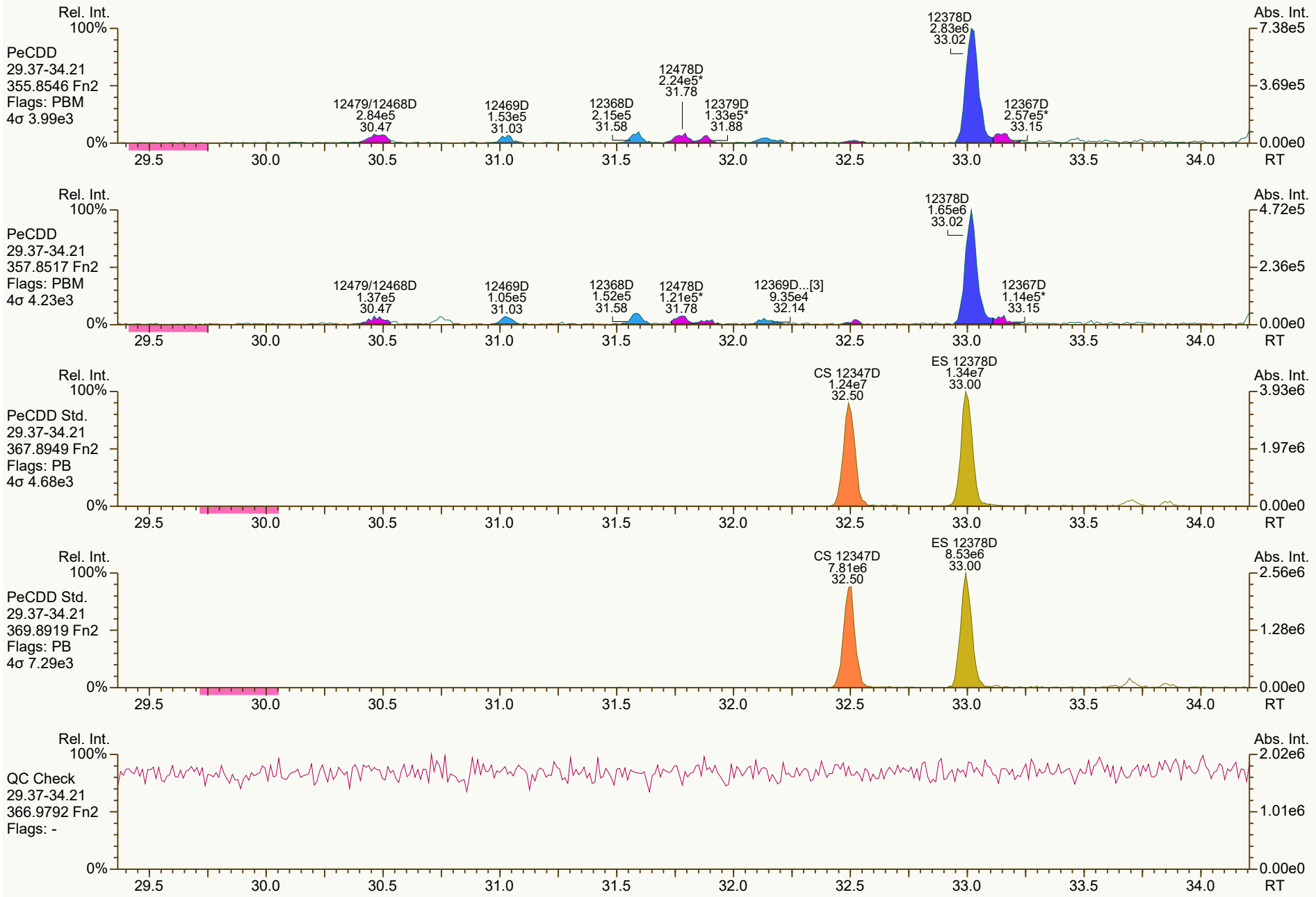
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)

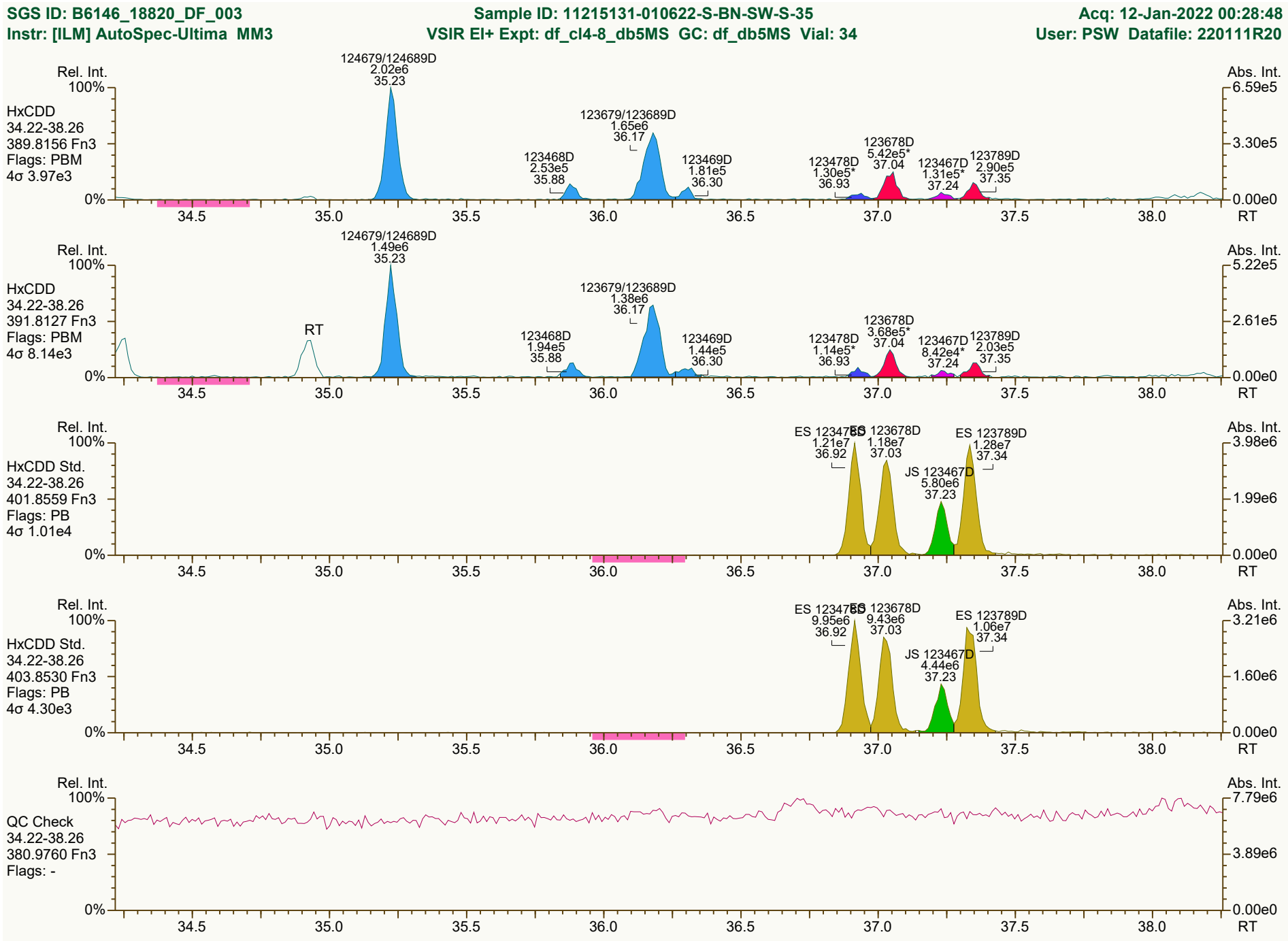
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 123-215

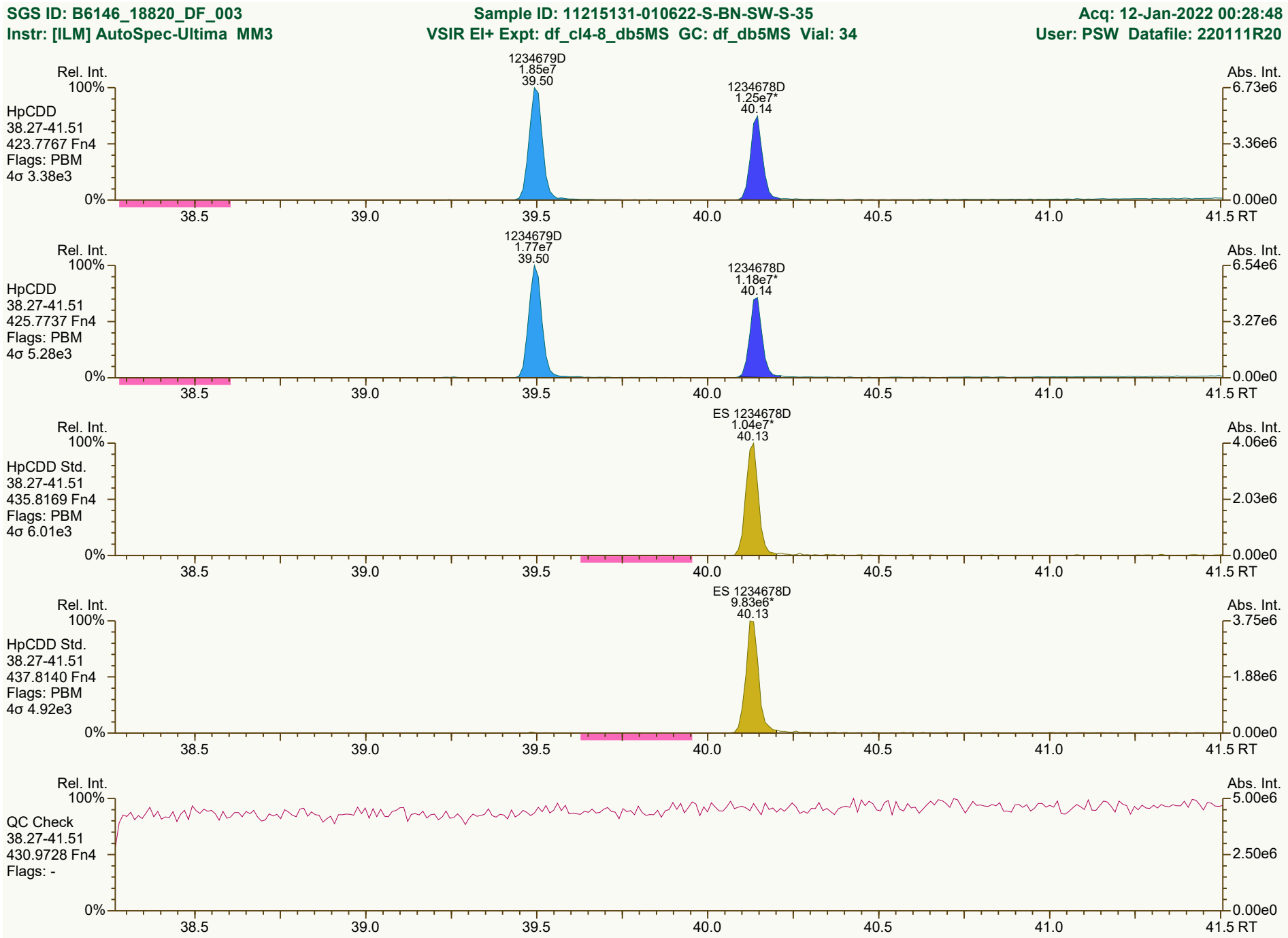
PKD: n/a Printed: 12-Jan-2022 09:35 Page 1 of 12


Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 3.40e3
2378D
2.31e8
27.52
1278D
1.41e7*
27.86
Abs. Int.
5.45e7
2.73e7
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 3.82e3
2378D
2.90e8
27.52
1278D
1.82e7*
27.86
Abs. Int.
6.85e7
3.43e7
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.92e3
CS 37Cl-2378D
1.37e7
27.52
Abs. Int.
3.26e6
1.63e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 6.59e3
JS 1234D
1.12e7
26.83
ES 2378D
1.09e7
27.50
Abs. Int.
2.57e6
1.29e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 9.08e3
JS 1234D
1.42e7
26.83
ES 2378D
1.36e7
27.50
Abs. Int.
3.28e6
1.64e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

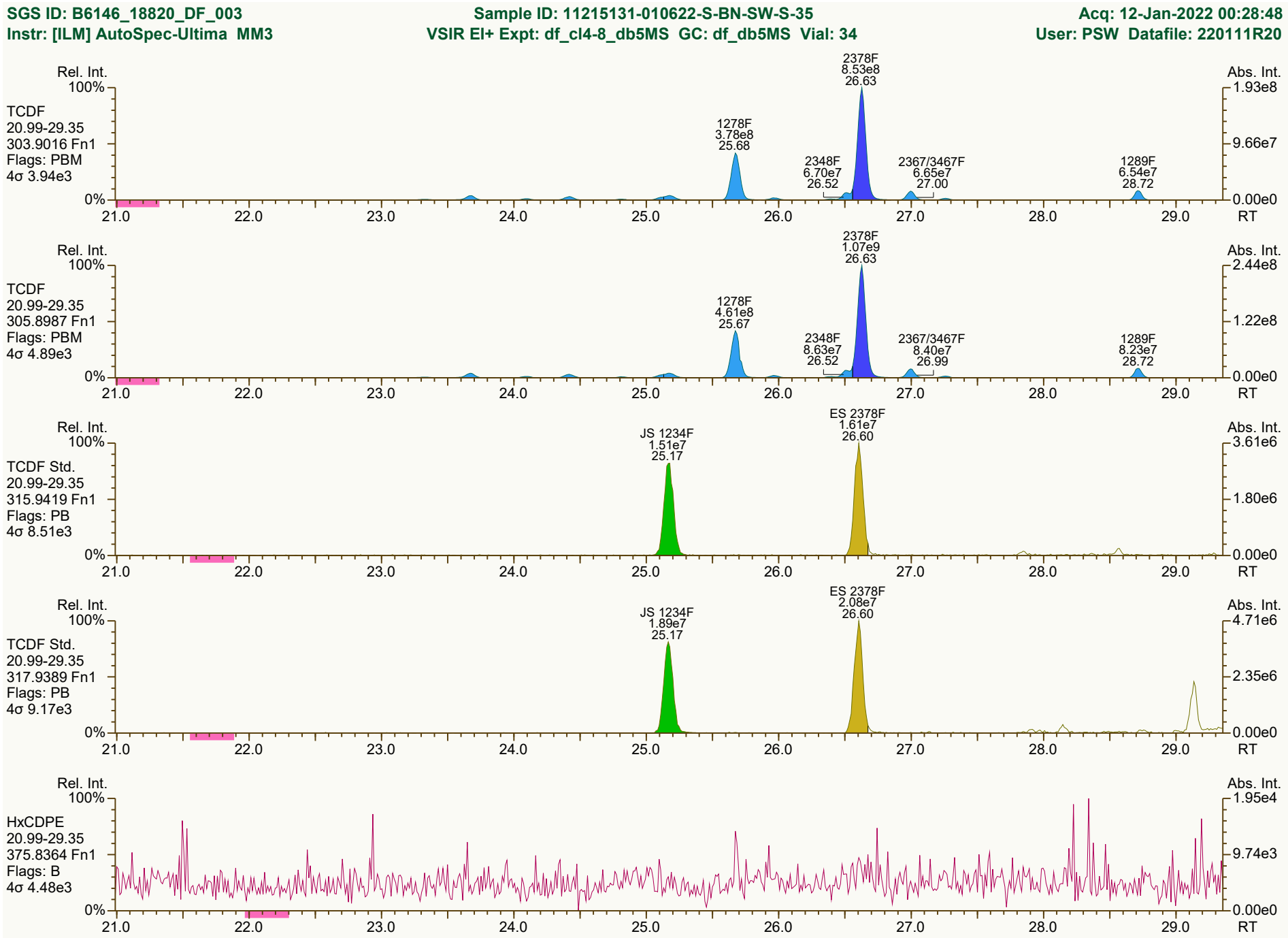

Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PBM
4σ 3.99e3
12479/12468D 2.84e5 30.47
12469D 1.53e5 31.03
12368D 2.15e5 31.58
12478D 2.24e5* 31.78
12379D 1.33e5* 31.88
12378D 2.83e6 33.02
12367D 2.57e5* 33.15
Abs. Int.
7.38e5
3.69e5
0.00e0
0%
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PBM
4σ 4.23e3
12479/12468D 1.37e5 30.47
12469D 1.05e5 31.03
12368D 1.52e5 31.58
12478D 1.21e5* 31.78
12369D...[3] 9.35e4 32.14
12378D 1.65e6 33.02
12367D 1.14e5* 33.15
Abs. Int.
4.72e5
2.36e5
0.00e0
0%
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 4.68e3
CS 12347D 1.24e7 32.50
ES 12378D 1.34e7 33.00
Abs. Int.
3.93e6
1.97e6
0.00e0
0%
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 7.29e3
CS 12347D 7.81e6 32.50
ES 12378D 8.53e6 33.00
Abs. Int.
2.56e6
1.28e6
0.00e0
0%
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
Abs. Int.
2.02e6
1.01e6
0.00e0
0%
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT



Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0856, 7687 scc: 123-215
PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:35 Page 4 of 12


SGS ID: B6146_18820_DF_003
Sample ID: 11215131-010622-S-BN-SW-S-35
Acq: 12-Jan-2022 00:28:48
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: PSW Datafile: 220111R20
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PBM
4σ 3.38e3
1234679D
1.85e7
39.50
1234678D
1.25e7*
40.14
6.73e6
3.36e6
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PBM
4σ 5.28e3
1234679D
1.77e7
39.50
1234678D
1.18e7*
40.14
6.54e6
3.27e6
0.00e0
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PBM
4σ 6.01e3
ES 1234678D
1.04e7*
40.13
4.06e6
2.03e6
0.00e0
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PBM
4σ 4.92e3
ES 1234678D
9.83e6*
40.13
3.75e6
1.88e6
0.00e0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.00e6
2.50e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0993, 0616 scc: 123-215
PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:35 Page 5 of 12


OCDD
1.40e8
42.63
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 6.00e3
0%
Abs. Int.
4.50e7
2.25e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.57e8
42.63
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 5.50e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.25e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.31e3
0%
Abs. Int.
3.79e6
1.90e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.36e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 8.19e3
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.89e6
1.95e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6146_18820_DF_003
Sample ID: 11215131-010622-S-BN-SW-S-35
Acq: 12-Jan-2022 00:28:48
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: PSW Datafile: 220111R20
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 3.94e3
1278F
3.78e8
25.68
2348F
6.70e7
26.52
2378F
8.53e8
26.63
2367/3467F
6.65e7
27.00
1289F
6.54e7
28.72
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 4.89e3
1278F
4.61e8
25.67
2348F
8.63e7
26.52
2378F
1.07e9
26.63
2367/3467F
8.40e7
26.99
1289F
8.23e7
28.72
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 8.51e3
JS 1234F
1.51e7
25.17
ES 2378F
1.61e7
26.60
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 9.17e3
JS 1234F
1.89e7
25.17
ES 2378F
2.08e7
26.60
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.48e3
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0693, 8485, 1618 scc: 123-215
PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:35 Page 7 of 12

SGS ID: B6146_18820_DF_003 | Sample ID: 11215131-010622-S-BN-SW-S-35 | Acq: 12-Jan-2022 00:28:48

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34 | User: PSW Datafile: 220111R20

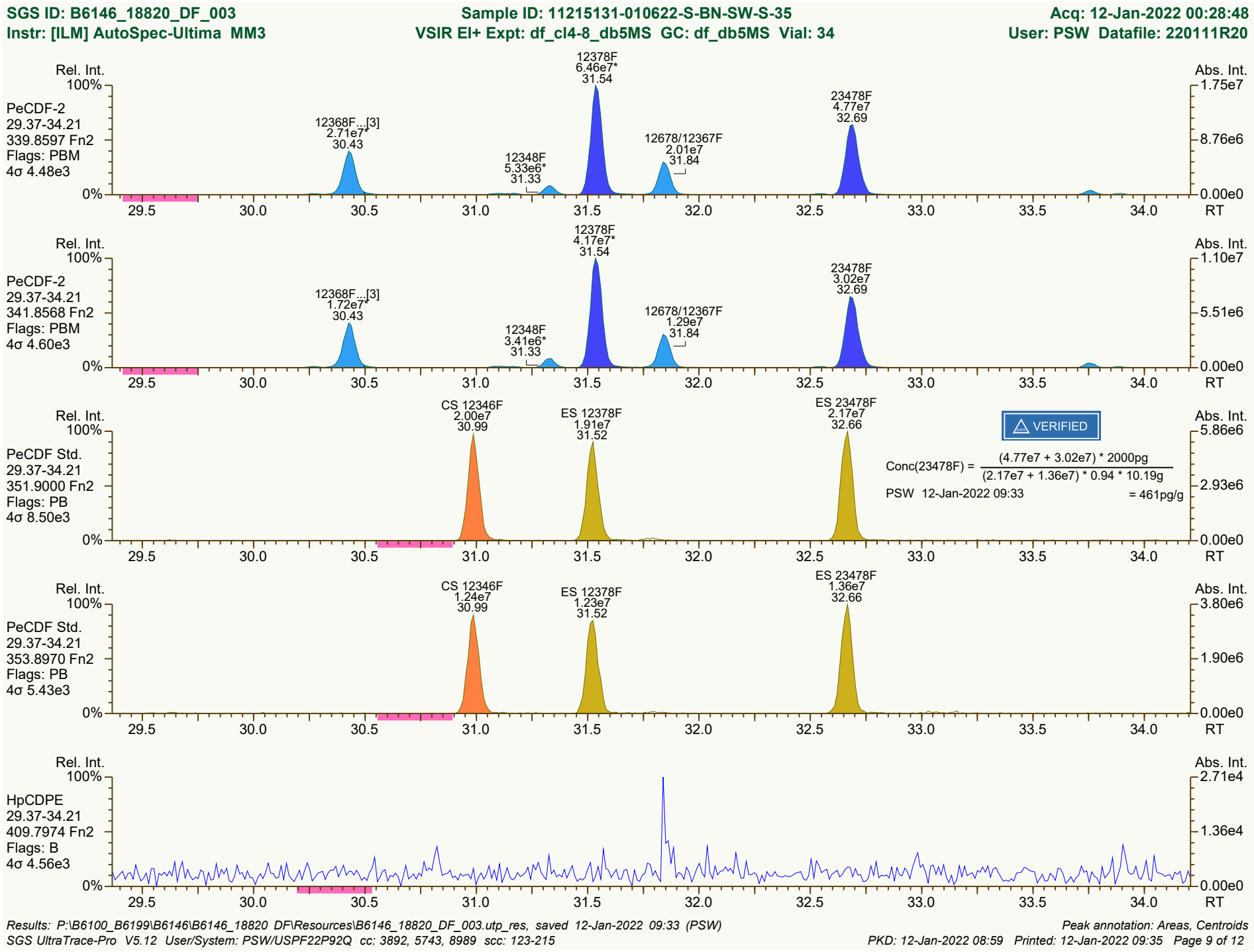


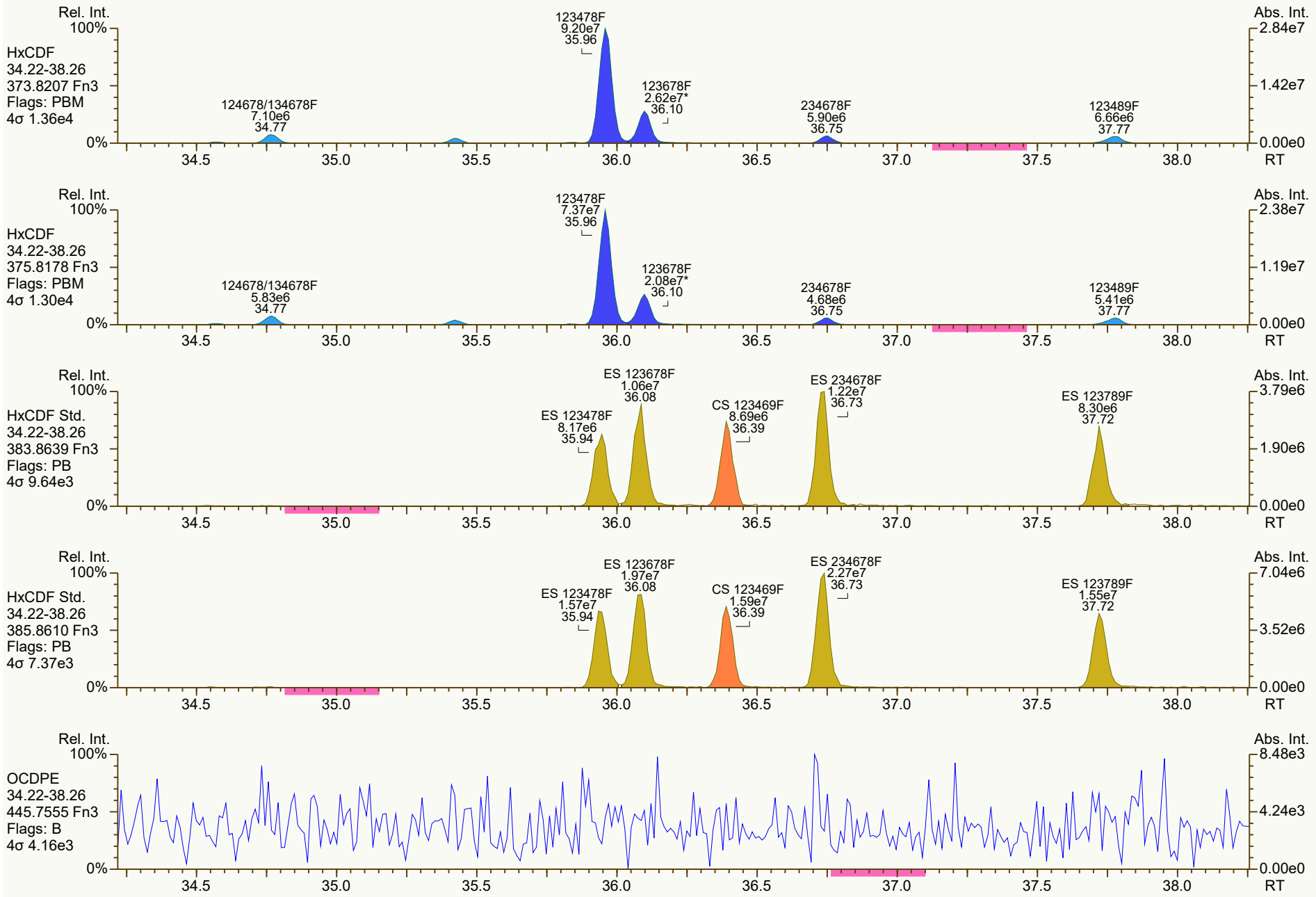
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)

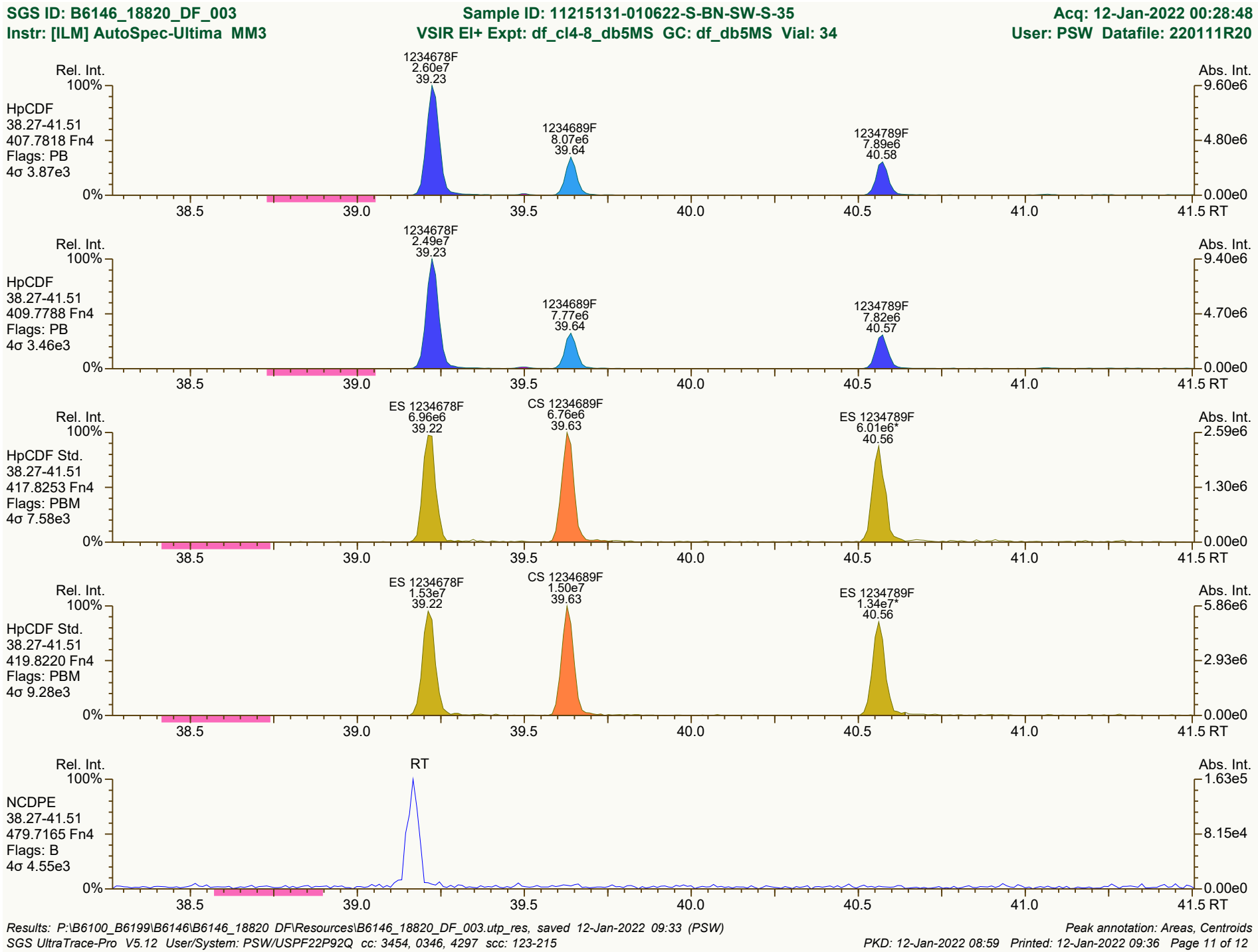
Peak annotation: Areas, Centroids

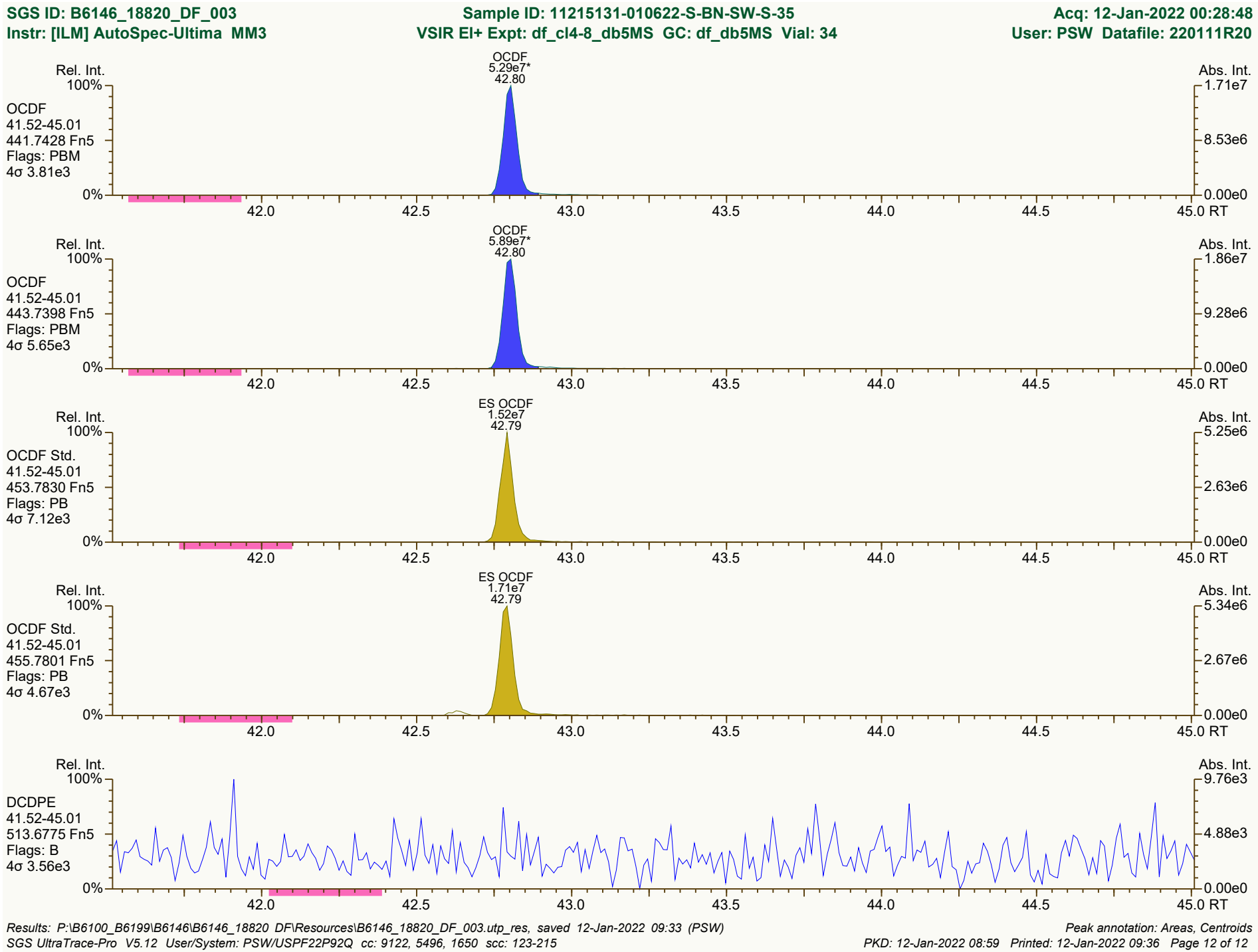
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1804 scc: 123-215

PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:35 Page 8 of 12


SGS ID: B6146_18820_DF_003
Sample ID: 11215131-010622-S-BN-SW-S-35
Acq: 12-Jan-2022 00:28:48
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: PSW Datafile: 220111R20
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PBM
4σ 4.48e3
12368F...[3] 2.71e7* 30.43
12348F 5.33e6* 31.33
12378F 6.46e7* 31.54
12678/12367F 2.01e7 31.84
23478F 4.77e7 32.69
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PBM
4σ 4.60e3
12368F...[3] 1.72e7* 30.43
12348F 3.41e6* 31.33
12378F 4.17e7* 31.54
12678/12367F 1.29e7 31.84
23478F 3.02e7 32.69
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 8.50e3
CS 12346F 2.00e7 30.99
ES 12378F 1.91e7 31.52
ES 23478F 2.17e7 32.66
VERIFIED
Conc(23478F) = (4.77e7 + 3.02e7) * 2000pg / (2.17e7 + 1.36e7) * 0.94 * 10.19g
PSW 12-Jan-2022 09:33
= 461pg/g
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 5.43e3
CS 12346F 1.24e7 30.99
ES 12378F 1.23e7 31.52
ES 23478F 1.36e7 32.66
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.56e3
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3892, 5743, 8989 scc: 123-215
PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:35 Page 9 of 12


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 1.36e4
123478F
9.20e7
35.96
123678F
2.62e7*
36.10
124678/134678F
7.10e6
34.77
234678F
5.90e6
36.75
123489F
6.66e6
37.77
Abs. Int.
2.84e7
1.42e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 1.30e4
123478F
7.37e7
35.96
123678F
2.08e7*
36.10
124678/134678F
5.83e6
34.77
234678F
4.68e6
36.75
123489F
5.41e6
37.77
2.38e7
1.19e7
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 9.64e3
ES 123678F
1.06e7
36.08
ES 123478F
8.17e6
35.94
CS 123469F
8.69e6
36.39
ES 234678F
1.22e7
36.73
ES 123789F
8.30e6
37.72
3.79e6
1.90e6
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 7.37e3
ES 123678F
1.97e7
36.08
ES 123478F
1.57e7
35.94
CS 123469F
1.59e7
36.39
ES 234678F
2.27e7
36.73
ES 123789F
1.55e7
37.72
7.04e6
3.52e6
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 4.16e3
8.48e3
4.24e3


SGS ID: B6146_18820_DF_003
Sample ID: 11215131-010622-S-BN-SW-S-35
Acq: 12-Jan-2022 00:28:48
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: PSW Datafile: 220111R20
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 3.87e3
1234678F
2.60e7
39.23
1234689F
8.07e6
39.64
1234789F
7.89e6
40.58
9.60e6
4.80e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 3.46e3
1234678F
2.49e7
39.23
1234689F
7.77e6
39.64
1234789F
7.82e6
40.57
9.40e6
4.70e6
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PBM
4σ 7.58e3
ES 1234678F
6.96e6
39.22
CS 1234689F
6.76e6
39.63
ES 1234789F
6.01e6*
40.56
2.59e6
1.30e6
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PBM
4σ 9.28e3
ES 1234678F
1.53e7
39.22
CS 1234689F
1.50e7
39.63
ES 1234789F
1.34e7*
40.56
5.86e6
2.93e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.55e3
RT
1.63e5
8.15e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3454, 0346, 4297 scc: 123-215
PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:36 Page 11 of 12


SGS ID: B6146_18820_DF_003
Sample ID: 11215131-010622-S-BN-SW-S-35
Acq: 12-Jan-2022 00:28:48
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: PSW Datafile: 220111R20
OCDF
5.29e7*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 3.81e3
0%
Abs. Int.
1.71e7
8.53e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.89e7*
42.80
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 5.65e3
1.86e7
9.28e6
ES OCDF
1.52e7
42.79
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 7.12e3
5.25e6
2.63e6
ES OCDF
1.71e7
42.79
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 4.67e3
5.34e6
2.67e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.56e3
9.76e3
4.88e3
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\B6146_18820_DF_003.utp_res, saved 12-Jan-2022 09:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9122, 5496, 1650 scc: 123-215
PKD: 12-Jan-2022 08:59 Printed: 12-Jan-2022 09:36 Page 12 of 12

REVIEWED
Tamara Burkamper , 1/12/2022, 11:24:08 AM

SGS Environmental Services — Run Log **Project: B6146_18820_DF**

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
10	220111R10	3	CS3_220111_DF_RB ✓	1.00	SIL 25-347-1	PSW	198-293	11-Jan-2022	16:34:51
11	220111R11	28	OPR1_18820_DF	1.00	0_18820_OPR001	PSW	179-349	11-Jan-2022	17:21:29
12	220111R12	29	OPR2_18820_DF	1.00	0_18820_OPR002	PSW	411-693	11-Jan-2022	18:08:55
14	220111R14	2	SBS_220111_DF_RC	1.00	SIL 20-61-1	PSW	006-315	11-Jan-2022	19:43:51
15	220111R15	27	MB1_18820_DF_TLX	10.00	Method Blank	PSW	844-424	11-Jan-2022	20:31:25
18	220111R18	32	B6146_18820_DF_001	10.46	11215131-010522-S-BN-SW-S-36	PSW	619-522	11-Jan-2022	22:53:54
19	220111R19	33	B6146_18820_DF_002	10.49	11215131-010622-S-BN-SW-S-30	PSW	211-648	11-Jan-2022	23:41:21
20	220111R20	34	B6146_18820_DF_003 ✓	10.19	11215131-010622-S-BN-SW-S-35	PSW	123-215	12-Jan-2022	00:28:48

REVIEWED
paul_walton , 1/12/2022, 9:40:51 AM

Dioxin/Furan QC Summary	Acq'd: 11 Jan 2022 16:34 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220111_DF_RB	UTP: 12-Jan-2022 09:29:53 PSW	Checkcode: 198-293-MJX
Sample ID: SIL 25-347-1	Report: 12 Jan 2022 09:30 pw	Datafile: 220111R10

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.51	2.40E+06	0.86	Y	1.34	1.07	-21%
12378-PeCDD	33.01	1.02E+07	1.60	Y	1.06	1.01	-4%
123478-HxCDD	36.93	9.09E+06	1.24	Y	1.06	1.02	-4%
123678-HxCDD	37.04	9.34E+06	1.27	Y	1.08	1.04	-4%
123789-HxCDD	37.35	9.83E+06	1.27	Y	1.02	0.99	-3%
1234678-HpCDD	40.15	8.80E+06	1.04	Y	0.97	0.99	1%
OCDD	42.64	1.21E+07	0.88	Y	1.07	1.06	-1%
2378-TCDF	26.61	3.42E+06	0.78	Y	0.96	0.97	1%
12378-PeCDF	31.53	1.54E+07	1.54	Y	0.95	1.04	10%
23478-PeCDF	32.67	1.54E+07	1.54	Y	0.94	1.02	8%
123478-HxCDF	35.96	1.42E+07	1.30	Y	1.23	1.27	3%
123678-HxCDF	36.10	1.46E+07	1.27	Y	1.13	1.16	2%
234678-HxCDF	36.75	1.42E+07	1.26	Y	1.15	1.19	3%
123789-HxCDF	37.74	1.29E+07	1.25	Y	1.14	1.19	5%
1234678-HpCDF	39.23	1.33E+07	1.07	Y	1.36	1.42	4%
1234789-HpCDF	40.58	1.18E+07	1.03	Y	1.30	1.33	2%
OCDF	42.81	1.54E+07	0.90	Y	1.03	1.05	3%
ES 2378-TCDD	27.49	2.25E+07	0.76	Y	1.03	0.96	-7%
ES 12378-PeCDD	32.993	2.01E+07	1.57	Y	1.03	0.86	-17%
ES 123478-HxCDD	36.914	1.79E+07	1.27	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.03	1.79E+07	1.27	Y	0.97	0.97	0%
ES 123789-HxCDD	37.334	1.99E+07	1.28	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.134	1.78E+07	1.00	Y	0.99	0.97	-2%
ES OCDD	42.624	2.29E+07	0.95	Y	0.78	0.62	-20%
ES 2378-TCDF	26.588	3.52E+07	0.78	Y	1.08	1.05	-3%
ES 12378-PeCDF	31.514	2.96E+07	1.59	Y	0.93	0.88	-6%
ES 23478-PeCDF	32.651	3.02E+07	1.63	Y	0.92	0.90	-2%
ES 123478-HxCDF	35.939	2.24E+07	0.56	Y	1.14	1.22	7%
ES 123678-HxCDF	36.078	2.52E+07	0.52	Y	1.30	1.37	6%
ES 234678-HxCDF	36.733	2.39E+07	0.51	Y	1.20	1.30	8%
ES 123789-HxCDF	37.723	2.16E+07	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.218	1.87E+07	0.49	Y	0.95	1.02	7%
ES 1234789-HpCDF	40.567	1.78E+07	0.47	Y	0.85	0.97	14%
ES OCDF	42.795	2.92E+07	0.91	Y	0.93	0.79	-14%

*meets M1613B criteria

Dioxin/Furan QC Summary	Acq'd: 11 Jan 2022 16:34 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220111_DF_RB	UTP: 12-Jan-2022 09:29:53 PSW	Checkcode: 198-293-MJX
Sample ID: SIL 25-347-1	Report: 12 Jan 2022 09:30 pw	Datafile: 220111R10

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.81	2.34E+07	0.78	Y	-	-	-
JS 1234-TCDF	25.16	3.36E+07	0.77	Y	-	-	-
JS 123467-HxCDD	37.23	9.19E+06	1.18	Y	-	-	-
CS 37Cl-2378-TCDD	27.51	2.75E+06	n/a	-	1.31	1.18	-10%
CS 12347-PeCDD	32.49	1.85E+07	1.62	Y	0.89	0.79	-11%
CS 12346-PeCDF	30.98	2.85E+07	1.62	Y	0.87	0.85	-2%
CS 123469-HxCDF	36.39	2.25E+07	0.50	Y	1.09	1.22	12%
CS 1234689-HpCDF	39.63	1.94E+07	0.45	Y	0.86	1.06	22%
~~SS 37Cl-2378-TCDD~~	~~27.51~~	~~2.75E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.22~~	~~-3%~~
~~SS 12347-PeCDD~~	~~32.49~~	~~1.85E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~0.92~~	~~6%~~
~~SS 12346-PeCDF~~	~~30.98~~	~~2.85E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~0.96~~	~~4%~~
~~SS 123469-HxCDF~~	~~36.39~~	~~2.25E+07~~	~~0.50~~	~~Y~~	~~0.84~~	~~0.89~~	~~6%~~
~~SS 1234689-HpCDF~~	~~39.63~~	~~1.94E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~1.04~~	~~14%~~
~~OCDD-a~~	~~42.63~~	~~7.56E+05~~	~~2.08~~	~~N~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~42.80~~	~~7.75E+05~~	~~2.26~~	~~Y~~	~~0.06~~	~~0.05~~	~~-10%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220111R10 Analysis Date: 11-JAN-2022 16:34:51

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.86	0.65 - 0.89	Y	7.94	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32 - 1.78	Y	47.8	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	48.1	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDD	M+2/M+4	0.88	0.76 - 1.02	Y	98.6	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	54.9	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	54.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.30	1.05 - 1.43	Y	51.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	51.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	51.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	52.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88 - 1.20	Y	52.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	51.1	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 12 Jan 2022 09:30 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

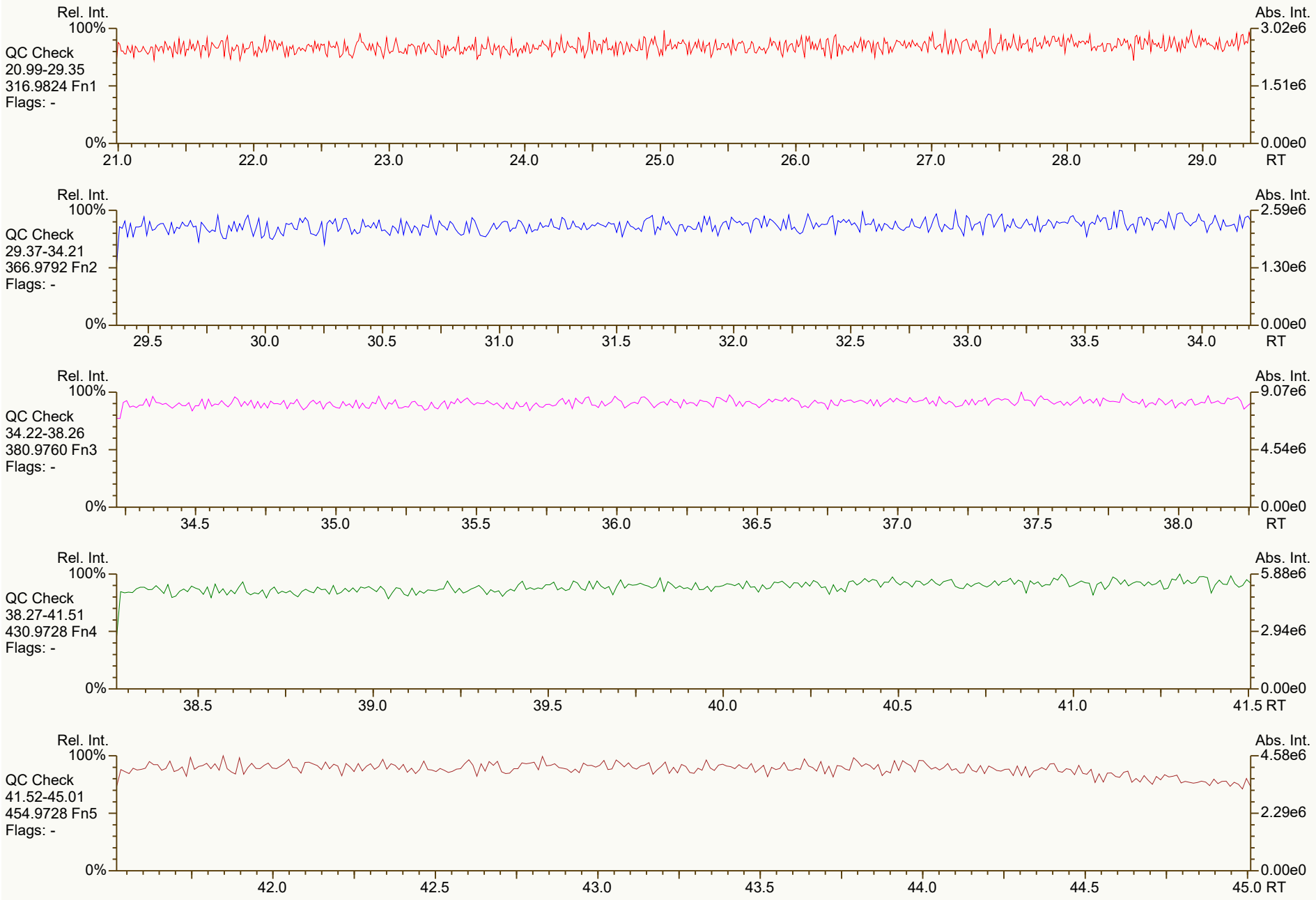
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

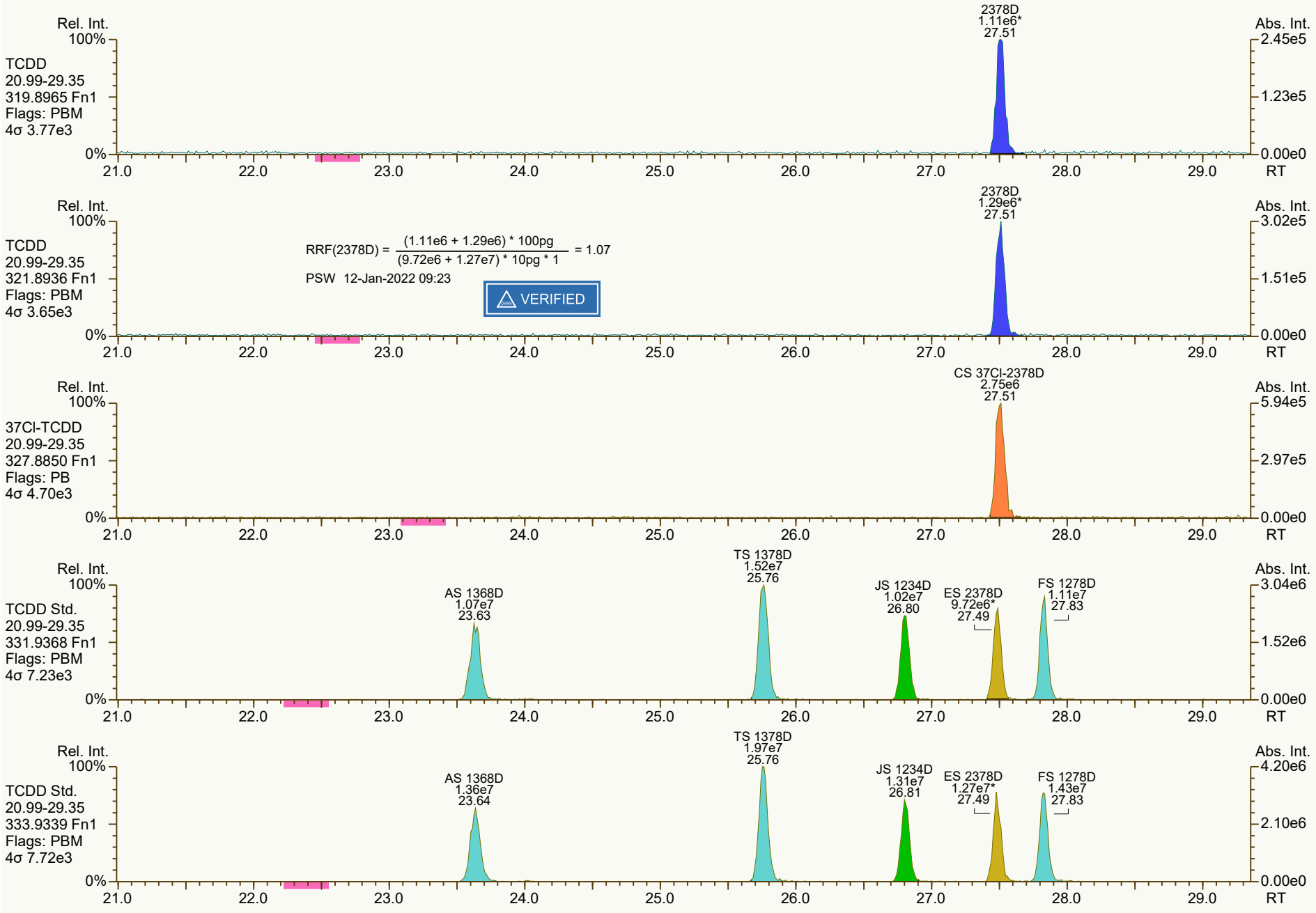
Instrument ID: MM3 GC Column ID: ZB-5ms

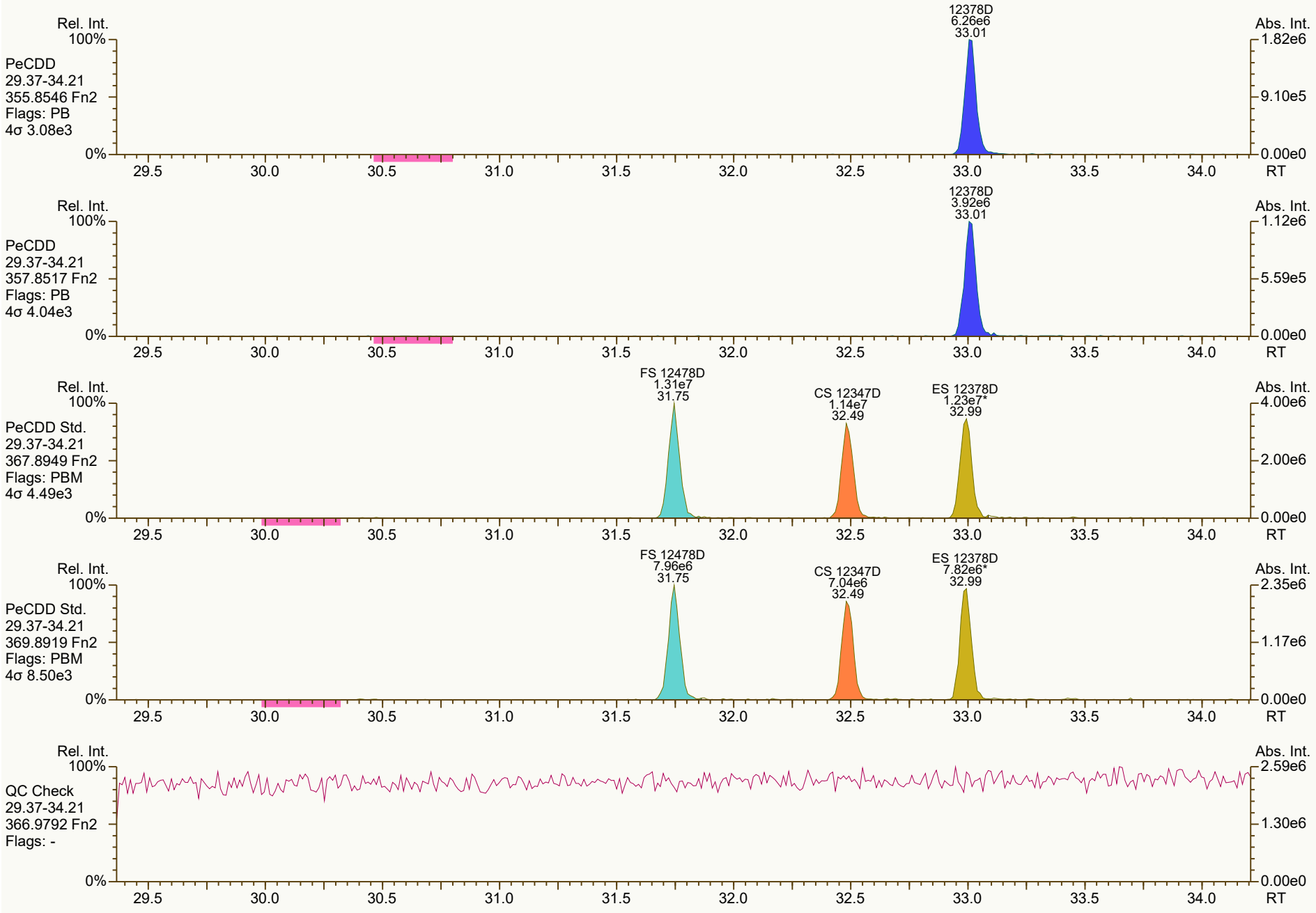
VER Data Filename: 220111R10 Analysis Date: 11-JAN-2022 16:34:51

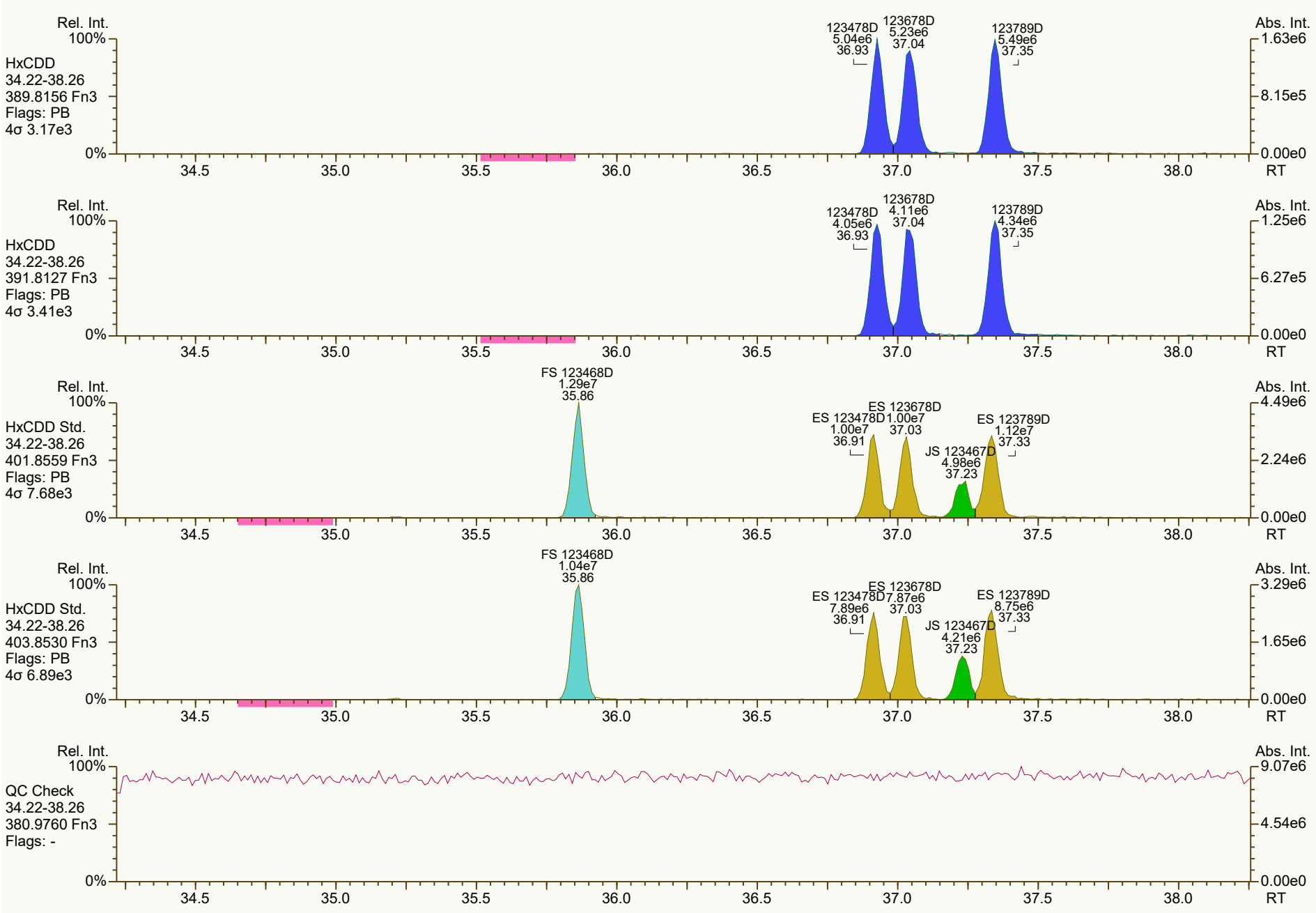
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65	-	0.89	Y	93	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	83.2	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	97.8	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	96.5	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	0.88	-	1.20	Y	97.6	72	-	138	Y
13C-OCDD	M+2/M+4	0.95	0.76	-	1.02	Y	160	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	96.6	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	94.3	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32	-	1.78	Y	97.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43	-	0.59	Y	107	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	106	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	108	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.49	0.37	-	0.51	Y	107	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	114	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	171	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						8.98	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	88.6	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	97.7	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	112	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	122	70	-	130	Y

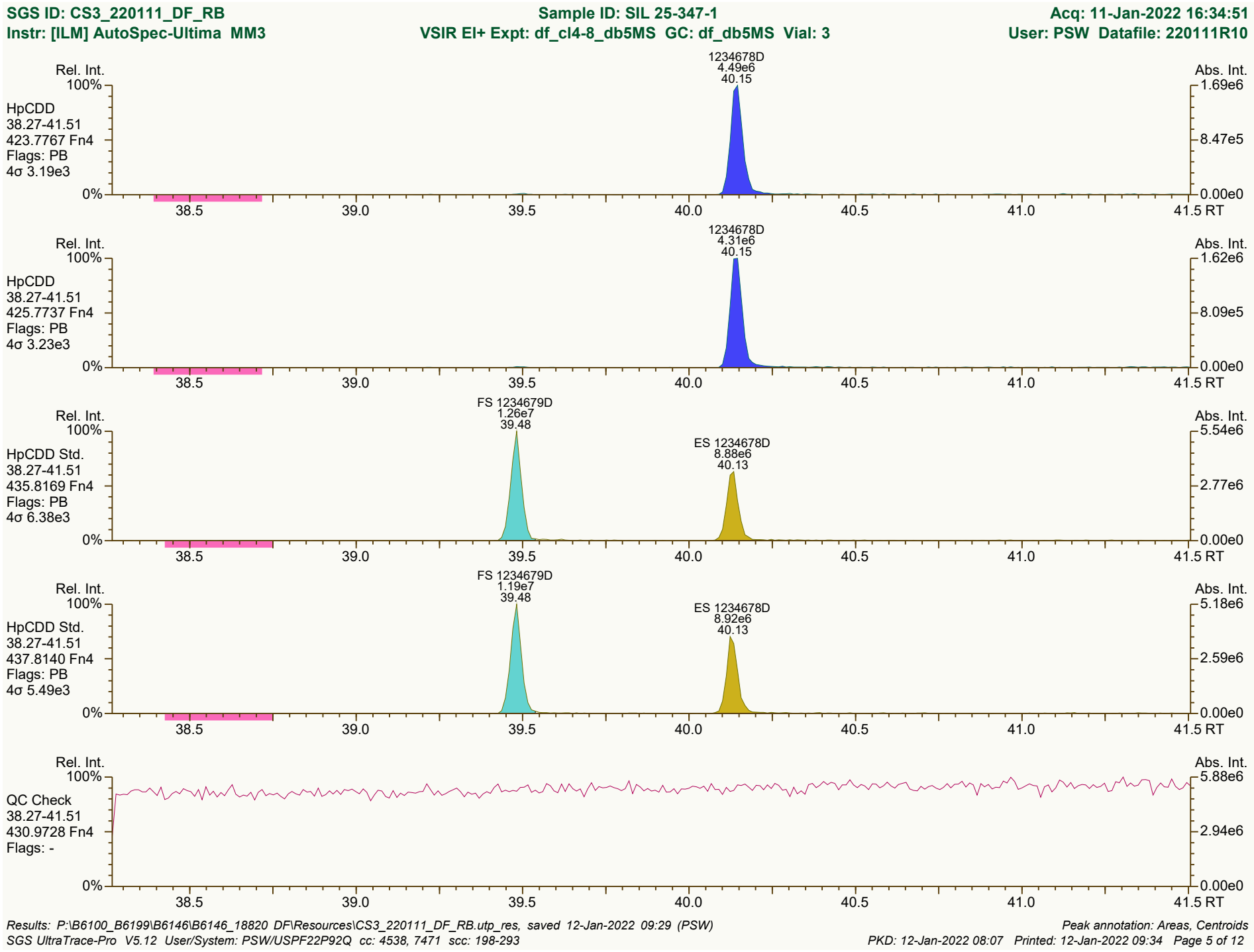
Processed: 12 Jan 2022 09:30 Analyst: pw

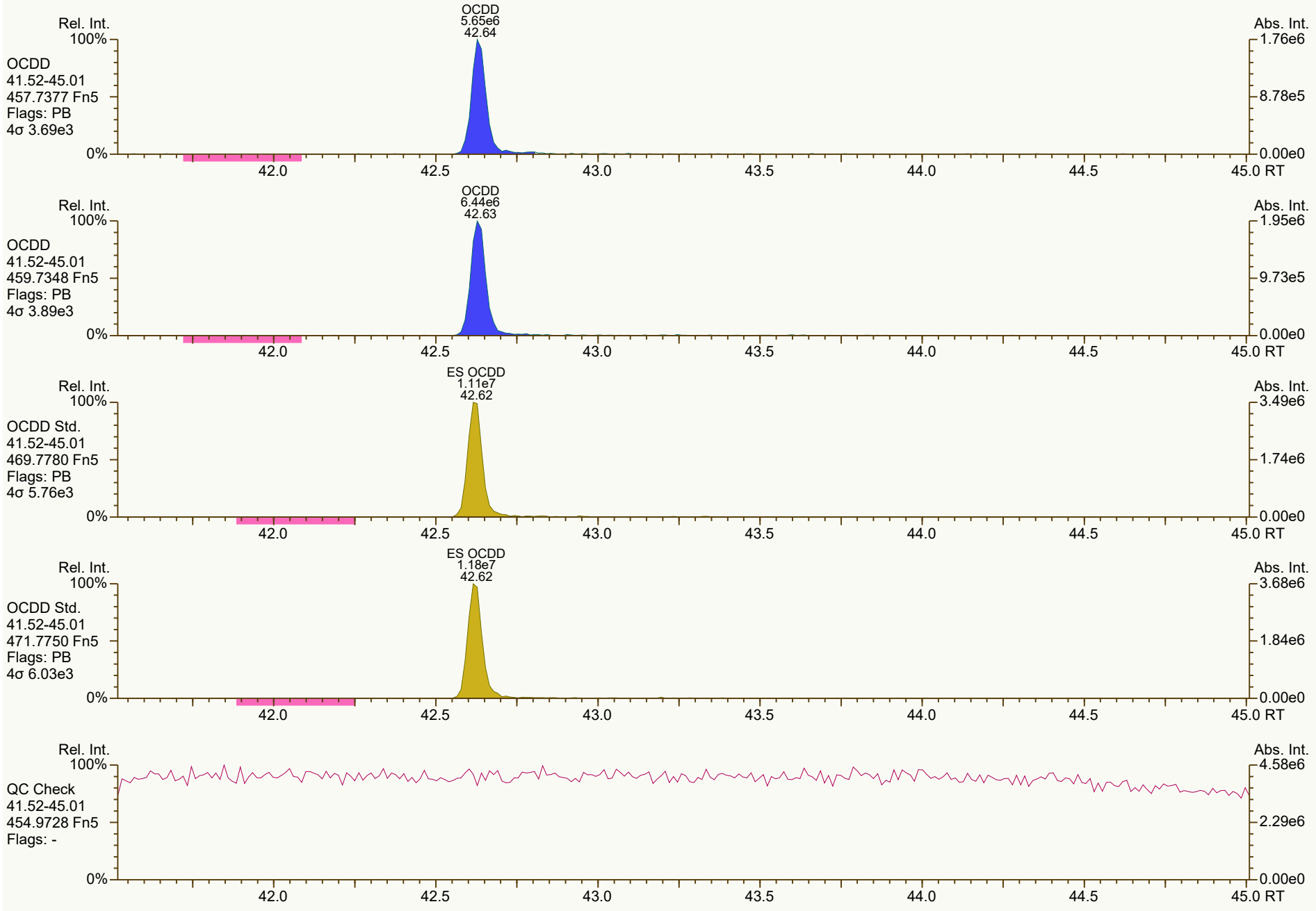

Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.02e6
1.51e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.59e6
1.30e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.07e6
4.54e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.88e6
2.94e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

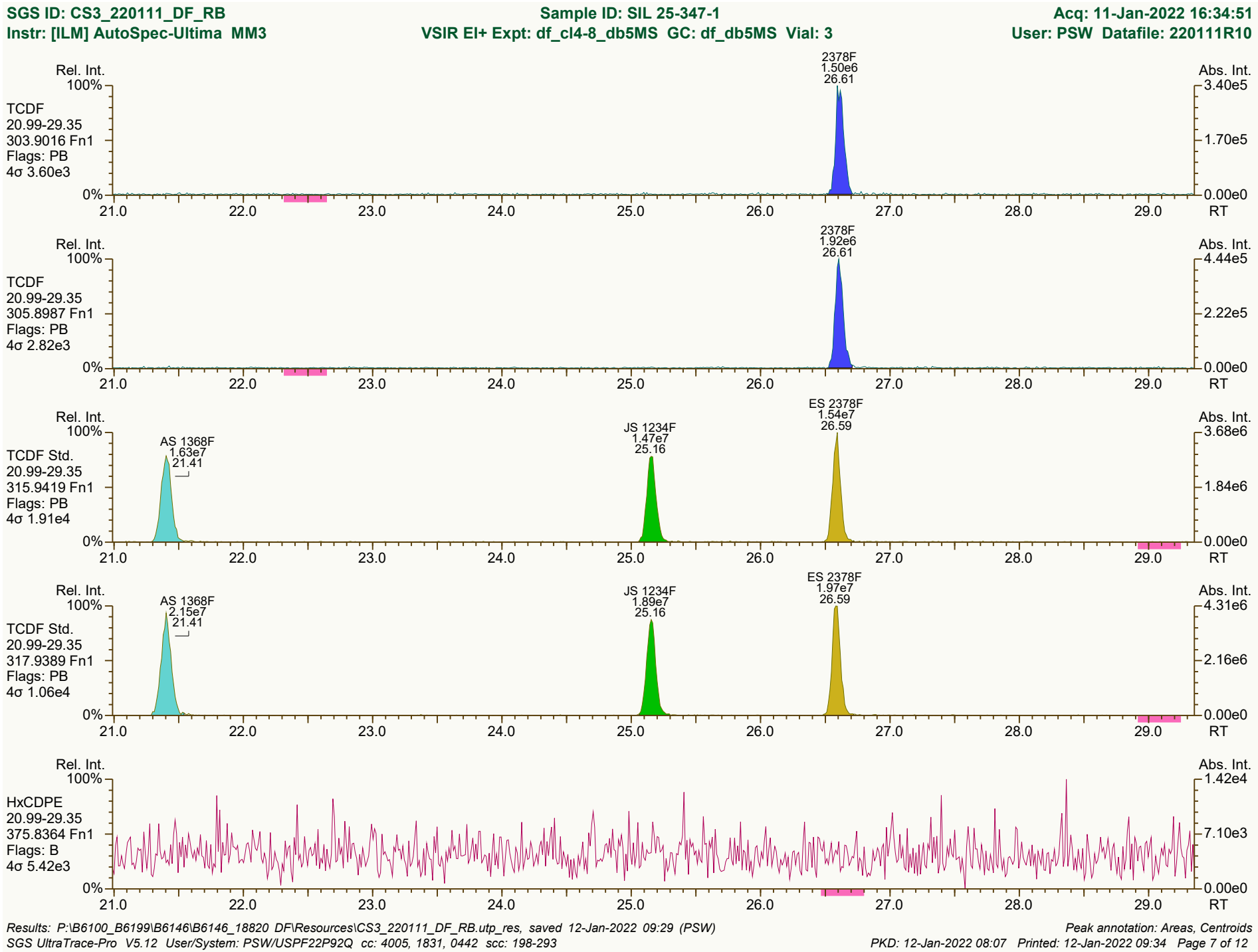

Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 3.77e3
2378D
1.11e6*
27.51
Abs. Int.
2.45e5
1.23e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 3.65e3
2378D
1.29e6*
27.51
3.02e5
1.51e5
RRF(2378D) = (1.11e6 + 1.29e6) * 100pg / (9.72e6 + 1.27e7) * 10pg * 1 = 1.07
PSW 12-Jan-2022 09:23
VERIFIED
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 4.70e3
CS 37Cl-2378D
2.75e6
27.51
5.94e5
2.97e5
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PBM
4σ 7.23e3
AS 1368D
1.07e7
23.63
TS 1378D
1.52e7
25.76
JS 1234D
1.02e7
26.80
ES 2378D
9.72e6*
27.49
FS 1278D
1.11e7
27.83
3.04e6
1.52e6
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PBM
4σ 7.72e3
AS 1368D
1.36e7
23.64
TS 1378D
1.97e7
25.76
JS 1234D
1.31e7
26.81
ES 2378D
1.27e7*
27.49
FS 1278D
1.43e7
27.83
4.20e6
2.10e6


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PB
4σ 3.08e3
0%
12378D
6.26e6
33.01
Abs. Int.
1.82e6
9.10e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 4.04e3
0%
12378D
3.92e6
33.01
Abs. Int.
1.12e6
5.59e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PBM
4σ 4.49e3
0%
FS 12478D
1.31e7
31.75
CS 12347D
1.14e7
32.49
ES 12378D
1.23e7*
32.99
Abs. Int.
4.00e6
2.00e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PBM
4σ 8.50e3
0%
FS 12478D
7.96e6
31.75
CS 12347D
7.04e6
32.49
ES 12378D
7.82e6*
32.99
Abs. Int.
2.35e6
1.17e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.59e6
1.30e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

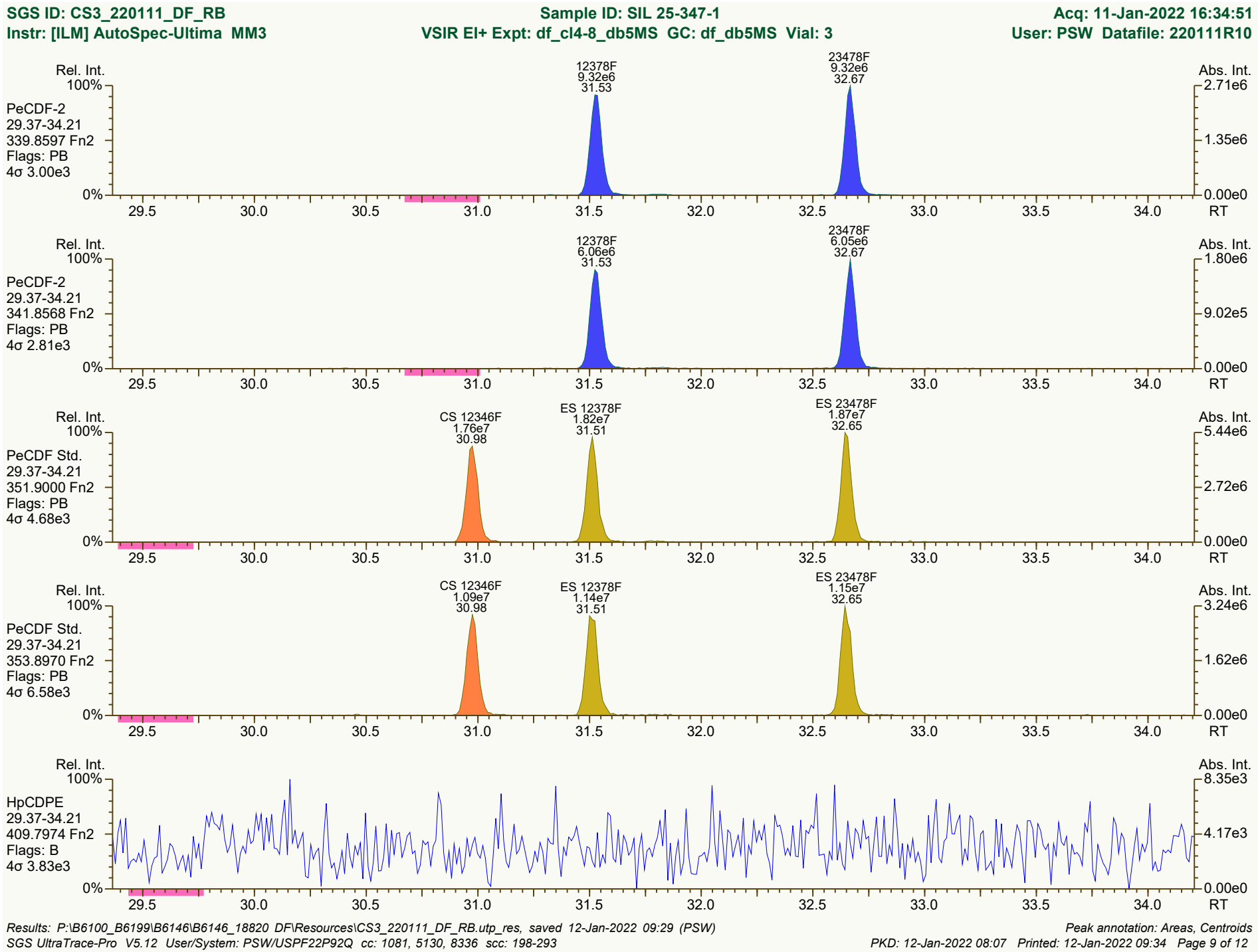

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.17e3
123478D
5.04e6
36.93
123678D
5.23e6
37.04
123789D
5.49e6
37.35
Abs. Int.
1.63e6
8.15e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PB
4σ 3.41e3
123478D
4.05e6
36.93
123678D
4.11e6
37.04
123789D
4.34e6
37.35
Abs. Int.
1.25e6
6.27e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PB
4σ 7.68e3
FS 123468D
1.29e7
35.86
ES 123478D
1.00e7
36.91
ES 123678D
1.00e7
37.03
JS 123467D
4.98e6
37.23
ES 123789D
1.12e7
37.33
Abs. Int.
4.49e6
2.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PB
4σ 6.89e3
FS 123468D
1.04e7
35.86
ES 123478D
7.89e6
36.91
ES 123678D
7.87e6
37.03
JS 123467D
4.21e6
37.23
ES 123789D
8.75e6
37.33
Abs. Int.
3.29e6
1.65e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
Abs. Int.
9.07e6
4.54e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

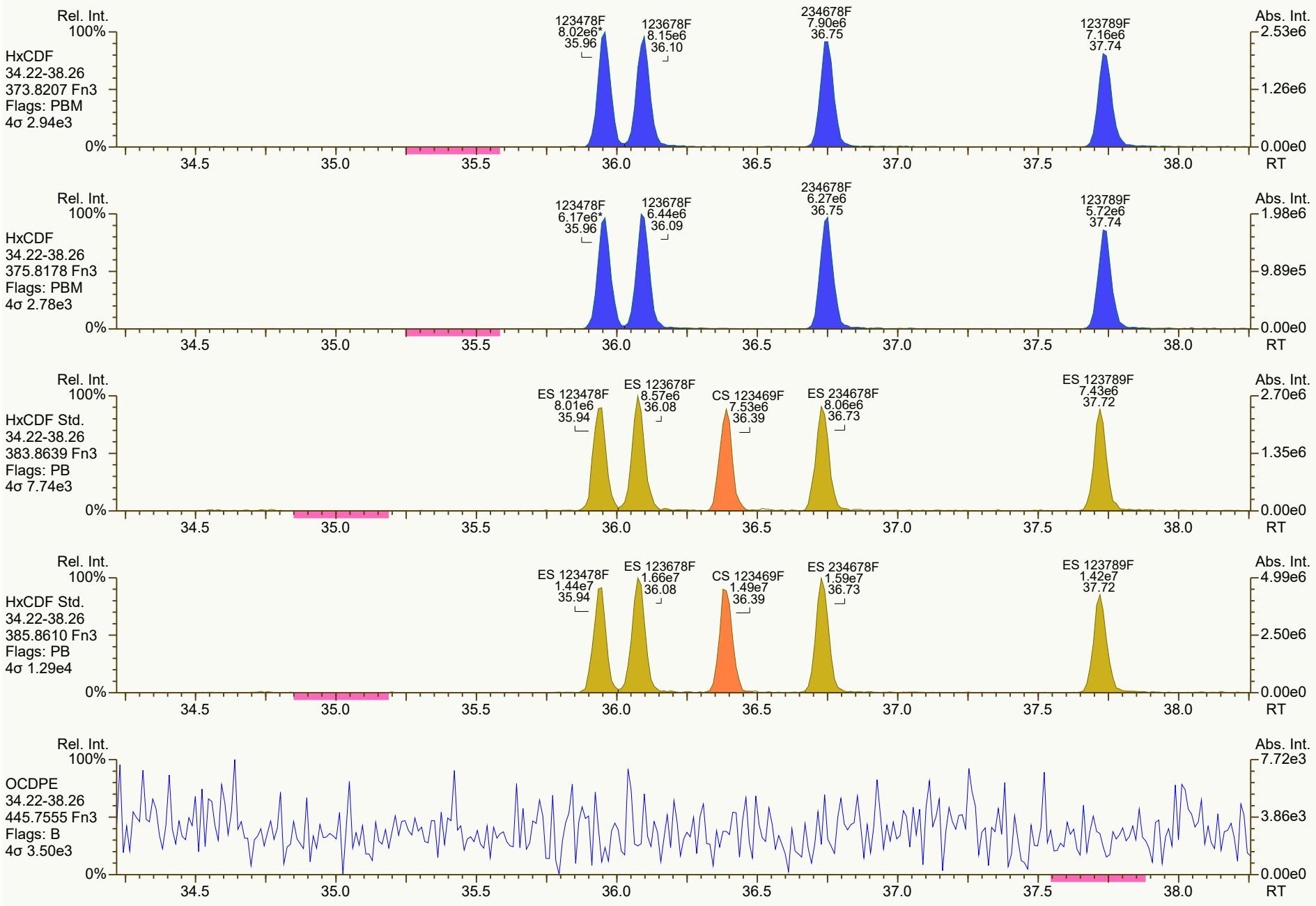

SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 3.19e3
1234678D
4.49e6
40.15
1.69e6
8.47e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.23e3
1234678D
4.31e6
40.15
1.62e6
8.09e5
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 6.38e3
FS 1234679D
1.26e7
39.48
ES 1234678D
8.88e6
40.13
5.54e6
2.77e6
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 5.49e3
FS 1234679D
1.19e7
39.48
ES 1234678D
8.92e6
40.13
5.18e6
2.59e6
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.88e6
2.94e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

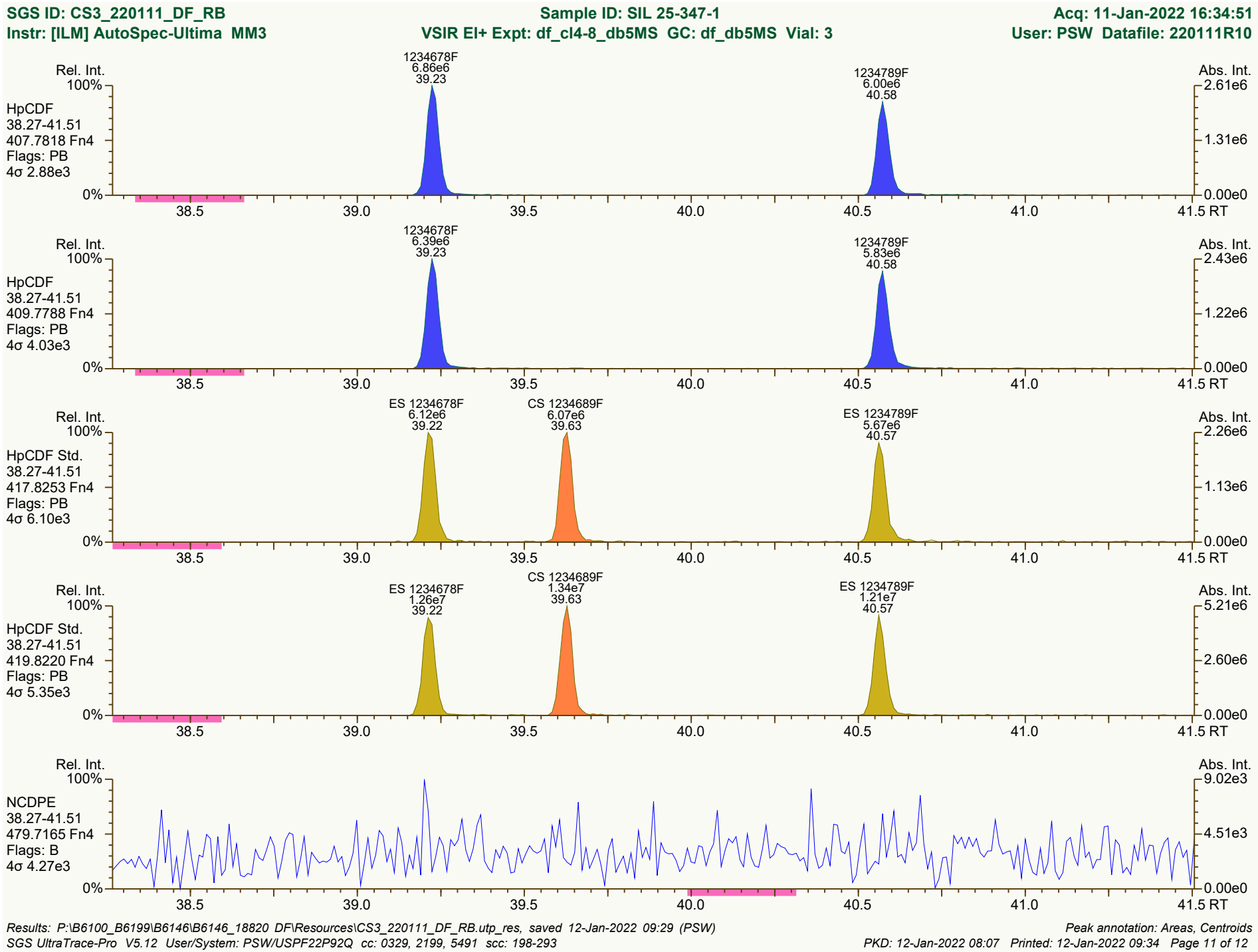

OCDD
5.65e6
42.64
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.69e3
0%
Abs. Int.
1.76e6
8.78e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.44e6
42.63
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.89e3
0%
Abs. Int.
1.95e6
9.73e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.11e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.76e3
0%
Abs. Int.
3.49e6
1.74e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.18e7
42.62
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.03e3
0%
Abs. Int.
3.68e6
1.84e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

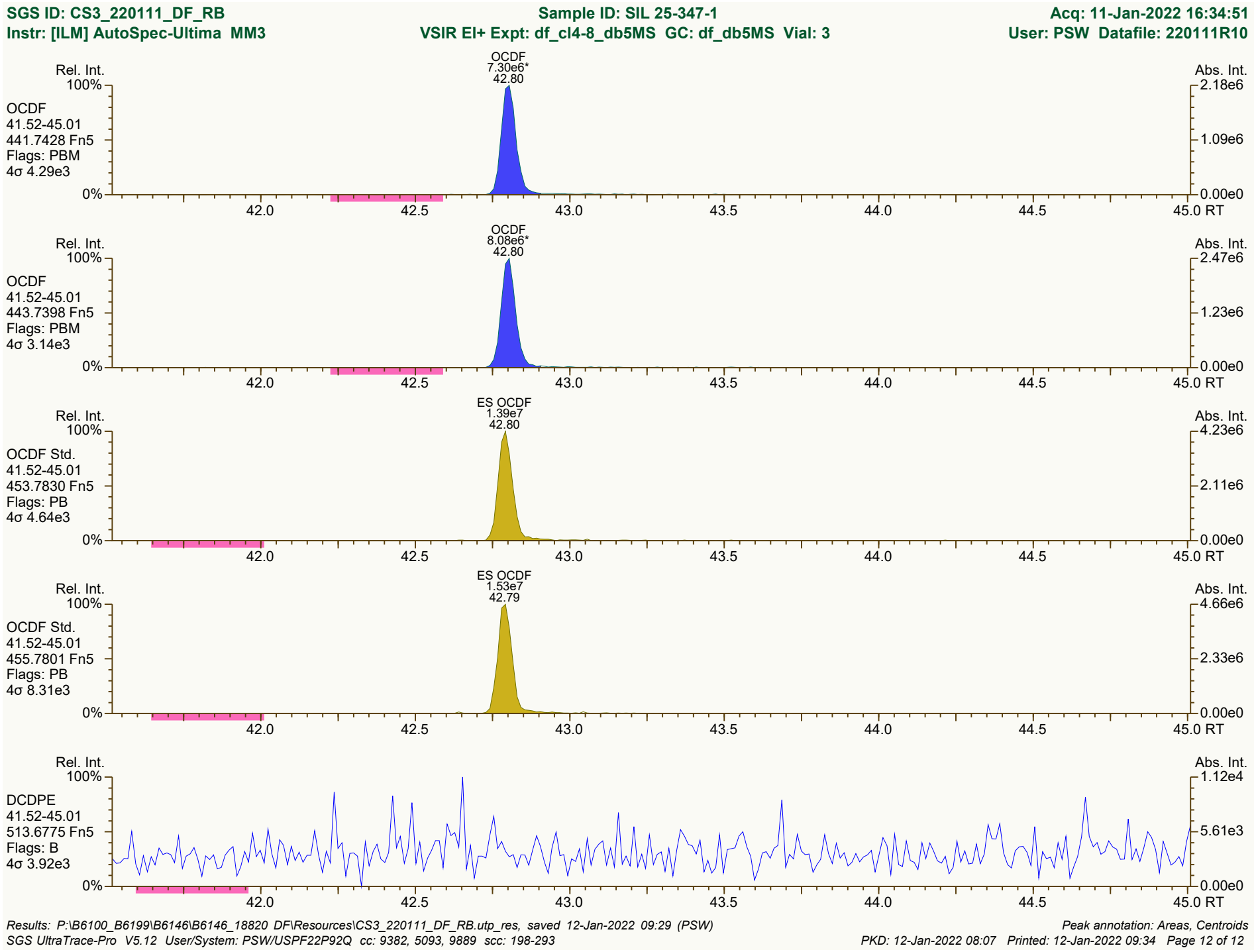

SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PB
4σ 3.60e3
2378F
1.50e6
26.61
3.40e5
1.70e5
0.00e0
TCDF
20.99-29.35
305.8987 Fn1
Flags: PB
4σ 2.82e3
2378F
1.92e6
26.61
4.44e5
2.22e5
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: PB
4σ 1.91e4
AS 1368F
1.63e7
21.41
JS 1234F
1.47e7
25.16
ES 2378F
1.54e7
26.59
3.68e6
1.84e6
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: PB
4σ 1.06e4
AS 1368F
2.15e7
21.41
JS 1234F
1.89e7
25.16
ES 2378F
1.97e7
26.59
4.31e6
2.16e6
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 5.42e3
1.42e4
7.10e3
0%
100%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4005, 1831, 0442 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:34 Page 7 of 12

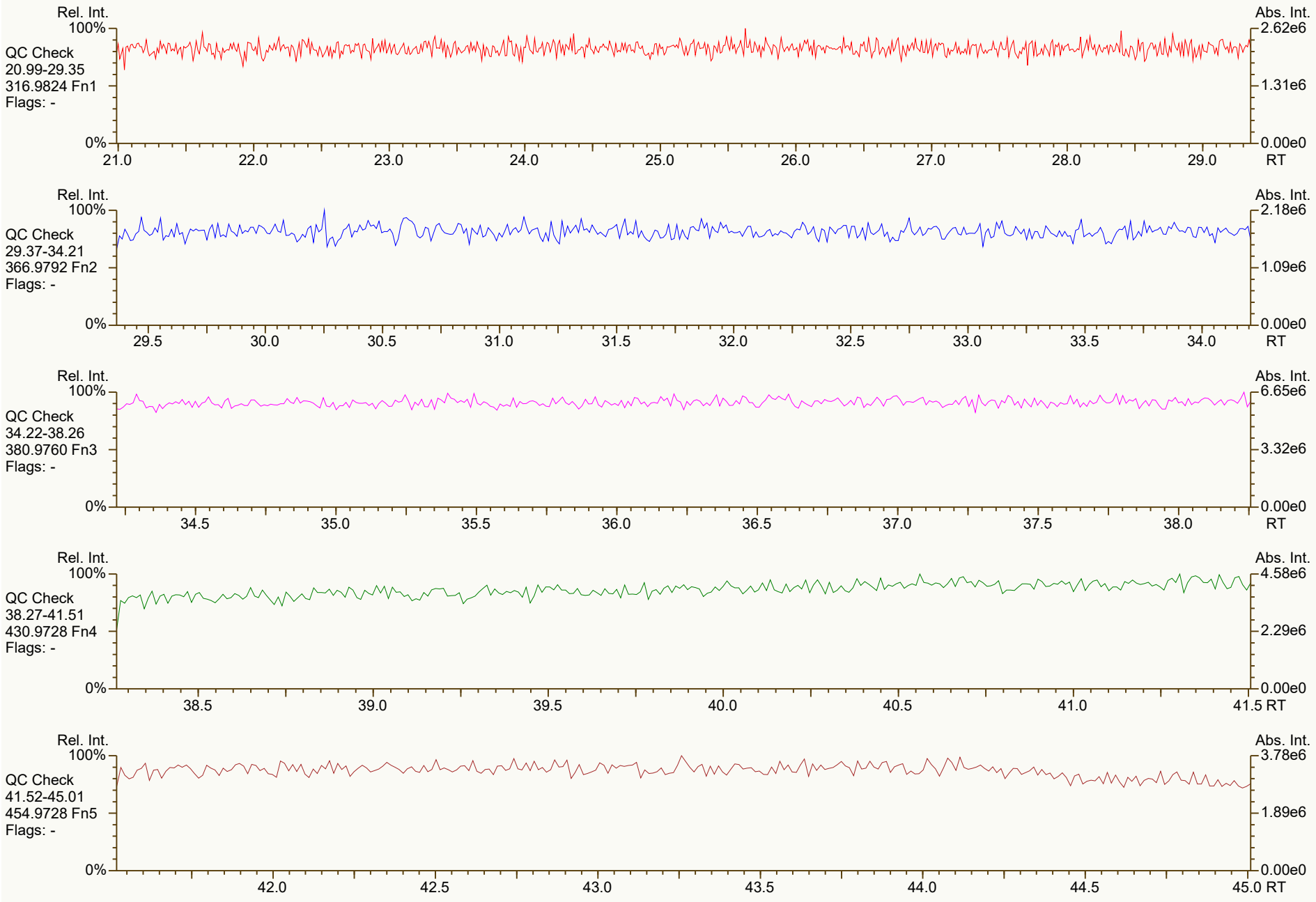

Rel. Int.
100%
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
RT
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 5.56e3
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 4.09e3
9.50e3
4.75e3
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
3.02e6
1.51e6


SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PB
4σ 3.00e3
12378F
9.32e6
31.53
23478F
9.32e6
32.67
2.71e6
1.35e6
0.00e0
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PB
4σ 2.81e3
12378F
6.06e6
31.53
23478F
6.05e6
32.67
1.80e6
9.02e5
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 4.68e3
CS 12346F
1.76e7
30.98
ES 12378F
1.82e7
31.51
ES 23478F
1.87e7
32.65
5.44e6
2.72e6
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 6.58e3
CS 12346F
1.09e7
30.98
ES 12378F
1.14e7
31.51
ES 23478F
1.15e7
32.65
3.24e6
1.62e6
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 3.83e3
8.35e3
4.17e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1081, 5130, 8336 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:34 Page 9 of 12


Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: PBM
4σ 2.94e3
0%
123478F
8.02e6*
35.96
123678F
8.15e6
36.10
234678F
7.90e6
36.75
123789F
7.16e6
37.74
Abs. Int.
2.53e6
1.26e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: PBM
4σ 2.78e3
0%
123478F
6.17e6*
35.96
123678F
6.44e6
36.09
234678F
6.27e6
36.75
123789F
5.72e6
37.74
Abs. Int.
1.98e6
9.89e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: PB
4σ 7.74e3
0%
ES 123478F
8.01e6
35.94
ES 123678F
8.57e6
36.08
CS 123469F
7.53e6
36.39
ES 234678F
8.06e6
36.73
ES 123789F
7.43e6
37.72
Abs. Int.
2.70e6
1.35e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: PB
4σ 1.29e4
0%
ES 123478F
1.44e7
35.94
ES 123678F
1.66e7
36.08
CS 123469F
1.49e7
36.39
ES 234678F
1.59e7
36.73
ES 123789F
1.42e7
37.72
Abs. Int.
4.99e6
2.50e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: B
4σ 3.50e3
0%
Abs. Int.
7.72e3
3.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 2.88e3
1234678F
6.86e6
39.23
1234789F
6.00e6
40.58
2.61e6
1.31e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 4.03e3
1234678F
6.39e6
39.23
1234789F
5.83e6
40.58
2.43e6
1.22e6
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.10e3
ES 1234678F
6.12e6
39.22
CS 1234689F
6.07e6
39.63
ES 1234789F
5.67e6
40.57
2.26e6
1.13e6
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 5.35e3
ES 1234678F
1.26e7
39.22
CS 1234689F
1.34e7
39.63
ES 1234789F
1.21e7
40.57
5.21e6
2.60e6
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.27e3
9.02e3
4.51e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0329, 2199, 5491 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:34 Page 11 of 12


SGS ID: CS3_220111_DF_RB
Sample ID: SIL 25-347-1
Acq: 11-Jan-2022 16:34:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220111R10
OCDF
7.30e6*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.29e3
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.08e6*
42.80
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.14e3
0%
Abs. Int.
2.47e6
1.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.39e7
42.80
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 4.64e3
0%
Abs. Int.
4.23e6
2.11e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.53e7
42.79
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 8.31e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.92e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\CS3_220111_DF_RB.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9382, 5093, 9889 scc: 198-293
PKD: 12-Jan-2022 08:07 Printed: 12-Jan-2022 09:34 Page 12 of 12

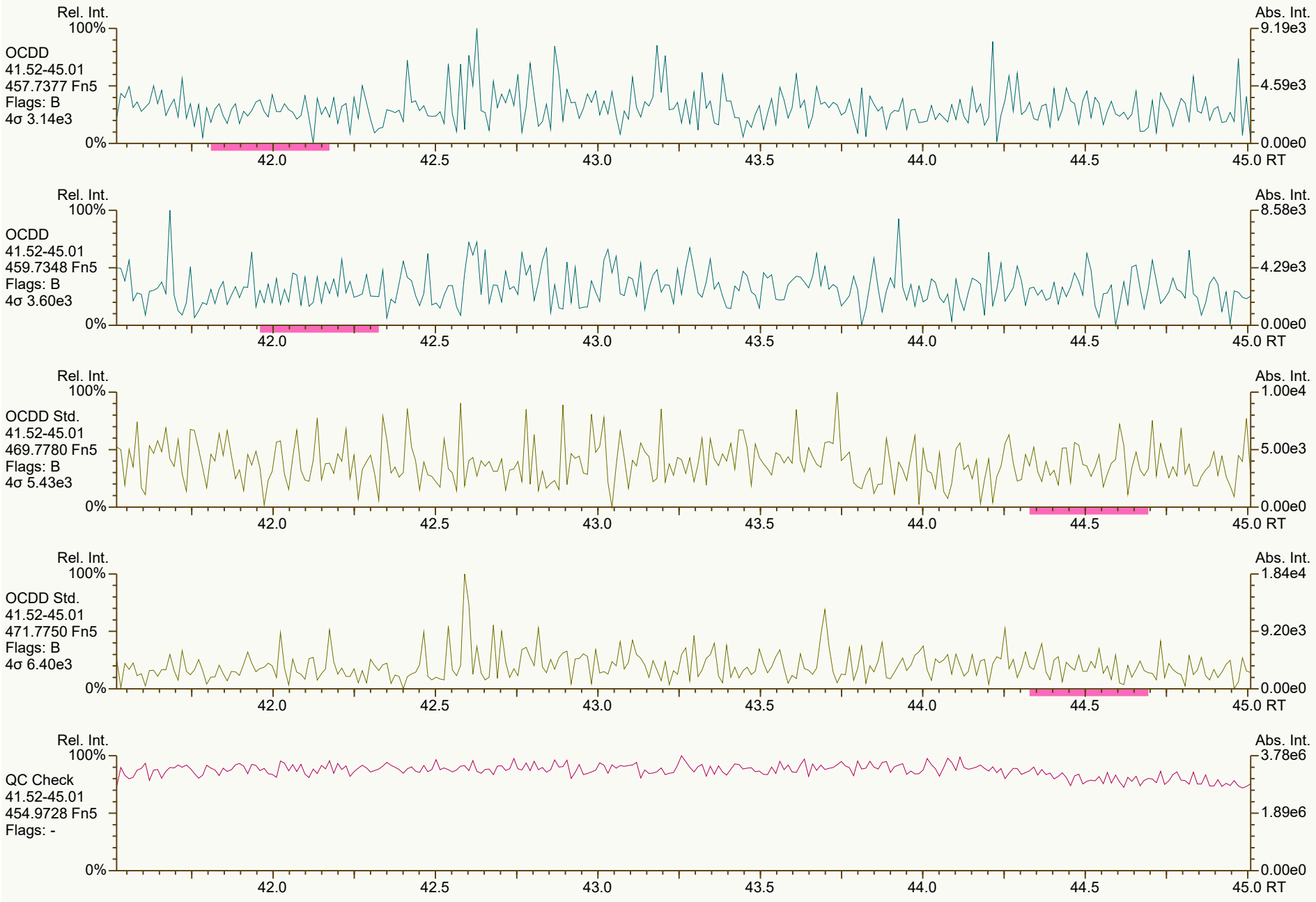

Rel. Int.
100%
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.78e6
1.89e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

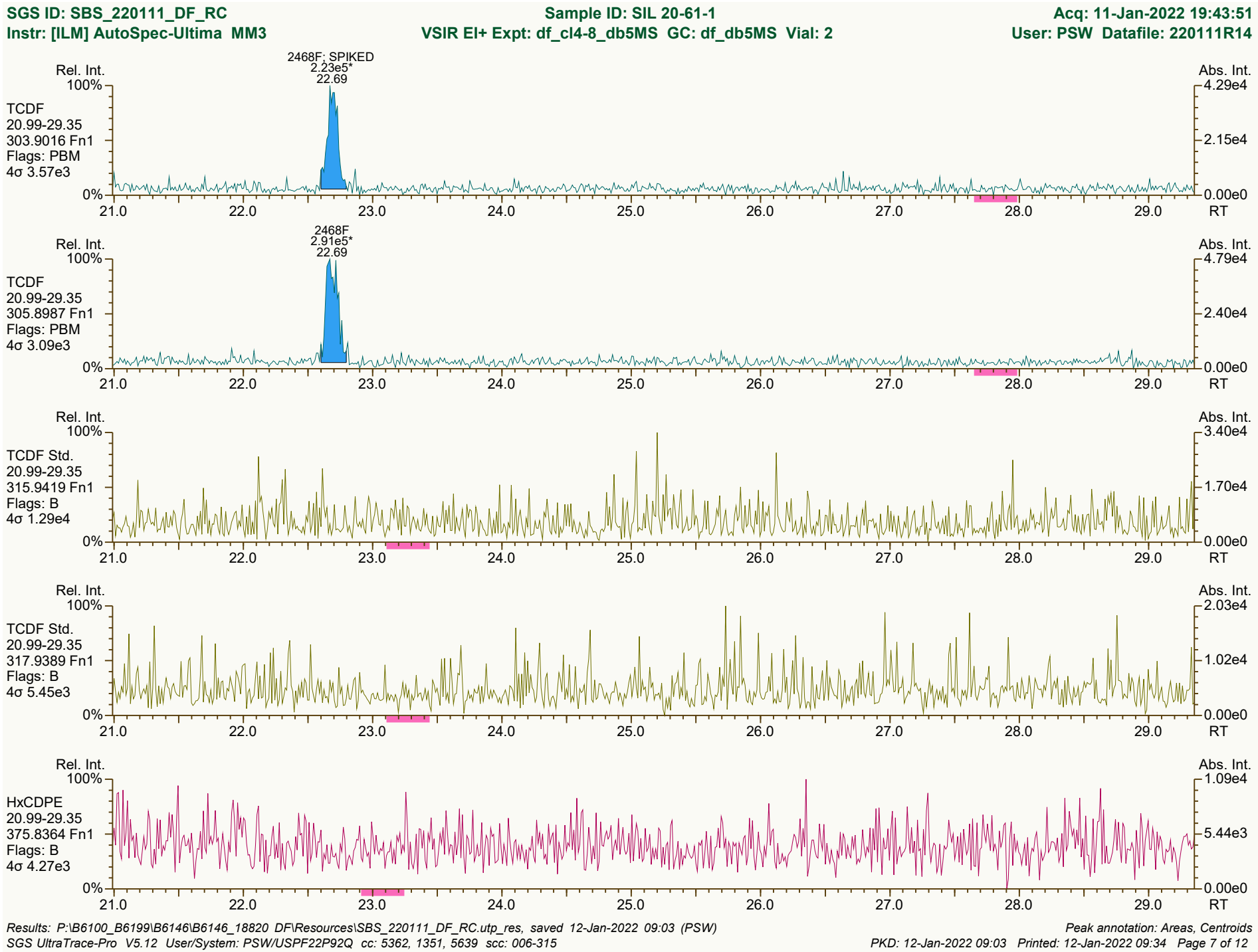

Rel. Int.
100%
TCDD
20.99-29.35
319.8965 Fn1
Flags: B
4σ 3.70e3
0%
Abs. Int.
8.17e3
4.08e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.99-29.35
321.8936 Fn1
Flags: B
4σ 3.35e3
0%
Abs. Int.
7.07e3
3.54e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: B
4σ 4.13e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: B
4σ 4.69e3
0%
Abs. Int.
3.04e4
1.52e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: B
4σ 7.47e3
0%
Abs. Int.
1.97e4
9.84e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.37-34.21
355.8546 Fn2
Flags: B
4σ 4.55e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Rel. Int.
100%
PeCDD
29.37-34.21
357.8517 Fn2
Flags: B
4σ 2.39e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: B
4σ 6.44e3
0%
Abs. Int.
1.61e4
8.06e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: B
4σ 4.97e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
RT
Rel. Int.
100%
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
RT

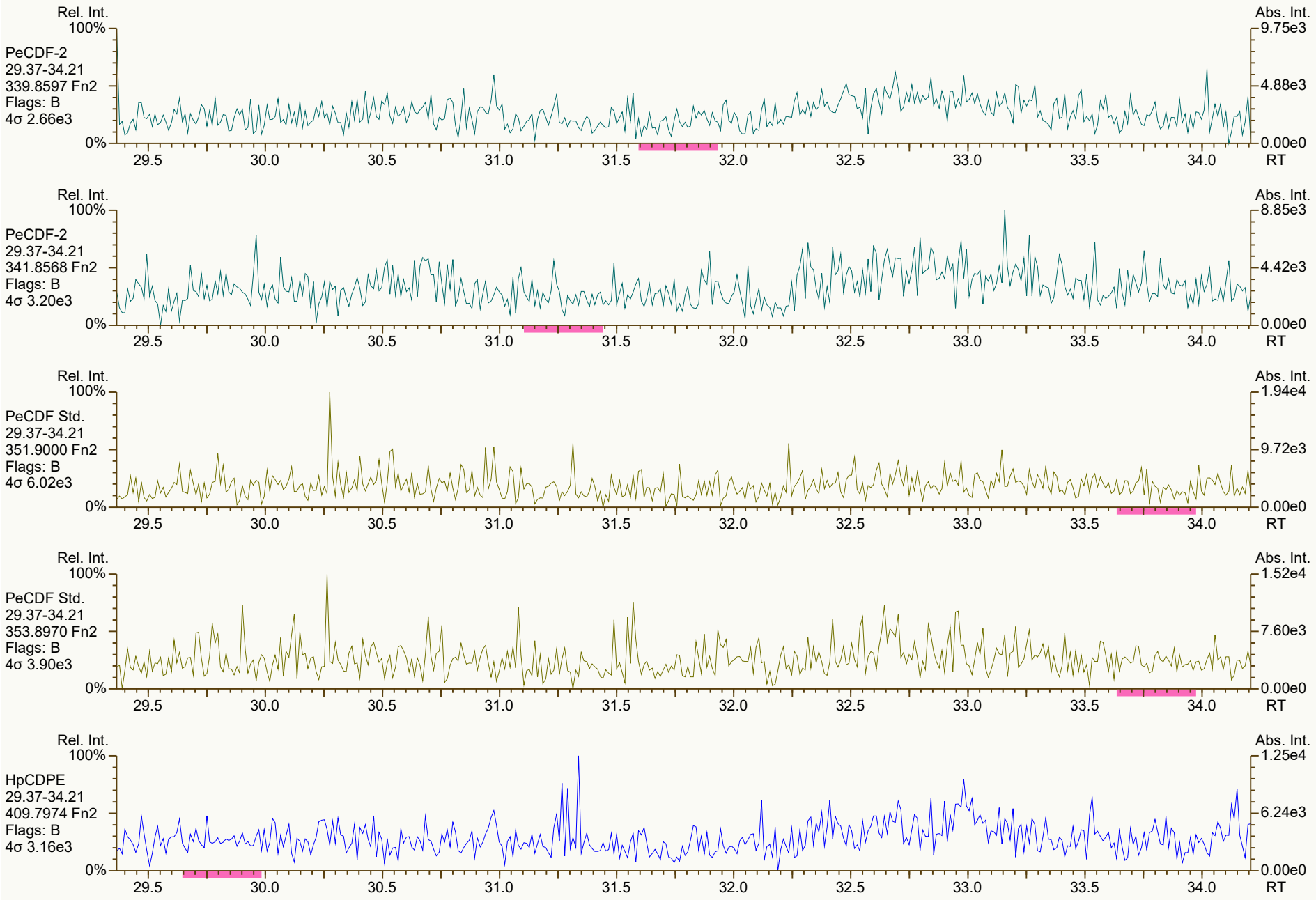

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.31e3
0%
Abs. Int.
6.01e3
3.00e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: B
4σ 2.38e3
0%
Abs. Int.
6.74e3
3.37e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: B
4σ 6.16e3
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: B
4σ 7.28e3
0%
Abs. Int.
1.84e4
9.18e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.27-41.51
423.7767 Fn4
Flags: B
4σ 2.45e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.27-41.51
425.7737 Fn4
Flags: B
4σ 2.79e3
0%
Abs. Int.
7.03e3
3.51e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: B
4σ 5.98e3
0%
Abs. Int.
1.98e4
9.92e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: B
4σ 4.95e3
0%
Abs. Int.
1.69e4
8.47e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

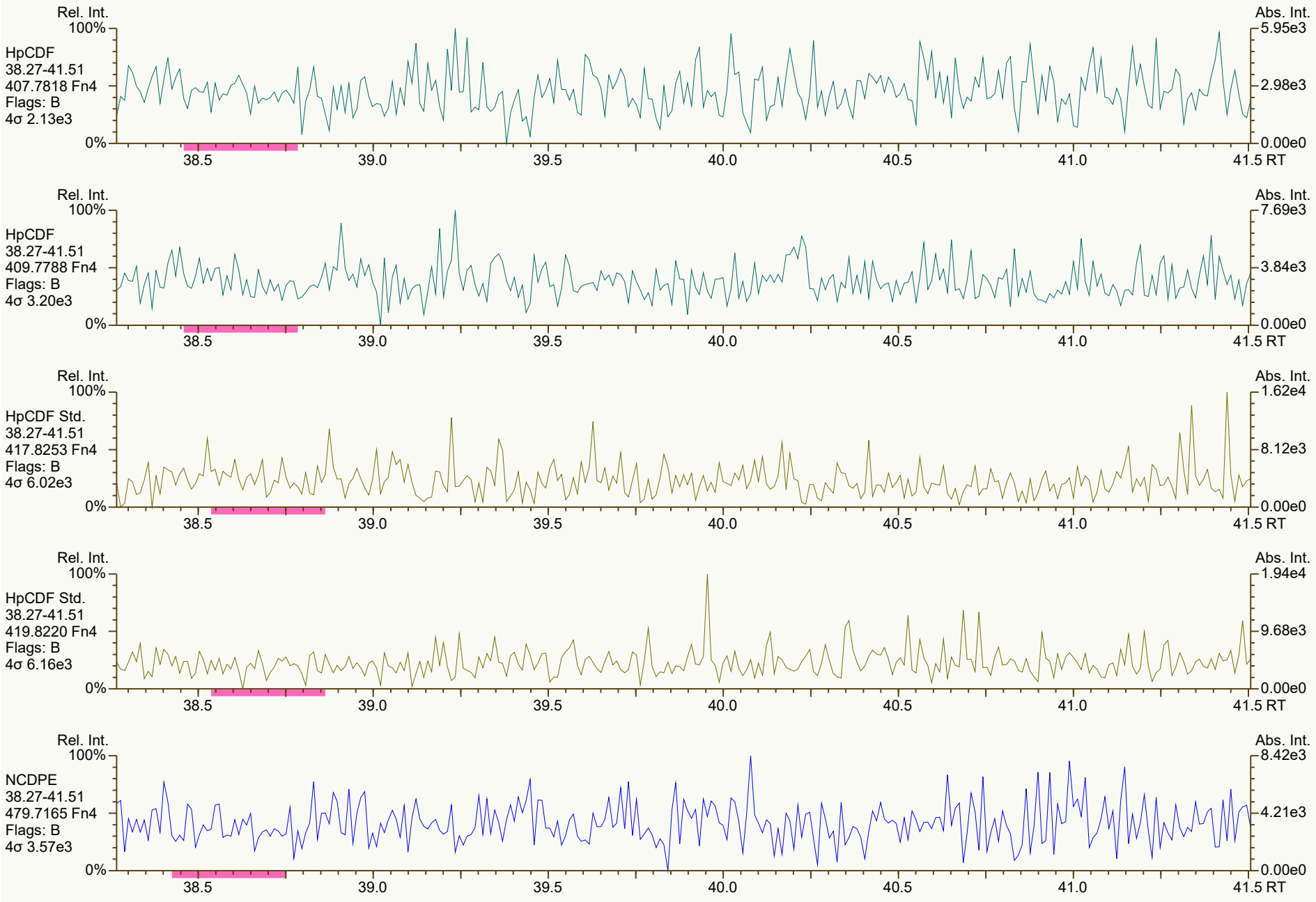

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 3.14e3
0%
Abs. Int.
9.19e3
4.59e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 3.60e3
0%
Abs. Int.
8.58e3
4.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 5.43e3
0%
Abs. Int.
1.00e4
5.00e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 6.40e3
0%
Abs. Int.
1.84e4
9.20e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.78e6
1.89e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

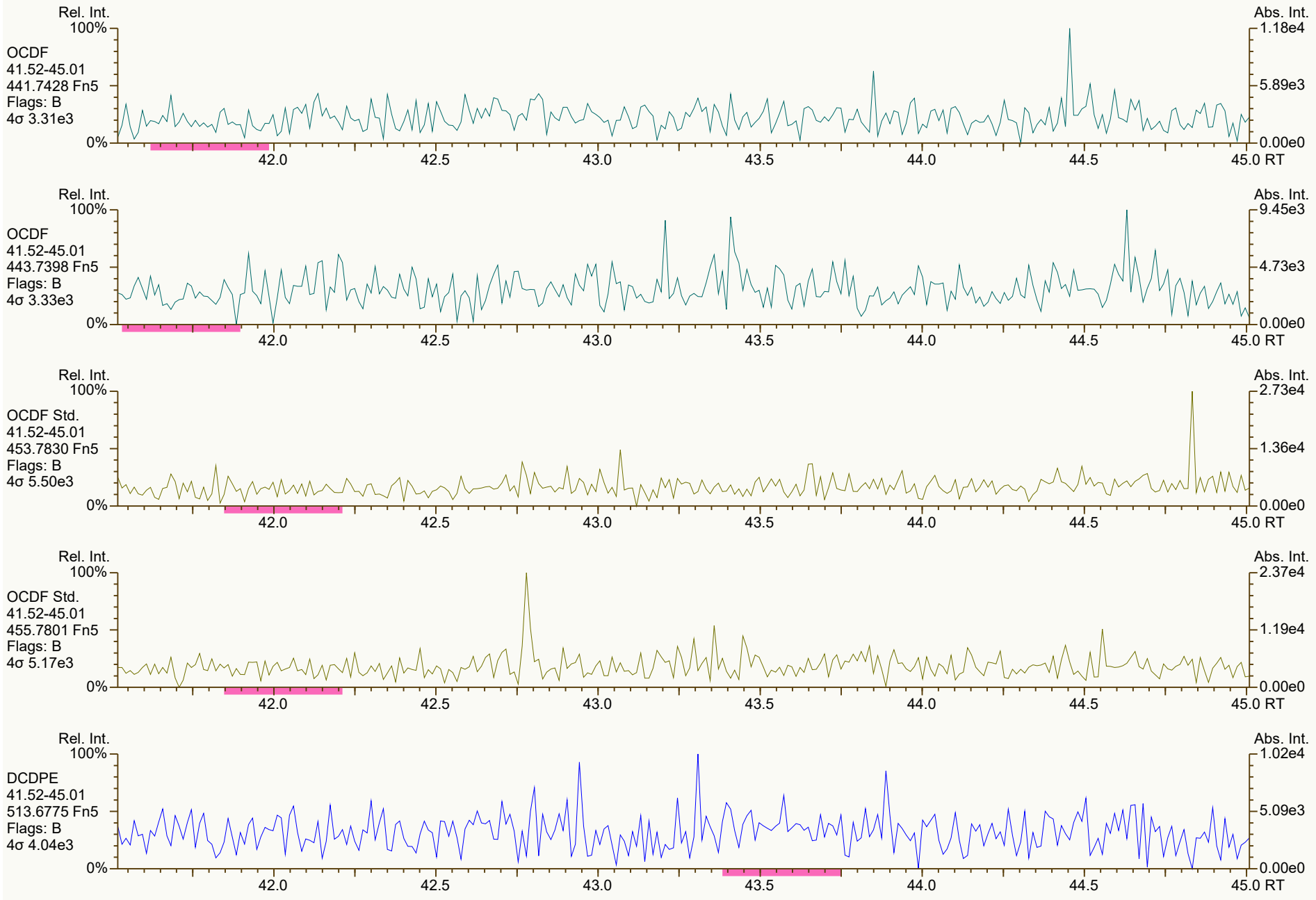

SGS ID: SBS_220111_DF_RC
Sample ID: SIL 20-61-1
Acq: 11-Jan-2022 19:43:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220111R14
2468F: SPIKED
2.23e5*
22.69
Rel. Int.
Abs. Int.
TCDF
20.99-29.35
303.9016 Fn1
Flags: PBM
4σ 3.57e3
2468F
2.91e5*
22.69
TCDF
20.99-29.35
305.8987 Fn1
Flags: PBM
4σ 3.09e3
TCDF Std.
20.99-29.35
315.9419 Fn1
Flags: B
4σ 1.29e4
TCDF Std.
20.99-29.35
317.9389 Fn1
Flags: B
4σ 5.45e3
HxCDPE
20.99-29.35
375.8364 Fn1
Flags: B
4σ 4.27e3
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\SBS_220111_DF_RC.utp_res, saved 12-Jan-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5362, 1351, 5639 scc: 006-315
PKD: 12-Jan-2022 09:03 Printed: 12-Jan-2022 09:34 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.63e3
0.00e0
PeCDF-1
20.99-29.35
339.8597 Fn1
Flags: B
4σ 5.24e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
PeCDF-1
20.99-29.35
341.8568 Fn1
Flags: B
4σ 3.89e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: B
4σ 2.66e3
0%
Abs. Int.
9.75e3
4.88e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: B
4σ 3.20e3
0%
Abs. Int.
8.85e3
4.42e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: B
4σ 6.02e3
0%
Abs. Int.
1.94e4
9.72e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: B
4σ 3.90e3
0%
Abs. Int.
1.52e4
7.60e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT
Rel. Int.
100%
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 3.16e3
0%
Abs. Int.
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6.24e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0
RT

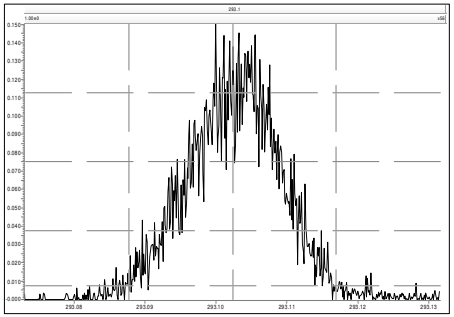

Rel. Int.
100%
HxCDF
34.22-38.26
373.8207 Fn3
Flags: B
4σ 2.51e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.22-38.26
375.8178 Fn3
Flags: B
4σ 3.62e3
0%
Abs. Int.
6.20e3
3.10e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
383.8639 Fn3
Flags: B
4σ 4.31e3
0%
Abs. Int.
1.73e4
8.64e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.22-38.26
385.8610 Fn3
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.58e4
1.29e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.22-38.26
445.7555 Fn3
Flags: PB
4σ 3.70e3
0%
Abs. Int.
8.04e3
4.02e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.27-41.51
407.7818 Fn4
Flags: B
4σ 2.13e3
0%
Abs. Int.
5.95e3
2.98e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.27-41.51
409.7788 Fn4
Flags: B
4σ 3.20e3
0%
Abs. Int.
7.69e3
3.84e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: B
4σ 6.02e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: B
4σ 6.16e3
0%
Abs. Int.
1.94e4
9.68e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 3.57e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

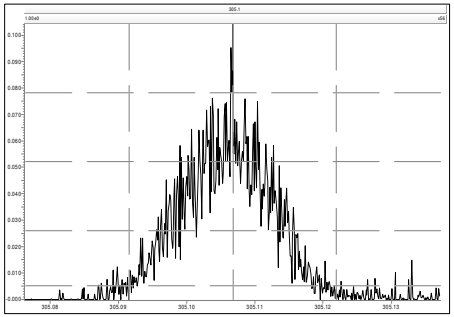

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 3.31e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 3.33e3
0%
Abs. Int.
9.45e3
4.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 5.50e3
0%
Abs. Int.
2.73e4
1.36e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 5.17e3
0%
Abs. Int.
2.37e4
1.19e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 4.04e3
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
42.0
42.5
43.0
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44.0
44.5
45.0 RT

Printed: Tuesday, January 11, 2022 16:33:06 Eastern Standard Time

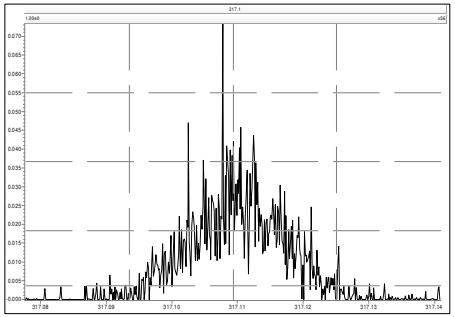
M 292.9824 R 10339



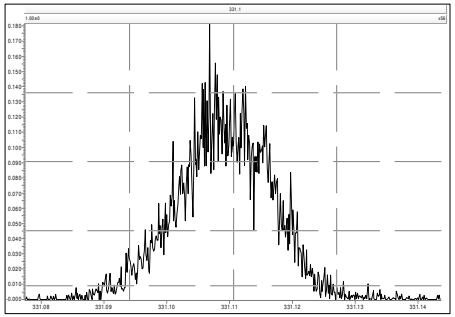
M 304.9824 R 11576



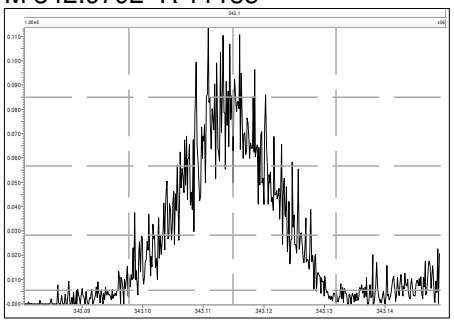
M 316.9824 R 12754



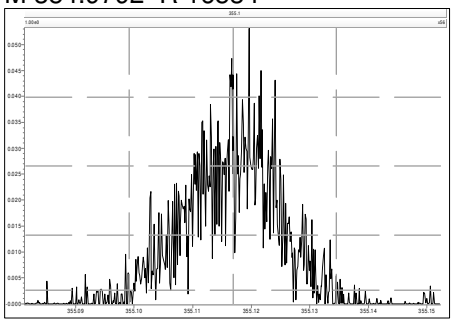
M 330.9792 R 10466



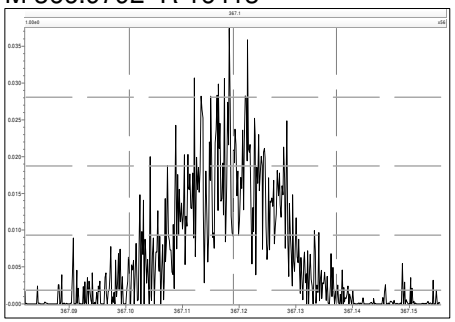
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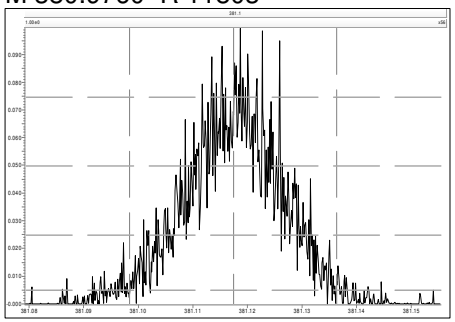
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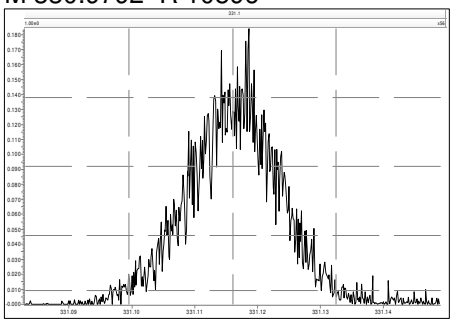
M 366.9792 R 16413



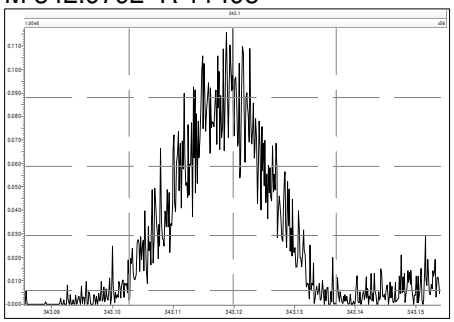
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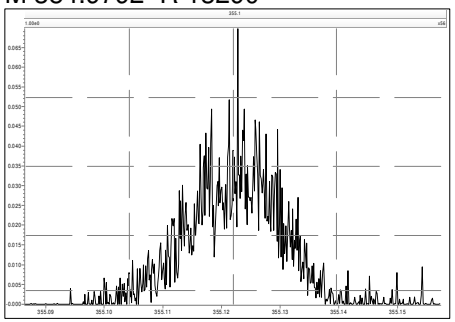
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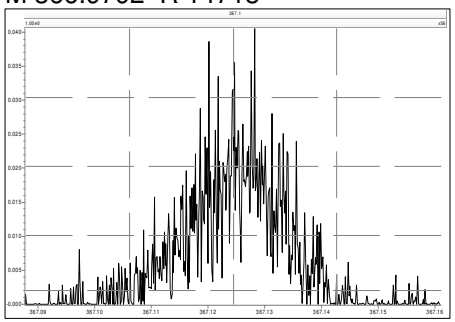
M 342.9792 R 11495



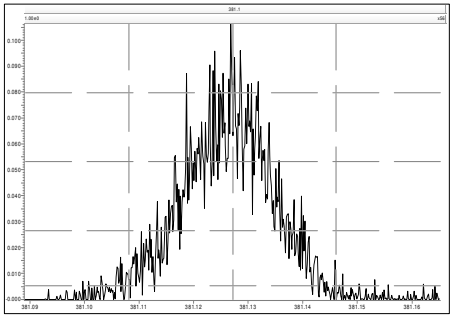
M 354.9792 R 13290



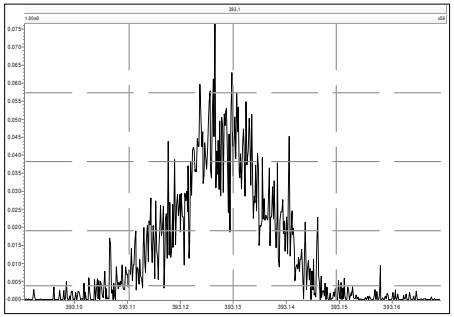
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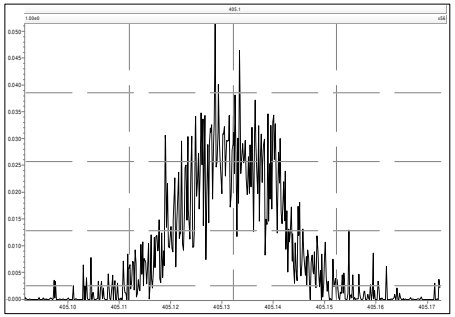
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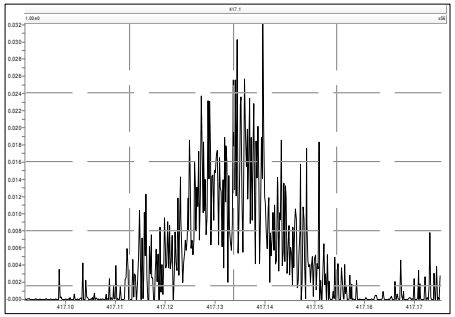
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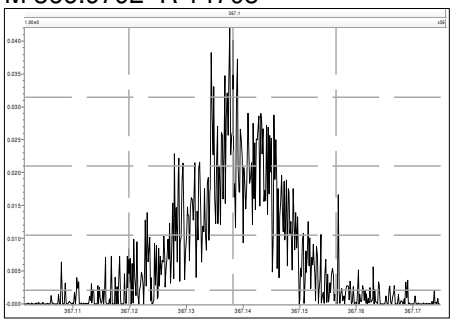
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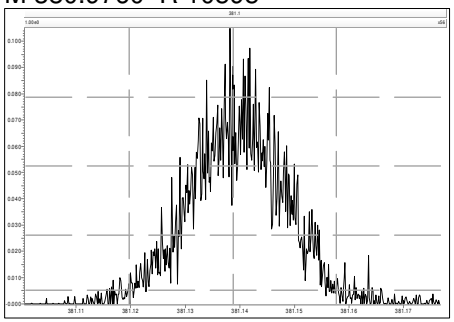
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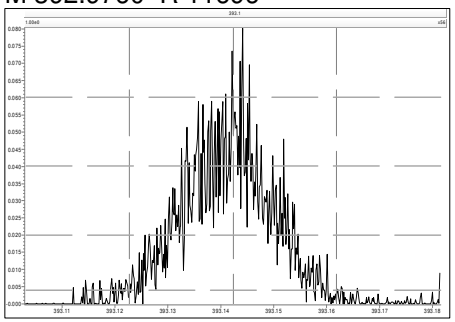
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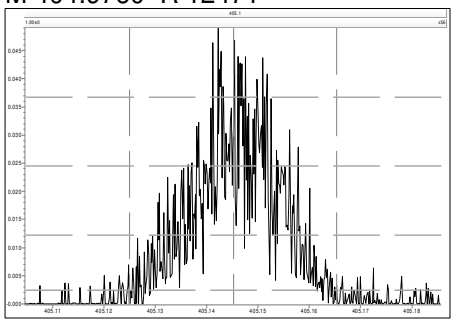
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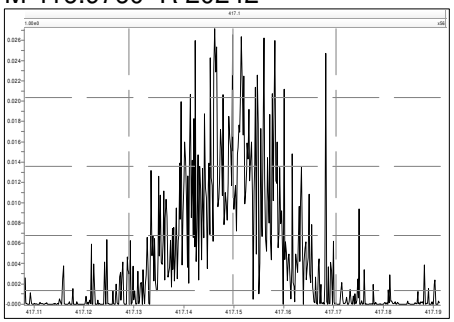
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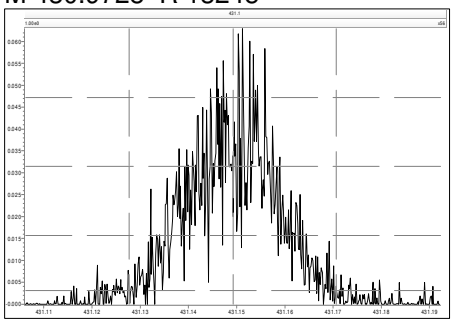
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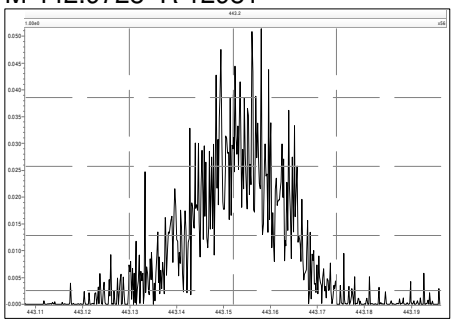
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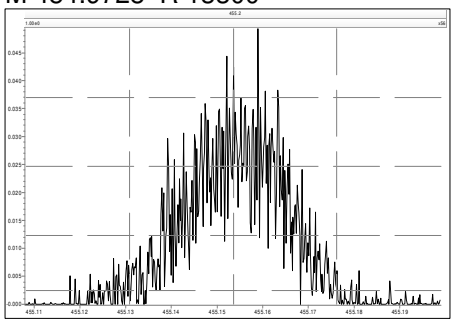
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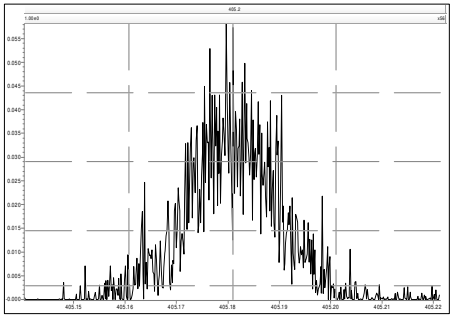
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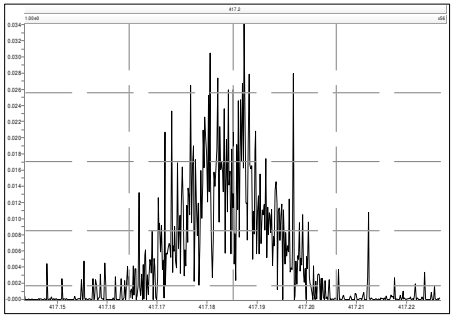
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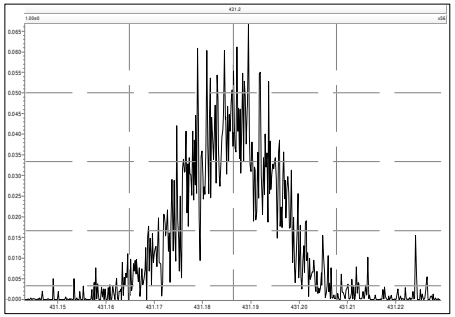
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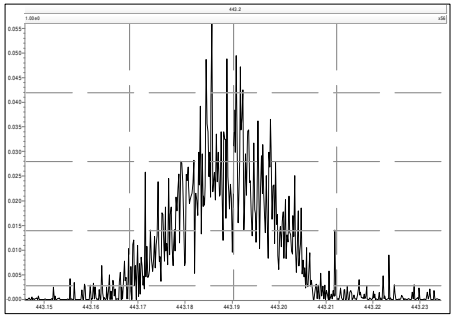
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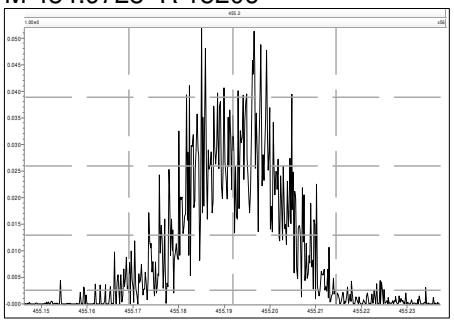
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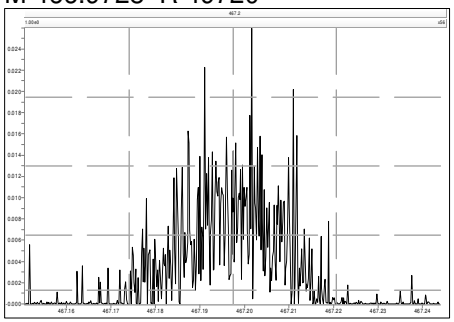
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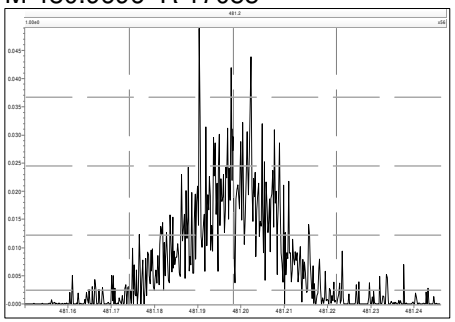
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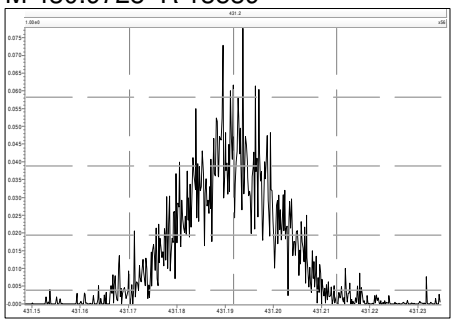
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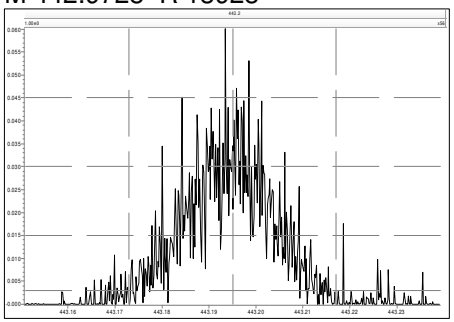
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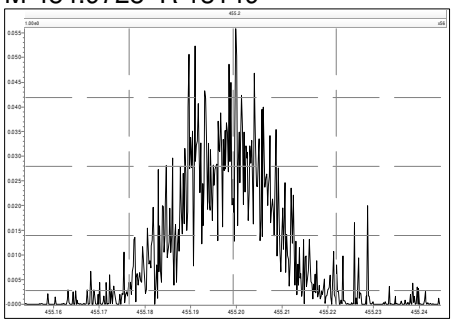
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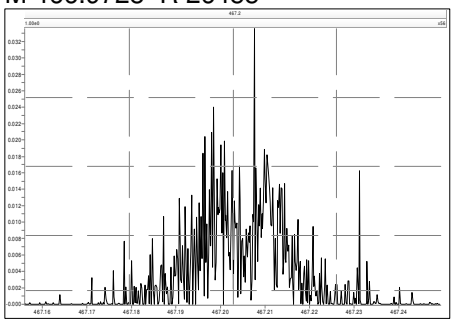
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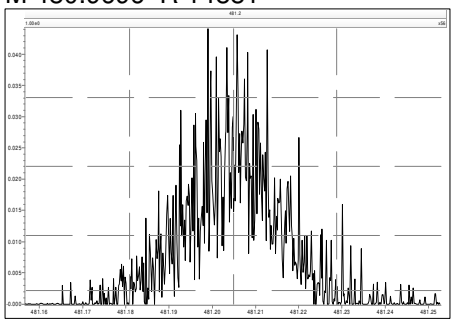
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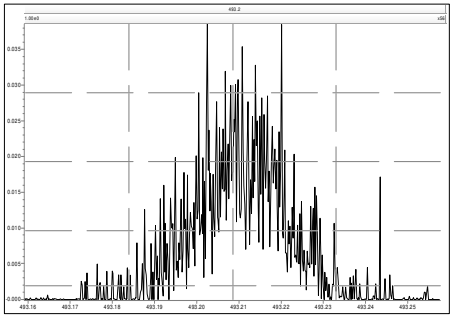
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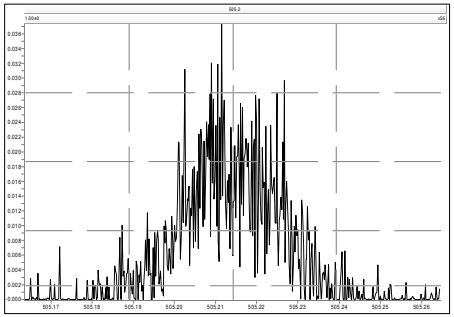
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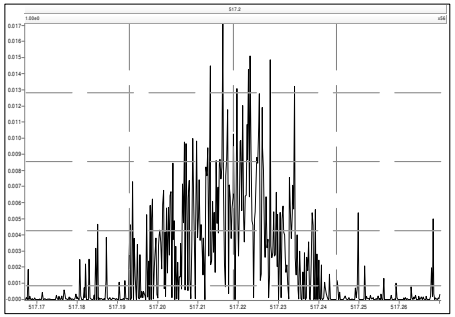
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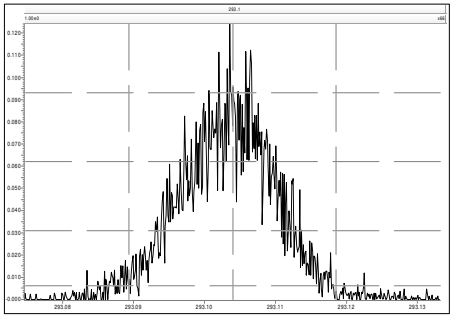


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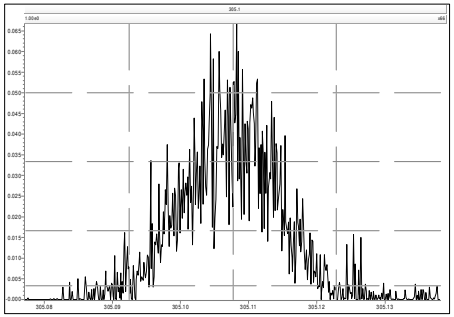


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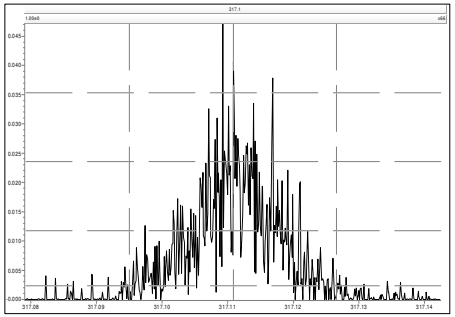
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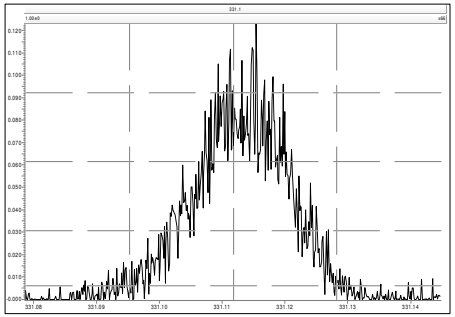
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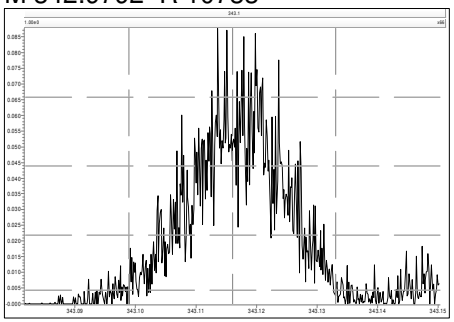
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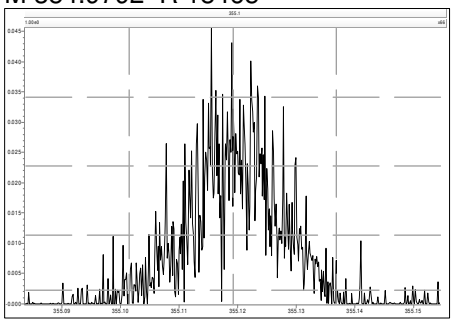
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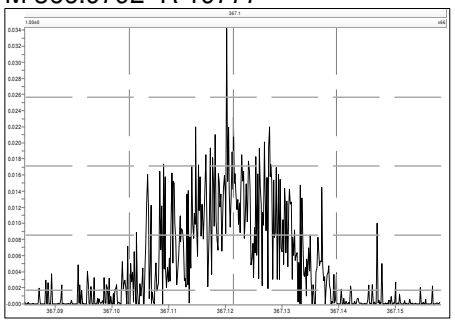
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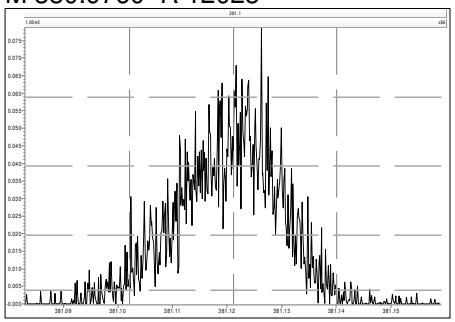
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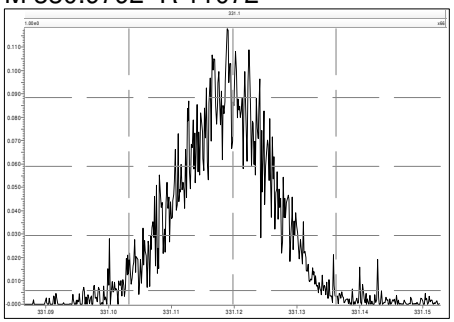
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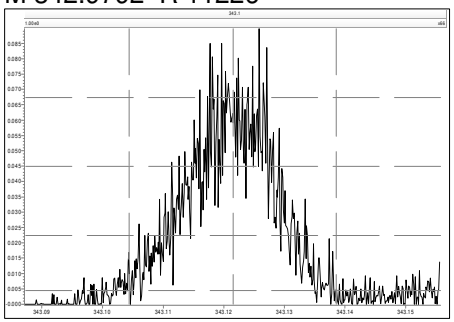
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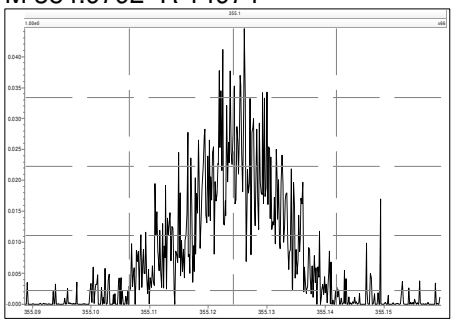
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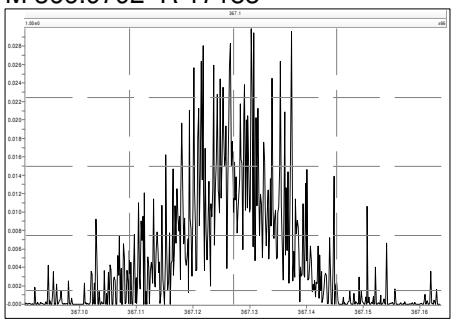
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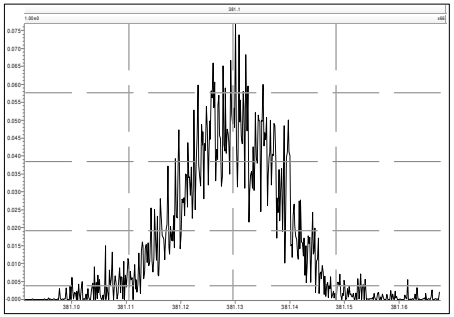
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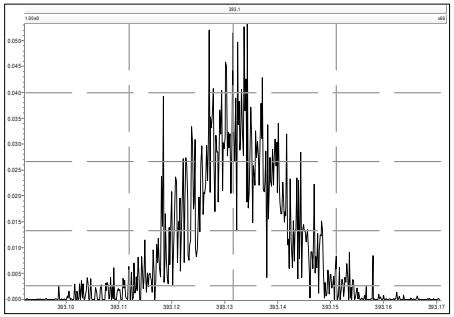
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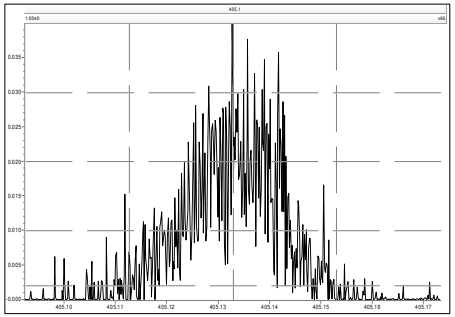
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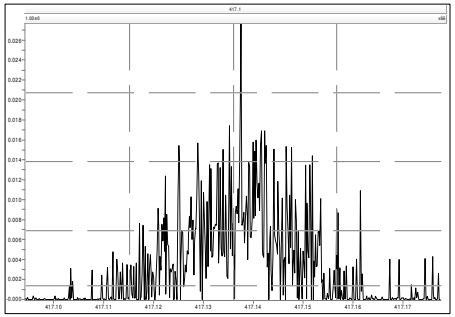
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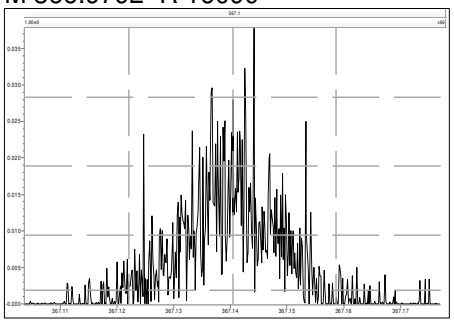
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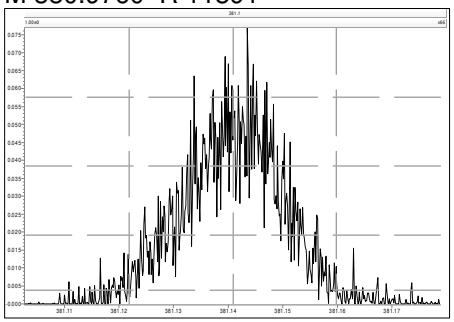
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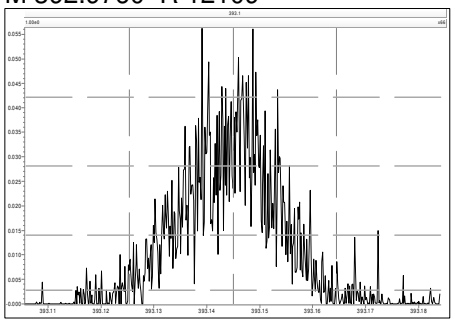
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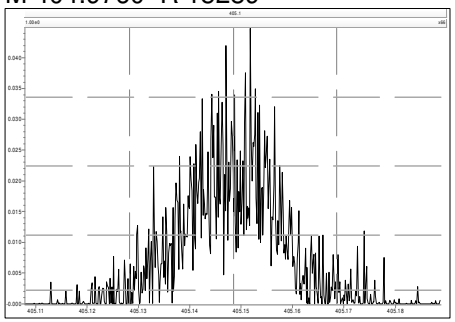
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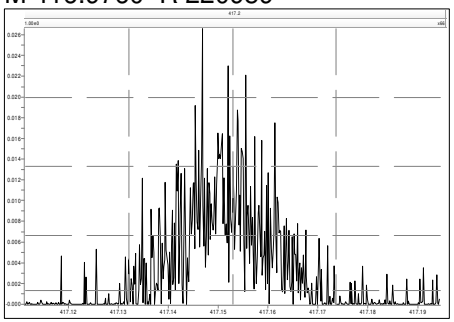
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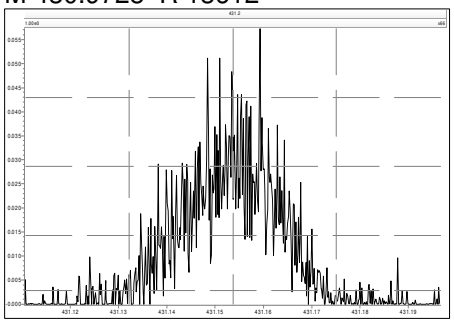
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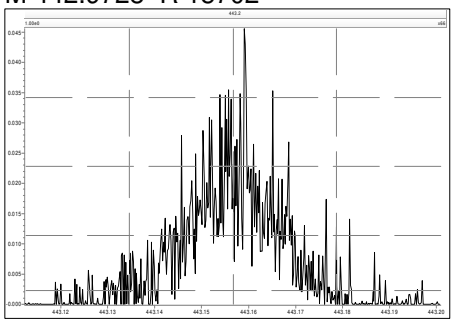
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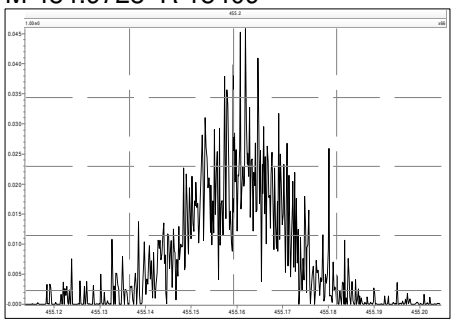
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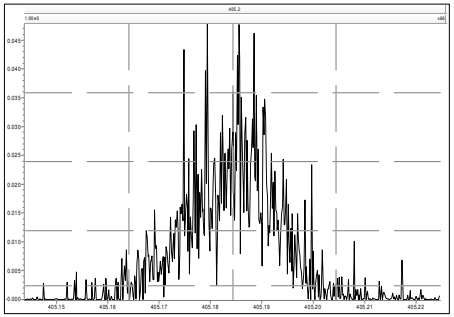
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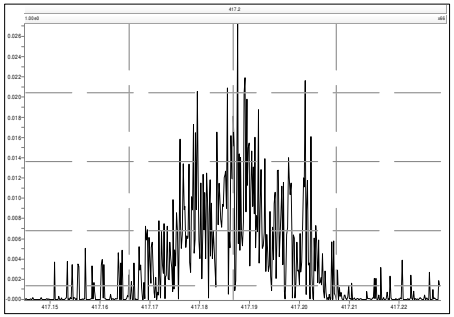
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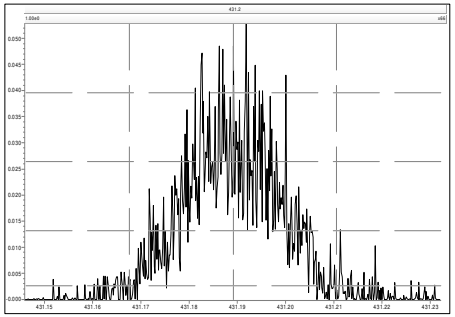
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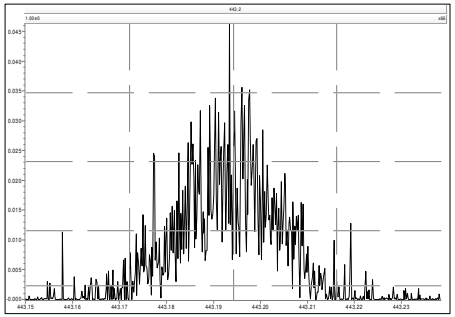
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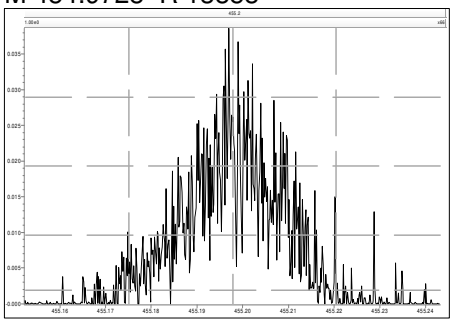
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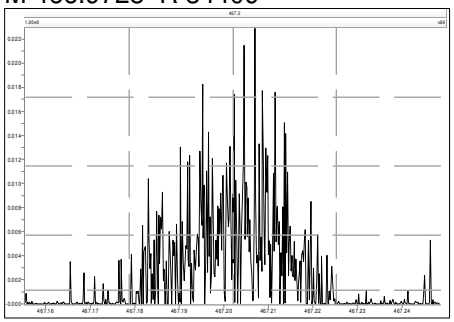
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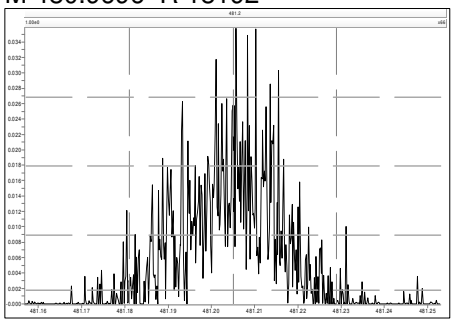
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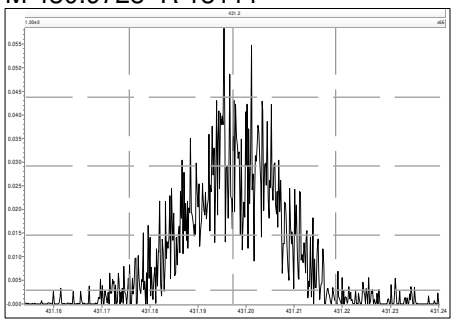
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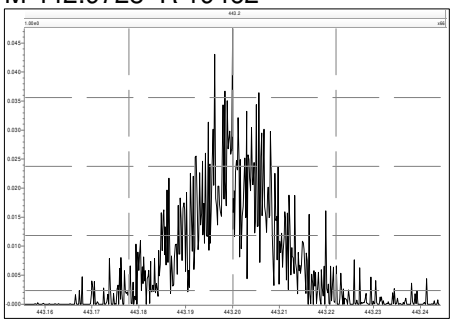
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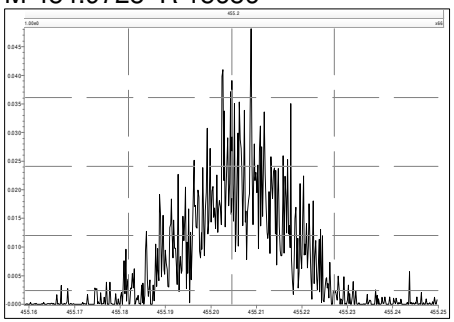
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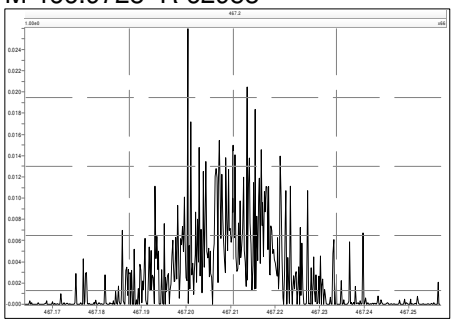
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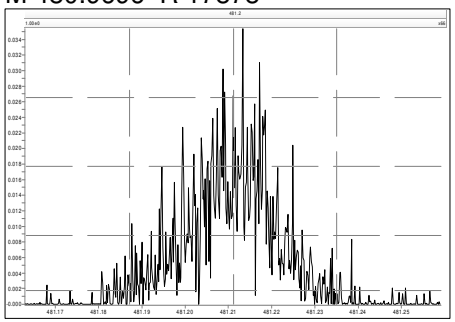
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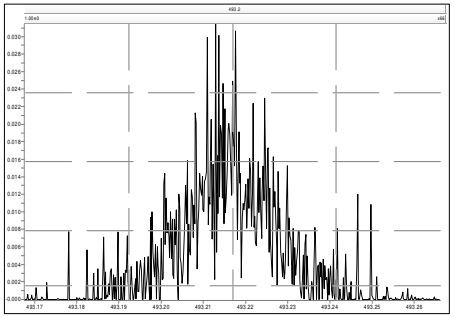
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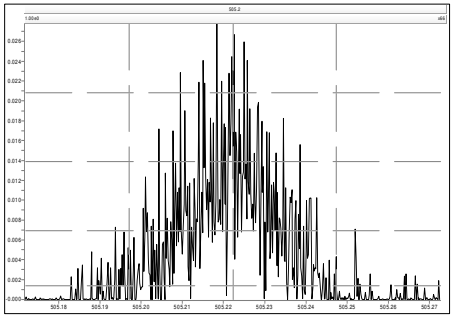
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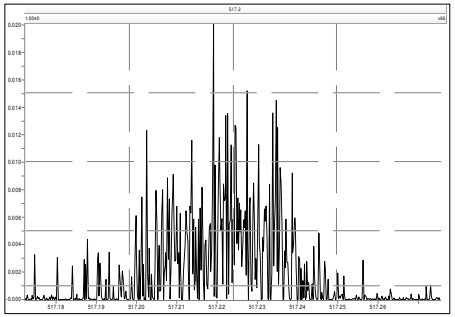
M 492.9696 R 20295



M 504.9696 R 39141



M 516.9697 R 200319



Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 0.25 pg/uL CS0	210727R03 0.5 pg/uL CS1	210727R04 2 pg/uL CS2	210727R05 10 pg/uL CS3	210727R06 40 pg/uL CS4	210727R07 200 pg/uL CS5	210727R08 500 pg/uL CS6
2378-TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
12378-PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
123478-HxCDD	1.06	3.3%	1.10	1.10	0.99	1.05	1.05	1.06	1.05
123678-HxCDD	1.08	2.9%	1.12	1.07	1.02	1.08	1.10	1.10	1.09
123789-HxCDD	1.02	4.8%	1.10	1.05	0.95	0.99	0.99	1.01	1.00
1234678-HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
OCDD	1.07	4.2%	1.15	1.04	1.01	1.07	1.08	1.06	1.08
2378-TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
12378-PeCDF	0.95	3.2%	1.00	0.94	0.90	0.94	0.95	0.93	0.96
23478-PeCDF	0.94	3.7%	0.99	0.90	0.90	0.92	0.93	0.96	0.96
123478-HxCDF	1.23	3.3%	1.32	1.23	1.19	1.22	1.24	1.24	1.22
123678-HxCDF	1.13	3.0%	1.17	1.16	1.07	1.10	1.13	1.14	1.14
234678-HxCDF	1.15	4.2%	1.23	1.19	1.08	1.14	1.13	1.15	1.15
123789-HxCDF	1.14	3.5%	1.19	1.08	1.09	1.14	1.14	1.15	1.16
1234678-HpCDF	1.36	3.6%	1.46	1.35	1.31	1.34	1.33	1.37	1.36
1234789-HpCDF	1.30	4.0%	1.34	1.20	1.26	1.34	1.30	1.35	1.33
OCDF	1.03	4.1%	1.01	1.01	0.95	1.03	1.05	1.06	1.08
ES 2378-TCDD	1.03	1.7%	1.02	1.02	1.02	1.05	1.06	1.04	1.02
ES 12378-PeCDD	1.03	3.5%	1.01	1.02	0.99	1.01	1.03	1.07	1.10
ES 123478-HxCDD	0.99	4.4%	0.97	0.93	0.99	1.00	0.98	1.03	1.07
ES 123678-HxCDD	0.97	5.2%	0.94	0.91	0.95	1.01	0.94	1.02	1.05
ES 123789-HxCDD	1.12	5.1%	1.09	1.04	1.12	1.14	1.09	1.17	1.22
ES 1234678-HpCDD	0.99	5.2%	0.95	0.92	0.98	1.02	0.97	1.05	1.06
ES OCDD	0.78	8.4%	0.73	0.71	0.74	0.77	0.75	0.85	0.89
ES 2378-TCDF	1.08	1.2%	1.06	1.08	1.07	1.09	1.09	1.08	1.10
ES 12378-PeCDF	0.93	2.7%	0.91	0.91	0.92	0.93	0.95	0.95	0.98
ES 23478-PeCDF	0.92	2.4%	0.90	0.91	0.90	0.93	0.93	0.93	0.96
ES 123478-HxCDF	1.14	5.9%	1.09	1.04	1.13	1.18	1.12	1.21	1.23
ES 123678-HxCDF	1.30	4.9%	1.24	1.21	1.27	1.35	1.27	1.36	1.37
ES 234678-HxCDF	1.20	4.9%	1.14	1.12	1.18	1.23	1.20	1.27	1.27
ES 123789-HxCDF	1.14	5.9%	1.06	1.07	1.11	1.16	1.12	1.20	1.24
ES 1234678-HpCDF	0.95	5.7%	0.90	0.88	0.92	0.98	0.94	1.00	1.03
ES 1234789-HpCDF	0.85	7.0%	0.79	0.78	0.82	0.86	0.83	0.90	0.94
ES OCDF	0.93	8.9%	0.86	0.83	0.88	0.93	0.90	1.01	1.06

APPROVED
Carla_Lyon , 7/28/2021, 12:24:59 PM

Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 **0.25 pg/uL CS0**	210727R03 **0.5 pg/uL CS1**	210727R04 **2 pg/uL CS2**	210727R05 **10 pg/uL CS3**	210727R06 **40 pg/uL CS4**	210727R07 **200 pg/uL CS5**	210727R08 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.31	2.3%	-	1.32	1.27	1.30	1.31	1.35	-
CS 12347-PeCDD	0.89	2.1%	0.89	0.91	0.88	0.87	0.93	0.88	0.89
CS 12346-PeCDF	0.87	1.7%	0.86	0.88	0.86	0.89	0.88	0.86	0.85
CS 123469-HxCDF	1.09	2.8%	1.06	1.04	1.08	1.14	1.09	1.12	1.09
CS 1234689-HpCDF	0.86	3.3%	0.86	0.84	0.86	0.92	0.86	0.86	0.84
SS 37Cl-2378-TCDD	1.26	2.3%	-	1.29	1.25	1.24	1.23	1.29	-
SS 12347-PeCDD	0.86	4.0%	0.88	0.89	0.89	0.86	0.90	0.82 ✓	0.81
SS 12346-PeCDF	0.93	3.5%	0.94	0.97	0.93	0.96	0.93	0.91	0.87
SS 123469-HxCDF	0.84	2.8%	0.86	0.86	0.85	0.84	0.86	0.82	0.80
SS 1234689-HpCDF	0.91	6.0%	0.96	0.96	0.94	0.94	0.92	0.86	0.81
AS 1368-TCDD	1.02	0.7%	1.01	1.03	1.02	1.02 ✓	1.02	1.04	1.02
AS 1368-TCDF	1.08	1.9%	1.05	1.06	1.07	1.10	1.09	1.10	1.07
~~OCDD-a~~	~~0.07~~	~~7.2%~~	~~0.06~~	~~0.08~~	~~0.07~~	~~0.07~~	~~0.07~~	~~0.06~~	~~0.07~~
~~OCDF-a~~	~~0.06~~	~~7.0%~~	~~0.05~~	~~0.06~~	~~0.05~~	~~0.06~~	~~0.06~~	~~0.06~~	~~0.06~~
Not reported from this ICAL - CL 28Jul21									
Totals									
Total TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
Total PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
Total HxCDD	1.05	3.3%	1.11	1.07	0.99	1.04	1.05	1.06	1.05
Total HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
Total TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
Total PeCDF	0.94	3.3%	1.00	0.92	0.90	0.93	0.94	0.95	0.96
Total HxCDF	1.16	3.1%	1.23	1.16	1.11	1.15	1.16	1.17	1.17
Total HpCDF	1.33	3.2%	1.40	1.28	1.28	1.34	1.32	1.36	1.34
FS 1278-TCDD	1.08	0.7%	1.08	1.08	1.09	1.08	1.08	1.08	1.10
FS 12478-PeCDD	1.09	3.7%	1.10	1.10 ✓	1.12	1.13	1.13	1.07	1.01
FS 123468-HxCDD	1.26	4.2%	1.27	1.30	1.28	1.32	1.28	1.24	1.16
FS 1234679-HpCDD	1.36	5.0%	1.41	1.37	1.38	1.42	1.38 ✓	1.30	1.23
TS 1378-TCDD	1.35	2.3%	1.36 ✓	1.38	1.36	1.31	1.30	1.35	1.37

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	210727R01	2	SBS_210727_DF_RA	1.00	SIL 20-61-1	PSW	638-037	27-Jul-2021	08:17:39
2	210727R02	85	CS0_210727_DF_RA	1.00	SIL 25-6-3	PSW	693-472	27-Jul-2021	09:04:23
3	210727R03	86	CS1_210727_DF_RA	1.00	SIL 25-6-2	PSW	554-132	27-Jul-2021	09:54:34
4	210727R04	87	CS2_210727_DF_RA	1.00	SIL 25-6-1	PSW	377-233	27-Jul-2021	10:44:24
5	210727R05	3	CS3_210727_DF_RA	1.00	SIL 23-672-1	PSW	230-891	27-Jul-2021	11:32:33
6	210727R06	88	CS4_210727_DF_RA	1.00	SIL 25-5-4	PSW	602-590	27-Jul-2021	12:19:16
7	210727R07	89	CS5_210727_DF_RA	1.00	SIL 25-5-3	PSW	147-553	27-Jul-2021	13:09:36
8	210727R08	90	CS6_210727_DF_RA	1.00	SIL 25-5-2	PSW	783-472	27-Jul-2021	13:58:27

Alternate OCDD/OCDF - NR in this ICAL. CL 28Jul21

REVIEWED
paul_walton , 7/28/2021, 8:31:00 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:08 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

2378-TCDD	ES 2378-TCDD
12378-PeCDD	ES 12378-PeCDD
123478-HxCDD	ES 123478-HxCDD
123678-HxCDD	ES 123678-HxCDD
123789-HxCDD	ES 123789-HxCDD
1234678-HpCDD	ES 1234678-HpCDD
OCDD	ES OCDD
2378-TCDF	ES 2378-TCDF
12378-PeCDF	ES 12378-PeCDF
23478-PeCDF	ES 23478-PeCDF
123478-HxCDF	ES 123478-HxCDF
123678-HxCDF	ES 123678-HxCDF
234678-HxCDF	ES 234678-HxCDF
123789-HxCDF	ES 123789-HxCDF
1234678-HpCDF	ES 1234678-HpCDF
1234789-HpCDF	ES 1234789-HpCDF
OCDF	ES OCDF

Cleanup/Sampling Standards

CS 37Cl-2378-TCDD	1234 TCDD 13C12
CS 12347-PeCDD	1234 TCDD 13C12
CS 12346-PeCDF	1234 TCDF 13C12
CS 123469-HxCDF	123467 HxCDD 13C12
CS 1234689-HpCDF	123467 HxCDD 13C12

Alternate Standards

AS 1368-TCDD	1234 TCDD 13C12
AS 1368-TCDF	1234 TCDF 13C12

Shipping Standards

FS 1278-TCDD	ES 2378-TCDD
FS 12478-PeCDD	ES 12378-PeCDD
FS 123468-HxCDD	ES 123478-HxCDD
FS 1234679-HpCDD	ES 1234678-HpCDD
TS 1378-TCDD	ES 2378-TCDD

Extraction Standards

ES 2378-TCDD	1234 TCDD 13C12
ES 12378-PeCDD	1234 TCDD 13C12
ES 123478-HxCDD	123467 HxCDD 13C12
ES 123678-HxCDD	123467 HxCDD 13C12
ES 123789-HxCDD	123467 HxCDD 13C12
ES 1234678-HpCDD	123467 HxCDD 13C12
ES OCDD	123467 HxCDD 13C12
ES 2378-TCDF	1234 TCDF 13C12
ES 12378-PeCDF	1234 TCDF 13C12
ES 23478-PeCDF	1234 TCDF 13C12
ES 123478-HxCDF	123467 HxCDD 13C12
ES 123678-HxCDF	123467 HxCDD 13C12
ES 234678-HxCDF	123467 HxCDD 13C12
ES 123789-HxCDF	123467 HxCDD 13C12
ES 1234678-HpCDF	123467 HxCDD 13C12
ES 1234789-HpCDF	123467 HxCDD 13C12
ES OCDF	123467 HxCDD 13C12

Injection Standards

1234 TCDD 13C12
1234 TCDF 13C12
123467 HxCDD 13C12

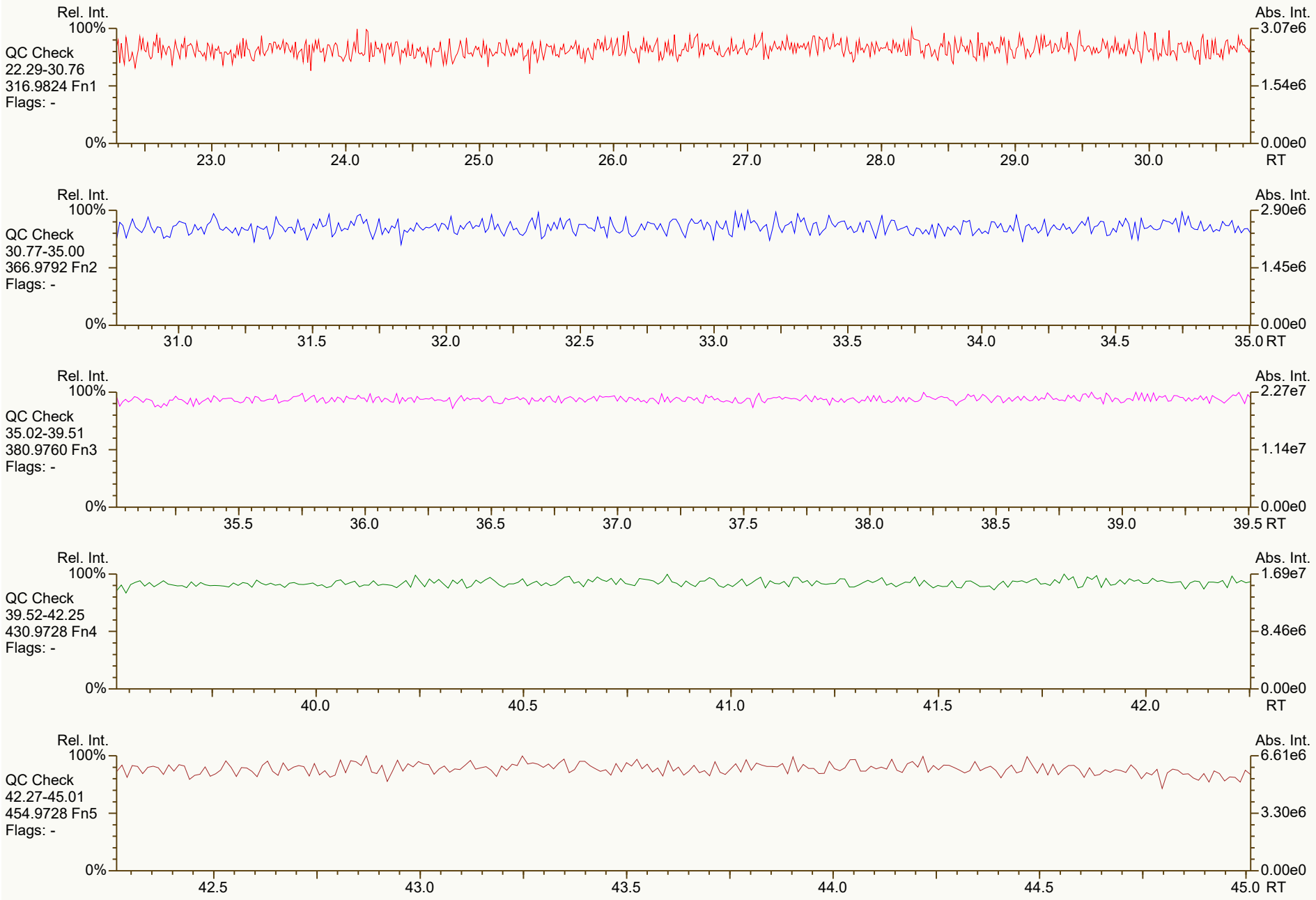
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	6.43E+05	0.73	Y	1.34	1.45	8%
12378-PeCDD	33.80	2.41E+06	1.48	Y	1.06	1.09	3%
123478-HxCDD	37.67	2.24E+06	1.35	Y	1.06	1.10	4%
123678-HxCDD	37.78	2.20E+06	1.31	Y	1.08	1.12	3%
123789-HxCDD	38.07	2.52E+06	1.21	Y	1.02	1.10	9%
1234678-HpCDD	40.66	2.08E+06	0.99	Y	0.97	1.05	7%
OCDD	43.22	3.52E+06	0.85	Y	1.07	1.15	8%
2378-TCDF	27.66	7.49E+05	0.72	Y	0.96	1.01	5%
12378-PeCDF	32.38	3.19E+06	1.44	Y	0.95	1.00	5%
23478-PeCDF	33.46	3.11E+06	1.57	Y	0.94	0.99	6%
123478-HxCDF	36.68	3.00E+06	1.23	Y	1.23	1.32	7%
123678-HxCDF	36.82	3.05E+06	1.18	Y	1.13	1.17	4%
234678-HxCDF	37.49	2.95E+06	1.17	Y	1.15	1.23	7%
123789-HxCDF	38.42	2.65E+06	1.30	Y	1.14	1.19	5%
1234678-HpCDF	39.76	2.75E+06	1.00	Y	1.36	1.46	7%
1234789-HpCDF	41.10	2.20E+06	1.11	Y	1.30	1.34	3%
OCDF	43.40	3.66E+06	0.85	Y	1.03	1.01	-1%
ES 2378-TCDD	28.50	1.77E+08	0.79	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.781	1.77E+08	1.63	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.653	1.63E+08	1.26	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.766	1.57E+08	1.27	Y	0.97	0.94	-3%
ES 123789-HxCDD	38.056	1.82E+08	1.26	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.643	1.59E+08	1.05	Y	0.99	0.95	-4%
ES OCDD	43.205	2.44E+08	0.92	Y	0.78	0.73	-6%
ES 2378-TCDF	27.645	2.97E+08	0.78	Y	1.08	1.06	-2%
ES 12378-PeCDF	32.355	2.55E+08	1.55	Y	0.93	0.91	-2%
ES 23478-PeCDF	33.445	2.50E+08	1.56	Y	0.92	0.90	-3%
ES 123478-HxCDF	36.661	1.82E+08	0.53	Y	1.14	1.09	-5%
ES 123678-HxCDF	36.801	2.08E+08	0.53	Y	1.30	1.24	-4%
ES 234678-HxCDF	37.466	1.92E+08	0.53	Y	1.20	1.14	-5%
ES 123789-HxCDF	38.399	1.78E+08	0.52	Y	1.14	1.06	-7%
ES 1234678-HpCDF	39.748	1.51E+08	0.44	Y	0.95	0.90	-5%
ES 1234789-HpCDF	41.09	1.32E+08	0.45	Y	0.85	0.79	-7%
ES OCDF	43.389	2.89E+08	0.89	Y	0.93	0.86	-7%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

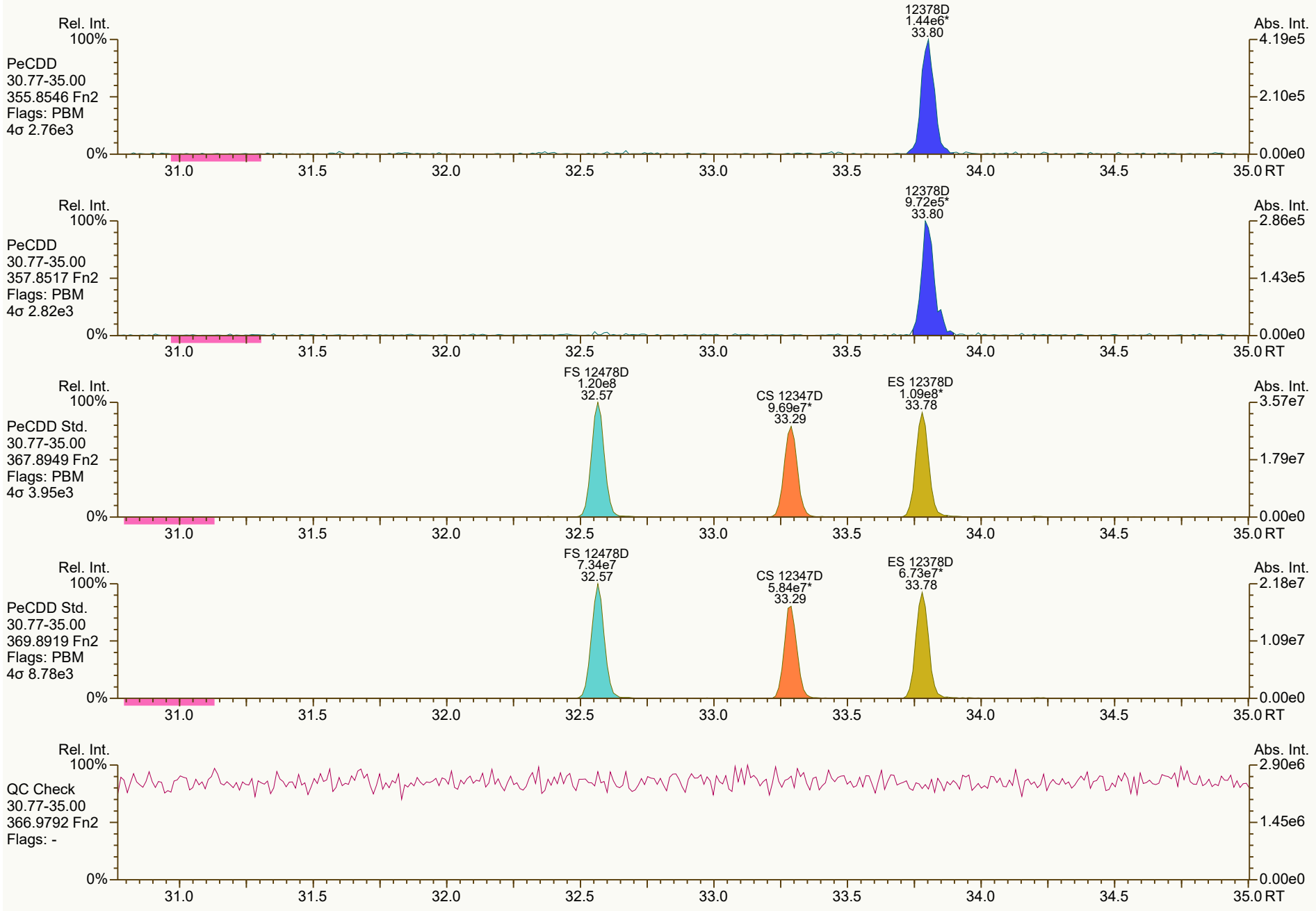
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.07~~	~~0.06~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.81~~	~~Y~~	~~0.06~~	~~0.05~~	~~-7%~~

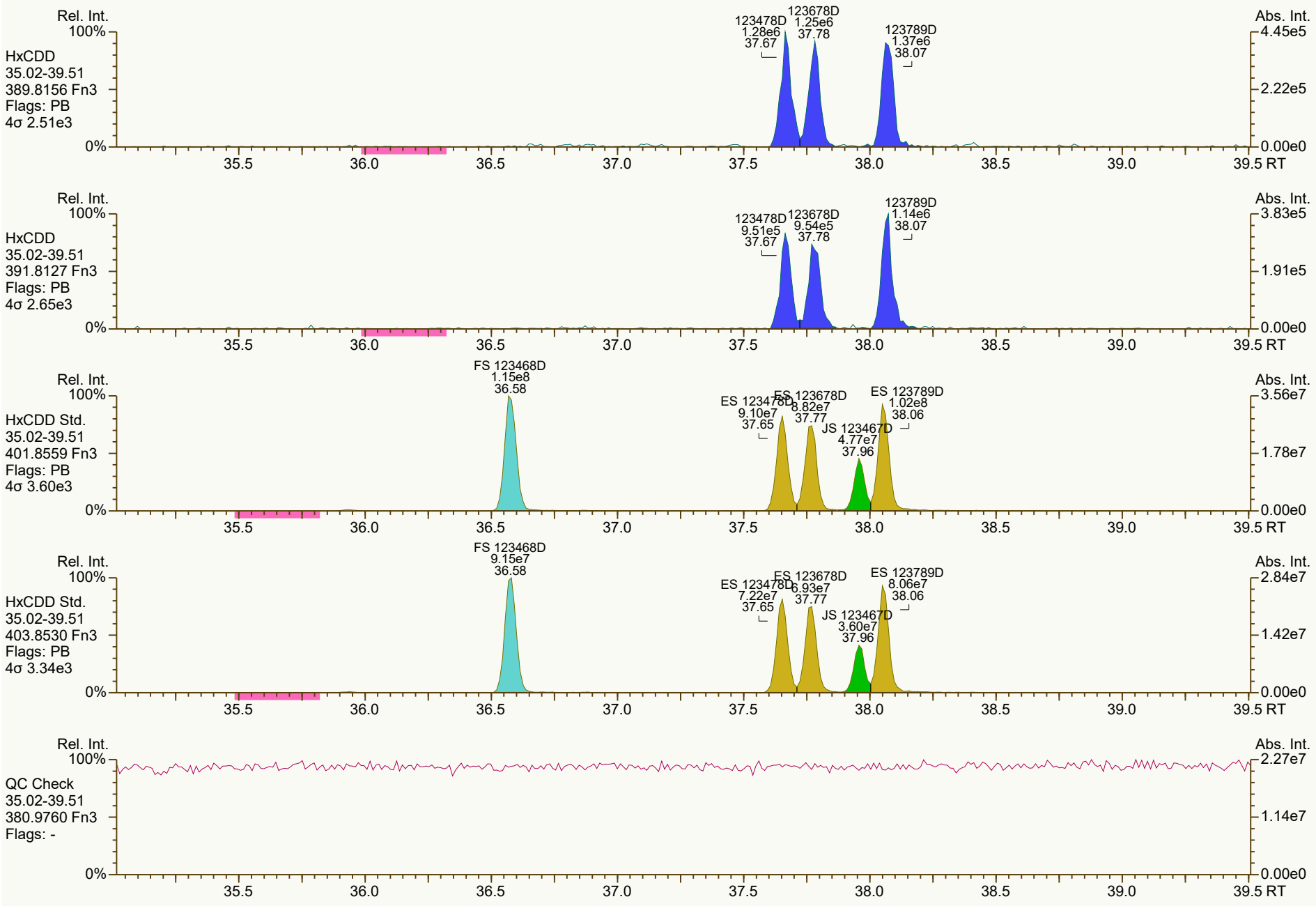
Not reported from this ICAL - CL 28Jul21

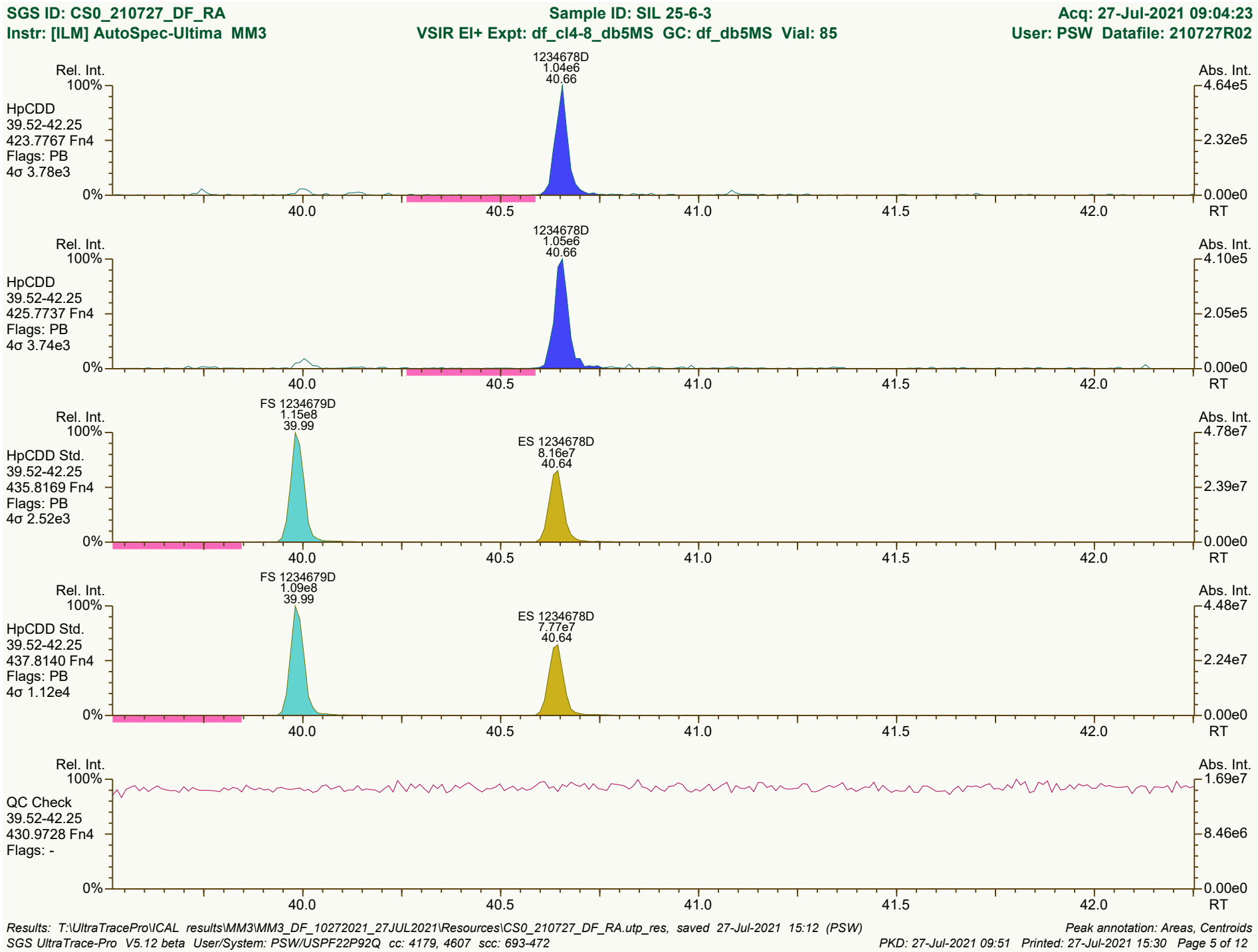


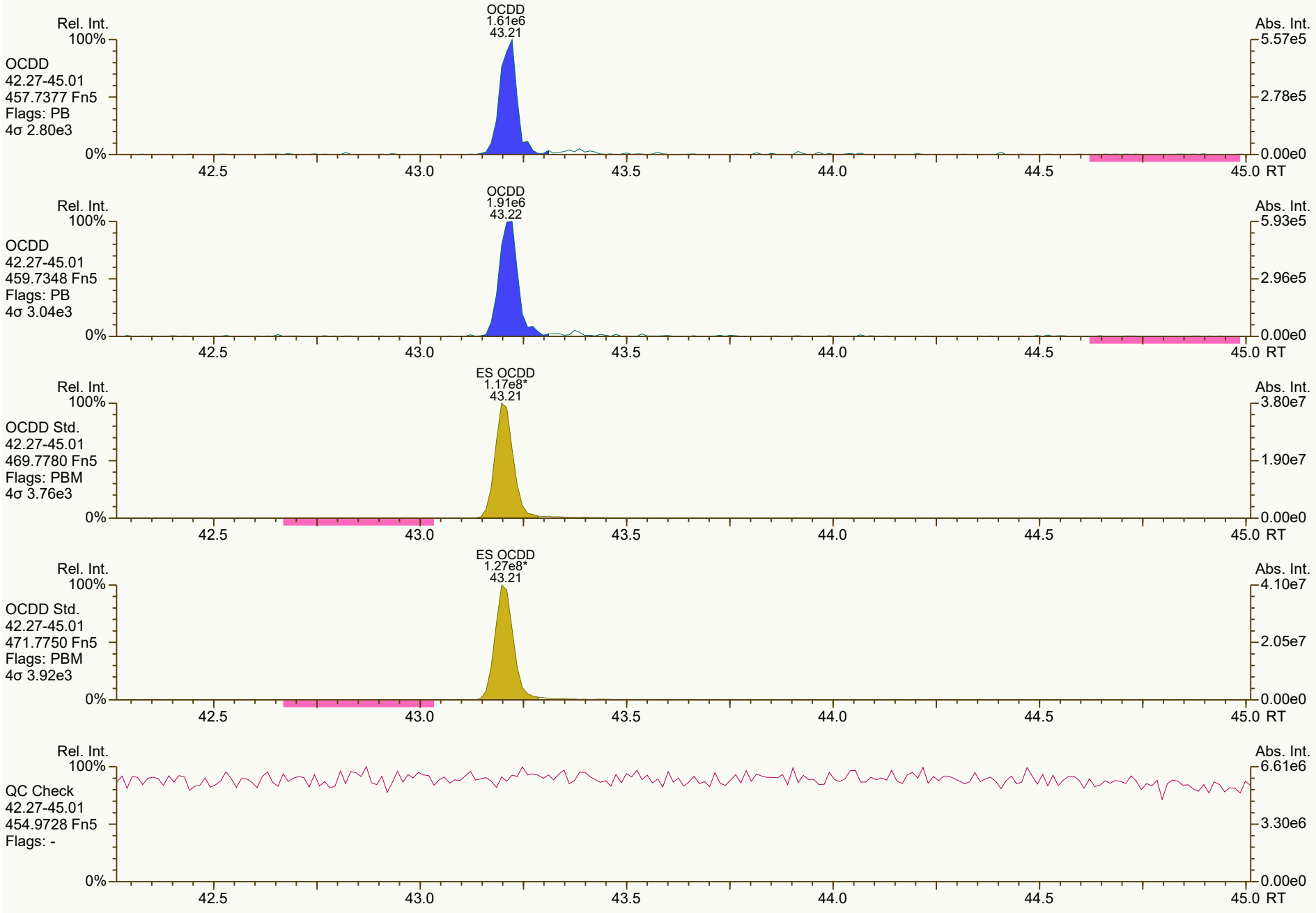
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SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 693-472
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12

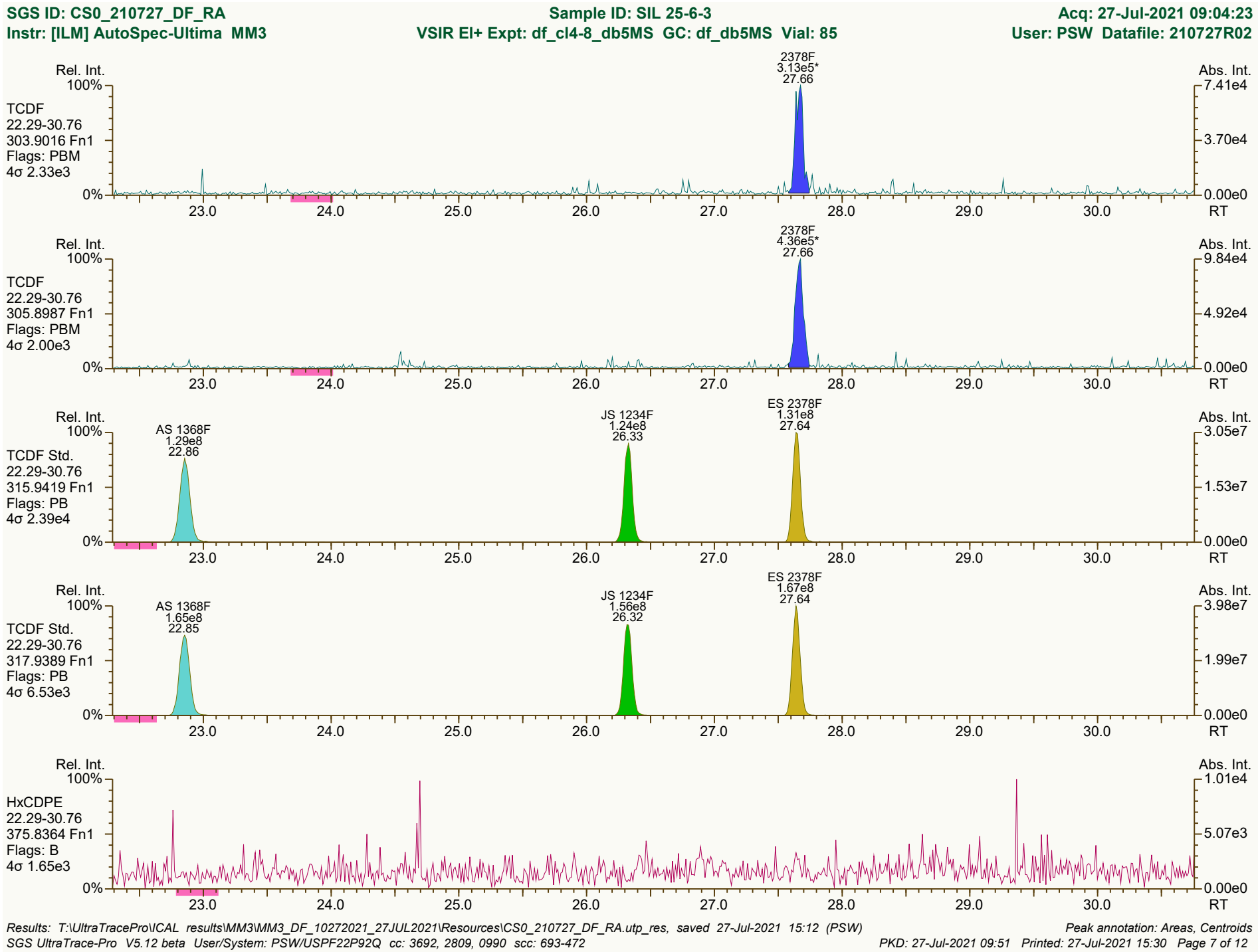

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22.29-30.76
319.8965 Fn1
Flags: PBM
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0%
2378D
2.70e5*
28.52
Abs. Int.
6.87e4
3.43e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.34e3
RRF(2378D) = (2.70e5 + 3.73e5) * 100pg / (7.81e7 + 9.89e7) * 0.25pg = 1.45
PSW 27-Jul-2021 15:08
OK
CL 28Jul21
2378D
3.73e5*
28.52
9.52e4
4.76e4
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.84e3
1.43e4
7.14e3
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.61e3
AS 1368D
7.76e7
24.91
TS 1378D
1.07e8
26.87
JS 1234D
7.74e7
27.86
ES 2378D
7.81e7
28.50
FS 1278D
8.37e7
28.82
2.55e7
1.28e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.86e3
RRF(TS 1378D) = (1.07e8 + 1.34e8) * 100pg / (7.81e7 + 9.89e7) * 100pg = 1.36
PSW 27-Jul-2021 15:11
OK - CL 28Jul21
AS 1368D
9.87e7
24.91
TS 1378D
1.34e8
26.87
JS 1234D
9.66e7
27.86
ES 2378D
9.89e7
28.50
FS 1278D
1.08e8
28.82
3.19e7
1.59e7

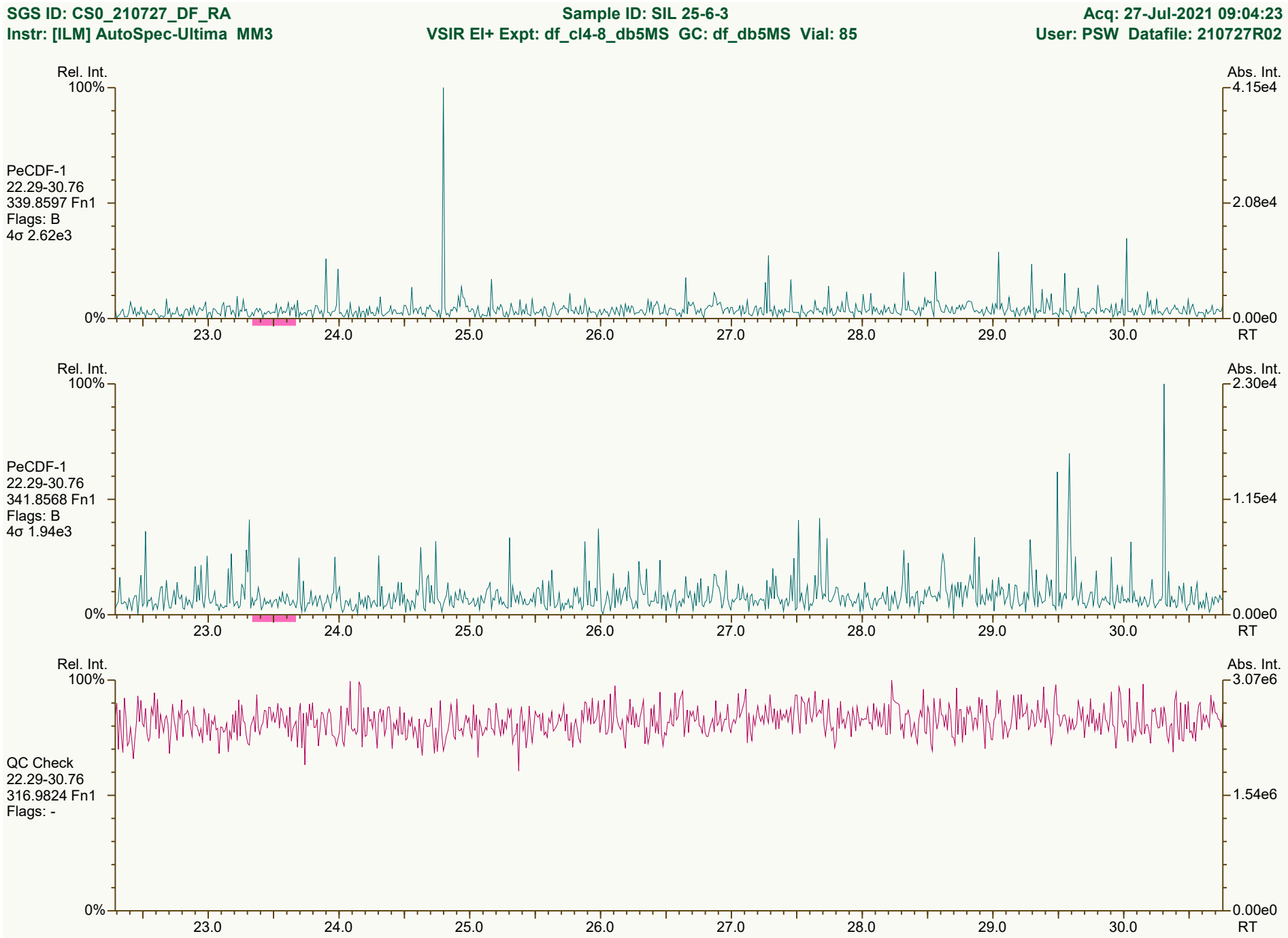

Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 2.76e3
0%
12378D
1.44e6*
33.80
Abs. Int.
4.19e5
2.10e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.82e3
0%
12378D
9.72e5*
33.80
Abs. Int.
2.86e5
1.43e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.95e3
0%
FS 12478D
1.20e8
32.57
CS 12347D
9.69e7*
33.29
ES 12378D
1.09e8*
33.78
Abs. Int.
3.57e7
1.79e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 8.78e3
0%
FS 12478D
7.34e7
32.57
CS 12347D
5.84e7*
33.29
ES 12378D
6.73e7*
33.78
Abs. Int.
2.18e7
1.09e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

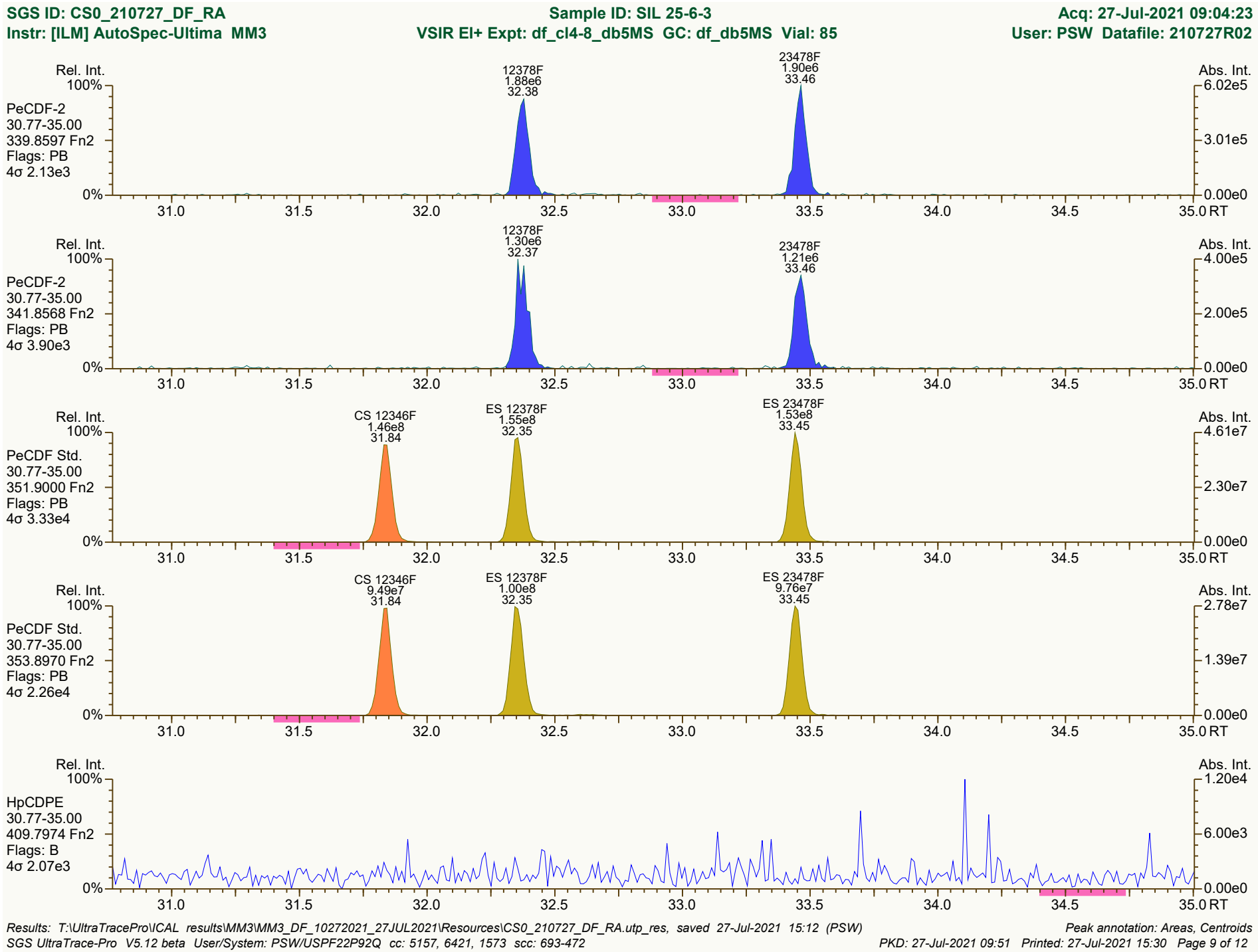

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.51e3
123478D
1.28e6
37.67
123678D
1.25e6
37.78
123789D
1.37e6
38.07
Abs. Int.
4.45e5
2.22e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.65e3
123478D
9.51e5
37.67
123678D
9.54e5
37.78
123789D
1.14e6
38.07
Abs. Int.
3.83e5
1.91e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.60e3
FS 123468D
1.15e8
36.58
ES 123478D
9.10e7
37.65
ES 123678D
8.82e7
37.77
JS 123467D
4.77e7
37.96
ES 123789D
1.02e8
38.06
Abs. Int.
3.56e7
1.78e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.34e3
FS 123468D
9.15e7
36.58
ES 123478D
7.22e7
37.65
ES 123678D
6.93e7
37.77
JS 123467D
3.60e7
37.96
ES 123789D
8.06e7
38.06
Abs. Int.
2.84e7
1.42e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.14e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

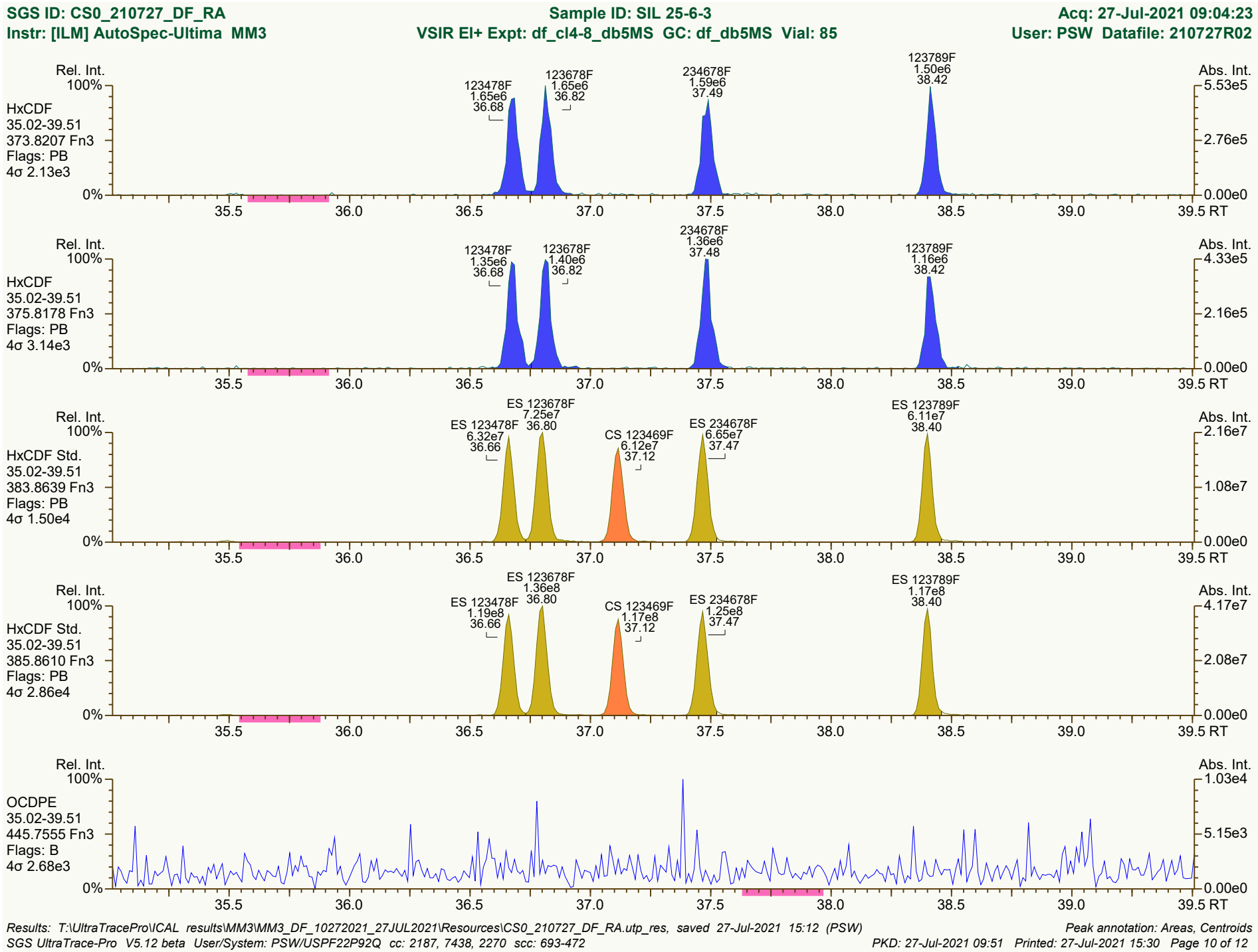

SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 3.78e3
1234678D
1.04e6
40.66
4.64e5
2.32e5
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.74e3
1234678D
1.05e6
40.66
4.10e5
2.05e5
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.52e3
FS 1234679D
1.15e8
39.99
ES 1234678D
8.16e7
40.64
4.78e7
2.39e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.12e4
FS 1234679D
1.09e8
39.99
ES 1234678D
7.77e7
40.64
4.48e7
2.24e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.69e7
8.46e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4179, 4607 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 5 of 12

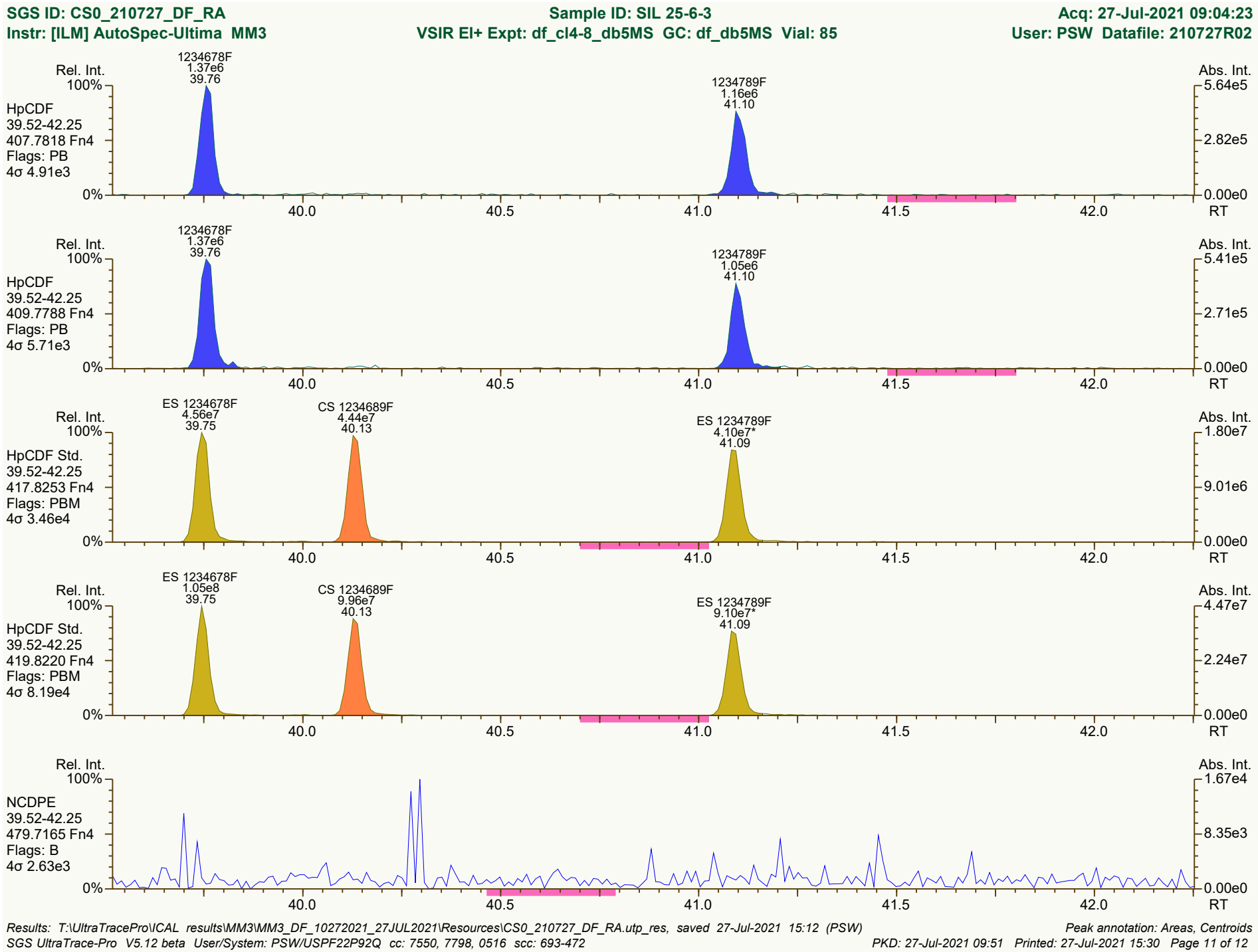

OCDD
1.61e6
43.21
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
5.57e5
2.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
5.93e5
2.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PBM
4σ 3.76e3
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.27e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PBM
4σ 3.92e3
0%
Abs. Int.
4.10e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

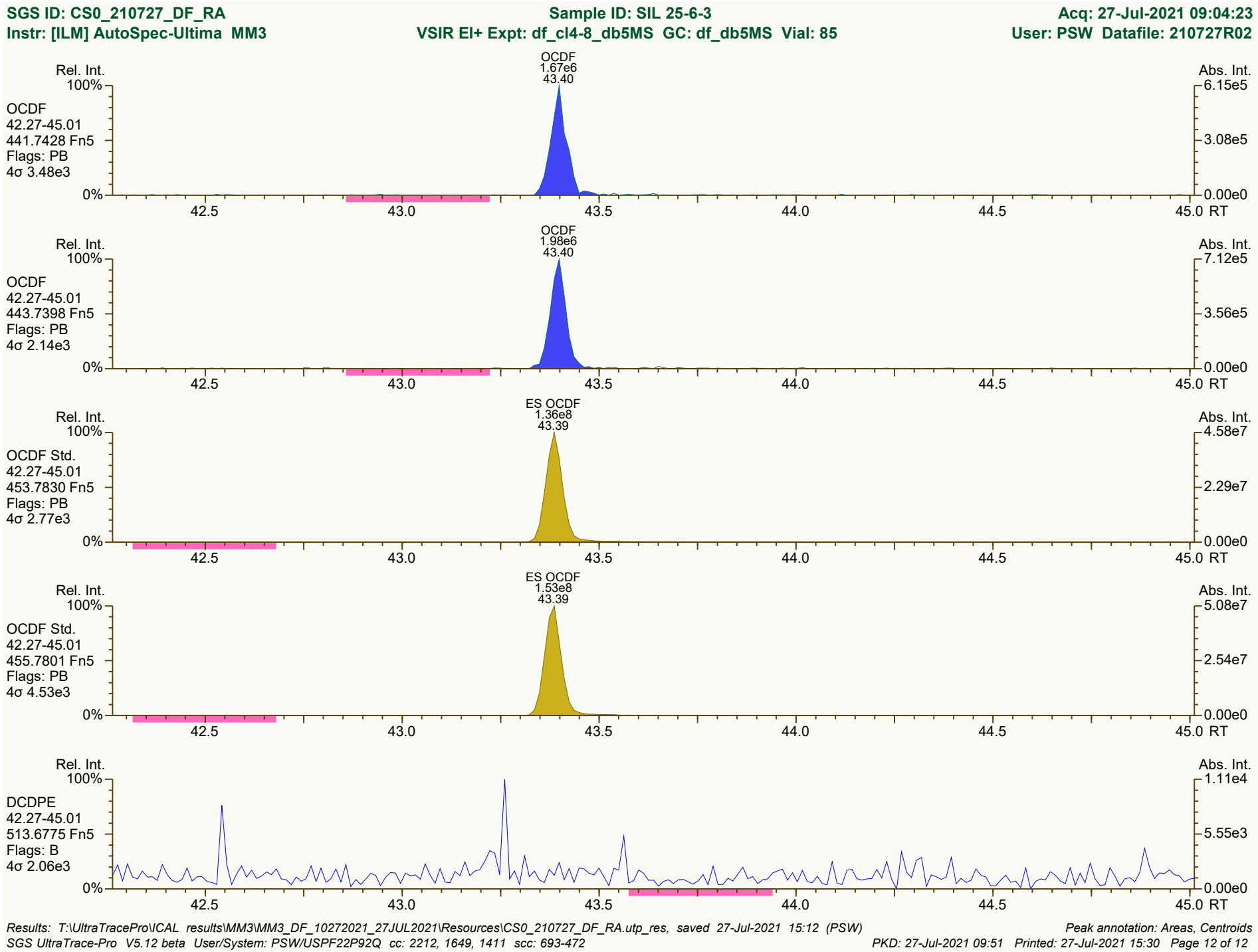

SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.33e3
2378F
3.13e5*
27.66
7.41e4
3.70e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.00e3
2378F
4.36e5*
27.66
9.84e4
4.92e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.39e4
AS 1368F
1.29e8
22.86
JS 1234F
1.24e8
26.33
ES 2378F
1.31e8
27.64
3.05e7
1.53e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 6.53e3
AS 1368F
1.65e8
22.85
JS 1234F
1.56e8
26.32
ES 2378F
1.67e8
27.64
3.98e7
1.99e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.65e3
1.01e4
5.07e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3692, 2809, 0990 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 7 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
100%
0%
Abs. Int.
4.15e4
2.08e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.62e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.30e4
1.15e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 1.94e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.07e6
1.54e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1474 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 8 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.13e3
12378F
1.88e6
32.38
23478F
1.90e6
33.46
6.02e5
3.01e5
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.90e3
12378F
1.30e6
32.37
23478F
1.21e6
33.46
4.00e5
2.00e5
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 3.33e4
CS 12346F
1.46e8
31.84
ES 12378F
1.55e8
32.35
ES 23478F
1.53e8
33.45
4.61e7
2.30e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.26e4
CS 12346F
9.49e7
31.84
ES 12378F
1.00e8
32.35
ES 23478F
9.76e7
33.45
2.78e7
1.39e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.07e3
1.20e4
6.00e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5157, 6421, 1573 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
123478F 1.65e6 36.68
123678F 1.65e6 36.82
234678F 1.59e6 37.49
123789F 1.50e6 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
123478F 1.35e6 36.68
123678F 1.40e6 36.82
234678F 1.36e6 37.48
123789F 1.16e6 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
ES 123478F 6.32e7 36.66
ES 123678F 7.25e7 36.80
CS 123469F 6.12e7 37.12
ES 234678F 6.65e7 37.47
ES 123789F 6.11e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
ES 123478F 1.19e8 36.66
ES 123678F 1.36e8 36.80
CS 123469F 1.17e8 37.12
ES 234678F 1.25e8 37.47
ES 123789F 1.17e8 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
5.53e5
2.76e5
0.00e0
4.33e5
2.16e5
2.16e7
1.08e7
4.17e7
2.08e7
1.03e4
5.15e3
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2187, 7438, 2270 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e3
1234678F
1.37e6
39.76
1234789F
1.16e6
41.10
5.64e5
2.82e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.71e3
1234678F
1.37e6
39.76
1234789F
1.05e6
41.10
5.41e5
2.71e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.46e4
ES 1234678F
4.56e7
39.75
CS 1234689F
4.44e7
40.13
ES 1234789F
4.10e7*
41.09
1.80e7
9.01e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 8.19e4
ES 1234678F
1.05e8
39.75
CS 1234689F
9.96e7
40.13
ES 1234789F
9.10e7*
41.09
4.47e7
2.24e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
1.67e4
8.35e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7550, 7798, 0516 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 3.48e3
0%
OCDF
1.67e6
43.40
Abs. Int.
6.15e5
3.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.14e3
0%
OCDF
1.98e6
43.40
Abs. Int.
7.12e5
3.56e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 2.77e3
0%
ES OCDF
1.36e8
43.39
Abs. Int.
4.58e7
2.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.53e3
0%
ES OCDF
1.53e8
43.39
Abs. Int.
5.08e7
2.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2212, 1649, 1411 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 12 of 12

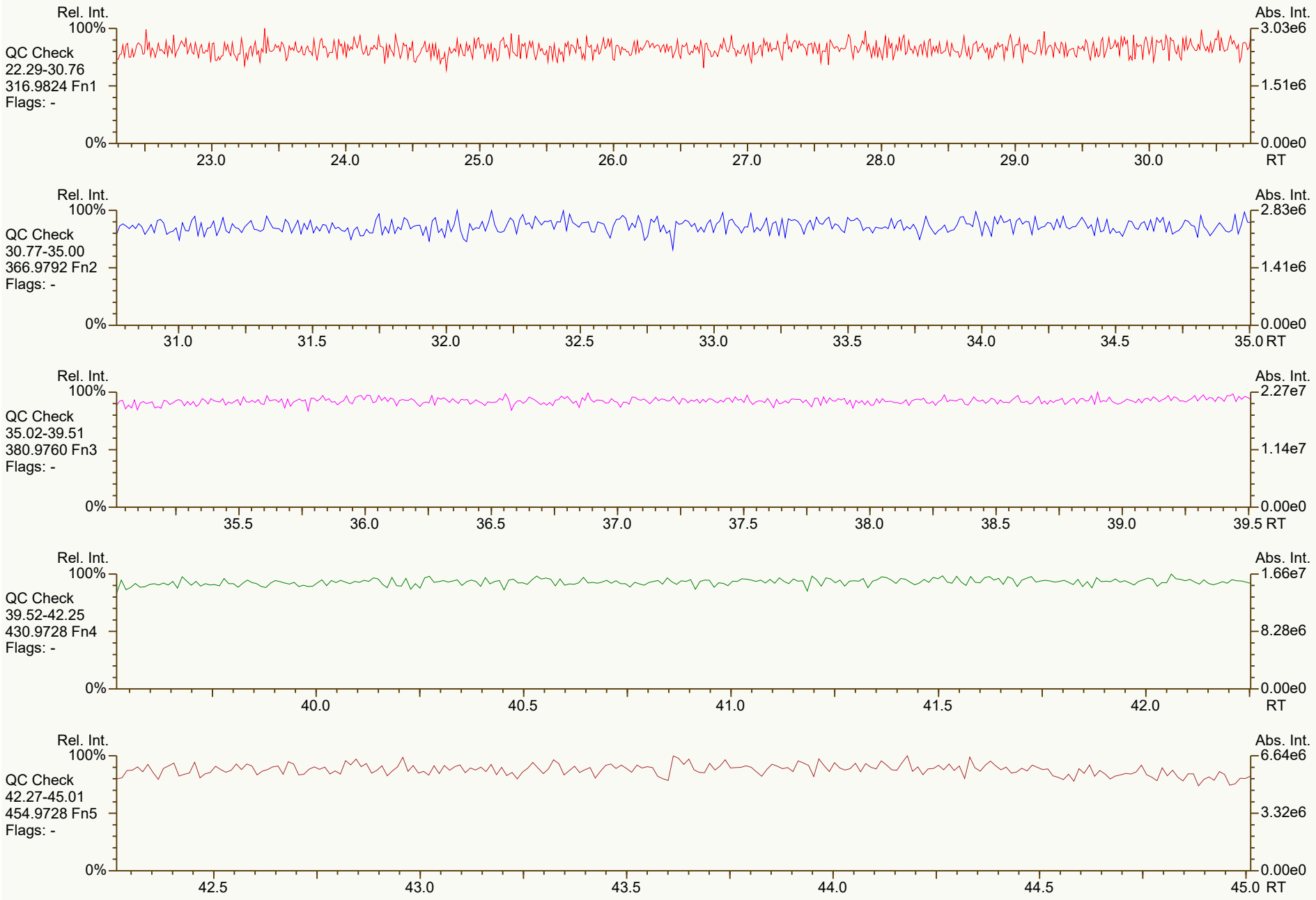
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD	40.66	3.34E+06	1.16	Y	0.97	0.95	-3%
OCDD	43.23	5.66E+06	0.85	Y	1.07	1.04	-3%
2378-TCDF	27.67	1.25E+06	0.72	Y	0.96	0.94	-2%
12378-PeCDF	32.38	5.24E+06	1.54	Y	0.95	0.94	0%
23478-PeCDF	33.47	5.06E+06	1.63	Y	0.94	0.90	-4%
123478-HxCDF	36.69	4.92E+06	1.14	Y	1.23	1.23	-1%
123678-HxCDF	36.83	5.41E+06	1.33	Y	1.13	1.16	3%
234678-HxCDF	37.49	5.10E+06	1.23	Y	1.15	1.19	3%
123789-HxCDF	38.42	4.41E+06	1.28	Y	1.14	1.08	-5%
1234678-HpCDF	39.76	4.59E+06	0.97	Y	1.36	1.35	0%
1234789-HpCDF	41.11	3.63E+06	1.08	Y	1.30	1.20	-7%
OCDF	43.41	6.46E+06	0.90	Y	1.03	1.01	-2%
ES 2378-TCDD	28.51	1.56E+08	0.81	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.789	1.56E+08	1.63	Y	1.03	1.02	-1%
ES 123478-HxCDD	37.66	1.43E+08	1.26	Y	0.99	0.93	-6%
ES 123678-HxCDD	37.773	1.40E+08	1.27	Y	0.97	0.91	-6%
ES 123789-HxCDD	38.062	1.60E+08	1.24	Y	1.12	1.04	-7%
ES 1234678-HpCDD	40.65	1.41E+08	1.06	Y	0.99	0.92	-8%
ES OCDD	43.215	2.18E+08	0.91	Y	0.78	0.71	-9%
ES 2378-TCDF	27.651	2.66E+08	0.77	Y	1.08	1.08	0%
ES 12378-PeCDF	32.362	2.22E+08	1.59	Y	0.93	0.91	-3%
ES 23478-PeCDF	33.454	2.24E+08	1.55	Y	0.92	0.91	-1%
ES 123478-HxCDF	36.667	1.60E+08	0.52	Y	1.14	1.04	-9%
ES 123678-HxCDF	36.807	1.86E+08	0.54	Y	1.30	1.21	-7%
ES 234678-HxCDF	37.474	1.72E+08	0.53	Y	1.20	1.12	-7%
ES 123789-HxCDF	38.407	1.64E+08	0.51	Y	1.14	1.07	-6%
ES 1234678-HpCDF	39.755	1.36E+08	0.46	Y	0.95	0.88	-7%
ES 1234789-HpCDF	41.099	1.21E+08	0.45	Y	0.85	0.78	-7%
ES OCDF	43.396	2.56E+08	0.88	Y	0.93	0.83	-10%

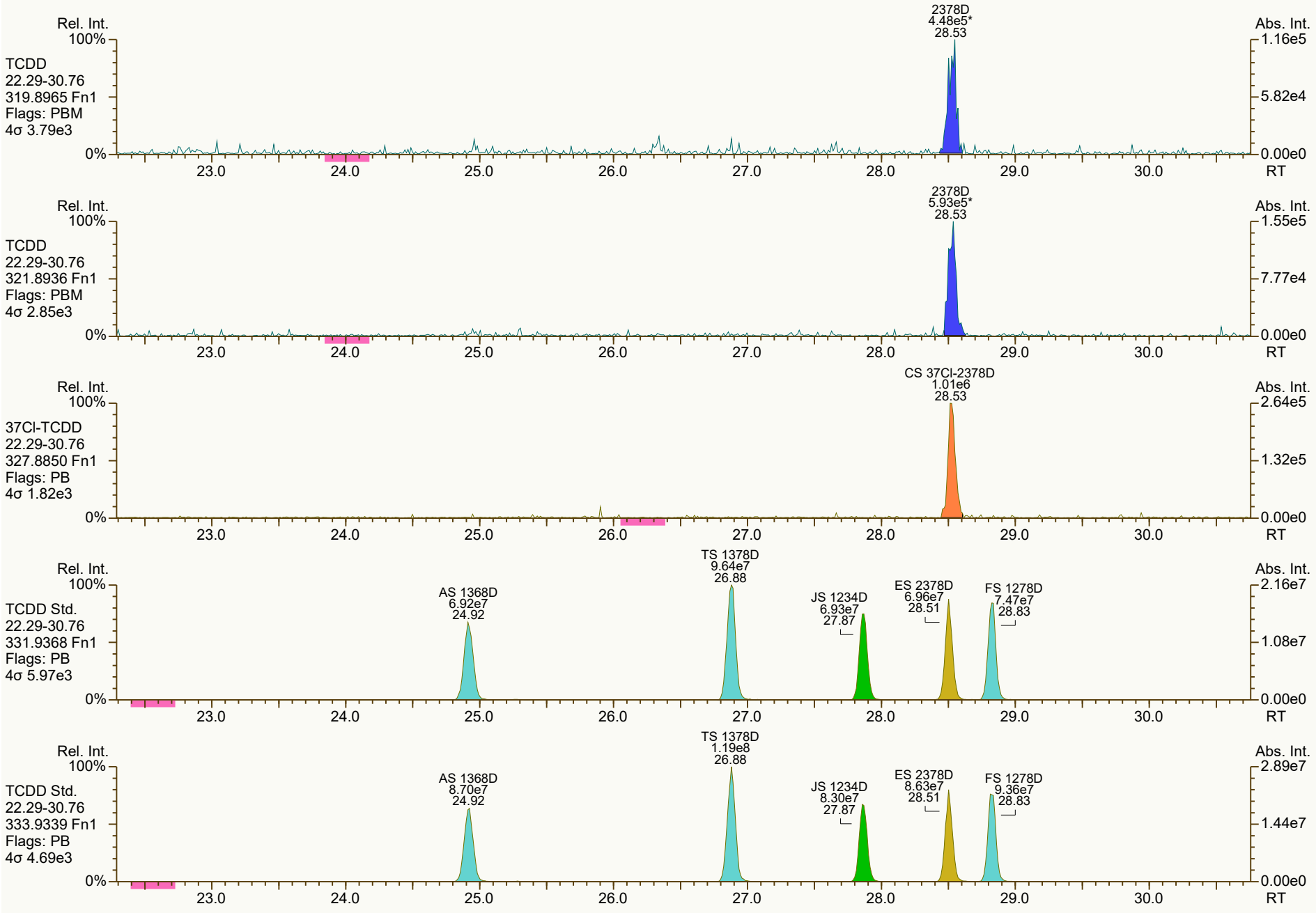
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

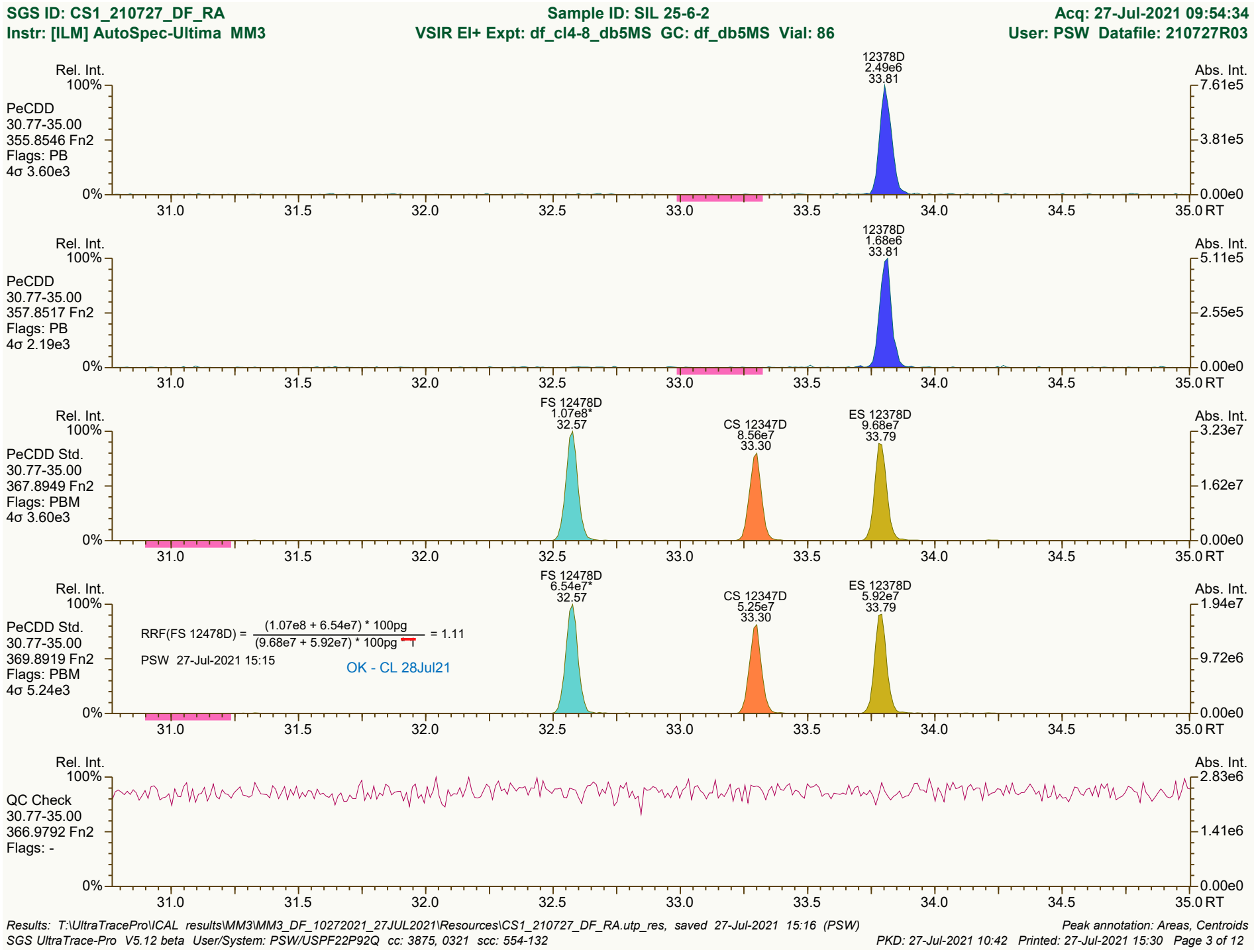
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.87	0.88	1%
CS 123469-HxCDF	37.12	1.61E+08	0.52	Y	1.09	1.04	-4%
CS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.86	0.84	-2%
SS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.26	1.29	2%
SS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.86	0.89	2%
SS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.61E+08	0.52	Y	0.84	0.86	3%
SS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.91	0.96	5%
AS 1368-TCDD	24.92	1.56E+08	0.80	Y	1.02	1.03	0%
AS 1368-TCDF	22.86	2.59E+08	0.77	Y	1.08	1.06	-2%
FS 1278-TCDD	28.83	1.68E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.72E+08	1.63	Y	1.09	1.10	1%
FS 123468-HxCDD	36.59	1.86E+08	1.29	Y	1.26	1.30	3%
FS 1234679-HpCDD	39.99	1.93E+08	1.05	Y	1.36	1.37	1%
TS 1378-TCDD	26.88	2.16E+08	0.81	Y	1.35	1.38	3%
~~OCDD-a~~	~~43.23~~	~~4.10E+05~~	~~2.91~~	~~N~~	~~0.07~~	~~0.08~~	~~14%~~
~~OCDF-a~~	~~43.40~~	~~3.79E+05~~	~~1.92~~	~~N~~	~~0.06~~	~~0.06~~	~~0%~~

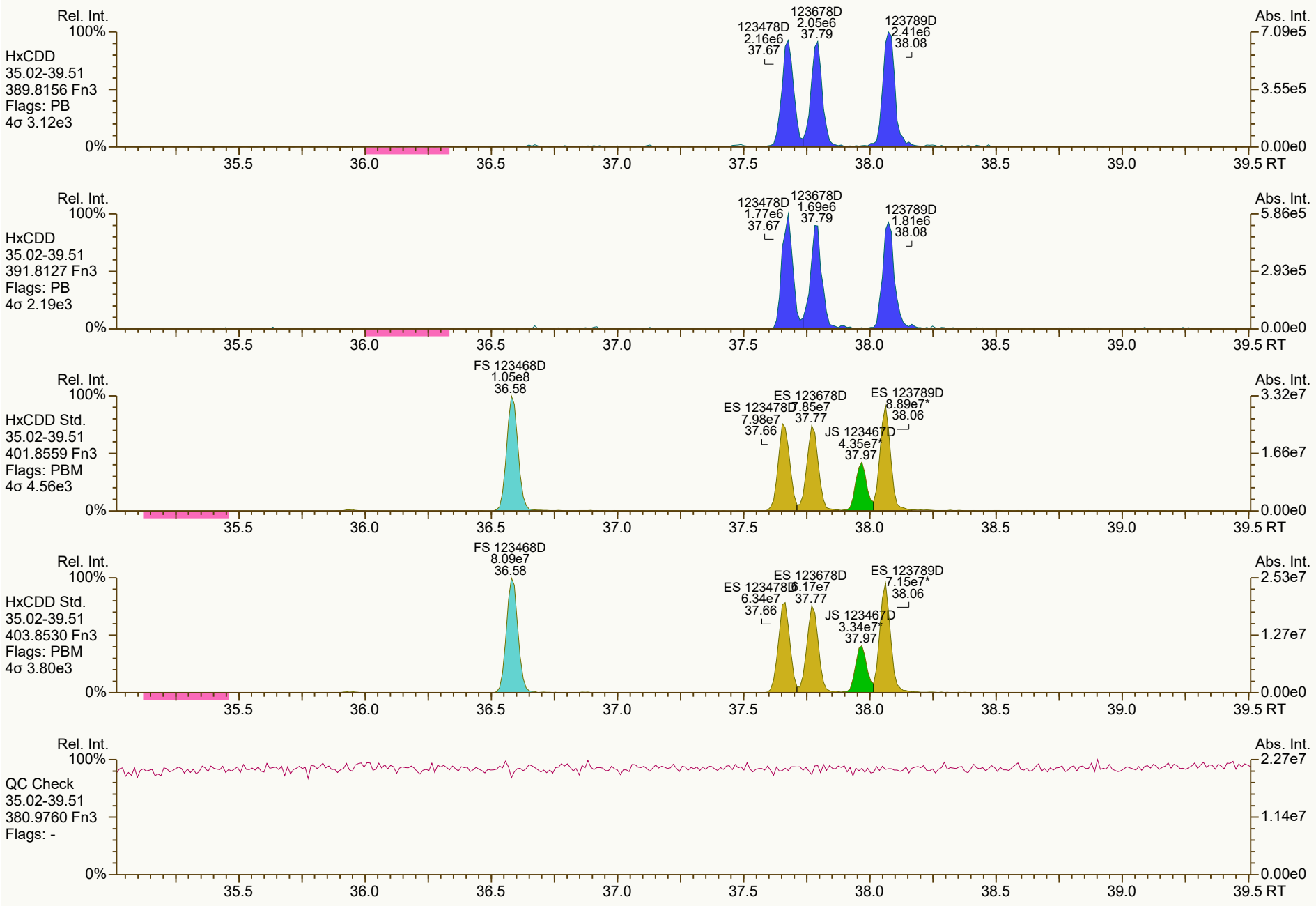
Not reported from this ICAL - CL 28Jul21

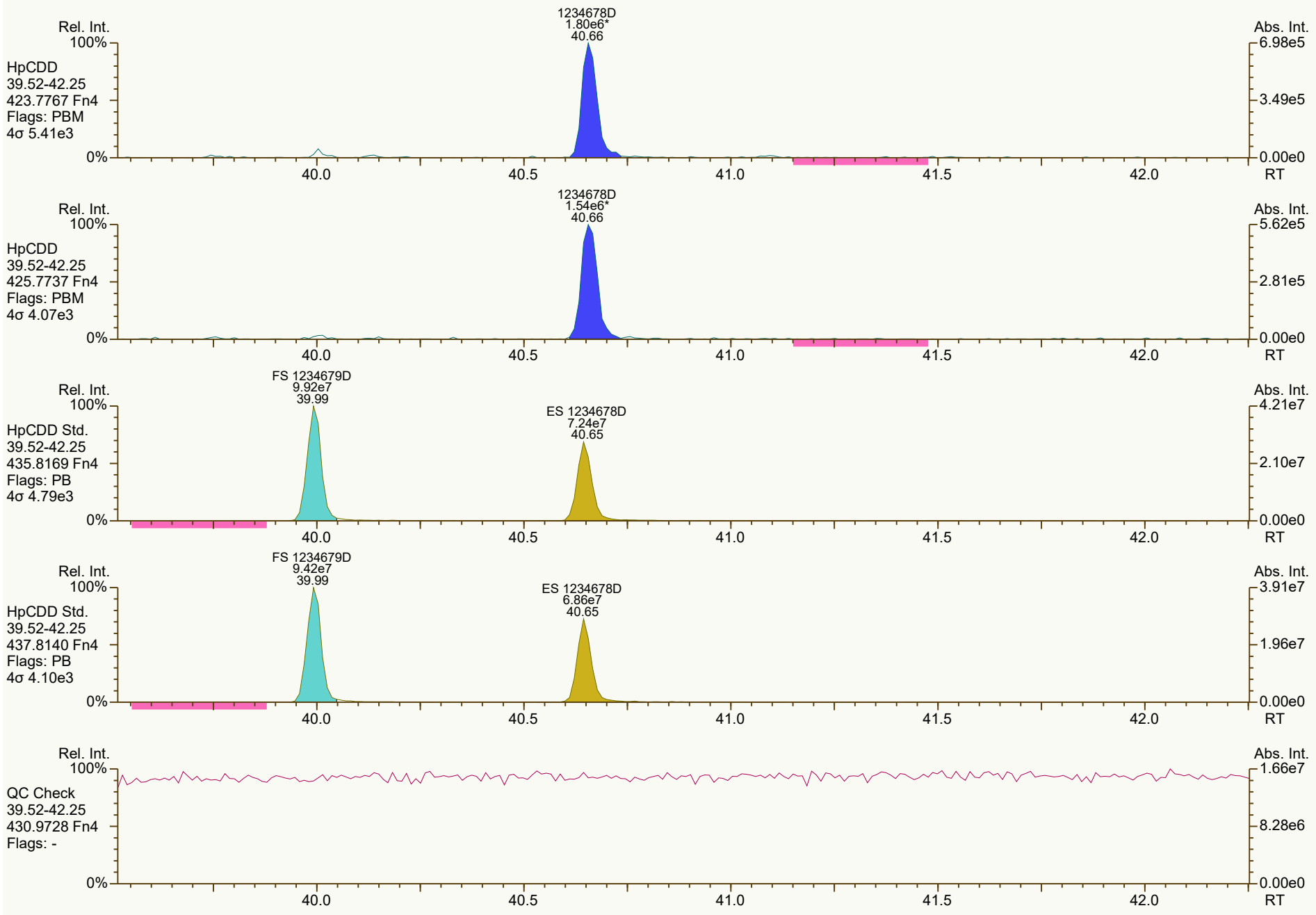


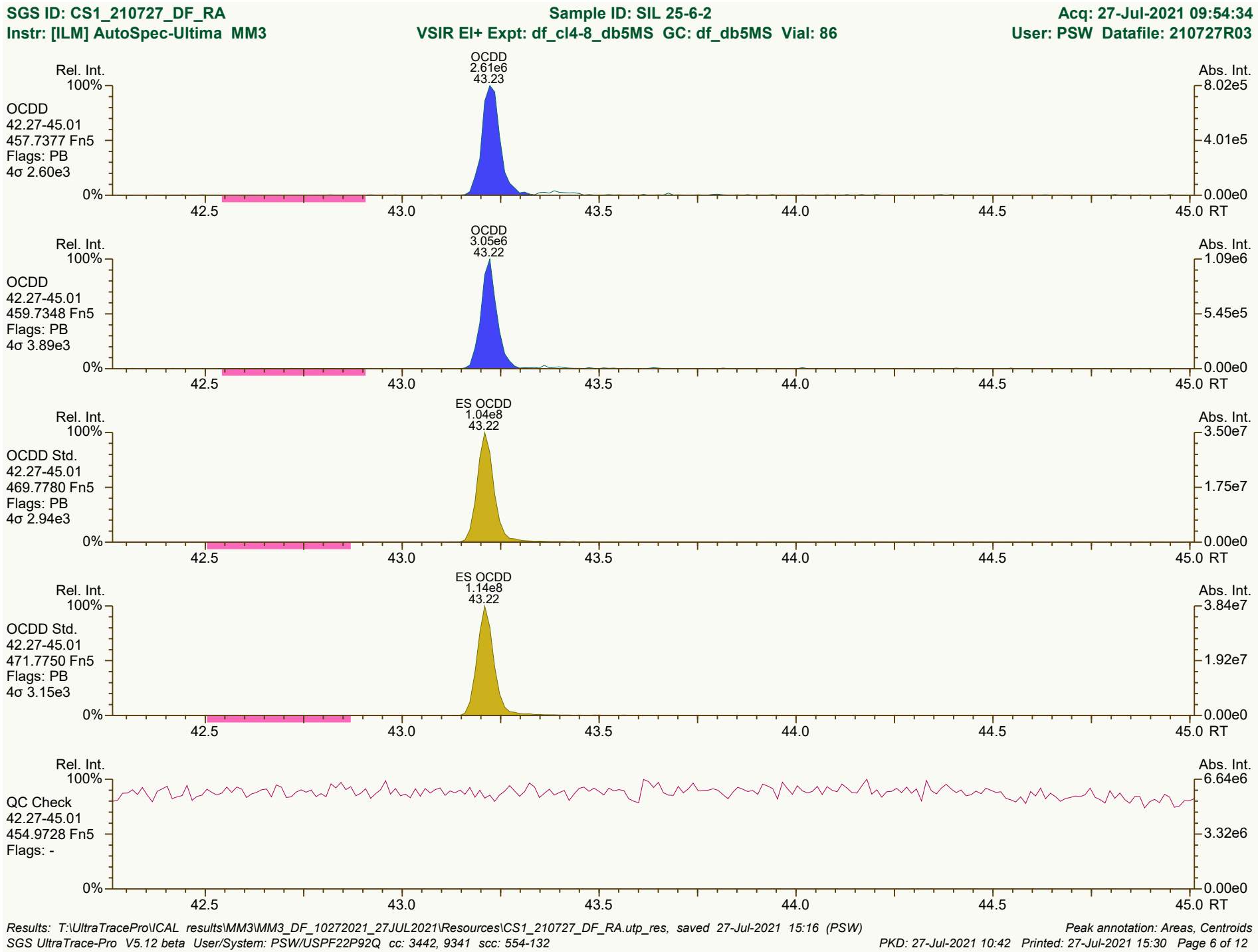
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 554-132 *PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12*

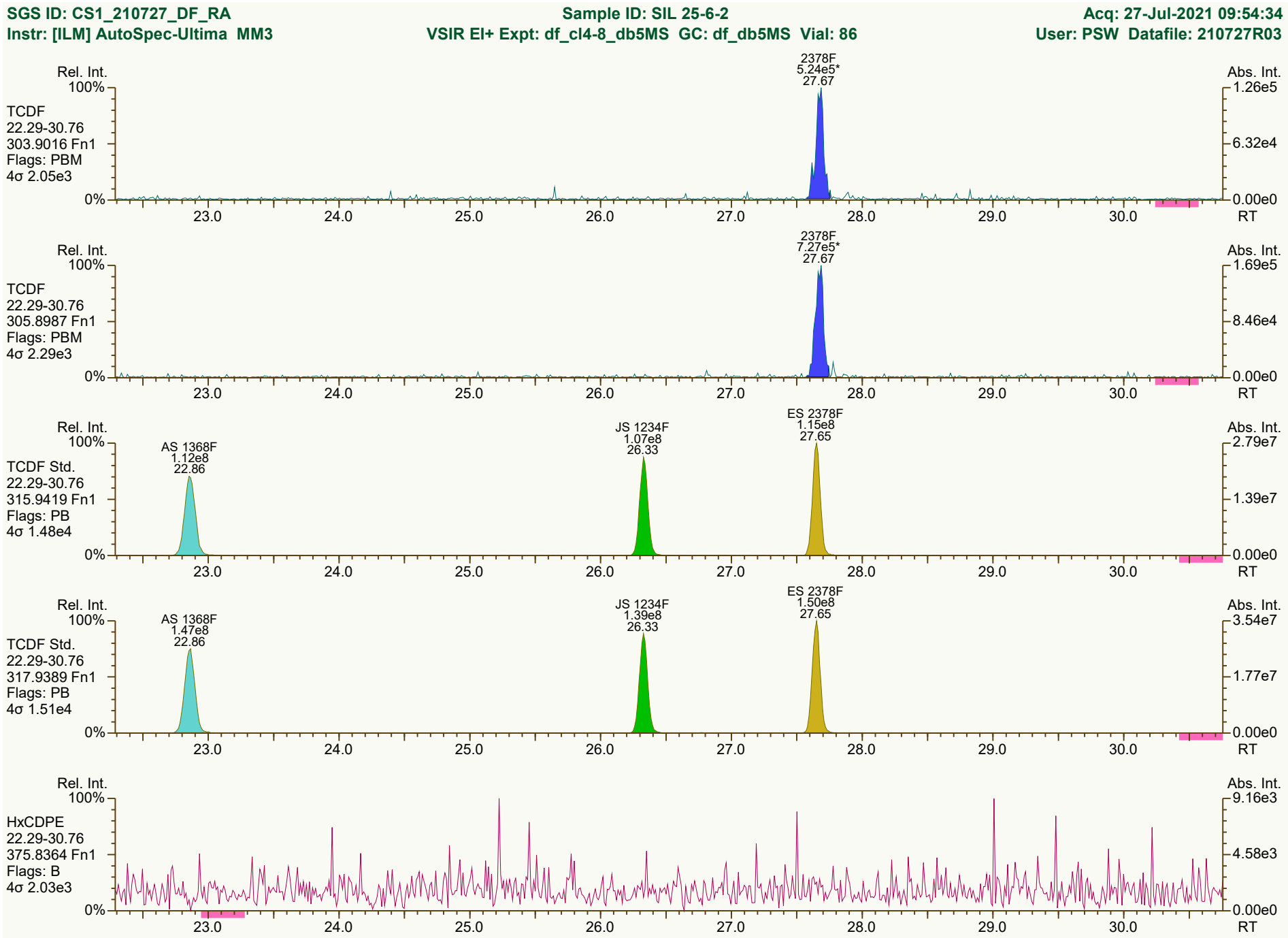

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 3.79e3
0%
2378D
4.48e5*
28.53
Abs. Int.
1.16e5
5.82e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.85e3
0%
2378D
5.93e5*
28.53
Abs. Int.
1.55e5
7.77e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.82e3
0%
CS 37Cl-2378D
1.01e6
28.53
Abs. Int.
2.64e5
1.32e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.97e3
0%
AS 1368D
6.92e7
24.92
TS 1378D
9.64e7
26.88
JS 1234D
6.93e7
27.87
ES 2378D
6.96e7
28.51
FS 1278D
7.47e7
28.83
Abs. Int.
2.16e7
1.08e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.69e3
0%
AS 1368D
8.70e7
24.92
TS 1378D
1.19e8
26.88
JS 1234D
8.30e7
27.87
ES 2378D
8.63e7
28.51
FS 1278D
9.36e7
28.83
Abs. Int.
2.89e7
1.44e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
12378D
2.49e6
33.81
7.61e5
3.81e5
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
12378D
1.68e6
33.81
5.11e5
2.55e5
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
FS 12478D
1.07e8*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.68e7
33.79
3.23e7
1.62e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
RRF(FS 12478D) = (1.07e8 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
1.94e7
9.72e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.83e6
1.41e6
0%
100%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3875, 0321 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 3 of 12

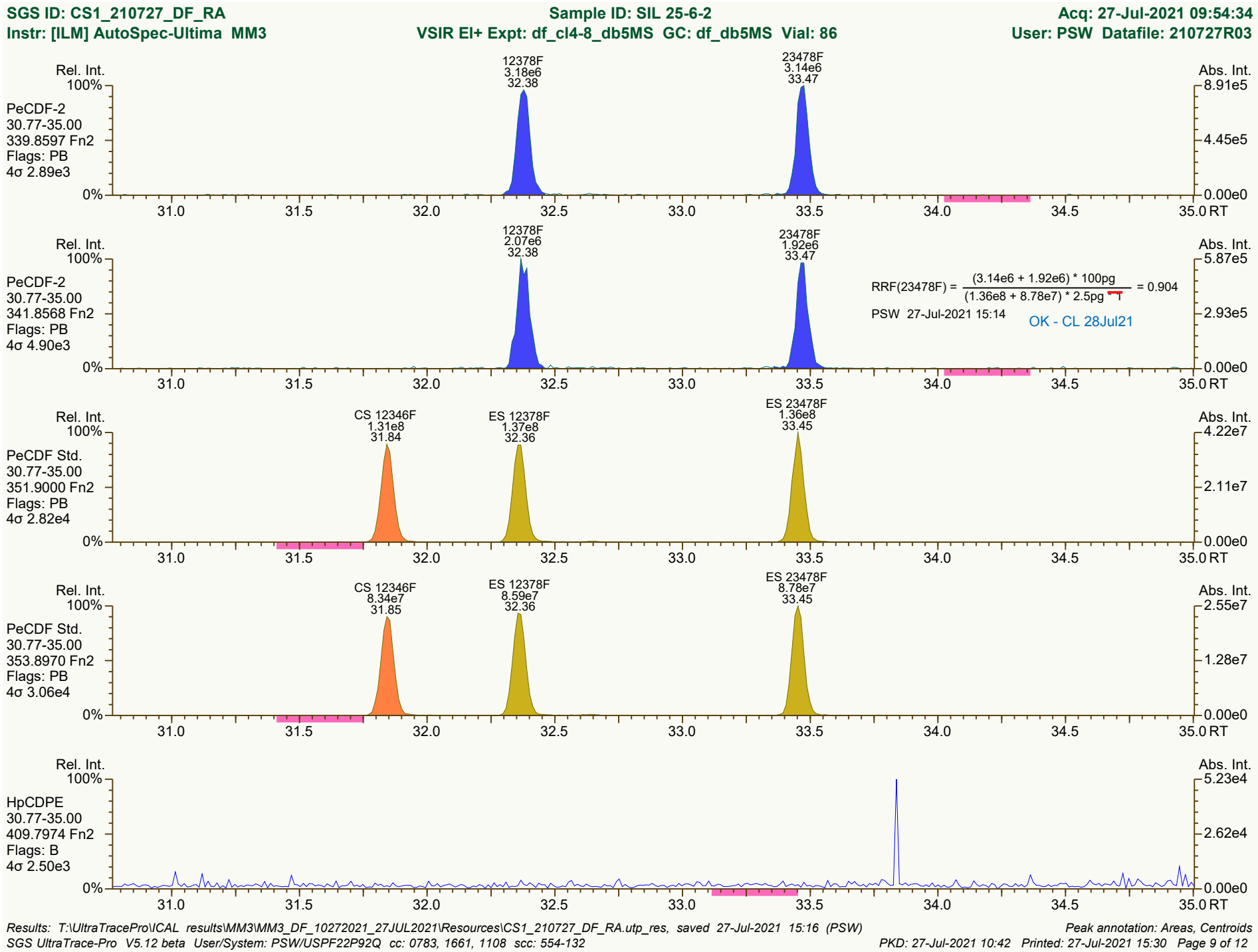

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.12e3
123478D
2.16e6
37.67
123678D
2.05e6
37.79
123789D
2.41e6
38.08
Abs. Int.
7.09e5
3.55e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.19e3
123478D
1.77e6
37.67
123678D
1.69e6
37.79
123789D
1.81e6
38.08
Abs. Int.
5.86e5
2.93e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.56e3
FS 123468D
1.05e8
36.58
ES 123478D
7.98e7
37.66
ES 123678D
7.85e7
37.77
JS 123467D
4.35e7*
37.97
ES 123789D
8.89e7*
38.06
Abs. Int.
3.32e7
1.66e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.80e3
FS 123468D
8.09e7
36.58
ES 123478D
6.34e7
37.66
ES 123678D
6.17e7
37.77
JS 123467D
3.34e7*
37.97
ES 123789D
7.15e7*
38.06
Abs. Int.
2.53e7
1.27e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.14e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

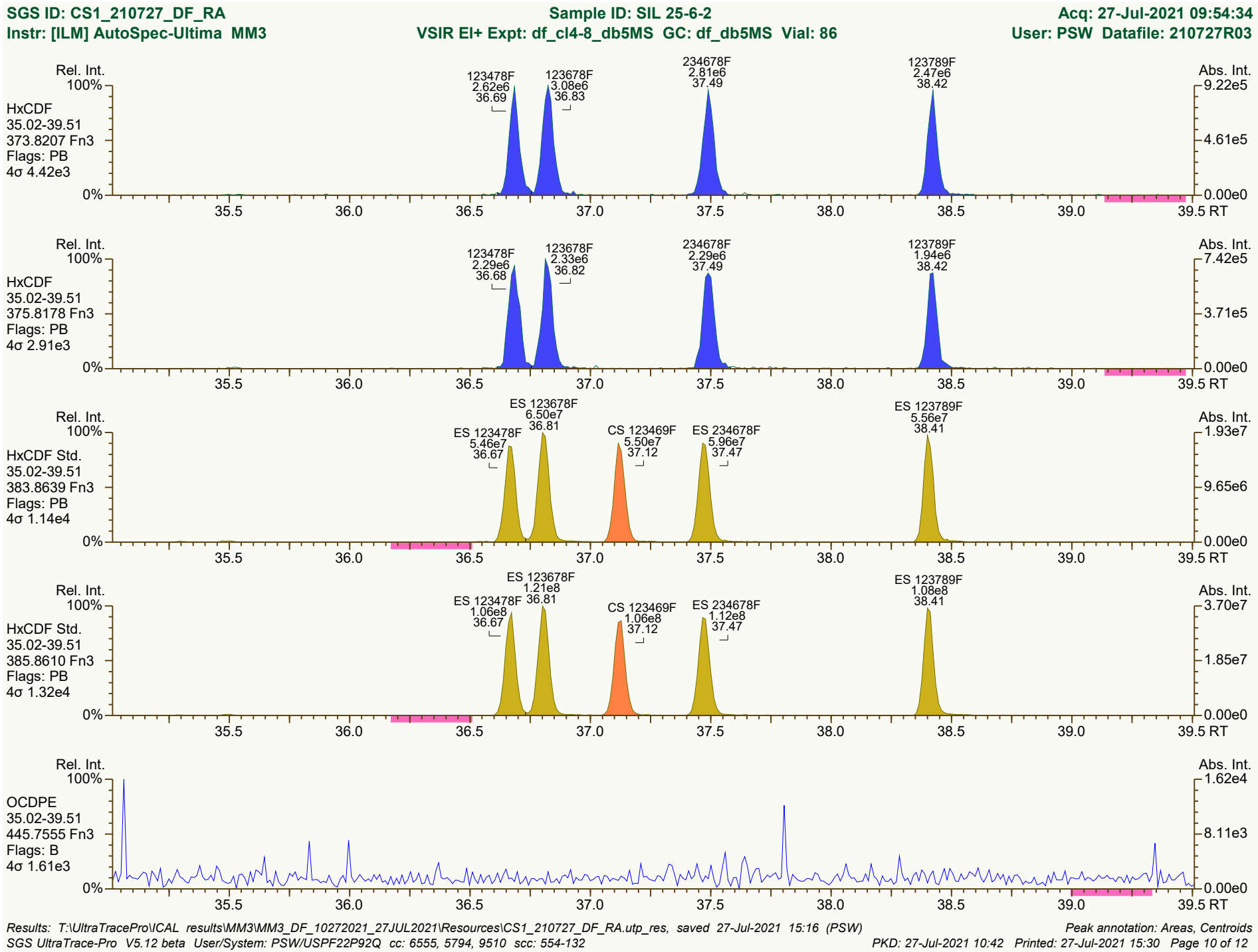

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 5.41e3
0%
1234678D
1.80e6*
40.66
Abs. Int.
6.98e5
3.49e5
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 4.07e3
0%
1234678D
1.54e6*
40.66
Abs. Int.
5.62e5
2.81e5
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 4.79e3
0%
FS 1234679D
9.92e7
39.99
ES 1234678D
7.24e7
40.65
Abs. Int.
4.21e7
2.10e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.10e3
0%
FS 1234679D
9.42e7
39.99
ES 1234678D
6.86e7
40.65
Abs. Int.
3.91e7
1.96e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.66e7
8.28e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT

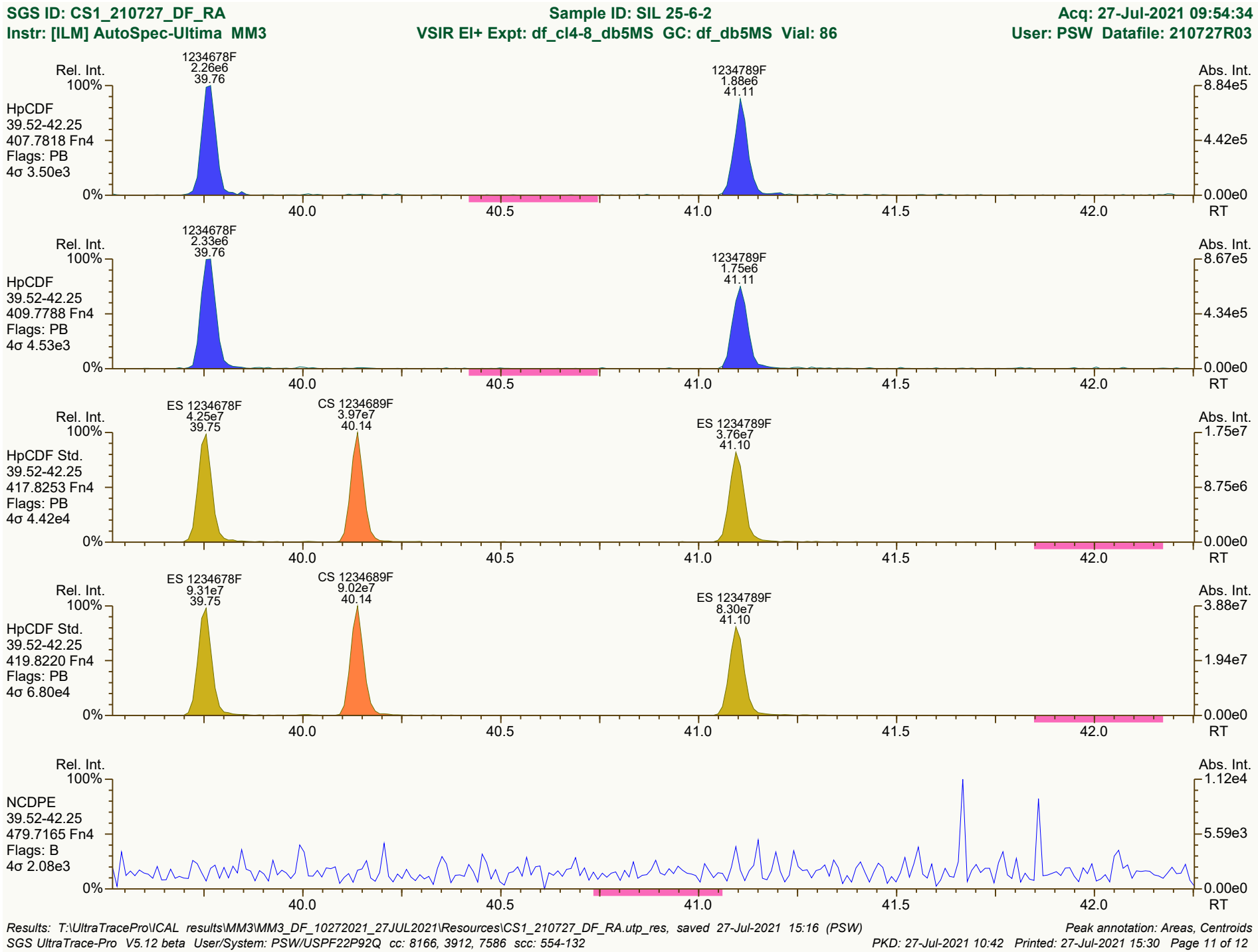

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
OCDD
2.61e6
43.23
Rel. Int.
Abs. Int.
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.60e3
OCDD
3.05e6
43.22
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.89e3
ES OCDD
1.04e8
43.22
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 2.94e3
ES OCDD
1.14e8
43.22
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 3.15e3
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3442, 9341 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 6 of 12

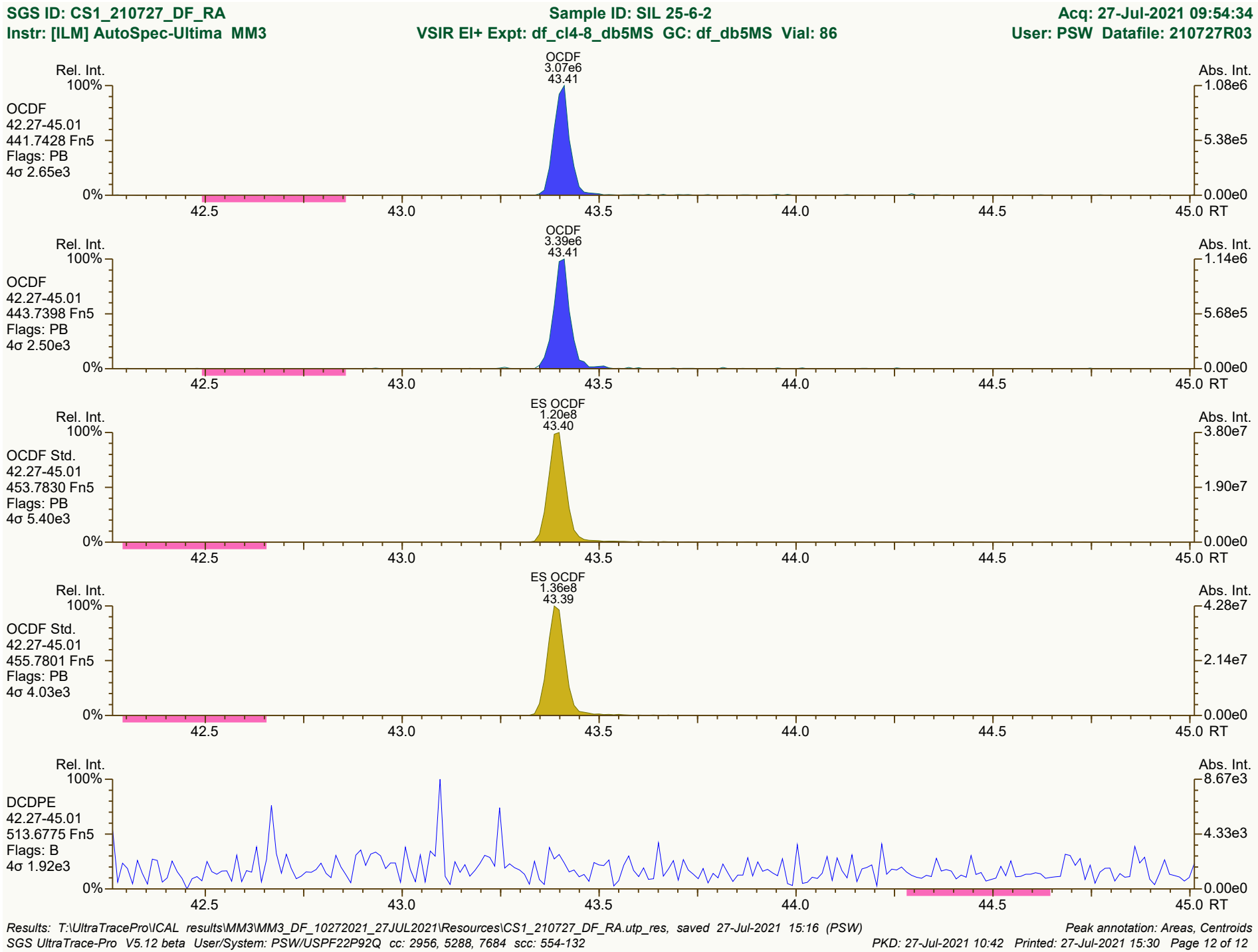

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
2378F
5.24e5*
27.67
1.26e5
6.32e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
2378F
7.27e5*
27.67
1.69e5
8.46e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
2.79e7
1.39e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
3.54e7
1.77e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
9.16e3
4.58e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0890, 2579, 1486 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.43e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.60e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
1.13e4
5.66e3
3.03e6
1.51e6


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.89e3
12378F
3.18e6
32.38
23478F
3.14e6
33.47
8.91e5
4.45e5
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 4.90e3
12378F
2.07e6
32.38
23478F
1.92e6
33.47
RRF(23478F) = (3.14e6 + 1.92e6) * 100pg / (1.36e8 + 8.78e7) * 2.5pg * T = 0.904
PSW 27-Jul-2021 15:14
OK - CL 28Jul21
5.87e5
2.93e5
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.82e4
CS 12346F
1.31e8
31.84
ES 12378F
1.37e8
32.36
ES 23478F
1.36e8
33.45
4.22e7
2.11e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 3.06e4
CS 12346F
8.34e7
31.85
ES 12378F
8.59e7
32.36
ES 23478F
8.78e7
33.45
2.55e7
1.28e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.50e3
5.23e4
2.62e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0783, 1661, 1108 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 4.42e3
123478F 2.62e6 36.69
123678F 3.08e6 36.83
234678F 2.81e6 37.49
123789F 2.47e6 38.42
9.22e5
4.61e5
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.91e3
123478F 2.29e6 36.68
123678F 2.33e6 36.82
234678F 2.29e6 37.49
123789F 1.94e6 38.42
7.42e5
3.71e5
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123478F 5.46e7 36.67
ES 123678F 6.50e7 36.81
CS 123469F 5.50e7 37.12
ES 234678F 5.96e7 37.47
ES 123789F 5.56e7 38.41
1.93e7
9.65e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F 1.06e8 36.67
ES 123678F 1.21e8 36.81
CS 123469F 1.06e8 37.12
ES 234678F 1.12e8 37.47
ES 123789F 1.08e8 38.41
3.70e7
1.85e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.61e3
1.62e4
8.11e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6555, 5794, 9510 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 3.50e3
1234678F
2.26e6
39.76
1234789F
1.88e6
41.11
8.84e5
4.42e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 4.53e3
1234678F
2.33e6
39.76
1234789F
1.75e6
41.11
8.67e5
4.34e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 4.42e4
ES 1234678F
4.25e7
39.75
CS 1234689F
3.97e7
40.14
ES 1234789F
3.76e7
41.10
1.75e7
8.75e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 6.80e4
ES 1234678F
9.31e7
39.75
CS 1234689F
9.02e7
40.14
ES 1234789F
8.30e7
41.10
3.88e7
1.94e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.08e3
1.12e4
5.59e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8166, 3912, 7586 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
OCDF
3.07e6
43.41
Rel. Int.
Abs. Int.
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
OCDF
3.39e6
43.41
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
ES OCDF
1.20e8
43.40
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
ES OCDF
1.36e8
43.39
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2956, 5288, 7684 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 12 of 12

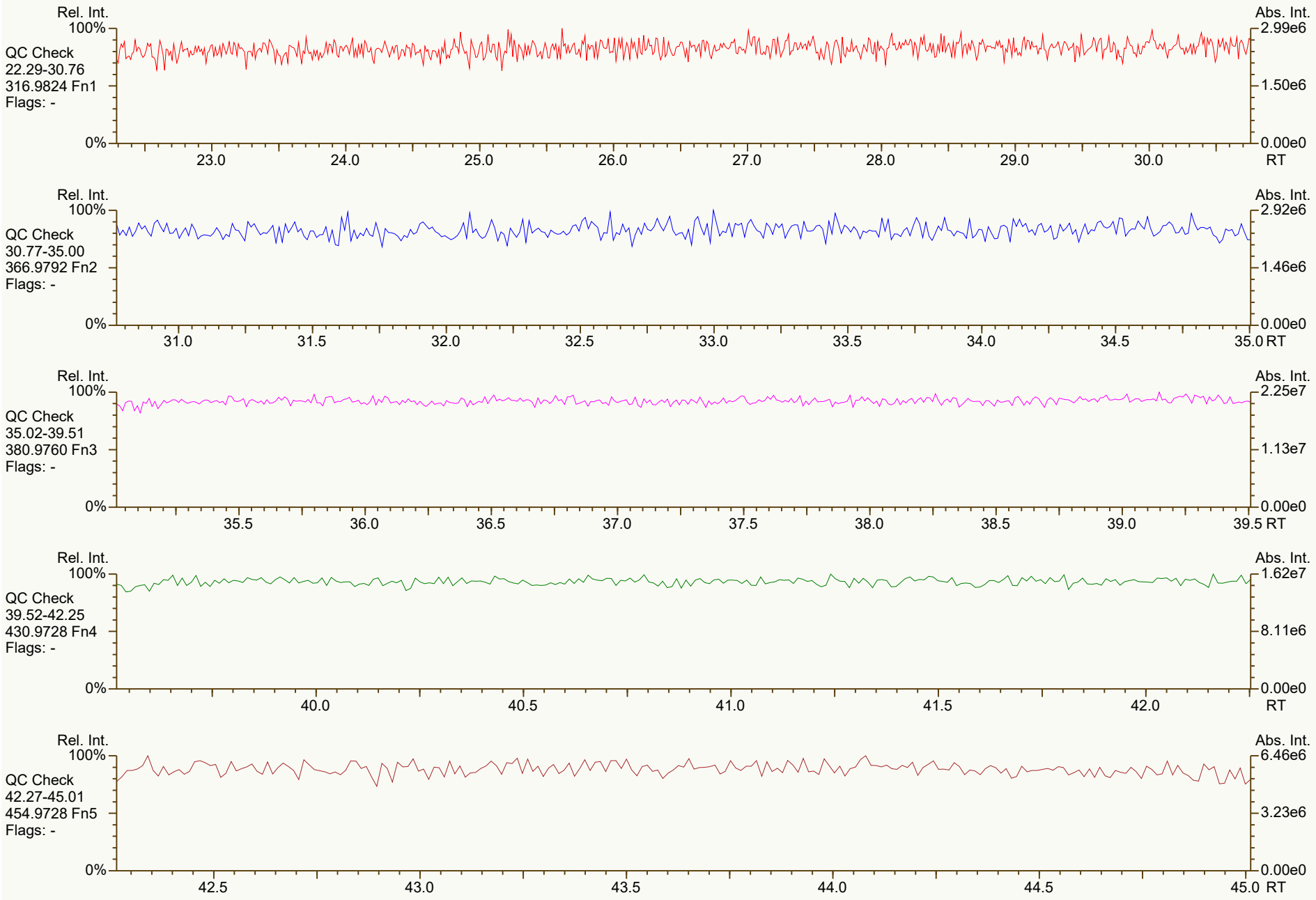
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

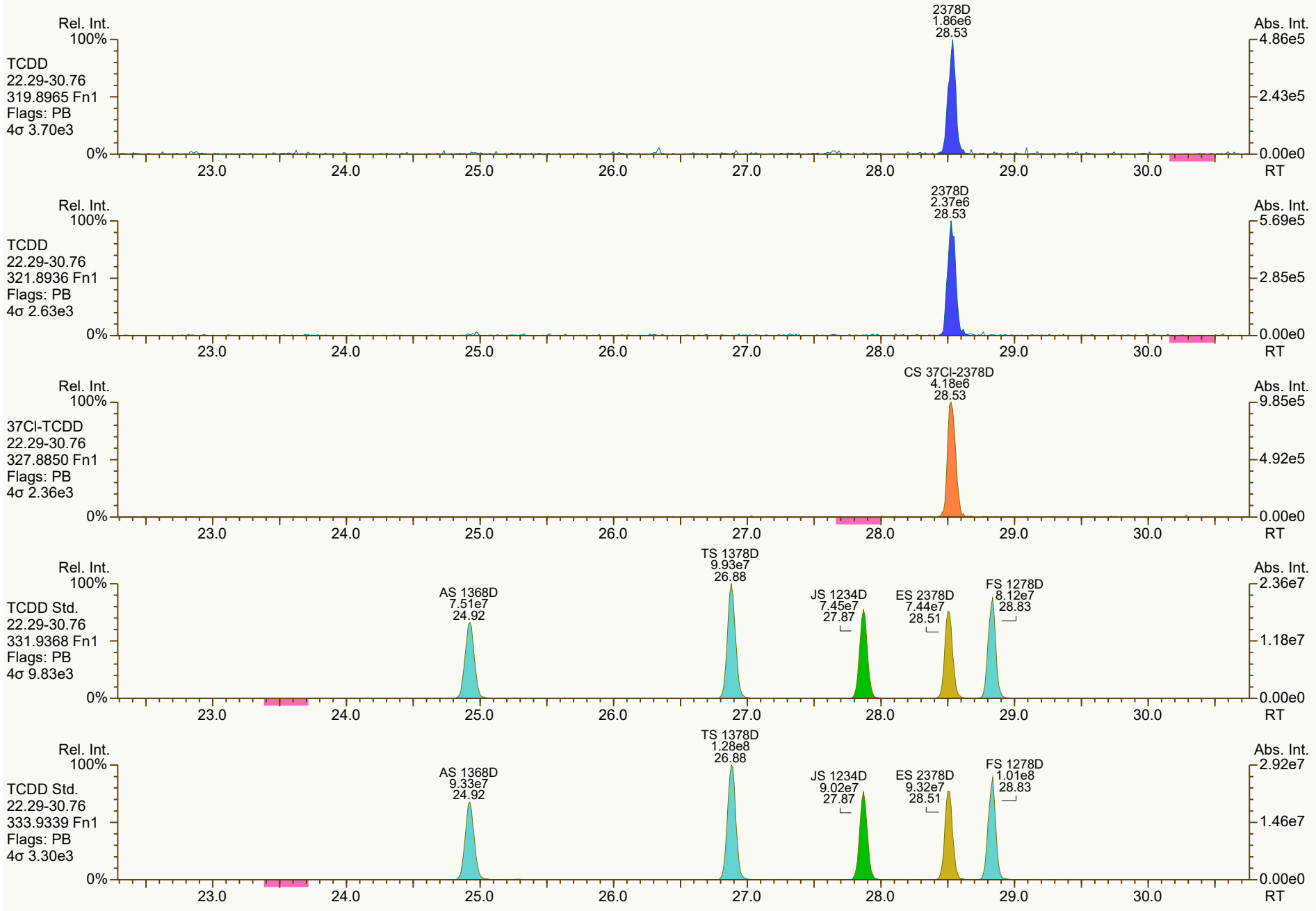
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD	40.67	1.41E+07	1.01	Y	0.97	0.92	-6%
OCDD	43.23	2.33E+07	0.88	Y	1.07	1.01	-6%
2378-TCDF	27.68	5.04E+06	0.83	Y	0.96	0.90	-6%
12378-PeCDF	32.39	2.16E+07	1.63	Y	0.95	0.90	-5%
23478-PeCDF	33.48	2.12E+07	1.52	Y	0.94	0.90	-4%
123478-HxCDF	36.69	2.09E+07	1.25	Y	1.23	1.19	-4%
123678-HxCDF	36.83	2.13E+07	1.24	Y	1.13	1.07	-5%
234678-HxCDF	37.50	1.98E+07	1.20	Y	1.15	1.08	-6%
123789-HxCDF	38.43	1.89E+07	1.24	Y	1.14	1.09	-4%
1234678-HpCDF	39.77	1.87E+07	1.01	Y	1.36	1.31	-4%
1234789-HpCDF	41.12	1.60E+07	1.02	Y	1.30	1.26	-3%
OCDF	43.41	2.61E+07	0.92	Y	1.03	0.95	-7%
ES 2378-TCDD	28.51	1.68E+08	0.80	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.794	1.63E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.667	1.54E+08	1.28	Y	0.99	0.99	-1%
ES 123678-HxCDD	37.781	1.49E+08	1.24	Y	0.97	0.95	-2%
ES 123789-HxCDD	38.07	1.75E+08	1.26	Y	1.12	1.12	0%
ES 1234678-HpCDD	40.658	1.53E+08	1.06	Y	0.99	0.98	-1%
ES OCDD	43.222	2.31E+08	0.90	Y	0.78	0.74	-5%
ES 2378-TCDF	27.656	2.80E+08	0.80	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.368	2.40E+08	1.55	Y	0.93	0.92	-2%
ES 23478-PeCDF	33.459	2.36E+08	1.59	Y	0.92	0.90	-2%
ES 123478-HxCDF	36.674	1.76E+08	0.52	Y	1.14	1.13	-1%
ES 123678-HxCDF	36.814	1.99E+08	0.52	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.481	1.84E+08	0.52	Y	1.20	1.18	-2%
ES 123789-HxCDF	38.416	1.73E+08	0.52	Y	1.14	1.11	-2%
ES 1234678-HpCDF	39.761	1.43E+08	0.44	Y	0.95	0.92	-3%
ES 1234789-HpCDF	41.105	1.28E+08	0.46	Y	0.85	0.82	-3%
ES OCDF	43.404	2.74E+08	0.87	Y	0.93	0.88	-5%

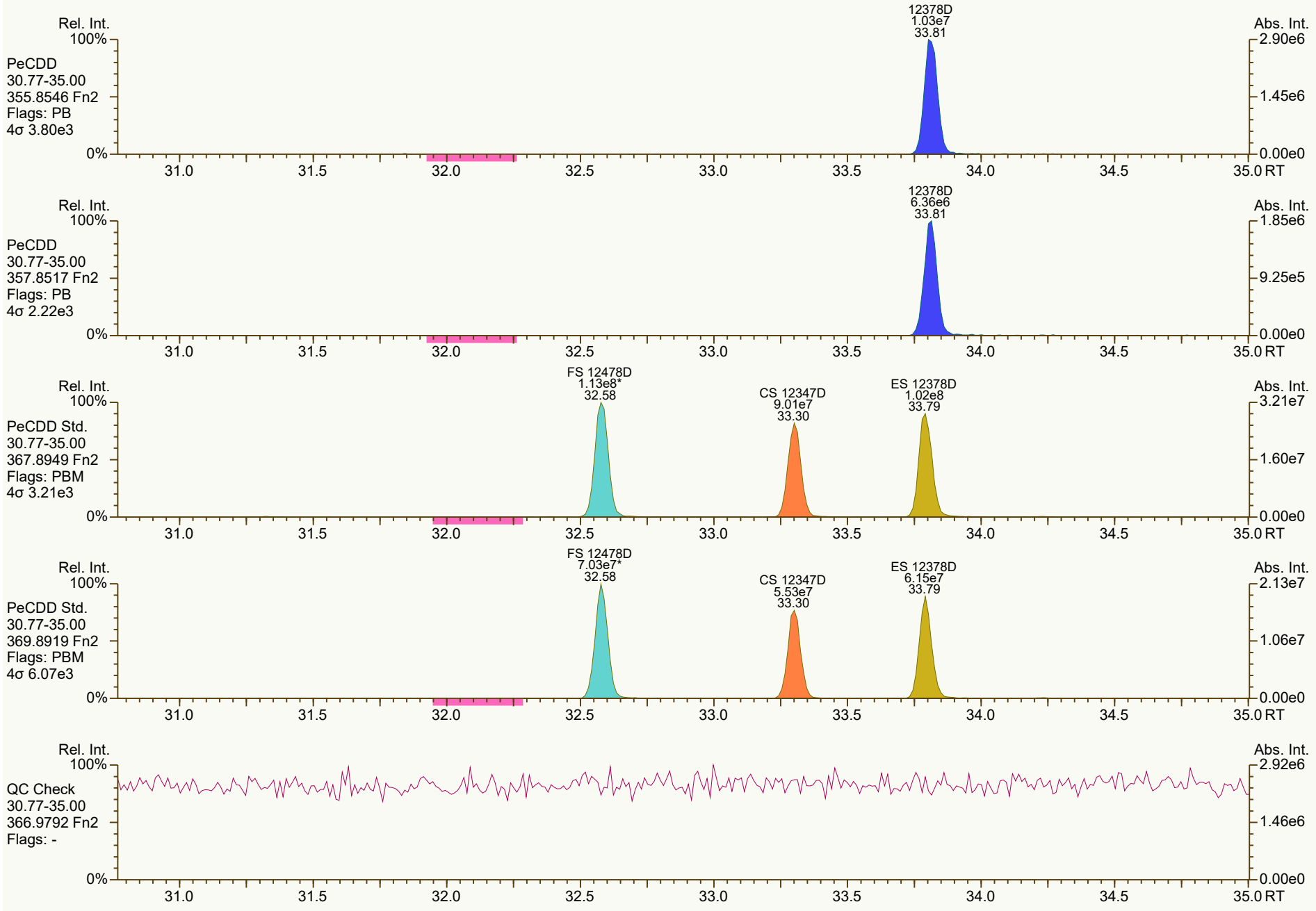
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

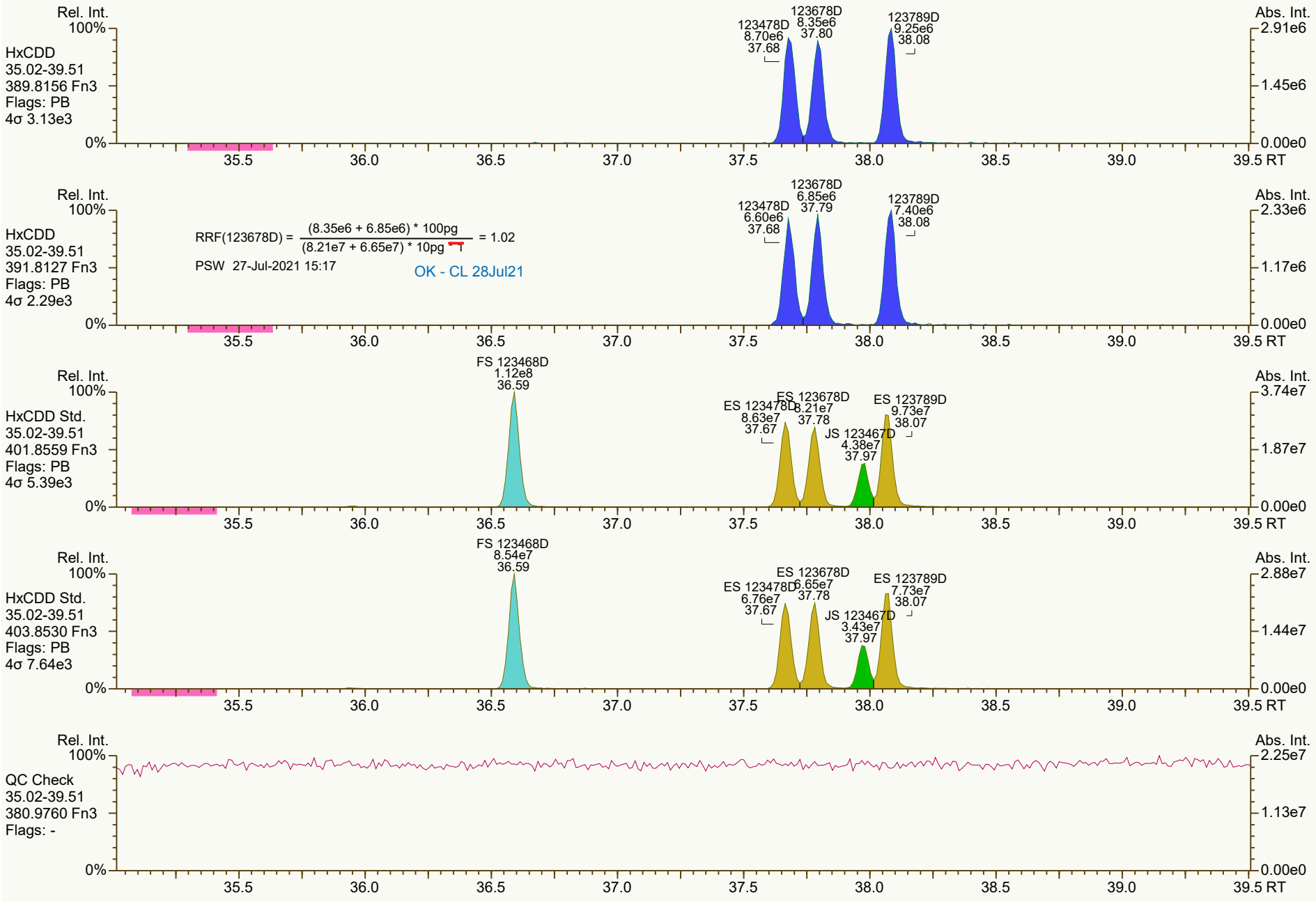
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.13	1.69E+08	0.52	Y	1.09	1.08	-1%
CS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.86	0.89	3%
SS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.13	1.69E+08	0.52	Y	0.84	0.85	1%
SS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.92	1.68E+08	0.81	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.81E+08	0.77	Y	1.08	1.07	-1%
FS 1278-TCDD	28.83	1.83E+08	0.80	Y	1.08	1.09	0%
FS 12478-PeCDD	32.58	1.83E+08	1.61	Y	1.09	1.12	3%
FS 123468-HxCDD	36.59	1.97E+08	1.31	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	2.12E+08	1.04	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	2.27E+08	0.78	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.23~~	~~1.51E+06~~	~~2.07~~	~~N~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.41~~	~~1.45E+06~~	~~3.13~~	~~N~~	~~0.06~~	~~0.05~~	~~-11%~~

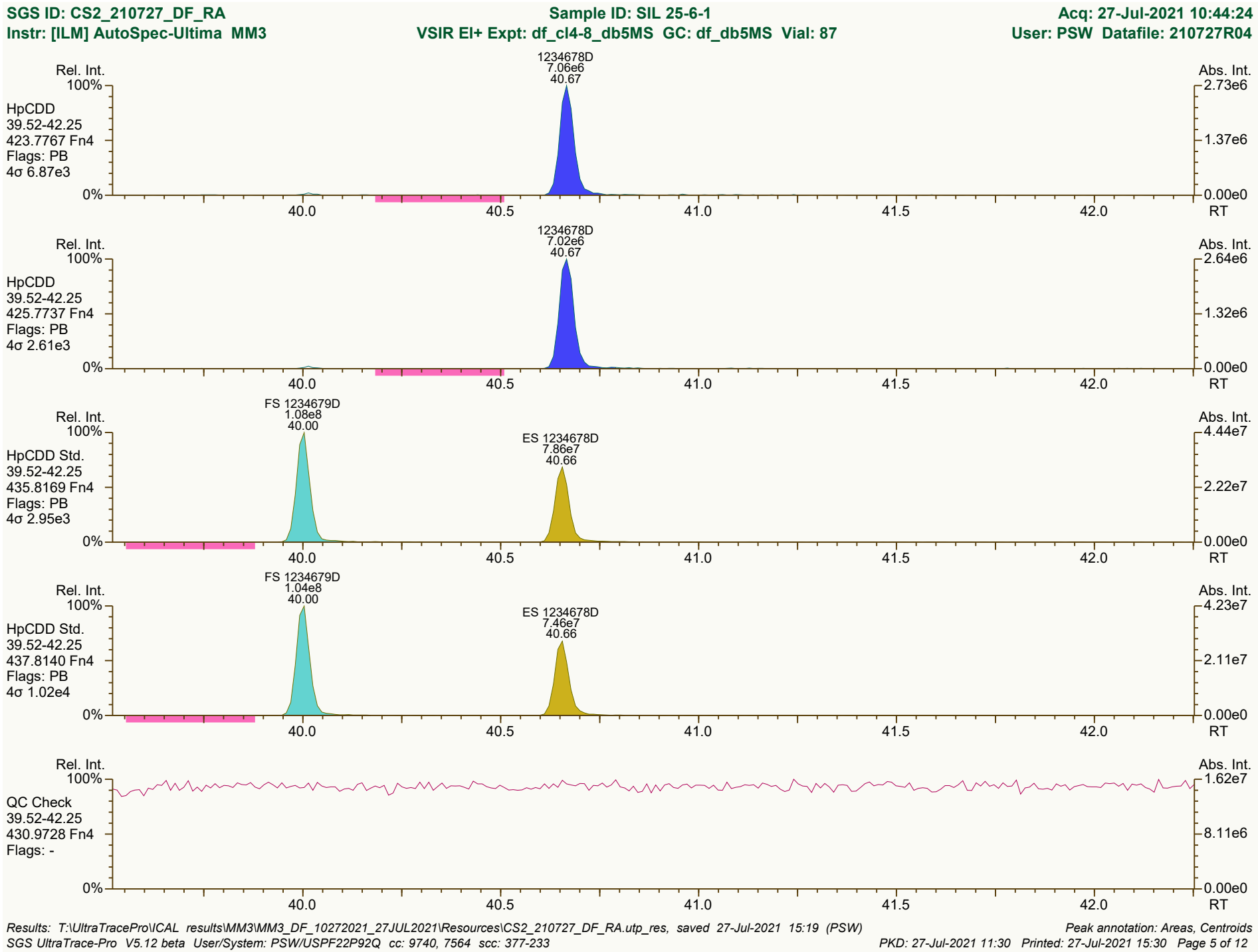
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.25e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

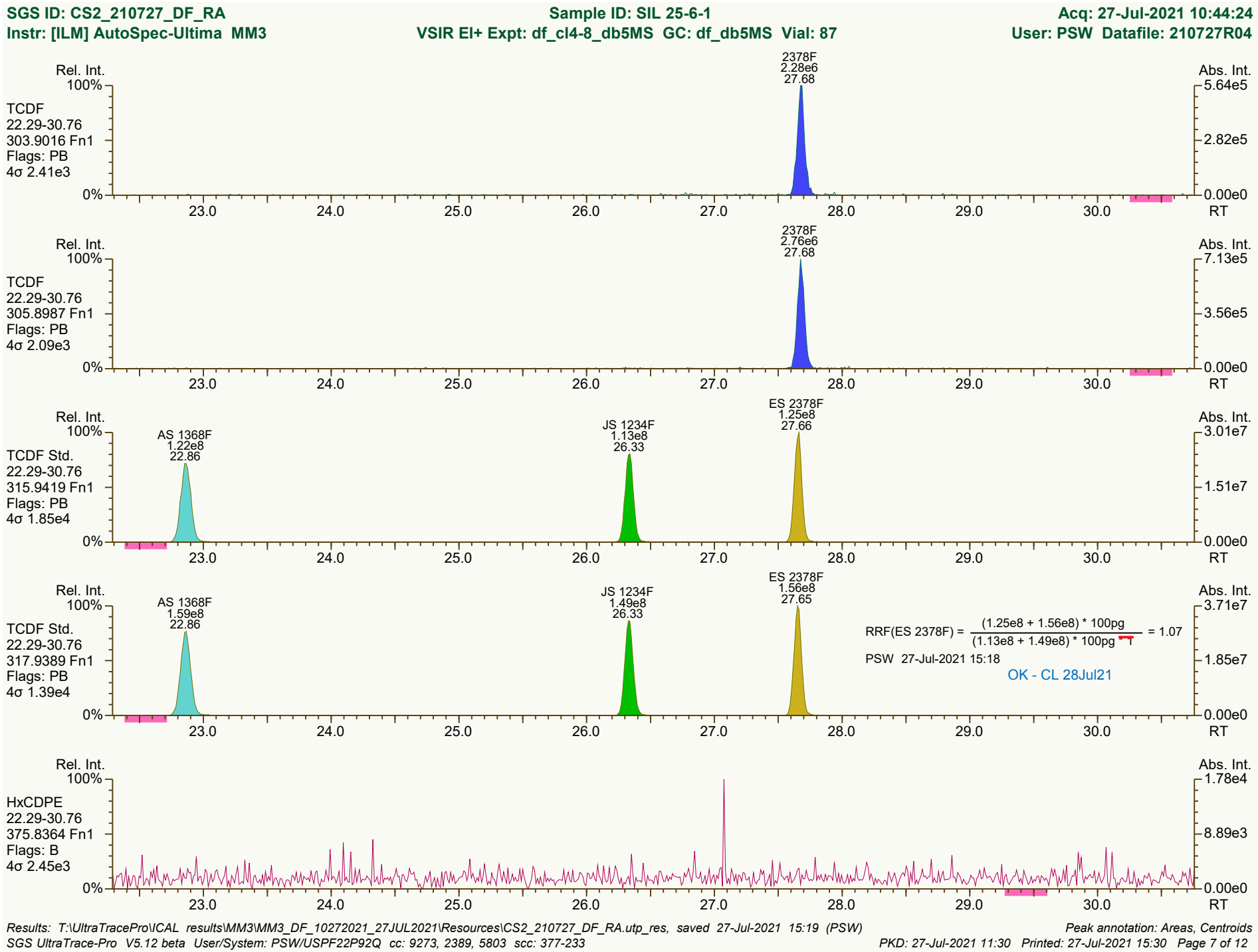

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
0%
2378D
1.86e6
28.53
Abs. Int.
4.86e5
2.43e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
0%
2378D
2.37e6
28.53
Abs. Int.
5.69e5
2.85e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.36e3
0%
CS 37Cl-2378D
4.18e6
28.53
Abs. Int.
9.85e5
4.92e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 9.83e3
0%
AS 1368D
7.51e7
24.92
TS 1378D
9.93e7
26.88
JS 1234D
7.45e7
27.87
ES 2378D
7.44e7
28.51
FS 1278D
8.12e7
28.83
Abs. Int.
2.36e7
1.18e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.30e3
0%
AS 1368D
9.33e7
24.92
TS 1378D
1.28e8
26.88
JS 1234D
9.02e7
27.87
ES 2378D
9.32e7
28.51
FS 1278D
1.01e8
28.83
Abs. Int.
2.92e7
1.46e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.80e3
0%
12378D
1.03e7
33.81
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.22e3
0%
12378D
6.36e6
33.81
Abs. Int.
1.85e6
9.25e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.21e3
0%
FS 12478D
1.13e8*
32.58
CS 12347D
9.01e7
33.30
ES 12378D
1.02e8
33.79
Abs. Int.
3.21e7
1.60e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 6.07e3
0%
FS 12478D
7.03e7*
32.58
CS 12347D
5.53e7
33.30
ES 12378D
6.15e7
33.79
Abs. Int.
2.13e7
1.06e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

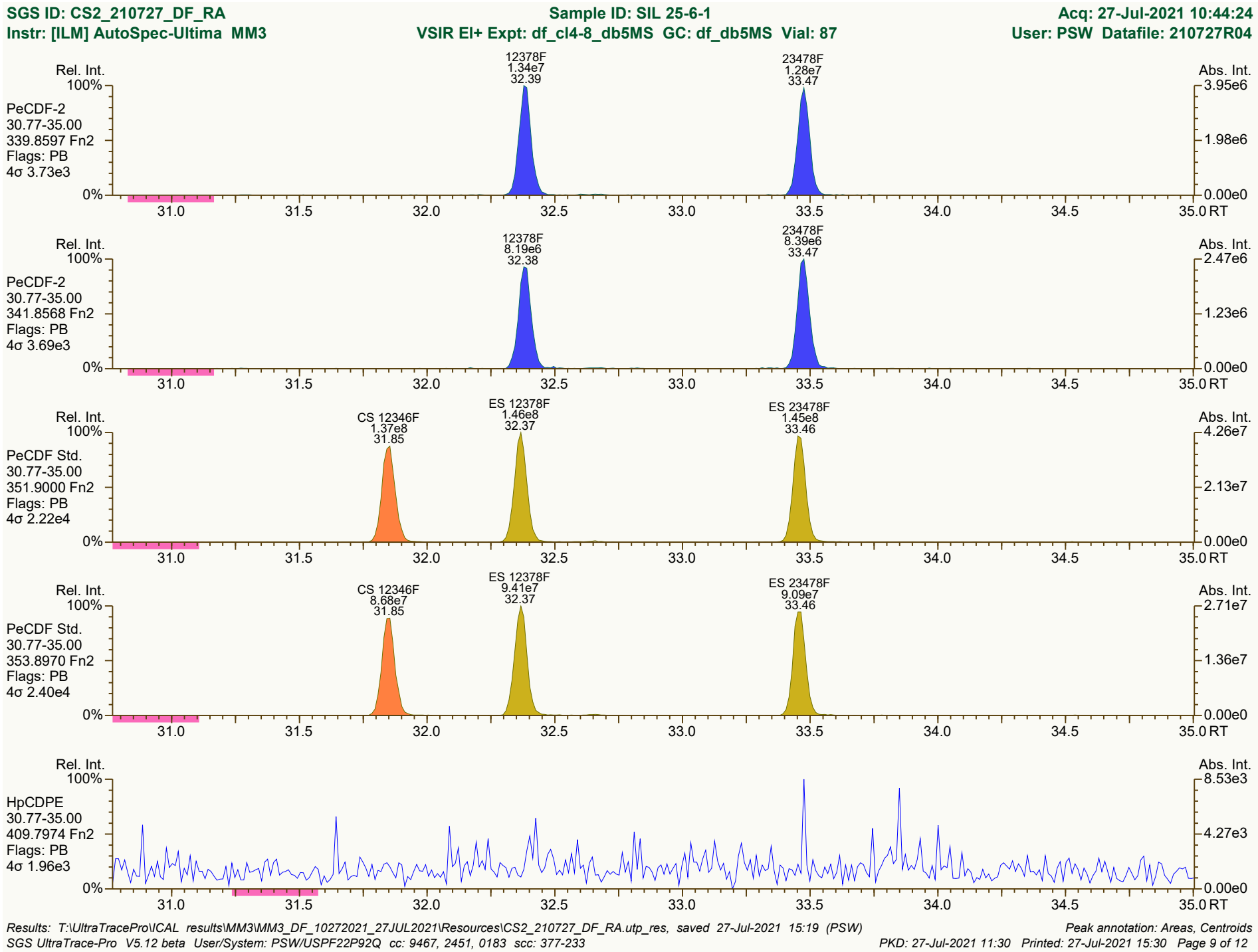

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123478D 8.70e6 37.68
123678D 8.35e6 37.80
123789D 9.25e6 38.08
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg / (8.21e7 + 6.65e7) * 10pg = 1.02
PSW 27-Jul-2021 15:17
OK - CL 28Jul21
123478D 6.60e6 37.68
123678D 6.85e6 37.79
123789D 7.40e6 38.08
2.33e6
1.17e6
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 5.39e3
FS 123468D 1.12e8 36.59
ES 123478D 8.63e7 37.67
ES 123678D 8.21e7 37.78
JS 123467D 4.38e7 37.97
ES 123789D 9.73e7 38.07
3.74e7
1.87e7
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 7.64e3
FS 123468D 8.54e7 36.59
ES 123478D 6.76e7 37.67
ES 123678D 6.65e7 37.78
JS 123467D 3.43e7 37.97
ES 123789D 7.73e7 38.07
2.88e7
1.44e7
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.25e7
1.13e7

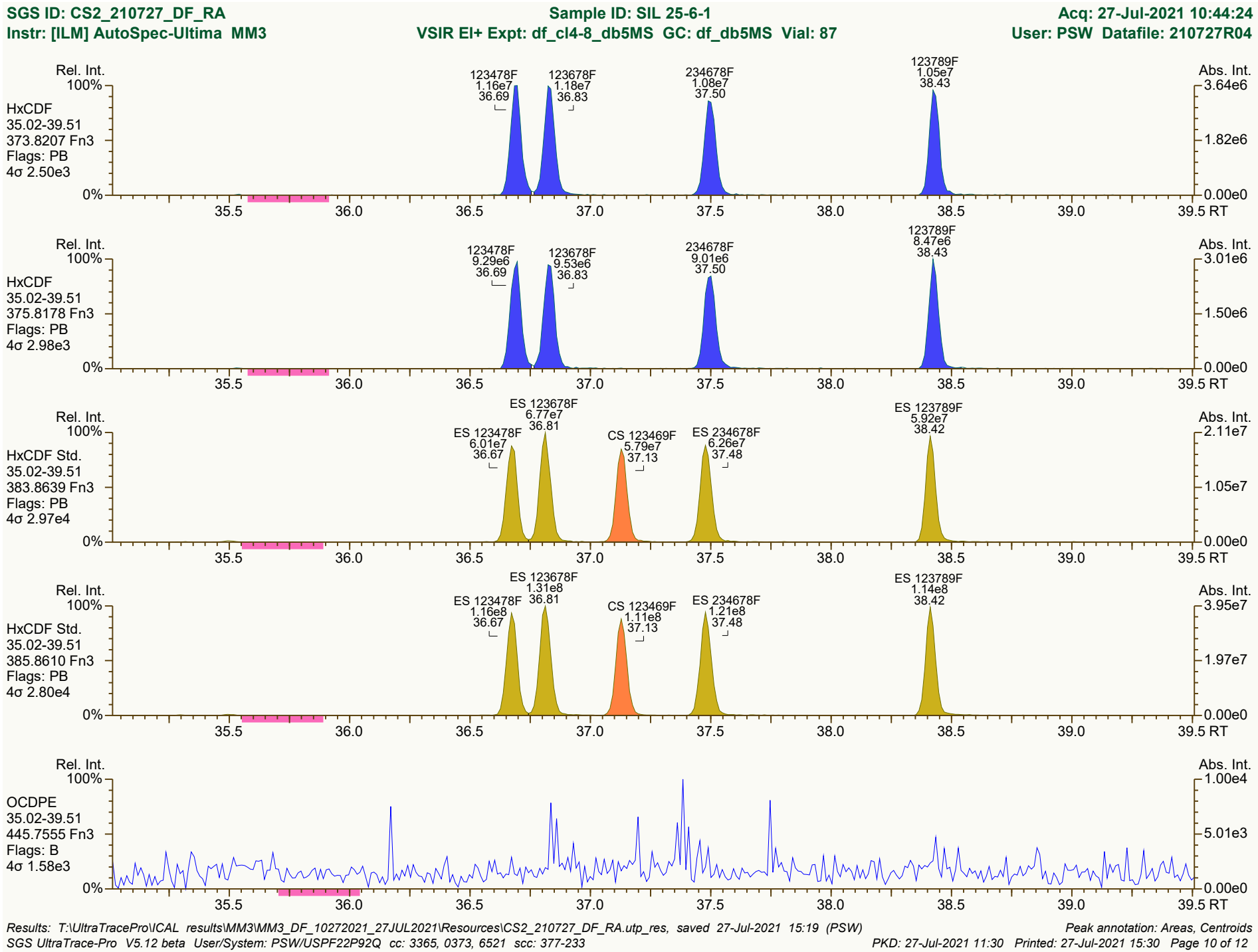

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 6.87e3
1234678D
7.06e6
40.67
2.73e6
1.37e6
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 2.61e3
1234678D
7.02e6
40.67
2.64e6
1.32e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.95e3
FS 1234679D
1.08e8
40.00
ES 1234678D
7.86e7
40.66
4.44e7
2.22e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.02e4
FS 1234679D
1.04e8
40.00
ES 1234678D
7.46e7
40.66
4.23e7
2.11e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.62e7
8.11e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9740, 7564 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 5 of 12

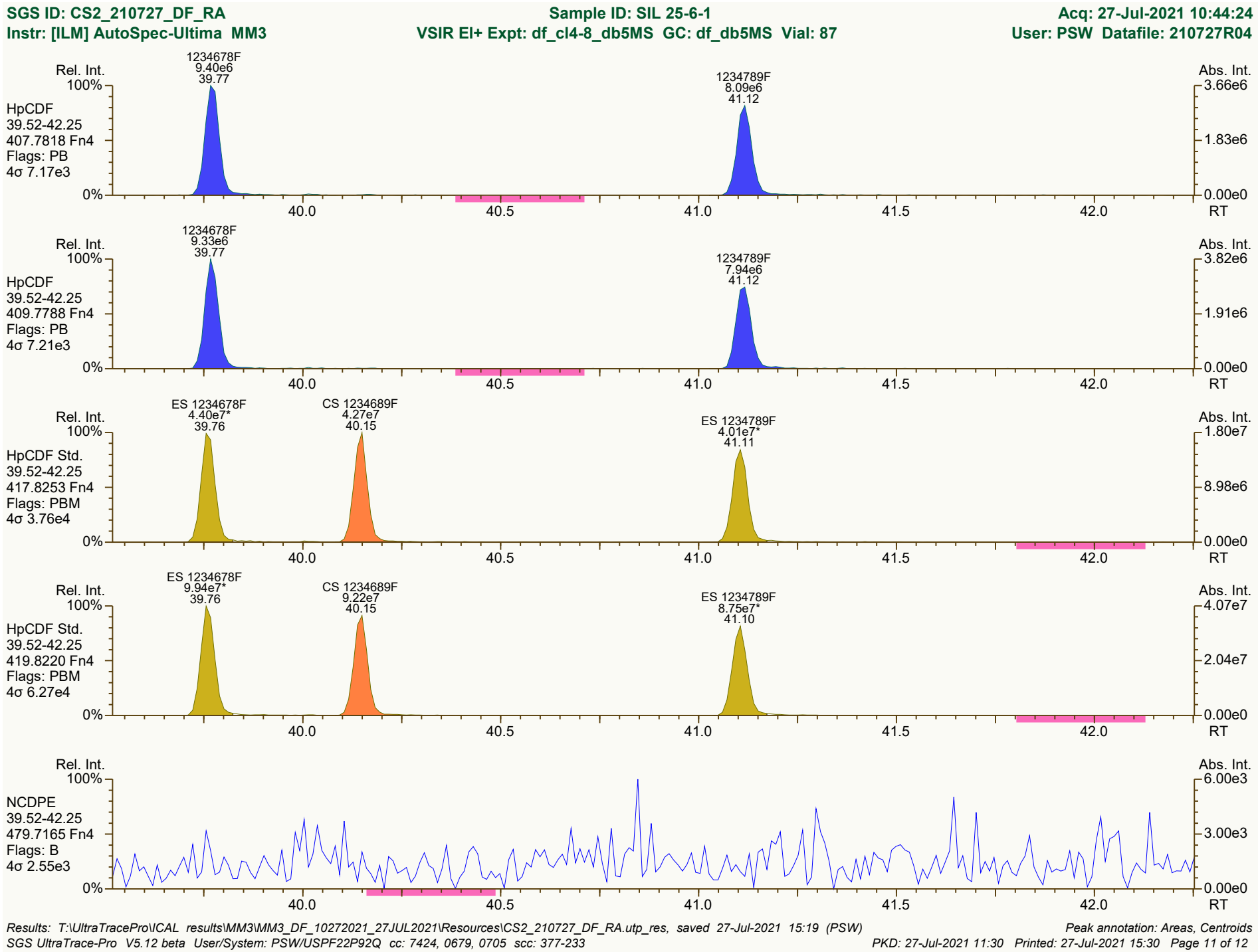

OCDD
1.09e7
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 3.62e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.24e7
43.23
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 1.67e3
4.01e6
2.00e6
ES OCDD
1.10e8
43.22
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 3.79e3
3.53e7
1.77e7
ES OCDD
1.22e8
43.22
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 7.59e3
3.84e7
1.92e7
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
6.46e6
3.23e6

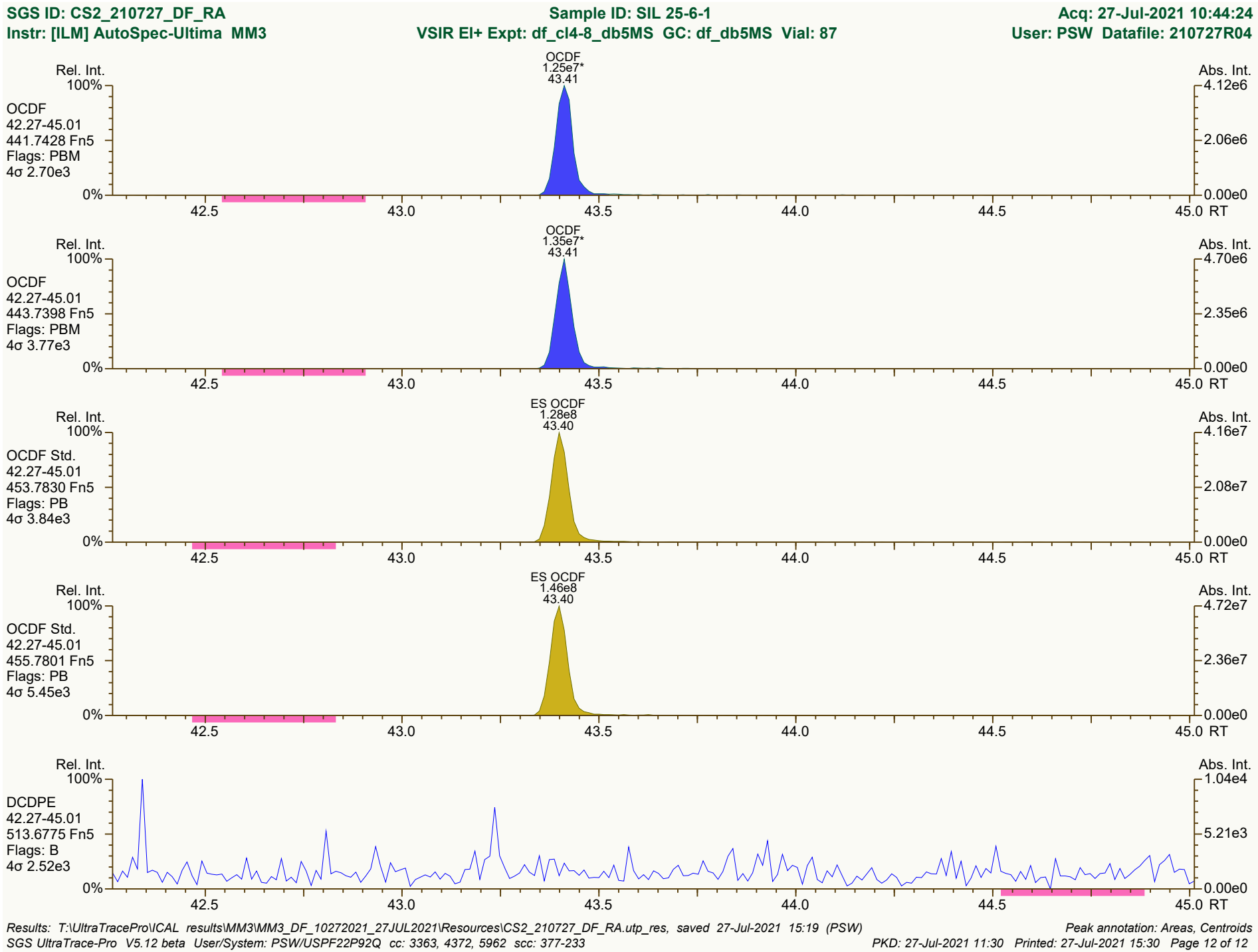

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.41e3
2378F
2.28e6
27.68
5.64e5
2.82e5
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.09e3
2378F
2.76e6
27.68
7.13e5
3.56e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.85e4
AS 1368F
1.22e8
22.86
JS 1234F
1.13e8
26.33
ES 2378F
1.25e8
27.66
3.01e7
1.51e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.39e4
AS 1368F
1.59e8
22.86
JS 1234F
1.49e8
26.33
ES 2378F
1.56e8
27.65
RRF(ES 2378F) = (1.25e8 + 1.56e8) * 100pg / (1.13e8 + 1.49e8) * 100pg * 1 = 1.07
PSW 27-Jul-2021 15:18
OK - CL 28Jul21
3.71e7
1.85e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.45e3
1.78e4
8.89e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9273, 2389, 5803 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.30e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.23e3
2.64e4
1.32e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.99e6
1.50e6


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.73e3
12378F
1.34e7
32.39
23478F
1.28e7
33.47
3.95e6
1.98e6
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.69e3
12378F
8.19e6
32.38
23478F
8.39e6
33.47
2.47e6
1.23e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.22e4
CS 12346F
1.37e8
31.85
ES 12378F
1.46e8
32.37
ES 23478F
1.45e8
33.46
4.26e7
2.13e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.40e4
CS 12346F
8.68e7
31.85
ES 12378F
9.41e7
32.37
ES 23478F
9.09e7
33.46
2.71e7
1.36e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: PB
4σ 1.96e3
8.53e3
4.27e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9467, 2451, 0183 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.50e3
123478F 1.16e7 36.69
123678F 1.18e7 36.83
234678F 1.08e7 37.50
123789F 1.05e7 38.43
3.64e6
1.82e6
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.98e3
123478F 9.29e6 36.69
123678F 9.53e6 36.83
234678F 9.01e6 37.50
123789F 8.47e6 38.43
3.01e6
1.50e6
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 2.97e4
ES 123478F 6.01e7 36.67
ES 123678F 6.77e7 36.81
CS 123469F 5.79e7 37.13
ES 234678F 6.26e7 37.48
ES 123789F 5.92e7 38.42
2.11e7
1.05e7
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.80e4
ES 123478F 1.16e8 36.67
ES 123678F 1.31e8 36.81
CS 123469F 1.11e8 37.13
ES 234678F 1.21e8 37.48
ES 123789F 1.14e8 38.42
3.95e7
1.97e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.58e3
1.00e4
5.01e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3365, 0373, 6521 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 7.17e3
1234678F
9.40e6
39.77
1234789F
8.09e6
41.12
3.66e6
1.83e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 7.21e3
1234678F
9.33e6
39.77
1234789F
7.94e6
41.12
3.82e6
1.91e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.76e4
ES 1234678F
4.40e7*
39.76
CS 1234689F
4.27e7
40.15
ES 1234789F
4.01e7*
41.11
1.80e7
8.98e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 6.27e4
ES 1234678F
9.94e7*
39.76
CS 1234689F
9.22e7
40.15
ES 1234789F
8.75e7*
41.10
4.07e7
2.04e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.55e3
6.00e3
3.00e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7424, 0679, 0705 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
OCDF
1.25e7*
43.41
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.35e7*
43.41
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
0%
Abs. Int.
4.70e6
2.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e8
43.40
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
0%
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.46e8
43.40
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
0%
Abs. Int.
4.72e7
2.36e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3363, 4372, 5962 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 12 of 12

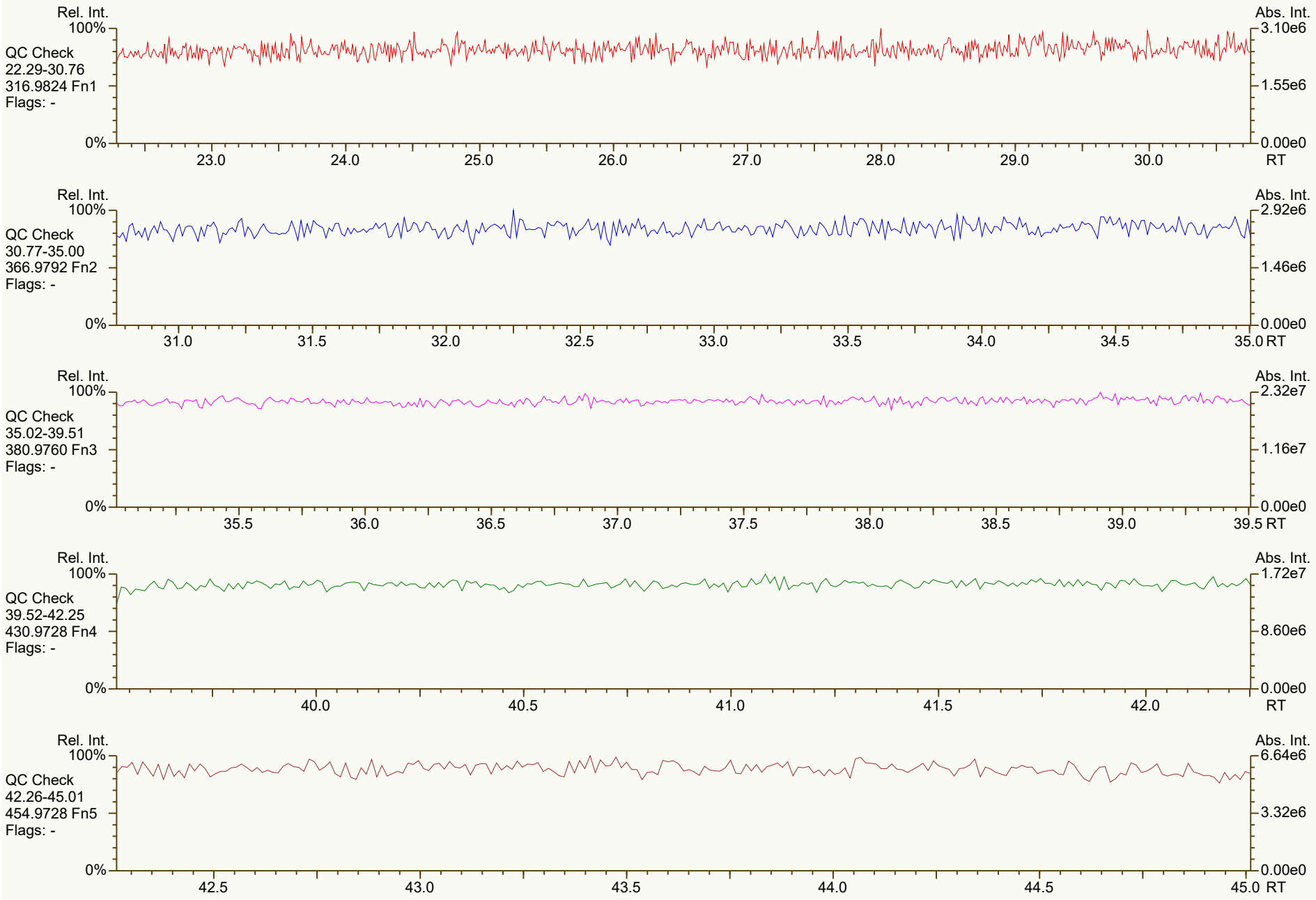
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

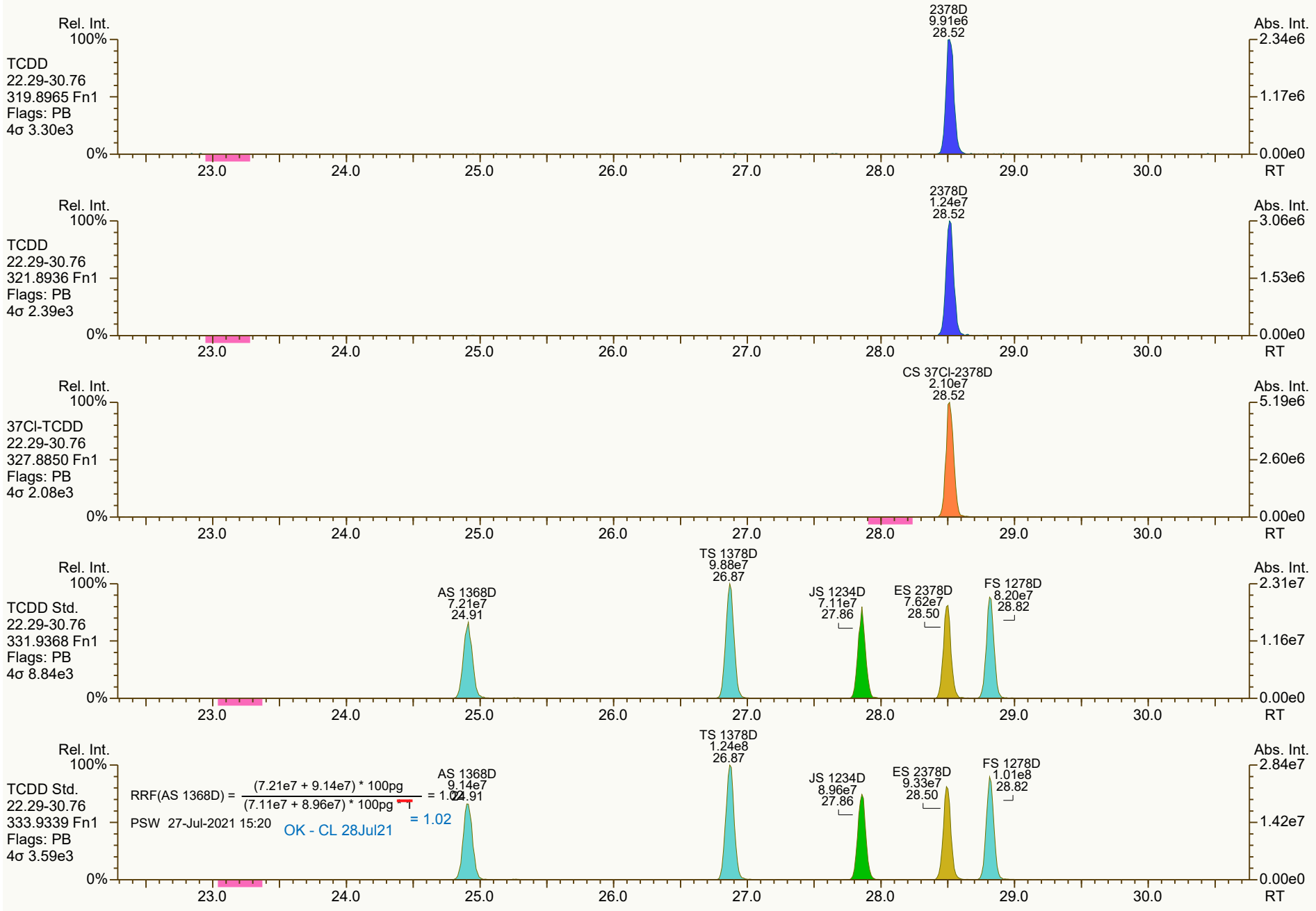
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.23E+07	0.80	Y	1.34	1.32	-2%
12378-PeCDD	33.80	8.56E+07	1.57	Y	1.06	1.05	-1%
123478-HxCDD	37.67	7.63E+07	1.25	Y	1.06	1.05	-1%
123678-HxCDD	37.78	7.89E+07	1.25	Y	1.08	1.08	0%
123789-HxCDD	38.07	8.22E+07	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.66	7.06E+07	1.03	Y	0.97	0.95	-2%
OCDD	43.22	1.21E+08	0.89	Y	1.07	1.07	0%
2378-TCDF	27.66	2.66E+07	0.80	Y	0.96	0.95	-1%
12378-PeCDF	32.37	1.11E+08	1.56	Y	0.95	0.94	-1%
23478-PeCDF	33.46	1.09E+08	1.56	Y	0.94	0.92	-2%
123478-HxCDF	36.68	1.05E+08	1.22	Y	1.23	1.22	-2%
123678-HxCDF	36.82	1.08E+08	1.25	Y	1.13	1.10	-2%
234678-HxCDF	37.49	1.02E+08	1.24	Y	1.15	1.14	-1%
123789-HxCDF	38.42	9.59E+07	1.23	Y	1.14	1.14	0%
1234678-HpCDF	39.76	9.62E+07	1.03	Y	1.36	1.34	-1%
1234789-HpCDF	41.10	8.35E+07	1.03	Y	1.30	1.34	3%
OCDF	43.41	1.40E+08	0.89	Y	1.03	1.03	0%
ES 2378-TCDD	28.50	1.70E+08	0.82	Y	1.03	1.05	2%
ES 12378-PeCDD	33.782	1.63E+08	1.65	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.654	1.45E+08	1.26	Y	0.99	1.00	0%
ES 123678-HxCDD	37.768	1.46E+08	1.27	Y	0.97	1.01	3%
ES 123789-HxCDD	38.057	1.66E+08	1.23	Y	1.12	1.14	1%
ES 1234678-HpCDD	40.644	1.48E+08	1.08	Y	0.99	1.02	3%
ES OCDD	43.211	2.25E+08	0.88	Y	0.78	0.77	-1%
ES 2378-TCDF	27.643	2.80E+08	0.79	Y	1.08	1.09	1%
ES 12378-PeCDF	32.354	2.37E+08	1.58	Y	0.93	0.93	-1%
ES 23478-PeCDF	33.446	2.37E+08	1.53	Y	0.92	0.93	0%
ES 123478-HxCDF	36.661	1.72E+08	0.52	Y	1.14	1.18	4%
ES 123678-HxCDF	36.801	1.96E+08	0.52	Y	1.30	1.35	4%
ES 234678-HxCDF	37.469	1.79E+08	0.54	Y	1.20	1.23	2%
ES 123789-HxCDF	38.404	1.68E+08	0.52	Y	1.14	1.16	2%
ES 1234678-HpCDF	39.75	1.43E+08	0.45	Y	0.95	0.98	4%
ES 1234789-HpCDF	41.092	1.25E+08	0.44	Y	0.85	0.86	1%
ES OCDF	43.395	2.71E+08	0.89	Y	0.93	0.93	1%

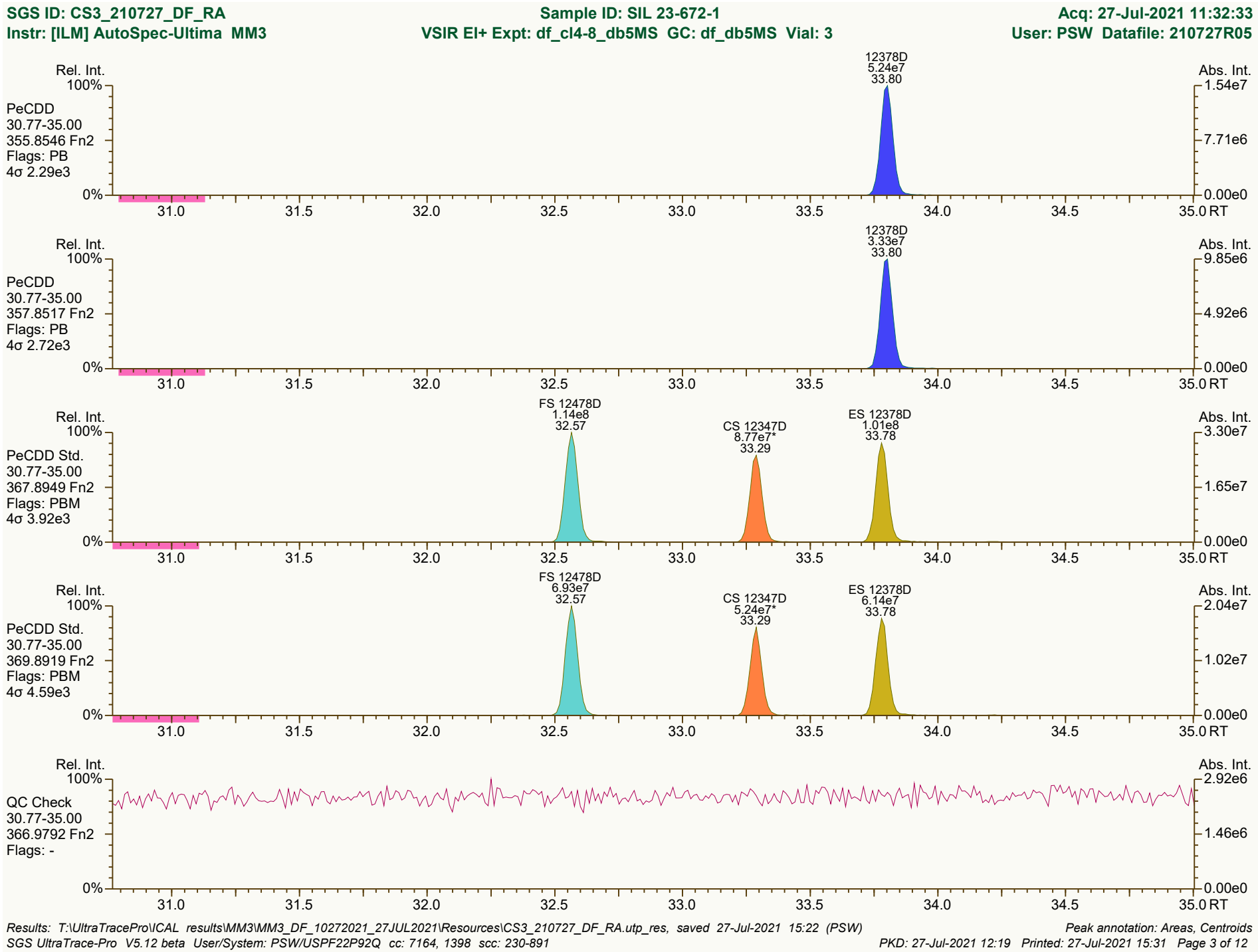
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

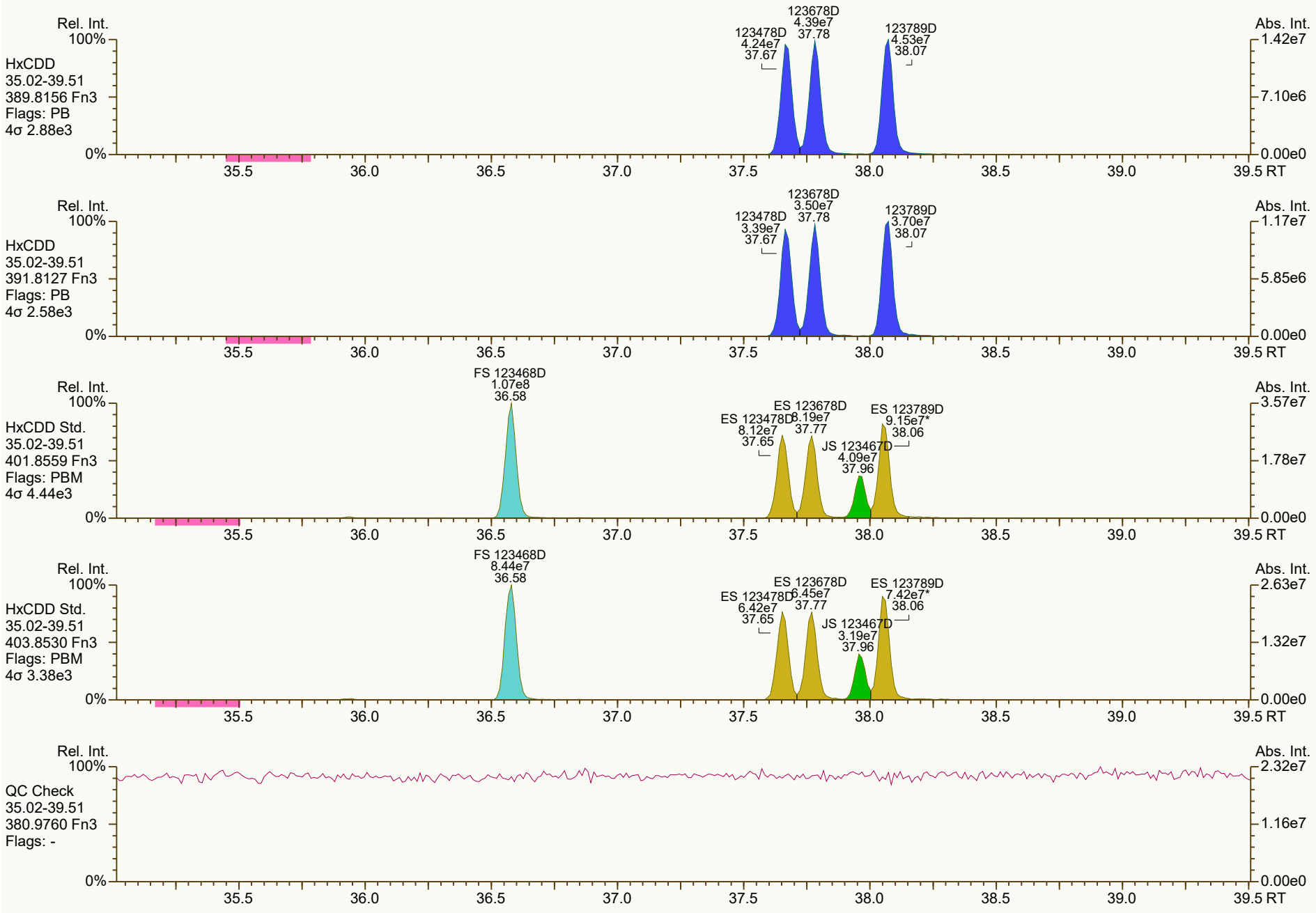
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.87	0.89	2%
CS 123469-HxCDF	37.12	1.65E+08	0.52	Y	1.09	1.14	4%
CS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.86	0.92	7%
SS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.26	1.24	-2%
SS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.86	0.86	0%
SS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.93	0.96	3%
SS 123469-HxCDF	37.12	1.65E+08	0.52	Y	0.84	0.84	0%
SS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.91	1.64E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.85	2.82E+08	0.79	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.83E+08	0.81	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.84E+08	1.65	Y	1.09	1.13	3%
FS 123468-HxCDD	36.58	1.91E+08	1.27	Y	1.26	1.32	4%
FS 1234679-HpCDD	39.99	2.10E+08	1.06	Y	1.36	1.42	5%
TS 1378-TCDD	26.87	2.23E+08	0.80	Y	1.35	1.31	-3%
~~OCDD-a~~	~~43.22~~	~~7.32E+06~~	~~2.45~~	~~Y~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.40~~	~~8.14E+06~~	~~2.47~~	~~Y~~	~~0.06~~	~~0.06~~	~~1%~~

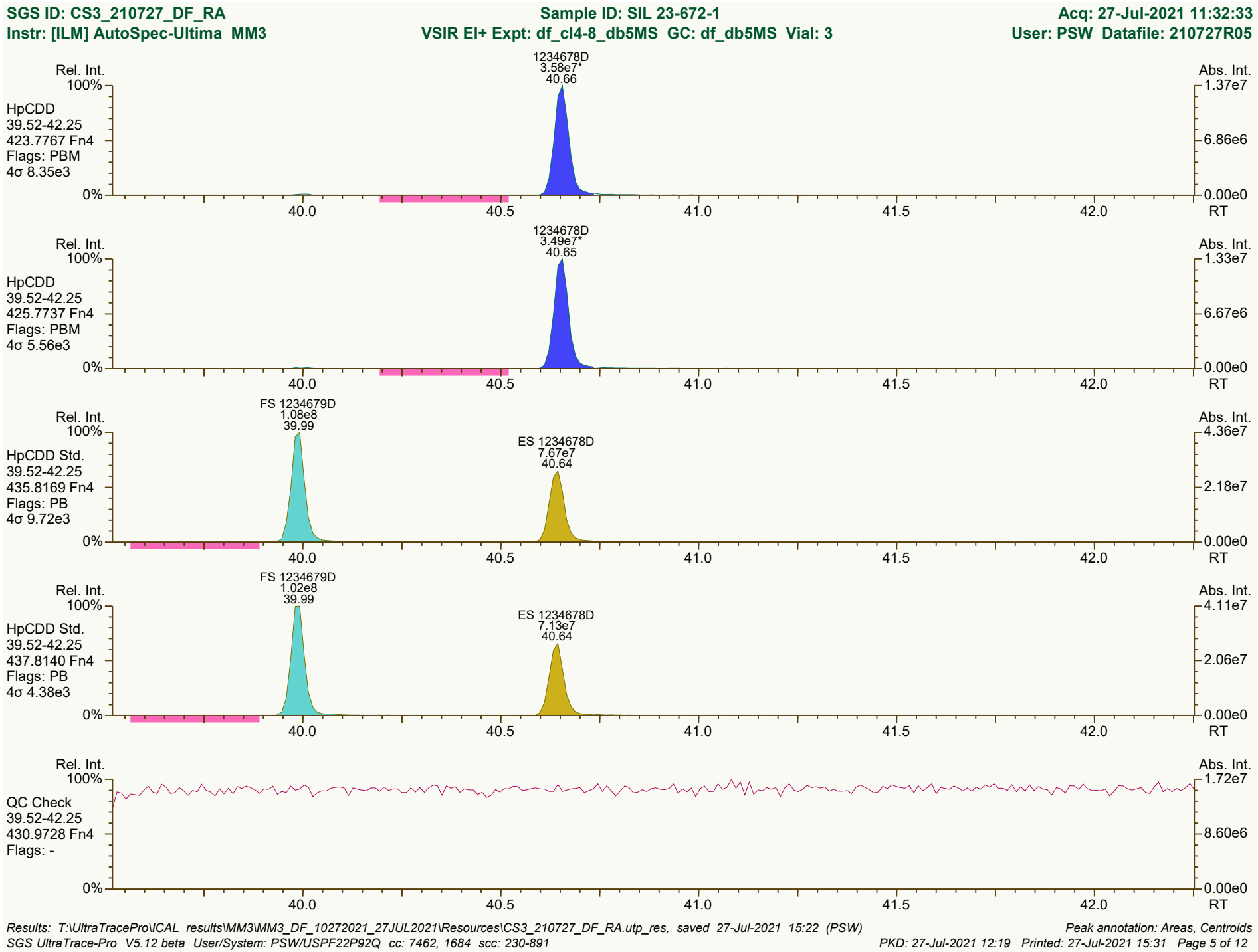
Not reported from this ICAL - CL 28Jul21

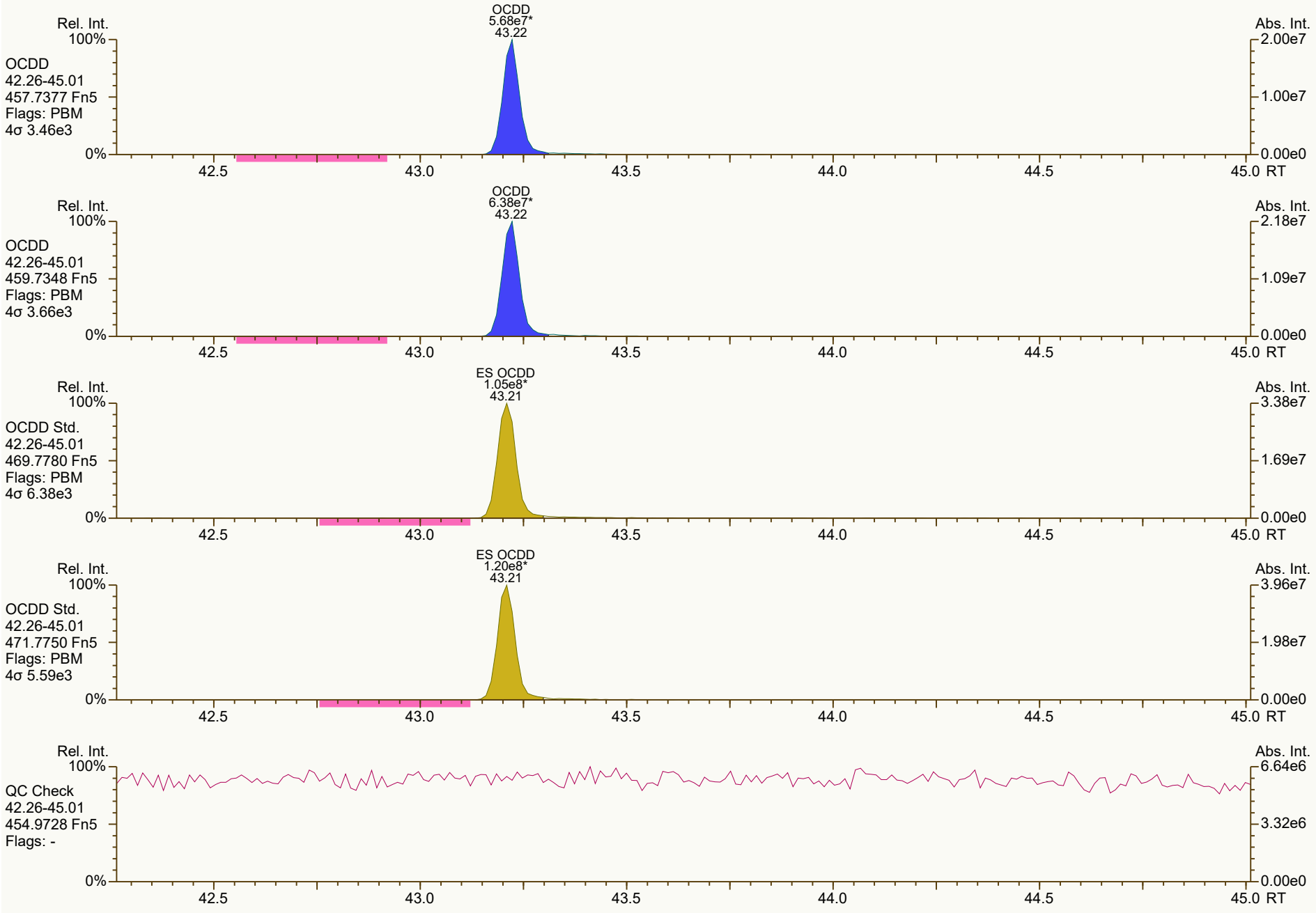

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.72e7
8.60e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

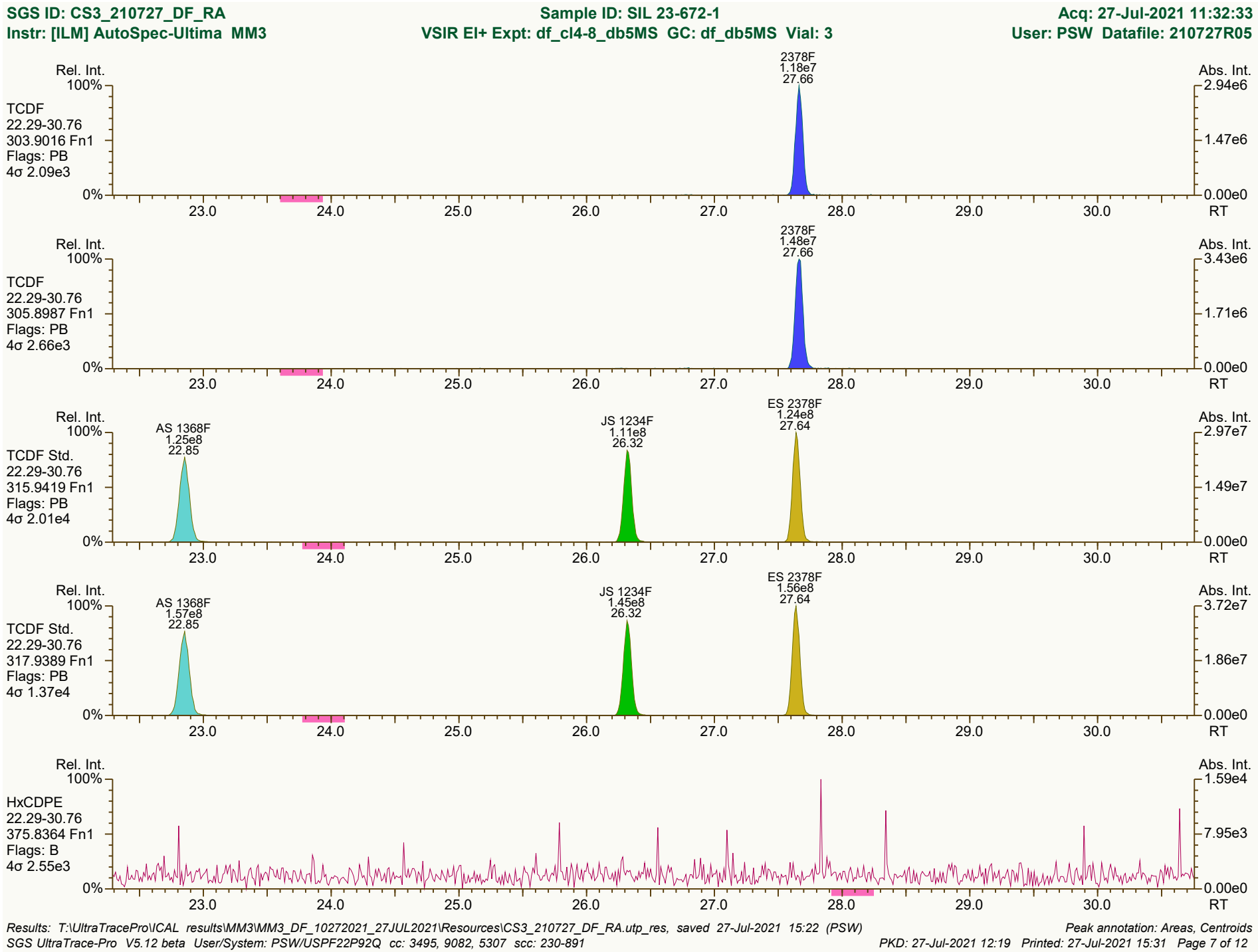

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
2378D
9.91e6
28.52
2.34e6
1.17e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
2378D
1.24e7
28.52
3.06e6
1.53e6
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.08e3
CS 37Cl-2378D
2.10e7
28.52
5.19e6
2.60e6
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 8.84e3
AS 1368D
7.21e7
24.91
TS 1378D
9.88e7
26.87
JS 1234D
7.11e7
27.86
ES 2378D
7.62e7
28.50
FS 1278D
8.20e7
28.82
2.31e7
1.16e7
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.59e3
RRF(AS 1368D) = (7.21e7 + 9.14e7) * 100pg / (7.11e7 + 8.96e7) * 100pg = 1.02
PSW 27-Jul-2021 15:20
OK - CL 28Jul21
= 1.02
AS 1368D
9.14e7
24.91
TS 1378D
1.24e8
26.87
JS 1234D
8.96e7
27.86
ES 2378D
9.33e7
28.50
FS 1278D
1.01e8
28.82
2.84e7
1.42e7
0.00e0


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
12378D
5.24e7
33.80
1.54e7
7.71e6
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
12378D
3.33e7
33.80
9.85e6
4.92e6
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
3.30e7
1.65e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
2.04e7
1.02e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.92e6
1.46e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7164, 1398 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 3 of 12

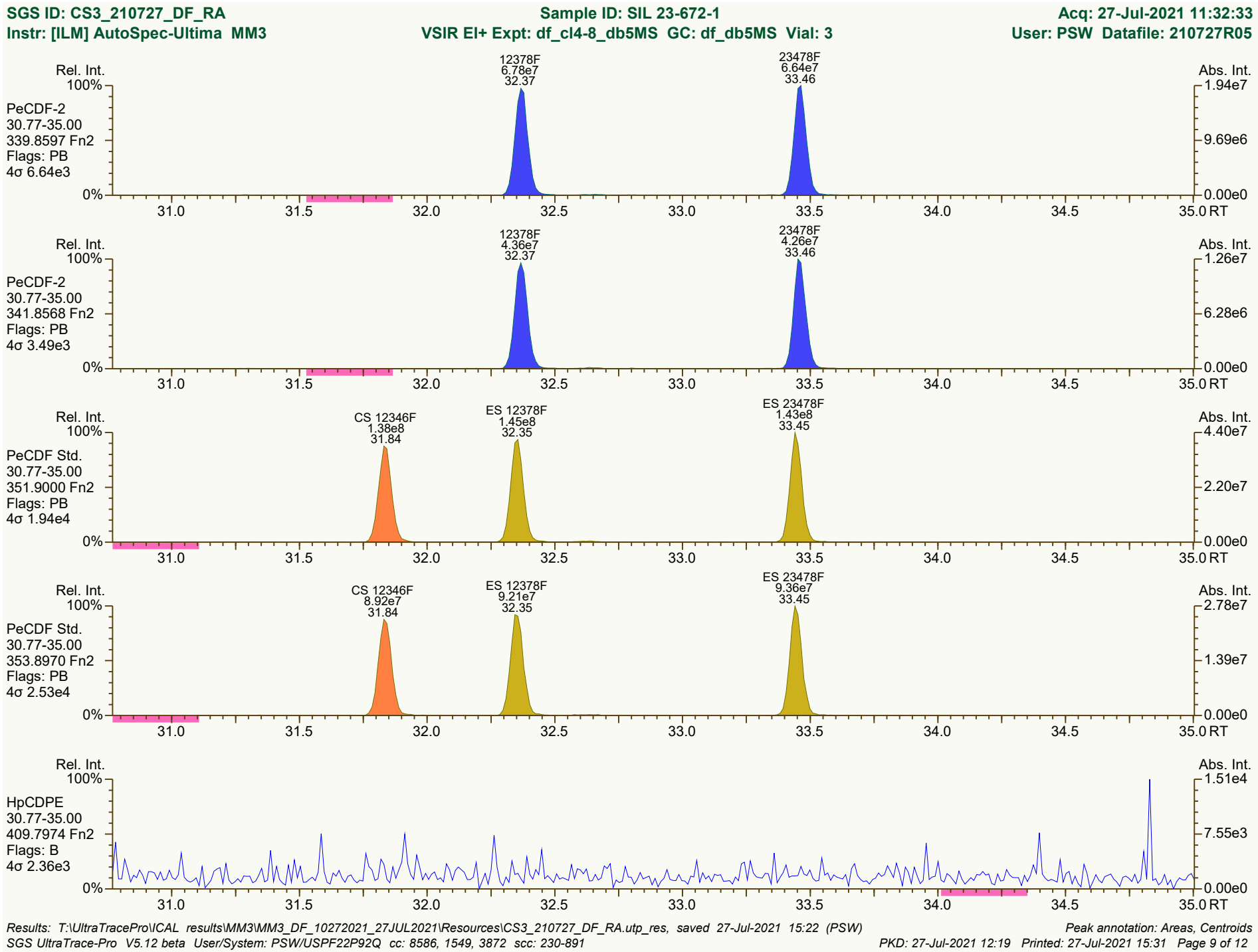

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D
4.39e7
37.78
123478D
4.24e7
37.67
123789D
4.53e7
38.07
Abs. Int.
1.42e7
7.10e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D
3.50e7
37.78
123478D
3.39e7
37.67
123789D
3.70e7
38.07
Abs. Int.
1.17e7
5.85e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D
1.07e8
36.58
ES 123678D
8.19e7
37.77
ES 123478D
8.12e7
37.65
ES 123789D
9.15e7*
38.06
JS 123467D
4.09e7
37.96
Abs. Int.
3.57e7
1.78e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D
8.44e7
36.58
ES 123678D
6.45e7
37.77
ES 123478D
6.42e7
37.65
ES 123789D
7.42e7*
38.06
JS 123467D
3.19e7
37.96
Abs. Int.
2.63e7
1.32e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.32e7
1.16e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

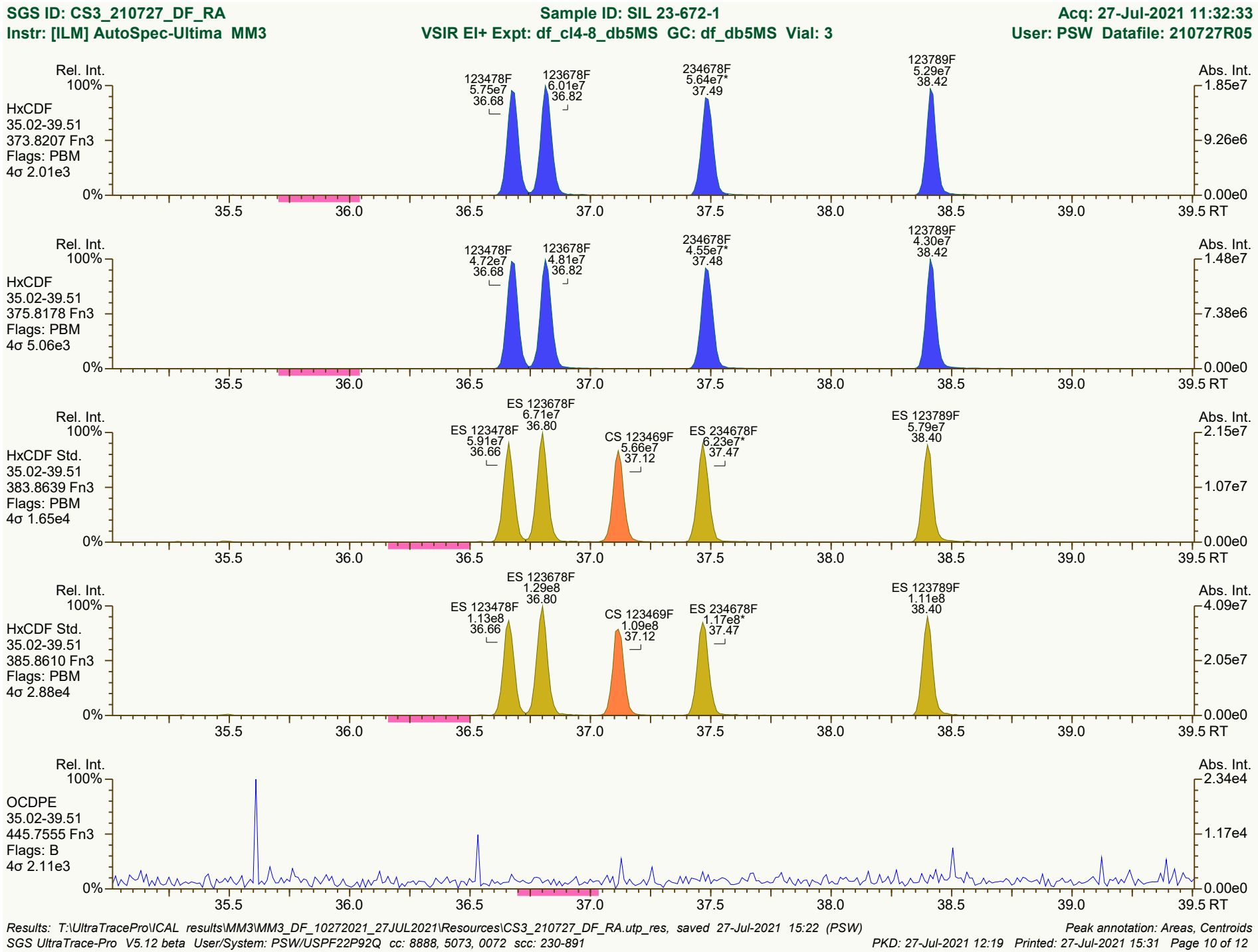

SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 8.35e3
1234678D
3.58e7*
40.66
1.37e7
6.86e6
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7462, 1684 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 5 of 12

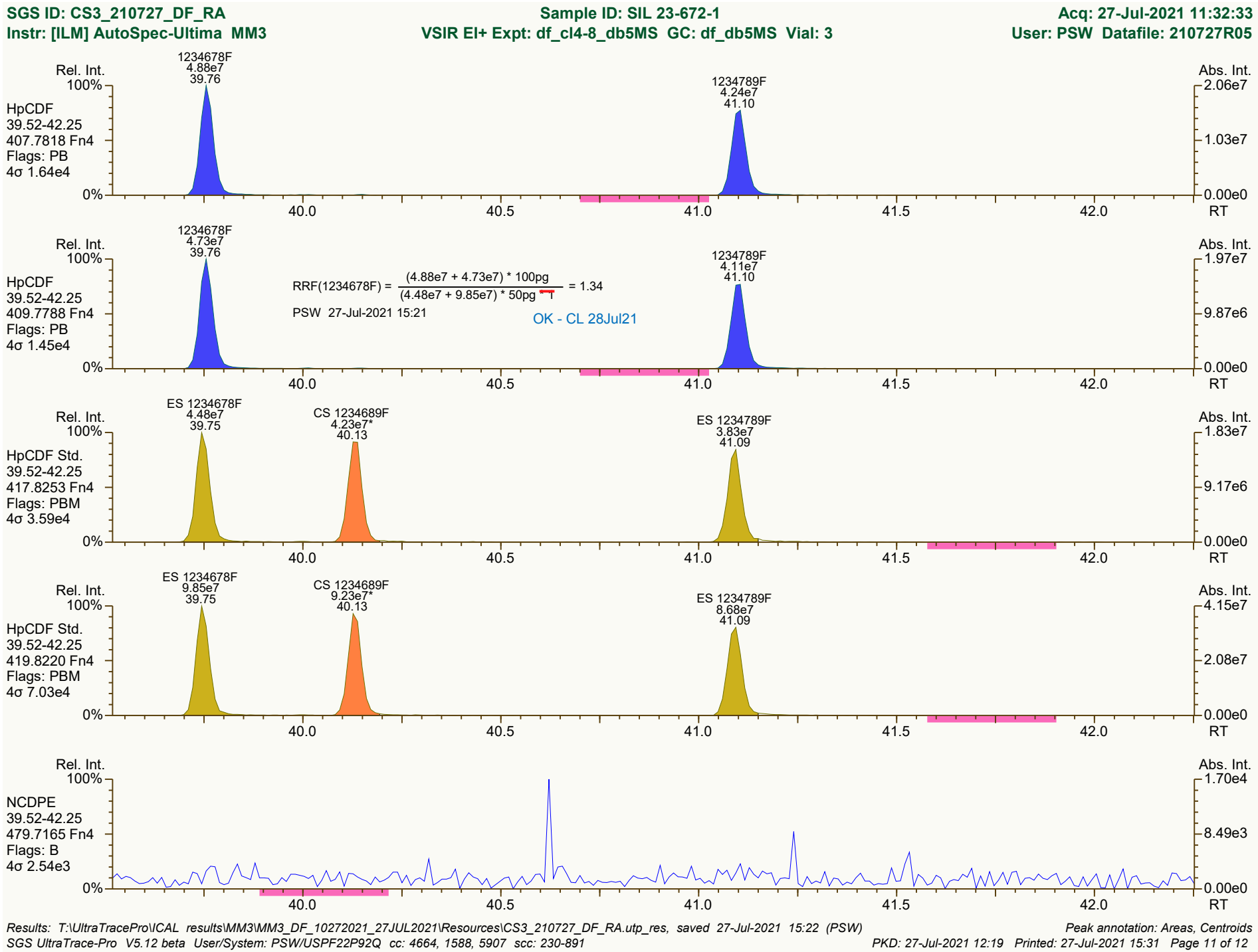

OCDD
5.68e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.46e3
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.38e7*
43.22
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 3.66e3
2.18e7
1.09e7
ES OCDD
1.05e8*
43.21
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 6.38e3
3.38e7
1.69e7
ES OCDD
1.20e8*
43.21
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.59e3
3.96e7
1.98e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.64e6
3.32e6

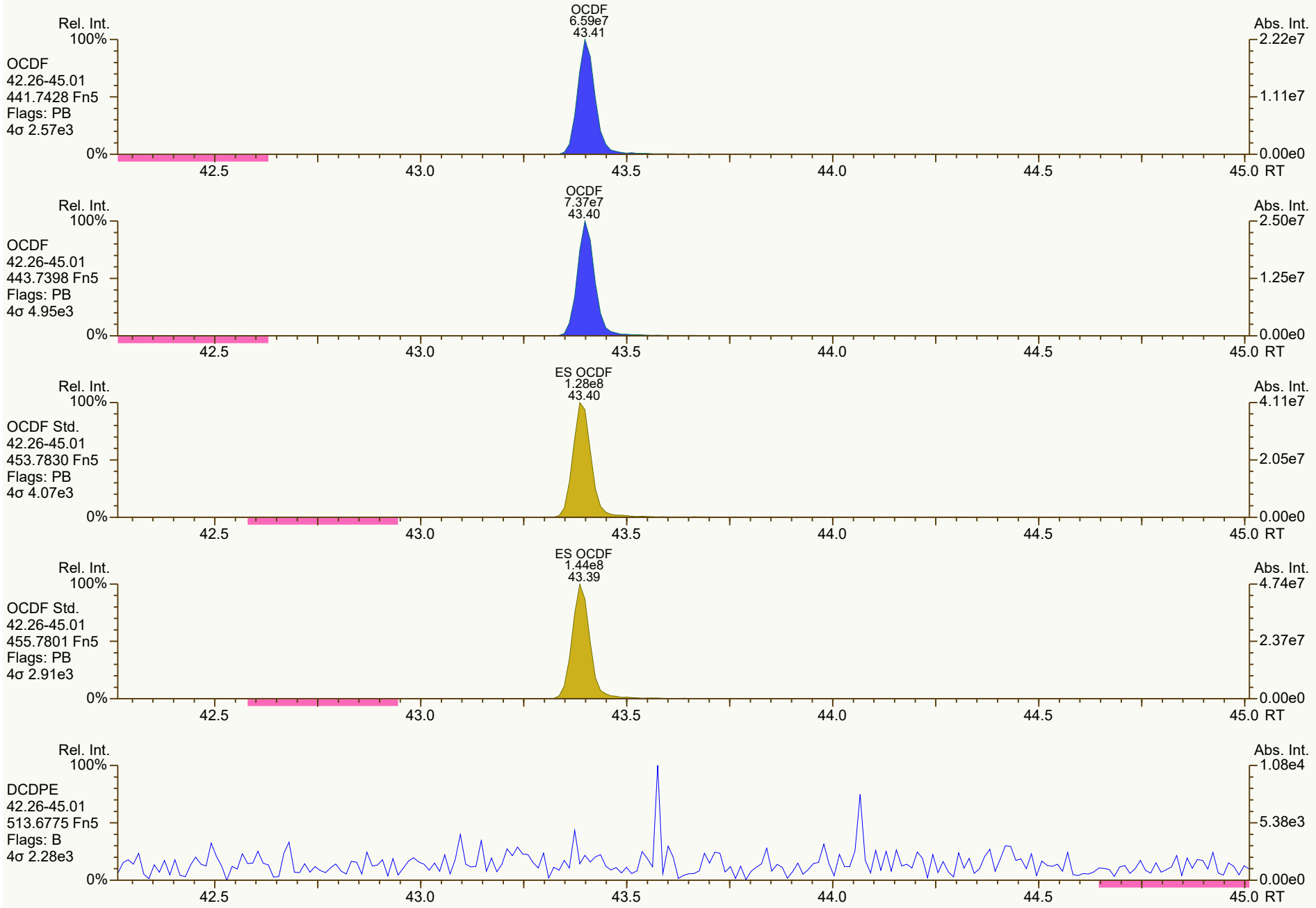

SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.09e3
2378F
1.18e7
27.66
2.94e6
1.47e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.66e3
2378F
1.48e7
27.66
3.43e6
1.71e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.01e4
AS 1368F
1.25e8
22.85
JS 1234F
1.11e8
26.32
ES 2378F
1.24e8
27.64
2.97e7
1.49e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.37e4
AS 1368F
1.57e8
22.85
JS 1234F
1.45e8
26.32
ES 2378F
1.56e8
27.64
3.72e7
1.86e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.55e3
1.59e4
7.95e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3495, 9082, 5307 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.35e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.27e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 6.64e3
12378F
6.78e7
32.37
23478F
6.64e7
33.46
1.94e7
9.69e6
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.49e3
12378F
4.36e7
32.37
23478F
4.26e7
33.46
1.26e7
6.28e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 1.94e4
CS 12346F
1.38e8
31.84
ES 12378F
1.45e8
32.35
ES 23478F
1.43e8
33.45
4.40e7
2.20e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.53e4
CS 12346F
8.92e7
31.84
ES 12378F
9.21e7
32.35
ES 23478F
9.36e7
33.45
2.78e7
1.39e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.36e3
1.51e4
7.55e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8586, 1549, 3872 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 2.01e3
123478F 5.75e7 36.68
123678F 6.01e7 36.82
234678F 5.64e7* 37.49
123789F 5.29e7 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 5.06e3
123478F 4.72e7 36.68
123678F 4.81e7 36.82
234678F 4.55e7* 37.48
123789F 4.30e7 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 1.65e4
ES 123478F 5.91e7 36.66
ES 123678F 6.71e7 36.80
CS 123469F 5.66e7 37.12
ES 234678F 6.23e7* 37.47
ES 123789F 5.79e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.88e4
ES 123478F 1.13e8 36.66
ES 123678F 1.29e8 36.80
CS 123469F 1.09e8 37.12
ES 234678F 1.17e8* 37.47
ES 123789F 1.11e8 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.11e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8888, 5073, 0072 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
2.06e7
1.03e7
0.00e0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
1234789F
4.11e7
41.10
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1.97e7
9.87e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.48e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.85e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3
100%
0%
40.0
40.5
41.0
41.5
42.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4664, 1588, 5907 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 11 of 12


OCDF
6.59e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.57e3
0%
Abs. Int.
2.22e7
1.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.37e7
43.40
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 4.95e3
0%
Abs. Int.
2.50e7
1.25e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 4.07e3
0%
Abs. Int.
4.11e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e8
43.39
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.91e3
0%
Abs. Int.
4.74e7
2.37e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

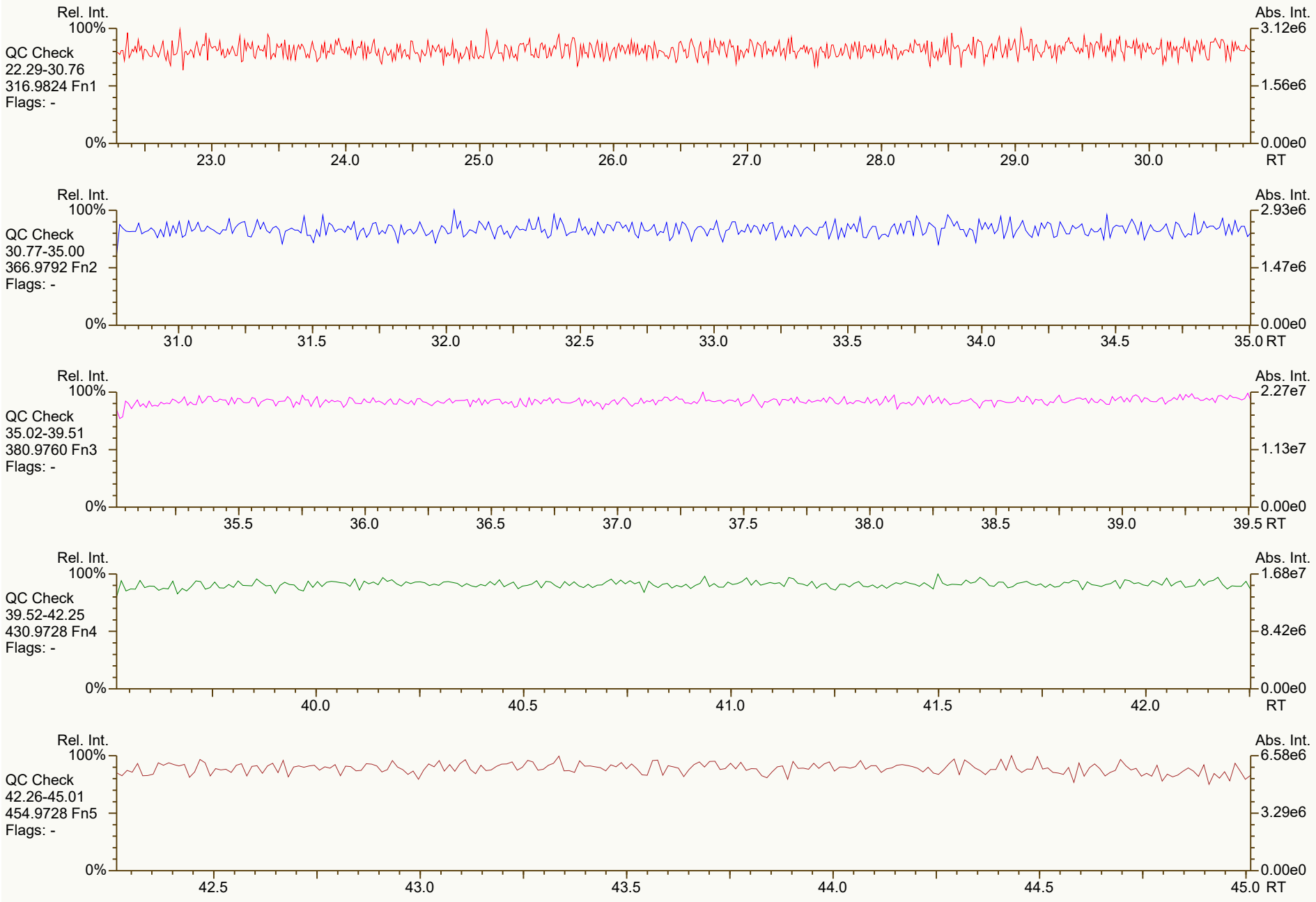
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

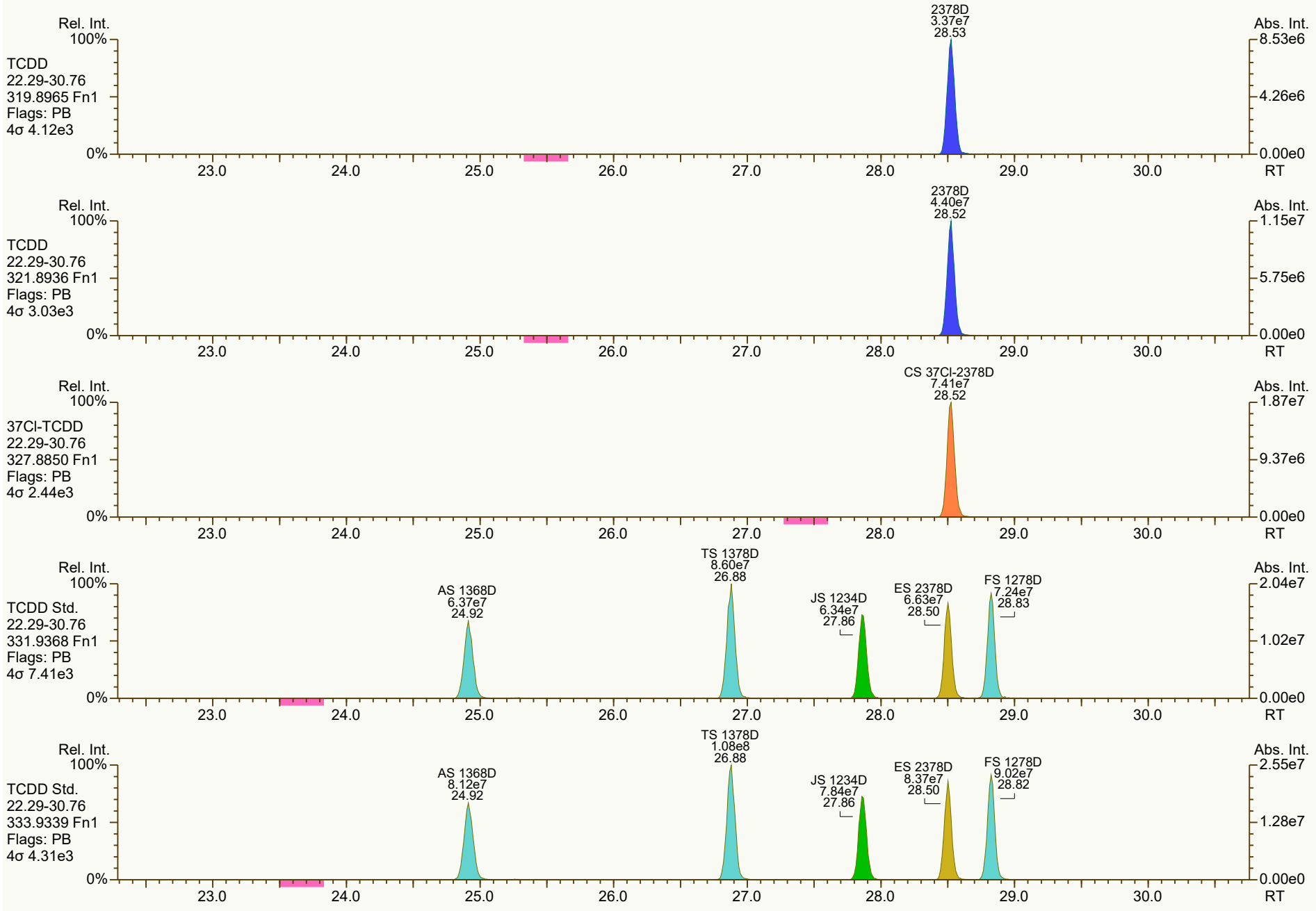
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	7.77E+07	0.76	Y	1.34	1.30	-4%
12378-PeCDD	33.81	3.10E+08	1.55	Y	1.06	1.06	0%
123478-HxCDD	37.68	2.82E+08	1.23	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.84E+08	1.24	Y	1.08	1.10	2%
123789-HxCDD	38.08	2.99E+08	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.67	2.61E+08	1.03	Y	0.97	0.98	0%
OCDD	43.23	4.49E+08	0.90	Y	1.07	1.08	1%
2378-TCDF	27.67	9.59E+07	0.77	Y	0.96	0.96	0%
12378-PeCDF	32.38	4.09E+08	1.58	Y	0.95	0.95	0%
23478-PeCDF	33.47	3.96E+08	1.56	Y	0.94	0.93	-1%
123478-HxCDF	36.69	3.82E+08	1.23	Y	1.23	1.24	0%
123678-HxCDF	36.83	3.97E+08	1.25	Y	1.13	1.13	0%
234678-HxCDF	37.49	3.75E+08	1.25	Y	1.15	1.13	-2%
123789-HxCDF	38.43	3.51E+08	1.24	Y	1.14	1.14	0%
1234678-HpCDF	39.77	3.45E+08	1.03	Y	1.36	1.33	-2%
1234789-HpCDF	41.11	2.99E+08	1.04	Y	1.30	1.30	0%
OCDF	43.41	5.22E+08	0.91	Y	1.03	1.05	2%
ES 2378-TCDD	28.50	1.50E+08	0.79	Y	1.03	1.06	2%
ES 12378-PeCDD	33.789	1.46E+08	1.59	Y	1.03	1.03	0%
ES 123478-HxCDD	37.662	1.34E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.775	1.29E+08	1.28	Y	0.97	0.94	-4%
ES 123789-HxCDD	38.064	1.51E+08	1.27	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.654	1.33E+08	1.06	Y	0.99	0.97	-2%
ES OCDD	43.216	2.07E+08	0.92	Y	0.78	0.75	-3%
ES 2378-TCDF	27.649	2.49E+08	0.80	Y	1.08	1.09	1%
ES 12378-PeCDF	32.362	2.16E+08	1.57	Y	0.93	0.95	2%
ES 23478-PeCDF	33.454	2.12E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.668	1.54E+08	0.51	Y	1.14	1.12	-2%
ES 123678-HxCDF	36.808	1.75E+08	0.53	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.477	1.66E+08	0.53	Y	1.20	1.20	0%
ES 123789-HxCDF	38.409	1.54E+08	0.52	Y	1.14	1.12	-1%
ES 1234678-HpCDF	39.757	1.30E+08	0.45	Y	0.95	0.94	-1%
ES 1234789-HpCDF	41.102	1.15E+08	0.45	Y	0.85	0.83	-2%
ES OCDF	43.398	2.49E+08	0.90	Y	0.93	0.90	-2%

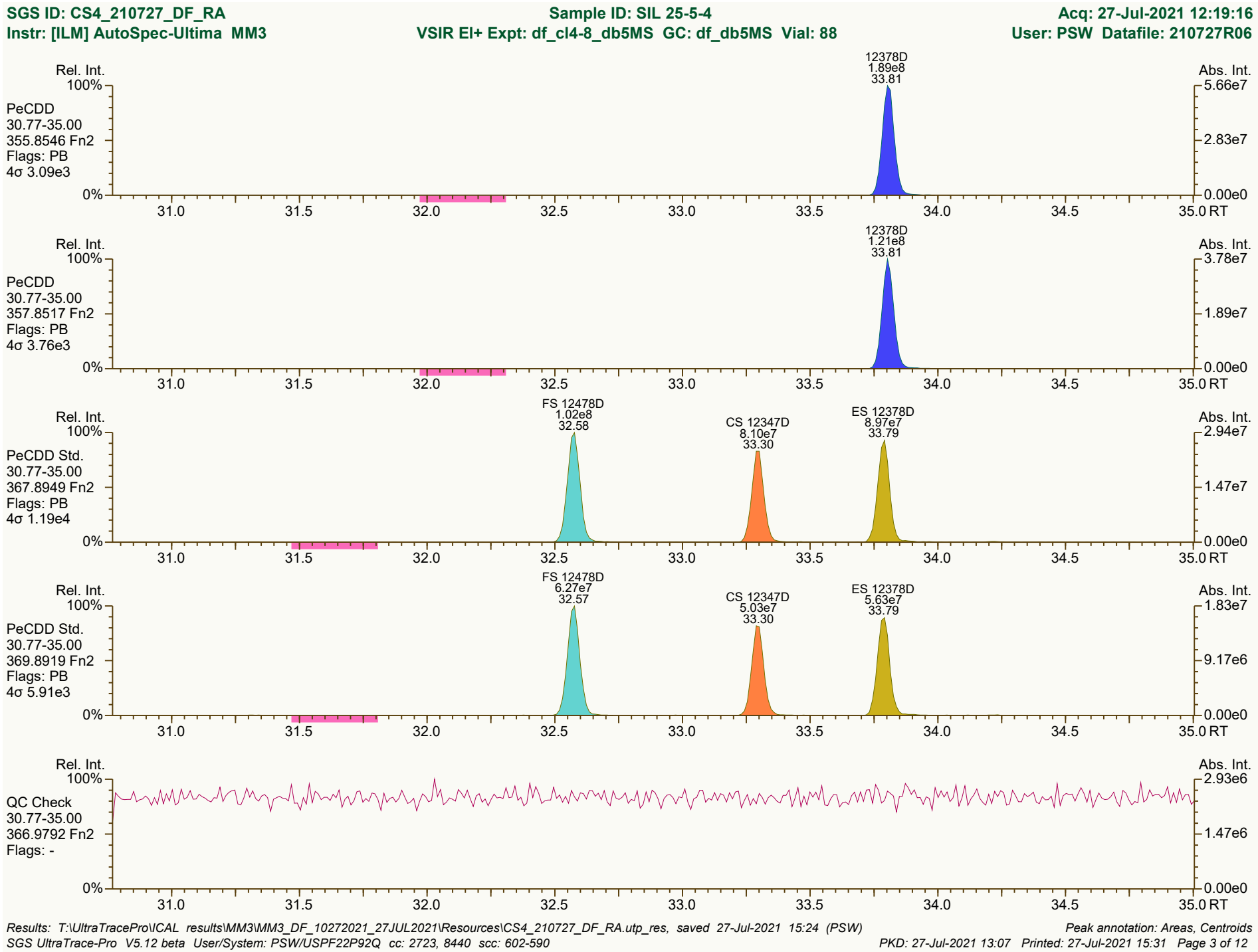
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

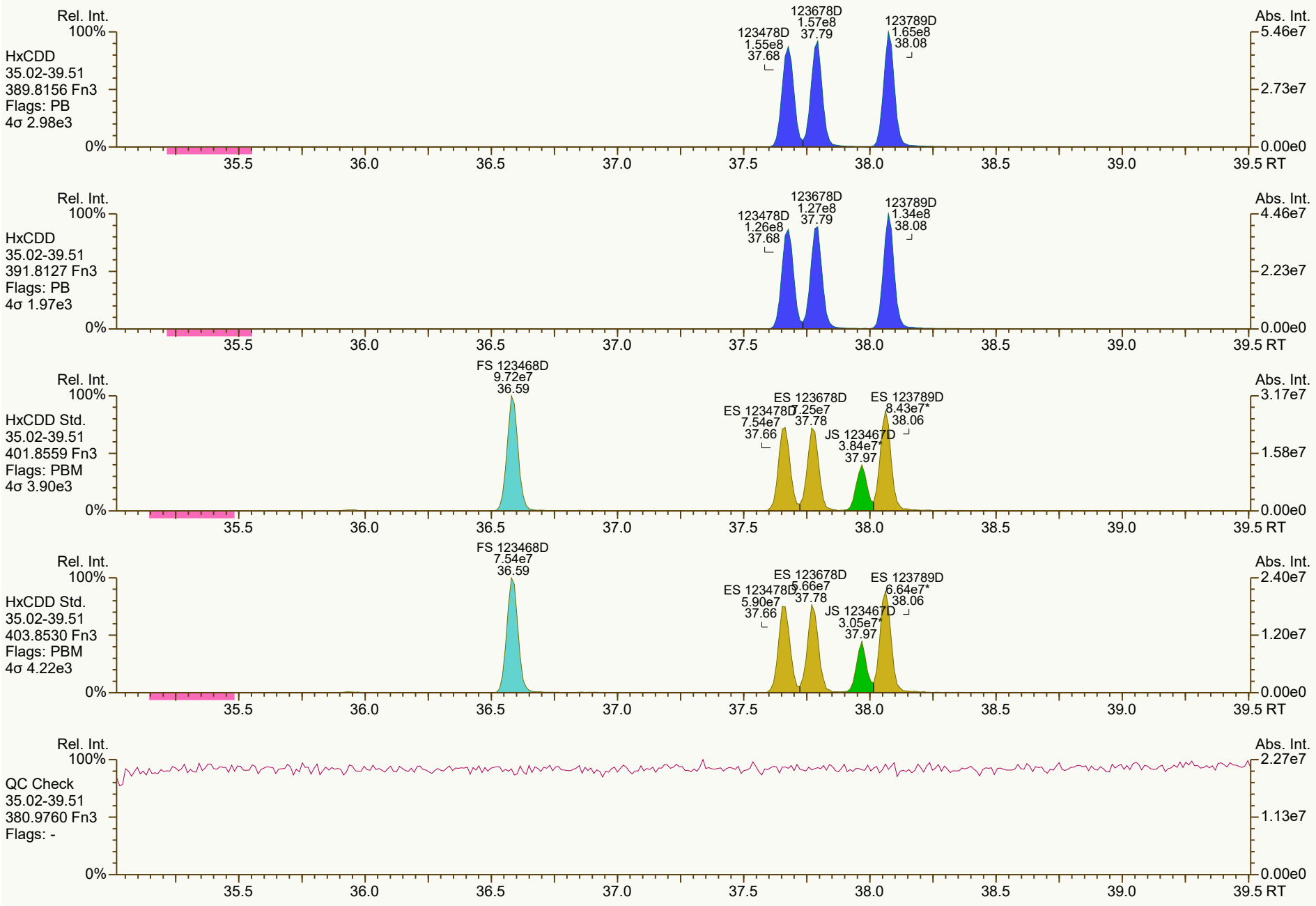
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.87	0.88	2%
CS 123469-HxCDF	37.12	1.50E+08	0.54	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.26	1.23	-2%
SS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.86	0.90	4%
SS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.12	1.50E+08	0.54	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.91	0.92	1%
AS 1368-TCDD	24.92	1.45E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.49E+08	0.79	Y	1.08	1.09	1%
FS 1278-TCDD	28.83	1.63E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.64E+08	1.62	Y	1.09	1.13	3%
FS 123468-HxCDD	36.59	1.73E+08	1.29	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	1.84E+08	1.07	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	1.94E+08	0.79	Y	1.35	1.30	-4%
~~OCDD-a~~	~~43.22~~	~~2.77E+07~~	~~2.50~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~
~~OCDF-a~~	~~43.41~~	~~3.08E+07~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~4%~~

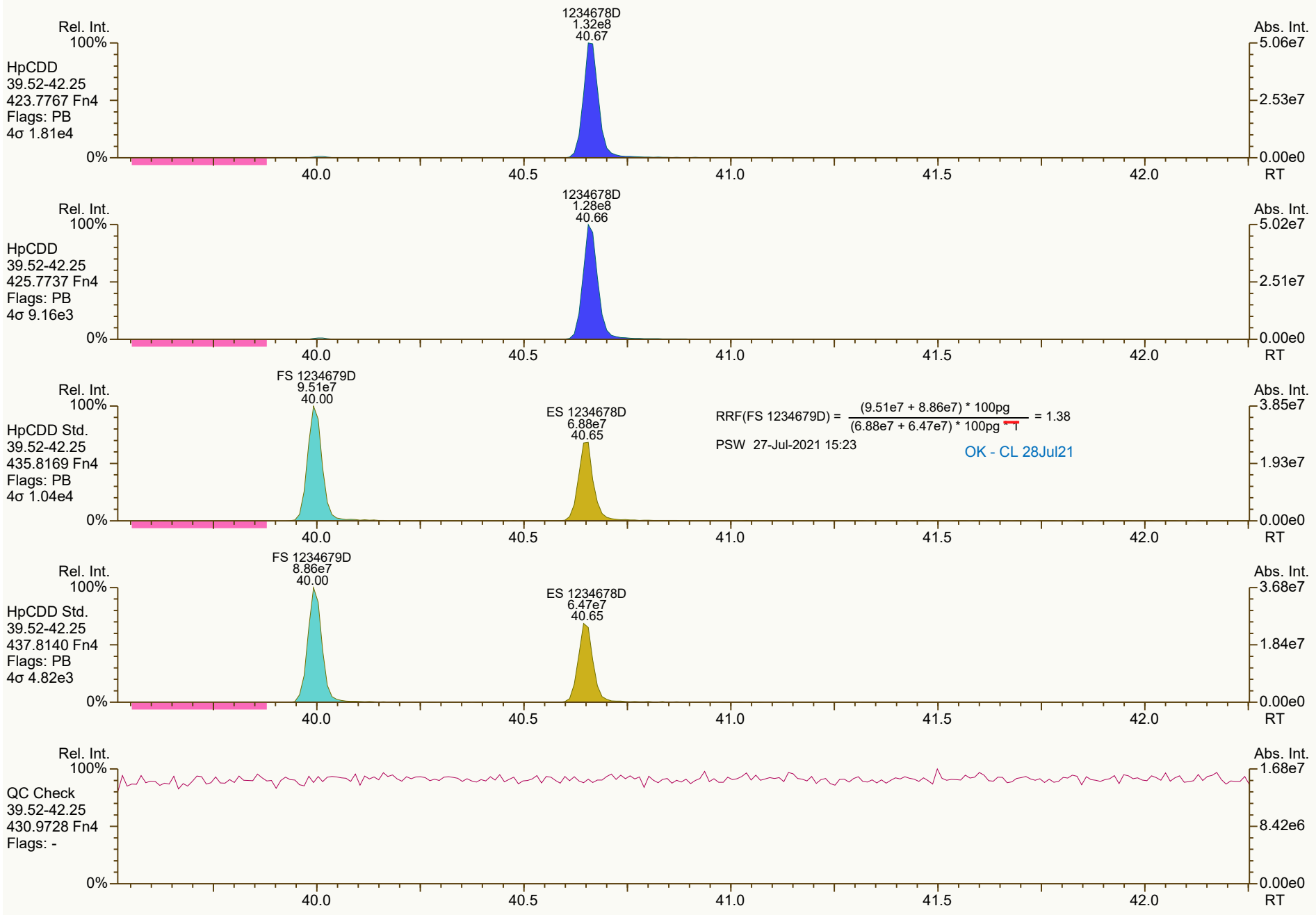
Not reported from this ICAL - CL 28Jul21

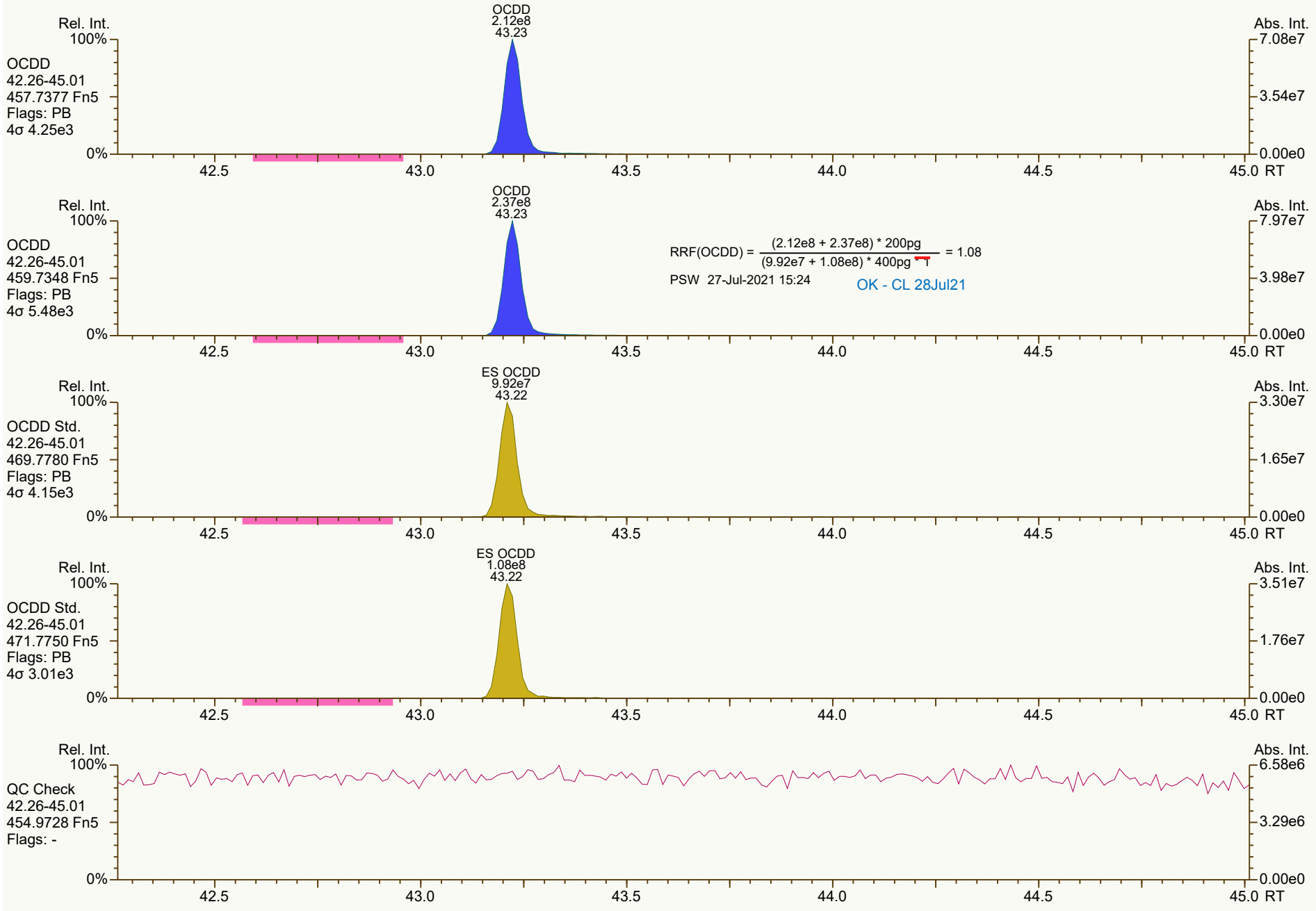

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.68e7
8.42e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

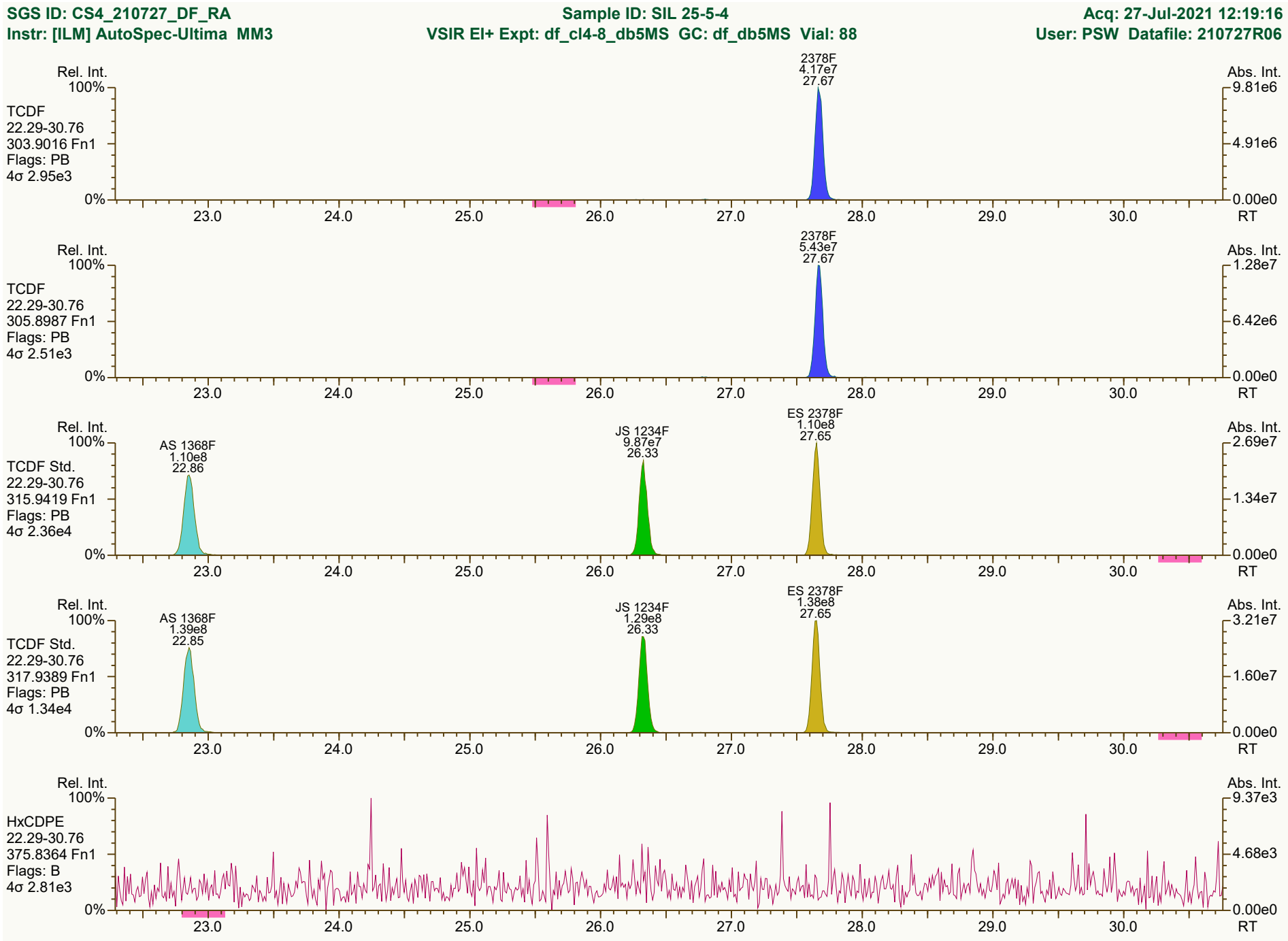

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 4.12e3
2378D
3.37e7
28.53
8.53e6
4.26e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 3.03e3
2378D
4.40e7
28.52
1.15e7
5.75e6
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.44e3
CS 37Cl-2378D
7.41e7
28.52
1.87e7
9.37e6
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.41e3
AS 1368D
6.37e7
24.92
TS 1378D
8.60e7
26.88
JS 1234D
6.34e7
27.86
ES 2378D
6.63e7
28.50
FS 1278D
7.24e7
28.83
2.04e7
1.02e7
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.31e3
AS 1368D
8.12e7
24.92
TS 1378D
1.08e8
26.88
JS 1234D
7.84e7
27.86
ES 2378D
8.37e7
28.50
FS 1278D
9.02e7
28.82
2.55e7
1.28e7
0.00e0


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.09e3
12378D
1.89e8
33.81
5.66e7
2.83e7
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 3.76e3
12378D
1.21e8
33.81
3.78e7
1.89e7
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 1.19e4
FS 12478D
1.02e8
32.58
CS 12347D
8.10e7
33.30
ES 12378D
8.97e7
33.79
2.94e7
1.47e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 5.91e3
FS 12478D
6.27e7
32.57
CS 12347D
5.03e7
33.30
ES 12378D
5.63e7
33.79
1.83e7
9.17e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.93e6
1.47e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2723, 8440 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 3 of 12

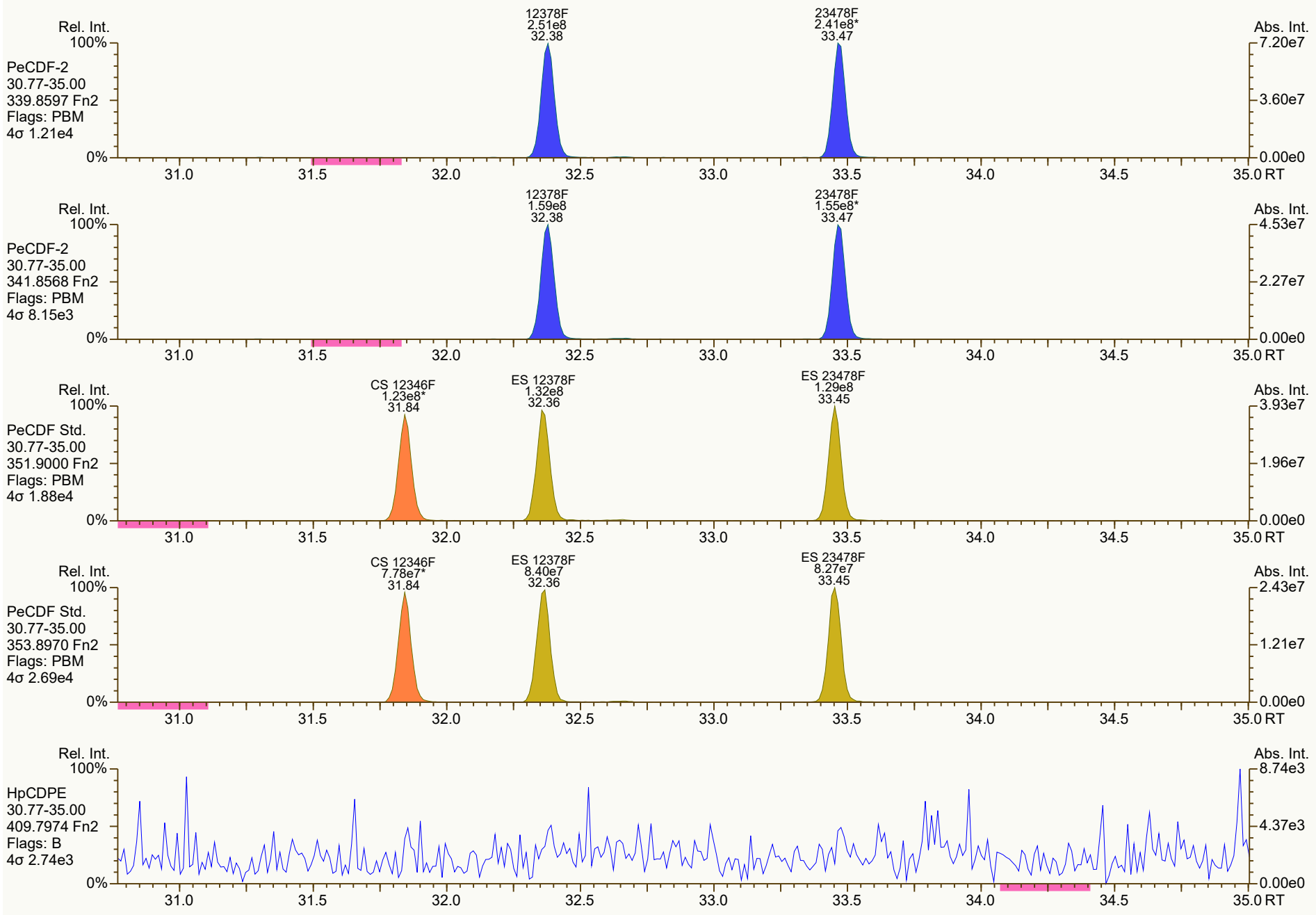

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D
1.57e8
37.79
123478D
1.55e8
37.68
123789D
1.65e8
38.08
Abs. Int.
5.46e7
2.73e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D
1.27e8
37.79
123478D
1.26e8
37.68
123789D
1.34e8
38.08
Abs. Int.
4.46e7
2.23e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.90e3
FS 123468D
9.72e7
36.59
ES 123678D
7.25e7
37.78
ES 123478D
7.54e7
37.66
ES 123789D
8.43e7*
38.06
JS 123467D
3.84e7*
37.97
Abs. Int.
3.17e7
1.58e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 4.22e3
FS 123468D
7.54e7
36.59
ES 123678D
5.66e7
37.78
ES 123478D
5.90e7
37.66
ES 123789D
6.64e7*
38.06
JS 123467D
3.05e7*
37.97
Abs. Int.
2.40e7
1.20e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.13e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

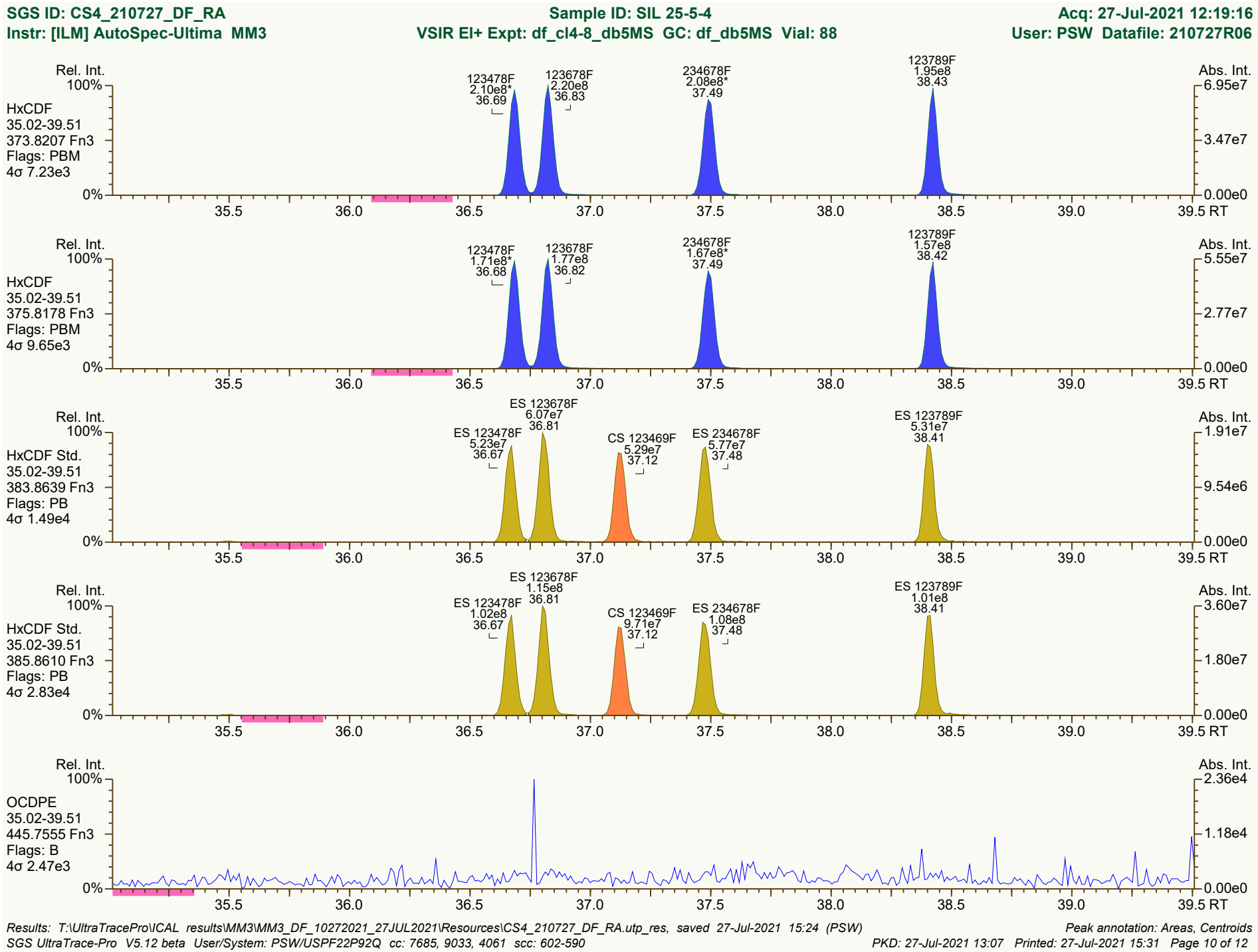

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
1234678D
1.32e8
40.67
Abs. Int.
5.06e7
2.53e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
1234678D
1.28e8
40.66
5.02e7
2.51e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.04e4
FS 1234679D
9.51e7
40.00
ES 1234678D
6.88e7
40.65
RRF(FS 1234679D) = (9.51e7 + 8.86e7) * 100pg / (6.88e7 + 6.47e7) * 100pg = 1.38
PSW 27-Jul-2021 15:23
OK - CL 28Jul21
3.85e7
1.93e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.82e3
FS 1234679D
8.86e7
40.00
ES 1234678D
6.47e7
40.65
3.68e7
1.84e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.68e7
8.42e6

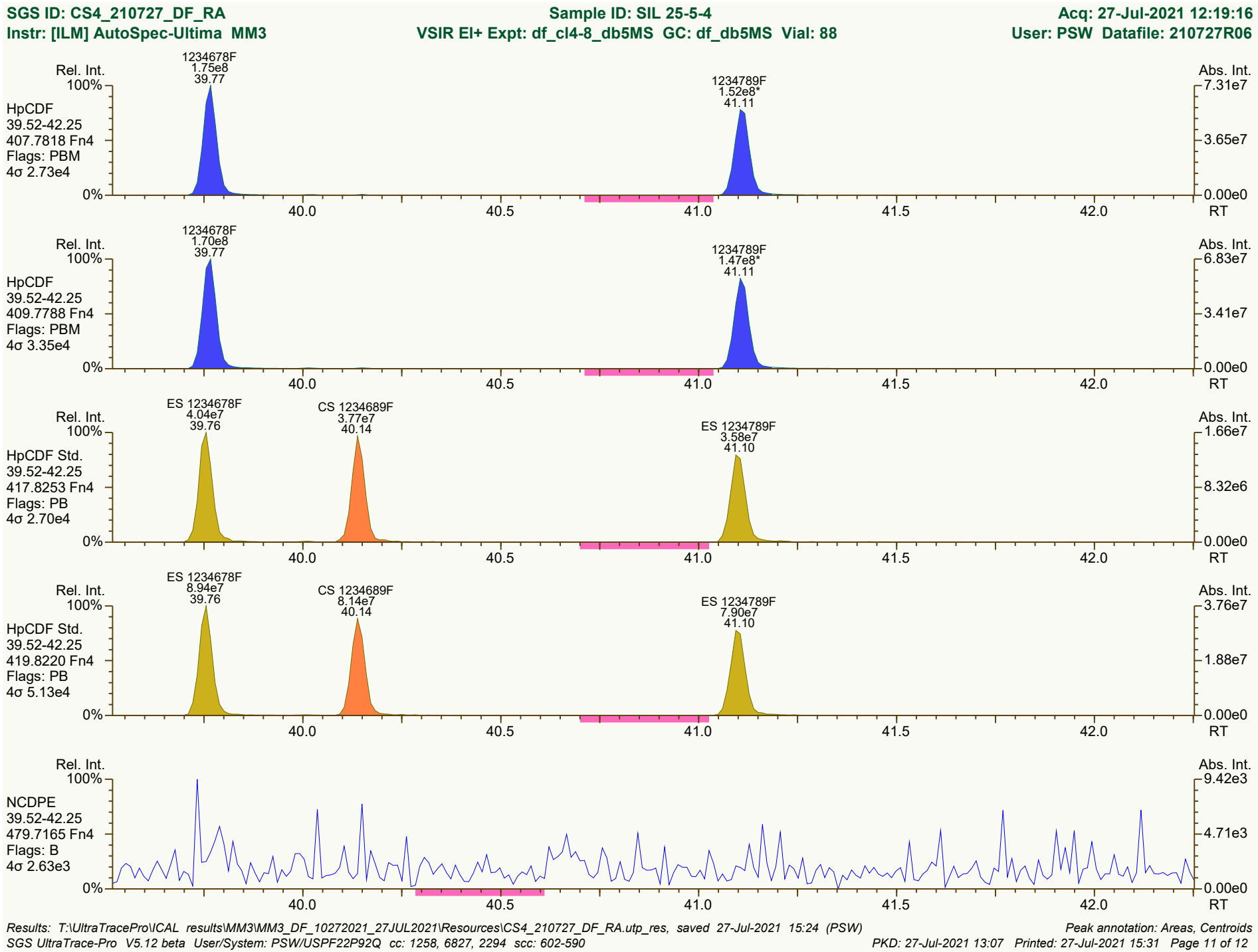

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
0%
OCDD
2.12e8
43.23
Abs. Int.
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
0%
OCDD
2.37e8
43.23
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08
PSW 27-Jul-2021 15:24
OK - CL 28Jul21
Abs. Int.
7.97e7
3.98e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.15e3
0%
ES OCDD
9.92e7
43.22
Abs. Int.
3.30e7
1.65e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.01e3
0%
ES OCDD
1.08e8
43.22
Abs. Int.
3.51e7
1.76e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

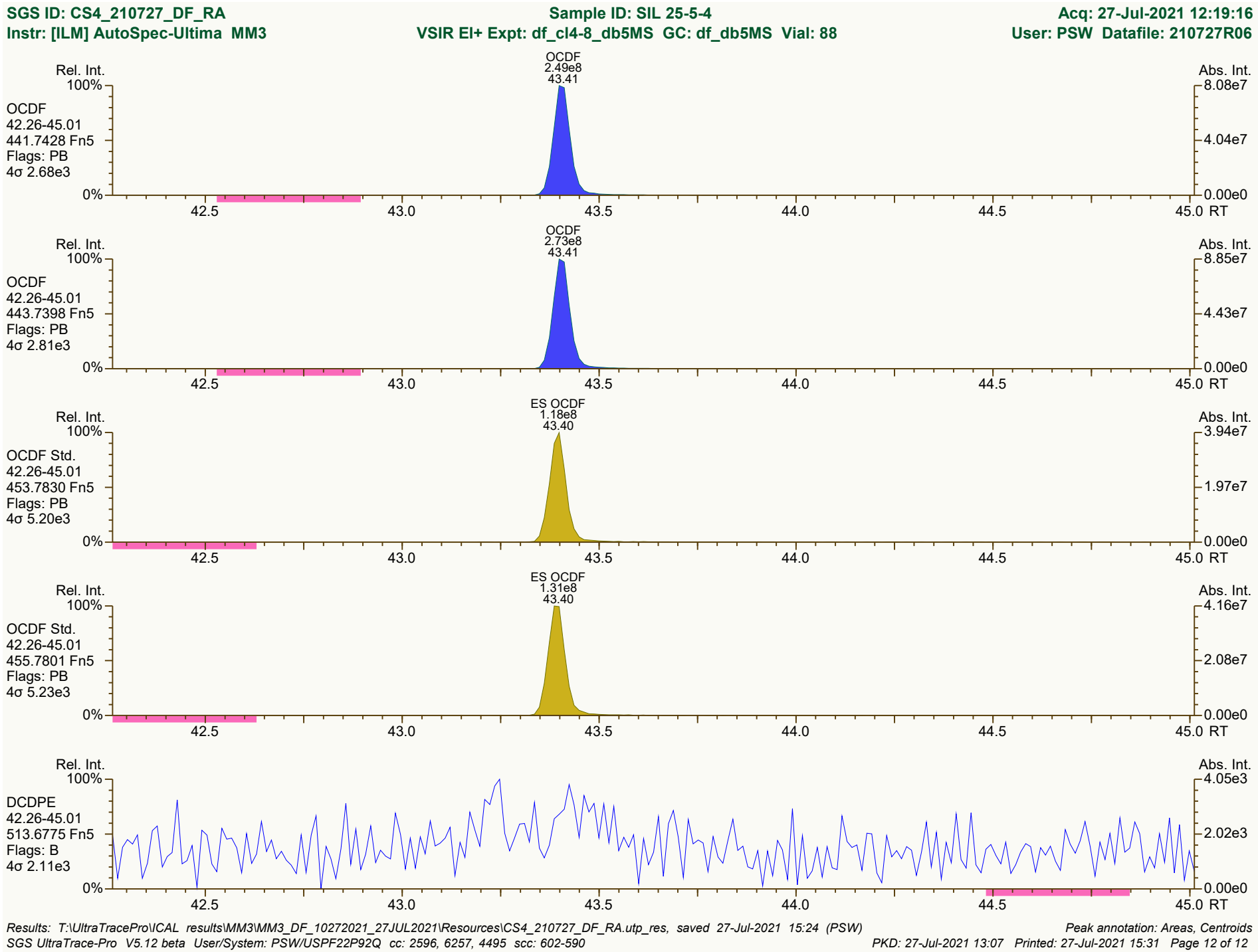

SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
2378F
4.17e7
27.67
9.81e6
4.91e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
2378F
5.43e7
27.67
1.28e7
6.42e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
2.69e7
1.34e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
3.21e7
1.60e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
9.37e3
4.68e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0154, 8355, 3490 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.55e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.28e3
2.14e4
1.07e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.12e6
1.56e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PBM
4σ 1.21e4
0%
12378F
2.51e8
32.38
23478F
2.41e8*
33.47
Abs. Int.
7.20e7
3.60e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PBM
4σ 8.15e3
0%
12378F
1.59e8
32.38
23478F
1.55e8*
33.47
Abs. Int.
4.53e7
2.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 1.88e4
0%
CS 12346F
1.23e8*
31.84
ES 12378F
1.32e8
32.36
ES 23478F
1.29e8
33.45
Abs. Int.
3.93e7
1.96e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.69e4
0%
CS 12346F
7.78e7*
31.84
ES 12378F
8.40e7
32.36
ES 23478F
8.27e7
33.45
Abs. Int.
2.43e7
1.21e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.74e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 7.23e3
123478F 2.10e8* 36.69
123678F 2.20e8 36.83
234678F 2.08e8* 37.49
123789F 1.95e8 38.43
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.65e3
123478F 1.71e8* 36.68
123678F 1.77e8 36.82
234678F 1.67e8* 37.49
123789F 1.57e8 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.49e4
ES 123478F 5.23e7 36.67
ES 123678F 6.07e7 36.81
CS 123469F 5.29e7 37.12
ES 234678F 5.77e7 37.48
ES 123789F 5.31e7 38.41
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.83e4
ES 123478F 1.02e8 36.67
ES 123678F 1.15e8 36.81
CS 123469F 9.71e7 37.12
ES 234678F 1.08e8 37.48
ES 123789F 1.01e8 38.41
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.47e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7685, 9033, 4061 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PBM
4σ 2.73e4
1234678F
1.75e8
39.77
1234789F
1.52e8*
41.11
7.31e7
3.65e7
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PBM
4σ 3.35e4
1234678F
1.70e8
39.77
1234789F
1.47e8*
41.11
6.83e7
3.41e7
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.70e4
ES 1234678F
4.04e7
39.76
CS 1234689F
3.77e7
40.14
ES 1234789F
3.58e7
41.10
1.66e7
8.32e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.13e4
ES 1234678F
8.94e7
39.76
CS 1234689F
8.14e7
40.14
ES 1234789F
7.90e7
41.10
3.76e7
1.88e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
9.42e3
4.71e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1258, 6827, 2294 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
OCDF
2.49e8
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
0%
Abs. Int.
8.08e7
4.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.73e8
43.41
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
0%
Abs. Int.
8.85e7
4.43e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.18e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
0%
Abs. Int.
3.94e7
1.97e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
0%
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
0%
Abs. Int.
4.05e3
2.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2596, 6257, 4495 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 12 of 12

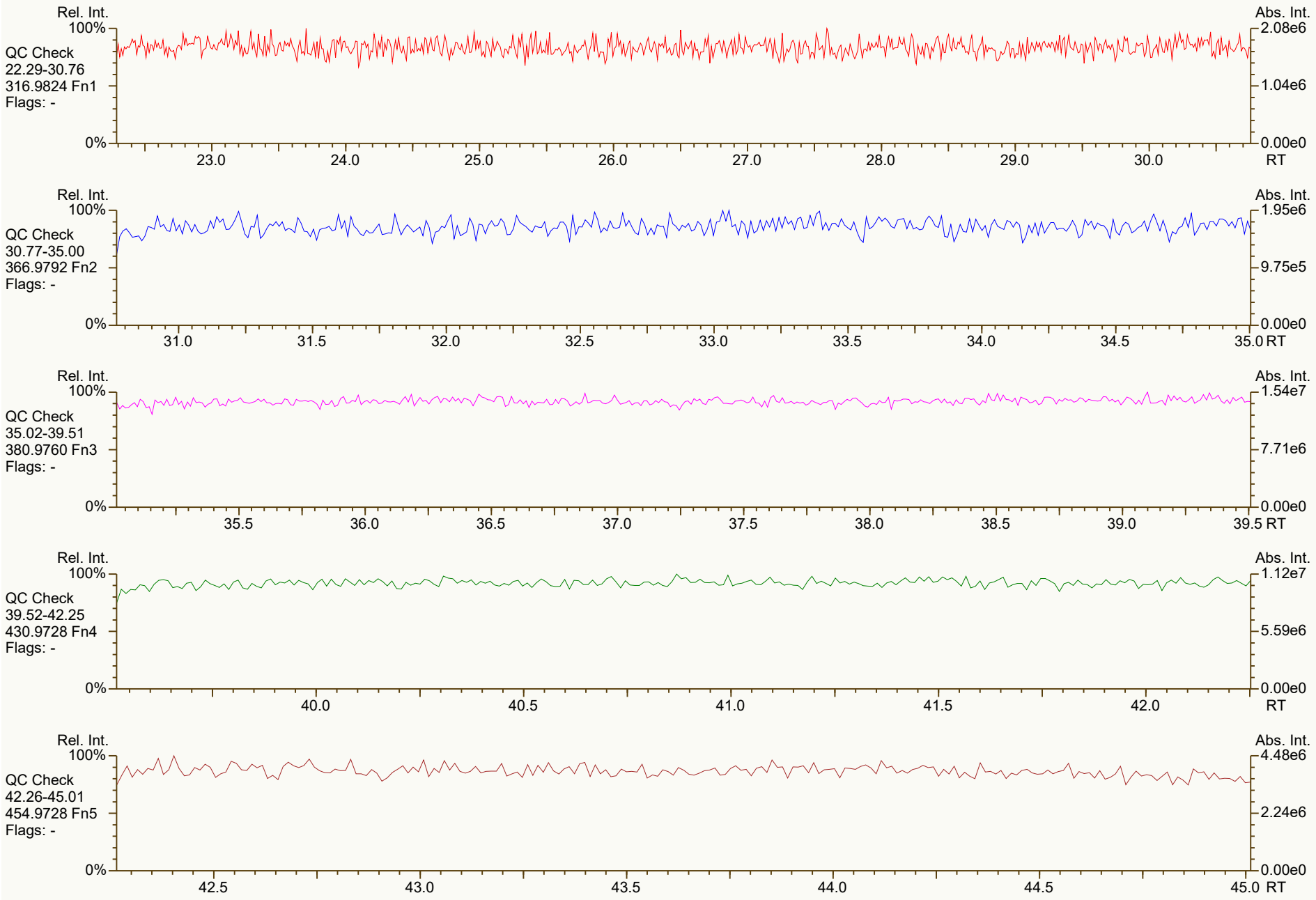
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD	40.66	8.94E+08	1.04	Y	0.97	0.98	1%
OCDD	43.22	1.57E+09	0.88	Y	1.07	1.06	-1%
2378-TCDF	27.66	3.19E+08	0.77	Y	0.96	0.97	1%
12378-PeCDF	32.37	1.33E+09	1.51	Y	0.95	0.93	-1%
23478-PeCDF	33.46	1.36E+09	1.58	Y	0.94	0.96	3%
123478-HxCDF	36.68	1.30E+09	1.25	Y	1.23	1.24	0%
123678-HxCDF	36.82	1.35E+09	1.25	Y	1.13	1.14	1%
234678-HxCDF	37.49	1.27E+09	1.24	Y	1.15	1.15	0%
123789-HxCDF	38.42	1.20E+09	1.24	Y	1.14	1.15	2%
1234678-HpCDF	39.76	1.19E+09	1.03	Y	1.36	1.37	1%
1234789-HpCDF	41.10	1.06E+09	1.03	Y	1.30	1.35	4%
OCDF	43.40	1.87E+09	0.90	Y	1.03	1.06	3%
ES 2378-TCDD	28.49	9.72E+07	0.78	Y	1.03	1.04	1%
ES 12378-PeCDD	33.782	9.96E+07	1.62	Y	1.03	1.07	3%
ES 123478-HxCDD	37.654	8.99E+07	1.27	Y	0.99	1.03	4%
ES 123678-HxCDD	37.768	8.89E+07	1.27	Y	0.97	1.02	5%
ES 123789-HxCDD	38.058	1.02E+08	1.27	Y	1.12	1.17	4%
ES 1234678-HpCDD	40.644	9.11E+07	1.06	Y	0.99	1.05	6%
ES OCDD	43.21	1.48E+08	0.89	Y	0.78	0.85	9%
ES 2378-TCDF	27.639	1.64E+08	0.80	Y	1.08	1.08	0%
ES 12378-PeCDF	32.354	1.43E+08	1.61	Y	0.93	0.95	1%
ES 23478-PeCDF	33.446	1.41E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.662	1.05E+08	0.52	Y	1.14	1.21	6%
ES 123678-HxCDF	36.801	1.19E+08	0.53	Y	1.30	1.36	5%
ES 234678-HxCDF	37.468	1.11E+08	0.51	Y	1.20	1.27	6%
ES 123789-HxCDF	38.402	1.04E+08	0.54	Y	1.14	1.20	5%
ES 1234678-HpCDF	39.749	8.70E+07	0.46	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.092	7.84E+07	0.46	Y	0.85	0.90	6%
ES OCDF	43.392	1.76E+08	0.89	Y	0.93	1.01	9%

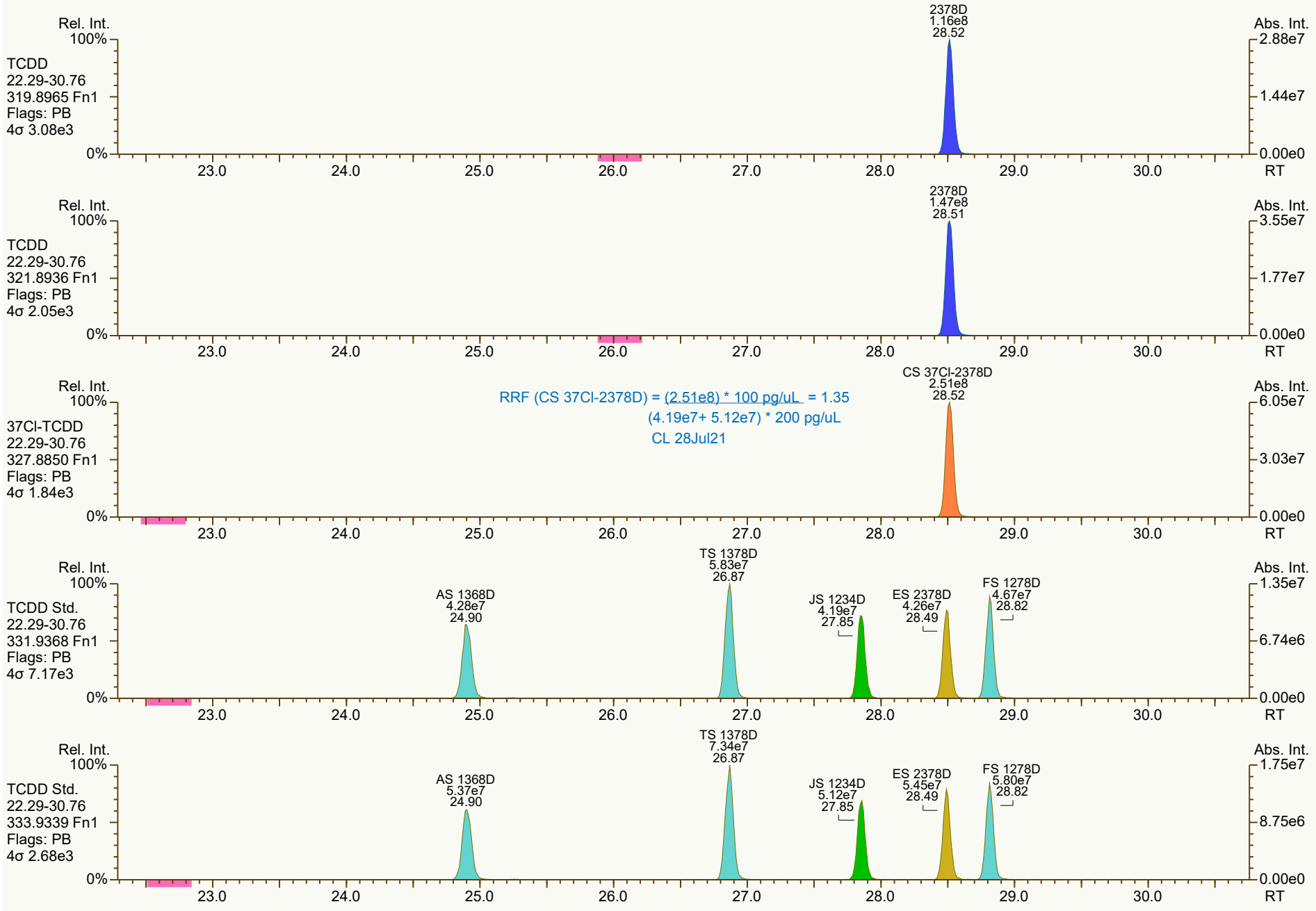
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

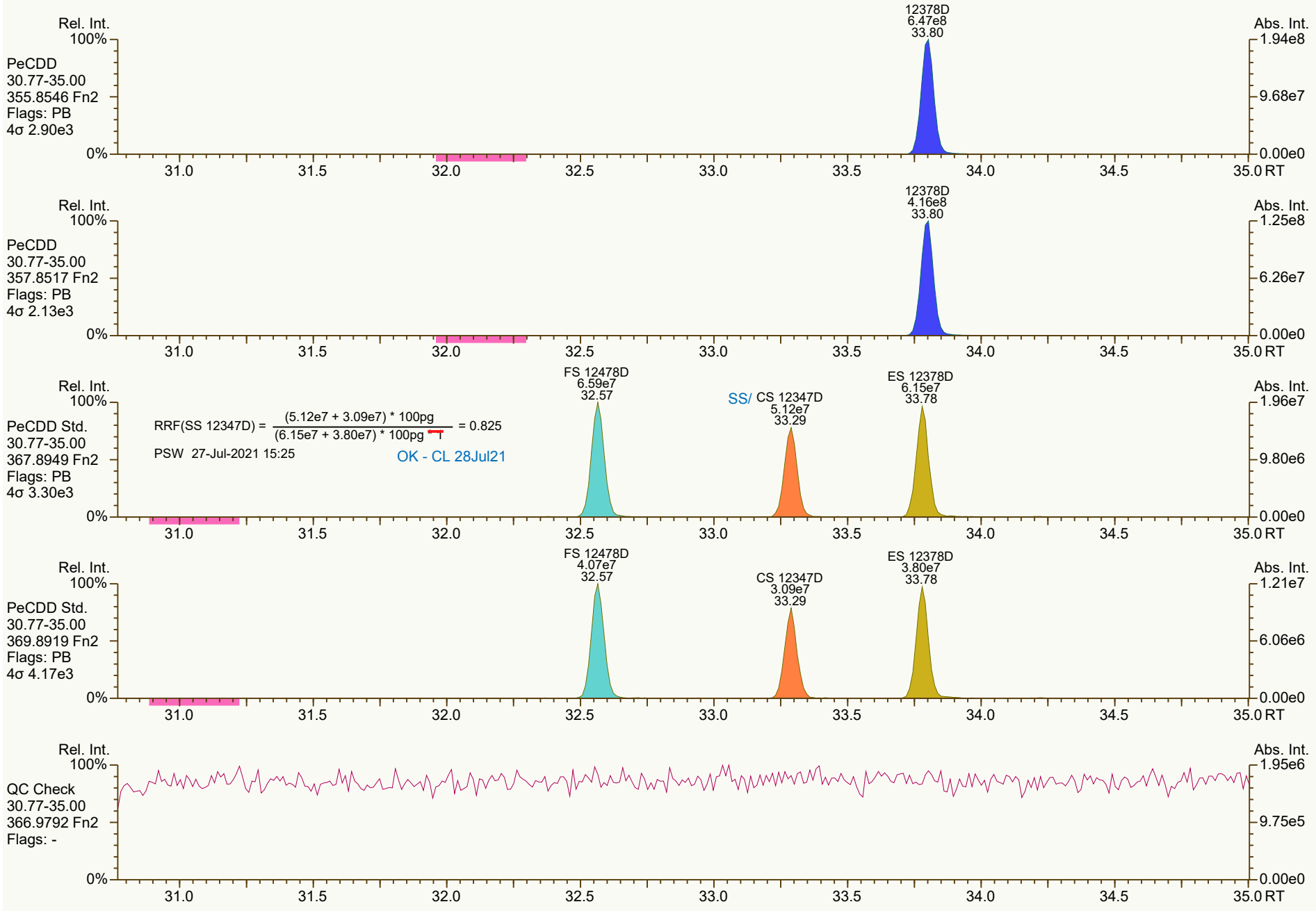
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.11	9.75E+07	0.53	Y	1.09	1.12	3%
CS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.26	1.29	3%
SS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.86	0.82	-5%
SS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.93	0.91	-2%
SS 123469-HxCDF	37.11	9.75E+07	0.53	Y	0.84	0.82	-2%
SS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.91	0.86	-6%
AS 1368-TCDD	24.90	9.65E+07	0.80	Y	1.02	1.04	1%
AS 1368-TCDF	22.84	1.66E+08	0.78	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.05E+08	0.81	Y	1.08	1.08	-1%
FS 12478-PeCDD	32.57	1.07E+08	1.62	Y	1.09	1.07	-2%
FS 123468-HxCDD	36.58	1.11E+08	1.30	Y	1.26	1.24	-2%
FS 1234679-HpCDD	39.99	1.18E+08	1.06	Y	1.36	1.30	-4%
TS 1378-TCDD	26.87	1.32E+08	0.79	Y	1.35	1.35	1%
~~OCDD-a~~	~~43.22~~	~~9.57E+07~~	~~2.52~~	~~Y~~	~~0.07~~	~~0.06~~	~~-2%~~
~~OCDF-a~~	~~43.40~~	~~1.10E+08~~	~~2.51~~	~~Y~~	~~0.06~~	~~0.06~~	~~5%~~

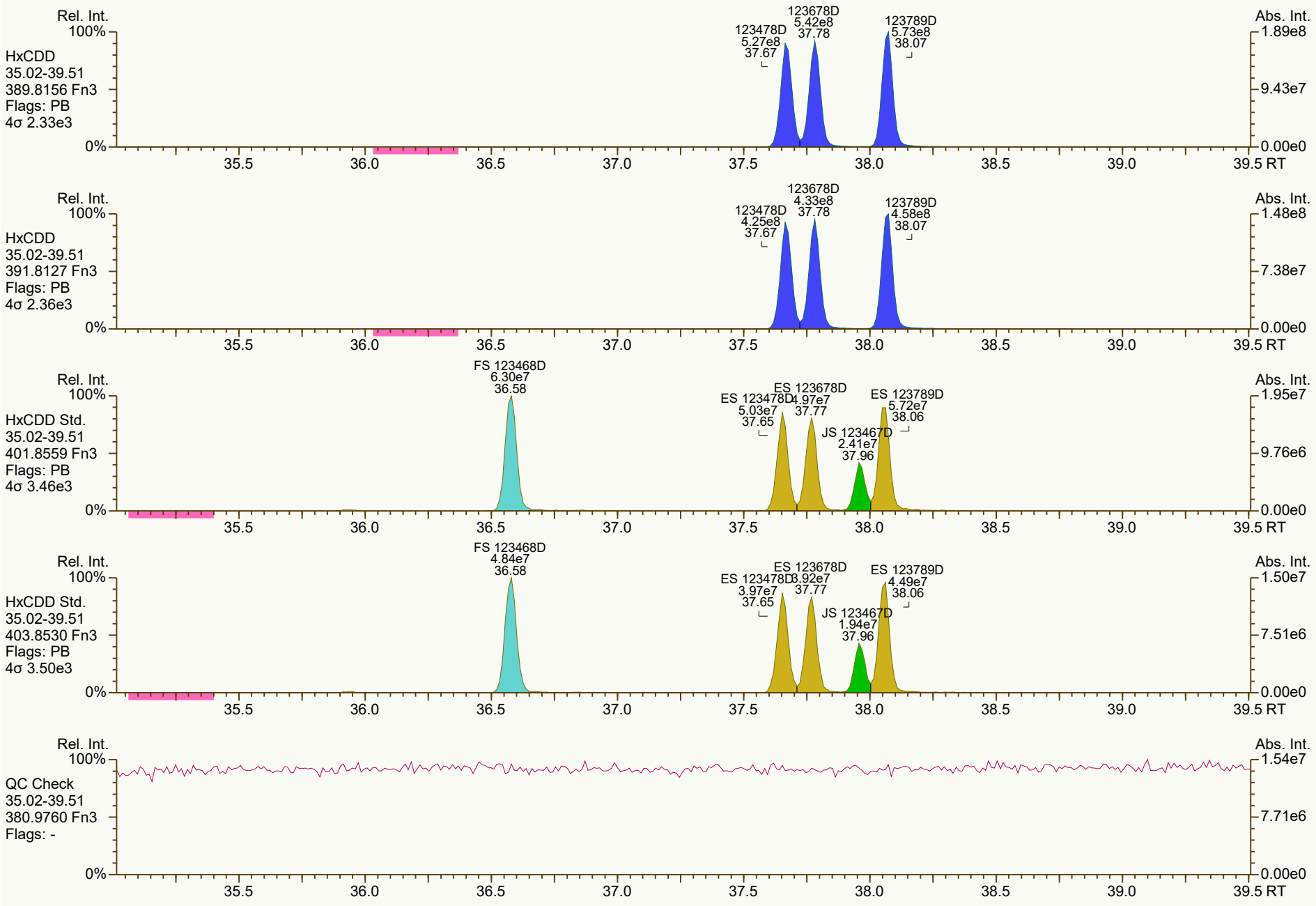
Not reported from this ICAL - CL 28Jul21

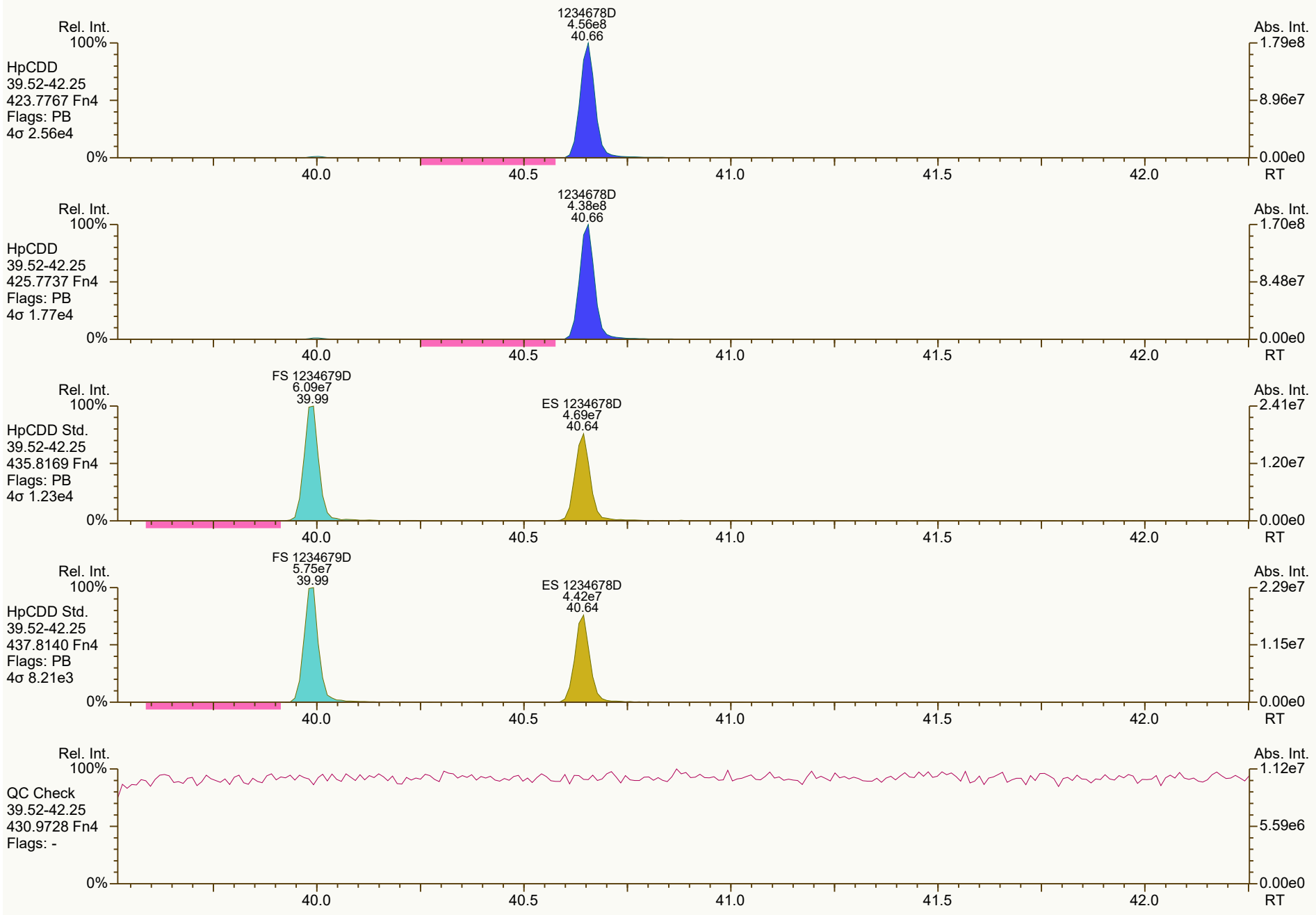


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 147-553
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12

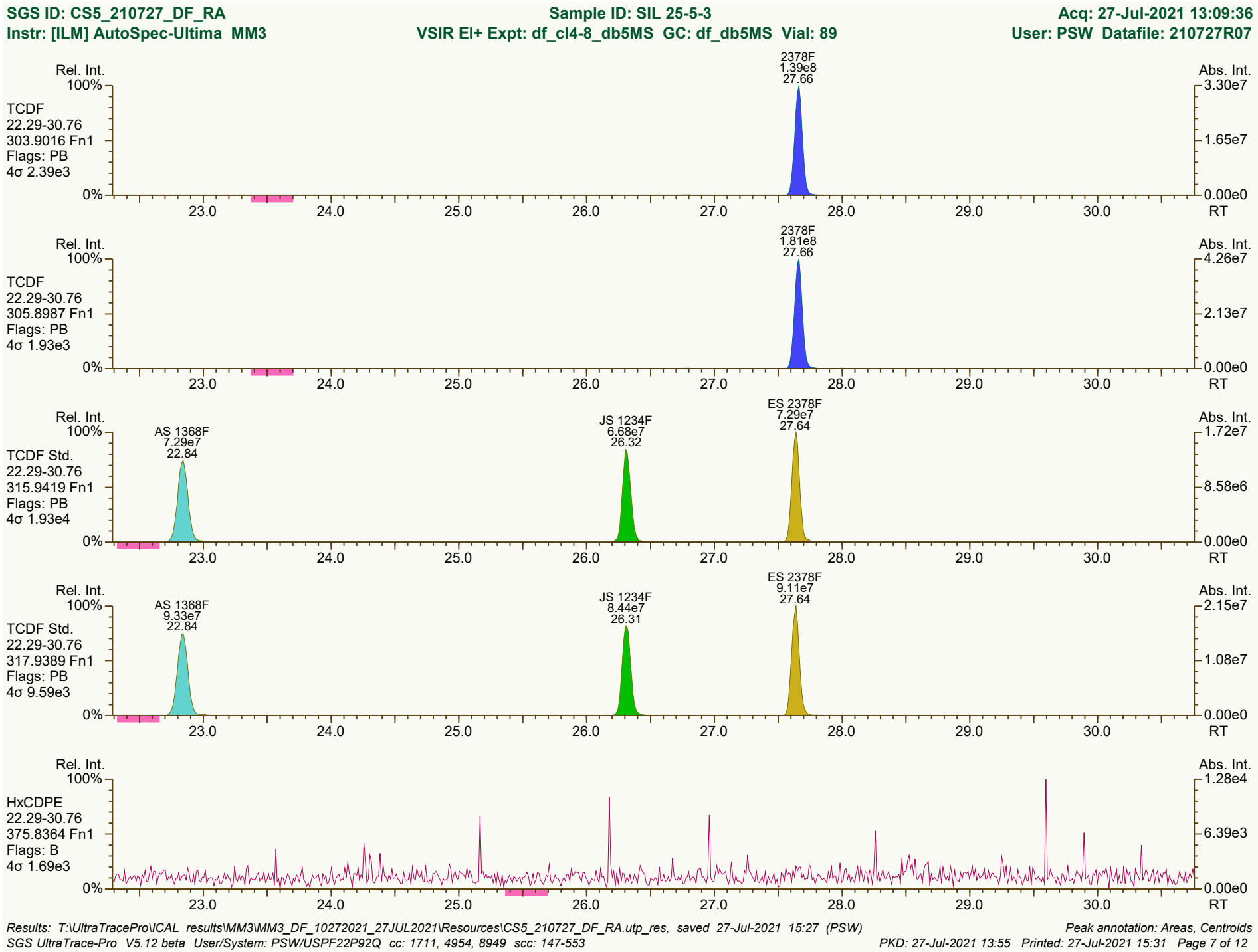

Rel. Int.
100%
0%
Abs. Int.
RT
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.08e3
2378D
1.16e8
28.52
2.88e7
1.44e7
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.05e3
2378D
1.47e8
28.51
3.55e7
1.77e7
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.84e3
RRF (CS 37Cl-2378D) = (2.51e8) * 100 pg/uL = 1.35
(4.19e7+ 5.12e7) * 200 pg/uL
CL 28Jul21
CS 37Cl-2378D
2.51e8
28.52
6.05e7
3.03e7
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.17e3
AS 1368D
4.28e7
24.90
TS 1378D
5.83e7
26.87
JS 1234D
4.19e7
27.85
ES 2378D
4.26e7
28.49
FS 1278D
4.67e7
28.82
1.35e7
6.74e6
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.68e3
AS 1368D
5.37e7
24.90
TS 1378D
7.34e7
26.87
JS 1234D
5.12e7
27.85
ES 2378D
5.45e7
28.49
FS 1278D
5.80e7
28.82
1.75e7
8.75e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
0%
12378D
6.47e8
33.80
Abs. Int.
1.94e8
9.68e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
0%
12378D
4.16e8
33.80
Abs. Int.
1.25e8
6.26e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.30e3
0%
RRF(SS 12347D) = (5.12e7 + 3.09e7) * 100pg / (6.15e7 + 3.80e7) * 100pg = 0.825
PSW 27-Jul-2021 15:25
OK - CL 28Jul21
FS 12478D
6.59e7
32.57
SS/ CS 12347D
5.12e7
33.29
ES 12378D
6.15e7
33.78
Abs. Int.
1.96e7
9.80e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.17e3
0%
FS 12478D
4.07e7
32.57
CS 12347D
3.09e7
33.29
ES 12378D
3.80e7
33.78
Abs. Int.
1.21e7
6.06e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

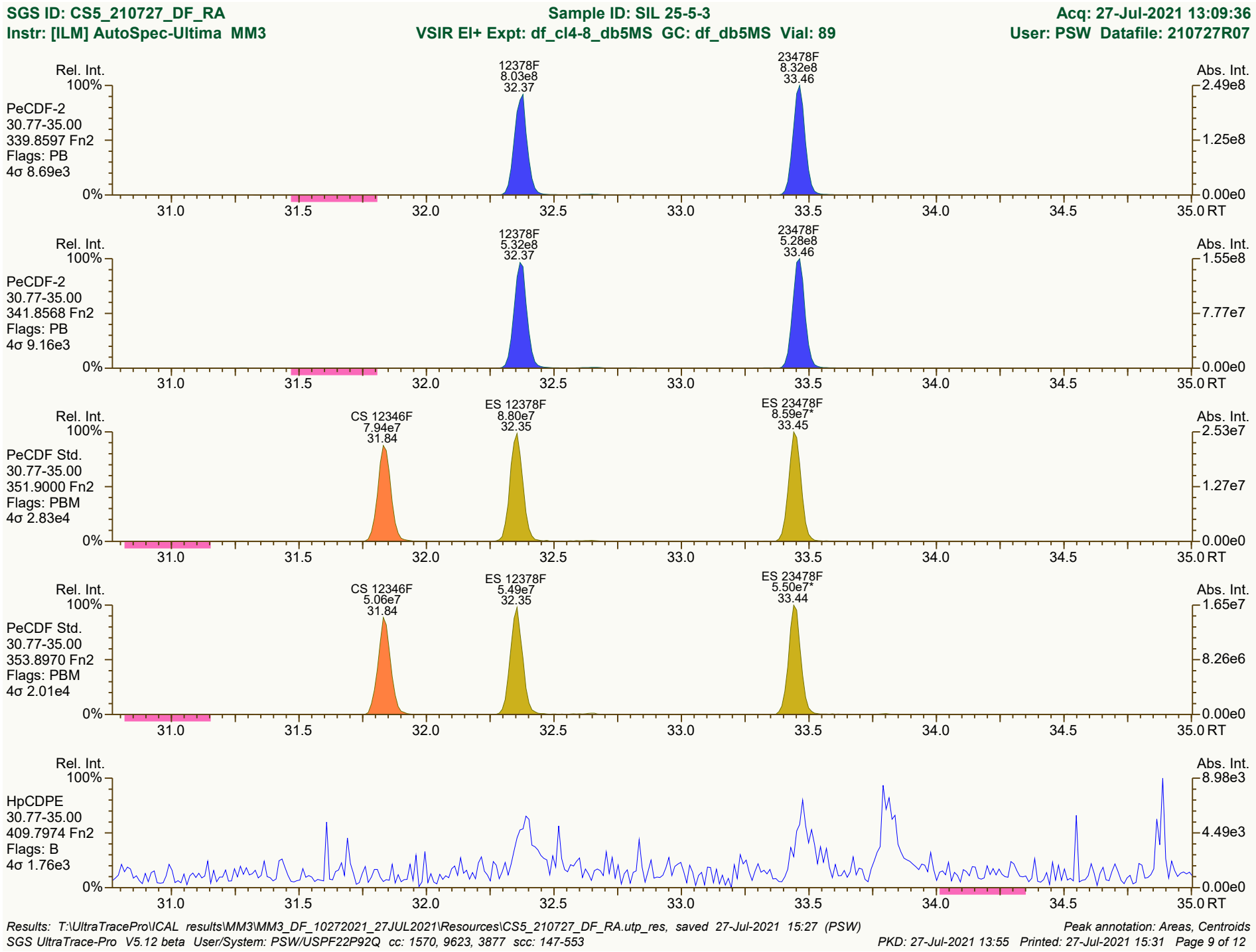

Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123478D 5.27e8 37.67
123678D 5.42e8 37.78
123789D 5.73e8 38.07
1.89e8
9.43e7
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123478D 4.25e8 37.67
123678D 4.33e8 37.78
123789D 4.58e8 38.07
1.48e8
7.38e7
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.46e3
FS 123468D 6.30e7 36.58
ES 123478D 5.03e7 37.65
ES 123678D 4.97e7 37.77
JS 123467D 2.41e7 37.96
ES 123789D 5.72e7 38.06
1.95e7
9.76e6
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.50e3
FS 123468D 4.84e7 36.58
ES 123478D 3.97e7 37.65
ES 123678D 3.92e7 37.77
JS 123467D 1.94e7 37.96
ES 123789D 4.49e7 38.06
1.50e7
7.51e6
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.54e7
7.71e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

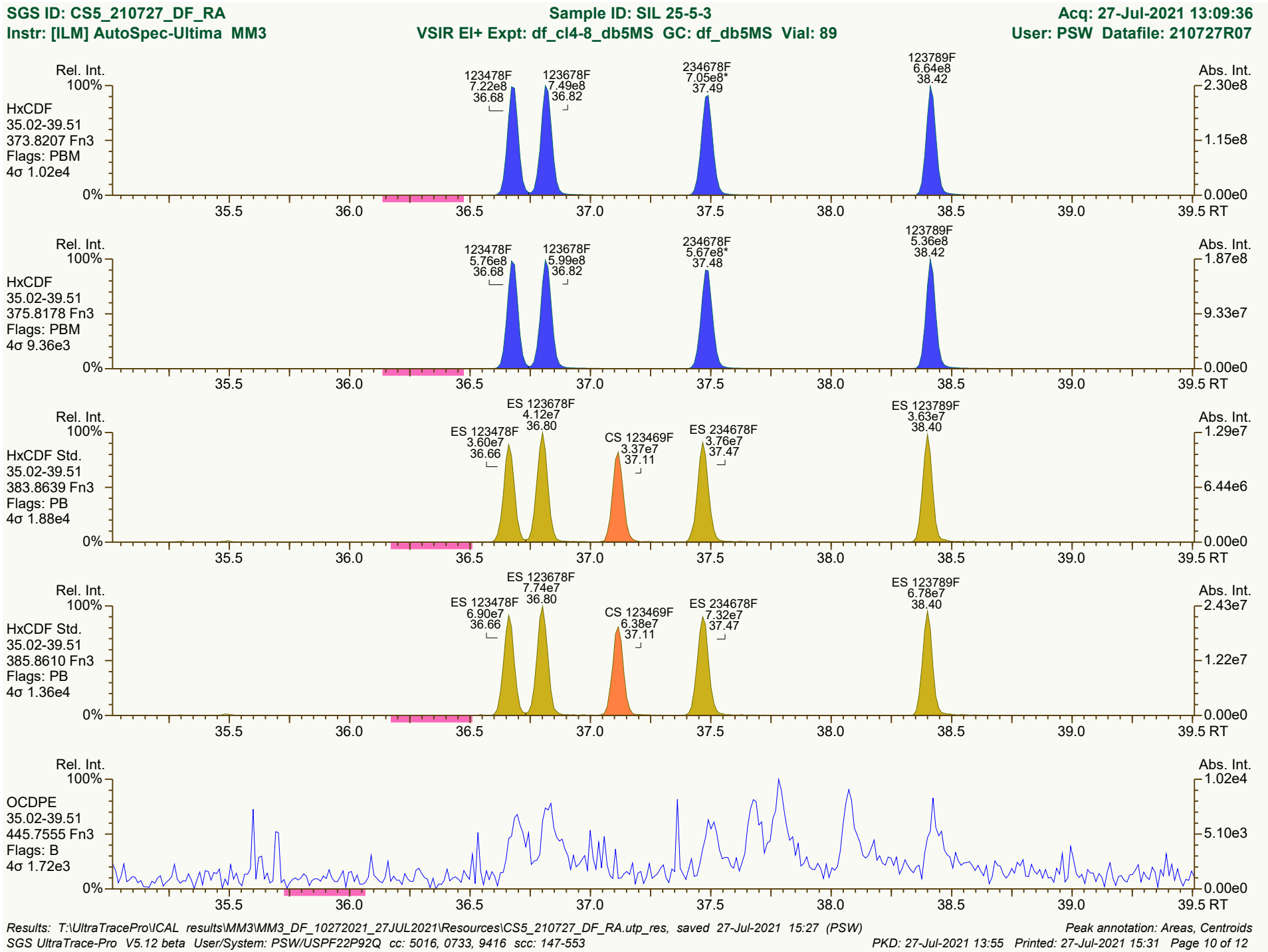

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
0%
1234678D
4.56e8
40.66
Abs. Int.
1.79e8
8.96e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
0%
1234678D
4.38e8
40.66
Abs. Int.
1.70e8
8.48e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
0%
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
Abs. Int.
2.41e7
1.20e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
0%
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
Abs. Int.
2.29e7
1.15e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0

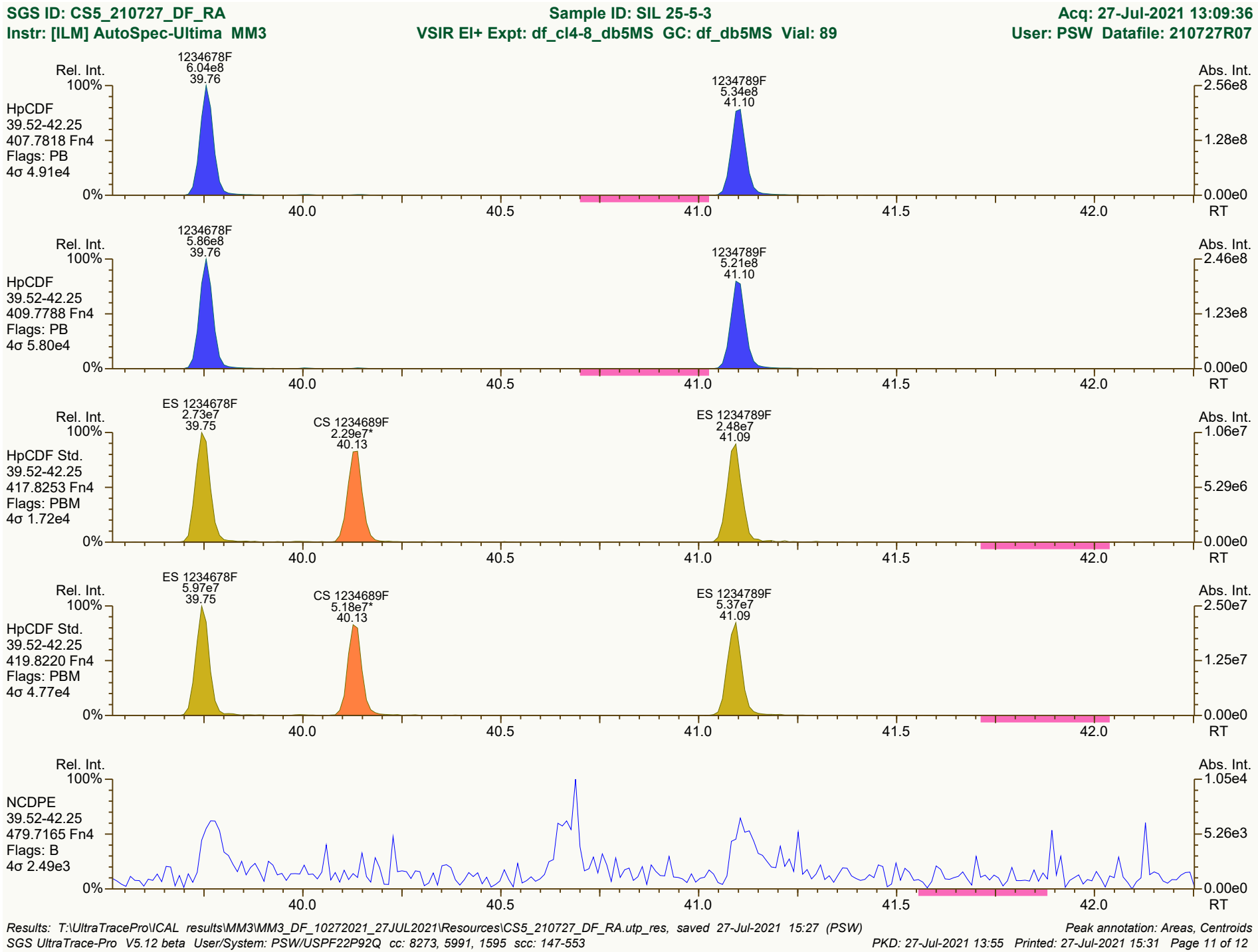

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.62e3
0%
OCDD
7.34e8*
43.22
Abs. Int.
2.52e8
1.26e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.52e3
0%
OCDD
8.31e8*
43.22
Abs. Int.
2.81e8
1.40e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 3.01e3
0%
ES OCDD
6.94e7
43.21
Abs. Int.
2.31e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.23e3
0%
ES OCDD
7.81e7
43.21
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

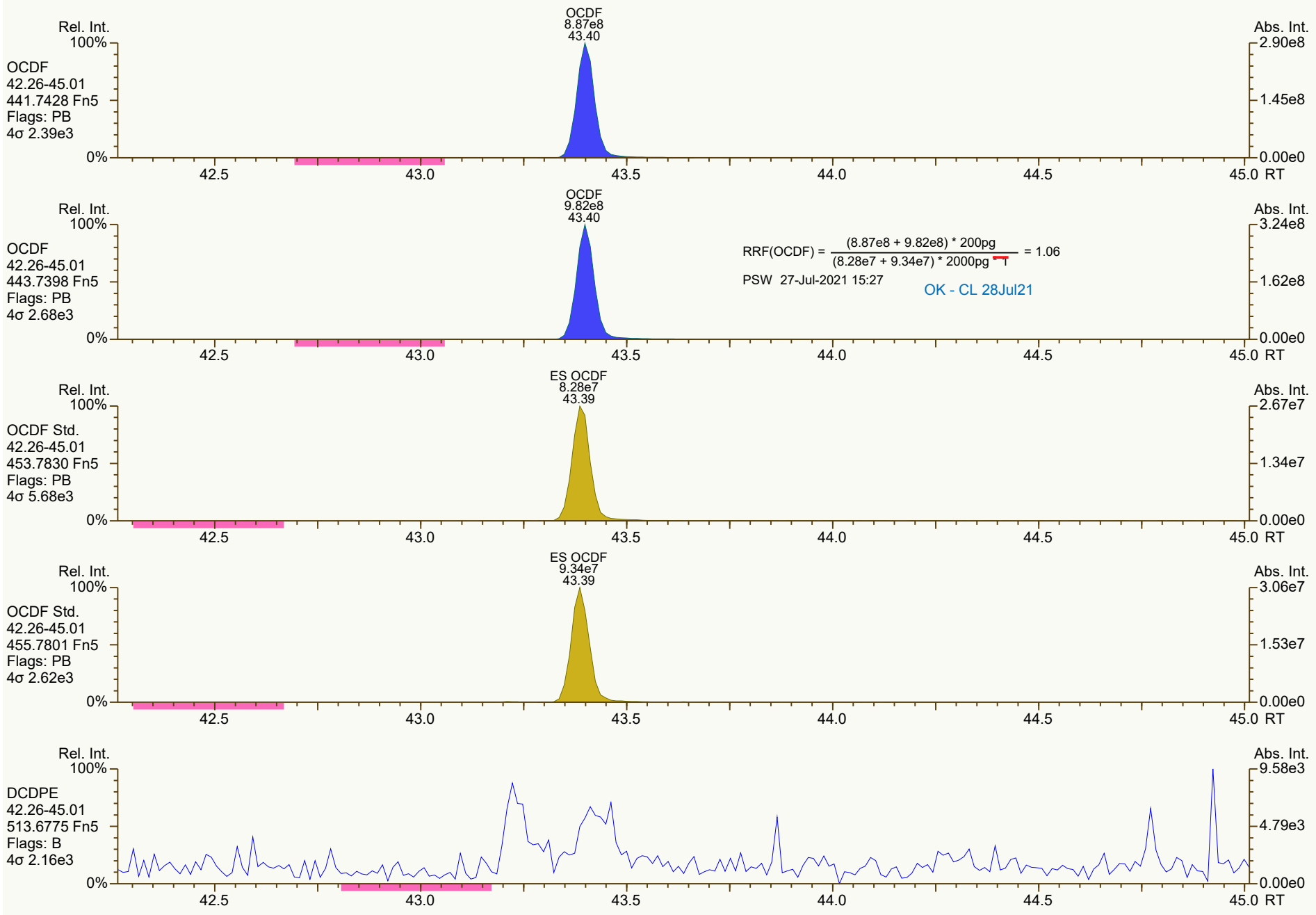

SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.39e3
2378F
1.39e8
27.66
3.30e7
1.65e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 1.93e3
2378F
1.81e8
27.66
4.26e7
2.13e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.93e4
AS 1368F
7.29e7
22.84
JS 1234F
6.68e7
26.32
ES 2378F
7.29e7
27.64
1.72e7
8.58e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 9.59e3
AS 1368F
9.33e7
22.84
JS 1234F
8.44e7
26.31
ES 2378F
9.11e7
27.64
2.15e7
1.08e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.69e3
1.28e4
6.39e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1711, 4954, 8949 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 1.94e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.68e3
1.16e4
5.81e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.08e6
1.04e6


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 8.69e3
12378F
8.03e8
32.37
23478F
8.32e8
33.46
2.49e8
1.25e8
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 9.16e3
12378F
5.32e8
32.37
23478F
5.28e8
33.46
1.55e8
7.77e7
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.83e4
CS 12346F
7.94e7
31.84
ES 12378F
8.80e7
32.35
ES 23478F
8.59e7*
33.45
2.53e7
1.27e7
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.01e4
CS 12346F
5.06e7
31.84
ES 12378F
5.49e7
32.35
ES 23478F
5.50e7*
33.44
1.65e7
8.26e6
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 1.76e3
8.98e3
4.49e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1570, 9623, 3877 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.02e4
123478F 7.22e8 36.68
123678F 7.49e8 36.82
234678F 7.05e8* 37.49
123789F 6.64e8 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.36e3
123478F 5.76e8 36.68
123678F 5.99e8 36.82
234678F 5.67e8* 37.48
123789F 5.36e8 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.88e4
ES 123478F 3.60e7 36.66
ES 123678F 4.12e7 36.80
CS 123469F 3.37e7 37.11
ES 234678F 3.76e7 37.47
ES 123789F 3.63e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.36e4
ES 123478F 6.90e7 36.66
ES 123678F 7.74e7 36.80
CS 123469F 6.38e7 37.11
ES 234678F 7.32e7 37.47
ES 123789F 6.78e7 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.72e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5016, 0733, 9416 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e4
1234678F
6.04e8
39.76
1234789F
5.34e8
41.10
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.80e4
1234678F
5.86e8
39.76
1234789F
5.21e8
41.10
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 1.72e4
ES 1234678F
2.73e7
39.75
CS 1234689F
2.29e7*
40.13
ES 1234789F
2.48e7
41.09
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 4.77e4
ES 1234678F
5.97e7
39.75
CS 1234689F
5.18e7*
40.13
ES 1234789F
5.37e7
41.09
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.49e3
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8273, 5991, 1595 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 11 of 12


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.39e3
0%
OCDF
8.87e8
43.40
Abs. Int.
2.90e8
1.45e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.68e3
0%
OCDF
9.82e8
43.40
RRF(OCDF) = (8.87e8 + 9.82e8) * 200pg / (8.28e7 + 9.34e7) * 2000pg = 1.06
PSW 27-Jul-2021 15:27
OK - CL 28Jul21
Abs. Int.
3.24e8
1.62e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.68e3
0%
ES OCDF
8.28e7
43.39
Abs. Int.
2.67e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.62e3
0%
ES OCDF
9.34e7
43.39
Abs. Int.
3.06e7
1.53e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.16e3
0%
Abs. Int.
9.58e3
4.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

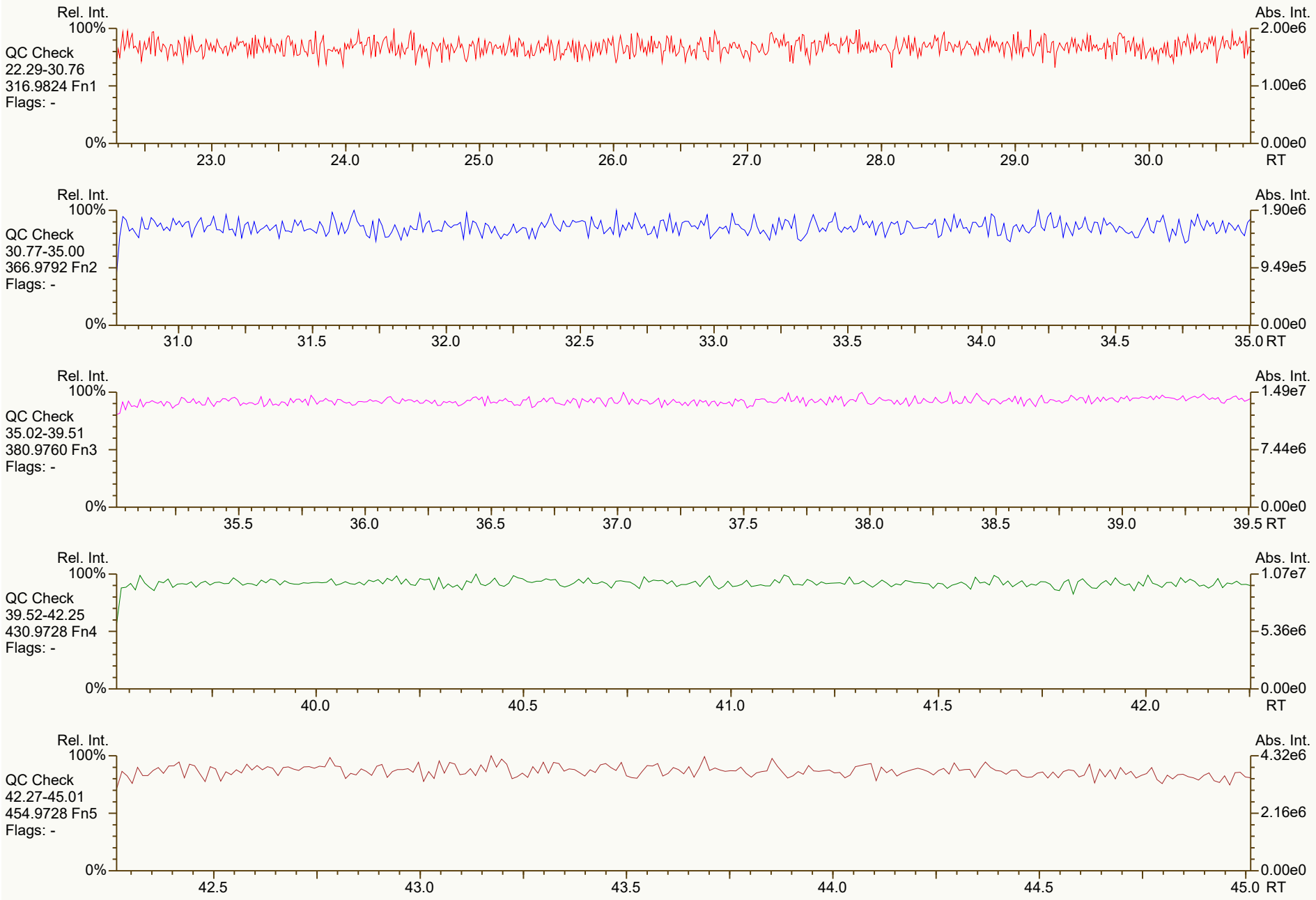
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

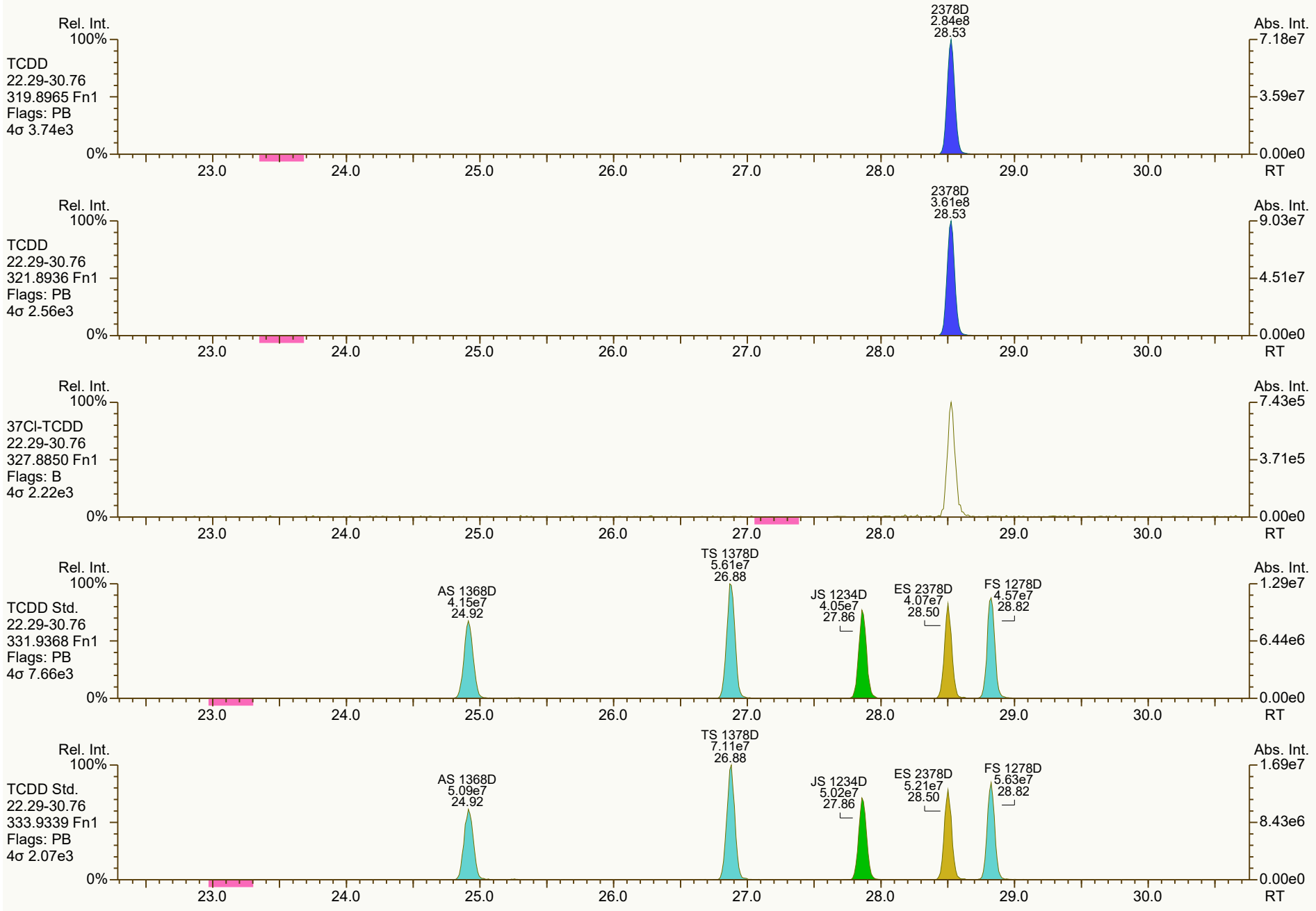
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD	40.66	2.28E+09	1.03	Y	0.97	1.00	2%
OCDD	43.24	4.13E+09	0.89	Y	1.07	1.08	1%
2378-TCDF	27.67	7.99E+08	0.77	Y	0.96	0.99	3%
12378-PeCDF	32.38	3.47E+09	1.57	Y	0.95	0.96	2%
23478-PeCDF	33.47	3.38E+09	1.55	Y	0.94	0.96	2%
123478-HxCDF	36.69	3.24E+09	1.24	Y	1.23	1.22	-1%
123678-HxCDF	36.83	3.36E+09	1.24	Y	1.13	1.14	0%
234678-HxCDF	37.49	3.14E+09	1.25	Y	1.15	1.15	0%
123789-HxCDF	38.43	3.10E+09	1.25	Y	1.14	1.16	2%
1234678-HpCDF	39.77	3.01E+09	1.04	Y	1.36	1.36	0%
1234789-HpCDF	41.11	2.70E+09	1.03	Y	1.30	1.33	2%
OCDF	43.42	4.91E+09	0.91	Y	1.03	1.08	5%
ES 2378-TCDD	28.50	9.29E+07	0.78	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.791	9.93E+07	1.63	Y	1.03	1.10	6%
ES 123478-HxCDD	37.663	9.19E+07	1.24	Y	0.99	1.07	7%
ES 123678-HxCDD	37.778	9.02E+07	1.27	Y	0.97	1.05	7%
ES 123789-HxCDD	38.067	1.05E+08	1.27	Y	1.12	1.22	8%
ES 1234678-HpCDD	40.65	9.14E+07	1.03	Y	0.99	1.06	7%
ES OCDD	43.227	1.53E+08	0.91	Y	0.78	0.89	14%
ES 2378-TCDF	27.65	1.62E+08	0.78	Y	1.08	1.10	2%
ES 12378-PeCDF	32.365	1.44E+08	1.56	Y	0.93	0.98	5%
ES 23478-PeCDF	33.455	1.42E+08	1.59	Y	0.92	0.96	4%
ES 123478-HxCDF	36.671	1.06E+08	0.53	Y	1.14	1.23	8%
ES 123678-HxCDF	36.81	1.18E+08	0.53	Y	1.30	1.37	6%
ES 234678-HxCDF	37.477	1.09E+08	0.52	Y	1.20	1.27	5%
ES 123789-HxCDF	38.411	1.07E+08	0.52	Y	1.14	1.24	9%
ES 1234678-HpCDF	39.757	8.85E+07	0.45	Y	0.95	1.03	8%
ES 1234789-HpCDF	41.1	8.15E+07	0.45	Y	0.85	0.94	12%
ES OCDF	43.407	1.83E+08	0.90	Y	0.93	1.06	14%

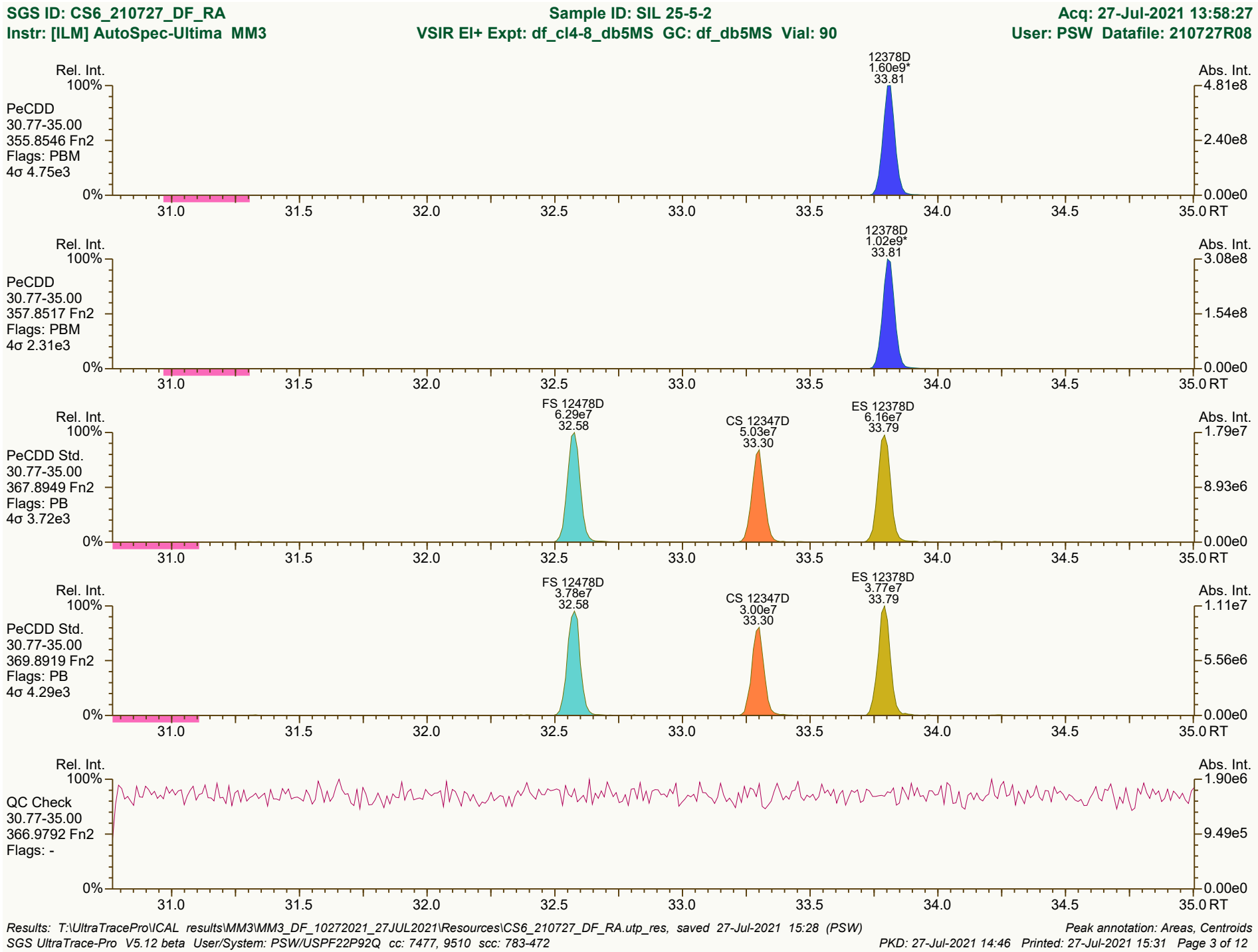
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

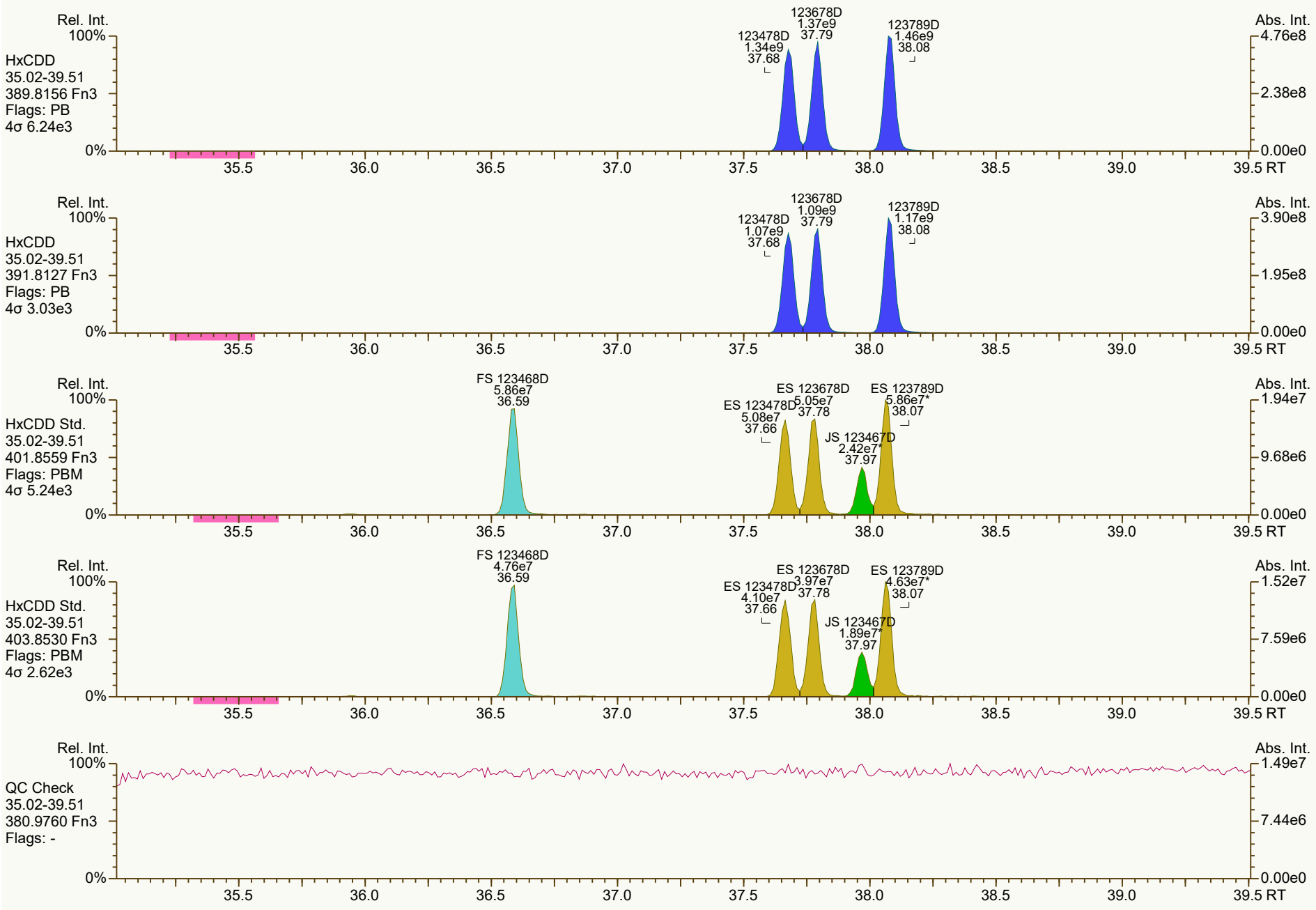
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.87	0.85	-2%
CS 123469-HxCDF	37.12	9.43E+07	0.51	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.86	0.84	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.86	0.81	-6%
SS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.93	0.87	-7%
SS 123469-HxCDF	37.12	9.43E+07	0.51	Y	0.84	0.80	-5%
SS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.91	0.81	-11%
AS 1368-TCDD	24.92	9.24E+07	0.82	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	1.58E+08	0.79	Y	1.08	1.07	0%
FS 1278-TCDD	28.83	1.02E+08	0.81	Y	1.08	1.10	1%
FS 12478-PeCDD	32.58	1.01E+08	1.67	Y	1.09	1.01	-7%
FS 123468-HxCDD	36.59	1.06E+08	1.23	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.99	1.12E+08	1.07	Y	1.36	1.23	-9%
TS 1378-TCDD	26.88	1.27E+08	0.79	Y	1.35	1.37	2%
~~OCDD-a~~	~~43.23~~	~~2.53E+08~~	~~2.47~~	~~Y~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~43.42~~	~~2.93E+08~~	~~2.57~~	~~Y~~	~~0.06~~	~~0.06~~	~~8%~~

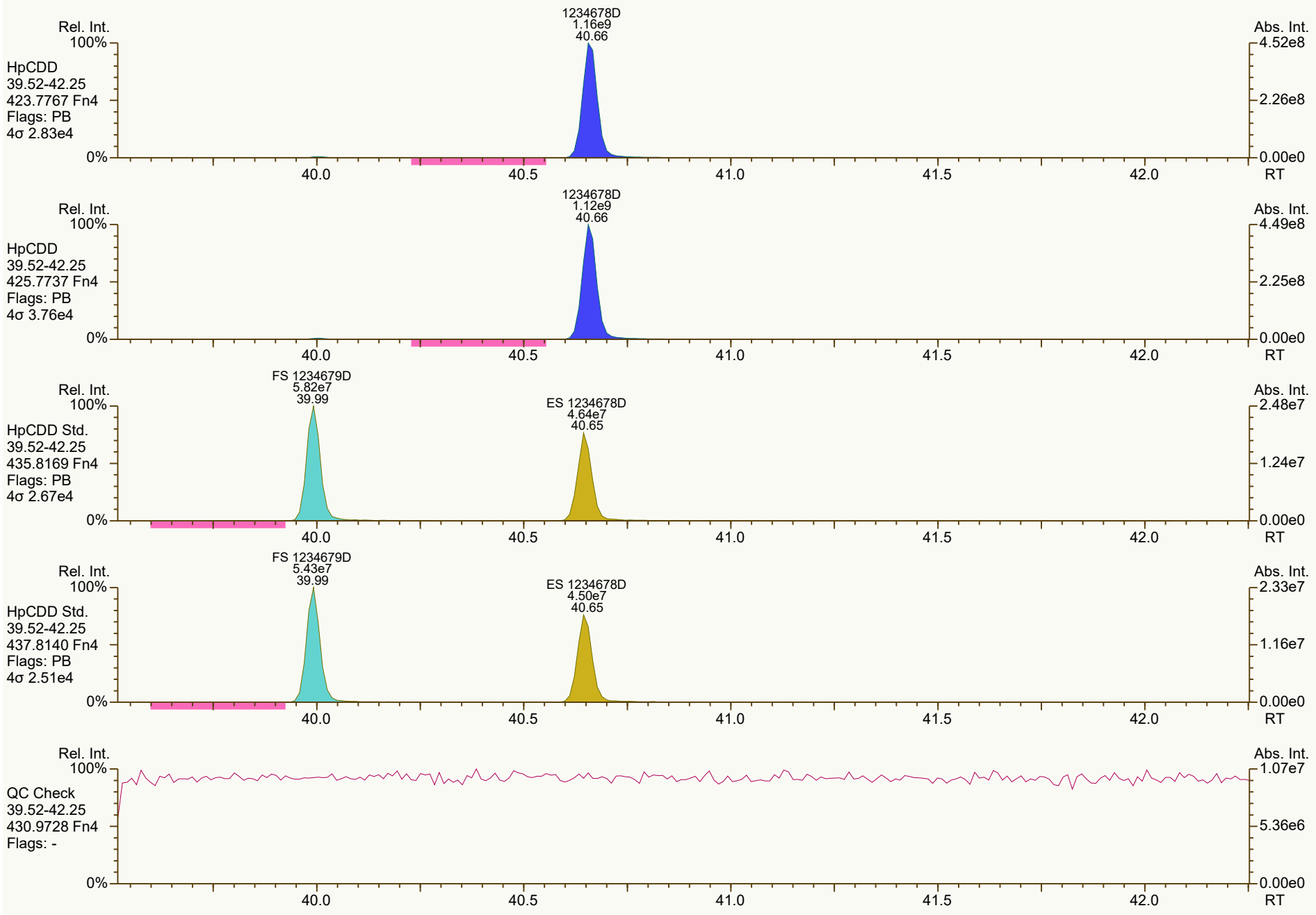
Not reported from this ICAL - CL 28Jul21

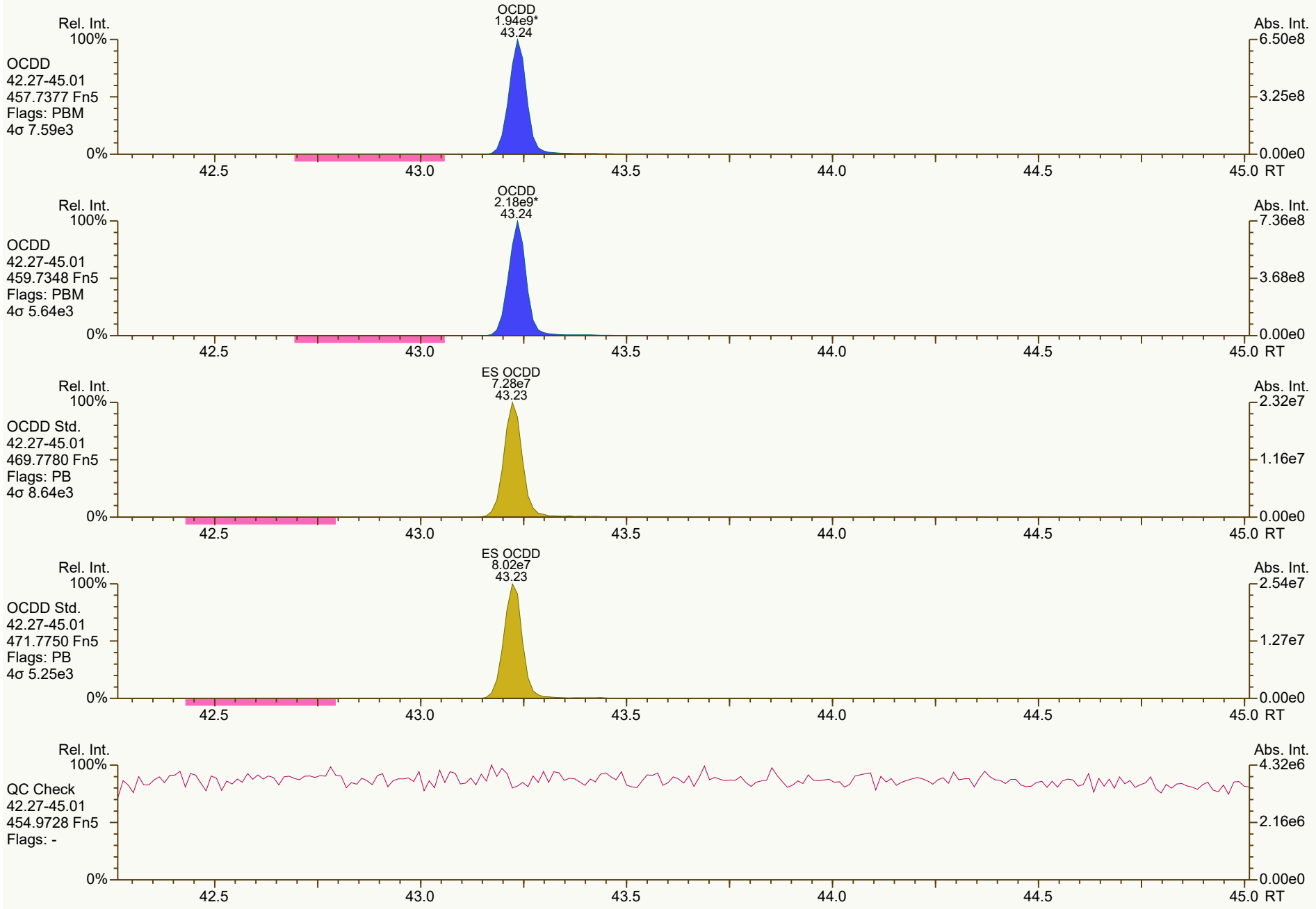

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.00e6
1.00e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.49e7
7.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.36e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

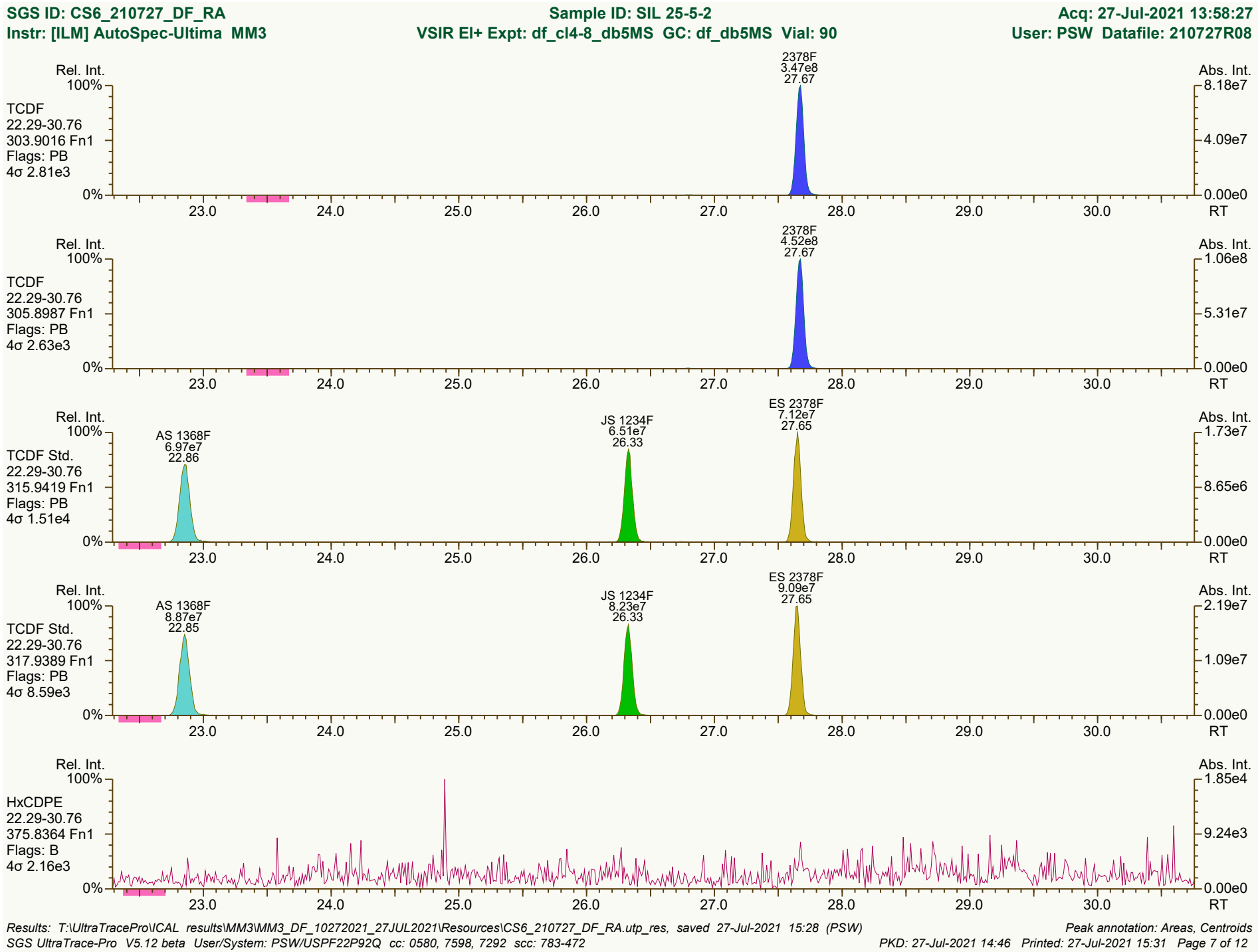

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.74e3
0%
2378D
2.84e8
28.53
Abs. Int.
7.18e7
3.59e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.56e3
0%
2378D
3.61e8
28.53
Abs. Int.
9.03e7
4.51e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
7.43e5
3.71e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.66e3
0%
AS 1368D
4.15e7
24.92
TS 1378D
5.61e7
26.88
JS 1234D
4.05e7
27.86
ES 2378D
4.07e7
28.50
FS 1278D
4.57e7
28.82
Abs. Int.
1.29e7
6.44e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.07e3
0%
AS 1368D
5.09e7
24.92
TS 1378D
7.11e7
26.88
JS 1234D
5.02e7
27.86
ES 2378D
5.21e7
28.50
FS 1278D
5.63e7
28.82
Abs. Int.
1.69e7
8.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 4.75e3
12378D
1.60e9*
33.81
4.81e8
2.40e8
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.31e3
12378D
1.02e9*
33.81
3.08e8
1.54e8
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.72e3
FS 12478D
6.29e7
32.58
CS 12347D
5.03e7
33.30
ES 12378D
6.16e7
33.79
1.79e7
8.93e6
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.29e3
FS 12478D
3.78e7
32.58
CS 12347D
3.00e7
33.30
ES 12378D
3.77e7
33.79
1.11e7
5.56e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
1.90e6
9.49e5
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7477, 9510 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 3 of 12

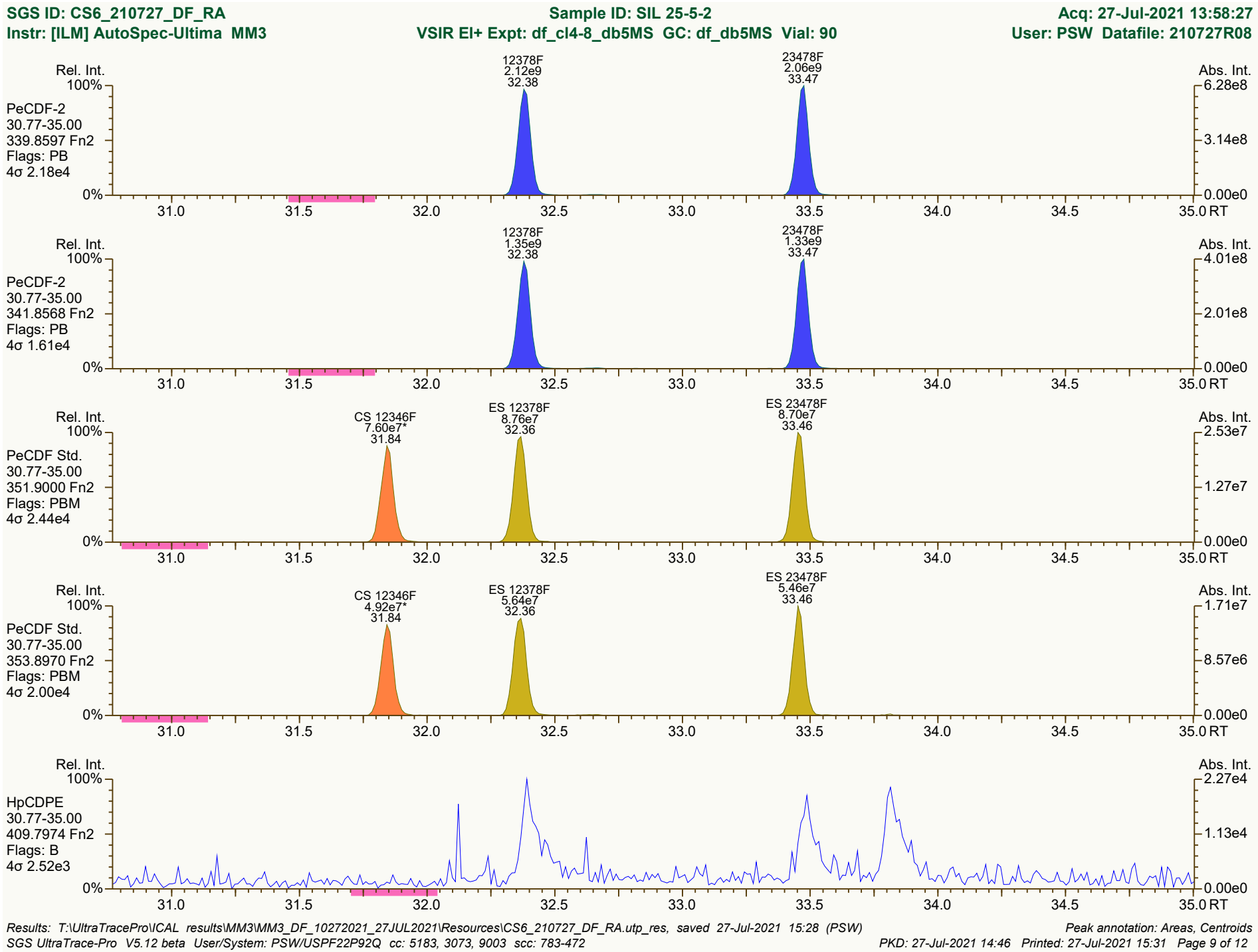

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 6.24e3
123478D
1.34e9
37.68
123678D
1.37e9
37.79
123789D
1.46e9
38.08
Abs. Int.
4.76e8
2.38e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 3.03e3
123478D
1.07e9
37.68
123678D
1.09e9
37.79
123789D
1.17e9
38.08
Abs. Int.
3.90e8
1.95e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 5.24e3
FS 123468D
5.86e7
36.59
ES 123478D
5.08e7
37.66
ES 123678D
5.05e7
37.78
JS 123467D
2.42e7*
37.97
ES 123789D
5.86e7*
38.07
Abs. Int.
1.94e7
9.68e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.62e3
FS 123468D
4.76e7
36.59
ES 123478D
4.10e7
37.66
ES 123678D
3.97e7
37.78
JS 123467D
1.89e7*
37.97
ES 123789D
4.63e7*
38.07
Abs. Int.
1.52e7
7.59e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.49e7
7.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

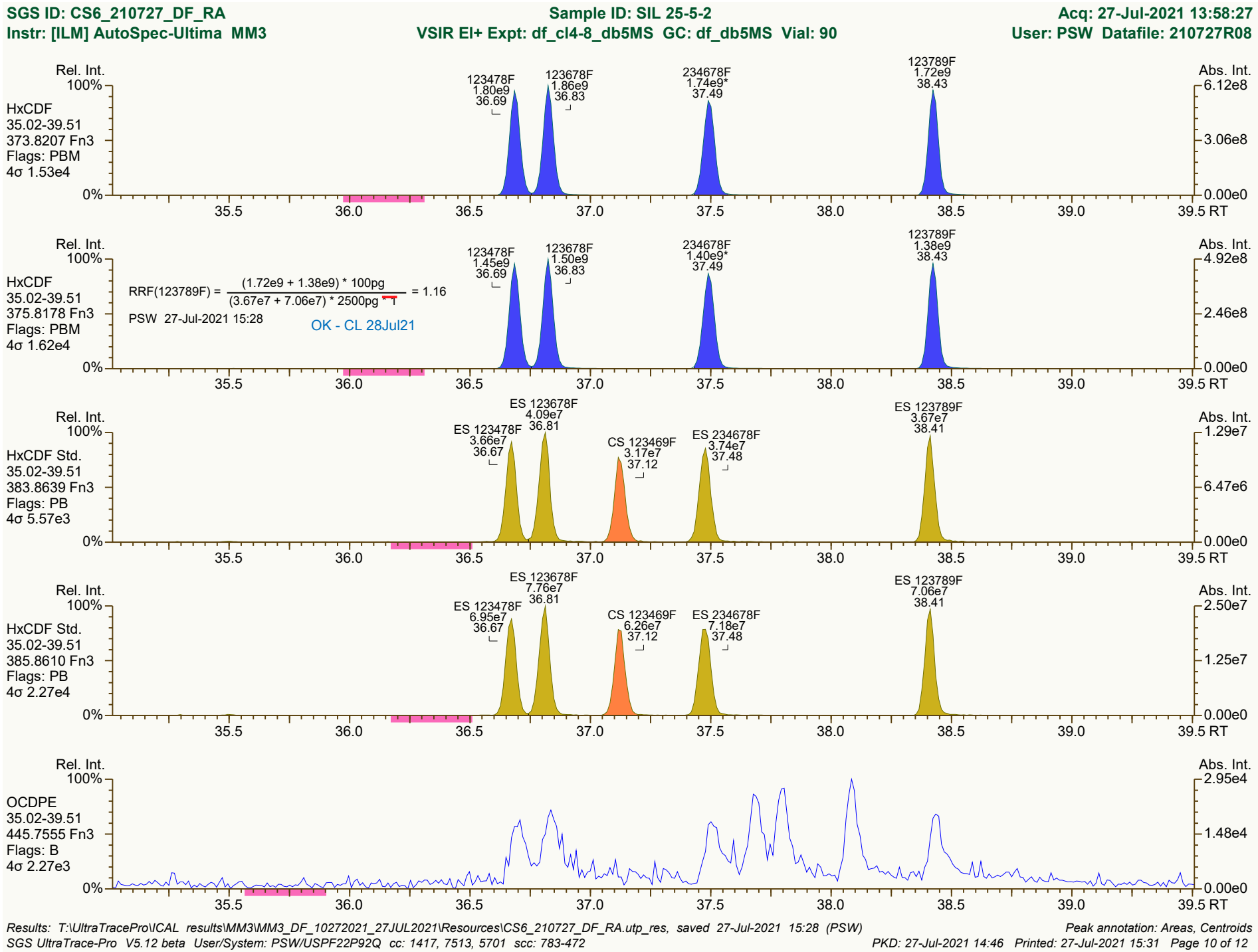

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.83e4
1234678D
1.16e9
40.66
Abs. Int.
4.52e8
2.26e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.76e4
1234678D
1.12e9
40.66
Abs. Int.
4.49e8
2.25e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.67e4
FS 1234679D
5.82e7
39.99
ES 1234678D
4.64e7
40.65
Abs. Int.
2.48e7
1.24e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 2.51e4
FS 1234679D
5.43e7
39.99
ES 1234678D
4.50e7
40.65
Abs. Int.
2.33e7
1.16e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.07e7
5.36e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT

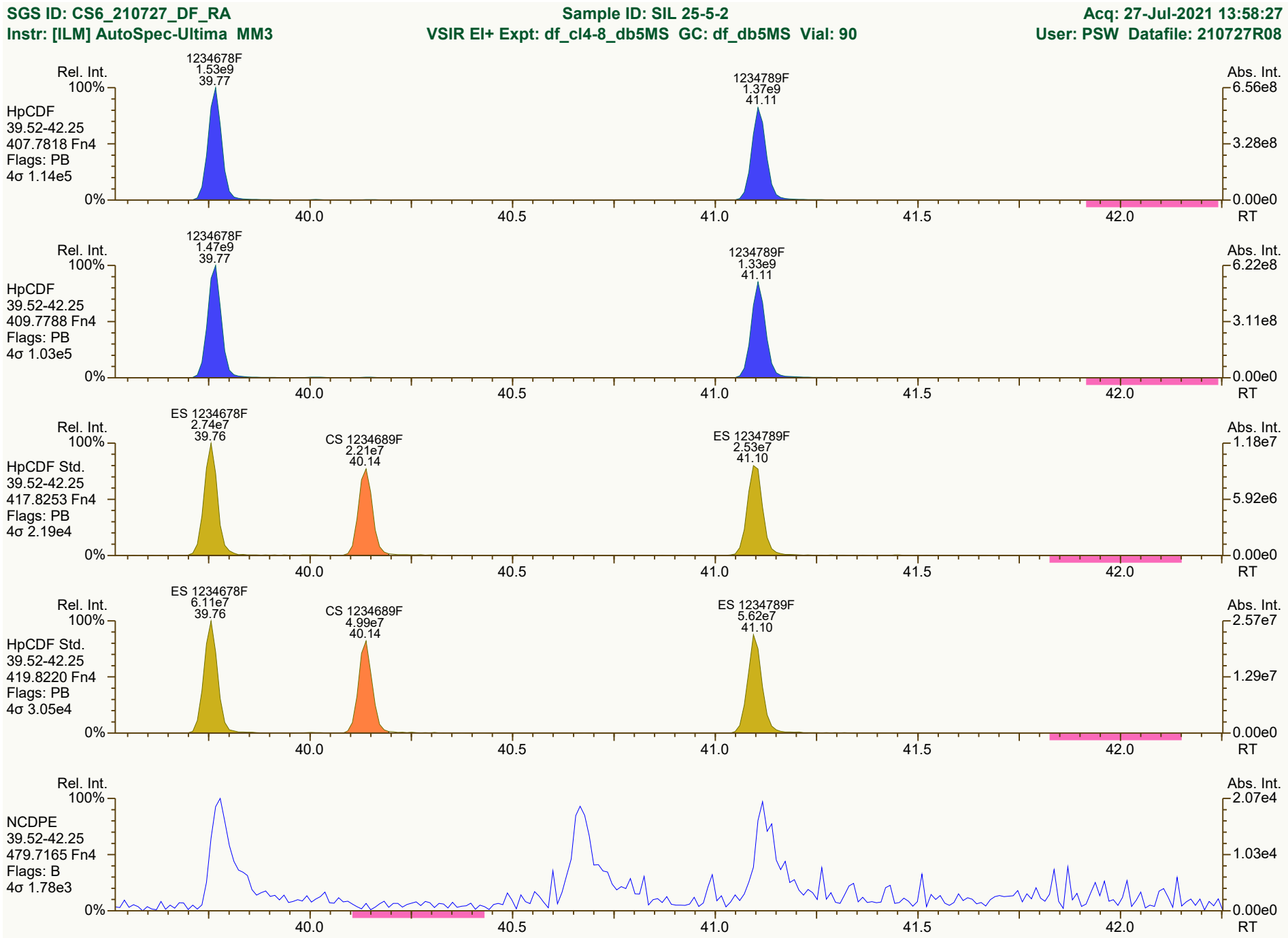

Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PBM
4σ 7.59e3
0%
OCDD
1.94e9*
43.24
Abs. Int.
6.50e8
3.25e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PBM
4σ 5.64e3
0%
OCDD
2.18e9*
43.24
Abs. Int.
7.36e8
3.68e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 8.64e3
0%
ES OCDD
7.28e7
43.23
Abs. Int.
2.32e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 5.25e3
0%
ES OCDD
8.02e7
43.23
Abs. Int.
2.54e7
1.27e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

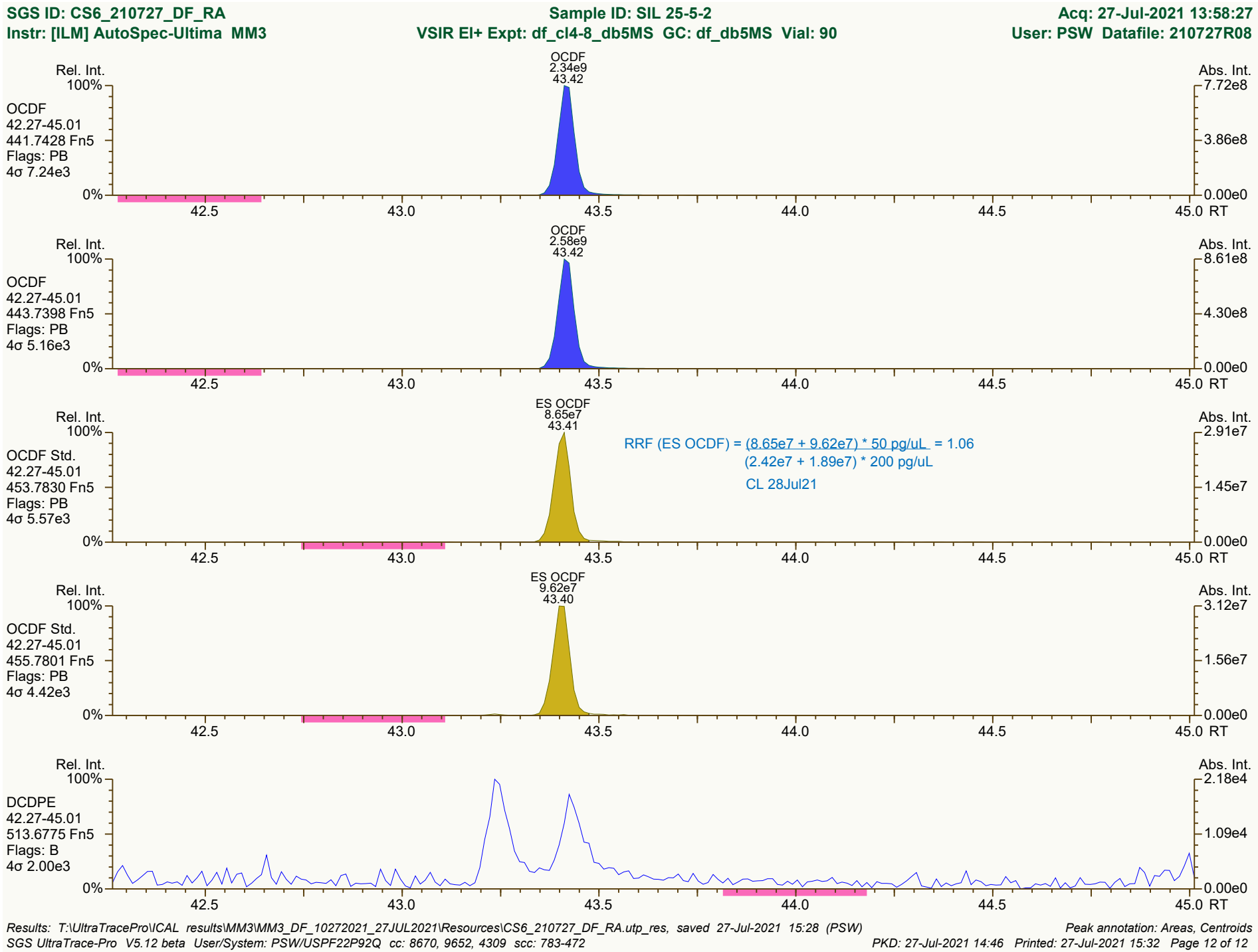

SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
2378F
3.47e8
27.67
8.18e7
4.09e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
2378F
4.52e8
27.67
1.06e8
5.31e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
6.97e7
22.86
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
1.73e7
8.65e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
2.19e7
1.09e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
1.85e4
9.24e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0580, 7598, 7292 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
2.08e4
1.04e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.81e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 4.96e3
1.40e4
7.01e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.00e6
1.00e6


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.18e4
12378F
2.12e9
32.38
23478F
2.06e9
33.47
6.28e8
3.14e8
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 1.61e4
12378F
1.35e9
32.38
23478F
1.33e9
33.47
4.01e8
2.01e8
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.44e4
CS 12346F
7.60e7*
31.84
ES 12378F
8.76e7
32.36
ES 23478F
8.70e7
33.46
2.53e7
1.27e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.00e4
CS 12346F
4.92e7*
31.84
ES 12378F
5.64e7
32.36
ES 23478F
5.46e7
33.46
1.71e7
8.57e6
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.52e3
2.27e4
1.13e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5183, 3073, 9003 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.53e4
123478F 1.80e9 36.69
123678F 1.86e9 36.83
234678F 1.74e9* 37.49
123789F 1.72e9 38.43
6.12e8
3.06e8
0.00e0
RRF(123789F) = (1.72e9 + 1.38e9) * 100pg / (3.67e7 + 7.06e7) * 2500pg = 1.16
PSW 27-Jul-2021 15:28
OK - CL 28Jul21
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 1.62e4
123478F 1.45e9 36.69
123678F 1.50e9 36.83
234678F 1.40e9* 37.49
123789F 1.38e9 38.43
4.92e8
2.46e8
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.57e3
ES 123478F 3.66e7 36.67
ES 123678F 4.09e7 36.81
CS 123469F 3.17e7 37.12
ES 234678F 3.74e7 37.48
ES 123789F 3.67e7 38.41
1.29e7
6.47e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.27e4
ES 123478F 6.95e7 36.67
ES 123678F 7.76e7 36.81
CS 123469F 6.26e7 37.12
ES 234678F 7.18e7 37.48
ES 123789F 7.06e7 38.41
2.50e7
1.25e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.27e3
2.95e4
1.48e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1417, 7513, 5701 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.14e5
1234678F
1.53e9
39.77
1234789F
1.37e9
41.11
6.56e8
3.28e8
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.03e5
1234678F
1.47e9
39.77
1234789F
1.33e9
41.11
6.22e8
3.11e8
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.19e4
ES 1234678F
2.74e7
39.76
CS 1234689F
2.21e7
40.14
ES 1234789F
2.53e7
41.10
1.18e7
5.92e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 3.05e4
ES 1234678F
6.11e7
39.76
CS 1234689F
4.99e7
40.14
ES 1234789F
5.62e7
41.10
2.57e7
1.29e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 1.78e3
2.07e4
1.03e4
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0766, 6357, 1189 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
OCDF
2.34e9
43.42
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
0%
Abs. Int.
7.72e8
3.86e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.58e9
43.42
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
8.61e8
4.30e8
ES OCDF
8.65e7
43.41
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
2.91e7
1.45e7
ES OCDF
9.62e7
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
3.12e7
1.56e7
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
2.18e4
1.09e4
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8670, 9652, 4309 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:32 Page 12 of 12

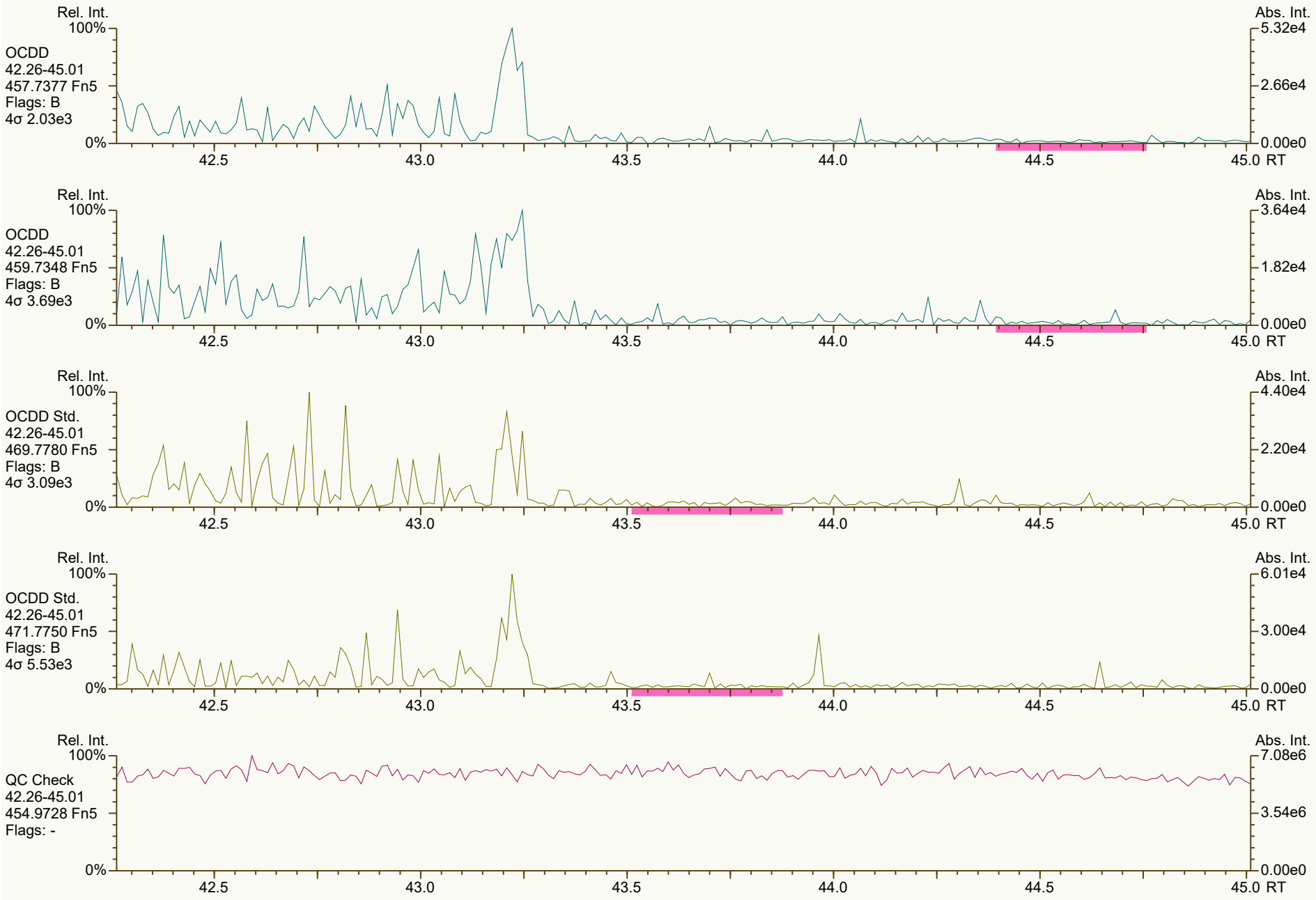

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

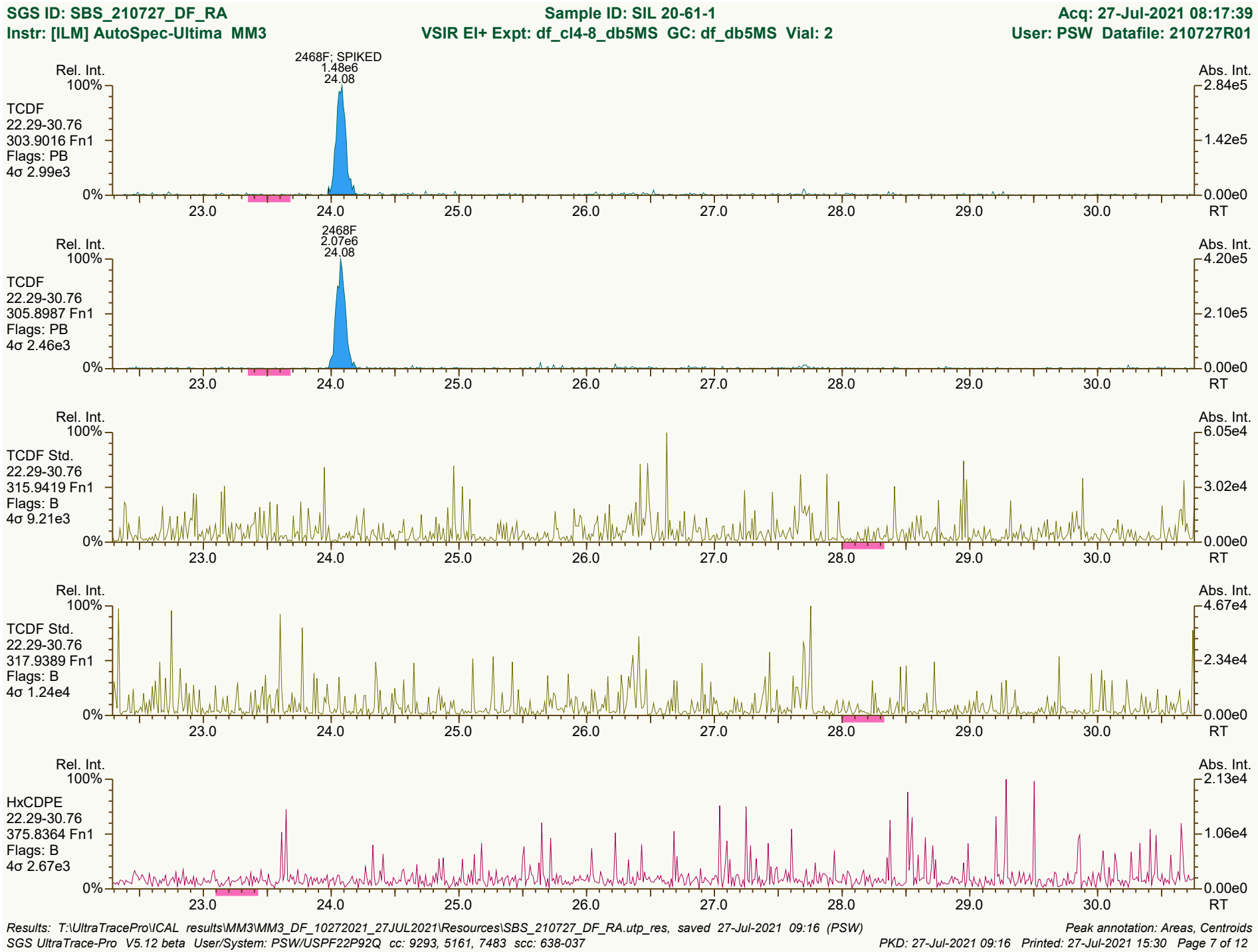

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: B
4σ 5.46e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.72e4
8.58e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.57e4
7.86e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: B
4σ 1.19e4
0%
Abs. Int.
4.60e4
2.30e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: B
4σ 4.18e3
0%
Abs. Int.
4.81e4
2.40e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: B
4σ 9.54e3
0%
Abs. Int.
3.89e4
1.94e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: B
4σ 5.05e3
0%
Abs. Int.
2.54e4
1.27e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: B
4σ 5.45e3
0%
Abs. Int.
6.36e4
3.18e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: B
4σ 4.94e3
0%
Abs. Int.
2.95e4
1.48e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: B
4σ 4.48e3
0%
Abs. Int.
4.12e4
2.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: B
4σ 3.42e3
0%
Abs. Int.
3.84e4
1.92e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: B
4σ 5.33e3
0%
Abs. Int.
4.48e4
2.24e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: B
4σ 6.09e3
0%
Abs. Int.
7.66e4
3.83e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: B
4σ 8.10e3
0%
Abs. Int.
5.65e4
2.82e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: B
4σ 9.20e3
0%
Abs. Int.
3.29e4
1.64e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: B
4σ 7.86e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: B
4σ 3.02e3
0%
Abs. Int.
6.85e4
3.43e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT

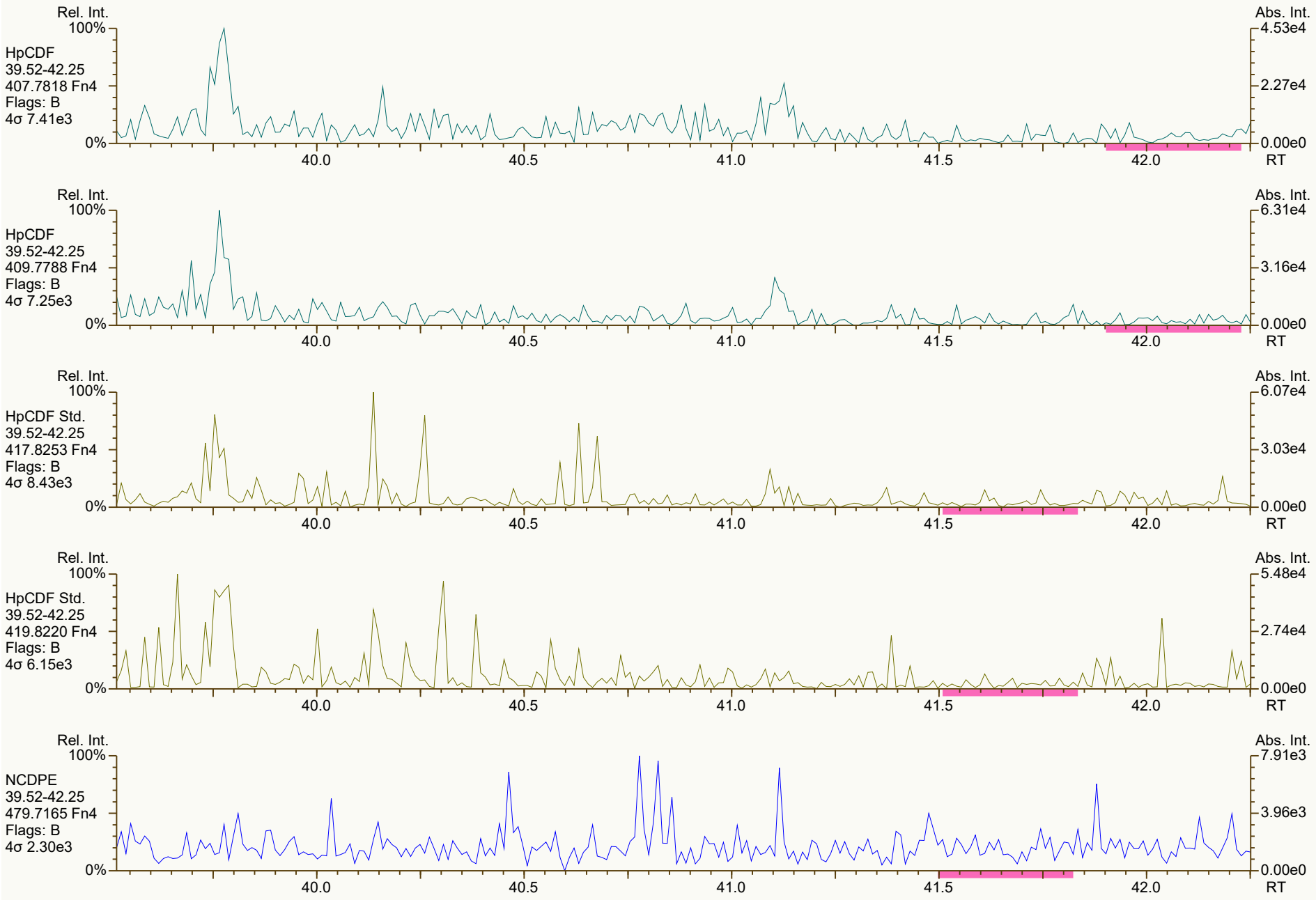

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: B
4σ 2.03e3
0%
Abs. Int.
5.32e4
2.66e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: B
4σ 3.69e3
0%
Abs. Int.
3.64e4
1.82e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: B
4σ 3.09e3
0%
Abs. Int.
4.40e4
2.20e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: B
4σ 5.53e3
0%
Abs. Int.
6.01e4
3.00e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
2468F: SPIKED
1.48e6
24.08
Rel. Int.
Abs. Int.
100%
0%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.99e3
2.84e5
1.42e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
2468F
2.07e6
24.08
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.46e3
4.20e5
2.10e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: B
4σ 9.21e3
6.05e4
3.02e4
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: B
4σ 1.24e4
4.67e4
2.34e4
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.67e3
2.13e4
1.06e4
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9293, 5161, 7483 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
3.87e4
1.94e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 6.47e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 6.41e3
3.57e4
1.78e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.23e6
1.61e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: B
4σ 6.52e3
0%
Abs. Int.
4.88e4
2.44e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: B
4σ 6.57e3
0%
Abs. Int.
3.28e4
1.64e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: B
4σ 2.11e3
0%
Abs. Int.
6.19e4
3.10e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: B
4σ 3.42e3
0%
Abs. Int.
5.42e4
2.71e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.38e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: B
4σ 6.81e3
0%
Abs. Int.
5.46e4
2.73e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: B
4σ 4.05e3
0%
Abs. Int.
3.51e4
1.76e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: B
4σ 6.70e3
0%
Abs. Int.
4.23e4
2.11e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: B
4σ 1.33e4
0%
Abs. Int.
8.19e4
4.10e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.51e3
0%
Abs. Int.
2.13e4
1.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: B
4σ 7.41e3
0%
Abs. Int.
4.53e4
2.27e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: B
4σ 7.25e3
0%
Abs. Int.
6.31e4
3.16e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: B
4σ 8.43e3
0%
Abs. Int.
6.07e4
3.03e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: B
4σ 6.15e3
0%
Abs. Int.
5.48e4
2.74e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.30e3
0%
Abs. Int.
7.91e3
3.96e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: B
4σ 2.18e3
0%
Abs. Int.
4.13e4
2.06e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
5.82e4
2.91e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: B
4σ 3.42e3
0%
Abs. Int.
6.44e4
3.22e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: B
4σ 2.75e3
0%
Abs. Int.
6.15e4
3.08e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 2.12e3
0%
Abs. Int.
5.85e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	210727R15	3	CS3_210727_DF_RB ✓	1.00	SIL 23-672-1	PSW	320-816	27-Jul-2021	19:43:55
16	210727R16	92	CS3_210727_DF_RC	1.00	ICV SIL 24-11-9 ✓	PSW	537-883	27-Jul-2021	20:31:28

REVIEWED
paul_walton , 7/28/2021, 8:29:53 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:21 PM

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 19:43 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RB		UTP: 28-Jul-2021 08:16:58 PSW				Checkcode: 320-816-PRY	
Sample ID: SIL 23-672-1		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R15	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	1.67E+07	0.81	Y	1.34	1.35	0%
12378-PeCDD	33.81	6.38E+07	1.58	Y	1.06	1.06	0%
123478-HxCDD	37.68	5.49E+07	1.25	Y	1.06	1.06	1%
123678-HxCDD	37.79	5.63E+07	1.26	Y	1.08	1.10	2%
123789-HxCDD	38.08	5.86E+07	1.24	Y	1.02	1.00	-2%
1234678-HpCDD	40.66	4.96E+07	1.04	Y	0.97	0.98	0%
OCDD	43.23	8.27E+07	0.89	Y	1.07	1.07	0%
2378-TCDF	27.67	2.12E+07	0.80	Y	0.96	0.97	1%
12378-PeCDF	32.38	8.71E+07	1.57	Y	0.95	0.97	2%
23478-PeCDF	33.47	7.79E+07	1.46	Y	0.94	0.92	-2%
123478-HxCDF	36.69	7.88E+07	1.25	Y	1.23	1.25	2%
123678-HxCDF	36.83	8.26E+07	1.26	Y	1.13	1.13	0%
234678-HxCDF	37.49	7.73E+07	1.25	Y	1.15	1.18	2%
123789-HxCDF	38.43	6.95E+07	1.26	Y	1.14	1.13	0%
1234678-HpCDF	39.77	7.02E+07	1.03	Y	1.36	1.34	-2%
1234789-HpCDF	41.11	5.97E+07	1.05	Y	1.30	1.36	5%
OCDF	43.41	9.92E+07	0.91	Y	1.03	1.06	3%
ES 2378-TCDD	28.50	1.24E+08	0.80	Y	1.03	1.03	-1%
ES 12378-PeCDD	33.788	1.20E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.661	1.03E+08	1.29	Y	0.99	0.98	-1%
ES 123678-HxCDD	37.775	1.02E+08	1.32	Y	0.97	0.97	0%
ES 123789-HxCDD	38.065	1.17E+08	1.31	Y	1.12	1.12	-1%
ES 1234678-HpCDD	40.653	1.01E+08	1.07	Y	0.99	0.96	-3%
ES OCDD	43.218	1.54E+08	0.91	Y	0.78	0.73	-6%
ES 2378-TCDF	27.65	2.18E+08	0.77	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.362	1.80E+08	1.58	Y	0.93	0.89	-5%
ES 23478-PeCDF	33.452	1.68E+08	1.62	Y	0.92	0.83	-10%
ES 123478-HxCDF	36.669	1.26E+08	0.54	Y	1.14	1.19	4%
ES 123678-HxCDF	36.809	1.47E+08	0.50	Y	1.30	1.39	7%
ES 234678-HxCDF	37.476	1.31E+08	0.52	Y	1.20	1.25	4%
ES 123789-HxCDF	38.411	1.23E+08	0.52	Y	1.14	1.17	3%
ES 1234678-HpCDF	39.758	1.05E+08	0.47	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.102	8.75E+07	0.45	Y	0.85	0.83	-2%
ES OCDF	43.399	1.88E+08	0.89	Y	0.93	0.89	-4%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 19:43 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RB	UTP: 28-Jul-2021 08:16:58 PSW	Checkcode: 320-816-PRY
Sample ID: SIL 23-672-1	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.21E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.33	2.03E+08	0.78	Y	-	-	-
JS 123467-HxCDD	37.97	5.27E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.31	1.28	-2%
CS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.89	0.87	-3%
CS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.22E+08	0.52	Y	1.09	1.16	7%
CS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.86	0.90	4%
SS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.86	0.87	1%
SS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.22E+08	0.52	Y	0.84	0.83	-1%
SS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.91	0.90	-1%
~~OCDD-a~~	~~43.22~~	~~4.70E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.06~~	~~-8%~~
~~OCDF-a~~	~~43.41~~	~~5.40E+06~~	~~2.31~~	~~Y~~	~~0.06~~	~~0.06~~	~~-3%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	10	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	50.1	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	50.3	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	50.9	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	49.1	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	50.1	40	-	60	Y
OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	10.1	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	51.2	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32	-	1.78	Y	49.2	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	50.8	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	51.1	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.1	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88	-	1.20	Y	52.4	40	-	60	Y
OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	103	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	70	-	130	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	70	-	130	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	140	-	260	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32 - 1.78	Y	49.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52.4	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

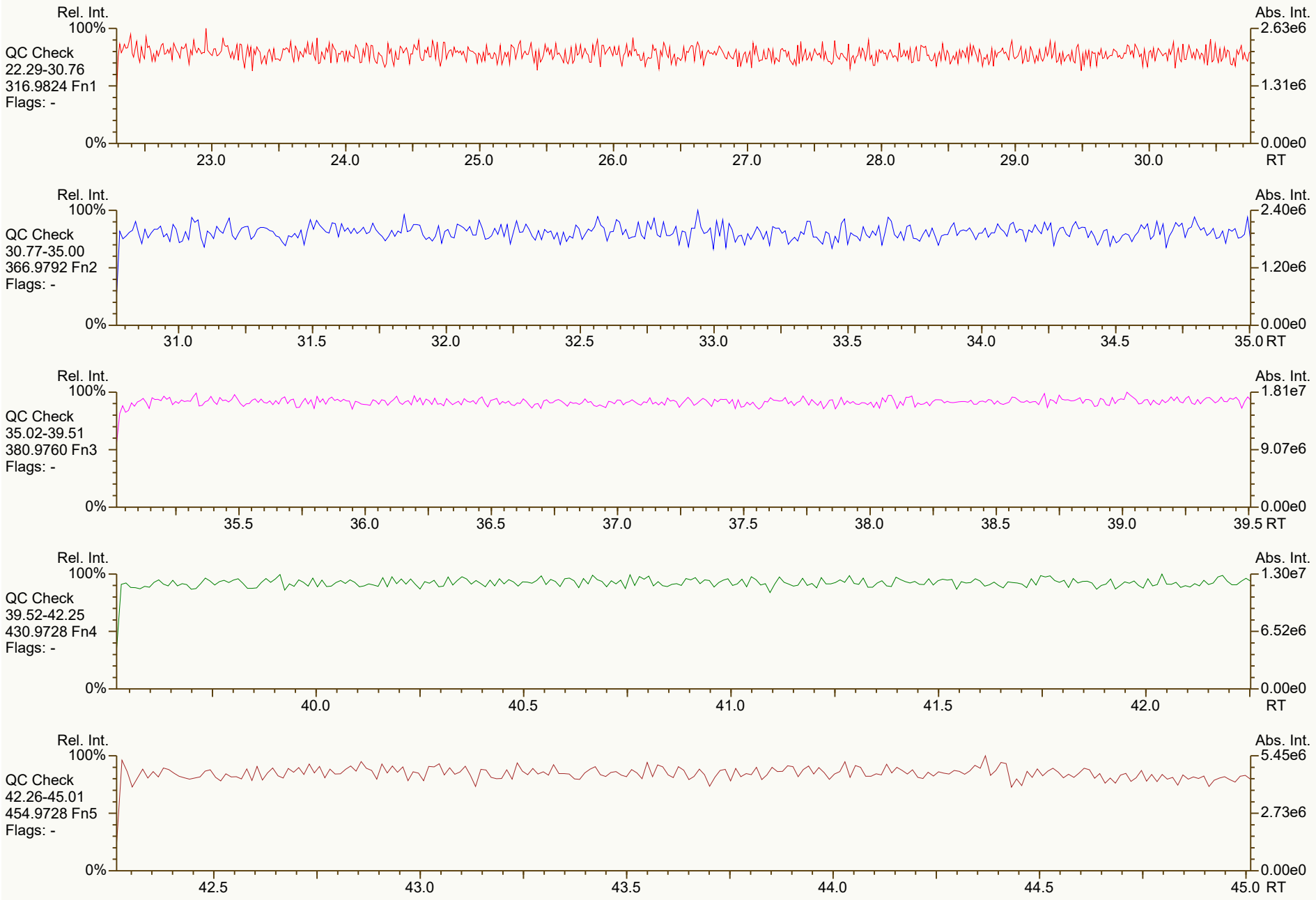
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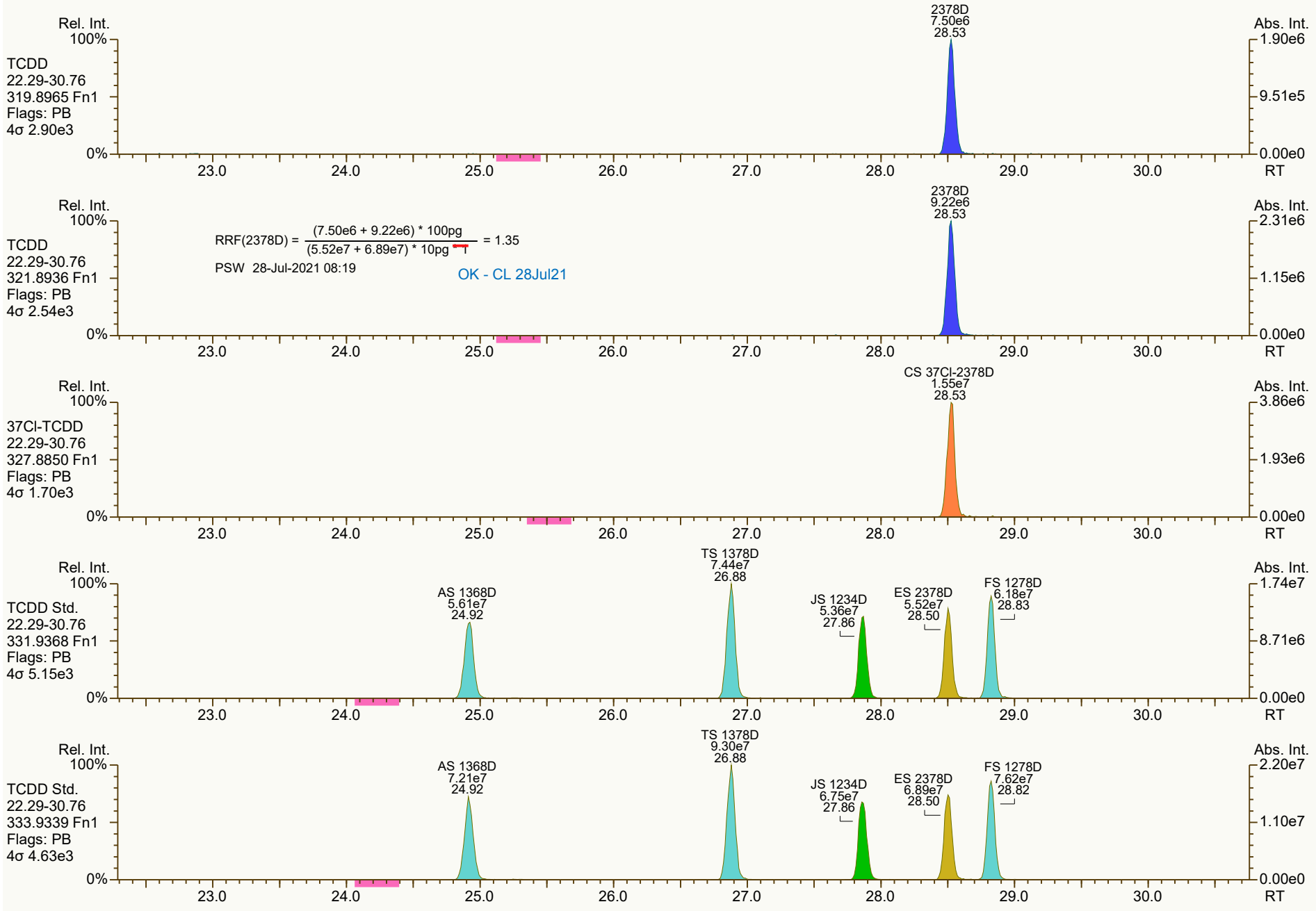
Instrument ID: MM3 GC Column ID: ZB-5ms

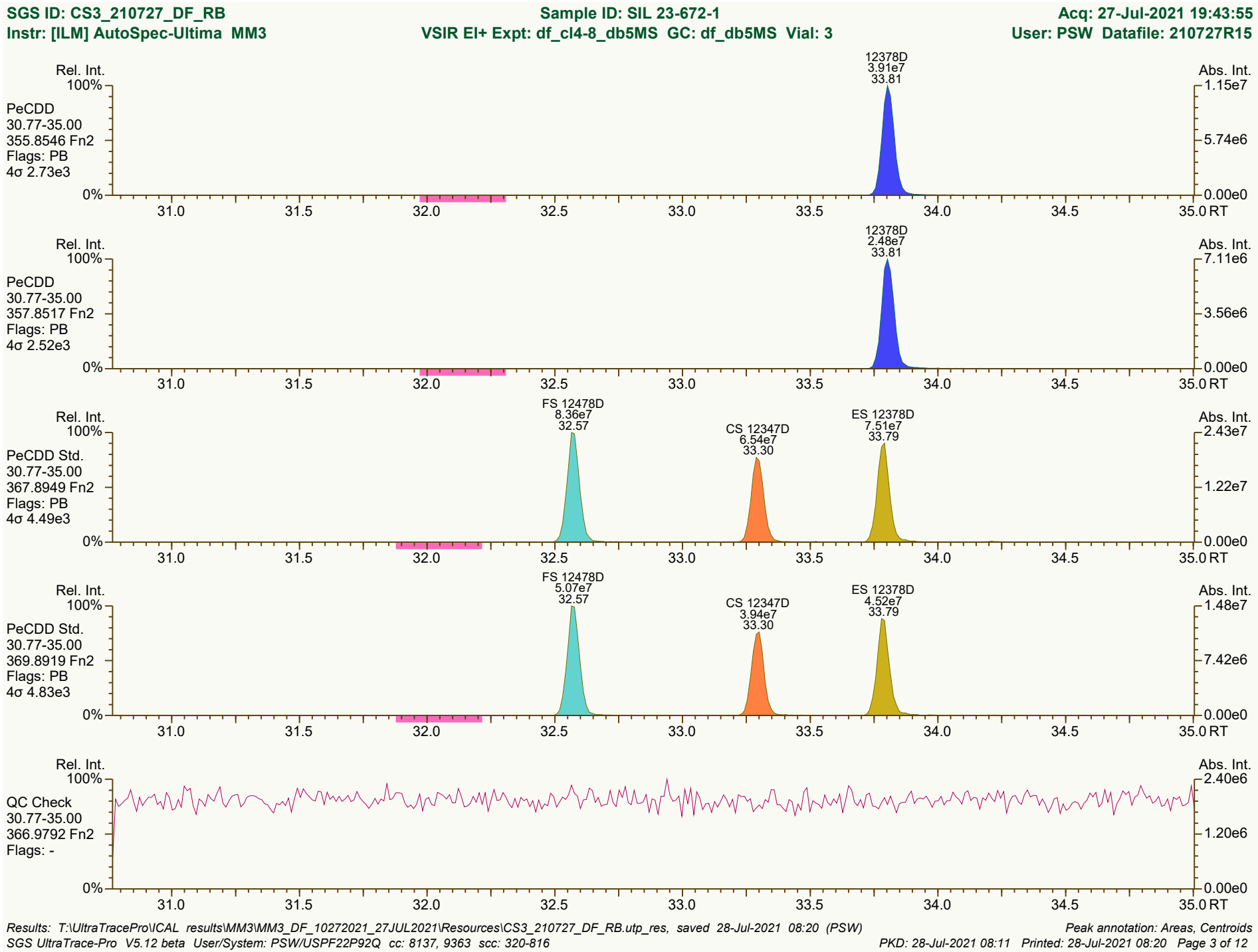
VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	77	-	129	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

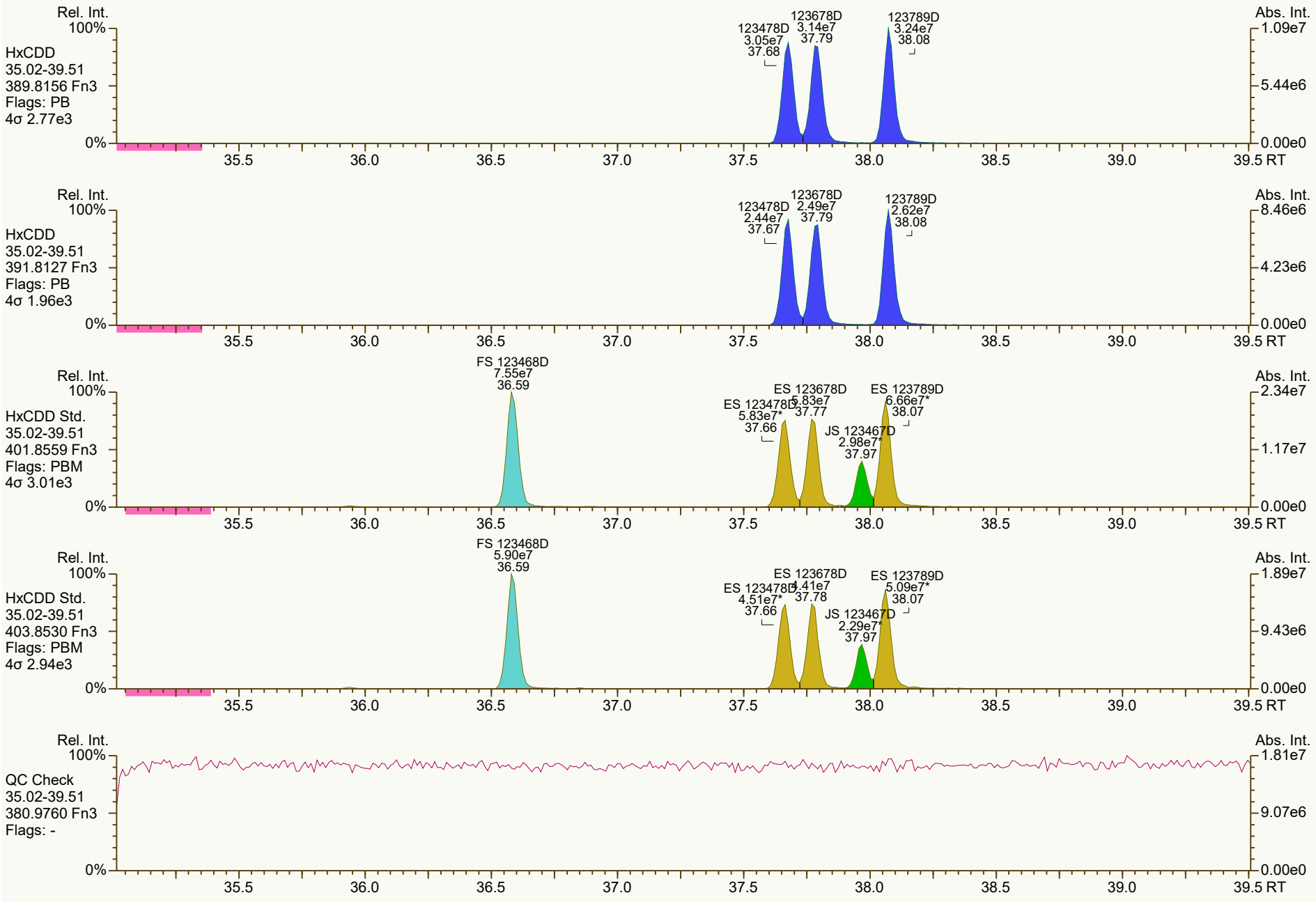
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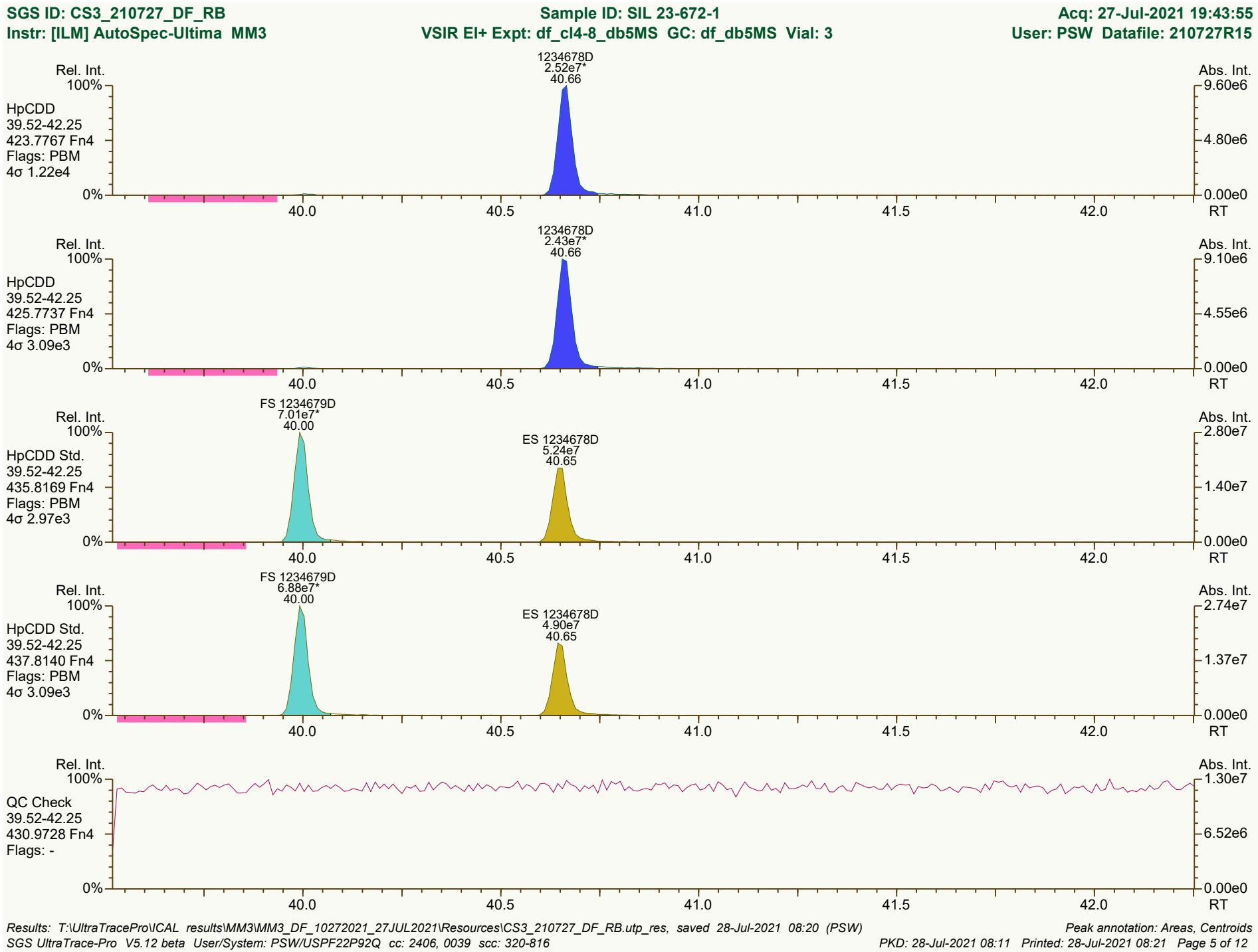

Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
RT
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
RT
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
Rel. Int.
100%
0%
Abs. Int.
1.81e7
9.07e6
0.00e0
RT
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5
Rel. Int.
100%
0%
Abs. Int.
1.30e7
6.52e6
0.00e0
RT
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
RT
QC Check
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454.9728 Fn5
Flags: -
42.5
43.0
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44.0
44.5
45.0

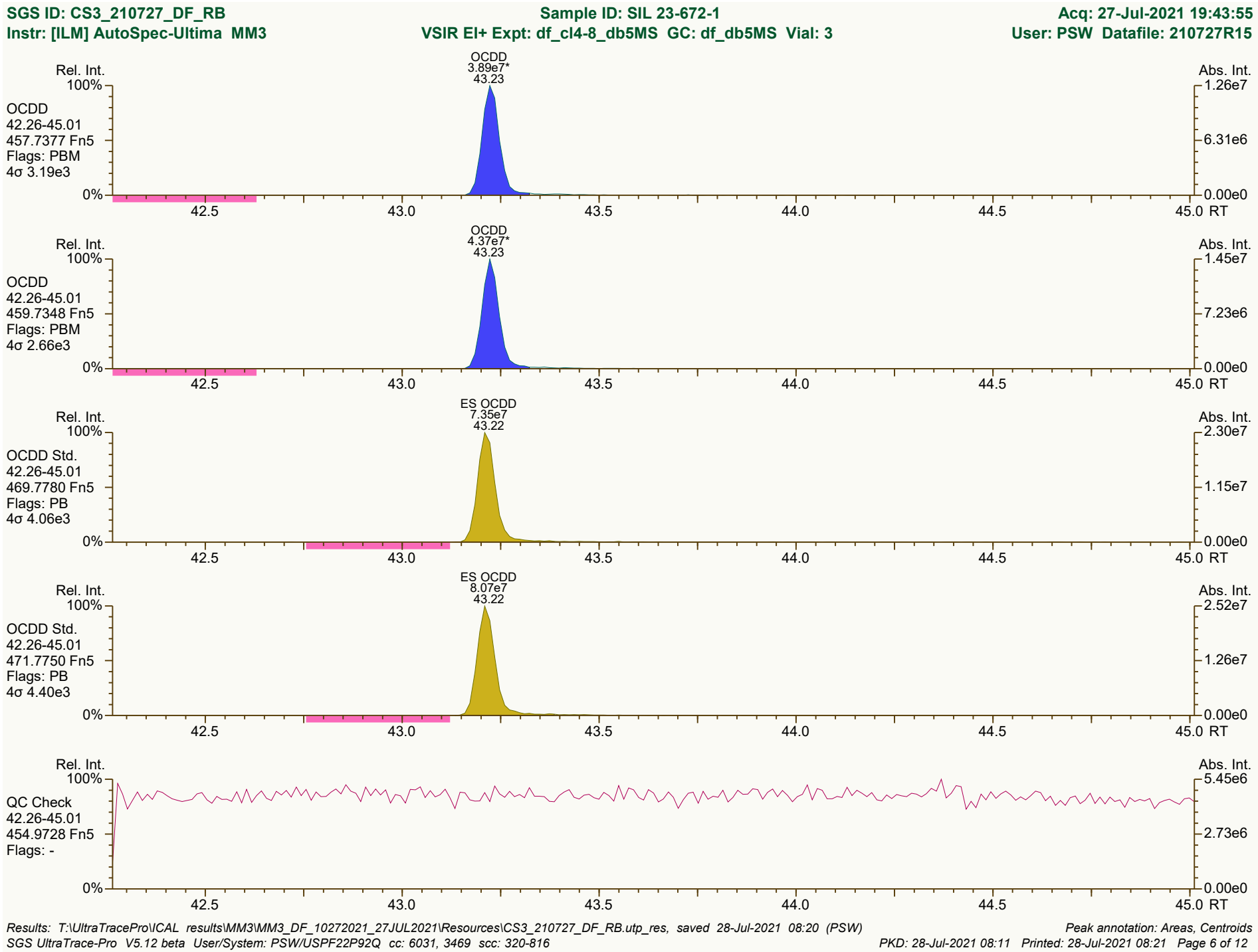

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
0%
2378D
7.50e6
28.53
Abs. Int.
1.90e6
9.51e5
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
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28.82
2.20e7
1.10e7

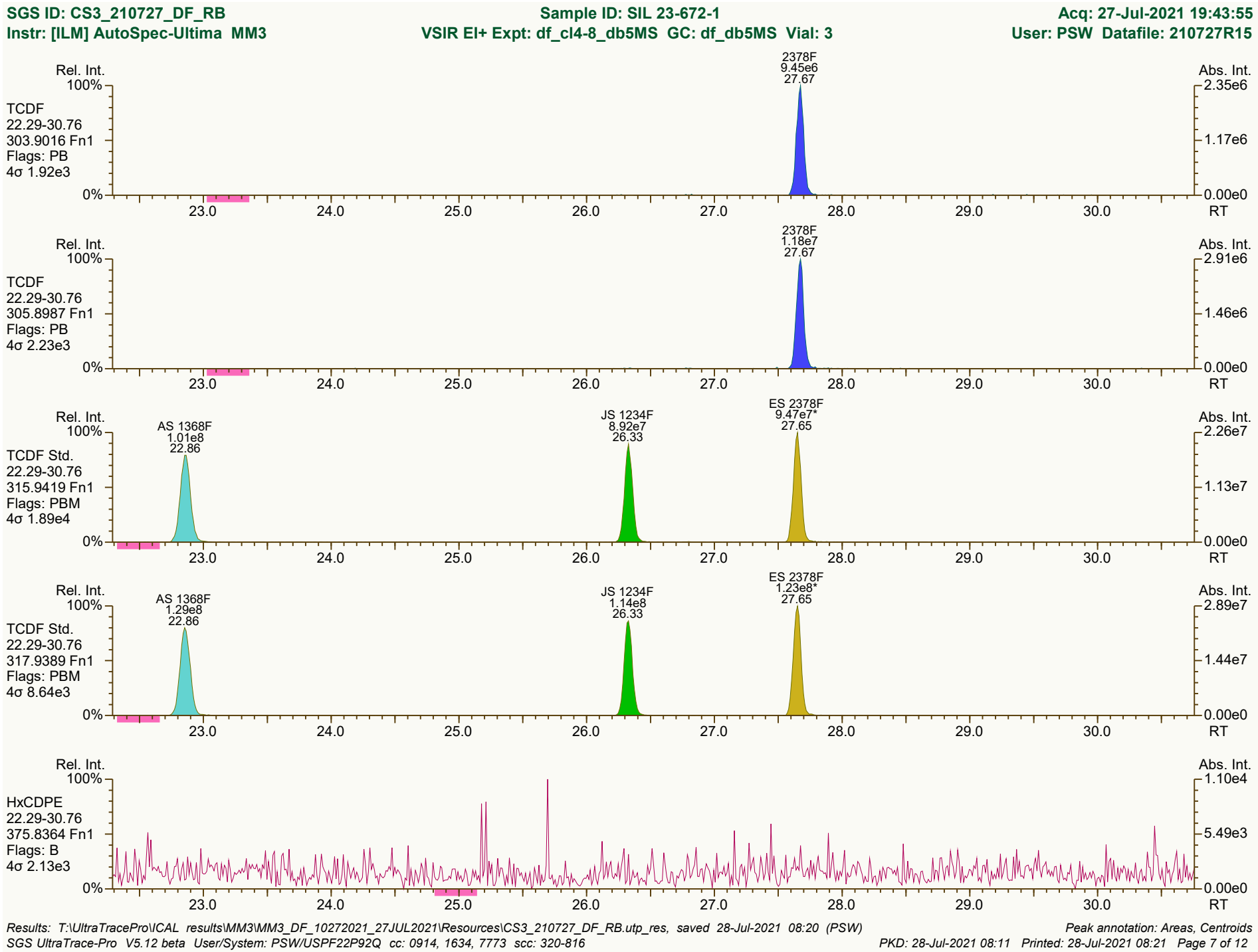


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8137, 9363 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.77e3
123478D 3.05e7 37.68
123678D 3.14e7 37.79
123789D 3.24e7 38.08
Abs. Int.
1.09e7
5.44e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.96e3
123478D 2.44e7 37.67
123678D 2.49e7 37.79
123789D 2.62e7 38.08
8.46e6
4.23e6
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.01e3
FS 123468D 7.55e7 36.59
ES 123478D 5.83e7* 37.66
ES 123678D 5.83e7 37.77
JS 123467D 2.98e7* 37.97
ES 123789D 6.66e7* 38.07
2.34e7
1.17e7
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.94e3
FS 123468D 5.90e7 36.59
ES 123478D 4.51e7* 37.66
ES 123678D 4.41e7 37.78
JS 123467D 2.29e7* 37.97
ES 123789D 5.09e7* 38.07
1.89e7
9.43e6
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
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9.07e6

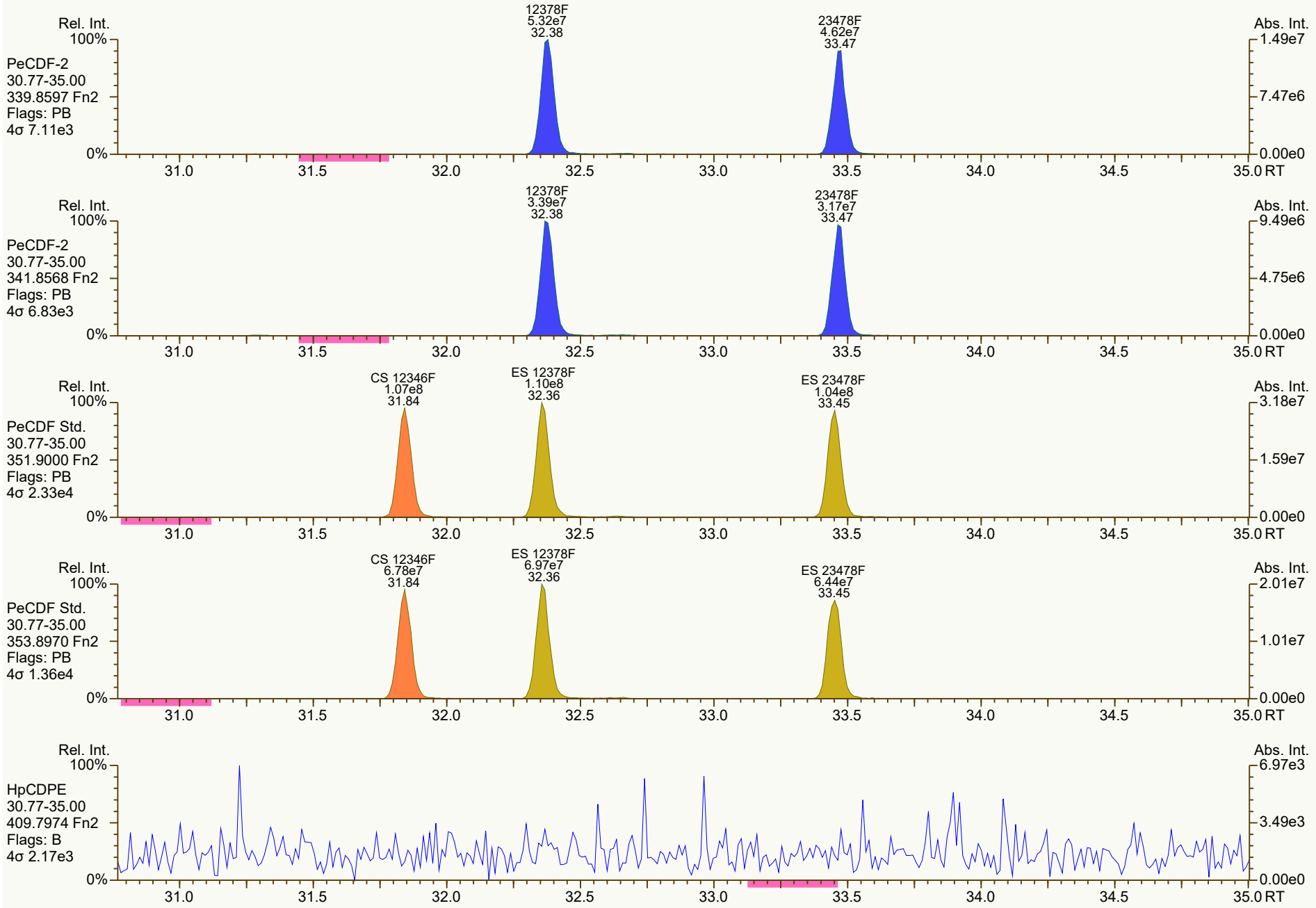

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Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 1.22e4
1234678D
2.52e7*
40.66
9.60e6
4.80e6
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 3.09e3
1234678D
2.43e7*
40.66
9.10e6
4.55e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 2.97e3
FS 1234679D
7.01e7*
40.00
ES 1234678D
5.24e7
40.65
2.80e7
1.40e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 3.09e3
FS 1234679D
6.88e7*
40.00
ES 1234678D
4.90e7
40.65
2.74e7
1.37e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.30e7
6.52e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2406, 0039 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 5 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
OCDD
3.89e7*
43.23
Rel. Int.
Abs. Int.
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.19e3
OCDD
4.37e7*
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.66e3
ES OCDD
7.35e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.06e3
ES OCDD
8.07e7
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6031, 3469 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 6 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 1.92e3
2378F
9.45e6
27.67
2.35e6
1.17e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.23e3
2378F
1.18e7
27.67
2.91e6
1.46e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PBM
4σ 1.89e4
AS 1368F
1.01e8
22.86
JS 1234F
8.92e7
26.33
ES 2378F
9.47e7*
27.65
2.26e7
1.13e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PBM
4σ 8.64e3
AS 1368F
1.29e8
22.86
JS 1234F
1.14e8
26.33
ES 2378F
1.23e8*
27.65
2.89e7
1.44e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.13e3
1.10e4
5.49e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0914, 1634, 7773 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 7 of 12

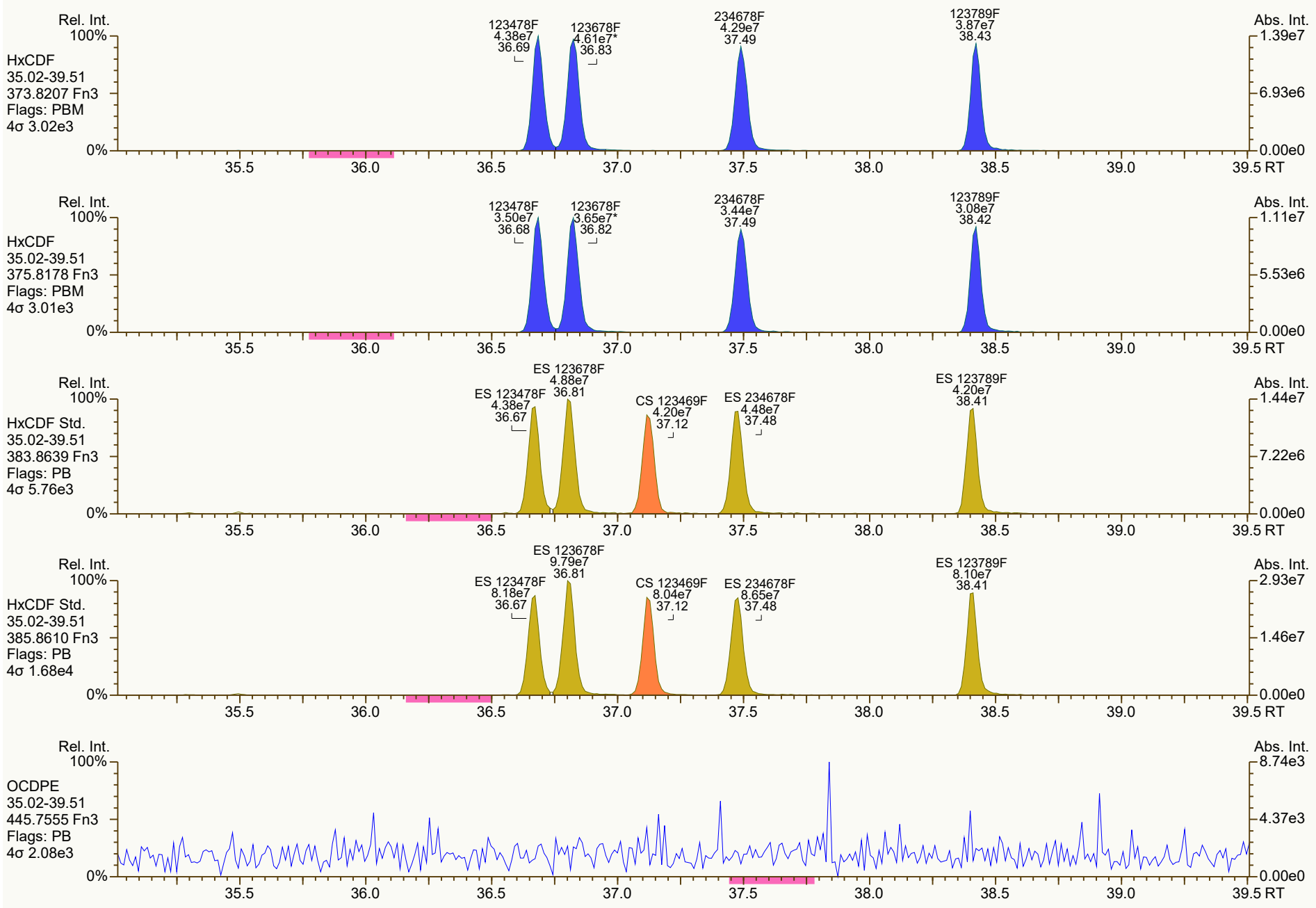

Rel. Int.
100%
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.78e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.25e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.56e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

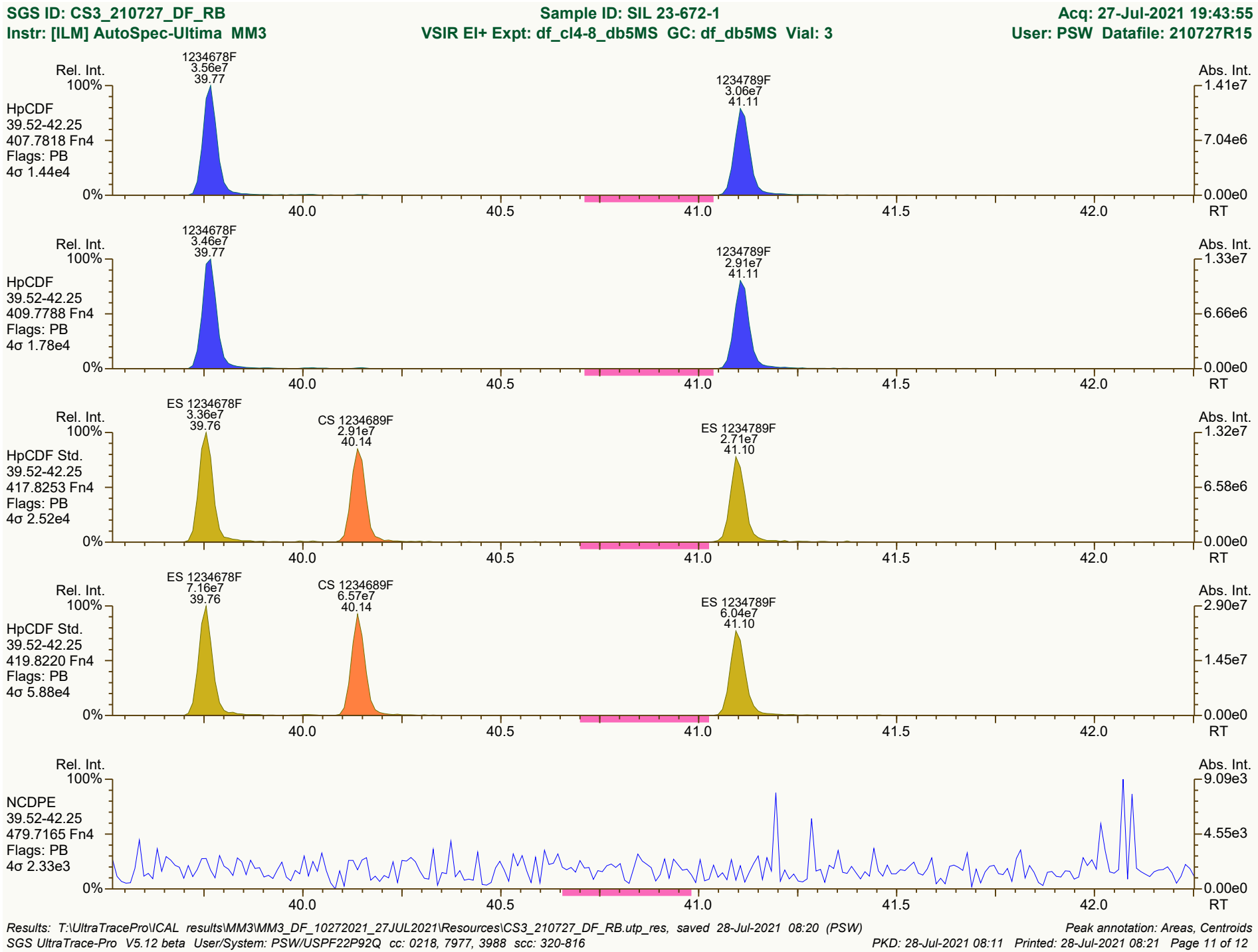
SGS ID: CS3_210727_DF_RB | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R15

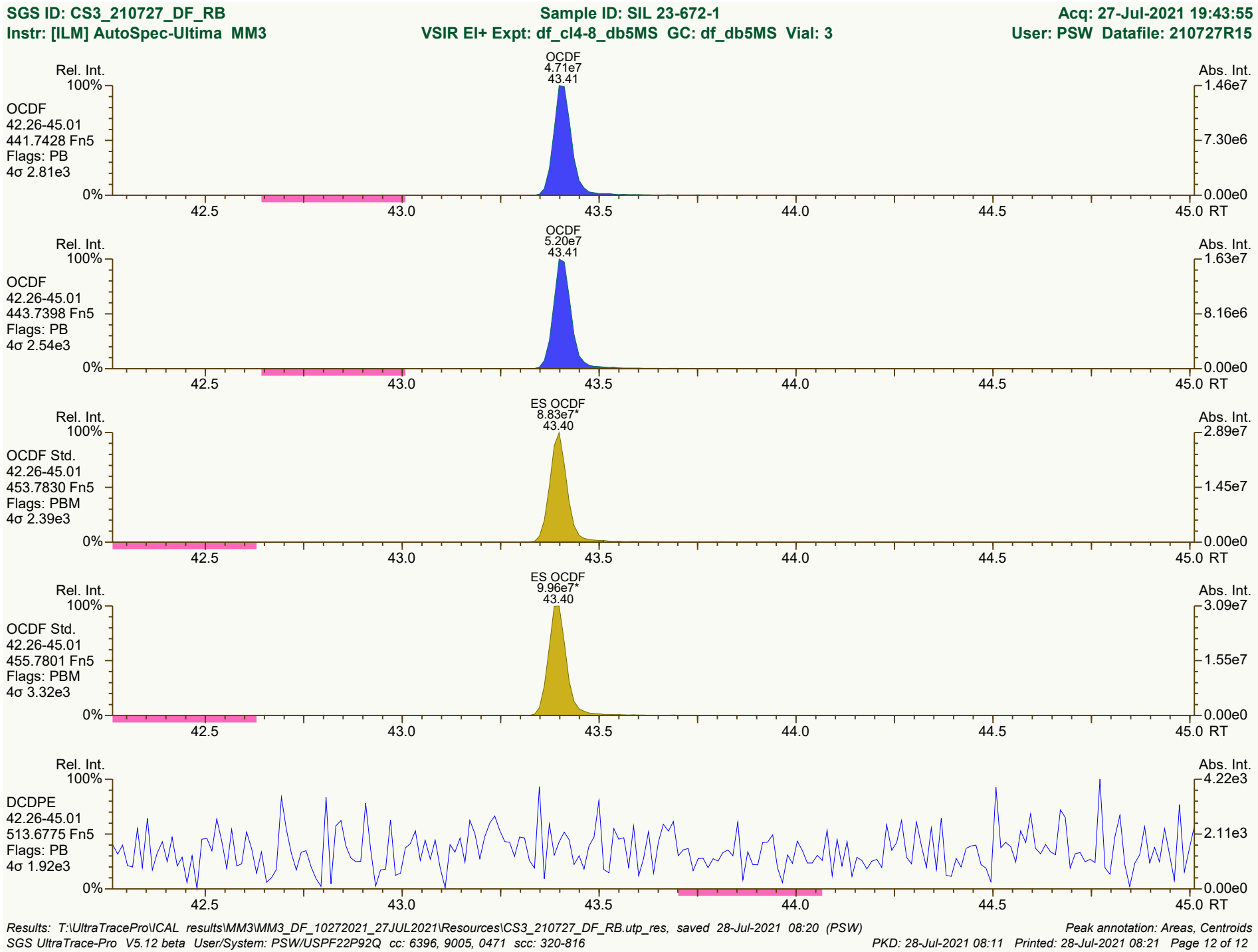


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1037, 5263, 2332 scc: 320-816 *PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 9 of 12*


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
0%
123478F
4.38e7
36.69
123678F
4.61e7*
36.83
234678F
4.29e7
37.49
123789F
3.87e7
38.43
Abs. Int.
1.39e7
6.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
0%
123478F
3.50e7
36.68
123678F
3.65e7*
36.82
234678F
3.44e7
37.49
123789F
3.08e7
38.42
Abs. Int.
1.11e7
5.53e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
0%
ES 123478F
4.38e7
36.67
ES 123678F
4.88e7
36.81
CS 123469F
4.20e7
37.12
ES 234678F
4.48e7
37.48
ES 123789F
4.20e7
38.41
Abs. Int.
1.44e7
7.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
0%
ES 123478F
8.18e7
36.67
ES 123678F
9.79e7
36.81
CS 123469F
8.04e7
37.12
ES 234678F
8.65e7
37.48
ES 123789F
8.10e7
38.41
Abs. Int.
2.93e7
1.46e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.44e4
1234678F
3.56e7
39.77
1234789F
3.06e7
41.11
1.41e7
7.04e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.78e4
1234678F
3.46e7
39.77
1234789F
2.91e7
41.11
1.33e7
6.66e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.52e4
ES 1234678F
3.36e7
39.76
CS 1234689F
2.91e7
40.14
ES 1234789F
2.71e7
41.10
1.32e7
6.58e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.88e4
ES 1234678F
7.16e7
39.76
CS 1234689F
6.57e7
40.14
ES 1234789F
6.04e7
41.10
2.90e7
1.45e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.33e3
9.09e3
4.55e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0218, 7977, 3988 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 11 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
OCDF
4.71e7
43.41
Rel. Int.
Abs. Int.
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.81e3
OCDF
5.20e7
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.54e3
ES OCDF
8.83e7*
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PBM
4σ 2.39e3
ES OCDF
9.96e7*
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PBM
4σ 3.32e3
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 1.92e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6396, 9005, 0471 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 20:31 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RC		UTP: 28-Jul-2021 08:16:59 PSW				Checkcode: 537-883-PJZ	
Sample ID: ICV SIL 24-11-9		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R16	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	2.48E+07	0.79	Y	1.34	1.22	-9%
12378-PeCDD	33.81	9.55E+07	1.55	Y	1.06	0.98	-8%
123478-HxCDD	37.68	8.89E+07	1.25	Y	1.06	1.04	-1%
123678-HxCDD	37.80	9.70E+07	1.25	Y	1.08	1.14	5%
123789-HxCDD	38.09	9.52E+07	1.24	Y	1.02	0.95	-7%
1234678-HpCDD	40.67	8.40E+07	1.03	Y	0.97	0.99	1%
OCDD	43.24	1.45E+08	0.90	Y	1.07	1.07	0%
2378-TCDF	27.68	3.32E+07	0.79	Y	0.96	0.95	-1%
12378-PeCDF	32.38	1.28E+08	1.52	Y	0.95	0.87	-8%
23478-PeCDF	33.48	1.47E+08	1.58	Y	0.94	1.00	6%
123478-HxCDF	36.69	1.27E+08	1.27	Y	1.23	1.25	1%
123678-HxCDF	36.83	1.34E+08	1.26	Y	1.13	1.11	-2%
234678-HxCDF	37.50	1.26E+08	1.24	Y	1.15	1.17	1%
123789-HxCDF	38.43	1.13E+08	1.25	Y	1.14	1.10	-3%
1234678-HpCDF	39.77	1.18E+08	1.02	Y	1.36	1.34	-2%
1234789-HpCDF	41.12	9.93E+07	1.03	Y	1.30	1.29	-1%
OCDF	43.42	1.67E+08	0.90	Y	1.03	1.02	-1%
ES 2378-TCDD	28.51	2.04E+08	0.81	Y	1.03	0.96	-7%
ES 12378-PeCDD	33.795	1.95E+08	1.65	Y	1.03	0.92	-11%
ES 123478-HxCDD	37.667	1.70E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.781	1.70E+08	1.29	Y	0.97	0.97	0%
ES 123789-HxCDD	38.071	2.01E+08	1.25	Y	1.12	1.15	2%
ES 1234678-HpCDD	40.656	1.70E+08	1.05	Y	0.99	0.97	-2%
ES OCDD	43.225	2.69E+08	0.90	Y	0.78	0.77	-1%
ES 2378-TCDF	27.654	3.51E+08	0.77	Y	1.08	0.99	-9%
ES 12378-PeCDF	32.366	2.97E+08	1.58	Y	0.93	0.84	-10%
ES 23478-PeCDF	33.459	2.95E+08	1.56	Y	0.92	0.84	-9%
ES 123478-HxCDF	36.673	2.04E+08	0.52	Y	1.14	1.17	2%
ES 123678-HxCDF	36.814	2.41E+08	0.53	Y	1.30	1.38	7%
ES 234678-HxCDF	37.481	2.17E+08	0.52	Y	1.20	1.24	3%
ES 123789-HxCDF	38.414	2.06E+08	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.764	1.76E+08	0.46	Y	0.95	1.01	6%
ES 1234789-HpCDF	41.106	1.54E+08	0.45	Y	0.85	0.88	4%
ES OCDF	43.408	3.28E+08	0.88	Y	0.93	0.94	2%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	2.13E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	3.53E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	8.73E+07	1.21	Y	-	-	-
~~OCDD-a~~	~~43.23~~	~~9.07E+06~~	~~2.21~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~
~~OCDF-a~~	~~43.42~~	~~9.95E+06~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~2%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	9.05	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	46.2	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	49.4	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	52.7	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	46.7	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	50.7	40	-	60	Y
OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	9.87	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	45.8	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	53.1	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05	-	1.43	Y	50.5	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.2	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05	-	1.43	Y	50.6	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	48.4	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	49.2	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.7	40	-	60	Y
OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	99.5	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	70	-	130	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	70	-	130	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	140	-	260	Y
CLEANUP STANDARDS n/a - CL 28Jul21											
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	9.05	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	46.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	52.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.7	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.87	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	45.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	53.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	50.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.7	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	99.5	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

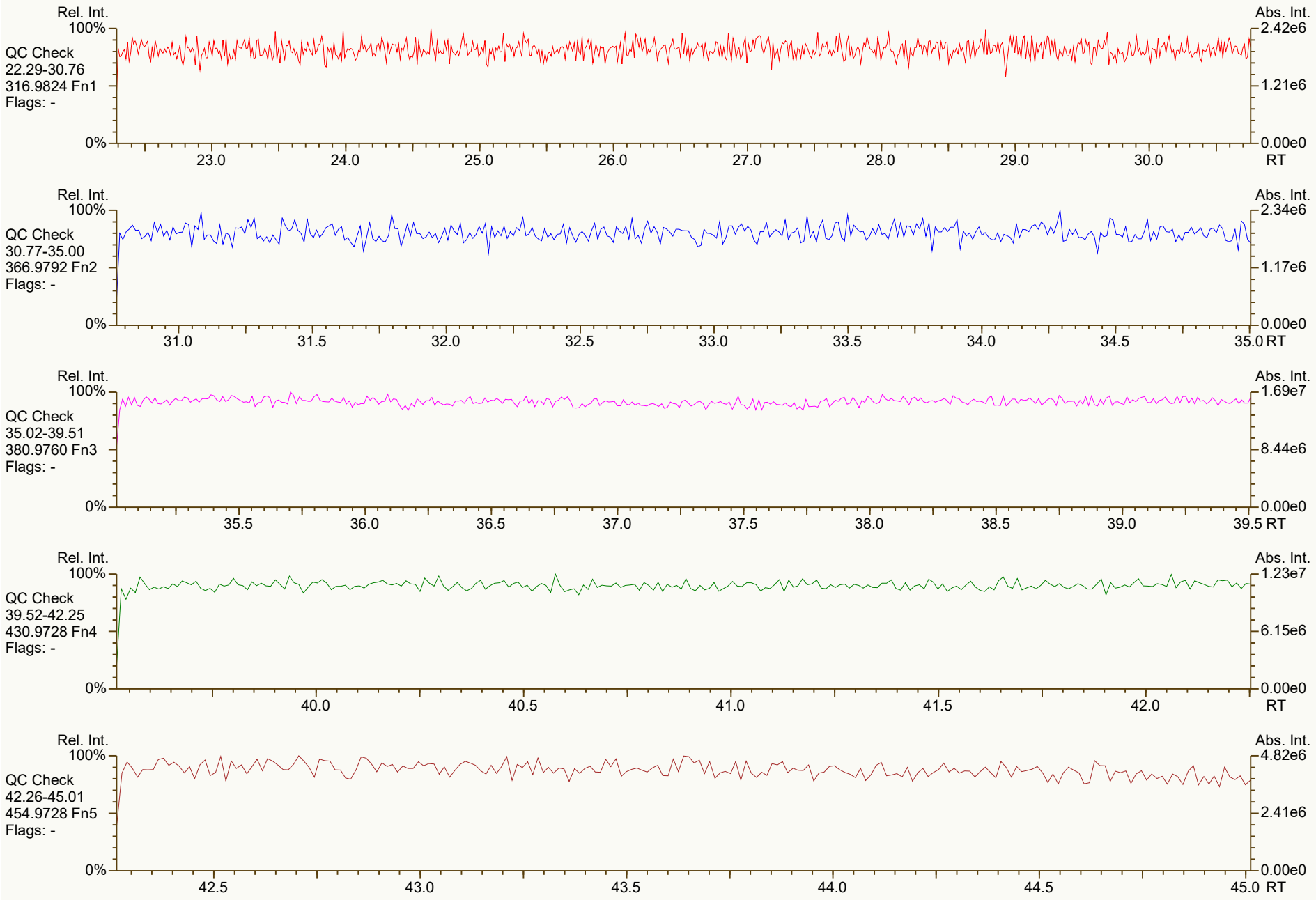
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

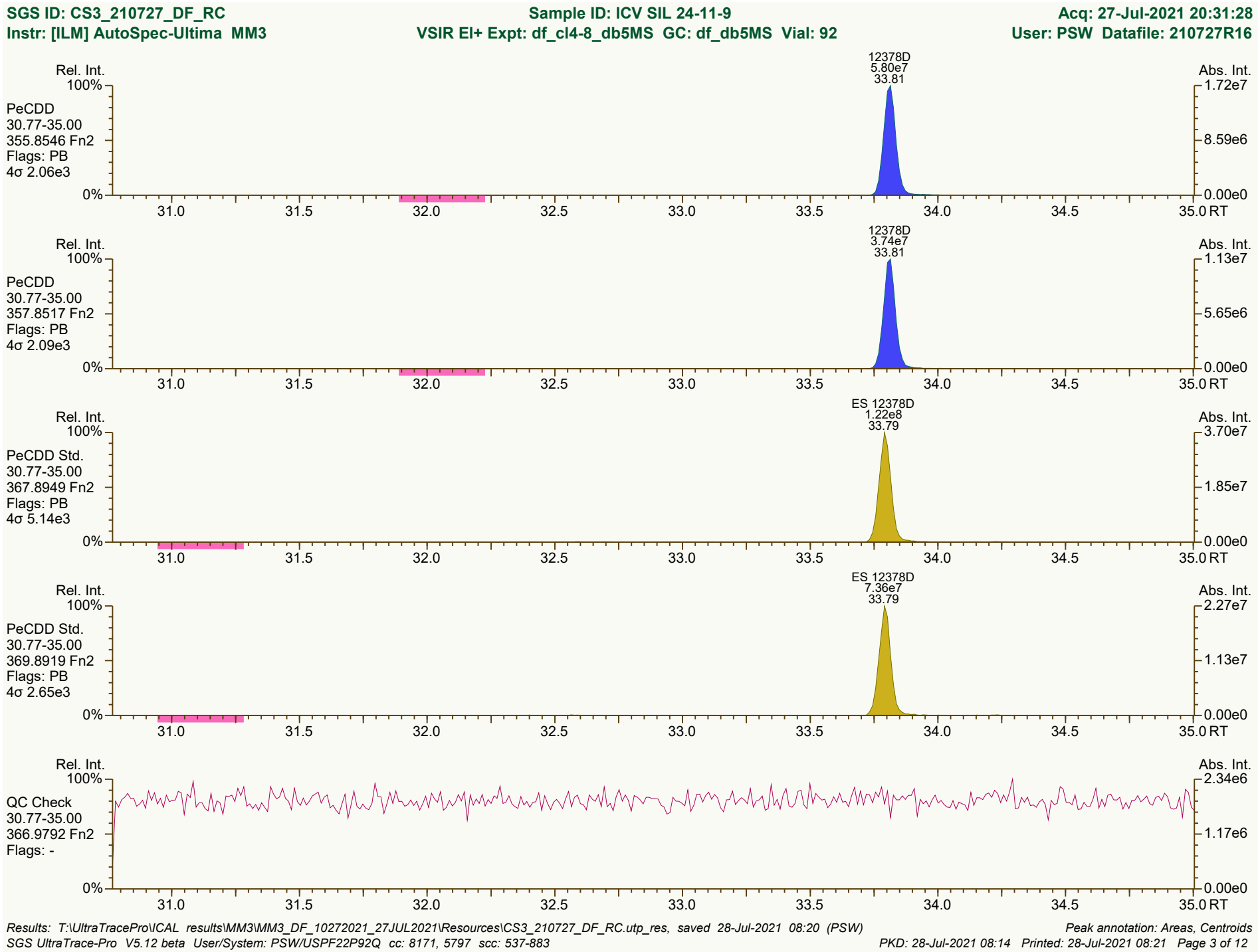
VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

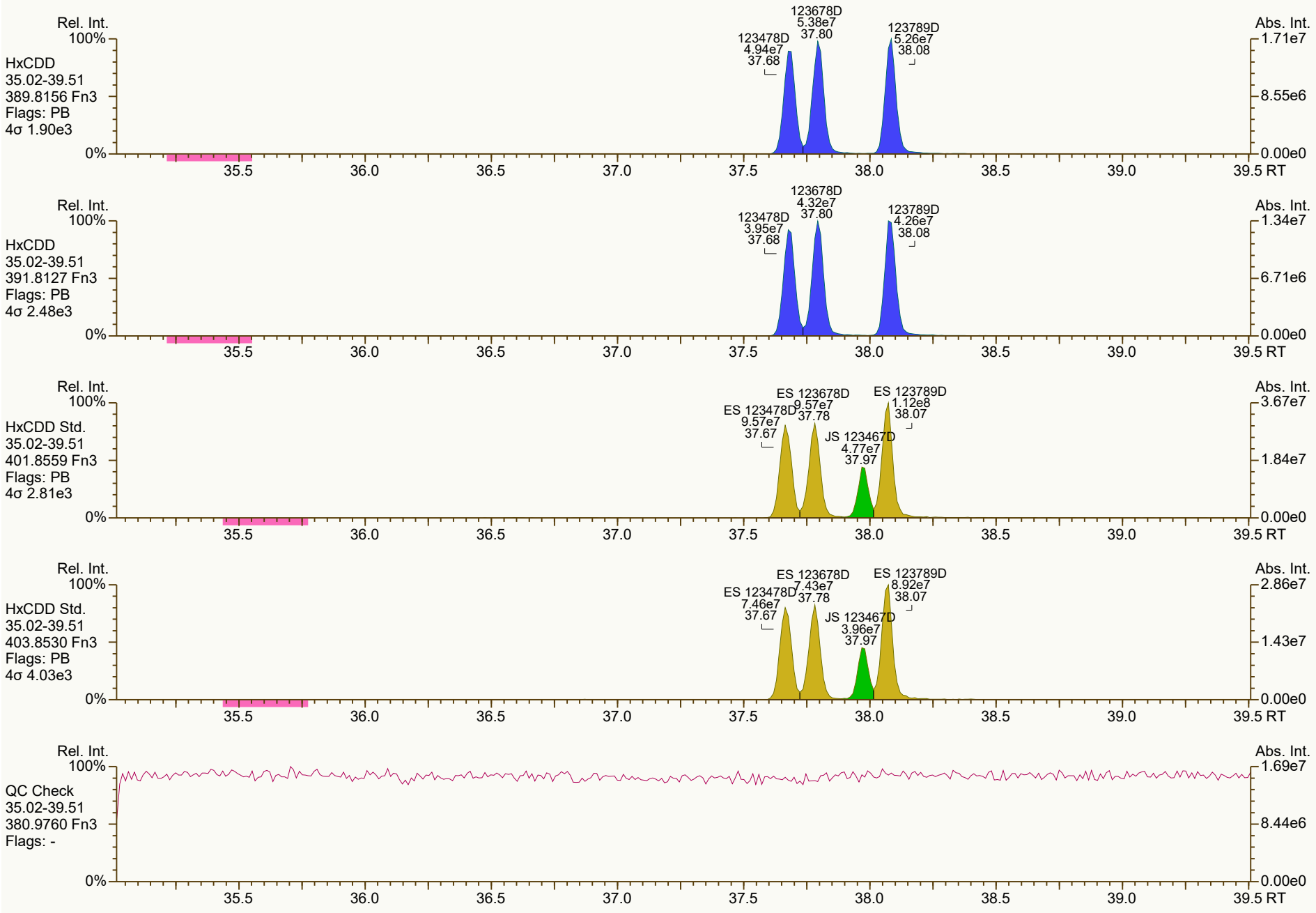
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	96	-	415	Y
CLEANUP STANDARDS	n/a - CL 28Jul21										
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

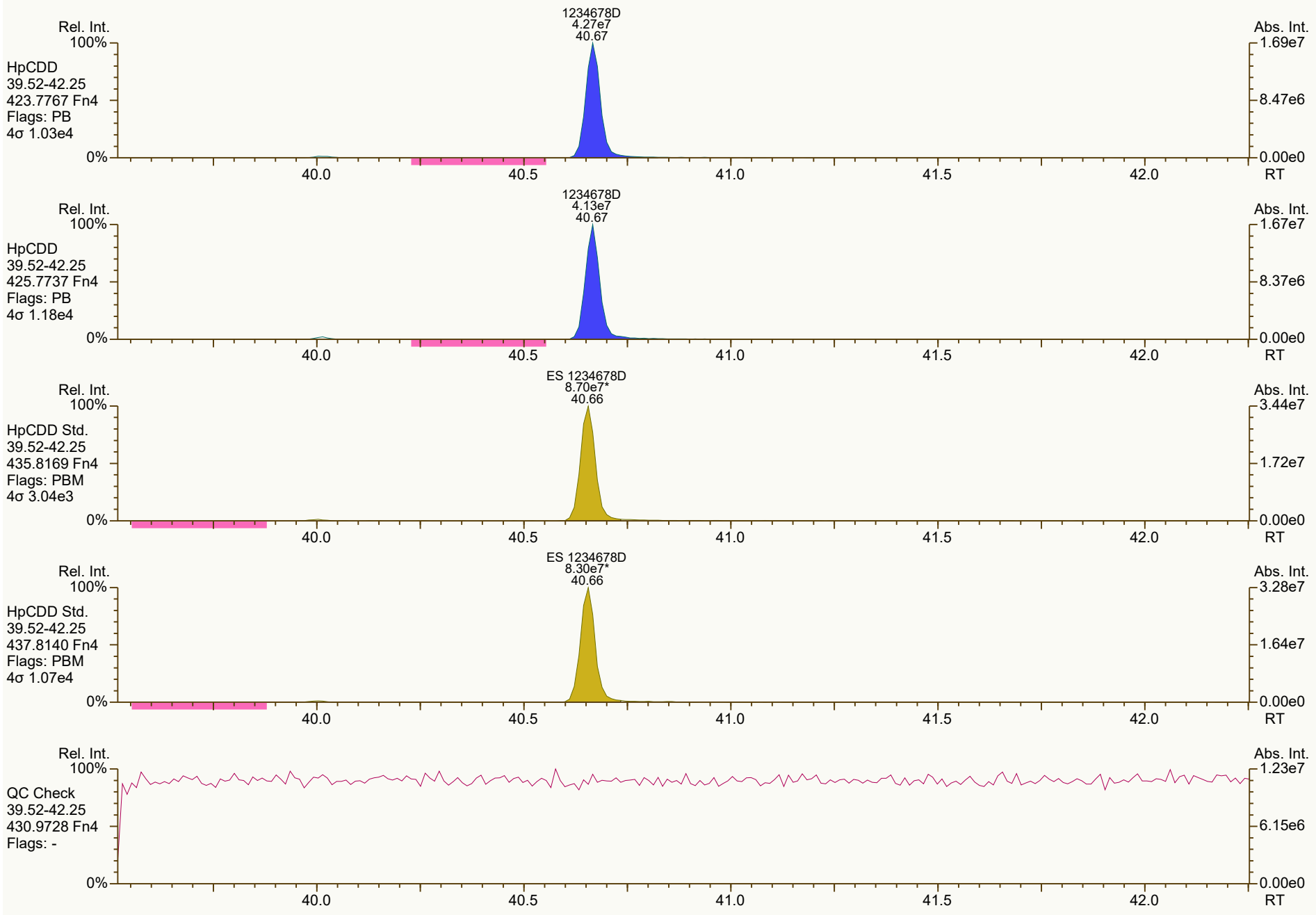
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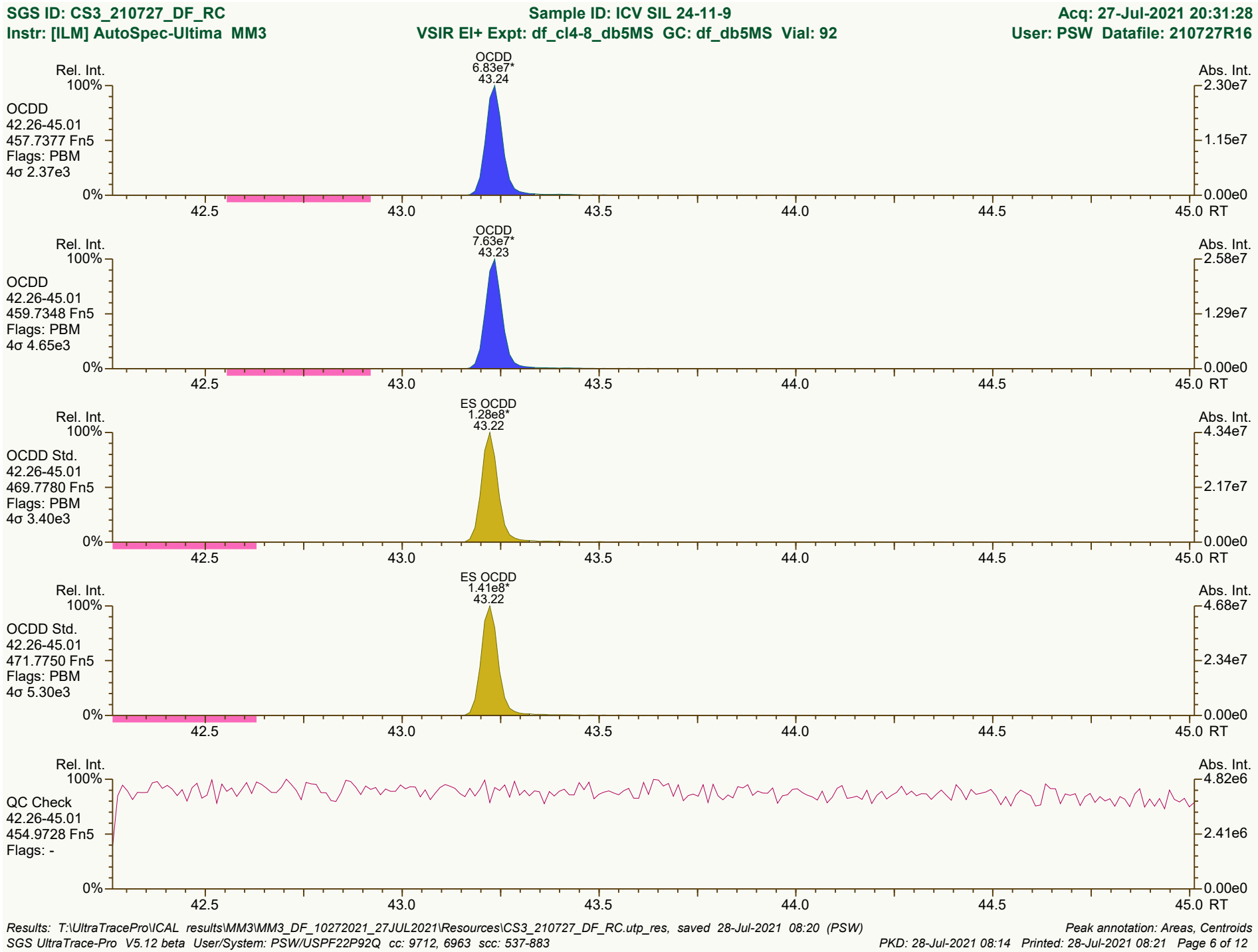

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

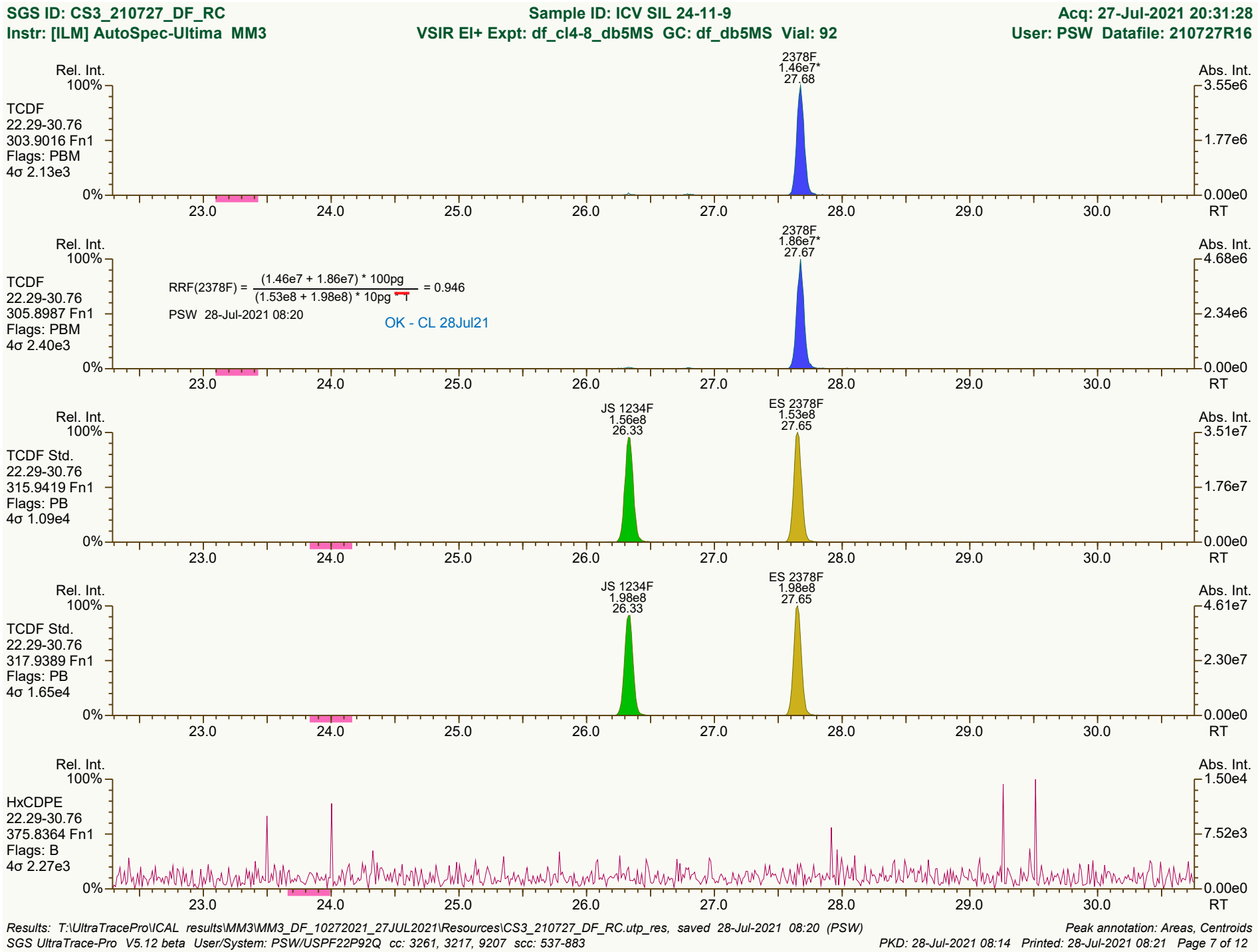

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.31e3
0%
2378D
1.09e7
28.53
Abs. Int.
2.86e6
1.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.88e3
0%
2378D
1.39e7
28.53
Abs. Int.
3.70e6
1.85e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
4.55e4
2.28e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.36e3
0%
JS 1234D
9.49e7
27.87
ES 2378D
9.13e7
28.51
Abs. Int.
2.29e7
1.14e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
1.18e8
27.87
ES 2378D
1.13e8
28.51
Abs. Int.
2.86e7
1.43e7
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23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

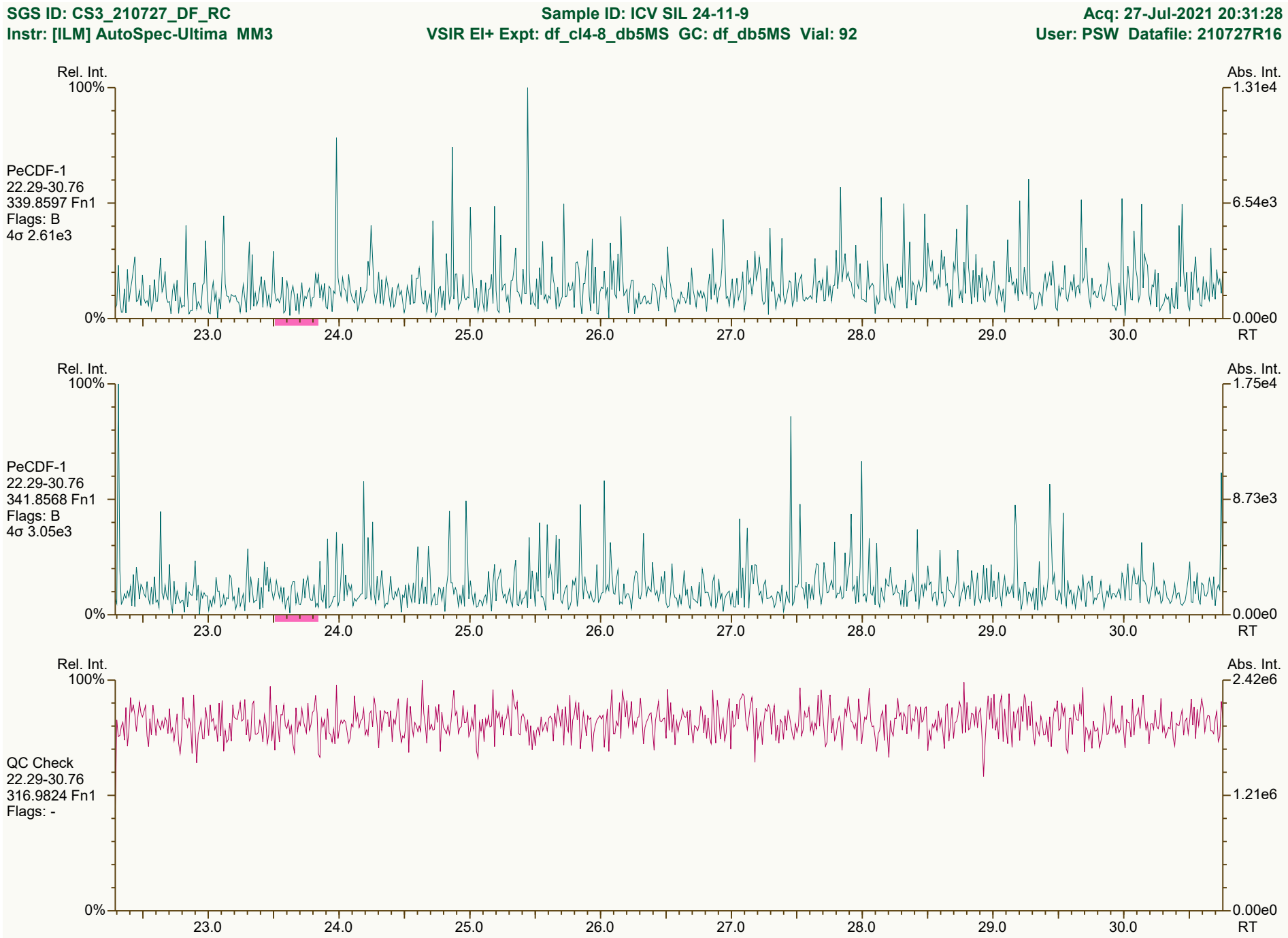

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.06e3
12378D
5.80e7
33.81
1.72e7
8.59e6
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.09e3
12378D
3.74e7
33.81
1.13e7
5.65e6
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 5.14e3
ES 12378D
1.22e8
33.79
3.70e7
1.85e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 2.65e3
ES 12378D
7.36e7
33.79
2.27e7
1.13e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.34e6
1.17e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8171, 5797 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 1.90e3
123678D
5.38e7
37.80
123478D
4.94e7
37.68
123789D
5.26e7
38.08
Abs. Int.
1.71e7
8.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.48e3
123678D
4.32e7
37.80
123478D
3.95e7
37.68
123789D
4.26e7
38.08
Abs. Int.
1.34e7
6.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
9.57e7
37.78
ES 123478D
9.57e7
37.67
ES 123789D
1.12e8
38.07
JS 123467D
4.77e7
37.97
Abs. Int.
3.67e7
1.84e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 4.03e3
ES 123678D
7.43e7
37.78
ES 123478D
7.46e7
37.67
ES 123789D
8.92e7
38.07
JS 123467D
3.96e7
37.97
Abs. Int.
2.86e7
1.43e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.69e7
8.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


1234678D
4.27e7
40.67
Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.03e4
0%
Abs. Int.
1.69e7
8.47e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
1234678D
4.13e7
40.67
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.18e4
1.67e7
8.37e6
ES 1234678D
8.70e7*
40.66
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 3.04e3
3.44e7
1.72e7
ES 1234678D
8.30e7*
40.66
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 1.07e4
3.28e7
1.64e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.23e7
6.15e6

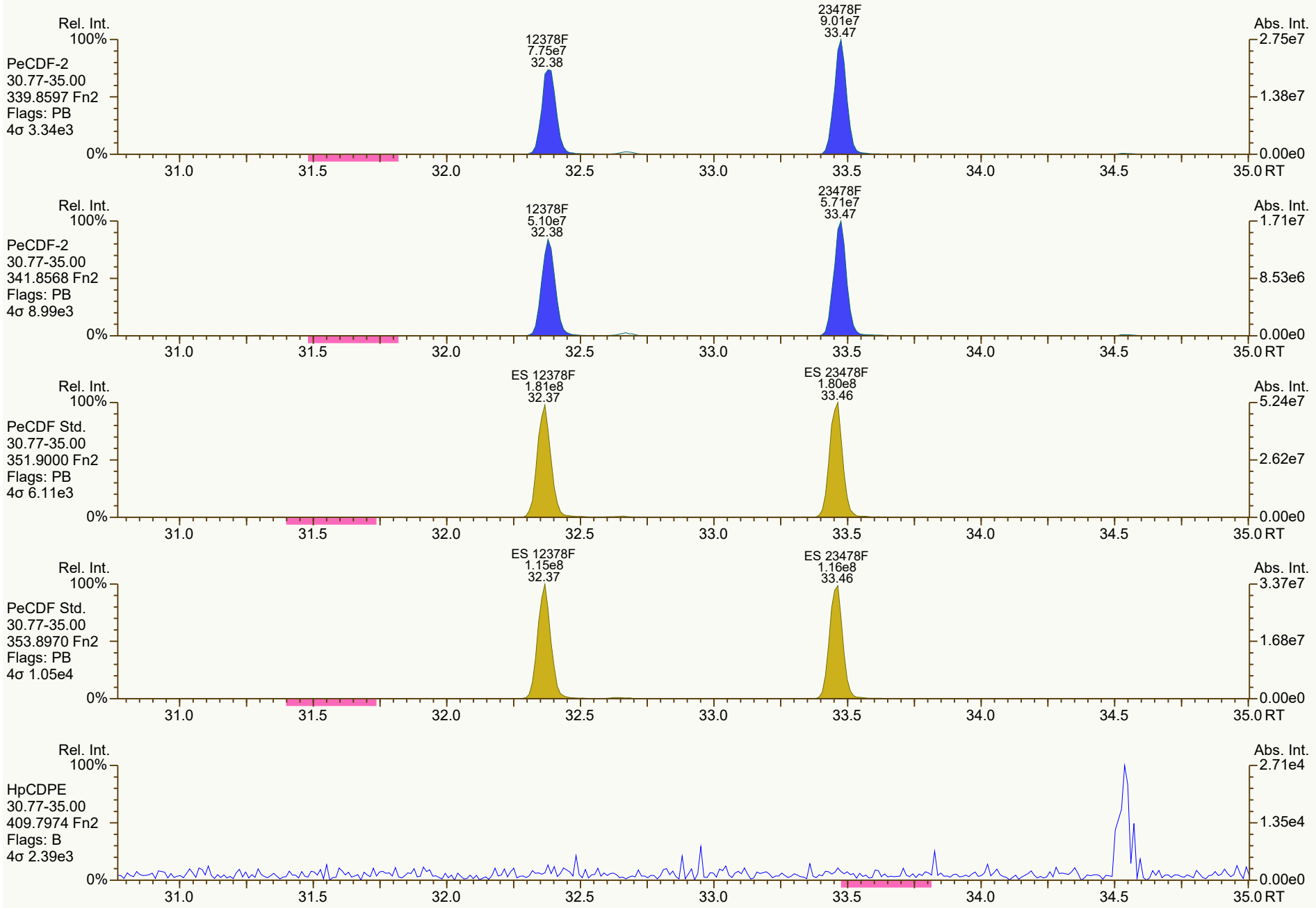

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
OCDD
6.83e7*
43.24
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
OCDD
7.63e7*
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 4.65e3
ES OCDD
1.28e8*
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 3.40e3
ES OCDD
1.41e8*
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.30e3
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9712, 6963 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 6 of 12


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
2378F
1.46e7*
27.68
3.55e6
1.77e6
0.00e0
RT
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg * 1 = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
2378F
1.86e7*
27.67
4.68e6
2.34e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
3.51e7
1.76e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
4.61e7
2.30e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
1.50e4
7.52e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3261, 3217, 9207 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 7 of 12


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.61e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.75e4
8.73e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.05e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6216 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 8 of 12

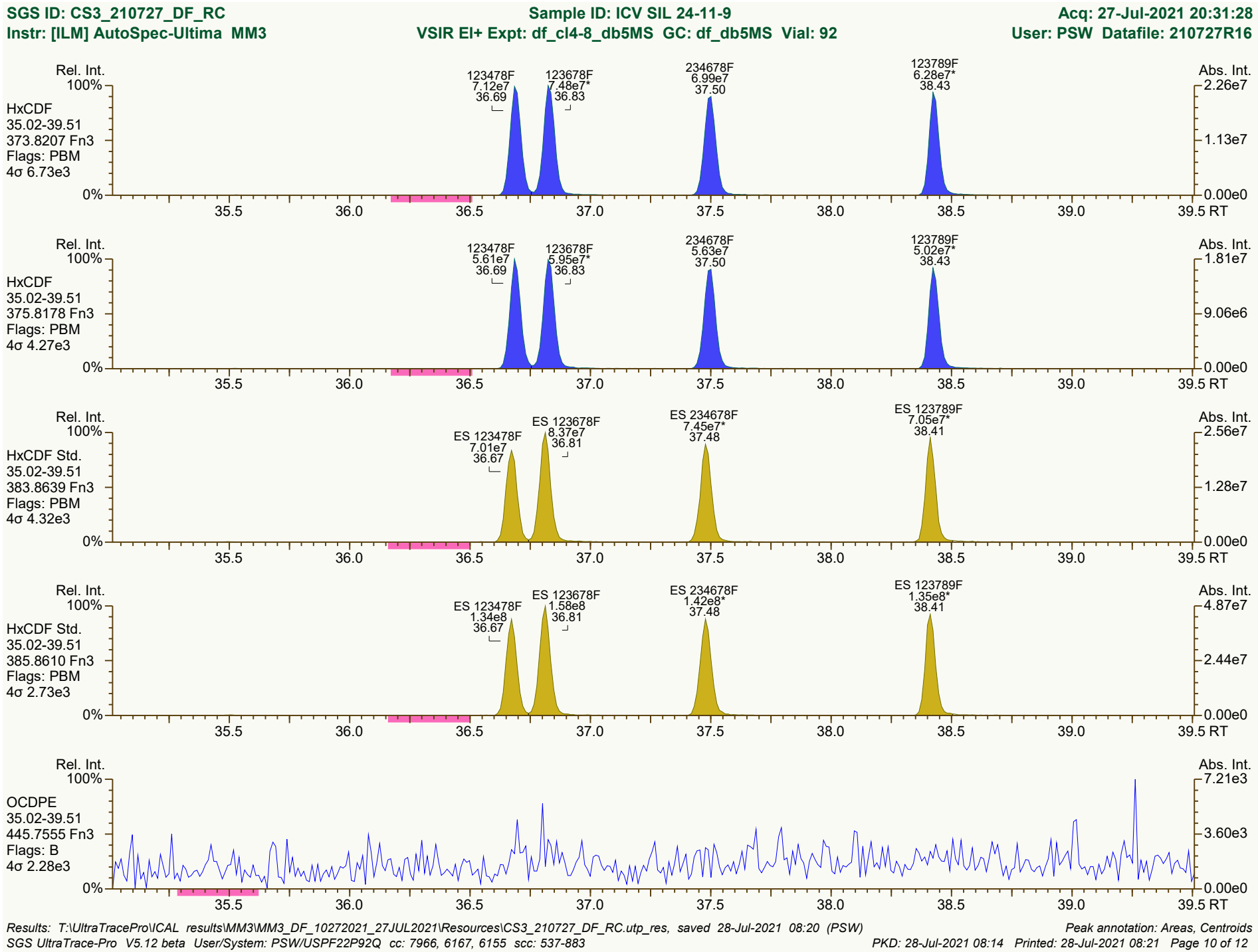
SGS ID: CS3_210727_DF_RC | Sample ID: ICV SIL 24-11-9 | Acq: 27-Jul-2021 20:31:28

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92 | User: PSW Datafile: 210727R16



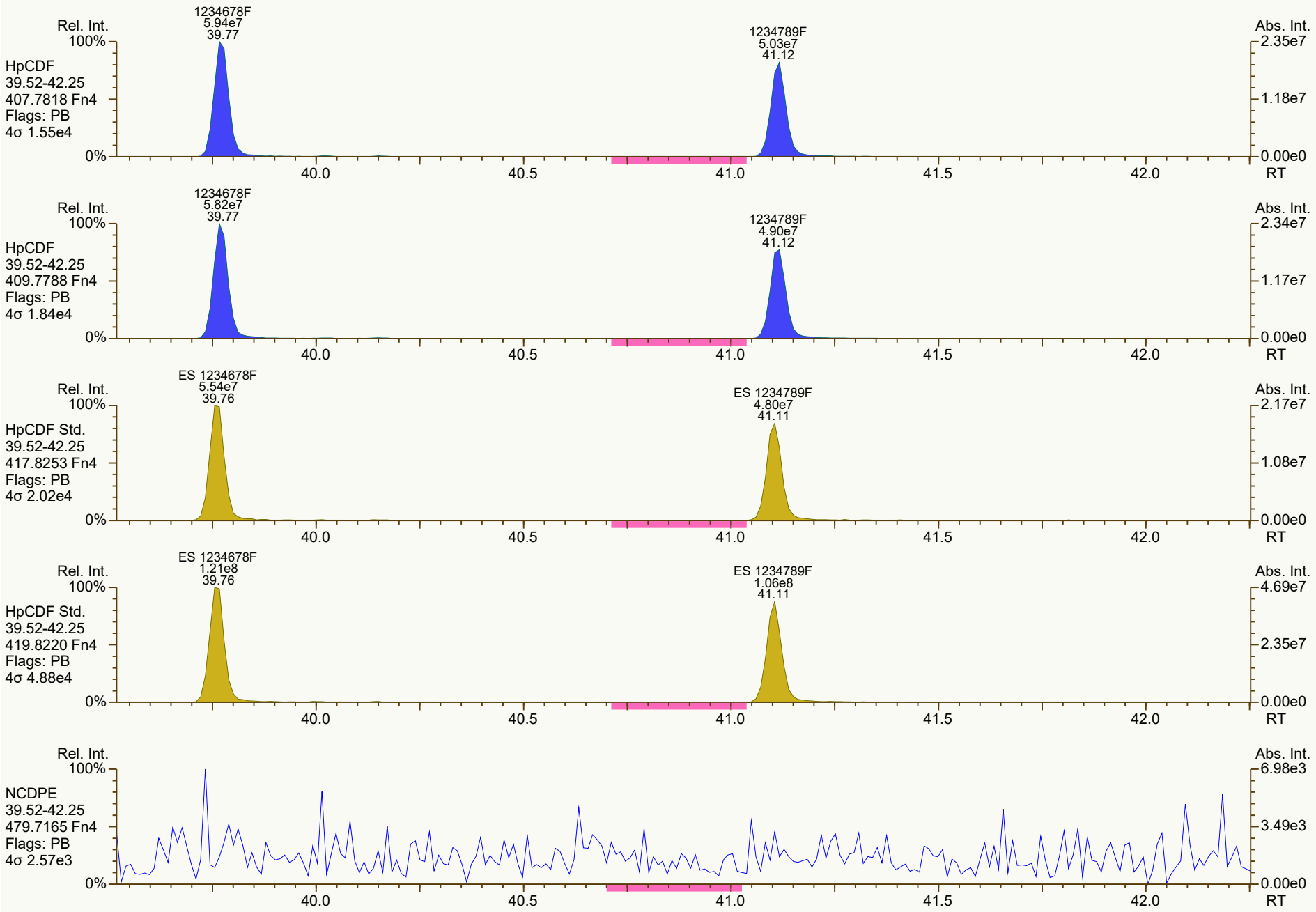
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5316, 2043, 4878 scc: 537-883 *PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 9 of 12*


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 6.73e3
123478F 7.12e7 36.69
123678F 7.48e7* 36.83
234678F 6.99e7 37.50
123789F 6.28e7* 38.43
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123478F 5.61e7 36.69
123678F 5.95e7* 36.83
234678F 5.63e7 37.50
123789F 5.02e7* 38.43
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 4.32e3
ES 123478F 7.01e7 36.67
ES 123678F 8.37e7 36.81
ES 234678F 7.45e7* 37.48
ES 123789F 7.05e7* 38.41
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.73e3
ES 123478F 1.34e8 36.67
ES 123678F 1.58e8 36.81
ES 234678F 1.42e8* 37.48
ES 123789F 1.35e8* 38.41
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.28e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7966, 6167, 6155 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 10 of 12

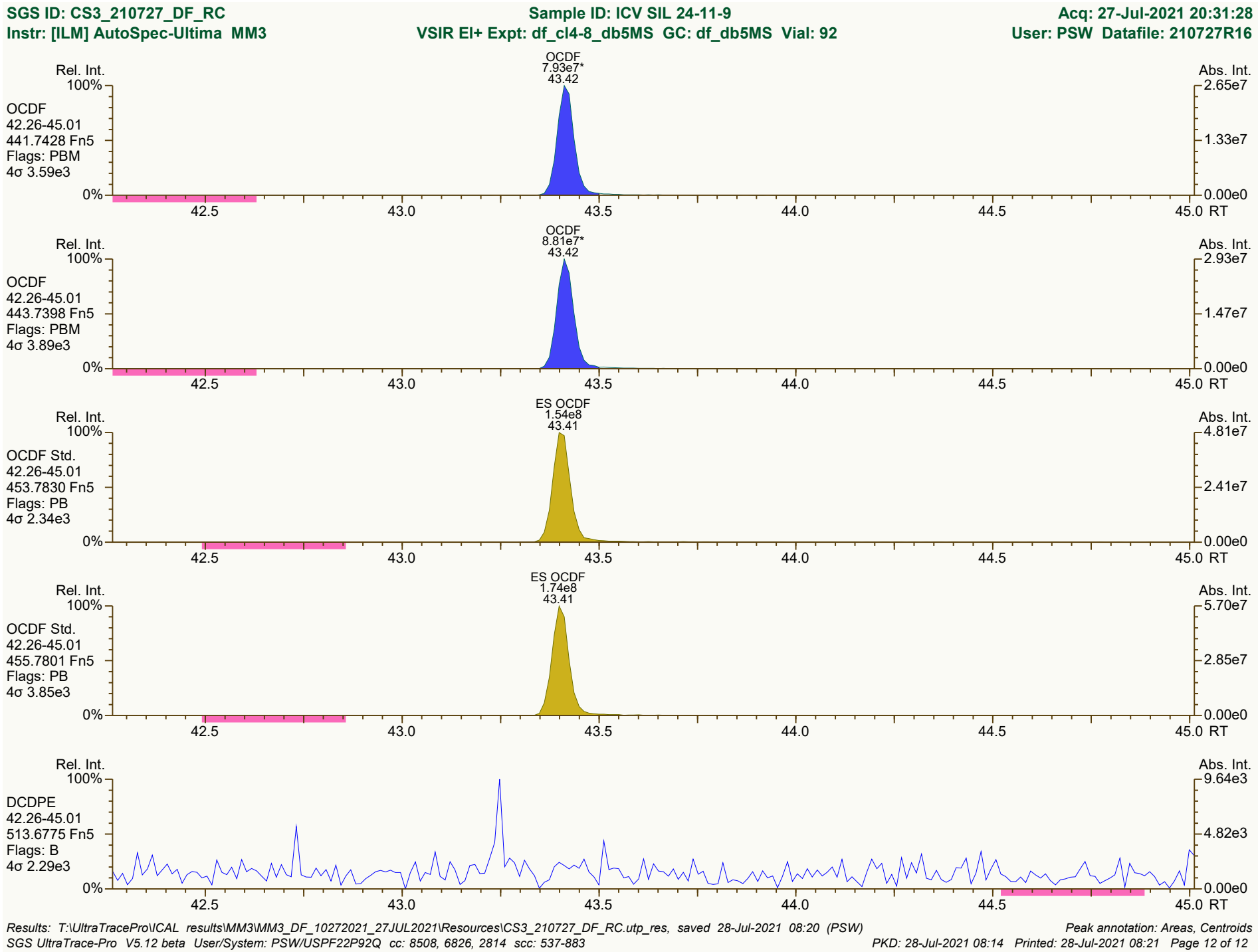
SGS ID: CS3_210727_DF_RC | Sample ID: ICV SIL 24-11-9 | Acq: 27-Jul-2021 20:31:28

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92 | User: PSW Datafile: 210727R16



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

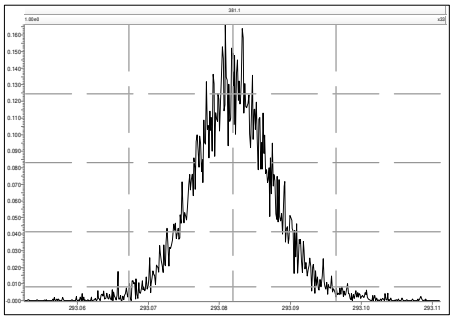
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6305, 0778, 6253 scc: 537-883 *PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 11 of 12*


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
OCDF
7.93e7*
43.42
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
2.65e7
1.33e7
0.00e0
OCDF
8.81e7*
43.42
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
2.93e7
1.47e7
ES OCDF
1.54e8
43.41
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
4.81e7
2.41e7
ES OCDF
1.74e8
43.41
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
5.70e7
2.85e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
9.64e3
4.82e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8508, 6826, 2814 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 12 of 12

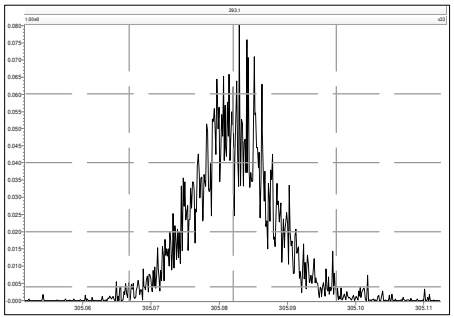
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:15:38 Eastern Daylight Time

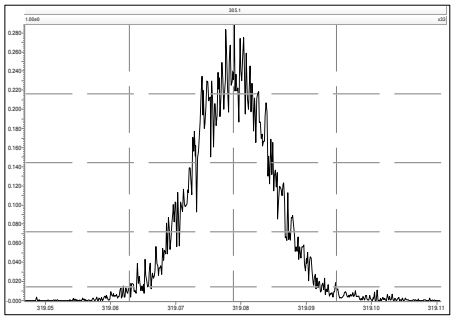
M 292.9824 R 12951



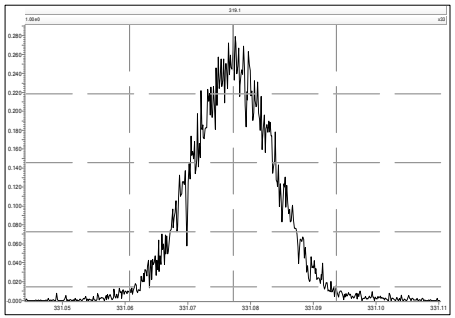
M 304.9824 R 13589



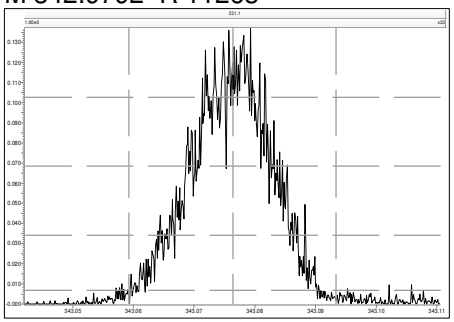
M 318.9792 R 11848



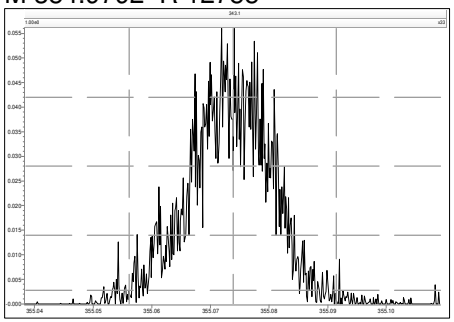
M 330.9792 R 11310



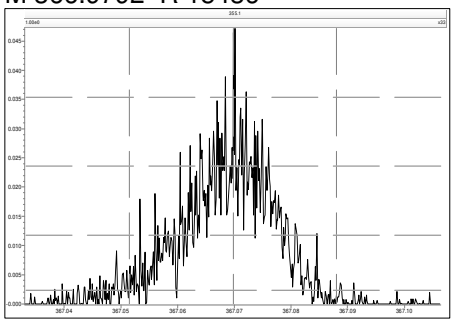
M 342.9792 R 11263



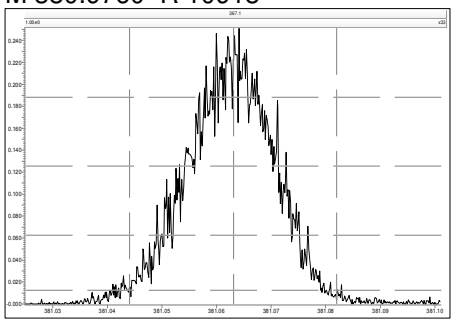
M 354.9792 R 12755



M 366.9792 R 15436



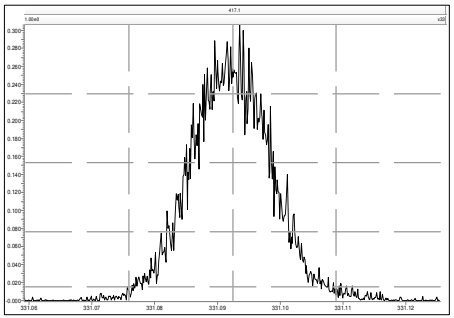
M 380.9760 R 10918



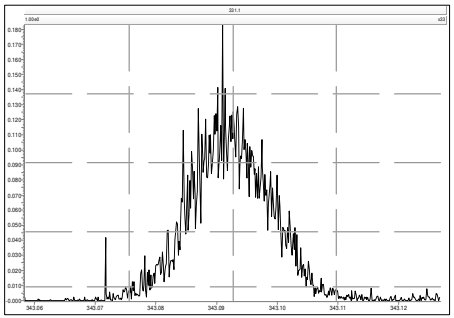
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:03 Eastern Daylight Time

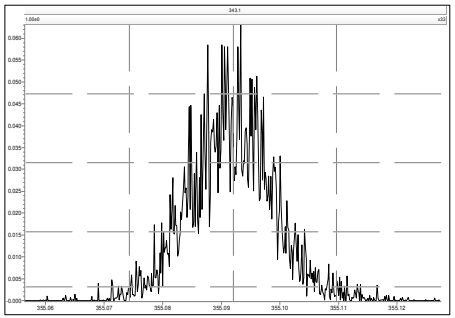
M 330.9792 R 11165



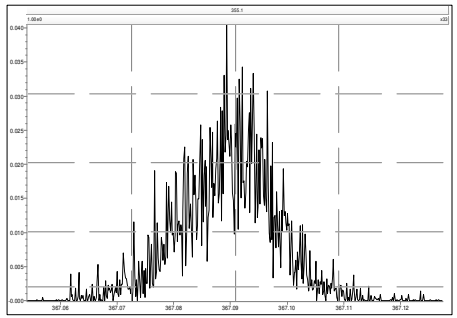
M 342.9792 R 12440



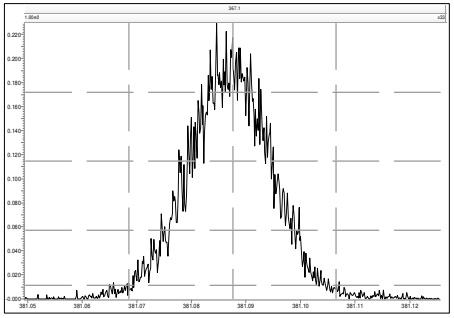
M 354.9792 R 12626



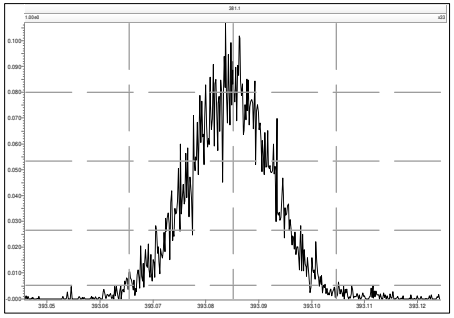
M 366.9792 R 12134



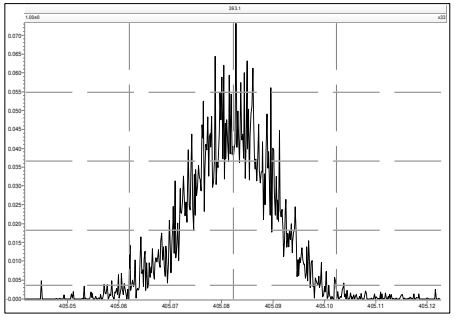
M 380.9760 R 10727



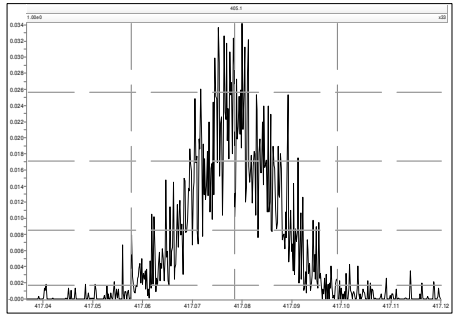
M 392.9760 R 12019



M 404.9760 R 11685



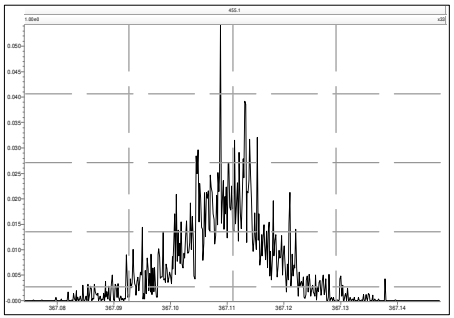
M 416.9760 R 14046



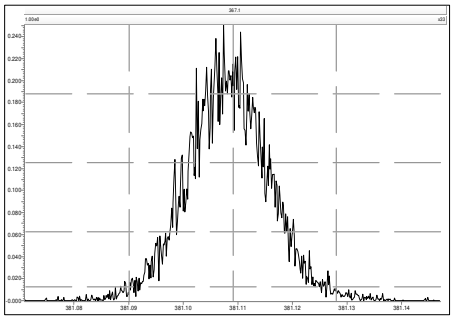
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:24 Eastern Daylight Time

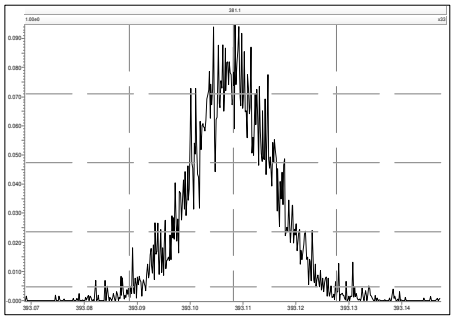
M 366.9792 R 13020



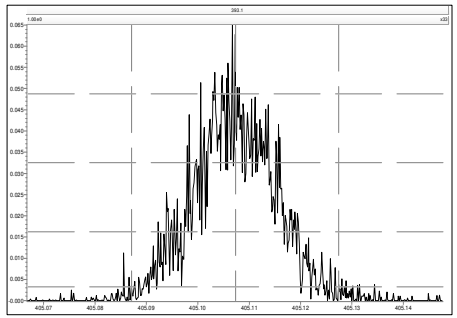
M 380.9760 R 11361



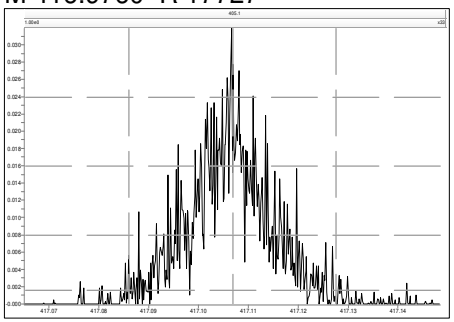
M 392.9760 R 11464



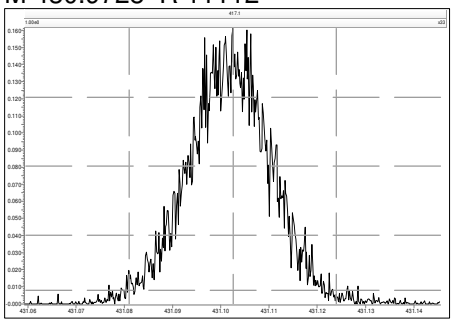
M 404.9760 R 12314



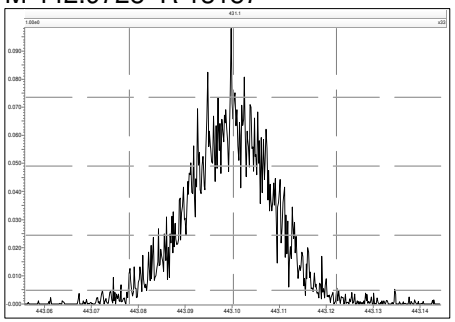
M 416.9760 R 17727



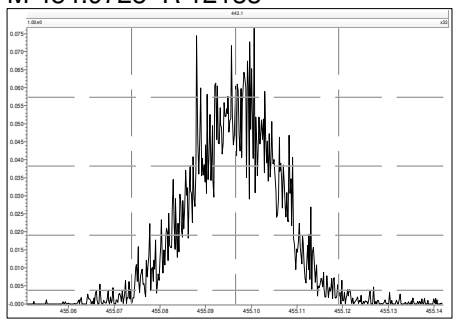
M 430.9728 R 11112



M 442.9728 R 13157



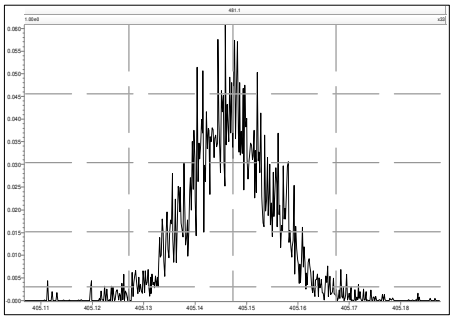
M 454.9728 R 12133



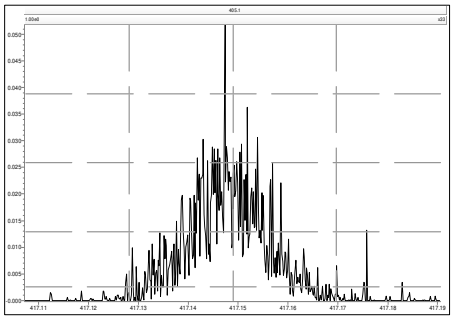
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:47 Eastern Daylight Time

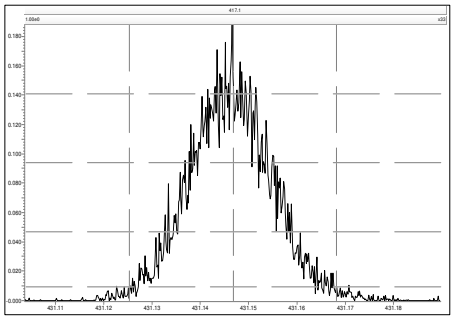
M 404.9760 R 12954



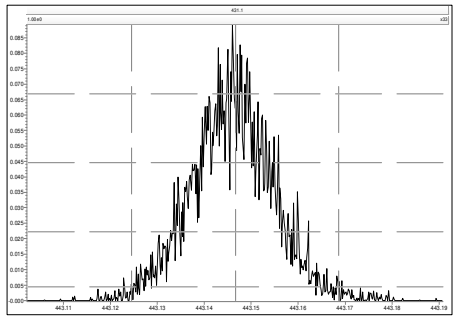
M 416.9760 R 17005



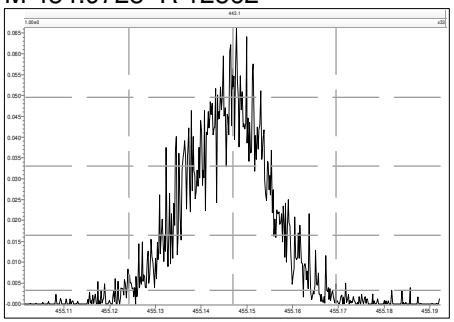
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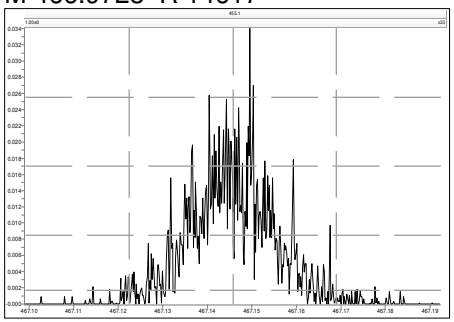
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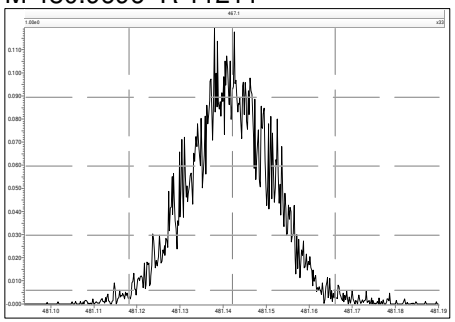
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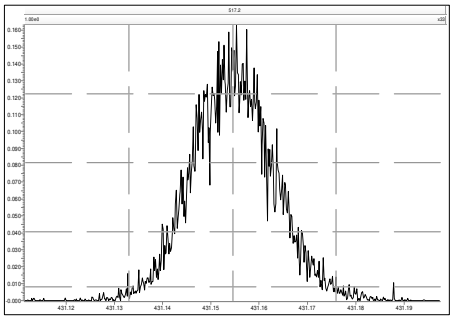
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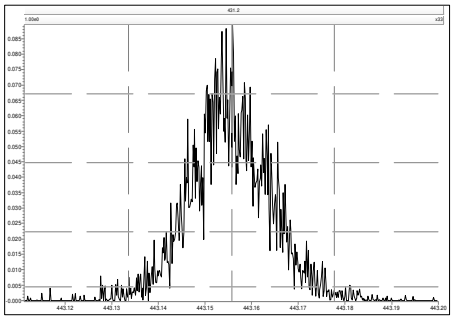
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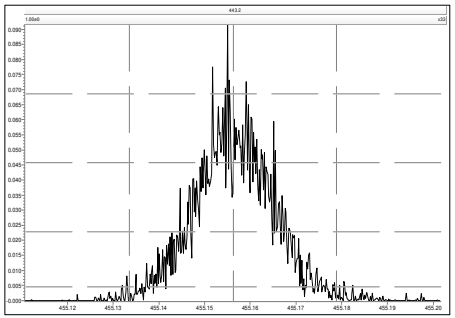
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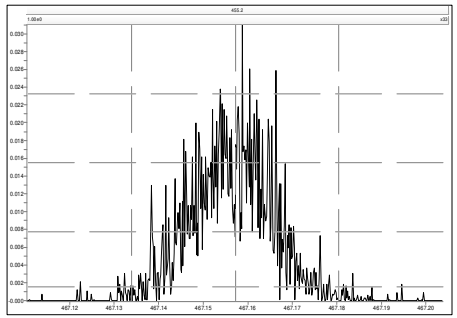
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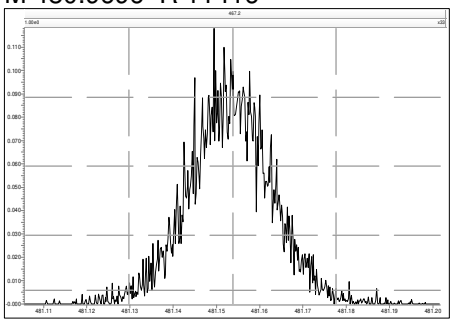
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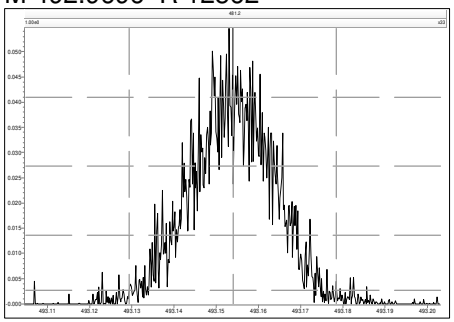
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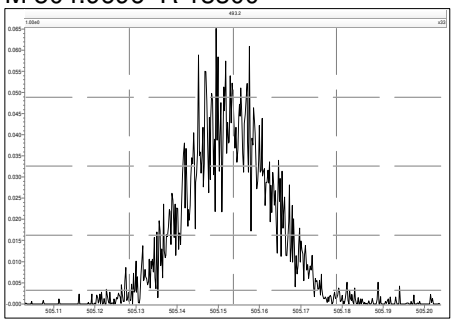
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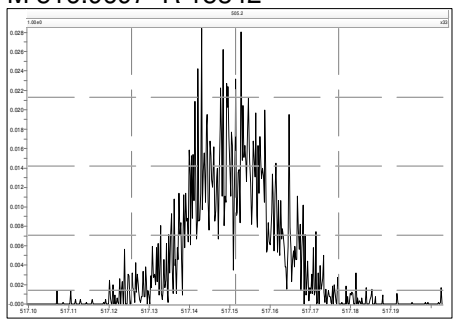
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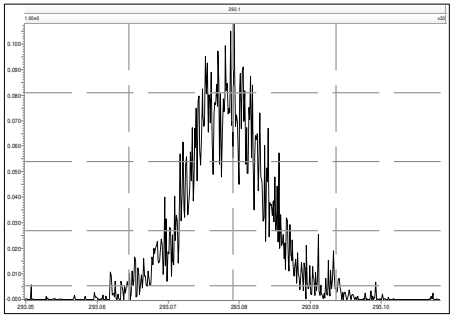


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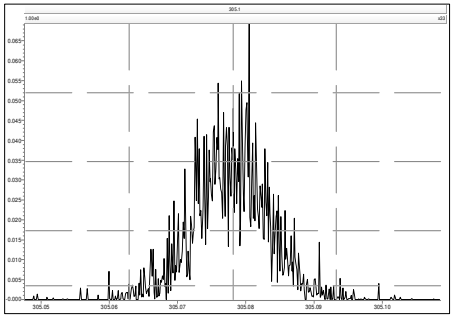


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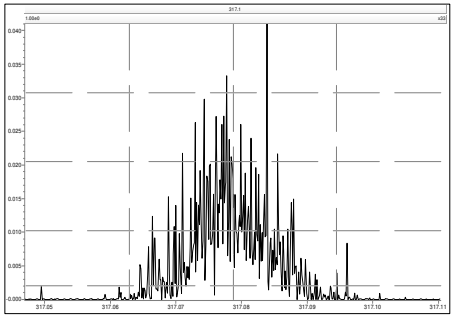
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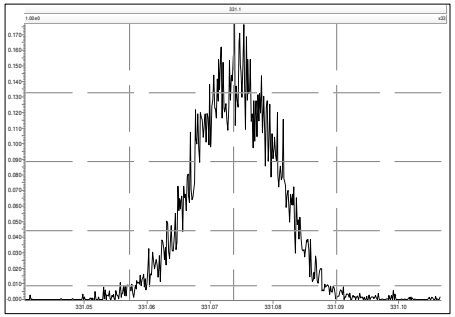
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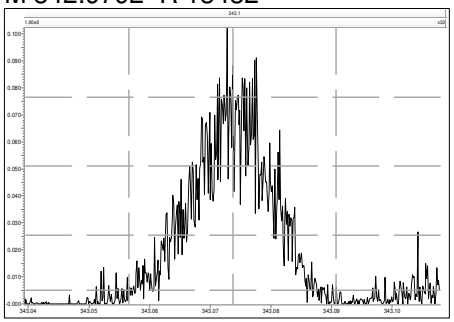
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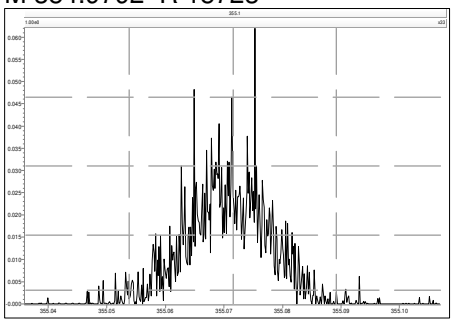
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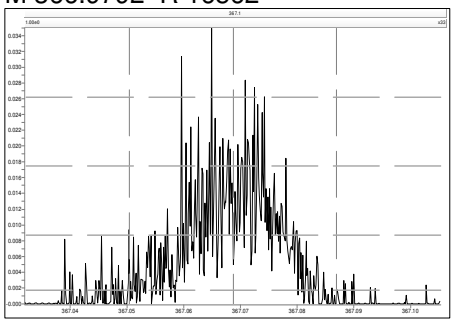
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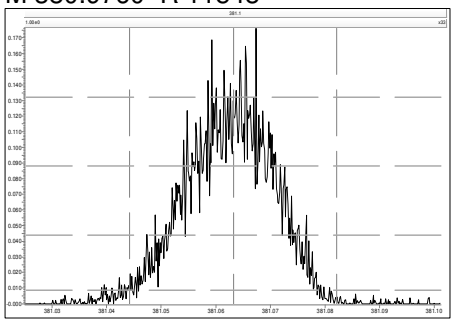
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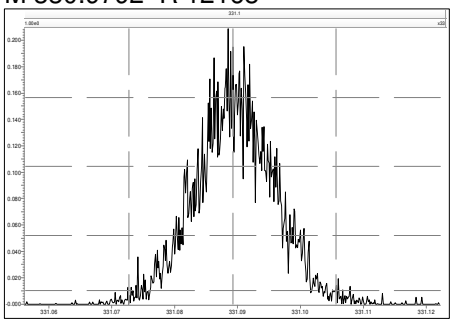
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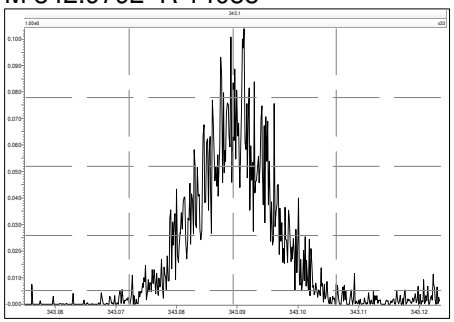
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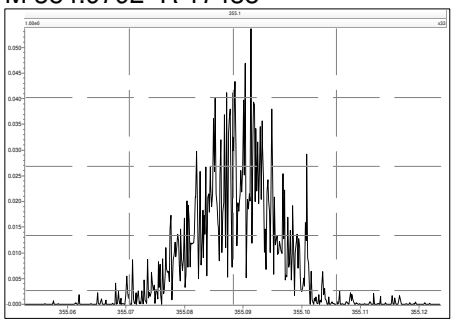
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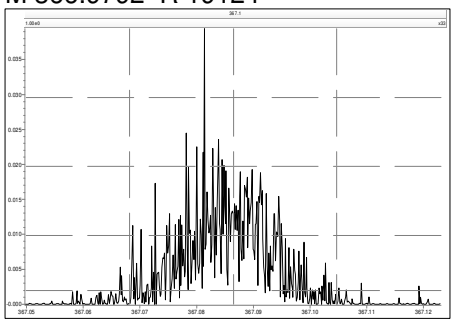
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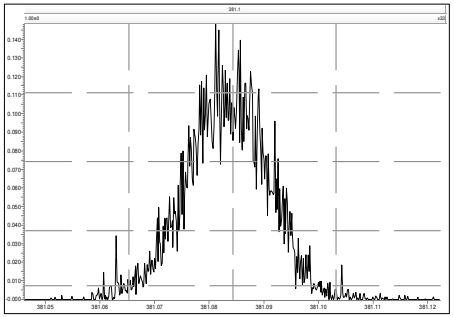
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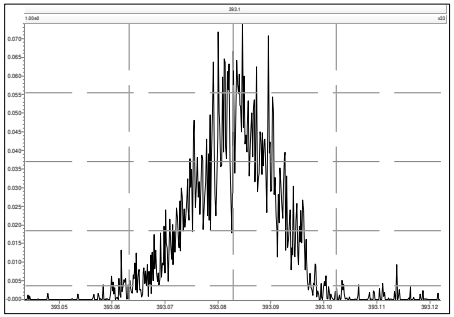
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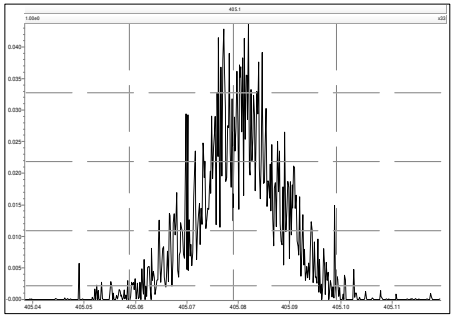
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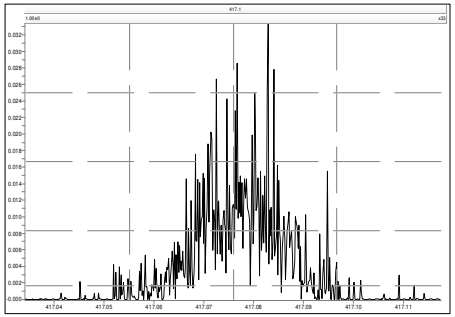
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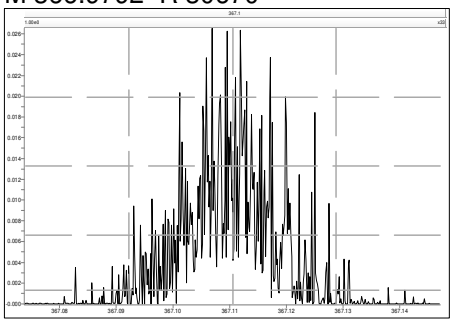
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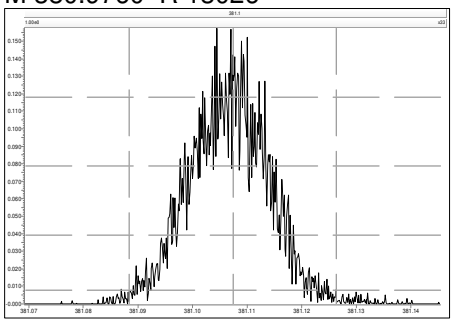
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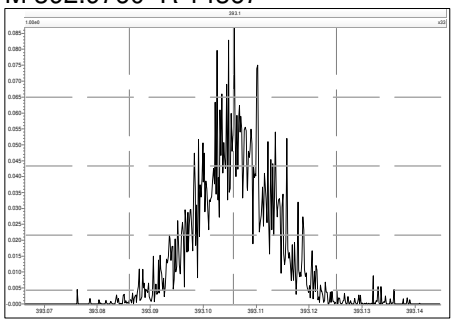
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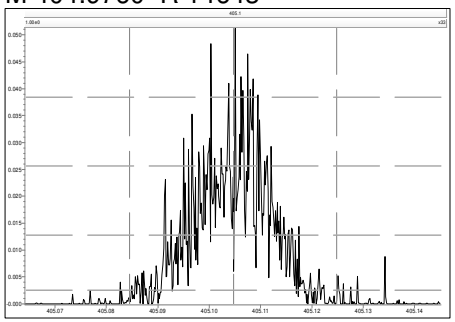
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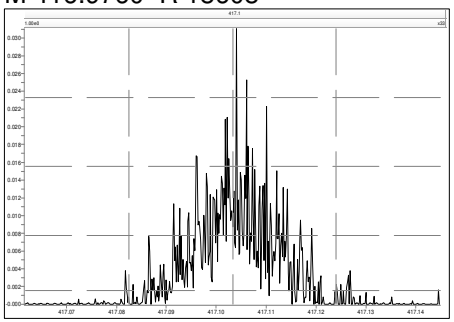
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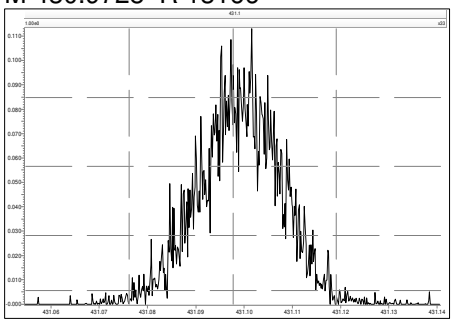
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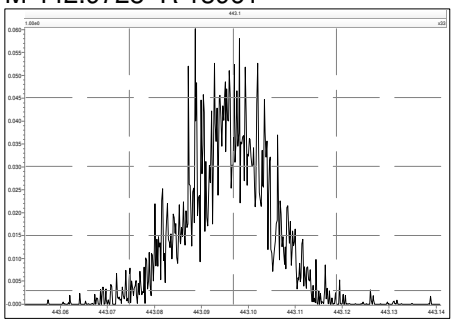
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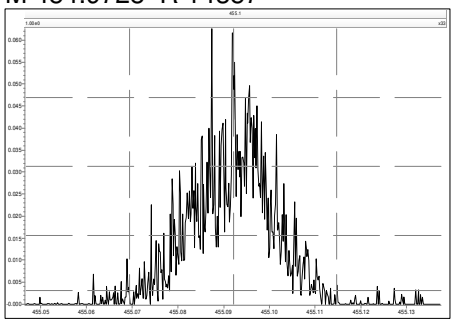
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M 442.9728 R 13961

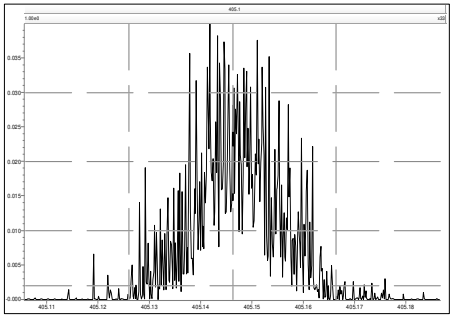


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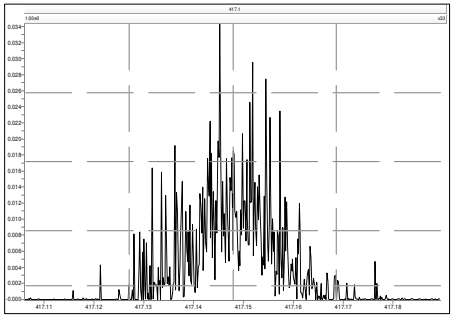


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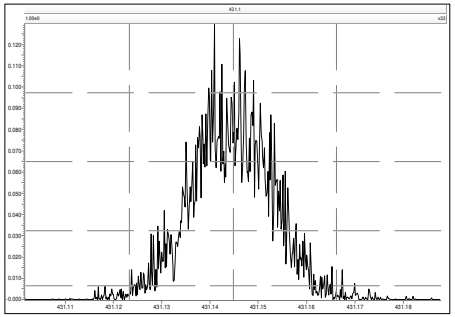
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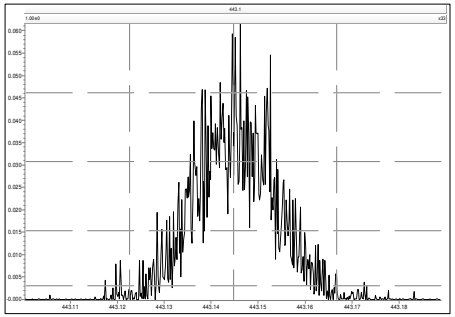
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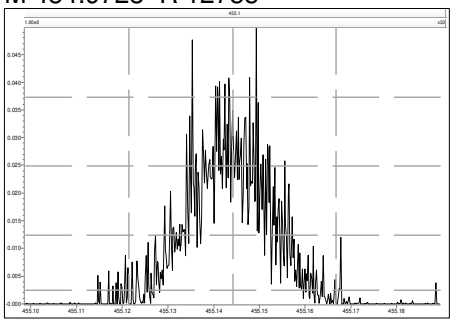
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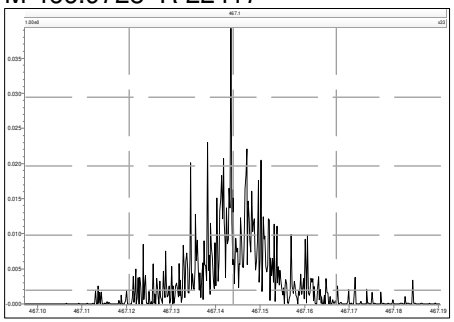
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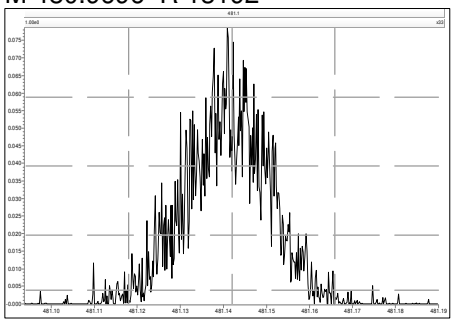
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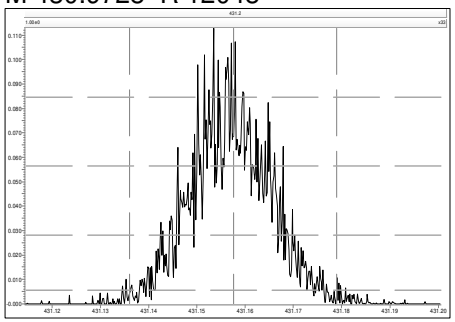
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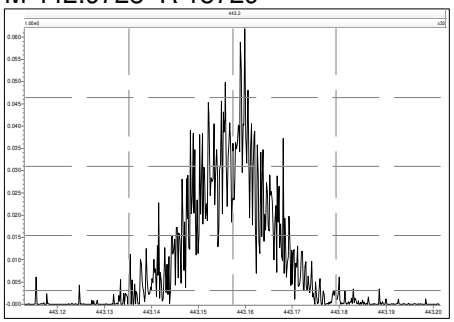
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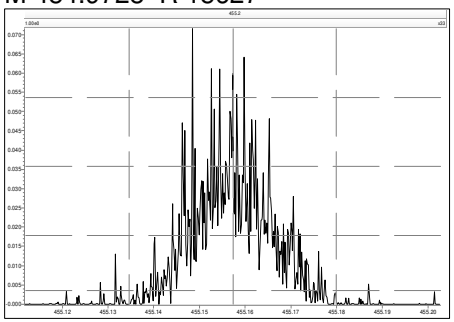
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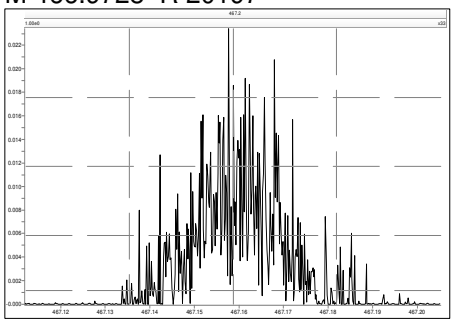
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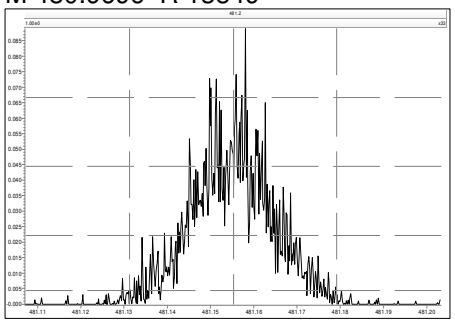
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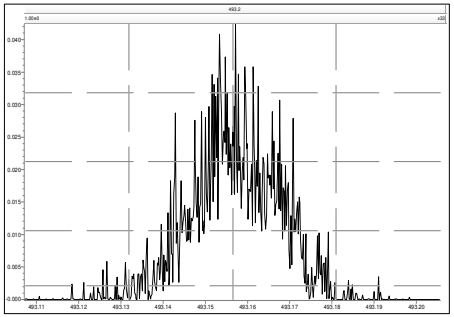


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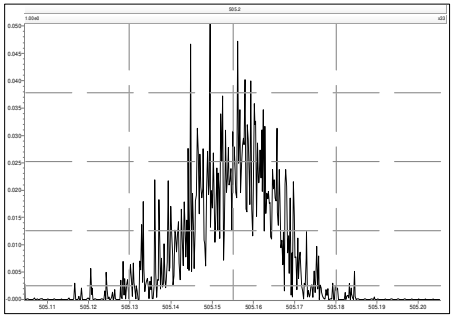


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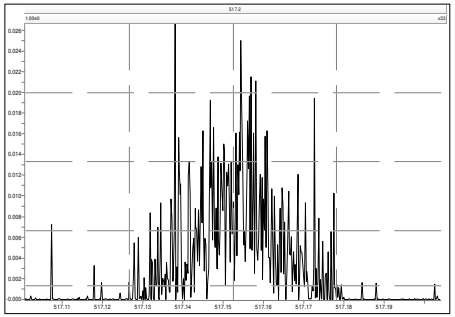
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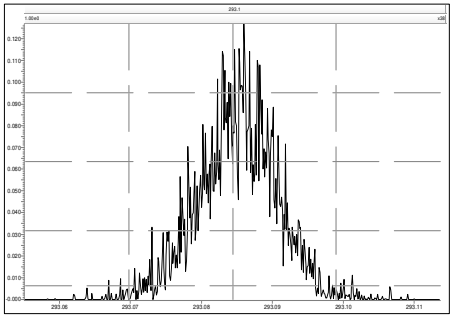


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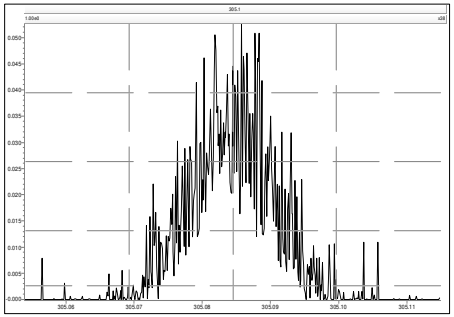


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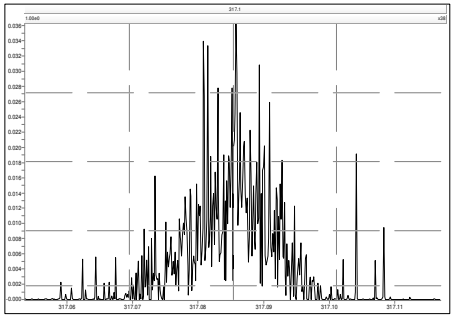
M 292.9824 R 13532



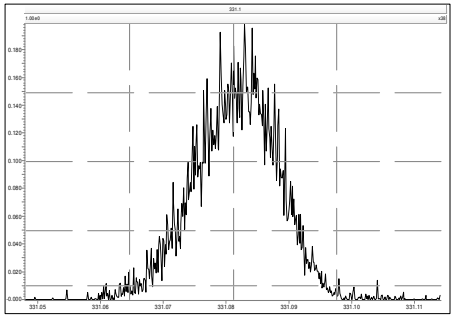
M 304.9824 R 17559



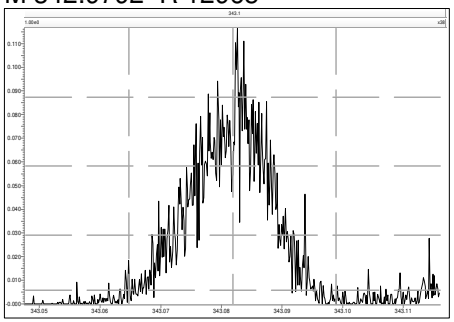
M 316.9824 R 21930



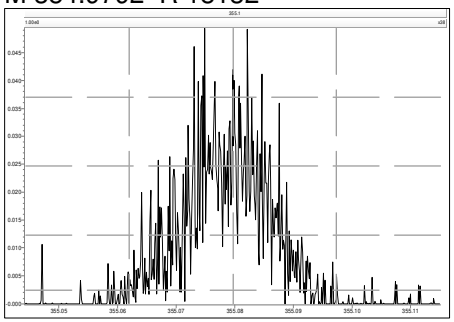
M 330.9792 R 11364



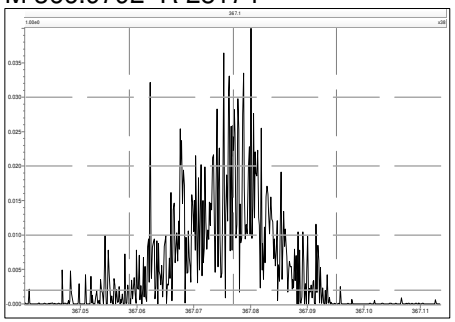
M 342.9792 R 12965



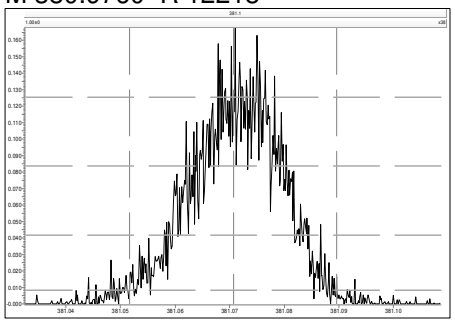
M 354.9792 R 18132



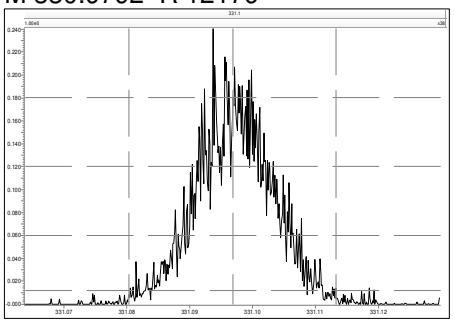
M 366.9792 R 28174



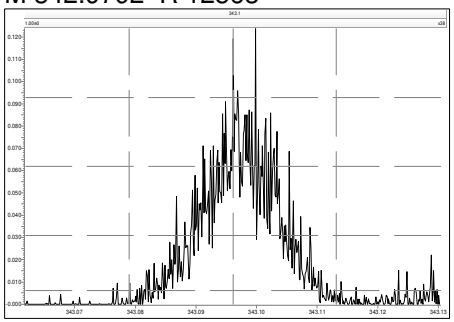
M 380.9760 R 12218



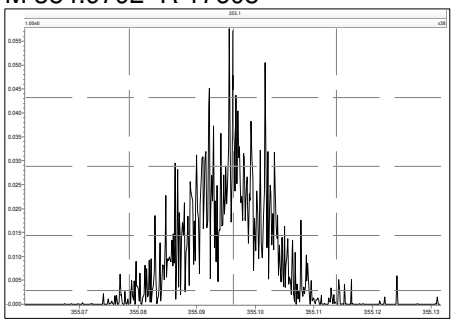
M 330.9792 R 12179



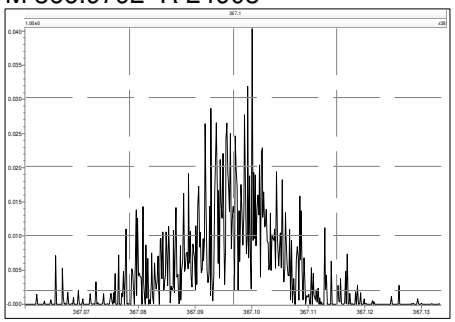
M 342.9792 R 12563



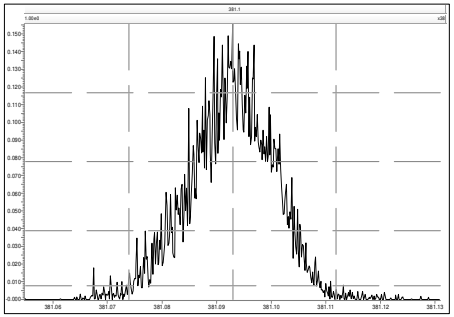
M 354.9792 R 17605



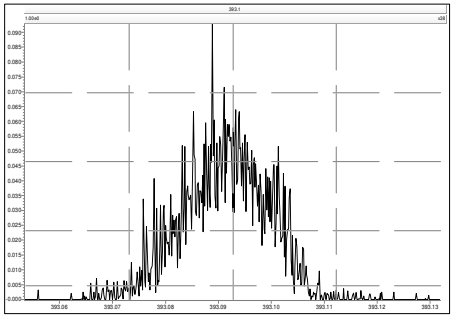
M 366.9792 R 24908



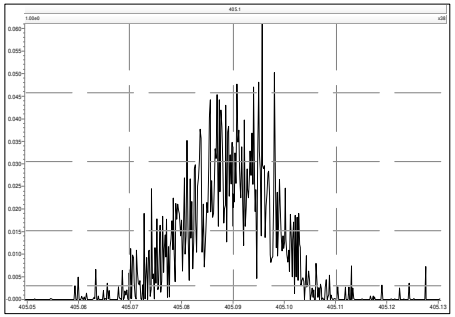
M 380.9760 R 11843



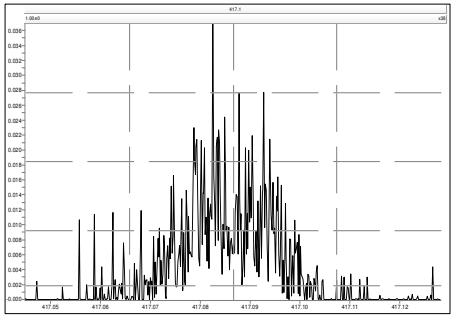
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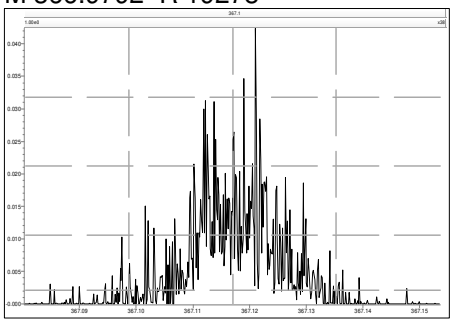
M 404.9760 R 14699



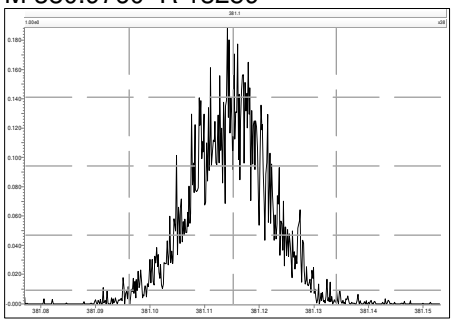
M 416.9760 R 19306



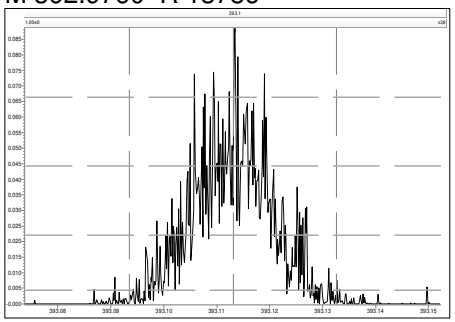
M 366.9792 R 19278



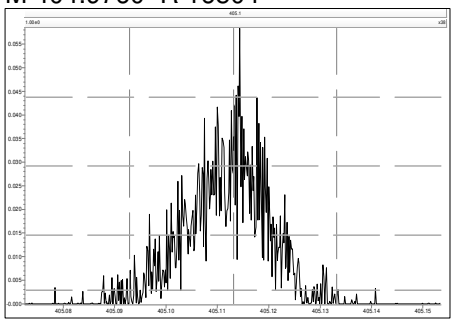
M 380.9760 R 13259



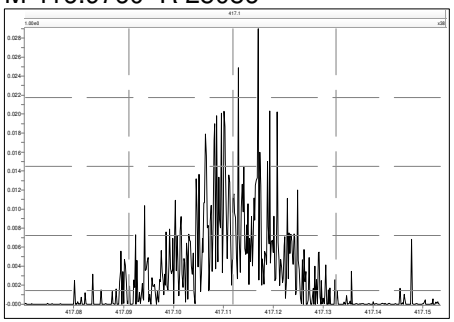
M 392.9760 R 13786



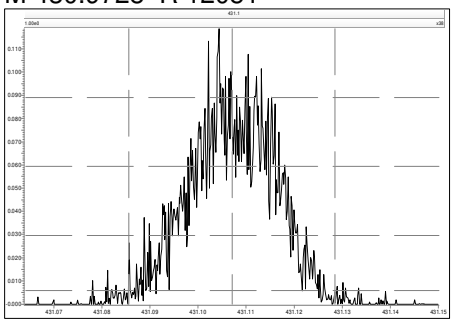
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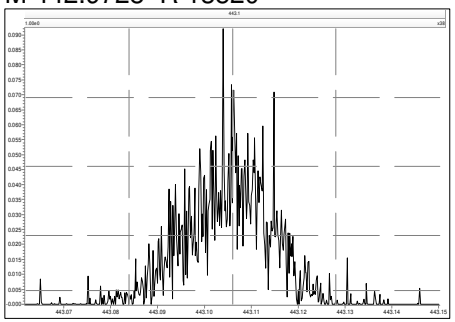
M 416.9760 R 25086



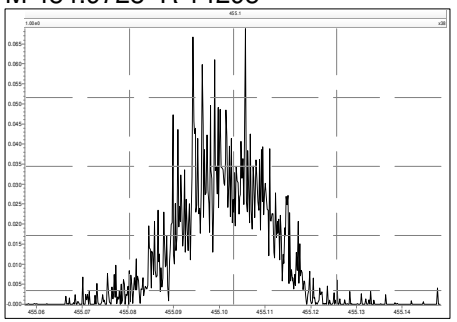
M 430.9728 R 12051



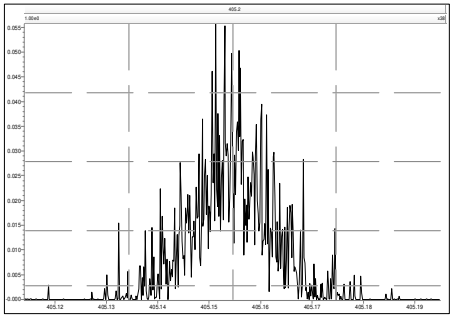
M 442.9728 R 13520



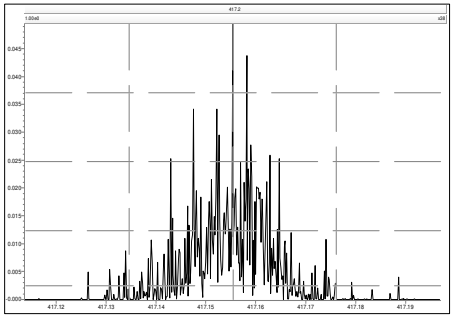
M 454.9728 R 14295



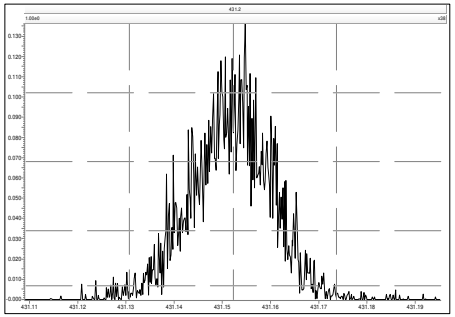
M 404.9760 R 19329



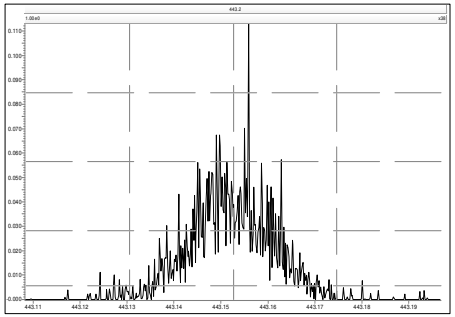
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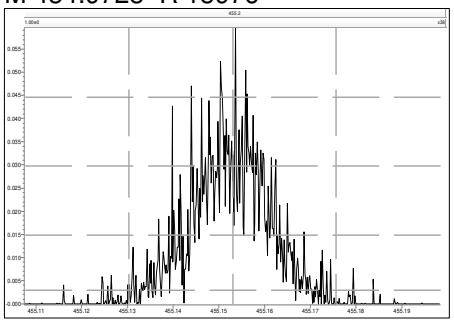
M 430.9728 R 13499



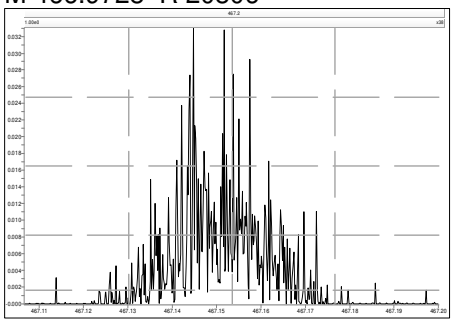
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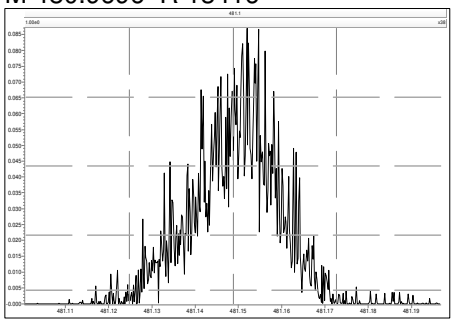
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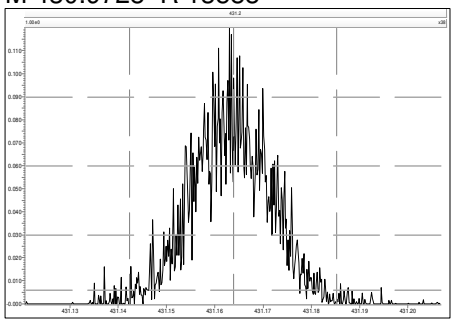
M 466.9728 R 20806



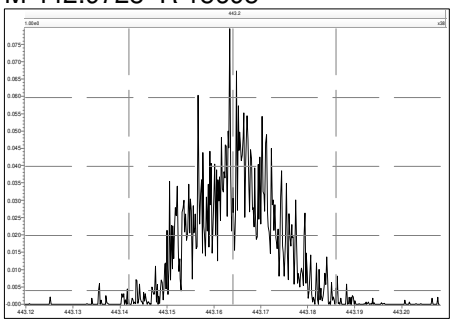
M 480.9696 R 13416



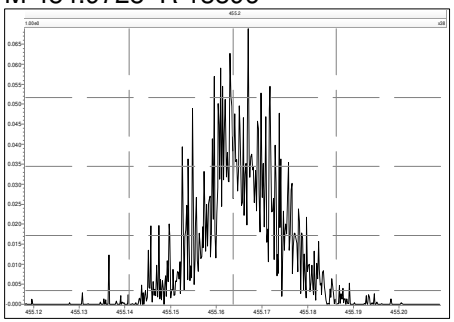
M 430.9728 R 13588



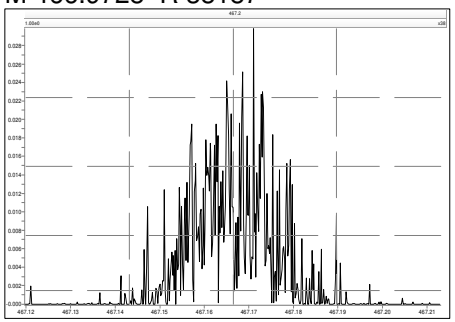
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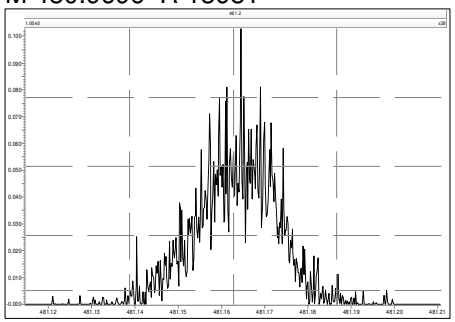
M 454.9728 R 13896



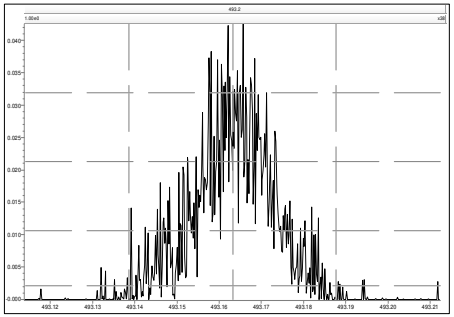
M 466.9728 R 38187



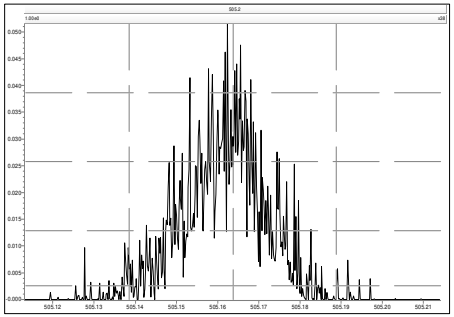
M 480.9696 R 13981



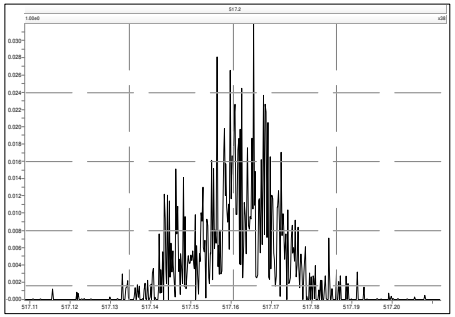
M 492.9696 R 16021



M 504.9696 R 14411



M 516.9697 R 27065



Lab ID: OPR1_18820_DF

REVIEWED
Tamara Burkamper , 1/12/2022, 11:28:08 AM

Acq'd: 11 Jan 2022 17:21 PSW

Wt/Vol: 1 uL

ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR001

UTP: 12-Jan-2022 09:29:53 PSW

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 179-349-MNQ

Datafile: 220111R11

Report: 12 Jan 2022 09:30 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.52		1.0008	1.0008	0	2.65E+06	0.80	Y	1.34	9.44	7470.343	0.28
12378-PeCDD	33.02		1.0006	1.0006	0	9.17E+06	1.50	Y	1.06	45.2	8375.957	0.354
123478-HxCDD	36.94		1.0004	1.0004	0	1.08E+07	1.24	Y	1.06	55.9	7259.219	0.296
123678-HxCDD	37.05		1.0035	1.0035	0	1.13E+07	1.24	Y	1.08	53.8	7259.219	0.298
123789-HxCDD	37.36		1.0117	1.0118	+0.2	1.01E+07	1.26	Y	1.02	51.9	7259.219	0.334
1234678-HpCDD	40.15		1.0003	1.0004	+0.2	9.20E+06	1.05	Y	0.97	56.9	7890.123	0.302
OCDD	42.64		1.0003	1.0003	0	1.07E+07	0.89	Y	1.07	112	8033.868	0.643
2378-TCDF	26.62		1.0008	1.0009	+0.2	3.48E+06	0.82	Y	0.96	11.4	8121.216	0.305
12378-PeCDF	31.54		1.0005	1.0006	+0.2	1.44E+07	1.57	Y	0.95	56.8	11266.855	0.41
23478-PeCDF	32.68		1.0006	1.0005	-0.2	1.56E+07	1.56	Y	0.94	61.6	11266.855	0.374
123478-HxCDF	35.97		1.0004	1.0005	+0.2	1.36E+07	1.24	Y	1.23	56.7	15791.009	0.58
123678-HxCDF	36.11		1.0004	1.0005	+0.2	1.65E+07	1.27	Y	1.13	56.9	15791.009	0.456
234678-HxCDF	36.76		1.0004	1.0005	+0.2	2.03E+07	1.27	Y	1.15	55	15791.009	0.34
123789-HxCDF	37.75		1.0005	1.0005	0	1.21E+07	1.25	Y	1.14	52.6	15791.009	0.584
1234678-HpCDF	39.24		1.0003	1.0003	0	1.44E+07	1.06	Y	1.36	55.6	7815.77	0.183
1234789-HpCDF	40.58		1.0002	1.0003	+0.2	1.10E+07	1.04	Y	1.30	52.8	7815.77	0.232
OCDF	42.81		1.0003	1.0003	0	1.33E+07	0.93	Y	1.03	108	8793.087	0.563

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.49	1.0251	1.0254	+0.5	2.09E+07	0.79	Y	1.03	93.5
ES 12378-PeCDD	33.00	1.2290	1.2308	+3.6	1.91E+07	1.56	Y	1.03	85.6
ES 123478-HxCDD	36.92	0.9915	0.9915	0	1.84E+07	1.31	Y	0.99	99.3
ES 123678-HxCDD	37.04	0.9947	0.9946	-0.2	1.94E+07	1.22	Y	0.97	107
ES 123789-HxCDD	37.34	1.0028	1.0028	0	1.92E+07	1.26	Y	1.12	92
ES 1234678-HpCDD	40.14	1.0771	1.0779	+1.9	1.66E+07	1.03	Y	0.99	90.1
ES OCDD	42.63	1.1441	1.1447	+1.5	1.79E+07	0.89	Y	0.78	61.9
ES 2378-TCDF	26.60	1.0562	1.0569	+1.1	3.17E+07	0.78	Y	1.08	90.6
ES 12378-PeCDF	31.52	1.2501	1.2526	+4.7	2.68E+07	1.59	Y	0.93	89.1
ES 23478-PeCDF	32.66	1.2950	1.2978	+5.5	2.70E+07	1.64	Y	0.92	90.7
ES 123478-HxCDF	35.95	0.9654	0.9654	0	1.94E+07	0.53	Y	1.14	91.5
ES 123678-HxCDF	36.09	0.9691	0.9692	+0.2	2.57E+07	0.53	Y	1.30	107
ES 234678-HxCDF	36.74	0.9867	0.9867	0	3.20E+07	0.54	Y	1.20	143
ES 123789-HxCDF	37.73	1.0134	1.0133	-0.2	2.03E+07	0.53	Y	1.14	95.9
ES 1234678-HpCDF	39.22	1.0527	1.0533	+1.4	1.90E+07	0.46	Y	0.95	108
ES 1234789-HpCDF	40.57	1.0887	1.0895	+1.9	1.60E+07	0.44	Y	0.85	101
ES OCDF	42.80	1.1487	1.1493	+1.5	2.40E+07	0.87	Y	0.93	69.7

Lab ID: OPR1_18820_DF | **Acq'd:** 11 Jan 2022 17:21 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR001 | **UTP:** 12-Jan-2022 09:29:53 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 179-349-MNQ

Datafile: 220111R11 | **Report:** 12 Jan 2022 09:30 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.81		-	-	-	2.16E+07	0.78	Y	-	-
JS 1234-TCDF	25.16		-	-	-	3.23E+07	0.76	Y	-	-
JS 123467-HxCDD	37.24		-	-	-	9.29E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	27.52		1.0260	1.0262	+0.3	9.30E+06	n/a	-	1.31	82.2
CS 12347-PeCDD	32.50		1.2102	1.2119	+3.3	1.73E+07	1.55	Y	0.89	89.9
CS 12346-PeCDF	30.98		1.2289	1.2312	+4.3	2.66E+07	1.62	Y	0.87	95
CS 123469-HxCDF	36.40		0.9774	0.9775	+0.2	2.18E+07	0.55	Y	1.09	108
CS 1234689-HpCDF	39.64		1.0636	1.0645	+2.1	1.93E+07	0.44	Y	0.86	120
~~SS 37Cl-2378-TCDD~~	~~27.52~~		~~1.0260~~	~~1.0262~~	~~+0.3~~	~~9.30E+06~~	~~n/a~~		~~1.26~~	~~88.4~~
~~SS 12347-PeCDD~~	~~32.50~~		~~1.2102~~	~~1.2119~~	~~+3.3~~	~~1.73E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~30.98~~		~~1.2289~~	~~1.2312~~	~~+4.3~~	~~2.66E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~107~~
~~SS 123469-HxCDF~~	~~36.40~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~2.18E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~101~~
~~SS 1234689-HpCDF~~	~~39.64~~		~~1.0636~~	~~1.0645~~	~~+2.1~~	~~1.93E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~111~~

Totals	Conc	EMPC
Total TCDD	47	47
Total PeCDD	69.9	69.9
Total HxCDD	175	175
Total HpCDD	70.1	70.1
Total Tetra-Octa Dioxins	474	474
Total TCDF	71.9	71.9
Total PeCDF	254	254
Total HxCDF	350	350
Total HpCDF	108	108
Total Tetra-Octa Furans	892	892
Total Tetra-Octa Dioxins & Furans	1370	1370

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.799	0.80
Response	2.66E+06	2.65E+06

Lab ID: OPR1_18820_DF | **Acq'd: 11 Jan 2022 17:21 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR001 | **UTP: 12-Jan-2022 09:29:53 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 179-349-MNQ**

Datafile: 220111R11 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.67		0.8626	0.8610	-2.3	3.84E+06	0.73	Y	1.34	13.7	7470.343	0.28
1379-TCDD	NotFnd		0.8763						1.34		7470.343	0.28
1369-TCDD	NotFnd		0.8929						1.34		7470.343	0.28
1469-TCDD	NotFnd		0.9227						1.34		7470.343	0.28
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		7470.343	0.28
1378-TCDD	NotFnd		0.9389						1.34		7470.343	0.28
1268-TCDD	NotFnd		0.9463						1.34		7470.343	0.28
1478-TCDD	NotFnd		0.9556						1.34		7470.343	0.28
1279-TCDD	NotFnd		0.9620						1.34		7470.343	0.28
1234/1269-TCDD	NotFnd		0.9753						1.34		7470.343	0.28
1236-TCDD	NotFnd		0.9806						1.34		7470.343	0.28
1237/1238-TCDD	NotFnd		0.9900						1.34		7470.343	0.28
1239-TCDD	27.36		0.9951	0.9950	-0.2	2.72E+06	0.80	Y	1.34	9.69	7470.343	0.28
2378-TCDD	**27.52**		**1.0008**	1.0008	**0**	2.65E+06	0.80	Y	**1.34**	**9.44**	**7470.343**	**0.28**
1278-TCDD	NotFnd		1.0131						1.34		7470.343	0.28
1267-TCDD	NotFnd		1.0182						1.34		7470.343	0.28
1289-TCDD	28.53		1.0373	1.0375	+0.3	3.99E+06	0.76	Y	1.34	14.2	7470.343	0.28
12479/12468-PeCDD	30.48		0.9237	0.9234	-0.5	2.38E+06	1.60	Y	1.06	11.7	8375.957	0.354
12469-PeCDD	NotFnd		0.9402						1.06		8375.957	0.354
12368-PeCDD	NotFnd		0.9572						1.06		8375.957	0.354
12478-PeCDD	NotFnd		0.9629						1.06		8375.957	0.354
12379-PeCDD	NotFnd		0.9660						1.06		8375.957	0.354
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		8375.957	0.354
12346/12347-PeCDD	NotFnd		0.9854						1.06		8375.957	0.354
12378-PeCDD	33.02		**1.0006**	**1.0006**	**0**	**9.17E+06**	**1.50**	**Y**	**1.06**	**45.2**	**8375.957**	**0.354**
12367-PeCDD	NotFnd		1.0034						1.06		8375.957	0.354
12389-PeCDD	33.47		1.0141	1.0141	0	2.63E+06	1.67	Y	1.06	13	8375.957	0.354
124679/124689-HxCDD	35.23		0.9542	0.9542	0	2.64E+06	1.29	Y	1.05	13.2	7259.219	0.309
123468-HxCDD	NotFnd		0.9720						1.05		7259.219	0.309
123679/123689-HxCDD	NotFnd		0.9798						1.05		7259.219	0.309
123469-HxCDD	NotFnd		0.9836						1.05		7259.219	0.309
123478-HxCDD	36.94		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.24**	**Y**	1.06	**55.9**	**7259.219**	**0.296**
123678-HxCDD	37.05		**1.0035**	**1.0035**	**0**	**1.13E+07**	**1.24**	**Y**	1.08	**53.8**	**7259.219**	**0.298**
123467-HxCDD	NotFnd		1.0089						1.05		7259.219	0.309
123789-HxCDD	37.36		**1.0117**	**1.0118**	**+0.2**	**1.01E+07**	**1.26**	**Y**	1.02	**51.9**	**7259.219**	**0.334**

Lab ID: OPR1_18820_DF | **Acq'd: 11 Jan 2022 17:21 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR001 | **UTP: 12-Jan-2022 09:29:53 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 179-349-MNQ**

Datafile: 220111R11 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.50		0.9842	0.9842	0	2.14E+06	1.13	Y	0.97	13.2	7890.123	0.302
1234678-HpCDD	**40.15**		**1.0003**	**1.0004**	**+0.2**	**9.20E+06**	**1.05**	**Y**	**0.97**	**56.9**	**7890.123**	**0.302**
OCDD	**42.64**		**1.0003**	**1.0003**	**0**	**1.07E+07**	**0.89**	**Y**	**1.07**	**112**	**8033.868**	**0.643**
OCDD-a	NotFnd		1.0002						0.07		12687.381	16.5
1368-TCDF	21.44		0.8080	0.8062	-2.3	5.19E+06	0.76	Y	0.96	17.1	8121.216	0.305
1468-TCDF	NotFnd		0.8299						0.96		8121.216	0.305
2468-TCDF	22.71		0.8555	0.8537	-2.5	1.29E+06	0.71	Y	0.96	4.25	8121.216	0.305
1346/1246-TCDF	NotFnd		0.8688						0.96		8121.216	0.305
1347/1378/1247-TCDF	NotFnd		0.8753						0.96		8121.216	0.305
1348-TCDF	NotFnd		0.8863						0.96		8121.216	0.305
1248/1367/1379-TCDF	NotFnd		0.8915						0.96		8121.216	0.305
1268-TCDF	NotFnd		0.9065						0.96		8121.216	0.305
1467-TCDF	NotFnd		0.9119						0.96		8121.216	0.305
1478-TCDF	NotFnd		0.9186						0.96		8121.216	0.305
1369/1237-TCDF	NotFnd		0.9331						0.96		8121.216	0.305
2467-TCDF	NotFnd		0.9384						0.96		8121.216	0.305
2368-TCDF	NotFnd		0.9445						0.96		8121.216	0.305
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9476						0.96		8121.216	0.305
1278-TCDF	NotFnd		0.9656						0.96		8121.216	0.305
1349-TCDF	NotFnd		0.9703						0.96		8121.216	0.305
1267-TCDF	NotFnd		0.9765						0.96		8121.216	0.305
2346/1249-TCDF	NotFnd		0.9836						0.96		8121.216	0.305
2347/1279-TCDF	NotFnd		0.9921						0.96		8121.216	0.305
2348-TCDF	26.51		0.9965	0.9967	+0.3	5.69E+06	0.77	Y	0.96	18.7	8121.216	0.305
2378-TCDF	**26.62**		**1.0008**	**1.0009**	**+0.2**	**3.48E+06**	**0.82**	**Y**	**0.96**	**11.4**	**8121.216**	**0.305**
2367/3467-TCDF	NotFnd		1.0150						0.96		8121.216	0.305
1269-TCDF	NotFnd		1.0243						0.96		8121.216	0.305
1239-TCDF	NotFnd		1.0345						0.96		8121.216	0.305
1289-TCDF	28.70		1.0780	1.0791	+1.9	6.22E+06	0.78	Y	0.96	20.4	8121.216	0.305
13468/12468-PeCDF	28.64		0.9095	0.9085	-1.7	3.10E+07	1.59	Y	0.94	122	9015.806	0.314
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		11266.855	0.392
12368/13478/12478-PeCDF	NotFnd		0.9646						0.94		11266.855	0.392
14678-PeCDF	NotFnd		0.9678						0.94		11266.855	0.392
13479-PeCDF	NotFnd		0.9710						0.94		11266.855	0.392
13469/12479-PeCDF	NotFnd		0.9790						0.94		11266.855	0.392
12346-PeCDF	NotFnd		0.9835						0.94		11266.855	0.392

Lab ID: OPR1_18820_DF | **Acq'd: 11 Jan 2022 17:21 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR001 | **UTP: 12-Jan-2022 09:29:53 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 179-349-MNQ**

Datafile: 220111R11 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		11266.855	0.392
12347-PeCDF	NotFnd		0.9888						0.94		11266.855	0.392
12348-PeCDF	NotFnd		0.9939						0.94		11266.855	0.392
12378-PeCDF	**31.54**		**1.0005**	**1.0006**	**+0.2**	**1.44E+07**	**1.57**	**Y**	**0.95**	**56.8**	**11266.855**	**0.41**
12678/12367-PeCDF	NotFnd		1.0094						0.94		11266.855	0.392
12379-PeCDF	NotFnd		1.0149						0.94		11266.855	0.392
12679-PeCDF	NotFnd		0.9925						0.94		11266.855	0.392
23467/12369-PeCDF	NotFnd		0.9965						0.94		11266.855	0.392
23478-PeCDF	**32.68**		**1.0006**	**1.0005**	**-0.2**	**1.56E+07**	**1.56**	**Y**	**0.94**	**61.6**	**11266.855**	**0.374**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		11266.855	0.392
12349-PeCDF	NotFnd		1.0104						0.94		11266.855	0.392
12389-PeCDF	33.76		1.0336	1.0338	+0.4	3.38E+06	1.54	Y	0.94	13.3	11266.855	0.392
123468-HxCDF	34.57		0.9618	0.9617	-0.2	3.65E+07	1.26	Y	1.16	129	15791.009	0.469
124678/134678-HxCDF	NotFnd		0.9673						1.16		15791.009	0.469
134679-HxCDF	NotFnd		0.9737						1.16		15791.009	0.469
124679-HxCDF	NotFnd		0.9793						1.16		15791.009	0.469
124689-HxCDF	NotFnd		0.9855						1.16		15791.009	0.469
123467-HxCDF	NotFnd		0.9972						1.16		15791.009	0.469
123478-HxCDF	**35.97**		**1.0004**	**1.0005**	**+0.2**	**1.36E+07**	**1.24**	**Y**	**1.23**	**56.7**	**15791.009**	**0.58**
123678-HxCDF	**36.11**		**1.0004**	**1.0005**	**+0.2**	**1.65E+07**	**1.27**	**Y**	**1.13**	**56.9**	**15791.009**	**0.456**
123479-HxCDF	NotFnd		1.0049						1.16		15791.009	0.469
123469-HxCDF	NotFnd		1.0089						1.16		15791.009	0.469
123679-HxCDF	NotFnd		0.9944						1.16		15791.009	0.469
234678-HxCDF	**36.76**		**1.0004**	**1.0005**	**+0.2**	**2.03E+07**	**1.27**	**Y**	**1.15**	**55**	**15791.009**	**0.34**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		15791.009	0.469
123789-HxCDF	**37.75**		**1.0005**	**1.0005**	**0**	**1.21E+07**	**1.25**	**Y**	**1.14**	**52.6**	**15791.009**	**0.584**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		15791.009	0.469
1234678-HpCDF	**39.24**		**1.0003**	**1.0003**	**0**	**1.44E+07**	**1.06**	**Y**	**1.36**	**55.6**	**7815.77**	**0.183**
1234679-HpCDF	NotFnd		1.0071						1.33		7815.77	0.205
1234689-HpCDF	NotFnd		1.0106						1.33		7815.77	0.205
1234789-HpCDF	**40.58**		**1.0002**	**1.0003**	**+0.2**	**1.10E+07**	**1.04**	**Y**	**1.30**	**52.8**	**7815.77**	**0.232**
OCDF	**42.81**		**1.0003**	**1.0003**	**0**	**1.33E+07**	**0.93**	**Y**	**1.03**	**108**	**8793.087**	**0.563**
OCDF-a	42.80		1.0002	1.0001	-0.3	7.11E+05	2.53	Y	0.06	100	13985.05	15.5

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R11	Analysis Date:	11-JAN-2022 17:21:29
Lab ID:	OPR1_18820_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.44	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	45.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	11.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	56.8	40	-	67	Y
2,3,4,7,8-PeCDF	50	61.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.7	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	56.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	55	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	52.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	55.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.8	39	-	69	Y
OCDF	100	108	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:30 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R11	Analysis Date:	11-JAN-2022 17:21:29
Lab ID:	OPR1_18820_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	93.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	85.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	99.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	107	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	90.1	26	-	166	Y
13C-OCDD	200	124	26	-	397	Y
13C-2,3,7,8-TCDF	100	90.6	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	90.7	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	107	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	143	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	95.9	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	108	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	101	20	-	186	Y
13C-OCDF	200	139	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	32.9	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:30 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220111R11	Analysis Date:	11-JAN-2022 17:21:29
Lab ID:	OPR1_18820_DF		

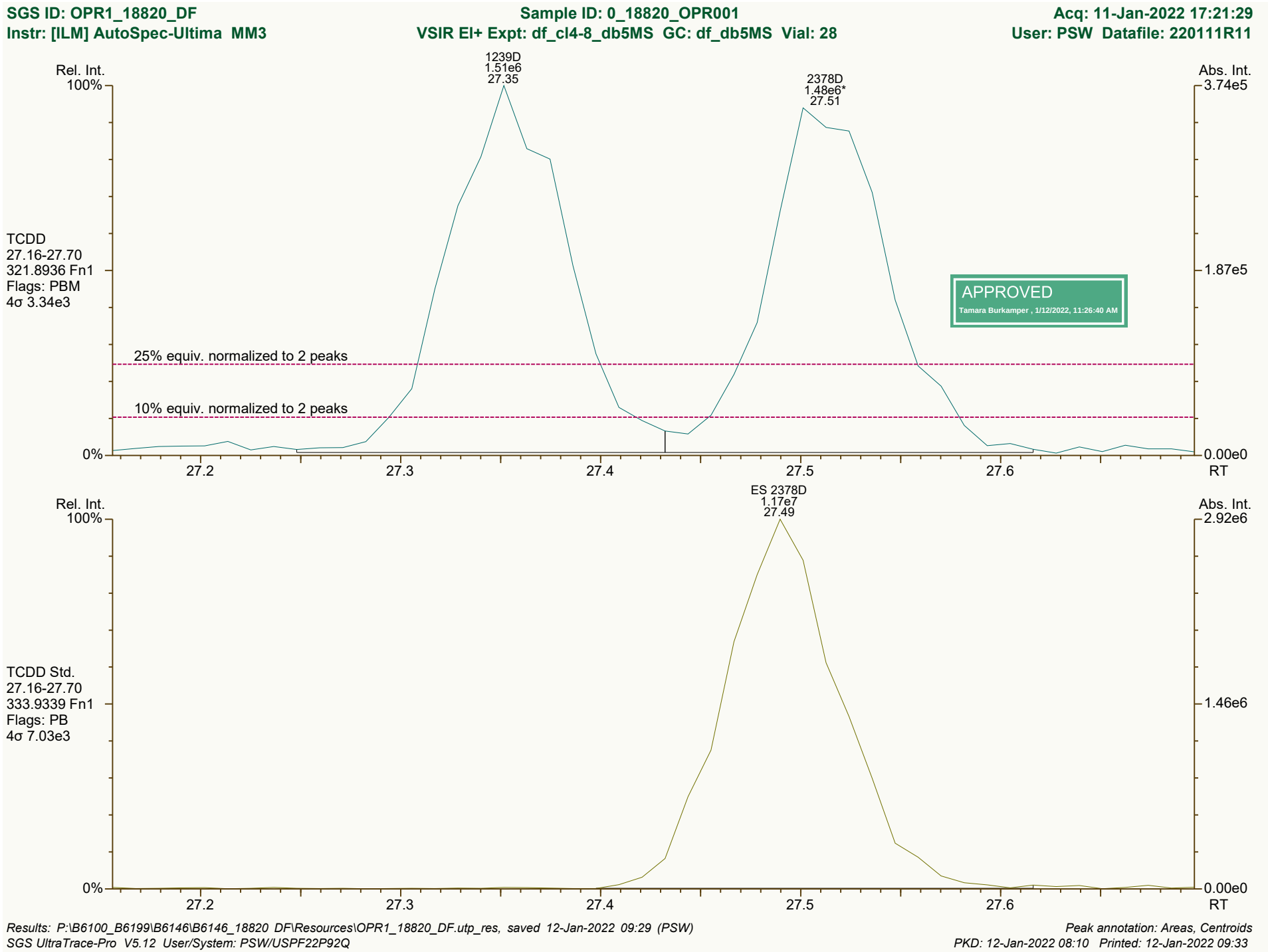
Window Defining Standards Results

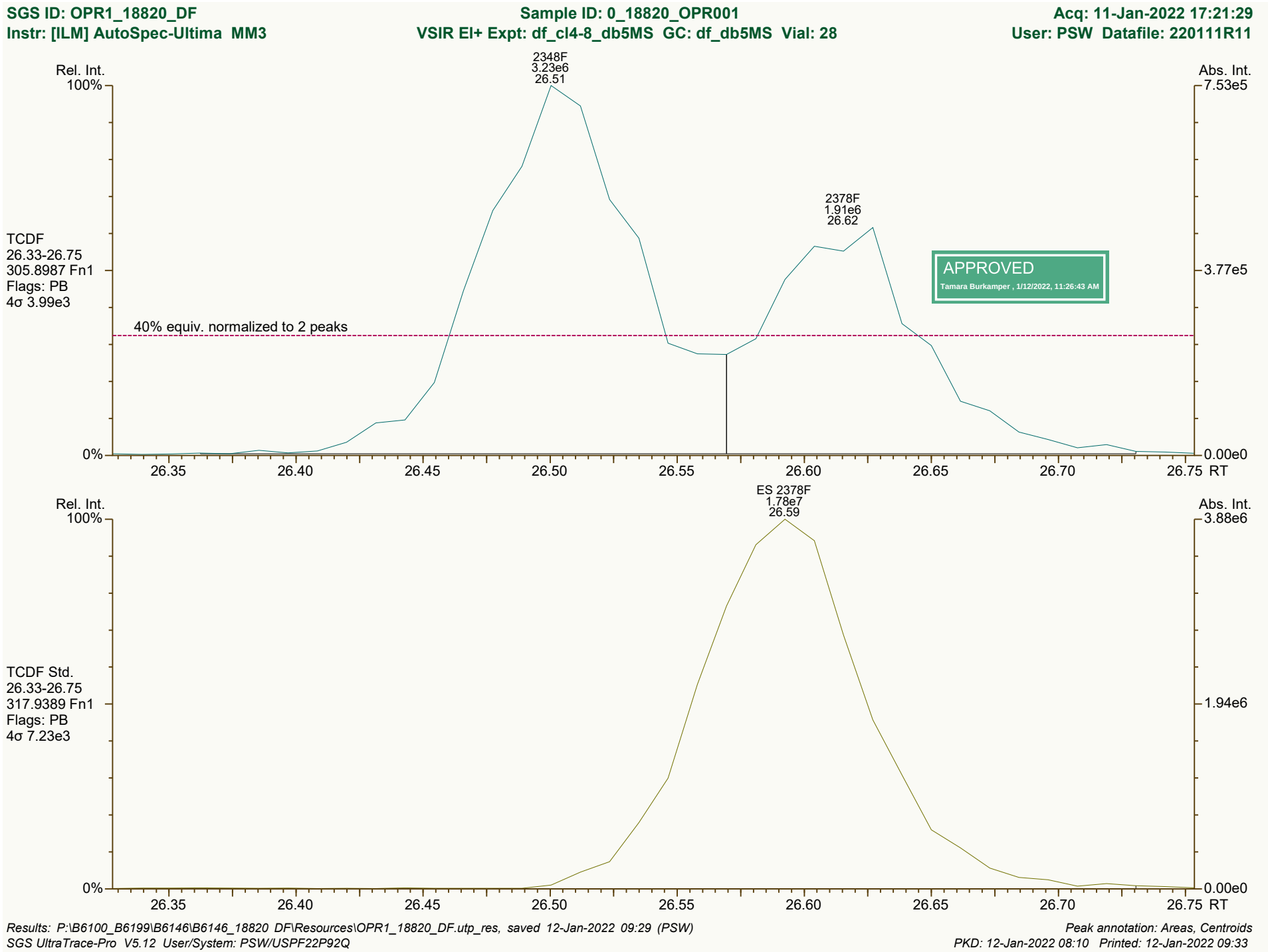
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	23.67	1289-TCDD	28.53
12479/12468-PeCDD	30.48	12389-PeCDD	33.47
124679/124689-HxCDD	35.23	123789-HxCDD	37.36
1234679-HpCDD	39.50	1234678-HpCDD	40.15
1368-TCDF	21.44	1289-TCDF	28.70
13468/12468-PeCDF	28.64	12389-PeCDF	33.76
123468-HxCDF	34.57	123789-HxCDF	37.75
1234678-HpCDF	39.24	1234789-HpCDF	40.58

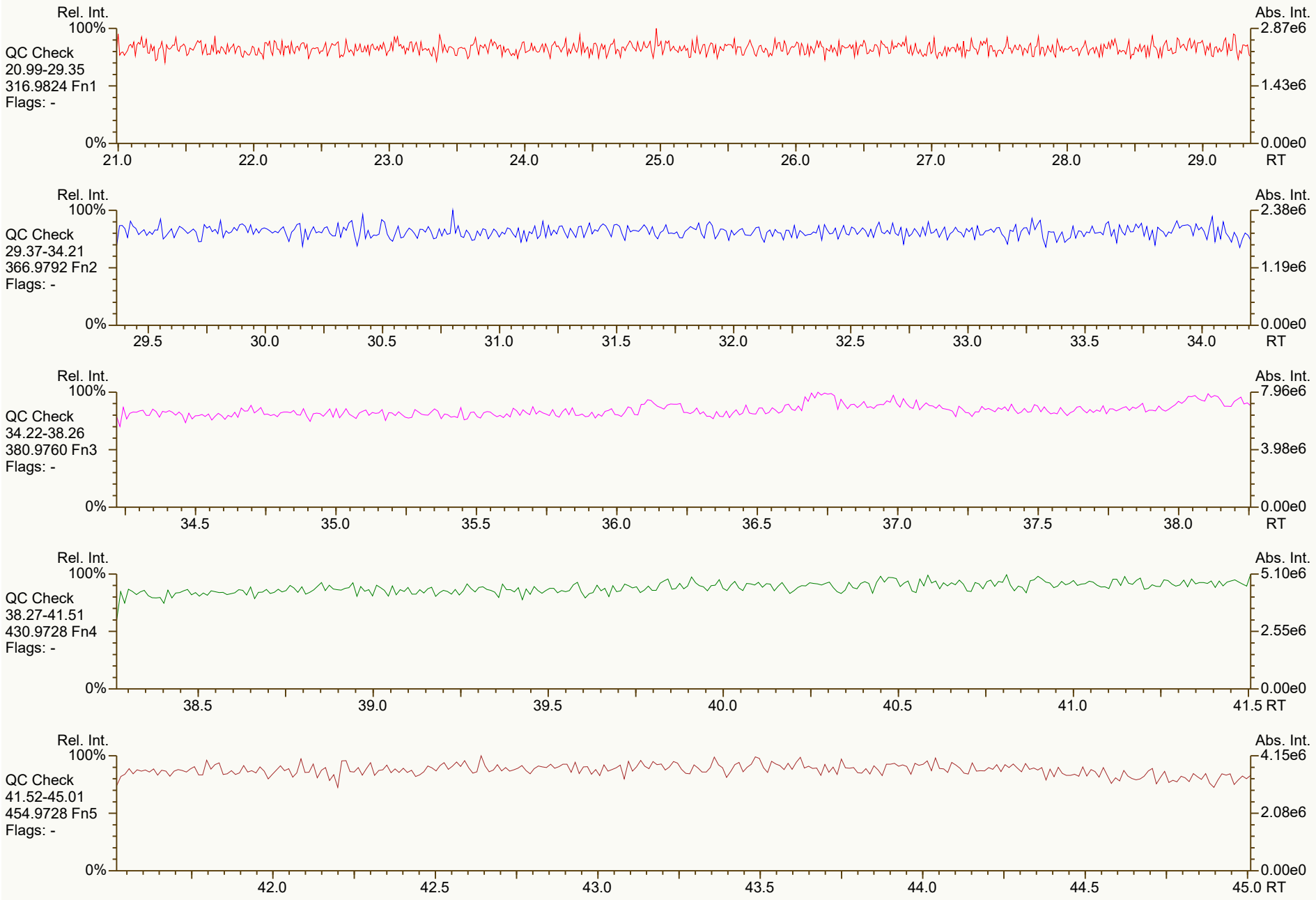
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	27.36	2378-TCDD	27.52
2348-TCDF	26.51	2378-TCDF	26.62

Processed: 12 Jan 2022 09:30 Analyst: pw

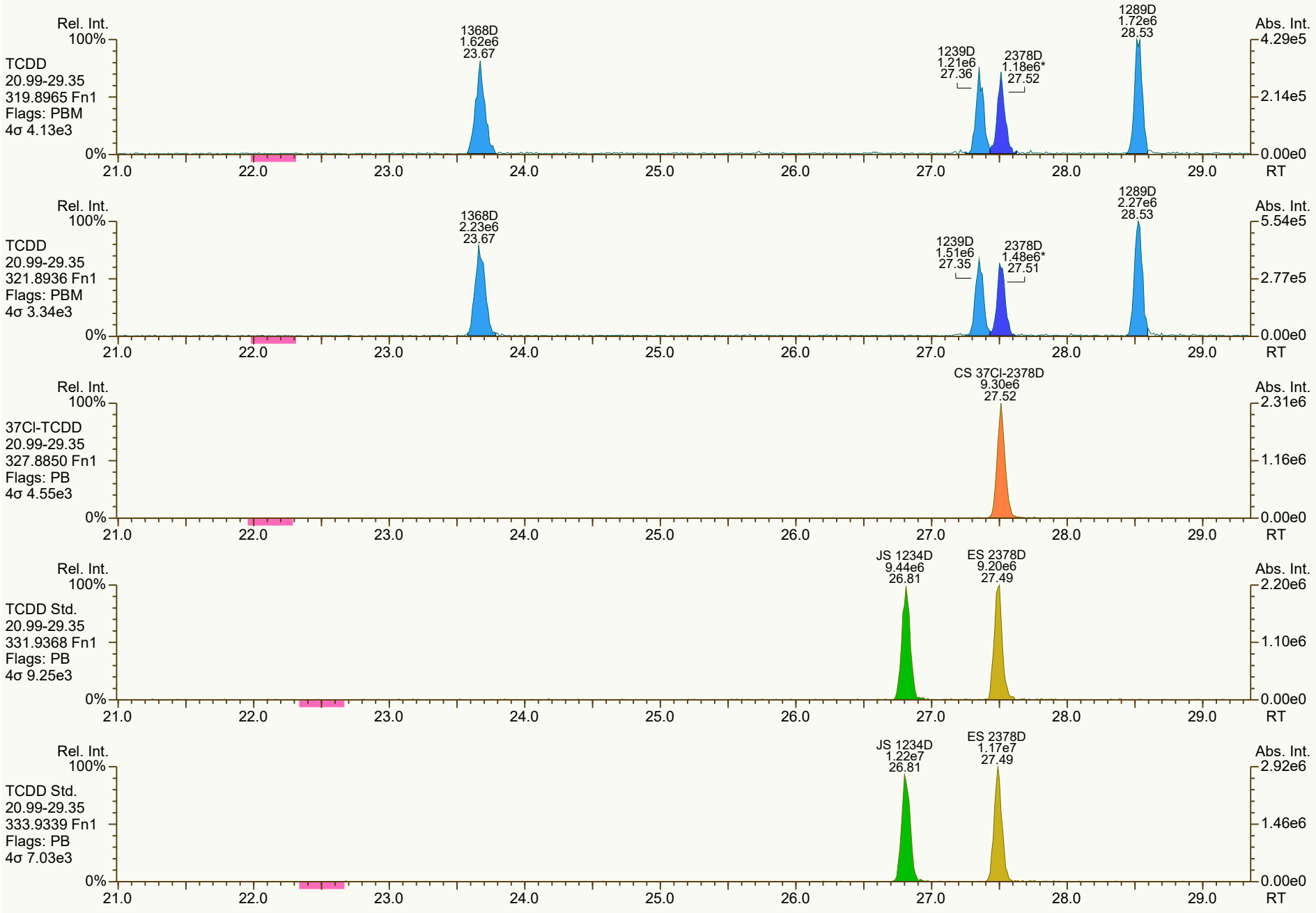

SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
100%
0%
Abs. Int.
3.74e5
1.87e5
0.00e0
RT
1239D
1.51e6
27.35
2378D
1.48e6*
27.51
TCDD
27.16-27.70
321.8936 Fn1
Flags: PBM
4σ 3.34e3
25% equiv. normalized to 2 peaks
10% equiv. normalized to 2 peaks
APPROVED
Tamara Burkamper , 1/12/2022, 11:26:40 AM
27.2
27.3
27.4
27.5
27.6
ES 2378D
1.17e7
27.49
TCDD Std.
27.16-27.70
333.9339 Fn1
Flags: PB
4σ 7.03e3
2.92e6
1.46e6
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:33


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
100%
0%
Abs. Int.
7.53e5
3.77e5
0.00e0
2348F
3.23e6
26.51
2378F
1.91e6
26.62
TCDF
26.33-26.75
305.8987 Fn1
Flags: PB
4σ 3.99e3
40% equiv. normalized to 2 peaks
APPROVED
Tamara Burkamper , 1/12/2022, 11:26:43 AM
26.35
26.40
26.45
26.50
26.55
26.60
26.65
26.70
26.75 RT
ES 2378F
1.78e7
26.59
3.88e6
1.94e6
TCDF Std.
26.33-26.75
317.9389 Fn1
Flags: PB
4σ 7.23e3
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:33


Rel. Int.
100%
0%
Abs. Int.
QC Check
20.99-29.35
316.9824 Fn1
Flags: -
2.87e6
1.43e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
2.38e6
1.19e6
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
7.96e6
3.98e6
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.10e6
2.55e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
4.15e6
2.08e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

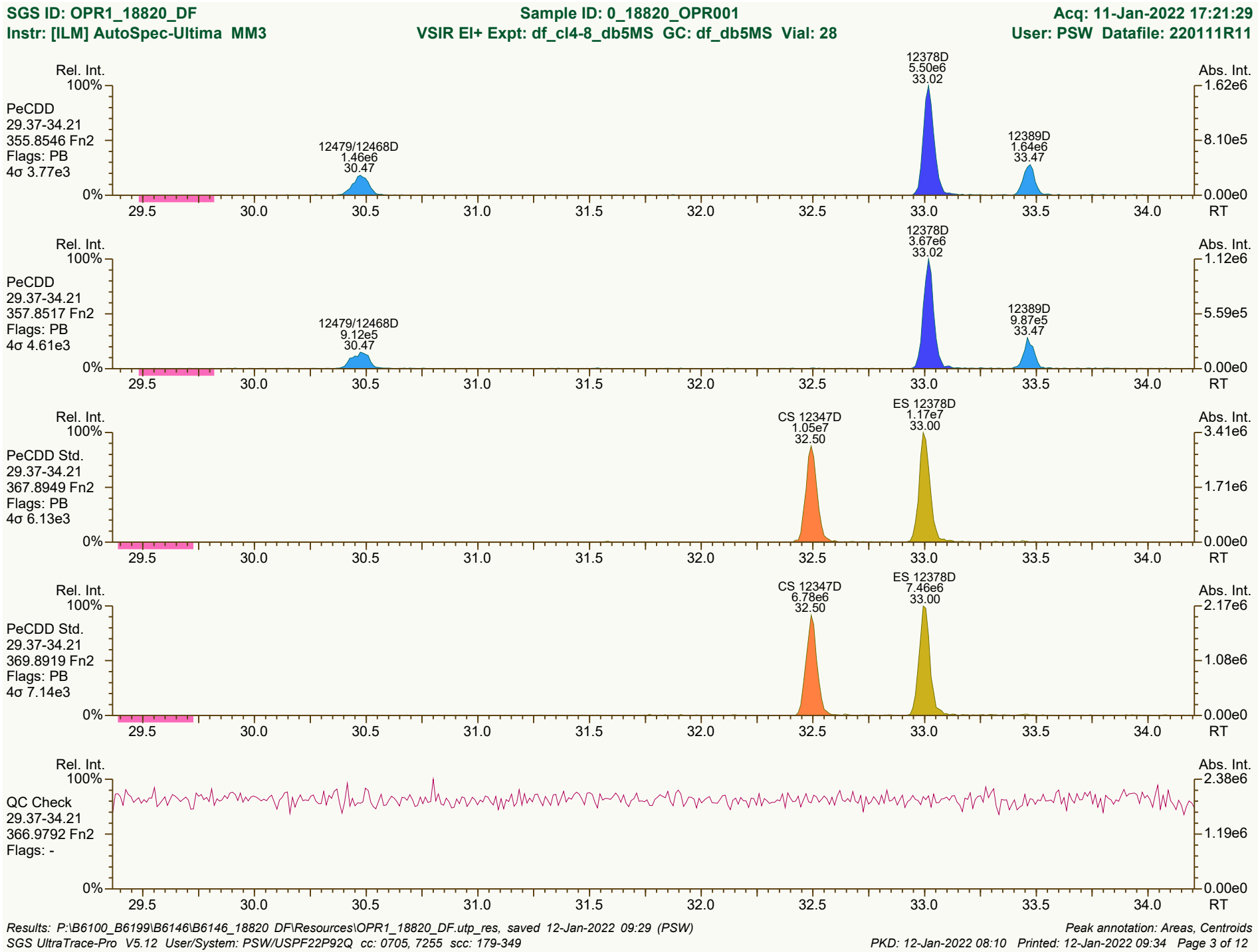
SGS ID: OPR1_18820_DF | Sample ID: 0_18820_OPR001 | Acq: 11-Jan-2022 17:21:29

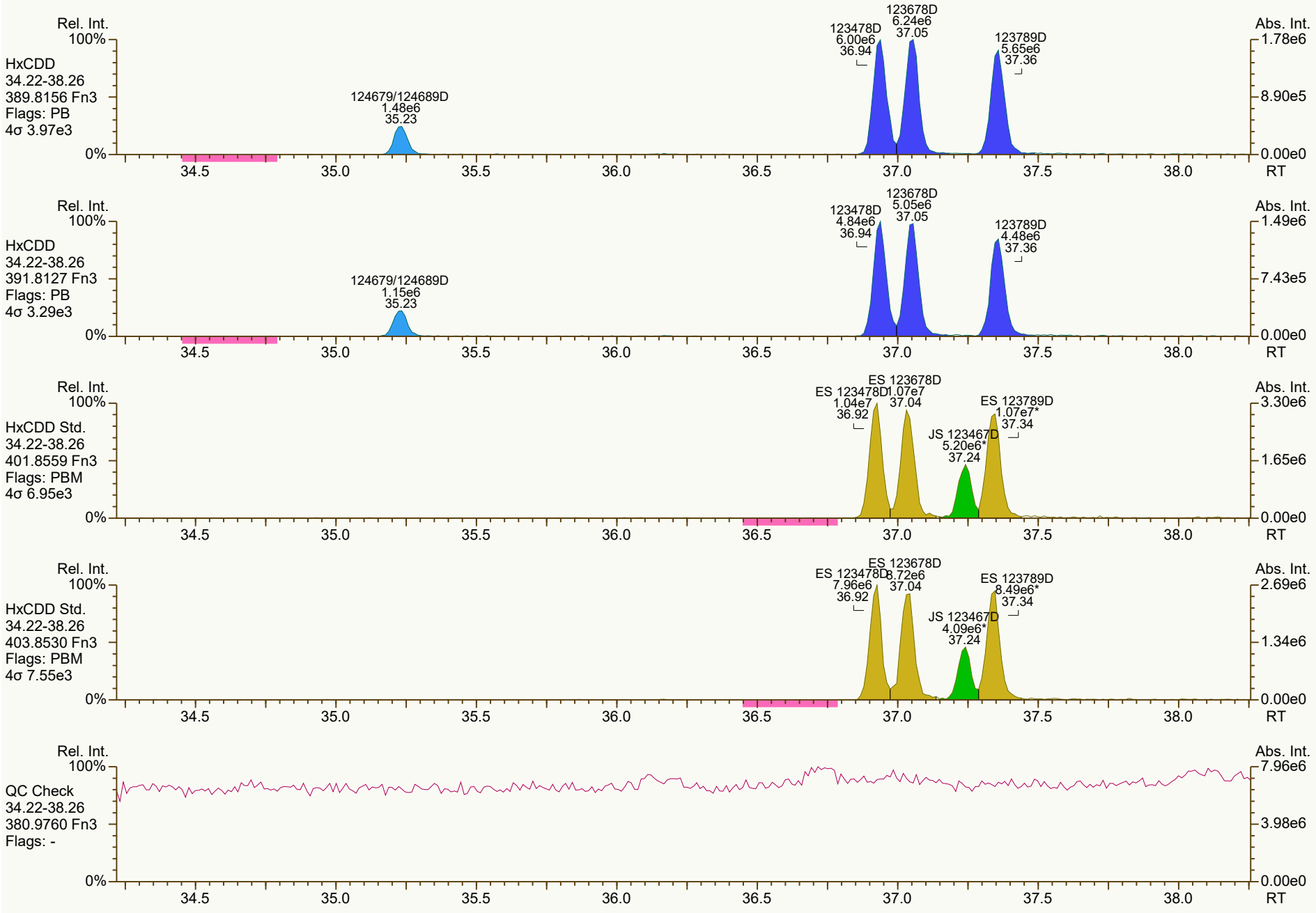
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220111R11

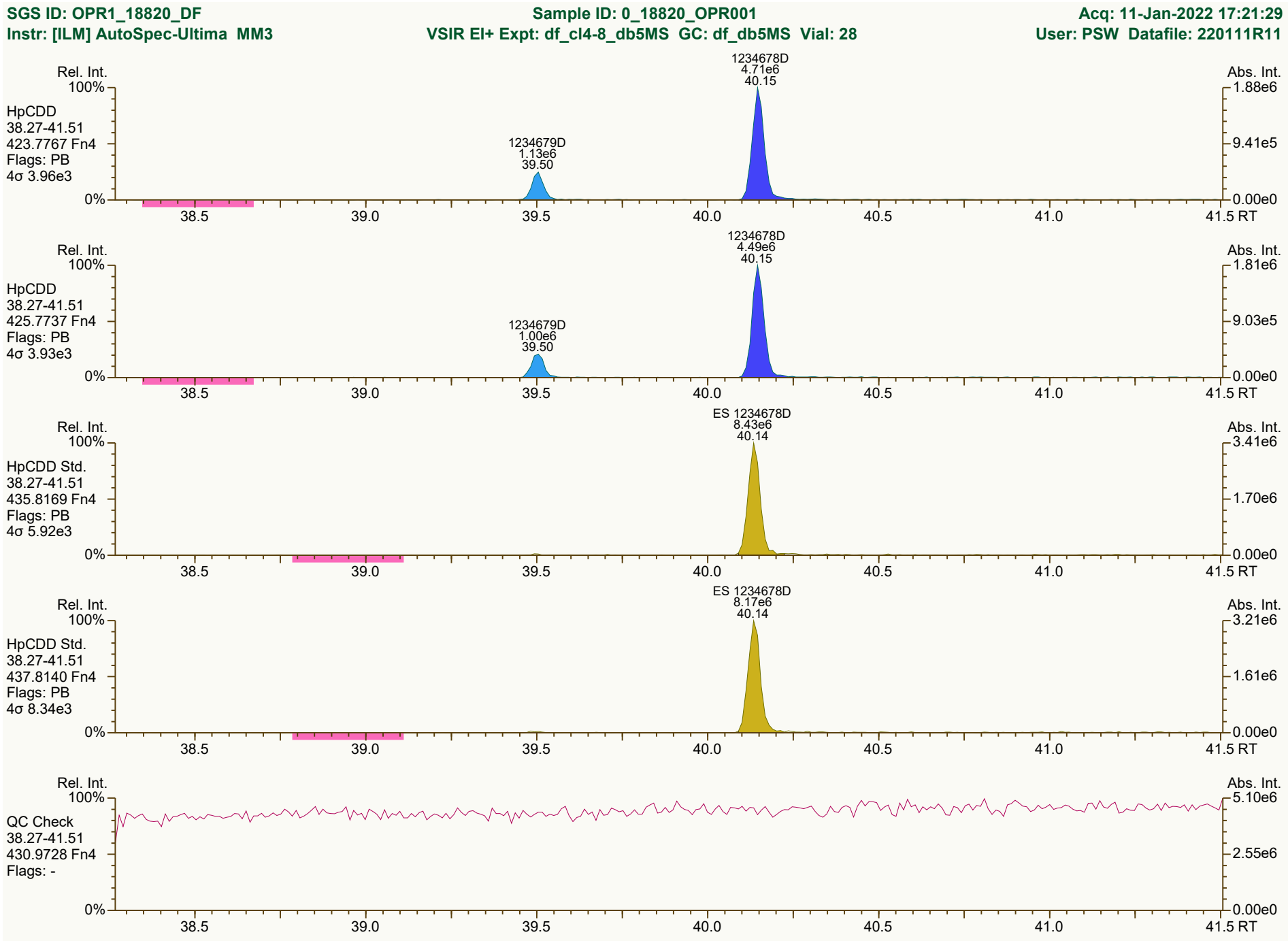


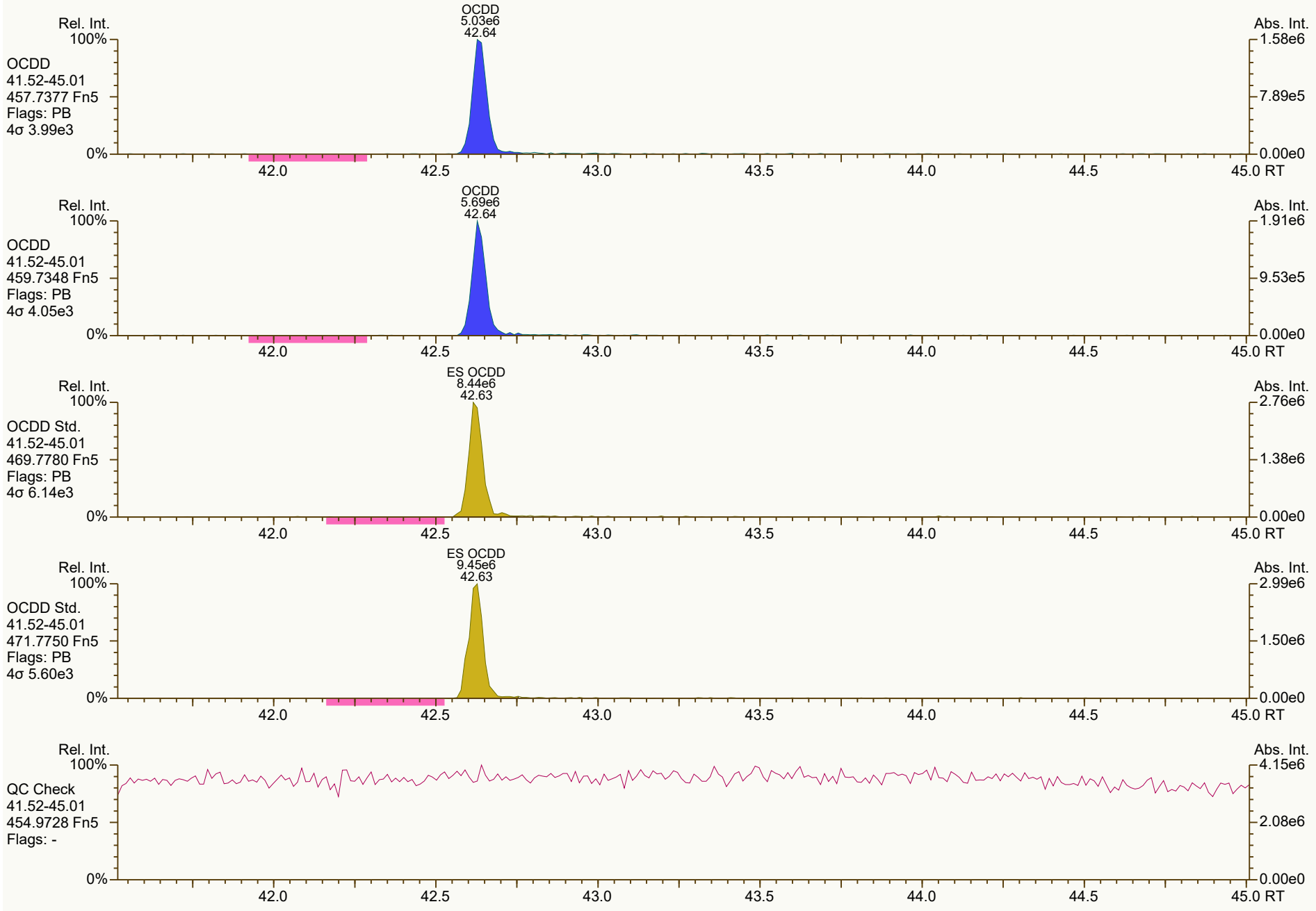
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8234, 3100, 6803 scc: 179-349 | *PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 2 of 12*


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PB
4σ 3.77e3
12479/12468D
1.46e6
30.47
12378D
5.50e6
33.02
12389D
1.64e6
33.47
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 4.61e3
12479/12468D
9.12e5
30.47
12378D
3.67e6
33.02
12389D
9.87e5
33.47
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 6.13e3
CS 12347D
1.05e7
32.50
ES 12378D
1.17e7
33.00
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 7.14e3
CS 12347D
6.78e6
32.50
ES 12378D
7.46e6
33.00
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0705, 7255 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 3 of 12

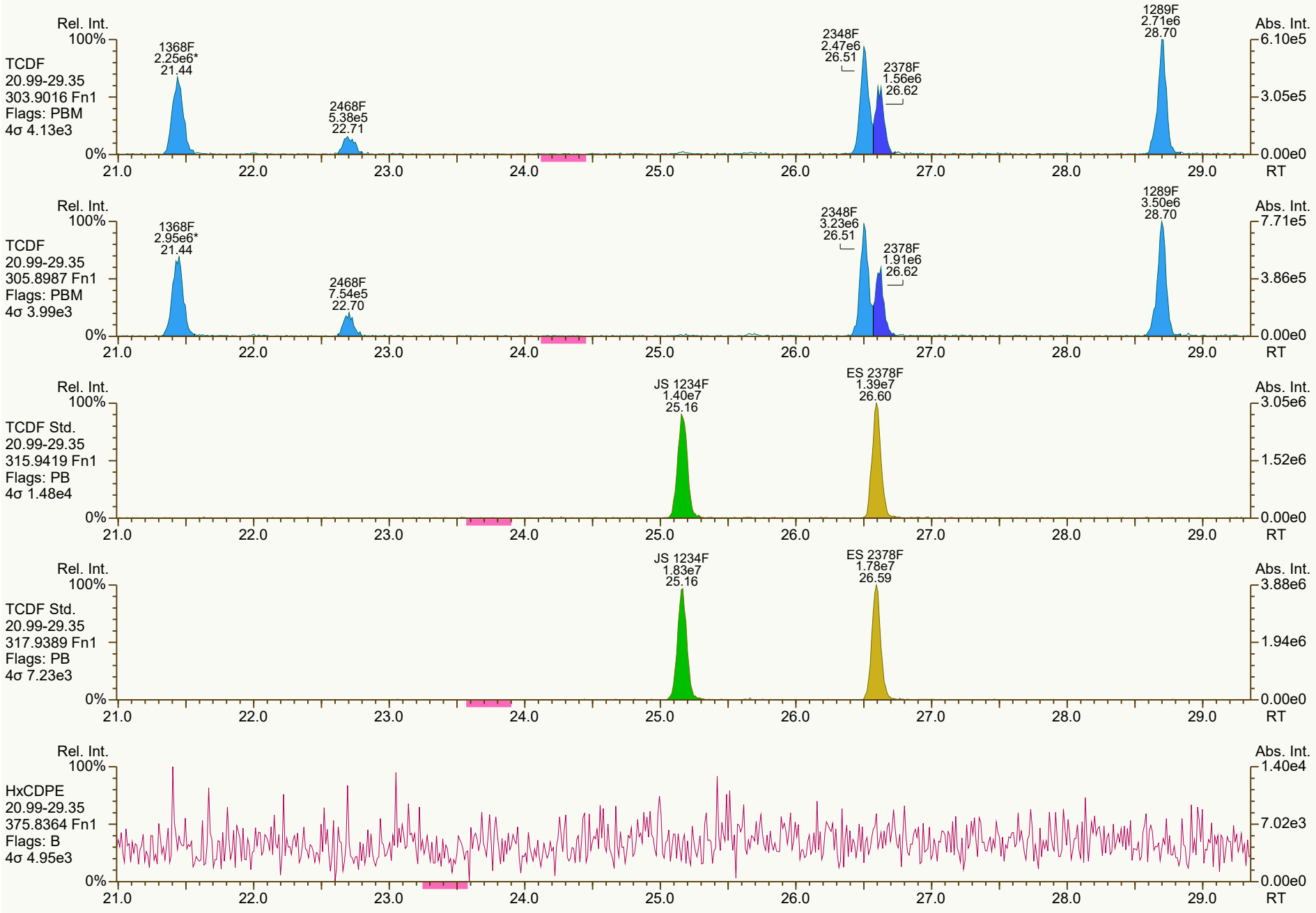

Rel. Int.
100%
HxCDD
34.22-38.26
389.8156 Fn3
Flags: PB
4σ 3.97e3
0%
124679/124689D
1.48e6
35.23
123478D
6.00e6
36.94
123678D
6.24e6
37.05
123789D
5.65e6
37.36
Abs. Int.
1.78e6
8.90e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.22-38.26
391.8127 Fn3
Flags: PB
4σ 3.29e3
0%
124679/124689D
1.15e6
35.23
123478D
4.84e6
36.94
123678D
5.05e6
37.05
123789D
4.48e6
37.36
Abs. Int.
1.49e6
7.43e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
401.8559 Fn3
Flags: PBM
4σ 6.95e3
0%
ES 123478D
1.04e7
36.92
ES 123678D
1.07e7
37.04
JS 123467D
5.20e6*
37.24
ES 123789D
1.07e7*
37.34
Abs. Int.
3.30e6
1.65e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.22-38.26
403.8530 Fn3
Flags: PBM
4σ 7.55e3
0%
ES 123478D
7.96e6
36.92
ES 123678D
8.72e6
37.04
JS 123467D
4.09e6*
37.24
ES 123789D
8.49e6*
37.34
Abs. Int.
2.69e6
1.34e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.22-38.26
380.9760 Fn3
Flags: -
0%
Abs. Int.
7.96e6
3.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 3.96e3
1234678D
4.71e6
40.15
1234679D
1.13e6
39.50
1.88e6
9.41e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.93e3
1234678D
4.49e6
40.15
1234679D
1.00e6
39.50
1.81e6
9.03e5
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 5.92e3
ES 1234678D
8.43e6
40.14
3.41e6
1.70e6
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 8.34e3
ES 1234678D
8.17e6
40.14
3.21e6
1.61e6
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.10e6
2.55e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9674, 4971 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 5 of 12


OCDD
5.03e6
42.64
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.99e3
0%
Abs. Int.
1.58e6
7.89e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.69e6
42.64
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 4.05e3
1.91e6
9.53e5
ES OCDD
8.44e6
42.63
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 6.14e3
2.76e6
1.38e6
ES OCDD
9.45e6
42.63
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 5.60e3
2.99e6
1.50e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
4.15e6
2.08e6

SGS ID: OPR1_18820_DF | Sample ID: 0_18820_OPR001 | Acq: 11-Jan-2022 17:21:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220111R11



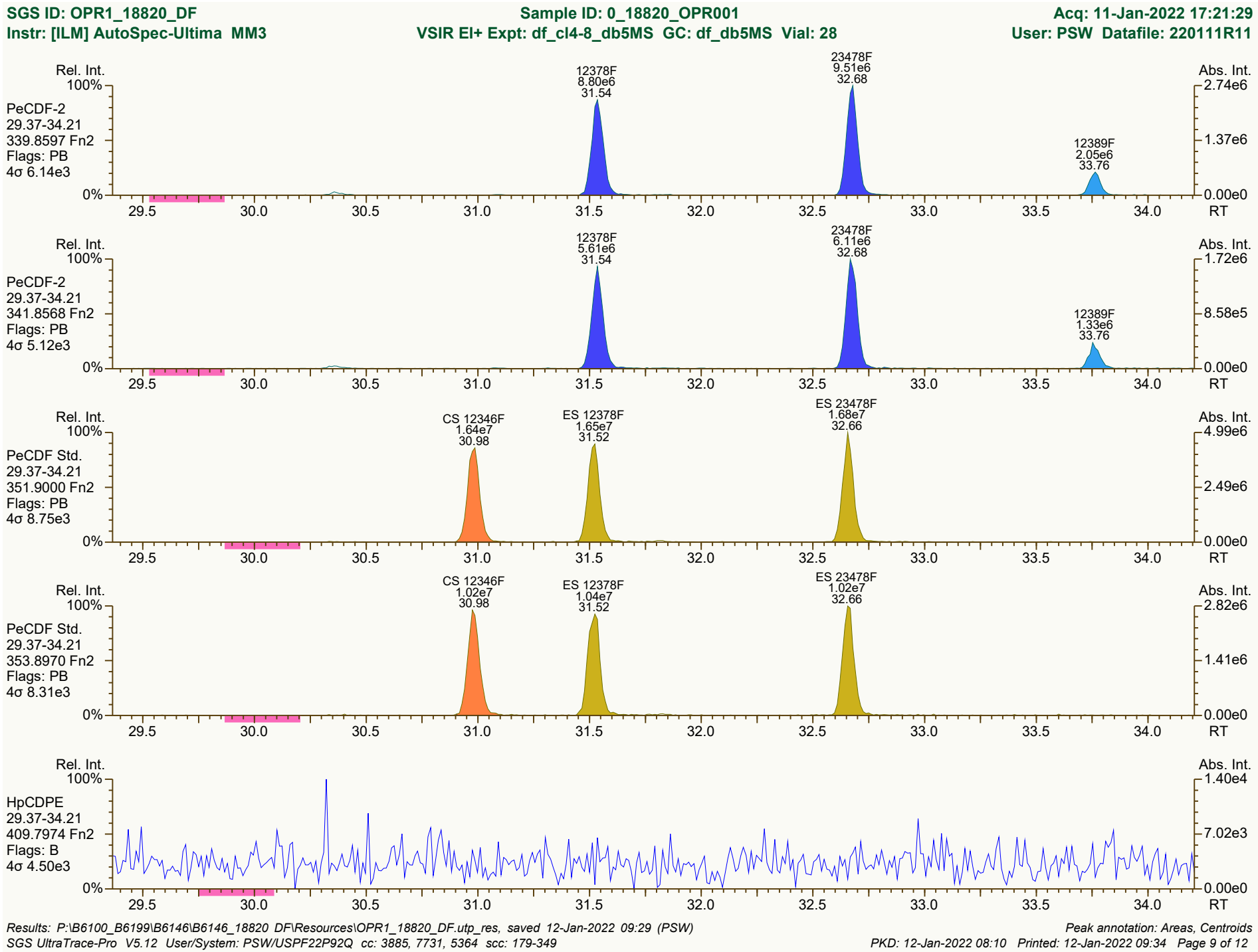
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4999, 5396, 2172 scc: 179-349 | *PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 7 of 12*

SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11

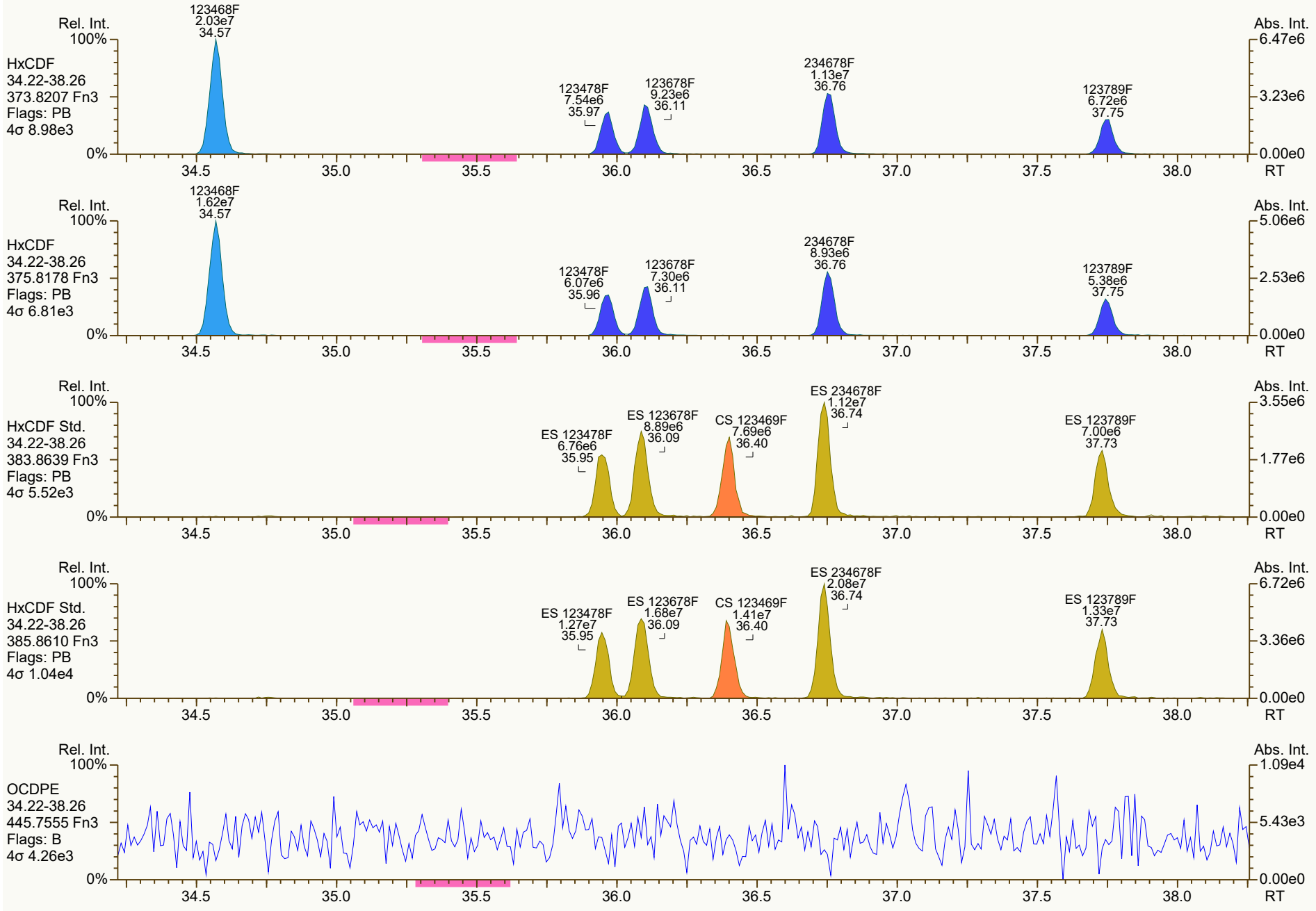


Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2116 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 8 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
PeCDF-2
29.37-34.21
339.8597 Fn2
Flags: PB
4σ 6.14e3
12378F
8.80e6
31.54
23478F
9.51e6
32.68
12389F
2.05e6
33.76
2.74e6
1.37e6
0.00e0
PeCDF-2
29.37-34.21
341.8568 Fn2
Flags: PB
4σ 5.12e3
12378F
5.61e6
31.54
23478F
6.11e6
32.68
12389F
1.33e6
33.76
1.72e6
8.58e5
0.00e0
PeCDF Std.
29.37-34.21
351.9000 Fn2
Flags: PB
4σ 8.75e3
CS 12346F
1.64e7
30.98
ES 12378F
1.65e7
31.52
ES 23478F
1.68e7
32.66
4.99e6
2.49e6
0.00e0
PeCDF Std.
29.37-34.21
353.8970 Fn2
Flags: PB
4σ 8.31e3
CS 12346F
1.02e7
30.98
ES 12378F
1.04e7
31.52
ES 23478F
1.02e7
32.66
2.82e6
1.41e6
0.00e0
HpCDPE
29.37-34.21
409.7974 Fn2
Flags: B
4σ 4.50e3
1.40e4
7.02e3
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3885, 7731, 5364 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 9 of 12

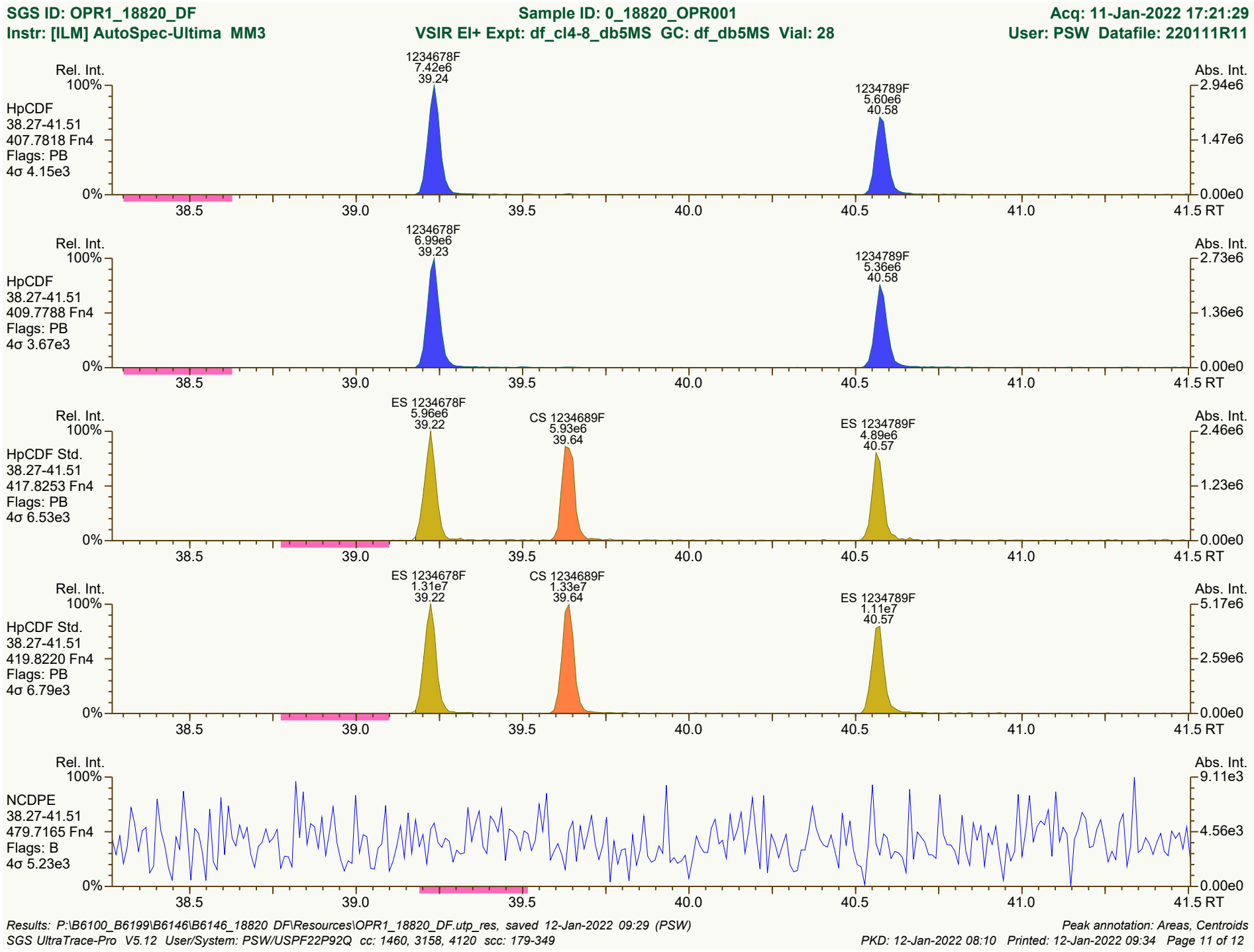
SGS ID: OPR1_18820_DF | Sample ID: 0_18820_OPR001 | Acq: 11-Jan-2022 17:21:29

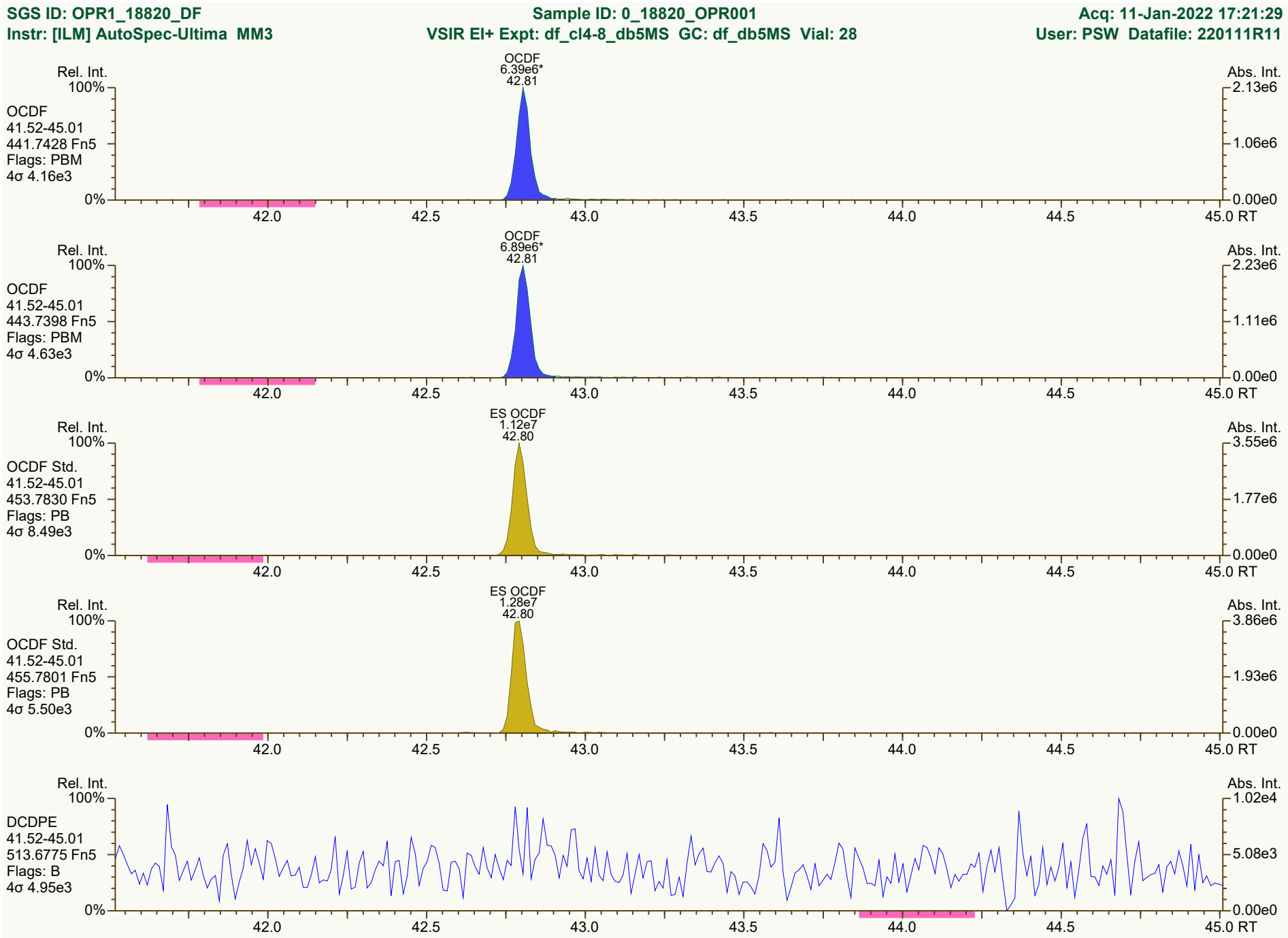
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220111R11



Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0199, 8912, 4582 scc: 179-349 | *PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 10 of 12*


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 4.15e3
1234678F
7.42e6
39.24
1234789F
5.60e6
40.58
2.94e6
1.47e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 3.67e3
1234678F
6.99e6
39.23
1234789F
5.36e6
40.58
2.73e6
1.36e6
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.53e3
ES 1234678F
5.96e6
39.22
CS 1234689F
5.93e6
39.64
ES 1234789F
4.89e6
40.57
2.46e6
1.23e6
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 6.79e3
ES 1234678F
1.31e7
39.22
CS 1234689F
1.33e7
39.64
ES 1234789F
1.11e7
40.57
5.17e6
2.59e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 5.23e3
9.11e3
4.56e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1460, 3158, 4120 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 11 of 12


SGS ID: OPR1_18820_DF
Sample ID: 0_18820_OPR001
Acq: 11-Jan-2022 17:21:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220111R11
Rel. Int.
Abs. Int.
OCDF
6.39e6*
42.81
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 4.16e3
2.13e6
1.06e6
0.00e0
OCDF
6.89e6*
42.81
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 4.63e3
2.23e6
1.11e6
ES OCDF
1.12e7
42.80
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 8.49e3
3.55e6
1.77e6
ES OCDF
1.28e7
42.80
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 5.50e3
3.86e6
1.93e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 4.95e3
1.02e4
5.08e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR1_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0895, 5075, 7616 scc: 179-349
PKD: 12-Jan-2022 08:10 Printed: 12-Jan-2022 09:34 Page 12 of 12

Lab ID: OPR2_18820_DF **Acq'd:** 11 Jan 2022 18:08 PSW **Wt/Vol:** 1 uL **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR002 **UTP:** 12-Jan-2022 09:29:54 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 411-693-NYC

Datafile: 220111R12 **Report:** 12 Jan 2022 09:30 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.50		1.0008	1.0008	0	2.19E+06	0.80	Y	1.34	9.24	7103.053	0.33
12378-PeCDD	33.01		1.0006	1.0006	0	7.47E+06	1.53	Y	1.06	44.7	7354.172	0.383
123478-HxCDD	36.93		1.0004	1.0004	0	8.44E+06	1.30	Y	1.06	53.6	6906.152	0.353
123678-HxCDD	37.04		1.0035	1.0035	0	8.91E+06	1.24	Y	1.08	55.5	6906.152	0.339
123789-HxCDD	37.35		1.0117	1.0118	+0.2	8.33E+06	1.25	Y	1.02	52.1	6906.152	0.379
1234678-HpCDD	40.14		1.0003	1.0003	0	7.02E+06	1.08	Y	0.97	54.8	7025.993	0.326
OCDD	42.63		1.0003	1.0003	0	7.98E+06	0.93	Y	1.07	110	8066.072	0.839
2378-TCDF	26.60		1.0008	1.0007	-0.2	3.07E+06	0.74	Y	0.96	11.8	8081.008	0.362
12378-PeCDF	31.53		1.0005	1.0006	+0.2	1.19E+07	1.60	Y	0.95	57.1	7883.698	0.35
23478-PeCDF	32.66		1.0006	1.0005	-0.2	1.22E+07	1.54	Y	0.94	59.8	7883.698	0.334
123478-HxCDF	35.95		1.0004	1.0005	+0.2	1.11E+07	1.22	Y	1.23	56.5	11806.77	0.447
123678-HxCDF	36.09		1.0004	1.0004	0	1.32E+07	1.23	Y	1.13	55.6	11806.77	0.435
234678-HxCDF	36.75		1.0004	1.0005	+0.2	1.60E+07	1.25	Y	1.15	52.7	11806.77	0.302
123789-HxCDF	37.74		1.0005	1.0005	0	9.88E+06	1.29	Y	1.14	53.7	11806.77	0.506
1234678-HpCDF	39.23		1.0003	1.0003	0	1.14E+07	1.07	Y	1.36	52.5	6514.605	0.212
1234789-HpCDF	40.57		1.0002	1.0003	+0.2	8.80E+06	1.09	Y	1.30	54.1	6514.605	0.256
OCDF	42.80		1.0003	1.0003	0	1.02E+07	0.89	Y	1.03	113	7795.498	0.679

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.48	1.0251	1.0255	+0.7	1.76E+07	0.79	Y	1.03	98.6
ES 12378-PeCDD	32.99	1.2290	1.2311	+4.2	1.58E+07	1.53	Y	1.03	88.2
ES 123478-HxCDD	36.91	0.9915	0.9916	+0.2	1.49E+07	1.29	Y	0.99	109
ES 123678-HxCDD	37.03	0.9947	0.9947	0	1.48E+07	1.20	Y	0.97	111
ES 123789-HxCDD	37.33	1.0028	1.0028	0	1.57E+07	1.28	Y	1.12	102
ES 1234678-HpCDD	40.13	1.0771	1.0779	+1.9	1.32E+07	1.10	Y	0.99	96.3
ES OCDD	42.62	1.1441	1.1448	+1.8	1.35E+07	0.92	Y	0.78	63.2
ES 2378-TCDF	26.58	1.0562	1.0570	+1.3	2.71E+07	0.78	Y	1.08	94.9
ES 12378-PeCDF	31.51	1.2501	1.2530	+5.5	2.21E+07	1.61	Y	0.93	89.8
ES 23478-PeCDF	32.65	1.2950	1.2982	+6.3	2.17E+07	1.58	Y	0.92	89.3
ES 123478-HxCDF	35.94	0.9654	0.9654	0	1.59E+07	0.50	Y	1.14	101
ES 123678-HxCDF	36.08	0.9691	0.9692	+0.2	2.10E+07	0.52	Y	1.30	117
ES 234678-HxCDF	36.73	0.9867	0.9867	0	2.64E+07	0.52	Y	1.20	159
ES 123789-HxCDF	37.72	1.0134	1.0133	-0.2	1.62E+07	0.53	Y	1.14	104
ES 1234678-HpCDF	39.21	1.0527	1.0534	+1.6	1.59E+07	0.46	Y	0.95	121
ES 1234789-HpCDF	40.56	1.0887	1.0896	+2.2	1.25E+07	0.43	Y	0.85	107
ES OCDF	42.79	1.1487	1.1495	+2.1	1.76E+07	0.93	Y	0.93	69.1

Lab ID: OPR2_18820_DF | **Acq'd:** 11 Jan 2022 18:08 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18820_OPR002 | **UTP:** 12-Jan-2022 09:29:54 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 411-693-NYC

Datafile: 220111R12 | **Report:** 12 Jan 2022 09:30 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.80		-	-	-	1.73E+07	0.73	Y	-	-
JS 1234-TCDF	25.15		-	-	-	2.64E+07	0.79	Y	-	-
JS 123467-HxCDD	37.22		-	-	-	6.89E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	27.50		1.0260	1.0264	+0.7	7.89E+06	n/a	-	1.31	87
CS 12347-PeCDD	32.48		1.2102	1.2121	+3.7	1.42E+07	1.68	Y	0.89	92.2
CS 12346-PeCDF	30.97		1.2289	1.2315	+4.8	2.19E+07	1.58	Y	0.87	95.9
CS 123469-HxCDF	36.39		0.9774	0.9775	+0.2	1.75E+07	0.51	Y	1.09	116
CS 1234689-HpCDF	39.63		1.0636	1.0646	+2.4	1.49E+07	0.45	Y	0.86	125
~~SS 37Cl-2378-TCDD~~	~~27.50~~		~~1.0260~~	~~1.0264~~	~~+0.7~~	~~7.89E+06~~	~~n/a~~		~~1.26~~	~~88.7~~
~~SS 12347-PeCDD~~	~~32.48~~		~~1.2102~~	~~1.2121~~	~~+3.7~~	~~1.42E+07~~	~~1.68~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~30.97~~		~~1.2289~~	~~1.2315~~	~~+4.8~~	~~2.19E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~107~~
~~SS 123469-HxCDF~~	~~36.39~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~1.75E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~98.8~~
~~SS 1234689-HpCDF~~	~~39.63~~		~~1.0636~~	~~1.0646~~	~~+2.4~~	~~1.49E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~103~~

Totals	Conc	EMPC
Total TCDD	47	47
Total PeCDD	69.1	69.1
Total HxCDD	175	175
Total HpCDD	68.6	68.6
Total Tetra-Octa Dioxins	470	470
Total TCDF	70	70
Total PeCDF	254	254
Total HxCDF	344	344
Total HpCDF	107	107
Total Tetra-Octa Furans	889	889
Total Tetra-Octa Dioxins & Furans	1360	1360

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	2.20E+06	2.19E+06

Lab ID: OPR2_18820_DF | **Acq'd: 11 Jan 2022 18:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR002 | **UTP: 12-Jan-2022 09:29:54 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 411-693-NYC**

Datafile: 220111R12 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.65		0.8626	0.8607	-2.7	3.33E+06	0.82	Y	1.34	14	7103.053	0.33
1379-TCDD	NotFnd		0.8763						1.34		7103.053	0.33
1369-TCDD	NotFnd		0.8929						1.34		7103.053	0.33
1469-TCDD	NotFnd		0.9227						1.34		7103.053	0.33
1247/1246/1248/1249-TCDD	NotFnd		0.9317						1.34		7103.053	0.33
1378-TCDD	NotFnd		0.9389						1.34		7103.053	0.33
1268-TCDD	NotFnd		0.9463						1.34		7103.053	0.33
1478-TCDD	NotFnd		0.9556						1.34		7103.053	0.33
1279-TCDD	NotFnd		0.9620						1.34		7103.053	0.33
1234/1269-TCDD	NotFnd		0.9753						1.34		7103.053	0.33
1236-TCDD	NotFnd		0.9806						1.34		7103.053	0.33
1237/1238-TCDD	NotFnd		0.9900						1.34		7103.053	0.33
1239-TCDD	27.34		0.9951	0.9950	-0.2	2.25E+06	0.79	Y	1.34	9.48	7103.053	0.33
2378-TCDD	**27.50**		**1.0008**	1.0008	**0**	2.19E+06	0.80	Y	**1.34**	**9.24**	**7103.053**	**0.33**
1278-TCDD	NotFnd		1.0131						1.34		7103.053	0.33
1267-TCDD	NotFnd		1.0182						1.34		7103.053	0.33
1289-TCDD	28.52		1.0373	1.0377	+0.7	3.38E+06	0.74	Y	1.34	14.2	7103.053	0.33
12479/12468-PeCDD	30.46		0.9237	0.9234	-0.5	1.96E+06	1.49	Y	1.06	11.7	7354.172	0.383
12469-PeCDD	NotFnd		0.9402						1.06		7354.172	0.383
12368-PeCDD	NotFnd		0.9572						1.06		7354.172	0.383
12478-PeCDD	NotFnd		0.9629						1.06		7354.172	0.383
12379-PeCDD	NotFnd		0.9660						1.06		7354.172	0.383
12369/12467/12489-PeCDD	NotFnd		0.9741						1.06		7354.172	0.383
12346/12347-PeCDD	NotFnd		0.9854						1.06		7354.172	0.383
12378-PeCDD	33.01		**1.0006**	**1.0006**	**0**	**7.47E+06**	**1.53**	**Y**	**1.06**	**44.7**	**7354.172**	**0.383**
12367-PeCDD	NotFnd		1.0034						1.06		7354.172	0.383
12389-PeCDD	33.46		1.0141	1.0142	+0.2	2.13E+06	1.57	Y	1.06	12.7	7354.172	0.383
124679/124689-HxCDD	35.22		0.9542	0.9541	-0.2	2.18E+06	1.25	Y	1.05	13.7	6906.152	0.357
123468-HxCDD	NotFnd		0.9720						1.05		6906.152	0.357
123679/123689-HxCDD	NotFnd		0.9798						1.05		6906.152	0.357
123469-HxCDD	NotFnd		0.9836						1.05		6906.152	0.357
123478-HxCDD	36.93		**1.0004**	**1.0004**	**0**	**8.44E+06**	**1.30**	**Y**	1.06	**53.6**	**6906.152**	**0.353**
123678-HxCDD	37.04		**1.0035**	**1.0035**	**0**	**8.91E+06**	**1.24**	**Y**	1.08	**55.5**	**6906.152**	**0.339**
123467-HxCDD	NotFnd		1.0089						1.05		6906.152	0.357
123789-HxCDD	37.35		**1.0117**	**1.0118**	**+0.2**	**8.33E+06**	**1.25**	**Y**	1.02	**52.1**	**6906.152**	**0.379**

Lab ID: OPR2_18820_DF | **Acq'd: 11 Jan 2022 18:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR002 | **UTP: 12-Jan-2022 09:29:54 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 411-693-NYC**

Datafile: 220111R12 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.49		0.9842	0.9843	+0.2	1.78E+06	1.01	Y	0.97	13.8	7025.993	0.326
1234678-HpCDD	**40.14**		**1.0003**	**1.0003**	**0**	**7.02E+06**	**1.08**	**Y**	**0.97**	**54.8**	**7025.993**	**0.326**
OCDD	**42.63**		**1.0003**	**1.0003**	**0**	**7.98E+06**	**0.93**	**Y**	**1.07**	**110**	**8066.072**	**0.839**
OCDD-a	42.63		1.0002	1.0002	0	3.45E+05	2.44	Y	0.07	77.2	11375.181	19.2
1368-TCDF	21.42		0.8080	0.8059	-2.7	4.27E+06	0.81	Y	0.96	16.4	8081.008	0.362
1468-TCDF	NotFnd		0.8299						0.96		8081.008	0.362
2468-TCDF	22.68		0.8555	0.8534	-2.9	1.17E+06	0.74	Y	0.96	4.5	8081.008	0.362
1346/1246-TCDF	NotFnd		0.8688						0.96		8081.008	0.362
1347/1378/1247-TCDF	NotFnd		0.8753						0.96		8081.008	0.362
1348-TCDF	NotFnd		0.8863						0.96		8081.008	0.362
1248/1367/1379-TCDF	NotFnd		0.8915						0.96		8081.008	0.362
1268-TCDF	NotFnd		0.9065						0.96		8081.008	0.362
1467-TCDF	NotFnd		0.9119						0.96		8081.008	0.362
1478-TCDF	NotFnd		0.9186						0.96		8081.008	0.362
1369/1237-TCDF	NotFnd		0.9331						0.96		8081.008	0.362
2467-TCDF	NotFnd		0.9384						0.96		8081.008	0.362
2368-TCDF	NotFnd		0.9445						0.96		8081.008	0.362
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9476						0.96		8081.008	0.362
1278-TCDF	NotFnd		0.9656						0.96		8081.008	0.362
1349-TCDF	NotFnd		0.9703						0.96		8081.008	0.362
1267-TCDF	NotFnd		0.9765						0.96		8081.008	0.362
2346/1249-TCDF	NotFnd		0.9836						0.96		8081.008	0.362
2347/1279-TCDF	NotFnd		0.9921						0.96		8081.008	0.362
2348-TCDF	26.49		0.9965	0.9966	+0.2	4.65E+06	0.76	Y	0.96	17.8	8081.008	0.362
2378-TCDF	**26.60**		**1.0008**	**1.0007**	**-0.2**	**3.07E+06**	**0.74**	**Y**	**0.96**	**11.8**	**8081.008**	**0.362**
2367/3467-TCDF	NotFnd		1.0150						0.96		8081.008	0.362
1269-TCDF	NotFnd		1.0243						0.96		8081.008	0.362
1239-TCDF	NotFnd		1.0345						0.96		8081.008	0.362
1289-TCDF	28.69		1.0780	1.0792	+2.1	5.07E+06	0.81	Y	0.96	19.5	8081.008	0.362
13468/12468-PeCDF	28.62		0.9095	0.9084	-1.9	2.55E+07	1.61	Y	0.94	123	9667.428	0.419
13678/13467/12467-PeCDF	NotFnd		0.9595						0.94		7883.698	0.342
12368/13478/12478-PeCDF	NotFnd		0.9646						0.94		7883.698	0.342
14678-PeCDF	NotFnd		0.9678						0.94		7883.698	0.342
13479-PeCDF	NotFnd		0.9710						0.94		7883.698	0.342
13469/12479-PeCDF	NotFnd		0.9790						0.94		7883.698	0.342
12346-PeCDF	NotFnd		0.9835						0.94		7883.698	0.342

Lab ID: OPR2_18820_DF | **Acq'd: 11 Jan 2022 18:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18820_OPR002 | **UTP: 12-Jan-2022 09:29:54 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 411-693-NYC**

Datafile: 220111R12 | **Report: 12 Jan 2022 09:30 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9864						0.94		7883.698	0.342
12347-PeCDF	NotFnd		0.9888						0.94		7883.698	0.342
12348-PeCDF	NotFnd		0.9939						0.94		7883.698	0.342
12378-PeCDF	**31.53**		**1.0005**	**1.0006**	**+0.2**	**1.19E+07**	**1.60**	**Y**	**0.95**	**57.1**	**7883.698**	**0.35**
12678/12367-PeCDF	NotFnd		1.0094						0.94		7883.698	0.342
12379-PeCDF	NotFnd		1.0149						0.94		7883.698	0.342
12679-PeCDF	NotFnd		0.9925						0.94		7883.698	0.342
23467/12369-PeCDF	NotFnd		0.9965						0.94		7883.698	0.342
23478-PeCDF	**32.66**		**1.0006**	**1.0005**	**-0.2**	**1.22E+07**	**1.54**	**Y**	**0.94**	**59.8**	**7883.698**	**0.334**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7883.698	0.342
12349-PeCDF	NotFnd		1.0104						0.94		7883.698	0.342
12389-PeCDF	33.75		1.0336	1.0339	+0.6	2.92E+06	1.62	Y	0.94	14.1	7883.698	0.342
123468-HxCDF	34.56		0.9618	0.9616	-0.4	2.91E+07	1.23	Y	1.16	126	11806.77	0.407
124678/134678-HxCDF	NotFnd		0.9673						1.16		11806.77	0.407
134679-HxCDF	NotFnd		0.9737						1.16		11806.77	0.407
124679-HxCDF	NotFnd		0.9793						1.16		11806.77	0.407
124689-HxCDF	NotFnd		0.9855						1.16		11806.77	0.407
123467-HxCDF	NotFnd		0.9972						1.16		11806.77	0.407
123478-HxCDF	**35.95**		**1.0004**	**1.0005**	**+0.2**	**1.11E+07**	**1.22**	**Y**	**1.23**	**56.5**	**11806.77**	**0.447**
123678-HxCDF	**36.09**		**1.0004**	**1.0004**	**0**	**1.32E+07**	**1.23**	**Y**	**1.13**	**55.6**	**11806.77**	**0.435**
123479-HxCDF	NotFnd		1.0049						1.16		11806.77	0.407
123469-HxCDF	NotFnd		1.0089						1.16		11806.77	0.407
123679-HxCDF	NotFnd		0.9944						1.16		11806.77	0.407
234678-HxCDF	**36.75**		**1.0004**	**1.0005**	**+0.2**	**1.60E+07**	**1.25**	**Y**	**1.15**	**52.7**	**11806.77**	**0.302**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		11806.77	0.407
123789-HxCDF	**37.74**		**1.0005**	**1.0005**	**0**	**9.88E+06**	**1.29**	**Y**	**1.14**	**53.7**	**11806.77**	**0.506**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		11806.77	0.407
1234678-HpCDF	**39.23**		**1.0003**	**1.0003**	**0**	**1.14E+07**	**1.07**	**Y**	**1.36**	**52.5**	**6514.605**	**0.212**
1234679-HpCDF	NotFnd		1.0071						1.33		6514.605	0.231
1234689-HpCDF	NotFnd		1.0106						1.33		6514.605	0.231
1234789-HpCDF	**40.57**		**1.0002**	**1.0003**	**+0.2**	**8.80E+06**	**1.09**	**Y**	**1.30**	**54.1**	**6514.605**	**0.256**
OCDF	**42.80**		**1.0003**	**1.0003**	**0**	**1.02E+07**	**0.89**	**Y**	**1.03**	**113**	**7795.498**	**0.679**
OCDF-a	42.79	**EMPC**	1.0002	1.0000	-0.5	5.78E+05	1.92	N	0.06	111	10018.994	15.1

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R12	Analysis Date:	11-JAN-2022 18:08:55
Lab ID:	OPR2_18820_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.24	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	44.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.6	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.8	35	-	70	Y
OCDD	100	110	78	-	144	Y
2,3,7,8-TCDF	10	11.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	57.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	59.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	53.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.5	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54.1	39	-	69	Y
OCDF	100	113	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:30 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220111R12	Analysis Date:	11-JAN-2022 18:08:55
Lab ID:	OPR2_18820_DF		

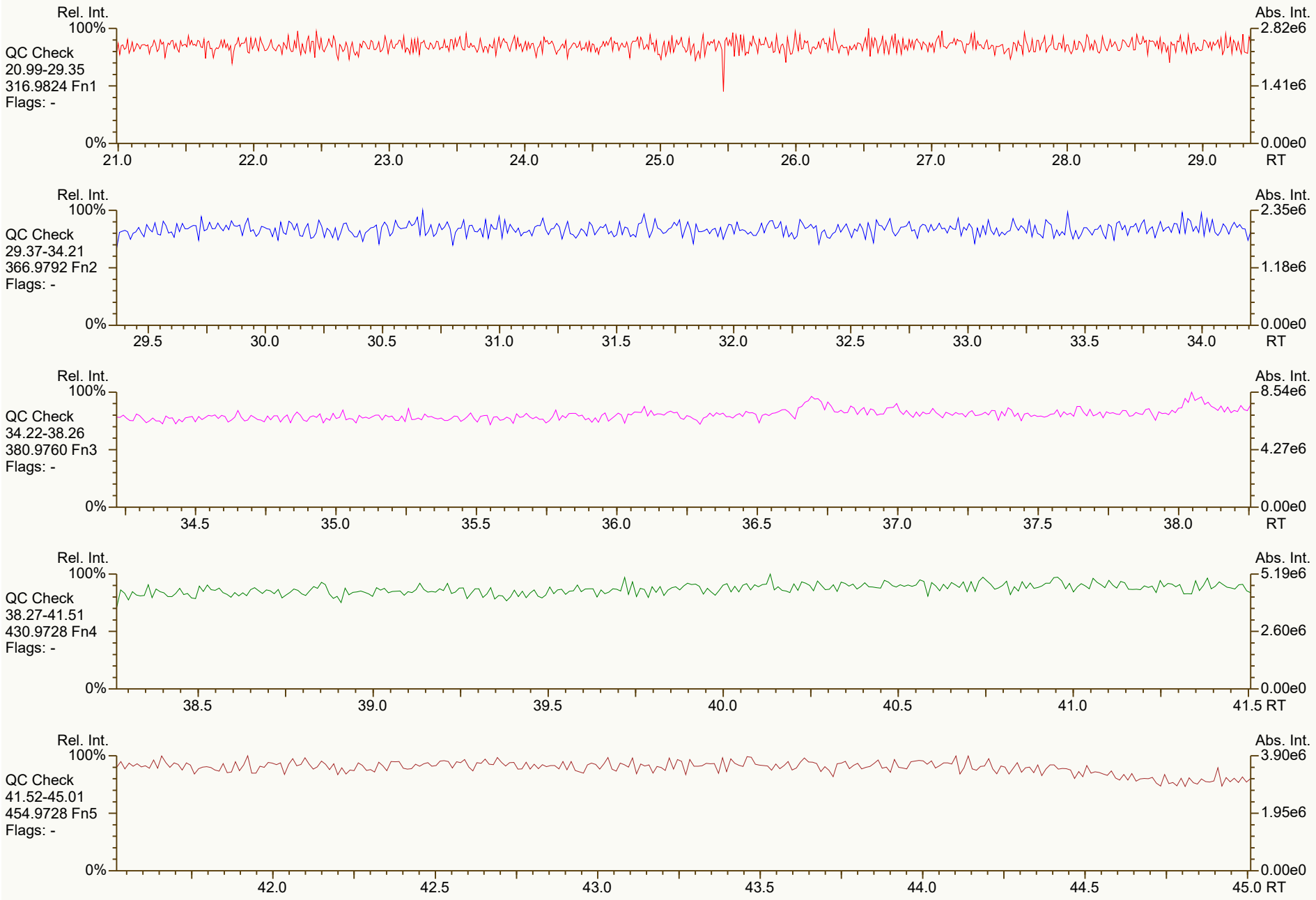
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	98.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	88.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	109	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	111	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	102	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	96.3	26	-	166	Y
13C-OCDD	200	126	26	-	397	Y
13C-2,3,7,8-TCDF	100	94.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.8	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	89.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	117	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	159	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	104	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	121	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	107	20	-	186	Y
13C-OCDF	200	138	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	34.8	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 12 Jan 2022 09:30 Analyst: pw

SGS ID: OPR2_18820_DF | **Sample ID: 0_18820_OPR002** | **Acq: 11-Jan-2022 18:08:55**

Instr: [ILM] AutoSpec-Ultima MM3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29** | **User: PSW Datafile: 220111R12**

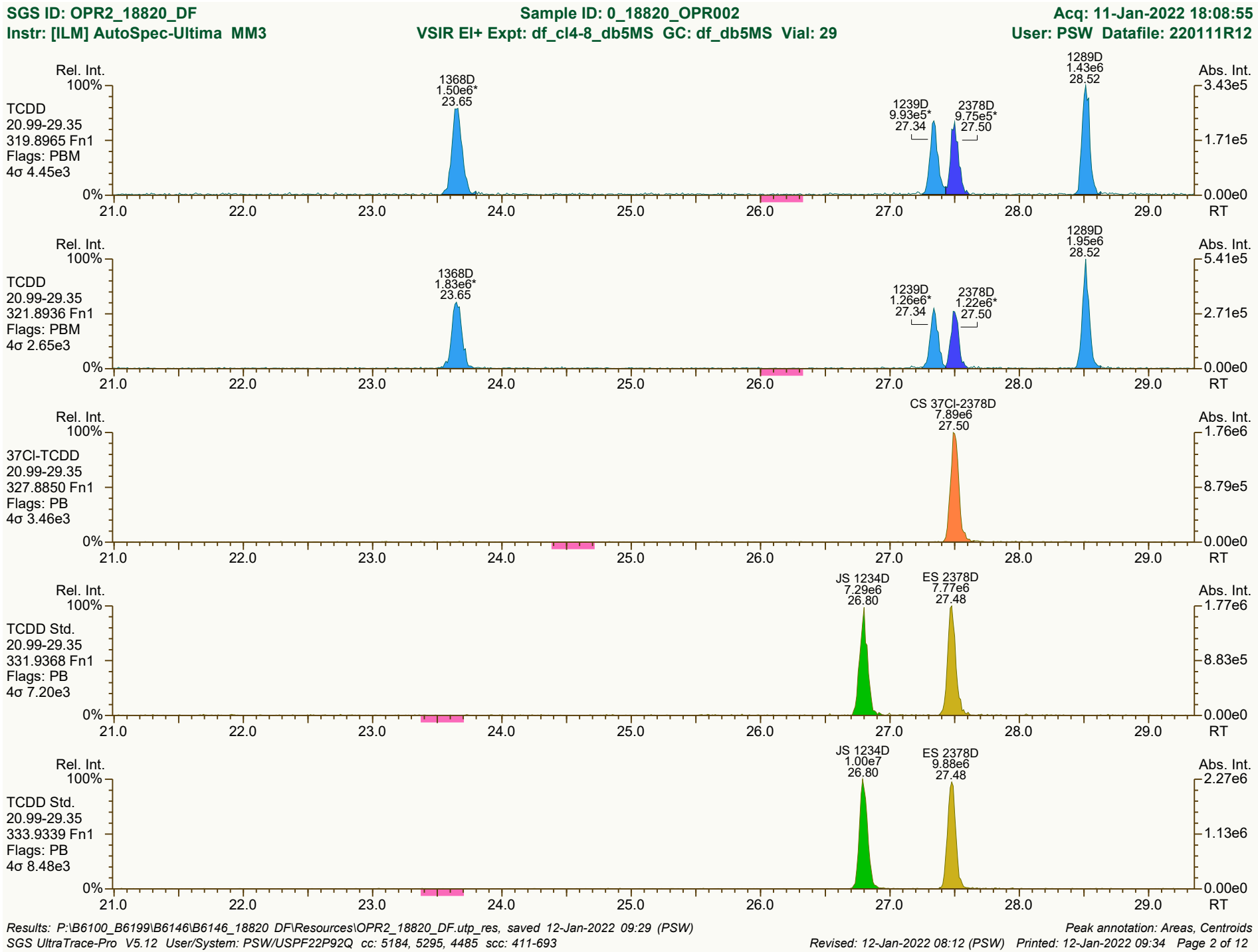


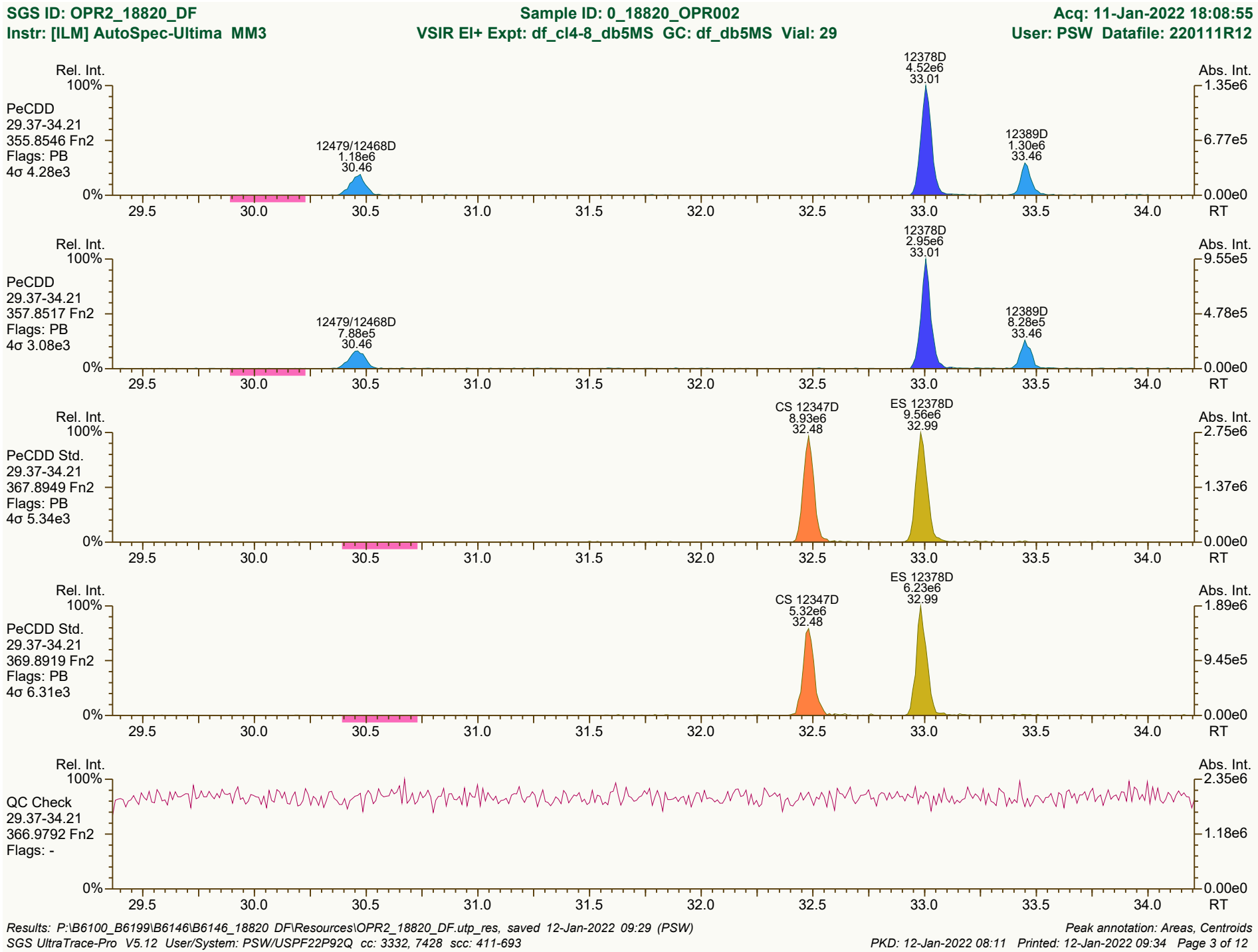
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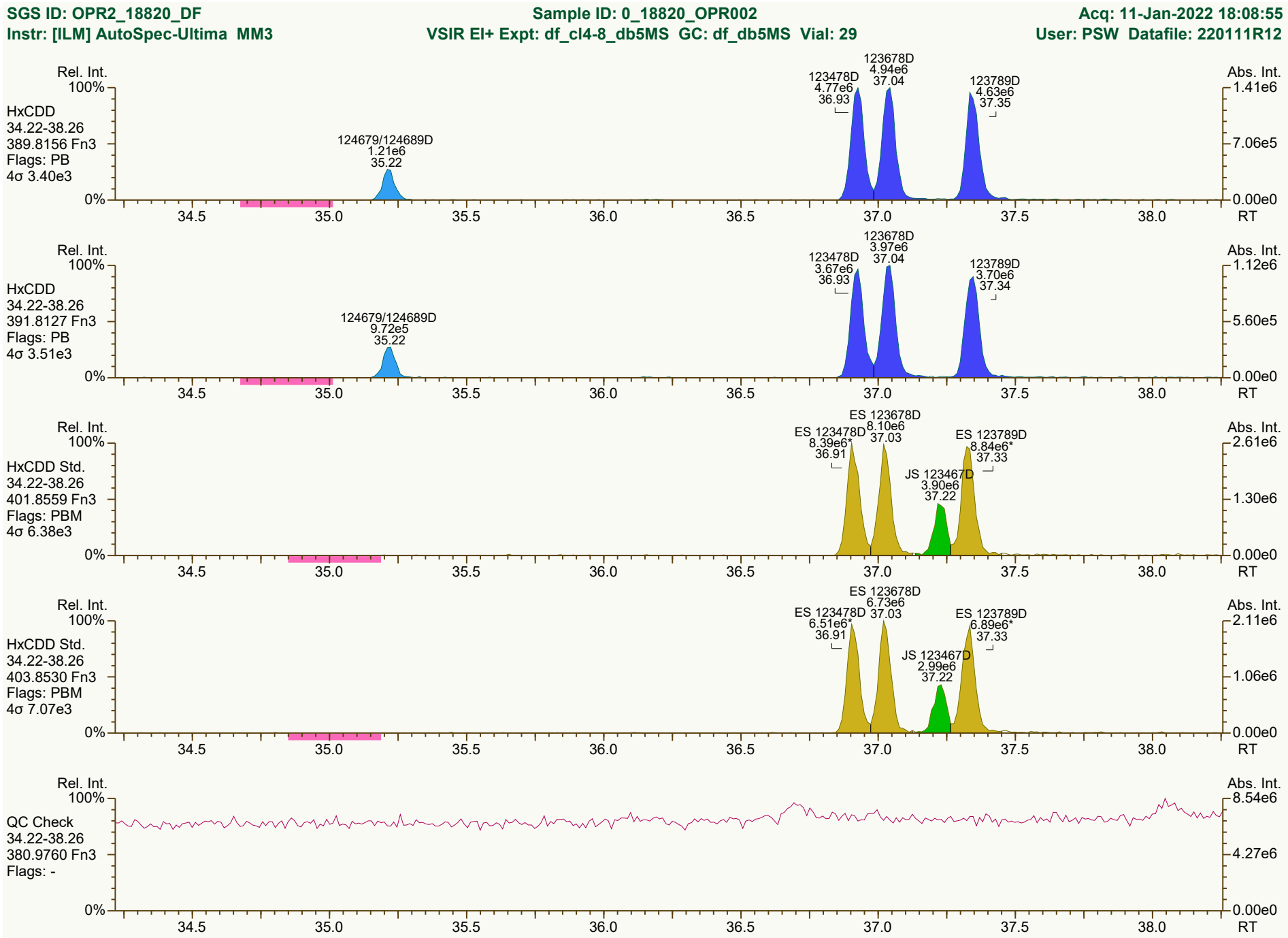
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 411-693

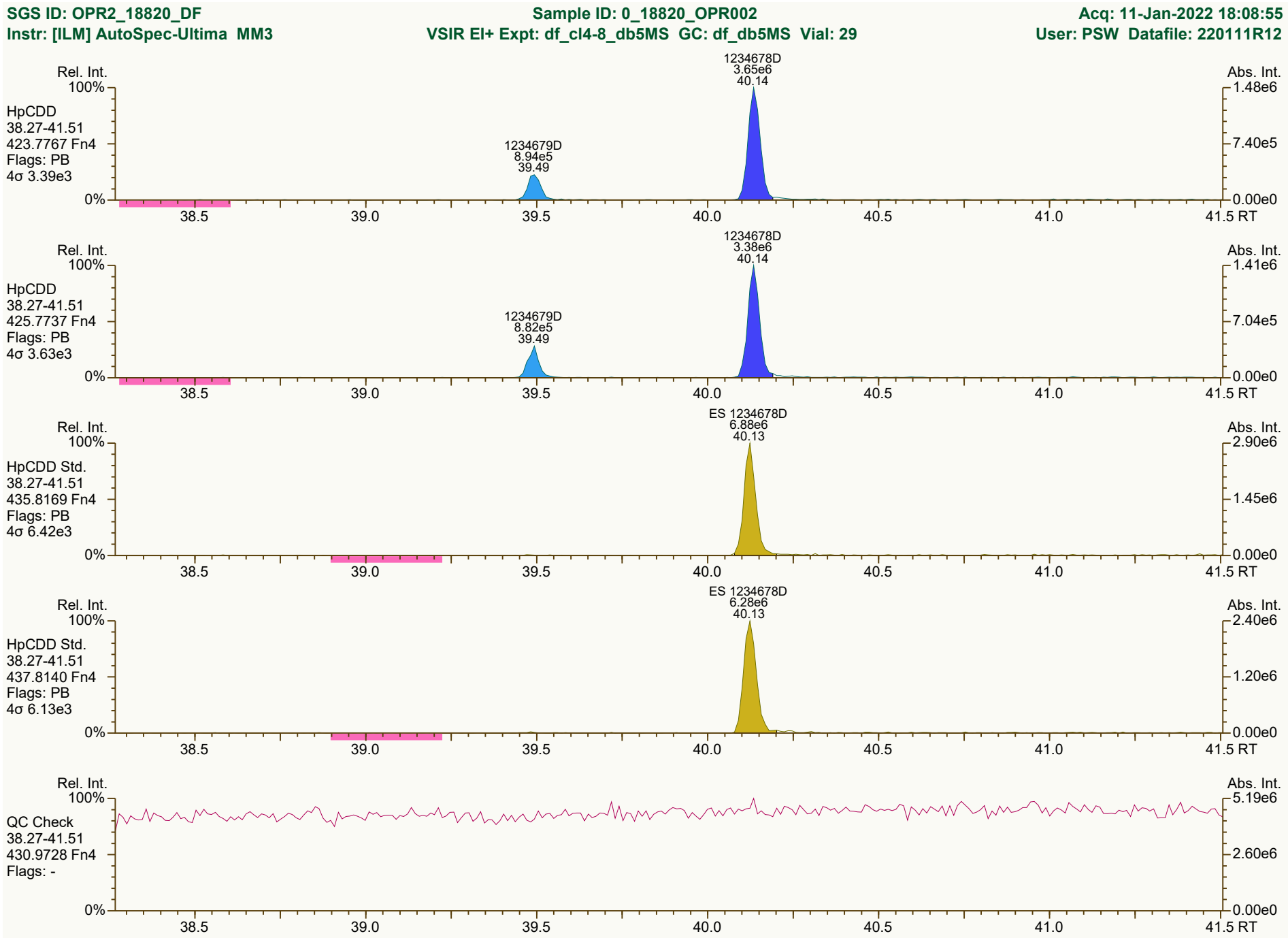
PKD: n/a Printed: 12-Jan-2022 09:34 Page 1 of 12

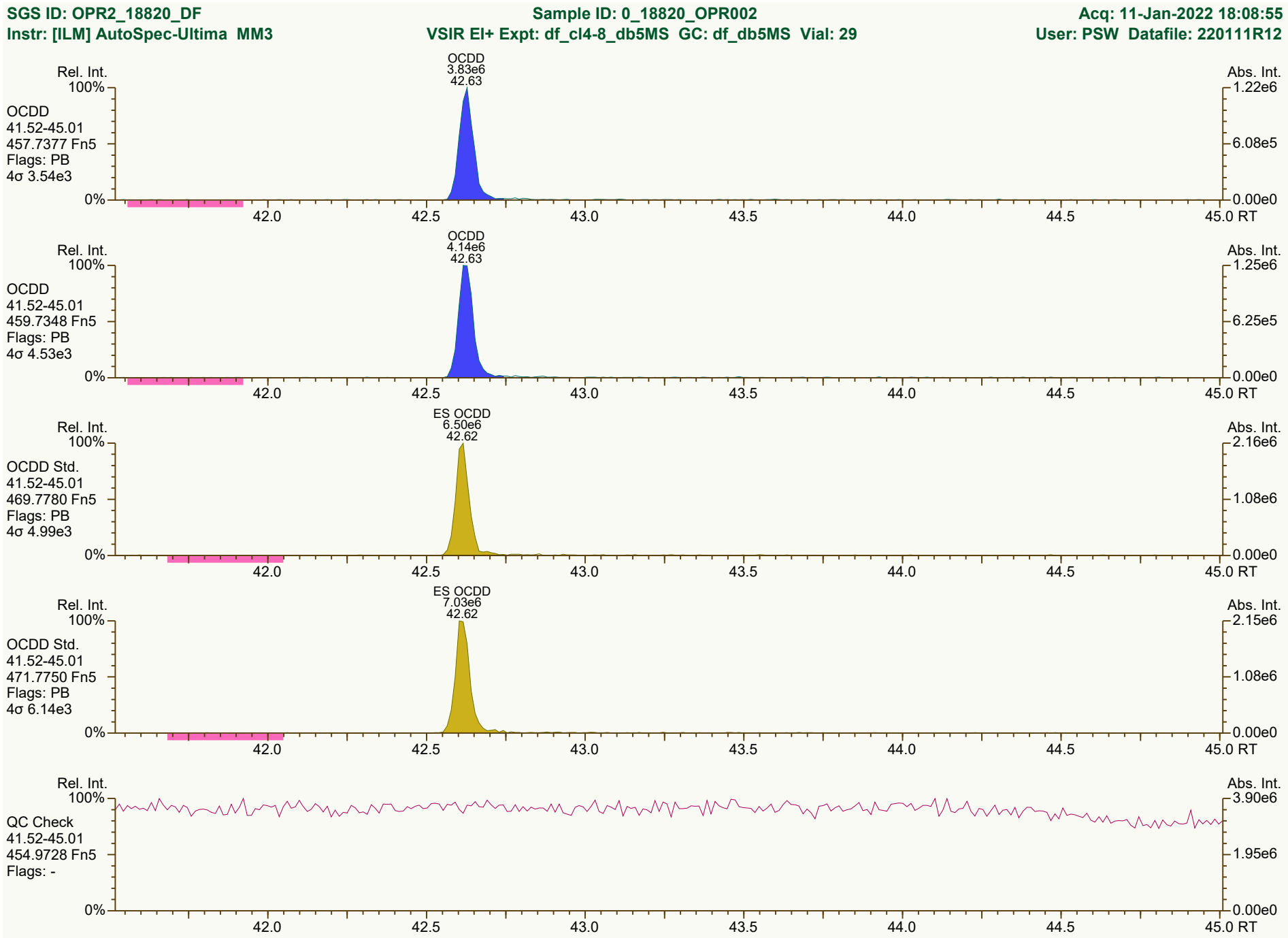

SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
TCDD
20.99-29.35
319.8965 Fn1
Flags: PBM
4σ 4.45e3
1368D 1.50e6* 23.65
1239D 9.93e5* 27.34
2378D 9.75e5* 27.50
1289D 1.43e6 28.52
3.43e5
1.71e5
0.00e0
TCDD
20.99-29.35
321.8936 Fn1
Flags: PBM
4σ 2.65e3
1368D 1.83e6* 23.65
1239D 1.26e6* 27.34
2378D 1.22e6* 27.50
1289D 1.95e6 28.52
5.41e5
2.71e5
0.00e0
37Cl-TCDD
20.99-29.35
327.8850 Fn1
Flags: PB
4σ 3.46e3
CS 37Cl-2378D 7.89e6 27.50
1.76e6
8.79e5
0.00e0
TCDD Std.
20.99-29.35
331.9368 Fn1
Flags: PB
4σ 7.20e3
JS 1234D 7.29e6 26.80
ES 2378D 7.77e6 27.48
1.77e6
8.83e5
0.00e0
TCDD Std.
20.99-29.35
333.9339 Fn1
Flags: PB
4σ 8.48e3
JS 1234D 1.00e7 26.80
ES 2378D 9.88e6 27.48
2.27e6
1.13e6
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5184, 5295, 4485 scc: 411-693
Revised: 12-Jan-2022 08:12 (PSW) Printed: 12-Jan-2022 09:34 Page 2 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
PeCDD
29.37-34.21
355.8546 Fn2
Flags: PB
4σ 4.28e3
12479/12468D
1.18e6
30.46
12378D
4.52e6
33.01
12389D
1.30e6
33.46
PeCDD
29.37-34.21
357.8517 Fn2
Flags: PB
4σ 3.08e3
12479/12468D
7.88e5
30.46
12378D
2.95e6
33.01
12389D
8.28e5
33.46
PeCDD Std.
29.37-34.21
367.8949 Fn2
Flags: PB
4σ 5.34e3
CS 12347D
8.93e6
32.48
ES 12378D
9.56e6
32.99
PeCDD Std.
29.37-34.21
369.8919 Fn2
Flags: PB
4σ 6.31e3
CS 12347D
5.32e6
32.48
ES 12378D
6.23e6
32.99
QC Check
29.37-34.21
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3332, 7428 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 3 of 12

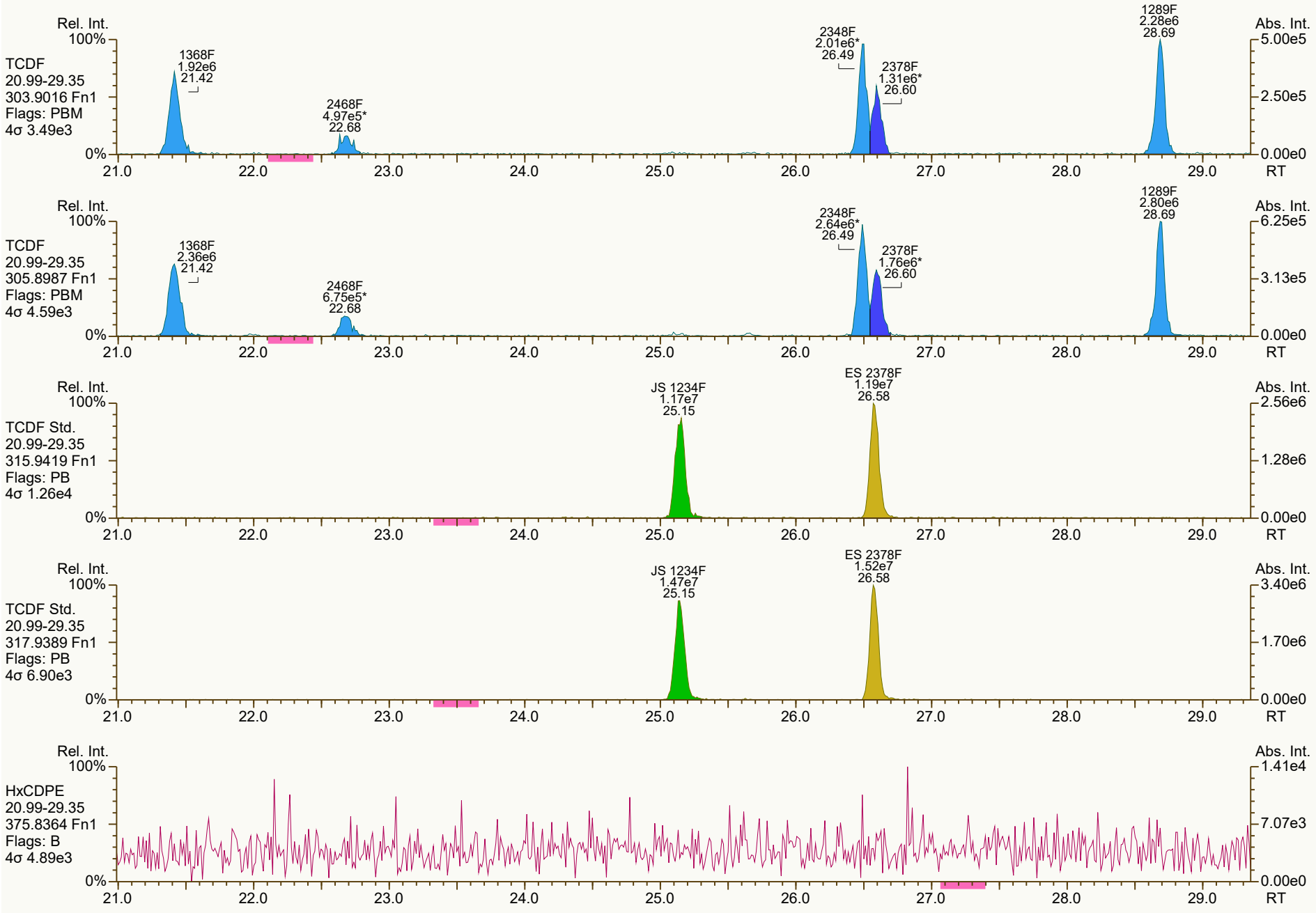


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5050, 8191 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 4 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
HpCDD
38.27-41.51
423.7767 Fn4
Flags: PB
4σ 3.39e3
1234678D
3.65e6
40.14
1234679D
8.94e5
39.49
1.48e6
7.40e5
0.00e0
HpCDD
38.27-41.51
425.7737 Fn4
Flags: PB
4σ 3.63e3
1234678D
3.38e6
40.14
1234679D
8.82e5
39.49
1.41e6
7.04e5
0.00e0
HpCDD Std.
38.27-41.51
435.8169 Fn4
Flags: PB
4σ 6.42e3
ES 1234678D
6.88e6
40.13
2.90e6
1.45e6
0.00e0
HpCDD Std.
38.27-41.51
437.8140 Fn4
Flags: PB
4σ 6.13e3
ES 1234678D
6.28e6
40.13
2.40e6
1.20e6
0.00e0
QC Check
38.27-41.51
430.9728 Fn4
Flags: -
5.19e6
2.60e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1563, 9184 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 5 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
OCDD
3.83e6
42.63
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 3.54e3
1.22e6
6.08e5
0.00e0
OCDD
4.14e6
42.63
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 4.53e3
1.25e6
6.25e5
ES OCDD
6.50e6
42.62
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 4.99e3
2.16e6
1.08e6
ES OCDD
7.03e6
42.62
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 6.14e3
2.15e6
1.08e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
3.90e6
1.95e6
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6854, 8273 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 6 of 12

SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12

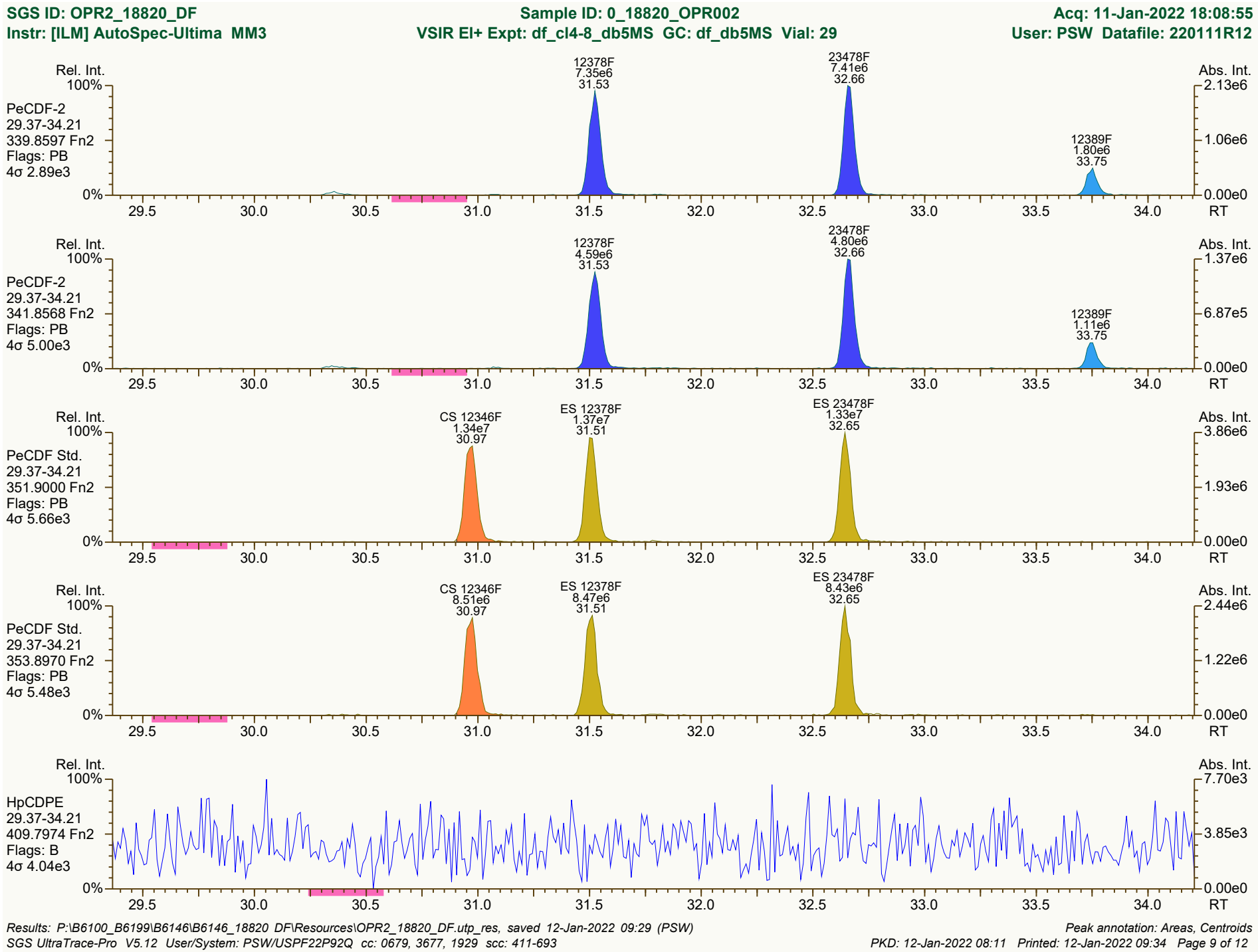


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8734, 4699, 1102 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 7 of 12

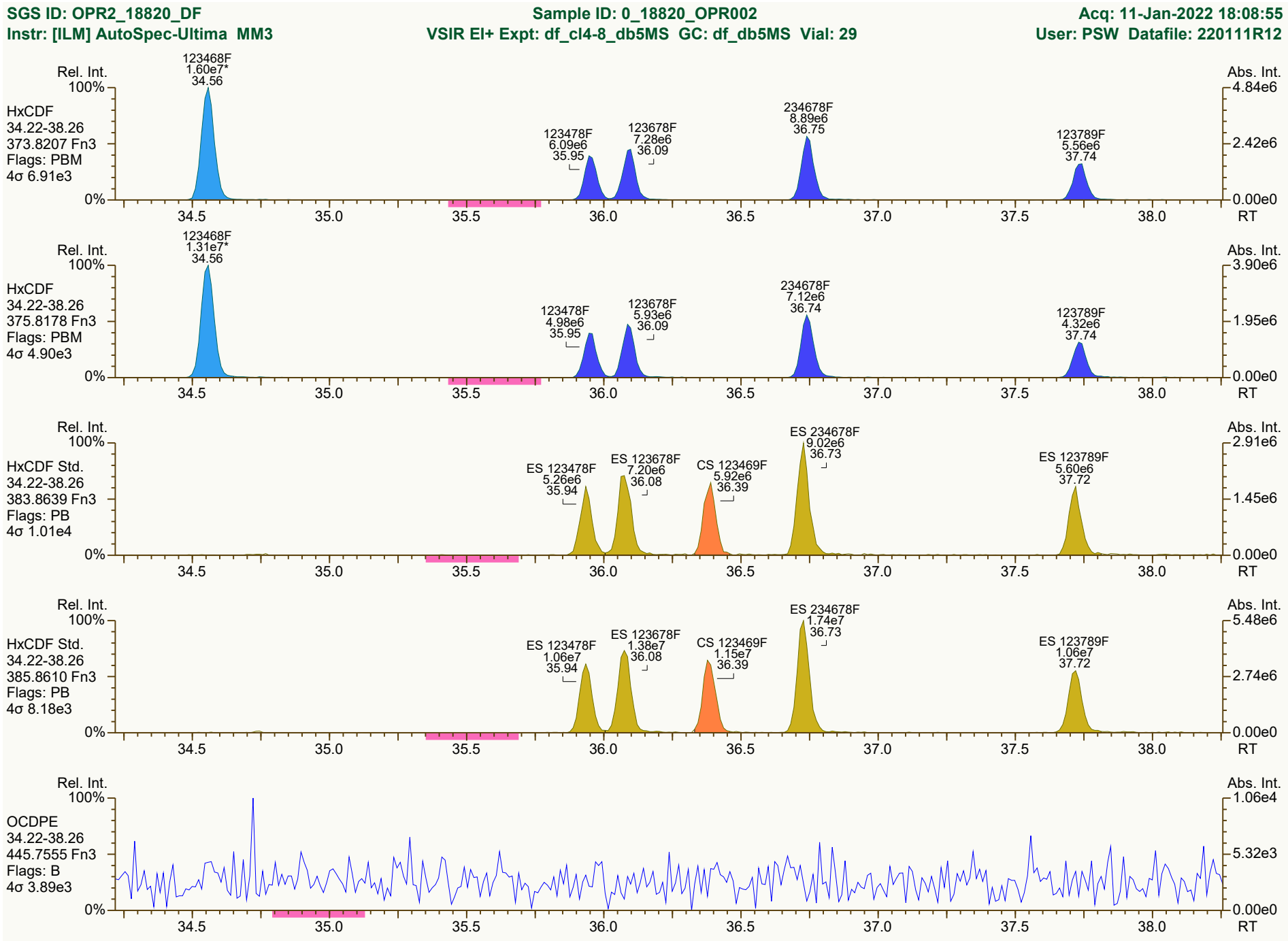
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Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12



Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0290 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 8 of 12

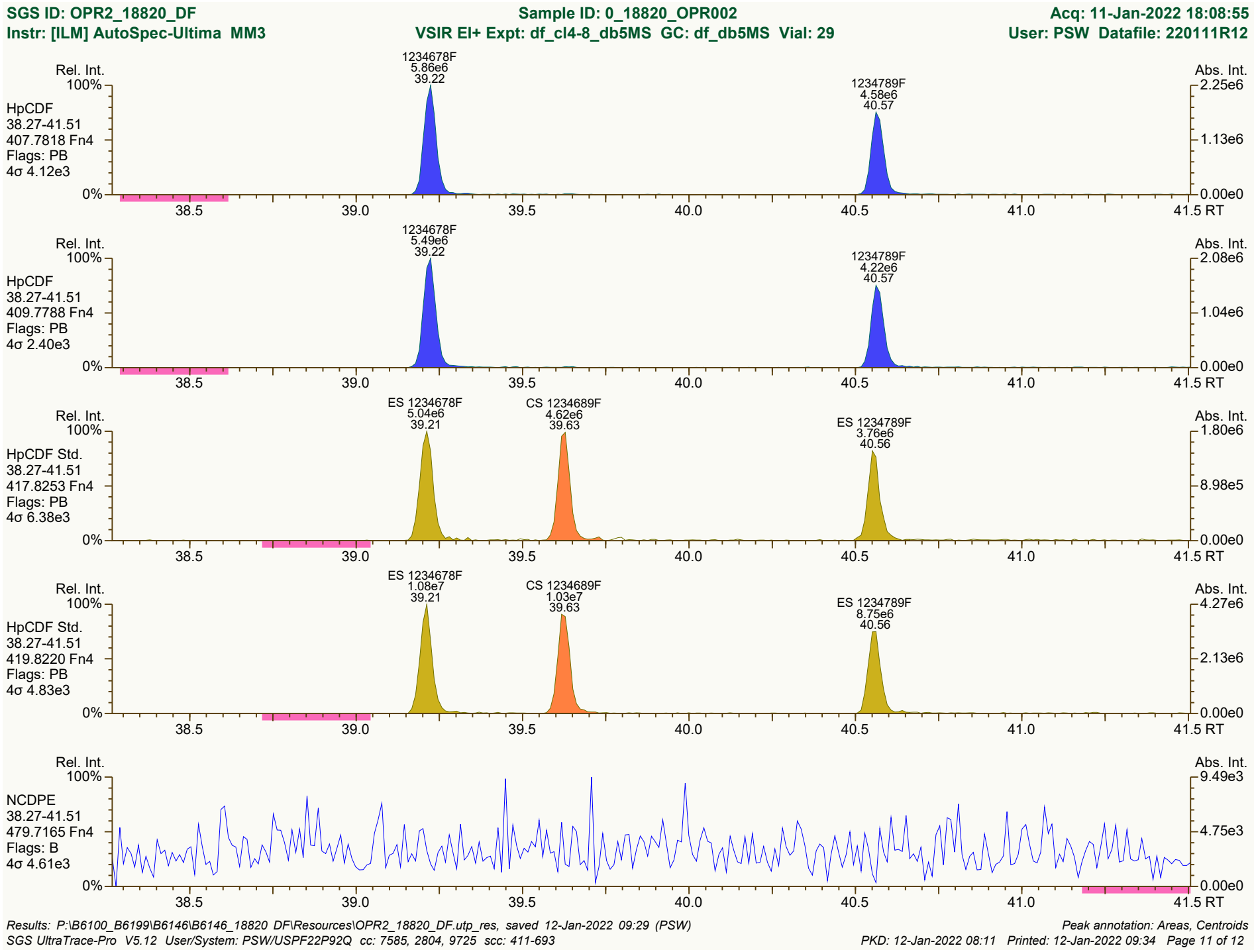


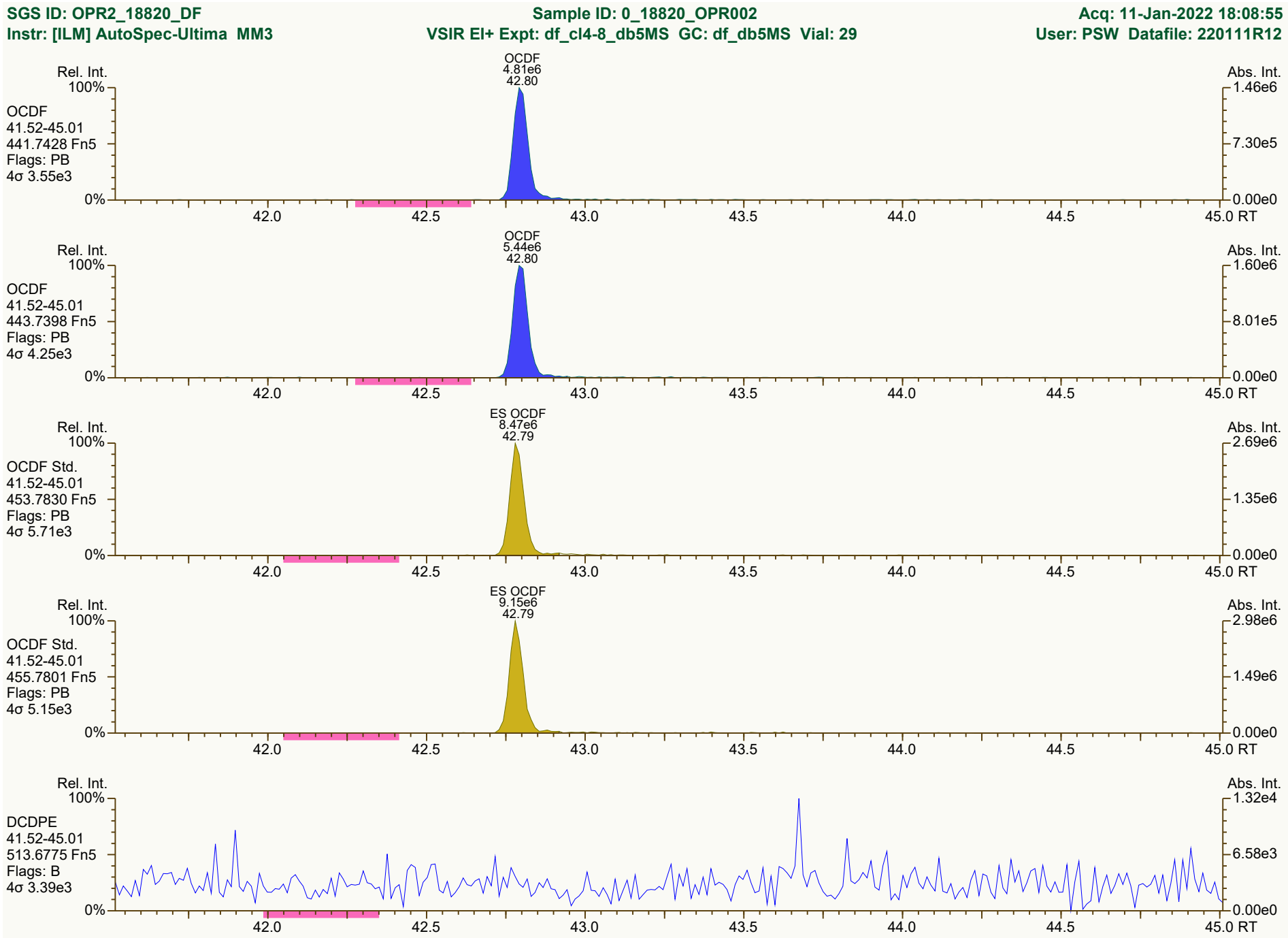
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0679, 3677, 1929 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 9 of 12



Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4507, 7410, 2979 scc: 411-693 *PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 10 of 12*


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
Rel. Int.
Abs. Int.
HpCDF
38.27-41.51
407.7818 Fn4
Flags: PB
4σ 4.12e3
1234678F
5.86e6
39.22
1234789F
4.58e6
40.57
2.25e6
1.13e6
0.00e0
HpCDF
38.27-41.51
409.7788 Fn4
Flags: PB
4σ 2.40e3
1234678F
5.49e6
39.22
1234789F
4.22e6
40.57
2.08e6
1.04e6
0.00e0
HpCDF Std.
38.27-41.51
417.8253 Fn4
Flags: PB
4σ 6.38e3
ES 1234678F
5.04e6
39.21
CS 1234689F
4.62e6
39.63
ES 1234789F
3.76e6
40.56
1.80e6
8.98e5
0.00e0
HpCDF Std.
38.27-41.51
419.8220 Fn4
Flags: PB
4σ 4.83e3
ES 1234678F
1.08e7
39.21
CS 1234689F
1.03e7
39.63
ES 1234789F
8.75e6
40.56
4.27e6
2.13e6
0.00e0
NCDPE
38.27-41.51
479.7165 Fn4
Flags: B
4σ 4.61e3
9.49e3
4.75e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7585, 2804, 9725 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 11 of 12


SGS ID: OPR2_18820_DF
Sample ID: 0_18820_OPR002
Acq: 11-Jan-2022 18:08:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220111R12
OCDF
4.81e6
42.80
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 3.55e3
OCDF
5.44e6
42.80
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 4.25e3
ES OCDF
8.47e6
42.79
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 5.71e3
ES OCDF
9.15e6
42.79
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 5.15e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 3.39e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6146\B6146_18820 DF\Resources\OPR2_18820_DF.utp_res, saved 12-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2236, 6169, 0135 scc: 411-693
PKD: 12-Jan-2022 08:11 Printed: 12-Jan-2022 09:34 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-O-15 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6147_18830_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	84.5 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:27:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	17.6				ES 2378-TCDD	93.7	
12378-PeCDD	EMPC		0.495	J	ES 12378-PeCDD	108	
123478-HxCDD	1.09			J	ES 123478-HxCDD	108	
123678-HxCDD	EMPC		1.53	J	ES 123678-HxCDD	122	
123789-HxCDD	1.69			J	ES 123789-HxCDD	112	
1234678-HpCDD	94.4				ES 1234678-HpCDD	110	
OCDD	12,300			E	ES OCDD	132	
2378-TCDF	47.1				ES 2378-TCDF	91.4	
12378-PeCDF	1.62			J	ES 12378-PeCDF	101	
23478-PeCDF	1.55			J	ES 23478-PeCDF	102	
123478-HxCDF	EMPC		2.53		ES 123478-HxCDF	112	
123678-HxCDF	0.671			J	ES 123678-HxCDF	122	
234678-HxCDF	EMPC		0.352	J	ES 234678-HxCDF	114	
123789-HxCDF	ND	0.338			ES 123789-HxCDF	114	
1234678-HpCDF	EMPC		3.38		ES 1234678-HpCDF	124	
1234789-HpCDF	EMPC		0.7	J	ES 1234789-HpCDF	117	
OCDF	13.4				ES OCDF	123	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.2	
Total TCDD	19.1		19.1		CS 12347-PeCDD	122	
Total PeCDD	ND		0.495		CS 12346-PeCDF	113	
Total HxCDD	19.5		21.5		CS 123469-HxCDF	143	V
Total HpCDD	232		232		CS 1234689-HpCDF	144	V
Total TCDF	94.5		97.8				
Total PeCDF	4.58		5.2				
Total HxCDF	1.95		6.33				
Total HpCDF	6.65		10.7				
Total PCDD/Fs	**12,700**		**12,700**	E			
WHO-2005 TEQs							
TEQ: ND=0	27.8		28.8				
TEQ: ND=DL/2	27.8	0.686	28.8				
TEQ: ND=DL	27.9	1.37	28.8				

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Sample ID: 11215131-010522-S-BN-SW-O-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6147_18830_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	84.5 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:27:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.587)		12479/12468D	(0.311)		124679/124689D	10.3		1234679D	138	
1379D	(0.587)		12469D	(0.311)		123468D	0.69	J	1234678D	94.4	
1369D	(0.587)		12368D	(0.311)		123679/123689D	5.68				
1469D	(0.587)		12478D	(0.311)		123469D	(0.502)				
1247D...[4]	(0.587)		12379D	(0.311)		123478D	1.09	J			
1378D	(0.587)		12369D...[3]	(0.311)		123678D	[1.53]	J			
1268D	(0.587)		12346/12347D	(0.311)		123467D	[0.496]	J			
1478D	(0.587)		12378D	[0.495]	J	123789D	1.69	J	**Conc.**	232	
1279D	(0.587)		12367D	(0.311)					**EMPC**	232	
1234/1269D	(0.587)		12389D	(0.311)							
1236D	(0.587)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.587)										
1239D	(0.587)								OCDD	12300	E
2378D	17.6										
1278D	1.51										
1267D	(0.587)										
1289D	(0.587)										
Conc.	19.1		**Conc.**	0		**Conc.**	19.5				
EMPC	19.1		**EMPC**	0.495		**EMPC**	21.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	27.8	28.8
TEQ: ND=DL/2	27.8	28.8
TEQ: ND=DL	27.9	28.8

	Conc.	EMPC
Total PCDD/Fs	12,700	12,700

Checkcode: 456-233-XXR

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010522-S-BN-SW-O-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6147_18830_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	84.5 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:27:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.48)		13468/12468F	(0.23)		123468F	(0.315)		1234678F	[3.38]	
1468F	(0.48)		13678F...[3]	(0.455)		124678/134678F	[1.51]	J	1234679F	(0.168)	
2468F	1.41		12368F...[3]	1.42	J	134679F	(0.315)		1234689F	6.65	
1346/1246F	(0.48)		14678F	(0.455)		124679F	(0.315)		1234789F	[0.7]	J
1347F...[3]	[0.796]		13479F	(0.455)		124689F	1.28	J			
1348F	(0.48)		13469/12479F	(0.455)		123467F	(0.315)				
1248F...[3]	2.54		12346F	(0.455)		123478F	[2.53]				
1268F	[0.635]		23468/12469F	(0.455)		123678F	0.671	J			
1467F	(0.48)		12347F	(0.455)		123479F	(0.315)				
1478F	2.23		12348F	(0.455)		123469F	(0.315)				
1369/1237F	(0.48)		12378F	1.62	J	123679F	(0.315)				
2467F	(0.48)		12678/12367F	[0.617]	J	234678F	[0.352]	J	**Conc.**	6.65	
2368F	2.4		12379F	(0.455)		234678/123689F	0		**EMPC**	10.7	
1238F...[5]	2.68		12679F	(0.455)		123689F	(0.315)				
1278F	22.2		23467/12369F	(0.455)		123789F	(0.338)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.48)		23478F	1.55	J	123789/123489F	0			**(pg/g)**	
1267F	[1.17]		23478/12489F	0		123489F	(0.315)		OCDF	13.4	
2346/1249F	(0.48)		12489F	(0.455)							
2347/1279F	[0.661]		12349F	(0.455)							
2348F	2.83		12389F	(0.455)							
2378F	47.1										
2367/3467F	3.95										
1269F	1.66										
1239F	(0.48)										
1289F	5.57										
Conc.	94.5		**Conc.**	4.58		**Conc.**	1.95				
EMPC	97.8		**EMPC**	5.2		**EMPC**	6.33				

Checkcode: 456-233-XXR

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010522-S-BN-SW-O-15 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6147_18830_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18830
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	22-Jan-2022 01:27
Lab Project No:	B6147	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	17.6		0.587	17.6	17.6	17.6
12378-PeCDD	[0.495]	J	0.311	[0.247]	[0.495]	[0.495]
123478-HxCDD	1.09	J	0.52	0.109	0.109	0.109
123678-HxCDD	[1.53]	J	0.467	[0.153]	[0.153]	[0.153]
123789-HxCDD	1.69	J	0.522	0.169	0.169	0.169
1234678-HpCDD	94.4		0.383	0.944	0.944	0.944
OCDD	12300	E	0.498	12.3	1.23	3.7
2378-TCDF	47.1		0.48	4.71	4.71	4.71
12378-PeCDF	1.62	J	0.484	0.0811	0.0811	0.0487
23478-PeCDF	1.55	J	0.425	0.774	0.774	0.464
123478-HxCDF	[2.53]		0.292	[0.253]	[0.253]	[0.253]
123678-HxCDF	0.671	J	0.296	0.0671	0.0671	0.0671
234678-HxCDF	[0.352]	J	0.341	[0.0352]	[0.0352]	[0.0352]
123789-HxCDF	(0.338)		0.338	(0.0338)	(0.0338)	(0.0338)
1234678-HpCDF	[3.38]		0.125	[0.0338]	[0.0338]	[0.0338]
1234789-HpCDF	[0.7]	J	0.222	[0.007]	[0.007]	[0.007]
OCDF	13.4		0.646	0.0134	0.00134	0.00403

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TEQ Summaries			
EMPC = 0, ND = 0	36.8	25.7	27.8
EMPC = 0, ND = DL / 2	36.8	25.7	27.8
EMPC = 0, ND = DL	36.8	25.7	27.9
EMPC = 0, < J-level = 0	35.6	24.5	27
EMPC = EMPC, ND = 0	37.5	26.7	28.8
EMPC = EMPC, ND = DL / 2	37.6	26.7	28.8
EMPC = EMPC, ND = DL	37.6	26.7	28.8
EMPC = EMPC, < J-level = 0	35.9	24.8	27.3

Checkcode: 456-233-XXR

Sample ID: 11215131-010522-S-BN-SW-B-17 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	Lab Sample ID	B6147_18830_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	81.6 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:13:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,910			E	ES 2378-TCDD	93.8	
12378-PeCDD	28.8				ES 12378-PeCDD	101	
123478-HxCDD	EMPC		1.11	J	ES 123478-HxCDD	94.5	
123678-HxCDD	4.95				ES 123678-HxCDD	108	
123789-HxCDD	2.91				ES 123789-HxCDD	103	
1234678-HpCDD	163				ES 1234678-HpCDD	95.4	
OCDD	2,800				ES OCDD	88	
2378-TCDF	8,040			E	ES 2378-TCDF	98.6	
12378-PeCDF	329				ES 12378-PeCDF	103	
23478-PeCDF	240				ES 23478-PeCDF	105	
123478-HxCDF	583				ES 123478-HxCDF	105	
123678-HxCDF	150				ES 123678-HxCDF	112	
234678-HxCDF	27.6				ES 234678-HxCDF	101	
123789-HxCDF	ND	0.452			ES 123789-HxCDF	107	
1234678-HpCDF	159				ES 1234678-HpCDF	115	
1234789-HpCDF	67.1				ES 1234789-HpCDF	101	
OCDF	91.5				ES OCDF	92.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.6	
Total TCDD	3,260		3,270	E	CS 12347-PeCDD	112	
Total PeCDD	34.9		42.2		CS 12346-PeCDF	104	
Total HxCDD	55.3		58.3		CS 123469-HxCDF	124	
Total HpCDD	327		327		CS 1234689-HpCDF	129	
Total TCDF	15,500		15,500	E			
Total PeCDF	871		871				
Total HxCDF	893		893				
Total HpCDF	294		294				
Total PCDD/Fs	**24,200**		**24,200**	E			
WHO-2005 TEQs							
TEQ: ND=0	3910		3910				
TEQ: ND=DL/2	3910	0.687	3910				
TEQ: ND=DL	3910	1.37	3910				

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Sample ID: 11215131-010522-S-BN-SW-B-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	Lab Sample ID:	B6147_18830_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	81.6 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:13:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[4.2]		12479/12468D	2.57		124679/124689D	30.9		1234679D	164	
1379D	[1.92]		12469D	3.51		123468D	2.11	J	1234678D	163	
1369D	(0.493)		12368D	[3.31]		123679/123689D	14.4				
1469D	4.66		12478D	[1.49]	J	123469D	[1.37]	J			
1247D...[4]	5.15		12379D	[0.644]	J	123478D	[1.11]	J			
1378D	8.97		12369D...[3]	[1.03]	J	123678D	4.95				
1268D	[0.517]		12346/12347D	(0.417)		123467D	[0.56]	J			
1478D	7.56		12378D	28.8		123789D	2.91		**Conc.**	327	
1279D	(0.493)		12367D	[0.823]	J				**EMPC**	327	
1234/1269D	1.83		12389D	(0.417)							
1236D	(0.493)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	43.3										
1239D	(0.493)								OCDD	2800	
2378D	2910	E									
1278D	262										
1267D	9.97										
1289D	4.88										
Conc.	3,260		**Conc.**	34.9		**Conc.**	55.3				
EMPC	3,270		**EMPC**	42.2		**EMPC**	58.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,910	3,910
TEQ: ND=DL/2	3,910	3,910
TEQ: ND=DL	3,910	3,910

	Conc.	EMPC
Total PCDD/Fs	24,200	24,200

Checkcode: 182-421-MSQ

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010522-S-BN-SW-B-17 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received: 07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	Lab Sample ID:	B6147_18830_DF_002	Date Extracted: 12-Jan-2022
Date Collected:	05-Jan-2022	% Solid:	81.6 %	QC Batch No.:	18830	Date Analyzed: 22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 2:13:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.82		13468/12468F	5.11		123468F	6.66		1234678F	159	
1468F	15.2		13678F...[3]	3.47		124678/134678F	49.3		1234679F	3.65	
2468F	7.75		12368F...[3]	134		134679F	(0.417)		1234689F	64	
1346/1246F	17.2		14678F	3.19		124679F	0.795	J	1234789F	67.1	
1347F...[3]	72.6		13479F	0.622	J	124689F	25.4				
1348F	19.5		13469/12479F	(0.352)		123467F	2.44				
1248F...[3]	356		12346F	0.762	J	123478F	583				
1268F	121		23468/12469F	5.74		123678F	150				
1467F	18.3		12347F	6.19		123479F	(0.417)				
1478F	308		12348F	29.8		123469F	(0.417)				
1369/1237F	80.6		12378F	329		123679F	(0.417)				
2467F	8.15		12678/12367F	97.1		234678F	27.6		**Conc.**	294	
2368F	281		12379F	(0.352)		234678/123689F	0		**EMPC**	294	
1238F...[5]	327		12679F	[0.573]	J	123689F	(0.417)				
1278F	3620	E	23467/12369F	3.57		123789F	(0.452)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.334)		23478F	240		123789/123489F	0				
1267F	193		23478/12489F	0		123489F	48		OCDF	91.5	
2346/1249F	23.5		12489F	(0.352)							
2347/1279F	81		12349F	(0.352)							
2348F	637		12389F	12.6							
2378F	8040	E									
2367/3467F	601										
1269F	123										
1239F	9.82										
1289F	570										
Conc.	15,500		**Conc.**	871		**Conc.**	893				
EMPC	15,500		**EMPC**	871		**EMPC**	893				

Checkcode: 182-421-MSQ

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010522-S-BN-SW-B-17 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6147_18830_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	QC Batch No.:	18830
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	22-Jan-2022 02:13
Lab Project No:	B6147	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2910	E	0.493	2910	2910	2910
12378-PeCDD	28.8		0.417	14.4	28.8	28.8
123478-HxCDD	[1.11]	J	0.449	[0.111]	[0.111]	[0.111]
123678-HxCDD	4.95		0.461	0.495	0.495	0.495
123789-HxCDD	2.91		0.423	0.291	0.291	0.291
1234678-HpCDD	163		0.509	1.63	1.63	1.63
OCDD	2800		1.21	2.8	0.28	0.84
2378-TCDF	8040	E	0.334	804	804	804
12378-PeCDF	329		0.351	16.4	16.4	9.86
23478-PeCDF	240		0.354	120	120	72
123478-HxCDF	583		0.381	58.3	58.3	58.3
123678-HxCDF	150		0.388	15	15	15
234678-HxCDF	27.6		0.457	2.76	2.76	2.76
123789-HxCDF	(0.452)		0.452	(0.0452)	(0.0452)	(0.0452)
1234678-HpCDF	159		0.228	1.59	1.59	1.59
1234789-HpCDF	67.1		0.395	0.671	0.671	0.671
OCDF	91.5		0.662	0.0915	0.00915	0.0275

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TEQ Summaries			
EMPC = 0, ND = 0	3950	3960	3910
EMPC = 0, ND = DL / 2	3950	3960	3910
EMPC = 0, ND = DL	3950	3960	3910
EMPC = 0, < J-level = 0	3950	3960	3910
EMPC = EMPC, ND = 0	3950	3960	3910
EMPC = EMPC, ND = DL / 2	3950	3960	3910
EMPC = EMPC, ND = DL	3950	3960	3910
EMPC = EMPC, < J-level = 0	3950	3960	3910

Checkcode: 182-421-MSQ

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Sample ID: 11215131-010622-S-BN-SW-O-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6147_18830_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	86.7 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:00:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	145				ES 2378-TCDD	88.6	
12378-PeCDD	2.48				ES 12378-PeCDD	102	
123478-HxCDD	EMPC		1.97	J	ES 123478-HxCDD	92.7	
123678-HxCDD	6.3				ES 123678-HxCDD	106	
123789-HxCDD	4.05				ES 123789-HxCDD	104	
1234678-HpCDD	232				ES 1234678-HpCDD	99	
OCDD	10,000			E	ES OCDD	107	
2378-TCDF	424				ES 2378-TCDF	86.3	
12378-PeCDF	27.4				ES 12378-PeCDF	96.7	
23478-PeCDF	19.6				ES 23478-PeCDF	99.7	
123478-HxCDF	58.1				ES 123478-HxCDF	104	
123678-HxCDF	16.7				ES 123678-HxCDF	112	
234678-HxCDF	5.13				ES 234678-HxCDF	95.7	
123789-HxCDF	ND	0.339			ES 123789-HxCDF	103	
1234678-HpCDF	44.1				ES 1234678-HpCDF	111	
1234789-HpCDF	9.57				ES 1234789-HpCDF	104	
OCDF	127				ES OCDF	108	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.4	
Total TCDD	162		167		CS 12347-PeCDD	114	
Total PeCDD	10.2		12.1		CS 12346-PeCDF	105	
Total HxCDD	61.9		69.9		CS 123469-HxCDF	124	
Total HpCDD	602		602		CS 1234689-HpCDF	128	
Total TCDF	898		900				
Total PeCDF	83.3		85.8				
Total HxCDF	119		123				
Total HpCDF	119		119				
Total PCDD/Fs	**12,200**		**12,200**	E			
WHO-2005 TEQs							
TEQ: ND=0	212		212				
TEQ: ND=DL/2	212	0.696	212				
TEQ: ND=DL	212	1.39	212				

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Sample ID: 11215131-010622-S-BN-SW-O-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6147_18830_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	86.7 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:00:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.16]		12479/12468D	2.43	J	124679/124689D	27.4		1234679D	370	
1379D	(0.518)		12469D	2.25	J	123468D	[4.52]		1234678D	232	
1369D	(0.518)		12368D	1.13	J	123679/123689D	20.4				
1469D	[1.86]		12478D	[0.908]	J	123469D	3.69				
1247D...[4]	[0.501]		12379D	[0.773]	J	123478D	[1.97]	J			
1378D	[0.743]		12369D...[3]	1.44	J	123678D	6.3				
1268D	(0.518)		12346/12347D	[0.306]	J	123467D	[1.53]	J			
1478D	(0.518)		12378D	2.48		123789D	4.05		**Conc.**	602	
1279D	(0.518)		12367D	0.418	J				**EMPC**	602	
1234/1269D	[0.335]	J	12389D	(0.319)							
1236D	(0.518)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	2.32										
1239D	(0.518)								OCDD	10000	E
2378D	145										
1278D	14.5										
1267D	(0.518)										
1289D	(0.518)										
Conc.	162		**Conc.**	10.2		**Conc.**	61.9				
EMPC	167		**EMPC**	12.1		**EMPC**	69.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	212	212
TEQ: ND=DL/2	212	212
TEQ: ND=DL	212	212

	Conc.	EMPC
Total PCDD/Fs	12,200	12,200

Checkcode: 570-242-LFT

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010622-S-BN-SW-O-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6147_18830_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	86.7 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:00:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.681]		13468/12468F	4.57		123468F	[4.03]		1234678F	44.1	
1468F	2.07		13678F...[3]	[1.68]	J	124678/134678F	17.9		1234679F	2.32	J
2468F	2.59		12368F...[3]	14.8		134679F	(0.305)		1234689F	63.4	
1346/1246F	0.62		14678F	1.35	J	124679F	(0.305)		1234789F	9.57	
1347F...[3]	7.69		13479F	(0.332)		124689F	13				
1348F	1.8		13469/12479F	(0.332)		123467F	1.4	J			
1248F...[3]	20.6		12346F	0.418	J	123478F	58.1				
1268F	7.79		23468/12469F	1.92	J	123678F	16.7				
1467F	1.8		12347F	0.952	J	123479F	0.594	J			
1478F	19.6		12348F	2.55		123469F	0.976	J			
1369/1237F	6.59		12378F	27.4		123679F	(0.305)				
2467F	1.09		12678/12367F	8.67		234678F	5.13		**Conc.**	119	
2368F	19		12379F	(0.332)		234678/123689F	0		**EMPC**	119	
1238F...[5]	28		12679F	(0.332)		123689F	(0.305)				
1278F	190		23467/12369F	1.12	J	123789F	(0.339)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.439)		23478F	19.6		123789/123489F	0				
1267F	12.9		23478/12489F	0		123489F	5.32		OCDF	127	
2346/1249F	2.39		12489F	(0.332)							
2347/1279F	6.32		12349F	(0.332)							
2348F	34.8		12389F	[0.821]	J						
2378F	424										
2367/3467F	41.6										
1269F	17.5										
1239F	[1.22]										
1289F	49.7										
Conc.	898		**Conc.**	83.3		**Conc.**	119				
EMPC	900		**EMPC**	85.8		**EMPC**	123				

Checkcode: 570-242-LFT

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010622-S-BN-SW-O-12 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6147_18830_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18830
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	22-Jan-2022 03:00
Lab Project No:	B6147	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	145		0.518	145	145	145
12378-PeCDD	2.48		0.319	1.24	2.48	2.48
123478-HxCDD	[1.97]	J	0.916	[0.197]	[0.197]	[0.197]
123678-HxCDD	6.3		0.901	0.63	0.63	0.63
123789-HxCDD	4.05		0.909	0.405	0.405	0.405
1234678-HpCDD	232		0.511	2.32	2.32	2.32
OCDD	10000	E	0.661	10	1	3.01
2378-TCDF	424		0.439	42.4	42.4	42.4
12378-PeCDF	27.4		0.342	1.37	1.37	0.822
23478-PeCDF	19.6		0.321	9.79	9.79	5.87
123478-HxCDF	58.1		0.293	5.81	5.81	5.81
123678-HxCDF	16.7		0.273	1.67	1.67	1.67
234678-HxCDF	5.13		0.328	0.513	0.513	0.513
123789-HxCDF	(0.339)		0.339	(0.0339)	(0.0339)	(0.0339)
1234678-HpCDF	44.1		0.194	0.441	0.441	0.441
1234789-HpCDF	9.57		0.26	0.0957	0.0957	0.0957
OCDF	127		0.553	0.127	0.0127	0.038

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TEQ Summaries			
EMPC = 0, ND = 0	222	214	212
EMPC = 0, ND = DL / 2	222	214	212
EMPC = 0, ND = DL	222	214	212
EMPC = 0, < J-level = 0	222	214	212
EMPC = EMPC, ND = 0	222	214	212
EMPC = EMPC, ND = DL / 2	222	214	212
EMPC = EMPC, ND = DL	222	214	212
EMPC = EMPC, < J-level = 0	222	214	212

Sample ID: 11215131-010622-S-BN-SW-B-15 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6147_18830_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.9 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:46:27

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	513				ES 2378-TCDD	91.6	
12378-PeCDD	5.56				ES 12378-PeCDD	103	
123478-HxCDD	EMPC		1.61	J	ES 123478-HxCDD	101	
123678-HxCDD	6				ES 123678-HxCDD	108	
123789-HxCDD	3.67				ES 123789-HxCDD	110	
1234678-HpCDD	153				ES 1234678-HpCDD	104	
OCDD	2,690				ES OCDD	101	
2378-TCDF	1,400			E	ES 2378-TCDF	88.1	
12378-PeCDF	78				ES 12378-PeCDF	96.3	
23478-PeCDF	59				ES 23478-PeCDF	97	
123478-HxCDF	138				ES 123478-HxCDF	117	
123678-HxCDF	38.2				ES 123678-HxCDF	121	
234678-HxCDF	9.43				ES 234678-HxCDF	101	
123789-HxCDF	ND	0.431			ES 123789-HxCDF	115	
1234678-HpCDF	110				ES 1234678-HpCDF	120	
1234789-HpCDF	20.7				ES 1234789-HpCDF	105	
OCDF	1,690				ES OCDF	115	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92	
Total TCDD	580		581		CS 12347-PeCDD	108	
Total PeCDD	13.5		16.4		CS 12346-PeCDF	97.8	
Total HxCDD	77.9		81.1		CS 123469-HxCDF	128	
Total HpCDD	382		382		CS 1234689-HpCDF	124	
Total TCDF	2,780		2,780	E			
Total PeCDF	244		245				
Total HxCDF	258		259				
Total HpCDF	204		204				
Total PCDD/Fs	**8,920**		**8,920**	E			
WHO-2005 TEQs							
TEQ: ND=0	703		703				
TEQ: ND=DL/2	703	0.81	703				
TEQ: ND=DL	703	1.62	703				

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Sample ID: 11215131-010622-S-BN-SW-B-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6147_18830_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:46:27

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.94		12479/12468D	2.75		124679/124689D	39.5		1234679D	230	
1379D	(0.6)		12469D	2.69		123468D	3.5		1234678D	153	
1369D	(0.6)		12368D	1.71	J	123679/123689D	23.6				
1469D	4.26		12478D	[1.04]	J	123469D	[1.57]	J			
1247D...[4]	1.39		12379D	0.816	J	123478D	[1.61]	J			
1378D	1.95		12369D...[3]	[1.82]	J	123678D	6				
1268D	(0.6)		12346/12347D	(0.437)		123467D	1.62	J			
1478D	[1.44]		12378D	5.56		123789D	3.67		**Conc.**	382	
1279D	(0.6)		12367D	(0.437)					**EMPC**	382	
1234/1269D	(0.6)		12389D	(0.437)							
1236D	(0.6)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	7.59										
1239D	(0.6)								OCDD	2690	
2378D	513										
1278D	48.4										
1267D	(0.6)										
1289D	1.08										
Conc.	580		**Conc.**	13.5		**Conc.**	77.9				
EMPC	581		**EMPC**	16.4		**EMPC**	81.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	703	703
TEQ: ND=DL/2	703	703
TEQ: ND=DL	703	703

	Conc.	EMPC
Total PCDD/Fs	8,920	8,920

Checkcode: 372-506-KDW

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010622-S-BN-SW-B-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6147_18830_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:46:27

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.04		13468/12468F	17.5		123468F	6.83		1234678F	110	
1468F	3.9		13678F...[3]	1.89	J	124678/134678F	27.1		1234679F	5.25	
2468F	6.76		12368F...[3]	42		134679F	(0.396)		1234689F	68.1	
1346/1246F	3.92		14678F	2.12	J	124679F	[1.02]	J	1234789F	20.7	
1347F...[3]	15.5		13479F	(0.478)		124689F	23				
1348F	4.15		13469/12479F	0.847	J	123467F	2.05	J			
1248F...[3]	69.4		12346F	(0.478)		123478F	138				
1268F	25.3		23468/12469F	3.97		123678F	38.2				
1467F	3.55		12347F	1.27	J	123479F	(0.396)				
1478F	61.2		12348F	7.87		123469F	2.19	J			
1369/1237F	16.1		12378F	78		123679F	(0.396)				
2467F	2.6		12678/12367F	26.2		234678F	9.43		**Conc.**	204	
2368F	51.5		12379F	(0.478)		234678/123689F	0		**EMPC**	204	
1238F...[5]	68.3		12679F	(0.478)		123689F	(0.396)				
1278F	618		23467/12369F	[0.998]	J	123789F	(0.431)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.485)		23478F	59		123789/123489F	0				
1267F	36.6		23478/12489F	0		123489F	11.6		OCDF	1690	
2346/1249F	4.43		12489F	(0.478)							
2347/1279F	16.9		12349F	(0.478)							
2348F	108		12389F	3.3							
2378F	1400	E									
2367/3467F	123										
1269F	23.8										
1239F	2										
1289F	109										
Conc.	2,780		**Conc.**	244		**Conc.**	258				
EMPC	2,780		**EMPC**	245		**EMPC**	259				

Checkcode: 372-506-KDW

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: 11215131-010622-S-BN-SW-B-15 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6147_18830_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18830
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	22-Jan-2022 03:46
Lab Project No:	B6147	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	513		0.6	513	513	513
12378-PeCDD	5.56		0.437	2.78	5.56	5.56
123478-HxCDD	[1.61]	J	0.707	[0.161]	[0.161]	[0.161]
123678-HxCDD	6		0.69	0.6	0.6	0.6
123789-HxCDD	3.67		0.653	0.367	0.367	0.367
1234678-HpCDD	153		0.529	1.53	1.53	1.53
OCDD	2690		1.18	2.69	0.269	0.807
2378-TCDF	1400	E	0.485	140	140	140
12378-PeCDF	78		0.47	3.9	3.9	2.34
23478-PeCDF	59		0.485	29.5	29.5	17.7
123478-HxCDF	138		0.361	13.8	13.8	13.8
123678-HxCDF	38.2		0.353	3.82	3.82	3.82
234678-HxCDF	9.43		0.455	0.943	0.943	0.943
123789-HxCDF	(0.431)		0.431	(0.0431)	(0.0431)	(0.0431)
1234678-HpCDF	110		0.193	1.1	1.1	1.1
1234789-HpCDF	20.7		0.276	0.207	0.207	0.207
OCDF	1690		0.542	1.69	0.169	0.506

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TEQ Summaries			
EMPC = 0, ND = 0	716	715	703
EMPC = 0, ND = DL / 2	716	715	703
EMPC = 0, ND = DL	717	715	703
EMPC = 0, < J-level = 0	716	715	703
EMPC = EMPC, ND = 0	717	715	703
EMPC = EMPC, ND = DL / 2	717	715	703
EMPC = EMPC, ND = DL	717	716	703
EMPC = EMPC, < J-level = 0	716	715	703

Checkcode: 372-506-KDW

Sample ID: 11215131-010622-S-BN-SW-B-15-MS — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID	B6147_18830_DF_004MS	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.9 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:32:48

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	557				ES 2378-TCDD	92.4	
12378-PeCDD	103				ES 12378-PeCDD	105	
123478-HxCDD	107				ES 123478-HxCDD	95.3	
123678-HxCDD	117				ES 123678-HxCDD	96.3	
123789-HxCDD	109				ES 123789-HxCDD	95.8	
1234678-HpCDD	242				ES 1234678-HpCDD	92.8	
OCDD	2,560				ES OCDD	90.4	
2378-TCDF	1,480			E	ES 2378-TCDF	94.9	
12378-PeCDF	168				ES 12378-PeCDF	99.3	
23478-PeCDF	154				ES 23478-PeCDF	100	
123478-HxCDF	227				ES 123478-HxCDF	104	
123678-HxCDF	138				ES 123678-HxCDF	108	
234678-HxCDF	113				ES 234678-HxCDF	89.9	
123789-HxCDF	112				ES 123789-HxCDF	103	
1234678-HpCDF	200				ES 1234678-HpCDF	112	
1234789-HpCDF	119				ES 1234789-HpCDF	97.7	
OCDF	1,800				ES OCDF	97.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.8	
Total TCDD	709		710		CS 12347-PeCDD	108	
Total PeCDD	164		166		CS 12346-PeCDF	105	
Total HxCDD	428		431		CS 123469-HxCDF	116	
Total HpCDD	477		477		CS 1234689-HpCDF	116	
Total TCDF	2,960		2,960	E			
Total PeCDF	613		614				
Total HxCDF	934		934				
Total HpCDF	394		394				
Total PCDD/Fs	**11,000**		**11,100**	E			
WHO-2005 TEQs							
TEQ: ND=0	958		958				
TEQ: ND=DL/2	958	0.752	958				
TEQ: ND=DL	958	1.5	958				

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Sample ID: 11215131-010622-S-BN-SW-B-15-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6147_18830_DF_004MSD	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.9 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:19:08

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	551				ES 2378-TCDD	89.5	
12378-PeCDD	105				ES 12378-PeCDD	104	
123478-HxCDD	110				ES 123478-HxCDD	94.6	
123678-HxCDD	119				ES 123678-HxCDD	98.6	
123789-HxCDD	107				ES 123789-HxCDD	100	
1234678-HpCDD	264				ES 1234678-HpCDD	106	
OCDD	3,080				ES OCDD	103	
2378-TCDF	1,430			E	ES 2378-TCDF	92.9	
12378-PeCDF	172				ES 12378-PeCDF	103	
23478-PeCDF	164				ES 23478-PeCDF	104	
123478-HxCDF	247				ES 123478-HxCDF	103	
123678-HxCDF	144				ES 123678-HxCDF	110	
234678-HxCDF	117				ES 234678-HxCDF	91.7	
123789-HxCDF	118				ES 123789-HxCDF	106	
1234678-HpCDF	216				ES 1234678-HpCDF	118	
1234789-HpCDF	125				ES 1234789-HpCDF	117	
OCDF	1,890				ES OCDF	112	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.8	
Total TCDD	704		706		CS 12347-PeCDD	109	
Total PeCDD	163		167		CS 12346-PeCDF	107	
Total HxCDD	434		435		CS 123469-HxCDF	117	
Total HpCDD	498		498		CS 1234689-HpCDF	122	
Total TCDF	2,890		2,890	E			
Total PeCDF	623		625				
Total HxCDF	961		963				
Total HpCDF	412		412				
Total PCDD/Fs	**11,700**		**11,700**	E			
WHO-2005 TEQs							
TEQ: ND=0	957		957				
TEQ: ND=DL/2	957	0.72	957				
TEQ: ND=DL	957	1.44	957				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-010622-S-BN-SW-B-15

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	513	19.7	557	221	19.9	551	192	14%
1,2,3,7,8-PeCDD	5.56	98.7	103	98.8	99.3	105	99.6	1%
1,2,3,4,7,8-HxCDD	1.61	98.7	107	107	99.3	110	109	2%
1,2,3,6,7,8-HxCDD	6	98.7	117	113	99.3	119	113	0%
1,2,3,7,8,9-HxCDD	3.67	98.7	109	107	99.3	107	104	3%
1,2,3,4,6,7,8-HpCDD	153	98.7	242	90.7	99.3	264	112	21%
OCDD	2690	197	2560	-64.3	199	3080	194	*
2,3,7,8-TCDF	1400	19.7	1480	383	19.9	1430	144	91%
1,2,3,7,8-PeCDF	78	98.7	168	91.5	99.3	172	94.7	3%
2,3,4,7,8-PeCDF	59	98.7	154	96.2	99.3	164	106	10%
1,2,3,4,7,8-HxCDF	138	98.7	227	90	99.3	247	110	20%
1,2,3,6,7,8-HxCDF	38.2	98.7	138	101	99.3	144	106	5%
2,3,4,6,7,8-HxCDF	9.43	98.7	113	105	99.3	117	108	3%
1,2,3,7,8,9-HxCDF	0	98.7	112	114	99.3	118	119	4%
1,2,3,4,6,7,8-HpCDF	110	98.7	200	90.8	99.3	216	106	15%
1,2,3,4,7,8,9-HpCDF	20.7	98.7	119	100	99.3	125	105	5%
OCDF	1690	197	1800	59.6	199	1890	102	52%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-010622-S-BN-DUP-10 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6147_18830_DF_005	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.0 %	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:05:29

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	914				ES 2378-TCDD	87	
12378-PeCDD	10.2				ES 12378-PeCDD	99.7	
123478-HxCDD	3.1				ES 123478-HxCDD	96	
123678-HxCDD	11.5				ES 123678-HxCDD	101	
123789-HxCDD	6.84				ES 123789-HxCDD	98.2	
1234678-HpCDD	254				ES 1234678-HpCDD	93.7	
OCDD	4,430				ES OCDD	94.2	
2378-TCDF	2,520			E	ES 2378-TCDF	86.5	
12378-PeCDF	137				ES 12378-PeCDF	93.3	
23478-PeCDF	92.3			PR	ES 23478-PeCDF	95.2	
123478-HxCDF	269				ES 123478-HxCDF	112	
123678-HxCDF	74.5				ES 123678-HxCDF	115	
234678-HxCDF	18.6				ES 234678-HxCDF	86.5	
123789-HxCDF	ND	0.716			ES 123789-HxCDF	100	
1234678-HpCDF	264				ES 1234678-HpCDF	110	
1234789-HpCDF	37.6				ES 1234789-HpCDF	98.2	
OCDF	3,520				ES OCDF	96	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.7	
Total TCDD	1,030		1,030		CS 12347-PeCDD	101	
Total PeCDD	33		33		CS 12346-PeCDF	94.2	
Total HxCDD	134		136		CS 123469-HxCDF	121	
Total HpCDD	610		610		CS 1234689-HpCDF	103	
Total TCDF	4,820		4,820	E			
Total PeCDF	434		434				
Total HxCDF	534		544				
Total HpCDF	425		425				
Total PCDD/Fs	**16,000**		**16,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	1260		1260				
TEQ: ND=DL/2	1260	0.972	1260				
TEQ: ND=DL	1260	1.94	1260				

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Sample ID: 11215131-010622-S-BN-DUP-10 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6147_18830_DF_005	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.0 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:05:29

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.46		12479/12468D	6.01		124679/124689D	62		1234679D	356	
1379D	1.16		12469D	4.76		123468D	7.16		1234678D	254	
1369D	(0.603)		12368D	2.88		123679/123689D	40.1				
1469D	5.19		12478D	2.83		123469D	3.13				
1247D...[4]	2.48		12379D	1.52	J	123478D	3.1				
1378D	[3.15]		12369D...[3]	4		123678D	11.5				
1268D	(0.603)		12346/12347D	(0.554)		123467D	[2.2]	J			
1478D	[2.04]		12378D	10.2		123789D	6.84		**Conc.**	610	
1279D	(0.603)		12367D	0.822	J				**EMPC**	610	
1234/1269D	1.43		12389D	(0.554)							
1236D	(0.603)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	14.3										
1239D	(0.603)								OCDD	4430	
2378D	914										
1278D	81.3										
1267D	2.98										
1289D	1.86										
Conc.	1,030		**Conc.**	33		**Conc.**	134				
EMPC	1,030		**EMPC**	33		**EMPC**	136				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,260	1,260
TEQ: ND=DL/2	1,260	1,260
TEQ: ND=DL	1,260	1,260

	Conc.	EMPC
Total PCDD/Fs	16,000	16,000

Checkcode: 282-914-MBP

Report Created: 26-Jan-2022 10:22 Analyst: pw

Sample ID: 11215131-010622-S-BN-DUP-10 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6147_18830_DF_005	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	76.0 %	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:05:29

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.64		13468/12468F	35.9		123468F	25.5		1234678F	264	
1468F	6.88		13678F...[3]	7.8		124678/134678F	71.1		1234679F	10.7	
2468F	12.6		12368F...[3]	78.7		134679F	[0.892]	J	1234689F	113	
1346/1246F	3.76		14678F	2.94		124679F	2.12	J	1234789F	37.6	
1347F...[3]	27.5		13479F	(0.648)		124689F	45				
1348F	4.66		13469/12479F	2.98		123467F	[5.99]				
1248F...[3]	115		12346F	0.545	J	123478F	269				
1268F	43.6		23468/12469F	7.19		123678F	74.5				
1467F	5.9		12347F	2.59		123479F	[2.12]	J			
1478F	104		12348F	11.7		123469F	4.49				
1369/1237F	29.7		12378F	137		123679F	[1.04]	J			
2467F	3.22		12678/12367F	47.2		234678F	18.6		**Conc.**	425	
2368F	62.3		12379F	(0.648)		234678/123689F	0		**EMPC**	425	
1238F...[5]	142		12679F	(0.648)		123689F	(0.693)				
1278F	1050	E	23467/12369F	1.78	J	123789F	(0.716)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.389)		23478F	92.3	PR	123789/123489F	0			**(pg/g)**	
1267F	63.7		23478/12489F	0		123489F	23.6		OCDF	3520	
2346/1249F	(0.389)		12489F	(0.648)							
2347/1279F	25.6		12349F	(0.648)							
2348F	167		12389F	5.36							
2378F	2520	E									
2367/3467F	216										
1269F	38.8										
1239F	3.2										
1289F	171										
Conc.	4,820		**Conc.**	434		**Conc.**	534				
EMPC	4,820		**EMPC**	434		**EMPC**	544				

Checkcode: 282-914-MBP

Report Created: 26-Jan-2022 10:22 Analyst: pw

Sample ID: 11215131-010622-S-BN-DUP-10 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6147_18830_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	QC Batch No.:	18830
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	22-Jan-2022 06:05
Lab Project No:	B6147	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	914		0.603	914	914	914
12378-PeCDD	10.2		0.554	5.12	10.2	10.2
123478-HxCDD	3.1		0.844	0.31	0.31	0.31
123678-HxCDD	11.5		0.821	1.15	1.15	1.15
123789-HxCDD	6.84		0.805	0.684	0.684	0.684
1234678-HpCDD	254		0.762	2.54	2.54	2.54
OCDD	4430		1.36	4.43	0.443	1.33
2378-TCDF	2520	E	0.389	252	252	252
12378-PeCDF	137		0.688	6.85	6.85	4.11
23478-PeCDF	92.3	PR	0.608	46.1	46.1	27.7
123478-HxCDF	269		0.598	26.9	26.9	26.9
123678-HxCDF	74.5		0.61	7.45	7.45	7.45
234678-HxCDF	18.6		0.911	1.86	1.86	1.86
123789-HxCDF	(0.716)		0.716	(0.0716)	(0.0716)	(0.0716)
1234678-HpCDF	264		0.232	2.64	2.64	2.64
1234789-HpCDF	37.6		0.366	0.376	0.376	0.376
OCDF	3520		1.18	3.52	0.352	1.06

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TEQ Summaries			
EMPC = 0, ND = 0	1280	1270	1260
EMPC = 0, ND = DL / 2	1280	1270	1260
EMPC = 0, ND = DL	1280	1270	1260
EMPC = 0, < J-level = 0	1280	1270	1260
EMPC = EMPC, ND = 0	1280	1270	1260
EMPC = EMPC, ND = DL / 2	1280	1270	1260
EMPC = EMPC, ND = DL	1280	1270	1260
EMPC = EMPC, < J-level = 0	1280	1270	1260

Sample ID: Method Blank B6147_18830 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18830_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:41:04

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.563			ES 2378-TCDD	93.1	
12378-PeCDD	ND	0.319			ES 12378-PeCDD	110	
123478-HxCDD	ND	0.401			ES 123478-HxCDD	97	
123678-HxCDD	ND	0.351			ES 123678-HxCDD	117	
123789-HxCDD	ND	0.415			ES 123789-HxCDD	102	
1234678-HpCDD	ND	0.384			ES 1234678-HpCDD	94.8	
OCDD	ND	0.944			ES OCDD	82.3	
2378-TCDF	ND	0.398			ES 2378-TCDF	89.5	
12378-PeCDF	ND	0.34			ES 12378-PeCDF	101	
23478-PeCDF	ND	0.31			ES 23478-PeCDF	105	
123478-HxCDF	ND	0.245			ES 123478-HxCDF	96.6	
123678-HxCDF	ND	0.213			ES 123678-HxCDF	113	
234678-HxCDF	ND	0.229			ES 234678-HxCDF	107	
123789-HxCDF	ND	0.26			ES 123789-HxCDF	97.5	
1234678-HpCDF	ND	0.208			ES 1234678-HpCDF	114	
1234789-HpCDF	ND	0.335			ES 1234789-HpCDF	95.6	
OCDF	ND	0.533			ES OCDF	91	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.6	
Total TCDD	ND	0.563	ND		CS 12347-PeCDD	123	
Total PeCDD	ND	0.319	ND		CS 12346-PeCDF	109	
Total HxCDD	ND	0.388	ND		CS 123469-HxCDF	129	
Total HpCDD	ND	0.384	ND		CS 1234689-HpCDF	129	
Total TCDF	ND	0.398	ND				
Total PeCDF	ND	0.325	ND				
Total HxCDF	ND	0.234	ND				
Total HpCDF	ND	0.262	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.623	0.623	0.623				
TEQ: ND=DL	1.25	1.25	1.25				

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Sample ID: Method Blank B6147_18830 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18830_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:41:04

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.563)		12479/12468D	(0.319)		124679/124689D	(0.388)		1234679D	(0.384)	
1379D	(0.563)		12469D	(0.319)		123468D	(0.388)		1234678D	(0.384)	
1369D	(0.563)		12368D	(0.319)		123679/123689D	(0.388)				
1469D	(0.563)		12478D	(0.319)		123469D	(0.388)				
1247D...[4]	(0.563)		12379D	(0.319)		123478D	(0.401)				
1378D	(0.563)		12369D...[3]	(0.319)		123678D	(0.351)				
1268D	(0.563)		12346/12347D	(0.319)		123467D	(0.388)				
1478D	(0.563)		12378D	(0.319)		123789D	(0.415)		**Conc.**	0	
1279D	(0.563)		12367D	(0.319)					**EMPC**	0	
1234/1269D	(0.563)		12389D	(0.319)							
1236D	(0.563)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.563)										
1239D	(0.563)								OCDD	(0.944)	
2378D	(0.563)										
1278D	(0.563)										
1267D	(0.563)										
1289D	(0.563)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.623	0.623
TEQ: ND=DL	1.25	1.25

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 697-298-FJB

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: Method Blank B6147_18830 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18830_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18830	Date Analyzed:	22-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:41:04

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.398)		13468/12468F	(0.305)		123468F	(0.234)		1234678F	(0.208)	
1468F	(0.398)		13678F...[3]	(0.325)		124678/134678F	(0.234)		1234679F	(0.262)	
2468F	(0.398)		12368F...[3]	(0.325)		134679F	(0.234)		1234689F	(0.262)	
1346/1246F	(0.398)		14678F	(0.325)		124679F	(0.234)		1234789F	(0.335)	
1347F...[3]	(0.398)		13479F	(0.325)		124689F	(0.234)				
1348F	(0.398)		13469/12479F	(0.325)		123467F	(0.234)				
1248F...[3]	(0.398)		12346F	(0.325)		123478F	(0.245)				
1268F	(0.398)		23468/12469F	(0.325)		123678F	(0.213)				
1467F	(0.398)		12347F	(0.325)		123479F	(0.234)				
1478F	(0.398)		12348F	(0.325)		123469F	(0.234)				
1369/1237F	(0.398)		12378F	(0.34)		123679F	(0.234)				
2467F	(0.398)		12678/12367F	(0.325)		234678F	(0.229)		**Conc.**	0	
2368F	(0.398)		12379F	(0.325)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.398)		12679F	(0.325)		123689F	(0.234)				
1278F	(0.398)		23467/12369F	(0.325)		123789F	(0.26)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.398)		23478F	(0.31)		123789/123489F	0				
1267F	(0.398)		23478/12489F	0		123489F	(0.234)		OCDF	(0.533)	
2346/1249F	(0.398)		12489F	(0.325)							
2347/1279F	(0.398)		12349F	(0.325)							
2348F	(0.398)		12389F	(0.325)							
2378F	(0.398)										
2367/3467F	(0.398)										
1269F	(0.398)										
1239F	(0.398)										
1289F	(0.398)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 697-298-FJB

Report Created: 24-Jan-2022 12:44 Analyst: gd

Sample ID: Method Blank B6147_18830 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18830_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18830
Date Collected:	n/a	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	22-Jan-2022 00:41
Lab Project No:	B6147	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.563)		0.563	(0.563)	(0.563)	(0.563)
12378-PeCDD	(0.319)		0.319	(0.159)	(0.319)	(0.319)
123478-HxCDD	(0.401)		0.401	(0.0401)	(0.0401)	(0.0401)
123678-HxCDD	(0.351)		0.351	(0.0351)	(0.0351)	(0.0351)
123789-HxCDD	(0.415)		0.415	(0.0415)	(0.0415)	(0.0415)
1234678-HpCDD	(0.384)		0.384	(0.00384)	(0.00384)	(0.00384)
OCDD	(0.944)		0.944	(0.000944)	(0.0000944)	(0.000283)
2378-TCDF	(0.398)		0.398	(0.0398)	(0.0398)	(0.0398)
12378-PeCDF	(0.34)		0.34	(0.017)	(0.017)	(0.0102)
23478-PeCDF	(0.31)		0.31	(0.155)	(0.155)	(0.0929)
123478-HxCDF	(0.245)		0.245	(0.0245)	(0.0245)	(0.0245)
123678-HxCDF	(0.213)		0.213	(0.0213)	(0.0213)	(0.0213)
234678-HxCDF	(0.229)		0.229	(0.0229)	(0.0229)	(0.0229)
123789-HxCDF	(0.26)		0.26	(0.026)	(0.026)	(0.026)
1234678-HpCDF	(0.208)		0.208	(0.00208)	(0.00208)	(0.00208)
1234789-HpCDF	(0.335)		0.335	(0.00335)	(0.00335)	(0.00335)
OCDF	(0.533)		0.533	(0.000533)	(0.0000533)	(0.00016)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.578	0.657	0.623
EMPC = 0, ND = DL	1.16	1.31	1.25
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.578	0.657	0.623
EMPC = EMPC, ND = DL	1.16	1.31	1.25
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 697-298-FJB

Sample ID: 0_18830_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6147	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18830_DF	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18830	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:08:24

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.1				ES 2378-TCDD	91.7	
12378-PeCDD	50.9				ES 12378-PeCDD	103	
123478-HxCDD	56.2				ES 123478-HxCDD	103	
123678-HxCDD	56.5				ES 123678-HxCDD	121	
123789-HxCDD	50.2				ES 123789-HxCDD	108	
1234678-HpCDD	54.7				ES 1234678-HpCDD	99.7	
OCDD	115				ES OCDD	86.7	
2378-TCDF	11.9				ES 2378-TCDF	91.9	
12378-PeCDF	50.3				ES 12378-PeCDF	97.9	
23478-PeCDF	53.6				ES 23478-PeCDF	101	
123478-HxCDF	56.3				ES 123478-HxCDF	101	
123678-HxCDF	54.9				ES 123678-HxCDF	117	
234678-HxCDF	53.4				ES 234678-HxCDF	107	
123789-HxCDF	54.3				ES 123789-HxCDF	99.9	
1234678-HpCDF	55				ES 1234678-HpCDF	118	
1234789-HpCDF	52.9				ES 1234789-HpCDF	102	
OCDF	107				ES OCDF	96.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.7	
Total TCDD	56		56		CS 12347-PeCDD	111	
Total PeCDD	76.7		76.7		CS 12346-PeCDF	104	
Total HxCDD	177		177		CS 123469-HxCDF	130	
Total HpCDD	67.1		67.1		CS 1234689-HpCDF	129	
Total TCDF	62.6		62.6				
Total PeCDF	202		202				
Total HxCDF	354		354				
Total HpCDF	108		108				
Total PCDD/Fs	**1,330**		**1,330**				
WHO-2005 TEQs							
TEQ: ND=0	122		122				
TEQ: ND=DL/2	122	0.361	122				
TEQ: ND=DL	122	0.723	122				

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Sample Receipt Notification

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Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6147*
Requested TAT:	*10 business days*
Projected due date:	*21-Jan-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-O-15	B6147_001	S	1	4 oz Amber	05-Jan-22	14:50	2.5	1	490527043610
11215131-010522-S-BN-SW-B-17	B6147_002	S	1	4 oz Amber	05-Jan-22	15:00	2.5	1	490527043610
11215131-010622-S-BN-SW-O-12	B6147_003	S	1	4 oz Amber	06-Jan-22	09:50	2.5	1	490527043610
11215131-010622-S-BN-SW-B-15	B6147_004	S - MS/MSD	1	4 oz Amber	06-Jan-22	10:00	2.5	1	490527043610
11215131-010622-S-BN-DUP-10	B6147_005	S - DUP	1	4 oz Amber	06-Jan-22	n/a	2.5	1	490527043610

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Amy Boehm* *QC'ed by:* AK 7 Jan 22

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B6147 1/2

CHAIN OF CUSTODY

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME: Refer to Notes and Remar

REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston

PHONE: 713-907-371[illegible] EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-010522-S-BN-SW-S-30	1-5-22	1440	C	S	4 oz		X				1	RUSH
11215131-010522-S-BN-SW-0-15		1450	C	S	4 oz		X				1	
11215131-010522-S-BN-SW-B-17		1500	C	S	4 oz		X				1	
11215131-010522-S-BN-SW-B-17HI		1510	C	S	4 oz		X				1	HOLD
11215131-010522-S-BN-SW-B-17HI2	↓	1520	C	S	4 oz		X				1	HOLD
11215131-010622-S-BN-SW-S-30	1-6-22	0930	C	S	4 oz		X				1	RUSH
11215131-010622-S-BN-SW-S-25		0940	C	S	4 oz		X				1	RUSH
11215131-010622-S-BN-SW-0-12		0950	C	S	4 oz		X				1	
11215131-010622-S-BN-SW-B-16		1000	C	S	4 oz		X	X	X		1	MS/MSD
11215131-010622-S-BN-SW-B-16HI	↓	1010	C	S	4 oz		X				1	HOLD

	DATE:	TIME:			
COLLECTED/RELINQUISHED BY (1): Breanna Nordh	1-6-22	1435	RECEIVED BY:		
RELINQUISHED BY (2):	1-6-22	1533	RECEIVED BY:	1/6/22	1533
RELINQUISHED BY (3):	1/6/22	1533	RECEIVED BY:		

RECEIVED BY LABORATORY: DATE: TIME: 1/7/22 1220

COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C 2.5°

TRACKING #:

SGS NORTH AMERICA INC. ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 6290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

B6147 2/2

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remarks
REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M16130 (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-010422-S-BN-SW-8-[illegible]	1-6-22	1420	C	S	4 oz	X					1	Hold
[illegible]	↓	—	C	S	4 oz	X				X	1	
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							

SEE S5042

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Brianna North	1-6-22	1435	Eddie Cast
RELINQUISHED BY (2): Eddie Cast	DATE: 1-7-22	TIME: 1533	RECEIVED BY: 1/6/22 1533
RELINQUISHED BY (3):	DATE: 1/6/22	TIME: 1532	RECEIVED BY: 1/7/22 1230

RECEIVED BY LABORATORY: DATE: TIME:
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C
TRACKING #:

SGS NORTH AMERICA INC. ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

B6147

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 06JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903 REF:
INV:
PO: DEPT:

565C2/01EF/05A2

12 pm
1/7.22

FedEx Express

J191219032001uv

TRK# 0201 **4905 2704 3610**

FRI - 07 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

SGS

Custome
DATE 1-6-22
SIGNATURE

11409

Project Initiation Form

Project Number: B6147

Initiation Date: 07-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

10 g DWE extraction

Sample 004 is MS/MSD

Read and understood, initial and date: Prep Lab: JKH 1/12/22 BSB 1/17/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

Sample 004 MS/MSD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 07-Jan-2022

SGS

Methods: PCB PAH | ~~PCDD/F~~ WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS ~~CLL~~ | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18830 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 1/12/22 | Clean-up Initial/Date: ~~RAB~~ 1/17/22 | Transfer Init/Date: ~~RAB~~ 1/18/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6147_18830_001	14	11.97				brown, clay-like
B6147_18830_002	15	12.58				gray, clay-like
B6147_18830_003	16	11.68				brown, sandy, clay-like, dry
B6147_18830_004	17	13.16				gray, clay-like
B6147_18830_004MS	18	13.17				see 004
B6147_18830_004MSD	19	13.10				see 004
B6147_18830_005	20	13.25				gray, clay-like
MB1_18830	12	10.00				sodium sulfate
OPR1_18830	13	10.00				sodium sulfate

CL 25Jan22

RAB 1/18/22

Supply IDs

Toluene	STL14-23
MeCHL	STL14-21
Florisil	SPLS-77
Hexane	STL14-22
Silica	RAB 1/17/22 ~~STL14~~ SPLS-69
S Nitrate	N/A
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-75C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CL 25Jan22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	1615
	Stop:	0930
HEX	Start:	
	Stop:	
DCM	Start:	
	Stop:	

CL 25Jan22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18830

Inter-Department Communication Sheet

25 Jan 22

a

SGS

Wt. Volume Results

Batch #: 18830 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6147_001	0.79	4.41	3.85	84.53%	84.53%			11.83	11.97	10.12
B6147_002	0.79	4.27	3.63	81.61%	81.61%			12.25	12.58	10.27
B6147_003	0.8	4.25	3.79	86.67%	86.67%			11.54	11.68	10.12
B6147_004	0.8	3.83	3.13	76.90%	76.90%			13	13.16	10.12
B6147_004MS	0.8	3.83	3.13	76.90%	76.90%			13	13.17	10.13
B6147_004MSD	0.8	3.83	3.13	76.90%	76.90%			13	13.1	10.07
B6147_005	0.84	4.26	3.44	76.02%	76.02%			13.15	13.25	10.07

CI 25Jun22

reviewed

CI 25Jun22

% Solid Determination WorkSheet

SGS

Batch: 18830

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DUE	Comments
B6147_18830_001	0.79	4.41	3.85	11.83	
B6147_18830_002	0.79	4.27	3.63	12.25	
B6147_18830_003	0.80	4.25	3.79	11.54	
B6147_18830_004	0.80	3.83	3.13	13.00	
B6147_18830_004MS	—	—	—	—	
B6147_18830_004MSD	—	—	—	—	
B6147_18830_005	0.84	4.26	3.44	13.15	

Date/Initials: KE 11/2/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18830

Lab Sample ID							
Spiker Initials/Date:	JRH 1/12/22	JRH 1/12/22	JRH 1/12/22	1/17/22	1/17/22		
	D/F AK-A	D/F AK-B	D/F ES	D/F CS	D/F JS		
	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6147_18830_001	—	—	KE	KE	KE		
B6147_18830_002	—	—	KE	KE	KE		
B6147_18830_003	—	—	KE	KE	KE		
B6147_18830_004	—	—	KE	KE	KE		
B6147_18830_004MS	—	—	KE	KE	KE		
B6147_18830_004MSD	—	—	KE	KE	KE		
B6147_18830_005	—	—	KE	KE	KE		
MBI_18830	—	—	KE	KE	KE		
OPRI_18830	KE	KE	KE	KE	KE		

TAB 1/18/22

Standard Information

Pipette ID						TAB 1/18/22
Spike ID	D/F AK-A	D/F AK-B	D/F ES	D/F CS	D/F JS	
SIL #	26-2-5	25-187-2	26-2-9	25.338.1	25.309.1	
Concentration	10 PB/µL	10 PB/µL	100 PB/µL	100 PB/µL	100 PB/µL	
Expiration Date	7/9/2018	7/10 0/20/22 JRH 1/10/22	8/2022	11/16/22	10/8/22	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	220121C15	3	CS3_220121_DF_CB ✓	1.00	SIL 25-347-1	DTF, PSW	~~117-446~~ 665-639	21-Jan-2022	22:22:04
16	220121C16	83	OPR1_18830_DF	1.00	0_18830_OPR001	DTF, PSW	615-083	21-Jan-2022	23:08:24
17	220121C17	2	SBS_220121_DF_CC	1.00	20-61-1	DTF, PSW	545-428	21-Jan-2022	23:54:45
18	220121C18	82	MB1_18830_DF_SDS	10.00	Method Blank	DTF, PSW	697-298	22-Jan-2022	00:41:04
19	220121C19	84	B6147_18830_DF_001	10.12	11215131-010522-S-BN-SW-O-15	DTF, PSW	456-233	22-Jan-2022	01:27:25
20	220121C20	85	B6147_18830_DF_002	10.27	11215131-010522-S-BN-SW-B-17	DTF, PSW	182-421	22-Jan-2022	02:13:45
21	220121C21	86	B6147_18830_DF_003 ✓	10.12	11215131-010622-S-BN-SW-O-12	DTF, PSW	570-242	22-Jan-2022	03:00:06
22	220121C22	87	B6147_18830_DF_004	10.12	11215131-010622-S-BN-SW-B-15	DTF, PSW	372-506	22-Jan-2022	03:46:27
23	220121C23	88	B6147_18830_DF_004MS	10.13	11215131-010622-S-BN-SW-B-15-MS	DTF, PSW	908-948	22-Jan-2022	04:32:48
24	220121C24	89	B6147_18830_DF_004MSD	10.07	11215131-010622-S-BN-SW-B-15-MSD	DTF, PSW	637-621	22-Jan-2022	05:19:08
25	220121C25	90	B6147_18830_DF_005	10.07	11215131-010622-S-BN-DUP-10	DTF, PSW	~~060-173~~ 282-914 CL 26Jan22	22-Jan-2022	06:05:29

REVIEWED
paul_walton , 1/24/2022, 12:53:15 PM

APPROVED
Carla_Lyon , 1/26/2022, 10:50:37 AM

Lab ID: MB1_18830_DF_SDS | **Acq'd:** 22 Jan 2022 00:41 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6147_18830 | **UTP:** 24-Jan-2022 11:58:15 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 697-298-FJB

Datafile: 220121C18 | **Report:** 24 Jan 2022 12:44 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4986.197	0.563
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2873.334	0.319
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3575.789	0.401
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3575.789	0.351
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3575.789	0.415
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3277.613	0.384
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	3845.457	0.944
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	5522.902	0.398
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4499.135	0.34
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4499.135	0.31
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3009.068	0.245
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3009.068	0.213
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3009.068	0.229
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3009.068	0.26
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	3038.517	0.208
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3038.517	0.335
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2934.096	0.533

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0235	+0.3	1.65E+07	0.85	Y	1.05	93.1
ES 12378-PeCDD	33.93	1.2121	1.2135	+2.9	1.64E+07	1.59	Y	0.88	110
ES 123478-HxCDD	37.82	0.9921	0.9921	0	1.47E+07	1.23	Y	0.97	97
ES 123678-HxCDD	37.94	0.9951	0.9952	+0.2	1.73E+07	1.25	Y	0.94	117
ES 123789-HxCDD	38.23	1.0025	1.0029	+0.9	1.75E+07	1.23	Y	1.09	102
ES 1234678-HpCDD	40.85	1.0709	1.0716	+1.7	1.35E+07	1.08	Y	0.91	94.8
ES OCDD	43.50	1.1403	1.1412	+2.3	1.60E+07	0.89	Y	0.62	82.3
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	2.70E+07	0.81	Y	1.06	89.5
ES 12378-PeCDF	32.49	1.2281	1.2299	+3.5	2.62E+07	1.58	Y	0.91	101
ES 23478-PeCDF	33.60	1.2698	1.2718	+4.0	2.63E+07	1.58	Y	0.88	105
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.81E+07	0.54	Y	1.20	96.6
ES 123678-HxCDF	36.96	0.9695	0.9695	0	2.39E+07	0.52	Y	1.35	113
ES 234678-HxCDF	37.65	0.9874	0.9875	+0.2	2.08E+07	0.55	Y	1.24	107
ES 123789-HxCDF	38.58	1.0116	1.0120	+0.9	1.76E+07	0.56	Y	1.16	97.5
ES 1234678-HpCDF	39.92	1.0467	1.0472	+1.2	1.72E+07	0.44	Y	0.97	114
ES 1234789-HpCDF	41.31	1.0830	1.0837	+1.7	1.27E+07	0.47	Y	0.85	95.6
ES OCDF	43.69	1.1451	1.1461	+2.6	2.30E+07	0.95	Y	0.81	91

Lab ID: MB1_18830_DF_SDS **Acq'd:** 22 Jan 2022 00:41 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6147_18830 **UTP:** 24-Jan-2022 11:58:15 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 697-298-FJB

Datafile: 220121C18 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.69E+07	0.86	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	2.85E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.12		-	-	-	7.81E+06	1.27	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0243	+0.3	7.62E+06	n/a	-	1.20	93.6	
CS 12347-PeCDD	33.43		1.1943	1.1955	+2.4	1.56E+07	1.59	Y	0.75	123	
CS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	2.64E+07	1.61	Y	0.85	109	
CS 123469-HxCDF	37.28		0.9778	0.9779	+0.2	2.25E+07	0.54	Y	1.12	129	
CS 1234689-HpCDF	40.32		1.0571	1.0577	+1.5	1.78E+07	0.46	Y	0.89	129	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~7.62E+06~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1955~~	~~+2.4~~	~~1.56E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~111~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~2.64E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~107~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.25E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~113~~	
~~SS 1234689-HpCDF~~	~~40.32~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.78E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~113~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18830_DF_SDS **Acq'd: 22 Jan 2022 00:41 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6147_18830 **UTP: 24-Jan-2022 11:58:15 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 697-298-FJB**

Datafile: 220121C18 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4986.197	0.563
1379-TCDD	NotFnd		0.8876						1.18		4986.197	0.563
1369-TCDD	NotFnd		0.9023						1.18		4986.197	0.563
1469-TCDD	NotFnd		0.9291						1.18		4986.197	0.563
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4986.197	0.563
1378-TCDD	NotFnd		0.9440						1.18		4986.197	0.563
1268-TCDD	NotFnd		0.9506						1.18		4986.197	0.563
1478-TCDD	NotFnd		0.9591						1.18		4986.197	0.563
1279-TCDD	NotFnd		0.9649						1.18		4986.197	0.563
1234/1269-TCDD	NotFnd		0.9771						1.18		4986.197	0.563
1236-TCDD	NotFnd		0.9820						1.18		4986.197	0.563
1237/1238-TCDD	NotFnd		0.9908						1.18		4986.197	0.563
1239-TCDD	NotFnd		0.9954						1.18		4986.197	0.563
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4986.197**	**0.563**
1278-TCDD	NotFnd		1.0121						1.18		4986.197	0.563
1267-TCDD	NotFnd		1.0167						1.18		4986.197	0.563
1289-TCDD	NotFnd		1.0341						1.18		4986.197	0.563
12479/12468-PeCDD	NotFnd		0.9273						1.04		2873.334	0.319
12469-PeCDD	NotFnd		0.9430						1.04		2873.334	0.319
12368-PeCDD	NotFnd		0.9592						1.04		2873.334	0.319
12478-PeCDD	NotFnd		0.9647						1.04		2873.334	0.319
12379-PeCDD	NotFnd		0.9676						1.04		2873.334	0.319
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2873.334	0.319
12346/12347-PeCDD	NotFnd		0.9860						1.04		2873.334	0.319
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2873.334**	**0.319**
12367-PeCDD	NotFnd		1.0034						1.04		2873.334	0.319
12389-PeCDD	NotFnd		1.0134						1.04		2873.334	0.319
124679/124689-HxCDD	NotFnd		0.9545						1.10		3575.789	0.388
123468-HxCDD	NotFnd		0.9715						1.10		3575.789	0.388
123679/123689-HxCDD	NotFnd		0.9793						1.10		3575.789	0.388
123469-HxCDD	NotFnd		0.9829						1.10		3575.789	0.388
123478-HxCDD	NotFnd		**1.0004**						1.09		**3575.789**	**0.401**
123678-HxCDD	NotFnd		**1.0034**						1.15		**3575.789**	**0.351**
123467-HxCDD	NotFnd		1.0082						1.10		3575.789	0.388
123789-HxCDD	NotFnd		**1.0109**						1.05		**3575.789**	**0.415**

Lab ID: MB1_18830_DF_SDS | **Acq'd:** 22 Jan 2022 00:41 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6147_18830 | **UTP:** 24-Jan-2022 11:58:15 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 697-298-FJB

Datafile: 220121C18 | **Report:** 24 Jan 2022 12:44 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

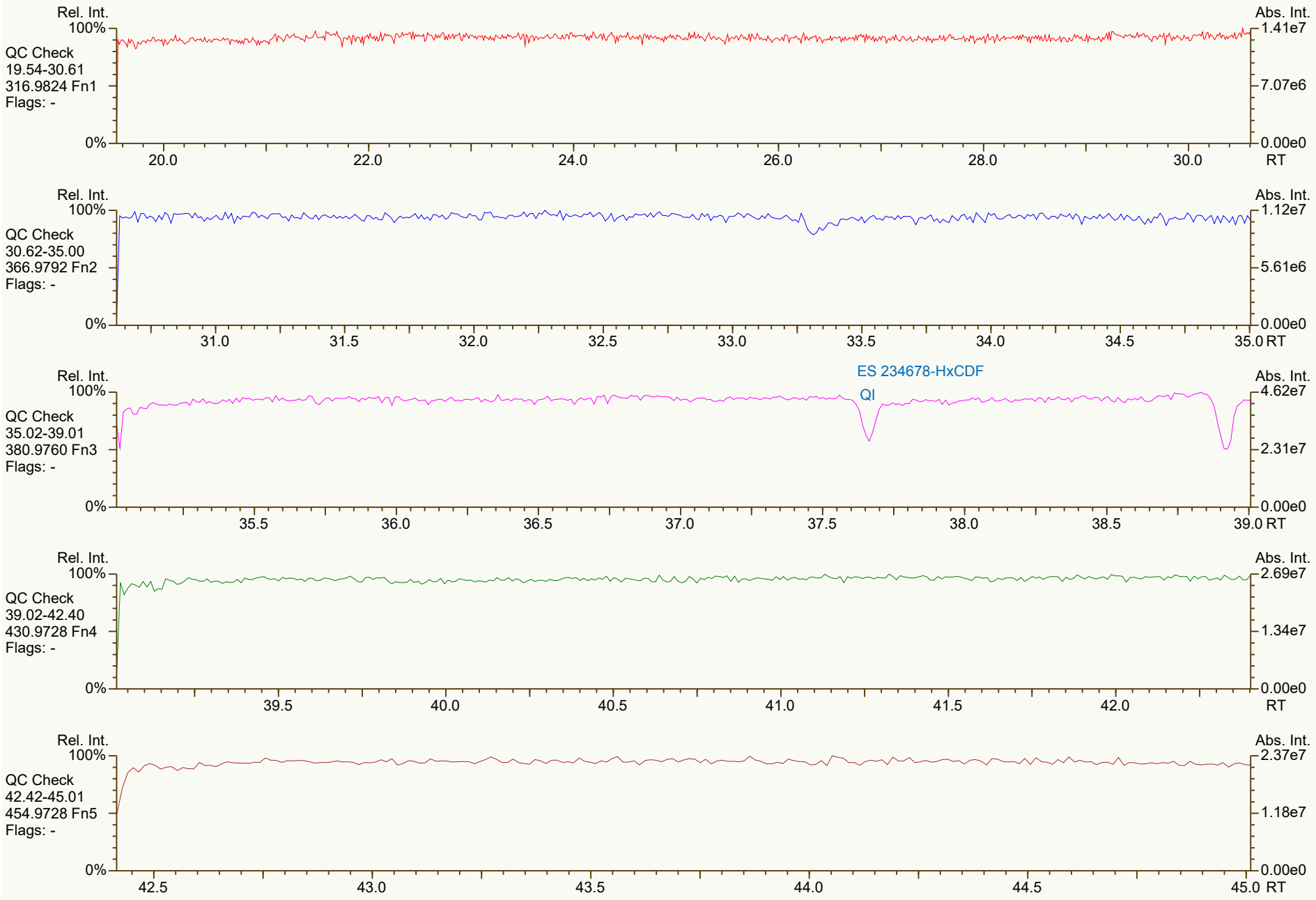
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3277.613	0.384
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3277.613**	**0.384**
OCDD	**NotFnd**		**1.0002**						**1.13**		**3845.457**	**0.944**
OCDD-a	NotFnd		1.0002						0.07		4187.794	16.1
1368-TCDF	NotFnd		0.8282						1.08		5522.902	0.398
1468-TCDF	NotFnd		0.8485						1.08		5522.902	0.398
2468-TCDF	NotFnd		0.8709						1.08		5522.902	0.398
1346/1246-TCDF	NotFnd		0.8829						1.08		5522.902	0.398
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5522.902	0.398
1348-TCDF	NotFnd		0.8980						1.08		5522.902	0.398
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		5522.902	0.398
1268-TCDF	NotFnd		0.9158						1.08		5522.902	0.398
1467-TCDF	NotFnd		0.9206						1.08		5522.902	0.398
1478-TCDF	NotFnd		0.9266						1.08		5522.902	0.398
1369/1237-TCDF	NotFnd		0.9397						1.08		5522.902	0.398
2467-TCDF	NotFnd		0.9440						1.08		5522.902	0.398
2368-TCDF	NotFnd		0.9497						1.08		5522.902	0.398
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5522.902	0.398
1278-TCDF	NotFnd		0.9690						1.08		5522.902	0.398
1349-TCDF	NotFnd		0.9730						1.08		5522.902	0.398
1267-TCDF	NotFnd		0.9787						1.08		5522.902	0.398
2346/1249-TCDF	NotFnd		0.9850						1.08		5522.902	0.398
2347/1279-TCDF	NotFnd		0.9929						1.08		5522.902	0.398
2348-TCDF	NotFnd		0.9970						1.08		5522.902	0.398
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**5522.902**	**0.398**
2367/3467-TCDF	NotFnd		1.0136						1.08		5522.902	0.398
1269-TCDF	NotFnd		1.0221						1.08		5522.902	0.398
1239-TCDF	NotFnd		1.0319						1.08		5522.902	0.398
1289-TCDF	NotFnd		1.0740						1.08		5522.902	0.398
13468/12468-PeCDF	NotFnd		0.9145						1.02		4227.359	0.305
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4499.135	0.325
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4499.135	0.325
14678-PeCDF	NotFnd		0.9695						1.02		4499.135	0.325
13479-PeCDF	NotFnd		0.9724						1.02		4499.135	0.325
13469/12479-PeCDF	NotFnd		0.9801						1.02		4499.135	0.325
12346-PeCDF	NotFnd		0.9842						1.02		4499.135	0.325

Lab ID: MB1_18830_DF_SDS | **Acq'd:** 22 Jan 2022 00:41 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

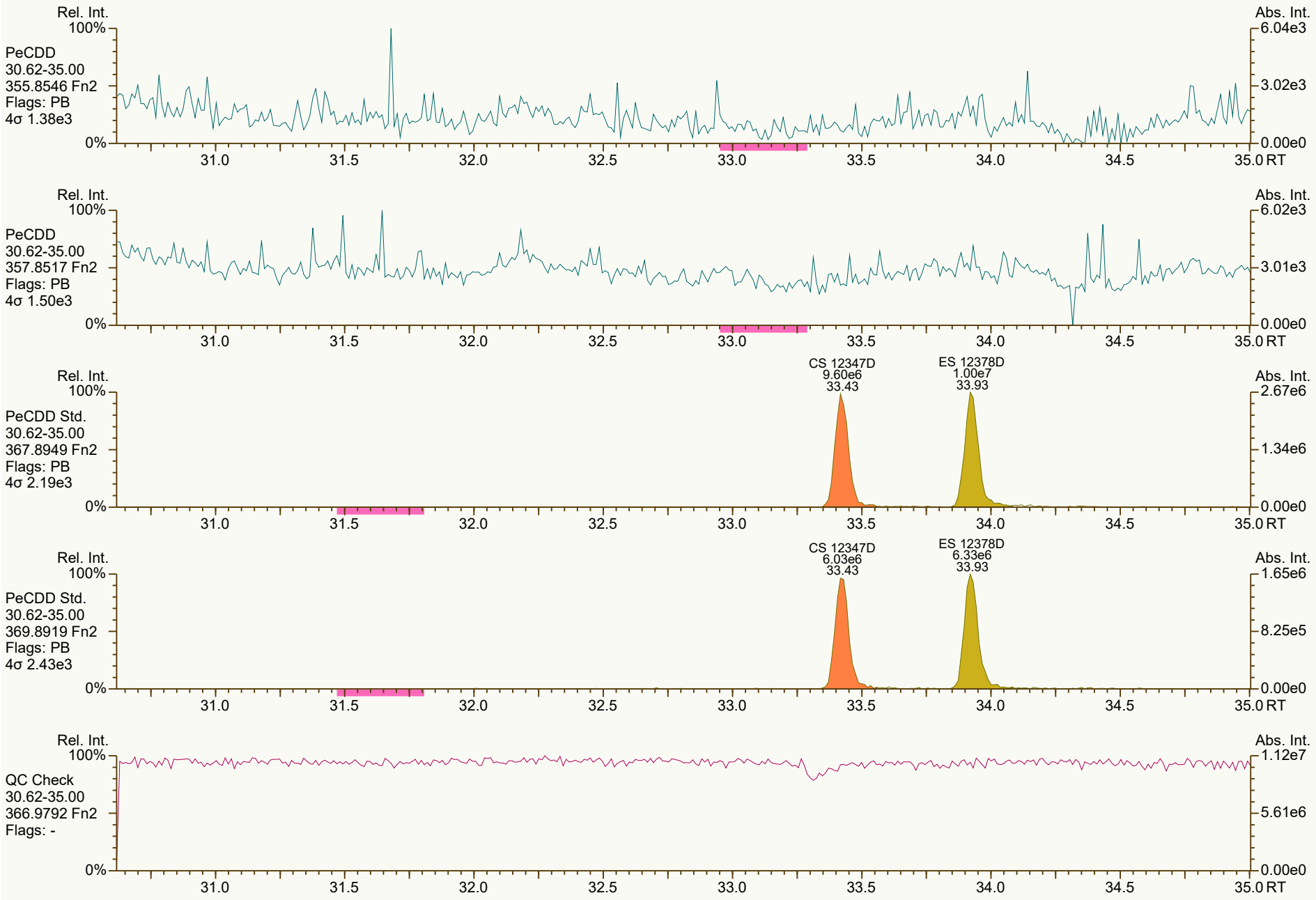
Client ID: Method Blank B6147_18830 | **UTP:** 24-Jan-2022 11:58:15 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 697-298-FJB

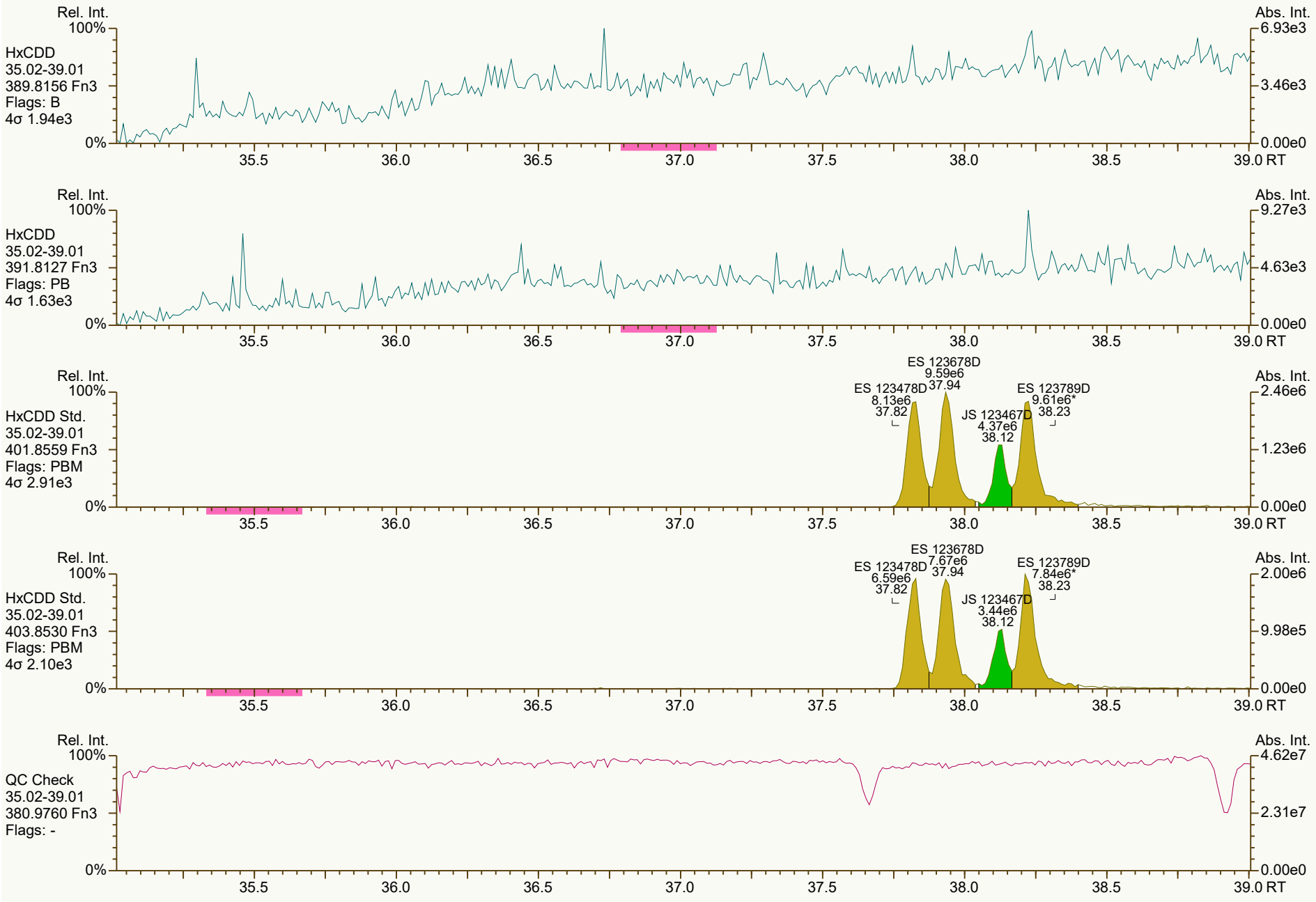
Datafile: 220121C18 | **Report:** 24 Jan 2022 12:44 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4499.135	0.325
12347-PeCDF	NotFnd		0.9895						1.02		4499.135	0.325
12348-PeCDF	NotFnd		0.9941						1.02		4499.135	0.325
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4499.135**	**0.34**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4499.135	0.325
12379-PeCDF	NotFnd		1.0142						1.02		4499.135	0.325
12679-PeCDF	NotFnd		0.9931						1.02		4499.135	0.325
23467/12369-PeCDF	NotFnd		0.9966						1.02		4499.135	0.325
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4499.135**	**0.31**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4499.135	0.325
12349-PeCDF	NotFnd		1.0101						1.02		4499.135	0.325
12389-PeCDF	NotFnd		1.0322						1.02		4499.135	0.325
123468-HxCDF	NotFnd		0.9627						1.19		3009.068	0.234
124678/134678-HxCDF	NotFnd		0.9684						1.19		3009.068	0.234
134679-HxCDF	NotFnd		0.9747						1.19		3009.068	0.234
124679-HxCDF	NotFnd		0.9802						1.19		3009.068	0.234
124689-HxCDF	NotFnd		0.9858						1.19		3009.068	0.234
123467-HxCDF	NotFnd		0.9972						1.19		3009.068	0.234
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3009.068**	**0.245**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3009.068**	**0.213**
123479-HxCDF	NotFnd		1.0051						1.19		3009.068	0.234
123469-HxCDF	NotFnd		1.0091						1.19		3009.068	0.234
123679-HxCDF	NotFnd		0.9943						1.19		3009.068	0.234
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3009.068**	**0.229**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3009.068	0.234
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3009.068**	**0.26**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3009.068	0.234
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**3038.517**	**0.208**
1234679-HpCDF	NotFnd		1.0067						1.34		3038.517	0.262
1234689-HpCDF	NotFnd		1.0101						1.34		3038.517	0.262
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3038.517**	**0.335**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2934.096**	**0.533**
OCDF-a	NotFnd		1.0002						0.07		3702.519	10.9

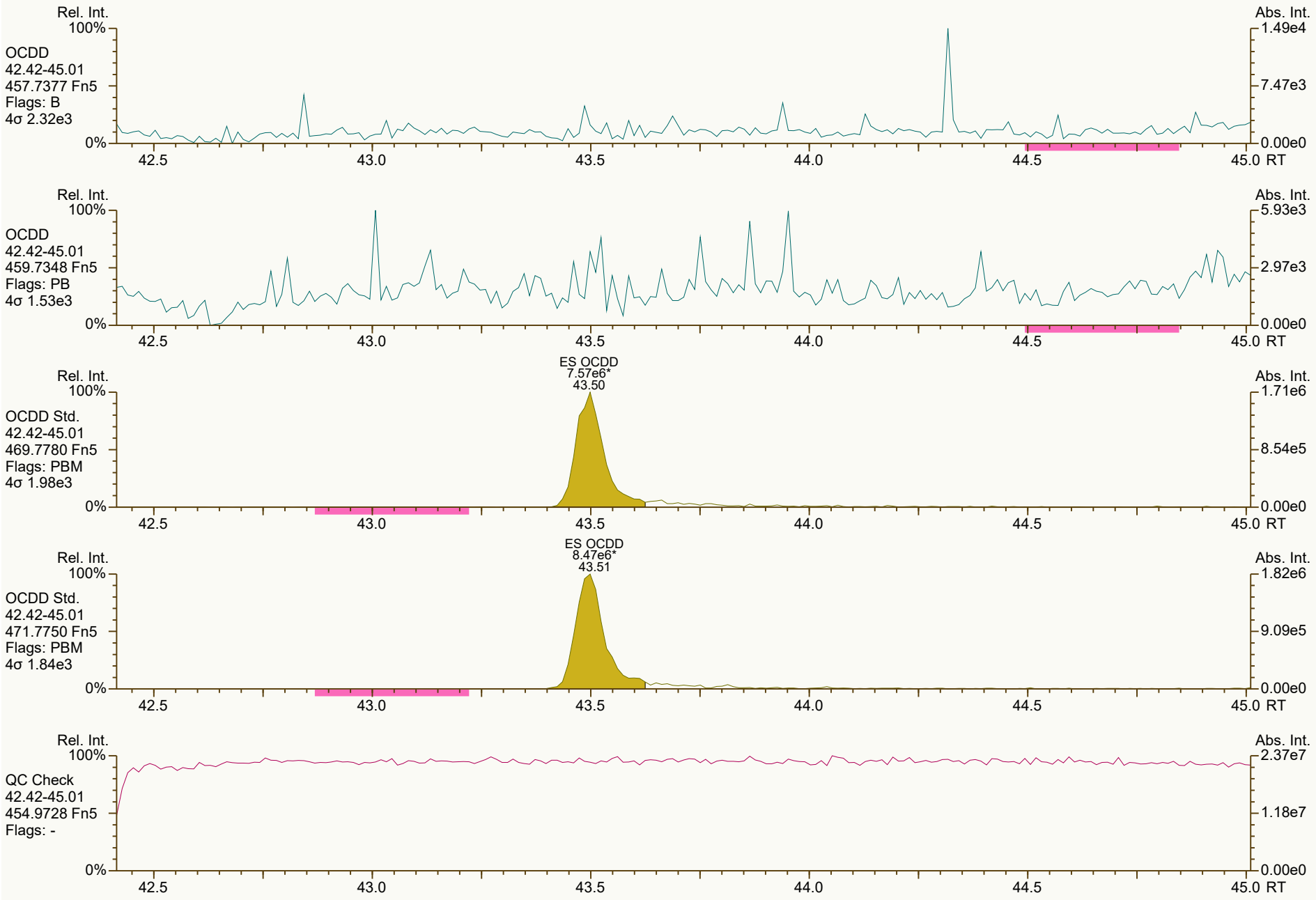

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.41e7
7.07e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.12e7
5.61e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.62e7
2.31e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.69e7
1.34e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.37e7
1.18e7
0.00e0

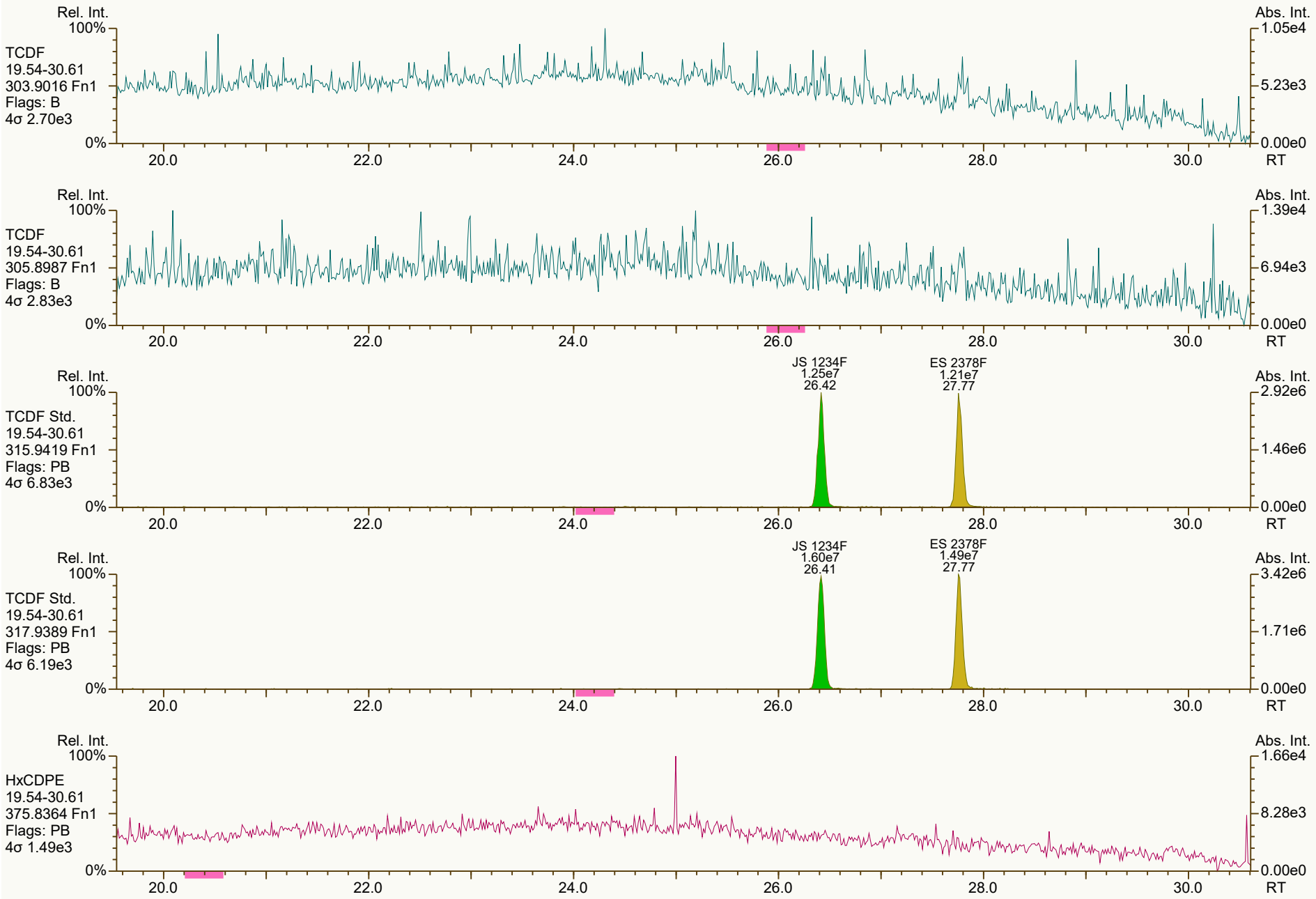

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.14e3
0%
Abs. Int.
1.32e4
6.59e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.39e4
6.93e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.33e3
0%
CS 37Cl-2378D
7.62e6
28.64
Abs. Int.
1.82e6
9.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 7.95e3
0%
JS 1234D
7.83e6
27.96
ES 2378D
7.56e6
28.62
Abs. Int.
1.92e6
9.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.60e3
0%
JS 1234D
9.11e6
27.96
ES 2378D
8.92e6
28.62
Abs. Int.
2.05e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.38e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.50e3
0%
Abs. Int.
6.02e3
3.01e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12347D
9.60e6
33.43
ES 12378D
1.00e7
33.93
Abs. Int.
2.67e6
1.34e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.43e3
0%
CS 12347D
6.03e6
33.43
ES 12378D
6.33e6
33.93
Abs. Int.
1.65e6
8.25e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.12e7
5.61e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.94e3
0%
Abs. Int.
6.93e3
3.46e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.63e3
0%
Abs. Int.
9.27e3
4.63e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.91e3
0%
ES 123678D
9.59e6
37.94
ES 123478D
8.13e6
37.82
JS 123467D
4.37e6
38.12
ES 123789D
9.61e6*
38.23
Abs. Int.
2.46e6
1.23e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.10e3
0%
ES 123678D
7.67e6
37.94
ES 123478D
6.59e6
37.82
JS 123467D
3.44e6
38.12
ES 123789D
7.84e6*
38.23
Abs. Int.
2.00e6
9.98e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
4.62e7
2.31e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 2.10e3
0%
Abs. Int.
1.09e4
5.44e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.18e3
0%
Abs. Int.
7.13e3
3.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.02e6
40.85
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.84e3
0%
Abs. Int.
2.09e6
1.05e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.50e6
40.85
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.00e3
0%
Abs. Int.
1.79e6
8.97e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.69e7
1.34e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 2.32e3
0%
Abs. Int.
1.49e4
7.47e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
5.93e3
2.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.98e3
0%
ES OCDD
7.57e6*
43.50
Abs. Int.
1.71e6
8.54e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.84e3
0%
ES OCDD
8.47e6*
43.51
Abs. Int.
1.82e6
9.09e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.37e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 2.70e3
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 2.83e3
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 6.83e3
0%
JS 1234F
1.25e7
26.42
ES 2378F
1.21e7
27.77
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 6.19e3
0%
JS 1234F
1.60e7
26.41
ES 2378F
1.49e7
27.77
Abs. Int.
3.42e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: PB
4σ 1.49e3
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: MB1_18830_DF_SDS | Sample ID: Method Blank | Acq: 22-Jan-2022 00:41:04

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 82 | User: DTF Datafile: 220121C18



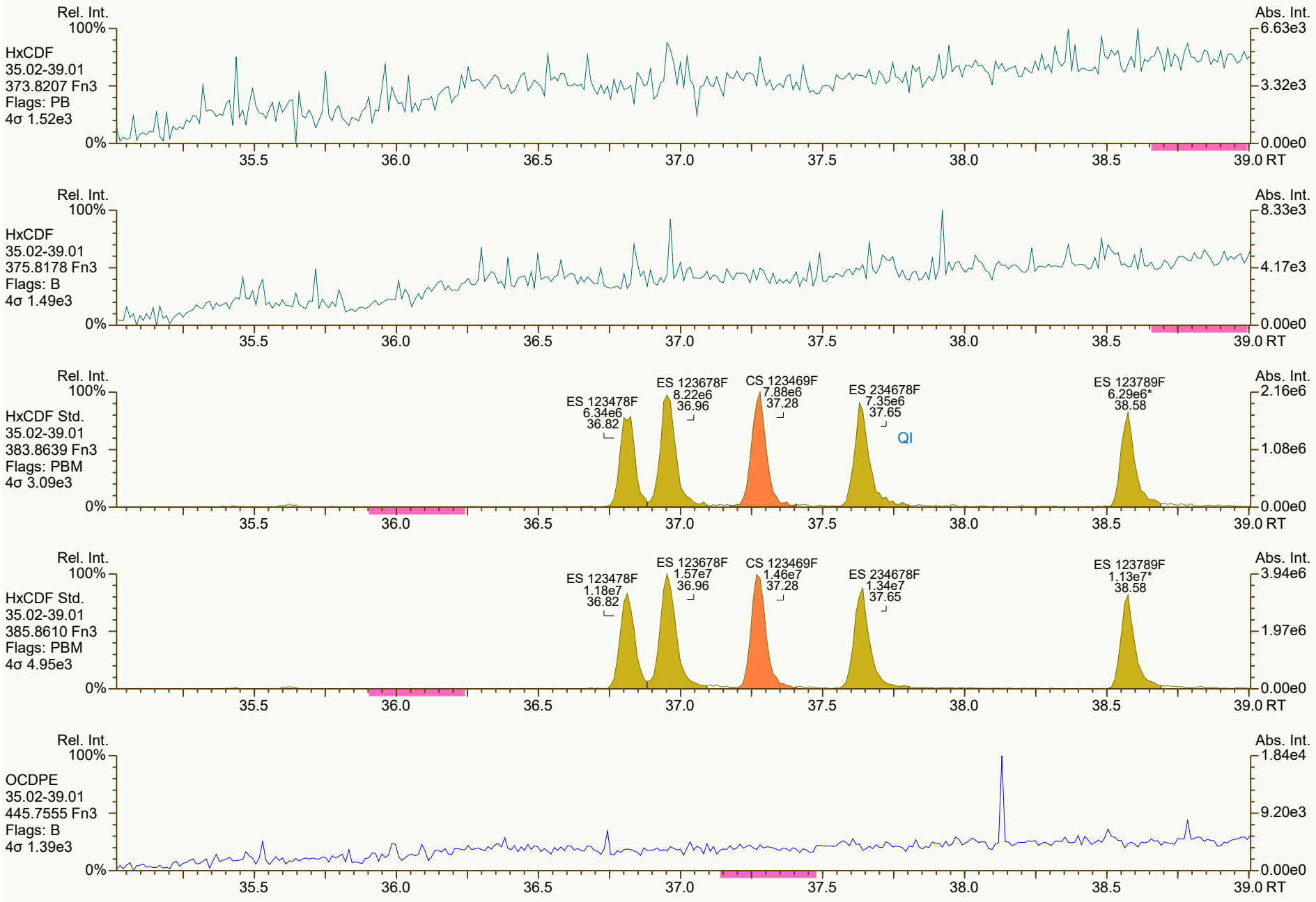
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\MB1_18830_DF_SDS.utp_res, saved 24-Jan-2022 11:58 (PSW)

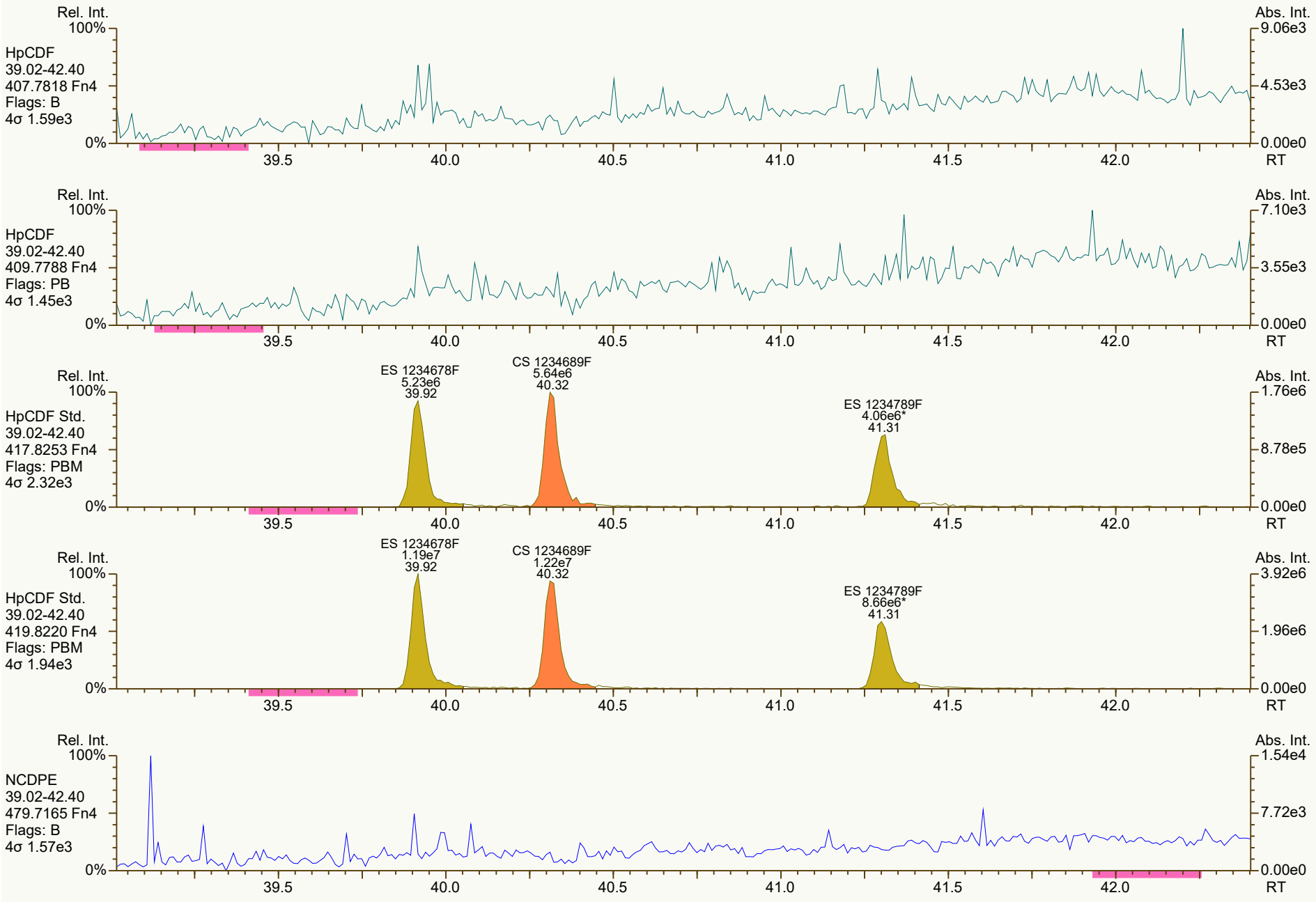
Peak annotation: Areas, Centroids

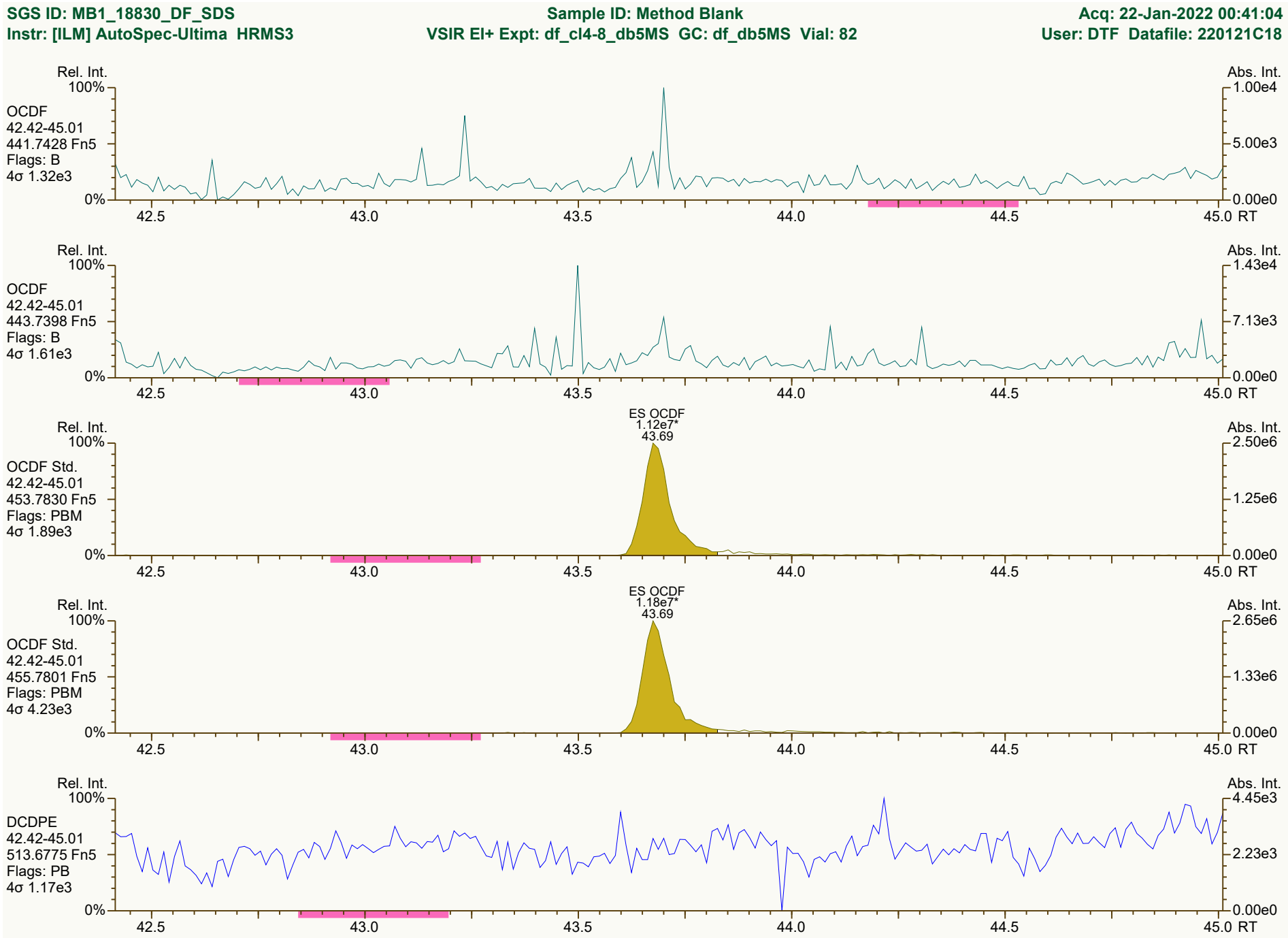
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7717 scc: 697-298

PKD: 24-Jan-2022 11:57 Printed: 24-Jan-2022 12:47 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.51e3
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.99e3
0%
Abs. Int.
9.48e3
4.74e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.88e3
0%
CS 12346F
1.63e7
31.96
ES 12378F
1.61e7
32.49
ES 23478F
1.61e7
33.60
Abs. Int.
4.36e6
2.18e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.46e3
0%
CS 12346F
1.01e7
31.96
ES 12378F
1.02e7
32.49
ES 23478F
1.02e7
33.60
Abs. Int.
2.85e6
1.42e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
6.63e3
3.32e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.49e3
0%
Abs. Int.
8.33e3
4.17e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.09e3
0%
ES 123478F
6.34e6
36.82
ES 123678F
8.22e6
36.96
CS 123469F
7.88e6
37.28
ES 234678F
7.35e6
37.65
QI
ES 123789F
6.29e6*
38.58
Abs. Int.
2.16e6
1.08e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.95e3
0%
ES 123478F
1.18e7
36.82
ES 123678F
1.57e7
36.96
CS 123469F
1.46e7
37.28
ES 234678F
1.34e7
37.65
ES 123789F
1.13e7*
38.58
Abs. Int.
3.94e6
1.97e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.84e4
9.20e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
9.06e3
4.53e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
7.10e3
3.55e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.32e3
0%
ES 1234678F
5.23e6
39.92
CS 1234689F
5.64e6
40.32
ES 1234789F
4.06e6*
41.31
Abs. Int.
1.76e6
8.78e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.94e3
0%
ES 1234678F
1.19e7
39.92
CS 1234689F
1.22e7
40.32
ES 1234789F
8.66e6*
41.31
Abs. Int.
3.92e6
1.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.54e4
7.72e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: MB1_18830_DF_SDS
Sample ID: Method Blank
Acq: 22-Jan-2022 00:41:04
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 82
User: DTF Datafile: 220121C18
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.32e3
1.00e4
5.00e3
0.00e0
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.61e3
1.43e4
7.13e3
ES OCDF
1.12e7*
43.69
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.89e3
2.50e6
1.25e6
ES OCDF
1.18e7*
43.69
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 4.23e3
2.65e6
1.33e6
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.17e3
4.45e3
2.23e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\MB1_18830_DF_SDS.utp_res, saved 24-Jan-2022 11:58 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2881, 1143, 0408 scc: 697-298
PKD: 24-Jan-2022 11:57 Printed: 24-Jan-2022 12:47 Page 12 of 12

Lab ID: B6147_18830_DF_001 **Acq'd:** 22 Jan 2022 01:27 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-15 **UTP:** 24-Jan-2022 12:01:21 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 456-233-XXR

Datafile: 220121C19 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	1.78E+06	0.81	Y	1.18	17.6	5489.553	0.587
12378-PeCDD	33.95	J EMPC	1.0006	1.0004	-0.4	4.23E+04	2.44	N	1.04	0.495	2949.589	0.311
123478-HxCDD	37.85	J	1.0004	1.0004	0	8.84E+04	1.42	Y	1.09	1.09	4639.752	0.52
123678-HxCDD	37.96	J EMPC	1.0034	1.0035	+0.2	1.44E+05	1.50	N	1.15	1.53	4639.752	0.467
123789-HxCDD	38.25	J	1.0109	1.0111	+0.5	1.54E+05	1.20	Y	1.05	1.69	4639.752	0.522
1234678-HpCDD	40.87		1.0003	1.0003	0	7.16E+06	1.09	Y	1.06	94.4	3563.086	0.383
OCDD	43.53	E	1.0002	1.0003	+0.3	8.12E+08	0.90	Y	1.13	12,300	3214.709	0.498
2378-TCDF	27.79		1.0008	1.0007	-0.2	7.14E+06	0.77	Y	1.08	47.1	6417.165	0.48
12378-PeCDF	32.51	J	1.0005	1.0005	0	2.22E+05	1.72	Y	1.02	1.62	6363.604	0.484
23478-PeCDF	33.62	J	1.0005	1.0006	+0.2	2.07E+05	1.38	Y	1.02	1.55	6363.604	0.425
123478-HxCDF	36.84	EMPC	1.0004	1.0004	0	3.07E+05	0.98	N	1.27	2.53	4076.705	0.292
123678-HxCDF	36.98	J	1.0004	1.0002	-0.4	9.04E+04	1.22	Y	1.15	0.671	4076.705	0.296
234678-HxCDF	37.67	J EMPC	1.0004	1.0005	+0.2	4.20E+04	1.01	N	1.19	0.352	4076.705	0.341
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4076.705	0.338
1234678-HpCDF	39.93	EMPC	1.0002	1.0002	0	3.97E+05	0.79	N	1.37	3.38	2113.556	0.125
1234789-HpCDF	41.32	J EMPC	1.0003	0.9999	-1.0	6.46E+04	1.50	N	1.31	0.7	2113.556	0.222
OCDF	43.70		1.0002	1.0002	0	1.01E+06	0.85	Y	1.07	13.4	4309.414	0.646

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62		1.0233	1.0235	+0.3	1.69E+07	0.80	Y	1.05	93.7
ES 12378-PeCDD	33.93		1.2121	1.2134	+2.6	1.63E+07	1.56	Y	0.88	108
ES 123478-HxCDD	37.83		0.9921	0.9922	+0.2	1.48E+07	1.22	Y	0.97	108
ES 123678-HxCDD	37.94		0.9951	0.9952	+0.2	1.62E+07	1.28	Y	0.94	122
ES 123789-HxCDD	38.24		1.0025	1.0028	+0.7	1.72E+07	1.28	Y	1.09	112
ES 1234678-HpCDD	40.85		1.0709	1.0715	+1.5	1.41E+07	1.10	Y	0.91	110
ES OCDD	43.51		1.1403	1.1413	+2.6	2.31E+07	0.90	Y	0.62	132
ES 2378-TCDF	27.77		1.0506	1.0511	+0.8	2.78E+07	0.80	Y	1.06	91.4
ES 12378-PeCDF	32.49		1.2281	1.2297	+3.1	2.63E+07	1.57	Y	0.91	101
ES 23478-PeCDF	33.60		1.2698	1.2715	+3.4	2.60E+07	1.58	Y	0.88	102
ES 123478-HxCDF	36.82		0.9657	0.9657	0	1.89E+07	0.52	Y	1.20	112
ES 123678-HxCDF	36.97		0.9695	0.9696	+0.2	2.31E+07	0.54	Y	1.35	122
ES 234678-HxCDF	37.65		0.9874	0.9875	+0.2	1.99E+07	0.53	Y	1.24	114
ES 123789-HxCDF	38.59		1.0116	1.0120	+0.9	1.85E+07	0.56	Y	1.16	114
ES 1234678-HpCDF	39.93		1.0467	1.0472	+1.2	1.69E+07	0.45	Y	0.97	124
ES 1234789-HpCDF	41.32		1.0830	1.0838	+2.0	1.40E+07	0.49	Y	0.85	117
ES OCDF	43.69		1.1451	1.1459	+2.1	2.78E+07	0.93	Y	0.81	123

Lab ID: B6147_18830_DF_001 **Acq'd:** 22 Jan 2022 01:27 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-15 **UTP:** 24-Jan-2022 12:01:21 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 456-233-XXR

Datafile: 220121C19 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.72E+07	0.82	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	2.87E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.03E+06	1.22	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.04E+06	n/a	-	1.20	97.2	
CS 12347-PeCDD	33.43		1.1943	1.1954	+2.2	1.57E+07	1.61	Y	0.75	122	
CS 12346-PeCDF	31.96		1.2083	1.2096	+2.5	2.76E+07	1.60	Y	0.85	113	
CS 123469-HxCDF	37.28	V	0.9778	0.9779	+0.2	2.25E+07	0.55	Y	1.12	143	
CS 1234689-HpCDF	40.32	V	1.0571	1.0576	+1.2	1.80E+07	0.46	Y	0.89	144	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.04E+06~~	~~n/a~~		~~1.15~~	~~104~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.57E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~113~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.76E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~112~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.25E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~117~~	
~~SS 1234689-HpCDF~~	~~40.32~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.80E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~116~~	

Totals	Conc	EMPC
Total TCDD	19.1	19.1
Total PeCDD	0	0.495
Total HxCDD	19.5	21.5
Total HpCDD	232	232
Total Tetra-Octa Dioxins	12600	12600
Total TCDF	94.5	97.8
Total PeCDF	4.58	5.2
Total HxCDF	1.95	6.33
Total HpCDF	6.65	10.7
Total Tetra-Octa Furans	121	134
Total Tetra-Octa Dioxins & Furans	12700	12700

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.81	0.81
Response	1.79E+06	1.78E+06

Lab ID: B6147_18830_DF_001 **Acq'd: 22 Jan 2022 01:27 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-O-15 **UTP: 24-Jan-2022 12:01:21 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 456-233-XXR**

Datafile: 220121C19 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5489.553	0.587
1379-TCDD	NotFnd		0.8876						1.18		5489.553	0.587
1369-TCDD	NotFnd		0.9023						1.18		5489.553	0.587
1469-TCDD	NotFnd		0.9291						1.18		5489.553	0.587
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5489.553	0.587
1378-TCDD	NotFnd		0.9440						1.18		5489.553	0.587
1268-TCDD	NotFnd		0.9506						1.18		5489.553	0.587
1478-TCDD	NotFnd		0.9591						1.18		5489.553	0.587
1279-TCDD	NotFnd		0.9649						1.18		5489.553	0.587
1234/1269-TCDD	NotFnd		0.9771						1.18		5489.553	0.587
1236-TCDD	NotFnd		0.9820						1.18		5489.553	0.587
1237/1238-TCDD	NotFnd		0.9908						1.18		5489.553	0.587
1239-TCDD	NotFnd		0.9954						1.18		5489.553	0.587
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	1.78E+06	0.81	Y	**1.18**	**17.6**	**5489.553**	**0.587**
1278-TCDD	28.97		1.0121	1.0121	0	1.53E+05	0.72	Y	1.18	1.51	5489.553	0.587
1267-TCDD	NotFnd		1.0167						1.18		5489.553	0.587
1289-TCDD	NotFnd		1.0341						1.18		5489.553	0.587
12479/12468-PeCDD	NotFnd		0.9273						1.04		2949.589	0.311
12469-PeCDD	NotFnd		0.9430						1.04		2949.589	0.311
12368-PeCDD	NotFnd		0.9592						1.04		2949.589	0.311
12478-PeCDD	NotFnd		0.9647						1.04		2949.589	0.311
12379-PeCDD	NotFnd		0.9676						1.04		2949.589	0.311
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2949.589	0.311
12346/12347-PeCDD	NotFnd		0.9860						1.04		2949.589	0.311
12378-PeCDD	33.95	J EMPC	**1.0006**	**1.0004**	**-0.4**	**4.23E+04**	**2.44**	**N**	**1.04**	**0.495**	**2949.589**	**0.311**
12367-PeCDD	NotFnd		1.0034						1.04		2949.589	0.311
12389-PeCDD	NotFnd		1.0134						1.04		2949.589	0.311
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	9.21E+05	1.25	Y	1.10	10.3	4639.752	0.502
123468-HxCDD	36.75	J	0.9715	0.9714	-0.2	6.14E+04	1.31	Y	1.10	0.69	4639.752	0.502
123679/123689-HxCDD	37.05		0.9793	0.9793	0	5.06E+05	1.25	Y	1.10	5.68	4639.752	0.502
123469-HxCDD	NotFnd		0.9829						1.10		4639.752	0.502
123478-HxCDD	37.85	J	**1.0004**	**1.0004**	**0**	**8.84E+04**	**1.42**	**Y**	1.09	**1.09**	**4639.752**	**0.52**
123678-HxCDD	37.96	J EMPC	**1.0034**	**1.0035**	**+0.2**	**1.44E+05**	**1.50**	**N**	1.15	**1.53**	**4639.752**	**0.467**
123467-HxCDD	38.14	J EMPC	1.0082	1.0082	0	4.42E+04	0.90	N	1.10	0.496	4639.752	0.502
123789-HxCDD	38.25	J	**1.0109**	**1.0111**	**+0.5**	**1.54E+05**	**1.20**	**Y**	1.05	**1.69**	**4639.752**	**0.522**

Lab ID: B6147_18830_DF_001 | Acq'd: 22 Jan 2022 01:27 DTF | Wt/Vol: 10.12 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-O-15 | UTP: 24-Jan-2022 12:01:21 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 456-233-XXR

Datafile: 220121C19 | Report: 24 Jan 2022 12:44 gd | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

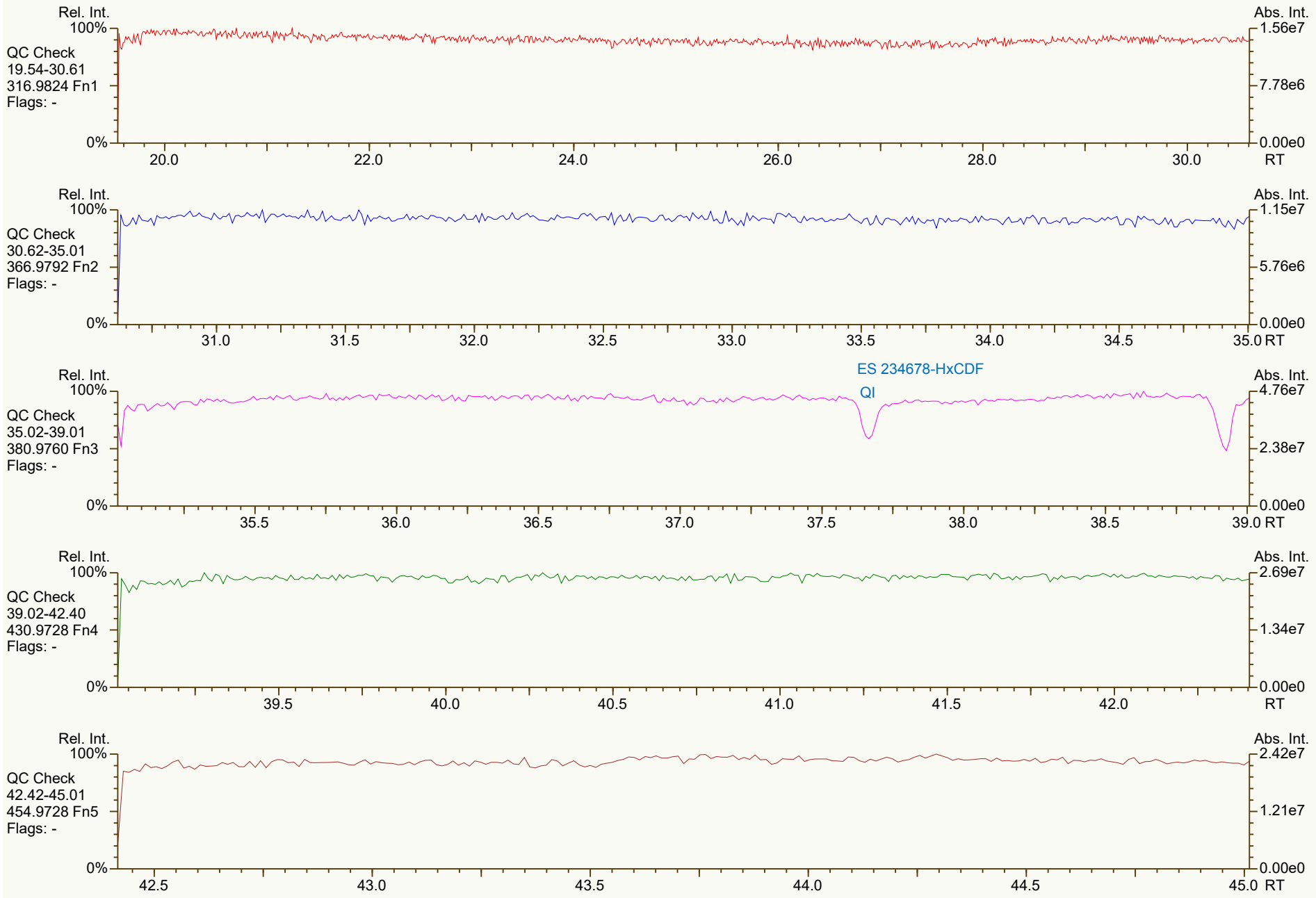
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	1.04E+07	1.06	Y	1.06	138	3563.086	0.383
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**7.16E+06**	**1.09**	**Y**	**1.06**	**94.4**	**3563.086**	**0.383**
OCDD	**43.53**	**E**	**1.0002**	**1.0003**	**+0.3**	**8.12E+08**	**0.90**	**Y**	**1.13**	**12,300**	**3214.709**	**0.498**
OCDD-a	43.52	E	1.0002	1.0002	0	4.78E+07	2.47	Y	0.07	11,300	3136.604	7.61
1368-TCDF	NotFnd		0.8282						1.08		6417.165	0.48
1468-TCDF	NotFnd		0.8485						1.08		6417.165	0.48
2468-TCDF	24.16		0.8709	0.8698	-1.6	2.13E+05	0.72	Y	1.08	1.41	6417.165	0.48
1346/1246-TCDF	NotFnd		0.8829						1.08		6417.165	0.48
1347/1378/1247-TCDF	24.68	EMPC	0.8884	0.8885	+0.1	1.21E+05	0.63	N	1.08	0.796	6417.165	0.48
1348-TCDF	NotFnd		0.8980						1.08		6417.165	0.48
1248/1367/1379-TCDF	25.02		0.9026	0.9008	-2.7	3.85E+05	0.66	Y	1.08	2.54	6417.165	0.48
1268-TCDF	25.42	EMPC	0.9158	0.9153	-0.8	9.63E+04	0.60	N	1.08	0.635	6417.165	0.48
1467-TCDF	NotFnd		0.9206						1.08		6417.165	0.48
1478-TCDF	25.72		0.9266	0.9261	-0.8	3.38E+05	0.76	Y	1.08	2.23	6417.165	0.48
1369/1237-TCDF	NotFnd		0.9397						1.08		6417.165	0.48
2467-TCDF	NotFnd		0.9440						1.08		6417.165	0.48
2368-TCDF	26.38		0.9497	0.9497	0	3.63E+05	0.71	Y	1.08	2.4	6417.165	0.48
1238/1234/1678/1469/1236-TCDF	26.46		0.9528	0.9525	-0.5	4.06E+05	0.78	Y	1.08	2.68	6417.165	0.48
1278-TCDF	26.91		0.9690	0.9687	-0.5	3.37E+06	0.82	Y	1.08	22.2	6417.165	0.48
1349-TCDF	NotFnd		0.9730						1.08		6417.165	0.48
1267-TCDF	27.18	EMPC	0.9787	0.9784	-0.5	1.77E+05	0.63	N	1.08	1.17	6417.165	0.48
2346/1249-TCDF	NotFnd		0.9850						1.08		6417.165	0.48
2347/1279-TCDF	27.57	EMPC	0.9929	0.9926	-0.5	1.00E+05	0.63	N	1.08	0.661	6417.165	0.48
2348-TCDF	27.67		0.9970	0.9963	-1.2	4.29E+05	0.66	Y	1.08	2.83	6417.165	0.48
2378-TCDF	**27.79**		**1.0008**	**1.0007**	**-0.2**	**7.14E+06**	**0.77**	**Y**	**1.08**	**47.1**	**6417.165**	**0.48**
2367/3467-TCDF	28.14		1.0136	1.0133	-0.5	6.00E+05	0.78	Y	1.08	3.95	6417.165	0.48
1269-TCDF	28.39		1.0221	1.0221	0	2.52E+05	0.85	Y	1.08	1.66	6417.165	0.48
1239-TCDF	NotFnd		1.0319						1.08		6417.165	0.48
1289-TCDF	29.78		1.0740	1.0723	-3.0	8.45E+05	0.76	Y	1.08	5.57	6417.165	0.48
13468/12468-PeCDF	NotFnd		0.9145						1.02		3215.662	0.23
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		6363.604	0.455
12368/13478/12478-PeCDF	31.42	J	0.9665	0.9668	+0.6	1.91E+05	1.59	Y	1.02	1.42	6363.604	0.455
14678-PeCDF	NotFnd		0.9695						1.02		6363.604	0.455
13479-PeCDF	NotFnd		0.9724						1.02		6363.604	0.455
13469/12479-PeCDF	NotFnd		0.9801						1.02		6363.604	0.455
12346-PeCDF	NotFnd		0.9842						1.02		6363.604	0.455

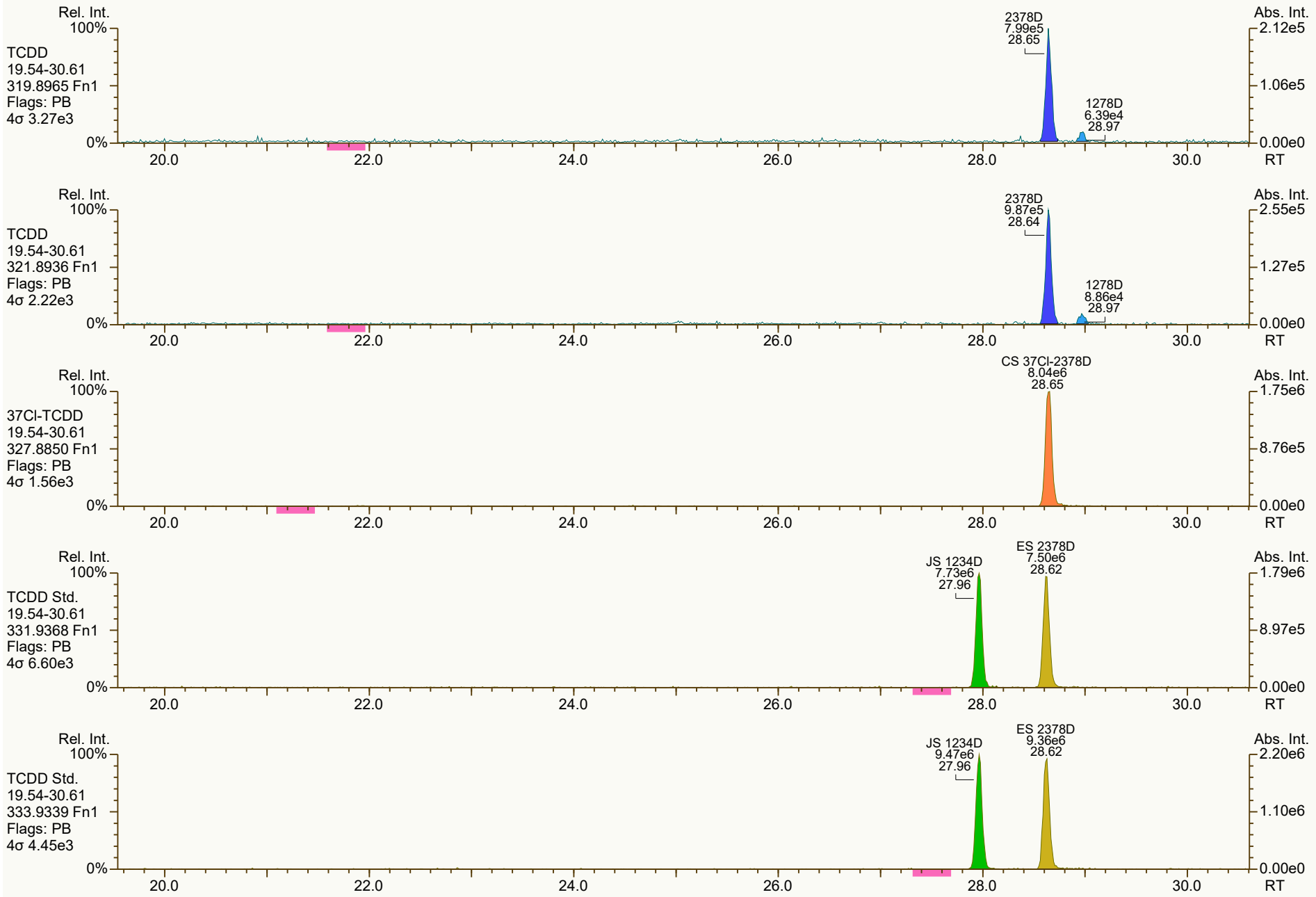
Lab ID: B6147_18830_DF_001 **Acq'd: 22 Jan 2022 01:27 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

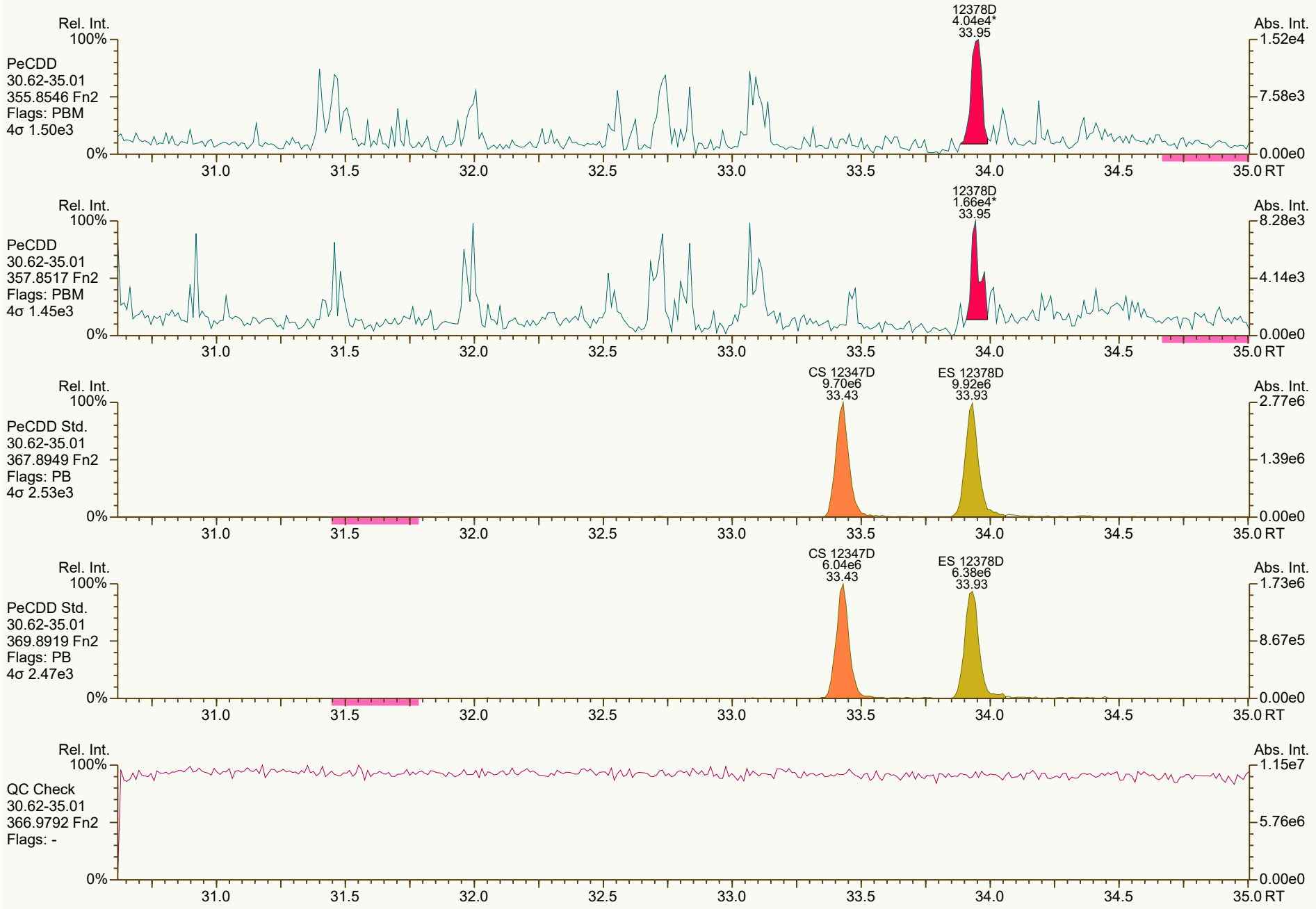
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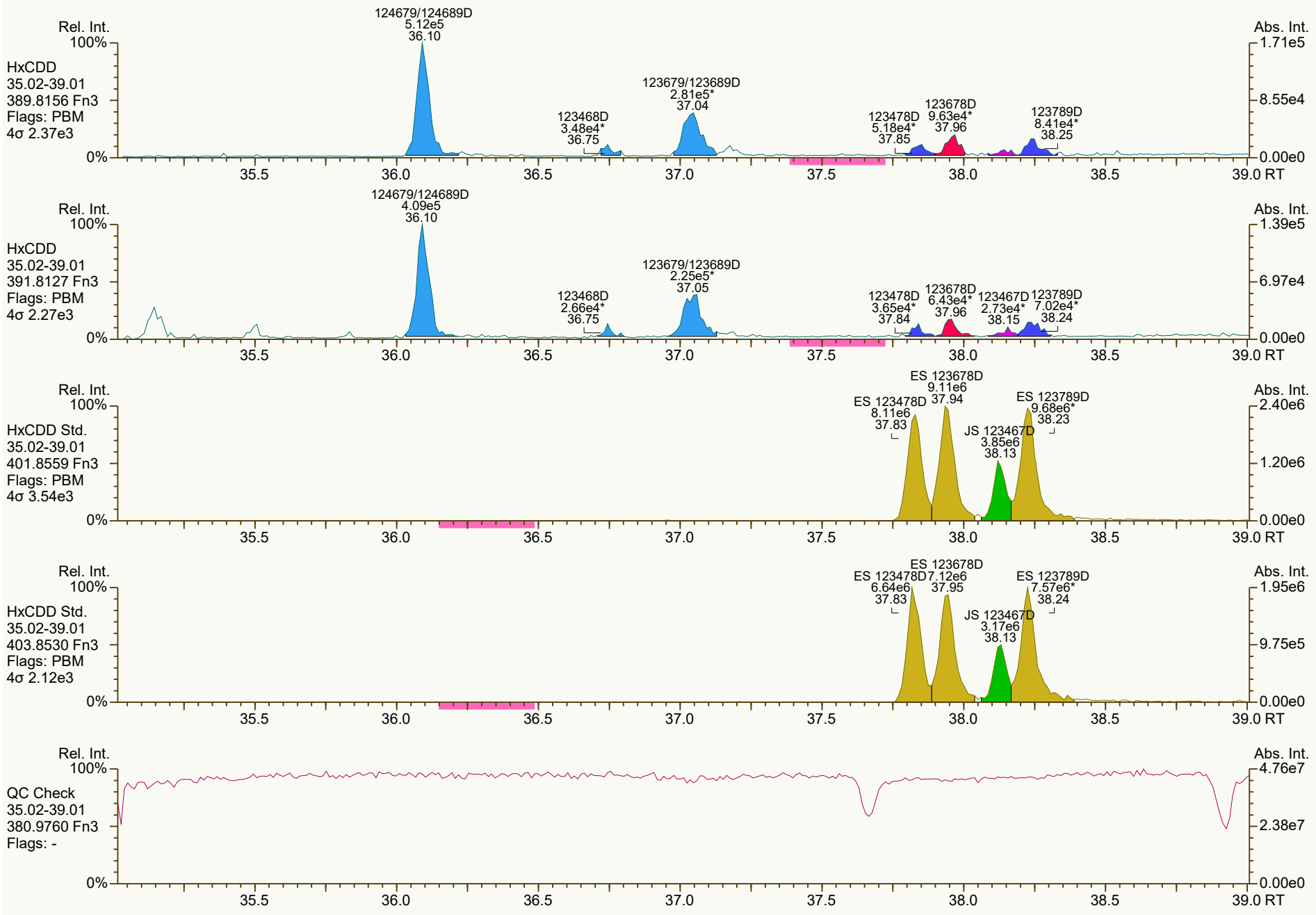
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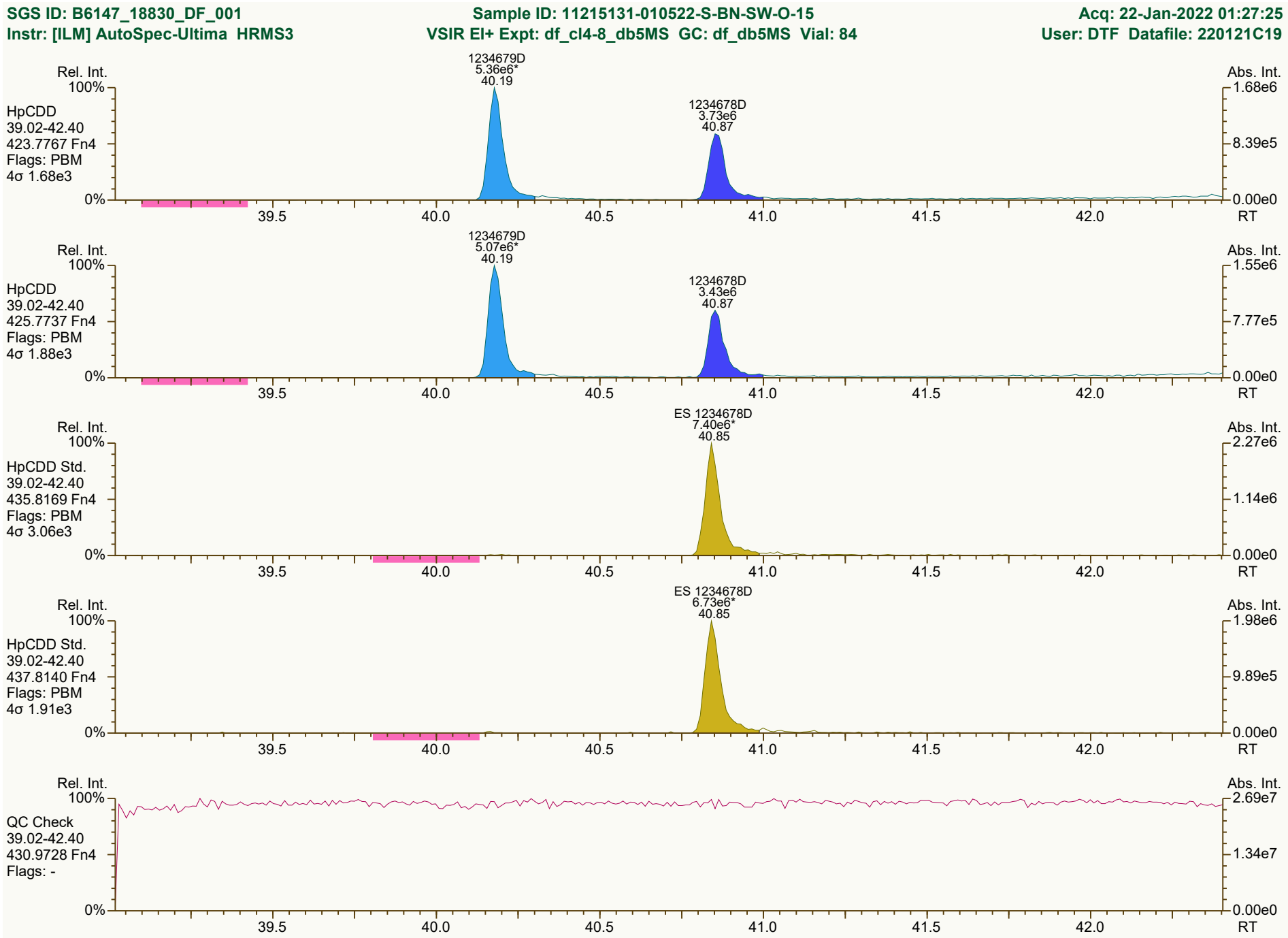
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6363.604	0.455
12347-PeCDF	NotFnd		0.9895						1.02		6363.604	0.455
12348-PeCDF	NotFnd		0.9941						1.02		6363.604	0.455
12378-PeCDF	**32.51**	J	**1.0005**	**1.0005**	**0**	**2.22E+05**	**1.72**	**Y**	**1.02**	**1.62**	**6363.604**	**0.484**
12678/12367-PeCDF	32.79	J EMPC	1.0090	1.0092	+0.4	8.35E+04	1.99	N	1.02	0.617	6363.604	0.455
12379-PeCDF	NotFnd		1.0142						1.02		6363.604	0.455
12679-PeCDF	NotFnd		0.9931						1.02		6363.604	0.455
23467/12369-PeCDF	NotFnd		0.9966						1.02		6363.604	0.455
23478-PeCDF	**33.62**	J	**1.0005**	**1.0006**	**+0.2**	**2.07E+05**	**1.38**	**Y**	**1.02**	**1.55**	**6363.604**	**0.425**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6363.604	0.455
12349-PeCDF	NotFnd		1.0101						1.02		6363.604	0.455
12389-PeCDF	NotFnd		1.0322						1.02		6363.604	0.455
123468-HxCDF	NotFnd		0.9627						1.19		4076.705	0.315
124678/134678-HxCDF	35.65	J EMPC	0.9684	0.9681	-0.6	1.83E+05	1.67	N	1.19	1.51	4076.705	0.315
134679-HxCDF	NotFnd		0.9747						1.19		4076.705	0.315
124679-HxCDF	NotFnd		0.9802						1.19		4076.705	0.315
124689-HxCDF	36.30	J	0.9858	0.9858	0	1.55E+05	1.35	Y	1.19	1.28	4076.705	0.315
123467-HxCDF	NotFnd		0.9972						1.19		4076.705	0.315
123478-HxCDF	**36.84**	EMPC	**1.0004**	**1.0004**	**0**	**3.07E+05**	**0.98**	**N**	**1.27**	**2.53**	**4076.705**	**0.292**
123678-HxCDF	**36.98**	J	**1.0004**	**1.0002**	**-0.4**	**9.04E+04**	**1.22**	**Y**	**1.15**	**0.671**	**4076.705**	**0.296**
123479-HxCDF	NotFnd		1.0051						1.19		4076.705	0.315
123469-HxCDF	NotFnd		1.0091						1.19		4076.705	0.315
123679-HxCDF	NotFnd		0.9943						1.19		4076.705	0.315
234678-HxCDF	**37.67**	J EMPC	**1.0004**	**1.0005**	**+0.2**	**4.20E+04**	**1.01**	**N**	**1.19**	**0.352**	**4076.705**	**0.341**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4076.705	0.315
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4076.705**	**0.338**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4076.705	0.315
1234678-HpCDF	**39.93**	**EMPC**	**1.0002**	**1.0002**	**0**	**3.97E+05**	**0.79**	**N**	**1.37**	**3.38**	**2113.556**	**0.125**
1234679-HpCDF	NotFnd		1.0067						1.34		2113.556	0.168
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	6.96E+04	1.04	Y	1.34	6.65	2113.556	0.168
1234789-HpCDF	**41.32**	**J EMPC**	**1.0003**	**0.9999**	**-1.0**	**6.46E+04**	**1.50**	**N**	**1.31**	**0.7**	**2113.556**	**0.222**
OCDF	**43.70**		**1.0002**	**1.0002**	**0**	**1.01E+06**	**0.85**	**Y**	**1.07**	**13.4**	**4309.414**	**0.646**
OCDF-a	NotFnd		1.0002						0.07		4074.313	9.86

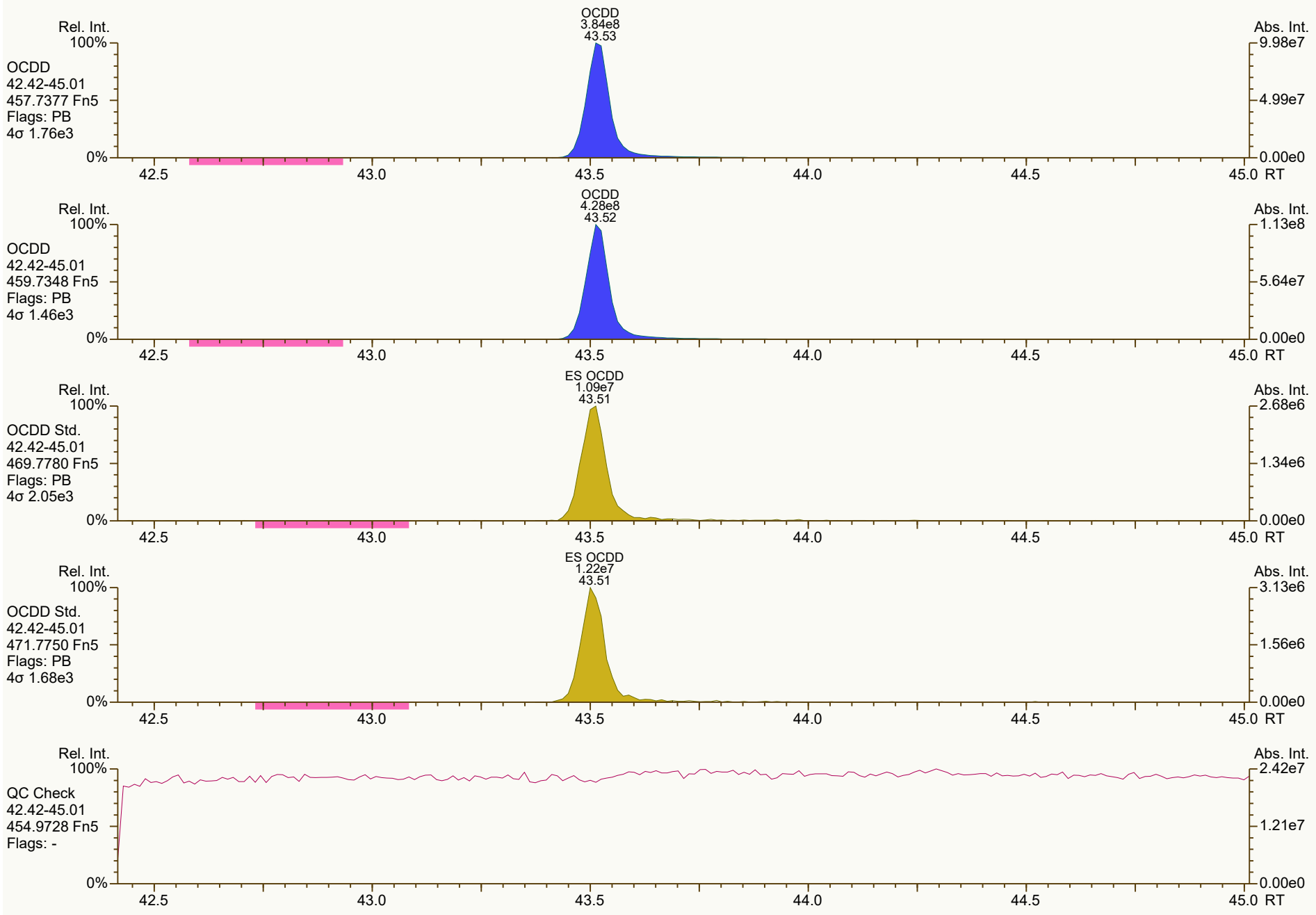

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
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0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.56e7
7.78e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.15e7
5.76e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
ES 234678-HxCDF
QI
Abs. Int.
4.76e7
2.38e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.69e7
1.34e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
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1.21e7
0.00e0

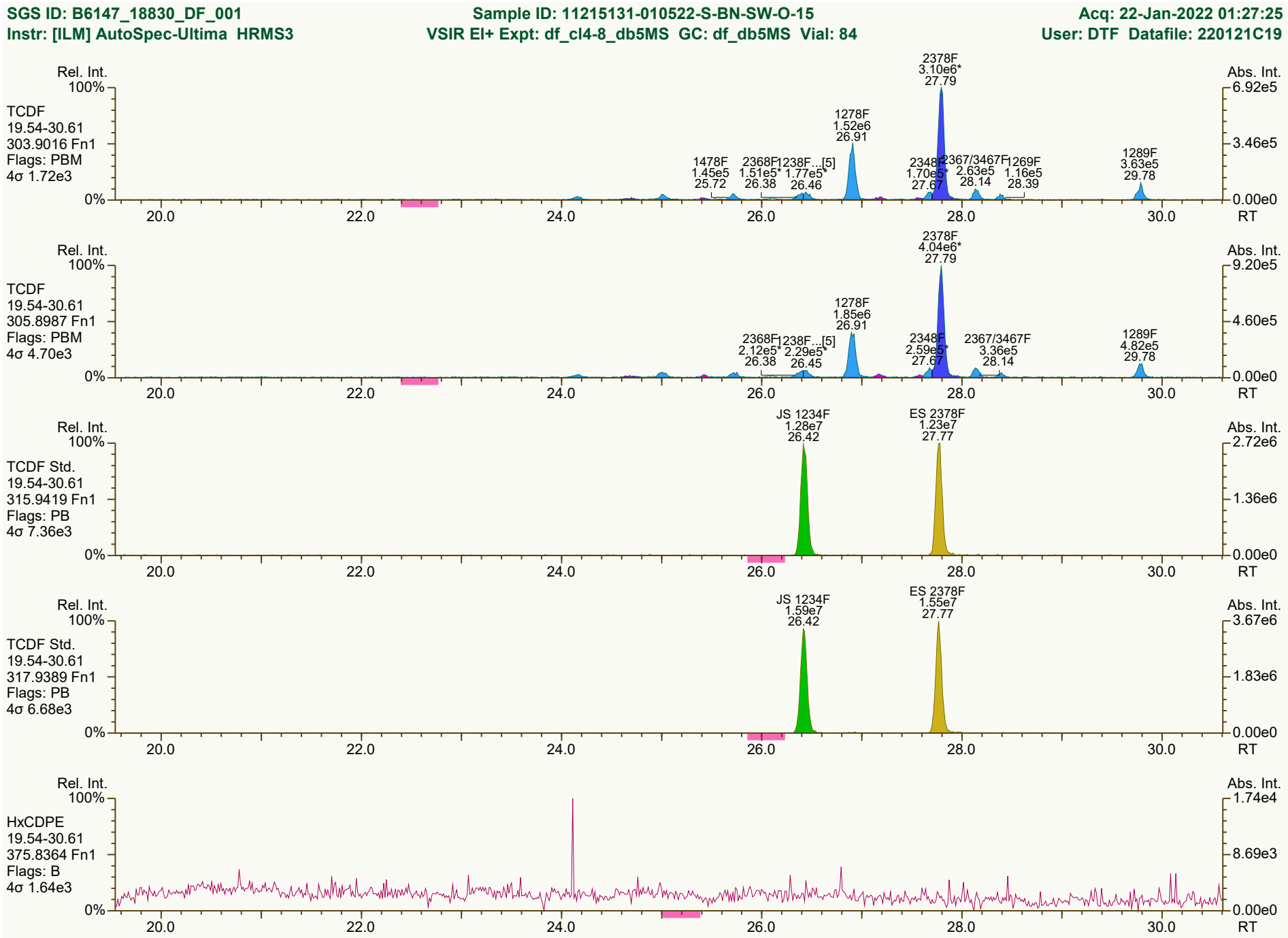

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.27e3
0%
2378D
7.99e5
28.65
1278D
6.39e4
28.97
Abs. Int.
2.12e5
1.06e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.22e3
0%
2378D
9.87e5
28.64
1278D
8.86e4
28.97
Abs. Int.
2.55e5
1.27e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.56e3
0%
CS 37Cl-2378D
8.04e6
28.65
Abs. Int.
1.75e6
8.76e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.60e3
0%
JS 1234D
7.73e6
27.96
ES 2378D
7.50e6
28.62
Abs. Int.
1.79e6
8.97e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.45e3
0%
JS 1234D
9.47e6
27.96
ES 2378D
9.36e6
28.62
Abs. Int.
2.20e6
1.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.50e3
0%
12378D
4.04e4*
33.95
Abs. Int.
1.52e4
7.58e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.45e3
0%
12378D
1.66e4*
33.95
Abs. Int.
8.28e3
4.14e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 2.53e3
0%
CS 12347D
9.70e6
33.43
ES 12378D
9.92e6
33.93
Abs. Int.
2.77e6
1.39e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 2.47e3
0%
CS 12347D
6.04e6
33.43
ES 12378D
6.38e6
33.93
Abs. Int.
1.73e6
8.67e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.15e7
5.76e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.37e3
124679/124689D
5.12e5
36.10
123468D
3.48e4*
36.75
123679/123689D
2.81e5*
37.04
123478D
5.18e4*
37.85
123678D
9.63e4*
37.96
123789D
8.41e4*
38.25
Abs. Int.
1.71e5
8.55e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.27e3
124679/124689D
4.09e5
36.10
123468D
2.66e4*
36.75
123679/123689D
2.25e5*
37.05
123478D
3.65e4*
37.84
123678D
6.43e4*
37.96
123467D
2.73e4*
38.15
123789D
7.02e4*
38.24
Abs. Int.
1.39e5
6.97e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.54e3
ES 123678D
9.11e6
37.94
ES 123478D
8.11e6
37.83
ES 123789D
9.68e6*
38.23
JS 123467D
3.85e6
38.13
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.12e3
ES 123678D
7.12e6
37.95
ES 123478D
6.64e6
37.83
ES 123789D
7.57e6*
38.24
JS 123467D
3.17e6
38.13
Abs. Int.
1.95e6
9.75e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.76e7
2.38e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6147_18830_DF_001
Sample ID: 11215131-010522-S-BN-SW-O-15
Acq: 22-Jan-2022 01:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84
User: DTF Datafile: 220121C19
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.68e3
1234679D
5.36e6*
40.19
1234678D
3.73e6
40.87
1.68e6
8.39e5
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.88e3
1234679D
5.07e6*
40.19
1234678D
3.43e6
40.87
1.55e6
7.77e5
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.06e3
ES 1234678D
7.40e6*
40.85
2.27e6
1.14e6
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678D
6.73e6*
40.85
1.98e6
9.89e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.69e7
1.34e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_001.utp_res, saved 24-Jan-2022 12:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7328, 7896 scc: 456-233
PKD: 24-Jan-2022 12:01 Printed: 24-Jan-2022 12:47 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.76e3
0%
OCDD
3.84e8
43.53
Abs. Int.
9.98e7
4.99e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.46e3
0%
OCDD
4.28e8
43.52
Abs. Int.
1.13e8
5.64e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.05e3
0%
ES OCDD
1.09e7
43.51
Abs. Int.
2.68e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.68e3
0%
ES OCDD
1.22e7
43.51
Abs. Int.
3.13e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.42e7
1.21e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6147_18830_DF_001
Sample ID: 11215131-010522-S-BN-SW-O-15
Acq: 22-Jan-2022 01:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84
User: DTF Datafile: 220121C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.72e3
2378F 3.10e6* 27.79
1278F 1.52e6 26.91
1478F 1.45e5 25.72
2368F 1.51e5* 26.38
1238F...[5] 1.77e5* 26.46
2348F 1.70e5* 27.67
2367/3467F 2.63e5 28.14
1269F 1.16e5 28.39
1289F 3.63e5 29.78
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.70e3
2378F 4.04e6* 27.79
1278F 1.85e6 26.91
2368F 2.12e5* 26.38
1238F...[5] 2.29e5* 26.45
2348F 2.59e5* 27.67
2367/3467F 3.36e5 28.14
1289F 4.82e5 29.78
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 7.36e3
JS 1234F 1.28e7 26.42
ES 2378F 1.23e7 27.77
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 6.68e3
JS 1234F 1.59e7 26.42
ES 2378F 1.55e7 27.77
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.64e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
6.92e5
3.46e5
0.00e0
9.20e5
4.60e5
2.72e6
1.36e6
3.67e6
1.83e6
1.74e4
8.69e3
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_001.utp_res, saved 24-Jan-2022 12:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4623, 7437, 3824 scc: 456-233
PKD: 24-Jan-2022 12:01 Printed: 24-Jan-2022 12:47 Page 7 of 12

SGS ID: B6147_18830_DF_001 | Sample ID: 11215131-010522-S-BN-SW-O-15 | Acq: 22-Jan-2022 01:27:25

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84 | User: DTF Datafile: 220121C19

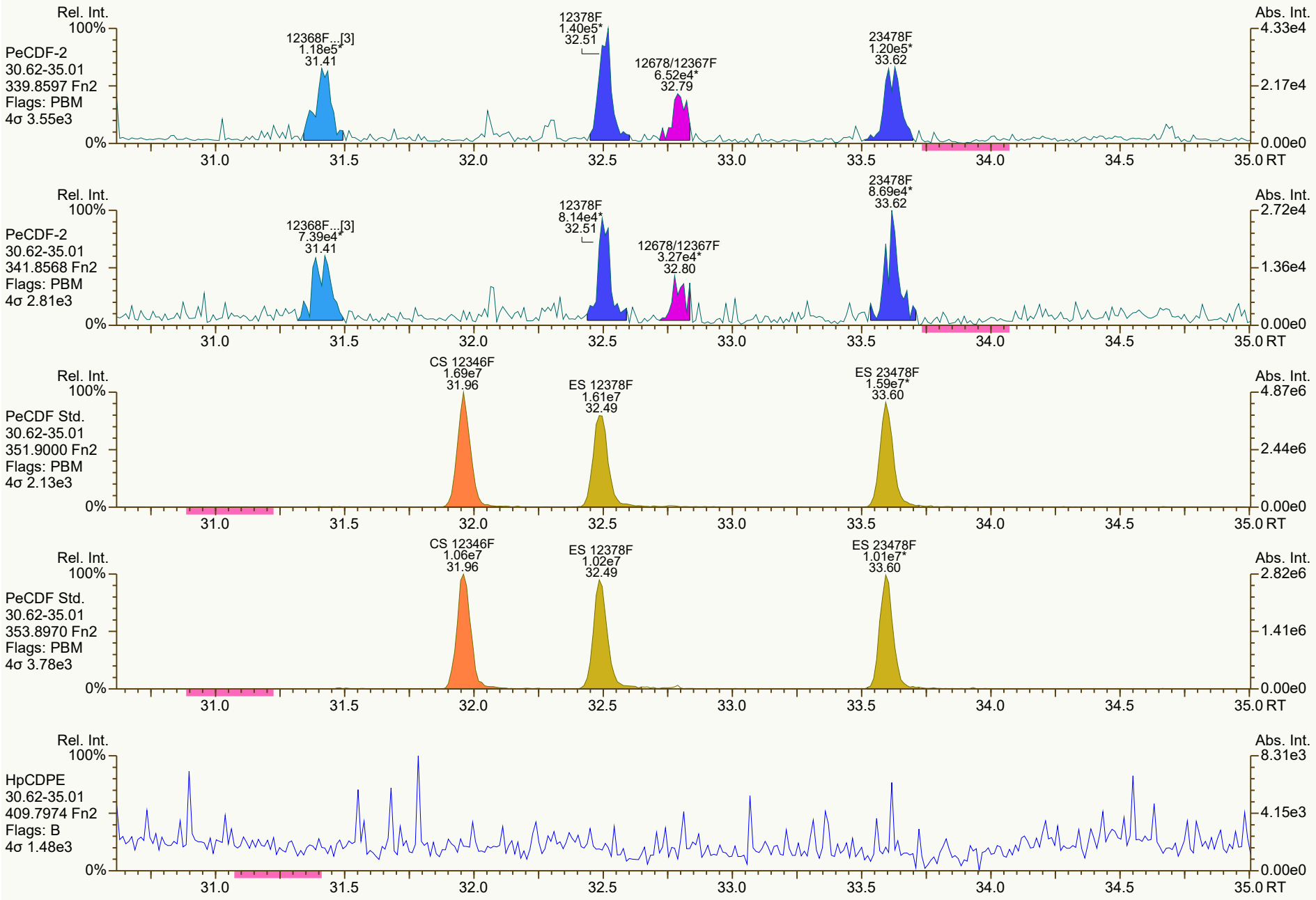


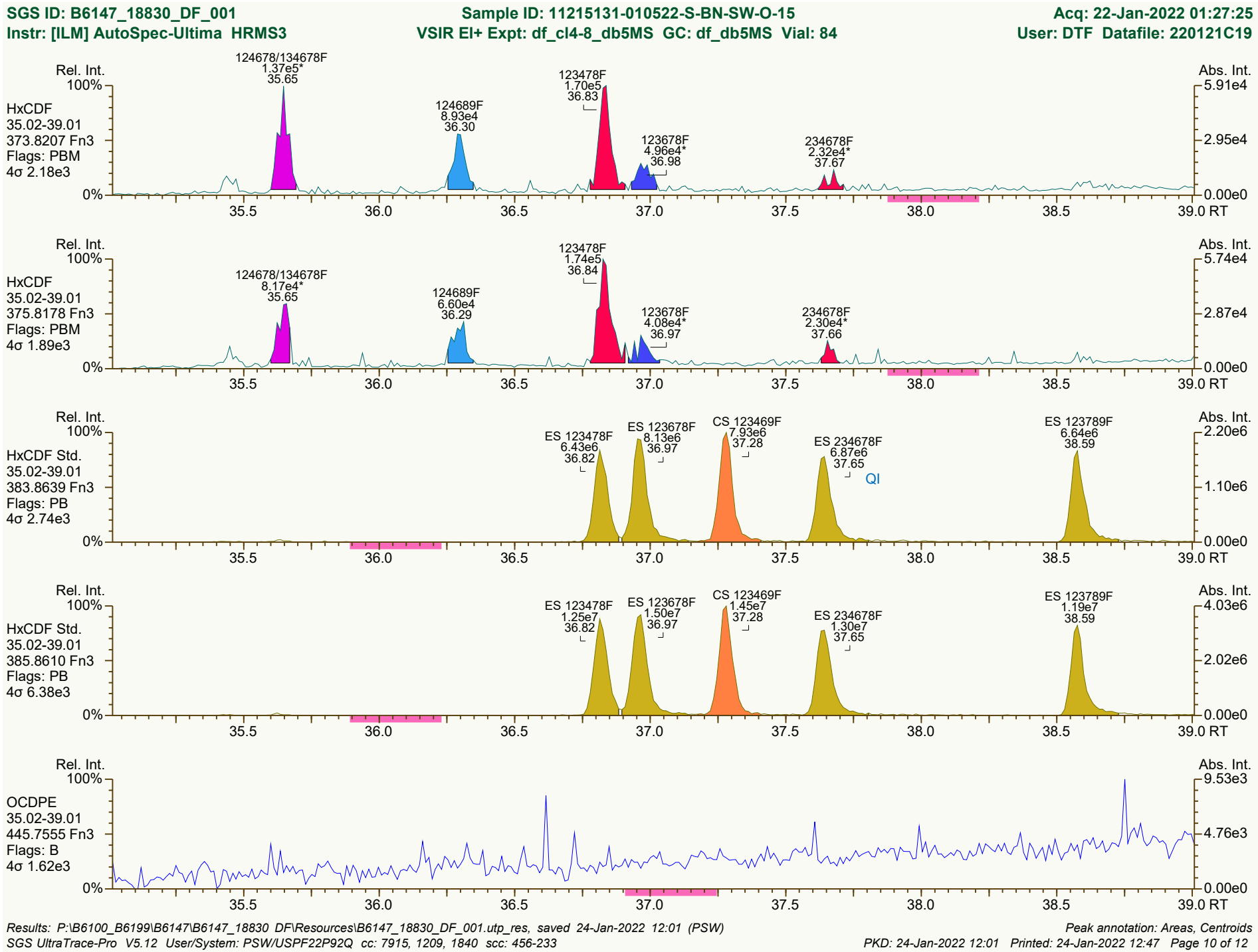
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_001.utp_res, saved 24-Jan-2022 12:01 (PSW)

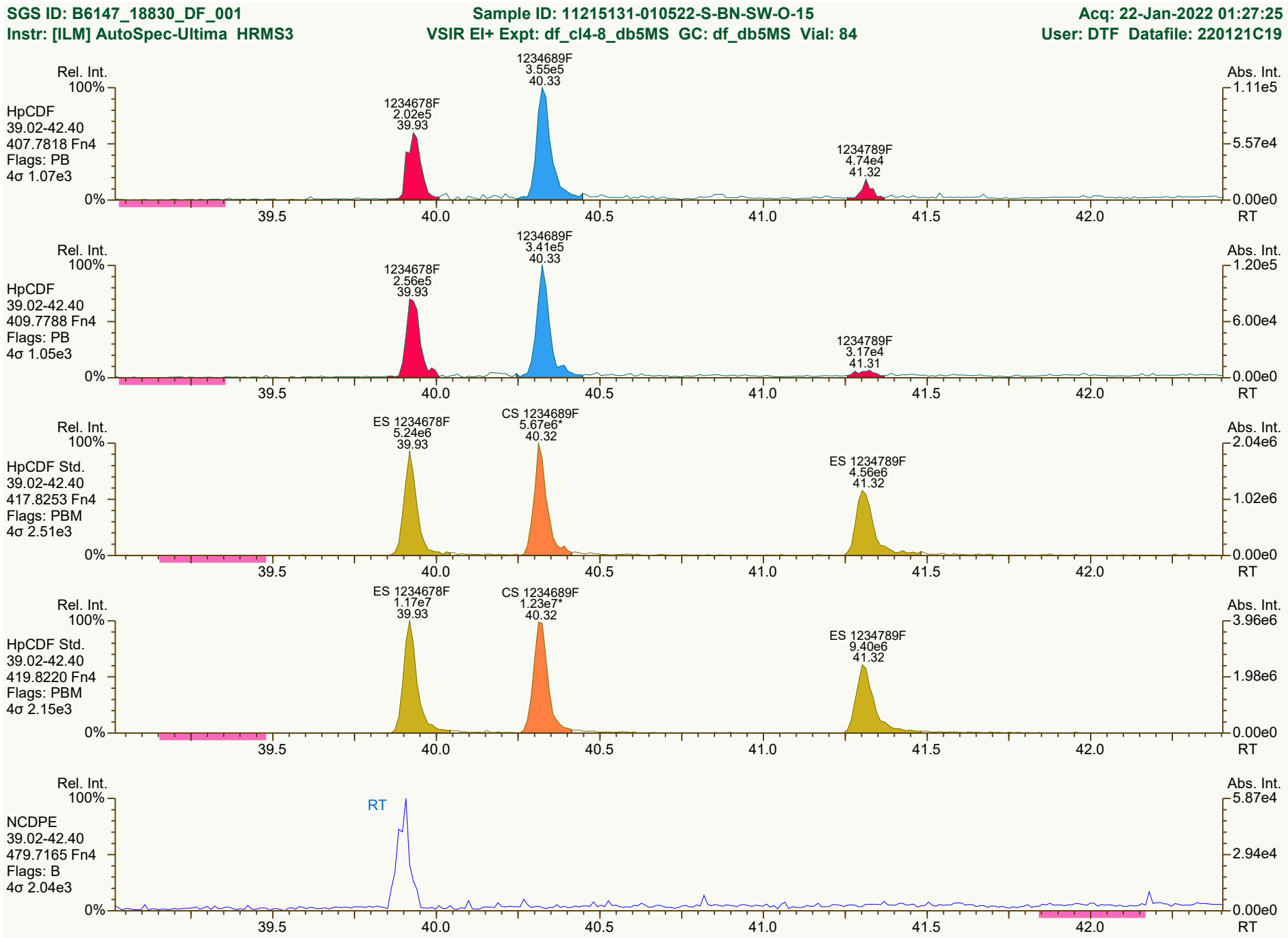
Peak annotation: Areas, Centroids

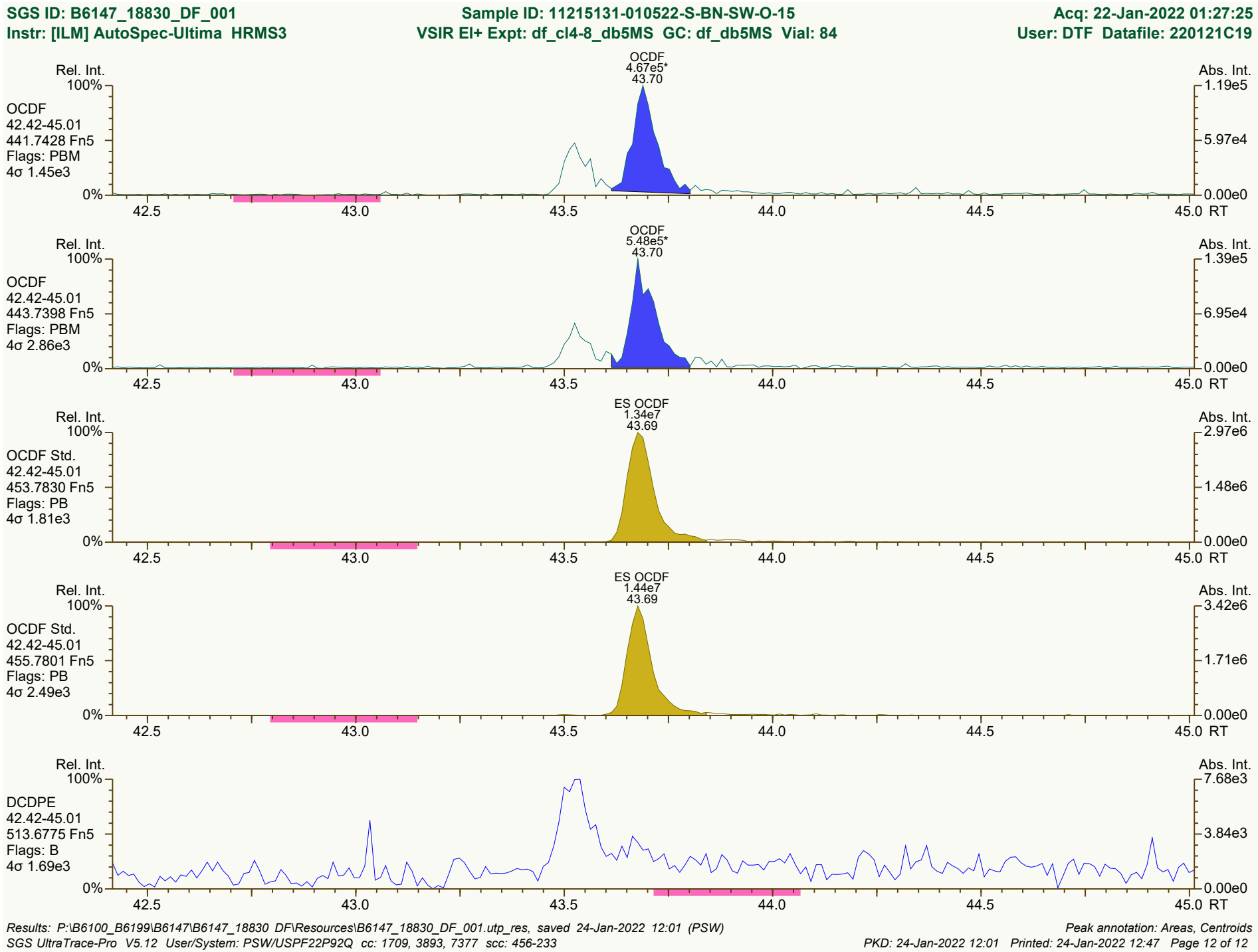
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9831 scc: 456-233

PKD: 24-Jan-2022 12:01 Printed: 24-Jan-2022 12:47 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 3.55e3
12368F...[3]
1.18e5*
31.41
12378F
1.40e5*
32.51
12678/12367F
6.52e4*
32.79
23478F
1.20e5*
33.62
Abs. Int.
4.33e4
2.17e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.81e3
12368F...[3]
7.39e4*
31.41
12378F
8.14e4*
32.51
12678/12367F
3.27e4*
32.80
23478F
8.69e4*
33.62
Abs. Int.
2.72e4
1.36e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PBM
4σ 2.13e3
CS 12346F
1.69e7
31.96
ES 12378F
1.61e7
32.49
ES 23478F
1.59e7*
33.60
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PBM
4σ 3.78e3
CS 12346F
1.06e7
31.96
ES 12378F
1.02e7
32.49
ES 23478F
1.01e7*
33.60
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.48e3
Abs. Int.
8.31e3
4.15e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: B6147_18830_DF_001
Sample ID: 11215131-010522-S-BN-SW-O-15
Acq: 22-Jan-2022 01:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84
User: DTF Datafile: 220121C19
Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.18e3
124678/134678F
1.37e5*
35.65
124689F
8.93e4
36.30
123478F
1.70e5
36.83
123678F
4.96e4*
36.98
234678F
2.32e4*
37.67
5.91e4
2.95e4
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.89e3
124678/134678F
8.17e4*
35.65
124689F
6.60e4
36.29
123478F
1.74e5
36.84
123678F
4.08e4*
36.97
234678F
2.30e4*
37.66
5.74e4
2.87e4
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.74e3
ES 123478F
6.43e6
36.82
ES 123678F
8.13e6
36.97
CS 123469F
7.93e6
37.28
ES 234678F
6.87e6
37.65
QI
ES 123789F
6.64e6
38.59
2.20e6
1.10e6
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 6.38e3
ES 123478F
1.25e7
36.82
ES 123678F
1.50e7
36.97
CS 123469F
1.45e7
37.28
ES 234678F
1.30e7
37.65
ES 123789F
1.19e7
38.59
4.03e6
2.02e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.62e3
9.53e3
4.76e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_001.utp_res, saved 24-Jan-2022 12:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7915, 1209, 1840 scc: 456-233
PKD: 24-Jan-2022 12:01 Printed: 24-Jan-2022 12:47 Page 10 of 12


SGS ID: B6147_18830_DF_001
Sample ID: 11215131-010522-S-BN-SW-O-15
Acq: 22-Jan-2022 01:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84
User: DTF Datafile: 220121C19
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.07e3
1234678F
2.02e5
39.93
1234689F
3.55e5
40.33
1234789F
4.74e4
41.32
1.11e5
5.57e4
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.05e3
1234678F
2.56e5
39.93
1234689F
3.41e5
40.33
1234789F
3.17e4
41.31
1.20e5
6.00e4
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.51e3
ES 1234678F
5.24e6
39.93
CS 1234689F
5.67e6*
40.32
ES 1234789F
4.56e6
41.32
2.04e6
1.02e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.15e3
ES 1234678F
1.17e7
39.93
CS 1234689F
1.23e7*
40.32
ES 1234789F
9.40e6
41.32
3.96e6
1.98e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 2.04e3
RT
5.87e4
2.94e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_001.utp_res, saved 24-Jan-2022 12:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7851, 5388, 9832 scc: 456-233
PKD: 24-Jan-2022 12:01 Printed: 24-Jan-2022 12:47 Page 11 of 12


SGS ID: B6147_18830_DF_001
Sample ID: 11215131-010522-S-BN-SW-O-15
Acq: 22-Jan-2022 01:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84
User: DTF Datafile: 220121C19
OCDF
4.67e5*
43.70
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.45e3
OCDF
5.48e5*
43.70
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.86e3
ES OCDF
1.34e7
43.69
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.81e3
ES OCDF
1.44e7
43.69
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.49e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.69e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_001.utp_res, saved 24-Jan-2022 12:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1709, 3893, 7377 scc: 456-233
PKD: 24-Jan-2022 12:01 Printed: 24-Jan-2022 12:47 Page 12 of 12

Lab ID: B6147_18830_DF_002 **Acq'd:** 22 Jan 2022 02:13 DTF **Wt/Vol:** 10.27 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-17 **UTP:** 24-Jan-2022 12:03:53 PSW **J-level:** 0.487 pg/g **Split:** 1 **Checkcode:** 182-421-MSQ

Datafile: 220121C20 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66	E	1.0008	1.0008	0	3.38E+08	0.80	Y	1.18	2,910	5374.896	0.493
12378-PeCDD	33.96		1.0006	1.0005	-0.2	2.66E+06	1.61	Y	1.04	28.8	4235.099	0.417
123478-HxCDD	37.84	J EMPC	1.0004	1.0002	-0.5	9.24E+04	0.88	N	1.09	1.11	4345.525	0.449
123678-HxCDD	37.97		1.0034	1.0035	+0.2	4.82E+05	1.09	Y	1.15	4.95	4345.525	0.461
123789-HxCDD	38.25		1.0109	1.0111	+0.5	2.84E+05	1.38	Y	1.05	2.91	4345.525	0.423
1234678-HpCDD	40.88		1.0003	1.0003	0	1.25E+07	1.08	Y	1.06	163	4645.276	0.509
OCDD	43.52		1.0002	1.0003	+0.3	1.44E+08	0.91	Y	1.13	2,800	5948.597	1.21
2378-TCDF	27.81	E	1.0008	1.0008	0	1.44E+09	0.80	Y	1.08	8,040	5427.081	0.334
12378-PeCDF	32.52		1.0005	1.0005	0	5.00E+07	1.60	Y	1.02	329	5823.576	0.351
23478-PeCDF	33.64		1.0005	1.0007	+0.4	3.60E+07	1.62	Y	1.02	240	5823.576	0.354
123478-HxCDF	36.85		1.0004	1.0005	+0.2	7.79E+07	1.27	Y	1.27	583	6009.829	0.381
123678-HxCDF	36.99		1.0004	1.0004	0	2.17E+07	1.29	Y	1.15	150	6009.829	0.388
234678-HxCDF	37.67		1.0004	1.0004	0	3.42E+06	1.28	Y	1.19	27.6	6009.829	0.457
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6009.829	0.452
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	2.01E+07	1.04	Y	1.37	159	4201.579	0.228
1234789-HpCDF	41.33		1.0003	1.0003	0	6.30E+06	1.01	Y	1.31	67.1	4201.579	0.395
OCDF	43.71		1.0002	1.0002	0	6.09E+06	0.94	Y	1.07	91.5	4056.477	0.662

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0233	0	1.91E+07	0.80	Y	1.05	93.8
ES 12378-PeCDD	33.94	1.2121	1.2129	+1.6	1.74E+07	1.57	Y	0.88	101
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.49E+07	1.26	Y	0.97	94.5
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.65E+07	1.30	Y	0.94	108
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.81E+07	1.29	Y	1.09	103
ES 1234678-HpCDD	40.87	1.0709	1.0715	+1.5	1.41E+07	1.05	Y	0.91	95.4
ES OCDD	43.51	1.1403	1.1408	+1.3	1.78E+07	0.92	Y	0.62	88
ES 2378-TCDF	27.79	1.0506	1.0512	+1.0	3.22E+07	0.86	Y	1.06	98.6
ES 12378-PeCDF	32.51	1.2281	1.2295	+2.7	2.89E+07	1.54	Y	0.91	103
ES 23478-PeCDF	33.61	1.2698	1.2714	+3.2	2.87E+07	1.61	Y	0.88	105
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.05E+07	0.53	Y	1.20	105
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.44E+07	0.55	Y	1.35	112
ES 234678-HxCDF	37.66	0.9874	0.9874	0	2.03E+07	0.53	Y	1.24	101
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	2.00E+07	0.53	Y	1.16	107
ES 1234678-HpCDF	39.94	1.0467	1.0472	+1.2	1.80E+07	0.46	Y	0.97	115
ES 1234789-HpCDF	41.32	1.0830	1.0834	+1.0	1.40E+07	0.44	Y	0.85	101
ES OCDF	43.70	1.1451	1.1458	+1.8	2.42E+07	0.89	Y	0.81	92.5

Lab ID: B6147_18830_DF_002 **Acq'd:** 22 Jan 2022 02:13 DTF **Wt/Vol:** 10.27 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-17 **UTP:** 24-Jan-2022 12:03:53 PSW **J-level:** 0.487 pg/g **Split:** 1 **Checkcode:** 182-421-MSQ

Datafile: 220121C20 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.99		-	-	-	1.94E+07	0.76	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	3.09E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	8.09E+06	1.24	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0240	-0.2	7.91E+06	n/a	-	1.20	84.6	
CS 12347-PeCDD	33.44		1.1943	1.1950	+1.4	1.63E+07	1.54	Y	0.75	112	
CS 12346-PeCDF	31.98		1.2083	1.2096	+2.5	2.74E+07	1.55	Y	0.85	104	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.25E+07	0.53	Y	1.12	124	
CS 1234689-HpCDF	40.34		1.0571	1.0577	+1.5	1.85E+07	0.45	Y	0.89	129	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0240~~	~~-0.2~~	~~7.91E+06~~	~~n/a~~		~~1.15~~	~~90.3~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1950~~	~~+1.4~~	~~1.63E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~110~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.74E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~101~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.25E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~111~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.85E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~112~~	

Totals	Conc	EMPC
Total TCDD	3260	3270
Total PeCDD	34.9	42.2
Total HxCDD	55.3	58.3
Total HpCDD	327	327
Total Tetra-Octa Dioxins	6480	6500
Total TCDF	15,500	15500
Total PeCDF	871	871
Total HxCDF	893	893
Total HpCDF	294	294
Total Tetra-Octa Furans	17,700	17700
Total Tetra-Octa Dioxins & Furans	24200	24200

Lab ID: B6147_18830_DF_002 **Acq'd: 22 Jan 2022 02:13 DTF** **Wt/Vol: 10.27 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17 **UTP: 24-Jan-2022 12:03:53 PSW** **J-level: 0.487 pg/g** **Split: 1** **Checkcode: 182-421-MSQ**

Datafile: 220121C20 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05	EMPC	0.8755	0.8749	-0.9	4.88E+05	0.89	N	1.18	4.2	5374.896	0.493
1379-TCDD	25.40	EMPC	0.8876	0.8868	-1.2	2.23E+05	1.08	N	1.18	1.92	5374.896	0.493
1369-TCDD	NotFnd		0.9023						1.18		5374.896	0.493
1469-TCDD	26.59		0.9291	0.9285	-1.0	5.41E+05	0.67	Y	1.18	4.66	5374.896	0.493
1247/1246/1248/1249-TCDD	26.83		0.9373	0.9369	-0.6	5.98E+05	0.85	Y	1.18	5.15	5374.896	0.493
1378-TCDD	27.03		0.9440	0.9437	-0.5	1.04E+06	0.88	Y	1.18	8.97	5374.896	0.493
1268-TCDD	27.24	EMPC	0.9506	0.9510	+0.7	6.00E+04	1.11	N	1.18	0.517	5374.896	0.493
1478-TCDD	27.47		0.9591	0.9592	+0.2	8.78E+05	0.83	Y	1.18	7.56	5374.896	0.493
1279-TCDD	NotFnd		0.9649						1.18		5374.896	0.493
1234/1269-TCDD	27.98		0.9771	0.9771	0	2.12E+05	0.80	Y	1.18	1.83	5374.896	0.493
1236-TCDD	NotFnd		0.9820						1.18		5374.896	0.493
1237/1238-TCDD	28.37		0.9908	0.9905	-0.5	5.03E+06	0.82	Y	1.18	43.3	5374.896	0.493
1239-TCDD	NotFnd		0.9954						1.18		5374.896	0.493
2378-TCDD	**28.66**	E	**1.0008**	1.0008	**0**	3.38E+08	0.80	Y	**1.18**	**2,910**	**5374.896**	**0.493**
1278-TCDD	28.99		1.0121	1.0121	0	3.04E+07	0.81	Y	1.18	262	5374.896	0.493
1267-TCDD	29.14		1.0167	1.0175	+1.4	1.16E+06	0.84	Y	1.18	9.97	5374.896	0.493
1289-TCDD	29.61		1.0341	1.0339	-0.4	5.66E+05	0.81	Y	1.18	4.88	5374.896	0.493
12479/12468-PeCDD	31.47		0.9273	0.9271	-0.4	2.37E+05	1.37	Y	1.04	2.57	4235.099	0.417
12469-PeCDD	32.00		0.9430	0.9427	-0.6	3.24E+05	1.36	Y	1.04	3.51	4235.099	0.417
12368-PeCDD	32.55	EMPC	0.9592	0.9589	-0.6	3.05E+05	1.86	N	1.04	3.31	4235.099	0.417
12478-PeCDD	32.74	J EMPC	0.9647	0.9645	-0.4	1.38E+05	1.80	N	1.04	1.49	4235.099	0.417
12379-PeCDD	32.84	J EMPC	0.9676	0.9673	-0.6	5.95E+04	2.88	N	1.04	0.644	4235.099	0.417
12369/12467/12489-PeCDD	33.10	J EMPC	0.9752	0.9750	-0.4	9.51E+04	2.12	N	1.04	1.03	4235.099	0.417
12346/12347-PeCDD	NotFnd		0.9860						1.04		4235.099	0.417
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**2.66E+06**	**1.61**	**Y**	**1.04**	**28.8**	**4235.099**	**0.417**
12367-PeCDD	34.06	J EMPC	1.0034	1.0034	0	7.60E+04	2.21	N	1.04	0.823	4235.099	0.417
12389-PeCDD	NotFnd		1.0134						1.04		4235.099	0.417
124679/124689-HxCDD	36.11		0.9545	0.9543	-0.4	2.87E+06	1.29	Y	1.10	30.9	4345.525	0.443
123468-HxCDD	36.76	J	0.9715	0.9715	0	1.96E+05	1.42	Y	1.10	2.11	4345.525	0.443
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	1.34E+06	1.16	Y	1.10	14.4	4345.525	0.443
123469-HxCDD	37.19	J EMPC	0.9829	0.9828	-0.2	1.27E+05	1.46	N	1.10	1.37	4345.525	0.443
123478-HxCDD	37.84	J EMPC	**1.0004**	**1.0002**	**-0.5**	**9.24E+04**	**0.88**	**N**	1.09	**1.11**	**4345.525**	**0.449**
123678-HxCDD	37.97		**1.0034**	**1.0035**	**+0.2**	**4.82E+05**	**1.09**	**Y**	1.15	**4.95**	**4345.525**	**0.461**
123467-HxCDD	38.14	J EMPC	1.0082	1.0080	-0.5	5.20E+04	2.06	N	1.10	0.56	4345.525	0.443
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**2.84E+05**	**1.38**	**Y**	1.05	**2.91**	**4345.525**	**0.423**

Lab ID: B6147_18830_DF_002 **Acq'd: 22 Jan 2022 02:13 DTF** **Wt/Vol: 10.27 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17 **UTP: 24-Jan-2022 12:03:53 PSW** **J-level: 0.487 pg/g** **Split: 1** **Checkcode: 182-421-MSQ**

Datafile: 220121C20 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

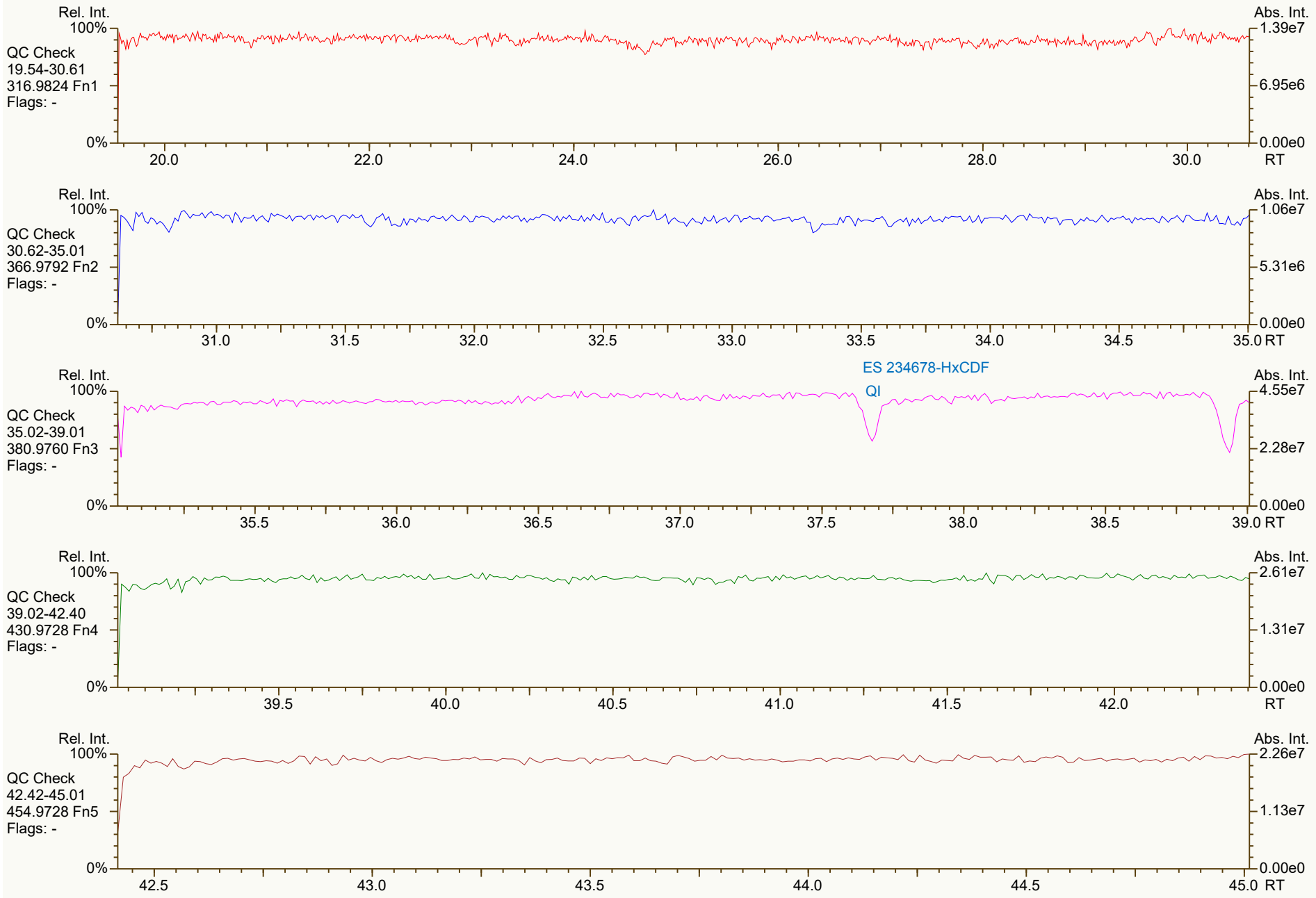
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9838	0	1.26E+07	1.05	Y	1.06	164	4645.276	0.509
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.25E+07**	**1.08**	**Y**	**1.06**	**163**	**4645.276**	**0.509**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**1.44E+08**	**0.91**	**Y**	**1.13**	**2,800**	**5948.597**	**1.21**
OCDD-a	43.52		1.0002	1.0002	0	9.00E+06	2.44	Y	0.07	2,740	7277.973	23.1
1368-TCDF	22.99		0.8282	0.8271	-1.5	3.26E+05	0.83	Y	1.08	1.82	5427.081	0.334
1468-TCDF	23.56		0.8485	0.8478	-1.0	2.72E+06	0.78	Y	1.08	15.2	5427.081	0.334
2468-TCDF	24.18		0.8709	0.8701	-1.2	1.38E+06	0.79	Y	1.08	7.75	5427.081	0.334
1346/1246-TCDF	24.61		0.8829	0.8857	+4.1	3.07E+06	0.77	Y	1.08	17.2	5427.081	0.334
1347/1378/1247-TCDF	24.73		0.8884	0.8897	+1.9	1.30E+07	0.77	Y	1.08	72.6	5427.081	0.334
1348-TCDF	24.94		0.8980	0.8972	-1.2	3.48E+06	0.79	Y	1.08	19.5	5427.081	0.334
1248/1367/1379-TCDF	25.04		0.9026	0.9009	-2.6	6.36E+07	0.79	Y	1.08	356	5427.081	0.334
1268-TCDF	25.44		0.9158	0.9154	-0.6	2.15E+07	0.80	Y	1.08	121	5427.081	0.334
1467-TCDF	25.57		0.9206	0.9202	-0.6	3.28E+06	0.79	Y	1.08	18.3	5427.081	0.334
1478-TCDF	25.74		0.9266	0.9262	-0.6	5.50E+07	0.79	Y	1.08	308	5427.081	0.334
1369/1237-TCDF	26.11		0.9397	0.9396	-0.2	1.44E+07	0.78	Y	1.08	80.6	5427.081	0.334
2467-TCDF	26.23		0.9440	0.9437	-0.5	1.46E+06	0.78	Y	1.08	8.15	5427.081	0.334
2368-TCDF	26.39		0.9497	0.9496	-0.2	5.01E+07	0.78	Y	1.08	281	5427.081	0.334
1238/1234/1678/1469/1236-TCDF	26.46		0.9528	0.9522	-1.0	5.83E+07	0.80	Y	1.08	327	5427.081	0.334
1278-TCDF	26.92	E	0.9690	0.9686	-0.6	6.46E+08	0.78	Y	1.08	3,620	5427.081	0.334
1349-TCDF	NotFnd		0.9730						1.08		5427.081	0.334
1267-TCDF	27.19		0.9787	0.9784	-0.5	3.45E+07	0.81	Y	1.08	193	5427.081	0.334
2346/1249-TCDF	27.38		0.9850	0.9851	+0.2	4.19E+06	0.83	Y	1.08	23.5	5427.081	0.334
2347/1279-TCDF	27.58		0.9929	0.9924	-0.8	1.45E+07	0.79	Y	1.08	81	5427.081	0.334
2348-TCDF	27.70		0.9970	0.9967	-0.5	1.14E+08	0.79	Y	1.08	637	5427.081	0.334
2378-TCDF	**27.81**	E	**1.0008**	**1.0008**	**0**	**1.44E+09**	**0.80**	**Y**	**1.08**	**8,040**	**5427.081**	**0.334**
2367/3467-TCDF	28.16		1.0136	1.0133	-0.5	1.07E+08	0.82	Y	1.08	601	5427.081	0.334
1269-TCDF	28.41		1.0221	1.0222	+0.2	2.20E+07	0.81	Y	1.08	123	5427.081	0.334
1239-TCDF	28.66		1.0319	1.0313	-1.0	1.75E+06	0.78	Y	1.08	9.82	5427.081	0.334
1289-TCDF	29.81		1.0740	1.0725	-2.7	1.02E+08	0.77	Y	1.08	570	5427.081	0.334
13468/12468-PeCDF	29.74		0.9145	0.9147	+0.4	7.73E+05	1.61	Y	1.02	5.11	4044.176	0.245
13678/13467/12467-PeCDF	31.27		0.9619	0.9620	+0.2	5.25E+05	1.47	Y	1.02	3.47	5823.576	0.352
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	2.03E+07	1.51	Y	1.02	134	5823.576	0.352
14678-PeCDF	31.52		0.9695	0.9697	+0.4	4.83E+05	1.76	Y	1.02	3.19	5823.576	0.352
13479-PeCDF	31.59	J	0.9724	0.9717	-1.3	9.41E+04	1.47	Y	1.02	0.622	5823.576	0.352
13469/12479-PeCDF	NotFnd		0.9801						1.02		5823.576	0.352
12346-PeCDF	32.00	J	0.9842	0.9845	+0.6	1.15E+05	1.35	Y	1.02	0.762	5823.576	0.352

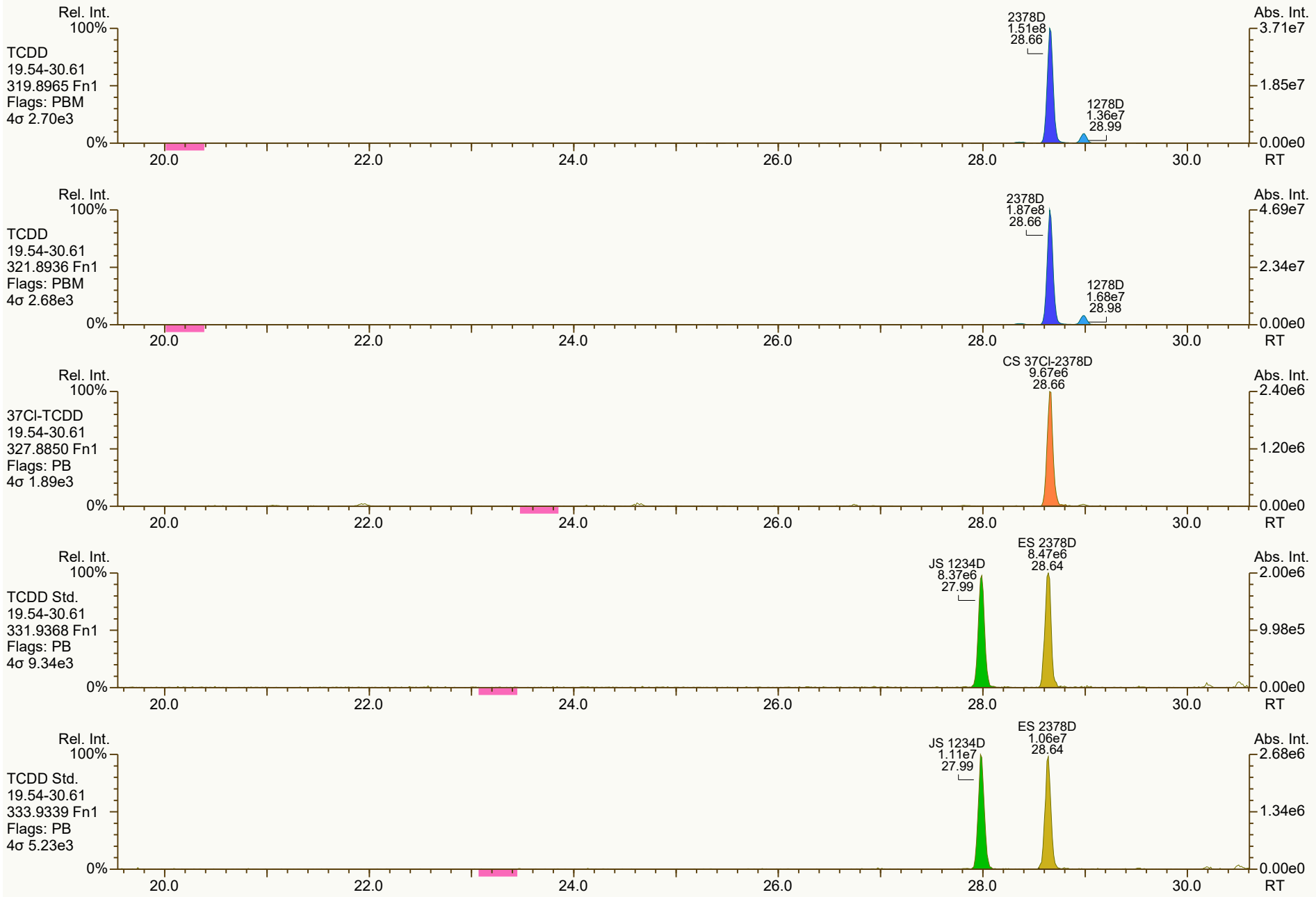
Lab ID: B6147_18830_DF_002 **Acq'd: 22 Jan 2022 02:13 DTF** **Wt/Vol: 10.27 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17 **UTP: 24-Jan-2022 12:03:53 PSW** **J-level: 0.487 pg/g** **Split: 1** **Checkcode: 182-421-MSQ**

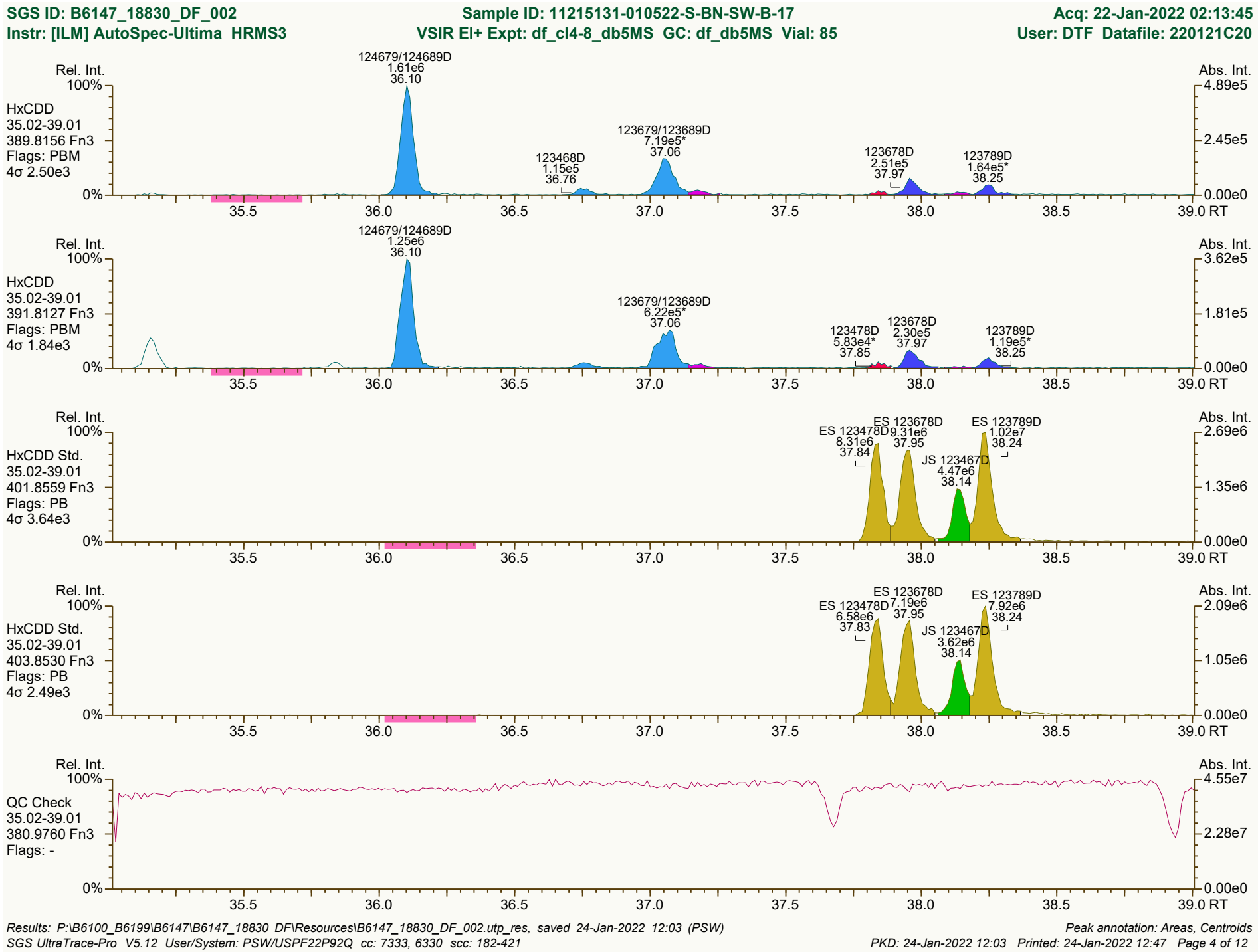
Datafile: 220121C20 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

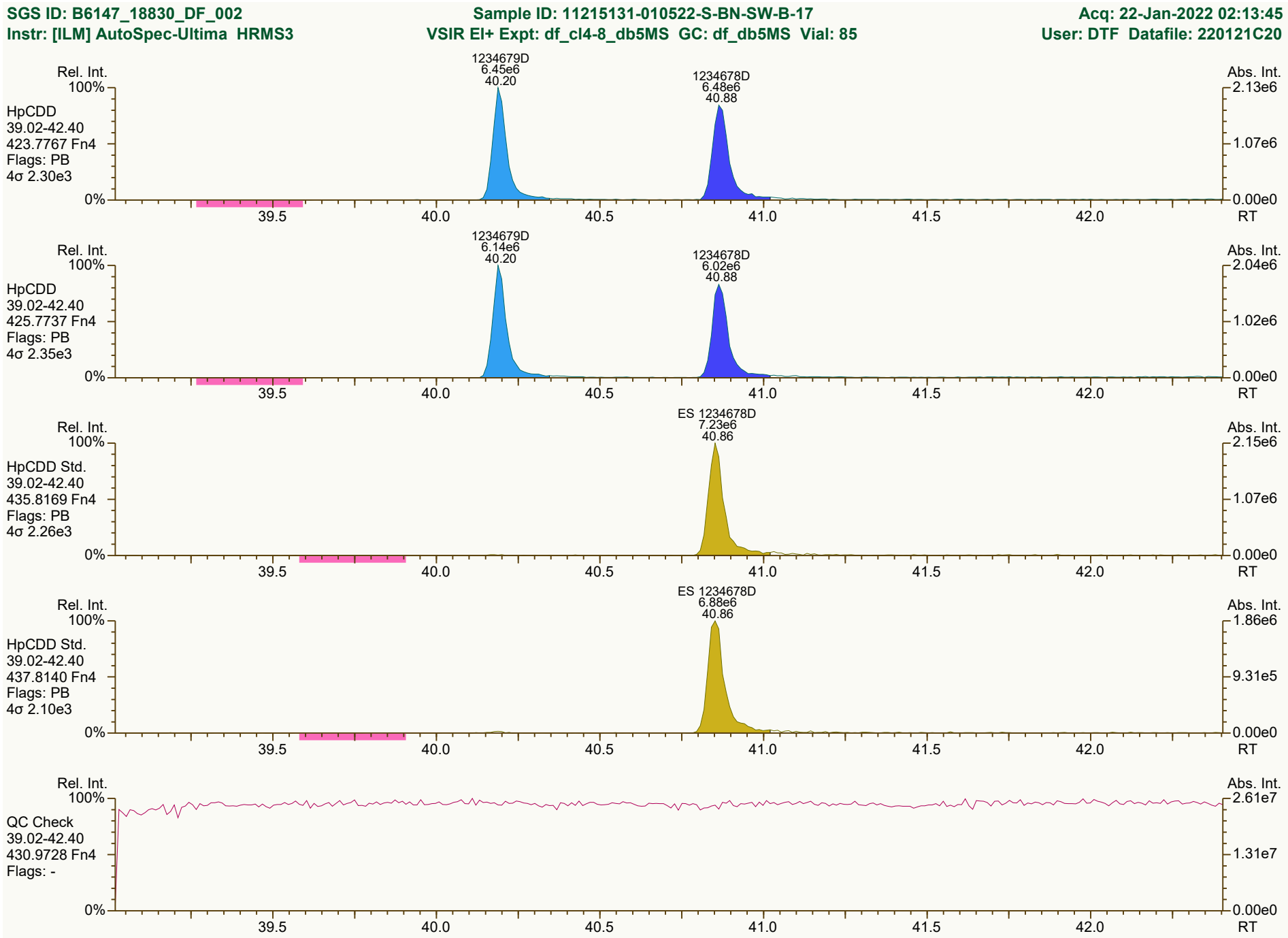
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08		0.9868	0.9867	-0.2	8.68E+05	1.58	Y	1.02	5.74	5823.576	0.352
12347-PeCDF	32.15		0.9895	0.9891	-0.8	9.36E+05	1.66	Y	1.02	6.19	5823.576	0.352
12348-PeCDF	32.31		0.9941	0.9940	-0.2	4.51E+06	1.55	Y	1.02	29.8	5823.576	0.352
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**5.00E+07**	**1.60**	**Y**	**1.02**	**329**	**5823.576**	**0.351**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	1.47E+07	1.55	Y	1.02	97.1	5823.576	0.352
12379-PeCDF	NotFnd		1.0142						1.02		5823.576	0.352
12679-PeCDF	33.37	J EMPC	0.9931	0.9928	-0.6	8.67E+04	1.81	N	1.02	0.573	5823.576	0.352
23467/12369-PeCDF	33.49		0.9966	0.9964	-0.4	5.40E+05	1.45	Y	1.02	3.57	5823.576	0.352
23478-PeCDF	**33.64**		**1.0005**	**1.0007**	**+0.4**	**3.60E+07**	**1.62**	**Y**	**1.02**	**240**	**5823.576**	**0.354**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5823.576	0.352
12349-PeCDF	NotFnd		1.0101						1.02		5823.576	0.352
12389-PeCDF	34.70		1.0322	1.0322	0	1.91E+06	1.55	Y	1.02	12.6	5823.576	0.352
123468-HxCDF	35.46		0.9627	0.9629	+0.4	8.70E+05	1.34	Y	1.19	6.66	6009.829	0.417
124678/134678-HxCDF	35.66		0.9684	0.9683	-0.2	6.43E+06	1.27	Y	1.19	49.3	6009.829	0.417
134679-HxCDF	NotFnd		0.9747						1.19		6009.829	0.417
124679-HxCDF	36.09	J	0.9802	0.9799	-0.6	1.04E+05	1.29	Y	1.19	0.795	6009.829	0.417
124689-HxCDF	36.31		0.9858	0.9858	0	3.32E+06	1.37	Y	1.19	25.4	6009.829	0.417
123467-HxCDF	36.72		0.9972	0.9970	-0.4	3.18E+05	1.26	Y	1.19	2.44	6009.829	0.417
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**7.79E+07**	**1.27**	**Y**	**1.27**	**583**	**6009.829**	**0.381**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**2.17E+07**	**1.29**	**Y**	**1.15**	**150**	**6009.829**	**0.388**
123479-HxCDF	NotFnd		1.0051						1.19		6009.829	0.417
123469-HxCDF	NotFnd		1.0091						1.19		6009.829	0.417
123679-HxCDF	NotFnd		0.9943						1.19		6009.829	0.417
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**3.42E+06**	**1.28**	**Y**	**1.19**	**27.6**	**6009.829**	**0.457**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6009.829	0.417
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6009.829**	**0.452**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0010	+0.7	6.27E+06	1.29	Y	1.19	48	6009.829	0.417
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**2.01E+07**	**1.04**	**Y**	**1.37**	**159**	**4201.579**	**0.228**
1234679-HpCDF	40.20		1.0067	1.0066	-0.2	4.02E+05	1.06	Y	1.34	3.65	4201.579	0.3
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	7.04E+06	0.99	Y	1.34	64	4201.579	0.3
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**6.30E+06**	**1.01**	**Y**	**1.31**	**67.1**	**4201.579**	**0.395**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**6.09E+06**	**0.94**	**Y**	**1.07**	**91.5**	**4056.477**	**0.662**
OCDF-a	43.71	**EMPC**	1.0002	1.0002	0	3.53E+05	2.95	N	0.07	85.6	3213.657	8.47

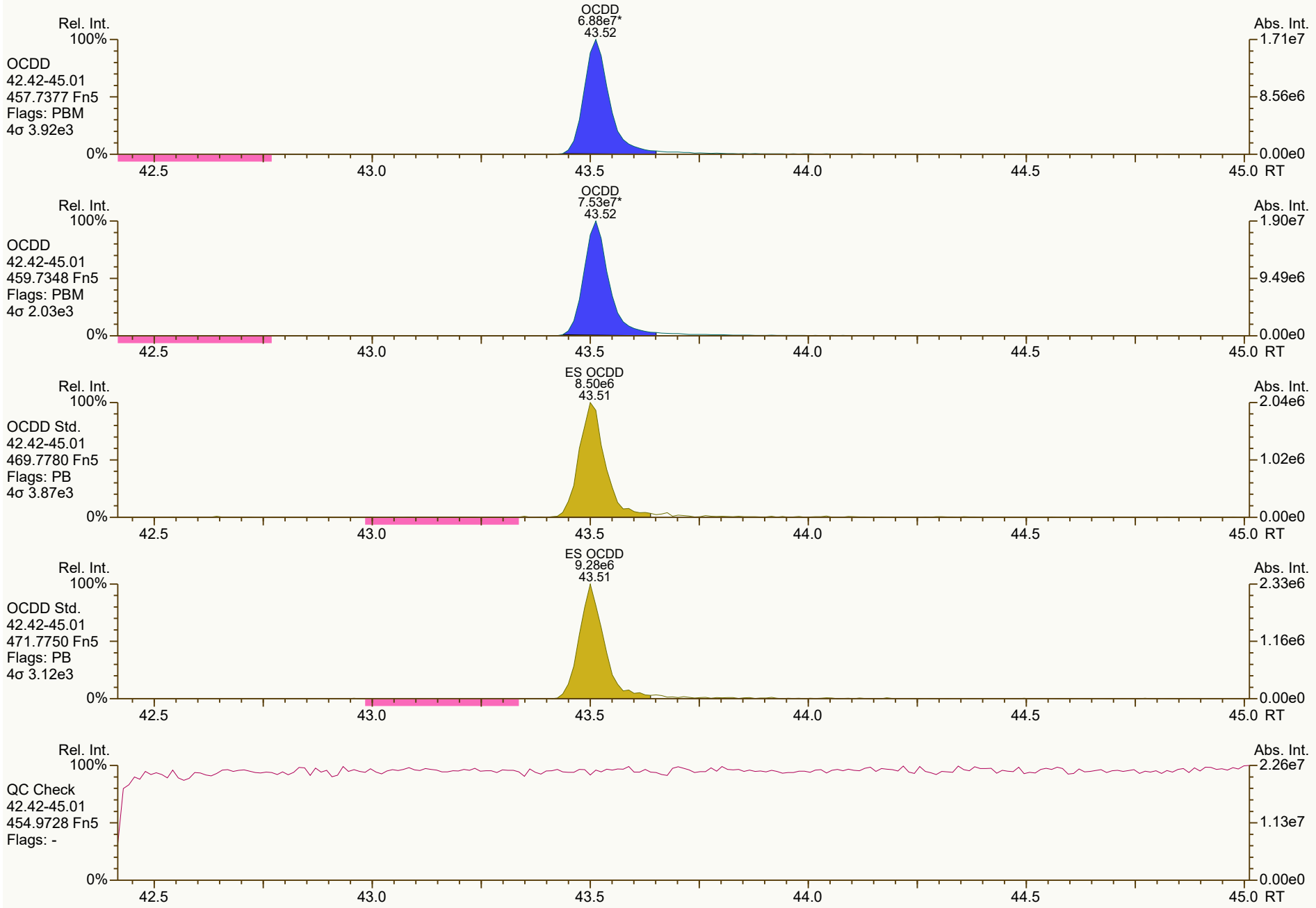

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.39e7
6.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.06e7
5.31e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.55e7
2.28e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.61e7
1.31e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.26e7
1.13e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.70e3
0%
2378D
1.51e8
28.66
1278D
1.36e7
28.99
Abs. Int.
3.71e7
1.85e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.68e3
0%
2378D
1.87e8
28.66
1278D
1.68e7
28.98
Abs. Int.
4.69e7
2.34e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.89e3
0%
CS 37Cl-2378D
9.67e6
28.66
Abs. Int.
2.40e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.34e3
0%
JS 1234D
8.37e6
27.99
ES 2378D
8.47e6
28.64
Abs. Int.
2.00e6
9.98e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.23e3
0%
JS 1234D
1.11e7
27.99
ES 2378D
1.06e7
28.64
Abs. Int.
2.68e6
1.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.97e3
0%
12479/12468D
1.37e5
31.47
12469D
1.86e5
32.00
12368D
2.22e5
32.55
12478D
9.73e4
32.74
12378D
1.64e6*
33.96
12367D
6.59e4*
34.06
Abs. Int.
4.84e5
2.42e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 2.26e3
0%
12479/12468D
1.00e5
31.48
12469D
1.37e5
32.00
12368D
1.20e5
32.54
12478D
5.40e4
32.74
12378D
1.02e6*
33.96
12367D
2.98e4*
34.06
Abs. Int.
2.78e5
1.39e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 3.11e3
0%
CS 12347D
9.89e6
33.44
ES 12378D
1.06e7
33.94
Abs. Int.
2.91e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 2.88e3
0%
CS 12347D
6.44e6
33.44
ES 12378D
6.76e6
33.94
Abs. Int.
1.84e6
9.21e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.06e7
5.31e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

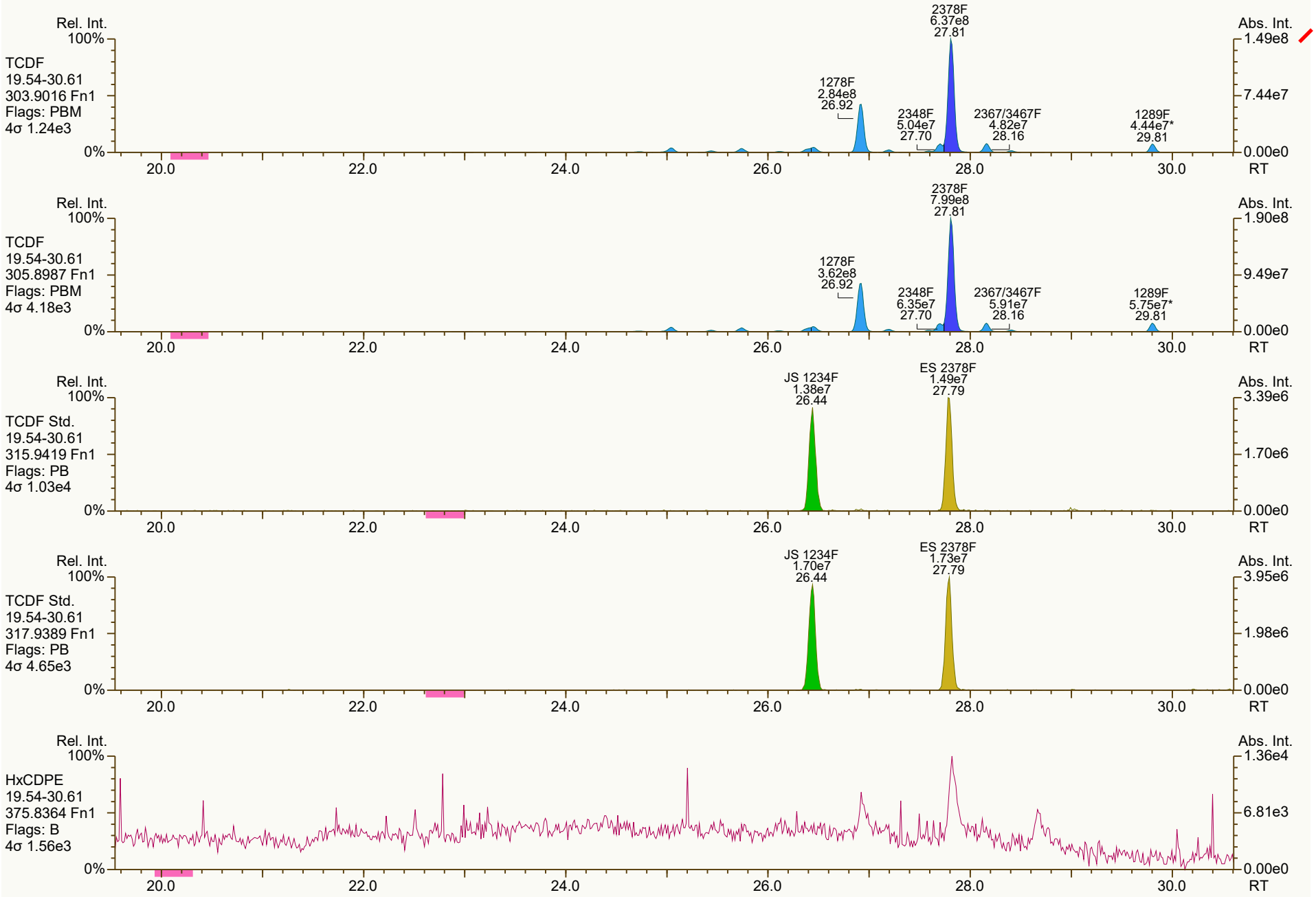

SGS ID: B6147_18830_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-17
Acq: 22-Jan-2022 02:13:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: DTF Datafile: 220121C20
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.50e3
124679/124689D
1.61e6
36.10
123468D
1.15e5
36.76
123679/123689D
7.19e5*
37.06
123678D
2.51e5
37.97
123789D
1.64e5*
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.84e3
124679/124689D
1.25e6
36.10
123679/123689D
6.22e5*
37.06
123478D
5.83e4*
37.85
123678D
2.30e5
37.97
123789D
1.19e5*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 3.64e3
ES 123478D
8.31e6
37.84
ES 123678D
9.31e6
37.95
JS 123467D
4.47e6
38.14
ES 123789D
1.02e7
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.49e3
ES 123478D
6.58e6
37.83
ES 123678D
7.19e6
37.95
JS 123467D
3.62e6
38.14
ES 123789D
7.92e6
38.24
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
4.89e5
2.45e5
0.00e0
3.62e5
1.81e5
2.69e6
1.35e6
2.09e6
1.05e6
4.55e7
2.28e7
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_002.utp_res, saved 24-Jan-2022 12:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7333, 6330 scc: 182-421
PKD: 24-Jan-2022 12:03 Printed: 24-Jan-2022 12:47 Page 4 of 12


SGS ID: B6147_18830_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-17
Acq: 22-Jan-2022 02:13:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: DTF Datafile: 220121C20
Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.30e3
1234679D
6.45e6
40.20
1234678D
6.48e6
40.88
Abs. Int.
2.13e6
1.07e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.35e3
1234679D
6.14e6
40.20
1234678D
6.02e6
40.88
Abs. Int.
2.04e6
1.02e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.26e3
ES 1234678D
7.23e6
40.86
Abs. Int.
2.15e6
1.07e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.10e3
ES 1234678D
6.88e6
40.86
Abs. Int.
1.86e6
9.31e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.61e7
1.31e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_002.utp_res, saved 24-Jan-2022 12:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2470, 2016 scc: 182-421
PKD: 24-Jan-2022 12:03 Printed: 24-Jan-2022 12:47 Page 5 of 12


OCDD
6.88e7*
43.52
Rel. Int.
100%
Abs. Int.
1.71e7
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 3.92e3
8.56e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.53e7*
43.52
Rel. Int.
100%
Abs. Int.
1.90e7
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.03e3
9.49e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.50e6
43.51
Rel. Int.
100%
Abs. Int.
2.04e6
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 3.87e3
1.02e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.28e6
43.51
Rel. Int.
100%
Abs. Int.
2.33e6
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 3.12e3
1.16e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
2.26e7
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.13e7
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6147_18830_DF_002 | Sample ID: 11215131-010522-S-BN-SW-B-17 | Acq: 22-Jan-2022 02:13:45

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: DTF Datafile: 220121C20



Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_002.utp_res, saved 24-Jan-2022 12:03 (PSW)

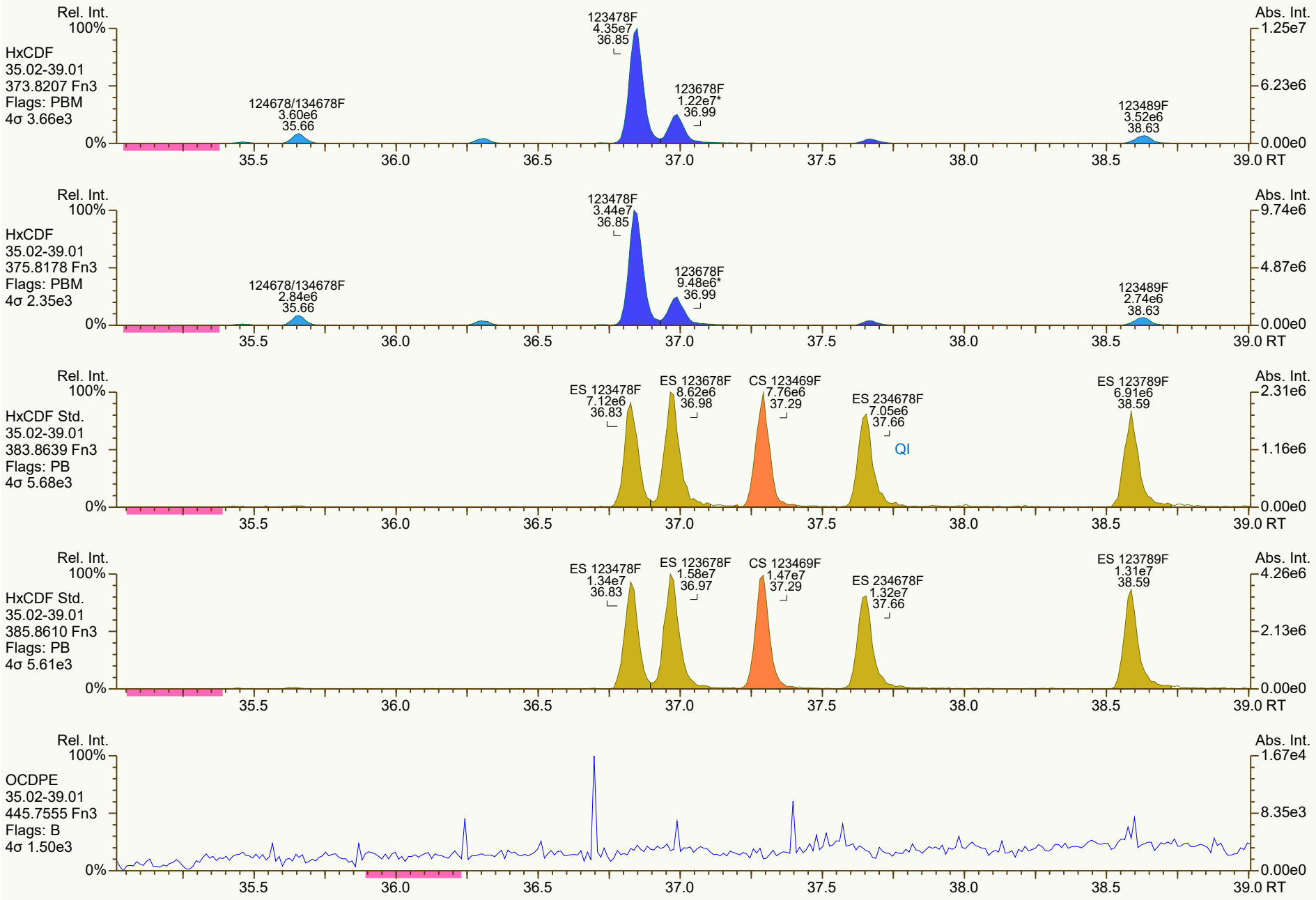
Peak annotation: Areas, Centroids

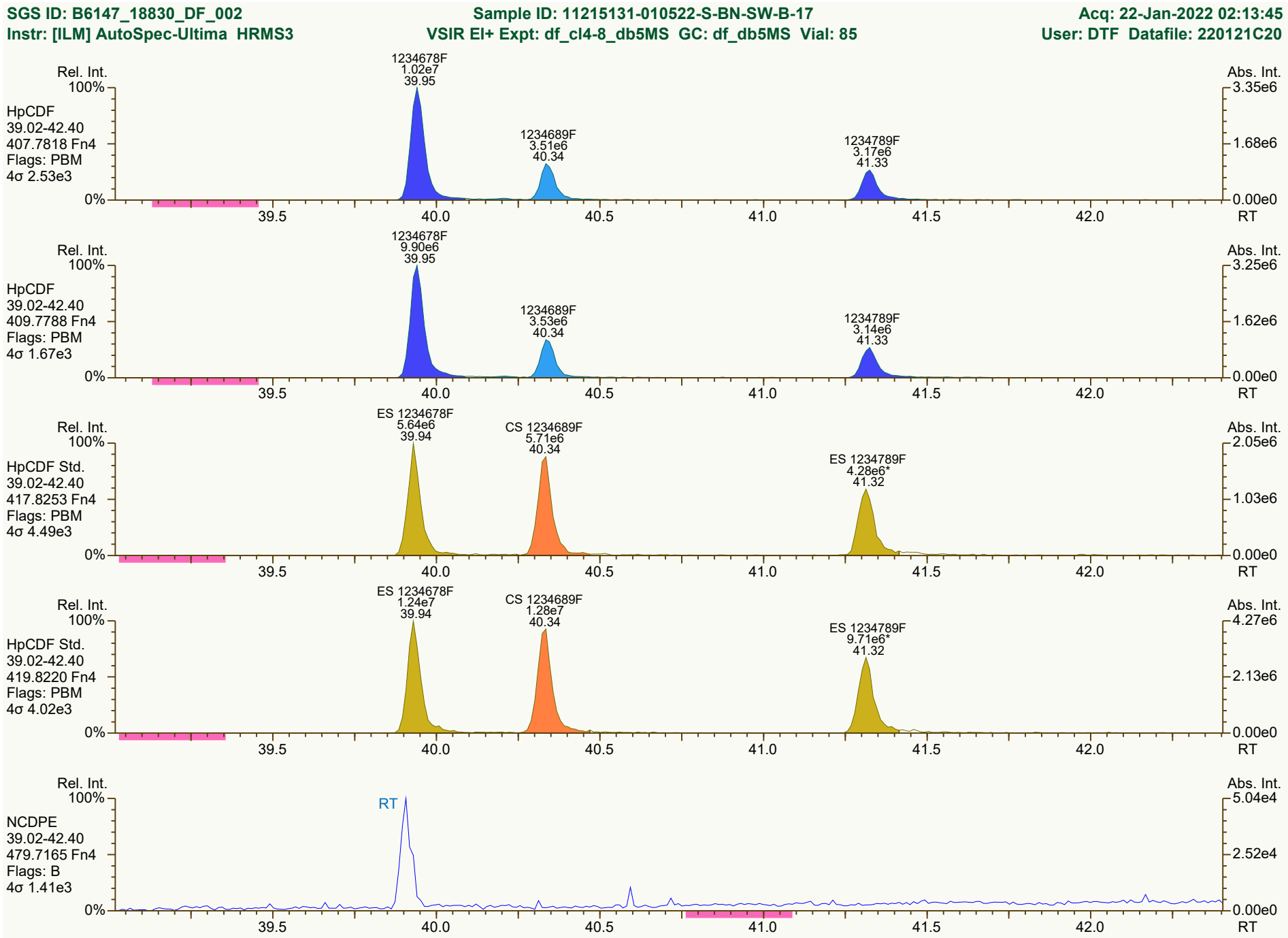
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1759, 2392, 8780 scc: 182-421

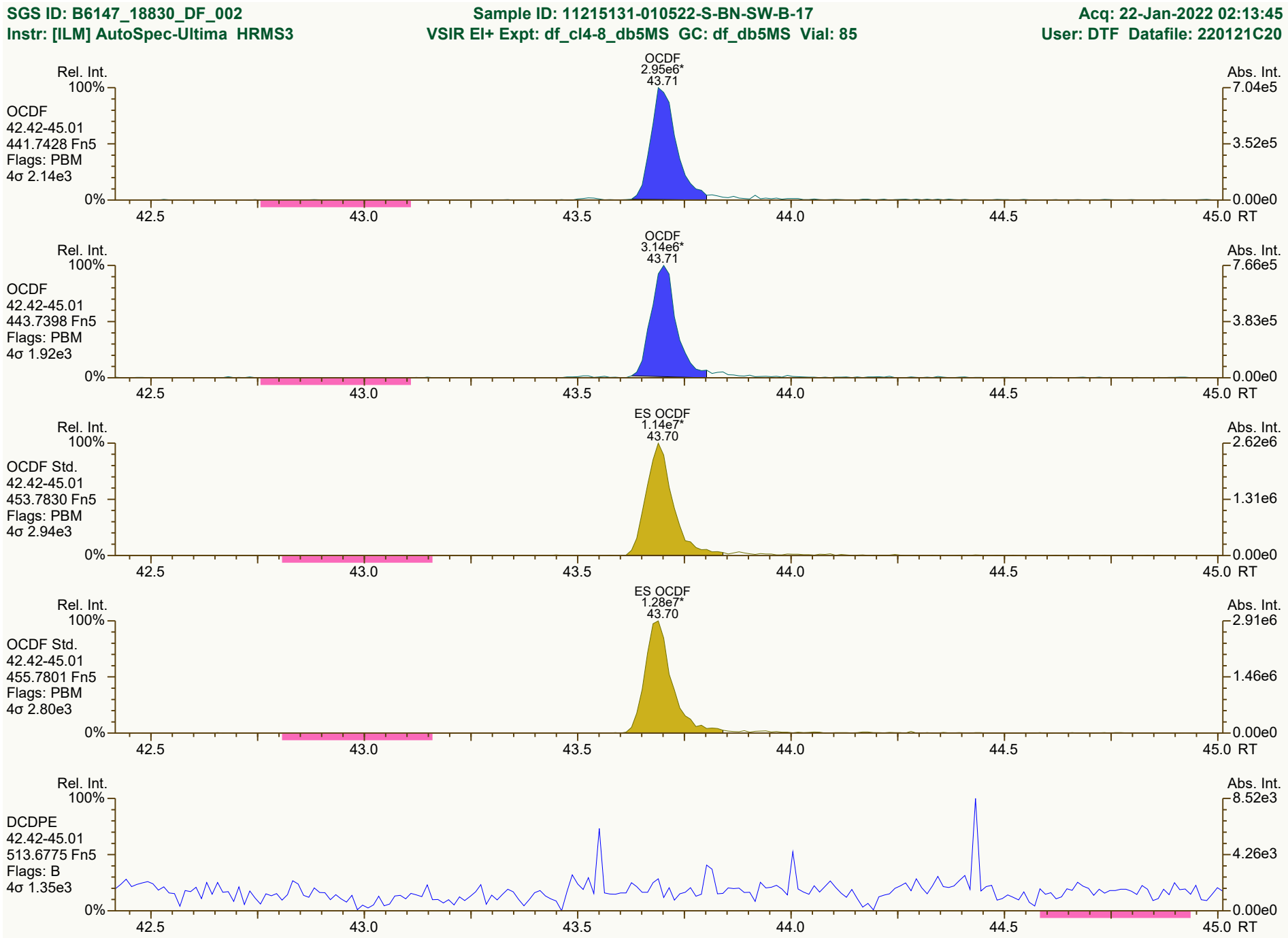
PKD: 24-Jan-2022 12:03 Printed: 24-Jan-2022 12:47 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.70e3
13468/12468F
4.77e5*
29.74
Abs. Int.
1.47e5
7.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 2.34e3
13468/12468F
2.96e5*
29.74
Abs. Int.
9.11e4
4.56e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.39e7
6.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6147_18830_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-17
Acq: 22-Jan-2022 02:13:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: DTF Datafile: 220121C20
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 2.99e3
12368F...[3]
1.22e7*
31.43
12348F
2.74e6
32.31
12378F
3.08e7
32.52
12678/12367F
8.93e6
32.81
23478F
2.22e7
33.64
8.42e6
4.21e6
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.83e3
12368F...[3]
8.10e6*
31.43
12348F
1.77e6
32.31
12378F
1.93e7
32.52
12678/12367F
5.75e6
32.81
23478F
1.38e7
33.64
4.99e6
2.50e6
0.00e0
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 3.52e3
CS 12346F
1.67e7
31.98
ES 12378F
1.76e7
32.51
ES 23478F
1.77e7
33.61
4.85e6
2.43e6
0.00e0
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 4.13e3
CS 12346F
1.07e7
31.98
ES 12378F
1.14e7
32.51
ES 23478F
1.10e7
33.61
3.21e6
1.61e6
0.00e0
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.56e3
1.08e4
5.41e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_002.utp_res, saved 24-Jan-2022 12:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6224, 3769, 2400 scc: 182-421
PKD: 24-Jan-2022 12:03 Printed: 24-Jan-2022 12:47 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.66e3
0%
123478F
4.35e7
36.85
123678F
1.22e7*
36.99
124678/134678F
3.60e6
35.66
123489F
3.52e6
38.63
Abs. Int.
1.25e7
6.23e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.35e3
0%
123478F
3.44e7
36.85
123678F
9.48e6*
36.99
124678/134678F
2.84e6
35.66
123489F
2.74e6
38.63
Abs. Int.
9.74e6
4.87e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 5.68e3
0%
ES 123478F
7.12e6
36.83
ES 123678F
8.62e6
36.98
CS 123469F
7.76e6
37.29
ES 234678F
7.05e6
37.66
QI
ES 123789F
6.91e6
38.59
Abs. Int.
2.31e6
1.16e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 5.61e3
0%
ES 123478F
1.34e7
36.83
ES 123678F
1.58e7
36.97
CS 123469F
1.47e7
37.29
ES 234678F
1.32e7
37.66
ES 123789F
1.31e7
38.59
Abs. Int.
4.26e6
2.13e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.67e4
8.35e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6147_18830_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-17
Acq: 22-Jan-2022 02:13:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: DTF Datafile: 220121C20
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.53e3
1234678F
1.02e7
39.95
1234689F
3.51e6
40.34
1234789F
3.17e6
41.33
3.35e6
1.68e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.67e3
1234678F
9.90e6
39.95
1234689F
3.53e6
40.34
1234789F
3.14e6
41.33
3.25e6
1.62e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 4.49e3
ES 1234678F
5.64e6
39.94
CS 1234689F
5.71e6
40.34
ES 1234789F
4.28e6*
41.32
2.05e6
1.03e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 4.02e3
ES 1234678F
1.24e7
39.94
CS 1234689F
1.28e7
40.34
ES 1234789F
9.71e6*
41.32
4.27e6
2.13e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
RT
5.04e4
2.52e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_002.utp_res, saved 24-Jan-2022 12:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3339, 1060, 0323 scc: 182-421
PKD: 24-Jan-2022 12:03 Printed: 24-Jan-2022 12:48 Page 11 of 12


SGS ID: B6147_18830_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-17
Acq: 22-Jan-2022 02:13:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: DTF Datafile: 220121C20
OCDF
2.95e6*
43.71
Rel. Int.
100%
Abs. Int.
7.04e5
3.52e5
0.00e0
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.14e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.14e6*
43.71
Rel. Int.
100%
Abs. Int.
7.66e5
3.83e5
0.00e0
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.92e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.14e7*
43.70
Rel. Int.
100%
Abs. Int.
2.62e6
1.31e6
0.00e0
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.94e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e7*
43.70
Rel. Int.
100%
Abs. Int.
2.91e6
1.46e6
0.00e0
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.80e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
8.52e3
4.26e3
0.00e0
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.35e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_002.utp_res, saved 24-Jan-2022 12:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6582, 8971, 0703 scc: 182-421
PKD: 24-Jan-2022 12:03 Printed: 24-Jan-2022 12:48 Page 12 of 12

Lab ID: B6147_18830_DF_003 **Acq'd:** 22 Jan 2022 03:00 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-O-12 **UTP:** 24-Jan-2022 12:30:25 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 570-242-LFT

Datafile: 220121C21 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0008	0	1.55E+07	0.81	Y	1.18	145	5568.023	0.518
12378-PeCDD	33.94		1.0006	1.0005	-0.2	2.25E+05	1.43	Y	1.04	2.48	3157.977	0.319
123478-HxCDD	37.84	J EMPC	1.0004	1.0004	0	1.66E+05	1.62	N	1.09	1.97	9066.802	0.916
123678-HxCDD	37.95		1.0034	1.0035	+0.2	6.17E+05	1.25	Y	1.15	6.3	9066.802	0.901
123789-HxCDD	38.24		1.0109	1.0110	+0.2	4.10E+05	1.21	Y	1.05	4.05	9066.802	0.909
1234678-HpCDD	40.86		1.0003	1.0002	-0.2	1.90E+07	1.05	Y	1.06	232	5013.204	0.511
OCDD	43.52	E	1.0002	1.0003	+0.3	6.44E+08	0.91	Y	1.13	10,000	4178.4	0.661
2378-TCDF	27.79		1.0008	1.0008	0	6.71E+07	0.78	Y	1.08	424	6283.63	0.439
12378-PeCDF	32.50		1.0005	1.0005	0	3.96E+06	1.50	Y	1.02	27.4	5307.477	0.342
23478-PeCDF	33.61		1.0005	1.0006	+0.2	2.82E+06	1.63	Y	1.02	19.6	5307.477	0.321
123478-HxCDF	36.83		1.0004	1.0005	+0.2	7.90E+06	1.27	Y	1.27	58.1	4247.791	0.293
123678-HxCDF	36.98		1.0004	1.0004	0	2.50E+06	1.26	Y	1.15	16.7	4247.791	0.273
234678-HxCDF	37.66		1.0004	1.0005	+0.2	6.19E+05	1.23	Y	1.19	5.13	4247.791	0.328
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4247.791	0.339
1234678-HpCDF	39.93		1.0002	1.0002	0	5.56E+06	1.05	Y	1.37	44.1	3001.598	0.194
1234789-HpCDF	41.32		1.0003	1.0003	0	9.49E+05	0.99	Y	1.31	9.57	3001.598	0.26
OCDF	43.70		1.0002	1.0003	+0.3	1.01E+07	0.92	Y	1.07	127	4091.472	0.553

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0236	+0.5	1.78E+07	0.79	Y	1.05	88.6
ES 12378-PeCDD	33.93	1.2121	1.2135	+2.8	1.73E+07	1.63	Y	0.88	102
ES 123478-HxCDD	37.82	0.9921	0.9921	0	1.52E+07	1.22	Y	0.97	92.7
ES 123678-HxCDD	37.94	0.9951	0.9951	0	1.68E+07	1.32	Y	0.94	106
ES 123789-HxCDD	38.23	1.0025	1.0028	+0.7	1.91E+07	1.28	Y	1.09	104
ES 1234678-HpCDD	40.85	1.0709	1.0716	+1.7	1.53E+07	1.07	Y	0.91	99
ES OCDD	43.50	1.1403	1.1412	+2.3	2.26E+07	0.89	Y	0.62	107
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	2.90E+07	0.79	Y	1.06	86.3
ES 12378-PeCDF	32.49	1.2281	1.2298	+3.3	2.79E+07	1.52	Y	0.91	96.7
ES 23478-PeCDF	33.59	1.2698	1.2717	+3.8	2.79E+07	1.59	Y	0.88	99.7
ES 123478-HxCDF	36.81	0.9657	0.9657	0	2.11E+07	0.53	Y	1.20	104
ES 123678-HxCDF	36.96	0.9695	0.9695	0	2.57E+07	0.52	Y	1.35	112
ES 234678-HxCDF	37.64	0.9874	0.9873	-0.2	2.01E+07	0.55	Y	1.24	95.7
ES 123789-HxCDF	38.58	1.0116	1.0120	+0.9	2.00E+07	0.54	Y	1.16	103
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.82E+07	0.47	Y	0.97	111
ES 1234789-HpCDF	41.31	1.0830	1.0836	+1.5	1.50E+07	0.44	Y	0.85	104
ES OCDF	43.69	1.1451	1.1461	+2.6	2.95E+07	0.93	Y	0.81	108

Lab ID: B6147_18830_DF_003 | Acq'd: 22 Jan 2022 03:00 DTF | Wt/Vol: 10.12 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-O-12 | UTP: 24-Jan-2022 12:30:25 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 570-242-LFT

Datafile: 220121C21 | Report: 24 Jan 2022 12:44 gd | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.92E+07	0.78	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.17E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.12		-	-	-	8.44E+06	1.22	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	8.24E+06	n/a	-	1.20	89.4	
CS 12347-PeCDD	33.42		1.1943	1.1956	+2.6	1.64E+07	1.66	Y	0.75	114	
CS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	2.83E+07	1.52	Y	0.85	105	
CS 123469-HxCDF	37.28		0.9778	0.9778	0	2.35E+07	0.51	Y	1.12	124	
CS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.91E+07	0.45	Y	0.89	128	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.24E+06~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.42~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.64E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~111~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~2.83E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~100~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.35E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.91E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~114~~	

Totals	Conc	EMPC
Total TCDD	162	167
Total PeCDD	10.2	12.1
Total HxCDD	61.9	69.9
Total HpCDD	602	602
Total Tetra-Octa Dioxins	10900	10900
Total TCDF	898	900
Total PeCDF	83.3	85.8
Total HxCDF	119	123
Total HpCDF	119	119
Total Tetra-Octa Furans	1,350	1350
Total Tetra-Octa Dioxins & Furans	12200	12200

Lab ID: B6147_18830_DF_003 **Acq'd: 22 Jan 2022 03:00 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-O-12 **UTP: 24-Jan-2022 12:30:25 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 570-242-LFT**

Datafile: 220121C21 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.03	EMPC	0.8755	0.8746	-1.4	1.24E+05	1.05	N	1.18	1.16	5568.023	0.518
1379-TCDD	NotFnd		0.8876						1.18		5568.023	0.518
1369-TCDD	NotFnd		0.9023						1.18		5568.023	0.518
1469-TCDD	26.57	EMPC	0.9291	0.9285	-1.0	1.98E+05	0.93	N	1.18	1.86	5568.023	0.518
1247/1246/1248/1249-TCDD	26.81	EMPC	0.9373	0.9368	-0.8	5.35E+04	0.95	N	1.18	0.501	5568.023	0.518
1378-TCDD	27.01	EMPC	0.9440	0.9437	-0.5	7.92E+04	0.60	N	1.18	0.743	5568.023	0.518
1268-TCDD	NotFnd		0.9506						1.18		5568.023	0.518
1478-TCDD	NotFnd		0.9591						1.18		5568.023	0.518
1279-TCDD	NotFnd		0.9649						1.18		5568.023	0.518
1234/1269-TCDD	27.95	J EMPC	0.9771	0.9768	-0.5	3.57E+04	1.26	N	1.18	0.335	5568.023	0.518
1236-TCDD	NotFnd		0.9820						1.18		5568.023	0.518
1237/1238-TCDD	28.34		0.9908	0.9902	-1.0	2.48E+05	0.81	Y	1.18	2.32	5568.023	0.518
1239-TCDD	NotFnd		0.9954						1.18		5568.023	0.518
2378-TCDD	**28.64**		**1.0008**	1.0008	**0**	1.55E+07	0.81	Y	**1.18**	**145**	**5568.023**	**0.518**
1278-TCDD	28.96		1.0121	1.0121	0	1.54E+06	0.80	Y	1.18	14.5	5568.023	0.518
1267-TCDD	NotFnd		1.0167						1.18		5568.023	0.518
1289-TCDD	NotFnd		1.0341						1.18		5568.023	0.518
12479/12468-PeCDD	31.45	J	0.9273	0.9270	-0.6	2.20E+05	1.44	Y	1.04	2.43	3157.977	0.319
12469-PeCDD	31.98	J	0.9430	0.9426	-0.8	2.03E+05	1.77	Y	1.04	2.25	3157.977	0.319
12368-PeCDD	32.54	J	0.9592	0.9591	-0.2	1.02E+05	1.74	Y	1.04	1.13	3157.977	0.319
12478-PeCDD	32.72	J EMPC	0.9647	0.9645	-0.4	8.22E+04	0.95	N	1.04	0.908	3157.977	0.319
12379-PeCDD	32.82	J EMPC	0.9676	0.9673	-0.6	7.00E+04	1.27	N	1.04	0.773	3157.977	0.319
12369/12467/12489-PeCDD	33.08	J	0.9752	0.9749	-0.6	1.31E+05	1.65	Y	1.04	1.44	3157.977	0.319
12346/12347-PeCDD	33.44	J EMPC	0.9860	0.9857	-0.6	2.77E+04	2.17	N	1.04	0.306	3157.977	0.319
12378-PeCDD	33.94		**1.0006**	**1.0005**	**-0.2**	**2.25E+05**	**1.43**	**Y**	**1.04**	**2.48**	**3157.977**	**0.319**
12367-PeCDD	34.02	J	1.0034	1.0029	-1.0	3.79E+04	1.76	Y	1.04	0.418	3157.977	0.319
12389-PeCDD	NotFnd		1.0134						1.04		3157.977	0.319
124679/124689-HxCDD	36.09		0.9545	0.9542	-0.6	2.59E+06	1.22	Y	1.10	27.4	9066.802	0.906
123468-HxCDD	36.74	EMPC	0.9715	0.9715	0	4.28E+05	1.48	N	1.10	4.52	9066.802	0.906
123679/123689-HxCDD	37.04		0.9793	0.9793	0	1.93E+06	1.32	Y	1.10	20.4	9066.802	0.906
123469-HxCDD	37.17		0.9829	0.9828	-0.2	3.49E+05	1.17	Y	1.10	3.69	9066.802	0.906
123478-HxCDD	37.84	J EMPC	**1.0004**	**1.0004**	**0**	**1.66E+05**	**1.62**	**N**	1.09	**1.97**	**9066.802**	**0.916**
123678-HxCDD	37.95		**1.0034**	**1.0035**	**+0.2**	**6.17E+05**	**1.25**	**Y**	1.15	**6.3**	**9066.802**	**0.901**
123467-HxCDD	38.14	J EMPC	1.0082	1.0084	+0.5	1.45E+05	1.01	N	1.10	1.53	9066.802	0.906
123789-HxCDD	38.24		**1.0109**	**1.0110**	**+0.2**	**4.10E+05**	**1.21**	**Y**	1.05	**4.05**	**9066.802**	**0.909**

Lab ID: B6147_18830_DF_003 **Acq'd:** 22 Jan 2022 03:00 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-O-12 **UTP:** 24-Jan-2022 12:30:25 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 570-242-LFT

Datafile: 220121C21 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

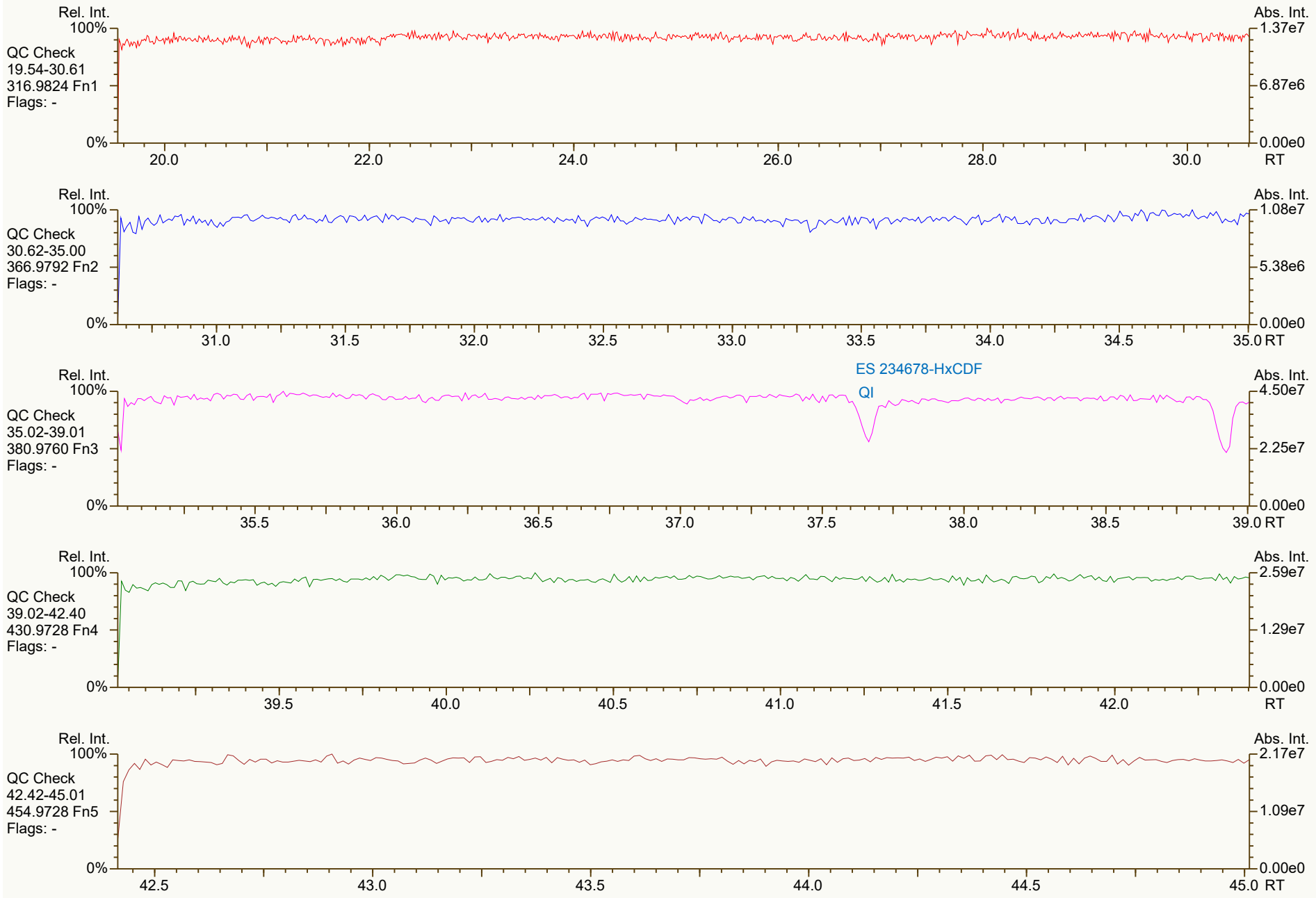
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	3.03E+07	1.04	Y	1.06	370	5013.204	0.511
1234678-HpCDD	**40.86**		**1.0003**	**1.0002**	**-0.2**	**1.90E+07**	**1.05**	**Y**	**1.06**	**232**	**5013.204**	**0.511**
OCDD	**43.52**	**E**	**1.0002**	**1.0003**	**+0.3**	**6.44E+08**	**0.91**	**Y**	**1.13**	**10,000**	**4178.4**	**0.661**
OCDD-a	43.51		1.0002	1.0002	0	3.95E+07	2.40	Y	0.07	9,600	4305.515	10.7
1368-TCDF	22.94	EMPC	0.8282	0.8262	-2.8	1.08E+05	1.02	N	1.08	0.681	6283.63	0.439
1468-TCDF	23.52		0.8485	0.8472	-1.8	3.28E+05	0.79	Y	1.08	2.07	6283.63	0.439
2468-TCDF	24.14		0.8709	0.8696	-1.9	4.10E+05	0.75	Y	1.08	2.59	6283.63	0.439
1346/1246-TCDF	24.54		0.8829	0.8837	+1.2	9.81E+04	0.79	Y	1.08	0.62	6283.63	0.439
1347/1378/1247-TCDF	24.67		0.8884	0.8884	0	1.22E+06	0.85	Y	1.08	7.69	6283.63	0.439
1348-TCDF	24.91		0.8980	0.8970	-1.5	2.85E+05	0.71	Y	1.08	1.8	6283.63	0.439
1248/1367/1379-TCDF	25.00		0.9026	0.9005	-3.2	3.25E+06	0.79	Y	1.08	20.6	6283.63	0.439
1268-TCDF	25.41		0.9158	0.9152	-0.9	1.23E+06	0.83	Y	1.08	7.79	6283.63	0.439
1467-TCDF	25.55		0.9206	0.9201	-0.8	2.85E+05	0.69	Y	1.08	1.8	6283.63	0.439
1478-TCDF	25.71		0.9266	0.9261	-0.8	3.10E+06	0.80	Y	1.08	19.6	6283.63	0.439
1369/1237-TCDF	26.09		0.9397	0.9397	0	1.04E+06	0.79	Y	1.08	6.59	6283.63	0.439
2467-TCDF	26.21		0.9440	0.9439	-0.2	1.72E+05	0.88	Y	1.08	1.09	6283.63	0.439
2368-TCDF	26.37		0.9497	0.9496	-0.2	3.00E+06	0.80	Y	1.08	19	6283.63	0.439
1238/1234/1678/1469/1236-TCDF	26.44		0.9528	0.9524	-0.6	4.42E+06	0.80	Y	1.08	28	6283.63	0.439
1278-TCDF	26.90		0.9690	0.9687	-0.5	3.00E+07	0.81	Y	1.08	190	6283.63	0.439
1349-TCDF	NotFnd		0.9730						1.08		6283.63	0.439
1267-TCDF	27.17		0.9787	0.9785	-0.3	2.04E+06	0.83	Y	1.08	12.9	6283.63	0.439
2346/1249-TCDF	27.37		0.9850	0.9858	+1.3	3.78E+05	0.79	Y	1.08	2.39	6283.63	0.439
2347/1279-TCDF	27.56		0.9929	0.9926	-0.5	1.00E+06	0.67	Y	1.08	6.32	6283.63	0.439
2348-TCDF	27.68		0.9970	0.9968	-0.3	5.50E+06	0.76	Y	1.08	34.8	6283.63	0.439
2378-TCDF	**27.79**		**1.0008**	**1.0008**	**0**	**6.71E+07**	**0.78**	**Y**	**1.08**	**424**	**6283.63**	**0.439**
2367/3467-TCDF	28.14		1.0136	1.0134	-0.3	6.59E+06	0.75	Y	1.08	41.6	6283.63	0.439
1269-TCDF	28.38		1.0221	1.0223	+0.3	2.76E+06	0.79	Y	1.08	17.5	6283.63	0.439
1239-TCDF	28.65	EMPC	1.0319	1.0319	0	1.93E+05	1.03	N	1.08	1.22	6283.63	0.439
1289-TCDF	29.78		1.0740	1.0725	-2.7	7.87E+06	0.83	Y	1.08	49.7	6283.63	0.439
13468/12468-PeCDF	29.71		0.9145	0.9144	-0.2	6.59E+05	1.34	Y	1.02	4.57	4204.926	0.263
13678/13467/12467-PeCDF	31.25	J EMPC	0.9619	0.9618	-0.2	2.42E+05	1.82	N	1.02	1.68	5307.477	0.332
12368/13478/12478-PeCDF	31.40		0.9665	0.9666	+0.2	2.13E+06	1.58	Y	1.02	14.8	5307.477	0.332
14678-PeCDF	31.48	J	0.9695	0.9690	-0.9	1.95E+05	1.77	Y	1.02	1.35	5307.477	0.332
13479-PeCDF	NotFnd		0.9724						1.02		5307.477	0.332
13469/12479-PeCDF	NotFnd		0.9801						1.02		5307.477	0.332
12346-PeCDF	31.98	J	0.9842	0.9843	+0.2	6.02E+04	1.65	Y	1.02	0.418	5307.477	0.332

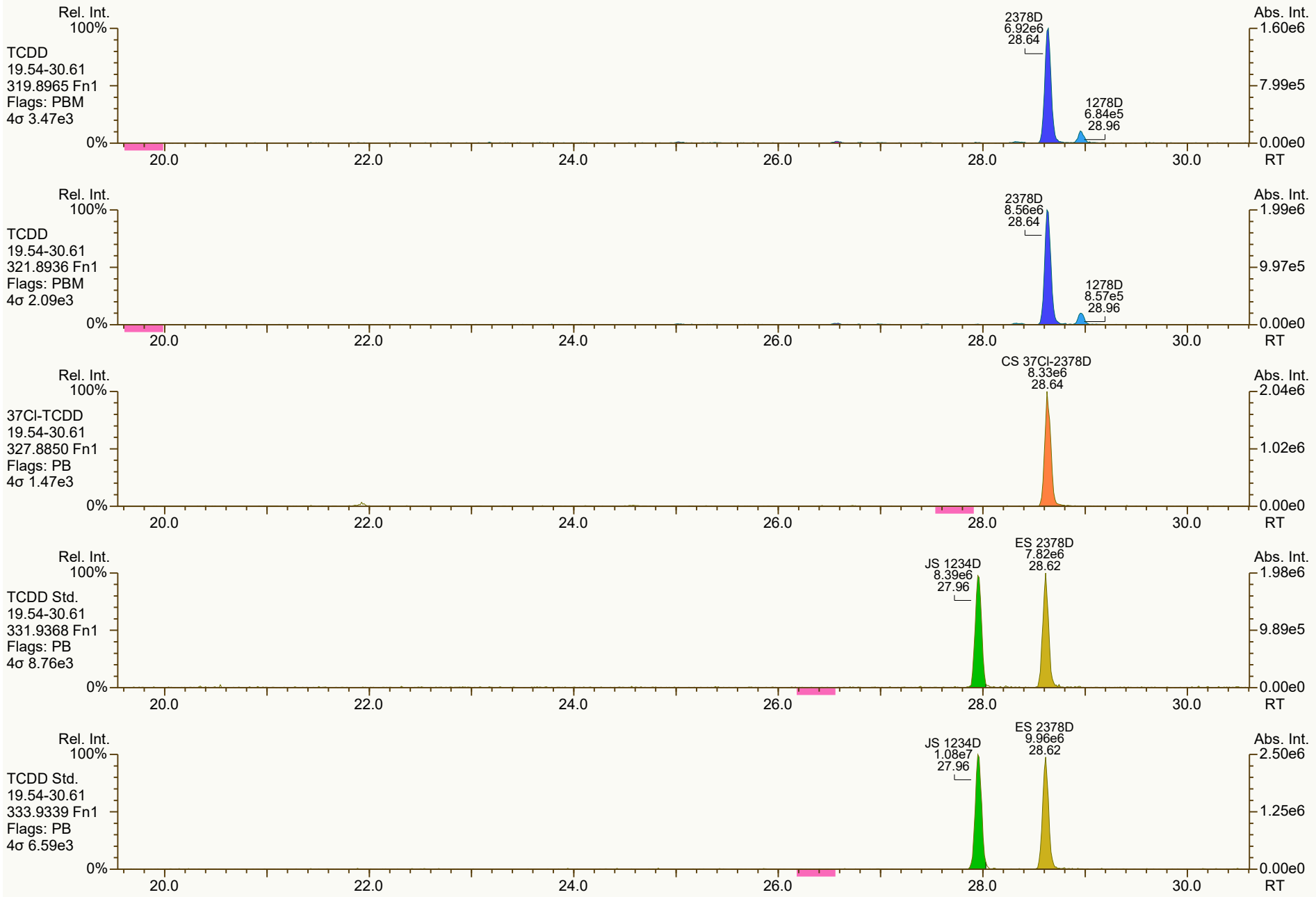
Lab ID: B6147_18830_DF_003 **Acq'd: 22 Jan 2022 03:00 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

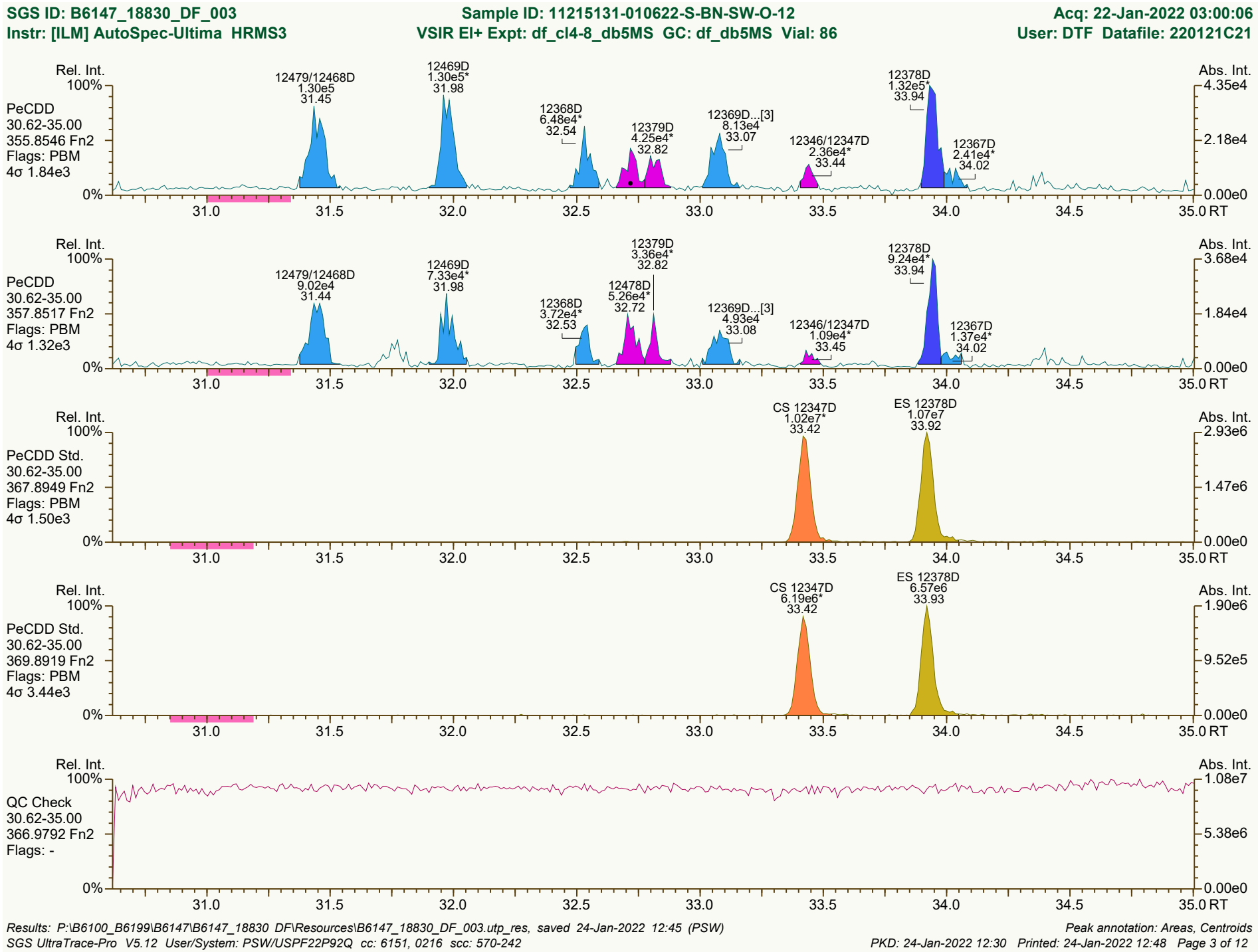
Client ID: 11215131-010622-S-BN-SW-O-12 **UTP: 24-Jan-2022 12:30:25 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 570-242-LFT**

Datafile: 220121C21 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

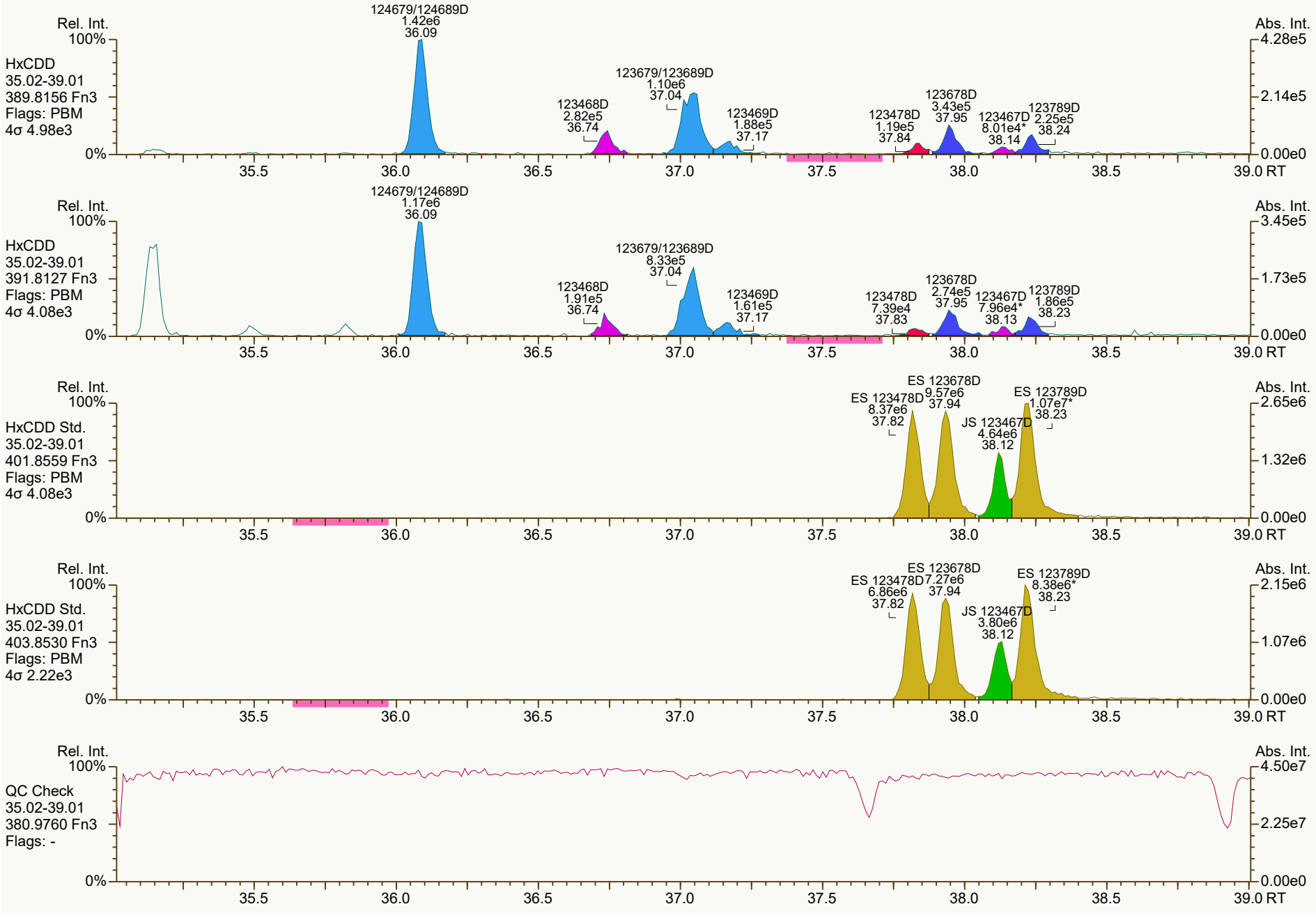
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06	J	0.9868	0.9870	+0.4	2.77E+05	1.63	Y	1.02	1.92	5307.477	0.332
12347-PeCDF	32.14	J	0.9895	0.9893	-0.4	1.37E+05	1.71	Y	1.02	0.952	5307.477	0.332
12348-PeCDF	32.29		0.9941	0.9939	-0.4	3.68E+05	1.45	Y	1.02	2.55	5307.477	0.332
12378-PeCDF	**32.50**		**1.0005**	**1.0005**	**0**	**3.96E+06**	**1.50**	**Y**	**1.02**	**27.4**	**5307.477**	**0.342**
12678/12367-PeCDF	32.79		1.0090	1.0093	+0.6	1.25E+06	1.54	Y	1.02	8.67	5307.477	0.332
12379-PeCDF	NotFnd		1.0142						1.02		5307.477	0.332
12679-PeCDF	NotFnd		0.9931						1.02		5307.477	0.332
23467/12369-PeCDF	33.48	J	0.9966	0.9967	+0.2	1.61E+05	1.55	Y	1.02	1.12	5307.477	0.332
23478-PeCDF	**33.61**		**1.0005**	**1.0006**	**+0.2**	**2.82E+06**	**1.63**	**Y**	**1.02**	**19.6**	**5307.477**	**0.321**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5307.477	0.332
12349-PeCDF	NotFnd		1.0101						1.02		5307.477	0.332
12389-PeCDF	34.68	J EMPC	1.0322	1.0324	+0.4	1.18E+05	2.35	N	1.02	0.821	5307.477	0.332
123468-HxCDF	35.45	EMPC	0.9627	0.9628	+0.2	5.29E+05	1.46	N	1.19	4.03	4247.791	0.305
124678/134678-HxCDF	35.64		0.9684	0.9682	-0.4	2.35E+06	1.31	Y	1.19	17.9	4247.791	0.305
134679-HxCDF	NotFnd		0.9747						1.19		4247.791	0.305
124679-HxCDF	NotFnd		0.9802						1.19		4247.791	0.305
124689-HxCDF	36.29		0.9858	0.9858	0	1.71E+06	1.30	Y	1.19	13	4247.791	0.305
123467-HxCDF	36.71	J	0.9972	0.9970	-0.4	1.84E+05	1.16	Y	1.19	1.4	4247.791	0.305
123478-HxCDF	**36.83**		**1.0004**	**1.0005**	**+0.2**	**7.90E+06**	**1.27**	**Y**	**1.27**	**58.1**	**4247.791**	**0.293**
123678-HxCDF	**36.98**		**1.0004**	**1.0004**	**0**	**2.50E+06**	**1.26**	**Y**	**1.15**	**16.7**	**4247.791**	**0.273**
123479-HxCDF	37.13	J	1.0051	1.0047	-0.9	7.79E+04	1.28	Y	1.19	0.594	4247.791	0.305
123469-HxCDF	37.29	J	1.0091	1.0089	-0.4	1.28E+05	1.38	Y	1.19	0.976	4247.791	0.305
123679-HxCDF	NotFnd		0.9943						1.19		4247.791	0.305
234678-HxCDF	**37.66**		**1.0004**	**1.0005**	**+0.2**	**6.19E+05**	**1.23**	**Y**	**1.19**	**5.13**	**4247.791**	**0.328**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4247.791	0.305
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4247.791**	**0.339**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62		1.0007	1.0009	+0.5	6.98E+05	1.13	Y	1.19	5.32	4247.791	0.305
1234678-HpCDF	**39.93**		**1.0002**	**1.0002**	**0**	**5.56E+06**	**1.05**	**Y**	**1.37**	**44.1**	**3001.598**	**0.194**
1234679-HpCDF	40.19	**J**	1.0067	1.0067	0	2.60E+05	1.00	Y	1.34	2.32	3001.598	0.224
1234689-HpCDF	40.33		1.0101	1.0103	+0.5	7.12E+06	0.99	Y	1.34	63.4	3001.598	0.224
1234789-HpCDF	**41.32**		**1.0003**	**1.0003**	**0**	**9.49E+05**	**0.99**	**Y**	**1.31**	**9.57**	**3001.598**	**0.26**
OCDF	**43.70**		**1.0002**	**1.0003**	**+0.3**	**1.01E+07**	**0.92**	**Y**	**1.07**	**127**	**4091.472**	**0.553**
OCDF-a	43.69		1.0002	1.0000	-0.5	5.99E+05	2.21	Y	0.07	121	3062.962	6.69


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.37e7
6.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.08e7
5.38e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
4.50e7
2.25e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.59e7
1.29e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.17e7
1.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

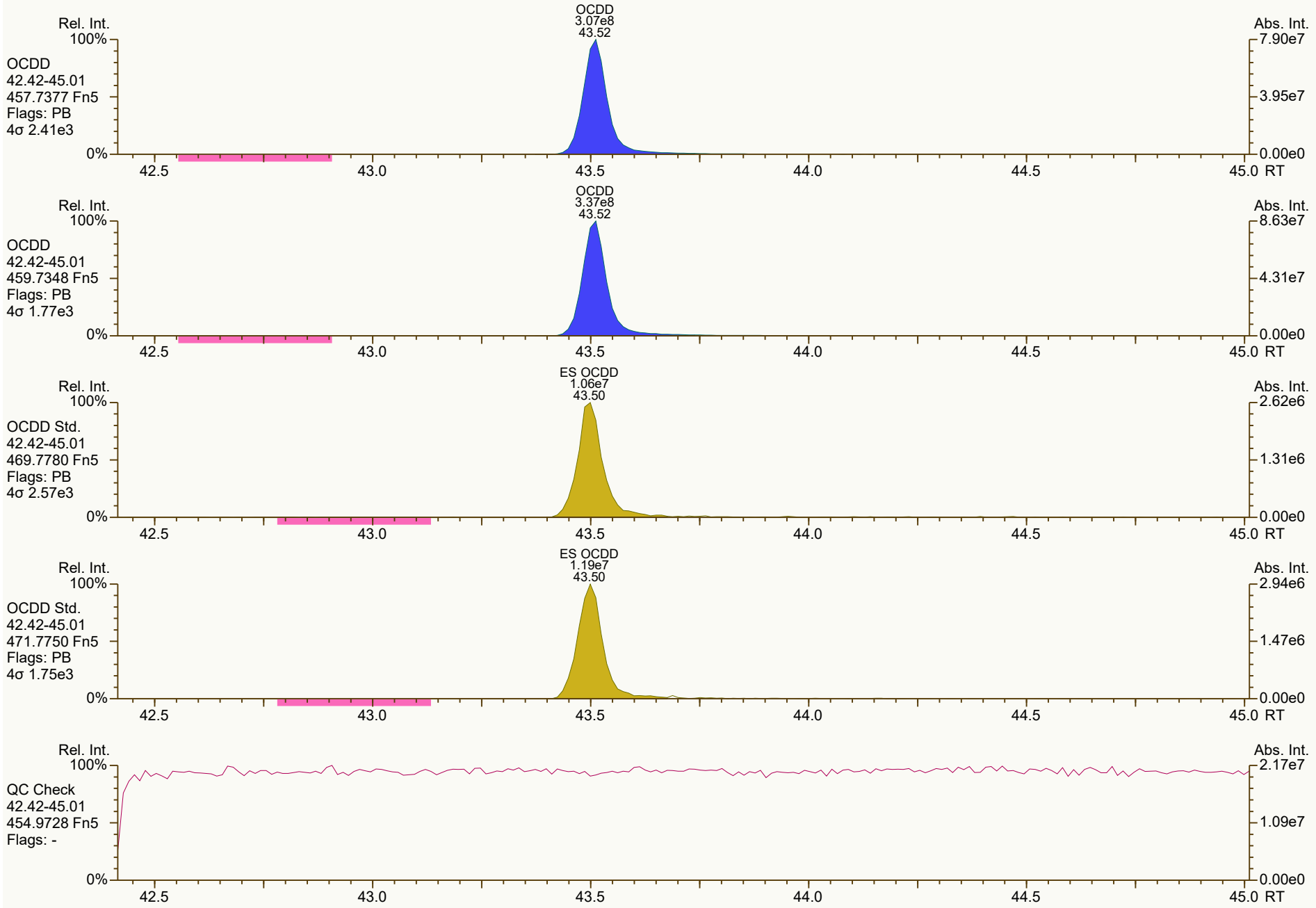

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.47e3
0%
2378D
6.92e6
28.64
1278D
6.84e5
28.96
Abs. Int.
1.60e6
7.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.09e3
0%
2378D
8.56e6
28.64
1278D
8.57e5
28.96
Abs. Int.
1.99e6
9.97e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.47e3
0%
CS 37Cl-2378D
8.33e6
28.64
Abs. Int.
2.04e6
1.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 8.76e3
0%
JS 1234D
8.39e6
27.96
ES 2378D
7.82e6
28.62
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 6.59e3
0%
JS 1234D
1.08e7
27.96
ES 2378D
9.96e6
28.62
Abs. Int.
2.50e6
1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_003.utp_res, saved 24-Jan-2022 12:45 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6151, 0216 scc: 570-242
PKD: 24-Jan-2022 12:30 Printed: 24-Jan-2022 12:48 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 4.98e3
124679/124689D
1.42e6
36.09
123679/123689D
1.10e6
37.04
123468D
2.82e5
36.74
123469D
1.88e5
37.17
123478D
1.19e5
37.84
123678D
3.43e5
37.95
123467D
8.01e4*
38.14
123789D
2.25e5
38.24
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 4.08e3
124679/124689D
1.17e6
36.09
123679/123689D
8.33e5
37.04
123468D
1.91e5
36.74
123469D
1.61e5
37.17
123478D
7.39e4
37.83
123678D
2.74e5
37.95
123467D
7.96e4*
38.13
123789D
1.86e5
38.23
Abs. Int.
3.45e5
1.73e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.08e3
ES 123678D
9.57e6
37.94
ES 123478D
8.37e6
37.82
JS 123467D
4.64e6
38.12
ES 123789D
1.07e7*
38.23
Abs. Int.
2.65e6
1.32e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.22e3
ES 123678D
7.27e6
37.94
ES 123478D
6.86e6
37.82
JS 123467D
3.80e6
38.12
ES 123789D
8.38e6*
38.23
Abs. Int.
2.15e6
1.07e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.50e7
2.25e7
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0%
35.5
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38.0
38.5
39.0 RT

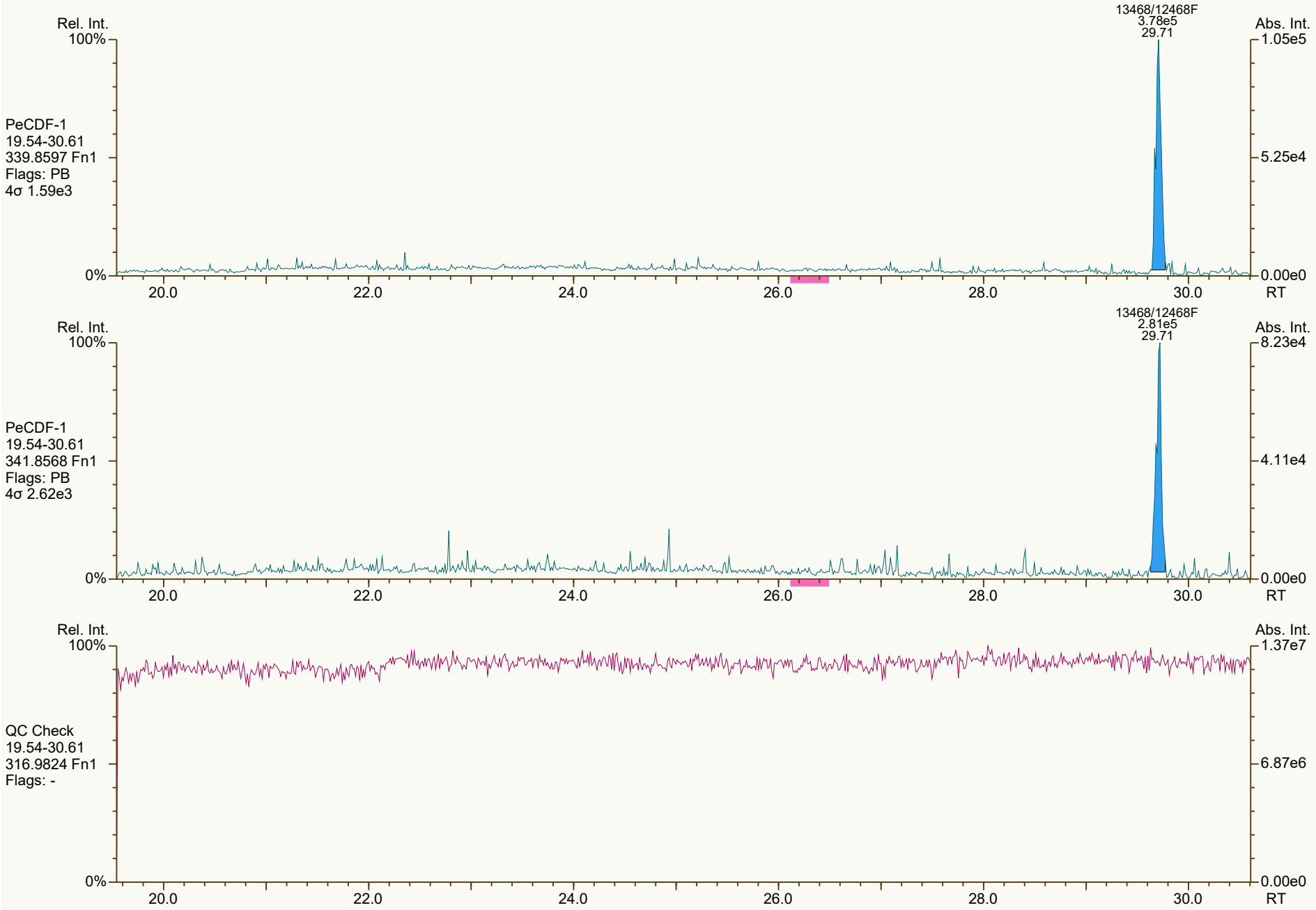

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.34e3
1234679D
1.54e7
40.19
1234678D
9.75e6*
40.86
Abs. Int.
4.72e6
2.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.67e3
1234679D
1.49e7
40.19
1234678D
9.25e6*
40.86
Abs. Int.
4.77e6
2.38e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.65e3
ES 1234678D
7.89e6
40.85
Abs. Int.
2.37e6
1.18e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.56e3
ES 1234678D
7.37e6
40.85
Abs. Int.
2.07e6
1.03e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.59e7
1.29e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
3.07e8
43.52
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.41e3
0%
Abs. Int.
7.90e7
3.95e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.37e8
43.52
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
8.63e7
4.31e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.06e7
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.57e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.19e7
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.75e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.17e7
1.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.55e3
0%
2378F
2.94e7*
27.79
1278F
1.35e7
26.90
2368F
1.33e6*
26.37
1238F...[5]
1.97e6*
26.44
2348F
2.38e6*
27.68
2367/3467F
2.83e6
28.14
1289F
3.57e6
29.78
Abs. Int.
6.73e6
3.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.73e3
0%
2378F
3.77e7*
27.79
1278F
1.65e7
26.90
2368F
1.67e6*
26.37
1238F...[5]
2.45e6*
26.44
2348F
3.12e6*
27.68
2367/3467F
3.75e6
28.14
1289F
4.29e6
29.78
Abs. Int.
8.88e6
4.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 7.36e3
0%
Conc(2378F) = (2.94e7 + 3.77e7) * 2000pg / (1.28e7 + 1.62e7) * 1.08 * 10.12g = 423pg/g
PSW 24-Jan-2022 12:45
VERIFIED
JS 1234F
1.42e7
26.42
ES 2378F
1.28e7
27.77
Abs. Int.
3.30e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 6.69e3
0%
JS 1234F
1.75e7
26.41
ES 2378F
1.62e7
27.76
Abs. Int.
3.84e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.84e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6147_18830_DF_003 | Sample ID: 11215131-010622-S-BN-SW-O-12 | Acq: 22-Jan-2022 03:00:06

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86 | User: DTF Datafile: 220121C21

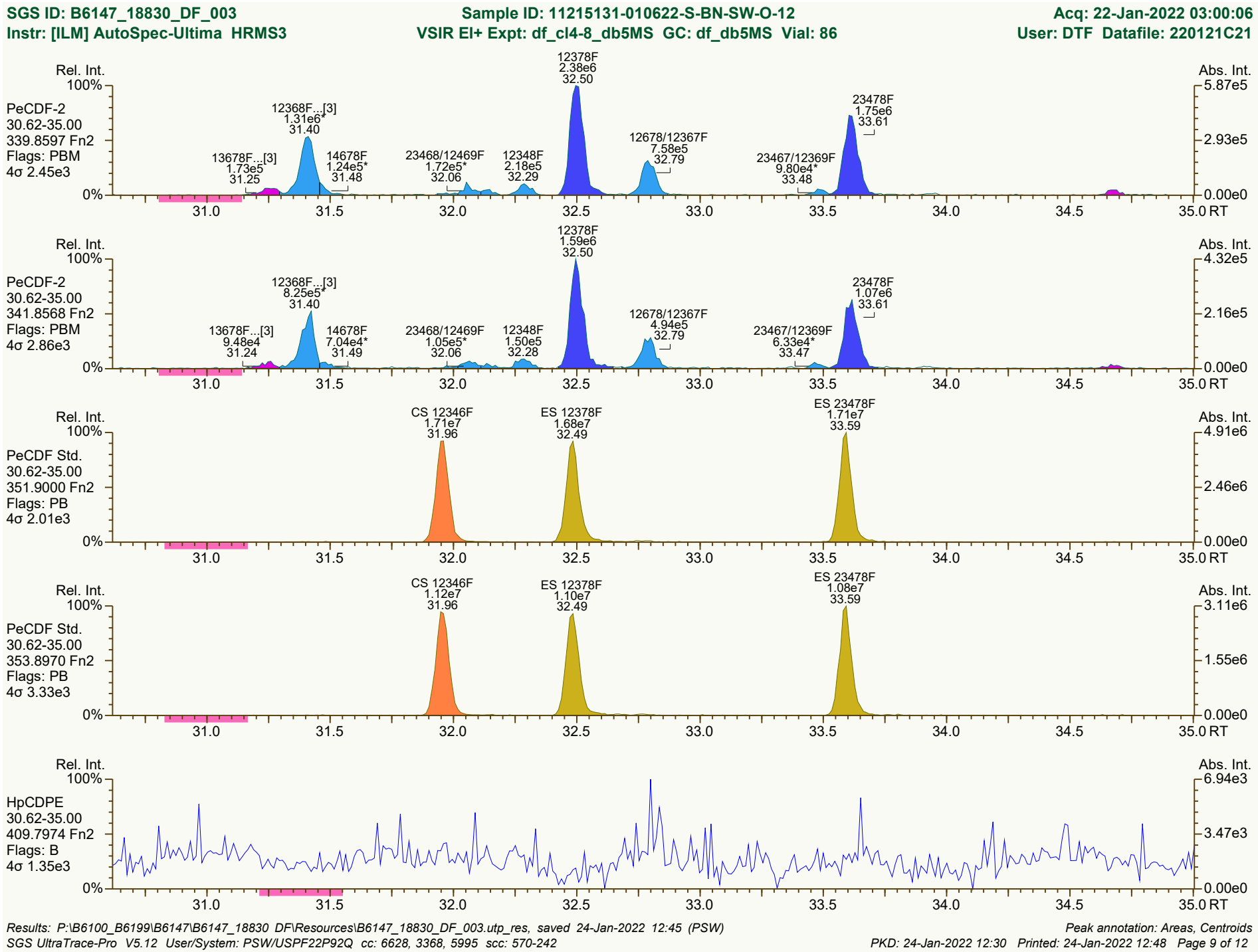


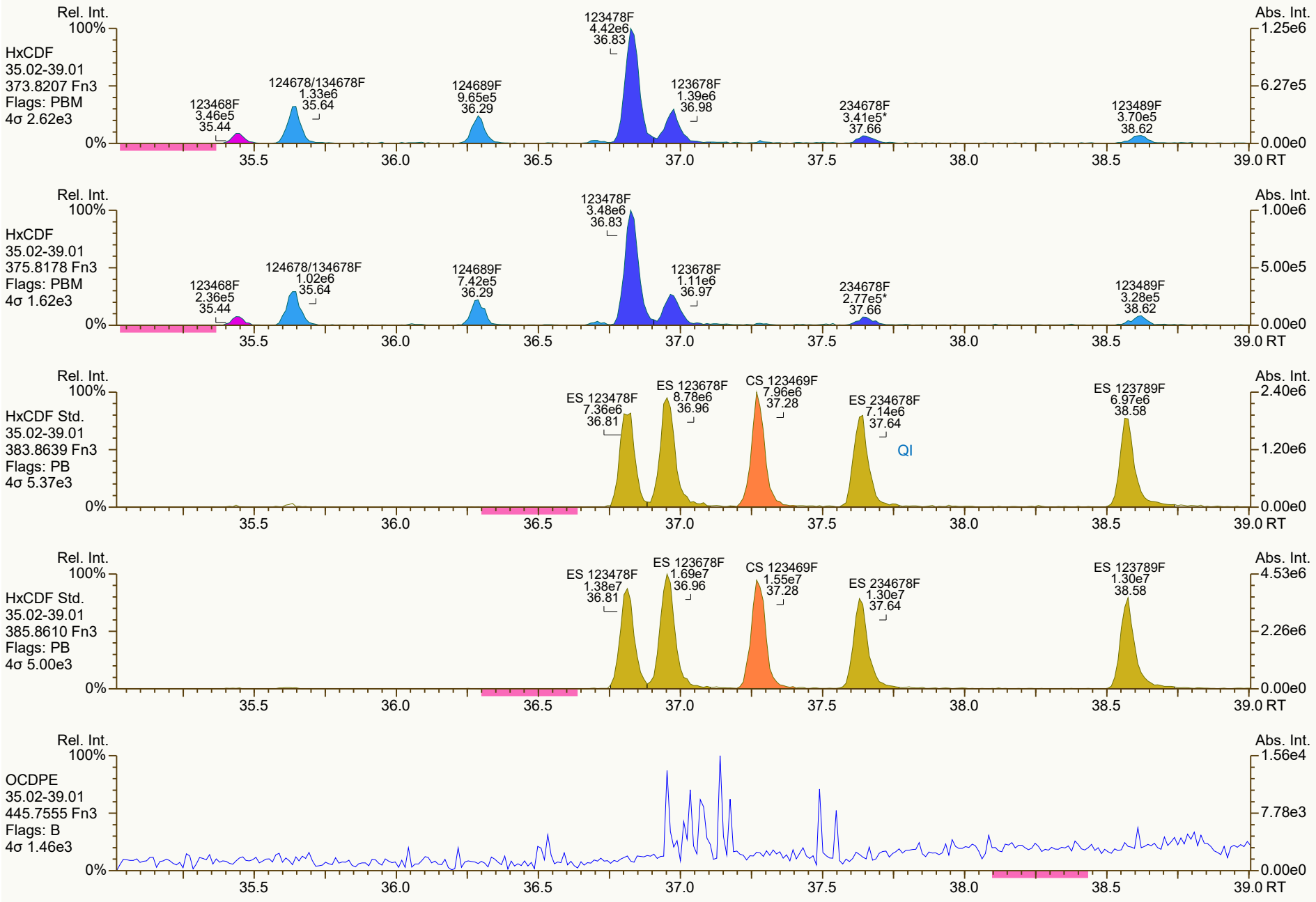
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_003.utp_res, saved 24-Jan-2022 12:45 (PSW)

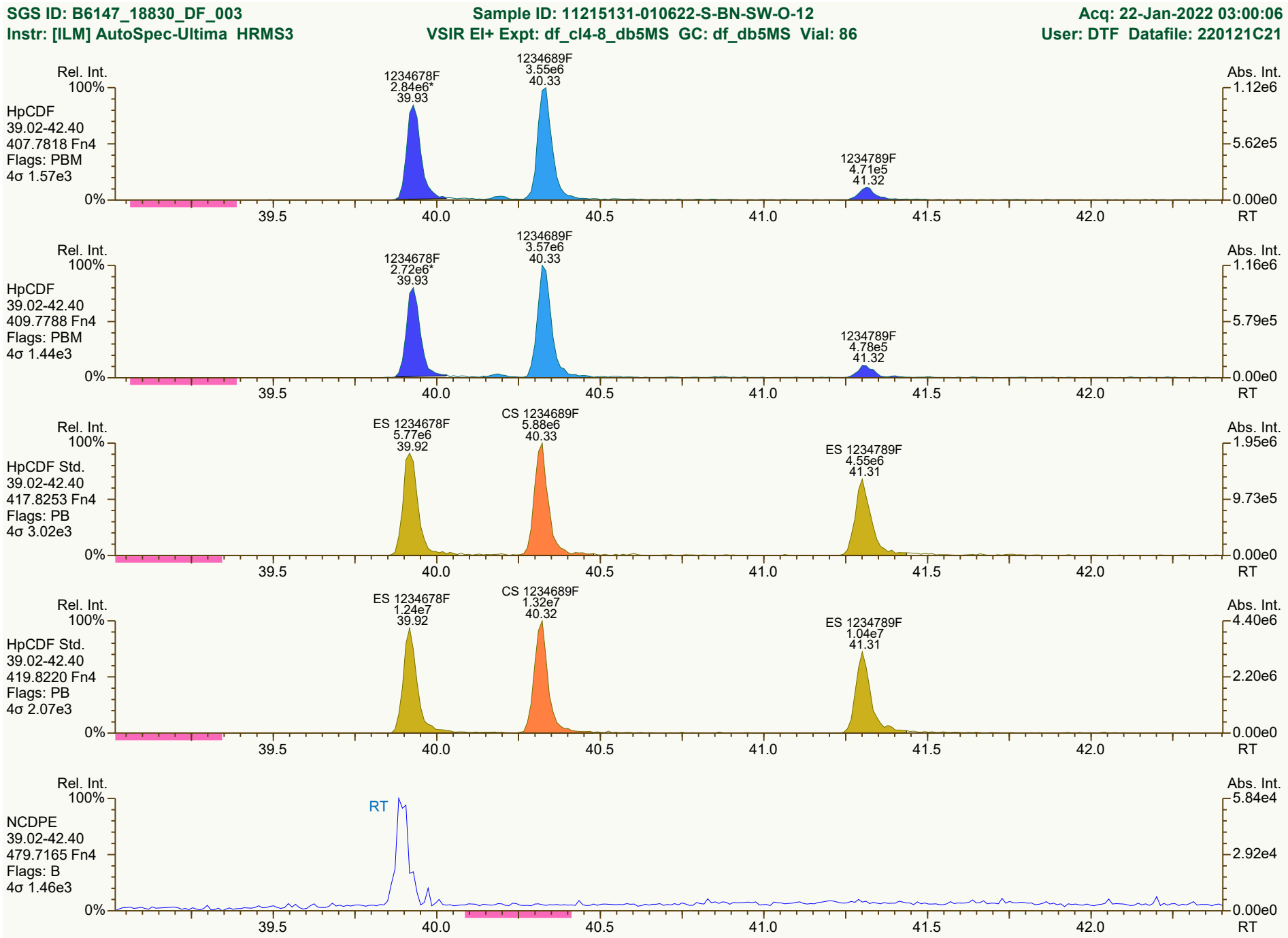
Peak annotation: Areas, Centroids

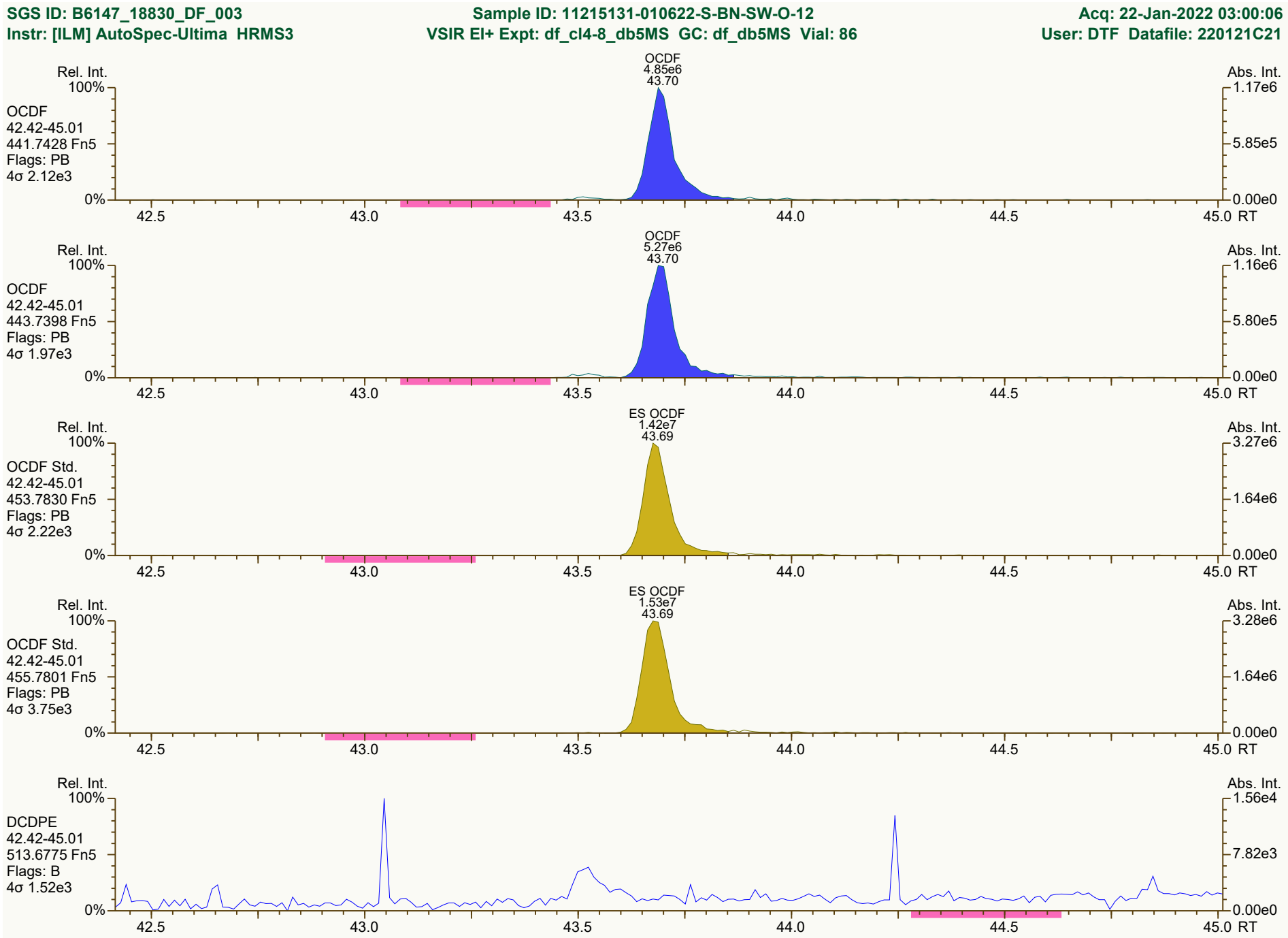
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0275 scc: 570-242

PKD: 24-Jan-2022 12:30 Printed: 24-Jan-2022 12:48 Page 8 of 12


SGS ID: B6147_18830_DF_003
Sample ID: 11215131-010622-S-BN-SW-O-12
Acq: 22-Jan-2022 03:00:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: DTF Datafile: 220121C21
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 2.45e3
12378F 2.38e6 32.50
12368F...[3] 1.31e6* 31.40
13678F...[3] 1.73e5 31.25
14678F 1.24e5* 31.48
23468/12469F 1.72e5* 32.06
12348F 2.18e5 32.29
12678/12367F 7.58e5 32.79
23467/12369F 9.80e4* 33.48
23478F 1.75e6 33.61
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 2.86e3
12378F 1.59e6 32.50
12368F...[3] 8.25e5* 31.40
13678F...[3] 9.48e4 31.24
14678F 7.04e4* 31.49
23468/12469F 1.05e5* 32.06
12348F 1.50e5 32.28
12678/12367F 4.94e5 32.79
23467/12369F 6.33e4* 33.47
23478F 1.07e6 33.61
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.01e3
CS 12346F 1.71e7 31.96
ES 12378F 1.68e7 32.49
ES 23478F 1.71e7 33.59
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 3.33e3
CS 12346F 1.12e7 31.96
ES 12378F 1.10e7 32.49
ES 23478F 1.08e7 33.59
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.35e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_003.utp_res, saved 24-Jan-2022 12:45 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6628, 3368, 5995 scc: 570-242
PKD: 24-Jan-2022 12:30 Printed: 24-Jan-2022 12:48 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.62e3
123468F 3.46e5 35.44
124678/134678F 1.33e6 35.64
124689F 9.65e5 36.29
123478F 4.42e6 36.83
123678F 1.39e6 36.98
234678F 3.41e5* 37.66
123489F 3.70e5 38.62
Abs. Int.
1.25e6
6.27e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.62e3
123468F 2.36e5 35.44
124678/134678F 1.02e6 35.64
124689F 7.42e5 36.29
123478F 3.48e6 36.83
123678F 1.11e6 36.97
234678F 2.77e5* 37.66
123489F 3.28e5 38.62
1.00e6
5.00e5
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 5.37e3
ES 123478F 7.36e6 36.81
ES 123678F 8.78e6 36.96
CS 123469F 7.96e6 37.28
ES 234678F 7.14e6 37.64
QI
ES 123789F 6.97e6 38.58
2.40e6
1.20e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 5.00e3
ES 123478F 1.38e7 36.81
ES 123678F 1.69e7 36.96
CS 123469F 1.55e7 37.28
ES 234678F 1.30e7 37.64
ES 123789F 1.30e7 38.58
4.53e6
2.26e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.46e3
1.56e4
7.78e3


SGS ID: B6147_18830_DF_003
Sample ID: 11215131-010622-S-BN-SW-O-12
Acq: 22-Jan-2022 03:00:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: DTF Datafile: 220121C21
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.57e3
1234678F
2.84e6*
39.93
1234689F
3.55e6
40.33
1234789F
4.71e5
41.32
1.12e6
5.62e5
0.00e0
RT
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.44e3
1234678F
2.72e6*
39.93
1234689F
3.57e6
40.33
1234789F
4.78e5
41.32
1.16e6
5.79e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 3.02e3
ES 1234678F
5.77e6
39.92
CS 1234689F
5.88e6
40.33
ES 1234789F
4.55e6
41.31
1.95e6
9.73e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 2.07e3
ES 1234678F
1.24e7
39.92
CS 1234689F
1.32e7
40.32
ES 1234789F
1.04e7
41.31
4.40e6
2.20e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.46e3
RT
5.84e4
2.92e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_003.utp_res, saved 24-Jan-2022 12:45 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5194, 9815, 9884 scc: 570-242
PKD: 24-Jan-2022 12:30 Printed: 24-Jan-2022 12:48 Page 11 of 12


SGS ID: B6147_18830_DF_003
Sample ID: 11215131-010622-S-BN-SW-O-12
Acq: 22-Jan-2022 03:00:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: DTF Datafile: 220121C21
OCDF
4.85e6
43.70
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
OCDF
5.27e6
43.70
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.97e3
ES OCDF
1.42e7
43.69
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 2.22e3
ES OCDF
1.53e7
43.69
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 3.75e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.52e3
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_003.utp_res, saved 24-Jan-2022 12:45 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2938, 1545, 9766 scc: 570-242
PKD: 24-Jan-2022 12:30 Printed: 24-Jan-2022 12:48 Page 12 of 12

Lab ID: B6147_18830_DF_004 **Acq'd:** 22 Jan 2022 03:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15 **UTP:** 24-Jan-2022 12:33:01 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 372-506-KDW

Datafile: 220121C22 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0008	0	5.76E+07	0.80	Y	1.18	513	6404.431	0.6
12378-PeCDD	33.95		1.0006	1.0004	-0.4	5.17E+05	1.42	Y	1.04	5.56	4743.039	0.437
123478-HxCDD	37.85	J EMPC	1.0004	1.0004	0	1.33E+05	1.46	N	1.09	1.61	6941.136	0.707
123678-HxCDD	37.96		1.0034	1.0034	0	5.44E+05	1.27	Y	1.15	6	6941.136	0.69
123789-HxCDD	38.25		1.0109	1.0110	+0.2	3.57E+05	1.14	Y	1.05	3.67	6941.136	0.653
1234678-HpCDD	40.87		1.0003	1.0003	0	1.19E+07	1.07	Y	1.06	153	5076.692	0.529
OCDD	43.53		1.0002	1.0003	+0.3	1.49E+08	0.92	Y	1.13	2,690	6431.699	1.18
2378-TCDF	27.80	E	1.0008	1.0008	0	2.30E+08	0.79	Y	1.08	1,400	7111.049	0.485
12378-PeCDF	32.52		1.0005	1.0005	0	1.14E+07	1.49	Y	1.02	78	7825.943	0.47
23478-PeCDF	33.63		1.0005	1.0007	+0.4	8.39E+06	1.58	Y	1.02	59	7825.943	0.485
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.90E+07	1.24	Y	1.27	138	5639.04	0.361
123678-HxCDF	36.99		1.0004	1.0004	0	5.59E+06	1.25	Y	1.15	38.2	5639.04	0.353
234678-HxCDF	37.67		1.0004	1.0004	0	1.10E+06	1.26	Y	1.19	9.43	5639.04	0.455
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5639.04	0.431
1234678-HpCDF	39.94		1.0002	1.0002	0	1.36E+07	1.00	Y	1.37	110	3151.165	0.193
1234789-HpCDF	41.33		1.0003	1.0003	0	1.87E+06	0.93	Y	1.31	20.7	3151.165	0.276
OCDF	43.71		1.0002	1.0002	0	1.30E+08	0.91	Y	1.07	1,690	4008.503	0.542

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0235	+0.3	1.87E+07	0.80	Y	1.05	91.6
ES 12378-PeCDD	33.94	1.2121	1.2131	+2.0	1.77E+07	1.65	Y	0.88	103
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.50E+07	1.30	Y	0.97	101
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.56E+07	1.29	Y	0.94	108
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.84E+07	1.24	Y	1.09	110
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.45E+07	1.07	Y	0.91	104
ES OCDD	43.52	1.1403	1.1412	+2.3	1.94E+07	0.90	Y	0.62	101
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	3.01E+07	0.86	Y	1.06	88.1
ES 12378-PeCDF	32.50	1.2281	1.2296	+2.9	2.82E+07	1.62	Y	0.91	96.3
ES 23478-PeCDF	33.61	1.2698	1.2714	+3.2	2.76E+07	1.57	Y	0.88	97
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.14E+07	0.54	Y	1.20	117
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.51E+07	0.54	Y	1.35	121
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.93E+07	0.52	Y	1.24	101
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	2.04E+07	0.58	Y	1.16	115
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.78E+07	0.44	Y	0.97	120
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.37E+07	0.44	Y	0.85	105
ES OCDF	43.71	1.1451	1.1461	+2.6	2.84E+07	0.95	Y	0.81	115

Lab ID: B6147_18830_DF_004 **Acq'd:** 22 Jan 2022 03:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15 **UTP:** 24-Jan-2022 12:33:01 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 372-506-KDW

Datafile: 220121C22 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.98		-	-	-	1.95E+07	0.86	Y	-	-
JS 1234-TCDF	26.43		-	-	-	3.22E+07	0.83	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	7.67E+06	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.66		1.0241	1.0243	+0.3	8.65E+06	n/a	-	1.20	92
CS 12347-PeCDD	33.44		1.1943	1.1952	+1.8	1.58E+07	1.60	Y	0.75	108
CS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.68E+07	1.62	Y	0.85	97.8
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.19E+07	0.56	Y	1.12	128
CS 1234689-HpCDF	40.33		1.0571	1.0576	+1.2	1.69E+07	0.46	Y	0.89	124
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~8.65E+06~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1952~~	~~+1.8~~	~~1.58E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~2.68E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.19E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.69E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~104~~

Not used in this project.
CL 26Jan22

Totals	Conc	EMPC
Total TCDD	580	581
Total PeCDD	13.5	16.4
Total HxCDD	77.9	81.1
Total HpCDD	382	382
Total Tetra-Octa Dioxins	3740	3750
Total TCDF	2,780	2780
Total PeCDF	244	245
Total HxCDF	258	259
Total HpCDF	204	204
Total Tetra-Octa Furans	5,170	5170
Total Tetra-Octa Dioxins & Furans	8920	8920

Lab ID: B6147_18830_DF_004 **Acq'd: 22 Jan 2022 03:46 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15 **UTP: 24-Jan-2022 12:33:01 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 372-506-KDW**

Datafile: 220121C22 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8747	-1.2	2.17E+05	0.81	Y	1.18	1.94	6404.431	0.6
1379-TCDD	NotFnd		0.8876						1.18		6404.431	0.6
1369-TCDD	NotFnd		0.9023						1.18		6404.431	0.6
1469-TCDD	26.59		0.9291	0.9287	-0.6	4.78E+05	0.88	Y	1.18	4.26	6404.431	0.6
1247/1246/1248/1249-TCDD	26.83		0.9373	0.9371	-0.3	1.57E+05	0.79	Y	1.18	1.39	6404.431	0.6
1378-TCDD	27.02		0.9440	0.9436	-0.6	2.19E+05	0.79	Y	1.18	1.95	6404.431	0.6
1268-TCDD	NotFnd		0.9506						1.18		6404.431	0.6
1478-TCDD	27.46	EMPC	0.9591	0.9590	-0.2	1.62E+05	0.65	N	1.18	1.44	6404.431	0.6
1279-TCDD	NotFnd		0.9649						1.18		6404.431	0.6
1234/1269-TCDD	NotFnd		0.9771						1.18		6404.431	0.6
1236-TCDD	NotFnd		0.9820						1.18		6404.431	0.6
1237/1238-TCDD	28.37		0.9908	0.9907	-0.2	8.52E+05	0.77	Y	1.18	7.59	6404.431	0.6
1239-TCDD	NotFnd		0.9954						1.18		6404.431	0.6
2378-TCDD	**28.66**		**1.0008**	1.0008	**0**	5.76E+07	0.80	Y	**1.18**	**513**	**6404.431**	**0.6**
1278-TCDD	28.98		1.0121	1.0120	-0.2	5.43E+06	0.82	Y	1.18	48.4	6404.431	0.6
1267-TCDD	NotFnd		1.0167						1.18		6404.431	0.6
1289-TCDD	29.62		1.0341	1.0345	+0.7	1.22E+05	0.76	Y	1.18	1.08	6404.431	0.6
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	2.56E+05	1.56	Y	1.04	2.75	4743.039	0.437
12469-PeCDD	32.00		0.9430	0.9428	-0.4	2.50E+05	1.59	Y	1.04	2.69	4743.039	0.437
12368-PeCDD	32.54	J	0.9592	0.9589	-0.6	1.59E+05	1.47	Y	1.04	1.71	4743.039	0.437
12478-PeCDD	32.73	J EMPC	0.9647	0.9643	-0.8	9.66E+04	1.88	N	1.04	1.04	4743.039	0.437
12379-PeCDD	32.83	J	0.9676	0.9672	-0.8	7.59E+04	1.35	Y	1.04	0.816	4743.039	0.437
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9751	-0.2	1.69E+05	1.89	N	1.04	1.82	4743.039	0.437
12346/12347-PeCDD	NotFnd		0.9860						1.04		4743.039	0.437
12378-PeCDD	33.95		**1.0006**	**1.0004**	**-0.4**	**5.17E+05**	**1.42**	**Y**	**1.04**	**5.56**	**4743.039**	**0.437**
12367-PeCDD	NotFnd		1.0034						1.04		4743.039	0.437
12389-PeCDD	NotFnd		1.0134						1.04		4743.039	0.437
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	3.58E+06	1.26	Y	1.10	39.5	6941.136	0.68
123468-HxCDD	36.75		0.9715	0.9715	0	3.17E+05	1.20	Y	1.10	3.5	6941.136	0.68
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	2.14E+06	1.38	Y	1.10	23.6	6941.136	0.68
123469-HxCDD	37.19	J EMPC	0.9829	0.9829	0	1.42E+05	1.54	N	1.10	1.57	6941.136	0.68
123478-HxCDD	37.85	J EMPC	**1.0004**	**1.0004**	**0**	**1.33E+05**	**1.46**	**N**	1.09	**1.61**	**6941.136**	**0.707**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**5.44E+05**	**1.27**	**Y**	1.15	**6**	**6941.136**	**0.69**
123467-HxCDD	38.15	J	1.0082	1.0084	+0.5	1.46E+05	1.34	Y	1.10	1.62	6941.136	0.68
123789-HxCDD	38.25		**1.0109**	**1.0110**	**+0.2**	**3.57E+05**	**1.14**	**Y**	1.05	**3.67**	**6941.136**	**0.653**

Lab ID: B6147_18830_DF_004 **Acq'd:** 22 Jan 2022 03:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15 **UTP:** 24-Jan-2022 12:33:01 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 372-506-KDW

Datafile: 220121C22 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

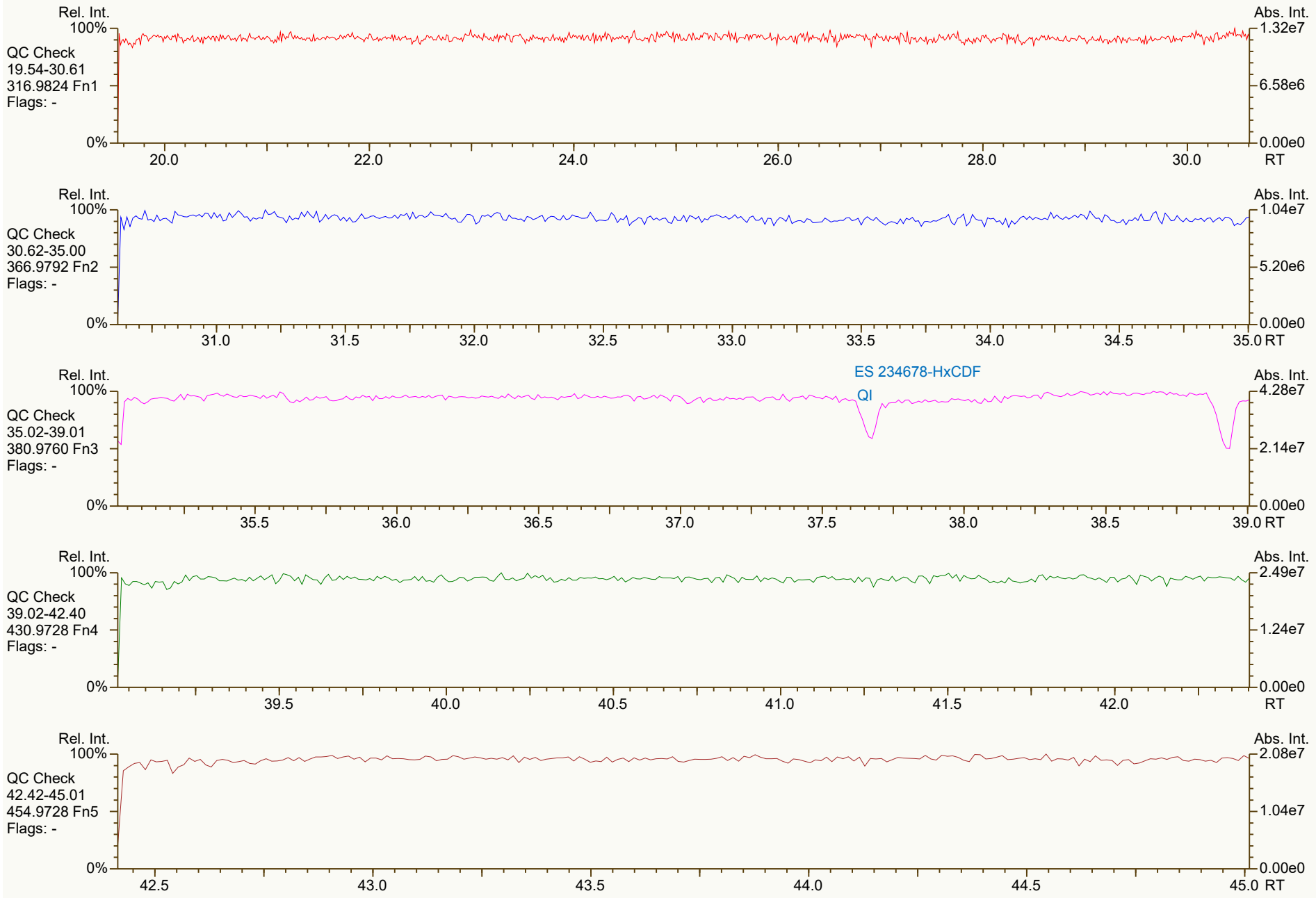
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	1.79E+07	1.04	Y	1.06	230	5076.692	0.529
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**1.19E+07**	**1.07**	**Y**	**1.06**	**153**	**5076.692**	**0.529**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.49E+08**	**0.92**	**Y**	**1.13**	**2,690**	**6431.699**	**1.18**
OCDD-a	43.53		1.0002	1.0002	0	9.19E+06	2.46	Y	0.07	2,600	4823.834	13.9
1368-TCDF	22.98		0.8282	0.8271	-1.5	1.71E+05	0.73	Y	1.08	1.04	7111.049	0.485
1468-TCDF	23.55		0.8485	0.8475	-1.4	6.40E+05	0.75	Y	1.08	3.9	7111.049	0.485
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.11E+06	0.85	Y	1.08	6.76	7111.049	0.485
1346/1246-TCDF	24.59		0.8829	0.8851	+3.2	6.44E+05	0.67	Y	1.08	3.92	7111.049	0.485
1347/1378/1247-TCDF	24.70		0.8884	0.8890	+0.9	2.54E+06	0.81	Y	1.08	15.5	7111.049	0.485
1348-TCDF	24.92		0.8980	0.8970	-1.5	6.82E+05	0.72	Y	1.08	4.15	7111.049	0.485
1248/1367/1379-TCDF	25.02		0.9026	0.9006	-3.0	1.14E+07	0.80	Y	1.08	69.4	7111.049	0.485
1268-TCDF	25.43		0.9158	0.9153	-0.8	4.14E+06	0.77	Y	1.08	25.3	7111.049	0.485
1467-TCDF	25.57		0.9206	0.9202	-0.6	5.82E+05	0.71	Y	1.08	3.55	7111.049	0.485
1478-TCDF	25.73		0.9266	0.9261	-0.8	1.00E+07	0.82	Y	1.08	61.2	7111.049	0.485
1369/1237-TCDF	26.11		0.9397	0.9396	-0.2	2.64E+06	0.78	Y	1.08	16.1	7111.049	0.485
2467-TCDF	26.22		0.9440	0.9438	-0.3	4.27E+05	0.86	Y	1.08	2.6	7111.049	0.485
2368-TCDF	26.38		0.9497	0.9495	-0.3	8.45E+06	0.81	Y	1.08	51.5	7111.049	0.485
1238/1234/1678/1469/1236-TCDF	26.46		0.9528	0.9522	-1.0	1.12E+07	0.79	Y	1.08	68.3	7111.049	0.485
1278-TCDF	26.91		0.9690	0.9687	-0.5	1.01E+08	0.80	Y	1.08	618	7111.049	0.485
1349-TCDF	NotFnd		0.9730						1.08		7111.049	0.485
1267-TCDF	27.19		0.9787	0.9785	-0.3	6.01E+06	0.83	Y	1.08	36.6	7111.049	0.485
2346/1249-TCDF	27.38		0.9850	0.9854	+0.7	7.27E+05	0.79	Y	1.08	4.43	7111.049	0.485
2347/1279-TCDF	27.58		0.9929	0.9926	-0.5	2.77E+06	0.79	Y	1.08	16.9	7111.049	0.485
2348-TCDF	27.69		0.9970	0.9967	-0.5	1.77E+07	0.79	Y	1.08	108	7111.049	0.485
2378-TCDF	**27.80**	E	**1.0008**	**1.0008**	**0**	**2.30E+08**	**0.79**	**Y**	**1.08**	**1,400**	**7111.049**	**0.485**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	2.02E+07	0.80	Y	1.08	123	7111.049	0.485
1269-TCDF	28.40		1.0221	1.0223	+0.3	3.91E+06	0.80	Y	1.08	23.8	7111.049	0.485
1239-TCDF	28.66		1.0319	1.0317	-0.3	3.29E+05	0.85	Y	1.08	2	7111.049	0.485
1289-TCDF	29.80		1.0740	1.0725	-2.7	1.79E+07	0.80	Y	1.08	109	7111.049	0.485
13468/12468-PeCDF	29.73		0.9145	0.9147	+0.4	2.52E+06	1.45	Y	1.02	17.5	4317.646	0.263
13678/13467/12467-PeCDF	31.26	J	0.9619	0.9619	0	2.73E+05	1.41	Y	1.02	1.89	7825.943	0.478
12368/13478/12478-PeCDF	31.42		0.9665	0.9669	+0.8	6.07E+06	1.55	Y	1.02	42	7825.943	0.478
14678-PeCDF	31.50	J	0.9695	0.9692	-0.6	3.06E+05	1.47	Y	1.02	2.12	7825.943	0.478
13479-PeCDF	NotFnd		0.9724						1.02		7825.943	0.478
13469/12479-PeCDF	31.81	J	0.9801	0.9789	-2.3	1.22E+05	1.62	Y	1.02	0.847	7825.943	0.478
12346-PeCDF	NotFnd		0.9842						1.02		7825.943	0.478

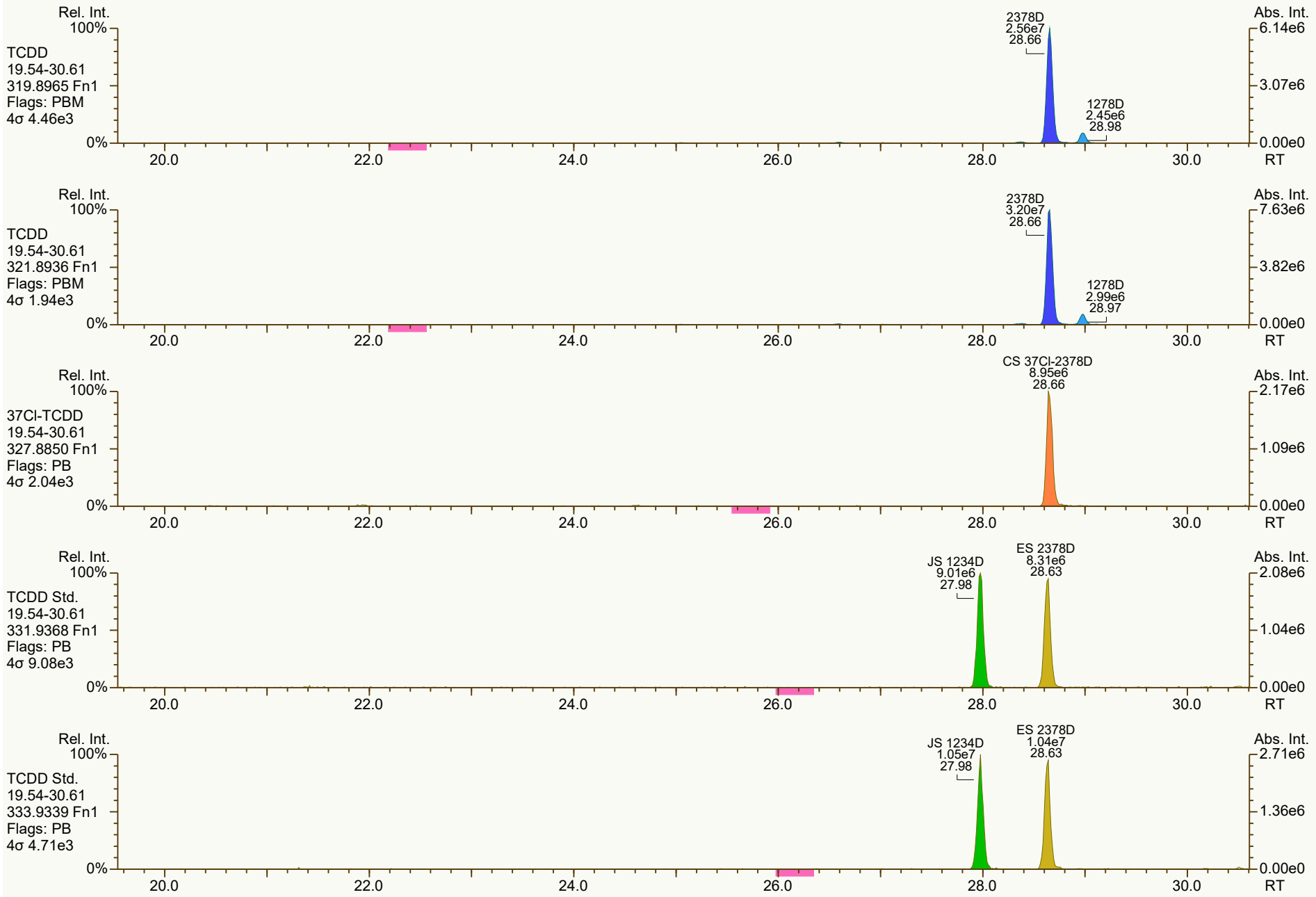
Lab ID: B6147_18830_DF_004 **Acq'd: 22 Jan 2022 03:46 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

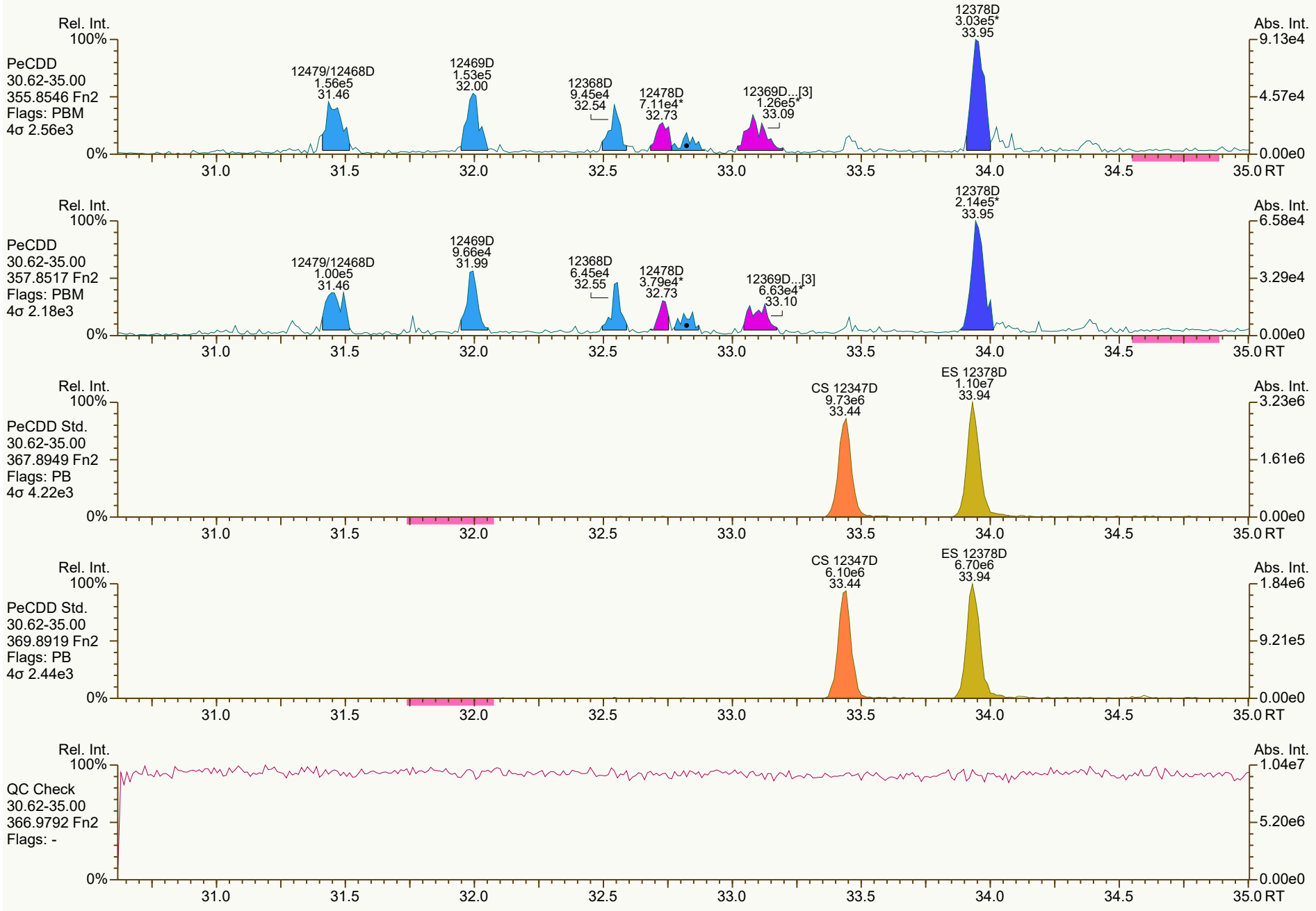
Client ID: 11215131-010622-S-BN-SW-B-15 **UTP: 24-Jan-2022 12:33:01 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 372-506-KDW**

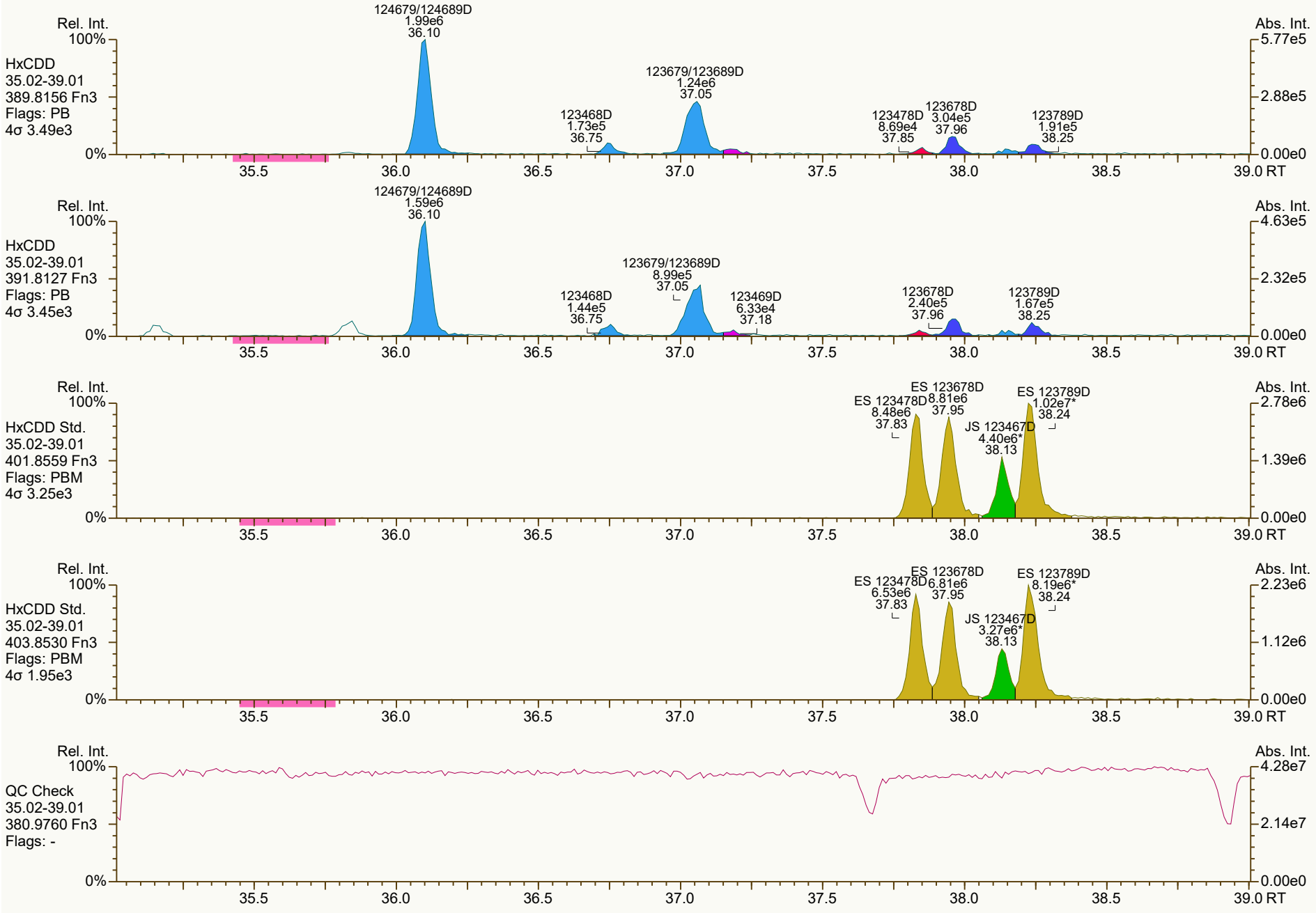
Datafile: 220121C22 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

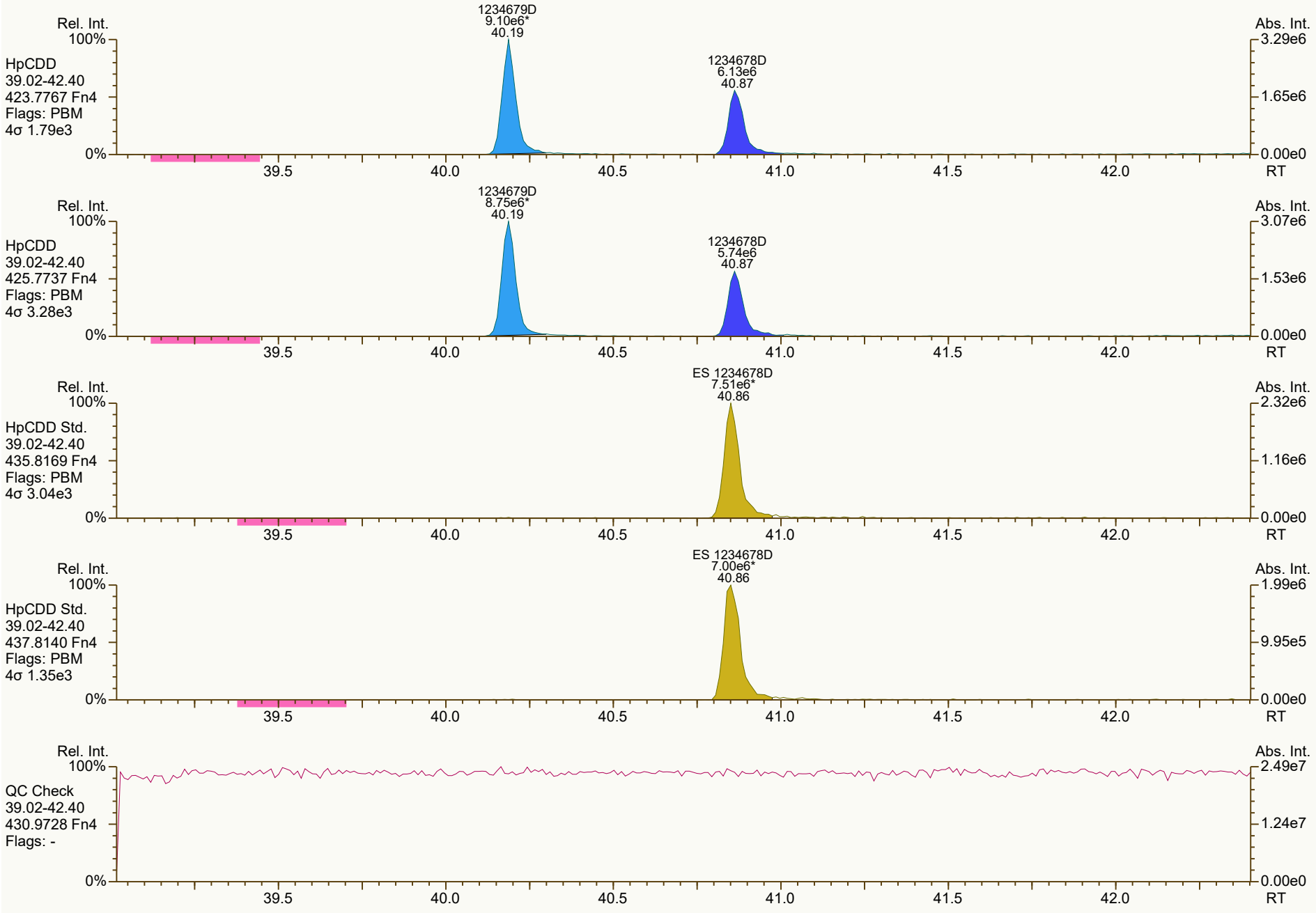
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08		0.9868	0.9869	+0.2	5.73E+05	1.54	Y	1.02	3.97	7825.943	0.478
12347-PeCDF	32.15	J	0.9895	0.9892	-0.6	1.84E+05	1.62	Y	1.02	1.27	7825.943	0.478
12348-PeCDF	32.31		0.9941	0.9940	-0.2	1.14E+06	1.54	Y	1.02	7.87	7825.943	0.478
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.14E+07**	**1.49**	**Y**	**1.02**	**78**	**7825.943**	**0.47**
12678/12367-PeCDF	32.81		1.0090	1.0095	+1.0	3.78E+06	1.67	Y	1.02	26.2	7825.943	0.478
12379-PeCDF	NotFnd		1.0142						1.02		7825.943	0.478
12679-PeCDF	NotFnd		0.9931						1.02		7825.943	0.478
23467/12369-PeCDF	33.49	J EMPC	0.9966	0.9964	-0.4	1.44E+05	1.96	N	1.02	0.998	7825.943	0.478
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**8.39E+06**	**1.58**	**Y**	**1.02**	**59**	**7825.943**	**0.485**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7825.943	0.478
12349-PeCDF	NotFnd		1.0101						1.02		7825.943	0.478
12389-PeCDF	34.69		1.0322	1.0323	+0.2	4.76E+05	1.55	Y	1.02	3.3	7825.943	0.478
123468-HxCDF	35.46		0.9627	0.9629	+0.4	8.90E+05	1.26	Y	1.19	6.83	5639.04	0.396
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	3.53E+06	1.24	Y	1.19	27.1	5639.04	0.396
134679-HxCDF	NotFnd		0.9747						1.19		5639.04	0.396
124679-HxCDF	36.09	J EMPC	0.9802	0.9799	-0.6	1.33E+05	0.90	N	1.19	1.02	5639.04	0.396
124689-HxCDF	36.30		0.9858	0.9858	0	2.99E+06	1.23	Y	1.19	23	5639.04	0.396
123467-HxCDF	36.71	J	0.9972	0.9970	-0.4	2.67E+05	1.15	Y	1.19	2.05	5639.04	0.396
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.90E+07**	**1.24**	**Y**	**1.27**	**138**	**5639.04**	**0.361**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**5.59E+06**	**1.25**	**Y**	**1.15**	**38.2**	**5639.04**	**0.353**
123479-HxCDF	NotFnd		1.0051						1.19		5639.04	0.396
123469-HxCDF	37.30	J	1.0091	1.0089	-0.4	2.85E+05	1.24	Y	1.19	2.19	5639.04	0.396
123679-HxCDF	NotFnd		0.9943						1.19		5639.04	0.396
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**1.10E+06**	**1.26**	**Y**	**1.19**	**9.43**	**5639.04**	**0.455**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5639.04	0.396
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5639.04**	**0.431**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62		1.0007	1.0009	+0.5	1.51E+06	1.37	Y	1.19	11.6	5639.04	0.396
1234678-HpCDF	**39.94**		**1.0002**	**1.0002**	**0**	**1.36E+07**	**1.00**	**Y**	**1.37**	**110**	**3151.165**	**0.193**
1234679-HpCDF	40.19		1.0067	1.0065	-0.5	5.60E+05	1.06	Y	1.34	5.25	3151.165	0.229
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	7.26E+06	1.06	Y	1.34	68.1	3151.165	0.229
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**1.87E+06**	**0.93**	**Y**	**1.31**	**20.7**	**3151.165**	**0.276**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**1.30E+08**	**0.91**	**Y**	**1.07**	**1,690**	**4008.503**	**0.542**
OCDF-a	43.71		1.0002	1.0001	-0.3	8.41E+06	2.44	Y	0.07	1,760	5674.111	12.4

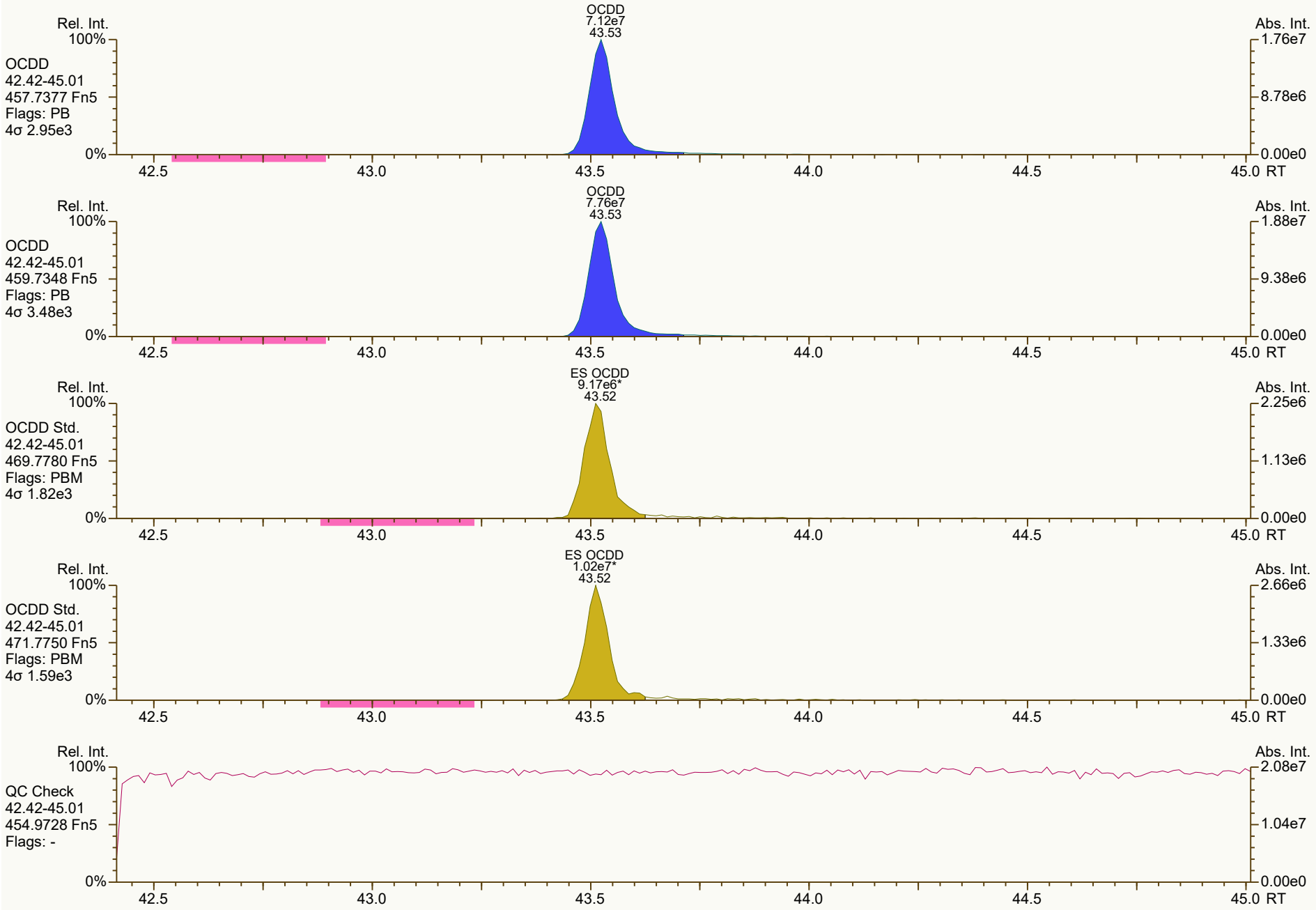

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26.0
28.0
30.0
RT
Abs. Int.
1.32e7
6.58e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.04e7
5.20e6
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Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.28e7
2.14e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.49e7
1.24e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.08e7
1.04e7
0.00e0

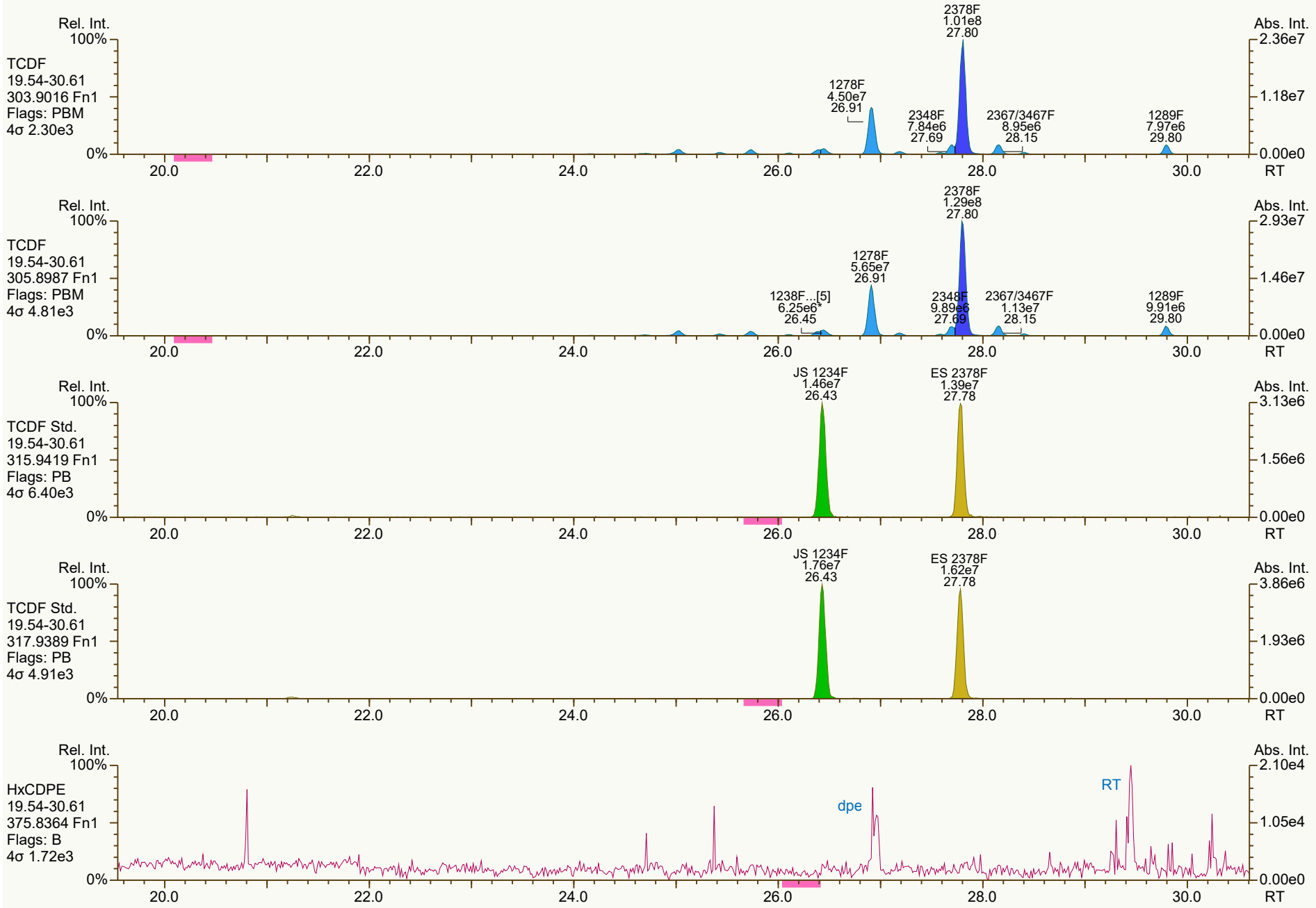

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 4.46e3
0%
2378D
2.56e7
28.66
1278D
2.45e6
28.98
Abs. Int.
6.14e6
3.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.94e3
0%
2378D
3.20e7
28.66
1278D
2.99e6
28.97
Abs. Int.
7.63e6
3.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 2.04e3
0%
CS 37Cl-2378D
8.95e6
28.66
Abs. Int.
2.17e6
1.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.08e3
0%
JS 1234D
9.01e6
27.98
ES 2378D
8.31e6
28.63
Abs. Int.
2.08e6
1.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.71e3
0%
JS 1234D
1.05e7
27.98
ES 2378D
1.04e7
28.63
Abs. Int.
2.71e6
1.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.56e3
12479/12468D
1.56e5
31.46
12469D
1.53e5
32.00
12368D
9.45e4
32.54
12478D
7.11e4*
32.73
12369D...[3]
1.26e5*
33.09
12378D
3.03e5*
33.95
Abs. Int.
9.13e4
4.57e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 2.18e3
12479/12468D
1.00e5
31.46
12469D
9.66e4
31.99
12368D
6.45e4
32.55
12478D
3.79e4*
32.73
12369D...[3]
6.63e4*
33.10
12378D
2.14e5*
33.95
Abs. Int.
6.58e4
3.29e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 4.22e3
CS 12347D
9.73e6
33.44
ES 12378D
1.10e7
33.94
Abs. Int.
3.23e6
1.61e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.44e3
CS 12347D
6.10e6
33.44
ES 12378D
6.70e6
33.94
Abs. Int.
1.84e6
9.21e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
1.04e7
5.20e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 3.49e3
124679/124689D
1.99e6
36.10
123679/123689D
1.24e6
37.05
123468D
1.73e5
36.75
123478D
8.69e4
37.85
123678D
3.04e5
37.96
123789D
1.91e5
38.25
Abs. Int.
5.77e5
2.88e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 3.45e3
124679/124689D
1.59e6
36.10
123679/123689D
8.99e5
37.05
123468D
1.44e5
36.75
123469D
6.33e4
37.18
123678D
2.40e5
37.96
123789D
1.67e5
38.25
Abs. Int.
4.63e5
2.32e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.25e3
ES 123478D
8.48e6
37.83
ES 123678D
8.81e6
37.95
JS 123467D
4.40e6*
38.13
ES 123789D
1.02e7*
38.24
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.95e3
ES 123478D
6.53e6
37.83
ES 123678D
6.81e6
37.95
JS 123467D
3.27e6*
38.13
ES 123789D
8.19e6*
38.24
Abs. Int.
2.23e6
1.12e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.28e7
2.14e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.79e3
1234679D
9.10e6*
40.19
1234678D
6.13e6
40.87
Abs. Int.
3.29e6
1.65e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 3.28e3
1234679D
8.75e6*
40.19
1234678D
5.74e6
40.87
Abs. Int.
3.07e6
1.53e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.04e3
ES 1234678D
7.51e6*
40.86
Abs. Int.
2.32e6
1.16e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.35e3
ES 1234678D
7.00e6*
40.86
Abs. Int.
1.99e6
9.95e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.49e7
1.24e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.12e7
43.53
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.95e3
0%
Abs. Int.
1.76e7
8.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.76e7
43.53
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 3.48e3
1.88e7
9.38e6
ES OCDD
9.17e6*
43.52
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.82e3
2.25e6
1.13e6
ES OCDD
1.02e7*
43.52
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.59e3
2.66e6
1.33e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
2.08e7
1.04e7


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.30e3
0%
2378F
1.01e8
27.80
1278F
4.50e7
26.91
2348F
7.84e6
27.69
2367/3467F
8.95e6
28.15
1289F
7.97e6
29.80
Abs. Int.
2.36e7
1.18e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.81e3
0%
2378F
1.29e8
27.80
1278F
5.65e7
26.91
1238F...[5]
6.25e6*
26.45
2348F
9.89e6
27.69
2367/3467F
1.13e7
28.15
1289F
9.91e6
29.80
Abs. Int.
2.93e7
1.46e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 6.40e3
0%
JS 1234F
1.46e7
26.43
ES 2378F
1.39e7
27.78
Abs. Int.
3.13e6
1.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.91e3
0%
JS 1234F
1.76e7
26.43
ES 2378F
1.62e7
27.78
Abs. Int.
3.86e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.72e3
0%
dpe
RT
Abs. Int.
2.10e4
1.05e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6147_18830_DF_004 | Sample ID: 11215131-010622-S-BN-SW-B-15 | Acq: 22-Jan-2022 03:46:27

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87 | User: DTF Datafile: 220121C22

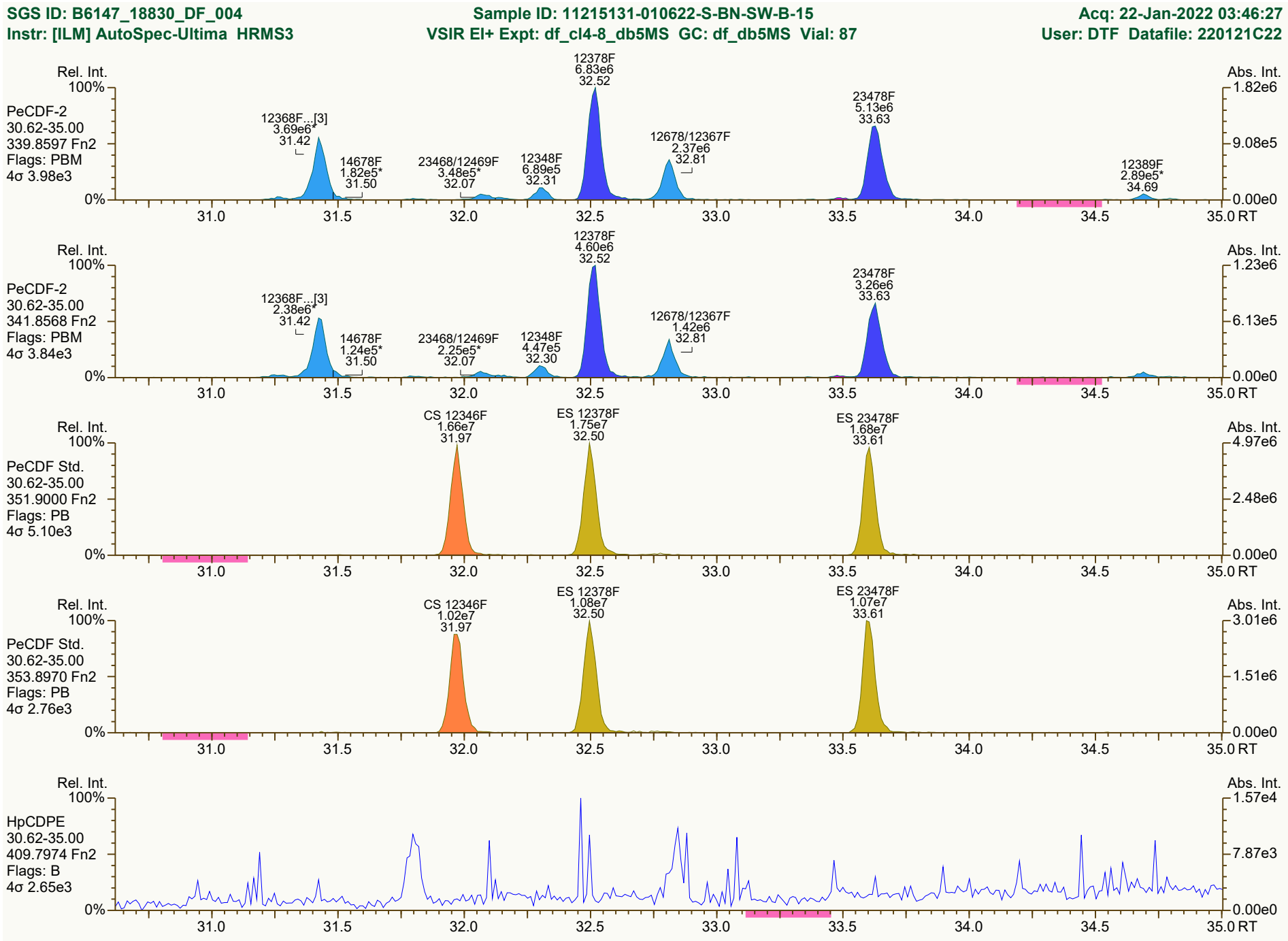


Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004.utp_res, saved 24-Jan-2022 12:33 (PSW)

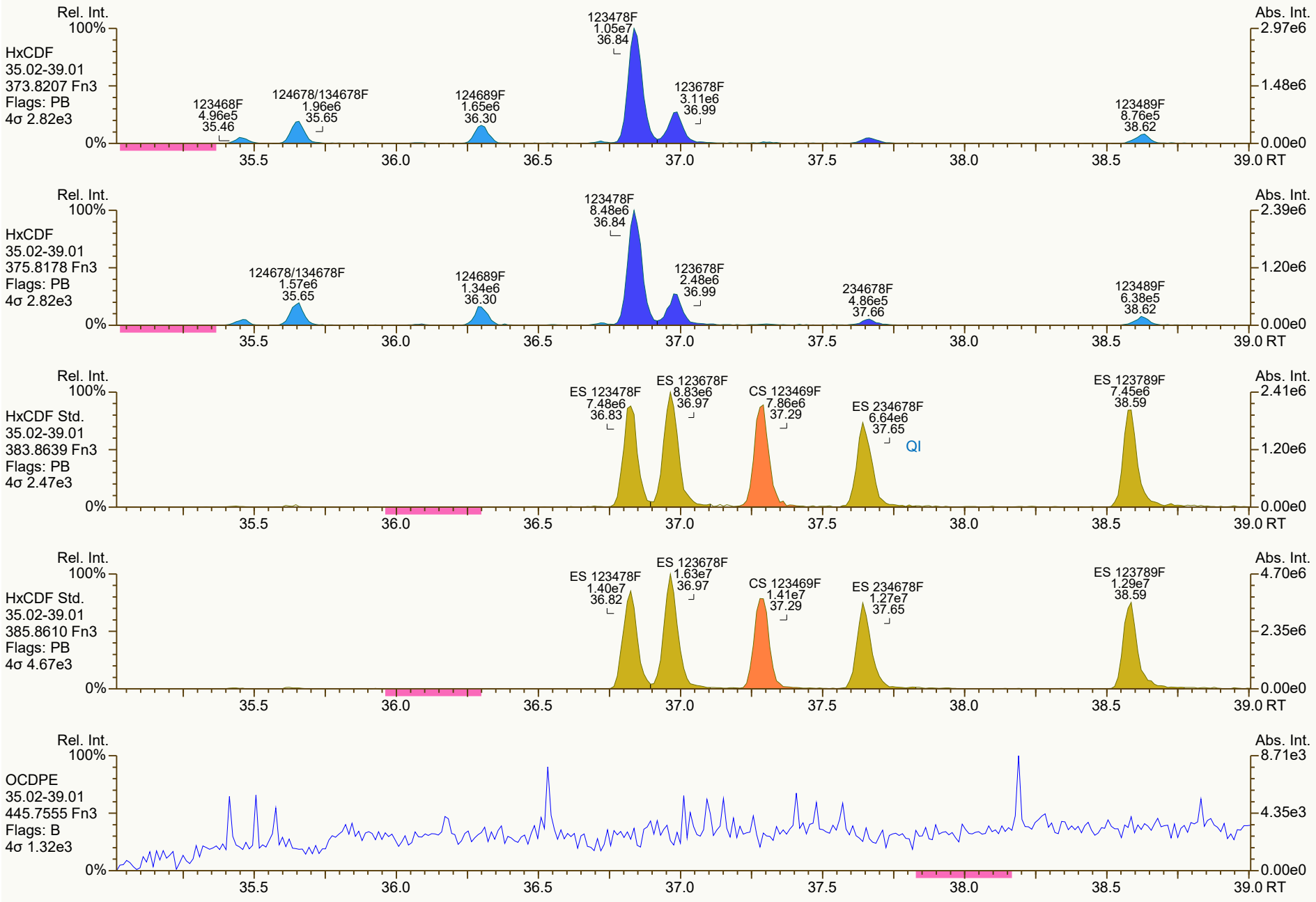
Peak annotation: Areas, Centroids

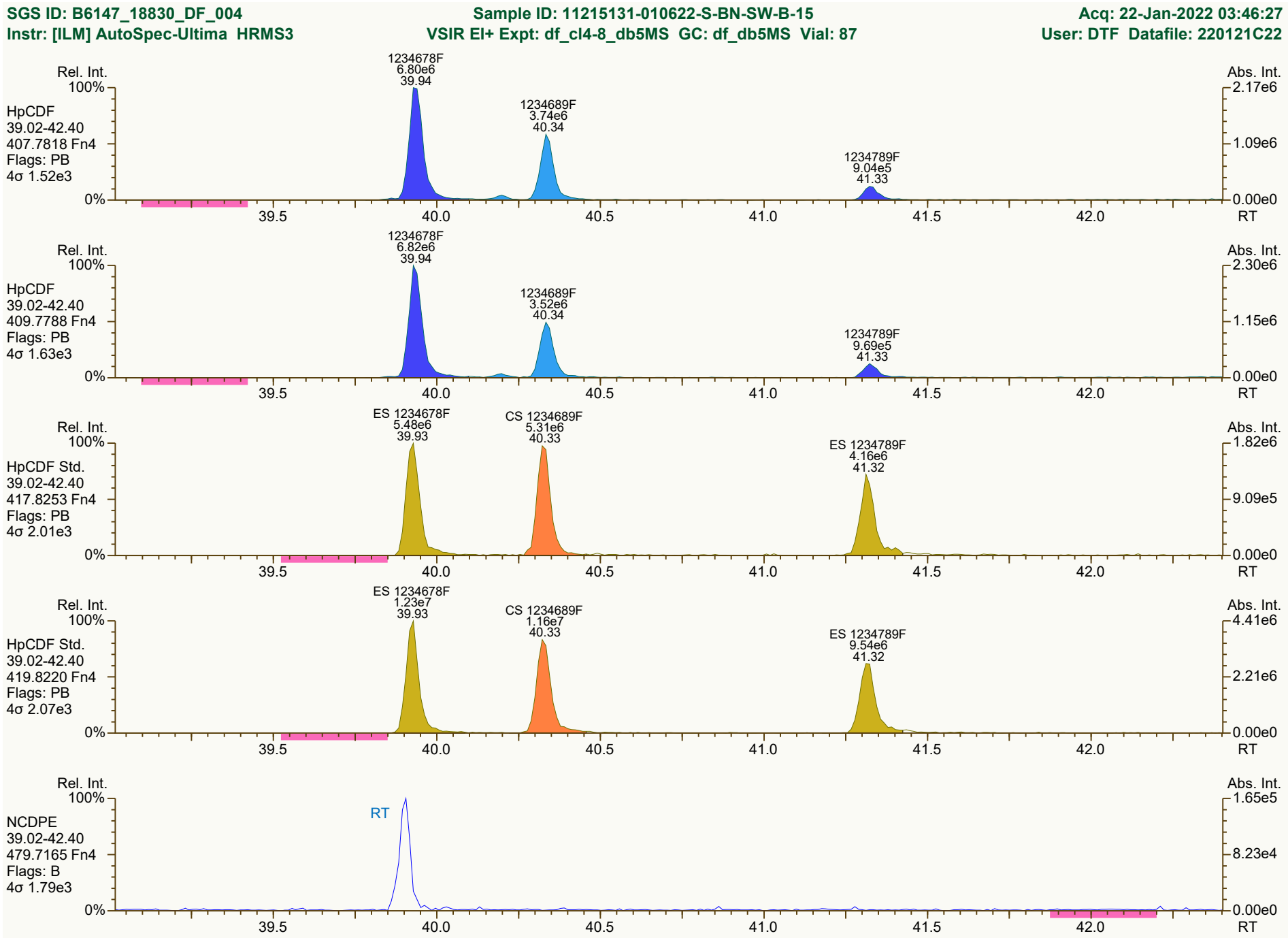
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0085 scc: 372-506

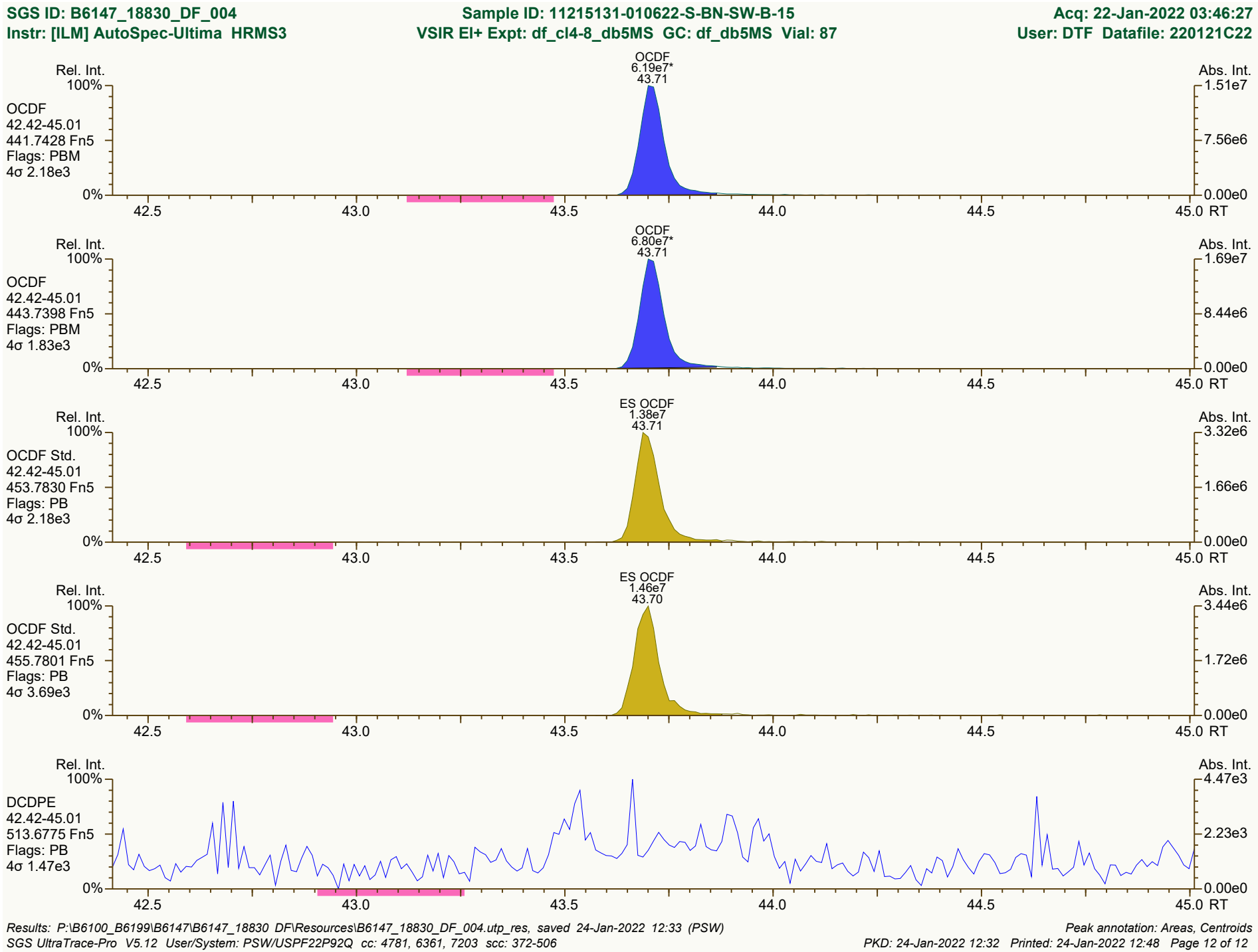
PKD: 24-Jan-2022 12:32 Printed: 24-Jan-2022 12:48 Page 8 of 12



Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004.utp_res, saved 24-Jan-2022 12:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0452, 7213, 4337 scc: 372-506
PKD: 24-Jan-2022 12:32 Printed: 24-Jan-2022 12:48 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 2.82e3
123468F 4.96e5 35.46
124678/134678F 1.96e6 35.65
124689F 1.65e6 36.30
123478F 1.05e7 36.84
123678F 3.11e6 36.99
123489F 8.76e5 38.62
Abs. Int.
2.97e6
1.48e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 2.82e3
124678/134678F 1.57e6 35.65
124689F 1.34e6 36.30
123478F 8.48e6 36.84
123678F 2.48e6 36.99
234678F 4.86e5 37.66
123489F 6.38e5 38.62
2.39e6
1.20e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.47e3
ES 123478F 7.48e6 36.83
ES 123678F 8.83e6 36.97
CS 123469F 7.86e6 37.29
ES 234678F 6.64e6 37.65
QI
ES 123789F 7.45e6 38.59
2.41e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 4.67e3
ES 123478F 1.40e7 36.82
ES 123678F 1.63e7 36.97
CS 123469F 1.41e7 37.29
ES 234678F 1.27e7 37.65
ES 123789F 1.29e7 38.59
4.70e6
2.35e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.32e3
8.71e3
4.35e3


SGS ID: B6147_18830_DF_004
Sample ID: 11215131-010622-S-BN-SW-B-15
Acq: 22-Jan-2022 03:46:27
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: DTF Datafile: 220121C22
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.52e3
1234678F
6.80e6
39.94
1234689F
3.74e6
40.34
1234789F
9.04e5
41.33
2.17e6
1.09e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.63e3
1234678F
6.82e6
39.94
1234689F
3.52e6
40.34
1234789F
9.69e5
41.33
2.30e6
1.15e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 2.01e3
ES 1234678F
5.48e6
39.93
CS 1234689F
5.31e6
40.33
ES 1234789F
4.16e6
41.32
1.82e6
9.09e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 2.07e3
ES 1234678F
1.23e7
39.93
CS 1234689F
1.16e7
40.33
ES 1234789F
9.54e6
41.32
4.41e6
2.21e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.79e3
RT
1.65e5
8.23e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004.utp_res, saved 24-Jan-2022 12:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0492, 4303, 0801 scc: 372-506
PKD: 24-Jan-2022 12:32 Printed: 24-Jan-2022 12:48 Page 11 of 12


SGS ID: B6147_18830_DF_004
Sample ID: 11215131-010622-S-BN-SW-B-15
Acq: 22-Jan-2022 03:46:27
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: DTF Datafile: 220121C22
OCDF
6.19e7*
43.71
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.18e3
OCDF
6.80e7*
43.71
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.83e3
ES OCDF
1.38e7
43.71
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 2.18e3
ES OCDF
1.46e7
43.70
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 3.69e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.47e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004.utp_res, saved 24-Jan-2022 12:33 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4781, 6361, 7203 scc: 372-506
PKD: 24-Jan-2022 12:32 Printed: 24-Jan-2022 12:48 Page 12 of 12

Lab ID: B6147_18830_DF_004MS **Acq'd:** 22 Jan 2022 04:32 DTF **Wt/Vol:** 10.13 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15-MS **UTP:** 24-Jan-2022 12:36:24 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 908-948-BLM

Datafile: 220121C23 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0008	0	6.88E+07	0.81	Y	1.18	557	5793.676	0.502
12378-PeCDD	33.97		1.0006	1.0006	0	1.06E+07	1.57	Y	1.04	103	5277.083	0.473
123478-HxCDD	37.86		1.0004	1.0004	0	1.02E+07	1.30	Y	1.09	107	6222.095	0.555
123678-HxCDD	37.97		1.0034	1.0034	0	1.15E+07	1.28	Y	1.15	117	6222.095	0.567
123789-HxCDD	38.26		1.0109	1.0111	+0.5	1.13E+07	1.30	Y	1.05	109	6222.095	0.525
1234678-HpCDD	40.88		1.0003	1.0003	0	2.06E+07	1.06	Y	1.06	242	4719.541	0.442
OCDD	43.53		1.0002	1.0003	+0.3	1.54E+08	0.92	Y	1.13	2,560	5288.232	0.9
2378-TCDF	27.81	E	1.0008	1.0008	0	2.73E+08	0.80	Y	1.08	1,480	5915.224	0.346
12378-PeCDF	32.53		1.0005	1.0005	0	2.65E+07	1.55	Y	1.02	168	8017.39	0.495
23478-PeCDF	33.63		1.0005	1.0006	+0.2	2.36E+07	1.54	Y	1.02	154	8017.39	0.487
123478-HxCDF	36.85		1.0004	1.0004	0	3.40E+07	1.27	Y	1.27	227	6254.719	0.378
123678-HxCDF	36.99		1.0004	1.0004	0	2.19E+07	1.27	Y	1.15	138	6254.719	0.364
234678-HxCDF	37.68		1.0004	1.0005	+0.2	1.42E+07	1.23	Y	1.19	113	6254.719	0.417
123789-HxCDF	38.62		1.0004	1.0005	+0.2	1.47E+07	1.26	Y	1.16	112	6254.719	0.417
1234678-HpCDF	39.95		1.0002	1.0002	0	2.80E+07	1.05	Y	1.37	200	5496.634	0.281
1234789-HpCDF	41.34		1.0003	1.0003	0	1.23E+07	1.01	Y	1.31	119	5496.634	0.465
OCDF	43.72		1.0002	1.0003	+0.3	1.44E+08	0.87	Y	1.07	1,800	4591.848	0.59

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0234	+0.2	2.06E+07	0.84	Y	1.05	92.4
ES 12378-PeCDD	33.95	1.2121	1.2130	+1.8	1.96E+07	1.53	Y	0.88	105
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.73E+07	1.29	Y	0.97	95.3
ES 123678-HxCDD	37.96	0.9951	0.9951	0	1.70E+07	1.26	Y	0.94	96.3
ES 123789-HxCDD	38.25	1.0025	1.0027	+0.5	1.95E+07	1.25	Y	1.09	95.8
ES 1234678-HpCDD	40.87	1.0709	1.0715	+1.5	1.58E+07	1.07	Y	0.91	92.8
ES OCDD	43.52	1.1403	1.1410	+1.8	2.10E+07	0.93	Y	0.62	90.4
ES 2378-TCDF	27.79	1.0506	1.0510	+0.7	3.38E+07	0.85	Y	1.06	94.9
ES 12378-PeCDF	32.51	1.2281	1.2295	+2.7	3.04E+07	1.56	Y	0.91	99.3
ES 23478-PeCDF	33.61	1.2698	1.2712	+2.8	2.97E+07	1.61	Y	0.88	100
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.33E+07	0.55	Y	1.20	104
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.72E+07	0.55	Y	1.35	108
ES 234678-HxCDF	37.66	0.9874	0.9874	0	2.09E+07	0.55	Y	1.24	89.9
ES 123789-HxCDF	38.60	1.0116	1.0119	+0.7	2.21E+07	0.56	Y	1.16	103
ES 1234678-HpCDF	39.94	1.0467	1.0472	+1.2	2.02E+07	0.45	Y	0.97	112
ES 1234789-HpCDF	41.33	1.0830	1.0836	+1.5	1.55E+07	0.45	Y	0.85	97.7
ES OCDF	43.71	1.1451	1.1459	+2.1	2.94E+07	0.93	Y	0.81	97.5

Lab ID: B6147_18830_DF_004MS | **Acq'd:** 22 Jan 2022 04:32 DTF | **Wt/Vol:** 10.13 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15-MS | **UTP:** 24-Jan-2022 12:36:24 PSW | **J-level:** 0.494 pg/g | **Split:** 1 | **Checkcode:** 908-948-BLM

Datafile: 220121C23 | **Report:** 24 Jan 2022 12:44 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.99		-	-	-	2.13E+07	0.79	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	3.36E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	9.33E+06	1.19	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0242	+0.2	9.30E+06	n/a	-	1.20	90.8	
CS 12347-PeCDD	33.45		1.1943	1.1951	+1.6	1.73E+07	1.51	Y	0.75	108	
CS 12346-PeCDF	31.98		1.2083	1.2095	+2.3	3.01E+07	1.64	Y	0.85	105	
CS 123469-HxCDF	37.30		0.9778	0.9778	0	2.42E+07	0.53	Y	1.12	116	
CS 1234689-HpCDF	40.34		1.0571	1.0576	+1.2	1.92E+07	0.44	Y	0.89	116	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~9.30E+06~~	~~n/a~~		~~1.15~~	~~98.~~5	Not used in this project.
~~SS 12347-PeCDD~~	~~33.45~~		~~1.1943~~	~~1.1951~~	~~+1.6~~	~~1.73E+07~~	~~1.51~~	~~Y~~	~~0.86~~	~~102~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~3.01E+07~~	~~1.64~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.42E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~108~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.92E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~104~~	

Totals	Conc	EMPC
Total TCDD	709	710
Total PeCDD	164	166
Total HxCDD	428	431
Total HpCDD	477	477
Total Tetra-Octa Dioxins	4340	4350
Total TCDF	2,960	2960
Total PeCDF	613	614
Total HxCDF	934	934
Total HpCDF	394	394
Total Tetra-Octa Furans	6,700	6710
Total Tetra-Octa Dioxins & Furans	11000	11100

Lab ID: B6147_18830_DF_004MS **Acq'd: 22 Jan 2022 04:32 DTF** **Wt/Vol: 10.13 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15-MS **UTP: 24-Jan-2022 12:36:24 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 908-948-BLM**

Datafile: 220121C23 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.06		0.8755	0.8748	-1.1	3.94E+06	0.83	Y	1.18	31.9	5793.676	0.502
1379-TCDD	25.40	EMPC	0.8876	0.8868	-1.2	6.76E+04	0.63	N	1.18	0.547	5793.676	0.502
1369-TCDD	NotFnd		0.9023						1.18		5793.676	0.502
1469-TCDD	26.60		0.9291	0.9286	-0.8	4.58E+05	0.84	Y	1.18	3.71	5793.676	0.502
1247/1246/1248/1249-TCDD	26.82		0.9373	0.9366	-1.1	1.57E+05	0.66	Y	1.18	1.27	5793.676	0.502
1378-TCDD	27.03		0.9440	0.9437	-0.5	1.87E+05	0.73	Y	1.18	1.52	5793.676	0.502
1268-TCDD	NotFnd		0.9506						1.18		5793.676	0.502
1478-TCDD	27.47		0.9591	0.9589	-0.3	1.47E+05	0.72	Y	1.18	1.19	5793.676	0.502
1279-TCDD	NotFnd		0.9649						1.18		5793.676	0.502
1234/1269-TCDD	27.98	EMPC	0.9771	0.9769	-0.3	7.61E+04	1.19	N	1.18	0.616	5793.676	0.502
1236-TCDD	NotFnd		0.9820						1.18		5793.676	0.502
1237/1238-TCDD	28.37		0.9908	0.9904	-0.7	9.71E+05	0.79	Y	1.18	7.86	5793.676	0.502
1239-TCDD	28.50		0.9954	0.9951	-0.5	2.80E+06	0.78	Y	1.18	22.6	5793.676	0.502
2378-TCDD	**28.66**		**1.0008**	1.0008	**0**	6.88E+07	0.81	Y	**1.18**	**557**	**5793.676**	**0.502**
1278-TCDD	28.99		1.0121	1.0120	-0.2	6.08E+06	0.77	Y	1.18	49.2	5793.676	0.502
1267-TCDD	NotFnd		1.0167						1.18		5793.676	0.502
1289-TCDD	29.62		1.0341	1.0343	+0.4	4.04E+06	0.79	Y	1.18	32.7	5793.676	0.502
12479/12468-PeCDD	31.47		0.9273	0.9271	-0.4	2.76E+06	1.61	Y	1.04	26.8	5277.083	0.473
12469-PeCDD	32.00		0.9430	0.9427	-0.6	3.11E+05	1.59	Y	1.04	3.02	5277.083	0.473
12368-PeCDD	32.55	J	0.9592	0.9590	-0.4	2.05E+05	1.62	Y	1.04	1.99	5277.083	0.473
12478-PeCDD	32.74	J	0.9647	0.9645	-0.4	1.48E+05	1.36	Y	1.04	1.43	5277.083	0.473
12379-PeCDD	32.84	J	0.9676	0.9674	-0.4	9.61E+04	1.37	Y	1.04	0.933	5277.083	0.473
12369/12467/12489-PeCDD	33.10	J EMPC	0.9752	0.9751	-0.2	2.03E+05	1.27	N	1.04	1.97	5277.083	0.473
12346/12347-PeCDD	33.46	J EMPC	0.9860	0.9857	-0.6	5.52E+04	1.82	N	1.04	0.536	5277.083	0.473
12378-PeCDD	33.97		**1.0006**	**1.0006**	**0**	**1.06E+07**	**1.57**	**Y**	**1.04**	**103**	**5277.083**	**0.473**
12367-PeCDD	NotFnd		1.0034						1.04		5277.083	0.473
12389-PeCDD	34.40		1.0134	1.0134	0	2.74E+06	1.76	Y	1.04	26.6	5277.083	0.473
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.6	6.65E+06	1.28	Y	1.10	66.9	6222.095	0.547
123468-HxCDD	36.77		0.9715	0.9716	+0.2	3.93E+05	1.09	Y	1.10	3.95	6222.095	0.547
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	2.23E+06	1.29	Y	1.10	22.4	6222.095	0.547
123469-HxCDD	37.19	J	0.9829	0.9828	-0.2	1.79E+05	1.31	Y	1.10	1.8	6222.095	0.547
123478-HxCDD	37.86		**1.0004**	**1.0004**	**0**	**1.02E+07**	**1.30**	**Y**	1.09	**107**	**6222.095**	**0.555**
123678-HxCDD	37.97		**1.0034**	**1.0034**	**0**	**1.15E+07**	**1.28**	**Y**	1.15	**117**	**6222.095**	**0.567**
123467-HxCDD	38.15	J EMPC	1.0082	1.0080	-0.5	2.31E+05	1.54	N	1.10	2.33	6222.095	0.547
123789-HxCDD	38.26		**1.0109**	**1.0111**	**+0.5**	**1.13E+07**	**1.30**	**Y**	1.05	**109**	**6222.095**	**0.525**

Lab ID: B6147_18830_DF_004MS | **Acq'd: 22 Jan 2022 04:32 DTF** | **Wt/Vol: 10.13 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15-MS | **UTP: 24-Jan-2022 12:36:24 PSW** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 908-948-BLM**

Datafile: 220121C23 | **Report: 24 Jan 2022 12:44 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

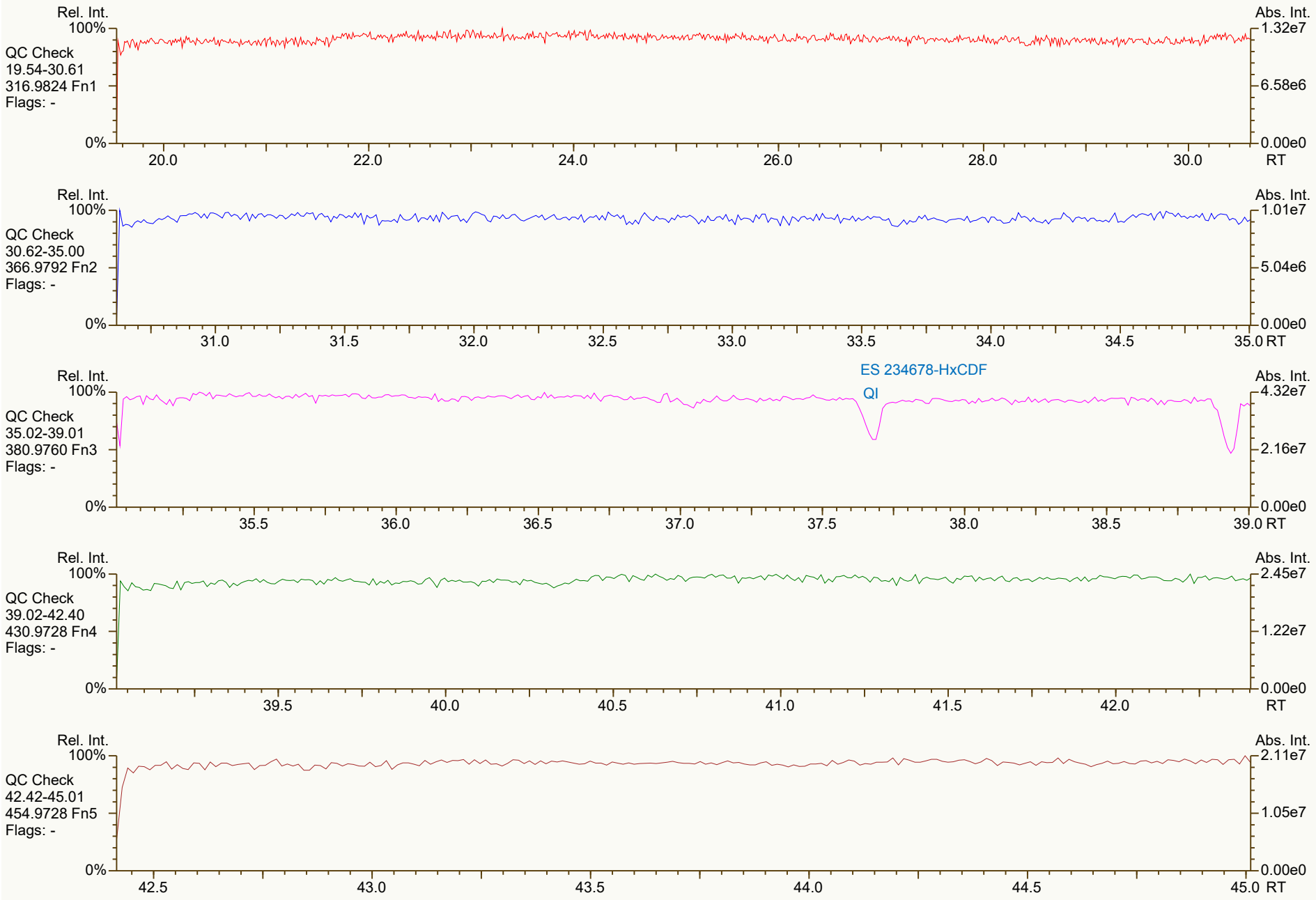
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	2.00E+07	1.05	Y	1.06	235	4719.541	0.442
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**2.06E+07**	**1.06**	**Y**	**1.06**	**242**	**4719.541**	**0.442**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.54E+08**	**0.92**	**Y**	**1.13**	**2,560**	**5288.232**	**0.9**
OCDD-a	43.53		1.0002	1.0002	0	9.35E+06	2.48	Y	0.07	2,440	4937.502	13.1
1368-TCDF	22.99		0.8282	0.8271	-1.5	5.54E+06	0.81	Y	1.08	30	5915.224	0.346
1468-TCDF	23.55		0.8485	0.8475	-1.4	7.64E+05	0.81	Y	1.08	4.14	5915.224	0.346
2468-TCDF	24.18		0.8709	0.8699	-1.5	2.75E+06	0.80	Y	1.08	14.9	5915.224	0.346
1346/1246-TCDF	24.57		0.8829	0.8840	+1.6	3.73E+05	0.75	Y	1.08	2.02	5915.224	0.346
1347/1378/1247-TCDF	24.70		0.8884	0.8888	+0.6	3.19E+06	0.84	Y	1.08	17.3	5915.224	0.346
1348-TCDF	24.92		0.8980	0.8967	-1.9	6.55E+05	0.85	Y	1.08	3.55	5915.224	0.346
1248/1367/1379-TCDF	25.03		0.9026	0.9006	-3.0	1.30E+07	0.77	Y	1.08	70.3	5915.224	0.346
1268-TCDF	25.44		0.9158	0.9154	-0.6	4.77E+06	0.78	Y	1.08	25.8	5915.224	0.346
1467-TCDF	25.57		0.9206	0.9201	-0.8	6.99E+05	0.83	Y	1.08	3.79	5915.224	0.346
1478-TCDF	25.74		0.9266	0.9261	-0.8	1.10E+07	0.79	Y	1.08	59.8	5915.224	0.346
1369/1237-TCDF	26.12		0.9397	0.9397	0	3.11E+06	0.74	Y	1.08	16.8	5915.224	0.346
2467-TCDF	26.23	EMPC	0.9440	0.9439	-0.2	4.00E+05	0.91	N	1.08	2.17	5915.224	0.346
2368-TCDF	26.39		0.9497	0.9496	-0.2	1.01E+07	0.79	Y	1.08	55	5915.224	0.346
1238/1234/1678/1469/1236-TCDF	26.47		0.9528	0.9523	-0.8	1.19E+07	0.83	Y	1.08	64.3	5915.224	0.346
1278-TCDF	26.92		0.9690	0.9687	-0.5	1.16E+08	0.80	Y	1.08	629	5915.224	0.346
1349-TCDF	NotFnd		0.9730						1.08		5915.224	0.346
1267-TCDF	27.19		0.9787	0.9784	-0.5	6.96E+06	0.79	Y	1.08	37.8	5915.224	0.346
2346/1249-TCDF	NotFnd		0.9850						1.08		5915.224	0.346
2347/1279-TCDF	27.60		0.9929	0.9929	0	3.74E+06	0.73	Y	1.08	20.3	5915.224	0.346
2348-TCDF	27.70		0.9970	0.9968	-0.3	2.51E+07	0.78	Y	1.08	136	5915.224	0.346
2378-TCDF	**27.81**	E	**1.0008**	**1.0008**	**0**	**2.73E+08**	**0.80**	**Y**	**1.08**	**1,480**	**5915.224**	**0.346**
2367/3467-TCDF	28.16		1.0136	1.0133	-0.5	2.28E+07	0.80	Y	1.08	124	5915.224	0.346
1269-TCDF	28.41		1.0221	1.0223	+0.3	4.44E+06	0.81	Y	1.08	24.1	5915.224	0.346
1239-TCDF	28.68		1.0319	1.0318	-0.2	3.57E+05	0.82	Y	1.08	1.93	5915.224	0.346
1289-TCDF	29.80		1.0740	1.0724	-2.9	2.56E+07	0.82	Y	1.08	139	5915.224	0.346
13468/12468-PeCDF	29.71		0.9145	0.9139	-1.1	2.80E+07	1.56	Y	1.02	180	3645.919	0.223
13678/13467/12467-PeCDF	31.27	J	0.9619	0.9618	-0.2	3.52E+05	1.56	Y	1.02	2.27	8017.39	0.491
12368/13478/12478-PeCDF	31.43		0.9665	0.9668	+0.6	6.65E+06	1.56	Y	1.02	42.8	8017.39	0.491
14678-PeCDF	31.52	J	0.9695	0.9697	+0.4	2.13E+05	1.54	Y	1.02	1.37	8017.39	0.491
13479-PeCDF	NotFnd		0.9724						1.02		8017.39	0.491
13469/12479-PeCDF	31.83	J EMPC	0.9801	0.9790	-2.1	1.12E+05	1.06	N	1.02	0.722	8017.39	0.491
12346-PeCDF	31.99	J EMPC	0.9842	0.9842	0	8.91E+04	1.12	N	1.02	0.573	8017.39	0.491

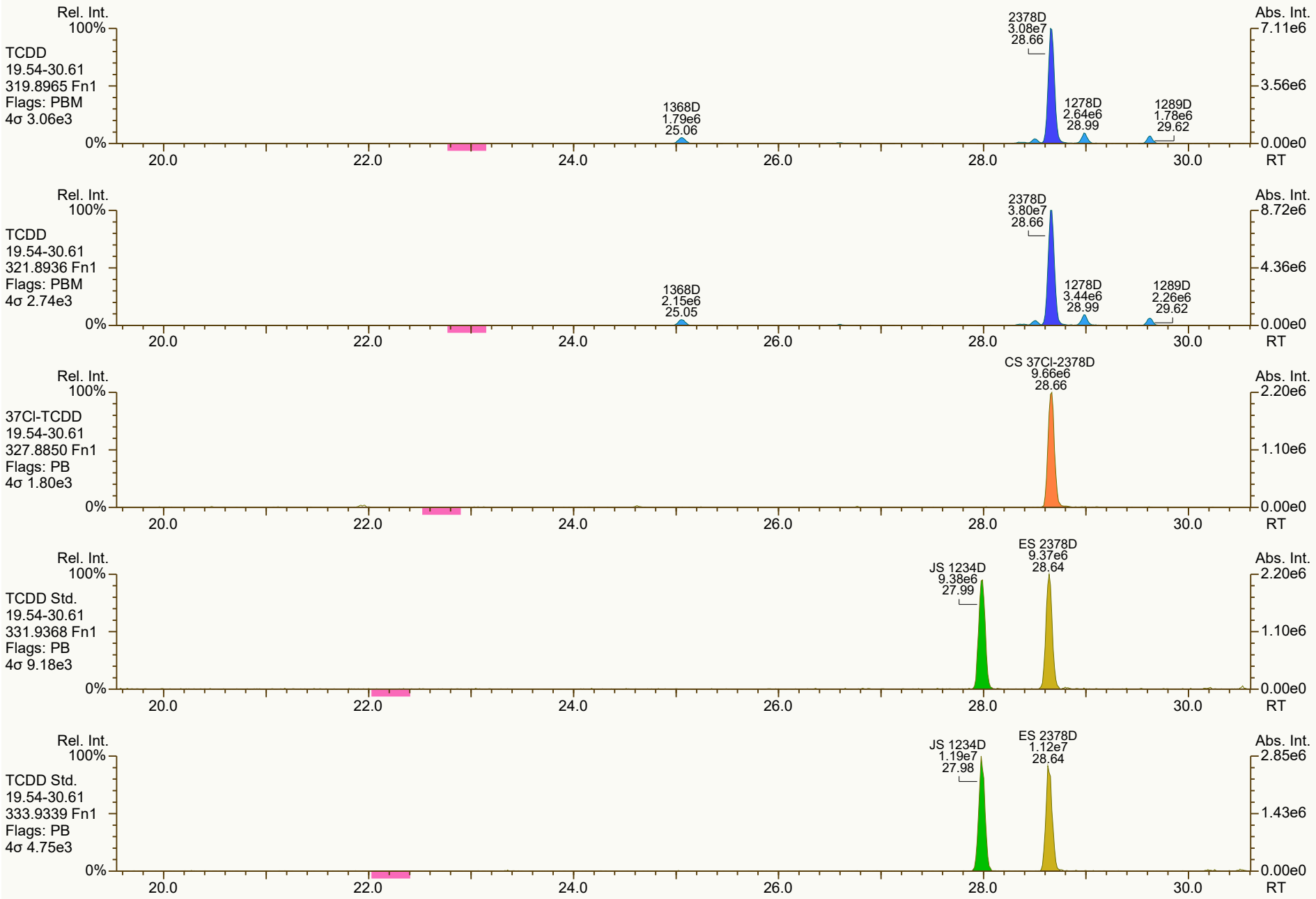
Lab ID: B6147_18830_DF_004MS **Acq'd: 22 Jan 2022 04:32 DTF** **Wt/Vol: 10.13 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

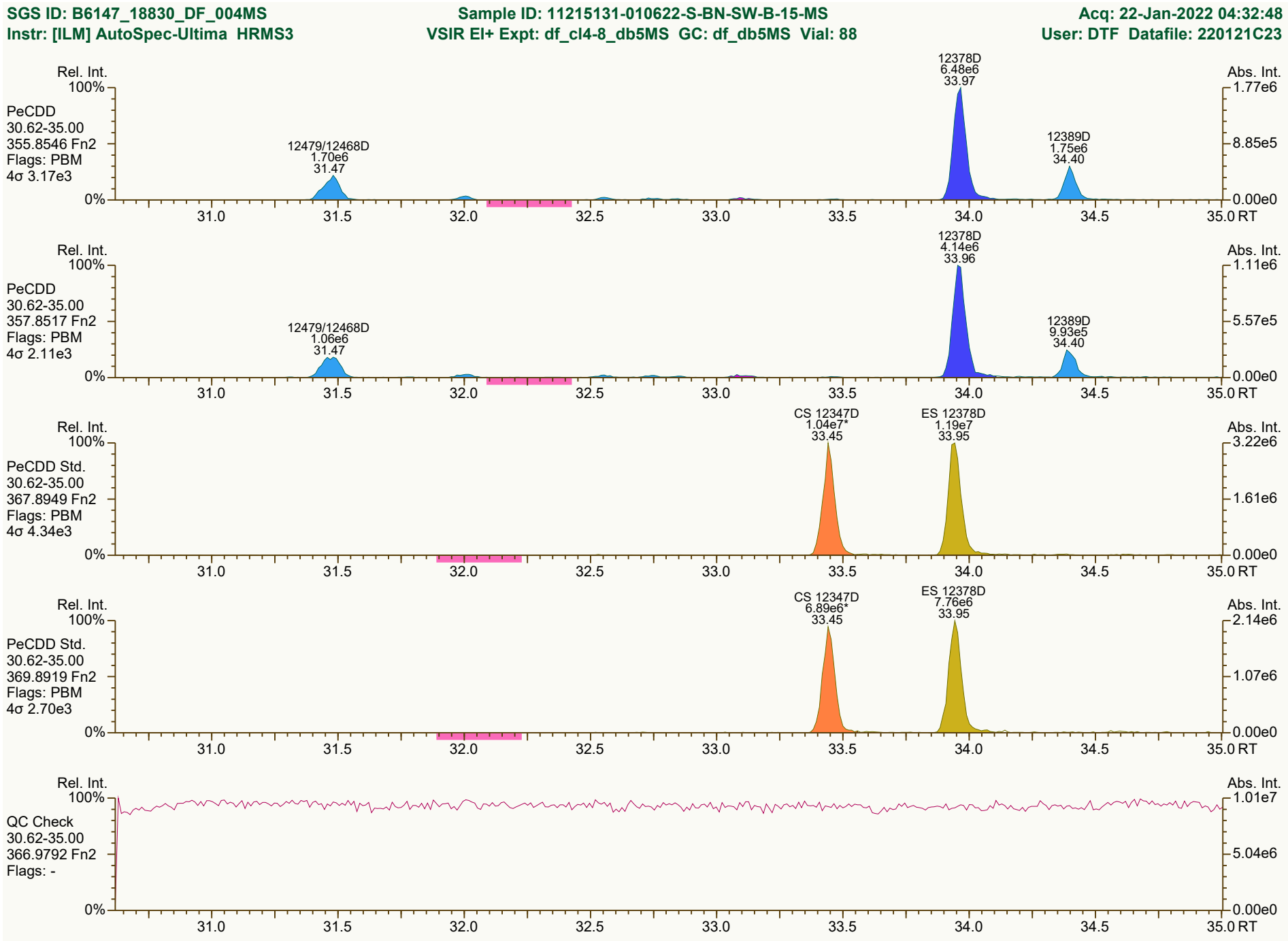
Client ID: 11215131-010622-S-BN-SW-B-15-MS **UTP: 24-Jan-2022 12:36:24 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 908-948-BLM**

Datafile: 220121C23 **Report: 24 Jan 2022 12:44 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

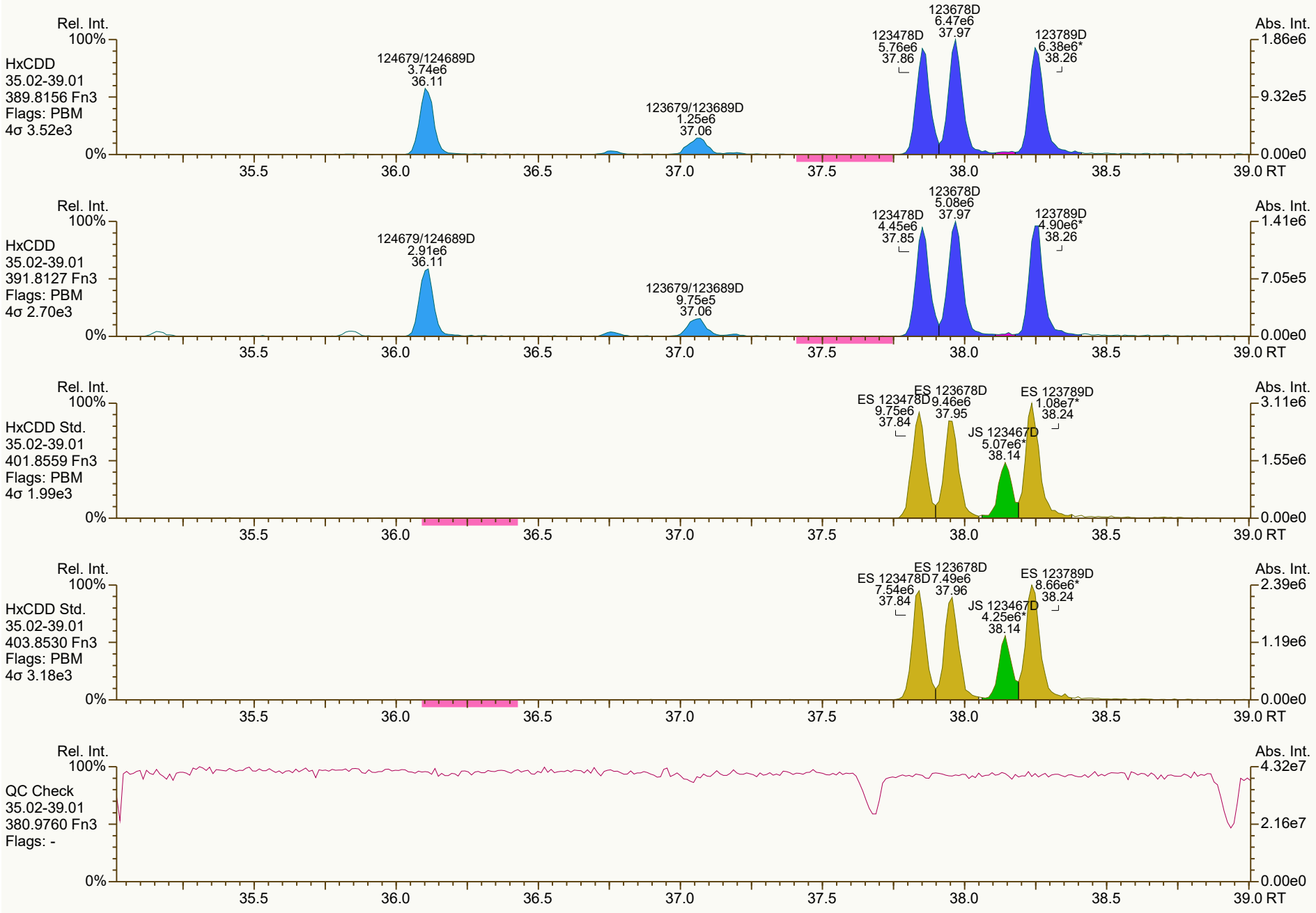
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08		0.9868	0.9868	0	6.79E+05	1.54	Y	1.02	4.36	8017.39	0.491
12347-PeCDF	32.16	J	0.9895	0.9891	-0.8	2.85E+05	1.53	Y	1.02	1.83	8017.39	0.491
12348-PeCDF	32.31		0.9941	0.9940	-0.2	1.08E+06	1.44	Y	1.02	6.93	8017.39	0.491
12378-PeCDF	**32.53**		**1.0005**	**1.0005**	**0**	**2.65E+07**	**1.55**	**Y**	**1.02**	**168**	**8017.39**	**0.495**
12678/12367-PeCDF	32.82		1.0090	1.0094	+0.8	3.77E+06	1.56	Y	1.02	24.2	8017.39	0.491
12379-PeCDF	NotFnd		1.0142						1.02		8017.39	0.491
12679-PeCDF	NotFnd		0.9931						1.02		8017.39	0.491
23467/12369-PeCDF	33.49	J	0.9966	0.9963	-0.6	2.08E+05	1.43	Y	1.02	1.33	8017.39	0.491
23478-PeCDF	**33.63**		**1.0005**	**1.0006**	**+0.2**	**2.36E+07**	**1.54**	**Y**	**1.02**	**154**	**8017.39**	**0.487**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8017.39	0.491
12349-PeCDF	NotFnd		1.0101						1.02		8017.39	0.491
12389-PeCDF	34.70		1.0322	1.0323	+0.2	3.93E+06	1.45	Y	1.02	25.3	8017.39	0.491
123468-HxCDF	35.47		0.9627	0.9629	+0.4	3.97E+07	1.27	Y	1.19	281	6254.719	0.391
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	4.38E+06	1.22	Y	1.19	31	6254.719	0.391
134679-HxCDF	NotFnd		0.9747						1.19		6254.719	0.391
124679-HxCDF	36.09	J	0.9802	0.9797	-1.1	2.04E+05	1.40	Y	1.19	1.45	6254.719	0.391
124689-HxCDF	36.31		0.9858	0.9858	0	3.21E+06	1.25	Y	1.19	22.7	6254.719	0.391
123467-HxCDF	36.73	J	0.9972	0.9970	-0.4	2.78E+05	1.11	Y	1.19	1.96	6254.719	0.391
123478-HxCDF	**36.85**		**1.0004**	**1.0004**	**0**	**3.40E+07**	**1.27**	**Y**	**1.27**	**227**	**6254.719**	**0.378**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**2.19E+07**	**1.27**	**Y**	**1.15**	**138**	**6254.719**	**0.364**
123479-HxCDF	37.18	J	1.0051	1.0053	+0.4	2.99E+05	1.22	Y	1.19	2.11	6254.719	0.391
123469-HxCDF	37.30		1.0091	1.0087	-0.9	4.81E+05	1.18	Y	1.19	3.4	6254.719	0.391
123679-HxCDF	NotFnd		0.9943						1.19		6254.719	0.391
234678-HxCDF	**37.68**		**1.0004**	**1.0005**	**+0.2**	**1.42E+07**	**1.23**	**Y**	**1.19**	**113**	**6254.719**	**0.417**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6254.719	0.391
123789-HxCDF	**38.62**		**1.0004**	**1.0005**	**+0.2**	**1.47E+07**	**1.26**	**Y**	**1.16**	**112**	**6254.719**	**0.417**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		6254.719	0.391
1234678-HpCDF	**39.95**		**1.0002**	**1.0002**	**0**	**2.80E+07**	**1.05**	**Y**	**1.37**	**200**	**5496.634**	**0.281**
1234679-HpCDF	40.21		1.0067	1.0067	0	7.53E+05	1.00	Y	1.34	6.22	5496.634	0.36
1234689-HpCDF	40.35		1.0101	1.0102	+0.2	8.31E+06	1.05	Y	1.34	68.7	5496.634	0.36
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**1.23E+07**	**1.01**	**Y**	**1.31**	**119**	**5496.634**	**0.465**
OCDF	**43.72**		**1.0002**	**1.0003**	**+0.3**	**1.44E+08**	**0.87**	**Y**	**1.07**	**1,800**	**4591.848**	**0.59**
OCDF-a	43.72		1.0002	1.0002	0	8.81E+06	2.47	Y	0.07	1,780	3888.912	8.07

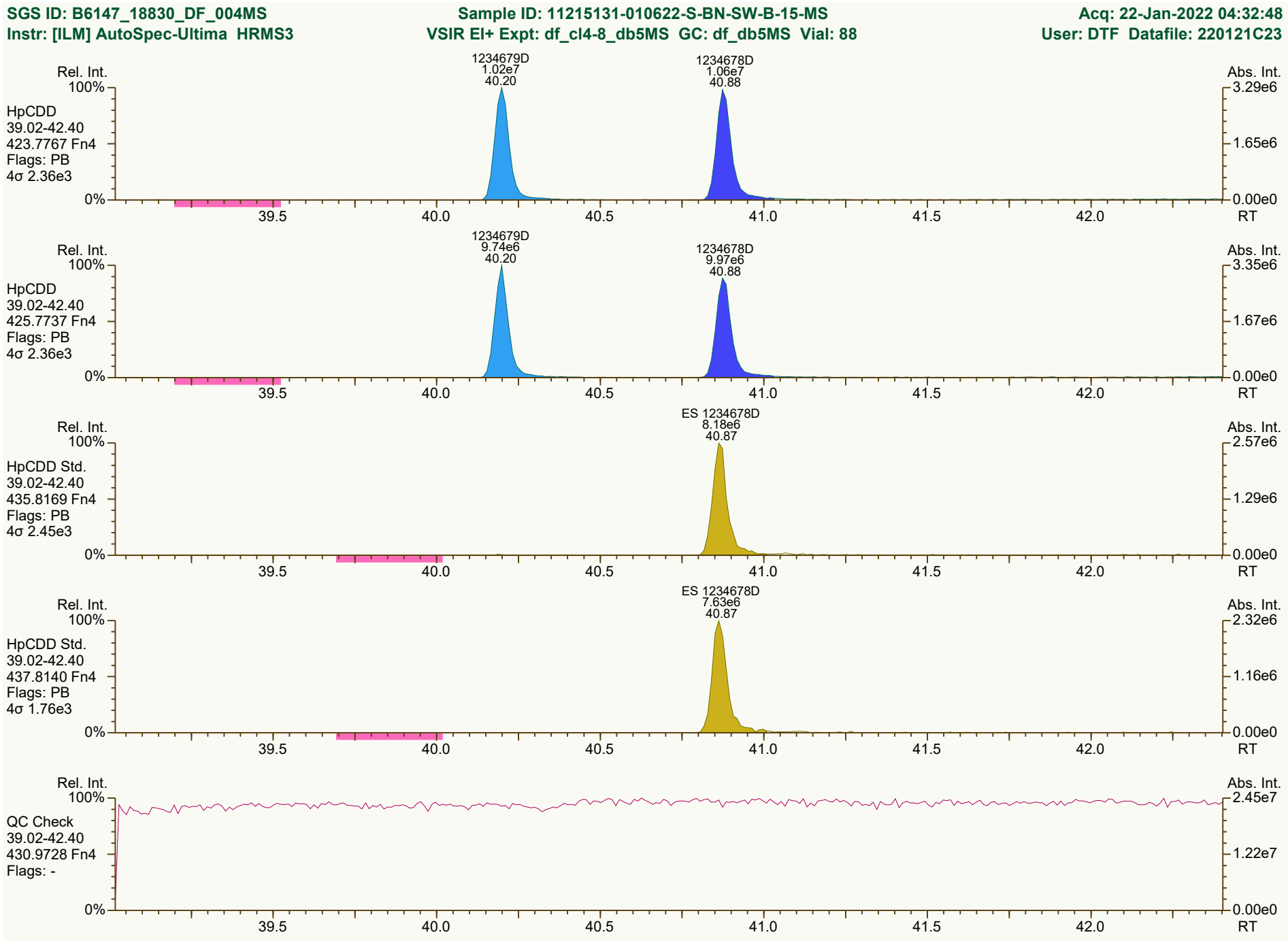

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.32e7
6.58e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.01e7
5.04e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.32e7
2.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

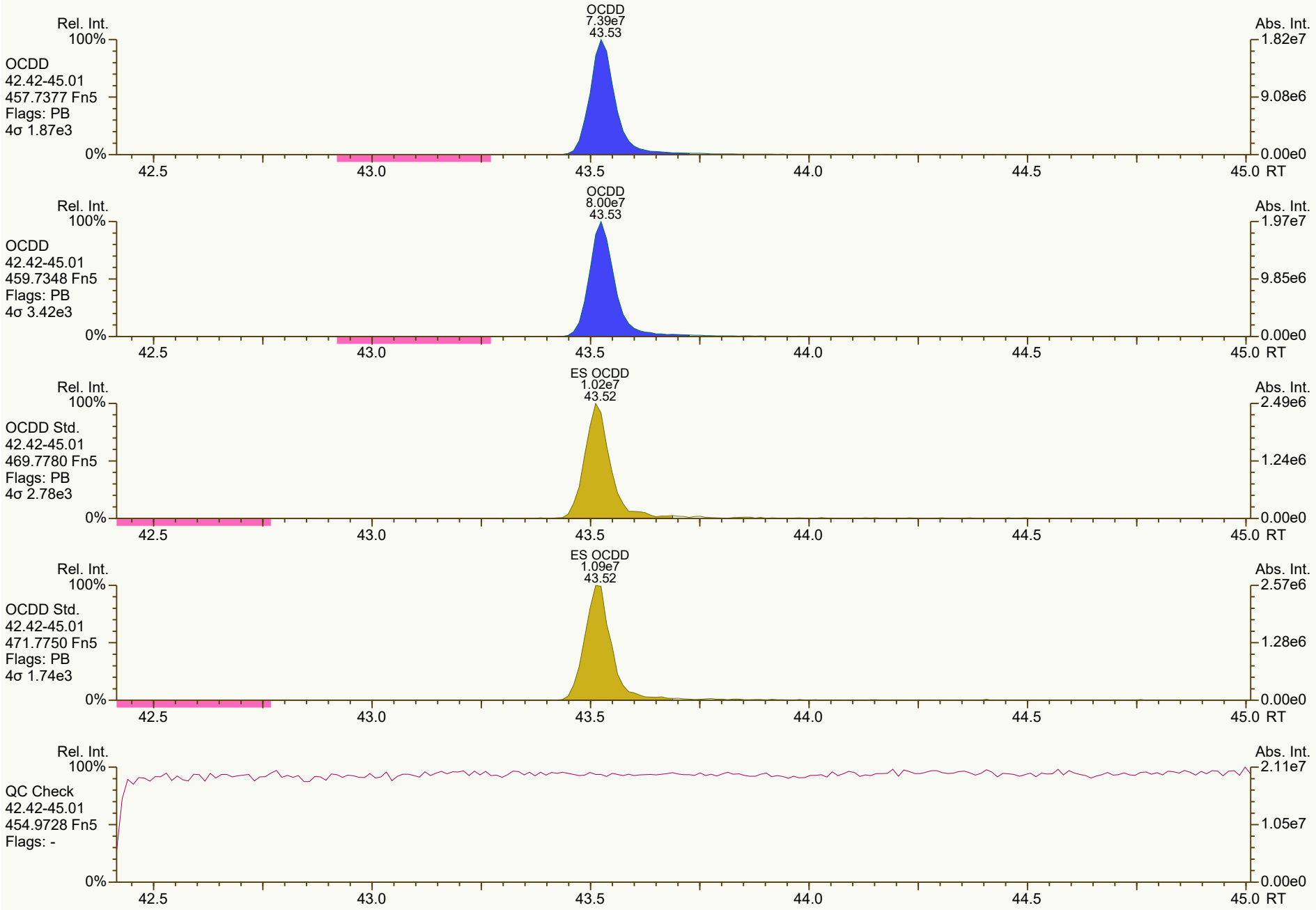

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.06e3
0%
2378D
3.08e7
28.66
1368D
1.79e6
25.06
1278D
2.64e6
28.99
1289D
1.78e6
29.62
Abs. Int.
7.11e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.74e3
0%
2378D
3.80e7
28.66
1368D
2.15e6
25.05
1278D
3.44e6
28.99
1289D
2.26e6
29.62
Abs. Int.
8.72e6
4.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
CS 37Cl-2378D
9.66e6
28.66
Abs. Int.
2.20e6
1.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.18e3
0%
JS 1234D
9.38e6
27.99
ES 2378D
9.37e6
28.64
Abs. Int.
2.20e6
1.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.75e3
0%
JS 1234D
1.19e7
27.98
ES 2378D
1.12e7
28.64
Abs. Int.
2.85e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

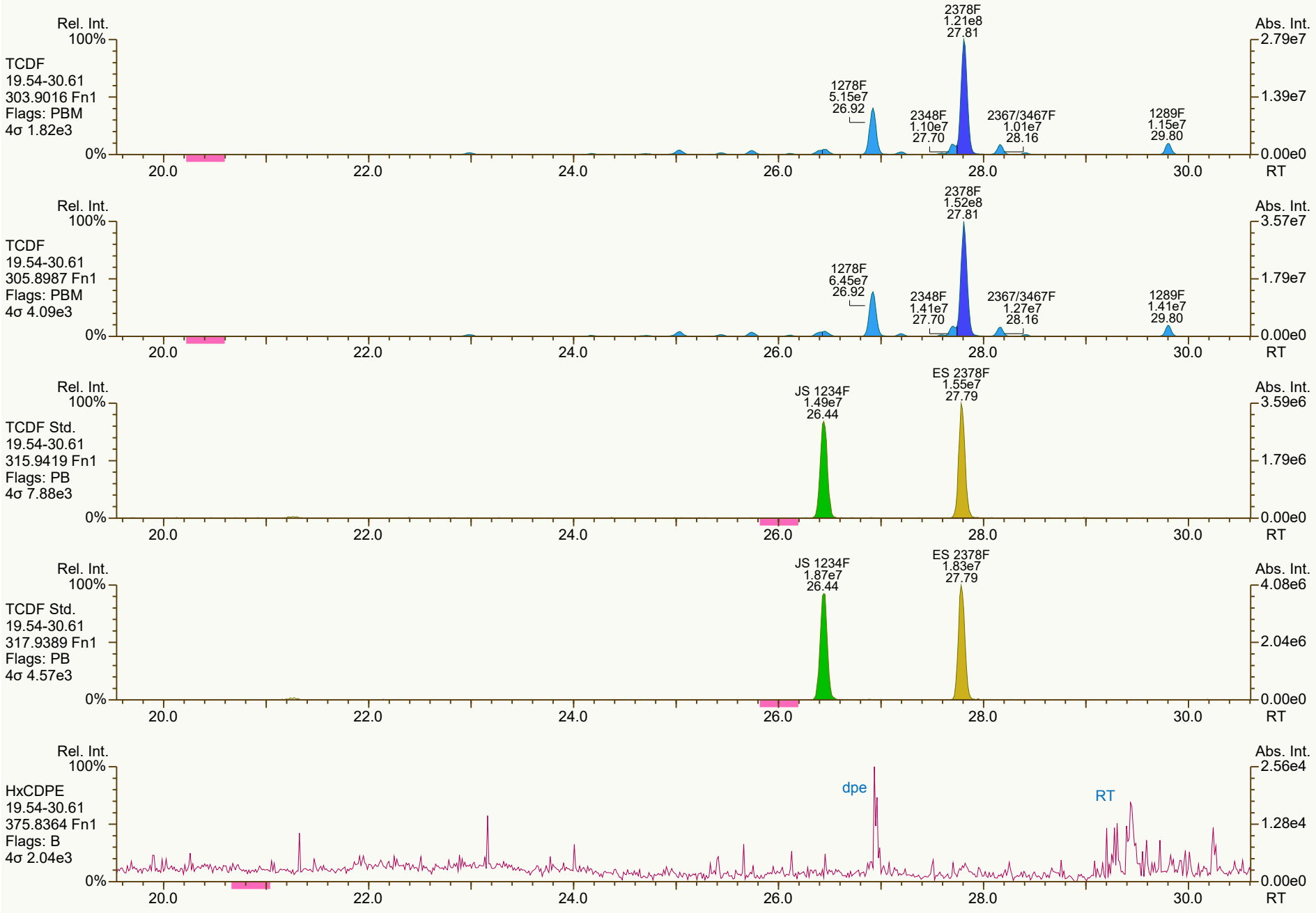


Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MS.utp_res, saved 24-Jan-2022 12:36 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0770, 3808 scc: 908-948
PKD: 24-Jan-2022 12:36 Printed: 24-Jan-2022 12:48 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 3.52e3
124679/124689D
3.74e6
36.11
123679/123689D
1.25e6
37.06
123478D
5.76e6
37.86
123678D
6.47e6
37.97
123789D
6.38e6*
38.26
Abs. Int.
1.86e6
9.32e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.70e3
124679/124689D
2.91e6
36.11
123679/123689D
9.75e5
37.06
123478D
4.45e6
37.85
123678D
5.08e6
37.97
123789D
4.90e6*
38.26
Abs. Int.
1.41e6
7.05e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.99e3
ES 123478D
9.75e6
37.84
ES 123678D
9.46e6
37.95
JS 123467D
5.07e6*
38.14
ES 123789D
1.08e7*
38.24
Abs. Int.
3.11e6
1.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.18e3
ES 123478D
7.54e6
37.84
ES 123678D
7.49e6
37.96
JS 123467D
4.25e6*
38.14
ES 123789D
8.66e6*
38.24
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.32e7
2.16e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6147_18830_DF_004MS
Sample ID: 11215131-010622-S-BN-SW-B-15-MS
Acq: 22-Jan-2022 04:32:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: DTF Datafile: 220121C23
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.36e3
1234679D
1.02e7
40.20
1234678D
1.06e7
40.88
3.29e6
1.65e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.36e3
1234679D
9.74e6
40.20
1234678D
9.97e6
40.88
3.35e6
1.67e6
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.45e3
ES 1234678D
8.18e6
40.87
2.57e6
1.29e6
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.76e3
ES 1234678D
7.63e6
40.87
2.32e6
1.16e6
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.45e7
1.22e7
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MS.utp_res, saved 24-Jan-2022 12:36 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1968, 5767 scc: 908-948
PKD: 24-Jan-2022 12:36 Printed: 24-Jan-2022 12:48 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.87e3
0%
OCDD
7.39e7
43.53
Abs. Int.
1.82e7
9.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 3.42e3
0%
OCDD
8.00e7
43.53
Abs. Int.
1.97e7
9.85e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.78e3
0%
ES OCDD
1.02e7
43.52
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.09e7
43.52
Abs. Int.
2.57e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.82e3
0%
2378F
1.21e8
27.81
1278F
5.15e7
26.92
2348F
1.10e7
27.70
2367/3467F
1.01e7
28.16
1289F
1.15e7
29.80
Abs. Int.
2.79e7
1.39e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.09e3
0%
2378F
1.52e8
27.81
1278F
6.45e7
26.92
2348F
1.41e7
27.70
2367/3467F
1.27e7
28.16
1289F
1.41e7
29.80
Abs. Int.
3.57e7
1.79e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 7.88e3
0%
JS 1234F
1.49e7
26.44
ES 2378F
1.55e7
27.79
Abs. Int.
3.59e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.57e3
0%
JS 1234F
1.87e7
26.44
ES 2378F
1.83e7
27.79
Abs. Int.
4.08e6
2.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 2.04e3
0%
dpe
RT
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6147_18830_DF_004MS
Instr: [ILM] AutoSpec-Ultima HRMS3

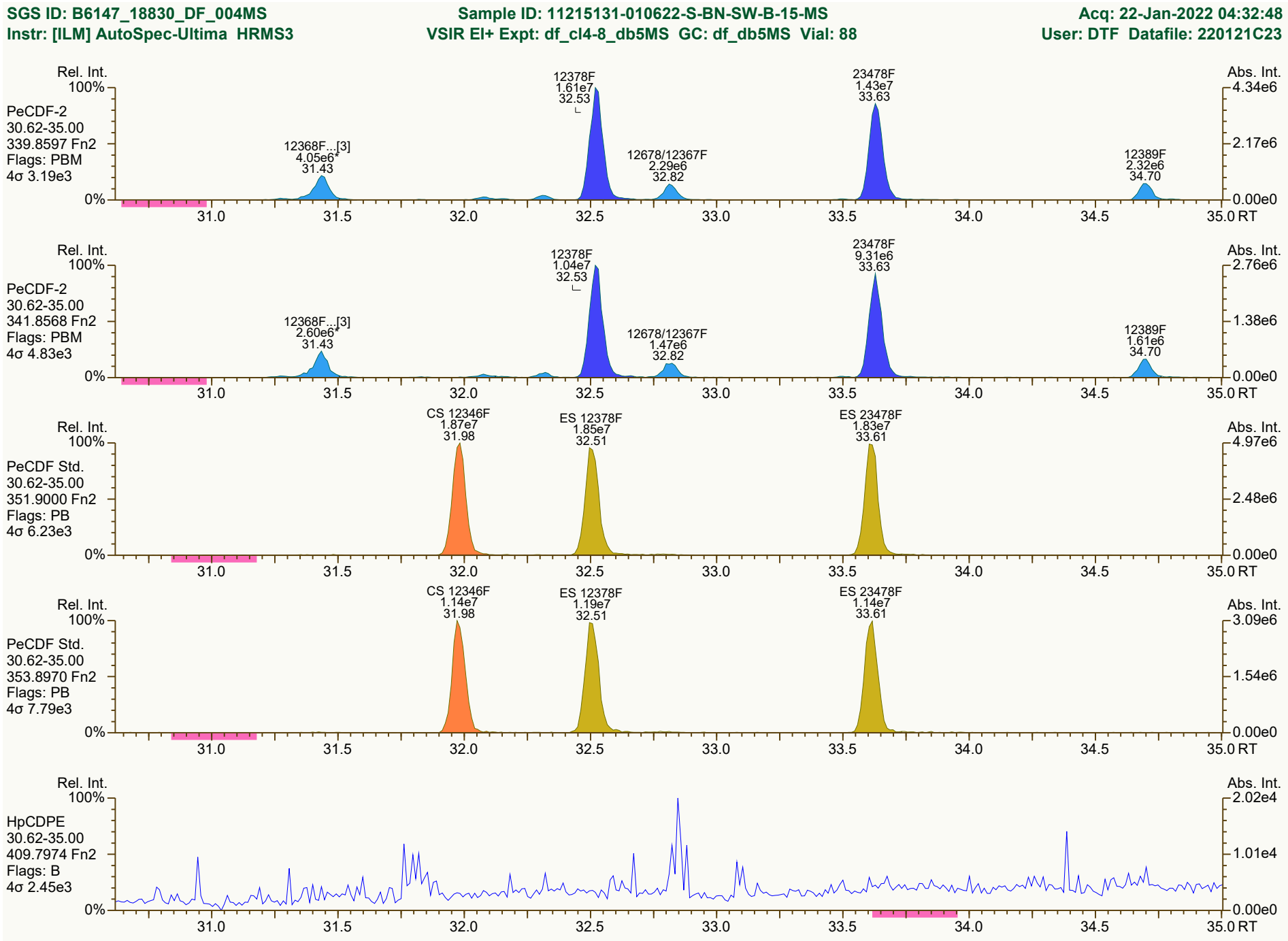
Sample ID: 11215131-010622-S-BN-SW-B-15-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88

Acq: 22-Jan-2022 04:32:48
User: DTF Datafile: 220121C23

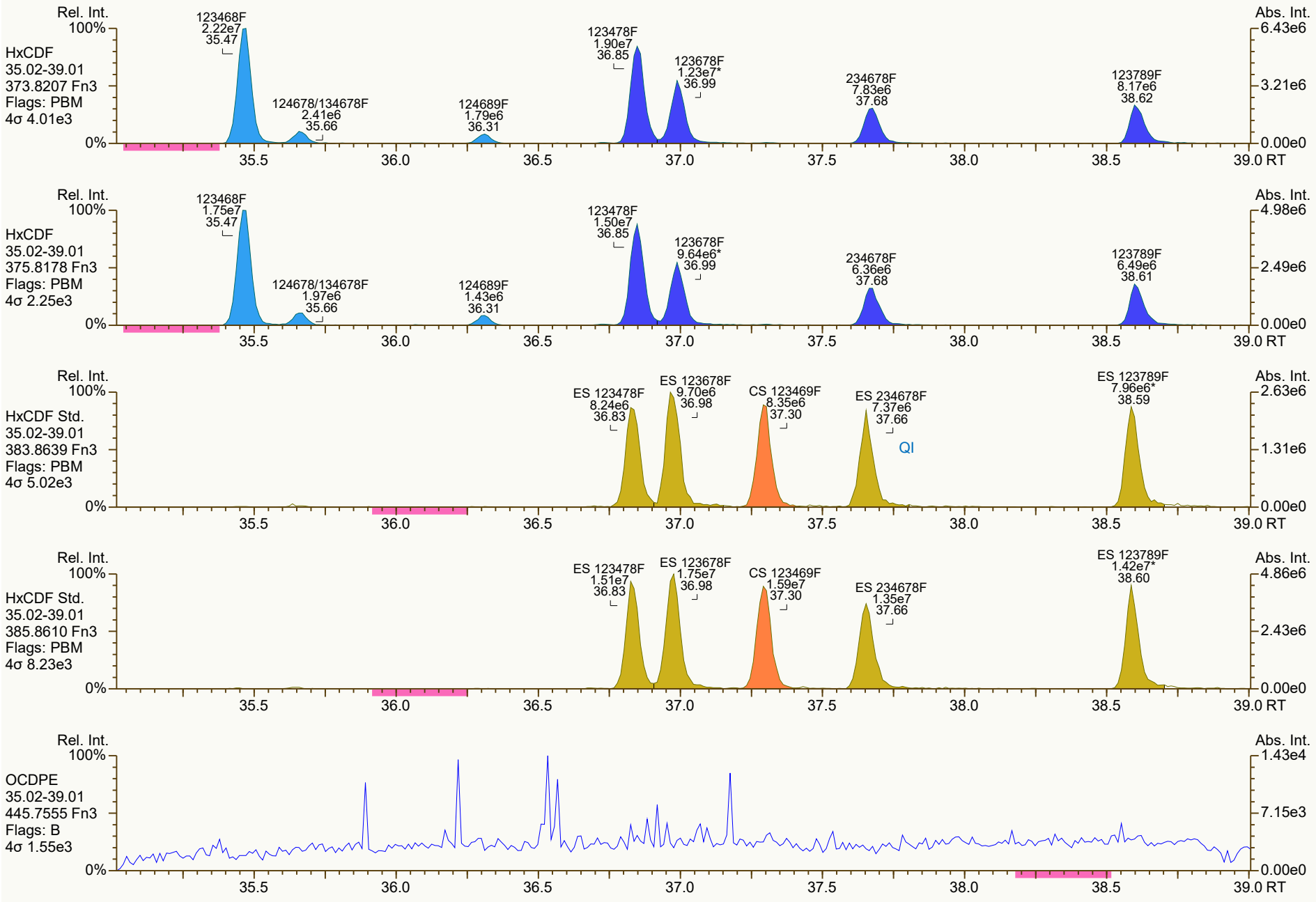


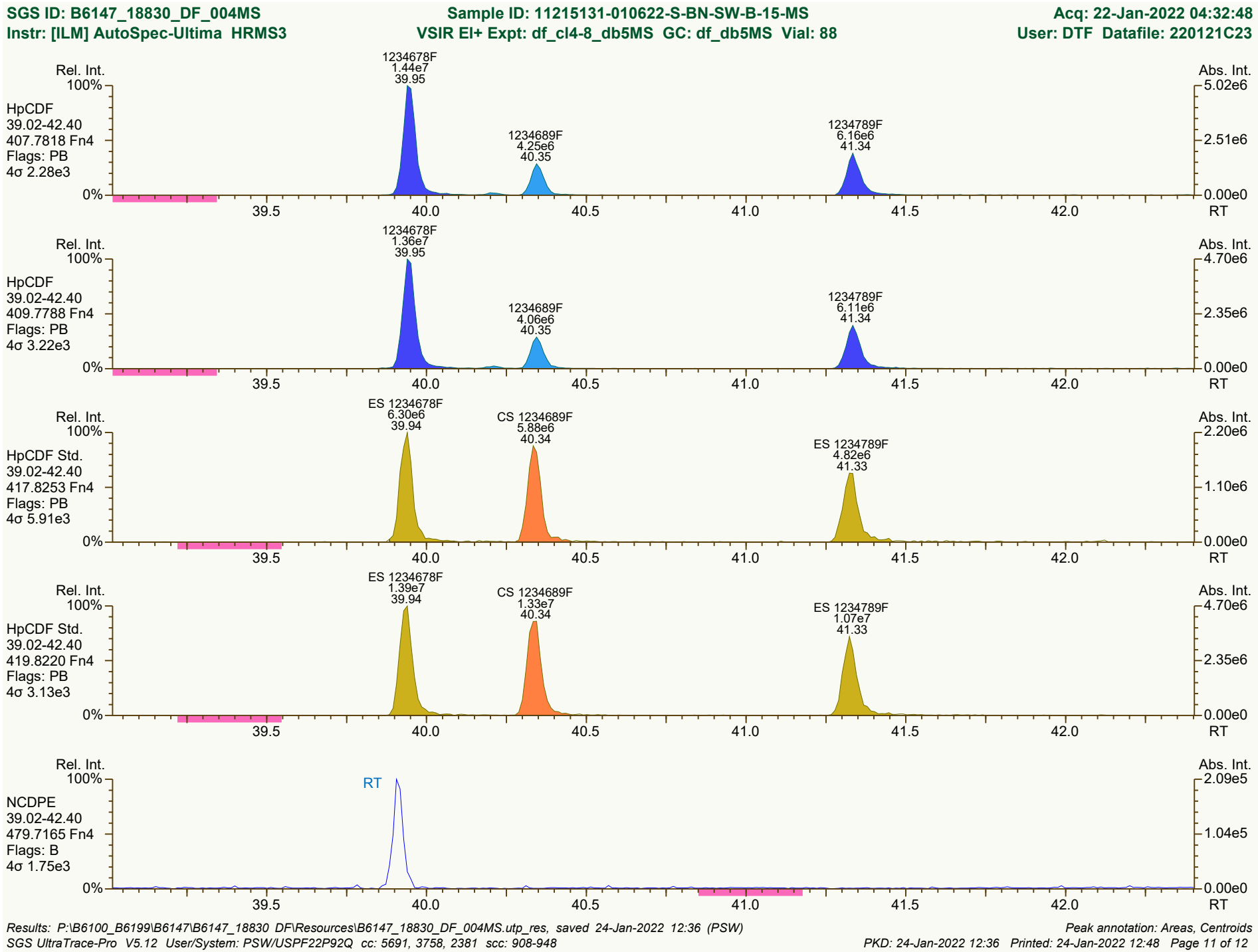
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MS.utp_res, saved 24-Jan-2022 12:36 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7475 scc: 908-948

Peak annotation: Areas, Centroids
PKD: 24-Jan-2022 12:36 Printed: 24-Jan-2022 12:48 Page 8 of 12



Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MS.utp_res, saved 24-Jan-2022 12:36 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0063, 2303, 2318 scc: 908-948
PKD: 24-Jan-2022 12:36 Printed: 24-Jan-2022 12:48 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 4.01e3
123468F
2.22e7
35.47
124678/134678F
2.41e6
35.66
124689F
1.79e6
36.31
123478F
1.90e7
36.85
123678F
1.23e7*
36.99
234678F
7.83e6
37.68
123789F
8.17e6
38.62
Abs. Int.
6.43e6
3.21e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.25e3
123468F
1.75e7
35.47
124678/134678F
1.97e6
35.66
124689F
1.43e6
36.31
123478F
1.50e7
36.85
123678F
9.64e6*
36.99
234678F
6.36e6
37.68
123789F
6.49e6
38.61
Abs. Int.
4.98e6
2.49e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 5.02e3
ES 123478F
8.24e6
36.83
ES 123678F
9.70e6
36.98
CS 123469F
8.35e6
37.30
ES 234678F
7.37e6
37.66
QI
ES 123789F
7.96e6*
38.59
Abs. Int.
2.63e6
1.31e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 8.23e3
ES 123478F
1.51e7
36.83
ES 123678F
1.75e7
36.98
CS 123469F
1.59e7
37.30
ES 234678F
1.35e7
37.66
ES 123789F
1.42e7*
38.60
Abs. Int.
4.86e6
2.43e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
1.43e4
7.15e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MS.utp_res, saved 24-Jan-2022 12:36 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5691, 3758, 2381 scc: 908-948
PKD: 24-Jan-2022 12:36 Printed: 24-Jan-2022 12:48 Page 11 of 12


OCDF
6.71e7
43.72
Rel. Int.
100%
Abs. Int.
1.68e7
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.37e3
8.39e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.68e7
43.72
Rel. Int.
100%
Abs. Int.
1.89e7
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 2.22e3
9.46e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.41e7
43.71
Rel. Int.
100%
Abs. Int.
3.45e6
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.57e3
1.72e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.53e7
43.71
Rel. Int.
100%
Abs. Int.
3.60e6
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.32e3
1.80e6
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
6.53e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.20e3
3.27e3
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6147_18830_DF_004MSD **Acq'd:** 22 Jan 2022 05:19 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15-MSD **UTP:** 24-Jan-2022 12:38:56 PSW **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 637-621-SVN

Datafile: 220121C24 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	6.82E+07	0.81	Y	1.18	551	6771.074	0.542
12378-PeCDD	33.95		1.0006	1.0006	0	1.10E+07	1.56	Y	1.04	105	4372.854	0.373
123478-HxCDD	37.84		1.0004	1.0004	0	1.13E+07	1.24	Y	1.09	110	6015.6	0.497
123678-HxCDD	37.96		1.0034	1.0034	0	1.30E+07	1.26	Y	1.15	119	6015.6	0.481
123789-HxCDD	38.25		1.0109	1.0111	+0.5	1.25E+07	1.27	Y	1.05	107	6015.6	0.464
1234678-HpCDD	40.87		1.0003	1.0003	0	2.77E+07	1.05	Y	1.06	264	4746.565	0.378
OCDD	43.52		1.0002	1.0003	+0.3	2.28E+08	0.90	Y	1.13	3,080	7701.484	1.04
2378-TCDF	27.80	E	1.0008	1.0008	0	2.65E+08	0.79	Y	1.08	1,430	6126.055	0.367
12378-PeCDF	32.51		1.0005	1.0005	0	2.89E+07	1.55	Y	1.02	172	8709.397	0.456
23478-PeCDF	33.62		1.0005	1.0006	+0.2	2.69E+07	1.58	Y	1.02	164	8709.397	0.492
123478-HxCDF	36.84		1.0004	1.0005	+0.2	3.96E+07	1.25	Y	1.27	247	7620.94	0.403
123678-HxCDF	36.98		1.0004	1.0005	+0.2	2.51E+07	1.27	Y	1.15	144	7620.94	0.403
234678-HxCDF	37.66		1.0004	1.0005	+0.2	1.62E+07	1.29	Y	1.19	117	7620.94	0.506
123789-HxCDF	38.60		1.0004	1.0005	+0.2	1.71E+07	1.24	Y	1.16	118	7620.94	0.425
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	3.44E+07	1.02	Y	1.37	216	4399.283	0.203
1234789-HpCDF	41.33		1.0003	1.0003	0	1.67E+07	1.04	Y	1.31	125	4399.283	0.285
OCDF	43.71		1.0002	1.0002	0	1.88E+08	0.90	Y	1.07	1,890	5150.436	0.535

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0234	+0.2	2.07E+07	0.80	Y	1.05	89.5
ES 12378-PeCDD	33.93	1.2121	1.2132	+2.2	2.02E+07	1.61	Y	0.88	104
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.87E+07	1.28	Y	0.97	94.6
ES 123678-HxCDD	37.94	0.9951	0.9951	0	1.89E+07	1.21	Y	0.94	98.6
ES 123789-HxCDD	38.23	1.0025	1.0027	+0.5	2.22E+07	1.26	Y	1.09	100
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.97E+07	1.06	Y	0.91	106
ES OCDD	43.51	1.1403	1.1411	+2.1	2.61E+07	0.91	Y	0.62	103
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	3.41E+07	0.82	Y	1.06	92.9
ES 12378-PeCDF	32.49	1.2281	1.2298	+3.3	3.26E+07	1.57	Y	0.91	103
ES 23478-PeCDF	33.60	1.2698	1.2716	+3.6	3.19E+07	1.57	Y	0.88	104
ES 123478-HxCDF	36.82	0.9657	0.9656	-0.2	2.51E+07	0.53	Y	1.20	103
ES 123678-HxCDF	36.96	0.9695	0.9694	-0.2	3.01E+07	0.54	Y	1.35	110
ES 234678-HxCDF	37.65	0.9874	0.9873	-0.2	2.31E+07	0.54	Y	1.24	91.7
ES 123789-HxCDF	38.58	1.0116	1.0119	+0.7	2.48E+07	0.54	Y	1.16	106
ES 1234678-HpCDF	39.92	1.0467	1.0471	+1.0	2.31E+07	0.43	Y	0.97	118
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	2.03E+07	0.47	Y	0.85	117
ES OCDF	43.70	1.1451	1.1460	+2.4	3.69E+07	0.93	Y	0.81	112

Lab ID: B6147_18830_DF_004MSD **Acq'd:** 22 Jan 2022 05:19 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15-MSD **UTP:** 24-Jan-2022 12:38:56 PSW **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 637-621-SVN

Datafile: 220121C24 **Report:** 24 Jan 2022 12:44 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	2.21E+07	0.86	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.46E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	1.02E+07	1.27	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	9.35E+06	n/a	-	1.20	87.8	
CS 12347-PeCDD	33.43		1.1943	1.1953	+2.0	1.82E+07	1.56	Y	0.75	109	
CS 12346-PeCDF	31.96		1.2083	1.2097	+2.7	3.14E+07	1.62	Y	0.85	107	
CS 123469-HxCDF	37.28		0.9778	0.9777	-0.2	2.66E+07	0.56	Y	1.12	117	
CS 1234689-HpCDF	40.33		1.0571	1.0576	+1.2	2.20E+07	0.46	Y	0.89	122	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~9.35E+06~~	~~n/a~~		~~1.15~~	~~98.3~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.82E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~105~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2097~~	~~+2.7~~	~~3.14E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~103~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~2.66E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~107~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~2.20E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~104~~	

Totals	Conc	EMPC
Total TCDD	704	706
Total PeCDD	163	167
Total HxCDD	434	435
Total HpCDD	498	498
Total Tetra-Octa Dioxins	4880	4880
Total TCDF	2,890	2890
Total PeCDF	623	625
Total HxCDF	961	963
Total HpCDF	412	412
Total Tetra-Octa Furans	6,780	6780
Total Tetra-Octa Dioxins & Furans	11700	11700

Lab ID: B6147_18830_DF_004MSD | **Acq'd: 22 Jan 2022 05:19 DTF** | **Wt/Vol: 10.07 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15-MSD | **UTP: 24-Jan-2022 12:38:56 PSW** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 637-621-SVN**

Datafile: 220121C24 | **Report: 24 Jan 2022 12:44 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8746	-1.4	4.04E+06	0.82	Y	1.18	32.7	6771.074	0.542
1379-TCDD	25.38		0.8876	0.8867	-1.4	8.62E+04	0.82	Y	1.18	0.697	6771.074	0.542
1369-TCDD	NotFnd		0.9023						1.18		6771.074	0.542
1469-TCDD	26.58		0.9291	0.9286	-0.8	6.02E+05	0.82	Y	1.18	4.87	6771.074	0.542
1247/1246/1248/1249-TCDD	26.81		0.9373	0.9367	-1.0	1.89E+05	0.82	Y	1.18	1.53	6771.074	0.542
1378-TCDD	27.00		0.9440	0.9434	-1.0	2.40E+05	0.85	Y	1.18	1.94	6771.074	0.542
1268-TCDD	NotFnd		0.9506						1.18		6771.074	0.542
1478-TCDD	27.45	EMPC	0.9591	0.9589	-0.3	1.59E+05	0.98	N	1.18	1.29	6771.074	0.542
1279-TCDD	NotFnd		0.9649						1.18		6771.074	0.542
1234/1269-TCDD	27.97		0.9771	0.9770	-0.2	9.83E+04	0.82	Y	1.18	0.795	6771.074	0.542
1236-TCDD	NotFnd		0.9820						1.18		6771.074	0.542
1237/1238-TCDD	28.35		0.9908	0.9904	-0.7	9.28E+05	0.82	Y	1.18	7.51	6771.074	0.542
1239-TCDD	28.48		0.9954	0.9951	-0.5	2.76E+06	0.80	Y	1.18	22.3	6771.074	0.542
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	6.82E+07	0.81	Y	**1.18**	**551**	**6771.074**	**0.542**
1278-TCDD	28.97		1.0121	1.0121	0	5.88E+06	0.83	Y	1.18	47.5	6771.074	0.542
1267-TCDD	29.10		1.0167	1.0168	+0.2	1.53E+05	0.66	Y	1.18	1.24	6771.074	0.542
1289-TCDD	29.61		1.0341	1.0344	+0.5	3.96E+06	0.79	Y	1.18	32	6771.074	0.542
12479/12468-PeCDD	31.46		0.9273	0.9271	-0.4	2.85E+06	1.50	Y	1.04	27	4372.854	0.373
12469-PeCDD	31.99		0.9430	0.9427	-0.6	4.00E+05	1.53	Y	1.04	3.79	4372.854	0.373
12368-PeCDD	32.54	J EMPC	0.9592	0.9590	-0.4	1.79E+05	1.83	N	1.04	1.7	4372.854	0.373
12478-PeCDD	32.73	J EMPC	0.9647	0.9645	-0.4	1.07E+05	2.35	N	1.04	1.02	4372.854	0.373
12379-PeCDD	32.82	J	0.9676	0.9674	-0.4	9.23E+04	1.71	Y	1.04	0.874	4372.854	0.373
12369/12467/12489-PeCDD	33.08	J EMPC	0.9752	0.9750	-0.4	1.95E+05	1.95	N	1.04	1.84	4372.854	0.373
12346/12347-PeCDD	NotFnd		0.9860						1.04		4372.854	0.373
12378-PeCDD	33.95		**1.0006**	**1.0006**	**0**	**1.10E+07**	**1.56**	**Y**	**1.04**	**105**	**4372.854**	**0.373**
12367-PeCDD	NotFnd		1.0034						1.04		4372.854	0.373
12389-PeCDD	34.39		1.0134	1.0134	0	2.81E+06	1.57	Y	1.04	26.6	4372.854	0.373
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	7.34E+06	1.27	Y	1.10	66.8	6015.6	0.479
123468-HxCDD	36.75		0.9715	0.9715	0	3.91E+05	1.20	Y	1.10	3.56	6015.6	0.479
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	2.64E+06	1.27	Y	1.10	24	6015.6	0.479
123469-HxCDD	37.18	J EMPC	0.9829	0.9828	-0.2	1.86E+05	0.99	N	1.10	1.69	6015.6	0.479
123478-HxCDD	37.84		**1.0004**	**1.0004**	**0**	**1.13E+07**	**1.24**	**Y**	1.09	**110**	**6015.6**	**0.497**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.30E+07**	**1.26**	**Y**	1.15	**119**	**6015.6**	**0.481**
123467-HxCDD	38.14		1.0082	1.0083	+0.2	3.71E+05	1.27	Y	1.10	3.38	6015.6	0.479
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**1.25E+07**	**1.27**	**Y**	1.05	**107**	**6015.6**	**0.464**

Lab ID: B6147_18830_DF_004MSD | Acq'd: 22 Jan 2022 05:19 DTF | Wt/Vol: 10.07 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15-MSD | UTP: 24-Jan-2022 12:38:56 PSW | J-level: 0.497 pg/g | Split: 1 | Checkcode: 637-621-SVN

Datafile: 220121C24 | Report: 24 Jan 2022 12:44 gd | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

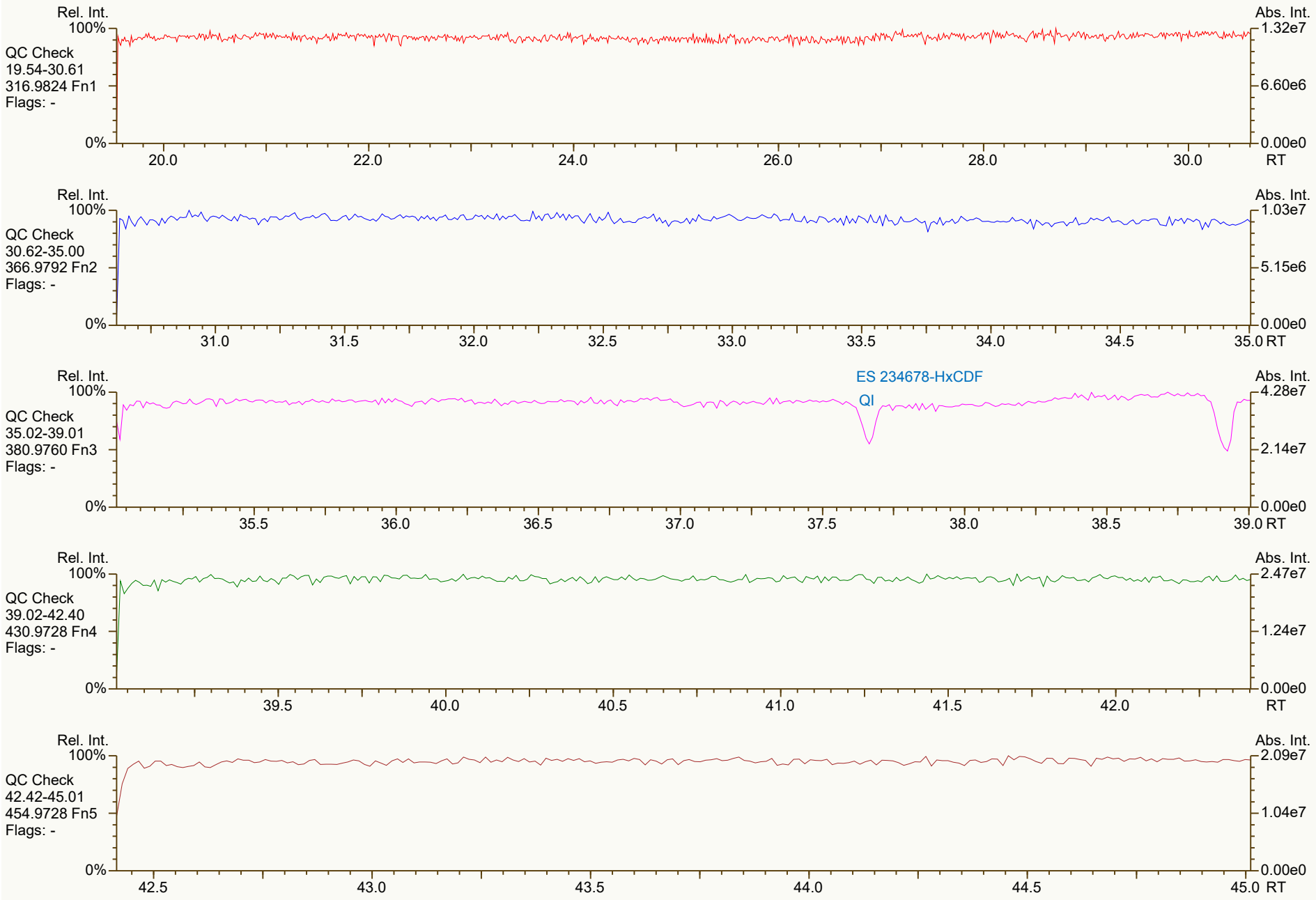
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	2.46E+07	1.05	Y	1.06	234	4746.565	0.378
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**2.77E+07**	**1.05**	**Y**	**1.06**	**264**	**4746.565**	**0.378**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**2.28E+08**	**0.90**	**Y**	**1.13**	**3,080**	**7701.484**	**1.04**
OCDD-a	43.52		1.0002	1.0003	+0.3	1.43E+07	2.50	Y	0.07	3,020	5435.534	11.5
1368-TCDF	22.96		0.8282	0.8268	-1.9	5.63E+06	0.78	Y	1.08	30.4	6126.055	0.367
1468-TCDF	23.53		0.8485	0.8474	-1.6	7.79E+05	0.85	Y	1.08	4.21	6126.055	0.367
2468-TCDF	24.16		0.8709	0.8698	-1.6	2.70E+06	0.75	Y	1.08	14.6	6126.055	0.367
1346/1246-TCDF	24.56		0.8829	0.8842	+1.9	6.37E+05	0.79	Y	1.08	3.44	6126.055	0.367
1347/1378/1247-TCDF	24.69		0.8884	0.8888	+0.6	2.93E+06	0.81	Y	1.08	15.8	6126.055	0.367
1348-TCDF	24.92		0.8980	0.8972	-1.2	1.09E+06	0.70	Y	1.08	5.87	6126.055	0.367
1248/1367/1379-TCDF	25.01		0.9026	0.9006	-3.0	1.23E+07	0.80	Y	1.08	66.5	6126.055	0.367
1268-TCDF	25.42		0.9158	0.9153	-0.8	4.66E+06	0.77	Y	1.08	25.2	6126.055	0.367
1467-TCDF	25.56		0.9206	0.9202	-0.6	6.13E+05	0.88	Y	1.08	3.31	6126.055	0.367
1478-TCDF	25.72		0.9266	0.9261	-0.8	1.11E+07	0.80	Y	1.08	59.9	6126.055	0.367
1369/1237-TCDF	26.09		0.9397	0.9396	-0.2	3.11E+06	0.77	Y	1.08	16.8	6126.055	0.367
2467-TCDF	26.21		0.9440	0.9437	-0.5	4.96E+05	0.83	Y	1.08	2.68	6126.055	0.367
2368-TCDF	26.37		0.9497	0.9494	-0.5	9.05E+06	0.78	Y	1.08	48.9	6126.055	0.367
1238/1234/1678/1469/1236-TCDF	26.44		0.9528	0.9522	-1.0	1.28E+07	0.78	Y	1.08	69	6126.055	0.367
1278-TCDF	26.90		0.9690	0.9687	-0.5	1.13E+08	0.79	Y	1.08	612	6126.055	0.367
1349-TCDF	NotFnd		0.9730						1.08		6126.055	0.367
1267-TCDF	27.17		0.9787	0.9784	-0.5	6.72E+06	0.82	Y	1.08	36.4	6126.055	0.367
2346/1249-TCDF	27.36		0.9850	0.9852	+0.3	8.07E+05	0.72	Y	1.08	4.36	6126.055	0.367
2347/1279-TCDF	27.57		0.9929	0.9927	-0.3	3.30E+06	0.72	Y	1.08	17.8	6126.055	0.367
2348-TCDF	27.69		0.9970	0.9970	0	2.68E+07	0.78	Y	1.08	145	6126.055	0.367
2378-TCDF	**27.80**	E	**1.0008**	**1.0008**	**0**	**2.65E+08**	**0.79**	**Y**	**1.08**	**1,430**	**6126.055**	**0.367**
2367/3467-TCDF	28.14		1.0136	1.0134	-0.3	2.23E+07	0.77	Y	1.08	121	6126.055	0.367
1269-TCDF	28.39		1.0221	1.0224	+0.5	4.27E+06	0.82	Y	1.08	23.1	6126.055	0.367
1239-TCDF	NotFnd		1.0319						1.08		6126.055	0.367
1289-TCDF	29.79		1.0740	1.0725	-2.7	2.52E+07	0.79	Y	1.08	136	6126.055	0.367
13468/12468-PeCDF	29.69		0.9145	0.9138	-1.2	2.88E+07	1.65	Y	1.02	174	5024.428	0.273
13678/13467/12467-PeCDF	31.26	J	0.9619	0.9619	0	3.57E+05	1.64	Y	1.02	2.15	8709.397	0.474
12368/13478/12478-PeCDF	31.41		0.9665	0.9667	+0.4	7.36E+06	1.50	Y	1.02	44.4	8709.397	0.474
14678-PeCDF	31.50	J	0.9695	0.9694	-0.2	2.76E+05	1.38	Y	1.02	1.66	8709.397	0.474
13479-PeCDF	NotFnd		0.9724						1.02		8709.397	0.474
13469/12479-PeCDF	NotFnd		0.9801						1.02		8709.397	0.474
12346-PeCDF	32.00	J EMPC	0.9842	0.9847	+1.0	6.09E+04	2.84	N	1.02	0.367	8709.397	0.474

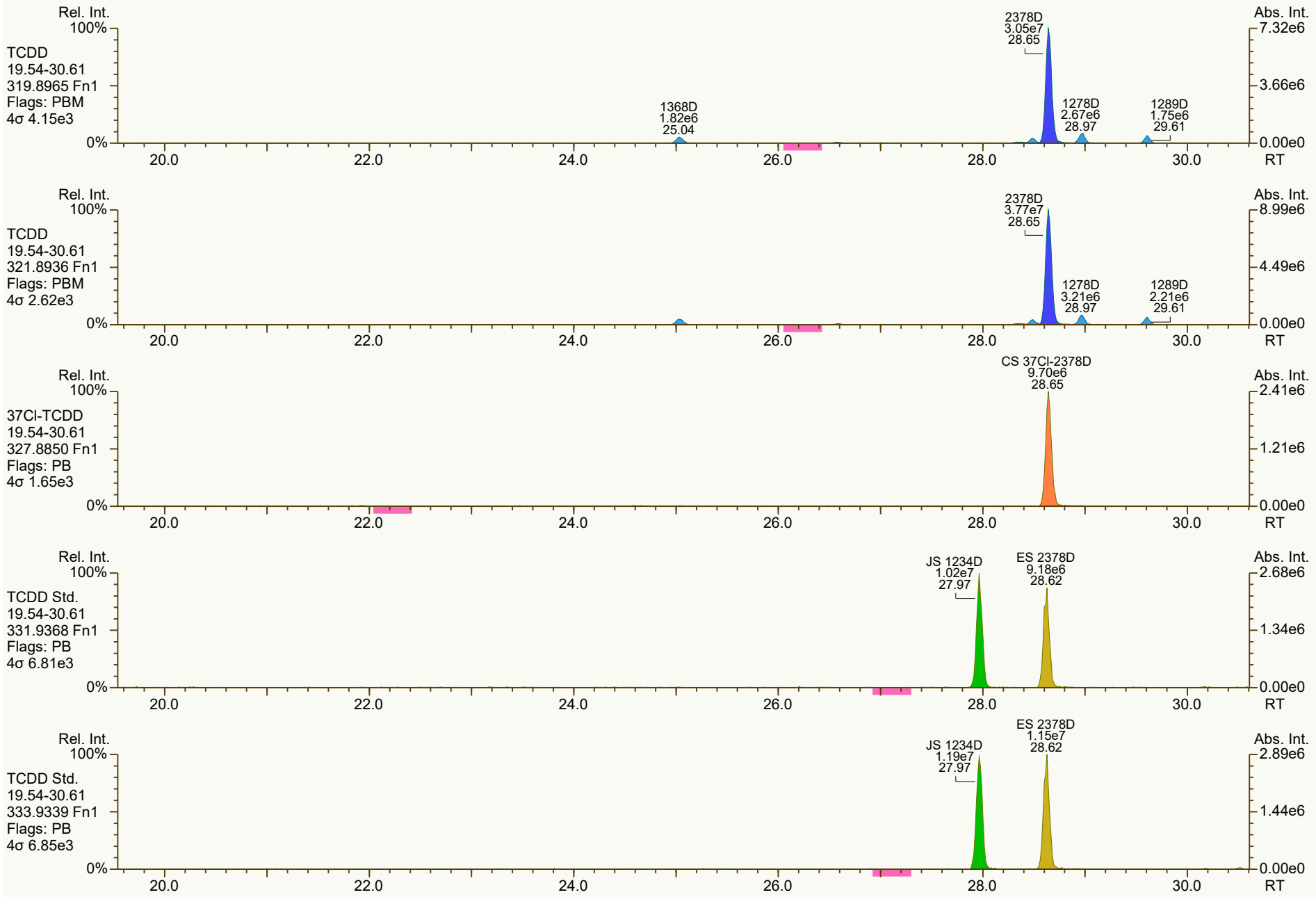
Lab ID: B6147_18830_DF_004MSD | **Acq'd: 22 Jan 2022 05:19 DTF** | **Wt/Vol: 10.07 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

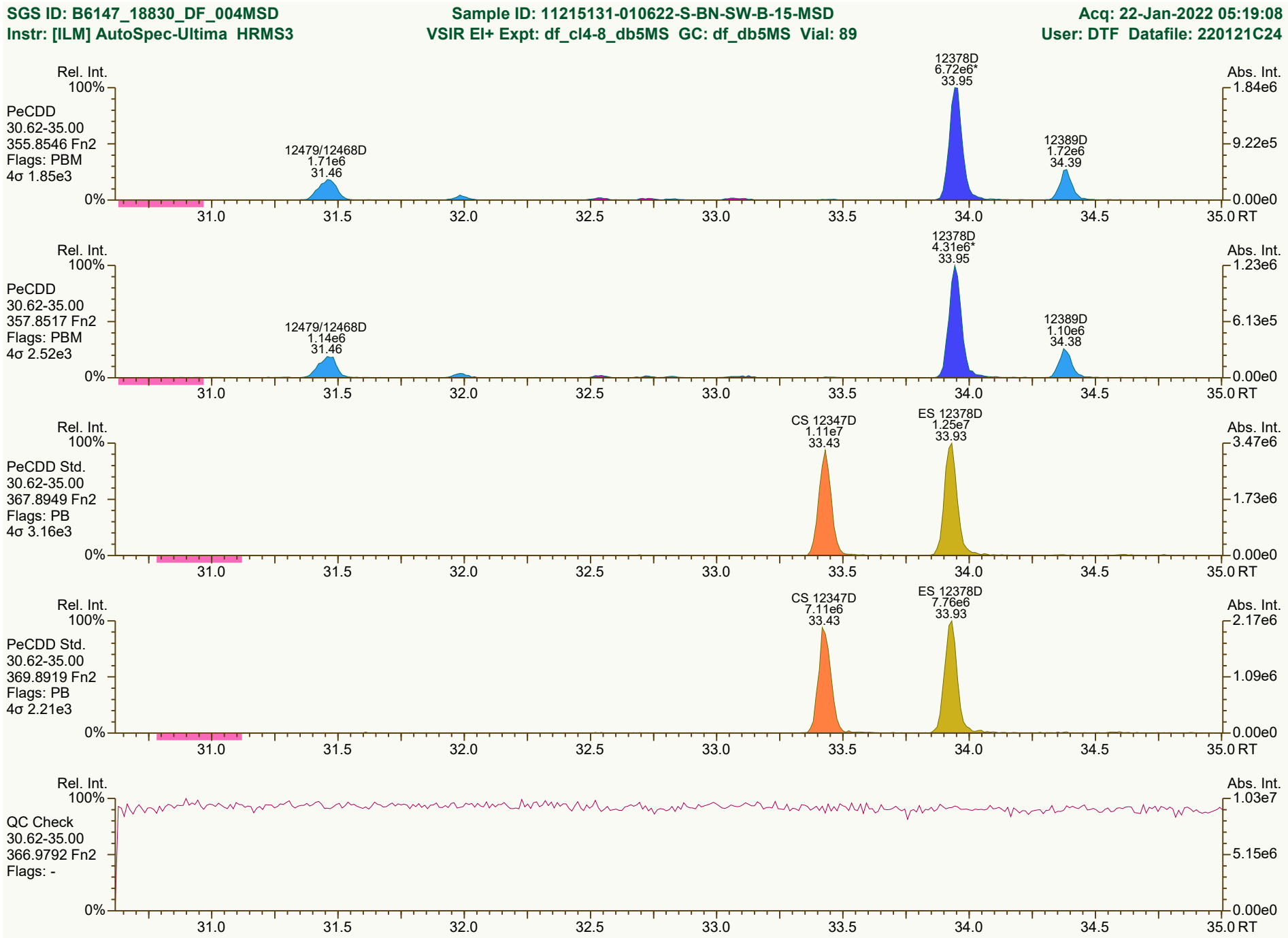
Client ID: 11215131-010622-S-BN-SW-B-15-MSD | **UTP: 24-Jan-2022 12:38:56 PSW** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 637-621-SVN**

Datafile: 220121C24 | **Report: 24 Jan 2022 12:44 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

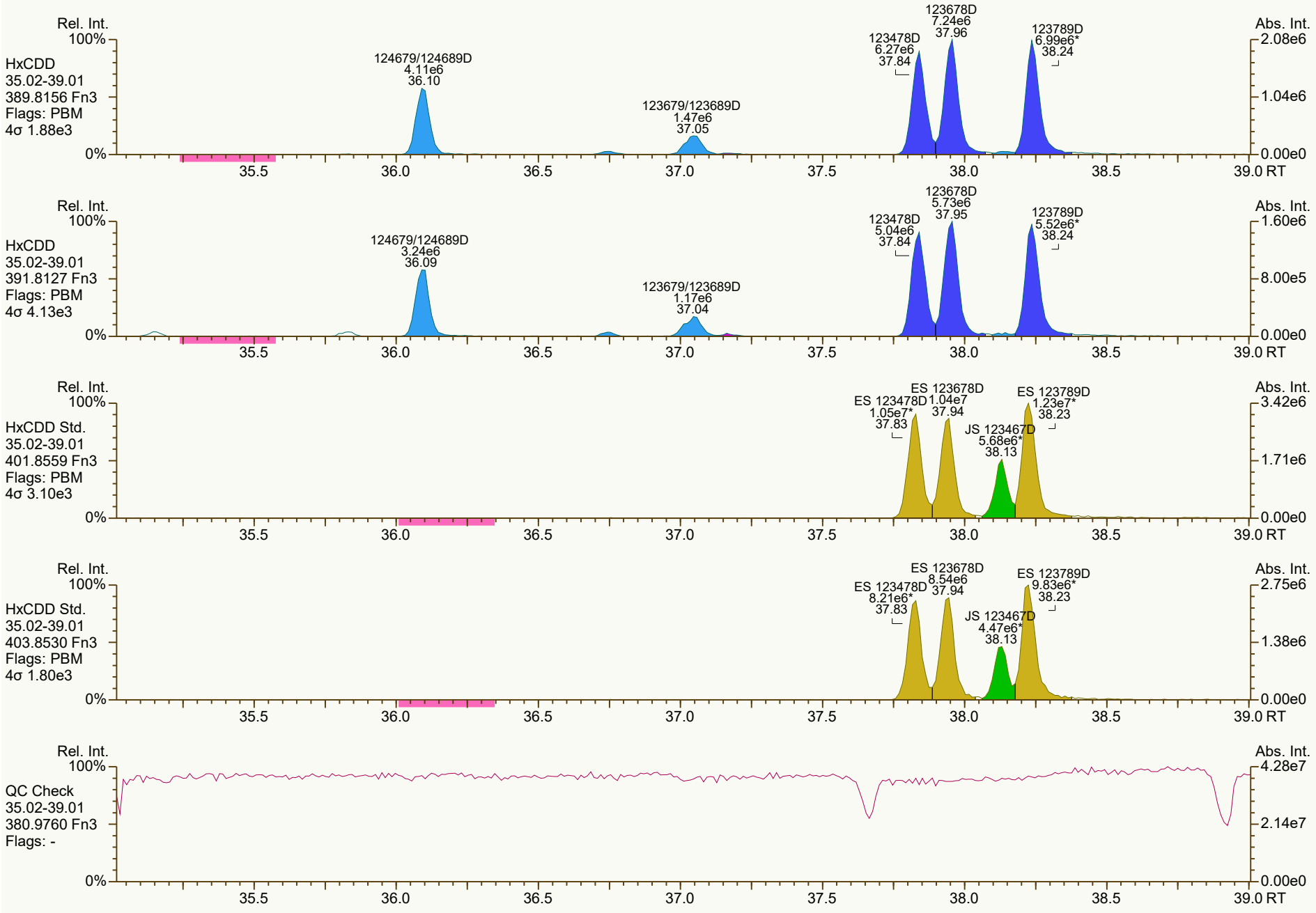
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06		0.9868	0.9868	0	6.98E+05	1.57	Y	1.02	4.21	8709.397	0.474
12347-PeCDF	32.14	J EMPC	0.9895	0.9892	-0.6	2.32E+05	1.30	N	1.02	1.4	8709.397	0.474
12348-PeCDF	32.30		0.9941	0.9940	-0.2	1.27E+06	1.57	Y	1.02	7.64	8709.397	0.474
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**2.89E+07**	**1.55**	**Y**	**1.02**	**172**	**8709.397**	**0.456**
12678/12367-PeCDF	32.80		1.0090	1.0094	+0.8	4.19E+06	1.60	Y	1.02	25.3	8709.397	0.474
12379-PeCDF	NotFnd		1.0142						1.02		8709.397	0.474
12679-PeCDF	NotFnd		0.9931						1.02		8709.397	0.474
23467/12369-PeCDF	33.48	J	0.9966	0.9964	-0.4	2.07E+05	1.55	Y	1.02	1.25	8709.397	0.474
23478-PeCDF	**33.62**		**1.0005**	**1.0006**	**+0.2**	**2.69E+07**	**1.58**	**Y**	**1.02**	**164**	**8709.397**	**0.492**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8709.397	0.474
12349-PeCDF	NotFnd		1.0101						1.02		8709.397	0.474
12389-PeCDF	34.69		1.0322	1.0325	+0.6	4.37E+06	1.64	Y	1.02	26.4	8709.397	0.474
123468-HxCDF	35.45		0.9627	0.9629	+0.4	4.29E+07	1.25	Y	1.19	277	7620.94	0.431
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	4.92E+06	1.31	Y	1.19	31.7	7620.94	0.431
134679-HxCDF	NotFnd		0.9747						1.19		7620.94	0.431
124679-HxCDF	36.07	J EMPC	0.9802	0.9797	-1.1	2.03E+05	1.45	N	1.19	1.31	7620.94	0.431
124689-HxCDF	36.30		0.9858	0.9858	0	3.54E+06	1.27	Y	1.19	22.9	7620.94	0.431
123467-HxCDF	36.71	J	0.9972	0.9970	-0.4	2.99E+05	1.06	Y	1.19	1.93	7620.94	0.431
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**3.96E+07**	**1.25**	**Y**	**1.27**	**247**	**7620.94**	**0.403**
123678-HxCDF	**36.98**		**1.0004**	**1.0005**	**+0.2**	**2.51E+07**	**1.27**	**Y**	**1.15**	**144**	**7620.94**	**0.403**
123479-HxCDF	NotFnd		1.0051						1.19		7620.94	0.431
123469-HxCDF	37.30		1.0091	1.0092	+0.2	4.29E+05	1.09	Y	1.19	2.77	7620.94	0.431
123679-HxCDF	NotFnd		0.9943						1.19		7620.94	0.431
234678-HxCDF	**37.66**		**1.0004**	**1.0005**	**+0.2**	**1.62E+07**	**1.29**	**Y**	**1.19**	**117**	**7620.94**	**0.506**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7620.94	0.431
123789-HxCDF	**38.60**		**1.0004**	**1.0005**	**+0.2**	**1.71E+07**	**1.24**	**Y**	**1.16**	**118**	**7620.94**	**0.425**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		7620.94	0.431
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**3.44E+07**	**1.02**	**Y**	**1.37**	**216**	**4399.283**	**0.203**
1234679-HpCDF	40.19		1.0067	1.0066	-0.2	8.85E+05	0.97	Y	1.34	6.05	4399.283	0.24
1234689-HpCDF	40.34		1.0101	1.0103	+0.5	9.50E+06	1.01	Y	1.34	65	4399.283	0.24
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**1.67E+07**	**1.04**	**Y**	**1.31**	**125**	**4399.283**	**0.285**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**1.88E+08**	**0.90**	**Y**	**1.07**	**1,890**	**5150.436**	**0.535**
OCDF-a	43.70		1.0002	1.0002	0	1.23E+07	2.51	Y	0.07	2,000	5179.133	8.68

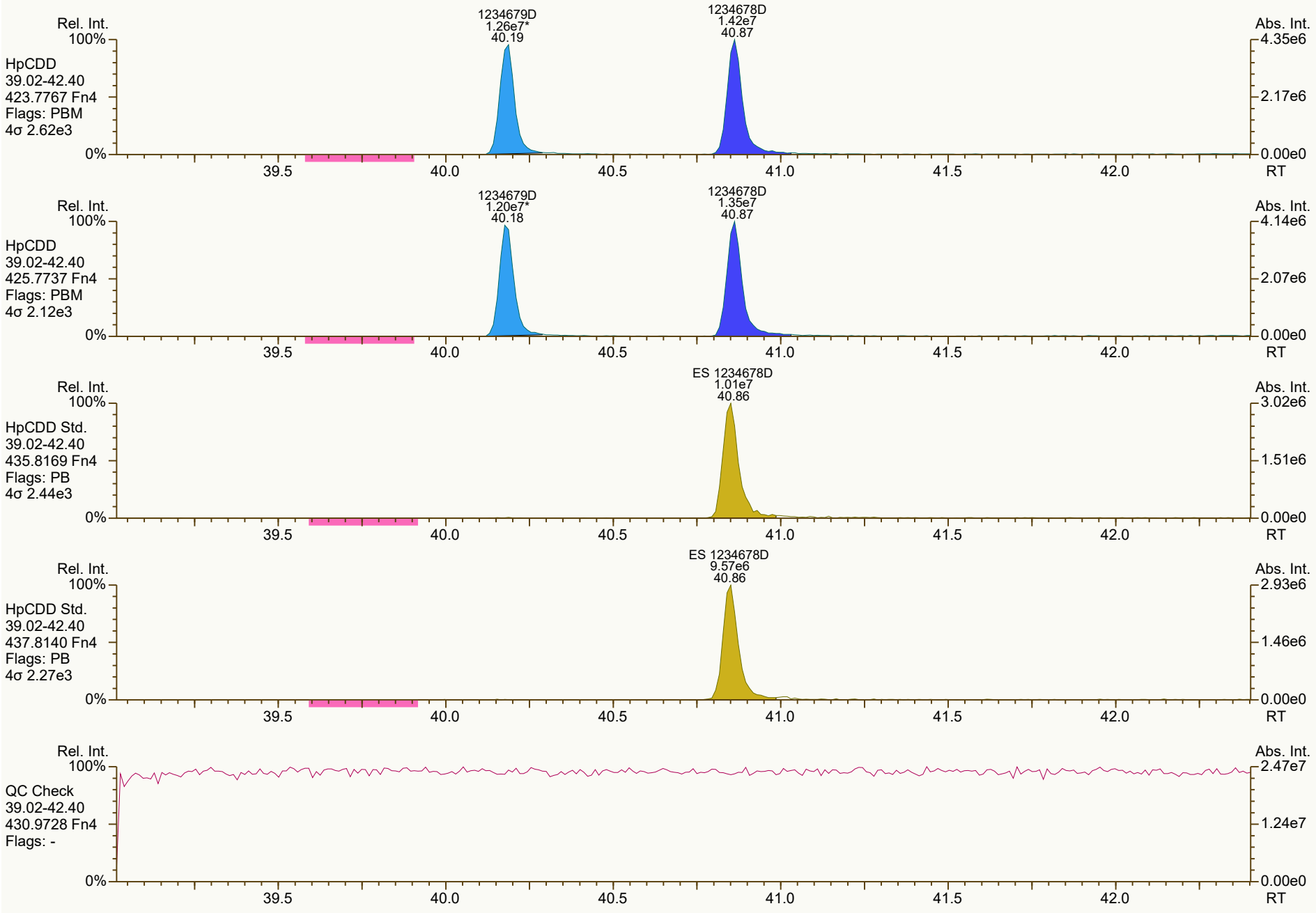

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.32e7
6.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.03e7
5.15e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.28e7
2.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.47e7
1.24e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.09e7
1.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

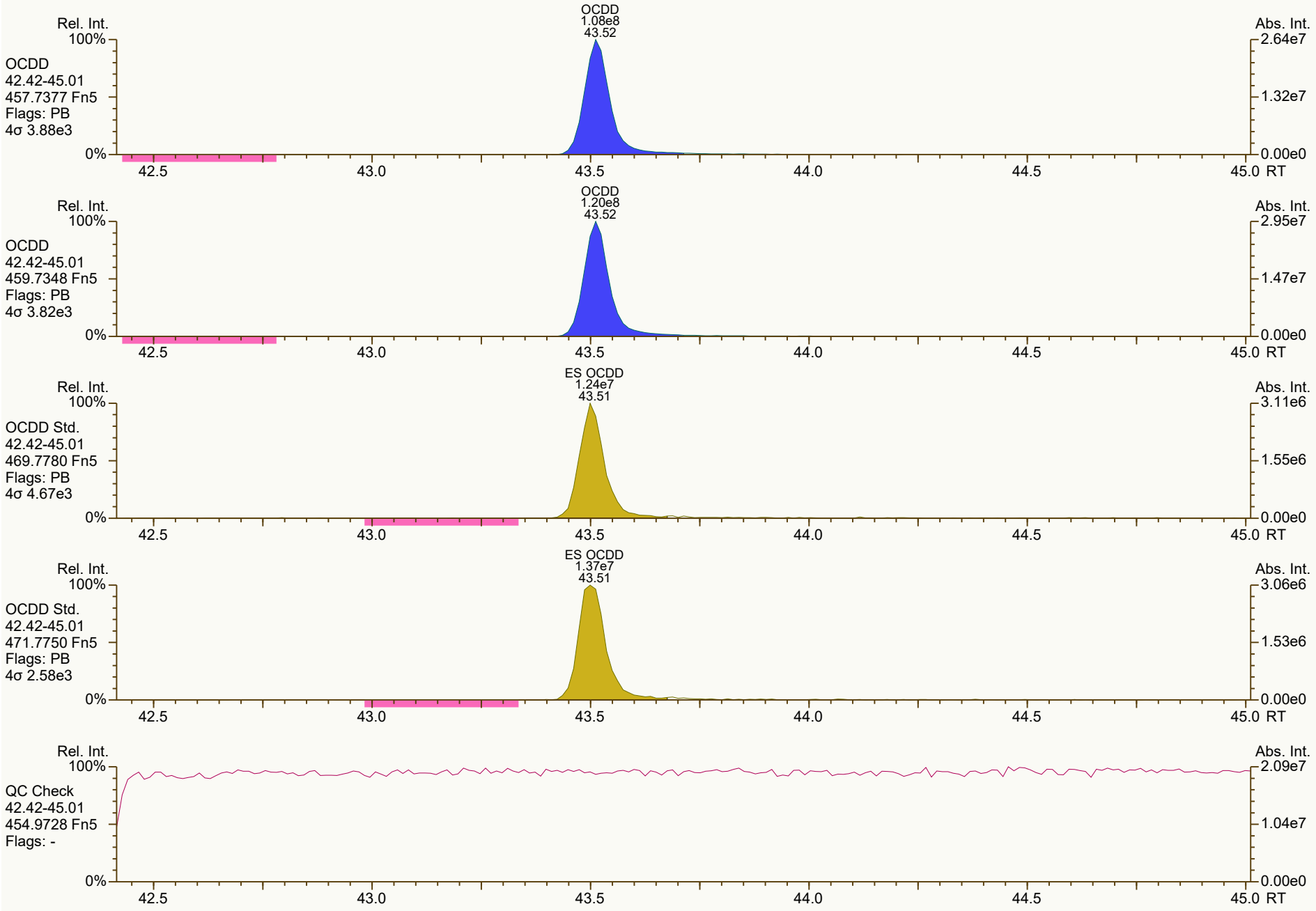

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 4.15e3
0%
1368D
1.82e6
25.04
2378D
3.05e7
28.65
1278D
2.67e6
28.97
1289D
1.75e6
29.61
Abs. Int.
7.32e6
3.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.62e3
0%
2378D
3.77e7
28.65
1278D
3.21e6
28.97
1289D
2.21e6
29.61
Abs. Int.
8.99e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.65e3
0%
CS 37Cl-2378D
9.70e6
28.65
Abs. Int.
2.41e6
1.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.81e3
0%
JS 1234D
1.02e7
27.97
ES 2378D
9.18e6
28.62
Abs. Int.
2.68e6
1.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 6.85e3
0%
JS 1234D
1.19e7
27.97
ES 2378D
1.15e7
28.62
Abs. Int.
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1.44e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT

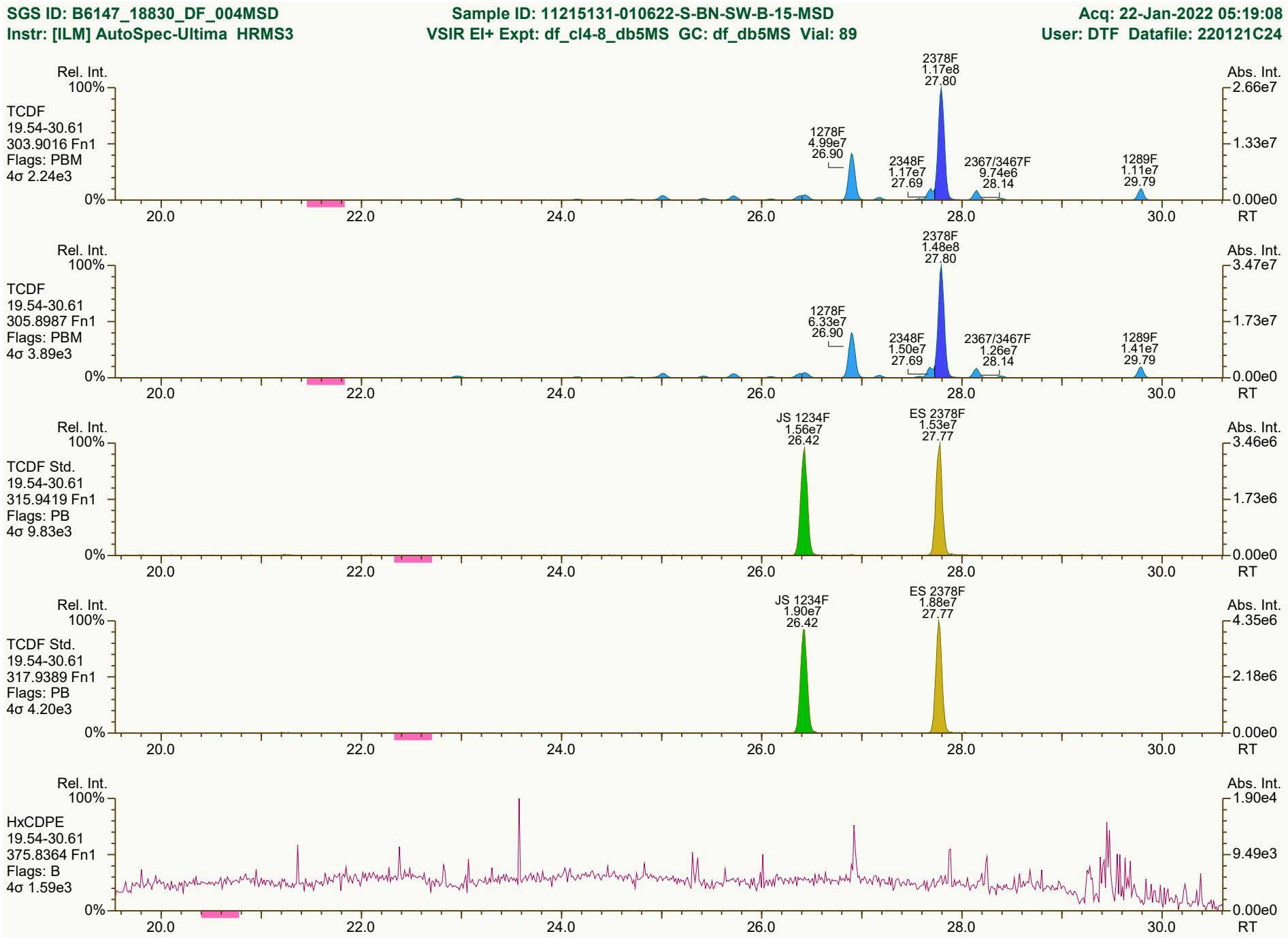


Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MSD.utp_res, saved 24-Jan-2022 12:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8799, 1843 scc: 637-621
PKD: 24-Jan-2022 12:38 Printed: 24-Jan-2022 12:48 Page 3 of 12

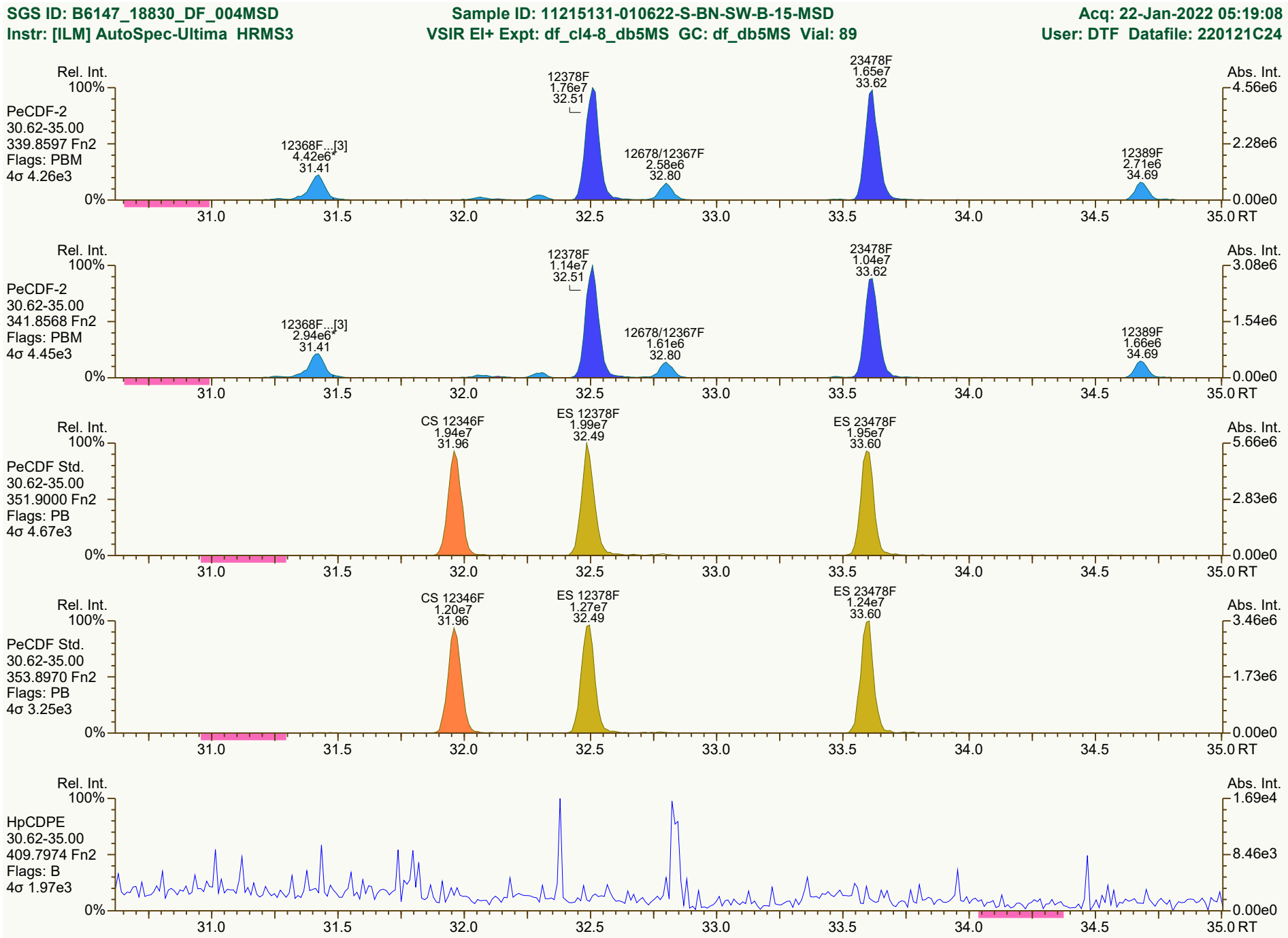

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.88e3
124679/124689D
4.11e6
36.10
123679/123689D
1.47e6
37.05
123478D
6.27e6
37.84
123678D
7.24e6
37.96
123789D
6.99e6*
38.24
Abs. Int.
2.08e6
1.04e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 4.13e3
124679/124689D
3.24e6
36.09
123679/123689D
1.17e6
37.04
123478D
5.04e6
37.84
123678D
5.73e6
37.95
123789D
5.52e6*
38.24
Abs. Int.
1.60e6
8.00e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.10e3
ES 123478D
1.05e7*
37.83
ES 123678D
1.04e7
37.94
JS 123467D
5.68e6*
38.13
ES 123789D
1.23e7*
38.23
Abs. Int.
3.42e6
1.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.80e3
ES 123478D
8.21e6*
37.83
ES 123678D
8.54e6
37.94
JS 123467D
4.47e6*
38.13
ES 123789D
9.83e6*
38.23
Abs. Int.
2.75e6
1.38e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.28e7
2.14e7
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0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

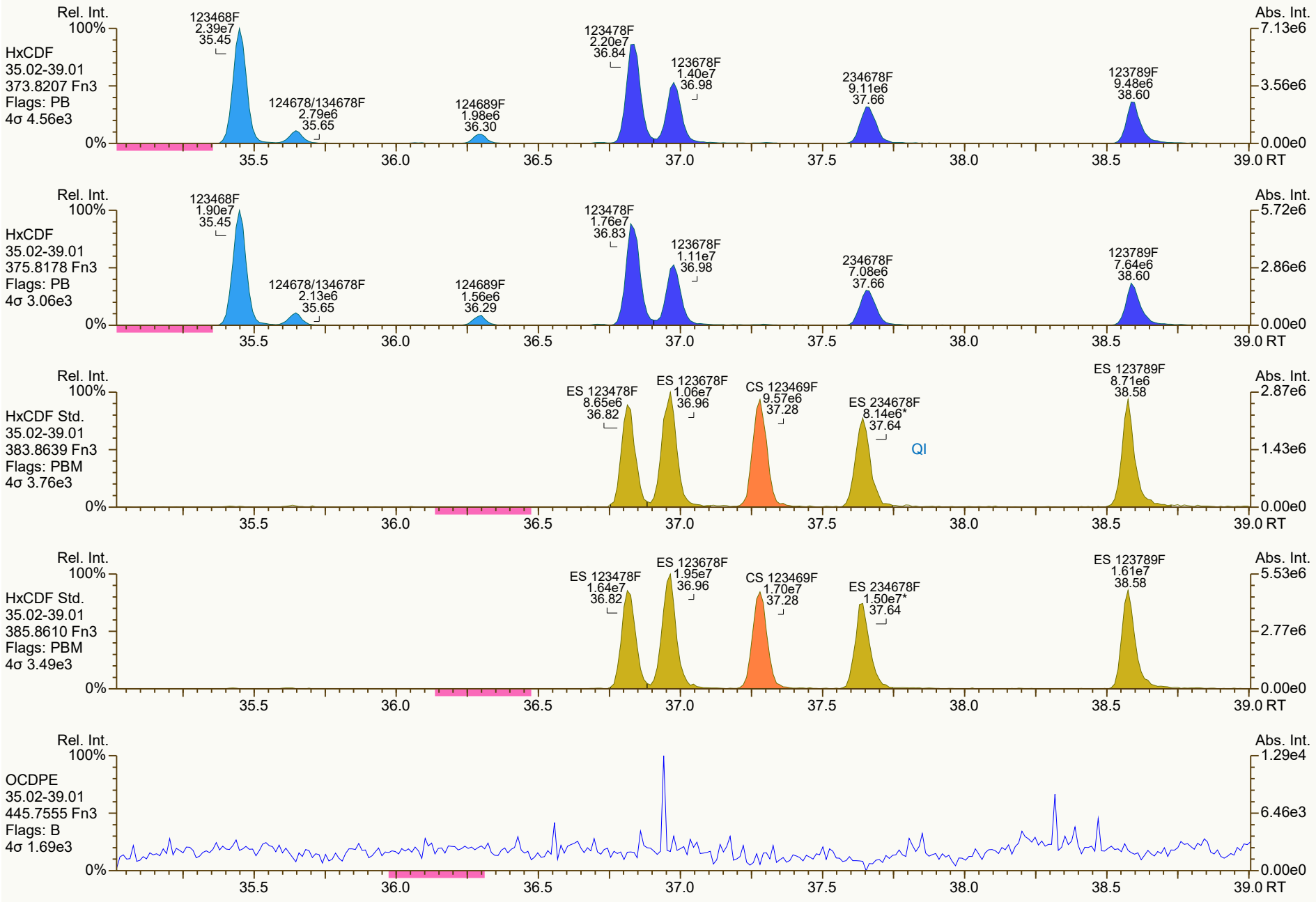

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.62e3
1234679D
1.26e7*
40.19
1234678D
1.42e7
40.87
Abs. Int.
4.35e6
2.17e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.12e3
1234679D
1.20e7*
40.18
1234678D
1.35e7
40.87
Abs. Int.
4.14e6
2.07e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.44e3
ES 1234678D
1.01e7
40.86
Abs. Int.
3.02e6
1.51e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.27e3
ES 1234678D
9.57e6
40.86
Abs. Int.
2.93e6
1.46e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.47e7
1.24e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

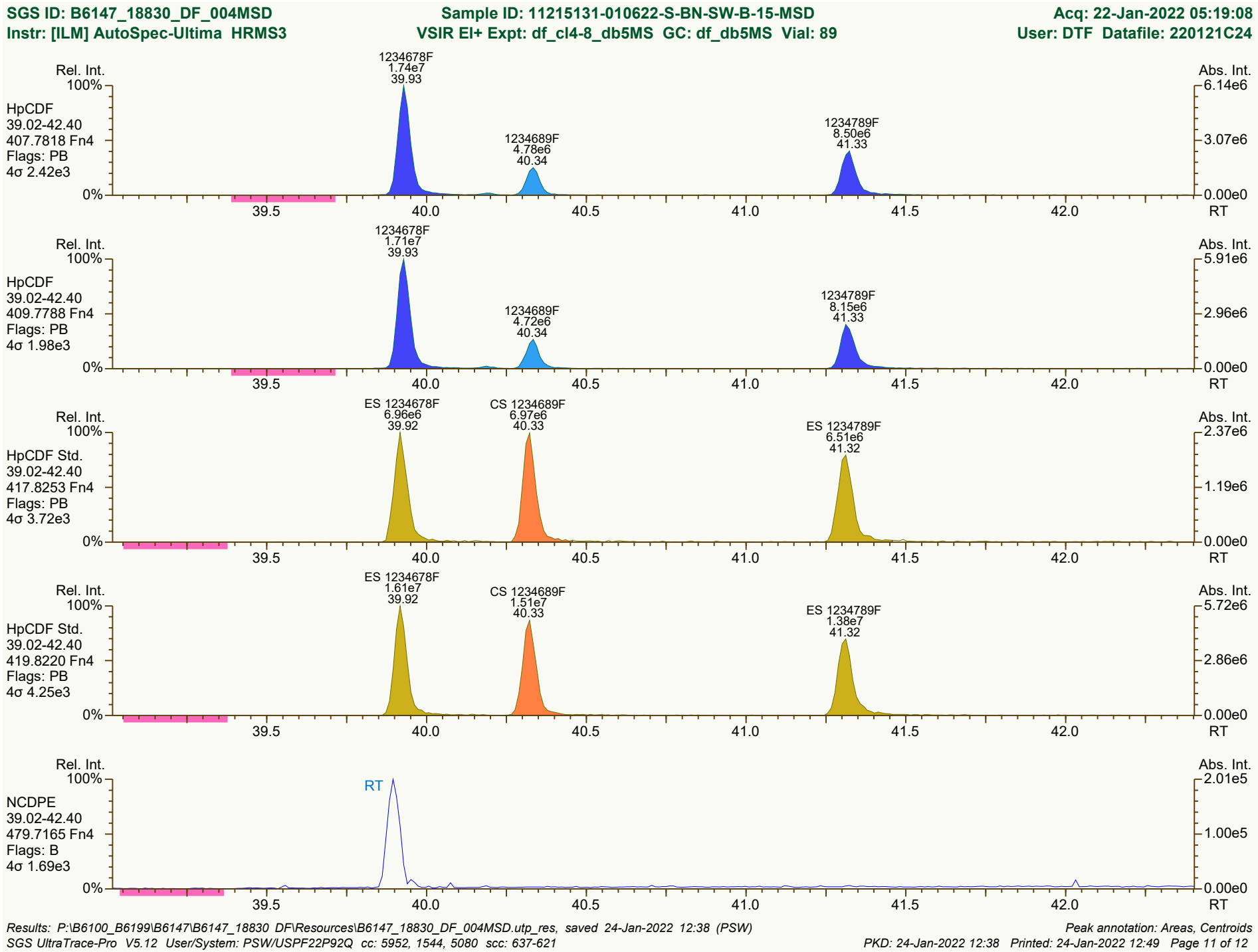

OCDD
1.08e8
43.52
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 3.88e3
0%
Abs. Int.
2.64e7
1.32e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.20e8
43.52
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 3.82e3
2.95e7
1.47e7
ES OCDD
1.24e7
43.51
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 4.67e3
3.11e6
1.55e6
ES OCDD
1.37e7
43.51
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 2.58e3
3.06e6
1.53e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
2.09e7
1.04e7

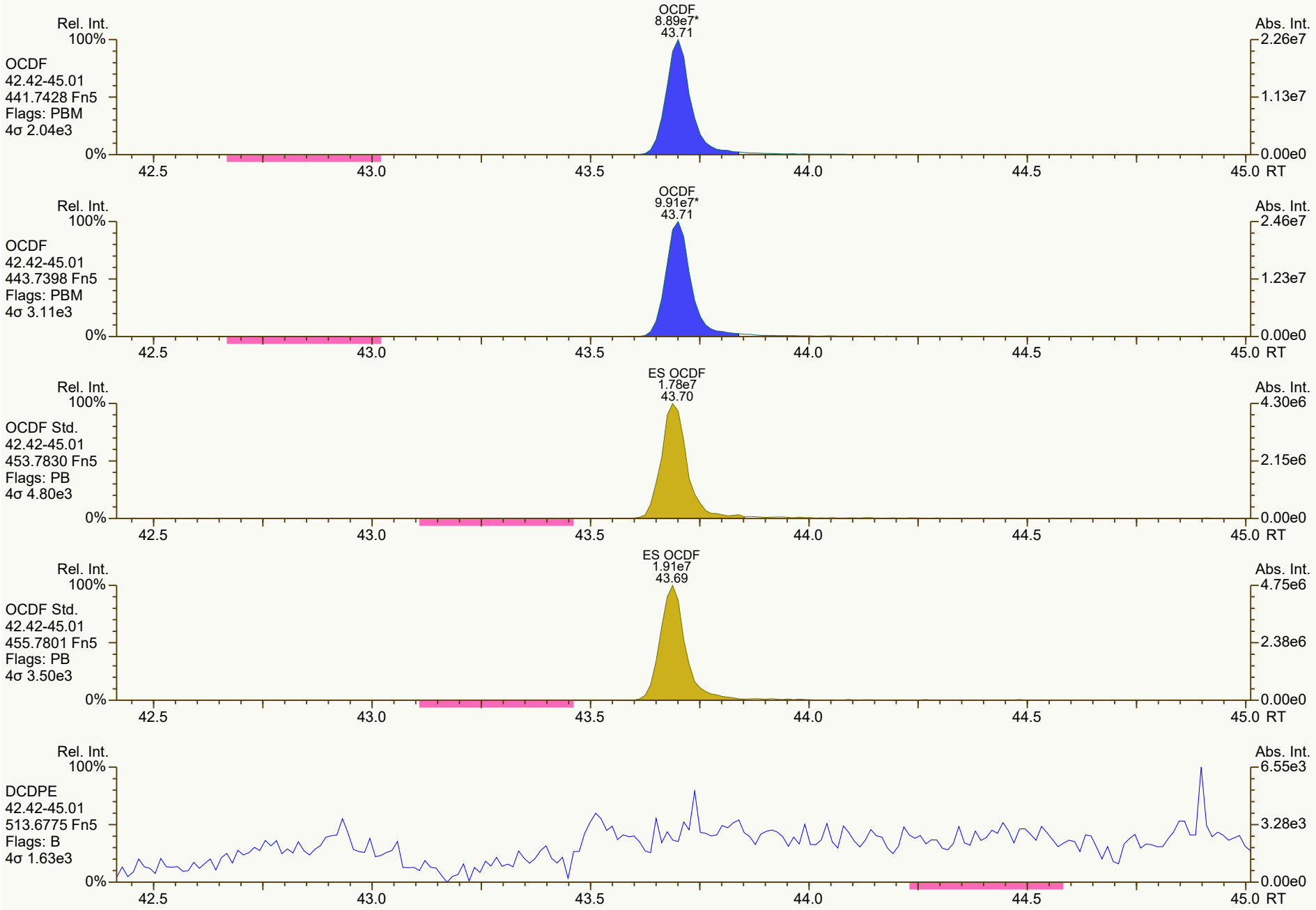

SGS ID: B6147_18830_DF_004MSD
Sample ID: 11215131-010622-S-BN-SW-B-15-MSD
Acq: 22-Jan-2022 05:19:08
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: DTF Datafile: 220121C24
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.24e3
2378F 1.17e8 27.80
1278F 4.99e7 26.90
2348F 1.17e7 27.69
2367/3467F 9.74e6 28.14
1289F 1.11e7 29.79
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.89e3
2378F 1.48e8 27.80
1278F 6.33e7 26.90
2348F 1.50e7 27.69
2367/3467F 1.26e7 28.14
1289F 1.41e7 29.79
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 9.83e3
JS 1234F 1.56e7 26.42
ES 2378F 1.53e7 27.77
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.20e3
JS 1234F 1.90e7 26.42
ES 2378F 1.88e7 27.77
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.59e3
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MSD.utp_res, saved 24-Jan-2022 12:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4484, 1405, 3142 scc: 637-621
PKD: 24-Jan-2022 12:38 Printed: 24-Jan-2022 12:48 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 2.50e3
13468/12468F
1.79e7
29.69
Abs. Int.
4.23e6
2.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 2.52e3
13468/12468F
1.09e7
29.69
Abs. Int.
2.59e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.32e7
6.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6147_18830_DF_004MSD
Sample ID: 11215131-010622-S-BN-SW-B-15-MSD
Acq: 22-Jan-2022 05:19:08
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: DTF Datafile: 220121C24
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 4.26e3
12368F...[3] 4.42e6* 31.41
12378F 1.76e7 32.51
12678/12367F 2.58e6 32.80
23478F 1.65e7 33.62
12389F 2.71e6 34.69
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 4.45e3
12368F...[3] 2.94e6* 31.41
12378F 1.14e7 32.51
12678/12367F 1.61e6 32.80
23478F 1.04e7 33.62
12389F 1.66e6 34.69
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 4.67e3
CS 12346F 1.94e7 31.96
ES 12378F 1.99e7 32.49
ES 23478F 1.95e7 33.60
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 3.25e3
CS 12346F 1.20e7 31.96
ES 12378F 1.27e7 32.49
ES 23478F 1.24e7 33.60
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.97e3
RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 4.56e3
123468F
2.39e7
35.45
124678/134678F
2.79e6
35.65
124689F
1.98e6
36.30
123478F
2.20e7
36.84
123678F
1.40e7
36.98
234678F
9.11e6
37.66
123789F
9.48e6
38.60
Abs. Int.
7.13e6
3.56e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 3.06e3
123468F
1.90e7
35.45
124678/134678F
2.13e6
35.65
124689F
1.56e6
36.29
123478F
1.76e7
36.83
123678F
1.11e7
36.98
234678F
7.08e6
37.66
123789F
7.64e6
38.60
5.72e6
2.86e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.76e3
ES 123478F
8.65e6
36.82
ES 123678F
1.06e7
36.96
CS 123469F
9.57e6
37.28
ES 234678F
8.14e6*
37.64
QI
ES 123789F
8.71e6
38.58
2.87e6
1.43e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.49e3
ES 123478F
1.64e7
36.82
ES 123678F
1.95e7
36.96
CS 123469F
1.70e7
37.28
ES 234678F
1.50e7*
37.64
ES 123789F
1.61e7
38.58
5.53e6
2.77e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.69e3
1.29e4
6.46e3


SGS ID: B6147_18830_DF_004MSD
Sample ID: 11215131-010622-S-BN-SW-B-15-MSD
Acq: 22-Jan-2022 05:19:08
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: DTF Datafile: 220121C24
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.42e3
1234678F
1.74e7
39.93
1234689F
4.78e6
40.34
1234789F
8.50e6
41.33
6.14e6
3.07e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.98e3
1234678F
1.71e7
39.93
1234689F
4.72e6
40.34
1234789F
8.15e6
41.33
5.91e6
2.96e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 3.72e3
ES 1234678F
6.96e6
39.92
CS 1234689F
6.97e6
40.33
ES 1234789F
6.51e6
41.32
2.37e6
1.19e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 4.25e3
ES 1234678F
1.61e7
39.92
CS 1234689F
1.51e7
40.33
ES 1234789F
1.38e7
41.32
5.72e6
2.86e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.69e3
RT
2.01e5
1.00e5
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_004MSD.utp_res, saved 24-Jan-2022 12:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5952, 1544, 5080 scc: 637-621
PKD: 24-Jan-2022 12:38 Printed: 24-Jan-2022 12:49 Page 11 of 12


OCDF
8.89e7*
43.71
Rel. Int.
100%
Abs. Int.
2.26e7
1.13e7
0.00e0
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.04e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.91e7*
43.71
Abs. Int.
2.46e7
1.23e7
0.00e0
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 3.11e3
ES OCDF
1.78e7
43.70
Abs. Int.
4.30e6
2.15e6
0.00e0
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 4.80e3
ES OCDF
1.91e7
43.69
Abs. Int.
4.75e6
2.38e6
0.00e0
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 3.50e3
Abs. Int.
6.55e3
3.28e3
0.00e0
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.63e3

Lab ID: B6147_18830_DF_005 **Acq'd:** 22 Jan 2022 06:05 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-DUP-10 **UTP:** 26-Jan-2022 10:21:12 PSW **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 282-914-MBP

Datafile: 220121C25 **Report:** 26 Jan 2022 10:23 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.67		1.0008	1.0008	0	1.01E+08	0.80	Y	1.18	914	6287.676	0.603
12378-PeCDD	33.97		1.0006	1.0005	-0.2	9.56E+05	1.76	Y	1.04	10.2	5634.754	0.554
123478-HxCDD	37.85		1.0004	1.0002	-0.5	2.48E+05	1.26	Y	1.09	3.1	7645.18	0.844
123678-HxCDD	37.97		1.0034	1.0035	+0.2	9.92E+05	1.21	Y	1.15	11.5	7645.18	0.821
123789-HxCDD	38.26		1.0109	1.0109	0	6.04E+05	1.24	Y	1.05	6.84	7645.18	0.805
1234678-HpCDD	40.88		1.0003	1.0003	0	1.81E+07	1.03	Y	1.06	254	6953.651	0.762
OCDD	43.54		1.0002	1.0003	+0.3	2.31E+08	0.90	Y	1.13	4,430	7523.799	1.36
2378-TCDF	27.82	E	1.0008	1.0008	0	4.12E+08	0.80	Y	1.08	2,520	6025.684	0.389
12378-PeCDF	32.53		1.0005	1.0005	0	1.97E+07	1.57	Y	1.02	137	9904.832	0.688
23478-PeCDF	33.64	PR	1.0005	1.0008	+0.6	1.31E+07	1.48	Y	1.02	92.3	9904.832	0.608
123478-HxCDF	36.85		1.0004	1.0005	+0.2	3.60E+07	1.26	Y	1.27	269	9188.034	0.598
123678-HxCDF	37.00		1.0004	1.0004	0	1.05E+07	1.29	Y	1.15	74.5	9188.034	0.61
234678-HxCDF	37.68		1.0004	1.0005	+0.2	1.87E+06	1.26	Y	1.19	18.6	9188.034	0.911
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	9188.034	0.716
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	3.03E+07	1.03	Y	1.37	264	3555.305	0.232
1234789-HpCDF	41.35		1.0003	1.0003	0	3.23E+06	1.04	Y	1.31	37.6	3555.305	0.366
OCDF	43.73		1.0002	1.0003	+0.3	2.30E+08	0.88	Y	1.07	3,520	7213.871	1.18

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.65	1.0233	1.0234	+0.2	1.86E+07	0.84	Y	1.05	87
ES 12378-PeCDD	33.95	1.2121	1.2127	+1.2	1.79E+07	1.66	Y	0.88	99.7
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.46E+07	1.28	Y	0.97	96
ES 123678-HxCDD	37.96	0.9951	0.9951	0	1.50E+07	1.26	Y	0.94	101
ES 123789-HxCDD	38.25	1.0025	1.0027	+0.5	1.67E+07	1.30	Y	1.09	98.2
ES 1234678-HpCDD	40.87	1.0709	1.0714	+1.2	1.34E+07	1.02	Y	0.91	93.7
ES OCDD	43.53	1.1403	1.1412	+2.4	1.84E+07	0.92	Y	0.62	94.2
ES 2378-TCDF	27.80	1.0506	1.0509	+0.5	3.01E+07	0.81	Y	1.06	86.5
ES 12378-PeCDF	32.52	1.2281	1.2290	+1.8	2.79E+07	1.61	Y	0.91	93.3
ES 23478-PeCDF	33.62	1.2698	1.2707	+1.8	2.76E+07	1.65	Y	0.88	95.2
ES 123478-HxCDF	36.84	0.9657	0.9657	0	2.09E+07	0.54	Y	1.20	112
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.42E+07	0.55	Y	1.35	115
ES 234678-HxCDF	37.66	0.9874	0.9873	-0.2	1.68E+07	0.54	Y	1.24	86.5
ES 123789-HxCDF	38.60	1.0116	1.0119	+0.7	1.81E+07	0.51	Y	1.16	100
ES 1234678-HpCDF	39.94	1.0467	1.0470	+0.7	1.67E+07	0.46	Y	0.97	110
ES 1234789-HpCDF	41.33	1.0830	1.0836	+1.5	1.31E+07	0.44	Y	0.85	98.2
ES OCDF	43.71	1.1451	1.1460	+2.4	2.42E+07	0.93	Y	0.81	96

Lab ID: B6147_18830_DF_005 **Acq'd:** 22 Jan 2022 06:05 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-DUP-10 **UTP:** 26-Jan-2022 10:21:12 PSW **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 282-914-MBP

Datafile: 220121C25 **Report:** 26 Jan 2022 10:23 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	28.00		-	-	-	2.04E+07	0.76	Y	-	-	
JS 1234-TCDF	26.46		-	-	-	3.28E+07	0.84	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	7.80E+06	1.31	Y	-	-	
CS 37Cl-2378-TCDD	28.67		1.0241	1.0242	+0.2	8.52E+06	n/a	-	1.20	86.7	
CS 12347-PeCDD	33.45		1.1943	1.1948	+1.0	1.55E+07	1.64	Y	0.75	101	
CS 12346-PeCDF	31.99		1.2083	1.2090	+1.3	2.63E+07	1.58	Y	0.85	94.2	
CS 123469-HxCDF	37.30		0.9778	0.9778	0	2.10E+07	0.56	Y	1.12	121	
CS 1234689-HpCDF	40.34		1.0571	1.0576	+1.2	1.43E+07	0.43	Y	0.89	103	
~~SS 37Cl-2378-TCDD~~	~~28.67~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~8.52E+06~~	~~n/a~~		~~1.15~~	~~99.~~9	Not used in this project.
~~SS 12347-PeCDD~~	~~33.45~~		~~1.1943~~	~~1.1948~~	~~+1.0~~	~~1.55E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~101~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.99~~		~~1.2083~~	~~1.2090~~	~~+1.3~~	~~2.63E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~101~~	
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.10E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.43E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~93.~~4	

Totals	Conc	EMPC
Total TCDD	1030	1030
Total PeCDD	33	33
Total HxCDD	134	136
Total HpCDD	610	610
Total Tetra-Octa Dioxins	6240	6250
Total TCDF	4,820	4820
Total PeCDF	434	434
Total HxCDF	534	544
Total HpCDF	425	425
Total Tetra-Octa Furans	9,730	9740
Total Tetra-Octa Dioxins & Furans	16000	16000

Lab ID: B6147_18830_DF_005 **Acq'd: 22 Jan 2022 06:05 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-DUP-10 **UTP: 26-Jan-2022 10:21:12 PSW** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 282-914-MBP**

Datafile: 220121C25 **Report: 26 Jan 2022 10:23 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.08		0.8755	0.8752	-0.5	3.83E+05	0.77	Y	1.18	3.46	6287.676	0.603
1379-TCDD	25.42		0.8876	0.8873	-0.5	1.28E+05	0.75	Y	1.18	1.16	6287.676	0.603
1369-TCDD	NotFnd		0.9023						1.18		6287.676	0.603
1469-TCDD	26.61		0.9291	0.9288	-0.5	5.75E+05	0.88	Y	1.18	5.19	6287.676	0.603
1247/1246/1248/1249-TCDD	26.84		0.9373	0.9369	-0.6	2.75E+05	0.73	Y	1.18	2.48	6287.676	0.603
1378-TCDD	27.04	EMPC	0.9440	0.9439	-0.2	3.49E+05	0.89	N	1.18	3.15	6287.676	0.603
1268-TCDD	NotFnd		0.9506						1.18		6287.676	0.603
1478-TCDD	27.48	EMPC	0.9591	0.9591	0	2.26E+05	1.01	N	1.18	2.04	6287.676	0.603
1279-TCDD	NotFnd		0.9649						1.18		6287.676	0.603
1234/1269-TCDD	27.98		0.9771	0.9766	-0.8	1.58E+05	0.70	Y	1.18	1.43	6287.676	0.603
1236-TCDD	NotFnd		0.9820						1.18		6287.676	0.603
1237/1238-TCDD	28.38		0.9908	0.9906	-0.3	1.58E+06	0.80	Y	1.18	14.3	6287.676	0.603
1239-TCDD	NotFnd		0.9954						1.18		6287.676	0.603
2378-TCDD	**28.67**		**1.0008**	1.0008	**0**	1.01E+08	0.80	Y	**1.18**	**914**	**6287.676**	**0.603**
1278-TCDD	28.99		1.0121	1.0120	-0.2	9.01E+06	0.83	Y	1.18	81.3	6287.676	0.603
1267-TCDD	29.14		1.0167	1.0171	+0.7	3.30E+05	0.77	Y	1.18	2.98	6287.676	0.603
1289-TCDD	29.63		1.0341	1.0341	0	2.07E+05	0.73	Y	1.18	1.86	6287.676	0.603
12479/12468-PeCDD	31.48		0.9273	0.9272	-0.2	5.61E+05	1.68	Y	1.04	6.01	5634.754	0.554
12469-PeCDD	32.01		0.9430	0.9427	-0.6	4.45E+05	1.57	Y	1.04	4.76	5634.754	0.554
12368-PeCDD	32.56		0.9592	0.9591	-0.2	2.69E+05	1.56	Y	1.04	2.88	5634.754	0.554
12478-PeCDD	32.75		0.9647	0.9647	0	2.64E+05	1.57	Y	1.04	2.83	5634.754	0.554
12379-PeCDD	32.85	J	0.9676	0.9676	0	1.42E+05	1.74	Y	1.04	1.52	5634.754	0.554
12369/12467/12489-PeCDD	33.11		0.9752	0.9751	-0.2	3.73E+05	1.67	Y	1.04	4	5634.754	0.554
12346/12347-PeCDD	NotFnd		0.9860						1.04		5634.754	0.554
12378-PeCDD	33.97		**1.0006**	**1.0005**	**-0.2**	**9.56E+05**	**1.76**	**Y**	**1.04**	**10.2**	**5634.754**	**0.554**
12367-PeCDD	34.05	J	1.0034	1.0029	-1.0	7.68E+04	1.64	Y	1.04	0.822	5634.754	0.554
12389-PeCDD	NotFnd		1.0134						1.04		5634.754	0.554
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.6	5.27E+06	1.24	Y	1.10	62	7645.18	0.821
123468-HxCDD	36.77		0.9715	0.9716	+0.2	6.09E+05	1.22	Y	1.10	7.16	7645.18	0.821
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	3.41E+06	1.20	Y	1.10	40.1	7645.18	0.821
123469-HxCDD	37.19		0.9829	0.9827	-0.4	2.67E+05	1.14	Y	1.10	3.13	7645.18	0.821
123478-HxCDD	37.85		**1.0004**	**1.0002**	**-0.5**	**2.48E+05**	**1.26**	**Y**	1.09	**3.1**	**7645.18**	**0.844**
123678-HxCDD	37.97		**1.0034**	**1.0035**	**+0.2**	**9.92E+05**	**1.21**	**Y**	1.15	**11.5**	**7645.18**	**0.821**
123467-HxCDD	38.15	J EMPC	1.0082	1.0081	-0.2	1.87E+05	1.50	N	1.10	2.2	7645.18	0.821
123789-HxCDD	38.26		**1.0109**	**1.0109**	**0**	**6.04E+05**	**1.24**	**Y**	1.05	**6.84**	**7645.18**	**0.805**

Lab ID: B6147_18830_DF_005 **Acq'd: 22 Jan 2022 06:05 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-DUP-10 **UTP: 26-Jan-2022 10:21:12 PSW** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 282-914-MBP**

Datafile: 220121C25 **Report: 26 Jan 2022 10:23 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

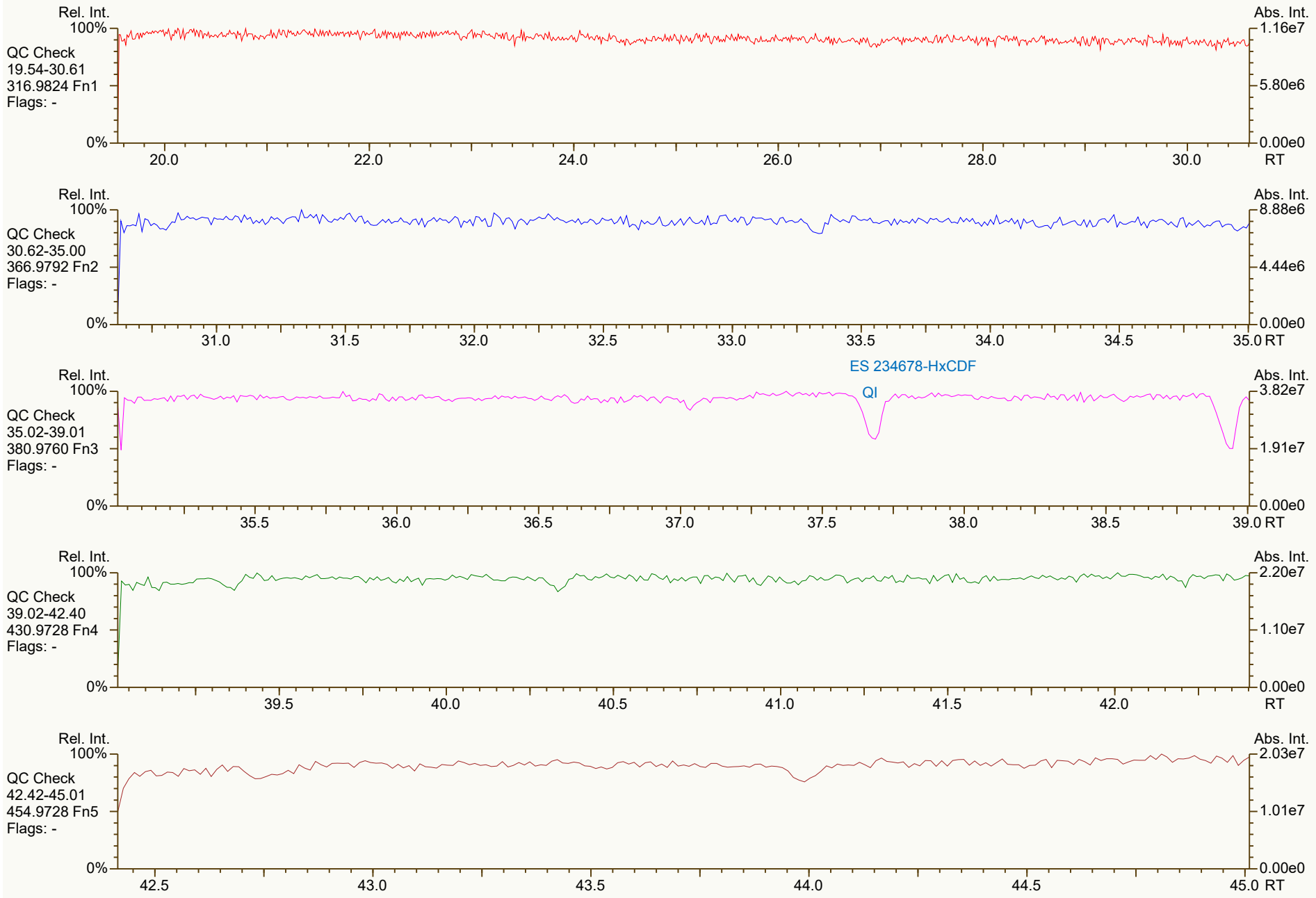
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9838	0	2.54E+07	1.03	Y	1.06	356	6953.651	0.762
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.81E+07**	**1.03**	**Y**	**1.06**	**254**	**6953.651**	**0.762**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.31E+08**	**0.90**	**Y**	**1.13**	**4,430**	**7523.799**	**1.36**
OCDD-a	43.54		1.0002	1.0002	0	1.45E+07	2.38	Y	0.07	4,350	7501.426	21.2
1368-TCDF	23.01		0.8282	0.8276	-0.8	2.68E+05	0.80	Y	1.08	1.64	6025.684	0.389
1468-TCDF	23.58		0.8485	0.8480	-0.7	1.12E+06	0.74	Y	1.08	6.88	6025.684	0.389
2468-TCDF	24.20		0.8709	0.8704	-0.7	2.07E+06	0.82	Y	1.08	12.6	6025.684	0.389
1346/1246-TCDF	24.59		0.8829	0.8845	+2.4	6.15E+05	0.78	Y	1.08	3.76	6025.684	0.389
1347/1378/1247-TCDF	24.73		0.8884	0.8894	+1.5	4.49E+06	0.75	Y	1.08	27.5	6025.684	0.389
1348-TCDF	24.94		0.8980	0.8970	-1.5	7.62E+05	0.75	Y	1.08	4.66	6025.684	0.389
1248/1367/1379-TCDF	25.05		0.9026	0.9010	-2.4	1.88E+07	0.82	Y	1.08	115	6025.684	0.389
1268-TCDF	25.46		0.9158	0.9156	-0.3	7.12E+06	0.83	Y	1.08	43.6	6025.684	0.389
1467-TCDF	25.59		0.9206	0.9205	-0.2	9.63E+05	0.80	Y	1.08	5.9	6025.684	0.389
1478-TCDF	25.75		0.9266	0.9264	-0.3	1.70E+07	0.83	Y	1.08	104	6025.684	0.389
1369/1237-TCDF	26.13		0.9397	0.9399	+0.3	4.85E+06	0.78	Y	1.08	29.7	6025.684	0.389
2467-TCDF	26.25		0.9440	0.9441	+0.2	5.27E+05	0.76	Y	1.08	3.22	6025.684	0.389
2368-TCDF	26.39		0.9497	0.9492	-0.8	1.02E+07	0.75	Y	1.08	62.3	6025.684	0.389
1238/1234/1678/1469/1236-TCDF	26.47		0.9528	0.9520	-1.3	2.31E+07	0.80	Y	1.08	142	6025.684	0.389
1278-TCDF	26.93	E	0.9690	0.9688	-0.3	1.71E+08	0.79	Y	1.08	1,050	6025.684	0.389
1349-TCDF	NotFnd		0.9730						1.08		6025.684	0.389
1267-TCDF	27.20		0.9787	0.9785	-0.3	1.04E+07	0.80	Y	1.08	63.7	6025.684	0.389
2346/1249-TCDF	NotFnd		0.9850						1.08		6025.684	0.389
2347/1279-TCDF	27.59		0.9929	0.9925	-0.7	4.19E+06	0.82	Y	1.08	25.6	6025.684	0.389
2348-TCDF	27.71		0.9970	0.9965	-0.8	2.73E+07	0.80	Y	1.08	167	6025.684	0.389
2378-TCDF	**27.82**	E	**1.0008**	**1.0008**	**0**	**4.12E+08**	**0.80**	**Y**	**1.08**	**2,520**	**6025.684**	**0.389**
2367/3467-TCDF	28.17		1.0136	1.0133	-0.5	3.53E+07	0.81	Y	1.08	216	6025.684	0.389
1269-TCDF	28.42		1.0221	1.0223	+0.3	6.34E+06	0.81	Y	1.08	38.8	6025.684	0.389
1239-TCDF	28.68		1.0319	1.0316	-0.5	5.23E+05	0.81	Y	1.08	3.2	6025.684	0.389
1289-TCDF	29.81		1.0740	1.0723	-3.0	2.79E+07	0.79	Y	1.08	171	6025.684	0.389
13468/12468-PeCDF	29.74		0.9145	0.9148	+0.5	5.13E+06	1.43	Y	1.02	35.9	3580.881	0.234
13678/13467/12467-PeCDF	31.27		0.9619	0.9617	-0.4	1.11E+06	1.68	Y	1.02	7.8	9904.832	0.648
12368/13478/12478-PeCDF	31.44		0.9665	0.9669	+0.8	1.12E+07	1.60	Y	1.02	78.7	9904.832	0.648
14678-PeCDF	31.52		0.9695	0.9695	0	4.20E+05	1.50	Y	1.02	2.94	9904.832	0.648
13479-PeCDF	NotFnd		0.9724						1.02		9904.832	0.648
13469/12479-PeCDF	31.83		0.9801	0.9789	-2.3	4.25E+05	1.61	Y	1.02	2.98	9904.832	0.648
12346-PeCDF	32.01	J	0.9842	0.9845	+0.6	7.78E+04	1.45	Y	1.02	0.545	9904.832	0.648

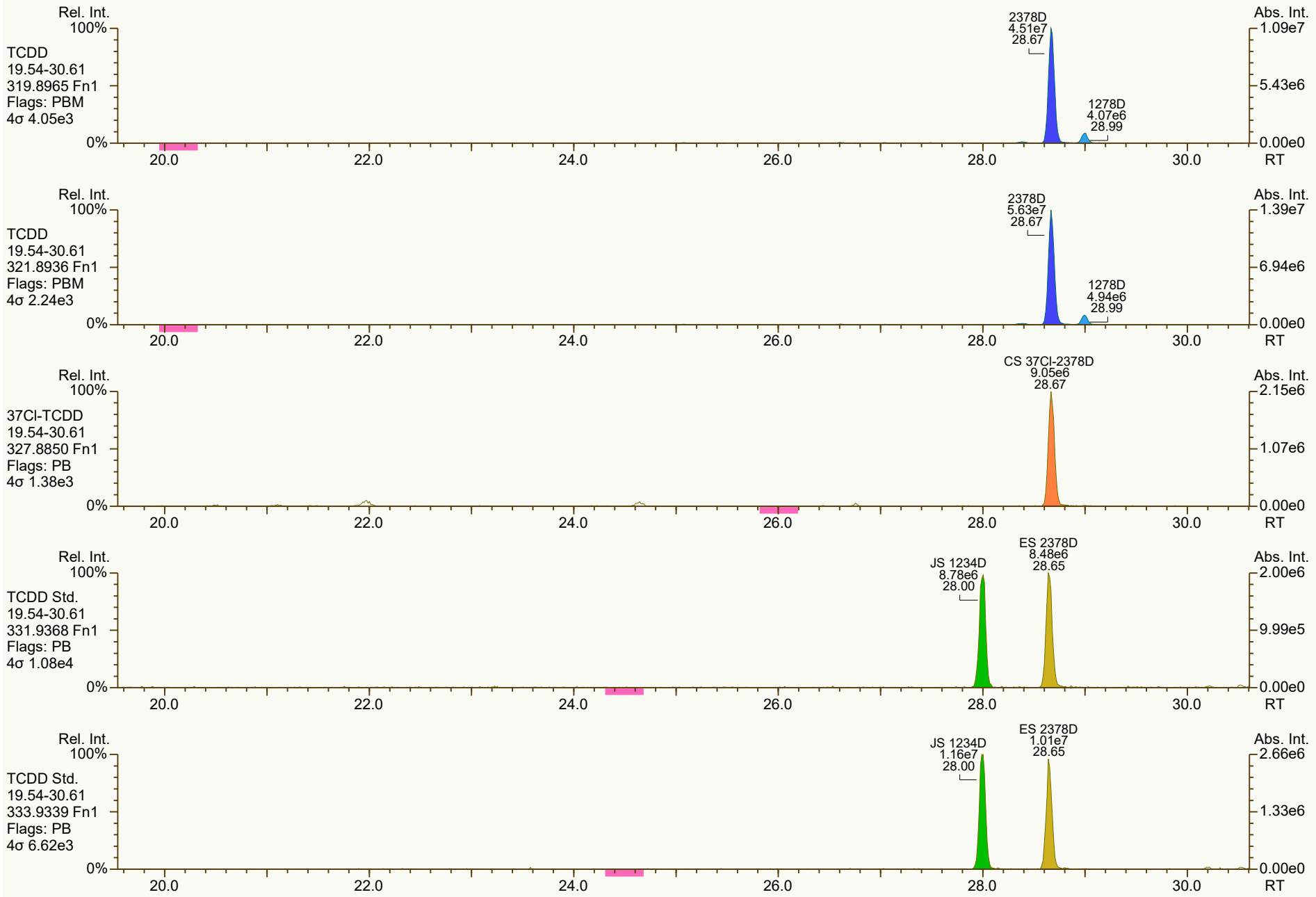
Lab ID: B6147_18830_DF_005 **Acq'd: 22 Jan 2022 06:05 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

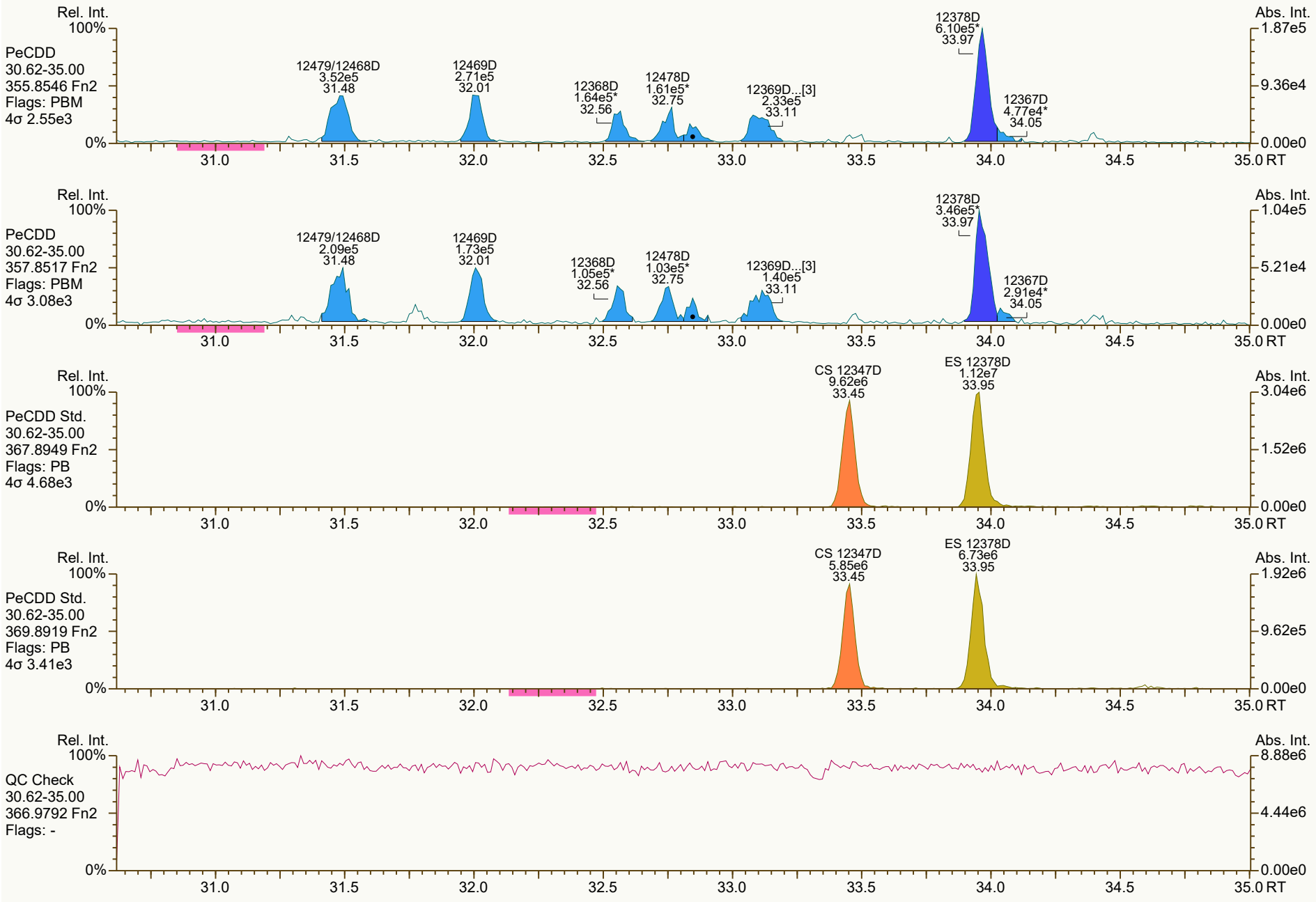
Client ID: 11215131-010622-S-BN-DUP-10 **UTP: 26-Jan-2022 10:21:12 PSW** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 282-914-MBP**

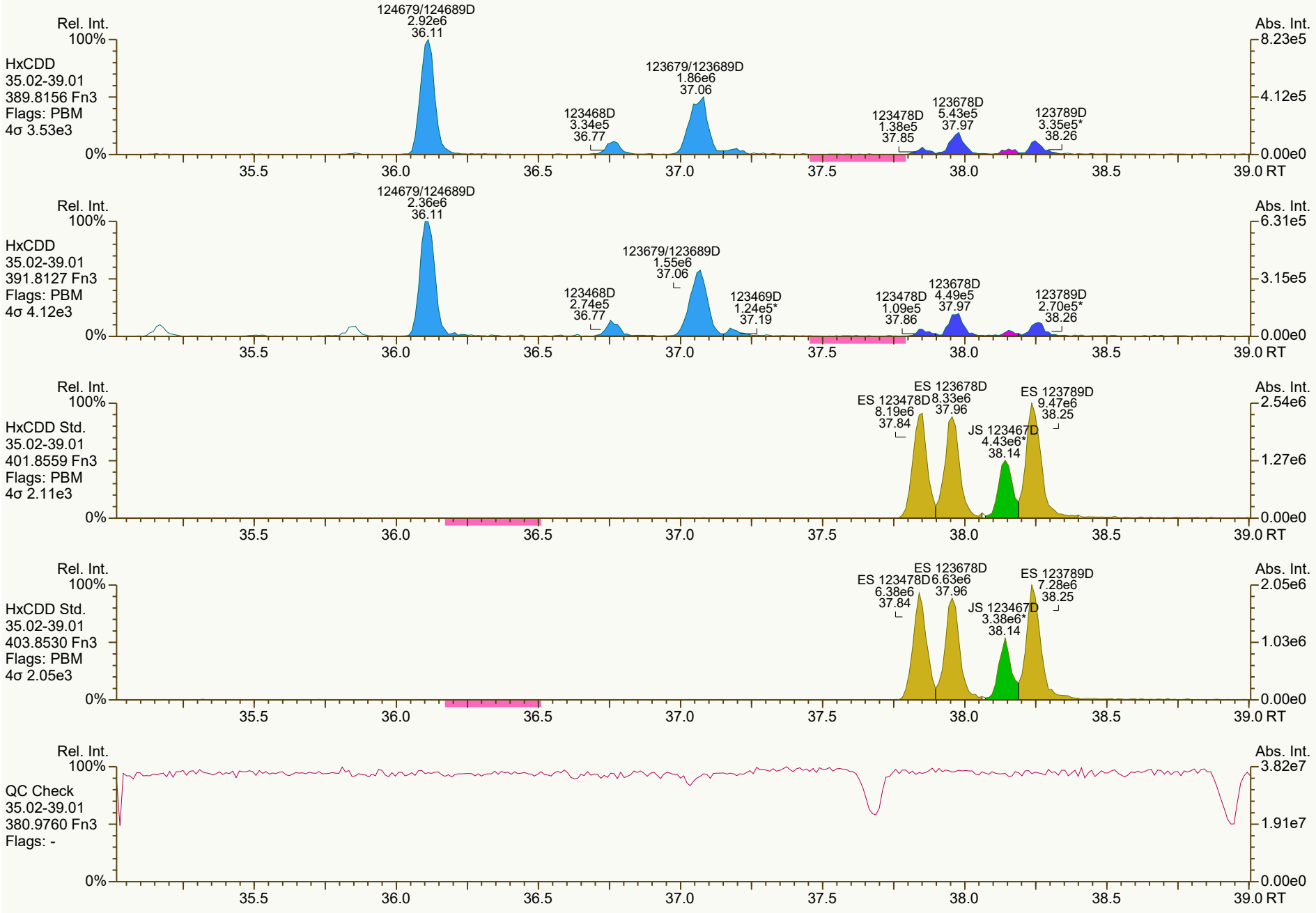
Datafile: 220121C25 **Report: 26 Jan 2022 10:23 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

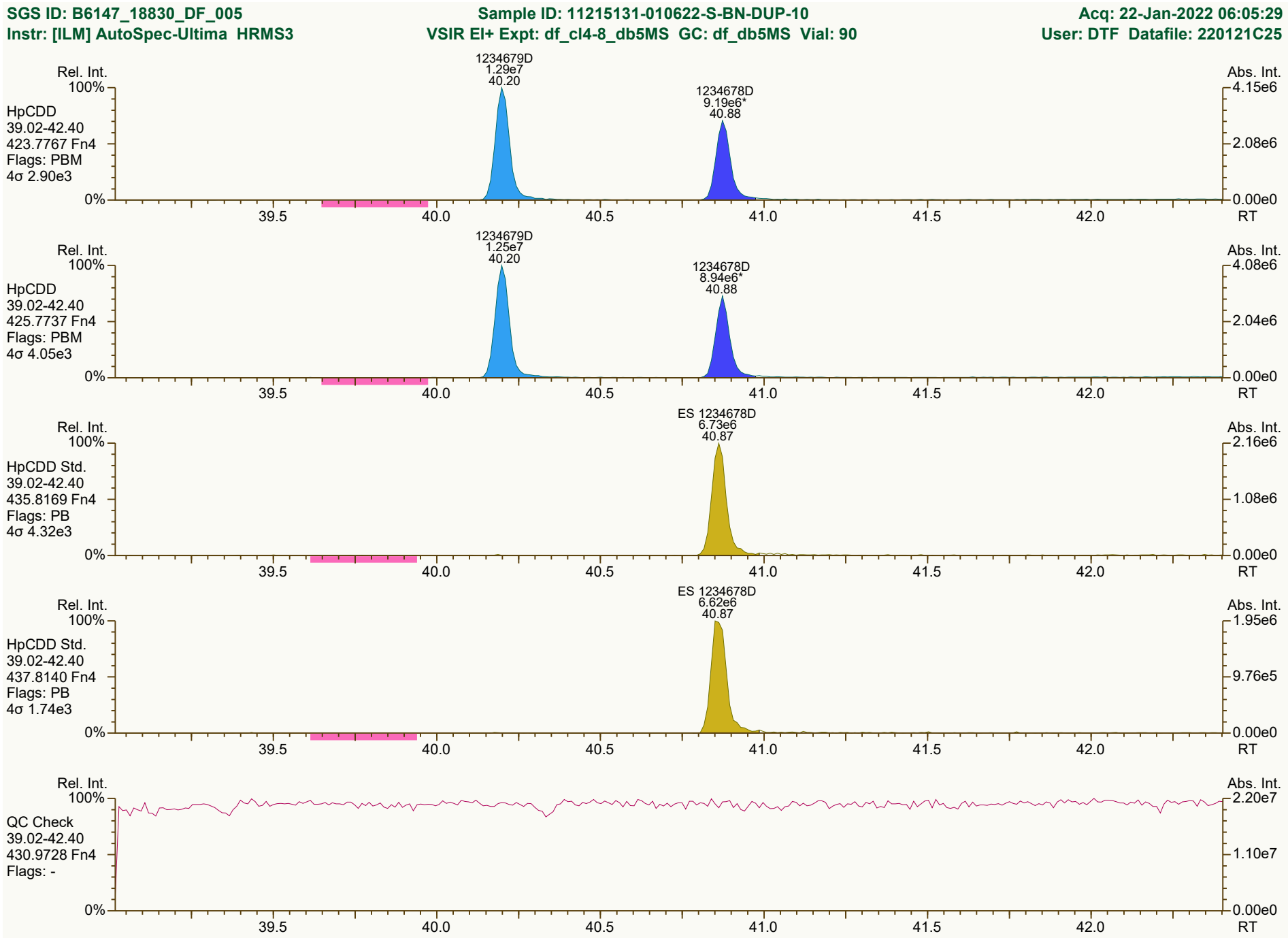
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.09		0.9868	0.9869	+0.2	1.03E+06	1.71	Y	1.02	7.19	9904.832	0.648
12347-PeCDF	32.16		0.9895	0.9891	-0.8	3.70E+05	1.66	Y	1.02	2.59	9904.832	0.648
12348-PeCDF	32.32		0.9941	0.9940	-0.2	1.67E+06	1.68	Y	1.02	11.7	9904.832	0.648
12378-PeCDF	**32.53**		**1.0005**	**1.0005**	**0**	**1.97E+07**	**1.57**	**Y**	**1.02**	**137**	**9904.832**	**0.688**
12678/12367-PeCDF	32.83		1.0090	1.0096	+1.2	6.73E+06	1.61	Y	1.02	47.2	9904.832	0.648
12379-PeCDF	NotFnd		1.0142						1.02		9904.832	0.648
12679-PeCDF	NotFnd		0.9931						1.02		9904.832	0.648
23467/12369-PeCDF	33.50	J	0.9966	0.9966	0	2.54E+05	1.73	Y	1.02	1.78	9904.832	0.648
23478-PeCDF	**33.64**	PR	**1.0005**	**1.0008**	**+0.6**	**1.31E+07**	**1.48**	**Y**	**1.02**	**92.3**	**9904.832**	**0.608**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9904.832	0.648
12349-PeCDF	NotFnd		1.0101						1.02		9904.832	0.648
12389-PeCDF	34.70		1.0322	1.0323	+0.2	7.65E+05	1.74	Y	1.02	5.36	9904.832	0.648
123468-HxCDF	35.47		0.9627	0.9629	+0.4	3.07E+06	1.29	Y	1.19	25.5	9188.034	0.693
124678/134678-HxCDF	35.67		0.9684	0.9682	-0.4	8.55E+06	1.29	Y	1.19	71.1	9188.034	0.693
134679-HxCDF	35.91	J EMPC	0.9747	0.9749	+0.4	1.07E+05	1.48	N	1.19	0.892	9188.034	0.693
124679-HxCDF	36.09	J	0.9802	0.9798	-0.9	2.55E+05	1.11	Y	1.19	2.12	9188.034	0.693
124689-HxCDF	36.31		0.9858	0.9858	0	5.41E+06	1.24	Y	1.19	45	9188.034	0.693
123467-HxCDF	36.73	EMPC	0.9972	0.9971	-0.2	7.21E+05	1.44	N	1.19	5.99	9188.034	0.693
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**3.60E+07**	**1.26**	**Y**	**1.27**	**269**	**9188.034**	**0.598**
123678-HxCDF	**37.00**		**1.0004**	**1.0004**	**0**	**1.05E+07**	**1.29**	**Y**	**1.15**	**74.5**	**9188.034**	**0.61**
123479-HxCDF	37.16	J EMPC	1.0051	1.0049	-0.4	2.55E+05	1.60	N	1.19	2.12	9188.034	0.693
123469-HxCDF	37.31		1.0091	1.0088	-0.7	5.40E+05	1.30	Y	1.19	4.49	9188.034	0.693
123679-HxCDF	37.46	J EMPC	0.9943	0.9948	+1.1	1.25E+05	1.54	N	1.19	1.04	9188.034	0.693
234678-HxCDF	**37.68**		**1.0004**	**1.0005**	**+0.2**	**1.87E+06**	**1.26**	**Y**	**1.19**	**18.6**	**9188.034**	**0.911**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9188.034	0.693
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**9188.034**	**0.716**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.64		1.0007	1.0010	+0.7	2.84E+06	1.28	Y	1.19	23.6	9188.034	0.693
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**3.03E+07**	**1.03**	**Y**	**1.37**	**264**	**3555.305**	**0.232**
1234679-HpCDF	40.21		1.0067	1.0067	0	1.07E+06	1.10	Y	1.34	10.7	3555.305	0.29
1234689-HpCDF	40.35		1.0101	1.0104	+0.7	1.13E+07	1.03	Y	1.34	113	3555.305	0.29
1234789-HpCDF	**41.35**		**1.0003**	**1.0003**	**0**	**3.23E+06**	**1.04**	**Y**	**1.31**	**37.6**	**3555.305**	**0.366**
OCDF	**43.73**		**1.0002**	**1.0003**	**+0.3**	**2.30E+08**	**0.88**	**Y**	**1.07**	**3,520**	**7213.871**	**1.18**
OCDF-a	43.73		1.0002	1.0002	0	1.44E+07	2.49	Y	0.07	3,560	5573.783	14.7


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.16e7
5.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.88e6
4.44e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.82e7
1.91e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.20e7
1.10e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.03e7
1.01e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 4.05e3
0%
2378D
4.51e7
28.67
1278D
4.07e6
28.99
Abs. Int.
1.09e7
5.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.24e3
0%
2378D
5.63e7
28.67
1278D
4.94e6
28.99
Abs. Int.
1.39e7
6.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.38e3
0%
CS 37Cl-2378D
9.05e6
28.67
Abs. Int.
2.15e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 1.08e4
0%
JS 1234D
8.78e6
28.00
ES 2378D
8.48e6
28.65
Abs. Int.
2.00e6
9.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 6.62e3
0%
JS 1234D
1.16e7
28.00
ES 2378D
1.01e7
28.65
Abs. Int.
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1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

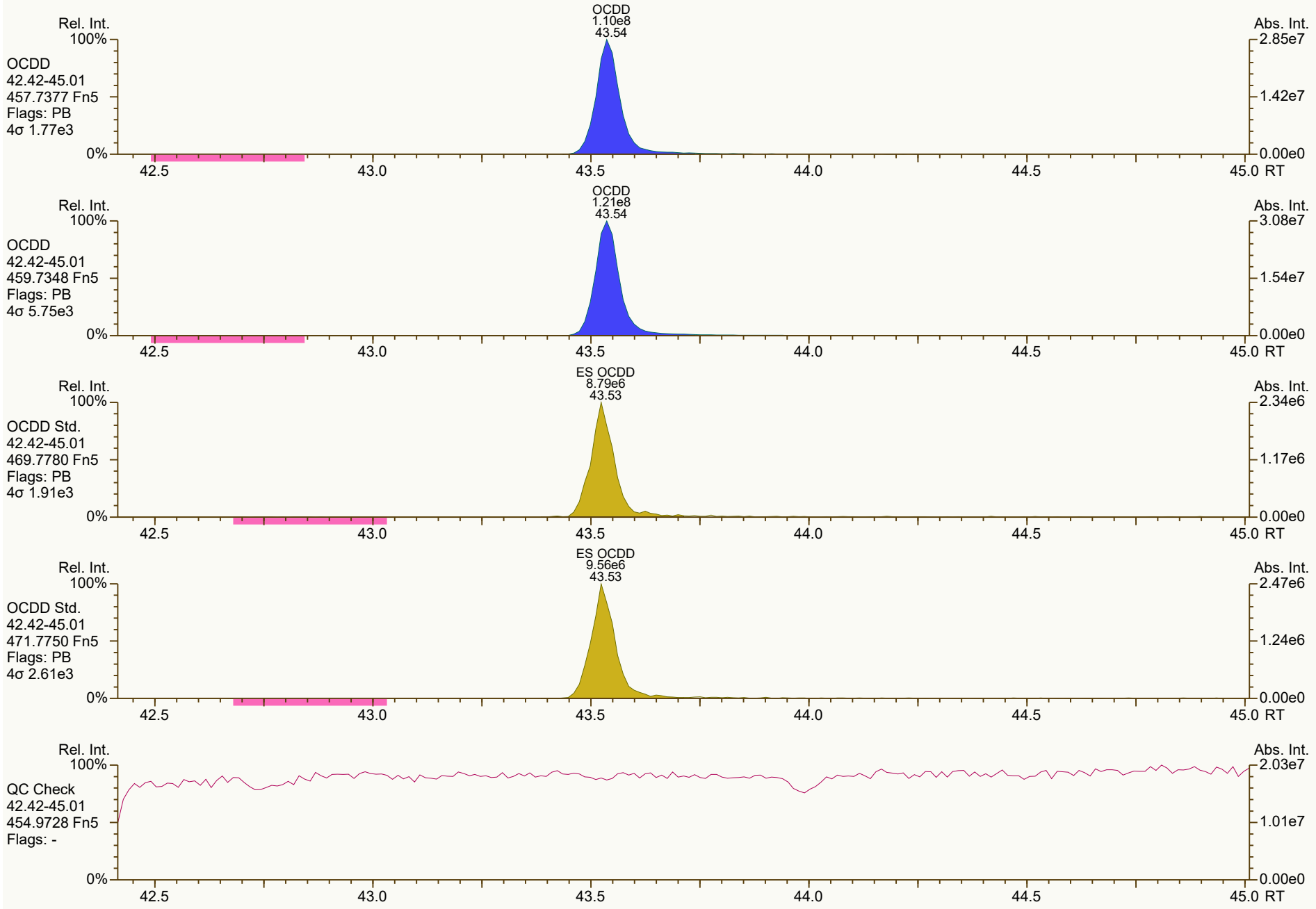

Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.55e3
12479/12468D
3.52e5
31.48
12469D
2.71e5
32.01
12368D
1.64e5*
32.56
12478D
1.61e5*
32.75
12369D...[3]
2.33e5
33.11
12378D
6.10e5*
33.97
12367D
4.77e4*
34.05
Abs. Int.
1.87e5
9.36e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 3.08e3
12479/12468D
2.09e5
31.48
12469D
1.73e5
32.01
12368D
1.05e5*
32.56
12478D
1.03e5*
32.75
12369D...[3]
1.40e5
33.11
12378D
3.46e5*
33.97
12367D
2.91e4*
34.05
Abs. Int.
1.04e5
5.21e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 4.68e3
CS 12347D
9.62e6
33.45
ES 12378D
1.12e7
33.95
Abs. Int.
3.04e6
1.52e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 3.41e3
CS 12347D
5.85e6
33.45
ES 12378D
6.73e6
33.95
Abs. Int.
1.92e6
9.62e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
8.88e6
4.44e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 3.53e3
0%
124679/124689D
2.92e6
36.11
123468D
3.34e5
36.77
123679/123689D
1.86e6
37.06
123478D
1.38e5
37.85
123678D
5.43e5
37.97
123789D
3.35e5*
38.26
Abs. Int.
8.23e5
4.12e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 4.12e3
0%
124679/124689D
2.36e6
36.11
123468D
2.74e5
36.77
123679/123689D
1.55e6
37.06
123469D
1.24e5*
37.19
123478D
1.09e5
37.86
123678D
4.49e5
37.97
123789D
2.70e5*
38.26
Abs. Int.
6.31e5
3.15e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.11e3
0%
ES 123678D
8.33e6
37.96
ES 123478D
8.19e6
37.84
ES 123789D
9.47e6
38.25
JS 123467D
4.43e6*
38.14
Abs. Int.
2.54e6
1.27e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.05e3
0%
ES 123678D
6.63e6
37.96
ES 123478D
6.38e6
37.84
ES 123789D
7.28e6
38.25
JS 123467D
3.38e6*
38.14
Abs. Int.
2.05e6
1.03e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.82e7
1.91e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6147_18830_DF_005
Sample ID: 11215131-010622-S-BN-DUP-10
Acq: 22-Jan-2022 06:05:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: DTF Datafile: 220121C25
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.90e3
1234679D
1.29e7
40.20
1234678D
9.19e6*
40.88
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 4.05e3
1234679D
1.25e7
40.20
1234678D
8.94e6*
40.88
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 4.32e3
ES 1234678D
6.73e6
40.87
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.74e3
ES 1234678D
6.62e6
40.87
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5409, 8976 scc: 282-914
PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 5 of 12

SGS ID: B6147_18830_DF_005 | Sample ID: 11215131-010622-S-BN-DUP-10 | Acq: 22-Jan-2022 06:05:29

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90 | User: DTF Datafile: 220121C25

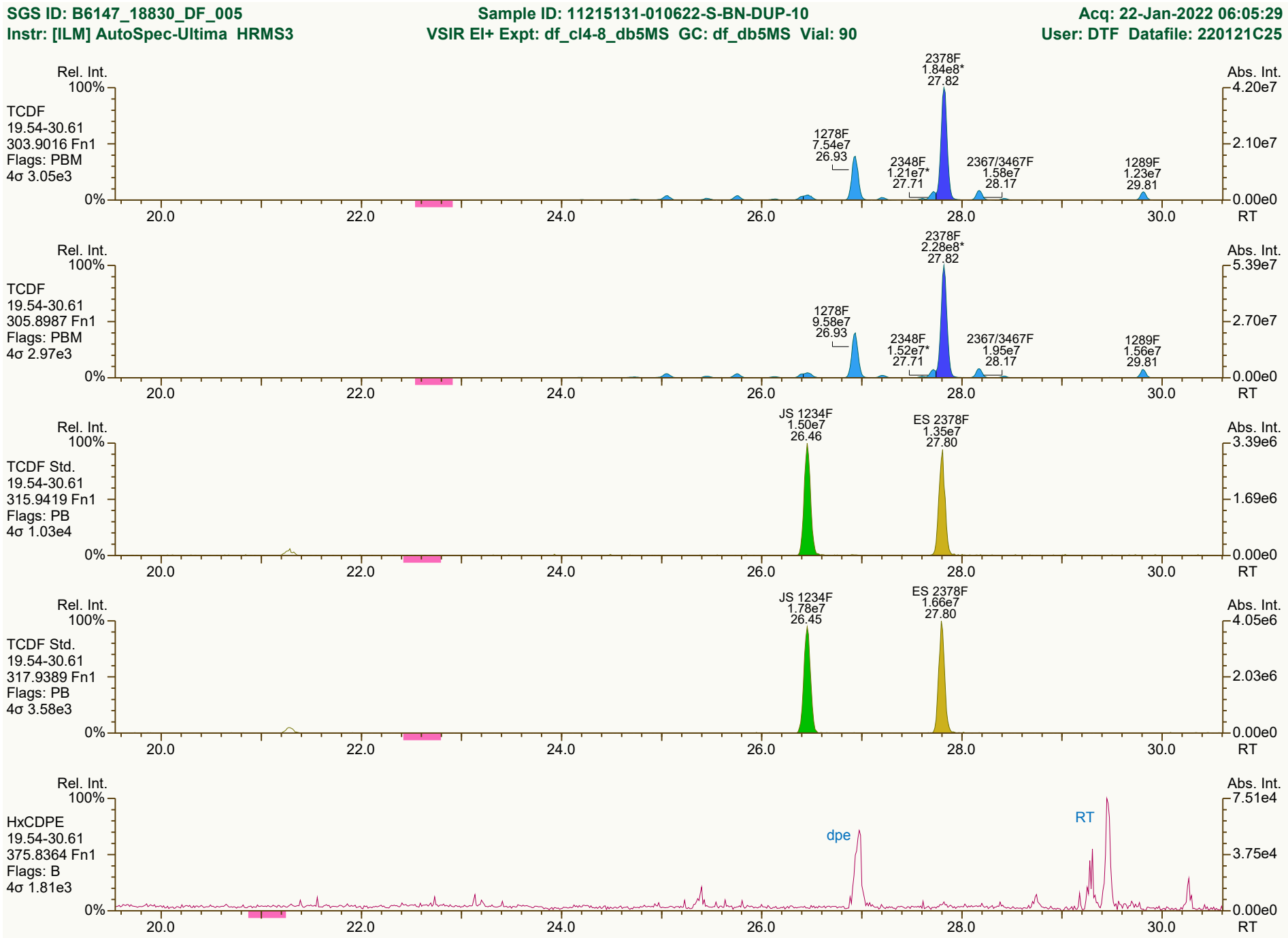


Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5080, 2313 scc: 282-914

PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 6 of 12


SGS ID: B6147_18830_DF_005
Sample ID: 11215131-010622-S-BN-DUP-10
Acq: 22-Jan-2022 06:05:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: DTF Datafile: 220121C25
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 3.05e3
2378F
1.84e8*
27.82
1278F
7.54e7
26.93
2348F
1.21e7*
27.71
2367/3467F
1.58e7
28.17
1289F
1.23e7
29.81
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.97e3
2378F
2.28e8*
27.82
1278F
9.58e7
26.93
2348F
1.52e7*
27.71
2367/3467F
1.95e7
28.17
1289F
1.56e7
29.81
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 1.03e4
JS 1234F
1.50e7
26.46
ES 2378F
1.35e7
27.80
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.58e3
JS 1234F
1.78e7
26.45
ES 2378F
1.66e7
27.80
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.81e3
dpe
RT
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6080, 7760, 8306 scc: 282-914
PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 7 of 12

SGS ID: B6147_18830_DF_005 | Sample ID: 11215131-010622-S-BN-DUP-10 | Acq: 22-Jan-2022 06:05:29

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90 | User: DTF Datafile: 220121C25

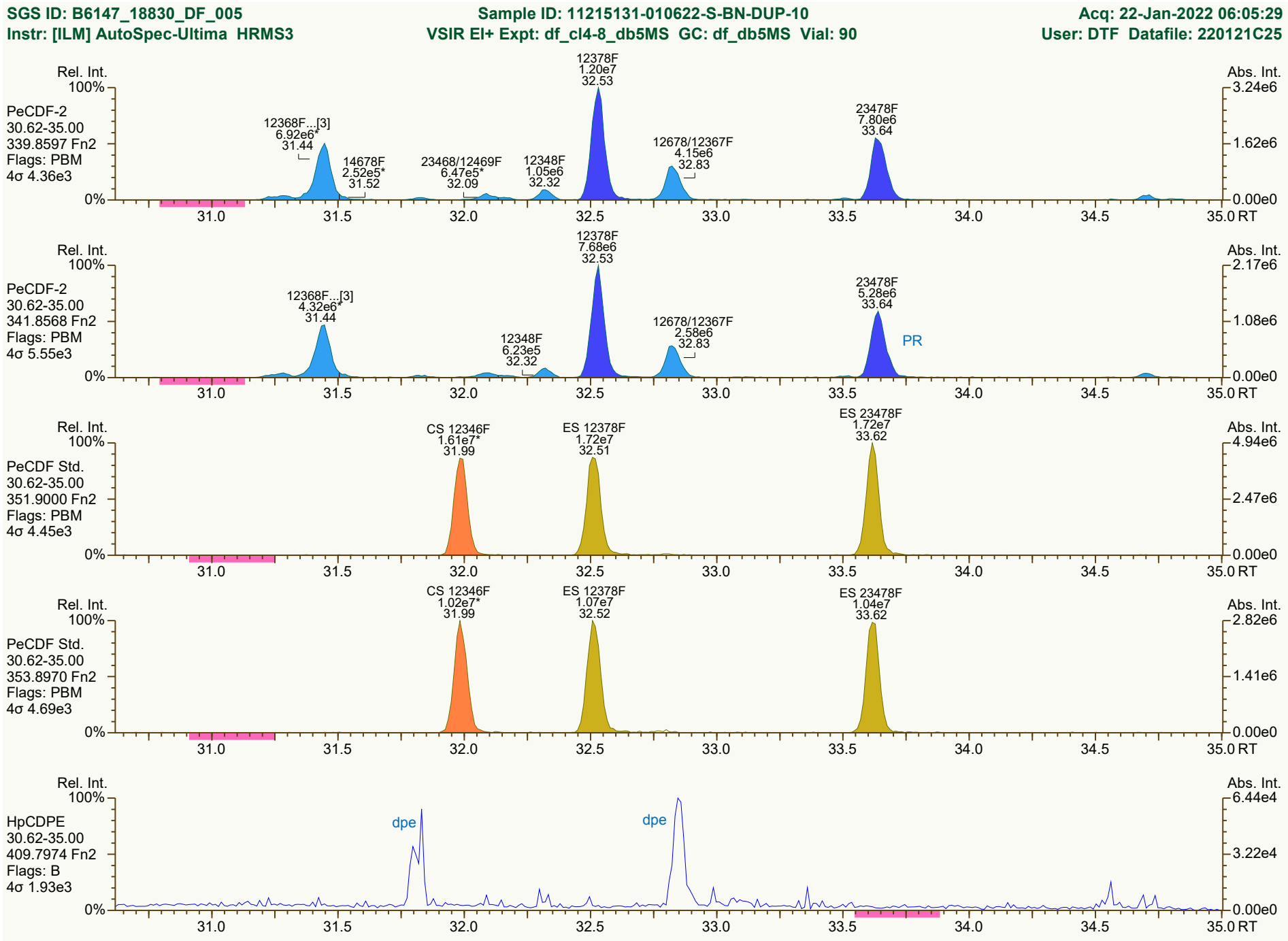


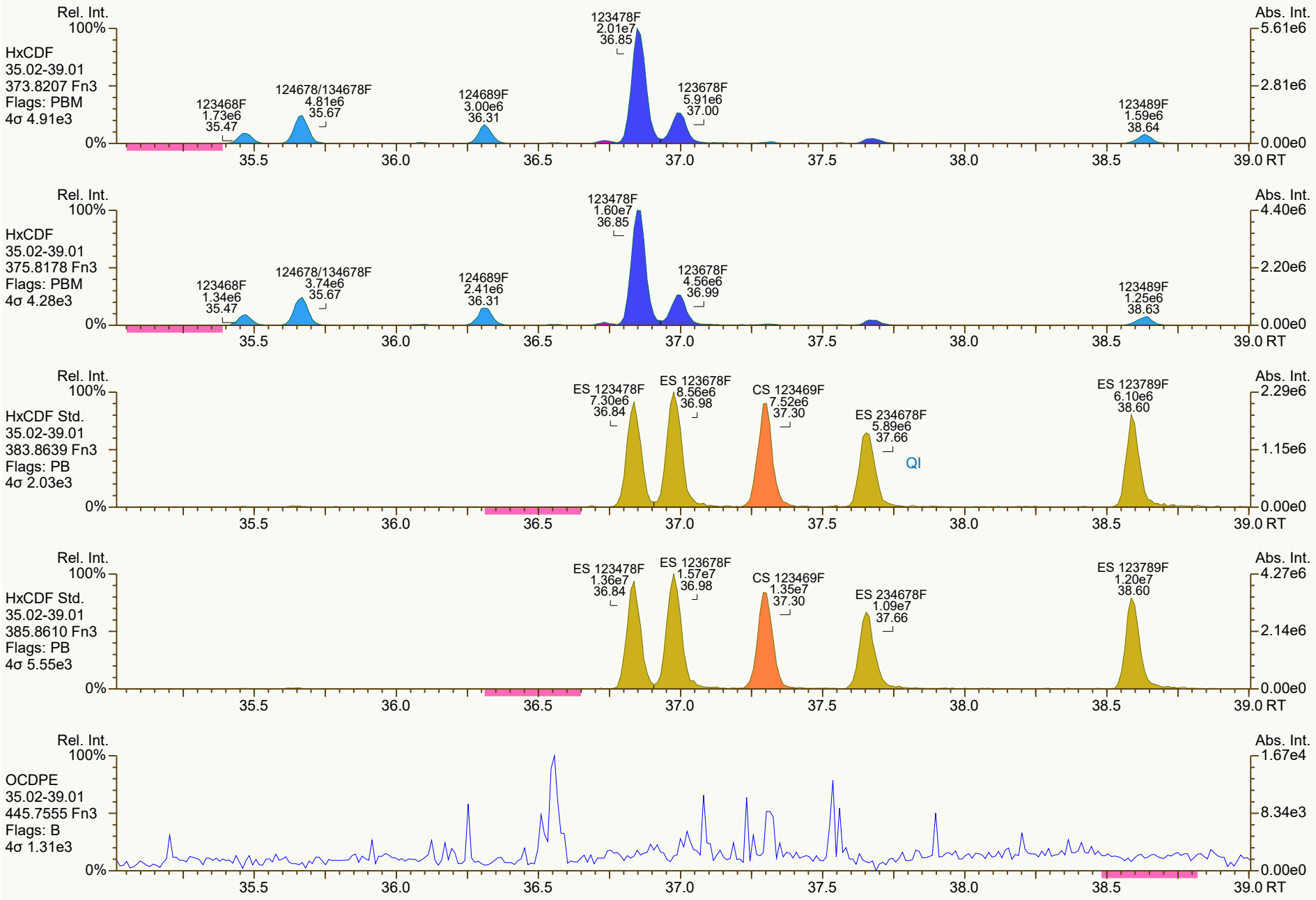
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)

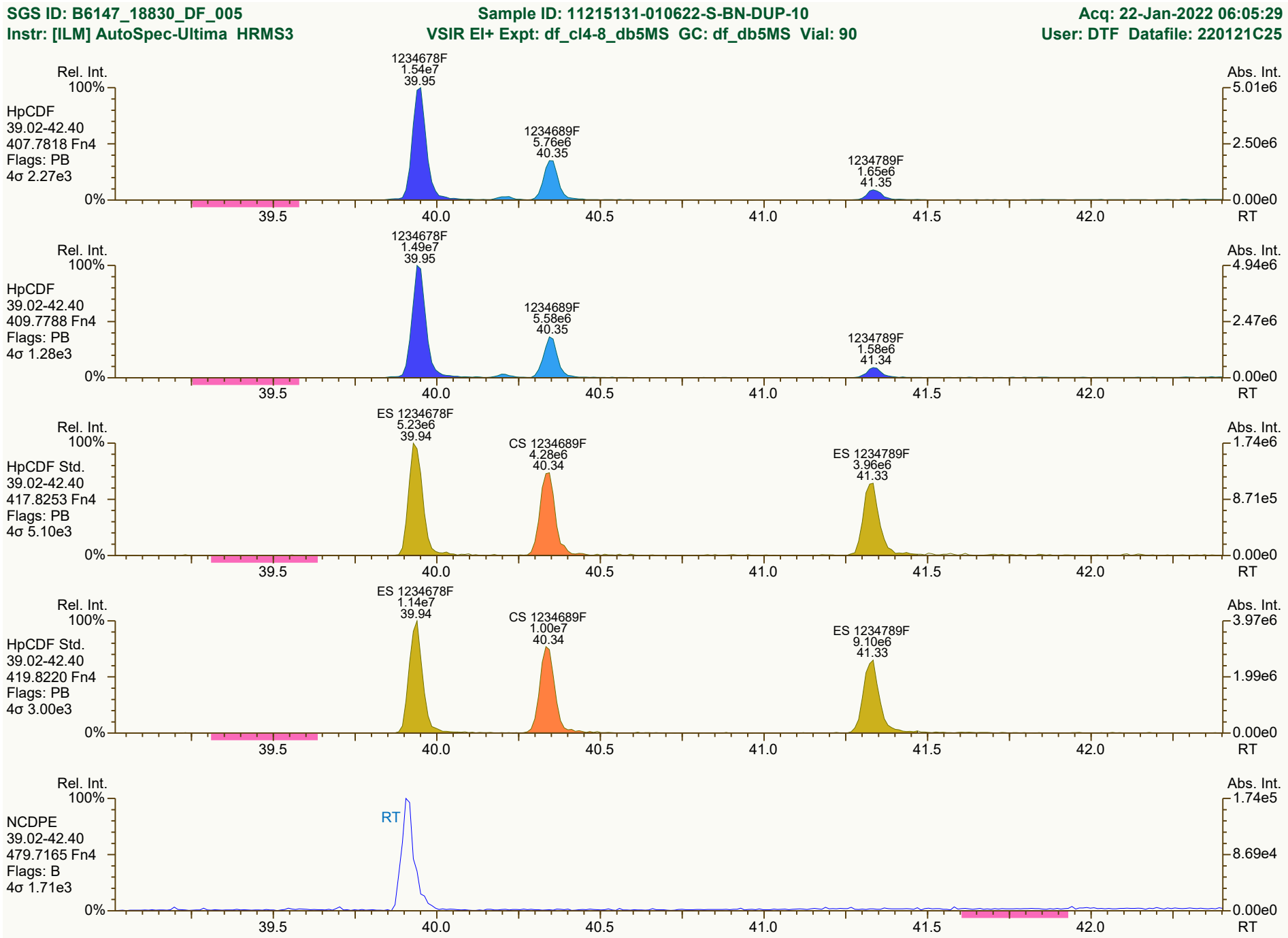
Peak annotation: Areas, Centroids

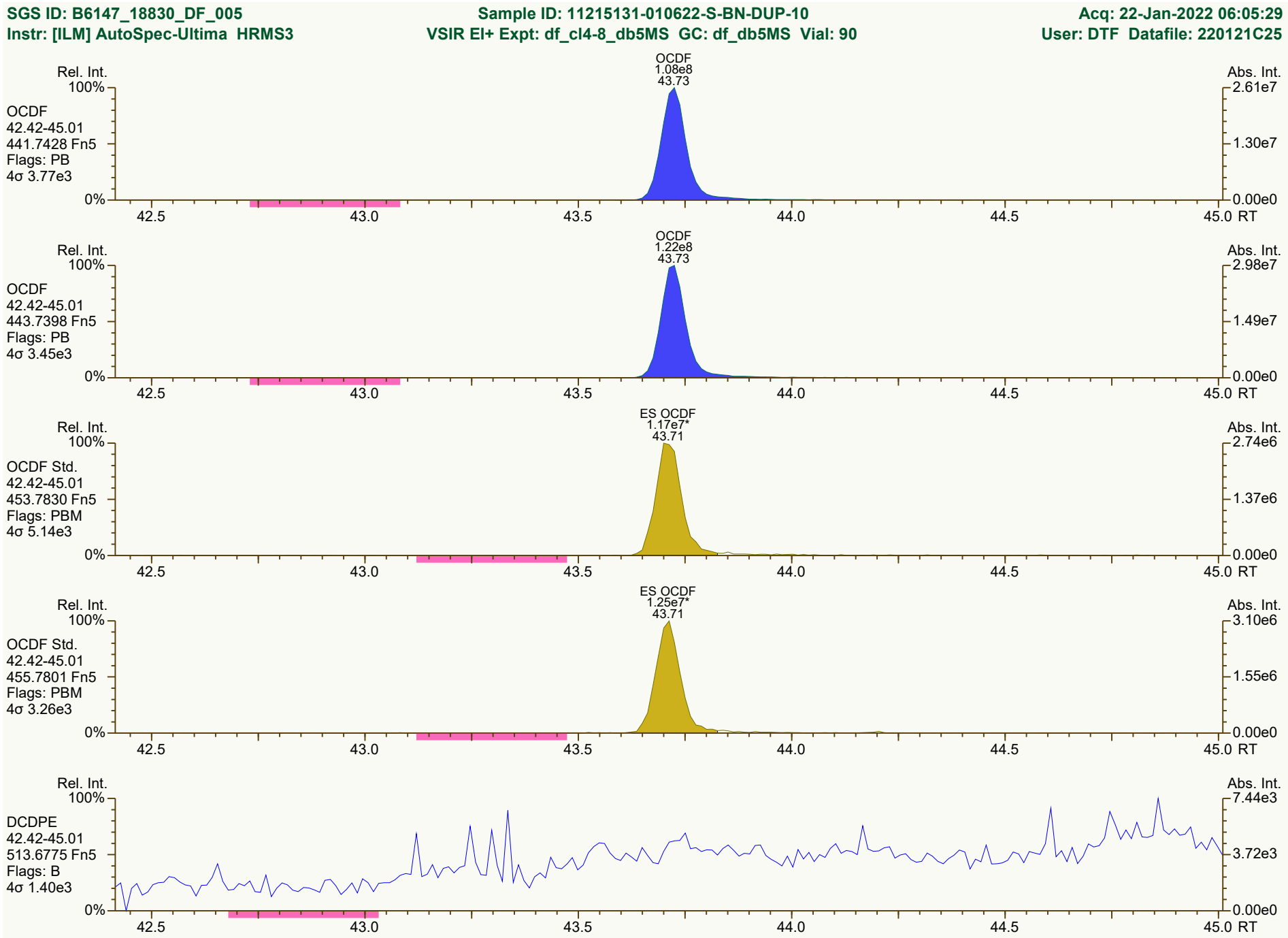
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3353 scc: 282-914

PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 8 of 12


SGS ID: B6147_18830_DF_005
Sample ID: 11215131-010622-S-BN-DUP-10
Acq: 22-Jan-2022 06:05:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: DTF Datafile: 220121C25
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 4.36e3
12368F...[3] 6.92e6* 31.44
14678F 2.52e5* 31.52
23468/12469F 6.47e5* 32.09
12348F 1.05e6 32.32
12378F 1.20e7 32.53
12678/12367F 4.15e6 32.83
23478F 7.80e6 33.64
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 5.55e3
12368F...[3] 4.32e6* 31.44
12348F 6.23e5 32.32
12378F 7.68e6 32.53
12678/12367F 2.58e6 32.83
23478F 5.28e6 33.64
PR
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 4.45e3
CS 12346F 1.61e7* 31.99
ES 12378F 1.72e7 32.51
ES 23478F 1.72e7 33.62
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 4.69e3
CS 12346F 1.02e7* 31.99
ES 12378F 1.07e7 32.52
ES 23478F 1.04e7 33.62
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.93e3
dpe
dpe
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
3.24e6
1.62e6
0.00e0
2.17e6
1.08e6
4.94e6
2.47e6
2.82e6
1.41e6
6.44e4
3.22e4
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3150, 2170, 3185 scc: 282-914
PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 4.91e3
123468F 1.73e6 35.47
124678/134678F 4.81e6 35.67
124689F 3.00e6 36.31
123478F 2.01e7 36.85
123678F 5.91e6 37.00
123489F 1.59e6 38.64
Abs. Int.
5.61e6
2.81e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 4.28e3
123468F 1.34e6 35.47
124678/134678F 3.74e6 35.67
124689F 2.41e6 36.31
123478F 1.60e7 36.85
123678F 4.56e6 36.99
123489F 1.25e6 38.63
Abs. Int.
4.40e6
2.20e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.03e3
ES 123478F 7.30e6 36.84
ES 123678F 8.56e6 36.98
CS 123469F 7.52e6 37.30
ES 234678F 5.89e6 37.66
QI
ES 123789F 6.10e6 38.60
Abs. Int.
2.29e6
1.15e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 5.55e3
ES 123478F 1.36e7 36.84
ES 123678F 1.57e7 36.98
CS 123469F 1.35e7 37.30
ES 234678F 1.09e7 37.66
ES 123789F 1.20e7 38.60
Abs. Int.
4.27e6
2.14e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.31e3
Abs. Int.
1.67e4
8.34e3
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


SGS ID: B6147_18830_DF_005
Sample ID: 11215131-010622-S-BN-DUP-10
Acq: 22-Jan-2022 06:05:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: DTF Datafile: 220121C25
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.27e3
1234678F
1.54e7
39.95
1234689F
5.76e6
40.35
1234789F
1.65e6
41.35
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.28e3
1234678F
1.49e7
39.95
1234689F
5.58e6
40.35
1234789F
1.58e6
41.34
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 5.10e3
ES 1234678F
5.23e6
39.94
CS 1234689F
4.28e6
40.34
ES 1234789F
3.96e6
41.33
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 3.00e3
ES 1234678F
1.14e7
39.94
CS 1234689F
1.00e7
40.34
ES 1234789F
9.10e6
41.33
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.71e3
RT
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8932, 9112, 9072 scc: 282-914
PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 11 of 12


SGS ID: B6147_18830_DF_005
Sample ID: 11215131-010622-S-BN-DUP-10
Acq: 22-Jan-2022 06:05:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: DTF Datafile: 220121C25
OCDF
1.08e8
43.73
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 3.77e3
0%
Abs. Int.
2.61e7
1.30e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.22e8
43.73
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 3.45e3
2.98e7
1.49e7
ES OCDF
1.17e7*
43.71
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 5.14e3
2.74e6
1.37e6
ES OCDF
1.25e7*
43.71
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.26e3
3.10e6
1.55e6
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
7.44e3
3.72e3
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\B6147_18830_DF_005.utp_res, saved 26-Jan-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5742, 1053, 6846 scc: 282-914
PKD: 24-Jan-2022 12:42 Printed: 26-Jan-2022 10:24 Page 12 of 12

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	220121C15	3	CS3_220121_DF_CB ✓	1.00	SIL 25-347-1	DTF, PSW	~~117-446~~ 665-639	21-Jan-2022	22:22:04
16	220121C16	83	OPR1_18830_DF	1.00	0_18830_OPR001	DTF, PSW	615-083	21-Jan-2022	23:08:24
17	220121C17	2	SBS_220121_DF_CC	1.00	20-61-1	DTF, PSW	545-428	21-Jan-2022	23:54:45
18	220121C18	82	MB1_18830_DF_SDS	10.00	Method Blank	DTF, PSW	697-298	22-Jan-2022	00:41:04
19	220121C19	84	B6147_18830_DF_001	10.12	11215131-010522-S-BN-SW-O-15	DTF, PSW	456-233	22-Jan-2022	01:27:25
20	220121C20	85	B6147_18830_DF_002	10.27	11215131-010522-S-BN-SW-B-17	DTF, PSW	182-421	22-Jan-2022	02:13:45
21	220121C21	86	B6147_18830_DF_003 ✓	10.12	11215131-010622-S-BN-SW-O-12	DTF, PSW	570-242	22-Jan-2022	03:00:06
22	220121C22	87	B6147_18830_DF_004	10.12	11215131-010622-S-BN-SW-B-15	DTF, PSW	372-506	22-Jan-2022	03:46:27
23	220121C23	88	B6147_18830_DF_004MS	10.13	11215131-010622-S-BN-SW-B-15-MS	DTF, PSW	908-948	22-Jan-2022	04:32:48
24	220121C24	89	B6147_18830_DF_004MSD	10.07	11215131-010622-S-BN-SW-B-15-MSD	DTF, PSW	637-621	22-Jan-2022	05:19:08
25	220121C25	90	B6147_18830_DF_005	10.07	11215131-010622-S-BN-DUP-10	DTF, PSW	~~060-173~~ 282-914 CL 26Jan22	22-Jan-2022	06:05:29

REVIEWED
paul_walton , 1/24/2022, 12:53:15 PM

APPROVED
Carla_Lyon , 1/26/2022, 10:51:32 AM

Dioxin/Furan QC Summary	Acq'd: 21 Jan 2022 22:22 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220121_DF_CB	UTP: 26-Jan-2022 08:56:35 PSW	Checkcode: 665-639-BYP
Sample ID: SIL 25-347-1	Report: 26 Jan 2022 08:57 pw	Datafile: 220121C15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.64	2.35E+06	0.84	Y	1.18	1.17	-2%
12378-PeCDD	33.95	9.37E+06	1.57	Y	1.04	1.10	6%
123478-HxCDD	37.83	8.30E+06	1.27	Y	1.09	1.13	4%
123678-HxCDD	37.95	9.16E+06	1.23	Y	1.15	1.17	2%
123789-HxCDD	38.24	8.71E+06	1.22	Y	1.05	1.06	1%
1234678-HpCDD	40.85	7.23E+06	1.03	Y	1.06	1.06	0%
OCDD	43.51	1.15E+07	0.92	Y	1.13	1.17	4%
2378-TCDF	27.79	3.85E+06	0.87	Y	1.08	1.19	10%
12378-PeCDF	32.50	1.44E+07	1.58	Y	1.02	1.02	0%
23478-PeCDF	33.61	1.46E+07	1.56	Y	1.02	1.05	3%
123478-HxCDF	36.83	1.37E+07	1.24	Y	1.27	1.26	-1%
123678-HxCDF	36.97	1.52E+07	1.24	Y	1.15	1.21	5%
234678-HxCDF	37.66	1.38E+07	1.22	Y	1.19	1.21	2%
123789-HxCDF	38.59	1.15E+07	1.30	Y	1.16	1.13	-3%
1234678-HpCDF	39.92	1.23E+07	1.05	Y	1.37	1.41	3%
1234789-HpCDF	41.32	1.01E+07	1.04	Y	1.31	1.37	5%
OCDF	43.69	1.56E+07	0.88	Y	1.07	1.10	2%
ES 2378-TCDD	28.62	2.02E+07	0.83	Y	1.05	1.02	-3%
ES 12378-PeCDD	33.927	1.71E+07	1.58	Y	0.88	0.86	-2%
ES 123478-HxCDD	37.819	1.47E+07	1.26	Y	0.97	1.00	3%
ES 123678-HxCDD	37.934	1.57E+07	1.33	Y	0.94	1.06	13%
ES 123789-HxCDD	38.222	1.65E+07	1.25	Y	1.09	1.12	2%
ES 1234678-HpCDD	40.84	1.37E+07	1.12	Y	0.91	0.93	2%
ES OCDD	43.496	1.98E+07	0.92	Y	0.62	0.67	7%
ES 2378-TCDF	27.77	3.23E+07	0.78	Y	1.06	0.99	-6%
ES 12378-PeCDF	32.487	2.82E+07	1.55	Y	0.91	0.87	-5%
ES 23478-PeCDF	33.593	2.78E+07	1.56	Y	0.88	0.85	-3%
ES 123478-HxCDF	36.814	2.17E+07	0.54	Y	1.20	1.47	23%
ES 123678-HxCDF	36.955	2.52E+07	0.55	Y	1.35	1.71	26%
ES 234678-HxCDF	37.638	2.29E+07	0.54	Y	1.24	1.55	25%
ES 123789-HxCDF	38.575	2.03E+07	0.54	Y	1.16	1.37	19%
ES 1234678-HpCDF	39.914	1.74E+07	0.43	Y	0.97	1.18	22%
ES 1234789-HpCDF	41.307	1.48E+07	0.45	Y	0.85	1.00	18%
ES OCDF	43.679	2.84E+07	0.88	Y	0.81	0.96	19%

Dioxin/Furan QC Summary	Acq'd: 21 Jan 2022 22:22 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220121_DF_CB	UTP: 26-Jan-2022 08:56:35 PSW	Checkcode: 665-639-BYP
Sample ID: SIL 25-347-1	Report: 26 Jan 2022 08:57 pw	Datafile: 220121C15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.96	1.99E+07	0.83	Y	-	-	-
JS 1234-TCDF	26.42	3.26E+07	0.78	Y	-	-	-
JS 123467-HxCDD	38.12	7.37E+06	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.64	2.52E+06	n/a	-	1.20	1.27	5%
CS 12347-PeCDD	33.42	1.64E+07	1.56	Y	0.75	0.83	10%
CS 12346-PeCDF	31.96	2.79E+07	1.55	Y	0.85	0.86	1%
CS 123469-HxCDF	37.27	2.22E+07	0.53	Y	1.12	1.51	35% **
CS 1234689-HpCDF	40.31	1.78E+07	0.44	Y	0.89	1.21	36% **
~~SS 37Cl-2378-TCDD~~	~~28.64~~	~~2.52E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.25~~	~~9%~~
~~SS 12347-PeCDD~~	~~33.42~~	~~1.64E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~0.96~~	~~12%~~
~~SS 12346-PeCDF~~	~~31.96~~	~~2.79E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.27~~	~~2.22E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~0.88~~	~~6%~~
~~SS 1234689-HpCDF~~	~~40.31~~	~~1.78E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~1.02~~	~~11%~~
Not used in this project.						** No criteria specified in M1613B	
CL 26Jan22						CL 26Jan22	
~~OCDD-a~~	~~43.50~~	~~6.53E+05~~	~~2.86~~	~~Y~~	~~0.07~~	~~0.07~~	~~-8%~~
~~OCDF-a~~	~~43.69~~	~~8.46E+05~~	~~2.14~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220121C15 Analysis Date: 21-JAN-2022 22:22:04

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.84	0.65 - 0.89	Y	9.84	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	52.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	51.8	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	50.8	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05 - 1.43	Y	50.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88 - 1.20	Y	49.9	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	104	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.87	0.65 - 0.89	Y	11	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	49.9	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	51.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.7	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	52.4	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	50.8	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.30	1.05 - 1.43	Y	48.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	51.6	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	52.5	43 - 58	Y
OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	102	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 26 Jan 2022 08:57 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

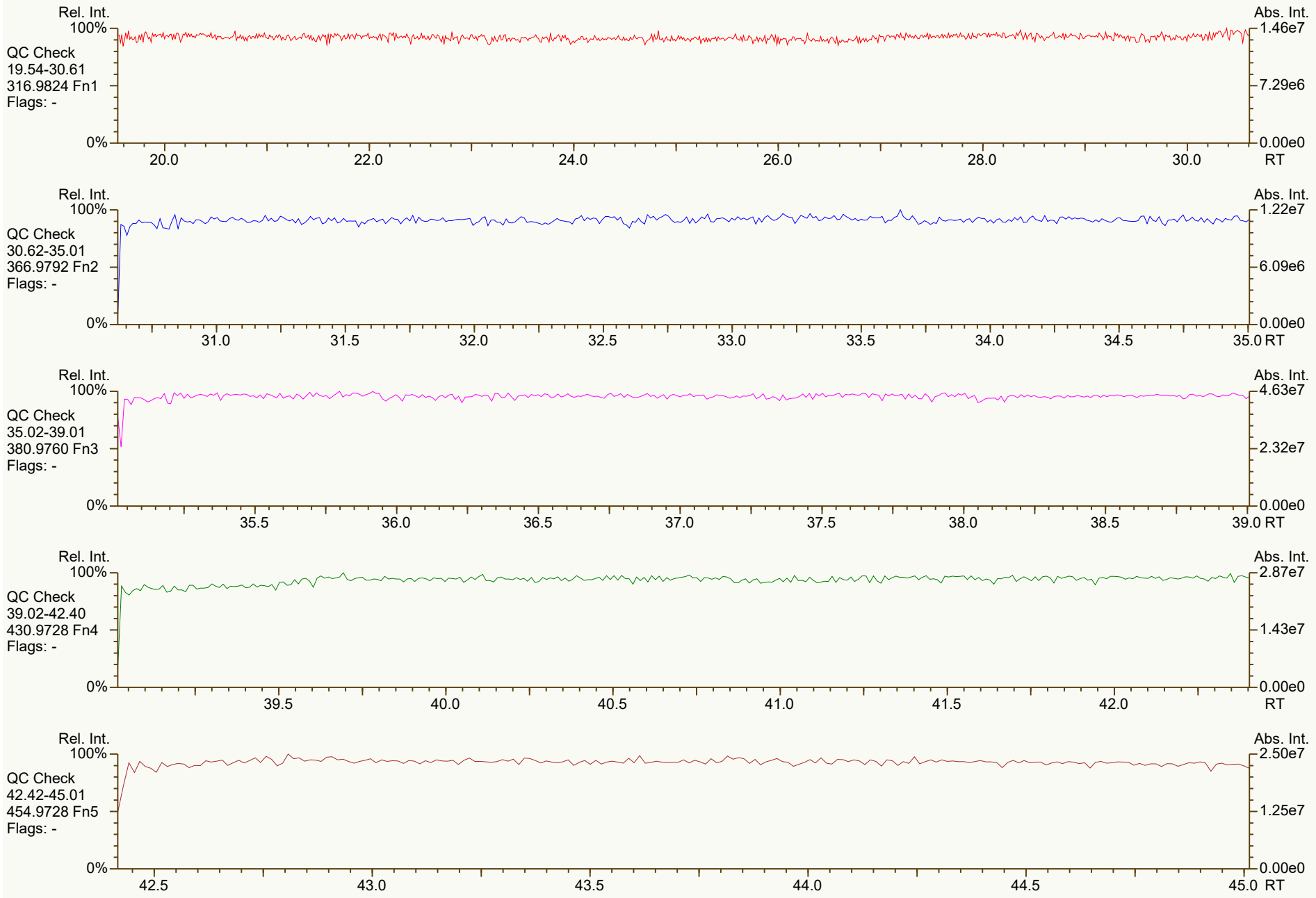
VER Data Filename: 220121C15 Analysis Date: 21-JAN-2022 22:22:04

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.83	0.65	-	0.89	Y	97.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	98	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	103	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.33	1.05	-	1.43	Y	113	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.12	0.88	-	1.20	Y	102	72	-	138	Y
13C-OCDD	M+2/M+4	0.92	0.76	-	1.02	Y	215	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	93.8	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	95.1	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	96.6	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	123	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	126	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	125	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	119	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37	-	0.51	Y	122	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	118	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	238	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.5	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	110	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	101	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	135 *	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	136 *	70	-	130	N

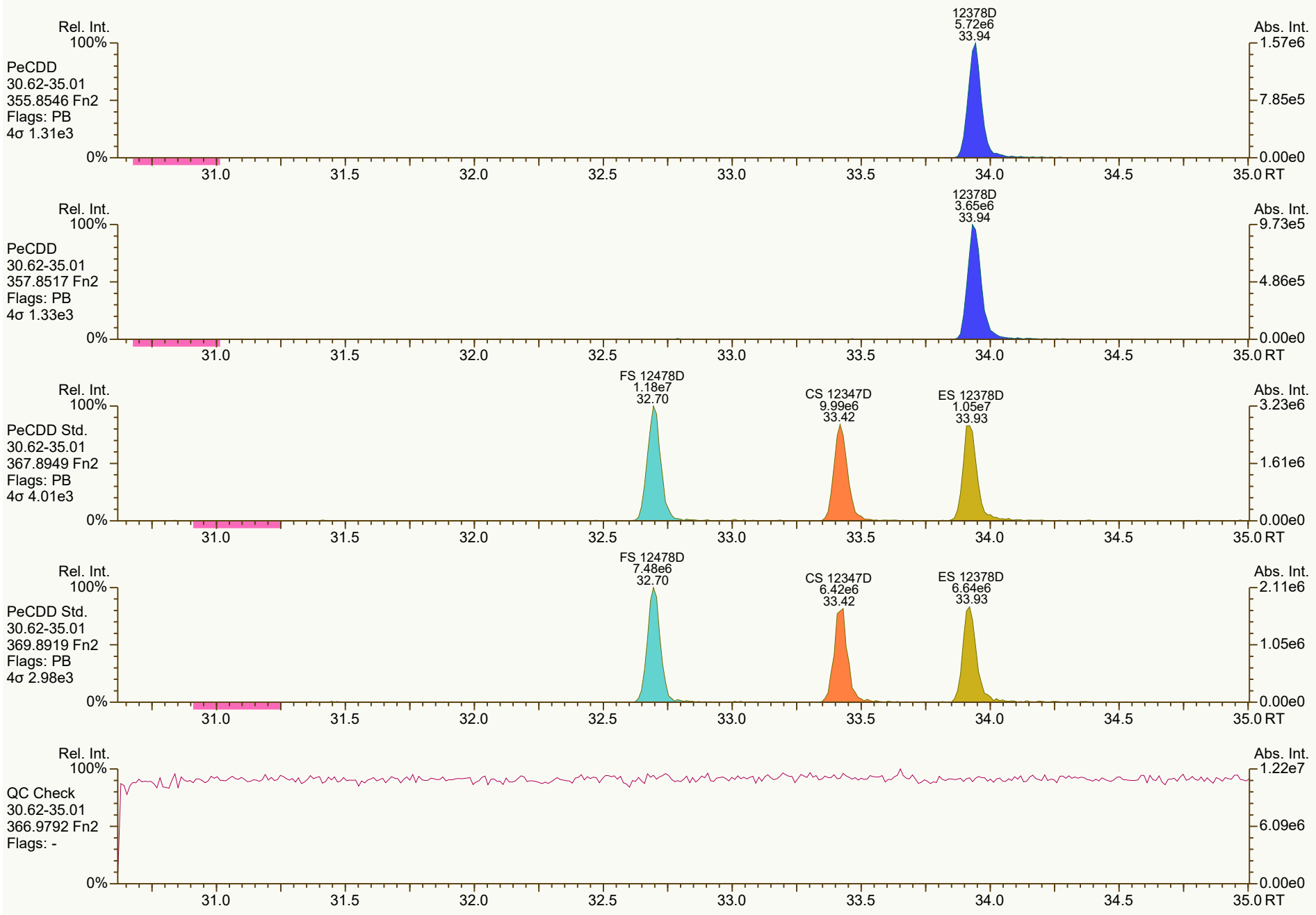
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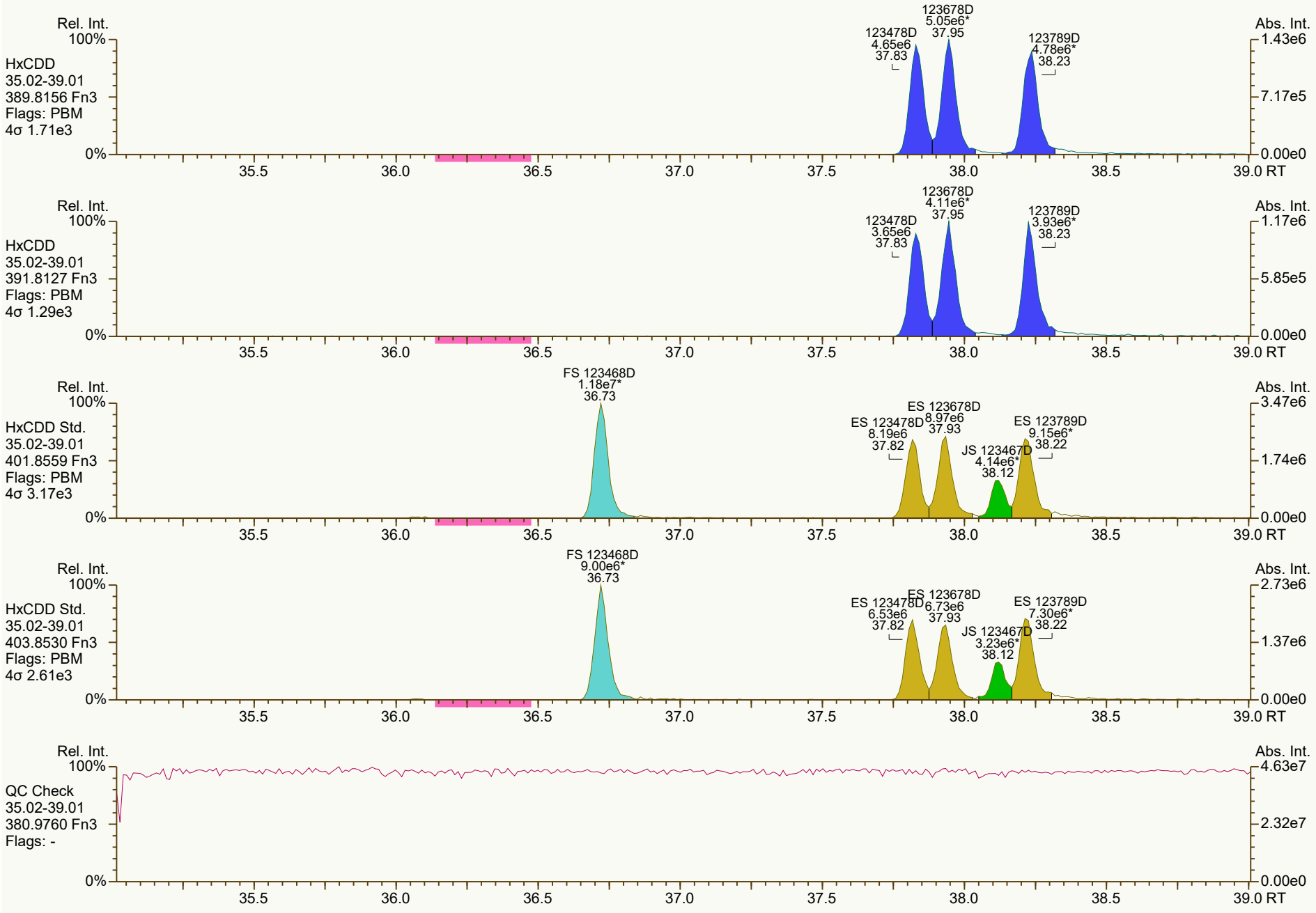
CL 25Jan22

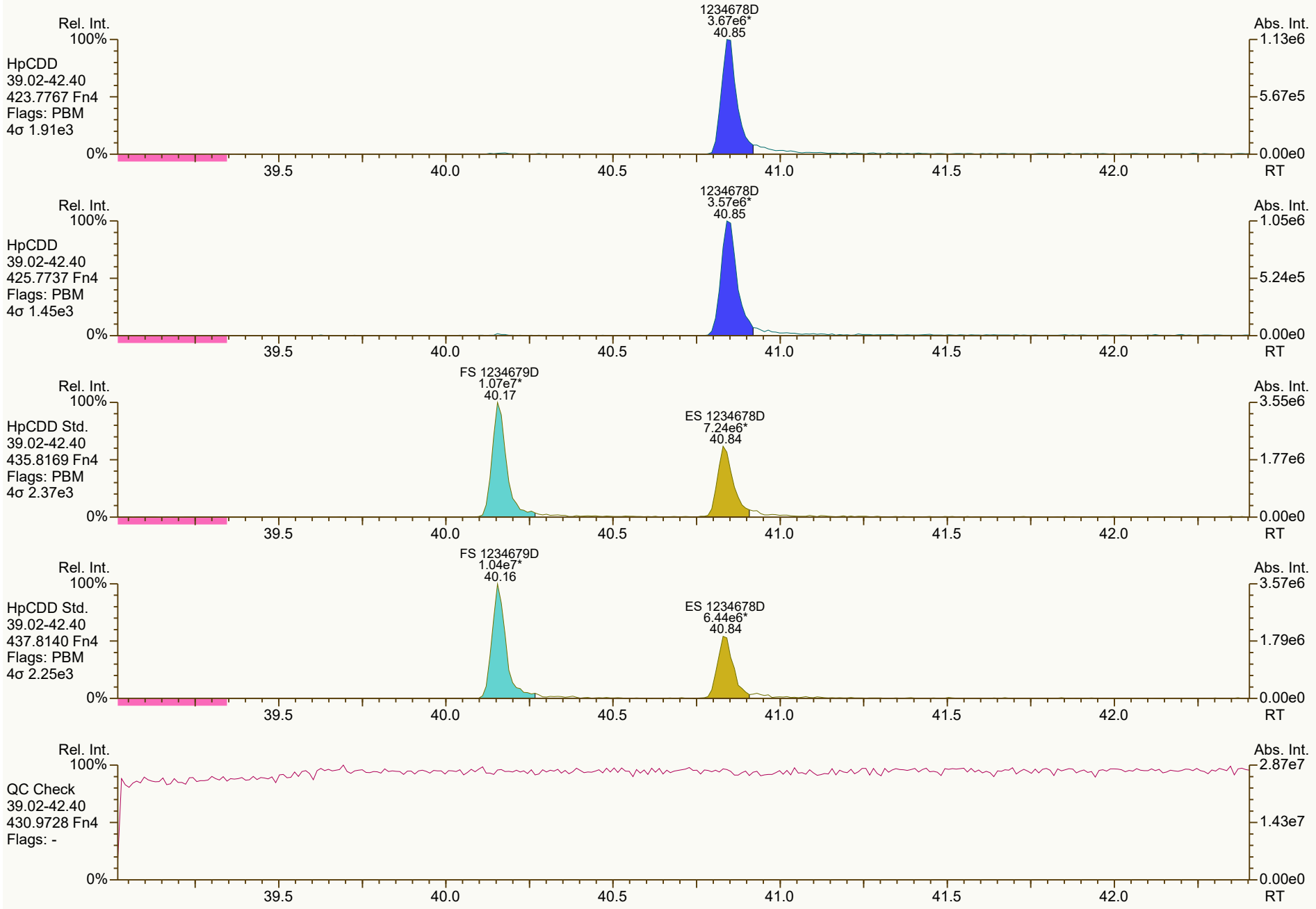
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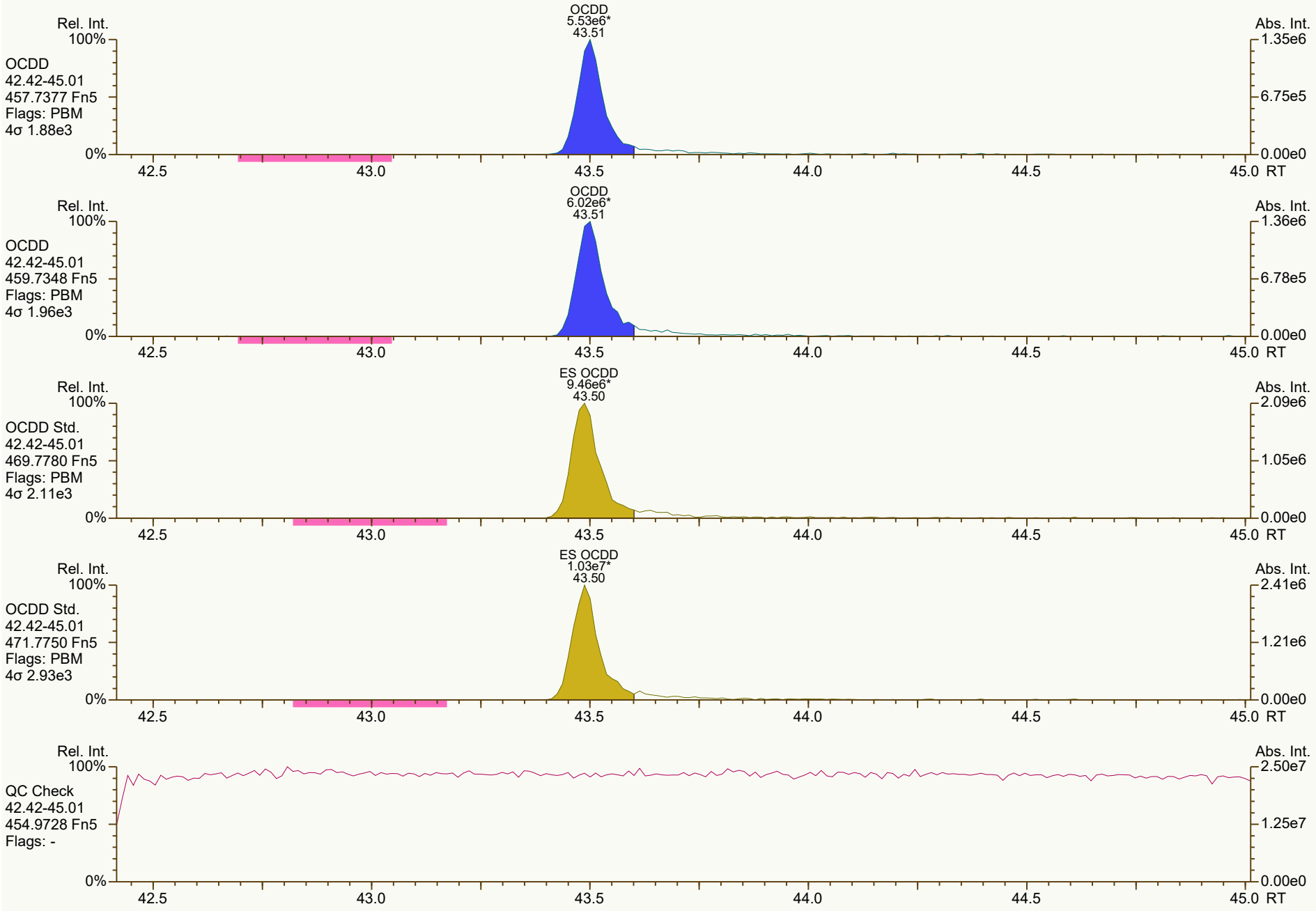

Rel. Int.
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0%
Abs. Int.
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7.29e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.22e7
6.09e6
0.00e0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
4.63e7
2.32e7
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
2.87e7
1.43e7
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.50e7
1.25e7
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
1.08e6
28.64
Abs. Int.
2.91e5
1.45e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.31e3
0%
RRF(2378D) = (1.08e6 + 1.28e6) * 100pg / (9.16e6 + 1.10e7) * 10pg * T = 1.17
PSW 24-Jan-2022 12:46
VERIFIED
2378D
1.28e6
28.64
Abs. Int.
2.98e5
1.49e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
2.52e6
28.64
Abs. Int.
5.64e5
2.82e5
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.68e3
0%
AS 1368D
9.79e6
25.01
TS 1378D
1.35e7
26.98
JS 1234D
8.98e6
27.96
ES 2378D
9.16e6
28.62
FS 1278D
9.58e6
28.94
Abs. Int.
2.98e6
1.49e6
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 8.41e3
0%
AS 1368D
1.19e7
25.01
TS 1378D
1.68e7
26.98
JS 1234D
1.09e7
27.96
ES 2378D
1.10e7
28.62
FS 1278D
1.21e7
28.94
Abs. Int.
3.61e6
1.80e6
0.00e0


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.31e3
12378D
5.72e6
33.94
Abs. Int.
1.57e6
7.85e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.33e3
12378D
3.65e6
33.94
Abs. Int.
9.73e5
4.86e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 4.01e3
FS 12478D
1.18e7
32.70
CS 12347D
9.99e6
33.42
ES 12378D
1.05e7
33.93
Abs. Int.
3.23e6
1.61e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 2.98e3
FS 12478D
7.48e6
32.70
CS 12347D
6.42e6
33.42
ES 12378D
6.64e6
33.93
Abs. Int.
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1.05e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
Abs. Int.
1.22e7
6.09e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.71e3
123678D
5.05e6*
37.95
123478D
4.65e6
37.83
123789D
4.78e6*
38.23
Abs. Int.
1.43e6
7.17e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.29e3
123678D
4.11e6*
37.95
123478D
3.65e6
37.83
123789D
3.93e6*
38.23
Abs. Int.
1.17e6
5.85e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.17e3
FS 123468D
1.18e7*
36.73
ES 123678D
8.97e6
37.93
ES 123478D
8.19e6
37.82
ES 123789D
9.15e6*
38.22
JS 123467D
4.14e6*
38.12
Abs. Int.
3.47e6
1.74e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.61e3
FS 123468D
9.00e6*
36.73
ES 123678D
6.73e6
37.93
ES 123478D
6.53e6
37.82
ES 123789D
7.30e6*
38.22
JS 123467D
3.23e6*
38.12
Abs. Int.
2.73e6
1.37e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.63e7
2.32e7
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0%
35.5
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38.0
38.5
39.0 RT

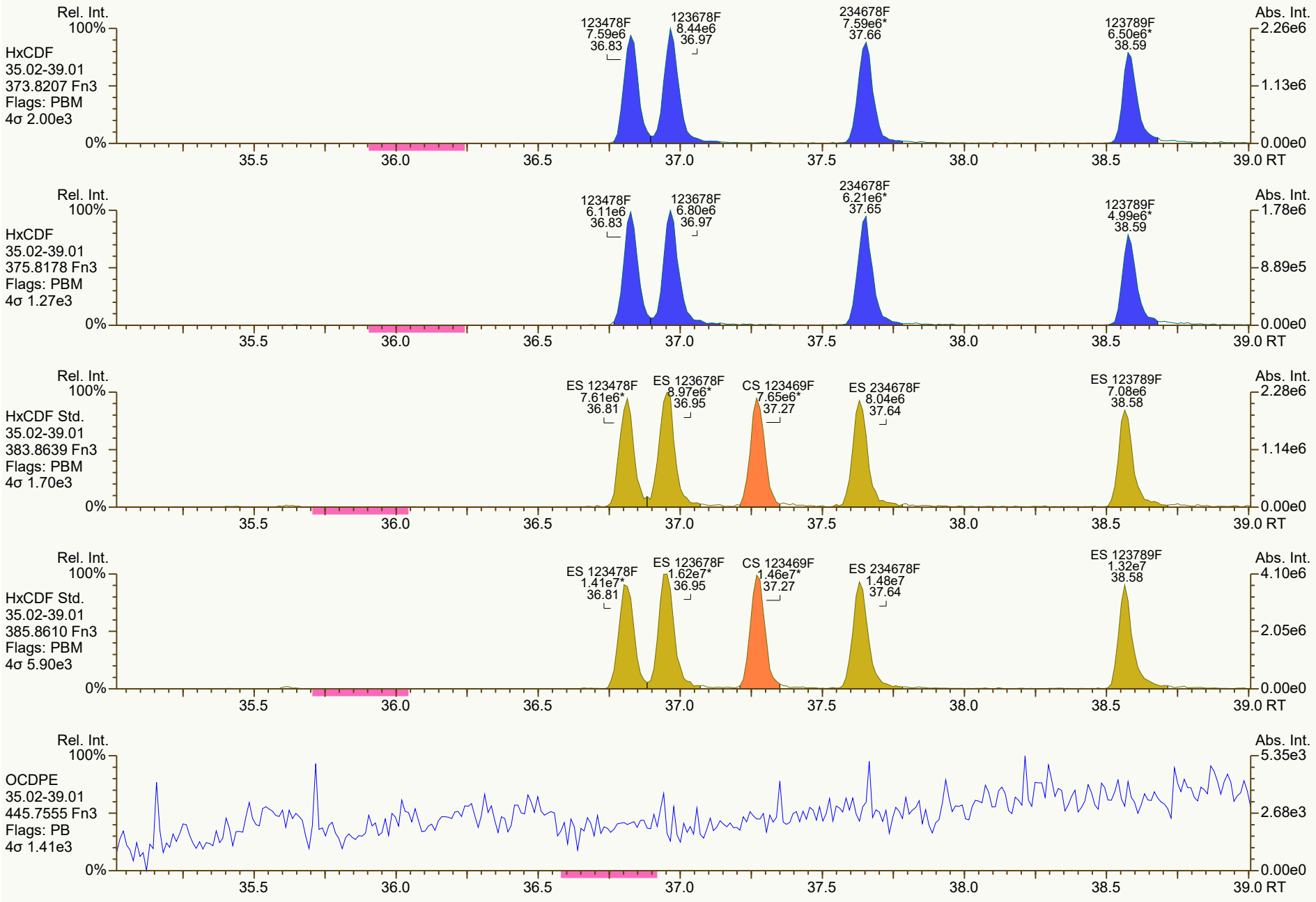

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HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
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1234678D
3.67e6*
40.85
Abs. Int.
1.13e6
5.67e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.45e3
1234678D
3.57e6*
40.85
Abs. Int.
1.05e6
5.24e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.37e3
FS 1234679D
1.07e7*
40.17
ES 1234678D
7.24e6*
40.84
Abs. Int.
3.55e6
1.77e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.25e3
FS 1234679D
1.04e7*
40.16
ES 1234678D
6.44e6*
40.84
Abs. Int.
3.57e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.87e7
1.43e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

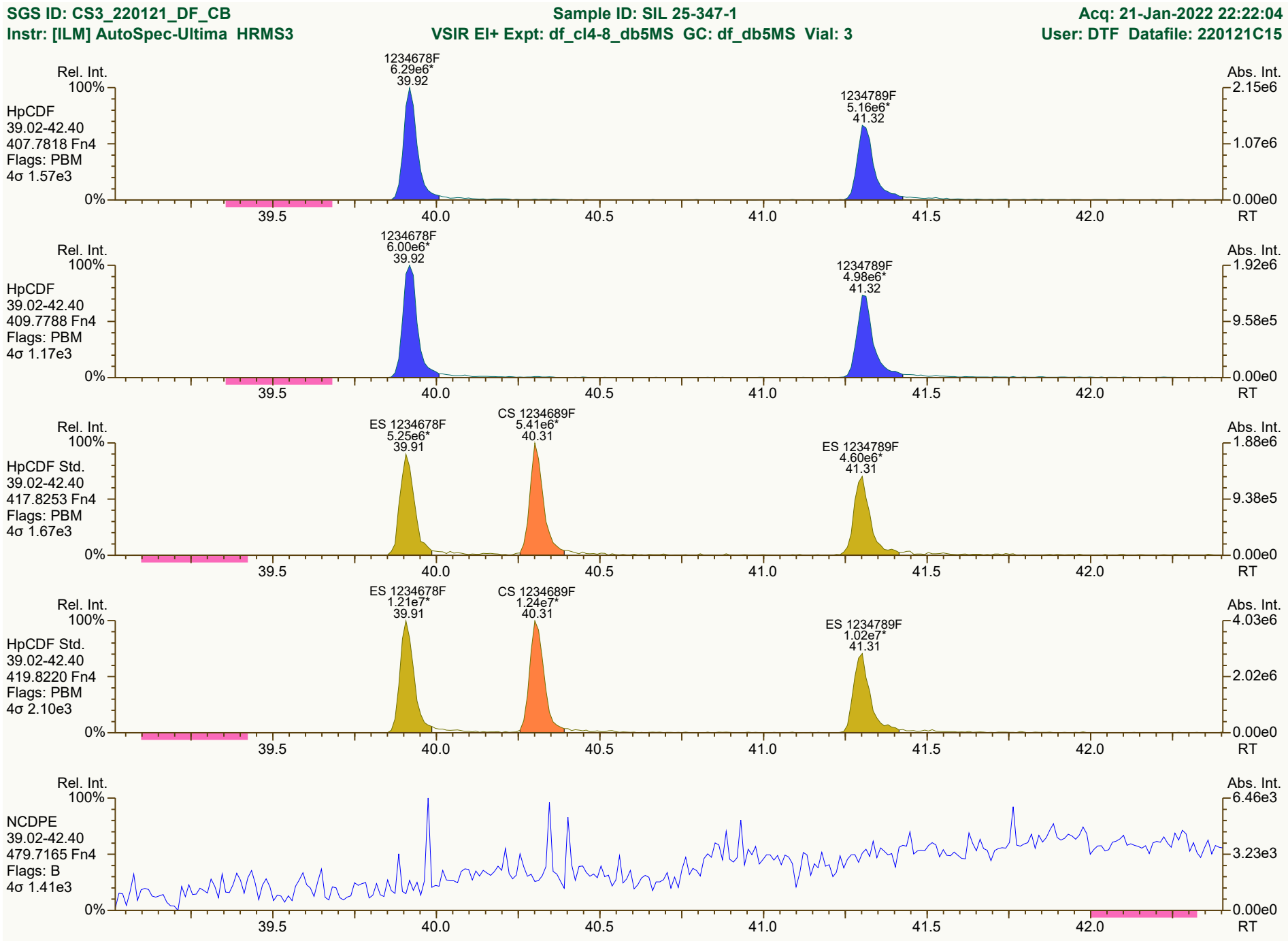

OCDD
5.53e6*
43.51
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.88e3
OCDD
6.02e6*
43.51
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.96e3
ES OCDD
9.46e6*
43.50
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.11e3
ES OCDD
1.03e7*
43.50
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.93e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT

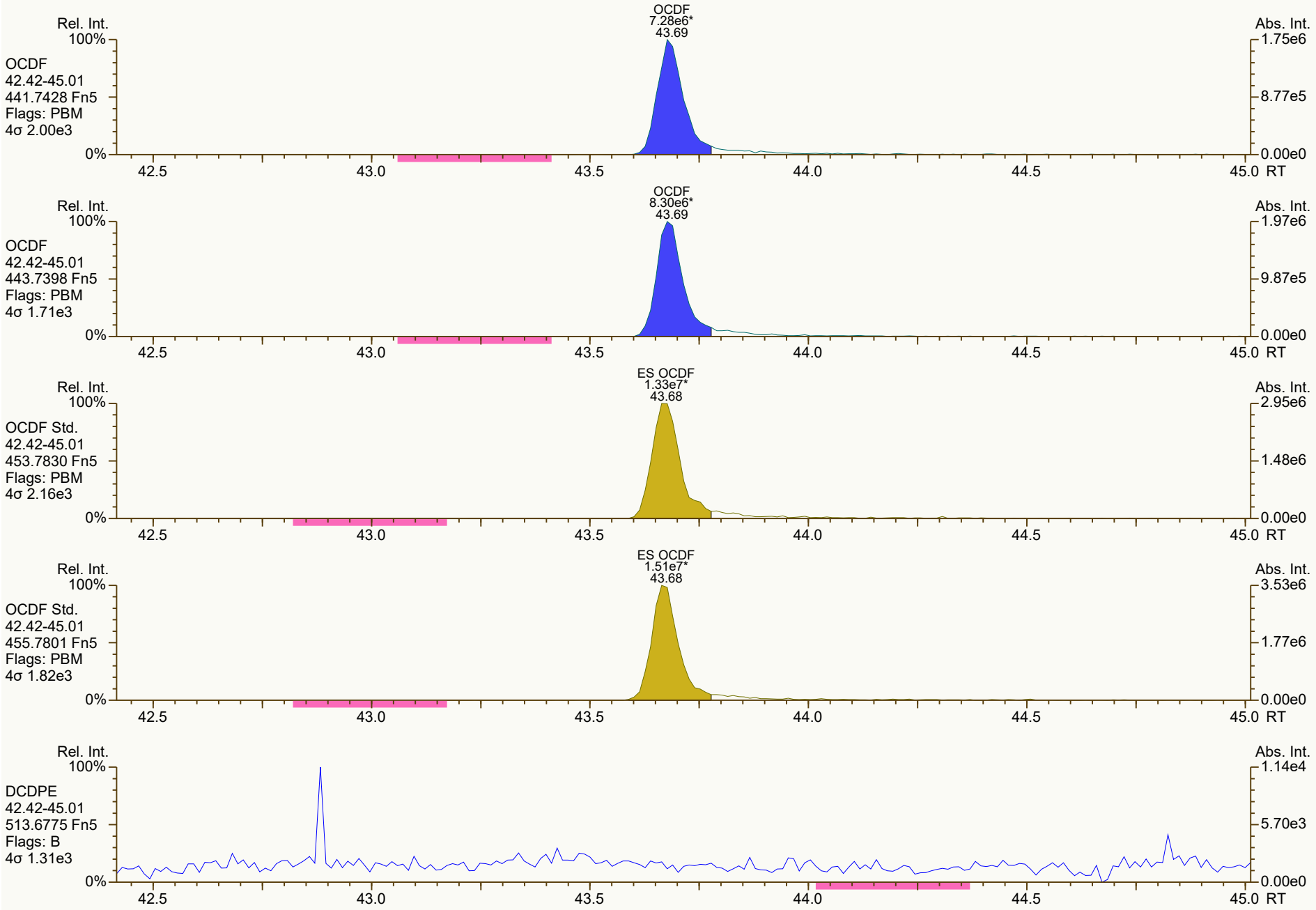

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.64e3
0%
2378F
1.79e6
27.79
Abs. Int.
4.34e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 5.06e3
0%
2378F
2.06e6
27.79
Abs. Int.
4.73e5
2.37e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 7.84e3
0%
AS 1368F
1.75e7
22.93
JS 1234F
1.43e7
26.42
ES 2378F
1.42e7
27.77
Abs. Int.
3.28e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 5.21e3
0%
AS 1368F
2.14e7
22.93
JS 1234F
1.83e7
26.42
ES 2378F
1.81e7
27.77
Abs. Int.
3.90e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.44e4
7.21e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

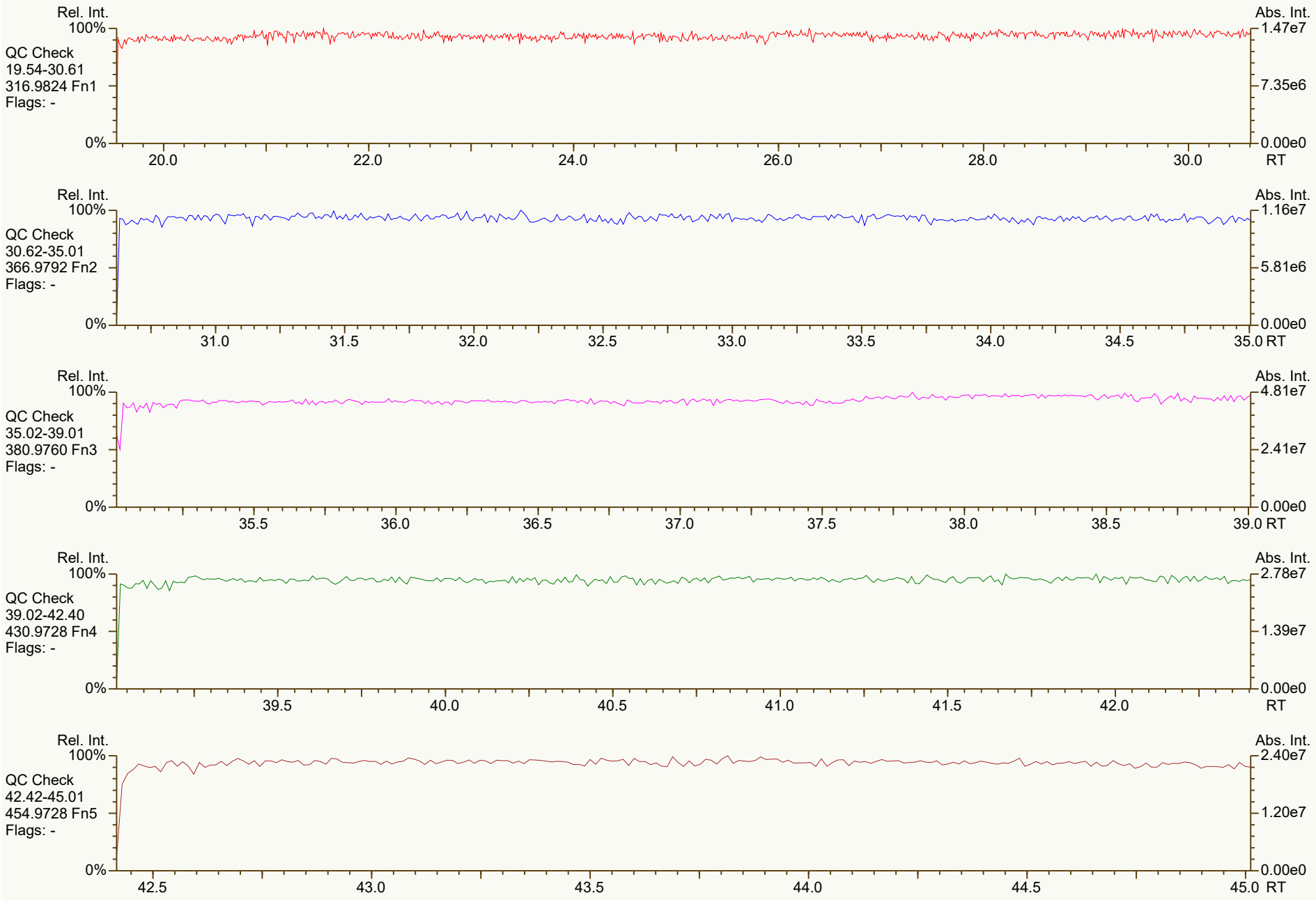

Rel. Int.
100%
0%
Abs. Int.
1.56e4
7.79e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.82e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.42e4
7.08e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.16e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.46e7
7.29e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 1.93e3
0%
12378F
8.83e6
32.50
23478F
8.90e6
33.61
Abs. Int.
2.43e6
1.22e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 3.41e3
0%
12378F
5.59e6
32.50
23478F
5.69e6
33.61
Abs. Int.
1.63e6
8.15e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.41e3
0%
CS 12346F
1.70e7
31.96
ES 12378F
1.71e7
32.49
ES 23478F
1.69e7
33.59
Abs. Int.
4.74e6
2.37e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.55e3
0%
CS 12346F
1.10e7
31.96
ES 12378F
1.10e7
32.49
ES 23478F
1.08e7
33.59
Abs. Int.
3.01e6
1.51e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.47e4
7.35e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.00e3
0%
123478F
7.59e6
36.83
123678F
8.44e6
36.97
234678F
7.59e6*
37.66
123789F
6.50e6*
38.59
Abs. Int.
2.26e6
1.13e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.27e3
0%
123478F
6.11e6
36.83
123678F
6.80e6
36.97
234678F
6.21e6*
37.65
123789F
4.99e6*
38.59
Abs. Int.
1.78e6
8.89e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 1.70e3
0%
ES 123478F
7.61e6*
36.81
ES 123678F
8.97e6*
36.95
CS 123469F
7.65e6*
37.27
ES 234678F
8.04e6
37.64
ES 123789F
7.08e6
38.58
Abs. Int.
2.28e6
1.14e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.90e3
0%
ES 123478F
1.41e7*
36.81
ES 123678F
1.62e7*
36.95
CS 123469F
1.46e7*
37.27
ES 234678F
1.48e7
37.64
ES 123789F
1.32e7
38.58
Abs. Int.
4.10e6
2.05e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
5.35e3
2.68e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: CS3_220121_DF_CB
Sample ID: SIL 25-347-1
Acq: 21-Jan-2022 22:22:04
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220121C15
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.57e3
1234678F
6.29e6*
39.92
1234789F
5.16e6*
41.32
2.15e6
1.07e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.17e3
1234678F
6.00e6*
39.92
1234789F
4.98e6*
41.32
1.92e6
9.58e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.67e3
ES 1234678F
5.25e6*
39.91
CS 1234689F
5.41e6*
40.31
ES 1234789F
4.60e6*
41.31
1.88e6
9.38e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.10e3
ES 1234678F
1.21e7*
39.91
CS 1234689F
1.24e7*
40.31
ES 1234789F
1.02e7*
41.31
4.03e6
2.02e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
6.46e3
3.23e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\CS3_220121_DF_CB.utp_res, saved 26-Jan-2022 08:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2115, 8272, 8334 scc: 665-639
Revised: 26-Jan-2022 08:56 (PSW) Printed: 26-Jan-2022 08:58 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.00e3
0%
OCDF
7.28e6*
43.69
Abs. Int.
1.75e6
8.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.71e3
0%
OCDF
8.30e6*
43.69
Abs. Int.
1.97e6
9.87e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.16e3
0%
ES OCDF
1.33e7*
43.68
Abs. Int.
2.95e6
1.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.82e3
0%
ES OCDF
1.51e7*
43.68
Abs. Int.
3.53e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
1.47e7
7.35e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
1.16e7
5.81e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.81e7
2.41e7
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.78e7
1.39e7
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
2.40e7
1.20e7
42.5
43.0
43.5
44.0
44.5
45.0

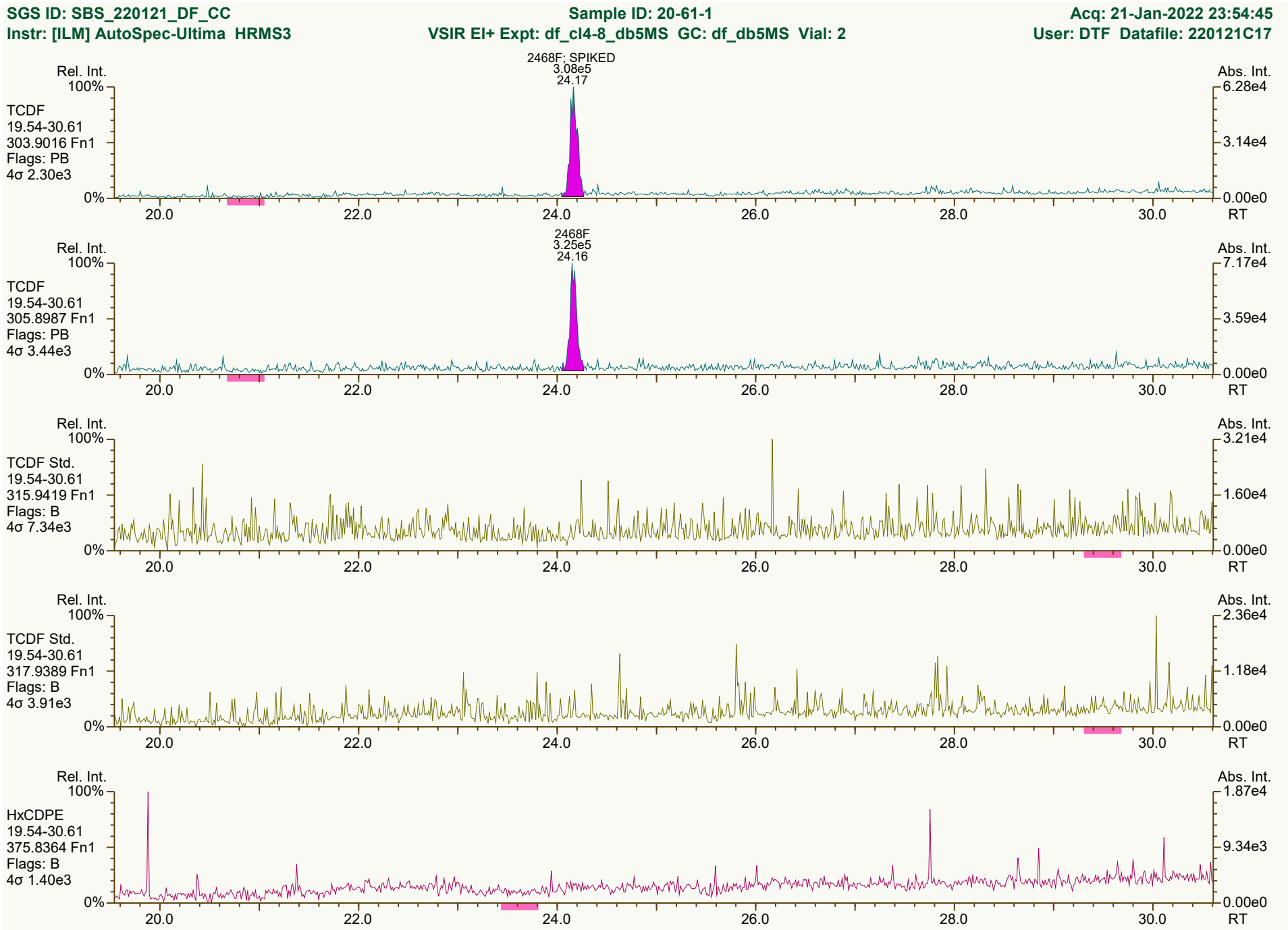

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.68e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.22e4
6.10e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.73e3
0%
Abs. Int.
1.40e4
6.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 7.28e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 6.76e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: B
4σ 1.23e3
0%
Abs. Int.
5.70e3
2.85e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: B
4σ 1.36e3
0%
Abs. Int.
5.29e3
2.64e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: B
4σ 3.09e3
0%
Abs. Int.
1.26e4
6.32e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: B
4σ 2.16e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.16e7
5.81e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.81e3
0%
Abs. Int.
7.34e3
3.67e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 2.58e3
0%
Abs. Int.
1.97e4
9.83e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 2.10e3
0%
Abs. Int.
2.25e4
1.12e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
4.81e7
2.41e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.52e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.07e3
0%
Abs. Int.
8.67e3
4.34e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.78e3
0%
Abs. Int.
2.01e4
1.00e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.06e4
5.28e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.78e7
1.39e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.54e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.19e3
4.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.40e7
1.20e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220121_DF_CC
Sample ID: 20-61-1
Acq: 21-Jan-2022 23:54:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220121C17
2468F: SPIKED
3.08e5
24.17
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 2.30e3
2468F
3.25e5
24.16
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 3.44e3
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 7.34e3
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 3.91e3
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.40e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\SBS_220121_DF_CC.utp_res, saved 24-Jan-2022 11:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1606, 1985, 2912 scc: 545-428
PKD: 24-Jan-2022 11:57 Printed: 24-Jan-2022 12:47 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
RT
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.86e3
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.26e3
2.56e4
1.28e4
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
1.47e7
7.35e6
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.59e4
7.93e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: B
4σ 2.37e3
0%
Abs. Int.
7.63e3
3.82e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.72e4
8.60e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: B
4σ 2.21e3
0%
Abs. Int.
2.03e4
1.02e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 2.07e3
0%
Abs. Int.
8.49e3
4.25e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

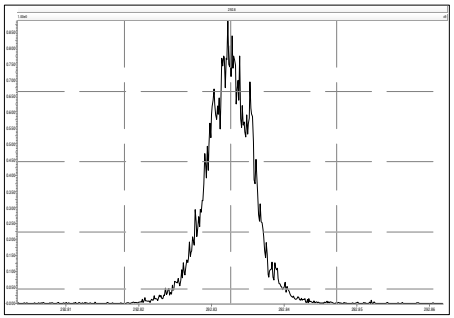

Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.87e3
0%
Abs. Int.
7.75e3
3.87e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
6.24e3
3.12e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 3.18e3
0%
Abs. Int.
1.01e4
5.07e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 4.57e3
0%
Abs. Int.
1.69e4
8.45e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.21e3
0%
Abs. Int.
6.38e3
3.19e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.15e3
0%
Abs. Int.
1.06e4
5.31e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.26e4
6.28e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.39e3
0%
Abs. Int.
8.54e3
4.27e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

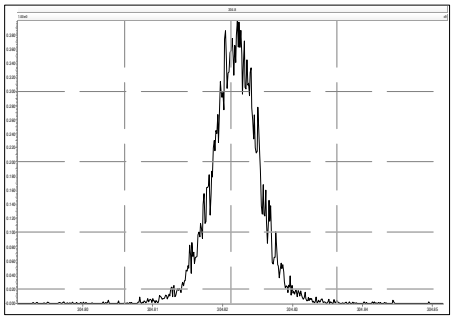

Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.82e3
0%
Abs. Int.
6.48e3
3.24e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.86e3
0%
Abs. Int.
7.10e3
3.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.94e3
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.48e4
7.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.52e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Friday, January 21, 2022 22:21:59 Eastern Standard Time

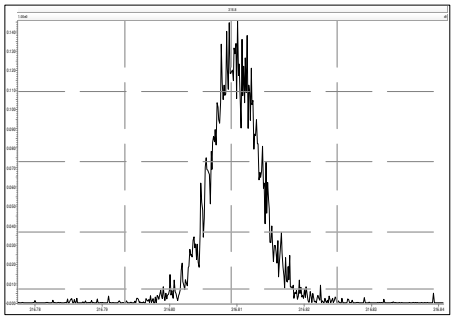
M 292.9824 R 18797



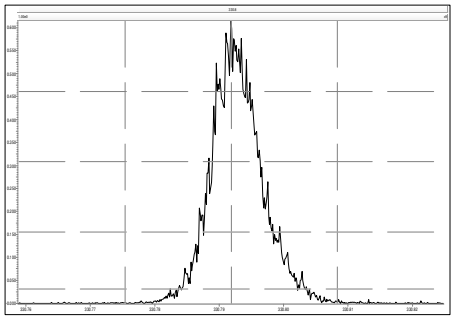
M 304.9824 R 19259



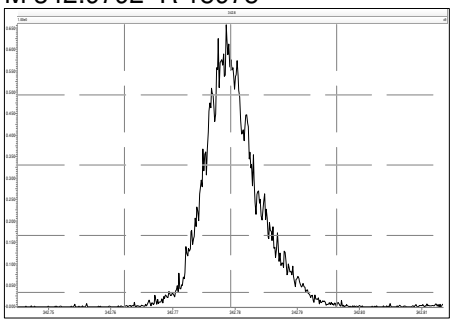
M 316.9824 R 18869



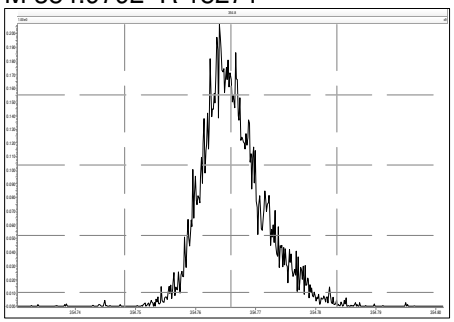
M 330.9792 R 16667



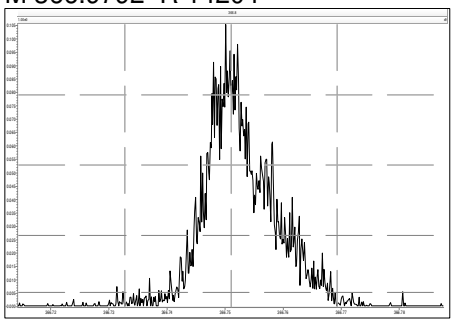
M 342.9792 R 15975



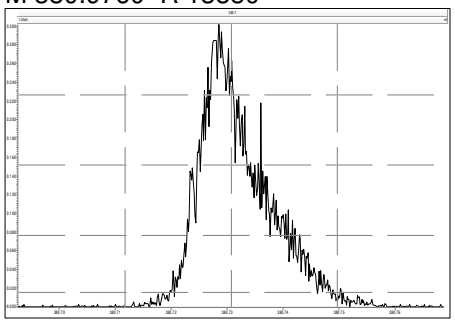
M 354.9792 R 15271



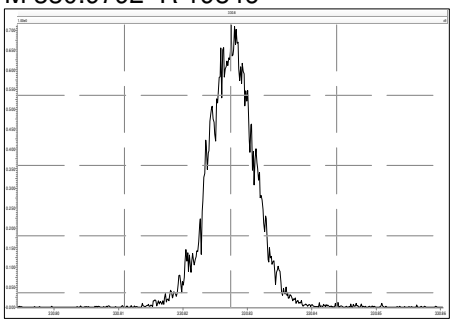
M 366.9792 R 14204



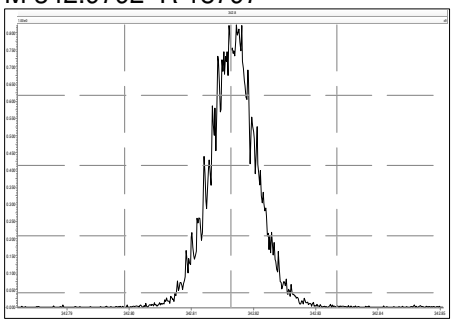
M 380.9760 R 13550



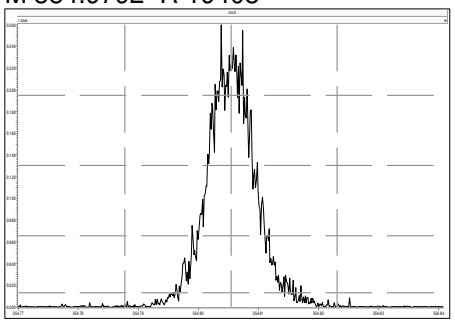
M 330.9792 R 19846



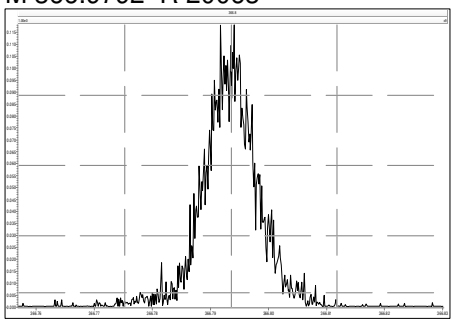
M 342.9792 R 18797



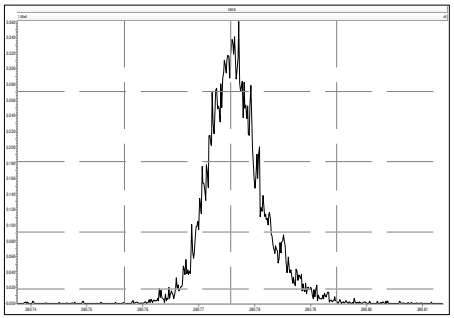
M 354.9792 R 19408



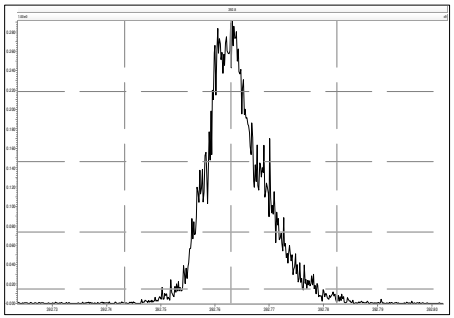
M 366.9792 R 20063



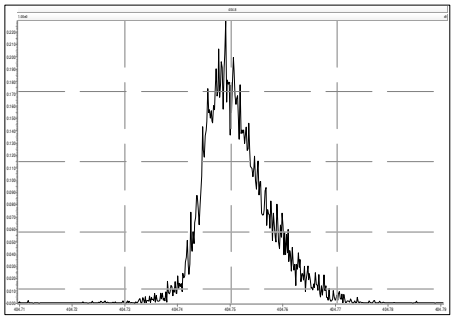
M 380.9760 R 17545



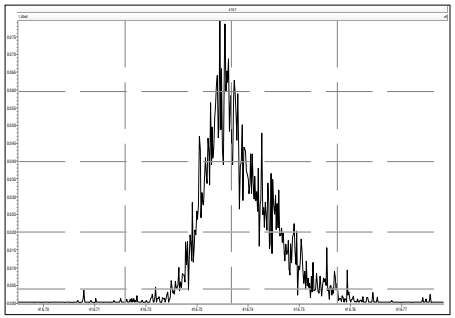
M 392.9760 R 17135



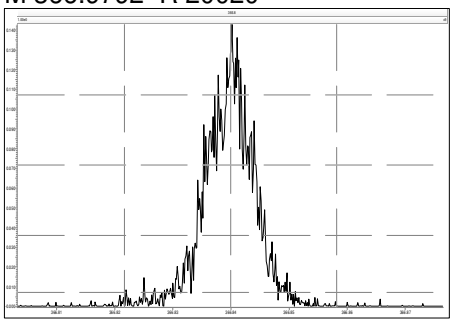
M 404.9760 R 14710



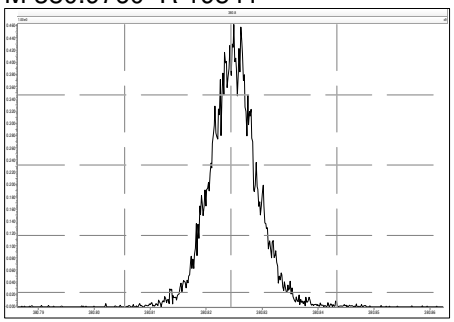
M 416.9760 R 15634



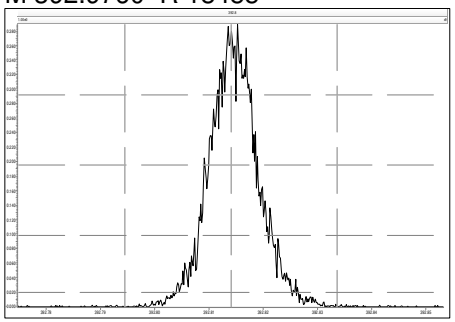
M 366.9792 R 20020



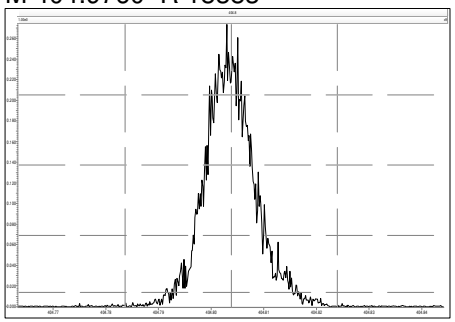
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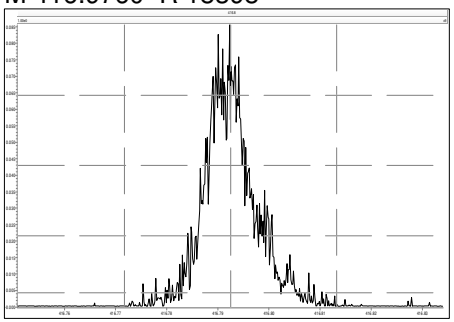
M 392.9760 R 18455



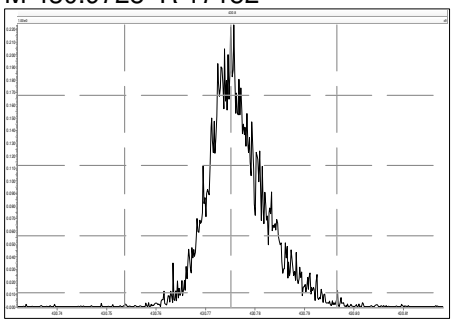
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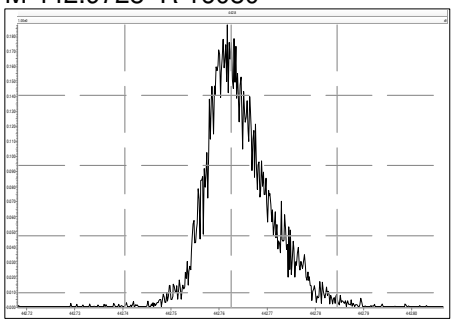
M 416.9760 R 18398



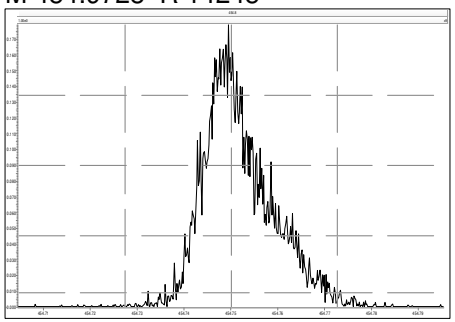
M 430.9728 R 17152



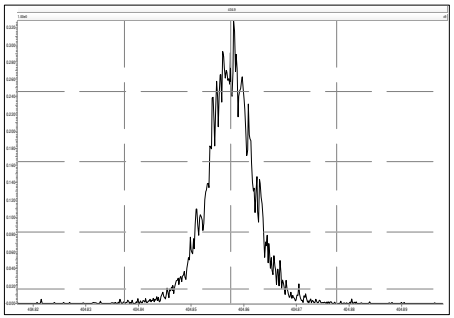
M 442.9728 R 16080



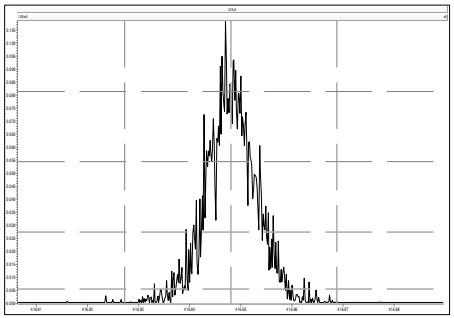
M 454.9728 R 14245



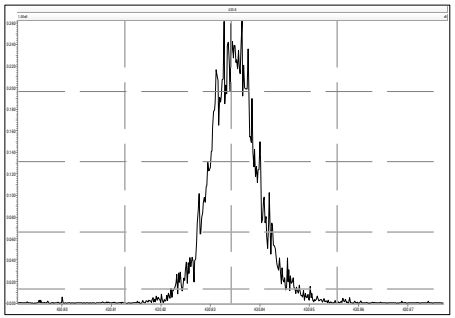
M 404.9760 R 19695



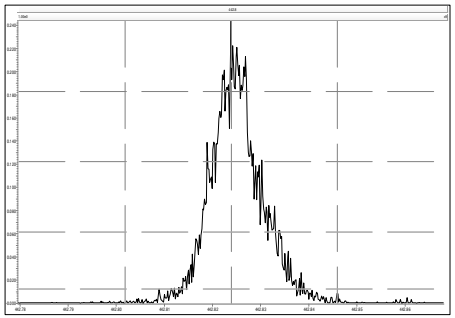
M 416.9760 R 20576



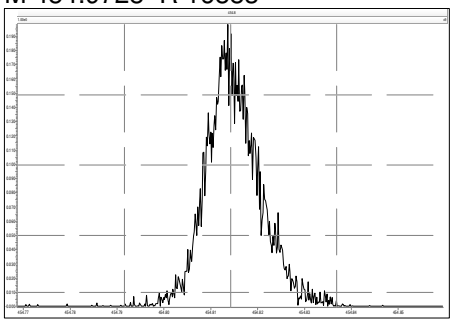
M 430.9728 R 19044



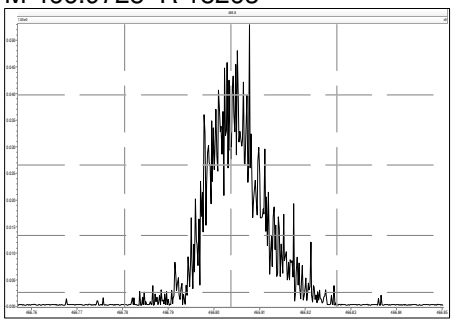
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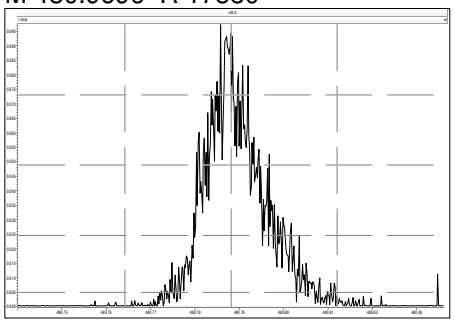
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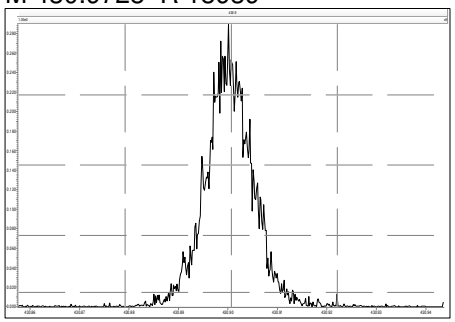
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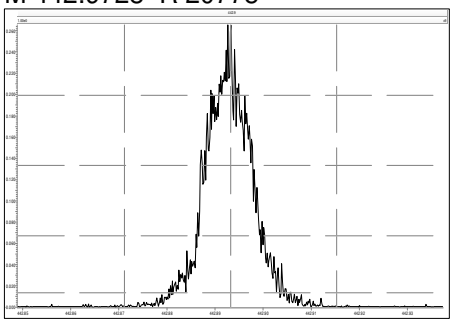
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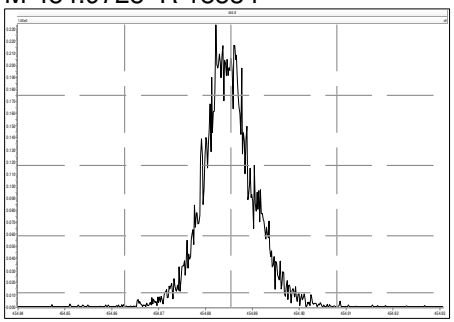
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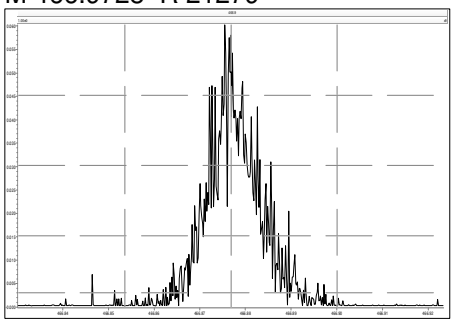
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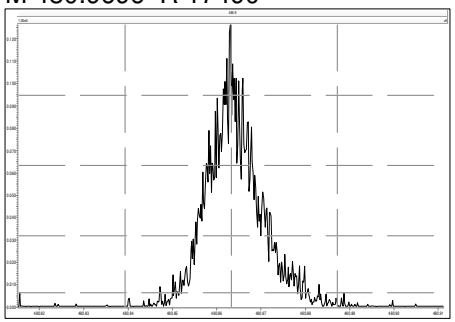
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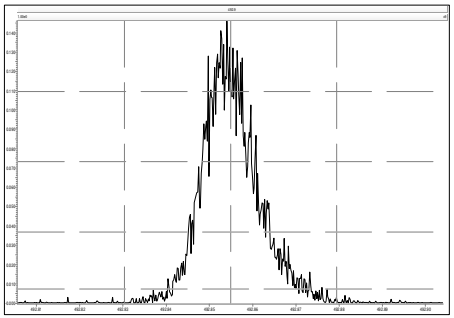
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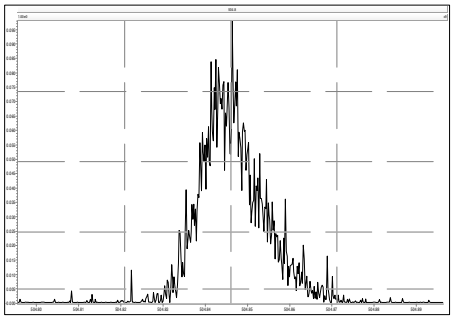
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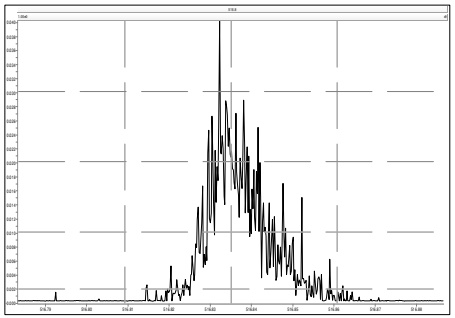
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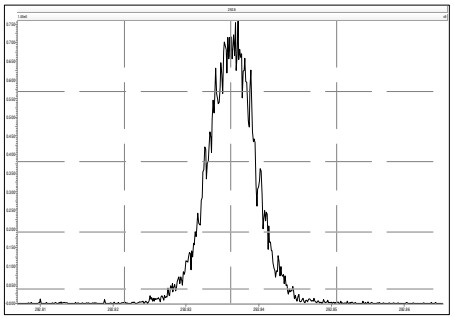


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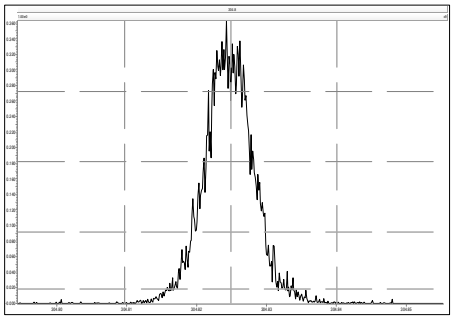


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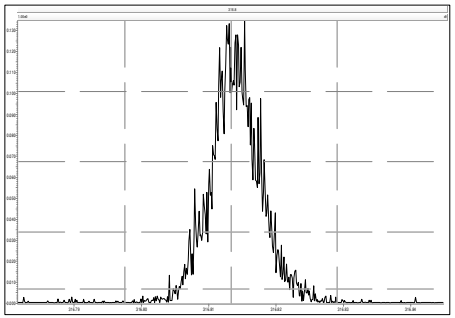
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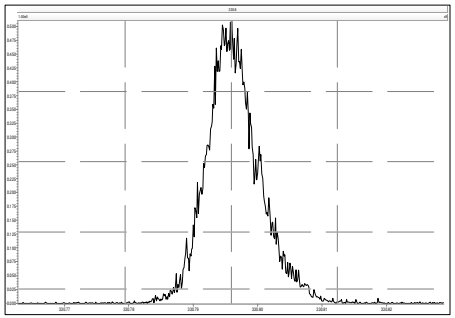
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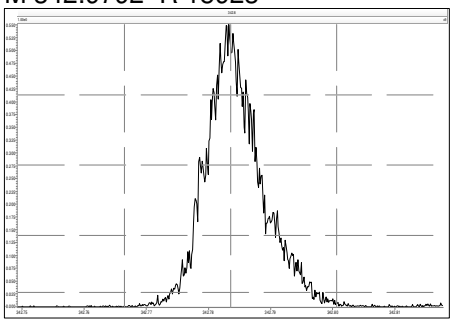
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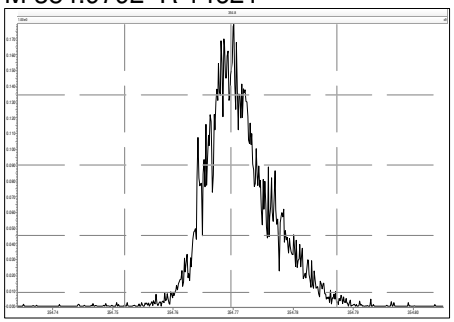
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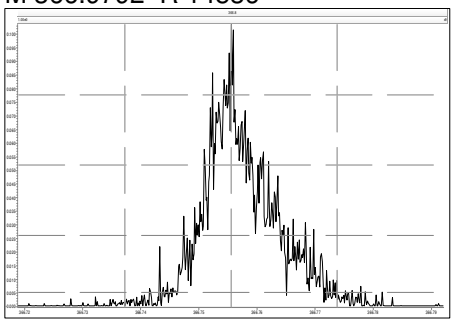
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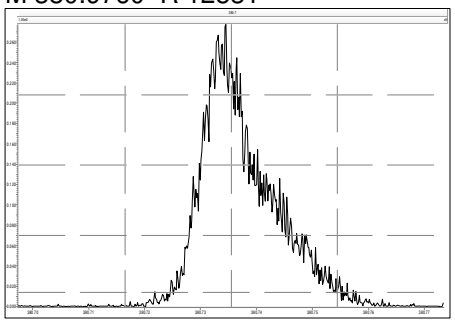
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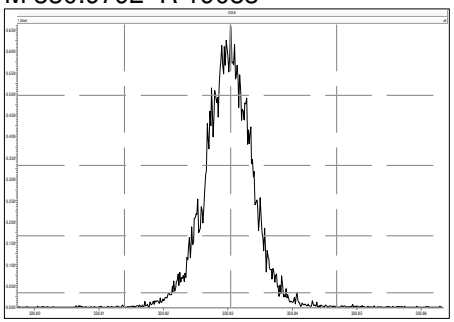
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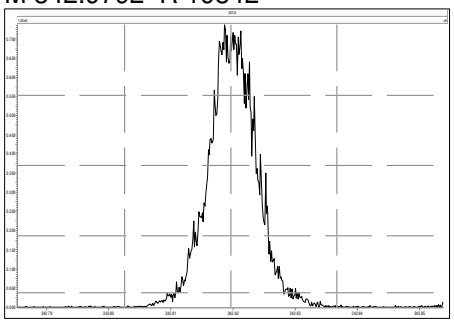
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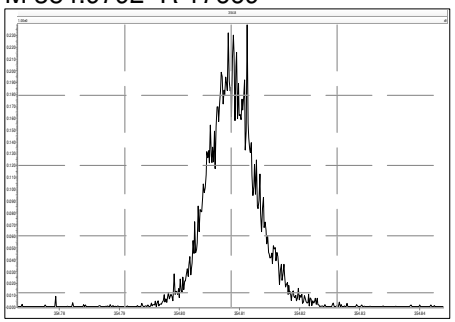
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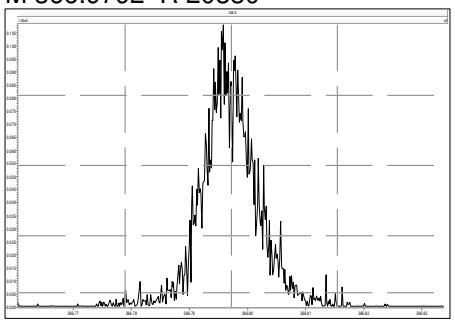
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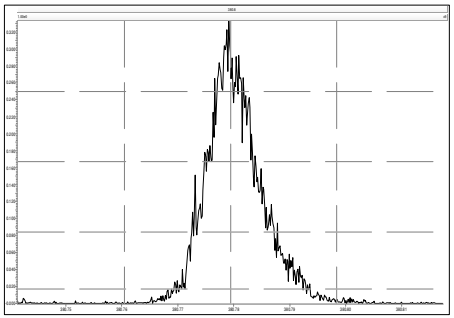


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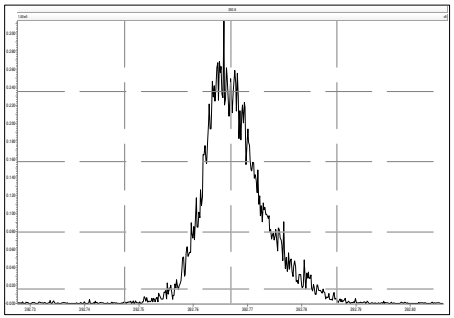


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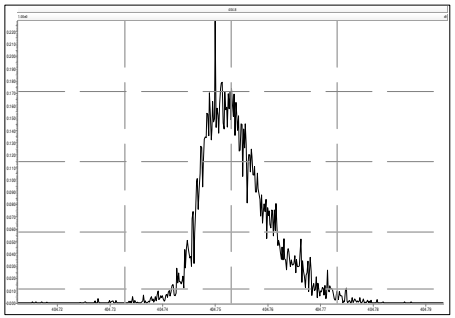
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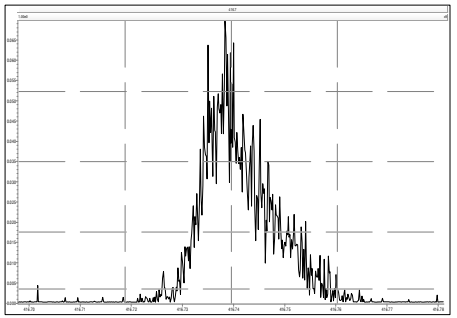
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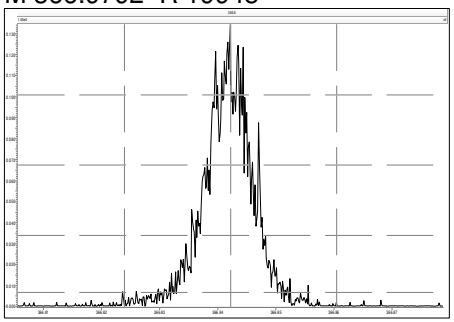
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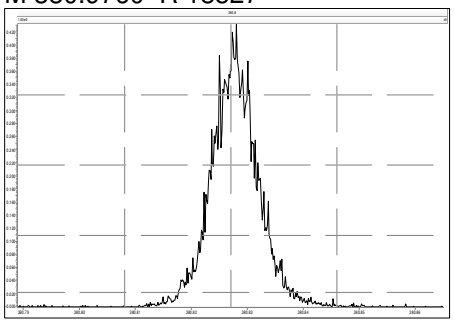
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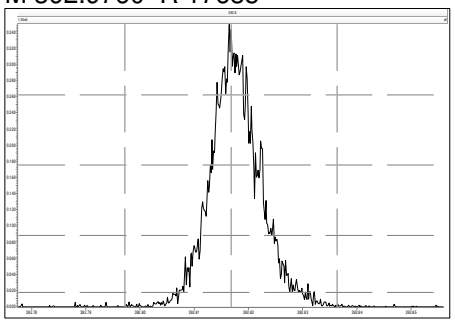
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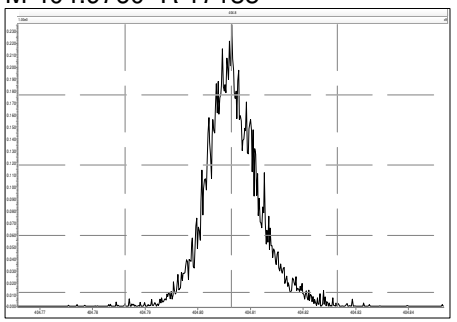
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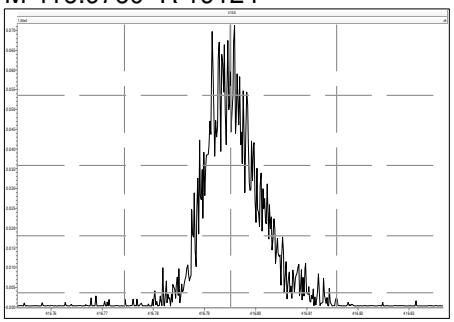
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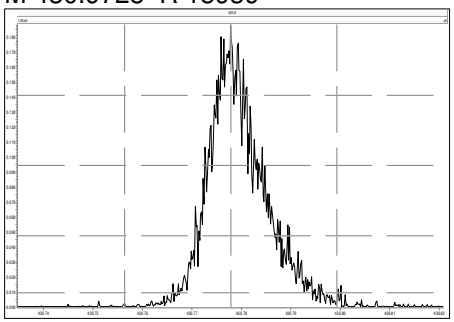
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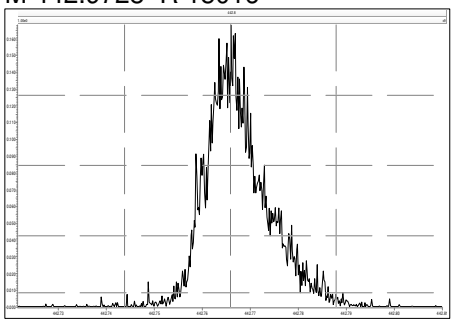
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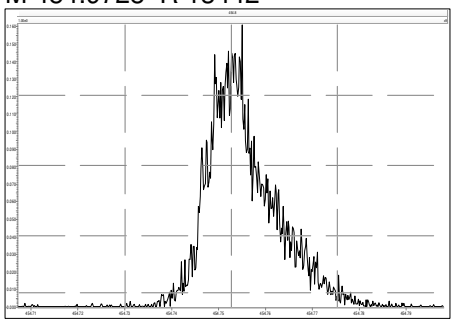
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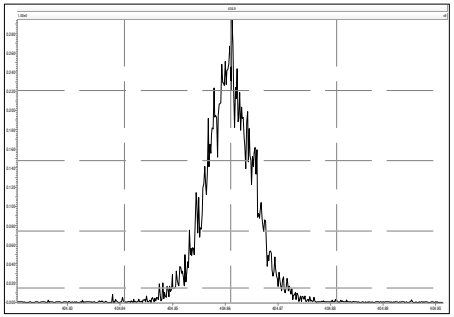
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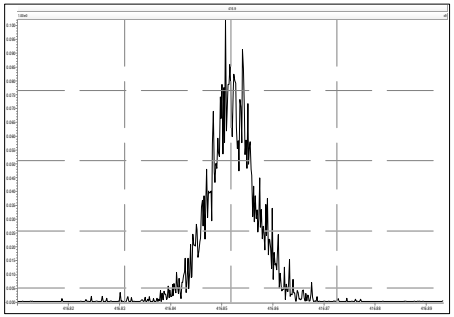
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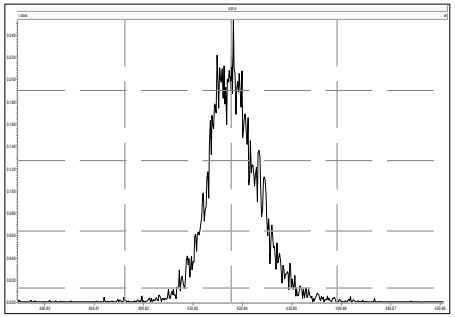
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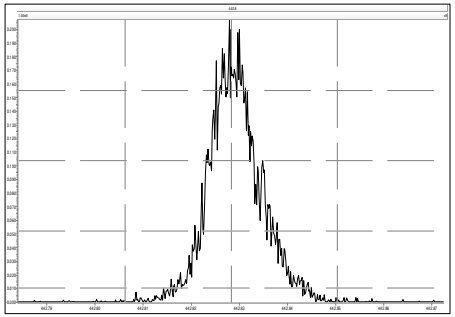
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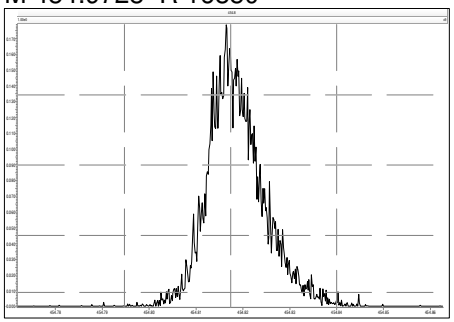
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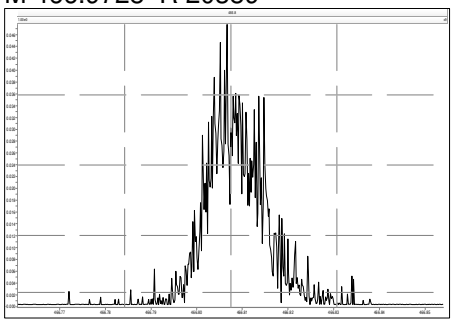
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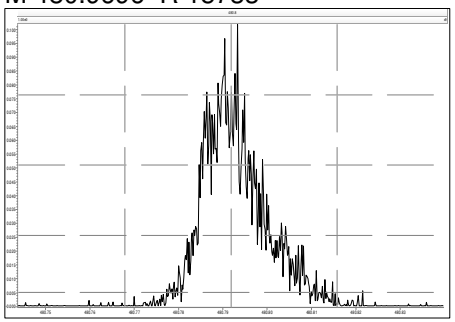
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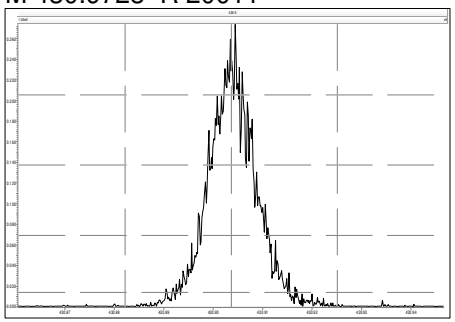
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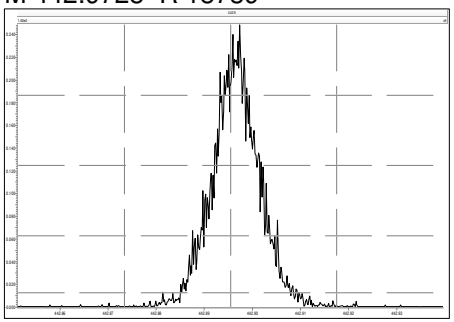
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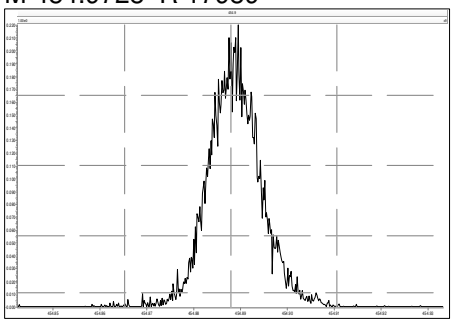
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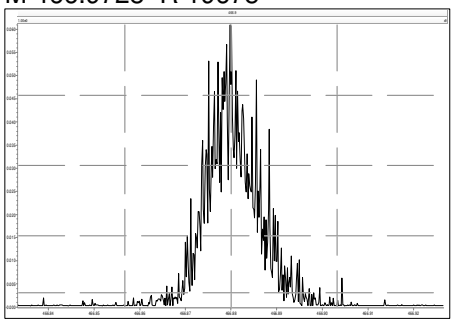
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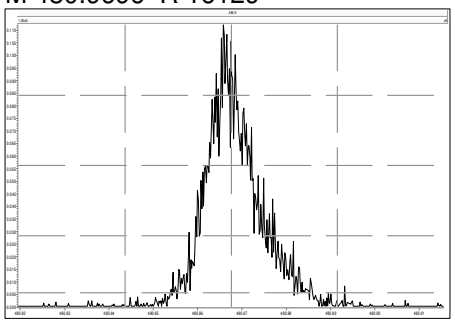
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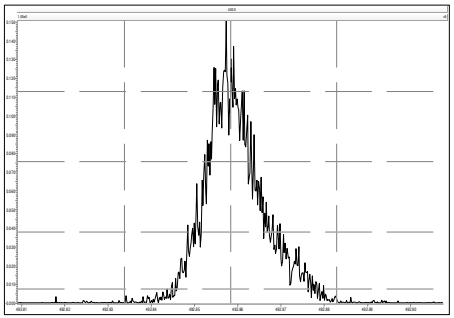
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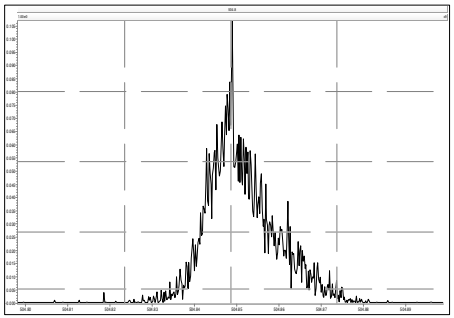
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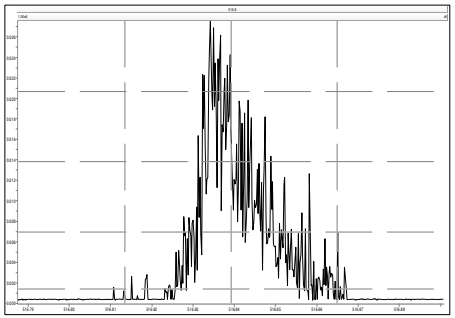
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M 504.9696 R 16699



M 516.9697 R 17685



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

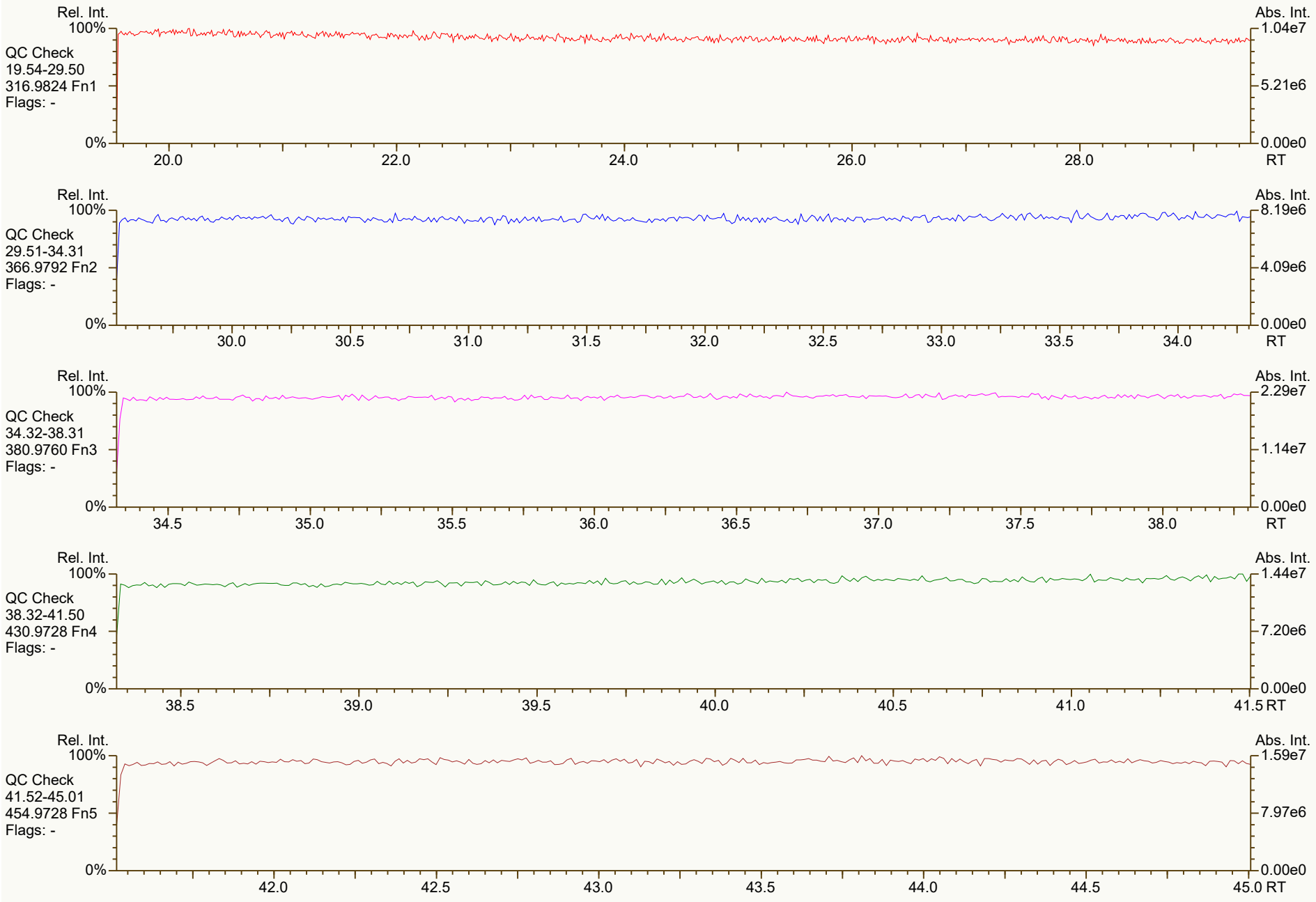
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APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

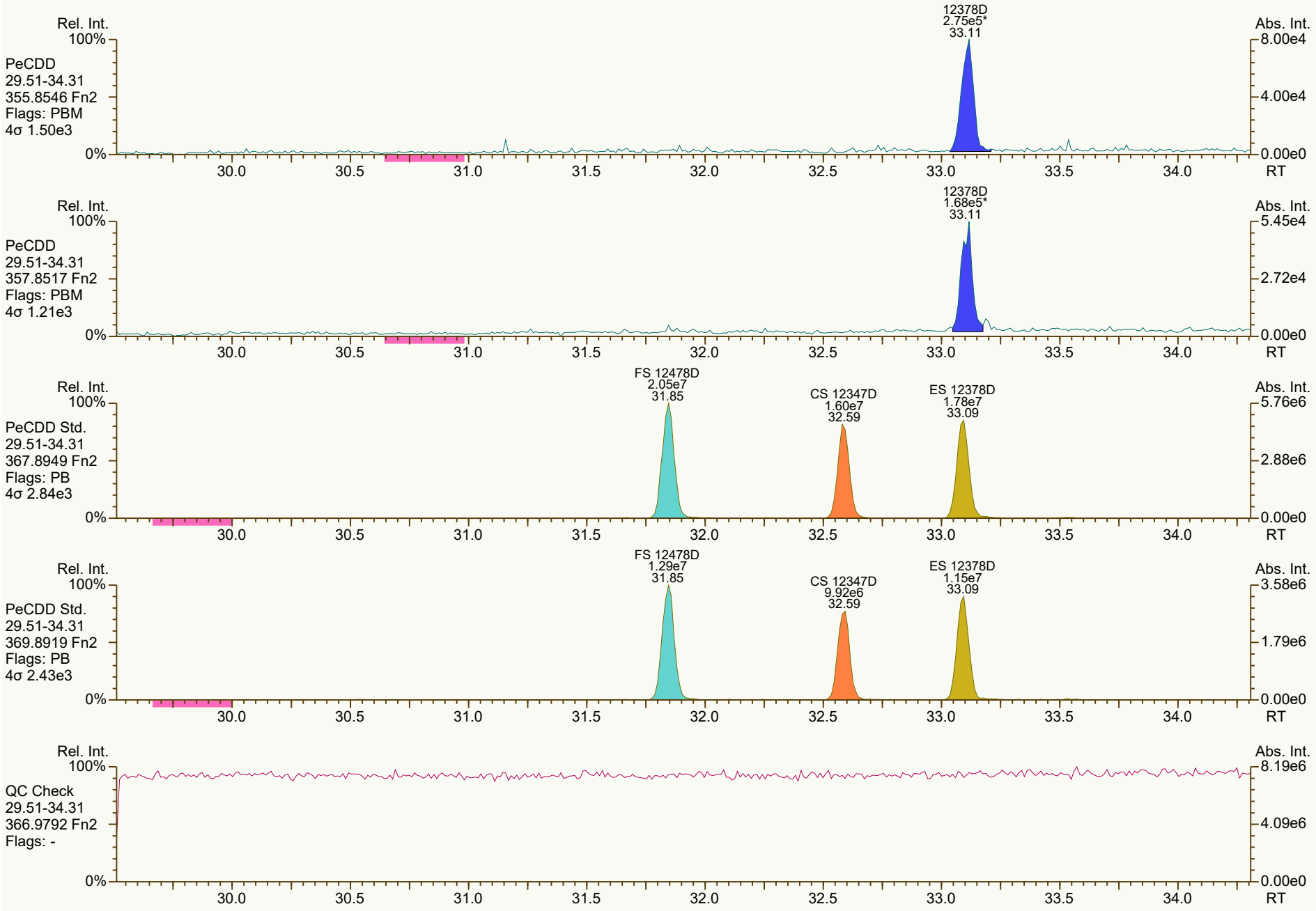
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

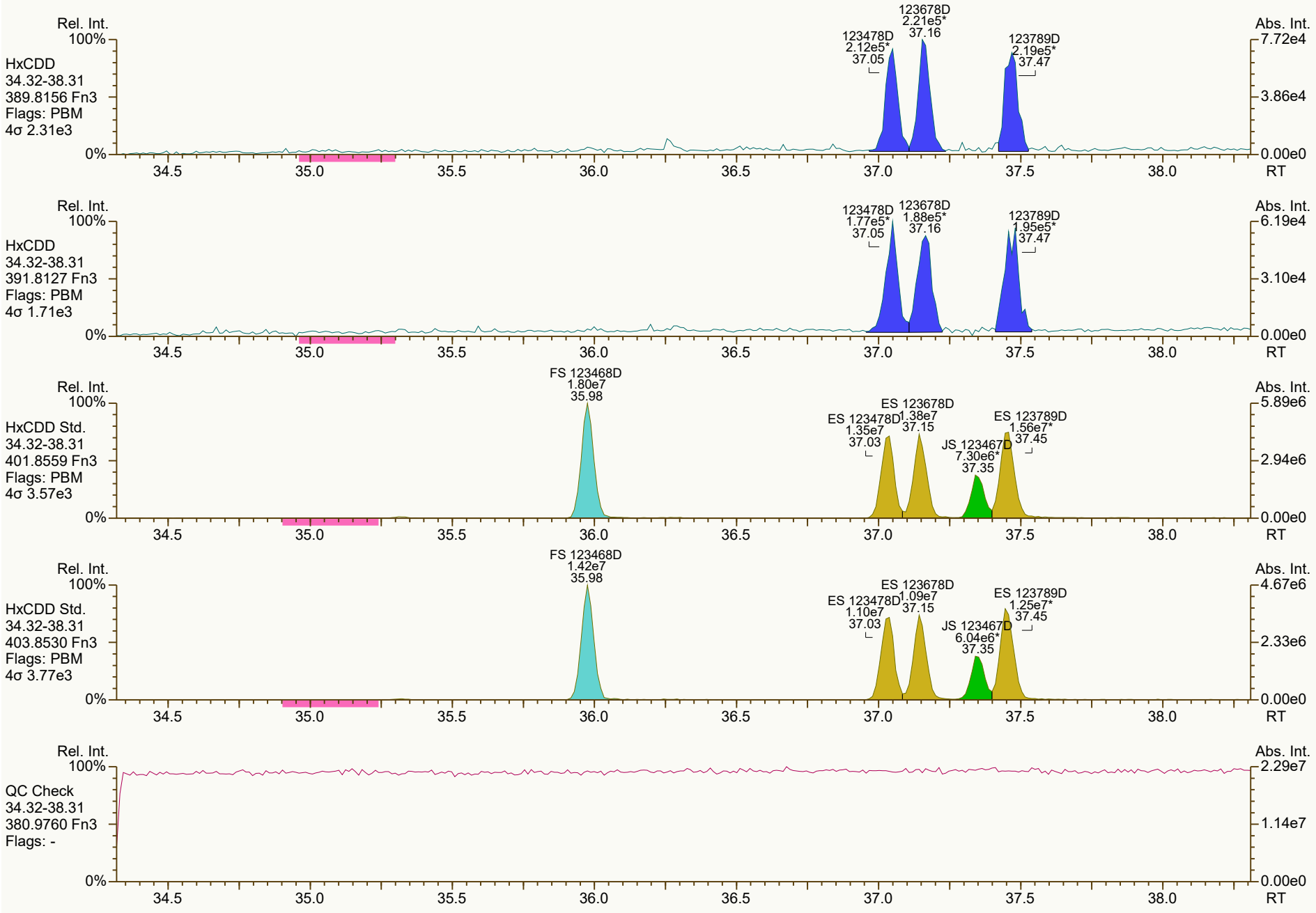
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

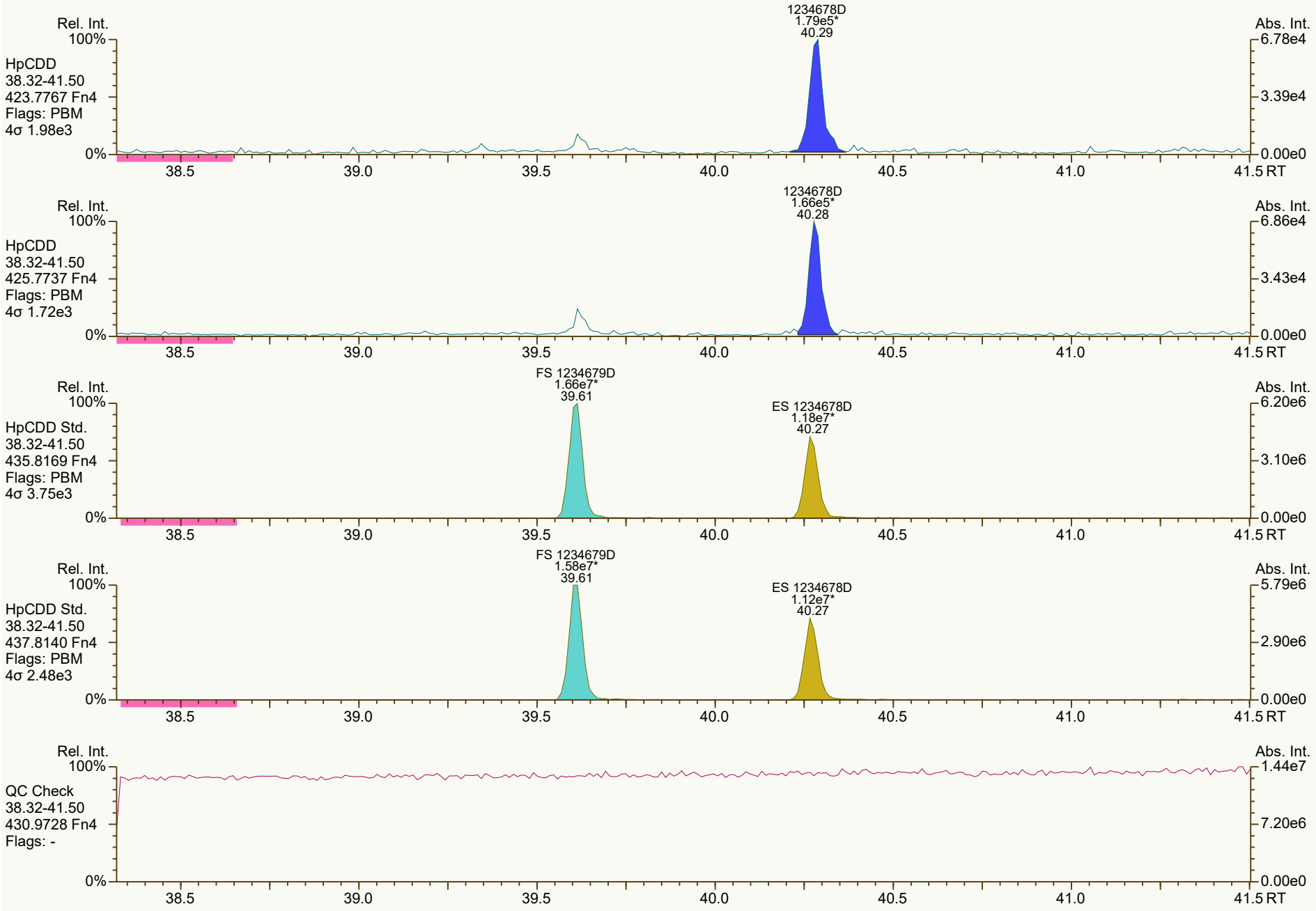
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

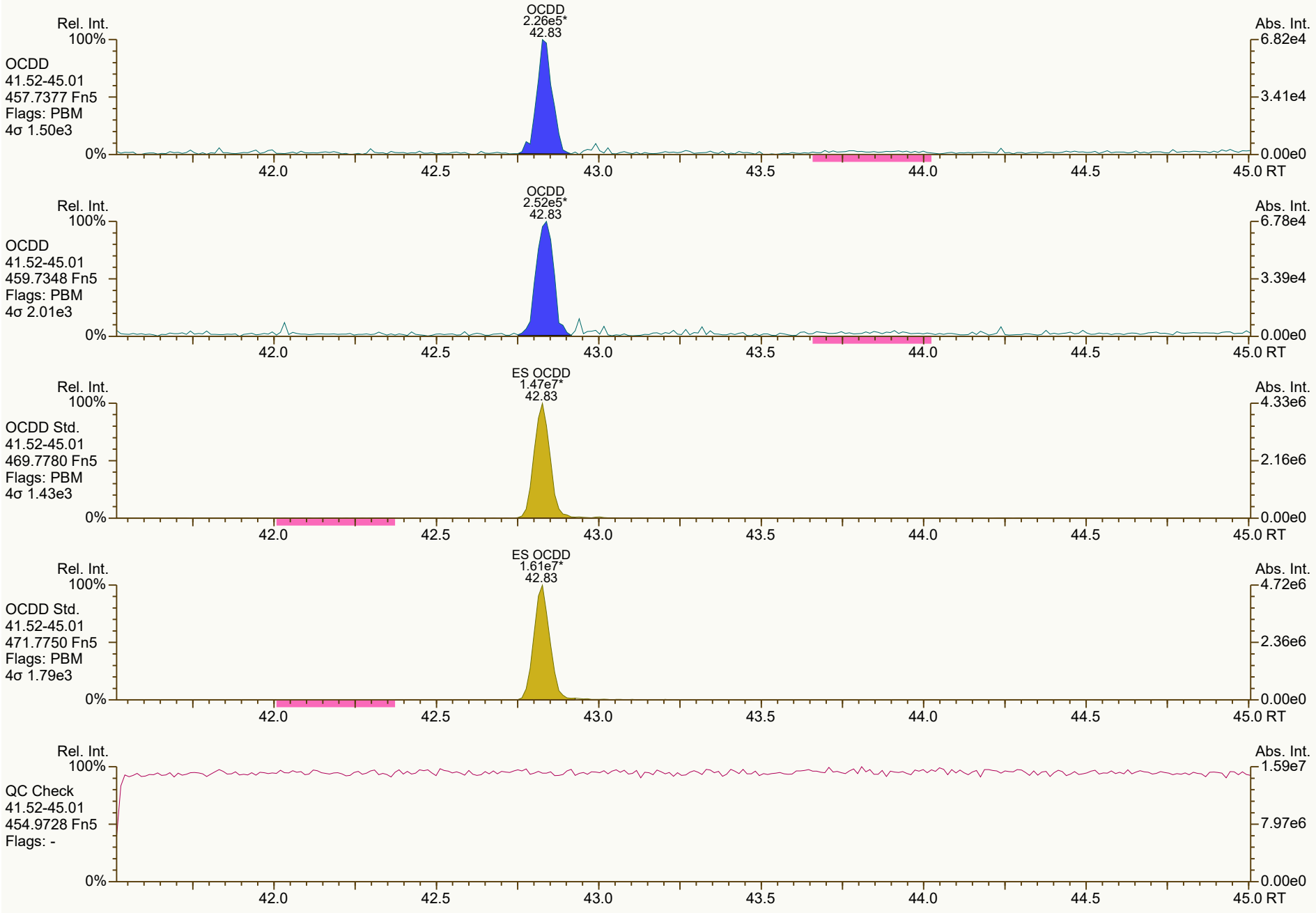

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28.0
RT
Abs. Int.
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5.21e6
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Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
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32.5
33.0
33.5
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Rel. Int.
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QC Check
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38.0
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QC Check
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QC Check
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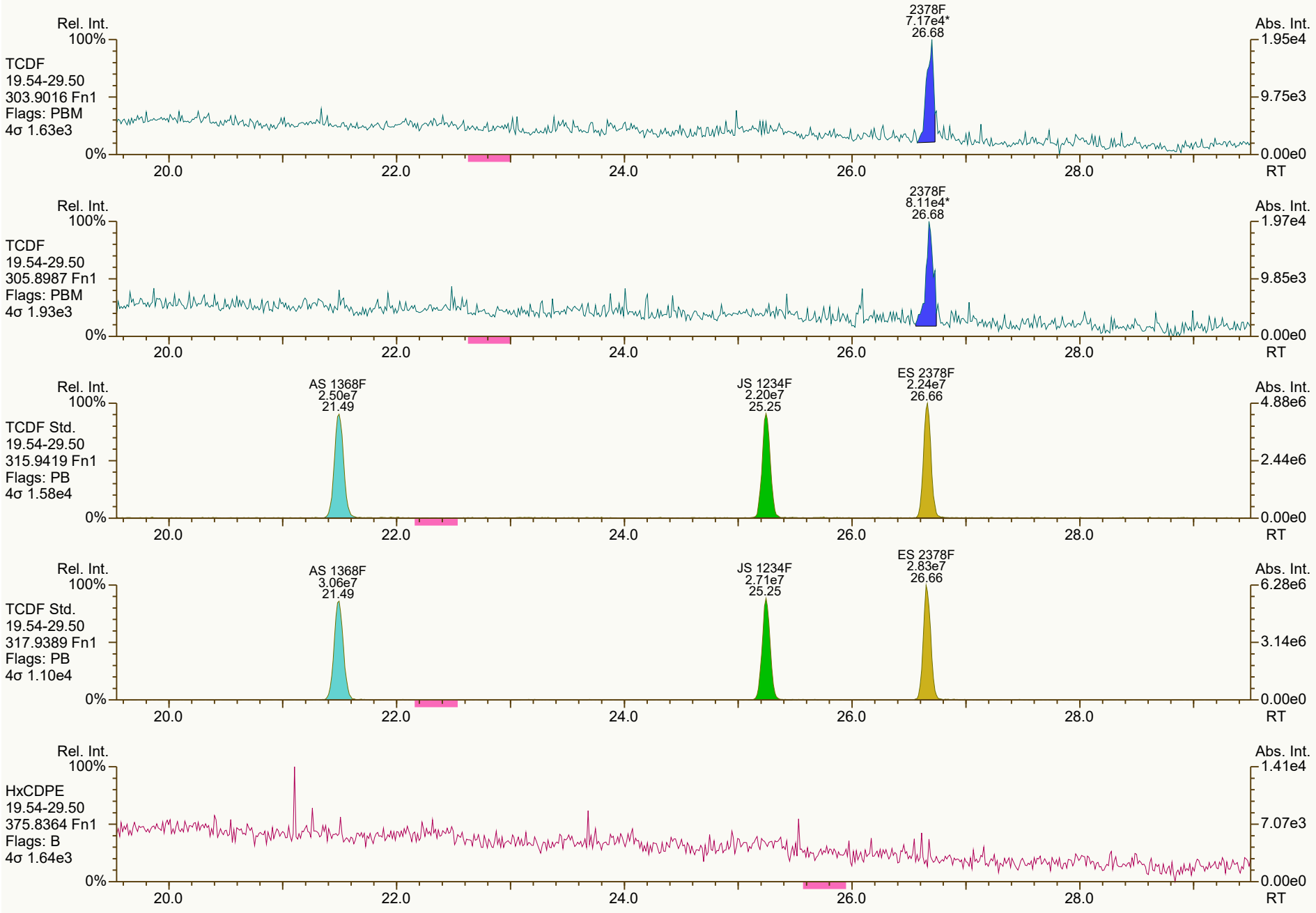

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

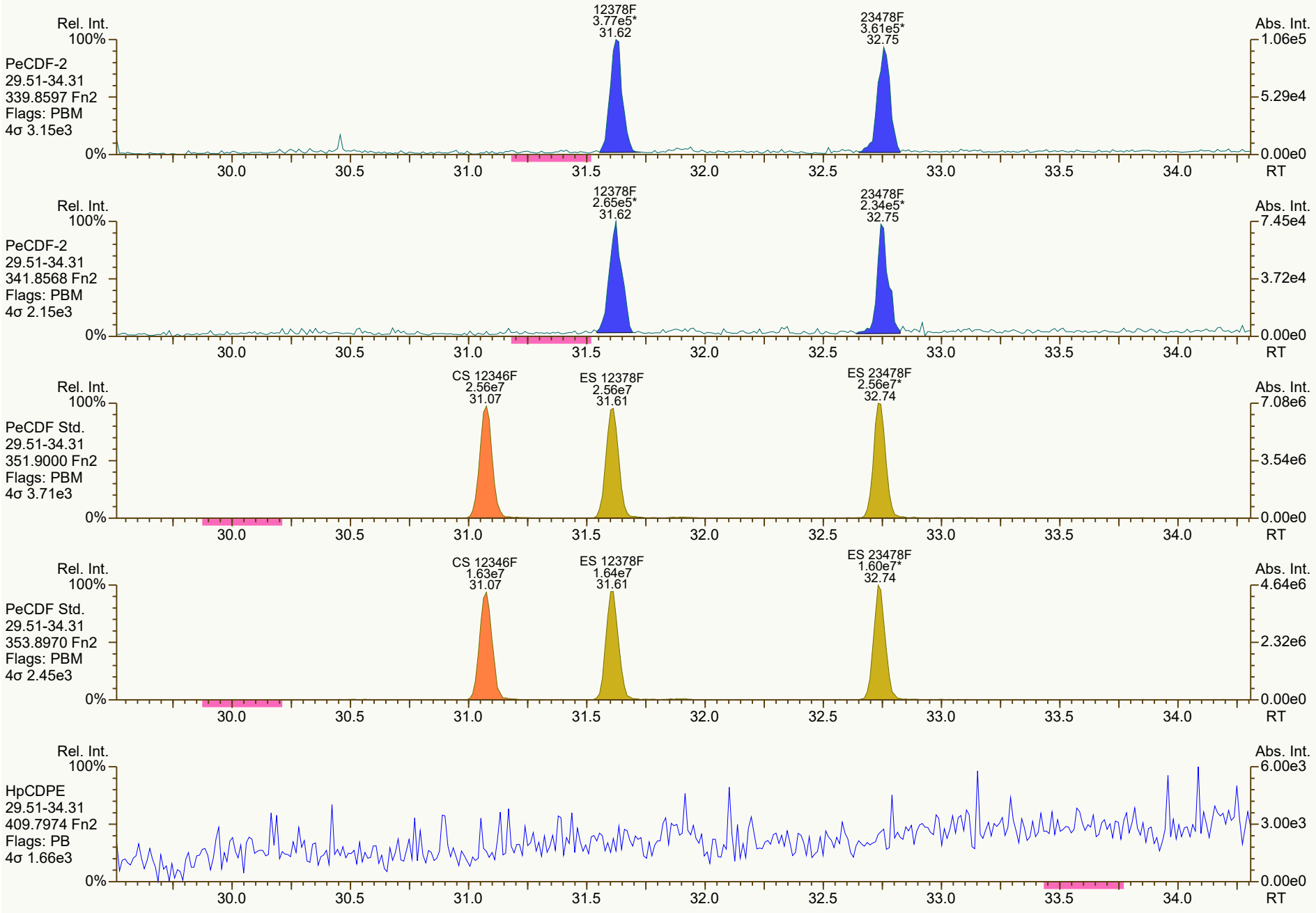

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

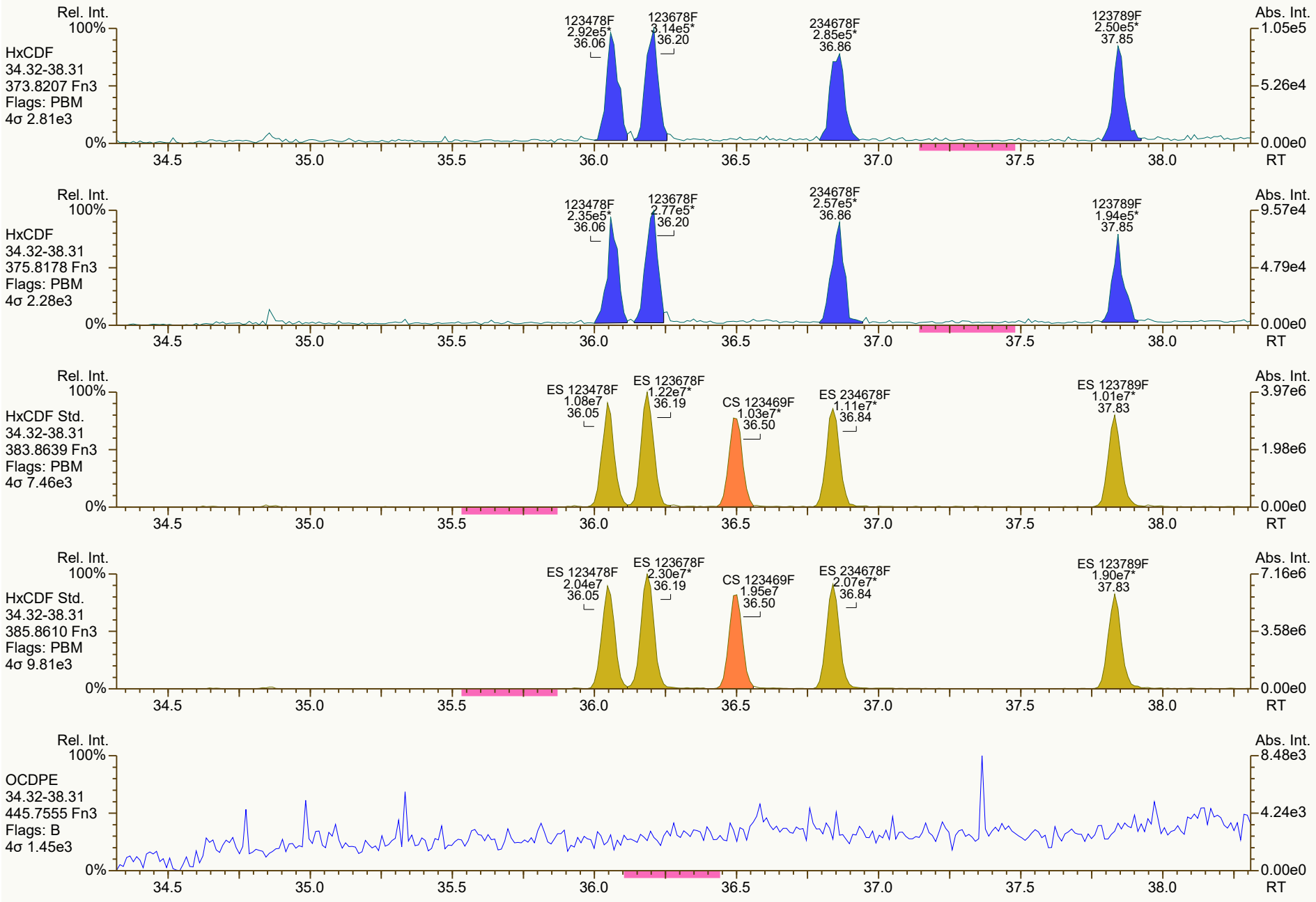

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

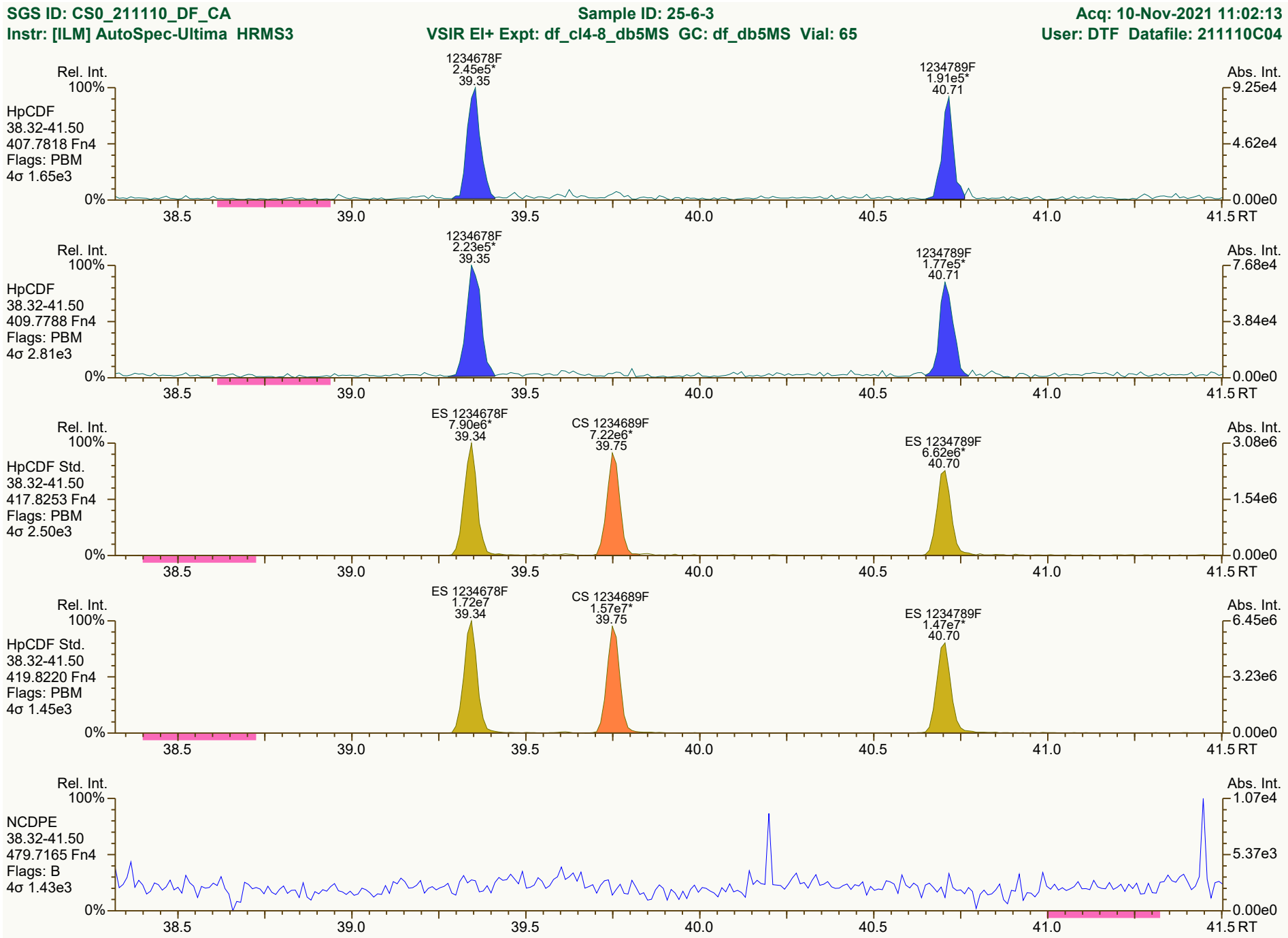

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

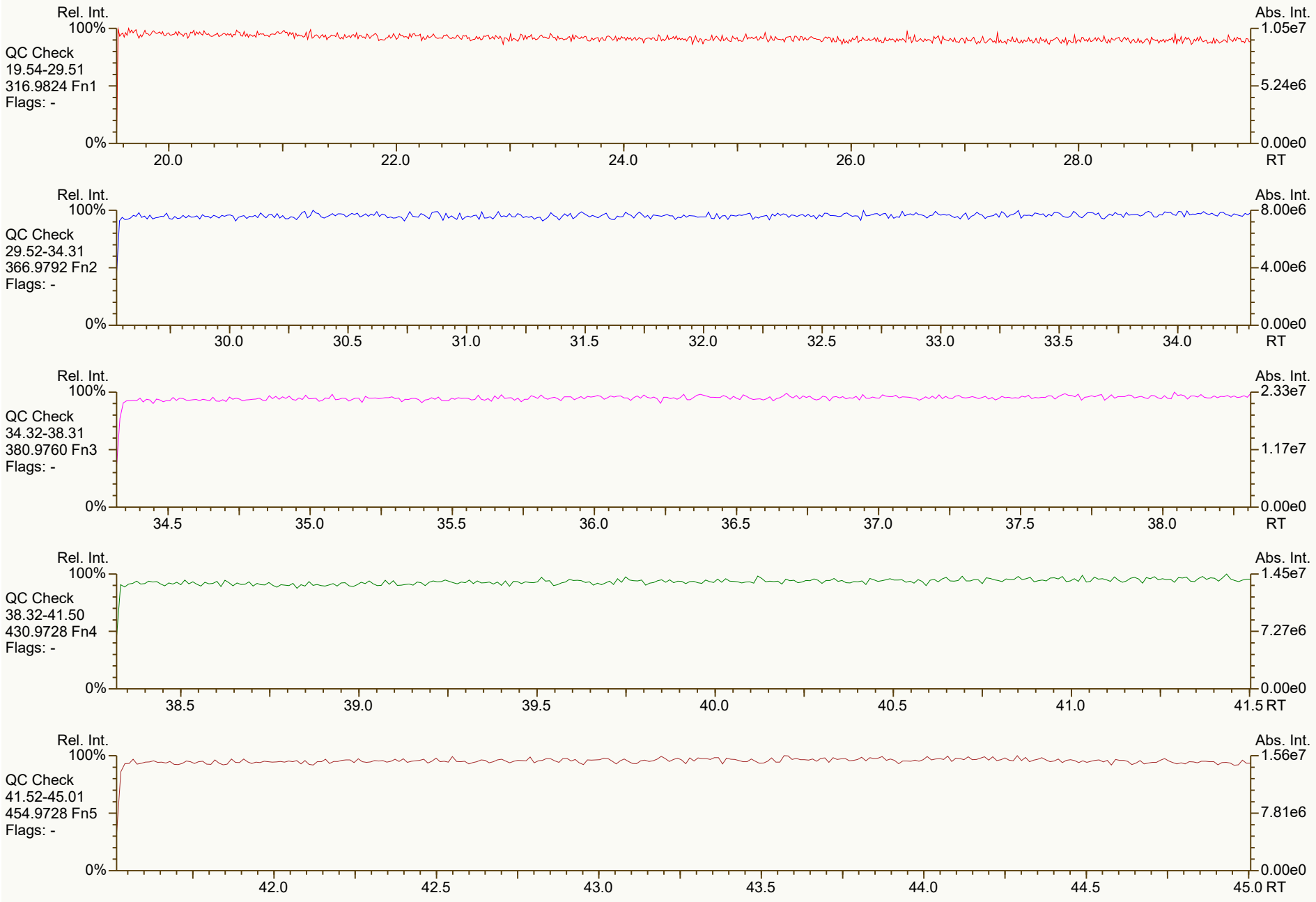

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

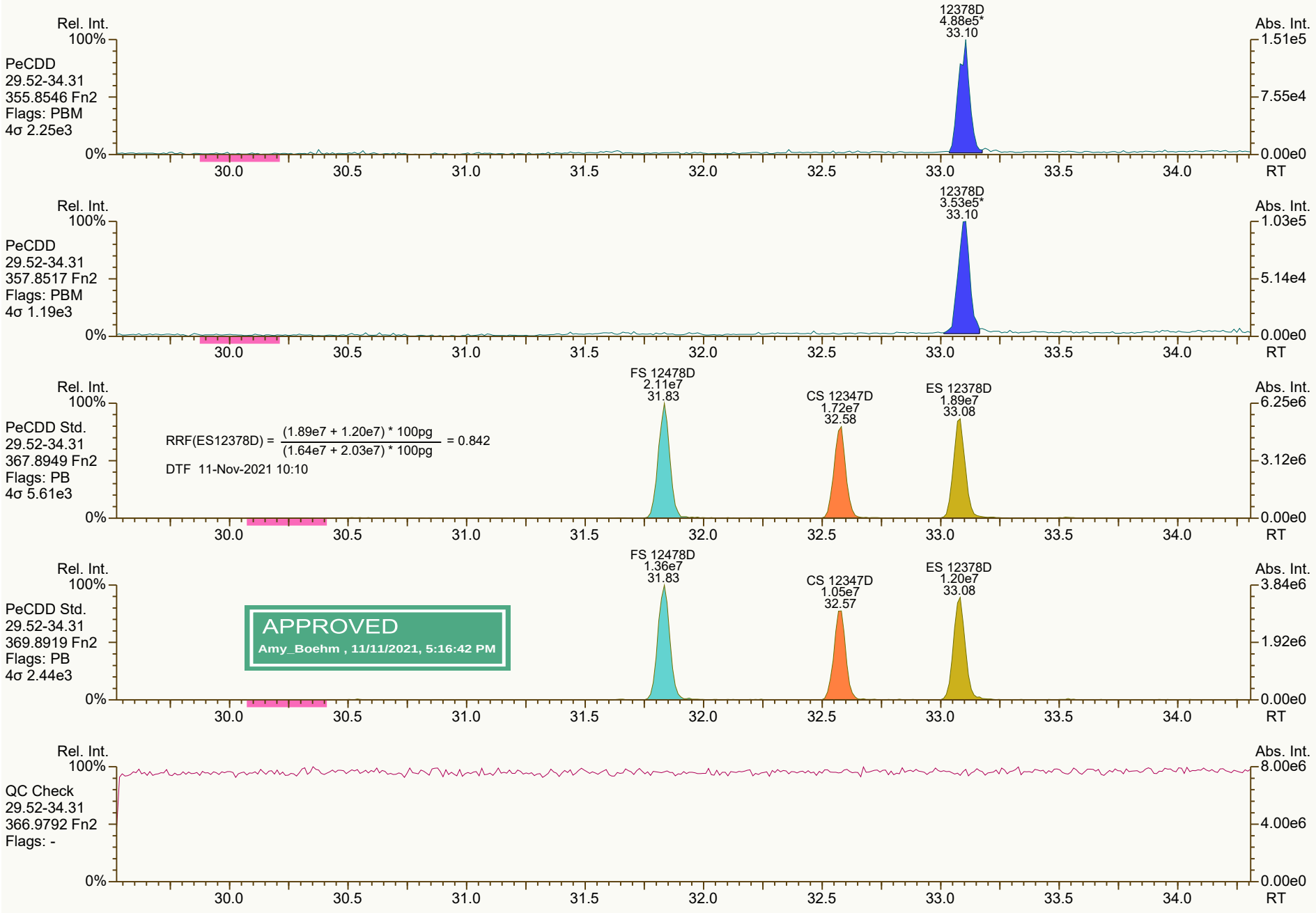
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

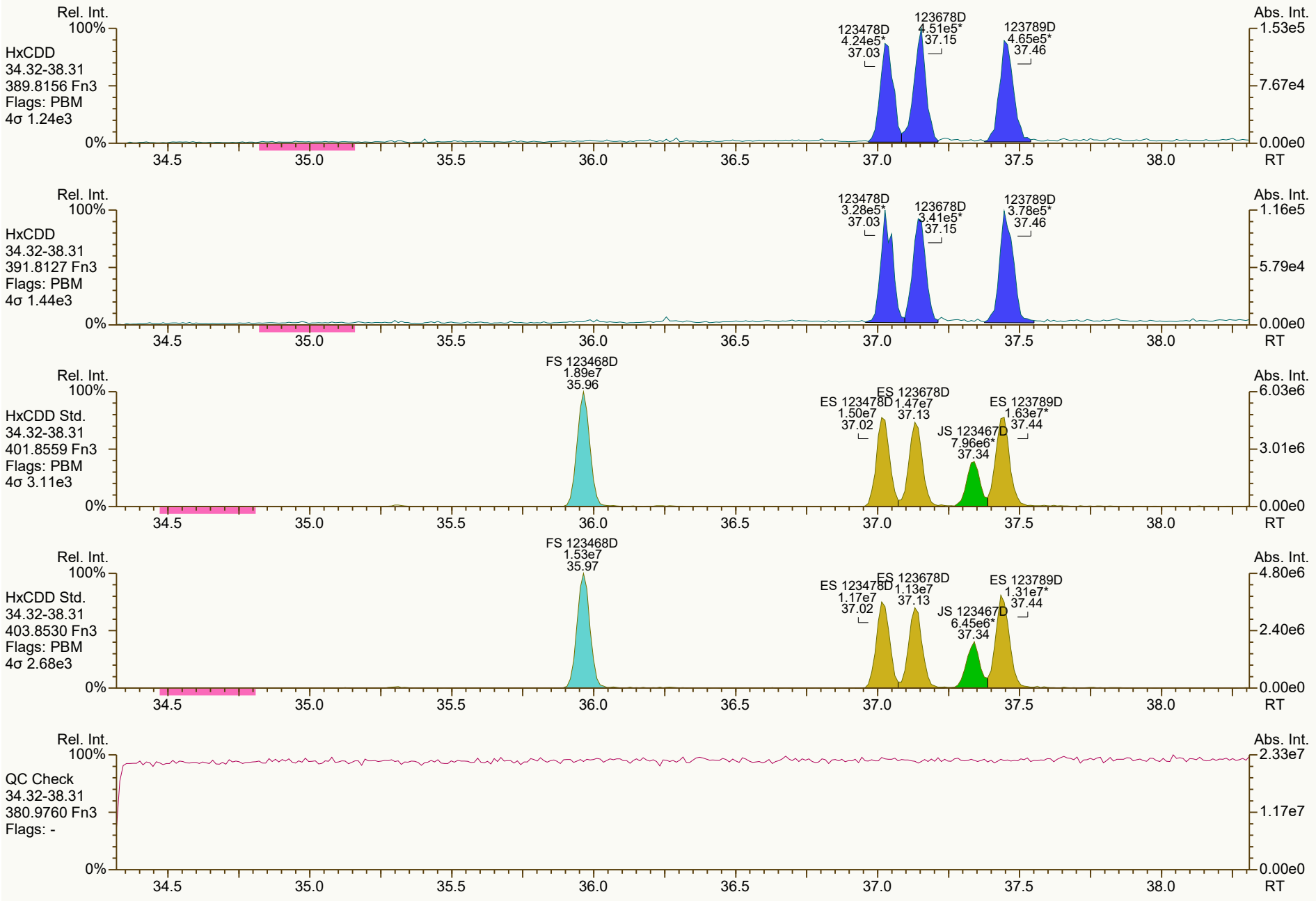
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

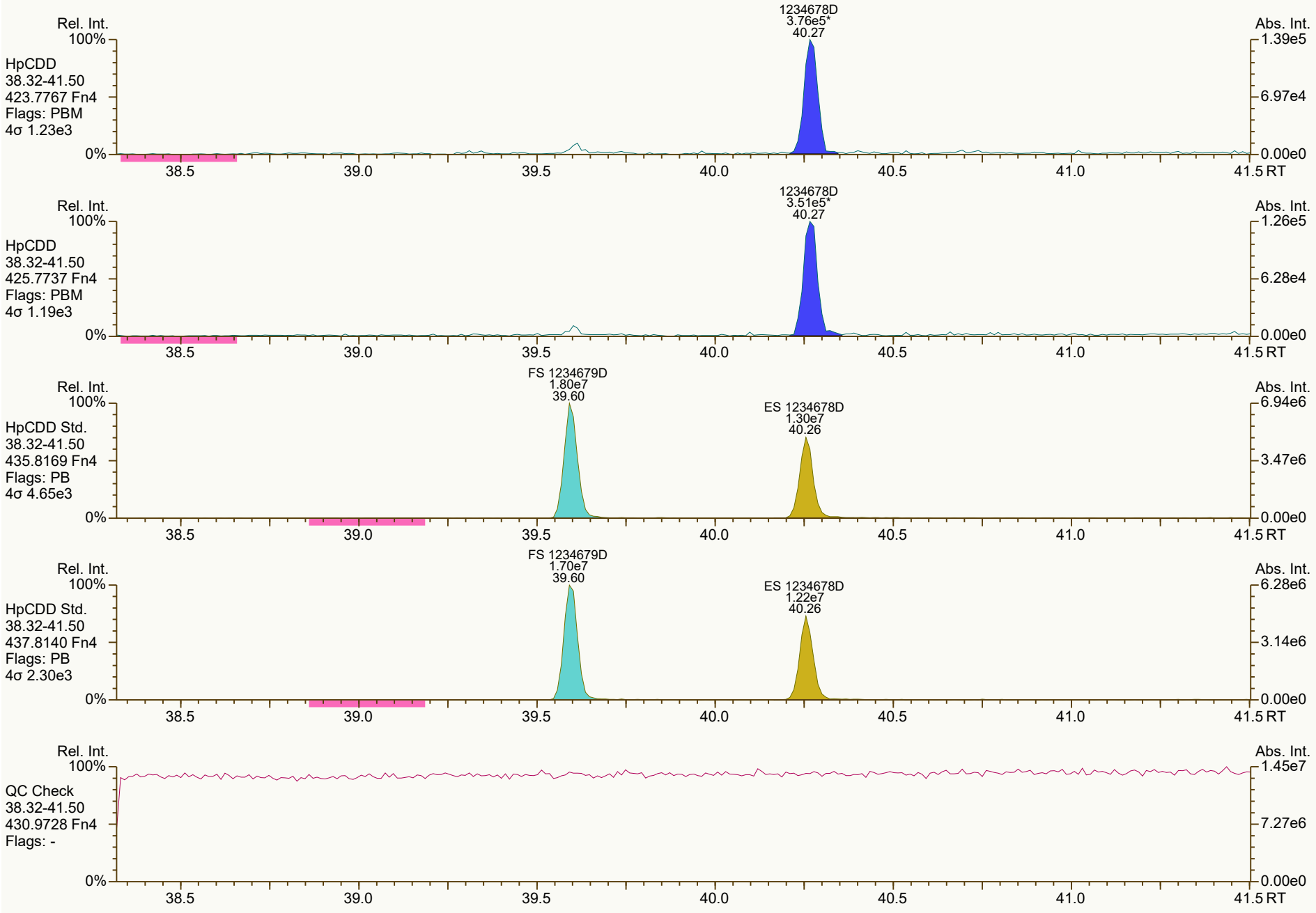
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

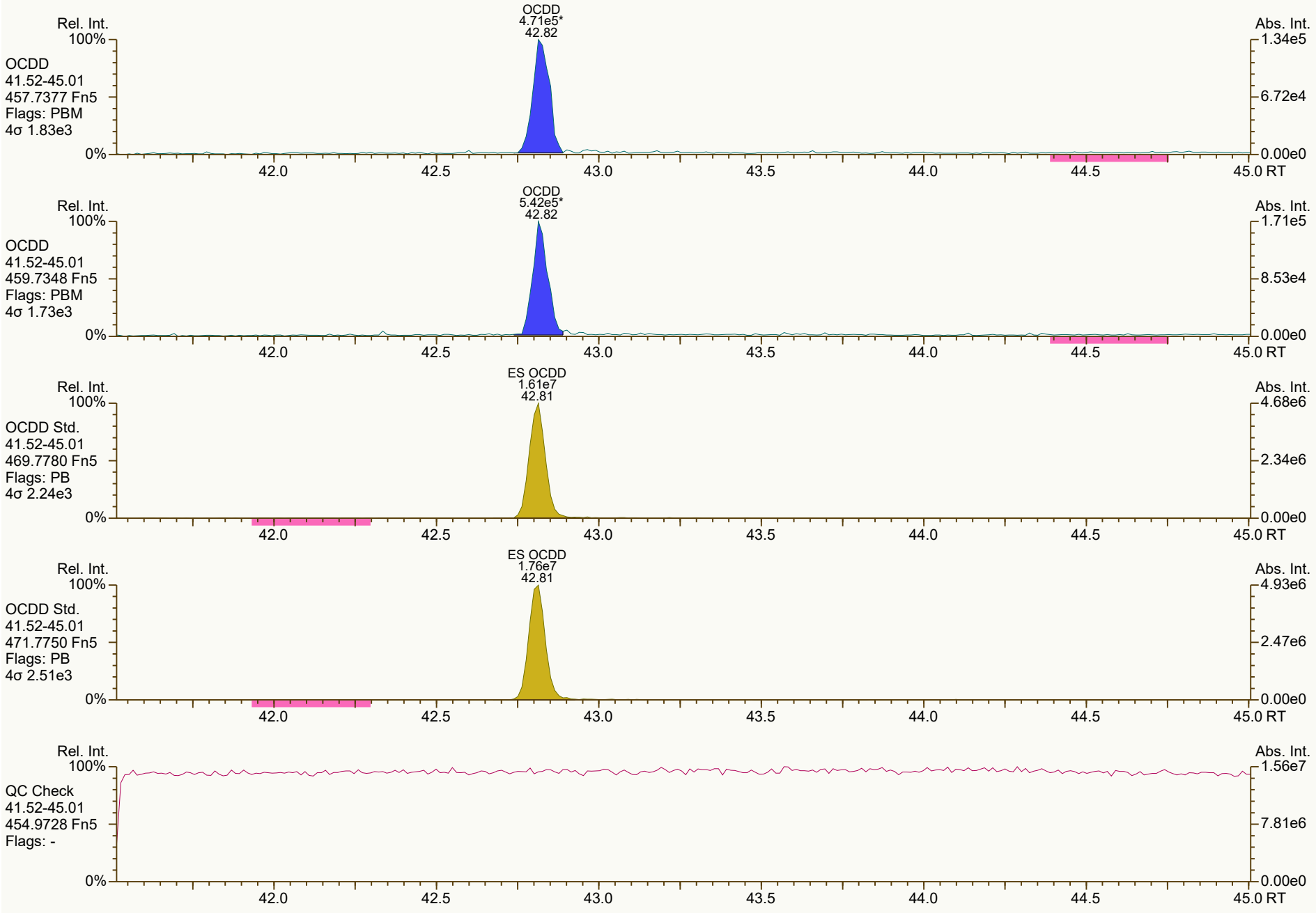

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

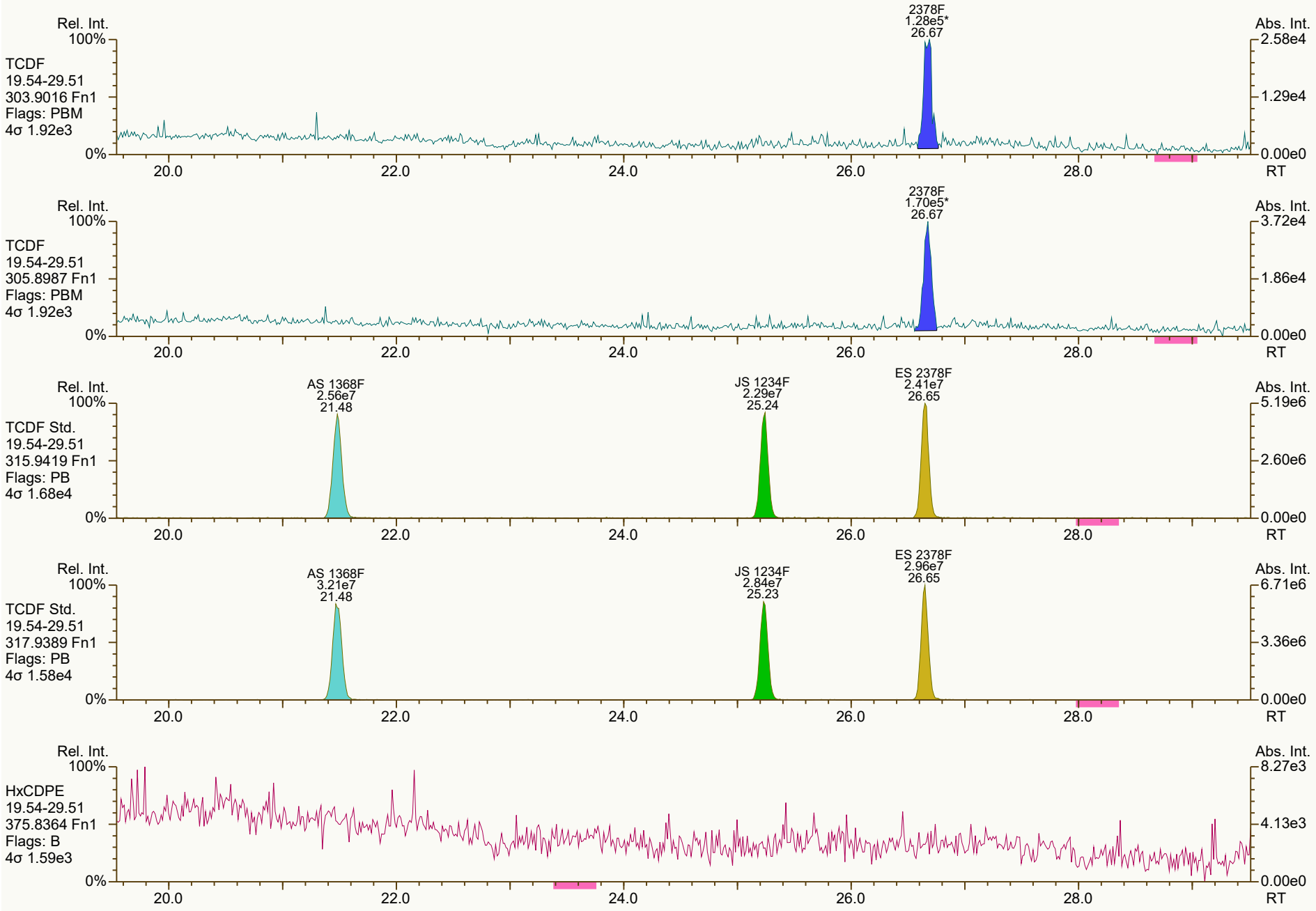

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

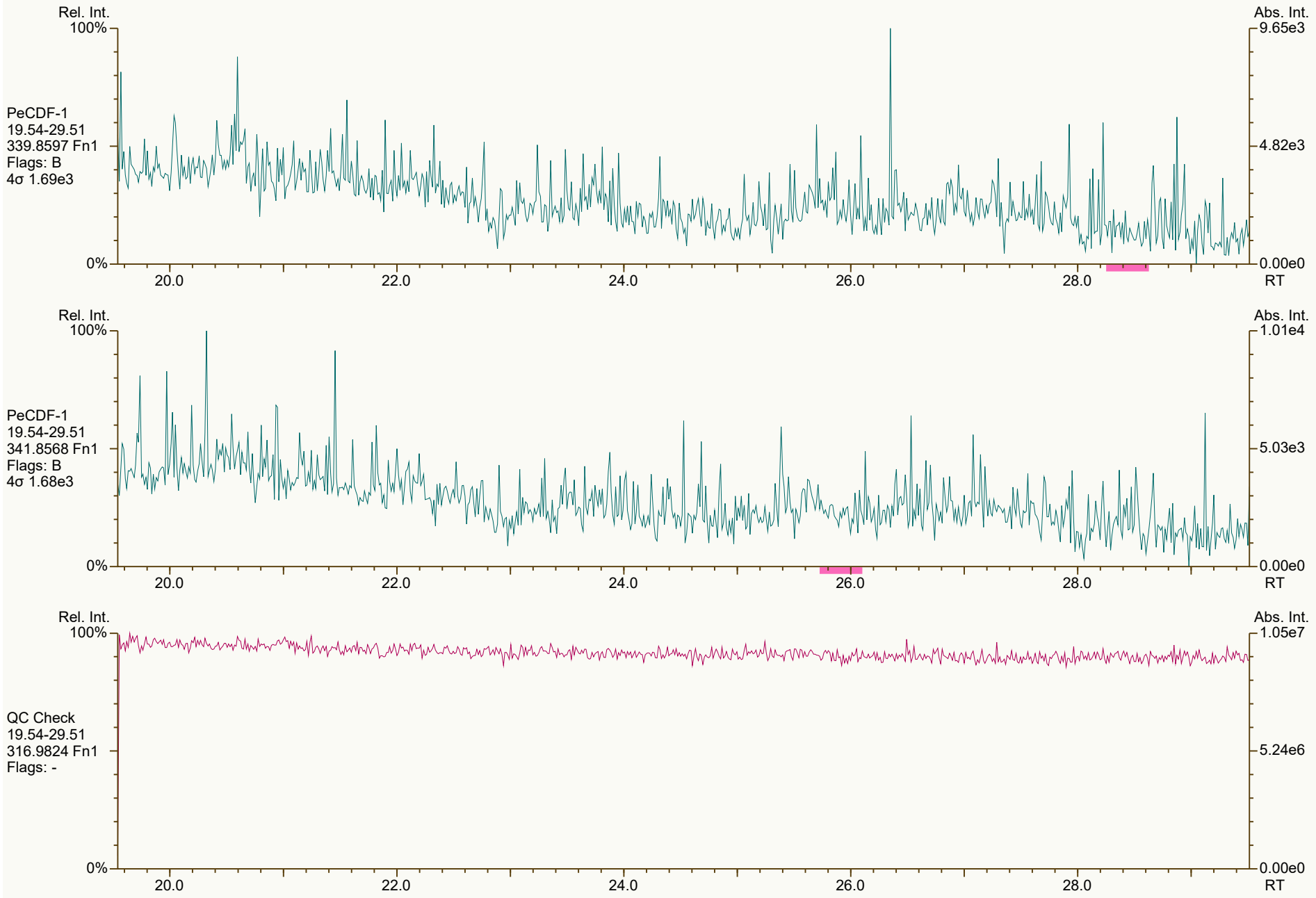

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
Abs. Int.
1.03e5
5.14e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

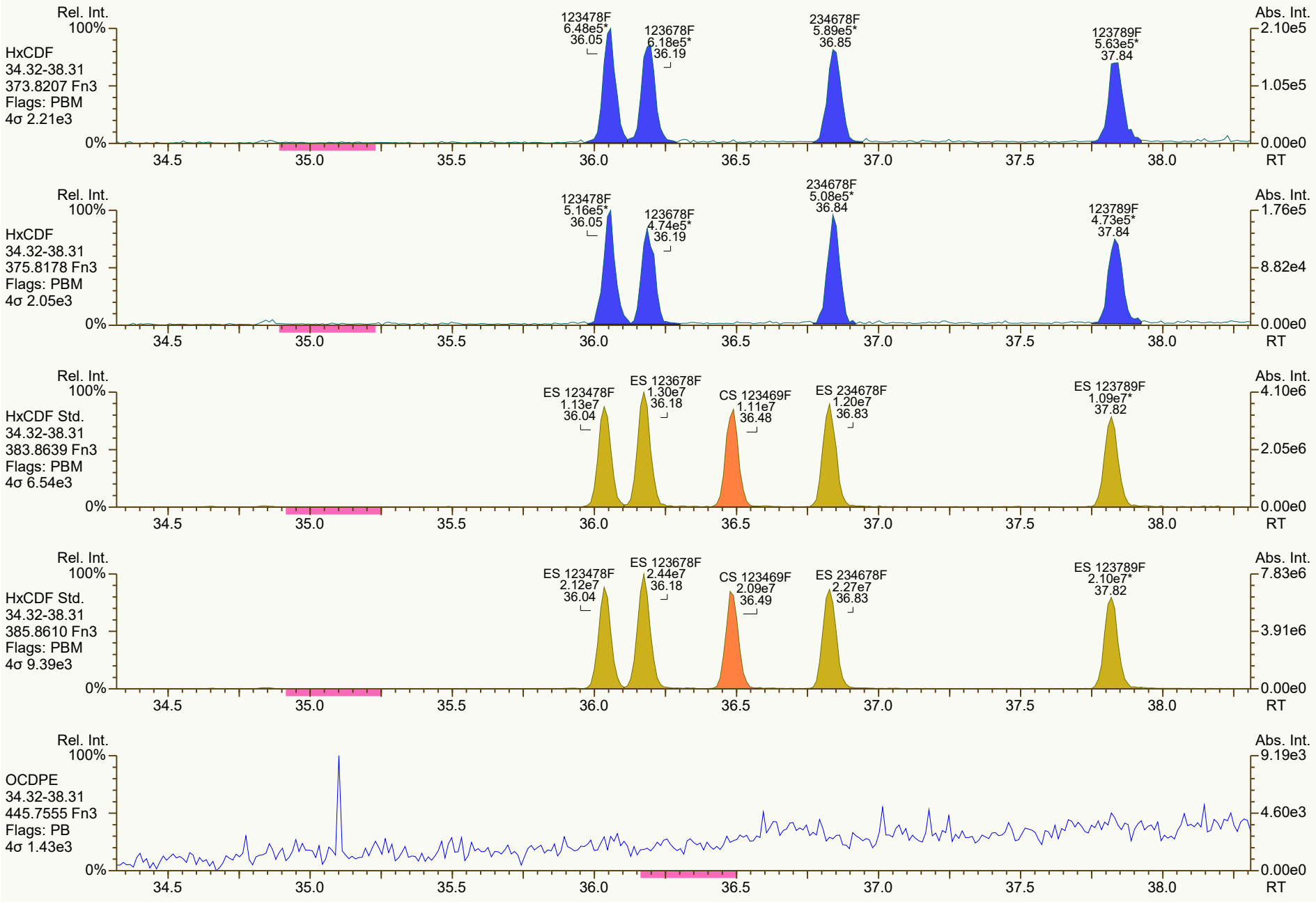

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

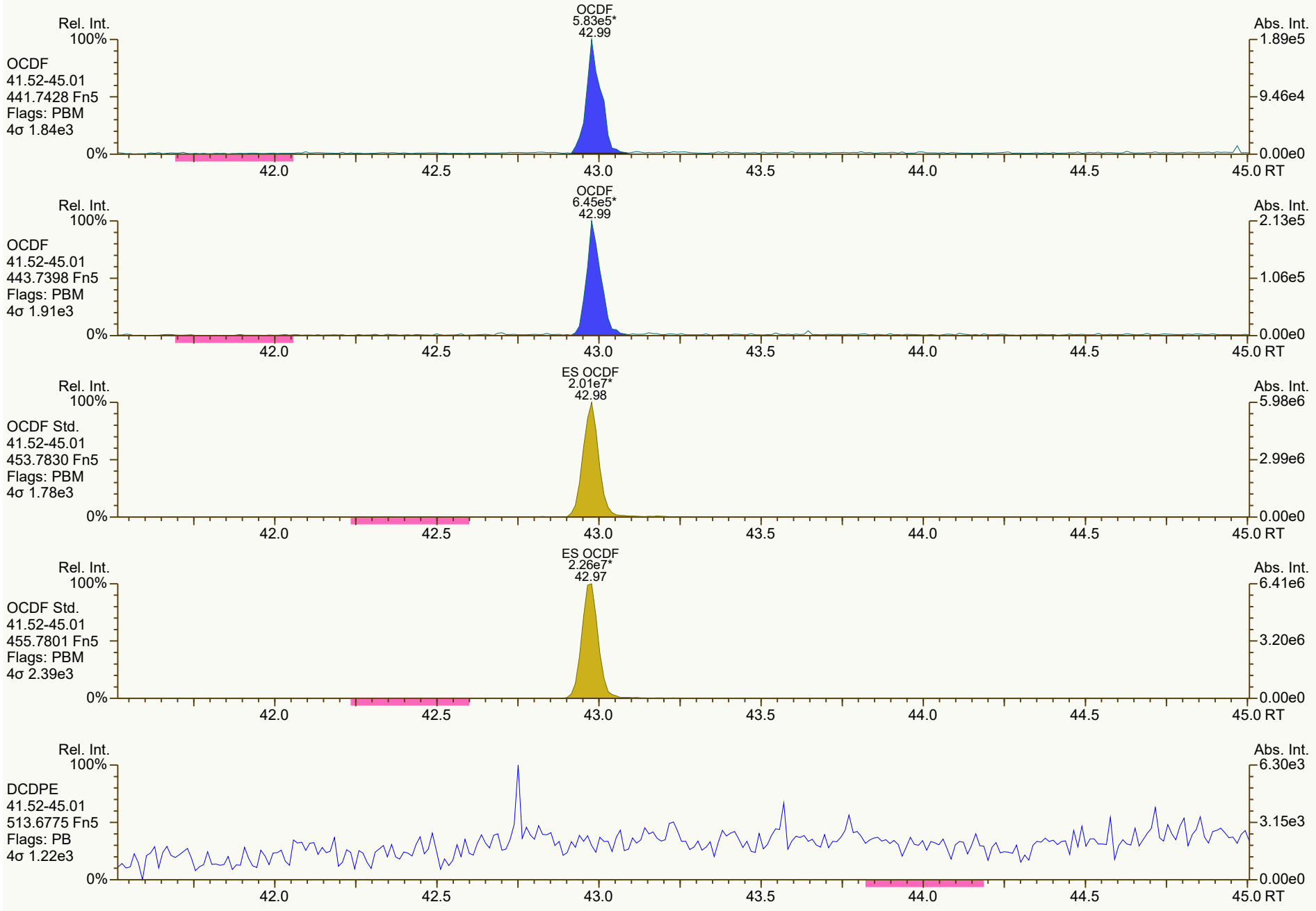

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

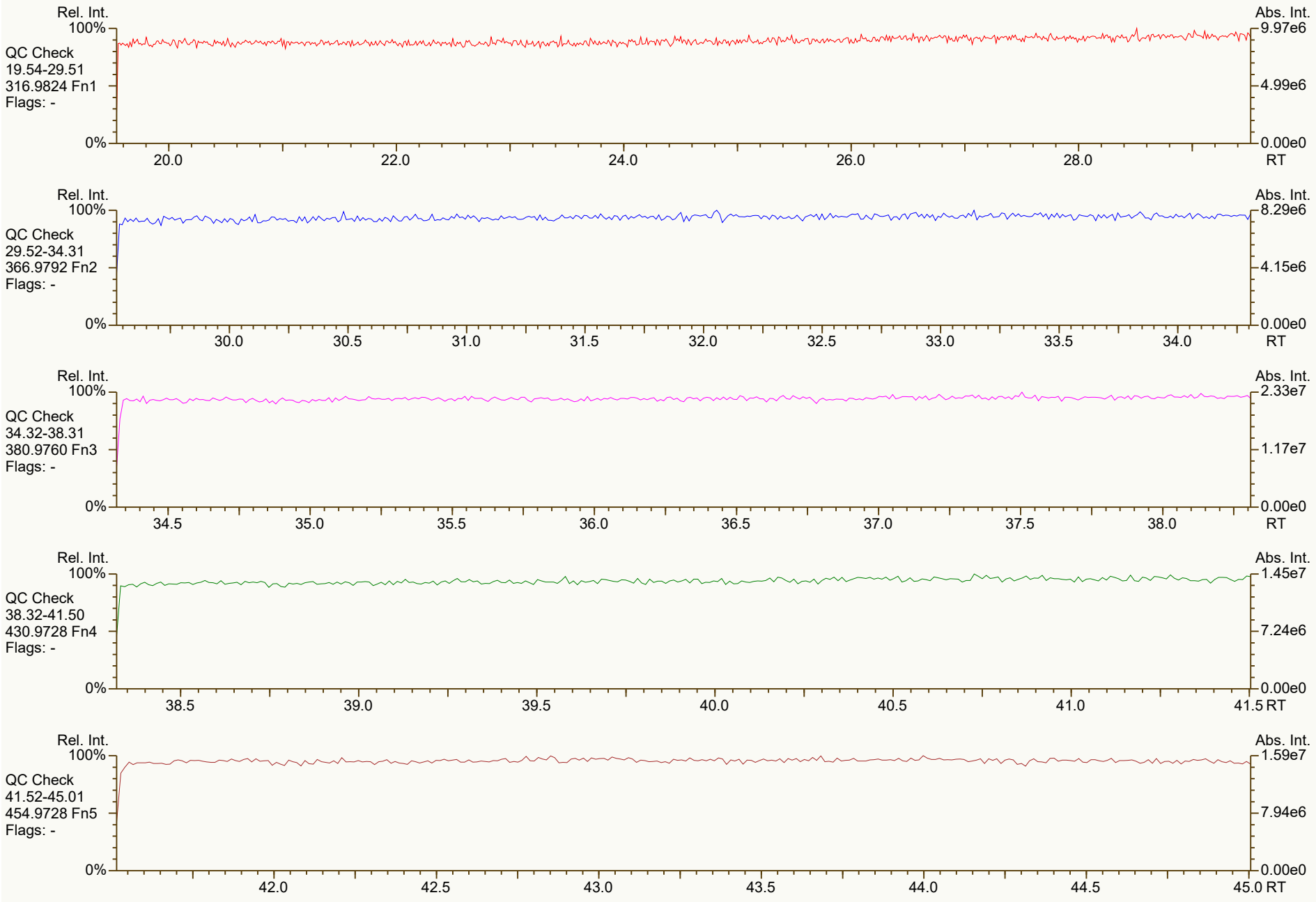

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

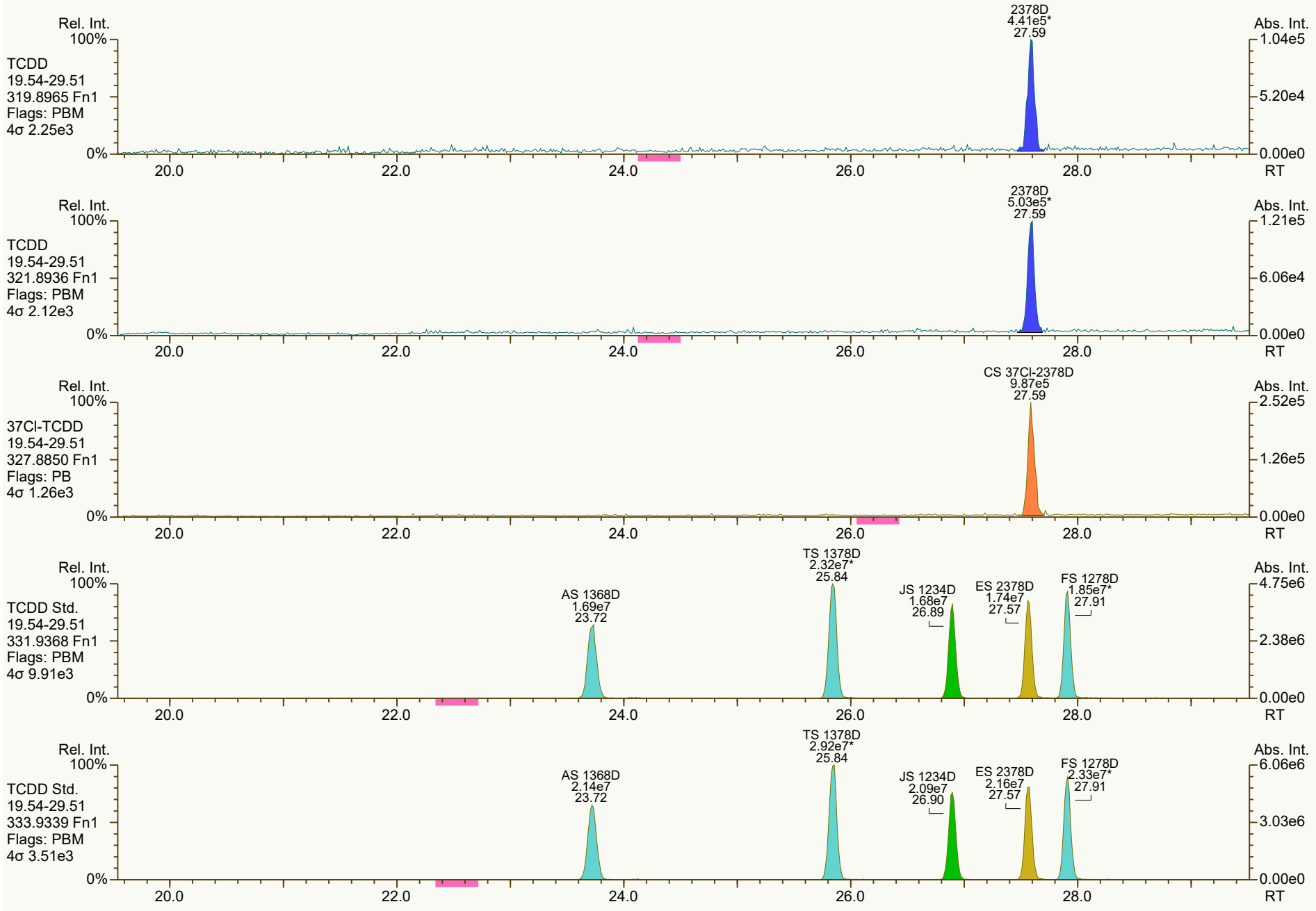
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

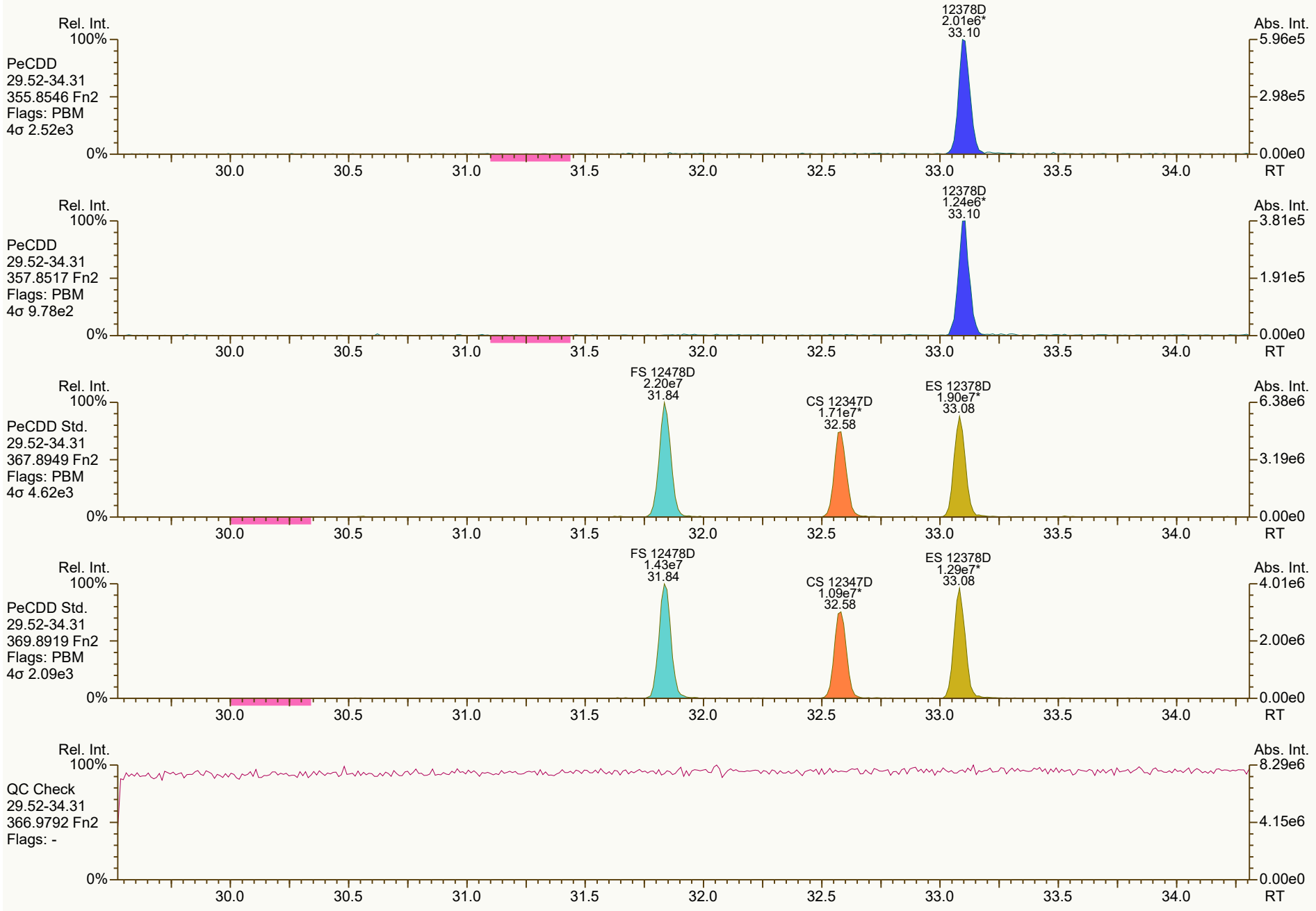
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

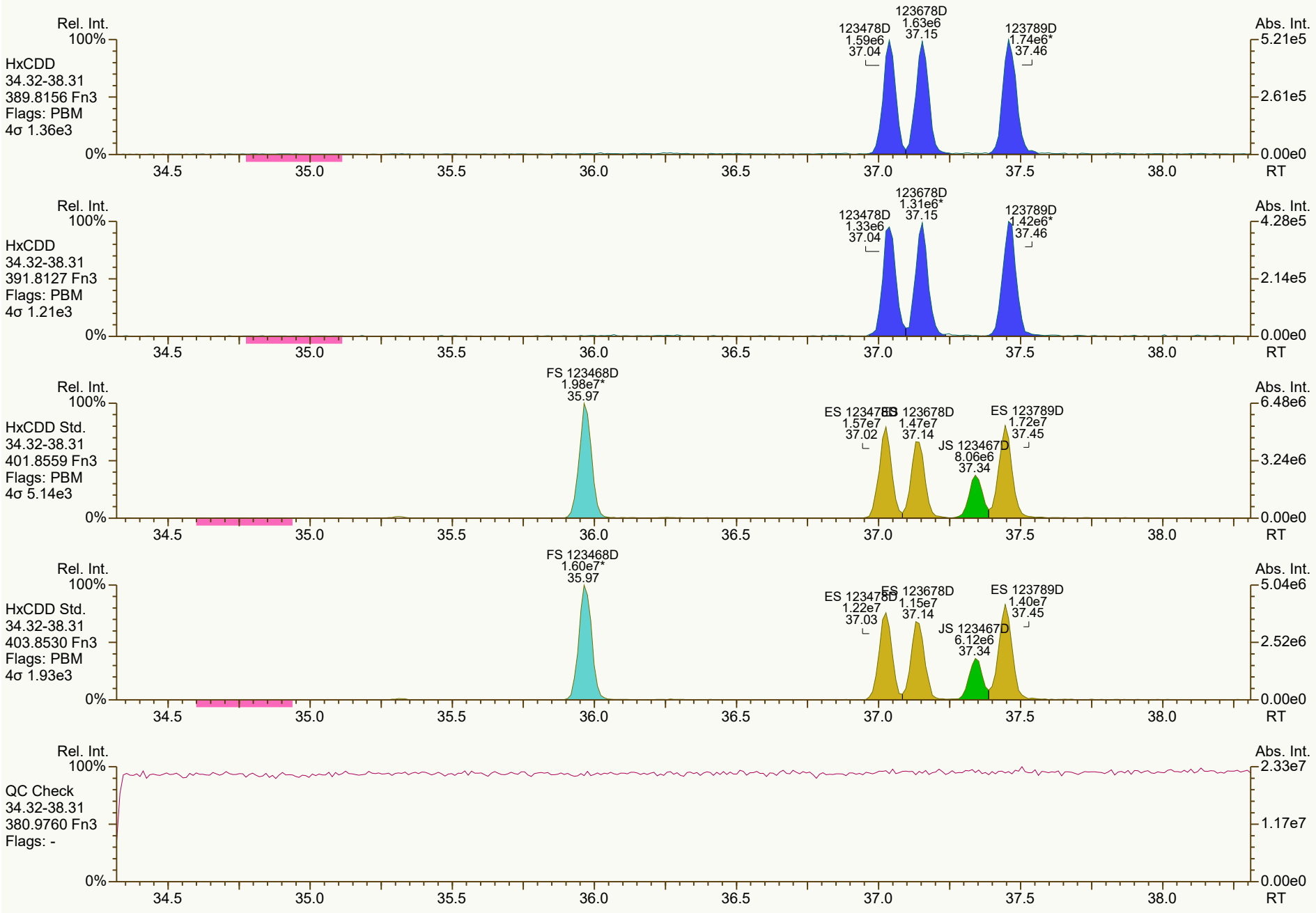
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

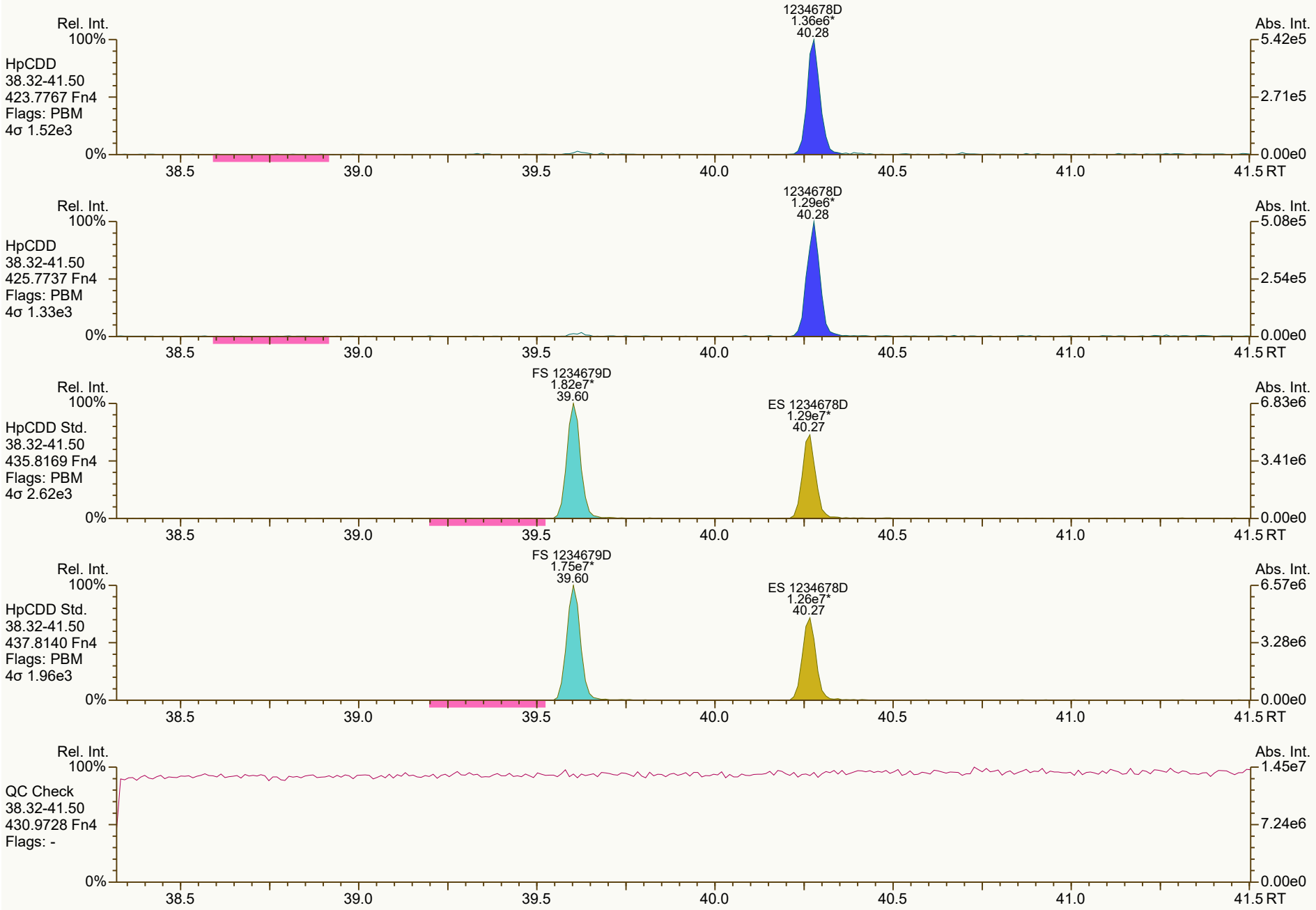
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

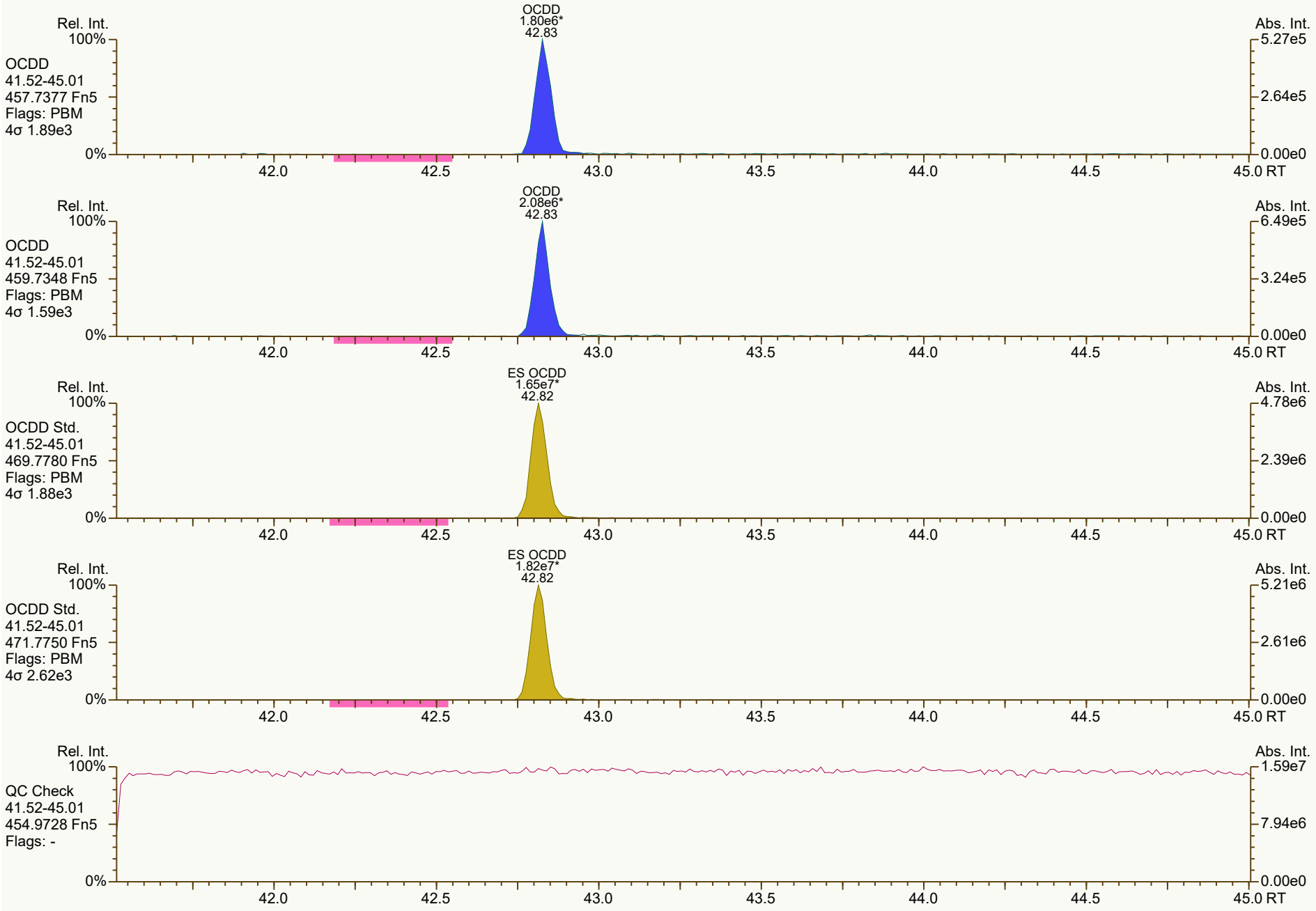

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

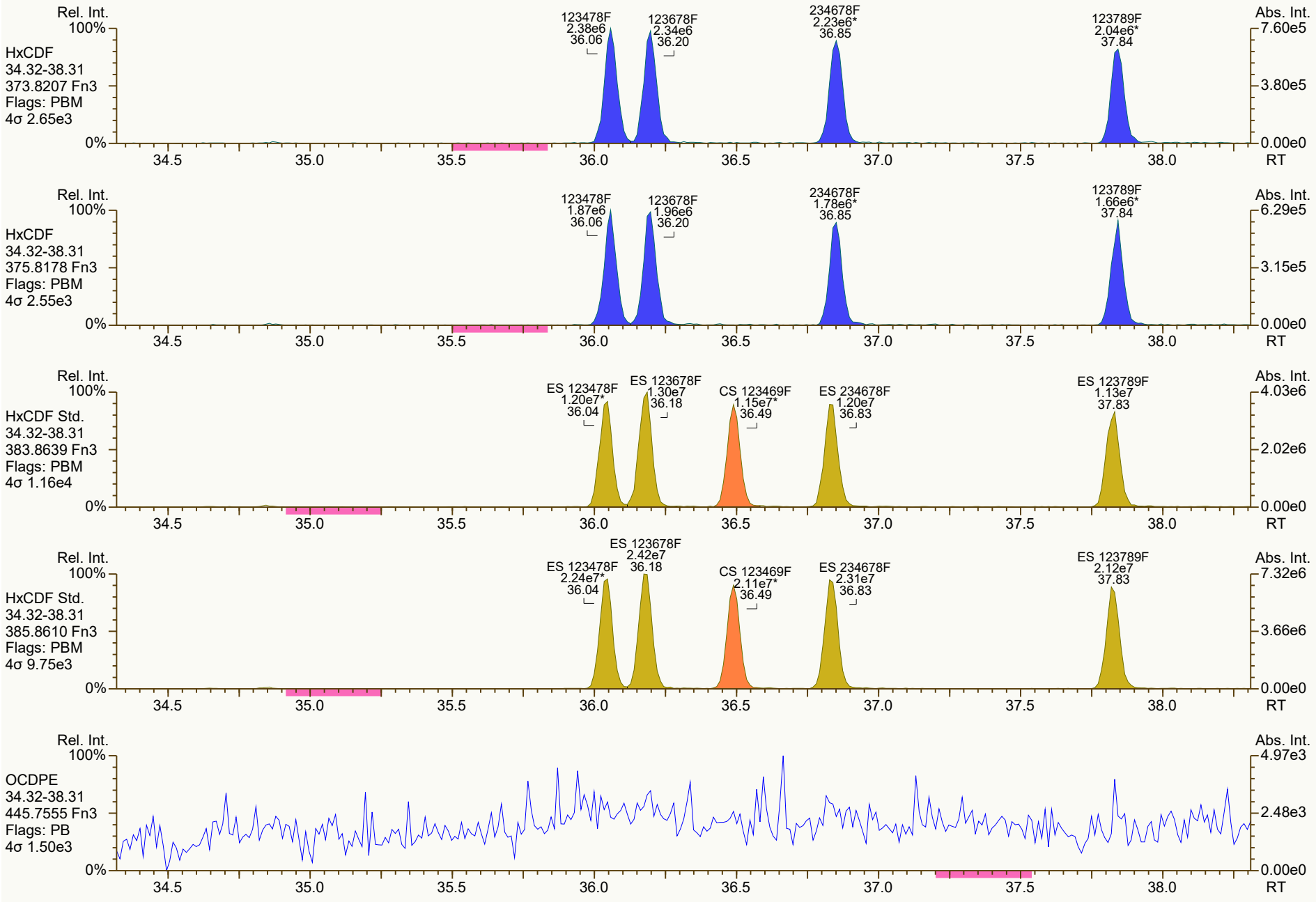

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

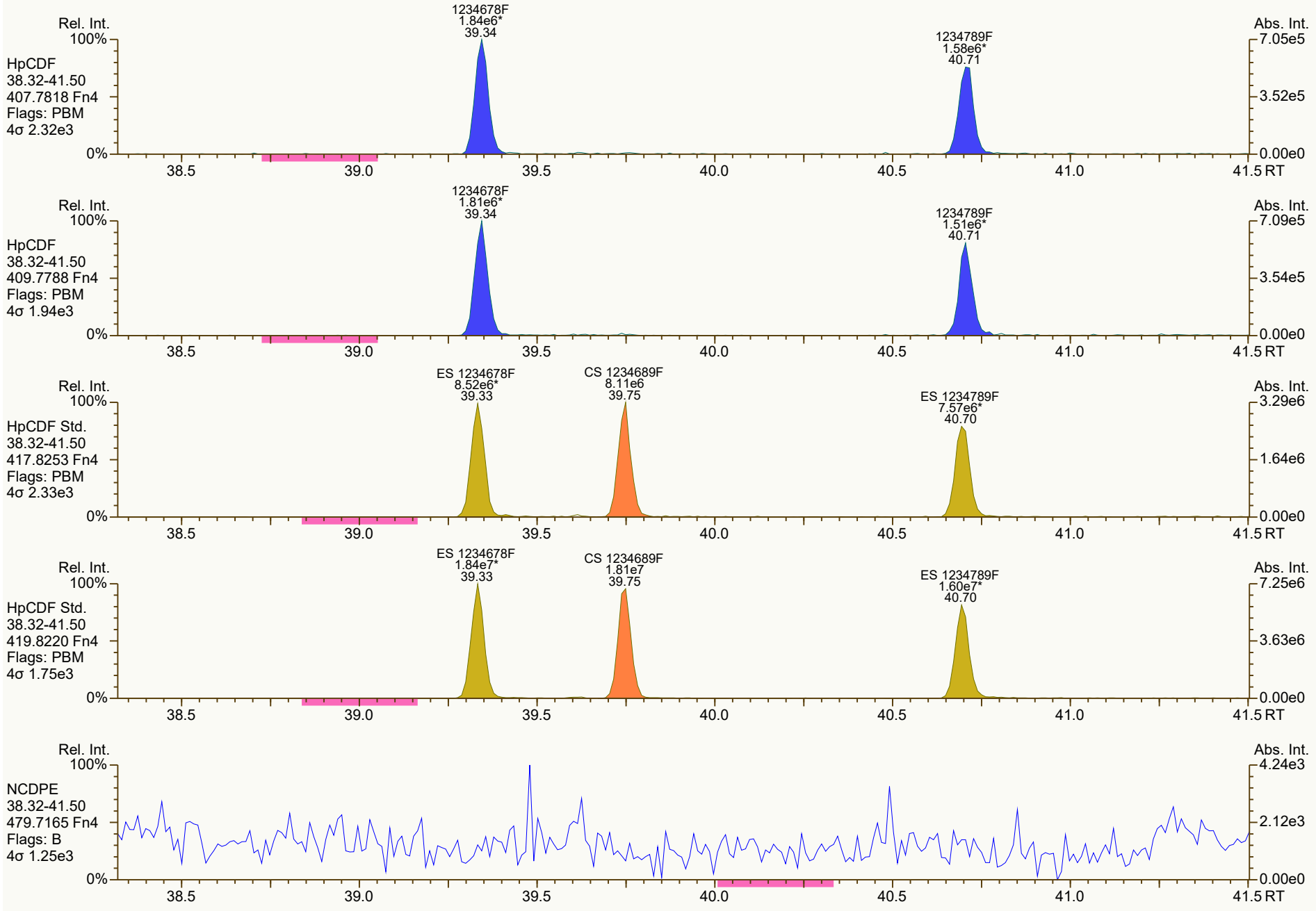

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

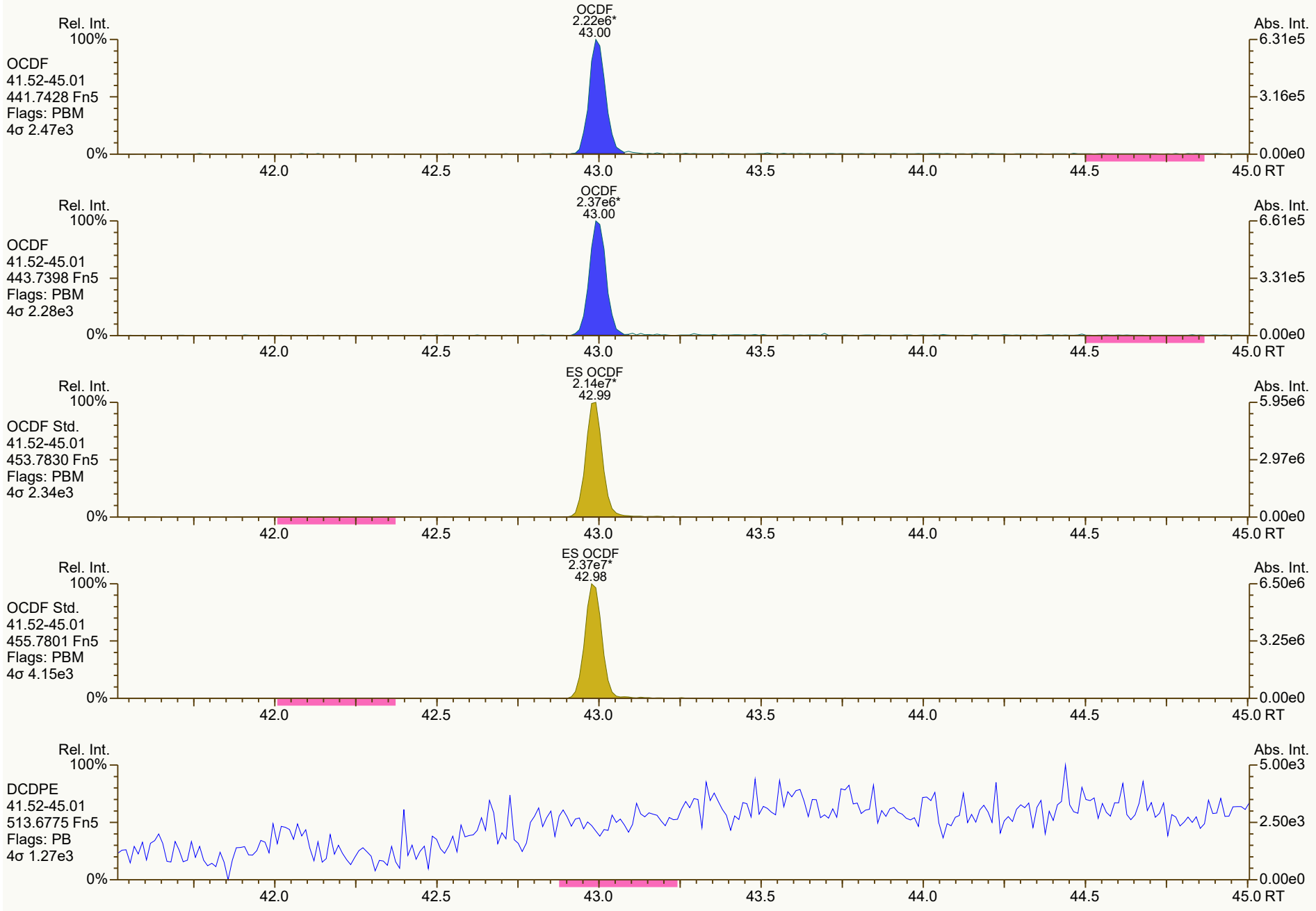

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

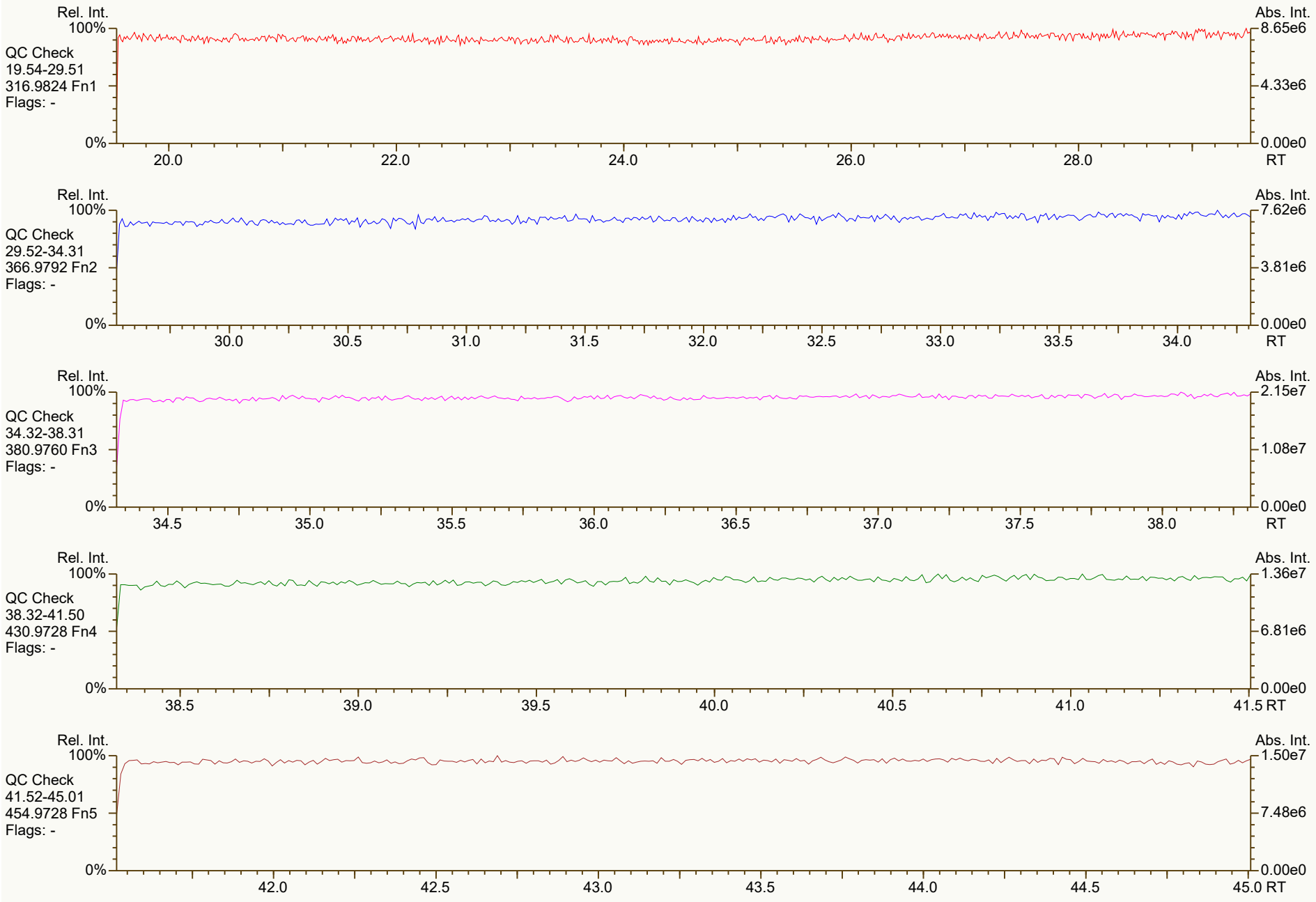

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

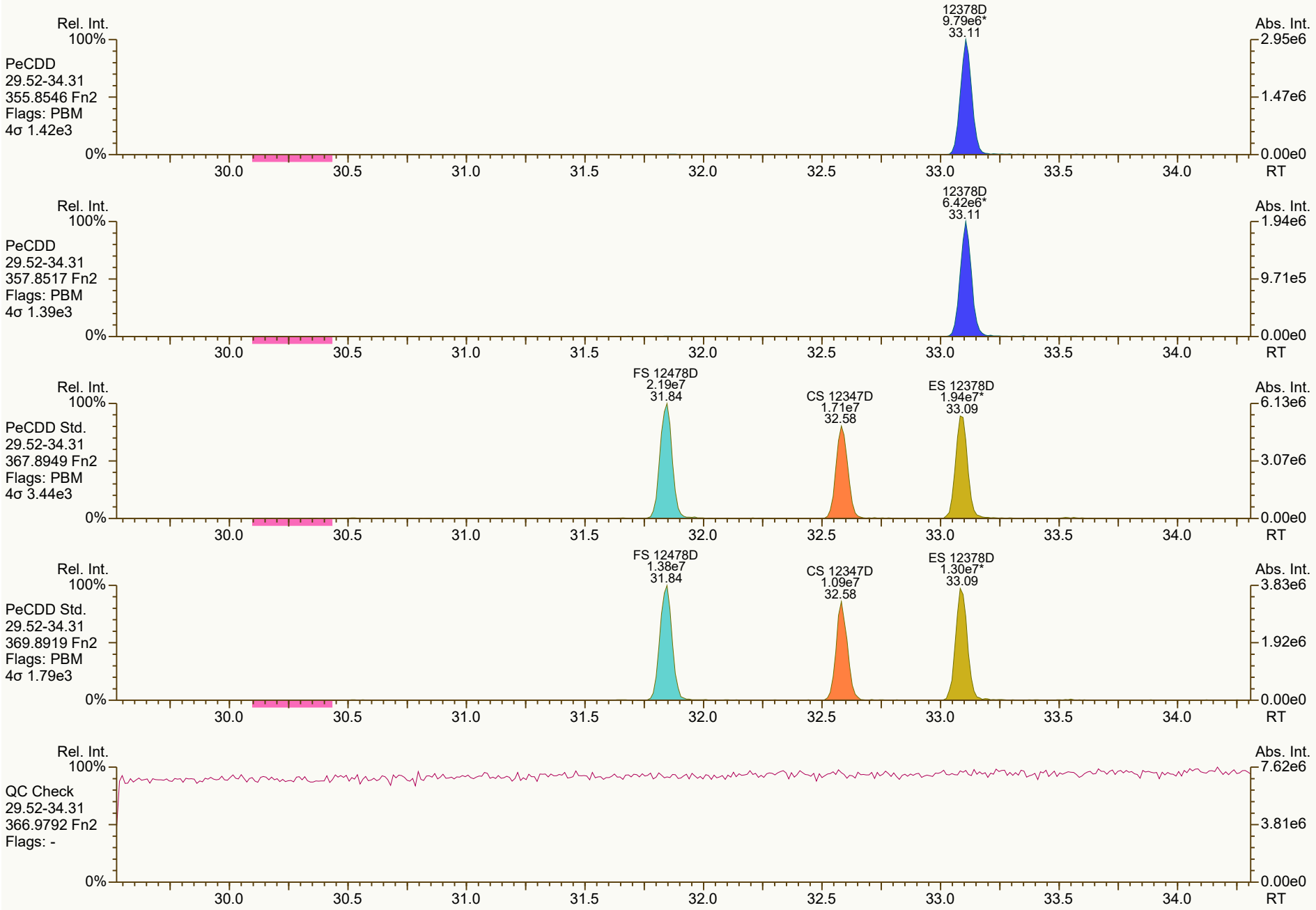
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

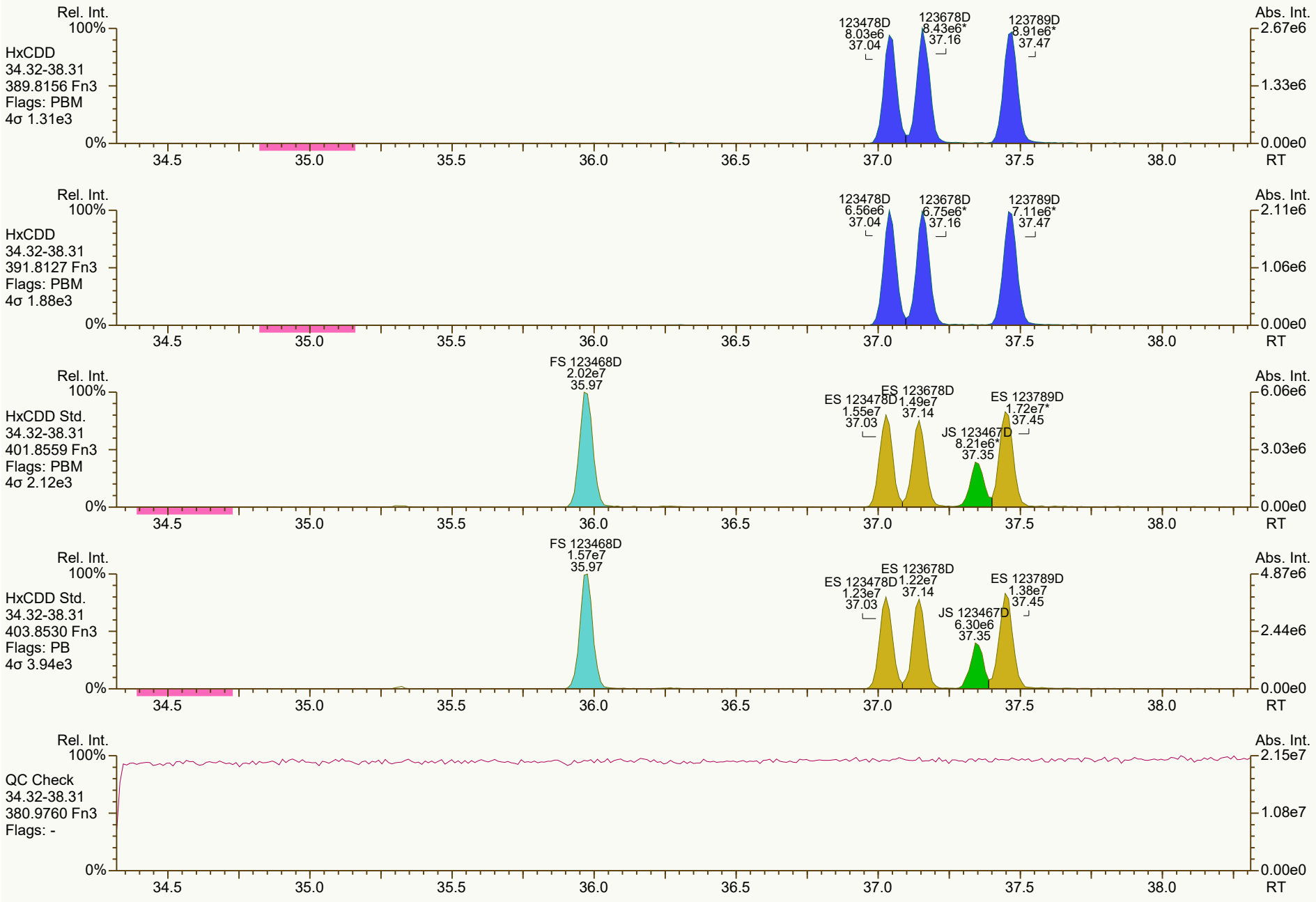
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

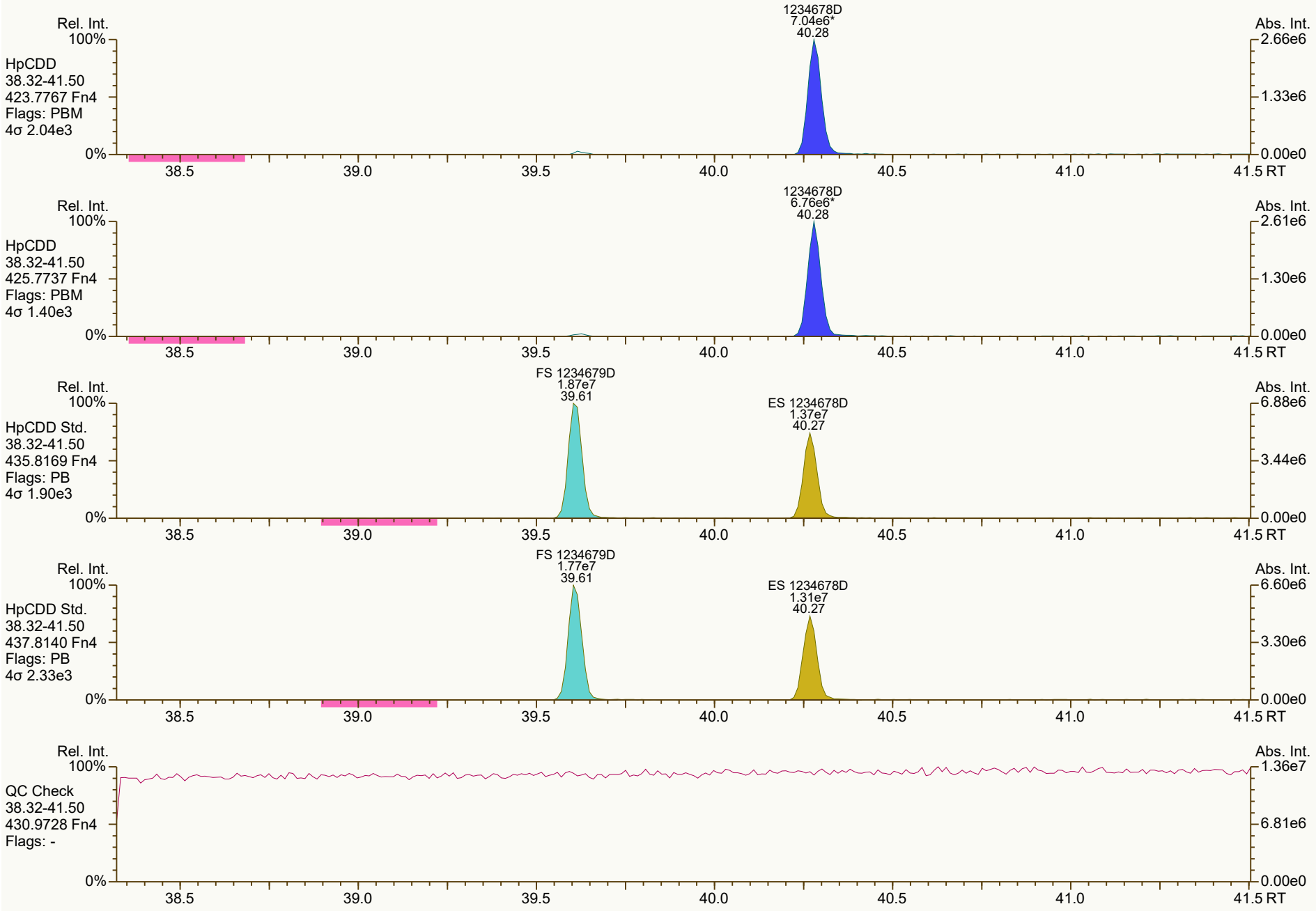
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

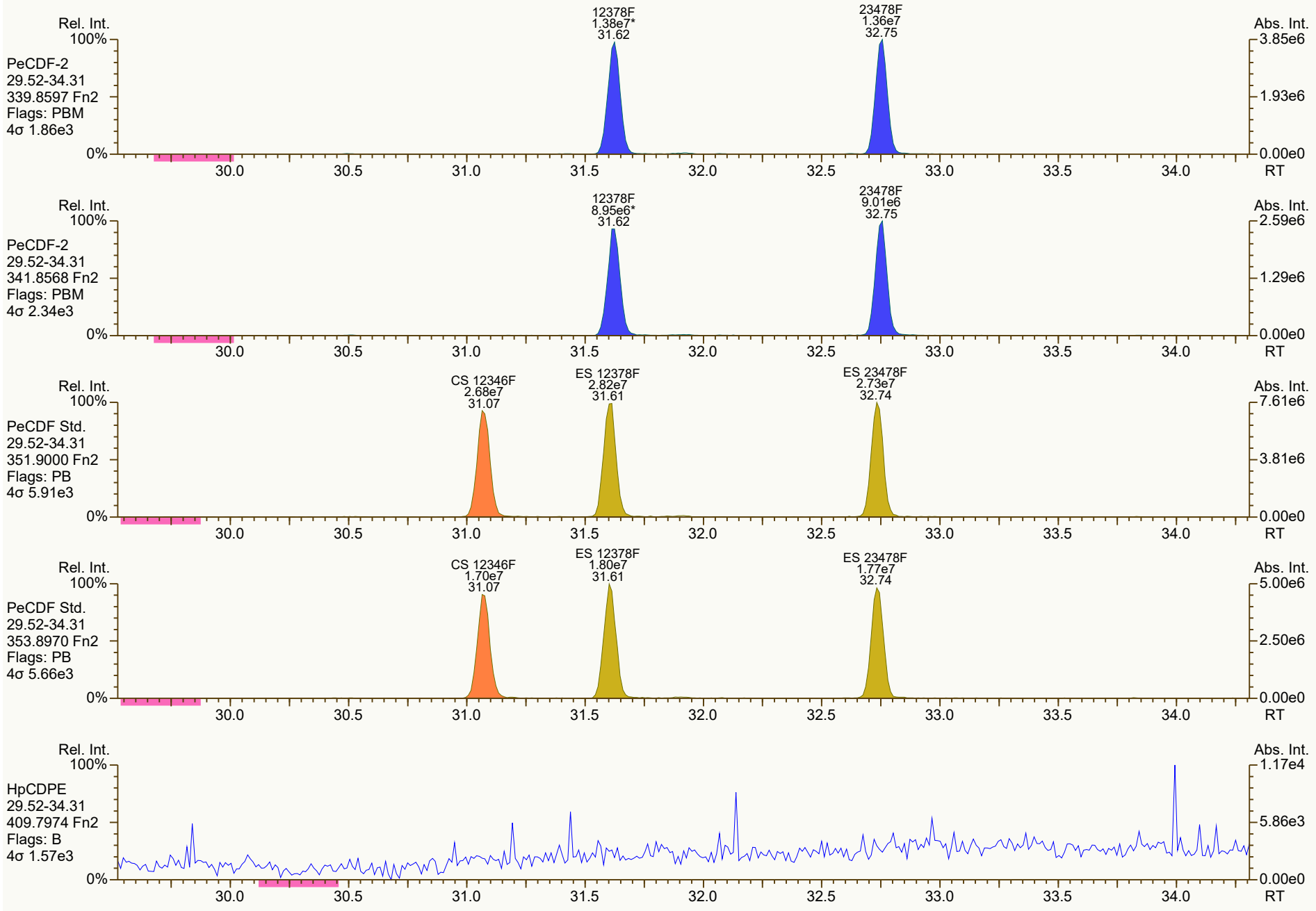

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
0%
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
0%
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
0%
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
0%
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

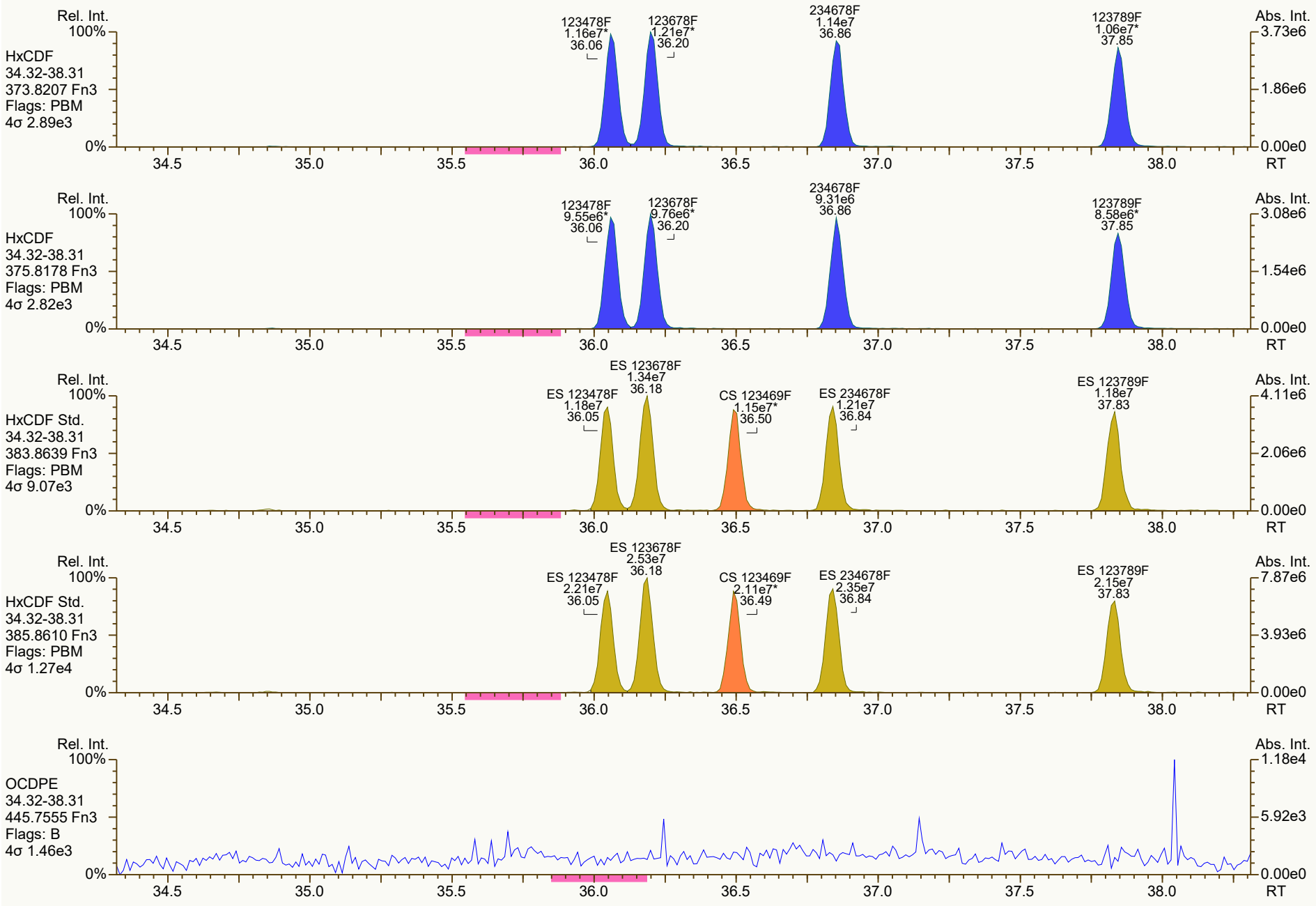

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

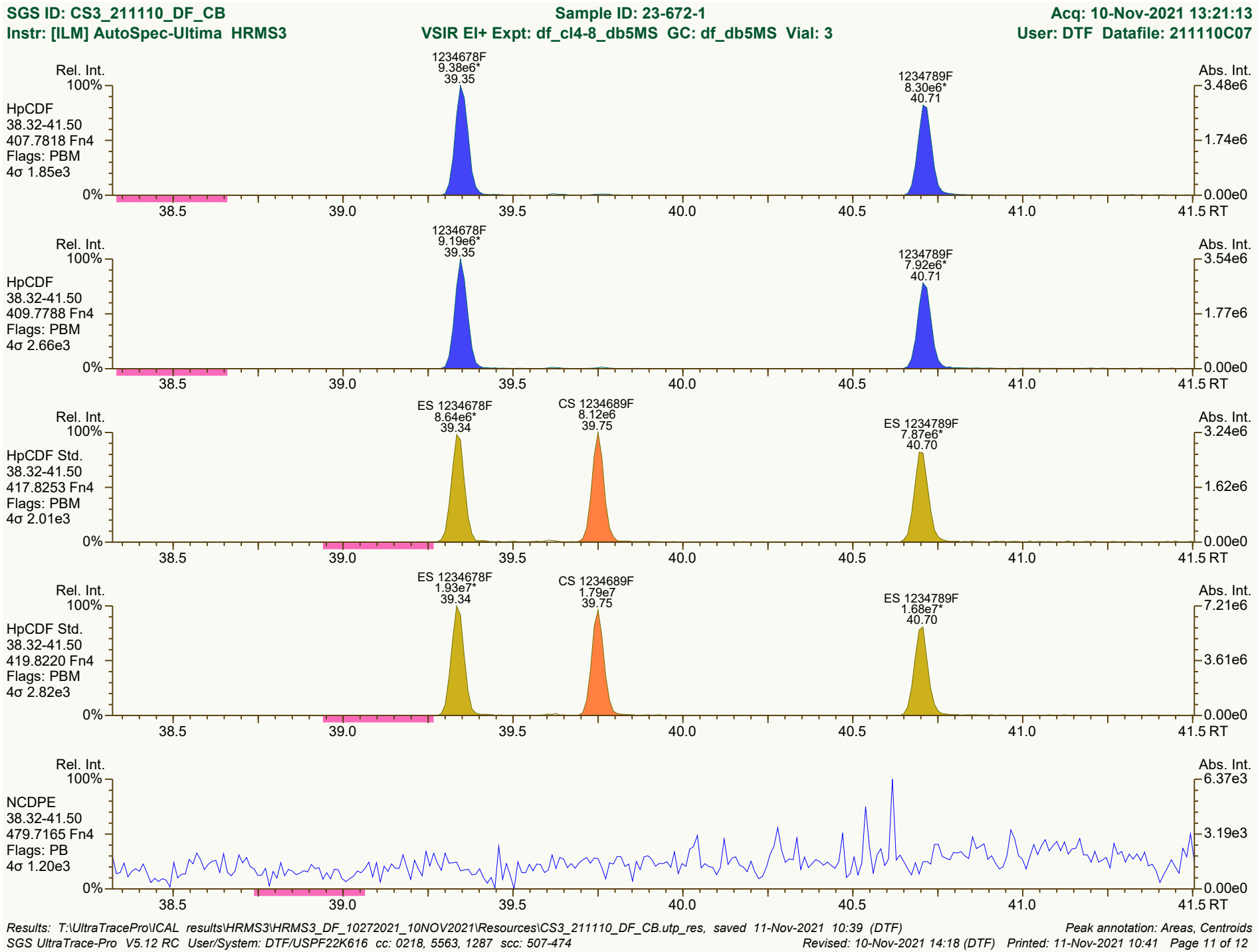

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
2.86e6
1.43e6
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
4.76e6
2.38e6
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
5.07e6
2.54e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
3.85e6
1.93e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
2.59e6
1.29e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
7.61e6
3.81e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
5.00e6
2.50e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
1.17e4
5.86e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123678F
1.34e7
36.18
ES 123478F
1.18e7
36.05
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123678F
2.53e7
36.18
ES 123478F
2.21e7
36.05
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

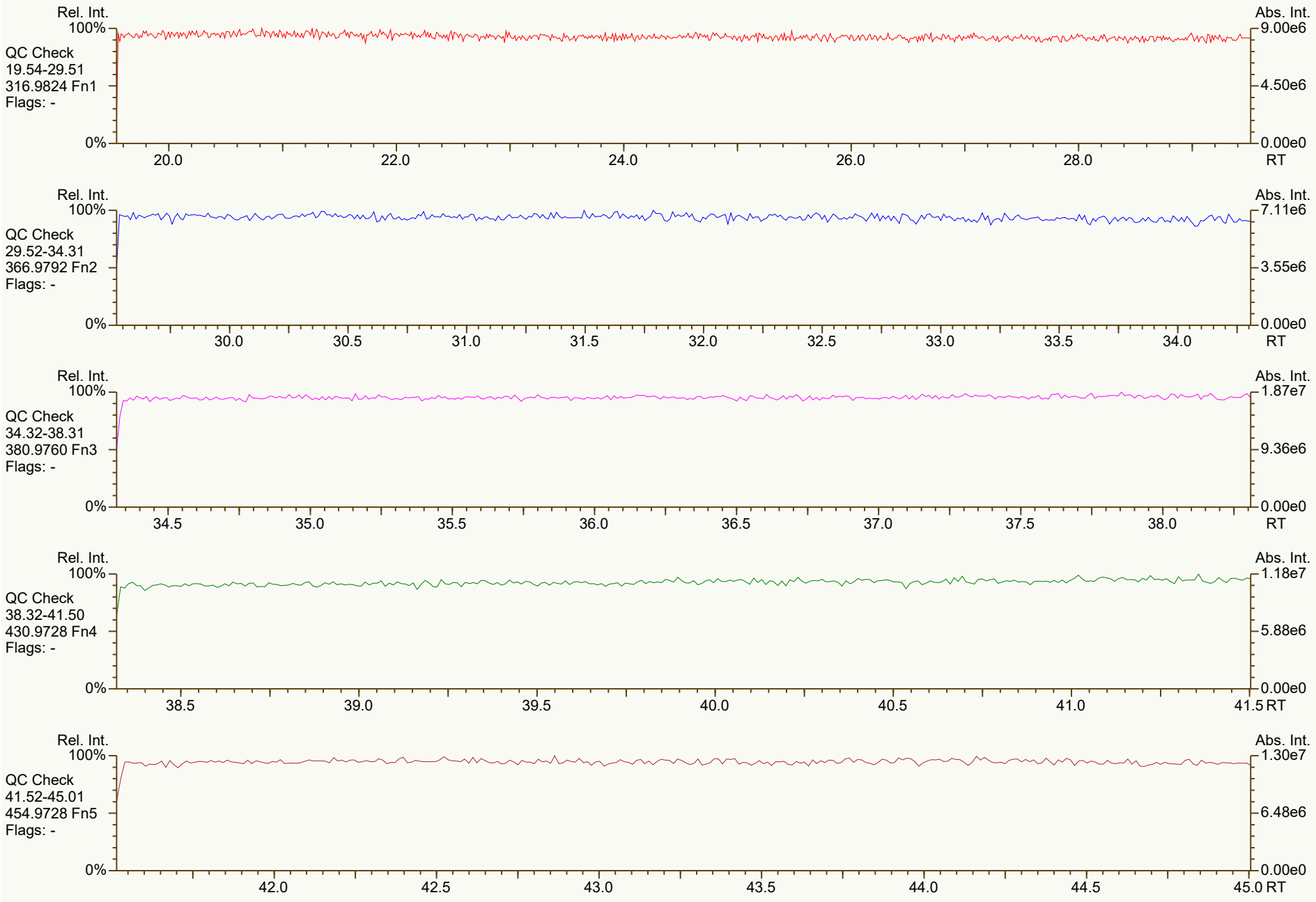

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

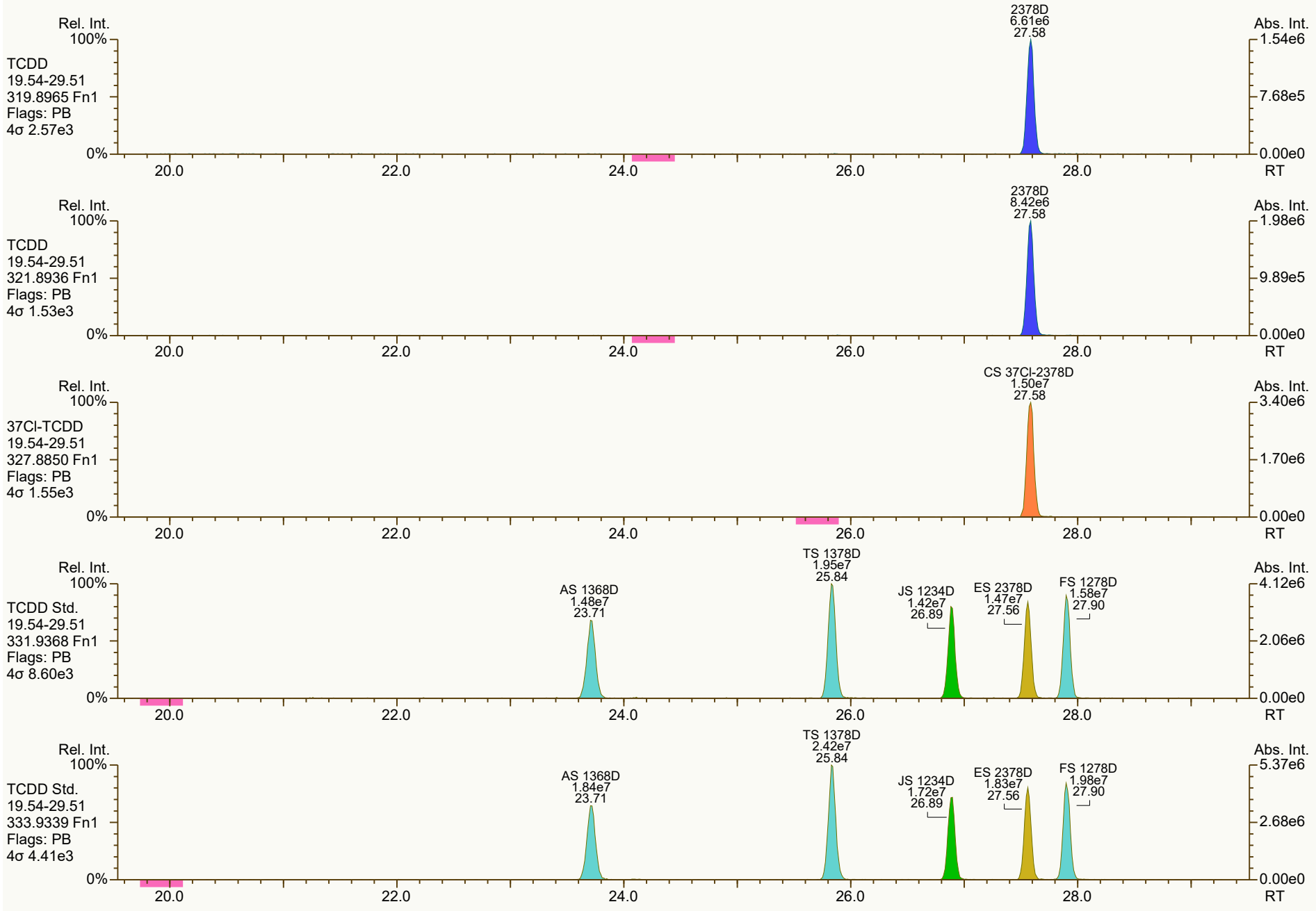
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

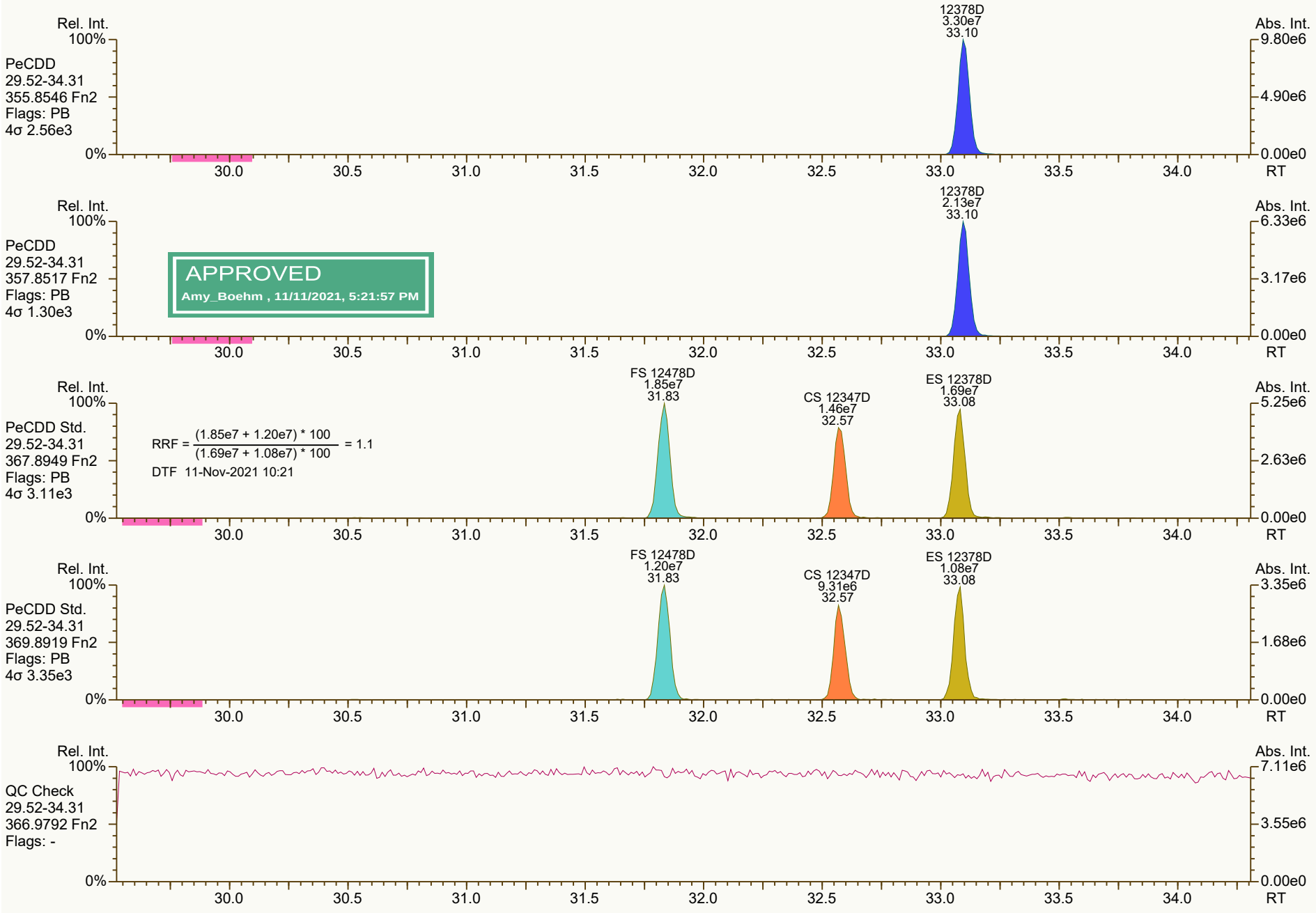
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

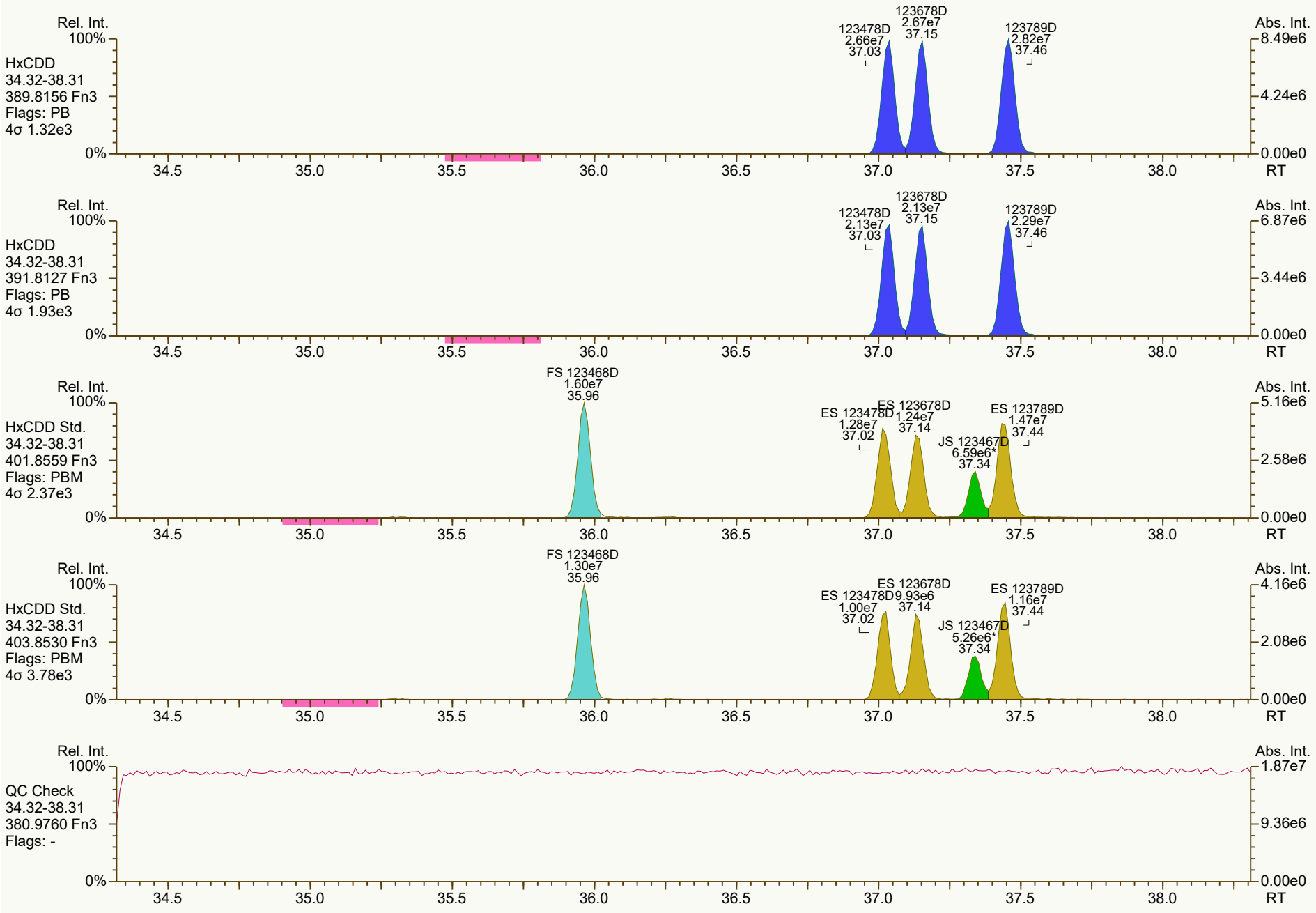
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

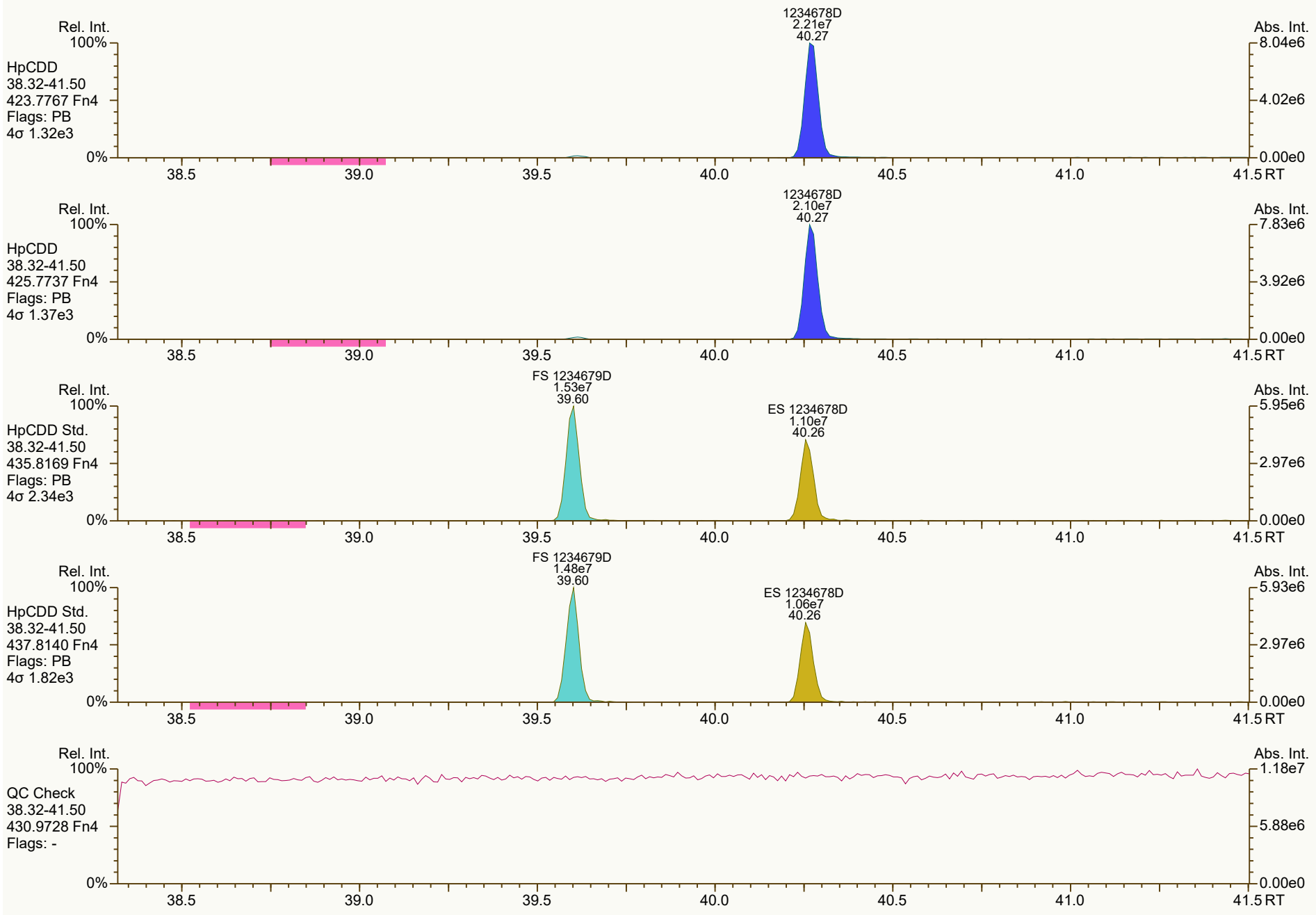
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

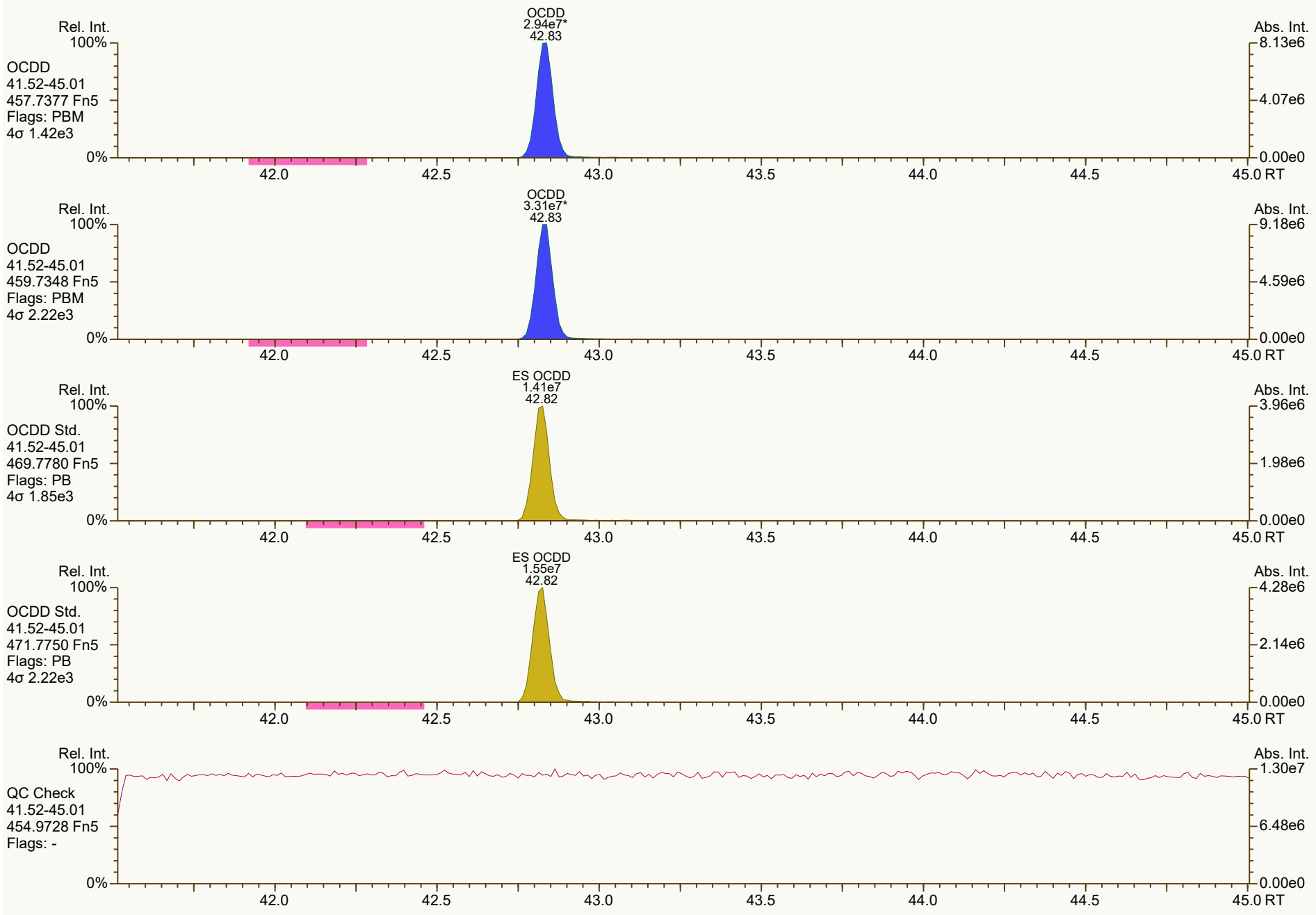

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

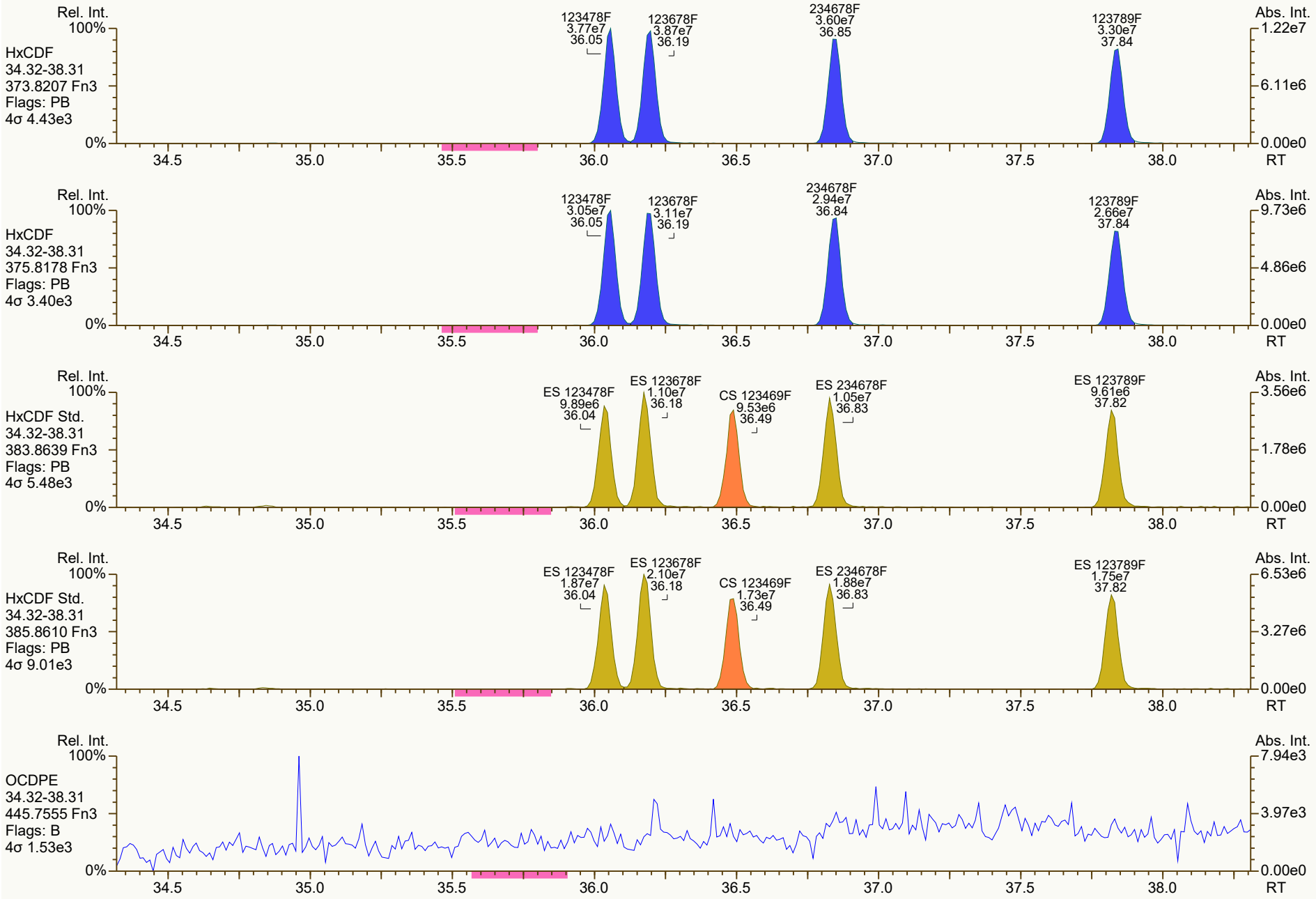

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

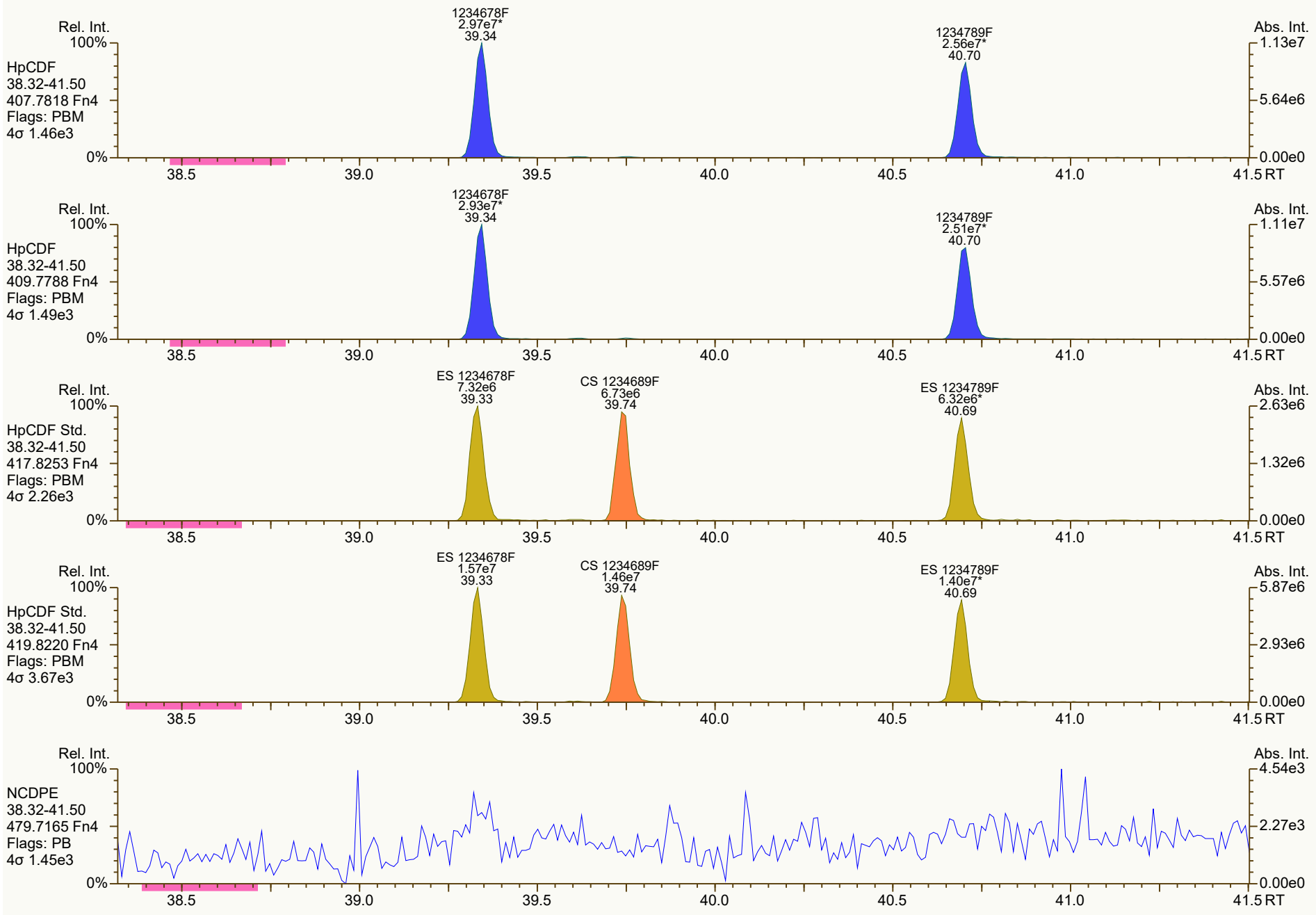

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

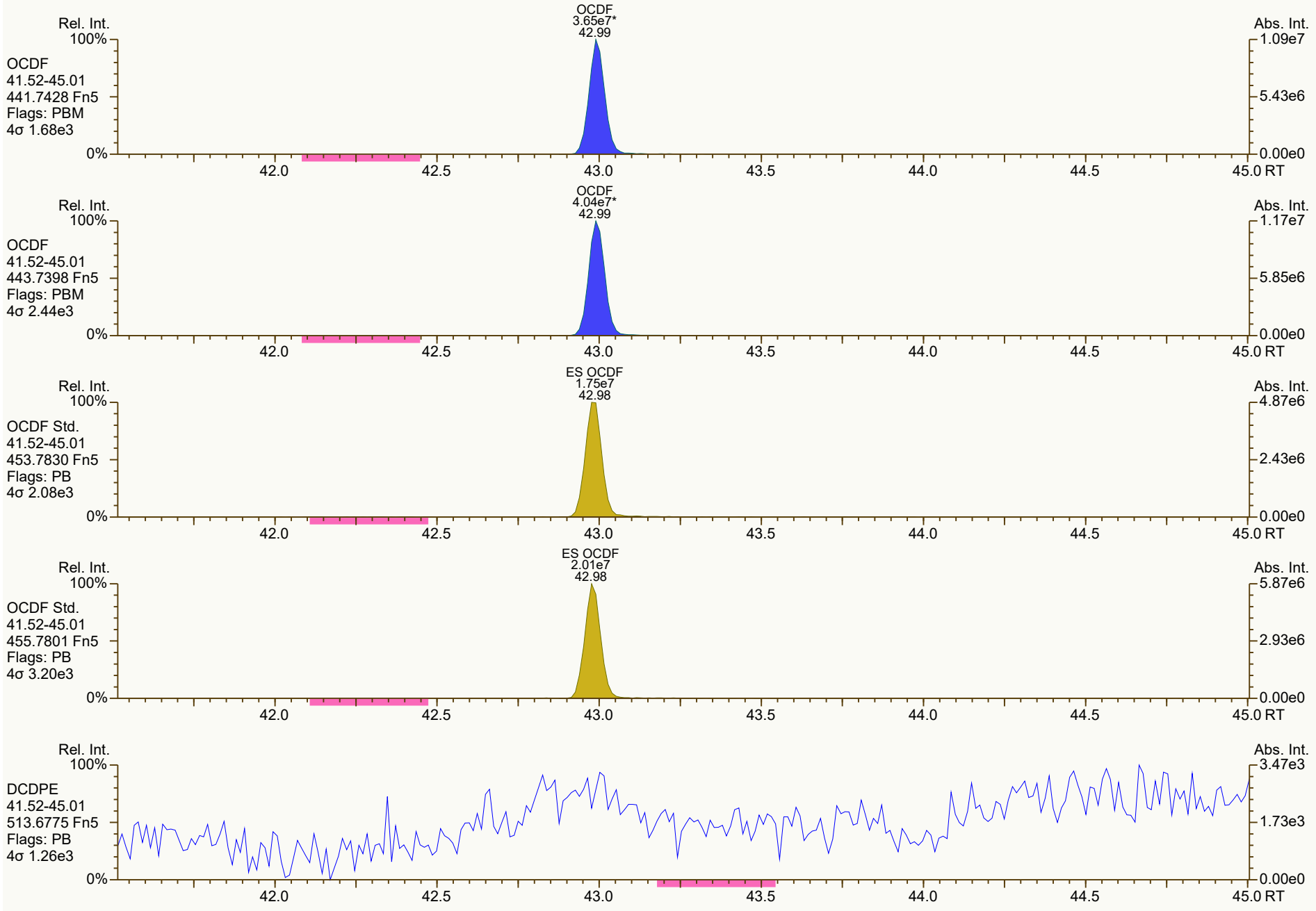

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

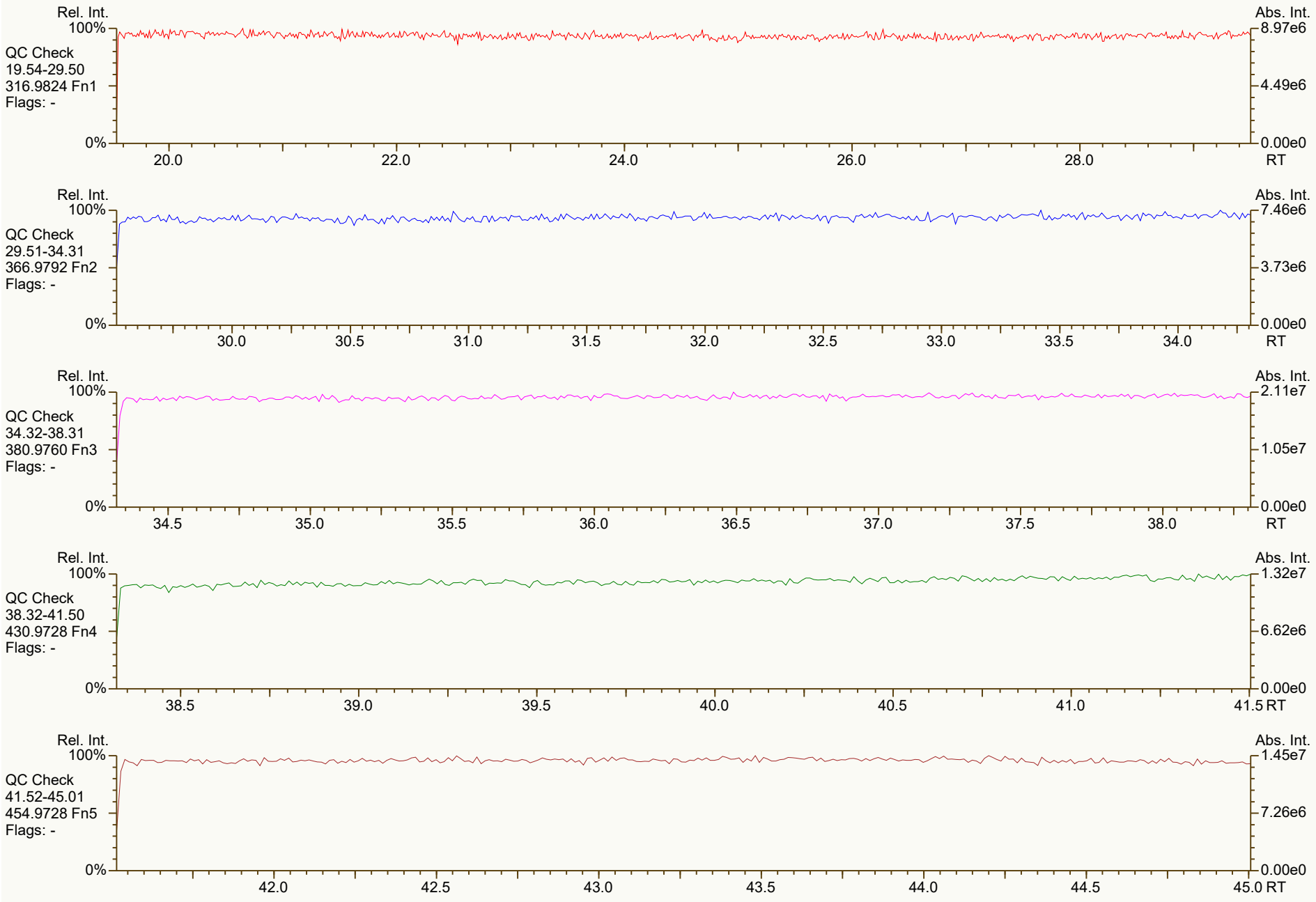

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

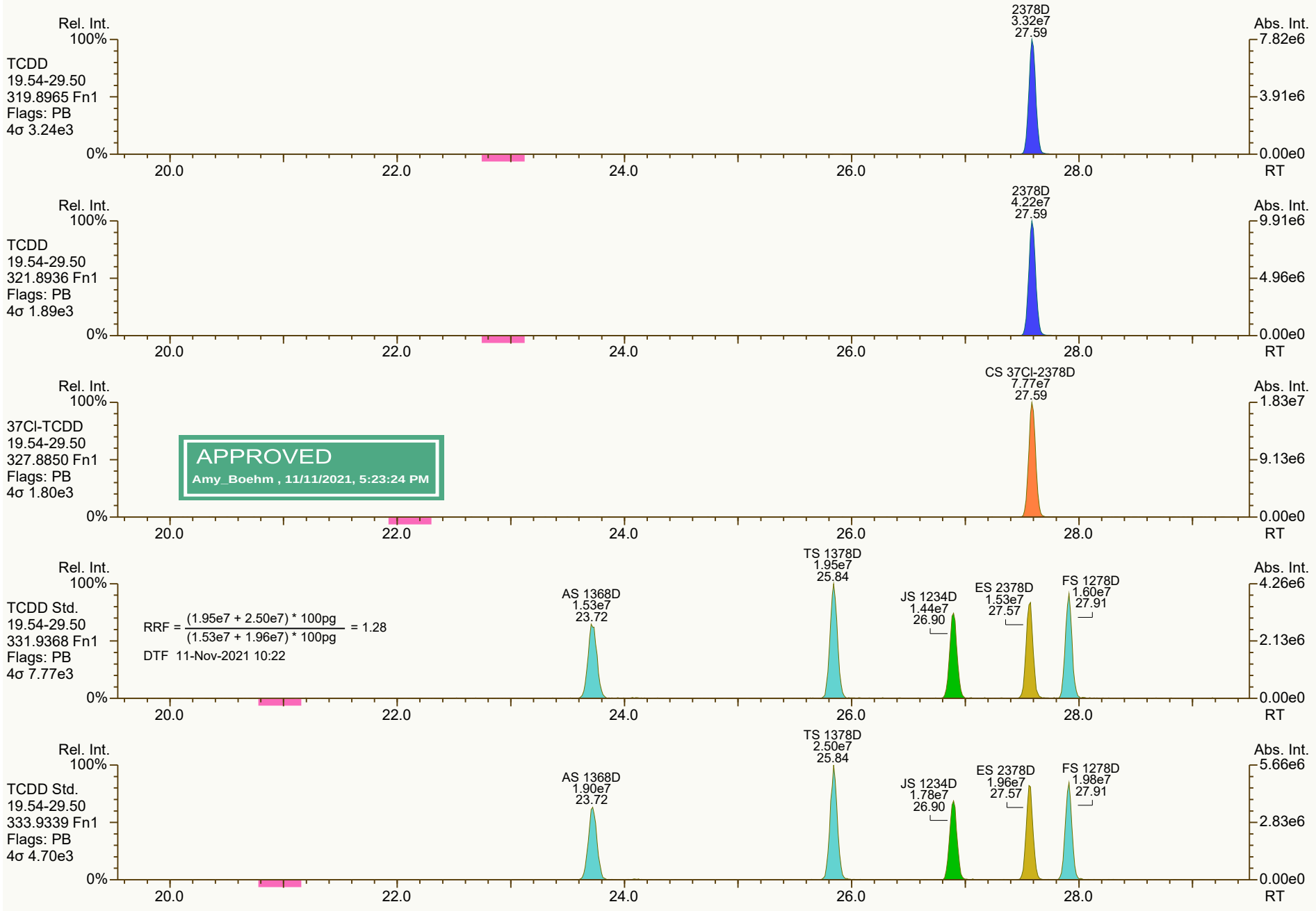
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

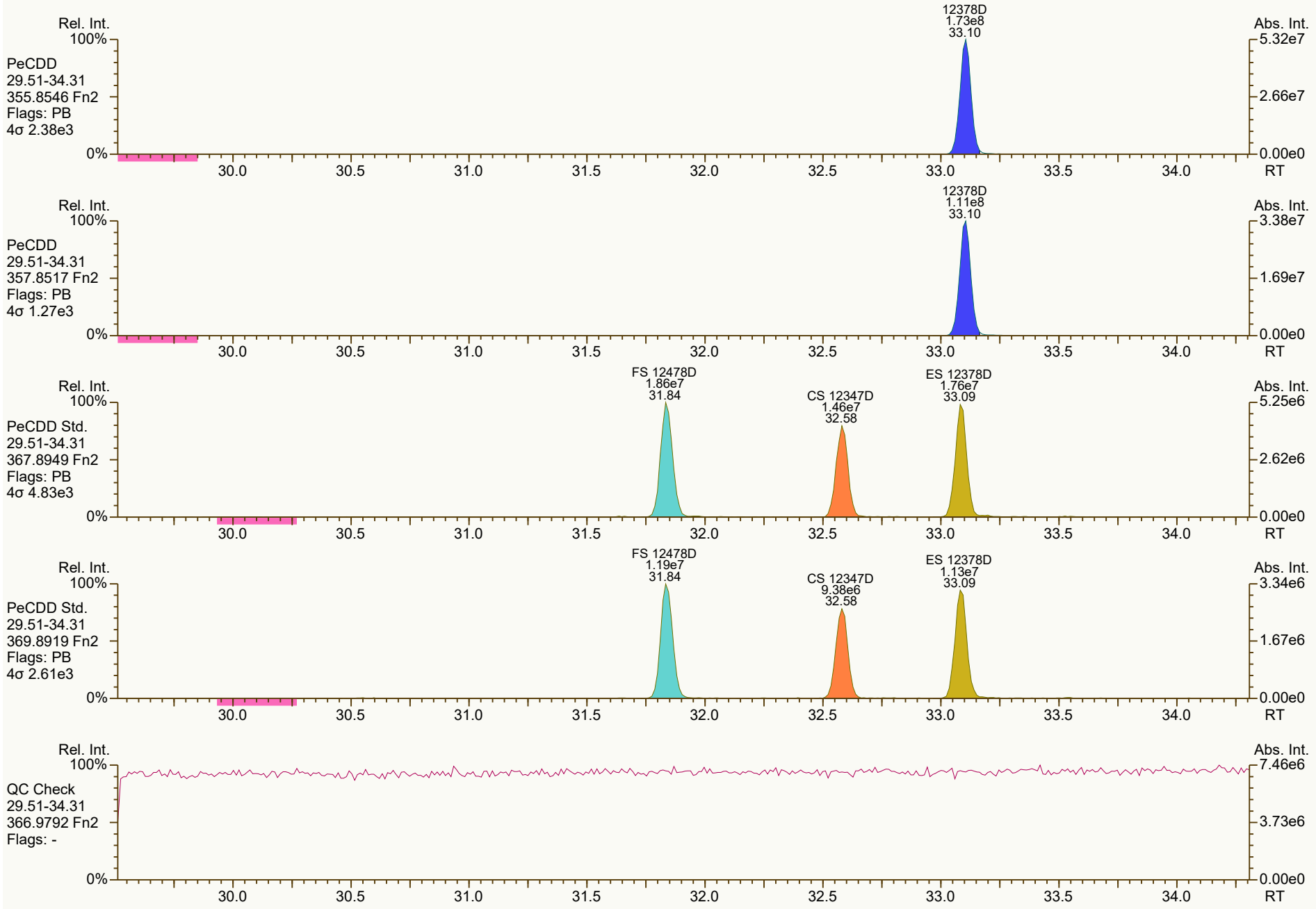
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

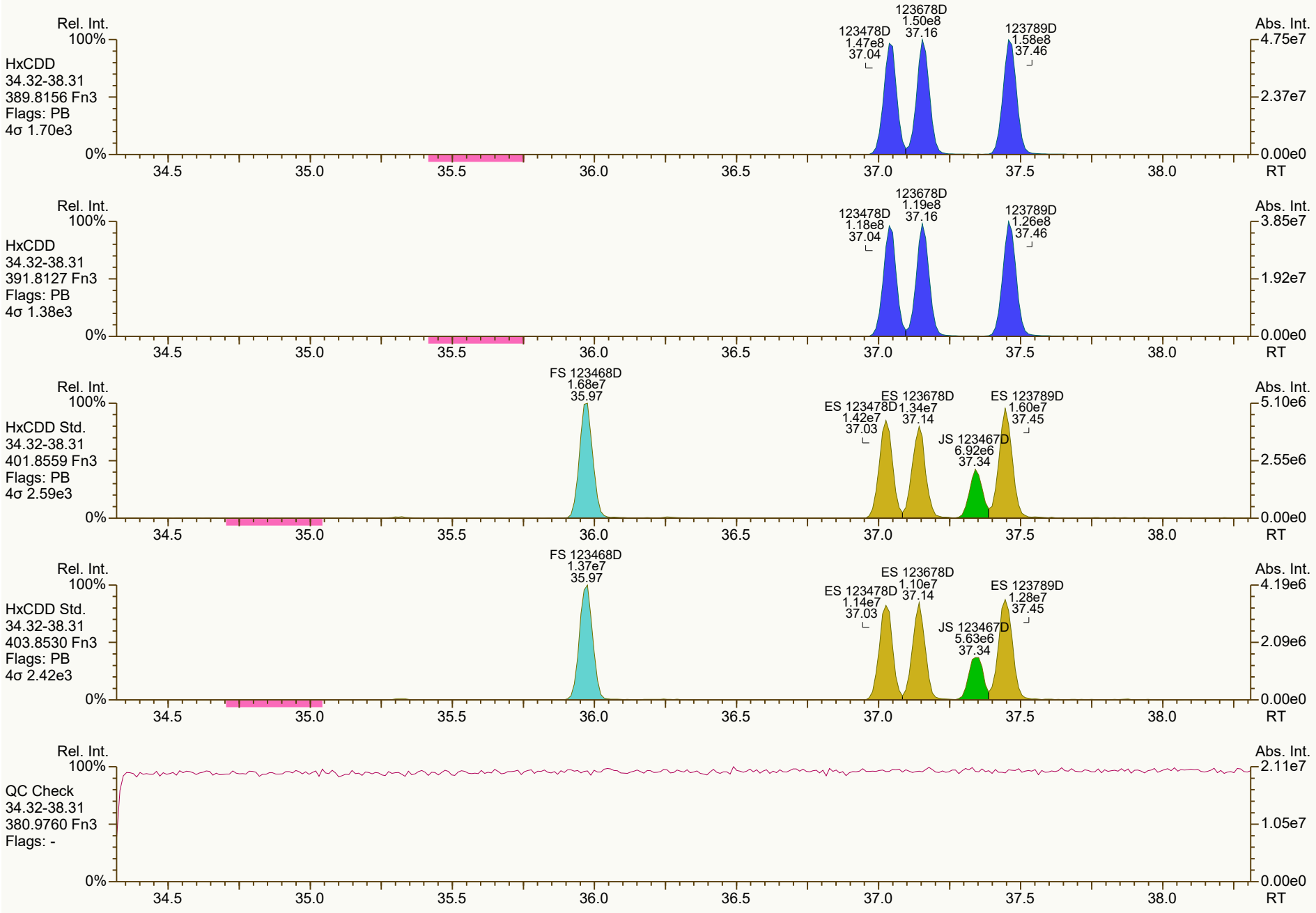
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

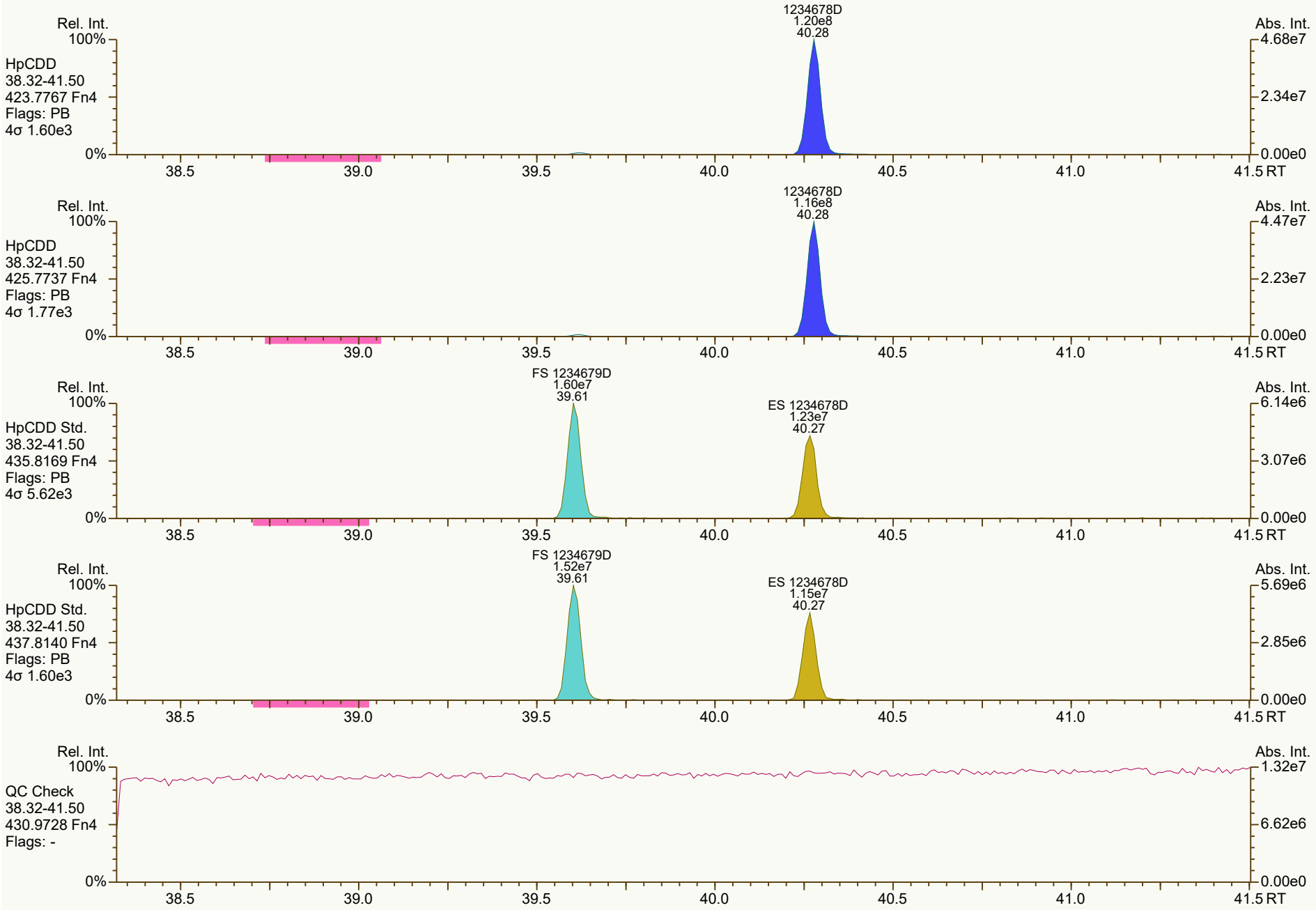
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

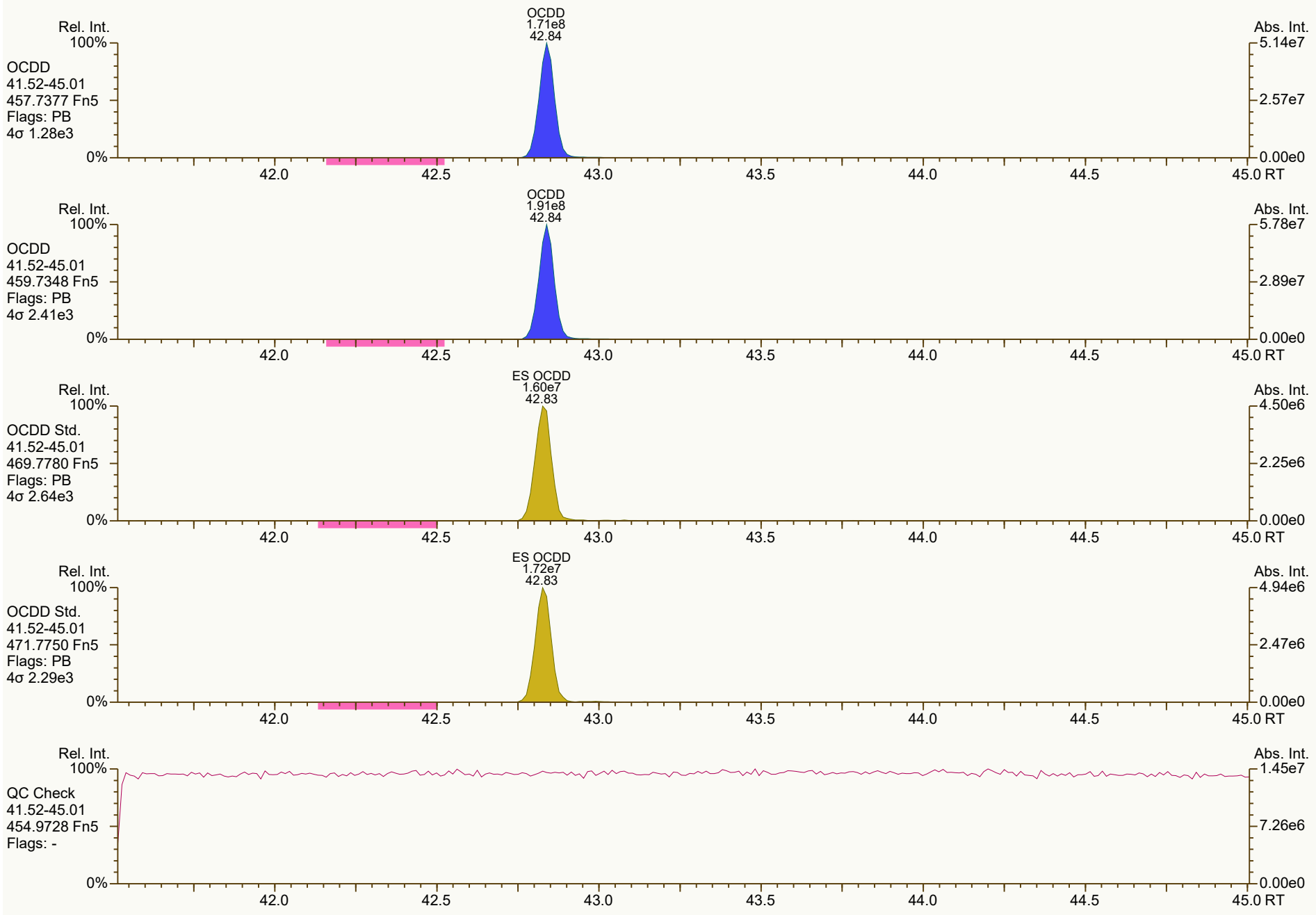

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

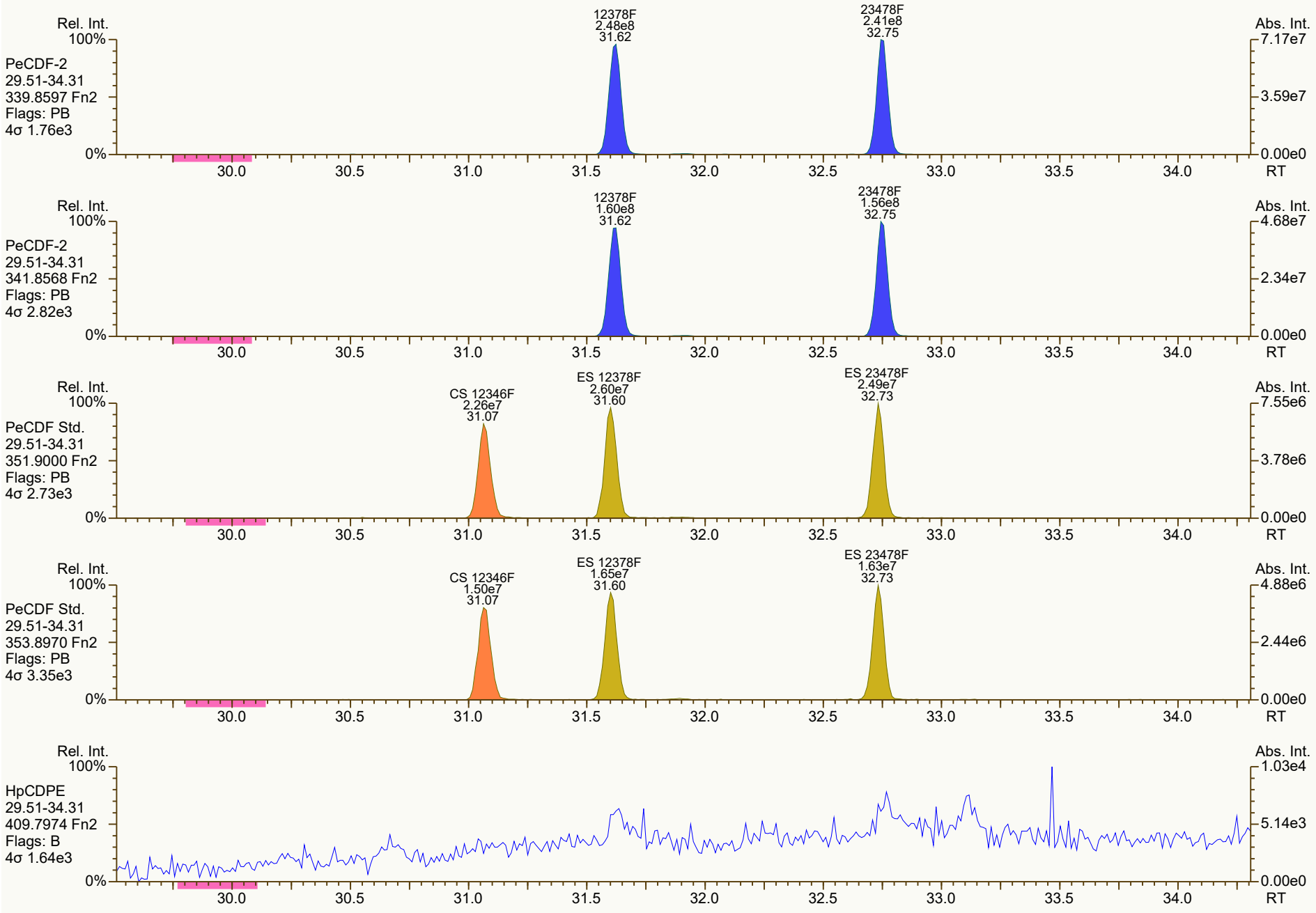

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

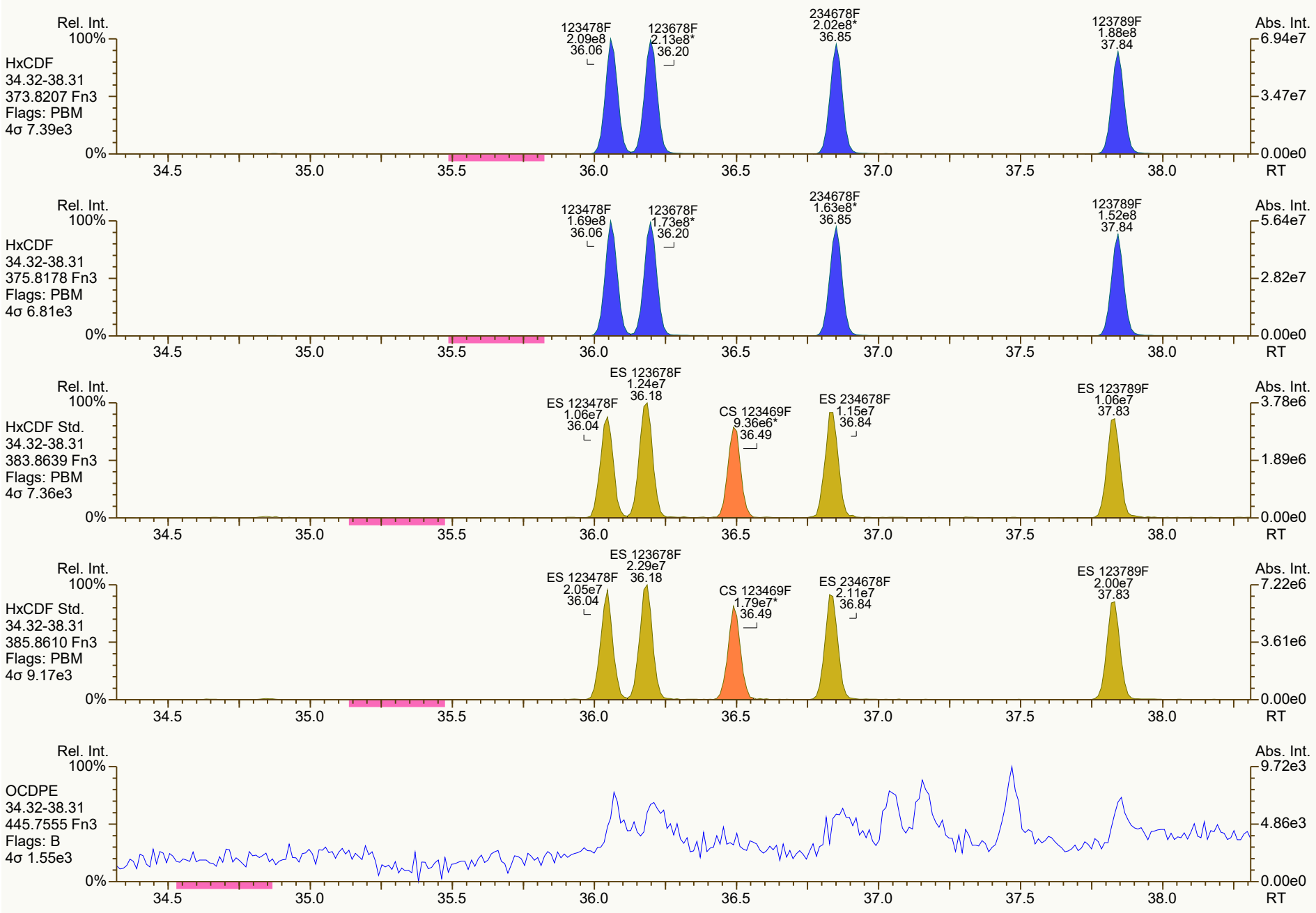

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

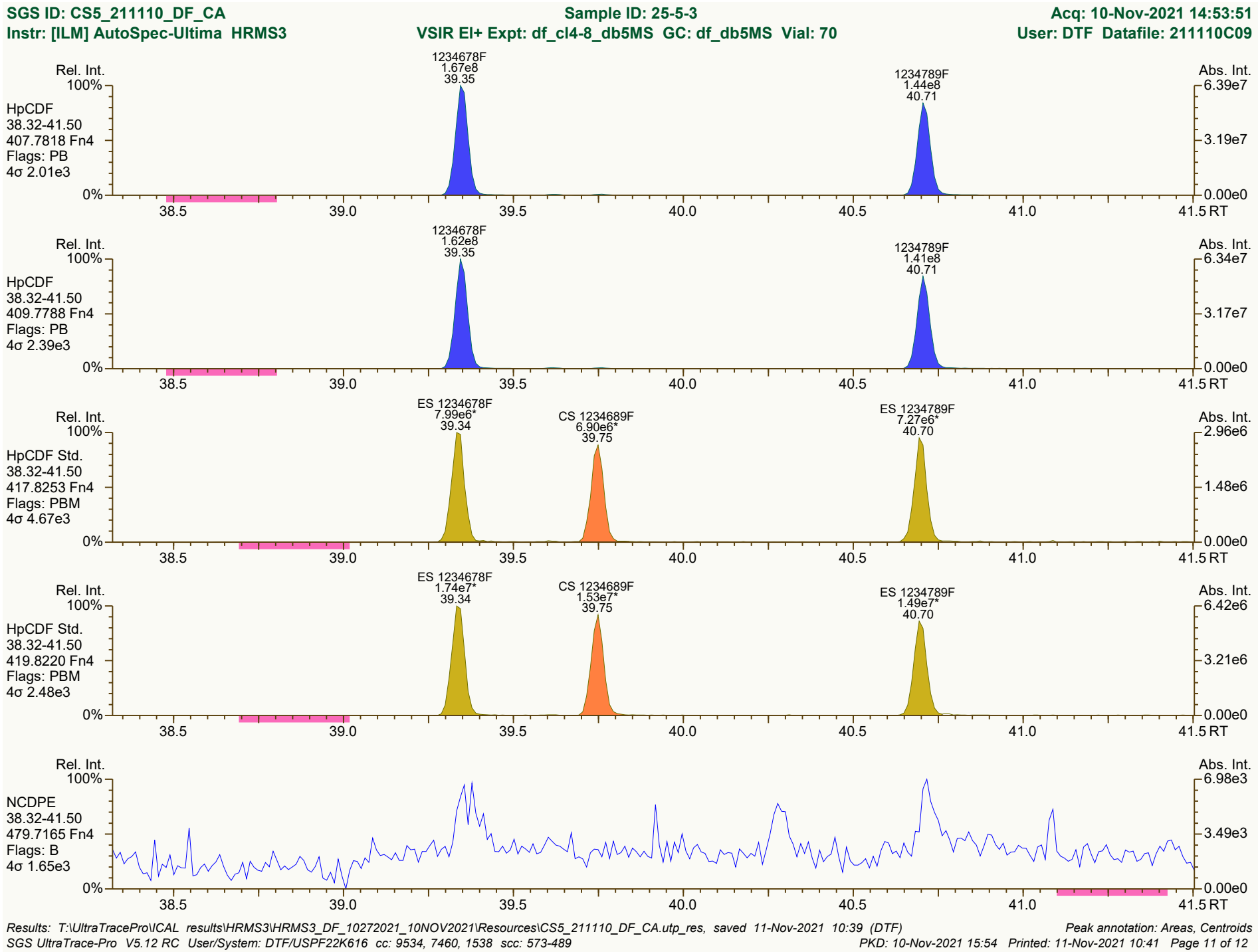

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

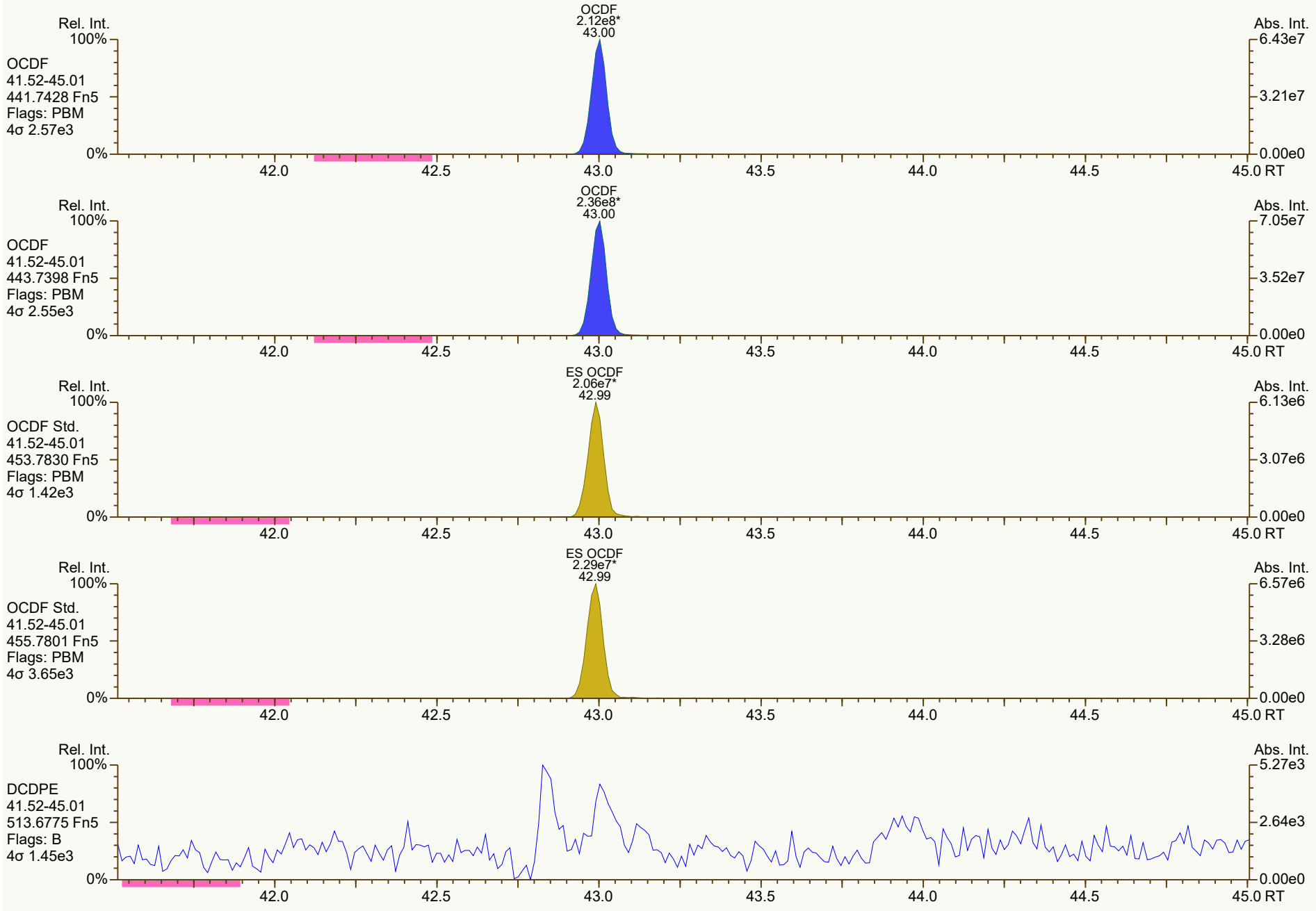

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

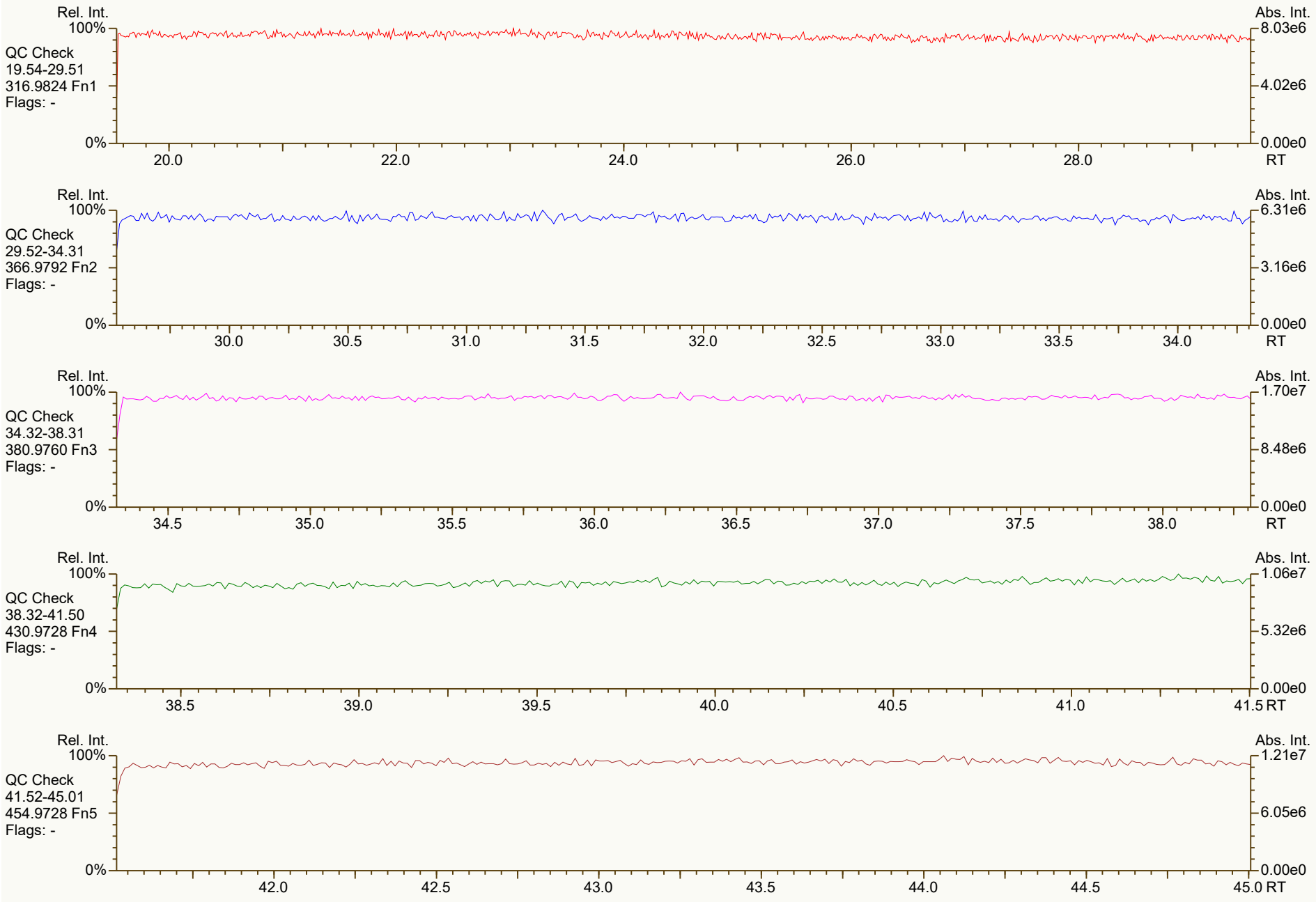

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

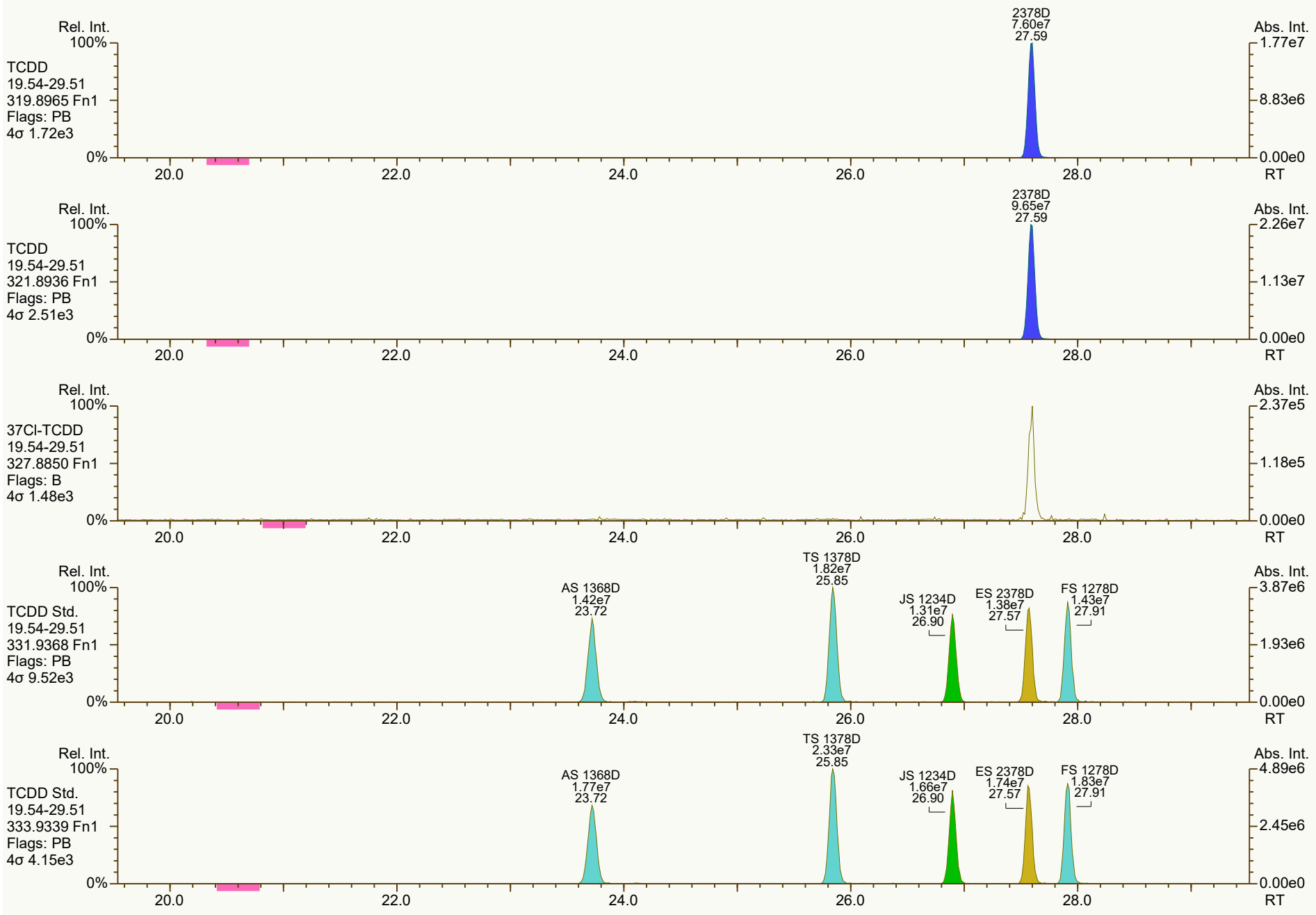
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

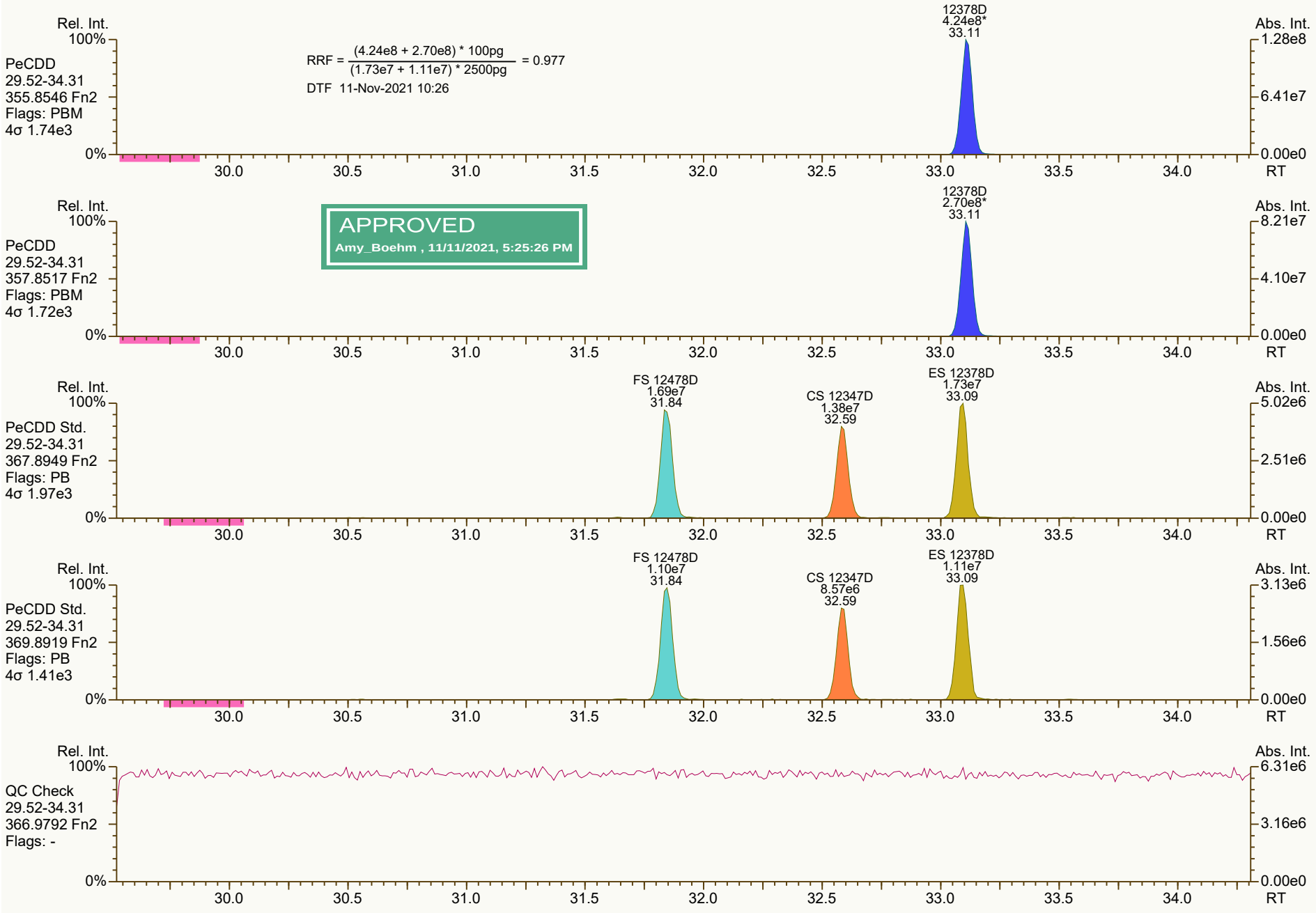
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

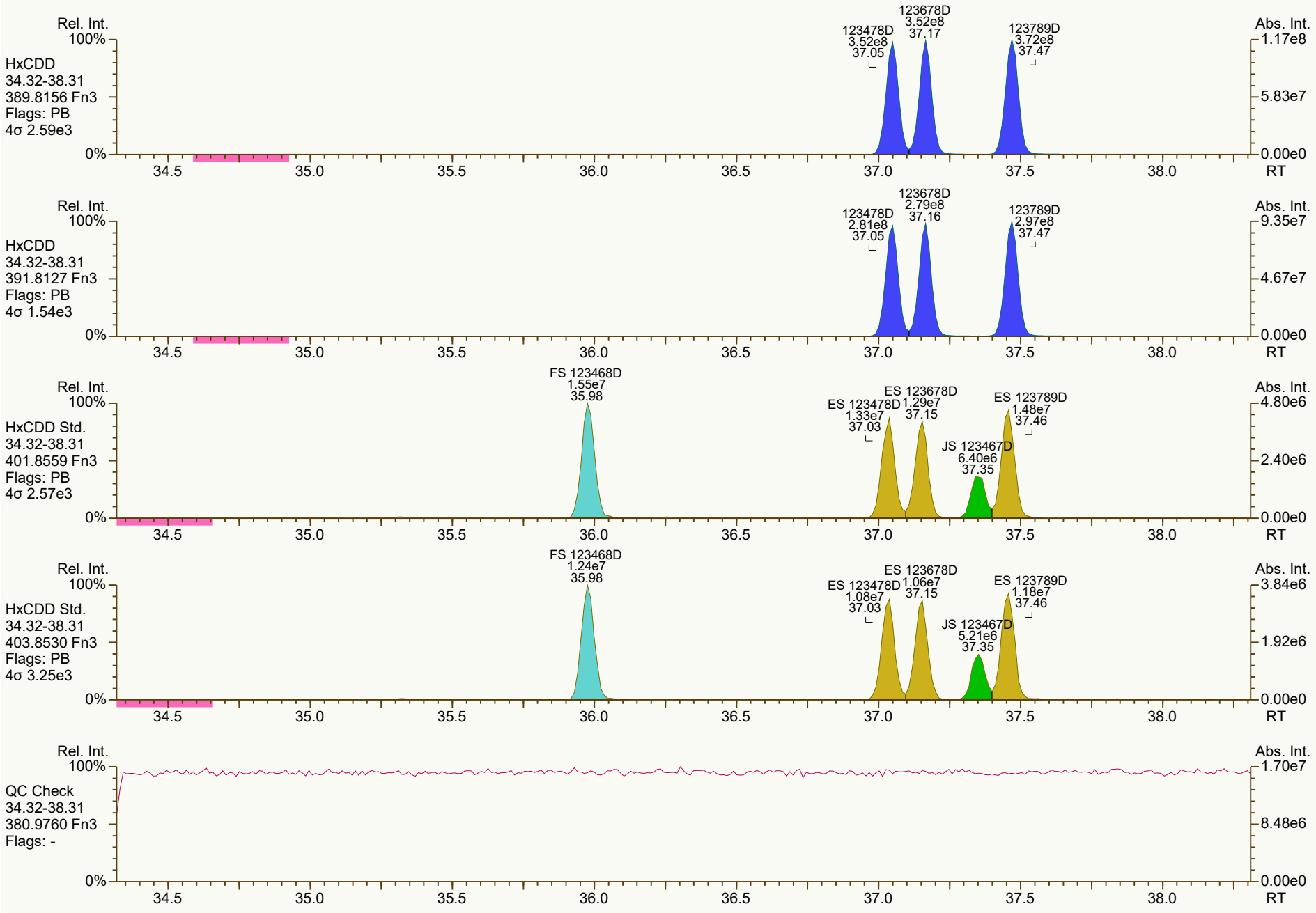
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

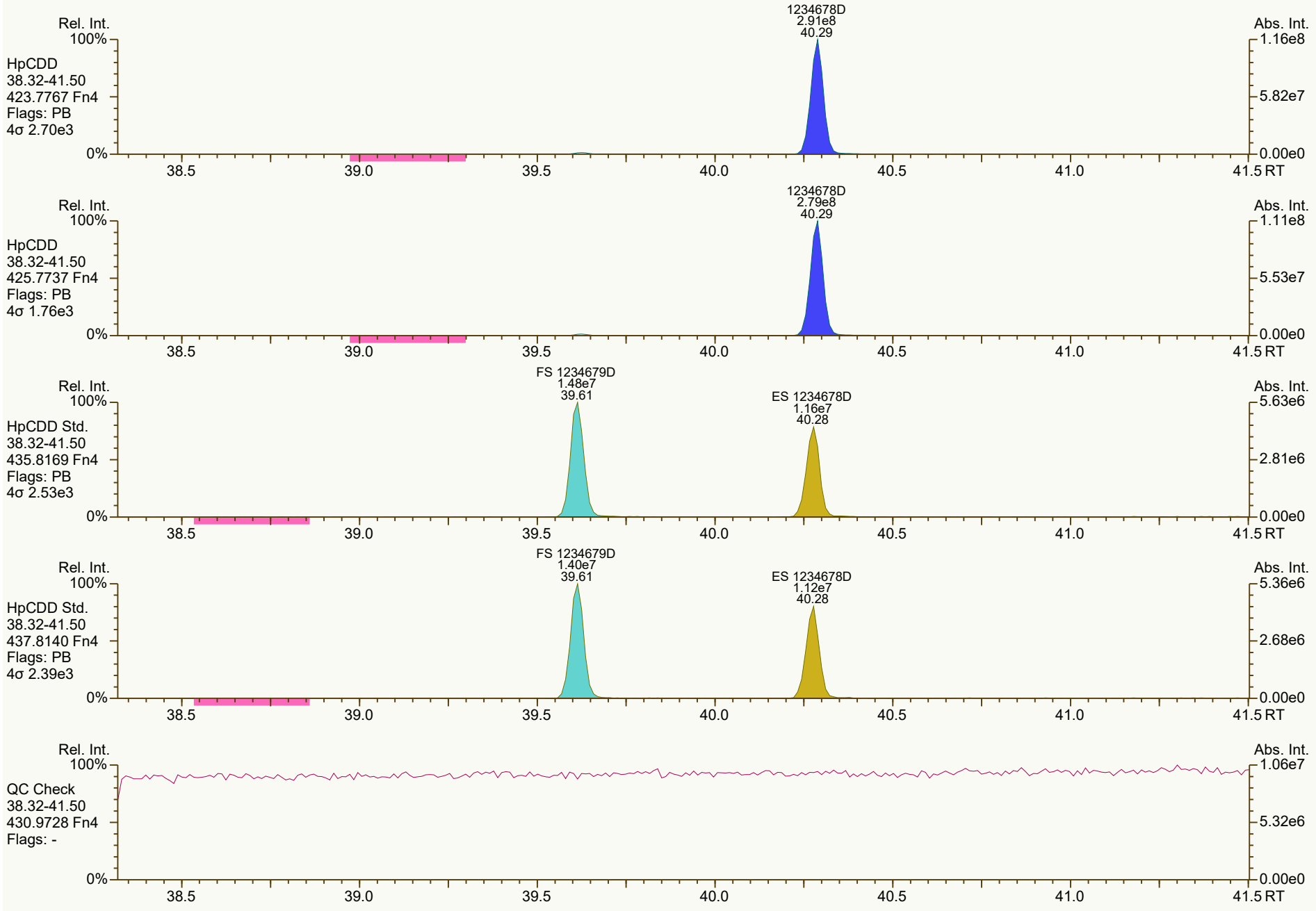
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

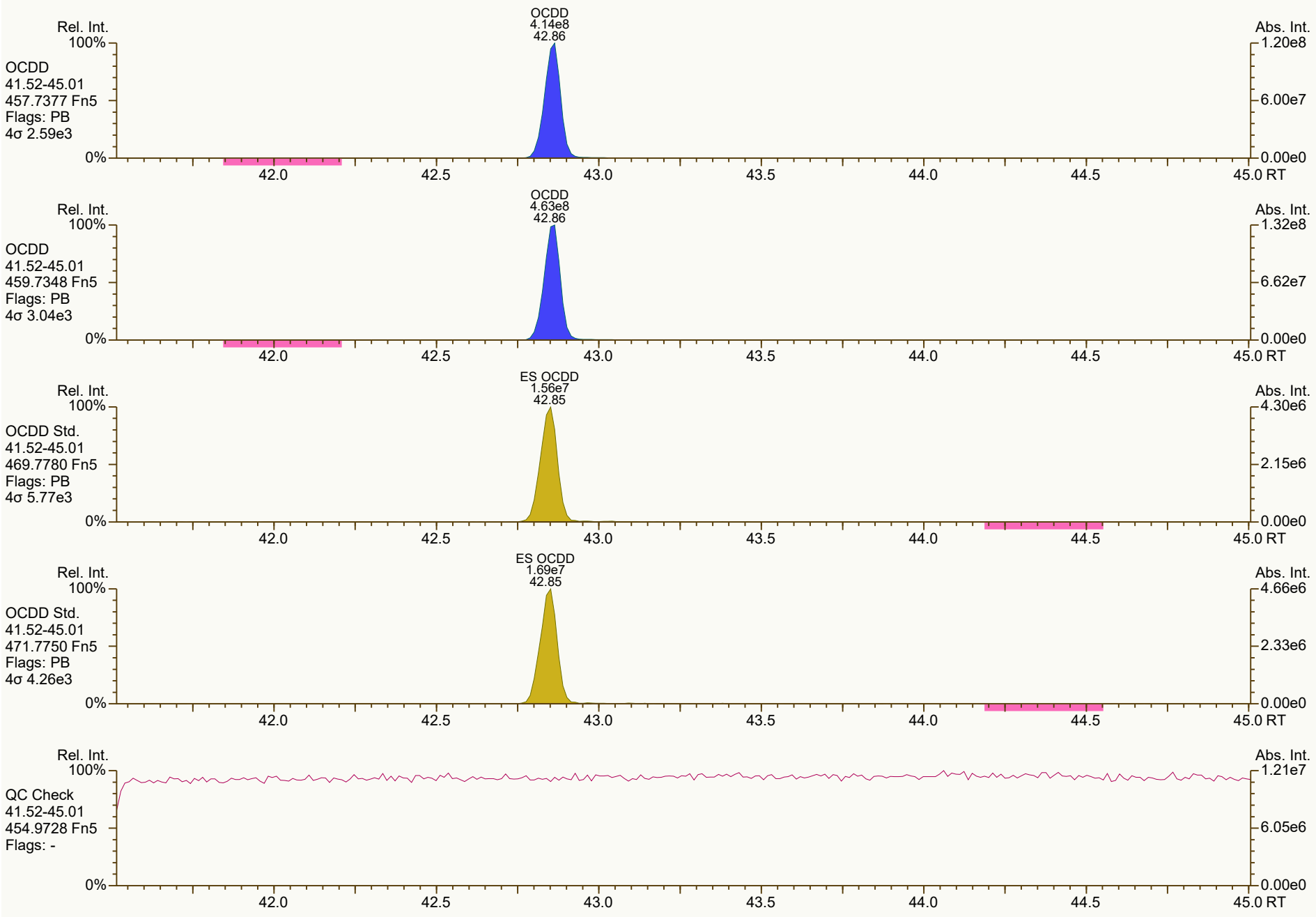

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.03e6
4.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
6.31e6
3.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.70e7
8.48e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.06e7
5.32e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.21e7
6.05e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

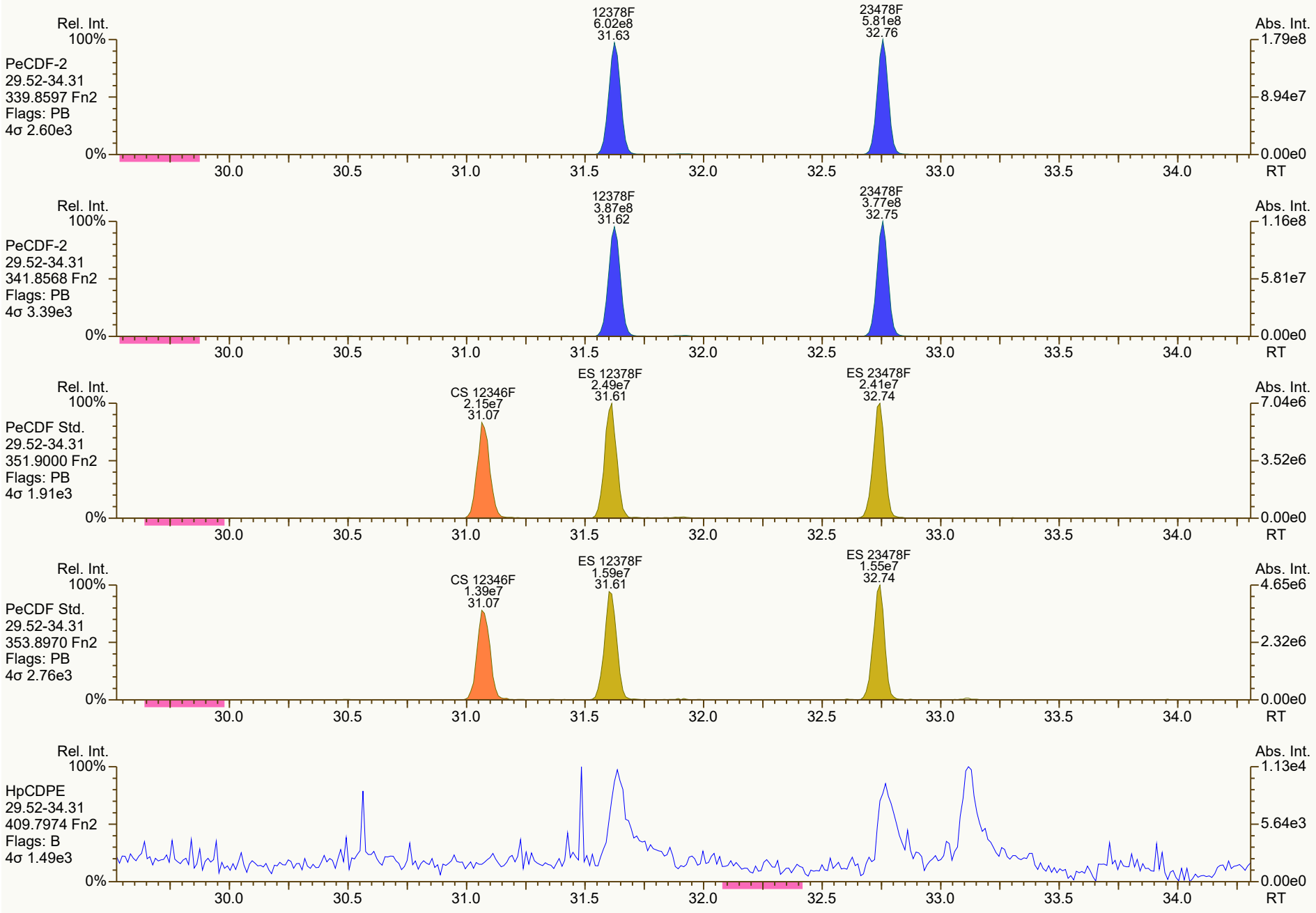

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

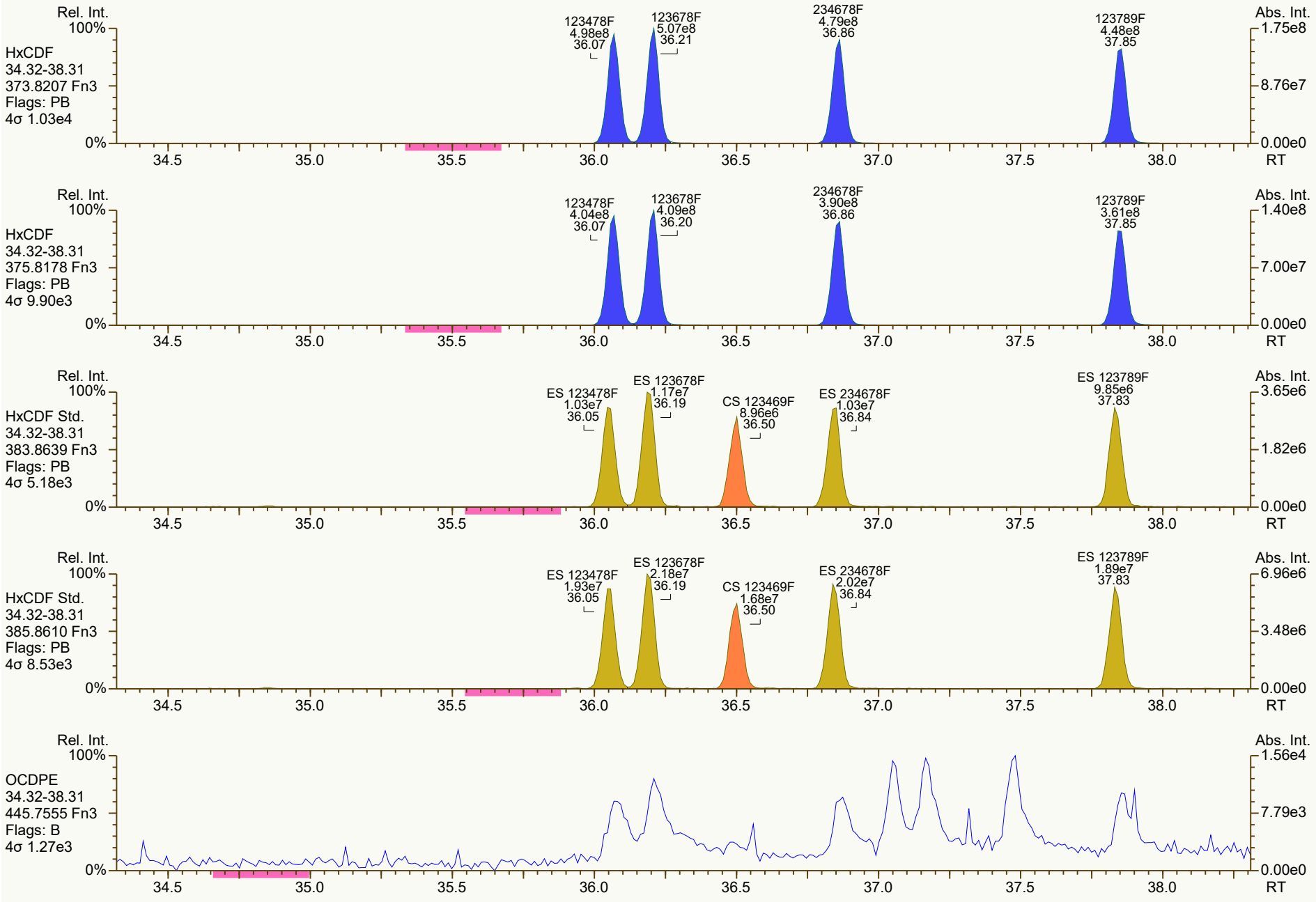

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

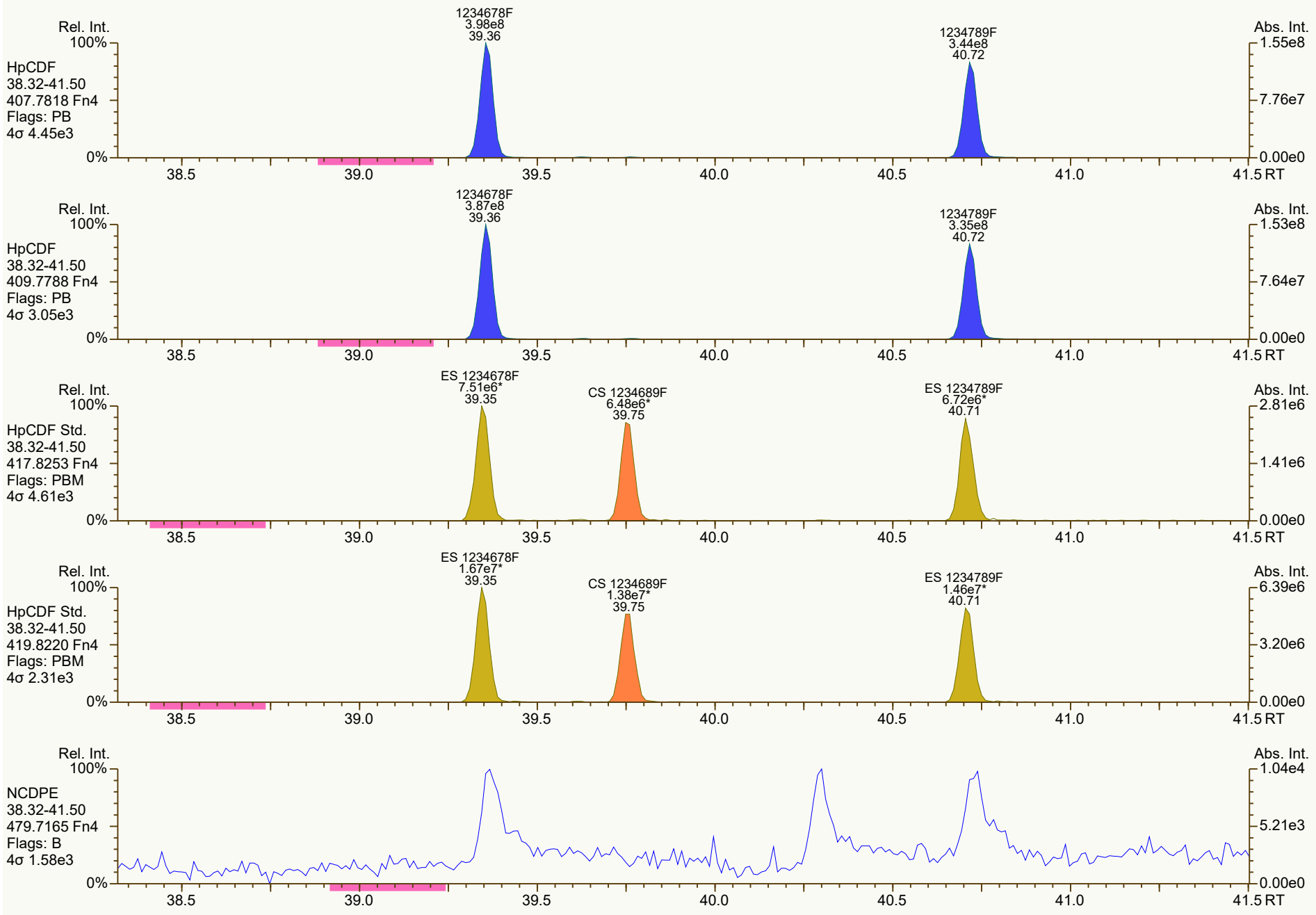

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

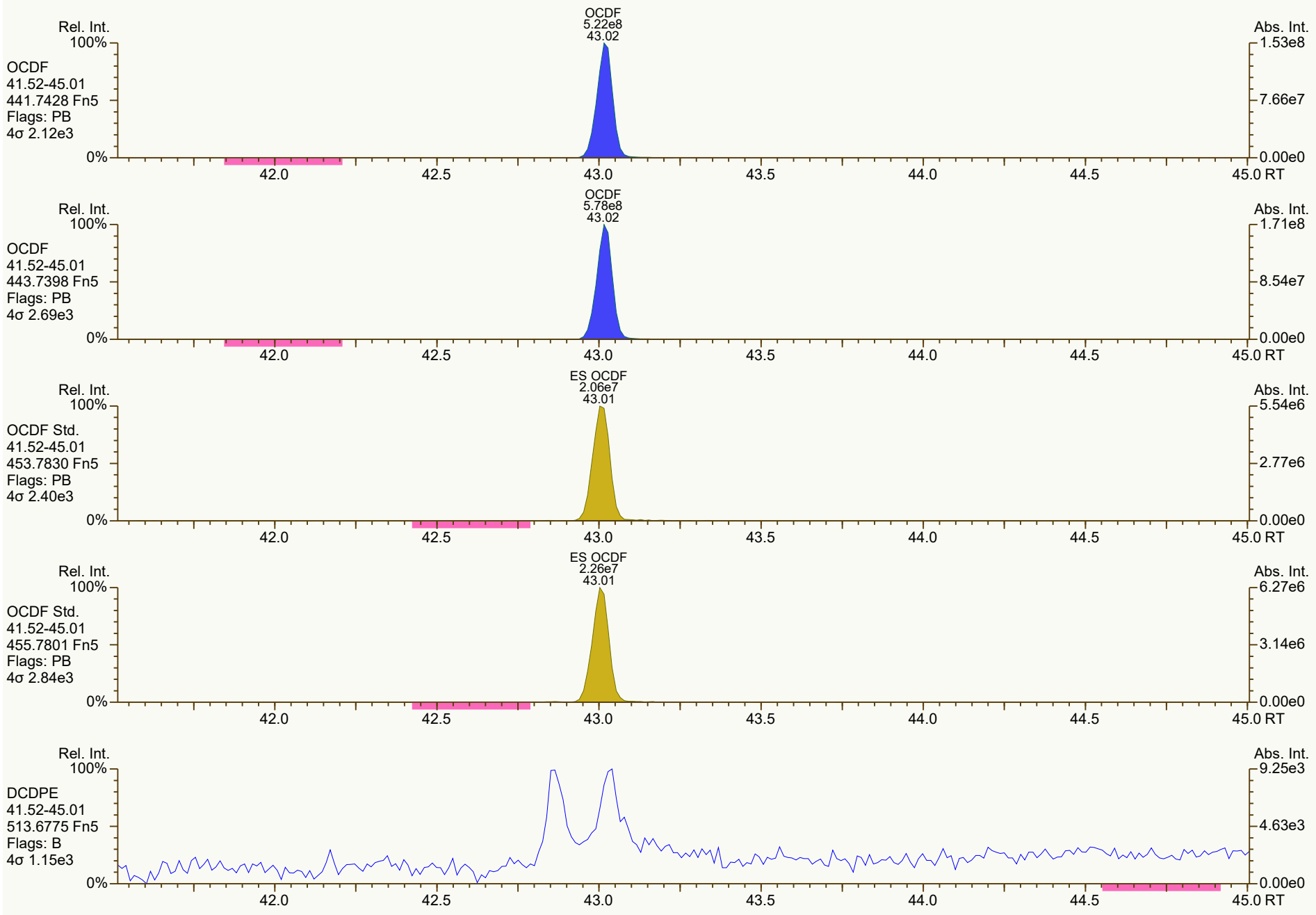

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

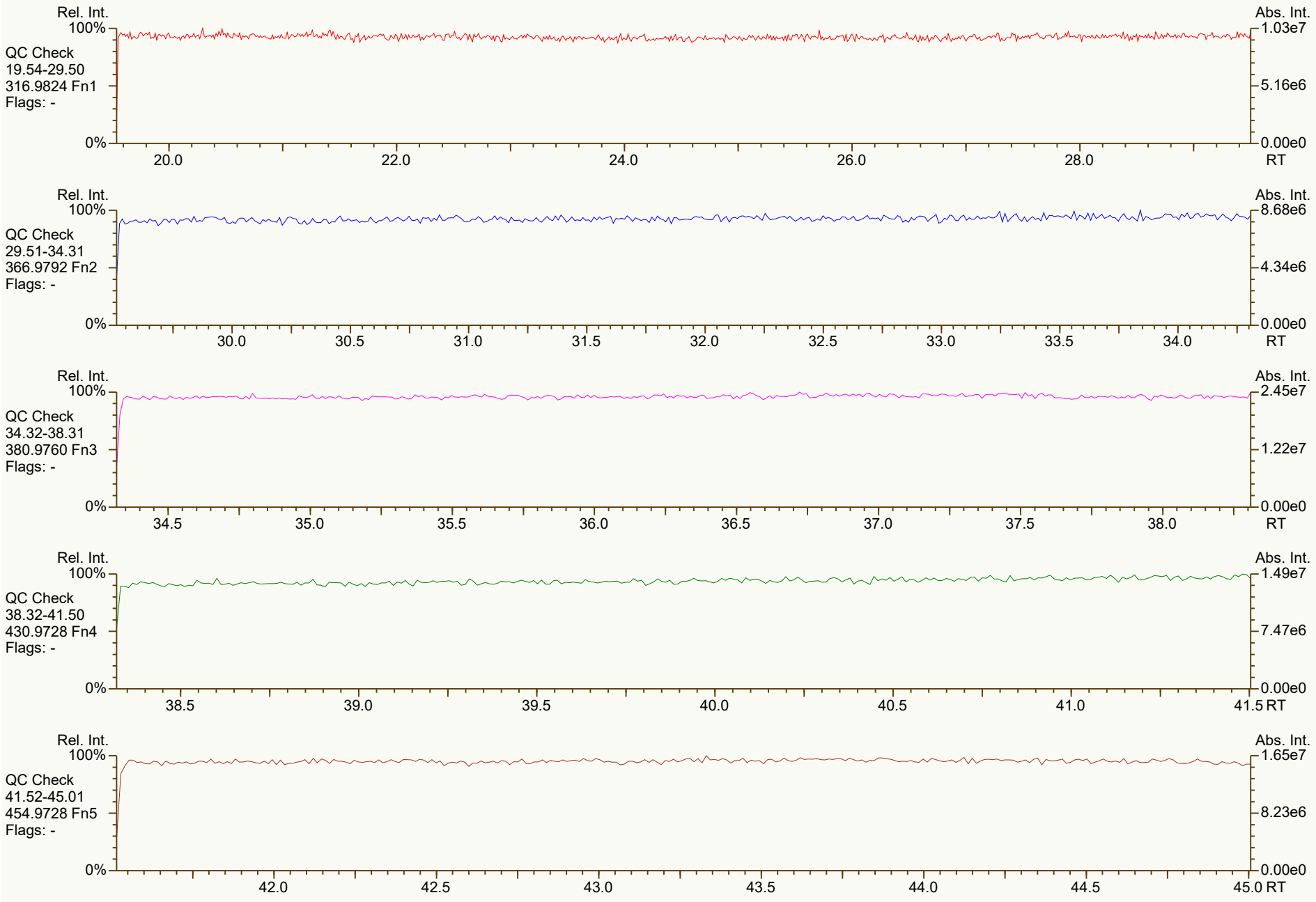

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

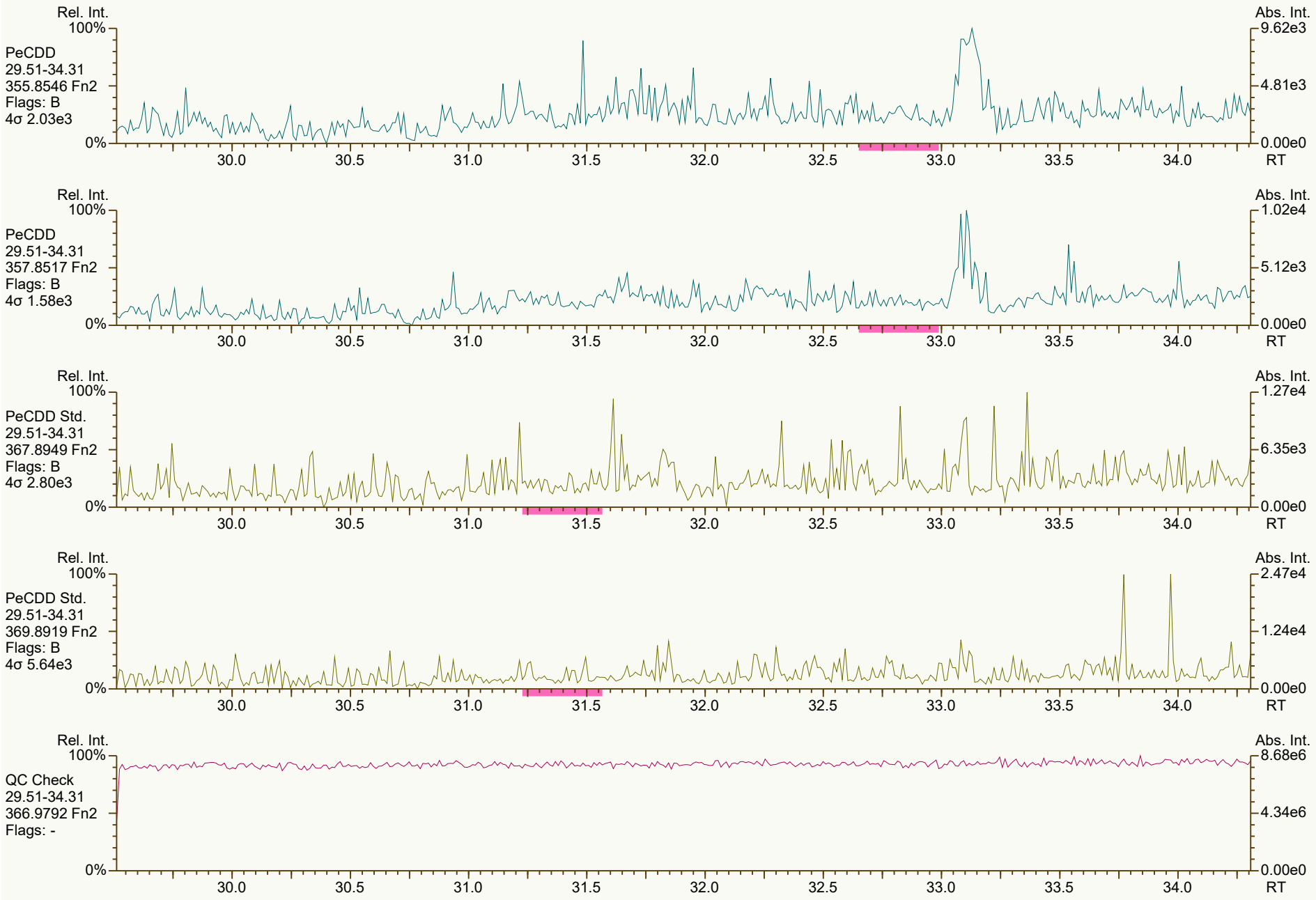
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

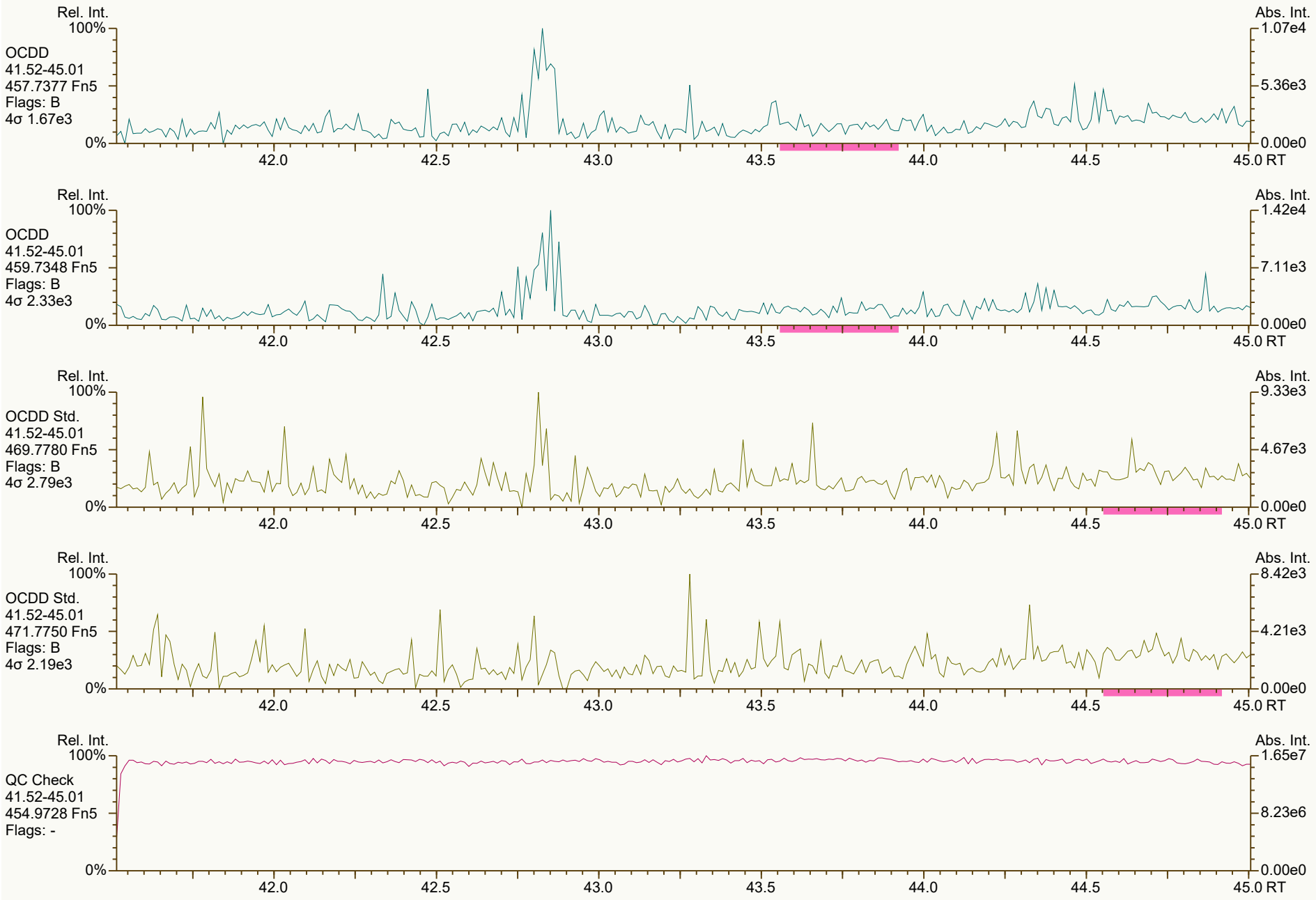
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

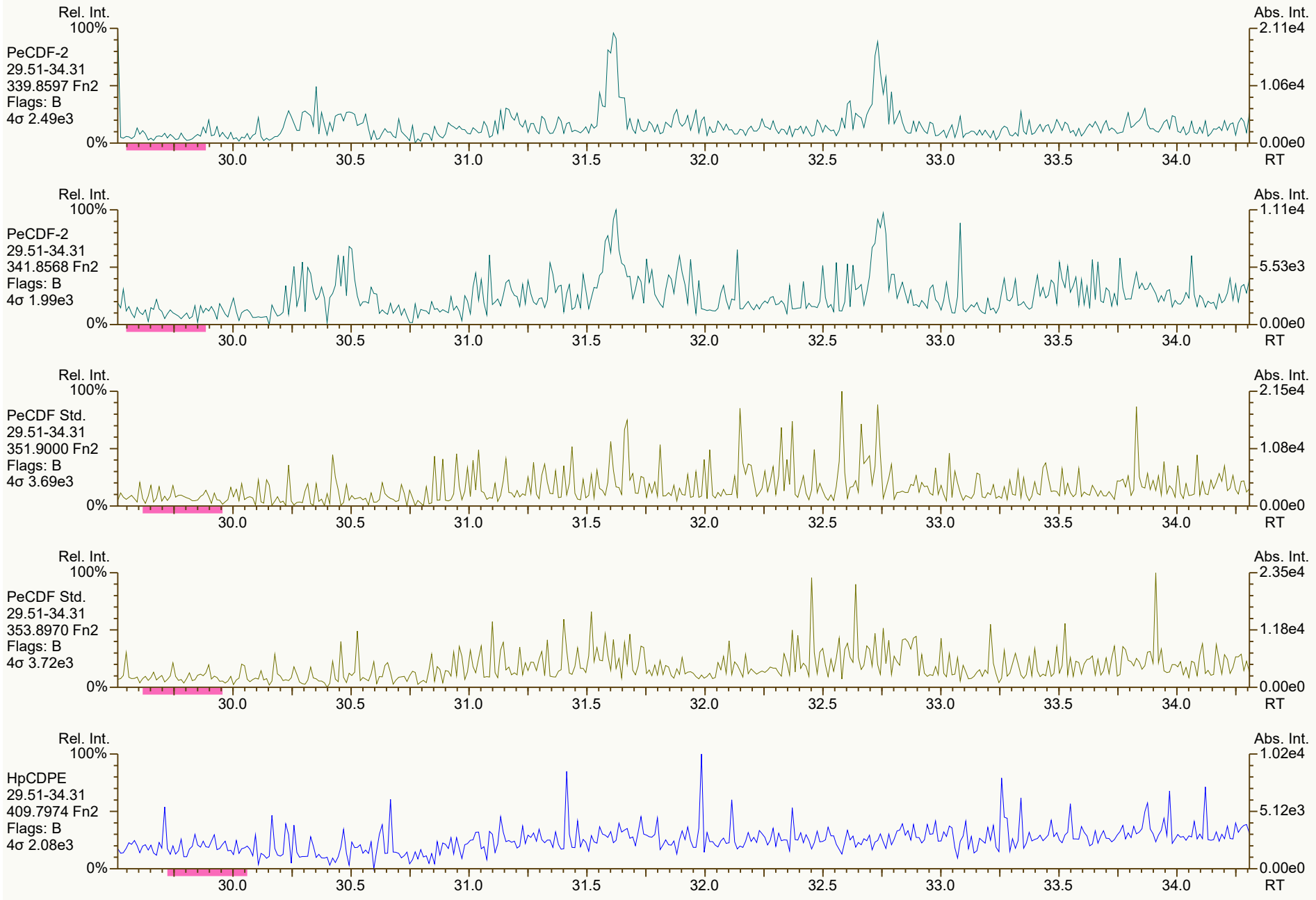

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

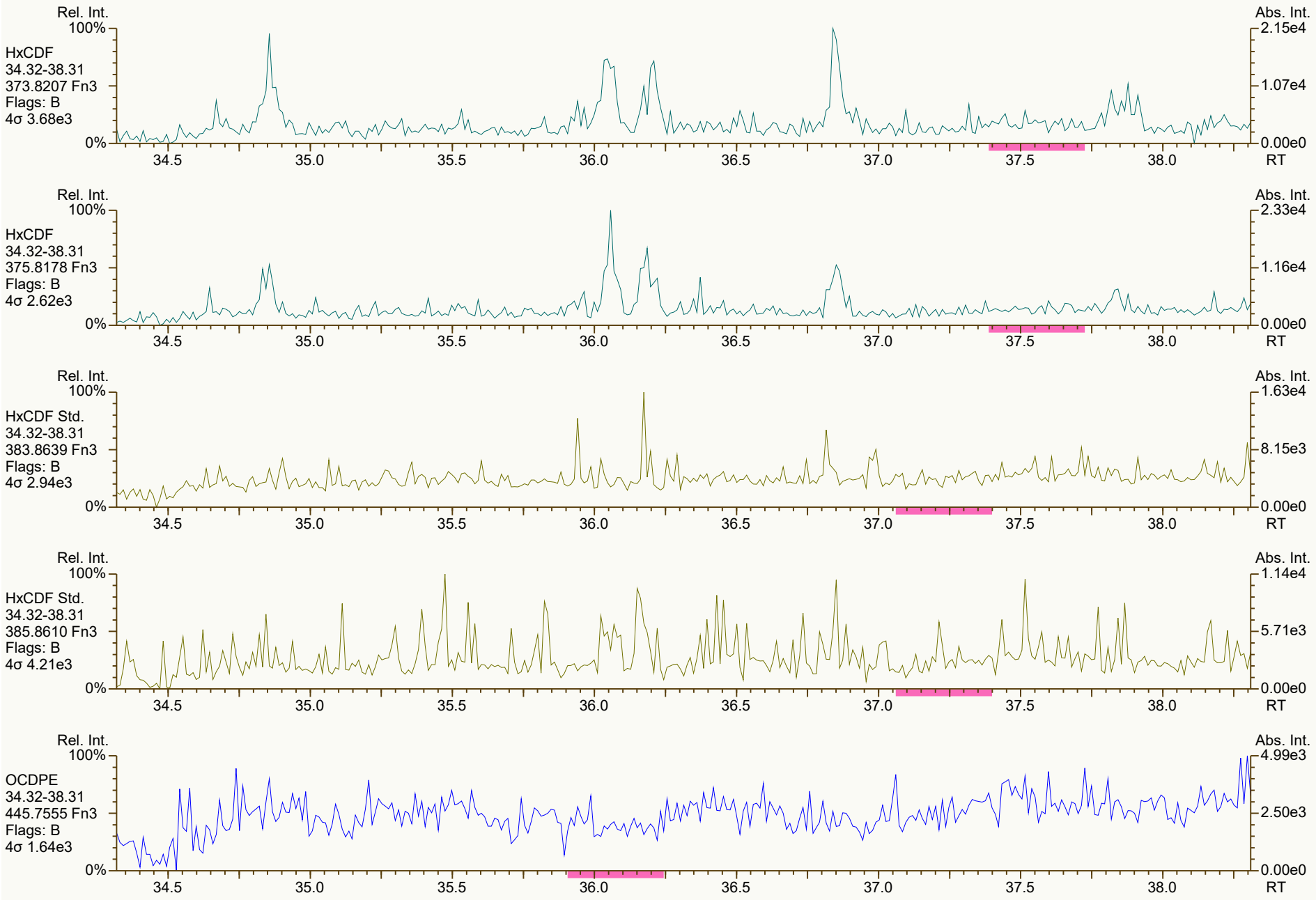

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

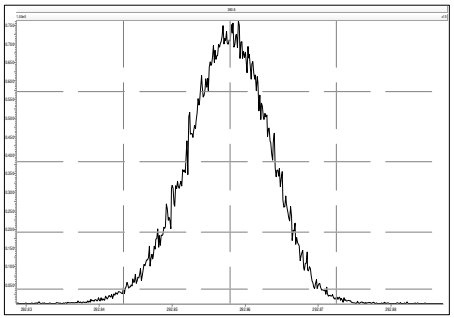

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

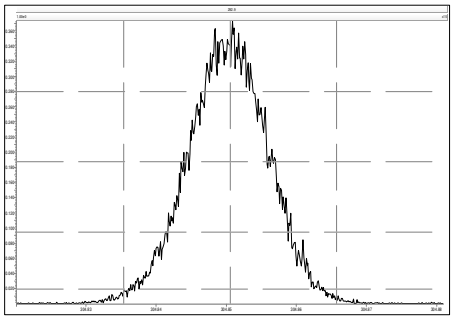
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

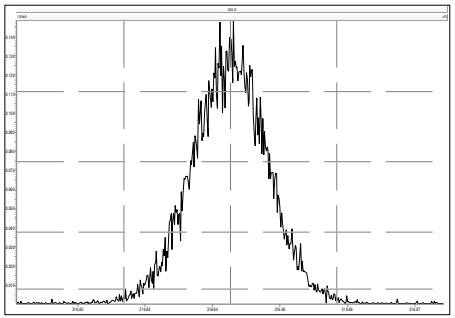
M 292.9824 R 10731



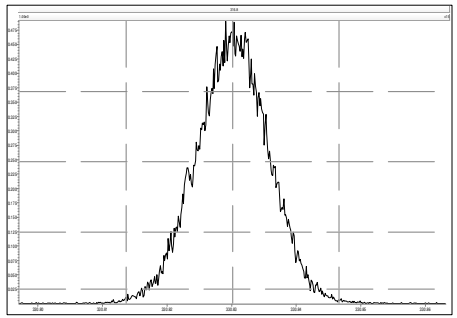
M 304.9824 R 11311



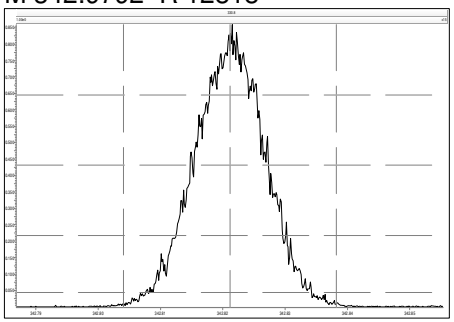
M 316.9824 R 12373



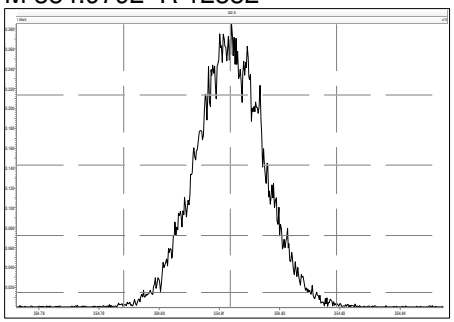
M 330.9792 R 12887



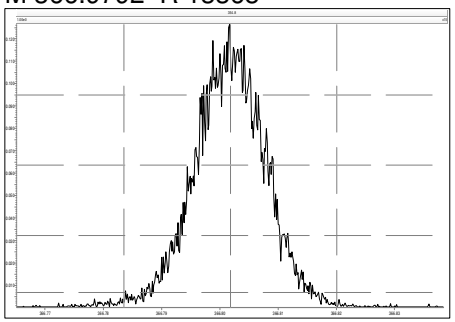
M 342.9792 R 12818



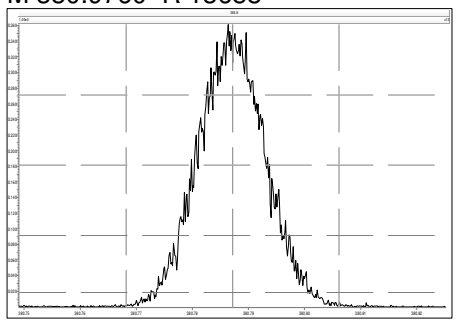
M 354.9792 R 12882



M 366.9792 R 13368



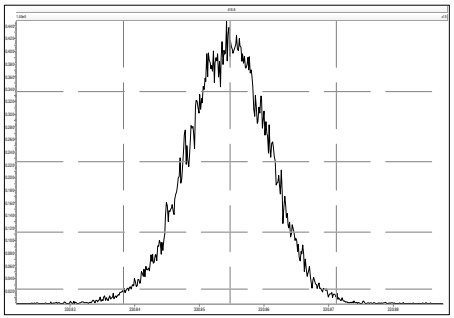
M 380.9760 R 13658



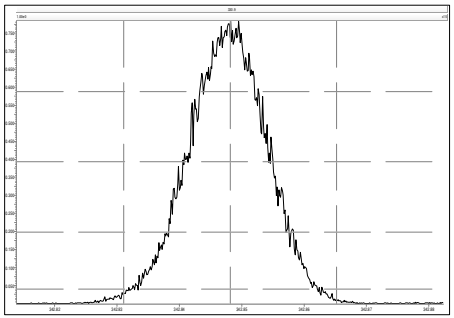
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

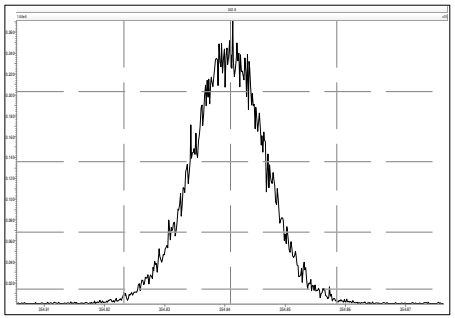
M 330.9792 R 11112



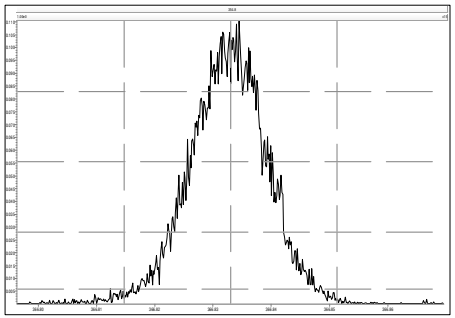
M 342.9792 R 11909



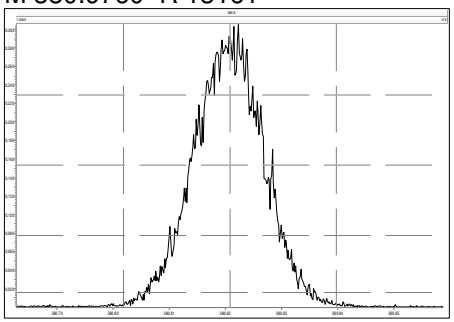
M 354.9792 R 11684



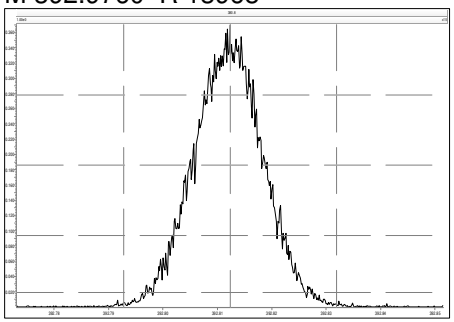
M 366.9792 R 11962



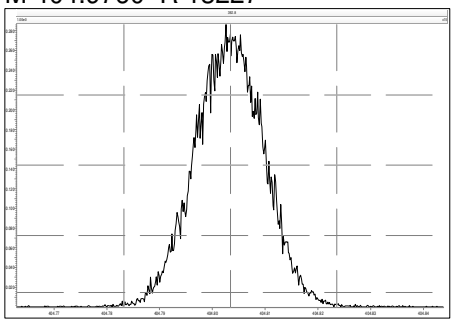
M 380.9760 R 13161



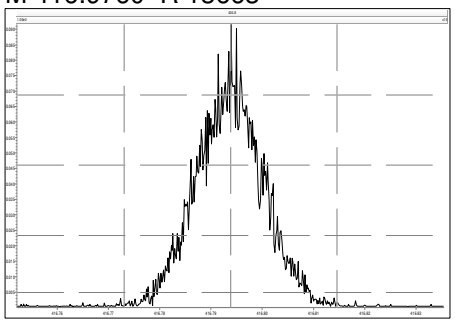
M 392.9760 R 13968



M 404.9760 R 13227



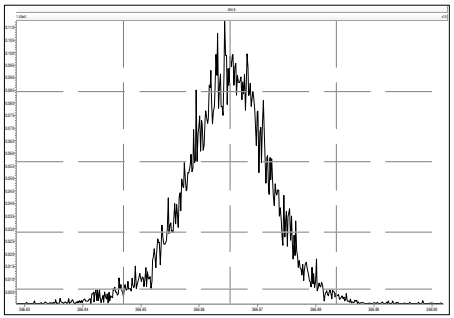
M 416.9760 R 13663



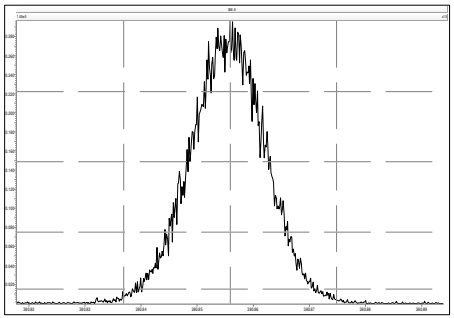
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

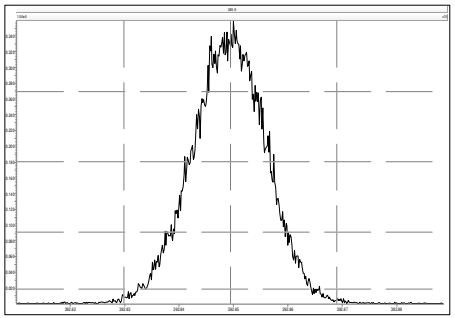
M 366.9792 R 10680



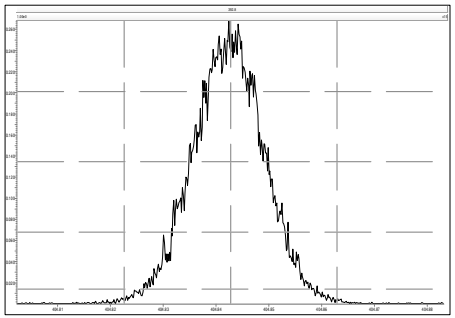
M 380.9760 R 12315



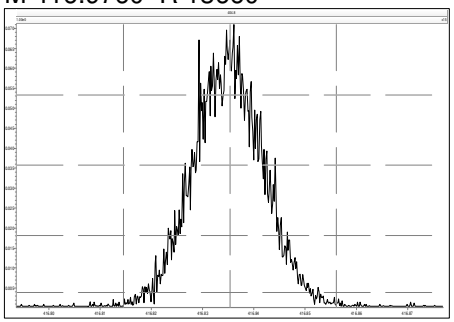
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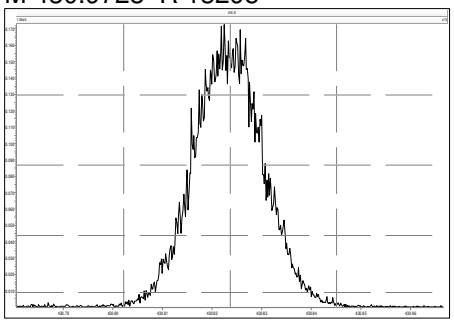
M 404.9760 R 12433



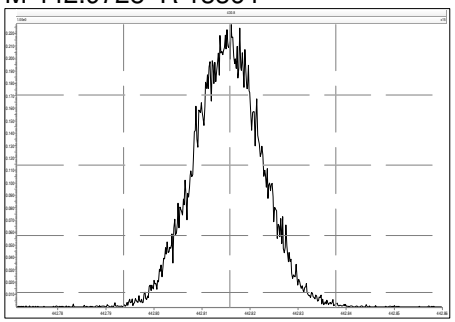
M 416.9760 R 13660



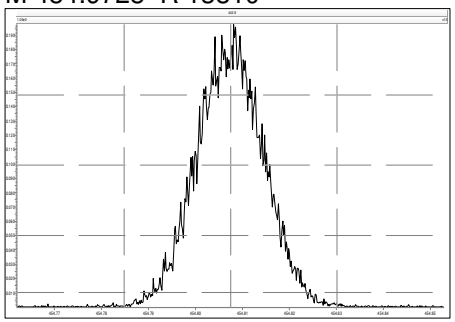
M 430.9728 R 13295



M 442.9728 R 13364



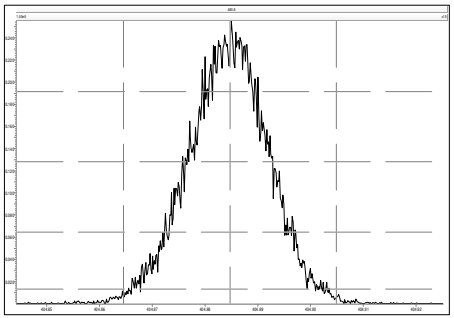
M 454.9728 R 13810



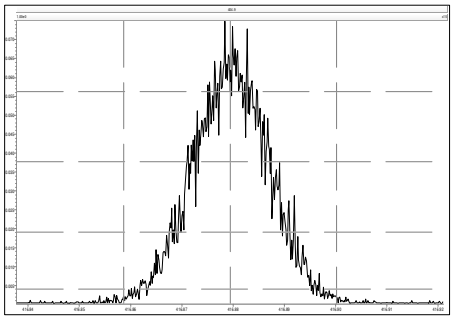
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

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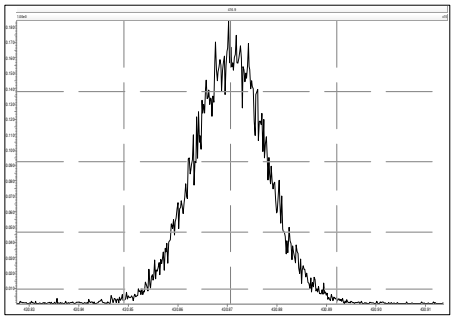
M 404.9760 R 11679



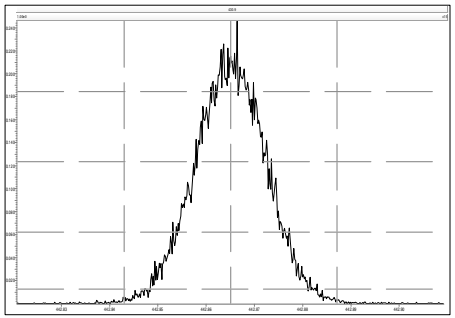
M 416.9760 R 12886



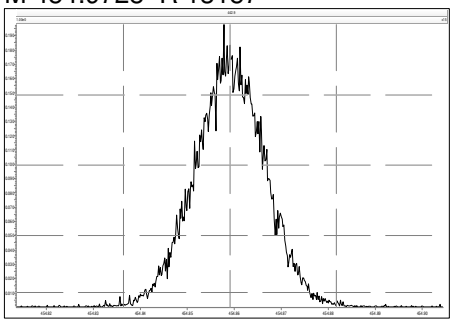
M 430.9728 R 12253



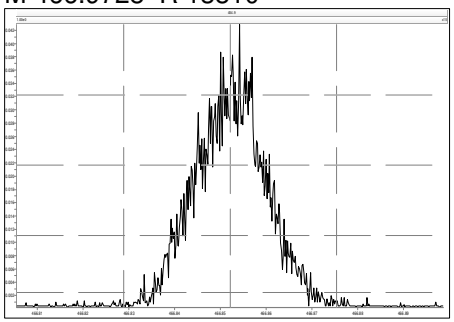
M 442.9728 R 12756



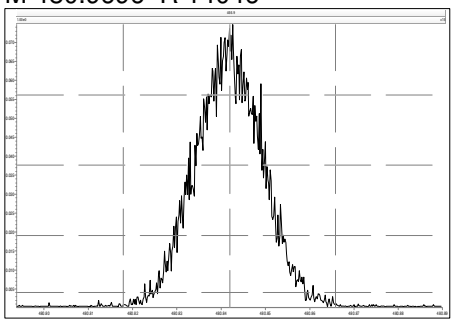
M 454.9728 R 13157



M 466.9728 R 13810



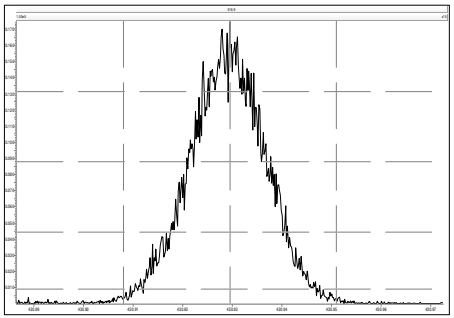
M 480.9696 R 14046



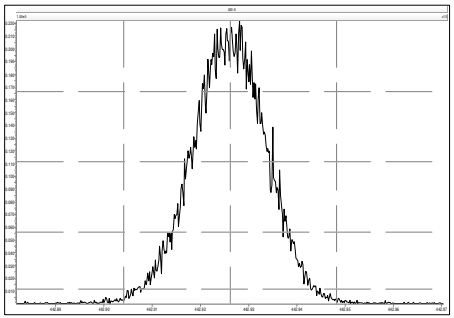
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

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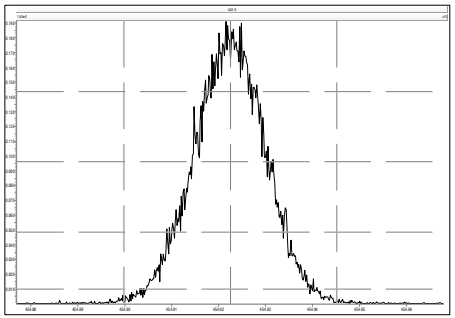
M 430.9728 R 11574



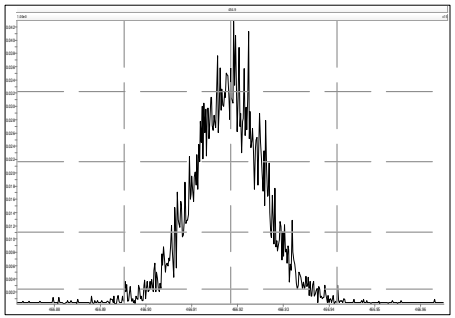
M 442.9728 R 12198



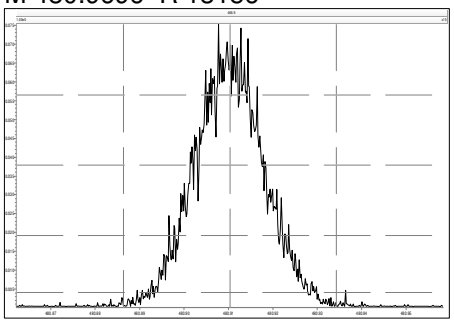
M 454.9728 R 12950



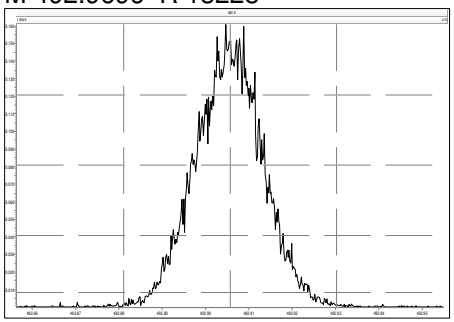
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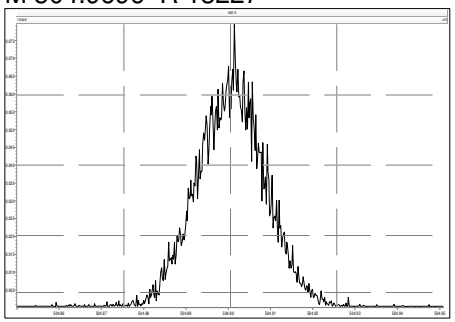
M 480.9696 R 13156



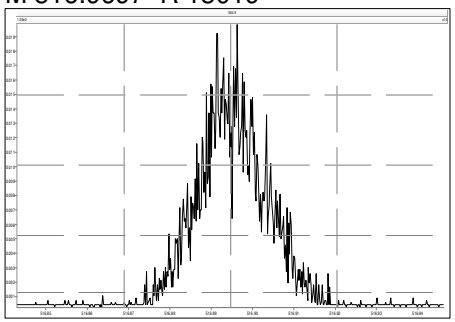
M 492.9696 R 13228



M 504.9696 R 13227



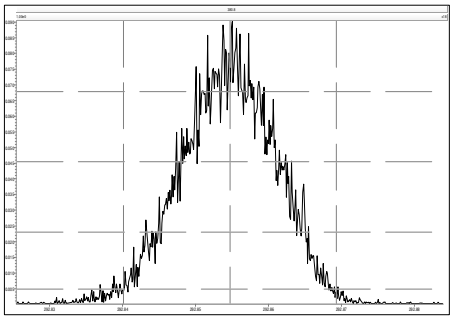
M 516.9697 R 13019



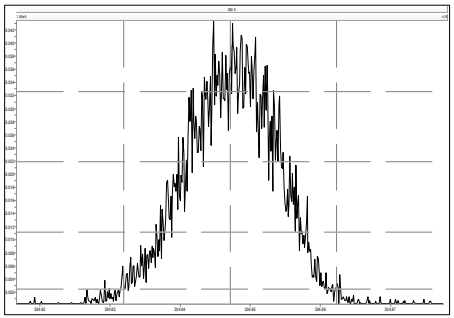
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

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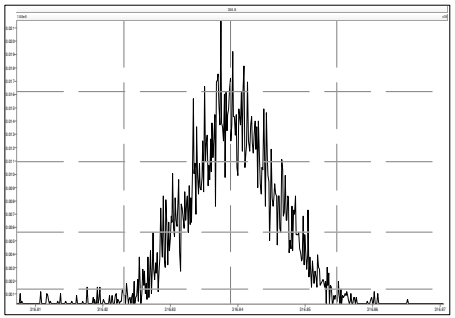
M 292.9824 R 10122



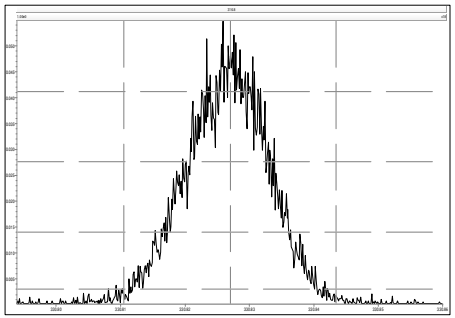
M 304.9824 R 10329



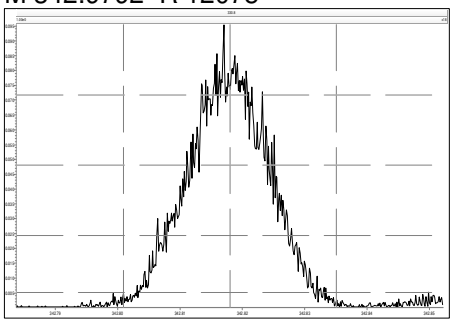
M 316.9824 R 11964



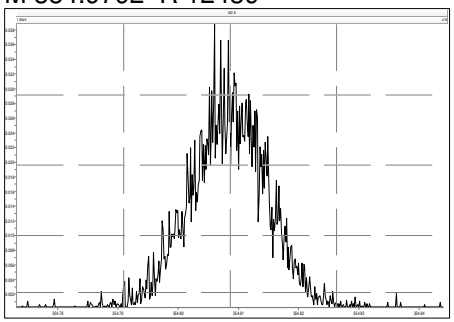
M 330.9792 R 11062



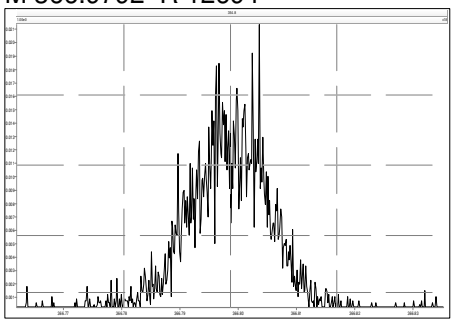
M 342.9792 R 12075



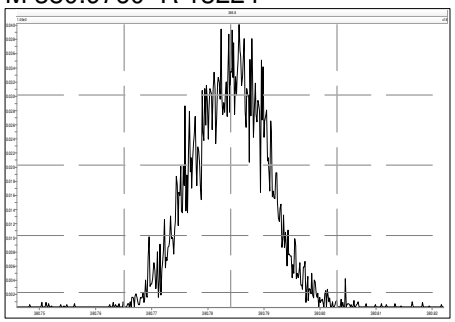
M 354.9792 R 12439



M 366.9792 R 12694



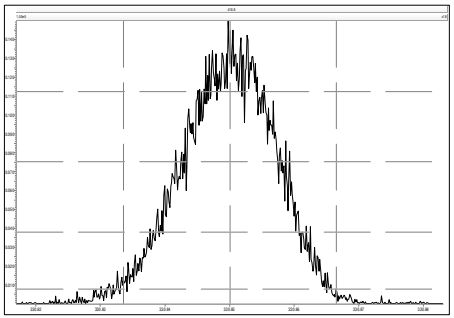
M 380.9760 R 13224



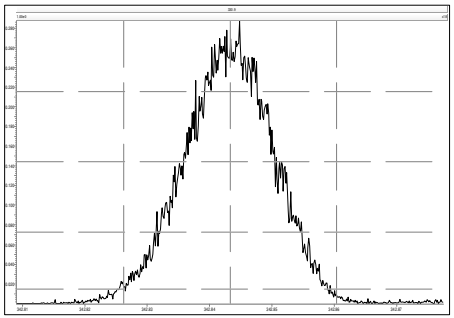
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

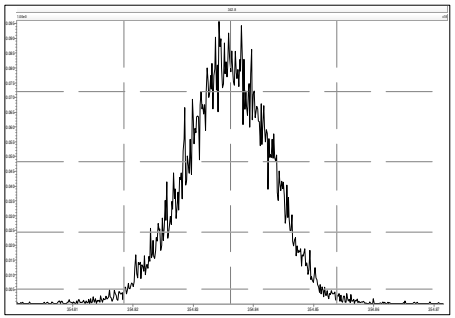
M 330.9792 R 10730



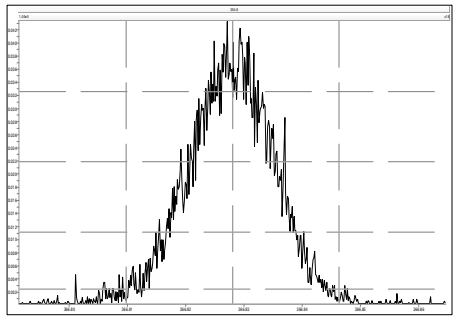
M 342.9792 R 10039



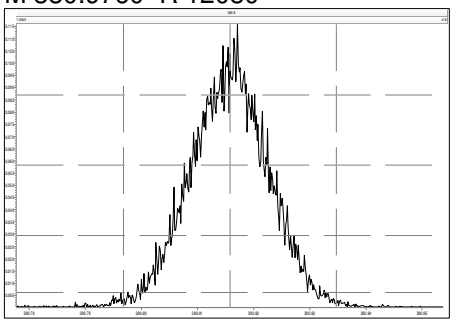
M 354.9792 R 11108



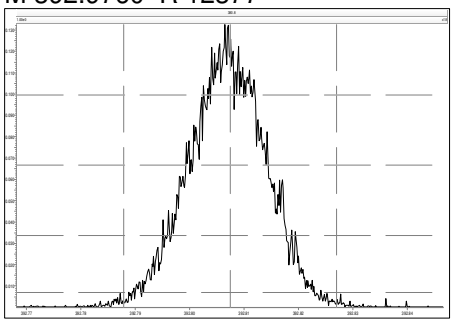
M 366.9792 R 11520



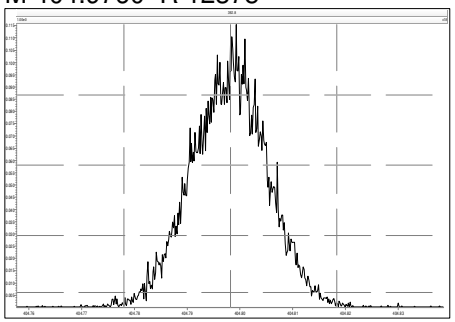
M 380.9760 R 12080



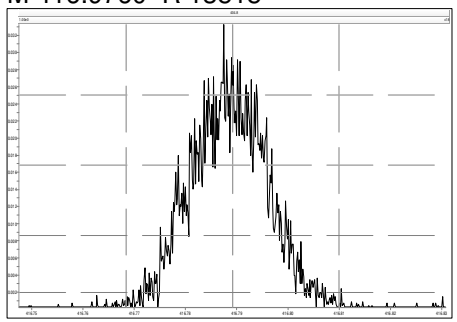
M 392.9760 R 12377



M 404.9760 R 12375



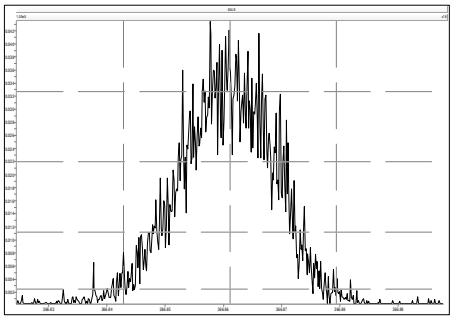
M 416.9760 R 13515



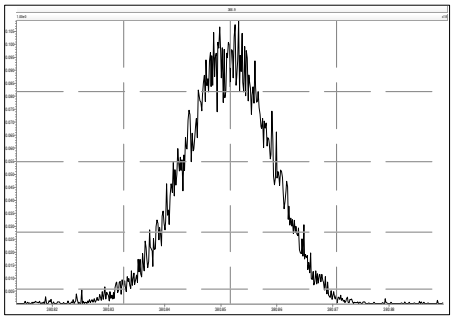
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

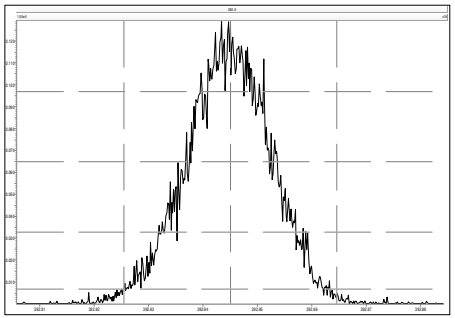
M 366.9792 R 10866



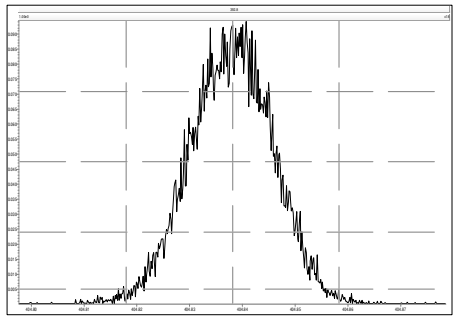
M 380.9760 R 10416



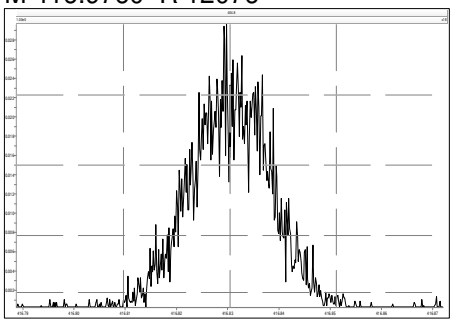
M 392.9760 R 10640



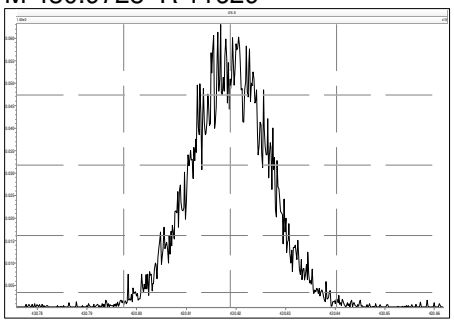
M 404.9760 R 11957



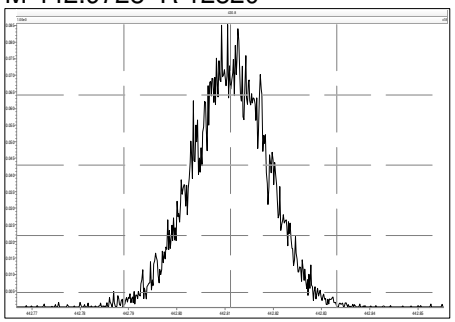
M 416.9760 R 12076



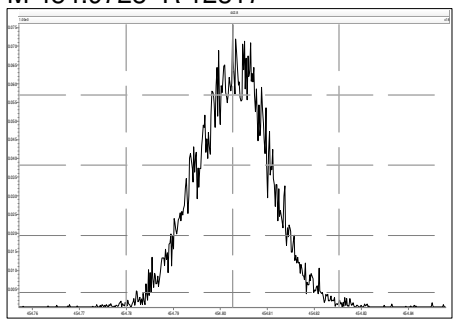
M 430.9728 R 11629



M 442.9728 R 12820



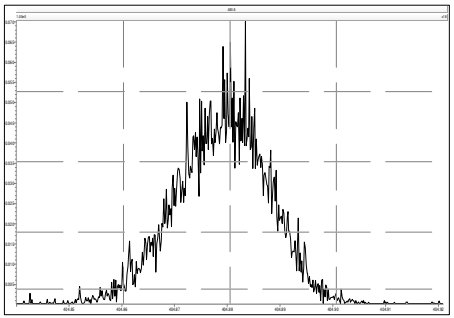
M 454.9728 R 12317



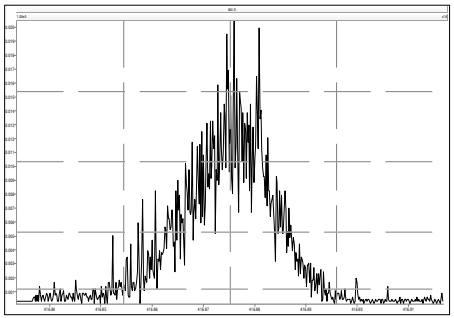
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

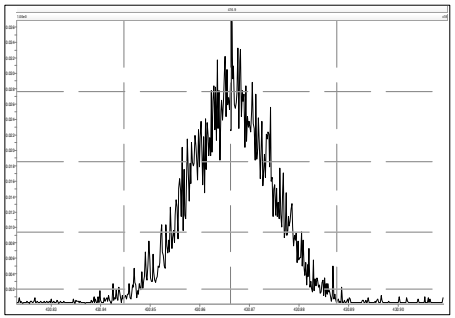
M 404.9760 R 10505



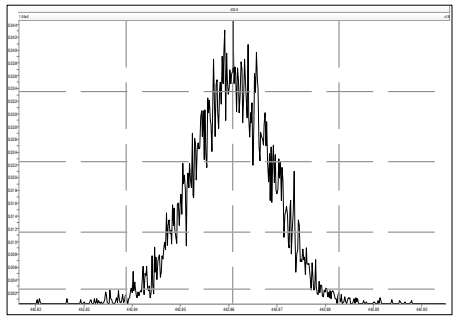
M 416.9760 R 12500



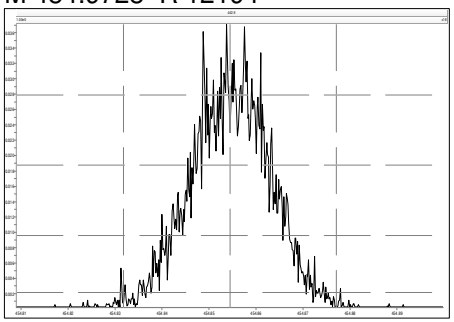
M 430.9728 R 11362



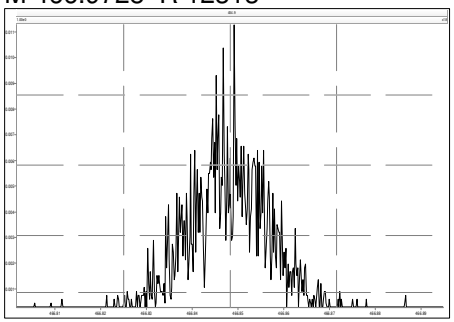
M 442.9728 R 12756



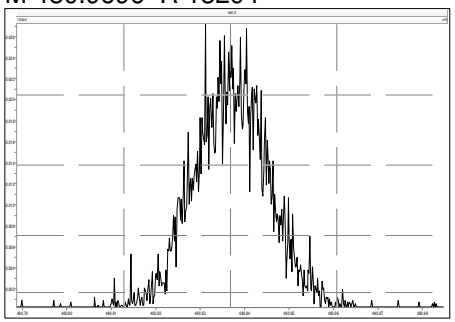
M 454.9728 R 12194



M 466.9728 R 12313



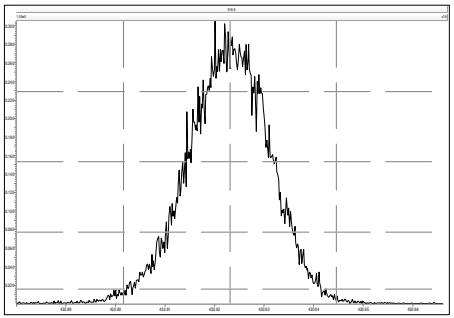
M 480.9696 R 13294



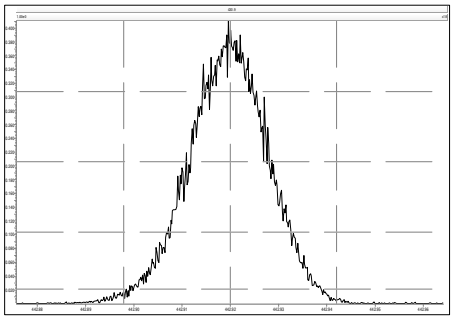
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

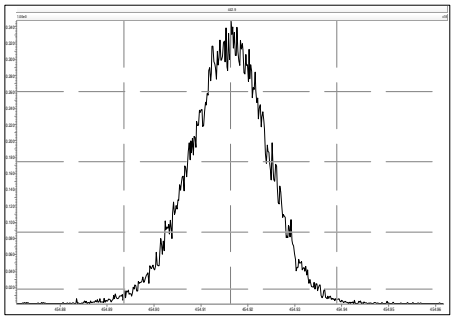
M 430.9728 R 11312



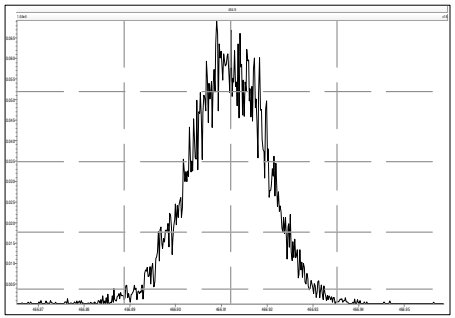
M 442.9728 R 11110



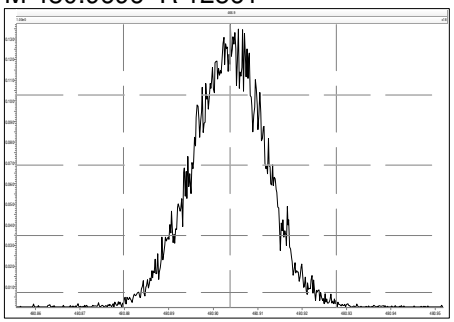
M 454.9728 R 11906



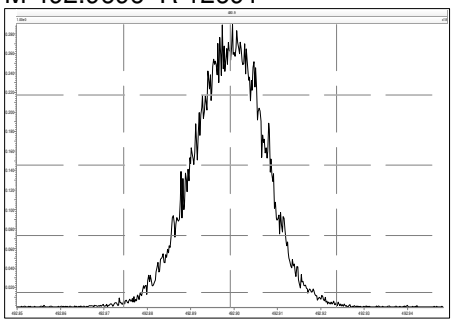
M 466.9728 R 12562



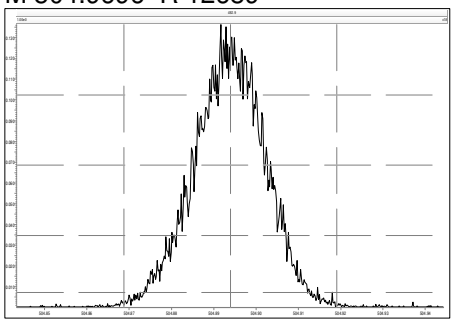
M 480.9696 R 12561



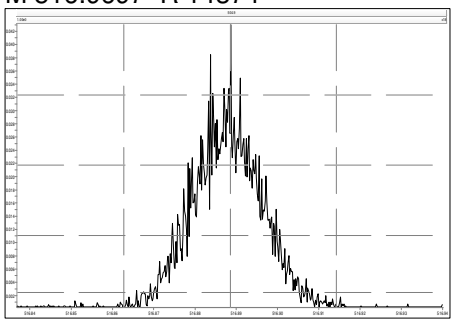
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18830_DF

APPROVED
Carla_Lyon , 1/26/2022, 8:59:56 AM

Acq'd: 21 Jan 2022 23:08 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18830_OPR001

UTP: 24-Jan-2022 11:52:31 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 615-083-VQQ

Datafile: 220121C16

Report: 24 Jan 2022 12:43 gd

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0008	0	2.72E+06	0.81	Y	1.18	12.1	4943.441	0.239
12378-PeCDD	33.95		1.0006	1.0005	-0.2	9.41E+06	1.65	Y	1.04	50.9	4211.199	0.21
123478-HxCDD	37.84		1.0004	1.0004	0	1.05E+07	1.28	Y	1.09	56.2	3906.847	0.183
123678-HxCDD	37.96		1.0034	1.0036	+0.5	1.27E+07	1.26	Y	1.15	56.5	3906.847	0.171
123789-HxCDD	38.25		1.0109	1.0112	+0.7	1.06E+07	1.24	Y	1.05	50.2	3906.847	0.181
1234678-HpCDD	40.87		1.0003	1.0003	0	9.01E+06	1.05	Y	1.06	54.7	4223.123	0.214
OCDD	43.52		1.0002	1.0002	0	1.20E+07	0.90	Y	1.13	115	3646.265	0.439
2378-TCDF	27.79		1.0008	1.0006	-0.3	4.03E+06	0.78	Y	1.08	11.9	6510.705	0.209
12378-PeCDF	32.51		1.0005	1.0006	+0.2	1.48E+07	1.55	Y	1.02	50.3	7057.035	0.229
23478-PeCDF	33.61		1.0005	1.0005	0	1.58E+07	1.56	Y	1.02	53.6	7057.035	0.231
123478-HxCDF	36.83		1.0004	1.0004	0	1.49E+07	1.26	Y	1.27	56.3	8306.605	0.268
123678-HxCDF	36.98		1.0004	1.0005	+0.2	1.71E+07	1.23	Y	1.15	54.9	8306.605	0.281
234678-HxCDF	37.67		1.0004	1.0005	+0.2	1.45E+07	1.28	Y	1.19	53.4	8306.605	0.295
123789-HxCDF	38.60		1.0004	1.0004	0	1.24E+07	1.31	Y	1.16	54.3	8306.605	0.346
1234678-HpCDF	39.94		1.0002	1.0002	0	1.47E+07	1.02	Y	1.37	55	2861.178	0.0761
1234789-HpCDF	41.33		1.0003	1.0002	-0.2	1.02E+07	1.04	Y	1.31	52.9	2861.178	0.13
OCDF	43.70		1.0002	1.0002	0	1.52E+07	0.91	Y	1.07	107	4245.295	0.332

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62		1.0233	1.0235	+0.3	1.90E+07	0.74	Y	1.05	91.7
ES 12378-PeCDD	33.93		1.2121	1.2134	+2.6	1.79E+07	1.62	Y	0.88	103
ES 123478-HxCDD	37.82		0.9921	0.9921	0	1.72E+07	1.33	Y	0.97	103
ES 123678-HxCDD	37.94		0.9951	0.9951	0	1.95E+07	1.26	Y	0.94	121
ES 123789-HxCDD	38.23		1.0025	1.0028	+0.7	2.02E+07	1.26	Y	1.09	108
ES 1234678-HpCDD	40.86		1.0709	1.0716	+1.7	1.55E+07	1.09	Y	0.91	99.7
ES OCDD	43.51		1.1403	1.1412	+2.3	1.85E+07	0.91	Y	0.62	86.7
ES 2378-TCDF	27.77		1.0506	1.0511	+0.8	3.14E+07	0.81	Y	1.06	91.9
ES 12378-PeCDF	32.49		1.2281	1.2296	+2.9	2.88E+07	1.56	Y	0.91	97.9
ES 23478-PeCDF	33.60		1.2698	1.2715	+3.4	2.89E+07	1.55	Y	0.88	101
ES 123478-HxCDF	36.82		0.9657	0.9657	0	2.08E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.96		0.9695	0.9695	0	2.71E+07	0.55	Y	1.35	117
ES 234678-HxCDF	37.65	QI	0.9874	0.9874	0	2.28E+07	0.54	Y	1.24	107
ES 123789-HxCDF	38.59		1.0116	1.0120	+0.9	1.97E+07	0.55	Y	1.16	99.9
ES 1234678-HpCDF	39.93		1.0467	1.0472	+1.2	1.96E+07	0.46	Y	0.97	118
ES 1234789-HpCDF	41.32		1.0830	1.0837	+1.7	1.48E+07	0.44	Y	0.85	102
ES OCDF	43.69		1.1451	1.1459	+2.1	2.66E+07	0.95	Y	0.81	96.5

Lab ID: OPR1_18830_DF | **Acq'd:** 21 Jan 2022 23:08 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18830_OPR001 | **UTP:** 24-Jan-2022 11:52:31 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 615-083-VQQ

Datafile: 220121C16 | **Report:** 24 Jan 2022 12:43 gd | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.98E+07	0.78	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.23E+07	0.84	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	8.53E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0243	+0.3	8.62E+06	n/a	-	1.20	90.7	
CS 12347-PeCDD	33.43		1.1943	1.1954	+2.2	1.66E+07	1.74	Y	0.75	111	
CS 12346-PeCDF	31.96		1.2083	1.2096	+2.5	2.85E+07	1.57	Y	0.85	104	
CS 123469-HxCDF	37.28		0.9778	0.9778	0	2.48E+07	0.53	Y	1.12	130	
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.96E+07	0.45	Y	0.89	129	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~8.62E+06~~	~~n/a~~		~~1.15~~	~~99.1~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.66E+07~~	~~1.74~~	~~Y~~	~~0.86~~	~~100~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.85E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.48E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~111~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.96E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~109~~	

Totals	Conc	EMPC
Total TCDD	56	56
Total PeCDD	76.7	76.7
Total HxCDD	177	177
Total HpCDD	67.1	67.1
Total Tetra-Octa Dioxins	492	492
Total TCDF	62.6	62.6
Total PeCDF	202	202
Total HxCDF	354	354
Total HpCDF	108	108
Total Tetra-Octa Furans	834	834
Total Tetra-Octa Dioxins & Furans	1330	1330

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.81	0.81
Response	2.73E+06	2.72E+06

Lab ID: OPR1_18830_DF | **Acq'd: 21 Jan 2022 23:08 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18830_OPR001 | **UTP: 24-Jan-2022 11:52:31 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 615-083-VQQ**

Datafile: 220121C16 | **Report: 24 Jan 2022 12:43 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8748	-1.1	3.70E+06	0.81	Y	1.18	16.4	4943.441	0.239
1379-TCDD	NotFnd		0.8876						1.18		4943.441	0.239
1369-TCDD	NotFnd		0.9023						1.18		4943.441	0.239
1469-TCDD	NotFnd		0.9291						1.18		4943.441	0.239
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4943.441	0.239
1378-TCDD	NotFnd		0.9440						1.18		4943.441	0.239
1268-TCDD	NotFnd		0.9506						1.18		4943.441	0.239
1478-TCDD	NotFnd		0.9591						1.18		4943.441	0.239
1279-TCDD	NotFnd		0.9649						1.18		4943.441	0.239
1234/1269-TCDD	NotFnd		0.9771						1.18		4943.441	0.239
1236-TCDD	NotFnd		0.9820						1.18		4943.441	0.239
1237/1238-TCDD	NotFnd		0.9908						1.18		4943.441	0.239
1239-TCDD	28.49		0.9954	0.9952	-0.3	2.55E+06	0.78	Y	1.18	11.3	4943.441	0.239
2378-TCDD	**28.64**		**1.0008**	1.0008	**0**	2.72E+06	0.81	Y	**1.18**	**12.1**	**4943.441**	**0.239**
1278-TCDD	NotFnd		1.0121						1.18		4943.441	0.239
1267-TCDD	NotFnd		1.0167						1.18		4943.441	0.239
1289-TCDD	29.61		1.0341	1.0345	+0.7	3.63E+06	0.80	Y	1.18	16.1	4943.441	0.239
12479/12468-PeCDD	31.45		0.9273	0.9269	-0.8	2.26E+06	1.55	Y	1.04	12.2	4211.199	0.21
12469-PeCDD	NotFnd		0.9430						1.04		4211.199	0.21
12368-PeCDD	NotFnd		0.9592						1.04		4211.199	0.21
12478-PeCDD	NotFnd		0.9647						1.04		4211.199	0.21
12379-PeCDD	NotFnd		0.9676						1.04		4211.199	0.21
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		4211.199	0.21
12346/12347-PeCDD	NotFnd		0.9860						1.04		4211.199	0.21
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**9.41E+06**	**1.65**	**Y**	**1.04**	**50.9**	**4211.199**	**0.21**
12367-PeCDD	NotFnd		1.0034						1.04		4211.199	0.21
12389-PeCDD	34.38		1.0134	1.0133	-0.2	2.52E+06	1.59	Y	1.04	13.6	4211.199	0.21
124679/124689-HxCDD	36.09		0.9545	0.9542	-0.6	2.90E+06	1.26	Y	1.10	14	3906.847	0.178
123468-HxCDD	NotFnd		0.9715						1.10		3906.847	0.178
123679/123689-HxCDD	NotFnd		0.9793						1.10		3906.847	0.178
123469-HxCDD	NotFnd		0.9829						1.10		3906.847	0.178
123478-HxCDD	37.84		**1.0004**	**1.0004**	**0**	**1.05E+07**	**1.28**	**Y**	1.09	**56.2**	**3906.847**	**0.183**
123678-HxCDD	37.96		**1.0034**	**1.0036**	**+0.5**	**1.27E+07**	**1.26**	**Y**	1.15	**56.5**	**3906.847**	**0.171**
123467-HxCDD	NotFnd		1.0082						1.10		3906.847	0.178
123789-HxCDD	38.25		**1.0109**	**1.0112**	**+0.7**	**1.06E+07**	**1.24**	**Y**	1.05	**50.2**	**3906.847**	**0.181**

Lab ID: OPR1_18830_DF **Acq'd: 21 Jan 2022 23:08 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18830_OPR001 **UTP: 24-Jan-2022 11:52:31 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 615-083-VQQ**

Datafile: 220121C16 **Report: 24 Jan 2022 12:43 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	2.05E+06	1.13	Y	1.06	12.4	4223.123	0.214
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**9.01E+06**	**1.05**	**Y**	**1.06**	**54.7**	**4223.123**	**0.214**
OCDD	**43.52**		**1.0002**	**1.0002**	**0**	**1.20E+07**	**0.90**	**Y**	**1.13**	**115**	**3646.265**	**0.439**
OCDD-a	43.51		1.0002	1.0000	-0.5	6.72E+05	2.74	Y	0.07	101	3875.81	7.31
1368-TCDF	22.97		0.8282	0.8271	-1.5	5.34E+06	0.79	Y	1.08	15.7	6510.705	0.209
1468-TCDF	NotFnd		0.8485						1.08		6510.705	0.209
2468-TCDF	24.16		0.8709	0.8698	-1.6	1.34E+06	0.72	Y	1.08	3.96	6510.705	0.209
1346/1246-TCDF	NotFnd		0.8829						1.08		6510.705	0.209
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6510.705	0.209
1348-TCDF	NotFnd		0.8980						1.08		6510.705	0.209
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6510.705	0.209
1268-TCDF	NotFnd		0.9158						1.08		6510.705	0.209
1467-TCDF	NotFnd		0.9206						1.08		6510.705	0.209
1478-TCDF	NotFnd		0.9266						1.08		6510.705	0.209
1369/1237-TCDF	NotFnd		0.9397						1.08		6510.705	0.209
2467-TCDF	NotFnd		0.9440						1.08		6510.705	0.209
2368-TCDF	NotFnd		0.9497						1.08		6510.705	0.209
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6510.705	0.209
1278-TCDF	NotFnd		0.9690						1.08		6510.705	0.209
1349-TCDF	NotFnd		0.9730						1.08		6510.705	0.209
1267-TCDF	NotFnd		0.9787						1.08		6510.705	0.209
2346/1249-TCDF	NotFnd		0.9850						1.08		6510.705	0.209
2347/1279-TCDF	NotFnd		0.9929						1.08		6510.705	0.209
2348-TCDF	27.68		0.9970	0.9968	-0.3	5.02E+06	0.79	Y	1.08	14.8	6510.705	0.209
2378-TCDF	**27.79**		**1.0008**	**1.0006**	**-0.3**	**4.03E+06**	**0.78**	**Y**	**1.08**	**11.9**	**6510.705**	**0.209**
2367/3467-TCDF	NotFnd		1.0136						1.08		6510.705	0.209
1269-TCDF	NotFnd		1.0221						1.08		6510.705	0.209
1239-TCDF	NotFnd		1.0319						1.08		6510.705	0.209
1289-TCDF	29.79		1.0740	1.0725	-2.7	5.51E+06	0.83	Y	1.08	16.2	6510.705	0.209
13468/12468-PeCDF	29.69		0.9145	0.9137	-1.4	2.57E+07	1.61	Y	1.02	87.3	4156.903	0.136
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7057.035	0.23
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7057.035	0.23
14678-PeCDF	NotFnd		0.9695						1.02		7057.035	0.23
13479-PeCDF	NotFnd		0.9724						1.02		7057.035	0.23
13469/12479-PeCDF	NotFnd		0.9801						1.02		7057.035	0.23
12346-PeCDF	NotFnd		0.9842						1.02		7057.035	0.23

Lab ID: OPR1_18830_DF | **Acq'd: 21 Jan 2022 23:08 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18830_OPR001 | **UTP: 24-Jan-2022 11:52:31 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 615-083-VQQ**

Datafile: 220121C16 | **Report: 24 Jan 2022 12:43 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7057.035	0.23
12347-PeCDF	NotFnd		0.9895						1.02		7057.035	0.23
12348-PeCDF	NotFnd		0.9941						1.02		7057.035	0.23
12378-PeCDF	**32.51**		**1.0005**	**1.0006**	**+0.2**	**1.48E+07**	**1.55**	**Y**	**1.02**	**50.3**	**7057.035**	**0.229**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7057.035	0.23
12379-PeCDF	NotFnd		1.0142						1.02		7057.035	0.23
12679-PeCDF	NotFnd		0.9931						1.02		7057.035	0.23
23467/12369-PeCDF	NotFnd		0.9966						1.02		7057.035	0.23
23478-PeCDF	**33.61**		**1.0005**	**1.0005**	**0**	**1.58E+07**	**1.56**	**Y**	**1.02**	**53.6**	**7057.035**	**0.231**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7057.035	0.23
12349-PeCDF	NotFnd		1.0101						1.02		7057.035	0.23
12389-PeCDF	34.69		1.0322	1.0324	+0.4	3.32E+06	1.61	Y	1.02	11.3	7057.035	0.23
123468-HxCDF	35.45		0.9627	0.9628	+0.2	3.65E+07	1.25	Y	1.19	135	8306.605	0.295
124678/134678-HxCDF	NotFnd		0.9684						1.19		8306.605	0.295
134679-HxCDF	NotFnd		0.9747						1.19		8306.605	0.295
124679-HxCDF	NotFnd		0.9802						1.19		8306.605	0.295
124689-HxCDF	NotFnd		0.9858						1.19		8306.605	0.295
123467-HxCDF	NotFnd		0.9972						1.19		8306.605	0.295
123478-HxCDF	**36.83**		**1.0004**	**1.0004**	**0**	**1.49E+07**	**1.26**	**Y**	**1.27**	**56.3**	**8306.605**	**0.268**
123678-HxCDF	**36.98**		**1.0004**	**1.0005**	**+0.2**	**1.71E+07**	**1.23**	**Y**	**1.15**	**54.9**	**8306.605**	**0.281**
123479-HxCDF	NotFnd		1.0051						1.19		8306.605	0.295
123469-HxCDF	NotFnd		1.0091						1.19		8306.605	0.295
123679-HxCDF	NotFnd		0.9943						1.19		8306.605	0.295
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**1.45E+07**	**1.28**	**Y**	**1.19**	**53.4**	**8306.605**	**0.295**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8306.605	0.295
123789-HxCDF	**38.60**		**1.0004**	**1.0004**	**0**	**1.24E+07**	**1.31**	**Y**	**1.16**	**54.3**	**8306.605**	**0.346**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		8306.605	0.295
1234678-HpCDF	**39.94**		**1.0002**	**1.0002**	**0**	**1.47E+07**	**1.02**	**Y**	**1.37**	**55**	**2861.178**	**0.0761**
1234679-HpCDF	NotFnd		1.0067						1.34		2861.178	0.0991
1234689-HpCDF	NotFnd		1.0101						1.34		2861.178	0.0991
1234789-HpCDF	**41.33**		**1.0003**	**1.0002**	**-0.2**	**1.02E+07**	**1.04**	**Y**	**1.31**	**52.9**	**2861.178**	**0.13**
OCDF	**43.70**		**1.0002**	**1.0002**	**0**	**1.52E+07**	**0.91**	**Y**	**1.07**	**107**	**4245.295**	**0.332**
OCDF-a	43.70		1.0002	1.0001	-0.3	8.83E+05	2.56	Y	0.07	100	3355.297	4.24

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C16	Analysis Date:	21-JAN-2022 23:08:24
Lab ID:	OPR1_18830_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.9	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.7	35	-	70	Y
OCDD	100	115	78	-	144	Y
2,3,7,8-TCDF	10	11.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	53.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	54.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	54.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	55	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.9	39	-	69	Y
OCDF	100	107	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 12:43 Analyst: gd

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C16	Analysis Date:	21-JAN-2022 23:08:24
Lab ID:	OPR1_18830_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.7	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	103	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	121	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	108	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	99.7	26	-	166	Y
13C-OCDD	200	173	26	-	397	Y
13C-2,3,7,8-TCDF	100	91.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	97.9	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	101	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	117	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	107	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	99.9	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	118	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	102	20	-	186	Y
13C-OCDF	200	193	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.3	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 12:43 Analyst: gd

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220121C16	Analysis Date:	21-JAN-2022 23:08:24
Lab ID:	OPR1_18830_DF		

Window Defining Standards Results

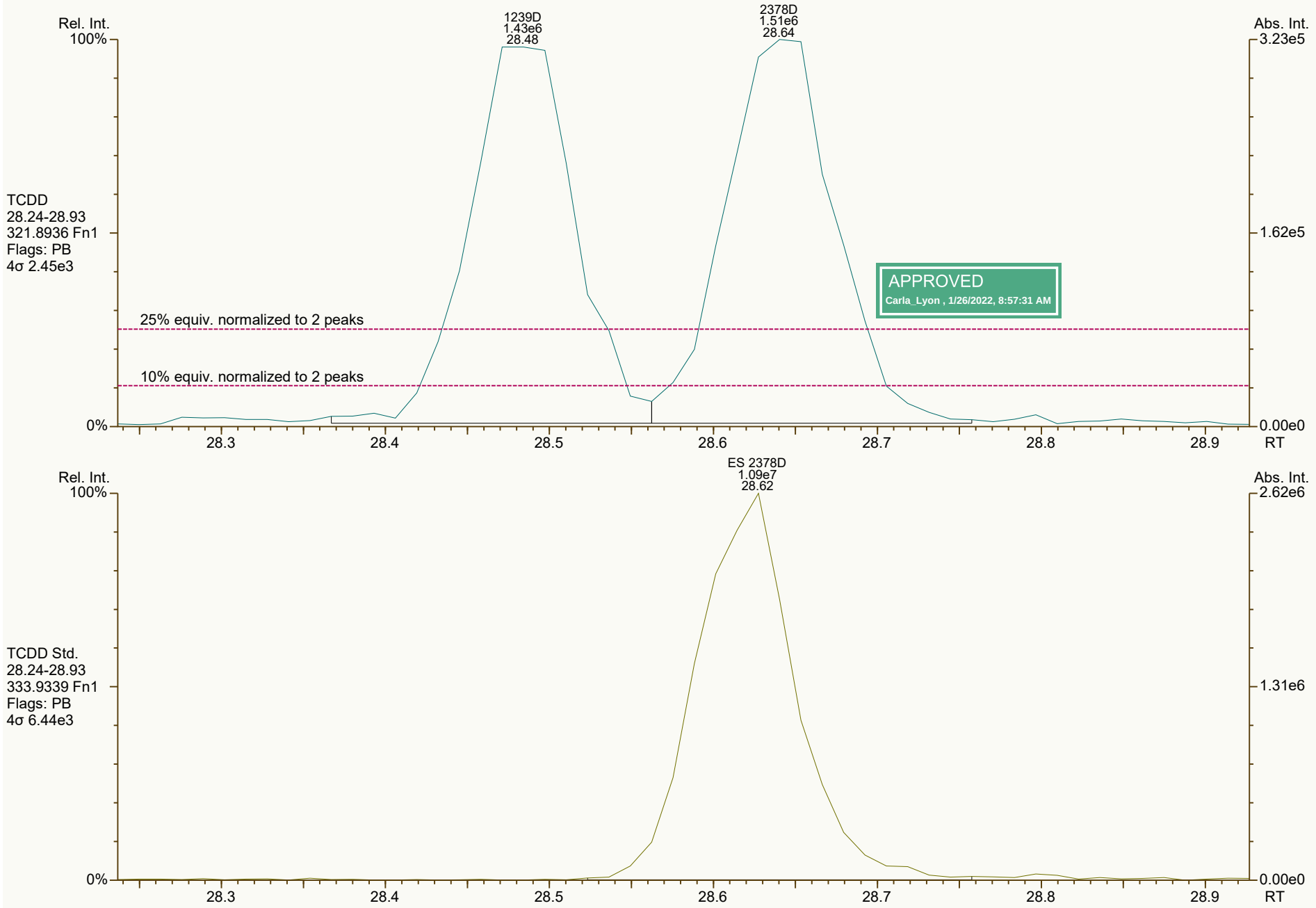
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.04	1289-TCDD	29.61
12479/12468-PeCDD	31.45	12389-PeCDD	34.38
124679/124689-HxCDD	36.09	123789-HxCDD	38.25
1234679-HpCDD	40.19	1234678-HpCDD	40.87
1368-TCDF	22.97	1289-TCDF	29.79
13468/12468-PeCDF	29.69	12389-PeCDF	34.69
123468-HxCDF	35.45	123789-HxCDF	38.60
1234678-HpCDF	39.94	1234789-HpCDF	41.33

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.49	2378-TCDD	28.64
2348-TCDF	27.68	2378-TCDF	27.79

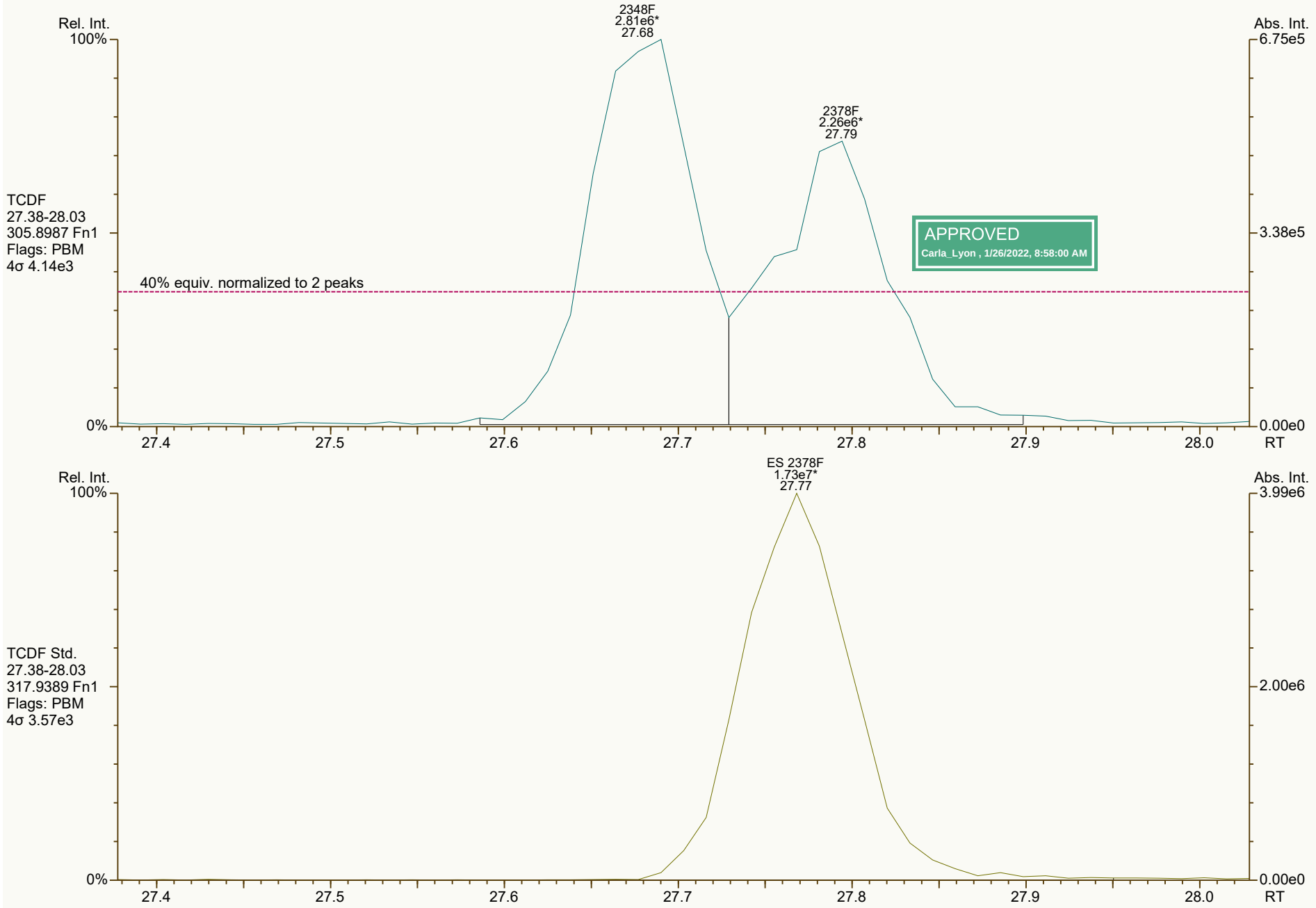
Processed: 24 Jan 2022 12:43 Analyst: gd

SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16

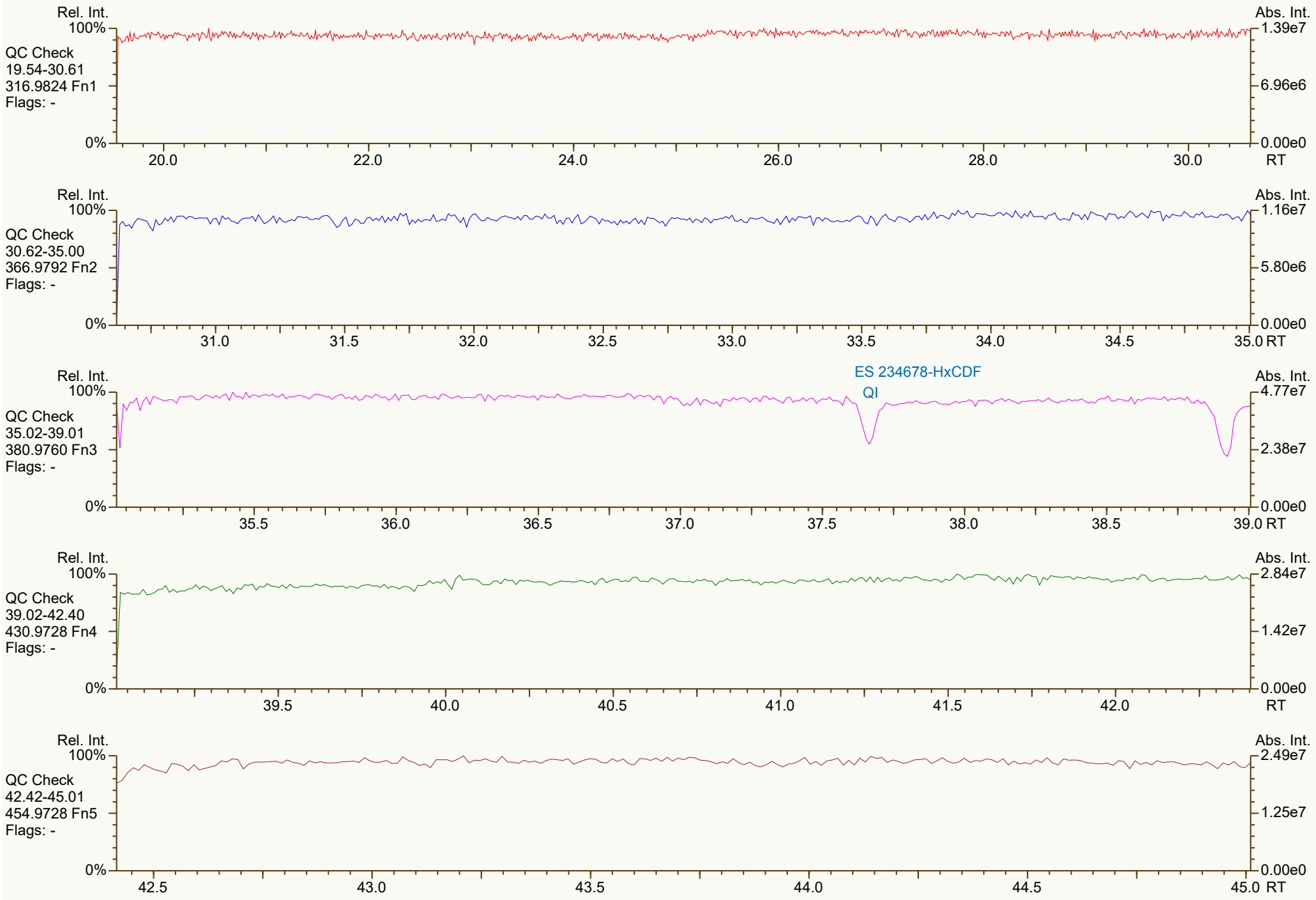


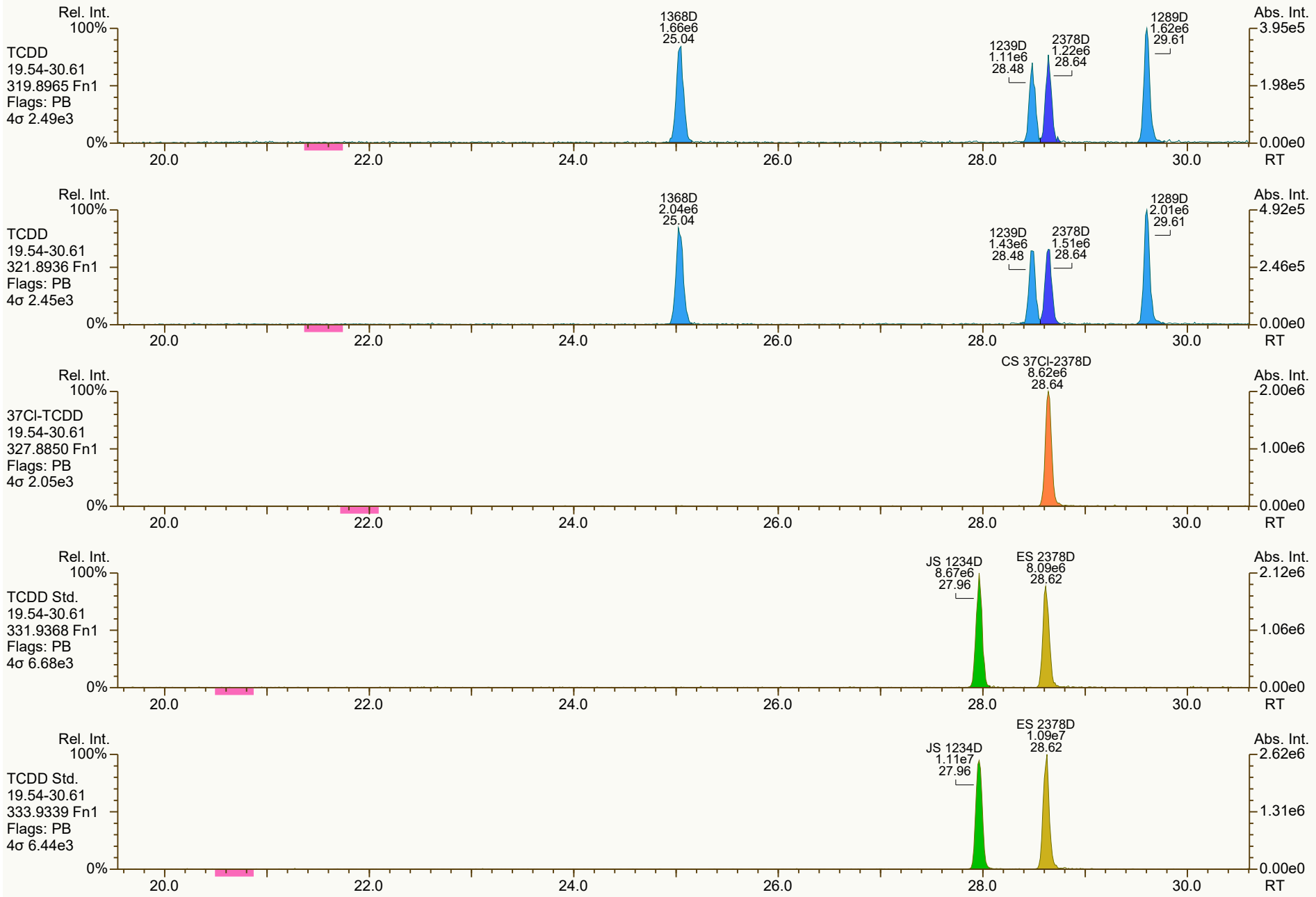
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:45

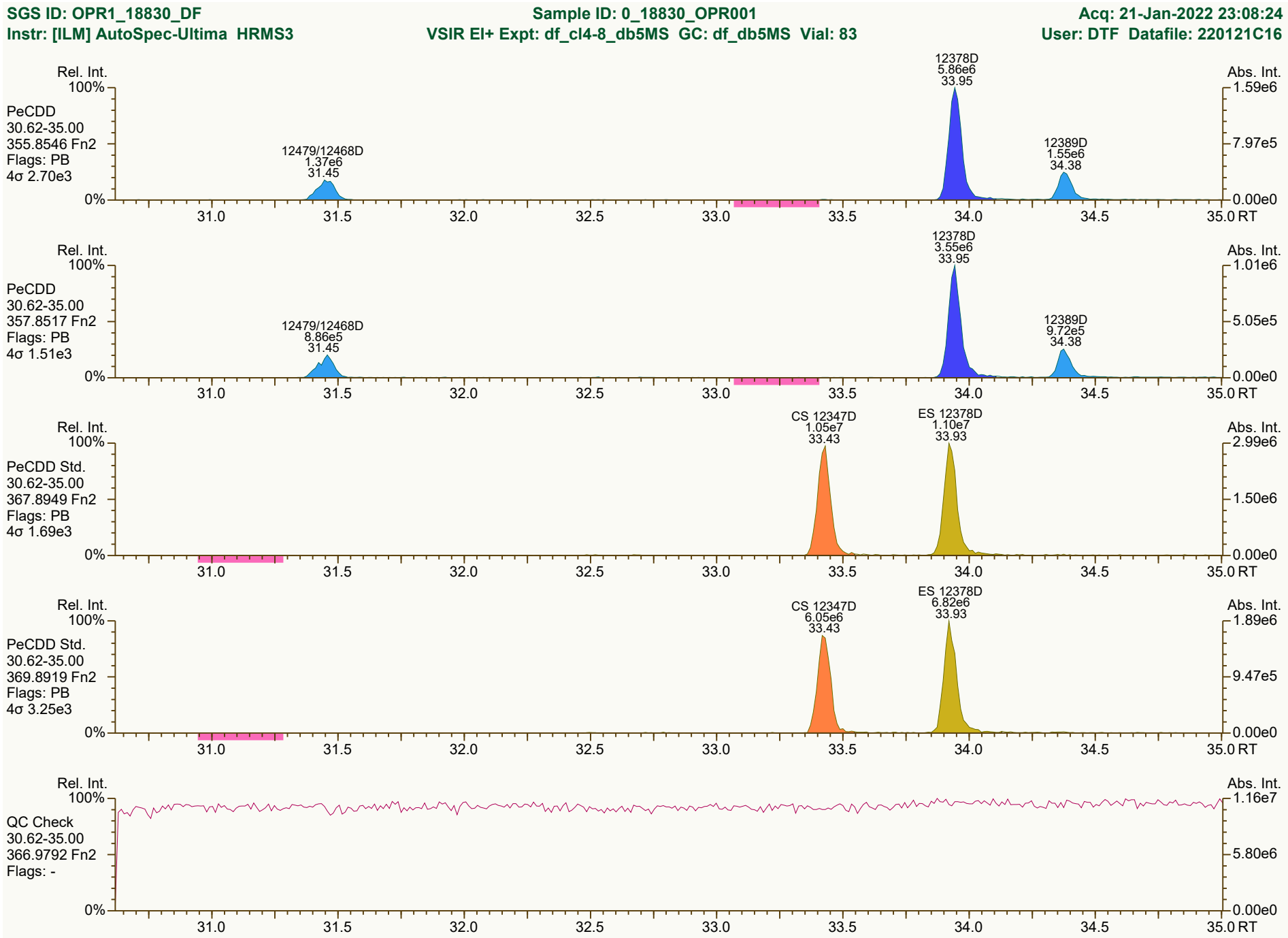
SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16

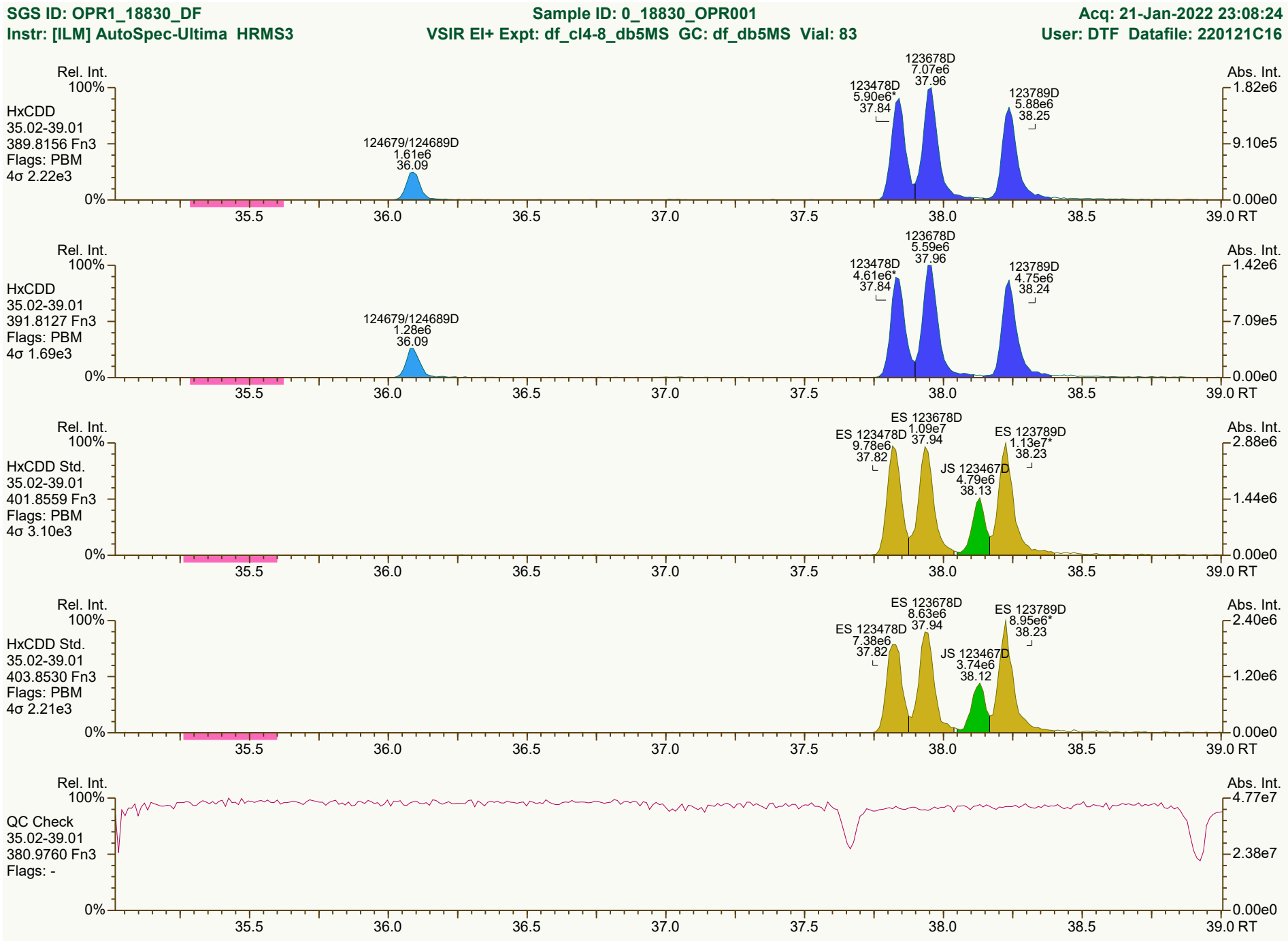


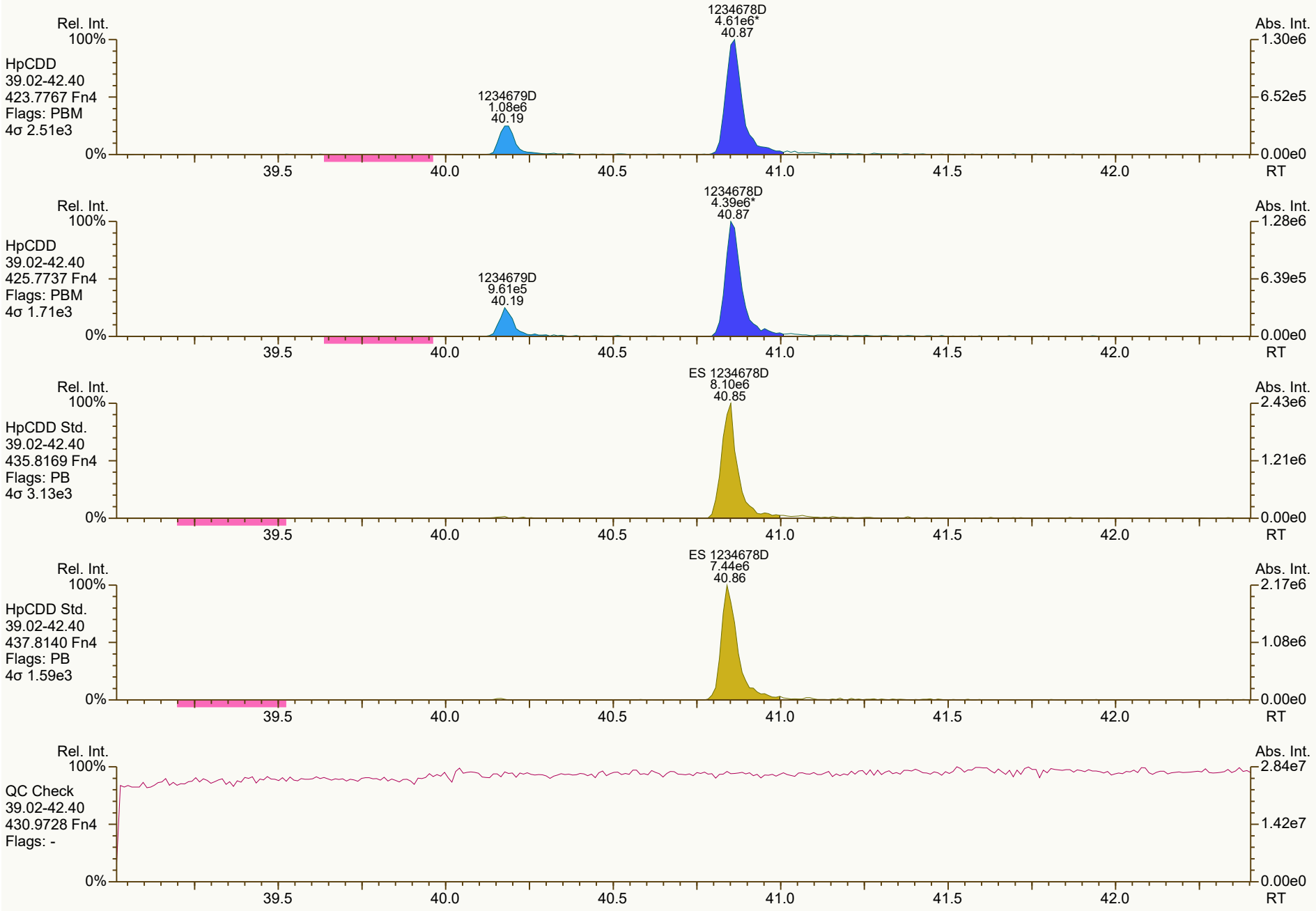
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:45

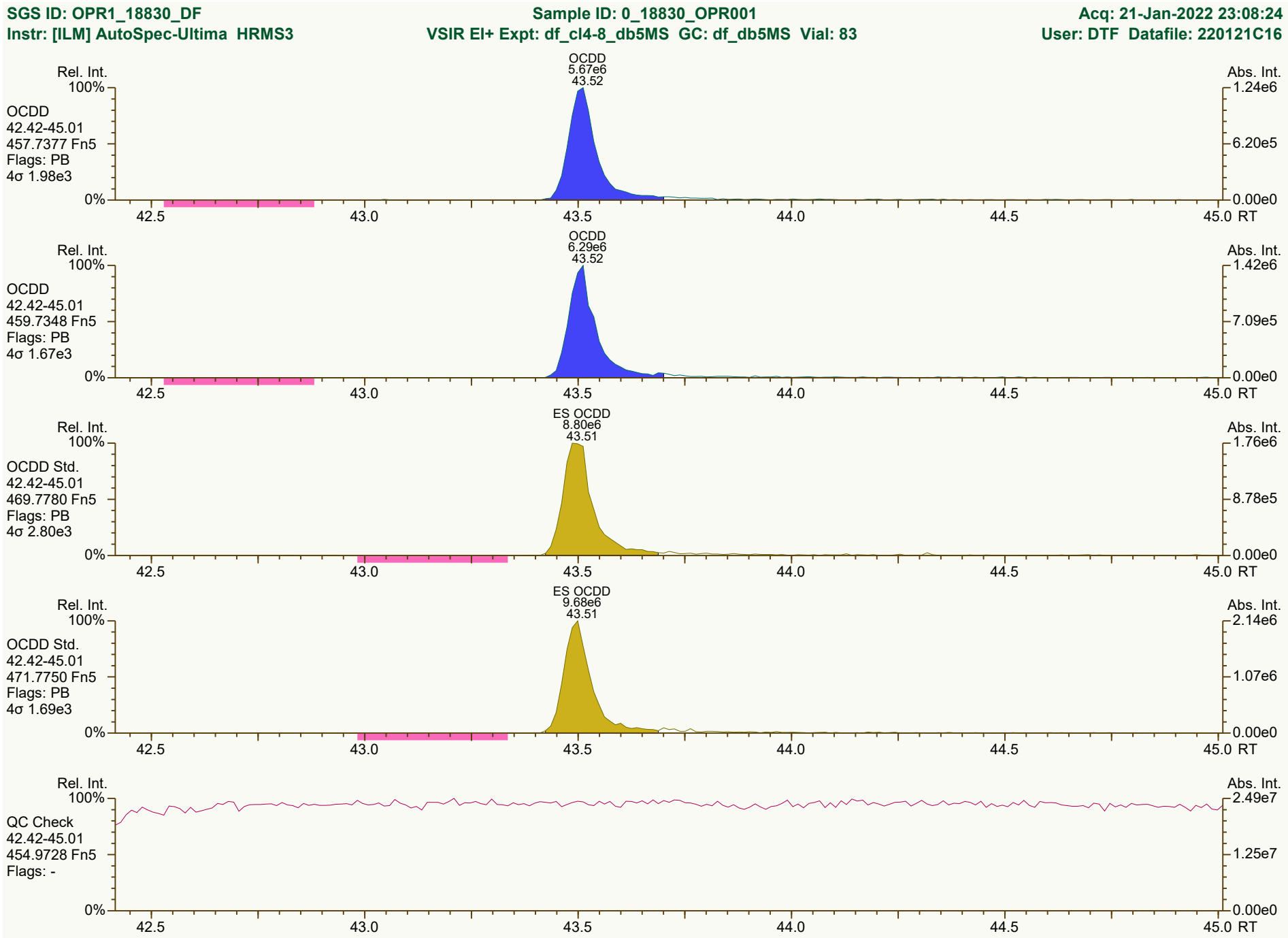

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.39e7
6.96e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.16e7
5.80e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.77e7
2.38e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.84e7
1.42e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.49e7
1.25e7
0.00e0

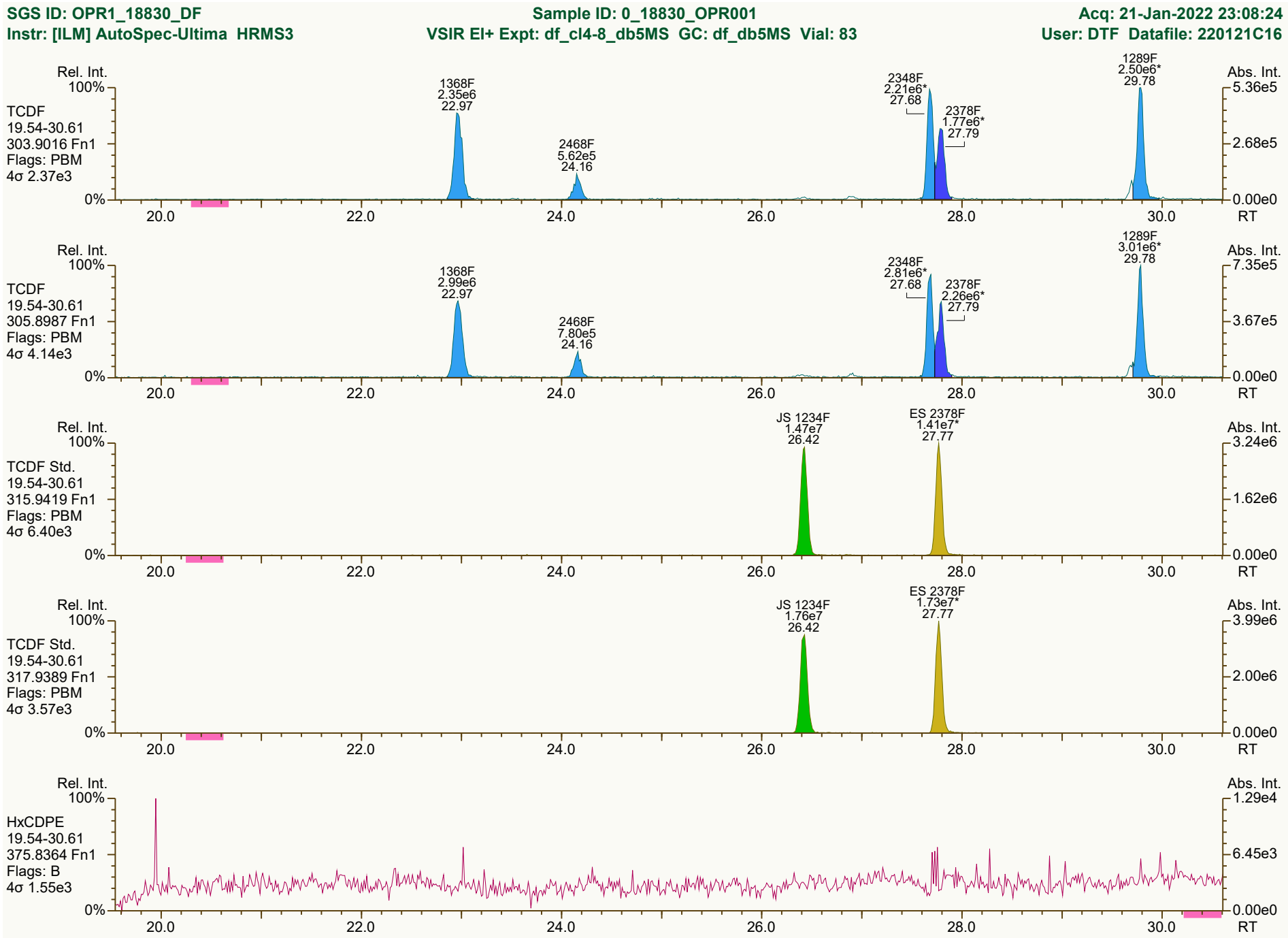

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 2.49e3
0%
1368D
1.66e6
25.04
1239D
1.11e6
28.48
2378D
1.22e6
28.64
1289D
1.62e6
29.61
Abs. Int.
3.95e5
1.98e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.45e3
0%
1368D
2.04e6
25.04
1239D
1.43e6
28.48
2378D
1.51e6
28.64
1289D
2.01e6
29.61
Abs. Int.
4.92e5
2.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 2.05e3
0%
CS 37Cl-2378D
8.62e6
28.64
Abs. Int.
2.00e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.68e3
0%
JS 1234D
8.67e6
27.96
ES 2378D
8.09e6
28.62
Abs. Int.
2.12e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 6.44e3
0%
JS 1234D
1.11e7
27.96
ES 2378D
1.09e7
28.62
Abs. Int.
2.62e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 2.70e3
12479/12468D
1.37e6
31.45
12378D
5.86e6
33.95
12389D
1.55e6
34.38
1.59e6
7.97e5
0.00e0
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.51e3
12479/12468D
8.86e5
31.45
12378D
3.55e6
33.95
12389D
9.72e5
34.38
1.01e6
5.05e5
0.00e0
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.69e3
CS 12347D
1.05e7
33.43
ES 12378D
1.10e7
33.93
2.99e6
1.50e6
0.00e0
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 3.25e3
CS 12347D
6.05e6
33.43
ES 12378D
6.82e6
33.93
1.89e6
9.47e5
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
1.16e7
5.80e6
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9529, 3208 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 3 of 12


SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.22e3
124679/124689D
1.61e6
36.09
123478D
5.90e6*
37.84
123678D
7.07e6
37.96
123789D
5.88e6
38.25
1.82e6
9.10e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.69e3
124679/124689D
1.28e6
36.09
123478D
4.61e6*
37.84
123678D
5.59e6
37.96
123789D
4.75e6
38.24
1.42e6
7.09e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.10e3
ES 123478D
9.78e6
37.82
ES 123678D
1.09e7
37.94
JS 123467D
4.79e6
38.13
ES 123789D
1.13e7*
38.23
2.88e6
1.44e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.21e3
ES 123478D
7.38e6
37.82
ES 123678D
8.63e6
37.94
JS 123467D
3.74e6
38.12
ES 123789D
8.95e6*
38.23
2.40e6
1.20e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.77e7
2.38e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8991, 9620 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 4 of 12


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.51e3
1234678D
4.61e6*
40.87
1234679D
1.08e6
40.19
Abs. Int.
1.30e6
6.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.71e3
1234678D
4.39e6*
40.87
1234679D
9.61e5
40.19
Abs. Int.
1.28e6
6.39e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 3.13e3
ES 1234678D
8.10e6
40.85
Abs. Int.
2.43e6
1.21e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.59e3
ES 1234678D
7.44e6
40.86
Abs. Int.
2.17e6
1.08e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.84e7
1.42e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

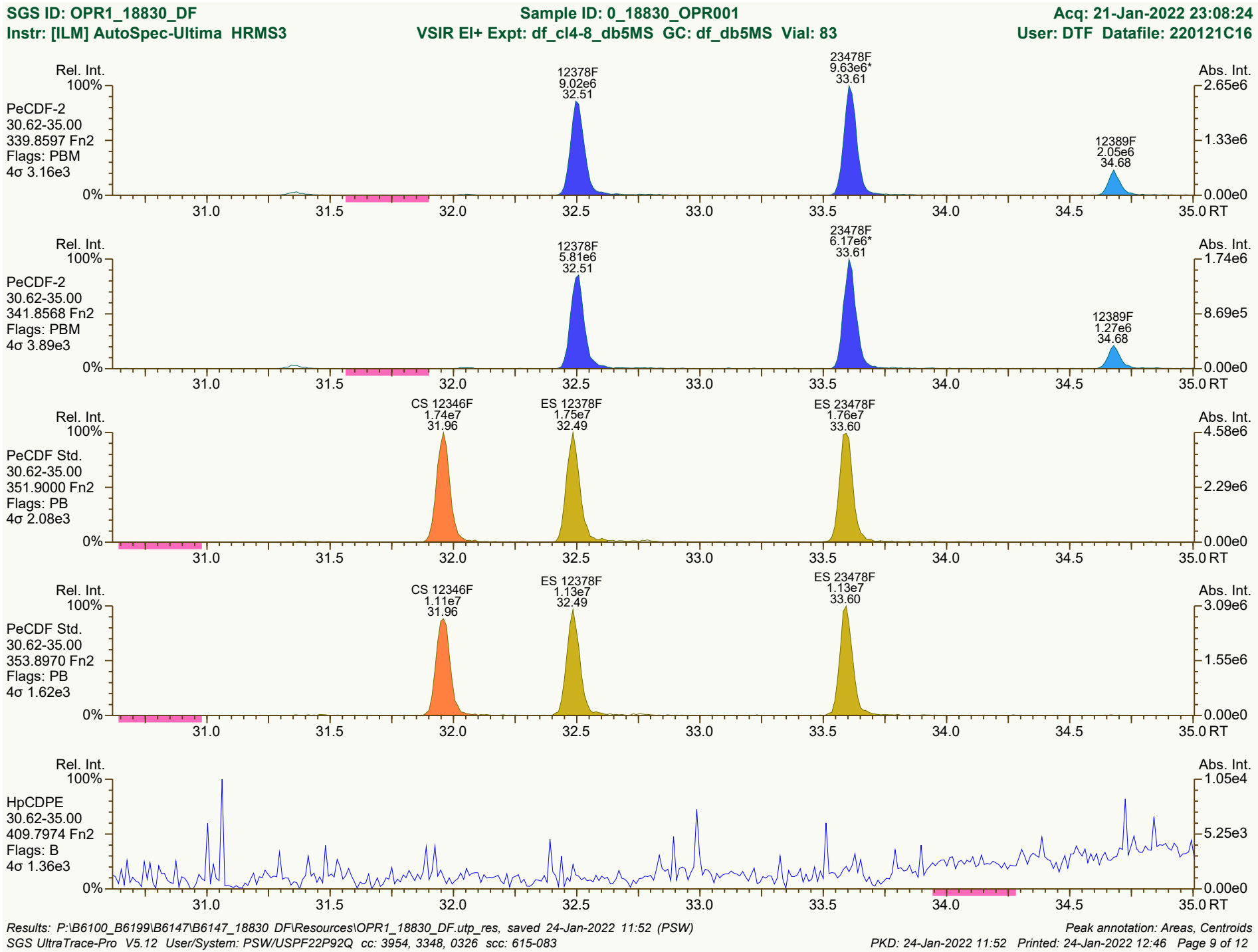

SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16
OCDD
5.67e6
43.52
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.98e3
OCDD
6.29e6
43.52
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.67e3
ES OCDD
8.80e6
43.51
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.80e3
ES OCDD
9.68e6
43.51
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.69e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1382, 7038 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 6 of 12

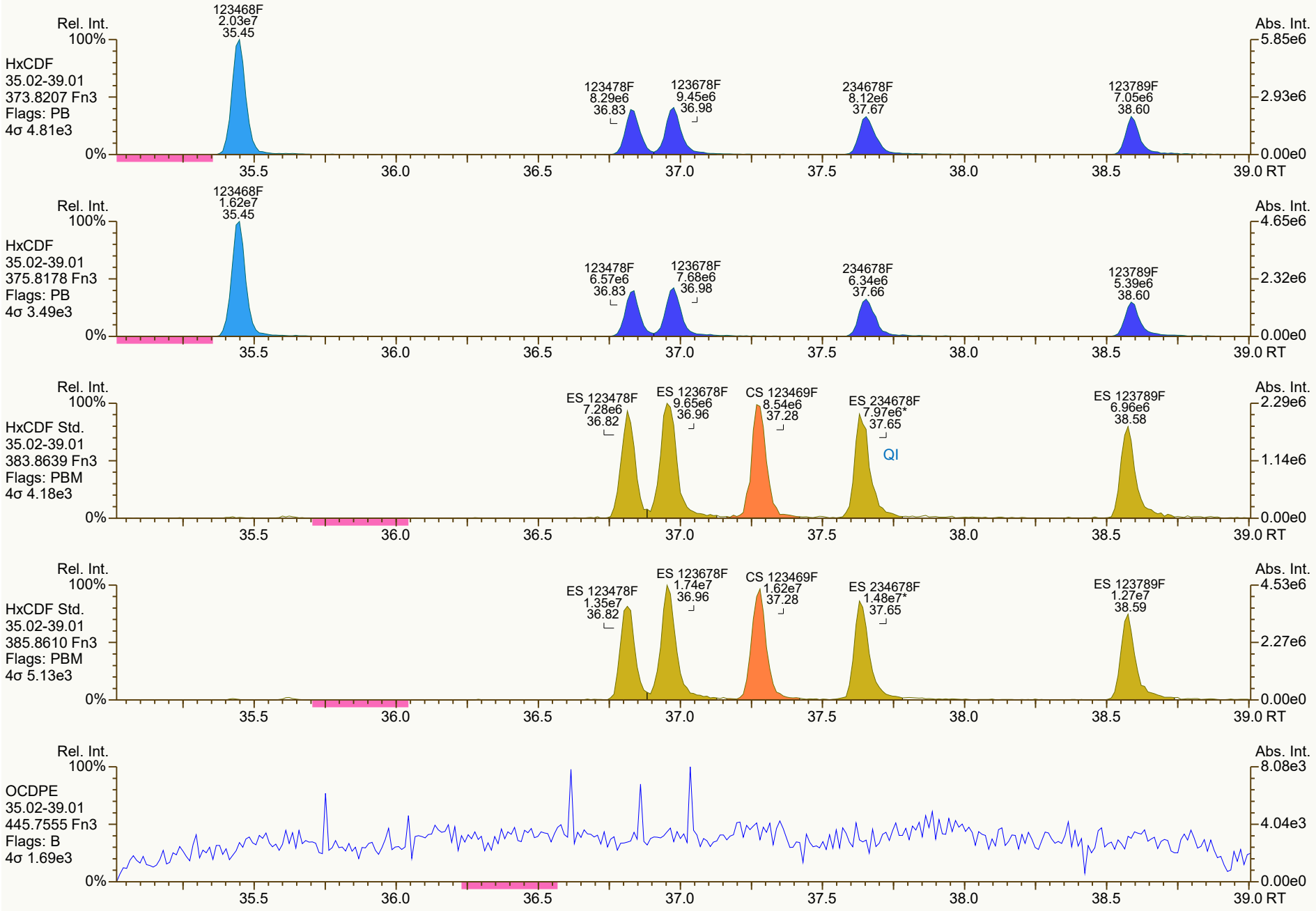

SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.37e3
1368F 2.35e6 22.97
2468F 5.62e5 24.16
2348F 2.21e6* 27.68
2378F 1.77e6* 27.79
1289F 2.50e6* 29.78
5.36e5
2.68e5
0.00e0
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.14e3
1368F 2.99e6 22.97
2468F 7.80e5 24.16
2348F 2.81e6* 27.68
2378F 2.26e6* 27.79
1289F 3.01e6* 29.78
7.35e5
3.67e5
0.00e0
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 6.40e3
JS 1234F 1.47e7 26.42
ES 2378F 1.41e7* 27.77
3.24e6
1.62e6
0.00e0
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 3.57e3
JS 1234F 1.76e7 26.42
ES 2378F 1.73e7* 27.77
3.99e6
2.00e6
0.00e0
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.55e3
1.29e4
6.45e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1259, 6259, 3754 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 7 of 12

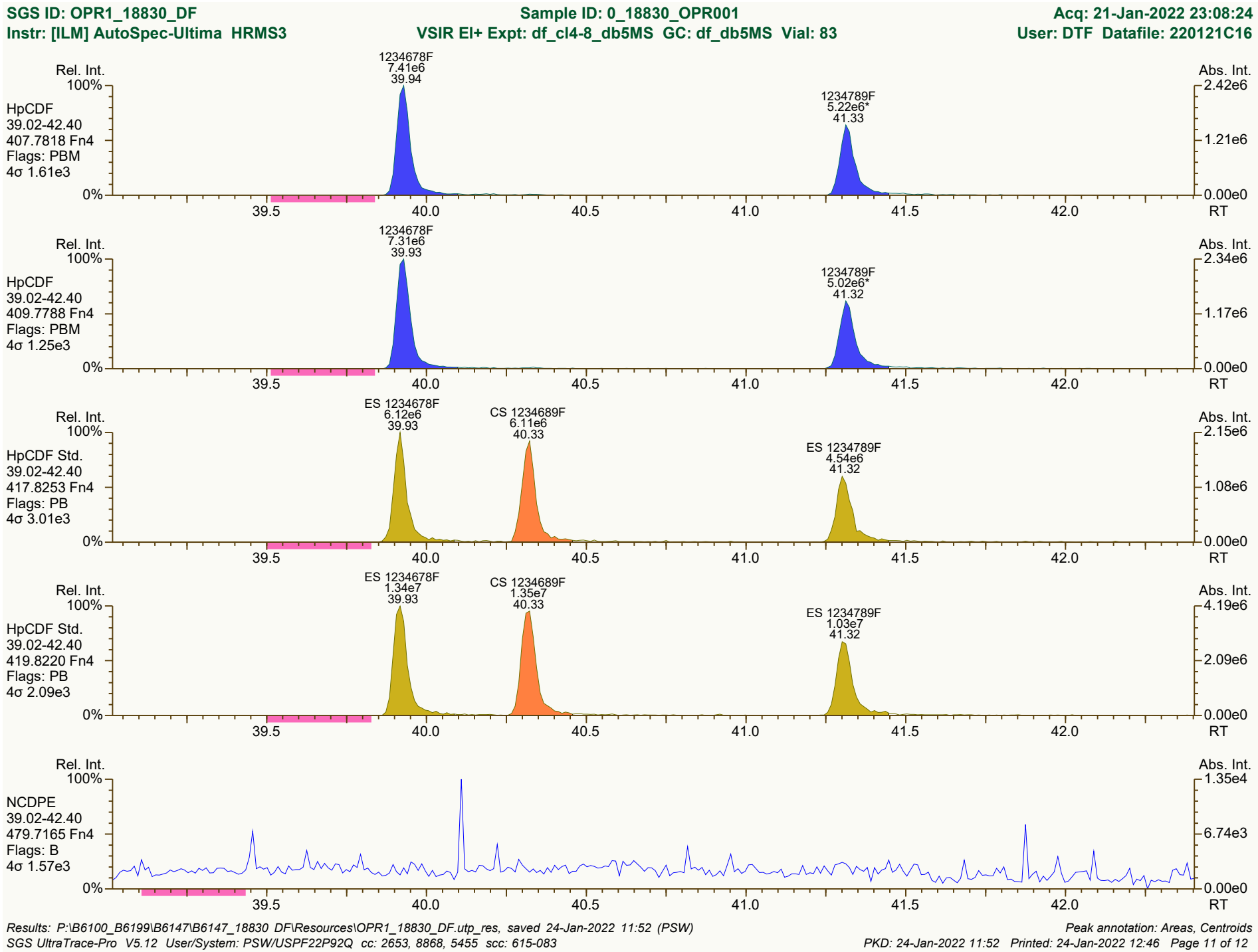
SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16

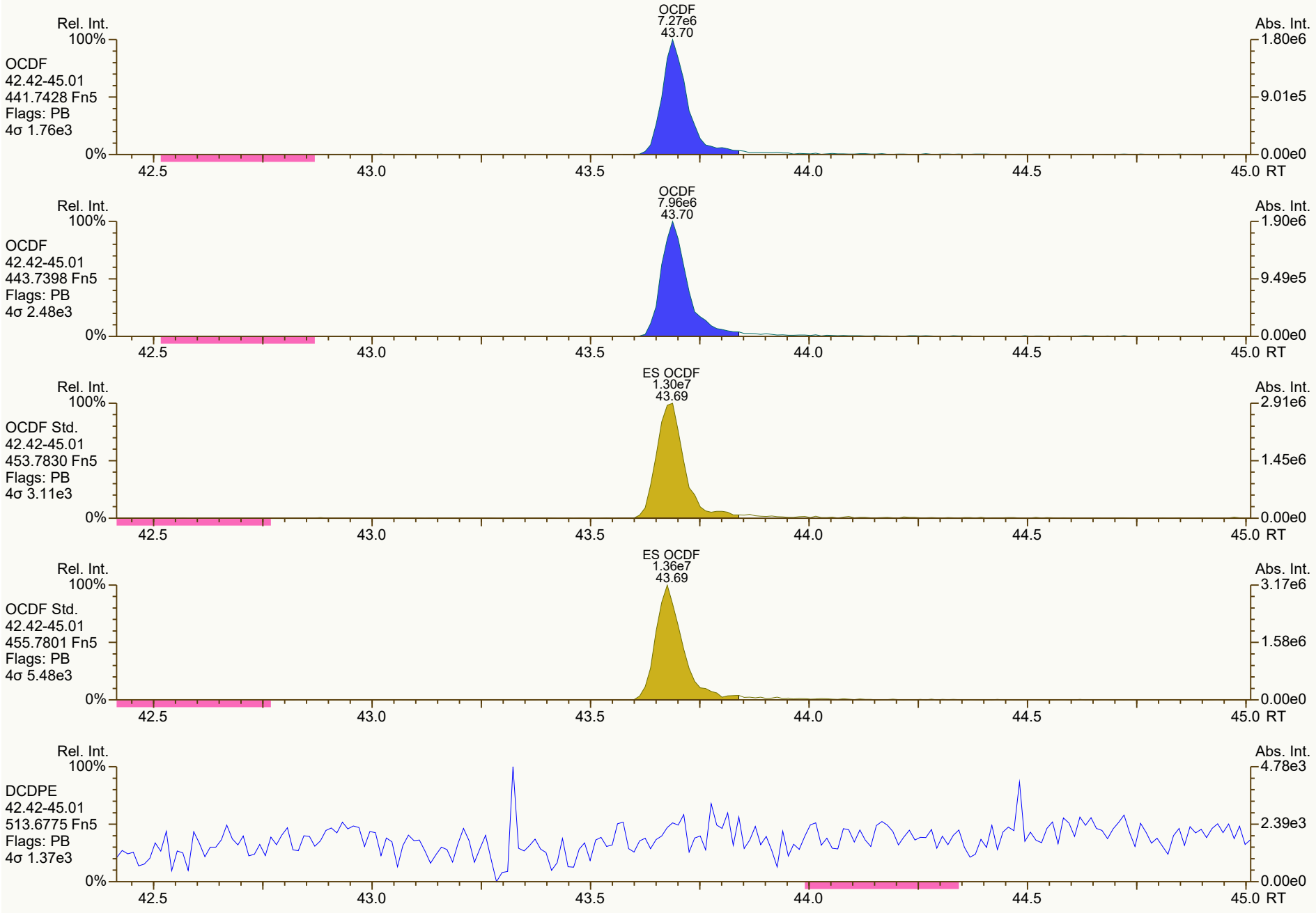


Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3935 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 8 of 12


SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 3.16e3
12378F
9.02e6
32.51
23478F
9.63e6*
33.61
12389F
2.05e6
34.68
2.65e6
1.33e6
0.00e0
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 3.89e3
12378F
5.81e6
32.51
23478F
6.17e6*
33.61
12389F
1.27e6
34.68
1.74e6
8.69e5
0.00e0
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.08e3
CS 12346F
1.74e7
31.96
ES 12378F
1.75e7
32.49
ES 23478F
1.76e7
33.60
4.58e6
2.29e6
0.00e0
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.62e3
CS 12346F
1.11e7
31.96
ES 12378F
1.13e7
32.49
ES 23478F
1.13e7
33.60
3.09e6
1.55e6
0.00e0
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.36e3
1.05e4
5.25e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3954, 3348, 0326 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 4.81e3
123468F
2.03e7
35.45
123478F
8.29e6
36.83
123678F
9.45e6
36.98
234678F
8.12e6
37.67
123789F
7.05e6
38.60
Abs. Int.
5.85e6
2.93e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 3.49e3
123468F
1.62e7
35.45
123478F
6.57e6
36.83
123678F
7.68e6
36.98
234678F
6.34e6
37.66
123789F
5.39e6
38.60
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.18e3
ES 123478F
7.28e6
36.82
ES 123678F
9.65e6
36.96
CS 123469F
8.54e6
37.28
ES 234678F
7.97e6*
37.65
QI
ES 123789F
6.96e6
38.58
Abs. Int.
2.29e6
1.14e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.13e3
ES 123478F
1.35e7
36.82
ES 123678F
1.74e7
36.96
CS 123469F
1.62e7
37.28
ES 234678F
1.48e7*
37.65
ES 123789F
1.27e7
38.59
Abs. Int.
4.53e6
2.27e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.69e3
Abs. Int.
8.08e3
4.04e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR1_18830_DF
Sample ID: 0_18830_OPR001
Acq: 21-Jan-2022 23:08:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220121C16
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.61e3
1234678F
7.41e6
39.94
1234789F
5.22e6*
41.33
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.25e3
1234678F
7.31e6
39.93
1234789F
5.02e6*
41.32
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 3.01e3
ES 1234678F
6.12e6
39.93
CS 1234689F
6.11e6
40.33
ES 1234789F
4.54e6
41.32
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 2.09e3
ES 1234678F
1.34e7
39.93
CS 1234689F
1.35e7
40.33
ES 1234789F
1.03e7
41.32
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.57e3
RT
Results: P:\B6100_B6199\B6147\B6147_18830 DF\Resources\OPR1_18830_DF.utp_res, saved 24-Jan-2022 11:52 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2653, 8868, 5455 scc: 615-083
PKD: 24-Jan-2022 11:52 Printed: 24-Jan-2022 12:46 Page 11 of 12


OCDF
7.27e6
43.70
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.76e3
0%
Abs. Int.
1.80e6
9.01e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.96e6
43.70
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 2.48e3
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.30e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 3.11e3
0%
Abs. Int.
2.91e6
1.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 5.48e3
0%
Abs. Int.
3.17e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.37e3
0%
Abs. Int.
4.78e3
2.39e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-B-17H1 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID	B6148_18876_DF_001	Date Extracted:	01-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	81.3 %	QC Batch No:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:02:41

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	4.25				ES 2378-TCDD	95.4	
12378-PeCDD	ND	0.202			ES 12378-PeCDD	110	
123478-HxCDD	EMPC		0.418	J	ES 123478-HxCDD	100	
123678-HxCDD	0.682			J	ES 123678-HxCDD	110	
123789-HxCDD	1.22			J	ES 123789-HxCDD	93.9	
1234678-HpCDD	16.2				ES 1234678-HpCDD	97.1	
OCDD	388				ES OCDD	98.5	
2378-TCDF	11.9				ES 2378-TCDF	93.1	
12378-PeCDF	EMPC		0.622	J	ES 12378-PeCDF	105	
23478-PeCDF	0.554			J	ES 23478-PeCDF	104	
123478-HxCDF	1.1			J	ES 123478-HxCDF	93.6	
123678-HxCDF	ND	0.209			ES 123678-HxCDF	105	
234678-HxCDF	ND	0.174			ES 234678-HxCDF	122	
123789-HxCDF	ND	0.249			ES 123789-HxCDF	89.9	
1234678-HpCDF	0.655			J	ES 1234678-HpCDF	121	
1234789-HpCDF	ND	0.339			ES 1234789-HpCDF	92.6	
OCDF	1.75			J	ES OCDF	91.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98.8	
Total TCDD	6.85		6.85		CS 12347-PeCDD	120	
Total PeCDD	4.34		4.34		CS 12346-PeCDF	108	
Total HxCDD	21.5		23		CS 123469-HxCDF	115	
Total HpCDD	61.7		61.7		CS 1234689-HpCDF	121	
Total TCDF	23		25.2				
Total PeCDF	0.554		1.55				
Total HxCDF	1.1		1.1				
Total HpCDF	0.655		0.655				
Total PCDD/Fs	**509**		**514**				
WHO-2005 TEQs							
TEQ: ND=0	6.19		6.25				
TEQ: ND=DL/2	6.33	0.399	6.39				
TEQ: ND=DL	6.46	0.798	6.52				

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Sample ID: 11215131-010522-S-BN-SW-B-17H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6148_18876_DF_001	Date Extracted:	01-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	81.3 %	QC Batch No.:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:02:41

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.318)		12479/12468D	0.683	J	124679/124689D	14.6		1234679D	45.5	
1379D	(0.318)		12469D	2.29	J	123468D	[0.375]	J	1234678D	16.2	
1369D	(0.318)		12368D	(0.202)		123679/123689D	4.49				
1469D	2.6		12478D	(0.202)		123469D	[0.698]	J			
1247D...[4]	(0.318)		12379D	0.562	J	123478D	[0.418]	J			
1378D	(0.318)		12369D...[3]	0.804	J	123678D	0.682	J			
1268D	(0.318)		12346/12347D	(0.202)		123467D	0.495	J			
1478D	(0.318)		12378D	(0.202)		123789D	1.22	J	**Conc.**	61.7	
1279D	(0.318)		12367D	(0.202)					**EMPC**	61.7	
1234/1269D	(0.318)		12389D	(0.202)							
1236D	(0.318)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.318)										
1239D	(0.318)								OCDD	388	
2378D	4.25										
1278D	(0.318)										
1267D	(0.318)										
1289D	(0.318)										
Conc.	6.85		**Conc.**	4.34		**Conc.**	21.5				
EMPC	6.85		**EMPC**	4.34		**EMPC**	23				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	6.19	6.25
TEQ: ND=DL/2	6.33	6.39
TEQ: ND=DL	6.46	6.52

	Conc.	EMPC
Total PCDD/Fs	509	514

Checkcode: 696-784-VWK

Report Created: 08-Feb-2022 11:10 Analyst: TF

Sample ID: 11215131-010522-S-BN-SW-B-17H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6148_18876_DF_001	Date Extracted:	01-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	81.3 %	QC Batch No.:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:02:41

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.232)		13468/12468F	(0.127)		123468F	(0.21)		1234678F	0.655	J
1468F	(0.232)		13678F...[3]	(0.169)		124678/134678F	(0.21)		1234679F	(0.264)	
2468F	[0.427]	J	12368F...[3]	(0.169)		134679F	(0.21)		1234689F	(0.264)	
1346/1246F	(0.232)		14678F	(0.169)		124679F	(0.21)		1234789F	(0.339)	
1347F...[3]	(0.232)		13479F	(0.169)		124689F	(0.21)				
1348F	(0.232)		13469/12479F	(0.169)		123467F	(0.21)				
1248F...[3]	0.803		12346F	(0.169)		123478F	1.1	J			
1268F	(0.232)		23468/12469F	(0.169)		123678F	(0.209)				
1467F	(0.232)		12347F	(0.169)		123479F	(0.21)				
1478F	[0.515]		12348F	(0.169)		123469F	(0.21)				
1369/1237F	[0.299]	J	12378F	[0.622]	J	123679F	(0.21)				
2467F	(0.232)		12678/12367F	[0.372]	J	234678F	(0.174)		**Conc.**	0.655	
2368F	[0.587]		12379F	(0.169)		234678/123689F	0		**EMPC**	0.655	
1238F...[5]	0.883		12679F	(0.169)		123689F	(0.21)				
1278F	5.32		23467/12369F	(0.169)		123789F	(0.249)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.232)		23478F	0.554	J	123789/123489F	0				
1267F	0.626		23478/12489F	0		123489F	(0.21)		OCDF	1.75	J
2346/1249F	(0.232)		12489F	(0.169)							
2347/1279F	(0.232)		12349F	(0.169)							
2348F	1.27		12389F	(0.169)							
2378F	11.9										
2367/3467F	0.992										
1269F	[0.39]	J									
1239F	(0.232)										
1289F	1.27										
Conc.	23		**Conc.**	0.554		**Conc.**	1.1				
EMPC	25.2		**EMPC**	1.55		**EMPC**	1.1				

Checkcode: 696-784-VWK

Report Created: 08-Feb-2022 11:10 Analyst: TF

Sample ID: 11215131-010522-S-BN-SW-B-17H1 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6148_18876_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	QC Batch No.:	18876
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	01-Feb-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	05-Feb-2022 05:02
Lab Project No:	B6148	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	4.25		0.318	4.25	4.25	4.25
12378-PeCDD	(0.202)		0.202	(0.101)	(0.202)	(0.202)
123478-HxCDD	[0.418]	J	0.37	[0.0418]	[0.0418]	[0.0418]
123678-HxCDD	0.682	J	0.314	0.0682	0.0682	0.0682
123789-HxCDD	1.22	J	0.356	0.122	0.122	0.122
1234678-HpCDD	16.2		0.323	0.162	0.162	0.162
OCDD	388		0.946	0.388	0.0388	0.116
2378-TCDF	11.9		0.232	1.19	1.19	1.19
12378-PeCDF	[0.622]	J	0.167	[0.0311]	[0.0311]	[0.0187]
23478-PeCDF	0.554	J	0.17	0.277	0.277	0.166
123478-HxCDF	1.1	J	0.224	0.11	0.11	0.11
123678-HxCDF	(0.209)		0.209	(0.0209)	(0.0209)	(0.0209)
234678-HxCDF	(0.174)		0.174	(0.0174)	(0.0174)	(0.0174)
123789-HxCDF	(0.249)		0.249	(0.0249)	(0.0249)	(0.0249)
1234678-HpCDF	0.655	J	0.214	0.00655	0.00655	0.00655
1234789-HpCDF	(0.339)		0.339	(0.00339)	(0.00339)	(0.00339)
OCDF	1.75	J	0.368	0.00175	0.000175	0.000524

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TEQ Summaries			
EMPC = 0, ND = 0	6.58	6.22	6.19
EMPC = 0, ND = DL / 2	6.66	6.36	6.33
EMPC = 0, ND = DL	6.74	6.49	6.46
EMPC = 0, < J-level = 0	5.99	5.64	5.72
EMPC = EMPC, ND = 0	6.65	6.3	6.25
EMPC = EMPC, ND = DL / 2	6.73	6.43	6.39
EMPC = EMPC, ND = DL	6.82	6.57	6.52
EMPC = EMPC, < J-level = 0	5.99	5.64	5.72

Checkcode: 696-784-VWK

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Sample ID: 11215131-010622-S-BN-SW-B-15H1 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	Lab Sample ID	B6148_18876_DF_003	Date Extracted:	01-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	75.2 %	QC Batch No:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:49:01

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	105				ES 2378-TCDD	89.5	
12378-PeCDD	2.47				ES 12378-PeCDD	94.3	
123478-HxCDD	2.22			J	ES 123478-HxCDD	91	
123678-HxCDD	7.98				ES 123678-HxCDD	92.4	
123789-HxCDD	4.75				ES 123789-HxCDD	88.5	
1234678-HpCDD	170				ES 1234678-HpCDD	89.5	
OCDD	2,560				ES OCDD	91.6	
2378-TCDF	345				ES 2378-TCDF	89.5	
12378-PeCDF	13.5				ES 12378-PeCDF	98.2	
23478-PeCDF	14.7			PR	ES 23478-PeCDF	99.1	
123478-HxCDF	28.1				ES 123478-HxCDF	96	
123678-HxCDF	11.5				ES 123678-HxCDF	98.5	
234678-HxCDF	5.37				ES 234678-HxCDF	93	
123789-HxCDF	ND	0.488			ES 123789-HxCDF	91.7	
1234678-HpCDF	227				ES 1234678-HpCDF	102	
1234789-HpCDF	10.8				ES 1234789-HpCDF	89.3	
OCDF	2,350				ES OCDF	98.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	132		133		CS 12347-PeCDD	104	
Total PeCDD	24.5		25.6		CS 12346-PeCDF	104	
Total HxCDD	110		110		CS 123469-HxCDF	107	
Total HpCDD	477		477		CS 1234689-HpCDF	110	
Total TCDF	697		698				
Total PeCDF	108		108				
Total HxCDF	118		118				
Total HpCDF	325		325				
Total PCDD/Fs	**6,900**		**6,900**				
WHO-2005 TEQs							
TEQ: ND=0	159		159				
TEQ: ND=DL/2	159	0.498	159				
TEQ: ND=DL	159	0.996	159				

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Sample ID: 11215131-010622-S-BN-SW-B-15H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	Lab Sample ID:	B6148_18876_DF_003	Date Extracted:	01-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	75.2 %	QC Batch No.:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:49:01

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.85		12479/12468D	6		124679/124689D	51.7		1234679D	307	
1379D	1.23		12469D	5.04		123468D	6.77		1234678D	170	
1369D	0.642		12368D	2.87		123679/123689D	30.4				
1469D	6.12		12478D	2	J	123469D	3.73				
1247D...[4]	1.32		12379D	1.54	J	123478D	2.22	J			
1378D	1.12		12369D...[3]	4.08		123678D	7.98				
1268D	(0.214)		12346/12347D	[0.46]	J	123467D	2.91				
1478D	[0.404]	J	12378D	2.47		123789D	4.75		**Conc.**	477	
1279D	0.537		12367D	0.487	J				**EMPC**	477	
1234/1269D	1.18		12389D	[0.68]	J						
1236D	(0.214)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.9										
1239D	(0.214)								OCDD	2560	
2378D	105										
1278D	9.52										
1267D	(0.214)										
1289D	0.684										
Conc.	132		**Conc.**	24.5		**Conc.**	110				
EMPC	133		**EMPC**	25.6		**EMPC**	110				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	159	159
TEQ: ND=DL/2	159	159
TEQ: ND=DL	159	159

	Conc.	EMPC
Total PCDD/Fs	6,900	6,900

Checkcode: 757-538-CQY

Report Created: 08-Feb-2022 11:12 Analyst: TF

Sample ID: 11215131-010622-S-BN-SW-B-15H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	Lab Sample ID:	B6148_18876_DF_003	Date Extracted:	01-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	75.2 %	QC Batch No.:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:49:01

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[1.61]		13468/12468F	27.5		123468F	9.95		1234678F	227	
1468F	3.27		13678F...[3]	4.11		124678/134678F	29		1234679F	8.48	
2468F	9.6		12368F...[3]	22.6		134679F	(0.458)		1234689F	78.6	
1346/1246F	2.32		14678F	(0.243)		124679F	1.51	J	1234789F	10.8	
1347F...[3]	8.41		13479F	(0.243)		124689F	24.5				
1348F	(0.188)		13469/12479F	2.38	J	123467F	2.91				
1248F...[3]	22.7		12346F	(0.243)		123478F	28.1				
1268F	11.8		23468/12469F	7.58		123678F	11.5				
1467F	1.97		12347F	(0.243)		123479F	(0.458)				
1478F	17.6		12348F	2.78		123469F	1.99	J			
1369/1237F	4.58		12378F	13.5		123679F	(0.458)				
2467F	2.11		12678/12367F	10.4		234678F	5.37		**Conc.**	325	
2368F	17.4		12379F	(0.243)		234678/123689F	0		**EMPC**	325	
1238F...[5]	15.4		12679F	(0.243)		123689F	(0.458)				
1278F	141		23467/12369F	1.33	J	123789F	(0.488)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.188)		23478F	14.7	PR	123789/123489F	0				
1267F	8.91		23478/12489F	0		123489F	3.48		OCDF	2350	
2346/1249F	1.44		12489F	(0.243)							
2347/1279F	4.54		12349F	(0.243)							
2348F	18.9		12389F	1.17	J						
2378F	345										
2367/3467F	31.4										
1269F	5.27										
1239F	(0.188)										
1289F	23.1										
Conc.	697		**Conc.**	108		**Conc.**	118				
EMPC	698		**EMPC**	108		**EMPC**	118				

Checkcode: 757-538-CQY

Report Created: 08-Feb-2022 11:12 Analyst: TF

Sample ID: 11215131-010622-S-BN-SW-B-15H1 TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6148_18876_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	QC Batch No.:	18876
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	01-Feb-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	05-Feb-2022 05:49
Lab Project No:	B6148	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	105		0.214	105	105	105
12378-PeCDD	2.47		0.307	1.23	2.47	2.47
123478-HxCDD	2.22	J	0.62	0.222	0.222	0.222
123678-HxCDD	7.98		0.589	0.798	0.798	0.798
123789-HxCDD	4.75		0.591	0.475	0.475	0.475
1234678-HpCDD	170		0.547	1.7	1.7	1.7
OCDD	2560		0.423	2.56	0.256	0.768
2378-TCDF	345		0.188	34.5	34.5	34.5
12378-PeCDF	13.5		0.24	0.677	0.677	0.406
23478-PeCDF	14.7	PR	0.246	7.35	7.35	4.41
123478-HxCDF	28.1		0.439	2.81	2.81	2.81
123678-HxCDF	11.5		0.408	1.15	1.15	1.15
234678-HxCDF	5.37		0.507	0.537	0.537	0.537
123789-HxCDF	(0.488)		0.488	(0.0488)	(0.0488)	(0.0488)
1234678-HpCDF	227		0.187	2.27	2.27	2.27
1234789-HpCDF	10.8		0.272	0.108	0.108	0.108
OCDF	2350		0.42	2.35	0.235	0.704

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TEQ Summaries			
EMPC = 0, ND = 0	164	161	159
EMPC = 0, ND = DL / 2	164	161	159
EMPC = 0, ND = DL	164	161	159
EMPC = 0, < J-level = 0	164	161	158
EMPC = EMPC, ND = 0	164	161	159
EMPC = EMPC, ND = DL / 2	164	161	159
EMPC = EMPC, ND = DL	164	161	159
EMPC = EMPC, < J-level = 0	164	161	158

Checkcode: 757-538-CQY

Sample ID: Method Blank B6148_18876 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18876_DF_SDS	Date Extracted:	01-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:57:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.192			ES 2378-TCDD	89.3	
12378-PeCDD	ND	0.202			ES 12378-PeCDD	101	
123478-HxCDD	ND	0.174			ES 123478-HxCDD	97.6	
123678-HxCDD	ND	0.142			ES 123678-HxCDD	113	
123789-HxCDD	ND	0.158			ES 123789-HxCDD	92.1	
1234678-HpCDD	ND	0.18			ES 1234678-HpCDD	94.2	
OCDD	EMPC		0.902	J	ES OCDD	92.9	
2378-TCDF	ND	0.127			ES 2378-TCDF	81.8	
12378-PeCDF	ND	0.187			ES 12378-PeCDF	97	
23478-PeCDF	ND	0.189			ES 23478-PeCDF	90	
123478-HxCDF	ND	0.129			ES 123478-HxCDF	81.8	
123678-HxCDF	ND	0.118			ES 123678-HxCDF	96.6	
234678-HxCDF	ND	0.0974			ES 234678-HxCDF	116	
123789-HxCDF	ND	0.146			ES 123789-HxCDF	79.7	
1234678-HpCDF	ND	0.182			ES 1234678-HpCDF	127	
1234789-HpCDF	ND	0.397			ES 1234789-HpCDF	81.3	
OCDF	ND	0.351			ES OCDF	76.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.4	
Total TCDD	ND	0.192	ND		CS 12347-PeCDD	120	
Total PeCDD	ND	0.202	ND		CS 12346-PeCDF	109	
Total HxCDD	ND	0.157	ND		CS 123469-HxCDF	114	
Total HpCDD	ND	0.18	ND		CS 1234689-HpCDF	124	
Total TCDF	ND	0.127	ND				
Total PeCDF	ND	0.188	ND				
Total HxCDF	ND	0.119	ND				
Total HpCDF	ND	0.259	ND				
Total PCDD/Fs	**ND**		**0.902**				
WHO-2005 TEQs							
TEQ: ND=0	0		0.000271				
TEQ: ND=DL/2	0.287	0.287	0.287				
TEQ: ND=DL	0.573	0.574	0.574				

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Sample ID: Method Blank B6148_18876 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18876_DF_SDS	Date Extracted:	01-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:57:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.192)		12479/12468D	(0.202)		124679/124689D	(0.157)		1234679D	(0.18)	
1379D	(0.192)		12469D	(0.202)		123468D	(0.157)		1234678D	(0.18)	
1369D	(0.192)		12368D	(0.202)		123679/123689D	(0.157)				
1469D	(0.192)		12478D	(0.202)		123469D	(0.157)				
1247D...[4]	(0.192)		12379D	(0.202)		123478D	(0.174)				
1378D	(0.192)		12369D...[3]	(0.202)		123678D	(0.142)				
1268D	(0.192)		12346/12347D	(0.202)		123467D	(0.157)				
1478D	(0.192)		12378D	(0.202)		123789D	(0.158)		**Conc.**	0	
1279D	(0.192)		12367D	(0.202)					**EMPC**	0	
1234/1269D	(0.192)		12389D	(0.202)							
1236D	(0.192)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.192)										
1239D	(0.192)								OCDD	[0.902]	J
2378D	(0.192)										
1278D	(0.192)										
1267D	(0.192)										
1289D	(0.192)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0.000271
TEQ: ND=DL/2	0.287	0.287
TEQ: ND=DL	0.573	0.574

	Conc.	EMPC
Total PCDD/Fs	0	0.902

Checkcode: 264-158-GYL

Report Created: 08-Feb-2022 11:09 Analyst: TF

Sample ID: Method Blank B6148_18876 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18876_DF_SDS	Date Extracted:	01-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:57:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.127)		13468/12468F	(0.157)		123468F	(0.119)		1234678F	(0.182)	
1468F	(0.127)		13678F...[3]	(0.188)		124678/134678F	(0.119)		1234679F	(0.259)	
2468F	(0.127)		12368F...[3]	(0.188)		134679F	(0.119)		1234689F	(0.259)	
1346/1246F	(0.127)		14678F	(0.188)		124679F	(0.119)		1234789F	(0.397)	
1347F...[3]	(0.127)		13479F	(0.188)		124689F	(0.119)				
1348F	(0.127)		13469/12479F	(0.188)		123467F	(0.119)				
1248F...[3]	(0.127)		12346F	(0.188)		123478F	(0.129)				
1268F	(0.127)		23468/12469F	(0.188)		123678F	(0.118)				
1467F	(0.127)		12347F	(0.188)		123479F	(0.119)				
1478F	(0.127)		12348F	(0.188)		123469F	(0.119)				
1369/1237F	(0.127)		12378F	(0.187)		123679F	(0.119)				
2467F	(0.127)		12678/12367F	(0.188)		234678F	(0.0974)		**Conc.**	0	
2368F	(0.127)		12379F	(0.188)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.127)		12679F	(0.188)		123689F	(0.119)				
1278F	(0.127)		23467/12369F	(0.188)		123789F	(0.146)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.127)		23478F	(0.189)		123789/123489F	0				
1267F	(0.127)		23478/12489F	0		123489F	(0.119)		OCDF	(0.351)	
2346/1249F	(0.127)		12489F	(0.188)							
2347/1279F	(0.127)		12349F	(0.188)							
2348F	(0.127)		12389F	(0.188)							
2378F	(0.127)										
2367/3467F	(0.127)										
1269F	(0.127)										
1239F	(0.127)										
1289F	(0.127)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 264-158-GYL

Report Created: 08-Feb-2022 11:09 Analyst: TF

Sample ID: Method Blank B6148_18876 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18876_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18876
Date Collected:	n/a	Split:	-	Date Extracted:	01-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	05-Feb-2022 01:57
Lab Project No:	B6148	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.192)		0.192	(0.192)	(0.192)	(0.192)
12378-PeCDD	(0.202)		0.202	(0.101)	(0.202)	(0.202)
123478-HxCDD	(0.174)		0.174	(0.0174)	(0.0174)	(0.0174)
123678-HxCDD	(0.142)		0.142	(0.0142)	(0.0142)	(0.0142)
123789-HxCDD	(0.158)		0.158	(0.0158)	(0.0158)	(0.0158)
1234678-HpCDD	(0.18)		0.18	(0.0018)	(0.0018)	(0.0018)
OCDD	[0.902]	J	0.556	[0.000902]	[0.0000902]	[0.000271]
2378-TCDF	(0.127)		0.127	(0.0127)	(0.0127)	(0.0127)
12378-PeCDF	(0.187)		0.187	(0.00936)	(0.00936)	(0.00562)
23478-PeCDF	(0.189)		0.189	(0.0945)	(0.0945)	(0.0567)
123478-HxCDF	(0.129)		0.129	(0.0129)	(0.0129)	(0.0129)
123678-HxCDF	(0.118)		0.118	(0.0118)	(0.0118)	(0.0118)
234678-HxCDF	(0.0974)		0.0974	(0.00974)	(0.00974)	(0.00974)
123789-HxCDF	(0.146)		0.146	(0.0146)	(0.0146)	(0.0146)
1234678-HpCDF	(0.182)		0.182	(0.00182)	(0.00182)	(0.00182)
1234789-HpCDF	(0.397)		0.397	(0.00397)	(0.00397)	(0.00397)
OCDF	(0.351)		0.351	(0.000351)	(0.0000351)	(0.000105)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.257	0.307	0.287
EMPC = 0, ND = DL	0.514	0.615	0.573
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.000902	0.0000902	0.000271
EMPC = EMPC, ND = DL / 2	0.258	0.308	0.287
EMPC = EMPC, ND = DL	0.515	0.615	0.574
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 264-158-GYL

Sample ID: 0_18876_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18876_DF	Date Extracted:	01-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18876	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:38:21

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.1				ES 2378-TCDD	73.9	
12378-PeCDD	50.7				ES 12378-PeCDD	87.1	
123478-HxCDD	56.8				ES 123478-HxCDD	81.4	
123678-HxCDD	58.8				ES 123678-HxCDD	90.4	
123789-HxCDD	55				ES 123789-HxCDD	77.2	
1234678-HpCDD	56.4				ES 1234678-HpCDD	80	
OCDD	113				ES OCDD	77.7	
2378-TCDF	13.1				ES 2378-TCDF	71.2	
12378-PeCDF	54.7				ES 12378-PeCDF	83.1	
23478-PeCDF	57.9				ES 23478-PeCDF	82.8	
123478-HxCDF	53.9				ES 123478-HxCDF	71.3	
123678-HxCDF	56.1				ES 123678-HxCDF	82.1	
234678-HxCDF	54.3				ES 234678-HxCDF	101	
123789-HxCDF	54.1				ES 123789-HxCDF	71.9	
1234678-HpCDF	57				ES 1234678-HpCDF	103	
1234789-HpCDF	54.2				ES 1234789-HpCDF	74.9	
OCDF	108				ES OCDF	68.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.7	
Total TCDD	52.3		52.3		CS 12347-PeCDD	116	
Total PeCDD	74.6		74.6		CS 12346-PeCDF	98	
Total HxCDD	183		183		CS 123469-HxCDF	101	
Total HpCDD	68.7		68.7		CS 1234689-HpCDF	113	
Total TCDF	65.4		65.4				
Total PeCDF	207		207				
Total HxCDF	334		334				
Total HpCDF	111		111				
Total PCDD/Fs	**1,320**		**1,320**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.227	124				
TEQ: ND=DL	124	0.455	124				

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Sample ID: 0_18876_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18876_DF	Date Extracted:	01-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18876	Date Analyzed:	05-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:24:41

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.7				ES 2378-TCDD	89.2	
12378-PeCDD	47				ES 12378-PeCDD	93.2	
123478-HxCDD	50.8				ES 123478-HxCDD	100	
123678-HxCDD	51.7				ES 123678-HxCDD	115	
123789-HxCDD	49.2				ES 123789-HxCDD	90.3	
1234678-HpCDD	51.3				ES 1234678-HpCDD	97.4	
OCDD	106				ES OCDD	92.4	
2378-TCDF	10.8				ES 2378-TCDF	79.8	
12378-PeCDF	47.9				ES 12378-PeCDF	89.3	
23478-PeCDF	51.4				ES 23478-PeCDF	85.3	
123478-HxCDF	49.5				ES 123478-HxCDF	83.5	
123678-HxCDF	51.6				ES 123678-HxCDF	95.2	
234678-HxCDF	48.6				ES 234678-HxCDF	124	
123789-HxCDF	47.8				ES 123789-HxCDF	87.1	
1234678-HpCDF	48.7				ES 1234678-HpCDF	123	
1234789-HpCDF	48.9				ES 1234789-HpCDF	93	
OCDF	104				ES OCDF	84.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.6	
Total TCDD	52.3		52.3		CS 12347-PeCDD	113	
Total PeCDD	71.5		71.5		CS 12346-PeCDF	96.7	
Total HxCDD	163		163		CS 123469-HxCDF	113	
Total HpCDD	63.2		63.2		CS 1234689-HpCDF	122	
Total TCDF	64.2		64.2				
Total PeCDF	201		201				
Total HxCDF	306		306				
Total HpCDF	97.7		97.7				
Total PCDD/Fs	**1,230**		**1,230**				
WHO-2005 TEQs							
TEQ: ND=0	112		112				
TEQ: ND=DL/2	112	0.189	112				
TEQ: ND=DL	112	0.378	112				

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Sample DUP

Method 1613B

Sample ID: 0_18876_OPR001

Analyte	OPR1_18876_DF pg/uL	OPR2_18876_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.1	10.7	12.9%
1,2,3,7,8-PeCDD	50.7	47	7.6%
1,2,3,4,7,8-HxCDD	56.8	50.8	11.1%
1,2,3,6,7,8-HxCDD	58.8	51.7	12.9%
1,2,3,7,8,9-HxCDD	55	49.2	11.1%
1,2,3,4,6,7,8-HpCDD	56.4	51.3	9.5%
OCDD	113	106	6.8%
2,3,7,8-TCDF	13.1	10.8	18.7%
1,2,3,7,8-PeCDF	54.7	47.9	13.2%
2,3,4,7,8-PeCDF	57.9	51.4	12.0%
1,2,3,4,7,8-HxCDF	53.9	49.5	8.5%
1,2,3,6,7,8-HxCDF	56.1	51.6	8.5%
2,3,4,6,7,8-HxCDF	54.3	48.6	11.1%
1,2,3,7,8,9-HxCDF	54.1	47.8	12.3%
1,2,3,4,6,7,8-HpCDF	57	48.7	15.7%
1,2,3,4,7,8,9-HpCDF	54.2	48.9	10.2%
OCDF	108	104	3.3%
Totals			
Total TCDD	52.3	52.3	0.1%
Total PeCDD	74.6	71.5	4.2%
Total HxCDD	183	163	11.3%
Total HpCDD	68.7	63.2	8.4%
Total TCDF	65.4	64.2	1.8%
Total PeCDF	207	201	3.0%
Total HxCDF	334	306	8.7%
Total HpCDF	111	97.7	13.0%

Sample Receipt Notification

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Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6148*
Requested TAT:	*10 business days*
Projected due date:	*10-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-B-17H1	B6148_001*	S	1	4 oz Amber	05-Jan-22	15:10	2.5	1	490527043610
11215131-010522-S-BN-SW-B-17H2	B6148_002	S - HOLD	1	4 oz Amber	05-Jan-22	15:20	2.5	1	490527043610
11215131-010622-S-BN-SW-B-15H1	B6148_003*	S	1	4 oz Amber	06-Jan-22	10:10	2.5	1	490527043610
11215131-010622-S-BN-SW-B-15H2	B6148_004	S - HOLD	1	4 oz Amber	06-Jan-22	10:20	2.5	1	490527043610

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact; *samples taken off HOLD per email dated 1/26/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Amy Boehm* *QC'ed by:* TB 01/26/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6148 1/2

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remarks
REPORT LEVEL: Level I Level II ■ Level IV
SPECIAL DELIVERABLES:
DoD ■ EDD/Version: GHD EQuIS 4-file
State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS (SEE SSOW)
11215131-010522-S-BN-SW-S-26	1-5-22	1440	C	S	4 oz		X				1	RUSH
11215131-010522-S-BN-SW-0-15		1450	C	S	4 oz		X				1	
11215131-010522-S-BN-SW-B-17		1500	C	S	4 oz		X				1	
11215131-010522-S-BN-SW-B-17H1		1510	C	S	4 oz		X				1	HOLD
11215131-010522-S-BN-SW-B-17H2	↓	1520	C	S	4 oz		X				1	HOLD
11215131-010622-S-BN-SW-S-30	1-6-22	0930	C	S	4 oz		X				1	RUSH
11215131-010622-S-BN-SW-S-35		0940	C	S	4 oz		X				1	RUSH
11215131-010622-S-BN-SW-0-12		0950	C	S	4 oz		X				1	
11215131-010622-S-BN-SW-B-15		1000	C	S	4 oz		X	X	X		1	MS/MSD
11215131-010622-S-BN-SW-B-15H1	↓	1010	C	S	4 oz		X				1	HOLD

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna North	1-6-22	1435	Eddie Cost
RELINQUISHED BY (2): Eddie Costa	DATE: 1-6-22	TIME: 1533	RECEIVED BY: 1/6/22 1533
RELINQUISHED BY (3):	DATE: 1/6/22	TIME: 1533	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1/7/22 TIME: 1220
COOLER SEAL: INTACT BROKEN ABSENT
CONTAINER SEALS: INTACT BROKEN ABSENT
CARRIER: TEMP: °C 2.5°
TRACKING #:

ENVIRONMENT, HEALTH & SAFETY [illegible] www.sgs.com/ehs

B6148 2/2

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remar
REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-010622-S-BN-SW-B-1	1-6-22	1020	C	S	4 oz	X					1	Hold
11215131-010622-S-BN-DUP-10	↓	—	C	S	4 oz	X				X	1	
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							

SEE SSOW

COLLECTED/RELINQUISHED BY (1): Brianna North	DATE: 1-6-22	TIME: 1435	RECEIVED BY: Eddie Castro	RECEIVED BY LABORATORY:	DATE: TIME: 1-7-22 1220
RELINQUISHED BY (2): Eddie Castro	DATE: 1-6-22	TIME: 1533	RECEIVED BY:	1/6/22 1533	COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
RELINQUISHED BY (3):	DATE: 1/6/22	TIME: 1527	RECEIVED BY:		CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
					CARRIER: TEMP: °C
					TRACKING #:

B6148

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 06JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903 REF:
INV:
PO: DEPT:

12 lb
1/7.22

FedEx Express

J191218982001UV

FRI - 07 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 3610

NL ILMA

28405
NC-US RDU

Part # 156146-434 XXX EXP 07Y2 ss

SGS

Customer
DATE 1-6-22
SIGNATURE

11409

Project Initiation Form

Project Number:	B6148	Initiation Date:	26-Jan-22
Client Name:	GHD Services Inc.	Sample Matrix:	Soil
Analysis Method:	1613 PCDD/F	TAT:	10 days
		Project Manager:	Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Sample 002 & 004 on HOLD

Read and understood, initial and date: Prep Lab: HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: tburkamper Date: 26-Jan-2022

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18876 | Split: ~~9/3~~ ~~1/4~~ | Extract Initial/Date: JRH 2/1/22 | Clean-up Initial/Date: RDB 2/3/22 | Transfer Init/Date: ~~RDB~~ 2/4/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B5971_18876_004	15	13.18				black, moist, clay-like, fuel smell
B6080_18876_001	16	14.39				black, moist, clay-like, fuel smell
B6110_18876_001	17	16.65				black, wet, ~~clay-like~~, muddy JRH 2/1/22
B6148_18876_001	18	12.42				black, clay-like
B6148_18876_003	19	13.89				black, clay-like, fuel smell
MB1_18876	12	10.00		CA 10 Feb 22		sodium sulfate
OPR1_18876	13	10.00				sodium sulfate
OPR2_18876	14	10.00				sodium sulfate

RDB 2/4/22

Supply IDs

Toluene	STL14-24
MeCHL	STL14.17
Florisil	SRLS.77
Hexane	STL14.22
Silica	SRLS-69
S Nitrate	N/A
Base Silica	SRLS.83
HydroMatrix	N/A
Tetradecane	SRLS-730
H_2SO_4	N/A
A Silica	SRLS.82
Sodium Sulfate	SRLS-508

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CA 10 Feb 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1430 Stop: 0345
HEX	Start: 10 Feb 22 Stop: CA
DCM	Start:

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18876

Inter-Department Communication Sheet

10Feb22

SGS

Wt. Volume Results

Batch #: 18876 Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B5971_004	2.34 ✓	6.77 ✓	5.73 ✓	76.52%	76.52%			13.07	13.18 ✓	10.09
B6080_001	2.37 ✓	5.98 ✓	5.01 ✓	73.13%	73.13%			13.67	14.32 ✓	10.47
B6110_001	2.37 ✓	6.78 ✓	5.31 ✓	66.67%	66.67%			15	16.65 ✓	11.1
B6148_001	2.33 ✓	6.12 ✓	5.41 ✓	81.27%	81.27%			12.31	12.42 ✓	10.09
B6148_003	2.44 ✓	6.76 ✓	5.69 ✓	75.23%	75.23%			13.29	13.89 ✓	10.45

reviewed
CL 10Feb22

CL 10Feb22

% Solid Determination WorkSheet

SGS

Batch: 18876

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g ONE	Comments
B5971_18876_004	2.34	6.77	5.73	13.07	
B6080_18876_001	2.37	5.98	5.01	13.67	
B6110_18876_001	2.37	6.78	5.31	15.00	
B6148_18876_001	2.33	6.12	5.41	12.31	
B6148_18876_003	2.44	6.76	5.69	13.29	

2/4/22

Date/Initials: JRH 2/1/22

SGS

Methods: PCB, PAH, PCDD/F WHO-2, QUANTICS USV, DoD PCDD/F PEST

Solid

Batch # 18876

Lab Sample ID	Spiker Initials/Date: JRH 2/1/22	JRH 2/1/22	JRH 2/1/22	RB3 2/3/22	RB3 2/3/22		
	DIF Ax-A	DIF Ax-B	DIF ES	DIF CS	DIF JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B5971_18876_004	–	–	KE	KE	KE		
B6080_18876_001	–	–	KE	KE	KE		
B6110_18876_001	–	–	KE	KE	KE		
B6148_18876_001	–	–	KE	KE	KE		
B6148_18876_003	–	–	KE	KE	KE		
MB1_18876	–	–	KE	KE	KE		
OPR1_18876	KE	KE	KE	KE	KE		
OPR2_18876	KE	KE	KE	KE	KE		

RB3 2/4/22

Standard Information

Pipette ID						RB3 2/4/22
Spike ID	DIF Ax-A	DIF Ax-B	DIF ES	DIF CS	DIF JS	
SIL #	26-2-8	05-187-2	26-2-9	25-338-1	25-384-1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	
Expiration Date	7/19/28	6/22/22	8/2028	11/16/22	1/28/23	

Burkamper, Tamara (Wilmington) B614811/1

From: Nate Reece <Nate.Reece@ghd.com>
Sent: Wednesday, January 26, 2022 3:13 PM
To: Burkamper, Tamara (Wilmington)
Cc: Kathleen Shaw; Meagan Willis
Subject: [EXTERNAL] Run Hold Samples

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Good afternoon,

Please take the following samples off hold and analyze for D/F on standard 10 day TAT:

- 11215131-010622-S-BN-SW-B-15H1
- 11215131-010522-S-BN-SW-B-17H1

Thank you,

Nate Reece
Environmental Scientist

GHD
Proudly employee-owned | ghd.com
11451 Katy Fwy #400, Houston, TX 77079 United States
M +1 281 386 7158 | **E** nate.reece@ghd.com

→ **The Power of Commitment**

Connect

Please consider the environment before printing this email

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Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
18	220204C18	3	CS3_220204_DF_CC	1.00	25-347-1	DTF	398-419	04-Feb-2022	22:52:01
19	220204C19	53	OPR1_18876_DF	1.00	0_18876_OPR001	DTF	002-289	04-Feb-2022	23:38:21
20	220204C20	54	OPR2_18876_DF	1.00	0_18876_OPR002	DTF	462-483	05-Feb-2022	00:24:41
21	220204C21	2	SBS_220204_DF_CC	1.00	20-61-1	DTF	855-476	05-Feb-2022	01:11:00
22	220204C22	52	MB1_18876_DF_SDS	10.00	Method Blank	DTF	264-158	05-Feb-2022	01:57:20
23	220204C26	58	B6148_18876_DF_001 10.09	0.00	11215131-010522-S-BN-SW-B-17H1	DTF	696-784	05-Feb-2022	05:02:41
24	220204C27	59	B6148_18876_DF_003 CL 10Feb22	10.45	11215131-010622-S-BN-SW-B-15H1	DTF	757-538	05-Feb-2022	05:49:01

REVIEWED
Tyler_Fritz , 2/8/2022, 11:22:35 AM

APPROVED
Carla_Lyon , 2/10/2022, 12:45:39 PM

Lab ID: MB1_18876_DF_SDS | **Acq'd:** 05 Feb 2022 01:57 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6148_18876 | **UTP:** 08-Feb-2022 11:07:23 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 264-158-GYL

Datafile: 220204C22 | **Report:** 08 Feb 2022 11:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2754.999	0.192
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2949.078	0.202
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2856.96	0.174
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2856.96	0.142
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2856.96	0.158
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2874.94	0.18
OCDD	43.51	J EMPC	1.0004	1.0000	-1.0	8.09E+04	1.31	N	1.13	0.902	4492.875	0.556
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2367.7956	0.127
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3828.065	0.187
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3828.065	0.189
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2700.344	0.129
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2700.344	0.118
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2700.344	0.0974
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2700.344	0.146
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	5840.422	0.182
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	5840.422	0.397
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2914.512	0.351

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0237	+0.2	2.58E+07	0.83	Y	1.05	89.3
ES 12378-PeCDD	33.84	1.2144	1.2153	+1.8	2.46E+07	1.53	Y	0.88	101
ES 123478-HxCDD	37.76	0.9920	0.9919	-0.2	2.61E+07	1.28	Y	0.97	97.6
ES 123678-HxCDD	37.88	0.9951	0.9950	-0.2	2.94E+07	1.27	Y	0.94	113
ES 123789-HxCDD	38.17	1.0027	1.0026	-0.2	2.76E+07	1.25	Y	1.09	92.1
ES 1234678-HpCDD	40.83	1.0724	1.0725	+0.2	2.36E+07	1.08	Y	0.91	94.2
ES OCDD	43.51	1.1428	1.1429	+0.3	3.18E+07	0.89	Y	0.62	92.9
ES 2378-TCDF	27.65	1.0516	1.0517	+0.2	3.83E+07	0.82	Y	1.06	81.8
ES 12378-PeCDF	32.40	1.2312	1.2321	+1.7	3.91E+07	1.57	Y	0.91	97
ES 23478-PeCDF	33.51	1.2733	1.2744	+2.2	3.51E+07	1.62	Y	0.88	90
ES 123478-HxCDF	36.75	0.9655	0.9654	-0.2	2.69E+07	0.54	Y	1.20	81.8
ES 123678-HxCDF	36.89	0.9692	0.9692	0	3.59E+07	0.55	Y	1.35	96.6
ES 234678-HxCDF	37.58	0.9871	0.9871	0	3.96E+07	0.53	Y	1.24	116
ES 123789-HxCDF	38.52	1.0121	1.0120	-0.2	2.53E+07	0.54	Y	1.16	79.7
ES 1234678-HpCDF	39.90	1.0479	1.0481	+0.5	3.39E+07	0.47	Y	0.97	127
ES 1234789-HpCDF	41.28	1.0845	1.0846	+0.2	1.90E+07	0.48	Y	0.85	81.3
ES OCDF	43.69	1.1477	1.1478	+0.3	3.38E+07	0.90	Y	0.81	76.1

Lab ID: MB1_18876_DF_SDS | **Acq'd:** 05 Feb 2022 01:57 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6148_18876 | **UTP:** 08-Feb-2022 11:07:23 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 264-158-GYL

Datafile: 220204C22 | **Report:** 08 Feb 2022 11:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.85		-	-	-	2.76E+07	0.81	Y	-	-	
JS 1234-TCDF	26.29		-	-	-	4.42E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	1.37E+07	1.21	Y	-	-	
CS 37Cl-2378-TCDD	28.53		1.0244	1.0245	+0.2	1.29E+07	n/a	-	1.20	97.4	
CS 12347-PeCDD	33.34		1.1964	1.1972	+1.6	2.50E+07	1.55	Y	0.75	120	
CS 12346-PeCDF	31.87		1.2112	1.2121	+1.7	4.10E+07	1.57	Y	0.85	109	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	3.50E+07	0.54	Y	1.12	114	
CS 1234689-HpCDF	40.30		1.0584	1.0586	+0.5	3.01E+07	0.46	Y	0.89	124	
~~SS 37Cl-2378-TCDD~~	~~28.53~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.29E+07~~	~~n/a~~		~~1.15~~	~~109~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1972~~	~~+1.6~~	~~2.50E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~110~~	CL 10Feb22
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2121~~	~~+1.7~~	~~4.10E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~112~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~3.50E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0586~~	~~+0.5~~	~~3.01E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~96.8~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0.902
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0.902

Lab ID: MB1_18876_DF_SDS **Acq'd: 05 Feb 2022 01:57 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6148_18876 **UTP: 08-Feb-2022 11:07:23 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 264-158-GYL**

Datafile: 220204C22 **Report: 08 Feb 2022 11:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		2754.999	0.192
1379-TCDD	NotFnd		0.8860						1.18		2754.999	0.192
1369-TCDD	NotFnd		0.9009						1.18		2754.999	0.192
1469-TCDD	NotFnd		0.9281						1.18		2754.999	0.192
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		2754.999	0.192
1378-TCDD	NotFnd		0.9432						1.18		2754.999	0.192
1268-TCDD	NotFnd		0.9500						1.18		2754.999	0.192
1478-TCDD	NotFnd		0.9586						1.18		2754.999	0.192
1279-TCDD	NotFnd		0.9645						1.18		2754.999	0.192
1234/1269-TCDD	NotFnd		0.9770						1.18		2754.999	0.192
1236-TCDD	NotFnd		0.9817						1.18		2754.999	0.192
1237/1238-TCDD	NotFnd		0.9905						1.18		2754.999	0.192
1239-TCDD	NotFnd		0.9952						1.18		2754.999	0.192
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2754.999**	**0.192**
1278-TCDD	NotFnd		1.0121						1.18		2754.999	0.192
1267-TCDD	NotFnd		1.0167						1.18		2754.999	0.192
1289-TCDD	NotFnd		1.0345						1.18		2754.999	0.192
12479/12468-PeCDD	NotFnd		0.9267						1.04		2949.078	0.202
12469-PeCDD	NotFnd		0.9425						1.04		2949.078	0.202
12368-PeCDD	NotFnd		0.9588						1.04		2949.078	0.202
12478-PeCDD	NotFnd		0.9643						1.04		2949.078	0.202
12379-PeCDD	NotFnd		0.9673						1.04		2949.078	0.202
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2949.078	0.202
12346/12347-PeCDD	NotFnd		0.9858						1.04		2949.078	0.202
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2949.078**	**0.202**
12367-PeCDD	NotFnd		1.0033						1.04		2949.078	0.202
12389-PeCDD	NotFnd		1.0134						1.04		2949.078	0.202
124679/124689-HxCDD	NotFnd		0.9542						1.10		2856.96	0.157
123468-HxCDD	NotFnd		0.9715						1.10		2856.96	0.157
123679/123689-HxCDD	NotFnd		0.9793						1.10		2856.96	0.157
123469-HxCDD	NotFnd		0.9828						1.10		2856.96	0.157
123478-HxCDD	NotFnd		**1.0004**						1.09		**2856.96**	**0.174**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2856.96**	**0.142**
123467-HxCDD	NotFnd		1.0085						1.10		2856.96	0.157
123789-HxCDD	NotFnd		**1.0112**						1.05		**2856.96**	**0.158**

Lab ID: MB1_18876_DF_SDS | **Acq'd:** 05 Feb 2022 01:57 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6148_18876 | **UTP:** 08-Feb-2022 11:07:23 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 264-158-GYL

Datafile: 220204C22 | **Report:** 08 Feb 2022 11:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

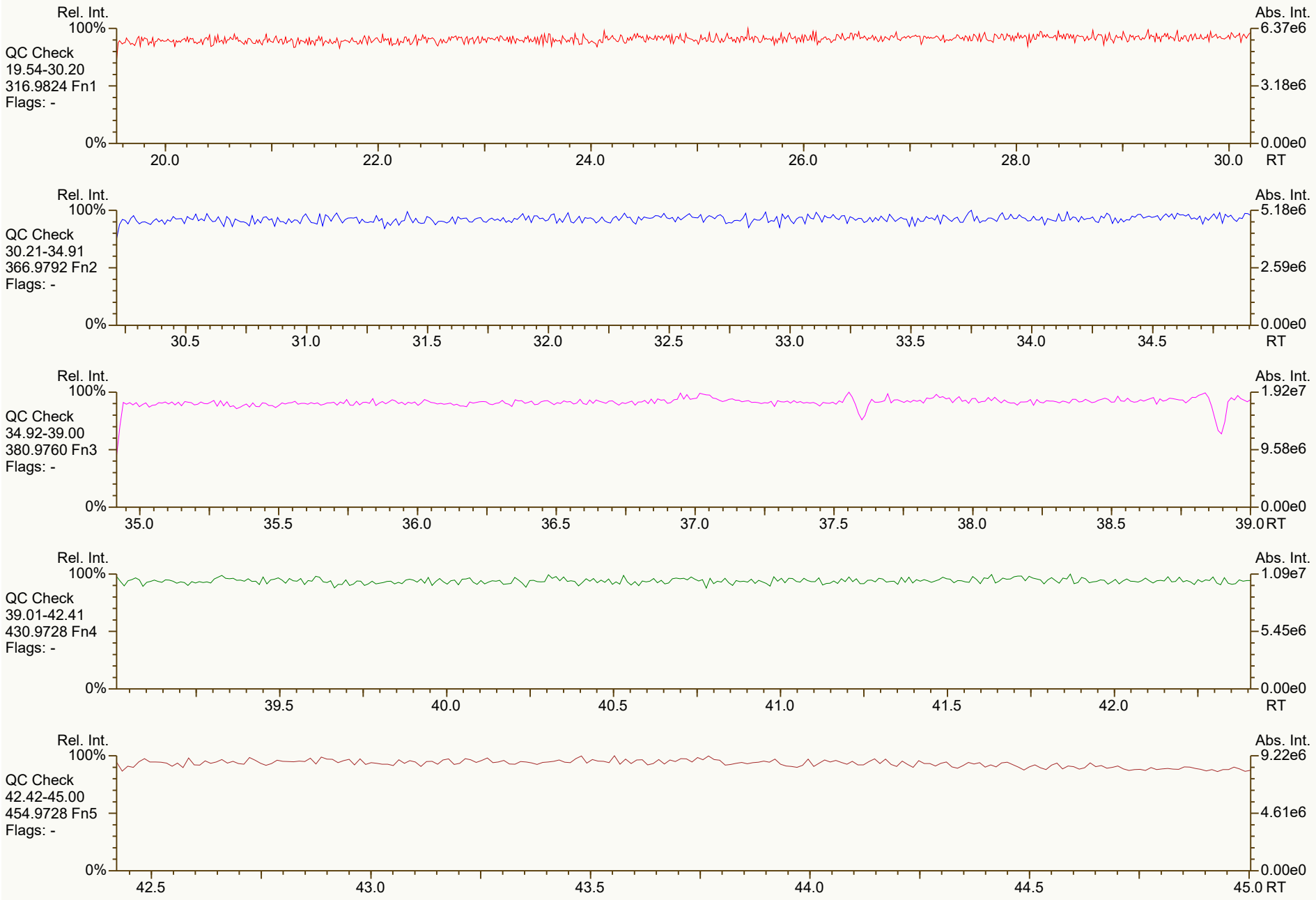
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2874.94	0.18
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2874.94**	**0.18**
OCDD	**43.51**	**J EMPC**	**1.0004**	**1.0000**	**-1.0**	**8.09E+04**	**1.31**	**N**	**1.13**	**0.902**	**4492.875**	**0.556**
OCDD-a	NotFnd		1.0003						0.07		2868.057	5.55
1368-TCDF	NotFnd		0.8251						1.08		2367.7956	0.127
1468-TCDF	NotFnd		0.8458						1.08		2367.7956	0.127
2468-TCDF	NotFnd		0.8686						1.08		2367.7956	0.127
1346/1246-TCDF	NotFnd		0.8814						1.08		2367.7956	0.127
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2367.7956	0.127
1348-TCDF	NotFnd		0.8962						1.08		2367.7956	0.127
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2367.7956	0.127
1268-TCDF	NotFnd		0.9145						1.08		2367.7956	0.127
1467-TCDF	NotFnd		0.9193						1.08		2367.7956	0.127
1478-TCDF	NotFnd		0.9254						1.08		2367.7956	0.127
1369/1237-TCDF	NotFnd		0.9387						1.08		2367.7956	0.127
2467-TCDF	NotFnd		0.9433						1.08		2367.7956	0.127
2368-TCDF	NotFnd		0.9489						1.08		2367.7956	0.127
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2367.7956	0.127
1278-TCDF	NotFnd		0.9683						1.08		2367.7956	0.127
1349-TCDF	NotFnd		0.9722						1.08		2367.7956	0.127
1267-TCDF	NotFnd		0.9783						1.08		2367.7956	0.127
2346/1249-TCDF	NotFnd		0.9850						1.08		2367.7956	0.127
2347/1279-TCDF	NotFnd		0.9926						1.08		2367.7956	0.127
2348-TCDF	NotFnd		0.9967						1.08		2367.7956	0.127
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2367.7956**	**0.127**
2367/3467-TCDF	NotFnd		1.0137						1.08		2367.7956	0.127
1269-TCDF	NotFnd		1.0223						1.08		2367.7956	0.127
1239-TCDF	NotFnd		1.0321						1.08		2367.7956	0.127
1289-TCDF	NotFnd		1.0722						1.08		2367.7956	0.127
13468/12468-PeCDF	NotFnd		0.9139						1.02		3194.2	0.157
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3828.065	0.188
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3828.065	0.188
14678-PeCDF	NotFnd		0.9692						1.02		3828.065	0.188
13479-PeCDF	NotFnd		0.9723						1.02		3828.065	0.188
13469/12479-PeCDF	NotFnd		0.9797						1.02		3828.065	0.188
12346-PeCDF	NotFnd		0.9840						1.02		3828.065	0.188

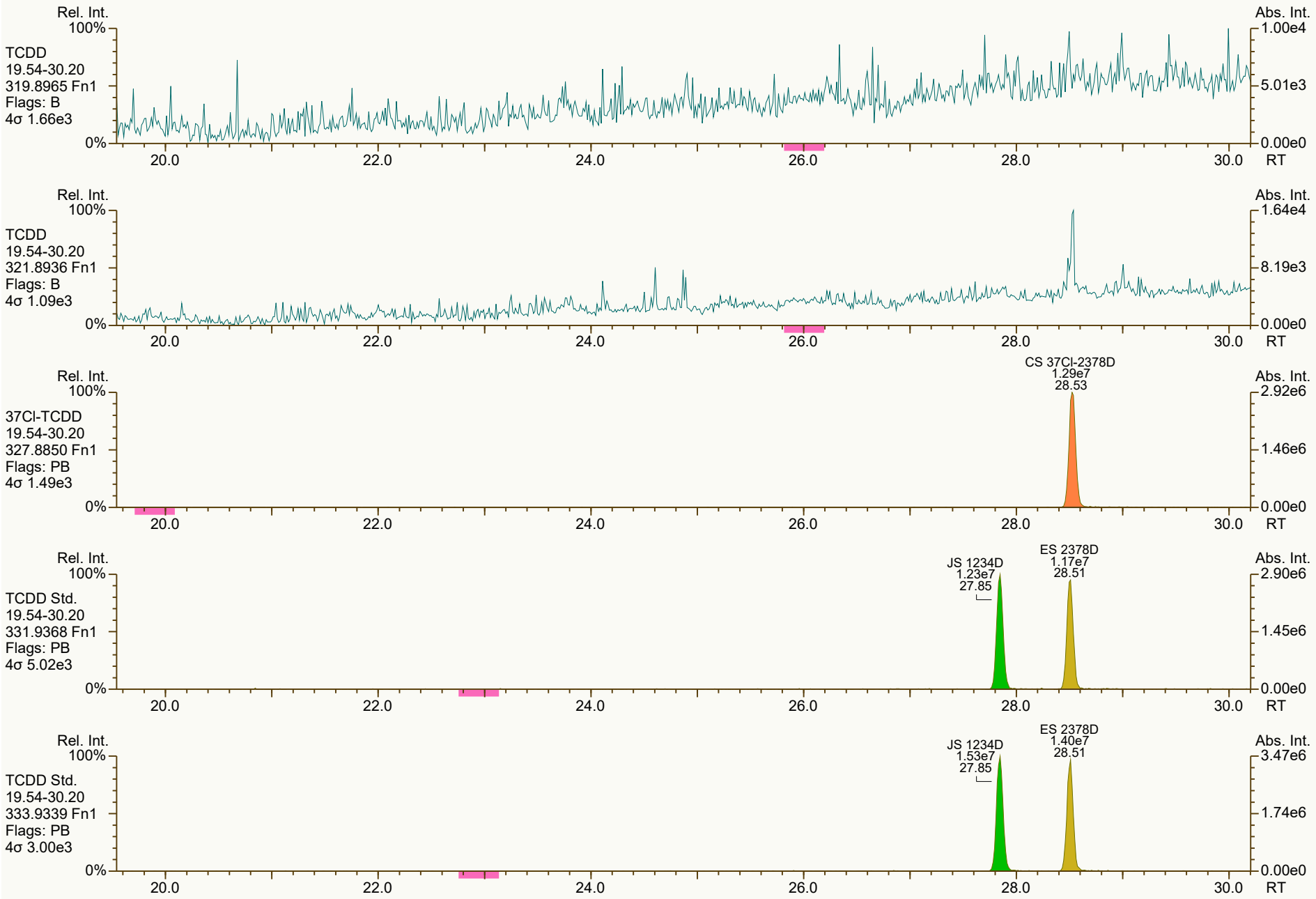
Lab ID: MB1_18876_DF_SDS **Acq'd:** 05 Feb 2022 01:57 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

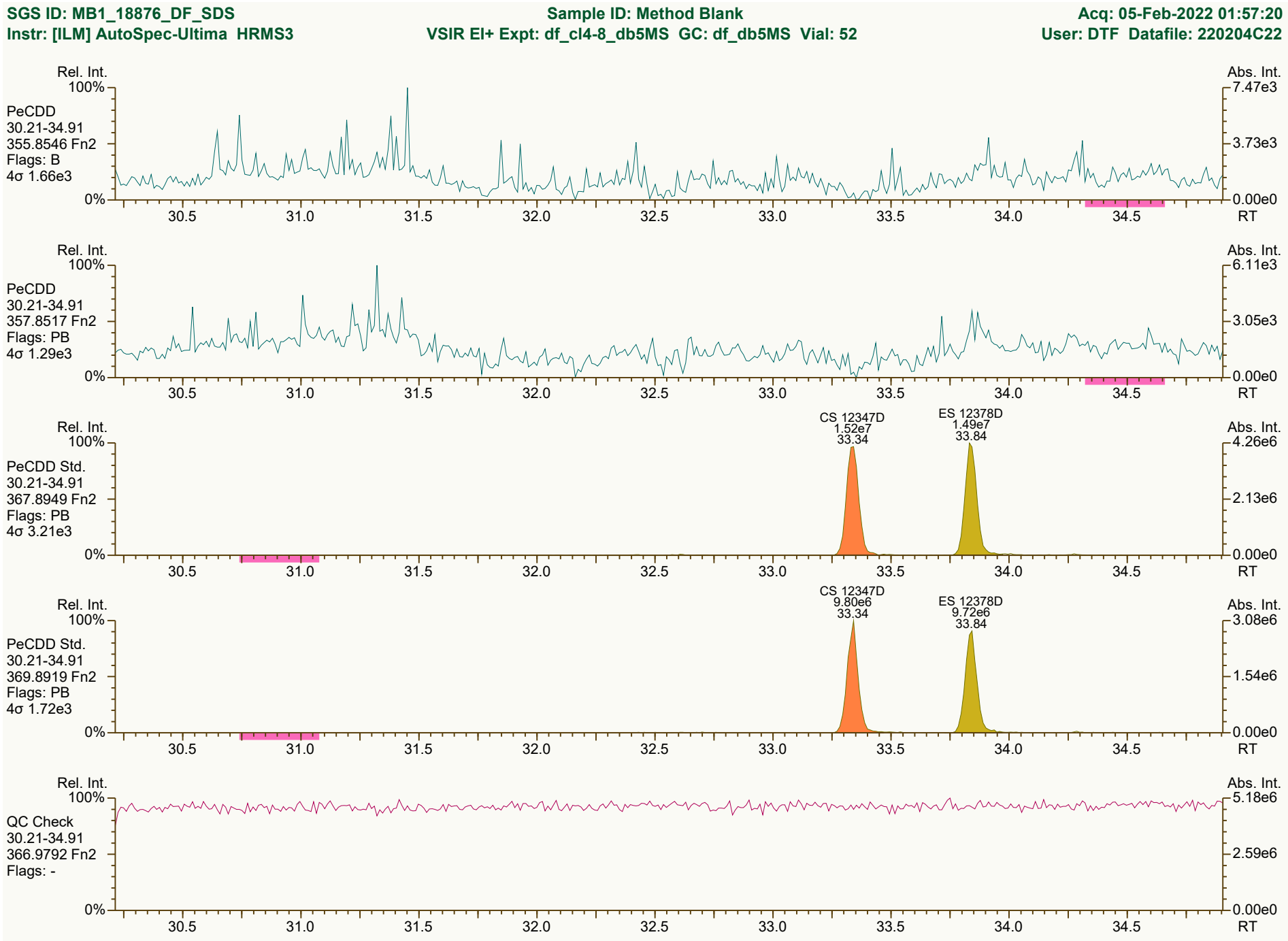
Client ID: Method Blank B6148_18876 **UTP:** 08-Feb-2022 11:07:23 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 264-158-GYL

Datafile: 220204C22 **Report:** 08 Feb 2022 11:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3828.065	0.188
12347-PeCDF	NotFnd		0.9894						1.02		3828.065	0.188
12348-PeCDF	NotFnd		0.9940						1.02		3828.065	0.188
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3828.065**	**0.187**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3828.065	0.188
12379-PeCDF	NotFnd		1.0142						1.02		3828.065	0.188
12679-PeCDF	NotFnd		0.9929						1.02		3828.065	0.188
23467/12369-PeCDF	NotFnd		0.9967						1.02		3828.065	0.188
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3828.065**	**0.189**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3828.065	0.188
12349-PeCDF	NotFnd		1.0100						1.02		3828.065	0.188
12389-PeCDF	NotFnd		1.0324						1.02		3828.065	0.188
123468-HxCDF	NotFnd		0.9627						1.19		2700.344	0.119
124678/134678-HxCDF	NotFnd		0.9682						1.19		2700.344	0.119
134679-HxCDF	NotFnd		0.9744						1.19		2700.344	0.119
124679-HxCDF	NotFnd		0.9798						1.19		2700.344	0.119
124689-HxCDF	NotFnd		0.9858						1.19		2700.344	0.119
123467-HxCDF	NotFnd		0.9972						1.19		2700.344	0.119
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2700.344**	**0.129**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2700.344**	**0.118**
123479-HxCDF	NotFnd		1.0049						1.19		2700.344	0.119
123469-HxCDF	NotFnd		1.0090						1.19		2700.344	0.119
123679-HxCDF	NotFnd		0.9942						1.19		2700.344	0.119
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2700.344**	**0.0974**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2700.344	0.119
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2700.344**	**0.146**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2700.344	0.119
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**5840.422**	**0.182**
1234679-HpCDF	NotFnd		1.0068						1.34		5840.422	0.259
1234689-HpCDF	NotFnd		1.0103						1.34		5840.422	0.259
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**5840.422**	**0.397**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2914.512**	**0.351**
OCDF-a	NotFnd		1.0002						0.07		3374.897	6.56

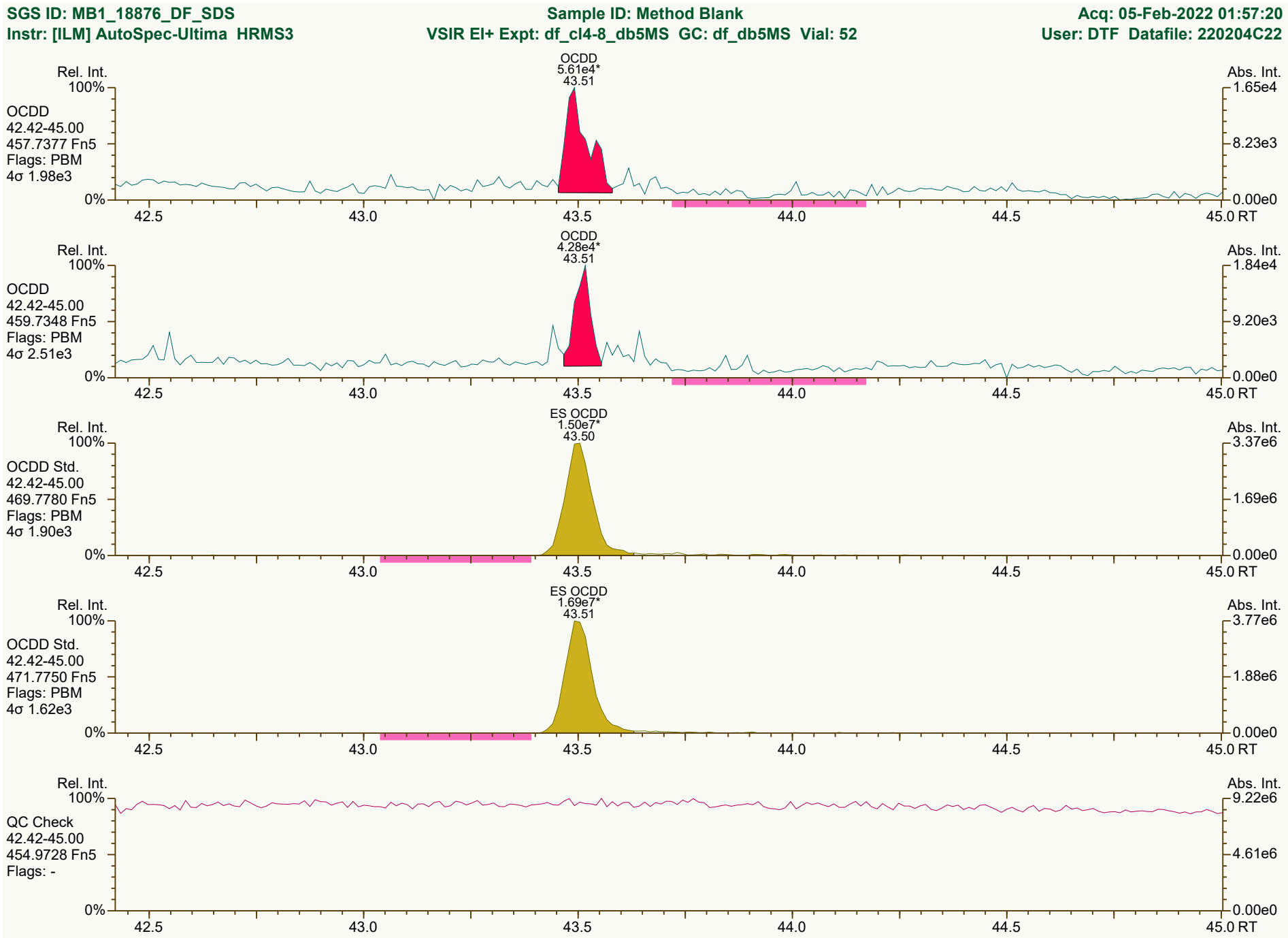

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.37e6
3.18e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.18e6
2.59e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.92e7
9.58e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.09e7
5.45e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.22e6
4.61e6
0.00e0

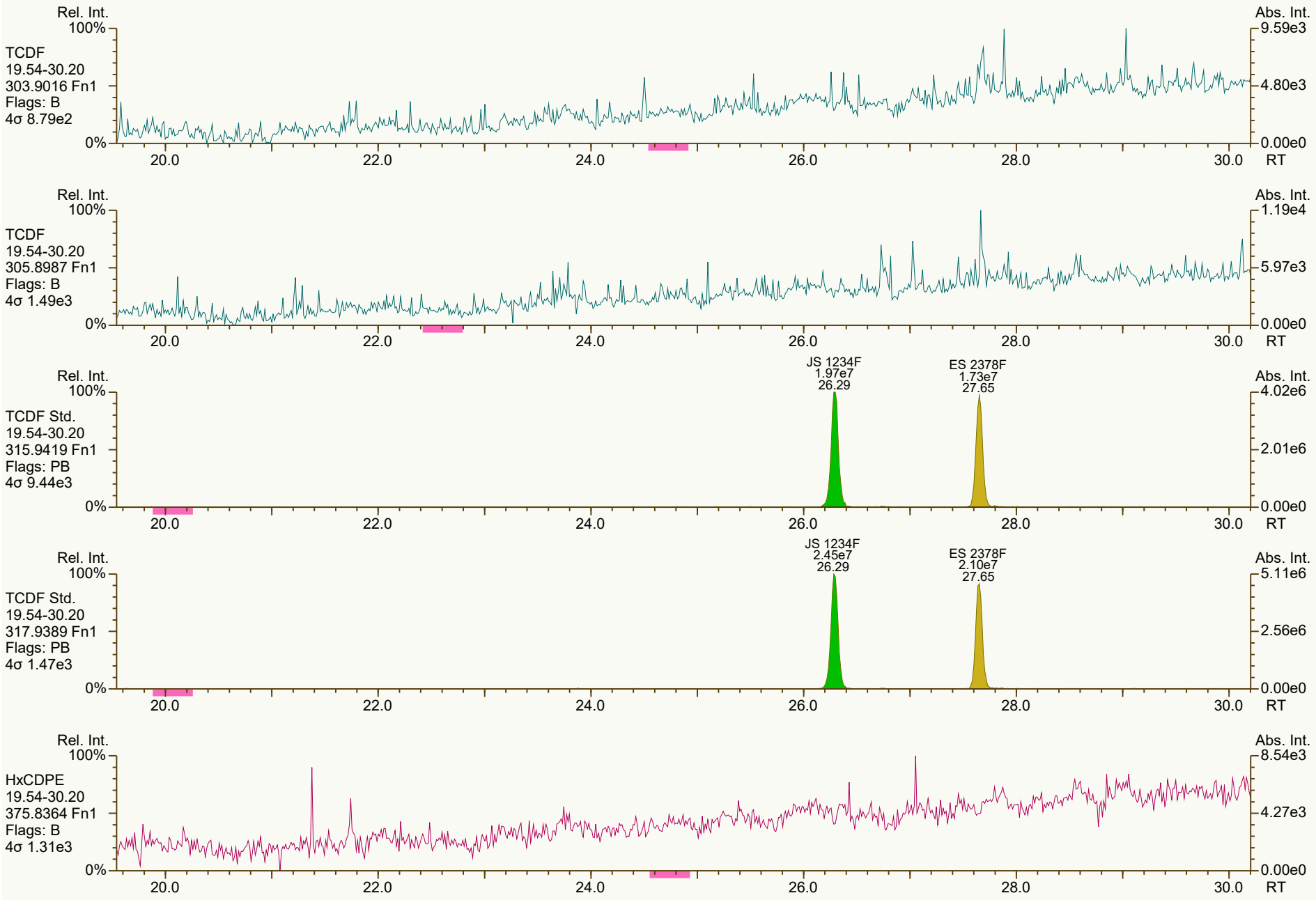

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.09e3
0%
Abs. Int.
1.64e4
8.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
1.29e7
28.53
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.02e3
0%
JS 1234D
1.23e7
27.85
ES 2378D
1.17e7
28.51
Abs. Int.
2.90e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.00e3
0%
JS 1234D
1.53e7
27.85
ES 2378D
1.40e7
28.51
Abs. Int.
3.47e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: MB1_18876_DF_SDS
Sample ID: Method Blank
Acq: 05-Feb-2022 01:57:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
User: DTF Datafile: 220204C22
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: B
4σ 1.66e3
7.47e3
3.73e3
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.29e3
6.11e3
3.05e3
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.21e3
CS 12347D
1.52e7
33.34
ES 12378D
1.49e7
33.84
4.26e6
2.13e6
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.72e3
CS 12347D
9.80e6
33.34
ES 12378D
9.72e6
33.84
3.08e6
1.54e6
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
5.18e6
2.59e6
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\MB1_18876_DF_SDS.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2623, 1785 scc: 264-158
PKD: 07-Feb-2022 08:52 Printed: 08-Feb-2022 11:14 Page 3 of 12

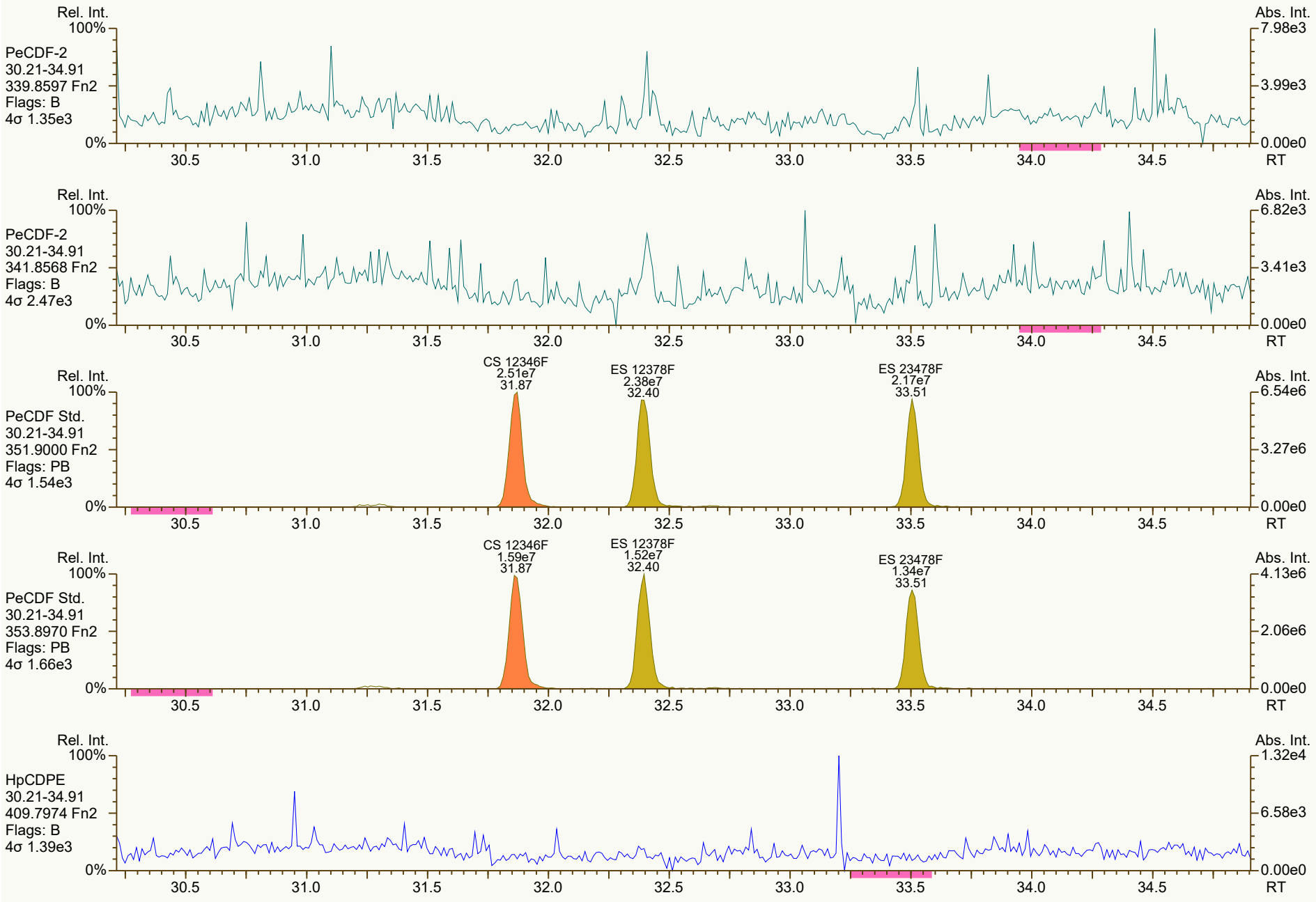

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
5.66e3
2.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.54e3
0%
Abs. Int.
5.24e3
2.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.81e3
0%
ES 123678D
1.64e7
37.88
ES 123478D
1.46e7
37.76
ES 123789D
1.54e7*
38.17
JS 123467D
7.51e6*
38.06
Abs. Int.
4.90e6
2.45e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.91e3
0%
ES 123678D
1.29e7
37.87
ES 123478D
1.14e7
37.76
ES 123789D
1.23e7*
38.17
JS 123467D
6.21e6*
38.06
Abs. Int.
3.85e6
1.92e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.92e7
9.58e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

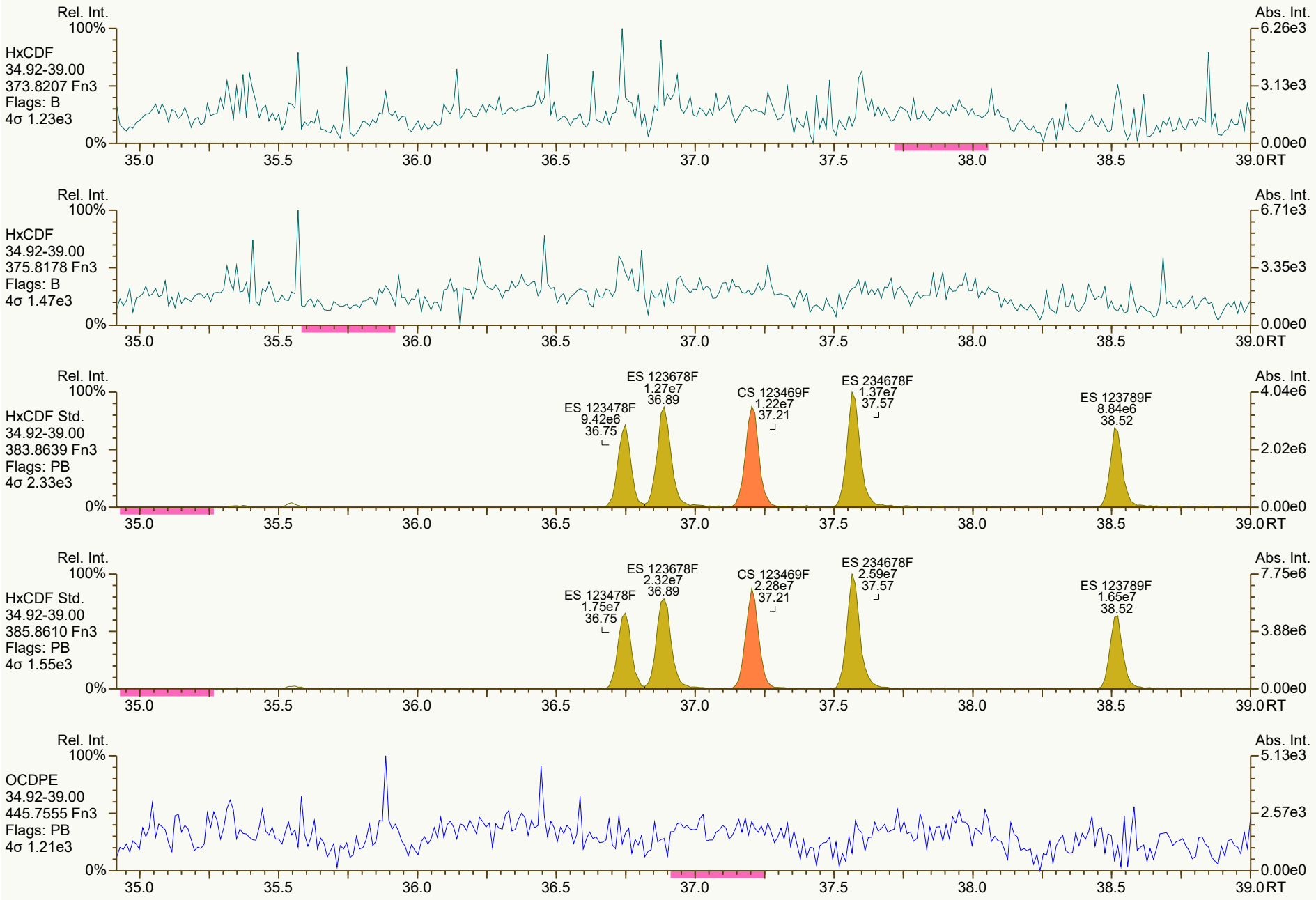

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.66e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.22e3
0%
Abs. Int.
8.11e3
4.05e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.23e7*
40.83
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.51e3
0%
Abs. Int.
3.92e6
1.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.14e7*
40.83
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.18e3
0%
Abs. Int.
3.64e6
1.82e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.09e7
5.45e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

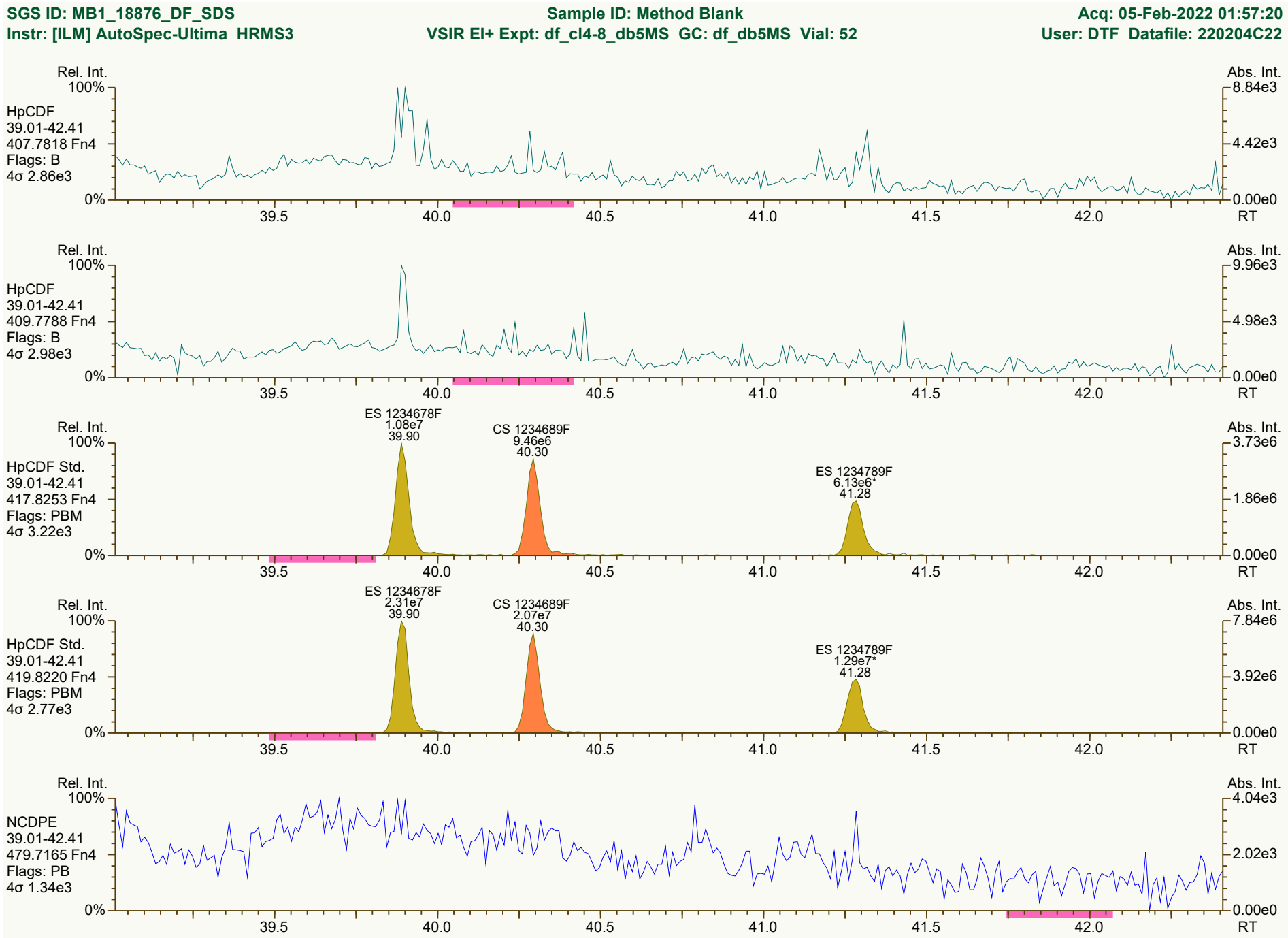

SGS ID: MB1_18876_DF_SDS
Sample ID: Method Blank
Acq: 05-Feb-2022 01:57:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
User: DTF Datafile: 220204C22
Rel. Int.
Abs. Int.
OCDD
5.61e4*
43.51
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.98e3
1.65e4
8.23e3
0.00e0
OCDD
4.28e4*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.51e3
1.84e4
9.20e3
ES OCDD
1.50e7*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.90e3
3.37e6
1.69e6
ES OCDD
1.69e7*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.62e3
3.77e6
1.88e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
9.22e6
4.61e6
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\MB1_18876_DF_SDS.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5663, 2011 scc: 264-158
Revised: 07-Feb-2022 08:54 (DTF) Printed: 08-Feb-2022 11:14 Page 6 of 12


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 8.79e2
0%
Abs. Int.
9.59e3
4.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.19e4
5.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.44e3
0%
JS 1234F
1.97e7
26.29
ES 2378F
1.73e7
27.65
Abs. Int.
4.02e6
2.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.47e3
0%
JS 1234F
2.45e7
26.29
ES 2378F
2.10e7
27.65
Abs. Int.
5.11e6
2.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
8.54e3
4.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.92e3
4.46e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.73e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.87e4
9.34e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.47e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.37e6
3.18e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: B
4σ 1.35e3
0%
Abs. Int.
7.98e3
3.99e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 2.47e3
6.82e3
3.41e3
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.54e3
CS 12346F
2.51e7
31.87
ES 12378F
2.38e7
32.40
ES 23478F
2.17e7
33.51
6.54e6
3.27e6
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.66e3
CS 12346F
1.59e7
31.87
ES 12378F
1.52e7
32.40
ES 23478F
1.34e7
33.51
4.13e6
2.06e6
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.39e3
1.32e4
6.58e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
6.26e3
3.13e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
6.71e3
3.35e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.33e3
0%
ES 123478F
9.42e6
36.75
ES 123678F
1.27e7
36.89
CS 123469F
1.22e7
37.21
ES 234678F
1.37e7
37.57
ES 123789F
8.84e6
38.52
Abs. Int.
4.04e6
2.02e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.55e3
0%
ES 123478F
1.75e7
36.75
ES 123678F
2.32e7
36.89
CS 123469F
2.28e7
37.21
ES 234678F
2.59e7
37.57
ES 123789F
1.65e7
38.52
Abs. Int.
7.75e6
3.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.21e3
0%
Abs. Int.
5.13e3
2.57e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: MB1_18876_DF_SDS
Sample ID: Method Blank
Acq: 05-Feb-2022 01:57:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
User: DTF Datafile: 220204C22
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 2.86e3
8.84e3
4.42e3
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 2.98e3
9.96e3
4.98e3
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.22e3
ES 1234678F
1.08e7
39.90
CS 1234689F
9.46e6
40.30
ES 1234789F
6.13e6*
41.28
3.73e6
1.86e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.77e3
ES 1234678F
2.31e7
39.90
CS 1234689F
2.07e7
40.30
ES 1234789F
1.29e7*
41.28
7.84e6
3.92e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.34e3
4.04e3
2.02e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\MB1_18876_DF_SDS.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9056, 3290, 9219 scc: 264-158
Revised: 07-Feb-2022 08:54 (DTF) Printed: 08-Feb-2022 11:14 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.40e3
0%
Abs. Int.
6.70e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
4.36e3
2.18e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.60e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
3.67e6
1.84e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.77e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.30e3
0%
Abs. Int.
3.77e6
1.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
5.74e3
2.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6148_18876_DF_001 **Acq'd:** 05 Feb 2022 05:02 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-17H1 **UTP:** 08-Feb-2022 11:07:24 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 696-784-VWK

Datafile: 220204C26 **Report:** 08 Feb 2022 11:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.54		1.0008	1.0008	0	6.32E+05	0.85	Y	1.18	4.25	4630.981	0.318
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2808.73	0.202
123478-HxCDD	37.78	J EMPC	1.0004	1.0002	-0.5	5.39E+04	1.52	N	1.09	0.418	5249.964	0.37
123678-HxCDD	37.90	J	1.0035	1.0034	-0.2	9.92E+04	1.25	Y	1.15	0.682	5249.964	0.314
123789-HxCDD	38.19	J	1.0112	1.0111	-0.2	1.60E+05	1.21	Y	1.05	1.22	5249.964	0.356
1234678-HpCDD	40.86		1.0003	1.0003	0	1.85E+06	1.04	Y	1.06	16.2	4757.895	0.323
OCDD	43.56		1.0004	1.0003	-0.3	3.26E+07	0.92	Y	1.13	388	6829.044	0.946
2378-TCDF	27.69		1.0008	1.0007	-0.2	2.59E+06	0.80	Y	1.08	11.9	4543.404	0.232
12378-PeCDF	32.42	J EMPC	1.0005	1.0004	-0.2	1.25E+05	1.17	N	1.02	0.622	3775.008	0.167
23478-PeCDF	33.55	J	1.0005	1.0007	+0.4	1.06E+05	1.40	Y	1.02	0.554	3775.008	0.17
123478-HxCDF	36.78	J	1.0004	1.0005	+0.2	1.92E+05	1.16	Y	1.27	1.1	4468.341	0.224
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	4468.341	0.209
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	4468.341	0.174
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4468.341	0.249
1234678-HpCDF	39.92	J	1.0003	1.0002	-0.2	1.28E+05	1.12	Y	1.37	0.655	5533.723	0.214
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	5533.723	0.339
OCDF	43.74	J	1.0003	1.0004	+0.3	1.68E+05	0.99	Y	1.07	1.75	3177.803	0.368

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52	1.0236	1.0237	+0.2	2.48E+07	0.81	Y	1.05	95.4
ES 12378-PeCDD	33.85	1.2144	1.2151	+1.4	2.42E+07	1.53	Y	0.88	110
ES 123478-HxCDD	37.77	0.9920	0.9920	0	2.35E+07	1.22	Y	0.97	100
ES 123678-HxCDD	37.89	0.9951	0.9951	0	2.51E+07	1.27	Y	0.94	110
ES 123789-HxCDD	38.18	1.0027	1.0026	-0.2	2.47E+07	1.28	Y	1.09	93.9
ES 1234678-HpCDD	40.85	1.0724	1.0727	+0.7	2.14E+07	1.09	Y	0.91	97.1
ES OCDD	43.54	1.1428	1.1435	+1.8	2.96E+07	0.92	Y	0.62	98.5
ES 2378-TCDF	27.67	1.0516	1.0516	0	4.00E+07	0.84	Y	1.06	93.1
ES 12378-PeCDF	32.41	1.2312	1.2318	+1.2	3.90E+07	1.58	Y	0.91	105
ES 23478-PeCDF	33.52	1.2733	1.2741	+1.6	3.74E+07	1.56	Y	0.88	104
ES 123478-HxCDF	36.76	0.9655	0.9653	-0.4	2.71E+07	0.55	Y	1.20	93.6
ES 123678-HxCDF	36.90	0.9692	0.9691	-0.2	3.42E+07	0.52	Y	1.35	105
ES 234678-HxCDF	37.59	0.9871	0.9871	0	3.65E+07	0.53	Y	1.24	122
ES 123789-HxCDF	38.54	1.0121	1.0121	0	2.50E+07	0.51	Y	1.16	89.9
ES 1234678-HpCDF	39.91	1.0479	1.0481	+0.5	2.83E+07	0.46	Y	0.97	121
ES 1234789-HpCDF	41.31	1.0845	1.0848	+0.7	1.90E+07	0.48	Y	0.85	92.6
ES OCDF	43.72	1.1477	1.1483	+1.6	3.57E+07	0.90	Y	0.81	91.7

Lab ID: B6148_18876_DF_001 **Acq'd:** 05 Feb 2022 05:02 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-17H1 **UTP:** 08-Feb-2022 11:07:24 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 696-784-VWK

Datafile: 220204C26 **Report:** 08 Feb 2022 11:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.86		-	-	-	2.49E+07	0.82	Y	-	-	
JS 1234-TCDF	26.31		-	-	-	4.06E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.08		-	-	-	1.20E+07	1.26	Y	-	-	
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	1.18E+07	n/a	-	1.20	98.8	
CS 12347-PeCDD	33.35		1.1964	1.1971	+1.4	2.25E+07	1.64	Y	0.75	120	
CS 12346-PeCDF	31.88		1.2112	1.2117	+1.0	3.74E+07	1.62	Y	0.85	108	
CS 123469-HxCDF	37.22		0.9775	0.9775	0	3.10E+07	0.52	Y	1.12	115	
CS 1234689-HpCDF	40.31		1.0584	1.0586	+0.5	2.60E+07	0.49	Y	0.89	121	
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.18E+07~~	~~n/a~~		~~1.15~~	~~104~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1971~~	~~+1.4~~	~~2.25E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~109~~	CL 10Feb22
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2117~~	~~+1.0~~	~~3.74E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9775~~	~~0~~	~~3.10E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~109~~	
~~SS 1234689-HpCDF~~	~~40.31~~		~~1.0584~~	~~1.0586~~	~~+0.5~~	~~2.60E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~99.7~~	

Totals	Conc	EMPC
Total TCDD	6.85	6.85
Total PeCDD	4.34	4.34
Total HxCDD	21.5	23
Total HpCDD	61.7	61.7
Total Tetra-Octa Dioxins	482	484
Total TCDF	23	25.2
Total PeCDF	0.554	1.55
Total HxCDF	1.1	1.1
Total HpCDF	0.655	0.655
Total Tetra-Octa Furans	27.1	30.3
Total Tetra-Octa Dioxins & Furans	509	514

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.83	0.85
Response	6.39E+05	6.32E+05

Lab ID: B6148_18876_DF_001 **Acq'd: 05 Feb 2022 05:02 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17H1 **UTP: 08-Feb-2022 11:07:24 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 696-784-VWK**

Datafile: 220204C26 **Report: 08 Feb 2022 11:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		4630.981	0.318
1379-TCDD	NotFnd		0.8860						1.18		4630.981	0.318
1369-TCDD	NotFnd		0.9009						1.18		4630.981	0.318
1469-TCDD	26.46		0.9281	0.9279	-0.3	3.86E+05	0.77	Y	1.18	2.6	4630.981	0.318
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4630.981	0.318
1378-TCDD	NotFnd		0.9432						1.18		4630.981	0.318
1268-TCDD	NotFnd		0.9500						1.18		4630.981	0.318
1478-TCDD	NotFnd		0.9586						1.18		4630.981	0.318
1279-TCDD	NotFnd		0.9645						1.18		4630.981	0.318
1234/1269-TCDD	NotFnd		0.9770						1.18		4630.981	0.318
1236-TCDD	NotFnd		0.9817						1.18		4630.981	0.318
1237/1238-TCDD	NotFnd		0.9905						1.18		4630.981	0.318
1239-TCDD	NotFnd		0.9952						1.18		4630.981	0.318
2378-TCDD	**28.54**		**1.0008**	1.0008	**0**	6.32E+05	0.85	Y	**1.18**	**4.25**	**4630.981**	**0.318**
1278-TCDD	NotFnd		1.0121						1.18		4630.981	0.318
1267-TCDD	NotFnd		1.0167						1.18		4630.981	0.318
1289-TCDD	NotFnd		1.0345						1.18		4630.981	0.318
12479/12468-PeCDD	31.36	J	0.9267	0.9264	-0.6	8.63E+04	1.44	Y	1.04	0.683	2808.73	0.202
12469-PeCDD	31.90	J	0.9425	0.9423	-0.4	2.89E+05	1.44	Y	1.04	2.29	2808.73	0.202
12368-PeCDD	NotFnd		0.9588						1.04		2808.73	0.202
12478-PeCDD	NotFnd		0.9643						1.04		2808.73	0.202
12379-PeCDD	32.74	J	0.9673	0.9671	-0.4	7.10E+04	1.33	Y	1.04	0.562	2808.73	0.202
12369/12467/12489-PeCDD	33.00	J	0.9750	0.9749	-0.2	1.02E+05	1.32	Y	1.04	0.804	2808.73	0.202
12346/12347-PeCDD	NotFnd		0.9858						1.04		2808.73	0.202
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2808.73**	**0.202**
12367-PeCDD	NotFnd		1.0033						1.04		2808.73	0.202
12389-PeCDD	NotFnd		1.0134						1.04		2808.73	0.202
124679/124689-HxCDD	36.03		0.9542	0.9540	-0.4	1.97E+06	1.30	Y	1.10	14.6	5249.964	0.346
123468-HxCDD	36.69	J EMPC	0.9715	0.9713	-0.4	5.06E+04	0.92	N	1.10	0.375	5249.964	0.346
123679/123689-HxCDD	36.98		0.9793	0.9790	-0.7	6.06E+05	1.35	Y	1.10	4.49	5249.964	0.346
123469-HxCDD	37.12	J EMPC	0.9828	0.9828	0	9.41E+04	1.45	N	1.10	0.698	5249.964	0.346
123478-HxCDD	37.78	J EMPC	**1.0004**	**1.0002**	**-0.5**	**5.39E+04**	**1.52**	**N**	1.09	**0.418**	**5249.964**	**0.37**
123678-HxCDD	37.90	J	**1.0035**	**1.0034**	**-0.2**	**9.92E+04**	**1.25**	**Y**	1.15	**0.682**	**5249.964**	**0.314**
123467-HxCDD	38.09	J	1.0085	1.0084	-0.2	6.68E+04	1.22	Y	1.10	0.495	5249.964	0.346
123789-HxCDD	38.19	J	**1.0112**	**1.0111**	**-0.2**	**1.60E+05**	**1.21**	**Y**	1.05	**1.22**	**5249.964**	**0.356**

Lab ID: B6148_18876_DF_001 **Acq'd: 05 Feb 2022 05:02 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17H1 **UTP: 08-Feb-2022 11:07:24 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 696-784-VWK**

Datafile: 220204C26 **Report: 08 Feb 2022 11:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

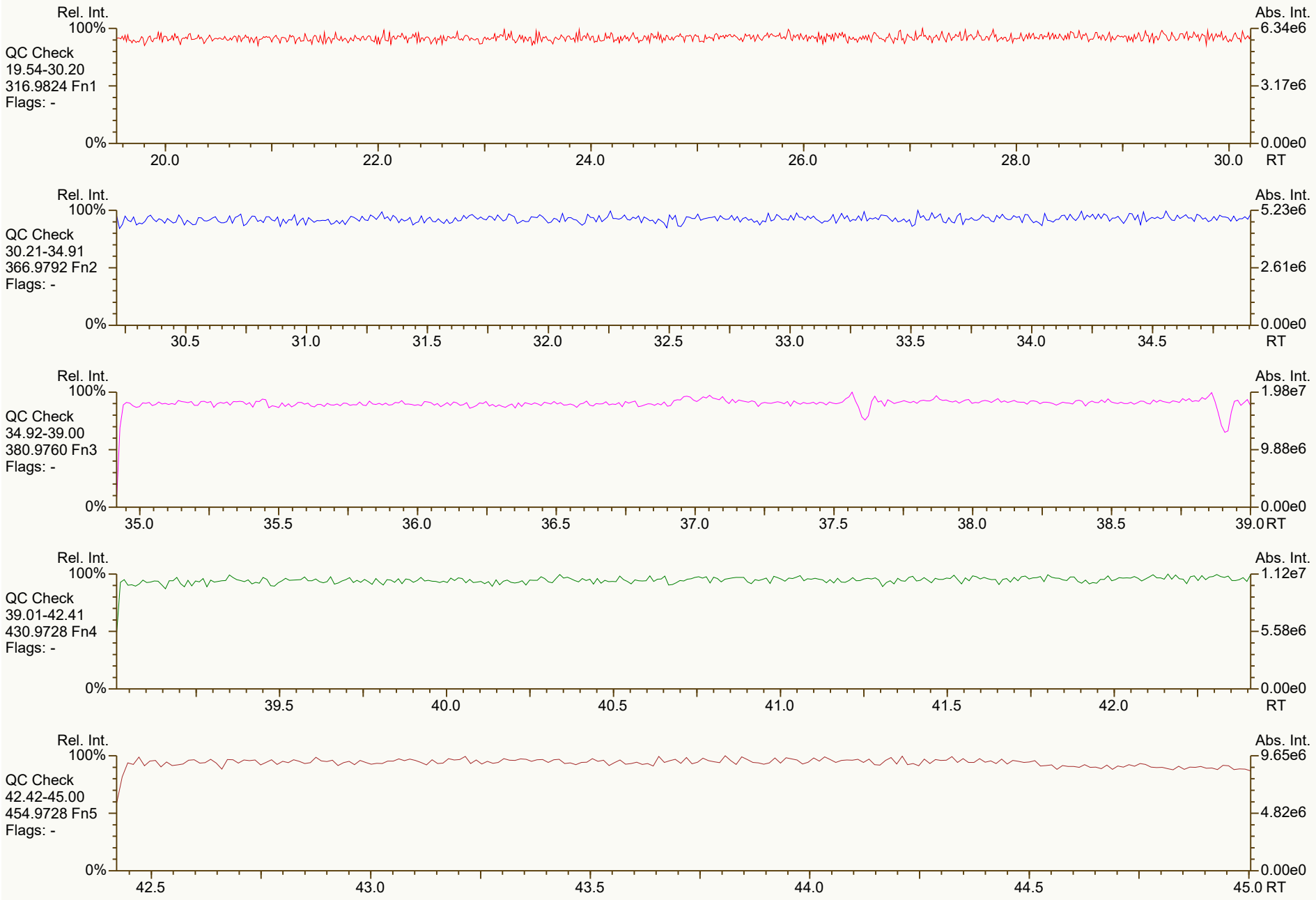
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.18		0.9837	0.9836	-0.2	5.20E+06	1.04	Y	1.06	45.5	4757.895	0.323
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**1.85E+06**	**1.04**	**Y**	**1.06**	**16.2**	**4757.895**	**0.323**
OCDD	**43.56**		**1.0004**	**1.0003**	**-0.3**	**3.26E+07**	**0.92**	**Y**	**1.13**	**388**	**6829.044**	**0.946**
OCDD-a	43.55		1.0003	1.0002	-0.3	1.95E+06	2.65	Y	0.07	362	3713.474	8.05
1368-TCDF	NotFnd		0.8251						1.08		4543.404	0.232
1468-TCDF	NotFnd		0.8458						1.08		4543.404	0.232
2468-TCDF	24.01	J EMPC	0.8686	0.8680	-0.9	9.29E+04	1.06	N	1.08	0.427	4543.404	0.232
1346/1246-TCDF	NotFnd		0.8814						1.08		4543.404	0.232
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		4543.404	0.232
1348-TCDF	NotFnd		0.8962						1.08		4543.404	0.232
1248/1367/1379-TCDF	24.89		0.9009	0.8997	-1.8	1.75E+05	0.82	Y	1.08	0.803	4543.404	0.232
1268-TCDF	NotFnd		0.9145						1.08		4543.404	0.232
1467-TCDF	NotFnd		0.9193						1.08		4543.404	0.232
1478-TCDF	25.59	EMPC	0.9254	0.9251	-0.5	1.12E+05	0.97	N	1.08	0.515	4543.404	0.232
1369/1237-TCDF	25.97	J EMPC	0.9387	0.9386	-0.2	6.51E+04	1.19	N	1.08	0.299	4543.404	0.232
2467-TCDF	NotFnd		0.9433						1.08		4543.404	0.232
2368-TCDF	26.27	EMPC	0.9489	0.9495	+0.9	1.28E+05	1.16	N	1.08	0.587	4543.404	0.232
1238/1234/1678/1469/1236-TCDF	26.35		0.9523	0.9524	+0.2	1.92E+05	0.78	Y	1.08	0.883	4543.404	0.232
1278-TCDF	26.79		0.9683	0.9684	+0.2	1.16E+06	0.71	Y	1.08	5.32	4543.404	0.232
1349-TCDF	NotFnd		0.9722						1.08		4543.404	0.232
1267-TCDF	27.07		0.9783	0.9783	0	1.36E+05	0.76	Y	1.08	0.626	4543.404	0.232
2346/1249-TCDF	NotFnd		0.9850						1.08		4543.404	0.232
2347/1279-TCDF	NotFnd		0.9926						1.08		4543.404	0.232
2348-TCDF	27.57		0.9967	0.9967	0	2.78E+05	0.72	Y	1.08	1.27	4543.404	0.232
2378-TCDF	**27.69**		**1.0008**	**1.0007**	**-0.2**	**2.59E+06**	**0.80**	**Y**	**1.08**	**11.9**	**4543.404**	**0.232**
2367/3467-TCDF	28.04		1.0137	1.0135	-0.3	2.16E+05	0.77	Y	1.08	0.992	4543.404	0.232
1269-TCDF	28.29	J EMPC	1.0223	1.0225	+0.3	8.50E+04	0.96	N	1.08	0.39	4543.404	0.232
1239-TCDF	NotFnd		1.0321						1.08		4543.404	0.232
1289-TCDF	29.69		1.0722	1.0732	+1.8	2.76E+05	0.85	Y	1.08	1.27	4543.404	0.232
13468/12468-PeCDF	NotFnd		0.9139						1.02		2842.047	0.127
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3775.008	0.169
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3775.008	0.169
14678-PeCDF	NotFnd		0.9692						1.02		3775.008	0.169
13479-PeCDF	NotFnd		0.9723						1.02		3775.008	0.169
13469/12479-PeCDF	NotFnd		0.9797						1.02		3775.008	0.169
12346-PeCDF	NotFnd		0.9840						1.02		3775.008	0.169

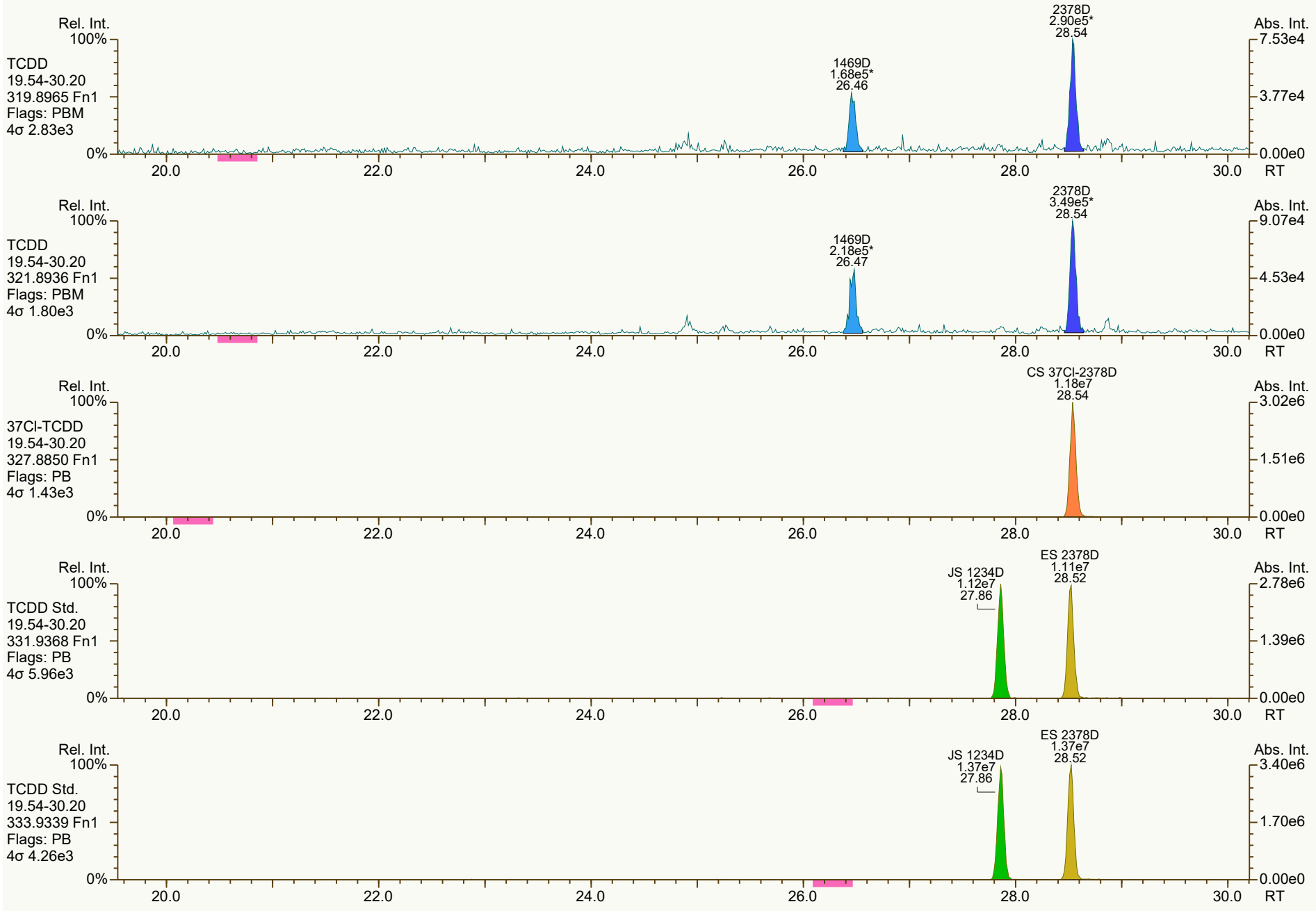
Lab ID: B6148_18876_DF_001 **Acq'd: 05 Feb 2022 05:02 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

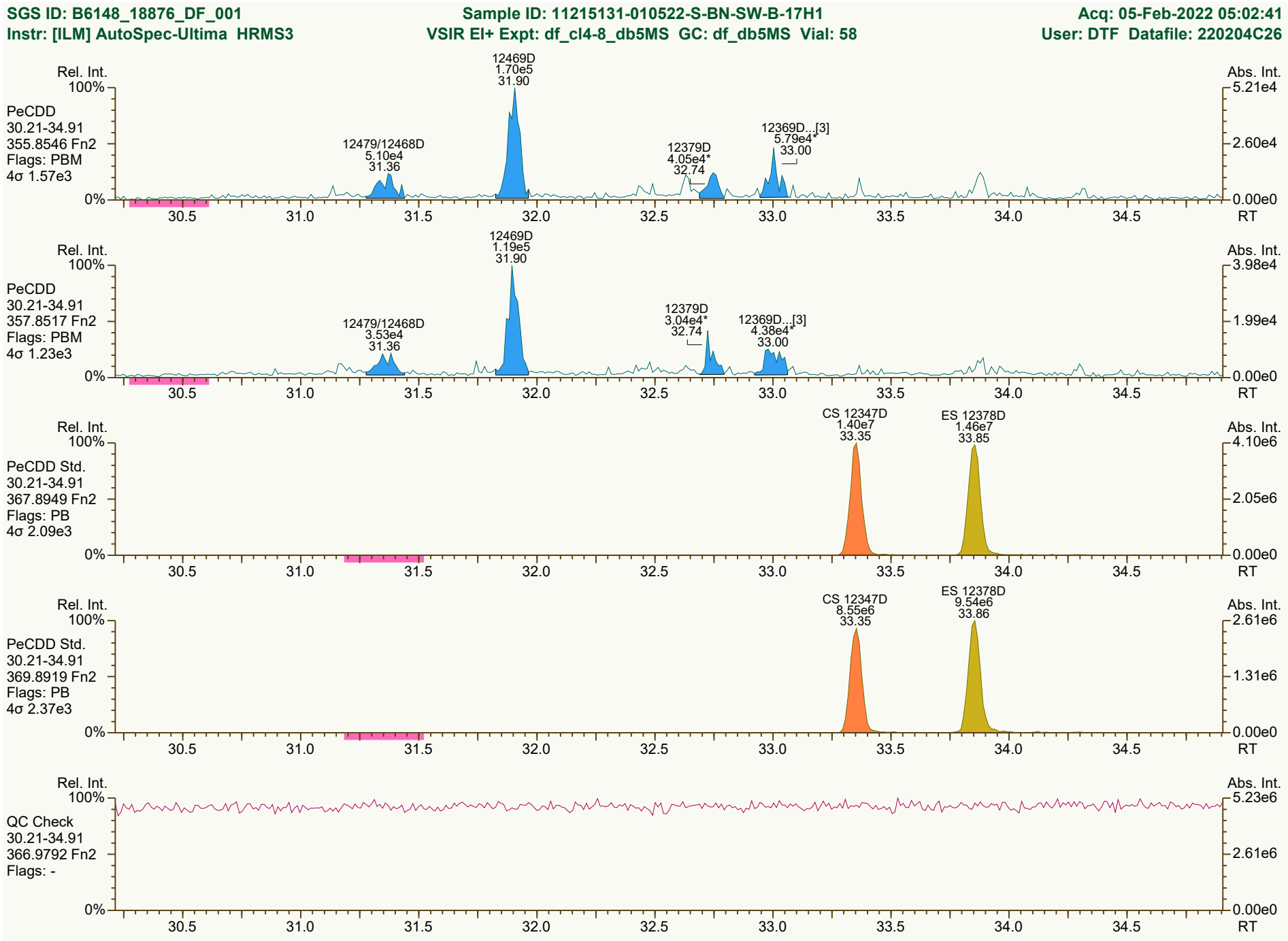
Client ID: 11215131-010522-S-BN-SW-B-17H1 **UTP: 08-Feb-2022 11:07:24 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 696-784-VWK**

Datafile: 220204C26 **Report: 08 Feb 2022 11:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

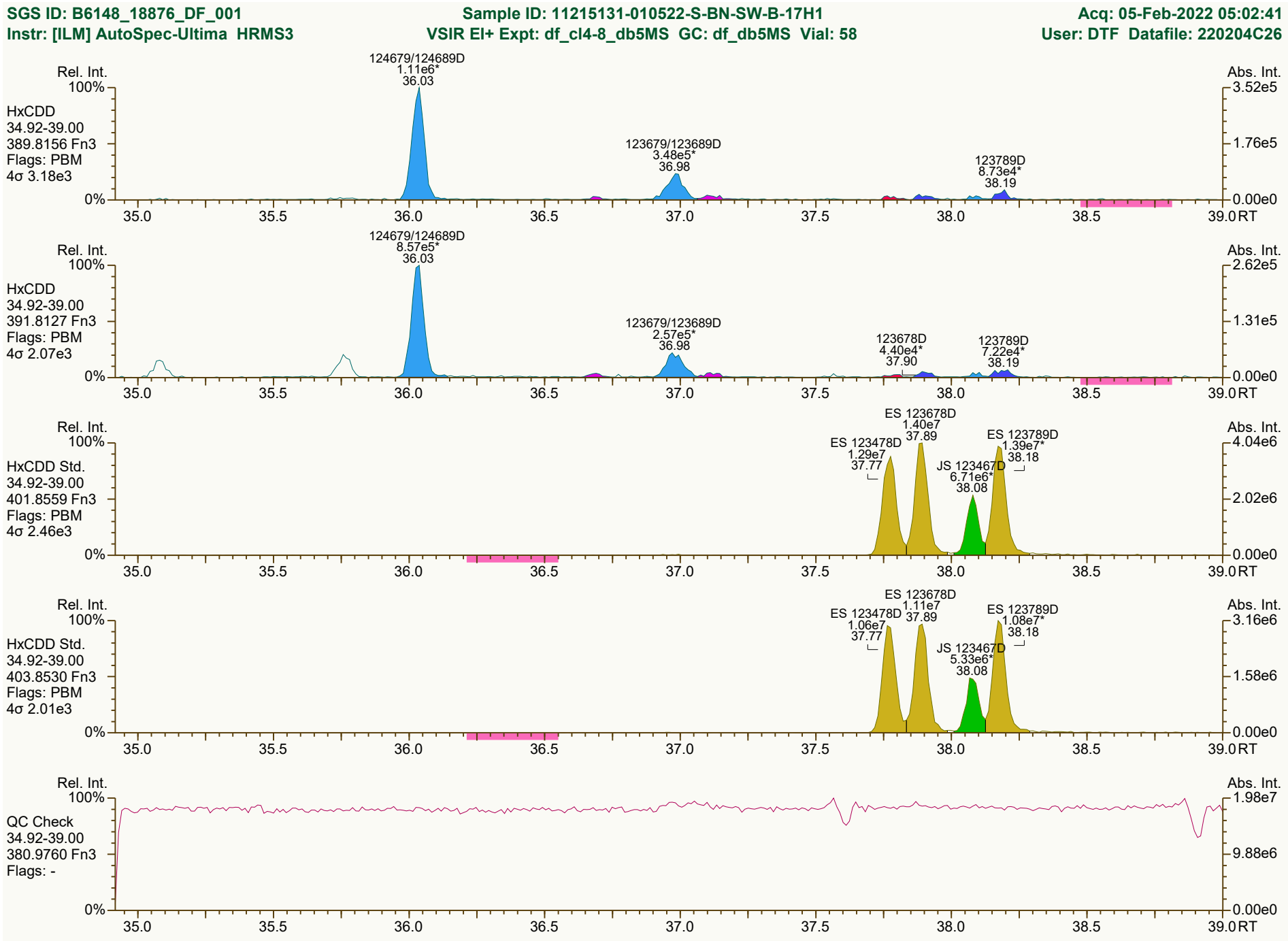
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3775.008	0.169
12347-PeCDF	NotFnd		0.9894						1.02		3775.008	0.169
12348-PeCDF	NotFnd		0.9940						1.02		3775.008	0.169
12378-PeCDF	**32.42**	J EMPC	**1.0005**	**1.0004**	**-0.2**	**1.25E+05**	**1.17**	**N**	**1.02**	**0.622**	**3775.008**	**0.167**
12678/12367-PeCDF	32.71	J EMPC	1.0089	1.0094	+1.0	7.32E+04	1.10	N	1.02	0.372	3775.008	0.169
12379-PeCDF	NotFnd		1.0142						1.02		3775.008	0.169
12679-PeCDF	NotFnd		0.9929						1.02		3775.008	0.169
23467/12369-PeCDF	NotFnd		0.9967						1.02		3775.008	0.169
23478-PeCDF	**33.55**	J	**1.0005**	**1.0007**	**+0.4**	**1.06E+05**	**1.40**	**Y**	**1.02**	**0.554**	**3775.008**	**0.17**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3775.008	0.169
12349-PeCDF	NotFnd		1.0100						1.02		3775.008	0.169
12389-PeCDF	NotFnd		1.0324						1.02		3775.008	0.169
123468-HxCDF	NotFnd		0.9627						1.19		4468.341	0.21
124678/134678-HxCDF	NotFnd		0.9682						1.19		4468.341	0.21
134679-HxCDF	NotFnd		0.9744						1.19		4468.341	0.21
124679-HxCDF	NotFnd		0.9798						1.19		4468.341	0.21
124689-HxCDF	NotFnd		0.9858						1.19		4468.341	0.21
123467-HxCDF	NotFnd		0.9972						1.19		4468.341	0.21
123478-HxCDF	**36.78**	J	**1.0004**	**1.0005**	**+0.2**	**1.92E+05**	**1.16**	**Y**	**1.27**	**1.1**	**4468.341**	**0.224**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**4468.341**	**0.209**
123479-HxCDF	NotFnd		1.0049						1.19		4468.341	0.21
123469-HxCDF	NotFnd		1.0090						1.19		4468.341	0.21
123679-HxCDF	NotFnd		0.9942						1.19		4468.341	0.21
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**4468.341**	**0.174**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4468.341	0.21
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4468.341**	**0.249**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		4468.341	0.21
1234678-HpCDF	**39.92**	**J**	**1.0003**	**1.0002**	**-0.2**	**1.28E+05**	**1.12**	**Y**	**1.37**	**0.655**	**5533.723**	**0.214**
1234679-HpCDF	NotFnd		1.0068						1.34		5533.723	0.264
1234689-HpCDF	NotFnd		1.0103						1.34		5533.723	0.264
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**5533.723**	**0.339**
OCDF	**43.74**	**J**	**1.0003**	**1.0004**	**+0.3**	**1.68E+05**	**0.99**	**Y**	**1.07**	**1.75**	**3177.803**	**0.368**
OCDF-a	NotFnd		1.0002						0.07		3479.499	6.5


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.34e6
3.17e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.23e6
2.61e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.98e7
9.88e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.12e7
5.58e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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4.82e6
0.00e0

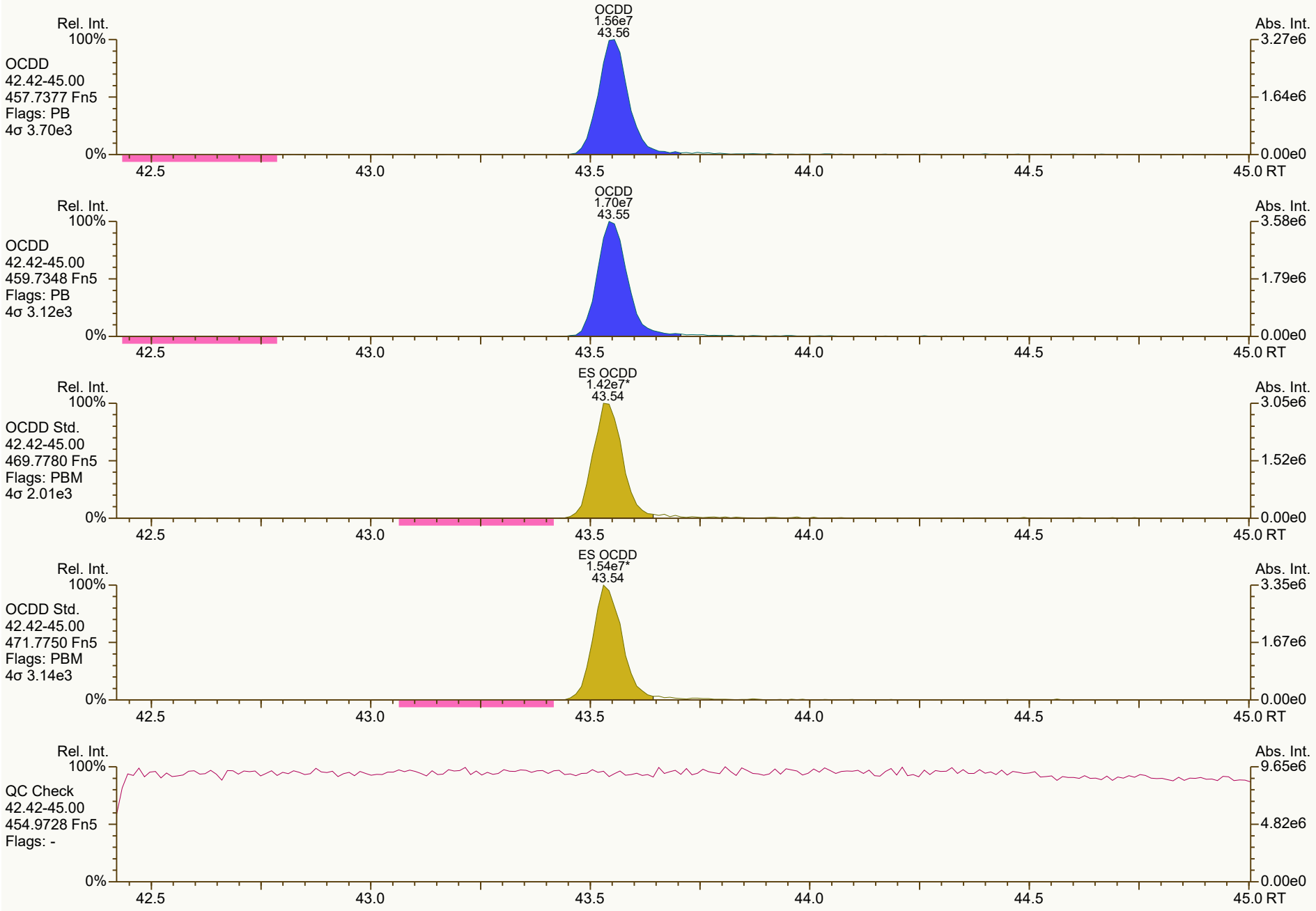

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.83e3
0%
1469D
1.68e5*
26.46
2378D
2.90e5*
28.54
Abs. Int.
7.53e4
3.77e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.80e3
0%
1469D
2.18e5*
26.47
2378D
3.49e5*
28.54
Abs. Int.
9.07e4
4.53e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.43e3
0%
CS 37Cl-2378D
1.18e7
28.54
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.96e3
0%
JS 1234D
1.12e7
27.86
ES 2378D
1.11e7
28.52
Abs. Int.
2.78e6
1.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
1.37e7
27.86
ES 2378D
1.37e7
28.52
Abs. Int.
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1.70e6
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22.0
24.0
26.0
28.0
30.0
RT

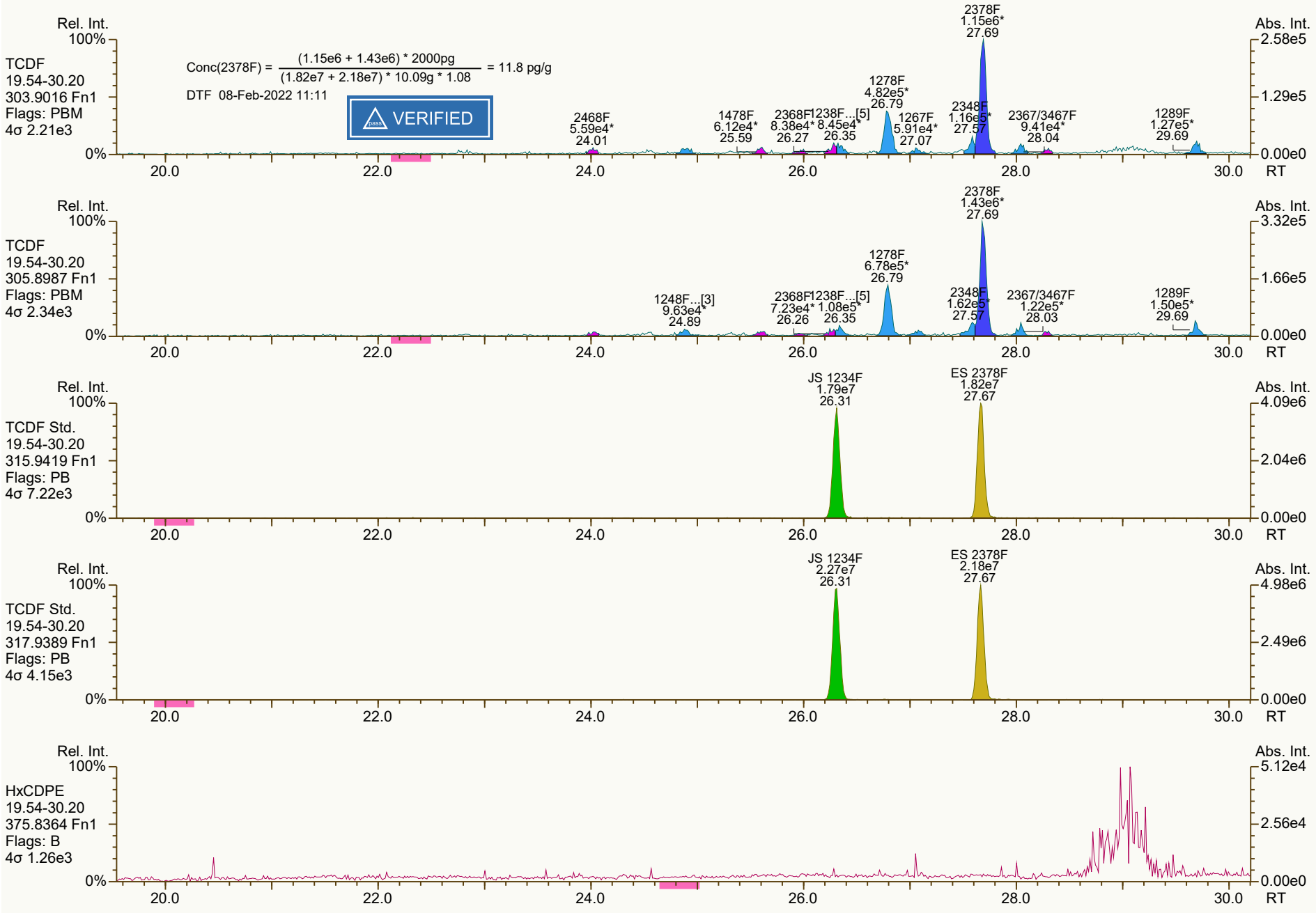


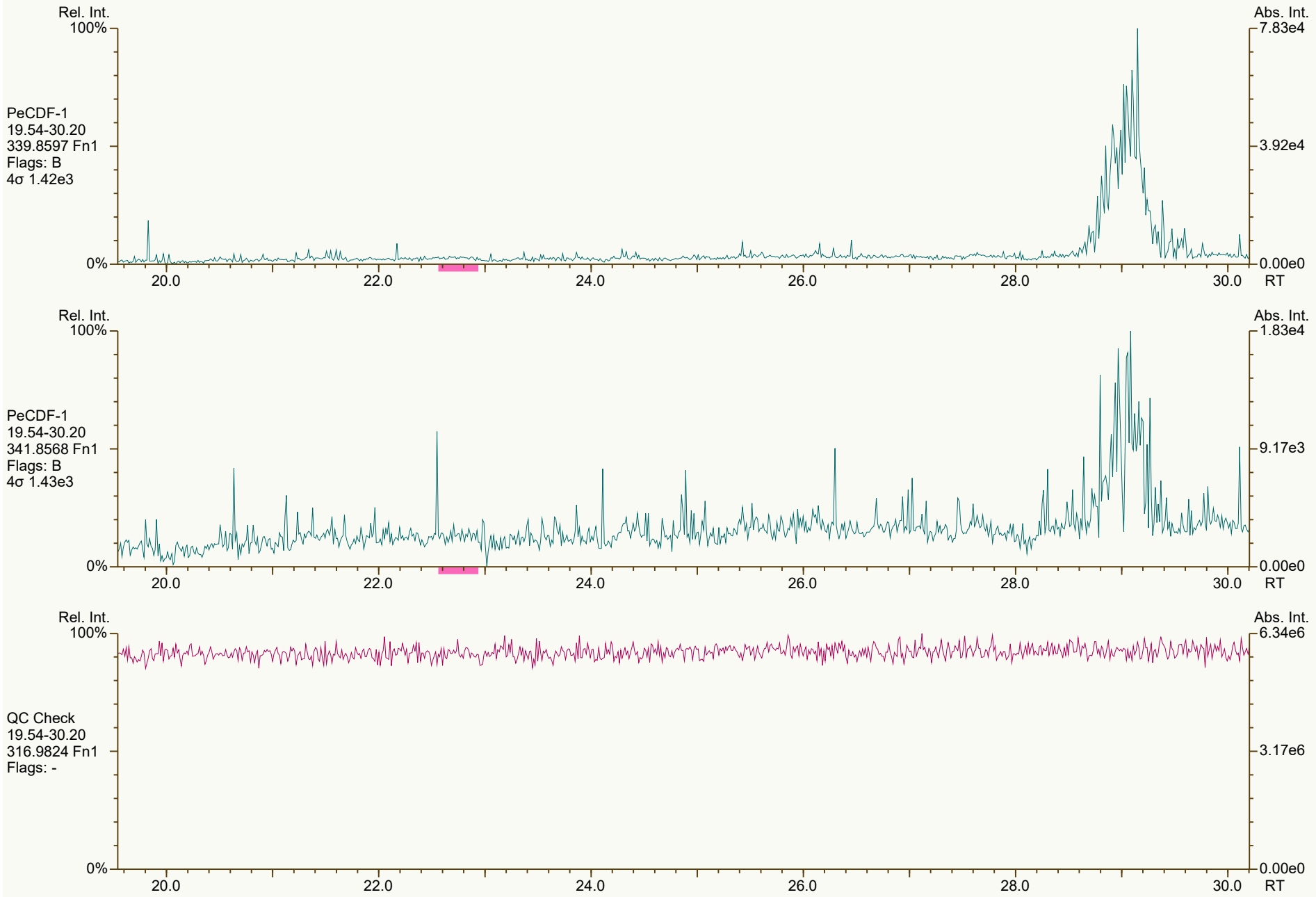
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1517, 9743 scc: 696-784
Revised: 08-Feb-2022 10:47 (DTF) Printed: 08-Feb-2022 11:14 Page 3 of 12

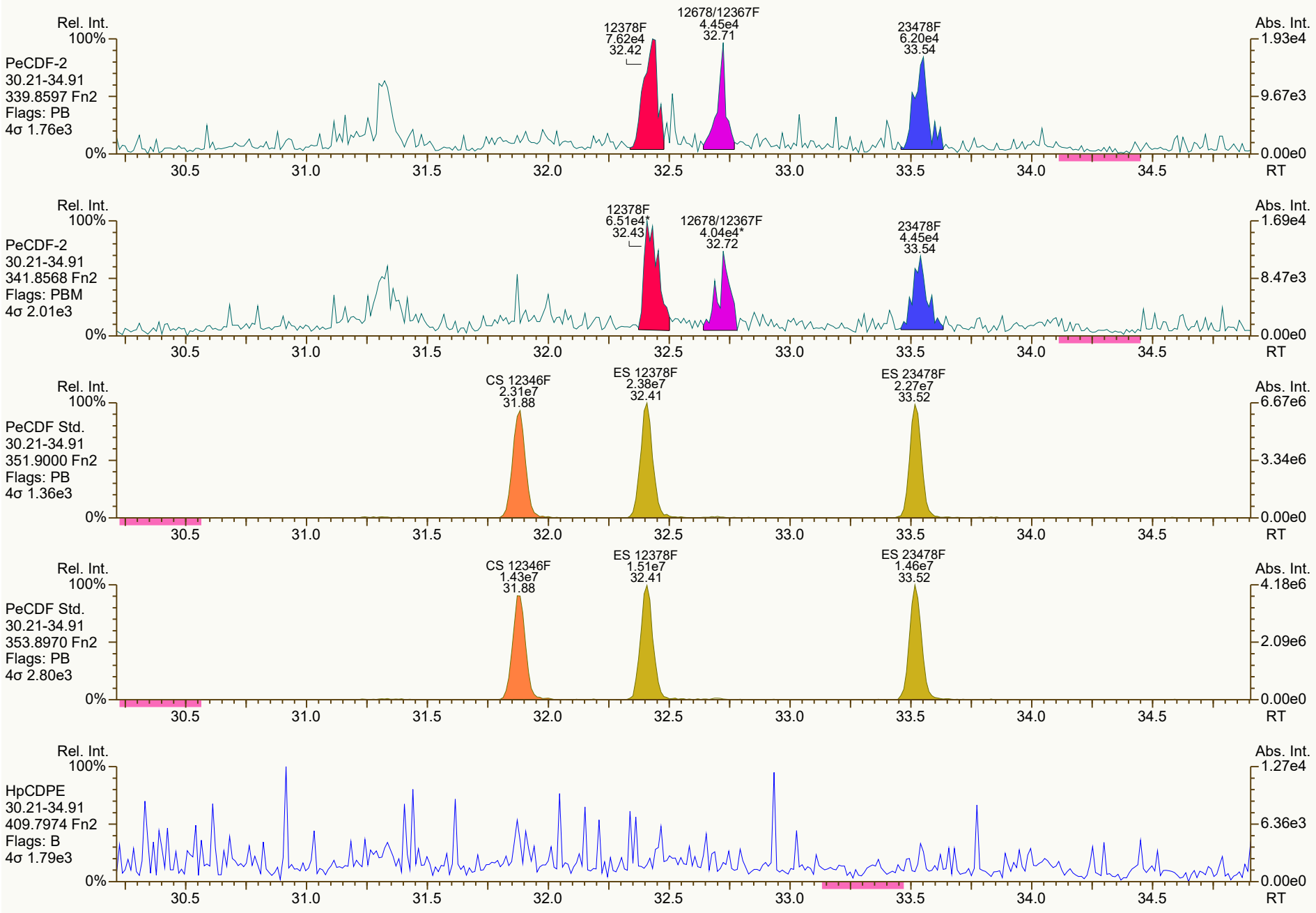

SGS ID: B6148_18876_DF_001
Sample ID: 11215131-010522-S-BN-SW-B-17H1
Acq: 05-Feb-2022 05:02:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220204C26
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 3.18e3
124679/124689D
1.11e6*
36.03
123679/123689D
3.48e5*
36.98
123789D
8.73e4*
38.19
3.52e5
1.76e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.07e3
124679/124689D
8.57e5*
36.03
123679/123689D
2.57e5*
36.98
123678D
4.40e4*
37.90
123789D
7.22e4*
38.19
2.62e5
1.31e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.46e3
ES 123678D
1.40e7
37.89
ES 123478D
1.29e7
37.77
ES 123789D
1.39e7*
38.18
JS 123467D
6.71e6*
38.08
4.04e6
2.02e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.01e3
ES 123678D
1.11e7
37.89
ES 123478D
1.06e7
37.77
ES 123789D
1.08e7*
38.18
JS 123467D
5.33e6*
38.08
3.16e6
1.58e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.98e7
9.88e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\B6148_18876_DF_001.utp_res, saved 08-Feb-2022 11:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7687, 5303 scc: 696-784
Revised: 08-Feb-2022 10:48 (DTF) Printed: 08-Feb-2022 11:14 Page 4 of 12

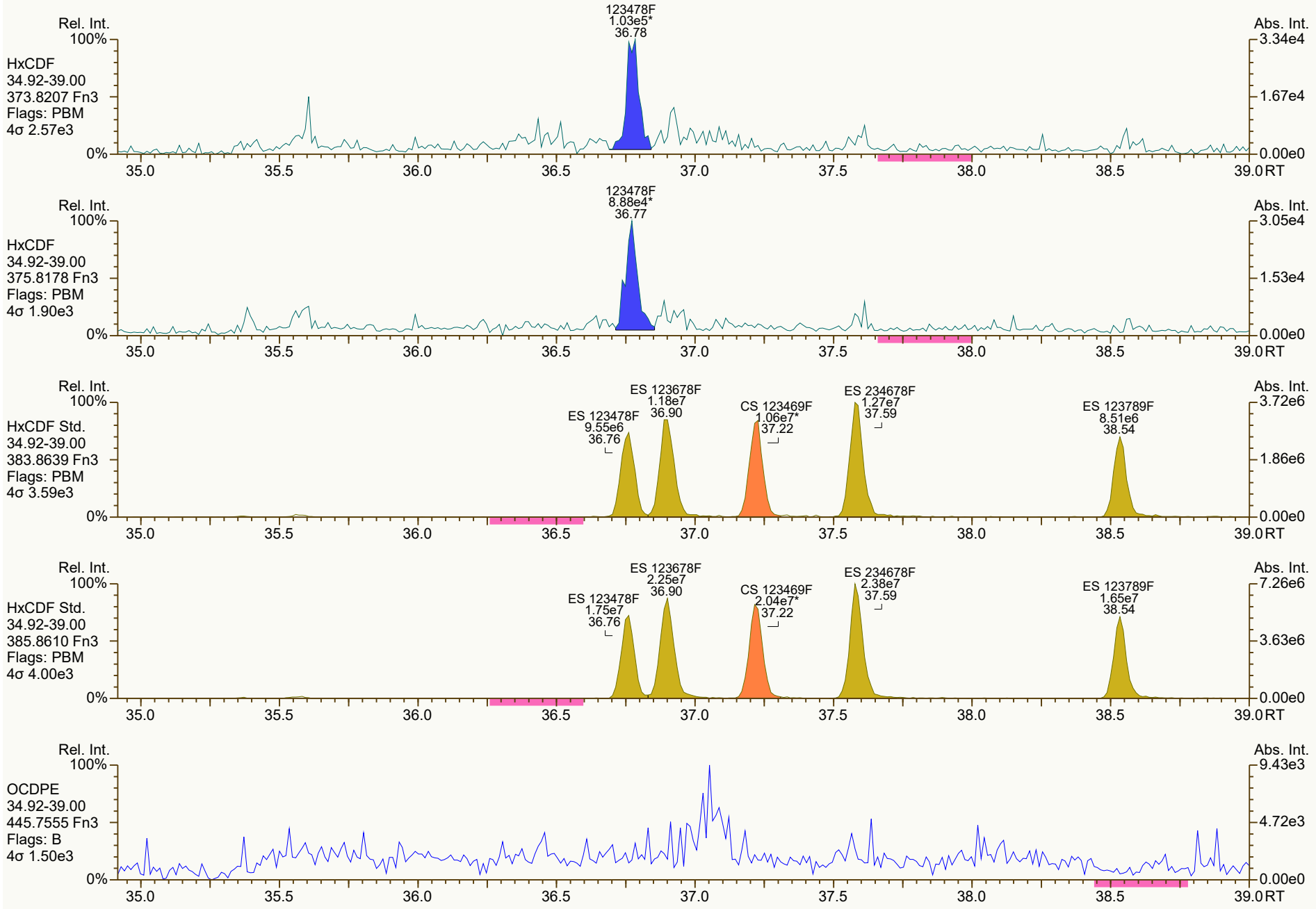

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.20e3
1234679D
2.65e6
40.18
1234678D
9.46e5
40.86
0%
Abs. Int.
8.96e5
4.48e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.56e3
1234679D
2.55e6
40.18
1234678D
9.06e5
40.86
0%
Abs. Int.
8.65e5
4.32e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.67e3
ES 1234678D
1.11e7*
40.85
0%
Abs. Int.
3.59e6
1.80e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678D
1.02e7*
40.85
0%
Abs. Int.
3.26e6
1.63e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.58e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

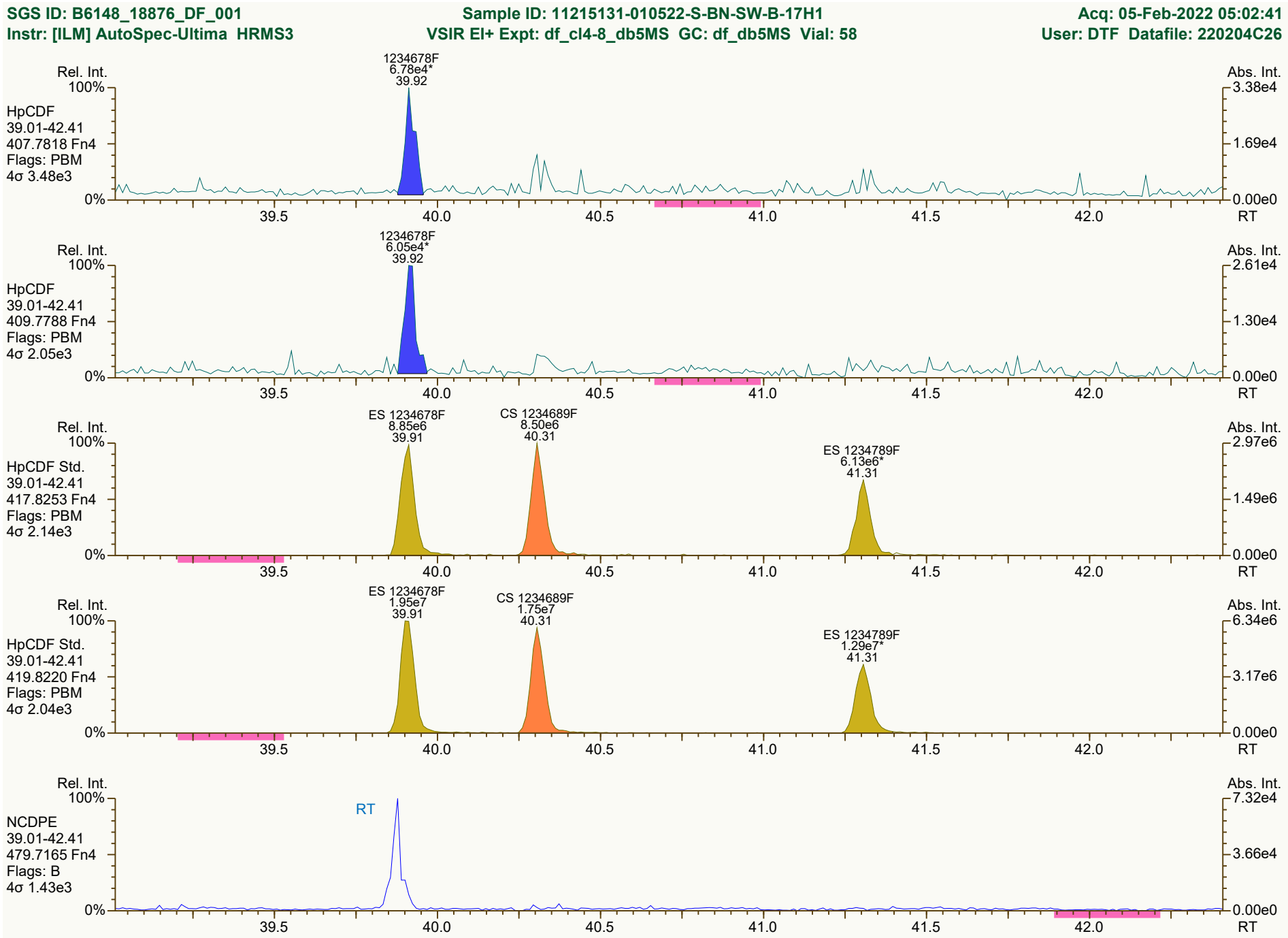

OCDD
1.56e7
43.56
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.70e3
0%
Abs. Int.
3.27e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.70e7
43.55
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 3.12e3
3.58e6
1.79e6
ES OCDD
1.42e7*
43.54
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.01e3
3.05e6
1.52e6
ES OCDD
1.54e7*
43.54
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 3.14e3
3.35e6
1.67e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
9.65e6
4.82e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.21e3
Conc(2378F) = (1.15e6 + 1.43e6) * 2000pg / (1.82e7 + 2.18e7) * 10.09g * 1.08 = 11.8 pg/g
DTF 08-Feb-2022 11:11
VERIFIED
2468F 5.59e4* 24.01
1478F 6.12e4* 25.59
2368F 8.38e4* 26.27
1238F...[5] 8.45e4* 26.35
1278F 4.82e5* 26.79
1267F 5.91e4* 27.07
2378F 1.15e6* 27.69
2348F 1.16e5* 27.57
2367/3467F 9.41e4* 28.04
1289F 1.27e5* 29.69
Abs. Int.
2.58e5
1.29e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.34e3
1248F...[3] 9.63e4* 24.89
2368F 7.23e4* 26.26
1238F...[5] 1.08e5* 26.35
1278F 6.78e5* 26.79
2348F 1.62e5* 27.57
2378F 1.43e6* 27.69
2367/3467F 1.22e5* 28.03
1289F 1.50e5* 29.69
Abs. Int.
3.32e5
1.66e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.22e3
JS 1234F 1.79e7 26.31
ES 2378F 1.82e7 27.67
Abs. Int.
4.09e6
2.04e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.15e3
JS 1234F 2.27e7 26.31
ES 2378F 2.18e7 27.67
Abs. Int.
4.98e6
2.49e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
Abs. Int.
5.12e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
7.83e4
3.92e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.42e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.83e4
9.17e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.43e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.34e6
3.17e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
7.62e4
32.42
12678/12367F
4.45e4
32.71
23478F
6.20e4
33.54
Abs. Int.
1.93e4
9.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 2.01e3
0%
12378F
6.51e4*
32.43
12678/12367F
4.04e4*
32.72
23478F
4.45e4
33.54
Abs. Int.
1.69e4
8.47e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.36e3
0%
CS 12346F
2.31e7
31.88
ES 12378F
2.38e7
32.41
ES 23478F
2.27e7
33.52
Abs. Int.
6.67e6
3.34e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.80e3
0%
CS 12346F
1.43e7
31.88
ES 12378F
1.51e7
32.41
ES 23478F
1.46e7
33.52
Abs. Int.
4.18e6
2.09e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

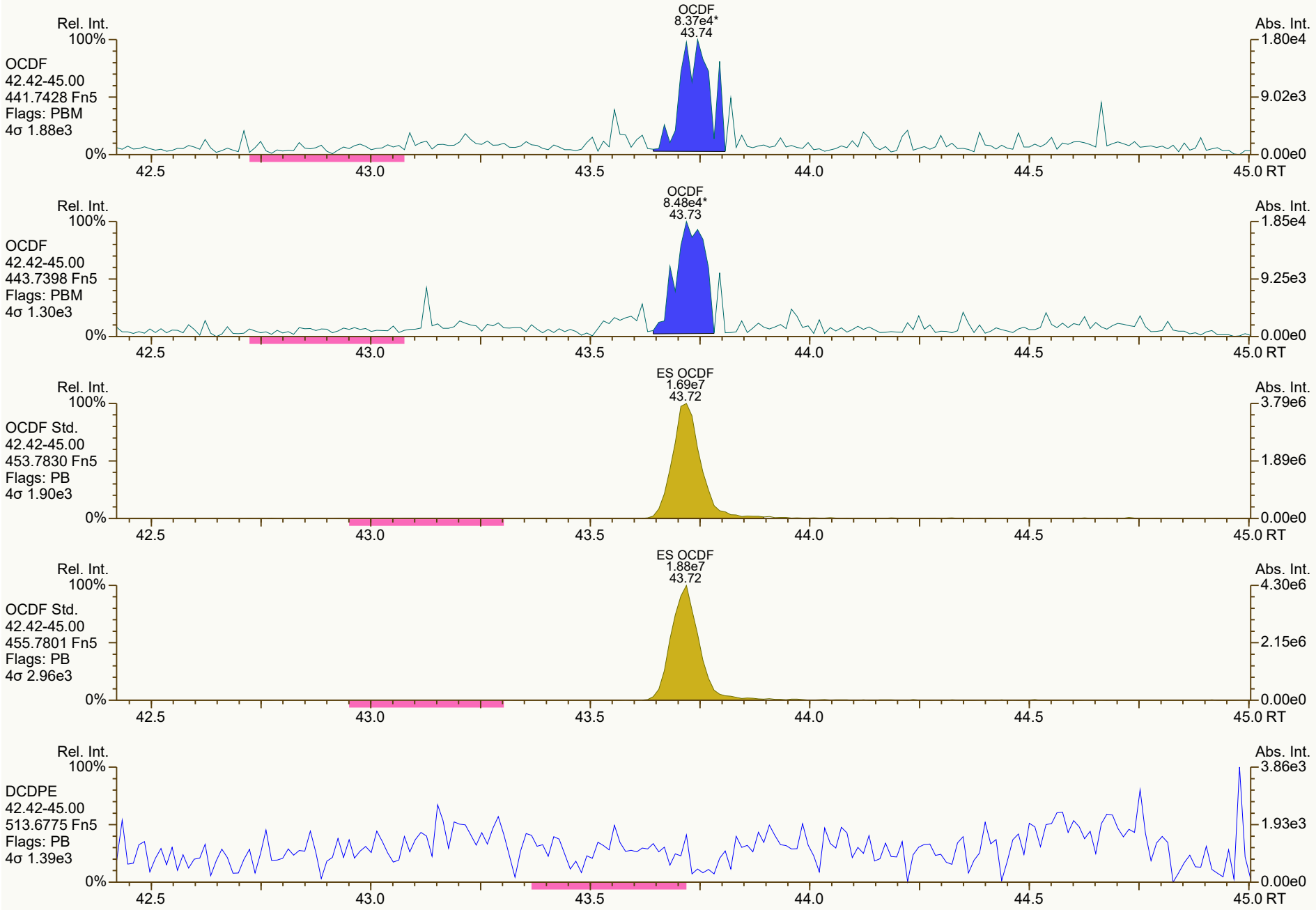

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.57e3
123478F
1.03e5*
36.78
Abs. Int.
3.34e4
1.67e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.90e3
123478F
8.88e4*
36.77
Abs. Int.
3.05e4
1.53e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 3.59e3
ES 123478F
9.55e6
36.76
ES 123678F
1.18e7
36.90
CS 123469F
1.06e7*
37.22
ES 234678F
1.27e7
37.59
ES 123789F
8.51e6
38.54
Abs. Int.
3.72e6
1.86e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 4.00e3
ES 123478F
1.75e7
36.76
ES 123678F
2.25e7
36.90
CS 123469F
2.04e7*
37.22
ES 234678F
2.38e7
37.59
ES 123789F
1.65e7
38.54
Abs. Int.
7.26e6
3.63e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.50e3
Abs. Int.
9.43e3
4.72e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\B6148_18876_DF_001.utp_res, saved 08-Feb-2022 11:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2141, 5527, 5701 scc: 696-784
PKD: 08-Feb-2022 10:51 Printed: 08-Feb-2022 11:15 Page 11 of 12

SGS ID: B6148_18876_DF_001 | Sample ID: 11215131-010522-S-BN-SW-B-17H1 | Acq: 05-Feb-2022 05:02:41

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220204C26



Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\B6148_18876_DF_001.utp_res, saved 08-Feb-2022 11:12 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6286, 1451, 1765 scc: 696-784 *Revised: 08-Feb-2022 10:51 (DTF) Printed: 08-Feb-2022 11:15 Page 12 of 12*

Lab ID: B6148_18876_DF_003 **Acq'd:** 05 Feb 2022 05:49 DTF **Wt/Vol:** 10.45 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15H1 **UTP:** 08-Feb-2022 11:07:25 DTF **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 757-538-CQY

Datafile: 220204C27 **Report:** 08 Feb 2022 11:12 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.55		1.0008	1.0008	0	2.30E+07	0.80	Y	1.18	105	4541.456	0.214
12378-PeCDD	33.87		1.0006	1.0005	-0.2	4.16E+05	1.45	Y	1.04	2.47	5661.741	0.307
123478-HxCDD	37.79	J	1.0004	1.0005	+0.2	3.56E+05	1.07	Y	1.09	2.22	11607.49	0.62
123678-HxCDD	37.90		1.0035	1.0035	0	1.33E+06	1.33	Y	1.15	7.98	11607.49	0.589
123789-HxCDD	38.19		1.0112	1.0111	-0.2	8.01E+05	1.37	Y	1.05	4.75	11607.49	0.591
1234678-HpCDD	40.86		1.0003	1.0003	0	2.45E+07	1.04	Y	1.06	170	9818.875	0.547
OCDD	43.56		1.0004	1.0004	0	2.75E+08	0.90	Y	1.13	2,560	3742.318	0.423
2378-TCDF	27.69		1.0008	1.0008	0	1.03E+08	0.80	Y	1.08	345	5137.85	0.188
12378-PeCDF	32.43		1.0005	1.0006	+0.2	3.62E+06	1.60	Y	1.02	13.5	6993.367	0.24
23478-PeCDF	33.55	PR	1.0005	1.0009	+0.8	3.83E+06	1.55	Y	1.02	14.7	6993.367	0.246
123478-HxCDF	36.78		1.0004	1.0005	+0.2	6.85E+06	1.22	Y	1.27	28.1	12156.941	0.439
123678-HxCDF	36.92		1.0004	1.0004	0	2.95E+06	1.19	Y	1.15	11.5	12156.941	0.408
234678-HxCDF	37.60		1.0005	1.0004	-0.2	1.23E+06	1.21	Y	1.19	5.37	12156.941	0.507
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12156.941	0.488
1234678-HpCDF	39.92		1.0003	1.0002	-0.2	5.08E+07	1.02	Y	1.37	227	5677.683	0.187
1234789-HpCDF	41.31		1.0002	1.0003	+0.2	1.79E+06	1.04	Y	1.31	10.8	5677.683	0.272
OCDF	43.73		1.0003	1.0003	0	3.33E+08	0.89	Y	1.07	2,350	5385.811	0.42

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.53	1.0236	1.0237	+0.2	3.52E+07	0.81	Y	1.05	89.5
ES 12378-PeCDD	33.86	1.2144	1.2150	+1.2	3.12E+07	1.55	Y	0.88	94.3
ES 123478-HxCDD	37.77	0.9920	0.9920	0	2.82E+07	1.30	Y	0.97	91
ES 123678-HxCDD	37.89	0.9951	0.9950	-0.2	2.78E+07	1.33	Y	0.94	92.4
ES 123789-HxCDD	38.18	1.0027	1.0026	-0.2	3.08E+07	1.28	Y	1.09	88.5
ES 1234678-HpCDD	40.84	1.0724	1.0726	+0.5	2.60E+07	1.05	Y	0.91	89.5
ES OCDD	43.55	1.1428	1.1436	+2.1	3.65E+07	0.91	Y	0.62	91.6
ES 2378-TCDF	27.67	1.0516	1.0515	-0.2	5.30E+07	0.83	Y	1.06	89.5
ES 12378-PeCDF	32.41	1.2312	1.2317	+1.0	4.99E+07	1.58	Y	0.91	98.2
ES 23478-PeCDF	33.52	1.2733	1.2739	+1.2	4.89E+07	1.57	Y	0.88	99.1
ES 123478-HxCDF	36.76	0.9655	0.9654	-0.2	3.67E+07	0.54	Y	1.20	96
ES 123678-HxCDF	36.90	0.9692	0.9691	-0.2	4.24E+07	0.54	Y	1.35	98.5
ES 234678-HxCDF	37.58	0.9871	0.9870	-0.2	3.68E+07	0.54	Y	1.24	93
ES 123789-HxCDF	38.53	1.0121	1.0119	-0.5	3.38E+07	0.54	Y	1.16	91.7
ES 1234678-HpCDF	39.91	1.0479	1.0481	+0.5	3.13E+07	0.46	Y	0.97	102
ES 1234789-HpCDF	41.30	1.0845	1.0847	+0.5	2.42E+07	0.45	Y	0.85	89.3
ES OCDF	43.72	1.1477	1.1482	+1.3	5.07E+07	0.91	Y	0.81	98.4

Lab ID: B6148_18876_DF_003 **Acq'd:** 05 Feb 2022 05:49 DTF **Wt/Vol:** 10.45 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15H1 **UTP:** 08-Feb-2022 11:07:25 DTF **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 757-538-CQY

Datafile: 220204C27 **Report:** 08 Feb 2022 11:12 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.86		-	-	-	3.76E+07	0.80	Y	-	-	
JS 1234-TCDF	26.31		-	-	-	5.59E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.08		-	-	-	1.59E+07	1.34	Y	-	-	
CS 37Cl-2378-TCDD	28.55		1.0244	1.0245	+0.2	1.67E+07	n/a	-	1.20	92.1	
CS 12347-PeCDD	33.35		1.1964	1.1970	+1.2	2.96E+07	1.61	Y	0.75	104	
CS 12346-PeCDF	31.88		1.2112	1.2116	+0.8	4.93E+07	1.59	Y	0.85	104	
CS 123469-HxCDF	37.22		0.9775	0.9775	0	3.82E+07	0.55	Y	1.12	107	
CS 1234689-HpCDF	40.31		1.0584	1.0587	+0.7	3.12E+07	0.46	Y	0.89	110	
~~SS 37Cl-2378-TCDD~~	~~28.55~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.67E+07~~	~~n/a~~		~~1.15~~	~~103~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1970~~	~~+1.2~~	~~2.96E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~111~~	CL 10Feb22
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2116~~	~~+0.8~~	~~4.93E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9775~~	~~0~~	~~3.82E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~109~~	
~~SS 1234689-HpCDF~~	~~40.31~~		~~1.0584~~	~~1.0587~~	~~+0.7~~	~~3.12E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~	

Totals	Conc	EMPC
Total TCDD	132	133
Total PeCDD	24.5	25.6
Total HxCDD	110	110
Total HpCDD	477	477
Total Tetra-Octa Dioxins	3310	3310
Total TCDF	697	698
Total PeCDF	108	108
Total HxCDF	118	118
Total HpCDF	325	325
Total Tetra-Octa Furans	3,600	3600
Total Tetra-Octa Dioxins & Furans	6900	6900

Lab ID: B6148_18876_DF_003 **Acq'd: 05 Feb 2022 05:49 DTF** **Wt/Vol: 10.45 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15H1 **UTP: 08-Feb-2022 11:07:25 DTF** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 757-538-CQY**

Datafile: 220204C27 **Report: 08 Feb 2022 11:12 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.92		0.8737	0.8736	-0.1	6.22E+05	0.79	Y	1.18	2.85	4541.456	0.214
1379-TCDD	25.28		0.8860	0.8862	+0.3	2.68E+05	0.71	Y	1.18	1.23	4541.456	0.214
1369-TCDD	25.69		0.9009	0.9007	-0.3	1.40E+05	0.72	Y	1.18	0.642	4541.456	0.214
1469-TCDD	26.47		0.9281	0.9280	-0.2	1.34E+06	0.75	Y	1.18	6.12	4541.456	0.214
1247/1246/1248/1249-TCDD	26.71		0.9362	0.9364	+0.3	2.89E+05	0.78	Y	1.18	1.32	4541.456	0.214
1378-TCDD	26.90		0.9432	0.9432	0	2.44E+05	0.77	Y	1.18	1.12	4541.456	0.214
1268-TCDD	NotFnd		0.9500						1.18		4541.456	0.214
1478-TCDD	27.34	J EMPC	0.9586	0.9585	-0.2	8.81E+04	0.90	N	1.18	0.404	4541.456	0.214
1279-TCDD	27.51		0.9645	0.9643	-0.3	1.17E+05	0.82	Y	1.18	0.537	4541.456	0.214
1234/1269-TCDD	27.86		0.9770	0.9767	-0.5	2.57E+05	0.74	Y	1.18	1.18	4541.456	0.214
1236-TCDD	NotFnd		0.9817						1.18		4541.456	0.214
1237/1238-TCDD	28.26		0.9905	0.9909	+0.7	4.14E+05	0.82	Y	1.18	1.9	4541.456	0.214
1239-TCDD	NotFnd		0.9952						1.18		4541.456	0.214
2378-TCDD	**28.55**		**1.0008**	1.0008	**0**	2.30E+07	0.80	Y	**1.18**	**105**	**4541.456**	**0.214**
1278-TCDD	28.87		1.0121	1.0120	-0.2	2.08E+06	0.80	Y	1.18	9.52	4541.456	0.214
1267-TCDD	NotFnd		1.0167						1.18		4541.456	0.214
1289-TCDD	29.51		1.0345	1.0345	0	1.49E+05	0.83	Y	1.18	0.684	4541.456	0.214
12479/12468-PeCDD	31.37		0.9267	0.9266	-0.2	1.01E+06	1.44	Y	1.04	6	5661.741	0.307
12469-PeCDD	31.91		0.9425	0.9425	0	8.51E+05	1.38	Y	1.04	5.04	5661.741	0.307
12368-PeCDD	32.46		0.9588	0.9587	-0.2	4.85E+05	1.38	Y	1.04	2.87	5661.741	0.307
12478-PeCDD	32.65	J	0.9643	0.9643	0	3.38E+05	1.42	Y	1.04	2	5661.741	0.307
12379-PeCDD	32.75	J	0.9673	0.9673	0	2.60E+05	1.61	Y	1.04	1.54	5661.741	0.307
12369/12467/12489-PeCDD	33.01		0.9750	0.9750	0	6.89E+05	1.67	Y	1.04	4.08	5661.741	0.307
12346/12347-PeCDD	33.37	J EMPC	0.9858	0.9857	-0.2	7.76E+04	1.29	N	1.04	0.46	5661.741	0.307
12378-PeCDD	33.87		**1.0006**	**1.0005**	**-0.2**	**4.16E+05**	**1.45**	**Y**	**1.04**	**2.47**	**5661.741**	**0.307**
12367-PeCDD	33.96	J	1.0033	1.0031	-0.4	8.23E+04	1.52	Y	1.04	0.487	5661.741	0.307
12389-PeCDD	34.31	J EMPC	1.0134	1.0133	-0.2	1.15E+05	1.23	N	1.04	0.68	5661.741	0.307
124679/124689-HxCDD	36.04		0.9542	0.9540	-0.4	8.55E+06	1.31	Y	1.10	51.7	11607.49	0.599
123468-HxCDD	36.69		0.9715	0.9713	-0.4	1.12E+06	1.24	Y	1.10	6.77	11607.49	0.599
123679/123689-HxCDD	36.99		0.9793	0.9792	-0.2	5.03E+06	1.27	Y	1.10	30.4	11607.49	0.599
123469-HxCDD	37.12		0.9828	0.9827	-0.2	6.18E+05	1.23	Y	1.10	3.73	11607.49	0.599
123478-HxCDD	37.79	J	**1.0004**	**1.0005**	**+0.2**	**3.56E+05**	**1.07**	**Y**	1.09	**2.22**	**11607.49**	**0.62**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**1.33E+06**	**1.33**	**Y**	1.15	**7.98**	**11607.49**	**0.589**
123467-HxCDD	38.09		1.0085	1.0085	0	4.81E+05	1.34	Y	1.10	2.91	11607.49	0.599
123789-HxCDD	38.19		**1.0112**	**1.0111**	**-0.2**	**8.01E+05**	**1.37**	**Y**	1.05	**4.75**	**11607.49**	**0.591**

Lab ID: B6148_18876_DF_003 **Acq'd: 05 Feb 2022 05:49 DTF** **Wt/Vol: 10.45 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15H1 **UTP: 08-Feb-2022 11:07:25 DTF** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 757-538-CQY**

Datafile: 220204C27 **Report: 08 Feb 2022 11:12 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

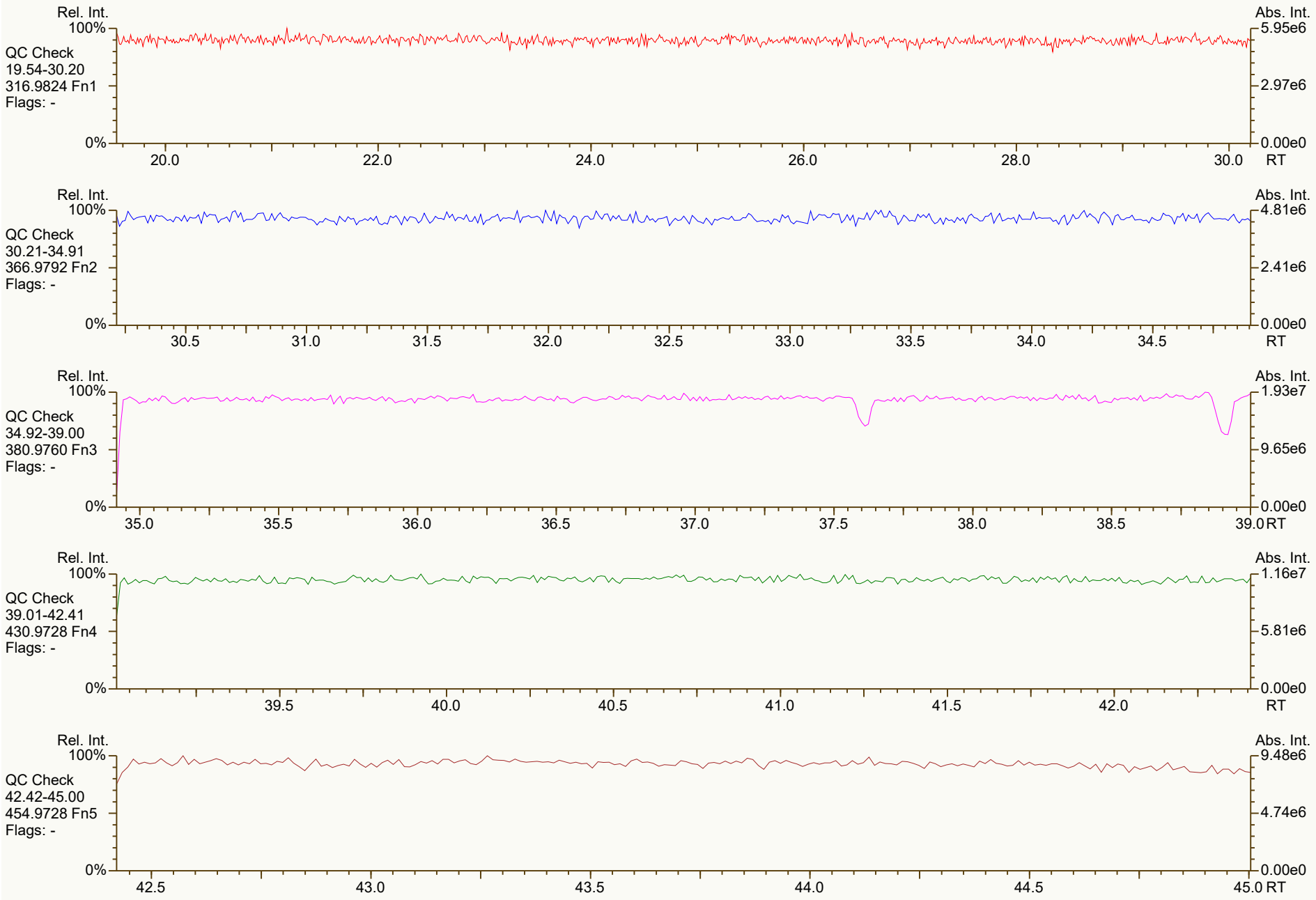
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.18		0.9837	0.9837	0	4.43E+07	1.05	Y	1.06	307	9818.875	0.547
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**2.45E+07**	**1.04**	**Y**	**1.06**	**170**	**9818.875**	**0.547**
OCDD	**43.56**		**1.0004**	**1.0004**	**0**	**2.75E+08**	**0.90**	**Y**	**1.13**	**2,560**	**3742.318**	**0.423**
OCDD-a	43.56		1.0003	1.0003	0	1.74E+07	2.54	Y	0.07	2,530	5494.176	9.71
1368-TCDF	22.83	EMPC	0.8251	0.8249	-0.3	4.81E+05	0.92	N	1.08	1.61	5137.85	0.188
1468-TCDF	23.40		0.8458	0.8457	-0.1	9.78E+05	0.71	Y	1.08	3.27	5137.85	0.188
2468-TCDF	24.03		0.8686	0.8685	-0.1	2.87E+06	0.81	Y	1.08	9.6	5137.85	0.188
1346/1246-TCDF	24.42		0.8814	0.8826	+1.8	6.94E+05	0.78	Y	1.08	2.32	5137.85	0.188
1347/1378/1247-TCDF	24.56		0.8867	0.8874	+1.0	2.51E+06	0.80	Y	1.08	8.41	5137.85	0.188
1348-TCDF	NotFnd		0.8962						1.08		5137.85	0.188
1248/1367/1379-TCDF	24.89		0.9009	0.8994	-2.2	6.80E+06	0.80	Y	1.08	22.7	5137.85	0.188
1268-TCDF	25.30		0.9145	0.9145	0	3.54E+06	0.76	Y	1.08	11.8	5137.85	0.188
1467-TCDF	25.44		0.9193	0.9194	+0.2	5.88E+05	0.78	Y	1.08	1.97	5137.85	0.188
1478-TCDF	25.61		0.9254	0.9254	0	5.25E+06	0.77	Y	1.08	17.6	5137.85	0.188
1369/1237-TCDF	25.98		0.9387	0.9389	+0.3	1.37E+06	0.80	Y	1.08	4.58	5137.85	0.188
2467-TCDF	26.09		0.9433	0.9430	-0.5	6.30E+05	0.67	Y	1.08	2.11	5137.85	0.188
2368-TCDF	26.26		0.9489	0.9490	+0.2	5.21E+06	0.78	Y	1.08	17.4	5137.85	0.188
1238/1234/1678/1469/1236-TCDF	26.34		0.9523	0.9519	-0.6	4.60E+06	0.81	Y	1.08	15.4	5137.85	0.188
1278-TCDF	26.80		0.9683	0.9685	+0.3	4.21E+07	0.79	Y	1.08	141	5137.85	0.188
1349-TCDF	NotFnd		0.9722						1.08		5137.85	0.188
1267-TCDF	27.07		0.9783	0.9782	-0.2	2.66E+06	0.73	Y	1.08	8.91	5137.85	0.188
2346/1249-TCDF	27.26		0.9850	0.9850	0	4.30E+05	0.77	Y	1.08	1.44	5137.85	0.188
2347/1279-TCDF	27.47		0.9926	0.9926	0	1.36E+06	0.76	Y	1.08	4.54	5137.85	0.188
2348-TCDF	27.58		0.9967	0.9966	-0.2	5.66E+06	0.77	Y	1.08	18.9	5137.85	0.188
2378-TCDF	**27.69**		**1.0008**	**1.0008**	**0**	**1.03E+08**	**0.80**	**Y**	**1.08**	**345**	**5137.85**	**0.188**
2367/3467-TCDF	28.04		1.0137	1.0134	-0.5	9.40E+06	0.79	Y	1.08	31.4	5137.85	0.188
1269-TCDF	28.30		1.0223	1.0227	+0.7	1.58E+06	0.75	Y	1.08	5.27	5137.85	0.188
1239-TCDF	NotFnd		1.0321						1.08		5137.85	0.188
1289-TCDF	29.69		1.0722	1.0730	+1.4	6.89E+06	0.82	Y	1.08	23.1	5137.85	0.188
13468/12468-PeCDF	29.63		0.9139	0.9142	+0.5	7.26E+06	1.55	Y	1.02	27.5	3522.751	0.122
13678/13467/12467-PeCDF	31.17		0.9613	0.9616	+0.6	1.08E+06	1.53	Y	1.02	4.11	6993.367	0.243
12368/13478/12478-PeCDF	31.33		0.9662	0.9667	+0.9	5.97E+06	1.62	Y	1.02	22.6	6993.367	0.243
14678-PeCDF	NotFnd		0.9692						1.02		6993.367	0.243
13479-PeCDF	NotFnd		0.9723						1.02		6993.367	0.243
13469/12479-PeCDF	31.72	J	0.9797	0.9787	-1.9	6.29E+05	1.52	Y	1.02	2.38	6993.367	0.243
12346-PeCDF	NotFnd		0.9840						1.02		6993.367	0.243

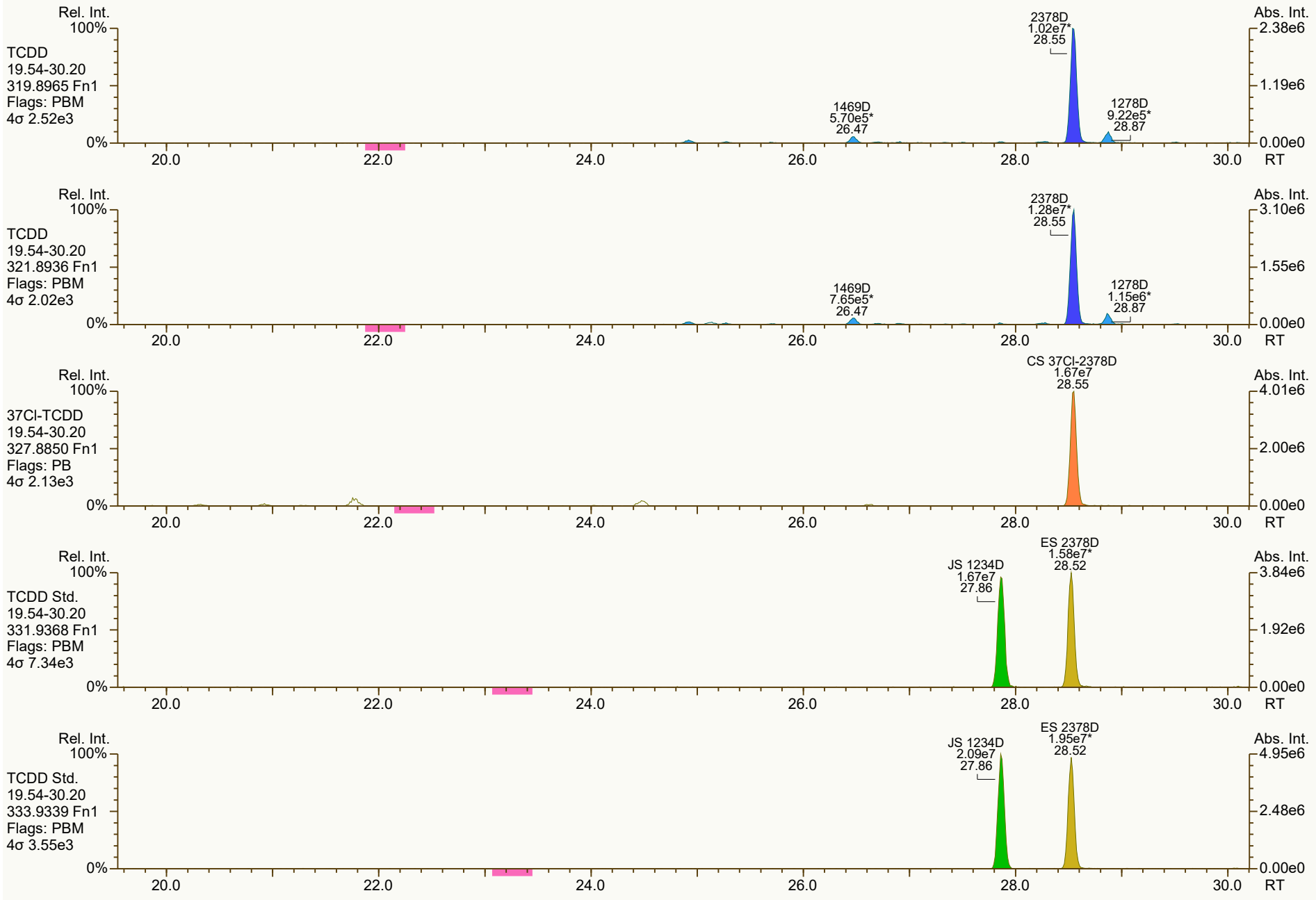
Lab ID: B6148_18876_DF_003 **Acq'd: 05 Feb 2022 05:49 DTF** **Wt/Vol: 10.45 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

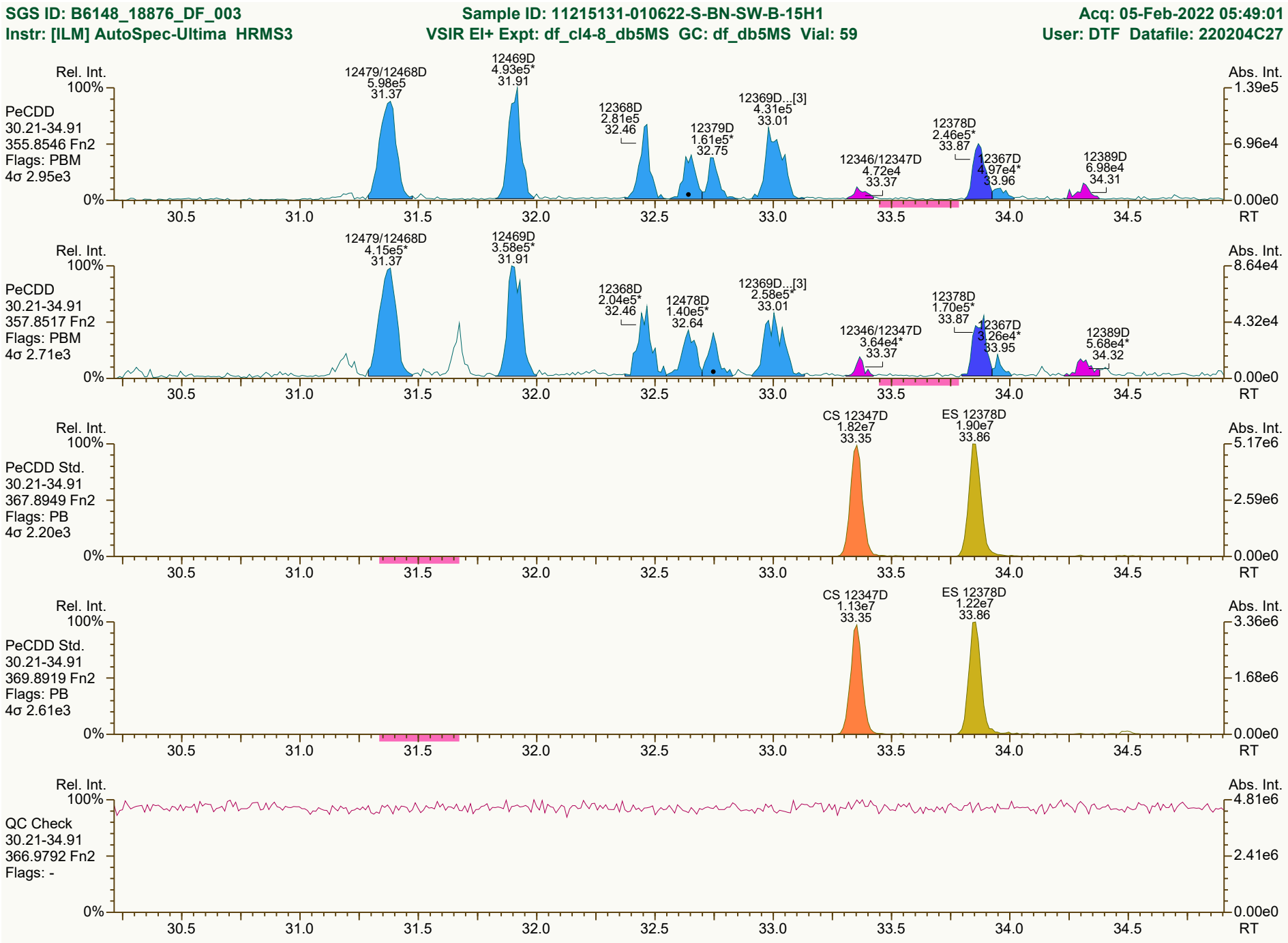
Client ID: 11215131-010622-S-BN-SW-B-15H1 **UTP: 08-Feb-2022 11:07:25 DTF** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 757-538-CQY**

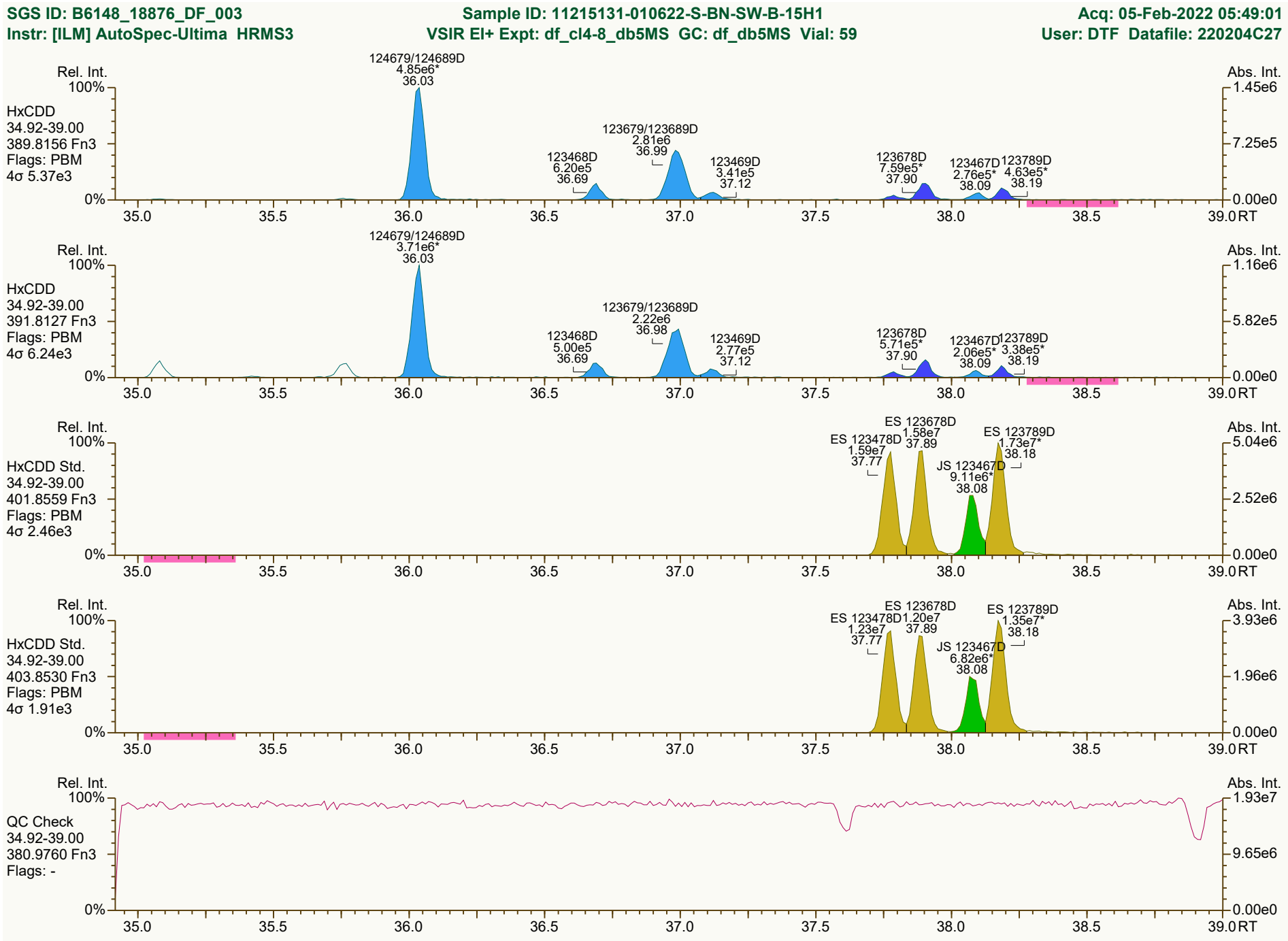
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Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.99		0.9868	0.9870	+0.4	2.00E+06	1.56	Y	1.02	7.58	6993.367	0.243
12347-PeCDF	NotFnd		0.9894						1.02		6993.367	0.243
12348-PeCDF	32.22		0.9940	0.9941	+0.2	7.34E+05	1.58	Y	1.02	2.78	6993.367	0.243
12378-PeCDF	**32.43**		**1.0005**	**1.0006**	**+0.2**	**3.62E+06**	**1.60**	**Y**	**1.02**	**13.5**	**6993.367**	**0.24**
12678/12367-PeCDF	32.73		1.0089	1.0099	+2.0	2.76E+06	1.47	Y	1.02	10.4	6993.367	0.243
12379-PeCDF	NotFnd		1.0142						1.02		6993.367	0.243
12679-PeCDF	NotFnd		0.9929						1.02		6993.367	0.243
23467/12369-PeCDF	33.41	J	0.9967	0.9966	-0.2	3.51E+05	1.43	Y	1.02	1.33	6993.367	0.243
23478-PeCDF	**33.55**	PR	**1.0005**	**1.0009**	**+0.8**	**3.83E+06**	**1.55**	**Y**	**1.02**	**14.7**	**6993.367**	**0.246**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6993.367	0.243
12349-PeCDF	NotFnd		1.0100						1.02		6993.367	0.243
12389-PeCDF	34.62	J	1.0324	1.0327	+0.6	3.10E+05	1.52	Y	1.02	1.17	6993.367	0.243
123468-HxCDF	35.39		0.9627	0.9627	0	2.32E+06	1.17	Y	1.19	9.95	12156.941	0.458
124678/134678-HxCDF	35.59		0.9682	0.9681	-0.2	6.77E+06	1.27	Y	1.19	29	12156.941	0.458
134679-HxCDF	NotFnd		0.9744						1.19		12156.941	0.458
124679-HxCDF	36.01	J	0.9798	0.9797	-0.2	3.52E+05	1.08	Y	1.19	1.51	12156.941	0.458
124689-HxCDF	36.24		0.9858	0.9858	0	5.73E+06	1.25	Y	1.19	24.5	12156.941	0.458
123467-HxCDF	36.66		0.9972	0.9972	0	6.80E+05	1.37	Y	1.19	2.91	12156.941	0.458
123478-HxCDF	**36.78**		**1.0004**	**1.0005**	**+0.2**	**6.85E+06**	**1.22**	**Y**	**1.27**	**28.1**	**12156.941**	**0.439**
123678-HxCDF	**36.92**		**1.0004**	**1.0004**	**0**	**2.95E+06**	**1.19**	**Y**	**1.15**	**11.5**	**12156.941**	**0.408**
123479-HxCDF	NotFnd		1.0049						1.19		12156.941	0.458
123469-HxCDF	37.24	J	1.0090	1.0091	+0.2	4.64E+05	1.29	Y	1.19	1.99	12156.941	0.458
123679-HxCDF	NotFnd		0.9942						1.19		12156.941	0.458
234678-HxCDF	**37.60**		**1.0005**	**1.0004**	**-0.2**	**1.23E+06**	**1.21**	**Y**	**1.19**	**5.37**	**12156.941**	**0.507**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12156.941	0.458
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12156.941**	**0.488**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.58		1.0009	1.0011	+0.5	8.12E+05	1.31	Y	1.19	3.48	12156.941	0.458
1234678-HpCDF	**39.92**		**1.0003**	**1.0002**	**-0.2**	**5.08E+07**	**1.02**	**Y**	**1.37**	**227**	**5677.683**	**0.187**
1234679-HpCDF	40.18		1.0068	1.0067	-0.2	1.65E+06	1.09	Y	1.34	8.48	5677.683	0.223
1234689-HpCDF	40.32		1.0103	1.0103	0	1.53E+07	1.04	Y	1.34	78.6	5677.683	0.223
1234789-HpCDF	**41.31**		**1.0002**	**1.0003**	**+0.2**	**1.79E+06**	**1.04**	**Y**	**1.31**	**10.8**	**5677.683**	**0.272**
OCDF	**43.73**		**1.0003**	**1.0003**	**0**	**3.33E+08**	**0.89**	**Y**	**1.07**	**2,350**	**5385.811**	**0.42**
OCDF-a	43.73		1.0002	1.0002	0	2.17E+07	2.51	Y	0.07	2,470	4082.397	5.14

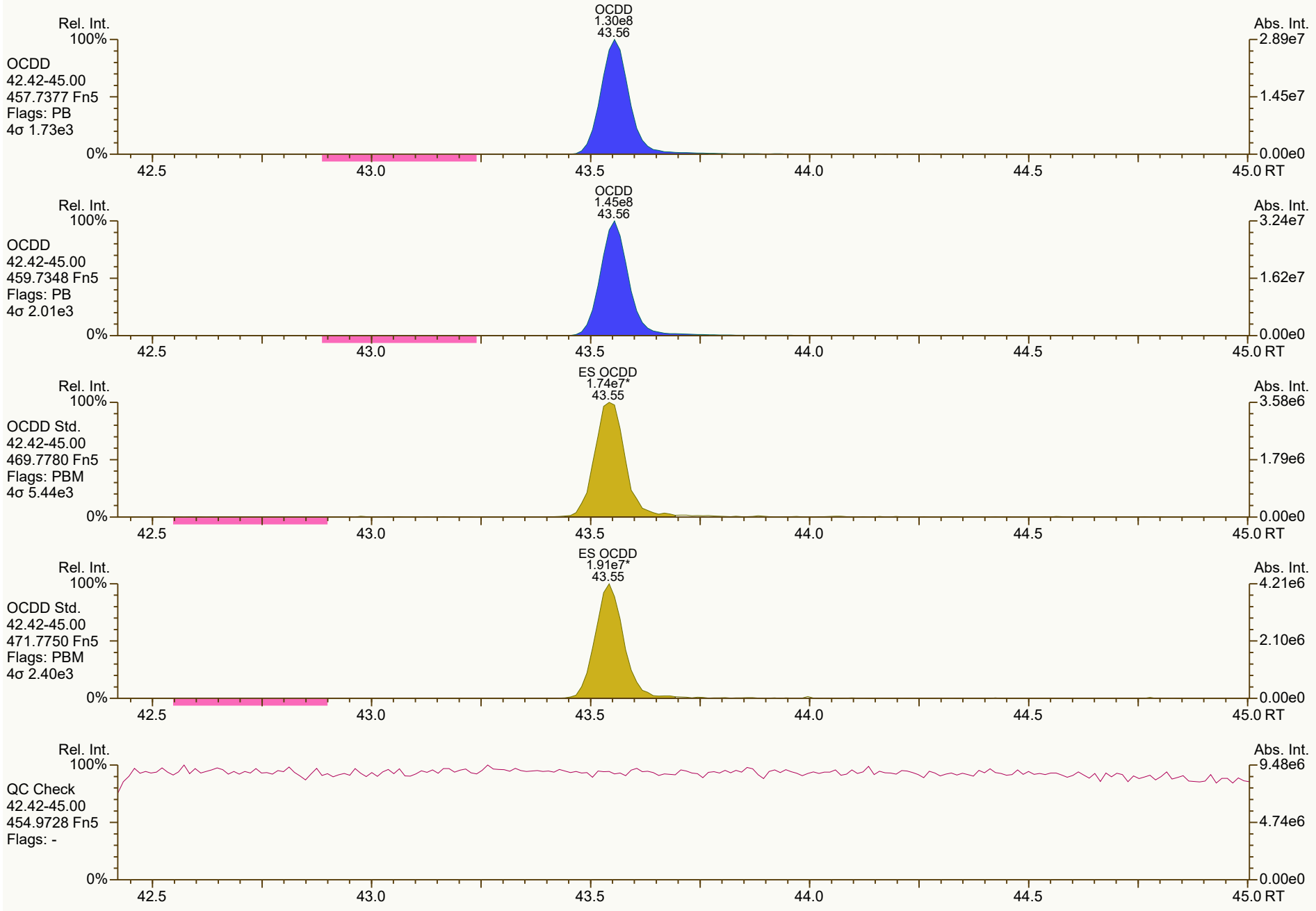

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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
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2.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.81e6
2.41e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.93e7
9.65e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.16e7
5.81e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.48e6
4.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

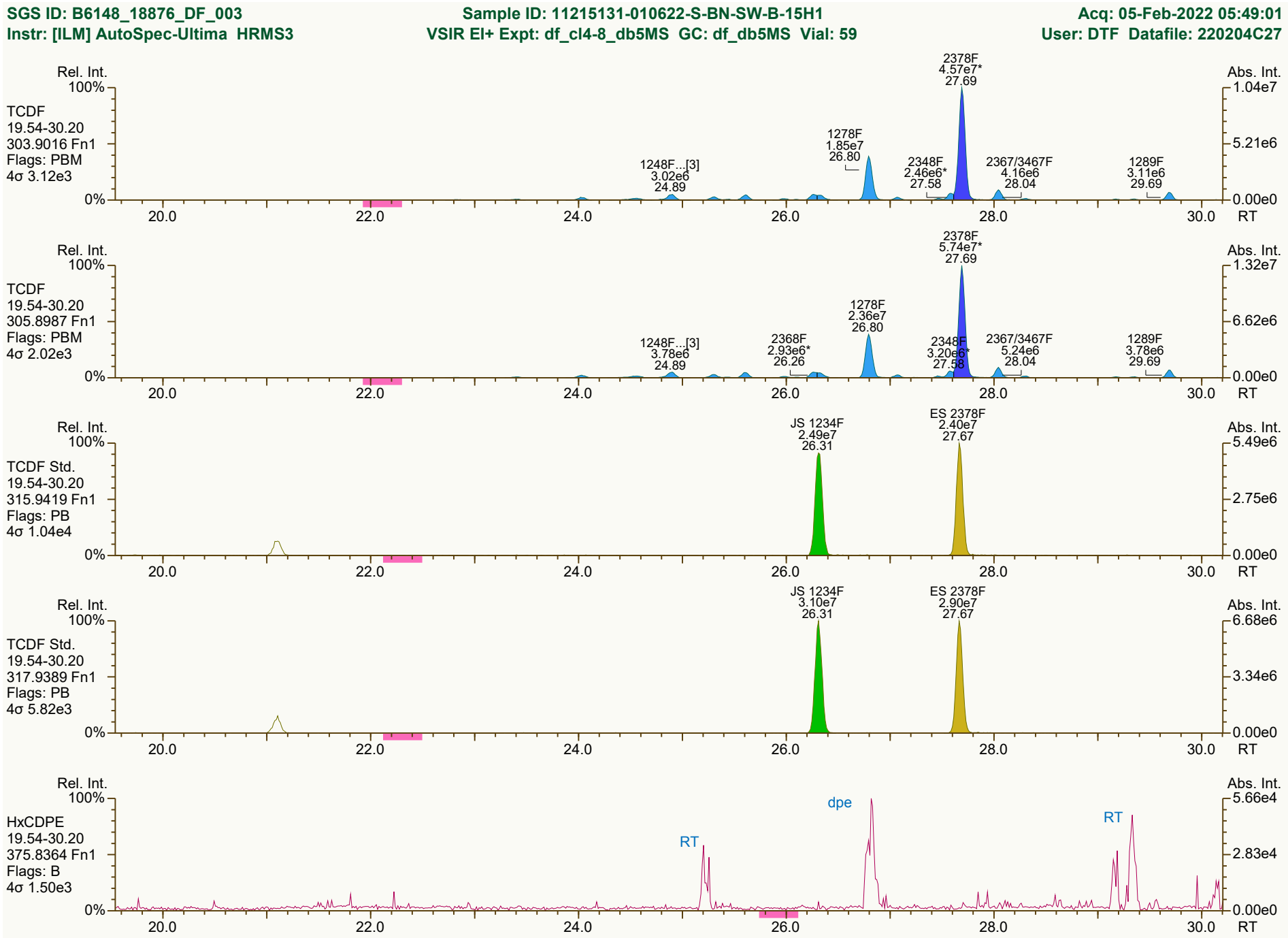

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.52e3
0%
2378D
1.02e7*
28.55
1469D
5.70e5*
26.47
1278D
9.22e5*
28.87
Abs. Int.
2.38e6
1.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.02e3
0%
2378D
1.28e7*
28.55
1469D
7.65e5*
26.47
1278D
1.15e6*
28.87
Abs. Int.
3.10e6
1.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.13e3
0%
CS 37Cl-2378D
1.67e7
28.55
Abs. Int.
4.01e6
2.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 7.34e3
0%
JS 1234D
1.67e7
27.86
ES 2378D
1.58e7*
28.52
Abs. Int.
3.84e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.55e3
0%
JS 1234D
2.09e7
27.86
ES 2378D
1.95e7*
28.52
Abs. Int.
4.95e6
2.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6148_18876_DF_003
Sample ID: 11215131-010622-S-BN-SW-B-15H1
Acq: 05-Feb-2022 05:49:01
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220204C27
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 2.95e3
12479/12468D 5.98e5 31.37
12469D 4.93e5* 31.91
12368D 2.81e5 32.46
12379D 1.61e5* 32.75
12369D...[3] 4.31e5 33.01
12346/12347D 4.72e4 33.37
12378D 2.46e5* 33.87
12367D 4.97e4* 33.96
12389D 6.98e4 34.31
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.71e3
12479/12468D 4.15e5* 31.37
12469D 3.58e5* 31.91
12368D 2.04e5* 32.46
12478D 1.40e5* 32.64
12369D...[3] 2.58e5* 33.01
12346/12347D 3.64e4* 33.37
12378D 1.70e5* 33.87
12367D 3.26e4* 33.95
12389D 5.68e4* 34.32
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.20e3
CS 12347D 1.82e7 33.35
ES 12378D 1.90e7 33.86
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 2.61e3
CS 12347D 1.13e7 33.35
ES 12378D 1.22e7 33.86
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
RT

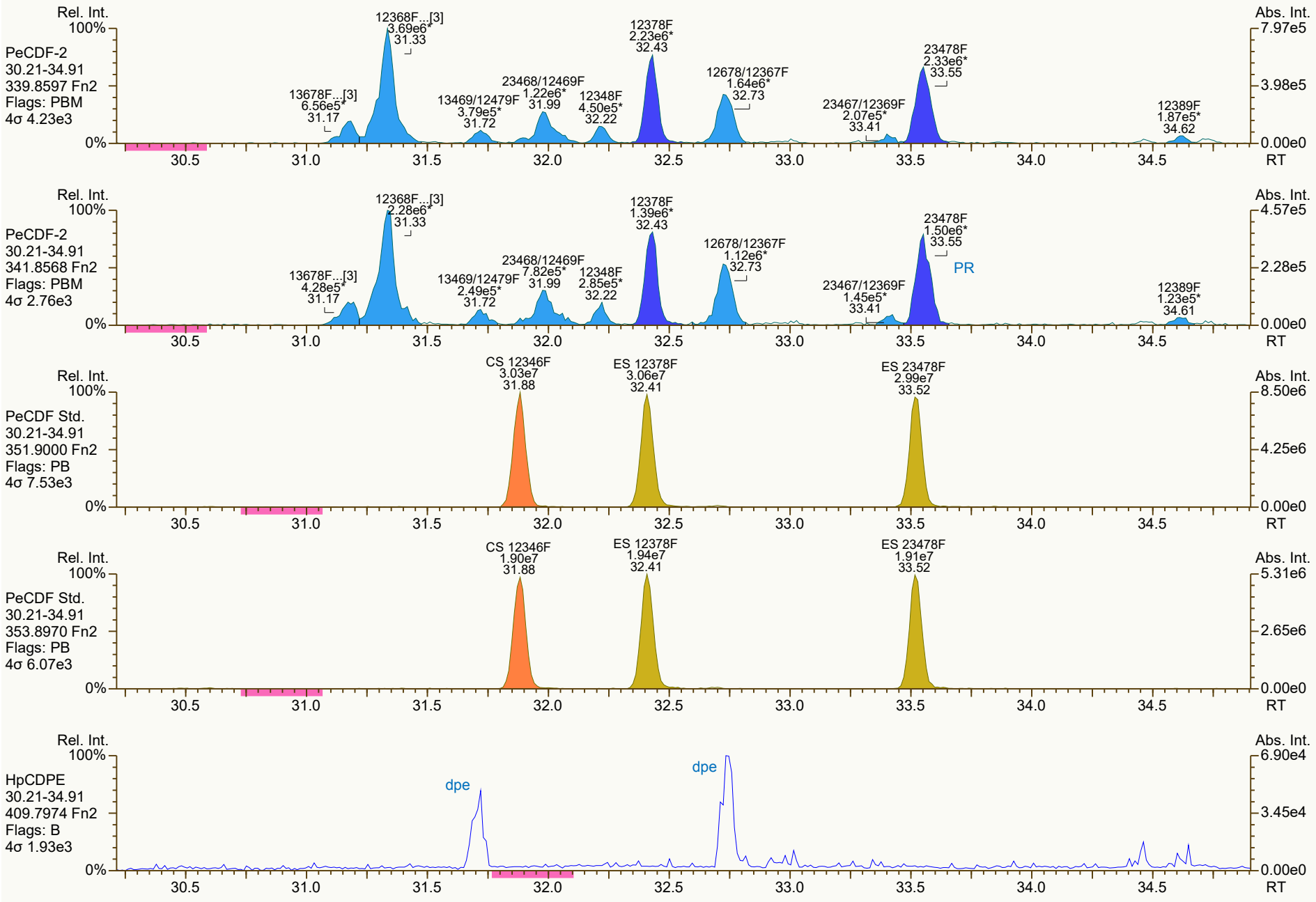

SGS ID: B6148_18876_DF_003
Sample ID: 11215131-010622-S-BN-SW-B-15H1
Acq: 05-Feb-2022 05:49:01
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220204C27
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 5.37e3
124679/124689D
4.85e6*
36.03
123468D
6.20e5
36.69
123679/123689D
2.81e6
36.99
123469D
3.41e5
37.12
123678D
7.59e5*
37.90
123467D
2.76e5*
38.09
123789D
4.63e5*
38.19
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 6.24e3
124679/124689D
3.71e6*
36.03
123468D
5.00e5
36.69
123679/123689D
2.22e6
36.98
123469D
2.77e5
37.12
123678D
5.71e5*
37.90
123467D
2.06e5*
38.09
123789D
3.38e5*
38.19
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.46e3
ES 123478D
1.59e7
37.77
ES 123678D
1.58e7
37.89
JS 123467D
9.11e6*
38.08
ES 123789D
1.73e7*
38.18
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.91e3
ES 123478D
1.23e7
37.77
ES 123678D
1.20e7
37.89
JS 123467D
6.82e6*
38.08
ES 123789D
1.35e7*
38.18
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT

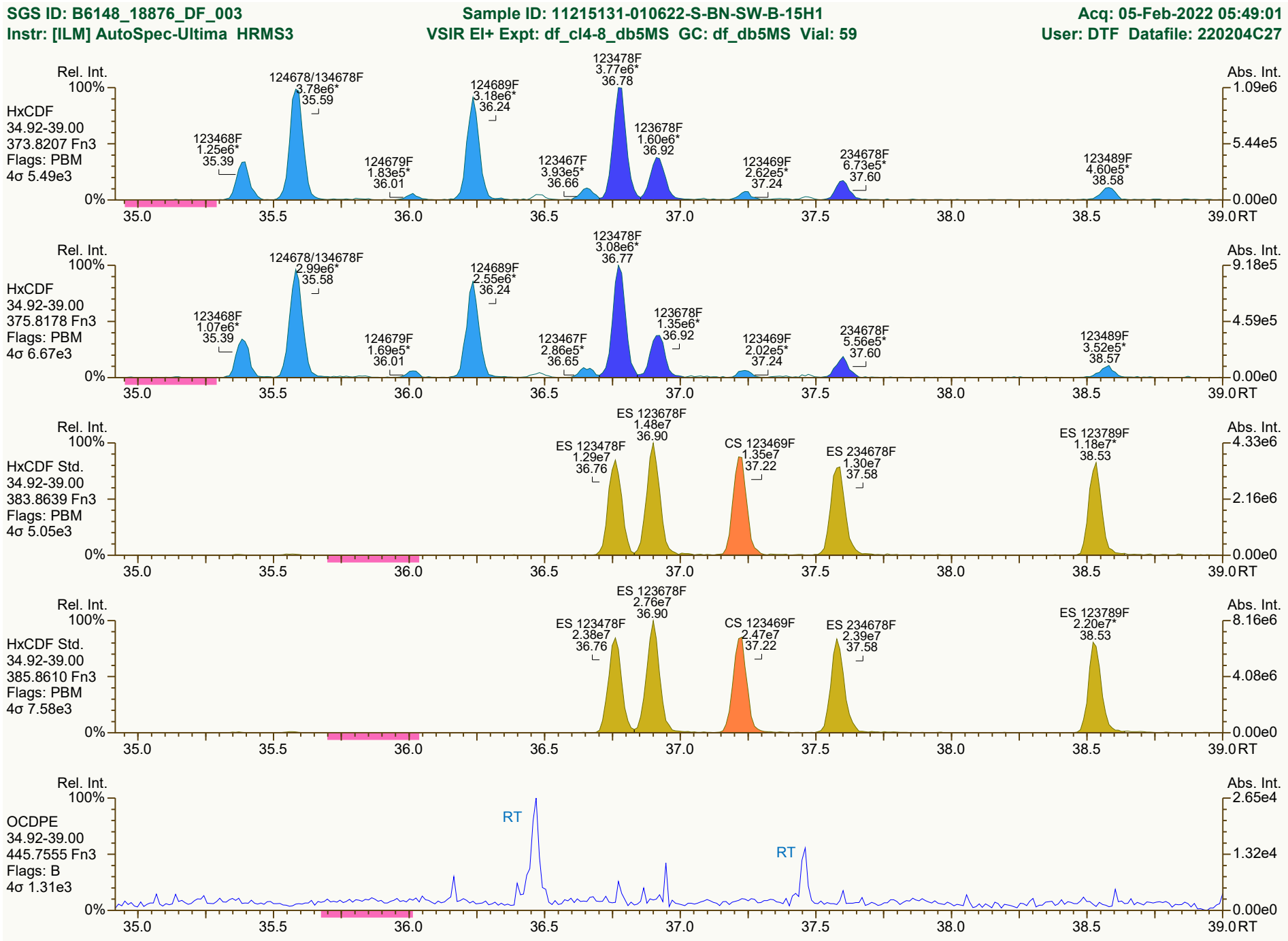

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 5.42e3
1234679D
2.26e7
40.18
1234678D
1.25e7
40.86
Abs. Int.
7.56e6
3.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 4.39e3
1234679D
2.17e7
40.17
1234678D
1.20e7
40.86
Abs. Int.
7.32e6
3.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 4.19e3
ES 1234678D
1.33e7*
40.84
Abs. Int.
4.15e6
2.07e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 5.89e3
ES 1234678D
1.27e7*
40.84
Abs. Int.
3.88e6
1.94e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.16e7
5.81e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

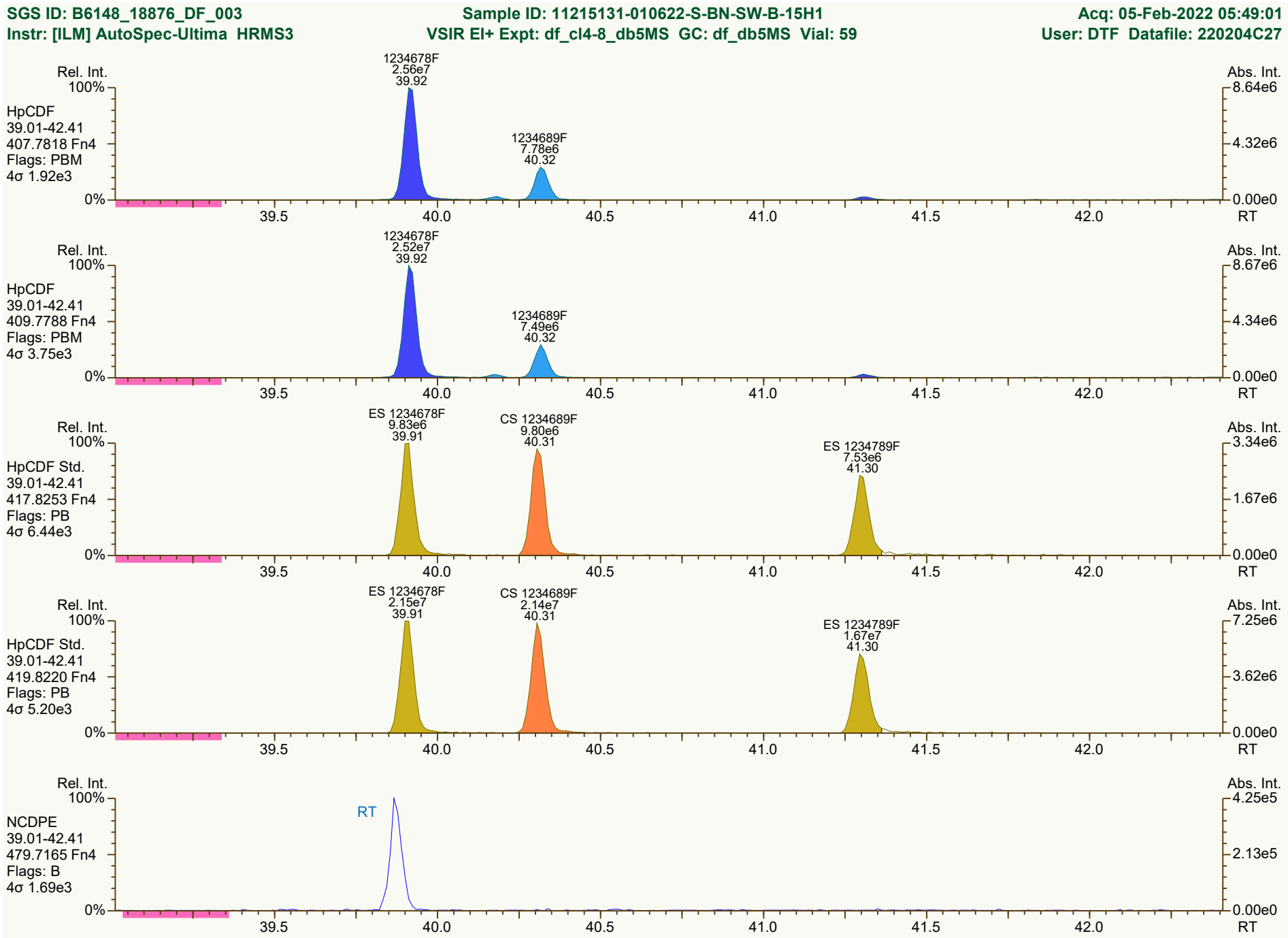

OCDD
1.30e8
43.56
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
2.89e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.45e8
43.56
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
3.24e7
1.62e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.74e7*
43.55
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 5.44e3
0%
Abs. Int.
3.58e6
1.79e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.91e7*
43.55
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.40e3
0%
Abs. Int.
4.21e6
2.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.48e6
4.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6148_18876_DF_003
Sample ID: 11215131-010622-S-BN-SW-B-15H1
Acq: 05-Feb-2022 05:49:01
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220204C27
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 3.12e3
2378F
4.57e7*
27.69
1278F
1.85e7
26.80
1248F...[3]
3.02e6
24.89
2348F
2.46e6*
27.58
2367/3467F
4.16e6
28.04
1289F
3.11e6
29.69
1.04e7
5.21e6
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.02e3
2378F
5.74e7*
27.69
1278F
2.36e7
26.80
1248F...[3]
3.78e6
24.89
2368F
2.93e6*
26.26
2348F
3.20e6*
27.58
2367/3467F
5.24e6
28.04
1289F
3.78e6
29.69
1.32e7
6.62e6
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.04e4
JS 1234F
2.49e7
26.31
ES 2378F
2.40e7
27.67
5.49e6
2.75e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.82e3
JS 1234F
3.10e7
26.31
ES 2378F
2.90e7
27.67
6.68e6
3.34e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.50e3
RT
dpe
RT
5.66e4
2.83e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\B6148_18876_DF_003.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7926, 2035, 4212 scc: 757-538
Revised: 08-Feb-2022 10:54 (DTF) Printed: 08-Feb-2022 11:15 Page 7 of 12

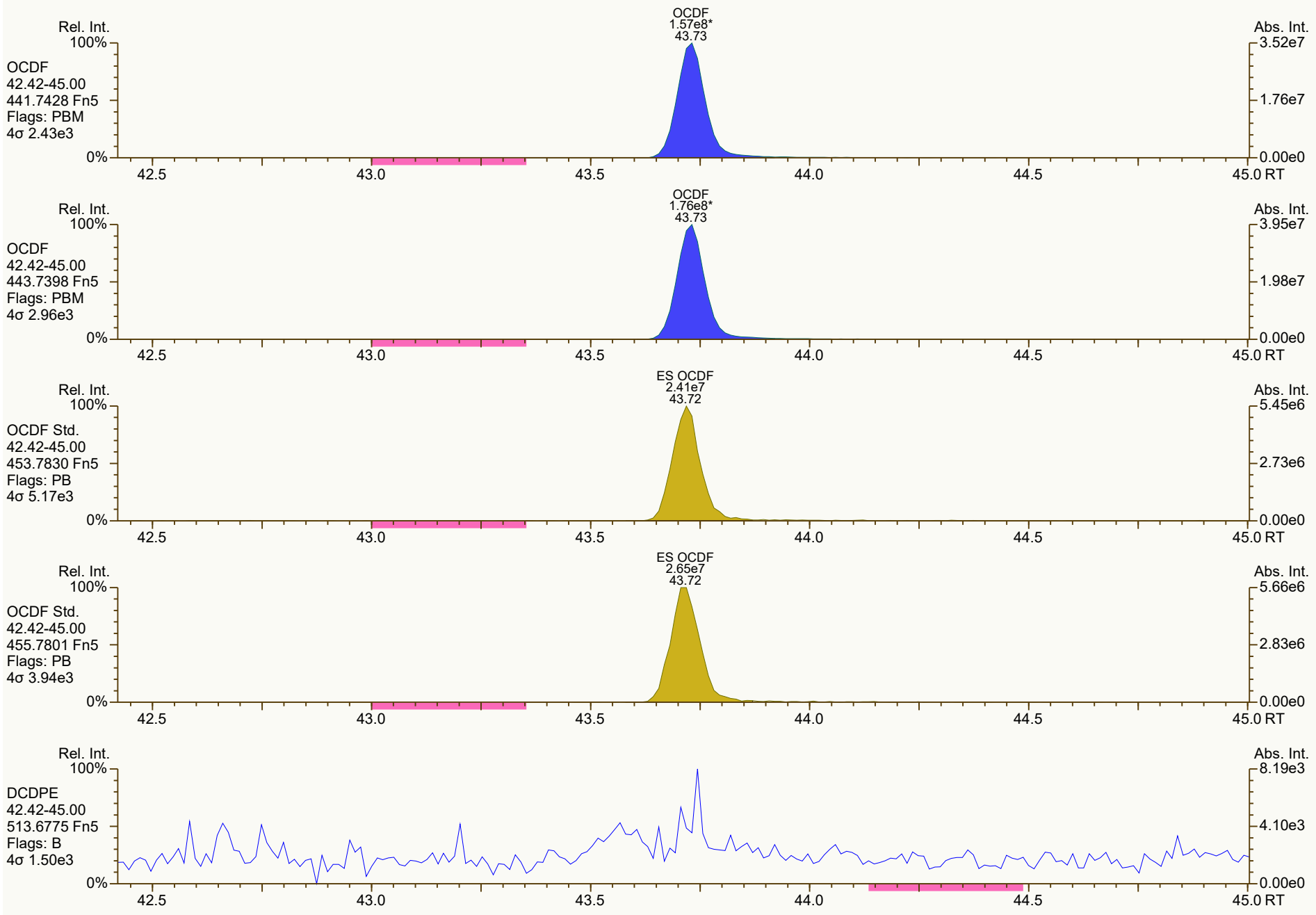

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 2.04e3
13468/12468F
4.41e6*
29.63
Abs. Int.
1.12e6
5.61e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.48e3
13468/12468F
2.85e6*
29.63
Abs. Int.
6.97e5
3.49e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.95e6
2.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 4.23e3
0%
12368F...[3]
3.69e6*
31.33
13678F...[3]
6.56e5*
31.17
13469/12479F
3.79e5*
31.72
23468/12469F
1.22e6*
31.99
12348F
4.50e5*
32.22
12378F
2.23e6*
32.43
12678/12367F
1.64e6*
32.73
23467/12369F
2.07e5*
33.41
23478F
2.33e6*
33.55
12389F
1.87e5*
34.62
Abs. Int.
7.97e5
3.98e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 2.76e3
0%
12368F...[3]
2.28e6*
31.33
13678F...[3]
4.28e5*
31.17
13469/12479F
2.49e5*
31.72
23468/12469F
7.82e5*
31.99
12348F
2.85e5*
32.22
12378F
1.39e6*
32.43
12678/12367F
1.12e6*
32.73
23467/12369F
1.45e5*
33.41
23478F
1.50e6*
33.55
PR
12389F
1.23e5*
34.61
Abs. Int.
4.57e5
2.28e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 7.53e3
0%
CS 12346F
3.03e7
31.88
ES 12378F
3.06e7
32.41
ES 23478F
2.99e7
33.52
Abs. Int.
8.50e6
4.25e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 6.07e3
0%
CS 12346F
1.90e7
31.88
ES 12378F
1.94e7
32.41
ES 23478F
1.91e7
33.52
Abs. Int.
5.31e6
2.65e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
dpe
dpe
Abs. Int.
6.90e4
3.45e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6148_18876_DF_003
Sample ID: 11215131-010622-S-BN-SW-B-15H1
Acq: 05-Feb-2022 05:49:01
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220204C27
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 5.49e3
123468F 1.25e6* 35.39
124678/134678F 3.78e6* 35.59
124679F 1.83e5* 36.01
124689F 3.18e6* 36.24
123467F 3.93e5* 36.66
123478F 3.77e6* 36.78
123678F 1.60e6* 36.92
123469F 2.62e5* 37.24
234678F 6.73e5* 37.60
123489F 4.60e5* 38.58
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 6.67e3
123468F 1.07e6* 35.39
124678/134678F 2.99e6* 35.58
124679F 1.69e5* 36.01
124689F 2.55e6* 36.24
123467F 2.86e5* 36.65
123478F 3.08e6* 36.77
123678F 1.35e6* 36.92
123469F 2.02e5* 37.24
234678F 5.56e5* 37.60
123489F 3.52e5* 38.57
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 5.05e3
ES 123478F 1.29e7 36.76
ES 123678F 1.48e7 36.90
CS 123469F 1.35e7 37.22
ES 234678F 1.30e7 37.58
ES 123789F 1.18e7* 38.53
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 7.58e3
ES 123478F 2.38e7 36.76
ES 123678F 2.76e7 36.90
CS 123469F 2.47e7 37.22
ES 234678F 2.39e7 37.58
ES 123789F 2.20e7* 38.53
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.31e3
RT
RT
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
1.09e6
5.44e5
0.00e0
9.18e5
4.59e5
4.33e6
2.16e6
8.16e6
4.08e6
2.65e4
1.32e4
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\B6148_18876_DF_003.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9304, 1563, 1155 scc: 757-538
Revised: 08-Feb-2022 11:06 (DTF) Printed: 08-Feb-2022 11:15 Page 10 of 12



Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\B6148_18876_DF_003.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1287, 7628, 1058 scc: 757-538
Revised: 08-Feb-2022 11:06 (DTF) Printed: 08-Feb-2022 11:15 Page 11 of 12


OCDF
1.57e8*
43.73
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 2.43e3
0%
Abs. Int.
3.52e7
1.76e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.76e8*
43.73
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.96e3
0%
Abs. Int.
3.95e7
1.98e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.41e7
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 5.17e3
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.65e7
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 3.94e3
0%
Abs. Int.
5.66e6
2.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
8.19e3
4.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID		Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
18	220204C18	3	CS3_220204_DF_CC		1.00	25-347-1	DTF	398-419	04-Feb-2022	22:52:01
19	220204C19	53	OPR1_18876_DF		1.00	0_18876_OPR001	DTF	002-289	04-Feb-2022	23:38:21
20	220204C20	54	OPR2_18876_DF		1.00	0_18876_OPR002	DTF	462-483	05-Feb-2022	00:24:41
21	220204C21	2	SBS_220204_DF_CC		1.00	20-61-1	DTF	855-476	05-Feb-2022	01:11:00
22	220204C22	52	MB1_18876_DF_SDS		10.00	Method Blank	DTF	264-158	05-Feb-2022	01:57:20
23	220204C26	58	B6148_18876_DF_001	10.09	~~0.00~~	11215131-010522-S-BN-SW-B-17H1	DTF	696-784	05-Feb-2022	05:02:41
24	220204C27	59	B6148_18876_DF_003	CL 10Feb22	10.45	11215131-010622-S-BN-SW-B-15H1	DTF	757-538	05-Feb-2022	05:49:01

REVIEWED
Tyler_Fritz , 2/8/2022, 11:22:35 AM

APPROVED
Carla_Lyon , 2/10/2022, 11:52:58 AM

Dioxin/Furan QC Summary	Acq'd: 04 Feb 2022 22:52 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220204_DF_CC	UTP: 08-Feb-2022 11:07:21 DTF	Checkcode: 398-419-KFM
Sample ID: 25-347-1	Report: 08 Feb 2022 11:09 TF	Datafile: 220204C18

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	3.04E+06	0.78	Y	1.18	1.23	4%
12378-PeCDD	33.86	1.16E+07	1.53	Y	1.04	1.07	3%
123478-HxCDD	37.77	1.07E+07	1.25	Y	1.09	1.09	0%
123678-HxCDD	37.88	1.12E+07	1.27	Y	1.15	1.20	4%
123789-HxCDD	38.17	1.15E+07	1.23	Y	1.05	1.06	1%
1234678-HpCDD	40.83	1.03E+07	1.04	Y	1.06	1.08	2%
OCDD	43.51	1.65E+07	0.90	Y	1.13	1.14	1%
2378-TCDF	27.67	4.81E+06	0.84	Y	1.08	1.16	7%
12378-PeCDF	32.41	1.87E+07	1.54	Y	1.02	1.06	4%
23478-PeCDF	33.52	1.87E+07	1.57	Y	1.02	1.03	1%
123478-HxCDF	36.76	1.75E+07	1.25	Y	1.27	1.29	2%
123678-HxCDF	36.90	1.77E+07	1.24	Y	1.15	1.15	0%
234678-HxCDF	37.58	1.69E+07	1.24	Y	1.19	1.18	-1%
123789-HxCDF	38.53	1.53E+07	1.24	Y	1.16	1.19	2%
1234678-HpCDF	39.89	1.55E+07	1.04	Y	1.37	1.39	2%
1234789-HpCDF	41.29	1.37E+07	1.04	Y	1.31	1.36	4%
OCDF	43.69	2.25E+07	0.92	Y	1.07	1.08	1%
ES 2378-TCDD	28.51	2.48E+07	0.83	Y	1.05	0.98	-6%
ES 12378-PeCDD	33.834	2.17E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDD	37.75	1.97E+07	1.27	Y	0.97	1.02	5%
ES 123678-HxCDD	37.866	1.87E+07	1.23	Y	0.94	0.97	3%
ES 123789-HxCDD	38.158	2.17E+07	1.31	Y	1.09	1.13	3%
ES 1234678-HpCDD	40.813	1.90E+07	1.10	Y	0.91	0.99	8%
ES OCDD	43.499	2.91E+07	0.90	Y	0.62	0.76	21%
ES 2378-TCDF	27.653	4.15E+07	0.84	Y	1.06	1.00	-5%
ES 12378-PeCDF	32.392	3.53E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	33.503	3.62E+07	1.60	Y	0.88	0.87	-1%
ES 123478-HxCDF	36.741	2.71E+07	0.57	Y	1.20	1.41	18%
ES 123678-HxCDF	36.882	3.08E+07	0.54	Y	1.35	1.60	18%
ES 234678-HxCDF	37.565	2.86E+07	0.54	Y	1.24	1.49	20%
ES 123789-HxCDF	38.512	2.58E+07	0.55	Y	1.16	1.34	16%
ES 1234678-HpCDF	39.882	2.23E+07	0.44	Y	0.97	1.16	20%
ES 1234789-HpCDF	41.276	2.01E+07	0.43	Y	0.85	1.04	23%
ES OCDF	43.678	4.17E+07	0.92	Y	0.81	1.08	34% *

* Meets M1613B criteria.
CL 10Feb22

Dioxin/Furan QC Summary	Acq'd: 04 Feb 2022 22:52 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220204_DF_CC	UTP: 08-Feb-2022 11:07:21 DTF	Checkcode: 398-419-KFM
Sample ID: 25-347-1	Report: 08 Feb 2022 11:09 TF	Datafile: 220204C18

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	2.52E+07	0.80	Y	-	-	-
JS 1234-TCDF	26.29	4.14E+07	0.81	Y	-	-	-
JS 123467-HxCDD	38.06	9.63E+06	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	3.77E+06	n/a	-	1.20	1.50	25%
CS 12347-PeCDD	33.33	2.03E+07	1.56	Y	0.75	0.81	7%
CS 12346-PeCDF	31.86	3.48E+07	1.59	Y	0.85	0.84	-1%
CS 123469-HxCDF	37.20	2.84E+07	0.53	Y	1.12	1.47	32% **
CS 1234689-HpCDF	40.28	2.26E+07	0.44	Y	0.89	1.17	32% **
~~SS 37Cl-2378-TCDD~~	~~28.53~~	~~3.77E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.52~~	~~33%~~
~~SS 12347-PeCDD~~	~~33.33~~	~~2.03E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~0.94~~	~~9%~~
~~SS 12346-PeCDF~~	~~31.86~~	~~3.48E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~0.99~~	~~5%~~
~~SS 123469-HxCDF~~	~~37.20~~	~~2.84E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~0.92~~	~~11%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~2.26E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.51~~	~~9.84E+05~~	~~2.40~~	~~Y~~	~~0.07~~	~~0.07~~	~~-6%~~
~~OCDF-a~~	~~43.69~~	~~1.43E+06~~	~~2.27~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~

Not used in this project.
CL 10Feb22

** No criteria specified in M1613B
CL 10Feb22

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220204C18 Analysis Date: 04-FEB-2022 22:52:01

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.78	0.65 - 0.89	Y	10.4	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32 - 1.78	Y	51.5	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.8	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	52.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	50.7	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	51	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.84	0.65 - 0.89	Y	10.7	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	51.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	50.7	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	50	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.7	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	51.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	50.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	51.9	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	101	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 08 Feb 2022 11:09 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

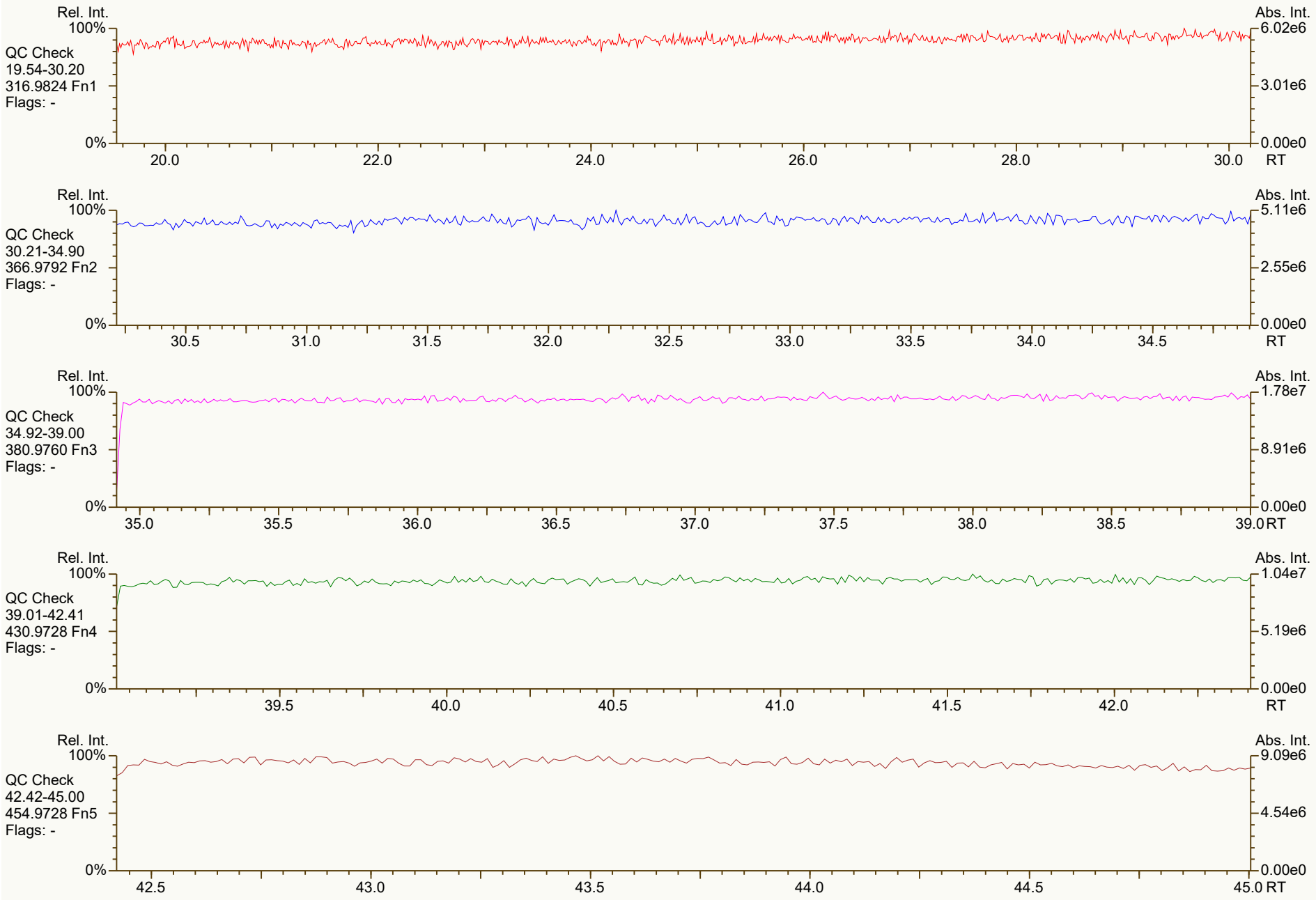
Instrument ID: HRMS3 GC Column ID: ZB-5ms

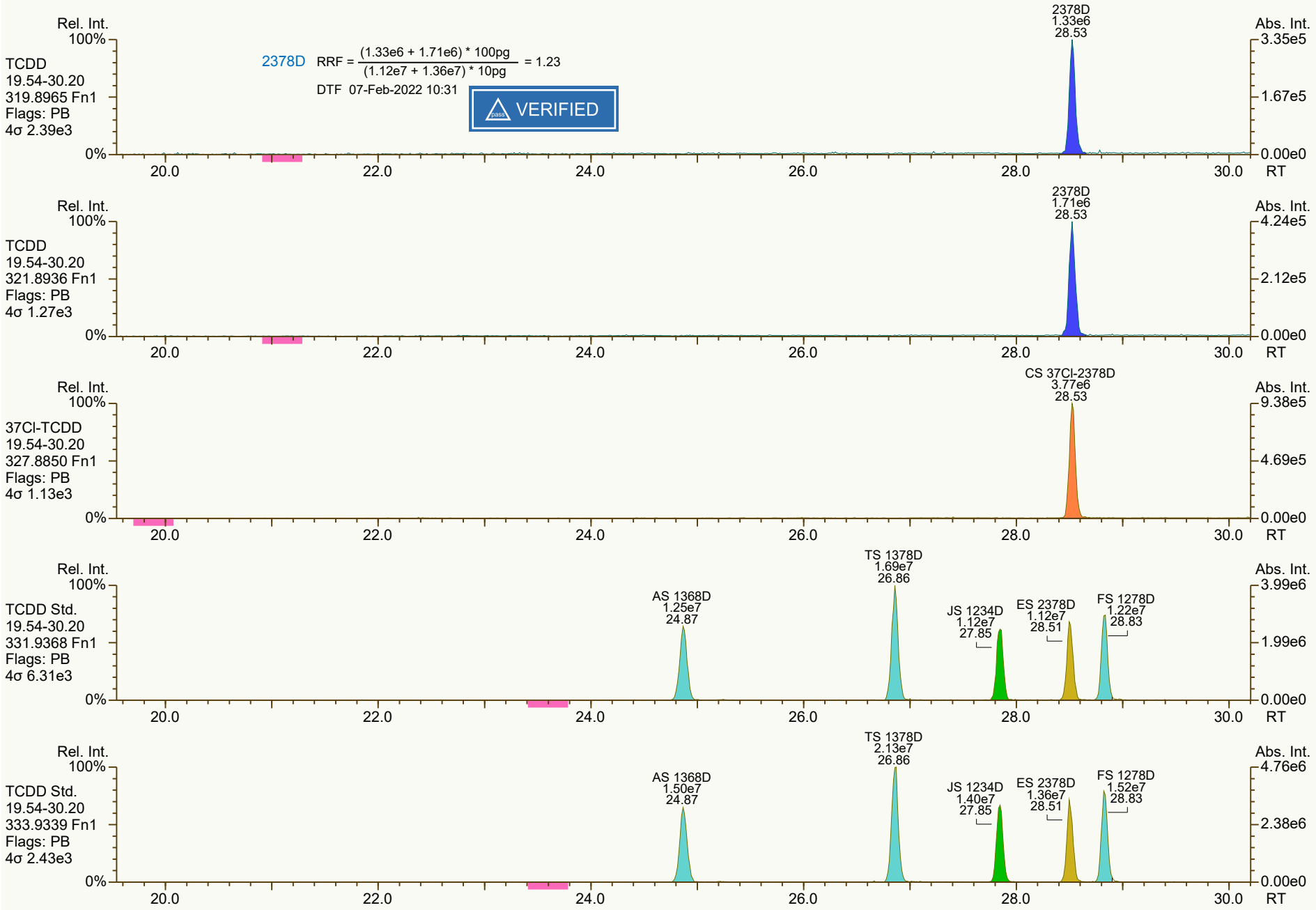
VER Data Filename: 220204C18 Analysis Date: 04-FEB-2022 22:52:01

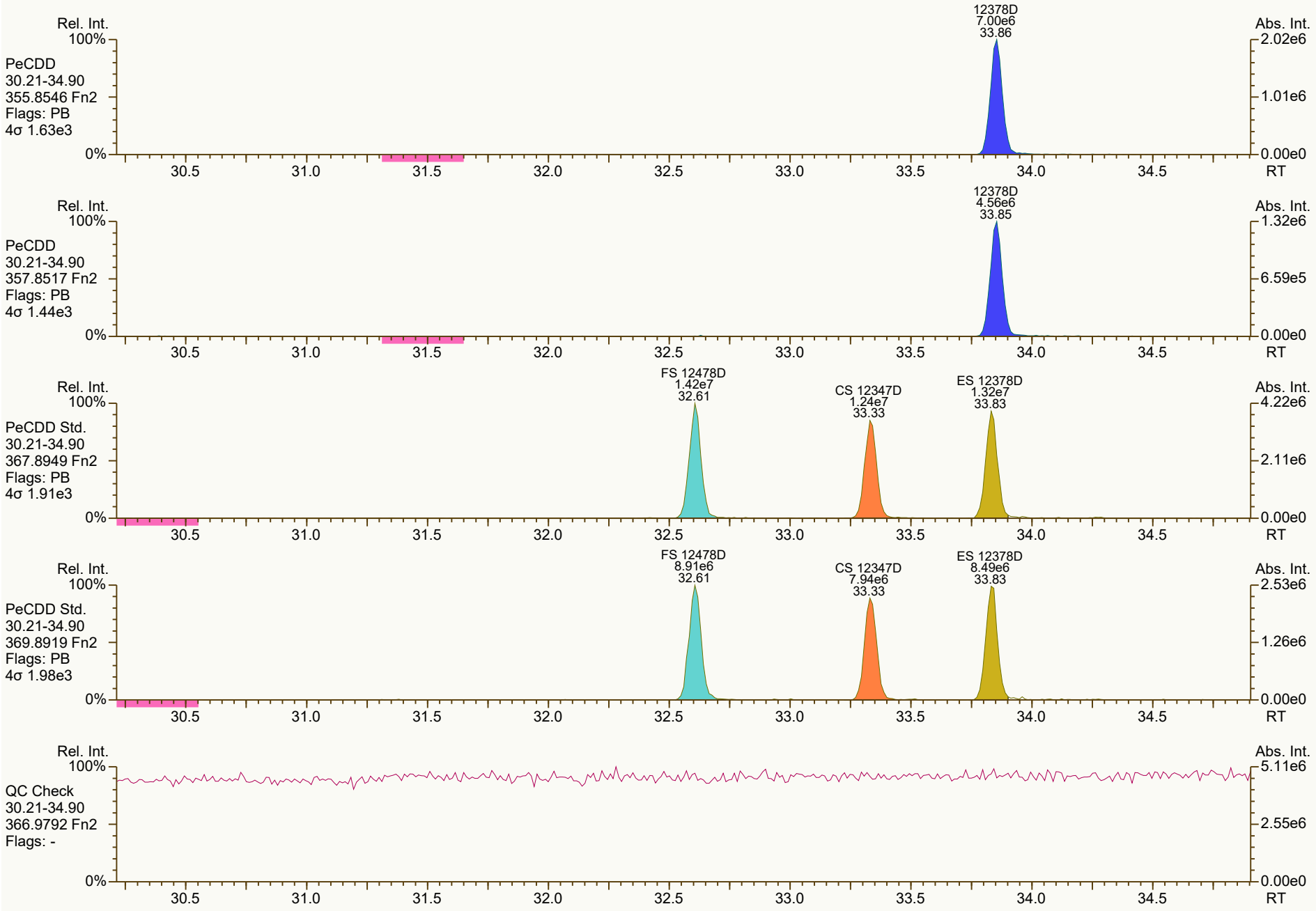
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.83	0.65	-	0.89	Y	94.1	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	97.9	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	105	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	103	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	103	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88	-	1.20	Y	108	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	242	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.84	0.65	-	0.89	Y	94.6	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	93.6	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	98.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.57	0.43	-	0.59	Y	118	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	118	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	120	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	116	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	120	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37	-	0.51	Y	123	77	-	129	Y
13C-OCDF	M+2/M+4	0.92	0.76	-	1.02	Y	268	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						12.5	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	107	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	98.8	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	132 **	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	132 **	70	-	130	N

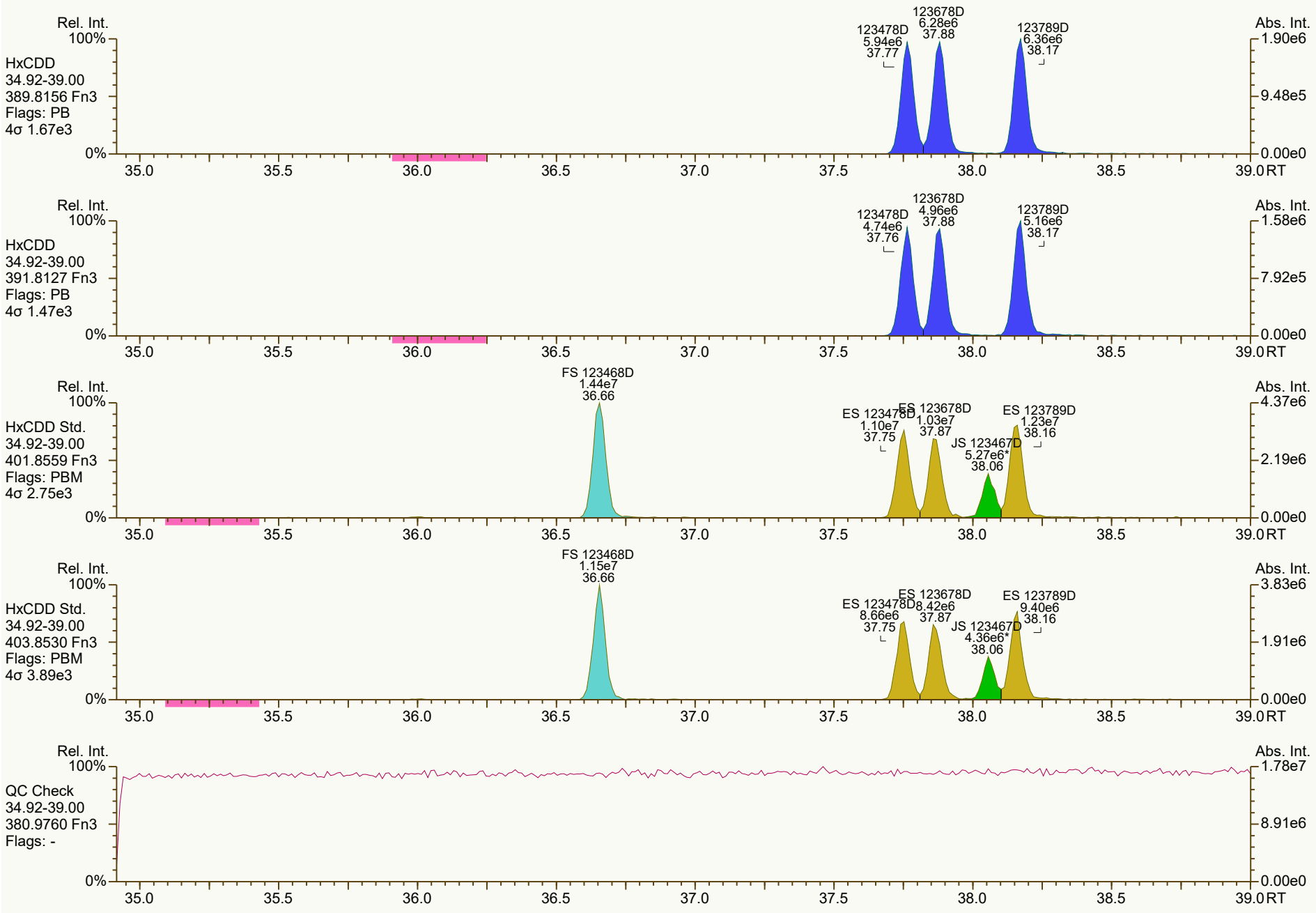
** No criteria specified in M1613B
CL 10Feb22

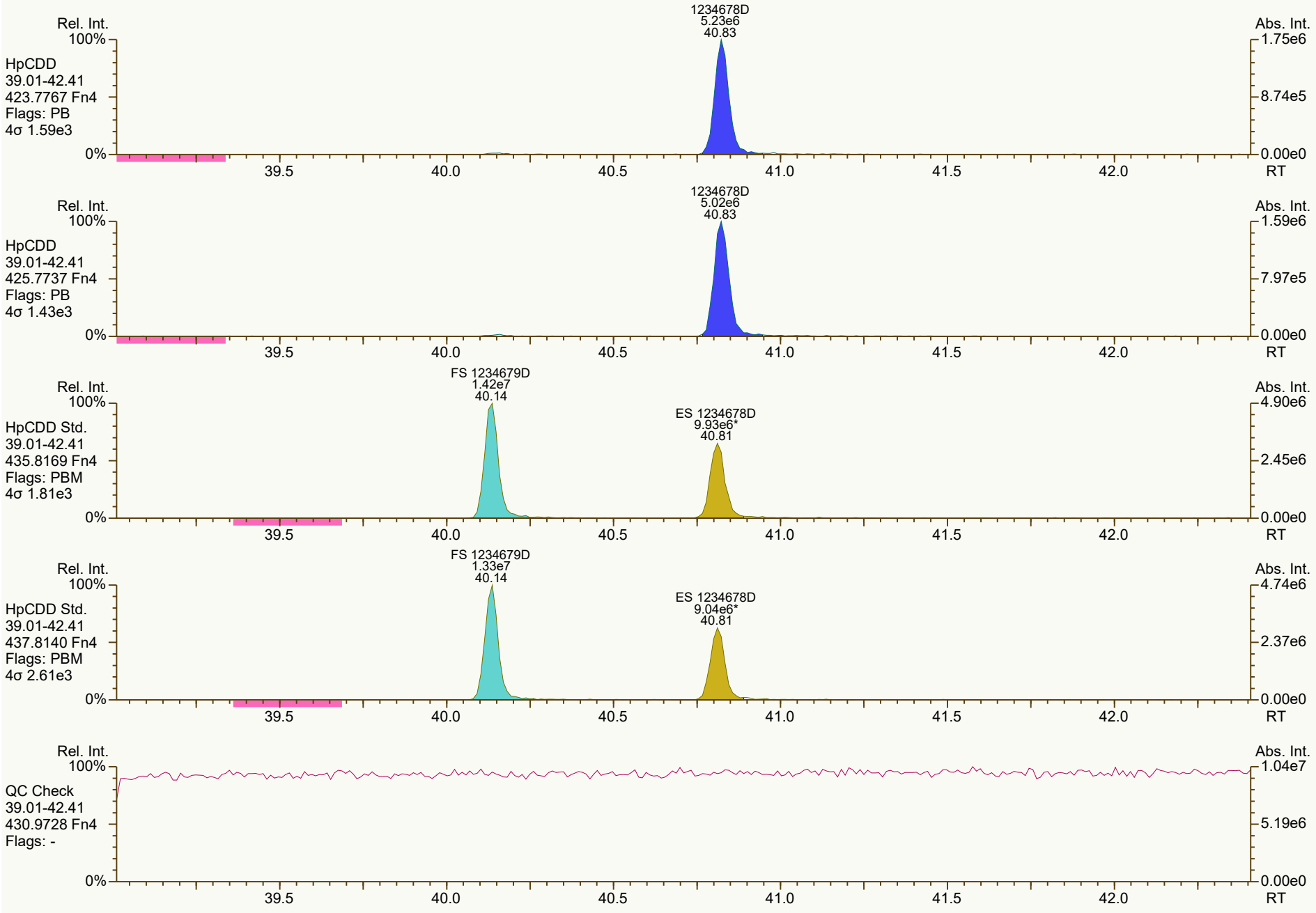
Processed: 08 Feb 2022 11:09 Analyst: TF

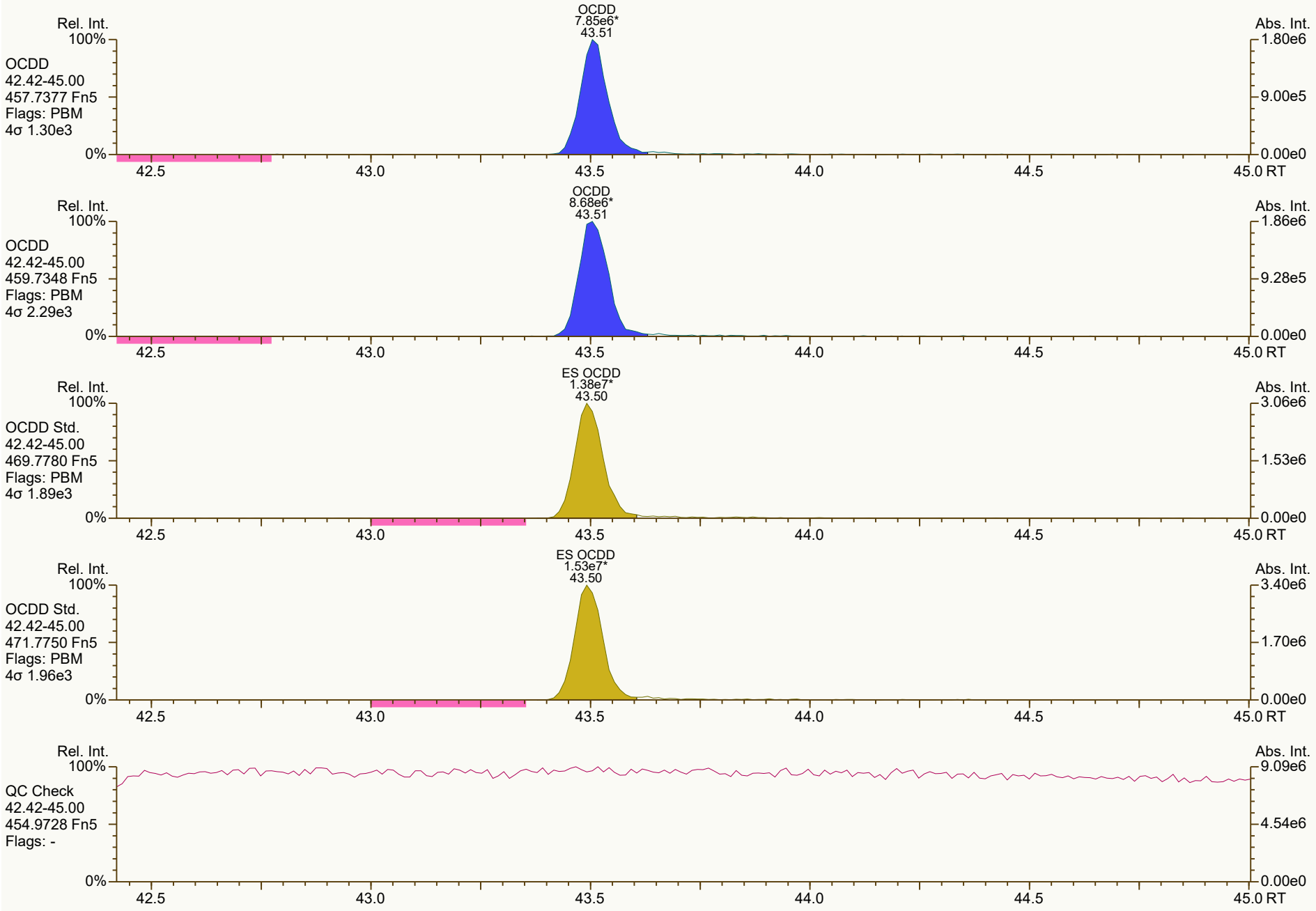

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.02e6
3.01e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.11e6
2.55e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.78e7
8.91e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.04e7
5.19e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.09e6
4.54e6
0.00e0

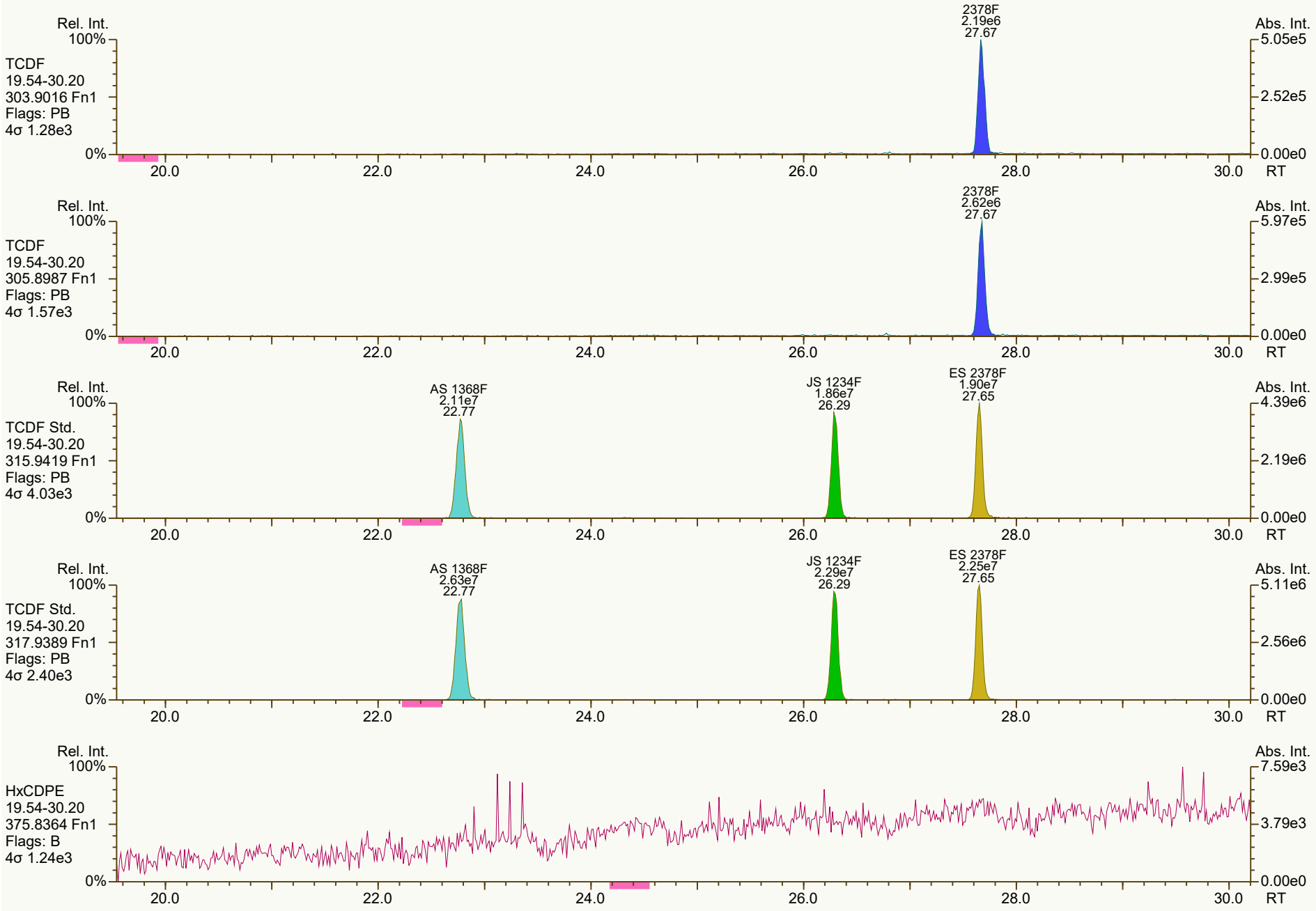

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.39e3
0%
2378D RRF = (1.33e6 + 1.71e6) * 100pg / (1.12e7 + 1.36e7) * 10pg = 1.23
DTF 07-Feb-2022 10:31
VERIFIED
2378D
1.33e6
28.53
Abs. Int.
3.35e5
1.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.27e3
0%
2378D
1.71e6
28.53
Abs. Int.
4.24e5
2.12e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
0%
CS 37Cl-2378D
3.77e6
28.53
Abs. Int.
9.38e5
4.69e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.31e3
0%
AS 1368D
1.25e7
24.87
TS 1378D
1.69e7
26.86
JS 1234D
1.12e7
27.85
ES 2378D
1.12e7
28.51
FS 1278D
1.22e7
28.83
Abs. Int.
3.99e6
1.99e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.43e3
0%
AS 1368D
1.50e7
24.87
TS 1378D
2.13e7
26.86
JS 1234D
1.40e7
27.85
ES 2378D
1.36e7
28.51
FS 1278D
1.52e7
28.83
Abs. Int.
4.76e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.63e3
12378D
7.00e6
33.86
Abs. Int.
2.02e6
1.01e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.44e3
12378D
4.56e6
33.85
Abs. Int.
1.32e6
6.59e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.91e3
FS 12478D
1.42e7
32.61
CS 12347D
1.24e7
33.33
ES 12378D
1.32e7
33.83
Abs. Int.
4.22e6
2.11e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.98e3
FS 12478D
8.91e6
32.61
CS 12347D
7.94e6
33.33
ES 12378D
8.49e6
33.83
Abs. Int.
2.53e6
1.26e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
5.11e6
2.55e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.67e3
123478D
5.94e6
37.77
123678D
6.28e6
37.88
123789D
6.36e6
38.17
Abs. Int.
1.90e6
9.48e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.47e3
123478D
4.74e6
37.76
123678D
4.96e6
37.88
123789D
5.16e6
38.17
Abs. Int.
1.58e6
7.92e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.75e3
FS 123468D
1.44e7
36.66
ES 123478D
1.10e7
37.75
ES 123678D
1.03e7
37.87
JS 123467D
5.27e6*
38.06
ES 123789D
1.23e7
38.16
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 3.89e3
FS 123468D
1.15e7
36.66
ES 123478D
8.66e6
37.75
ES 123678D
8.42e6
37.87
JS 123467D
4.36e6*
38.06
ES 123789D
9.40e6
38.16
Abs. Int.
3.83e6
1.91e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.78e7
8.91e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.59e3
1234678D
5.23e6
40.83
Abs. Int.
1.75e6
8.74e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.43e3
1234678D
5.02e6
40.83
Abs. Int.
1.59e6
7.97e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.81e3
FS 1234679D
1.42e7
40.14
ES 1234678D
9.93e6*
40.81
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.61e3
FS 1234679D
1.33e7
40.14
ES 1234678D
9.04e6*
40.81
Abs. Int.
4.74e6
2.37e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.04e7
5.19e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.85e6*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.30e3
0%
Abs. Int.
1.80e6
9.00e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.68e6*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.29e3
0%
Abs. Int.
1.86e6
9.28e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.53e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.96e3
0%
Abs. Int.
3.40e6
1.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.09e6
4.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.28e3
0%
2378F
2.19e6
27.67
Abs. Int.
5.05e5
2.52e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.57e3
0%
2378F
2.62e6
27.67
Abs. Int.
5.97e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.03e3
0%
AS 1368F
2.11e7
22.77
JS 1234F
1.86e7
26.29
ES 2378F
1.90e7
27.65
Abs. Int.
4.39e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.40e3
0%
AS 1368F
2.63e7
22.77
JS 1234F
2.29e7
26.29
ES 2378F
2.25e7
27.65
Abs. Int.
5.11e6
2.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.24e3
0%
Abs. Int.
7.59e3
3.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: CS3_220204_DF_CC | Sample ID: 25-347-1 | Acq: 04-Feb-2022 22:52:01

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: DTF Datafile: 220204C18

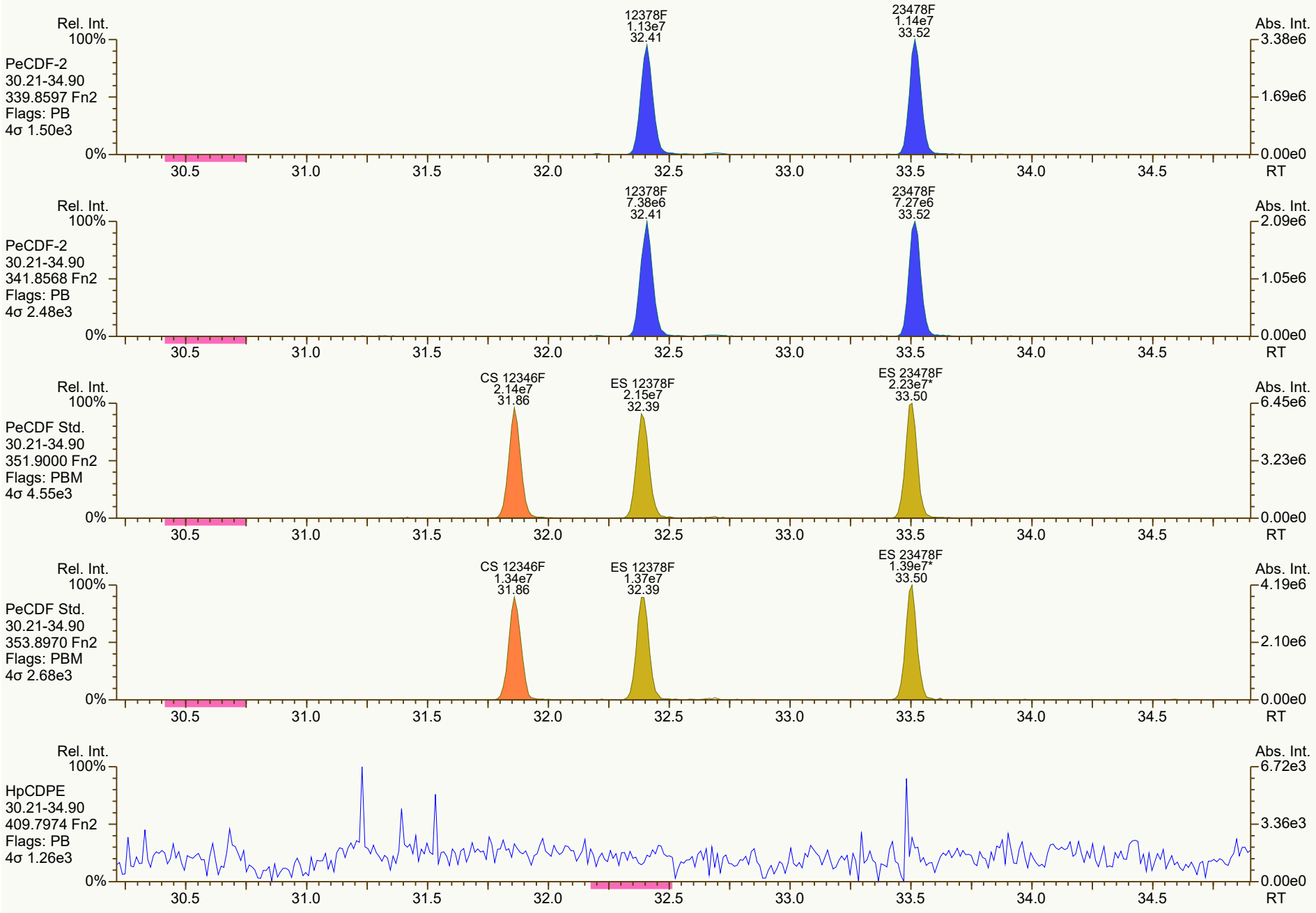


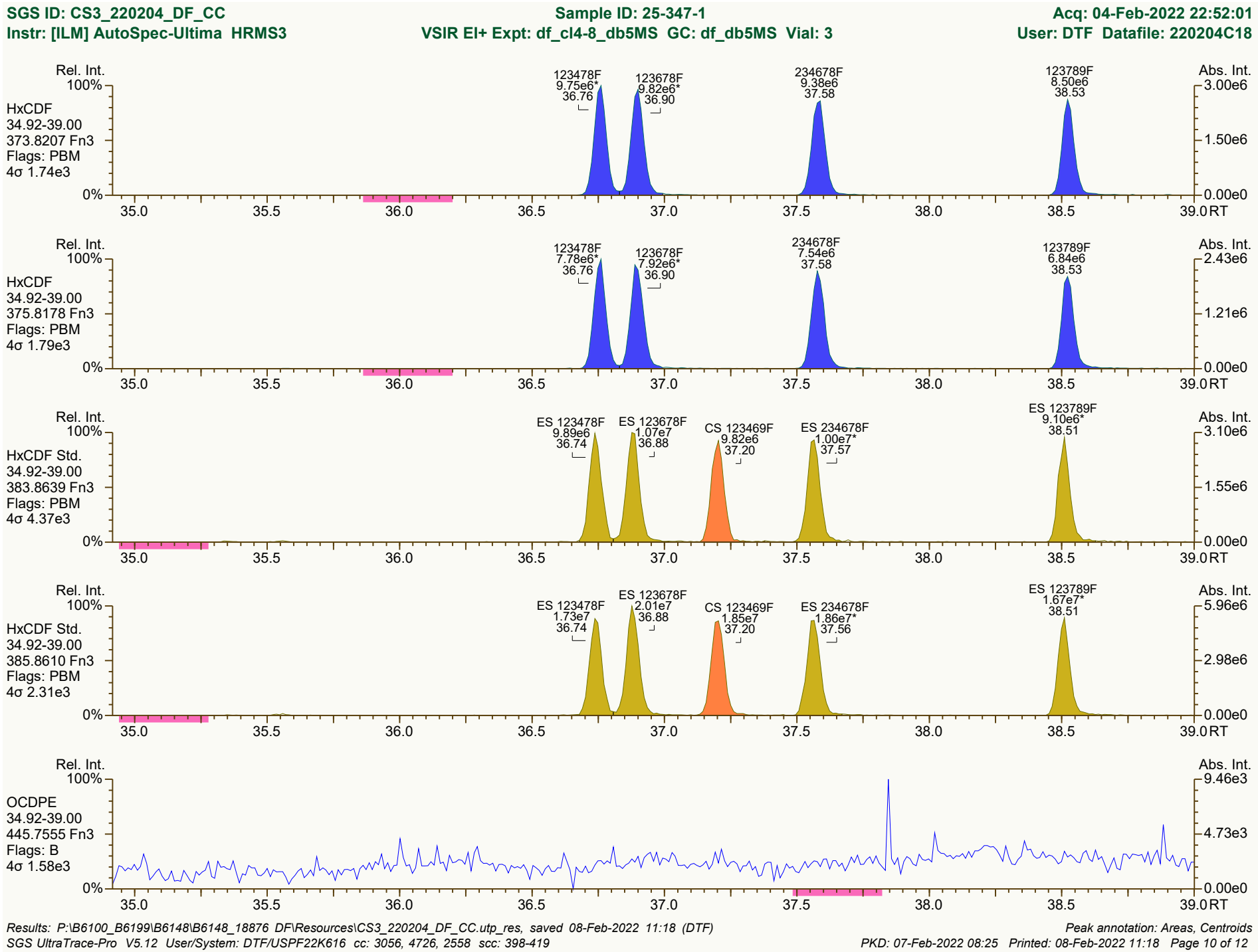
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\CS3_220204_DF_CC.utp_res, saved 08-Feb-2022 11:18 (DTF)

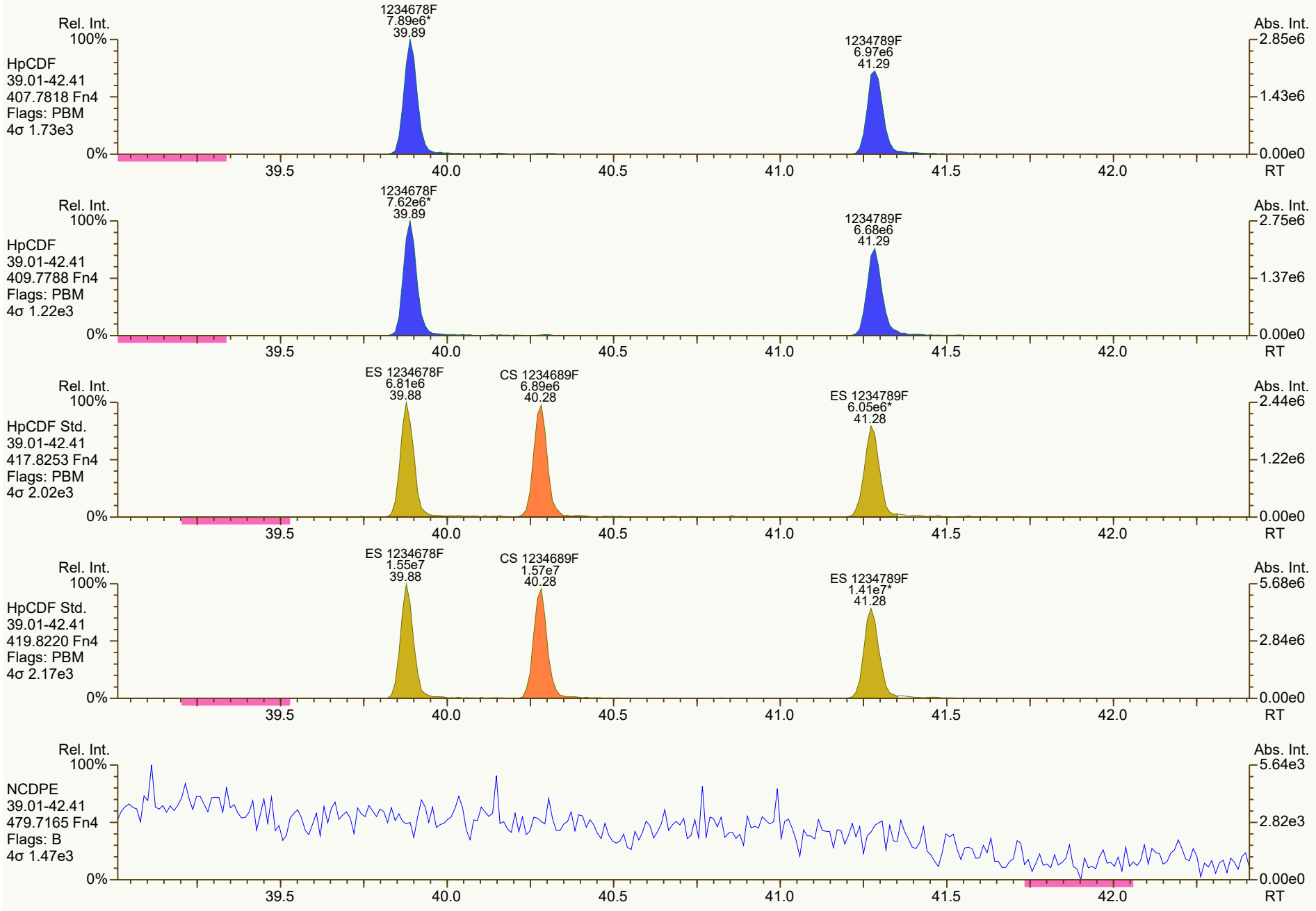
Peak annotation: Areas, Centroids

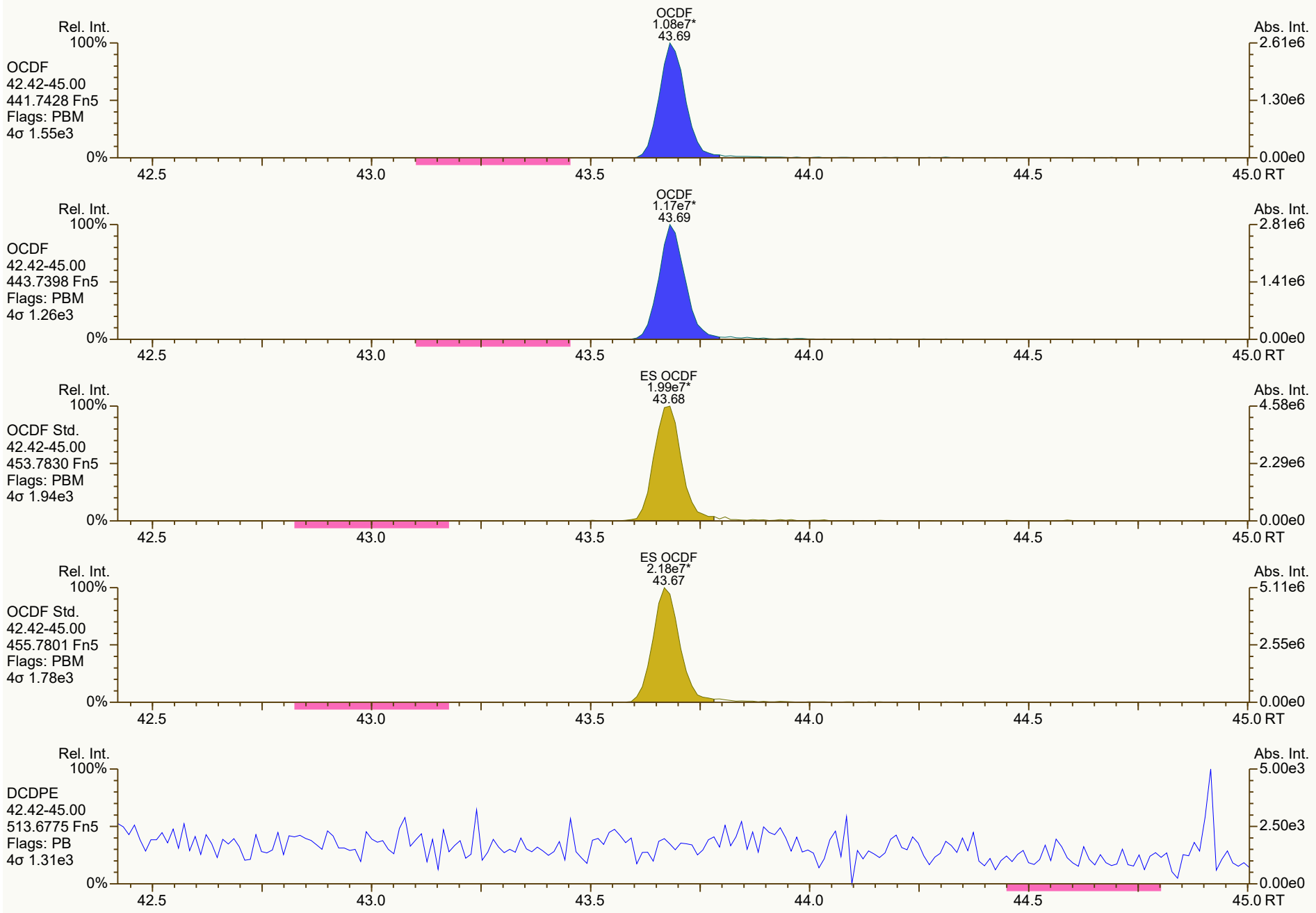
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4816 scc: 398-419

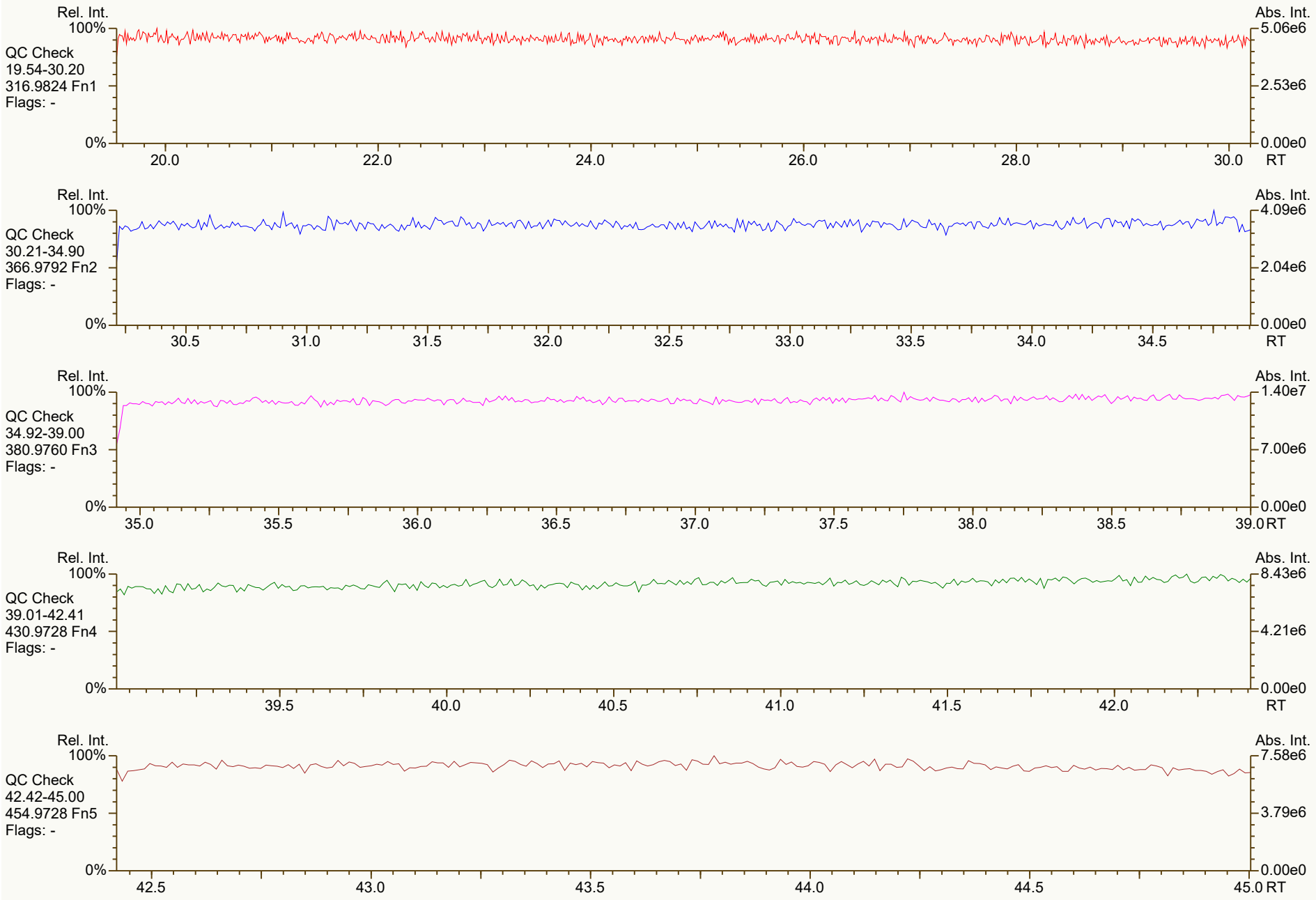
PKD: 07-Feb-2022 08:24 Printed: 08-Feb-2022 11:18 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.50e3
0%
12378F
1.13e7
32.41
23478F
1.14e7
33.52
Abs. Int.
3.38e6
1.69e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 2.48e3
0%
12378F
7.38e6
32.41
23478F
7.27e6
33.52
Abs. Int.
2.09e6
1.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 4.55e3
0%
CS 12346F
2.14e7
31.86
ES 12378F
2.15e7
32.39
ES 23478F
2.23e7*
33.50
Abs. Int.
6.45e6
3.23e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 2.68e3
0%
CS 12346F
1.34e7
31.86
ES 12378F
1.37e7
32.39
ES 23478F
1.39e7*
33.50
Abs. Int.
4.19e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: CS3_220204_DF_CC
Sample ID: 25-347-1
Acq: 04-Feb-2022 22:52:01
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220204C18
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.74e3
123478F 9.75e6* 36.76
123678F 9.82e6* 36.90
234678F 9.38e6 37.58
123789F 8.50e6 38.53
3.00e6
1.50e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.79e3
123478F 7.78e6* 36.76
123678F 7.92e6* 36.90
234678F 7.54e6 37.58
123789F 6.84e6 38.53
2.43e6
1.21e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.37e3
ES 123478F 9.89e6 36.74
ES 123678F 1.07e7 36.88
CS 123469F 9.82e6 37.20
ES 234678F 1.00e7* 37.57
ES 123789F 9.10e6* 38.51
3.10e6
1.55e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 2.31e3
ES 123478F 1.73e7 36.74
ES 123678F 2.01e7 36.88
CS 123469F 1.85e7 37.20
ES 234678F 1.86e7* 37.56
ES 123789F 1.67e7* 38.51
5.96e6
2.98e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.58e3
9.46e3
4.73e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\CS3_220204_DF_CC.utp_res, saved 08-Feb-2022 11:18 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3056, 4726, 2558 scc: 398-419
PKD: 07-Feb-2022 08:25 Printed: 08-Feb-2022 11:18 Page 10 of 12


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.73e3
1234678F
7.89e6*
39.89
1234789F
6.97e6
41.29
Abs. Int.
2.85e6
1.43e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.22e3
1234678F
7.62e6*
39.89
1234789F
6.68e6
41.29
Abs. Int.
2.75e6
1.37e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.02e3
ES 1234678F
6.81e6
39.88
CS 1234689F
6.89e6
40.28
ES 1234789F
6.05e6*
41.28
Abs. Int.
2.44e6
1.22e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.17e3
ES 1234678F
1.55e7
39.88
CS 1234689F
1.57e7
40.28
ES 1234789F
1.41e7*
41.28
Abs. Int.
5.68e6
2.84e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.47e3
Abs. Int.
5.64e3
2.82e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

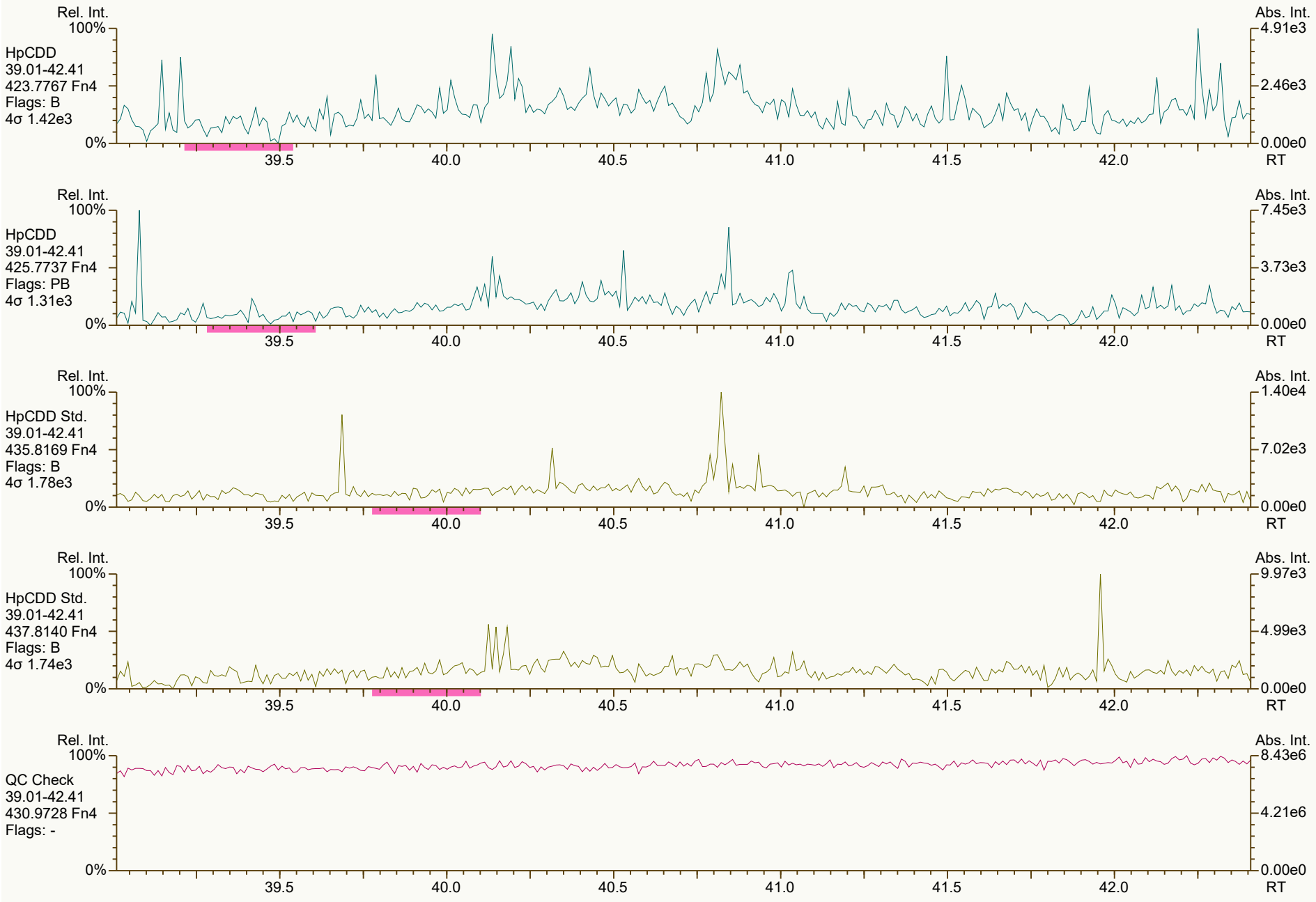

OCDF
1.08e7*
43.69
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.55e3
OCDF
1.17e7*
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.26e3
ES OCDF
1.99e7*
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.94e3
ES OCDF
2.18e7*
43.67
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.78e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.31e3
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.06e6
2.53e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.09e6
2.04e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.40e7
7.00e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.43e6
4.21e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.58e6
3.79e6
0.00e0

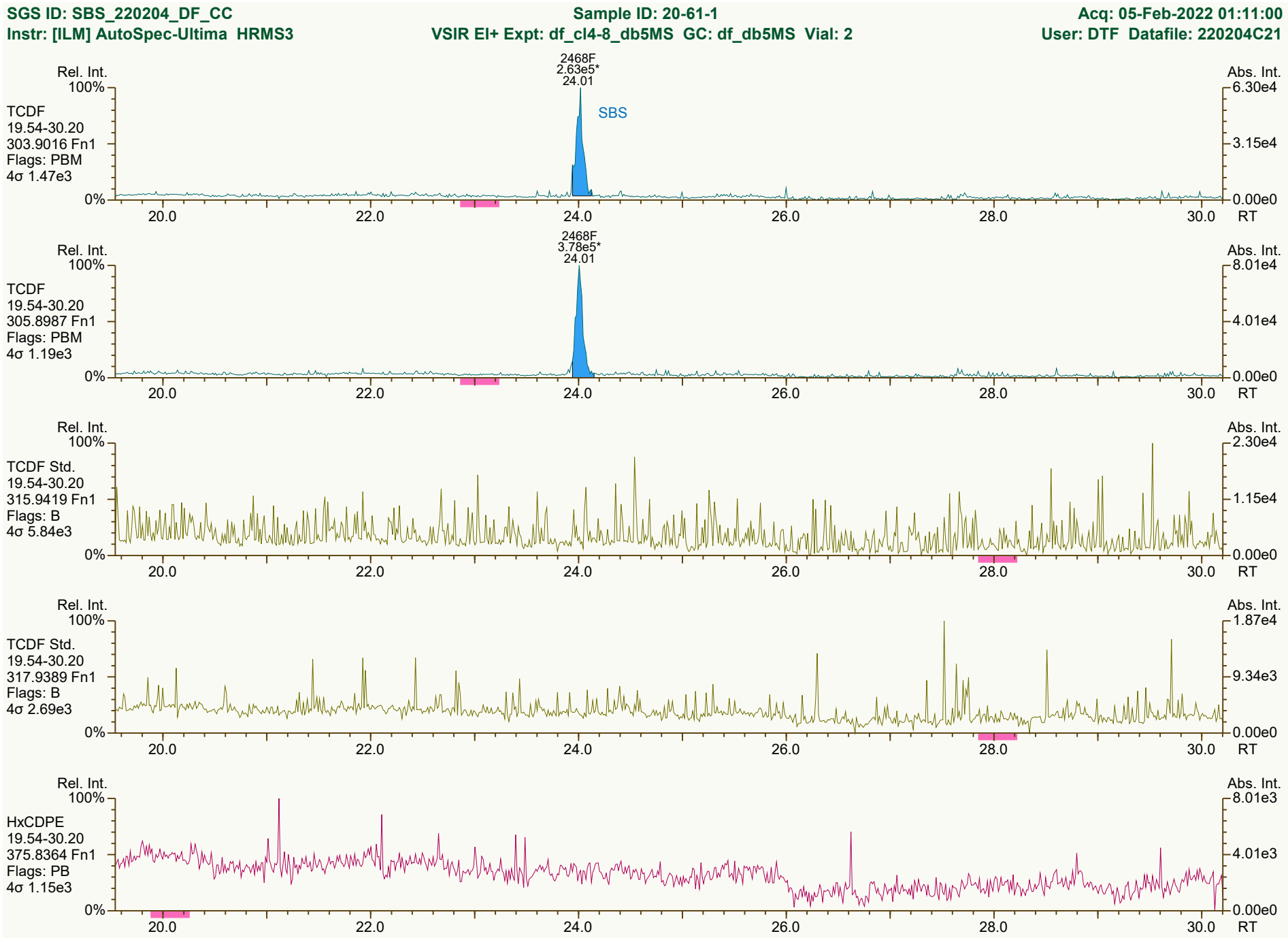

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.14e3
0%
Abs. Int.
7.46e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.15e3
0%
Abs. Int.
7.41e3
3.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.10e3
0%
Abs. Int.
1.28e4
6.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 6.10e3
0%
Abs. Int.
1.86e4
9.30e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.37e3
0%
Abs. Int.
1.74e4
8.69e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.13e3
0%
Abs. Int.
7.59e3
3.79e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.25e3
0%
Abs. Int.
5.64e3
2.82e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.84e4
9.19e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.62e3
0%
Abs. Int.
1.02e4
5.10e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.09e6
2.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

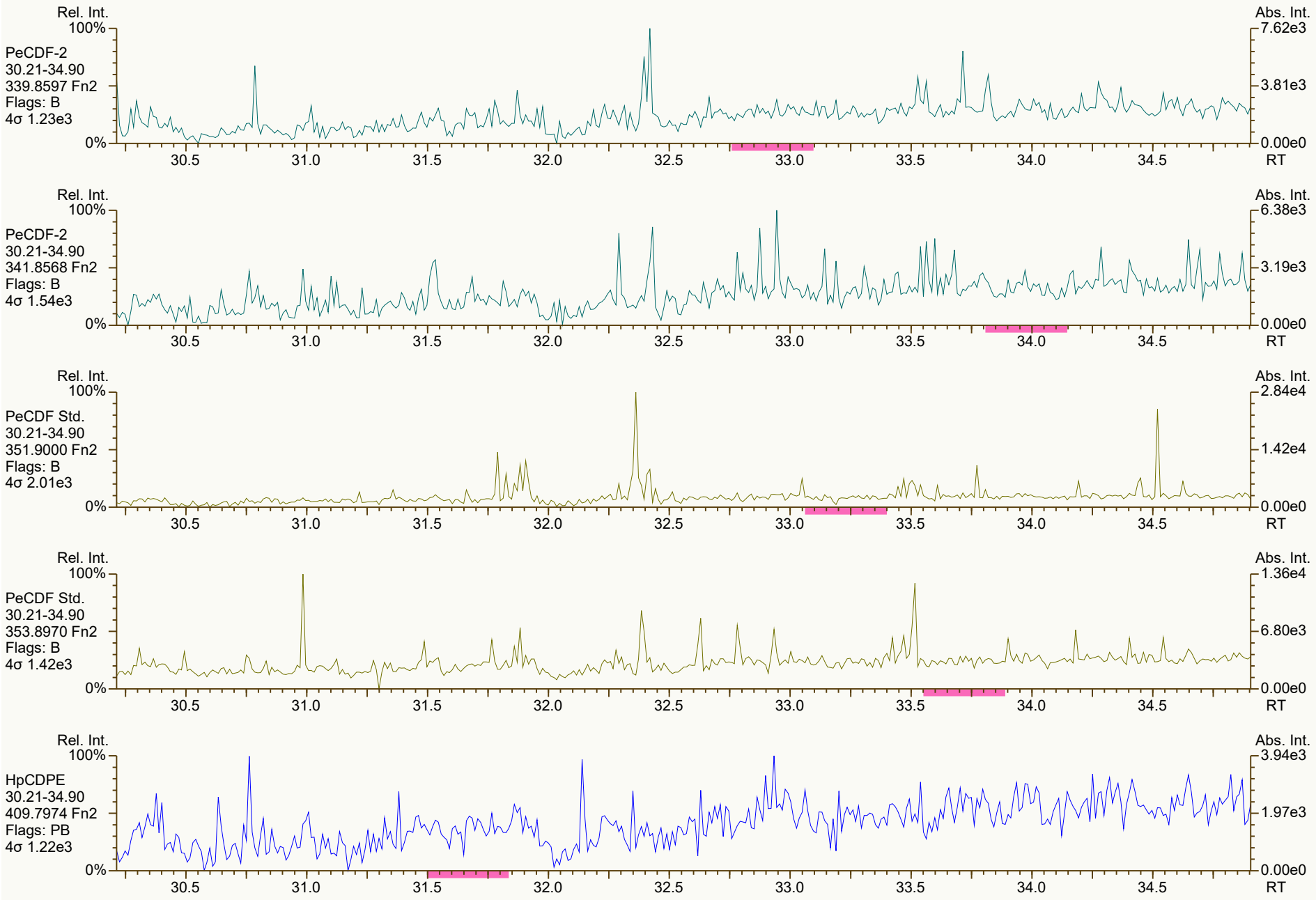

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.23e3
0%
Abs. Int.
7.95e3
3.97e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.04e3
0%
Abs. Int.
6.28e3
3.14e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.86e3
0%
Abs. Int.
8.07e3
4.03e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 2.08e3
0%
Abs. Int.
8.88e3
4.44e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.40e7
7.00e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

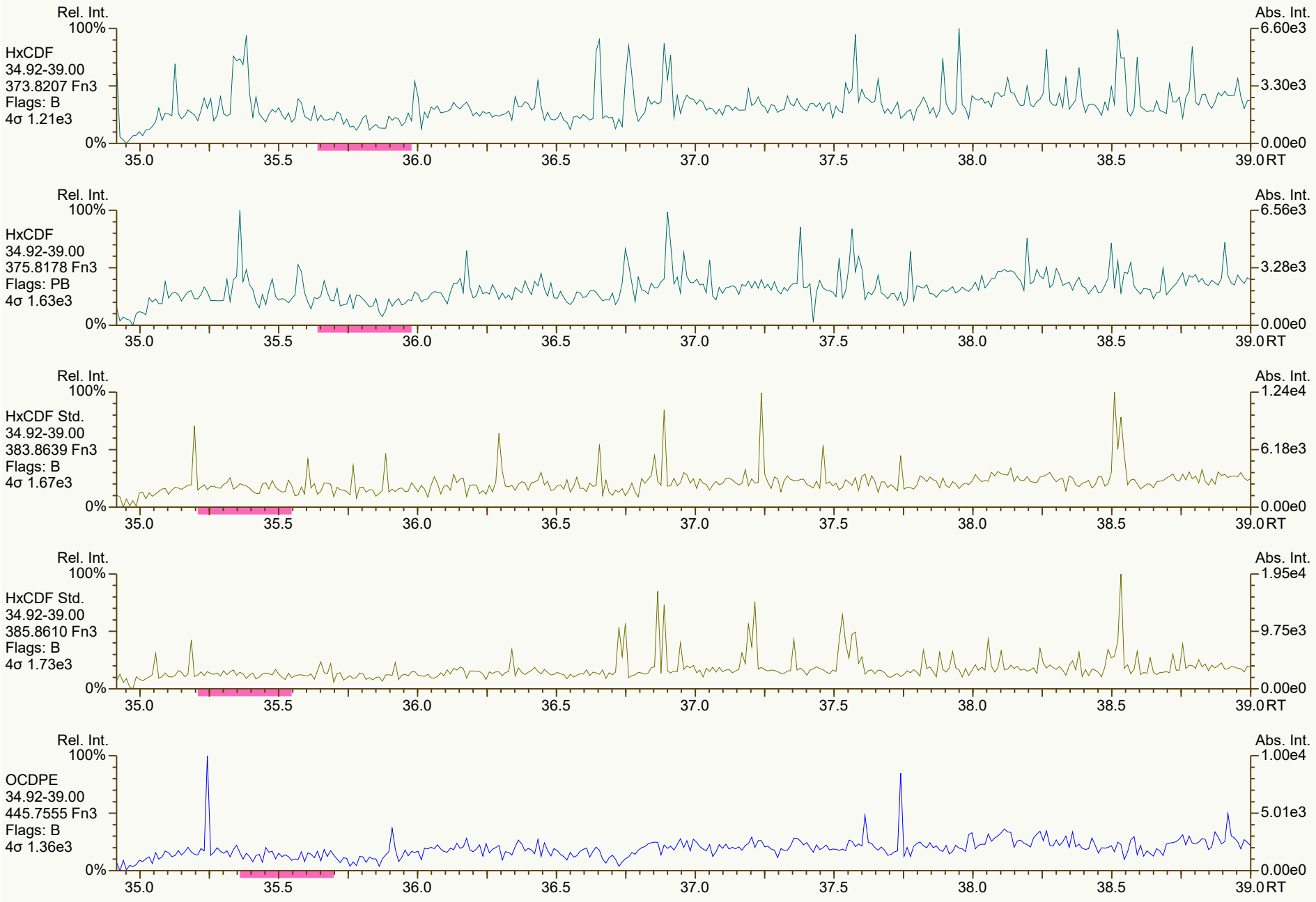

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.42e3
0%
Abs. Int.
4.91e3
2.46e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
7.45e3
3.73e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.78e3
0%
Abs. Int.
1.40e4
7.02e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.74e3
0%
Abs. Int.
9.97e3
4.99e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.43e6
4.21e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.35e3
0%
Abs. Int.
6.21e3
3.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.33e3
0%
Abs. Int.
1.35e4
6.75e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.21e4
6.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
8.24e3
4.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.58e6
3.79e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220204_DF_CC
Sample ID: 20-61-1
Acq: 05-Feb-2022 01:11:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220204C21
Rel. Int.
Abs. Int.
2468F
2.63e5*
24.01
SBS
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.47e3
6.30e4
3.15e4
0.00e0
2468F
3.78e5*
24.01
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.19e3
8.01e4
4.01e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 5.84e3
2.30e4
1.15e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 2.69e3
1.87e4
9.34e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.15e3
8.01e3
4.01e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\SBS_220204_DF_CC.utp_res, saved 07-Feb-2022 08:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0896, 8215, 9395 scc: 855-476
Revised: 07-Feb-2022 08:52 (DTF) Printed: 08-Feb-2022 11:14 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
7.09e3
3.55e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.51e4
1.25e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.06e6
2.53e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.23e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.54e3
0%
Abs. Int.
6.38e3
3.19e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 2.01e3
0%
Abs. Int.
2.84e4
1.42e4
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.36e4
6.80e3
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.22e3
0%
Abs. Int.
3.94e3
1.97e3
0.00e0
RT

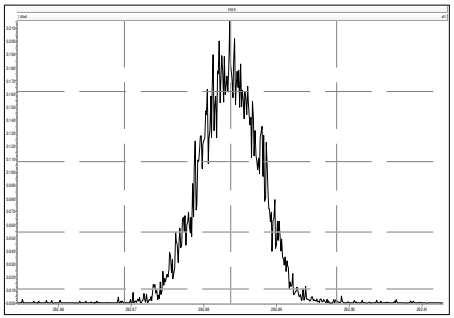

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
6.60e3
3.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.63e3
0%
Abs. Int.
6.56e3
3.28e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 1.73e3
0%
Abs. Int.
1.95e4
9.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.34e3
0%
Abs. Int.
6.28e3
3.14e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.35e3
0%
Abs. Int.
8.89e3
4.44e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.98e3
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.65e4
8.25e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.39e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

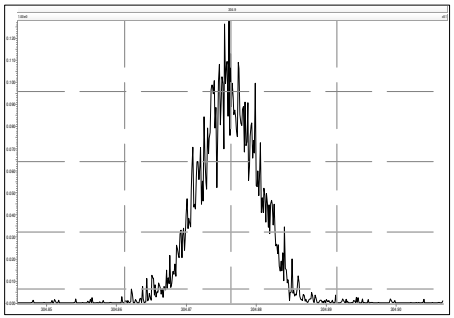

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
6.71e3
3.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
5.66e3
2.83e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.46e4
7.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.19e3
0%
Abs. Int.
7.48e3
3.74e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Friday, February 04, 2022 21:57:38 Eastern Standard Time

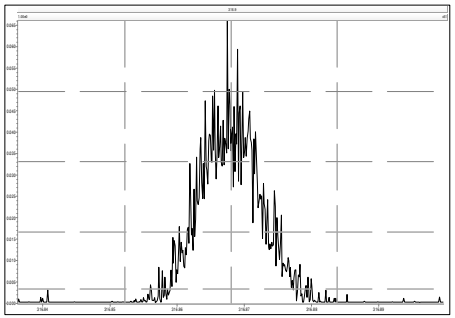
M 292.9824 R 16678



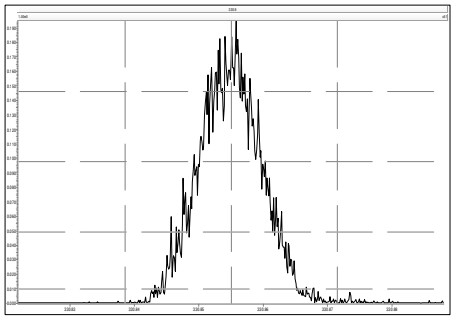
M 304.9824 R 17485



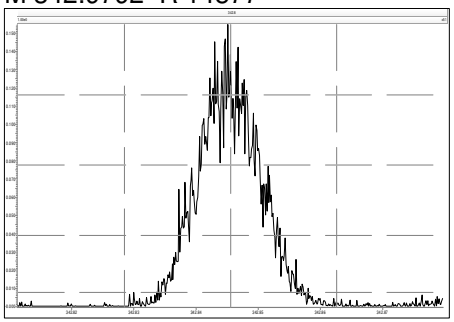
M 316.9824 R 17524



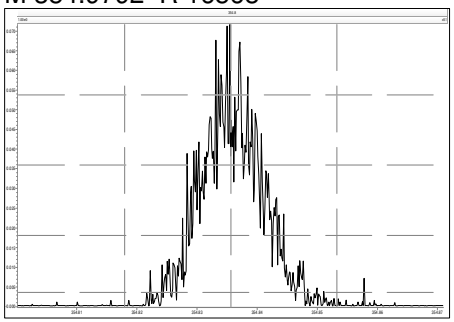
M 330.9792 R 15923



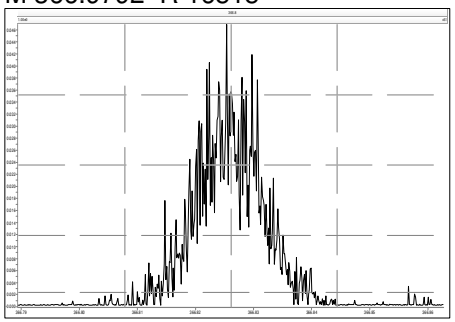
M 342.9792 R 14577



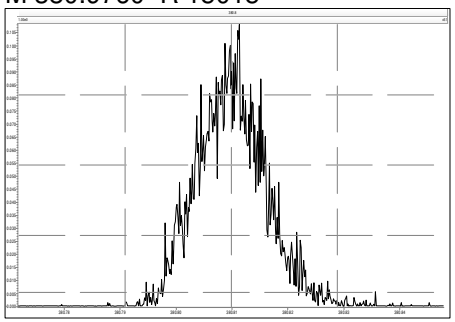
M 354.9792 R 16568



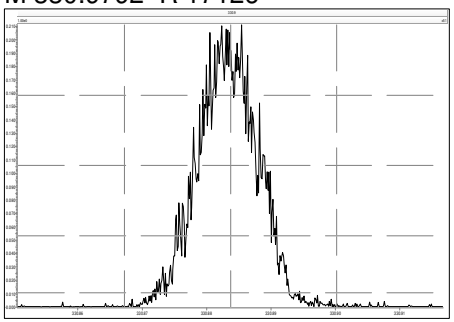
M 366.9792 R 16515



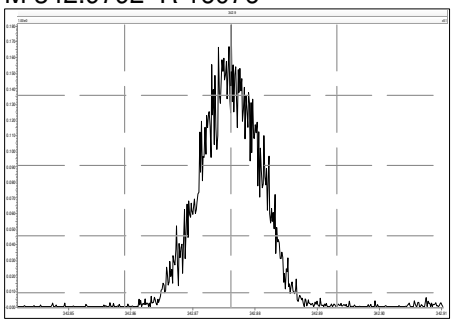
M 380.9760 R 15015



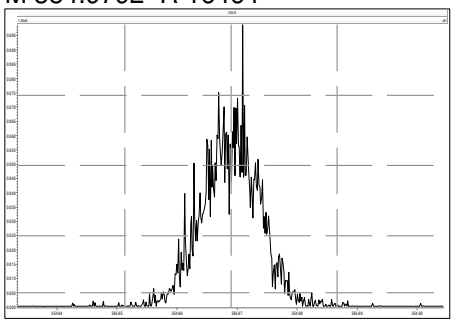
M 330.9792 R 17126



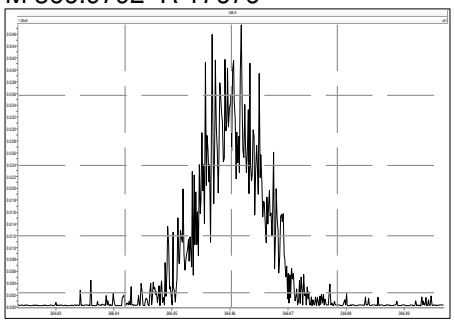
M 342.9792 R 16076



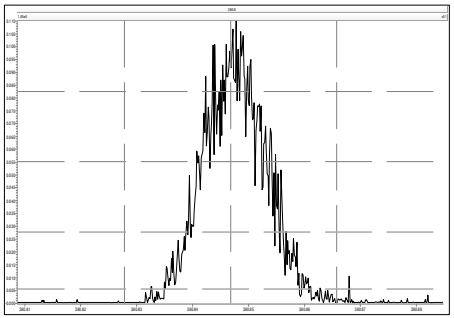
M 354.9792 R 16464



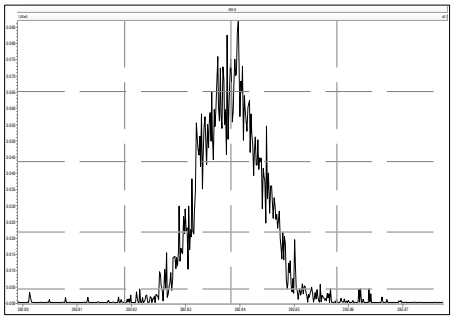
M 366.9792 R 17676



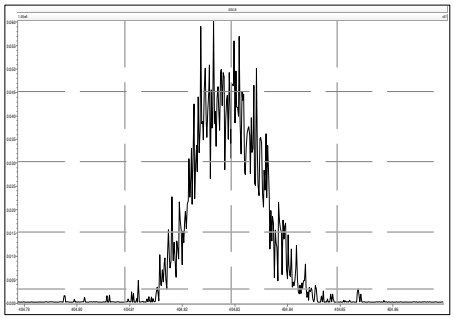
M 380.9760 R 16139



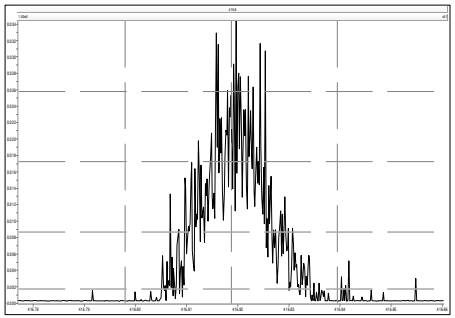
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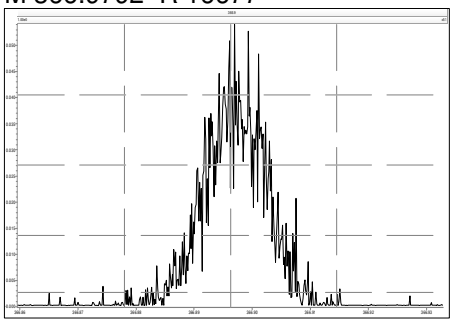
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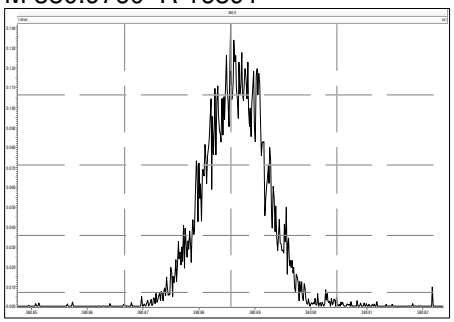
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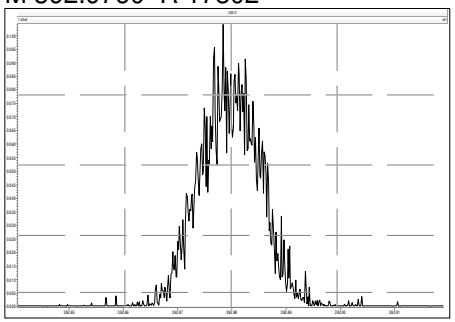
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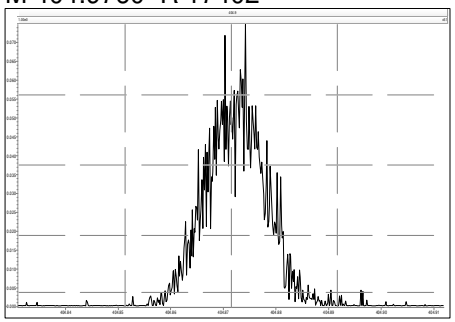
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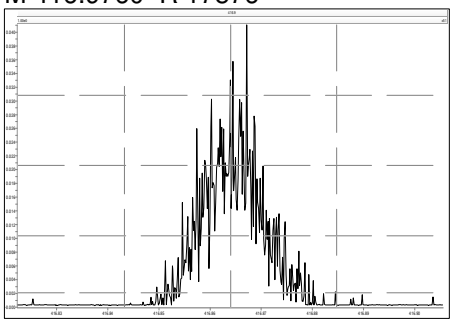
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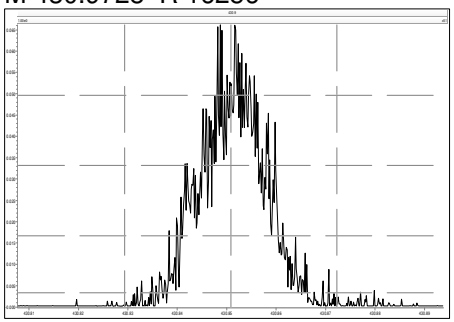
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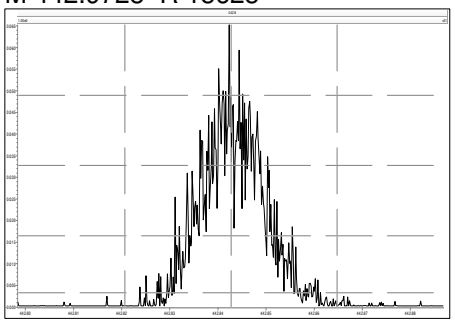
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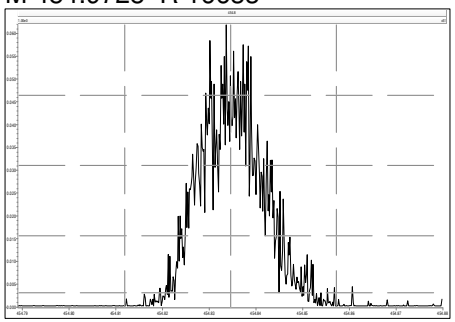
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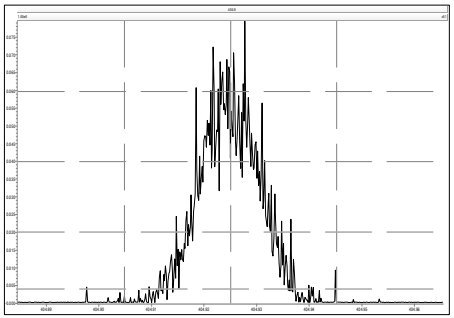
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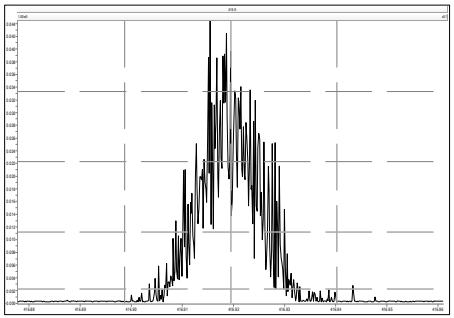
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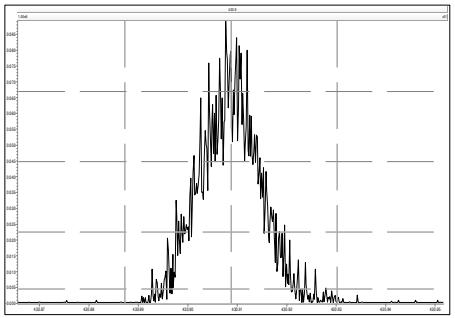
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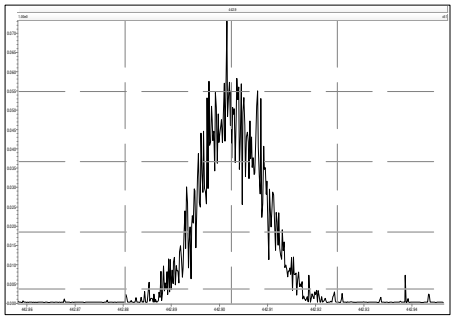
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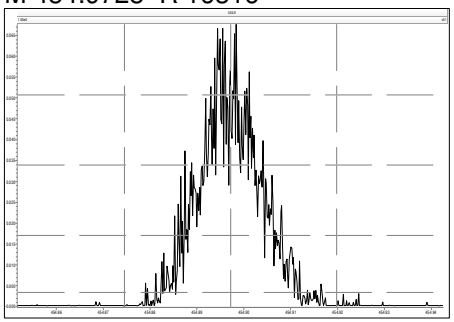
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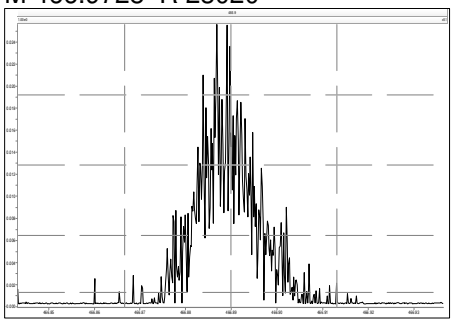
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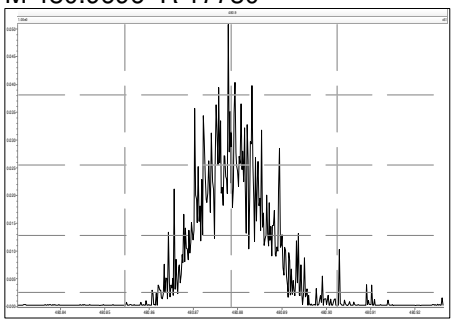
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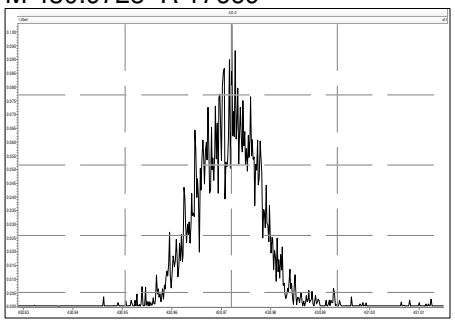
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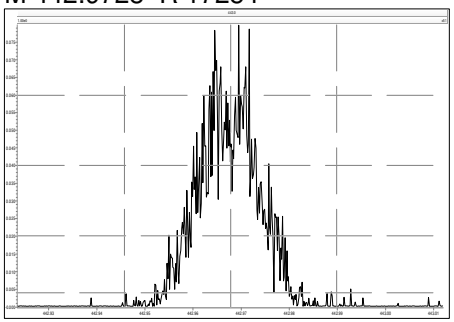
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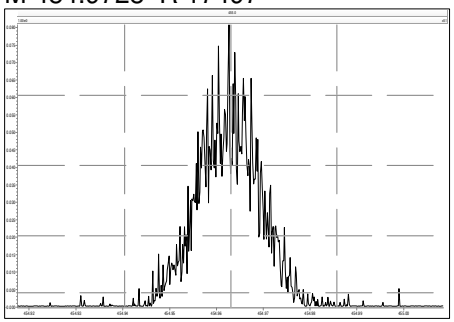
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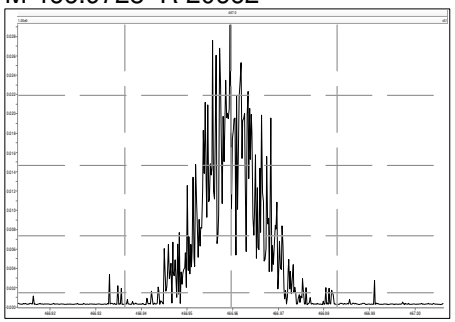
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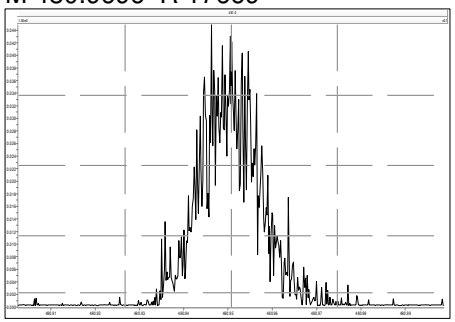
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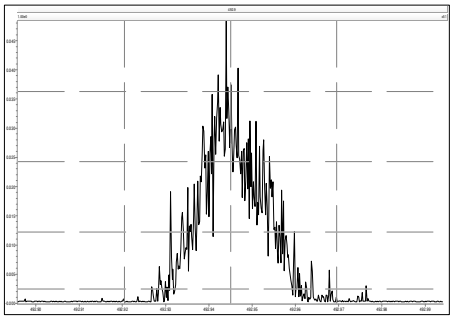
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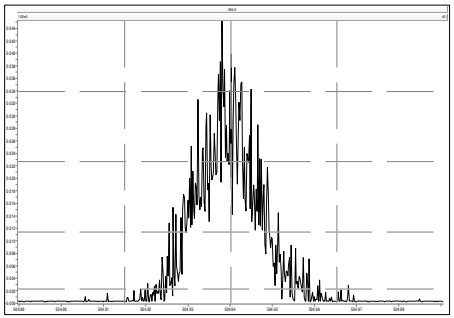
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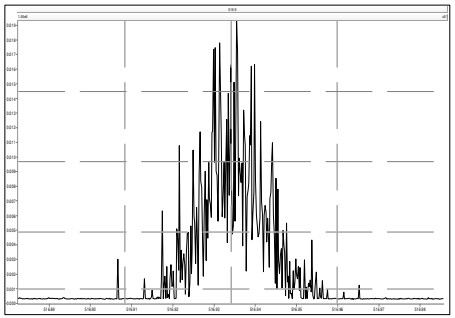
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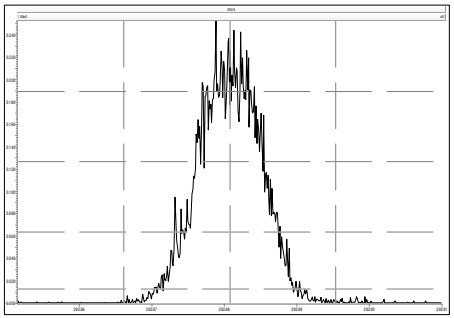


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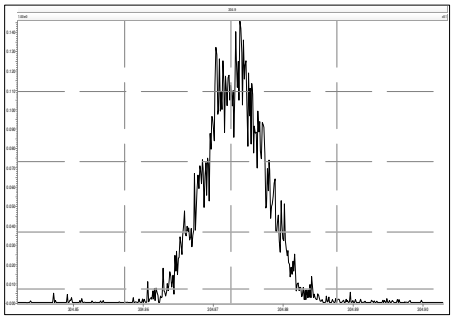


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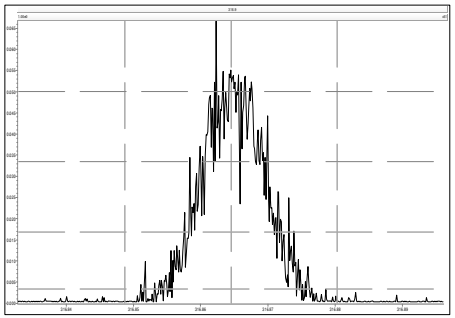
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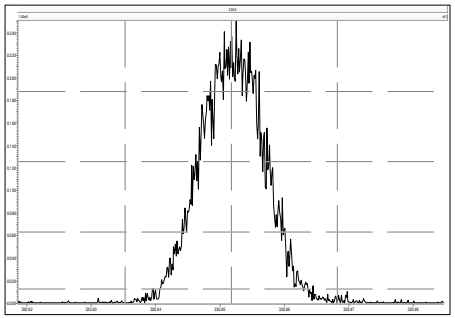
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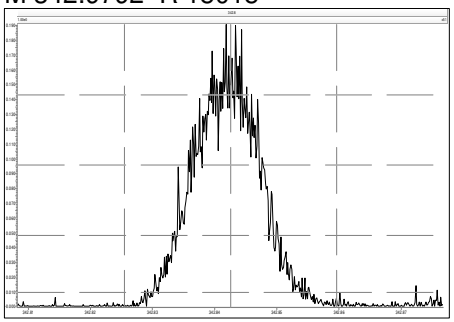
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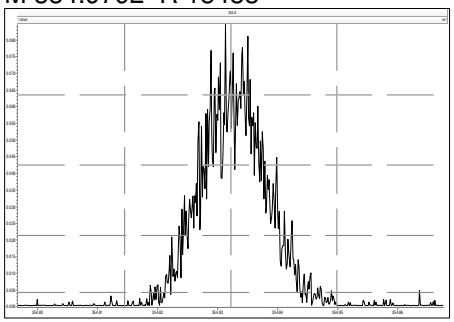
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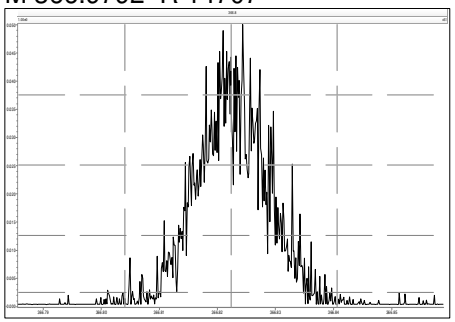
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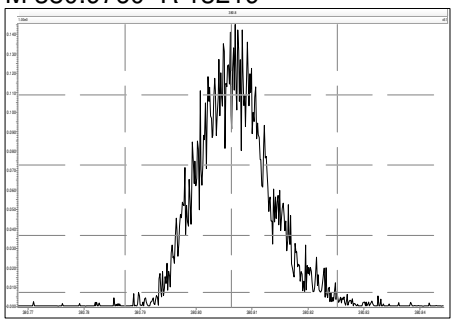
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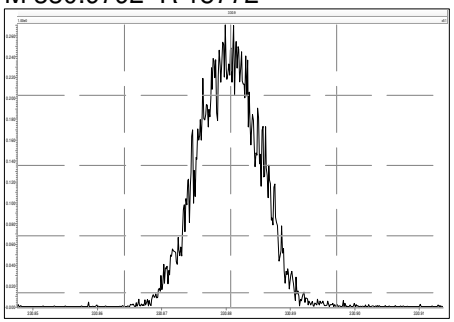
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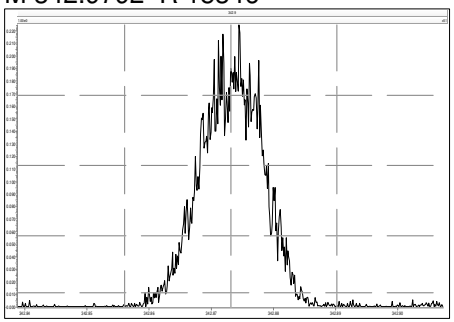
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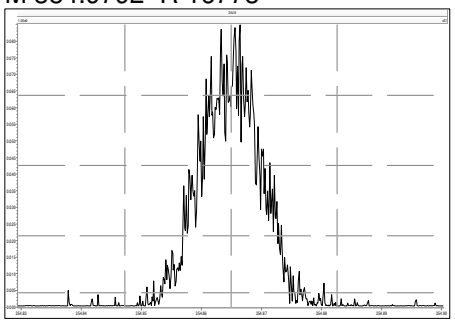
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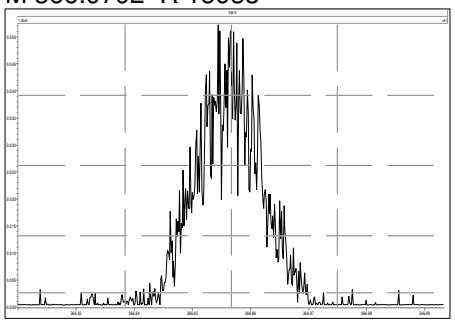
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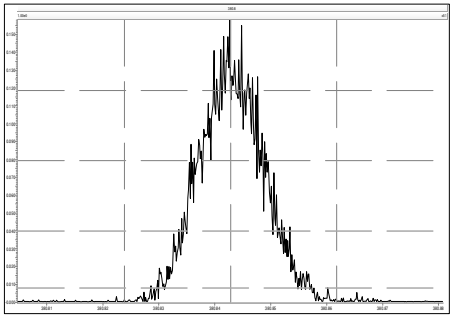
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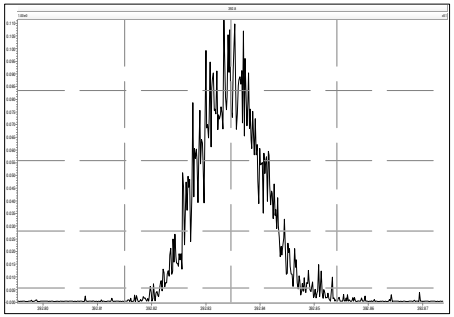
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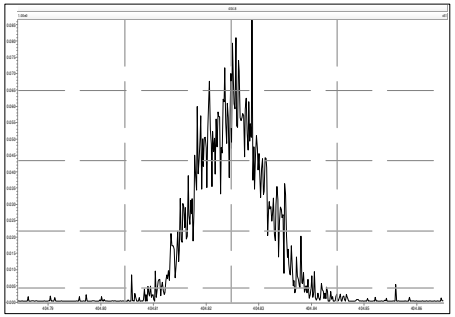
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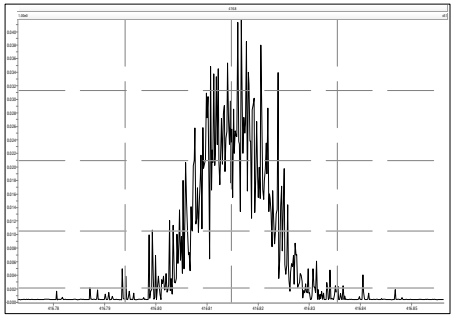
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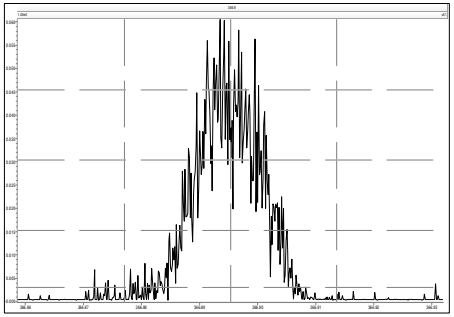
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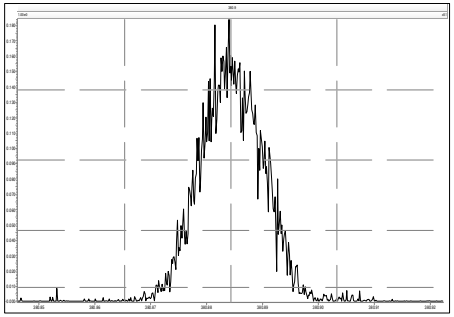
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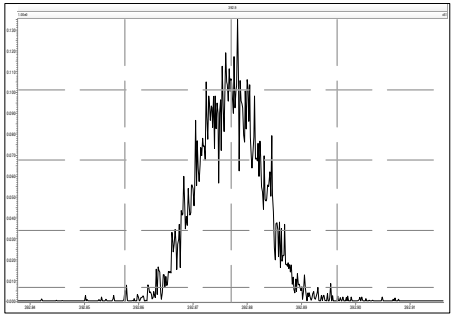
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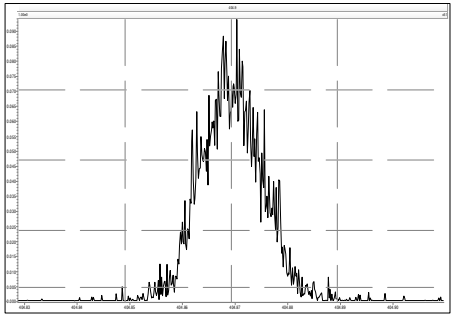
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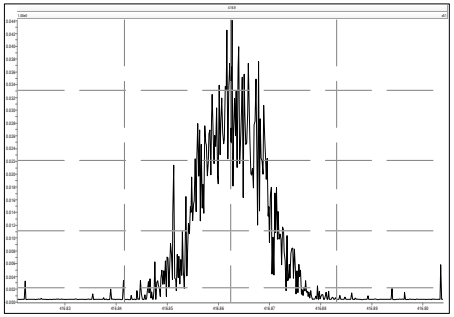
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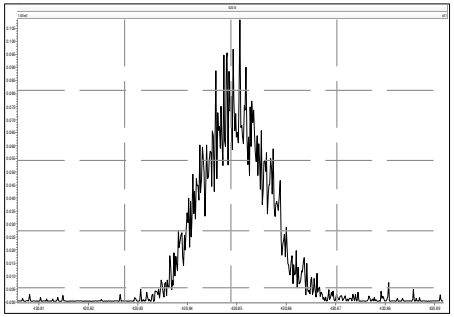
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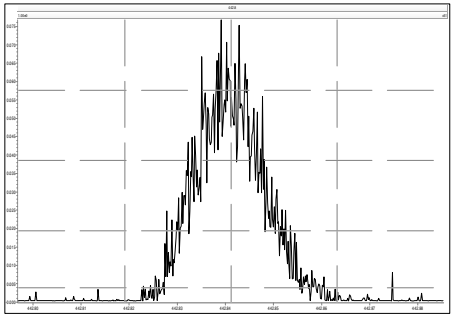
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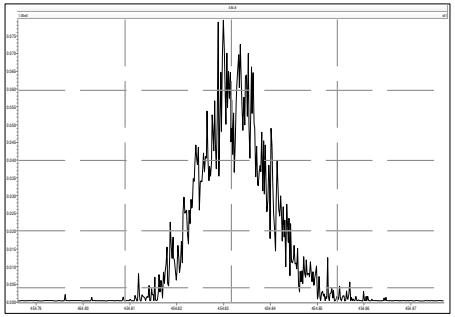
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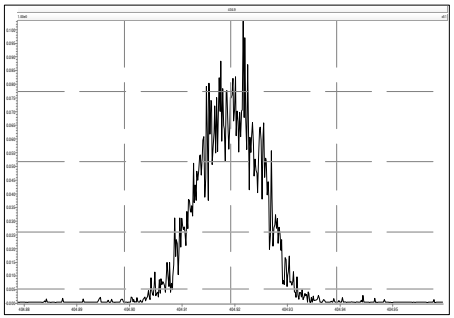
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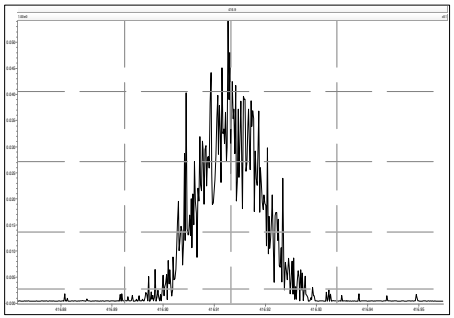
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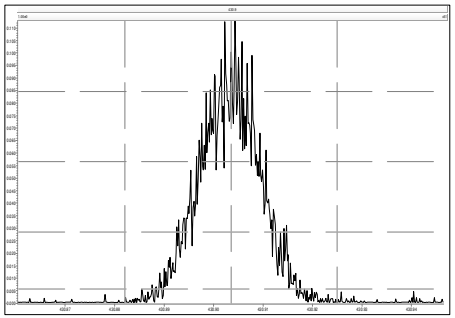
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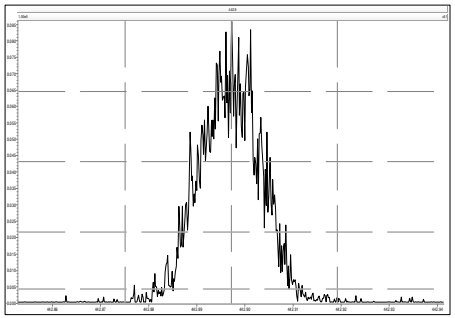
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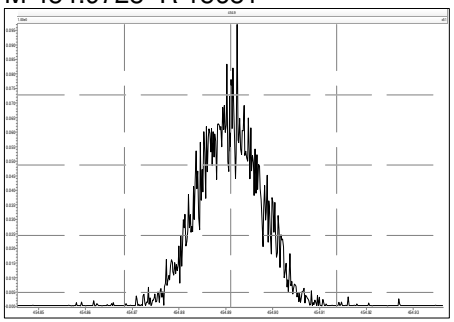
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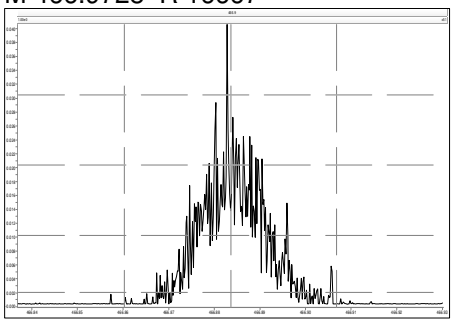
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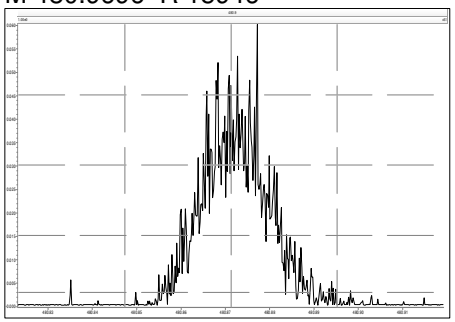
M 454.9728 R 15681



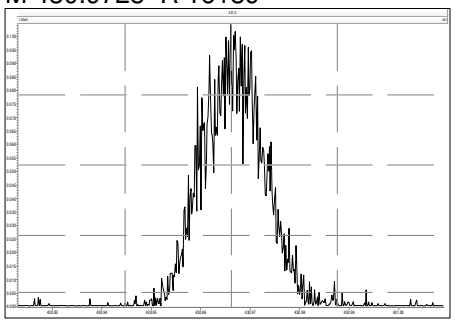
M 466.9728 R 16667



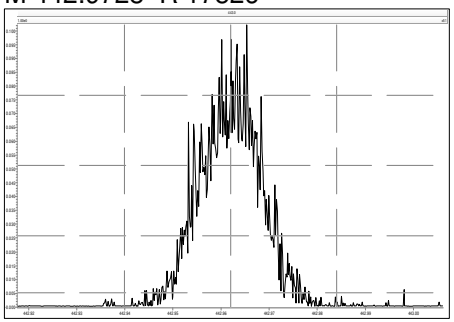
M 480.9696 R 15946



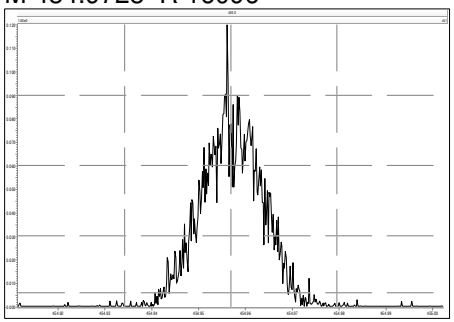
M 430.9728 R 16189



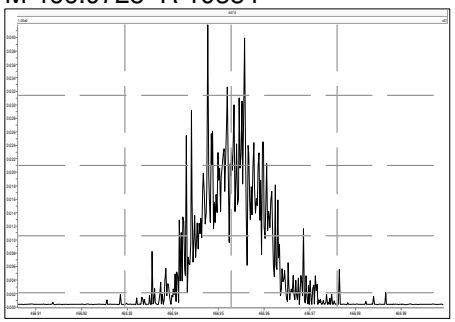
M 442.9728 R 17526



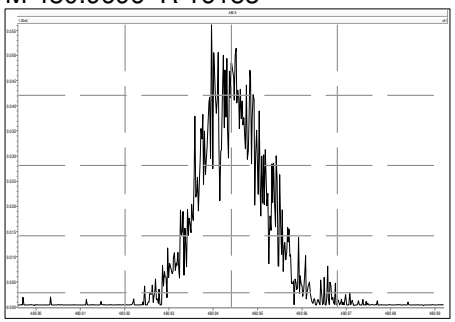
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M 466.9728 R 19384

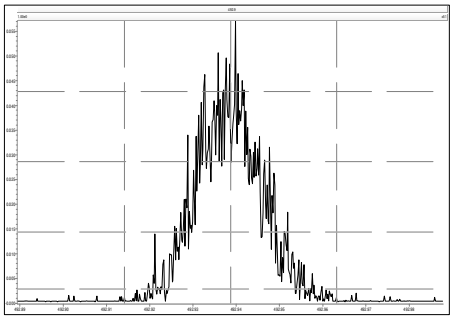


M 480.9696 R 16153

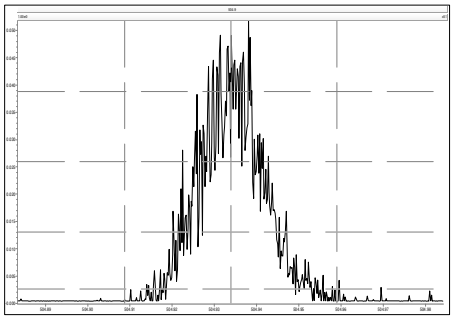


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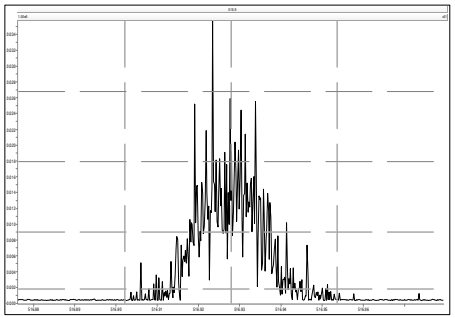
M 492.9696 R 16523



M 504.9696 R 15892



M 516.9697 R 19548



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

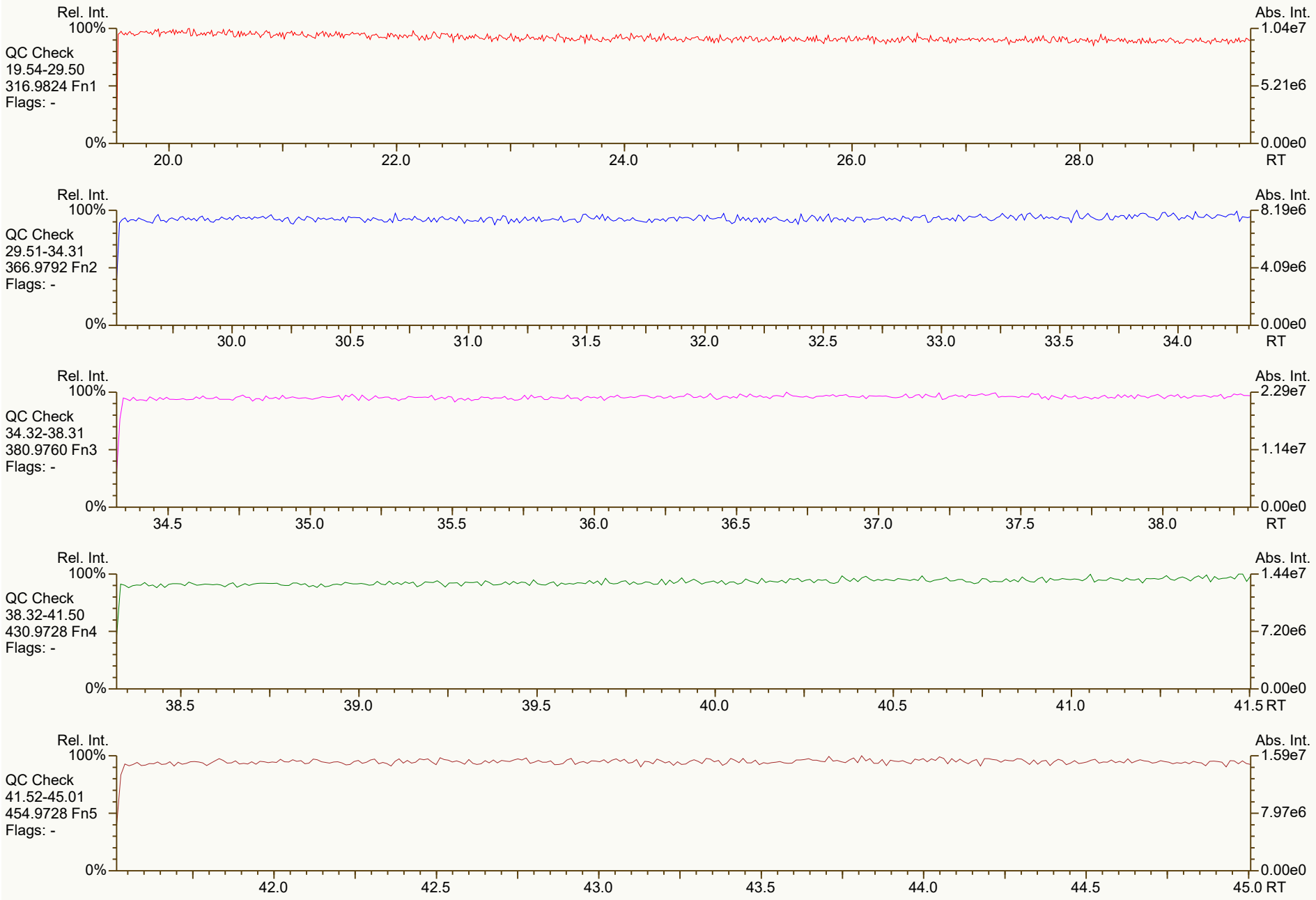
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

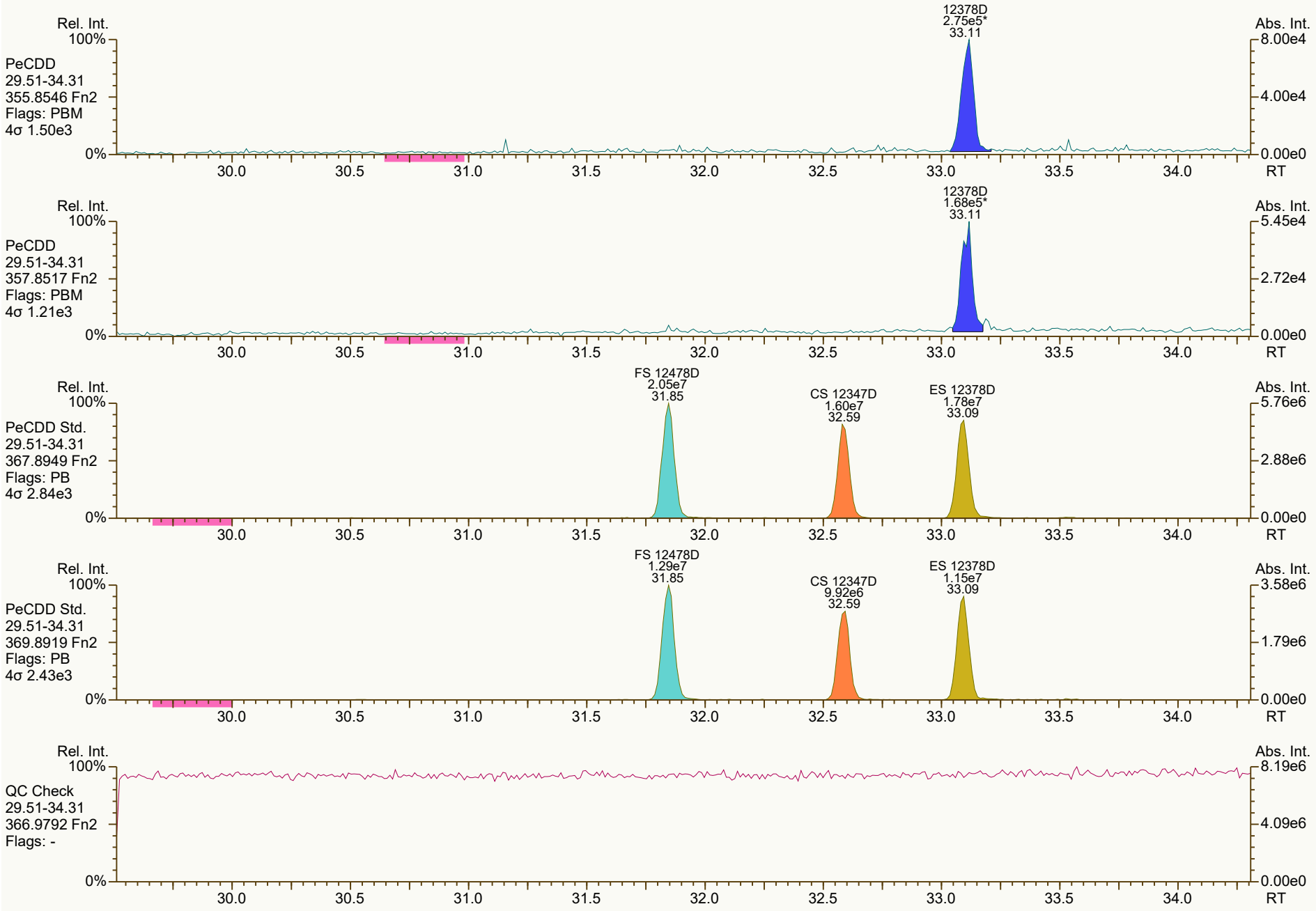
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

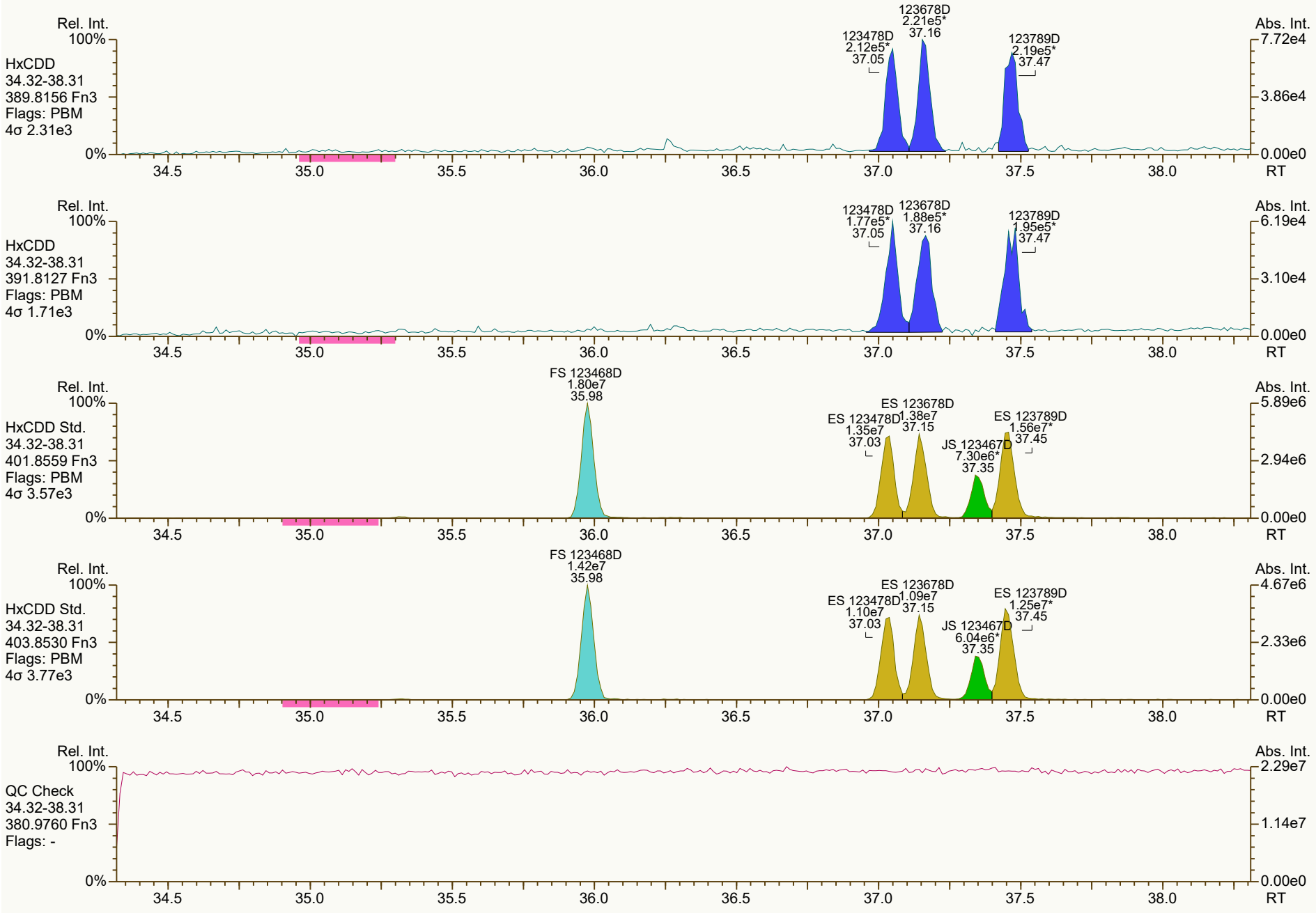
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

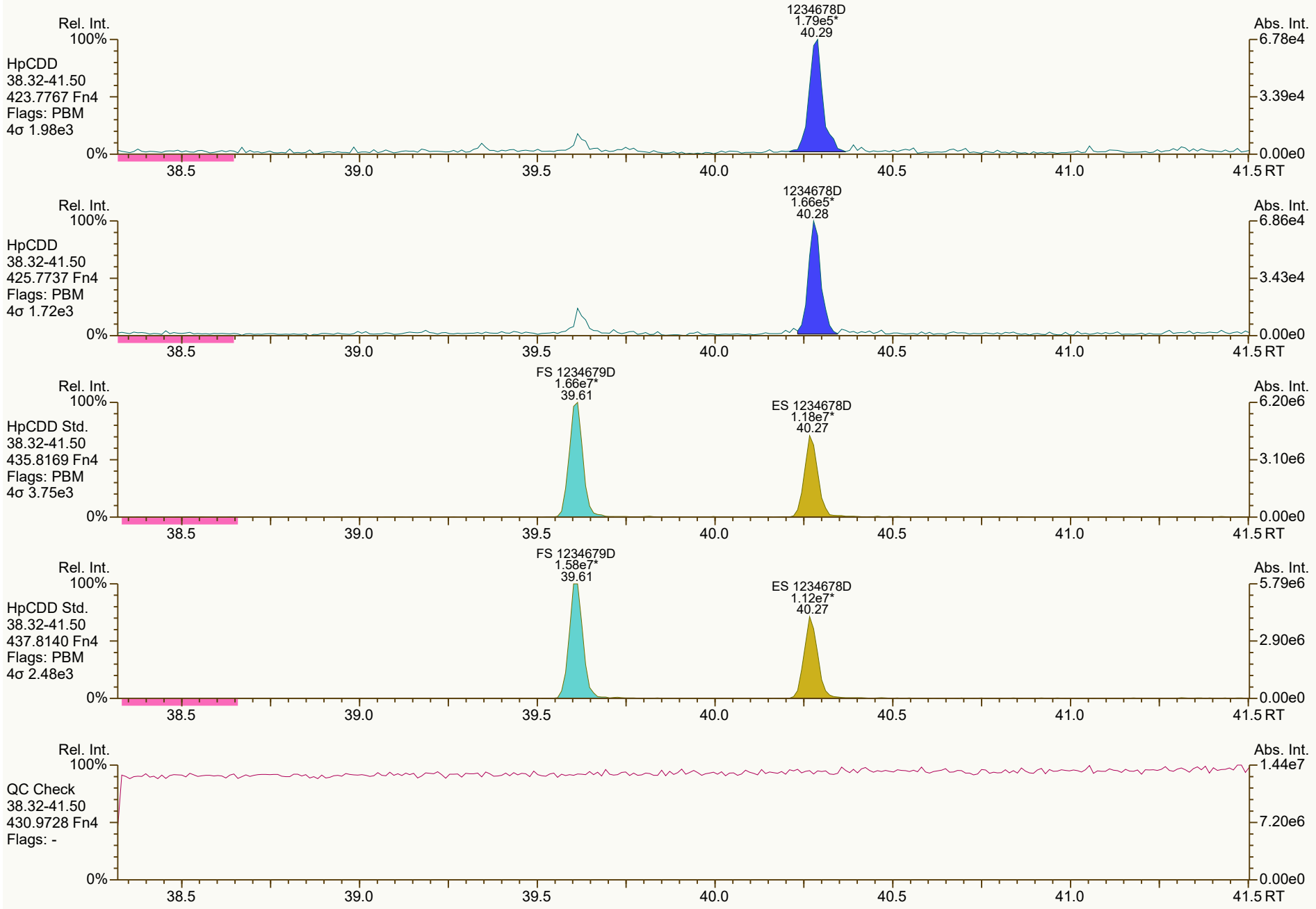
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

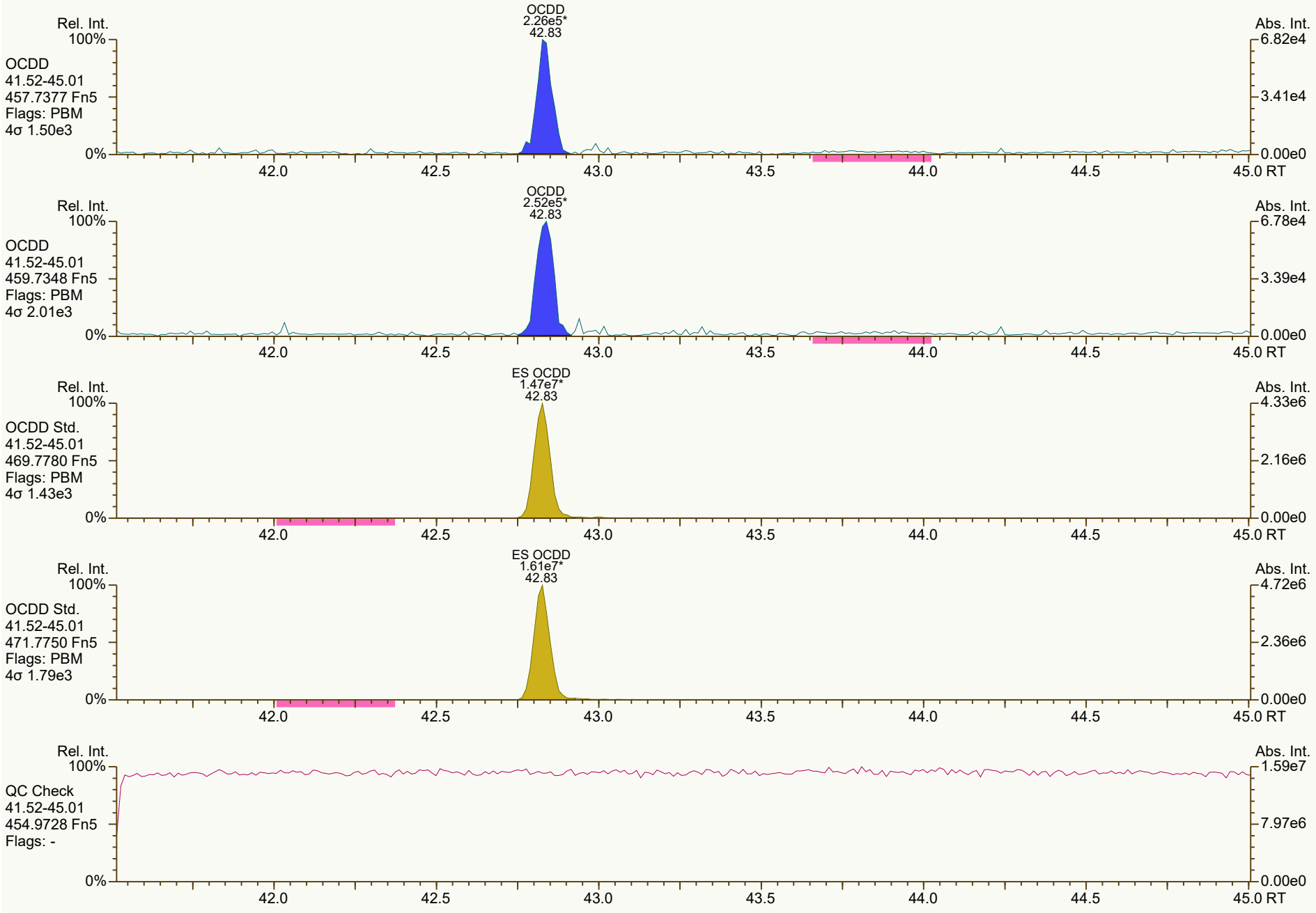

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

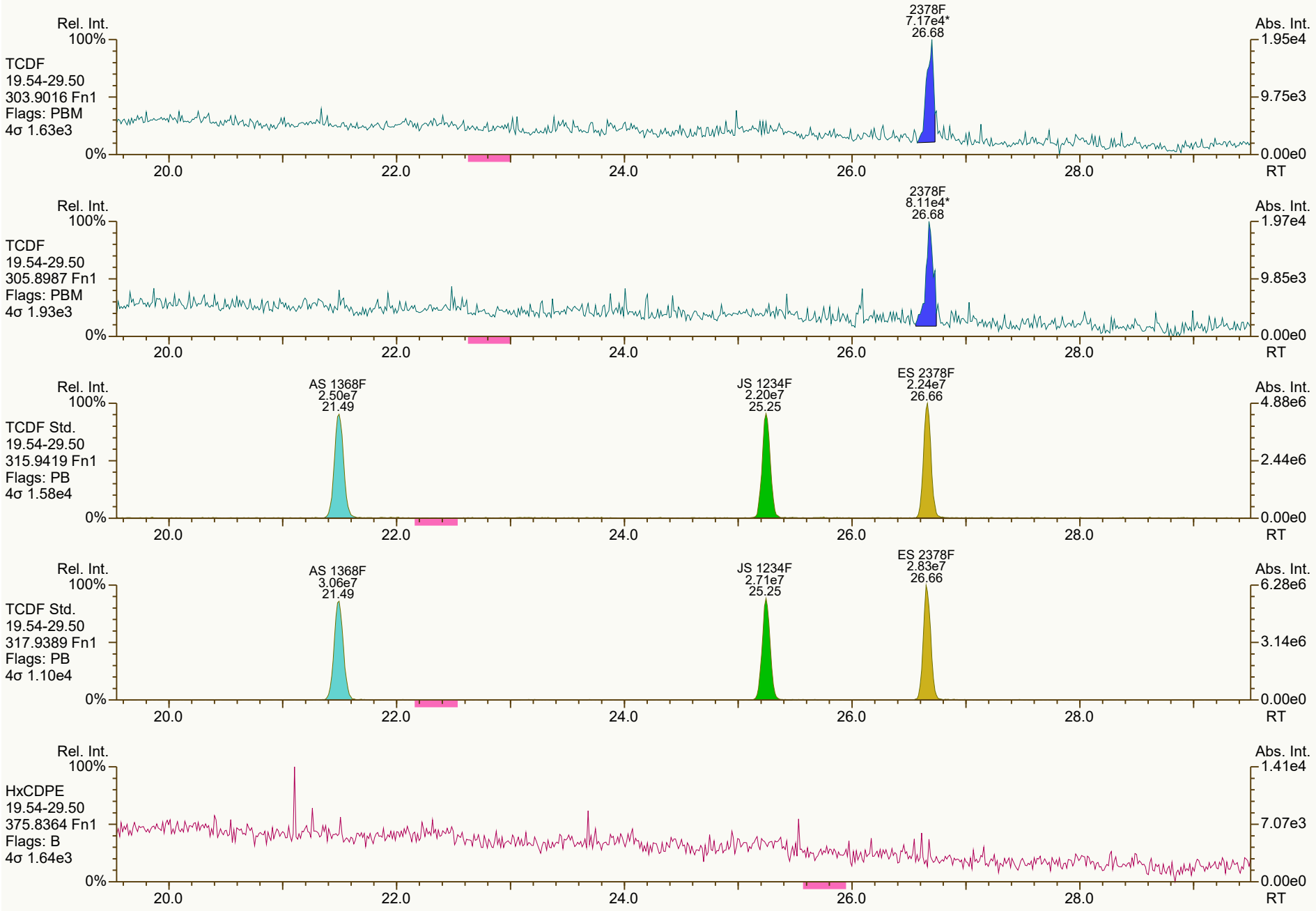

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

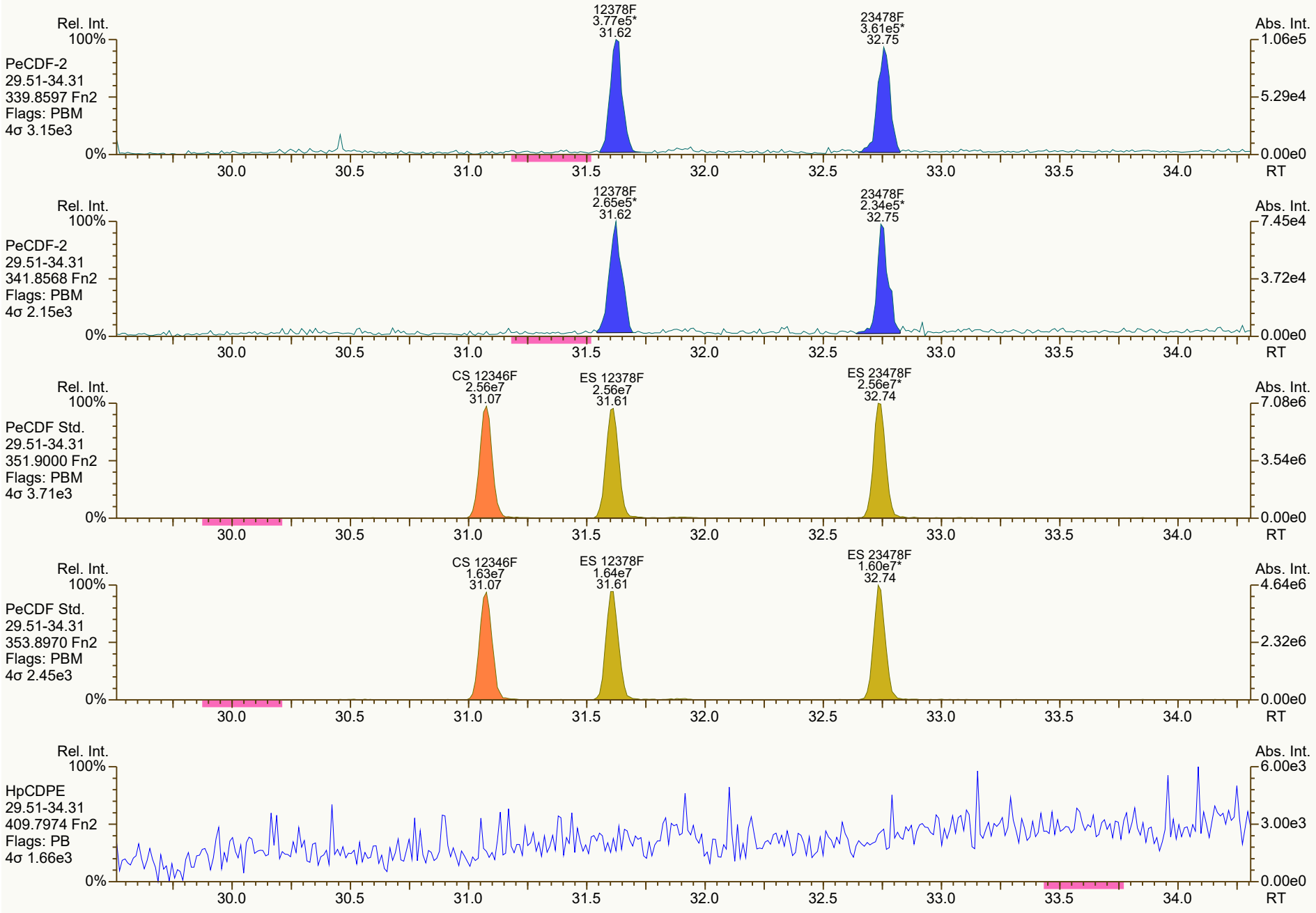

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

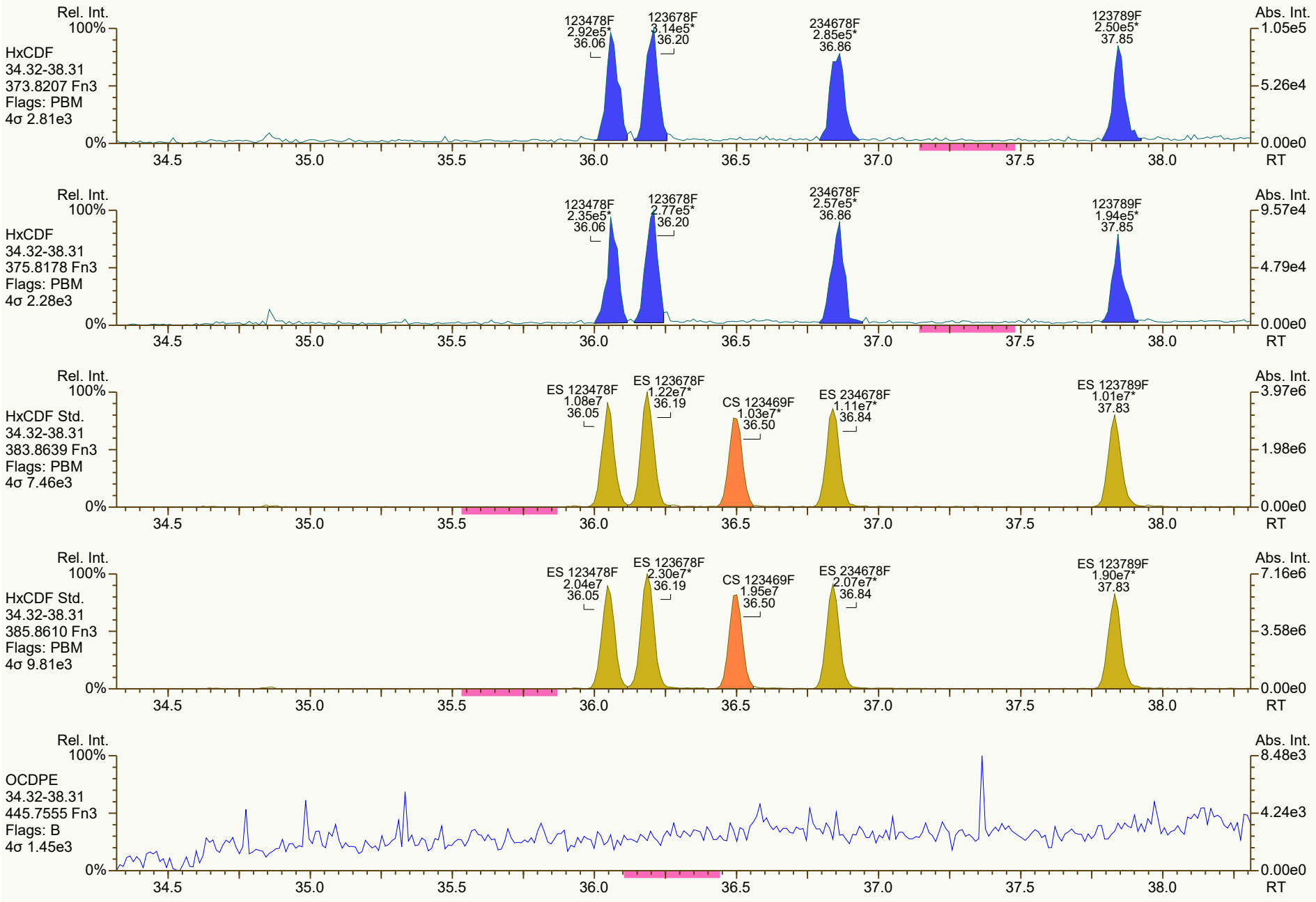

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

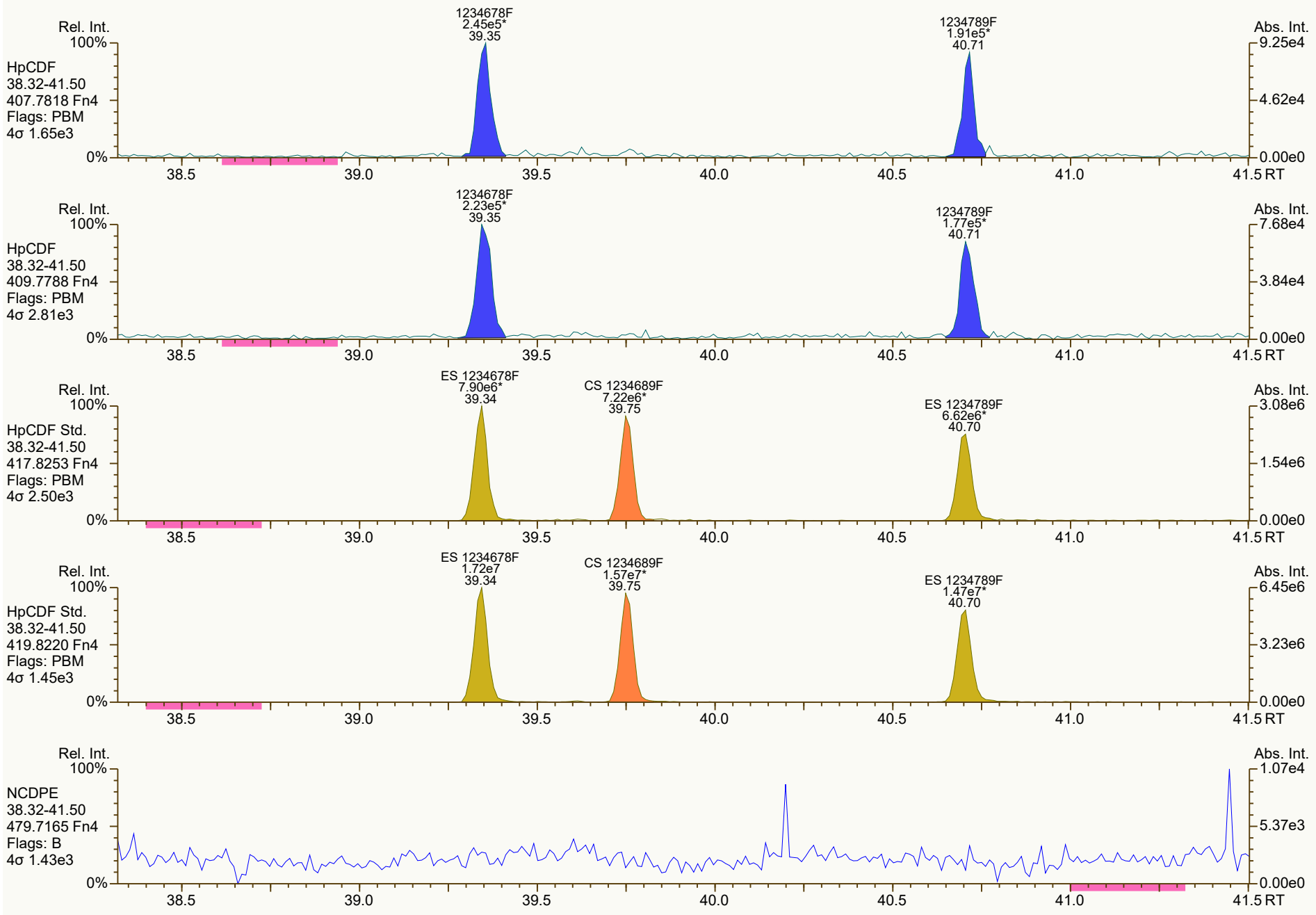
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

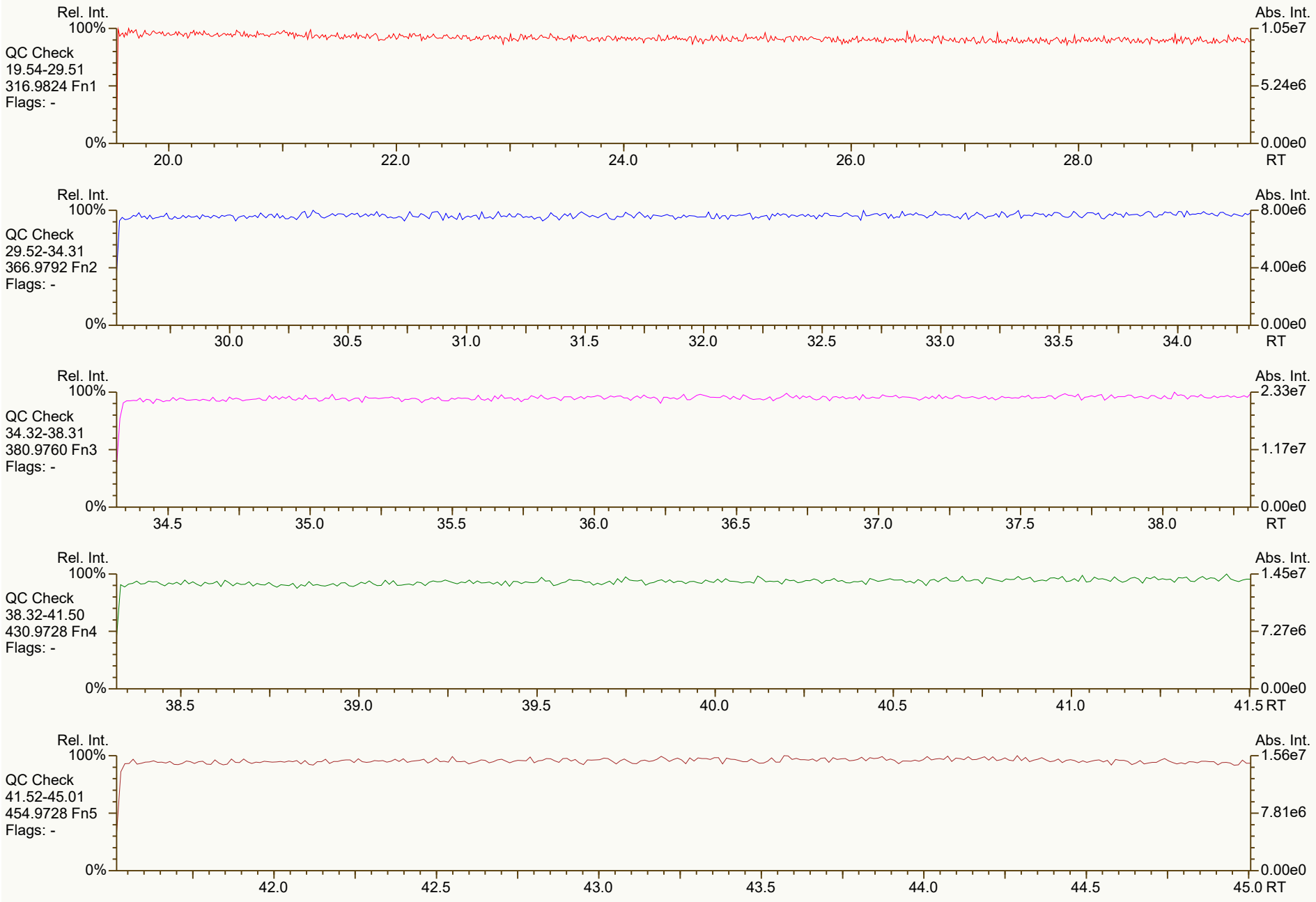

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

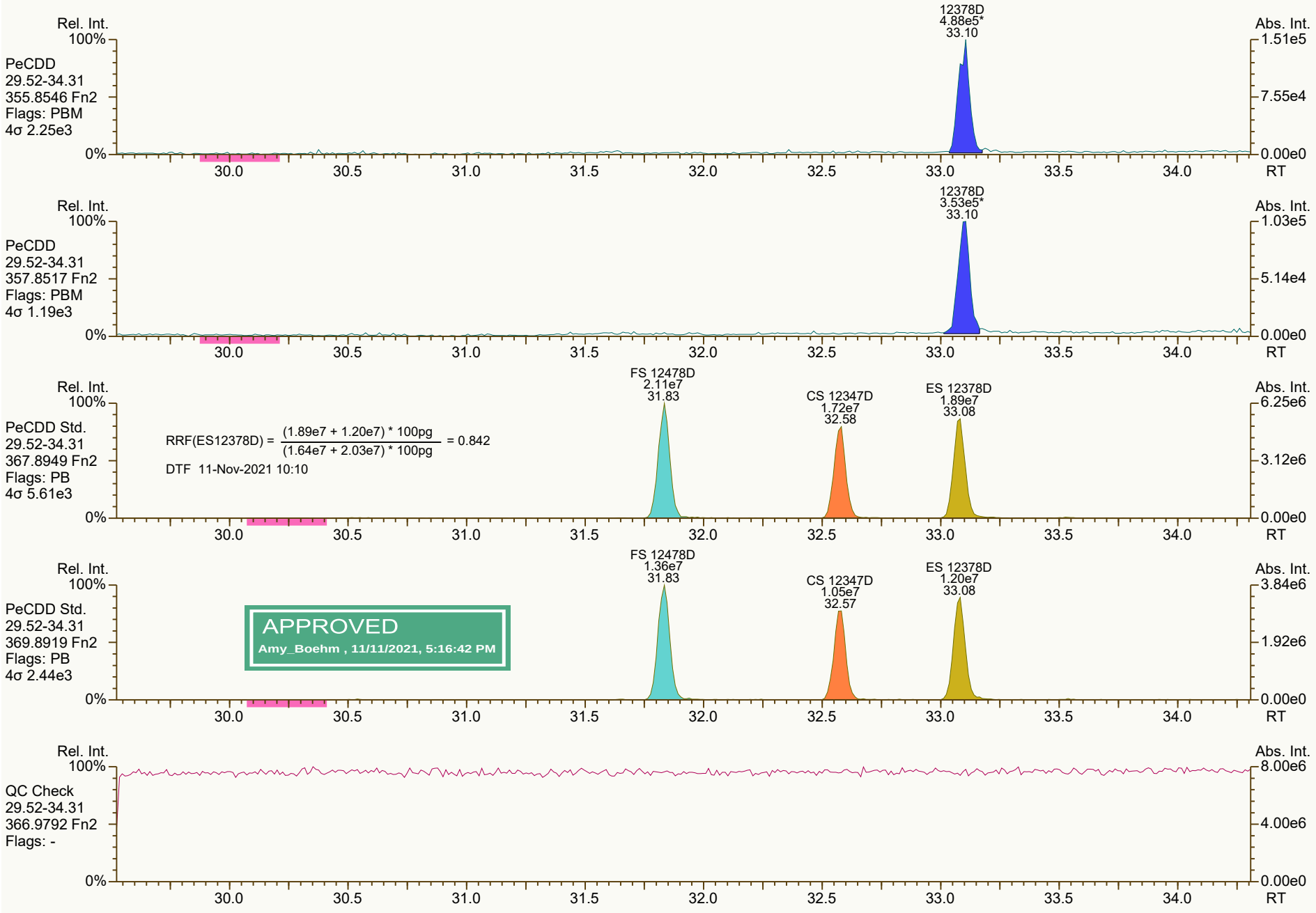

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

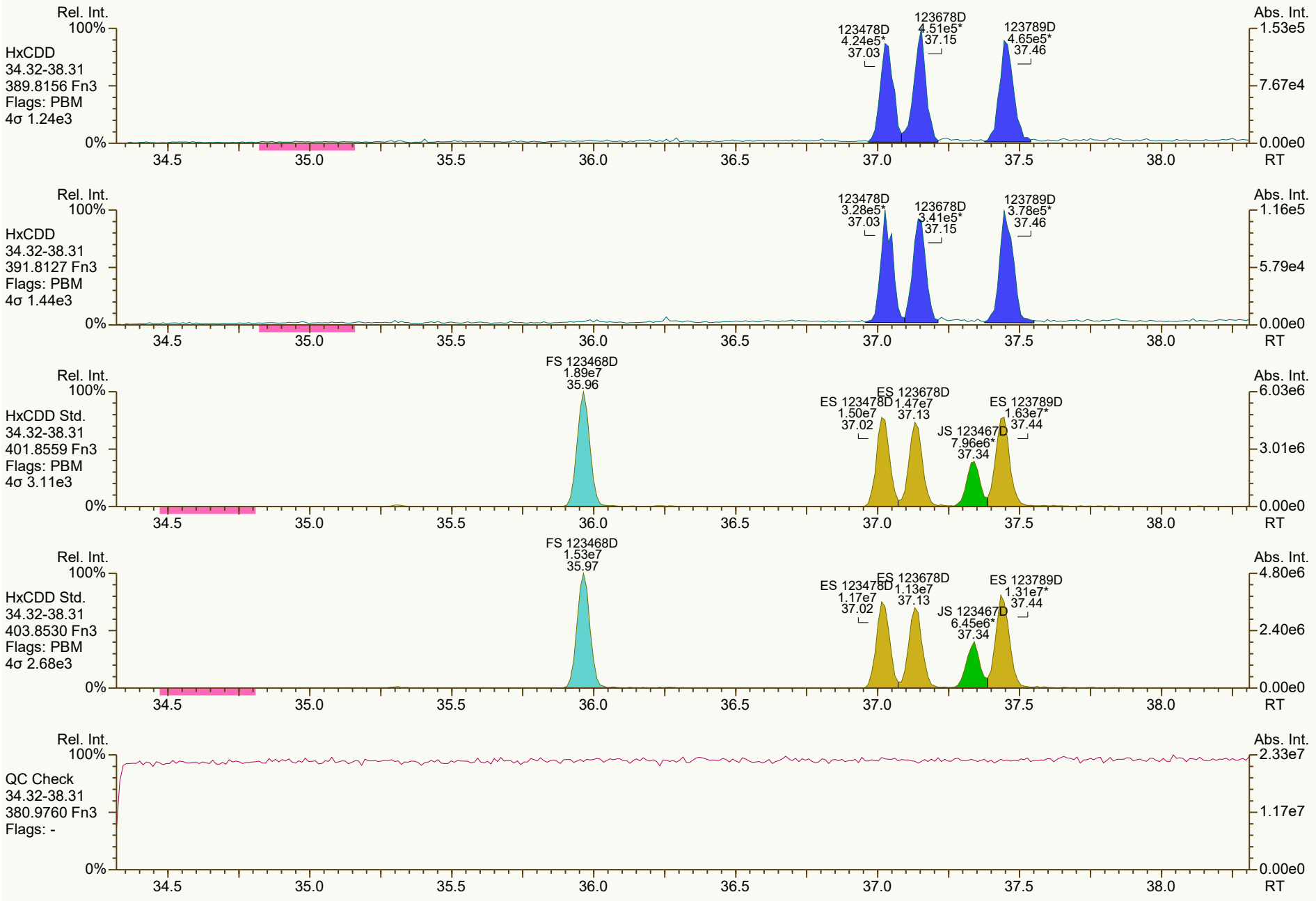
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

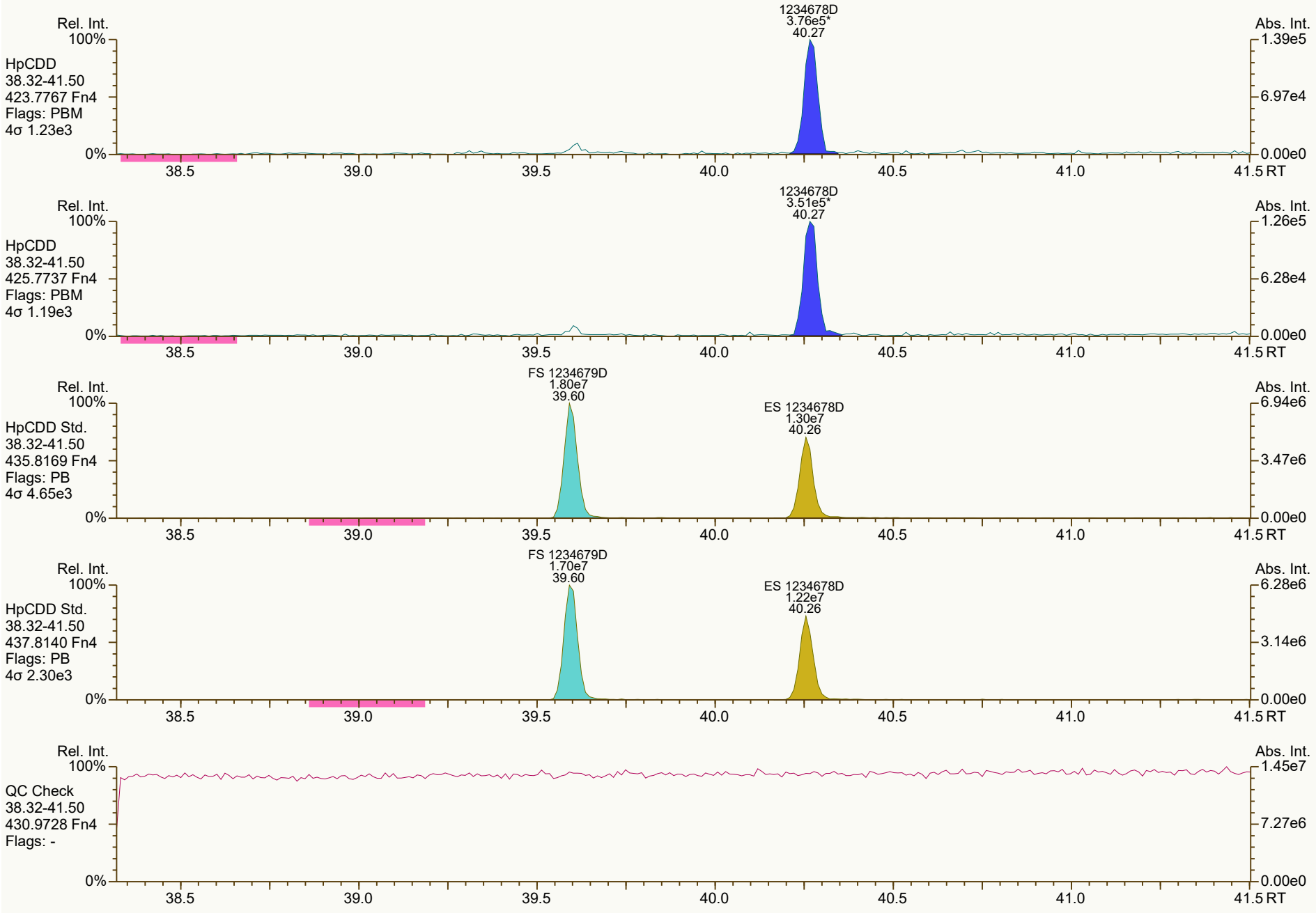
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

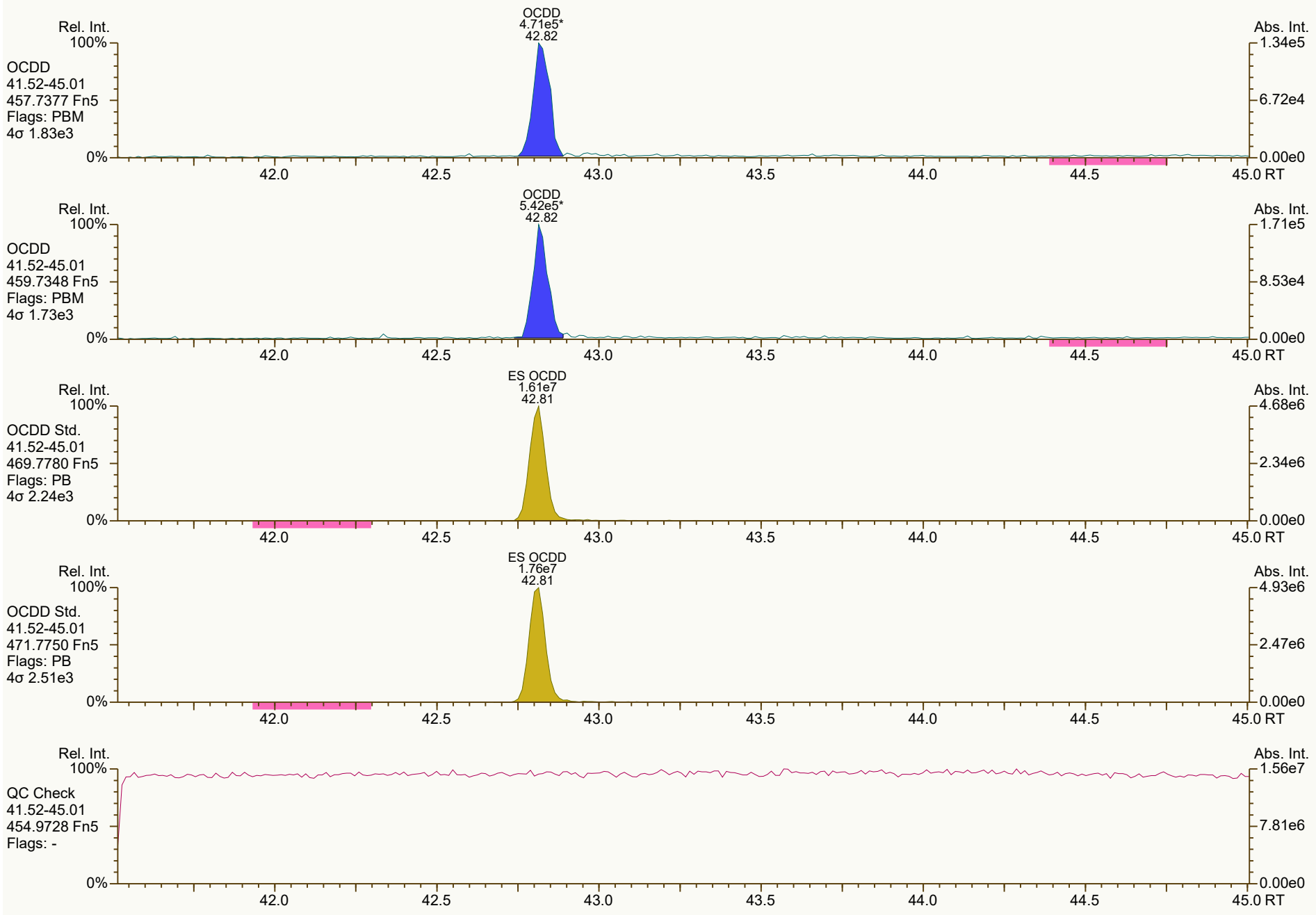

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

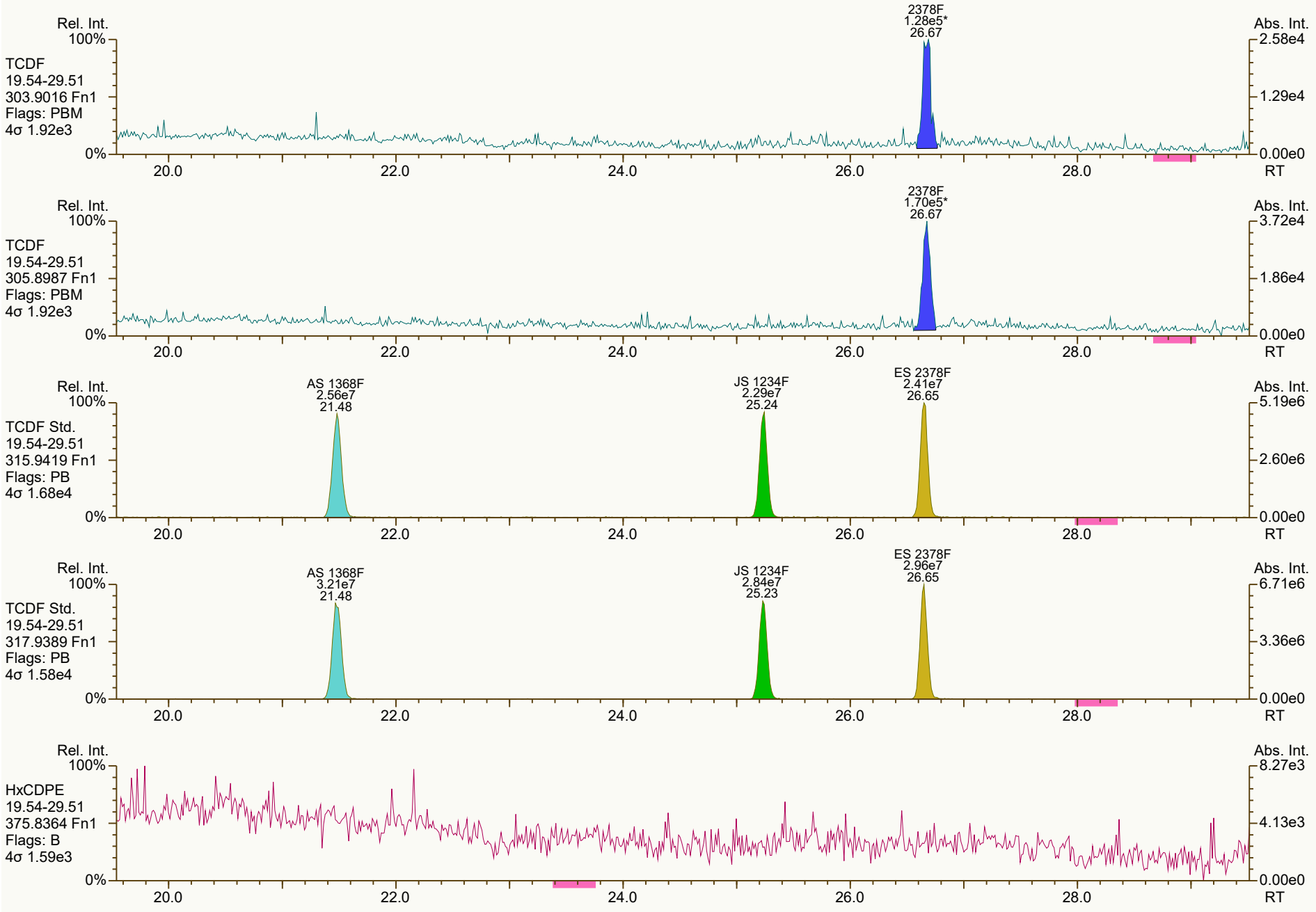

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

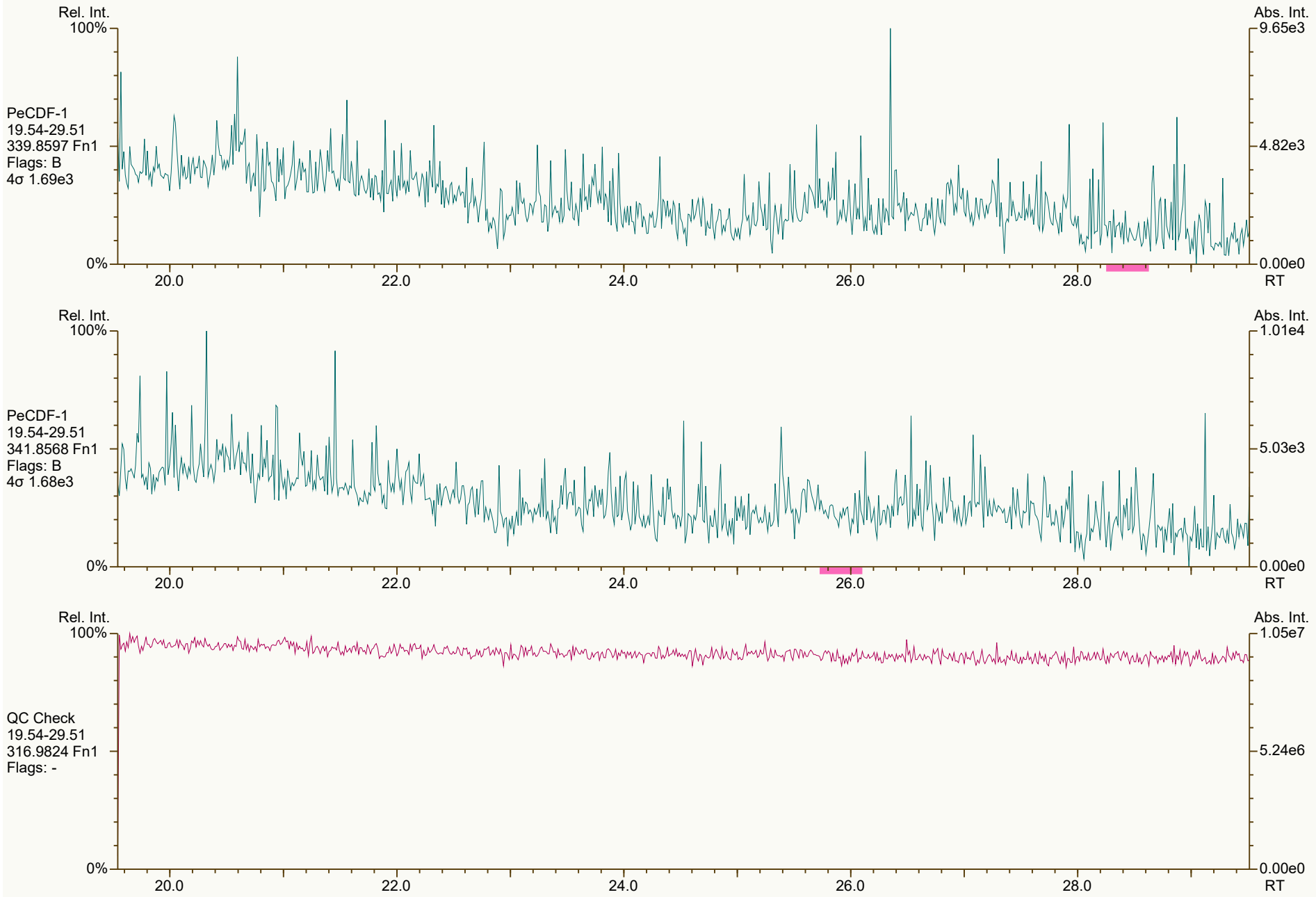

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

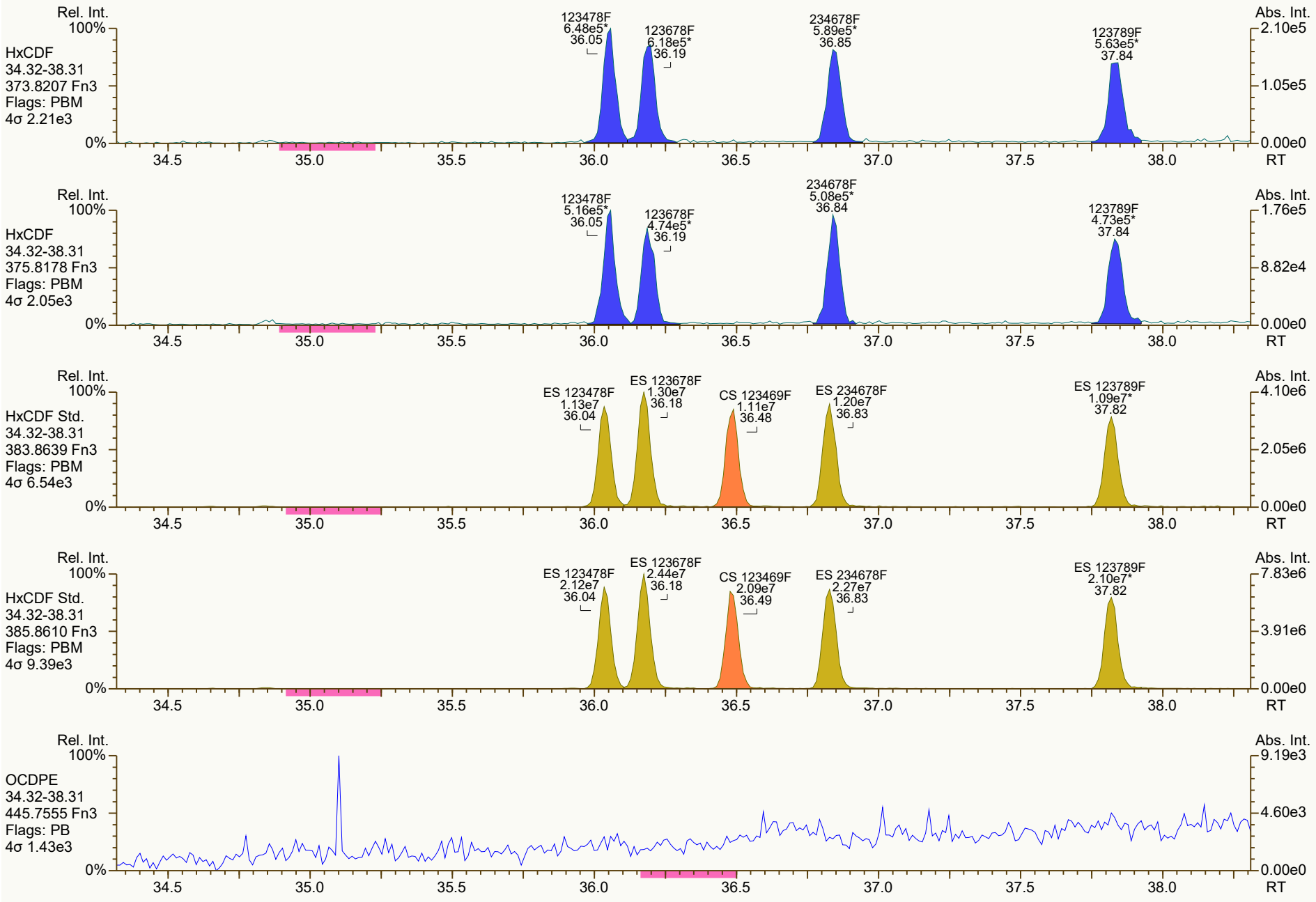

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

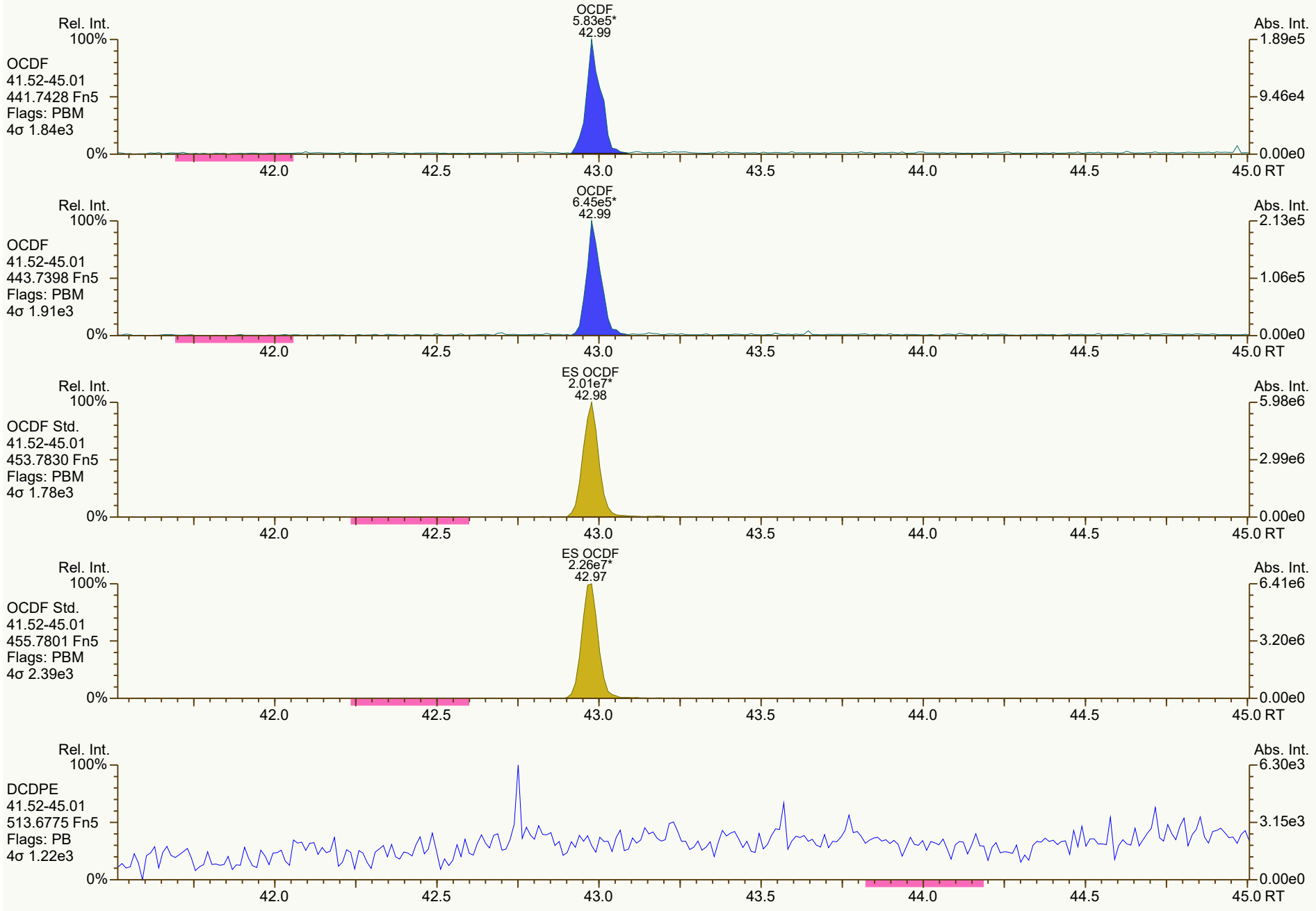

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

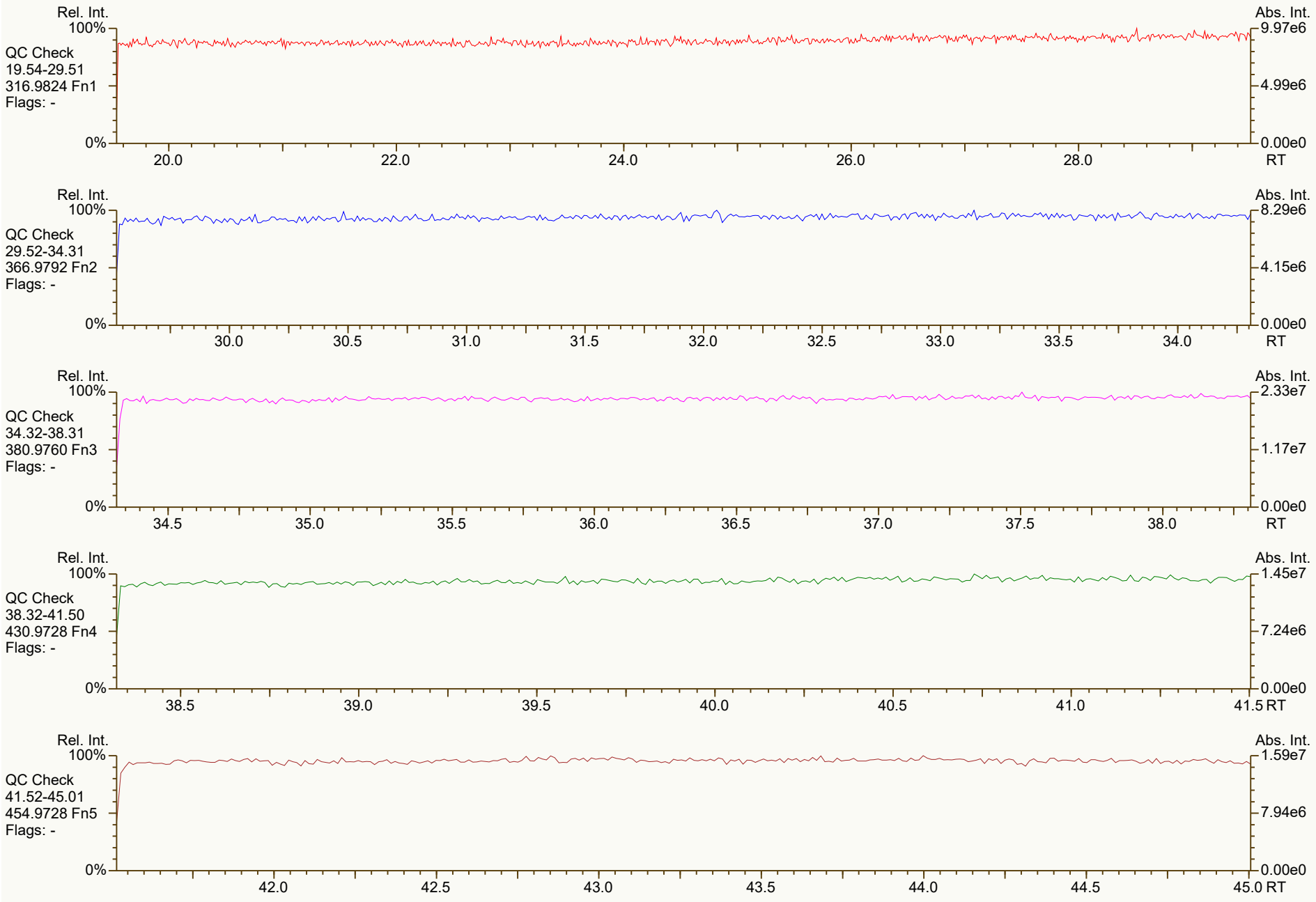

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

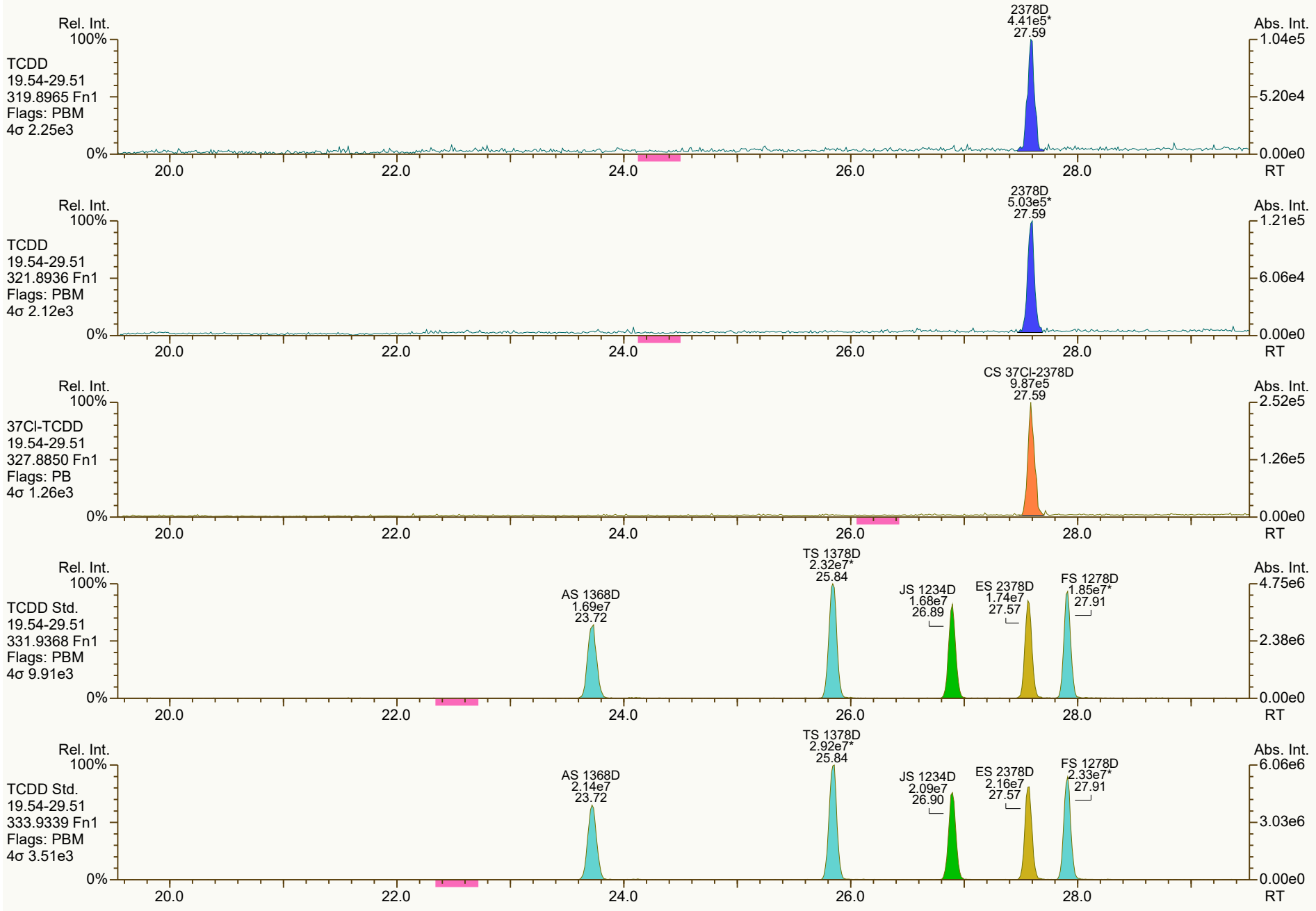

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

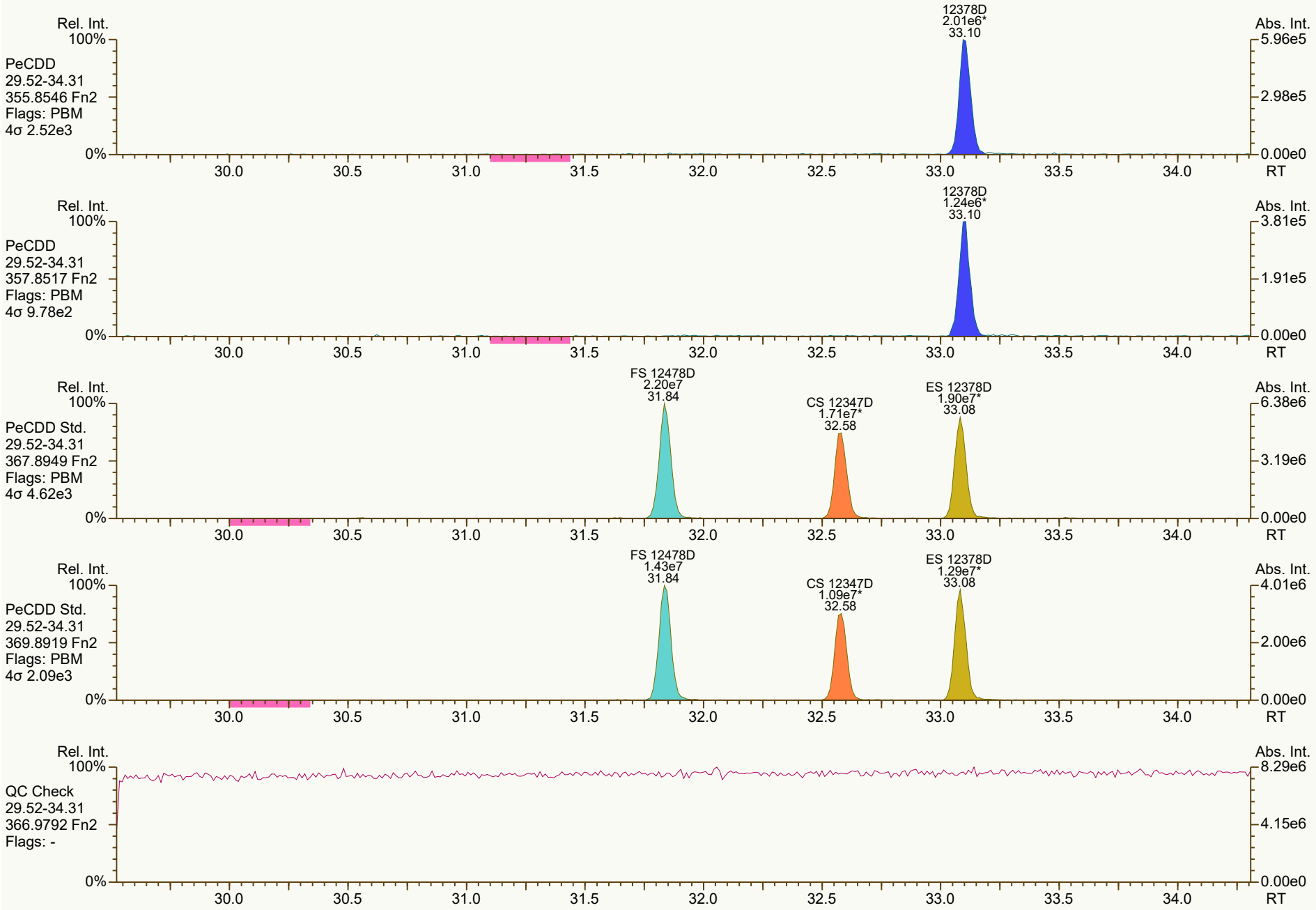
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

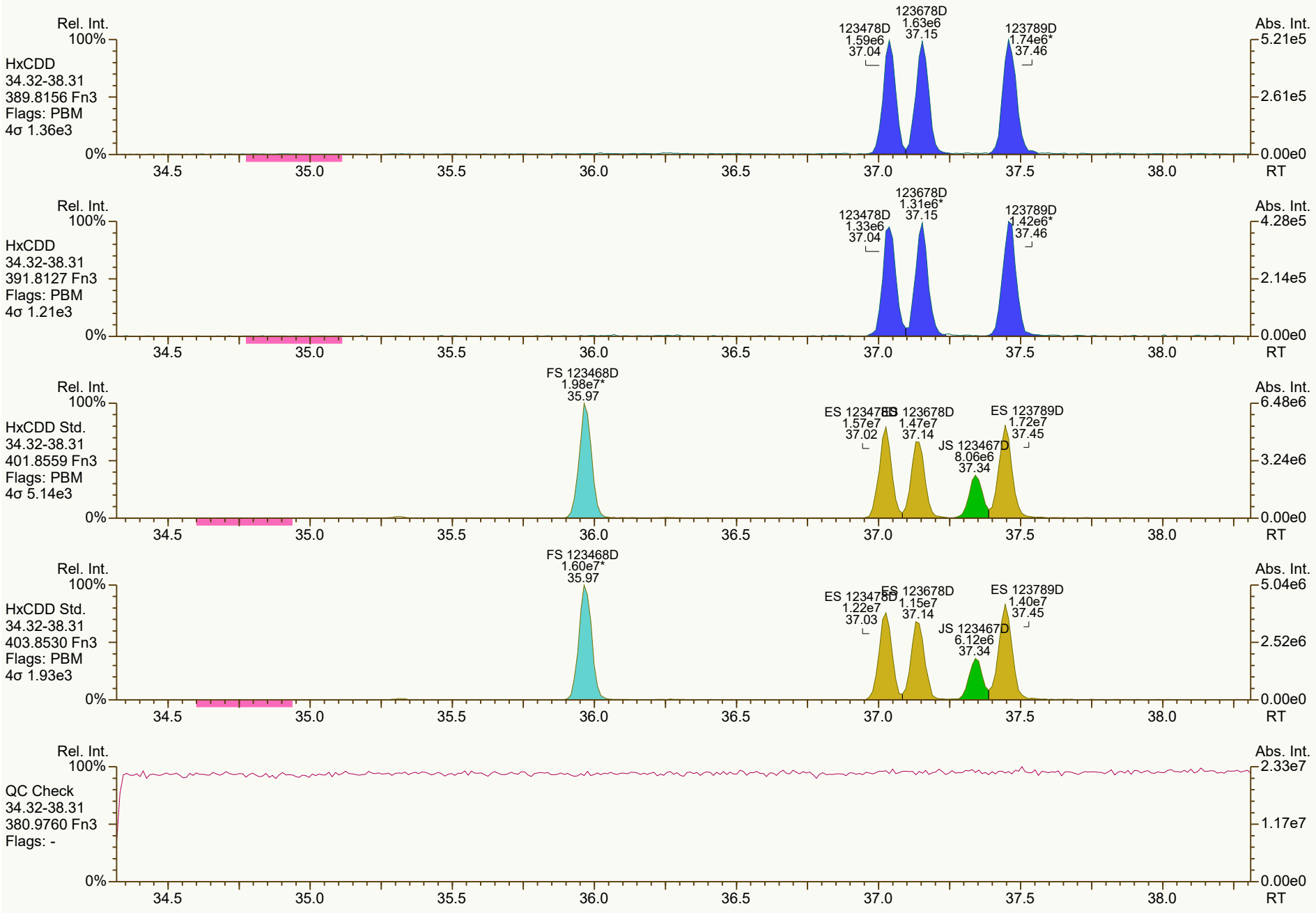
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

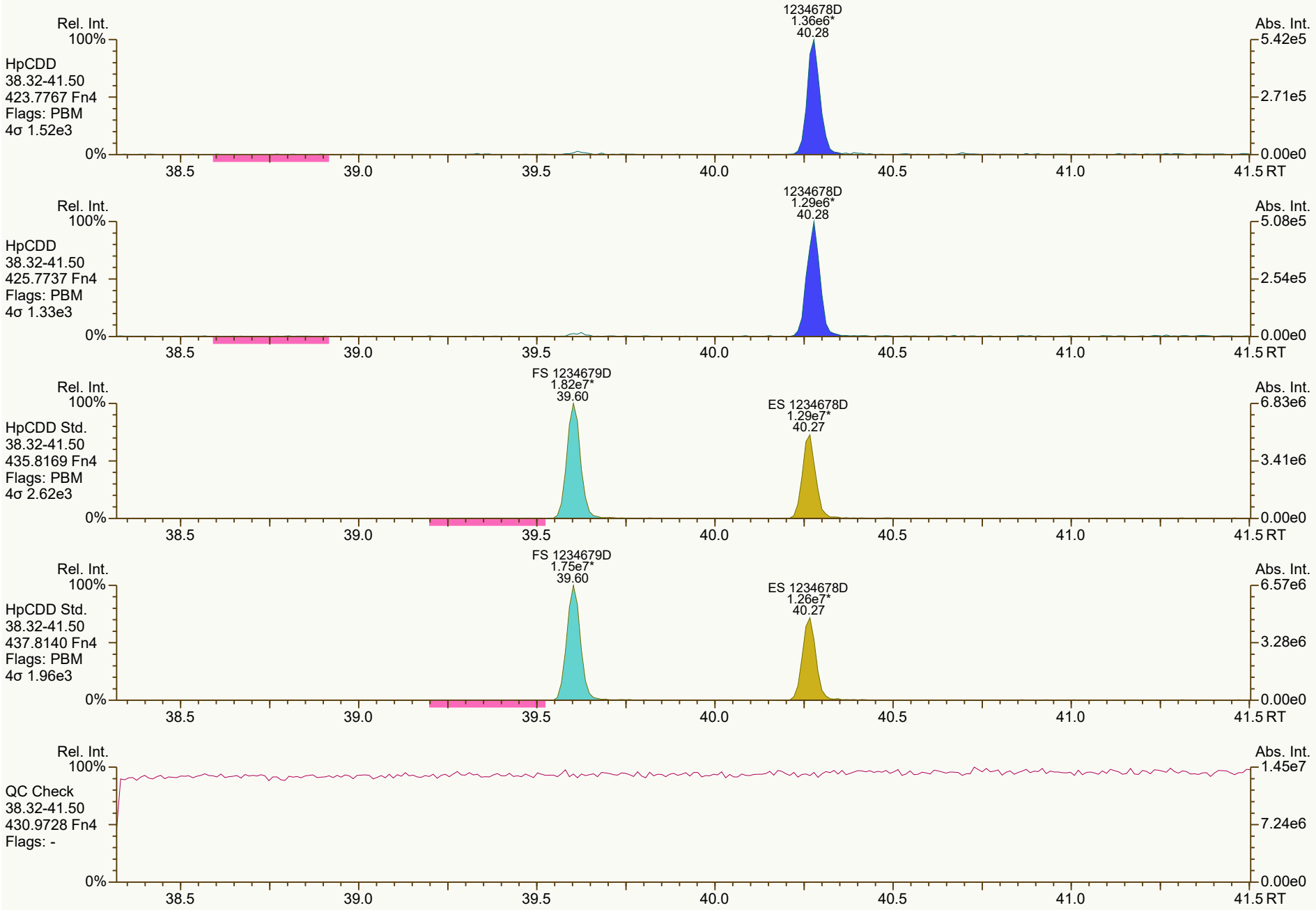
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

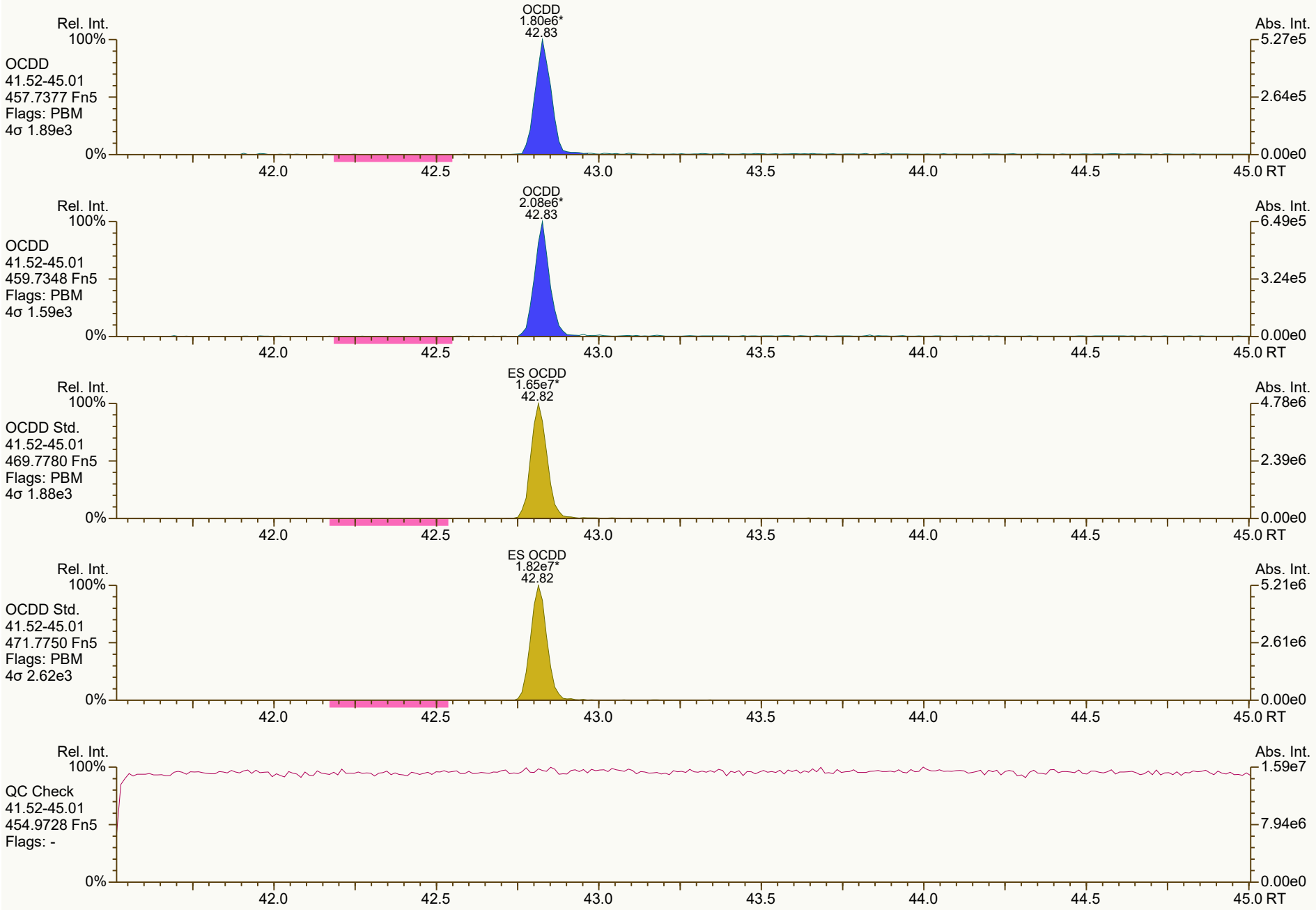

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

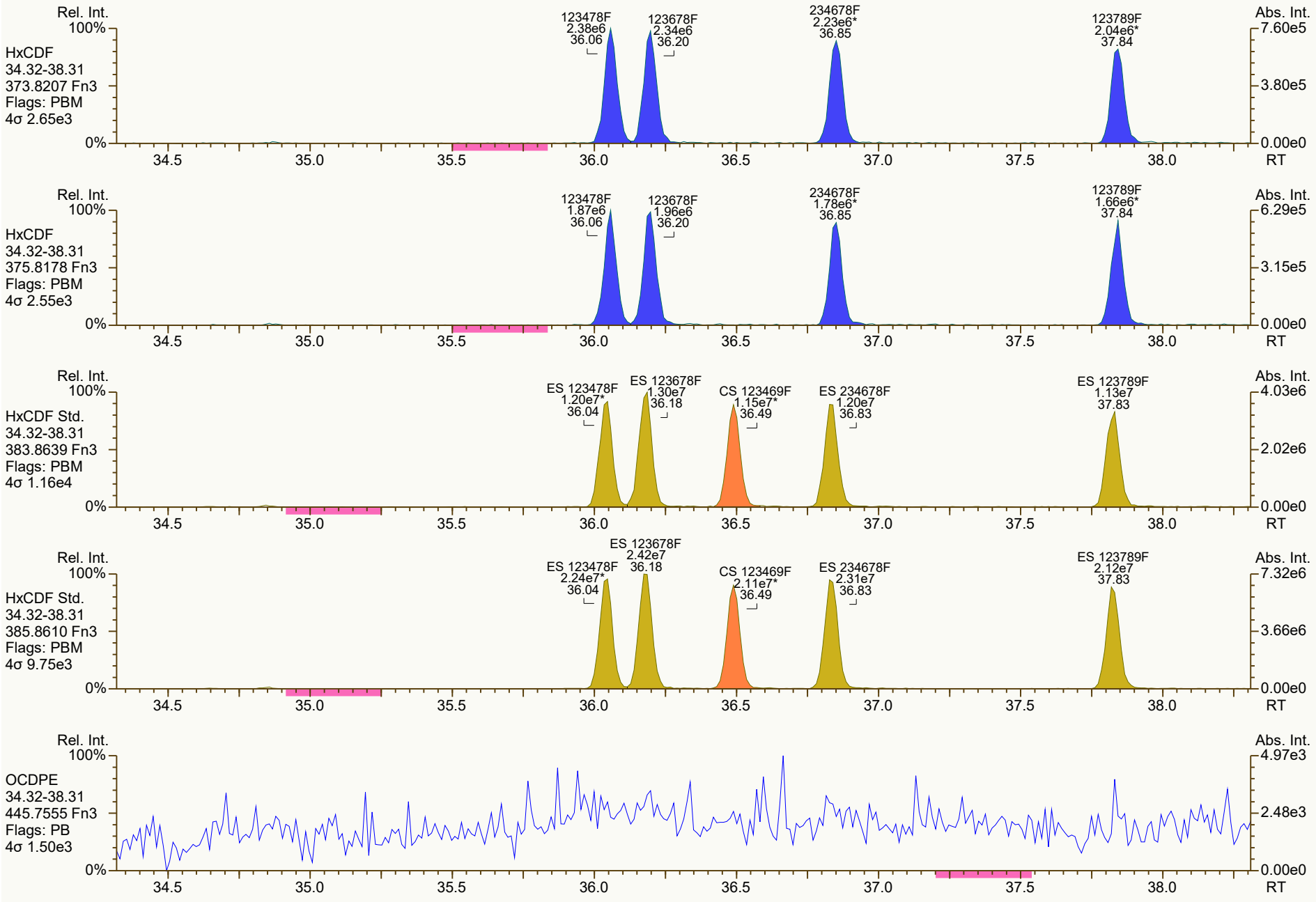

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

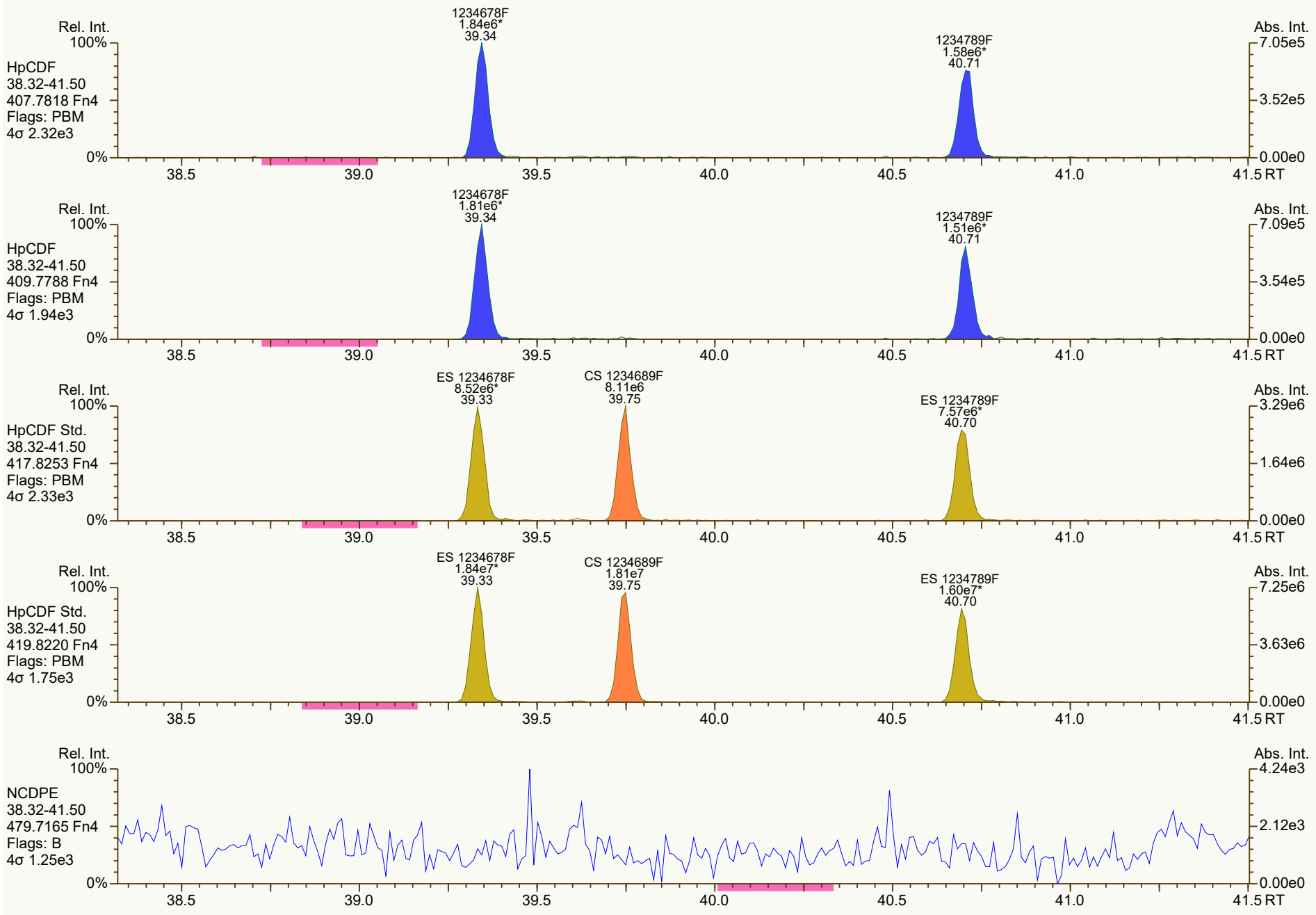

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

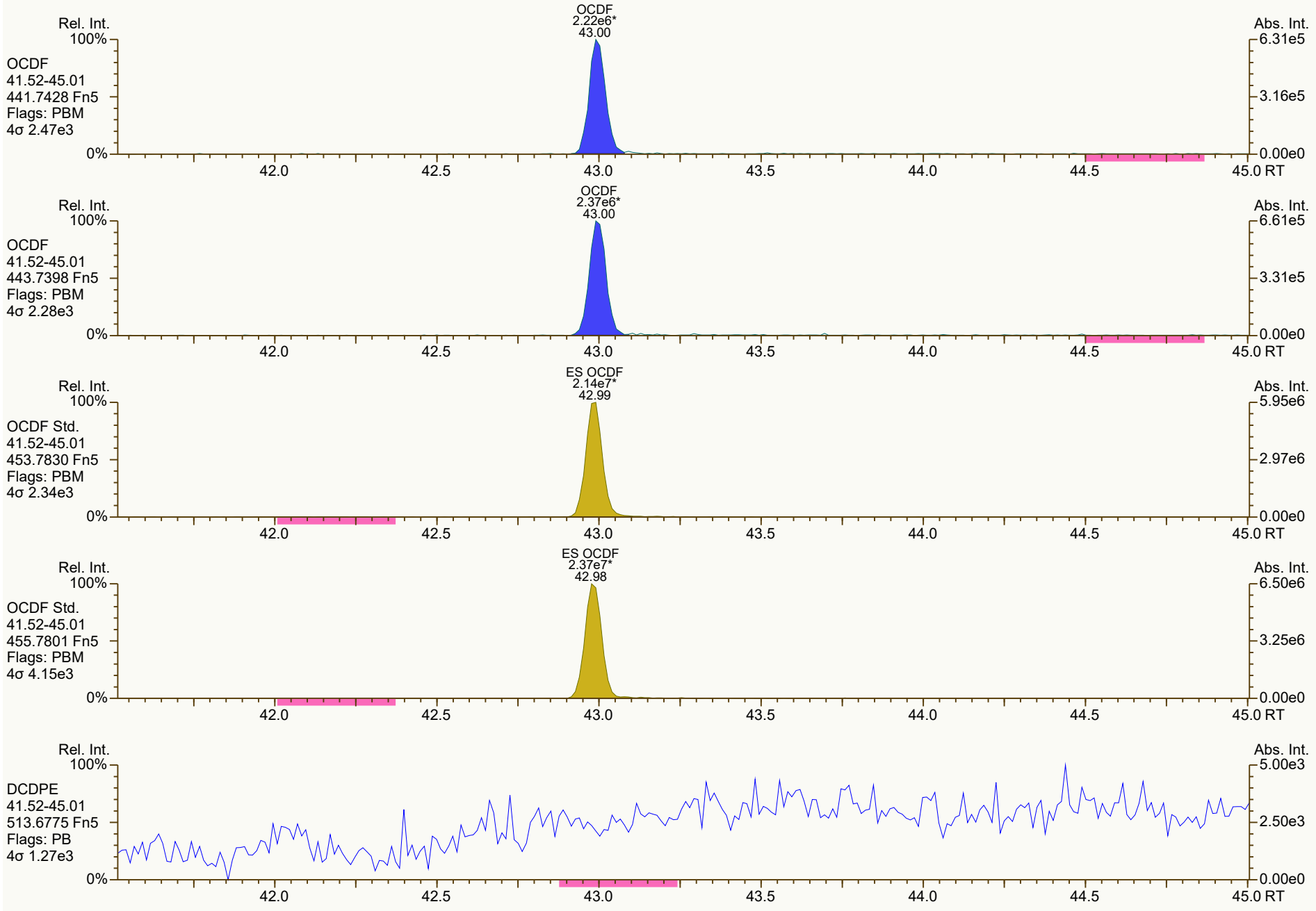

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
0%
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
Abs. Int.
6.29e5
3.15e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
0%
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
Abs. Int.
4.03e6
2.02e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
0%
ES 123678F
2.42e7
36.18
ES 123478F
2.24e7*
36.04
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
Abs. Int.
7.32e6
3.66e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

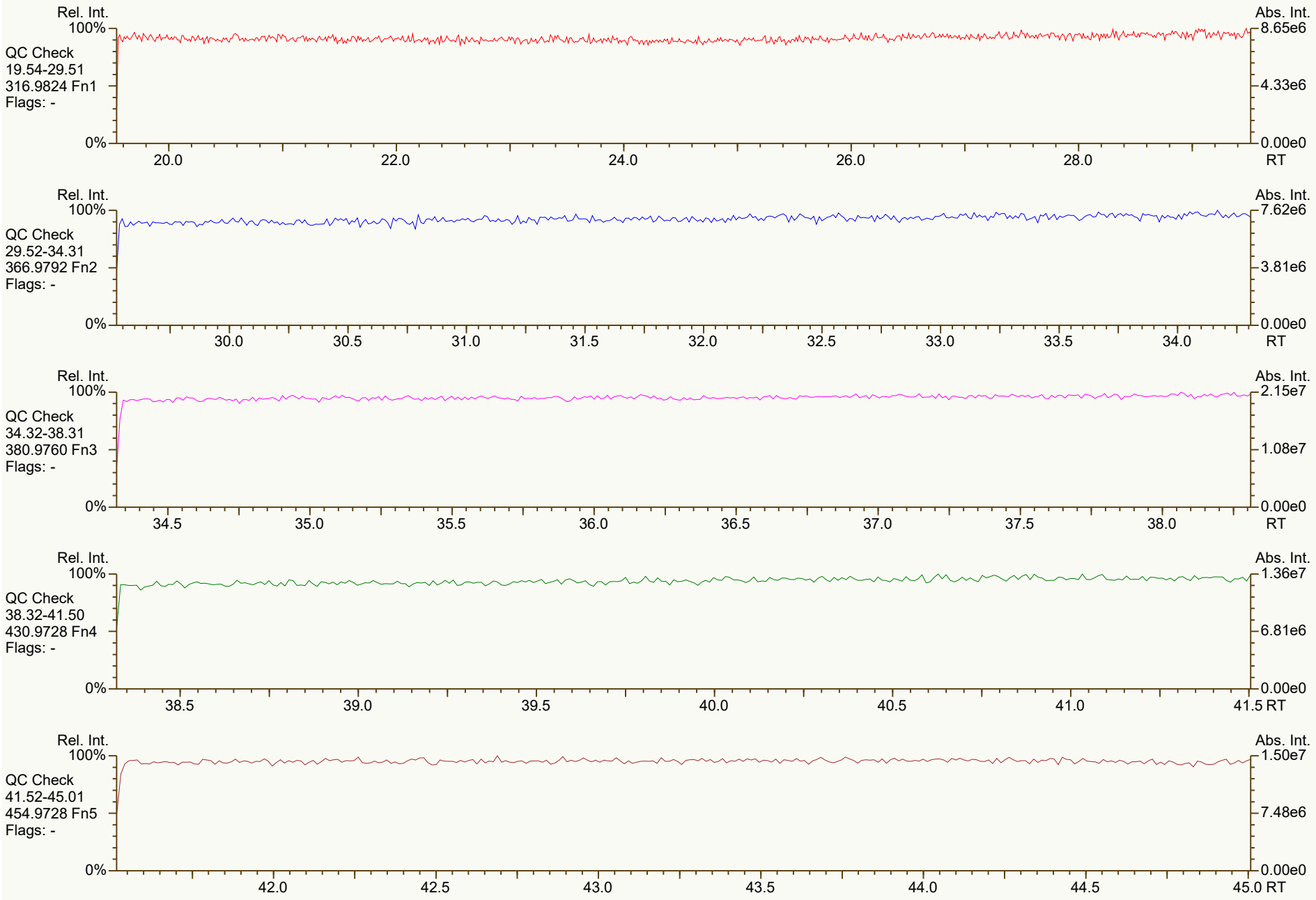

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

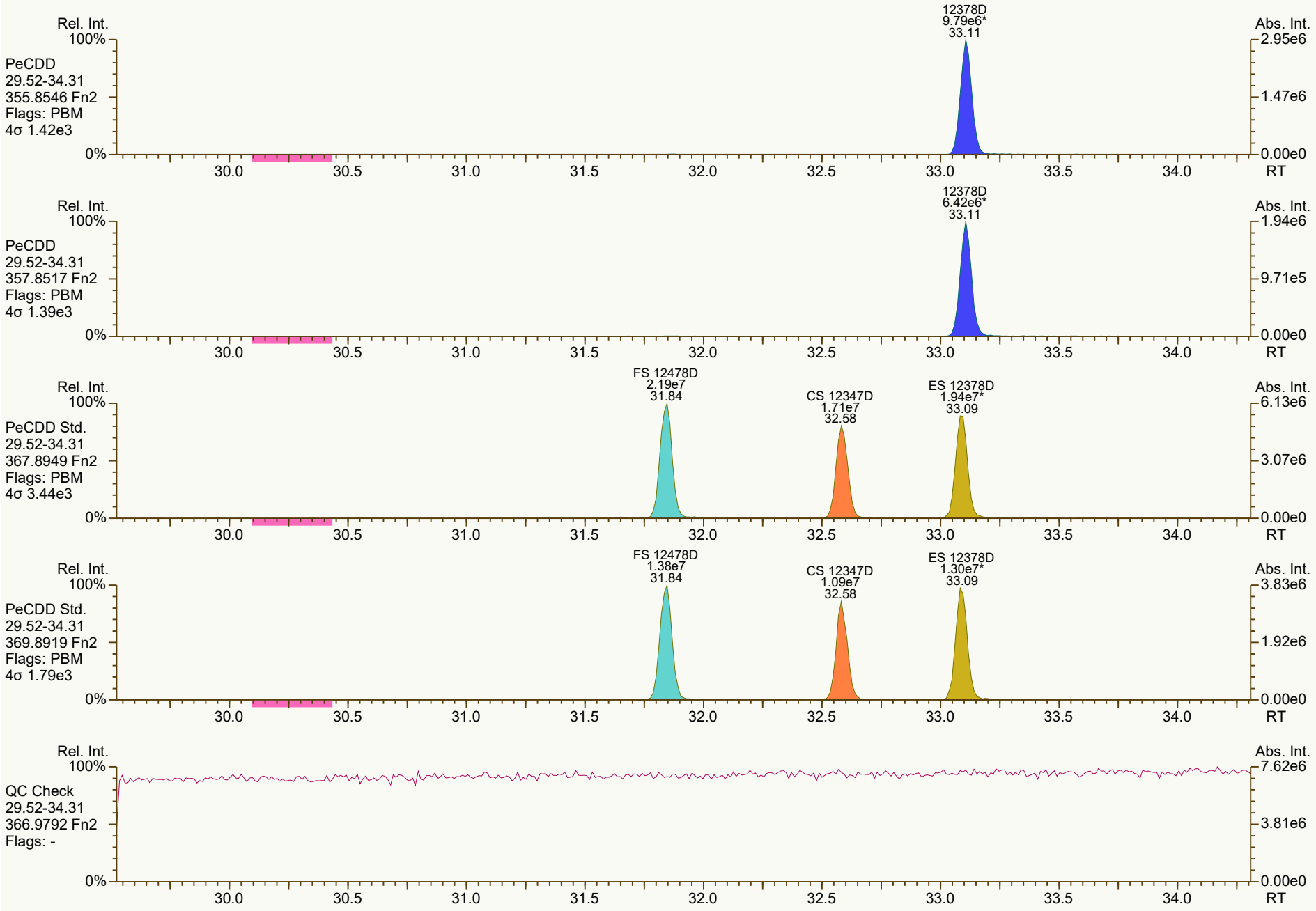
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

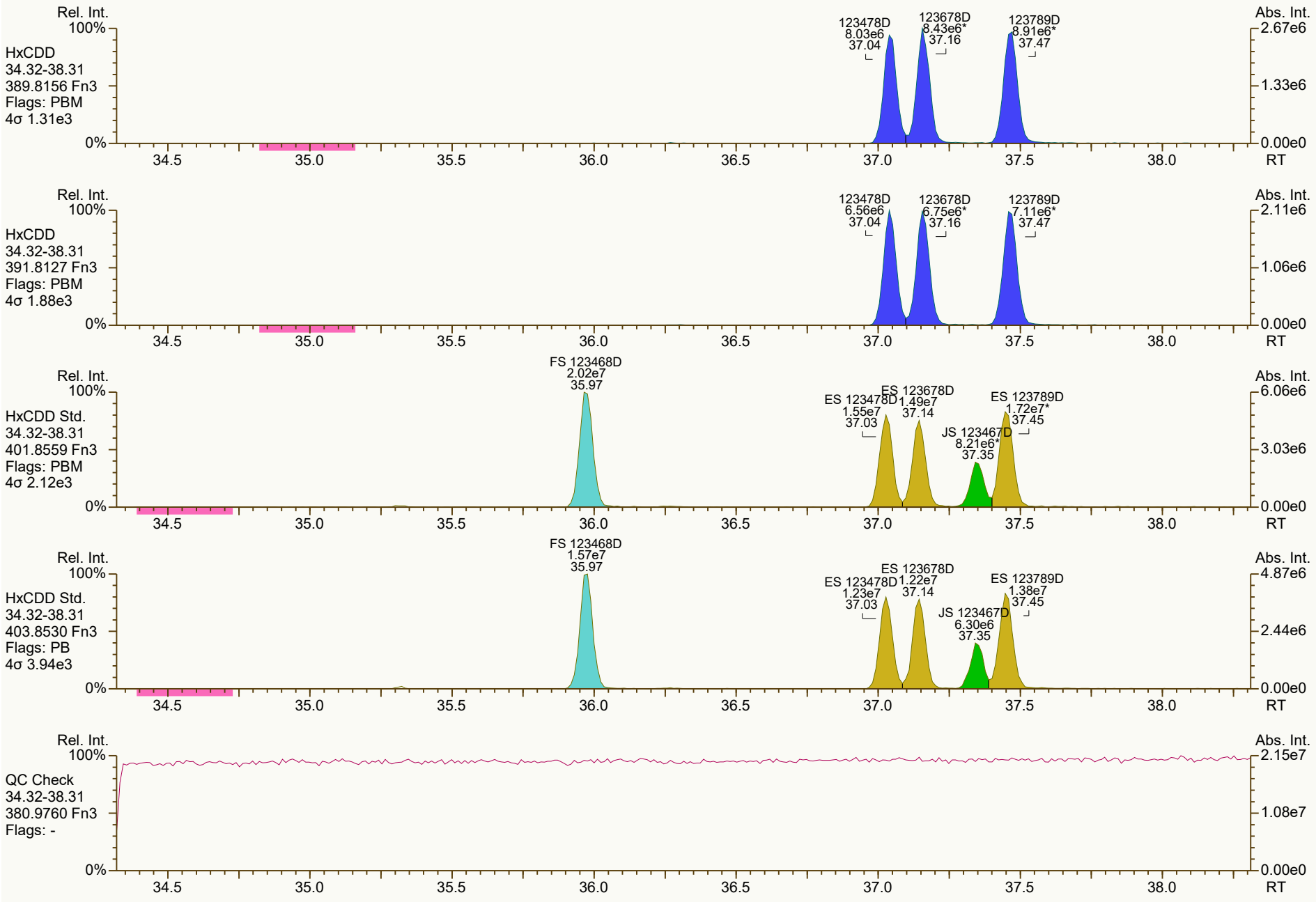
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

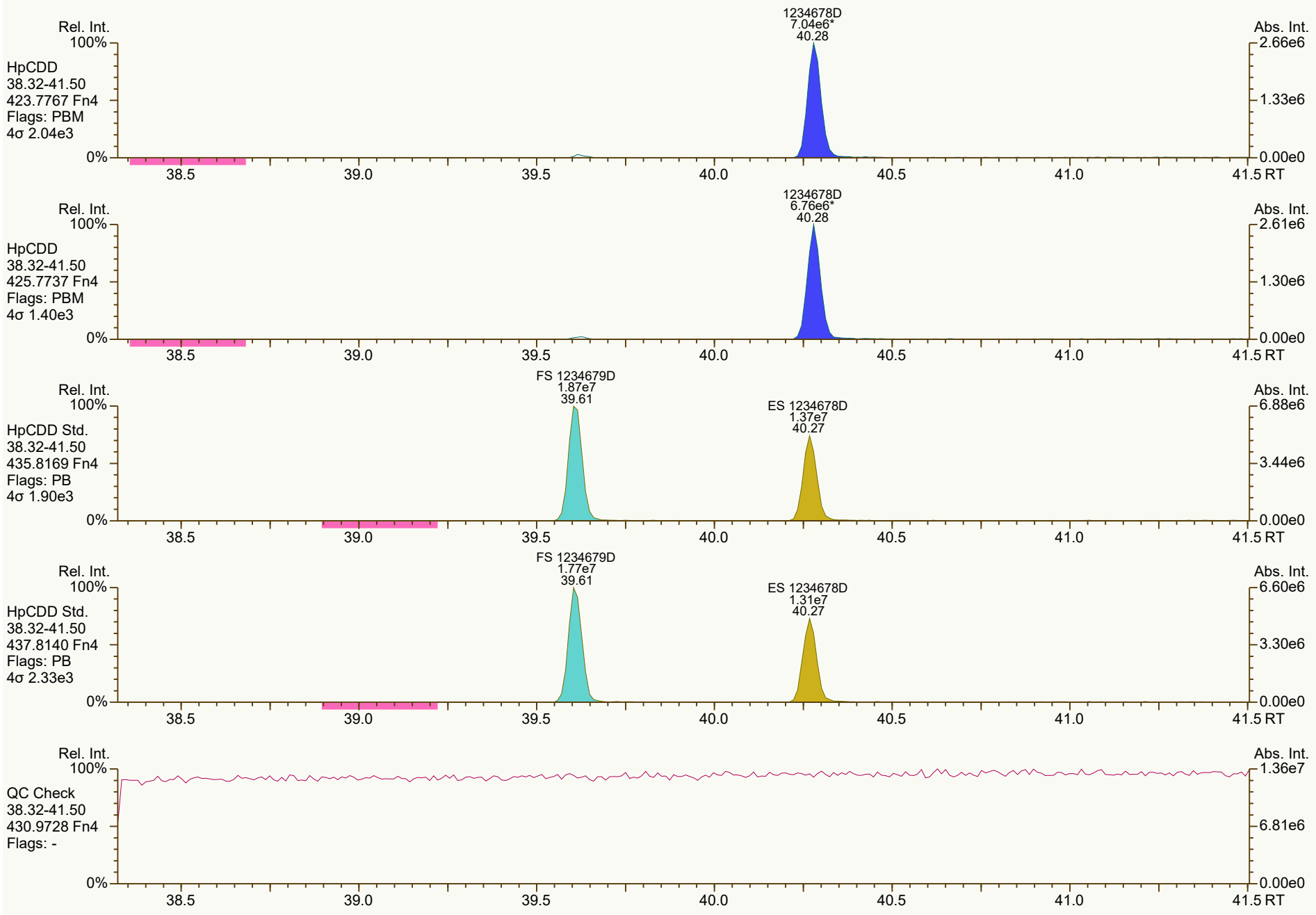
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

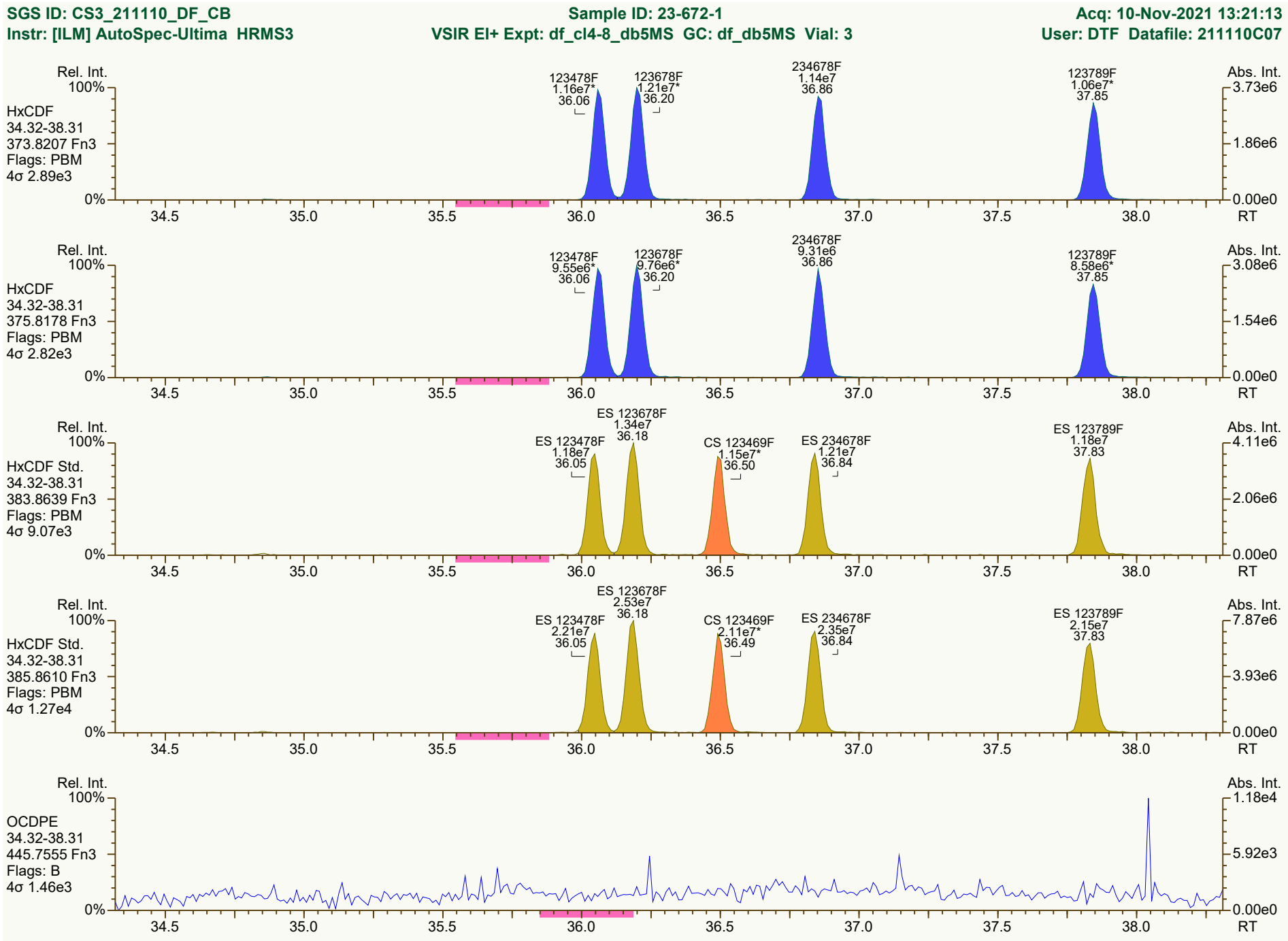

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

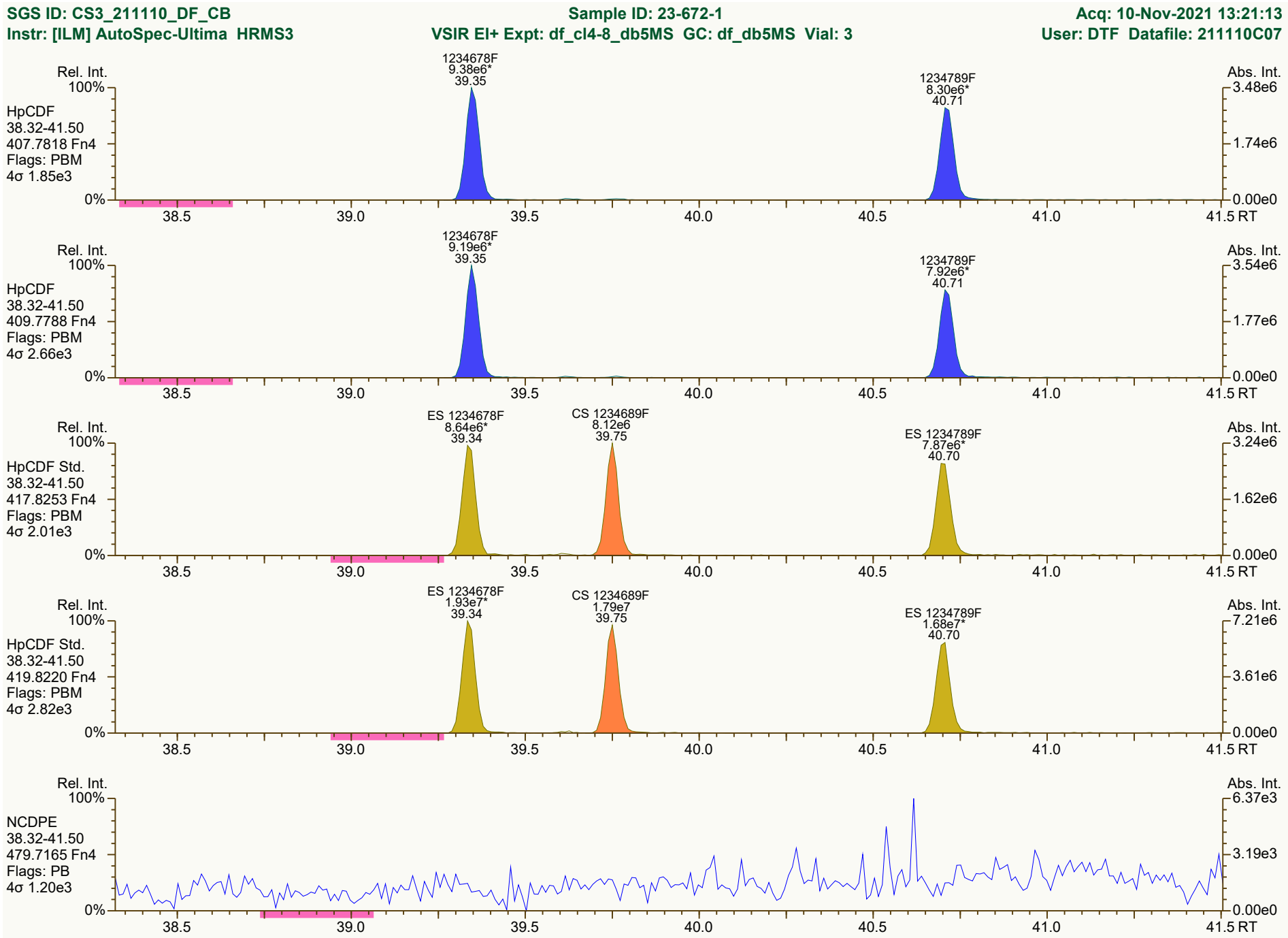

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
2.86e6
1.43e6
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
4.76e6
2.38e6
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
5.07e6
2.54e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

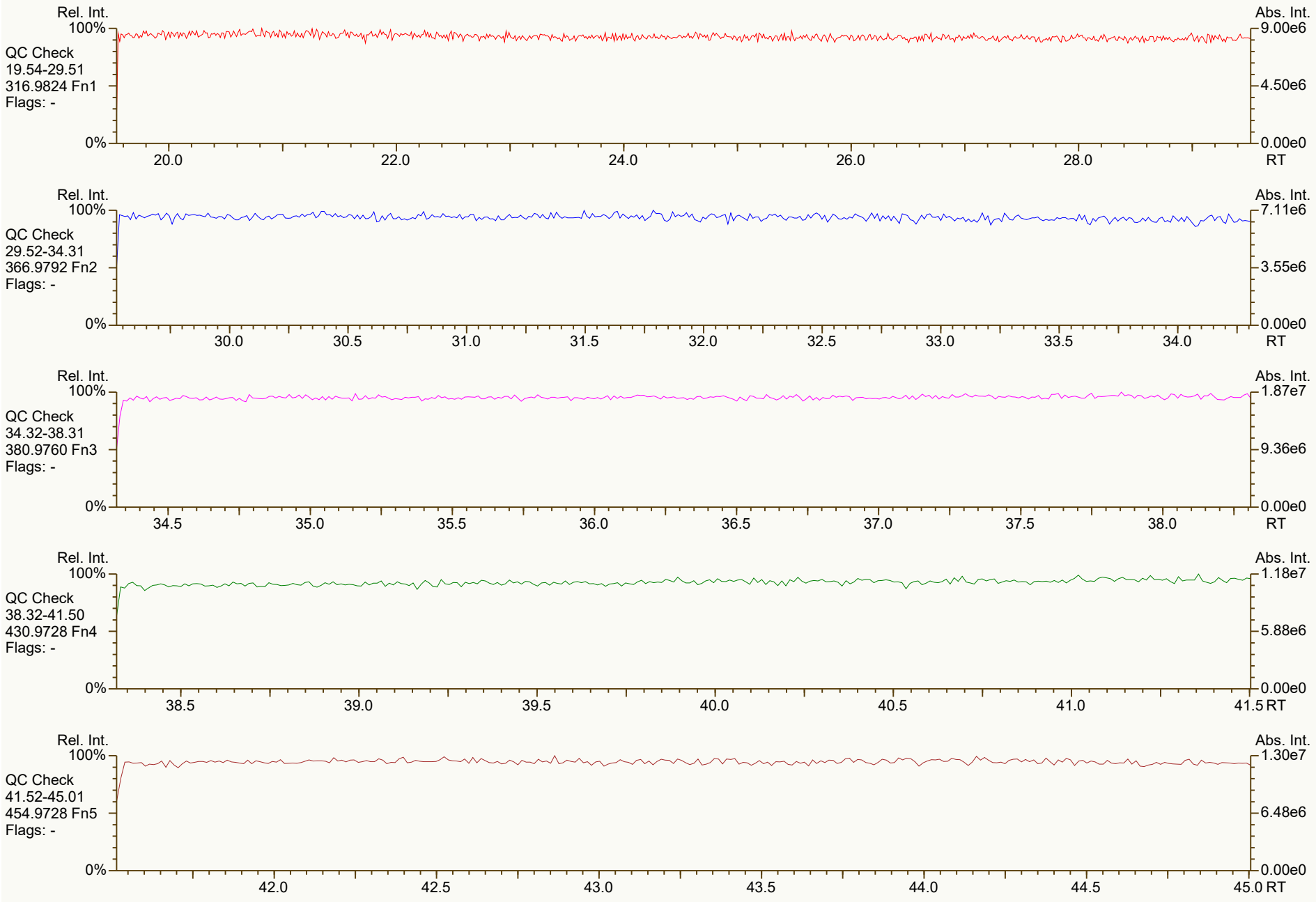

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

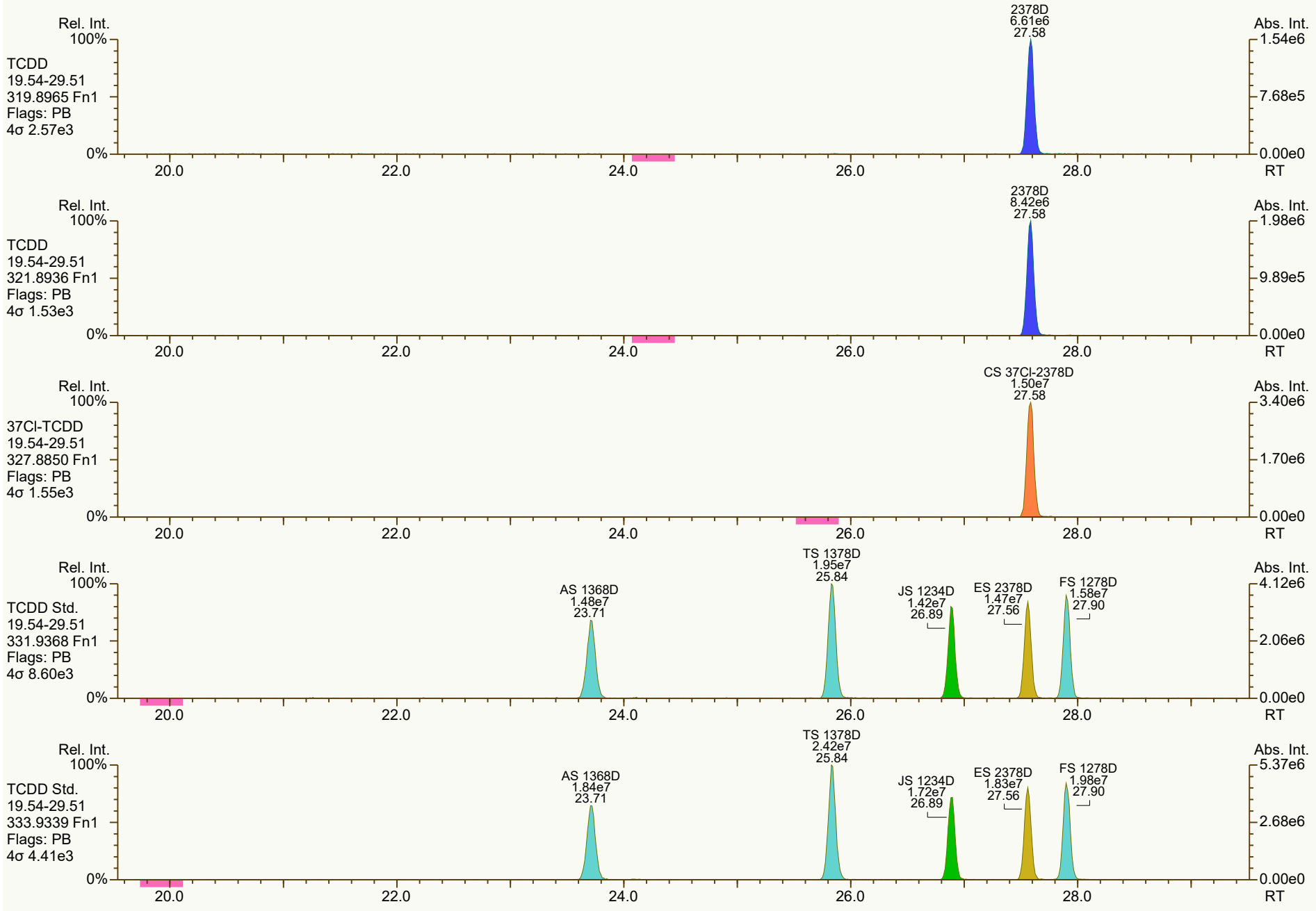

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

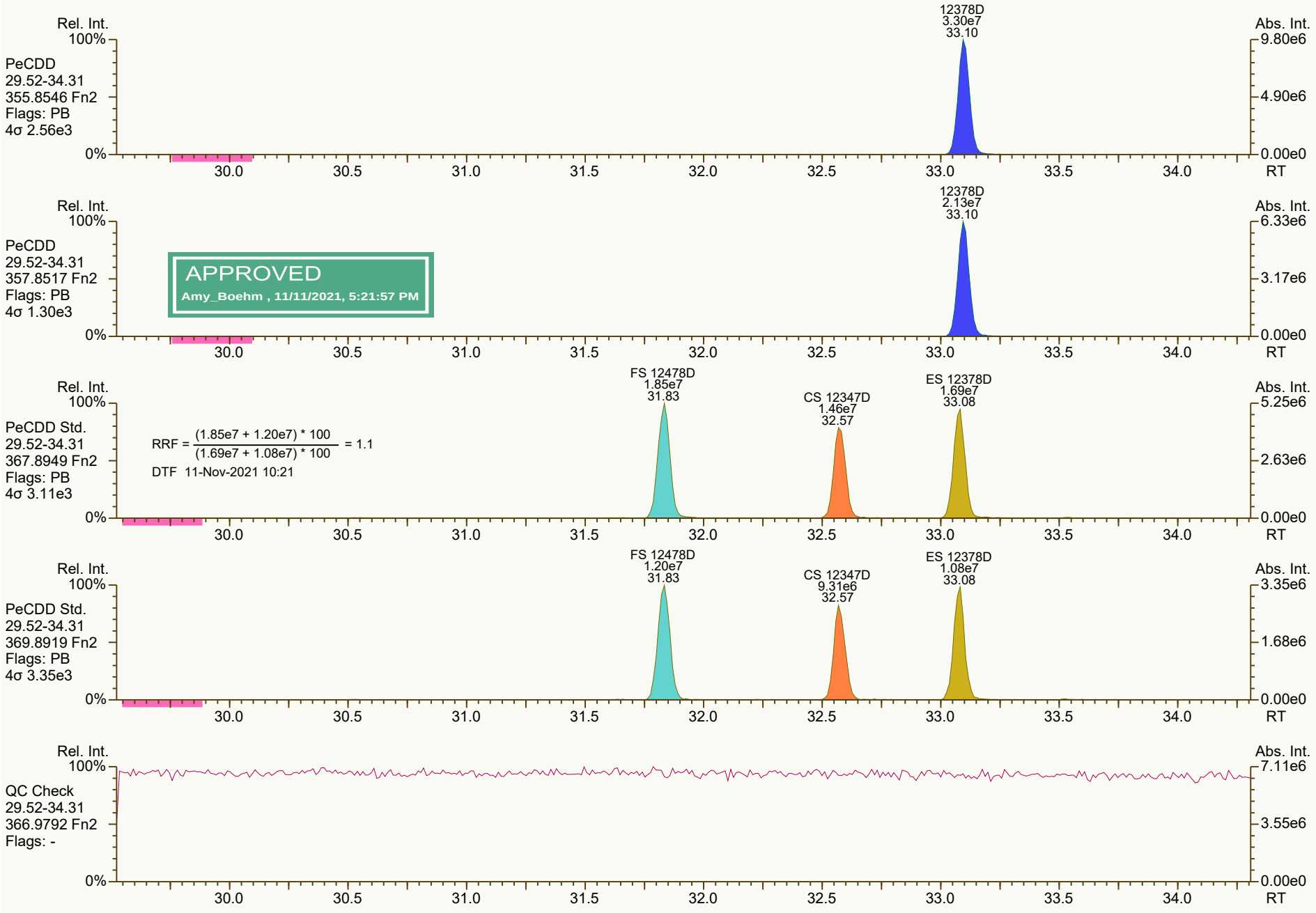

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

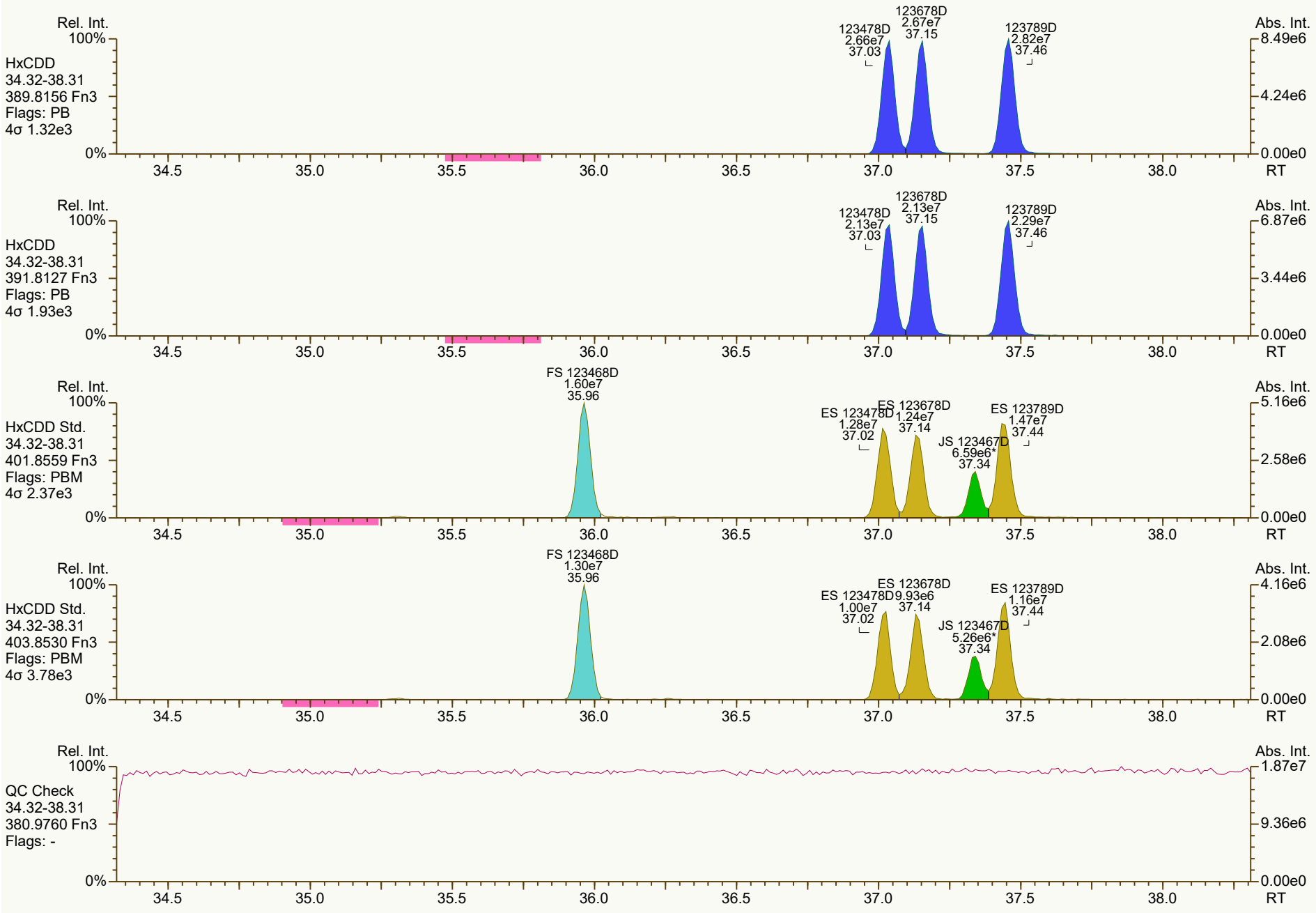
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

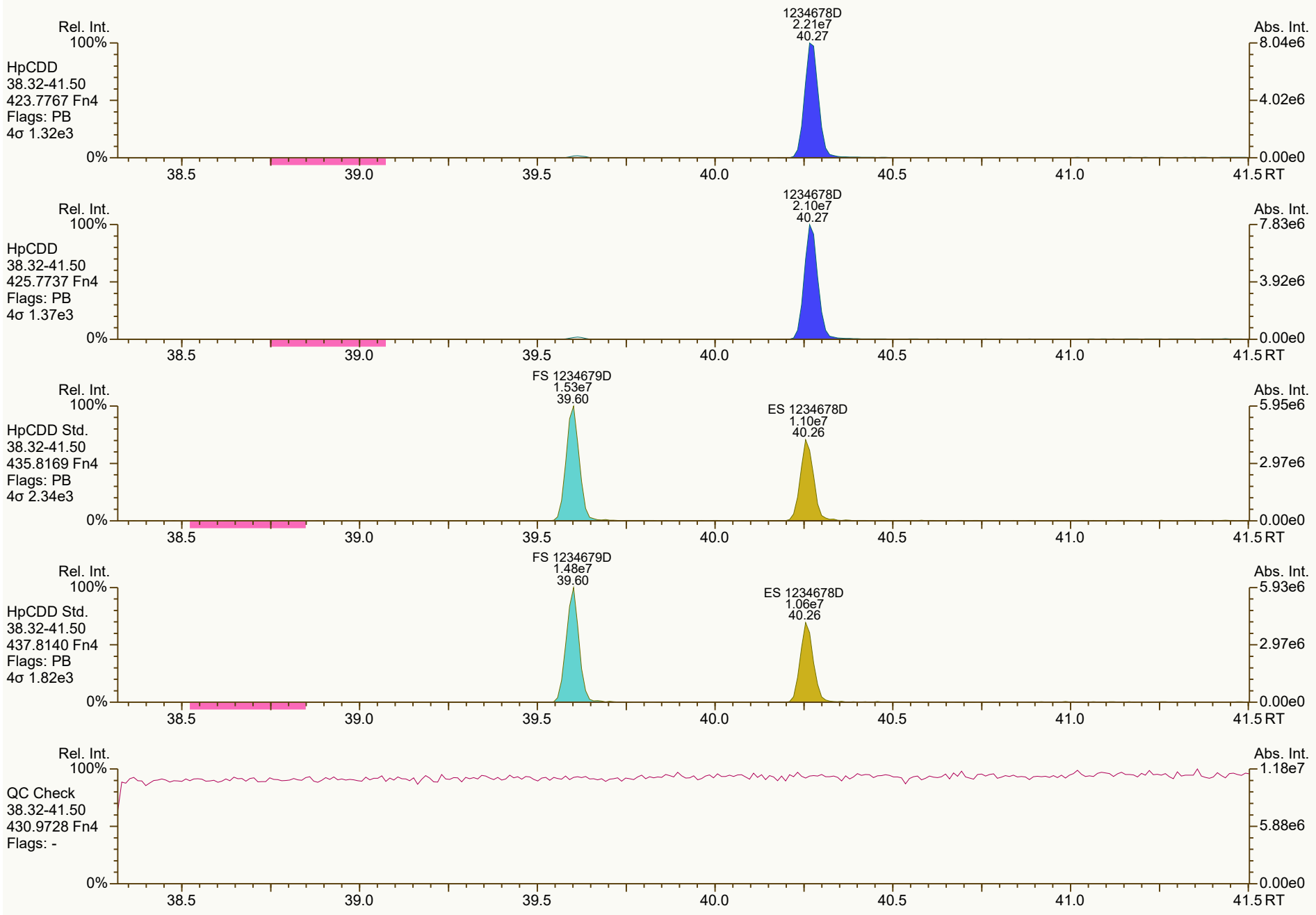
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

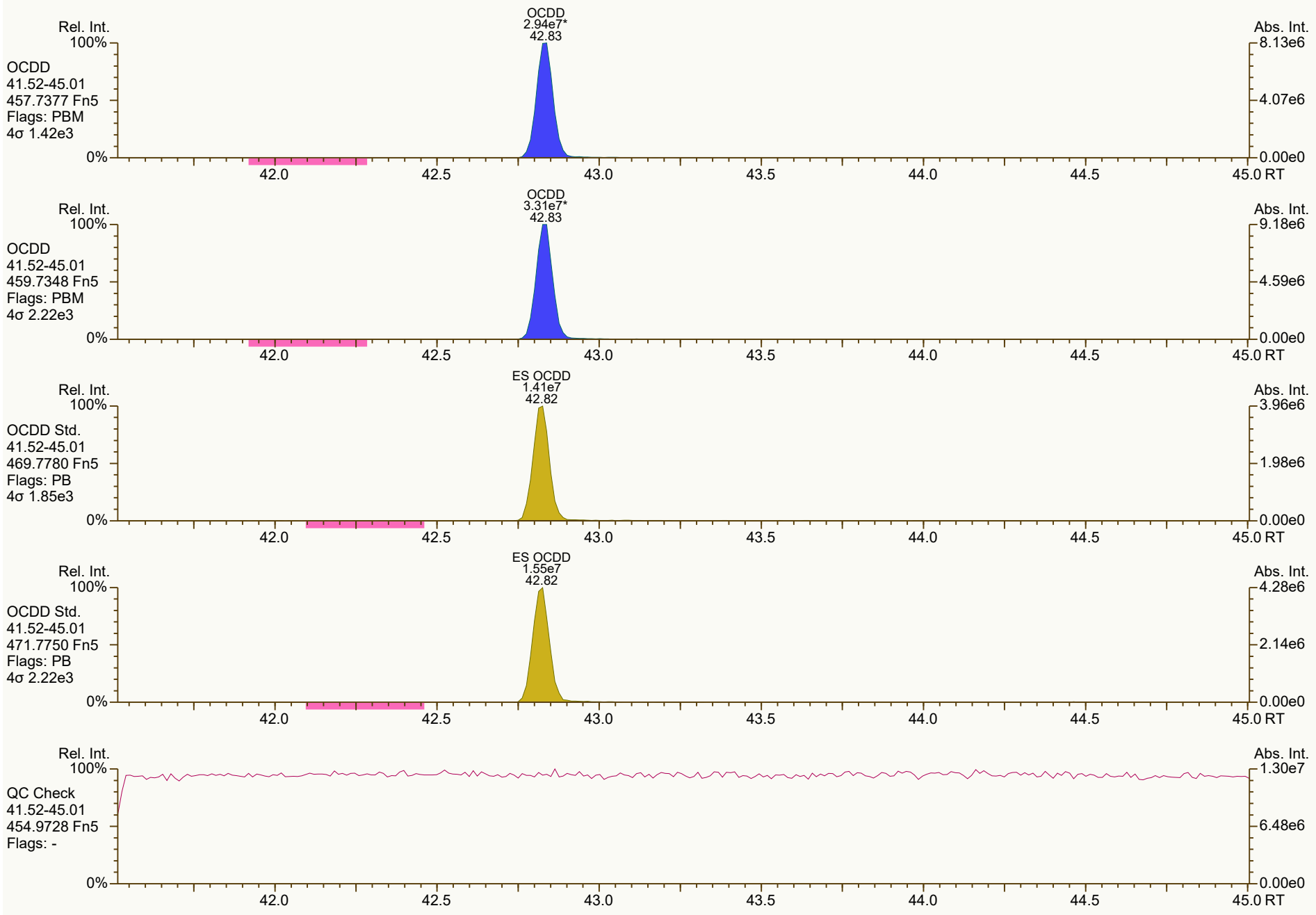

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

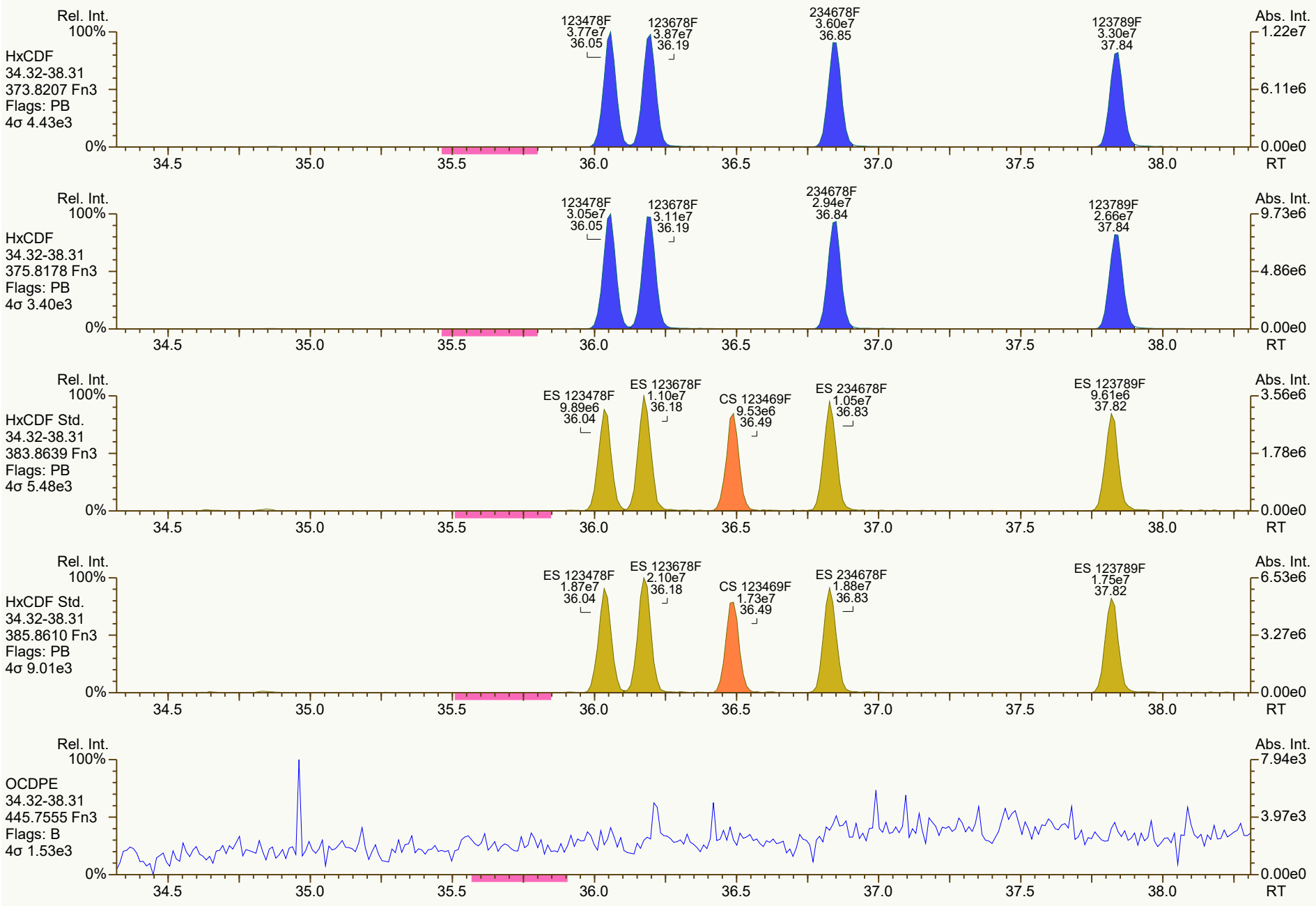

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT

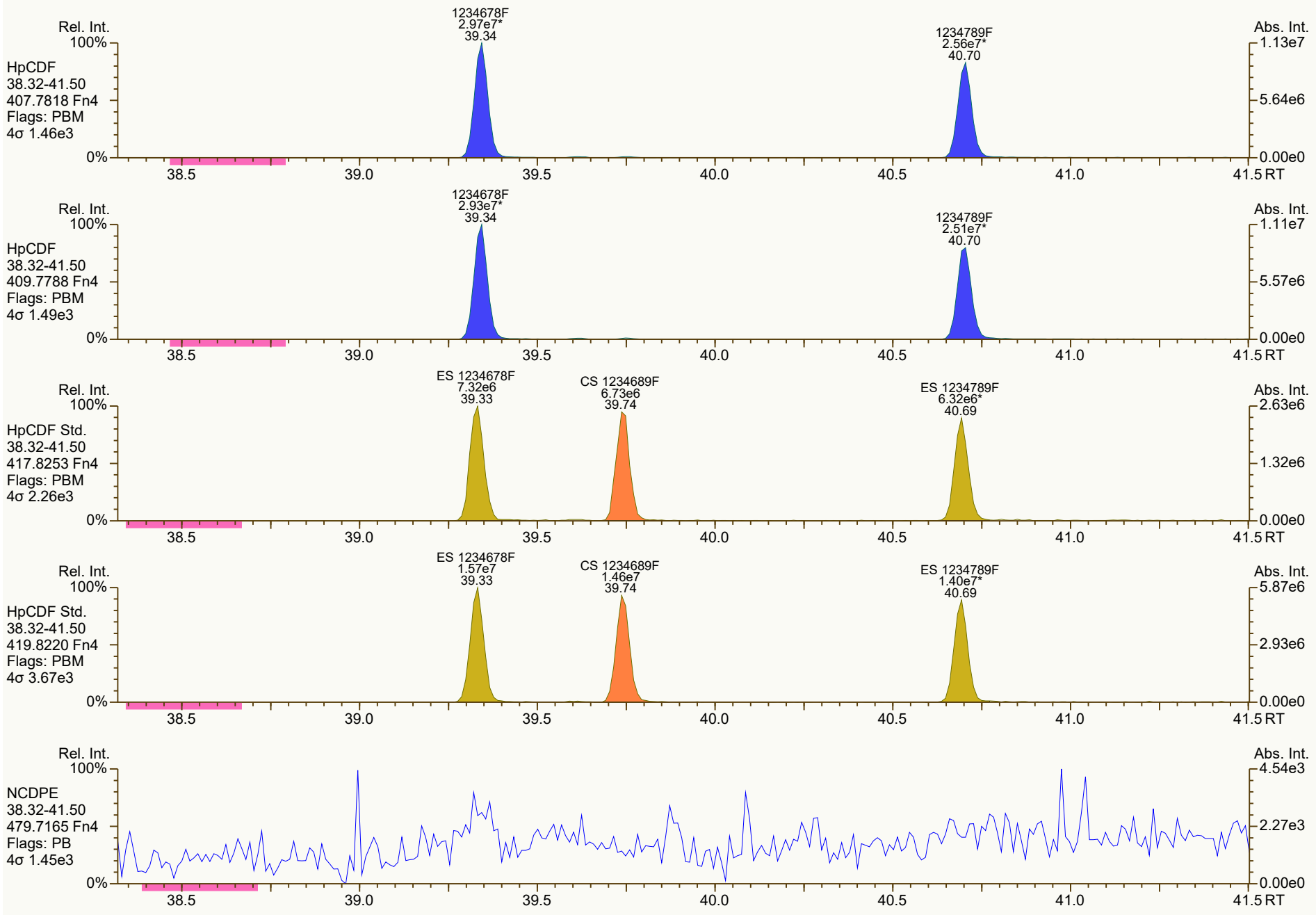
SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08

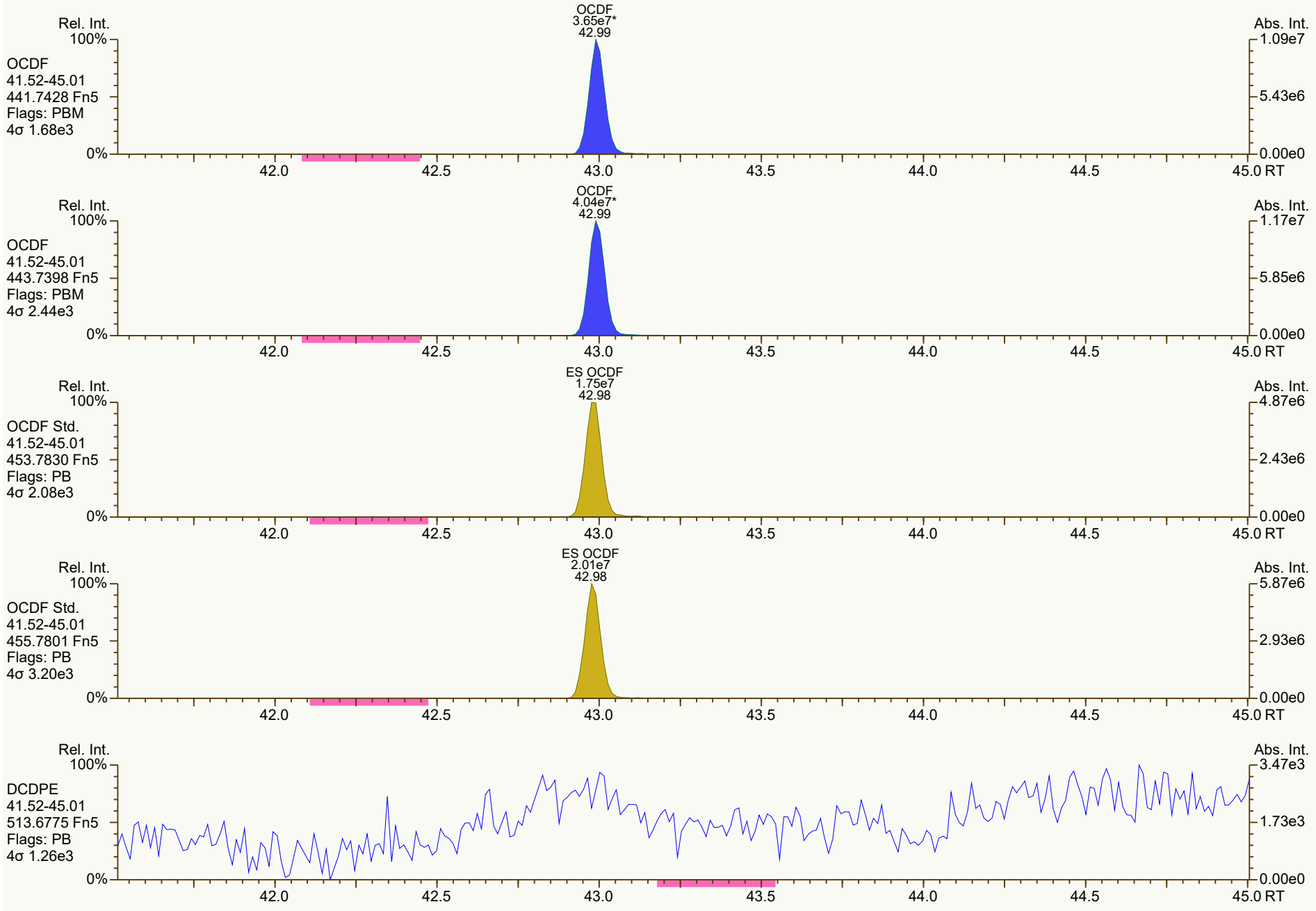


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9500 scc: 855-576
PKD: 10-Nov-2021 15:16 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

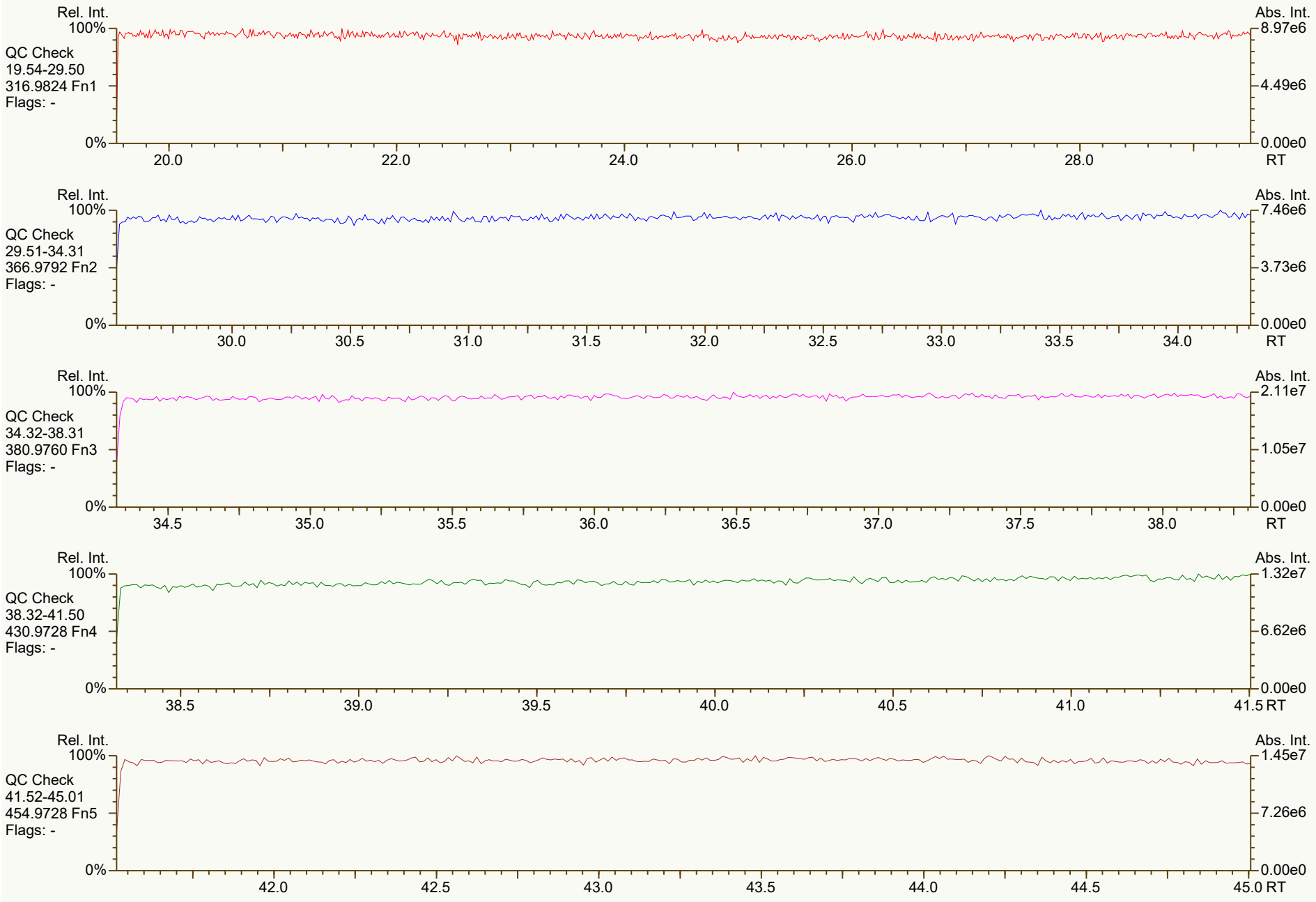

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

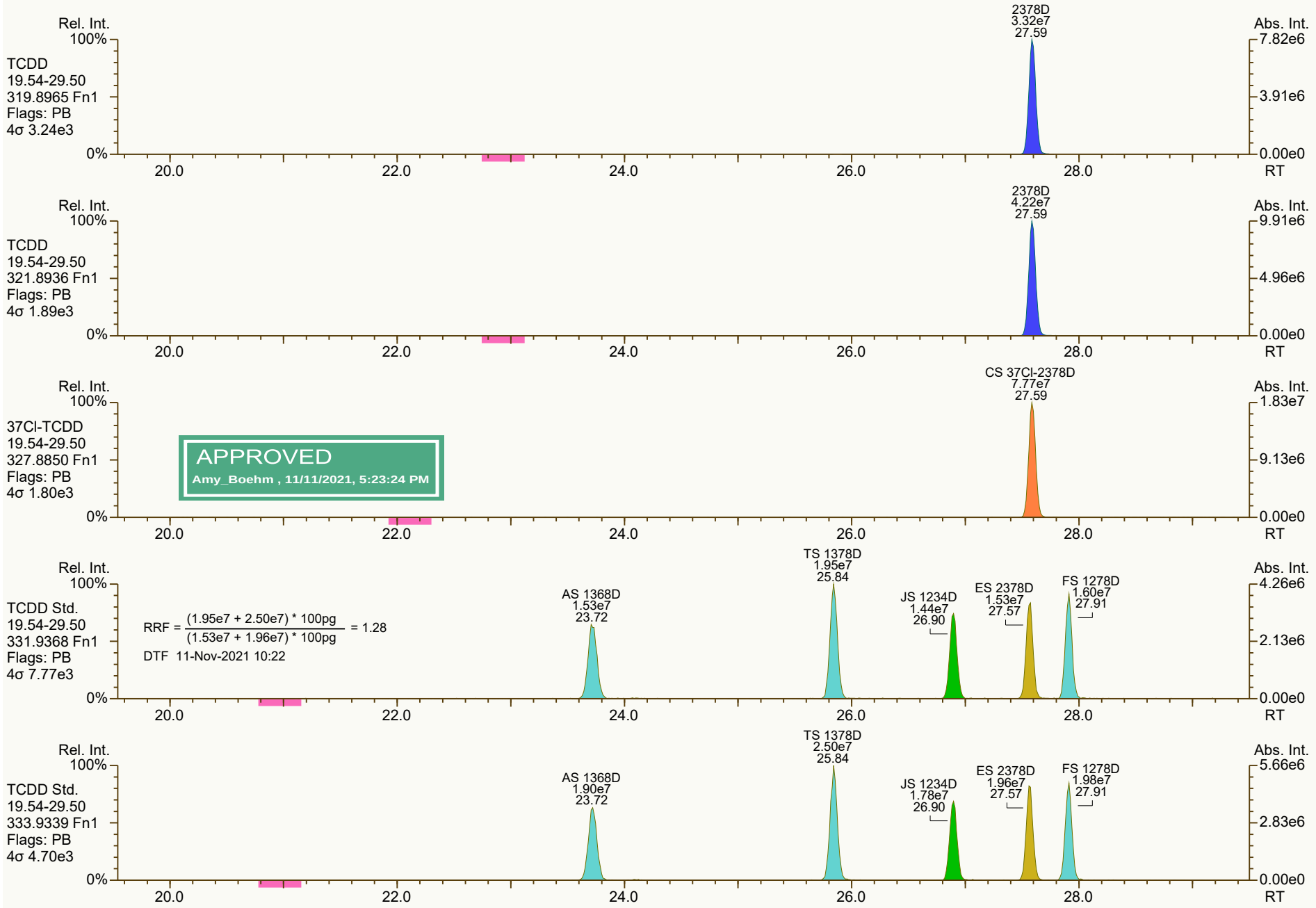

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

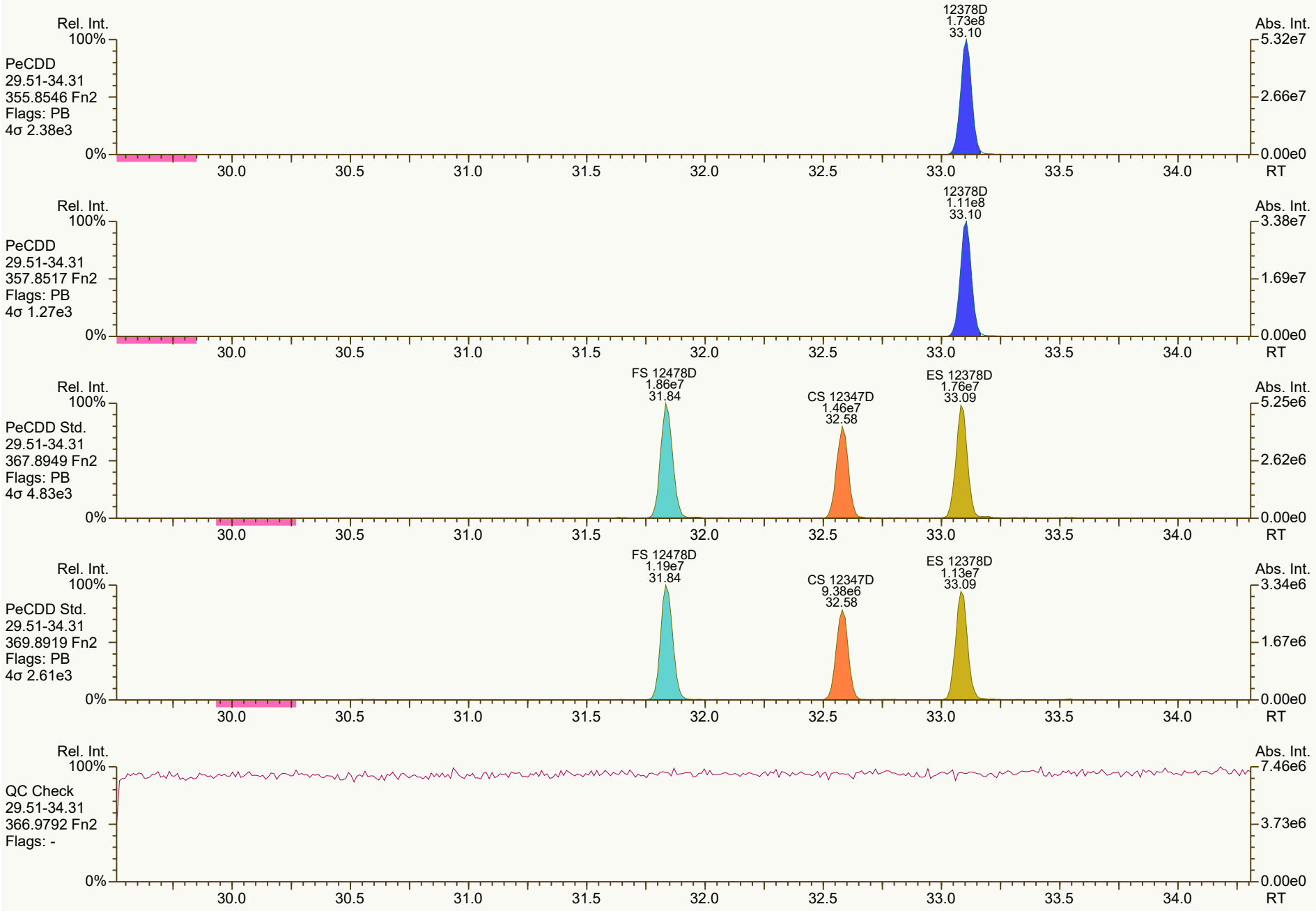
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

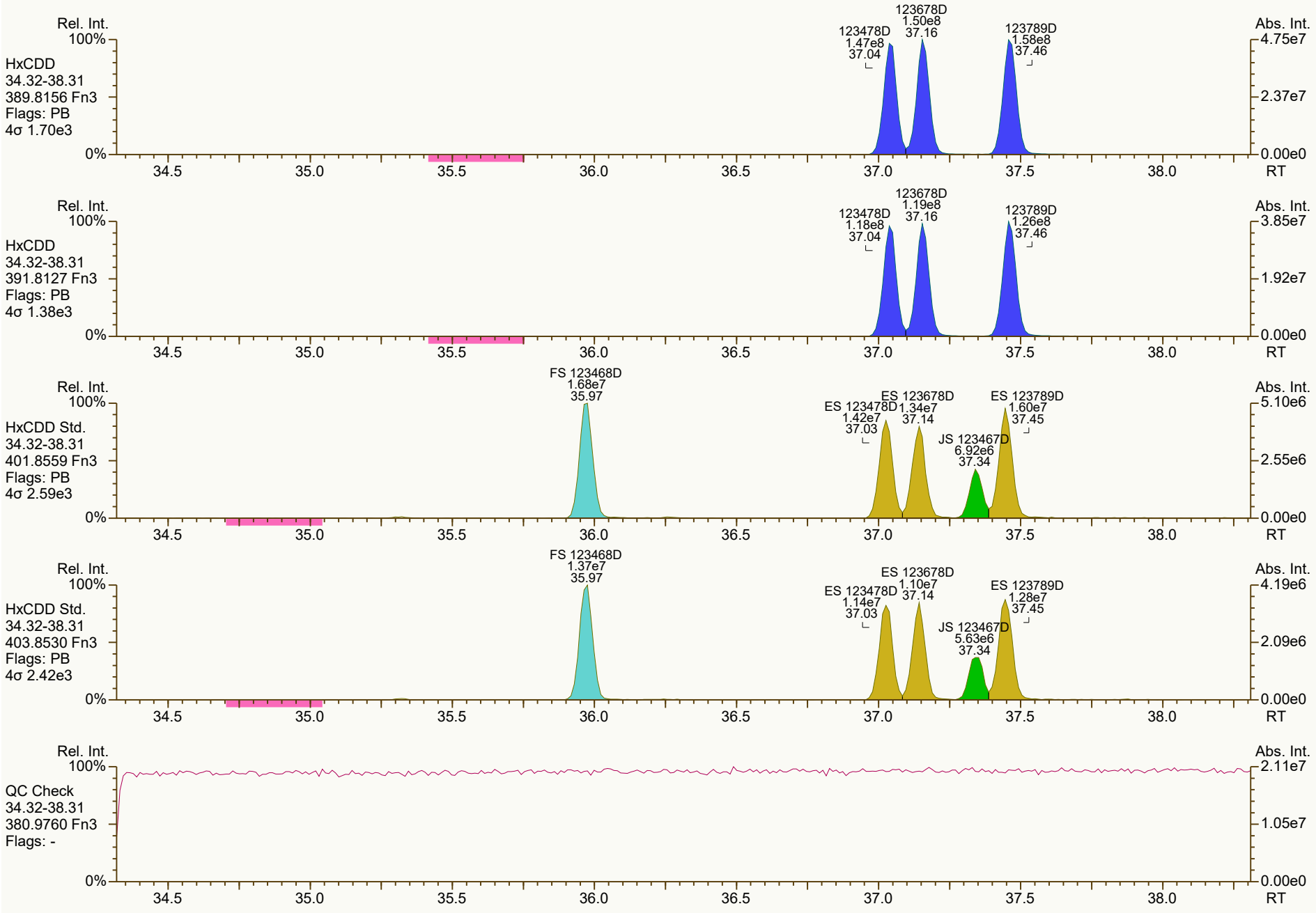
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

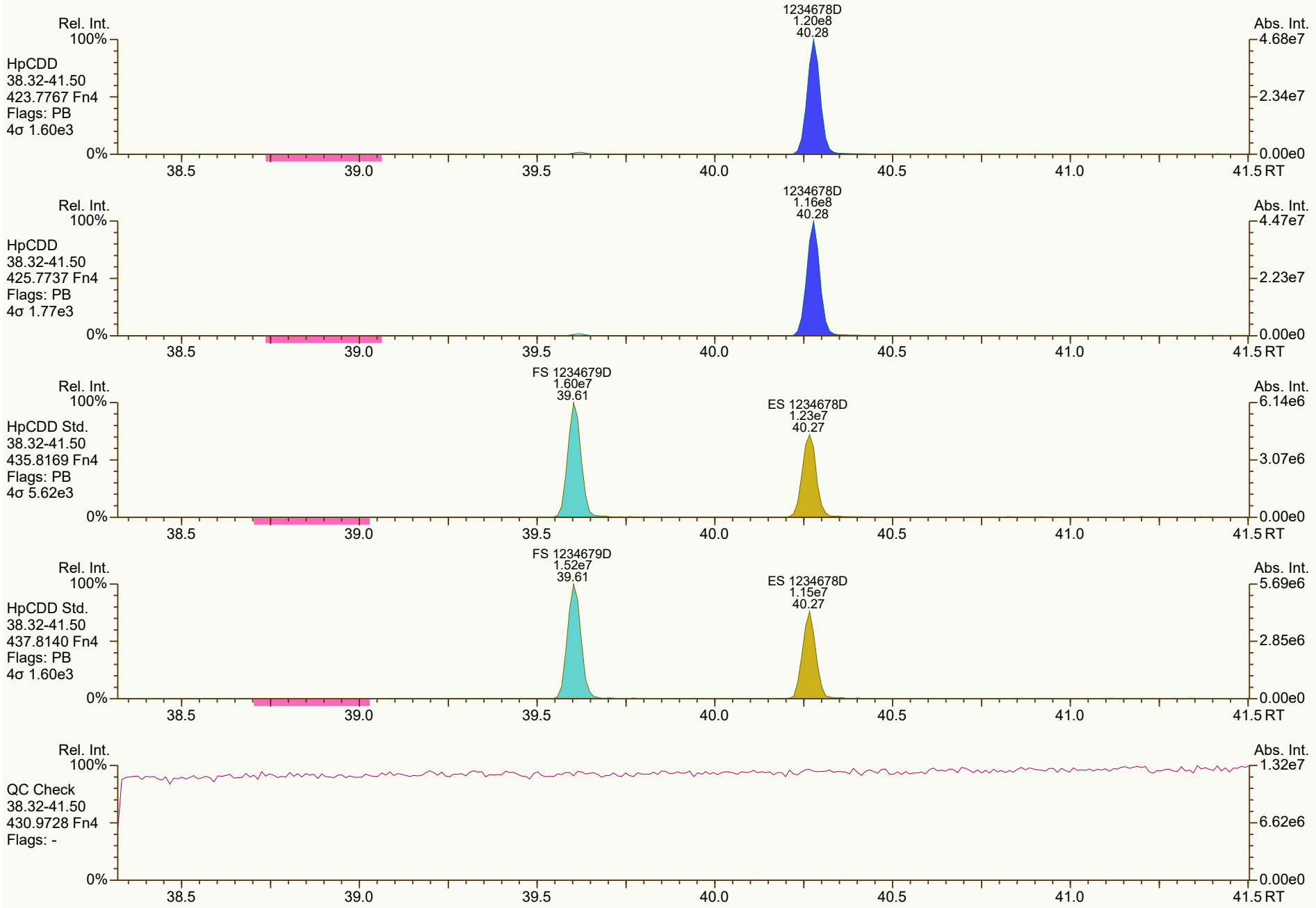
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

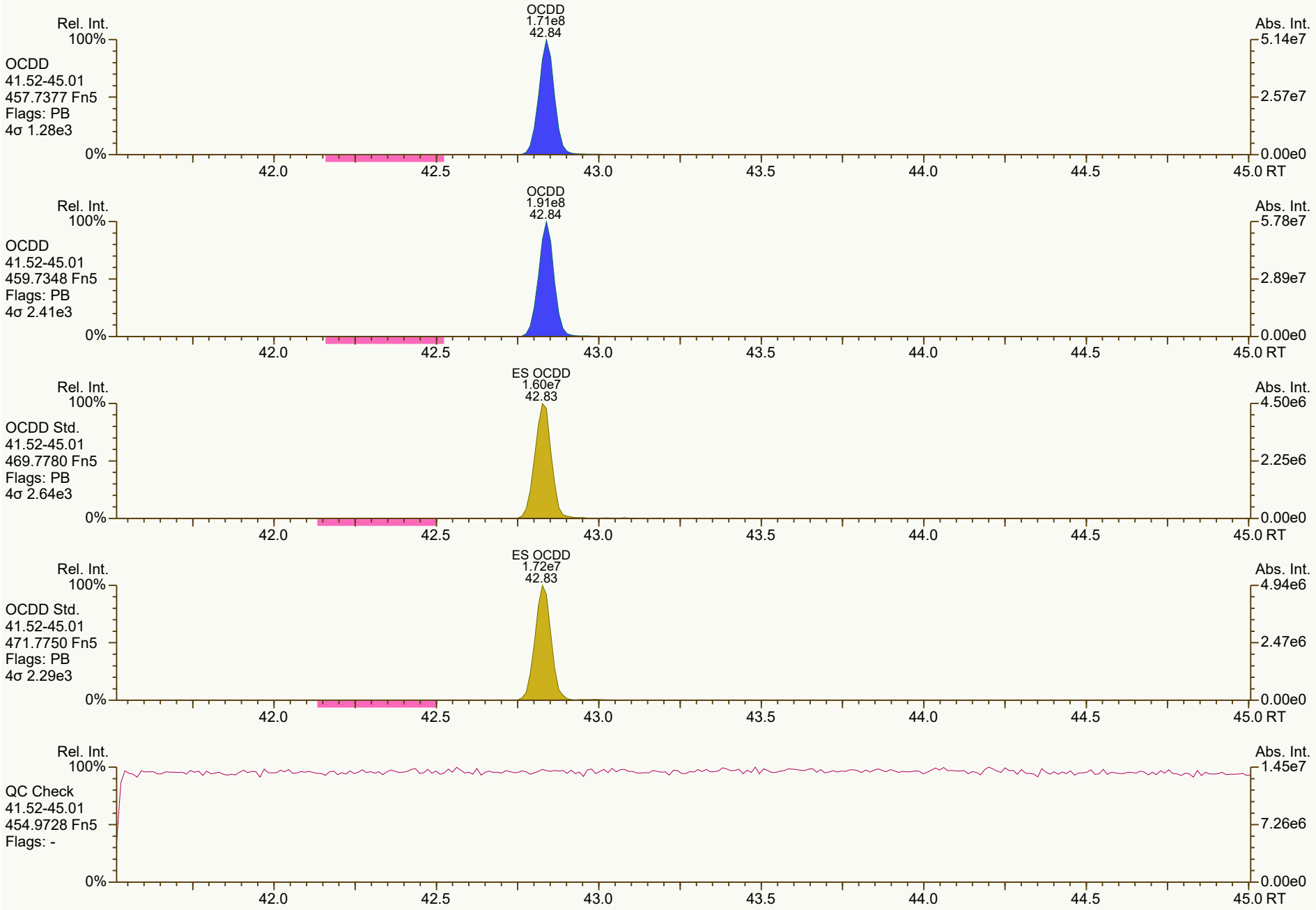

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

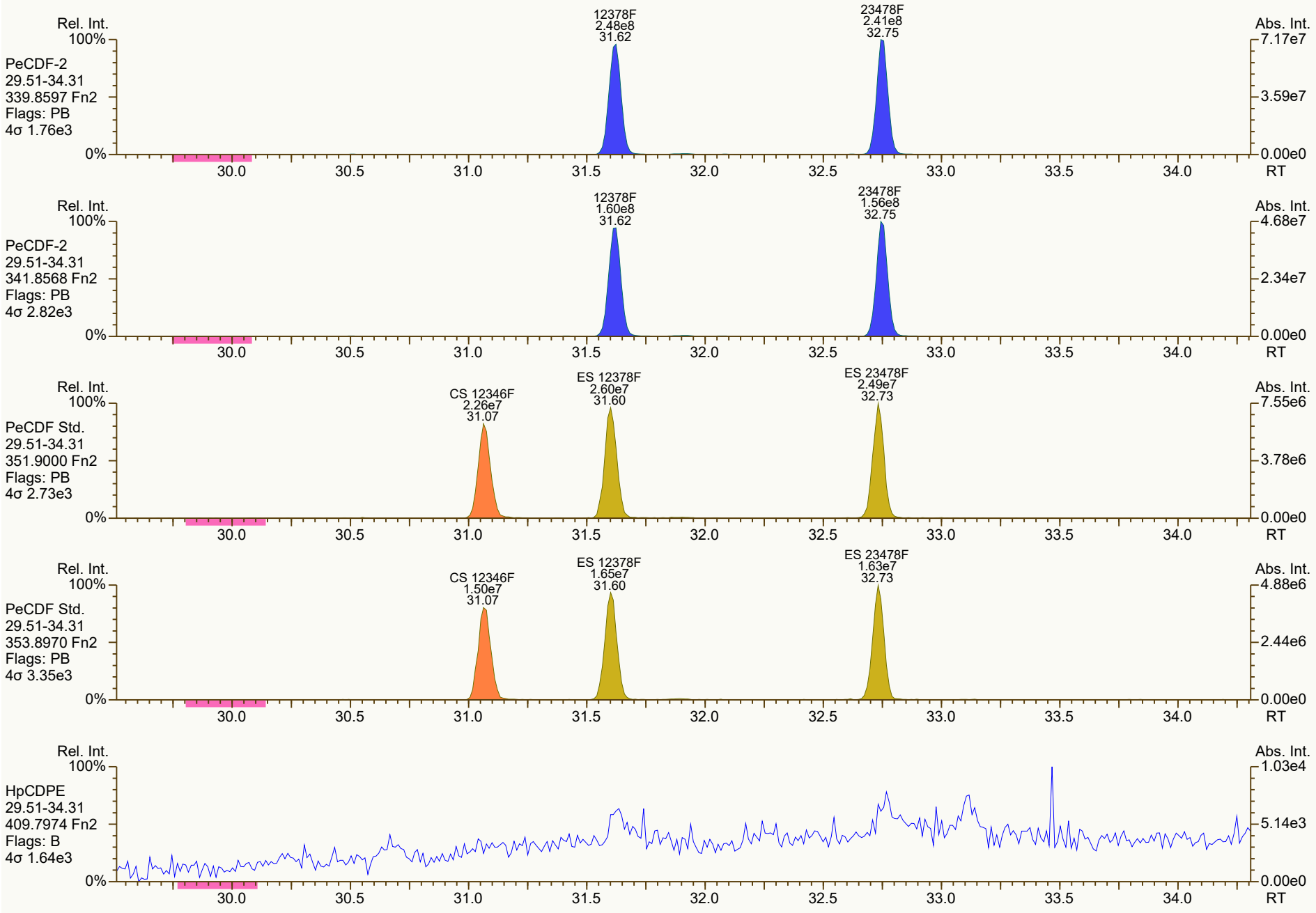

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

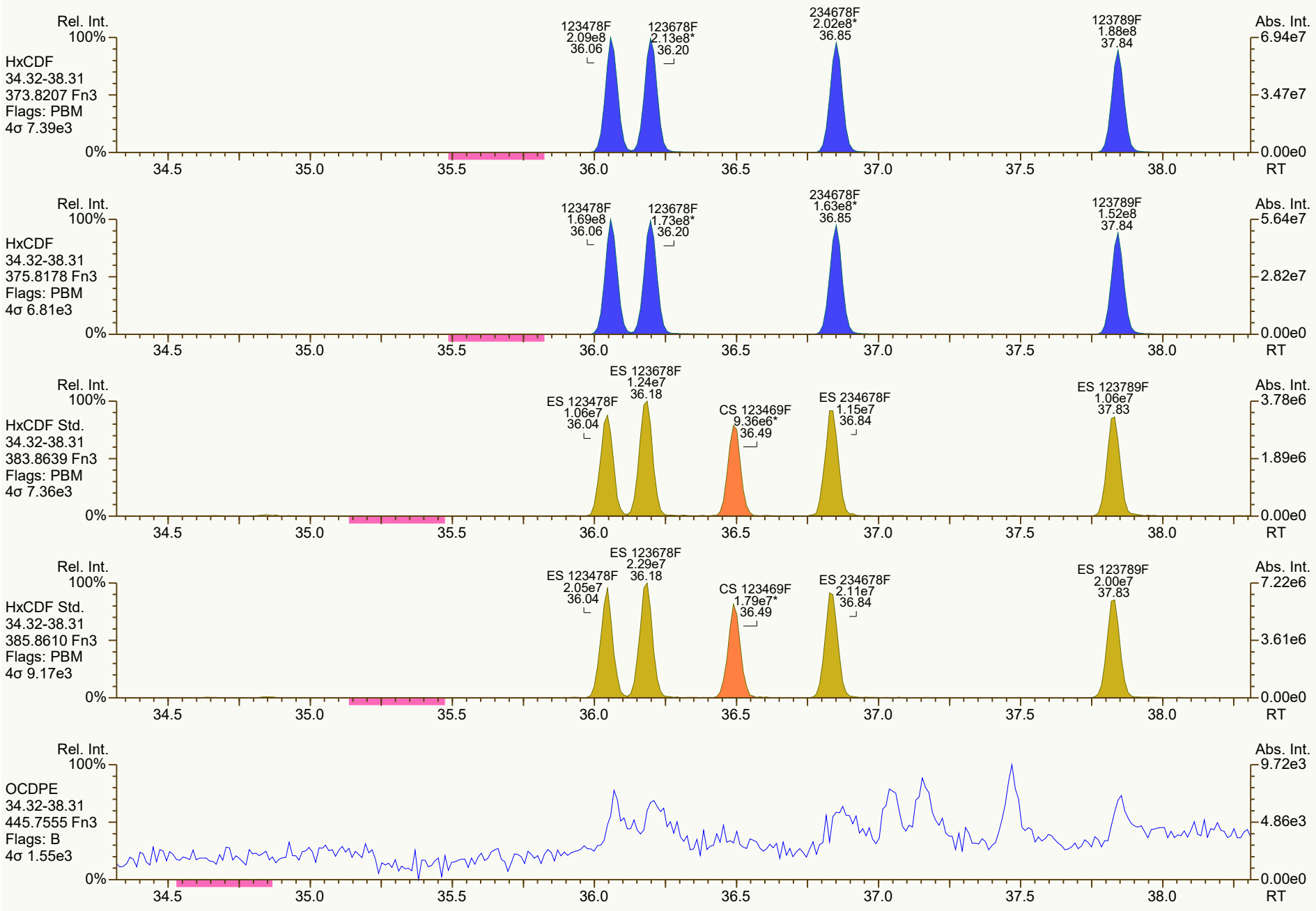

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

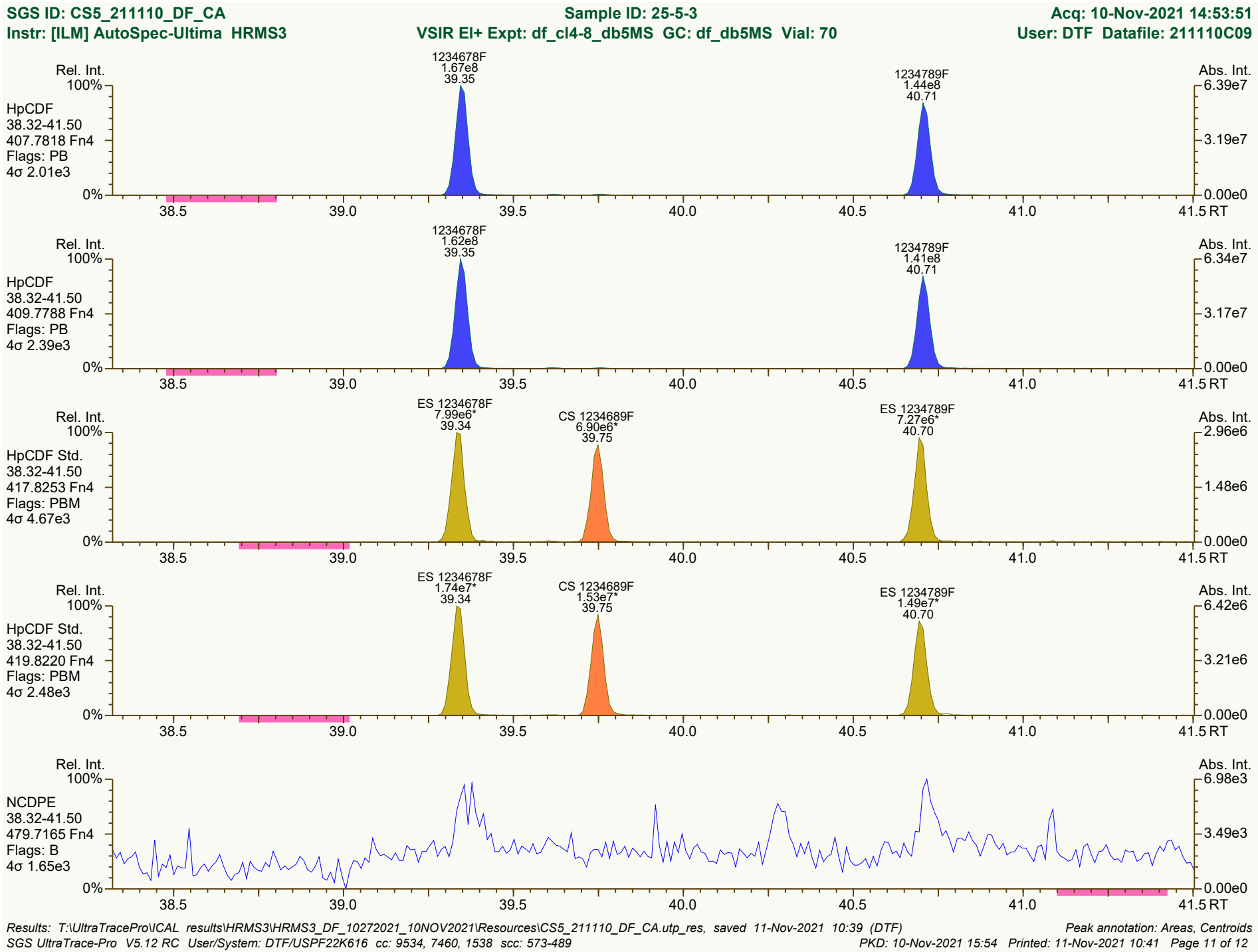

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

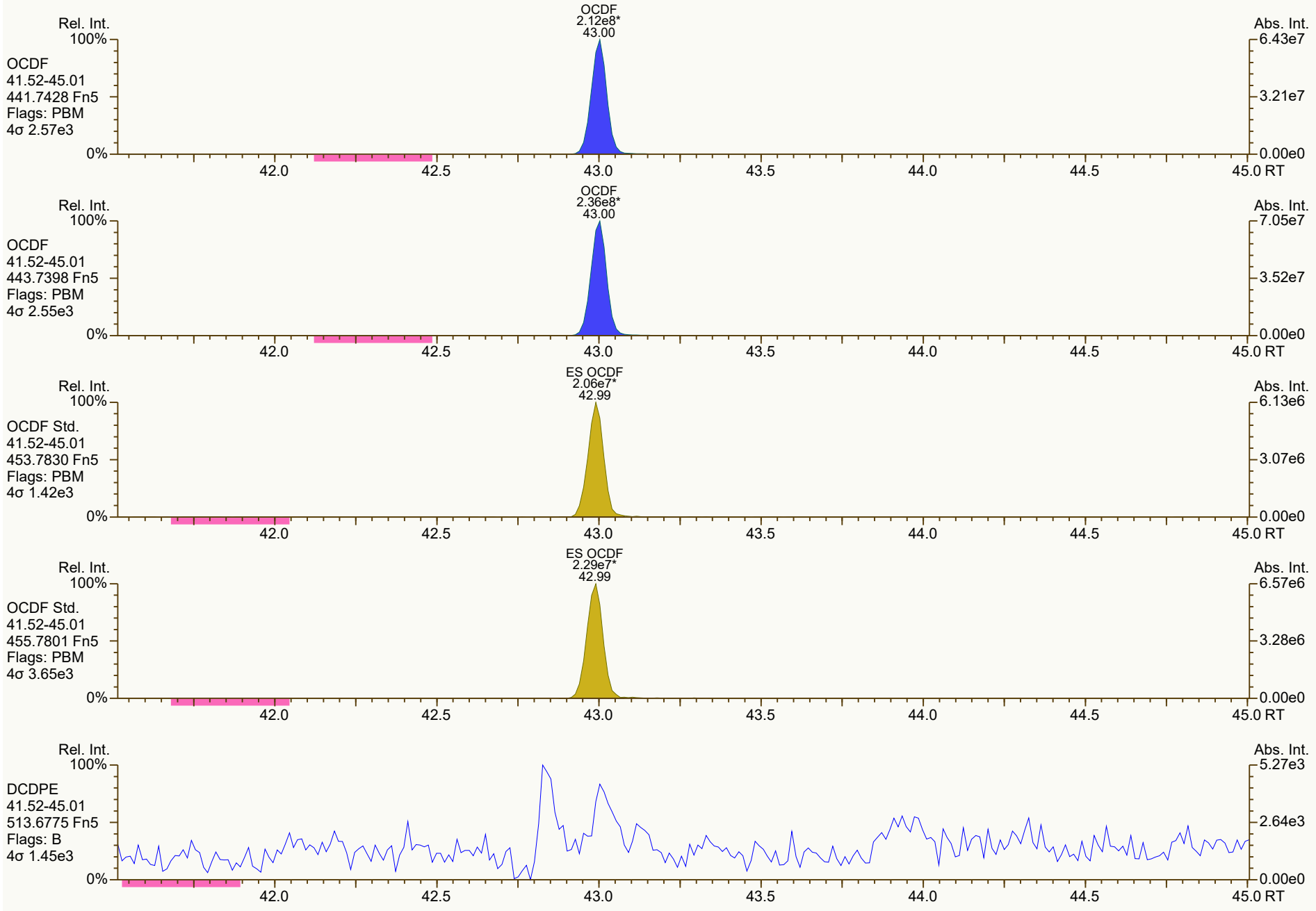

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
RT
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

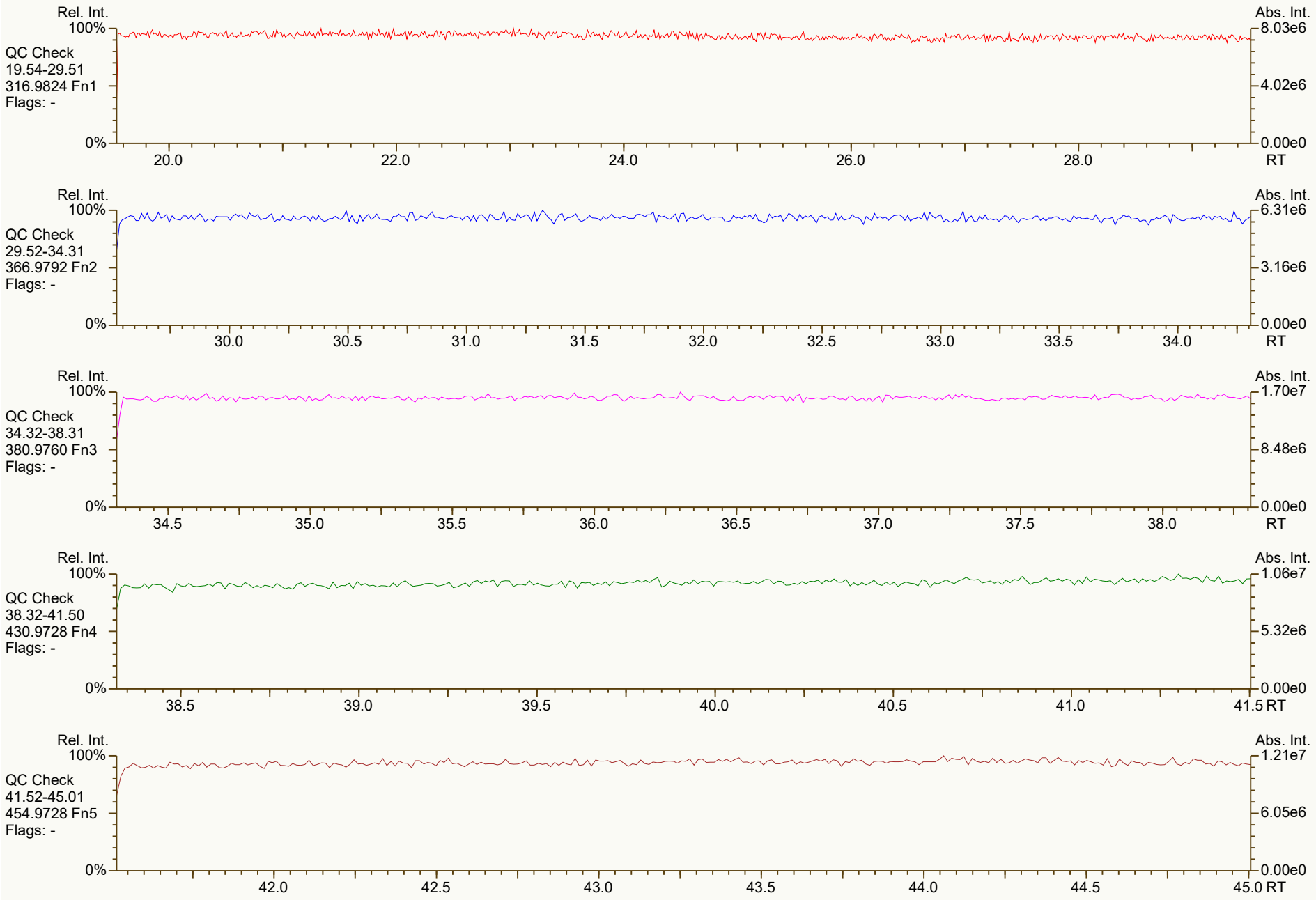

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

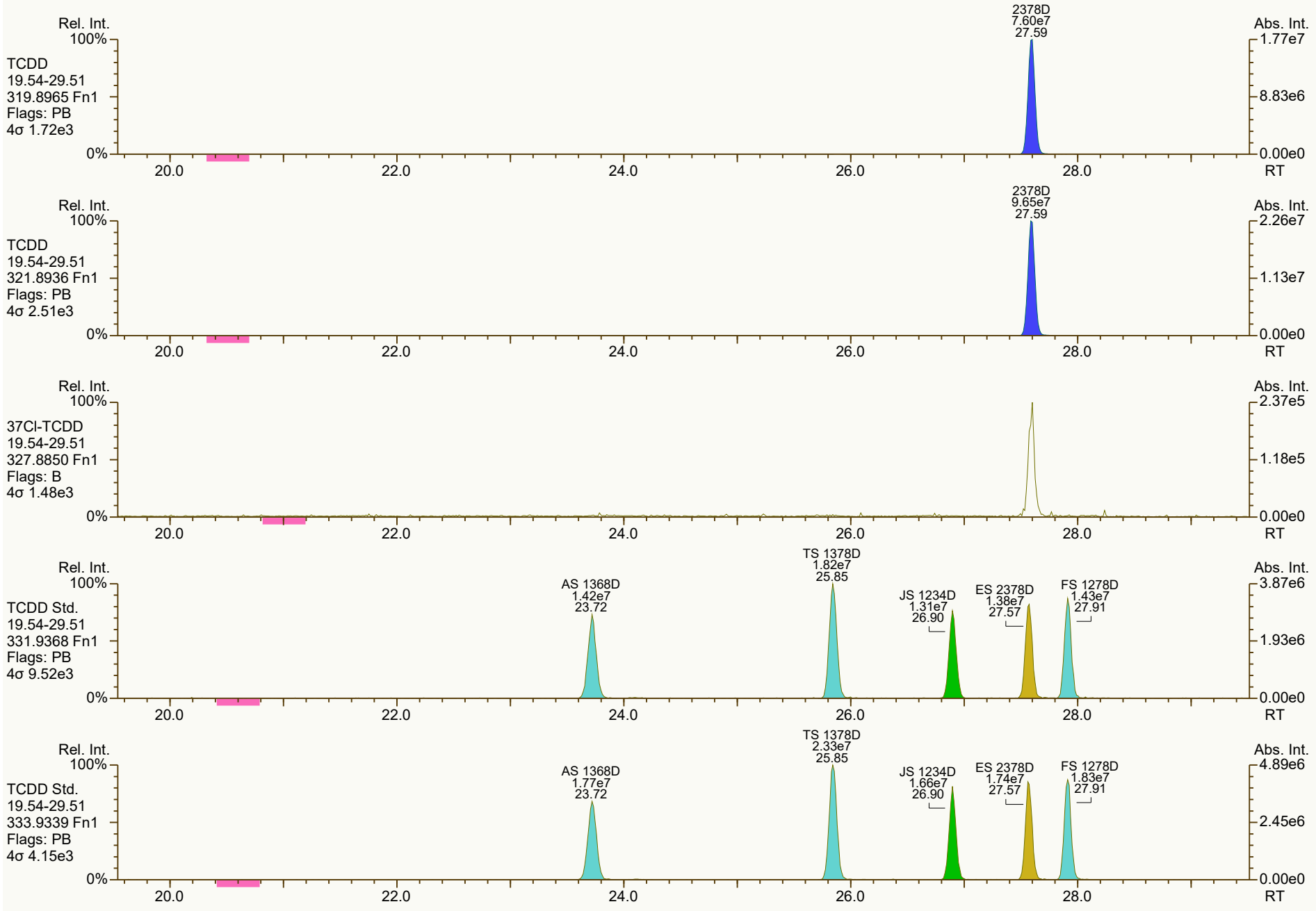
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

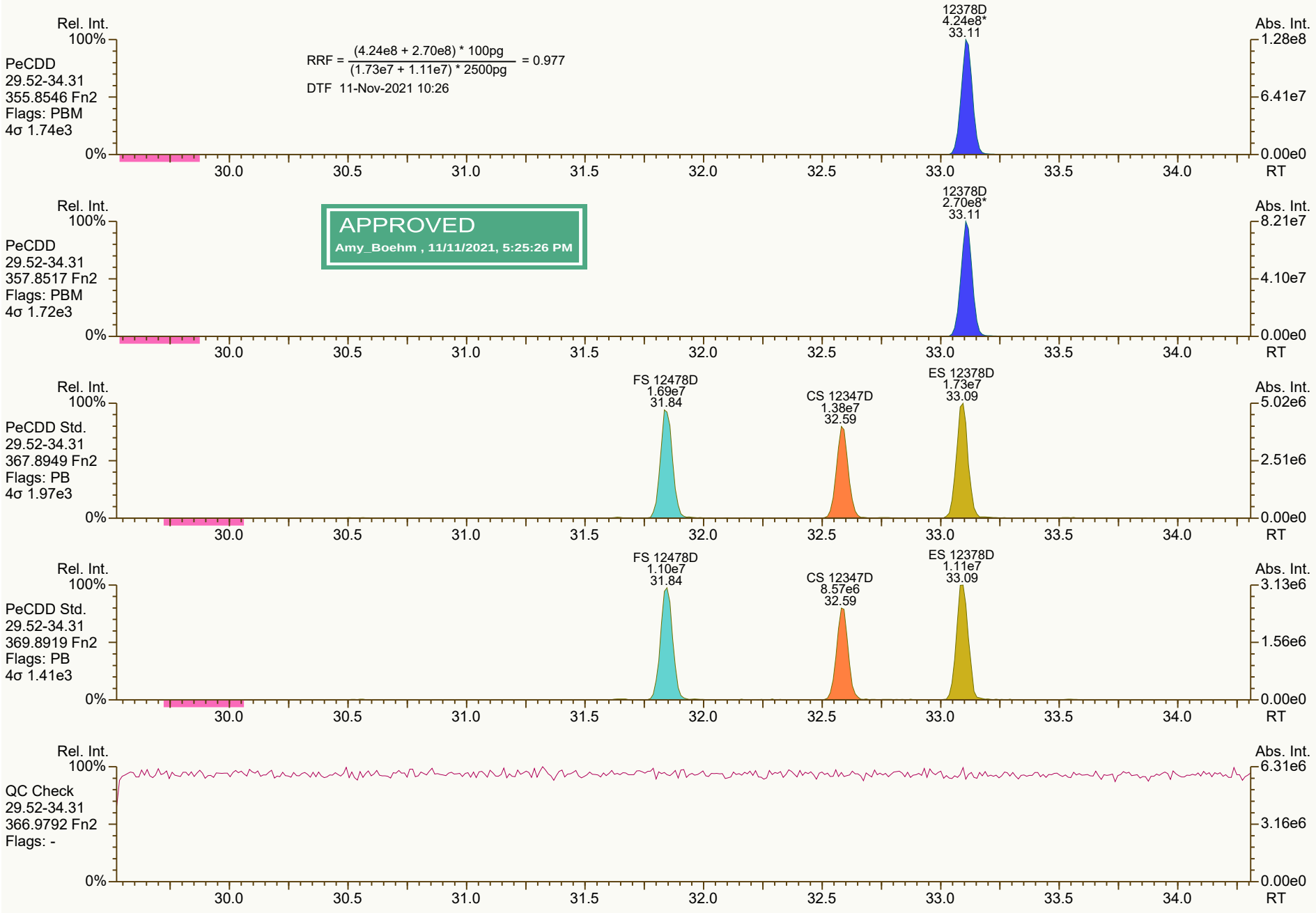
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

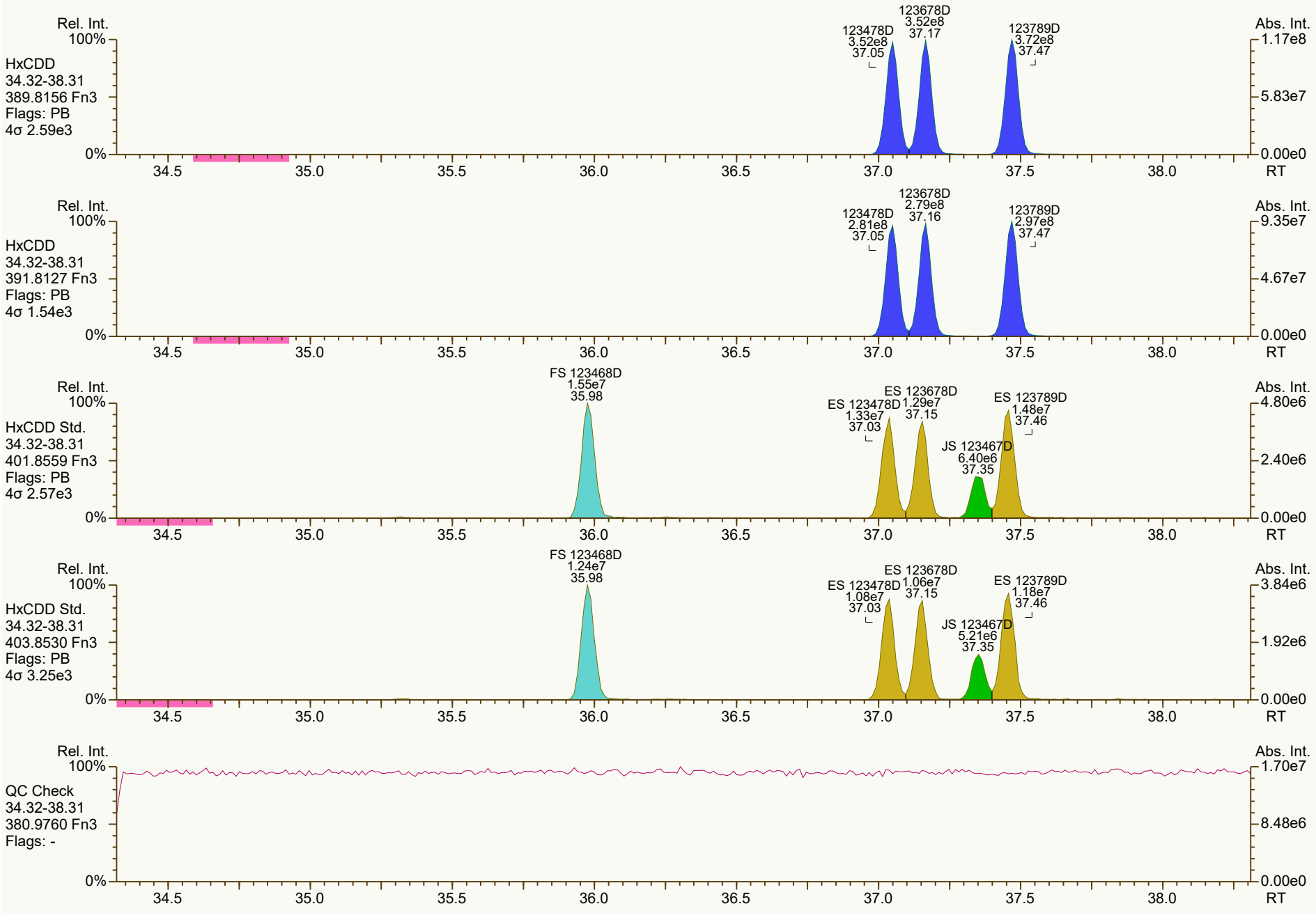
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

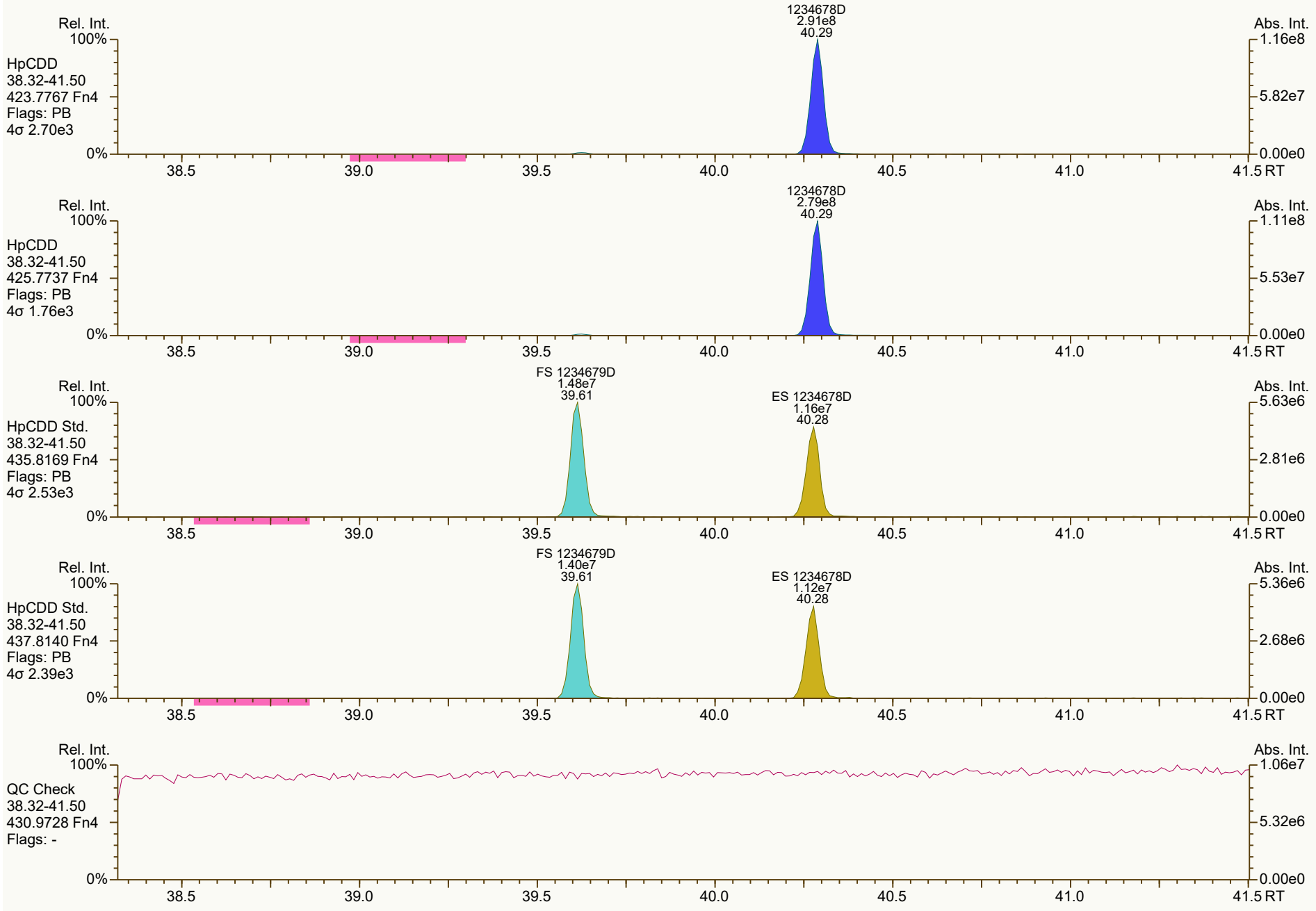
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

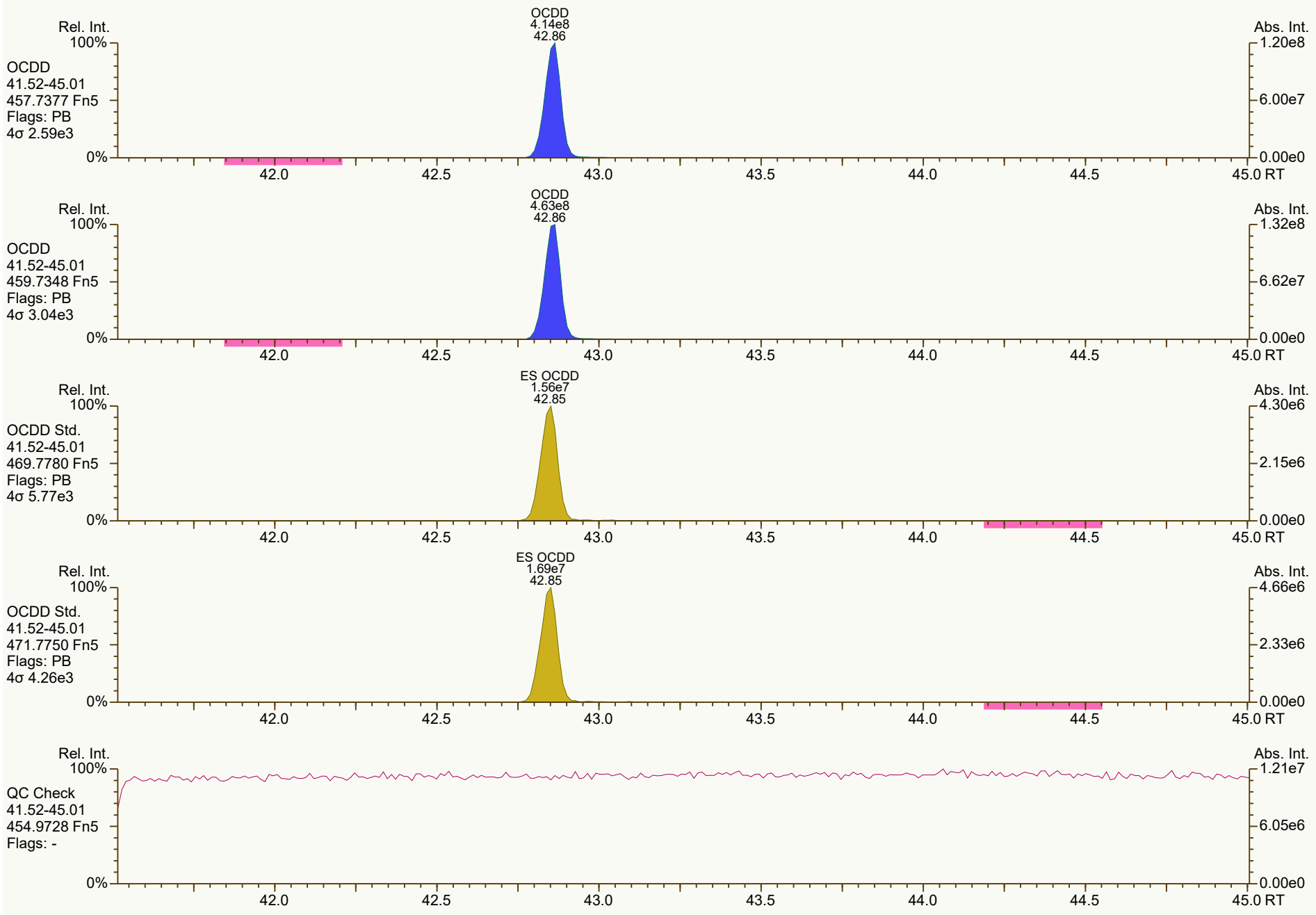

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

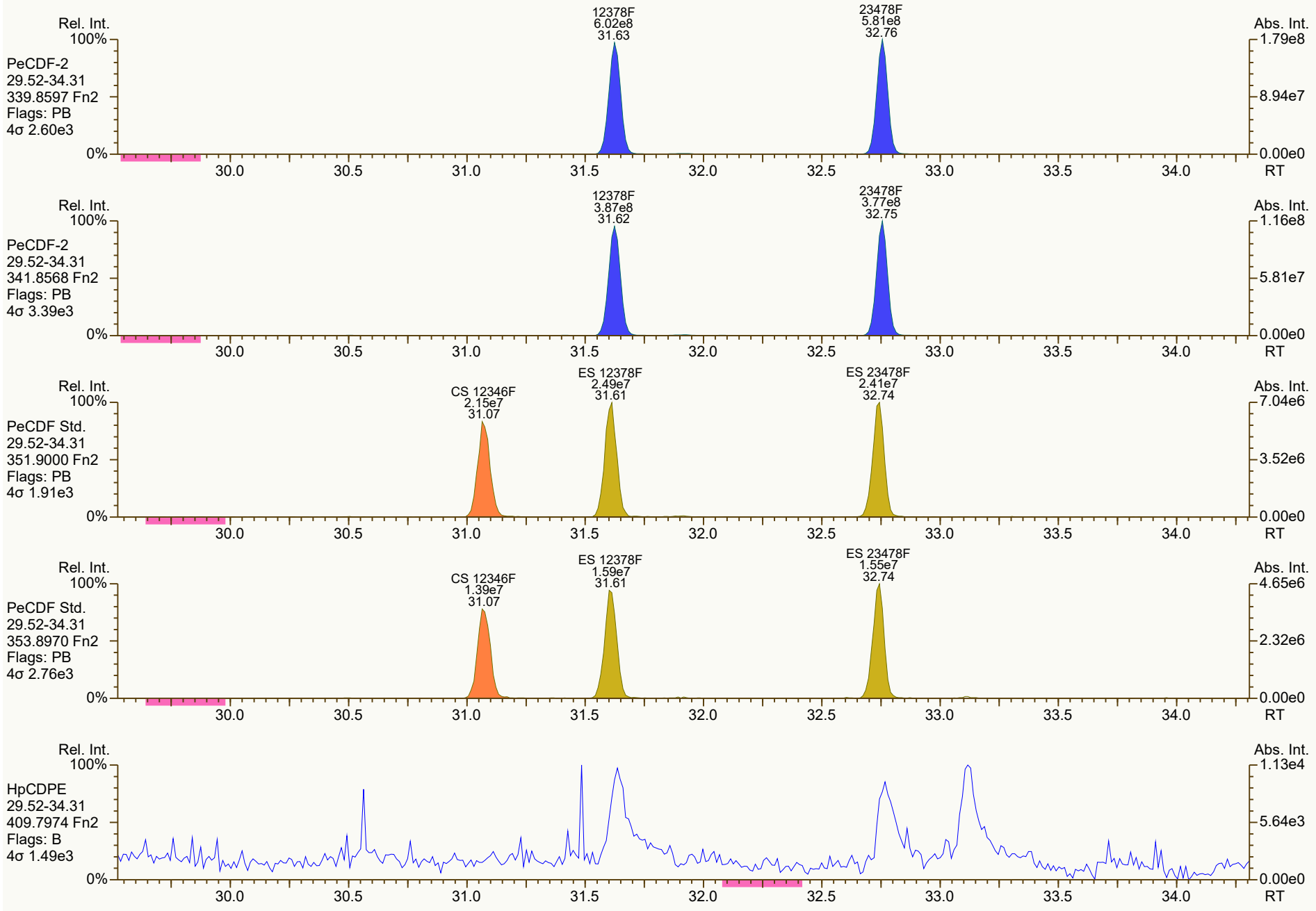

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

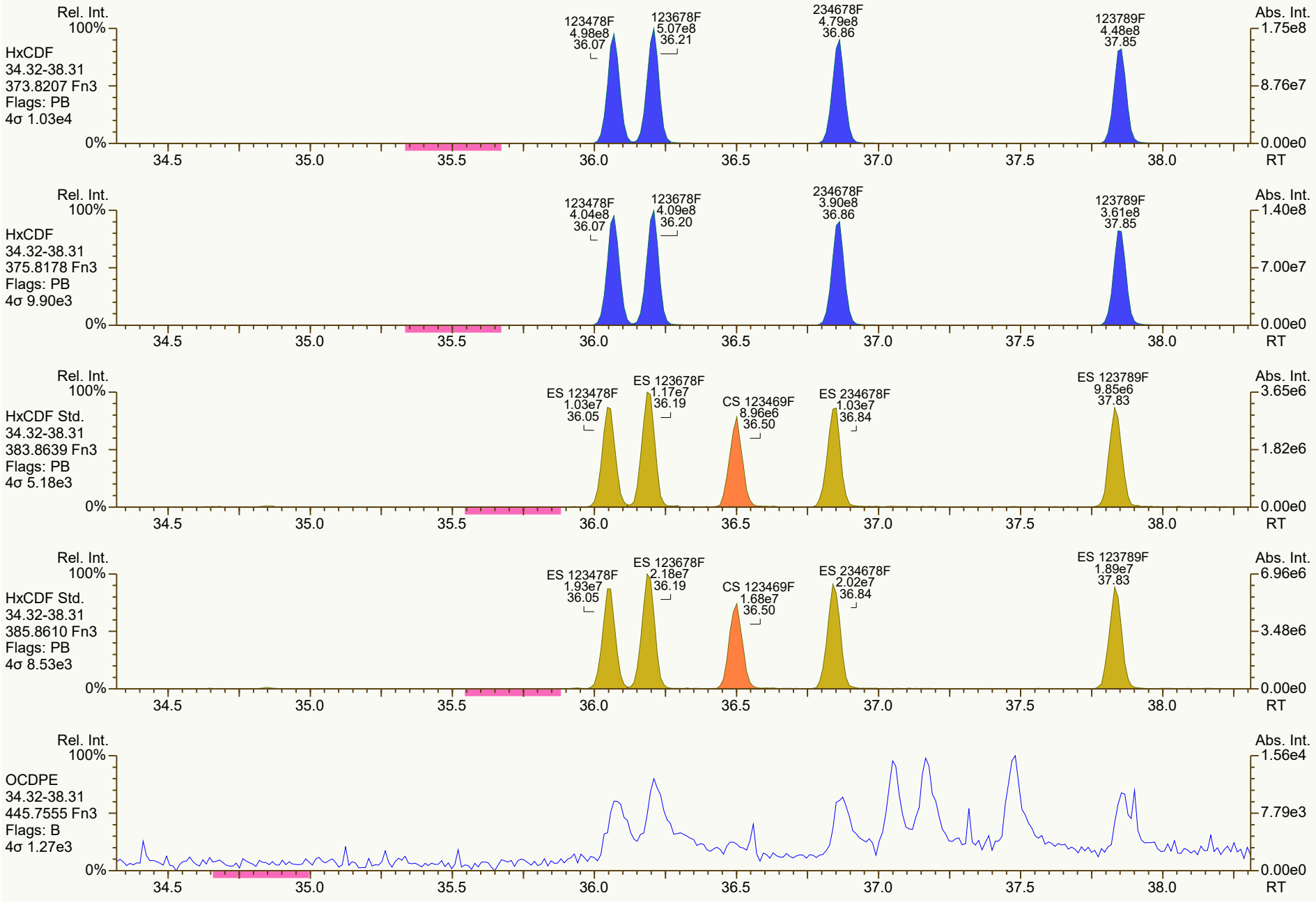

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
2378F
1.26e8
26.68
2.85e7
1.42e7
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
4.38e6
2.19e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
5.43e6
2.72e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
6.34e3
3.17e3

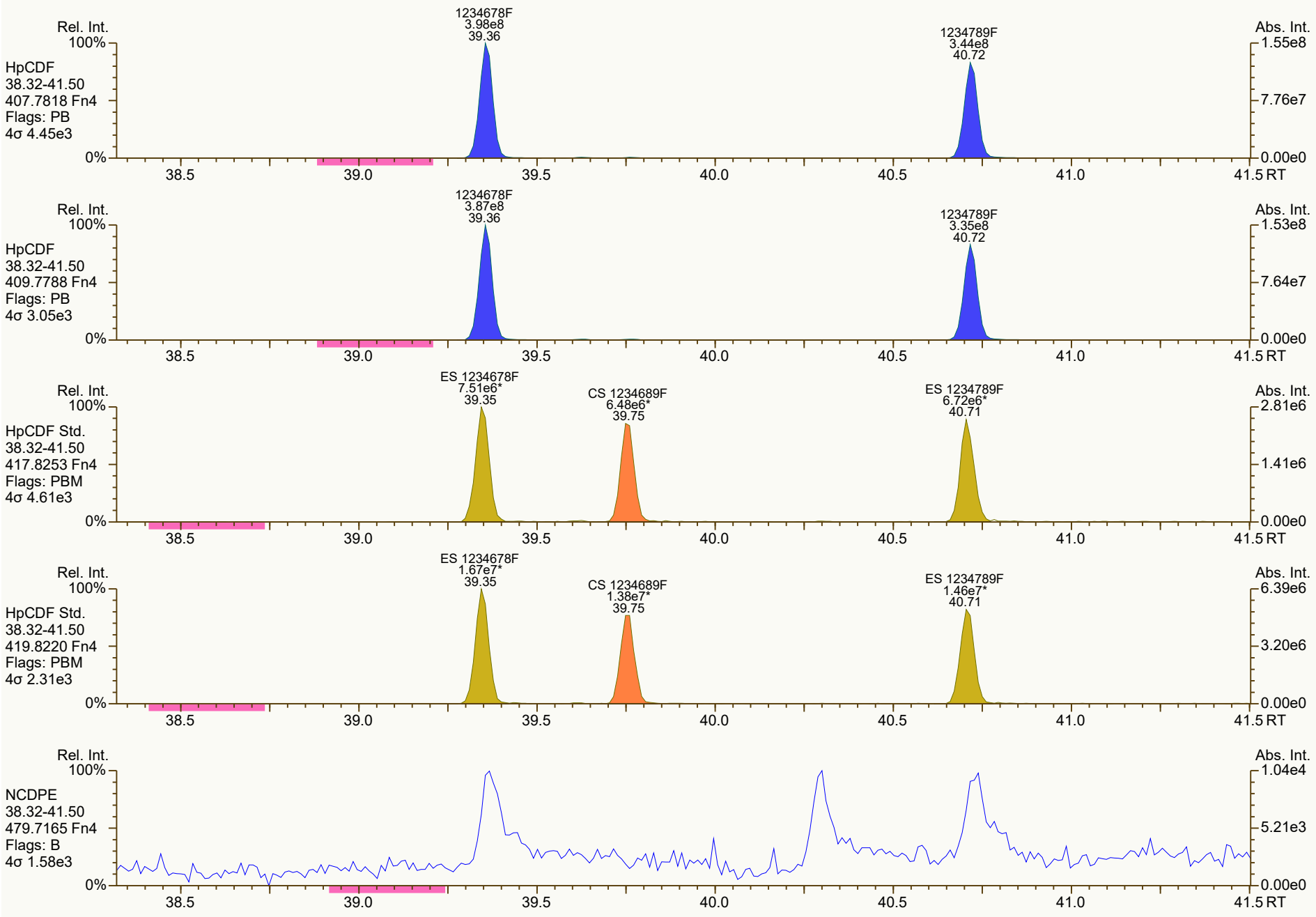
SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10

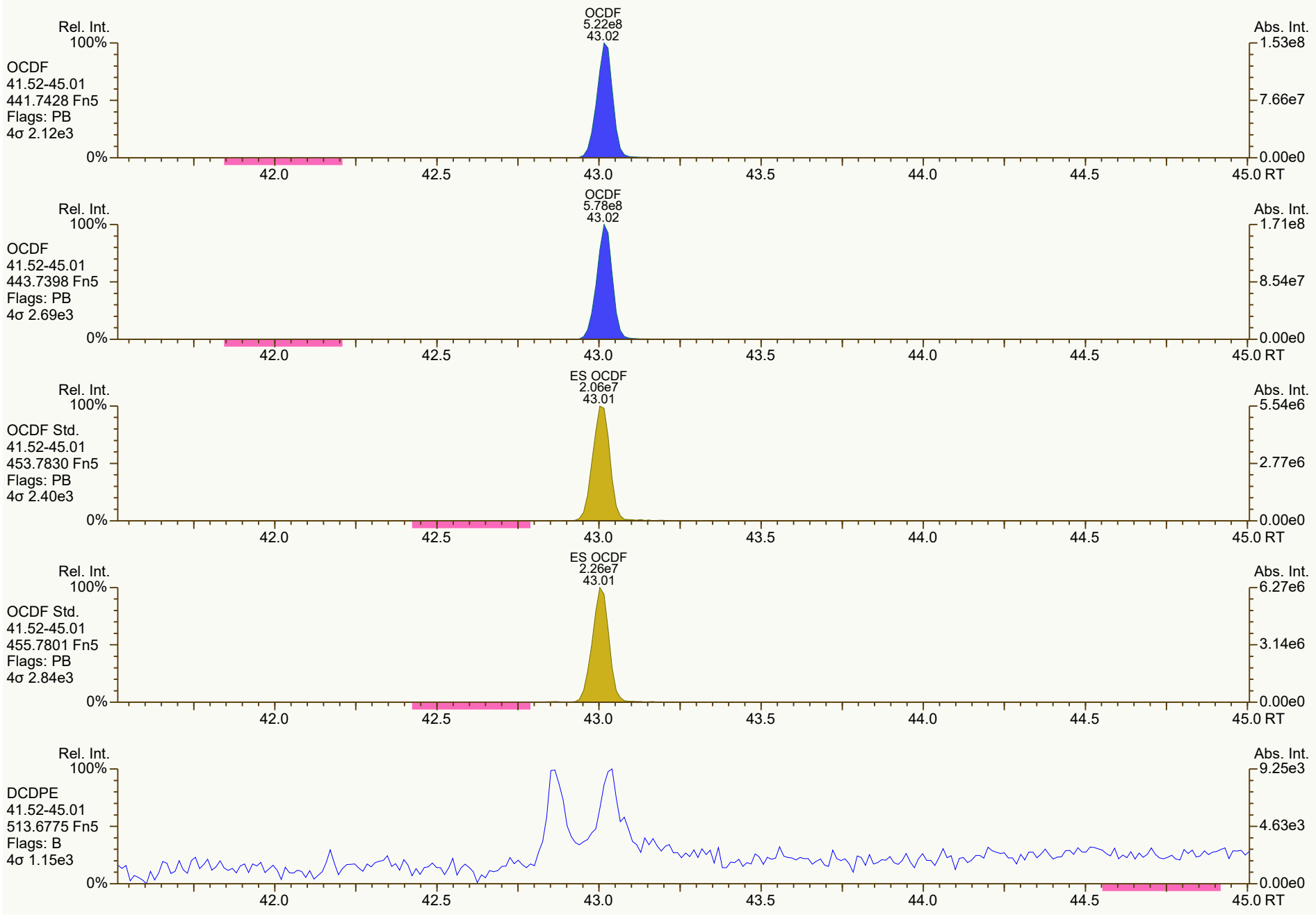


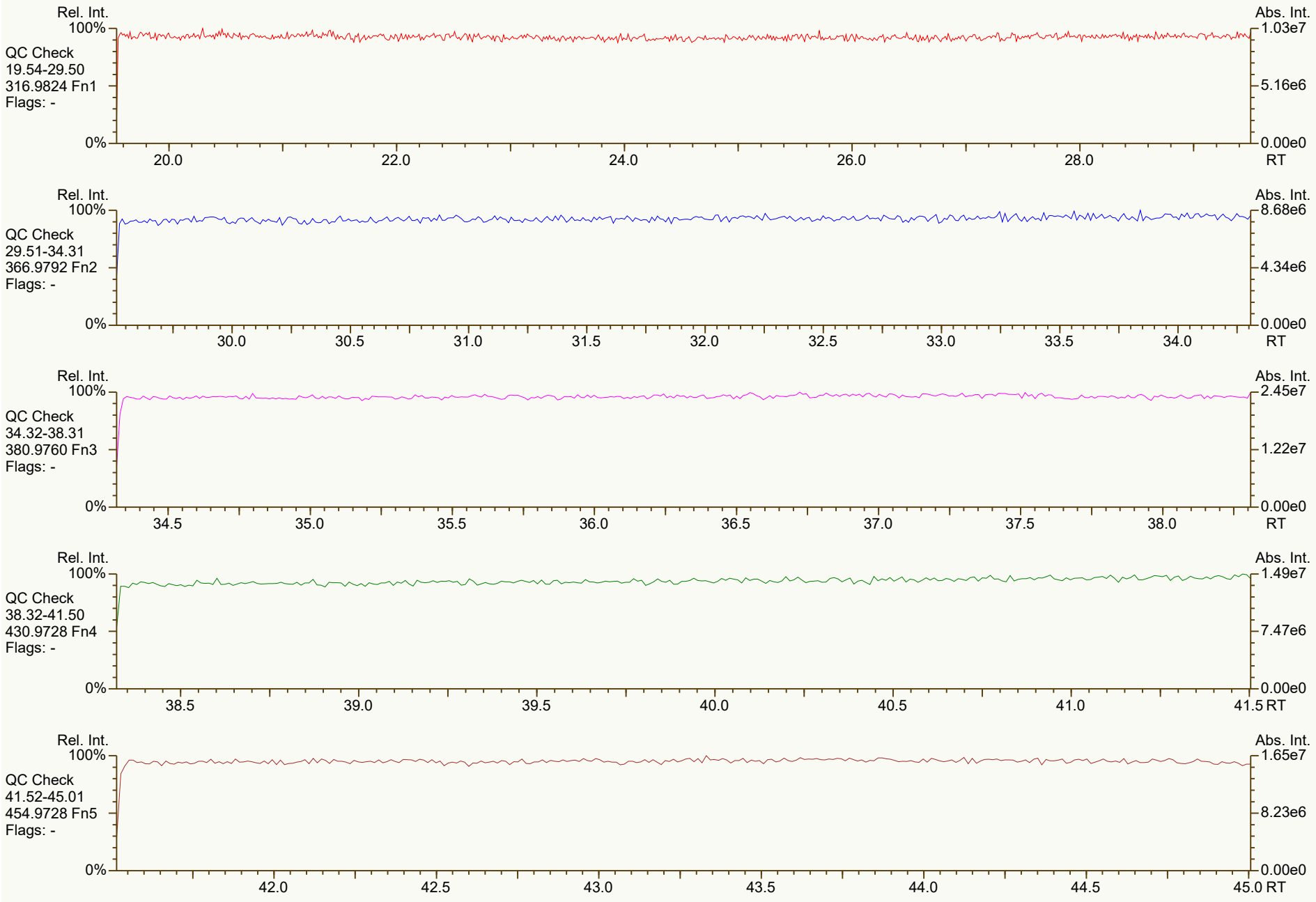
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.03e7
5.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.68e6
4.34e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.45e7
1.22e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.49e7
7.47e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.65e7
8.23e6
0.00e0
RT

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

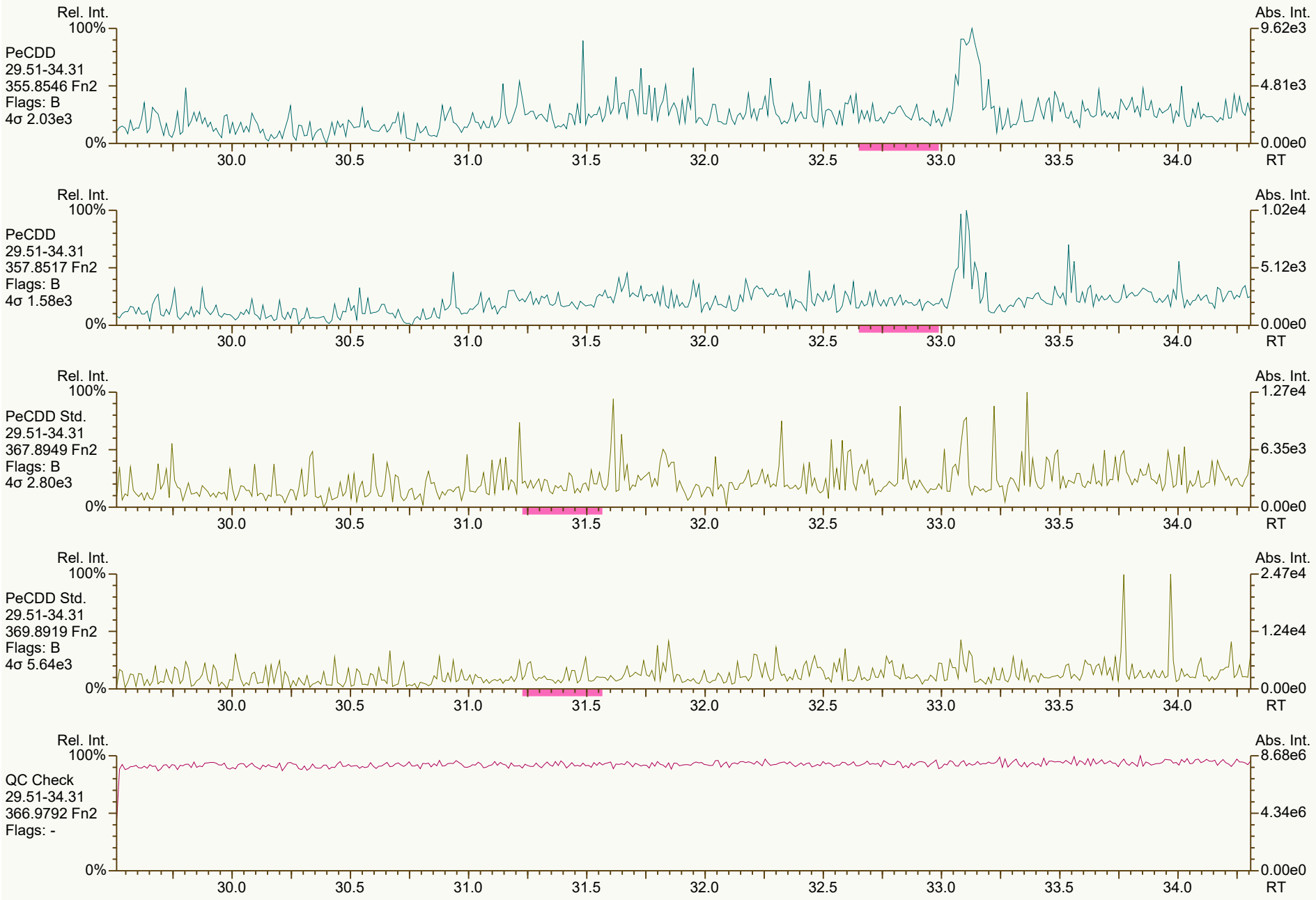
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

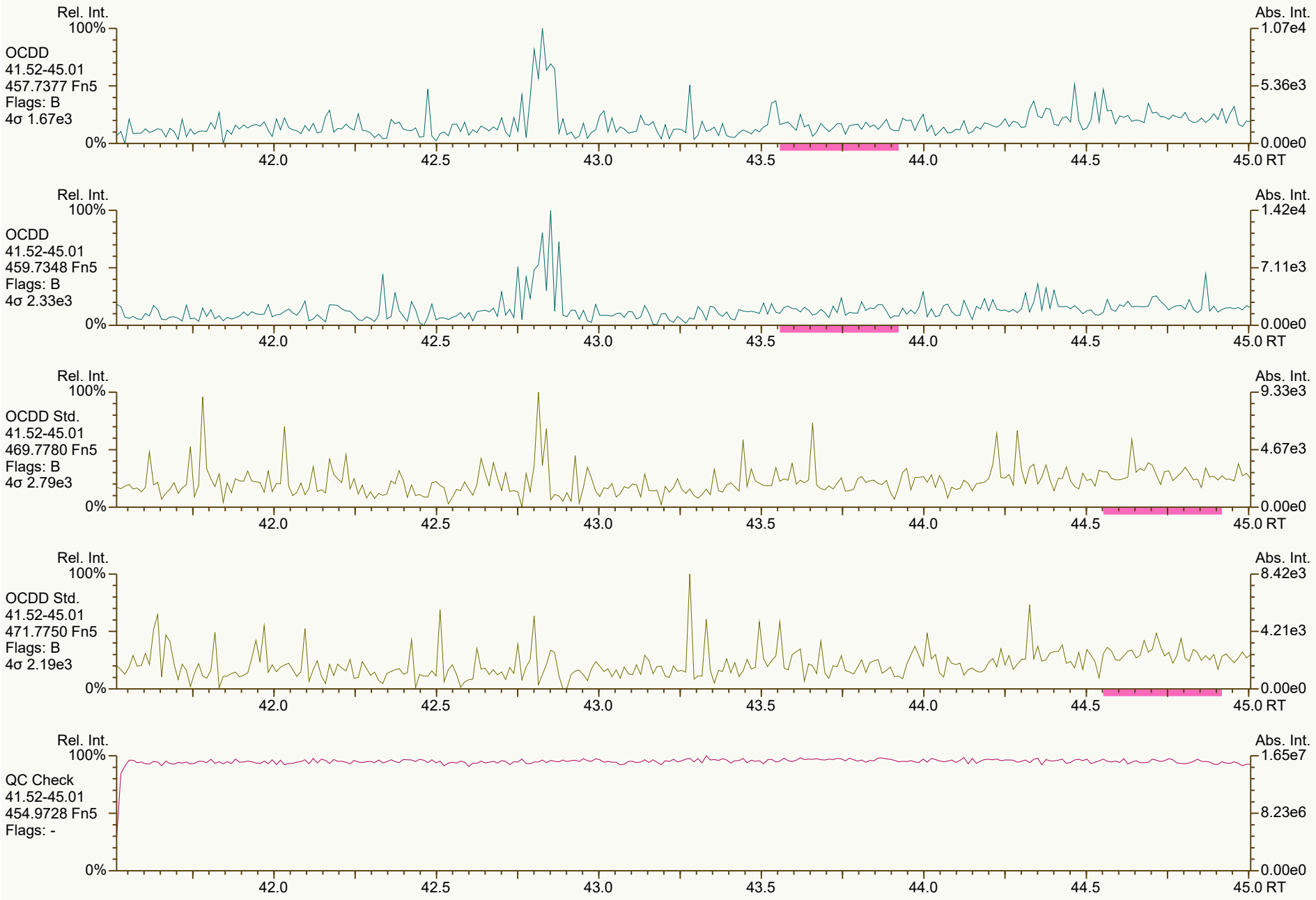
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

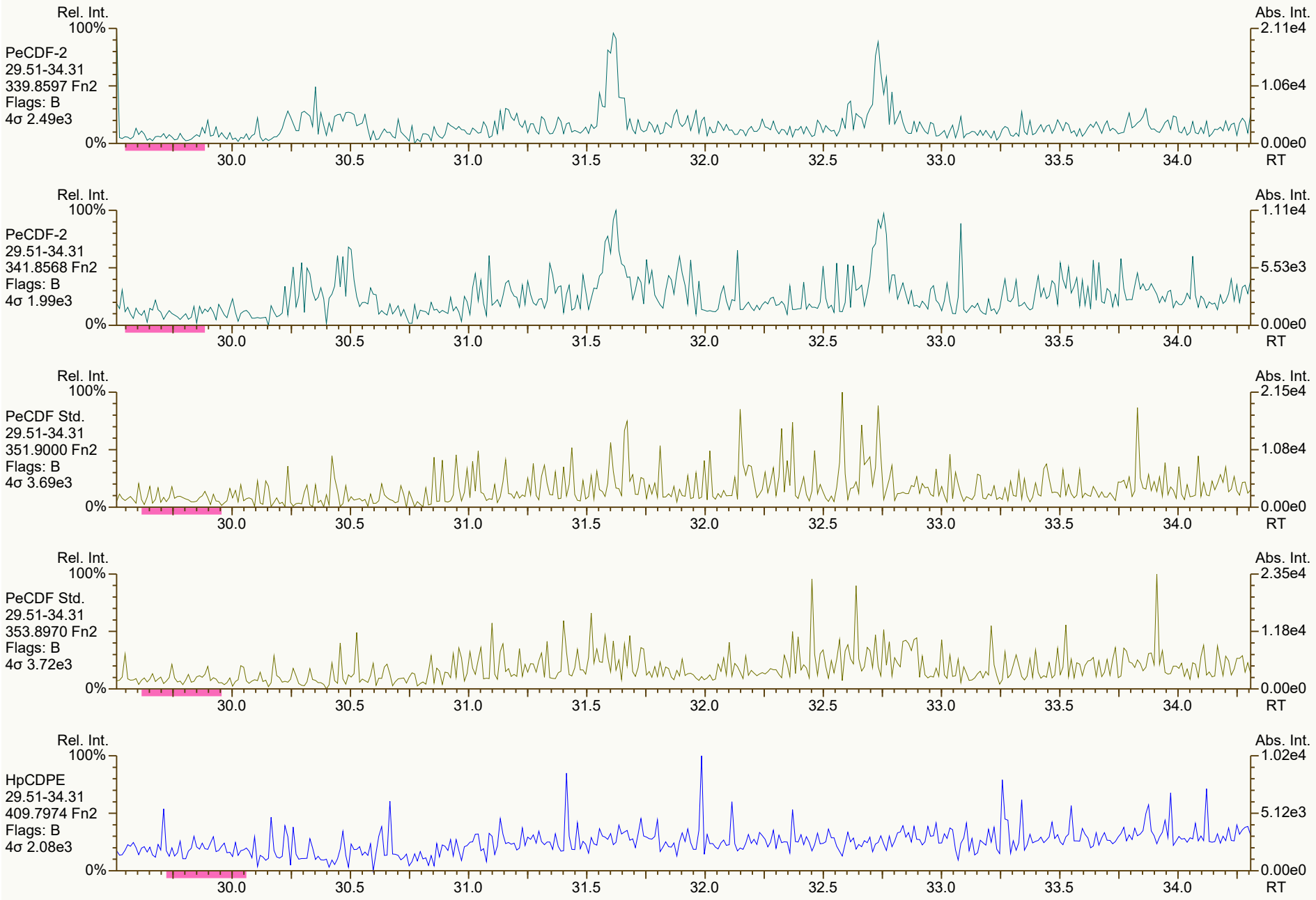

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

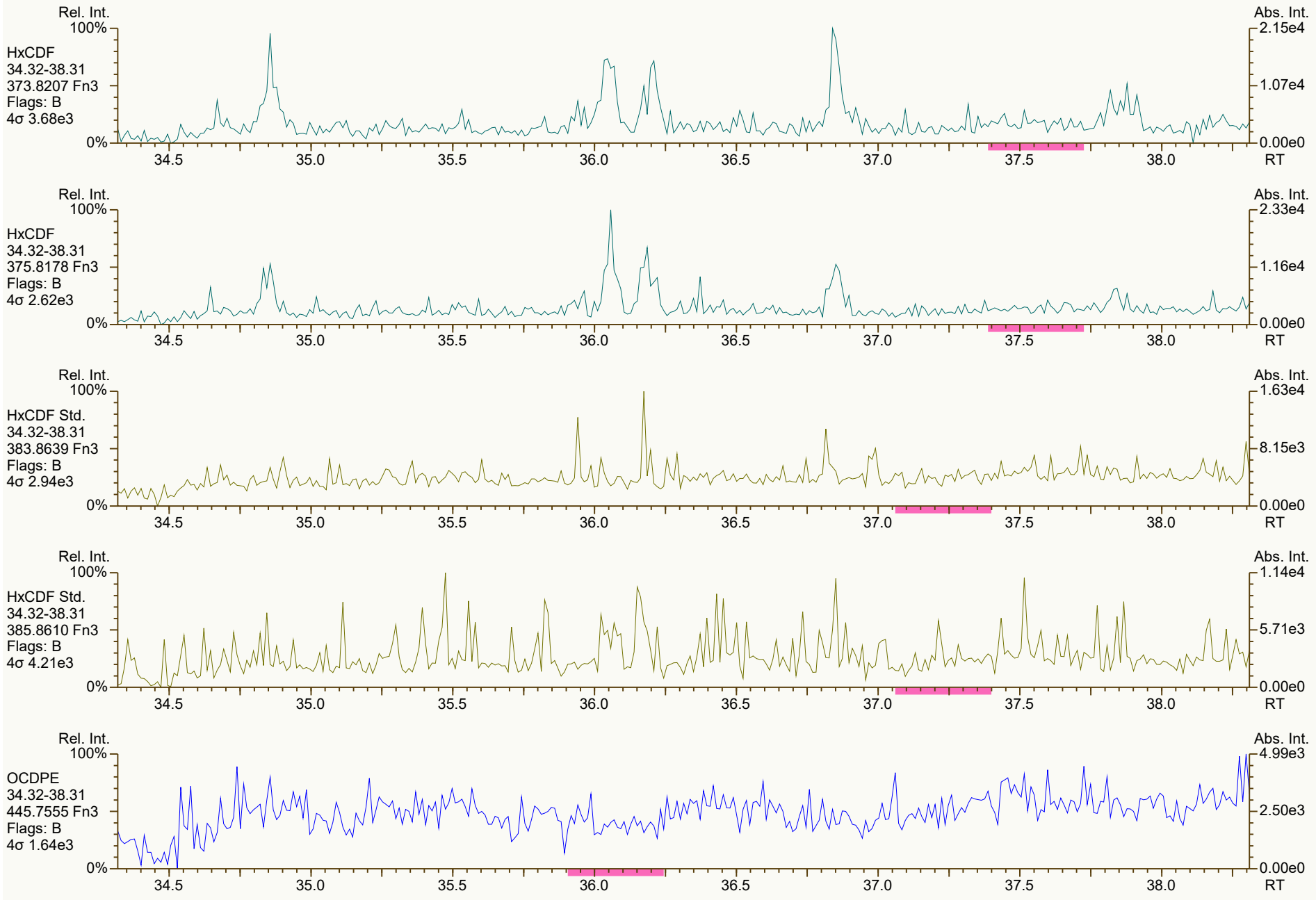

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

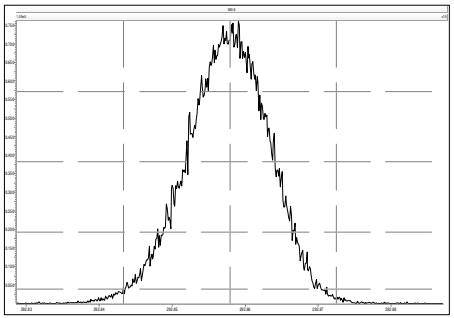

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

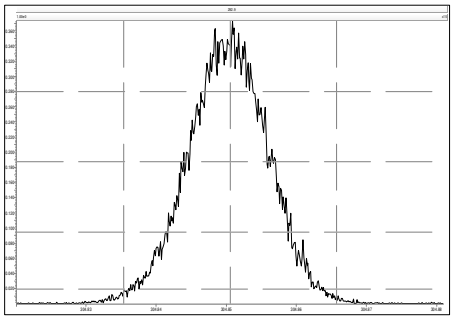
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

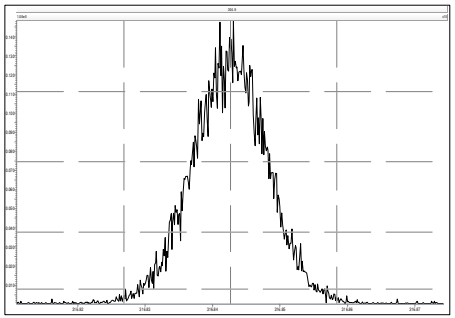
M 292.9824 R 10731



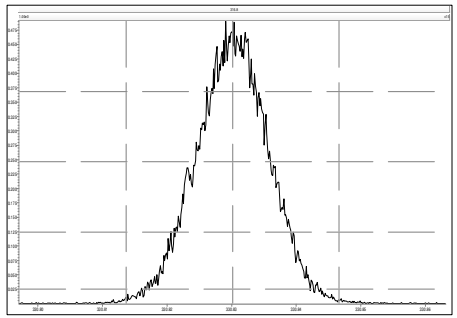
M 304.9824 R 11311



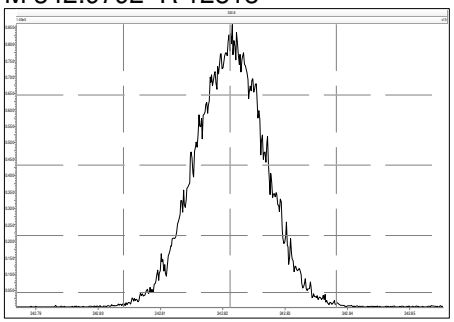
M 316.9824 R 12373



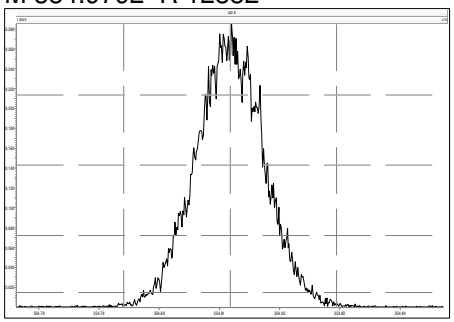
M 330.9792 R 12887



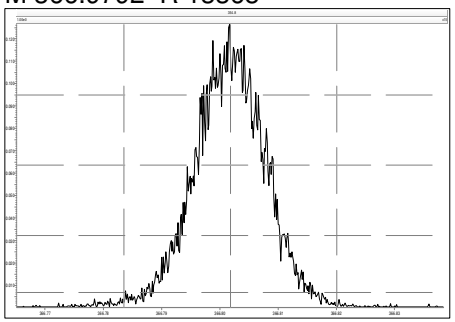
M 342.9792 R 12818



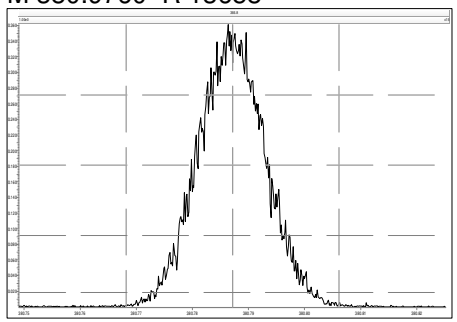
M 354.9792 R 12882



M 366.9792 R 13368



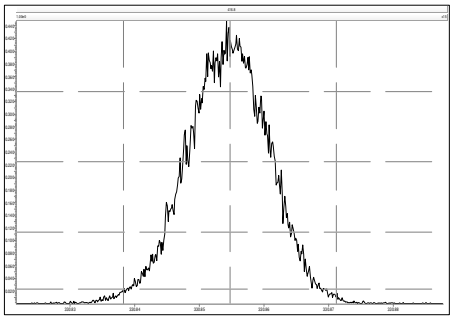
M 380.9760 R 13658



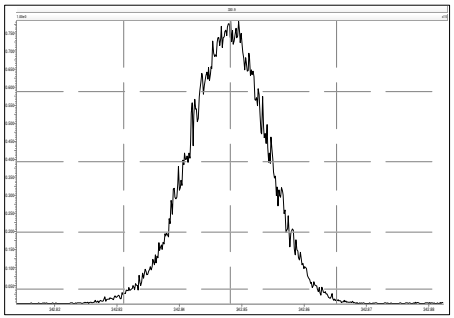
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

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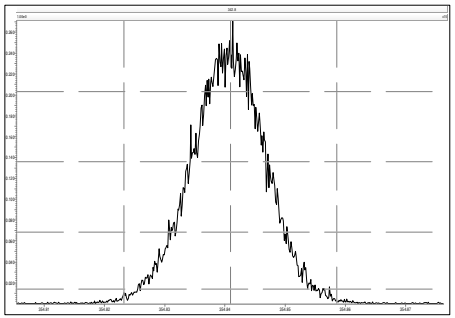
M 330.9792 R 11112



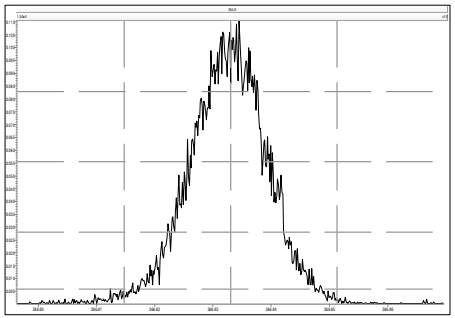
M 342.9792 R 11909



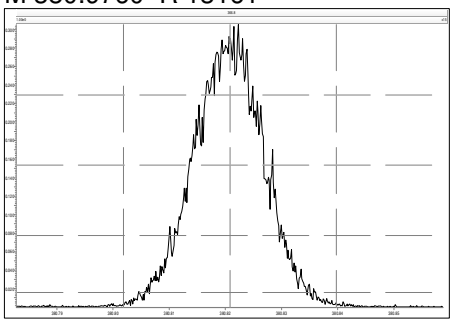
M 354.9792 R 11684



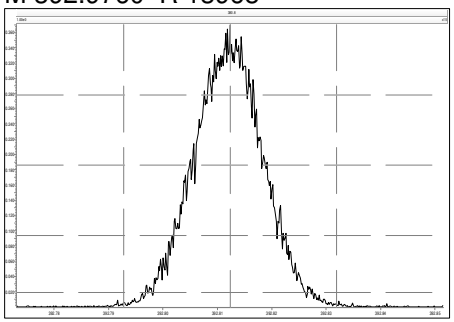
M 366.9792 R 11962



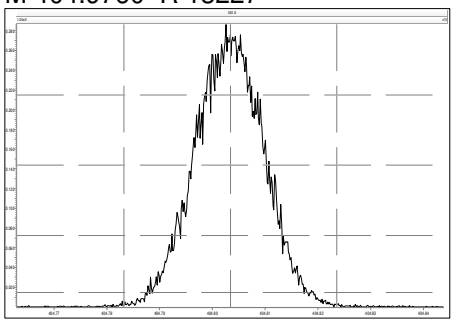
M 380.9760 R 13161



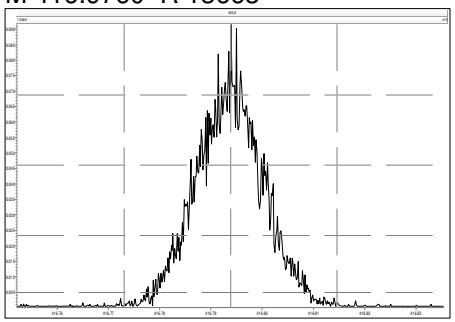
M 392.9760 R 13968



M 404.9760 R 13227



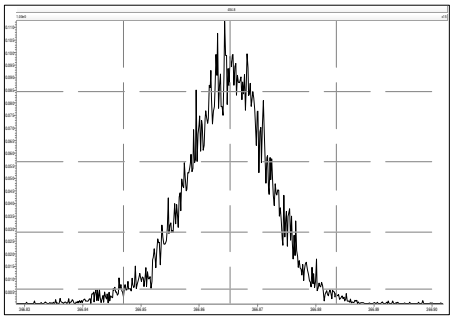
M 416.9760 R 13663



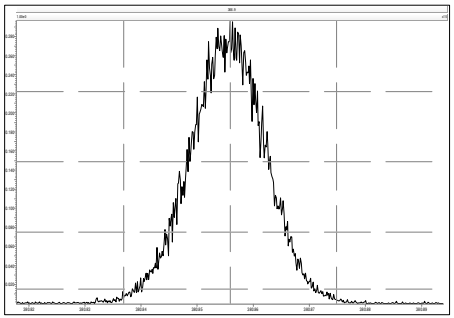
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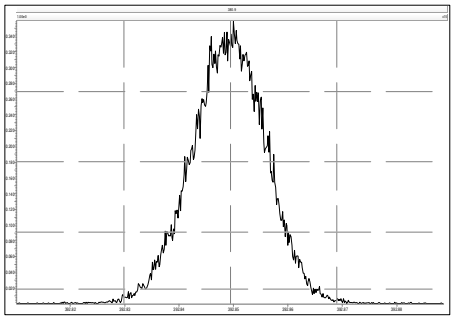
M 366.9792 R 10680



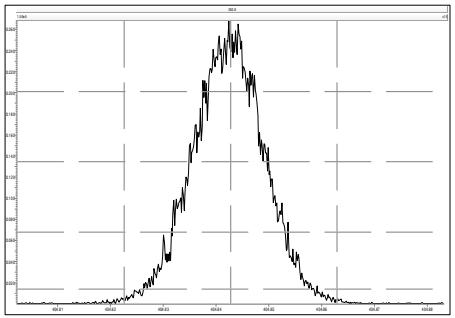
M 380.9760 R 12315



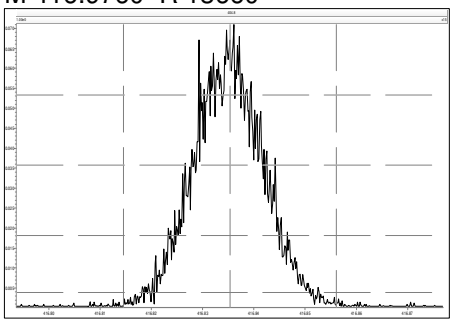
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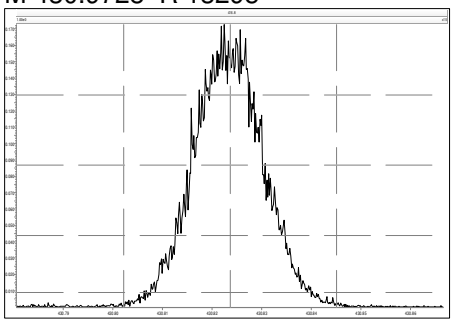
M 404.9760 R 12433



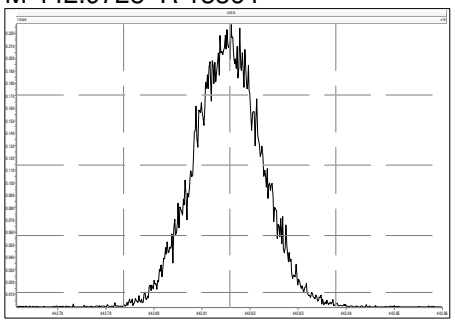
M 416.9760 R 13660



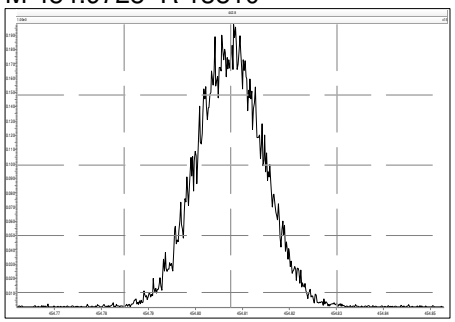
M 430.9728 R 13295



M 442.9728 R 13364



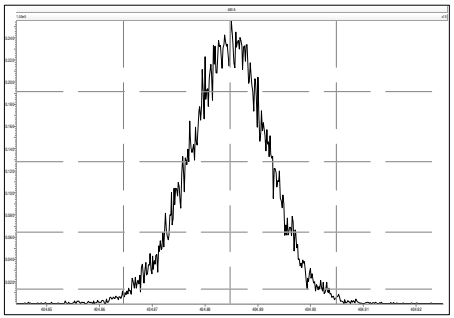
M 454.9728 R 13810



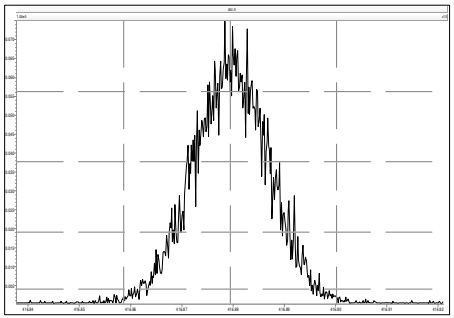
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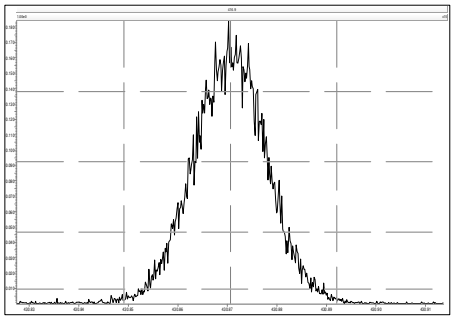
M 404.9760 R 11679



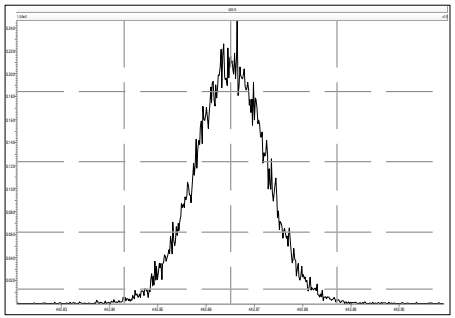
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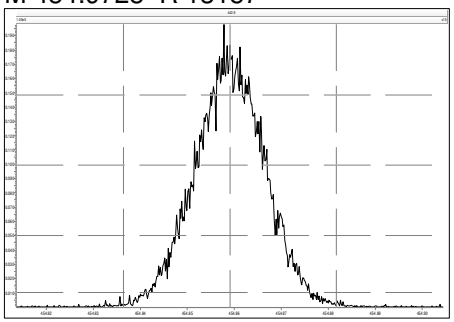
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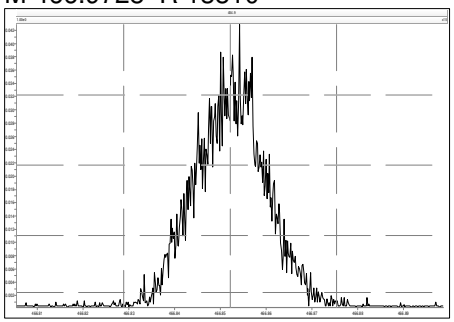
M 442.9728 R 12756



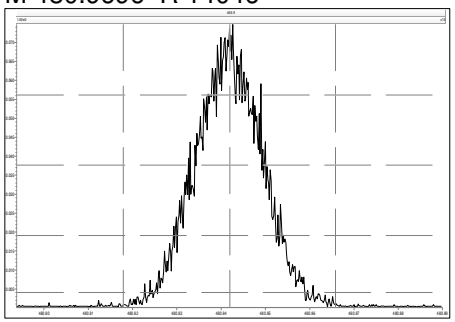
M 454.9728 R 13157



M 466.9728 R 13810



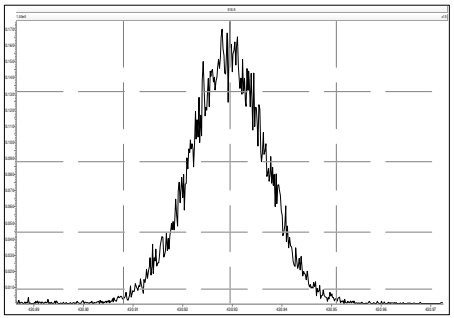
M 480.9696 R 14046



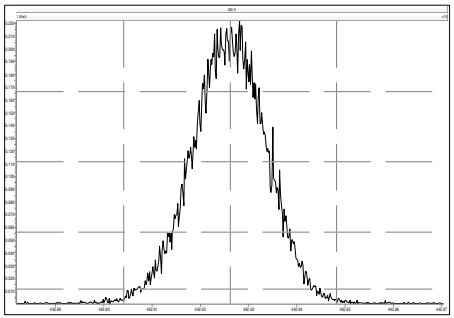
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

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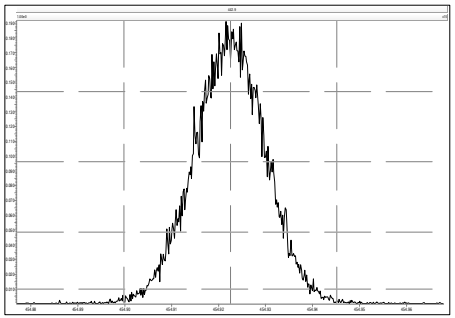
M 430.9728 R 11574



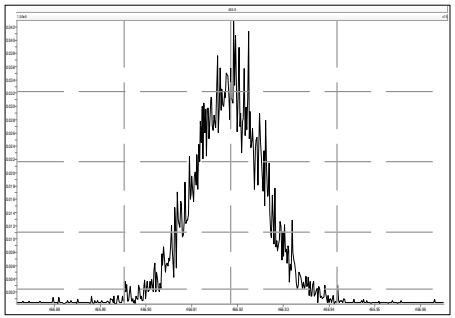
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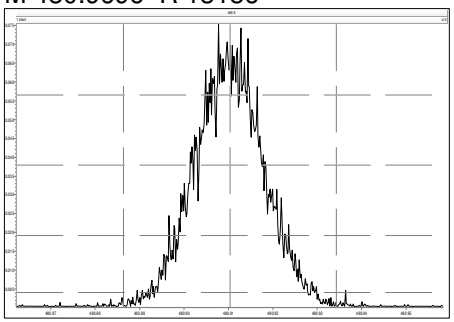
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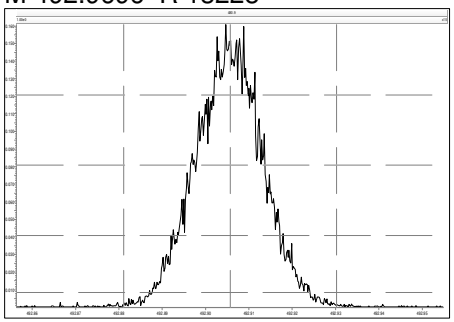
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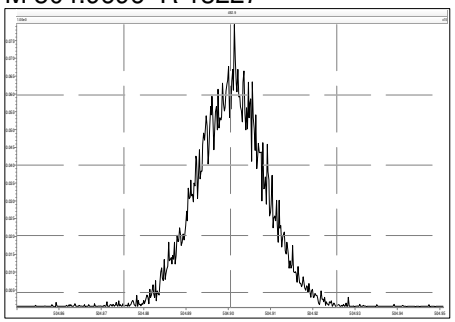
M 480.9696 R 13156



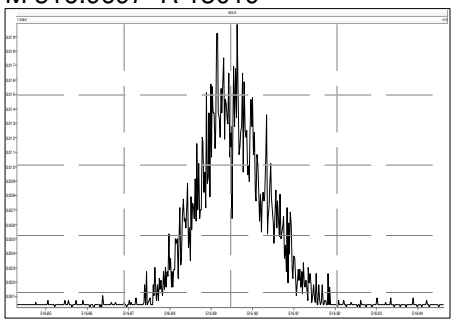
M 492.9696 R 13228



M 504.9696 R 13227



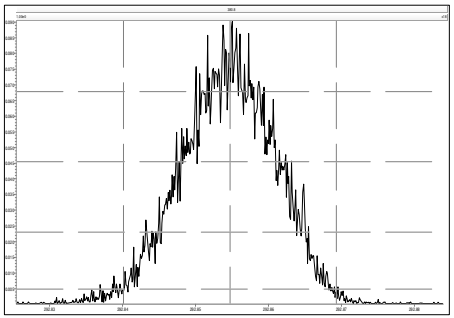
M 516.9697 R 13019



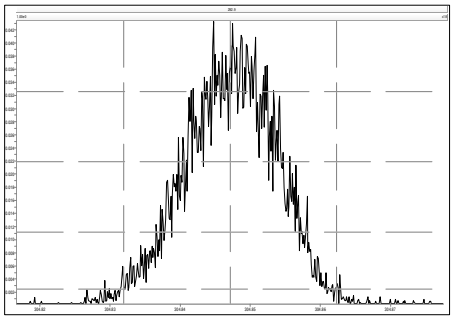
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

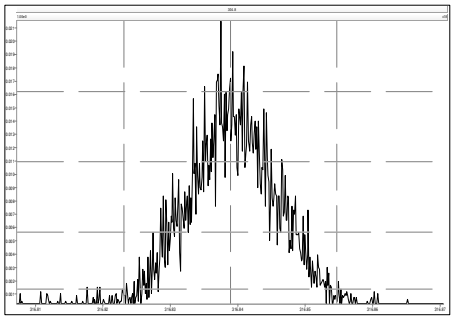
M 292.9824 R 10122



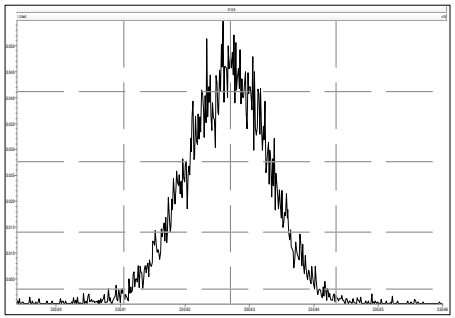
M 304.9824 R 10329



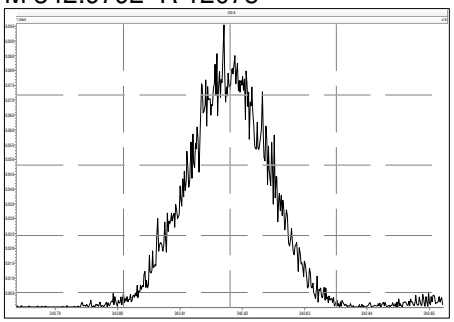
M 316.9824 R 11964



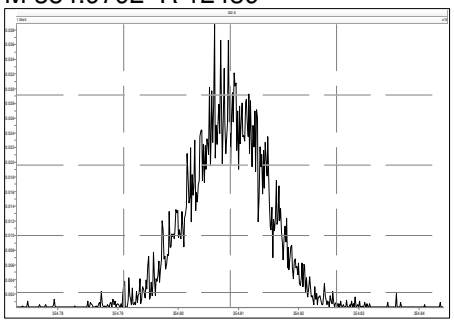
M 330.9792 R 11062



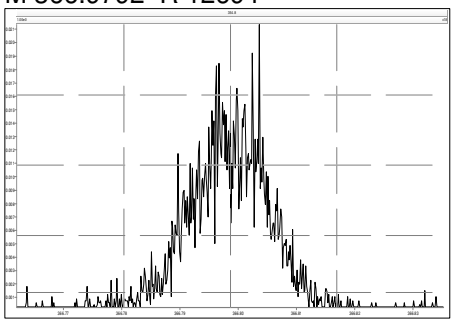
M 342.9792 R 12075



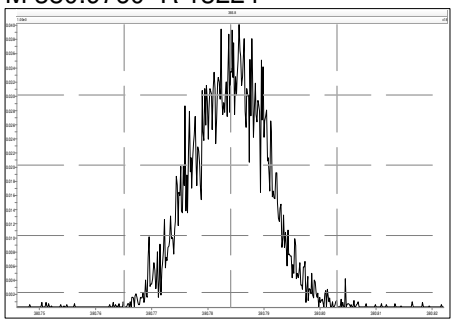
M 354.9792 R 12439



M 366.9792 R 12694



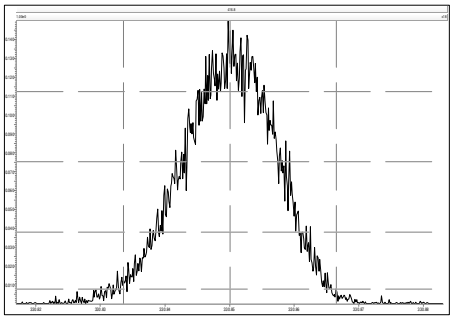
M 380.9760 R 13224



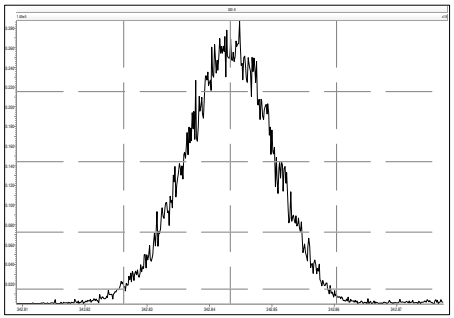
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

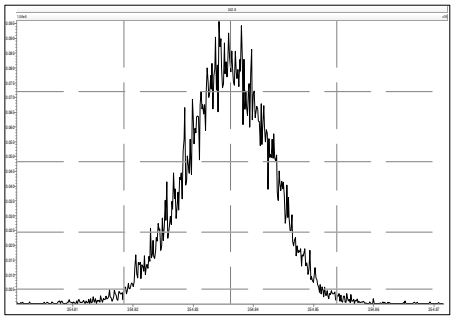
M 330.9792 R 10730



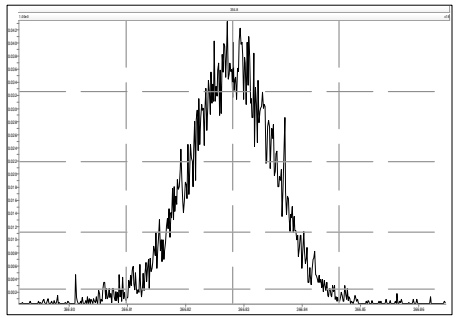
M 342.9792 R 10039



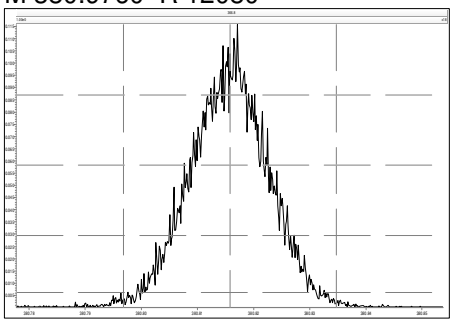
M 354.9792 R 11108



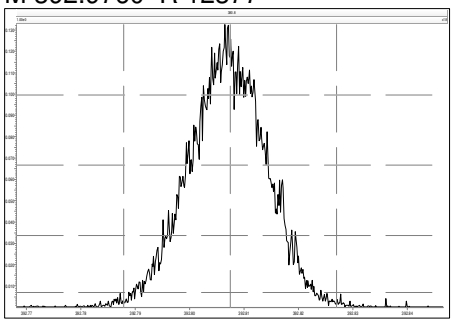
M 366.9792 R 11520



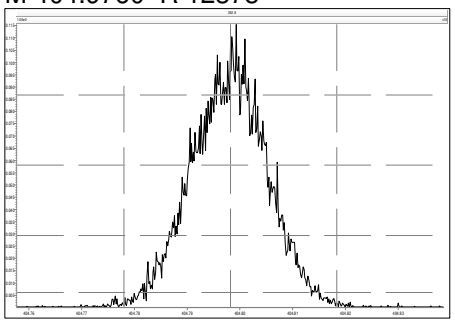
M 380.9760 R 12080



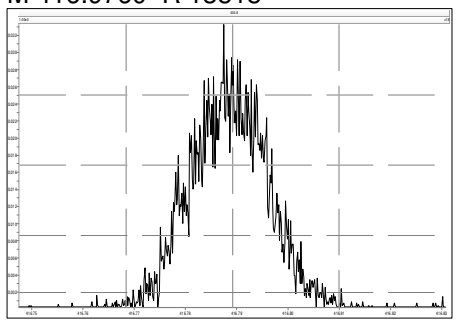
M 392.9760 R 12377



M 404.9760 R 12375



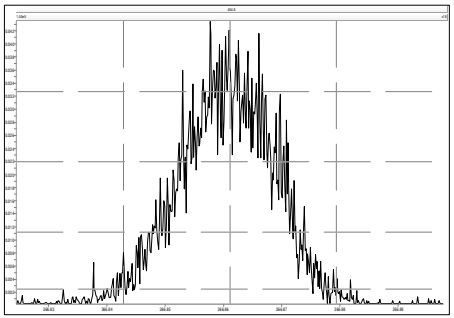
M 416.9760 R 13515



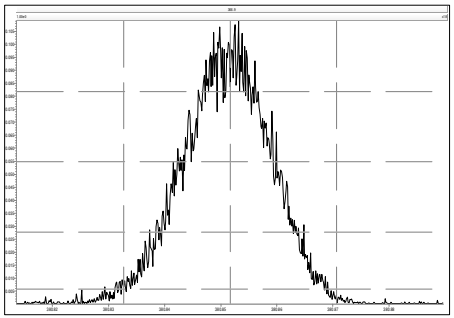
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

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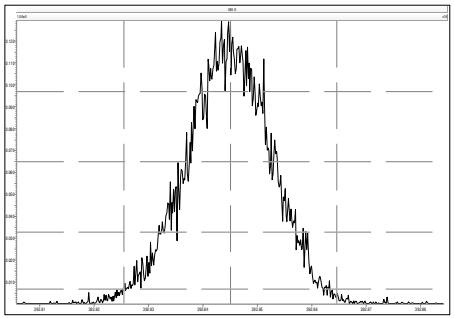
M 366.9792 R 10866



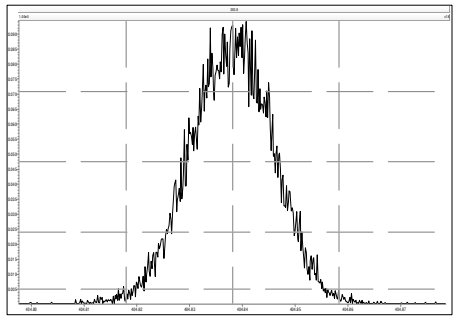
M 380.9760 R 10416



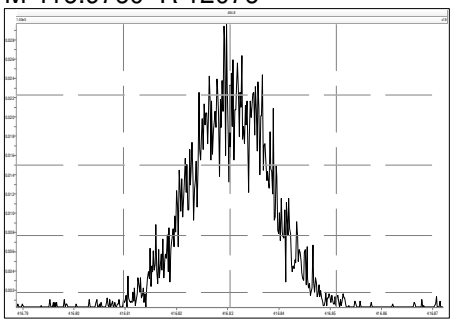
M 392.9760 R 10640



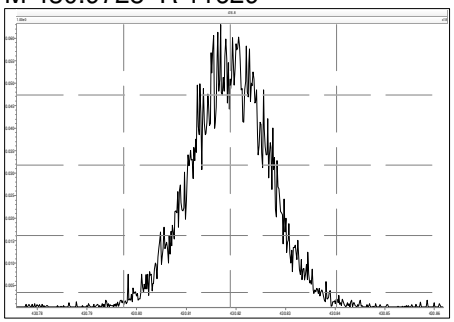
M 404.9760 R 11957



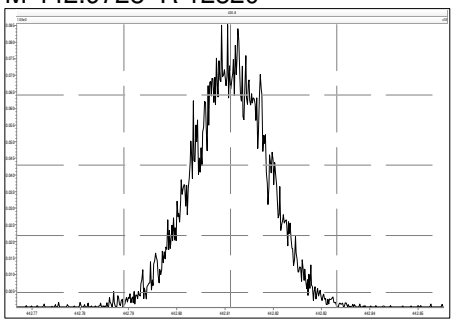
M 416.9760 R 12076



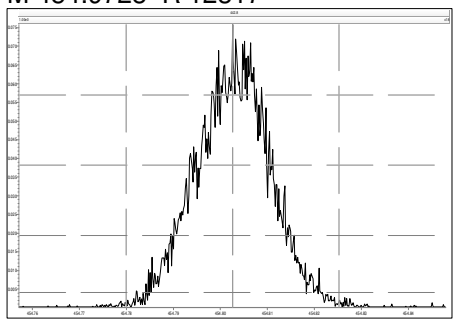
M 430.9728 R 11629



M 442.9728 R 12820



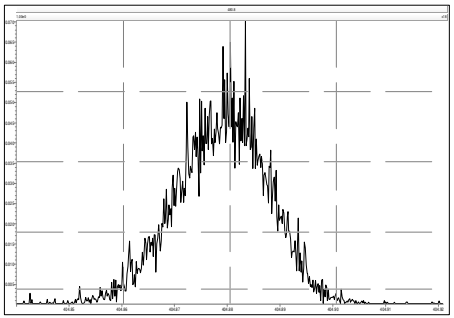
M 454.9728 R 12317



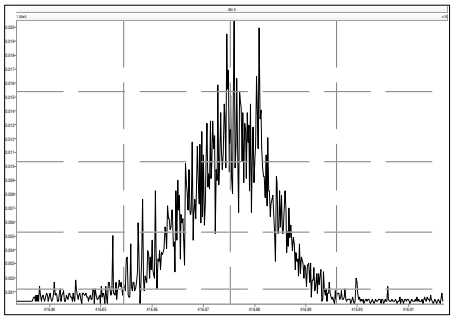
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

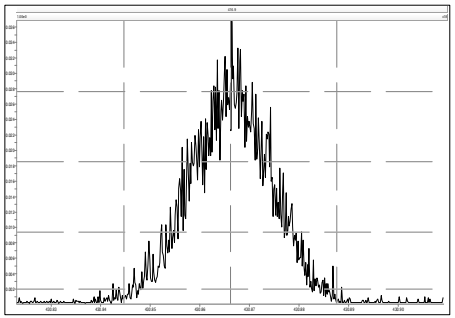
M 404.9760 R 10505



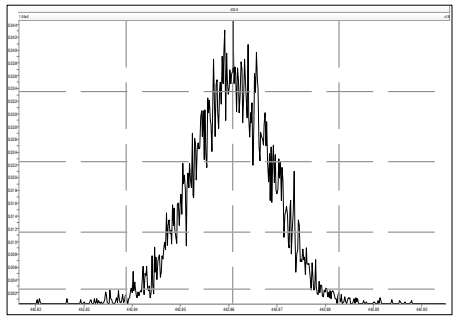
M 416.9760 R 12500



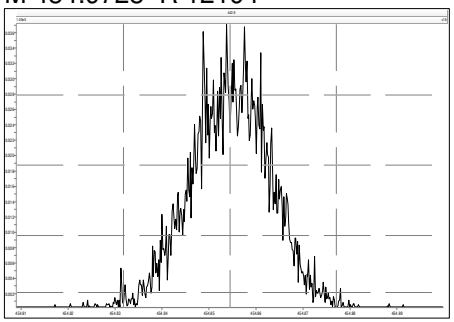
M 430.9728 R 11362



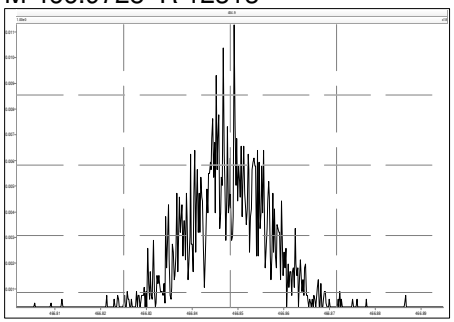
M 442.9728 R 12756



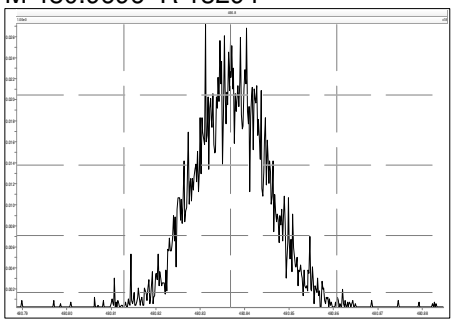
M 454.9728 R 12194



M 466.9728 R 12313



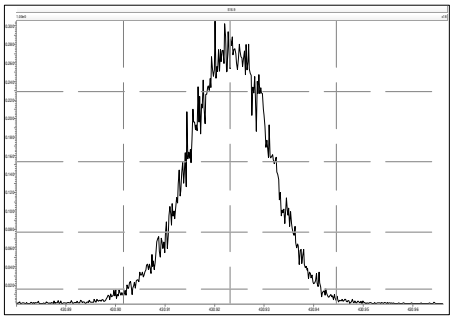
M 480.9696 R 13294



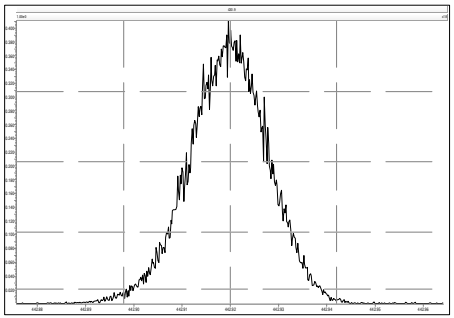
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

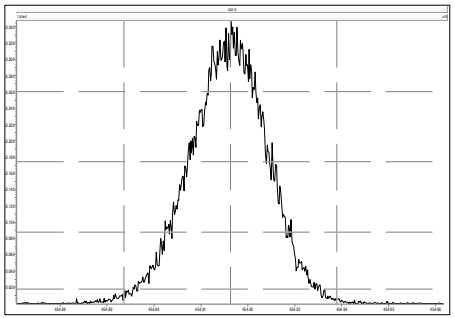
M 430.9728 R 11312



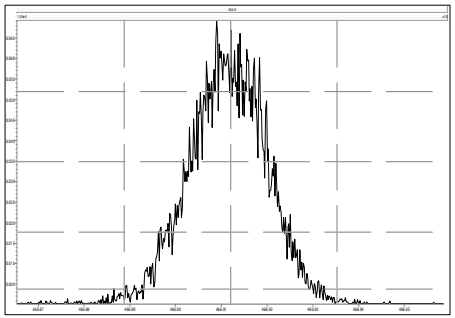
M 442.9728 R 11110



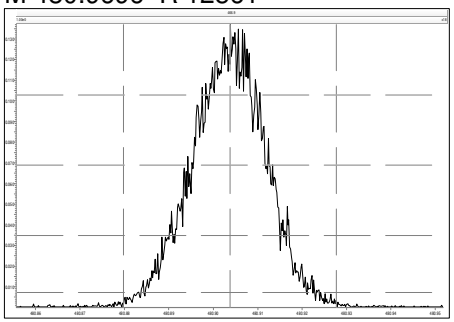
M 454.9728 R 11906



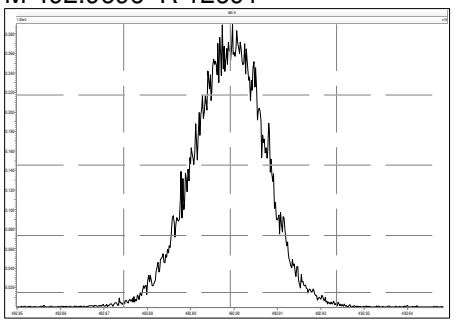
M 466.9728 R 12562



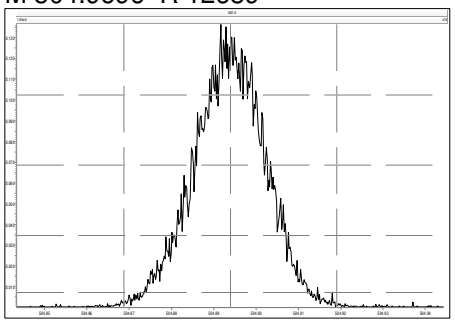
M 480.9696 R 12561



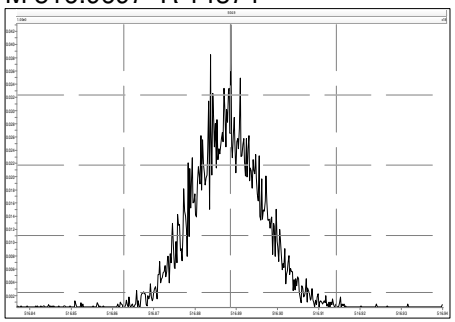
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18876_DF

APPROVED
Carla_Lyon , 2/10/2022, 12:24:17 PM

Acq'd: 04 Feb 2022 23:38 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18876_OPR001

UTP: 08-Feb-2022 11:07:21 DTF

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 002-289-RNM

Datafile: 220204C19

Report: 08 Feb 2022 11:09 TF

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.53		1.0008	1.0007	-0.2	2.97E+06	0.79	Y	1.18	12.1	4052.496	0.162
12378-PeCDD	33.87		1.0006	1.0006	0	1.08E+07	1.62	Y	1.04	50.7	3117.598	0.135
123478-HxCDD	37.78		1.0004	1.0004	0	1.33E+07	1.30	Y	1.09	56.8	3275.145	0.116
123678-HxCDD	37.90		1.0035	1.0035	0	1.56E+07	1.27	Y	1.15	58.8	3275.145	0.111
123789-HxCDD	38.19		1.0112	1.0112	0	1.32E+07	1.30	Y	1.05	55	3275.145	0.119
1234678-HpCDD	40.84		1.0003	1.0003	0	1.18E+07	1.05	Y	1.06	56.4	3346.953	0.138
OCDD	43.53		1.0004	1.0003	-0.3	1.68E+07	0.94	Y	1.13	113	3007.423	0.237
2378-TCDF	27.68		1.0008	1.0007	-0.2	4.53E+06	0.82	Y	1.08	13.1	3187.2	0.101
12378-PeCDF	32.42		1.0005	1.0005	0	1.80E+07	1.58	Y	1.02	54.7	6939.317	0.196
23478-PeCDF	33.53		1.0005	1.0005	0	1.84E+07	1.54	Y	1.02	57.9	6939.317	0.193
123478-HxCDF	36.77		1.0004	1.0005	+0.2	1.59E+07	1.25	Y	1.27	53.9	4145.676	0.122
123678-HxCDF	36.91		1.0004	1.0005	+0.2	1.95E+07	1.21	Y	1.15	56.1	4145.676	0.105
234678-HxCDF	37.59		1.0005	1.0004	-0.2	2.19E+07	1.25	Y	1.19	54.3	4145.676	0.0943
123789-HxCDF	38.54		1.0004	1.0005	+0.2	1.42E+07	1.29	Y	1.16	54.1	4145.676	0.14
1234678-HpCDF	39.91		1.0003	1.0004	+0.2	2.11E+07	1.05	Y	1.37	57	3072.539	0.061
1234789-HpCDF	41.30		1.0002	1.0003	+0.2	1.23E+07	1.06	Y	1.31	54.2	3072.539	0.118
OCDF	43.70		1.0003	1.0002	-0.3	1.73E+07	0.92	Y	1.07	108	3798.125	0.271

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0237	+0.2	2.06E+07	0.78	Y	1.05	73.9
ES 12378-PeCDD	33.85	1.2144	1.2154	+2.0	2.05E+07	1.63	Y	0.88	87.1
ES 123478-HxCDD	37.76	0.9920	0.9920	0	2.15E+07	1.28	Y	0.97	81.4
ES 123678-HxCDD	37.88	0.9951	0.9950	-0.2	2.31E+07	1.23	Y	0.94	90.4
ES 123789-HxCDD	38.17	1.0027	1.0027	0	2.29E+07	1.24	Y	1.09	77.2
ES 1234678-HpCDD	40.83	1.0724	1.0726	+0.5	1.98E+07	1.08	Y	0.91	80
ES OCDD	43.52	1.1428	1.1432	+1.0	2.63E+07	0.88	Y	0.62	77.7
ES 2378-TCDF	27.66	1.0516	1.0518	+0.3	3.21E+07	0.81	Y	1.06	71.2
ES 12378-PeCDF	32.40	1.2312	1.2321	+1.7	3.22E+07	1.61	Y	0.91	83.1
ES 23478-PeCDF	33.52	1.2733	1.2744	+2.2	3.11E+07	1.60	Y	0.88	82.8
ES 123478-HxCDF	36.75	0.9655	0.9654	-0.2	2.32E+07	0.53	Y	1.20	71.3
ES 123678-HxCDF	36.90	0.9692	0.9692	0	3.01E+07	0.53	Y	1.35	82.1
ES 234678-HxCDF	37.58	0.9871	0.9871	0	3.39E+07	0.52	Y	1.24	101
ES 123789-HxCDF	38.53	1.0121	1.0120	-0.2	2.25E+07	0.53	Y	1.16	71.9
ES 1234678-HpCDF	39.90	1.0479	1.0480	+0.2	2.71E+07	0.45	Y	0.97	103
ES 1234789-HpCDF	41.29	1.0845	1.0847	+0.5	1.73E+07	0.45	Y	0.85	74.9
ES OCDF	43.69	1.1477	1.1478	+0.3	2.99E+07	0.91	Y	0.81	68.3

Lab ID: OPR1_18876_DF | Acq'd: 04 Feb 2022 23:38 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18876_OPR001 | UTP: 08-Feb-2022 11:07:21 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 002-289-RNM

Datafile: 220204C19 | Report: 08 Feb 2022 11:09 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.85		-	-	-	2.67E+07	0.80	Y	-	-	
JS 1234-TCDF	26.30		-	-	-	4.25E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	1.36E+07	1.27	Y	-	-	
CS 37Cl-2378-TCDD	28.53		1.0244	1.0245	+0.2	1.10E+07	n/a	-	1.20	85.7	
CS 12347-PeCDD	33.35		1.1964	1.1973	+1.8	2.35E+07	1.62	Y	0.75	116	
CS 12346-PeCDF	31.87		1.2112	1.2120	+1.5	3.55E+07	1.54	Y	0.85	98	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	3.06E+07	0.53	Y	1.12	101	
CS 1234689-HpCDF	40.30		1.0584	1.0587	+0.7	2.72E+07	0.45	Y	0.89	113	
~~SS 37Cl-2378-TCDD~~	~~28.53~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.10E+07~~	~~n/a~~		~~1.15~~	~~116~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1973~~	~~+1.8~~	~~2.35E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~133~~	CL 10Feb22
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2120~~	~~+1.5~~	~~3.55E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~110~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~3.06E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~123~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0587~~	~~+0.7~~	~~2.72E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~109~~	

Totals	Conc	EMPC
Total TCDD	52.3	52.3
Total PeCDD	74.6	74.6
Total HxCDD	183	183
Total HpCDD	68.7	68.7
Total Tetra-Octa Dioxins	492	492
Total TCDF	65.4	65.4
Total PeCDF	207	207
Total HxCDF	334	334
Total HpCDF	111	111
Total Tetra-Octa Furans	825	825
Total Tetra-Octa Dioxins & Furans	1320	1320

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.79	0.79
Response	2.97E+06	2.97E+06

Lab ID: OPR1_18876_DF | **Acq'd: 04 Feb 2022 23:38 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR001 | **UTP: 08-Feb-2022 11:07:21 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 002-289-RNM**

Datafile: 220204C19 | **Report: 08 Feb 2022 11:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.90		0.8737	0.8733	-0.6	3.44E+06	0.78	Y	1.18	14.1	4052.496	0.162
1379-TCDD	NotFnd		0.8860						1.18		4052.496	0.162
1369-TCDD	NotFnd		0.9009						1.18		4052.496	0.162
1469-TCDD	NotFnd		0.9281						1.18		4052.496	0.162
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4052.496	0.162
1378-TCDD	NotFnd		0.9432						1.18		4052.496	0.162
1268-TCDD	NotFnd		0.9500						1.18		4052.496	0.162
1478-TCDD	NotFnd		0.9586						1.18		4052.496	0.162
1279-TCDD	NotFnd		0.9645						1.18		4052.496	0.162
1234/1269-TCDD	NotFnd		0.9770						1.18		4052.496	0.162
1236-TCDD	NotFnd		0.9817						1.18		4052.496	0.162
1237/1238-TCDD	NotFnd		0.9905						1.18		4052.496	0.162
1239-TCDD	28.37		0.9952	0.9952	0	2.59E+06	0.85	Y	1.18	10.6	4052.496	0.162
2378-TCDD	**28.53**		**1.0008**	1.0007	**-0.2**	2.97E+06	0.79	Y	**1.18**	**12.1**	**4052.496**	**0.162**
1278-TCDD	NotFnd		1.0121						1.18		4052.496	0.162
1267-TCDD	NotFnd		1.0167						1.18		4052.496	0.162
1289-TCDD	29.50		1.0345	1.0347	+0.4	3.81E+06	0.85	Y	1.18	15.6	4052.496	0.162
12479/12468-PeCDD	31.37		0.9267	0.9266	-0.2	2.32E+06	1.52	Y	1.04	11	3117.598	0.135
12469-PeCDD	NotFnd		0.9425						1.04		3117.598	0.135
12368-PeCDD	NotFnd		0.9588						1.04		3117.598	0.135
12478-PeCDD	NotFnd		0.9643						1.04		3117.598	0.135
12379-PeCDD	NotFnd		0.9673						1.04		3117.598	0.135
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3117.598	0.135
12346/12347-PeCDD	NotFnd		0.9858						1.04		3117.598	0.135
12378-PeCDD	33.87		**1.0006**	**1.0006**	**0**	**1.08E+07**	**1.62**	**Y**	**1.04**	**50.7**	**3117.598**	**0.135**
12367-PeCDD	NotFnd		1.0033						1.04		3117.598	0.135
12389-PeCDD	34.31		1.0134	1.0135	+0.2	2.73E+06	1.60	Y	1.04	12.9	3117.598	0.135
124679/124689-HxCDD	36.03		0.9542	0.9541	-0.2	3.07E+06	1.31	Y	1.10	12.5	3275.145	0.115
123468-HxCDD	NotFnd		0.9715						1.10		3275.145	0.115
123679/123689-HxCDD	NotFnd		0.9793						1.10		3275.145	0.115
123469-HxCDD	NotFnd		0.9828						1.10		3275.145	0.115
123478-HxCDD	37.78		**1.0004**	**1.0004**	**0**	**1.33E+07**	**1.30**	**Y**	1.09	**56.8**	**3275.145**	**0.116**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**1.56E+07**	**1.27**	**Y**	1.15	**58.8**	**3275.145**	**0.111**
123467-HxCDD	NotFnd		1.0085						1.10		3275.145	0.115
123789-HxCDD	38.19		**1.0112**	**1.0112**	**0**	**1.32E+07**	**1.30**	**Y**	1.05	**55**	**3275.145**	**0.119**

Lab ID: OPR1_18876_DF **Acq'd: 04 Feb 2022 23:38 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR001 **UTP: 08-Feb-2022 11:07:21 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 002-289-RNM**

Datafile: 220204C19 **Report: 08 Feb 2022 11:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	2.59E+06	0.97	Y	1.06	12.3	3346.953	0.138
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.18E+07**	**1.05**	**Y**	**1.06**	**56.4**	**3346.953**	**0.138**
OCDD	**43.53**		**1.0004**	**1.0003**	**-0.3**	**1.68E+07**	**0.94**	**Y**	**1.13**	**113**	**3007.423**	**0.237**
OCDD-a	43.53		1.0003	1.0002	-0.3	1.02E+06	2.73	Y	0.07	108	3013.093	3.71
1368-TCDF	22.81		0.8251	0.8245	-0.8	5.37E+06	0.80	Y	1.08	15.5	3187.2	0.101
1468-TCDF	NotFnd		0.8458						1.08		3187.2	0.101
2468-TCDF	24.01		0.8686	0.8682	-0.6	1.42E+06	0.70	Y	1.08	4.1	3187.2	0.101
1346/1246-TCDF	NotFnd		0.8814						1.08		3187.2	0.101
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3187.2	0.101
1348-TCDF	NotFnd		0.8962						1.08		3187.2	0.101
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3187.2	0.101
1268-TCDF	NotFnd		0.9145						1.08		3187.2	0.101
1467-TCDF	NotFnd		0.9193						1.08		3187.2	0.101
1478-TCDF	NotFnd		0.9254						1.08		3187.2	0.101
1369/1237-TCDF	NotFnd		0.9387						1.08		3187.2	0.101
2467-TCDF	NotFnd		0.9433						1.08		3187.2	0.101
2368-TCDF	NotFnd		0.9489						1.08		3187.2	0.101
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3187.2	0.101
1278-TCDF	NotFnd		0.9683						1.08		3187.2	0.101
1349-TCDF	NotFnd		0.9722						1.08		3187.2	0.101
1267-TCDF	NotFnd		0.9783						1.08		3187.2	0.101
2346/1249-TCDF	NotFnd		0.9850						1.08		3187.2	0.101
2347/1279-TCDF	NotFnd		0.9926						1.08		3187.2	0.101
2348-TCDF	27.57		0.9967	0.9968	+0.2	5.45E+06	0.78	Y	1.08	15.7	3187.2	0.101
2378-TCDF	**27.68**		**1.0008**	**1.0007**	**-0.2**	**4.53E+06**	**0.82**	**Y**	**1.08**	**13.1**	**3187.2**	**0.101**
2367/3467-TCDF	NotFnd		1.0137						1.08		3187.2	0.101
1269-TCDF	NotFnd		1.0223						1.08		3187.2	0.101
1239-TCDF	NotFnd		1.0321						1.08		3187.2	0.101
1289-TCDF	29.67		1.0722	1.0728	+1.1	5.86E+06	0.81	Y	1.08	16.9	3187.2	0.101
13468/12468-PeCDF	29.59		0.9139	0.9132	-1.2	2.71E+07	1.54	Y	1.02	83.7	2709.265	0.0759
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6939.317	0.195
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6939.317	0.195
14678-PeCDF	NotFnd		0.9692						1.02		6939.317	0.195
13479-PeCDF	NotFnd		0.9723						1.02		6939.317	0.195
13469/12479-PeCDF	NotFnd		0.9797						1.02		6939.317	0.195
12346-PeCDF	NotFnd		0.9840						1.02		6939.317	0.195

Lab ID: OPR1_18876_DF | **Acq'd: 04 Feb 2022 23:38 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR001 | **UTP: 08-Feb-2022 11:07:21 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 002-289-RNM**

Datafile: 220204C19 | **Report: 08 Feb 2022 11:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6939.317	0.195
12347-PeCDF	NotFnd		0.9894						1.02		6939.317	0.195
12348-PeCDF	NotFnd		0.9940						1.02		6939.317	0.195
12378-PeCDF	**32.42**		**1.0005**	**1.0005**	**0**	**1.80E+07**	**1.58**	**Y**	**1.02**	**54.7**	**6939.317**	**0.196**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6939.317	0.195
12379-PeCDF	NotFnd		1.0142						1.02		6939.317	0.195
12679-PeCDF	NotFnd		0.9929						1.02		6939.317	0.195
23467/12369-PeCDF	NotFnd		0.9967						1.02		6939.317	0.195
23478-PeCDF	**33.53**		**1.0005**	**1.0005**	**0**	**1.84E+07**	**1.54**	**Y**	**1.02**	**57.9**	**6939.317**	**0.193**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6939.317	0.195
12349-PeCDF	NotFnd		1.0100						1.02		6939.317	0.195
12389-PeCDF	34.61		1.0324	1.0326	+0.4	3.54E+06	1.54	Y	1.02	11	6939.317	0.195
123468-HxCDF	35.38		0.9627	0.9627	0	3.78E+07	1.26	Y	1.19	115	4145.676	0.112
124678/134678-HxCDF	NotFnd		0.9682						1.19		4145.676	0.112
134679-HxCDF	NotFnd		0.9744						1.19		4145.676	0.112
124679-HxCDF	NotFnd		0.9798						1.19		4145.676	0.112
124689-HxCDF	NotFnd		0.9858						1.19		4145.676	0.112
123467-HxCDF	NotFnd		0.9972						1.19		4145.676	0.112
123478-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**1.59E+07**	**1.25**	**Y**	**1.27**	**53.9**	**4145.676**	**0.122**
123678-HxCDF	**36.91**		**1.0004**	**1.0005**	**+0.2**	**1.95E+07**	**1.21**	**Y**	**1.15**	**56.1**	**4145.676**	**0.105**
123479-HxCDF	NotFnd		1.0049						1.19		4145.676	0.112
123469-HxCDF	NotFnd		1.0090						1.19		4145.676	0.112
123679-HxCDF	NotFnd		0.9942						1.19		4145.676	0.112
234678-HxCDF	**37.59**		**1.0005**	**1.0004**	**-0.2**	**2.19E+07**	**1.25**	**Y**	**1.19**	**54.3**	**4145.676**	**0.0943**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4145.676	0.112
123789-HxCDF	**38.54**		**1.0004**	**1.0005**	**+0.2**	**1.42E+07**	**1.29**	**Y**	**1.16**	**54.1**	**4145.676**	**0.14**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		4145.676	0.112
1234678-HpCDF	**39.91**		**1.0003**	**1.0004**	**+0.2**	**2.11E+07**	**1.05**	**Y**	**1.37**	**57**	**3072.539**	**0.061**
1234679-HpCDF	NotFnd		1.0068						1.34		3072.539	0.0828
1234689-HpCDF	NotFnd		1.0103						1.34		3072.539	0.0828
1234789-HpCDF	**41.30**		**1.0002**	**1.0003**	**+0.2**	**1.23E+07**	**1.06**	**Y**	**1.31**	**54.2**	**3072.539**	**0.118**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**1.73E+07**	**0.92**	**Y**	**1.07**	**108**	**3798.125**	**0.271**
OCDF-a	43.70		1.0002	1.0001	-0.3	1.02E+06	2.16	Y	0.07	102	3843.009	4.43

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C19	Analysis Date:	04-FEB-2022 23:38:21
Lab ID:	OPR1_18876_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.8	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	55	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56.4	35	-	70	Y
OCDD	100	113	78	-	144	Y
2,3,7,8-TCDF	10	13.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.9	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	56.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	54.1	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	57	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54.2	39	-	69	Y
OCDF	100	108	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 08 Feb 2022 11:09 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C19	Analysis Date:	04-FEB-2022 23:38:21
Lab ID:	OPR1_18876_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	73.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	87.1	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	81.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	90.4	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	77.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	80	26	-	166	Y
13C-OCDD	200	155	26	-	397	Y
13C-2,3,7,8-TCDF	100	71.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	83.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	82.8	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	71.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	82.1	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	101	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	71.9	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	103	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	74.9	20	-	186	Y
13C-OCDF	200	137	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	34.3	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 08 Feb 2022 11:09 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220204C19	Analysis Date:	04-FEB-2022 23:38:21
Lab ID:	OPR1_18876_DF		

Window Defining Standards Results

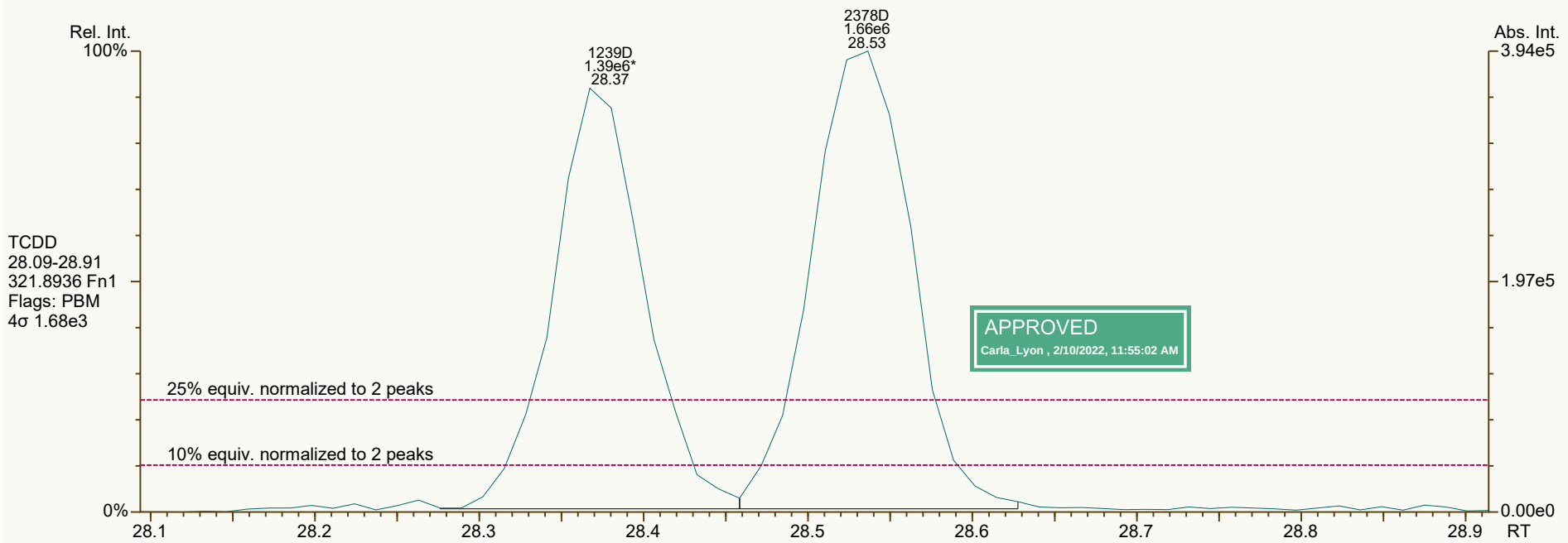
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.90	1289-TCDD	29.50
12479/12468-PeCDD	31.37	12389-PeCDD	34.31
124679/124689-HxCDD	36.03	123789-HxCDD	38.19
1234679-HpCDD	40.16	1234678-HpCDD	40.84
1368-TCDF	22.81	1289-TCDF	29.67
13468/12468-PeCDF	29.59	12389-PeCDF	34.61
123468-HxCDF	35.38	123789-HxCDF	38.54
1234678-HpCDF	39.91	1234789-HpCDF	41.30

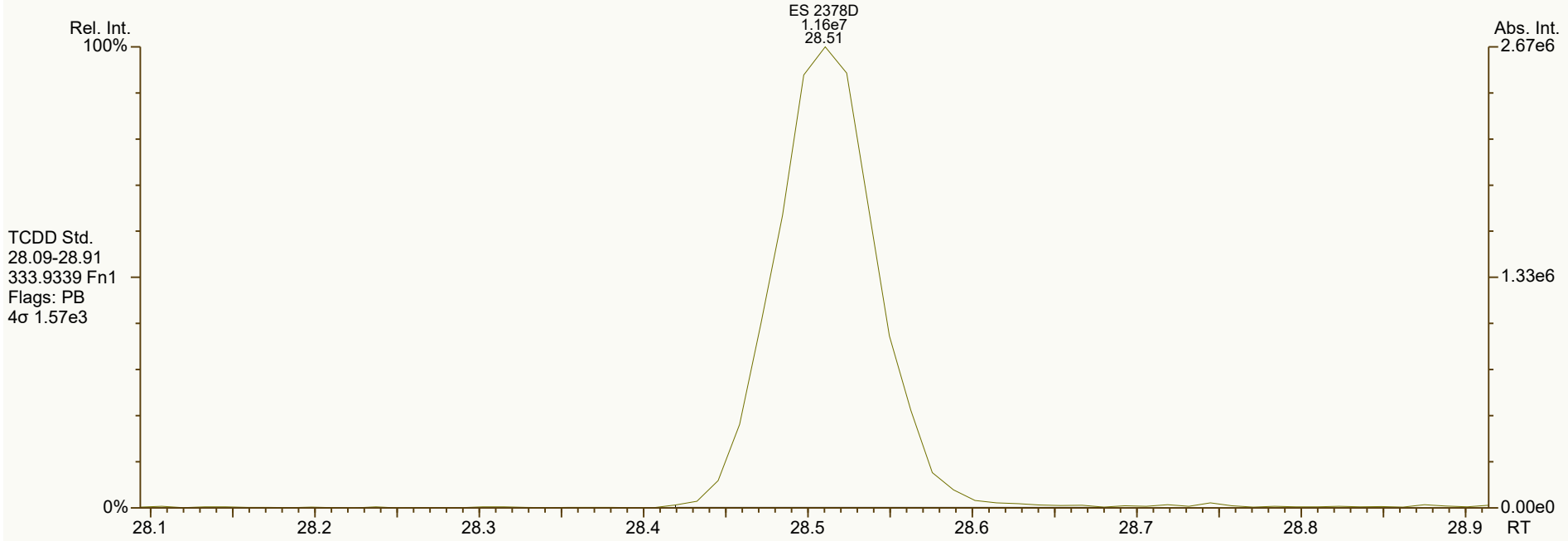
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.37	2378-TCDD	28.53
2348-TCDF	27.57	2378-TCDF	27.68

Processed: 08 Feb 2022 11:09 Analyst: TF

SGS ID: OPR1_18876_DF
Sample ID: 0_18876_OPR001
Acq: 04-Feb-2022 23:38:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220204C19

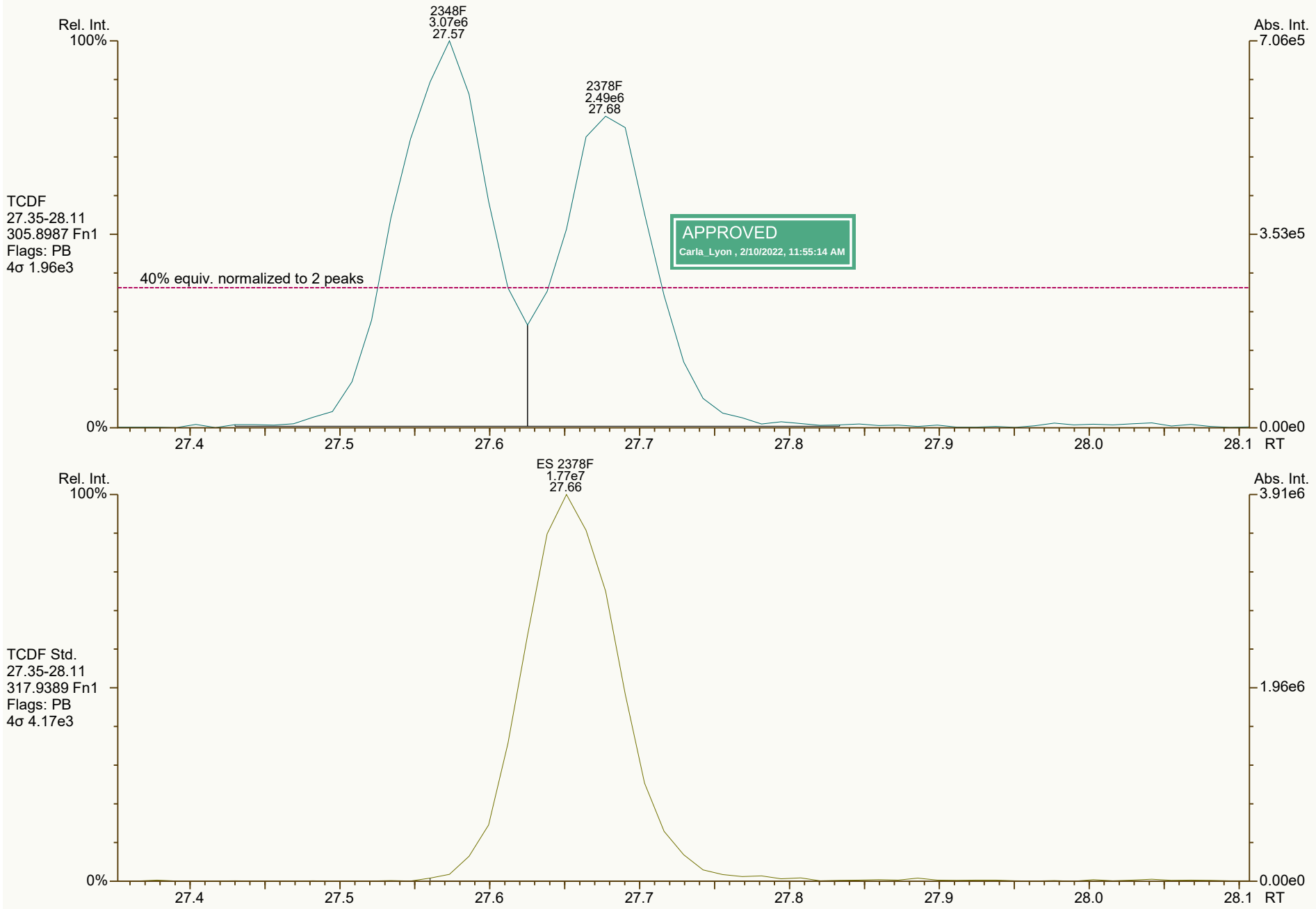




Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR1_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 07-Feb-2022 08:49 (DTF) Printed: 08-Feb-2022 11:13

SGS ID: OPR1_18876_DF | Sample ID: 0_18876_OPR001 | Acq: 04-Feb-2022 23:38:21

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53 | User: DTF Datafile: 220204C19

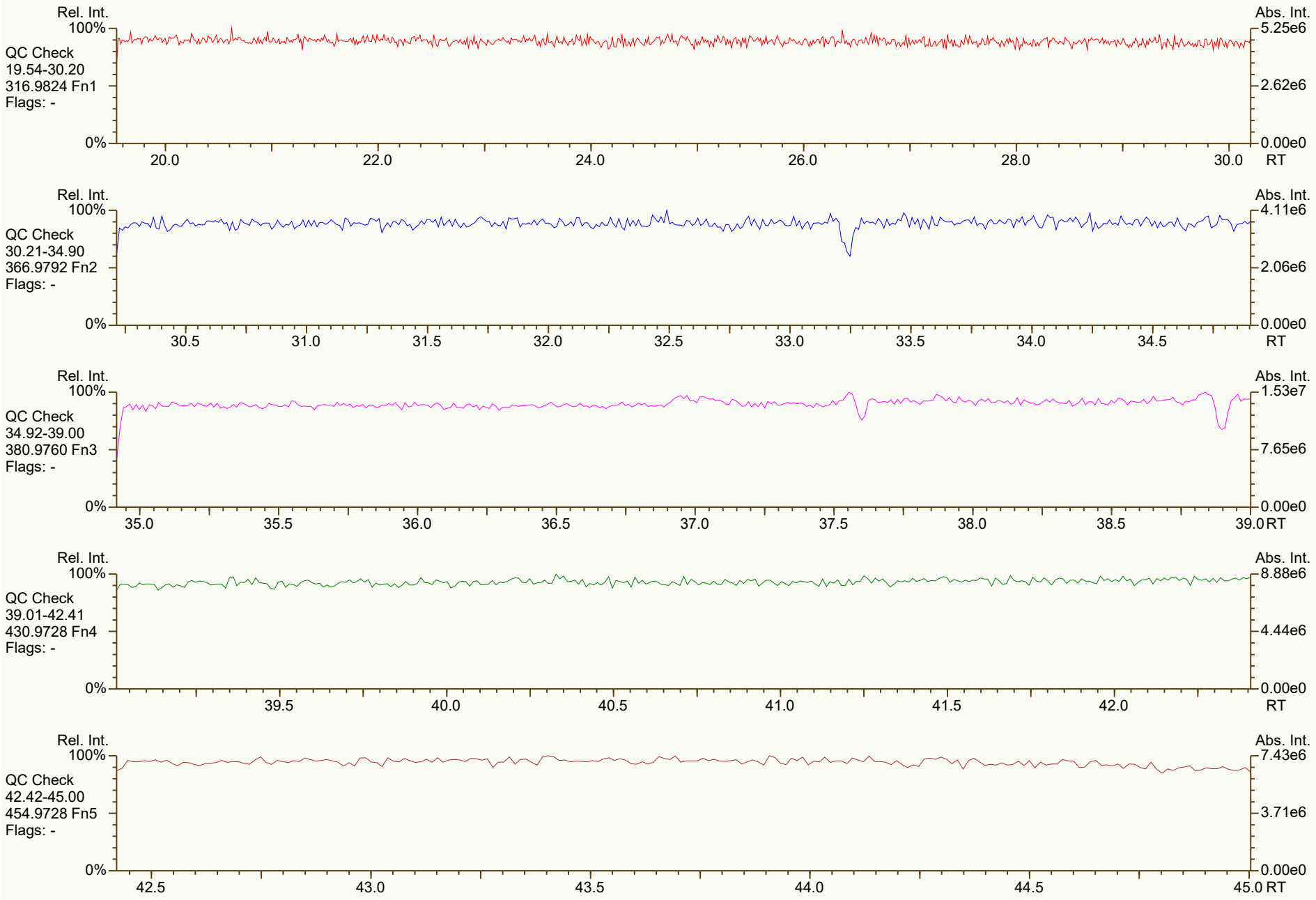


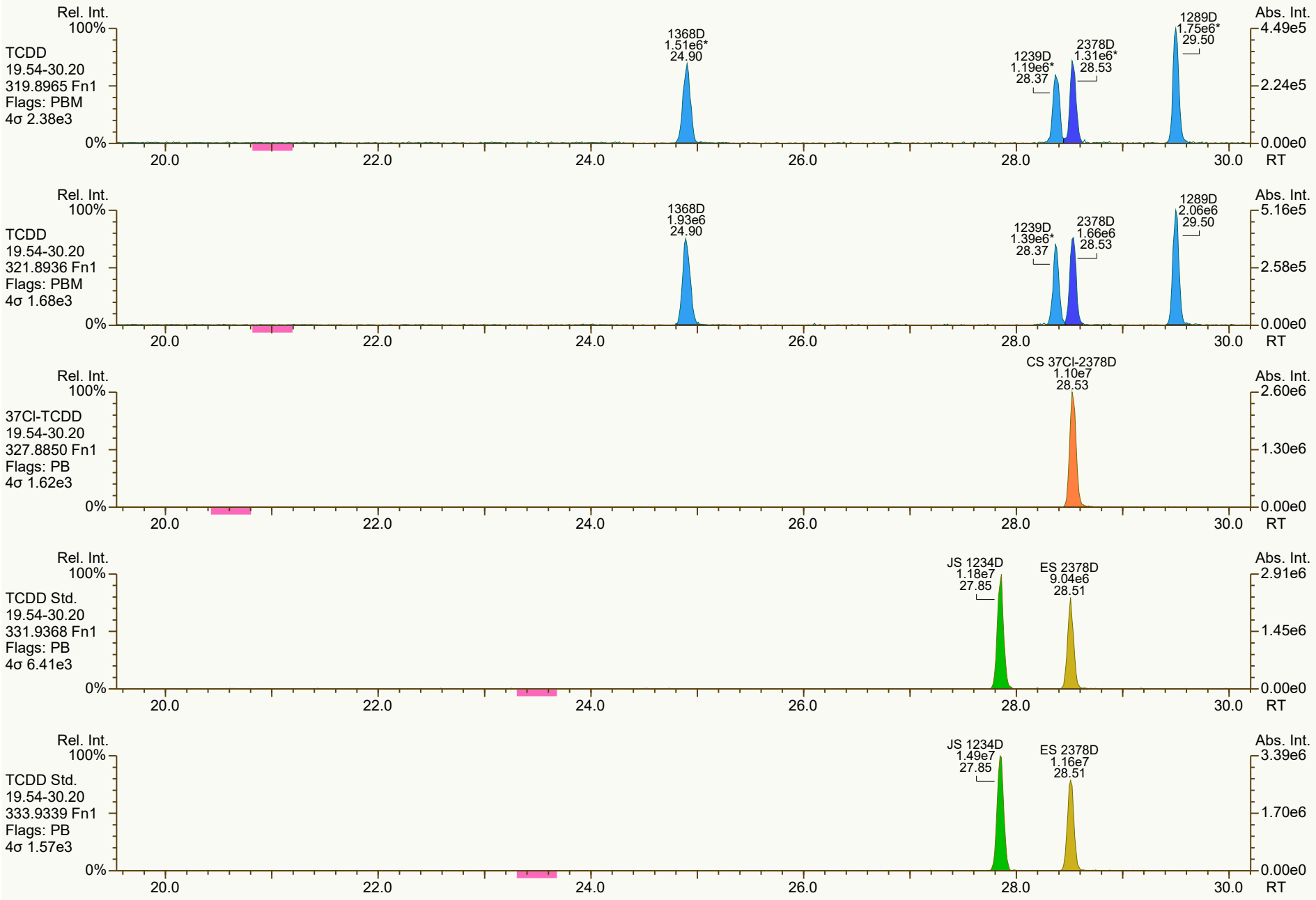
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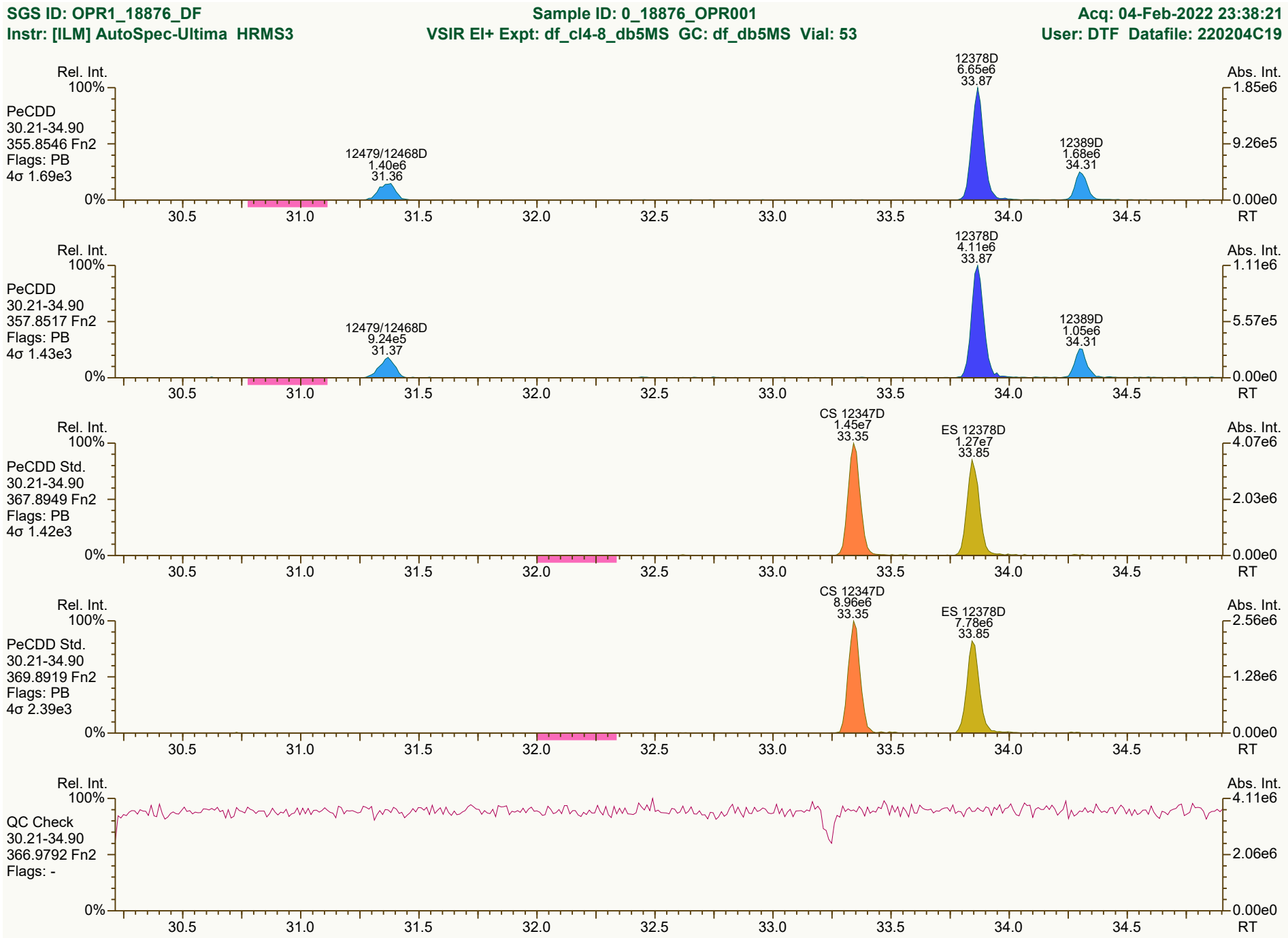
Peak annotation: Areas, Centroids

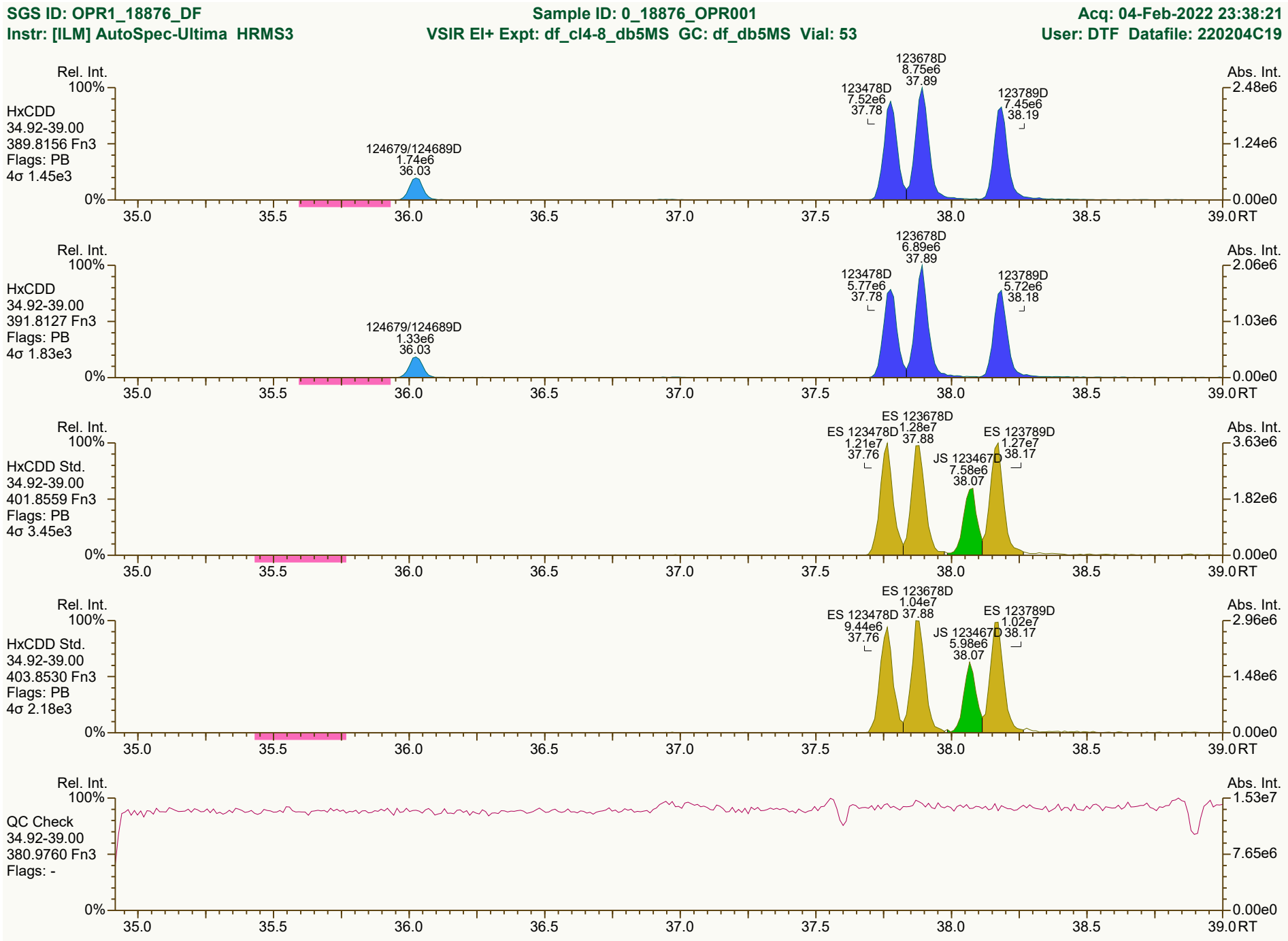
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

PKD: 07-Feb-2022 08:50 Printed: 08-Feb-2022 11:13

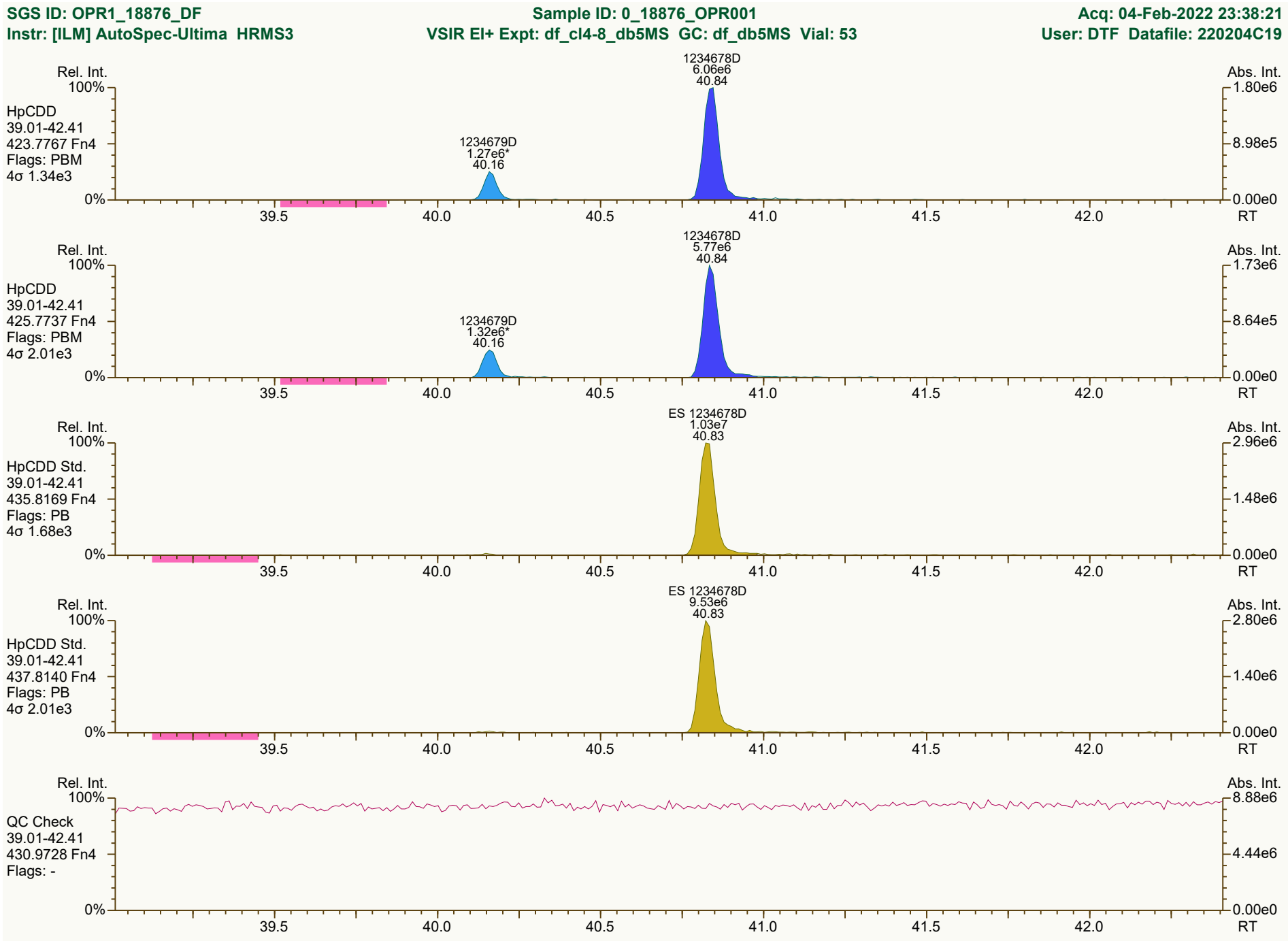

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.25e6
2.62e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.11e6
2.06e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.53e7
7.65e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.88e6
4.44e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.43e6
3.71e6
0.00e0

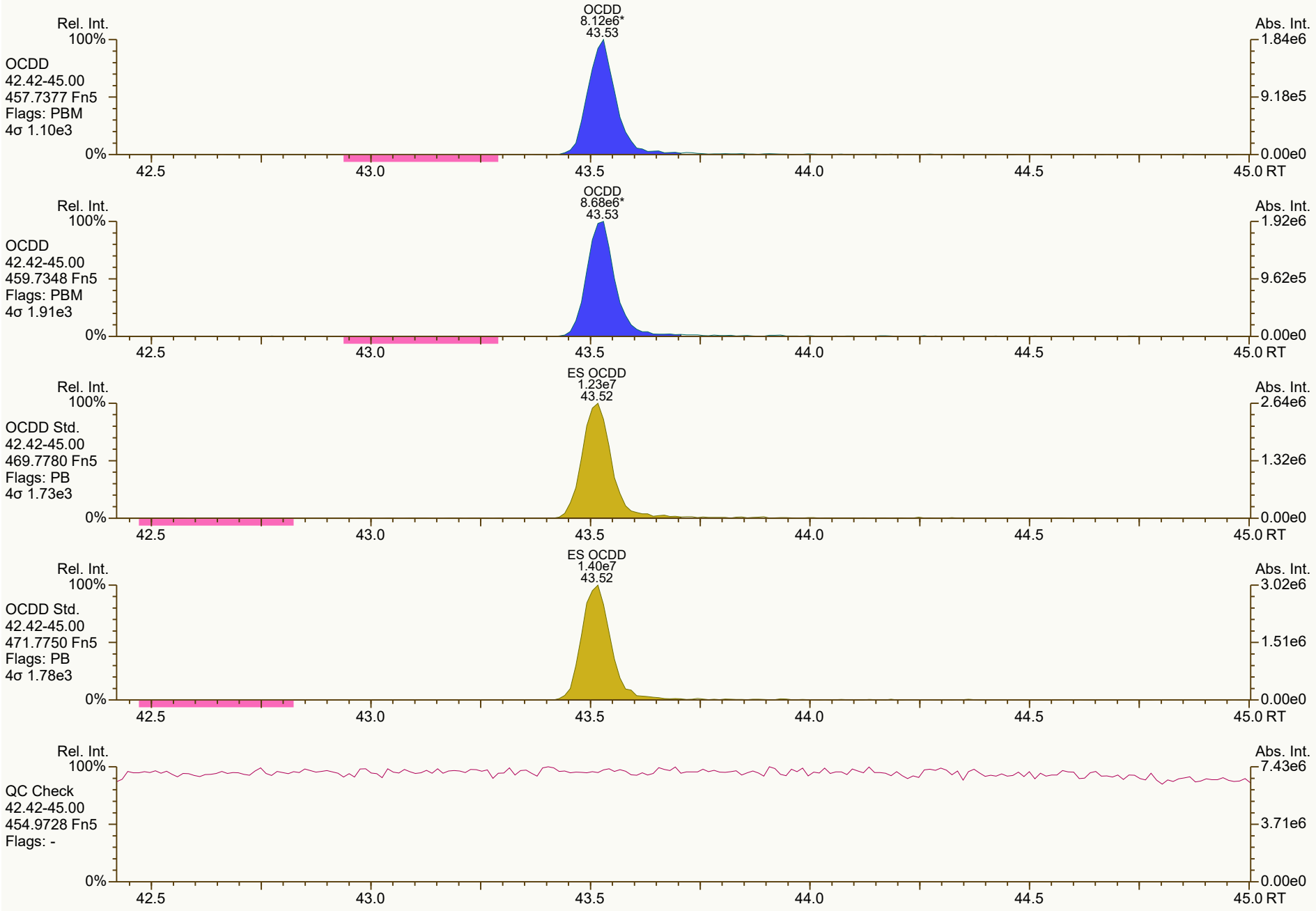

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.38e3
0%
1368D
1.51e6*
24.90
1239D
1.19e6*
28.37
2378D
1.31e6*
28.53
1289D
1.75e6*
29.50
Abs. Int.
4.49e5
2.24e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.68e3
0%
1368D
1.93e6
24.90
1239D
1.39e6*
28.37
2378D
1.66e6
28.53
1289D
2.06e6
29.50
Abs. Int.
5.16e5
2.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.62e3
0%
CS 37Cl-2378D
1.10e7
28.53
Abs. Int.
2.60e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.41e3
0%
JS 1234D
1.18e7
27.85
ES 2378D
9.04e6
28.51
Abs. Int.
2.91e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.57e3
0%
JS 1234D
1.49e7
27.85
ES 2378D
1.16e7
28.51
Abs. Int.
3.39e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR1_18876_DF
Sample ID: 0_18876_OPR001
Acq: 04-Feb-2022 23:38:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220204C19
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.69e3
12479/12468D
1.40e6
31.36
12378D
6.65e6
33.87
12389D
1.68e6
34.31
1.85e6
9.26e5
0.00e0
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.43e3
12479/12468D
9.24e5
31.37
12378D
4.11e6
33.87
12389D
1.05e6
34.31
1.11e6
5.57e5
0.00e0
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.42e3
CS 12347D
1.45e7
33.35
ES 12378D
1.27e7
33.85
4.07e6
2.03e6
0.00e0
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.39e3
CS 12347D
8.96e6
33.35
ES 12378D
7.78e6
33.85
2.56e6
1.28e6
0.00e0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
4.11e6
2.06e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR1_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9361, 9388 scc: 002-289
PKD: 07-Feb-2022 08:50 Printed: 08-Feb-2022 11:13 Page 3 of 12



Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR1_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4793, 3579 scc: 002-289
Revised: 07-Feb-2022 08:49 (DTF) Printed: 08-Feb-2022 11:13 Page 4 of 12


SGS ID: OPR1_18876_DF
Sample ID: 0_18876_OPR001
Acq: 04-Feb-2022 23:38:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220204C19
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.34e3
1234678D
6.06e6
40.84
1234679D
1.27e6*
40.16
1.80e6
8.98e5
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.01e3
1234678D
5.77e6
40.84
1234679D
1.32e6*
40.16
1.73e6
8.64e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.68e3
ES 1234678D
1.03e7
40.83
2.96e6
1.48e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.01e3
ES 1234678D
9.53e6
40.83
2.80e6
1.40e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
8.88e6
4.44e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

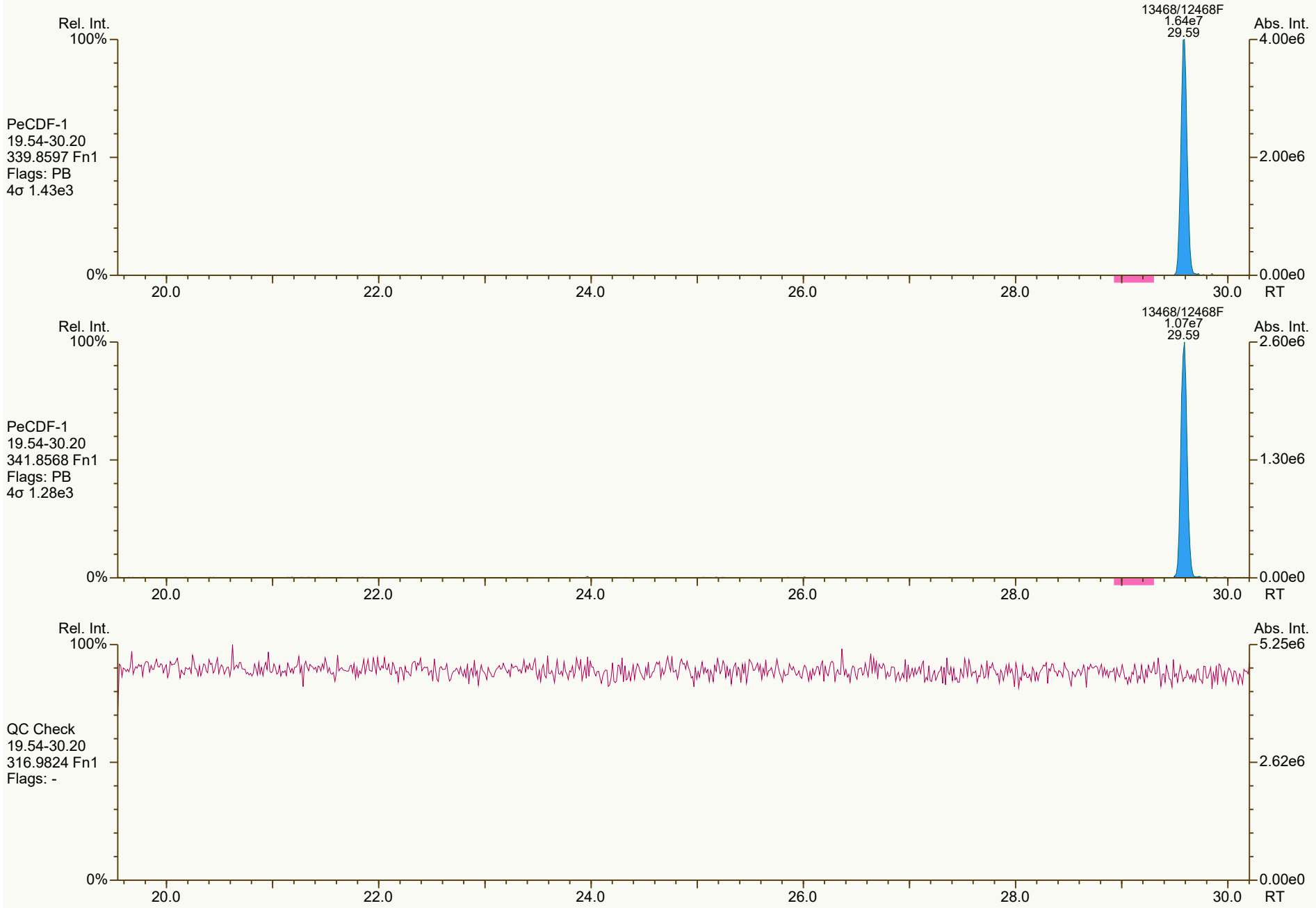

OCDD
8.12e6*
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.10e3
0%
Abs. Int.
1.84e6
9.18e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.68e6*
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.91e3
1.92e6
9.62e5
ES OCDD
1.23e7
43.52
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.73e3
2.64e6
1.32e6
ES OCDD
1.40e7
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.78e3
3.02e6
1.51e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
7.43e6
3.71e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.22e3
0%
1368F
2.39e6
22.80
2468F
5.83e5
24.01
2348F
2.39e6
27.57
2378F
2.04e6
27.68
1289F
2.61e6
29.67
Abs. Int.
5.66e5
2.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.96e3
0%
1368F
2.98e6
22.80
2468F
8.37e5
24.01
2348F
3.07e6
27.57
2378F
2.49e6
27.68
1289F
3.25e6
29.67
Abs. Int.
7.06e5
3.53e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.90e3
0%
JS 1234F
1.92e7
26.30
ES 2378F
1.44e7
27.66
Abs. Int.
4.33e6
2.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.17e3
0%
JS 1234F
2.34e7
26.30
ES 2378F
1.77e7
27.66
Abs. Int.
4.91e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.19e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR1_18876_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

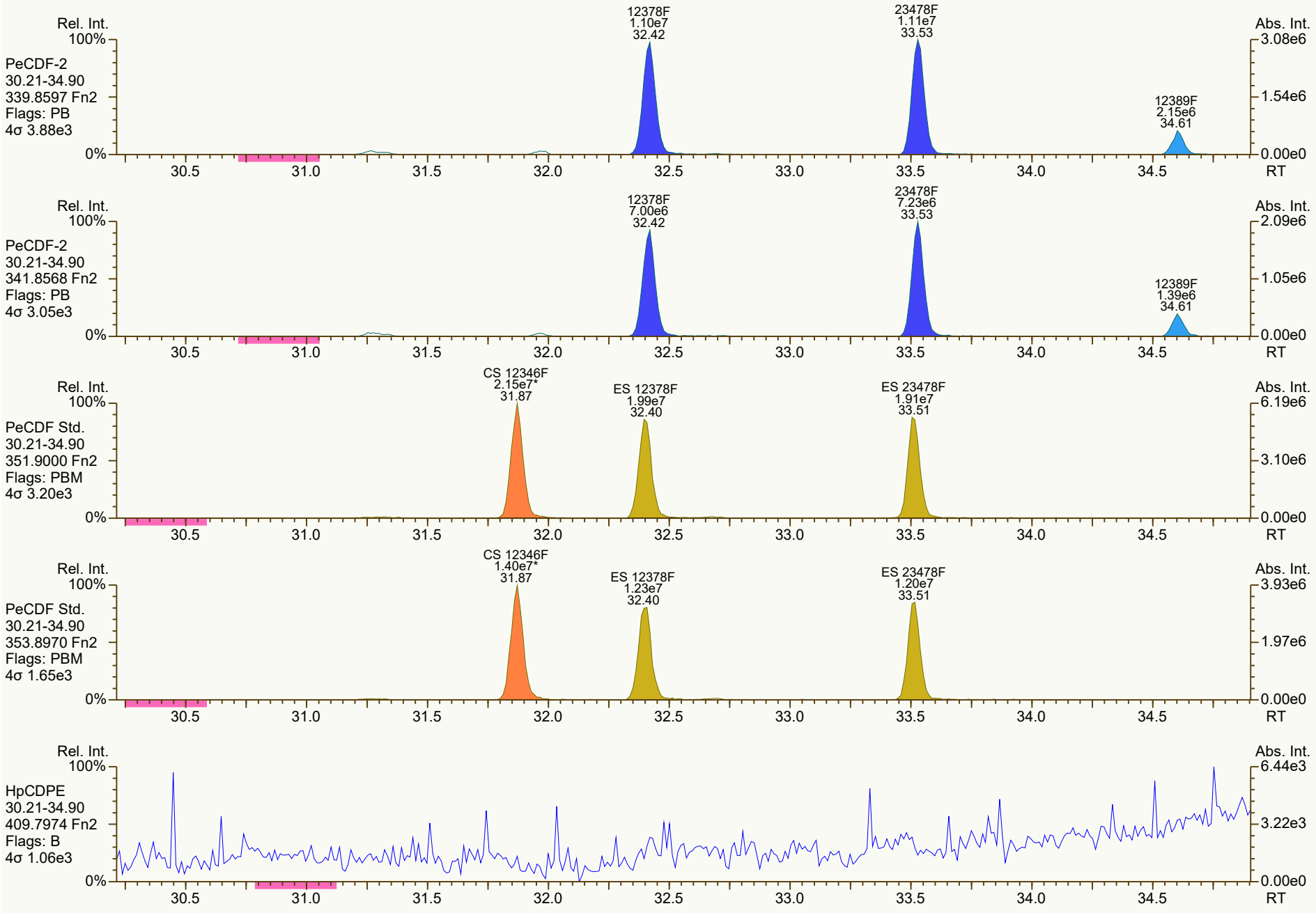
Sample ID: 0_18876_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53

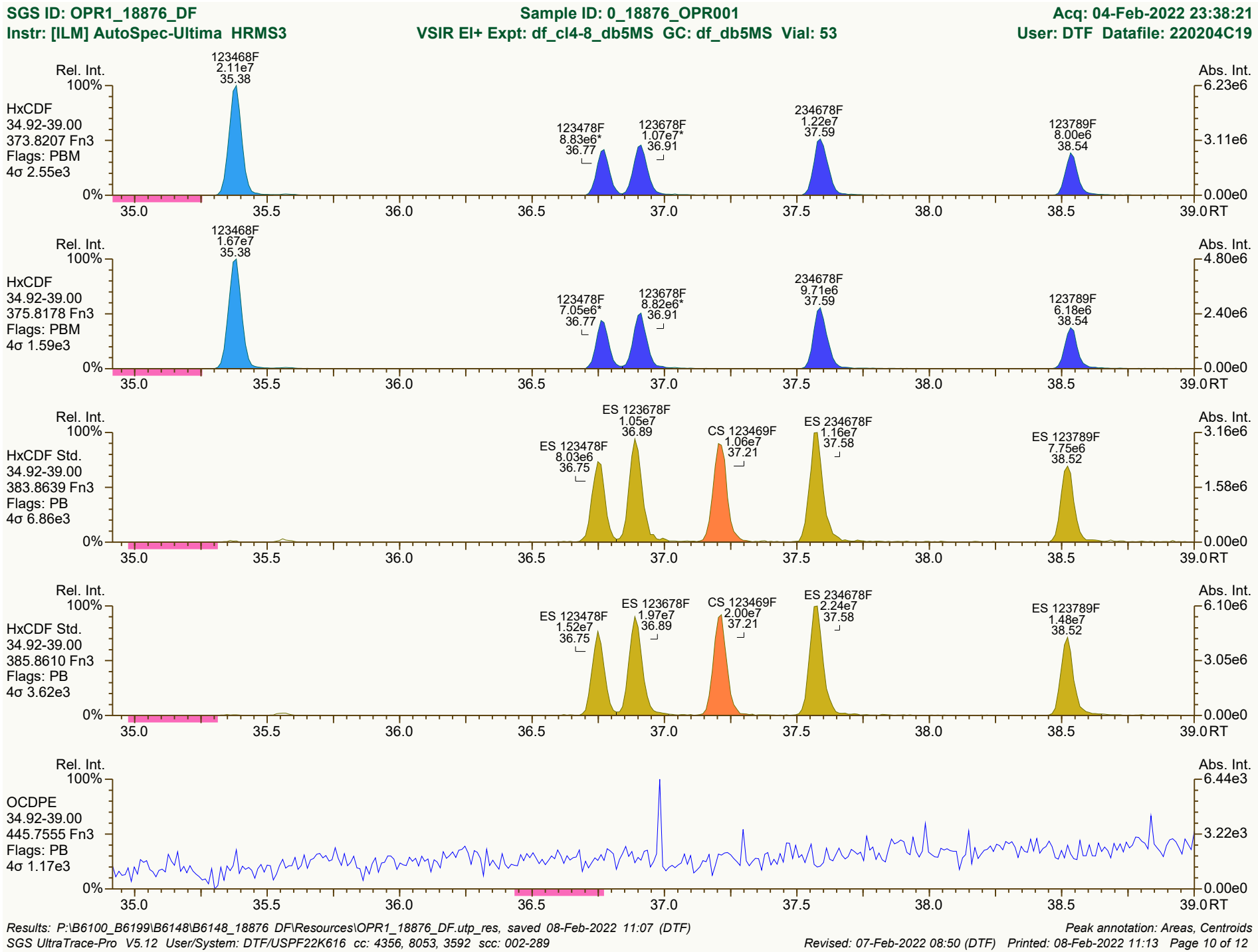
Acq: 04-Feb-2022 23:38:21
User: DTF Datafile: 220204C19



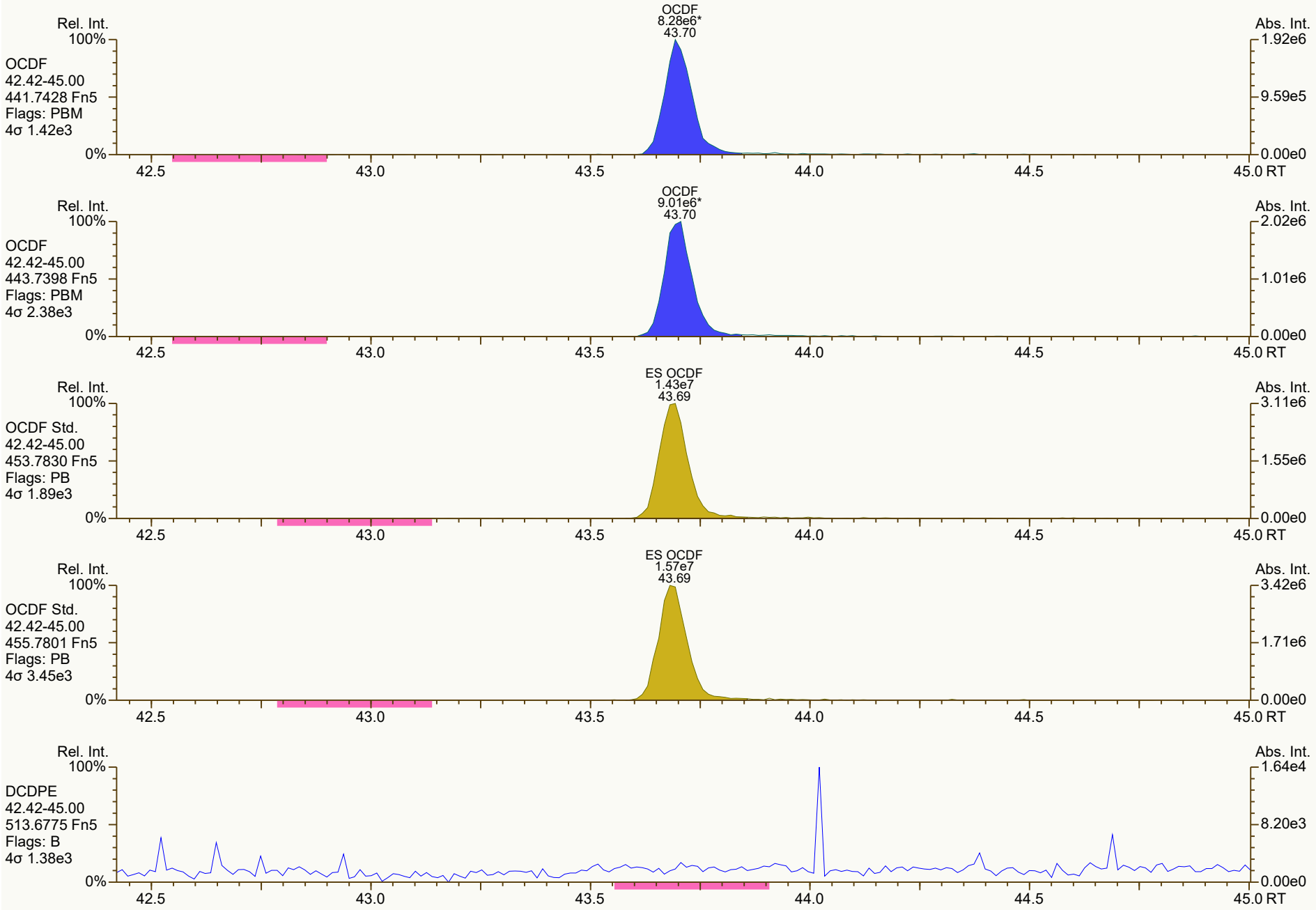
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR1_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8056 scc: 002-289

Peak annotation: Areas, Centroids
Revised: 07-Feb-2022 08:49 (DTF) Printed: 08-Feb-2022 11:13 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 3.88e3
0%
12378F
1.10e7
32.42
23478F
1.11e7
33.53
12389F
2.15e6
34.61
Abs. Int.
3.08e6
1.54e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 3.05e3
0%
12378F
7.00e6
32.42
23478F
7.23e6
33.53
12389F
1.39e6
34.61
Abs. Int.
2.09e6
1.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 3.20e3
0%
CS 12346F
2.15e7*
31.87
ES 12378F
1.99e7
32.40
ES 23478F
1.91e7
33.51
Abs. Int.
6.19e6
3.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 1.65e3
0%
CS 12346F
1.40e7*
31.87
ES 12378F
1.23e7
32.40
ES 23478F
1.20e7
33.51
Abs. Int.
3.93e6
1.97e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.06e3
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR1_18876_DF
Sample ID: 0_18876_OPR001
Acq: 04-Feb-2022 23:38:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220204C19
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.55e3
123468F 2.11e7 35.38
123478F 8.83e6* 36.77
123678F 1.07e7* 36.91
234678F 1.22e7 37.59
123789F 8.00e6 38.54
6.23e6
3.11e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.59e3
123468F 1.67e7 35.38
123478F 7.05e6* 36.77
123678F 8.82e6* 36.91
234678F 9.71e6 37.59
123789F 6.18e6 38.54
4.80e6
2.40e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.86e3
ES 123478F 8.03e6 36.75
ES 123678F 1.05e7 36.89
CS 123469F 1.06e7 37.21
ES 234678F 1.16e7 37.58
ES 123789F 7.75e6 38.52
3.16e6
1.58e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 3.62e3
ES 123478F 1.52e7 36.75
ES 123678F 1.97e7 36.89
CS 123469F 2.00e7 37.21
ES 234678F 2.24e7 37.58
ES 123789F 1.48e7 38.52
6.10e6
3.05e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.17e3
6.44e3
3.22e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR1_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4356, 8053, 3592 scc: 002-289
Revised: 07-Feb-2022 08:50 (DTF) Printed: 08-Feb-2022 11:13 Page 10 of 12


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.66e3
1234678F
1.08e7
39.91
1234789F
6.32e6
41.30
Abs. Int.
3.45e6
1.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.41e3
1234678F
1.03e7
39.91
1234789F
5.96e6
41.30
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 4.47e3
ES 1234678F
8.38e6
39.90
CS 1234689F
8.37e6
40.30
ES 1234789F
5.34e6
41.29
Abs. Int.
2.85e6
1.42e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.47e3
ES 1234678F
1.87e7
39.90
CS 1234689F
1.88e7
40.30
ES 1234789F
1.20e7
41.29
Abs. Int.
6.33e6
3.17e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.43e3
Abs. Int.
5.80e3
2.90e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
8.28e6*
43.70
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
1.92e6
9.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.01e6*
43.70
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.38e3
0%
Abs. Int.
2.02e6
1.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.43e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.89e3
0%
Abs. Int.
3.11e6
1.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.57e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 3.45e3
0%
Abs. Int.
3.42e6
1.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.64e4
8.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18876_DF **Acq'd: 05 Feb 2022 00:24 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR002 **UTP: 08-Feb-2022 11:07:22 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 462-483-GJJ**

Datafile: 220204C20 **Report: 08 Feb 2022 11:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.54		1.0008	1.0008	0	3.33E+06	0.81	Y	1.18	10.7	3483.355	0.113
12378-PeCDD	33.87		1.0006	1.0006	0	1.13E+07	1.54	Y	1.04	47	2871.3876	0.107
123478-HxCDD	37.78		1.0004	1.0004	0	1.43E+07	1.26	Y	1.09	50.8	4029.816	0.12
123678-HxCDD	37.89		1.0035	1.0035	0	1.71E+07	1.23	Y	1.15	51.7	4029.816	0.102
123789-HxCDD	38.19		1.0112	1.0112	0	1.35E+07	1.27	Y	1.05	49.2	4029.816	0.128
1234678-HpCDD	40.85		1.0003	1.0003	0	1.28E+07	1.06	Y	1.06	51.3	3296.499	0.107
OCDD	43.53		1.0004	1.0003	-0.3	1.83E+07	0.93	Y	1.13	106	3149.174	0.205
2378-TCDF	27.68		1.0008	1.0007	-0.2	4.70E+06	0.80	Y	1.08	10.8	3225.212	0.0823
12378-PeCDF	32.42		1.0005	1.0005	0	1.90E+07	1.53	Y	1.02	47.9	6712.673	0.154
23478-PeCDF	33.53		1.0005	1.0005	0	1.88E+07	1.57	Y	1.02	51.4	6712.673	0.17
123478-HxCDF	36.77		1.0004	1.0005	+0.2	1.68E+07	1.25	Y	1.27	49.5	6298.061	0.146
123678-HxCDF	36.91		1.0004	1.0005	+0.2	2.03E+07	1.26	Y	1.15	51.6	6298.061	0.152
234678-HxCDF	37.60		1.0005	1.0005	0	2.37E+07	1.23	Y	1.19	48.6	6298.061	0.111
123789-HxCDF	38.54		1.0004	1.0004	0	1.49E+07	1.27	Y	1.16	47.8	6298.061	0.16
1234678-HpCDF	39.91		1.0003	1.0003	0	2.11E+07	1.03	Y	1.37	48.7	2585.514	0.0438
1234789-HpCDF	41.31		1.0002	1.0003	+0.2	1.35E+07	1.03	Y	1.31	48.9	2585.514	0.088
OCDF	43.71		1.0003	1.0003	0	2.02E+07	0.92	Y	1.07	104	3401.317	0.195

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0237	+0.2	2.64E+07	0.82	Y	1.05	89.2
ES 12378-PeCDD	33.85	1.2144	1.2153	+1.8	2.32E+07	1.63	Y	0.88	93.2
ES 123478-HxCDD	37.76	0.9920	0.9920	0	2.59E+07	1.26	Y	0.97	100
ES 123678-HxCDD	37.88	0.9951	0.9950	-0.2	2.88E+07	1.25	Y	0.94	115
ES 123789-HxCDD	38.17	1.0027	1.0026	-0.2	2.62E+07	1.30	Y	1.09	90.3
ES 1234678-HpCDD	40.83	1.0724	1.0726	+0.5	2.36E+07	1.06	Y	0.91	97.4
ES OCDD	43.51	1.1428	1.1430	+0.5	3.07E+07	0.92	Y	0.62	92.4
ES 2378-TCDF	27.66	1.0516	1.0517	+0.2	4.02E+07	0.81	Y	1.06	79.8
ES 12378-PeCDF	32.40	1.2312	1.2320	+1.6	3.86E+07	1.57	Y	0.91	89.3
ES 23478-PeCDF	33.51	1.2733	1.2743	+2.0	3.58E+07	1.55	Y	0.88	85.3
ES 123478-HxCDF	36.75	0.9655	0.9654	-0.2	2.66E+07	0.54	Y	1.20	83.5
ES 123678-HxCDF	36.90	0.9692	0.9692	0	3.42E+07	0.54	Y	1.35	95.2
ES 234678-HxCDF	37.58	0.9871	0.9871	0	4.11E+07	0.54	Y	1.24	124
ES 123789-HxCDF	38.53	1.0121	1.0120	-0.2	2.67E+07	0.54	Y	1.16	87.1
ES 1234678-HpCDF	39.90	1.0479	1.0481	+0.5	3.16E+07	0.47	Y	0.97	123
ES 1234789-HpCDF	41.29	1.0845	1.0847	+0.5	2.11E+07	0.44	Y	0.85	93
ES OCDF	43.70	1.1477	1.1479	+0.5	3.61E+07	0.93	Y	0.81	84.1

Lab ID: OPR2_18876_DF | **Acq'd:** 05 Feb 2022 00:24 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18876_OPR002 | **UTP:** 08-Feb-2022 11:07:22 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 462-483-GJJ

Datafile: 220204C20 | **Report:** 08 Feb 2022 11:09 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.85		-	-	-	2.83E+07	0.83	Y	-	-	
JS 1234-TCDF	26.30		-	-	-	4.75E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	1.33E+07	1.27	Y	-	-	
CS 37Cl-2378-TCDD	28.53		1.0244	1.0245	+0.2	1.30E+07	n/a	-	1.20	95.6	
CS 12347-PeCDD	33.34		1.1964	1.1972	+1.6	2.41E+07	1.59	Y	0.75	113	
CS 12346-PeCDF	31.87		1.2112	1.2119	+1.3	3.91E+07	1.61	Y	0.85	96.7	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	3.35E+07	0.53	Y	1.12	113	
CS 1234689-HpCDF	40.30		1.0584	1.0586	+0.5	2.89E+07	0.47	Y	0.89	122	
~~SS 37Cl-2378-TCDD~~	~~28.53~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.30E+07~~	~~n/a~~		~~1.15~~	~~107~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1972~~	~~+1.6~~	~~2.41E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~121~~	CL 10Feb22
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~3.91E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~100~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~3.35E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0586~~	~~+0.5~~	~~2.89E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~99.6~~	

Totals	Conc	EMPC
Total TCDD	52.3	52.3
Total PeCDD	71.5	71.5
Total HxCDD	163	163
Total HpCDD	63.2	63.2
Total Tetra-Octa Dioxins	456	456
Total TCDF	64.2	64.2
Total PeCDF	201	201
Total HxCDF	306	306
Total HpCDF	97.7	97.7
Total Tetra-Octa Furans	773	773
Total Tetra-Octa Dioxins & Furans	1230	1230

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.803	0.81
Response	3.34E+06	3.33E+06

Lab ID: OPR2_18876_DF | **Acq'd: 05 Feb 2022 00:24 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR002 | **UTP: 08-Feb-2022 11:07:22 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 462-483-GJJ**

Datafile: 220204C20 | **Report: 08 Feb 2022 11:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.90		0.8737	0.8734	-0.4	4.77E+06	0.77	Y	1.18	15.3	3483.355	0.113
1379-TCDD	NotFnd		0.8860						1.18		3483.355	0.113
1369-TCDD	NotFnd		0.9009						1.18		3483.355	0.113
1469-TCDD	NotFnd		0.9281						1.18		3483.355	0.113
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3483.355	0.113
1378-TCDD	NotFnd		0.9432						1.18		3483.355	0.113
1268-TCDD	NotFnd		0.9500						1.18		3483.355	0.113
1478-TCDD	NotFnd		0.9586						1.18		3483.355	0.113
1279-TCDD	NotFnd		0.9645						1.18		3483.355	0.113
1234/1269-TCDD	NotFnd		0.9770						1.18		3483.355	0.113
1236-TCDD	NotFnd		0.9817						1.18		3483.355	0.113
1237/1238-TCDD	NotFnd		0.9905						1.18		3483.355	0.113
1239-TCDD	28.38		0.9952	0.9952	0	3.26E+06	0.79	Y	1.18	10.5	3483.355	0.113
2378-TCDD	**28.54**		**1.0008**	1.0008	**0**	3.33E+06	0.81	Y	**1.18**	**10.7**	**3483.355**	**0.113**
1278-TCDD	NotFnd		1.0121						1.18		3483.355	0.113
1267-TCDD	NotFnd		1.0167						1.18		3483.355	0.113
1289-TCDD	29.50		1.0345	1.0348	+0.5	4.96E+06	0.80	Y	1.18	15.9	3483.355	0.113
12479/12468-PeCDD	31.36		0.9267	0.9267	0	2.71E+06	1.59	Y	1.04	11.3	2871.3876	0.107
12469-PeCDD	NotFnd		0.9425						1.04		2871.3876	0.107
12368-PeCDD	NotFnd		0.9588						1.04		2871.3876	0.107
12478-PeCDD	NotFnd		0.9643						1.04		2871.3876	0.107
12379-PeCDD	NotFnd		0.9673						1.04		2871.3876	0.107
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2871.3876	0.107
12346/12347-PeCDD	NotFnd		0.9858						1.04		2871.3876	0.107
12378-PeCDD	33.87		**1.0006**	**1.0006**	**0**	**1.13E+07**	**1.54**	**Y**	**1.04**	**47**	**2871.3876**	**0.107**
12367-PeCDD	NotFnd		1.0033						1.04		2871.3876	0.107
12389-PeCDD	34.30		1.0134	1.0135	+0.2	3.16E+06	1.57	Y	1.04	13.2	2871.3876	0.107
124679/124689-HxCDD	36.03		0.9542	0.9540	-0.4	3.46E+06	1.29	Y	1.10	11.7	4029.816	0.116
123468-HxCDD	NotFnd		0.9715						1.10		4029.816	0.116
123679/123689-HxCDD	NotFnd		0.9793						1.10		4029.816	0.116
123469-HxCDD	NotFnd		0.9828						1.10		4029.816	0.116
123478-HxCDD	37.78		**1.0004**	**1.0004**	**0**	**1.43E+07**	**1.26**	**Y**	1.09	**50.8**	**4029.816**	**0.12**
123678-HxCDD	37.89		**1.0035**	**1.0035**	**0**	**1.71E+07**	**1.23**	**Y**	1.15	**51.7**	**4029.816**	**0.102**
123467-HxCDD	NotFnd		1.0085						1.10		4029.816	0.116
123789-HxCDD	38.19		**1.0112**	**1.0112**	**0**	**1.35E+07**	**1.27**	**Y**	1.05	**49.2**	**4029.816**	**0.128**

Lab ID: OPR2_18876_DF **Acq'd: 05 Feb 2022 00:24 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR002 **UTP: 08-Feb-2022 11:07:22 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 462-483-GJJ**

Datafile: 220204C20 **Report: 08 Feb 2022 11:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9837	0.9836	-0.2	2.98E+06	1.11	Y	1.06	11.9	3296.499	0.107
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**1.28E+07**	**1.06**	**Y**	**1.06**	**51.3**	**3296.499**	**0.107**
OCDD	**43.53**		**1.0004**	**1.0003**	**-0.3**	**1.83E+07**	**0.93**	**Y**	**1.13**	**106**	**3149.174**	**0.205**
OCDD-a	43.52		1.0003	1.0002	-0.3	9.70E+05	2.26	Y	0.07	87.8	3432.209	3.49
1368-TCDF	22.81		0.8251	0.8246	-0.7	6.98E+06	0.79	Y	1.08	16.1	3225.212	0.0823
1468-TCDF	NotFnd		0.8458						1.08		3225.212	0.0823
2468-TCDF	24.01		0.8686	0.8682	-0.6	1.71E+06	0.81	Y	1.08	3.95	3225.212	0.0823
1346/1246-TCDF	NotFnd		0.8814						1.08		3225.212	0.0823
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3225.212	0.0823
1348-TCDF	NotFnd		0.8962						1.08		3225.212	0.0823
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3225.212	0.0823
1268-TCDF	NotFnd		0.9145						1.08		3225.212	0.0823
1467-TCDF	NotFnd		0.9193						1.08		3225.212	0.0823
1478-TCDF	NotFnd		0.9254						1.08		3225.212	0.0823
1369/1237-TCDF	NotFnd		0.9387						1.08		3225.212	0.0823
2467-TCDF	NotFnd		0.9433						1.08		3225.212	0.0823
2368-TCDF	NotFnd		0.9489						1.08		3225.212	0.0823
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3225.212	0.0823
1278-TCDF	NotFnd		0.9683						1.08		3225.212	0.0823
1349-TCDF	NotFnd		0.9722						1.08		3225.212	0.0823
1267-TCDF	NotFnd		0.9783						1.08		3225.212	0.0823
2346/1249-TCDF	NotFnd		0.9850						1.08		3225.212	0.0823
2347/1279-TCDF	NotFnd		0.9926						1.08		3225.212	0.0823
2348-TCDF	27.57		0.9967	0.9968	+0.2	6.78E+06	0.81	Y	1.08	15.6	3225.212	0.0823
2378-TCDF	**27.68**		**1.0008**	**1.0007**	**-0.2**	**4.70E+06**	**0.80**	**Y**	**1.08**	**10.8**	**3225.212**	**0.0823**
2367/3467-TCDF	NotFnd		1.0137						1.08		3225.212	0.0823
1269-TCDF	NotFnd		1.0223						1.08		3225.212	0.0823
1239-TCDF	NotFnd		1.0321						1.08		3225.212	0.0823
1289-TCDF	29.67		1.0722	1.0728	+1.1	7.67E+06	0.79	Y	1.08	17.7	3225.212	0.0823
13468/12468-PeCDF	29.59		0.9139	0.9132	-1.2	3.47E+07	1.54	Y	1.02	91.2	2981.878	0.072
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6712.673	0.162
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6712.673	0.162
14678-PeCDF	NotFnd		0.9692						1.02		6712.673	0.162
13479-PeCDF	NotFnd		0.9723						1.02		6712.673	0.162
13469/12479-PeCDF	NotFnd		0.9797						1.02		6712.673	0.162
12346-PeCDF	NotFnd		0.9840						1.02		6712.673	0.162

Lab ID: OPR2_18876_DF | **Acq'd: 05 Feb 2022 00:24 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18876_OPR002 | **UTP: 08-Feb-2022 11:07:22 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 462-483-GJJ**

Datafile: 220204C20 | **Report: 08 Feb 2022 11:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6712.673	0.162
12347-PeCDF	NotFnd		0.9894						1.02		6712.673	0.162
12348-PeCDF	NotFnd		0.9940						1.02		6712.673	0.162
12378-PeCDF	**32.42**		**1.0005**	**1.0005**	**0**	**1.90E+07**	**1.53**	**Y**	**1.02**	**47.9**	**6712.673**	**0.154**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6712.673	0.162
12379-PeCDF	NotFnd		1.0142						1.02		6712.673	0.162
12679-PeCDF	NotFnd		0.9929						1.02		6712.673	0.162
23467/12369-PeCDF	NotFnd		0.9967						1.02		6712.673	0.162
23478-PeCDF	**33.53**		**1.0005**	**1.0005**	**0**	**1.88E+07**	**1.57**	**Y**	**1.02**	**51.4**	**6712.673**	**0.17**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6712.673	0.162
12349-PeCDF	NotFnd		1.0100						1.02		6712.673	0.162
12389-PeCDF	34.60		1.0324	1.0325	+0.2	4.00E+06	1.50	Y	1.02	10.5	6712.673	0.162
123468-HxCDF	35.38		0.9627	0.9627	0	4.17E+07	1.22	Y	1.19	109	6298.061	0.139
124678/134678-HxCDF	NotFnd		0.9682						1.19		6298.061	0.139
134679-HxCDF	NotFnd		0.9744						1.19		6298.061	0.139
124679-HxCDF	NotFnd		0.9798						1.19		6298.061	0.139
124689-HxCDF	NotFnd		0.9858						1.19		6298.061	0.139
123467-HxCDF	NotFnd		0.9972						1.19		6298.061	0.139
123478-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**1.68E+07**	**1.25**	**Y**	**1.27**	**49.5**	**6298.061**	**0.146**
123678-HxCDF	**36.91**		**1.0004**	**1.0005**	**+0.2**	**2.03E+07**	**1.26**	**Y**	**1.15**	**51.6**	**6298.061**	**0.152**
123479-HxCDF	NotFnd		1.0049						1.19		6298.061	0.139
123469-HxCDF	NotFnd		1.0090						1.19		6298.061	0.139
123679-HxCDF	NotFnd		0.9942						1.19		6298.061	0.139
234678-HxCDF	**37.60**		**1.0005**	**1.0005**	**0**	**2.37E+07**	**1.23**	**Y**	**1.19**	**48.6**	**6298.061**	**0.111**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6298.061	0.139
123789-HxCDF	**38.54**		**1.0004**	**1.0004**	**0**	**1.49E+07**	**1.27**	**Y**	**1.16**	**47.8**	**6298.061**	**0.16**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		6298.061	0.139
1234678-HpCDF	**39.91**		**1.0003**	**1.0003**	**0**	**2.11E+07**	**1.03**	**Y**	**1.37**	**48.7**	**2585.514**	**0.0438**
1234679-HpCDF	NotFnd		1.0068						1.34		2585.514	0.0613
1234689-HpCDF	NotFnd		1.0103						1.34		2585.514	0.0613
1234789-HpCDF	**41.31**		**1.0002**	**1.0003**	**+0.2**	**1.35E+07**	**1.03**	**Y**	**1.31**	**48.9**	**2585.514**	**0.088**
OCDF	**43.71**		**1.0003**	**1.0003**	**0**	**2.02E+07**	**0.92**	**Y**	**1.07**	**104**	**3401.317**	**0.195**
OCDF-a	43.71		1.0002	1.0003	+0.3	1.26E+06	2.58	Y	0.07	105	3927.283	3.63

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C20	Analysis Date:	05-FEB-2022 00:24:41
Lab ID:	OPR2_18876_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	50.8	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51.7	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	49.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.3	35	-	70	Y
OCDD	100	106	78	-	144	Y
2,3,7,8-TCDF	10	10.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	47.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.4	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	49.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	51.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	48.6	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	48.7	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	48.9	39	-	69	Y
OCDF	100	104	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 08 Feb 2022 11:09 Analyst: TF

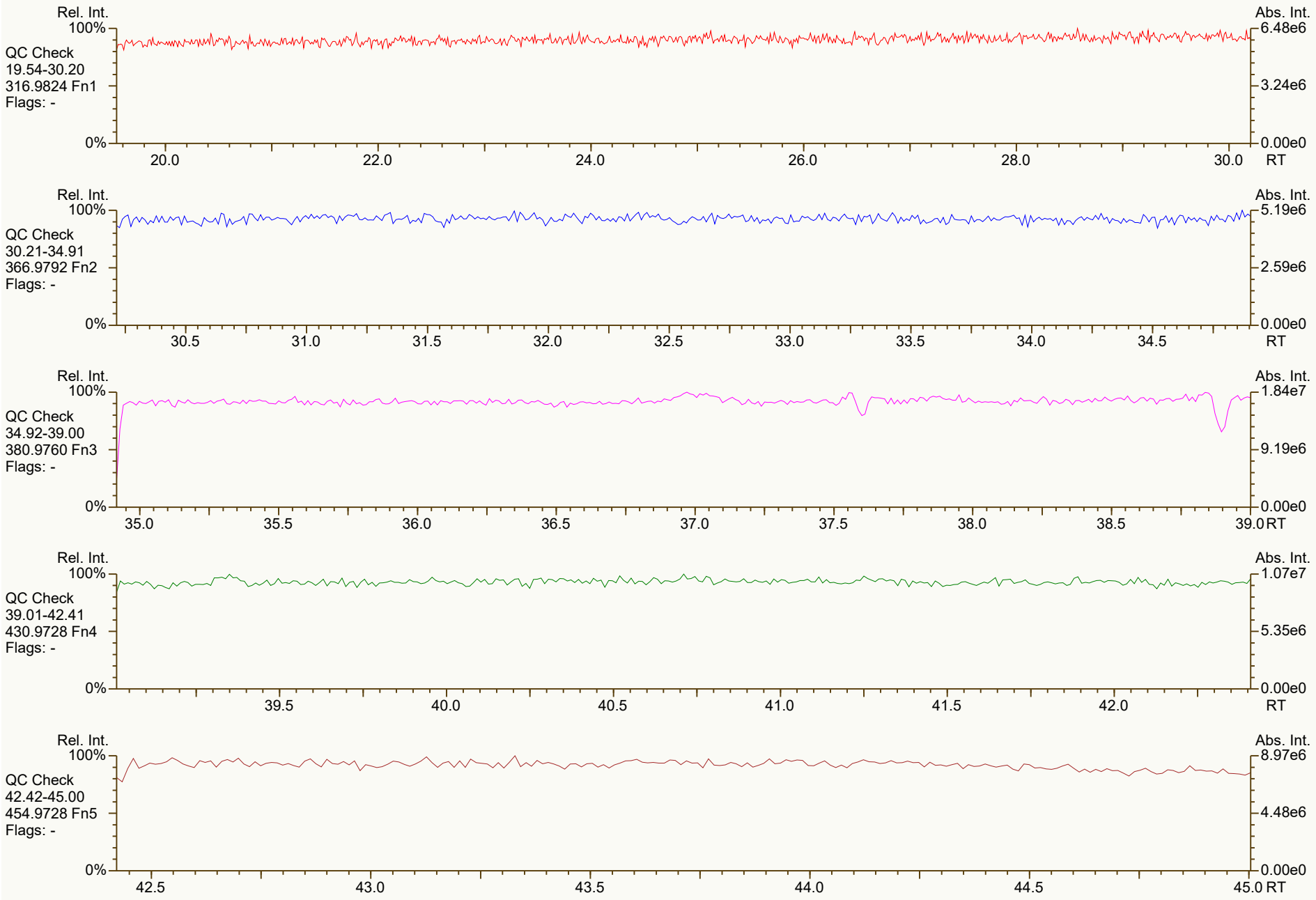
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220204C20 Analysis Date: 05-FEB-2022 00:24:41
Lab ID: OPR2_18876_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	89.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	93.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	100	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	115	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	90.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.4	26	-	166	Y
13C-OCDD	200	185	26	-	397	Y
13C-2,3,7,8-TCDF	100	79.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	85.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	83.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	95.2	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	124	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	87.1	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	123	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	93	20	-	186	Y
13C-OCDF	200	168	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.2	12.4	-	76.4	Y

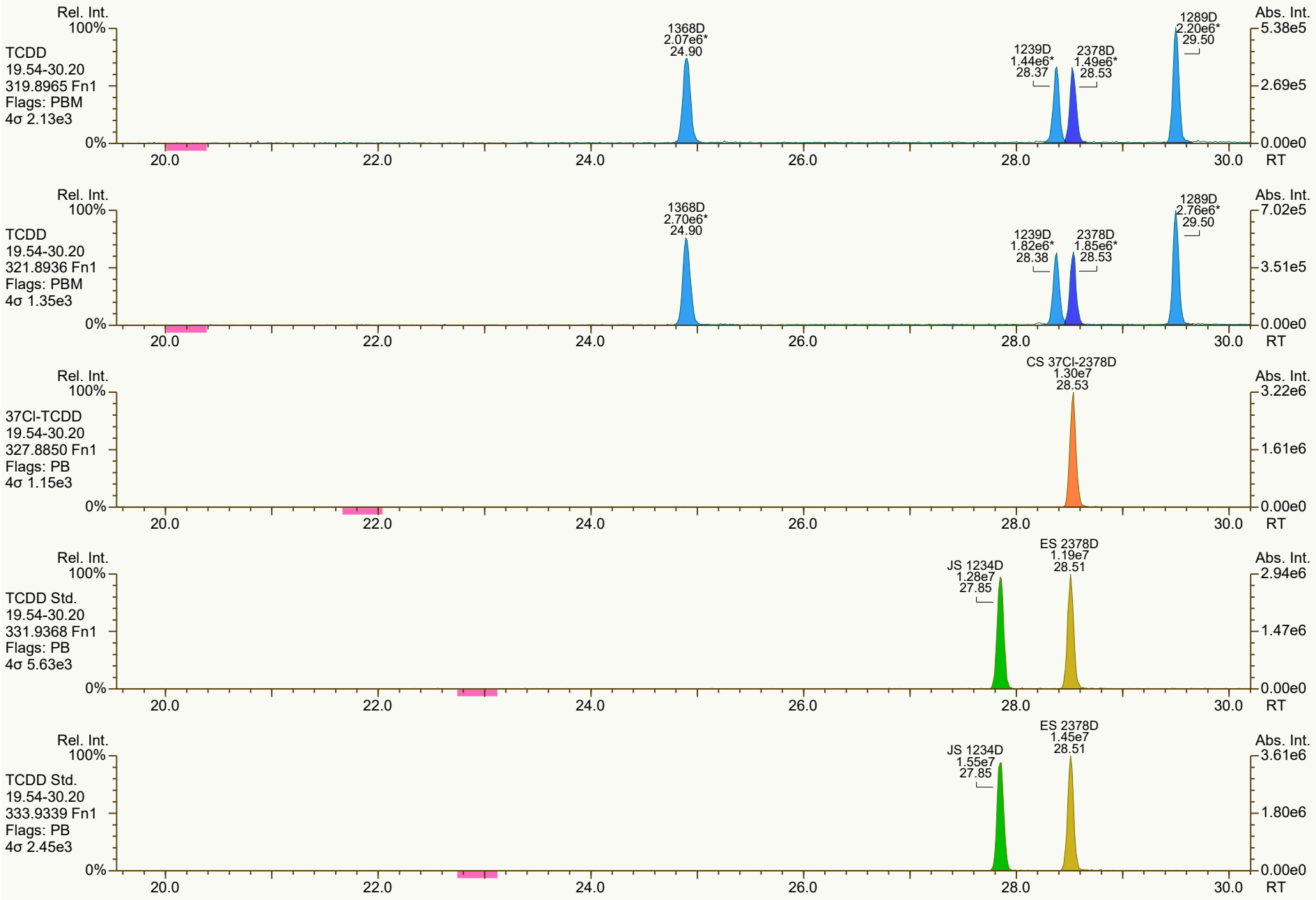
Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 08 Feb 2022 11:09 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.48e6
3.24e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.84e7
9.19e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.07e7
5.35e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.97e6
4.48e6
0.00e0

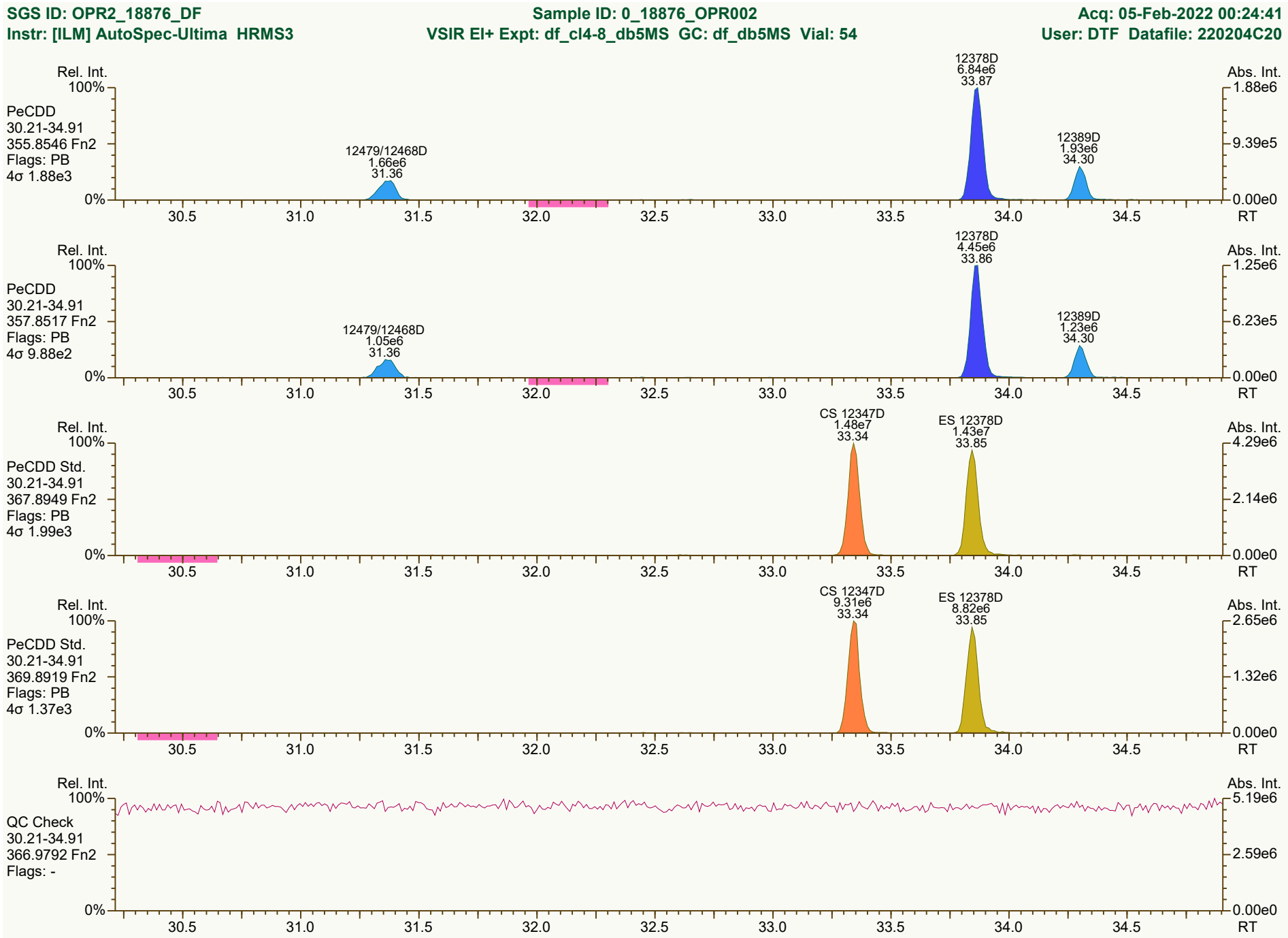
SGS ID: OPR2_18876_DF | Sample ID: 0_18876_OPR002 | Acq: 05-Feb-2022 00:24:41

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220204C20

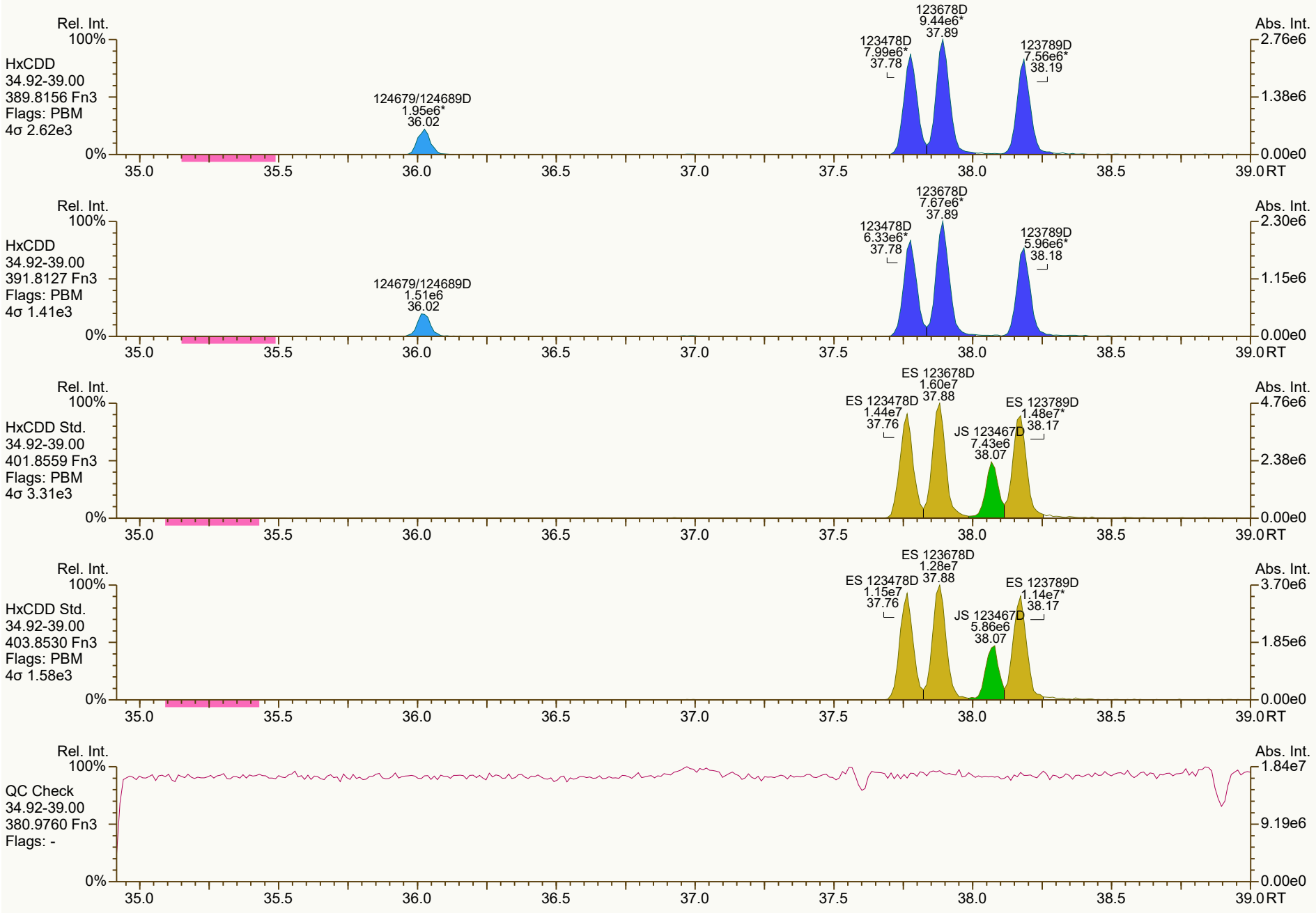


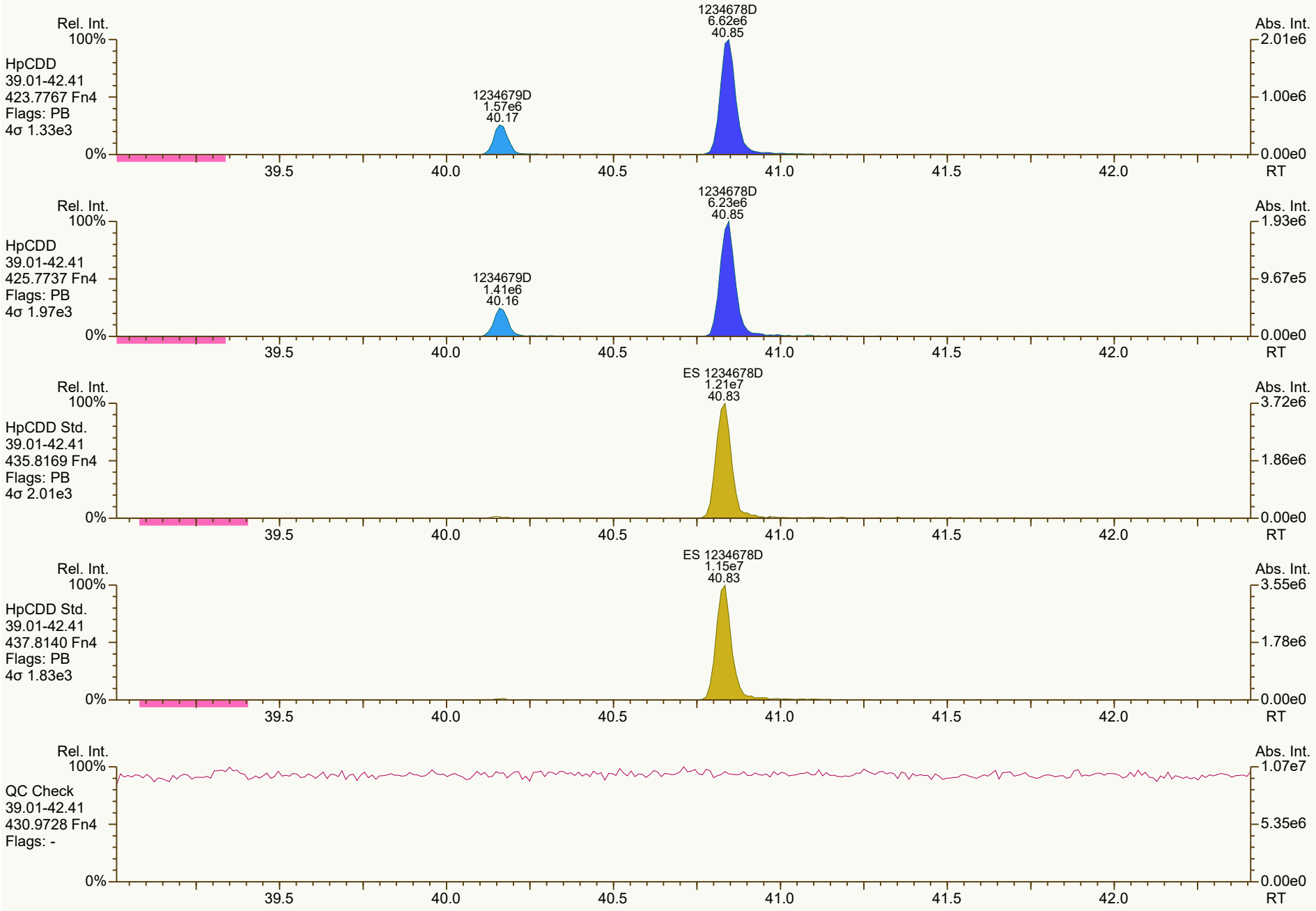
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR2_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF) | *Peak annotation: Areas, Centroids*

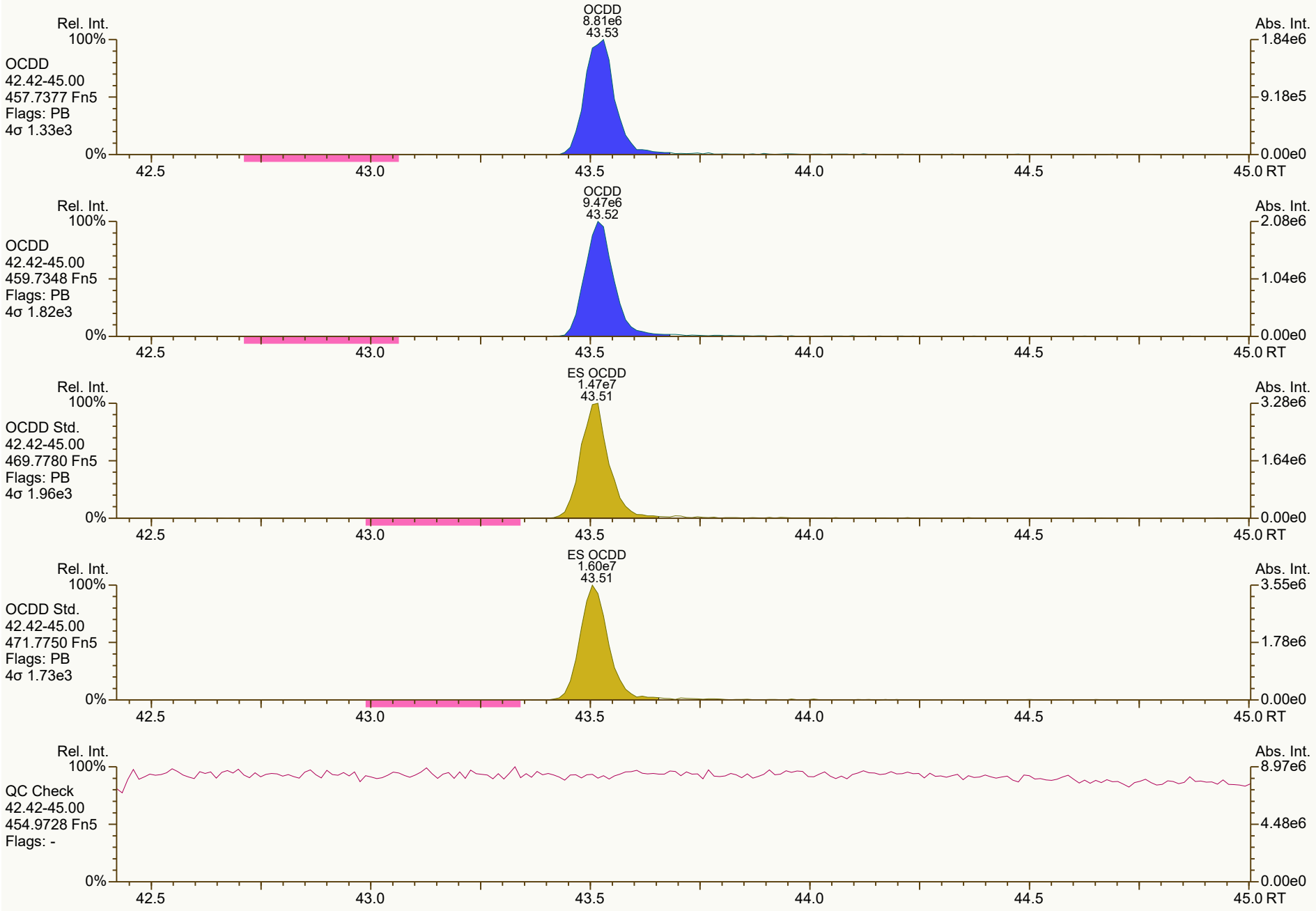
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4391, 0142, 5560 scc: 462-483 | *PKD: 07-Feb-2022 08:52 Printed: 08-Feb-2022 11:14 Page 2 of 12*



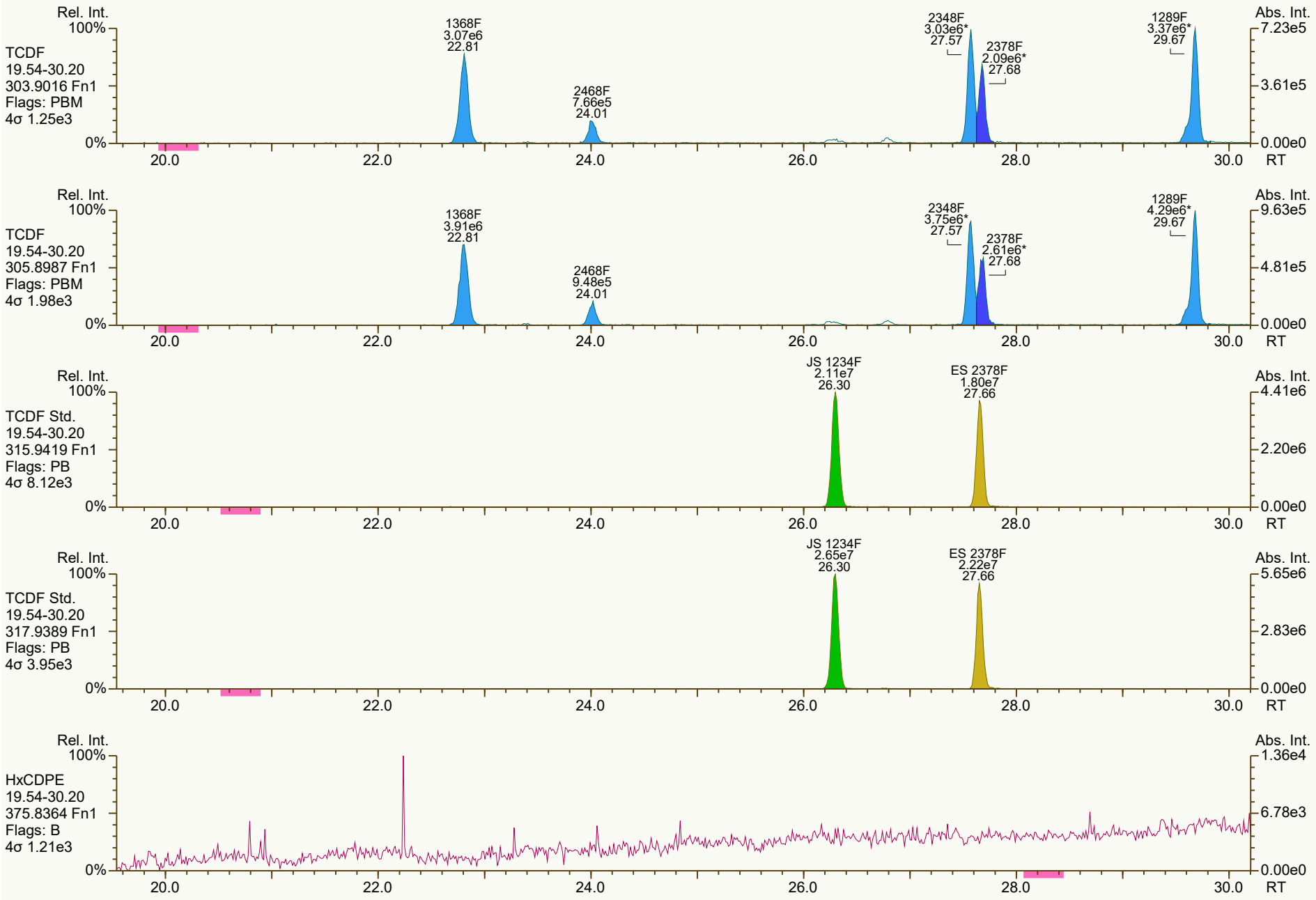
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR2_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9841, 4184 scc: 462-483
PKD: 07-Feb-2022 08:50 Printed: 08-Feb-2022 11:14 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.62e3
0%
124679/124689D
1.95e6*
36.02
123678D
9.44e6*
37.89
123478D
7.99e6*
37.78
123789D
7.56e6*
38.19
Abs. Int.
2.76e6
1.38e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.41e3
0%
124679/124689D
1.51e6
36.02
123678D
7.67e6*
37.89
123478D
6.33e6*
37.78
123789D
5.96e6*
38.18
Abs. Int.
2.30e6
1.15e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 3.31e3
0%
ES 123678D
1.60e7
37.88
ES 123478D
1.44e7
37.76
ES 123789D
1.48e7*
38.17
JS 123467D
7.43e6
38.07
Abs. Int.
4.76e6
2.38e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.58e3
0%
ES 123678D
1.28e7
37.88
ES 123478D
1.15e7
37.76
ES 123789D
1.14e7*
38.17
JS 123467D
5.86e6
38.07
Abs. Int.
3.70e6
1.85e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.84e7
9.19e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.33e3
1234678D
6.62e6
40.85
1234679D
1.57e6
40.17
Abs. Int.
2.01e6
1.00e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.97e3
1234678D
6.23e6
40.85
1234679D
1.41e6
40.16
Abs. Int.
1.93e6
9.67e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.01e3
ES 1234678D
1.21e7
40.83
Abs. Int.
3.72e6
1.86e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.83e3
ES 1234678D
1.15e7
40.83
Abs. Int.
3.55e6
1.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.07e7
5.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.33e3
0%
OCDD
8.81e6
43.53
Abs. Int.
1.84e6
9.18e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.82e3
0%
OCDD
9.47e6
43.52
Abs. Int.
2.08e6
1.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.96e3
0%
ES OCDD
1.47e7
43.51
Abs. Int.
3.28e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.73e3
0%
ES OCDD
1.60e7
43.51
Abs. Int.
3.55e6
1.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.97e6
4.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: OPR2_18876_DF
Sample ID: 0_18876_OPR002
Acq: 05-Feb-2022 00:24:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220204C20

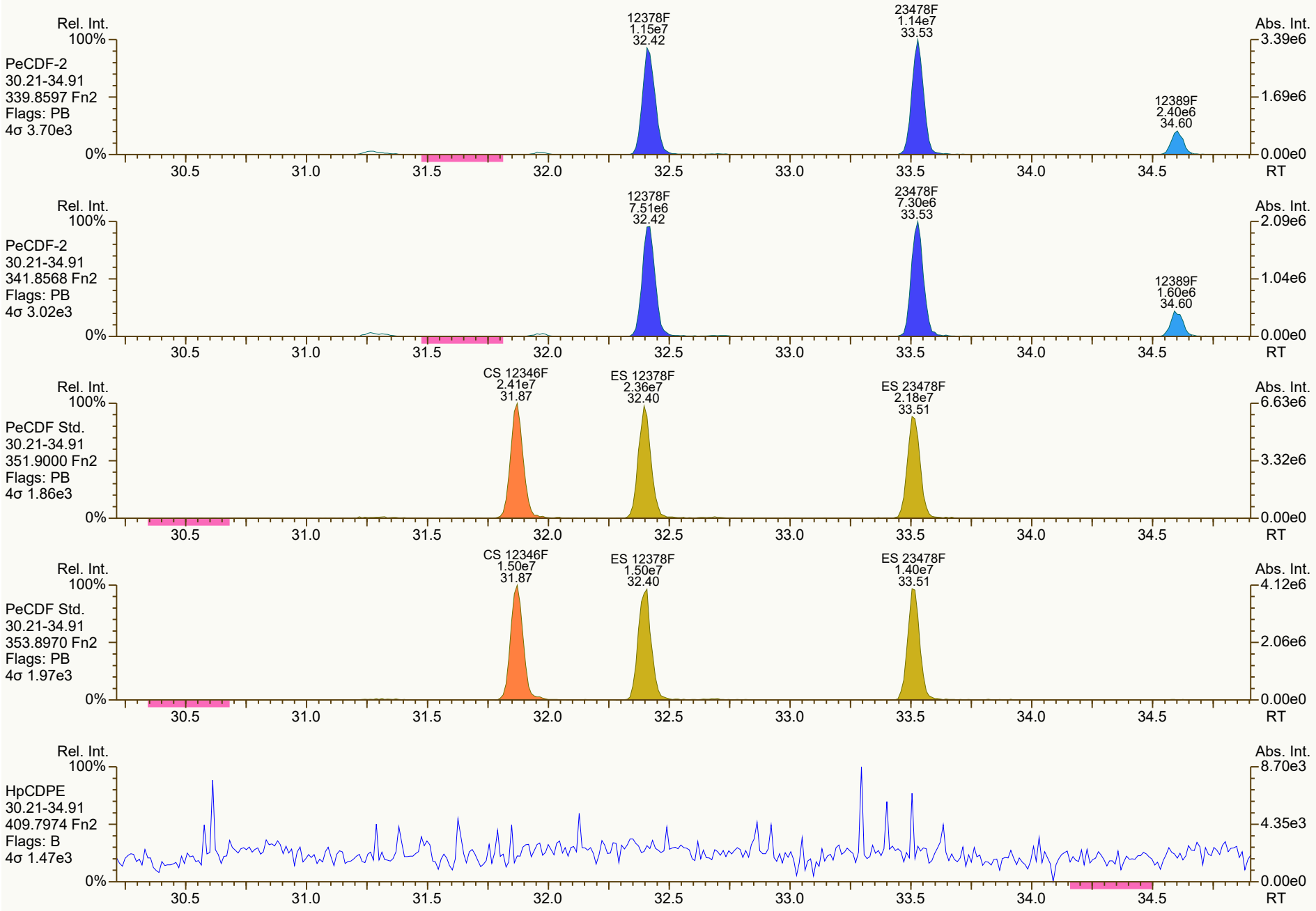


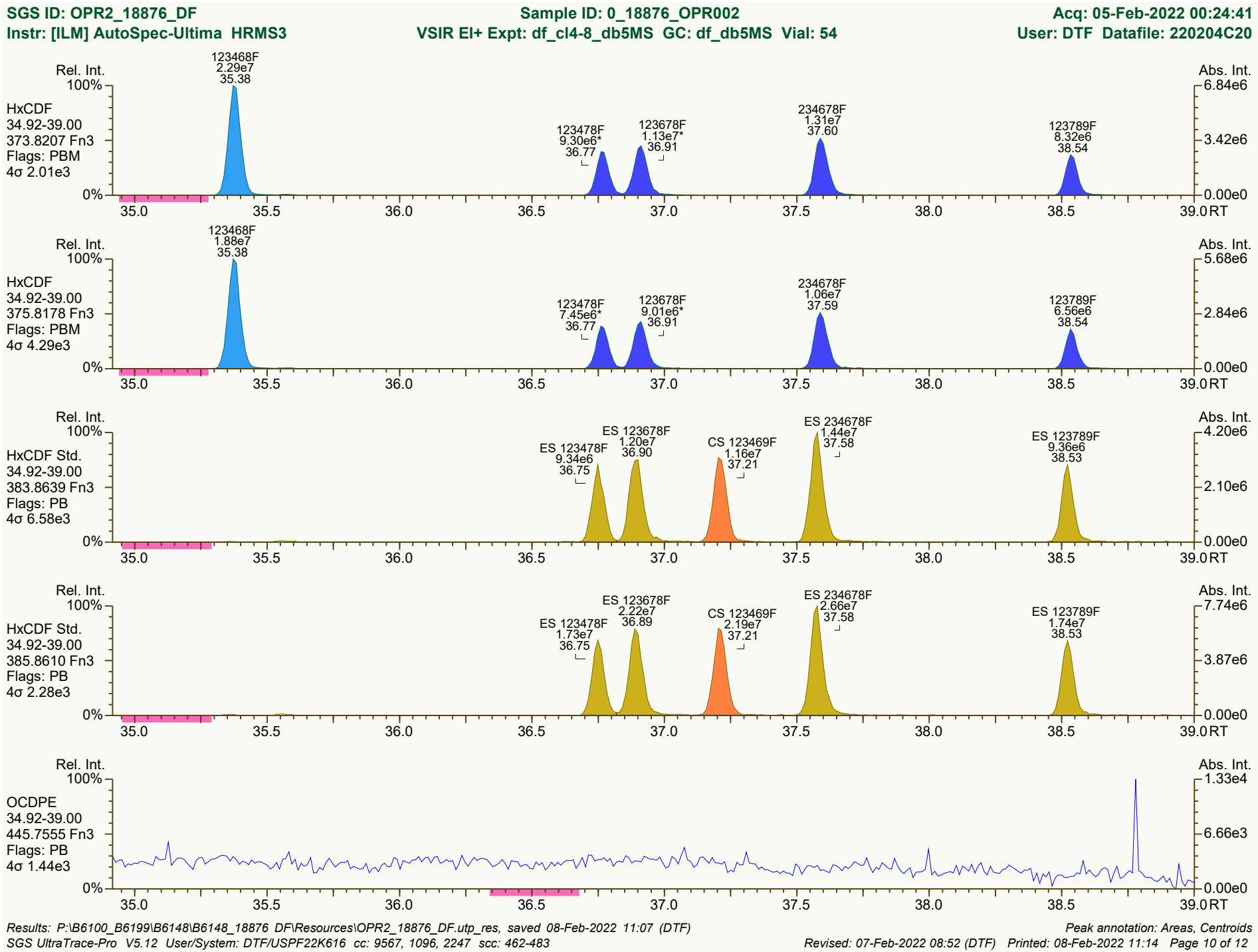
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1024, 8591, 3570 scc: 462-483
Revised: 07-Feb-2022 08:51 (DTF) Printed: 08-Feb-2022 11:14 Page 7 of 12

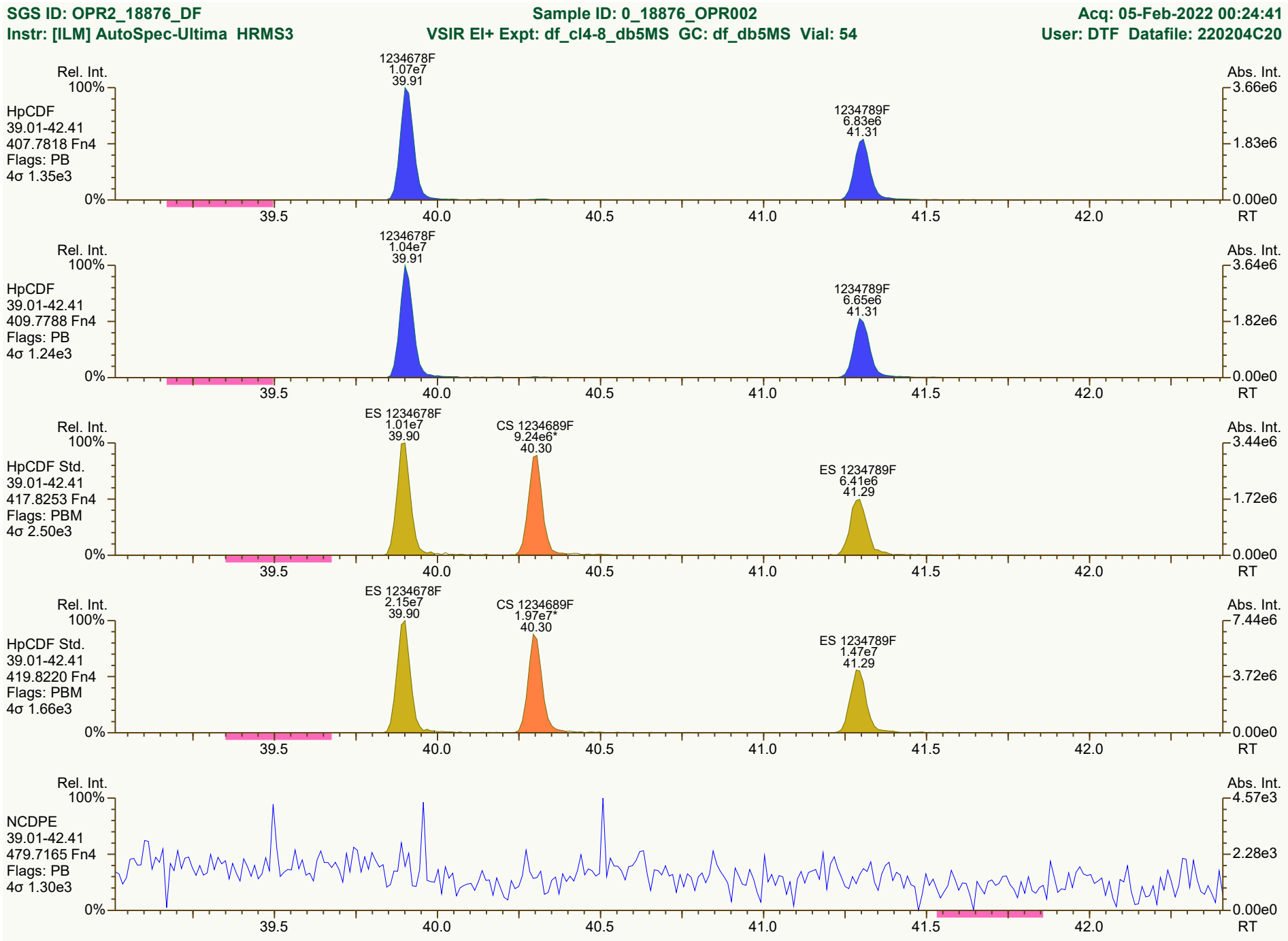
SGS ID: OPR2_18876_DF
Sample ID: 0_18876_OPR002
Acq: 05-Feb-2022 00:24:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220204C20

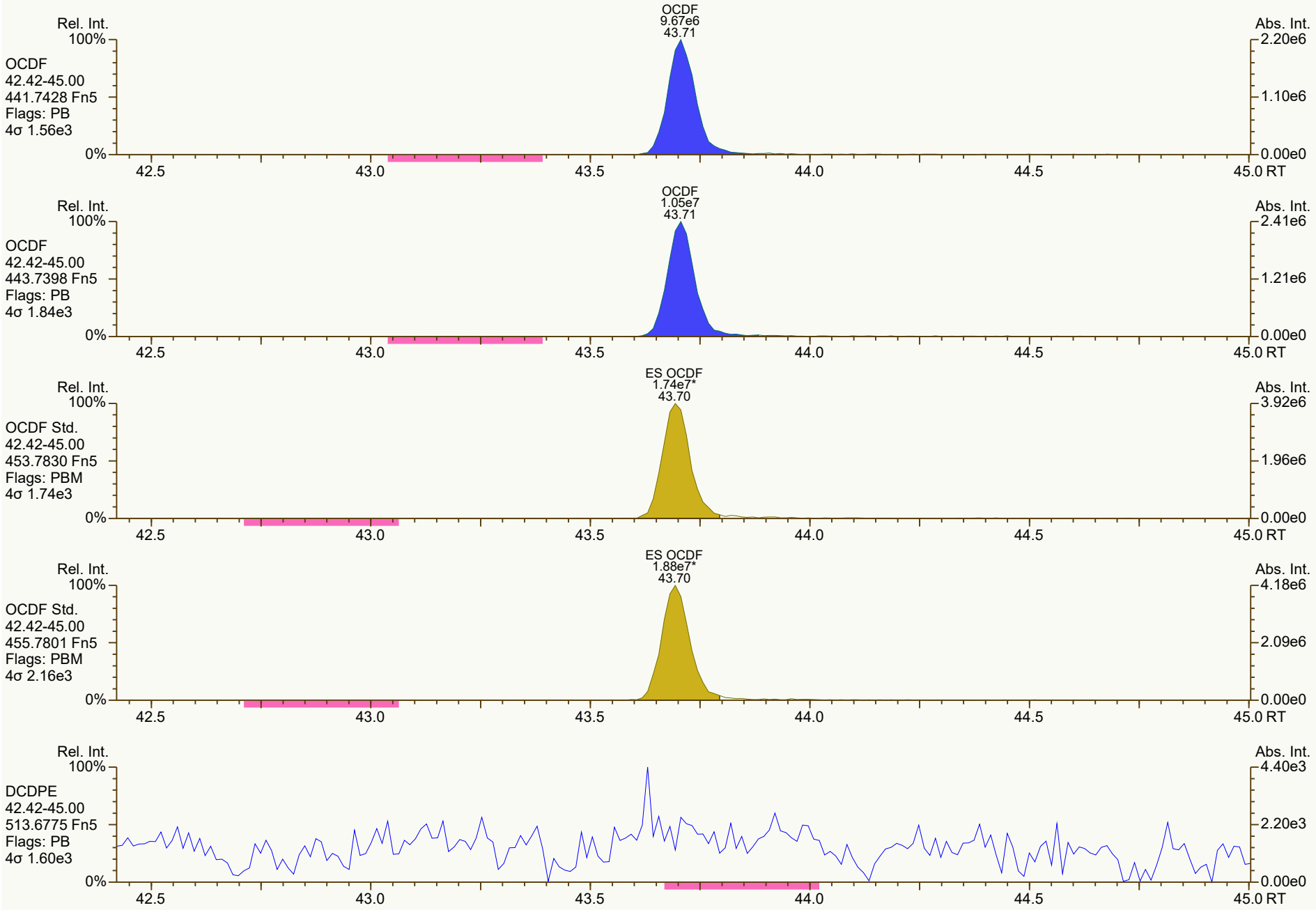


Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR2_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3628 scc: 462-483
PKD: 07-Feb-2022 08:50 Printed: 08-Feb-2022 11:14 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 3.70e3
0%
12378F
1.15e7
32.42
23478F
1.14e7
33.53
12389F
2.40e6
34.60
Abs. Int.
3.39e6
1.69e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 3.02e3
0%
12378F
7.51e6
32.42
23478F
7.30e6
33.53
12389F
1.60e6
34.60
Abs. Int.
2.09e6
1.04e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.86e3
0%
CS 12346F
2.41e7
31.87
ES 12378F
2.36e7
32.40
ES 23478F
2.18e7
33.51
Abs. Int.
6.63e6
3.32e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.97e3
0%
CS 12346F
1.50e7
31.87
ES 12378F
1.50e7
32.40
ES 23478F
1.40e7
33.51
Abs. Int.
4.12e6
2.06e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
RT


SGS ID: OPR2_18876_DF
Sample ID: 0_18876_OPR002
Acq: 05-Feb-2022 00:24:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220204C20
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.01e3
123468F 2.29e7 35.38
123478F 9.30e6* 36.77
123678F 1.13e7* 36.91
234678F 1.31e7 37.60
123789F 8.32e6 38.54
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.29e3
123468F 1.88e7 35.38
123478F 7.45e6* 36.77
123678F 9.01e6* 36.91
234678F 1.06e7 37.59
123789F 6.56e6 38.54
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.58e3
ES 123478F 9.34e6 36.75
ES 123678F 1.20e7 36.90
CS 123469F 1.16e7 37.21
ES 234678F 1.44e7 37.58
ES 123789F 9.36e6 38.53
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.28e3
ES 123478F 1.73e7 36.75
ES 123678F 2.22e7 36.89
CS 123469F 2.19e7 37.21
ES 234678F 2.66e7 37.58
ES 123789F 1.74e7 38.53
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.44e3
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR2_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9567, 1096, 2247 scc: 462-483
Revised: 07-Feb-2022 08:52 (DTF) Printed: 08-Feb-2022 11:14 Page 10 of 12


SGS ID: OPR2_18876_DF
Sample ID: 0_18876_OPR002
Acq: 05-Feb-2022 00:24:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220204C20
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.35e3
1234678F
1.07e7
39.91
1234789F
6.83e6
41.31
3.66e6
1.83e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.24e3
1234678F
1.04e7
39.91
1234789F
6.65e6
41.31
3.64e6
1.82e6
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
1.01e7
39.90
CS 1234689F
9.24e6*
40.30
ES 1234789F
6.41e6
41.29
3.44e6
1.72e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.66e3
ES 1234678F
2.15e7
39.90
CS 1234689F
1.97e7*
40.30
ES 1234789F
1.47e7
41.29
7.44e6
3.72e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.30e3
4.57e3
2.28e3
0%
100%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6148\B6148_18876 DF\Resources\OPR2_18876_DF.utp_res, saved 08-Feb-2022 11:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3615, 0859, 9798 scc: 462-483
Revised: 07-Feb-2022 08:51 (DTF) Printed: 08-Feb-2022 11:14 Page 11 of 12


OCDF
9.67e6
43.71
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.56e3
OCDF
1.05e7
43.71
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.84e3
ES OCDF
1.74e7*
43.70
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.74e3
ES OCDF
1.88e7*
43.70
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.16e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.60e3
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010522-S-BN-SW-B-17H2 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	Lab Sample ID	B6148_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	76.0 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:34:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	0.615				ES 2378-TCDD	88.4	
12378-PeCDD	ND	0.281			ES 12378-PeCDD	110	
123478-HxCDD	EMPC		0.513	J	ES 123478-HxCDD	89.3	
123678-HxCDD	0.889			J	ES 123678-HxCDD	92.8	
123789-HxCDD	1.68			J	ES 123789-HxCDD	86	
1234678-HpCDD	27.1				ES 1234678-HpCDD	95.7	
OCDD	756				ES OCDD	95.7	
2378-TCDF	EMPC		1.34		ES 2378-TCDF	78.5	
12378-PeCDF	ND	0.15			ES 12378-PeCDF	95.9	
23478-PeCDF	ND	0.153			ES 23478-PeCDF	94.1	
123478-HxCDF	ND	0.157			ES 123478-HxCDF	85	
123678-HxCDF	ND	0.136			ES 123678-HxCDF	100	
234678-HxCDF	ND	0.149			ES 234678-HxCDF	96.2	
123789-HxCDF	ND	0.183			ES 123789-HxCDF	82.6	
1234678-HpCDF	ND	0.138			ES 1234678-HpCDF	109	
1234789-HpCDF	ND	0.25			ES 1234789-HpCDF	85.6	
OCDF	ND	0.543			ES OCDF	84.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.3	
Total TCDD	4.12		4.12		CS 12347-PeCDD	113	
Total PeCDD	3.88		4.79		CS 12346-PeCDF	100	
Total HxCDD	31.4		32.5		CS 123469-HxCDF	104	
Total HpCDD	93.4		93.4		CS 1234689-HpCDF	106	
Total TCDF	2.92		4.26				
Total PeCDF	ND	0.151	ND				
Total HxCDF	ND	0.154	ND				
Total HpCDF	ND	0.183	ND				
Total PCDD/Fs	**892**		**895**				
WHO-2005 TEQs							
TEQ: ND=0	1.37		1.55				
TEQ: ND=DL/2	1.57	0.42	1.75				
TEQ: ND=DL	1.77	0.84	1.95				

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Sample ID: 11215131-010522-S-BN-SW-B-17H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	Lab Sample ID:	B6148_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	76.0 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:34:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.325)		12479/12468D	0.925	J	124679/124689D	22.3		1234679D	66.3	
1379D	(0.325)		12469D	2.26	J	123468D	(0.313)		1234678D	27.1	
1369D	(0.325)		12368D	(0.281)		123679/123689D	5.7				
1469D	3.51		12478D	(0.281)		123469D	0.849	J			
1247D...[4]	(0.325)		12379D	0.699	J	123478D	[0.513]	J			
1378D	(0.325)		12369D...[3]	[0.911]	J	123678D	0.889	J			
1268D	(0.325)		12346/12347D	(0.281)		123467D	[0.585]	J			
1478D	(0.325)		12378D	(0.281)		123789D	1.68	J	**Conc.**	93.4	
1279D	(0.325)		12367D	(0.281)					**EMPC**	93.4	
1234/1269D	(0.325)		12389D	(0.281)							
1236D	(0.325)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.325)									**(pg/g)**	
1239D	(0.325)								OCDD	756	
2378D	0.615										
1278D	(0.325)										
1267D	(0.325)										
1289D	(0.325)										
Conc.	4.12		**Conc.**	3.88		**Conc.**	31.4				
EMPC	4.12		**EMPC**	4.79		**EMPC**	32.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1.37	1.55
TEQ: ND=DL/2	1.57	1.75
TEQ: ND=DL	1.77	1.95

	Conc.	EMPC
Total PCDD/Fs	892	895

Checkcode: 126-457-KMC

Report Created: 21-Feb-2022 12:00 Analyst: TF

Sample ID: 11215131-010522-S-BN-SW-B-17H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	Lab Sample ID:	B6148_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	05-Jan-2022	% Solid:	76.0 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:34:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.207)		13468/12468F	(0.123)		123468F	(0.154)		1234678F	(0.138)	
1468F	(0.207)		13678F...[3]	(0.151)		124678/134678F	(0.154)		1234679F	(0.183)	
2468F	1.57		12368F...[3]	(0.151)		134679F	(0.154)		1234689F	(0.183)	
1346/1246F	(0.207)		14678F	(0.151)		124679F	(0.154)		1234789F	(0.25)	
1347F...[3]	(0.207)		13479F	(0.151)		124689F	(0.154)				
1348F	(0.207)		13469/12479F	(0.151)		123467F	(0.154)				
1248F...[3]	(0.207)		12346F	(0.151)		123478F	(0.157)				
1268F	(0.207)		23468/12469F	(0.151)		123678F	(0.136)				
1467F	(0.207)		12347F	(0.151)		123479F	(0.154)				
1478F	(0.207)		12348F	(0.151)		123469F	(0.154)				
1369/1237F	(0.207)		12378F	(0.15)		123679F	(0.154)				
2467F	(0.207)		12678/12367F	(0.151)		234678F	(0.149)		**Conc.**	0	
2368F	(0.207)		12379F	(0.151)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.207)		12679F	(0.151)		123689F	(0.154)				
1278F	0.899		23467/12369F	(0.151)		123789F	(0.183)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.207)		23478F	(0.153)		123789/123489F	0				
1267F	(0.207)		23478/12489F	0		123489F	(0.154)		OCDF	(0.543)	
2346/1249F	(0.207)		12489F	(0.151)							
2347/1279F	(0.207)		12349F	(0.151)							
2348F	(0.207)		12389F	(0.151)							
2378F	[1.34]										
2367/3467F	0.454	J									
1269F	(0.207)										
1239F	(0.207)										
1289F	(0.207)										
Conc.	2.92		**Conc.**	0		**Conc.**	0				
EMPC	4.26		**EMPC**	0		**EMPC**	0				

Checkcode: 126-457-KMC

Report Created: 21-Feb-2022 12:00 Analyst: TF

Sample ID: 11215131-010522-S-BN-SW-B-17H2 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6148_18911_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	QC Batch No.:	18911
Date Collected:	05-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 02:34
Lab Project No:	B6148	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	0.615		0.325	0.615	0.615	0.615
12378-PeCDD	(0.281)		0.281	(0.141)	(0.281)	(0.281)
123478-HxCDD	[0.513]	J	0.32	[0.0513]	[0.0513]	[0.0513]
123678-HxCDD	0.889	J	0.324	0.0889	0.0889	0.0889
123789-HxCDD	1.68	J	0.298	0.168	0.168	0.168
1234678-HpCDD	27.1		0.267	0.271	0.271	0.271
OCDD	756		0.683	0.756	0.0756	0.227
2378-TCDF	[1.34]		0.207	[0.134]	[0.134]	[0.134]
12378-PeCDF	(0.15)		0.15	(0.00748)	(0.00748)	(0.00449)
23478-PeCDF	(0.153)		0.153	(0.0765)	(0.0765)	(0.0459)
123478-HxCDF	(0.157)		0.157	(0.0157)	(0.0157)	(0.0157)
123678-HxCDF	(0.136)		0.136	(0.0136)	(0.0136)	(0.0136)
234678-HxCDF	(0.149)		0.149	(0.0149)	(0.0149)	(0.0149)
123789-HxCDF	(0.183)		0.183	(0.0183)	(0.0183)	(0.0183)
1234678-HpCDF	(0.138)		0.138	(0.00138)	(0.00138)	(0.00138)
1234789-HpCDF	(0.25)		0.25	(0.0025)	(0.0025)	(0.0025)
OCDF	(0.543)		0.543	(0.000543)	(0.0000543)	(0.000163)

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TEQ Summaries			
EMPC = 0, ND = 0	1.9	1.22	1.37
EMPC = 0, ND = DL / 2	2.04	1.43	1.57
EMPC = 0, ND = DL	2.19	1.65	1.77
EMPC = 0, < J-level = 0	1.64	0.961	1.11
EMPC = EMPC, ND = 0	2.08	1.4	1.55
EMPC = EMPC, ND = DL / 2	2.23	1.62	1.75
EMPC = EMPC, ND = DL	2.37	1.83	1.95
EMPC = EMPC, < J-level = 0	1.78	1.09	1.25

Checkcode: 126-457-KMC

Sample ID: 11215131-010622-S-BN-SW-B-15H2 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID	B6148_18911_DF_004	Date Extracted:	16-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	76.3 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:20:26

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.3				ES 2378-TCDD	79.8	
12378-PeCDD	ND	0.332			ES 12378-PeCDD	92.2	
123478-HxCDD	0.54			J	ES 123478-HxCDD	83.3	
123678-HxCDD	EMPC		0.969	J	ES 123678-HxCDD	87.2	
123789-HxCDD	EMPC		1.23	J	ES 123789-HxCDD	81.1	
1234678-HpCDD	28.7				ES 1234678-HpCDD	88.9	
OCDD	549				ES OCDD	89.7	
2378-TCDF	28.2				ES 2378-TCDF	73.4	
12378-PeCDF	1.51			J	ES 12378-PeCDF	85.5	
23478-PeCDF	EMPC		1.12	J	ES 23478-PeCDF	83.3	
123478-HxCDF	2.59				ES 123478-HxCDF	81.5	
123678-HxCDF	EMPC		0.597	J	ES 123678-HxCDF	93.5	
234678-HxCDF	ND	0.206			ES 234678-HxCDF	95	
123789-HxCDF	ND	0.248			ES 123789-HxCDF	80.7	
1234678-HpCDF	15.3				ES 1234678-HpCDF	109	
1234789-HpCDF	ND	0.269			ES 1234789-HpCDF	80.4	
OCDF	123				ES OCDF	78.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.8	
Total TCDD	13.9		13.9		CS 12347-PeCDD	107	
Total PeCDD	2.19		4.01		CS 12346-PeCDF	97.6	
Total HxCDD	8.08		27		CS 123469-HxCDF	106	
Total HpCDD	90.8		90.8		CS 1234689-HpCDF	106	
Total TCDF	50.2		54.3				
Total PeCDF	2.61		4.24				
Total HxCDF	4.75		5.75				
Total HpCDF	17.9		17.9				
Total PCDD/Fs	**863**		**890**				
WHO-2005 TEQs							
TEQ: ND=0	14.1		14.7				
TEQ: ND=DL/2	14.3	0.561	14.9				
TEQ: ND=DL	14.5	1.12	15.1				

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Sample ID: 11215131-010622-S-BN-SW-B-15H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID:	B6148_18911_DF_004	Date Extracted:	16-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	76.3 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:20:26

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.481)		12479/12468D	[0.812]	J	124679/124689D	[16.1]		1234679D	62	
1379D	(0.481)		12469D	2.19	J	123468D	[0.578]	J	1234678D	28.7	
1369D	(0.481)		12368D	(0.332)		123679/123689D	6.01				
1469D	2.79		12478D	(0.332)		123469D	0.718	J			
1247D...[4]	(0.481)		12379D	(0.332)		123478D	0.54	J			
1378D	(0.481)		12369D...[3]	[1.01]	J	123678D	[0.969]	J			
1268D	(0.481)		12346/12347D	(0.332)		123467D	0.811	J			
1478D	(0.481)		12378D	(0.332)		123789D	[1.23]	J	**Conc.**	90.8	
1279D	(0.481)		12367D	(0.332)					**EMPC**	90.8	
1234/1269D	(0.481)		12389D	(0.332)							
1236D	(0.481)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.481)									**(pg/g)**	
1239D	(0.481)								OCDD	549	
2378D	10.3										
1278D	0.799										
1267D	(0.481)										
1289D	(0.481)										
Conc.	13.9		**Conc.**	2.19		**Conc.**	8.08				
EMPC	13.9		**EMPC**	4.01		**EMPC**	27				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	14.1	14.7
TEQ: ND=DL/2	14.3	14.9
TEQ: ND=DL	14.5	15.1

	Conc.	EMPC
Total PCDD/Fs	863	890

Checkcode: 710-743-YGG

Report Created: 21-Feb-2022 12:00 Analyst: TF

Sample ID: 11215131-010622-S-BN-SW-B-15H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	07-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID:	B6148_18911_DF_004	Date Extracted:	16-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	76.3 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:20:26

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.263)		13468/12468F	(0.189)		123468F	[0.41]	J	1234678F	15.3	
1468F	(0.263)		13678F...[3]	(0.251)		124678/134678F	1.41	J	1234679F	(0.196)	
2468F	0.882		12368F...[3]	1.1	J	134679F	(0.213)		1234689F	2.54	
1346/1246F	(0.263)		14678F	(0.251)		124679F	(0.213)		1234789F	(0.269)	
1347F...[3]	[0.602]		13479F	(0.251)		124689F	0.75	J			
1348F	(0.263)		13469/12479F	(0.251)		123467F	(0.213)				
1248F...[3]	[1.51]		12346F	(0.251)		123478F	2.59				
1268F	[0.672]		23468/12469F	(0.251)		123678F	[0.597]	J			
1467F	(0.263)		12347F	(0.251)		123479F	(0.213)				
1478F	[1.24]		12348F	(0.251)		123469F	(0.213)				
1369/1237F	(0.263)		12378F	1.51	J	123679F	(0.213)				
2467F	(0.263)		12678/12367F	[0.509]	J	234678F	(0.206)		**Conc.**	17.9	
2368F	2.66		12379F	(0.251)		234678/123689F	0		**EMPC**	17.9	
1238F...[5]	(0.263)		12679F	(0.251)		123689F	(0.213)				
1278F	12.2		23467/12369F	(0.251)		123789F	(0.248)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.263)		23478F	[1.12]	J	123789/123489F	0				
1267F	0.81		23478/12489F	0		123489F	(0.213)		OCDF	123	
2346/1249F	(0.263)		12489F	(0.251)							
2347/1279F	(0.263)		12349F	(0.251)							
2348F	1.46		12389F	(0.251)							
2378F	28.2										
2367/3467F	2.05										
1269F	(0.263)										
1239F	(0.263)										
1289F	1.92										
Conc.	50.2		**Conc.**	2.61		**Conc.**	4.75				
EMPC	54.3		**EMPC**	4.24		**EMPC**	5.75				

Checkcode: 710-743-YGG

Report Created: 21-Feb-2022 12:00 Analyst: TF

Sample ID: 11215131-010622-S-BN-SW-B-15H2 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6148_18911_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	QC Batch No.:	18911
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	07-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 03:20
Lab Project No:	B6148	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	10.3		0.481	10.3	10.3	10.3
12378-PeCDD	(0.332)		0.332	(0.166)	(0.332)	(0.332)
123478-HxCDD	0.54	J	0.351	0.054	0.054	0.054
123678-HxCDD	[0.969]	J	0.337	[0.0969]	[0.0969]	[0.0969]
123789-HxCDD	[1.23]	J	0.335	[0.123]	[0.123]	[0.123]
1234678-HpCDD	28.7		0.478	0.287	0.287	0.287
OCDD	549		0.926	0.549	0.0549	0.165
2378-TCDF	28.2		0.263	2.82	2.82	2.82
12378-PeCDF	1.51	J	0.245	0.0757	0.0757	0.0454
23478-PeCDF	[1.12]	J	0.258	[0.558]	[0.558]	[0.335]
123478-HxCDF	2.59		0.222	0.259	0.259	0.259
123678-HxCDF	[0.597]	J	0.187	[0.0597]	[0.0597]	[0.0597]
234678-HxCDF	(0.206)		0.206	(0.0206)	(0.0206)	(0.0206)
123789-HxCDF	(0.248)		0.248	(0.0248)	(0.0248)	(0.0248)
1234678-HpCDF	15.3		0.149	0.153	0.153	0.153
1234789-HpCDF	(0.269)		0.269	(0.00269)	(0.00269)	(0.00269)
OCDF	123		0.65	0.123	0.0123	0.037

TEQ Summaries			
EMPC = 0, ND = 0	14.6	14	14.1
EMPC = 0, ND = DL / 2	14.7	14.2	14.3
EMPC = 0, ND = DL	14.8	14.4	14.5
EMPC = 0, < J-level = 0	14.5	13.9	14
EMPC = EMPC, ND = 0	15.5	14.9	14.7
EMPC = EMPC, ND = DL / 2	15.6	15	14.9
EMPC = EMPC, ND = DL	15.7	15.2	15.1
EMPC = EMPC, < J-level = 0	14.5	13.9	14

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Checkcode: 710-743-YGG

Sample ID: Method Blank B6148_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.388			ES 2378-TCDD	89.5	
12378-PeCDD	ND	0.236			ES 12378-PeCDD	98.9	
123478-HxCDD	ND	0.269			ES 123478-HxCDD	90.6	
123678-HxCDD	ND	0.25			ES 123678-HxCDD	95.4	
123789-HxCDD	ND	0.266			ES 123789-HxCDD	88.3	
1234678-HpCDD	ND	0.39			ES 1234678-HpCDD	93.1	
OCDD	ND	0.598			ES OCDD	88.9	
2378-TCDF	ND	0.224			ES 2378-TCDF	79.3	
12378-PeCDF	ND	0.182			ES 12378-PeCDF	93.4	
23478-PeCDF	ND	0.183			ES 23478-PeCDF	93.7	
123478-HxCDF	ND	0.184			ES 123478-HxCDF	90.9	
123678-HxCDF	ND	0.173			ES 123678-HxCDF	102	
234678-HxCDF	ND	0.178			ES 234678-HxCDF	106	
123789-HxCDF	ND	0.198			ES 123789-HxCDF	88.6	
1234678-HpCDF	ND	0.211			ES 1234678-HpCDF	97.9	
1234789-HpCDF	ND	0.31			ES 1234789-HpCDF	89.8	
OCDF	ND	0.451			ES OCDF	88.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	ND	0.388	ND		CS 12347-PeCDD	120	
Total PeCDD	ND	0.236	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	0.261	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.39	ND		CS 1234689-HpCDF	106	
Total TCDF	ND	0.224	ND				
Total PeCDF	ND	0.183	ND				
Total HxCDF	ND	0.182	ND				
Total HpCDF	ND	0.254	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.434	0.434	0.434				
TEQ: ND=DL	0.868	0.868	0.868				

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Sample ID: Method Blank B6148_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.388)		12479/12468D	(0.236)		124679/124689D	(0.261)		1234679D	(0.39)	
1379D	(0.388)		12469D	(0.236)		123468D	(0.261)		1234678D	(0.39)	
1369D	(0.388)		12368D	(0.236)		123679/123689D	(0.261)				
1469D	(0.388)		12478D	(0.236)		123469D	(0.261)				
1247D...[4]	(0.388)		12379D	(0.236)		123478D	(0.269)				
1378D	(0.388)		12369D...[3]	(0.236)		123678D	(0.25)				
1268D	(0.388)		12346/12347D	(0.236)		123467D	(0.261)				
1478D	(0.388)		12378D	(0.236)		123789D	(0.266)		**Conc.**	0	
1279D	(0.388)		12367D	(0.236)					**EMPC**	0	
1234/1269D	(0.388)		12389D	(0.236)							
1236D	(0.388)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.388)										
1239D	(0.388)								OCDD	(0.598)	
2378D	(0.388)										
1278D	(0.388)										
1267D	(0.388)										
1289D	(0.388)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.434	0.434
TEQ: ND=DL	0.868	0.868

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 10:47 Analyst: TF

Sample ID: Method Blank B6148_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.224)		13468/12468F	(0.17)		123468F	(0.182)		1234678F	(0.211)	
1468F	(0.224)		13678F...[3]	(0.183)		124678/134678F	(0.182)		1234679F	(0.254)	
2468F	(0.224)		12368F...[3]	(0.183)		134679F	(0.182)		1234689F	(0.254)	
1346/1246F	(0.224)		14678F	(0.183)		124679F	(0.182)		1234789F	(0.31)	
1347F...[3]	(0.224)		13479F	(0.183)		124689F	(0.182)				
1348F	(0.224)		13469/12479F	(0.183)		123467F	(0.182)				
1248F...[3]	(0.224)		12346F	(0.183)		123478F	(0.184)				
1268F	(0.224)		23468/12469F	(0.183)		123678F	(0.173)				
1467F	(0.224)		12347F	(0.183)		123479F	(0.182)				
1478F	(0.224)		12348F	(0.183)		123469F	(0.182)				
1369/1237F	(0.224)		12378F	(0.182)		123679F	(0.182)				
2467F	(0.224)		12678/12367F	(0.183)		234678F	(0.178)		**Conc.**	0	
2368F	(0.224)		12379F	(0.183)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.224)		12679F	(0.183)		123689F	(0.182)				
1278F	(0.224)		23467/12369F	(0.183)		123789F	(0.198)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.224)		23478F	(0.183)		123789/123489F	0				
1267F	(0.224)		23478/12489F	0		123489F	(0.182)		OCDF	(0.451)	
2346/1249F	(0.224)		12489F	(0.183)							
2347/1279F	(0.224)		12349F	(0.183)							
2348F	(0.224)		12389F	(0.183)							
2378F	(0.224)										
2367/3467F	(0.224)										
1269F	(0.224)										
1239F	(0.224)										
1289F	(0.224)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 10:47 Analyst: TF

Sample ID: Method Blank B6148_18911 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18911_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18911
Date Collected:	n/a	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	19-Feb-2022 19:37
Lab Project No:	B6148	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.388)		0.388	(0.388)	(0.388)	(0.388)
12378-PeCDD	(0.236)		0.236	(0.118)	(0.236)	(0.236)
123478-HxCDD	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
123678-HxCDD	(0.25)		0.25	(0.025)	(0.025)	(0.025)
123789-HxCDD	(0.266)		0.266	(0.0266)	(0.0266)	(0.0266)
1234678-HpCDD	(0.39)		0.39	(0.0039)	(0.0039)	(0.0039)
OCDD	(0.598)		0.598	(0.000598)	(0.0000598)	(0.000179)
2378-TCDF	(0.224)		0.224	(0.0224)	(0.0224)	(0.0224)
12378-PeCDF	(0.182)		0.182	(0.00912)	(0.00912)	(0.00547)
23478-PeCDF	(0.183)		0.183	(0.0915)	(0.0915)	(0.0549)
123478-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
123678-HxCDF	(0.173)		0.173	(0.0173)	(0.0173)	(0.0173)
234678-HxCDF	(0.178)		0.178	(0.0178)	(0.0178)	(0.0178)
123789-HxCDF	(0.198)		0.198	(0.0198)	(0.0198)	(0.0198)
1234678-HpCDF	(0.211)		0.211	(0.00211)	(0.00211)	(0.00211)
1234789-HpCDF	(0.31)		0.31	(0.0031)	(0.0031)	(0.0031)
OCDF	(0.451)		0.451	(0.000451)	(0.0000451)	(0.000135)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.395	0.454	0.434
EMPC = 0, ND = DL	0.791	0.908	0.868
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.395	0.454	0.434
EMPC = EMPC, ND = DL	0.791	0.908	0.868
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 399-492-BMX

Sample ID: 0_18911_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:04:19

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.7				ES 2378-TCDD	91.5	
12378-PeCDD	50.5				ES 12378-PeCDD	90.9	
123478-HxCDD	54.5				ES 123478-HxCDD	98.2	
123678-HxCDD	56.6				ES 123678-HxCDD	102	
123789-HxCDD	52.2				ES 123789-HxCDD	92	
1234678-HpCDD	54.9				ES 1234678-HpCDD	97.5	
OCDD	112				ES OCDD	90	
2378-TCDF	10.9				ES 2378-TCDF	77.7	
12378-PeCDF	48.7				ES 12378-PeCDF	91.4	
23478-PeCDF	54.1				ES 23478-PeCDF	85.6	
123478-HxCDF	51.5				ES 123478-HxCDF	96.2	
123678-HxCDF	53.7				ES 123678-HxCDF	103	
234678-HxCDF	54.4				ES 234678-HxCDF	111	
123789-HxCDF	48.7				ES 123789-HxCDF	94.4	
1234678-HpCDF	50.9				ES 1234678-HpCDF	104	
1234789-HpCDF	51.7				ES 1234789-HpCDF	95.5	
OCDF	103				ES OCDF	91.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.6	
Total TCDD	53.1		53.1		CS 12347-PeCDD	108	
Total PeCDD	77.7		77.7		CS 12346-PeCDF	98.4	
Total HxCDD	179		179		CS 123469-HxCDF	119	
Total HpCDD	68.4		68.4		CS 1234689-HpCDF	113	
Total TCDF	63.5		63.5				
Total PeCDF	206		206				
Total HxCDF	334		334				
Total HpCDF	103		103				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.265	120				
TEQ: ND=DL	120	0.53	120				

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Wilmington, NC 28405, USA
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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18911_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6148	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:55:34

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.1				ES 2378-TCDD	97.9	
12378-PeCDD	47.5				ES 12378-PeCDD	103	
123478-HxCDD	52.2				ES 123478-HxCDD	98.4	
123678-HxCDD	54.5				ES 123678-HxCDD	104	
123789-HxCDD	51.6				ES 123789-HxCDD	91.9	
1234678-HpCDD	52.2				ES 1234678-HpCDD	98	
OCDD	109				ES OCDD	92.5	
2378-TCDF	10.7				ES 2378-TCDF	85.1	
12378-PeCDF	49.7				ES 12378-PeCDF	96.4	
23478-PeCDF	50.9				ES 23478-PeCDF	100	
123478-HxCDF	51.4				ES 123478-HxCDF	91.9	
123678-HxCDF	50.6				ES 123678-HxCDF	105	
234678-HxCDF	50.7				ES 234678-HxCDF	114	
123789-HxCDF	47.8				ES 123789-HxCDF	94	
1234678-HpCDF	49.8				ES 1234678-HpCDF	107	
1234789-HpCDF	49.1				ES 1234789-HpCDF	95.3	
OCDF	103				ES OCDF	92.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	101	
Total TCDD	52.3		52.3		CS 12347-PeCDD	116	
Total PeCDD	73.6		73.6		CS 12346-PeCDF	105	
Total HxCDD	174		174		CS 123469-HxCDF	109	
Total HpCDD	65.2		65.2		CS 1234689-HpCDF	106	
Total TCDF	63.4		63.4				
Total PeCDF	197		197				
Total HxCDF	320		320				
Total HpCDF	98.8		98.8				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.279	114				
TEQ: ND=DL	114	0.558	114				

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Sample DUP

Method 1613B

Sample ID: 0_18911_OPR001

Analyte	OPR1_18911_DF pg/uL	OPR2_18911_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.7	11.1	5.3%
1,2,3,7,8-PeCDD	50.5	47.5	6.1%
1,2,3,4,7,8-HxCDD	54.5	52.2	4.3%
1,2,3,6,7,8-HxCDD	56.6	54.5	3.9%
1,2,3,7,8,9-HxCDD	52.2	51.6	1.2%
1,2,3,4,6,7,8-HpCDD	54.9	52.2	5.0%
OCDD	112	109	2.6%
2,3,7,8-TCDF	10.9	10.7	2.1%
1,2,3,7,8-PeCDF	48.7	49.7	2.1%
2,3,4,7,8-PeCDF	54.1	50.9	6.3%
1,2,3,4,7,8-HxCDF	51.5	51.4	0.2%
1,2,3,6,7,8-HxCDF	53.7	50.6	5.9%
2,3,4,6,7,8-HxCDF	54.4	50.7	7.0%
1,2,3,7,8,9-HxCDF	48.7	47.8	1.9%
1,2,3,4,6,7,8-HpCDF	50.9	49.8	2.3%
1,2,3,4,7,8,9-HpCDF	51.7	49.1	5.3%
OCDF	103	103	0.9%
Totals			
Total TCDD	53.1	52.3	1.6%
Total PeCDD	77.7	73.6	5.4%
Total HxCDD	179	174	3.0%
Total HpCDD	68.4	65.2	4.8%
Total TCDF	63.5	63.4	0.1%
Total PeCDF	206	197	4.6%
Total HxCDF	334	320	4.2%
Total HpCDF	103	98.8	3.8%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Jan-22 at 12:20*
AP Project name:	*B6148*
Requested TAT:	*10 business days*
Projected due date:	*21-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010522-S-BN-SW-B-17H1	B6148_001*	S	1	4 oz Amber	05-Jan-22	15:10	2.5	1	490527043610
11215131-010522-S-BN-SW-B-17H2	B6148_002**	S	1	4 oz Amber	05-Jan-22	15:20	2.5	1	490527043610
11215131-010622-S-BN-SW-B-15H1	B6148_003*	S	1	4 oz Amber	06-Jan-22	10:10	2.5	1	490527043610
11215131-010622-S-BN-SW-B-15H2	B6148_004**	S	1	4 oz Amber	06-Jan-22	10:20	2.5	1	490527043610

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact; *samples taken off HOLD per email dated 1/26/2022 **sample taken off HOLD per email dated 2/4/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Amy Boehm* *QC'ed by:* TB 02/07/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6148 1/2

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remar
REPORT LEVEL: Level I Level II ■ Level IV
SPECIAL DELIVERABLES:
DoD ■ EDD/Version: GHD EQuIS 4-file
State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-371 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None
ANALYSIS & METHOD: M1613B (D/F)

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS (SEE SSOW)
11215131-010522-S-BN-SW-S-20	1-5-22	1440	C	S	4 oz				1	RUSH
11215131-010522-S-BN-SW-0-15		1450	C	S	4 oz				1	
11215131-010522-S-BN-SW-B-17		1500	C	S	4 oz				1	
11215131-010522-S-BN-SW-B-17H1		1510	C	S	4 oz				1	HOLD
11215131-010522-S-BN-SW-B-17H2	↓	1520	C	S	4 oz				1	HOLD
11215131-010622-S-BN-SW-S-30	1-6-22	0930	C	S	4 oz				1	RUSH
11215131-010622-S-BN-SW-S-35		0940	C	S	4 oz				1	RUSH
11215131-010622-S-BN-SW-0-12		0950	C	S	4 oz				1	
11215131-010622-S-BN-SW-B-15		1000	C	S	4 oz	X	X		1	MS/MSD
11215131-010622-S-BN-SW-B-15H1	↓	1010	C	S	4 oz				1	HOLD

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Breanna North	1-6-22	1435	Eddie Cost
RELINQUISHED BY (2): Eddie Costa	1-6-22	1533	[signature] 1/6/22 1533
RELINQUISHED BY (3): [signature]	1/6/22	1533	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1/7/22 TIME: 1220
COOLER SEAL: INTACT BROKEN ABSENT
CONTAINER SEALS: INTACT BROKEN ABSENT
CARRIER: TEMP: °C 2.5°
TRACKING #:

ENVIRONMENT, HEALTH & SAFETY [illegible] www.sgs.com/ehs

B6148 2/2

CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME: Refer to Notes and Remar
REPORT LEVEL: ☐ Level I ☐ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-3716 EMAIL: Meagan.Willis

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-010622-S-BN-SW-B-15-0.5	1-6-22	1020	C	S	4 oz		X				1	Hold
11215131-010622-S-BN-DUP-10	↓	—	C	S	4 oz		X			X	1	
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							
					4 oz							

SEE SSOW

	DATE	TIME	
COLLECTED/RELINQUISHED BY (1): Brianna North	1-6-22	1435	RECEIVED BY:
RELINQUISHED BY (2):	1-6-22	1533	RECEIVED BY: 1/6/22 1533
RELINQUISHED BY (3):	1/6/22	1527	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1-7-22 TIME: 1220
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C
TRACKING #:

B6148

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 06JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903 REF:
INV:
PO: DEPT:

12 kg
1/7.22

FedEx Express

J191218082001UN

FRI - 07 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3610**

NL ILMA

28405
NC-US RDU

Part # 156146-434 REV EXP 07Y22

SGS

Customer
DATE 1-6-22
SIGNATURE

11409

SGS

Project Initiation Form

Project Number: B6148

Initiation Date: 07-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date:

Prep Lab:

HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date:

HRMS Lab:

PM Initials: tburkamper

Date: 07-Feb-2022

SGS

Methods: PCB PAH | ~~PCDD/F~~ WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Extraction Type: ~~SDS~~ CLL | TALEX Carbon SPE | [ ] Solid | Final Volume: 20mL

Batch# 18911 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JWH 2/16/22 | Clean-up Initial/Date: ~~KAB~~ 2/18/22 | Transfer Init/Date: ~~KAB~~ 2/18/22

Lab Sample ID	Extraction Position / Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B5962_18911_003	4	15.46				black/gray, sticky, clay-like
B5964_18911_007	5	13.65				black/gray, sticky, clay-like
B5992_18911_002	6	13.35				fuel smell, gray, clay-like
B6008_18911_001	7	13.84				black/gray, sticky, clay-like
B6008_18911_003	8	13.22				black/gray, clay-like
B6080_18911_002	9	16.84				black/gray, clay-like, moist, fuel smell
B6110_18911_002	10	14.58				black/gray, clay-like
B6140_18911_001	11	13.22				black/gray, clay-like
B6148_18911_002	12	14.15				black/gray, clay-like
B6148_18911_004	13	13.42				black/gray, clay-like
B6154_18911_001	14	12.82				gray, sandy/clay-like
B6154_18911_002	15	14.03				gray, clay-like
B6208_18911_001	16	12.78				gray, clay-like
B6208_18911_002	17	14.25				gray, clay-like, fuel smell
B6208_18911_003	18	13.32				gray, clay-like, fuel smell
B6208_18911_004	19	13.66				black/gray, clay-like, strong fuel smell
MB1_18911	1	10.00				sodium sulfate
OPR1_18911	2	10.00				sodium sulfate
OPR2_18911	3	10.00				sodium sulfate

TB 2/23/2022

Supply IDs

Toluene STL-14-21
MeCHL STL14-17
Florisil SPLS-83
Hexane STL14-29
Silica SPLS-69
S Nitrate N/A
Base Silica SPLS-86
HydroMatrix N/A
Tetradecane SPLS-730
H_2SO_4 N/A
A Silica SPLS-90
Sodium Sulfate SPLS-808

Additional Cleanup

Acid Partition Date/Initial:
Mini-Acid Date/Initial:
Carbon Column Date/Initial: TB 2/23/2022
GPC Date/Initial:
Bond-Elute Date/Initial:

Cycle Time

	Start	Stop
TOL	1630	0900
HEX		
DCM		

2/18/22

TB 2/23/2022

TB 2/23/2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18911

Inter-Department Communication Sheet

TB
2/23/2022

SGS

Wt. Volume Results

Batch #: 18911

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B5962_003	2.36	5.09	4.16	65.93%	65.93%			15.17	15.46	10.19
B5964_007	2.3	4.53	4	76.23%	76.23%			13.12	13.65	10.41
B5992_002	2.37	4.8	4.22	76.13%	76.13%			13.14	13.35	10.16
B6008_001	2.37	4.44	3.92	74.88%	74.88%			13.35	13.84	10.36
B6008_003	2.41	4.46	3.98	76.59%	76.59%			13.06	13.22	10.13
B6080_002	2.39	4.82	3.98	65.43%	65.43%			15.28	16.54	10.82
B6110_002	2.4	4.86	4.13	70.33%	70.33%			14.22	14.58	10.25
B6140_001	2.36	5.24	4.6	77.78%	77.78%			12.86	13.22	10.28
B6148_002	2.35	4.43	3.93	75.96%	75.96%			13.16	14.15	10.75
B6148_004	2.36	4.55	4.03	76.26%	76.26%			13.11	13.42	10.23
B6154_001	2.33	5.22	4.64	79.93%	79.93%			12.51	12.82	10.25
B6154_002	2.38	4.5	3.96	74.53%	74.53%			13.42	14.03	10.46
B6208_001	2.33	5.5	4.85	79.50%	79.50%			12.58	12.78	10.16
B6208_002	2.33	4.77	4.1	72.54%	72.54%			13.79	14.25	10.34
B6208_003	2.33	5.23	4.56	76.90%	76.90%			13	13.32	10.24
B6208_004	2.32	5.1	4.45	76.62%	76.62%			13.05	13.66	10.47

TB 2/23/2022

TB 2/23/2022

% Solid Determination WorkSheet

SGS

Batch: 18911

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B5962_18911_003	2.36	5.09	4.16	15.17	
B5964_18911_007	2.36	4.53	4.00	13.12	
B5992_18911_002	2.37	4.80	4.22	13.14	
B6008_18911_001	2.37	4.44	3.92	13.35	
B6008_18911_003	2.41	4.46	3.98	13.06	
B6080_18911_002	2.39	4.82	3.97	15.28	
B6110_18911_002	2.40	4.86	4.13	14.22	
B6140_18911_001	2.36	5.24	4.100	12.86	
B6148_18911_002	2.35	4.43	3.93	13.16	
B6148_18911_004	2.36	4.55	4.03	13.11	
B6154_18911_001	2.33	5.22	4.04	12.51	
B6154_18911_002	2.38	4.50	3.96	13.42	
B6208_18911_001	2.33	5.50	4.85	12.58	
B6208_18911_002	2.33	4.77	4.10	13.79	
B6208_18911_003	2.33	5.23	4.56	13.00	
B6208_18911_004	2.32	5.10	4.45	13.05	

~~B03~~
2/18/22

Date/Initials: JRH 2/14/22

SGS

Methods: PCB, PAH | PCDD/F, WHO-2 | QUANTICS, USV | DoD PCDD/F, PEST | Solid

Batch # 18911

Lab Sample ID	Spiker Initials/Date: JRH 2/16/22	JRH 2/16/22	JRH 2/16/22	RBS 2/18/22	RBS 2/18/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B5962_18911_003	–	–	RBS	JRH	JRH		
B5964_18911_007	–	–	RBS	JRH	JRH		
B5992_18911_002	–	–	RBS	JRH	JRH		
B6008_18911_001	–	–	RBS	JRH	JRH		
B6008_18911_003	–	–	RBS	JRH	JRH		
B6080_18911_002	–	–	RBS	JRH	JRH		
B6110_18911_002	–	–	RBS	JRH	JRH		
B6140_18911_001	–	–	RBS	JRH	JRH		
B6148_18911_002	–	–	RBS	JRH	JRH		
B6148_18911_004	–	–	RBS	JRH	JRH		
B6154_18911_001	–	–	RBS	JRH	JRH		
B6154_18911_002	–	–	RBS	JRH	JRH		
B6208_18911_001	–	–	RBS	JRH	JRH		
B6208_18911_002	–	–	RBS	JRH	JRH		
B6208_18911_003	–	–	RBS	JRH	JRH		
B6208_18911_004	–	–	RBS	JRH	JRH		
MB1_18911	–	–	RBS	JRH	JRH		
OPR1_18911	RBS	RBS	RBS	JRH	JRH		
OPR2_18911	RBS	RBS	RBS	JRH	JRH		

RBS 2/18/22

Standard Information

Pipette ID						RBS 2/18/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL#	26-2-8	25-187-2	26-2-9	25.338.1	25.384.1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	
Expiration Date	7/9/24	6/22/20	8/2023	11/16/22	1/28/23	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA	1.00	25-347-1	DTF	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
4	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF	399-492	19-Feb-2022	19:37:00
5	220219C13	36	B6148_18911_DF_002	10.75	11215131-010522-S-BN-SW-B-17H2	DTF	126-457	20-Feb-2022	02:34:06
6	220219C14	37	B6148_18911_DF_004	10.23	11215131-010622-S-BN-SW-B-15H2	DTF	710-743	20-Feb-2022	03:20:26
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF	488-895	20-Feb-2022	05:55:34

REVIEWED
Tyler_Fritz , 2/21/2022, 12:04:46 PM

REVIEWED
Amber_Kornegay , 2/23/2022, 9:39:02 AM

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6148_18911 | **UTP:** 21-Feb-2022 10:46:47 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4631.374	0.388
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2783.22	0.236
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3118.687	0.269
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	3118.687	0.25
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	3118.687	0.266
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	4399.488	0.39
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3230.665	0.598
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3471.373	0.224
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.182
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.183
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3096.37	0.184
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3096.37	0.173
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3096.37	0.178
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3096.37	0.198
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3605.552	0.211
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3605.552	0.31
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2961.523	0.451

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.20E+07	0.81	Y	1.05	89.5
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.05E+07	1.59	Y	0.88	98.9
ES 123478-HxCDD	37.56	0.9916	0.9916	0	1.85E+07	1.28	Y	0.97	90.6
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	1.89E+07	1.29	Y	0.94	95.4
ES 123789-HxCDD	37.99	1.0029	1.0028	-0.2	2.02E+07	1.23	Y	1.09	88.3
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	1.78E+07	1.06	Y	0.91	93.1
ES OCDD	43.41	1.1460	1.1460	0	2.32E+07	0.89	Y	0.62	88.9
ES 2378-TCDF	27.36	1.0531	1.0534	+0.5	3.24E+07	0.79	Y	1.06	79.3
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	3.28E+07	1.56	Y	0.91	93.4
ES 23478-PeCDF	33.29	1.2810	1.2818	+1.6	3.19E+07	1.50	Y	0.88	93.7
ES 123478-HxCDF	36.55	0.9650	0.9650	0	2.28E+07	0.54	Y	1.20	90.9
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.90E+07	0.56	Y	1.35	102
ES 234678-HxCDF	37.38	0.9866	0.9867	+0.2	2.76E+07	0.53	Y	1.24	106
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.14E+07	0.55	Y	1.16	88.6
ES 1234678-HpCDF	39.78	1.0501	1.0500	-0.2	1.98E+07	0.44	Y	0.97	97.9
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	1.60E+07	0.46	Y	0.85	89.8
ES OCDF	43.59	1.1505	1.1505	0	3.00E+07	0.93	Y	0.81	88.7

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6148_18911 | **UTP:** 21-Feb-2022 10:46:47 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.35E+07	0.80	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.86E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.05E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.08E+07	n/a	-	1.20	95.7
CS 12347-PeCDD	33.12		1.2016	1.2020	+0.8	2.12E+07	1.58	Y	0.75	120
CS 12346-PeCDF	31.63		1.2172	1.2180	+1.5	3.45E+07	1.61	Y	0.85	105
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.65E+07	0.53	Y	1.12	113
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	1.98E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~2.12E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.45E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.65E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.98E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18911_DF_SDS **Acq'd: 19 Feb 2022 19:37 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6148_18911 **UTP: 21-Feb-2022 10:46:47 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 399-492-BMX**

Datafile: 220219C04 **Report: 21 Feb 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4631.374	0.388
1379-TCDD	NotFnd		0.8829						1.18		4631.374	0.388
1369-TCDD	NotFnd		0.8982						1.18		4631.374	0.388
1469-TCDD	NotFnd		0.9261						1.18		4631.374	0.388
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4631.374	0.388
1378-TCDD	NotFnd		0.9417						1.18		4631.374	0.388
1268-TCDD	NotFnd		0.9487						1.18		4631.374	0.388
1478-TCDD	NotFnd		0.9576						1.18		4631.374	0.388
1279-TCDD	NotFnd		0.9636						1.18		4631.374	0.388
1234/1269-TCDD	NotFnd		0.9761						1.18		4631.374	0.388
1236-TCDD	NotFnd		0.9812						1.18		4631.374	0.388
1237/1238-TCDD	NotFnd		0.9905						1.18		4631.374	0.388
1239-TCDD	NotFnd		0.9951						1.18		4631.374	0.388
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4631.374**	**0.388**
1278-TCDD	NotFnd		1.0124						1.18		4631.374	0.388
1267-TCDD	NotFnd		1.0172						1.18		4631.374	0.388
1289-TCDD	NotFnd		1.0354						1.18		4631.374	0.388
12479/12468-PeCDD	NotFnd		0.9255						1.04		2783.22	0.236
12469-PeCDD	NotFnd		0.9416						1.04		2783.22	0.236
12368-PeCDD	NotFnd		0.9582						1.04		2783.22	0.236
12478-PeCDD	NotFnd		0.9637						1.04		2783.22	0.236
12379-PeCDD	NotFnd		0.9668						1.04		2783.22	0.236
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2783.22	0.236
12346/12347-PeCDD	NotFnd		0.9858						1.04		2783.22	0.236
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2783.22**	**0.236**
12367-PeCDD	NotFnd		1.0036						1.04		2783.22	0.236
12389-PeCDD	NotFnd		1.0137						1.04		2783.22	0.236
124679/124689-HxCDD	NotFnd		0.9540						1.10		3118.687	0.261
123468-HxCDD	NotFnd		0.9715						1.10		3118.687	0.261
123679/123689-HxCDD	NotFnd		0.9793						1.10		3118.687	0.261
123469-HxCDD	NotFnd		0.9829						1.10		3118.687	0.261
123478-HxCDD	NotFnd		**1.0004**						1.09		**3118.687**	**0.269**
123678-HxCDD	NotFnd		**1.0036**						1.15		**3118.687**	**0.25**
123467-HxCDD	NotFnd		1.0089						1.10		3118.687	0.261
123789-HxCDD	NotFnd		**1.0118**						1.05		**3118.687**	**0.266**

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6148_18911 | **UTP:** 21-Feb-2022 10:46:47 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

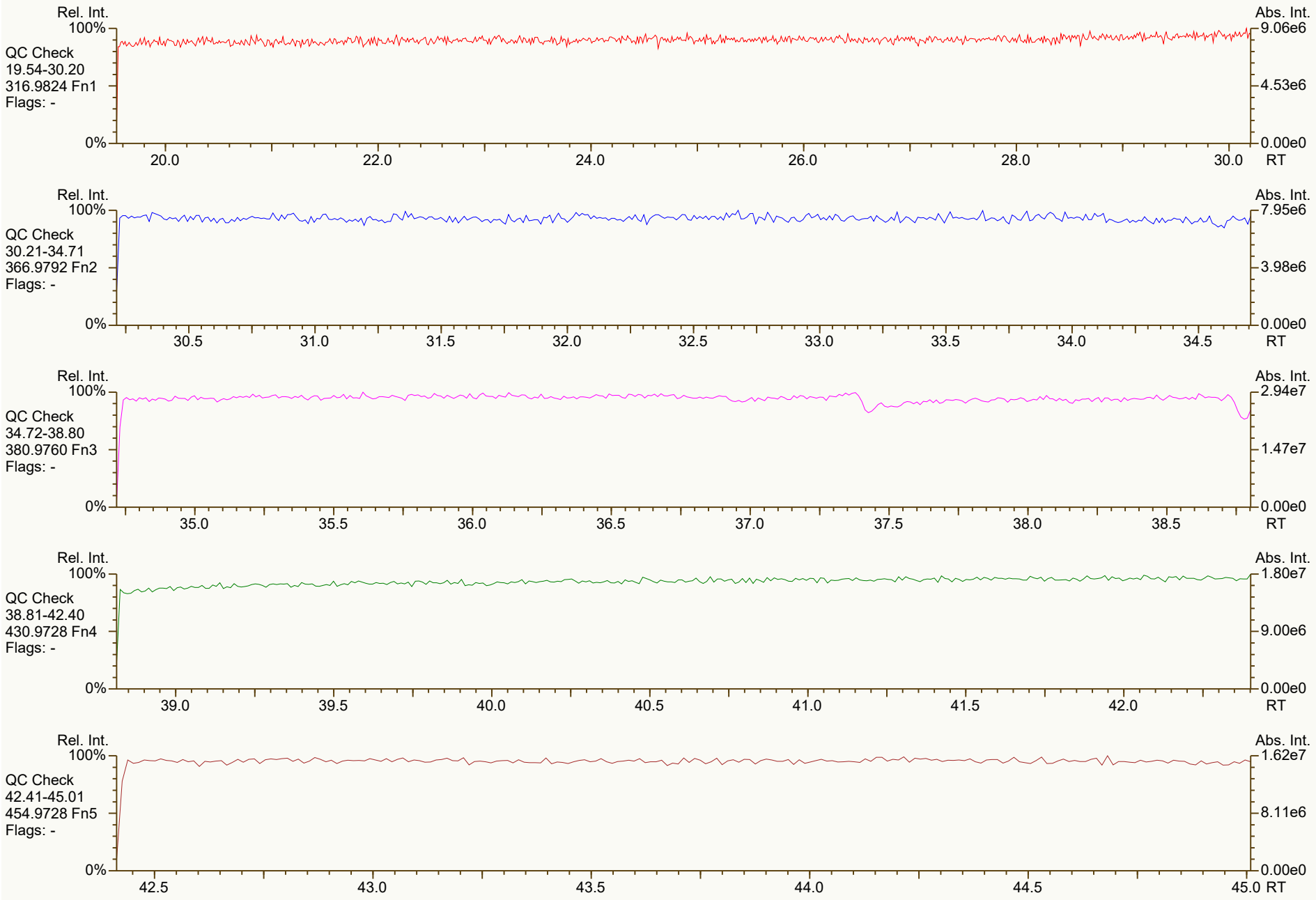
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		4399.488	0.39
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**4399.488**	**0.39**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3230.665**	**0.598**
OCDD-a	NotFnd		1.0002						0.07		3130.658	9.06
1368-TCDF	NotFnd		0.8191						1.08		3471.373	0.224
1468-TCDF	NotFnd		0.8408						1.08		3471.373	0.224
2468-TCDF	NotFnd		0.8645						1.08		3471.373	0.224
1346/1246-TCDF	NotFnd		0.8772						1.08		3471.373	0.224
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3471.373	0.224
1348-TCDF	NotFnd		0.8932						1.08		3471.373	0.224
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3471.373	0.224
1268-TCDF	NotFnd		0.9119						1.08		3471.373	0.224
1467-TCDF	NotFnd		0.9170						1.08		3471.373	0.224
1478-TCDF	NotFnd		0.9234						1.08		3471.373	0.224
1369/1237-TCDF	NotFnd		0.9369						1.08		3471.373	0.224
2467-TCDF	NotFnd		0.9415						1.08		3471.373	0.224
2368-TCDF	NotFnd		0.9475						1.08		3471.373	0.224
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3471.373	0.224
1278-TCDF	NotFnd		0.9676						1.08		3471.373	0.224
1349-TCDF	NotFnd		0.9722						1.08		3471.373	0.224
1267-TCDF	NotFnd		0.9777						1.08		3471.373	0.224
2346/1249-TCDF	NotFnd		0.9843						1.08		3471.373	0.224
2347/1279-TCDF	NotFnd		0.9926						1.08		3471.373	0.224
2348-TCDF	NotFnd		0.9968						1.08		3471.373	0.224
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3471.373**	**0.224**
2367/3467-TCDF	NotFnd		1.0142						1.08		3471.373	0.224
1269-TCDF	NotFnd		1.0235						1.08		3471.373	0.224
1239-TCDF	NotFnd		1.0329						1.08		3471.373	0.224
1289-TCDF	NotFnd		1.0742						1.08		3471.373	0.224
13468/12468-PeCDF	NotFnd		0.9122						1.02		2974.037	0.17
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3188.391	0.183
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3188.391	0.183
14678-PeCDF	NotFnd		0.9685						1.02		3188.391	0.183
13479-PeCDF	NotFnd		0.9716						1.02		3188.391	0.183
13469/12479-PeCDF	NotFnd		0.9794						1.02		3188.391	0.183
12346-PeCDF	NotFnd		0.9836						1.02		3188.391	0.183

Lab ID: MB1_18911_DF_SDS **Acq'd:** 19 Feb 2022 19:37 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

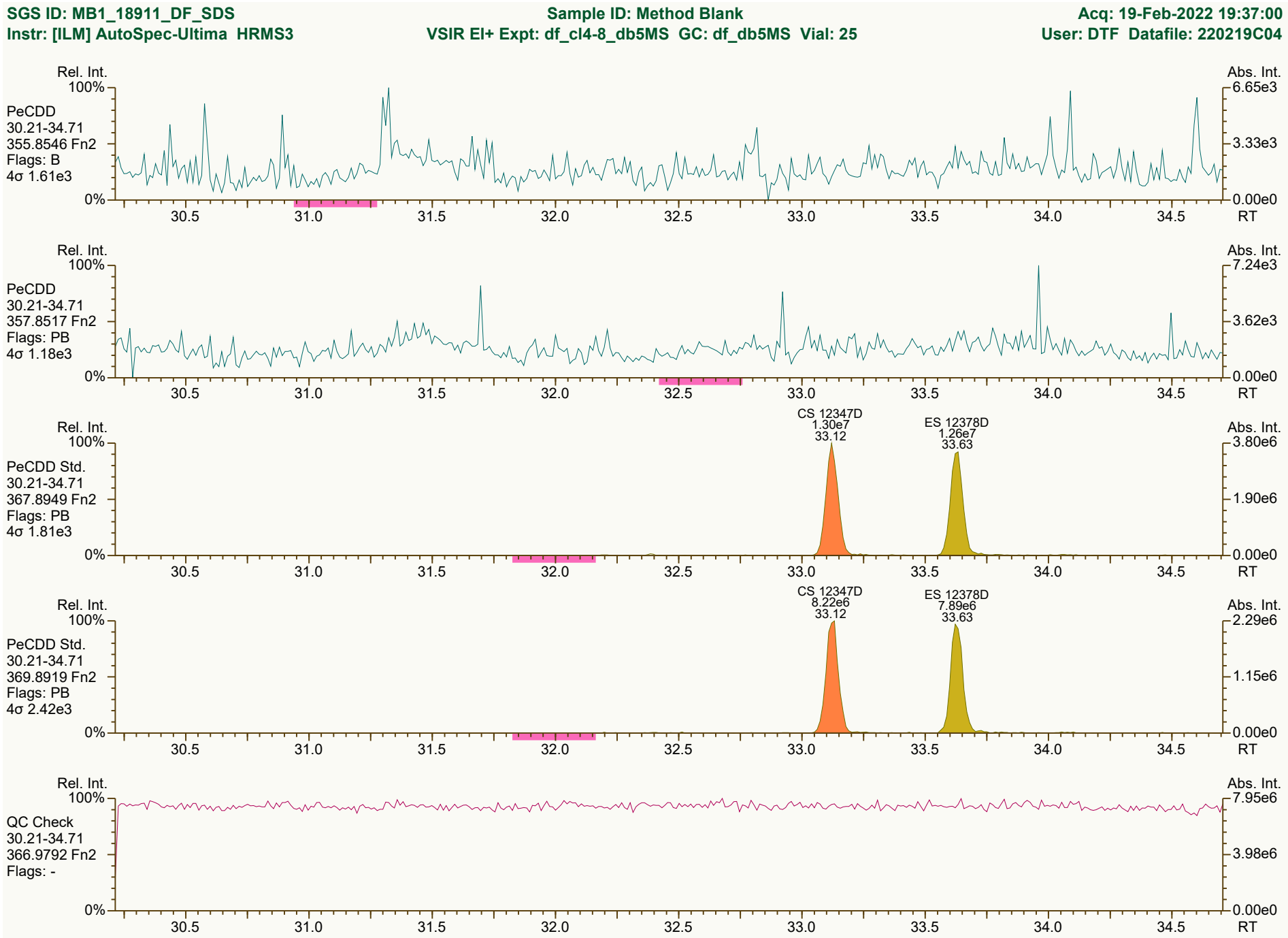
Client ID: Method Blank B6148_18911 **UTP:** 21-Feb-2022 10:46:47 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 399-492-BMX

Datafile: 220219C04 **Report:** 21 Feb 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3188.391	0.183
12347-PeCDF	NotFnd		0.9891						1.02		3188.391	0.183
12348-PeCDF	NotFnd		0.9938						1.02		3188.391	0.183
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.182**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3188.391	0.183
12379-PeCDF	NotFnd		1.0144						1.02		3188.391	0.183
12679-PeCDF	NotFnd		0.9927						1.02		3188.391	0.183
23467/12369-PeCDF	NotFnd		0.9965						1.02		3188.391	0.183
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.183**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3188.391	0.183
12349-PeCDF	NotFnd		1.0101						1.02		3188.391	0.183
12389-PeCDF	NotFnd		1.0330						1.02		3188.391	0.183
123468-HxCDF	NotFnd		0.9622						1.19		3096.37	0.182
124678/134678-HxCDF	NotFnd		0.9678						1.19		3096.37	0.182
134679-HxCDF	NotFnd		0.9741						1.19		3096.37	0.182
124679-HxCDF	NotFnd		0.9795						1.19		3096.37	0.182
124689-HxCDF	NotFnd		0.9856						1.19		3096.37	0.182
123467-HxCDF	NotFnd		0.9972						1.19		3096.37	0.182
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3096.37**	**0.184**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3096.37**	**0.173**
123479-HxCDF	NotFnd		1.0048						1.19		3096.37	0.182
123469-HxCDF	NotFnd		1.0089						1.19		3096.37	0.182
123679-HxCDF	NotFnd		0.9942						1.19		3096.37	0.182
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3096.37**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3096.37	0.182
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3096.37**	**0.198**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3096.37	0.182
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3605.552**	**0.211**
1234679-HpCDF	NotFnd		1.0068						1.34		3605.552	0.254
1234689-HpCDF	NotFnd		1.0104						1.34		3605.552	0.254
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3605.552**	**0.31**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2961.523**	**0.451**
OCDF-a	NotFnd		1.0001						0.07		3481.601	8.57

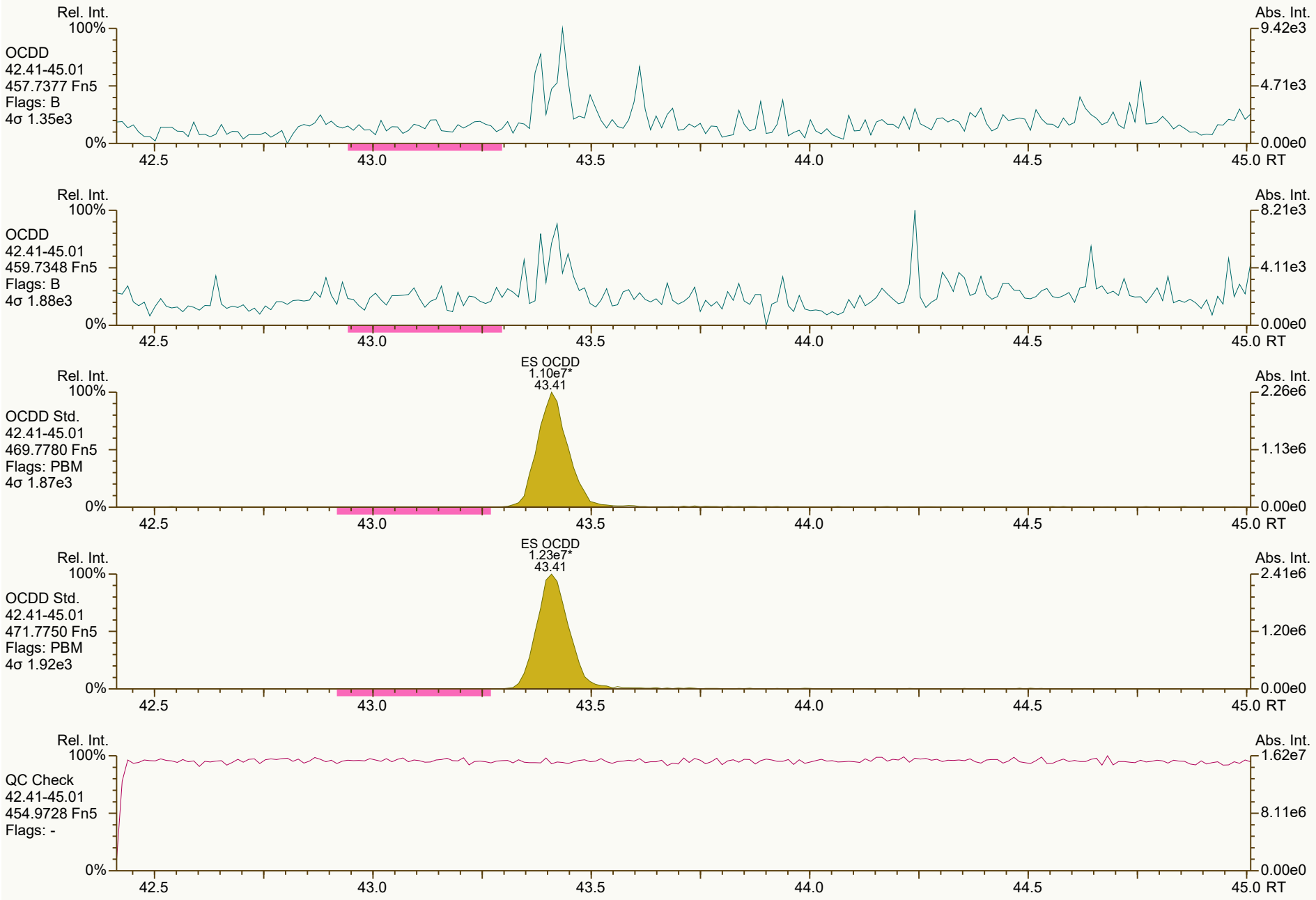

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100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
9.06e6
4.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.95e6
3.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
9.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.16e3
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.01e3
3.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
1.08e7
28.25
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.73e3
0%
JS 1234D
1.05e7
27.56
ES 2378D
9.82e6
28.23
Abs. Int.
2.47e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.28e3
0%
JS 1234D
1.30e7
27.56
ES 2378D
1.22e7
28.23
Abs. Int.
2.91e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: MB1_18911_DF_SDS
Sample ID: Method Blank
Acq: 19-Feb-2022 19:37:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: DTF Datafile: 220219C04
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.61e3
6.65e3
3.33e3
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.18e3
7.24e3
3.62e3
CS 12347D
1.30e7
33.12
ES 12378D
1.26e7
33.63
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.81e3
3.80e6
1.90e6
CS 12347D
8.22e6
33.12
ES 12378D
7.89e6
33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.42e3
2.29e6
1.15e6
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.95e6
3.98e6
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\MB1_18911_DF_SDS.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4986, 5314 scc: 399-492
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:51 Page 3 of 12

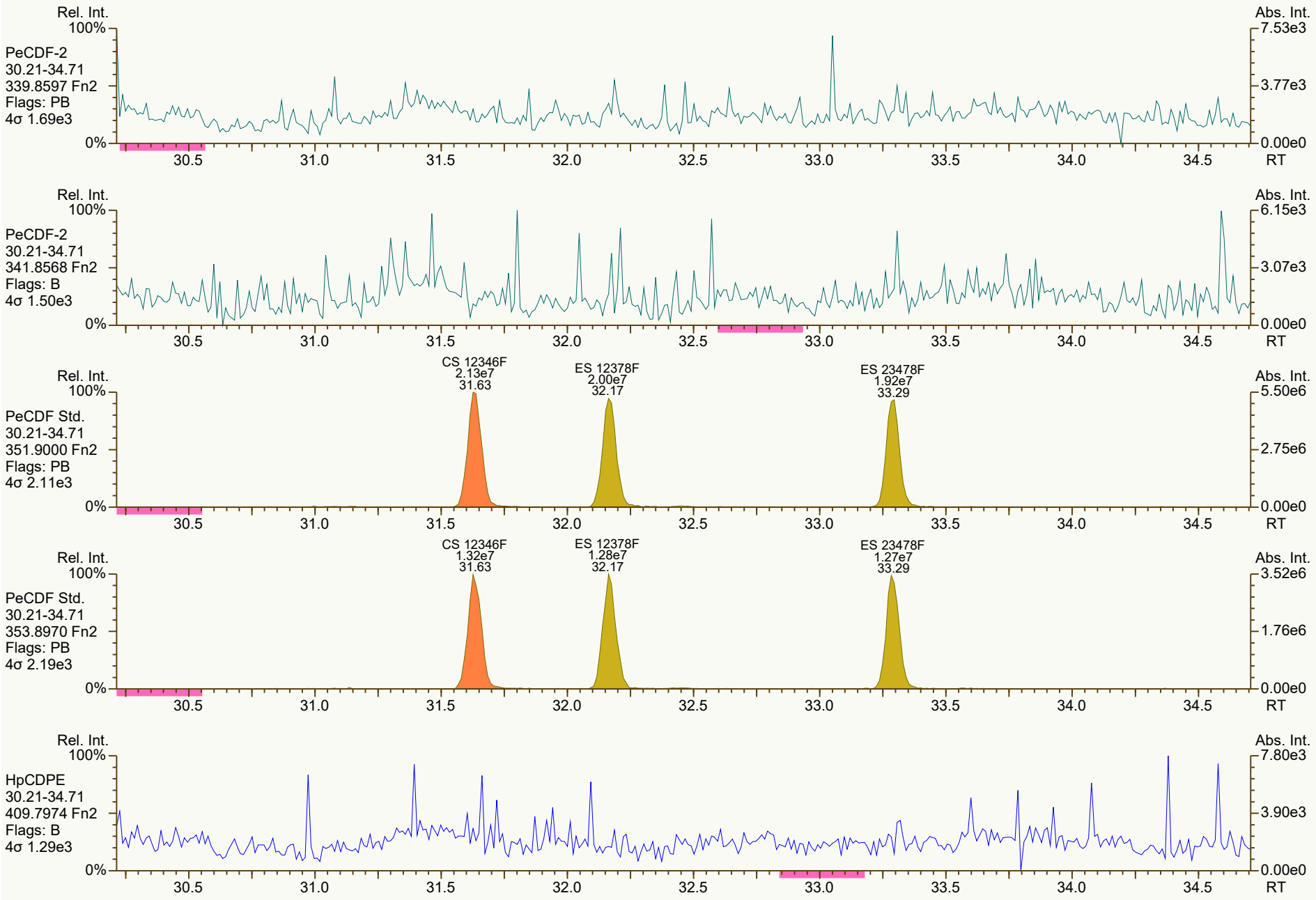

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.60e3
0%
Abs. Int.
7.73e3
3.86e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.67e3
0%
ES 123678D
1.06e7
37.68
ES 123478D
1.04e7
37.56
ES 123789D
1.11e7
37.99
JS 123467D
5.95e6
37.88
Abs. Int.
3.09e6
1.55e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.29e3
0%
ES 123678D
8.25e6
37.68
ES 123478D
8.10e6
37.56
ES 123789D
9.03e6
37.99
JS 123467D
4.51e6
37.88
Abs. Int.
2.52e6
1.26e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

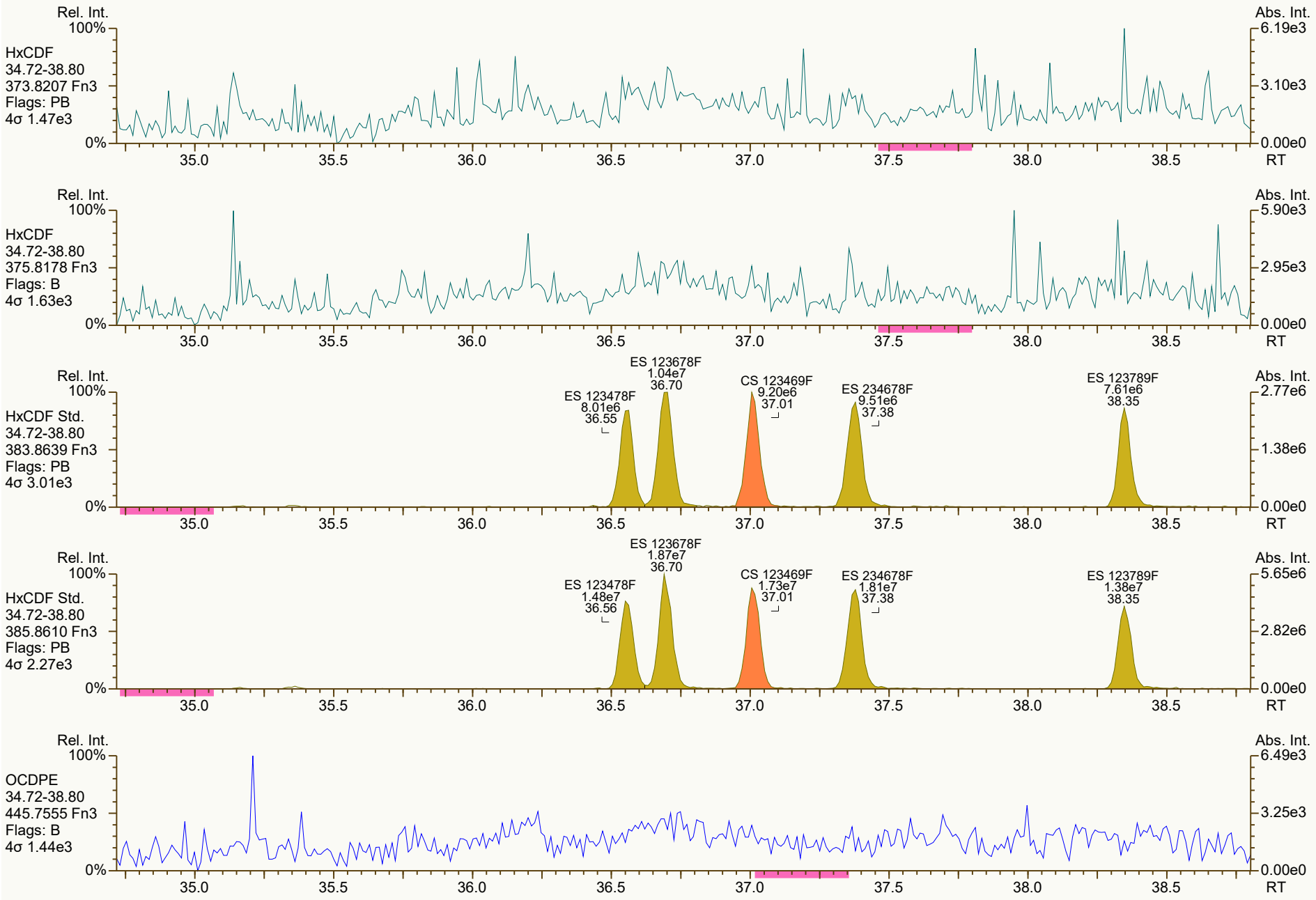

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.98e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.15e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.66e3
0%
Abs. Int.
2.73e6
1.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.65e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.85e3
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
9.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

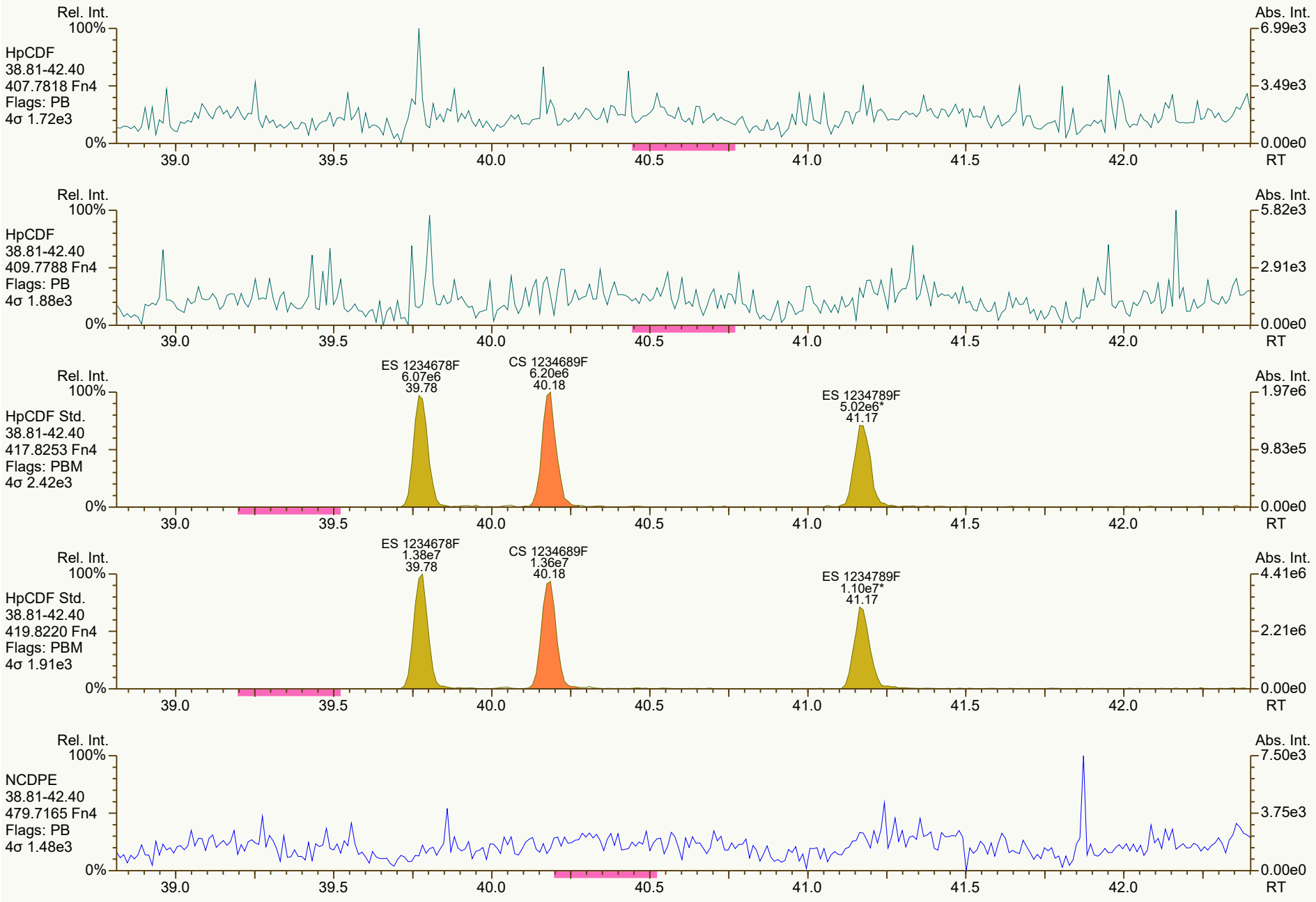

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.42e3
4.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.88e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
ES OCDD
1.10e7*
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.87e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
ES OCDD
1.23e7*
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.92e3
0%
Abs. Int.
2.41e6
1.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18911_DF_SDS
Sample ID: Method Blank
Acq: 19-Feb-2022 19:37:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: DTF Datafile: 220219C04
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.54e3
6.33e3
3.17e3
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.93e3
1.22e4
6.12e3
JS 1234F
1.72e7
25.97
ES 2378F
1.43e7
27.36
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.75e3
3.48e6
1.74e6
JS 1234F
2.14e7
25.97
ES 2378F
1.81e7
27.36
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.52e3
4.27e6
2.14e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
4.77e3
2.39e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\MB1_18911_DF_SDS.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6195, 1212, 7290 scc: 399-492
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 10:51 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.41e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.06e6
4.53e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.69e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.15e3
3.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.11e3
0%
CS 12346F
2.13e7
31.63
ES 12378F
2.00e7
32.17
ES 23478F
1.92e7
33.29
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12346F
1.32e7
31.63
ES 12378F
1.28e7
32.17
ES 23478F
1.27e7
33.29
Abs. Int.
3.52e6
1.76e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.47e3
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.63e3
5.90e3
2.95e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.01e3
ES 123678F
1.04e7
36.70
ES 123478F
8.01e6
36.55
CS 123469F
9.20e6
37.01
ES 234678F
9.51e6
37.38
ES 123789F
7.61e6
38.35
2.77e6
1.38e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.27e3
ES 123678F
1.87e7
36.70
ES 123478F
1.48e7
36.56
CS 123469F
1.73e7
37.01
ES 234678F
1.81e7
37.38
ES 123789F
1.38e7
38.35
5.65e6
2.82e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.44e3
6.49e3
3.25e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.72e3
0%
Abs. Int.
6.99e3
3.49e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.88e3
5.82e3
2.91e3
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.42e3
ES 1234678F
6.07e6
39.78
CS 1234689F
6.20e6
40.18
ES 1234789F
5.02e6*
41.17
1.97e6
9.83e5
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678F
1.38e7
39.78
CS 1234689F
1.36e7
40.18
ES 1234789F
1.10e7*
41.17
4.41e6
2.21e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.48e3
7.50e3
3.75e3


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
4.39e3
2.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
4.25e3
2.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.56e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.28e3
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6148_18911_DF_002 **Acq'd:** 20 Feb 2022 02:34 DTF **Wt/Vol:** 10.75 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-17H2 **UTP:** 21-Feb-2022 11:59:01 DTF **J-level:** 0.465 pg/g **Split:** 1 **Checkcode:** 126-457-KMC

Datafile: 220219C13 **Report:** 21 Feb 2022 12:00 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0007	-0.2	9.33E+04	0.74	Y	1.18	0.615	4703.312	0.325
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	4598.371	0.281
123478-HxCDD	37.58	J EMPC	1.0004	1.0005	+0.2	6.48E+04	1.84	N	1.09	0.513	4534.209	0.32
123678-HxCDD	37.70	J	1.0036	1.0038	+0.5	1.19E+05	1.33	Y	1.15	0.889	4534.209	0.324
123789-HxCDD	38.00	J	1.0118	1.0117	-0.2	2.20E+05	1.31	Y	1.05	1.68	4534.209	0.298
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	3.34E+06	1.08	Y	1.06	27.1	3787.995	0.267
OCDD	43.42		1.0003	1.0003	0	6.78E+07	0.90	Y	1.13	756	5086.857	0.683
2378-TCDF	27.39	EMPC	1.0008	1.0008	0	2.77E+05	0.93	N	1.08	1.34	3891.844	0.207
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3269.176	0.15
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3269.176	0.153
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3318.218	0.157
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3318.218	0.136
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3318.218	0.149
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3318.218	0.183
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3654.784	0.138
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3654.784	0.25
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	4390.044	0.543

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0242	-0.2	2.39E+07	0.82	Y	1.05	88.4
ES 12378-PeCDD	33.63	1.2198	1.2200	+0.4	2.49E+07	1.54	Y	0.88	110
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	2.16E+07	1.32	Y	0.97	89.3
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	2.17E+07	1.29	Y	0.94	92.8
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	2.33E+07	1.29	Y	1.09	86
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	2.17E+07	1.02	Y	0.91	95.7
ES OCDD	43.41	1.1460	1.1459	-0.3	2.96E+07	0.91	Y	0.62	95.7
ES 2378-TCDF	27.36	1.0531	1.0532	+0.2	3.57E+07	0.81	Y	1.06	78.5
ES 12378-PeCDF	32.17	1.2378	1.2380	+0.4	3.75E+07	1.59	Y	0.91	95.9
ES 23478-PeCDF	33.29	1.2810	1.2813	+0.6	3.57E+07	1.61	Y	0.88	94.1
ES 123478-HxCDF	36.56	0.9650	0.9651	+0.2	2.53E+07	0.53	Y	1.20	85
ES 123678-HxCDF	36.70	0.9688	0.9688	0	3.36E+07	0.54	Y	1.35	100
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.97E+07	0.52	Y	1.24	96.2
ES 123789-HxCDF	38.35	1.0125	1.0125	0	2.37E+07	0.52	Y	1.16	82.6
ES 1234678-HpCDF	39.77	1.0501	1.0499	-0.5	2.61E+07	0.45	Y	0.97	109
ES 1234789-HpCDF	41.17	1.0870	1.0870	0	1.81E+07	0.45	Y	0.85	85.6
ES OCDF	43.59	1.1505	1.1507	+0.5	3.40E+07	0.92	Y	0.81	84.9

Lab ID: B6148_18911_DF_002 **Acq'd:** 20 Feb 2022 02:34 DTF **Wt/Vol:** 10.75 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010522-S-BN-SW-B-17H2 **UTP:** 21-Feb-2022 11:59:01 DTF **J-level:** 0.465 pg/g **Split:** 1 **Checkcode:** 126-457-KMC

Datafile: 220219C13 **Report:** 21 Feb 2022 12:00 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.58E+07	0.80	Y	-	-
JS 1234-TCDF	25.98		-	-	-	4.29E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.24E+07	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.15E+07	n/a	-	1.20	92.3
CS 12347-PeCDD	33.12		1.2016	1.2016	0	2.20E+07	1.61	Y	0.75	113
CS 12346-PeCDF	31.63		1.2172	1.2175	+0.6	3.66E+07	1.57	Y	0.85	100
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.89E+07	0.56	Y	1.12	104
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	2.34E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.15E+07~~	~~n/a~~		~~1.15~~	~~105~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2016~~	~~0~~	~~2.20E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2175~~	~~+0.6~~	~~3.66E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.89E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~2.34E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~97.7~~

Totals	Conc	EMPC
Total TCDD	4.12	4.12
Total PeCDD	3.88	4.79
Total HxCDD	31.4	32.5
Total HpCDD	93.4	93.4
Total Tetra-Octa Dioxins	889	891
Total TCDF	2.92	4.26
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	2.92	4.26
Total Tetra-Octa Dioxins & Furans	892	895

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.658	0.74
Response	1.00E+05	9.33E+04

Lab ID: B6148_18911_DF_002 **Acq'd: 20 Feb 2022 02:34 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17H2 **UTP: 21-Feb-2022 11:59:01 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 126-457-KMC**

Datafile: 220219C13 **Report: 21 Feb 2022 12:00 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4703.312	0.325
1379-TCDD	NotFnd		0.8829						1.18		4703.312	0.325
1369-TCDD	NotFnd		0.8982						1.18		4703.312	0.325
1469-TCDD	26.15		0.9261	0.9262	+0.2	5.33E+05	0.78	Y	1.18	3.51	4703.312	0.325
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4703.312	0.325
1378-TCDD	NotFnd		0.9417						1.18		4703.312	0.325
1268-TCDD	NotFnd		0.9487						1.18		4703.312	0.325
1478-TCDD	NotFnd		0.9576						1.18		4703.312	0.325
1279-TCDD	NotFnd		0.9636						1.18		4703.312	0.325
1234/1269-TCDD	NotFnd		0.9761						1.18		4703.312	0.325
1236-TCDD	NotFnd		0.9812						1.18		4703.312	0.325
1237/1238-TCDD	NotFnd		0.9905						1.18		4703.312	0.325
1239-TCDD	NotFnd		0.9951						1.18		4703.312	0.325
2378-TCDD	**28.25**		**1.0008**	1.0007	**-0.2**	9.33E+04	0.74	Y	**1.18**	**0.615**	**4703.312**	**0.325**
1278-TCDD	NotFnd		1.0124						1.18		4703.312	0.325
1267-TCDD	NotFnd		1.0172						1.18		4703.312	0.325
1289-TCDD	NotFnd		1.0354						1.18		4703.312	0.325
12479/12468-PeCDD	31.12	J	0.9255	0.9255	0	1.28E+05	1.67	Y	1.04	0.925	4598.371	0.281
12469-PeCDD	31.66	J	0.9416	0.9415	-0.2	3.13E+05	1.63	Y	1.04	2.26	4598.371	0.281
12368-PeCDD	NotFnd		0.9582						1.04		4598.371	0.281
12478-PeCDD	NotFnd		0.9637						1.04		4598.371	0.281
12379-PeCDD	32.51	J	0.9668	0.9668	0	9.69E+04	1.62	Y	1.04	0.699	4598.371	0.281
12369/12467/12489-PeCDD	32.78	J EMPC	0.9746	0.9746	0	1.26E+05	1.96	N	1.04	0.911	4598.371	0.281
12346/12347-PeCDD	NotFnd		0.9858						1.04		4598.371	0.281
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**4598.371**	**0.281**
12367-PeCDD	NotFnd		1.0036						1.04		4598.371	0.281
12389-PeCDD	NotFnd		1.0137						1.04		4598.371	0.281
124679/124689-HxCDD	35.83		0.9540	0.9540	0	2.91E+06	1.29	Y	1.10	22.3	4534.209	0.313
123468-HxCDD	NotFnd		0.9715						1.10		4534.209	0.313
123679/123689-HxCDD	36.78		0.9793	0.9793	0	7.44E+05	1.31	Y	1.10	5.7	4534.209	0.313
123469-HxCDD	36.91	J	0.9829	0.9827	-0.4	1.11E+05	1.21	Y	1.10	0.849	4534.209	0.313
123478-HxCDD	37.58	J EMPC	**1.0004**	**1.0005**	**+0.2**	**6.48E+04**	**1.84**	**N**	1.09	**0.513**	**4534.209**	**0.32**
123678-HxCDD	37.70	J	**1.0036**	**1.0038**	**+0.5**	**1.19E+05**	**1.33**	**Y**	1.15	**0.889**	**4534.209**	**0.324**
123467-HxCDD	37.89	J EMPC	1.0089	1.0089	0	7.65E+04	1.01	N	1.10	0.585	4534.209	0.313
123789-HxCDD	38.00	J	**1.0118**	**1.0117**	**-0.2**	**2.20E+05**	**1.31**	**Y**	1.05	**1.68**	**4534.209**	**0.298**

Lab ID: B6148_18911_DF_002 **Acq'd: 20 Feb 2022 02:34 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010522-S-BN-SW-B-17H2 **UTP: 21-Feb-2022 11:59:01 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 126-457-KMC**

Datafile: 220219C13 **Report: 21 Feb 2022 12:00 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

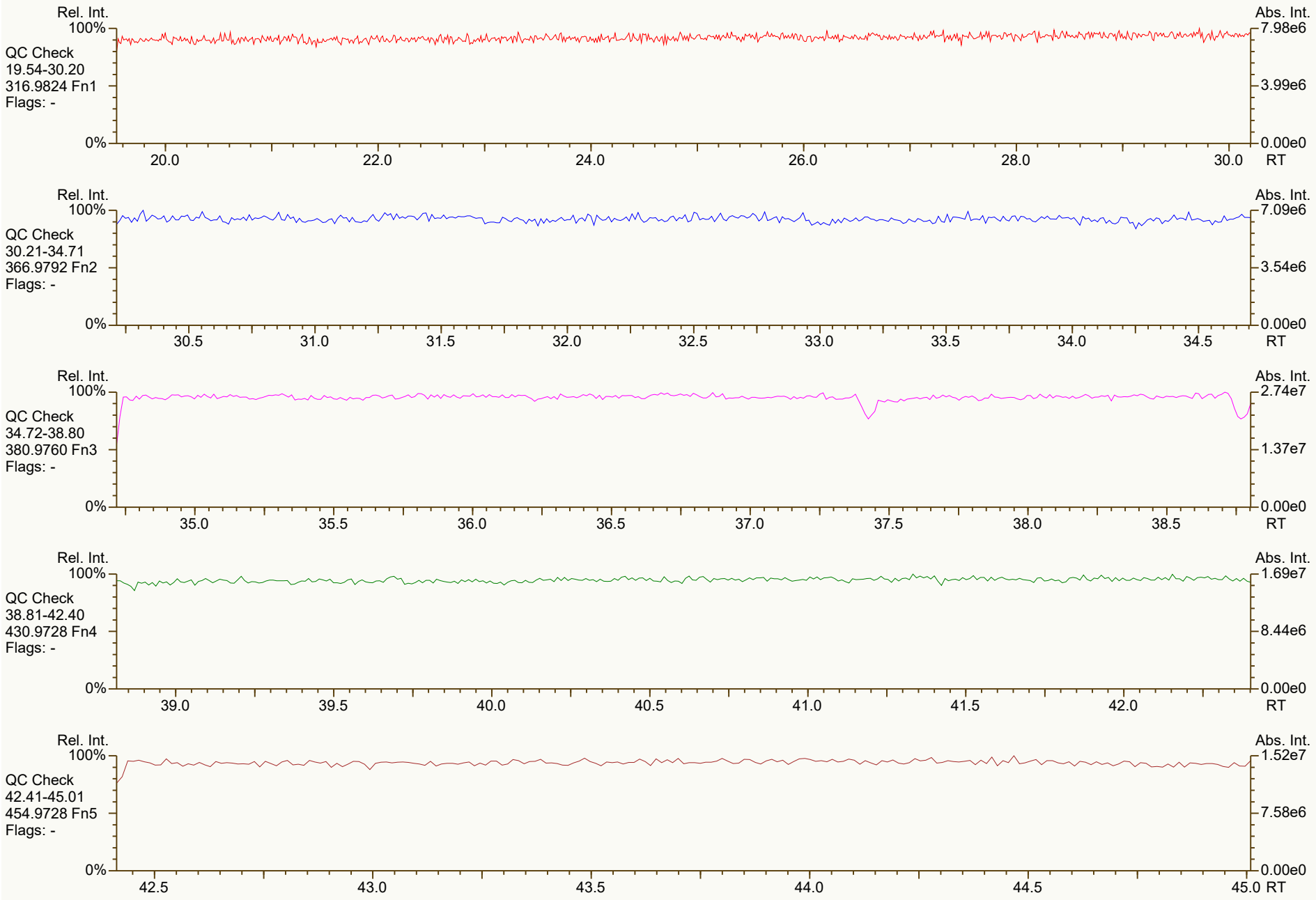
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	8.20E+06	1.04	Y	1.06	66.3	3787.995	0.267
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**3.34E+06**	**1.08**	**Y**	**1.06**	**27.1**	**3787.995**	**0.267**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**6.78E+07**	**0.90**	**Y**	**1.13**	**756**	**5086.857**	**0.683**
OCDD-a	43.42		1.0002	1.0003	+0.3	4.28E+06	2.28	Y	0.07	746	4435.102	9.31
1368-TCDF	NotFnd		0.8191						1.08		3891.844	0.207
1468-TCDF	NotFnd		0.8408						1.08		3891.844	0.207
2468-TCDF	23.66		0.8645	0.8645	0	3.25E+05	0.86	Y	1.08	1.57	3891.844	0.207
1346/1246-TCDF	NotFnd		0.8772						1.08		3891.844	0.207
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3891.844	0.207
1348-TCDF	NotFnd		0.8932						1.08		3891.844	0.207
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3891.844	0.207
1268-TCDF	NotFnd		0.9119						1.08		3891.844	0.207
1467-TCDF	NotFnd		0.9170						1.08		3891.844	0.207
1478-TCDF	NotFnd		0.9234						1.08		3891.844	0.207
1369/1237-TCDF	NotFnd		0.9369						1.08		3891.844	0.207
2467-TCDF	NotFnd		0.9415						1.08		3891.844	0.207
2368-TCDF	NotFnd		0.9475						1.08		3891.844	0.207
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3891.844	0.207
1278-TCDF	26.47		0.9676	0.9674	-0.3	1.86E+05	0.88	Y	1.08	0.899	3891.844	0.207
1349-TCDF	NotFnd		0.9722						1.08		3891.844	0.207
1267-TCDF	NotFnd		0.9777						1.08		3891.844	0.207
2346/1249-TCDF	NotFnd		0.9843						1.08		3891.844	0.207
2347/1279-TCDF	NotFnd		0.9926						1.08		3891.844	0.207
2348-TCDF	NotFnd		0.9968						1.08		3891.844	0.207
2378-TCDF	**27.39**	EMPC	**1.0008**	**1.0008**	**0**	**2.77E+05**	**0.93**	**N**	**1.08**	**1.34**	**3891.844**	**0.207**
2367/3467-TCDF	27.75	J	1.0142	1.0139	-0.5	9.41E+04	0.73	Y	1.08	0.454	3891.844	0.207
1269-TCDF	NotFnd		1.0235						1.08		3891.844	0.207
1239-TCDF	NotFnd		1.0329						1.08		3891.844	0.207
1289-TCDF	NotFnd		1.0742						1.08		3891.844	0.207
13468/12468-PeCDF	NotFnd		0.9122						1.02		2647.785	0.123
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3269.176	0.151
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3269.176	0.151
14678-PeCDF	NotFnd		0.9685						1.02		3269.176	0.151
13479-PeCDF	NotFnd		0.9716						1.02		3269.176	0.151
13469/12479-PeCDF	NotFnd		0.9794						1.02		3269.176	0.151
12346-PeCDF	NotFnd		0.9836						1.02		3269.176	0.151

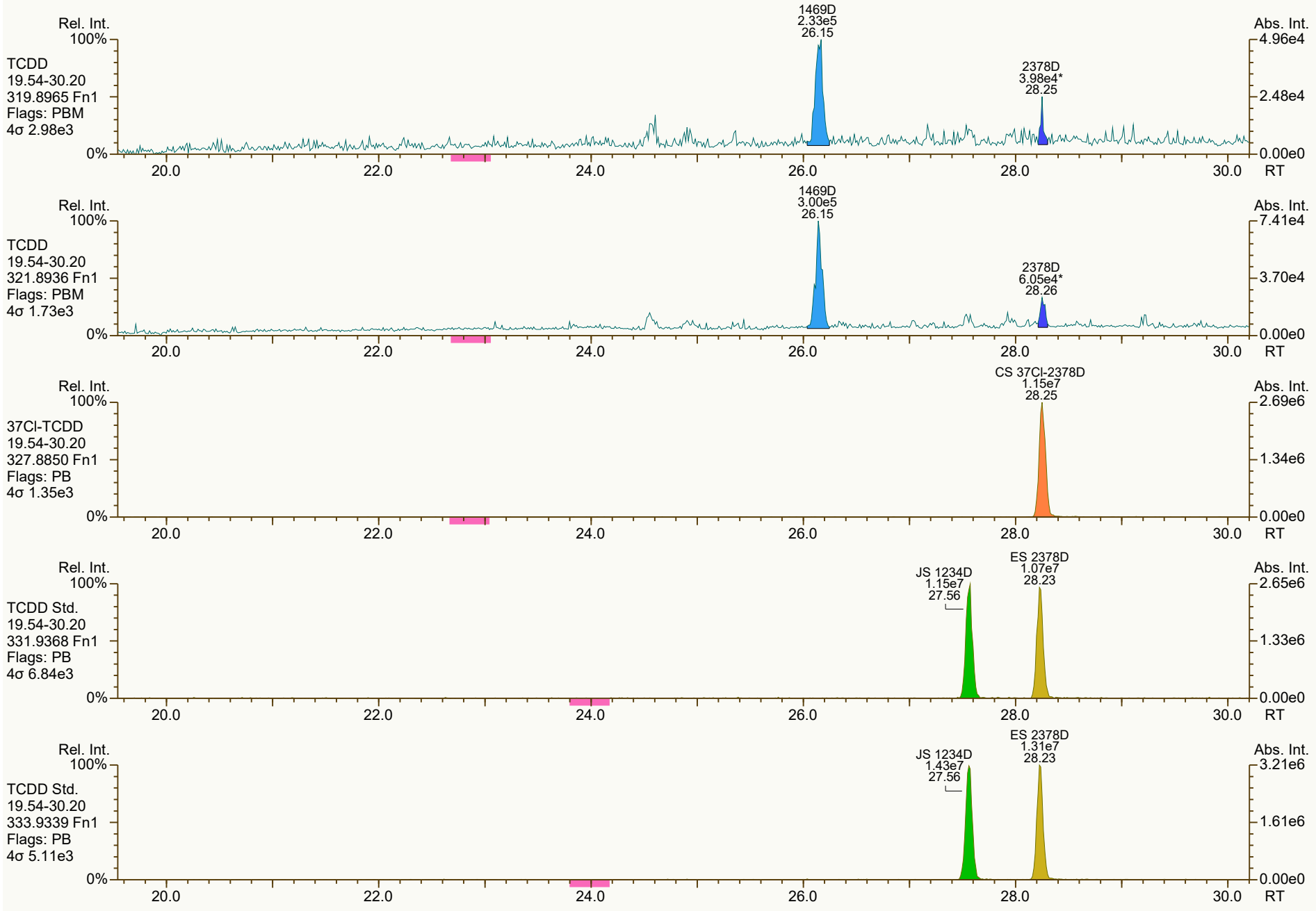
Lab ID: B6148_18911_DF_002 **Acq'd: 20 Feb 2022 02:34 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

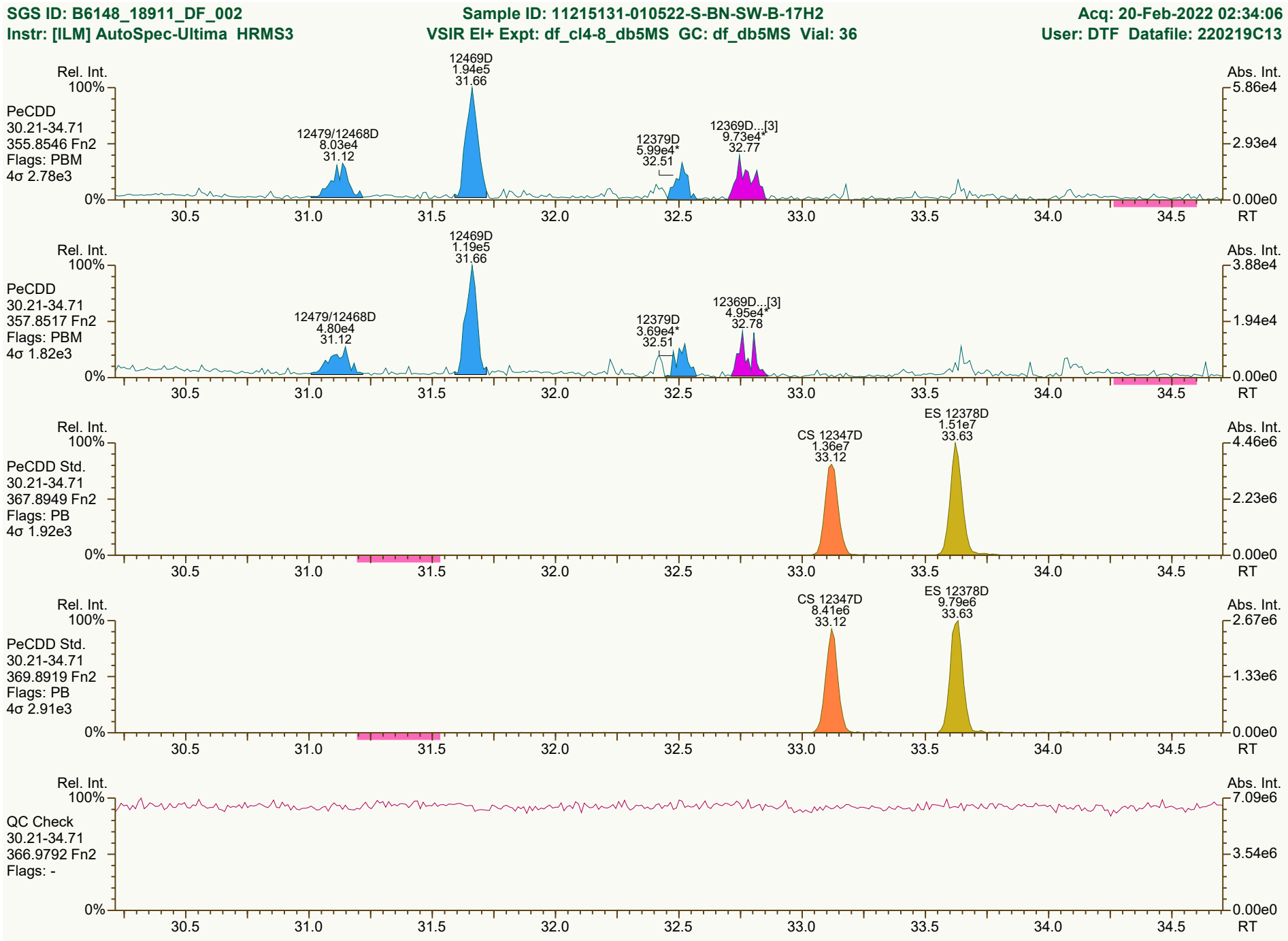
Client ID: 11215131-010522-S-BN-SW-B-17H2 **UTP: 21-Feb-2022 11:59:01 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 126-457-KMC**

Datafile: 220219C13 **Report: 21 Feb 2022 12:00 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

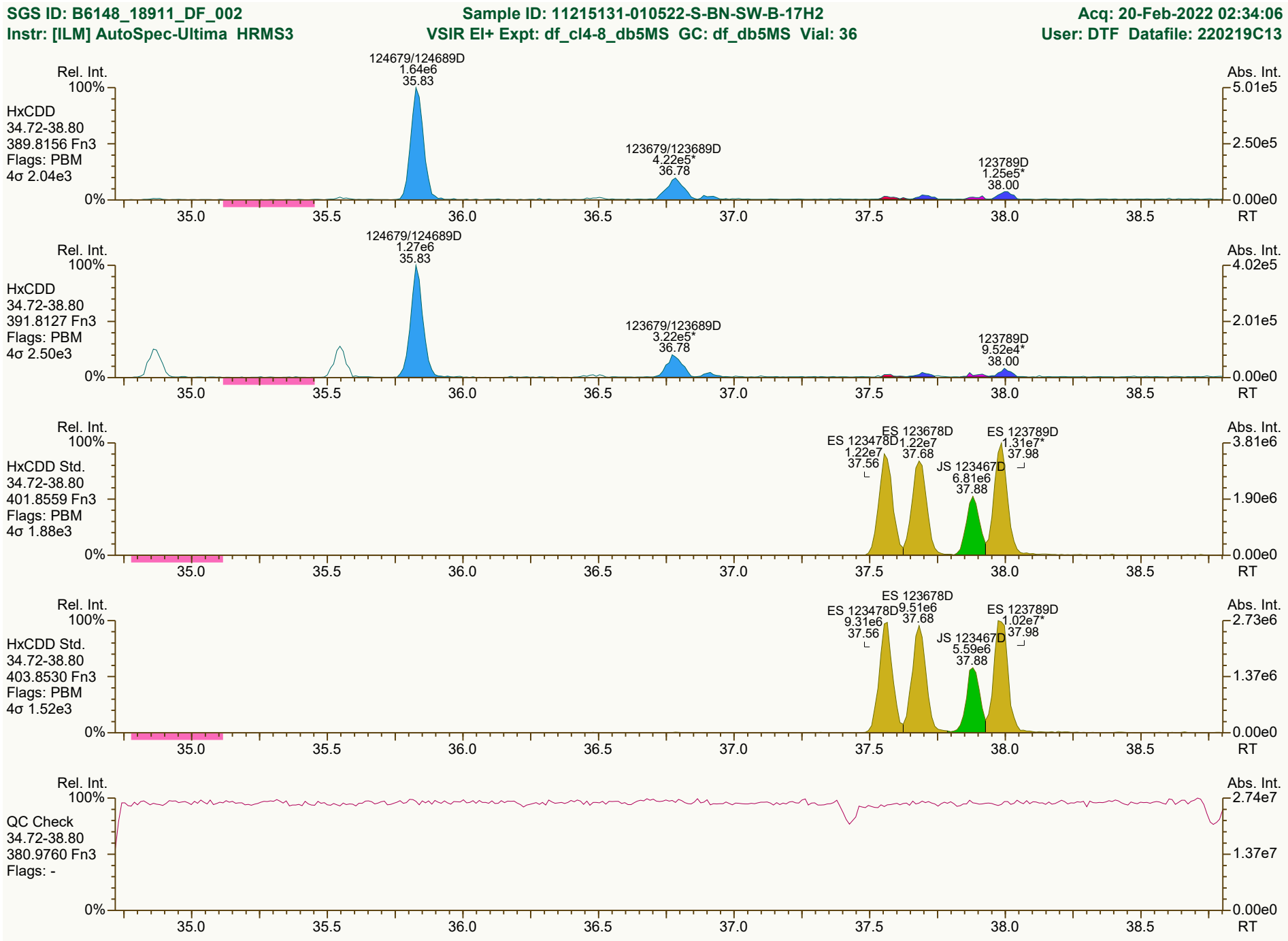
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3269.176	0.151
12347-PeCDF	NotFnd		0.9891						1.02		3269.176	0.151
12348-PeCDF	NotFnd		0.9938						1.02		3269.176	0.151
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3269.176**	**0.15**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3269.176	0.151
12379-PeCDF	NotFnd		1.0144						1.02		3269.176	0.151
12679-PeCDF	NotFnd		0.9927						1.02		3269.176	0.151
23467/12369-PeCDF	NotFnd		0.9965						1.02		3269.176	0.151
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3269.176**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3269.176	0.151
12349-PeCDF	NotFnd		1.0101						1.02		3269.176	0.151
12389-PeCDF	NotFnd		1.0330						1.02		3269.176	0.151
123468-HxCDF	NotFnd		0.9622						1.19		3318.218	0.154
124678/134678-HxCDF	NotFnd		0.9678						1.19		3318.218	0.154
134679-HxCDF	NotFnd		0.9741						1.19		3318.218	0.154
124679-HxCDF	NotFnd		0.9795						1.19		3318.218	0.154
124689-HxCDF	NotFnd		0.9856						1.19		3318.218	0.154
123467-HxCDF	NotFnd		0.9972						1.19		3318.218	0.154
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3318.218**	**0.157**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3318.218**	**0.136**
123479-HxCDF	NotFnd		1.0048						1.19		3318.218	0.154
123469-HxCDF	NotFnd		1.0089						1.19		3318.218	0.154
123679-HxCDF	NotFnd		0.9942						1.19		3318.218	0.154
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3318.218**	**0.149**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3318.218	0.154
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3318.218**	**0.183**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3318.218	0.154
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3654.784**	**0.138**
1234679-HpCDF	NotFnd		1.0068						1.34		3654.784	0.183
1234689-HpCDF	NotFnd		1.0104						1.34		3654.784	0.183
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3654.784**	**0.25**
OCDF	**NotFnd**		**1.0002**						**1.07**		**4390.044**	**0.543**
OCDF-a	NotFnd		1.0001						0.07		4044.773	8.08


Rel. Int.
100%
0%
Abs. Int.
7.98e6
3.99e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.09e6
3.54e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
2.74e7
1.37e7
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.52e7
7.58e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

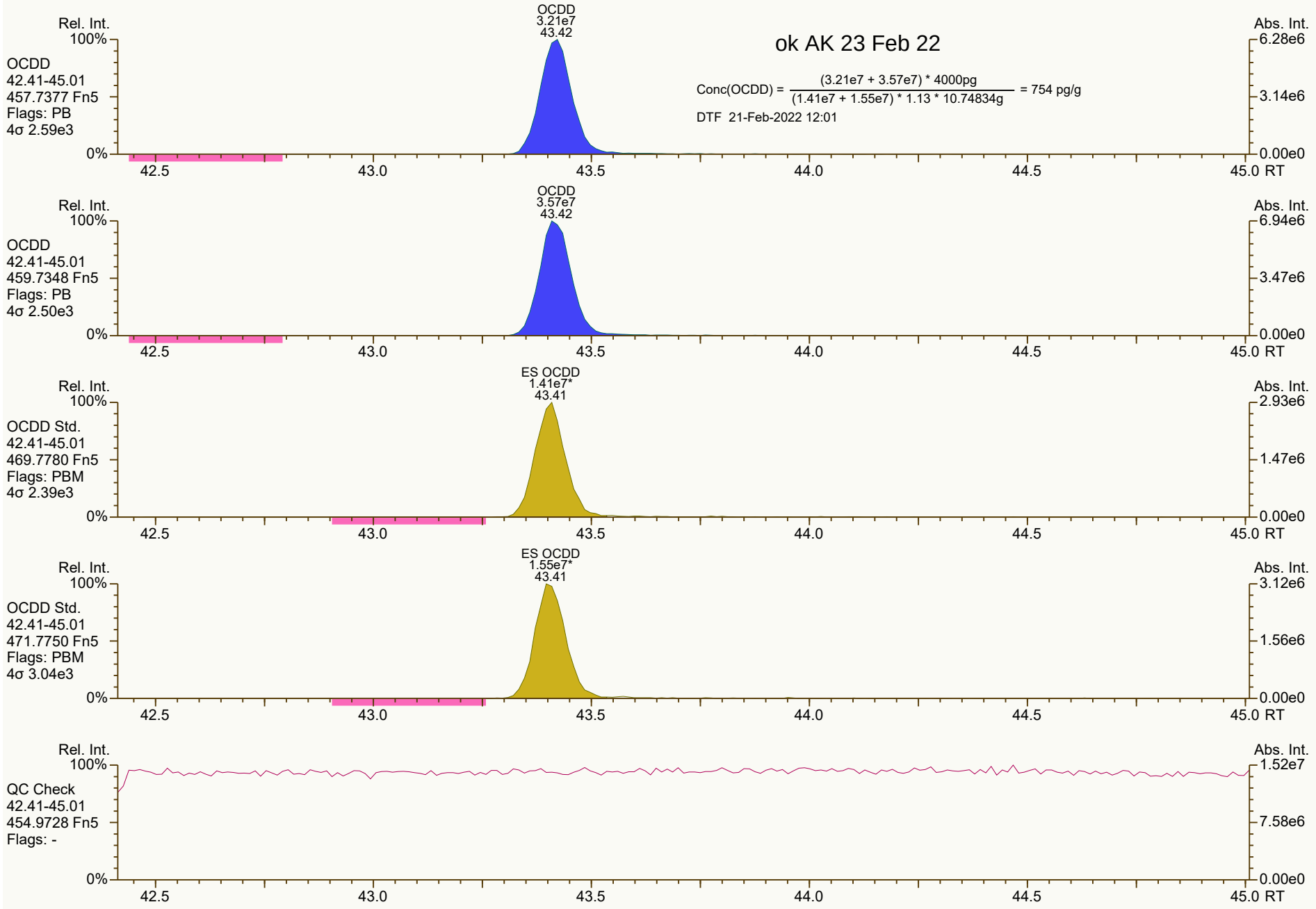

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.98e3
0%
1469D
2.33e5
26.15
2378D
3.98e4*
28.25
Abs. Int.
4.96e4
2.48e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.73e3
0%
1469D
3.00e5
26.15
2378D
6.05e4*
28.26
Abs. Int.
7.41e4
3.70e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.35e3
0%
CS 37Cl-2378D
1.15e7
28.25
Abs. Int.
2.69e6
1.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.84e3
0%
JS 1234D
1.15e7
27.56
ES 2378D
1.07e7
28.23
Abs. Int.
2.65e6
1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.11e3
0%
JS 1234D
1.43e7
27.56
ES 2378D
1.31e7
28.23
Abs. Int.
3.21e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

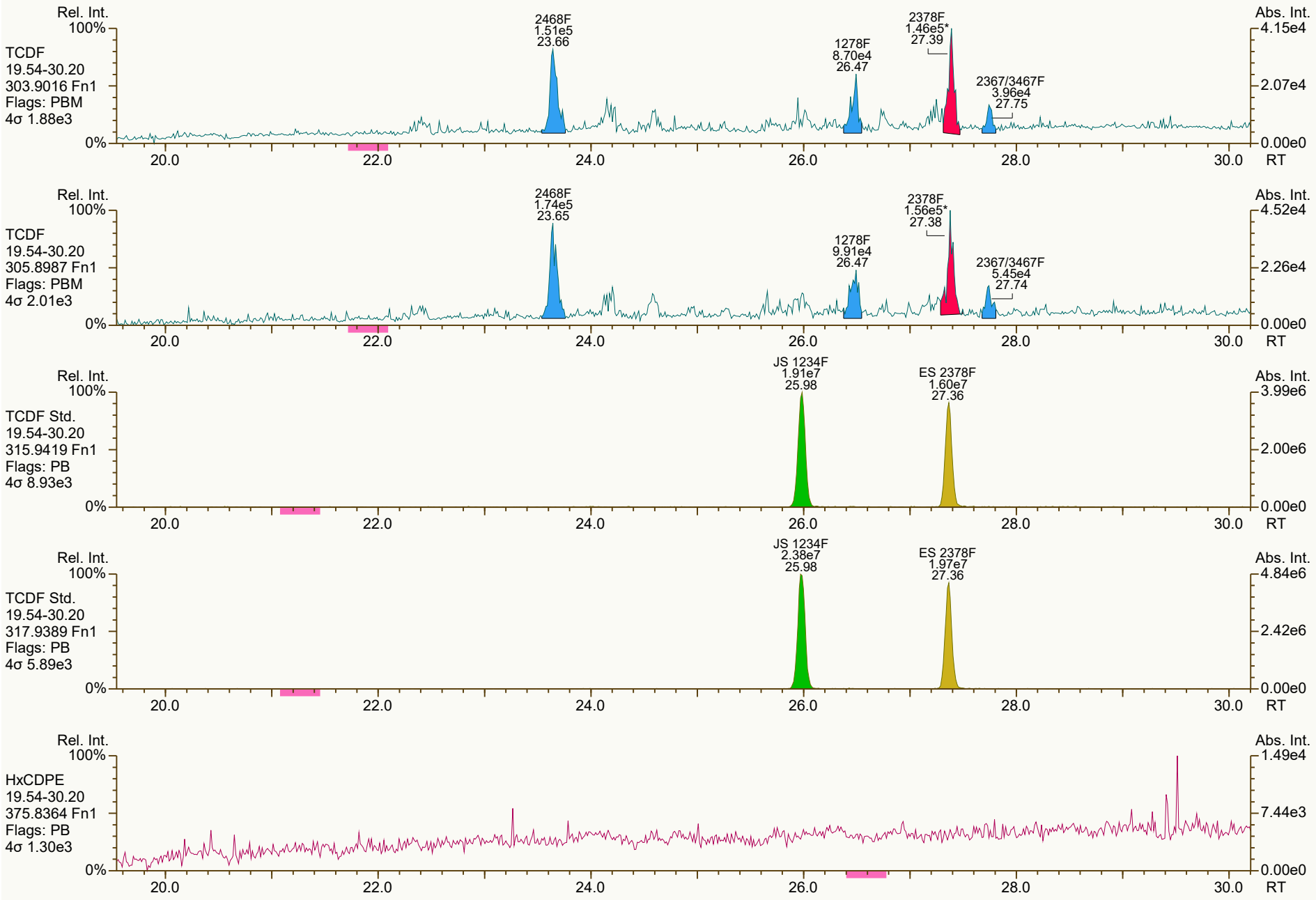


Results: P:\B6100_B6199\B6148\B6148_18911 DF\Resources\B6148_18911_DF_002.utp_res, saved 21-Feb-2022 12:01 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8993, 2501 scc: 126-457
Revised: 21-Feb-2022 11:54 (DTF) Printed: 21-Feb-2022 12:02 Page 3 of 12

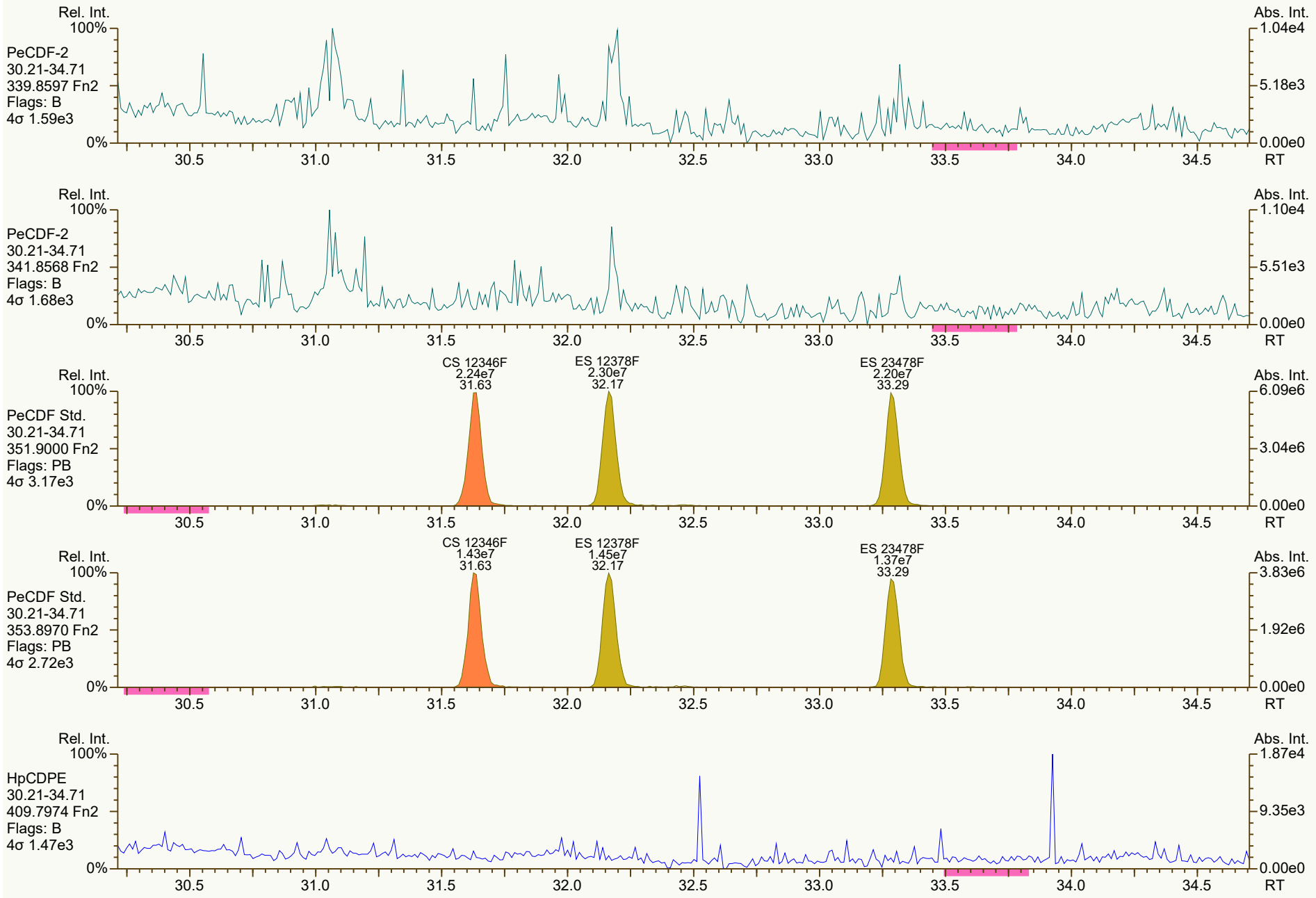

SGS ID: B6148_18911_DF_002
Sample ID: 11215131-010522-S-BN-SW-B-17H2
Acq: 20-Feb-2022 02:34:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220219C13
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.04e3
124679/124689D
1.64e6
35.83
123679/123689D
4.22e5*
36.78
123789D
1.25e5*
38.00
5.01e5
2.50e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.50e3
124679/124689D
1.27e6
35.83
123679/123689D
3.22e5*
36.78
123789D
9.52e4*
38.00
4.02e5
2.01e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.88e3
ES 123478D
1.22e7
37.56
ES 123678D
1.22e7
37.68
JS 123467D
6.81e6
37.88
ES 123789D
1.31e7*
37.98
3.81e6
1.90e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.52e3
ES 123478D
9.31e6
37.56
ES 123678D
9.51e6
37.68
JS 123467D
5.59e6
37.88
ES 123789D
1.02e7*
37.98
2.73e6
1.37e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.74e7
1.37e7
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6148\B6148_18911 DF\Resources\B6148_18911_DF_002.utp_res, saved 21-Feb-2022 12:01 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5562, 4913 scc: 126-457
Revised: 21-Feb-2022 11:55 (DTF) Printed: 21-Feb-2022 12:02 Page 4 of 12

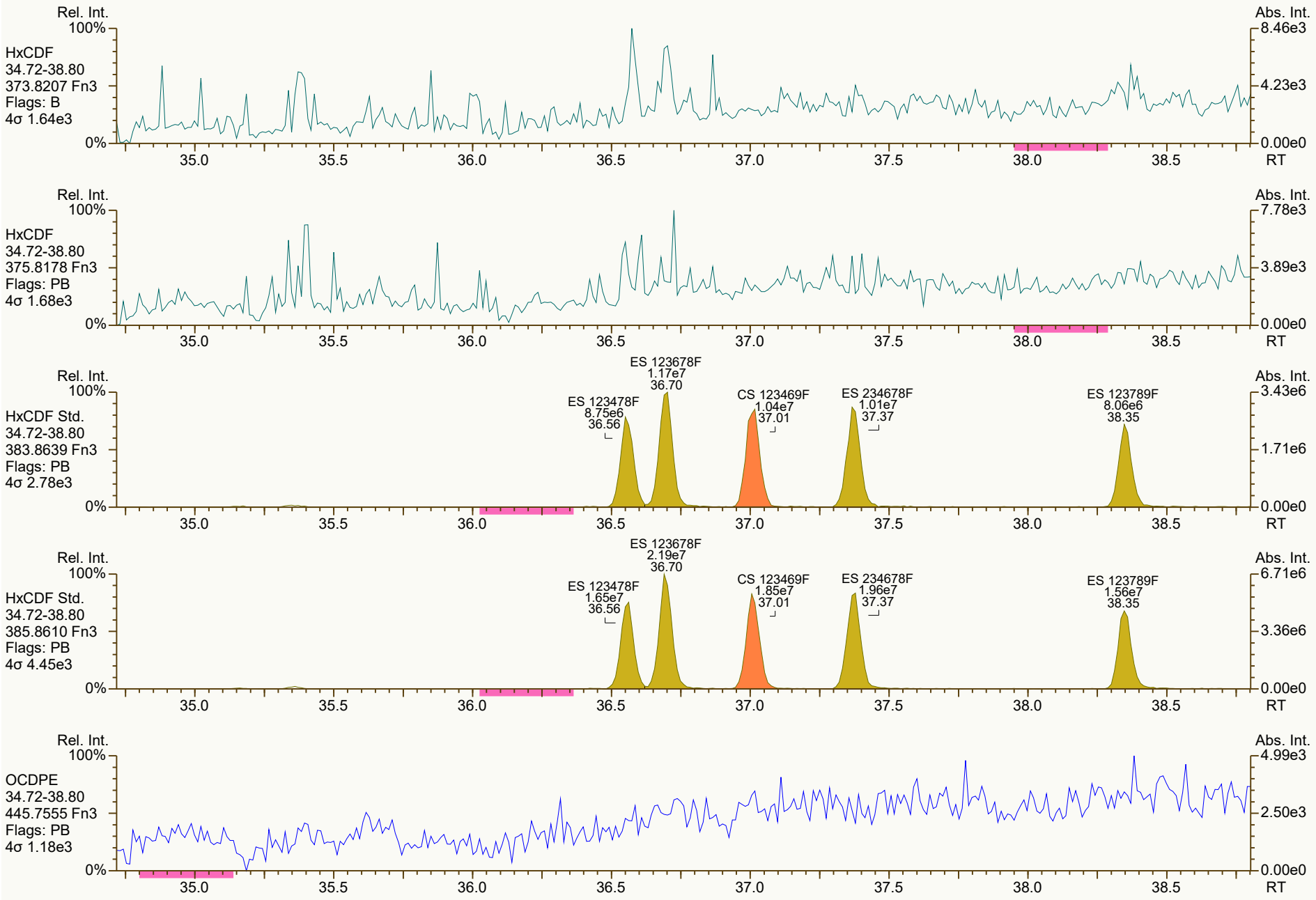

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.28e3
1234679D
4.17e6*
40.05
1234678D
1.74e6*
40.73
Abs. Int.
1.33e6
6.64e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.50e3
1234679D
4.03e6*
40.05
1234678D
1.61e6*
40.73
Abs. Int.
1.30e6
6.52e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.26e3
ES 1234678D
1.09e7
40.72
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 3.10e3
ES 1234678D
1.08e7
40.72
Abs. Int.
3.20e6
1.60e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.69e7
8.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
3.21e7
43.42
ok AK 23 Feb 22
Conc(OCDD) = (3.21e7 + 3.57e7) * 4000pg / (1.41e7 + 1.55e7) * 1.13 * 10.74834g = 754 pg/g
DTF 21-Feb-2022 12:01
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
OCDD
3.57e7
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.50e3
ES OCDD
1.41e7*
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.39e3
ES OCDD
1.55e7*
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.04e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.88e3
0%
2468F
1.51e5
23.66
1278F
8.70e4
26.47
2378F
1.46e5*
27.39
2367/3467F
3.96e4
27.75
Abs. Int.
4.15e4
2.07e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.01e3
0%
2468F
1.74e5
23.65
1278F
9.91e4
26.47
2378F
1.56e5*
27.38
2367/3467F
5.45e4
27.74
Abs. Int.
4.52e4
2.26e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.93e3
0%
JS 1234F
1.91e7
25.98
ES 2378F
1.60e7
27.36
Abs. Int.
3.99e6
2.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.89e3
0%
JS 1234F
2.38e7
25.98
ES 2378F
1.97e7
27.36
Abs. Int.
4.84e6
2.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.30e3
0%
Abs. Int.
1.49e4
7.44e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.26e3
4.63e3
0.00e0
RT
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.21e3
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.43e3
1.11e4
5.57e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
7.98e6
3.99e6
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.59e3
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.17e3
0%
CS 12346F
2.24e7
31.63
ES 12378F
2.30e7
32.17
ES 23478F
2.20e7
33.29
Abs. Int.
6.09e6
3.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.72e3
0%
CS 12346F
1.43e7
31.63
ES 12378F
1.45e7
32.17
ES 23478F
1.37e7
33.29
Abs. Int.
3.83e6
1.92e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.87e4
9.35e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
8.46e3
4.23e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.68e3
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.78e3
0%
ES 123678F
1.17e7
36.70
ES 123478F
8.75e6
36.56
CS 123469F
1.04e7
37.01
ES 234678F
1.01e7
37.37
ES 123789F
8.06e6
38.35
Abs. Int.
3.43e6
1.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 4.45e3
0%
ES 123678F
2.19e7
36.70
ES 123478F
1.65e7
36.56
CS 123469F
1.85e7
37.01
ES 234678F
1.96e7
37.37
ES 123789F
1.56e7
38.35
Abs. Int.
6.71e6
3.36e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.18e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.83e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
0%
Abs. Int.
9.13e3
4.57e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.80e3
0%
ES 1234678F
8.15e6
39.77
CS 1234689F
7.33e6
40.18
ES 1234789F
5.59e6
41.17
Abs. Int.
2.82e6
1.41e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.45e3
0%
ES 1234678F
1.79e7
39.77
CS 1234689F
1.61e7
40.18
ES 1234789F
1.25e7
41.17
Abs. Int.
6.24e6
3.12e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.64e3
0%
RT
Abs. Int.
7.88e4
3.94e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 2.22e3
0%
Abs. Int.
1.72e4
8.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 2.17e3
0%
Abs. Int.
1.43e4
7.16e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.63e7*
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.26e3
0%
Abs. Int.
3.35e6
1.68e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.78e7*
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 4.07e3
0%
Abs. Int.
3.47e6
1.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.50e3
0%
Abs. Int.
5.44e3
2.72e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6148_18911_DF_004 **Acq'd:** 20 Feb 2022 03:20 DTF **Wt/Vol:** 10.23 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15H2 **UTP:** 21-Feb-2022 11:59:01 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 710-743-YGG

Datafile: 220219C14 **Report:** 21 Feb 2022 12:00 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	1.18E+06	0.75	Y	1.18	10.3	5163.922	0.481
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3733.112	0.332
123478-HxCDD	37.57	J	1.0004	1.0005	+0.2	4.89E+04	1.40	Y	1.09	0.54	3659.145	0.351
123678-HxCDD	37.68	J EMPC	1.0036	1.0036	0	9.41E+04	1.02	N	1.15	0.969	3659.145	0.337
123789-HxCDD	37.99	J EMPC	1.0118	1.0118	0	1.17E+05	0.87	N	1.05	1.23	3659.145	0.335
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	2.54E+06	1.08	Y	1.06	28.7	4921.346	0.478
OCDD	43.40		1.0003	1.0003	0	3.56E+07	0.90	Y	1.13	549	4623.079	0.926
2378-TCDF	27.37		1.0008	1.0007	-0.2	4.51E+06	0.77	Y	1.08	28.2	3985.098	0.263
12378-PeCDF	32.17	J	1.0005	1.0005	0	2.30E+05	1.43	Y	1.02	1.51	4082.988	0.245
23478-PeCDF	33.30	J EMPC	1.0005	1.0008	+0.6	1.59E+05	1.85	N	1.02	1.12	4082.988	0.258
123478-HxCDF	36.56		1.0004	1.0005	+0.2	3.30E+05	1.19	Y	1.27	2.59	3357.567	0.222
123678-HxCDF	36.70	J EMPC	1.0004	1.0005	+0.2	8.94E+04	0.90	N	1.15	0.597	3357.567	0.187
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3357.567	0.206
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3357.567	0.248
1234678-HpCDF	39.77		1.0003	1.0003	0	2.27E+06	1.04	Y	1.37	15.3	2862.782	0.149
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2862.782	0.269
OCDF	43.57		1.0002	1.0003	+0.3	8.66E+06	0.93	Y	1.07	123	3621.185	0.65

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0243	0	1.89E+07	0.82	Y	1.05	79.8
ES 12378-PeCDD	33.62	1.2198	1.2203	+1.0	1.84E+07	1.62	Y	0.88	92.2
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	1.63E+07	1.31	Y	0.97	83.3
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.65E+07	1.27	Y	0.94	87.2
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	1.78E+07	1.27	Y	1.09	81.1
ES 1234678-HpCDD	40.70	1.0749	1.0749	0	1.63E+07	1.12	Y	0.91	88.9
ES OCDD	43.39	1.1460	1.1457	-0.8	2.25E+07	0.89	Y	0.62	89.7
ES 2378-TCDF	27.35	1.0531	1.0534	+0.5	2.89E+07	0.80	Y	1.06	73.4
ES 12378-PeCDF	32.16	1.2378	1.2384	+1.2	2.90E+07	1.59	Y	0.91	85.5
ES 23478-PeCDF	33.28	1.2810	1.2816	+1.2	2.74E+07	1.60	Y	0.88	83.3
ES 123478-HxCDF	36.54	0.9650	0.9650	0	1.96E+07	0.53	Y	1.20	81.5
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.54E+07	0.55	Y	1.35	93.5
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.37E+07	0.54	Y	1.24	95
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	1.87E+07	0.56	Y	1.16	80.7
ES 1234678-HpCDF	39.76	1.0501	1.0499	-0.5	2.11E+07	0.47	Y	0.97	109
ES 1234789-HpCDF	41.15	1.0870	1.0868	-0.5	1.38E+07	0.45	Y	0.85	80.4
ES OCDF	43.56	1.1505	1.1503	-0.5	2.56E+07	0.92	Y	0.81	78.8

Lab ID: B6148_18911_DF_004 **Acq'd:** 20 Feb 2022 03:20 DTF **Wt/Vol:** 10.23 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15H2 **UTP:** 21-Feb-2022 11:59:01 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 710-743-YGG

Datafile: 220219C14 **Report:** 21 Feb 2022 12:00 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.27E+07	0.80	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.72E+07	0.82	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.00E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.47E+06	n/a	-	1.20	86.8
CS 12347-PeCDD	33.11		1.2016	1.2019	+0.6	1.83E+07	1.63	Y	0.75	107
CS 12346-PeCDF	31.62		1.2172	1.2178	+1.1	3.09E+07	1.66	Y	0.85	97.6
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.38E+07	0.55	Y	1.12	106
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	1.89E+07	0.45	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~9.47E+06~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2019~~	~~+0.6~~	~~1.83E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~116~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2178~~	~~+1.1~~	~~3.09E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~114~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.38E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~113~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.89E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~97.2~~

Totals	Conc	EMPC
Total TCDD	13.9	13.9
Total PeCDD	2.19	4.01
Total HxCDD	8.08	27
Total HpCDD	90.8	90.8
Total Tetra-Octa Dioxins	664	684
Total TCDF	50.2	54.3
Total PeCDF	2.61	4.24
Total HxCDF	4.75	5.75
Total HpCDF	17.9	17.9
Total Tetra-Octa Furans	199	206
Total Tetra-Octa Dioxins & Furans	863	890

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.745	0.75
Response	1.19E+06	1.18E+06

Lab ID: B6148_18911_DF_004 **Acq'd: 20 Feb 2022 03:20 DTF** **Wt/Vol: 10.23 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15H2 **UTP: 21-Feb-2022 11:59:01 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 710-743-YGG**

Datafile: 220219C14 **Report: 21 Feb 2022 12:00 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		5163.922	0.481
1379-TCDD	NotFnd		0.8829						1.18		5163.922	0.481
1369-TCDD	NotFnd		0.8982						1.18		5163.922	0.481
1469-TCDD	26.13		0.9261	0.9259	-0.3	3.20E+05	0.80	Y	1.18	2.79	5163.922	0.481
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		5163.922	0.481
1378-TCDD	NotFnd		0.9417						1.18		5163.922	0.481
1268-TCDD	NotFnd		0.9487						1.18		5163.922	0.481
1478-TCDD	NotFnd		0.9576						1.18		5163.922	0.481
1279-TCDD	NotFnd		0.9636						1.18		5163.922	0.481
1234/1269-TCDD	NotFnd		0.9761						1.18		5163.922	0.481
1236-TCDD	NotFnd		0.9812						1.18		5163.922	0.481
1237/1238-TCDD	NotFnd		0.9905						1.18		5163.922	0.481
1239-TCDD	NotFnd		0.9951						1.18		5163.922	0.481
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	1.18E+06	0.75	Y	**1.18**	**10.3**	**5163.922**	**0.481**
1278-TCDD	28.57		1.0124	1.0125	+0.2	9.18E+04	0.86	Y	1.18	0.799	5163.922	0.481
1267-TCDD	NotFnd		1.0172						1.18		5163.922	0.481
1289-TCDD	NotFnd		1.0354						1.18		5163.922	0.481
12479/12468-PeCDD	31.12	J EMPC	0.9255	0.9256	+0.2	7.93E+04	2.07	N	1.04	0.812	3733.112	0.332
12469-PeCDD	31.65	J	0.9416	0.9415	-0.2	2.13E+05	1.58	Y	1.04	2.19	3733.112	0.332
12368-PeCDD	NotFnd		0.9582						1.04		3733.112	0.332
12478-PeCDD	NotFnd		0.9637						1.04		3733.112	0.332
12379-PeCDD	NotFnd		0.9668						1.04		3733.112	0.332
12369/12467/12489-PeCDD	32.77	J EMPC	0.9746	0.9747	+0.2	9.90E+04	1.27	N	1.04	1.01	3733.112	0.332
12346/12347-PeCDD	NotFnd		0.9858						1.04		3733.112	0.332
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3733.112**	**0.332**
12367-PeCDD	NotFnd		1.0036						1.04		3733.112	0.332
12389-PeCDD	NotFnd		1.0137						1.04		3733.112	0.332
124679/124689-HxCDD	35.82	EMPC	0.9540	0.9540	0	1.52E+06	1.45	N	1.10	16.1	3659.145	0.34
123468-HxCDD	36.47	J EMPC	0.9715	0.9714	-0.2	5.46E+04	1.48	N	1.10	0.578	3659.145	0.34
123679/123689-HxCDD	36.77		0.9793	0.9793	0	5.68E+05	1.09	Y	1.10	6.01	3659.145	0.34
123469-HxCDD	36.89	J	0.9829	0.9826	-0.7	6.78E+04	1.07	Y	1.10	0.718	3659.145	0.34
123478-HxCDD	37.57	J	**1.0004**	**1.0005**	**+0.2**	**4.89E+04**	**1.40**	**Y**	1.09	**0.54**	**3659.145**	**0.351**
123678-HxCDD	37.68	J EMPC	**1.0036**	**1.0036**	**0**	**9.41E+04**	**1.02**	**N**	1.15	**0.969**	**3659.145**	**0.337**
123467-HxCDD	37.88	J	1.0089	1.0089	0	7.66E+04	1.27	Y	1.10	0.811	3659.145	0.34
123789-HxCDD	37.99	J EMPC	**1.0118**	**1.0118**	**0**	**1.17E+05**	**0.87**	**N**	1.05	**1.23**	**3659.145**	**0.335**

Lab ID: B6148_18911_DF_004 **Acq'd:** 20 Feb 2022 03:20 DTF **Wt/Vol:** 10.23 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-15H2 **UTP:** 21-Feb-2022 11:59:01 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 710-743-YGG

Datafile: 220219C14 **Report:** 21 Feb 2022 12:00 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9835	-0.2	5.48E+06	1.02	Y	1.06	62	4921.346	0.478
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**2.54E+06**	**1.08**	**Y**	**1.06**	**28.7**	**4921.346**	**0.478**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**3.56E+07**	**0.90**	**Y**	**1.13**	**549**	**4623.079**	**0.926**
OCDD-a	43.39		1.0002	1.0002	0	2.41E+06	2.73	Y	0.07	580	4381.335	13.7
1368-TCDF	NotFnd		0.8191						1.08		3985.098	0.263
1468-TCDF	NotFnd		0.8408						1.08		3985.098	0.263
2468-TCDF	23.64		0.8645	0.8642	-0.4	1.41E+05	0.75	Y	1.08	0.882	3985.098	0.263
1346/1246-TCDF	NotFnd		0.8772						1.08		3985.098	0.263
1347/1378/1247-TCDF	24.17	EMPC	0.8833	0.8836	+0.4	9.62E+04	0.46	N	1.08	0.602	3985.098	0.263
1348-TCDF	NotFnd		0.8932						1.08		3985.098	0.263
1248/1367/1379-TCDF	24.52	EMPC	0.8980	0.8963	-2.5	2.42E+05	1.01	N	1.08	1.51	3985.098	0.263
1268-TCDF	24.94	EMPC	0.9119	0.9118	-0.1	1.07E+05	0.89	N	1.08	0.672	3985.098	0.263
1467-TCDF	NotFnd		0.9170						1.08		3985.098	0.263
1478-TCDF	25.25	EMPC	0.9234	0.9231	-0.5	1.99E+05	0.62	N	1.08	1.24	3985.098	0.263
1369/1237-TCDF	NotFnd		0.9369						1.08		3985.098	0.263
2467-TCDF	NotFnd		0.9415						1.08		3985.098	0.263
2368-TCDF	25.95		0.9475	0.9489	+2.2	4.24E+05	0.72	Y	1.08	2.66	3985.098	0.263
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3985.098	0.263
1278-TCDF	26.46		0.9676	0.9674	-0.3	1.95E+06	0.72	Y	1.08	12.2	3985.098	0.263
1349-TCDF	NotFnd		0.9722						1.08		3985.098	0.263
1267-TCDF	26.75		0.9777	0.9779	+0.3	1.29E+05	0.79	Y	1.08	0.81	3985.098	0.263
2346/1249-TCDF	NotFnd		0.9843						1.08		3985.098	0.263
2347/1279-TCDF	NotFnd		0.9926						1.08		3985.098	0.263
2348-TCDF	27.24		0.9968	0.9960	-1.3	2.34E+05	0.66	Y	1.08	1.46	3985.098	0.263
2378-TCDF	**27.37**		**1.0008**	**1.0007**	**-0.2**	**4.51E+06**	**0.77**	**Y**	**1.08**	**28.2**	**3985.098**	**0.263**
2367/3467-TCDF	27.73		1.0142	1.0138	-0.7	3.27E+05	0.84	Y	1.08	2.05	3985.098	0.263
1269-TCDF	NotFnd		1.0235						1.08		3985.098	0.263
1239-TCDF	NotFnd		1.0329						1.08		3985.098	0.263
1289-TCDF	29.40		1.0742	1.0747	+0.9	3.06E+05	0.87	Y	1.08	1.92	3985.098	0.263
13468/12468-PeCDF	NotFnd		0.9122						1.02		3070.079	0.189
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		4082.988	0.251
12368/13478/12478-PeCDF	31.07	J	0.9655	0.9663	+1.5	1.62E+05	1.50	Y	1.02	1.1	4082.988	0.251
14678-PeCDF	NotFnd		0.9685						1.02		4082.988	0.251
13479-PeCDF	NotFnd		0.9716						1.02		4082.988	0.251
13469/12479-PeCDF	NotFnd		0.9794						1.02		4082.988	0.251
12346-PeCDF	NotFnd		0.9836						1.02		4082.988	0.251

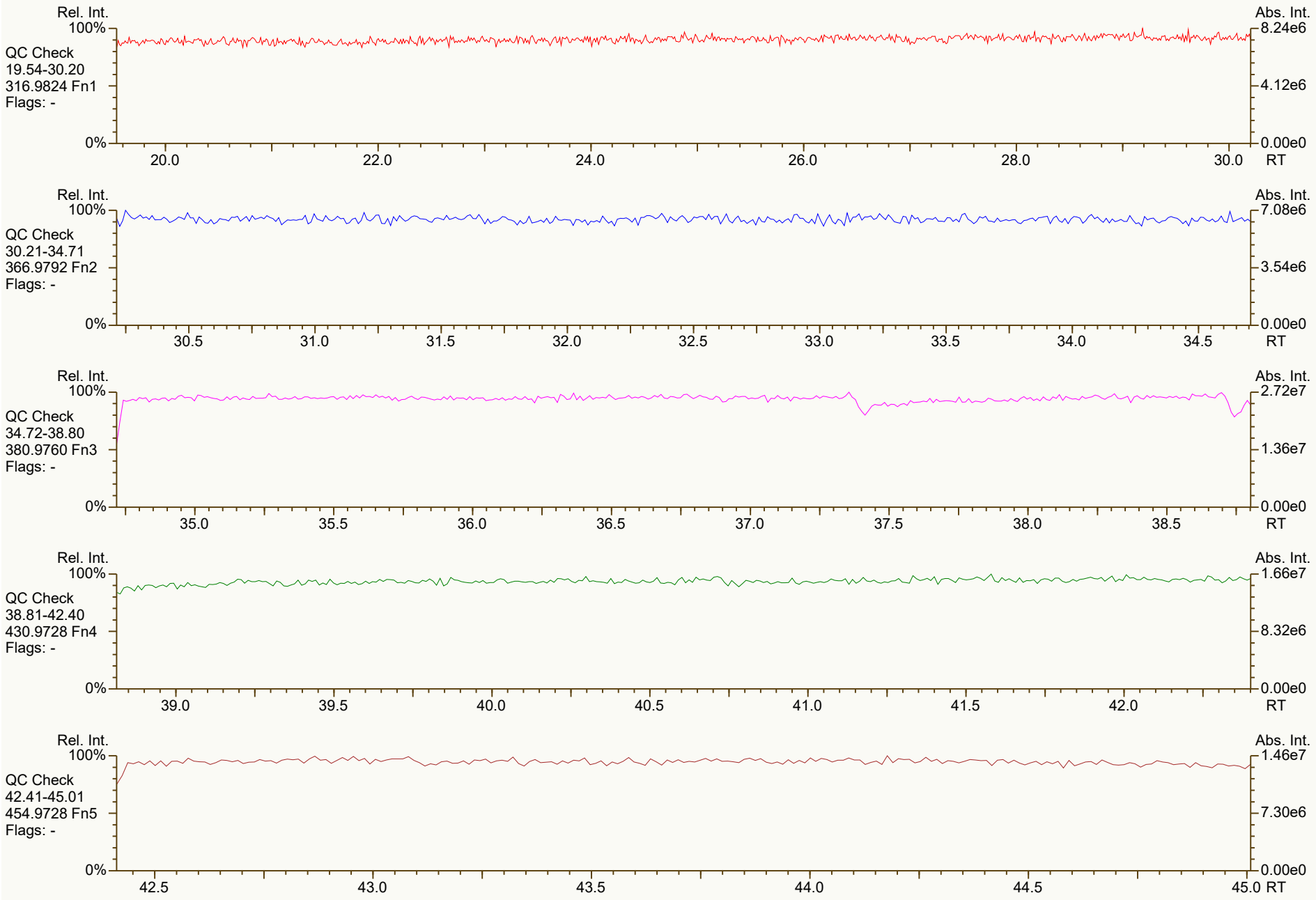
Lab ID: B6148_18911_DF_004 **Acq'd: 20 Feb 2022 03:20 DTF** **Wt/Vol: 10.23 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-15H2 **UTP: 21-Feb-2022 11:59:01 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 710-743-YGG**

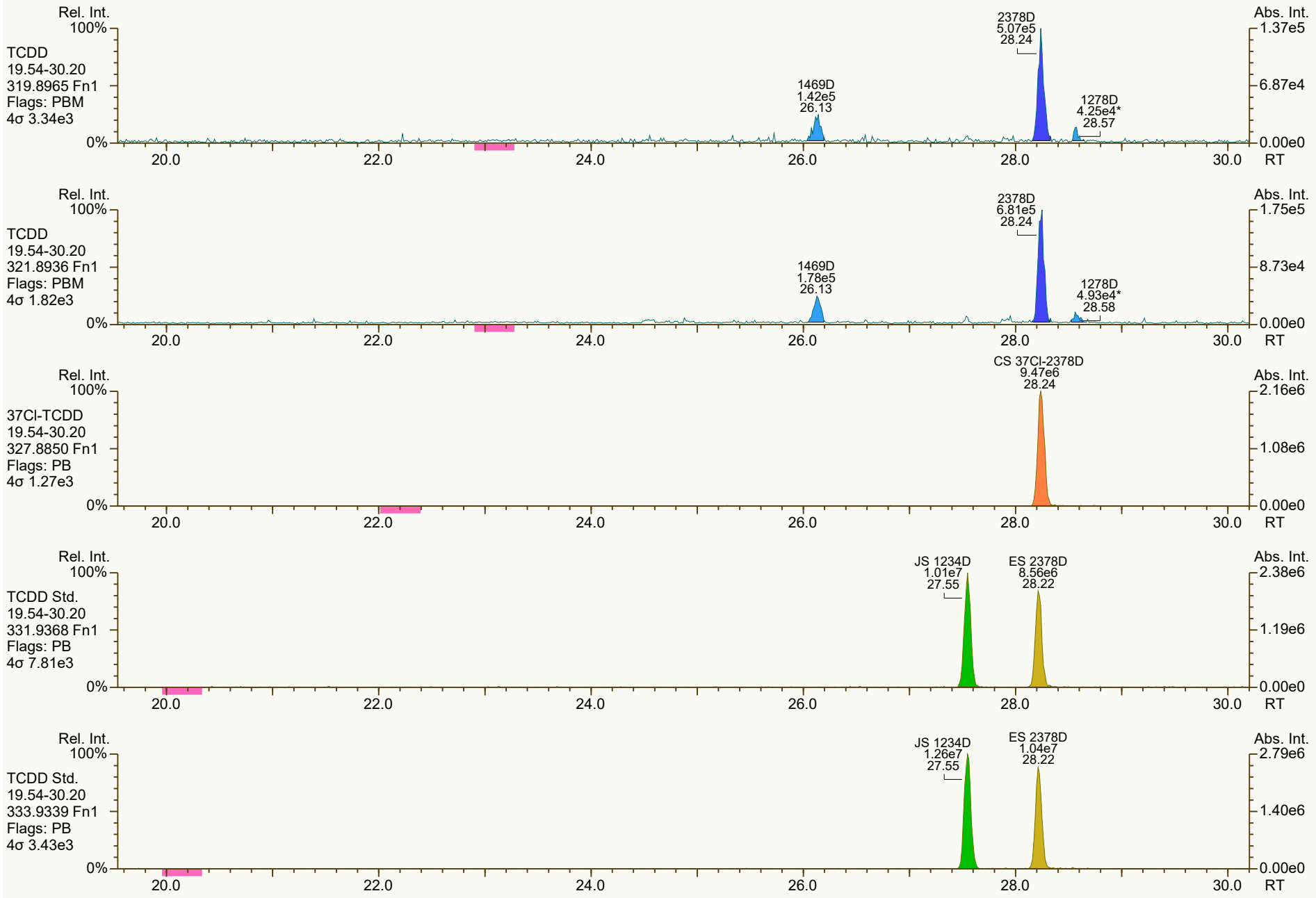
Datafile: 220219C14 **Report: 21 Feb 2022 12:00 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

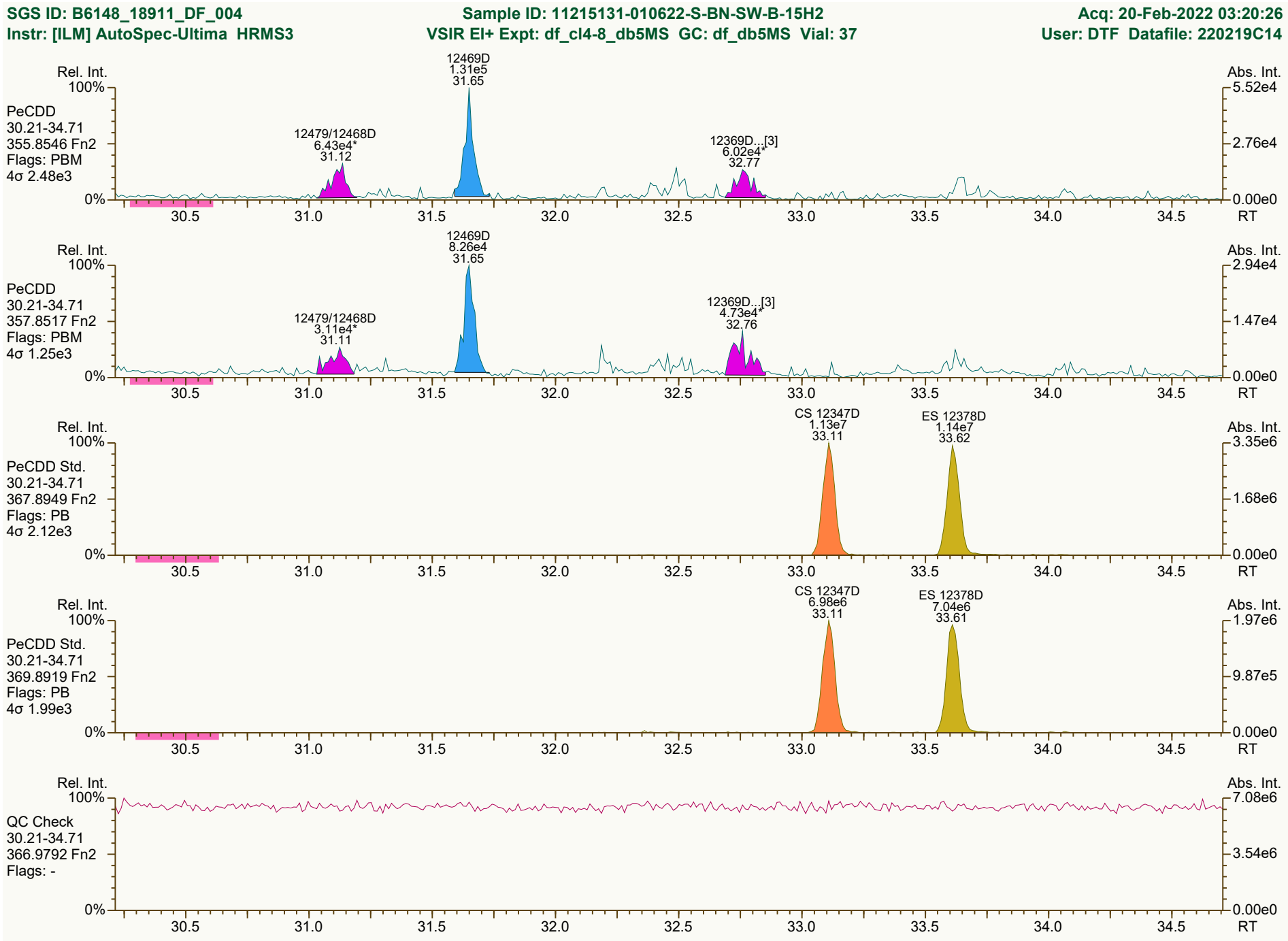
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		4082.988	0.251
12347-PeCDF	NotFnd		0.9891						1.02		4082.988	0.251
12348-PeCDF	NotFnd		0.9938						1.02		4082.988	0.251
12378-PeCDF	**32.17**	J	**1.0005**	**1.0005**	**0**	**2.30E+05**	**1.43**	**Y**	**1.02**	**1.51**	**4082.988**	**0.245**
12678/12367-PeCDF	32.47	J EMPC	1.0091	1.0097	+1.2	7.50E+04	1.27	N	1.02	0.509	4082.988	0.251
12379-PeCDF	NotFnd		1.0144						1.02		4082.988	0.251
12679-PeCDF	NotFnd		0.9927						1.02		4082.988	0.251
23467/12369-PeCDF	NotFnd		0.9965						1.02		4082.988	0.251
23478-PeCDF	**33.30**	J EMPC	**1.0005**	**1.0008**	**+0.6**	**1.59E+05**	**1.85**	**N**	**1.02**	**1.12**	**4082.988**	**0.258**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4082.988	0.251
12349-PeCDF	NotFnd		1.0101						1.02		4082.988	0.251
12389-PeCDF	NotFnd		1.0330						1.02		4082.988	0.251
123468-HxCDF	35.16	J EMPC	0.9622	0.9623	+0.2	5.48E+04	1.03	N	1.19	0.41	3357.567	0.213
124678/134678-HxCDF	35.36	J	0.9678	0.9678	0	1.88E+05	1.12	Y	1.19	1.41	3357.567	0.213
134679-HxCDF	NotFnd		0.9741						1.19		3357.567	0.213
124679-HxCDF	NotFnd		0.9795						1.19		3357.567	0.213
124689-HxCDF	36.02	J	0.9856	0.9857	+0.2	1.00E+05	1.14	Y	1.19	0.75	3357.567	0.213
123467-HxCDF	NotFnd		0.9972						1.19		3357.567	0.213
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**3.30E+05**	**1.19**	**Y**	**1.27**	**2.59**	**3357.567**	**0.222**
123678-HxCDF	**36.70**	J EMPC	**1.0004**	**1.0005**	**+0.2**	**8.94E+04**	**0.90**	**N**	**1.15**	**0.597**	**3357.567**	**0.187**
123479-HxCDF	NotFnd		1.0048						1.19		3357.567	0.213
123469-HxCDF	NotFnd		1.0089						1.19		3357.567	0.213
123679-HxCDF	NotFnd		0.9942						1.19		3357.567	0.213
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3357.567**	**0.206**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3357.567	0.213
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3357.567**	**0.248**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3357.567	0.213
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**2.27E+06**	**1.04**	**Y**	**1.37**	**15.3**	**2862.782**	**0.149**
1234679-HpCDF	NotFnd		1.0068						1.34		2862.782	0.196
1234689-HpCDF	40.18		1.0104	1.0106	+0.5	3.03E+05	1.05	Y	1.34	2.54	2862.782	0.196
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2862.782**	**0.269**
OCDF	**43.57**		**1.0002**	**1.0003**	**+0.3**	**8.66E+06**	**0.93**	**Y**	**1.07**	**123**	**3621.185**	**0.65**
OCDF-a	43.57	**EMPC**	1.0001	1.0002	+0.3	5.27E+05	1.85	N	0.07	121	3419.869	9.92

SGS ID: B6148_18911_DF_004 **Sample ID: 11215131-010622-S-BN-SW-B-15H2** **Acq: 20-Feb-2022 03:20:26**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37** **User: DTF Datafile: 220219C14**

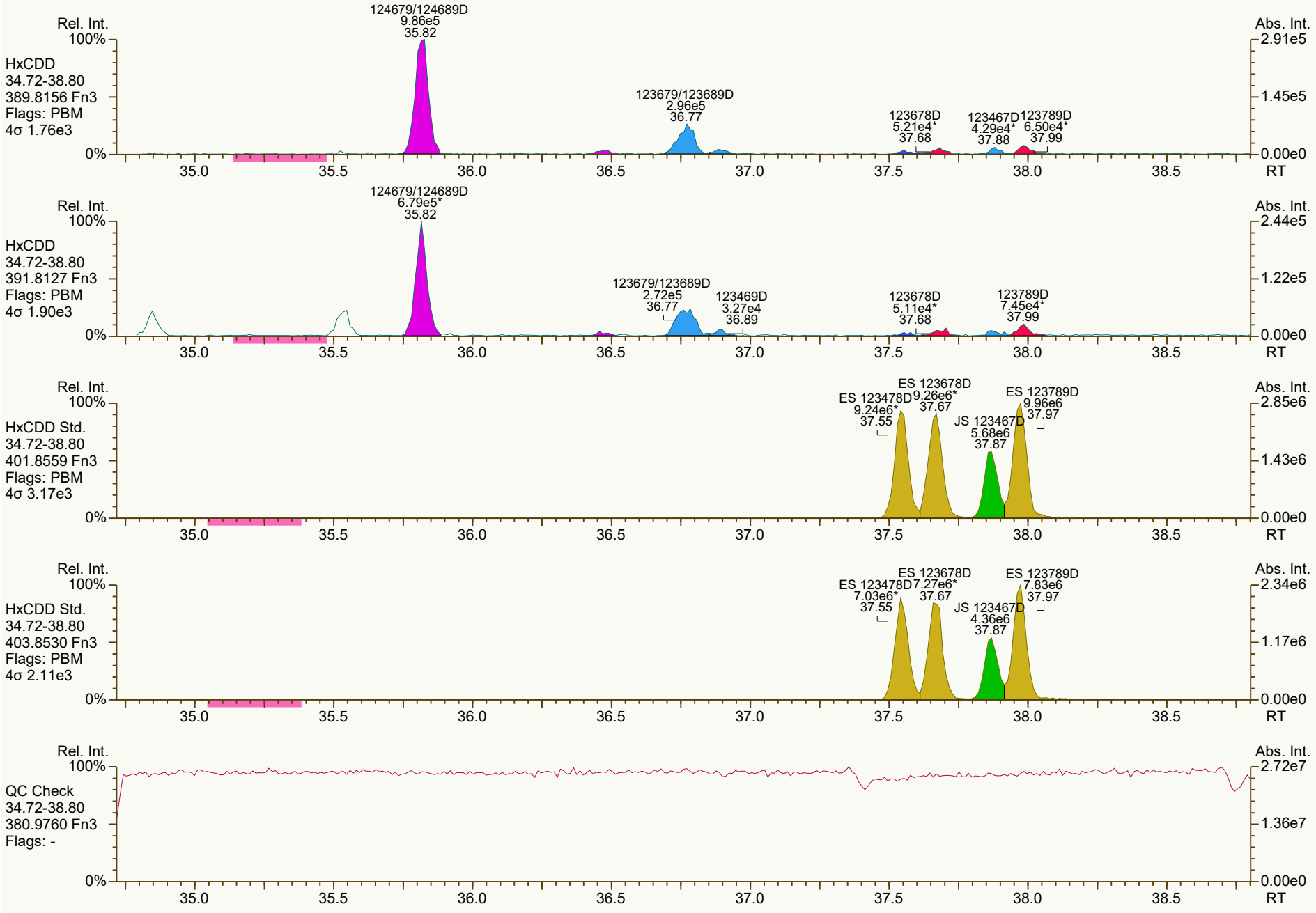


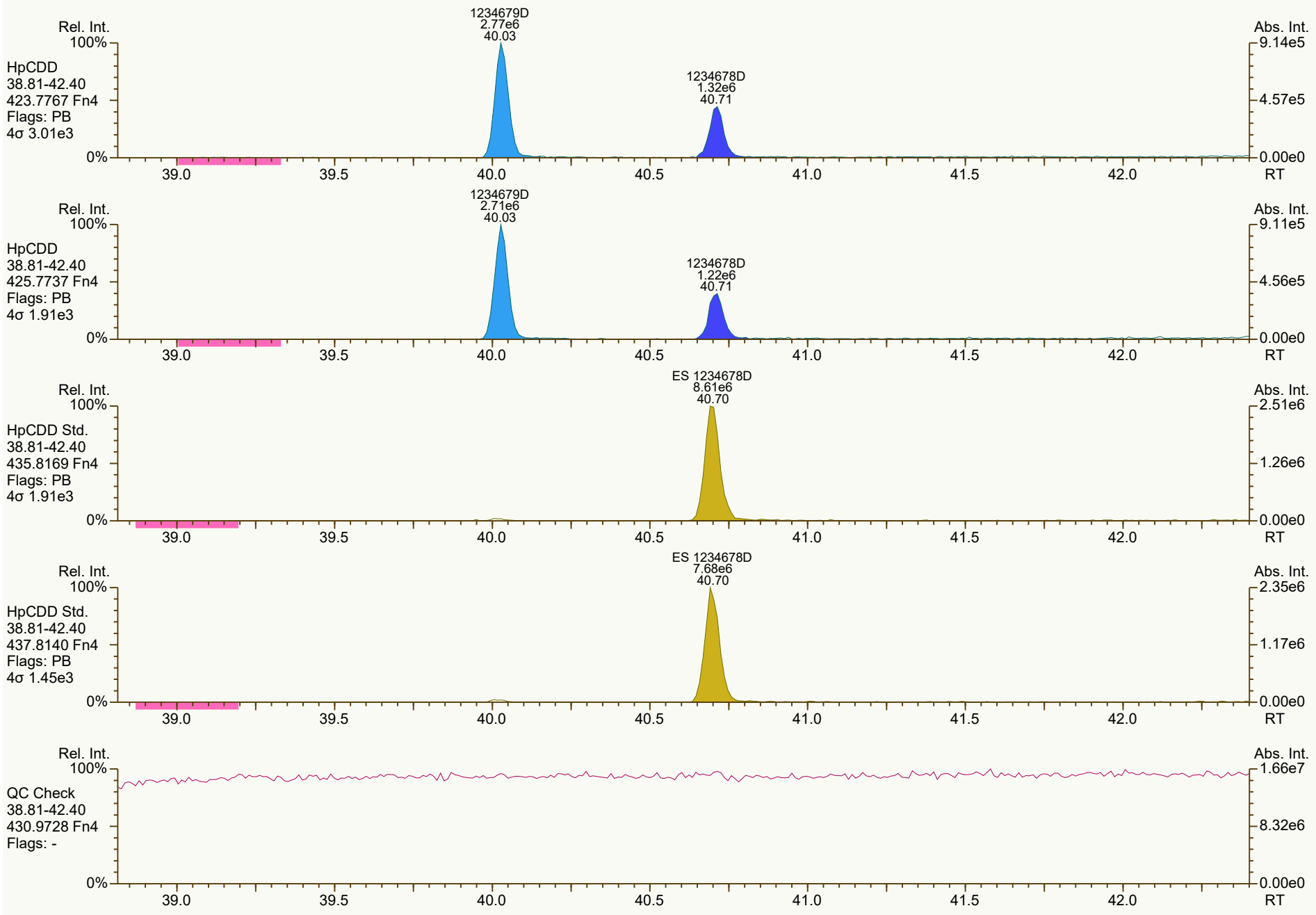
Results: P:\B6100_B6199\B6148\B6148_18911 DF\Resources\B6148_18911_DF_004.utp_res, saved 21-Feb-2022 11:59 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 710-743 *PKD: n/a Printed: 21-Feb-2022 12:02 Page 1 of 12*

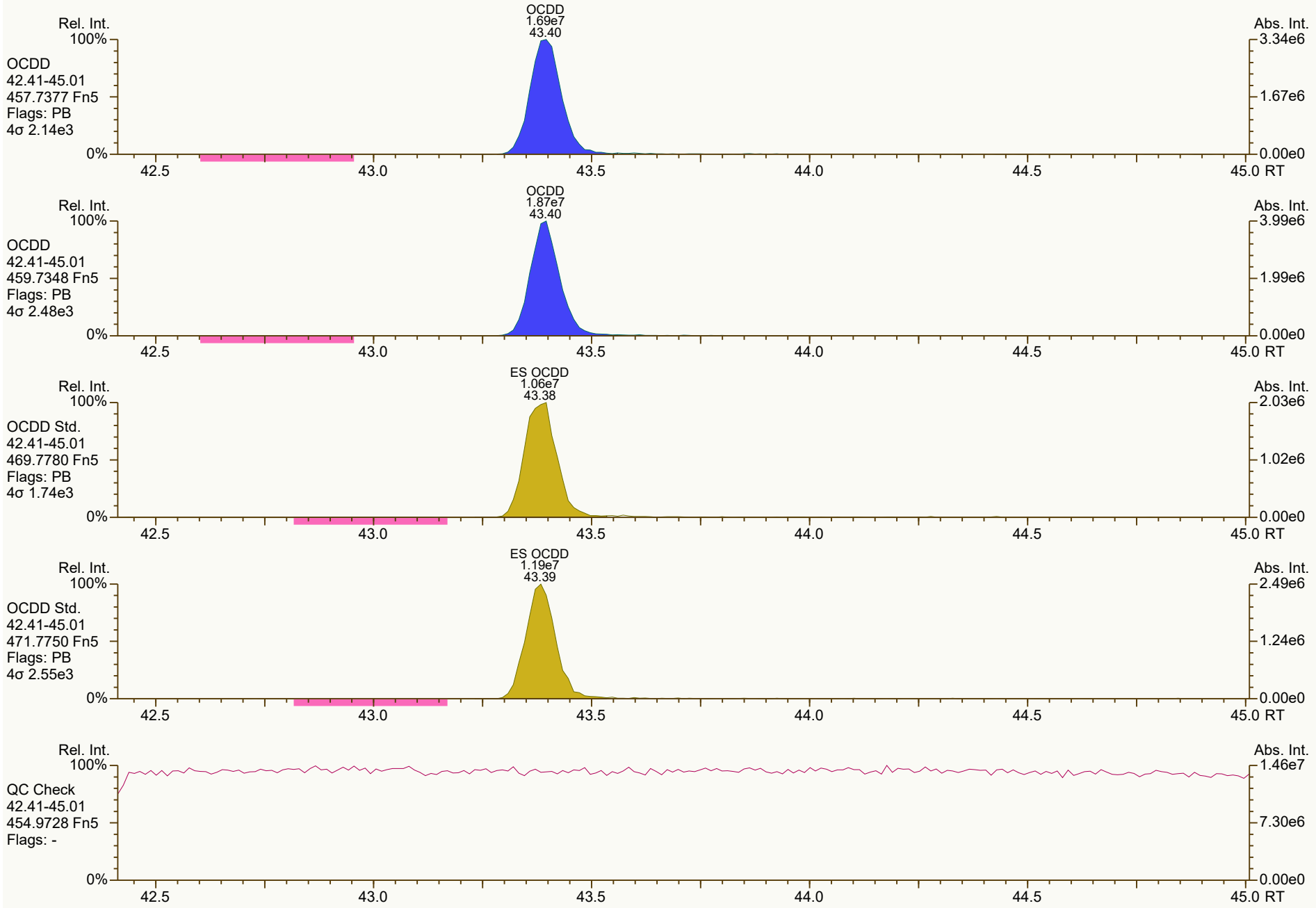

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.34e3
0%
2378D
5.07e5
28.24
1469D
1.42e5
26.13
1278D
4.25e4*
28.57
Abs. Int.
1.37e5
6.87e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.82e3
0%
2378D
6.81e5
28.24
1469D
1.78e5
26.13
1278D
4.93e4*
28.58
Abs. Int.
1.75e5
8.73e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.27e3
0%
CS 37Cl-2378D
9.47e6
28.24
Abs. Int.
2.16e6
1.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.81e3
0%
JS 1234D
1.01e7
27.55
ES 2378D
8.56e6
28.22
Abs. Int.
2.38e6
1.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.43e3
0%
JS 1234D
1.26e7
27.55
ES 2378D
1.04e7
28.22
Abs. Int.
2.79e6
1.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

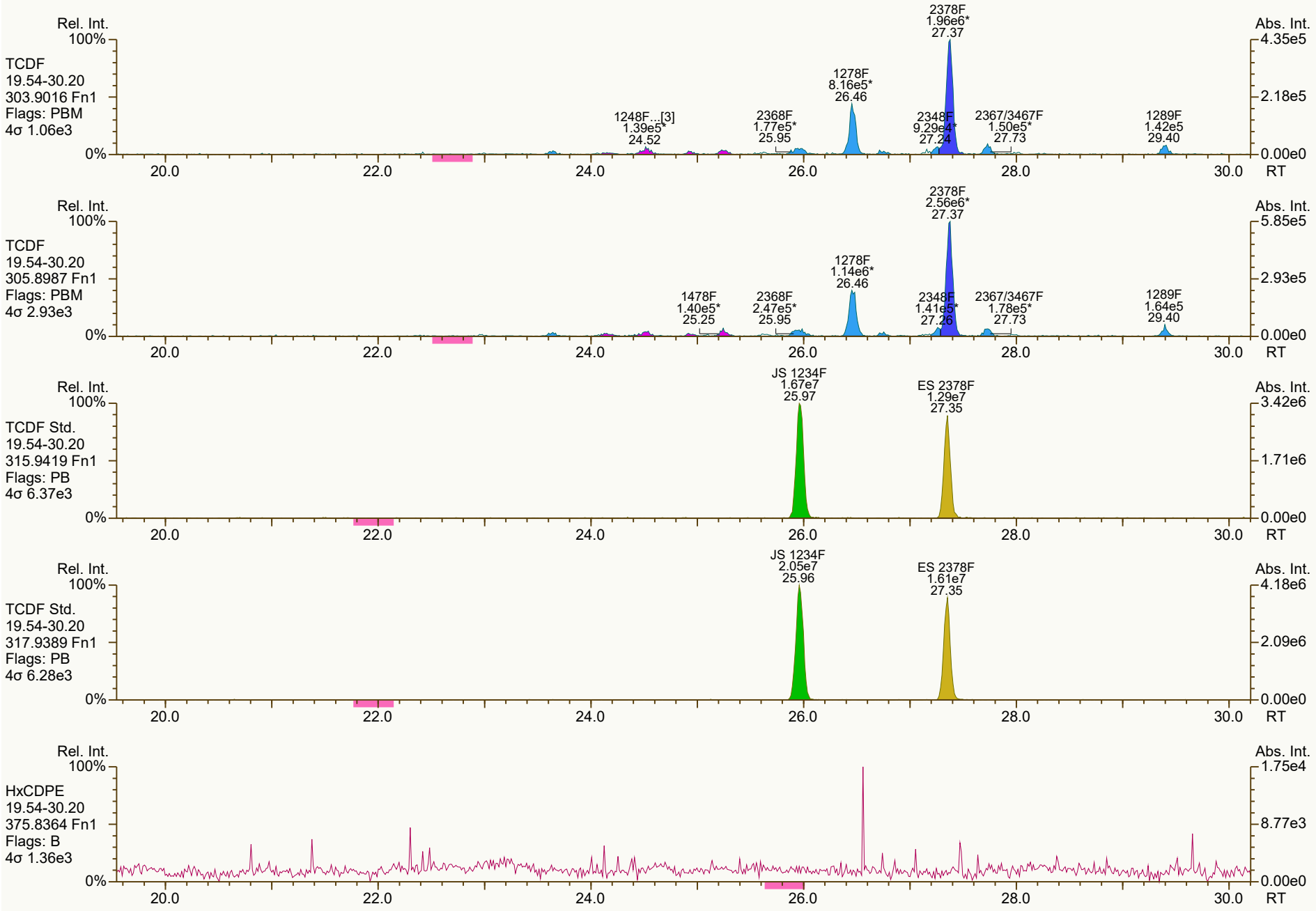


Results: P:\B6100_B6199\B6148\B6148_18911 DF\Resources\B6148_18911_DF_004.utp_res, saved 21-Feb-2022 11:59 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9599, 2958 scc: 710-743
PKD: 21-Feb-2022 11:58 Printed: 21-Feb-2022 12:02 Page 3 of 12

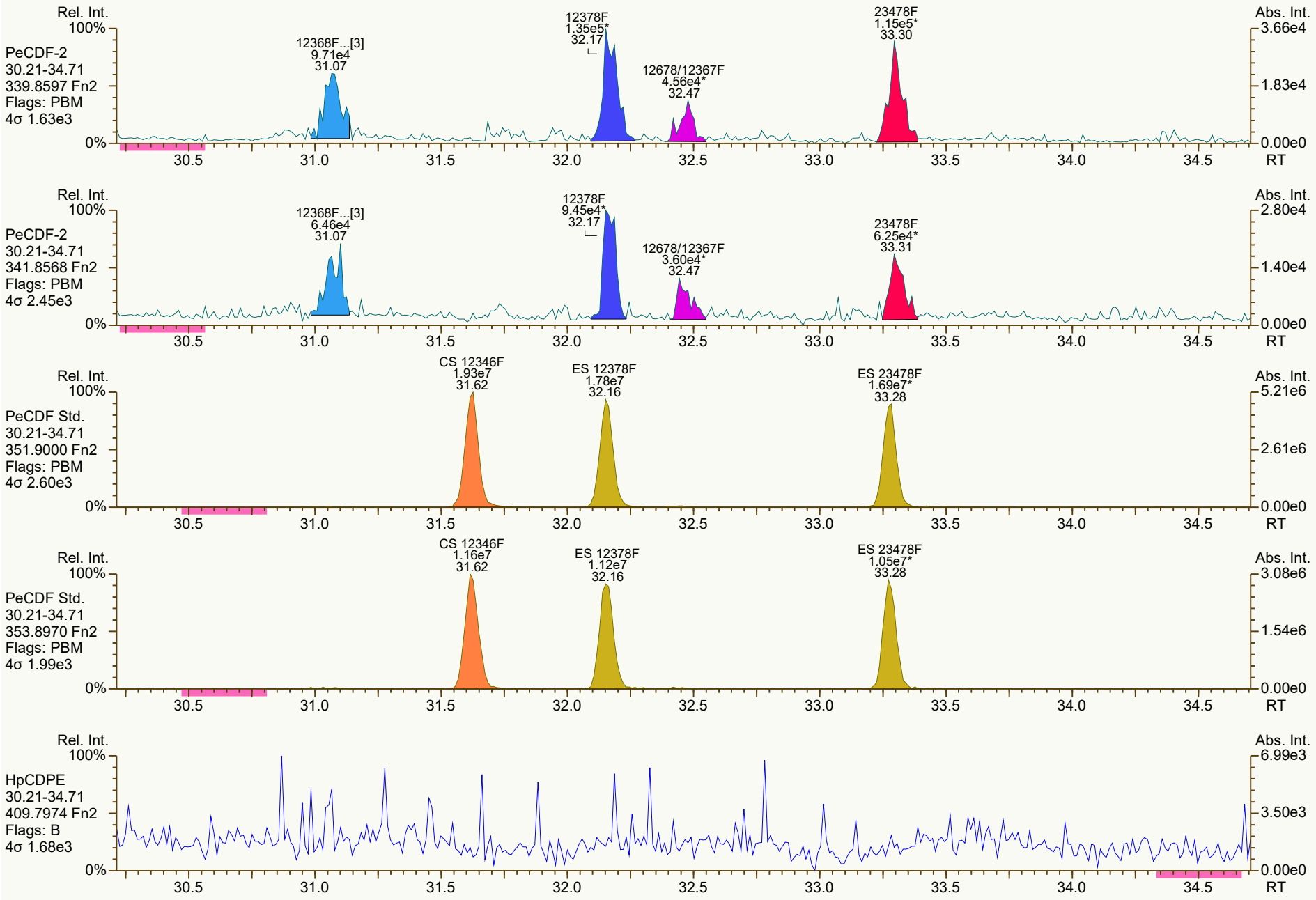

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.76e3
124679/124689D
9.86e5
35.82
123679/123689D
2.96e5
36.77
123678D
5.21e4*
37.68
123467D
4.29e4*
37.88
123789D
6.50e4*
37.99
Abs. Int.
2.91e5
1.45e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.90e3
124679/124689D
6.79e5*
35.82
123679/123689D
2.72e5
36.77
123469D
3.27e4
36.89
123678D
5.11e4*
37.68
123789D
7.45e4*
37.99
Abs. Int.
2.44e5
1.22e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.17e3
ES 123678D
9.26e6*
37.67
ES 123478D
9.24e6*
37.55
JS 123467D
5.68e6
37.87
ES 123789D
9.96e6
37.97
Abs. Int.
2.85e6
1.43e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.11e3
ES 123678D
7.27e6*
37.67
ES 123478D
7.03e6*
37.55
JS 123467D
4.36e6
37.87
ES 123789D
7.83e6
37.97
Abs. Int.
2.34e6
1.17e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.72e7
1.36e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

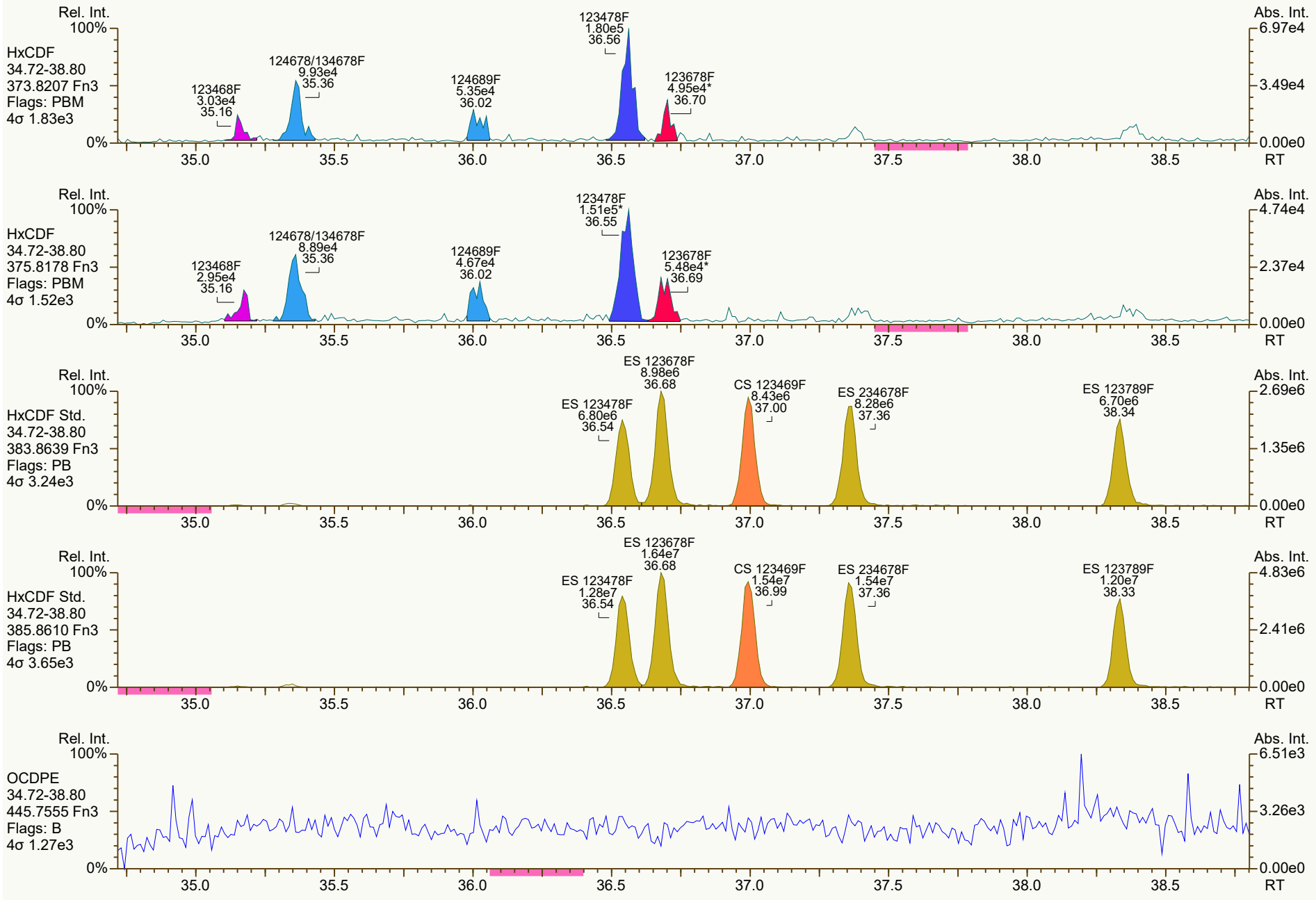

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 3.01e3
1234679D
2.77e6
40.03
1234678D
1.32e6
40.71
Abs. Int.
9.14e5
4.57e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.91e3
1234679D
2.71e6
40.03
1234678D
1.22e6
40.71
Abs. Int.
9.11e5
4.56e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.91e3
ES 1234678D
8.61e6
40.70
Abs. Int.
2.51e6
1.26e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.45e3
ES 1234678D
7.68e6
40.70
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.66e7
8.32e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

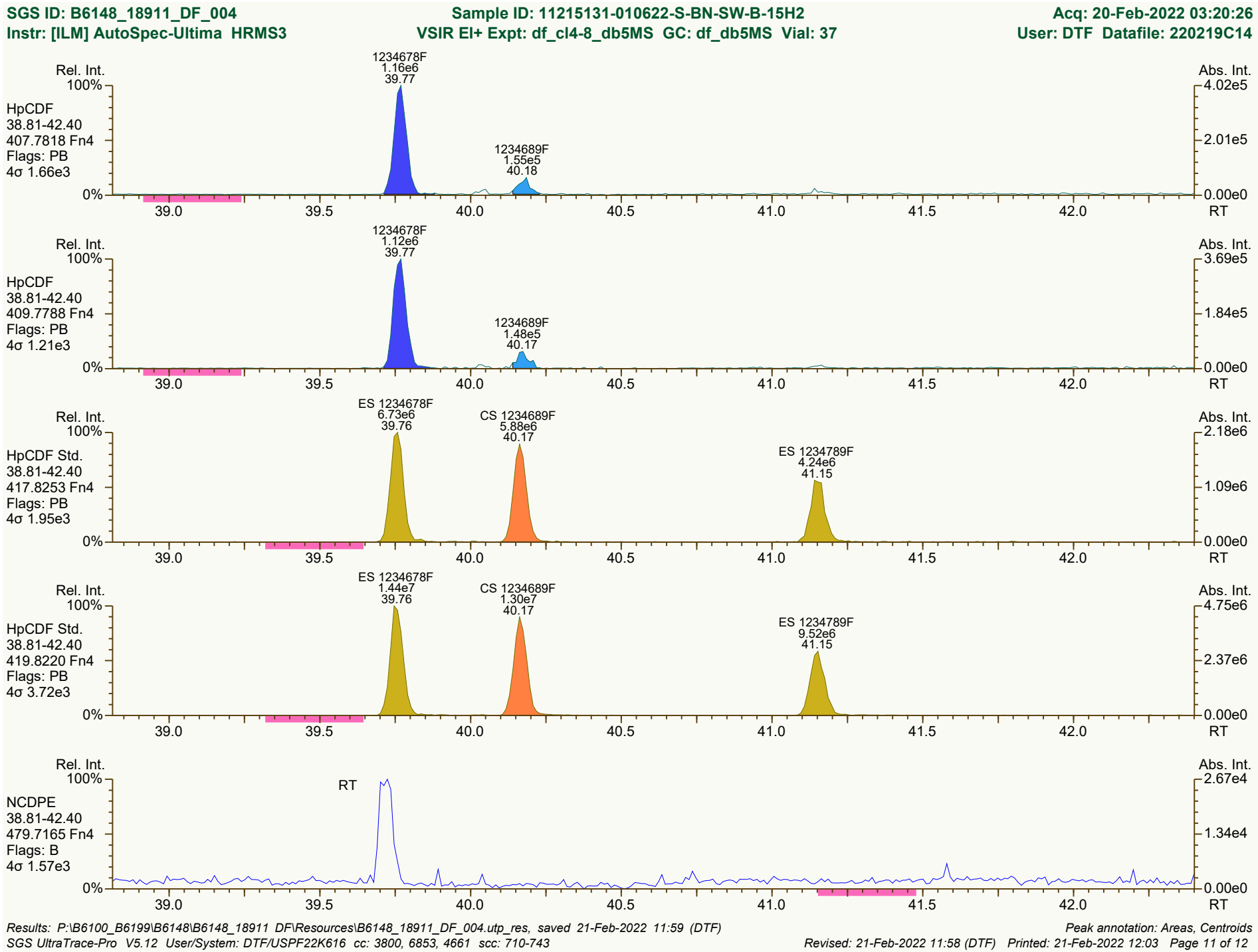

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.14e3
0%
OCDD
1.69e7
43.40
Abs. Int.
3.34e6
1.67e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.48e3
0%
OCDD
1.87e7
43.40
Abs. Int.
3.99e6
1.99e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.06e7
43.38
Abs. Int.
2.03e6
1.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.55e3
0%
ES OCDD
1.19e7
43.39
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.46e7
7.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.06e3
0%
Abs. Int.
4.35e5
2.18e5
0.00e0
2378F
1.96e6*
27.37
1278F
8.16e5*
26.46
1248F...[3]
1.39e5*
24.52
2368F
1.77e5*
25.95
2348F
9.29e4*
27.24
2367/3467F
1.50e5*
27.73
1289F
1.42e5
29.40
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.93e3
0%
Abs. Int.
5.85e5
2.93e5
0.00e0
2378F
2.56e6*
27.37
1278F
1.14e6*
26.46
1478F
1.40e5*
25.25
2368F
2.47e5*
25.95
2348F
1.41e5*
27.26
2367/3467F
1.78e5*
27.73
1289F
1.64e5
29.40
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.37e3
0%
Abs. Int.
3.42e6
1.71e6
0.00e0
JS 1234F
1.67e7
25.97
ES 2378F
1.29e7
27.35
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.28e3
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
JS 1234F
2.05e7
25.96
ES 2378F
1.61e7
27.35
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.75e4
8.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.97e4
1.49e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.55e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.92e4
9.59e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.24e6
4.12e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.63e3
12368F...[3]
9.71e4
31.07
12378F
1.35e5*
32.17
12678/12367F
4.56e4*
32.47
23478F
1.15e5*
33.30
Abs. Int.
3.66e4
1.83e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.45e3
12368F...[3]
6.46e4
31.07
12378F
9.45e4*
32.17
12678/12367F
3.60e4*
32.47
23478F
6.25e4*
33.31
Abs. Int.
2.80e4
1.40e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 2.60e3
CS 12346F
1.93e7
31.62
ES 12378F
1.78e7
32.16
ES 23478F
1.69e7*
33.28
Abs. Int.
5.21e6
2.61e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 1.99e3
CS 12346F
1.16e7
31.62
ES 12378F
1.12e7
32.16
ES 23478F
1.05e7*
33.28
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.68e3
Abs. Int.
6.99e3
3.50e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.83e3
123468F 3.03e4 35.16
124678/134678F 9.93e4 35.36
124689F 5.35e4 36.02
123478F 1.80e5 36.56
123678F 4.95e4* 36.70
Abs. Int.
6.97e4
3.49e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.52e3
123468F 2.95e4 35.16
124678/134678F 8.89e4 35.36
124689F 4.67e4 36.02
123478F 1.51e5* 36.55
123678F 5.48e4* 36.69
Abs. Int.
4.74e4
2.37e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.24e3
ES 123478F 6.80e6 36.54
ES 123678F 8.98e6 36.68
CS 123469F 8.43e6 37.00
ES 234678F 8.28e6 37.36
ES 123789F 6.70e6 38.34
Abs. Int.
2.69e6
1.35e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.65e3
ES 123478F 1.28e7 36.54
ES 123678F 1.64e7 36.68
CS 123469F 1.54e7 36.99
ES 234678F 1.54e7 37.36
ES 123789F 1.20e7 38.33
Abs. Int.
4.83e6
2.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
6.51e3
3.26e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6100_B6199\B6148\B6148_18911 DF\Resources\B6148_18911_DF_004.utp_res, saved 21-Feb-2022 11:59 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3800, 6853, 4661 scc: 710-743
Revised: 21-Feb-2022 11:58 (DTF) Printed: 21-Feb-2022 12:03 Page 11 of 12


OCDF
4.16e6
43.57
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
8.60e5
4.30e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.50e6*
43.57
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.03e3
9.51e5
4.75e5
ES OCDF
1.23e7
43.56
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.22e3
2.44e6
1.22e6
ES OCDF
1.33e7
43.56
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.86e3
2.71e6
1.36e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.16e3
5.04e3
2.52e3

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA	1.00	25-347-1	DTF	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
4	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF	399-492	19-Feb-2022	19:37:00
5	220219C13	36	B6148_18911_DF_002	10.75	11215131-010522-S-BN-SW-B-17H2	DTF	126-457	20-Feb-2022	02:34:06
6	220219C14	37	B6148_18911_DF_004	10.23	11215131-010622-S-BN-SW-B-15H2	DTF	710-743	20-Feb-2022	03:20:26
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF	488-895	20-Feb-2022	05:55:34

REVIEWED
Tyler_Fritz , 2/21/2022, 12:04:46 PM

REVIEWED
Amber_Kornegay , 2/23/2022, 9:19:45 AM

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 10:46:46 DTF	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 10:47 TF	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.26	4.72E+06	0.82	Y	1.18	1.22	3%
12378-PeCDD	33.64	1.81E+07	1.55	Y	1.04	1.03	0%
123478-HxCDD	37.57	1.64E+07	1.25	Y	1.09	1.11	2%
123678-HxCDD	37.69	1.71E+07	1.27	Y	1.15	1.15	1%
123789-HxCDD	38.00	1.80E+07	1.23	Y	1.05	1.03	-2%
1234678-HpCDD	40.72	1.61E+07	1.04	Y	1.06	1.07	1%
OCDD	43.42	2.64E+07	0.91	Y	1.13	1.10	-2%
2378-TCDF	27.39	6.75E+06	0.78	Y	1.08	1.12	4%
12378-PeCDF	32.18	2.71E+07	1.55	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.62E+07	1.50	Y	1.02	0.98	-3%
123478-HxCDF	36.57	2.44E+07	1.23	Y	1.27	1.23	-3%
123678-HxCDF	36.71	2.56E+07	1.23	Y	1.15	1.13	-2%
234678-HxCDF	37.39	2.43E+07	1.25	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.22E+07	1.26	Y	1.16	1.11	-5%
1234678-HpCDF	39.78	2.21E+07	1.06	Y	1.37	1.37	0%
1234789-HpCDF	41.17	1.96E+07	1.01	Y	1.31	1.30	0%
OCDF	43.59	3.40E+07	0.93	Y	1.07	1.05	-2%
ES 2378-TCDD	28.23	3.87E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.623	3.49E+07	1.62	Y	0.88	0.91	4%
ES 123478-HxCDD	37.554	2.95E+07	1.26	Y	0.97	0.98	1%
ES 123678-HxCDD	37.673	2.96E+07	1.28	Y	0.94	0.98	4%
ES 123789-HxCDD	37.979	3.50E+07	1.25	Y	1.09	1.16	6%
ES 1234678-HpCDD	40.706	3.01E+07	1.10	Y	0.91	1.00	10%
ES OCDD	43.406	4.79E+07	0.89	Y	0.62	0.80	28%
ES 2378-TCDF	27.366	6.03E+07	0.80	Y	1.06	1.01	-5%
ES 12378-PeCDF	32.162	5.31E+07	1.64	Y	0.91	0.89	-2%
ES 23478-PeCDF	33.285	5.33E+07	1.61	Y	0.88	0.89	1%
ES 123478-HxCDF	36.549	3.97E+07	0.54	Y	1.20	1.32	10%
ES 123678-HxCDF	36.689	4.53E+07	0.54	Y	1.35	1.51	11%
ES 234678-HxCDF	37.366	4.22E+07	0.55	Y	1.24	1.40	13%
ES 123789-HxCDF	38.343	4.00E+07	0.54	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.764	3.22E+07	0.46	Y	0.97	1.07	11%
ES 1234789-HpCDF	41.161	3.02E+07	0.47	Y	0.85	1.00	18%
ES OCDF	43.579	6.45E+07	0.91	Y	0.81	1.07	33% *

*Ok-Meets M1613B criteria.
AK 23 Feb 22

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 10:46:46 DTF	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 10:47 TF	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.57	3.82E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.99	5.98E+07	0.83	Y	-	-	-
JS 123467-HxCDD	37.87	1.50E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.26	5.16E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.12	3.13E+07	1.61	Y	0.75	0.82	8%
CS 12346-PeCDF	31.63	5.27E+07	1.55	Y	0.85	0.88	4%
CS 123469-HxCDF	37.00	4.17E+07	0.54	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.17	3.39E+07	0.48	Y	0.89	1.13	27%
~~SS 37Cl-2378-TCDD~~	~~28.26~~	~~5.16E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.33~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.12~~	~~3.13E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.27E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.17E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.92~~	~~11%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.39E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~1.05~~	~~14%~~
~~OCDD-a~~	~~43.42~~	~~1.55E+06~~	~~2.64~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~
~~OCDF-a~~	~~43.59~~	~~2.17E+06~~	~~2.56~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	49.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	49	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.3	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.8	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.4	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	49.7	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	48.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	49	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	50.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 10:47 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

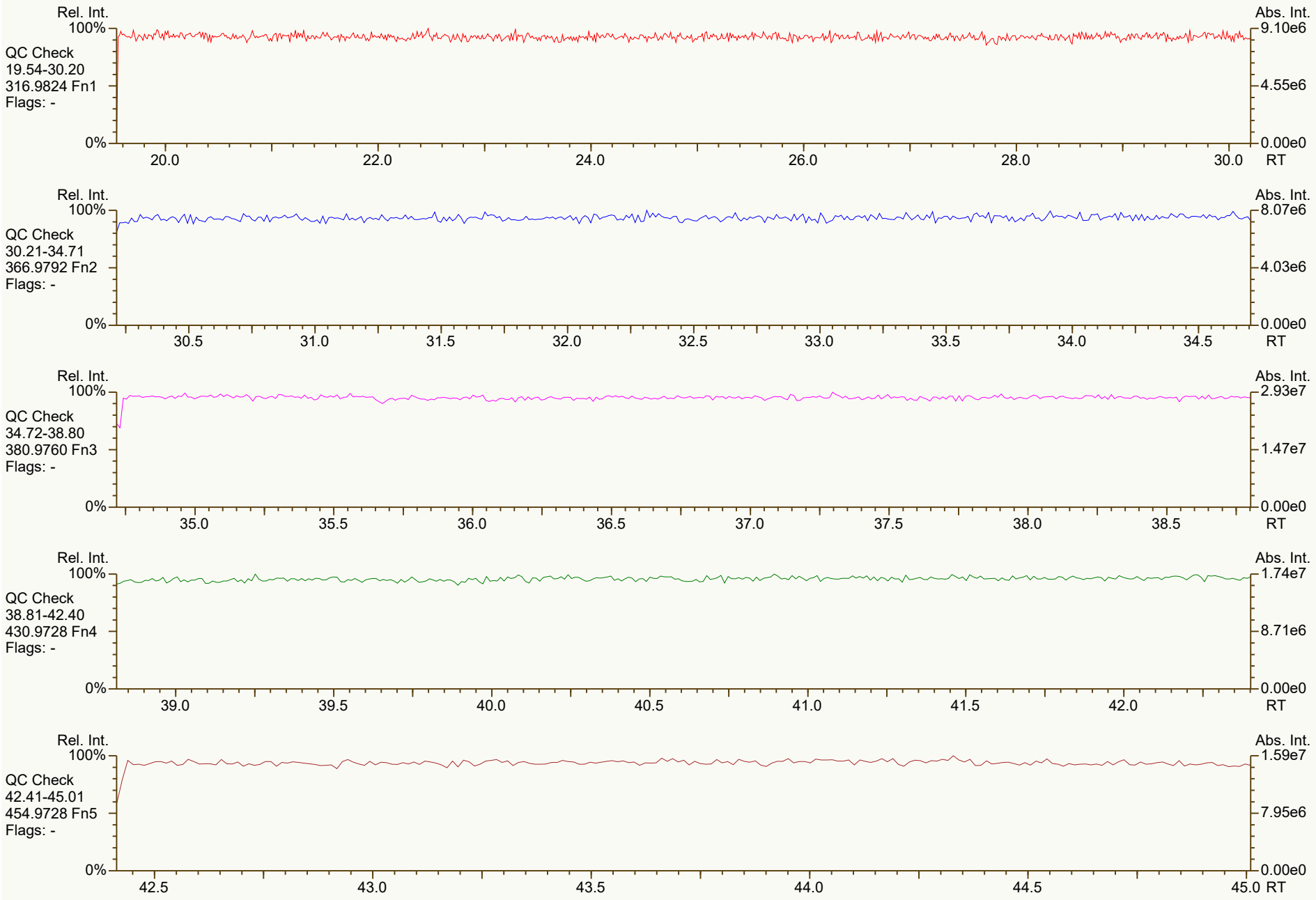
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

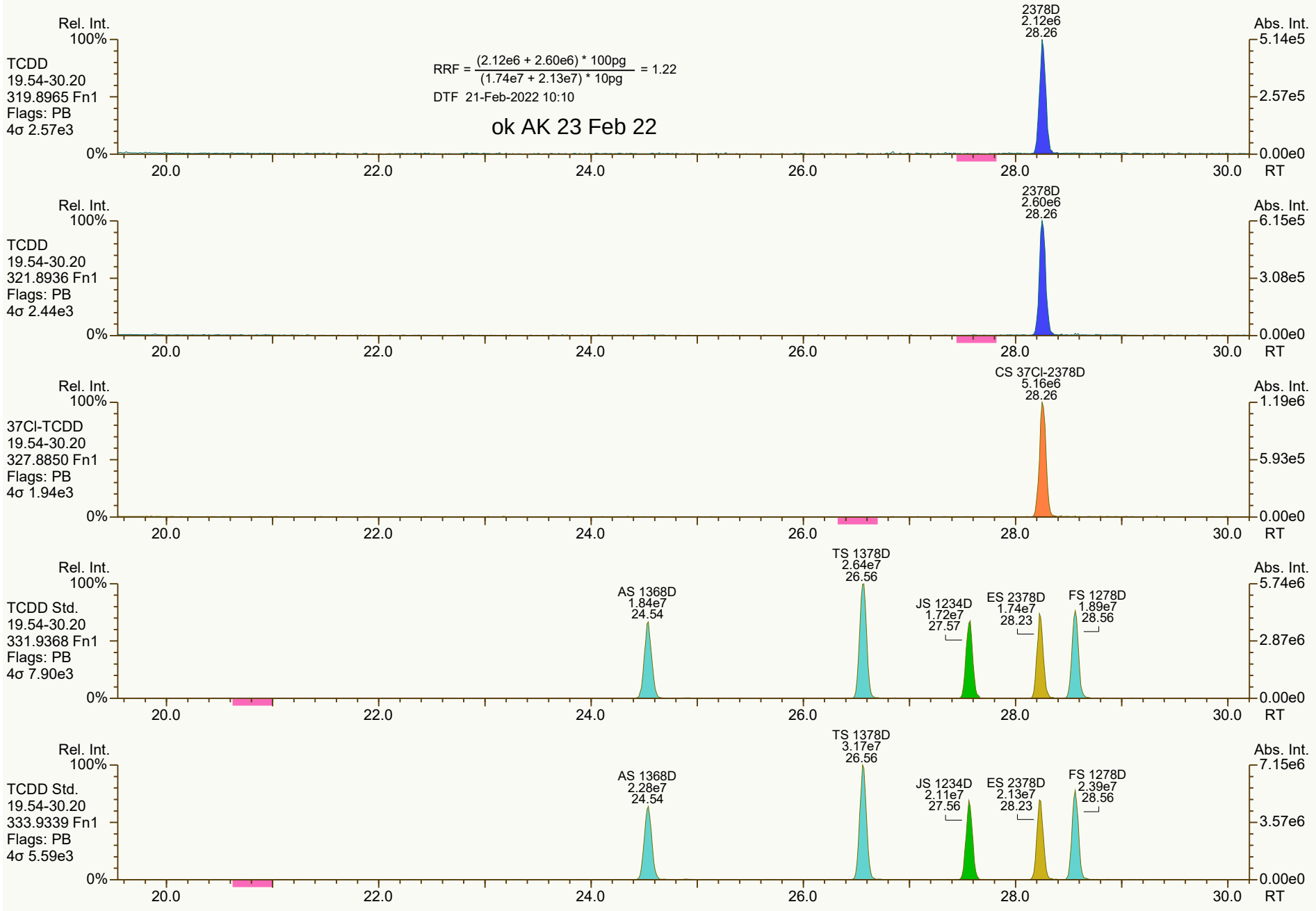
Instrument ID: HRMS3 GC Column ID: ZB-5ms

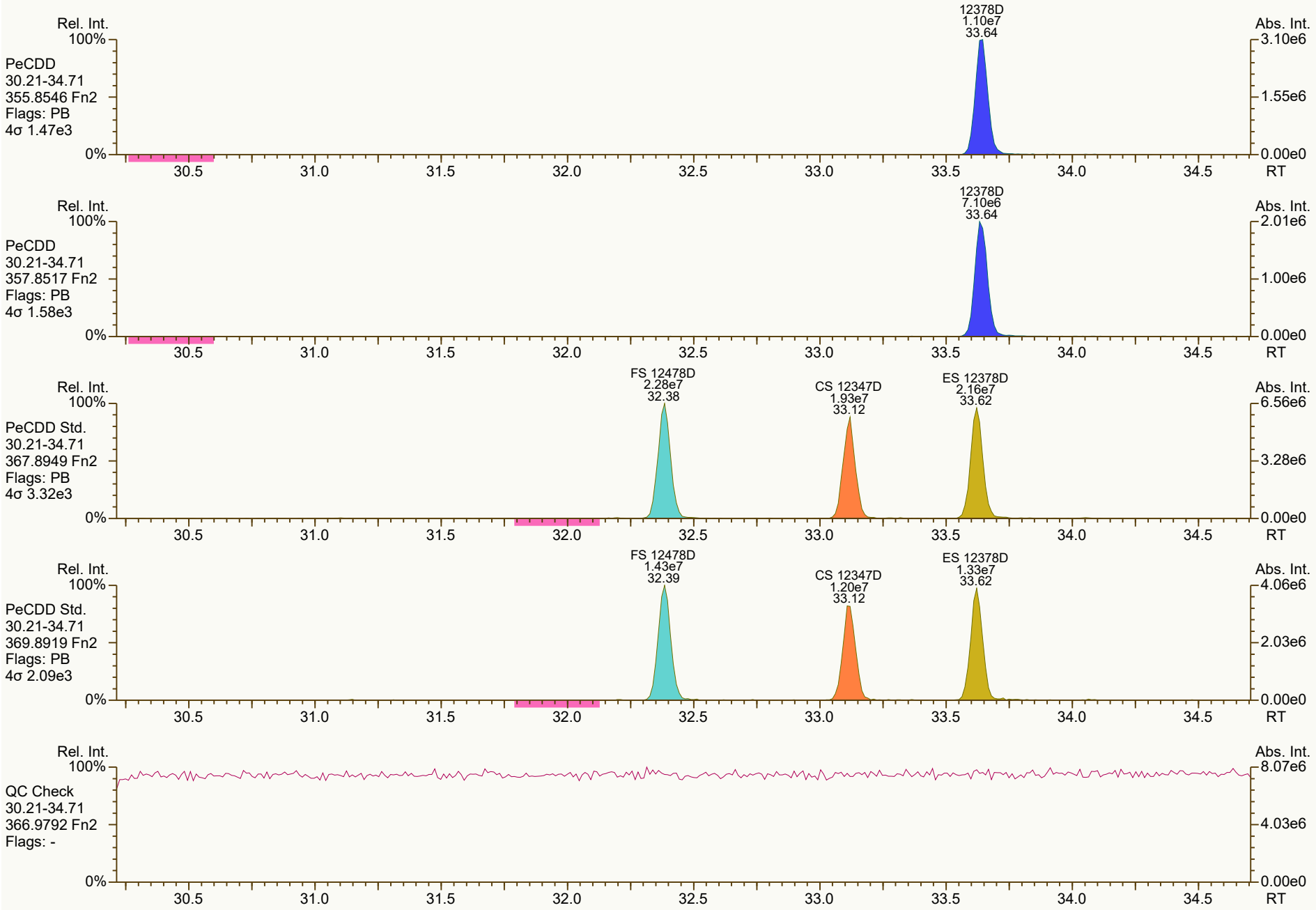
VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

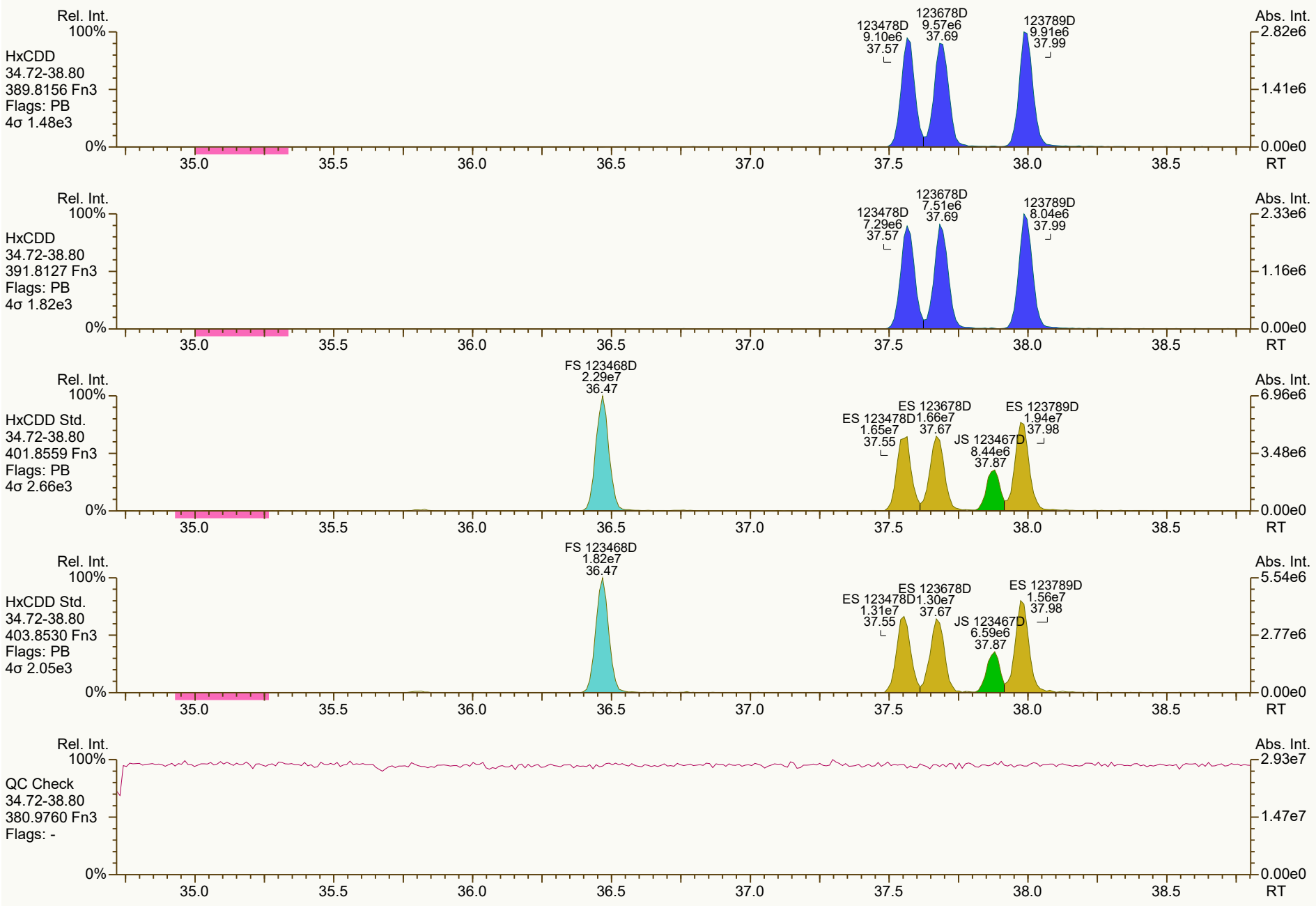
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	96.7	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32 - 1.78	Y	104	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	101	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	104	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	106	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88 - 1.20	Y	110	72 - 138	Y
13C-OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	255	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	95.2	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32 - 1.78	Y	97.6	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32 - 1.78	Y	101	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	110	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	111	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	113	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	115	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	111	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	118	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	266	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.2	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	108	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	104	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	124	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37 - 0.51	Y	127	70 - 130	Y

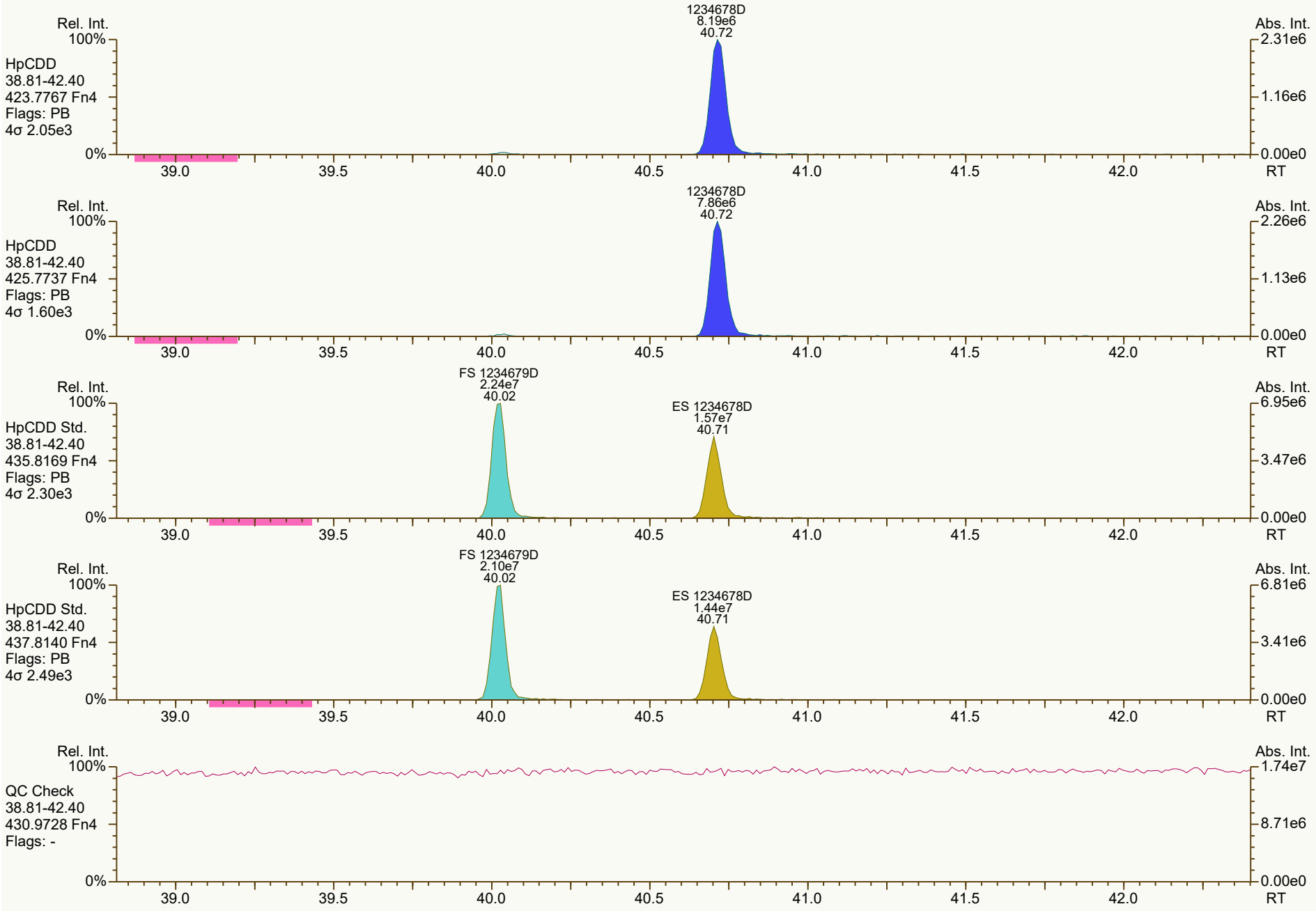
Processed: 21 Feb 2022 10:47 Analyst: TF

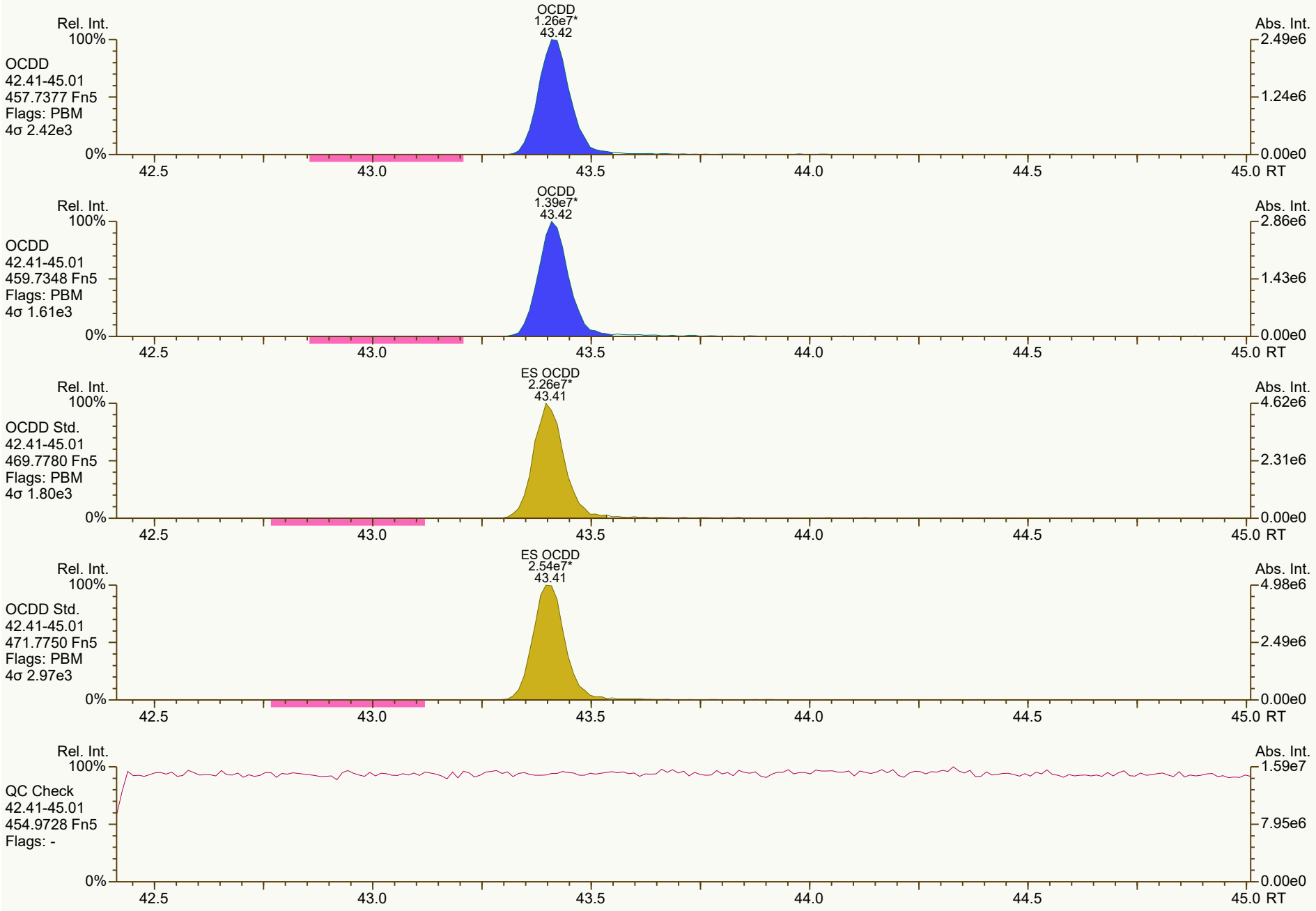

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.10e6
4.55e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
8.07e6
4.03e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.93e7
1.47e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.74e7
8.71e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.59e7
7.95e6
0.00e0

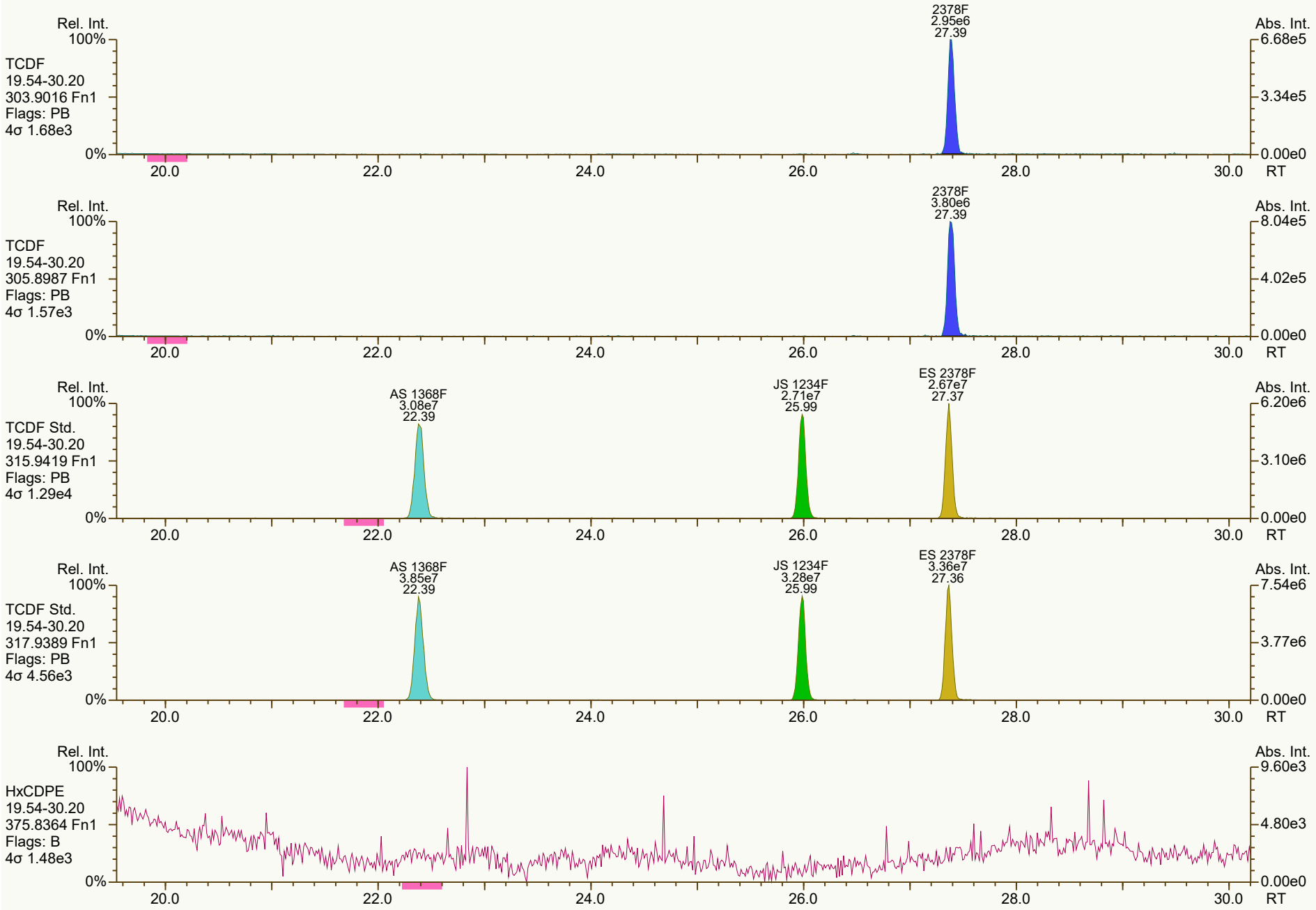

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
2.12e6
28.26
Abs. Int.
5.14e5
2.57e5
0.00e0
RRF = (2.12e6 + 2.60e6) * 100pg / (1.74e7 + 2.13e7) * 10pg = 1.22
DTF 21-Feb-2022 10:10
ok AK 23 Feb 22
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.44e3
0%
2378D
2.60e6
28.26
Abs. Int.
6.15e5
3.08e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.94e3
0%
CS 37Cl-2378D
5.16e6
28.26
Abs. Int.
1.19e6
5.93e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.90e3
0%
AS 1368D
1.84e7
24.54
TS 1378D
2.64e7
26.56
JS 1234D
1.72e7
27.57
ES 2378D
1.74e7
28.23
FS 1278D
1.89e7
28.56
Abs. Int.
5.74e6
2.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.28e7
24.54
TS 1378D
3.17e7
26.56
JS 1234D
2.11e7
27.56
ES 2378D
2.13e7
28.23
FS 1278D
2.39e7
28.56
Abs. Int.
7.15e6
3.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

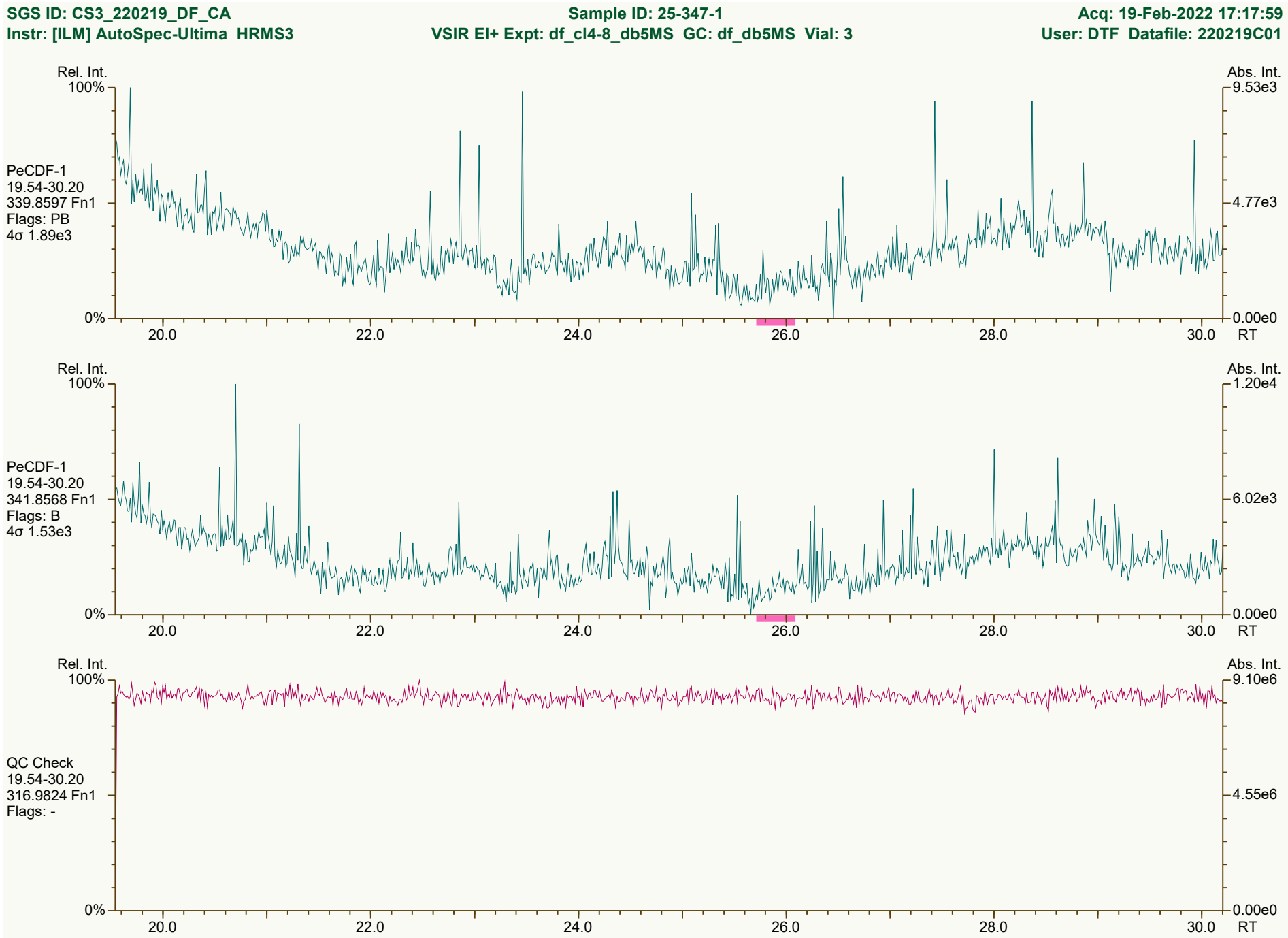

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.47e3
0%
12378D
1.10e7
33.64
Abs. Int.
3.10e6
1.55e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.58e3
0%
12378D
7.10e6
33.64
Abs. Int.
2.01e6
1.00e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.32e3
0%
FS 12478D
2.28e7
32.38
CS 12347D
1.93e7
33.12
ES 12378D
2.16e7
33.62
Abs. Int.
6.56e6
3.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.09e3
0%
FS 12478D
1.43e7
32.39
CS 12347D
1.20e7
33.12
ES 12378D
1.33e7
33.62
Abs. Int.
4.06e6
2.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.07e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

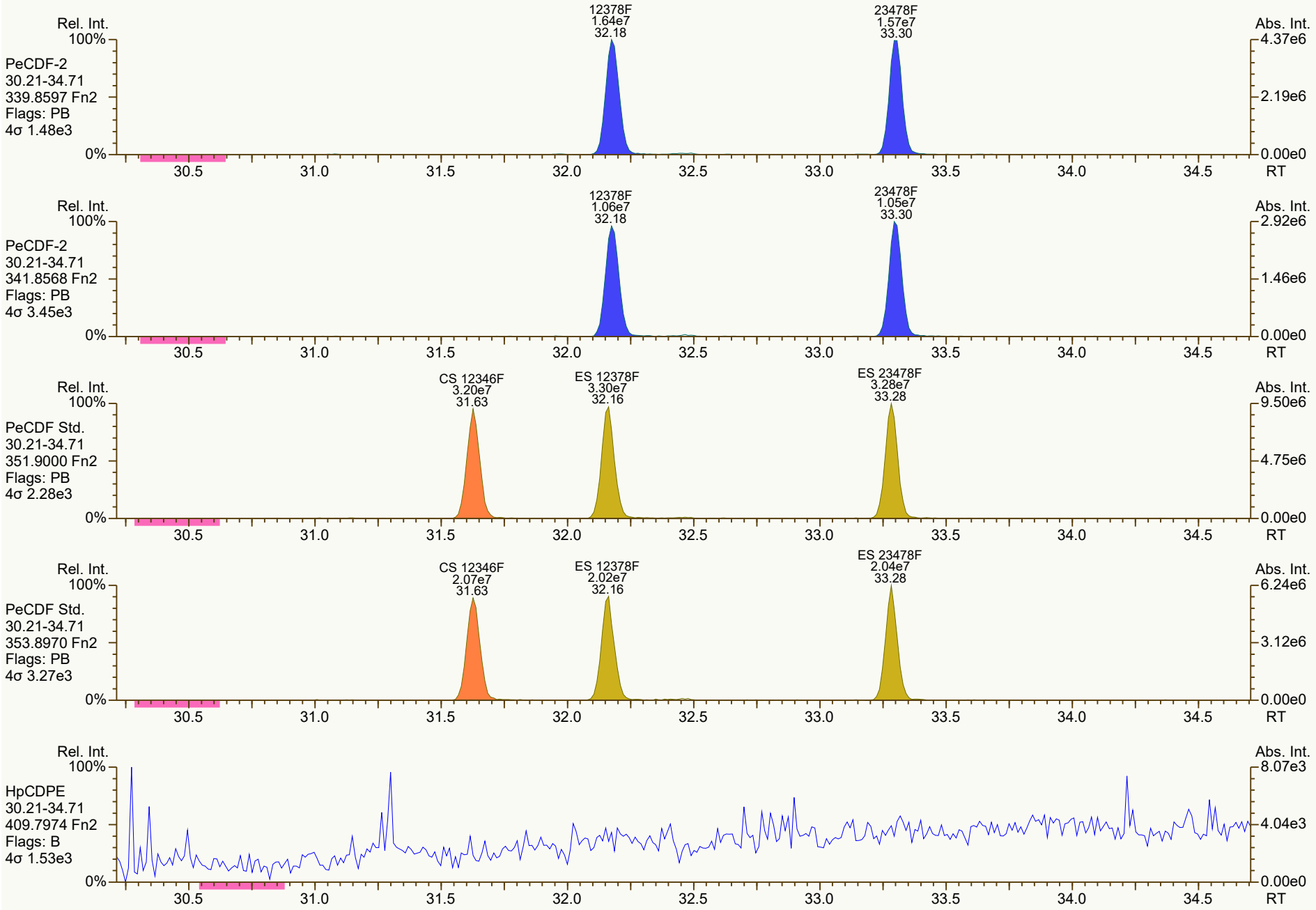

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.48e3
123478D
9.10e6
37.57
123678D
9.57e6
37.69
123789D
9.91e6
37.99
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.82e3
123478D
7.29e6
37.57
123678D
7.51e6
37.69
123789D
8.04e6
37.99
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.66e3
FS 123468D
2.29e7
36.47
ES 123478D
1.65e7
37.55
ES 123678D
1.66e7
37.67
JS 123467D
8.44e6
37.87
ES 123789D
1.94e7
37.98
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.05e3
FS 123468D
1.82e7
36.47
ES 123478D
1.31e7
37.55
ES 123678D
1.30e7
37.67
JS 123467D
6.59e6
37.87
ES 123789D
1.56e7
37.98
Abs. Int.
5.54e6
2.77e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.93e7
1.47e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

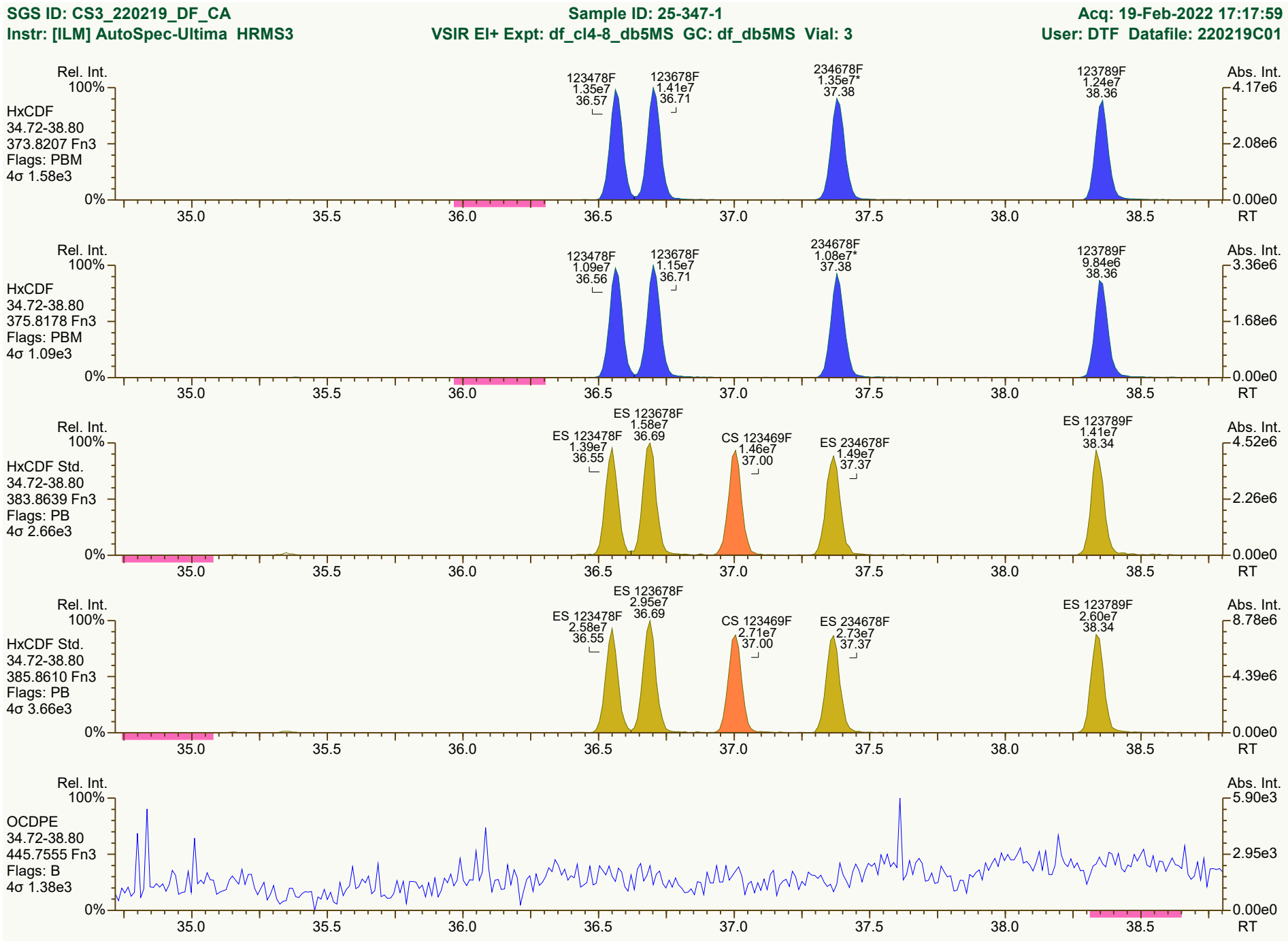

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.05e3
1234678D
8.19e6
40.72
Abs. Int.
2.31e6
1.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.60e3
1234678D
7.86e6
40.72
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
2.24e7
40.02
ES 1234678D
1.57e7
40.71
Abs. Int.
6.95e6
3.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.49e3
FS 1234679D
2.10e7
40.02
ES 1234678D
1.44e7
40.71
Abs. Int.
6.81e6
3.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.74e7
8.71e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

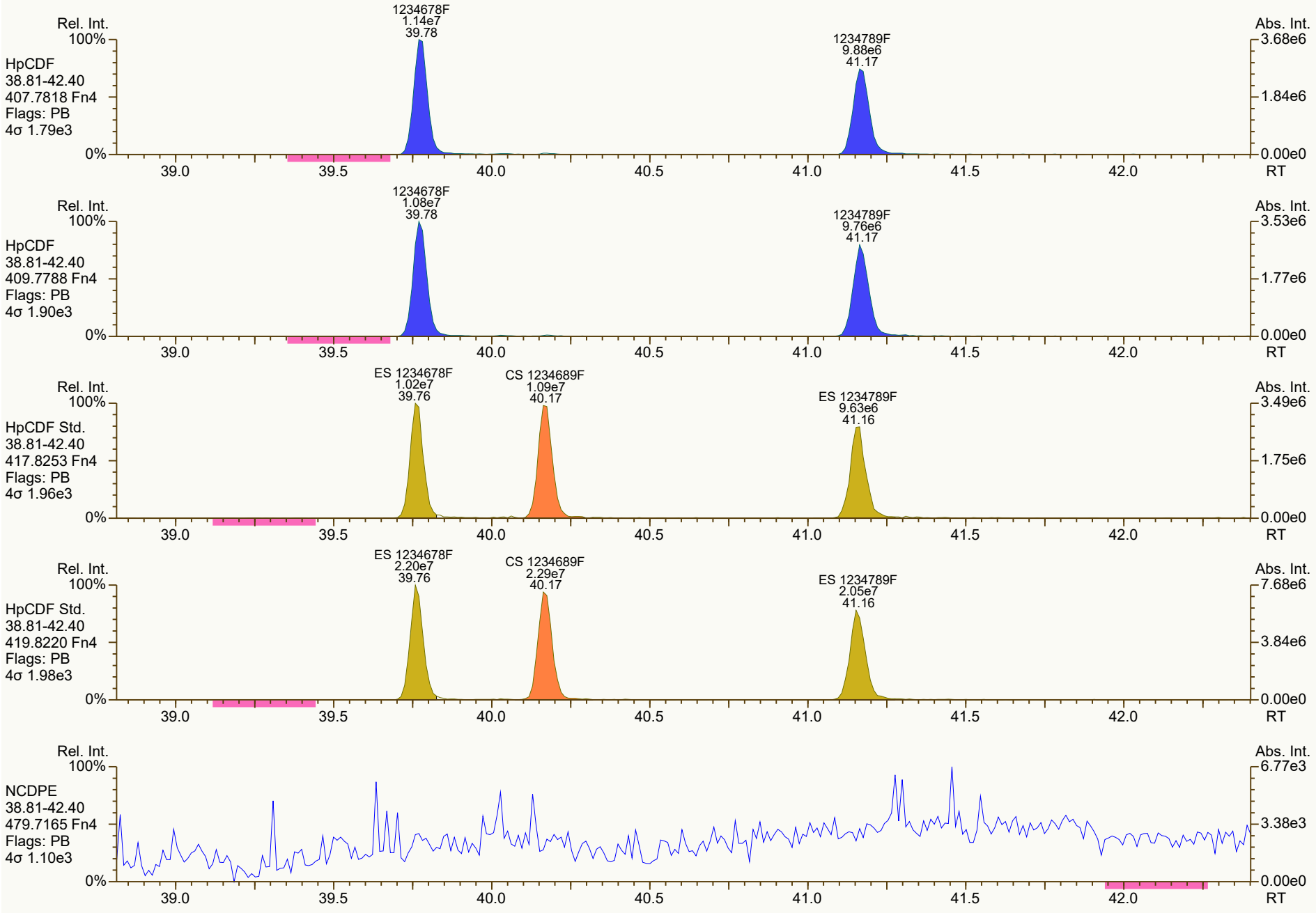

OCDD
1.26e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.39e7*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.61e3
2.86e6
1.43e6
ES OCDD
2.26e7*
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.80e3
4.62e6
2.31e6
ES OCDD
2.54e7*
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.97e3
4.98e6
2.49e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.59e7
7.95e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.68e3
0%
2378F
2.95e6
27.39
Abs. Int.
6.68e5
3.34e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.57e3
0%
2378F
3.80e6
27.39
Abs. Int.
8.04e5
4.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.29e4
0%
AS 1368F
3.08e7
22.39
JS 1234F
2.71e7
25.99
ES 2378F
2.67e7
27.37
Abs. Int.
6.20e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.56e3
0%
AS 1368F
3.85e7
22.39
JS 1234F
3.28e7
25.99
ES 2378F
3.36e7
27.36
Abs. Int.
7.54e6
3.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: CS3_220219_DF_CA
Sample ID: 25-347-1
Acq: 19-Feb-2022 17:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C01
Rel. Int.
100%
0%
Abs. Int.
9.53e3
4.77e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.89e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.53e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.10e6
4.55e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9414 scc: 910-087
PKD: 21-Feb-2022 09:53 Printed: 21-Feb-2022 10:50 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.48e3
12378F
1.64e7
32.18
23478F
1.57e7
33.30
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.45e3
12378F
1.06e7
32.18
23478F
1.05e7
33.30
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.28e3
CS 12346F
3.20e7
31.63
ES 12378F
3.30e7
32.16
ES 23478F
3.28e7
33.28
Abs. Int.
9.50e6
4.75e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.27e3
CS 12346F
2.07e7
31.63
ES 12378F
2.02e7
32.16
ES 23478F
2.04e7
33.28
Abs. Int.
6.24e6
3.12e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.53e3
Abs. Int.
8.07e3
4.04e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: CS3_220219_DF_CA
Sample ID: 25-347-1
Acq: 19-Feb-2022 17:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C01
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.58e3
123478F 1.35e7 36.57
123678F 1.41e7 36.71
234678F 1.35e7* 37.38
123789F 1.24e7 38.36
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.09e3
123478F 1.09e7 36.56
123678F 1.15e7 36.71
234678F 1.08e7* 37.38
123789F 9.84e6 38.36
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.66e3
ES 123478F 1.39e7 36.55
ES 123678F 1.58e7 36.69
CS 123469F 1.46e7 37.00
ES 234678F 1.49e7 37.37
ES 123789F 1.41e7 38.34
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.66e3
ES 123478F 2.58e7 36.55
ES 123678F 2.95e7 36.69
CS 123469F 2.71e7 37.00
ES 234678F 2.73e7 37.37
ES 123789F 2.60e7 38.34
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.38e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
4.17e6
2.08e6
0.00e0
3.36e6
1.68e6
4.52e6
2.26e6
8.78e6
4.39e6
5.90e3
2.95e3
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7160, 6610, 8702 scc: 910-087
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 10:50 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
1234678F
1.14e7
39.78
1234789F
9.88e6
41.17
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.90e3
1234678F
1.08e7
39.78
1234789F
9.76e6
41.17
Abs. Int.
3.53e6
1.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.96e3
ES 1234678F
1.02e7
39.76
CS 1234689F
1.09e7
40.17
ES 1234789F
9.63e6
41.16
Abs. Int.
3.49e6
1.75e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.98e3
ES 1234678F
2.20e7
39.76
CS 1234689F
2.29e7
40.17
ES 1234789F
2.05e7
41.16
Abs. Int.
7.68e6
3.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.10e3
Abs. Int.
6.77e3
3.38e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.64e7
43.59
Rel. Int.
100%
Abs. Int.
3.15e6
1.58e6
0.00e0
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.19e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.77e7
43.59
Rel. Int.
100%
Abs. Int.
3.65e6
1.83e6
0.00e0
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.63e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.07e7
43.58
Rel. Int.
100%
Abs. Int.
6.19e6
3.09e6
0.00e0
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.53e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.38e7
43.58
Rel. Int.
100%
Abs. Int.
6.71e6
3.36e6
0.00e0
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.73e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
6.60e3
3.30e3
0.00e0
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.48e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 10:46:48 DTF	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 10:47 TF	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.25	4.70E+06	0.75	Y	1.18	1.18	0%
12378-PeCDD	33.64	1.87E+07	1.58	Y	1.04	1.05	1%
123478-HxCDD	37.57	1.68E+07	1.28	Y	1.09	1.10	1%
123678-HxCDD	37.69	1.73E+07	1.30	Y	1.15	1.18	2%
123789-HxCDD	37.99	1.84E+07	1.25	Y	1.05	1.05	0%
1234678-HpCDD	40.72	1.66E+07	1.05	Y	1.06	1.04	-2%
OCDD	43.40	2.76E+07	0.92	Y	1.13	1.14	1%
2378-TCDF	27.39	6.83E+06	0.79	Y	1.08	1.07	-1%
12378-PeCDF	32.18	2.81E+07	1.56	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.73E+07	1.53	Y	1.02	1.02	0%
123478-HxCDF	36.56	2.55E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.71	2.64E+07	1.21	Y	1.15	1.13	-2%
234678-HxCDF	37.38	2.50E+07	1.27	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.27E+07	1.24	Y	1.16	1.14	-2%
1234678-HpCDF	39.77	2.31E+07	1.04	Y	1.37	1.31	-4%
1234789-HpCDF	41.17	2.06E+07	1.03	Y	1.31	1.28	-2%
OCDF	43.58	3.51E+07	0.93	Y	1.07	1.06	-1%
ES 2378-TCDD	28.23	3.98E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.621	3.55E+07	1.56	Y	0.88	0.90	3%
ES 123478-HxCDD	37.55	3.06E+07	1.24	Y	0.97	0.95	-2%
ES 123678-HxCDD	37.672	2.94E+07	1.24	Y	0.94	0.91	-3%
ES 123789-HxCDD	37.977	3.51E+07	1.23	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.707	3.19E+07	1.07	Y	0.91	0.99	8%
ES OCDD	43.391	4.86E+07	0.91	Y	0.62	0.75	21%
ES 2378-TCDF	27.363	6.37E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	32.159	5.53E+07	1.61	Y	0.91	0.90	-2%
ES 23478-PeCDF	33.282	5.37E+07	1.59	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.547	4.21E+07	0.54	Y	1.20	1.31	9%
ES 123678-HxCDF	36.688	4.69E+07	0.53	Y	1.35	1.45	8%
ES 234678-HxCDF	37.364	4.34E+07	0.53	Y	1.24	1.35	8%
ES 123789-HxCDF	38.343	3.96E+07	0.54	Y	1.16	1.23	6%
ES 1234678-HpCDF	39.764	3.53E+07	0.49	Y	0.97	1.10	13%
ES 1234789-HpCDF	41.162	3.21E+07	0.47	Y	0.85	1.00	17%
ES OCDF	43.572	6.63E+07	0.90	Y	0.81	1.03	27%

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 10:46:48 DTF	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 10:47 TF	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.56	3.94E+07	0.80	Y	-	-	-
JS 1234-TCDF	25.98	6.18E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.88	1.61E+07	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.25	5.65E+06	n/a	-	1.20	1.44	19%
CS 12347-PeCDD	33.11	3.20E+07	1.61	Y	0.75	0.81	8%
CS 12346-PeCDF	31.63	5.28E+07	1.56	Y	0.85	0.85	0%
CS 123469-HxCDF	37.00	4.19E+07	0.54	Y	1.12	1.30	16%
CS 1234689-HpCDF	40.17	3.57E+07	0.46	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.25~~	~~5.65E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.42~~	~~24%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~3.20E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.28E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~0.95~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.19E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.89~~	~~8%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.57E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.40~~	~~1.62E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.07~~	~~-8%~~
~~OCDF-a~~	~~43.58~~	~~2.27E+06~~	~~2.26~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.75	0.65 - 0.89	Y	9.95	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.6	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	51.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	49	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.93	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	49.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	49.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.6	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	48.9	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.8	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 10:47 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

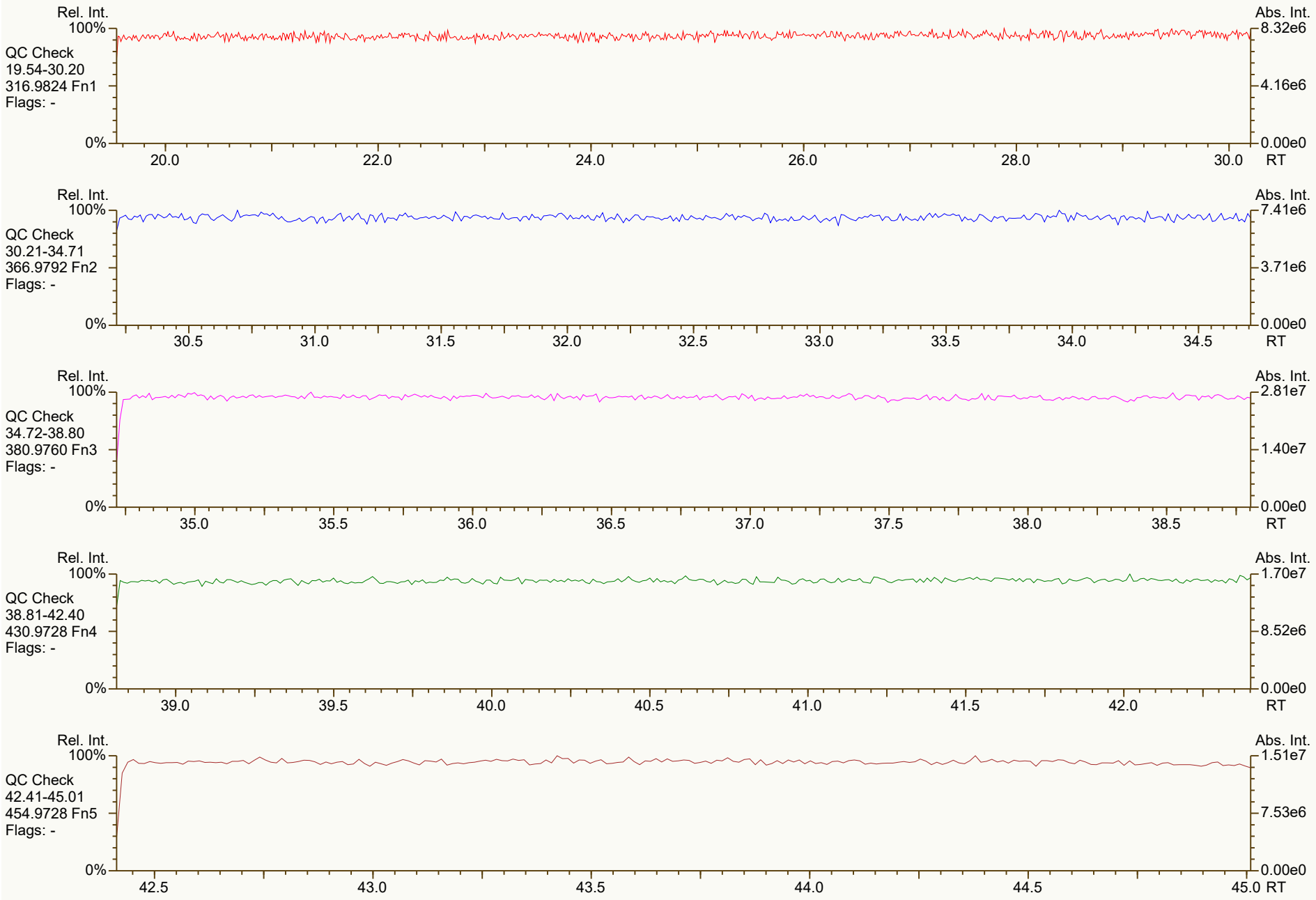
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

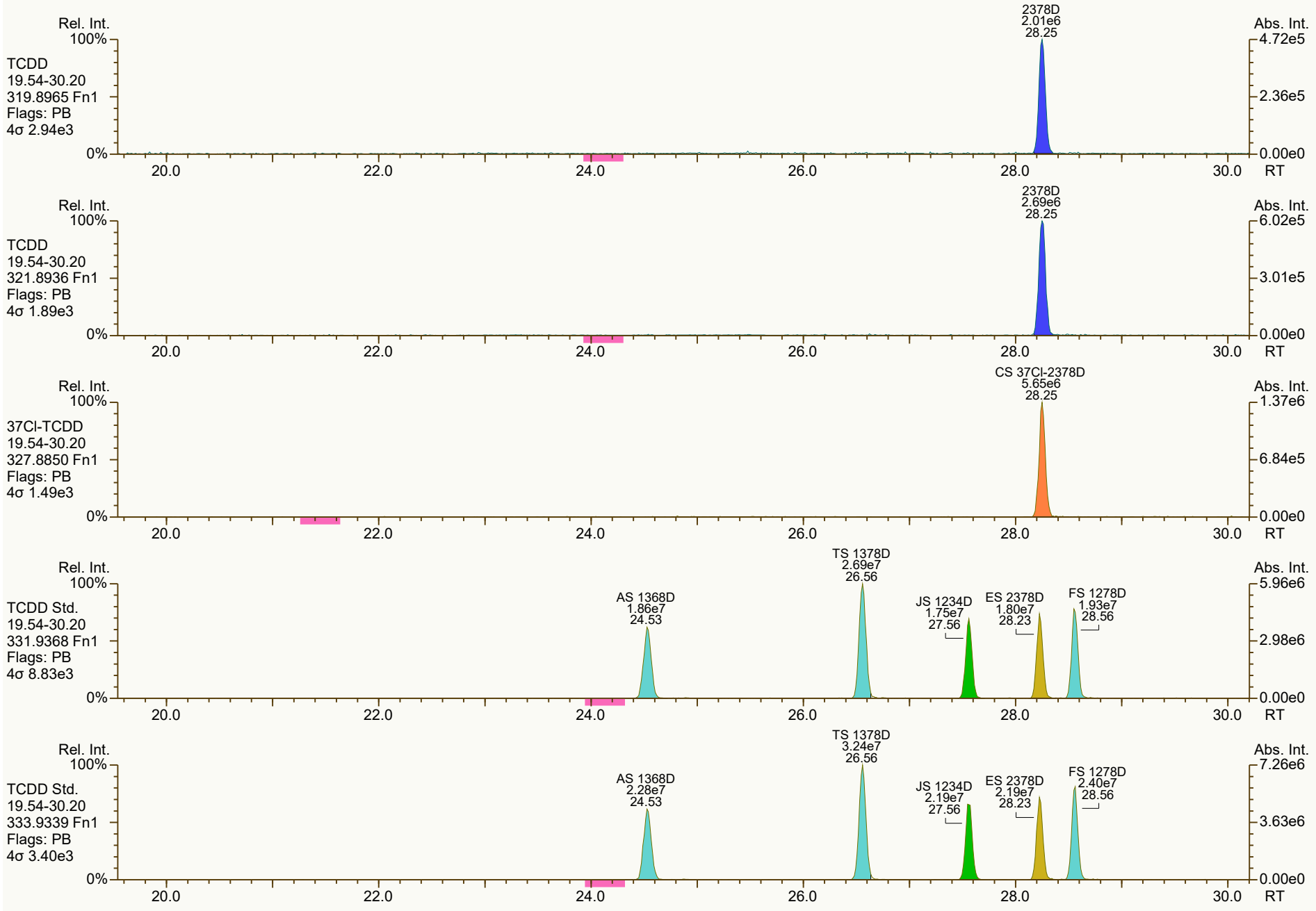
Instrument ID: HRMS3 GC Column ID: ZB-5ms

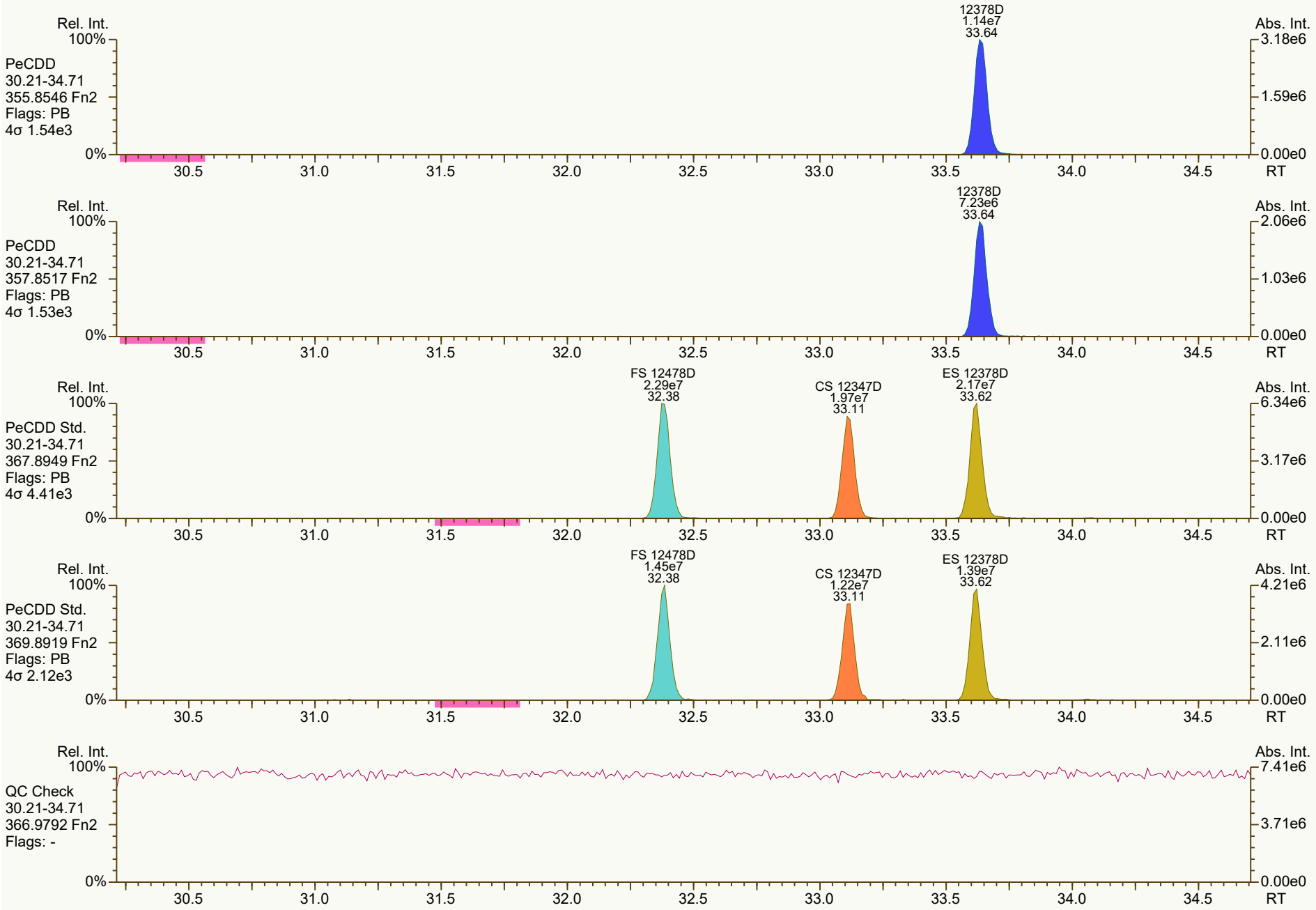
VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

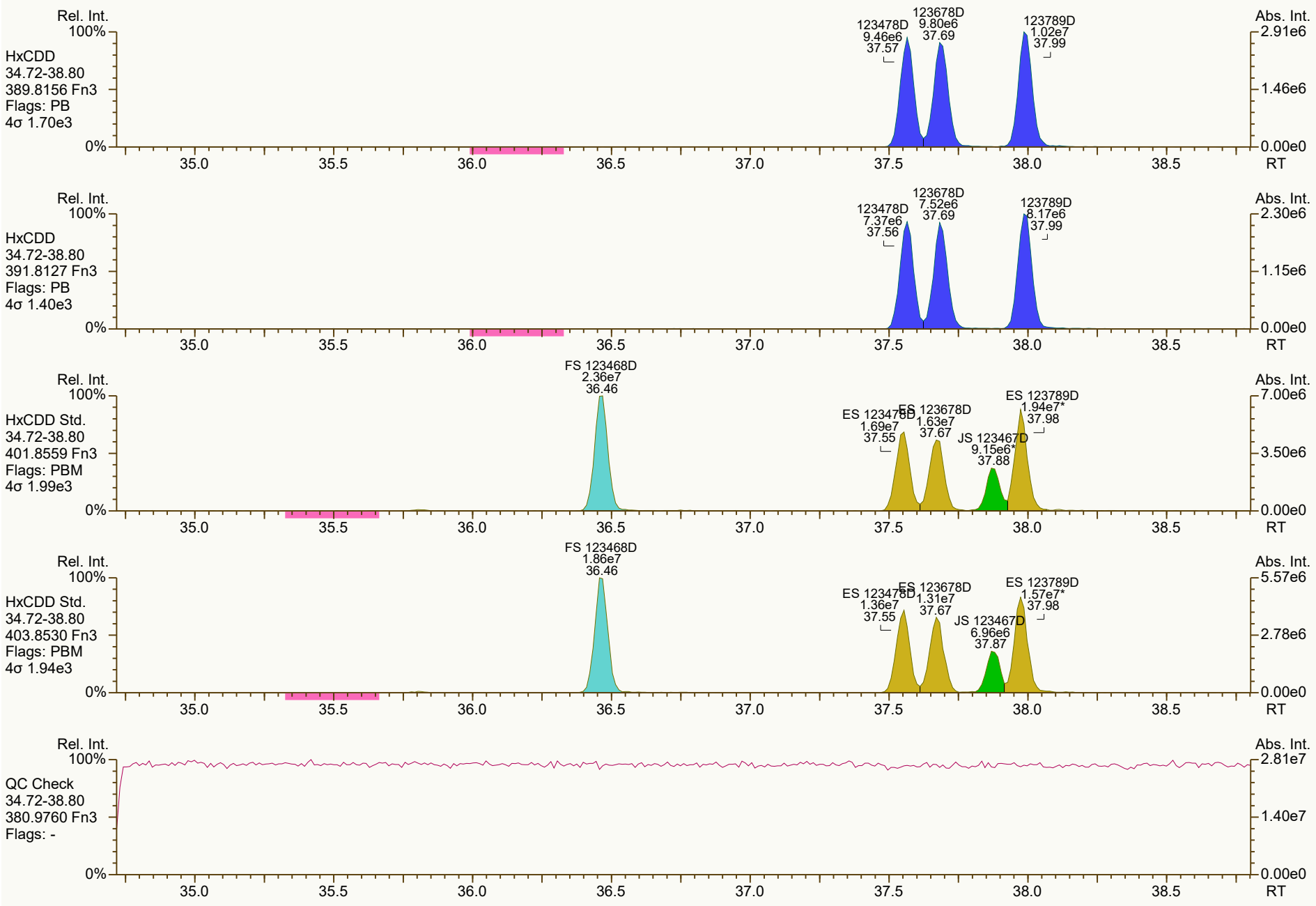
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	96.8	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	103	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	97.5	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	96.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	99.7	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	108	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	242	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	97.4	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32	-	1.78	Y	98.4	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	98.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	106	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.49	0.37	-	0.51	Y	113	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	117	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	255	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.9	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	108	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	116	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	125	70	-	130	Y

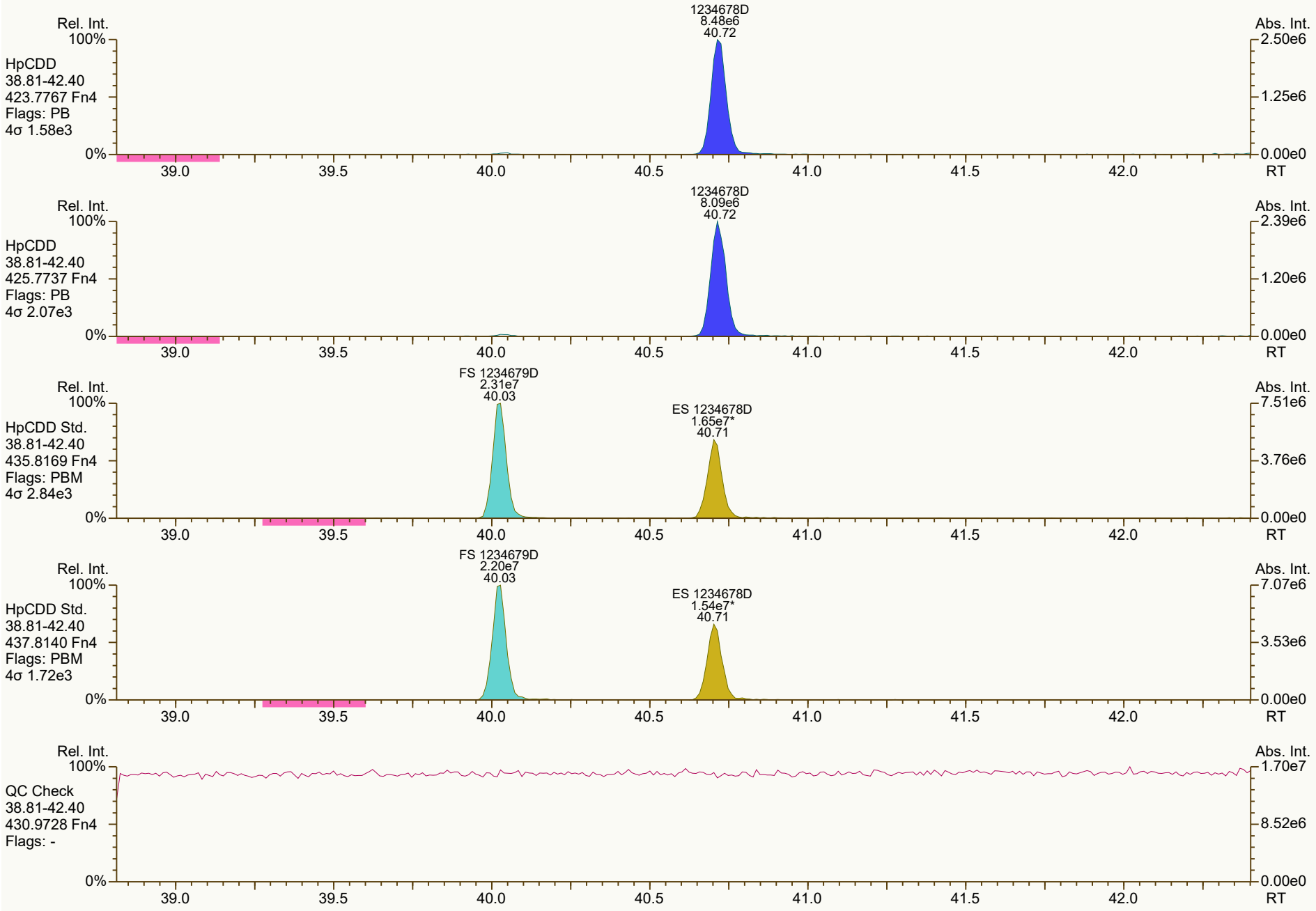
Processed: 21 Feb 2022 10:47 Analyst: TF

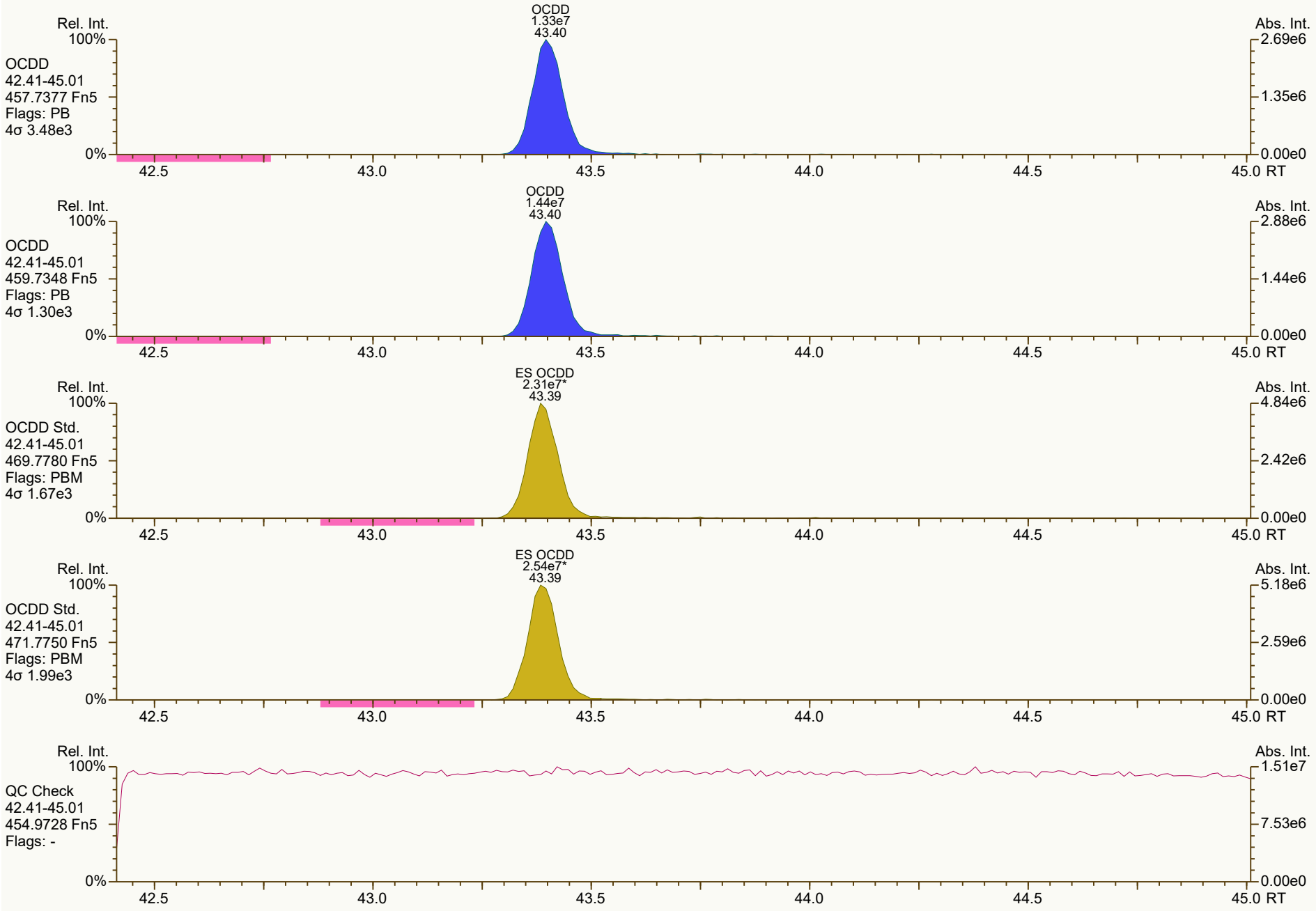

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.32e6
4.16e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.41e6
3.71e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.81e7
1.40e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.70e7
8.52e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.51e7
7.53e6
0.00e0

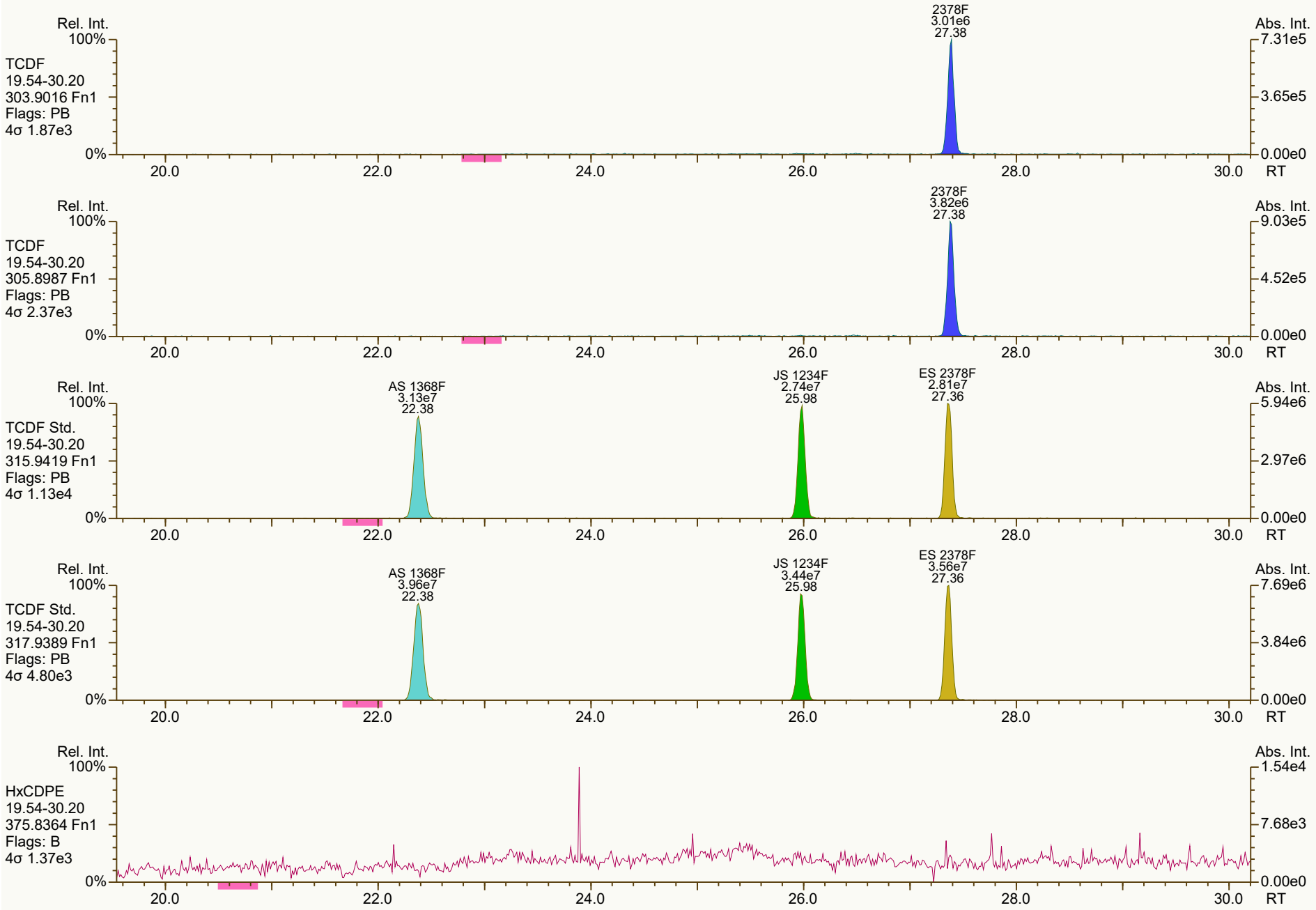

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.94e3
0%
2378D
2.01e6
28.25
Abs. Int.
4.72e5
2.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
2.69e6
28.25
Abs. Int.
6.02e5
3.01e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
5.65e6
28.25
Abs. Int.
1.37e6
6.84e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.83e3
0%
AS 1368D
1.86e7
24.53
TS 1378D
2.69e7
26.56
JS 1234D
1.75e7
27.56
ES 2378D
1.80e7
28.23
FS 1278D
1.93e7
28.56
Abs. Int.
5.96e6
2.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.40e3
0%
AS 1368D
2.28e7
24.53
TS 1378D
3.24e7
26.56
JS 1234D
2.19e7
27.56
ES 2378D
2.19e7
28.23
FS 1278D
2.40e7
28.56
Abs. Int.
7.26e6
3.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.54e3
12378D
1.14e7
33.64
Abs. Int.
3.18e6
1.59e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.53e3
12378D
7.23e6
33.64
Abs. Int.
2.06e6
1.03e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.41e3
FS 12478D
2.29e7
32.38
CS 12347D
1.97e7
33.11
ES 12378D
2.17e7
33.62
Abs. Int.
6.34e6
3.17e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.12e3
FS 12478D
1.45e7
32.38
CS 12347D
1.22e7
33.11
ES 12378D
1.39e7
33.62
Abs. Int.
4.21e6
2.11e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.41e6
3.71e6
0.00e0
0%
30.5
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32.5
33.0
33.5
34.0
34.5
RT

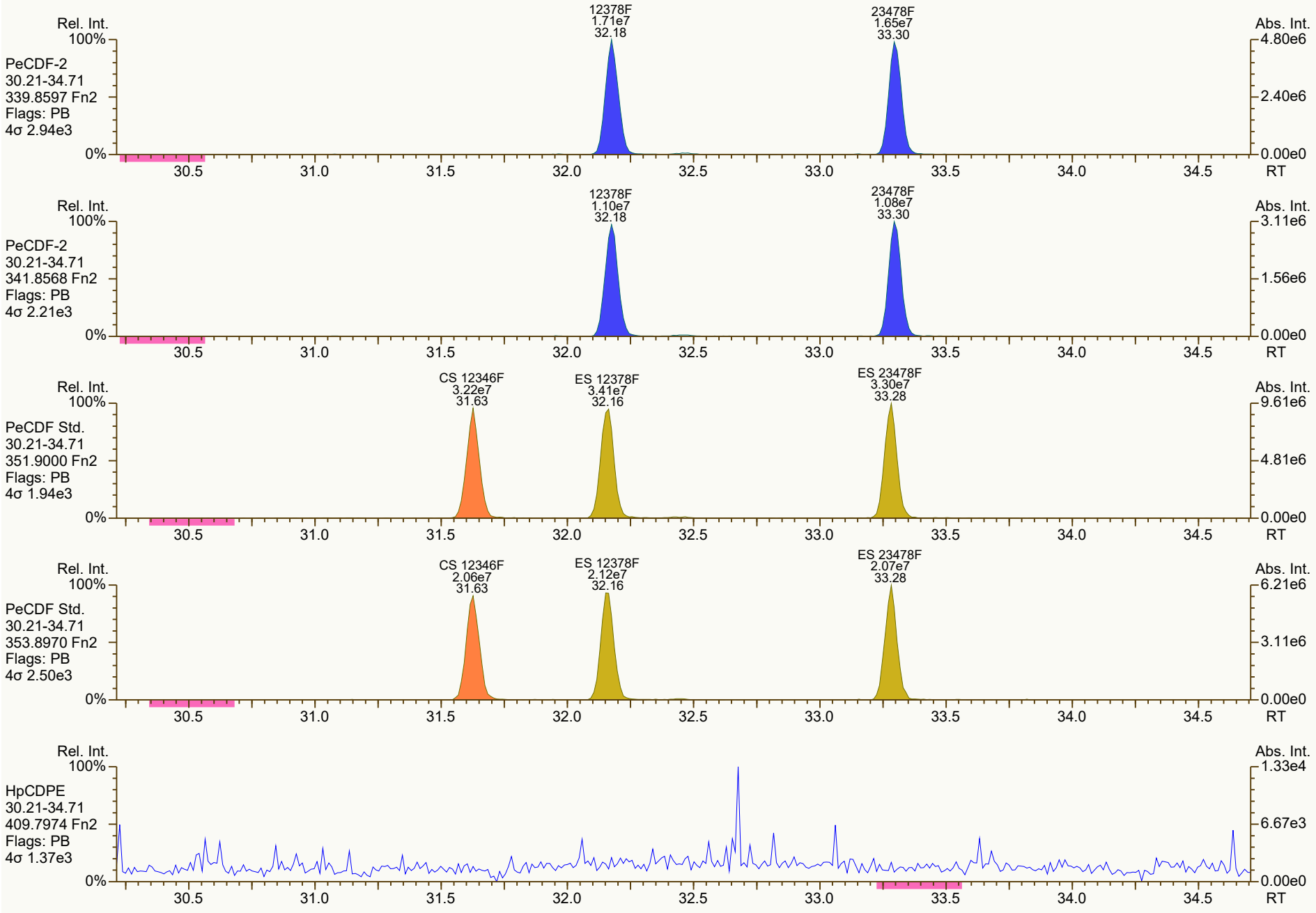

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
9.46e6
37.57
123678D
9.80e6
37.69
123789D
1.02e7
37.99
Abs. Int.
2.91e6
1.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.40e3
123478D
7.37e6
37.56
123678D
7.52e6
37.69
123789D
8.17e6
37.99
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.99e3
FS 123468D
2.36e7
36.46
ES 123478D
1.69e7
37.55
ES 123678D
1.63e7
37.67
JS 123467D
9.15e6*
37.88
ES 123789D
1.94e7*
37.98
Abs. Int.
7.00e6
3.50e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.94e3
FS 123468D
1.86e7
36.46
ES 123478D
1.36e7
37.55
ES 123678D
1.31e7
37.67
JS 123467D
6.96e6
37.87
ES 123789D
1.57e7*
37.98
Abs. Int.
5.57e6
2.78e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.81e7
1.40e7
0.00e0
0%
35.0
35.5
36.0
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37.0
37.5
38.0
38.5
RT

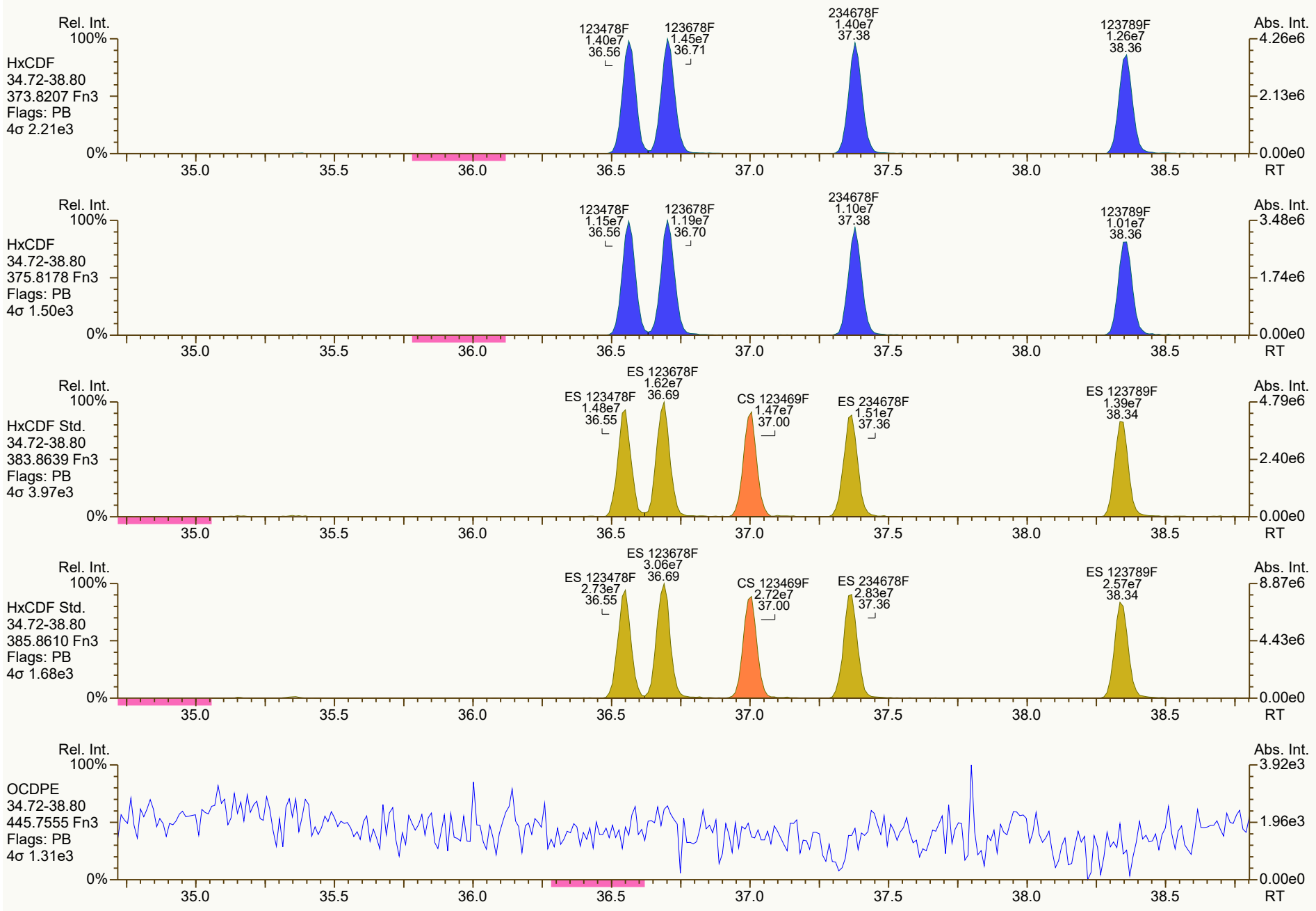

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.58e3
1234678D
8.48e6
40.72
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.07e3
1234678D
8.09e6
40.72
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.84e3
FS 1234679D
2.31e7
40.03
ES 1234678D
1.65e7*
40.71
Abs. Int.
7.51e6
3.76e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.72e3
FS 1234679D
2.20e7
40.03
ES 1234678D
1.54e7*
40.71
Abs. Int.
7.07e6
3.53e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.70e7
8.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

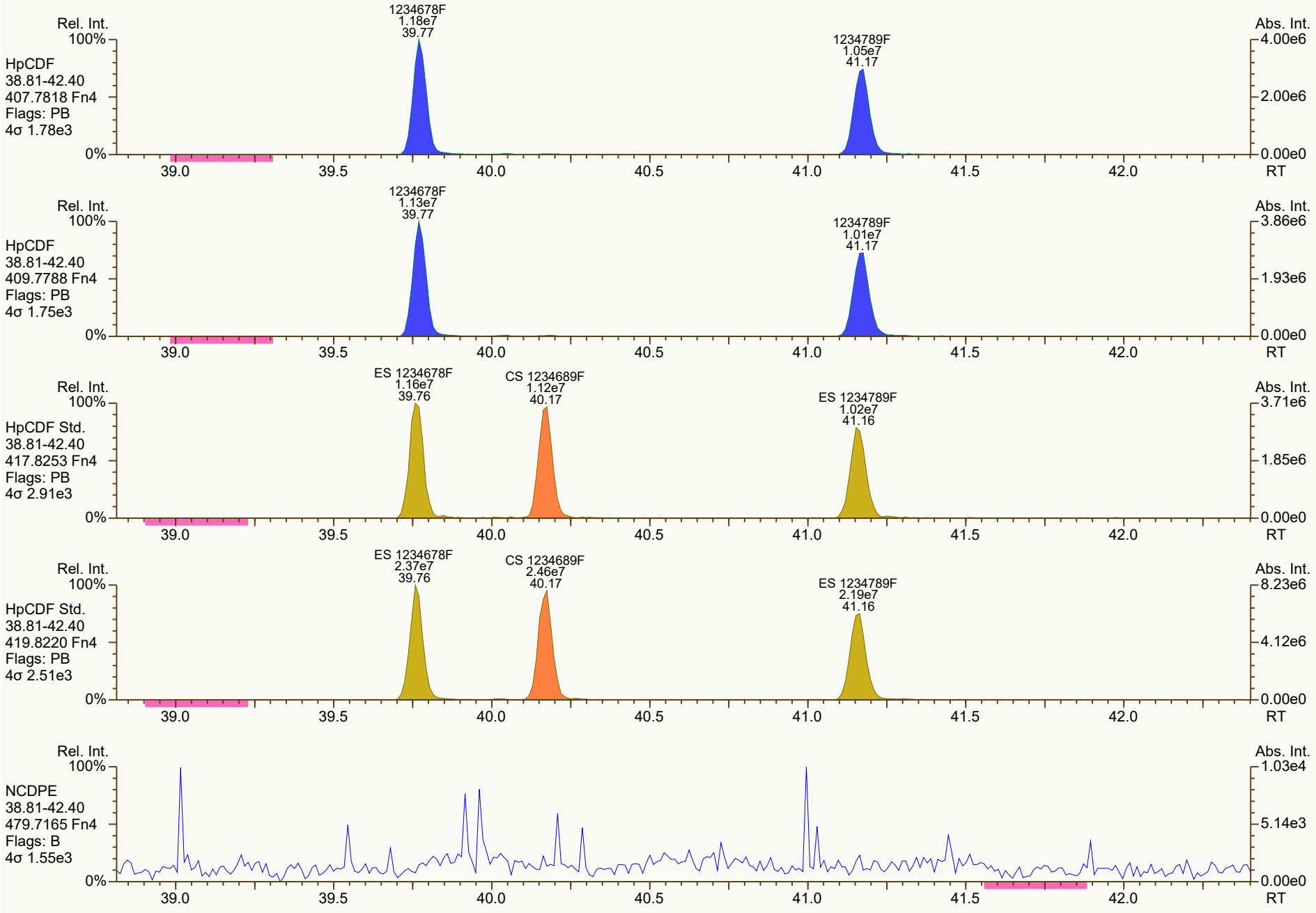

OCDD
1.33e7
43.40
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.48e3
OCDD
1.44e7
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.30e3
ES OCDD
2.31e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.67e3
ES OCDD
2.54e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.99e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
2.69e6
1.35e6
0.00e0
2.88e6
1.44e6
4.84e6
2.42e6
5.18e6
2.59e6
1.51e7
7.53e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.87e3
0%
2378F
3.01e6
27.38
Abs. Int.
7.31e5
3.65e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.37e3
0%
2378F
3.82e6
27.38
Abs. Int.
9.03e5
4.52e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.13e4
0%
AS 1368F
3.13e7
22.38
JS 1234F
2.74e7
25.98
ES 2378F
2.81e7
27.36
Abs. Int.
5.94e6
2.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.80e3
0%
AS 1368F
3.96e7
22.38
JS 1234F
3.44e7
25.98
ES 2378F
3.56e7
27.36
Abs. Int.
7.69e6
3.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
1.54e4
7.68e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

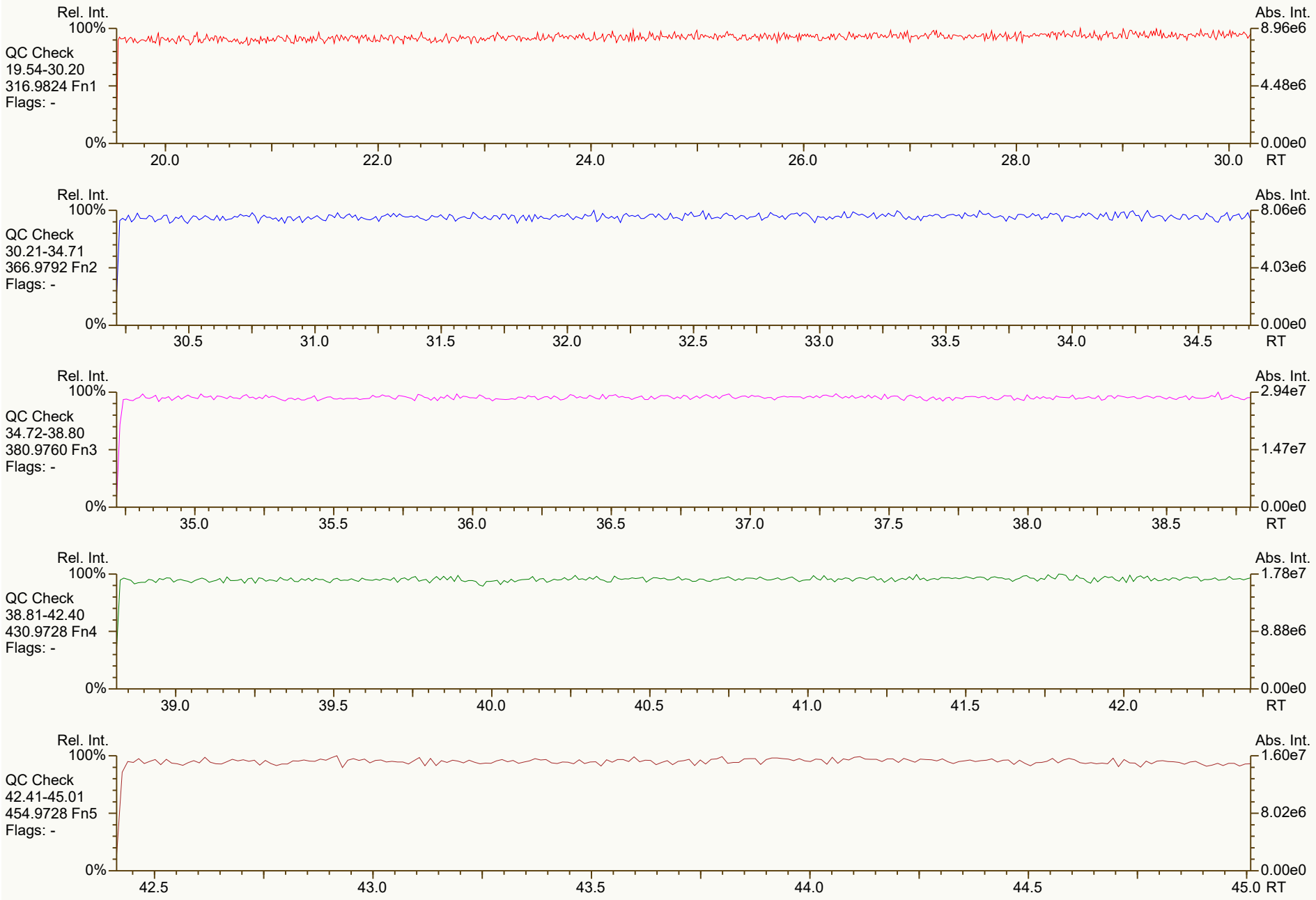

Rel. Int.
100%
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.09e3
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.85e3
1.76e4
8.80e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
8.32e6
4.16e6


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.94e3
0%
12378F
1.71e7
32.18
23478F
1.65e7
33.30
Abs. Int.
4.80e6
2.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.21e3
0%
12378F
1.10e7
32.18
23478F
1.08e7
33.30
Abs. Int.
3.11e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
0%
CS 12346F
3.22e7
31.63
ES 12378F
3.41e7
32.16
ES 23478F
3.30e7
33.28
Abs. Int.
9.61e6
4.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.50e3
0%
CS 12346F
2.06e7
31.63
ES 12378F
2.12e7
32.16
ES 23478F
2.07e7
33.28
Abs. Int.
6.21e6
3.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.37e3
0%
Abs. Int.
1.33e4
6.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

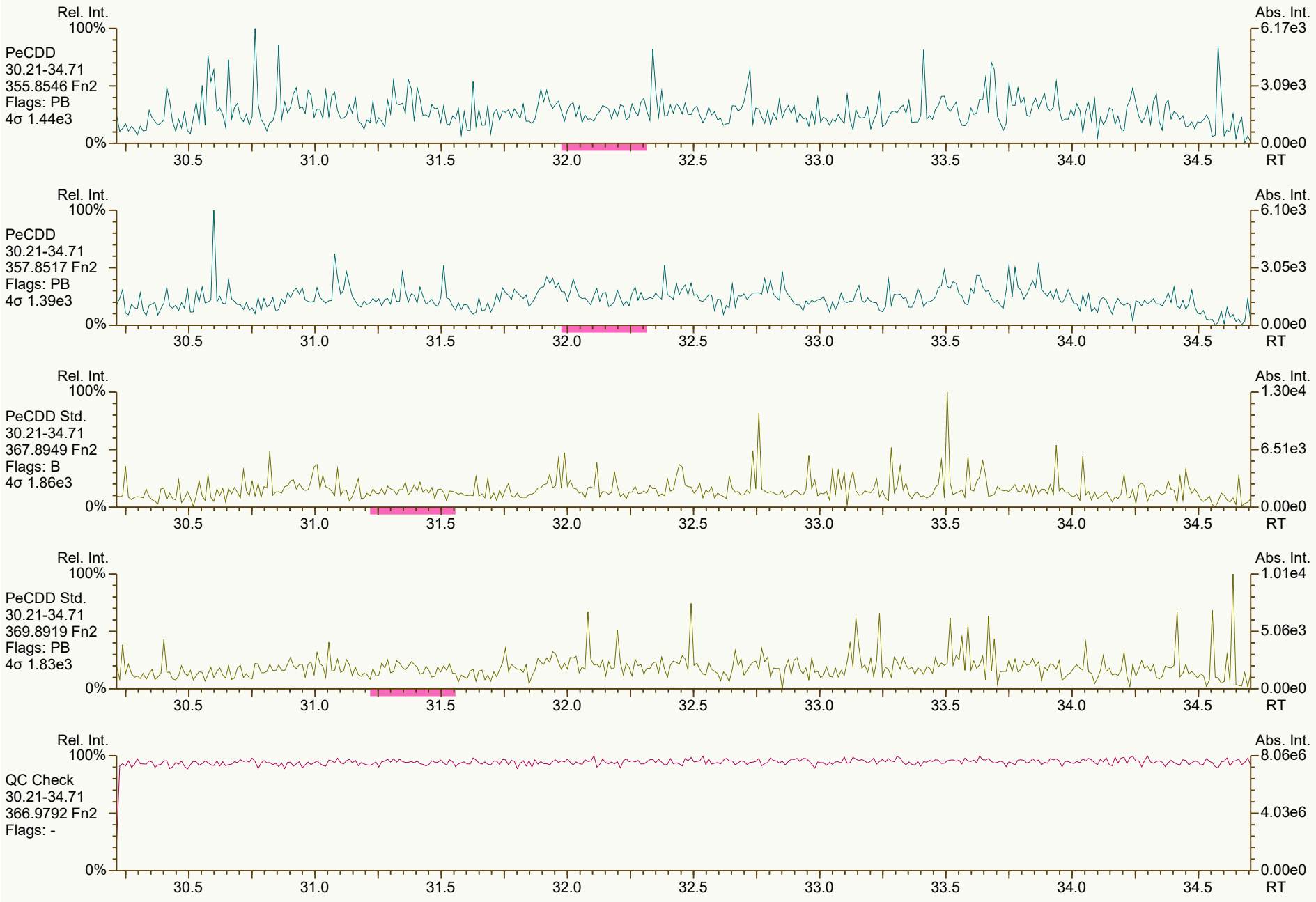

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 2.21e3
0%
123478F
1.40e7
36.56
123678F
1.45e7
36.71
234678F
1.40e7
37.38
123789F
1.26e7
38.36
Abs. Int.
4.26e6
2.13e6
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.50e3
123478F
1.15e7
36.56
123678F
1.19e7
36.70
234678F
1.10e7
37.38
123789F
1.01e7
38.36
3.48e6
1.74e6
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.97e3
ES 123478F
1.48e7
36.55
ES 123678F
1.62e7
36.69
CS 123469F
1.47e7
37.00
ES 234678F
1.51e7
37.36
ES 123789F
1.39e7
38.34
4.79e6
2.40e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.68e3
ES 123478F
2.73e7
36.55
ES 123678F
3.06e7
36.69
CS 123469F
2.72e7
37.00
ES 234678F
2.83e7
37.36
ES 123789F
2.57e7
38.34
8.87e6
4.43e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.31e3
3.92e3
1.96e3


Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.78e3
1234678F
1.18e7
39.77
1234789F
1.05e7
41.17
4.00e6
2.00e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.75e3
1234678F
1.13e7
39.77
1234789F
1.01e7
41.17
3.86e6
1.93e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.91e3
ES 1234678F
1.16e7
39.76
CS 1234689F
1.12e7
40.17
ES 1234789F
1.02e7
41.16
3.71e6
1.85e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.51e3
ES 1234678F
2.37e7
39.76
CS 1234689F
2.46e7
40.17
ES 1234789F
2.19e7
41.16
8.23e6
4.12e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.55e3
1.03e4
5.14e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.69e7*
43.58
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.33e3
OCDF
1.82e7*
43.58
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.30e3
ES OCDF
3.14e7
43.57
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.35e3
ES OCDF
3.49e7
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.39e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.36e3
RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.96e6
4.48e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
8.06e6
4.03e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.94e7
1.47e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.78e7
8.88e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.60e7
8.02e6
0.00e0

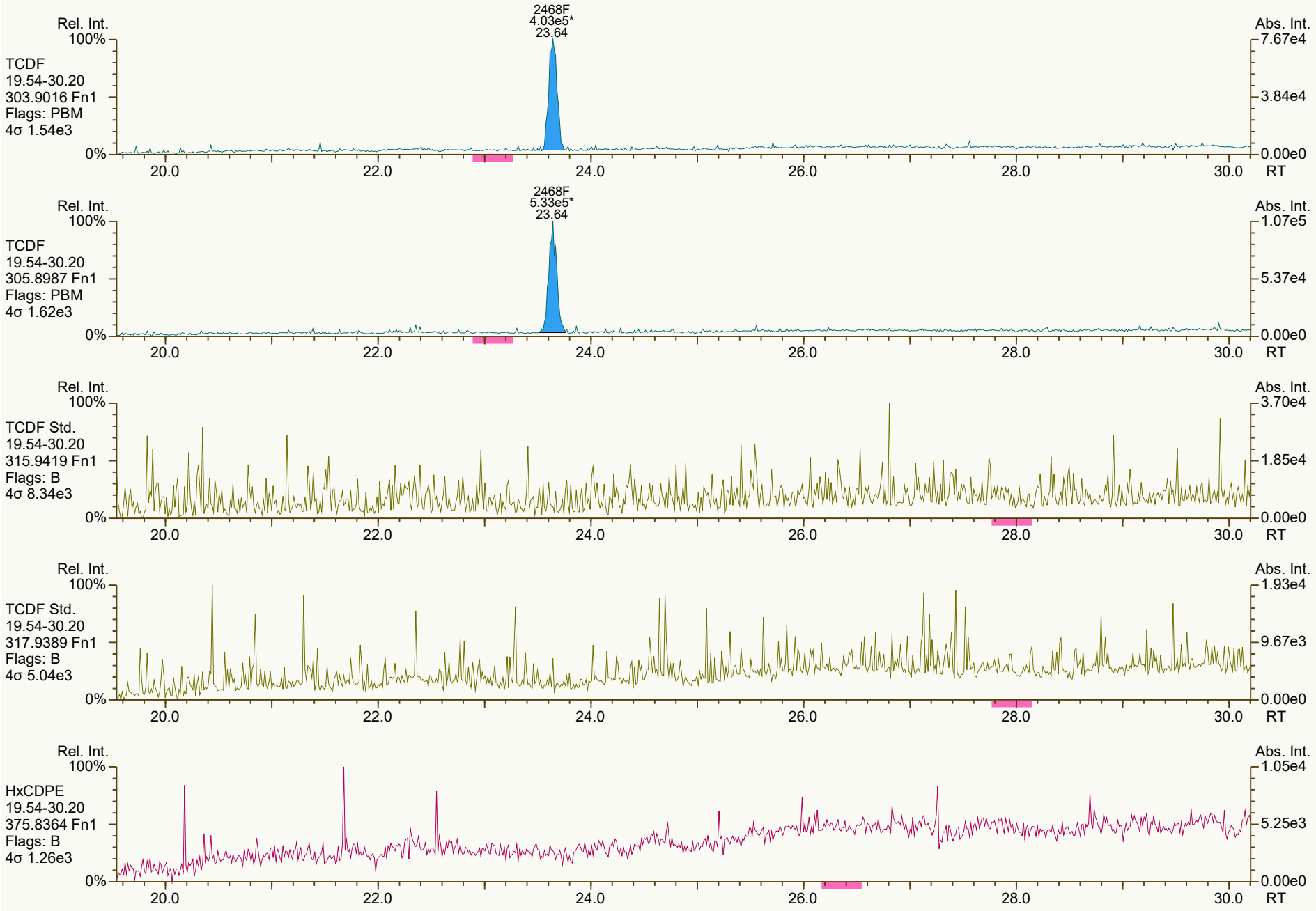

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.21e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.39e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 9.01e3
0%
Abs. Int.
3.19e4
1.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.90e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.44e3
0%
Abs. Int.
6.17e3
3.09e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.83e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.33e4
6.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.57e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.82e3
0%
Abs. Int.
3.19e4
1.60e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 2.05e3
0%
Abs. Int.
8.35e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.42e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 2.23e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.88e3
0%
Abs. Int.
9.38e3
4.69e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.78e7
8.88e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.84e3
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.60e7
8.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
4.03e5*
23.64
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
7.67e4
3.84e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.33e5*
23.64
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.62e3
1.07e5
5.37e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 8.34e3
3.70e4
1.85e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 5.04e3
1.93e4
9.67e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
1.05e4
5.25e3


Rel. Int.
100%
0%
Abs. Int.
9.51e3
4.75e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e4
7.22e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.63e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.96e6
4.48e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.96e3
0%
Abs. Int.
8.41e3
4.21e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.54e3
0%
Abs. Int.
7.96e3
3.98e3
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33.0
33.5
34.0
34.5
RT

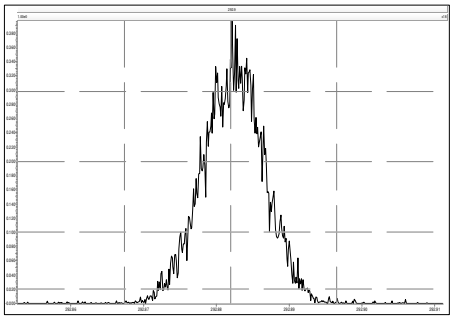

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.74e3
0%
Abs. Int.
6.81e3
3.41e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.11e3
0%
Abs. Int.
8.37e3
4.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.37e4
6.84e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.35e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
0%
Abs. Int.
7.08e3
3.54e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.96e3
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.37e3
0%
Abs. Int.
4.45e3
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0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

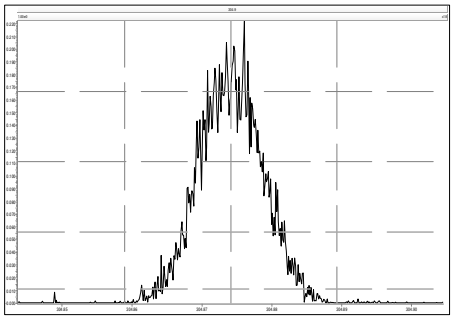

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.72e3
4.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.29e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 2.55e3
0%
Abs. Int.
4.05e4
2.02e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.46e3
3.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Saturday, February 19, 2022 17:17:54 Eastern Standard Time

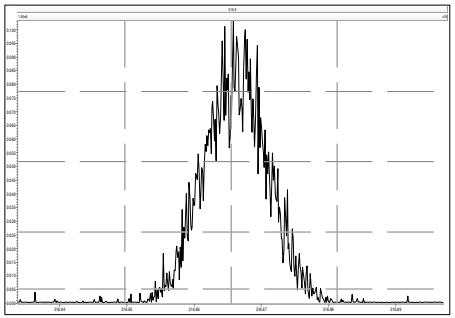
M 292.9824 R 14749



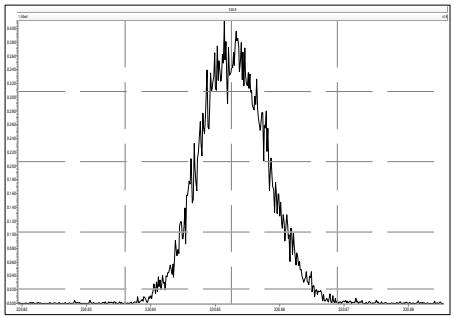
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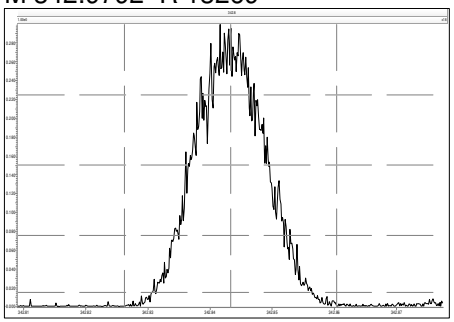
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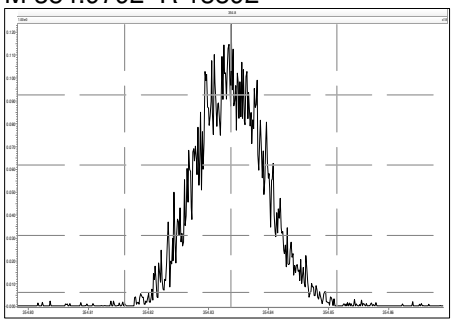
M 330.9792 R 14014



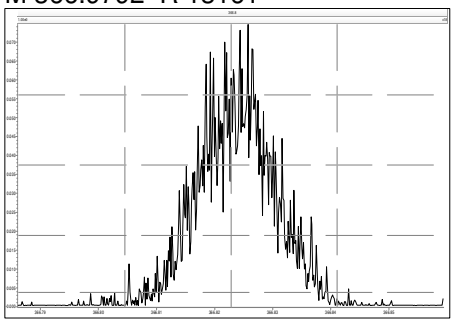
M 342.9792 R 13269



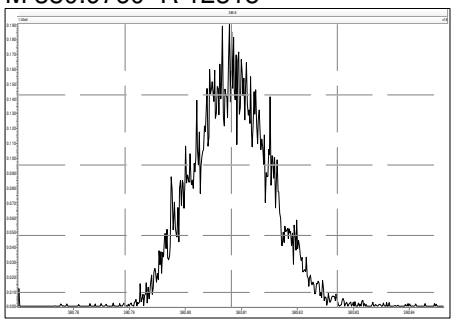
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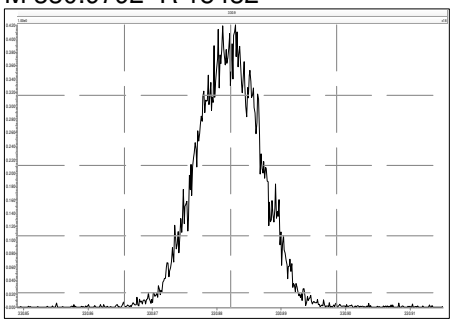
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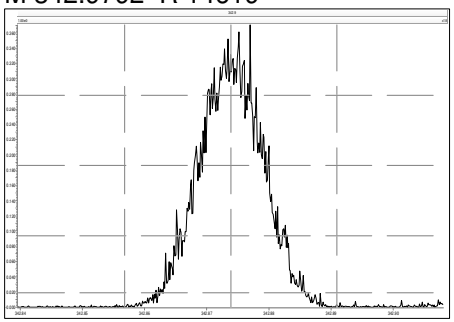
M 380.9760 R 12315



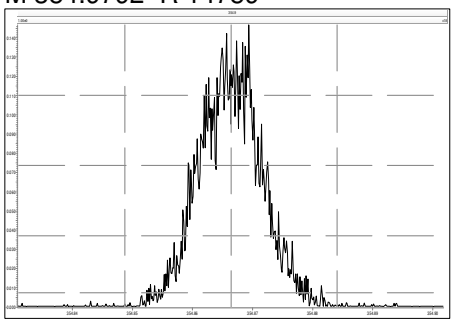
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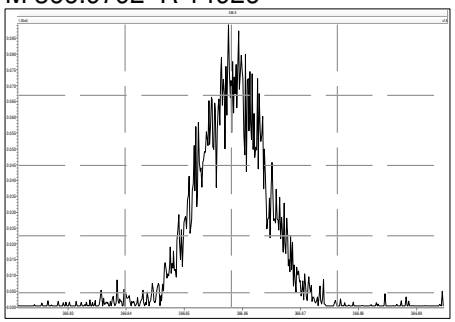
M 342.9792 R 14619



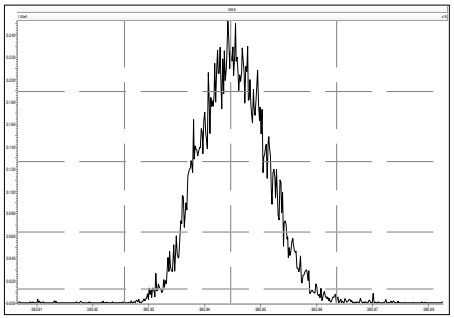
M 354.9792 R 14759



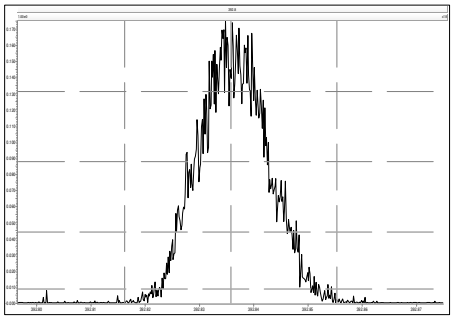
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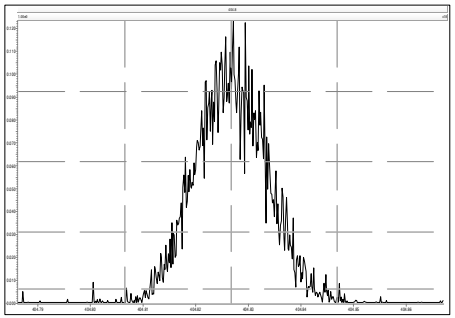
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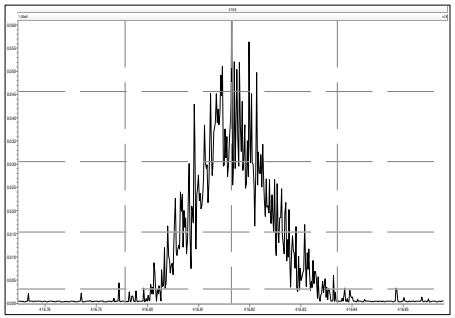
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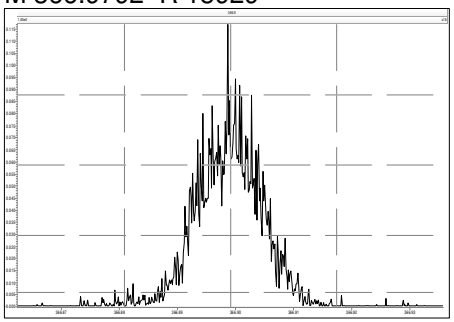
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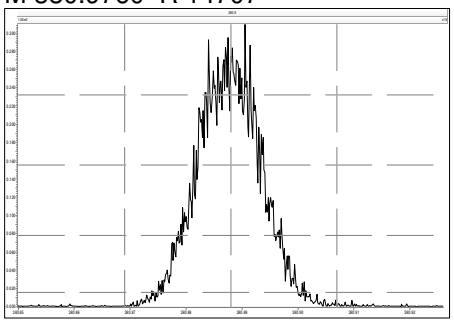
M 416.9760 R 15156



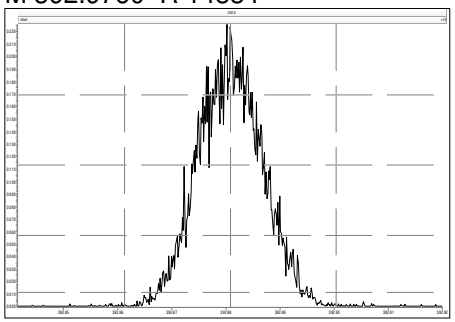
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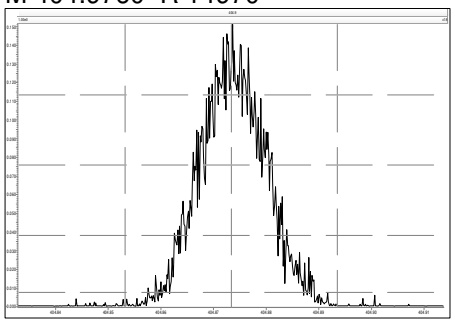
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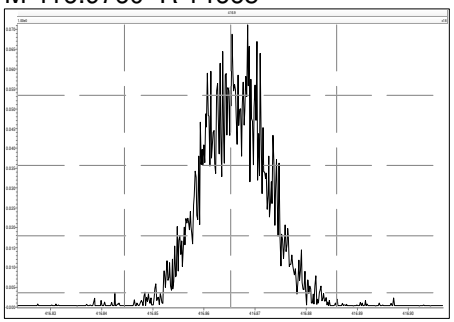
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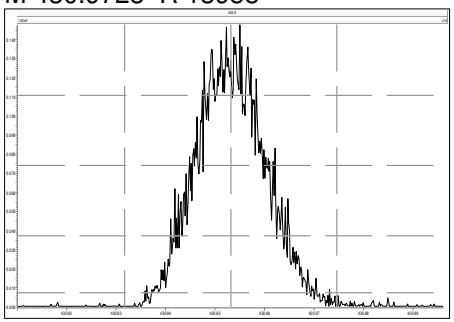
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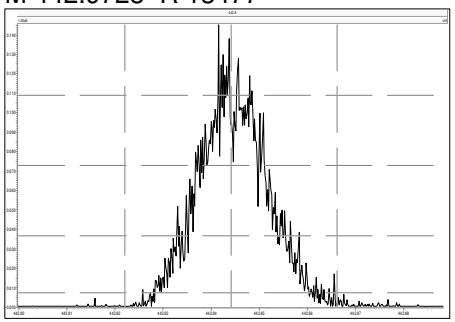
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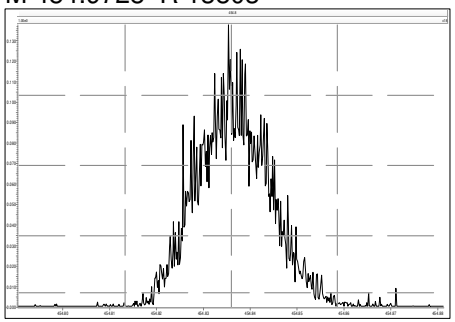
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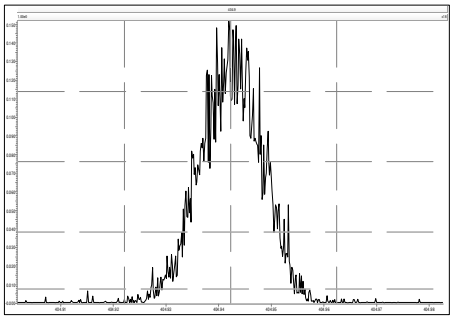
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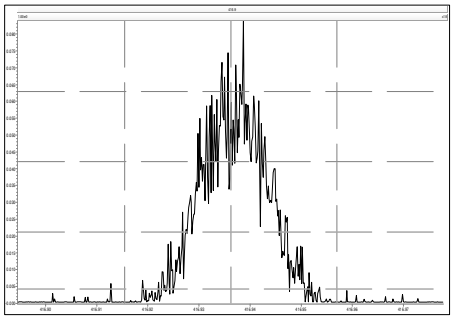
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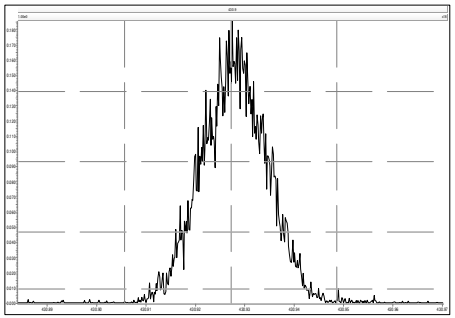
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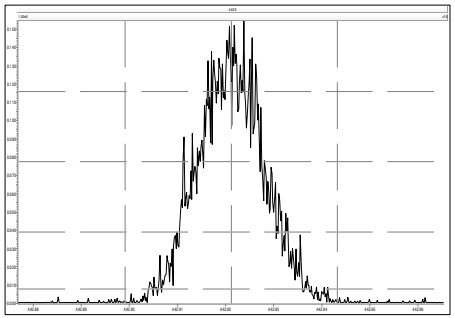
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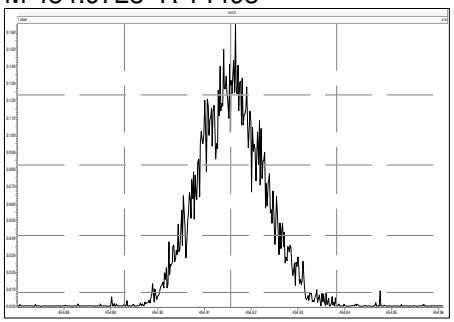
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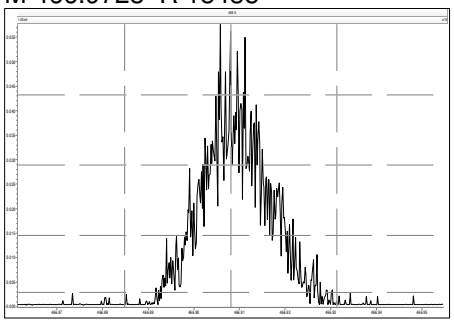
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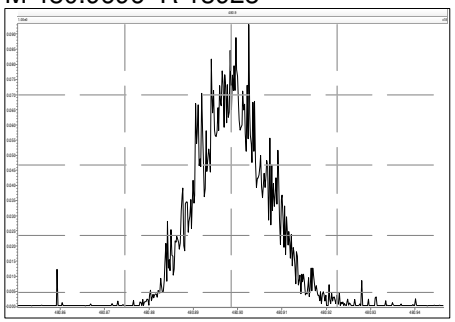
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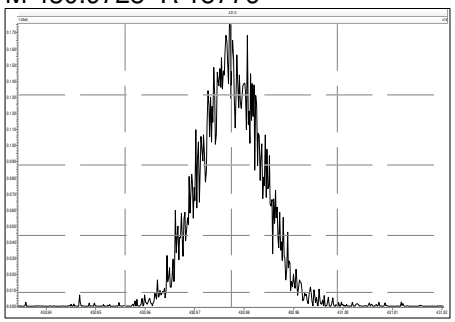
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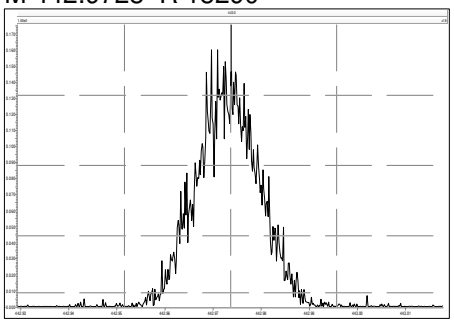
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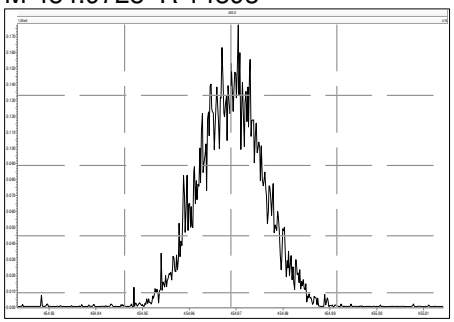
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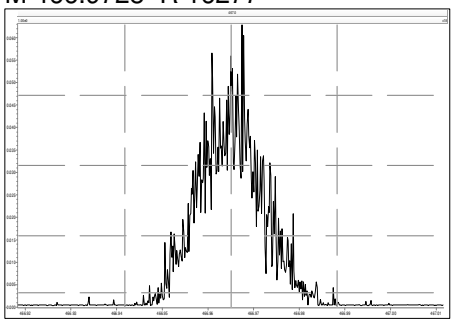
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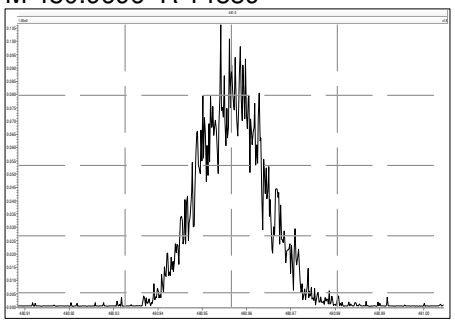
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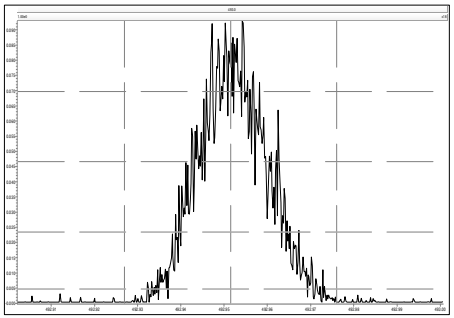
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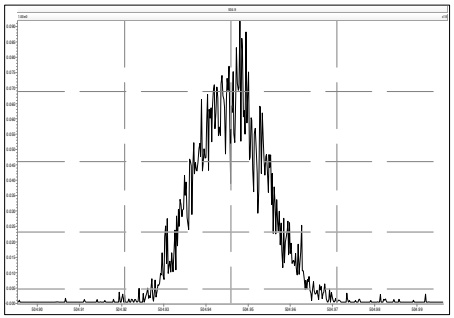
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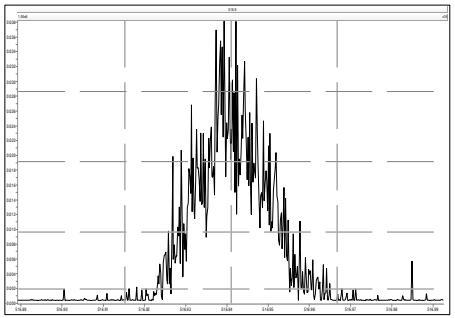
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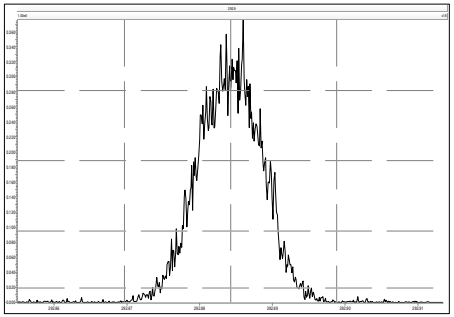


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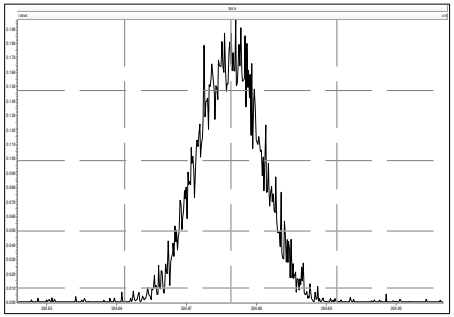


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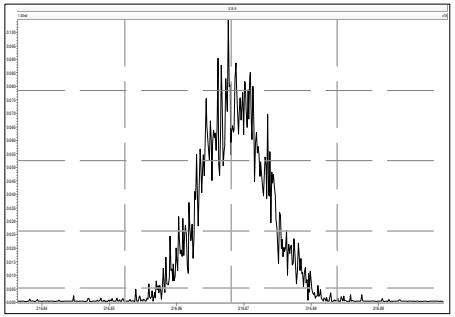
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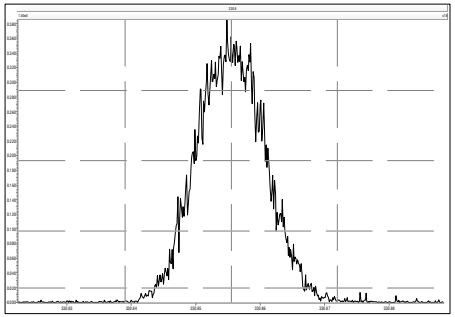
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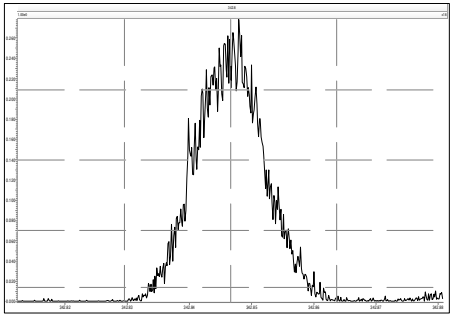
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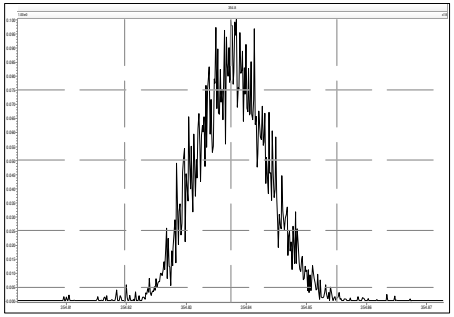
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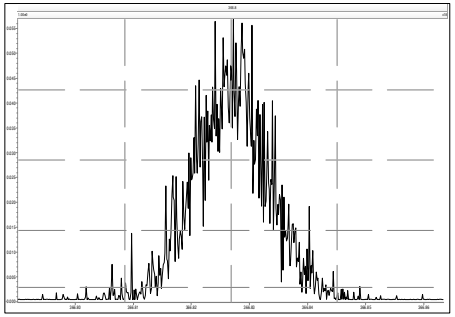
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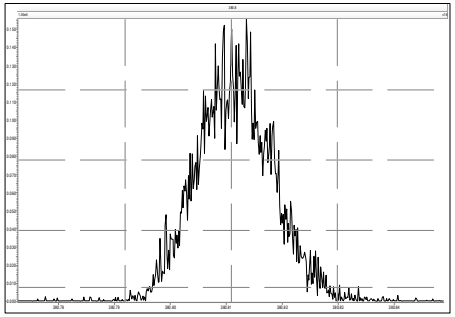
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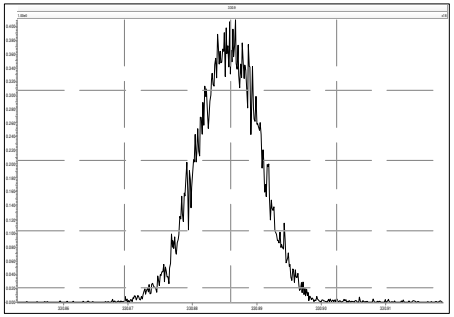
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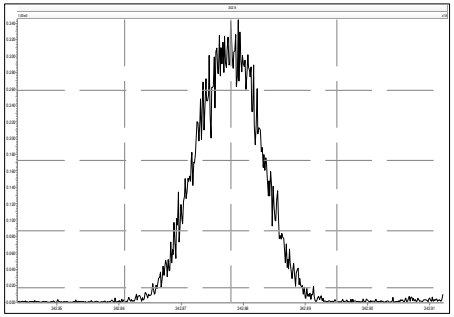
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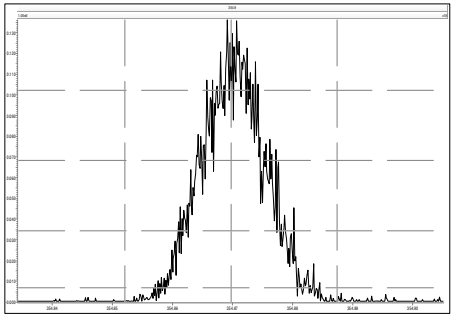
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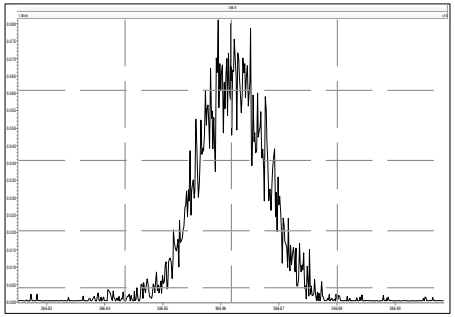
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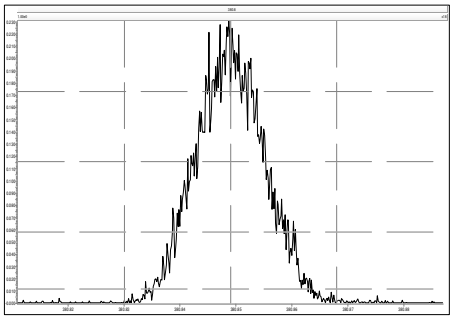
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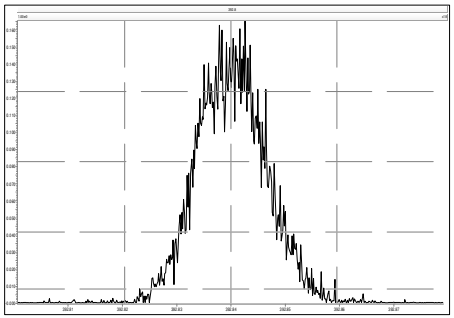
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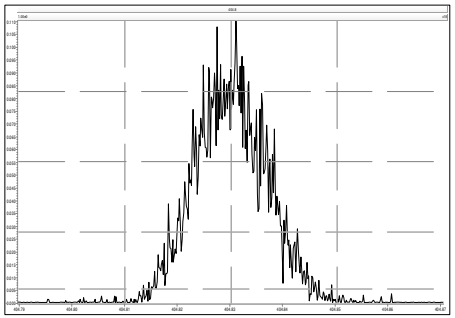
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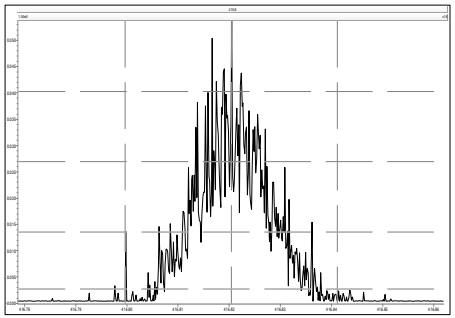
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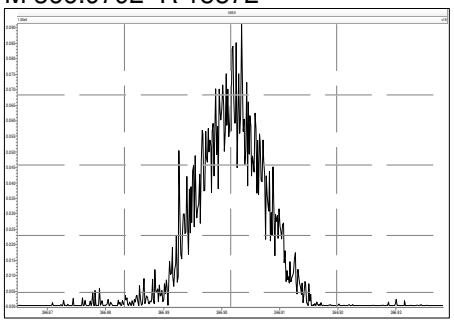
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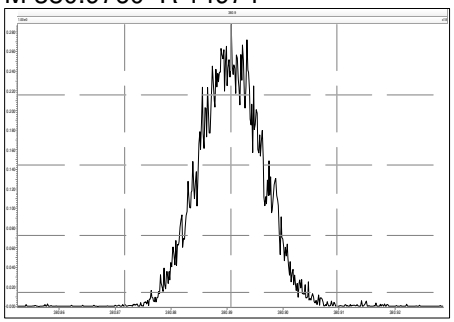
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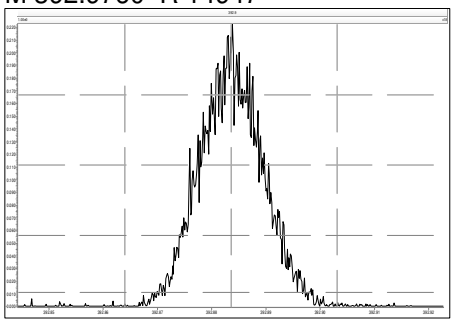
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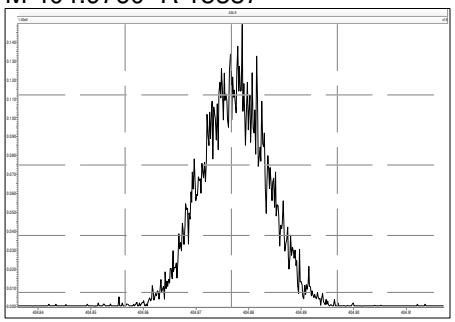
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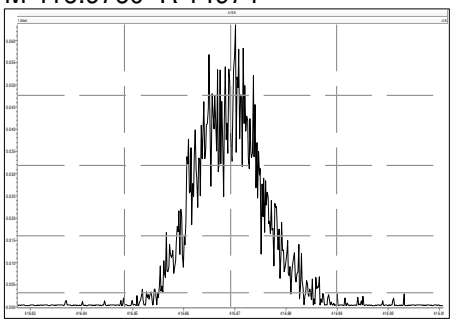
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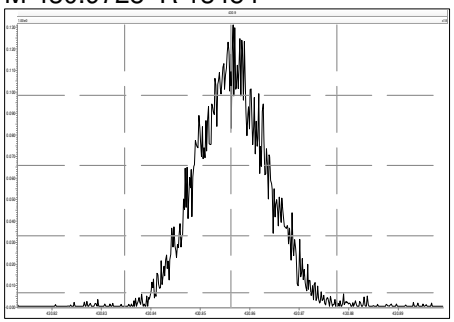
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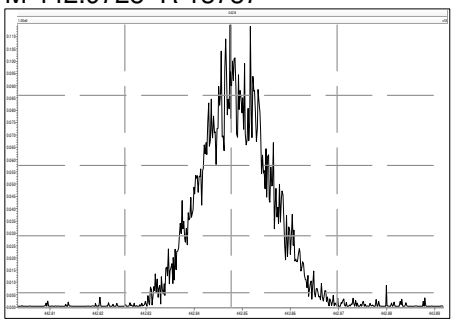
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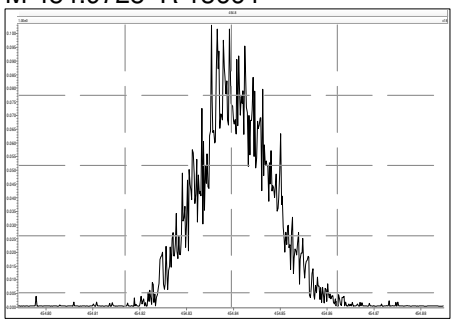
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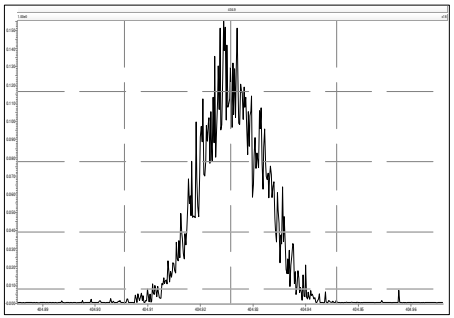
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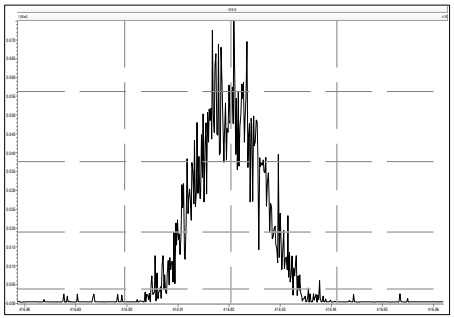
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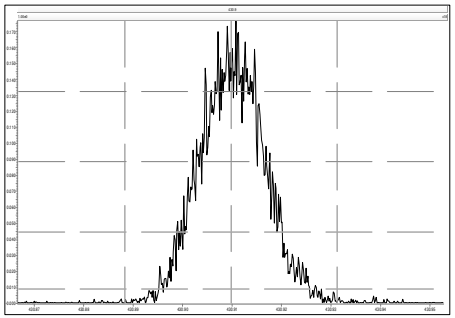
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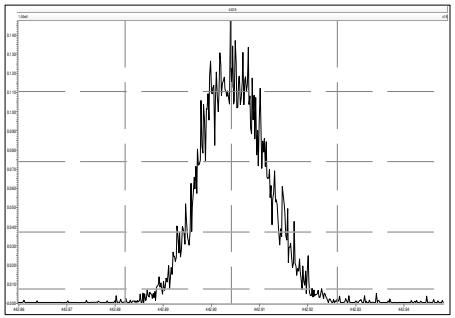
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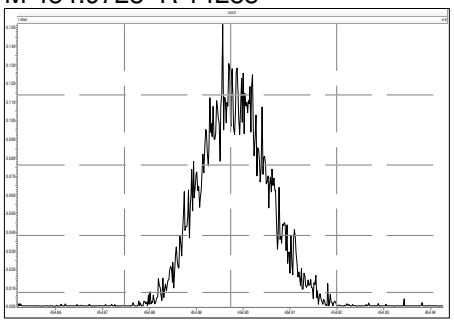
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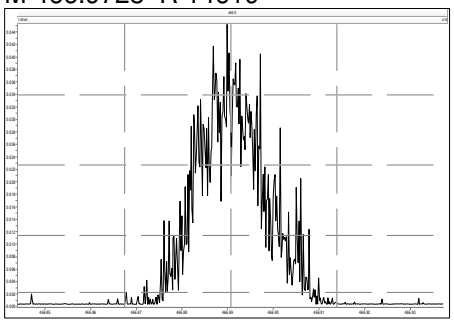
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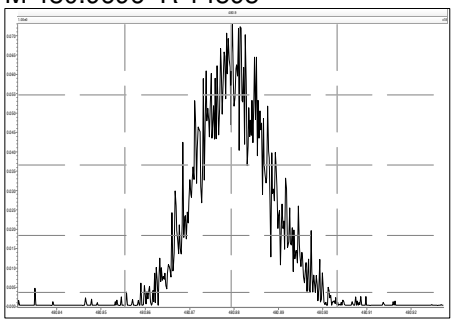
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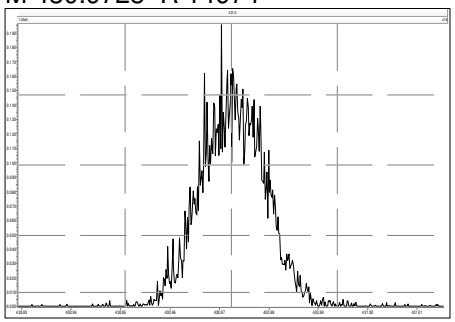
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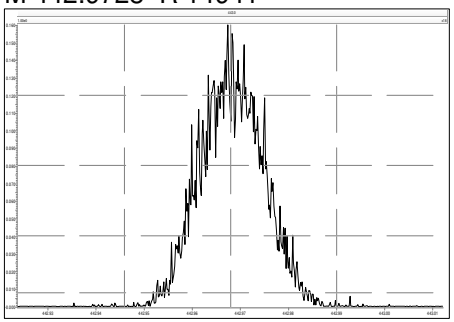
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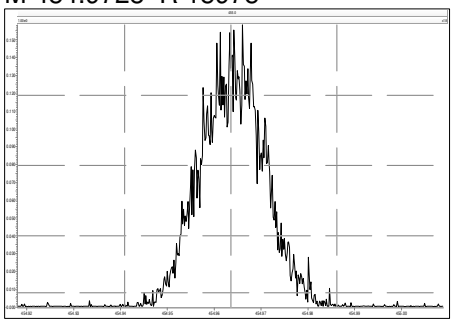
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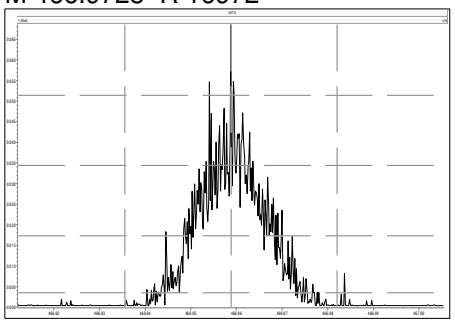
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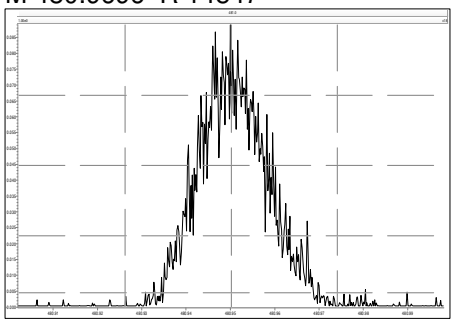
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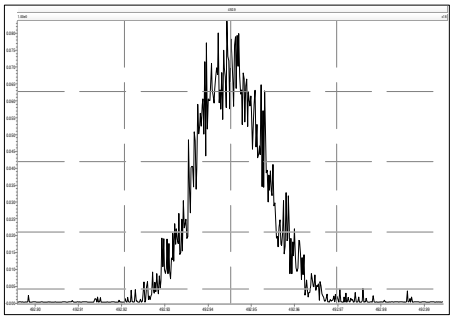
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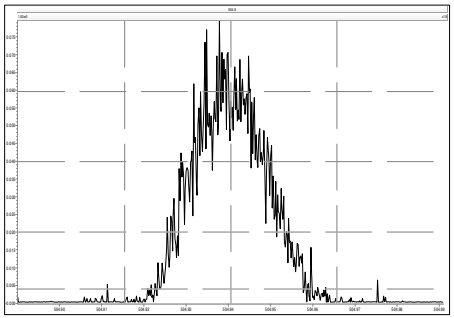
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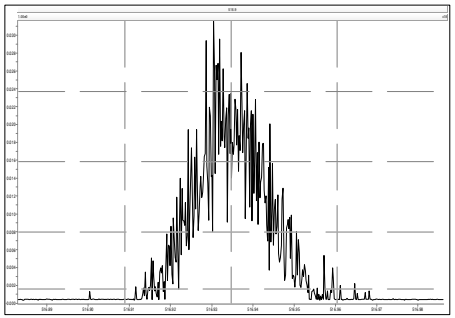
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M 504.9696 R 14794

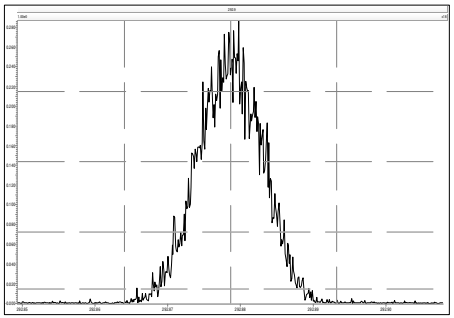


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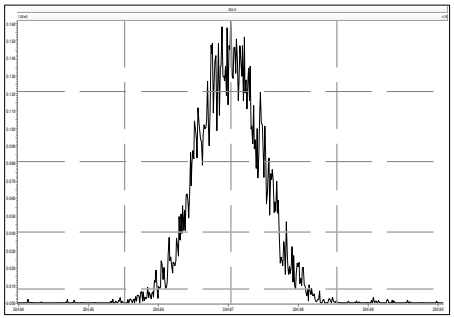


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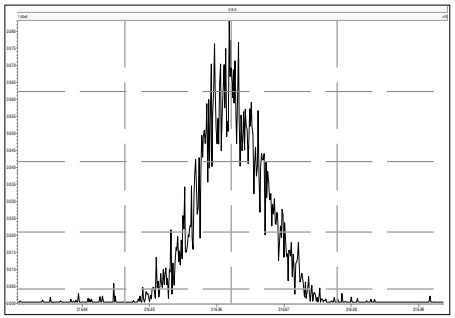
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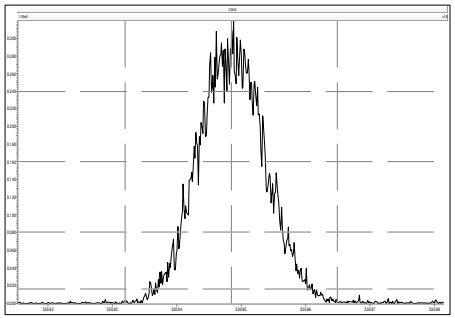
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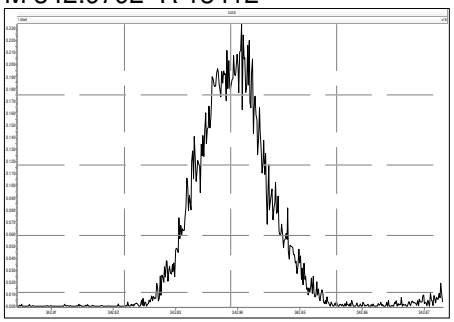
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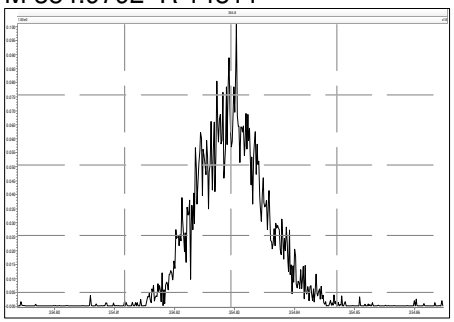
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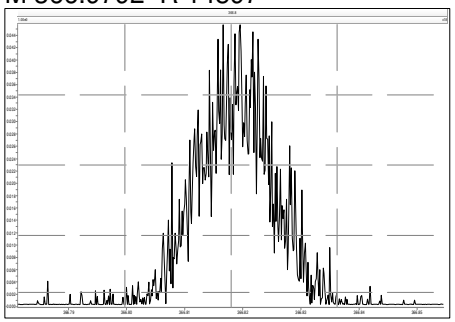
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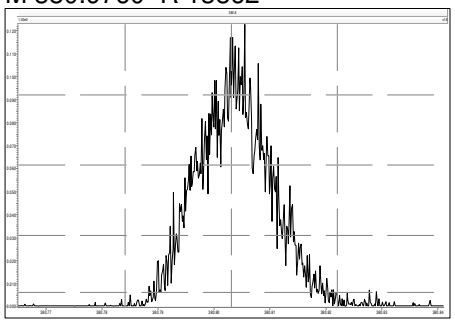
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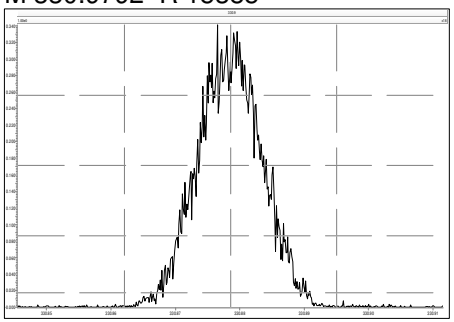
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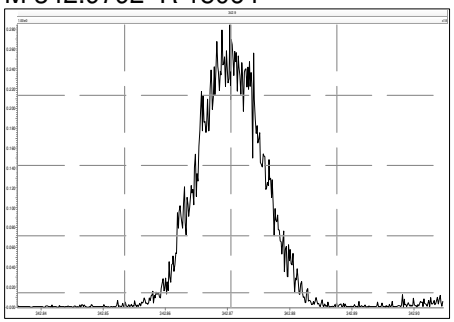
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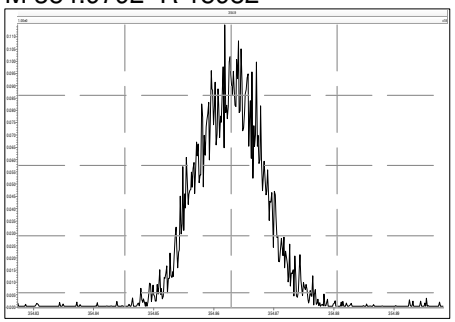
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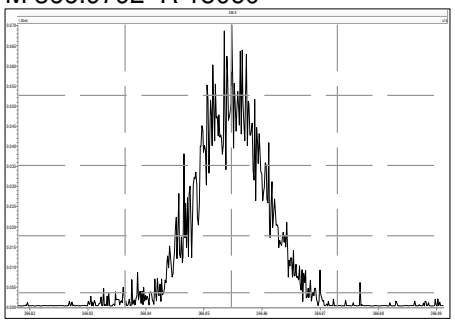
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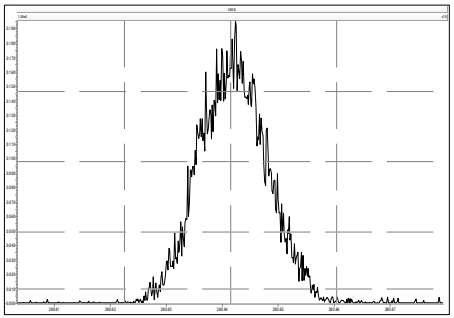
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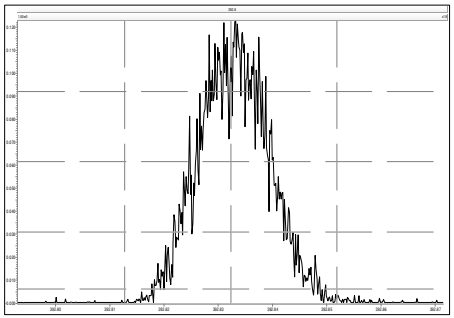
M 366.9792 R 15060



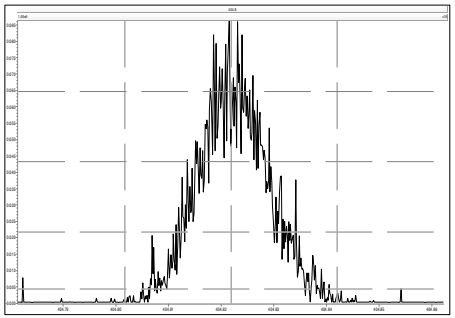
M 380.9760 R 14244



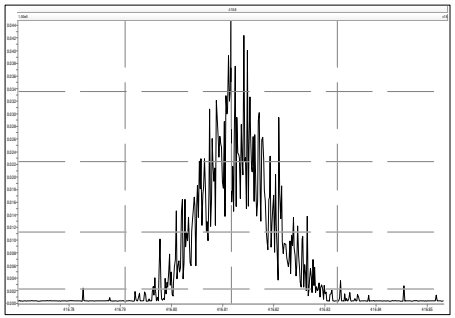
M 392.9760 R 13867



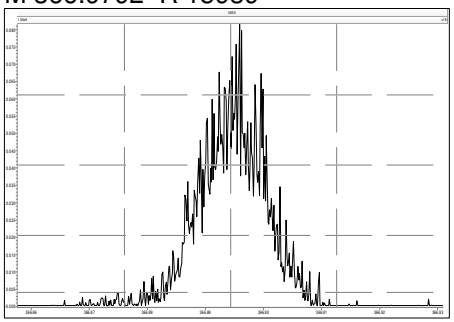
M 404.9760 R 14779



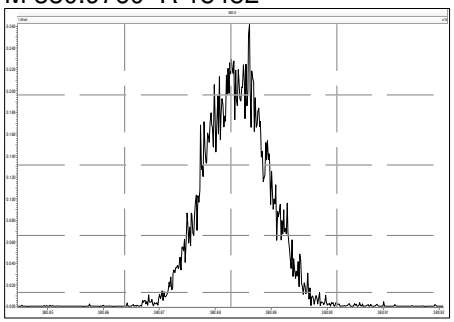
M 416.9760 R 16472



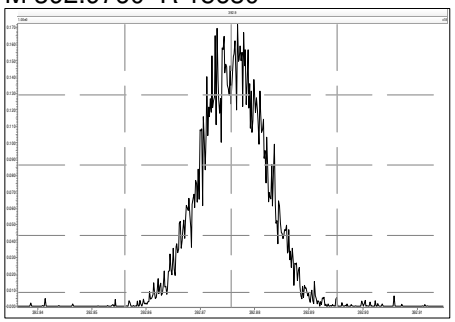
M 366.9792 R 15939



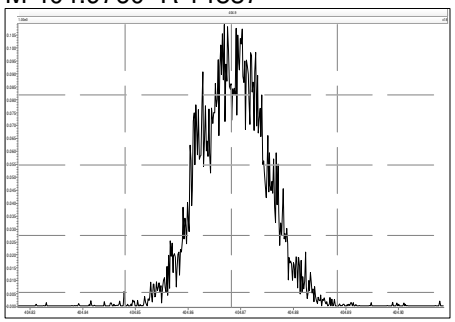
M 380.9760 R 15452



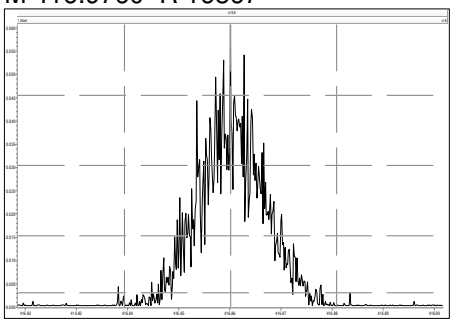
M 392.9760 R 15630



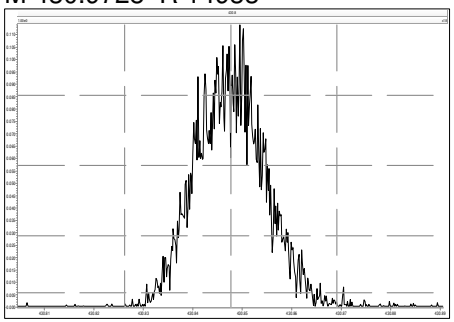
M 404.9760 R 14837



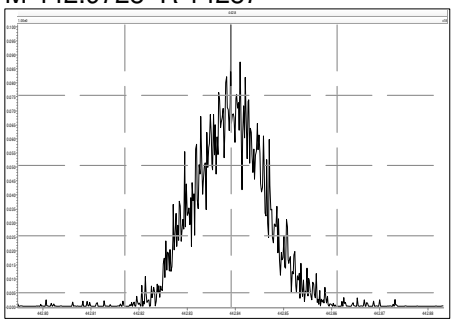
M 416.9760 R 16867



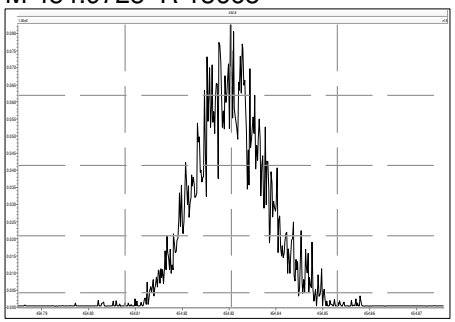
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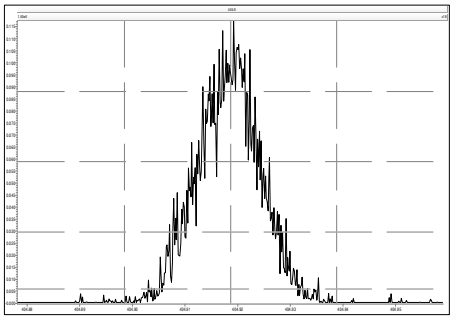
M 442.9728 R 14287



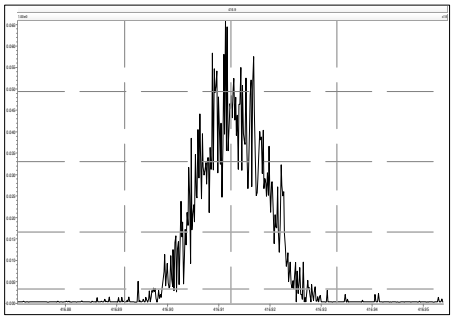
M 454.9728 R 13668



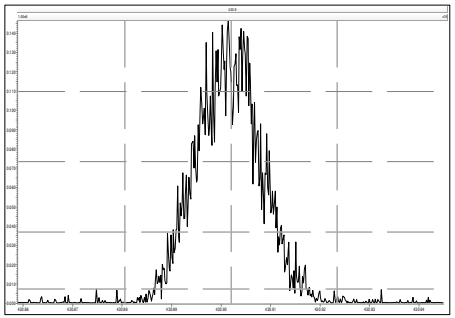
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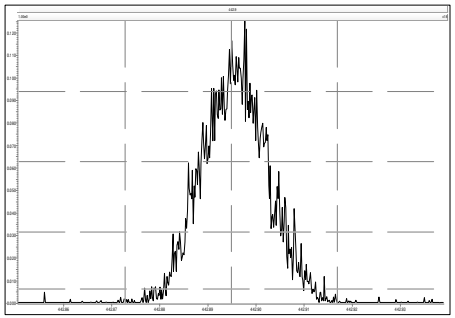
M 416.9760 R 17035



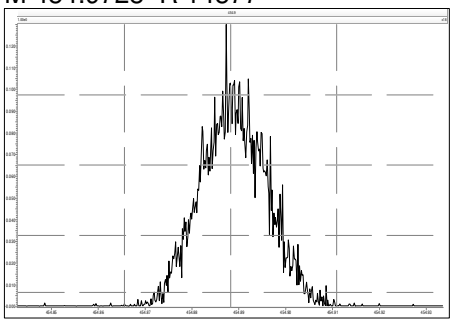
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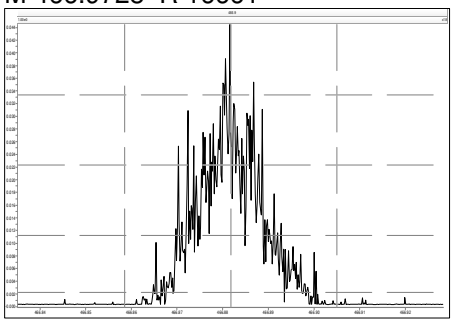
M 442.9728 R 14619



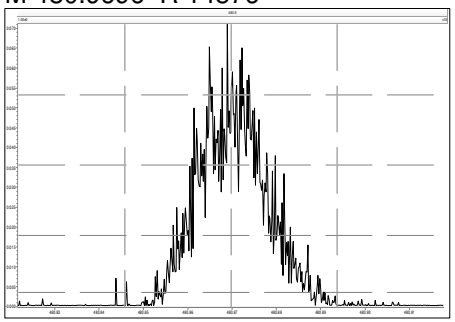
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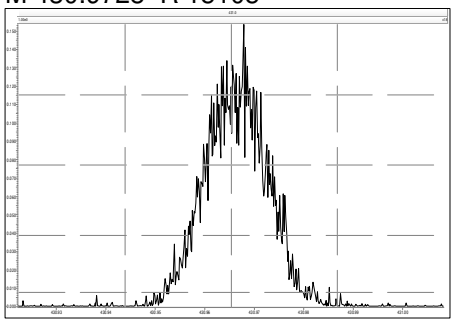
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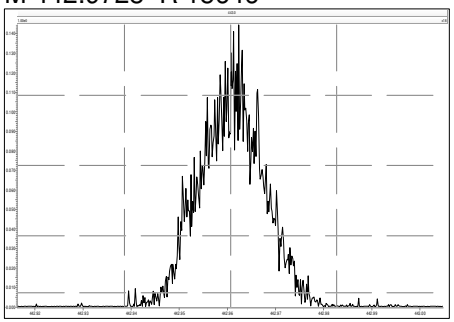
M 480.9696 R 14576



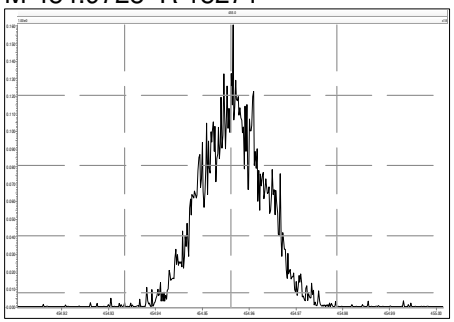
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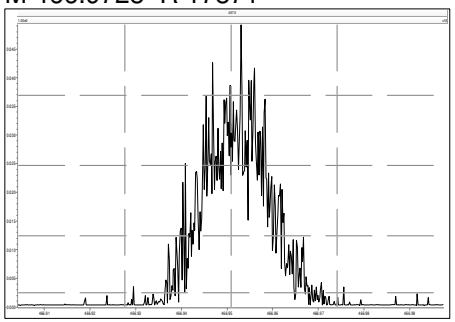
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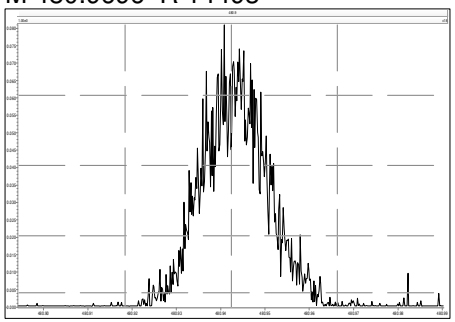
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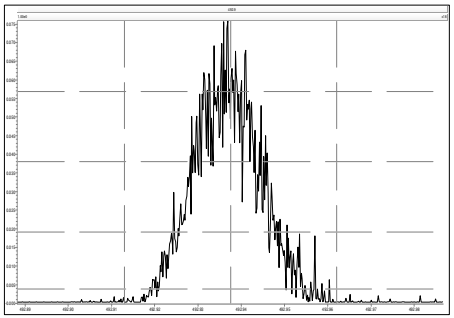
M 466.9728 R 17871



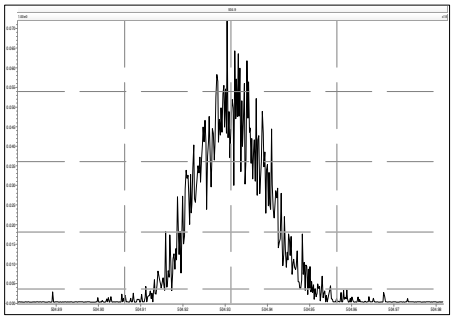
M 480.9696 R 14493



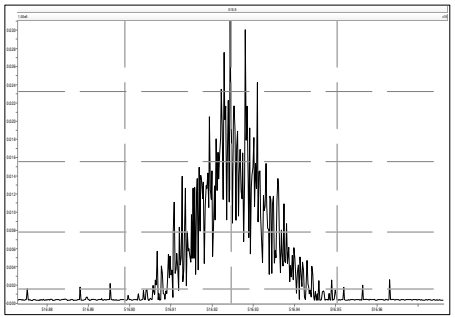
M 492.9696 R 15013



M 504.9696 R 14189



M 516.9697 R 15975



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
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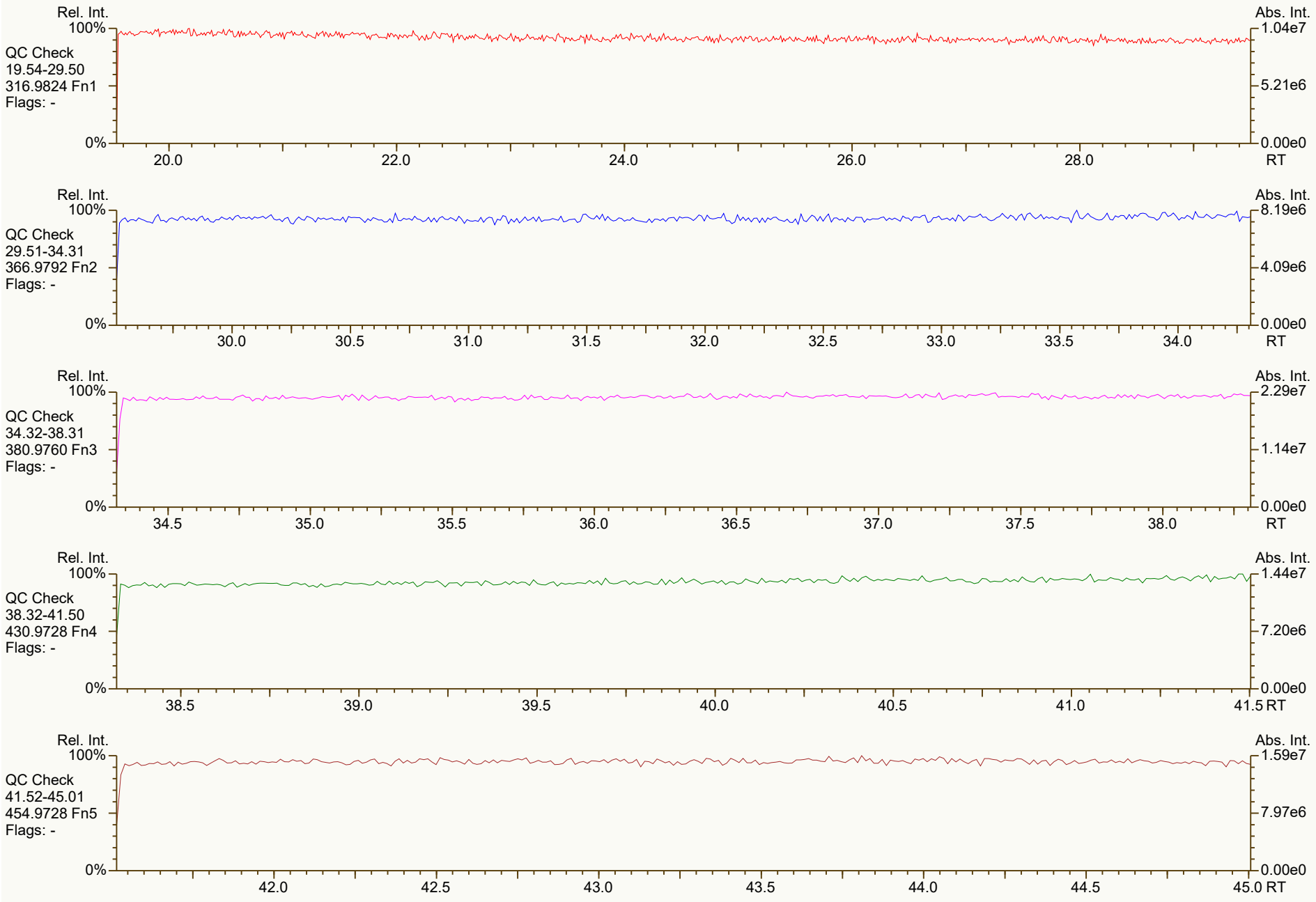
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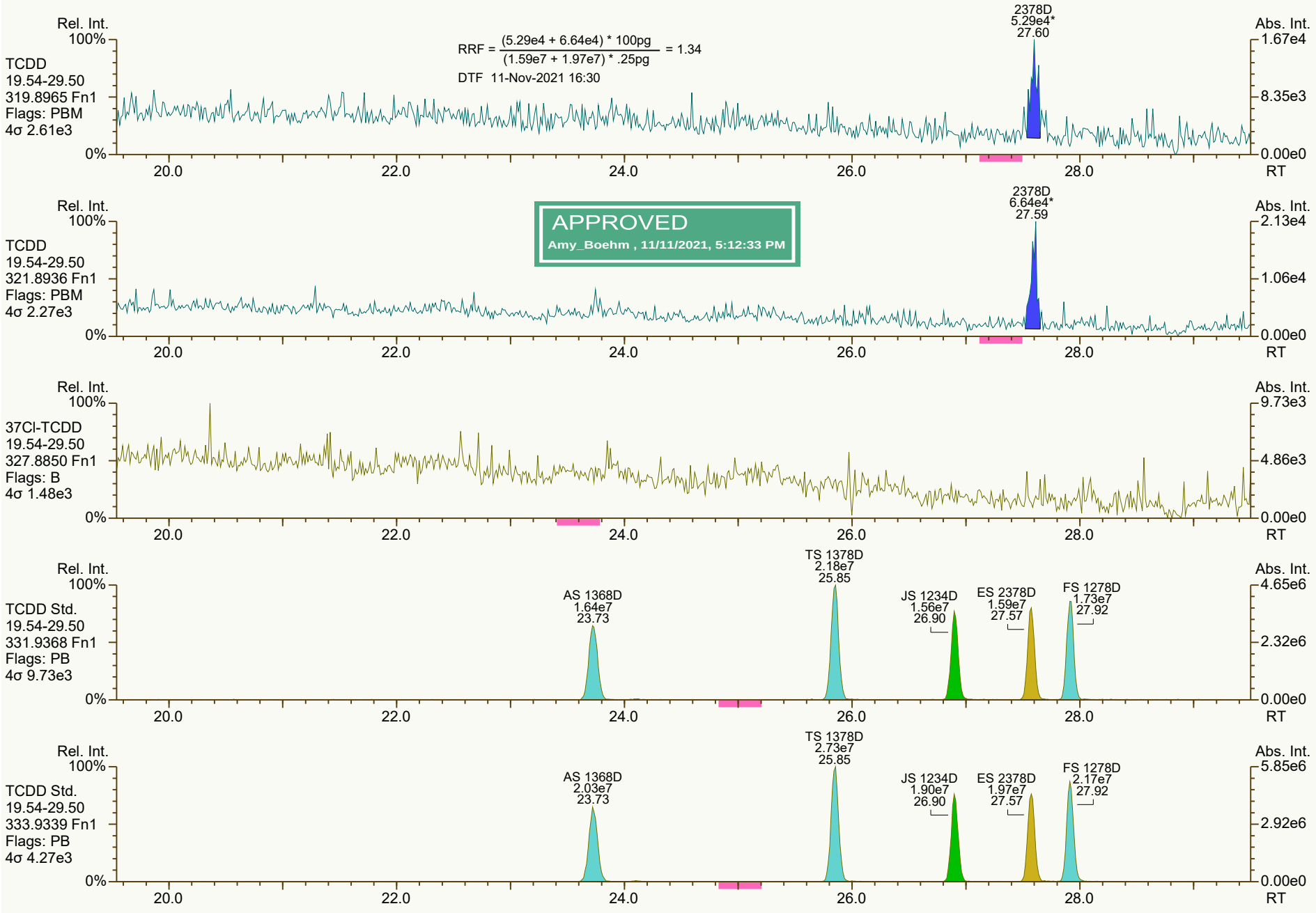
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

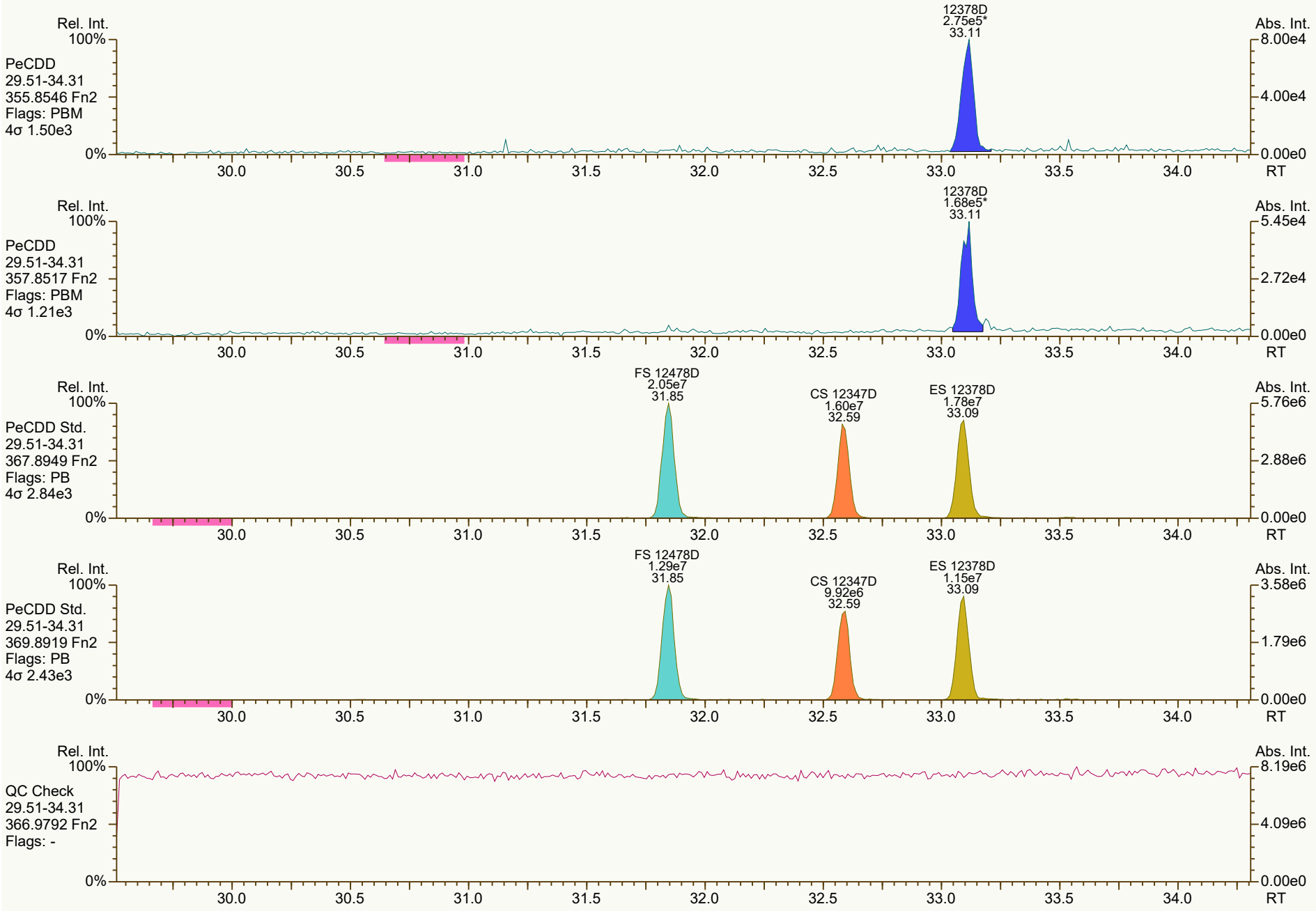
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

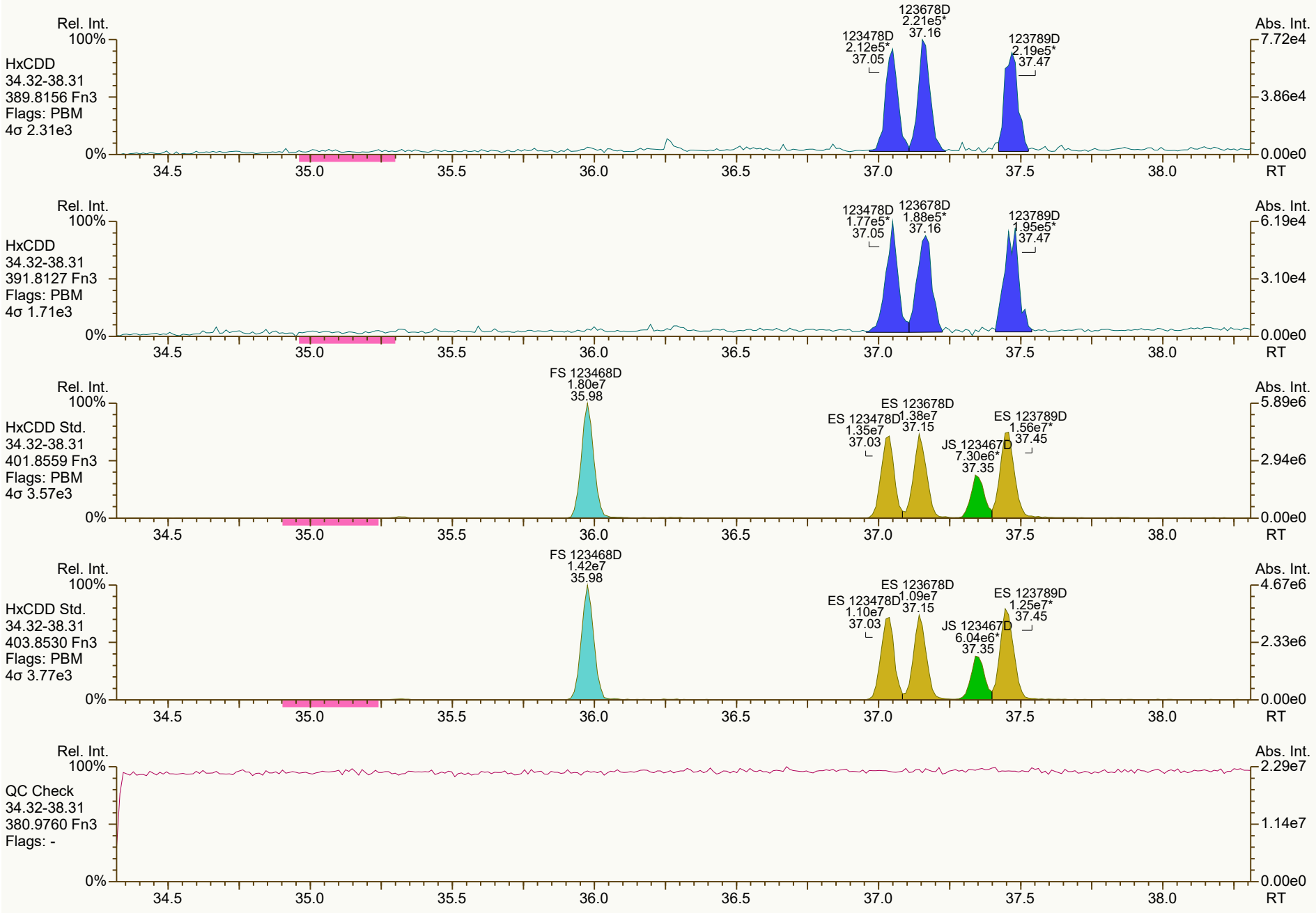
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

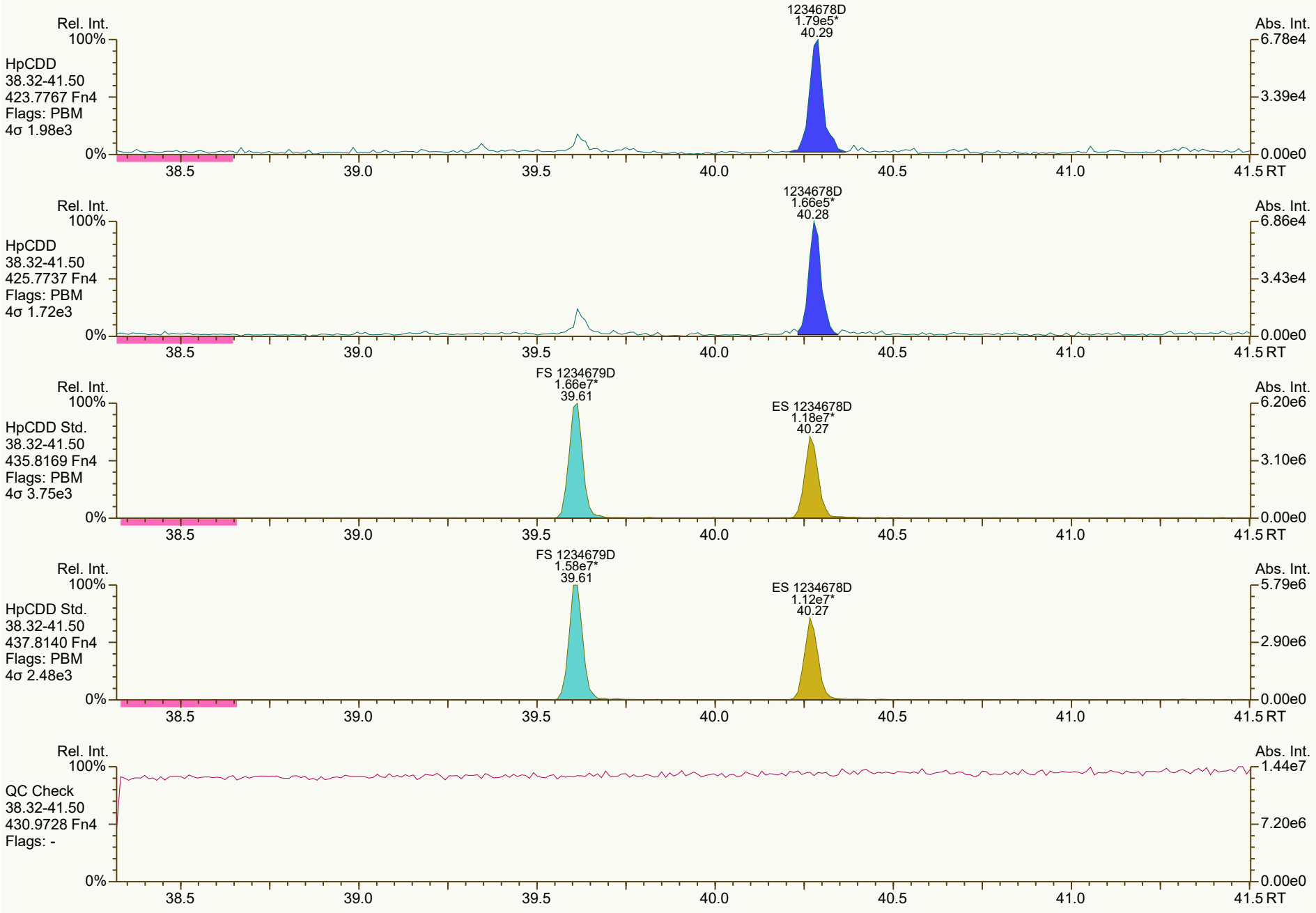
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

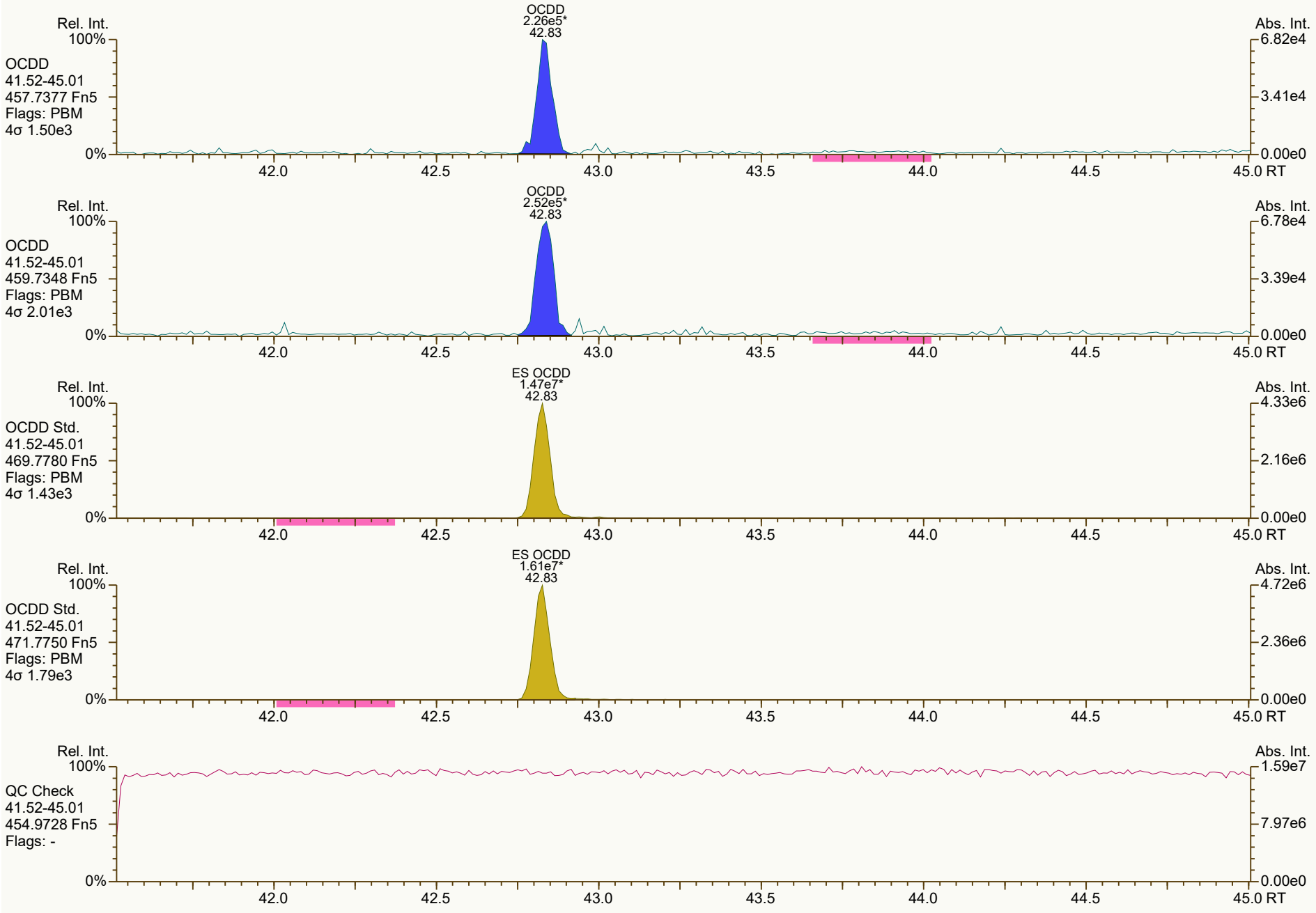

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

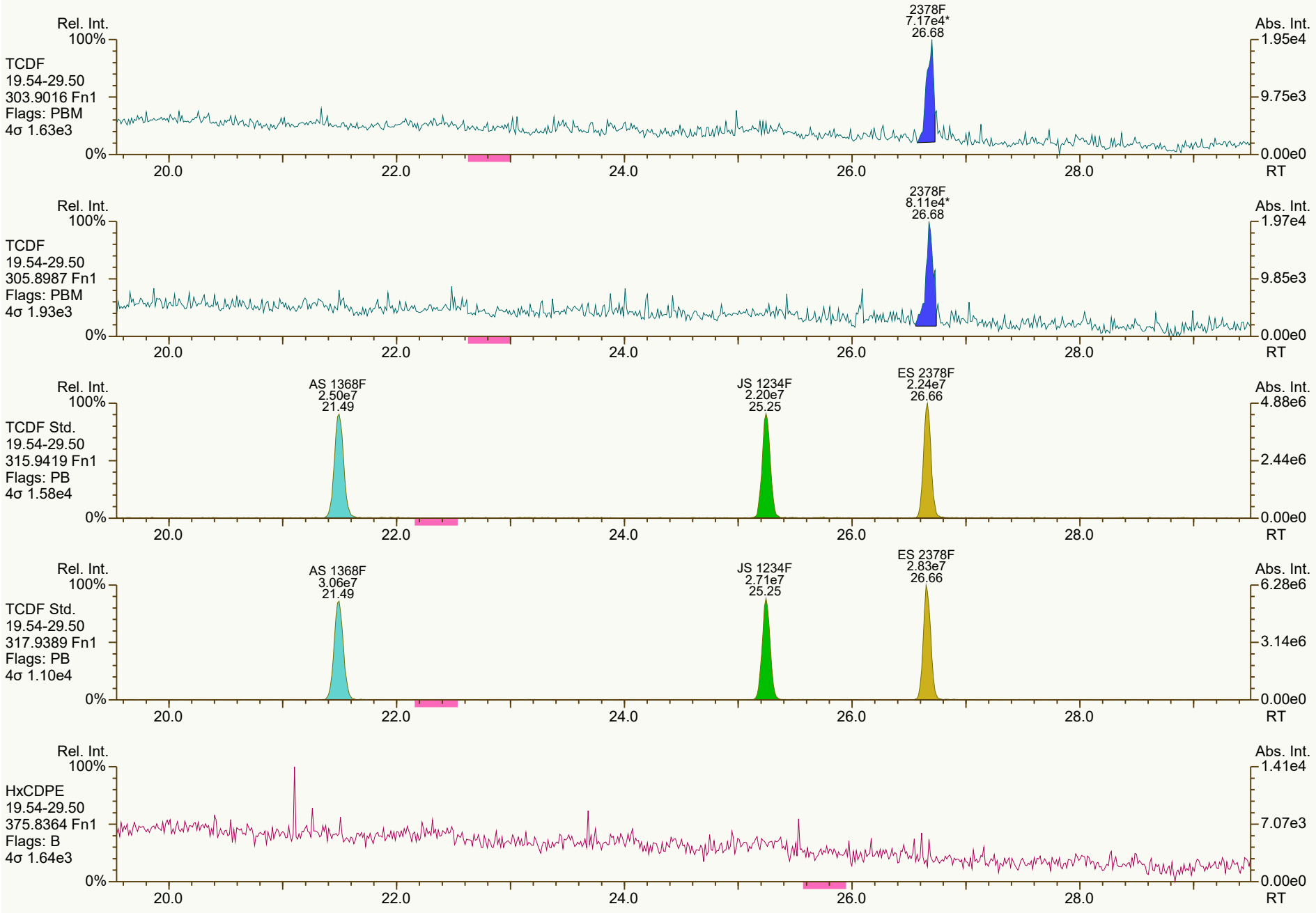

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

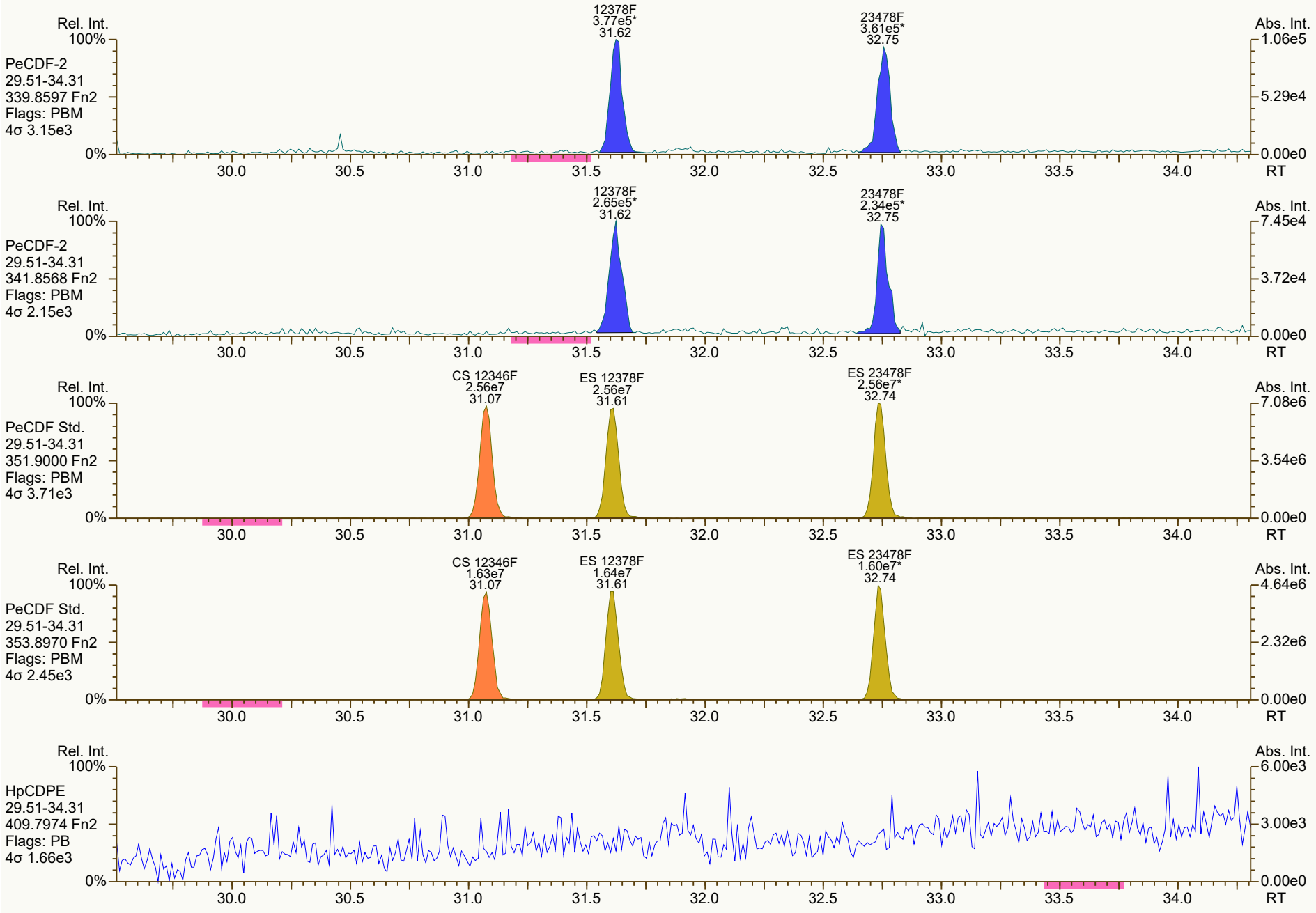

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

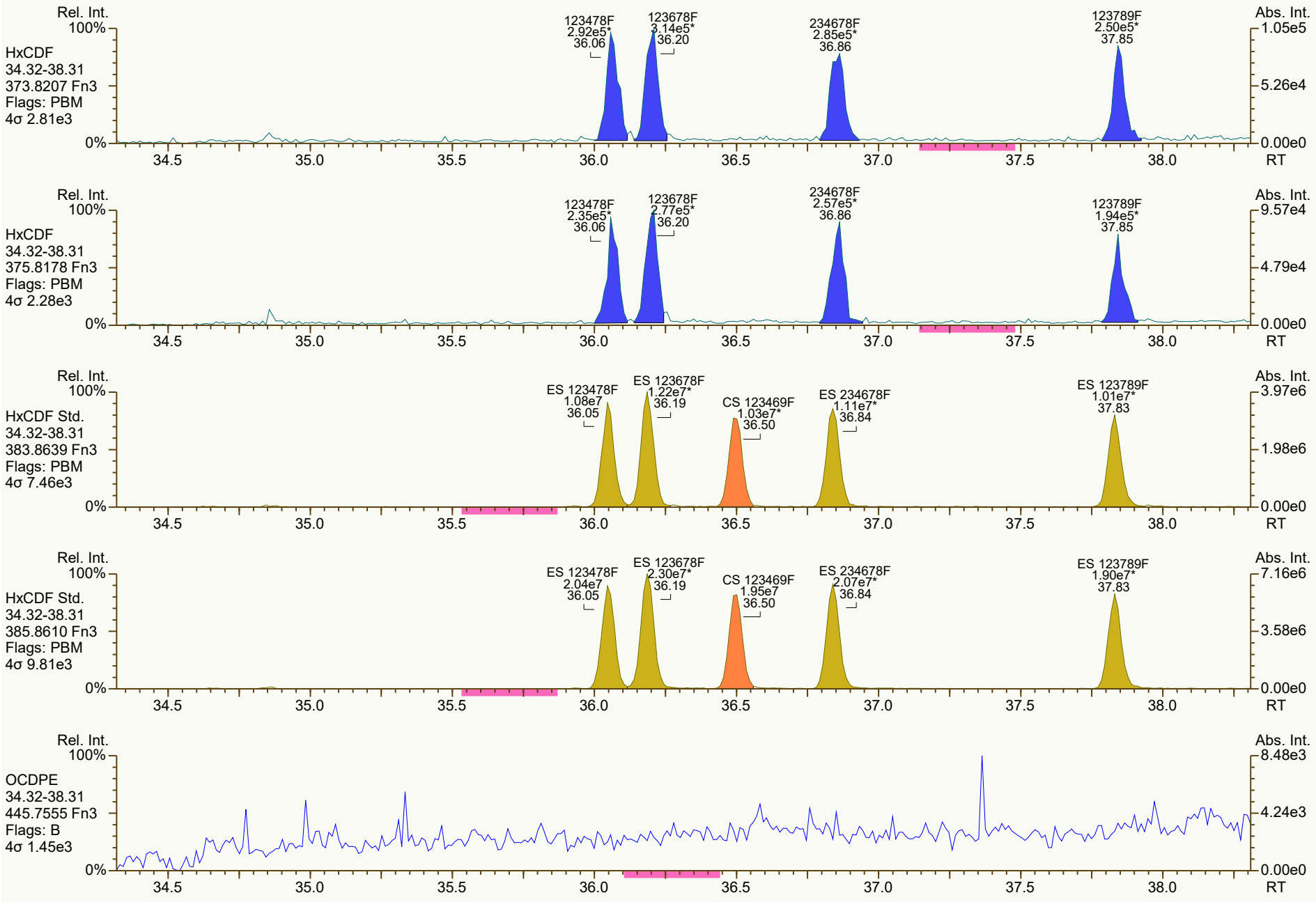

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

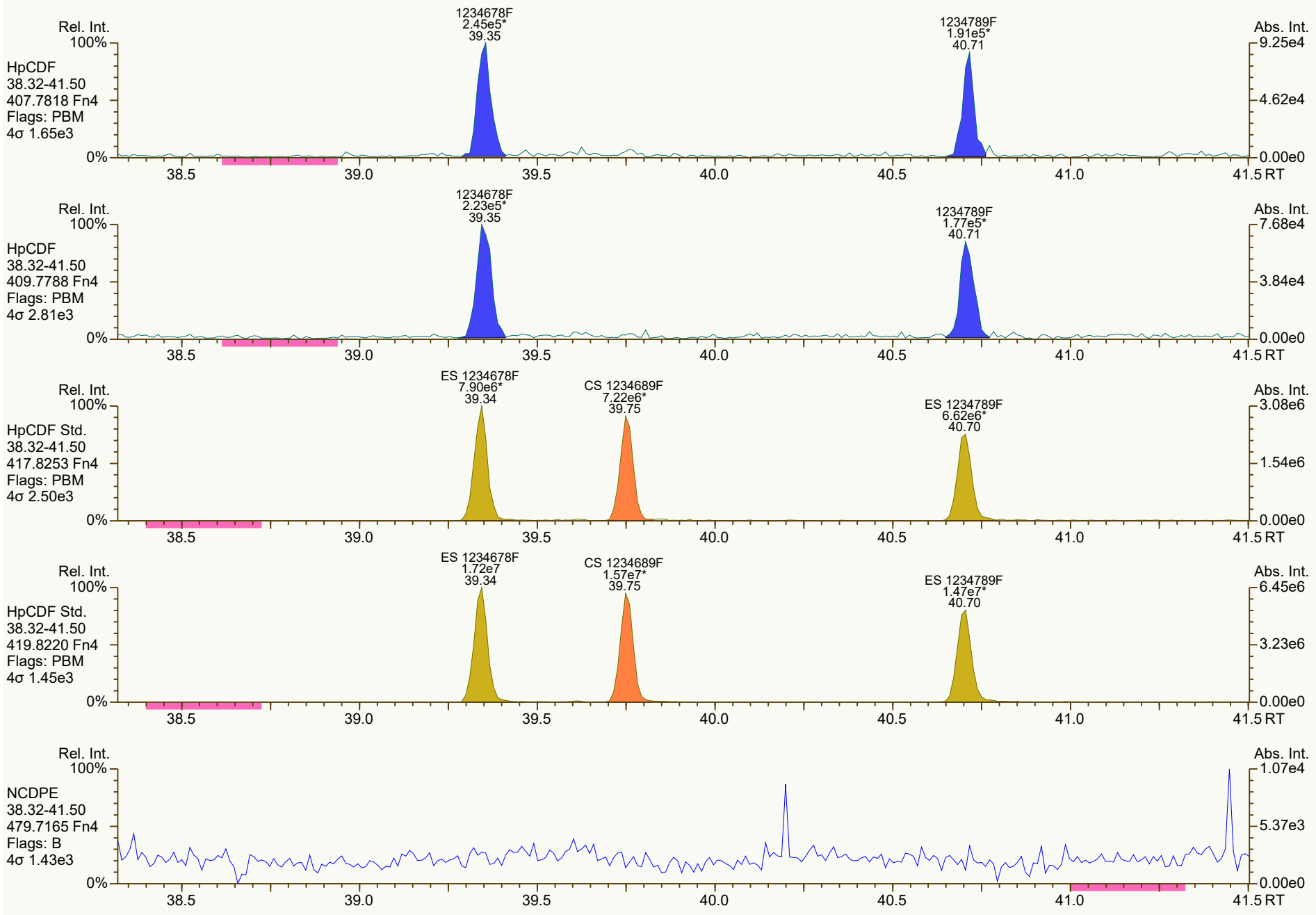
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

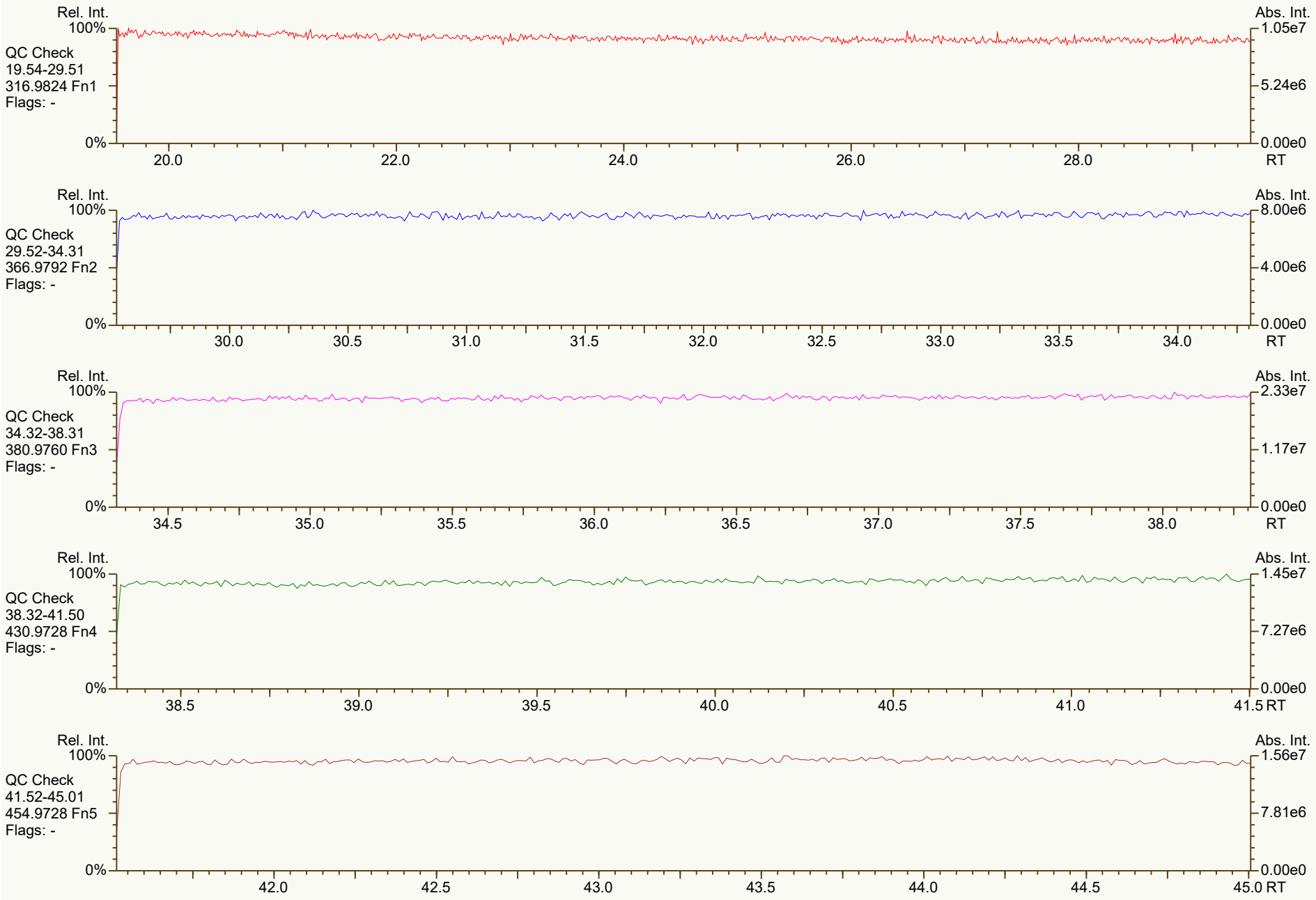

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

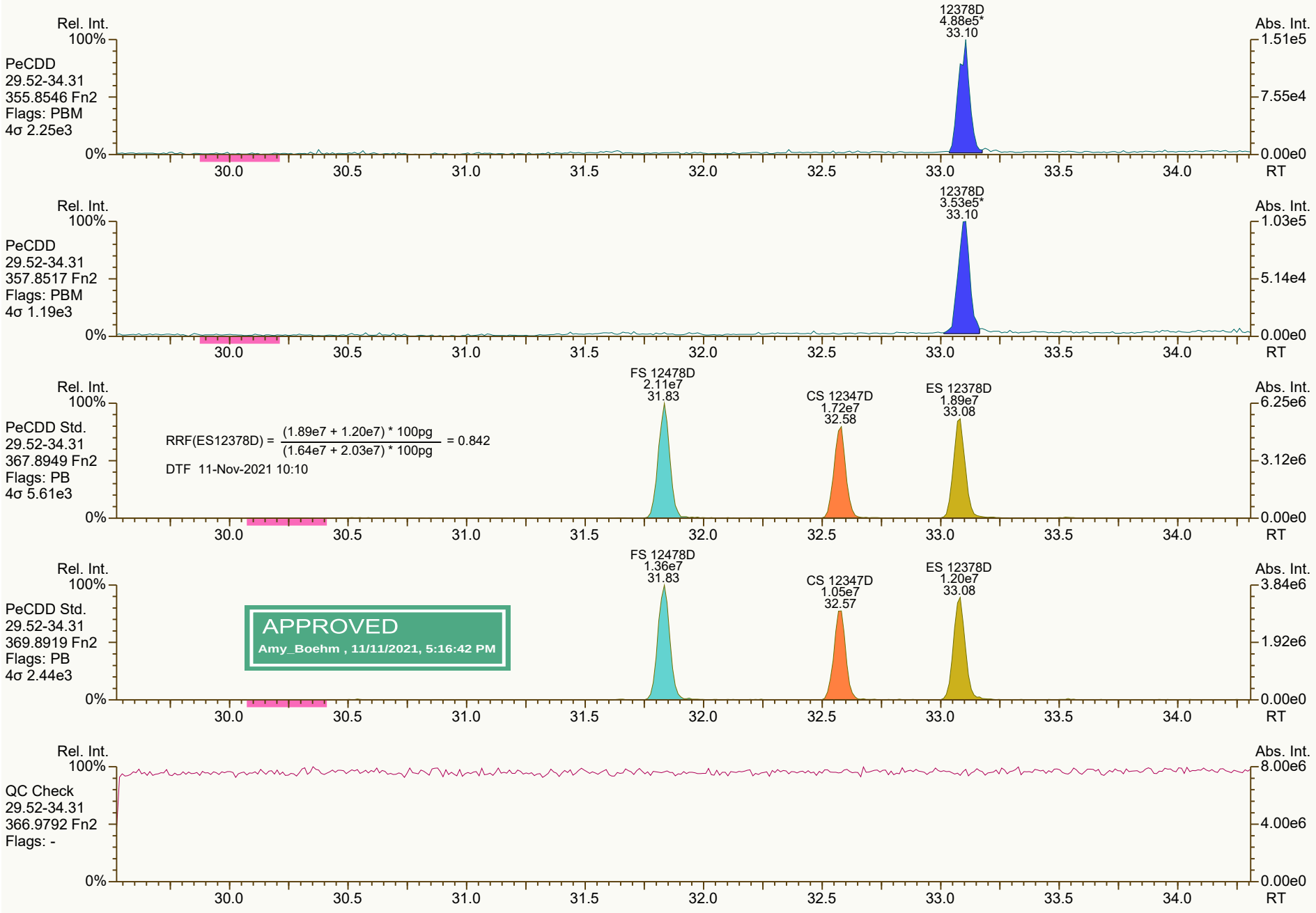
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

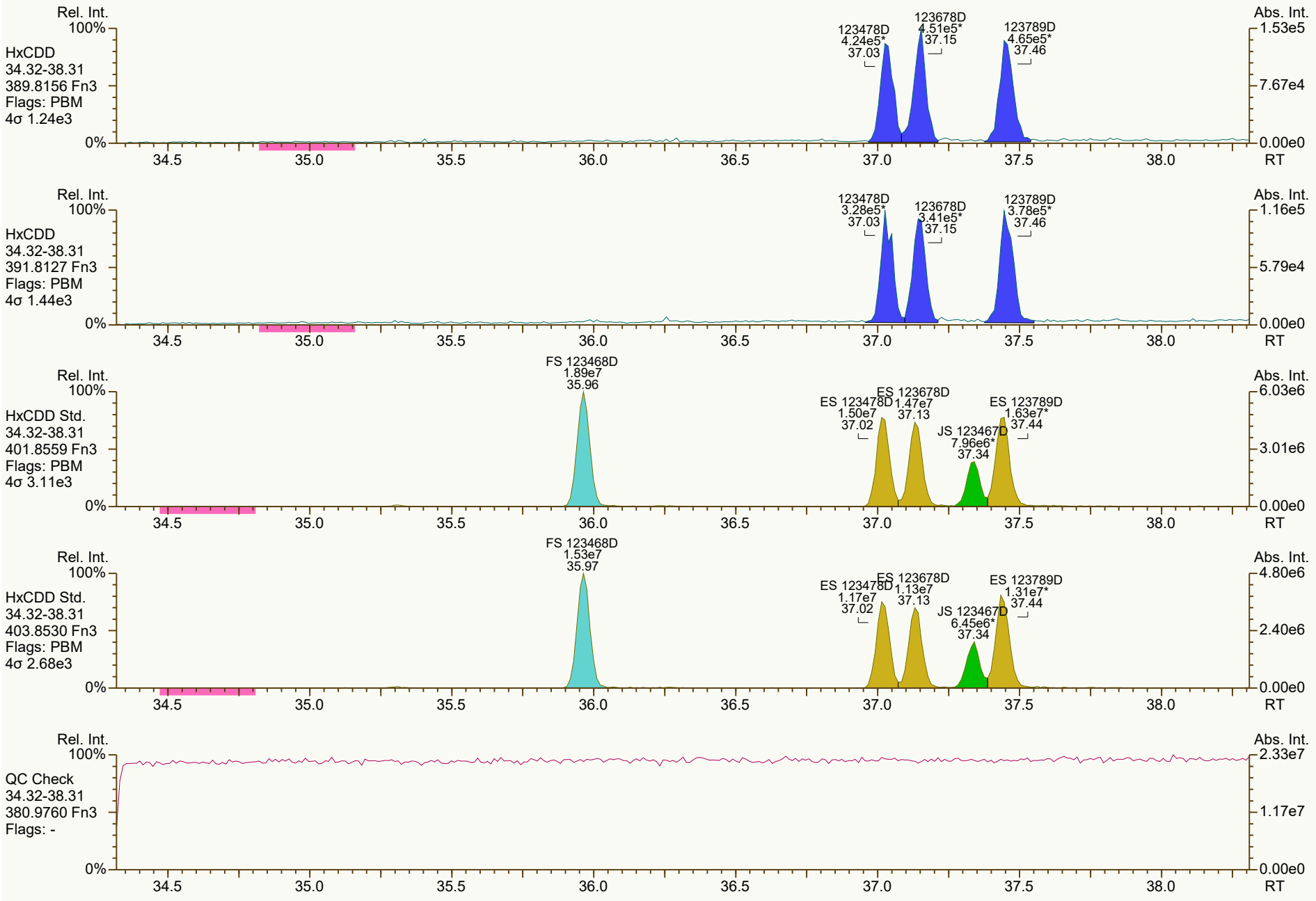
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

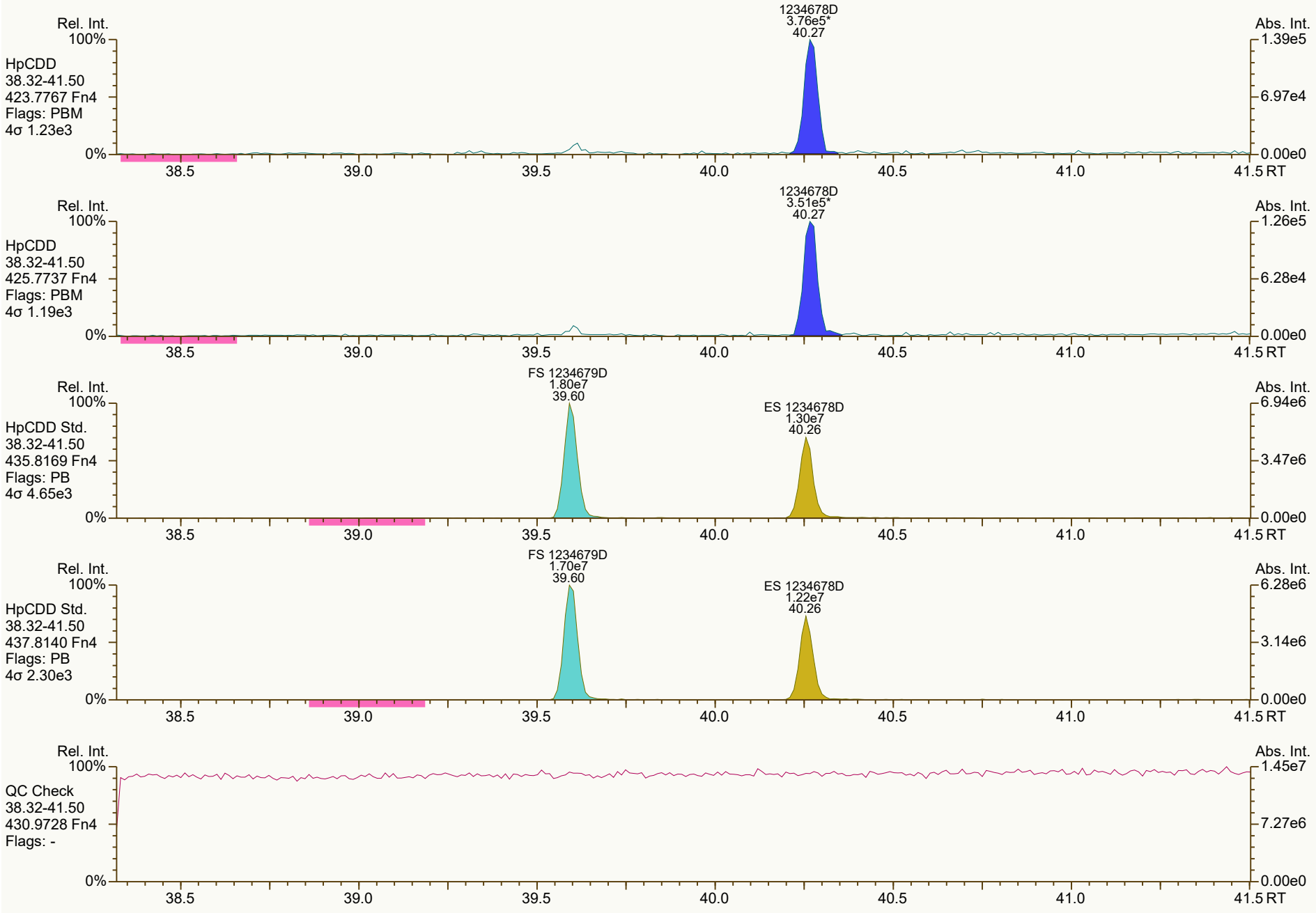


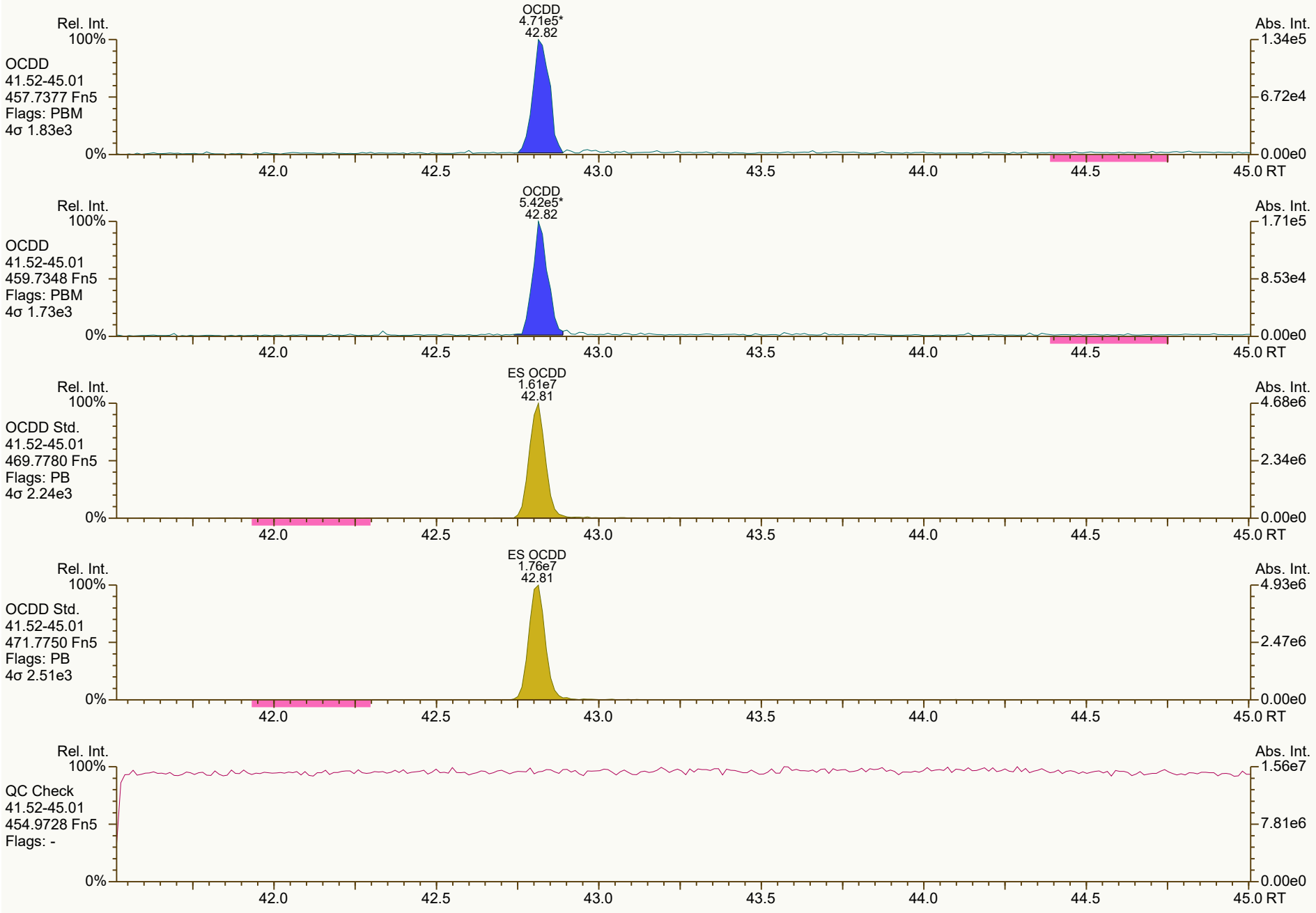
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

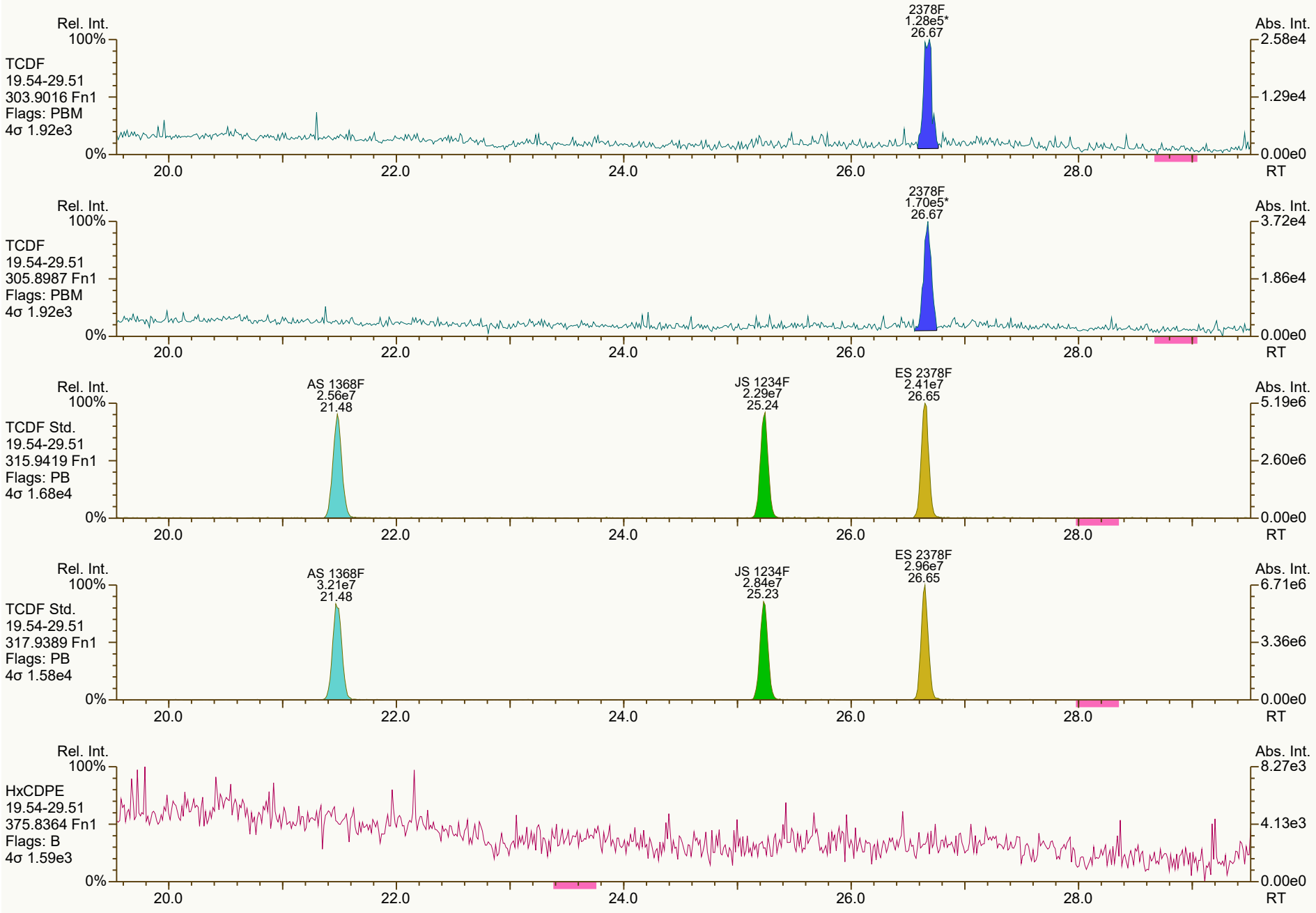

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

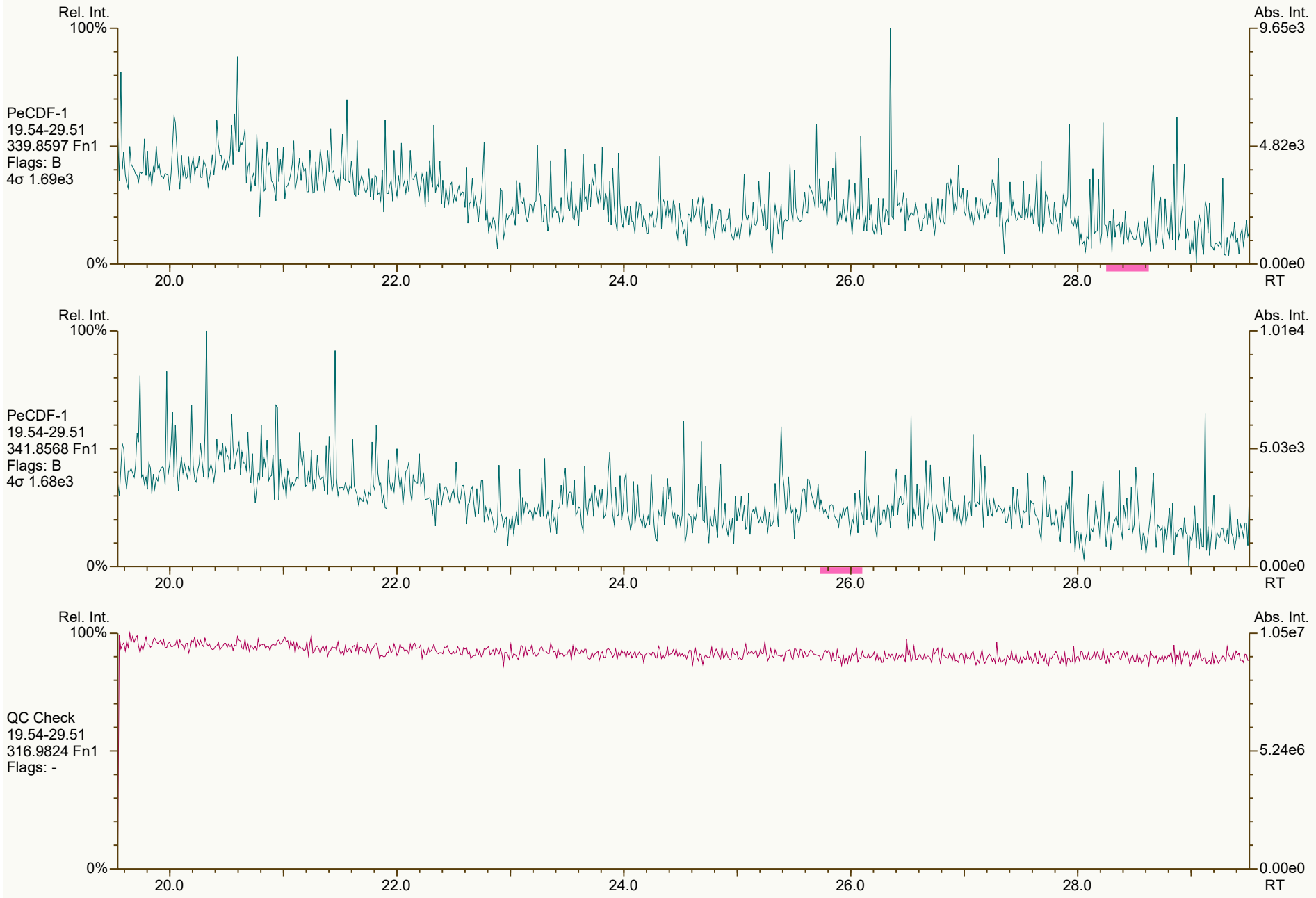

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

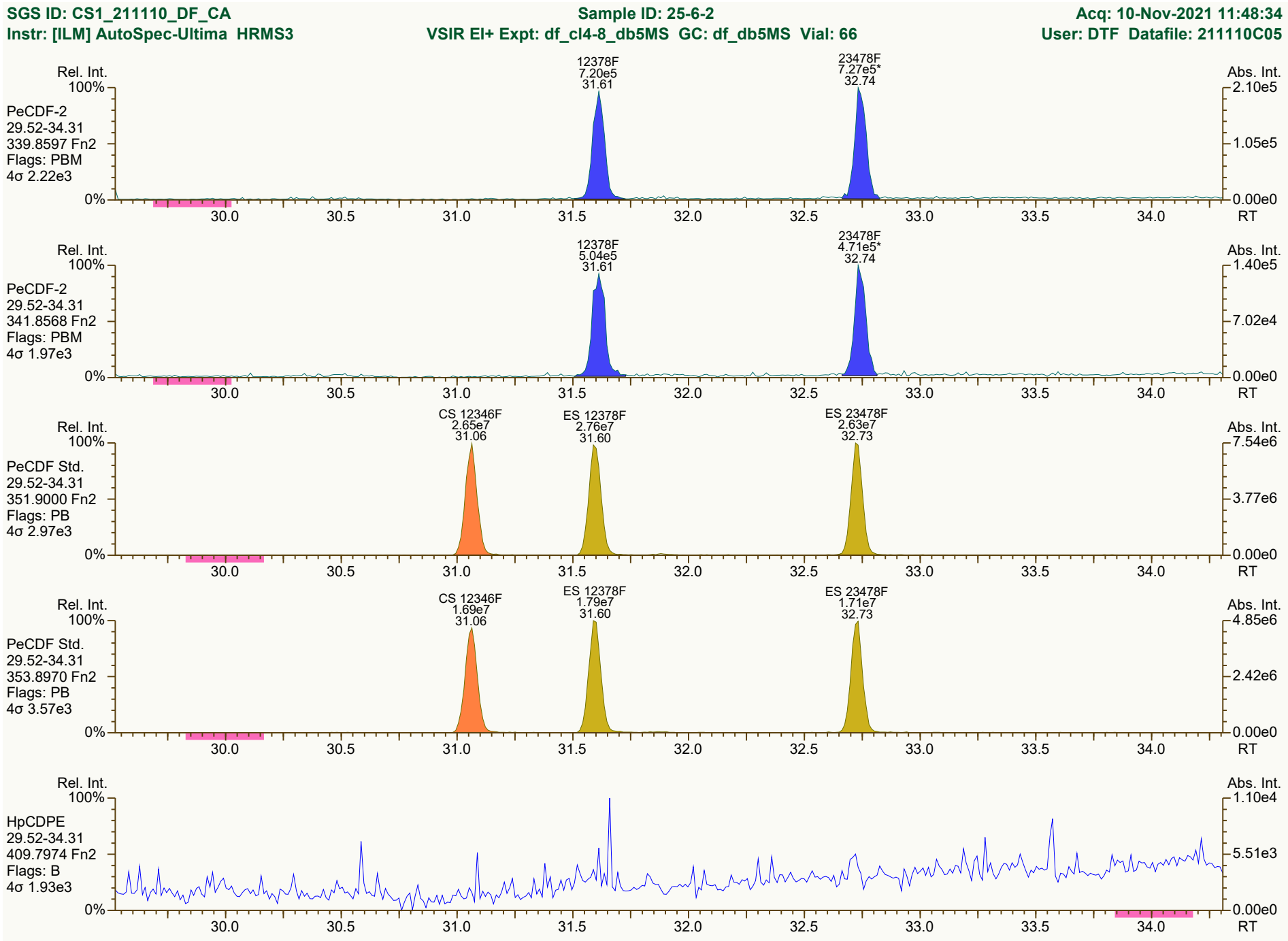

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

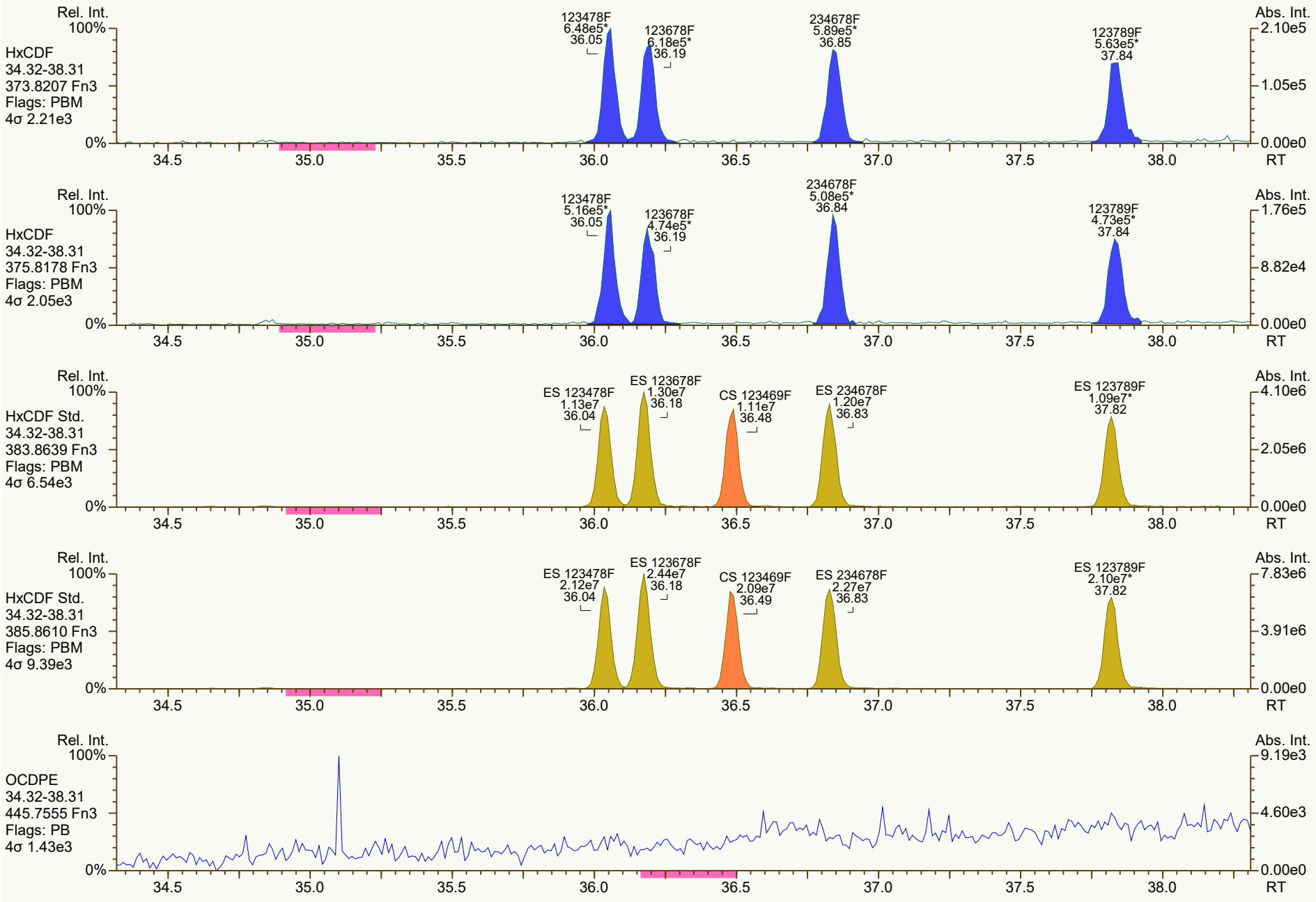

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

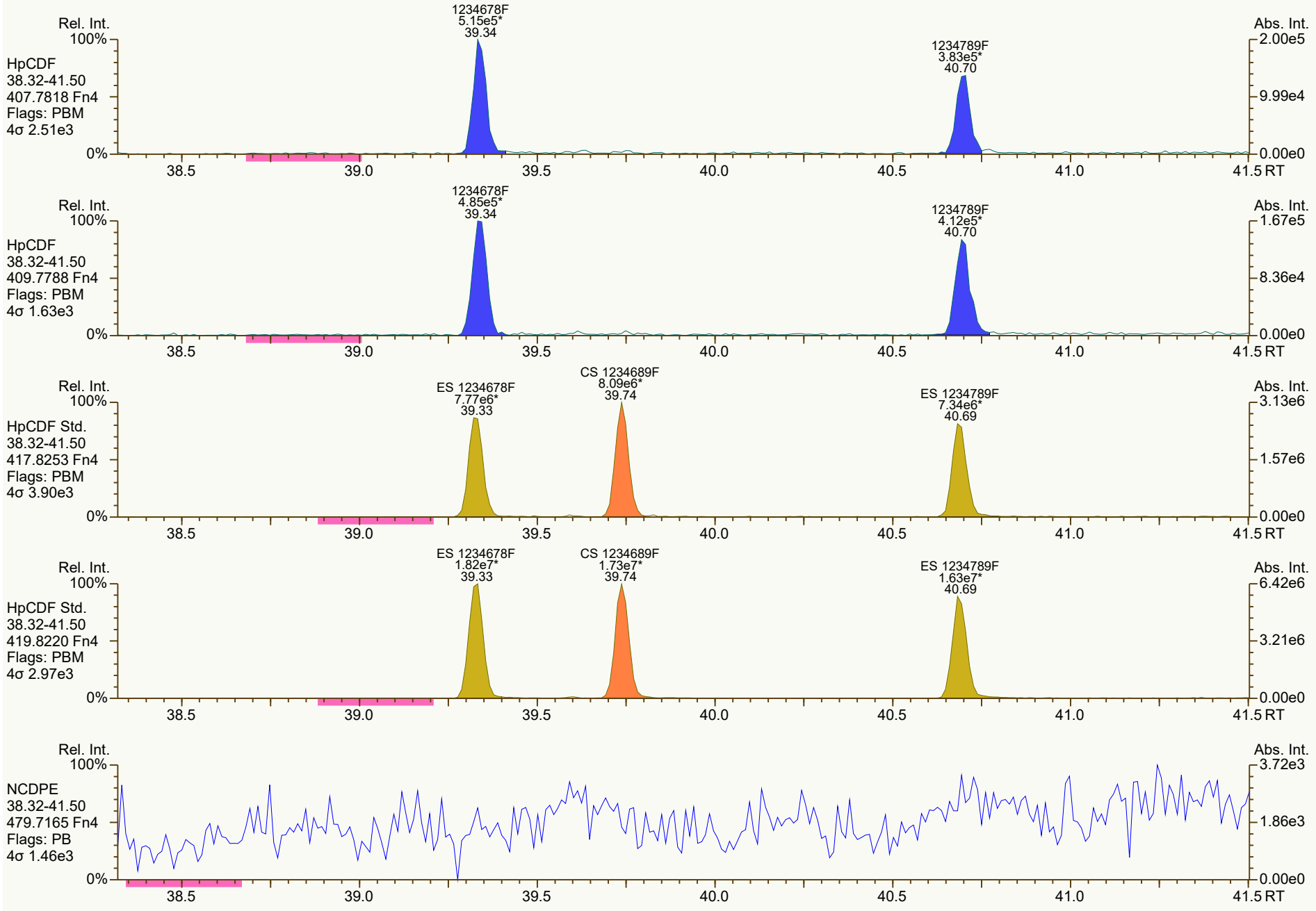

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

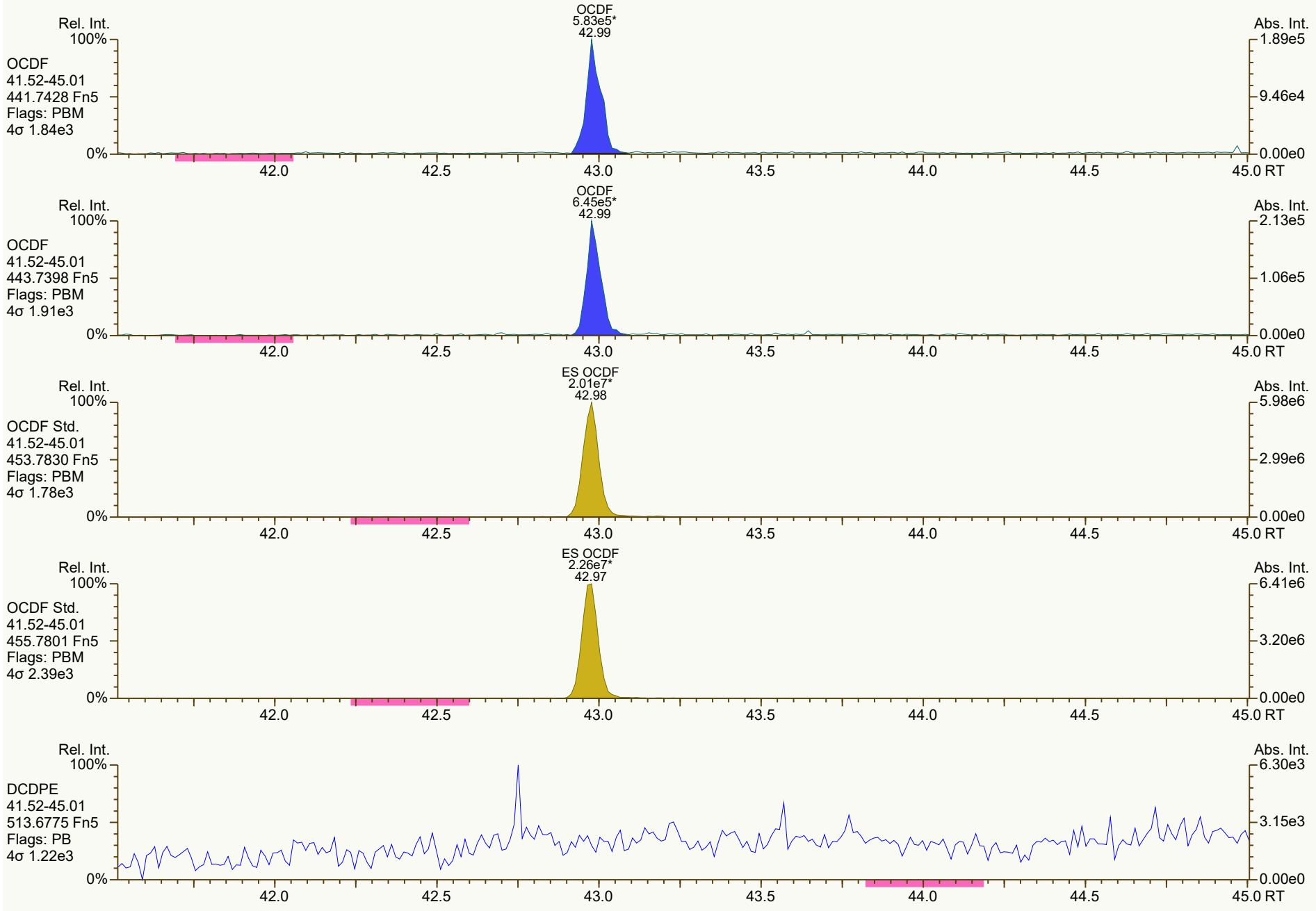

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

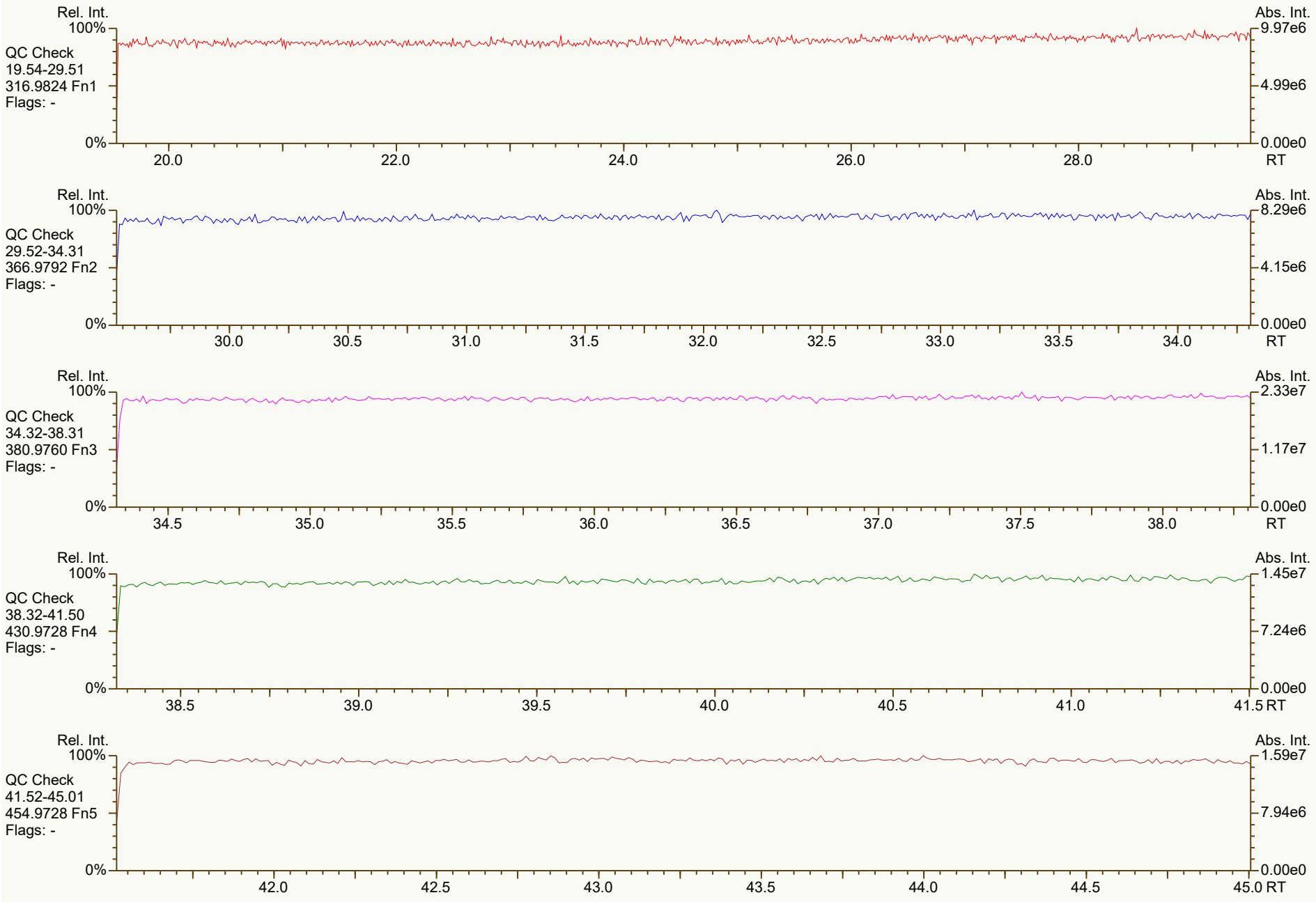

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

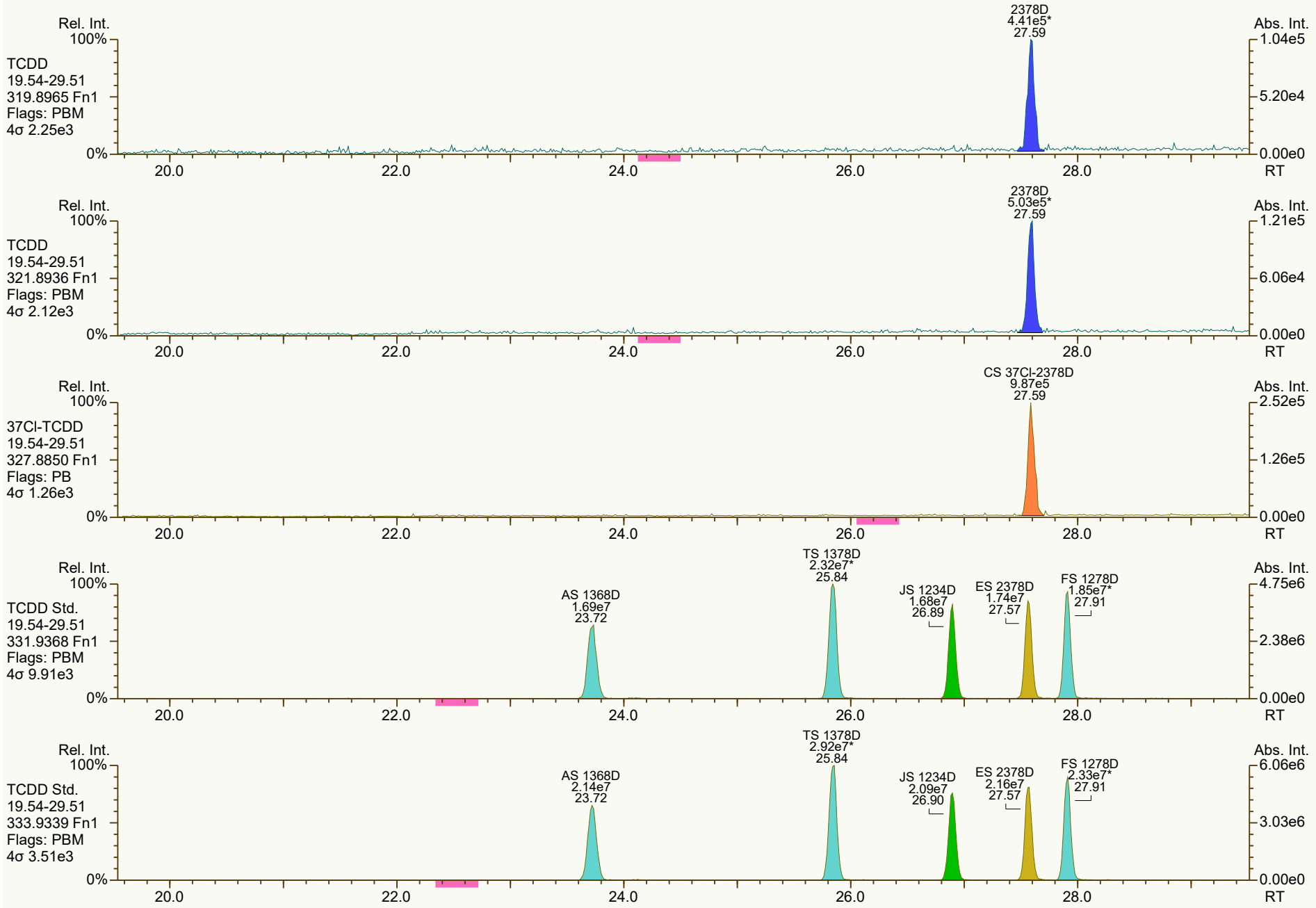
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

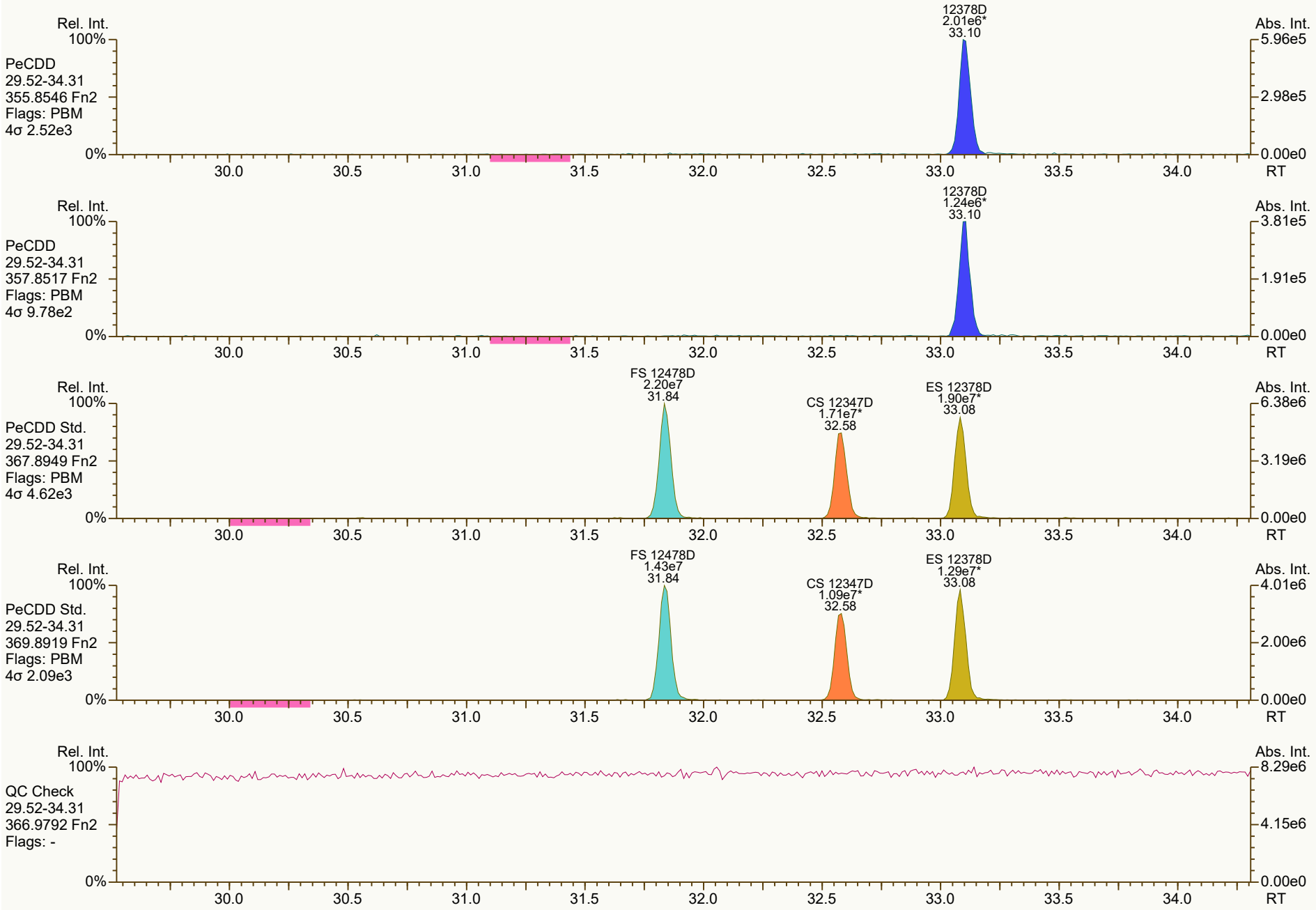
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

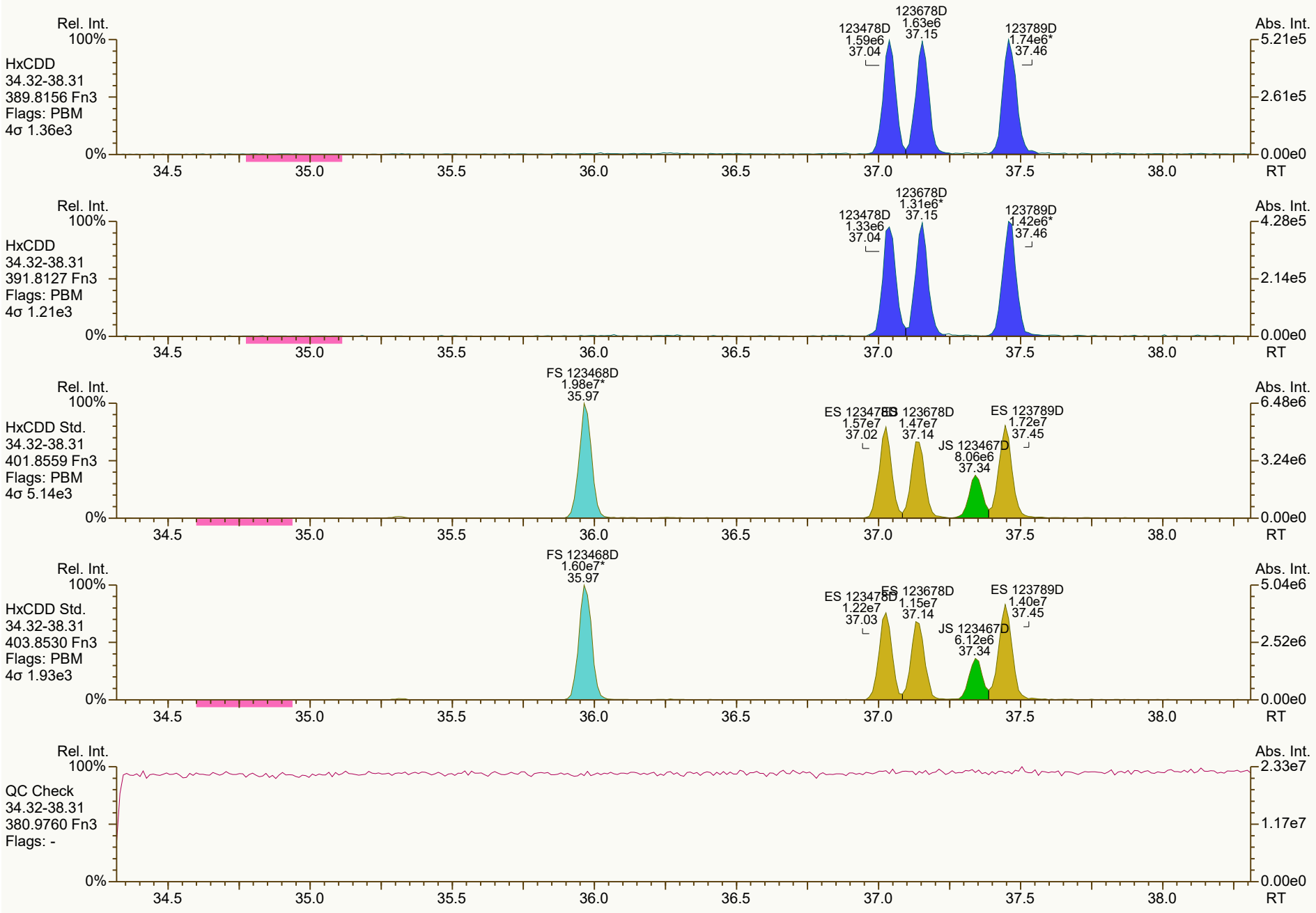
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

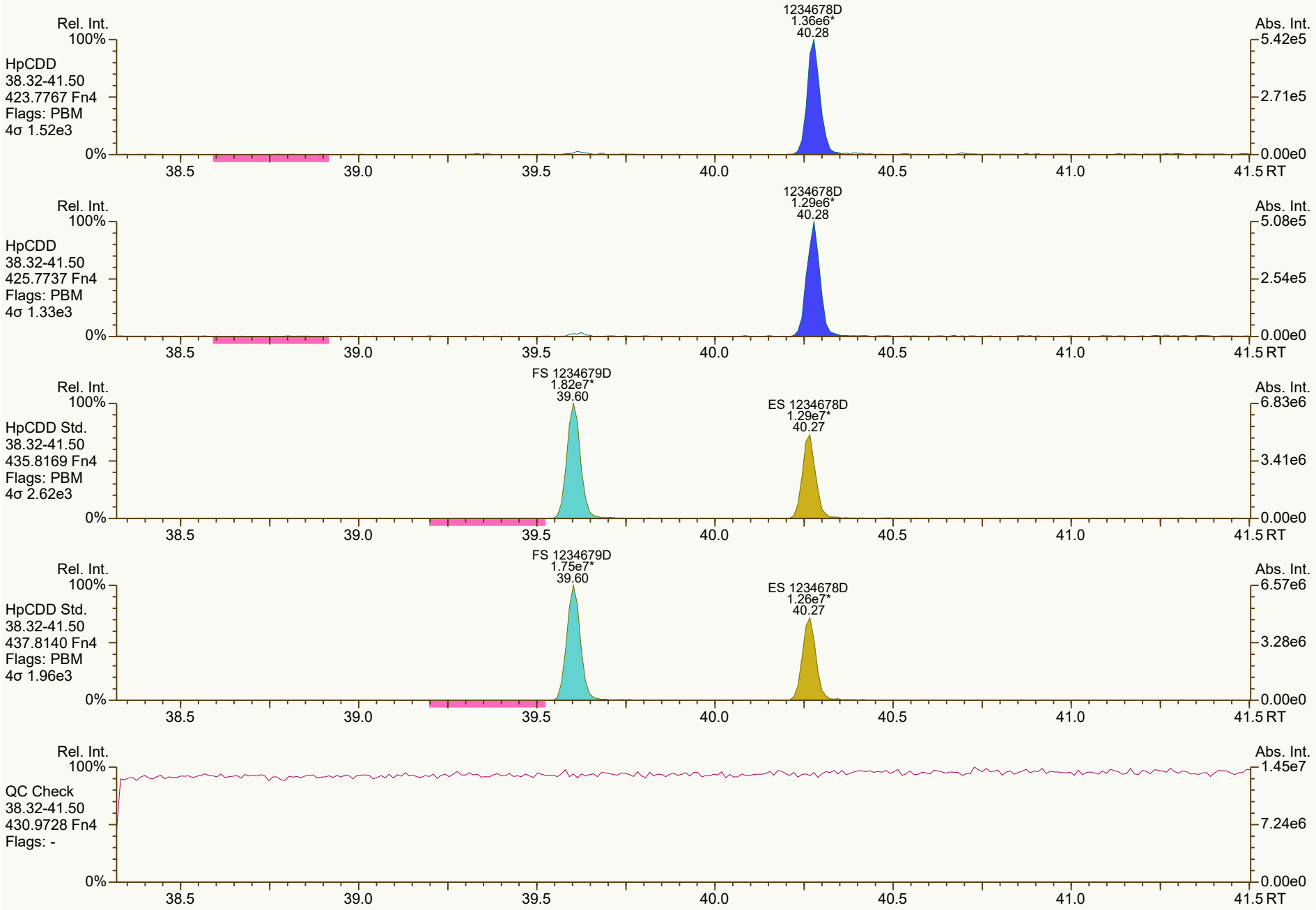
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

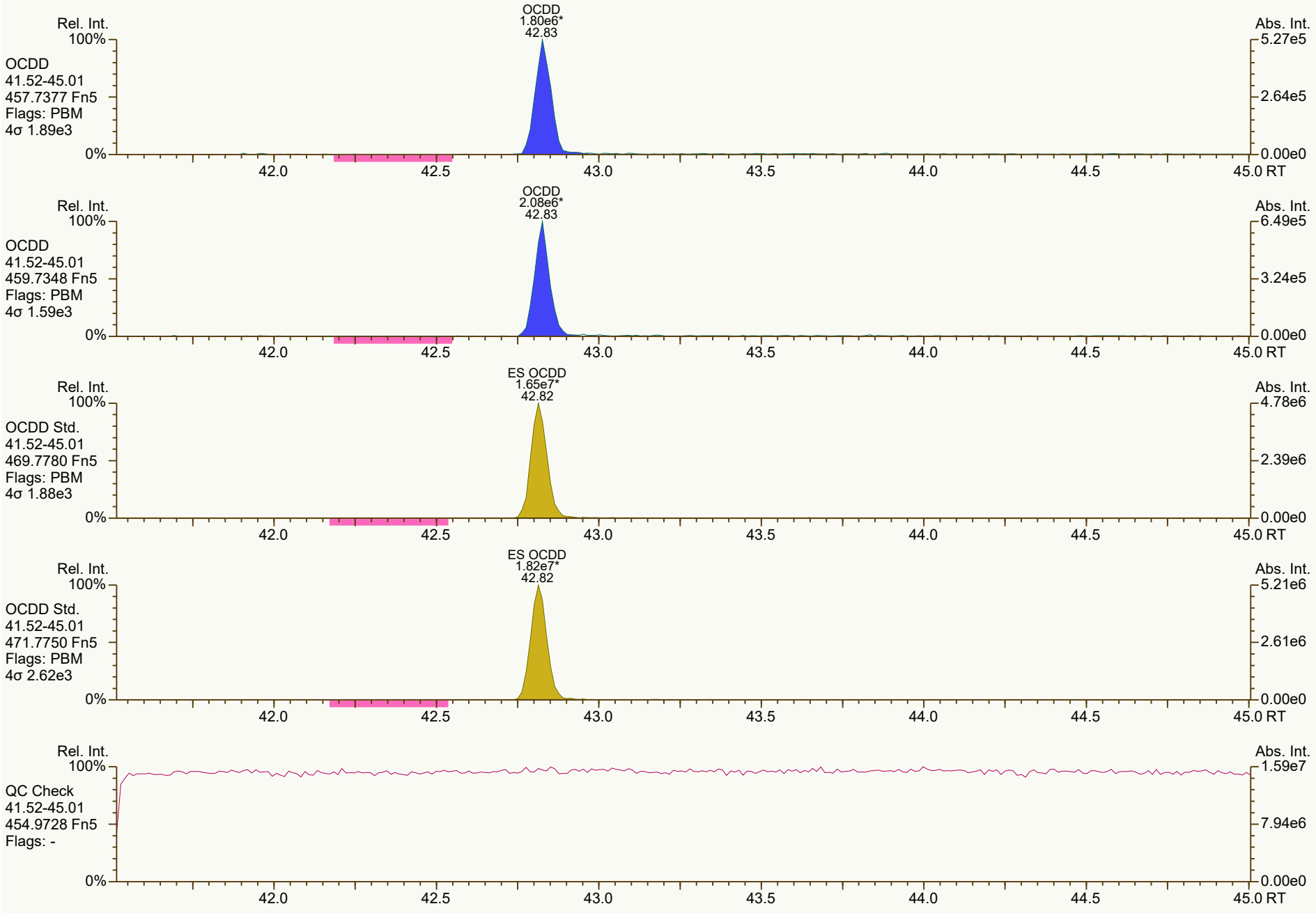

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

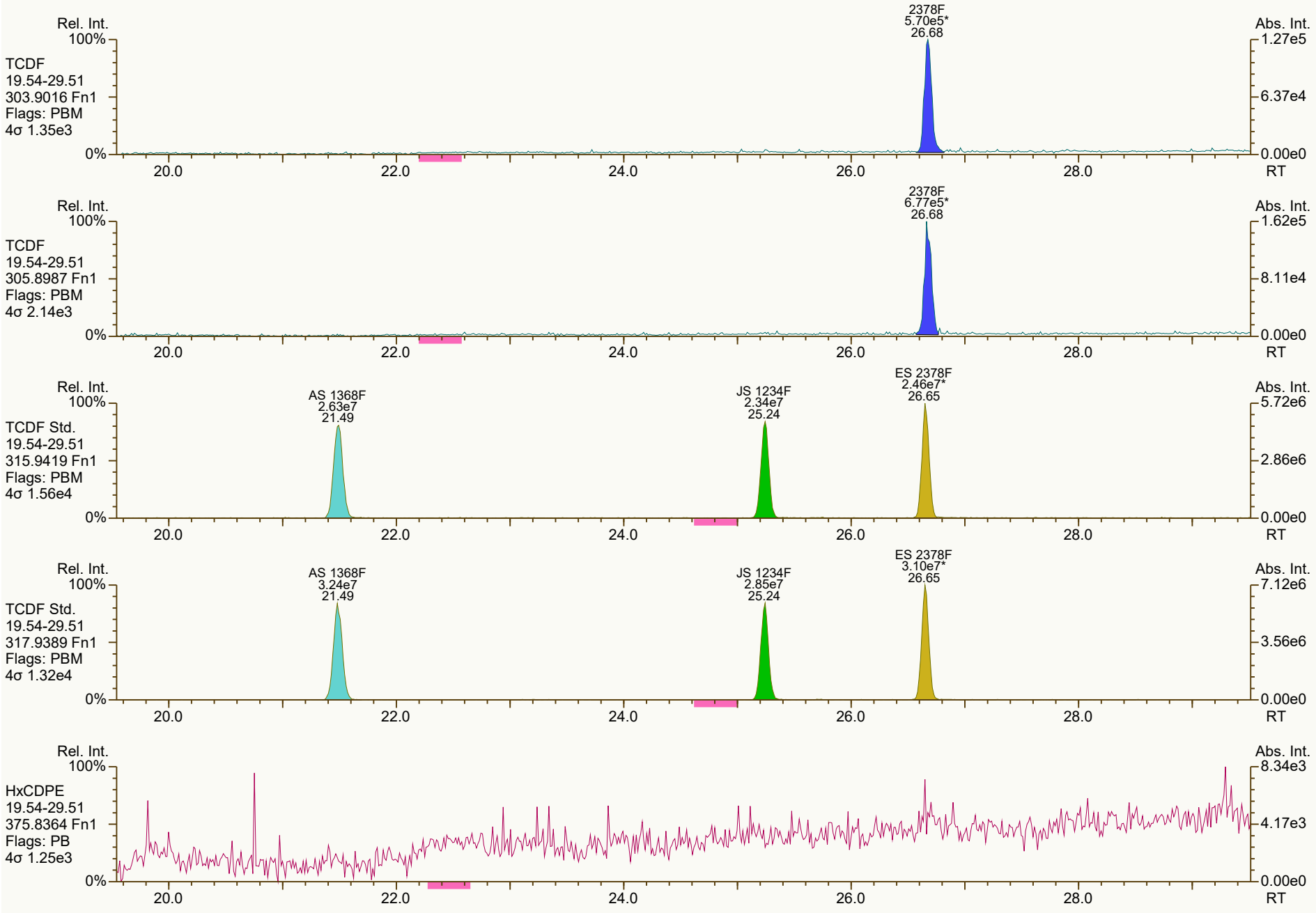

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

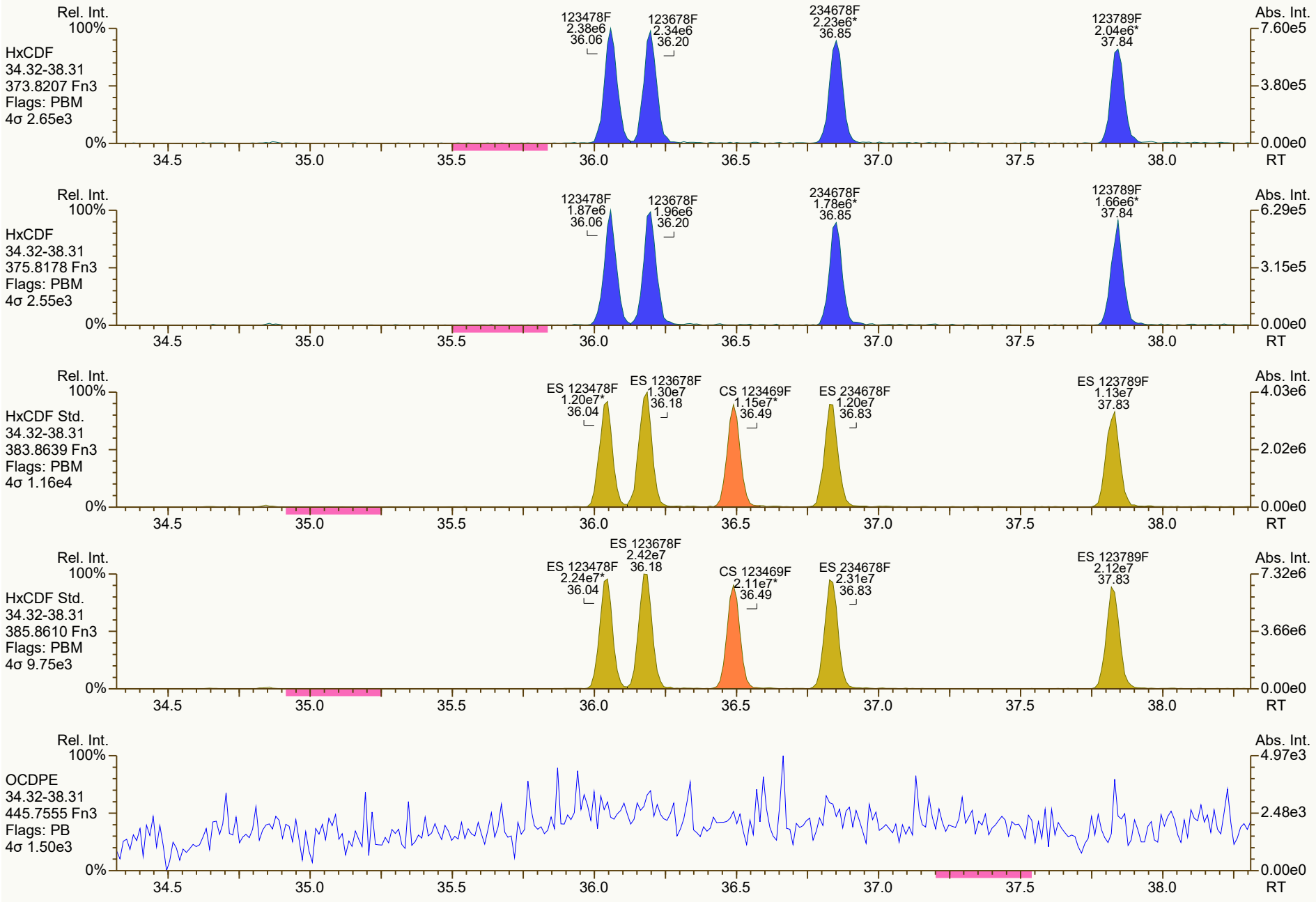

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

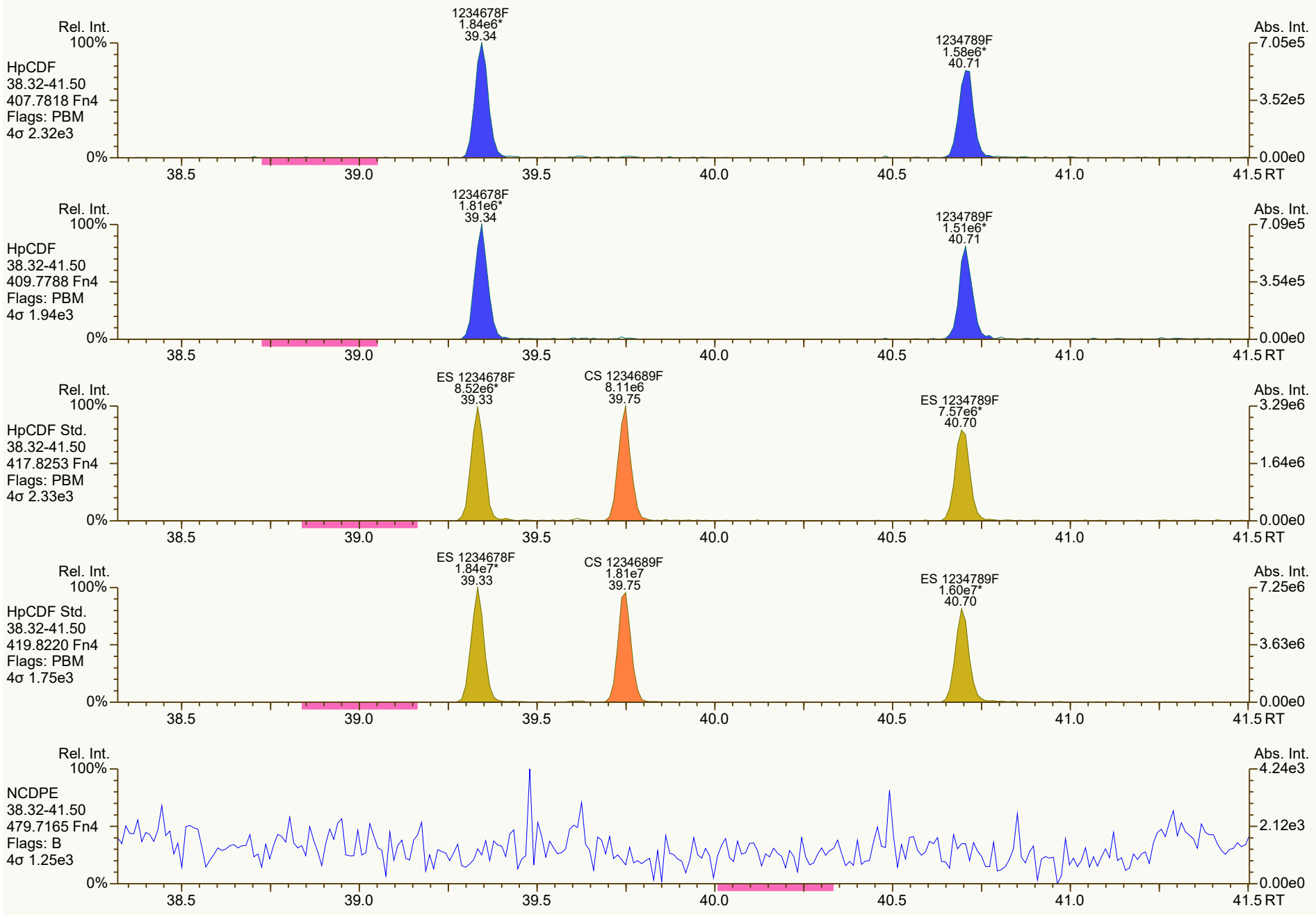

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

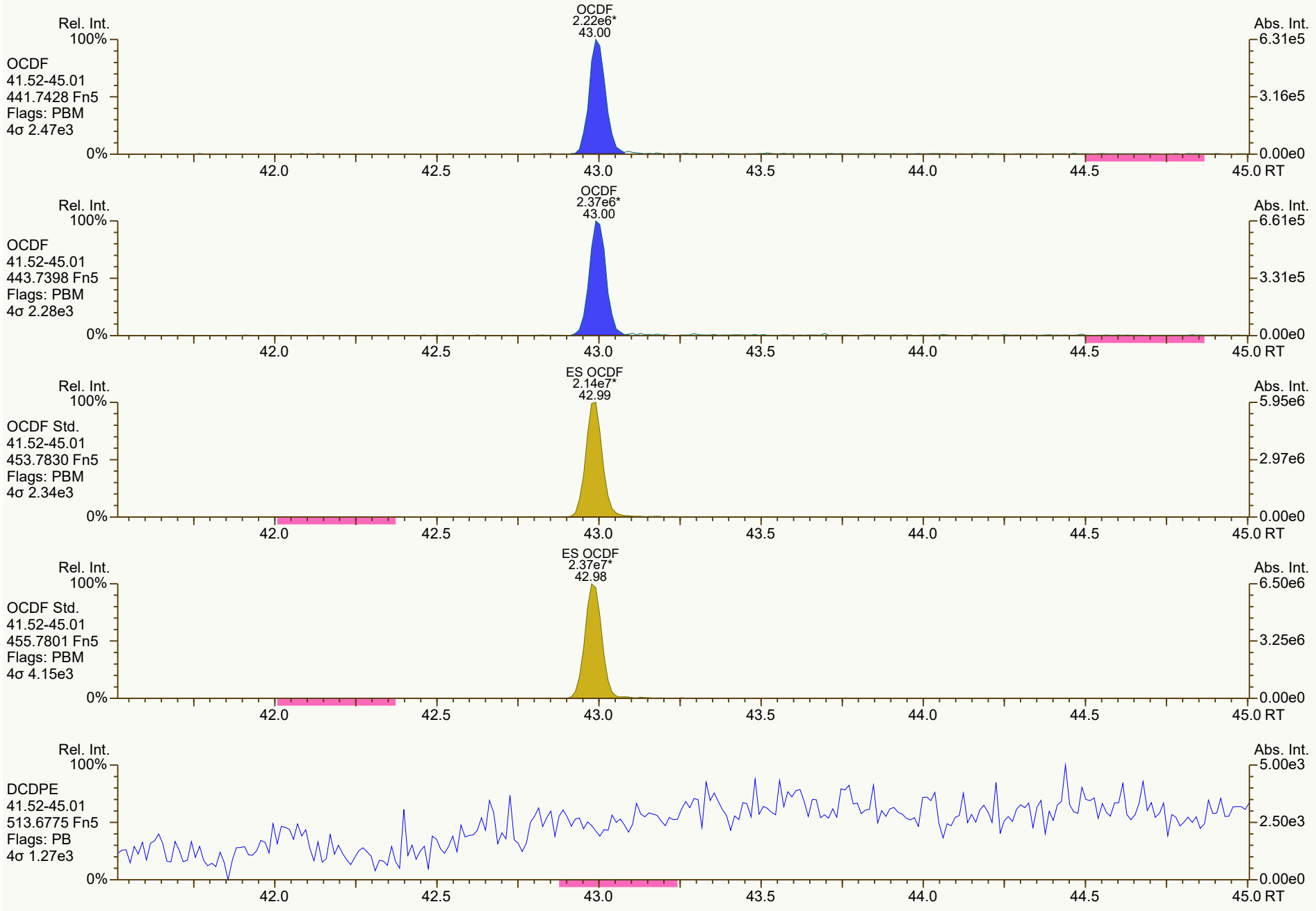

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

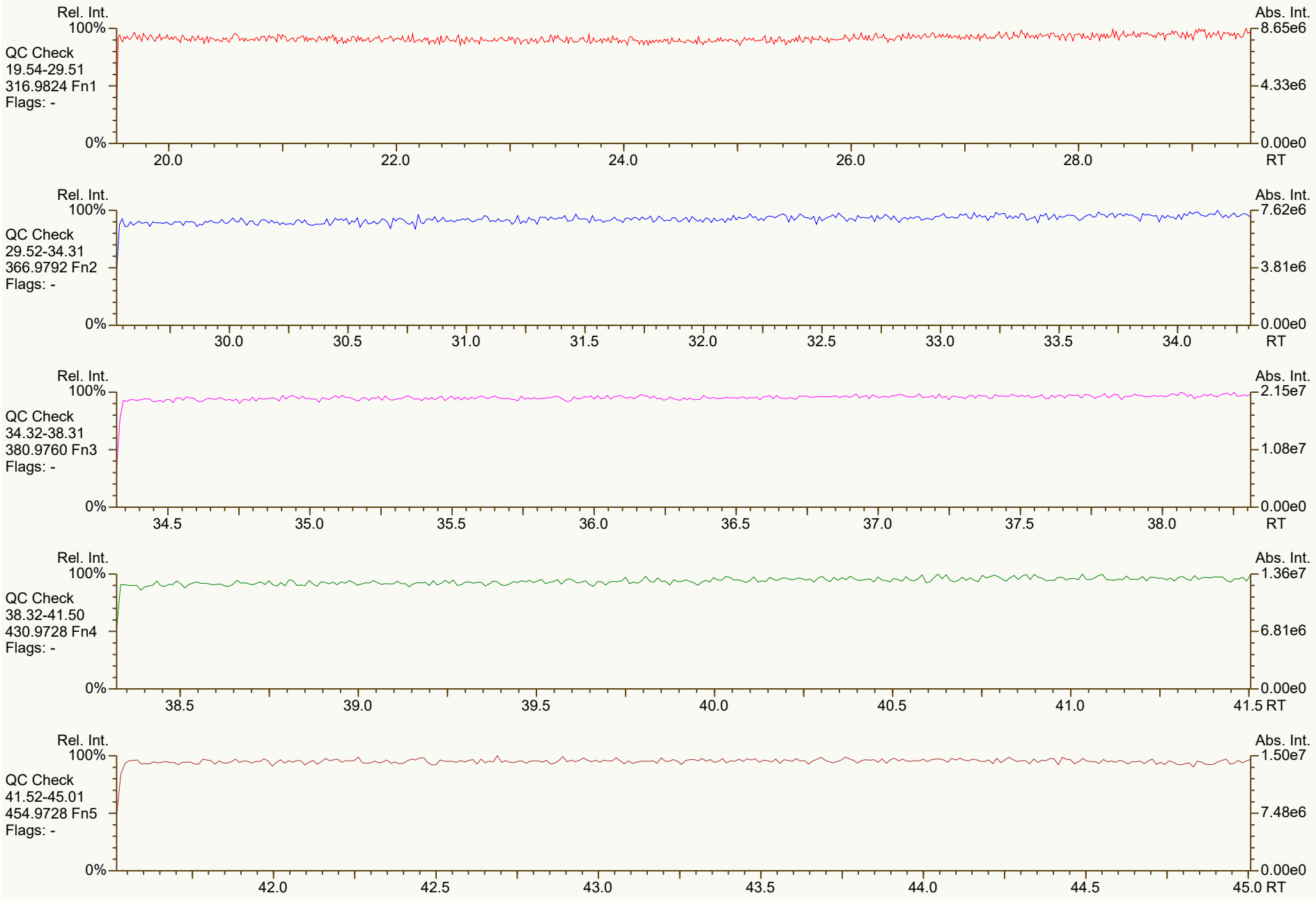

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

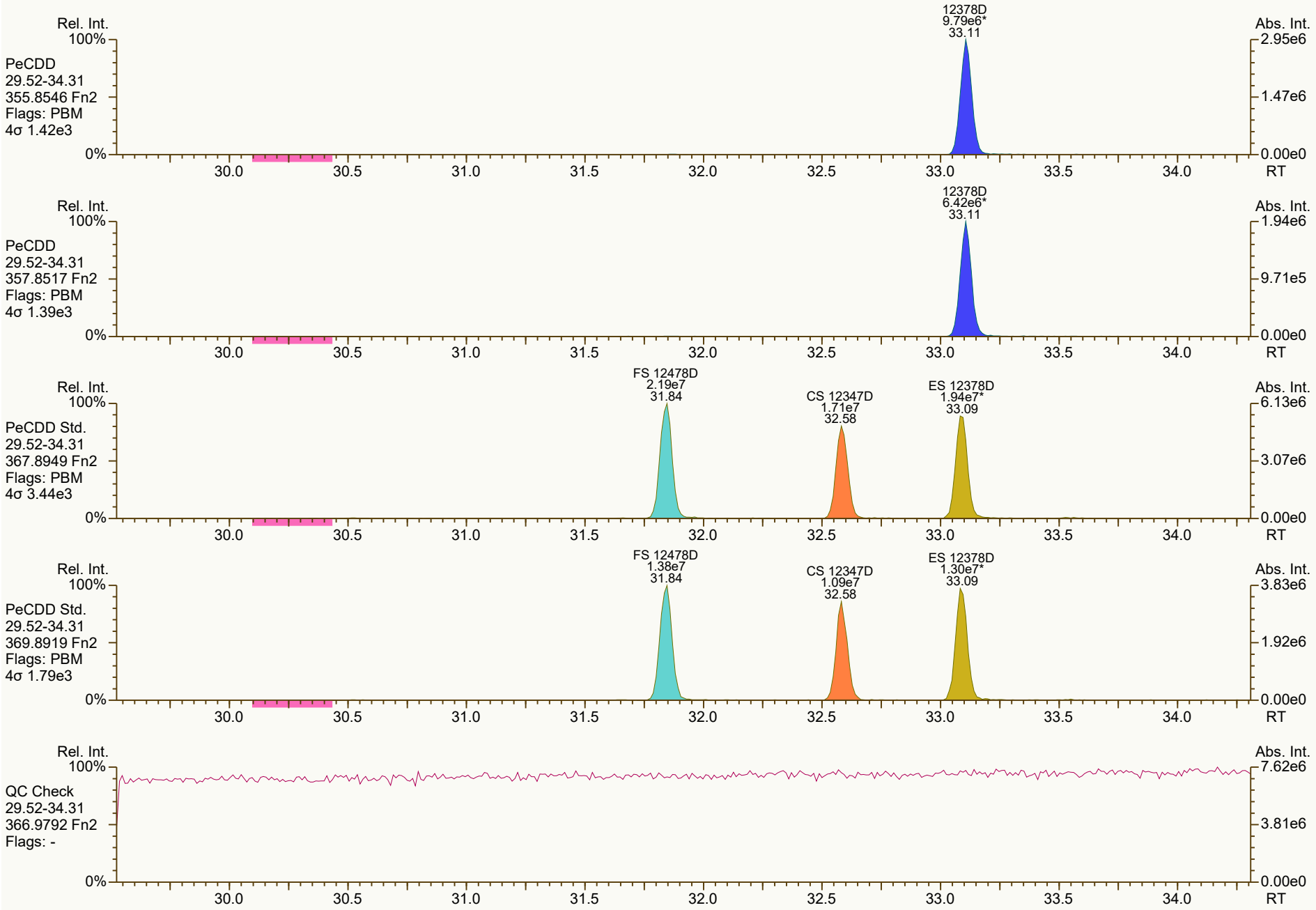
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

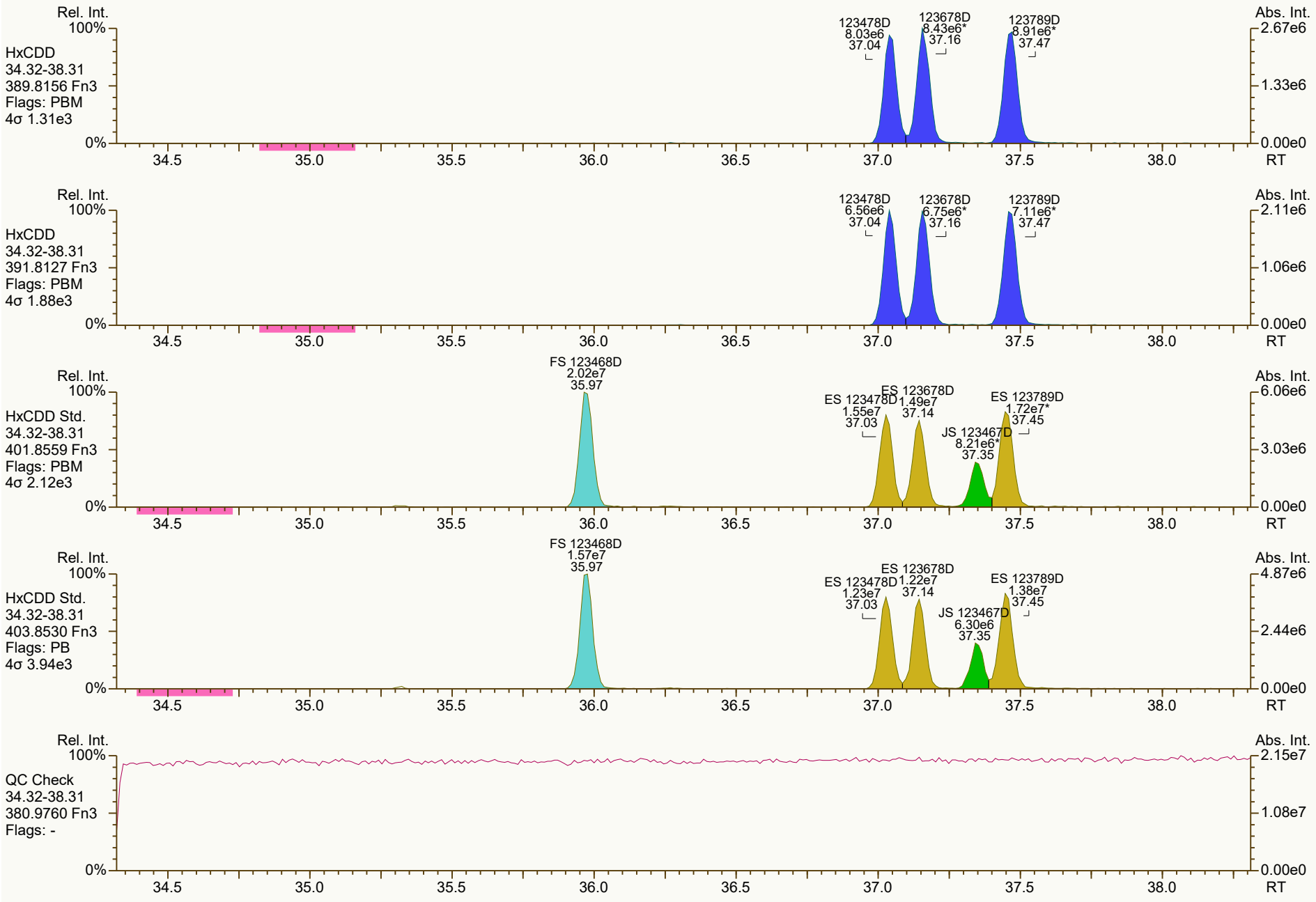
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

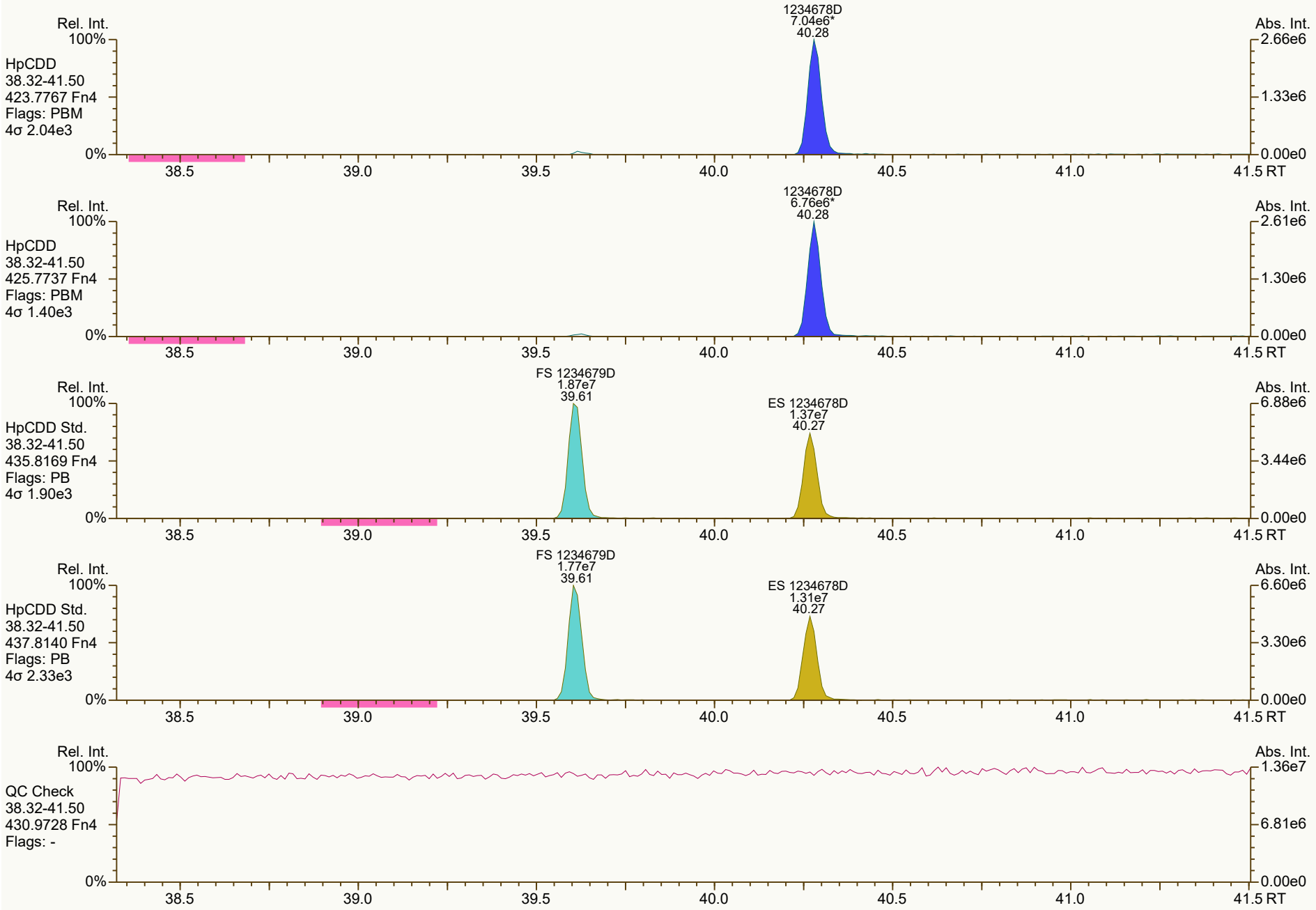
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

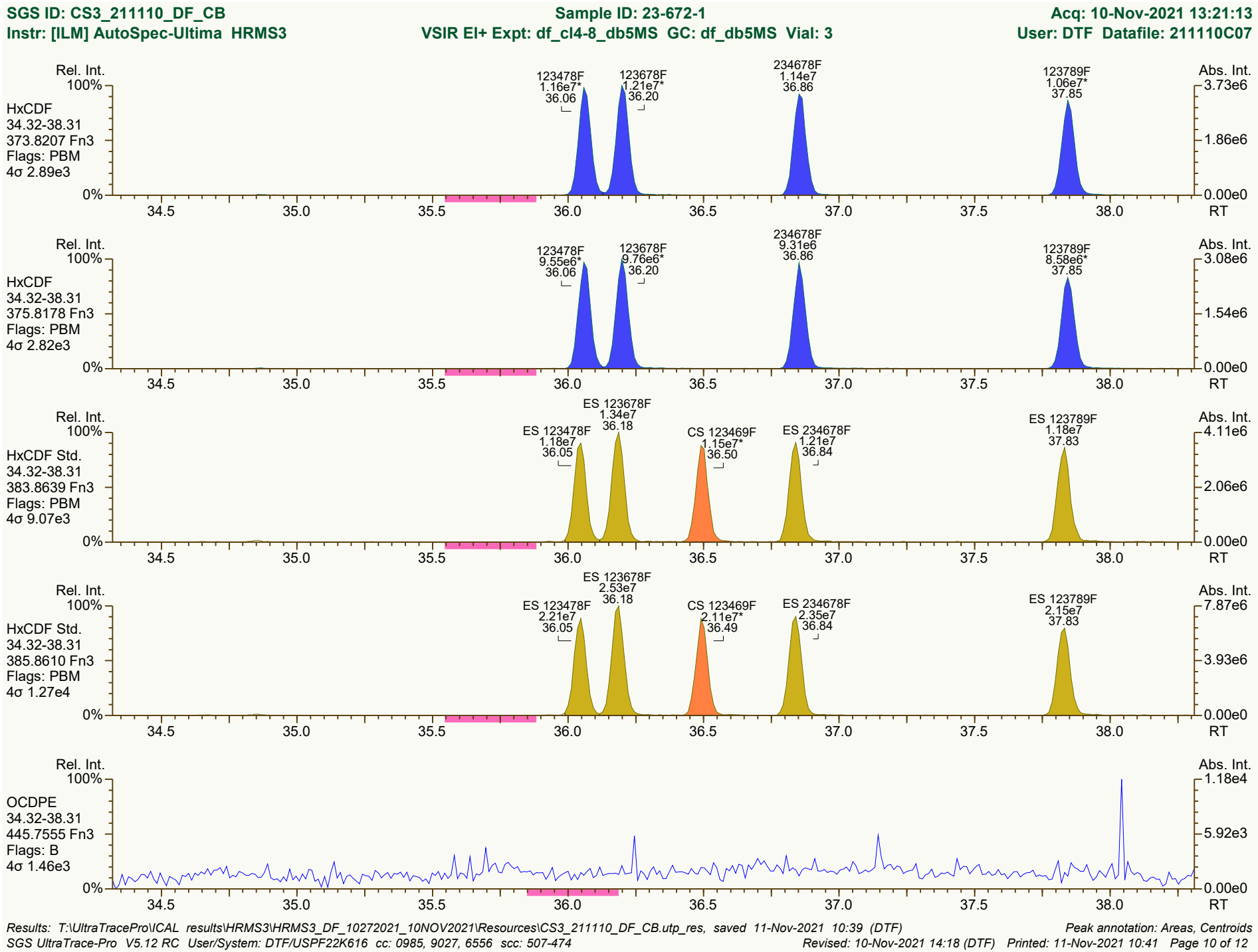

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

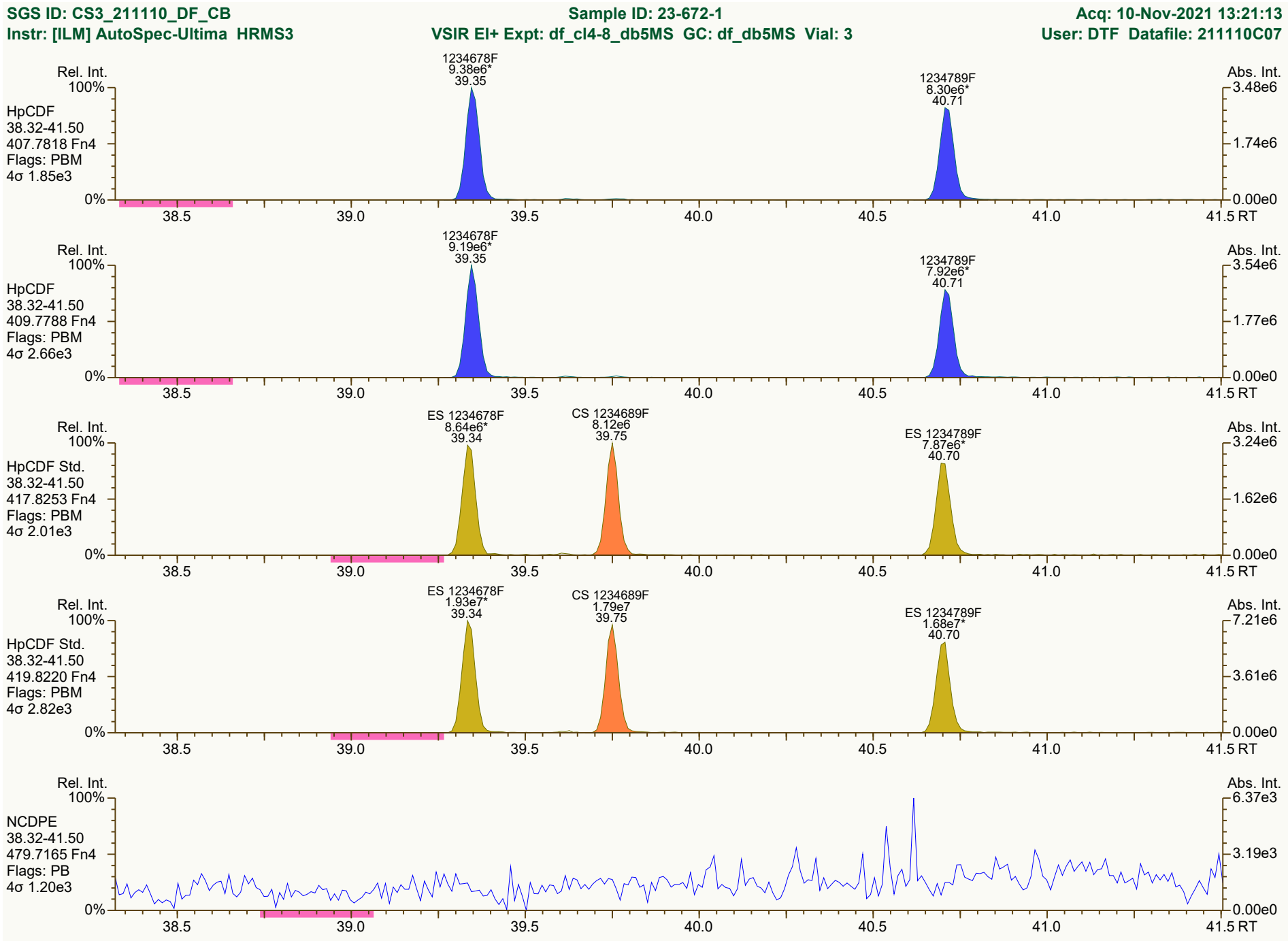

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

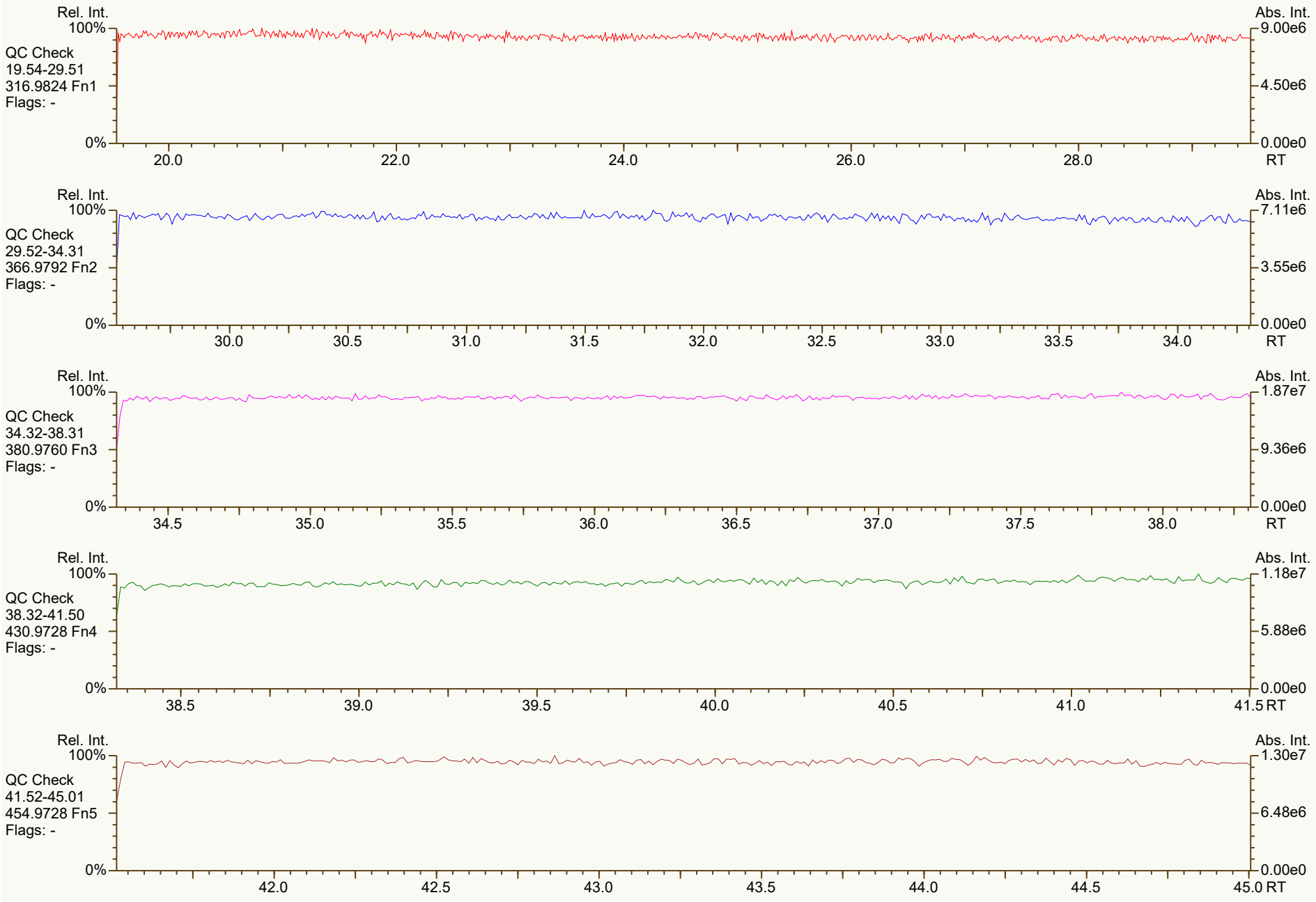

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

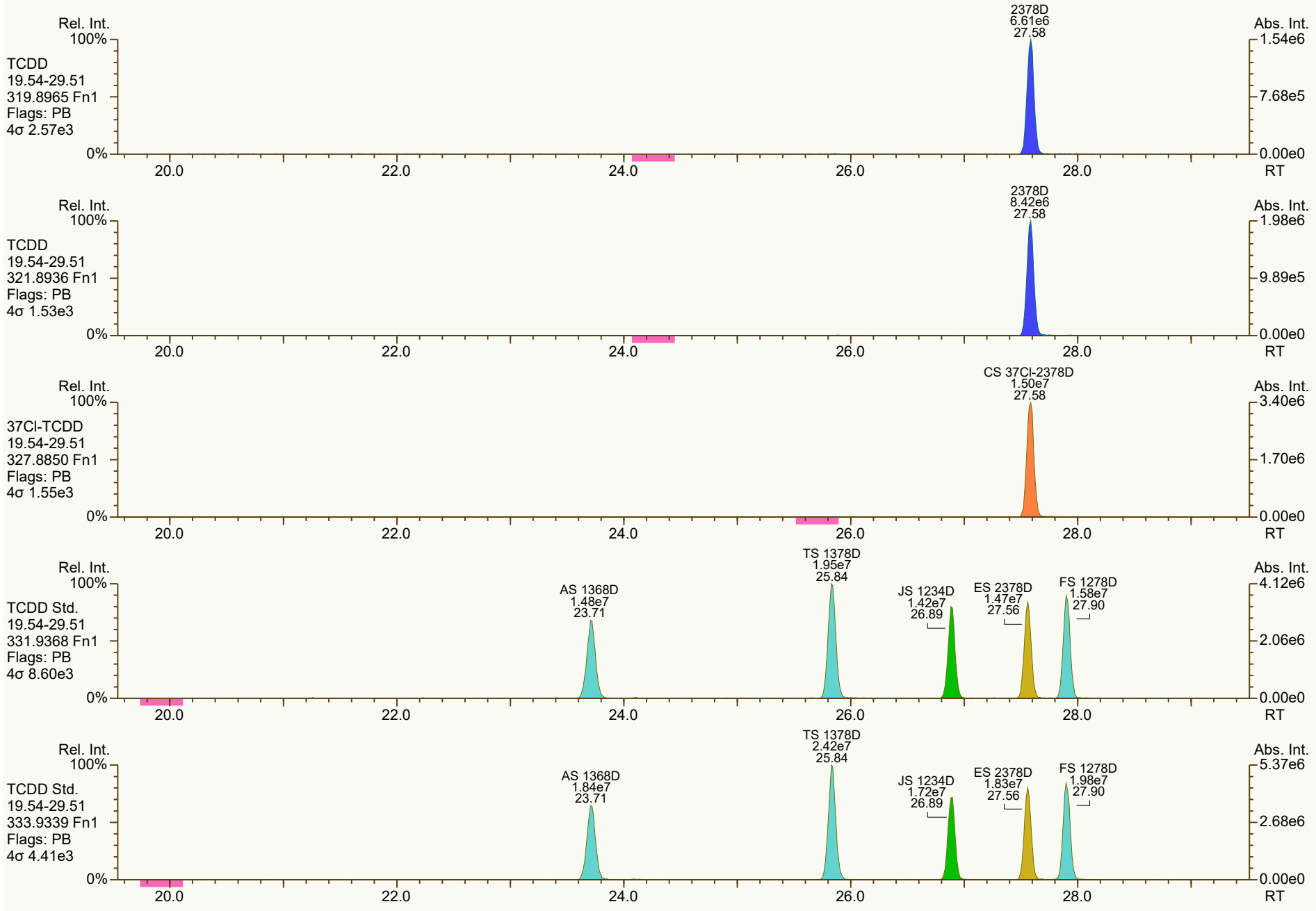
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

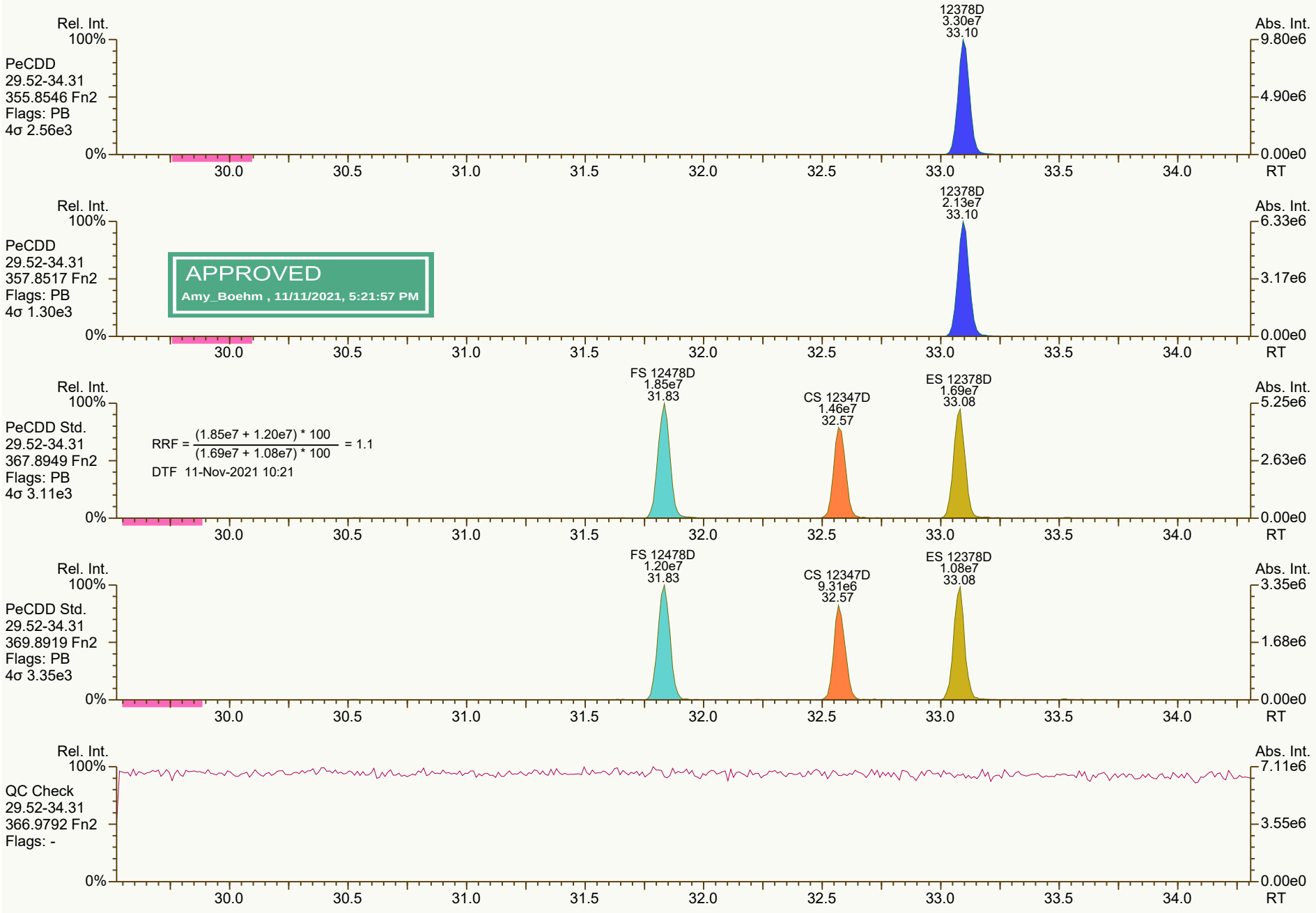
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

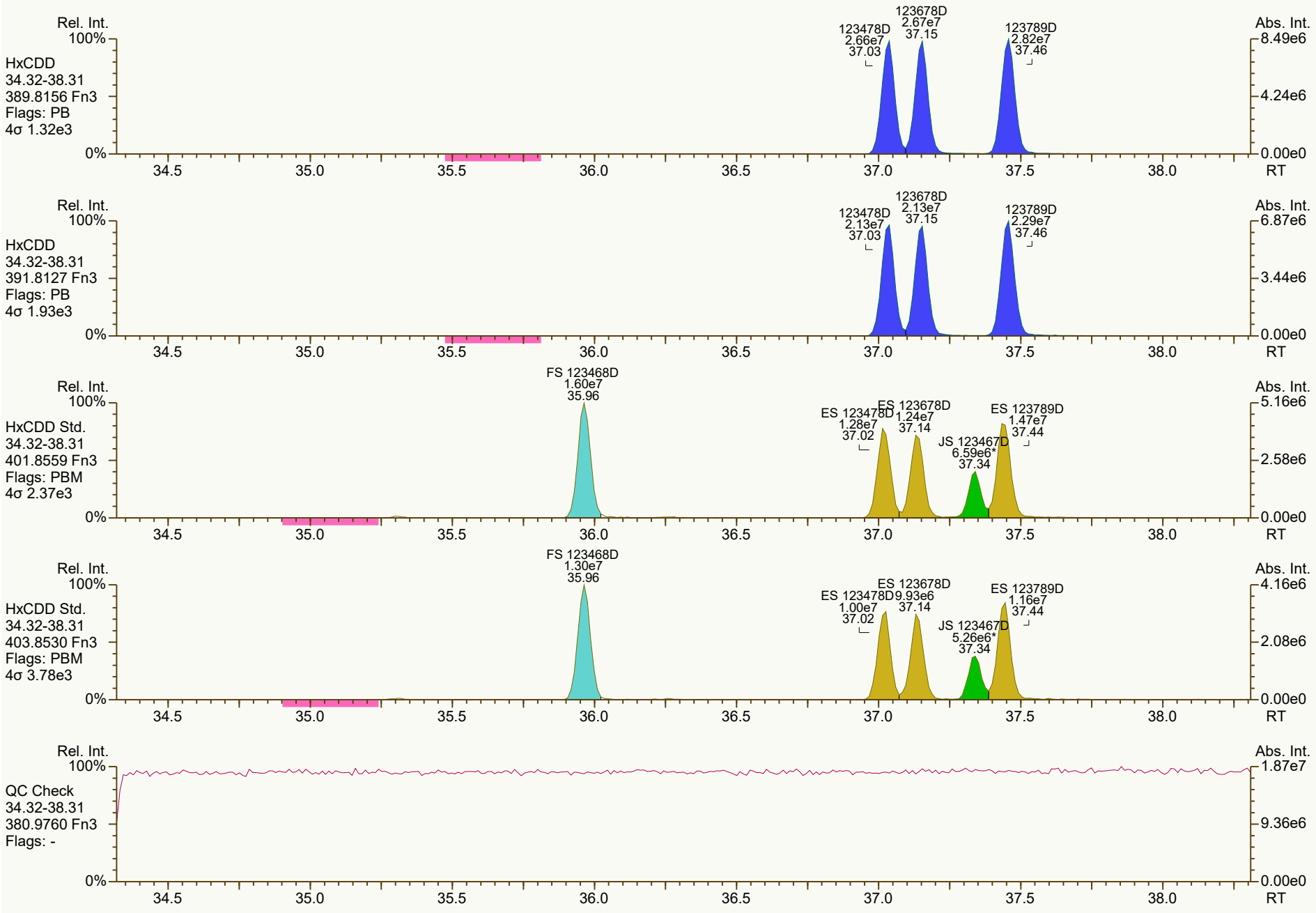
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

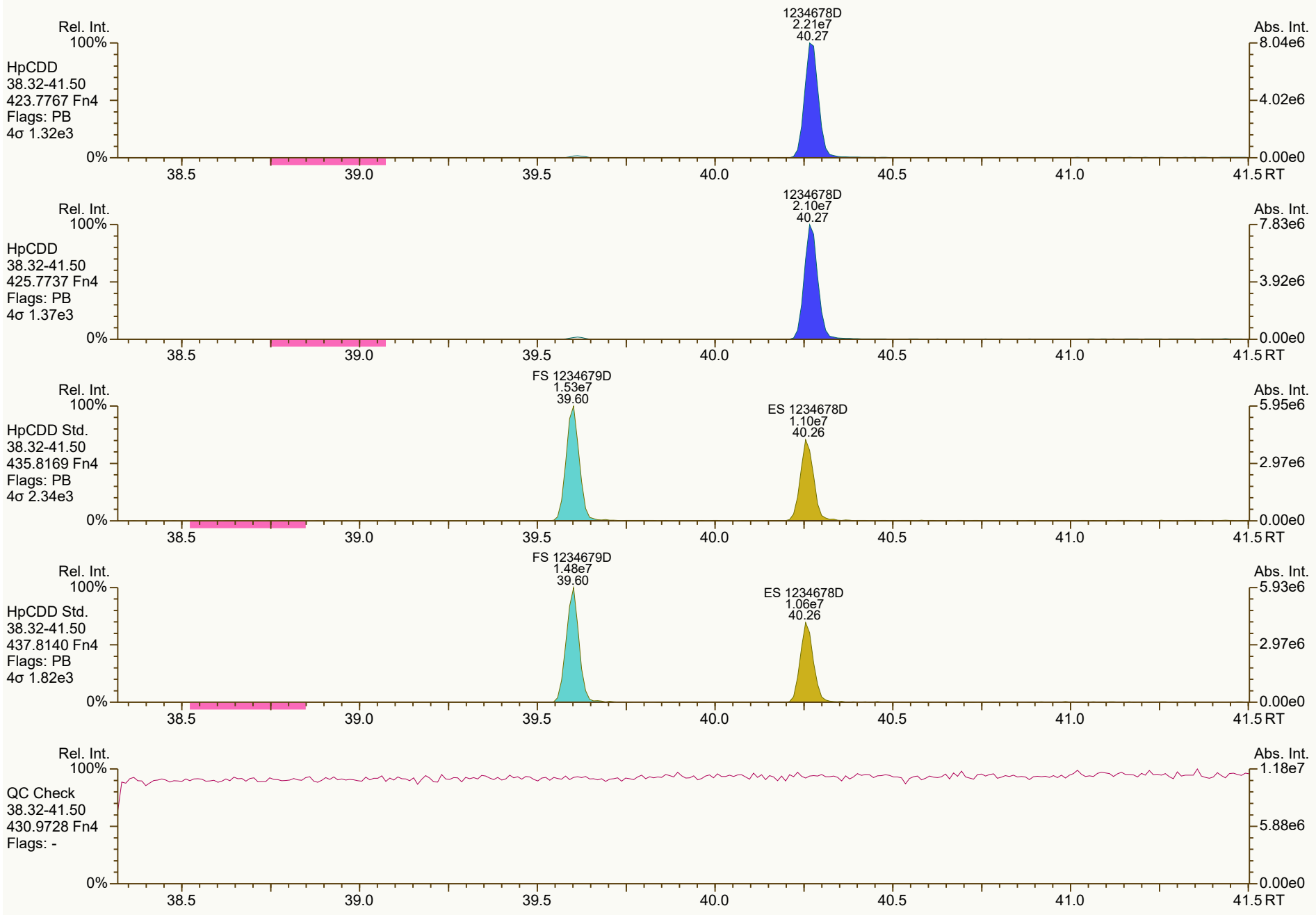
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

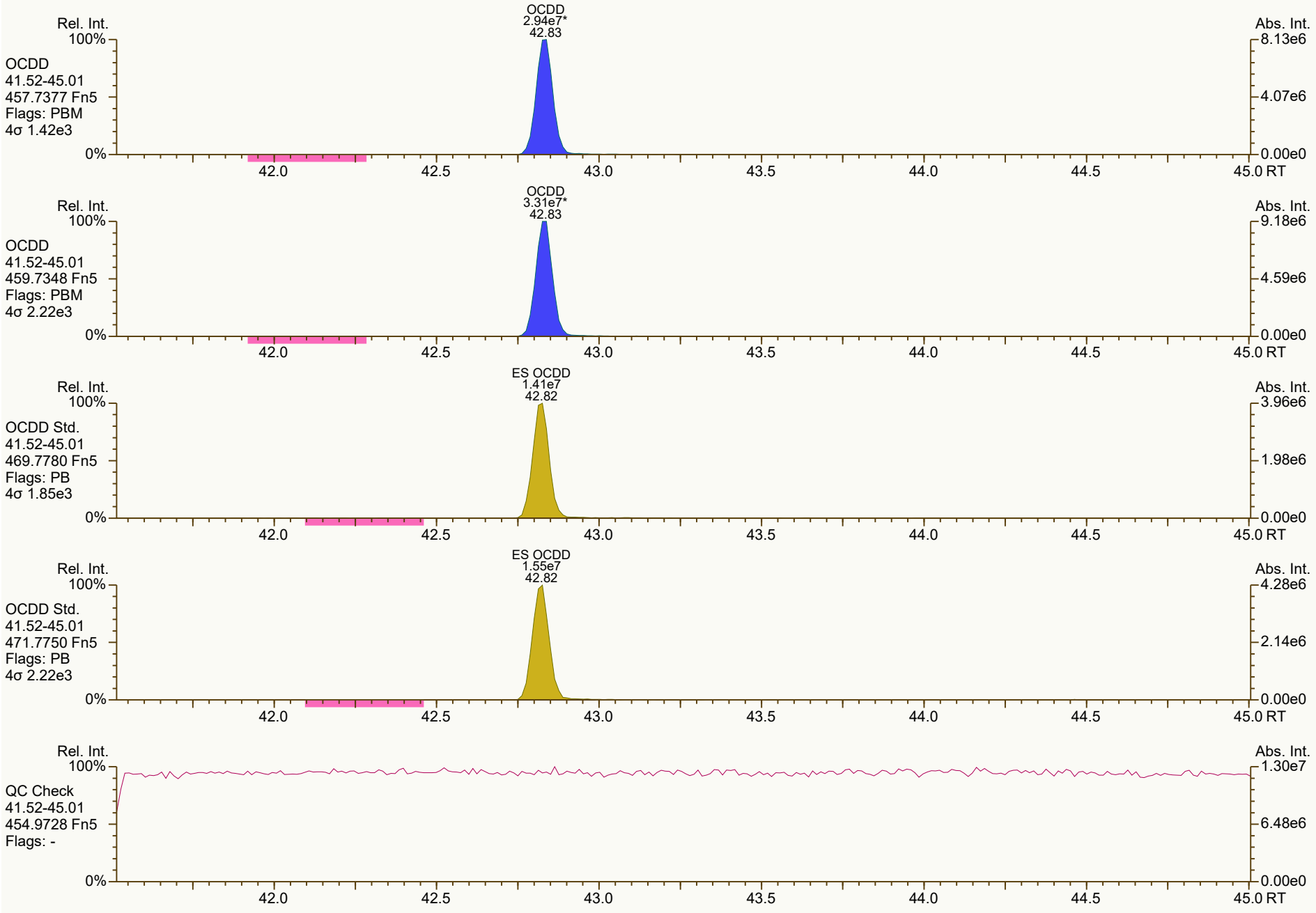

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

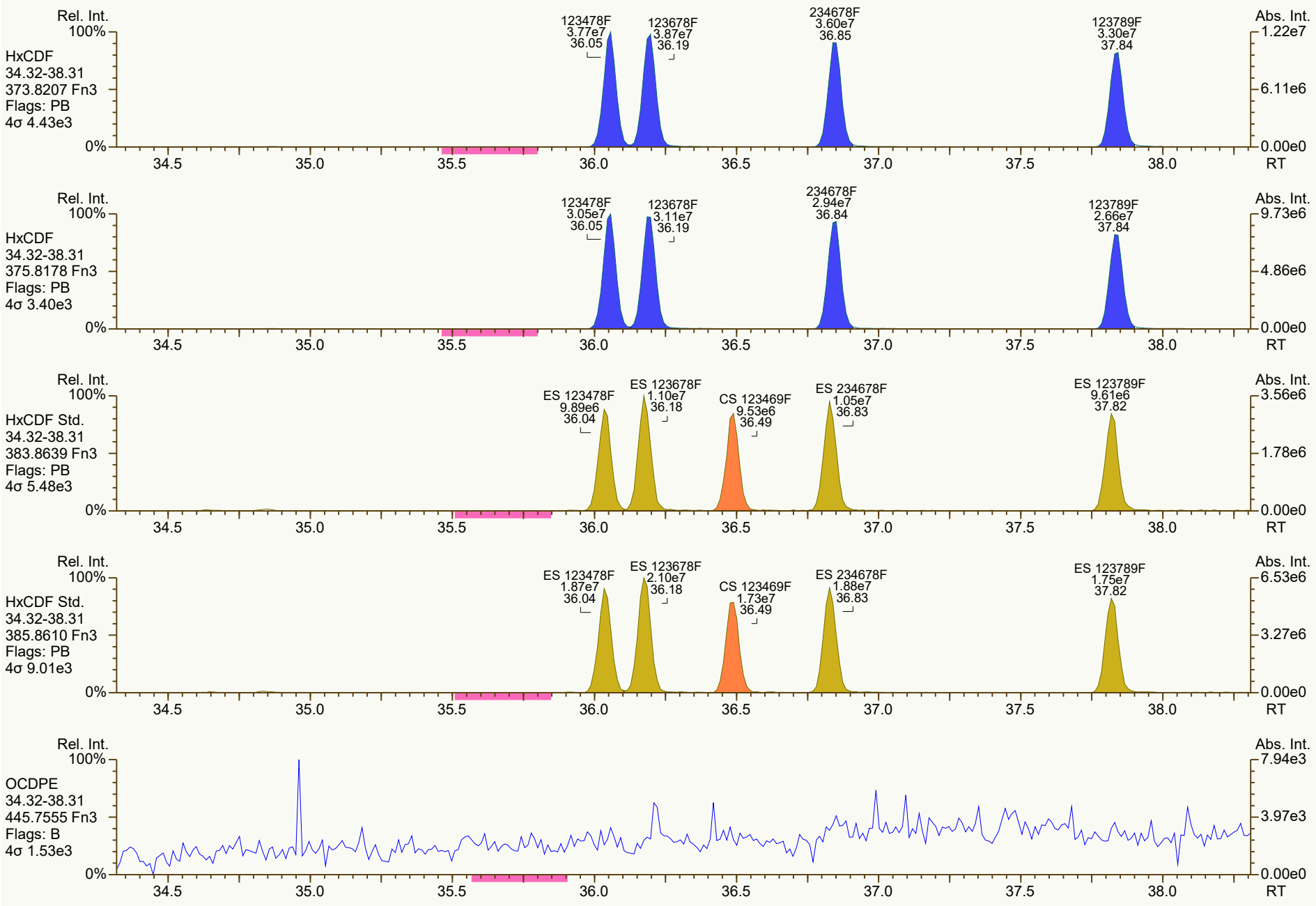

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

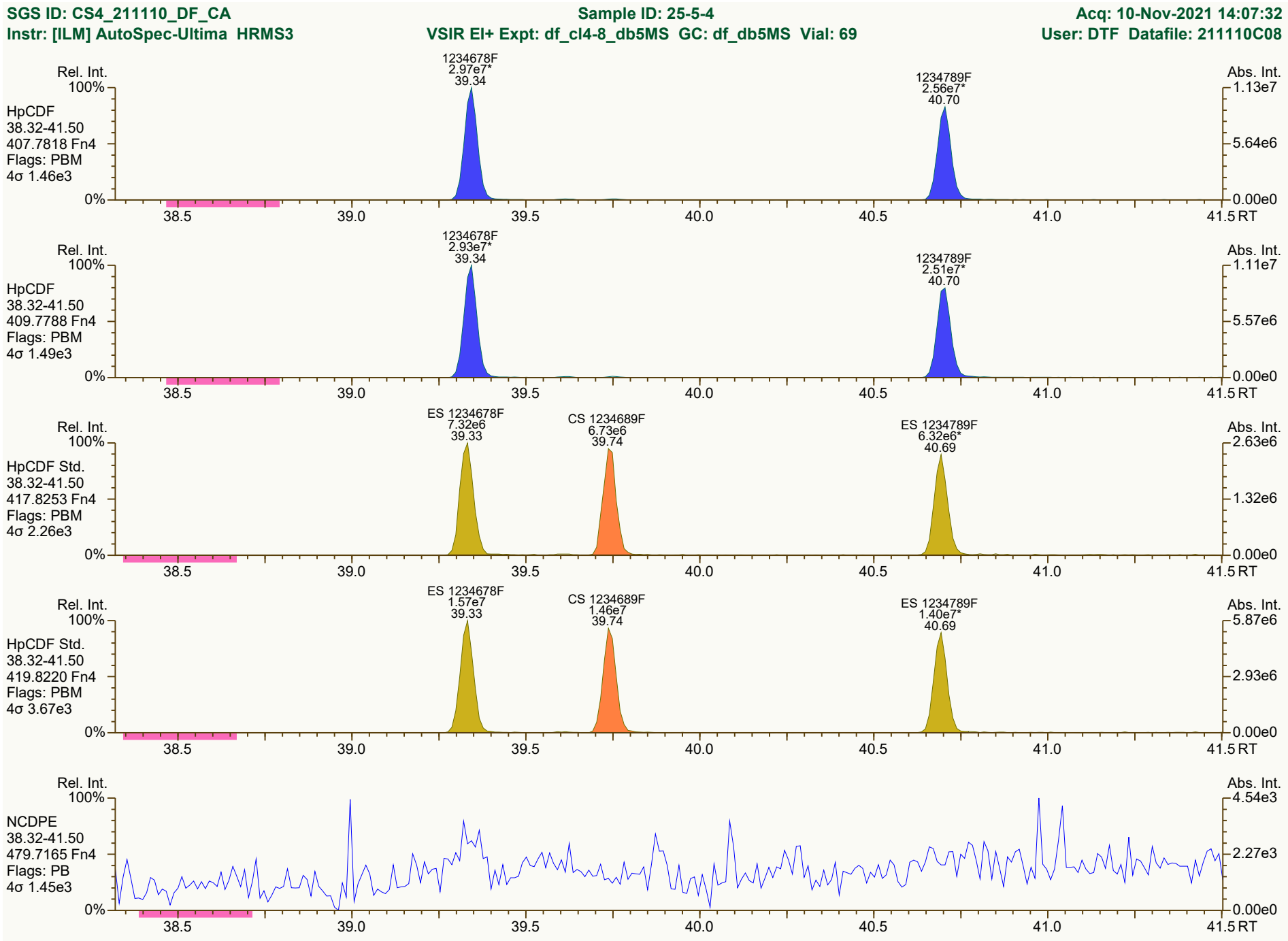

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

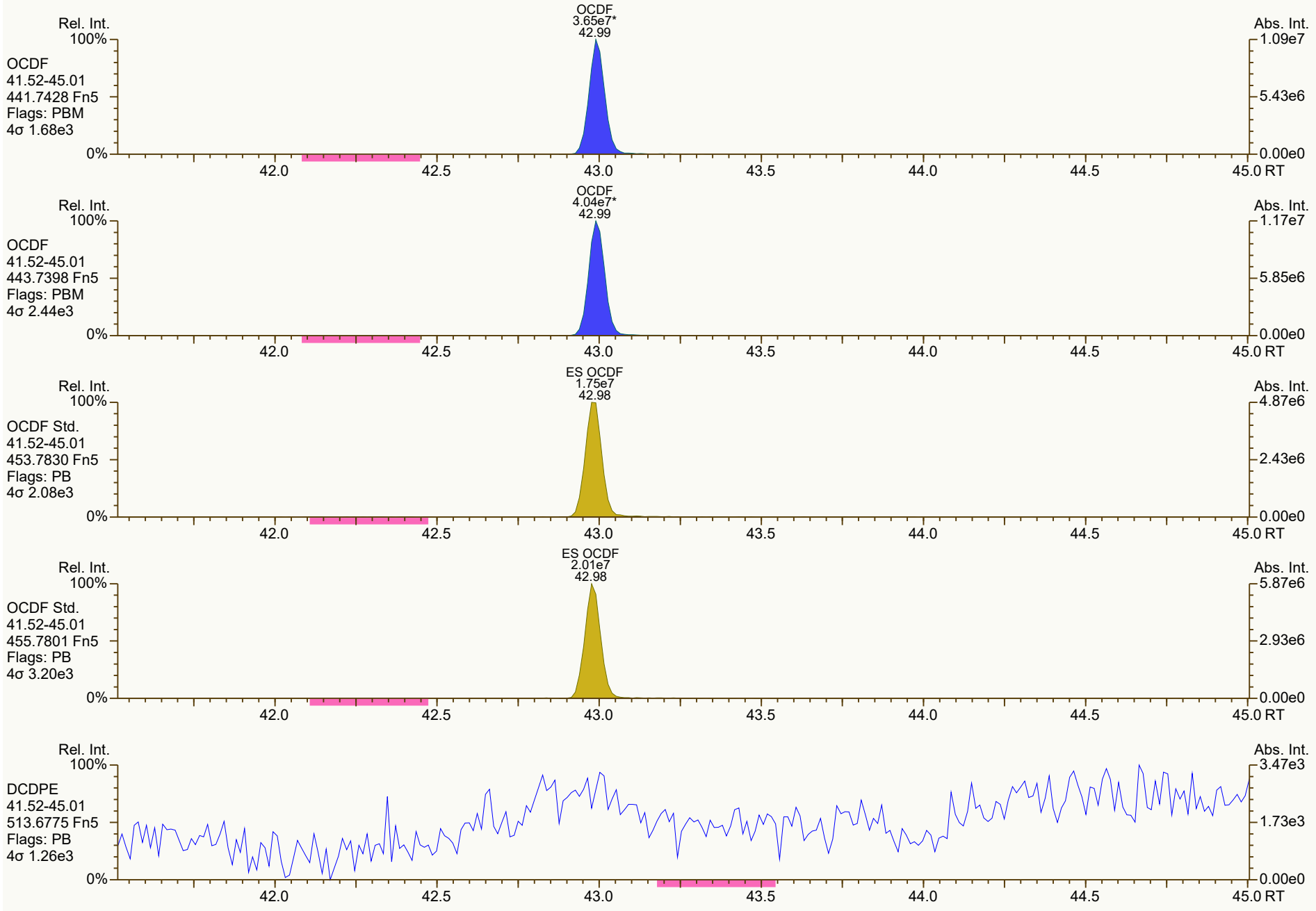

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

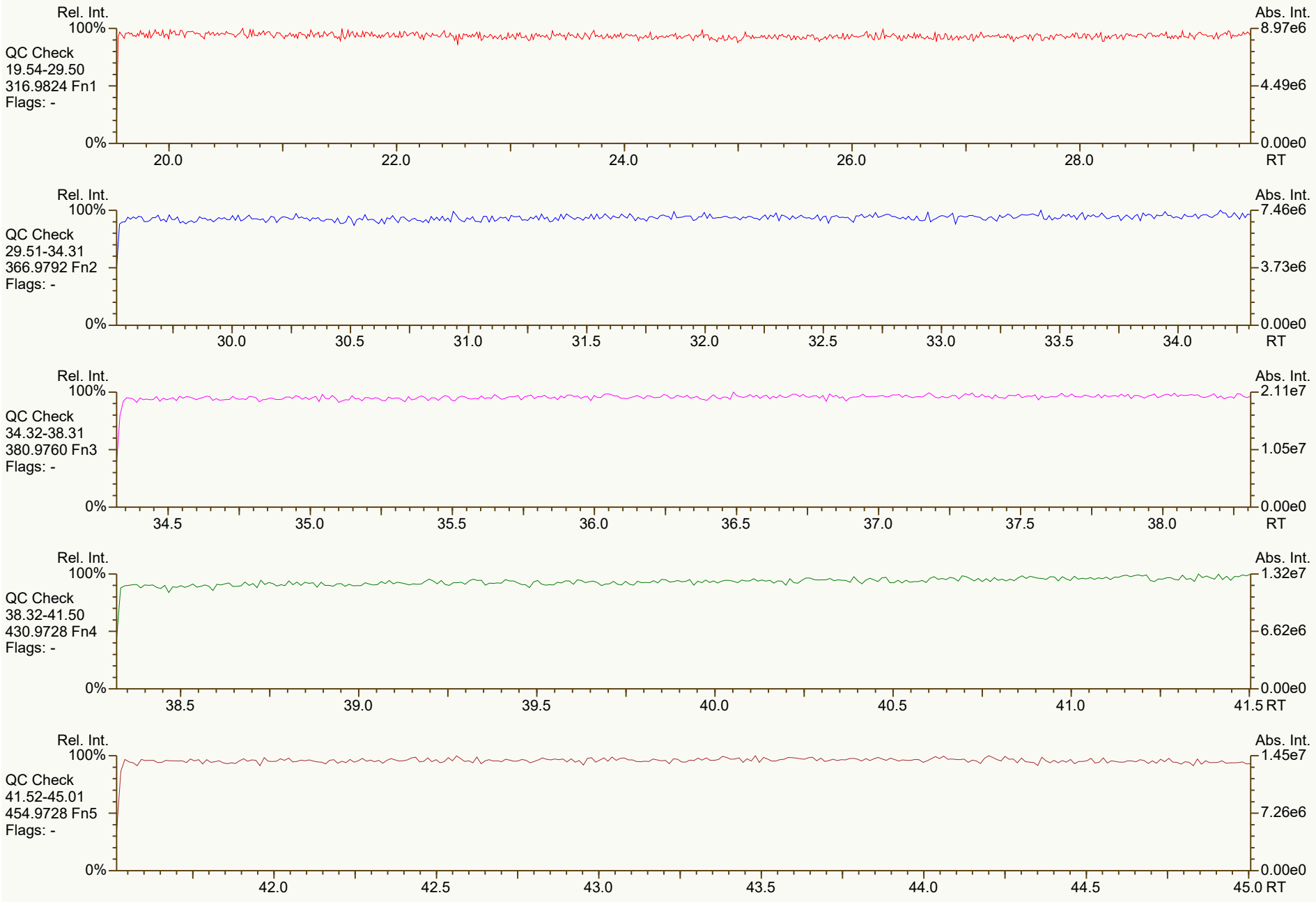

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

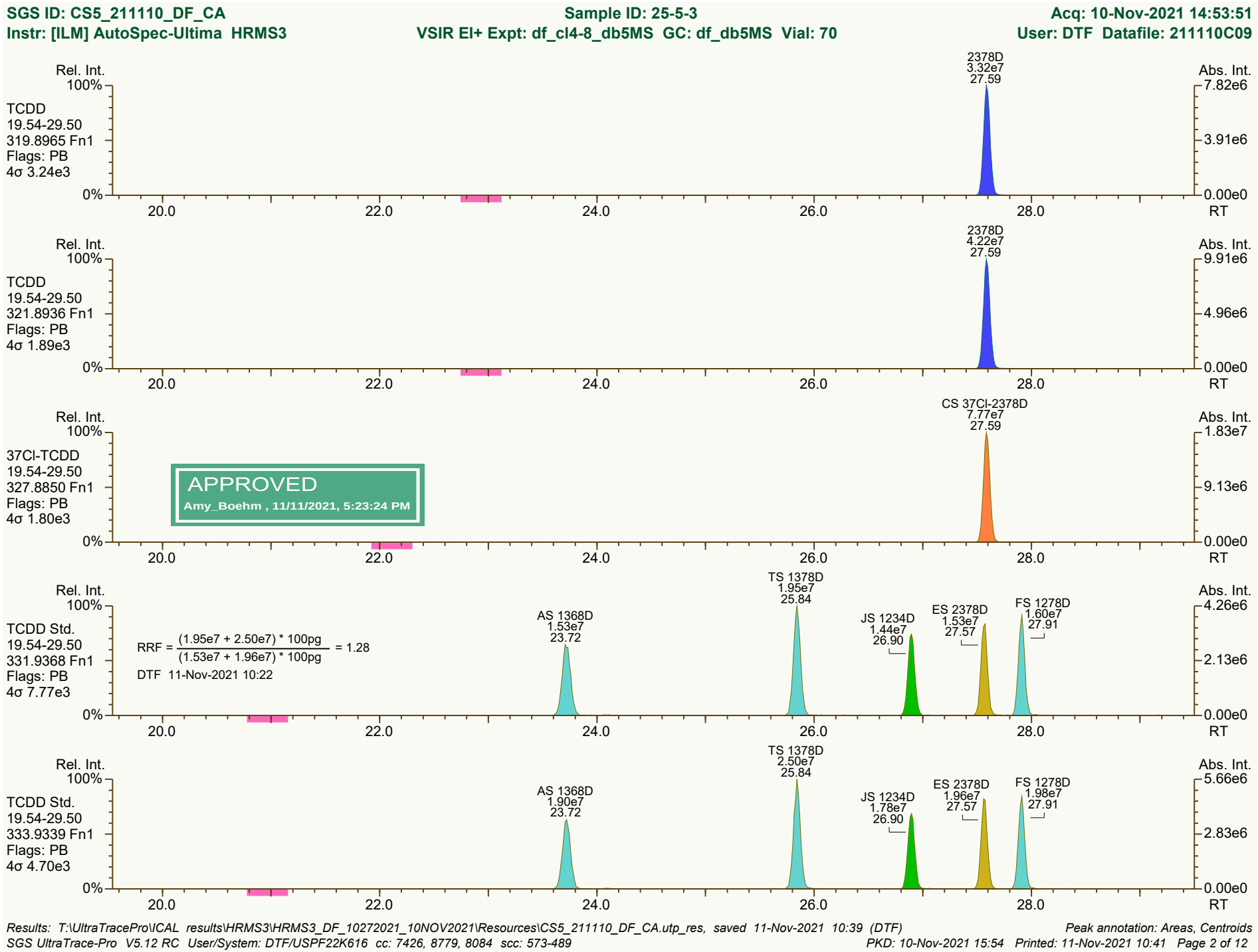
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

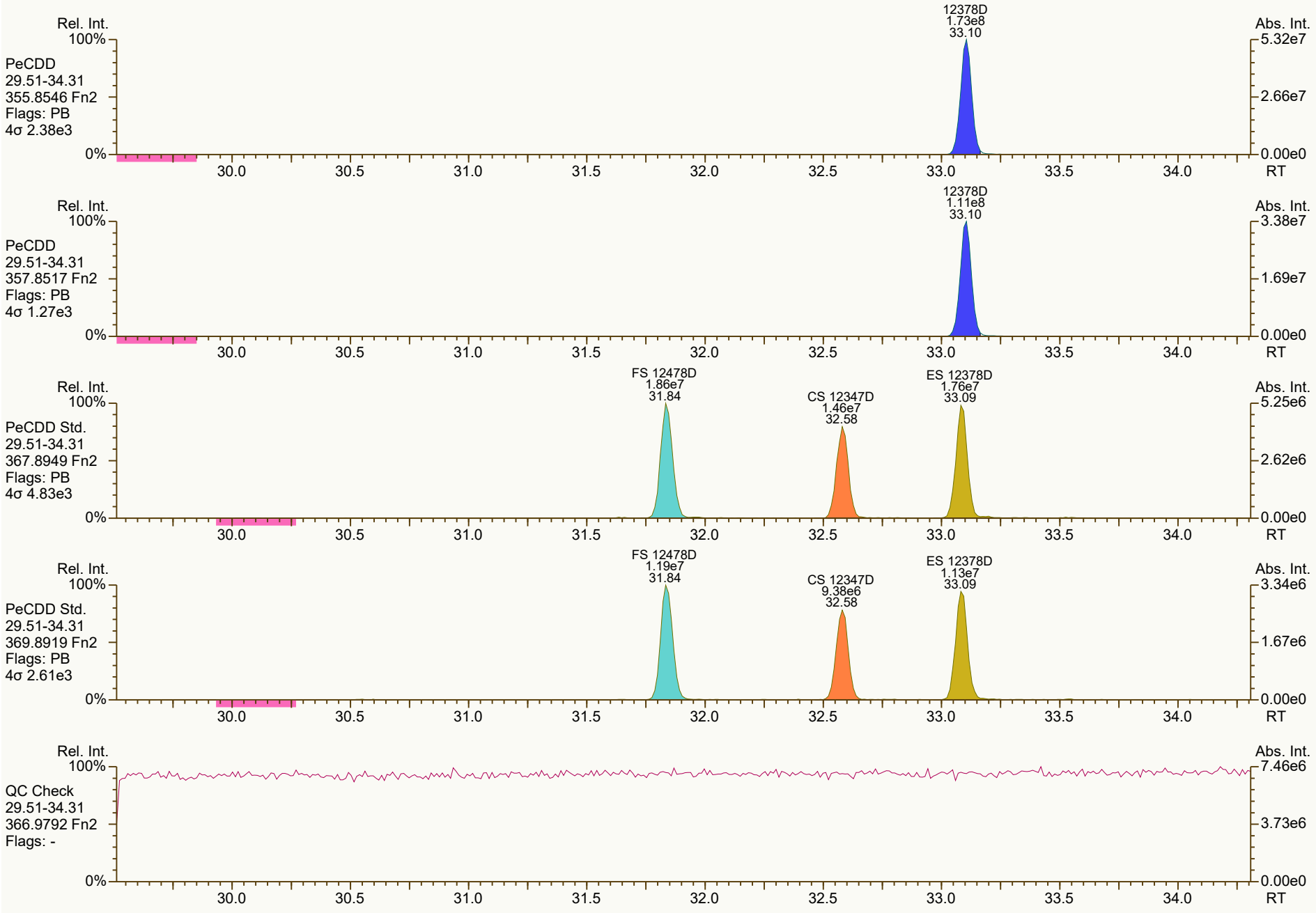
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

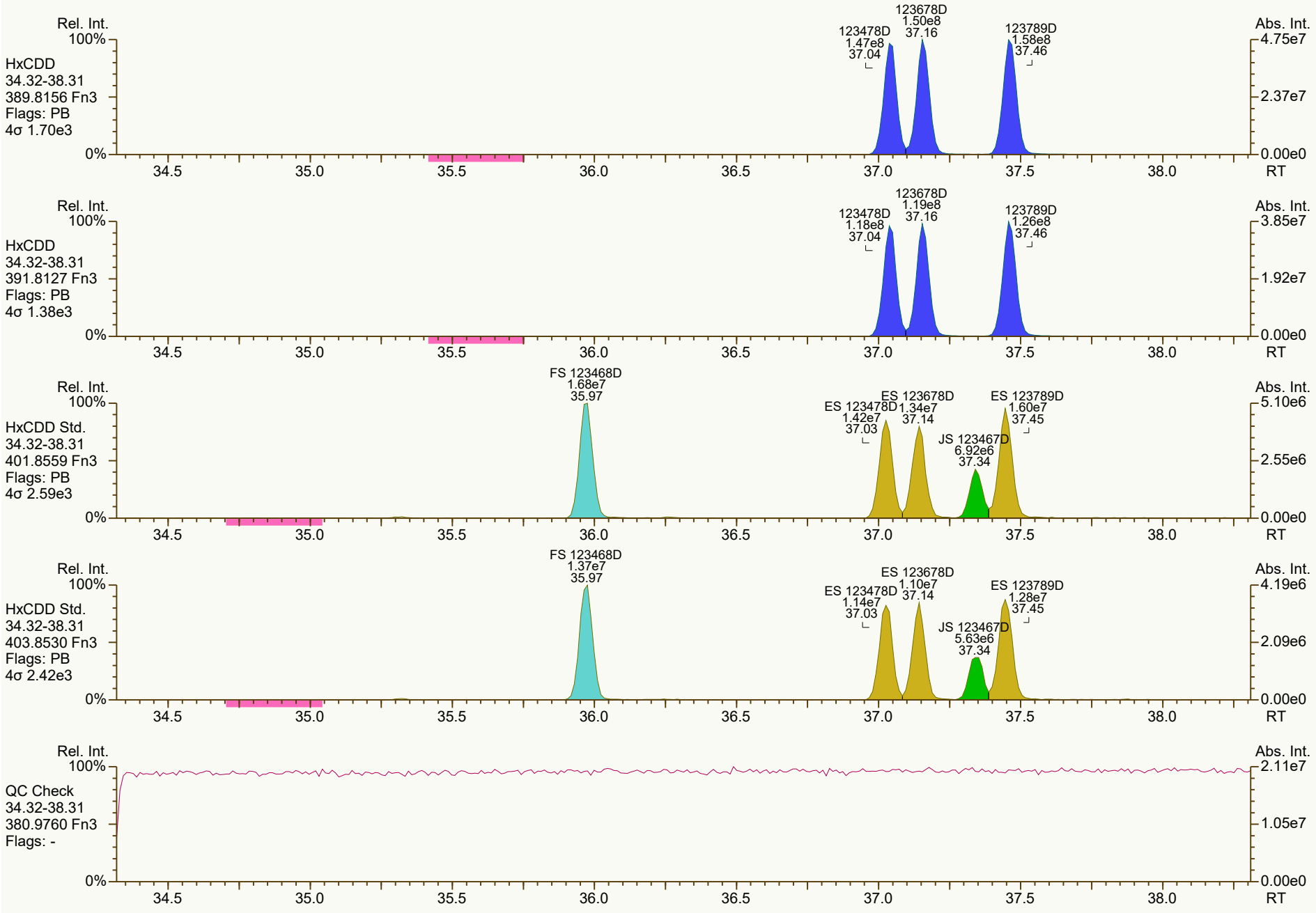
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

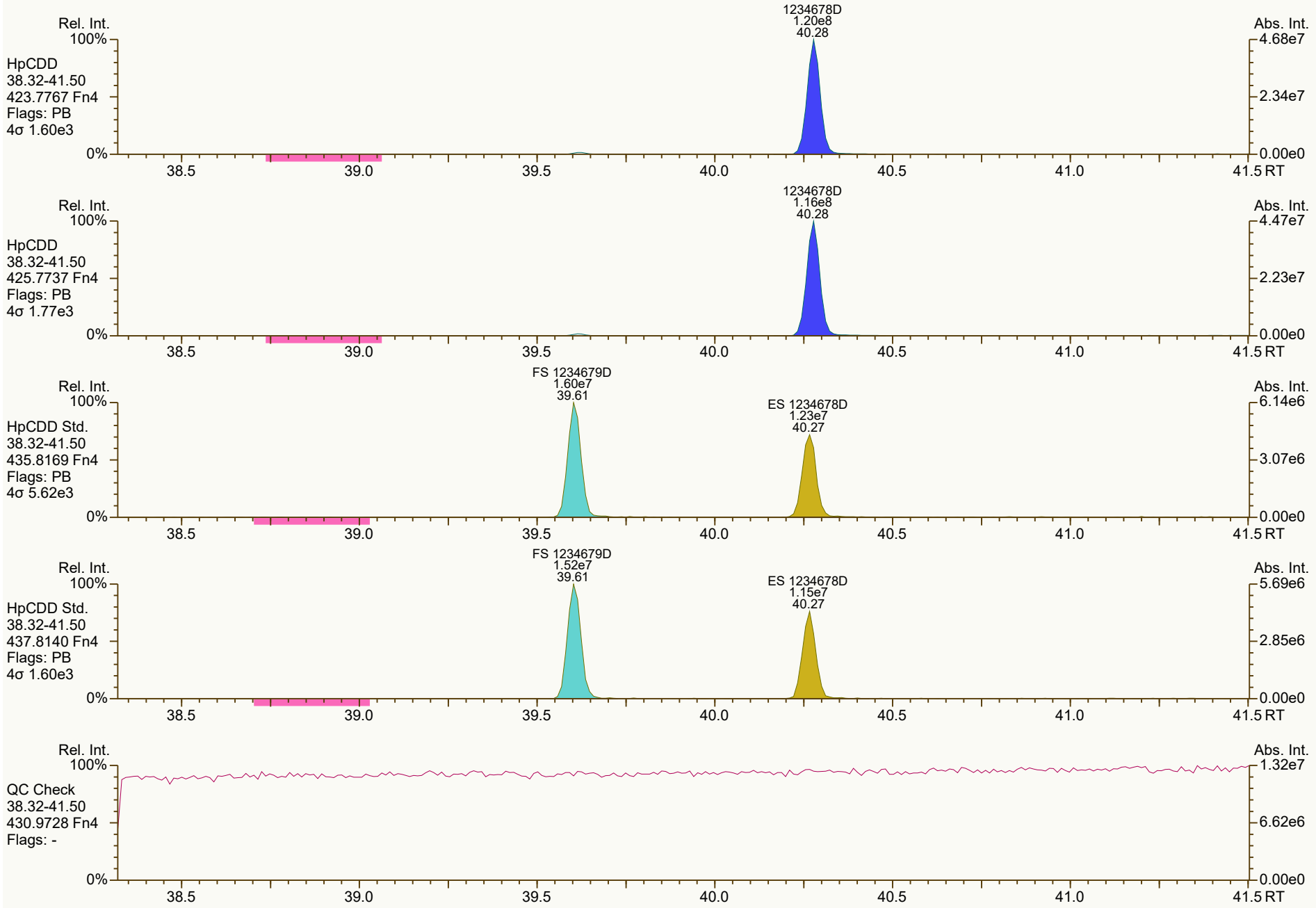
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

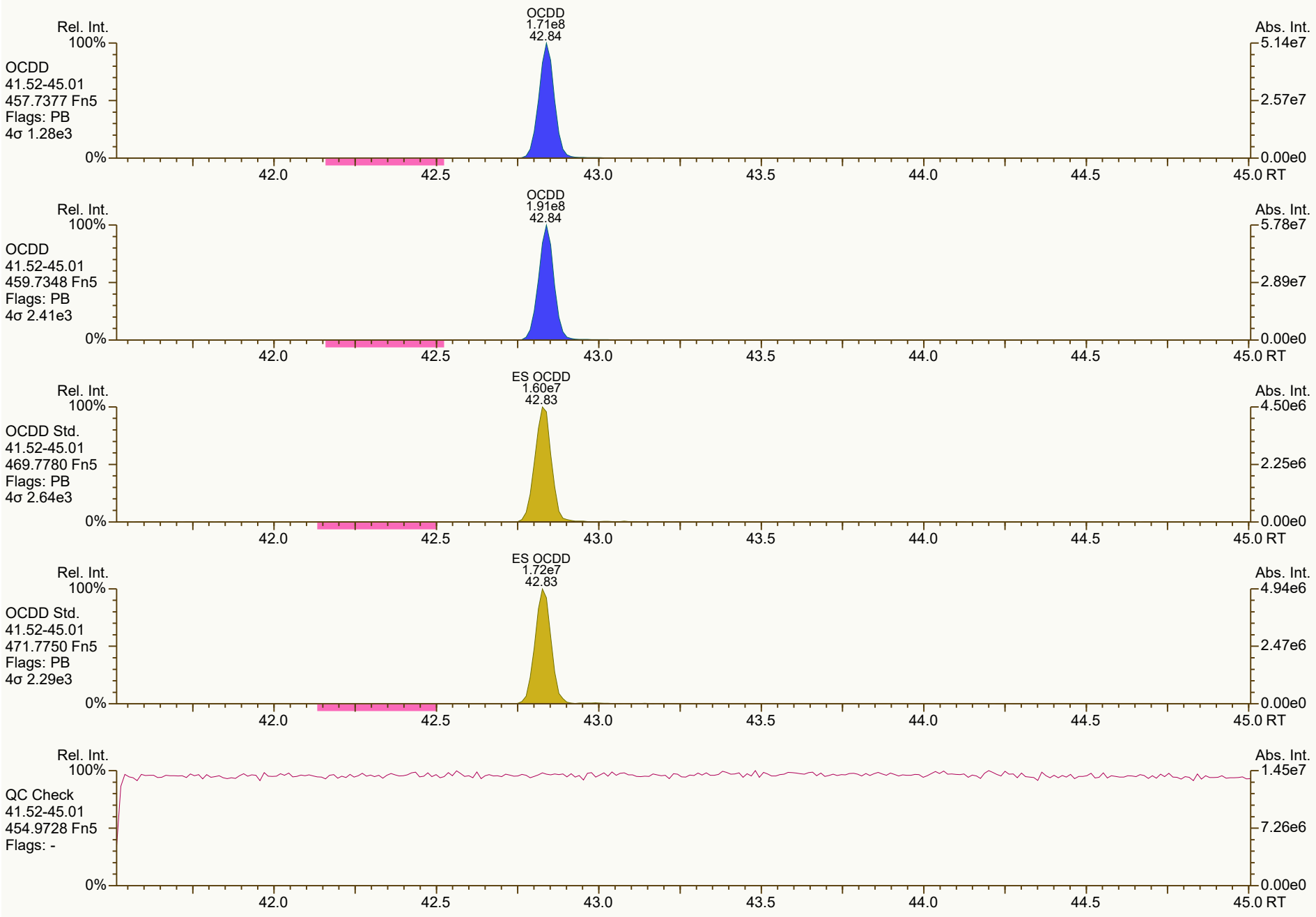

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
2378D
3.32e7
27.59
7.82e6
3.91e6
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7426, 8779, 8084 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

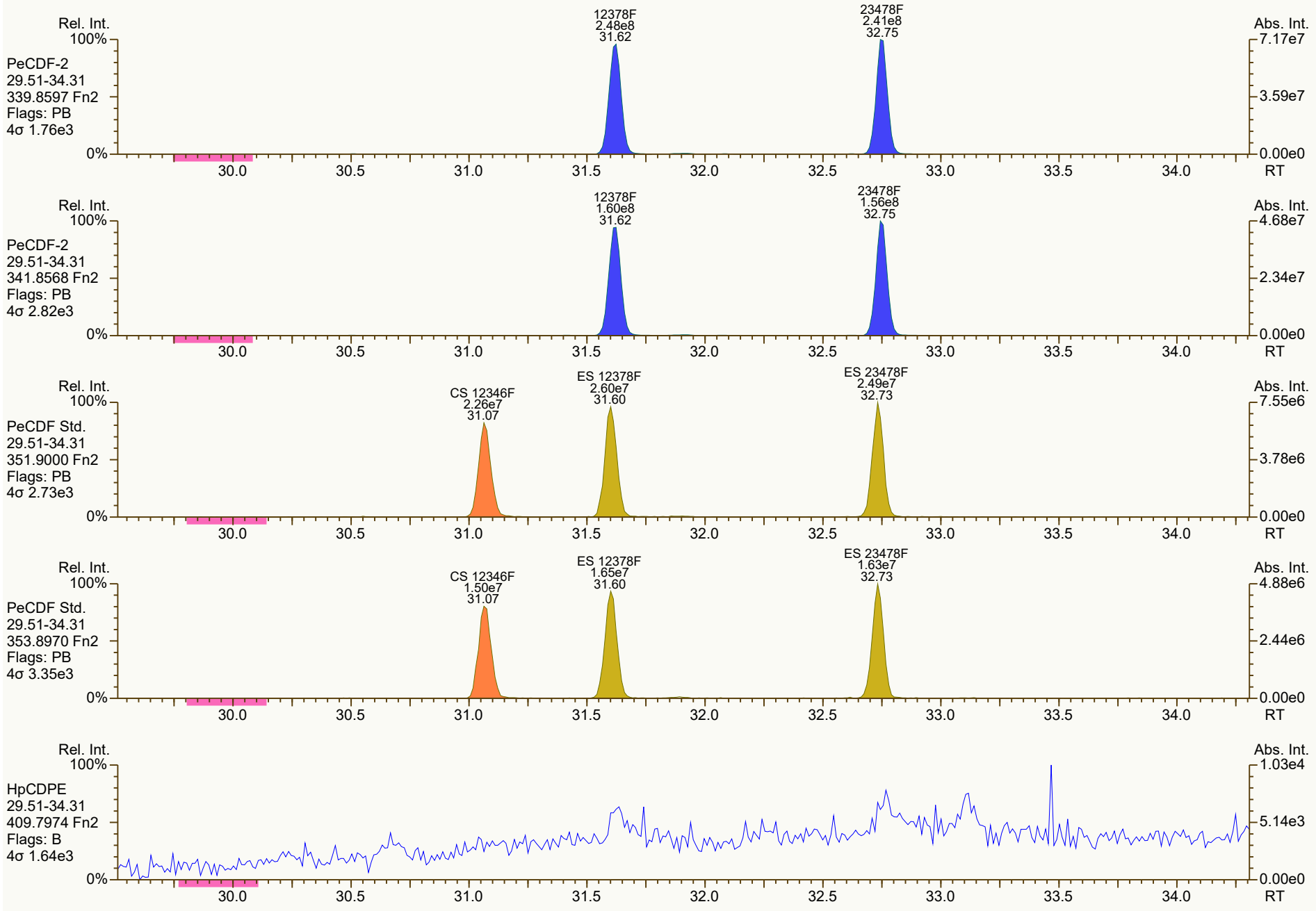

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

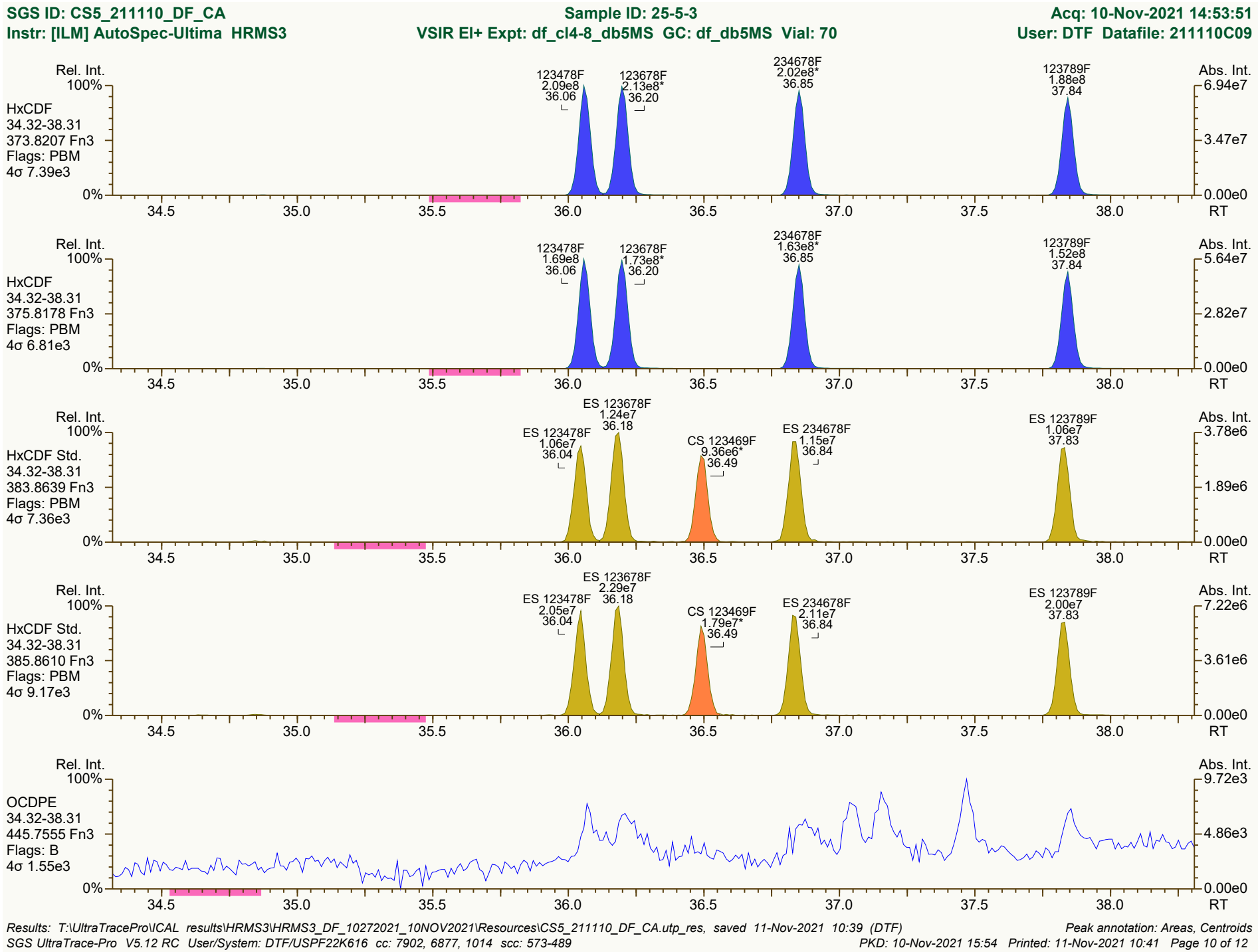

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

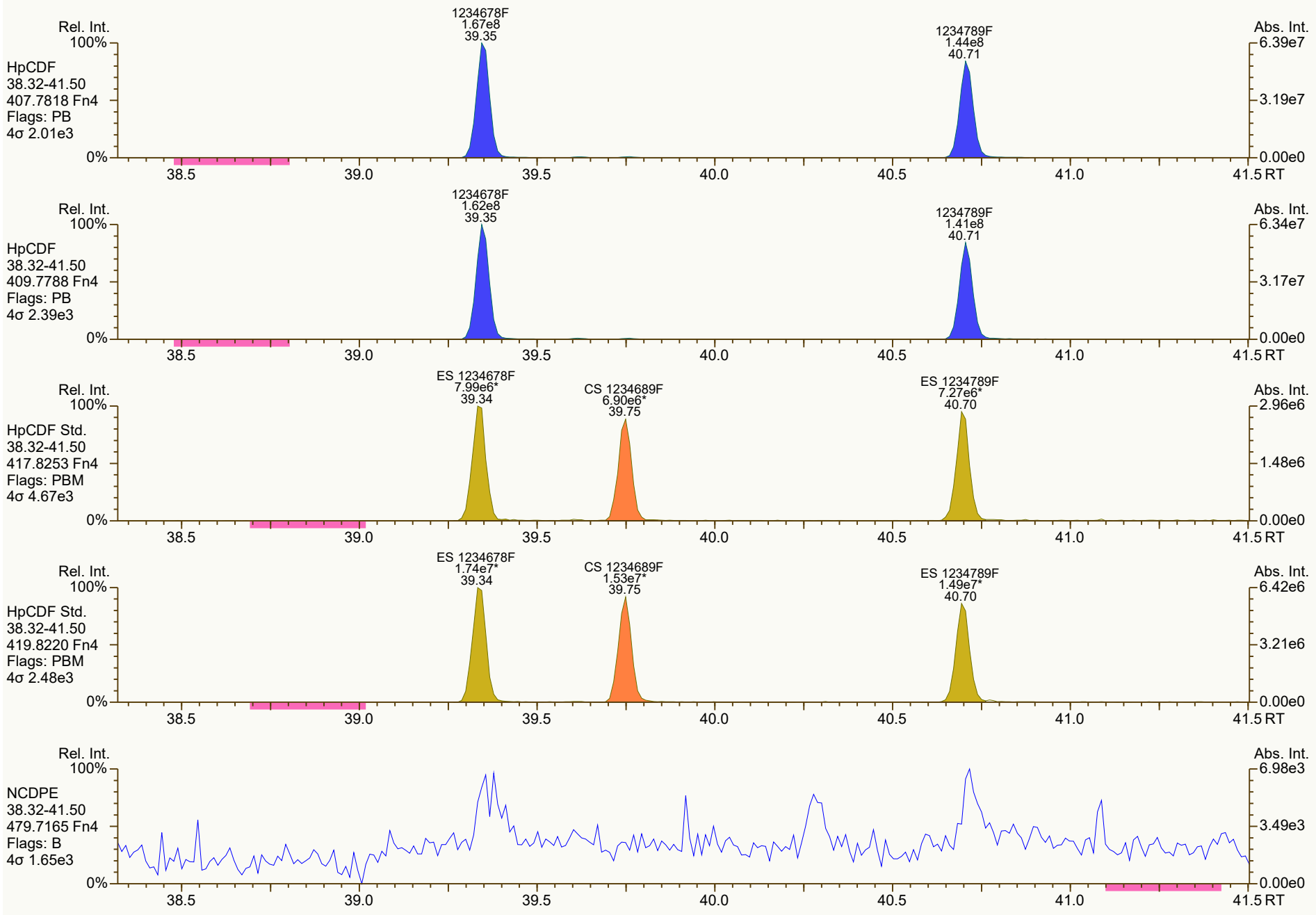

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

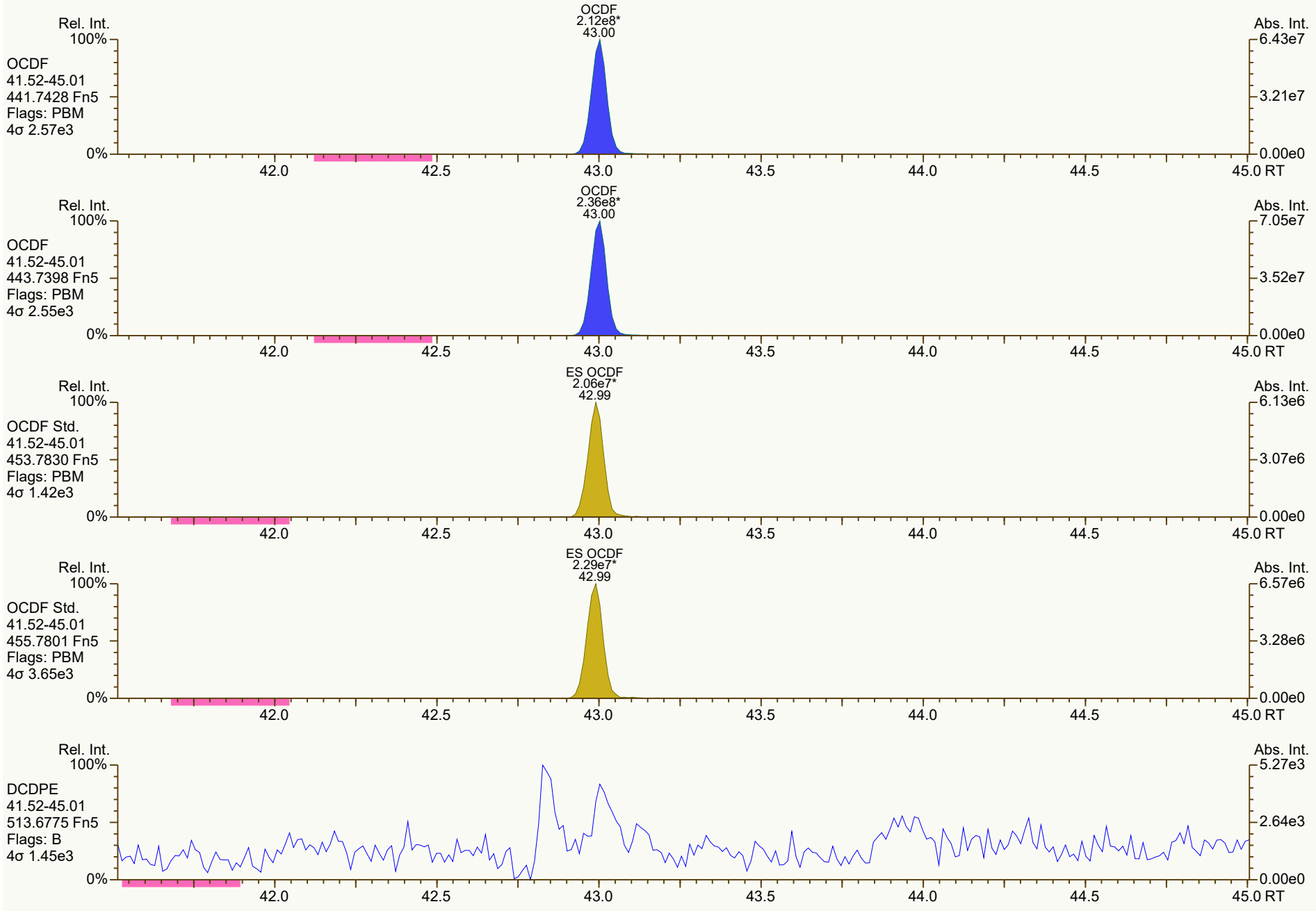

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F 2.09e8 36.06
123678F 2.13e8* 36.20
234678F 2.02e8* 36.85
123789F 1.88e8 37.84
6.94e7
3.47e7
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F 1.69e8 36.06
123678F 1.73e8* 36.20
234678F 1.63e8* 36.85
123789F 1.52e8 37.84
5.64e7
2.82e7
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123478F 1.06e7 36.04
ES 123678F 1.24e7 36.18
CS 123469F 9.36e6* 36.49
ES 234678F 1.15e7 36.84
ES 123789F 1.06e7 37.83
3.78e6
1.89e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123478F 2.05e7 36.04
ES 123678F 2.29e7 36.18
CS 123469F 1.79e7* 36.49
ES 234678F 2.11e7 36.84
ES 123789F 2.00e7 37.83
7.22e6
3.61e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
9.72e3
4.86e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

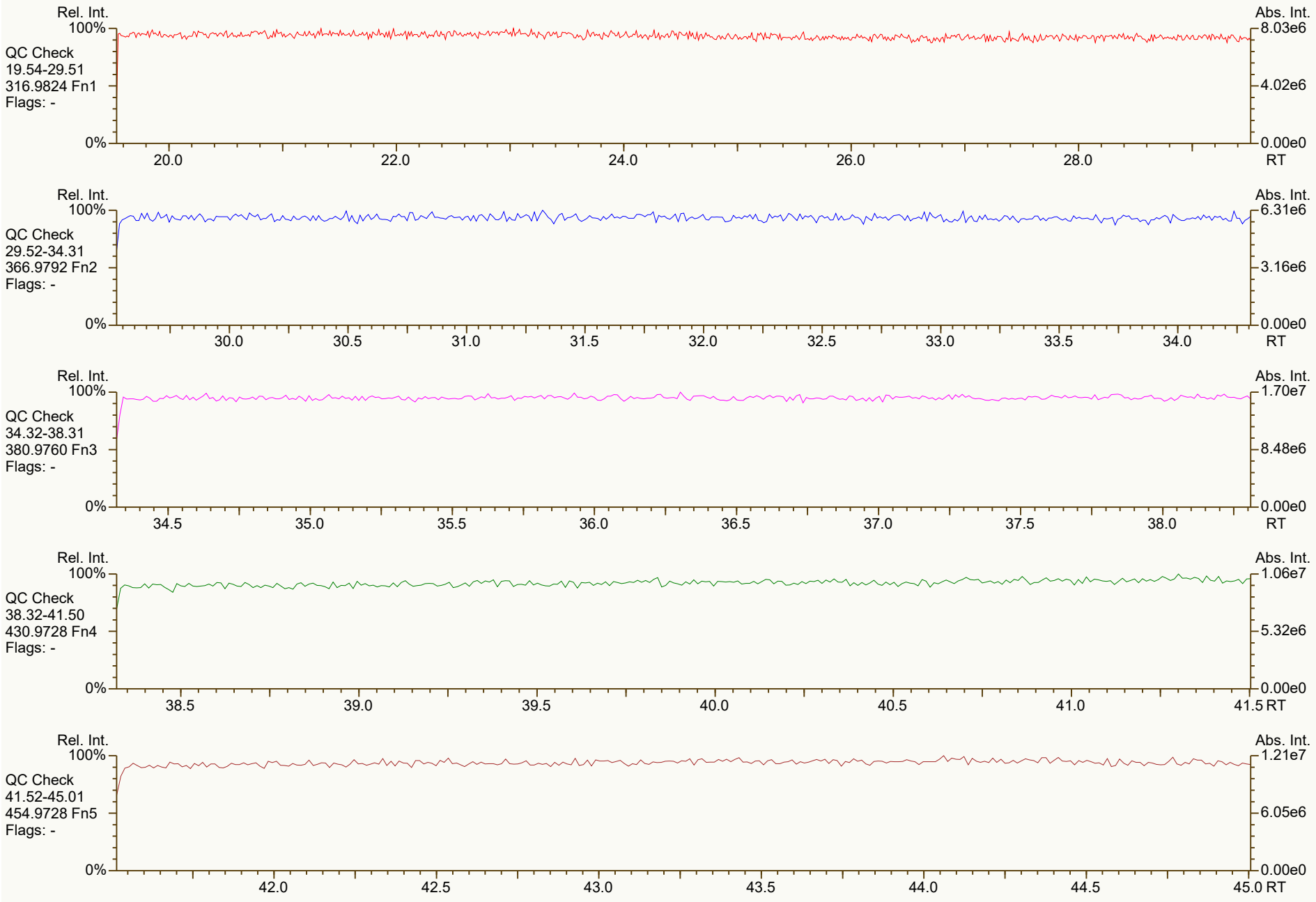

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

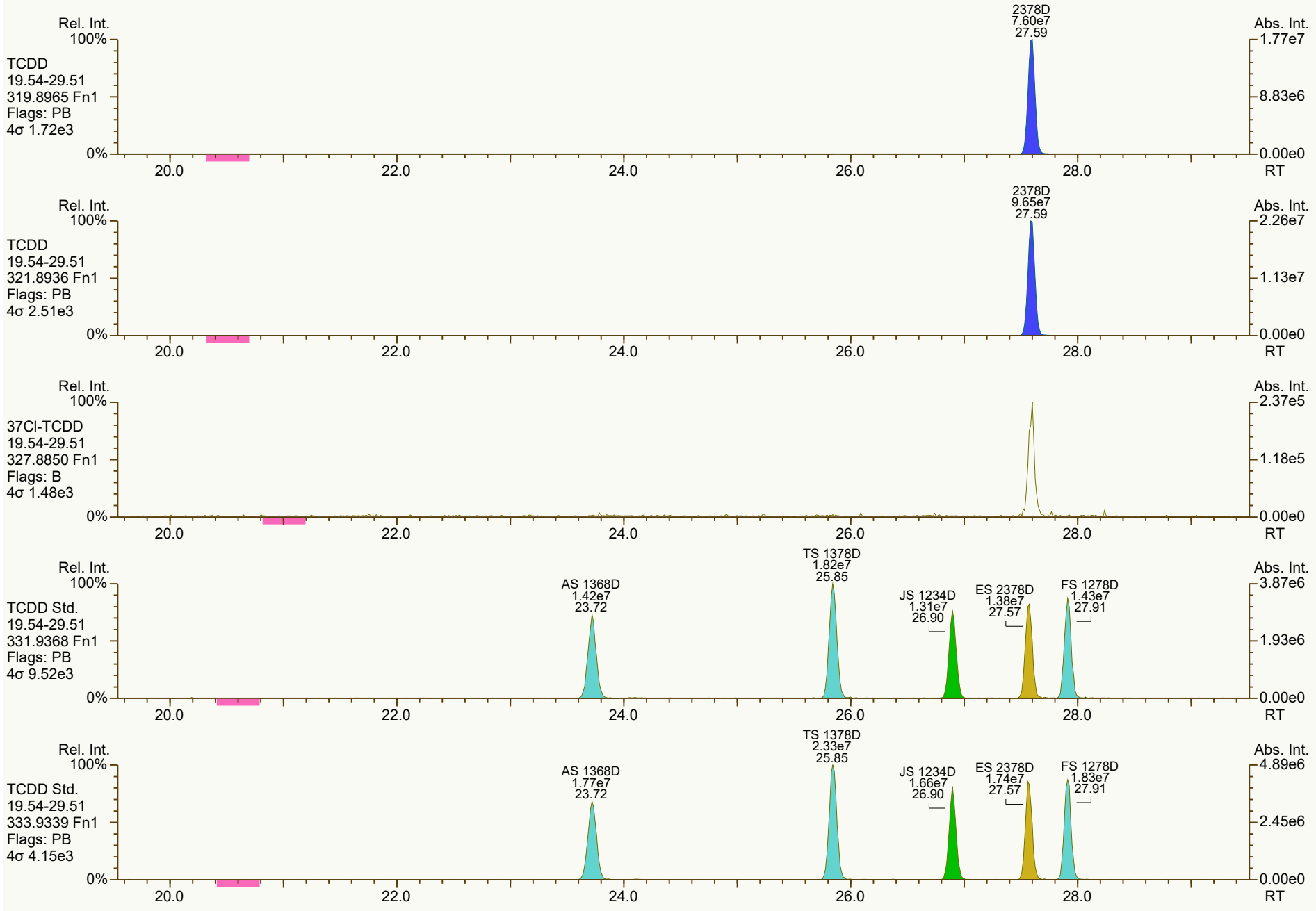

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

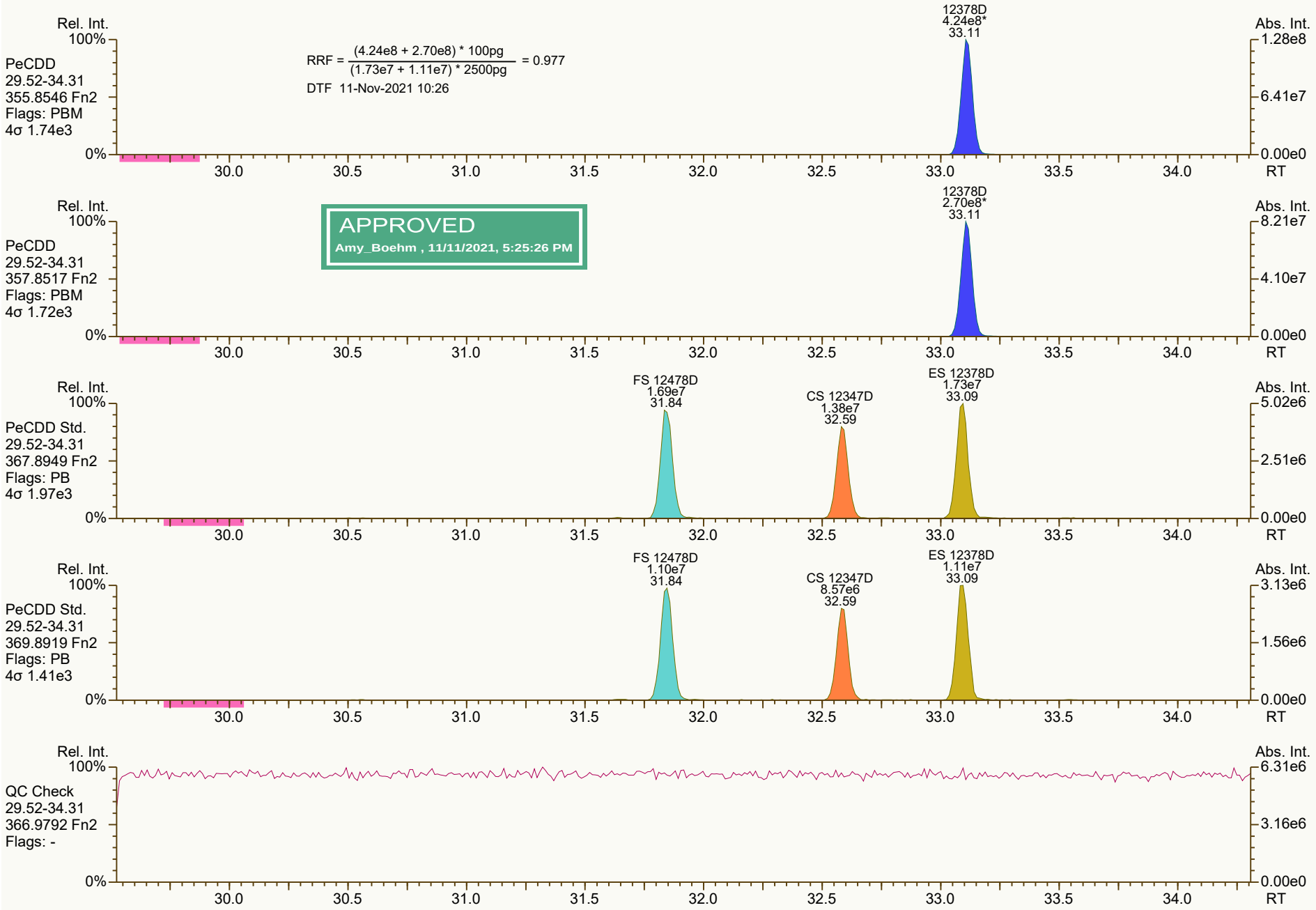
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

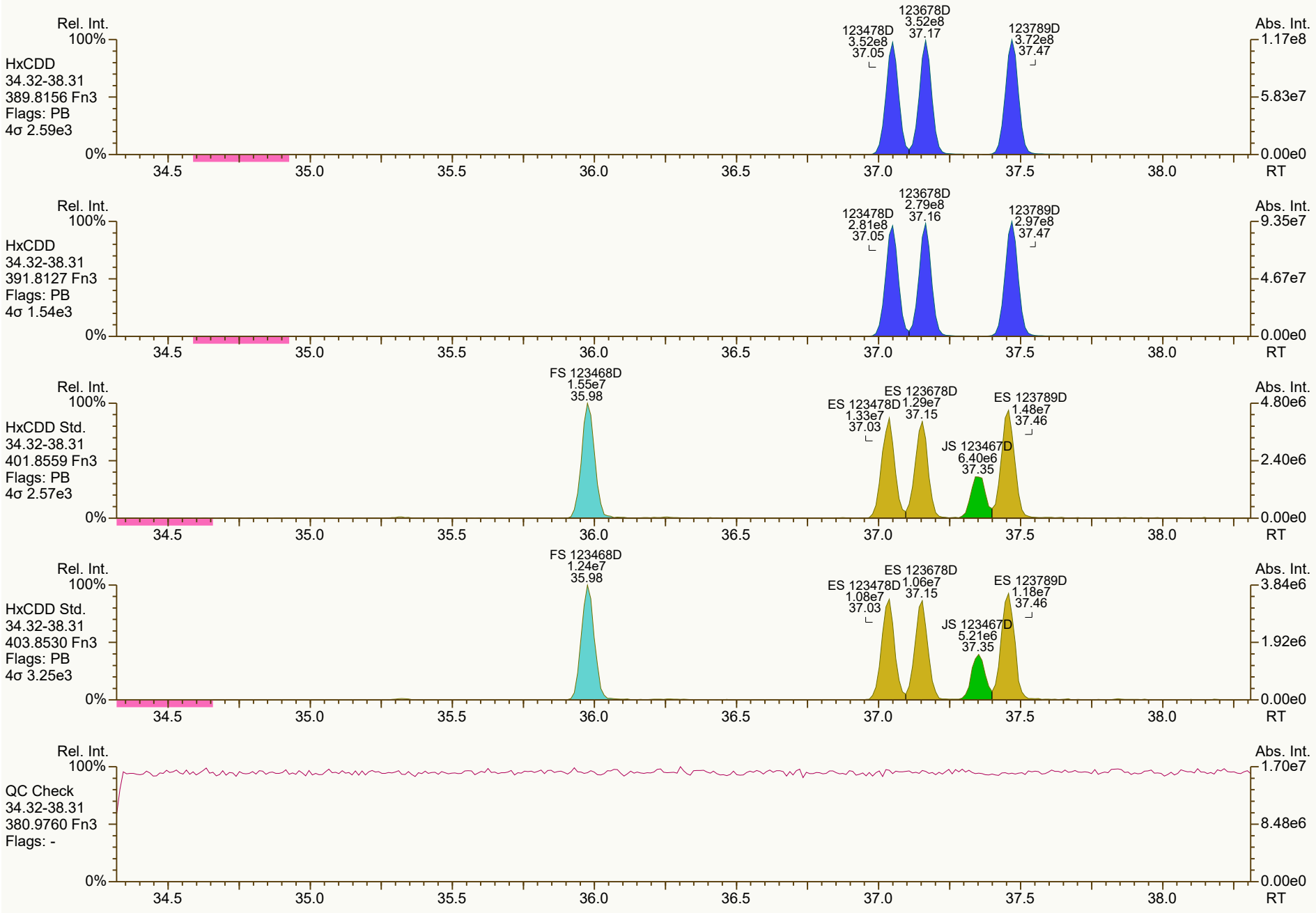
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

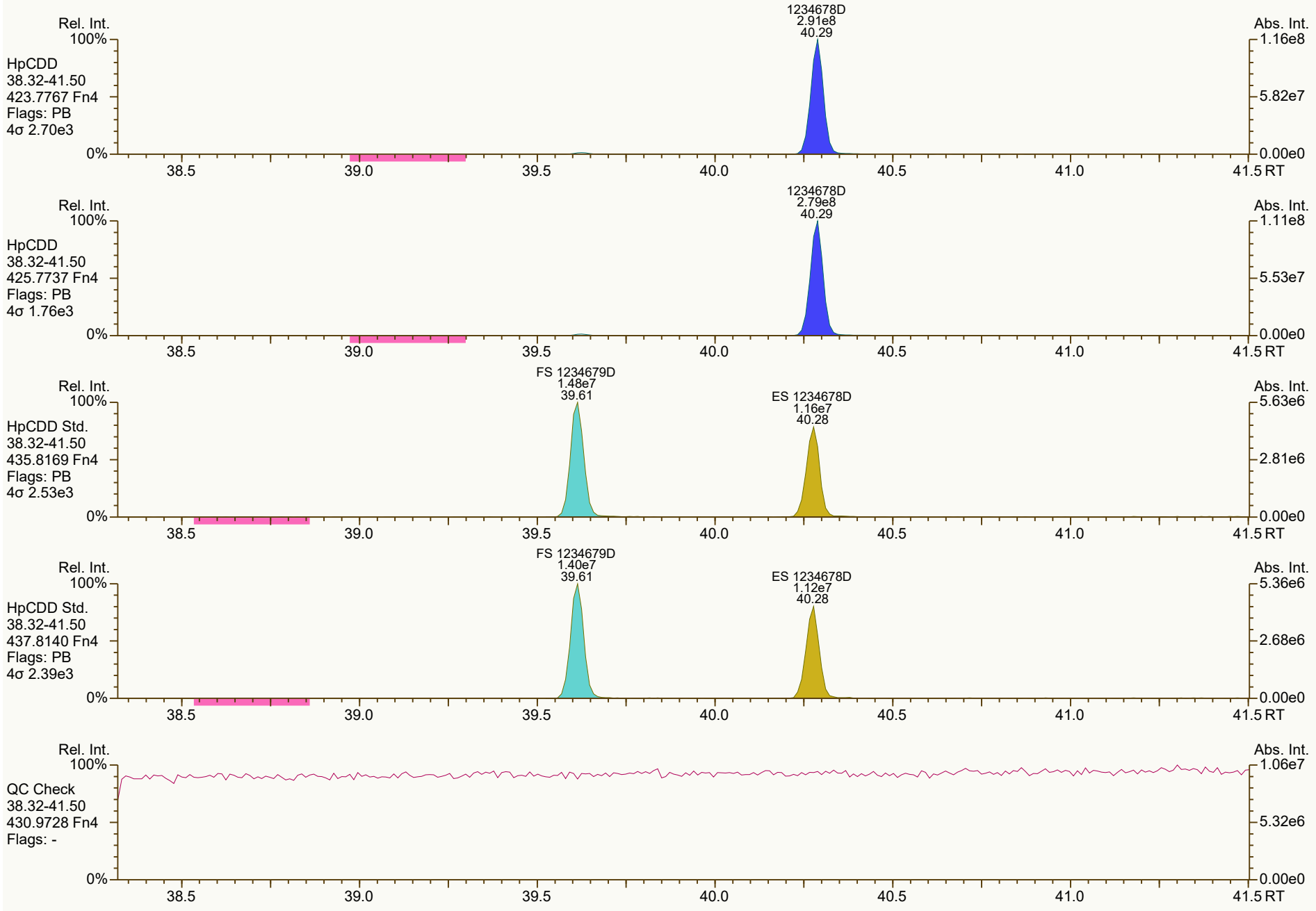
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

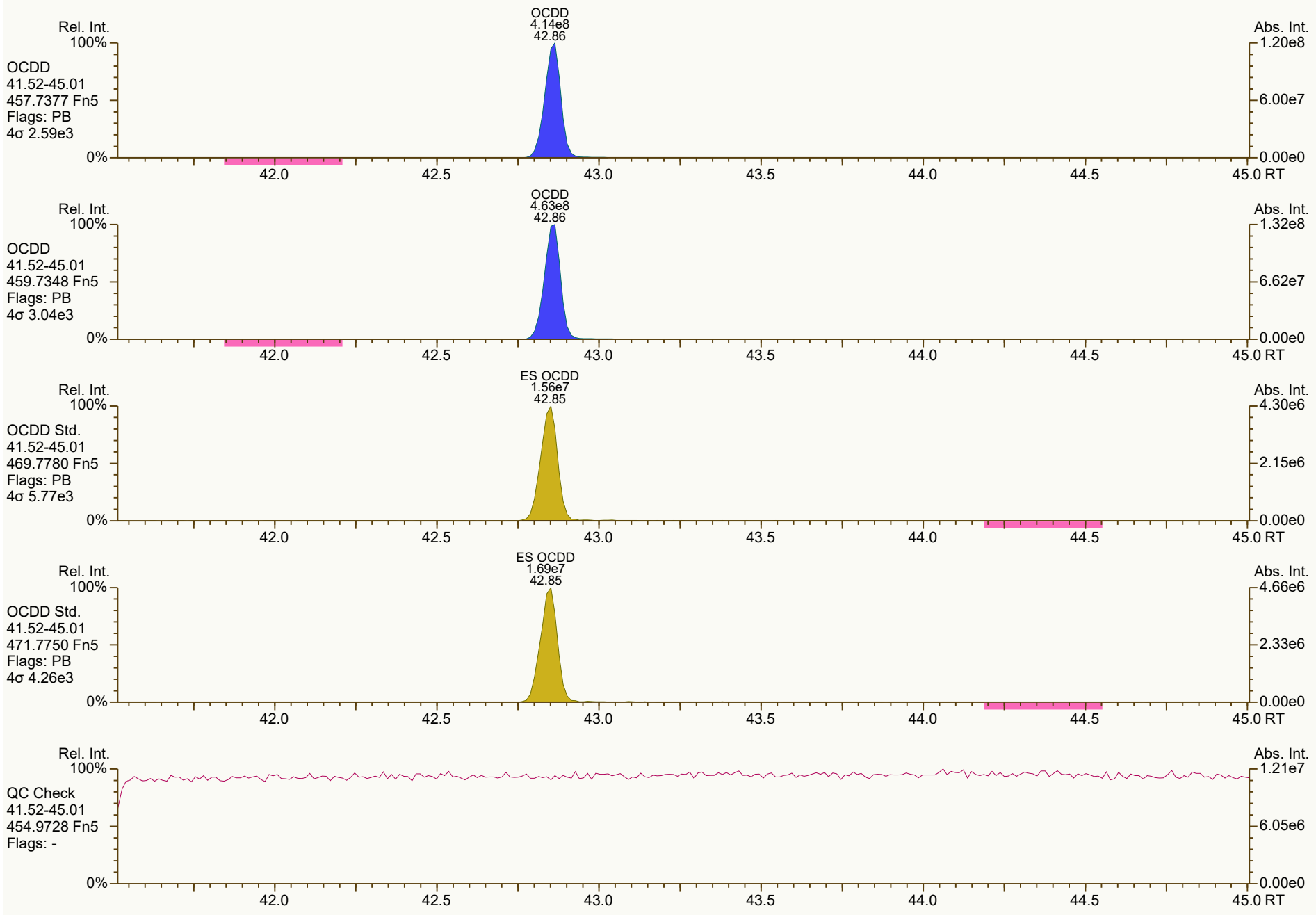

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

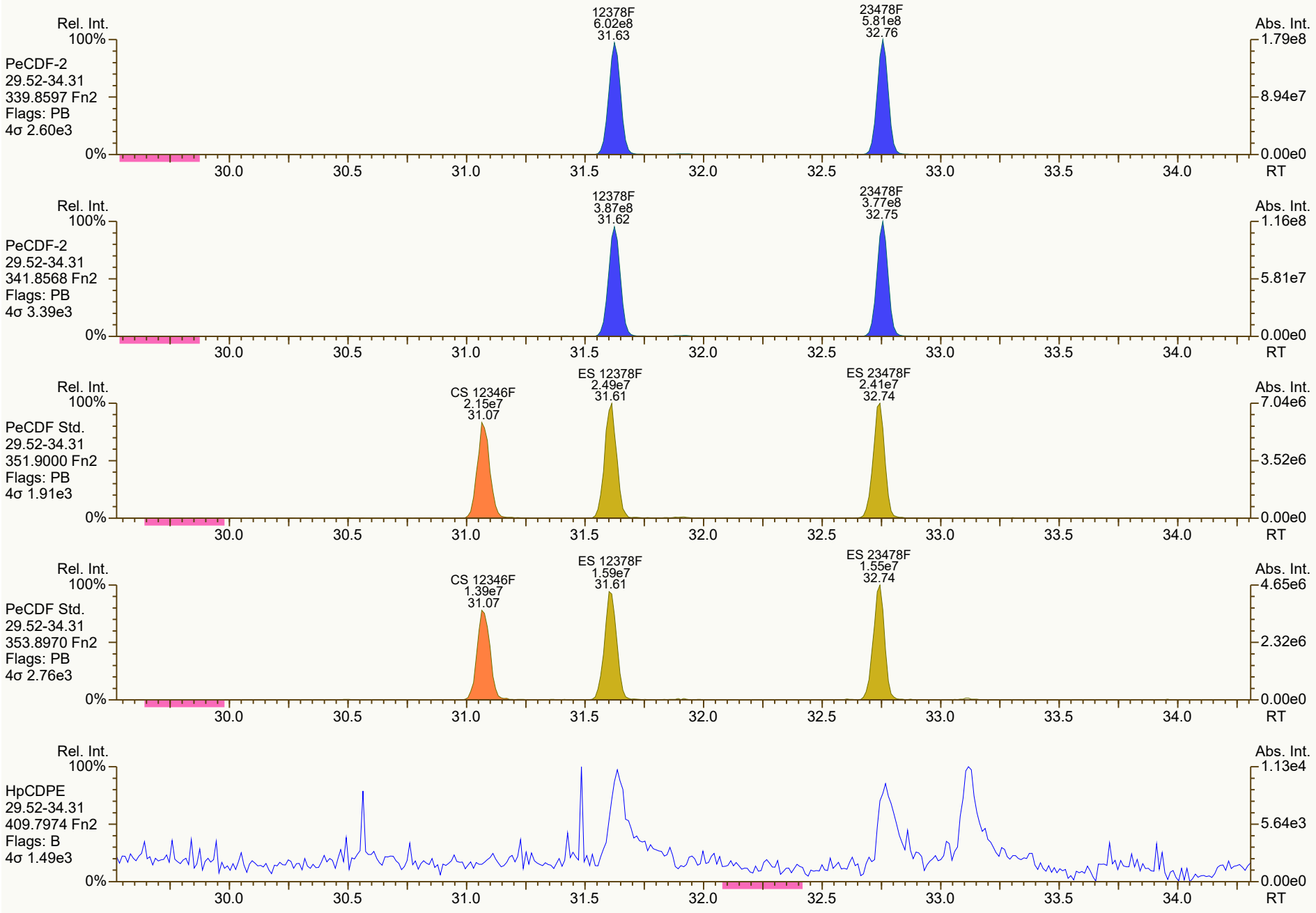

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

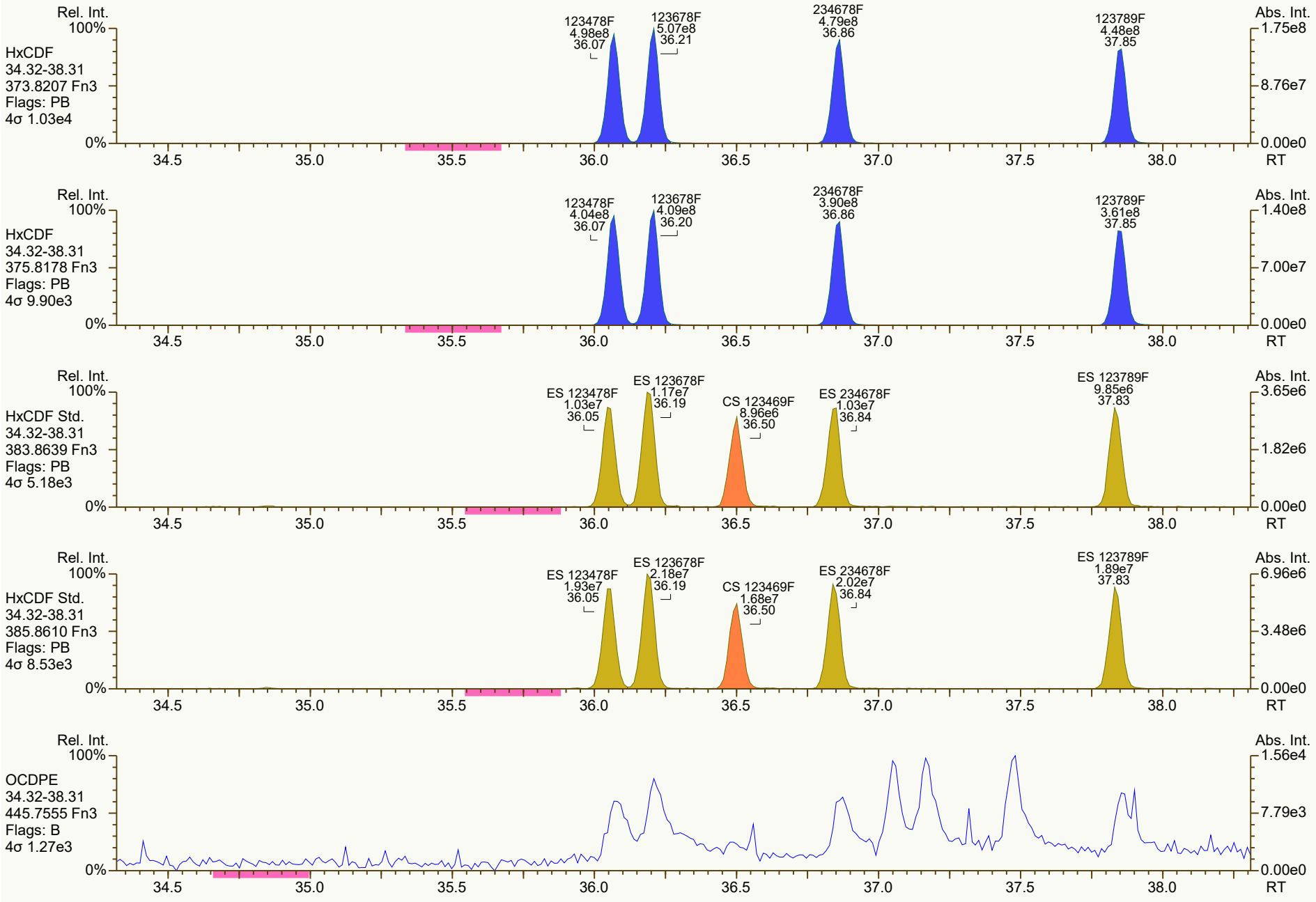

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

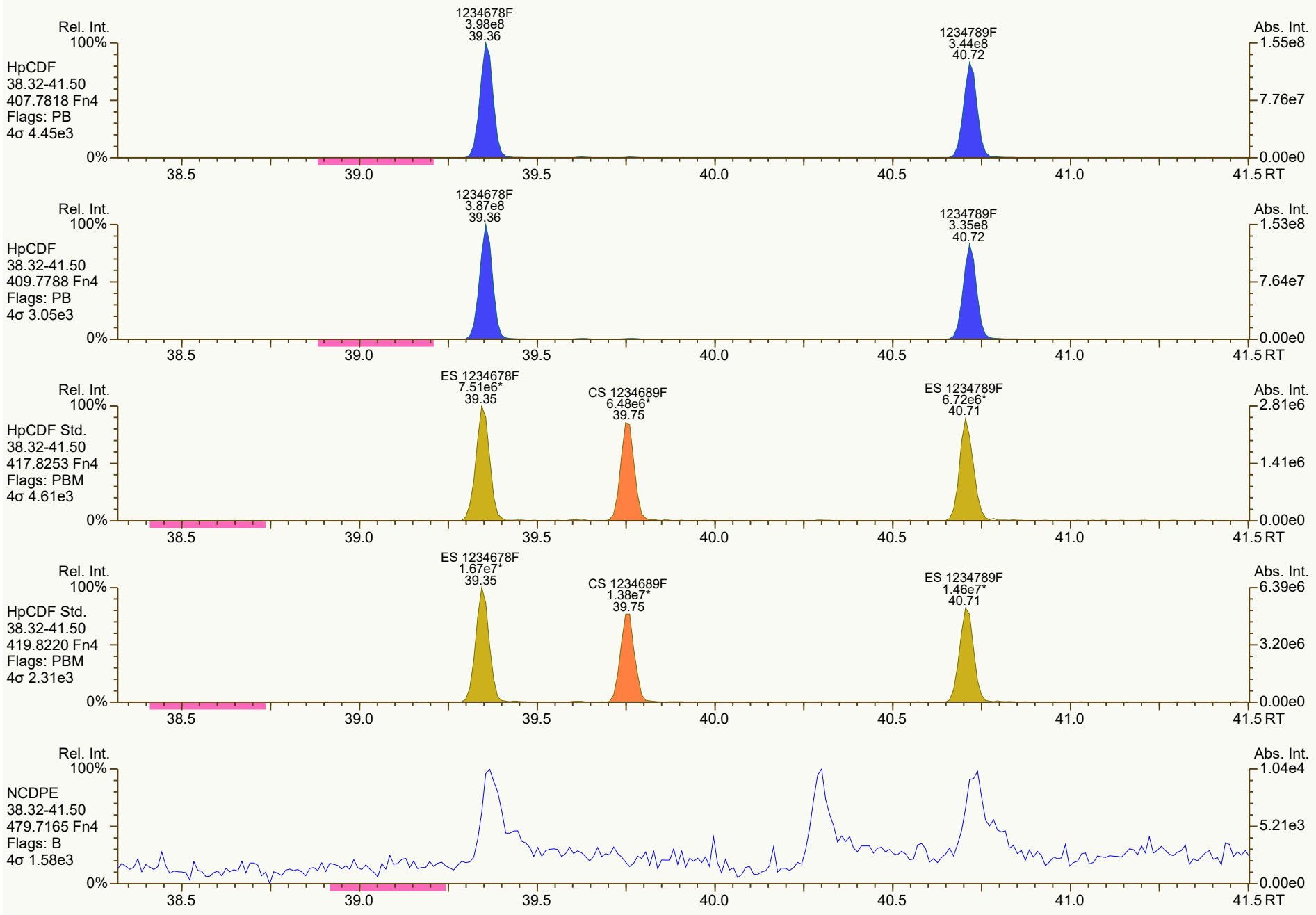
SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10

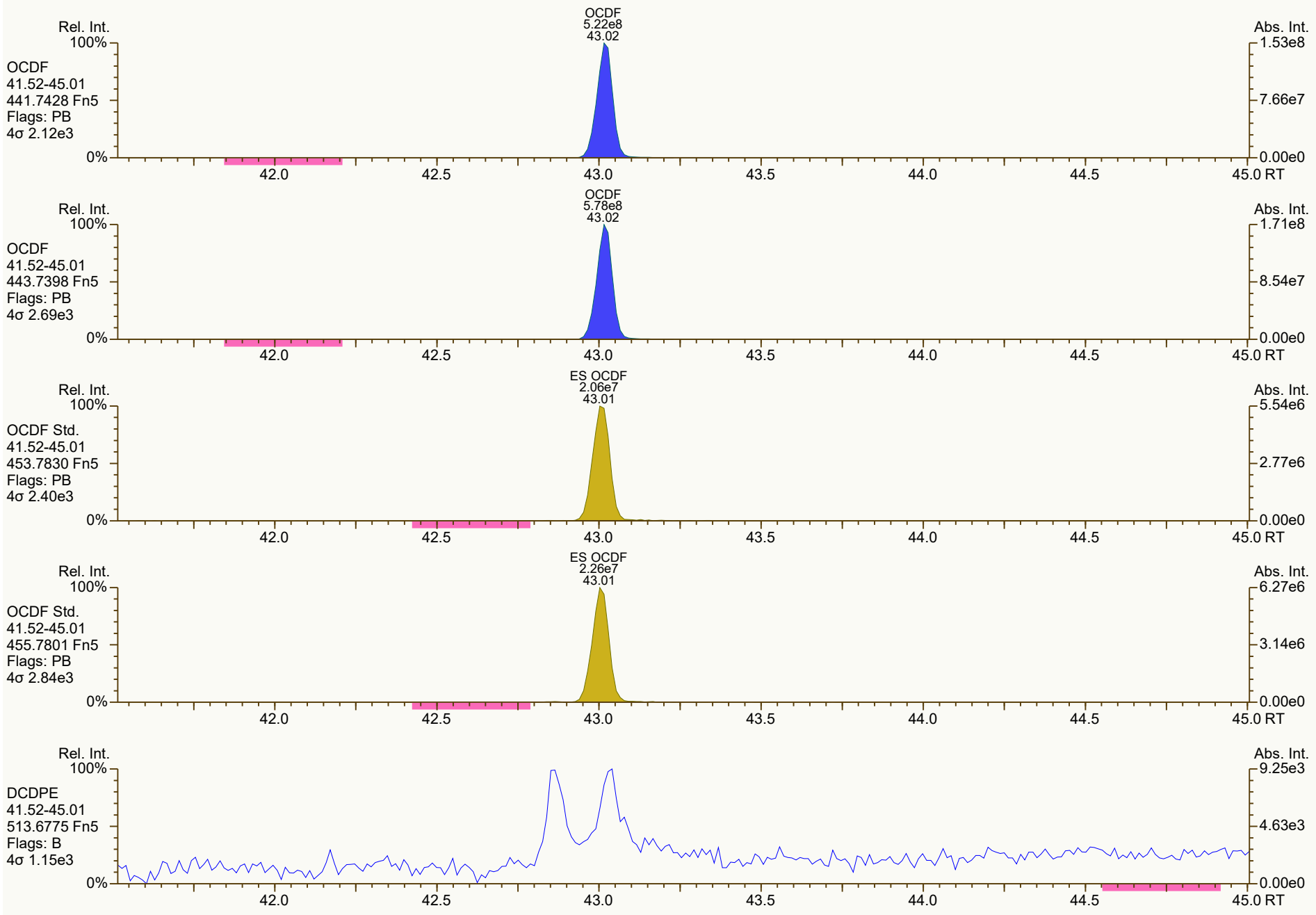


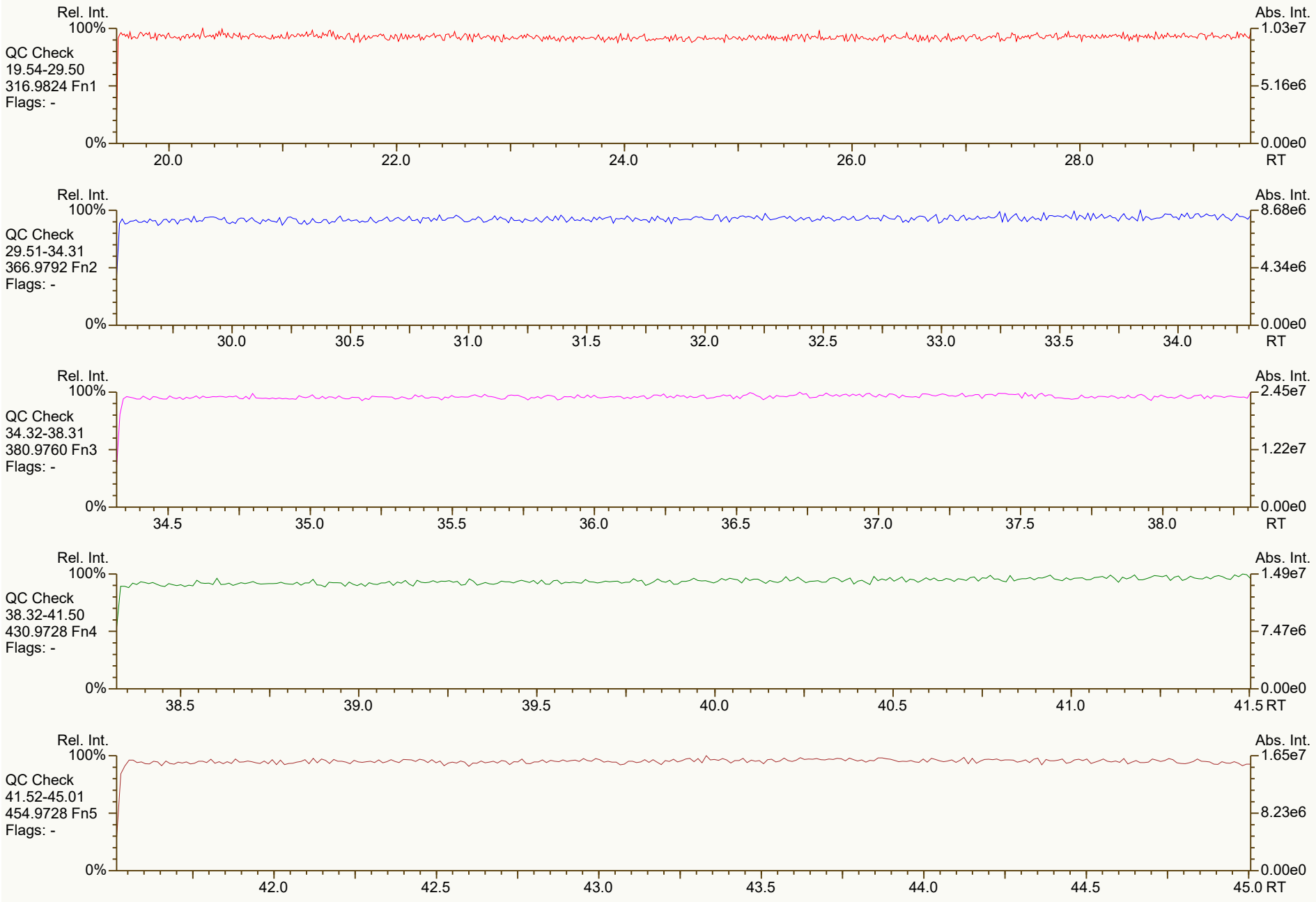
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

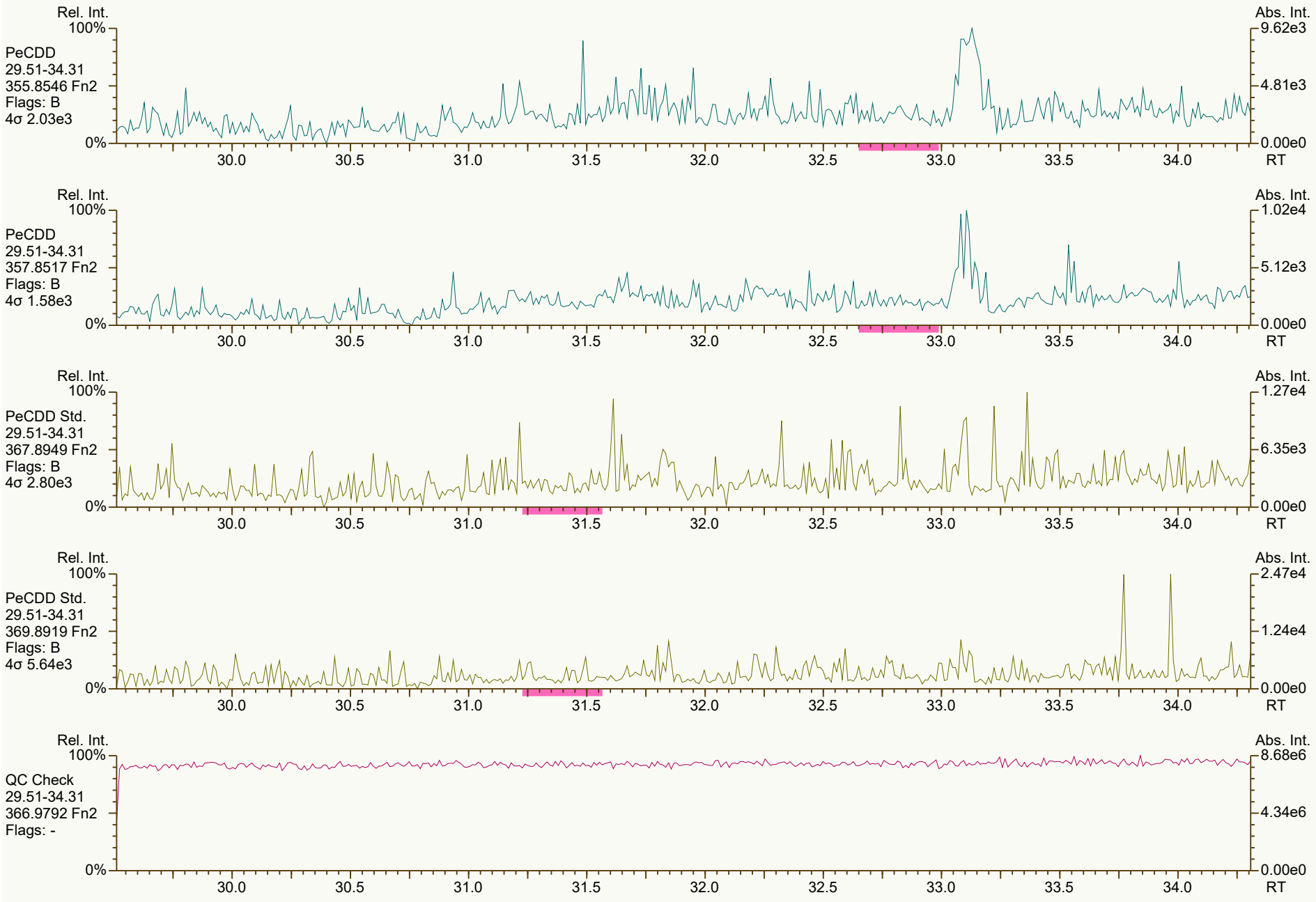
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*

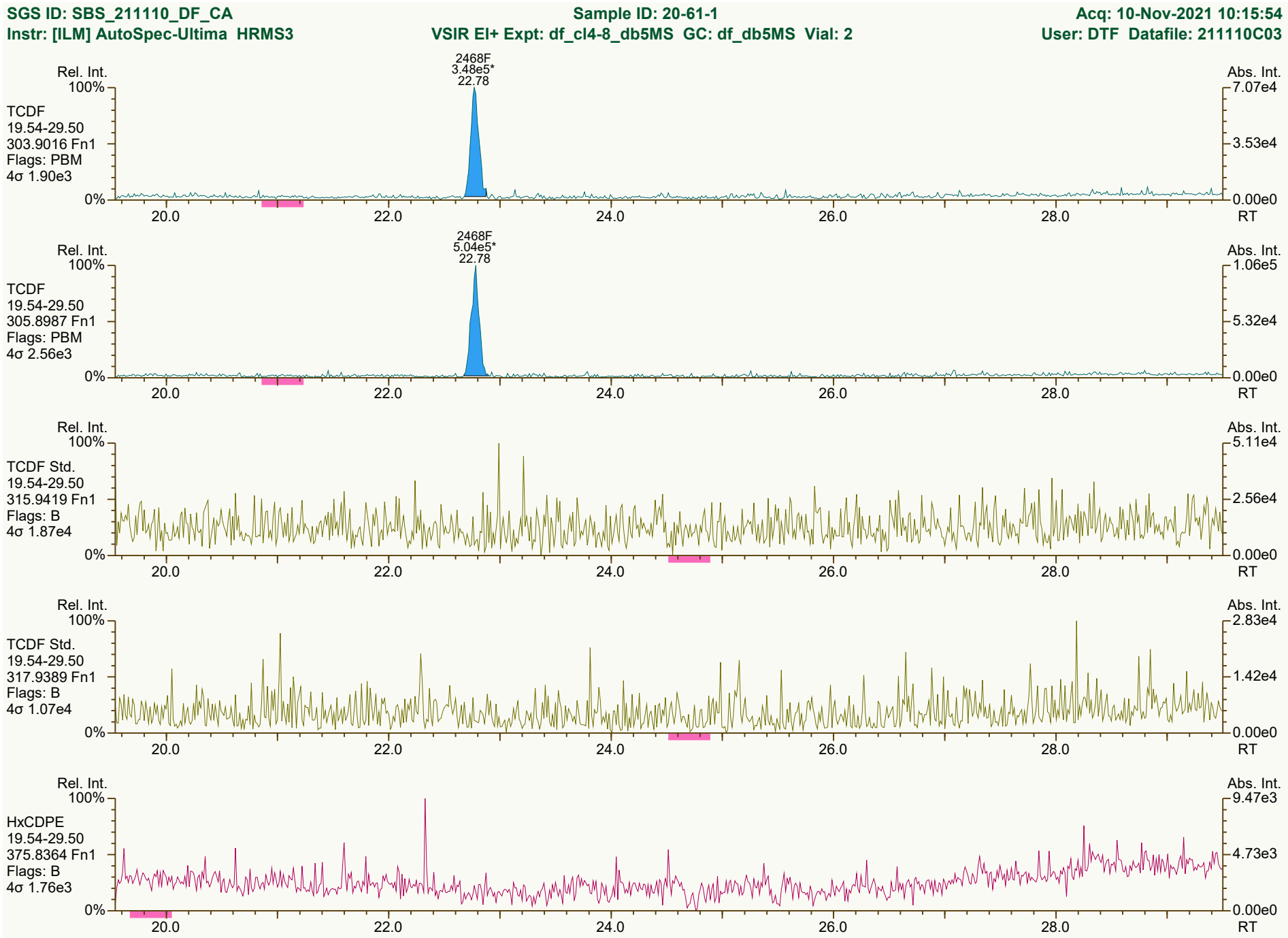

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

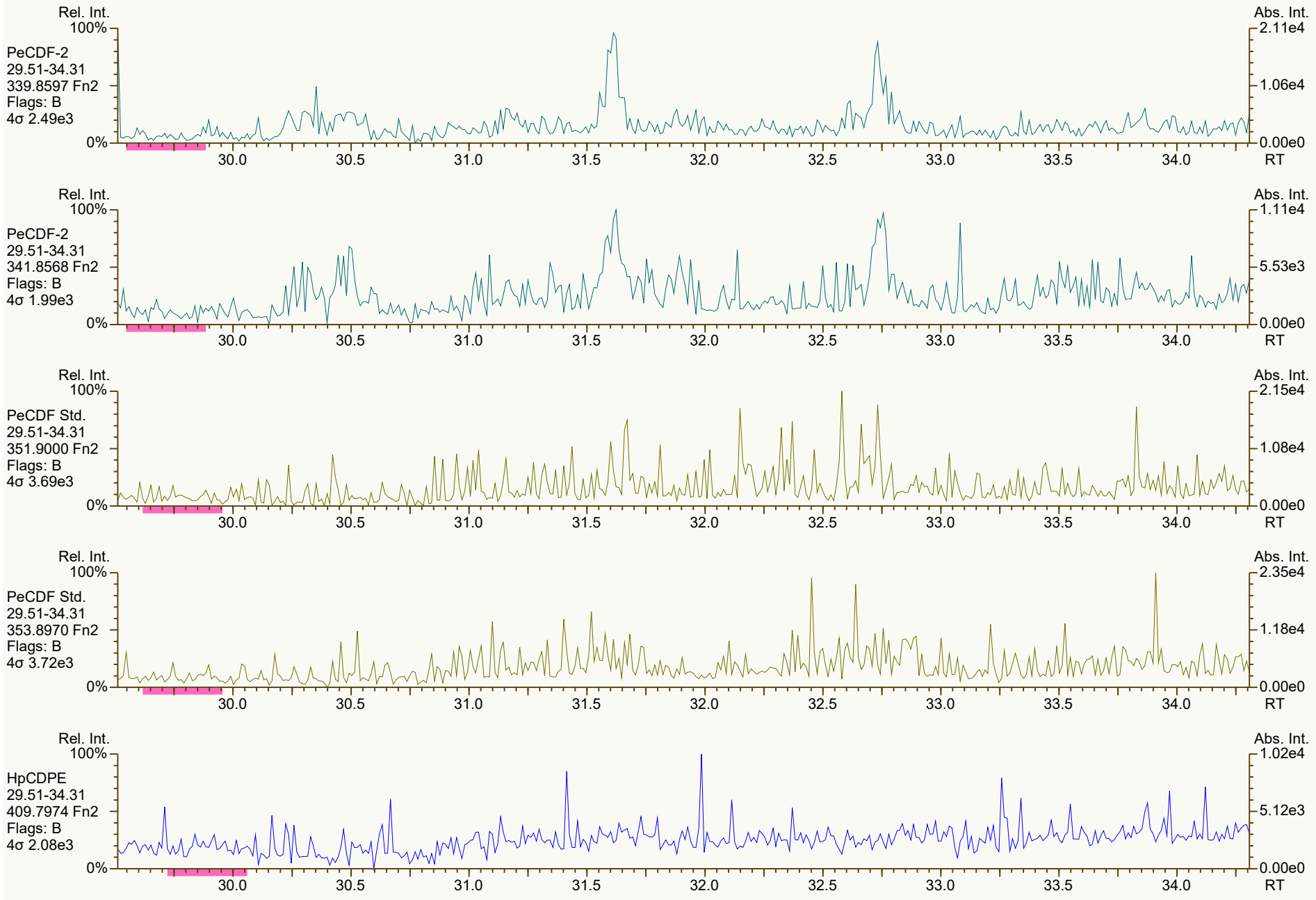

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

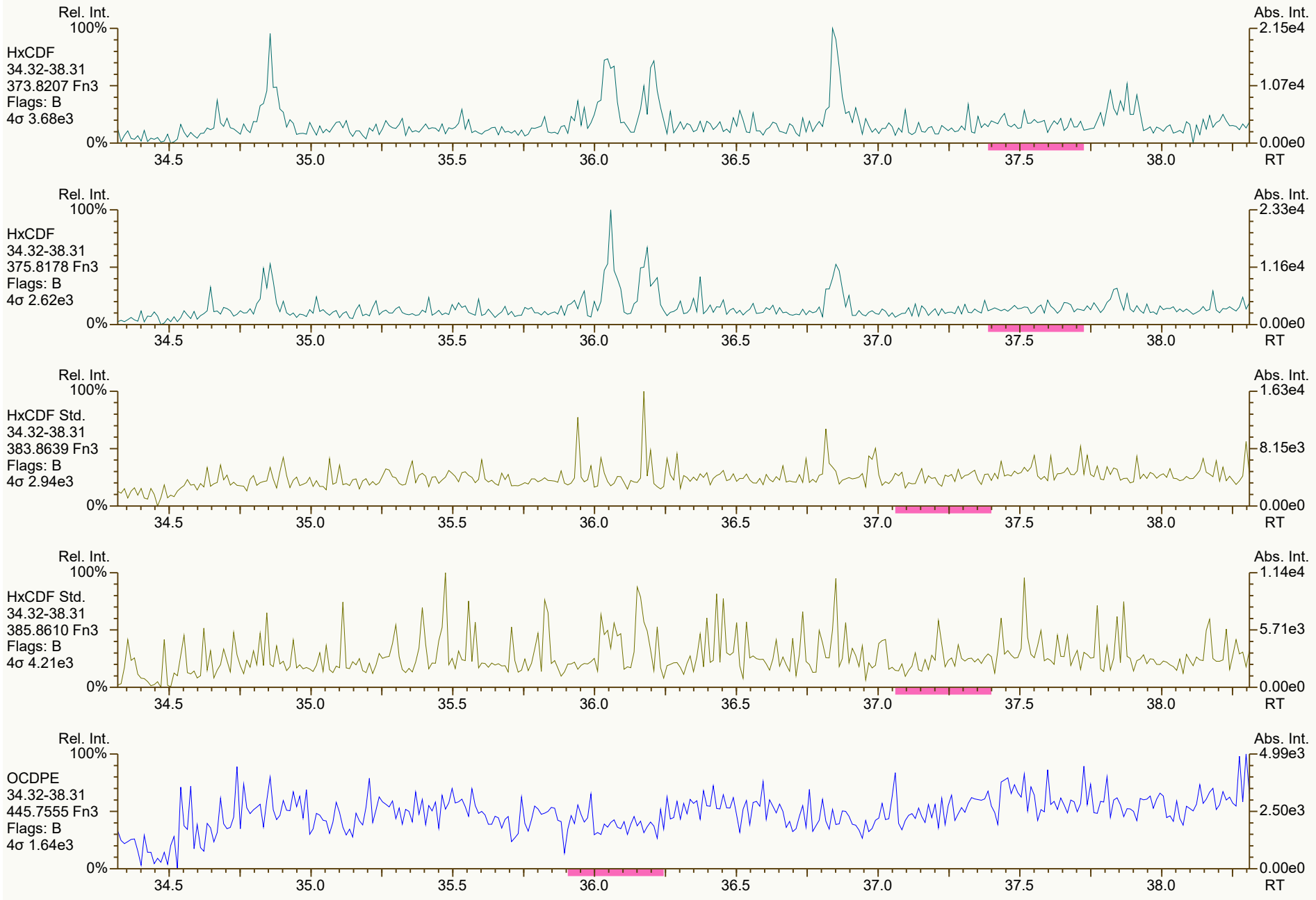

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
2468F
3.48e5*
22.78
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
5.04e5*
22.78
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

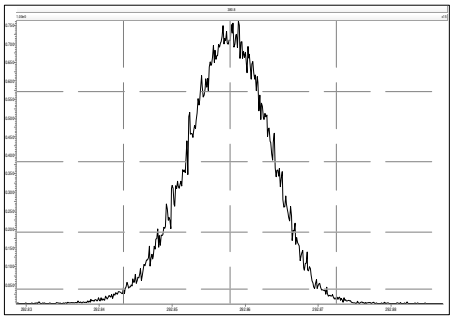

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

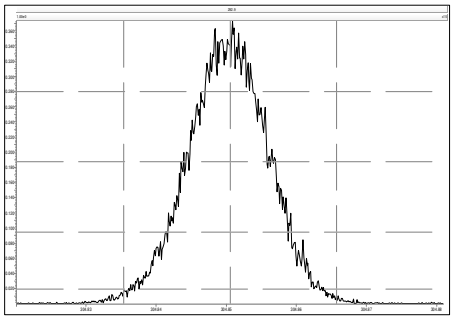
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

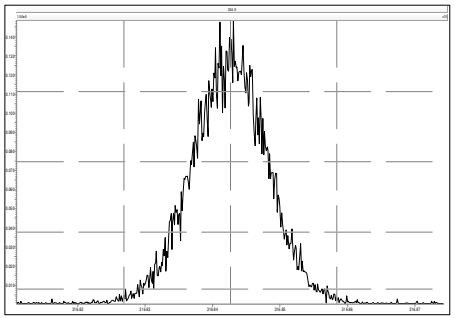
M 292.9824 R 10731



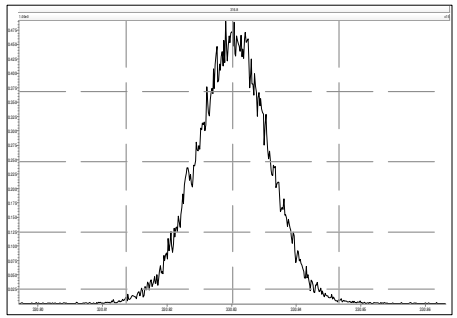
M 304.9824 R 11311



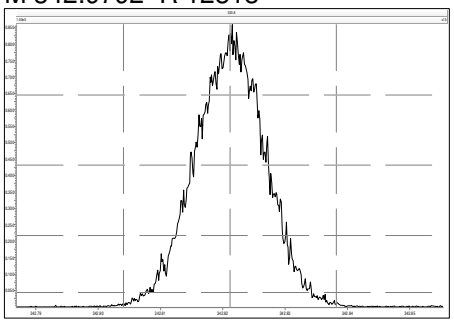
M 316.9824 R 12373



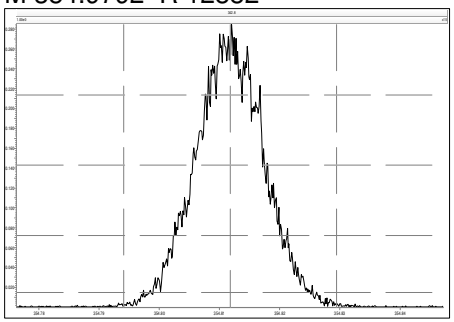
M 330.9792 R 12887



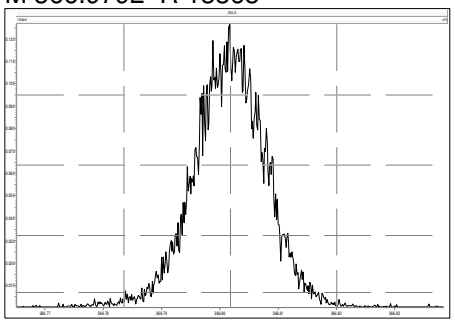
M 342.9792 R 12818



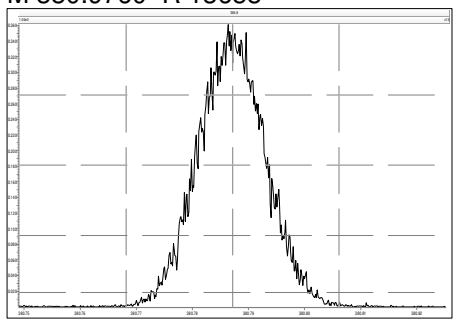
M 354.9792 R 12882



M 366.9792 R 13368



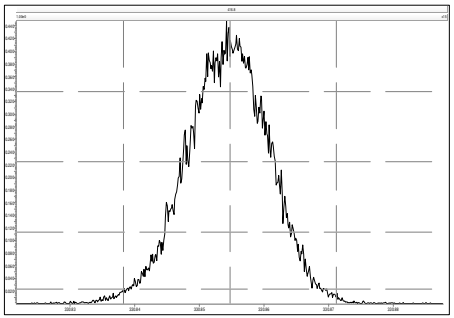
M 380.9760 R 13658



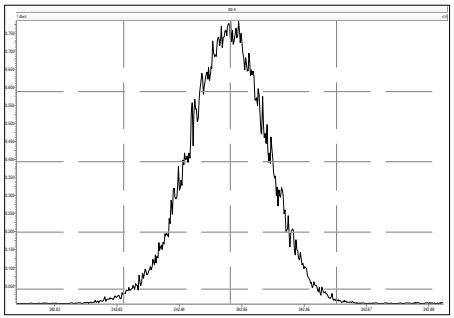
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

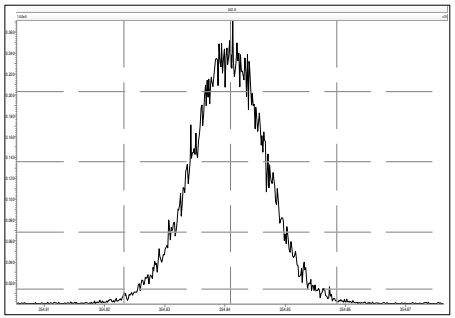
M 330.9792 R 11112



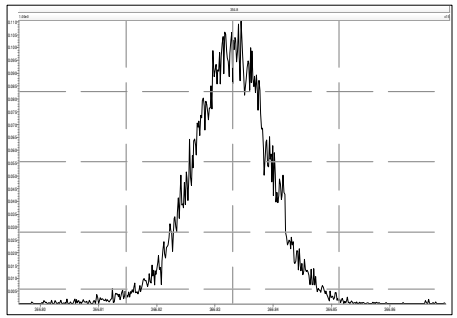
M 342.9792 R 11909



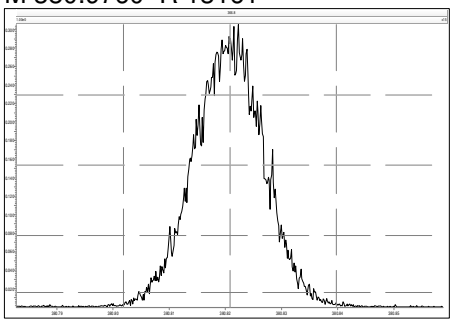
M 354.9792 R 11684



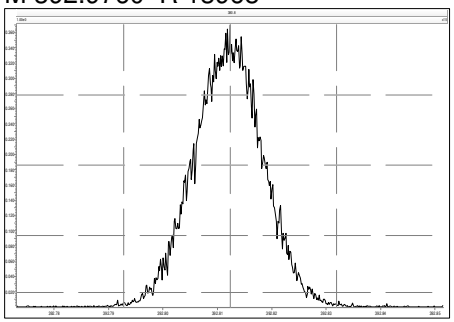
M 366.9792 R 11962



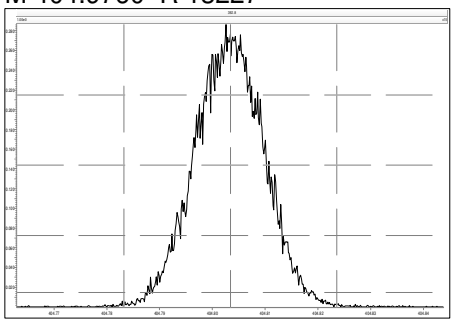
M 380.9760 R 13161



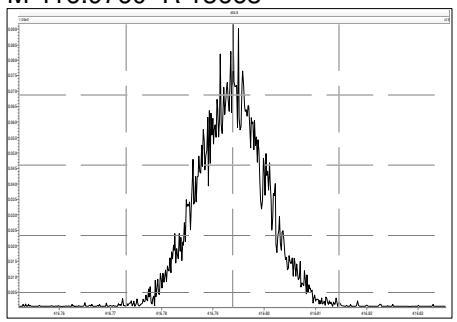
M 392.9760 R 13968



M 404.9760 R 13227



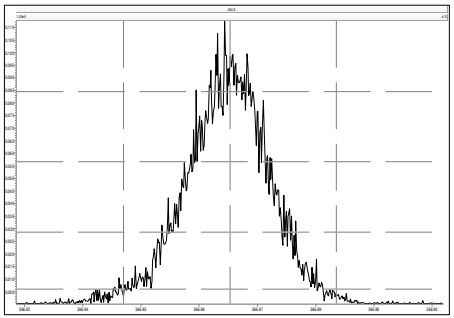
M 416.9760 R 13663



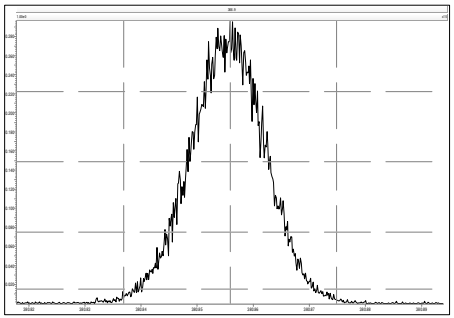
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

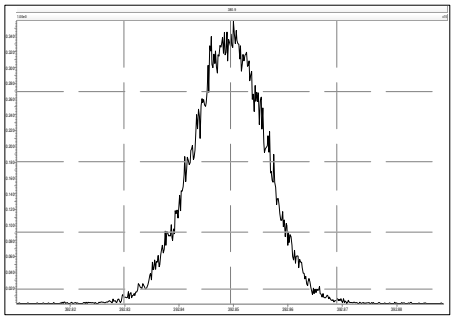
M 366.9792 R 10680



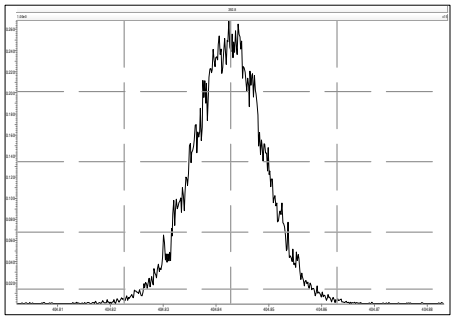
M 380.9760 R 12315



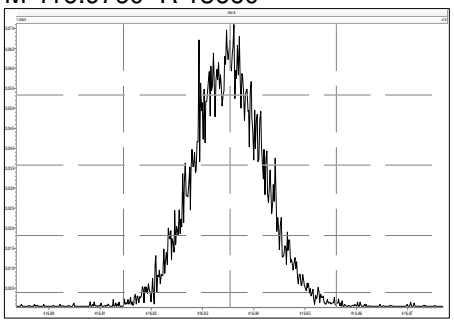
M 392.9760 R 12197



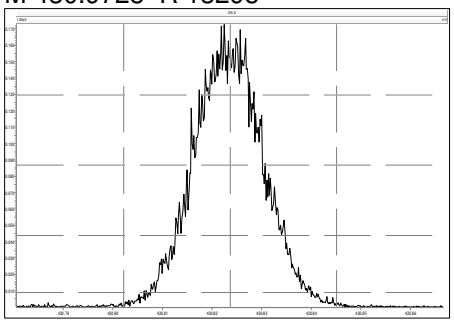
M 404.9760 R 12433



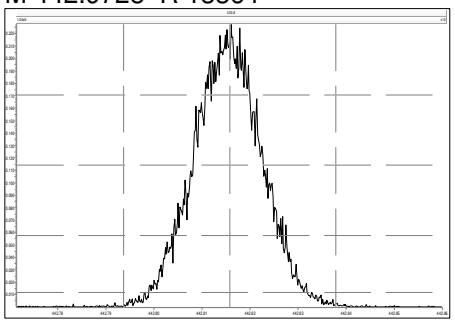
M 416.9760 R 13660



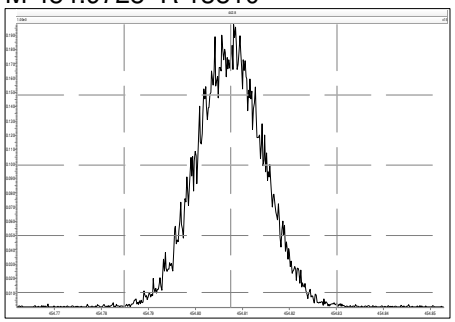
M 430.9728 R 13295



M 442.9728 R 13364



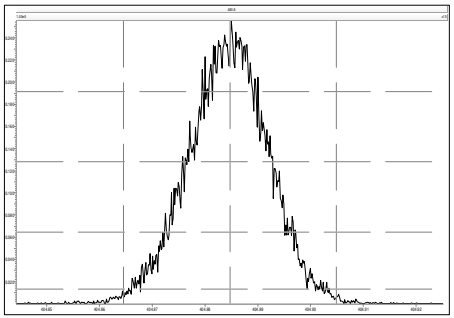
M 454.9728 R 13810



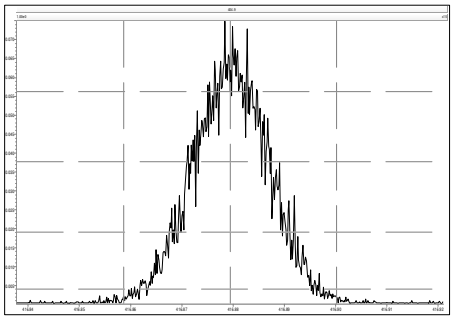
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

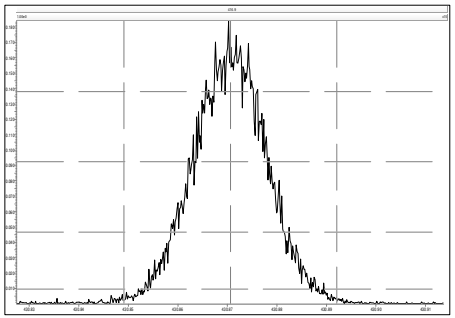
M 404.9760 R 11679



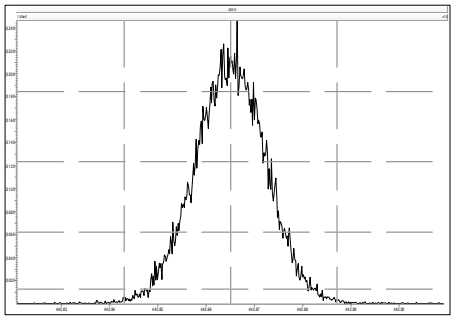
M 416.9760 R 12886



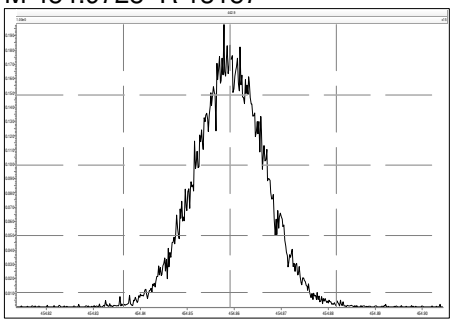
M 430.9728 R 12253



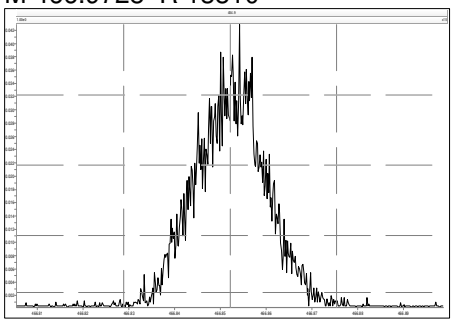
M 442.9728 R 12756



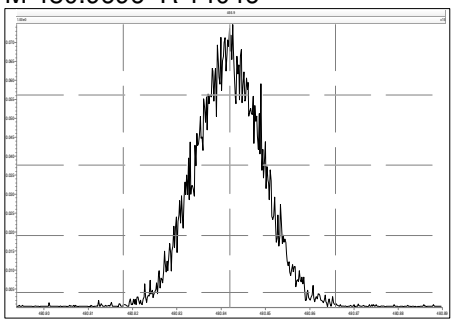
M 454.9728 R 13157



M 466.9728 R 13810



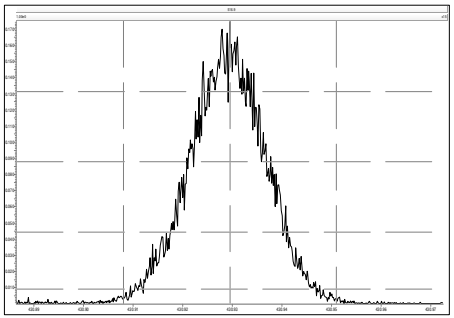
M 480.9696 R 14046



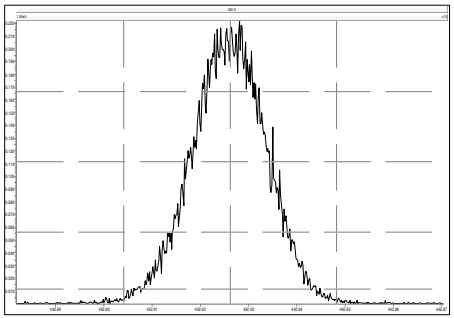
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

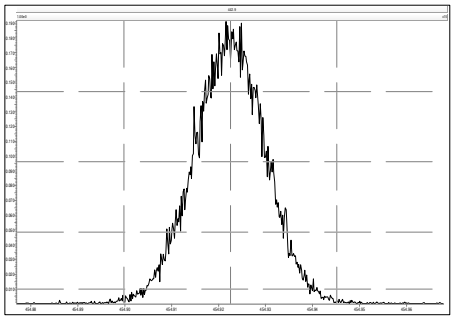
M 430.9728 R 11574



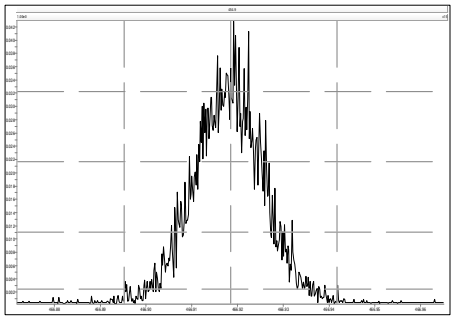
M 442.9728 R 12198



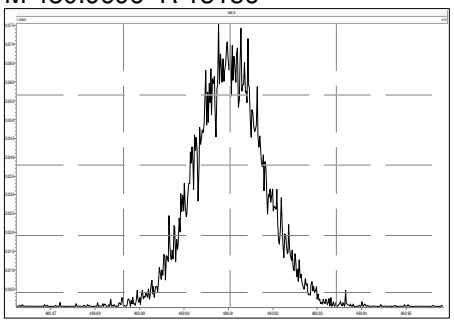
M 454.9728 R 12950



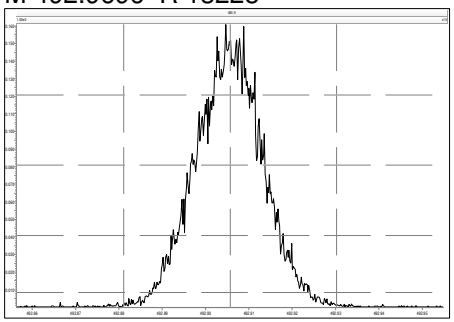
M 466.9728 R 13088



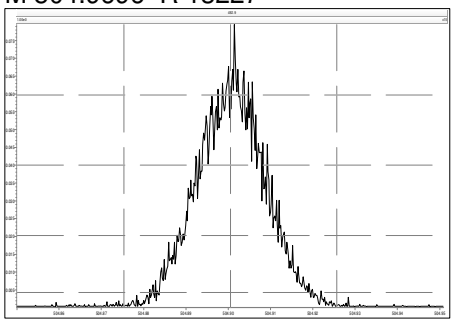
M 480.9696 R 13156



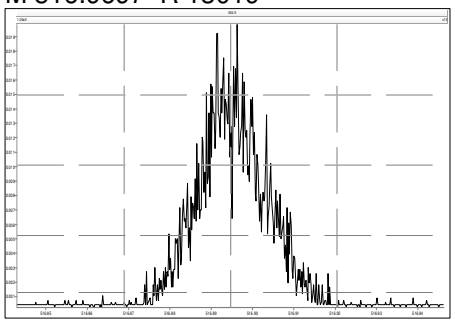
M 492.9696 R 13228



M 504.9696 R 13227



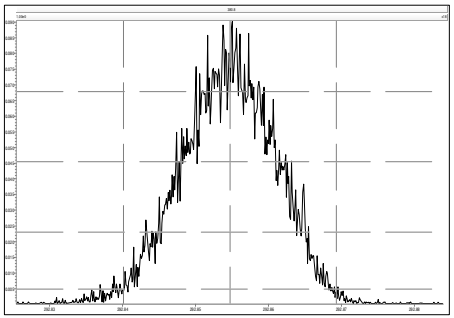
M 516.9697 R 13019



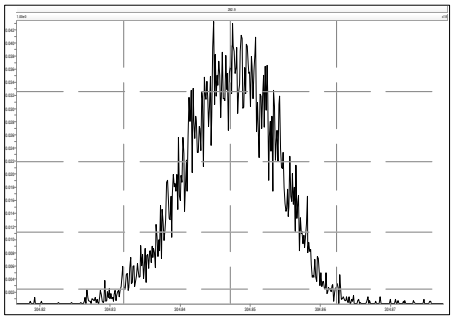
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

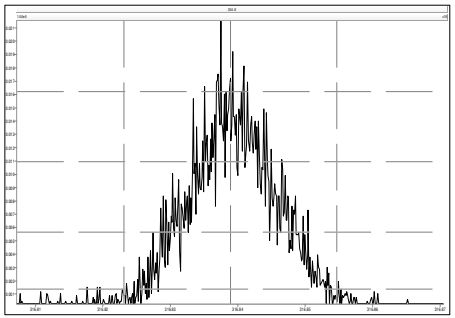
M 292.9824 R 10122



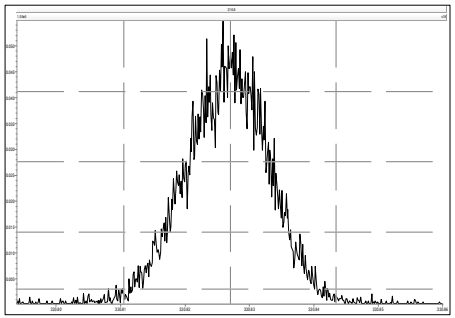
M 304.9824 R 10329



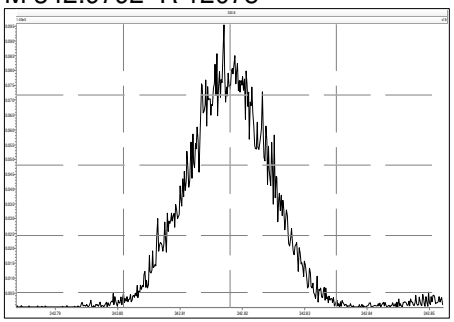
M 316.9824 R 11964



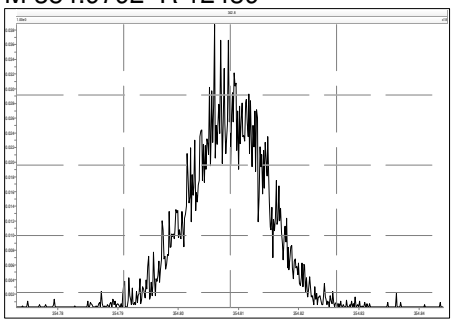
M 330.9792 R 11062



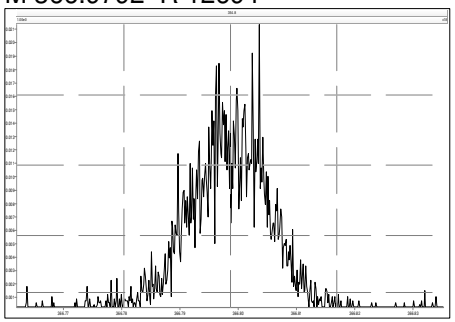
M 342.9792 R 12075



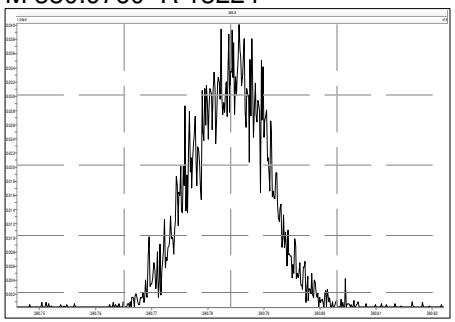
M 354.9792 R 12439



M 366.9792 R 12694



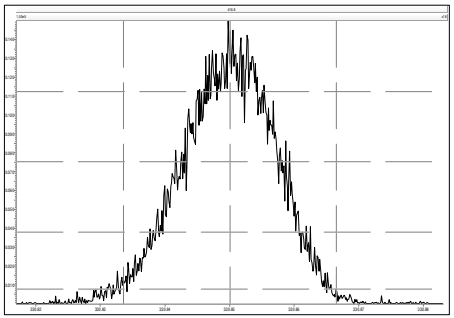
M 380.9760 R 13224



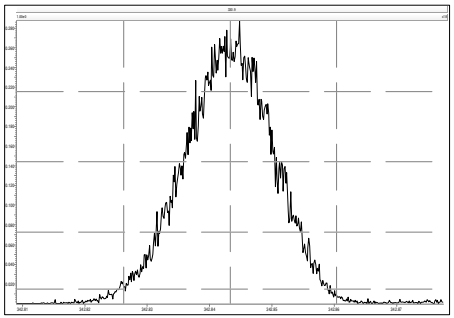
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

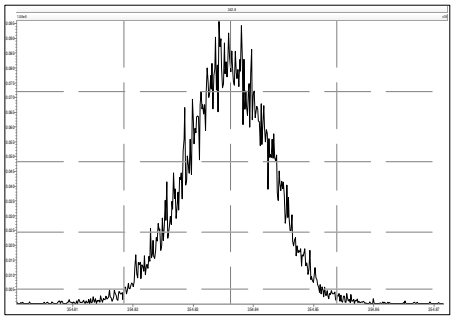
M 330.9792 R 10730



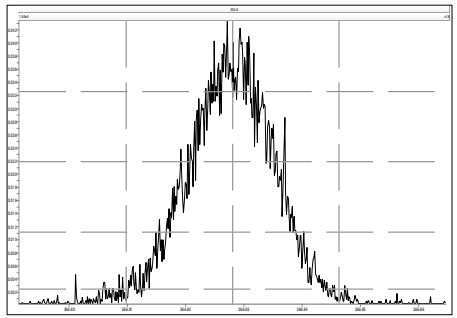
M 342.9792 R 10039



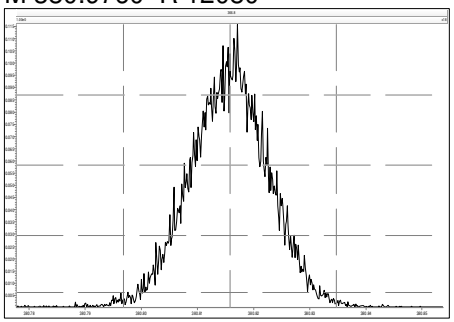
M 354.9792 R 11108



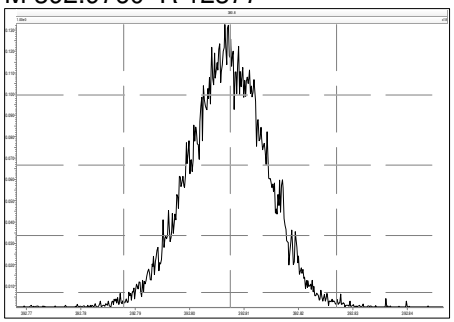
M 366.9792 R 11520



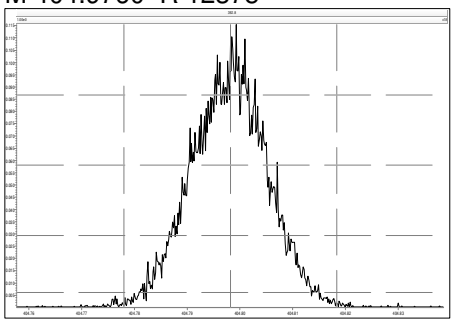
M 380.9760 R 12080



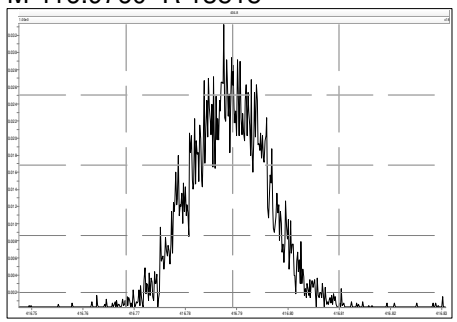
M 392.9760 R 12377



M 404.9760 R 12375



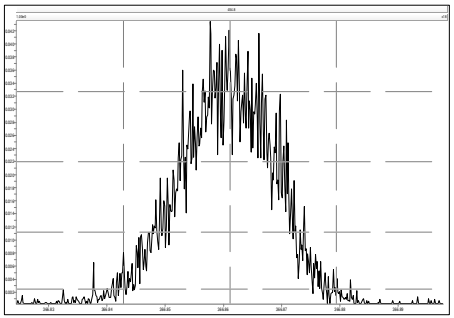
M 416.9760 R 13515



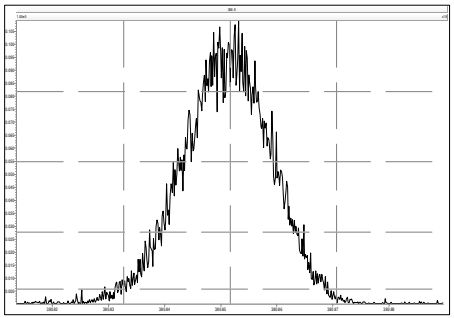
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

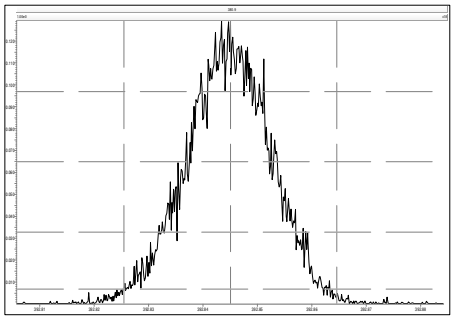
M 366.9792 R 10866



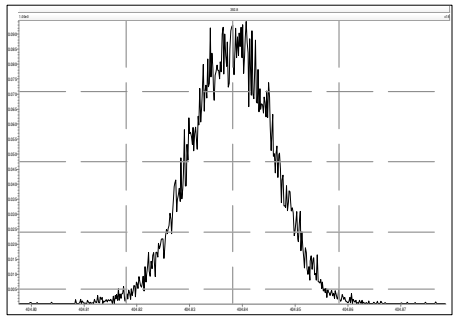
M 380.9760 R 10416



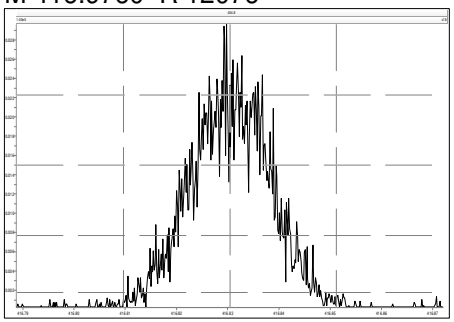
M 392.9760 R 10640



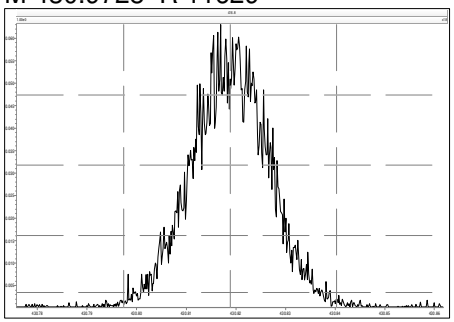
M 404.9760 R 11957



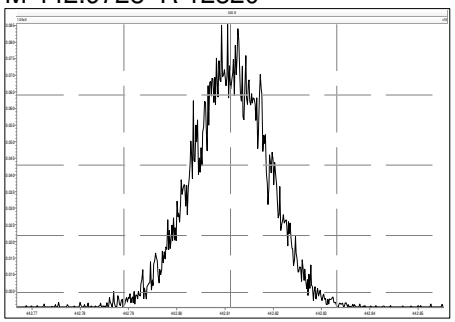
M 416.9760 R 12076



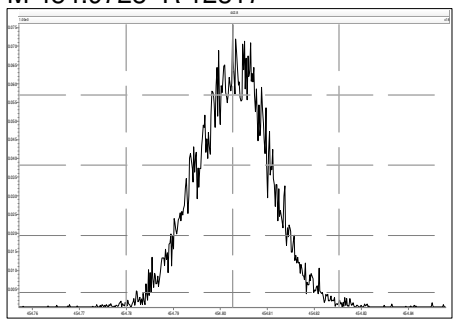
M 430.9728 R 11629



M 442.9728 R 12820



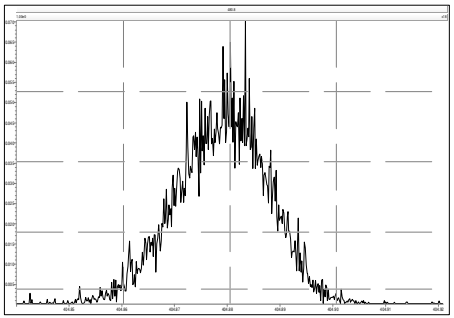
M 454.9728 R 12317



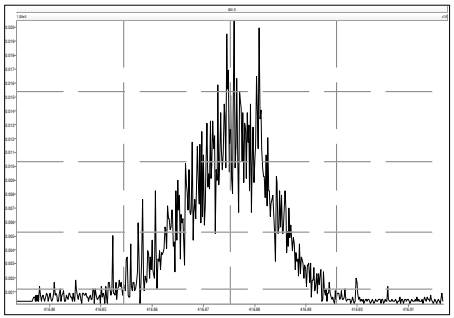
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

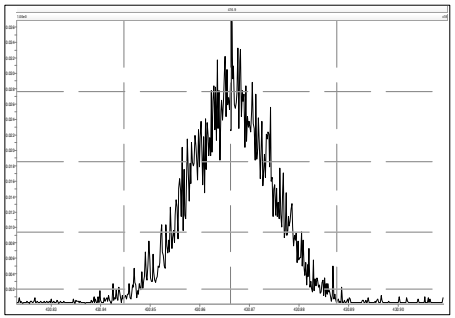
M 404.9760 R 10505



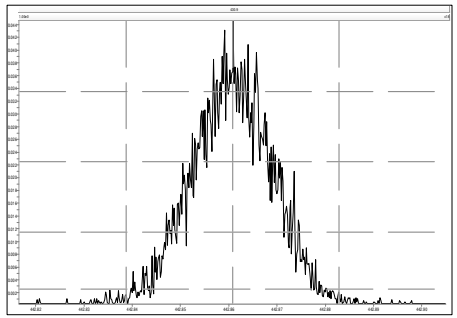
M 416.9760 R 12500



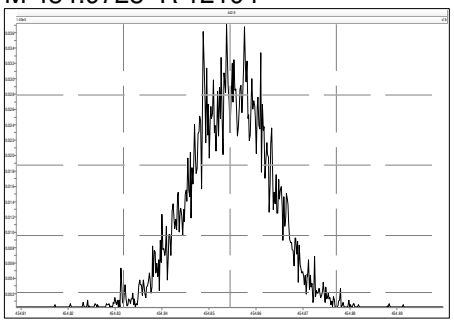
M 430.9728 R 11362



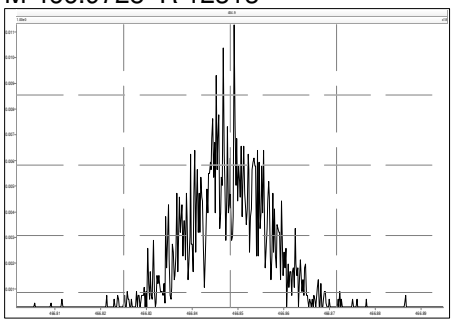
M 442.9728 R 12756



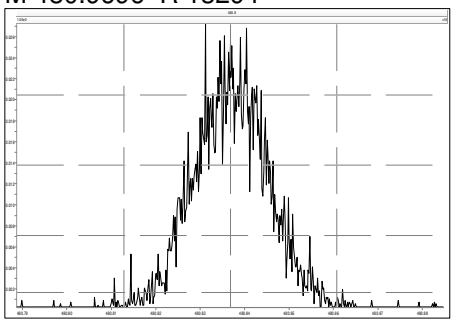
M 454.9728 R 12194



M 466.9728 R 12313



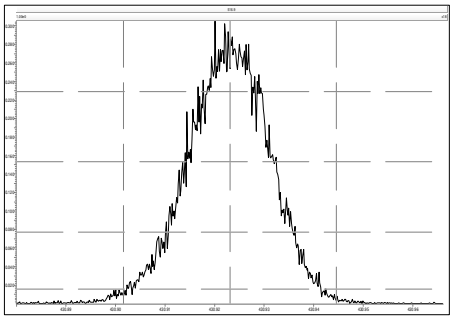
M 480.9696 R 13294



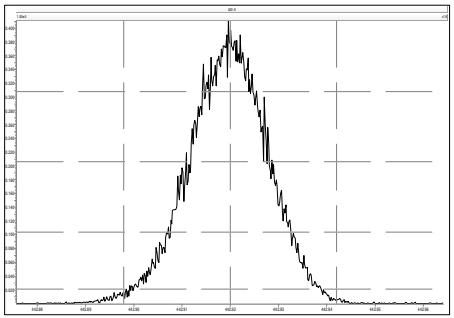
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

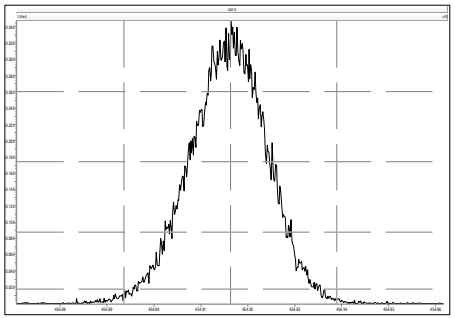
M 430.9728 R 11312



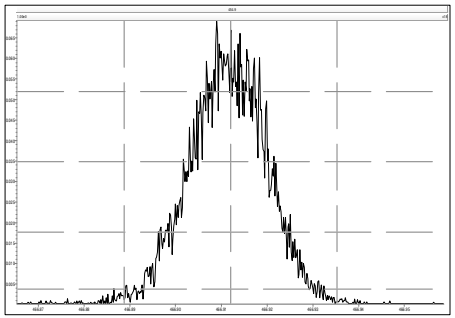
M 442.9728 R 11110



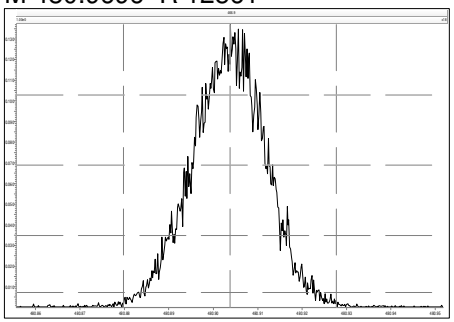
M 454.9728 R 11906



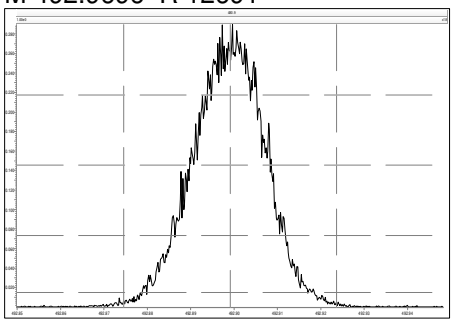
M 466.9728 R 12562



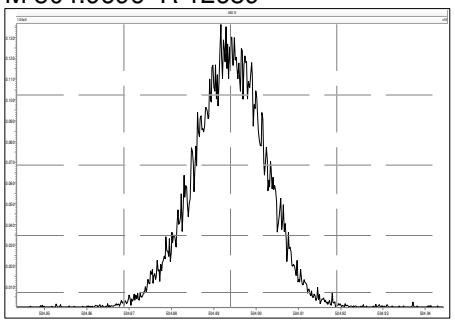
M 480.9696 R 12561



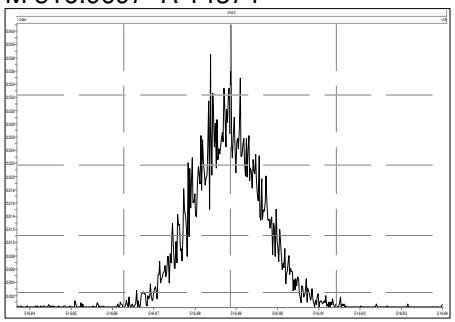
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 2/23/2022, 9:30:00 AM

Lab ID: OPR1_18911_DF | **Acq'd:** 19 Feb 2022 18:04 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001 | **UTP:** 21-Feb-2022 10:46:46 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 320-676-ZPS

Datafile: 220219C02 | **Report:** 21 Feb 2022 10:47 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	3.56E+06	0.80	Y	1.18	11.7	4737.647	0.171
12378-PeCDD	33.63		1.0007	1.0006	-0.2	1.13E+07	1.58	Y	1.04	50.5	4309.427	0.179
123478-HxCDD	37.56		1.0004	1.0004	0	1.18E+07	1.29	Y	1.09	54.5	3601.285	0.148
123678-HxCDD	37.68		1.0036	1.0036	0	1.31E+07	1.25	Y	1.15	56.6	3601.285	0.146
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.15E+07	1.29	Y	1.05	52.2	3601.285	0.148
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.08E+07	1.02	Y	1.06	54.9	4312.014	0.183
OCDD	43.42		1.0003	1.0003	0	1.48E+07	0.91	Y	1.13	112	3115.786	0.284
2378-TCDF	27.36		1.0008	1.0008	0	4.24E+06	0.74	Y	1.08	10.9	2688.114	0.0822
12378-PeCDF	32.17		1.0005	1.0006	+0.2	1.82E+07	1.53	Y	1.02	48.7	8840.749	0.222
23478-PeCDF	33.29		1.0005	1.0005	0	1.83E+07	1.54	Y	1.02	54.1	8840.749	0.238
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.58E+07	1.23	Y	1.27	51.5	4297.3	0.112
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.80E+07	1.23	Y	1.15	53.7	4297.3	0.107
234678-HxCDF	37.38		1.0005	1.0005	0	1.87E+07	1.23	Y	1.19	54.4	4297.3	0.116
123789-HxCDF	38.35		1.0004	1.0004	0	1.29E+07	1.22	Y	1.16	48.7	4297.3	0.129
1234678-HpCDF	39.77		1.0003	1.0003	0	1.47E+07	1.03	Y	1.37	50.9	2466.46	0.0653
1234789-HpCDF	41.18		1.0003	1.0003	0	1.15E+07	1.03	Y	1.31	51.7	2466.46	0.0967
OCDF	43.59		1.0002	1.0002	0	1.69E+07	0.89	Y	1.07	103	4841.252	0.375

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	2.57E+07	0.79	Y	1.05	91.5
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	2.15E+07	1.57	Y	0.88	90.9
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.99E+07	1.24	Y	0.97	98.2
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	2.01E+07	1.25	Y	0.94	102
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.10E+07	1.19	Y	1.09	92
ES 1234678-HpCDD	40.71	1.0749	1.0749	0	1.86E+07	1.12	Y	0.91	97.5
ES OCDD	43.40	1.1460	1.1462	+0.5	2.35E+07	0.91	Y	0.62	90
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	3.60E+07	0.80	Y	1.06	77.7
ES 12378-PeCDF	32.15	1.2378	1.2387	+1.7	3.64E+07	1.55	Y	0.91	91.4
ES 23478-PeCDF	33.27	1.2810	1.2820	+2.0	3.31E+07	1.61	Y	0.88	85.6
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.41E+07	0.52	Y	1.20	96.2
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.91E+07	0.53	Y	1.35	103
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.89E+07	0.54	Y	1.24	111
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.28E+07	0.51	Y	1.16	94.4
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.11E+07	0.49	Y	0.97	104
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.70E+07	0.46	Y	0.85	95.5
ES OCDF	43.58	1.1505	1.1508	+0.8	3.08E+07	0.89	Y	0.81	91.2

Lab ID: OPR1_18911_DF | **Acq'd:** 19 Feb 2022 18:04 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001 | **UTP:** 21-Feb-2022 10:46:46 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 320-676-ZPS

Datafile: 220219C02 | **Report:** 21 Feb 2022 10:47 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.69E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.38E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.04E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	1.26E+07	n/a	-	1.20	97.6
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	2.18E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	3.66E+07	1.61	Y	0.85	98.4
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.77E+07	0.54	Y	1.12	119
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	2.10E+07	0.45	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.26E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.18E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2182~~	~~+1.9~~	~~3.66E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.77E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~115~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0608~~	~~0~~	~~2.10E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	53.1	53.1
Total PeCDD	77.7	77.7
Total HxCDD	179	179
Total HpCDD	68.4	68.4
Total Tetra-Octa Dioxins	490	490
Total TCDF	63.5	63.5
Total PeCDF	206	206
Total HxCDF	334	334
Total HpCDF	103	103
Total Tetra-Octa Furans	809	809
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.795	0.80
Response	3.56E+06	3.56E+06

Lab ID: OPR1_18911_DF **Acq'd: 19 Feb 2022 18:04 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 **UTP: 21-Feb-2022 10:46:46 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 320-676-ZPS**

Datafile: 220219C02 **Report: 21 Feb 2022 10:47 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8695	-0.9	4.68E+06	0.83	Y	1.18	15.4	4737.647	0.171
1379-TCDD	NotFnd		0.8829						1.18		4737.647	0.171
1369-TCDD	NotFnd		0.8982						1.18		4737.647	0.171
1469-TCDD	NotFnd		0.9261						1.18		4737.647	0.171
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4737.647	0.171
1378-TCDD	NotFnd		0.9417						1.18		4737.647	0.171
1268-TCDD	NotFnd		0.9487						1.18		4737.647	0.171
1478-TCDD	NotFnd		0.9576						1.18		4737.647	0.171
1279-TCDD	NotFnd		0.9636						1.18		4737.647	0.171
1234/1269-TCDD	NotFnd		0.9761						1.18		4737.647	0.171
1236-TCDD	NotFnd		0.9812						1.18		4737.647	0.171
1237/1238-TCDD	NotFnd		0.9905						1.18		4737.647	0.171
1239-TCDD	28.07		0.9951	0.9951	0	3.39E+06	0.82	Y	1.18	11.1	4737.647	0.171
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	3.56E+06	0.80	Y	**1.18**	**11.7**	**4737.647**	**0.171**
1278-TCDD	NotFnd		1.0124						1.18		4737.647	0.171
1267-TCDD	NotFnd		1.0172						1.18		4737.647	0.171
1289-TCDD	29.21		1.0354	1.0356	+0.4	4.56E+06	0.77	Y	1.18	15	4737.647	0.171
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	2.98E+06	1.53	Y	1.04	13.4	4309.427	0.179
12469-PeCDD	NotFnd		0.9416						1.04		4309.427	0.179
12368-PeCDD	NotFnd		0.9582						1.04		4309.427	0.179
12478-PeCDD	NotFnd		0.9637						1.04		4309.427	0.179
12379-PeCDD	NotFnd		0.9668						1.04		4309.427	0.179
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4309.427	0.179
12346/12347-PeCDD	NotFnd		0.9858						1.04		4309.427	0.179
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**1.13E+07**	**1.58**	**Y**	**1.04**	**50.5**	**4309.427**	**0.179**
12367-PeCDD	NotFnd		1.0036						1.04		4309.427	0.179
12389-PeCDD	34.07		1.0137	1.0137	0	3.06E+06	1.61	Y	1.04	13.8	4309.427	0.179
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	3.45E+06	1.27	Y	1.10	15.5	3601.285	0.147
123468-HxCDD	NotFnd		0.9715						1.10		3601.285	0.147
123679/123689-HxCDD	NotFnd		0.9793						1.10		3601.285	0.147
123469-HxCDD	NotFnd		0.9829						1.10		3601.285	0.147
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.18E+07**	**1.29**	**Y**	1.09	**54.5**	**3601.285**	**0.148**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**1.31E+07**	**1.25**	**Y**	1.15	**56.6**	**3601.285**	**0.146**
123467-HxCDD	NotFnd		1.0089						1.10		3601.285	0.147
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.15E+07**	**1.29**	**Y**	1.05	**52.2**	**3601.285**	**0.148**

Lab ID: OPR1_18911_DF **Acq'd: 19 Feb 2022 18:04 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 **UTP: 21-Feb-2022 10:46:46 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 320-676-ZPS**

Datafile: 220219C02 **Report: 21 Feb 2022 10:47 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	2.67E+06	1.00	Y	1.06	13.5	4312.014	0.183
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.08E+07**	**1.02**	**Y**	**1.06**	**54.9**	**4312.014**	**0.183**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.48E+07**	**0.91**	**Y**	**1.13**	**112**	**3115.786**	**0.284**
OCDD-a	43.41	**EMPC**	1.0002	1.0002	0	6.52E+05	3.38	N	0.07	77.2	4555.212	6.49
1368-TCDF	22.37		0.8191	0.8181	-1.3	6.15E+06	0.76	Y	1.08	15.8	2688.114	0.0822
1468-TCDF	NotFnd		0.8408						1.08		2688.114	0.0822
2468-TCDF	23.62		0.8645	0.8639	-0.9	1.47E+06	0.84	Y	1.08	3.77	2688.114	0.0822
1346/1246-TCDF	NotFnd		0.8772						1.08		2688.114	0.0822
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2688.114	0.0822
1348-TCDF	NotFnd		0.8932						1.08		2688.114	0.0822
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2688.114	0.0822
1268-TCDF	NotFnd		0.9119						1.08		2688.114	0.0822
1467-TCDF	NotFnd		0.9170						1.08		2688.114	0.0822
1478-TCDF	NotFnd		0.9234						1.08		2688.114	0.0822
1369/1237-TCDF	NotFnd		0.9369						1.08		2688.114	0.0822
2467-TCDF	NotFnd		0.9415						1.08		2688.114	0.0822
2368-TCDF	NotFnd		0.9475						1.08		2688.114	0.0822
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2688.114	0.0822
1278-TCDF	NotFnd		0.9676						1.08		2688.114	0.0822
1349-TCDF	NotFnd		0.9722						1.08		2688.114	0.0822
1267-TCDF	NotFnd		0.9777						1.08		2688.114	0.0822
2346/1249-TCDF	NotFnd		0.9843						1.08		2688.114	0.0822
2347/1279-TCDF	NotFnd		0.9926						1.08		2688.114	0.0822
2348-TCDF	27.25		0.9968	0.9968	0	6.14E+06	0.83	Y	1.08	15.8	2688.114	0.0822
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**4.24E+06**	**0.74**	**Y**	**1.08**	**10.9**	**2688.114**	**0.0822**
2367/3467-TCDF	NotFnd		1.0142						1.08		2688.114	0.0822
1269-TCDF	NotFnd		1.0235						1.08		2688.114	0.0822
1239-TCDF	NotFnd		1.0329						1.08		2688.114	0.0822
1289-TCDF	29.39		1.0742	1.0748	+1.1	6.68E+06	0.76	Y	1.08	17.2	2688.114	0.0822
13468/12468-PeCDF	29.31		0.9122	0.9116	-1.1	3.29E+07	1.55	Y	1.02	92.6	3214.62	0.0834
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		8840.749	0.229
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		8840.749	0.229
14678-PeCDF	NotFnd		0.9685						1.02		8840.749	0.229
13479-PeCDF	NotFnd		0.9716						1.02		8840.749	0.229
13469/12479-PeCDF	NotFnd		0.9794						1.02		8840.749	0.229
12346-PeCDF	NotFnd		0.9836						1.02		8840.749	0.229

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 10:46:46 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 10:47 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		8840.749	0.229
12347-PeCDF	NotFnd		0.9891						1.02		8840.749	0.229
12348-PeCDF	NotFnd		0.9938						1.02		8840.749	0.229
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**1.82E+07**	**1.53**	**Y**	**1.02**	**48.7**	**8840.749**	**0.222**
12678/12367-PeCDF	NotFnd		1.0091						1.02		8840.749	0.229
12379-PeCDF	NotFnd		1.0144						1.02		8840.749	0.229
12679-PeCDF	NotFnd		0.9927						1.02		8840.749	0.229
23467/12369-PeCDF	NotFnd		0.9965						1.02		8840.749	0.229
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.83E+07**	**1.54**	**Y**	**1.02**	**54.1**	**8840.749**	**0.238**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8840.749	0.229
12349-PeCDF	NotFnd		1.0101						1.02		8840.749	0.229
12389-PeCDF	34.37		1.0330	1.0330	0	3.90E+06	1.60	Y	1.02	11	8840.749	0.229
123468-HxCDF	35.16		0.9622	0.9622	0	3.94E+07	1.25	Y	1.19	126	4297.3	0.115
124678/134678-HxCDF	NotFnd		0.9678						1.19		4297.3	0.115
134679-HxCDF	NotFnd		0.9741						1.19		4297.3	0.115
124679-HxCDF	NotFnd		0.9795						1.19		4297.3	0.115
124689-HxCDF	NotFnd		0.9856						1.19		4297.3	0.115
123467-HxCDF	NotFnd		0.9972						1.19		4297.3	0.115
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.58E+07**	**1.23**	**Y**	**1.27**	**51.5**	**4297.3**	**0.112**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.80E+07**	**1.23**	**Y**	**1.15**	**53.7**	**4297.3**	**0.107**
123479-HxCDF	NotFnd		1.0048						1.19		4297.3	0.115
123469-HxCDF	NotFnd		1.0089						1.19		4297.3	0.115
123679-HxCDF	NotFnd		0.9942						1.19		4297.3	0.115
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.87E+07**	**1.23**	**Y**	**1.19**	**54.4**	**4297.3**	**0.116**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4297.3	0.115
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.29E+07**	**1.22**	**Y**	**1.16**	**48.7**	**4297.3**	**0.129**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4297.3	0.115
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.47E+07**	**1.03**	**Y**	**1.37**	**50.9**	**2466.46**	**0.0653**
1234679-HpCDF	NotFnd		1.0068						1.34		2466.46	0.0792
1234689-HpCDF	NotFnd		1.0104						1.34		2466.46	0.0792
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.15E+07**	**1.03**	**Y**	**1.31**	**51.7**	**2466.46**	**0.0967**
OCDF	**43.59**		**1.0002**	**1.0002**	**0**	**1.69E+07**	**0.89**	**Y**	**1.07**	**103**	**4841.252**	**0.375**
OCDF-a	43.58		1.0001	1.0001	0	1.01E+06	2.78	Y	0.07	99.1	3888.99	4.86

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	10.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.1	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.9	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.7	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:47 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.9	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.5	26	-	166	Y
13C-OCDD	200	180	26	-	397	Y
13C-2,3,7,8-TCDF	100	77.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	85.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	103	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	111	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.5	20	-	186	Y
13C-OCDF	200	182	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:47 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

Window Defining Standards Results

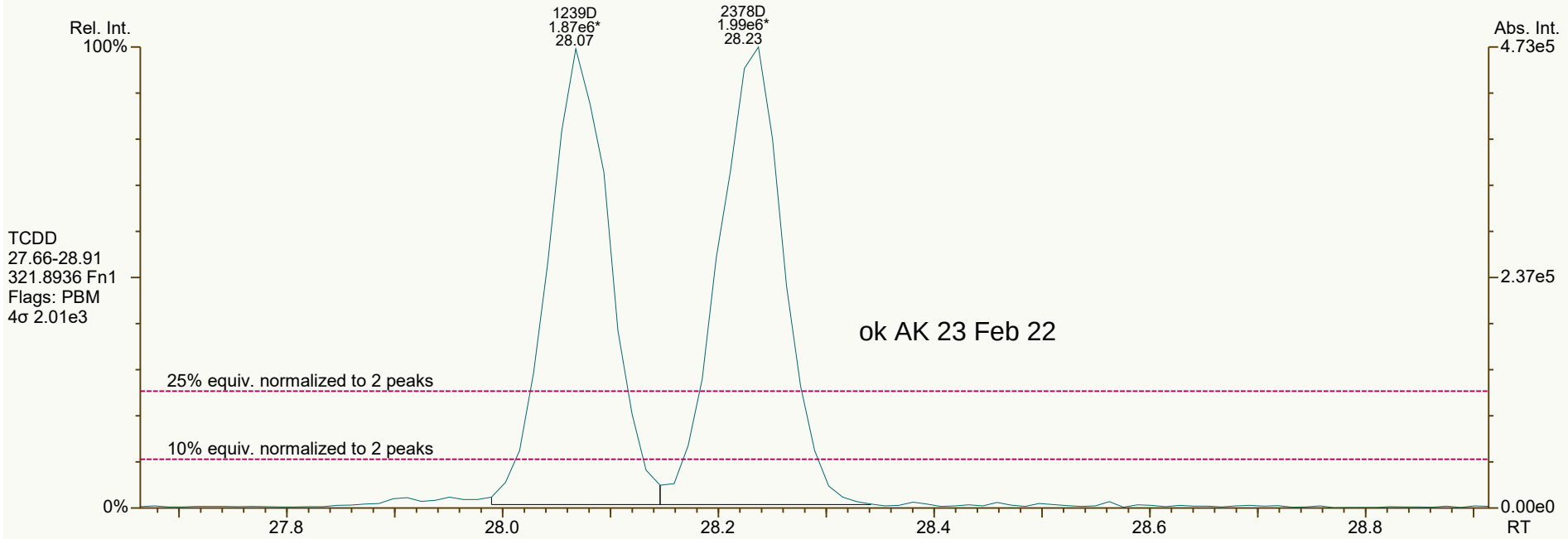
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.53	1289-TCDD	29.21
12479/12468-PeCDD	31.11	12389-PeCDD	34.07
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.37	1289-TCDF	29.39
13468/12468-PeCDF	29.31	12389-PeCDF	34.37
123468-HxCDF	35.16	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.18

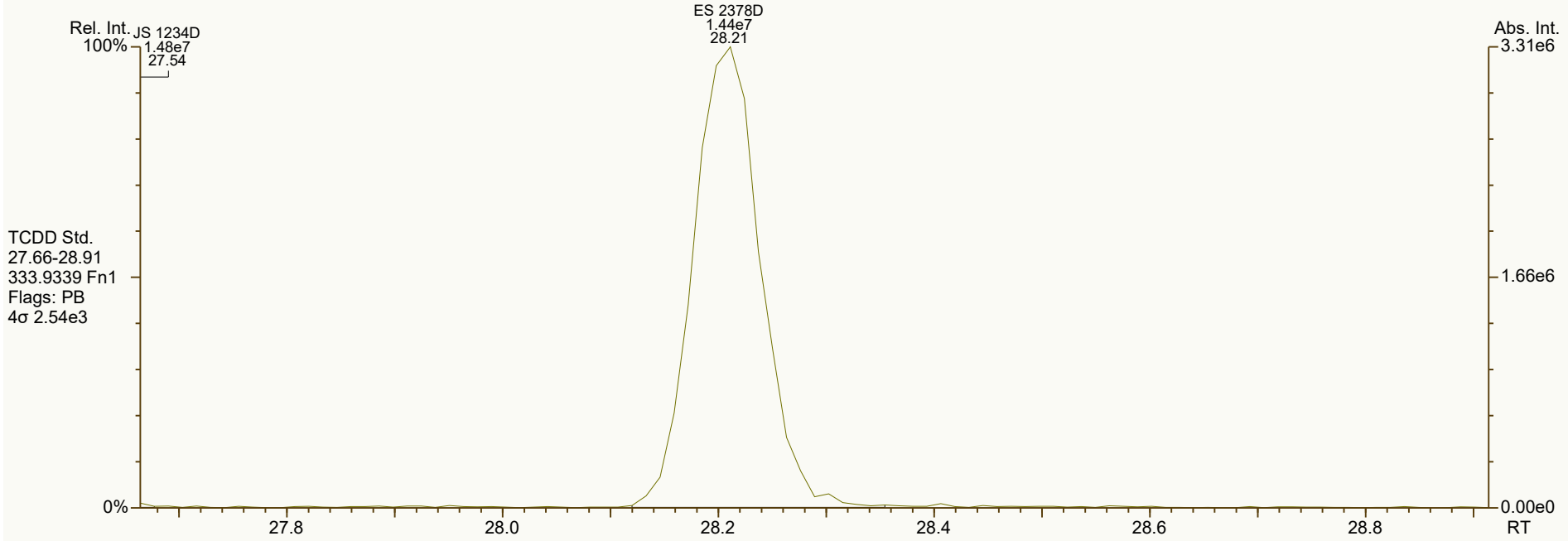
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.07	2378-TCDD	28.23
2348-TCDF	27.25	2378-TCDF	27.36

Processed: 21 Feb 2022 10:47 Analyst: TF

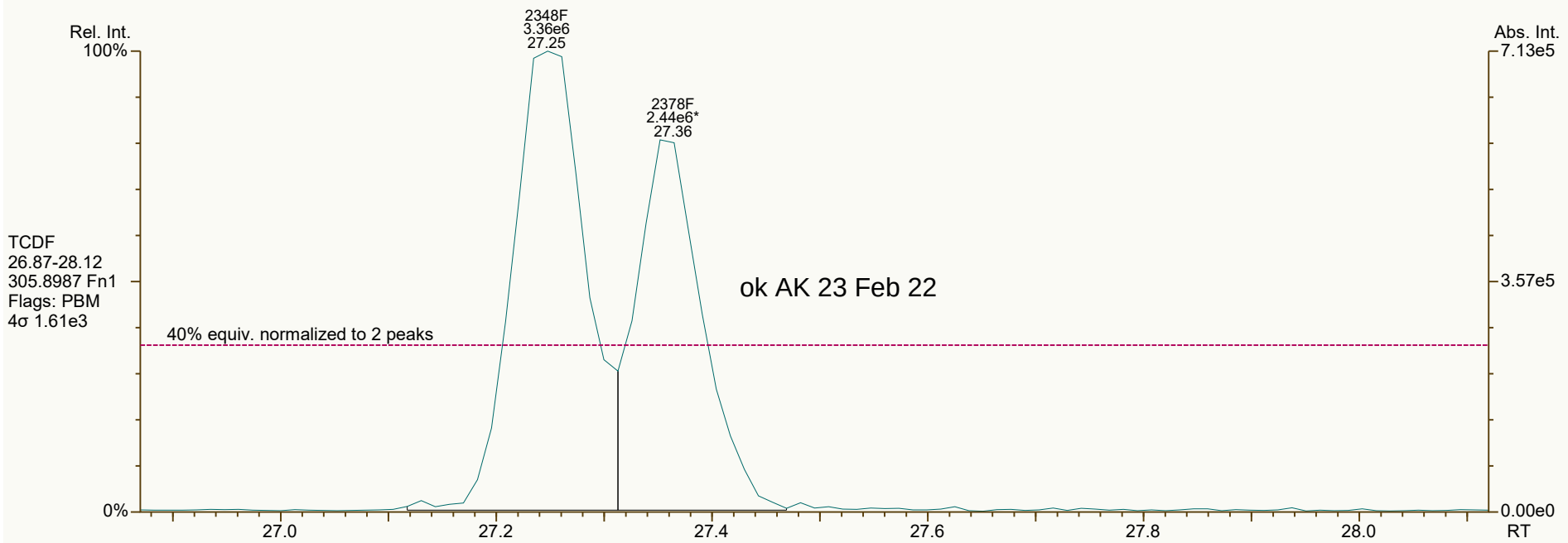
SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02

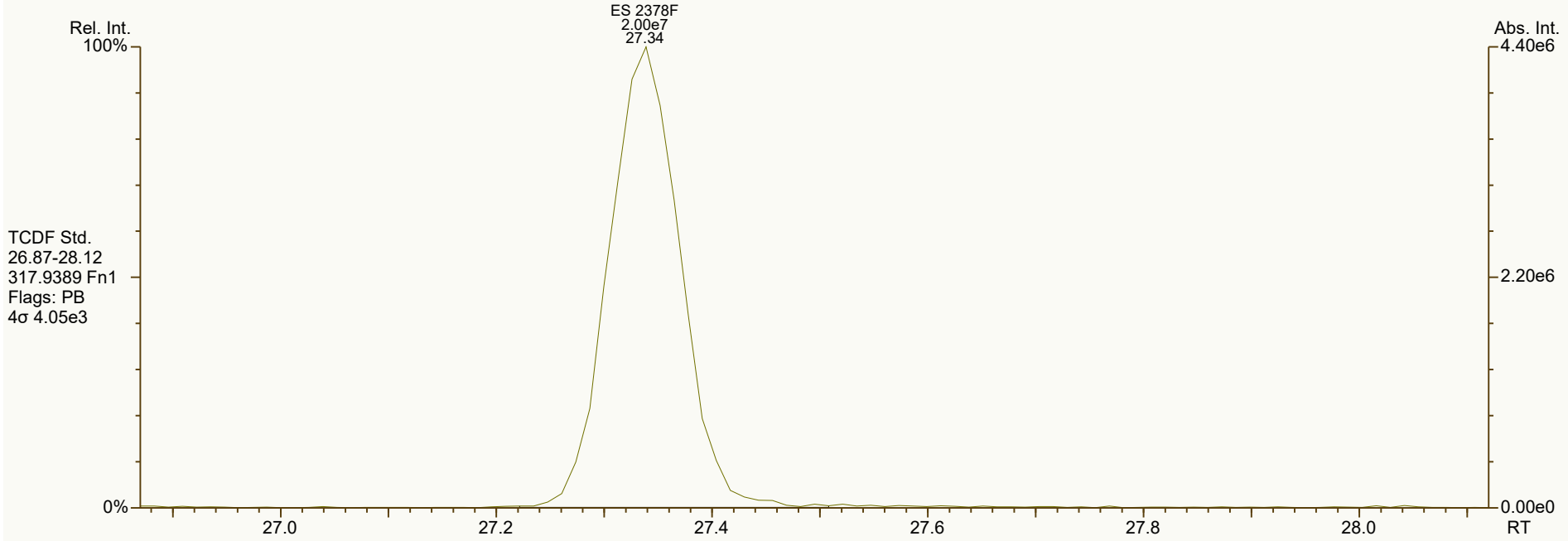




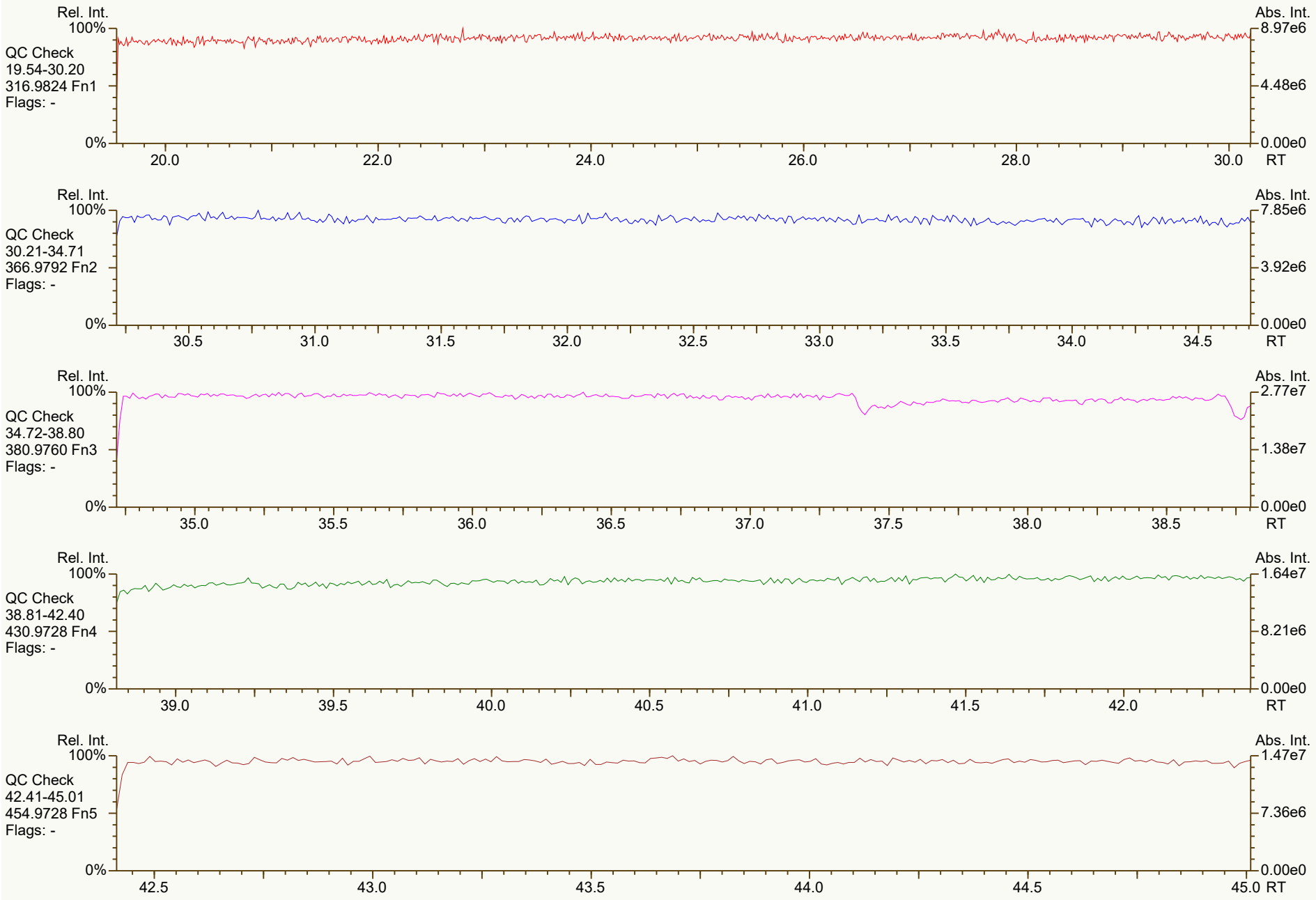
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:49

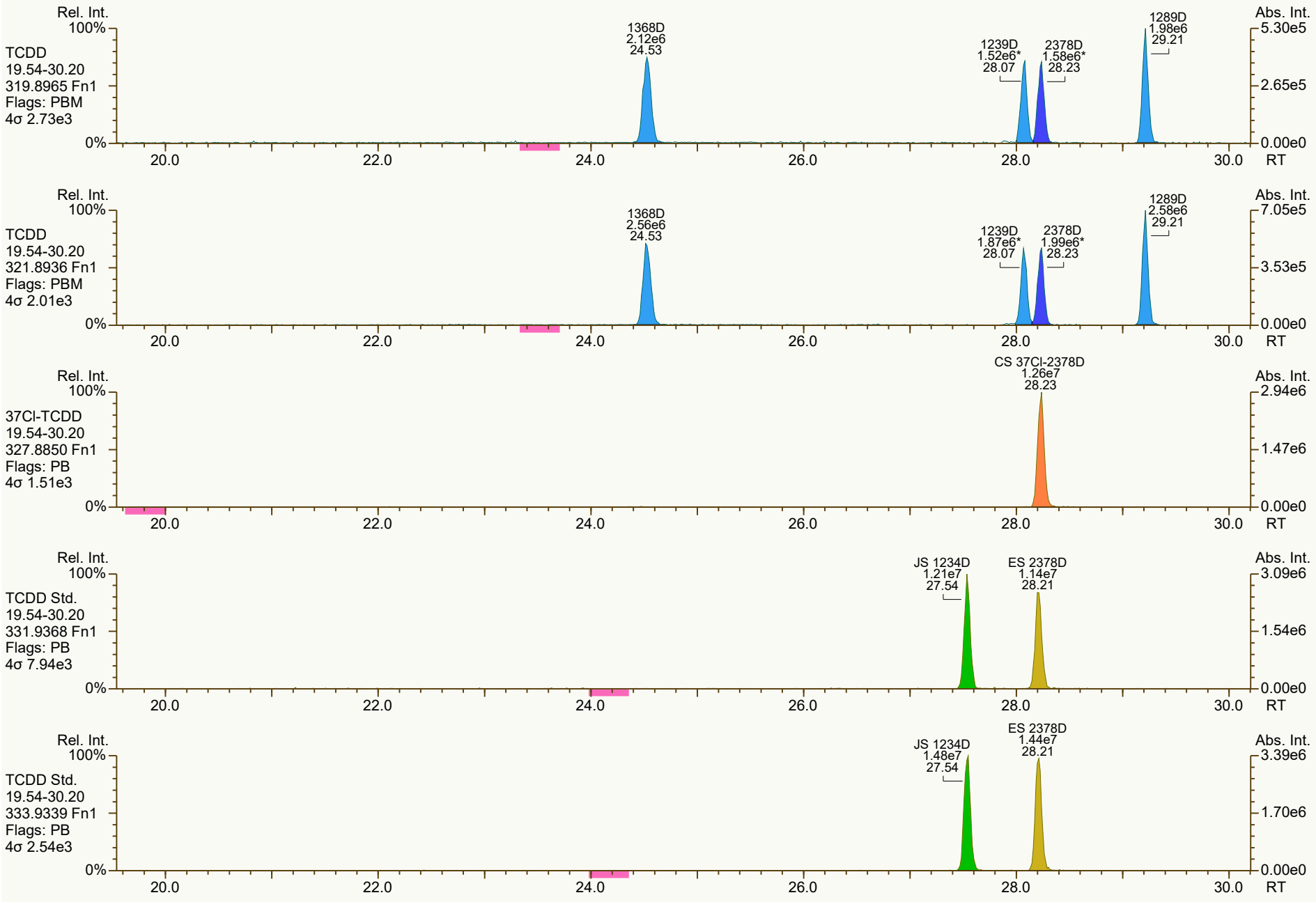
SGS ID: OPR1_18911_DF | Sample ID: 0_18911_OPR001 | Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: DTF Datafile: 220219C02

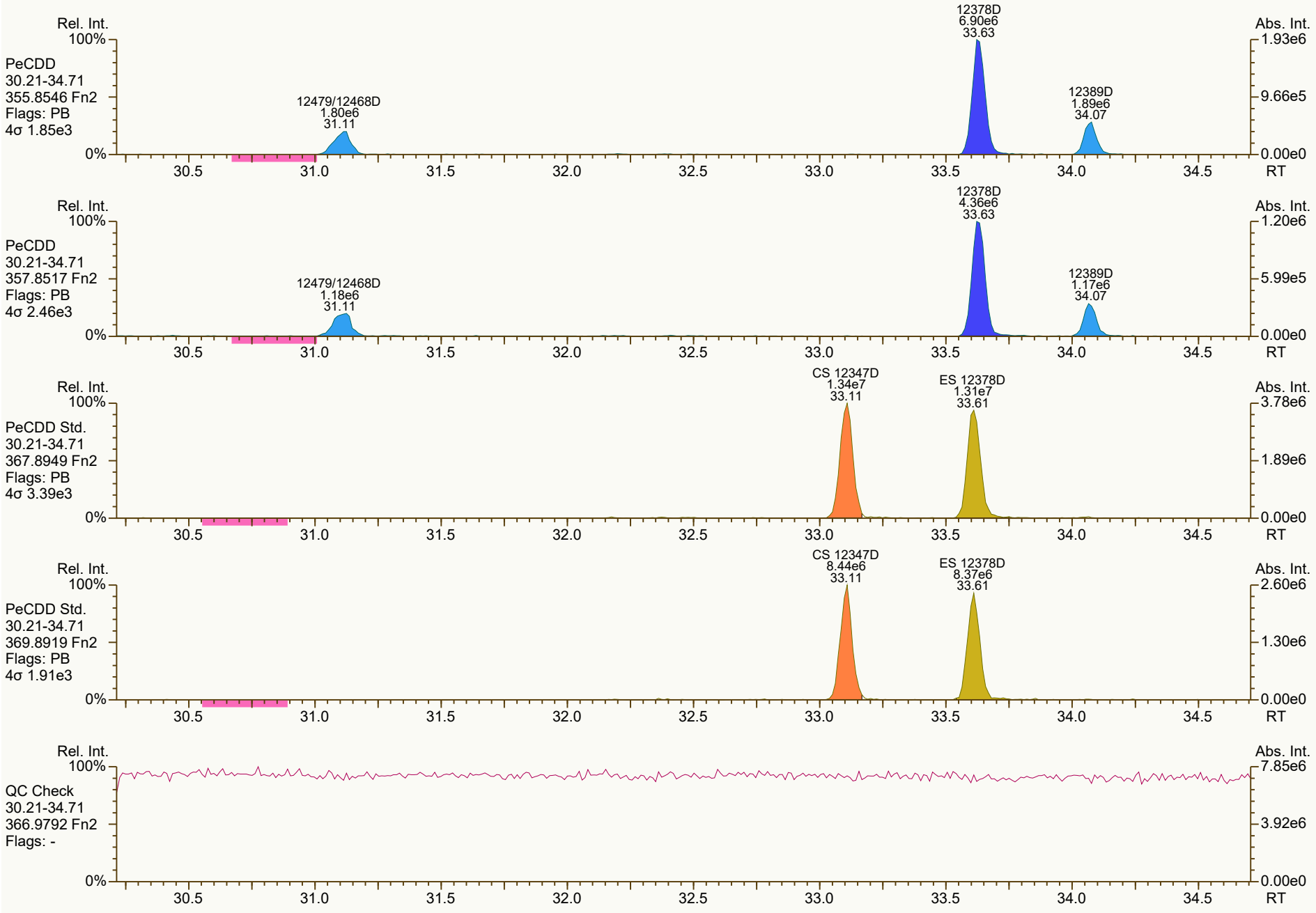


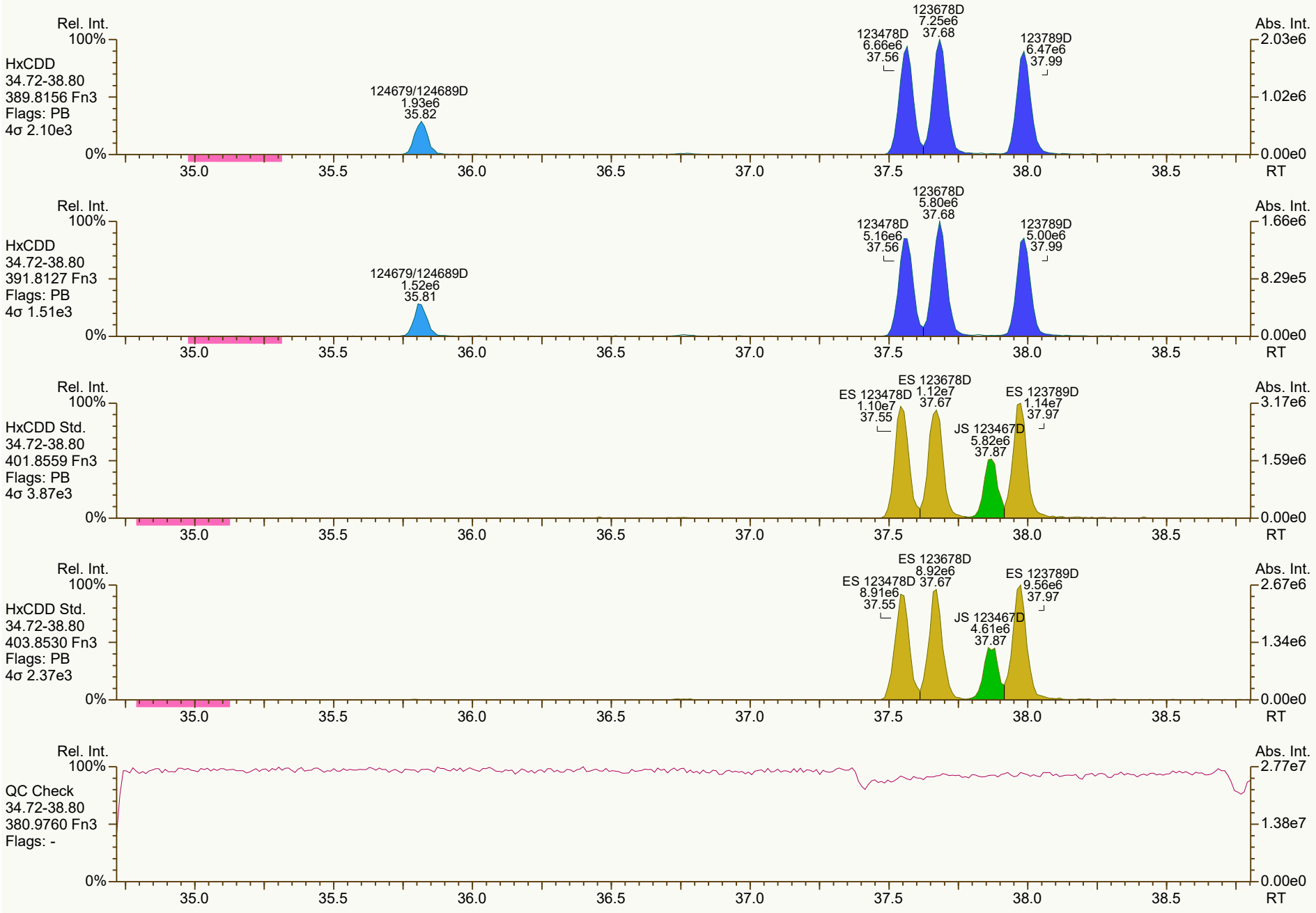


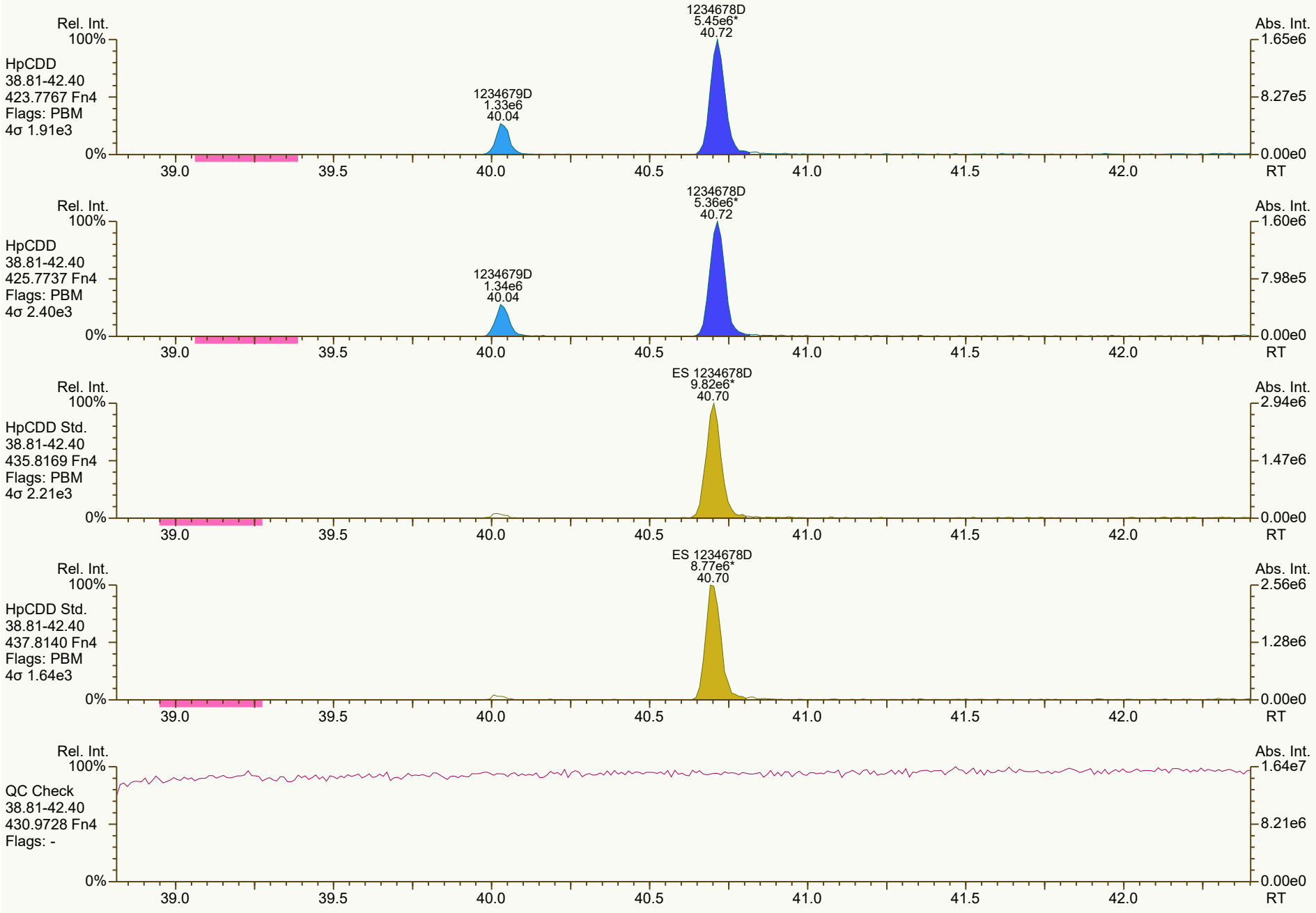
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 | *Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:49*

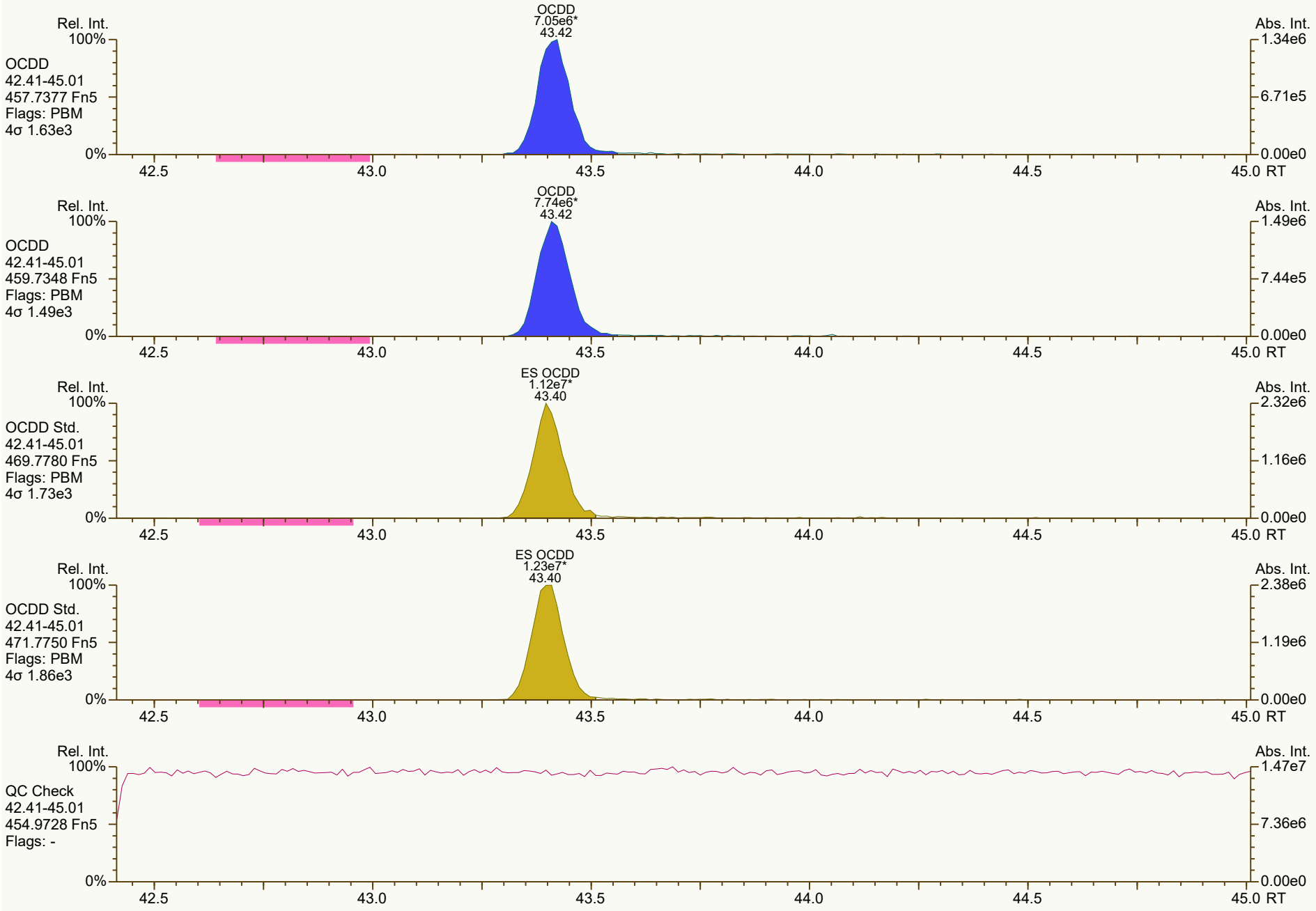

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.97e6
4.48e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.85e6
3.92e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.77e7
1.38e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.64e7
8.21e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.47e7
7.36e6
0.00e0

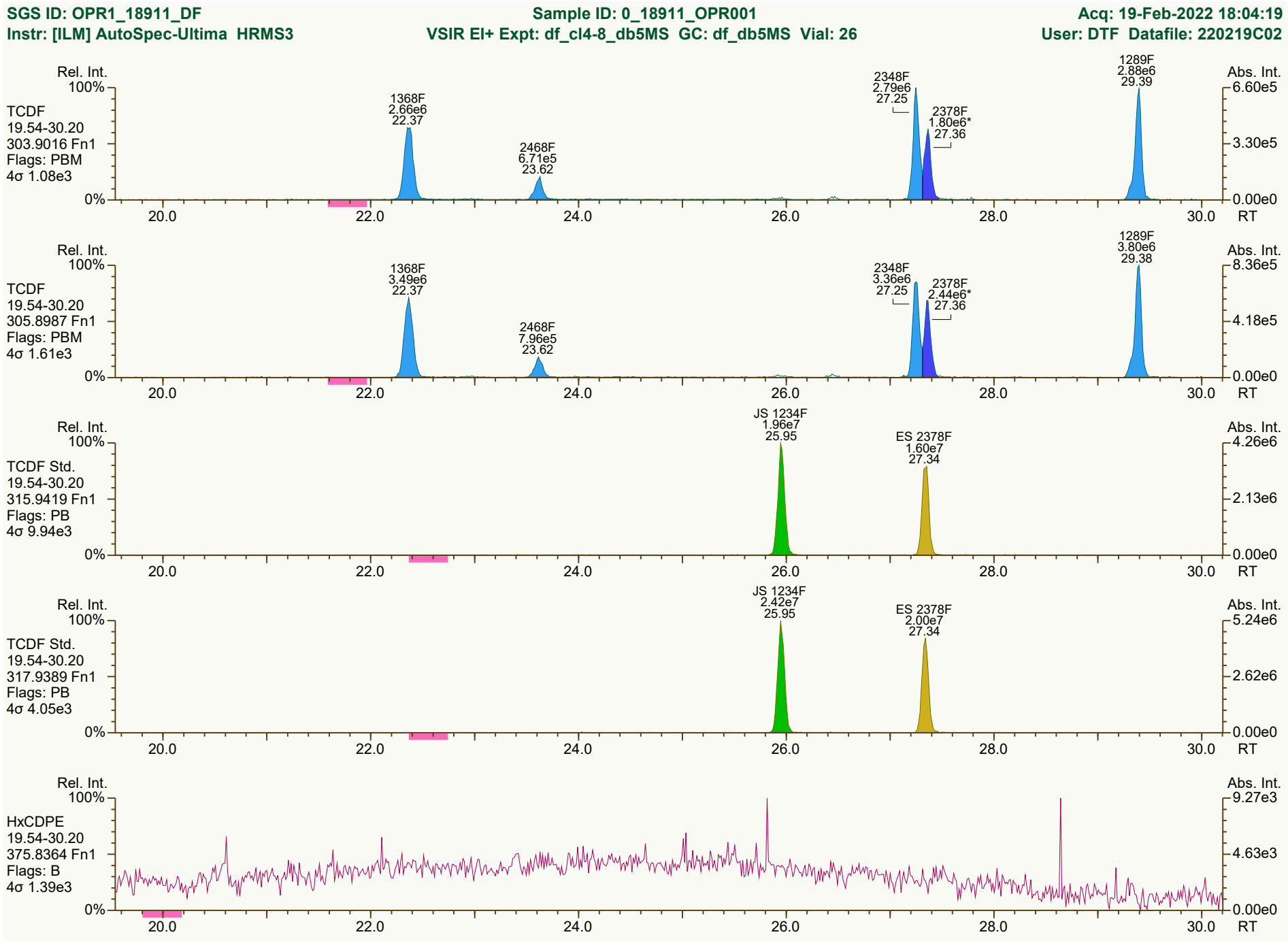

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.73e3
1368D
2.12e6
24.53
1239D
1.52e6*
28.07
2378D
1.58e6*
28.23
1289D
1.98e6
29.21
Abs. Int.
5.30e5
2.65e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.01e3
1368D
2.56e6
24.53
1239D
1.87e6*
28.07
2378D
1.99e6*
28.23
1289D
2.58e6
29.21
Abs. Int.
7.05e5
3.53e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.51e3
CS 37Cl-2378D
1.26e7
28.23
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.94e3
JS 1234D
1.21e7
27.54
ES 2378D
1.14e7
28.21
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.54e3
JS 1234D
1.48e7
27.54
ES 2378D
1.44e7
28.21
Abs. Int.
3.39e6
1.70e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.85e3
12479/12468D
1.80e6
31.11
12378D
6.90e6
33.63
12389D
1.89e6
34.07
Abs. Int.
1.93e6
9.66e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.46e3
12479/12468D
1.18e6
31.11
12378D
4.36e6
33.63
12389D
1.17e6
34.07
Abs. Int.
1.20e6
5.99e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.39e3
CS 12347D
1.34e7
33.11
ES 12378D
1.31e7
33.61
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
8.44e6
33.11
ES 12378D
8.37e6
33.61
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.85e6
3.92e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.10e3
0%
124679/124689D
1.93e6
35.82
123478D
6.66e6
37.56
123678D
7.25e6
37.68
123789D
6.47e6
37.99
Abs. Int.
2.03e6
1.02e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.51e3
0%
124679/124689D
1.52e6
35.81
123478D
5.16e6
37.56
123678D
5.80e6
37.68
123789D
5.00e6
37.99
Abs. Int.
1.66e6
8.29e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.87e3
0%
ES 123478D
1.10e7
37.55
ES 123678D
1.12e7
37.67
JS 123467D
5.82e6
37.87
ES 123789D
1.14e7
37.97
Abs. Int.
3.17e6
1.59e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.37e3
0%
ES 123478D
8.91e6
37.55
ES 123678D
8.92e6
37.67
JS 123467D
4.61e6
37.87
ES 123789D
9.56e6
37.97
Abs. Int.
2.67e6
1.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.77e7
1.38e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.91e3
1234678D
5.45e6*
40.72
1234679D
1.33e6
40.04
Abs. Int.
1.65e6
8.27e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.40e3
1234678D
5.36e6*
40.72
1234679D
1.34e6
40.04
Abs. Int.
1.60e6
7.98e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.21e3
ES 1234678D
9.82e6*
40.70
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.64e3
ES 1234678D
8.77e6*
40.70
Abs. Int.
2.56e6
1.28e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.64e7
8.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.05e6*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
1.34e6
6.71e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.74e6*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.49e3
1.49e6
7.44e5
ES OCDD
1.12e7*
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.73e3
2.32e6
1.16e6
ES OCDD
1.23e7*
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.86e3
2.38e6
1.19e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.36e6

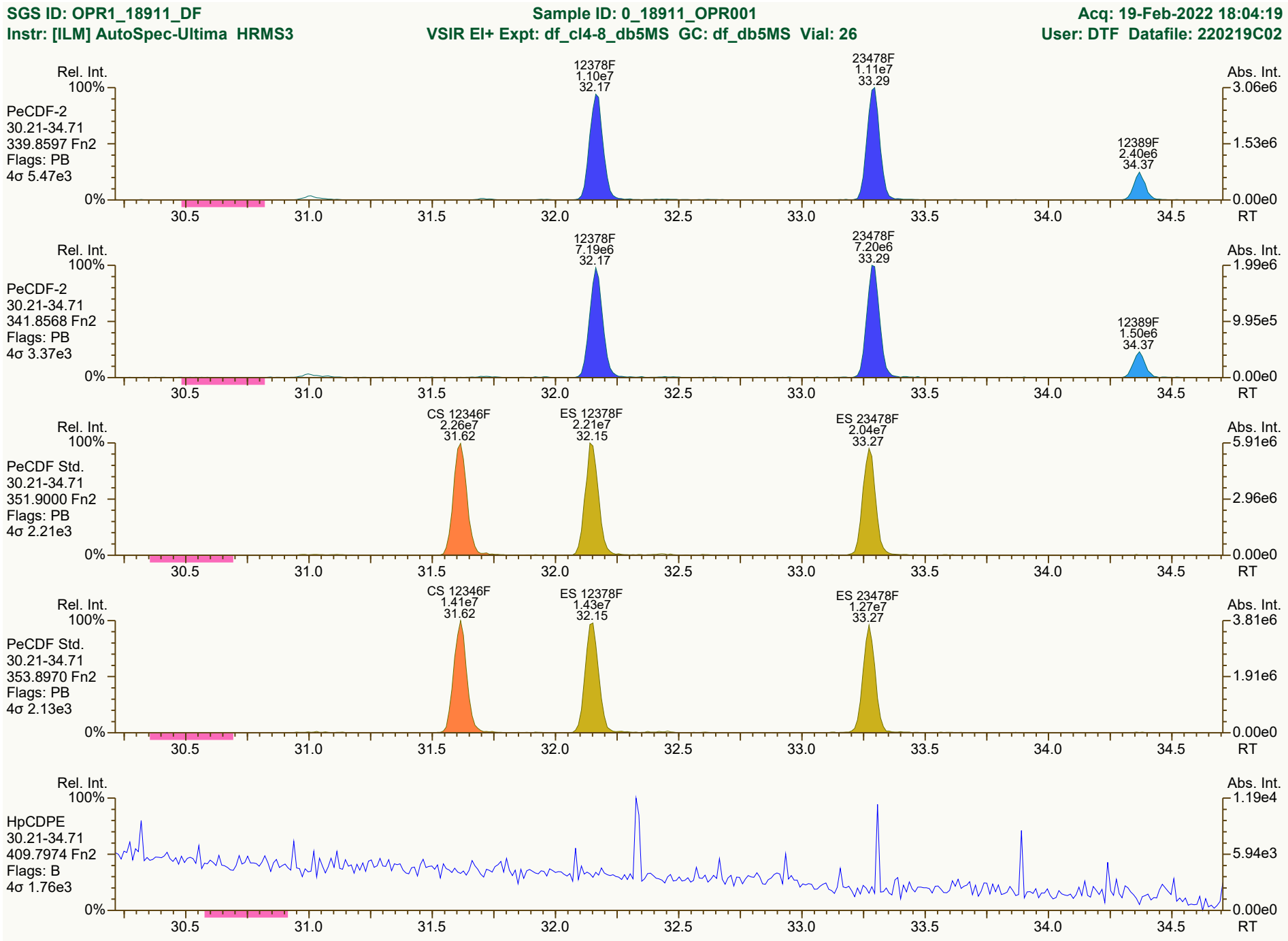


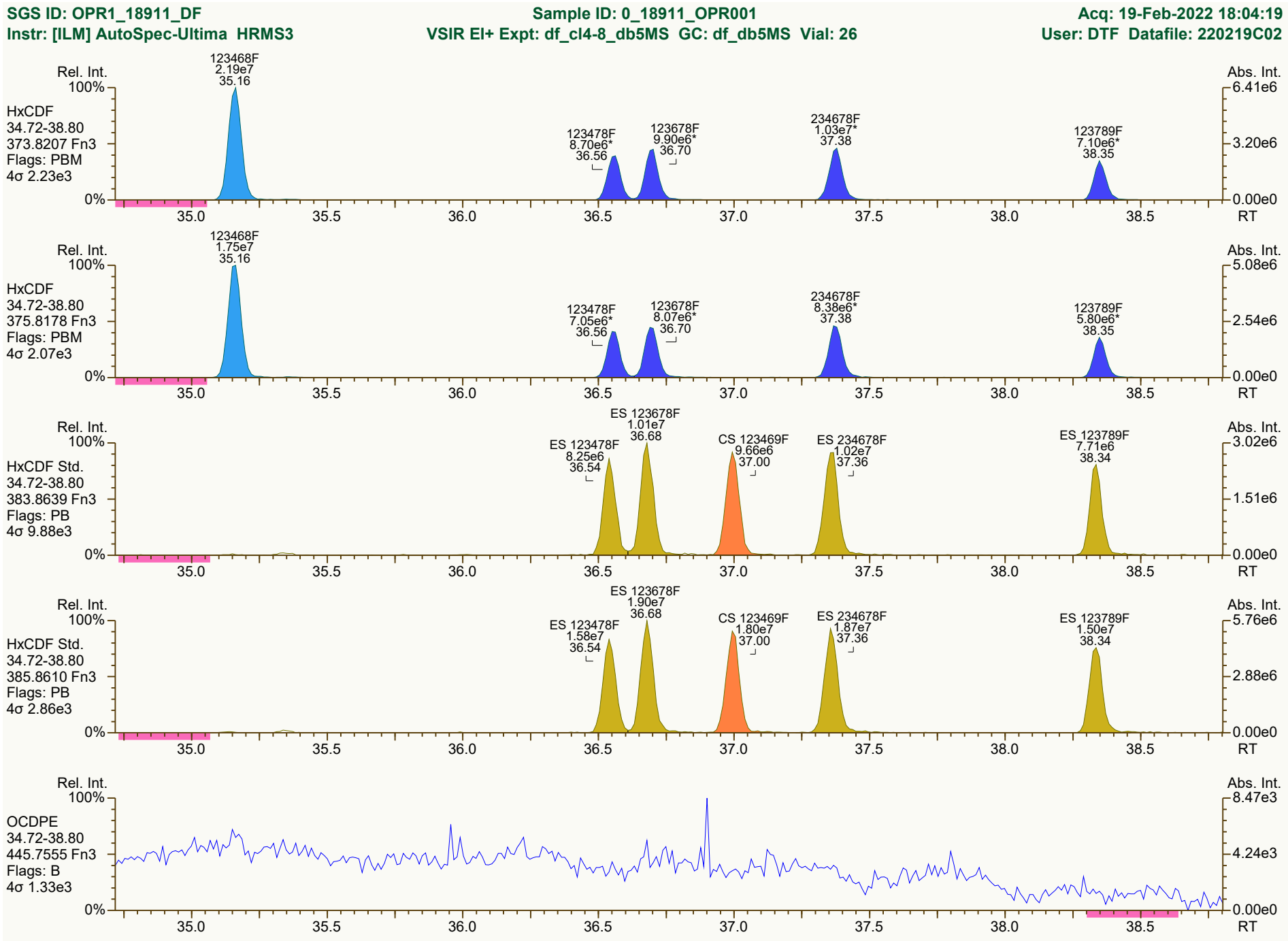
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1430, 6706, 7026 scc: 320-676
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:50 Page 7 of 12

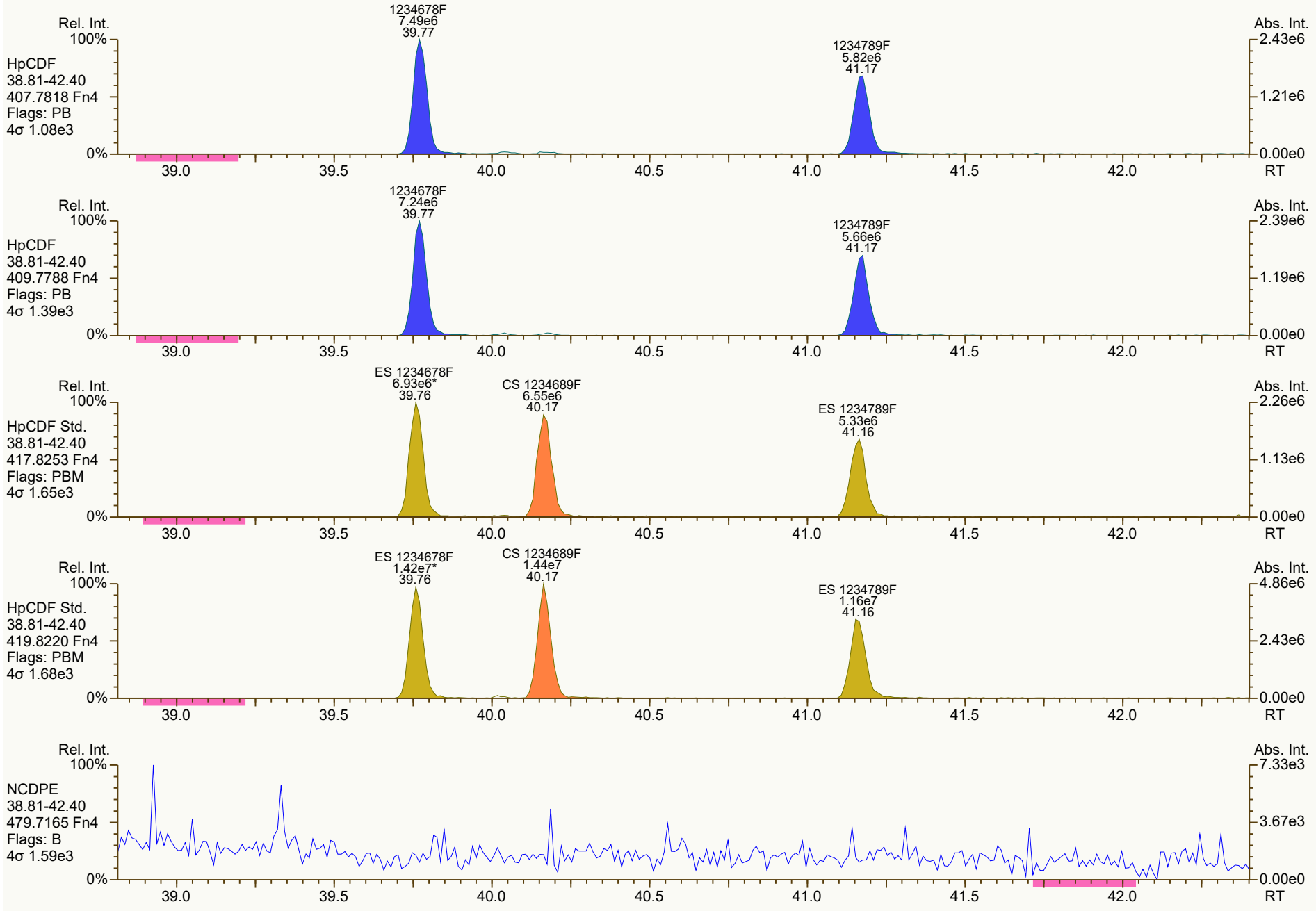
SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02



Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6476 scc: 320-676
PKD: 21-Feb-2022 09:55 Printed: 21-Feb-2022 10:50 Page 8 of 12


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 5.47e3
12378F
1.10e7
32.17
23478F
1.11e7
33.29
12389F
2.40e6
34.37
3.06e6
1.53e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.37e3
12378F
7.19e6
32.17
23478F
7.20e6
33.29
12389F
1.50e6
34.37
1.99e6
9.95e5
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.21e3
CS 12346F
2.26e7
31.62
ES 12378F
2.21e7
32.15
ES 23478F
2.04e7
33.27
5.91e6
2.96e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.13e3
CS 12346F
1.41e7
31.62
ES 12378F
1.43e7
32.15
ES 23478F
1.27e7
33.27
3.81e6
1.91e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.76e3
1.19e4
5.94e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6039, 5543, 7701 scc: 320-676
PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 10:50 Page 9 of 12


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.23e3
123468F
2.19e7
35.16
123478F
8.70e6*
36.56
123678F
9.90e6*
36.70
234678F
1.03e7*
37.38
123789F
7.10e6*
38.35
6.41e6
3.20e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.07e3
123468F
1.75e7
35.16
123478F
7.05e6*
36.56
123678F
8.07e6*
36.70
234678F
8.38e6*
37.38
123789F
5.80e6*
38.35
5.08e6
2.54e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 9.88e3
ES 123678F
1.01e7
36.68
ES 123478F
8.25e6
36.54
CS 123469F
9.66e6
37.00
ES 234678F
1.02e7
37.36
ES 123789F
7.71e6
38.34
3.02e6
1.51e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.86e3
ES 123678F
1.90e7
36.68
ES 123478F
1.58e7
36.54
CS 123469F
1.80e7
37.00
ES 234678F
1.87e7
37.36
ES 123789F
1.50e7
38.34
5.76e6
2.88e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.33e3
8.47e3
4.24e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0708, 8222, 5059 scc: 320-676
PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 10:50 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.08e3
1234678F
7.49e6
39.77
1234789F
5.82e6
41.17
Abs. Int.
2.43e6
1.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.39e3
1234678F
7.24e6
39.77
1234789F
5.66e6
41.17
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.65e3
ES 1234678F
6.93e6*
39.76
CS 1234689F
6.55e6
40.17
ES 1234789F
5.33e6
41.16
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.68e3
ES 1234678F
1.42e7*
39.76
CS 1234689F
1.44e7
40.17
ES 1234789F
1.16e7
41.16
Abs. Int.
4.86e6
2.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.59e3
Abs. Int.
7.33e3
3.67e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
7.97e6*
43.59
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
8.93e6*
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 3.16e3
ES OCDF
1.44e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.14e3
ES OCDF
1.63e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.74e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.21e3
RT

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 10:46:49 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 10:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	3.07E+06	0.81	Y	1.18	11.1	3950.923	0.148
12378-PeCDD	33.64		1.0007	1.0006	-0.2	1.02E+07	1.56	Y	1.04	47.5	5313.903	0.214
123478-HxCDD	37.56		1.0004	1.0004	0	1.08E+07	1.27	Y	1.09	52.2	4150.967	0.177
123678-HxCDD	37.69		1.0036	1.0036	0	1.22E+07	1.26	Y	1.15	54.5	4150.967	0.16
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.08E+07	1.25	Y	1.05	51.6	4150.967	0.164
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	9.84E+06	1.04	Y	1.06	52.2	4096.641	0.179
OCDD	43.40		1.0003	1.0003	0	1.41E+07	0.87	Y	1.13	109	3700.127	0.359
2378-TCDF	27.38		1.0008	1.0008	0	3.77E+06	0.76	Y	1.08	10.7	4704.21	0.149
12378-PeCDF	32.18		1.0005	1.0005	0	1.62E+07	1.53	Y	1.02	49.7	5913.964	0.17
23478-PeCDF	33.30		1.0005	1.0005	0	1.67E+07	1.53	Y	1.02	50.9	5913.964	0.162
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.43E+07	1.20	Y	1.27	51.4	6194.584	0.187
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.64E+07	1.24	Y	1.15	50.6	6194.584	0.157
234678-HxCDF	37.38		1.0005	1.0004	-0.2	1.70E+07	1.22	Y	1.19	50.7	6194.584	0.164
123789-HxCDF	38.35		1.0004	1.0004	0	1.20E+07	1.28	Y	1.16	47.8	6194.584	0.216
1234678-HpCDF	39.77		1.0003	1.0003	0	1.40E+07	1.02	Y	1.37	49.8	3861.13	0.103
1234789-HpCDF	41.17		1.0003	1.0003	0	1.03E+07	1.04	Y	1.31	49.1	3861.13	0.152
OCDF	43.57		1.0002	1.0002	0	1.64E+07	0.92	Y	1.07	103	4020.581	0.297

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.34E+07	0.80	Y	1.05	97.9
ES 12378-PeCDD	33.62	1.2198	1.2200	+0.4	2.07E+07	1.60	Y	0.88	103
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.90E+07	1.28	Y	0.97	98.4
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	1.96E+07	1.24	Y	0.94	104
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.00E+07	1.24	Y	1.09	91.9
ES 1234678-HpCDD	40.70	1.0749	1.0747	-0.5	1.78E+07	1.04	Y	0.91	98
ES OCDD	43.39	1.1460	1.1458	-0.5	2.30E+07	0.90	Y	0.62	92.5
ES 2378-TCDF	27.36	1.0531	1.0533	+0.3	3.27E+07	0.80	Y	1.06	85.1
ES 12378-PeCDF	32.16	1.2378	1.2382	+0.8	3.18E+07	1.60	Y	0.91	96.4
ES 23478-PeCDF	33.28	1.2810	1.2814	+0.8	3.21E+07	1.62	Y	0.88	100
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.19E+07	0.52	Y	1.20	91.9
ES 123678-HxCDF	36.69	0.9688	0.9688	0	2.81E+07	0.55	Y	1.35	105
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.82E+07	0.56	Y	1.24	114
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.16E+07	0.54	Y	1.16	94
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.05E+07	0.47	Y	0.97	107
ES 1234789-HpCDF	41.15	1.0870	1.0868	-0.5	1.61E+07	0.50	Y	0.85	95.3
ES OCDF	43.56	1.1505	1.1503	-0.5	2.97E+07	0.89	Y	0.81	92.3

Lab ID: OPR2_18911_DF | **Acq'd:** 20 Feb 2022 05:55 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR002 | **UTP:** 21-Feb-2022 10:46:49 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 488-895-CRP

Datafile: 220219C17 | **Report:** 21 Feb 2022 10:48 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.29E+07	0.79	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.62E+07	0.85	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.94E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.11E+07	n/a	-	1.20	101
CS 12347-PeCDD	33.11		1.2016	1.2017	+0.2	2.00E+07	1.54	Y	0.75	116
CS 12346-PeCDF	31.63		1.2172	1.2177	+0.9	3.25E+07	1.62	Y	0.85	105
CS 123469-HxCDF	37.00		0.9771	0.9771	0	2.43E+07	0.52	Y	1.12	109
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	1.87E+07	0.47	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2017~~	~~+0.2~~	~~2.00E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2177~~	~~+0.9~~	~~3.25E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9771~~	~~0~~	~~2.43E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.87E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	52.3	52.3
Total PeCDD	73.6	73.6
Total HxCDD	174	174
Total HpCDD	65.2	65.2
Total Tetra-Octa Dioxins	474	474
Total TCDF	63.4	63.4
Total PeCDF	197	197
Total HxCDF	320	320
Total HpCDF	98.8	98.8
Total Tetra-Octa Furans	783	783
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.804	0.81
Response	3.07E+06	3.07E+06

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 10:46:49 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 10:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8699	-0.3	4.12E+06	0.81	Y	1.18	14.9	3950.923	0.148
1379-TCDD	NotFnd		0.8829						1.18		3950.923	0.148
1369-TCDD	NotFnd		0.8982						1.18		3950.923	0.148
1469-TCDD	NotFnd		0.9261						1.18		3950.923	0.148
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3950.923	0.148
1378-TCDD	NotFnd		0.9417						1.18		3950.923	0.148
1268-TCDD	NotFnd		0.9487						1.18		3950.923	0.148
1478-TCDD	NotFnd		0.9576						1.18		3950.923	0.148
1279-TCDD	NotFnd		0.9636						1.18		3950.923	0.148
1234/1269-TCDD	NotFnd		0.9761						1.18		3950.923	0.148
1236-TCDD	NotFnd		0.9812						1.18		3950.923	0.148
1237/1238-TCDD	NotFnd		0.9905						1.18		3950.923	0.148
1239-TCDD	28.09		0.9951	0.9951	0	3.30E+06	0.85	Y	1.18	11.9	3950.923	0.148
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	3.07E+06	0.81	Y	**1.18**	**11.1**	**3950.923**	**0.148**
1278-TCDD	NotFnd		1.0124						1.18		3950.923	0.148
1267-TCDD	NotFnd		1.0172						1.18		3950.923	0.148
1289-TCDD	29.23		1.0354	1.0356	+0.4	3.99E+06	0.80	Y	1.18	14.4	3950.923	0.148
12479/12468-PeCDD	31.12		0.9255	0.9257	+0.4	2.80E+06	1.51	Y	1.04	13.1	5313.903	0.214
12469-PeCDD	NotFnd		0.9416						1.04		5313.903	0.214
12368-PeCDD	NotFnd		0.9582						1.04		5313.903	0.214
12478-PeCDD	NotFnd		0.9637						1.04		5313.903	0.214
12379-PeCDD	NotFnd		0.9668						1.04		5313.903	0.214
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		5313.903	0.214
12346/12347-PeCDD	NotFnd		0.9858						1.04		5313.903	0.214
12378-PeCDD	33.64		**1.0007**	**1.0006**	**-0.2**	**1.02E+07**	**1.56**	**Y**	**1.04**	**47.5**	**5313.903**	**0.214**
12367-PeCDD	NotFnd		1.0036						1.04		5313.903	0.214
12389-PeCDD	34.08		1.0137	1.0137	0	2.78E+06	1.56	Y	1.04	13	5313.903	0.214
124679/124689-HxCDD	35.82		0.9540	0.9540	0	3.28E+06	1.31	Y	1.10	15.4	4150.967	0.167
123468-HxCDD	NotFnd		0.9715						1.10		4150.967	0.167
123679/123689-HxCDD	NotFnd		0.9793						1.10		4150.967	0.167
123469-HxCDD	NotFnd		0.9829						1.10		4150.967	0.167
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.27**	**Y**	1.09	**52.2**	**4150.967**	**0.177**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.22E+07**	**1.26**	**Y**	1.15	**54.5**	**4150.967**	**0.16**
123467-HxCDD	NotFnd		1.0089						1.10		4150.967	0.167
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.08E+07**	**1.25**	**Y**	1.05	**51.6**	**4150.967**	**0.164**

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 10:46:49 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 10:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	2.46E+06	1.02	Y	1.06	13	4096.641	0.179
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**9.84E+06**	**1.04**	**Y**	**1.06**	**52.2**	**4096.641**	**0.179**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**0.87**	**Y**	**1.13**	**109**	**3700.127**	**0.359**
OCDD-a	NotFnd		1.0002						0.07		3841.736	5.82
1368-TCDF	22.40		0.8191	0.8187	-0.5	5.60E+06	0.78	Y	1.08	15.9	4704.21	0.149
1468-TCDF	NotFnd		0.8408						1.08		4704.21	0.149
2468-TCDF	23.64		0.8645	0.8643	-0.3	1.46E+06	0.78	Y	1.08	4.15	4704.21	0.149
1346/1246-TCDF	NotFnd		0.8772						1.08		4704.21	0.149
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		4704.21	0.149
1348-TCDF	NotFnd		0.8932						1.08		4704.21	0.149
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		4704.21	0.149
1268-TCDF	NotFnd		0.9119						1.08		4704.21	0.149
1467-TCDF	NotFnd		0.9170						1.08		4704.21	0.149
1478-TCDF	NotFnd		0.9234						1.08		4704.21	0.149
1369/1237-TCDF	NotFnd		0.9369						1.08		4704.21	0.149
2467-TCDF	NotFnd		0.9415						1.08		4704.21	0.149
2368-TCDF	NotFnd		0.9475						1.08		4704.21	0.149
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4704.21	0.149
1278-TCDF	NotFnd		0.9676						1.08		4704.21	0.149
1349-TCDF	NotFnd		0.9722						1.08		4704.21	0.149
1267-TCDF	NotFnd		0.9777						1.08		4704.21	0.149
2346/1249-TCDF	NotFnd		0.9843						1.08		4704.21	0.149
2347/1279-TCDF	NotFnd		0.9926						1.08		4704.21	0.149
2348-TCDF	27.27		0.9968	0.9967	-0.2	5.44E+06	0.82	Y	1.08	15.4	4704.21	0.149
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**3.77E+06**	**0.76**	**Y**	**1.08**	**10.7**	**4704.21**	**0.149**
2367/3467-TCDF	NotFnd		1.0142						1.08		4704.21	0.149
1269-TCDF	NotFnd		1.0235						1.08		4704.21	0.149
1239-TCDF	NotFnd		1.0329						1.08		4704.21	0.149
1289-TCDF	29.40		1.0742	1.0746	+0.7	6.08E+06	0.81	Y	1.08	17.2	4704.21	0.149
13468/12468-PeCDF	29.32		0.9122	0.9118	-0.7	2.80E+07	1.58	Y	1.02	85.7	3202.845	0.0899
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5913.964	0.166
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5913.964	0.166
14678-PeCDF	NotFnd		0.9685						1.02		5913.964	0.166
13479-PeCDF	NotFnd		0.9716						1.02		5913.964	0.166
13469/12479-PeCDF	NotFnd		0.9794						1.02		5913.964	0.166
12346-PeCDF	NotFnd		0.9836						1.02		5913.964	0.166

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 10:46:49 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 10:48 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5913.964	0.166
12347-PeCDF	NotFnd		0.9891						1.02		5913.964	0.166
12348-PeCDF	NotFnd		0.9938						1.02		5913.964	0.166
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**1.62E+07**	**1.53**	**Y**	**1.02**	**49.7**	**5913.964**	**0.17**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5913.964	0.166
12379-PeCDF	NotFnd		1.0144						1.02		5913.964	0.166
12679-PeCDF	NotFnd		0.9927						1.02		5913.964	0.166
23467/12369-PeCDF	NotFnd		0.9965						1.02		5913.964	0.166
23478-PeCDF	**33.30**		**1.0005**	**1.0005**	**0**	**1.67E+07**	**1.53**	**Y**	**1.02**	**50.9**	**5913.964**	**0.162**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5913.964	0.166
12349-PeCDF	NotFnd		1.0101						1.02		5913.964	0.166
12389-PeCDF	34.38		1.0330	1.0329	-0.2	3.53E+06	1.50	Y	1.02	10.8	5913.964	0.166
123468-HxCDF	35.17		0.9622	0.9623	+0.2	3.57E+07	1.24	Y	1.19	120	6194.584	0.178
124678/134678-HxCDF	NotFnd		0.9678						1.19		6194.584	0.178
134679-HxCDF	NotFnd		0.9741						1.19		6194.584	0.178
124679-HxCDF	NotFnd		0.9795						1.19		6194.584	0.178
124689-HxCDF	NotFnd		0.9856						1.19		6194.584	0.178
123467-HxCDF	NotFnd		0.9972						1.19		6194.584	0.178
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.43E+07**	**1.20**	**Y**	**1.27**	**51.4**	**6194.584**	**0.187**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.64E+07**	**1.24**	**Y**	**1.15**	**50.6**	**6194.584**	**0.157**
123479-HxCDF	NotFnd		1.0048						1.19		6194.584	0.178
123469-HxCDF	NotFnd		1.0089						1.19		6194.584	0.178
123679-HxCDF	NotFnd		0.9942						1.19		6194.584	0.178
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**1.70E+07**	**1.22**	**Y**	**1.19**	**50.7**	**6194.584**	**0.164**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6194.584	0.178
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.20E+07**	**1.28**	**Y**	**1.16**	**47.8**	**6194.584**	**0.216**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6194.584	0.178
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**1.02**	**Y**	**1.37**	**49.8**	**3861.13**	**0.103**
1234679-HpCDF	NotFnd		1.0068						1.34		3861.13	0.124
1234689-HpCDF	NotFnd		1.0104						1.34		3861.13	0.124
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.04**	**Y**	**1.31**	**49.1**	**3861.13**	**0.152**
OCDF	**43.57**		**1.0002**	**1.0002**	**0**	**1.64E+07**	**0.92**	**Y**	**1.07**	**103**	**4020.581**	**0.297**
OCDF-a	43.57		1.0001	1.0002	+0.3	1.04E+06	2.23	Y	0.07	105	3176.37	3.79

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.2	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	10.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.1	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:48 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	97.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	104	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.9	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	98	26	-	166	Y
13C-OCDD	200	185	26	-	397	Y
13C-2,3,7,8-TCDF	100	85.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	100	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	105	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	114	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	107	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.3	20	-	186	Y
13C-OCDF	200	185	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	40.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:48 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.55	1289-TCDD	29.23
12479/12468-PeCDD	31.12	12389-PeCDD	34.08
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.03	1234678-HpCDD	40.71
1368-TCDF	22.40	1289-TCDF	29.40
13468/12468-PeCDF	29.32	12389-PeCDF	34.38
123468-HxCDF	35.17	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.17

Isomer Specificity Test Standard Results

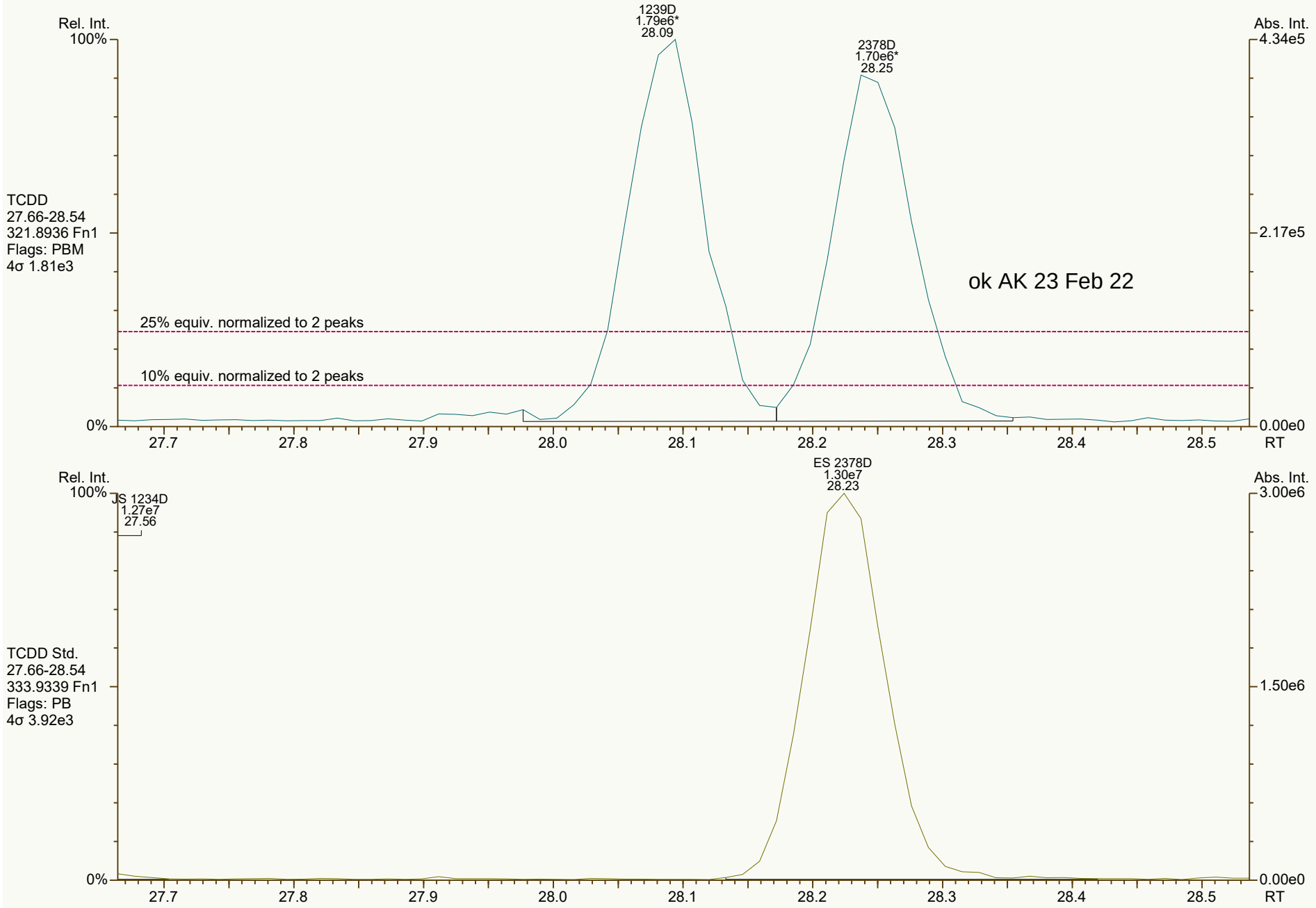
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.09	2378-TCDD	28.25
2348-TCDF	27.27	2378-TCDF	27.38

Processed: 21 Feb 2022 10:48 Analyst: TF

SGS ID: OPR2_18911_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18911_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27

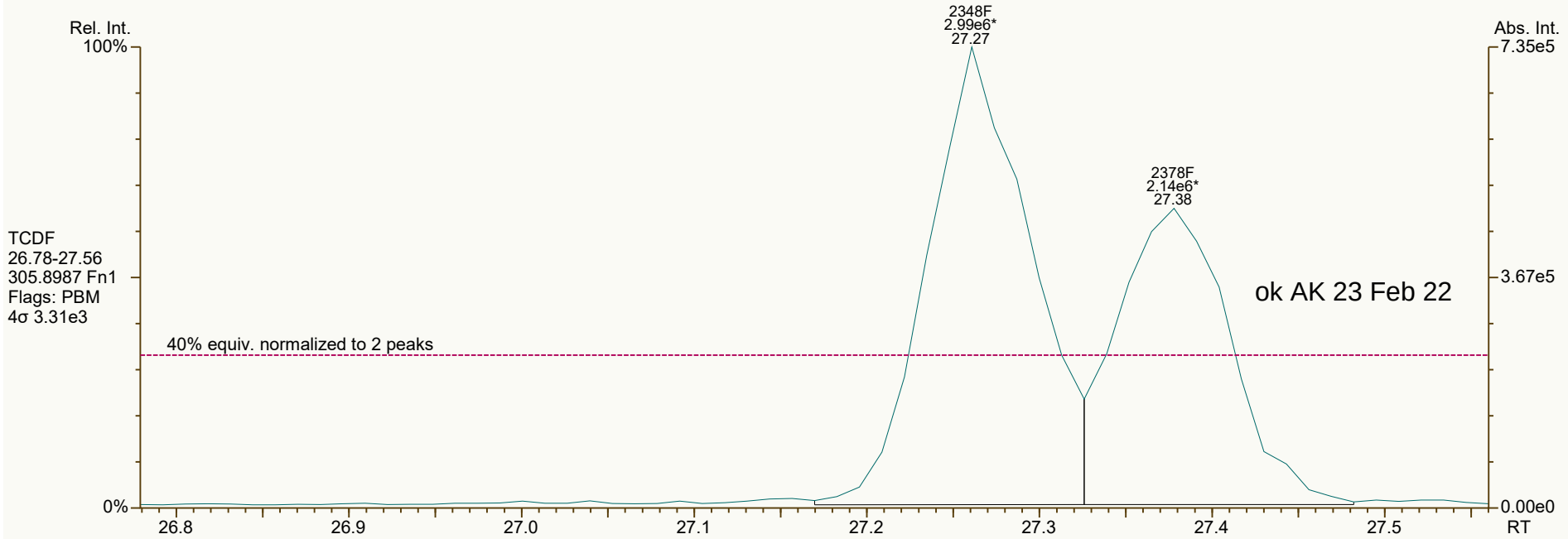
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User: DTF Datafile: 220219C17

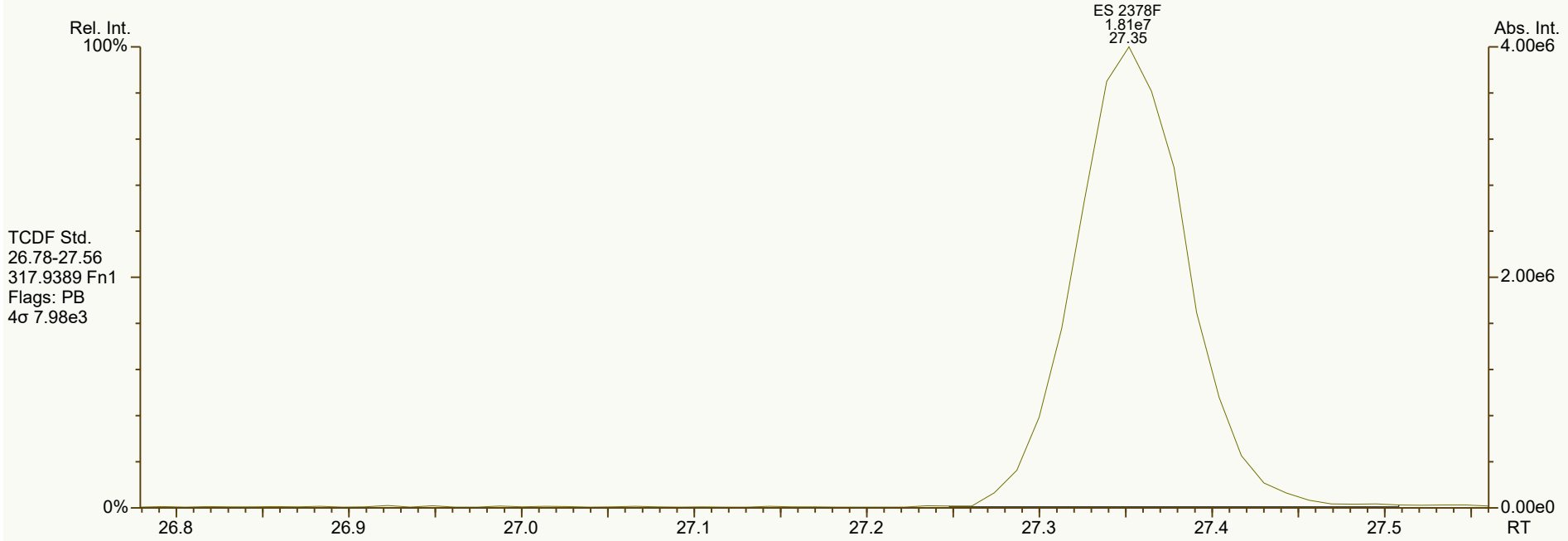


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SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

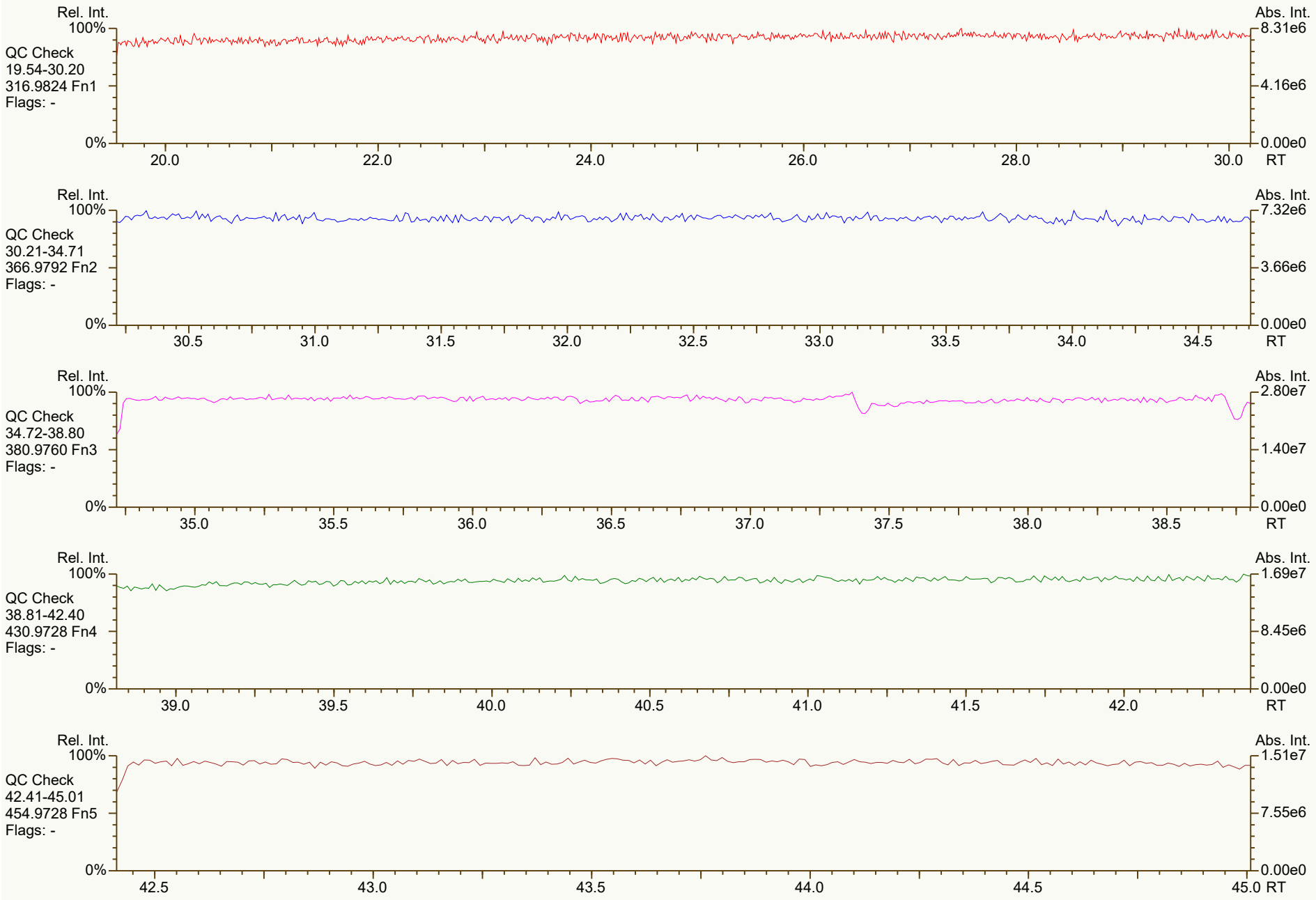
Peak annotation: Areas, Centroids
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:49

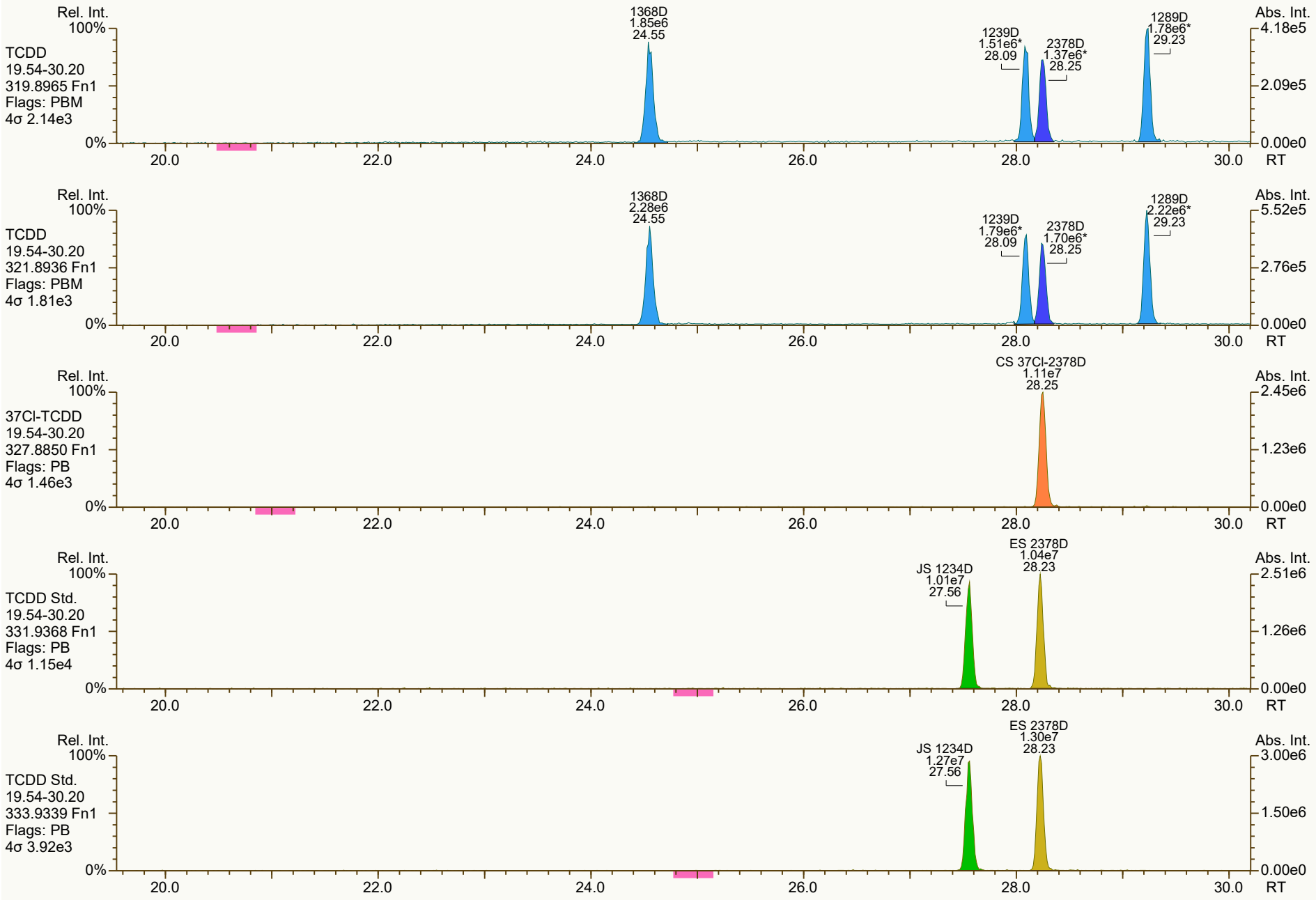
SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17

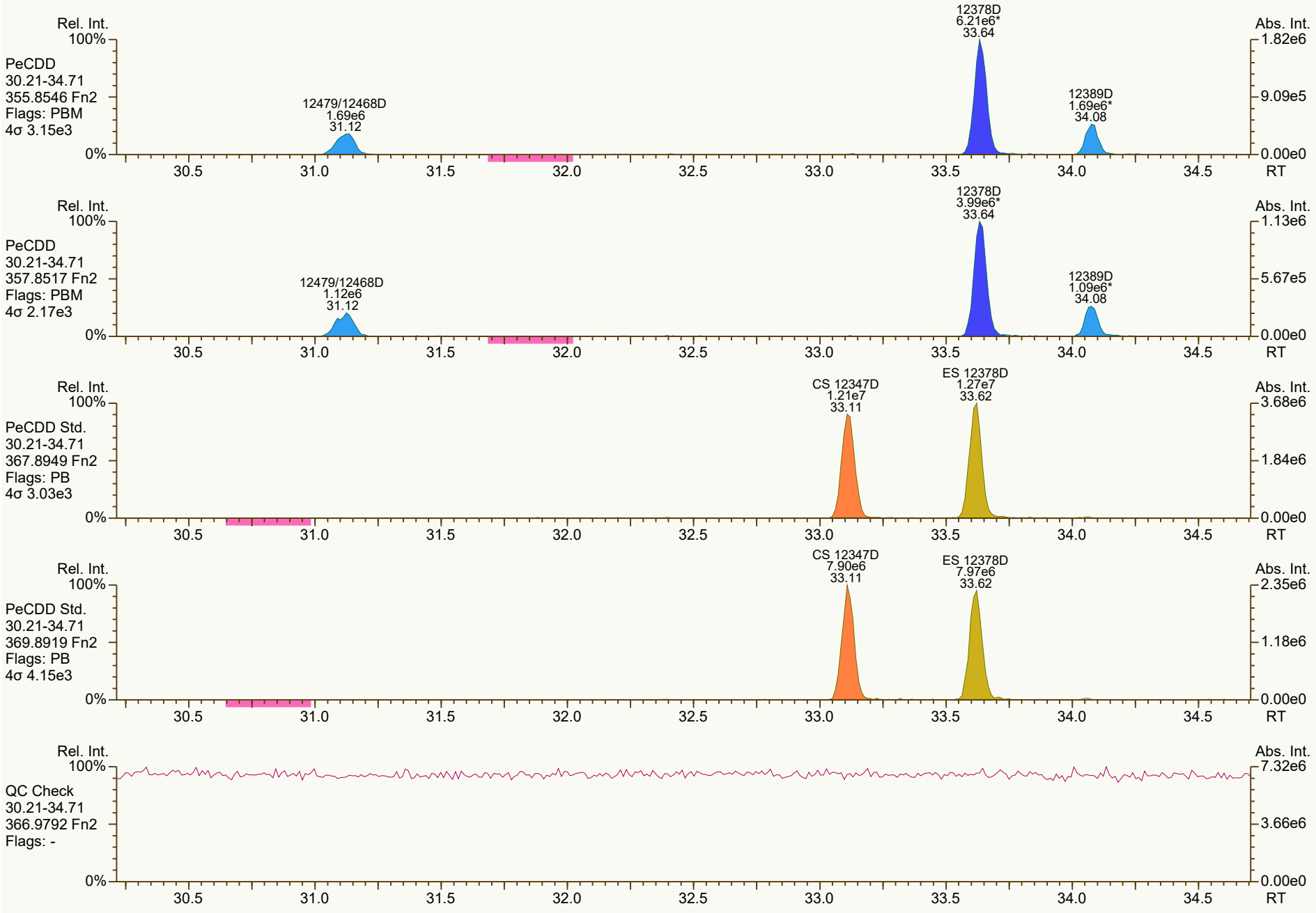


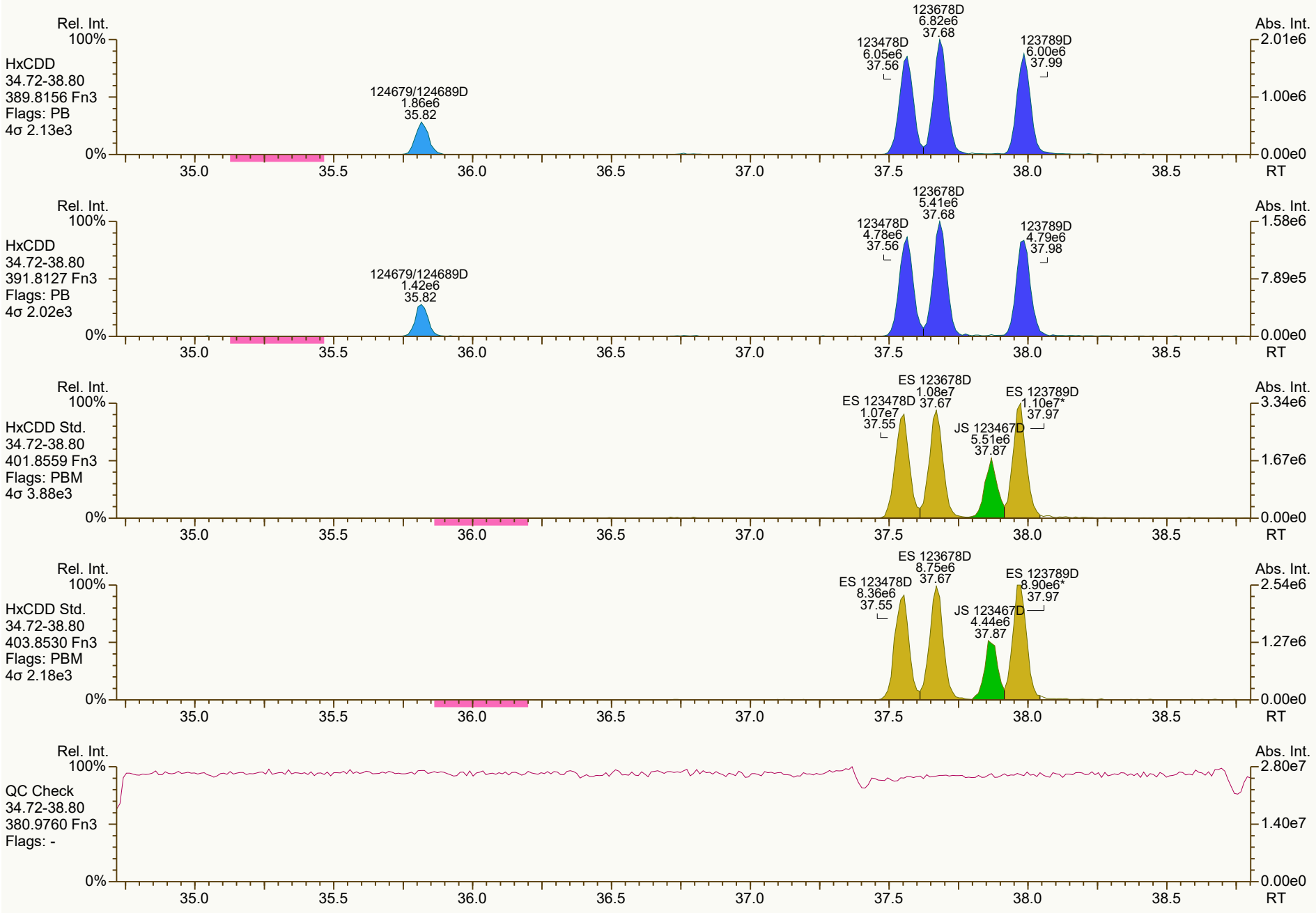


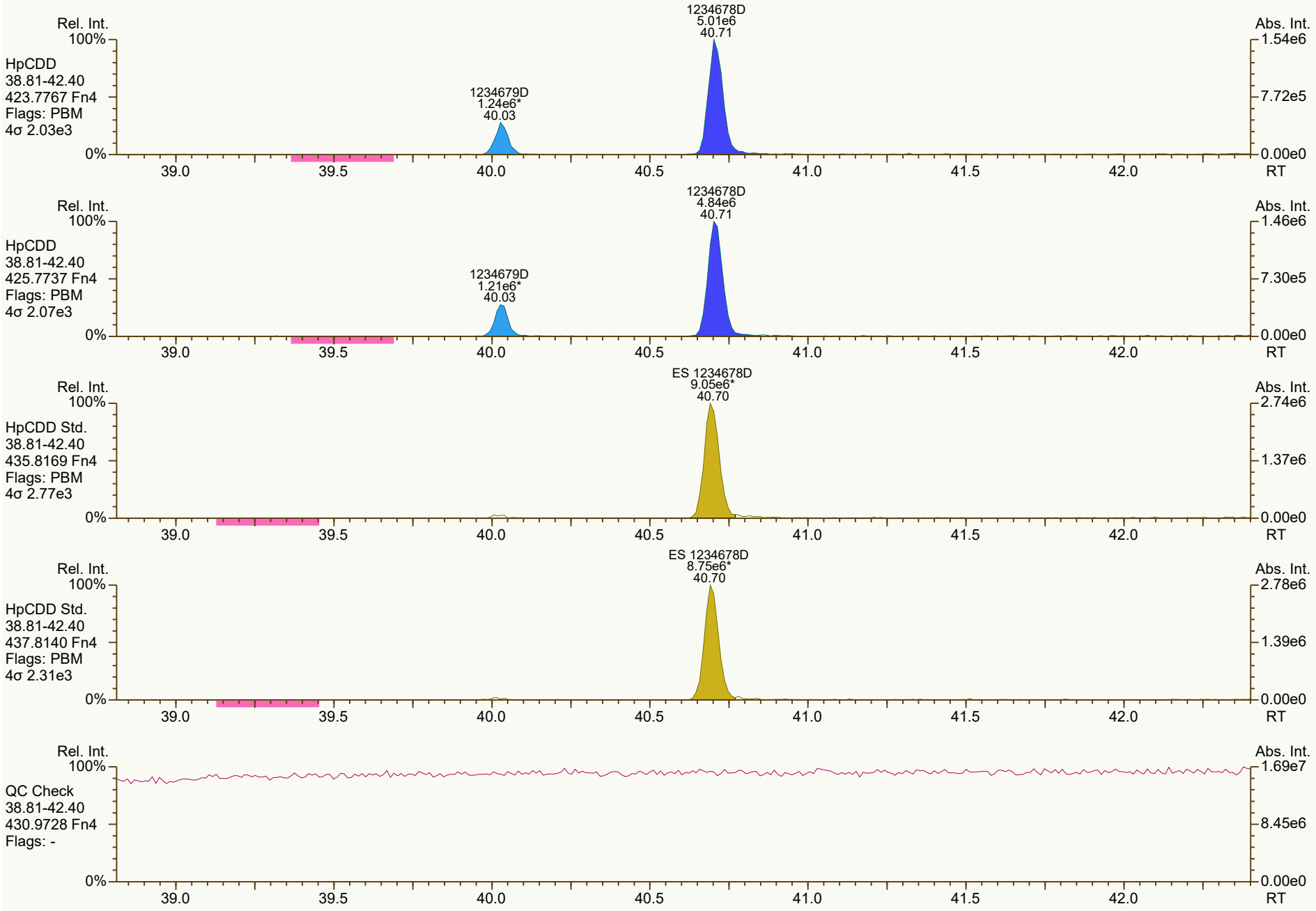
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:49

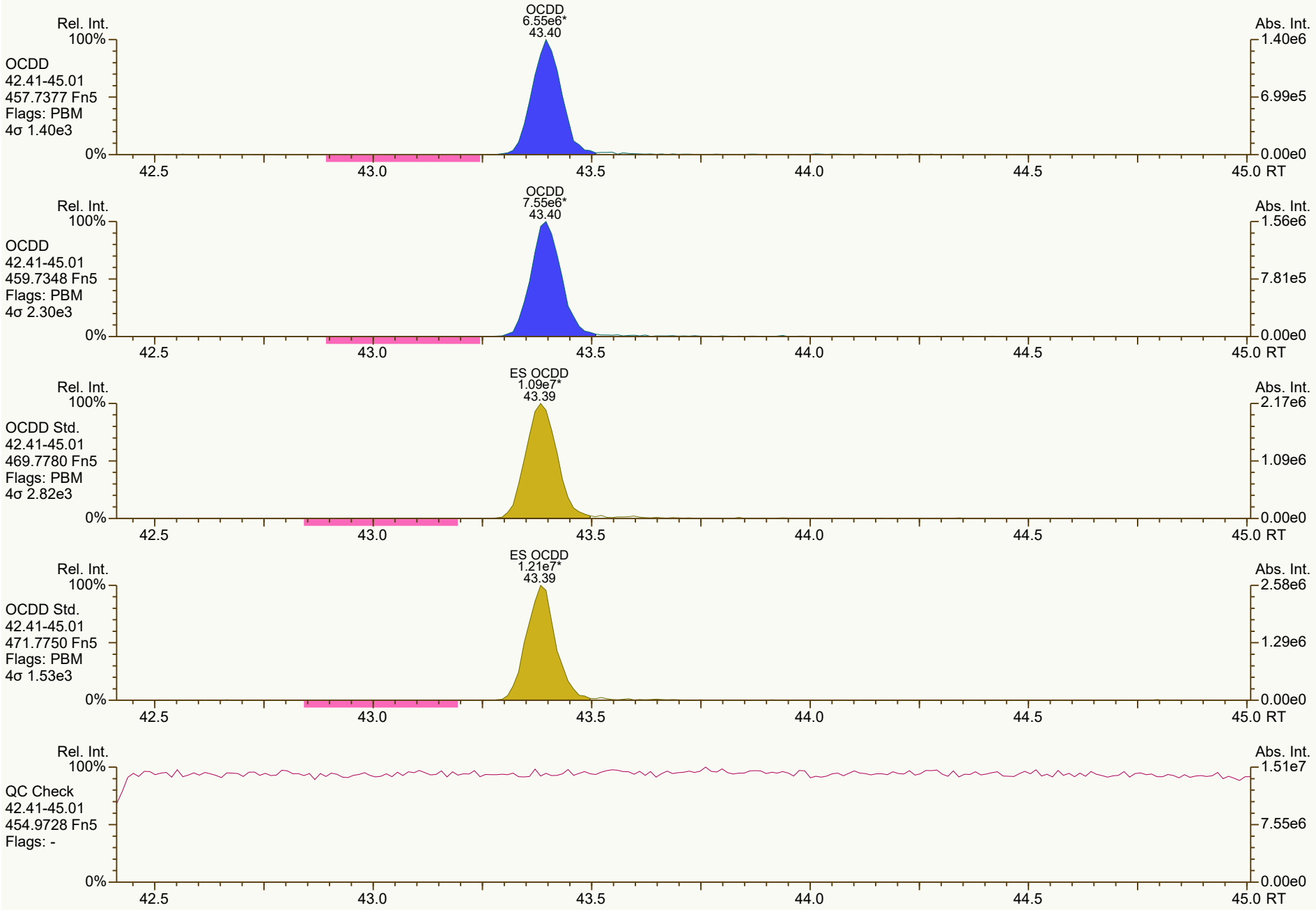

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.31e6
4.16e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.32e6
3.66e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.80e7
1.40e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.69e7
8.45e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.51e7
7.55e6
0.00e0

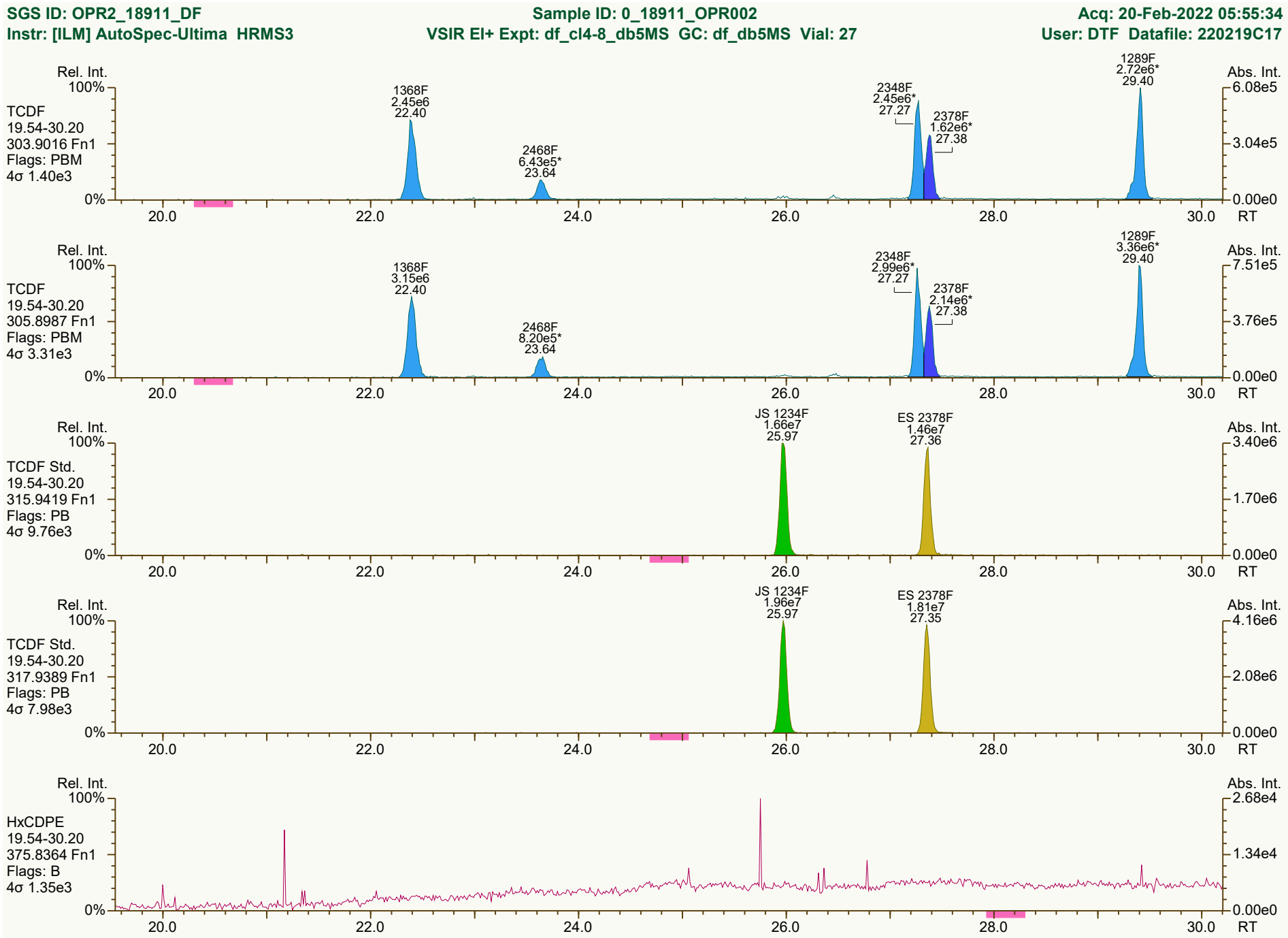

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.14e3
0%
1368D
1.85e6
24.55
1239D
1.51e6*
28.09
2378D
1.37e6*
28.25
1289D
1.78e6*
29.23
Abs. Int.
4.18e5
2.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.81e3
0%
1368D
2.28e6
24.55
1239D
1.79e6*
28.09
2378D
1.70e6*
28.25
1289D
2.22e6*
29.23
Abs. Int.
5.52e5
2.76e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
1.11e7
28.25
Abs. Int.
2.45e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.15e4
0%
JS 1234D
1.01e7
27.56
ES 2378D
1.04e7
28.23
Abs. Int.
2.51e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.92e3
0%
JS 1234D
1.27e7
27.56
ES 2378D
1.30e7
28.23
Abs. Int.
3.00e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
1.69e6
31.12
12378D
6.21e6*
33.64
12389D
1.69e6*
34.08
Abs. Int.
1.82e6
9.09e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.17e3
12479/12468D
1.12e6
31.12
12378D
3.99e6*
33.64
12389D
1.09e6*
34.08
Abs. Int.
1.13e6
5.67e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.03e3
CS 12347D
1.21e7
33.11
ES 12378D
1.27e7
33.62
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 4.15e3
CS 12347D
7.90e6
33.11
ES 12378D
7.97e6
33.62
Abs. Int.
2.35e6
1.18e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.32e6
3.66e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.13e3
0%
124679/124689D
1.86e6
35.82
123478D
6.05e6
37.56
123678D
6.82e6
37.68
123789D
6.00e6
37.99
Abs. Int.
2.01e6
1.00e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.02e3
0%
124679/124689D
1.42e6
35.82
123478D
4.78e6
37.56
123678D
5.41e6
37.68
123789D
4.79e6
37.98
Abs. Int.
1.58e6
7.89e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.88e3
0%
ES 123478D
1.07e7
37.55
ES 123678D
1.08e7
37.67
JS 123467D
5.51e6
37.87
ES 123789D
1.10e7*
37.97
Abs. Int.
3.34e6
1.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.18e3
0%
ES 123478D
8.36e6
37.55
ES 123678D
8.75e6
37.67
JS 123467D
4.44e6
37.87
ES 123789D
8.90e6*
37.97
Abs. Int.
2.54e6
1.27e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.80e7
1.40e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.03e3
1234678D
5.01e6
40.71
1234679D
1.24e6*
40.03
Abs. Int.
1.54e6
7.72e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.07e3
1234678D
4.84e6
40.71
1234679D
1.21e6*
40.03
Abs. Int.
1.46e6
7.30e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.77e3
ES 1234678D
9.05e6*
40.70
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678D
8.75e6*
40.70
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.69e7
8.45e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

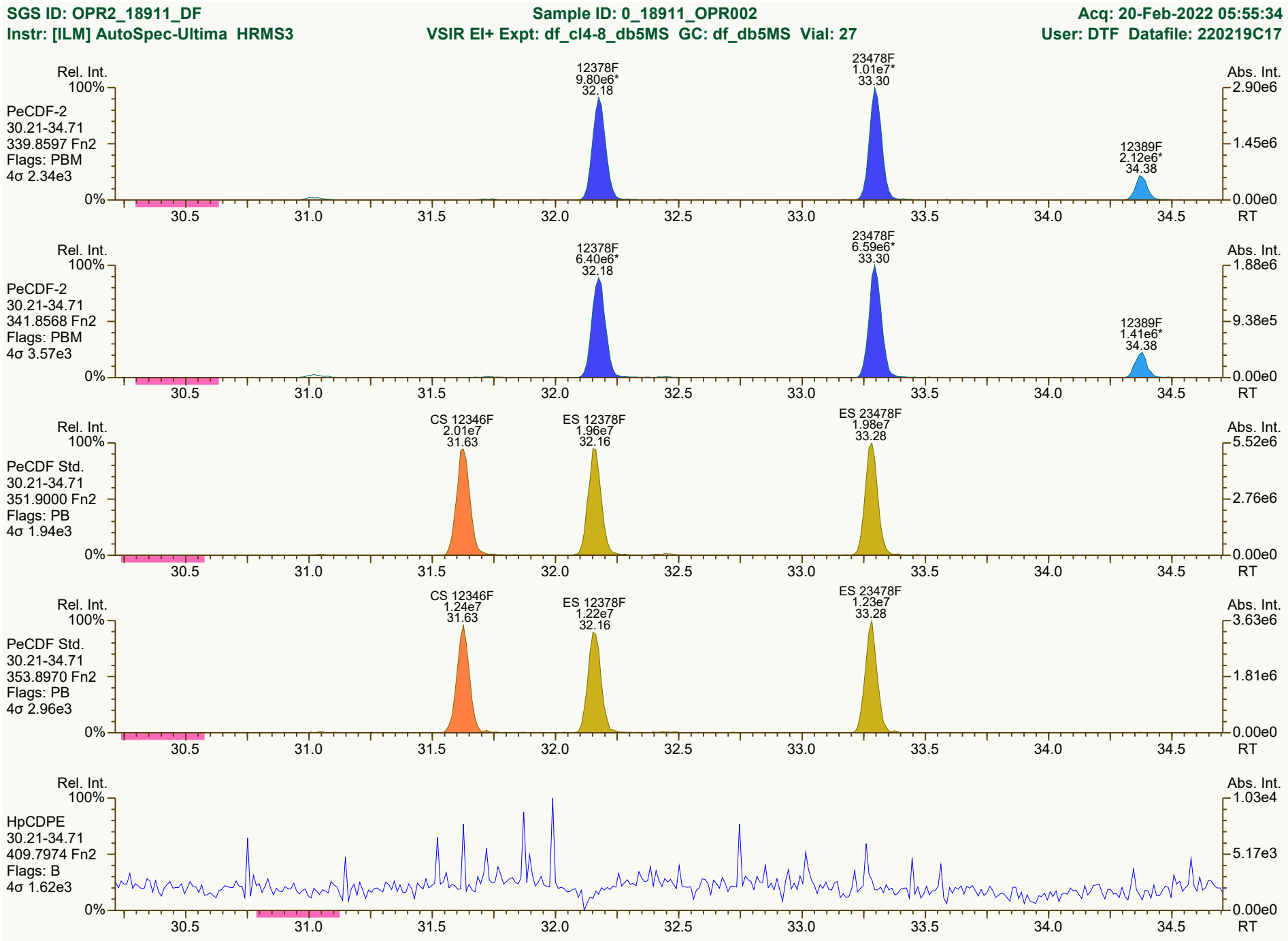

OCDD
6.55e6*
43.40
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.40e3
0%
Abs. Int.
1.40e6
6.99e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.55e6*
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.30e3
1.56e6
7.81e5
ES OCDD
1.09e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.82e3
2.17e6
1.09e6
ES OCDD
1.21e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.53e3
2.58e6
1.29e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.51e7
7.55e6



Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3357, 9674, 4960 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:52 Page 7 of 12

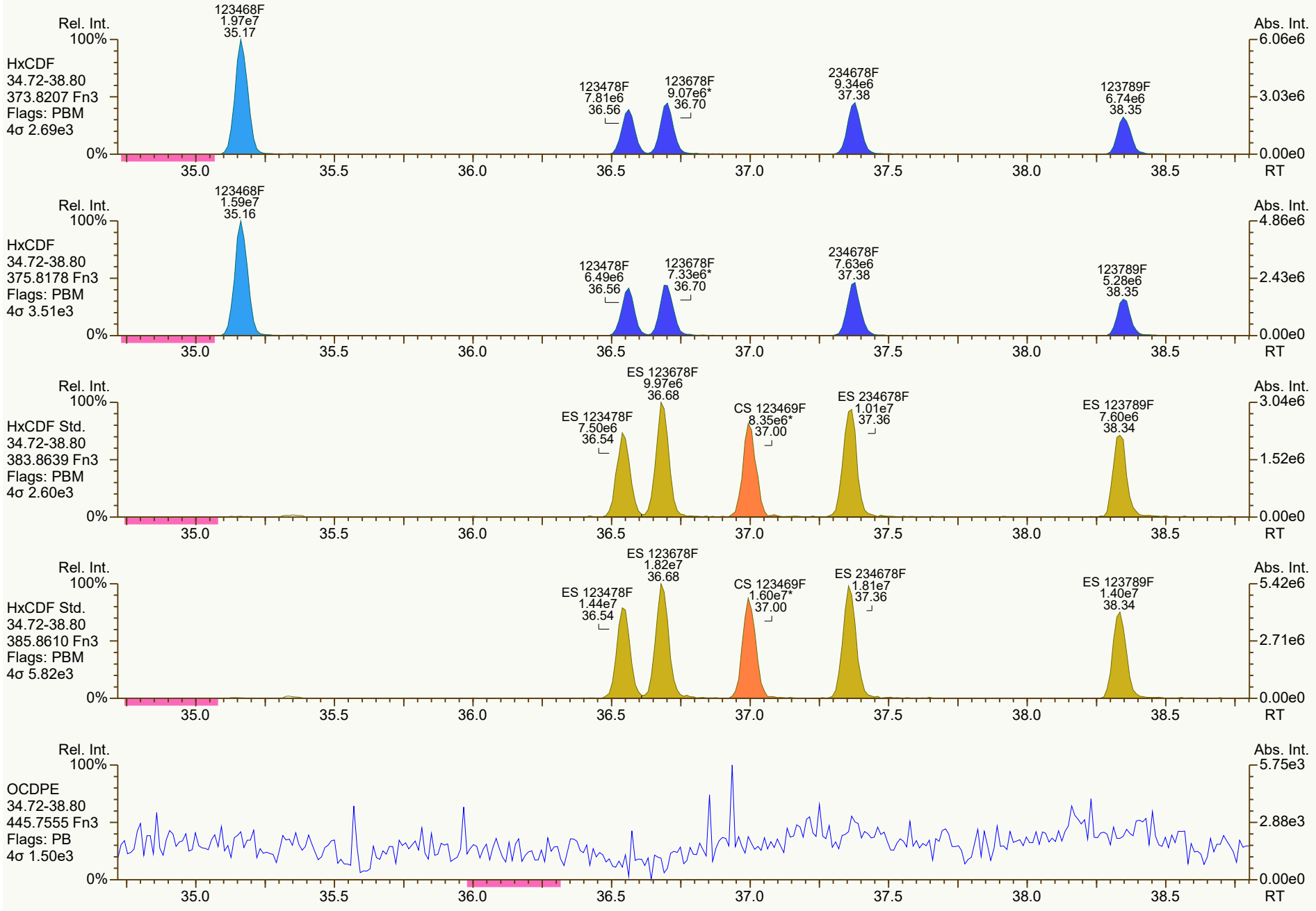


Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9329 scc: 488-895
PKD: 21-Feb-2022 09:58 Printed: 21-Feb-2022 10:52 Page 8 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.34e3
12378F
9.80e6*
32.18
23478F
1.01e7*
33.30
12389F
2.12e6*
34.38
2.90e6
1.45e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.57e3
12378F
6.40e6*
32.18
23478F
6.59e6*
33.30
12389F
1.41e6*
34.38
1.88e6
9.38e5
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
CS 12346F
2.01e7
31.63
ES 12378F
1.96e7
32.16
ES 23478F
1.98e7
33.28
5.52e6
2.76e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.96e3
CS 12346F
1.24e7
31.63
ES 12378F
1.22e7
32.16
ES 23478F
1.23e7
33.28
3.63e6
1.81e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.62e3
1.03e4
5.17e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0481, 2901, 2285 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:52 Page 9 of 12

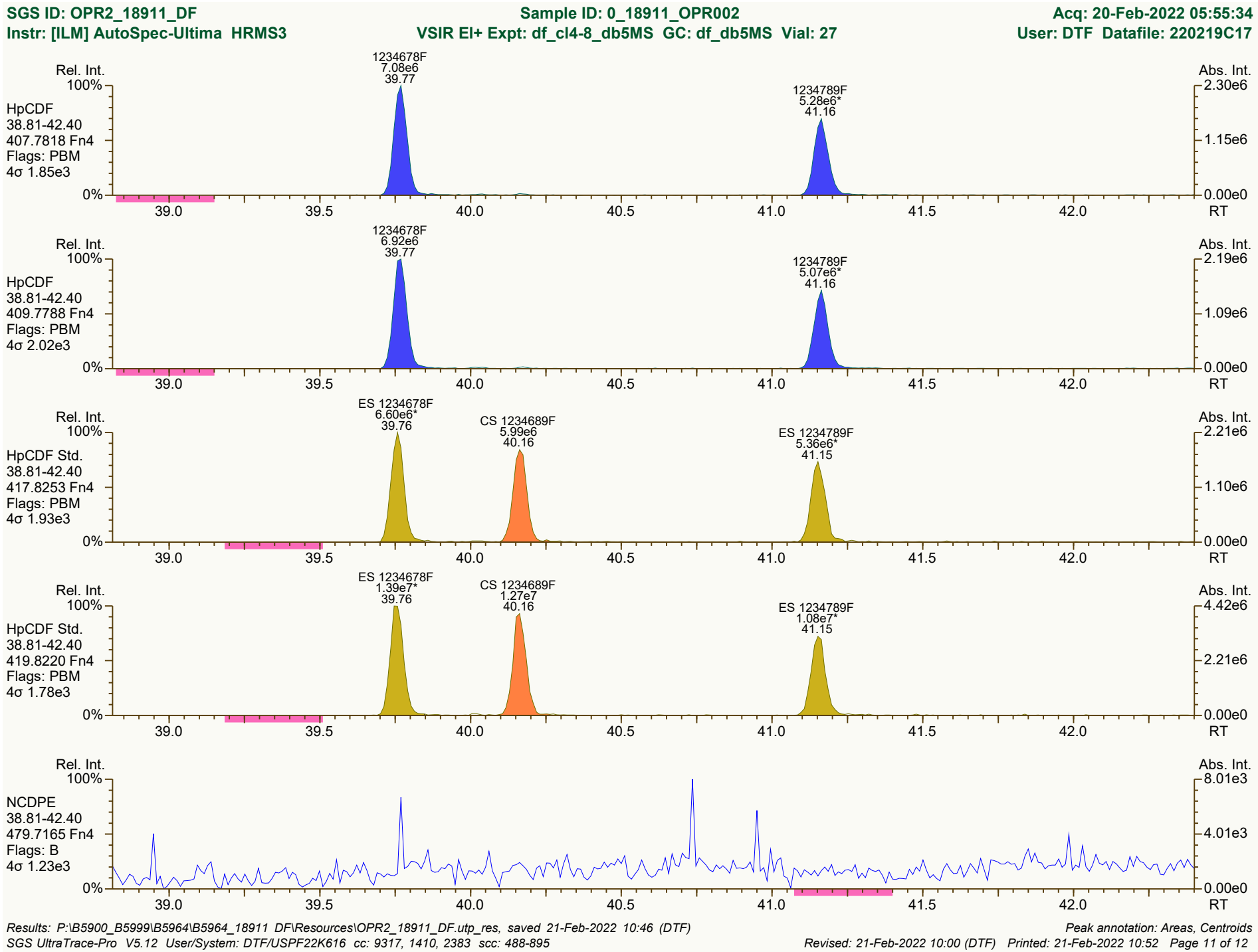
SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17



Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1624, 5513, 1896 scc: 488-895 *Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:52 Page 10 of 12*


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
7.08e6
39.77
1234789F
5.28e6*
41.16
2.30e6
1.15e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.02e3
1234678F
6.92e6
39.77
1234789F
5.07e6*
41.16
2.19e6
1.09e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
ES 1234678F
6.60e6*
39.76
CS 1234689F
5.99e6
40.16
ES 1234789F
5.36e6*
41.15
2.21e6
1.10e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.78e3
ES 1234678F
1.39e7*
39.76
CS 1234689F
1.27e7
40.16
ES 1234789F
1.08e7*
41.15
4.42e6
2.21e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.23e3
8.01e3
4.01e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B5900_B5999\B5964\B5964_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9317, 1410, 2383 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:52 Page 11 of 12


OCDF
7.88e6*
43.57
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.24e3
0%
Abs. Int.
1.68e6
8.41e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.57e6*
43.57
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.79e3
1.84e6
9.21e5
ES OCDF
1.40e7*
43.56
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.70e3
2.98e6
1.49e6
ES OCDF
1.57e7*
43.56
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.28e3
3.27e6
1.63e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
4.24e3
2.12e3



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010622-S-BN-SW-S-28 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID	B6152_18822_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	84.0 %	QC Batch No:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:42:55

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.86				ES 2378-TCDD	71.5	
12378-PeCDD	0.894			J	ES 12378-PeCDD	77.5	
123478-HxCDD	EMPC		0.897	J	ES 123478-HxCDD	79.8	
123678-HxCDD	EMPC		3.42		ES 123678-HxCDD	87.9	
123789-HxCDD	2.47				ES 123789-HxCDD	78	
1234678-HpCDD	94				ES 1234678-HpCDD	77.2	
OCDD	1,950				ES OCDD	53.8	
2378-TCDF	25.2				ES 2378-TCDF	68.1	
12378-PeCDF	EMPC		1.54	J	ES 12378-PeCDF	69.1	
23478-PeCDF	EMPC		2.16	J PR	ES 23478-PeCDF	67.8	
123478-HxCDF	3.91				ES 123478-HxCDF	83.6	
123678-HxCDF	1.34			J	ES 123678-HxCDF	88.8	
234678-HxCDF	EMPC		1.27	J	ES 234678-HxCDF	85.9	
123789-HxCDF	ND	0.266			ES 123789-HxCDF	81.1	
1234678-HpCDF	14.9				ES 1234678-HpCDF	79.7	
1234789-HpCDF	EMPC		1.48	J	ES 1234789-HpCDF	76.7	
OCDF	81.7				ES OCDF	61	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	75.2	
Total TCDD	11.5		12.1		CS 12347-PeCDD	82.5	
Total PeCDD	4.82		6.2		CS 12346-PeCDF	68.4	
Total HxCDD	36.2		40.6		CS 123469-HxCDF	90.4	
Total HpCDD	232		232		CS 1234689-HpCDF	84.9	
Total TCDF	51.6		59.7				
Total PeCDF	14.4		18.4				
Total HxCDF	21.6		23.9				
Total HpCDF	39.1		40.6				
Total PCDD/Fs	**2,440**		**2,460**				
WHO-2005 TEQs							
TEQ: ND=0	15.7		17				
TEQ: ND=DL/2	15.8	0.418	17				
TEQ: ND=DL	15.8	0.837	17				

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Sample ID: 11215131-010622-S-BN-SW-S-28 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6152_18822_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	84.0 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:42:55

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.552]		12479/12468D	1.46	J	124679/124689D	15.2		1234679D	138	
1379D	(0.256)		12469D	1.38	J	123468D	1.96	J	1234678D	94	
1369D	(0.256)		12368D	[0.725]	J	123679/123689D	14.4				
1469D	0.924		12478D	0.617	J	123469D	1.36	J			
1247D...[4]	(0.256)		12379D	0.473	J	123478D	[0.897]	J			
1378D	(0.256)		12369D...[3]	[0.649]	J	123678D	[3.42]				
1268D	(0.256)		12346/12347D	(0.295)		123467D	0.79	J			
1478D	(0.256)		12378D	0.894	J	123789D	2.47		**Conc.**	232	
1279D	(0.256)		12367D	(0.295)					**EMPC**	232	
1234/1269D	(0.256)		12389D	(0.295)							
1236D	(0.256)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.256)										
1239D	(0.256)								OCDD	1950	
2378D	9.86										
1278D	0.756										
1267D	(0.256)										
1289D	(0.256)										
Conc.	11.5		**Conc.**	4.82		**Conc.**	36.2				
EMPC	12.1		**EMPC**	6.2		**EMPC**	40.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	15.7	17
TEQ: ND=DL/2	15.8	17
TEQ: ND=DL	15.8	17

	Conc.	EMPC
Total PCDD/Fs	2,440	2,460

Checkcode: 441-478-BWY

Report Created: 15-Jan-2022 10:40 Analyst: MS

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Sample ID: 11215131-010622-S-BN-SW-S-28 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6152_18822_DF_001	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	84.0 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:42:55

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.171)		13468/12468F	4.51		123468F	1.86	J	1234678F	14.9	
1468F	(0.171)		13678F...[3]	1.13	J	124678/134678F	7.32		1234679F	0.775	J
2468F	1.32		12368F...[3]	3.9		134679F	(0.222)		1234689F	23.4	
1346/1246F	(0.171)		14678F	0.932	J	124679F	[0.216]	J	1234789F	[1.48]	J
1347F...[3]	1.58		13479F	(0.191)		124689F	6.8				
1348F	(0.171)		13469/12479F	(0.191)		123467F	[0.772]	J			
1248F...[3]	1.82		12346F	0.212	J	123478F	3.91				
1268F	0.928		23468/12469F	1.04	J	123678F	1.34	J			
1467F	0.449	J	12347F	[0.349]	J	123479F	(0.222)				
1478F	1.37		12348F	0.527	J	123469F	(0.222)				
1369/1237F	0.555		12378F	[1.54]	J	123679F	(0.222)				
2467F	(0.171)		12678/12367F	1.45	J	234678F	[1.27]	J	**Conc.**	39.1	
2368F	2.26		12379F	(0.191)		234678/123689F	0		**EMPC**	40.6	
1238F...[5]	[1.24]		12679F	(0.191)		123689F	(0.222)				
1278F	9.8		23467/12369F	0.694	J	123789F	(0.266)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.171)		23478F	[2.16]	J PR	123789/123489F	0				
1267F	1.08		23478/12489F	0		123489F	0.428	J	OCDF	81.7	
2346/1249F	(0.171)		12489F	(0.191)							
2347/1279F	0.644		12349F	(0.191)							
2348F	[1.21]		12389F	(0.191)							
2378F	25.2										
2367/3467F	3.97										
1269F	0.616										
1239F	(0.171)										
1289F	[5.63]										
Conc.	51.6		**Conc.**	14.4		**Conc.**	21.6				
EMPC	59.7		**EMPC**	18.4		**EMPC**	23.9				

Checkcode: 441-478-BWY

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: 11215131-010622-S-BN-SW-S-28 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6152_18822_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	QC Batch No.:	18822
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	15-Jan-2022 01:42
Lab Project No:	B6152	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	9.86		0.256	9.86	9.86	9.86
12378-PeCDD	0.894	J	0.295	0.447	0.894	0.894
123478-HxCDD	[0.897]	J	0.373	[0.0897]	[0.0897]	[0.0897]
123678-HxCDD	[3.42]		0.354	[0.342]	[0.342]	[0.342]
123789-HxCDD	2.47		0.37	0.247	0.247	0.247
1234678-HpCDD	94		0.25	0.94	0.94	0.94
OCDD	1950		0.868	1.95	0.195	0.585
2378-TCDF	25.2		0.171	2.52	2.52	2.52
12378-PeCDF	[1.54]	J	0.194	[0.0771]	[0.0771]	[0.0462]
23478-PeCDF	[2.16]	J	0.188	[1.08]	[1.08]	[0.648]
123478-HxCDF	3.91		0.207	0.391	0.391	0.391
123678-HxCDF	1.34	J	0.211	0.134	0.134	0.134
234678-HxCDF	[1.27]	J	0.21	[0.127]	[0.127]	[0.127]
123789-HxCDF	(0.266)		0.266	(0.0266)	(0.0266)	(0.0266)
1234678-HpCDF	14.9		0.17	0.149	0.149	0.149
1234789-HpCDF	[1.48]	J	0.242	[0.0148]	[0.0148]	[0.0148]
OCDF	81.7		0.859	0.0817	0.00817	0.0245

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TEQ Summaries			
EMPC = 0, ND = 0	16.7	15.3	15.7
EMPC = 0, ND = DL / 2	16.7	15.4	15.8
EMPC = 0, ND = DL	16.7	15.4	15.8
EMPC = 0, < J-level = 0	16.1	14.3	14.7
EMPC = EMPC, ND = 0	18.5	17.1	17
EMPC = EMPC, ND = DL / 2	18.5	17.1	17
EMPC = EMPC, ND = DL	18.5	17.1	17
EMPC = EMPC, < J-level = 0	16.5	14.7	15.1

Checkcode: 441-478-BWY

Sample ID: 11215131-010622-S-BN-SW-S-29 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6152_18822_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	84.4 %	QC Batch No:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:29:15

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.49				ES 2378-TCDD	94.1	
12378-PeCDD	EMPC		0.316	J	ES 12378-PeCDD	101	
123478-HxCDD	0.82			J	ES 123478-HxCDD	102	
123678-HxCDD	2.34			J	ES 123678-HxCDD	108	
123789-HxCDD	1.51			J	ES 123789-HxCDD	98.2	
1234678-HpCDD	79.1				ES 1234678-HpCDD	95.1	
OCDD	1,750				ES OCDD	74.6	
2378-TCDF	20.9				ES 2378-TCDF	88.8	
12378-PeCDF	1.17			J	ES 12378-PeCDF	90.5	
23478-PeCDF	1.47			J	ES 23478-PeCDF	88	
123478-HxCDF	2.55				ES 123478-HxCDF	107	
123678-HxCDF	1.16			J	ES 123678-HxCDF	117	
234678-HxCDF	1			J	ES 234678-HxCDF	114	
123789-HxCDF	ND	0.175			ES 123789-HxCDF	104	
1234678-HpCDF	8.64				ES 1234678-HpCDF	103	
1234789-HpCDF	EMPC		0.804	J	ES 1234789-HpCDF	89.6	
OCDF	27.4				ES OCDF	75.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.6	
Total TCDD	9.72		10.6		CS 12347-PeCDD	105	
Total PeCDD	1.4		3.55		CS 12346-PeCDF	87.9	
Total HxCDD	27.5		27.5		CS 123469-HxCDF	122	
Total HpCDD	183		183		CS 1234689-HpCDF	106	
Total TCDF	38.9		46.1				
Total PeCDF	9.79		10.6				
Total HxCDF	14.8		15.2				
Total HpCDF	22.4		23.2				
Total PCDD/Fs	**2,080**		**2,090**				
WHO-2005 TEQs							
TEQ: ND=0	13.4		13.7				
TEQ: ND=DL/2	13.4	0.293	13.7				
TEQ: ND=DL	13.4	0.586	13.7				

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Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: 11215131-010622-S-BN-SW-S-29 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6152_18822_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	84.4 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:29:15

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.439	J	12479/12468D	0.833	J	124679/124689D	10.6		1234679D	104	
1379D	(0.179)		12469D	[0.784]	J	123468D	1.24	J	1234678D	79.1	
1369D	(0.179)		12368D	[0.293]	J	123679/123689D	10.1				
1469D	[0.832]		12478D	[0.29]	J	123469D	0.829	J			
1247D...[4]	(0.179)		12379D	[0.242]	J	123478D	0.82	J			
1378D	(0.179)		12369D...[3]	0.57	J	123678D	2.34	J			
1268D	(0.179)		12346/12347D	[0.227]	J	123467D	(0.278)				
1478D	(0.179)		12378D	[0.316]	J	123789D	1.51	J	**Conc.**	183	
1279D	(0.179)		12367D	(0.192)					**EMPC**	183	
1234/1269D	(0.179)		12389D	(0.192)							
1236D	(0.179)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.179)										
1239D	(0.179)								OCDD	1750	
2378D	8.49										
1278D	0.792										
1267D	(0.179)										
1289D	(0.179)										
Conc.	9.72		**Conc.**	1.4		**Conc.**	27.5				
EMPC	10.6		**EMPC**	3.55		**EMPC**	27.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	13.4	13.7
TEQ: ND=DL/2	13.4	13.7
TEQ: ND=DL	13.4	13.7

	Conc.	EMPC
Total PCDD/Fs	2,080	2,090

Checkcode: 430-308-MTR

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: 11215131-010622-S-BN-SW-S-29 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6152_18822_DF_002	Date Extracted:	10-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	84.4 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:29:15

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.0996)		13468/12468F	2.07	J	123468F	1.26	J	1234678F	8.64	
1468F	(0.0996)		13678F...[3]	0.763	J	124678/134678F	4.66		1234679F	0.479	J
2468F	[0.953]		12368F...[3]	2.35	J	134679F	(0.147)		1234689F	13.3	
1346/1246F	(0.0996)		14678F	[0.207]	J	124679F	0.215	J	1234789F	[0.804]	J
1347F...[3]	0.911		13479F	(0.16)		124689F	3.95				
1348F	(0.0996)		13469/12479F	(0.16)		123467F	[0.437]	J			
1248F...[3]	1.26		12346F	(0.16)		123478F	2.55				
1268F	0.658		23468/12469F	[0.557]	J	123678F	1.16	J			
1467F	[0.314]	J	12347F	0.225	J	123479F	(0.147)				
1478F	[1.27]		12348F	0.314	J	123469F	(0.147)				
1369/1237F	0.563		12378F	1.17	J	123679F	(0.147)				
2467F	[0.243]	J	12678/12367F	0.854	J	234678F	1	J	**Conc.**	22.4	
2368F	1.66		12379F	(0.16)		234678/123689F	0		**EMPC**	23.2	
1238F...[5]	[0.709]		12679F	(0.16)		123689F	(0.147)				
1278F	8.81		23467/12369F	0.573	J	123789F	(0.175)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.0996)		23478F	1.47	J	123789/123489F	0				
1267F	[0.698]		23478/12489F	0		123489F	(0.147)		OCDF	27.4	
2346/1249F	(0.0996)		12489F	(0.16)							
2347/1279F	[0.603]		12349F	(0.16)							
2348F	1.37		12389F	(0.16)							
2378F	20.9										
2367/3467F	2.79										
1269F	[0.394]	J									
1239F	(0.0996)										
1289F	[2.02]										
Conc.	38.9		**Conc.**	9.79		**Conc.**	14.8				
EMPC	46.1		**EMPC**	10.6		**EMPC**	15.2				

Checkcode: 430-308-MTR

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: 11215131-010622-S-BN-SW-S-29 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6152_18822_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	QC Batch No.:	18822
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	15-Jan-2022 02:29
Lab Project No:	B6152	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	8.49		0.179	8.49	8.49	8.49
12378-PeCDD	[0.316]	J	0.192	[0.158]	[0.316]	[0.316]
123478-HxCDD	0.82	J	0.286	0.082	0.082	0.082
123678-HxCDD	2.34	J	0.278	0.234	0.234	0.234
123789-HxCDD	1.51	J	0.272	0.151	0.151	0.151
1234678-HpCDD	79.1		0.277	0.791	0.791	0.791
OCDD	1750		0.742	1.75	0.175	0.524
2378-TCDF	20.9		0.0996	2.09	2.09	2.09
12378-PeCDF	1.17	J	0.156	0.0587	0.0587	0.0352
23478-PeCDF	1.47	J	0.164	0.733	0.733	0.44
123478-HxCDF	2.55		0.14	0.255	0.255	0.255
123678-HxCDF	1.16	J	0.134	0.116	0.116	0.116
234678-HxCDF	1	J	0.144	0.1	0.1	0.1
123789-HxCDF	(0.175)		0.175	(0.0175)	(0.0175)	(0.0175)
1234678-HpCDF	8.64		0.167	0.0864	0.0864	0.0864
1234789-HpCDF	[0.804]	J	0.291	[0.00804]	[0.00804]	[0.00804]
OCDF	27.4		0.502	0.0274	0.00274	0.00821

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TEQ Summaries			
EMPC = 0, ND = 0	15	13.4	13.4
EMPC = 0, ND = DL / 2	15	13.4	13.4
EMPC = 0, ND = DL	15	13.4	13.4
EMPC = 0, < J-level = 0	13.5	11.9	12.2
EMPC = EMPC, ND = 0	15.1	13.7	13.7
EMPC = EMPC, ND = DL / 2	15.1	13.7	13.7
EMPC = EMPC, ND = DL	15.1	13.7	13.7
EMPC = EMPC, < J-level = 0	13.5	11.9	12.2

Checkcode: 430-308-MTR

Sample ID: 11215131-010722-S-BN-SW-S-31 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID	B6152_18822_DF_003	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	76.8 %	QC Batch No:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:15:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,200			E	ES 2378-TCDD	96.3	
12378-PeCDD	21.8				ES 12378-PeCDD	102	
123478-HxCDD	0.916			J	ES 123478-HxCDD	97.7	
123678-HxCDD	2.24			J	ES 123678-HxCDD	109	
123789-HxCDD	EMPC		1.82	J	ES 123789-HxCDD	96.4	
1234678-HpCDD	79.3				ES 1234678-HpCDD	93.1	
OCDD	7,990				ES OCDD	75.7	
2378-TCDF	5,700			E	ES 2378-TCDF	99.1	
12378-PeCDF	158				ES 12378-PeCDF	95.9	
23478-PeCDF	120			PR	ES 23478-PeCDF	95.7	
123478-HxCDF	318				ES 123478-HxCDF	109	
123678-HxCDF	78.9				ES 123678-HxCDF	116	
234678-HxCDF	14.1				ES 234678-HxCDF	115	
123789-HxCDF	ND	0.513			ES 123789-HxCDF	101	
1234678-HpCDF	81				ES 1234678-HpCDF	101	
1234789-HpCDF	34.7				ES 1234789-HpCDF	88.1	
OCDF	113				ES OCDF	72.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.4	
Total TCDD	2,390		2,390		CS 12347-PeCDD	111	
Total PeCDD	32.4		34.5		CS 12346-PeCDF	97.1	
Total HxCDD	54.2		56		CS 123469-HxCDF	120	
Total HpCDD	219		219		CS 1234689-HpCDF	99.9	
Total TCDF	11,000		11,000				
Total PeCDF	437		440				
Total HxCDF	474		476				
Total HpCDF	141		141				
Total PCDD/Fs	**22,900**		**22,900**				
WHO-2005 TEQs							
TEQ: ND=0	2870		2870				
TEQ: ND=DL/2	2870	0.352	2870				
TEQ: ND=DL	2870	0.704	2870				

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Sample ID: 11215131-010722-S-BN-SW-S-31 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID:	B6152_18822_DF_003	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	76.8 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:15:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.845]		12479/12468D	1.43	J	124679/124689D	38		1234679D	140	
1379D	[0.417]	J	12469D	6.02		123468D	1.21	J	1234678D	79.3	
1369D	0.406	J	12368D	[0.794]	J	123679/123689D	9.56				
1469D	7.69		12478D	1.55	J	123469D	1.59	J			
1247D...[4]	3.52		12379D	[0.428]	J	123478D	0.916	J			
1378D	6.57		12369D...[3]	1.09	J	123678D	2.24	J			
1268D	(0.154)		12346/12347D	[0.416]	J	123467D	0.72	J			
1478D	6.44		12378D	21.8		123789D	[1.82]	J	**Conc.**	219	
1279D	(0.154)		12367D	0.548	J				**EMPC**	219	
1234/1269D	1.24		12389D	[0.411]	J						
1236D	0.46	J							**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	36.5										
1239D	(0.154)								OCDD	7990	
2378D	2200	E									
1278D	125										
1267D	6.43										
1289D	3.55										
Conc.	2,390		**Conc.**	32.4		**Conc.**	54.2				
EMPC	2,390		**EMPC**	34.5		**EMPC**	56				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,870	2,870
TEQ: ND=DL/2	2,870	2,870
TEQ: ND=DL	2,870	2,870

	Conc.	EMPC
Total PCDD/Fs	22,900	22,900

Checkcode: 809-337-BPP

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-31 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID:	B6152_18822_DF_003	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	76.8 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:15:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.04		13468/12468F	5.09		123468F	[2.62]		1234678F	81	
1468F	6.56		13678F...[3]	1.98	J	124678/134678F	27.3		1234679F	1.07	J
2468F	4.1		12368F...[3]	74.4		134679F	(0.44)		1234689F	24.2	
1346/1246F	2.7		14678F	(0.204)		124679F	(0.44)		1234789F	34.7	
1347F...[3]	55.8		13479F	(0.204)		124689F	12				
1348F	(0.0956)		13469/12479F	(0.204)		123467F	1.39	J			
1248F...[3]	263		12346F	[0.323]	J	123478F	318				
1268F	82.7		23468/12469F	3.03		123678F	78.9				
1467F	11.4		12347F	3.59		123479F	(0.44)				
1478F	227		12348F	14.9		123469F	(0.44)				
1369/1237F	57.8		12378F	158		123679F	(0.44)				
2467F	(0.0956)		12678/12367F	48.7		234678F	14.1		**Conc.**	141	
2368F	137		12379F	(0.204)		234678/123689F	0		**EMPC**	141	
1238F...[5]	273		12679F	(0.204)		123689F	(0.44)				
1278F	2620	E	23467/12369F	[2.19]	J	123789F	(0.513)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.0956)		23478F	120	PR	123789/123489F	0				
1267F	134		23478/12489F	0		123489F	22.1		OCDF	113	
2346/1249F	16.3		12489F	(0.204)							
2347/1279F	51		12349F	(0.204)							
2348F	388		12389F	6.63							
2378F	5700	E									
2367/3467F	449										
1269F	92.2										
1239F	6.39										
1289F	455										
Conc.	11,000		**Conc.**	437		**Conc.**	474				
EMPC	11,000		**EMPC**	440		**EMPC**	476				

Checkcode: 809-337-BPP

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-31 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6152_18822_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	QC Batch No.:	18822
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	15-Jan-2022 03:15
Lab Project No:	B6152	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2200	E	0.154	2200	2200	2200
12378-PeCDD	21.8		0.207	10.9	21.8	21.8
123478-HxCDD	0.916	J	0.291	0.0916	0.0916	0.0916
123678-HxCDD	2.24	J	0.247	0.224	0.224	0.224
123789-HxCDD	[1.82]	J	0.266	[0.182]	[0.182]	[0.182]
1234678-HpCDD	79.3		0.202	0.793	0.793	0.793
OCDD	7990		0.69	7.99	0.799	2.4
2378-TCDF	5700	E	0.0956	570	570	570
12378-PeCDF	158		0.201	7.92	7.92	4.75
23478-PeCDF	120		0.208	60.2	60.2	36.1
123478-HxCDF	318		0.406	31.8	31.8	31.8
123678-HxCDF	78.9		0.409	7.89	7.89	7.89
234678-HxCDF	14.1		0.449	1.41	1.41	1.41
123789-HxCDF	(0.513)		0.513	(0.0513)	(0.0513)	(0.0513)
1234678-HpCDF	81		0.153	0.81	0.81	0.81
1234789-HpCDF	34.7		0.259	0.347	0.347	0.347
OCDF	113		0.369	0.113	0.0113	0.0338

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TEQ Summaries			
EMPC = 0, ND = 0	2900	2900	2870
EMPC = 0, ND = DL / 2	2900	2900	2870
EMPC = 0, ND = DL	2900	2900	2870
EMPC = 0, < J-level = 0	2900	2900	2870
EMPC = EMPC, ND = 0	2900	2900	2870
EMPC = EMPC, ND = DL / 2	2900	2900	2870
EMPC = EMPC, ND = DL	2900	2900	2870
EMPC = EMPC, < J-level = 0	2900	2900	2870

Checkcode: 809-337-BPP

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Sample ID: 11215131-010722-S-BN-SW-S-32 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6152_18822_DF_004	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	78.2 %	QC Batch No:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:01:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	27.3				ES 2378-TCDD	86	
12378-PeCDD	EMPC		0.454	J	ES 12378-PeCDD	87.5	
123478-HxCDD	EMPC		0.78	J	ES 123478-HxCDD	96.9	
123678-HxCDD	1.65			J	ES 123678-HxCDD	108	
123789-HxCDD	1.77			J	ES 123789-HxCDD	93.2	
1234678-HpCDD	64				ES 1234678-HpCDD	86.2	
OCDD	1,420				ES OCDD	69.1	
2378-TCDF	64.9				ES 2378-TCDF	88	
12378-PeCDF	2.44			J	ES 12378-PeCDF	84.2	
23478-PeCDF	2.19			J	ES 23478-PeCDF	82.4	
123478-HxCDF	3.73				ES 123478-HxCDF	100	
123678-HxCDF	1.26			J	ES 123678-HxCDF	107	
234678-HxCDF	EMPC		0.512	J	ES 234678-HxCDF	117	
123789-HxCDF	ND	0.25			ES 123789-HxCDF	96.6	
1234678-HpCDF	4.92				ES 1234678-HpCDF	101	
1234789-HpCDF	0.593			J	ES 1234789-HpCDF	82	
OCDF	8.59				ES OCDF	69.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.3	
Total TCDD	37.7		38.7		CS 12347-PeCDD	99.6	
Total PeCDD	5.2		5.65		CS 12346-PeCDF	89.6	
Total HxCDD	36		37.8		CS 123469-HxCDF	120	
Total HpCDD	157		157		CS 1234689-HpCDF	102	
Total TCDF	130		134				
Total PeCDF	9.93		9.93				
Total HxCDF	10.1		11.7				
Total HpCDF	12		12				
Total PCDD/Fs	**1,830**		**1,840**				
WHO-2005 TEQs							
TEQ: ND=0	36.5		37.1				
TEQ: ND=DL/2	36.5	0.37	37.1				
TEQ: ND=DL	36.5	0.739	37.1				

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Report Created: 15-Jan-2022 10:41 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-32 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6152_18822_DF_004	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	78.2 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:01:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.533]		12479/12468D	1.13	J	124679/124689D	21.6		1234679D	93.4	
1379D	(0.236)		12469D	2.98		123468D	0.957	J	1234678D	64	
1369D	(0.236)		12368D	(0.256)		123679/123689D	9.38				
1469D	7.12		12478D	(0.256)		123469D	[1.03]	J			
1247D...[4]	(0.236)		12379D	(0.256)		123478D	[0.78]	J			
1378D	(0.236)		12369D...[3]	1.08	J	123678D	1.65	J			
1268D	(0.236)		12346/12347D	(0.256)		123467D	0.6	J			
1478D	(0.236)		12378D	[0.454]	J	123789D	1.77	J	**Conc.**	157	
1279D	(0.236)		12367D	(0.256)					**EMPC**	157	
1234/1269D	[0.514]		12389D	(0.256)							
1236D	(0.236)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	0.717										
1239D	(0.236)								OCDD	1420	
2378D	27.3										
1278D	2.5										
1267D	(0.236)										
1289D	(0.236)										
Conc.	37.7		**Conc.**	5.2		**Conc.**	36				
EMPC	38.7		**EMPC**	5.65		**EMPC**	37.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	36.5	37.1
TEQ: ND=DL/2	36.5	37.1
TEQ: ND=DL	36.5	37.1

	Conc.	EMPC
Total PCDD/Fs	1,830	1,840

Checkcode: 796-095-NLP

Report Created: 15-Jan-2022 10:41 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-32 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6152_18822_DF_004	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	78.2 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:01:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.191)		13468/12468F	1.9	J	123468F	[0.687]	J	1234678F	4.92	
1468F	(0.191)		13678F...[3]	0.297	J	124678/134678F	2.8		1234679F	(0.181)	
2468F	[0.877]		12368F...[3]	1.85	J	134679F	(0.197)		1234689F	6.49	
1346/1246F	[0.339]	J	14678F	(0.163)		124679F	(0.197)		1234789F	0.593	J
1347F...[3]	0.899		13479F	(0.163)		124689F	2.27	J			
1348F	3.56		13469/12479F	(0.163)		123467F	[0.152]	J			
1248F...[3]	(0.191)		12346F	(0.163)		123478F	3.73				
1268F	1.33		23468/12469F	(0.163)		123678F	1.26	J			
1467F	(0.191)		12347F	(0.163)		123479F	(0.197)				
1478F	2.91		12348F	0.244	J	123469F	(0.197)				
1369/1237F	0.859		12378F	2.44	J	123679F	(0.197)				
2467F	(0.191)		12678/12367F	1.01	J	234678F	[0.512]	J	**Conc.**	12	
2368F	[2.01]		12379F	(0.163)		234678/123689F	0		**EMPC**	12	
1238F...[5]	3.89		12679F	(0.163)		123689F	(0.197)				
1278F	32		23467/12369F	(0.163)		123789F	(0.25)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.191)		23478F	2.19	J	123789/123489F	0				
1267F	1.89		23478/12489F	0		123489F	[0.252]	J	OCDF	8.59	
2346/1249F	(0.191)		12489F	(0.163)							
2347/1279F	1.2		12349F	(0.163)							
2348F	4.83		12389F	(0.163)							
2378F	64.9										
2367/3467F	5.86										
1269F	[1.1]										
1239F	(0.191)										
1289F	5.54										
Conc.	130		**Conc.**	9.93		**Conc.**	10.1				
EMPC	134		**EMPC**	9.93		**EMPC**	11.7				

Checkcode: 796-095-NLP

Report Created: 15-Jan-2022 10:41 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-32 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6152_18822_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18822
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	15-Jan-2022 04:01
Lab Project No:	B6152	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	27.3		0.236	27.3	27.3	27.3
12378-PeCDD	[0.454]	J	0.256	[0.227]	[0.454]	[0.454]
123478-HxCDD	[0.78]	J	0.296	[0.078]	[0.078]	[0.078]
123678-HxCDD	1.65	J	0.275	0.165	0.165	0.165
123789-HxCDD	1.77	J	0.283	0.177	0.177	0.177
1234678-HpCDD	64		0.477	0.64	0.64	0.64
OCDD	1420		1.14	1.42	0.142	0.427
2378-TCDF	64.9		0.191	6.49	6.49	6.49
12378-PeCDF	2.44	J	0.163	0.122	0.122	0.0732
23478-PeCDF	2.19	J	0.162	1.1	1.1	0.657
123478-HxCDF	3.73		0.182	0.373	0.373	0.373
123678-HxCDF	1.26	J	0.182	0.126	0.126	0.126
234678-HxCDF	[0.512]	J	0.185	[0.0512]	[0.0512]	[0.0512]
123789-HxCDF	(0.25)		0.25	(0.025)	(0.025)	(0.025)
1234678-HpCDF	4.92		0.145	0.0492	0.0492	0.0492
1234789-HpCDF	0.593	J	0.232	0.00593	0.00593	0.00593
OCDF	8.59		0.596	0.00859	0.000859	0.00258

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TEQ Summaries			
EMPC = 0, ND = 0	38	36.7	36.5
EMPC = 0, ND = DL / 2	38	36.7	36.5
EMPC = 0, ND = DL	38	36.7	36.5
EMPC = 0, < J-level = 0	36.3	35	35.3
EMPC = EMPC, ND = 0	38.4	37.3	37.1
EMPC = EMPC, ND = DL / 2	38.4	37.3	37.1
EMPC = EMPC, ND = DL	38.4	37.3	37.1
EMPC = EMPC, < J-level = 0	36.3	35	35.3

Checkcode: 796-095-NLP

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Sample ID: 11215131-010722-S-BN-SW-S-33 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID	B6152_18822_DF_005	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	76.7 %	QC Batch No:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:48:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	36.2				ES 2378-TCDD	90.2	
12378-PeCDD	0.73			J	ES 12378-PeCDD	97.3	
123478-HxCDD	0.794			J	ES 123478-HxCDD	99.4	
123678-HxCDD	EMPC		1.08	J	ES 123678-HxCDD	113	
123789-HxCDD	1.73			J	ES 123789-HxCDD	98.8	
1234678-HpCDD	35.3				ES 1234678-HpCDD	99.4	
OCDD	680				ES OCDD	79.6	
2378-TCDF	92.9				ES 2378-TCDF	86.7	
12378-PeCDF	3.49				ES 12378-PeCDF	84.3	
23478-PeCDF	3.24			PR	ES 23478-PeCDF	84	
123478-HxCDF	5.91				ES 123478-HxCDF	104	
123678-HxCDF	1.72			J	ES 123678-HxCDF	113	
234678-HxCDF	EMPC		0.466	J	ES 234678-HxCDF	126	
123789-HxCDF	ND	0.172			ES 123789-HxCDF	104	
1234678-HpCDF	3.18				ES 1234678-HpCDF	108	
1234789-HpCDF	0.586			J	ES 1234789-HpCDF	93.9	
OCDF	EMPC		4.89	J	ES OCDF	80.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95	
Total TCDD	47.9		49.2		CS 12347-PeCDD	104	
Total PeCDD	8.25		8.25		CS 12346-PeCDF	88.4	
Total HxCDD	38.5		40.9		CS 123469-HxCDF	123	
Total HpCDD	119		119		CS 1234689-HpCDF	106	
Total TCDF	177		185				
Total PeCDF	11.3		12.6				
Total HxCDF	9.59		11.2				
Total HpCDF	6.25		6.25				
Total PCDD/Fs	**1,100**		**1,120**				
WHO-2005 TEQs							
TEQ: ND=0	48.9		49.1				
TEQ: ND=DL/2	48.9	0.335	49.1				
TEQ: ND=DL	49	0.669	49.1				

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Sample ID: 11215131-010722-S-BN-SW-S-33 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6152_18822_DF_005	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	76.7 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:48:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.507		12479/12468D	1.1	J	124679/124689D	26.3		1234679D	84	
1379D	(0.216)		12469D	4.11		123468D	[0.66]	J	1234678D	35.3	
1369D	(0.216)		12368D	(0.234)		123679/123689D	8.59				
1469D	7.85		12478D	0.372	J	123469D	1.07	J			
1247D...[4]	(0.216)		12379D	0.433	J	123478D	0.794	J			
1378D	(0.216)		12369D...[3]	1.5	J	123678D	[1.08]	J			
1268D	(0.216)		12346/12347D	(0.234)		123467D	[0.612]	J			
1478D	(0.216)		12378D	0.73	J	123789D	1.73	J	**Conc.**	119	
1279D	(0.216)		12367D	(0.234)					**EMPC**	119	
1234/1269D	[0.611]		12389D	(0.234)							
1236D	(0.216)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.684]										
1239D	(0.216)								OCDD	680	
2378D	36.2										
1278D	3.36										
1267D	(0.216)										
1289D	(0.216)										
Conc.	47.9		**Conc.**	8.25		**Conc.**	38.5				
EMPC	49.2		**EMPC**	8.25		**EMPC**	40.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	48.9	49.1
TEQ: ND=DL/2	48.9	49.1
TEQ: ND=DL	49	49.1

	Conc.	EMPC
Total PCDD/Fs	1,100	1,120

Checkcode: 496-091-LKV

Report Created: 15-Jan-2022 10:41 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-33 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6152_18822_DF_005	Date Extracted:	10-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	76.7 %	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:48:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.131)		13468/12468F	0.911	J	123468F	0.37	J	1234678F	3.18	
1468F	(0.131)		13678F...[3]	0.668	J	124678/134678F	1.59	J	1234679F	(0.21)	
2468F	0.833		12368F...[3]	2.45	J	134679F	(0.147)		1234689F	2.48	
1346/1246F	(0.131)		14678F	(0.189)		124679F	(0.147)		1234789F	0.586	J
1347F...[3]	1.62		13479F	(0.189)		124689F	[0.639]	J			
1348F	5.15		13469/12479F	(0.189)		123467F	(0.147)				
1248F...[3]	(0.131)		12346F	(0.189)		123478F	5.91				
1268F	1.57		23468/12469F	(0.189)		123678F	1.72	J			
1467F	0.333	J	12347F	(0.189)		123479F	(0.147)				
1478F	3.81		12348F	0.533	J	123469F	(0.147)				
1369/1237F	[1.14]		12378F	3.49		123679F	(0.147)				
2467F	(0.131)		12678/12367F	[1.07]	J	234678F	[0.466]	J	**Conc.**	6.25	
2368F	3		12379F	(0.189)		234678/123689F	0		**EMPC**	6.25	
1238F...[5]	5.23		12679F	(0.189)		123689F	(0.147)				
1278F	43		23467/12369F	[0.21]	J	123789F	(0.172)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.131)		23478F	3.24	PR	123789/123489F	0				
1267F	2.67		23478/12489F	0		123489F	[0.514]	J	OCDF	[4.89]	J
2346/1249F	(0.131)		12489F	(0.189)							
2347/1279F	[1.03]		12349F	(0.189)							
2348F	[5.05]		12389F	(0.189)							
2378F	92.9										
2367/3467F	8.42										
1269F	1.37										
1239F	(0.131)										
1289F	7.55										
Conc.	177		**Conc.**	11.3		**Conc.**	9.59				
EMPC	185		**EMPC**	12.6		**EMPC**	11.2				

Checkcode: 496-091-LKV

Report Created: 15-Jan-2022 10:41 Analyst: MS

Sample ID: 11215131-010722-S-BN-SW-S-33 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6152_18822_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	QC Batch No.:	18822
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	15-Jan-2022 04:48
Lab Project No:	B6152	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	36.2		0.216	36.2	36.2	36.2
12378-PeCDD	0.73	J	0.234	0.365	0.73	0.73
123478-HxCDD	0.794	J	0.279	0.0794	0.0794	0.0794
123678-HxCDD	[1.08]	J	0.233	[0.108]	[0.108]	[0.108]
123789-HxCDD	1.73	J	0.252	0.173	0.173	0.173
1234678-HpCDD	35.3		0.35	0.353	0.353	0.353
OCDD	680		0.891	0.68	0.068	0.204
2378-TCDF	92.9		0.131	9.29	9.29	9.29
12378-PeCDF	3.49		0.191	0.175	0.175	0.105
23478-PeCDF	3.24		0.188	1.62	1.62	0.971
123478-HxCDF	5.91		0.154	0.591	0.591	0.591
123678-HxCDF	1.72	J	0.135	0.172	0.172	0.172
234678-HxCDF	[0.466]	J	0.136	[0.0466]	[0.0466]	[0.0466]
123789-HxCDF	(0.172)		0.172	(0.0172)	(0.0172)	(0.0172)
1234678-HpCDF	3.18		0.171	0.0318	0.0318	0.0318
1234789-HpCDF	0.586	J	0.261	0.00586	0.00586	0.00586
OCDF	[4.89]	J	0.875	[0.00489]	[0.000489]	[0.00147]

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TEQ Summaries			
EMPC = 0, ND = 0	49.8	49.5	48.9
EMPC = 0, ND = DL / 2	49.8	49.5	48.9
EMPC = 0, ND = DL	49.8	49.5	49
EMPC = 0, < J-level = 0	49	48.4	47.8
EMPC = EMPC, ND = 0	49.9	49.7	49.1
EMPC = EMPC, ND = DL / 2	49.9	49.7	49.1
EMPC = EMPC, ND = DL	49.9	49.7	49.1
EMPC = EMPC, < J-level = 0	49	48.4	47.8

Checkcode: 496-091-LKV

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Sample ID: Method Blank B6152_18822

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18822_DF_SDS	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:56:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.204			ES 2378-TCDD	92.3	
12378-PeCDD	ND	0.195			ES 12378-PeCDD	94.7	
123478-HxCDD	ND	0.196			ES 123478-HxCDD	97	
123678-HxCDD	ND	0.184			ES 123678-HxCDD	112	
123789-HxCDD	ND	0.194			ES 123789-HxCDD	92.7	
1234678-HpCDD	ND	0.22			ES 1234678-HpCDD	90.5	
OCDD	ND	0.69			ES OCDD	58.8	
2378-TCDF	ND	0.111			ES 2378-TCDF	89.3	
12378-PeCDF	ND	0.149			ES 12378-PeCDF	85.9	
23478-PeCDF	ND	0.146			ES 23478-PeCDF	84.7	
123478-HxCDF	ND	0.14			ES 123478-HxCDF	101	
123678-HxCDF	ND	0.129			ES 123678-HxCDF	110	
234678-HxCDF	ND	0.13			ES 234678-HxCDF	122	
123789-HxCDF	ND	0.175			ES 123789-HxCDF	96.5	
1234678-HpCDF	ND	0.142			ES 1234678-HpCDF	107	
1234789-HpCDF	ND	0.293			ES 1234789-HpCDF	83.7	
OCDF	ND	0.604			ES OCDF	64.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.6	
Total TCDD	ND	0.204	ND		CS 12347-PeCDD	101	
Total PeCDD	ND	0.195	ND		CS 12346-PeCDF	89.1	
Total HxCDD	ND	0.191	ND		CS 123469-HxCDF	121	
Total HpCDD	ND	0.22	ND		CS 1234689-HpCDF	103	
Total TCDF	ND	0.111	ND				
Total PeCDF	ND	0.147	ND				
Total HxCDF	ND	0.141	ND				
Total HpCDF	ND	0.203	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.29	0.29	0.29				
TEQ: ND=DL	0.58	0.58	0.58				

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Sample ID: Method Blank B6152_18822 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18822_DF_SDS	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:56:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.204)		12479/12468D	(0.195)		124679/124689D	(0.191)		1234679D	(0.22)	
1379D	(0.204)		12469D	(0.195)		123468D	(0.191)		1234678D	(0.22)	
1369D	(0.204)		12368D	(0.195)		123679/123689D	(0.191)				
1469D	(0.204)		12478D	(0.195)		123469D	(0.191)				
1247D...[4]	(0.204)		12379D	(0.195)		123478D	(0.196)				
1378D	(0.204)		12369D...[3]	(0.195)		123678D	(0.184)				
1268D	(0.204)		12346/12347D	(0.195)		123467D	(0.191)				
1478D	(0.204)		12378D	(0.195)		123789D	(0.194)		**Conc.**	0	
1279D	(0.204)		12367D	(0.195)					**EMPC**	0	
1234/1269D	(0.204)		12389D	(0.195)							
1236D	(0.204)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.204)										
1239D	(0.204)								OCDD	(0.69)	
2378D	(0.204)										
1278D	(0.204)										
1267D	(0.204)										
1289D	(0.204)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.29	0.29
TEQ: ND=DL	0.58	0.58

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 545-667-SRF

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: Method Blank B6152_18822 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18822_DF_SDS	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18822	Date Analyzed:	15-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:56:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.111)		13468/12468F	(0.137)		123468F	(0.141)		1234678F	(0.142)	
1468F	(0.111)		13678F...[3]	(0.147)		124678/134678F	(0.141)		1234679F	(0.203)	
2468F	(0.111)		12368F...[3]	(0.147)		134679F	(0.141)		1234689F	(0.203)	
1346/1246F	(0.111)		14678F	(0.147)		124679F	(0.141)		1234789F	(0.293)	
1347F...[3]	(0.111)		13479F	(0.147)		124689F	(0.141)				
1348F	(0.111)		13469/12479F	(0.147)		123467F	(0.141)				
1248F...[3]	(0.111)		12346F	(0.147)		123478F	(0.14)				
1268F	(0.111)		23468/12469F	(0.147)		123678F	(0.129)				
1467F	(0.111)		12347F	(0.147)		123479F	(0.141)				
1478F	(0.111)		12348F	(0.147)		123469F	(0.141)				
1369/1237F	(0.111)		12378F	(0.149)		123679F	(0.141)				
2467F	(0.111)		12678/12367F	(0.147)		234678F	(0.13)		**Conc.**	0	
2368F	(0.111)		12379F	(0.147)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.111)		12679F	(0.147)		123689F	(0.141)				
1278F	(0.111)		23467/12369F	(0.147)		123789F	(0.175)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.111)		23478F	(0.146)		123789/123489F	0				
1267F	(0.111)		23478/12489F	0		123489F	(0.141)		OCDF	(0.604)	
2346/1249F	(0.111)		12489F	(0.147)							
2347/1279F	(0.111)		12349F	(0.147)							
2348F	(0.111)		12389F	(0.147)							
2378F	(0.111)										
2367/3467F	(0.111)										
1269F	(0.111)										
1239F	(0.111)										
1289F	(0.111)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 545-667-SRF

Report Created: 15-Jan-2022 10:40 Analyst: MS

Sample ID: Method Blank B6152_18822 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18822_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18822
Date Collected:	n/a	Split:	-	Date Extracted:	10-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	15-Jan-2022 00:56
Lab Project No:	B6152	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.204)		0.204	(0.204)	(0.204)	(0.204)
12378-PeCDD	(0.195)		0.195	(0.0976)	(0.195)	(0.195)
123478-HxCDD	(0.196)		0.196	(0.0196)	(0.0196)	(0.0196)
123678-HxCDD	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
123789-HxCDD	(0.194)		0.194	(0.0194)	(0.0194)	(0.0194)
1234678-HpCDD	(0.22)		0.22	(0.0022)	(0.0022)	(0.0022)
OCDD	(0.69)		0.69	(0.00069)	(0.000069)	(0.000207)
2378-TCDF	(0.111)		0.111	(0.0111)	(0.0111)	(0.0111)
12378-PeCDF	(0.149)		0.149	(0.00744)	(0.00744)	(0.00446)
23478-PeCDF	(0.146)		0.146	(0.0728)	(0.0728)	(0.0437)
123478-HxCDF	(0.14)		0.14	(0.014)	(0.014)	(0.014)
123678-HxCDF	(0.129)		0.129	(0.0129)	(0.0129)	(0.0129)
234678-HxCDF	(0.13)		0.13	(0.013)	(0.013)	(0.013)
123789-HxCDF	(0.175)		0.175	(0.0175)	(0.0175)	(0.0175)
1234678-HpCDF	(0.142)		0.142	(0.00142)	(0.00142)	(0.00142)
1234789-HpCDF	(0.293)		0.293	(0.00293)	(0.00293)	(0.00293)
OCDF	(0.604)		0.604	(0.000604)	(0.0000604)	(0.000181)

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613; Toll-Free 866 846-8290
www.us.sgs.com

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.258	0.306	0.29
EMPC = 0, ND = DL	0.516	0.612	0.58
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.258	0.306	0.29
EMPC = EMPC, ND = DL	0.516	0.612	0.58
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 545-667-SRF

SGS North America - DF v0.99

Sample ID: 0_18822_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18822_DF	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18822	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:51:16

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.7				ES 2378-TCDD	88.4	
12378-PeCDD	47.9				ES 12378-PeCDD	95.3	
123478-HxCDD	56.3				ES 123478-HxCDD	102	
123678-HxCDD	58.3				ES 123678-HxCDD	112	
123789-HxCDD	54.8				ES 123789-HxCDD	95.8	
1234678-HpCDD	52.4				ES 1234678-HpCDD	97.3	
OCDD	113				ES OCDD	68.4	
2378-TCDF	11.2				ES 2378-TCDF	87.4	
12378-PeCDF	46.1				ES 12378-PeCDF	90.7	
23478-PeCDF	50.7				ES 23478-PeCDF	86.9	
123478-HxCDF	52.3				ES 123478-HxCDF	99.9	
123678-HxCDF	53.2				ES 123678-HxCDF	113	
234678-HxCDF	49.9				ES 234678-HxCDF	122	
123789-HxCDF	49.3				ES 123789-HxCDF	97.7	
1234678-HpCDF	49				ES 1234678-HpCDF	113	
1234789-HpCDF	50.1				ES 1234789-HpCDF	88	
OCDF	101				ES OCDF	68.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	61.2		61.2		CS 12347-PeCDD	99.9	
Total PeCDD	75.2		75.2		CS 12346-PeCDF	89	
Total HxCDD	186		186		CS 123469-HxCDF	120	
Total HpCDD	65.3		65.3		CS 1234689-HpCDF	104	
Total TCDF	68.8		68.8				
Total PeCDF	206		206				
Total HxCDF	334		334				
Total HpCDF	99.2		99.2				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	117		117				
TEQ: ND=DL/2	117	0.231	117				
TEQ: ND=DL	117	0.462	117				

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Sample ID: 0_18822_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6152	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18822_DF	Date Extracted:	10-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18822	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:37:36

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	13				ES 2378-TCDD	93.3	
12378-PeCDD	50.6				ES 12378-PeCDD	101	
123478-HxCDD	59.2				ES 123478-HxCDD	102	
123678-HxCDD	59.2				ES 123678-HxCDD	116	
123789-HxCDD	57.8				ES 123789-HxCDD	97.9	
1234678-HpCDD	54.7				ES 1234678-HpCDD	97	
OCDD	115				ES OCDD	64.7	
2378-TCDF	11				ES 2378-TCDF	91.8	
12378-PeCDF	48.5				ES 12378-PeCDF	93.2	
23478-PeCDF	52.7				ES 23478-PeCDF	90	
123478-HxCDF	55.5				ES 123478-HxCDF	101	
123678-HxCDF	53.8				ES 123678-HxCDF	117	
234678-HxCDF	52.6				ES 234678-HxCDF	122	
123789-HxCDF	51.7				ES 123789-HxCDF	102	
1234678-HpCDF	52				ES 1234678-HpCDF	112	
1234789-HpCDF	50.8				ES 1234789-HpCDF	91.9	
OCDF	106				ES OCDF	67.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	99.2	
Total TCDD	61.7		61.7		CS 12347-PeCDD	111	
Total PeCDD	78.8		78.8		CS 12346-PeCDF	99.1	
Total HxCDD	193		193		CS 123469-HxCDF	128	
Total HpCDD	68.1		68.1		CS 1234689-HpCDF	109	
Total TCDF	68		68				
Total PeCDF	209		209				
Total HxCDF	345		345				
Total HpCDF	103		103				
Total PCDD/Fs	**1,350**		**1,350**				
WHO-2005 TEQs							
TEQ: ND=0	123		123				
TEQ: ND=DL/2	123	0.229	123				
TEQ: ND=DL	123	0.459	123				

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Sample DUP

Method 1613B

Sample ID: 0_18822_OPR001

Analyte	OPR1_18822_DF pg/uL	OPR2_18822_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.7	13	2.8%
1,2,3,7,8-PeCDD	47.9	50.6	5.4%
1,2,3,4,7,8-HxCDD	56.3	59.2	5.1%
1,2,3,6,7,8-HxCDD	58.3	59.2	1.6%
1,2,3,7,8,9-HxCDD	54.8	57.8	5.2%
1,2,3,4,6,7,8-HpCDD	52.4	54.7	4.1%
OCDD	113	115	1.8%
2,3,7,8-TCDF	11.2	11	2.5%
1,2,3,7,8-PeCDF	46.1	48.5	4.9%
2,3,4,7,8-PeCDF	50.7	52.7	3.8%
1,2,3,4,7,8-HxCDF	52.3	55.5	5.9%
1,2,3,6,7,8-HxCDF	53.2	53.8	1.2%
2,3,4,6,7,8-HxCDF	49.9	52.6	5.2%
1,2,3,7,8,9-HxCDF	49.3	51.7	4.7%
1,2,3,4,6,7,8-HpCDF	49	52	5.8%
1,2,3,4,7,8,9-HpCDF	50.1	50.8	1.3%
OCDF	101	106	4.4%
Totals			
Total TCDD	61.2	61.7	0.7%
Total PeCDD	75.2	78.8	4.6%
Total HxCDD	186	193	3.7%
Total HpCDD	65.3	68.1	4.2%
Total TCDF	68.8	68	1.1%
Total PeCDF	206	209	1.3%
Total HxCDF	334	345	3.3%
Total HpCDF	99.2	103	3.5%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Jan-22 at 13:00*
AP Project name:	*B6152*
Requested TAT:	*3 business days*
Projected due date:	*13-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010622-S-BN-SW-S-28	B6152_001	Solid	1	4oz Clear Glass	06-Jan-22	14:00	-0.6	1	4905 2704 3675
11215131-010622-S-BN-SW-S-29	B6152_002	Solid	1	4oz Clear Glass	06-Jan-22	14:10	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-S-31	B6152_003	Solid	1	4oz Clear Glass	07-Jan-22	09:20	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-S-32	B6152_004	Solid	1	4oz Clear Glass	07-Jan-22	09:30	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-S-33	B6152_005	Solid	1	4oz Clear Glass	07-Jan-22	09:40	-0.6	1	4905 2704 3675

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Samples were not received frozen.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: *Jeannie Milholland* *Logged in by:* *Ashley Owens* *QC'ed by:* AK 10 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B0152

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

NONE

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B (DJF)	M8290A (BN)	M1668A (BN)	M1668B (BN)	HR-PAH (BN)	M1699	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-010622-S-BN-SW-S-20	1-6-22	1400	C	S	4oz	X									1	~~SEE SSOW (BN)~~ RUSH *
11215131-010622-S-BN-SW-S-21		1410				X									1	RUSH *
11215131-010622-S-BN-SW-D-1		1420				X									1	
11215131-010622-S-BN-SW-R-12		1430				X									1	
11215131-010622-S-BN-SW-B-14		1440				X									1	
11215131-010622-S-BN-SW-B-15	↓	1450				X									1	HOLD
11215131-010722-S-BN-SW-S-21	1-7-22	0920				X									1	RUSH *
11215131-010722-S-BN-SW-S-22		0930				X									1	RUSH *
11215131-010722-S-BN-SW-S-23		0940				X									1	RUSH *
11215131-010722-S-BN-SW-D-13	↓	0950	↓	↓	↓	X									1	

COLLECTED/RELINQUISHED BY (1): Brianna North	DATE: 1-8-22	TIME: 1230	RECEIVED BY:
RELINQUISHED BY (2):	DATE: 1-7-22	TIME: 1315	RECEIVED BY: 1/7/22 1315
RELINQUISHED BY (3):	DATE: 1/7/22	TIME: 1315	RECEIVED BY:

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston,

PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

RECEIVED BY LABORATORY: Jennifer Nicholson DATE: 1-8-2022 TIME: 1300

COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT

CARRIER: Fed-Ex | TEMP: °C -0.6 IR-4-P

TRACKING #: 4905-2704-3675

*=Samples in this project.

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

BU152

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS
11215131-010722-S-BN-SW-B-16	1-7-22	1000	C	S	4oz	None	X									1	SEE SSOW
11215131-010722-S-BN-SW-B-16	↓	1010	↓	↓	↓		X									1	
11215131-010722-S-BN-SW-B-16	↓	1020	↓	↓	↓		X									1	HOLD

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna North	1-7-22	1235	Eddie Castro
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
	1-7-22	1317	1/7/22 1315
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
	1/7/22	1315	

RECEIVED BY LABORATORY:	DATE:	TIME:
Jeannie McClelland	1-8-2022	1300
COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT		
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
CARRIER: Fed Ex	TEMP: °C	-0.6 IR4 P
TRACKING #: 4905 2704 3675		

B6152

ORI GIN ID:SGRA (713) 271-4700
SAM PLE MANAGEMENT
SGS HOUSTON
101 65 HARWIN DRIVE
SUI TE 150
HOU STON, TX 77036
UNI TED STATES US

#1

SHIP DATE: 07JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: 48QT

1/8/2022
13:00
-0.6° (T.B.)

565C2/01EF/05A2

FedEx Express

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 3675

XO ILMA

28405
NC-US RDU

Part # 155148-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#2

SHIP DATE: 07JAN22
ACTWGT: 26.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: 30QT

1-8-2022
-0.4°C
1300pm

FedEx Express

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 3664

XO ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6152

Initiation Date: 10-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: 1/10/22 1/11/22

HRMS Lab: 1/13/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: 1/13/22

PM Initials: akornegay Date: 10-Jan-2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE | Solid | Final Volume: 20 µL

Batch# 18822 | Split: ~~1/2~~ 1/4 | Extract Initial/Date: VE 11/10/22 | Clean-up Initial/Date: [illegible] 11/11/22 | Transfer Init/Date: [illegible] 11/11/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6152_18822_001	12	12.15				brown, clumpy, sandy, clay-like
B6152_18822_002	13	11.93				gray, clay-like, sandy
B6152_18822_003	14	13.29				gray/orange, clay-like
B6152_18822_004	15	12.96				gray, clay-like
B6152_18822_005	16	13.23				gray, clay-like
MB1_18822	9	10.00				sodium sulfate
OPR1_18822	10	10.00				sodium sulfate
OPR2_18822	11	10.00				sodium sulfate

TB 11/17/22

[illegible] 11/11/22

Supply IDs	
Toluene	STL14-73
MeCHL	STL14-21
Florisil	SPLS-70
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-76
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-75
Sodium Sulfate	SPLS-25C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 11/17/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	1500
	Stop:	0930
HEX	Start:	
	Stop:	
DCM	Start:	
	Stop:	

TB 11/17/22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18822

Inter-Department Communication Sheet

1/17/23

SGS

Wt. Volume Results

Batch #: 18822

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6152_001	0.81	4.3	3.74	83.95%	83.95%			11.91	12.15	10.2
B6152_002	0.81	4.08	3.57	84.40%	84.40%			11.85	11.93	10.07
B6152_003	0.79	4.11	3.34	76.81%	76.81%			13.02	13.29	10.21
B6152_004	0.8	3.92	3.24	78.21%	78.21%			12.79	12.96	10.14
B6152_005	0.79	5.13	4.12	76.73%	76.73%			13.03	13.23	10.15

% Solid Determination WorkSheet

SGS

Batch: 18822

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6152_18822_001	0.81	4.30	3.74	11.91	
B6152_18822_002	0.81	4.08	3.57	11.85	
B6152_18822_003	0.79	4.11	3.34	13.02	
B6152_18822_004	0.80	3.92	3.24	12.79	
B6152_18822_005	0.79	5.13	4.12	13.03	

1/11/22

Date/Initials: KS 1/10/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18822

Spiker Initials/Date:	JRH 1/10/22	JRH 1/10/22	JRH 1/10/22	1/11/22	1/11/22		
Lab Sample ID	D/F Ab-A Amount: 20 µL Observer Initials	D/F Ab-B Amount: 20 µL Observer Initials	D/F ES Amount: 20 µL Observer Initials	D/F CS Amount: 20 µL Observer Initials	D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6152_18822_001	—	—	KE	JRH	KE		
B6152_18822_002	—	—	KE	JRH	KE		
B6152_18822_003	—	—	KE	JRH	KE		
B6152_18822_004	—	—	KE	JRH	KE		
B6152_18822_005	—	—	KE	JRH	KE		
MB1_18822	—	—	KE	JRH	KE		
OPR1_18822	KE	KE	KE	JRH	KE		
OPR2_18822	KE	KE	KE	JRH	KE		

RAB 1/11/22

Standard Information

Pipette ID							RAB 1/11/22
Spike ID	D/F Ab-A	D/F Ab-B	D/F ES	D/F CS	D/F JS		
SIL#	20-2-8	23-187-2	20-2-9	25.338.1	25.309.1		
Concentration	10 PB/µL	10 PB/µL	100 PB/µL	100 PB/µL	100 PB/µL		
Expiration Date	7/a/23	6/20/22	3/2038	11/16/22	10/8/22		

REVIEWED
Megan_Shannahan , 1/15/2022, 10:55:09 AM

SGS Environmental Services — Run Log **Project: B6152_18822_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
17	220114C17	3	CS3_220114_DF_CB	1.00	SIL 25-347-1	DTF, MLS	994-955	14-Jan-2022	21:04:58
18	220114C18	69	OPR1_18822_DF	1.00	0_18822_OPR001	DTF, MLS	033-566	14-Jan-2022	21:51:16
19	220114C19	70	OPR2_18822_DF	1.00	0_18822_OPR002	DTF, MLS	914-582	14-Jan-2022	22:37:36
21	220114C21	2	SBS_220114_DF_CC	1.00	SIL 20-61-1	DTF, MLS	329-253	15-Jan-2022	00:10:16
22	220114C22	68	MB1_18822_DF_SDS	10.00	Method Blank	DTF, MLS	545-667	15-Jan-2022	00:56:35
23	220114C23	71	B6152_18822_DF_001	10.20	11215131-010622-S-BN-SW-S-28	DTF, MLS	441-478	15-Jan-2022	01:42:55
24	220114C24	72	B6152_18822_DF_002	10.07	11215131-010622-S-BN-SW-S-29	DTF, MLS	430-308	15-Jan-2022	02:29:15
25	220114C25	73	B6152_18822_DF_003	10.21	11215131-010722-S-BN-SW-S-31	DTF, MLS	809-337	15-Jan-2022	03:15:35
26	220114C26	74	B6152_18822_DF_004	10.14	11215131-010722-S-BN-SW-S-32	DTF, MLS	796-095	15-Jan-2022	04:01:54
27	220114C27	75	B6152_18822_DF_005	10.15	11215131-010722-S-BN-SW-S-33	DTF, MLS	496-091	15-Jan-2022	04:48:14

REVIEWED
Tamara Burkamper , 1/15/2022, 11:48:48 AM

Lab ID: MB1_18822_DF_SDS **Acq'd:** 15 Jan 2022 00:56 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6152_18822 **UTP:** 15-Jan-2022 10:34:31 MLS **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 545-667-SRF

Datafile: 220114C22 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3629.489	0.204
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3062.12	0.195
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2939.44	0.196
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2939.44	0.184
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2939.44	0.194
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2671.091	0.22
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2590.018	0.69
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2754.376	0.111
12378-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	3206.469	0.149
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	3206.469	0.146
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.27	-	3271.721	0.14
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3271.721	0.129
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3271.721	0.13
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3271.721	0.175
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3289.554	0.142
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3289.554	0.293
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2986.849	0.604

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0231	1.0232	+0.2	3.15E+07	0.81	Y	1.05	92.3
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.72E+07	1.58	Y	0.88	94.7
ES 123478-HxCDD	37.60	0.9913	0.9912	-0.2	2.36E+07	1.27	Y	0.97	97
ES 123678-HxCDD	37.72	0.9944	0.9944	0	2.64E+07	1.26	Y	0.94	112
ES 123789-HxCDD	38.04	1.0026	1.0026	0	2.53E+07	1.28	Y	1.09	92.7
ES 1234678-HpCDD	40.82	1.0760	1.0760	0	2.07E+07	1.07	Y	0.91	90.5
ES OCDD	43.61	1.1489	1.1496	+1.8	1.84E+07	0.90	Y	0.62	58.8
ES 2378-TCDF	27.32	1.0515	1.0519	+0.7	4.94E+07	0.79	Y	1.06	89.3
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	4.08E+07	1.51	Y	0.91	85.9
ES 23478-PeCDF	33.28	1.2804	1.2814	+2.0	3.90E+07	1.52	Y	0.88	84.7
ES 123478-HxCDF	36.59	0.9647	0.9645	-0.4	3.04E+07	0.52	Y	1.20	101
ES 123678-HxCDF	36.73	0.9684	0.9682	-0.4	3.71E+07	0.53	Y	1.35	110
ES 234678-HxCDF	37.41	0.9861	0.9860	-0.2	3.79E+07	0.55	Y	1.24	122
ES 123789-HxCDF	38.40	1.0120	1.0121	+0.2	2.79E+07	0.54	Y	1.16	96.5
ES 1234678-HpCDF	39.86	1.0506	1.0508	+0.5	2.60E+07	0.46	Y	0.97	107
ES 1234789-HpCDF	41.28	1.0879	1.0881	+0.5	1.78E+07	0.46	Y	0.85	83.7
ES OCDF	43.77	1.1534	1.1538	+1.1	2.60E+07	0.94	Y	0.81	64.2

Lab ID: MB1_18822_DF_SDS **Acq'd:** 15 Jan 2022 00:56 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6152_18822 **UTP:** 15-Jan-2022 10:34:31 MLS **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 545-667-SRF

Datafile: 220114C22 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.27E+07	0.85	Y	-	-
JS 1234-TCDF	25.97		-	-	-	5.22E+07	0.79	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.25E+07	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0238	1.0240	+0.3	1.47E+07	n/a	-	1.20	93.6
CS 12347-PeCDD	33.13		1.2018	1.2022	+0.8	2.49E+07	1.61	Y	0.75	101
CS 12346-PeCDF	31.64		1.2178	1.2185	+1.3	3.95E+07	1.52	Y	0.85	89.1
CS 123469-HxCDF	37.06		0.9768	0.9768	0	3.39E+07	0.53	Y	1.12	121
CS 1234689-HpCDF	40.28		1.0615	1.0617	+0.5	2.28E+07	0.45	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0238~~	~~1.0240~~	~~+0.3~~	~~1.47E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.13~~		~~1.2018~~	~~1.2022~~	~~+0.8~~	~~2.49E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.64~~		~~1.2178~~	~~1.2185~~	~~+1.3~~	~~3.95E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9768~~	~~0~~	~~3.39E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~111~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0615~~	~~1.0617~~	~~+0.5~~	~~2.28E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~95.6~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18822_DF_SDS | **Acq'd:** 15 Jan 2022 00:56 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6152_18822 | **UTP:** 15-Jan-2022 10:34:31 MLS | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 545-667-SRF

Datafile: 220114C22 | **Report:** 15 Jan 2022 10:40 MS | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8733						1.18		3629.489	0.204
1379-TCDD	NotFnd		0.8860						1.18		3629.489	0.204
1369-TCDD	NotFnd		0.9009						1.18		3629.489	0.204
1469-TCDD	NotFnd		0.9282						1.18		3629.489	0.204
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3629.489	0.204
1378-TCDD	NotFnd		0.9429						1.18		3629.489	0.204
1268-TCDD	NotFnd		0.9500						1.18		3629.489	0.204
1478-TCDD	NotFnd		0.9584						1.18		3629.489	0.204
1279-TCDD	NotFnd		0.9648						1.18		3629.489	0.204
1234/1269-TCDD	NotFnd		0.9770						1.18		3629.489	0.204
1236-TCDD	NotFnd		0.9821						1.18		3629.489	0.204
1237/1238-TCDD	NotFnd		0.9909						1.18		3629.489	0.204
1239-TCDD	NotFnd		0.9959						1.18		3629.489	0.204
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3629.489**	**0.204**
1278-TCDD	NotFnd		1.0123						1.18		3629.489	0.204
1267-TCDD	NotFnd		1.0172						1.18		3629.489	0.204
1289-TCDD	NotFnd		1.0354						1.18		3629.489	0.204
12479/12468-PeCDD	NotFnd		0.9267						1.04		3062.12	0.195
12469-PeCDD	NotFnd		0.9426						1.04		3062.12	0.195
12368-PeCDD	NotFnd		0.9587						1.04		3062.12	0.195
12478-PeCDD	NotFnd		0.9642						1.04		3062.12	0.195
12379-PeCDD	NotFnd		0.9674						1.04		3062.12	0.195
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3062.12	0.195
12346/12347-PeCDD	NotFnd		0.9861						1.04		3062.12	0.195
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3062.12**	**0.195**
12367-PeCDD	NotFnd		1.0036						1.04		3062.12	0.195
12389-PeCDD	NotFnd		1.0139						1.04		3062.12	0.195
124679/124689-HxCDD	NotFnd		0.9541						1.10		2939.44	0.191
123468-HxCDD	NotFnd		0.9715						1.10		2939.44	0.191
123679/123689-HxCDD	NotFnd		0.9793						1.10		2939.44	0.191
123469-HxCDD	NotFnd		0.9831						1.10		2939.44	0.191
123478-HxCDD	NotFnd		**1.0004**						1.09		**2939.44**	**0.196**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2939.44**	**0.184**
123467-HxCDD	NotFnd		1.0089						1.10		2939.44	0.191
123789-HxCDD	NotFnd		**1.0118**						1.05		**2939.44**	**0.194**

Lab ID: MB1_18822_DF_SDS | Acq'd: 15 Jan 2022 00:56 DTF | Wt/Vol: 10.00 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6152_18822 | UTP: 15-Jan-2022 10:34:31 MLS | J-level: 0.5 pg/g | Split: 1 | Checkcode: 545-667-SRF

Datafile: 220114C22 | Report: 15 Jan 2022 10:40 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

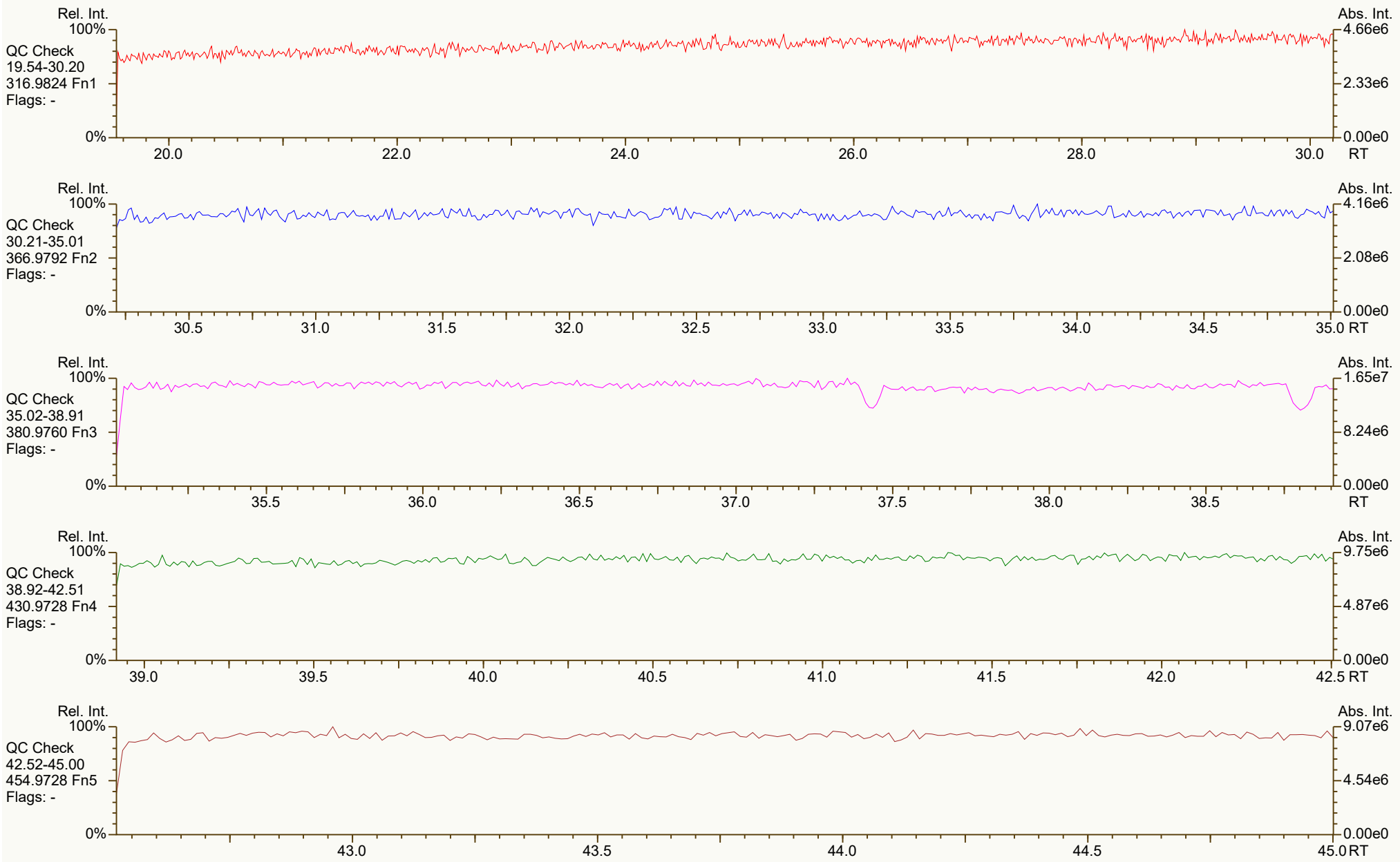
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9835						1.06		2671.091	0.22
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2671.091**	**0.22**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2590.018**	**0.69**
OCDD-a	NotFnd		1.0002						0.07		3247.905	13.5
1368-TCDF	NotFnd		0.8250						1.08		2754.376	0.111
1468-TCDF	NotFnd		0.8494						1.08		2754.376	0.111
2468-TCDF	NotFnd		0.8684						1.08		2754.376	0.111
1346/1246-TCDF	NotFnd		0.8815						1.08		2754.376	0.111
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2754.376	0.111
1348-TCDF	NotFnd		0.8966						1.08		2754.376	0.111
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2754.376	0.111
1268-TCDF	NotFnd		0.9148						1.08		2754.376	0.111
1467-TCDF	NotFnd		0.9197						1.08		2754.376	0.111
1478-TCDF	NotFnd		0.9258						1.08		2754.376	0.111
1369/1237-TCDF	NotFnd		0.9390						1.08		2754.376	0.111
2467-TCDF	NotFnd		0.9435						1.08		2754.376	0.111
2368-TCDF	NotFnd		0.9488						1.08		2754.376	0.111
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		2754.376	0.111
1278-TCDF	NotFnd		0.9689						1.08		2754.376	0.111
1349-TCDF	NotFnd		0.9730						1.08		2754.376	0.111
1267-TCDF	NotFnd		0.9787						1.08		2754.376	0.111
2346/1249-TCDF	NotFnd		0.9856						1.08		2754.376	0.111
2347/1279-TCDF	NotFnd		0.9934						1.08		2754.376	0.111
2348-TCDF	NotFnd		0.9972						1.08		2754.376	0.111
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2754.376**	**0.111**
2367/3467-TCDF	NotFnd		1.0145						1.08		2754.376	0.111
1269-TCDF	NotFnd		1.0236						1.08		2754.376	0.111
1239-TCDF	NotFnd		1.0333						1.08		2754.376	0.111
1289-TCDF	NotFnd		1.0740						1.08		2754.376	0.111
13468/12468-PeCDF	NotFnd		0.9138						1.02		2992.931	0.137
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		3206.469	0.147
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		3206.469	0.147
14678-PeCDF	NotFnd		0.9693						1.02		3206.469	0.147
13479-PeCDF	NotFnd		0.9722						1.02		3206.469	0.147
13469/12479-PeCDF	NotFnd		0.9800						1.02		3206.469	0.147
12346-PeCDF	NotFnd		0.9844						1.02		3206.469	0.147

Lab ID: MB1_18822_DF_SDS **Acq'd:** 15 Jan 2022 00:56 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

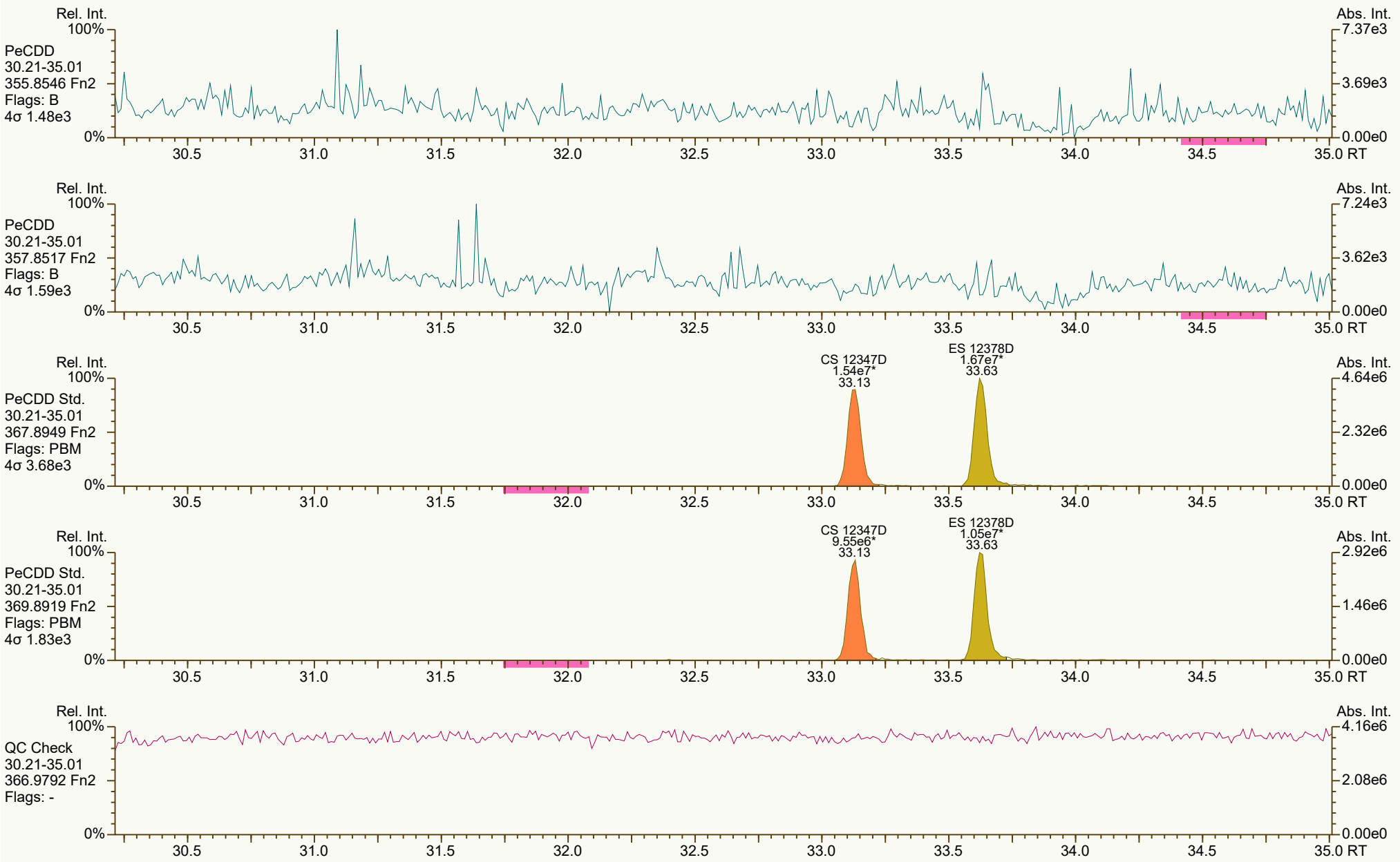
Client ID: Method Blank B6152_18822 **UTP:** 15-Jan-2022 10:34:31 MLS **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 545-667-SRF

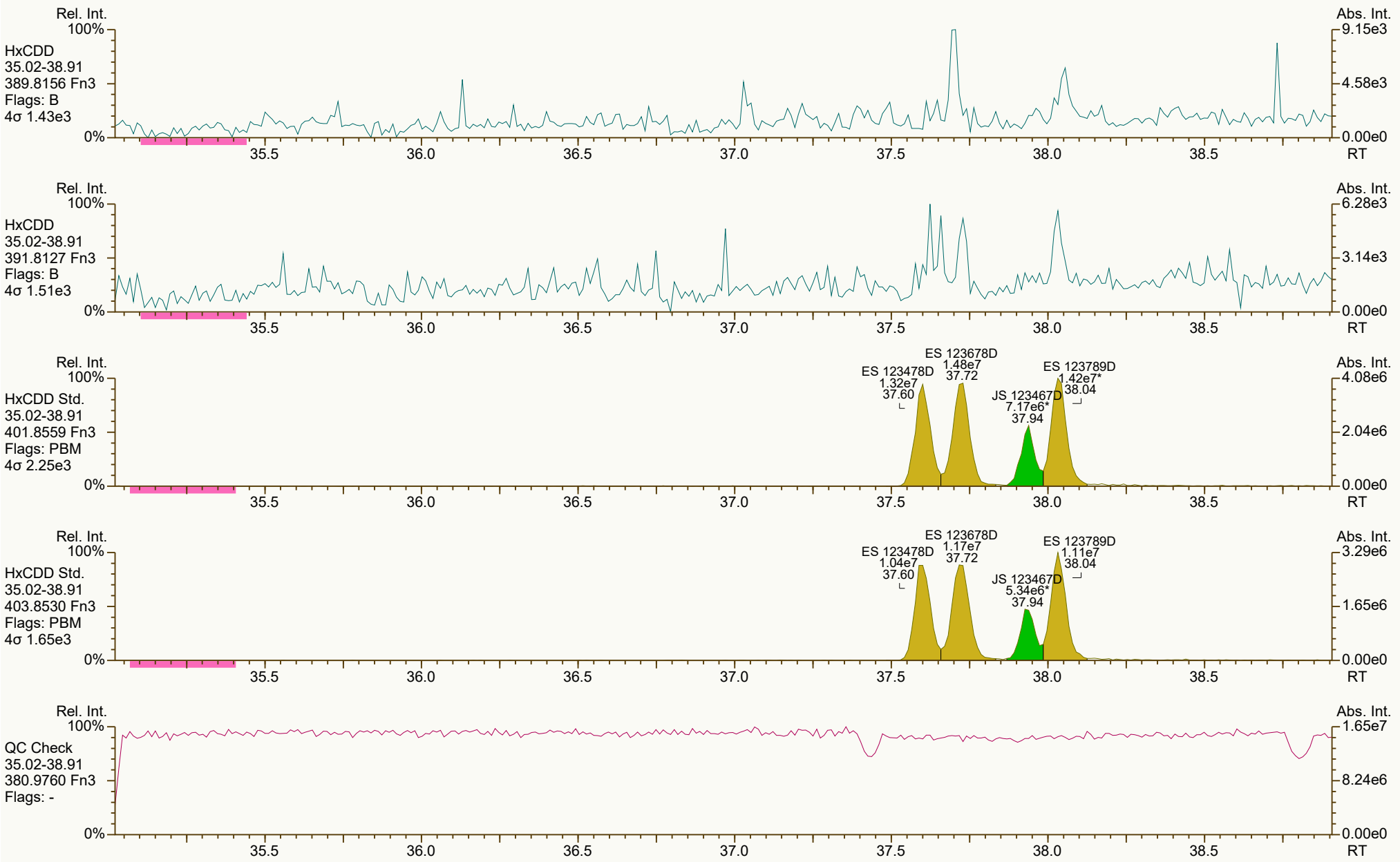
Datafile: 220114C22 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		3206.469	0.147
12347-PeCDF	NotFnd		0.9890						1.02		3206.469	0.147
12348-PeCDF	NotFnd		0.9942						1.02		3206.469	0.147
12378-PeCDF	**NotFnd**		**1.0006**						**1.02**		**3206.469**	**0.149**
12678/12367-PeCDF	NotFnd		1.0090						1.02		3206.469	0.147
12379-PeCDF	NotFnd		1.0142						1.02		3206.469	0.147
12679-PeCDF	NotFnd		0.9933						1.02		3206.469	0.147
23467/12369-PeCDF	NotFnd		0.9969						1.02		3206.469	0.147
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**3206.469**	**0.146**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3206.469	0.147
12349-PeCDF	NotFnd		1.0107						1.02		3206.469	0.147
12389-PeCDF	NotFnd		1.0330						1.02		3206.469	0.147
123468-HxCDF	NotFnd		0.9627						1.19		3271.721	0.141
124678/134678-HxCDF	NotFnd		0.9682						1.19		3271.721	0.141
134679-HxCDF	NotFnd		0.9744						1.19		3271.721	0.141
124679-HxCDF	NotFnd		0.9798						1.19		3271.721	0.141
124689-HxCDF	NotFnd		0.9858						1.19		3271.721	0.141
123467-HxCDF	NotFnd		0.9973						1.19		3271.721	0.141
123478-HxCDF	**NotFnd**		**1.0005**						**1.27**		**3271.721**	**0.14**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3271.721**	**0.129**
123479-HxCDF	NotFnd		1.0051						1.19		3271.721	0.141
123469-HxCDF	NotFnd		1.0093						1.19		3271.721	0.141
123679-HxCDF	NotFnd		0.9944						1.19		3271.721	0.141
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3271.721**	**0.13**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3271.721	0.141
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3271.721**	**0.175**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		3271.721	0.141
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3289.554**	**0.142**
1234679-HpCDF	NotFnd		1.0069						1.34		3289.554	0.203
1234689-HpCDF	NotFnd		1.0103						1.34		3289.554	0.203
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3289.554**	**0.293**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2986.849**	**0.604**
OCDF-a	NotFnd		1.0002						0.07		3426.747	11.2


Rel. Int.
100%
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.65e7
8.24e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
9.75e6
4.87e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
0%
Abs. Int.
9.07e6
4.54e6
0.00e0
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
43.0
43.5
44.0
44.5
45.0
RT

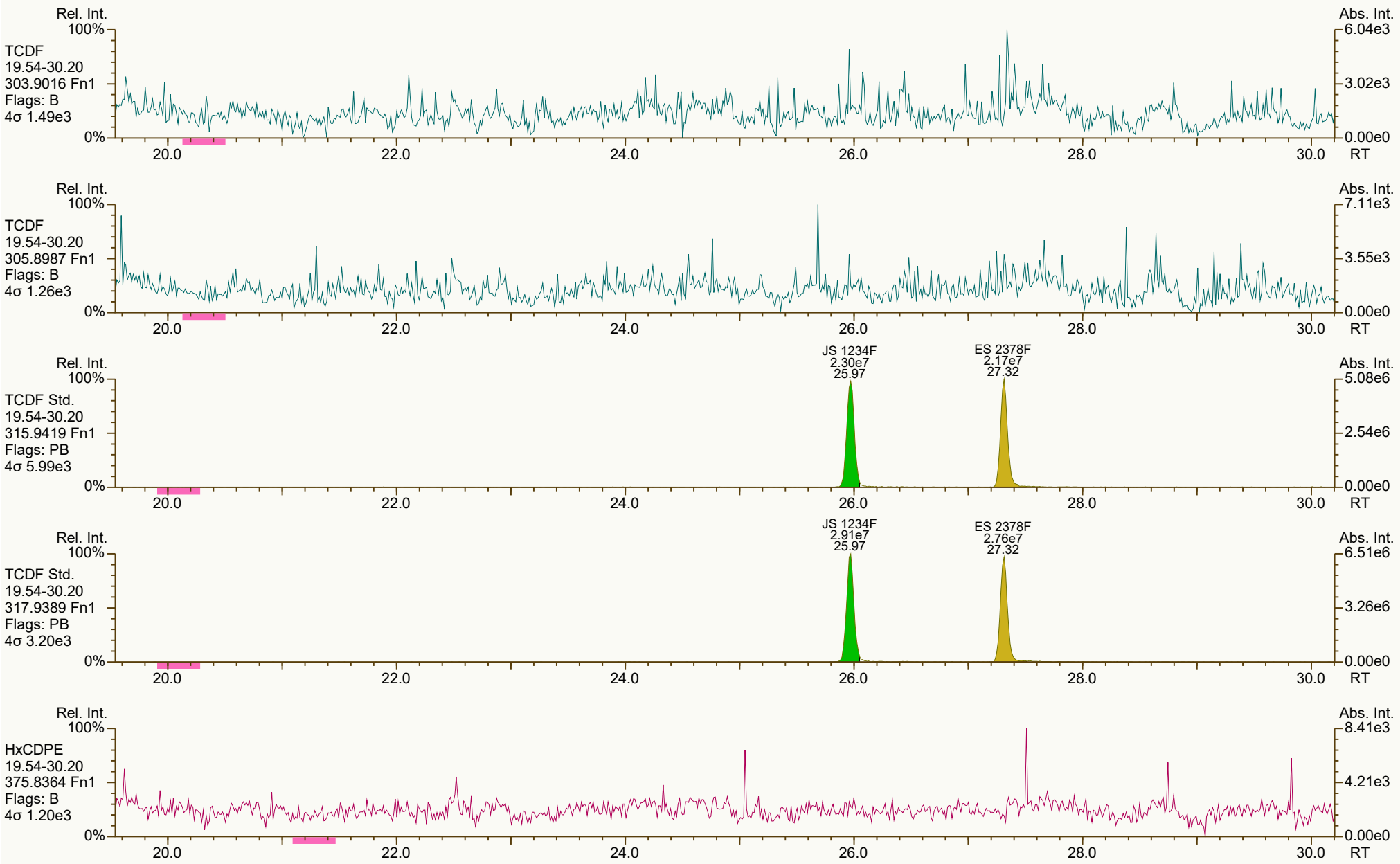

Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.07e3
6.14e3
3.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.56e3
8.57e3
4.29e3
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.42e3
CS 37Cl-2378D
1.47e7
28.22
3.60e6
1.80e6
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.78e3
JS 1234D
1.50e7
27.56
ES 2378D
1.41e7
28.19
3.58e6
1.79e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.77e3
JS 1234D
1.77e7
27.56
ES 2378D
1.74e7
28.20
4.11e6
2.05e6

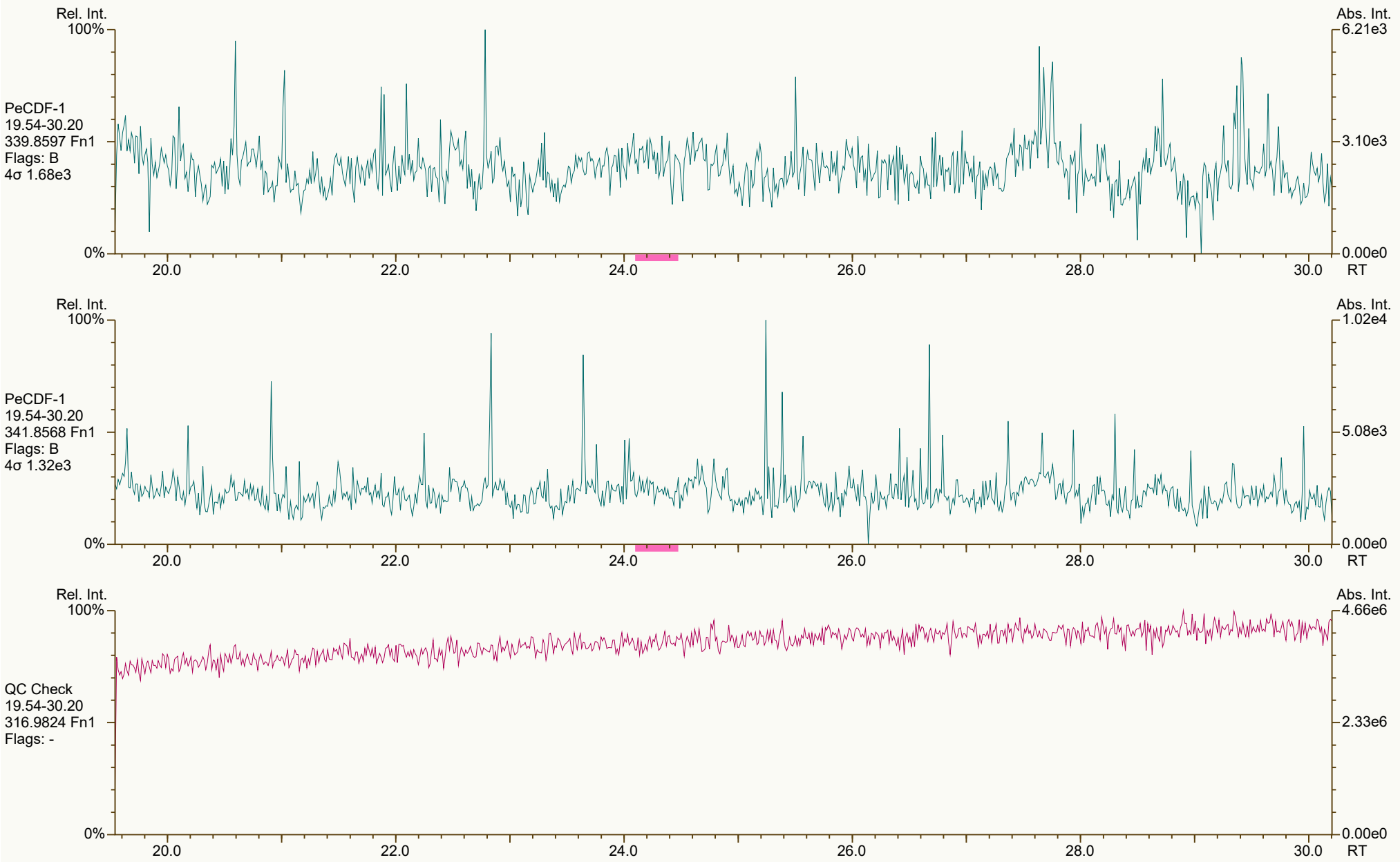

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.37e3
3.69e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: B
4σ 1.59e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 3.68e3
0%
CS 12347D
1.54e7*
33.13
ES 12378D
1.67e7*
33.63
Abs. Int.
4.64e6
2.32e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 1.83e3
0%
CS 12347D
9.55e6*
33.13
ES 12378D
1.05e7*
33.63
Abs. Int.
2.92e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

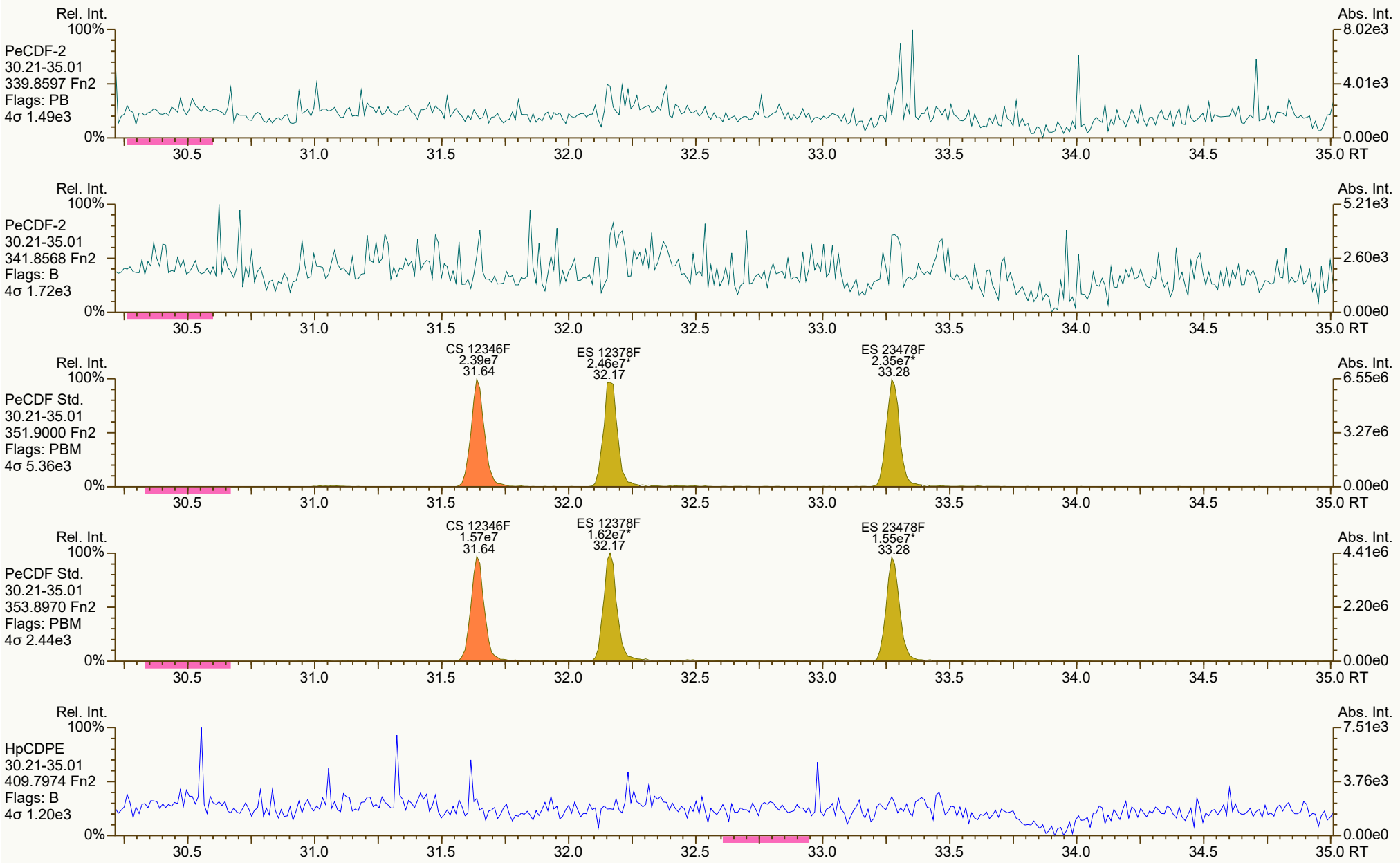

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: B
4σ 1.43e3
0%
Abs. Int.
9.15e3
4.58e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: B
4σ 1.51e3
0%
Abs. Int.
6.28e3
3.14e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 2.25e3
0%
ES 123478D
1.32e7
37.60
ES 123678D
1.48e7
37.72
JS 123467D
7.17e6*
37.94
ES 123789D
1.42e7*
38.04
Abs. Int.
4.08e6
2.04e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.65e3
0%
ES 123478D
1.04e7
37.60
ES 123678D
1.17e7
37.72
JS 123467D
5.34e6*
37.94
ES 123789D
1.11e7
38.04
Abs. Int.
3.29e6
1.65e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.65e7
8.24e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

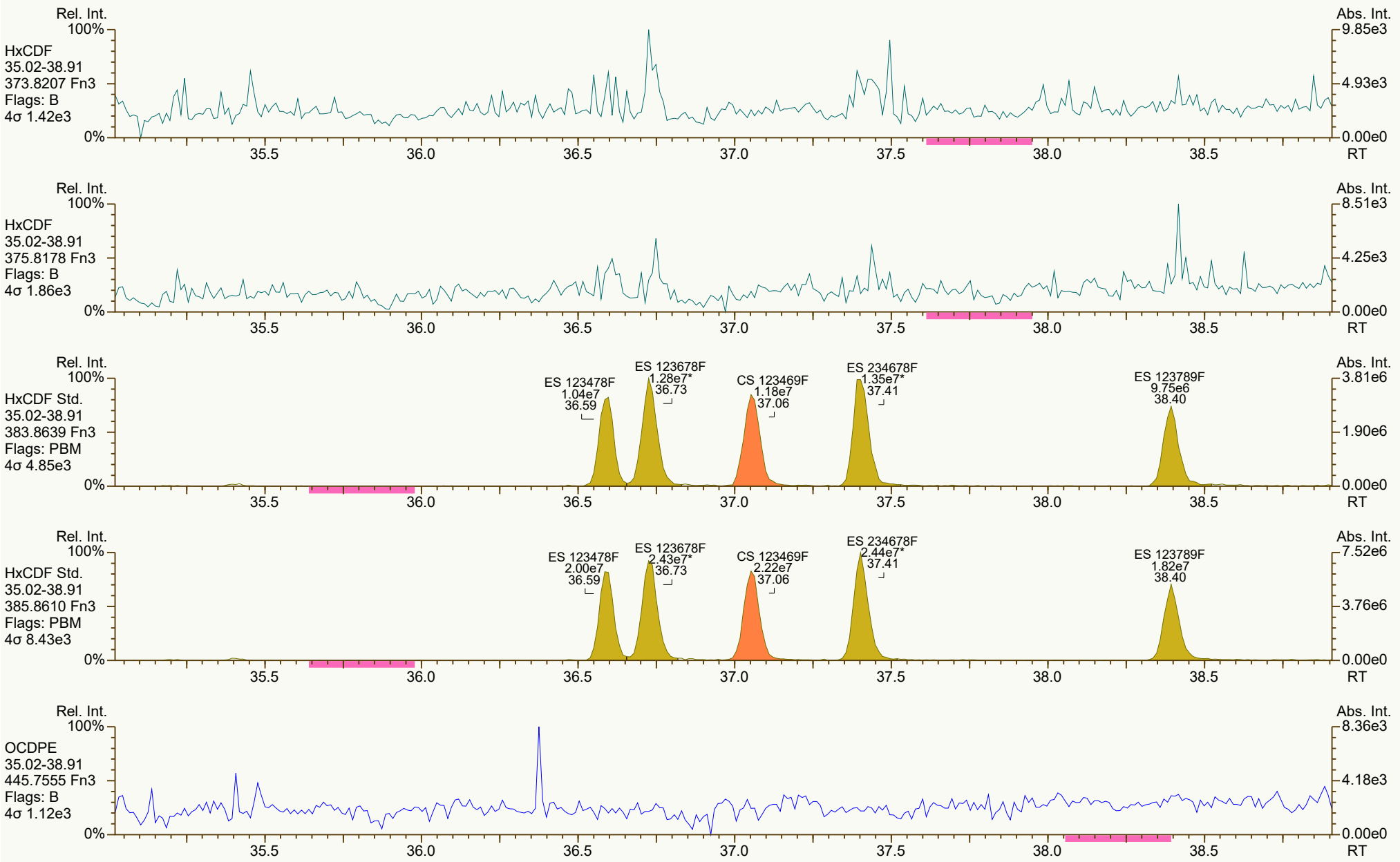

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
7.77e3
3.88e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
8.89e3
4.44e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
ES 1234678D
1.07e7*
40.82
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
2.96e6
1.48e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
ES 1234678D
1.00e7*
40.82
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 2.46e3
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.75e6
4.87e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

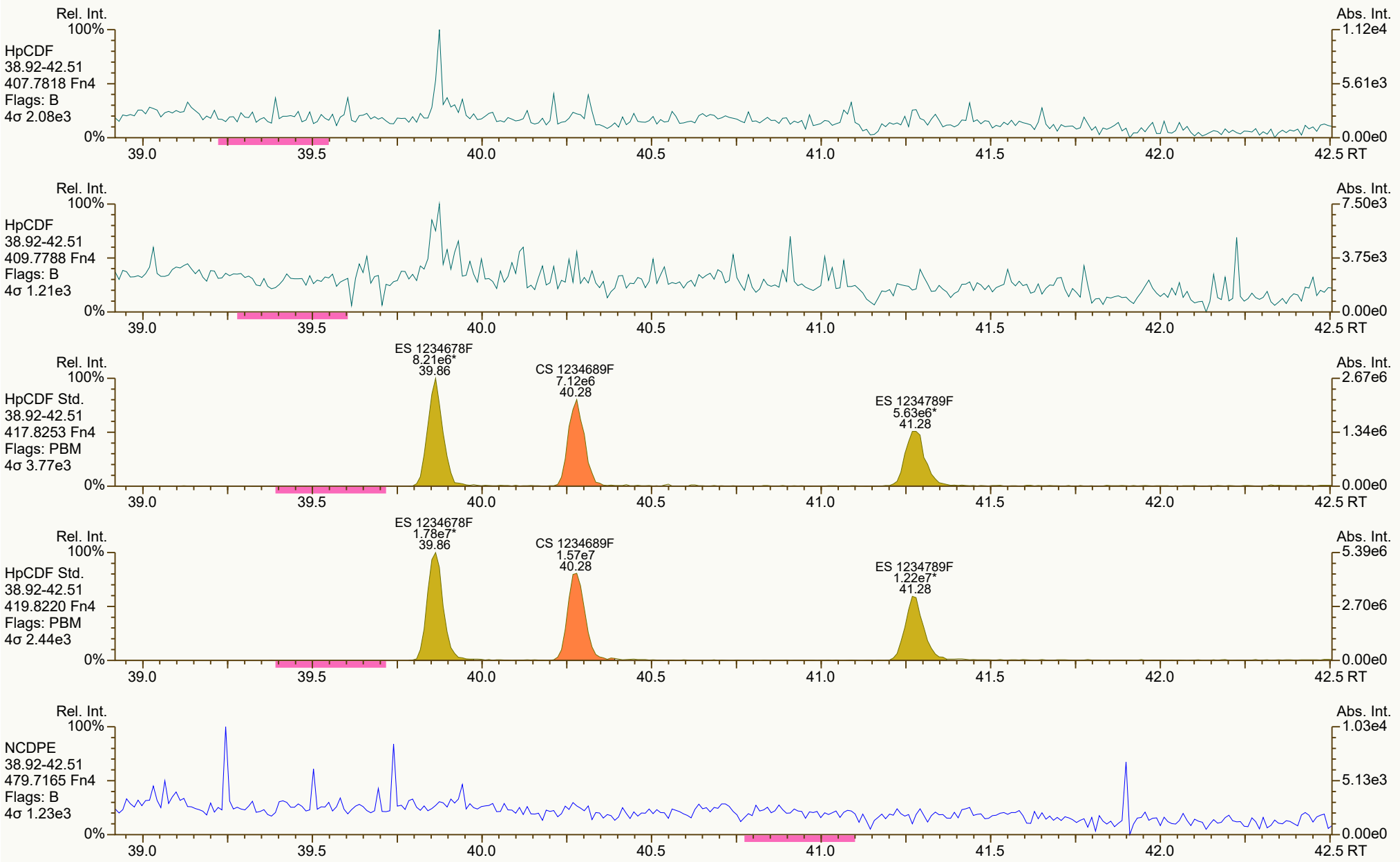

Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
7.21e3
3.60e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.81e3
0%
ES OCDD
8.69e6*
43.61
Abs. Int.
1.58e6
7.90e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 1.72e3
0%
ES OCDD
9.68e6*
43.61
Abs. Int.
1.71e6
8.55e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.07e6
4.54e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

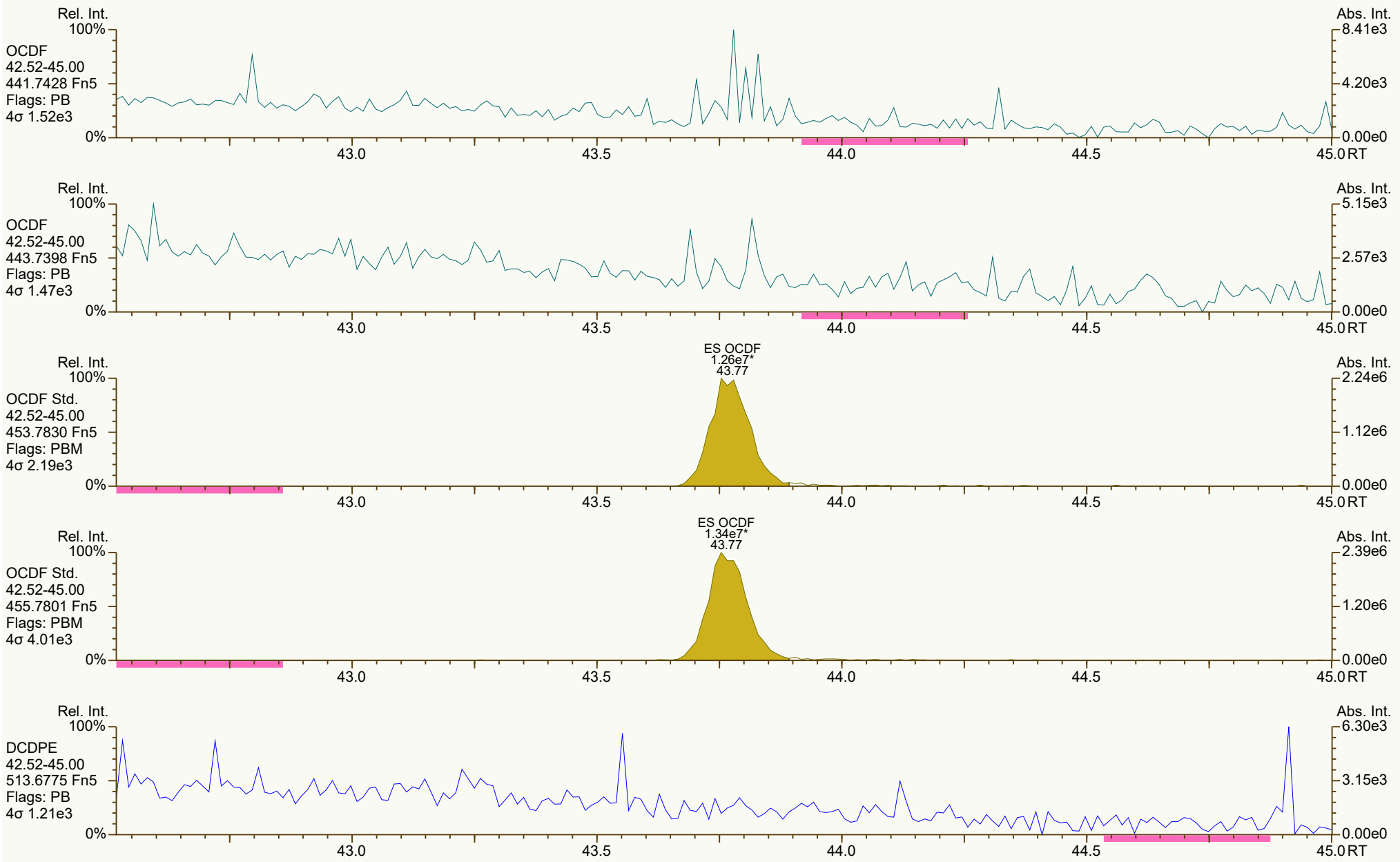

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.49e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.26e3
0%
Abs. Int.
7.11e3
3.55e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.99e3
0%
JS 1234F
2.30e7
25.97
ES 2378F
2.17e7
27.32
Abs. Int.
5.08e6
2.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.20e3
0%
JS 1234F
2.91e7
25.97
ES 2378F
2.76e7
27.32
Abs. Int.
6.51e6
3.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
8.41e3
4.21e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
6.21e3
3.10e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PB
4σ 1.49e3
8.02e3
4.01e3
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: B
4σ 1.72e3
5.21e3
2.60e3
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 5.36e3
CS 12346F
2.39e7
31.64
ES 12378F
2.46e7*
32.17
ES 23478F
2.35e7*
33.28
6.55e6
3.27e6
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.44e3
CS 12346F
1.57e7
31.64
ES 12378F
1.62e7*
32.17
ES 23478F
1.55e7*
33.28
4.41e6
2.20e6
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.20e3
7.51e3
3.76e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: B
4σ 1.42e3
0%
Abs. Int.
9.85e3
4.93e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: B
4σ 1.86e3
0%
Abs. Int.
8.51e3
4.25e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 4.85e3
0%
ES 123478F
1.04e7
36.59
ES 123678F
1.28e7*
36.73
CS 123469F
1.18e7
37.06
ES 234678F
1.35e7*
37.41
ES 123789F
9.75e6
38.40
Abs. Int.
3.81e6
1.90e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 8.43e3
0%
ES 123478F
2.00e7
36.59
ES 123678F
2.43e7*
36.73
CS 123469F
2.22e7
37.06
ES 234678F
2.44e7*
37.41
ES 123789F
1.82e7
38.40
Abs. Int.
7.52e6
3.76e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.12e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: B
4σ 1.21e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 3.77e3
0%
ES 1234678F
8.21e6*
39.86
CS 1234689F
7.12e6
40.28
ES 1234789F
5.63e6*
41.28
Abs. Int.
2.67e6
1.34e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.44e3
0%
ES 1234678F
1.78e7*
39.86
CS 1234689F
1.57e7
40.28
ES 1234789F
1.22e7*
41.28
Abs. Int.
5.39e6
2.70e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.23e3
0%
Abs. Int.
1.03e4
5.13e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
8.41e3
4.20e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.47e3
0%
Abs. Int.
5.15e3
2.57e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.19e3
0%
ES OCDF
1.26e7*
43.77
Abs. Int.
2.24e6
1.12e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 4.01e3
0%
ES OCDF
1.34e7*
43.77
Abs. Int.
2.39e6
1.20e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.21e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6152_18822_DF_001 **Acq'd:** 15 Jan 2022 01:42 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-S-28 **UTP:** 15-Jan-2022 10:34:32 MLS **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 441-478-BWY

Datafile: 220114C23 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22		1.0008	1.0008	0	1.70E+06	0.77	Y	1.18	9.86	4006.253	0.256
12378-PeCDD	33.65	J	1.0006	1.0005	-0.2	1.23E+05	1.58	Y	1.04	0.894	4528.231	0.295
123478-HxCDD	37.62	J EMPC	1.0004	1.0003	-0.2	1.12E+05	1.76	N	1.09	0.897	5391.796	0.373
123678-HxCDD	37.75	EMPC	1.0036	1.0036	0	4.81E+05	0.99	N	1.15	3.42	5391.796	0.354
123789-HxCDD	38.06		1.0118	1.0118	0	3.25E+05	1.27	Y	1.05	2.47	5391.796	0.37
1234678-HpCDD	40.84		1.0003	1.0003	0	1.04E+07	1.04	Y	1.06	94	3211.46	0.25
OCDD	43.62		1.0003	1.0003	0	1.09E+08	0.90	Y	1.13	1,950	3715.373	0.868
2378-TCDF	27.35		1.0008	1.0008	0	6.13E+06	0.78	Y	1.08	25.2	3718.377	0.171
12378-PeCDF	32.19	J EMPC	1.0006	1.0005	-0.2	3.10E+05	1.25	N	1.02	1.54	4402.479	0.194
23478-PeCDF	33.31	J EMPC	1.0006	1.0008	+0.4	4.12E+05	1.79	N	1.02	2.16	4402.479	0.188
123478-HxCDF	36.62		1.0005	1.0004	-0.2	7.34E+05	1.31	Y	1.27	3.91	4802.49	0.207
123678-HxCDF	36.76	J	1.0004	1.0005	+0.2	2.73E+05	1.35	Y	1.15	1.34	4802.49	0.211
234678-HxCDF	37.44	J EMPC	1.0005	1.0005	0	2.37E+05	1.46	N	1.19	1.27	4802.49	0.21
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4802.49	0.266
1234678-HpCDF	39.88		1.0003	1.0003	0	2.33E+06	1.04	Y	1.37	14.9	3158.815	0.17
1234789-HpCDF	41.30	J EMPC	1.0003	1.0002	-0.2	1.86E+05	0.73	N	1.31	1.48	3158.815	0.242
OCDF	43.78		1.0003	1.0003	0	6.36E+06	0.85	Y	1.07	81.7	4717.156	0.859

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20		1.0231	1.0232	+0.2	2.86E+07	0.82	Y	1.05	71.5
ES 12378-PeCDD	33.64		1.2198	1.2204	+1.2	2.61E+07	1.55	Y	0.88	77.5
ES 123478-HxCDD	37.61		0.9913	0.9912	-0.2	2.24E+07	1.27	Y	0.97	79.8
ES 123678-HxCDD	37.73		0.9944	0.9944	0	2.40E+07	1.29	Y	0.94	87.9
ES 123789-HxCDD	38.04		1.0026	1.0026	0	2.46E+07	1.22	Y	1.09	78
ES 1234678-HpCDD	40.83		1.0760	1.0761	+0.2	2.04E+07	1.03	Y	0.91	77.2
ES OCDD	43.61		1.1489	1.1493	+1.0	1.94E+07	0.92	Y	0.62	53.8
ES 2378-TCDF	27.32		1.0515	1.0517	+0.3	4.41E+07	0.80	Y	1.06	68.1
ES 12378-PeCDF	32.17		1.2378	1.2384	+1.2	3.85E+07	1.56	Y	0.91	69.1
ES 23478-PeCDF	33.28		1.2804	1.2811	+1.4	3.67E+07	1.51	Y	0.88	67.8
ES 123478-HxCDF	36.61		0.9647	0.9648	+0.2	2.90E+07	0.53	Y	1.20	83.6
ES 123678-HxCDF	36.74		0.9684	0.9684	0	3.47E+07	0.54	Y	1.35	88.8
ES 234678-HxCDF	37.42		0.9861	0.9861	0	3.09E+07	0.52	Y	1.24	85.9
ES 123789-HxCDF	38.40		1.0120	1.0121	+0.2	2.71E+07	0.52	Y	1.16	81.1
ES 1234678-HpCDF	39.87		1.0506	1.0509	+0.7	2.23E+07	0.48	Y	0.97	79.7
ES 1234789-HpCDF	41.29		1.0879	1.0883	+1.0	1.89E+07	0.43	Y	0.85	76.7
ES OCDF	43.77		1.1534	1.1536	+0.5	2.85E+07	0.90	Y	0.81	61

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Datafile: 220114C23 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.83E+07	0.83	Y	-	-
JS 1234-TCDF	25.98		-	-	-	6.12E+07	0.78	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.45E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0238	1.0241	+0.5	1.38E+07	n/a	-	1.20	75.2
CS 12347-PeCDD	33.14		1.2018	1.2024	+1.2	2.38E+07	1.62	Y	0.75	82.5
CS 12346-PeCDF	31.65		1.2178	1.2183	+0.9	3.56E+07	1.48	Y	0.85	68.4
CS 123469-HxCDF	37.06		0.9768	0.9767	-0.2	2.92E+07	0.53	Y	1.12	90.4
CS 1234689-HpCDF	40.28		1.0615	1.0615	0	2.18E+07	0.46	Y	0.89	84.9
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~1.38E+07~~	~~n/a~~		~~1.15~~	~~105~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2024~~	~~+1.2~~	~~2.38E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2183~~	~~+0.9~~	~~3.56E+07~~	~~1.48~~	~~Y~~	~~0.94~~	~~98.8~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~2.92E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~102~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0615~~	~~1.0615~~	~~0~~	~~2.18E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	11.5	12.1
Total PeCDD	4.82	6.2
Total HxCDD	36.2	40.6
Total HpCDD	232	232
Total Tetra-Octa Dioxins	2230	2240
Total TCDF	51.6	59.7
Total PeCDF	14.4	18.4
Total HxCDF	21.6	23.9
Total HpCDF	39.1	40.6
Total Tetra-Octa Furans	208	224
Total Tetra-Octa Dioxins & Furans	2440	2460

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.765	0.77
Response	1.71E+06	1.70E+06

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Client ID: 11215131-010622-S-BN-SW-S-28 **UTP:** 15-Jan-2022 10:34:32 MLS **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 441-478-BWY

Datafile: 220114C23 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.57	EMPC	0.8733	0.8712	-3.1	9.55E+04	1.17	N	1.18	0.552	4006.253	0.256
1379-TCDD	NotFnd		0.8860						1.18		4006.253	0.256
1369-TCDD	NotFnd		0.9009						1.18		4006.253	0.256
1469-TCDD	26.14		0.9282	0.9270	-1.9	1.60E+05	0.77	Y	1.18	0.924	4006.253	0.256
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		4006.253	0.256
1378-TCDD	NotFnd		0.9429						1.18		4006.253	0.256
1268-TCDD	NotFnd		0.9500						1.18		4006.253	0.256
1478-TCDD	NotFnd		0.9584						1.18		4006.253	0.256
1279-TCDD	NotFnd		0.9648						1.18		4006.253	0.256
1234/1269-TCDD	NotFnd		0.9770						1.18		4006.253	0.256
1236-TCDD	NotFnd		0.9821						1.18		4006.253	0.256
1237/1238-TCDD	NotFnd		0.9909						1.18		4006.253	0.256
1239-TCDD	NotFnd		0.9959						1.18		4006.253	0.256
2378-TCDD	**28.22**		**1.0008**	1.0008	**0**	1.70E+06	0.77	Y	**1.18**	**9.86**	**4006.253**	**0.256**
1278-TCDD	28.57		1.0123	1.0129	+1.0	1.31E+05	0.73	Y	1.18	0.756	4006.253	0.256
1267-TCDD	NotFnd		1.0172						1.18		4006.253	0.256
1289-TCDD	NotFnd		1.0354						1.18		4006.253	0.256
12479/12468-PeCDD	31.14	J	0.9267	0.9259	-1.5	2.01E+05	1.64	Y	1.04	1.46	4528.231	0.295
12469-PeCDD	31.68	J	0.9426	0.9420	-1.1	1.90E+05	1.35	Y	1.04	1.38	4528.231	0.295
12368-PeCDD	32.25	J EMPC	0.9587	0.9587	0	9.99E+04	1.89	N	1.04	0.725	4528.231	0.295
12478-PeCDD	32.43	J	0.9642	0.9641	-0.2	8.50E+04	1.51	Y	1.04	0.617	4528.231	0.295
12379-PeCDD	32.53	J	0.9674	0.9673	-0.2	6.52E+04	1.36	Y	1.04	0.473	4528.231	0.295
12369/12467/12489-PeCDD	32.79	J EMPC	0.9752	0.9749	-0.6	8.94E+04	1.09	N	1.04	0.649	4528.231	0.295
12346/12347-PeCDD	NotFnd		0.9861						1.04		4528.231	0.295
12378-PeCDD	33.65	J	**1.0006**	**1.0005**	**-0.2**	**1.23E+05**	**1.58**	**Y**	**1.04**	**0.894**	**4528.231**	**0.295**
12367-PeCDD	NotFnd		1.0036						1.04		4528.231	0.295
12389-PeCDD	NotFnd		1.0139						1.04		4528.231	0.295
124679/124689-HxCDD	35.89		0.9541	0.9544	+0.6	2.02E+06	1.33	Y	1.10	15.2	5391.796	0.365
123468-HxCDD	36.55	J	0.9715	0.9718	+0.7	2.60E+05	1.25	Y	1.10	1.96	5391.796	0.365
123679/123689-HxCDD	36.84		0.9793	0.9796	+0.7	1.90E+06	1.21	Y	1.10	14.4	5391.796	0.365
123469-HxCDD	36.97	J	0.9831	0.9831	0	1.80E+05	1.20	Y	1.10	1.36	5391.796	0.365
123478-HxCDD	37.62	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.12E+05**	**1.76**	**N**	1.09	**0.897**	**5391.796**	**0.373**
123678-HxCDD	37.75	EMPC	**1.0036**	**1.0036**	**0**	**4.81E+05**	**0.99**	**N**	1.15	**3.42**	**5391.796**	**0.354**
123467-HxCDD	37.96	J	1.0089	1.0092	+0.7	1.04E+05	1.42	Y	1.10	0.79	5391.796	0.365
123789-HxCDD	38.06		**1.0118**	**1.0118**	**0**	**3.25E+05**	**1.27**	**Y**	1.05	**2.47**	**5391.796**	**0.37**

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Client ID: 11215131-010622-S-BN-SW-S-28 | UTP: 15-Jan-2022 10:34:32 MLS | J-level: 0.49 pg/g | Split: 1 | Checkcode: 441-478-BWY

Datafile: 220114C23 | Report: 15 Jan 2022 10:40 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

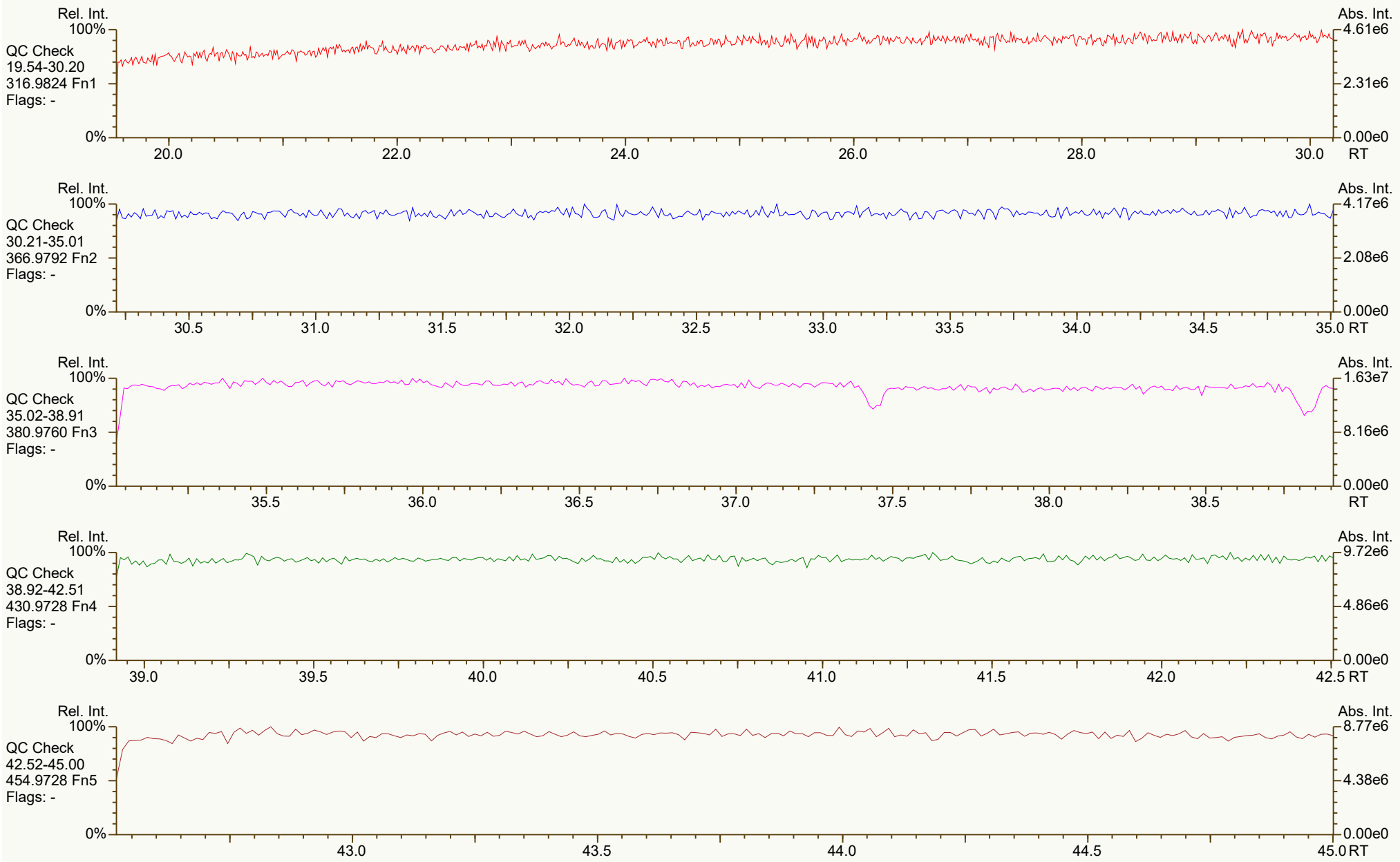
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9834	-0.2	1.52E+07	1.03	Y	1.06	138	3211.46	0.25
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.04E+07**	**1.04**	**Y**	**1.06**	**94**	**3211.46**	**0.25**
OCDD	**43.62**		**1.0003**	**1.0003**	**0**	**1.09E+08**	**0.90**	**Y**	**1.13**	**1,950**	**3715.373**	**0.868**
OCDD-a	43.62		1.0002	1.0002	0	6.95E+06	2.40	Y	0.07	1,950	3788.684	13.8
1368-TCDF	NotFnd		0.8250						1.08		3718.377	0.171
1468-TCDF	NotFnd		0.8494						1.08		3718.377	0.171
2468-TCDF	23.65		0.8684	0.8654	-4.3	3.21E+05	0.81	Y	1.08	1.32	3718.377	0.171
1346/1246-TCDF	NotFnd		0.8815						1.08		3718.377	0.171
1347/1378/1247-TCDF	24.16		0.8867	0.8844	-3.3	3.84E+05	0.83	Y	1.08	1.58	3718.377	0.171
1348-TCDF	NotFnd		0.8966						1.08		3718.377	0.171
1248/1367/1379-TCDF	24.54		0.9012	0.8980	-4.7	4.42E+05	0.84	Y	1.08	1.82	3718.377	0.171
1268-TCDF	24.96		0.9148	0.9134	-2.1	2.25E+05	0.87	Y	1.08	0.928	3718.377	0.171
1467-TCDF	25.08	J	0.9197	0.9179	-2.7	1.09E+05	0.68	Y	1.08	0.449	3718.377	0.171
1478-TCDF	25.25		0.9258	0.9240	-2.7	3.32E+05	0.84	Y	1.08	1.37	3718.377	0.171
1369/1237-TCDF	25.63		0.9390	0.9380	-1.5	1.35E+05	0.88	Y	1.08	0.555	3718.377	0.171
2467-TCDF	NotFnd		0.9435						1.08		3718.377	0.171
2368-TCDF	25.90		0.9488	0.9480	-1.2	5.48E+05	0.77	Y	1.08	2.26	3718.377	0.171
1238/1234/1678/1469/1236-TCDF	26.00	EMPC	0.9527	0.9514	-2.0	3.00E+05	0.64	N	1.08	1.24	3718.377	0.171
1278-TCDF	26.46		0.9689	0.9684	-0.8	2.38E+06	0.78	Y	1.08	9.8	3718.377	0.171
1349-TCDF	NotFnd		0.9730						1.08		3718.377	0.171
1267-TCDF	26.74		0.9787	0.9784	-0.5	2.62E+05	0.72	Y	1.08	1.08	3718.377	0.171
2346/1249-TCDF	NotFnd		0.9856						1.08		3718.377	0.171
2347/1279-TCDF	27.15		0.9934	0.9935	+0.2	1.56E+05	0.75	Y	1.08	0.644	3718.377	0.171
2348-TCDF	27.23	EMPC	0.9972	0.9966	-1.0	2.95E+05	0.96	N	1.08	1.21	3718.377	0.171
2378-TCDF	**27.35**		**1.0008**	**1.0008**	**0**	**6.13E+06**	**0.78**	**Y**	**1.08**	**25.2**	**3718.377**	**0.171**
2367/3467-TCDF	27.71		1.0145	1.0143	-0.3	9.65E+05	0.81	Y	1.08	3.97	3718.377	0.171
1269-TCDF	27.96		1.0236	1.0234	-0.3	1.50E+05	0.77	Y	1.08	0.616	3718.377	0.171
1239-TCDF	NotFnd		1.0333						1.08		3718.377	0.171
1289-TCDF	29.37	EMPC	1.0740	1.0747	+1.2	1.37E+06	1.66	N	1.08	5.63	3718.377	0.171
13468/12468-PeCDF	29.38		0.9138	0.9131	-1.2	8.83E+05	1.60	Y	1.02	4.51	2875.931	0.125
13678/13467/12467-PeCDF	30.93	J	0.9614	0.9613	-0.2	2.22E+05	1.57	Y	1.02	1.13	4402.479	0.191
12368/13478/12478-PeCDF	31.08		0.9661	0.9660	-0.2	7.63E+05	1.42	Y	1.02	3.9	4402.479	0.191
14678-PeCDF	31.17	J	0.9693	0.9688	-0.9	1.83E+05	1.69	Y	1.02	0.932	4402.479	0.191
13479-PeCDF	NotFnd		0.9722						1.02		4402.479	0.191
13469/12479-PeCDF	NotFnd		0.9800						1.02		4402.479	0.191
12346-PeCDF	31.66	J	0.9844	0.9841	-0.6	4.15E+04	1.36	Y	1.02	0.212	4402.479	0.191

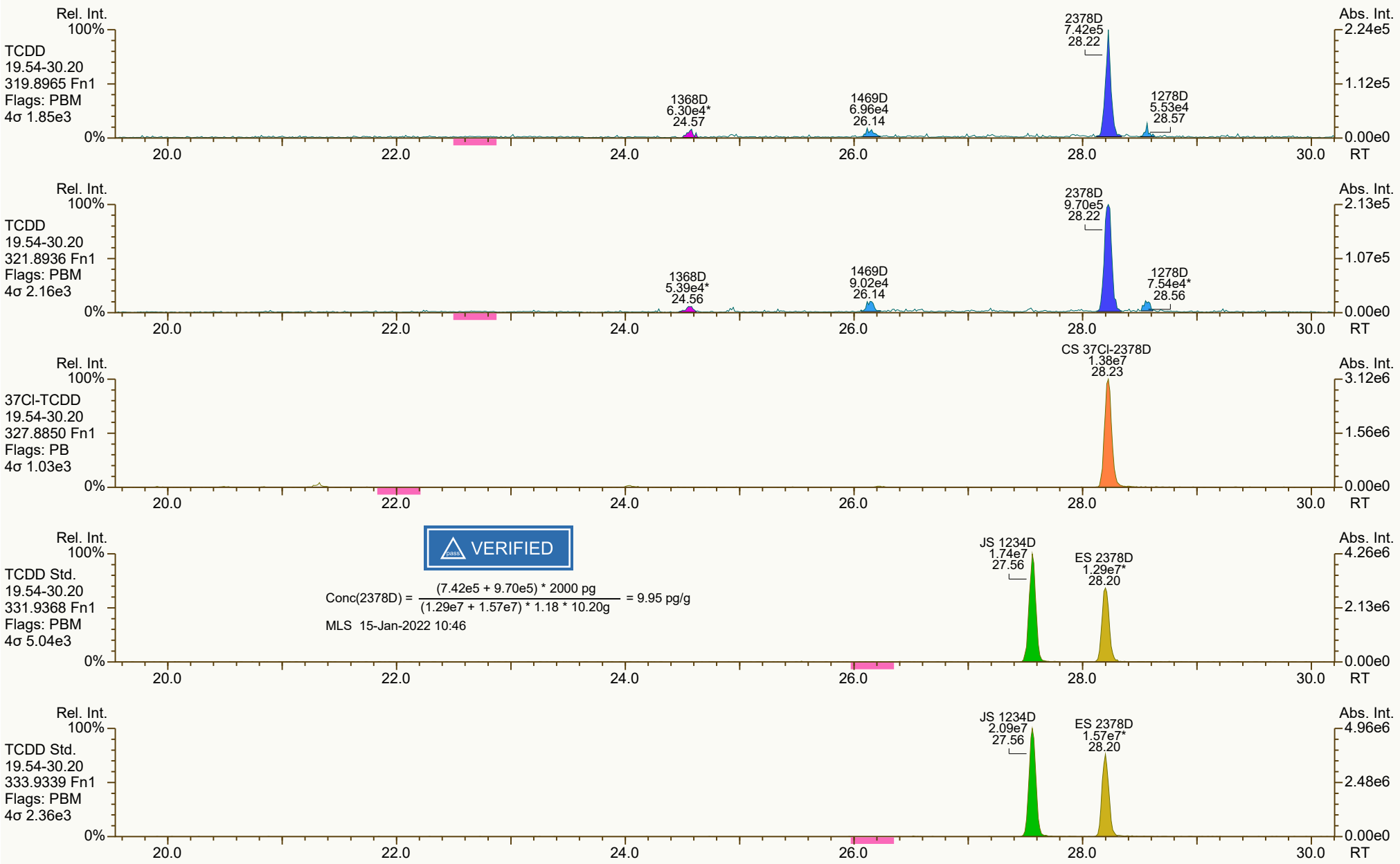
Lab ID: B6152_18822_DF_001 | Acq'd: 15 Jan 2022 01:42 DTF | Wt/Vol: 10.20 g | ICAL: HRMS3_DF_10272021 10NOV2021

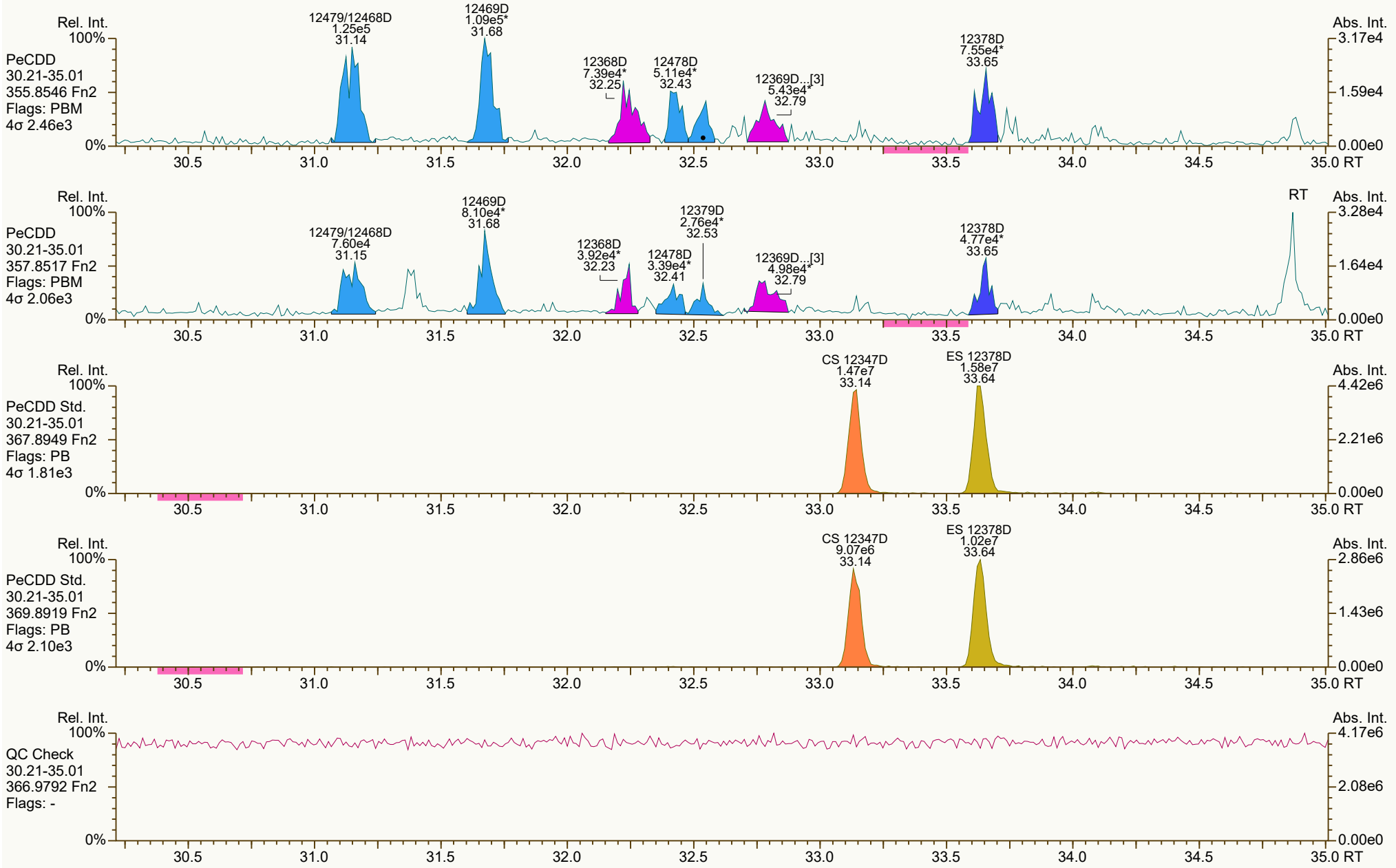
Client ID: 11215131-010622-S-BN-SW-S-28 | UTP: 15-Jan-2022 10:34:32 MLS | J-level: 0.49 pg/g | Split: 1 | Checkcode: 441-478-BWY

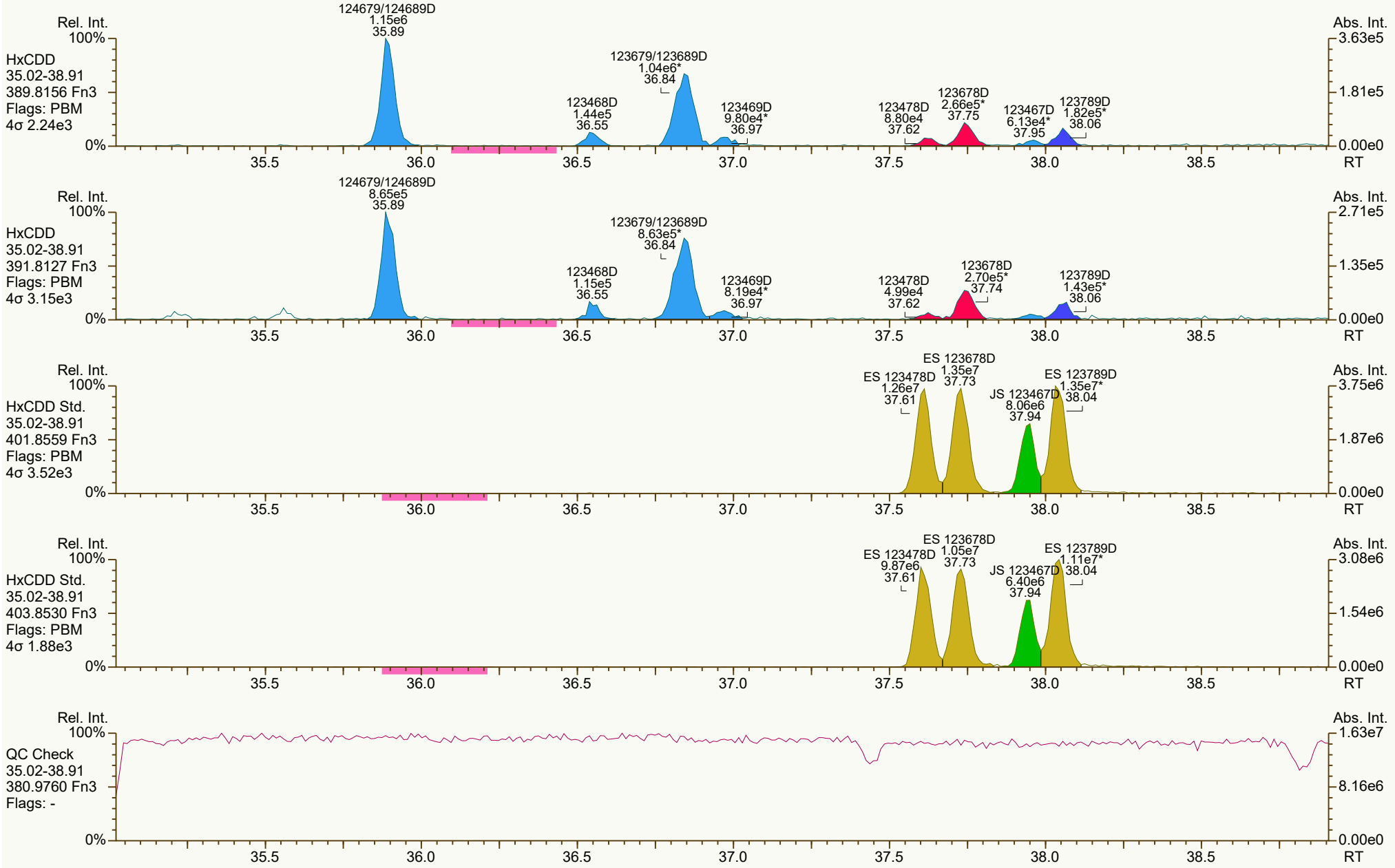
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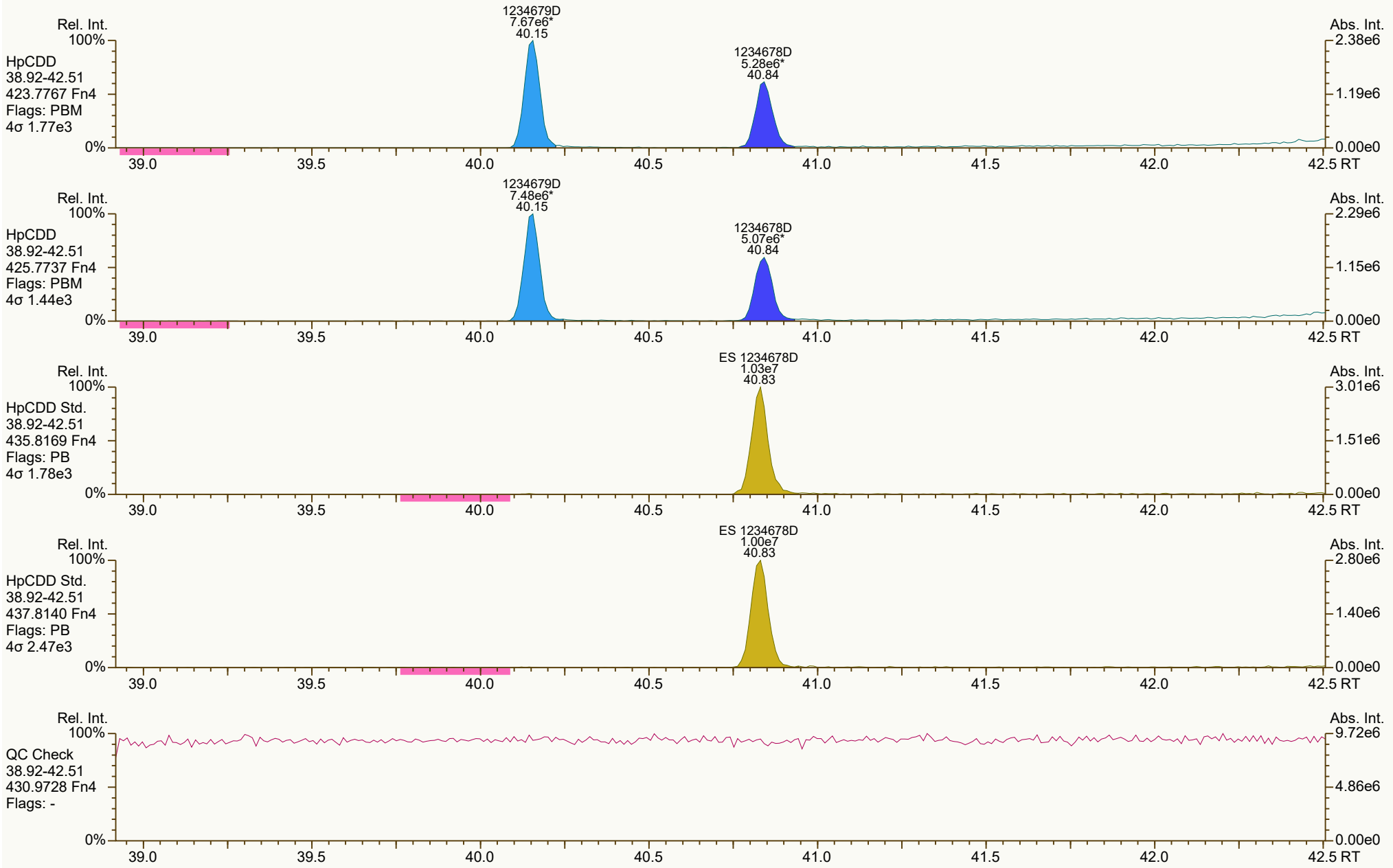
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74	J	0.9865	0.9864	-0.2	2.04E+05	1.45	Y	1.02	1.04	4402.479	0.191
12347-PeCDF	31.81	J EMPC	0.9890	0.9888	-0.4	6.83E+04	2.42	N	1.02	0.349	4402.479	0.191
12348-PeCDF	31.99	J	0.9942	0.9943	+0.2	1.03E+05	1.64	Y	1.02	0.527	4402.479	0.191
12378-PeCDF	**32.19**	J EMPC	**1.0006**	**1.0005**	**-0.2**	**3.10E+05**	**1.25**	**N**	**1.02**	**1.54**	**4402.479**	**0.194**
12678/12367-PeCDF	32.48	J	1.0090	1.0096	+1.2	2.83E+05	1.66	Y	1.02	1.45	4402.479	0.191
12379-PeCDF	NotFnd		1.0142						1.02		4402.479	0.191
12679-PeCDF	NotFnd		0.9933						1.02		4402.479	0.191
23467/12369-PeCDF	33.19	J	0.9969	0.9971	+0.4	1.36E+05	1.37	Y	1.02	0.694	4402.479	0.191
23478-PeCDF	**33.31**	J EMPC	**1.0006**	**1.0008**	**+0.4**	**4.12E+05**	**1.79**	**N**	**1.02**	**2.16**	**4402.479**	**0.188**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4402.479	0.191
12349-PeCDF	NotFnd		1.0107						1.02		4402.479	0.191
12389-PeCDF	NotFnd		1.0330						1.02		4402.479	0.191
123468-HxCDF	35.23	J	0.9627	0.9625	-0.4	3.44E+05	1.32	Y	1.19	1.86	4802.49	0.222
124678/134678-HxCDF	35.43		0.9682	0.9678	-0.9	1.36E+06	1.21	Y	1.19	7.32	4802.49	0.222
134679-HxCDF	NotFnd		0.9744						1.19		4802.49	0.222
124679-HxCDF	35.86	J EMPC	0.9798	0.9797	-0.2	4.00E+04	0.93	N	1.19	0.216	4802.49	0.222
124689-HxCDF	36.08		0.9858	0.9857	-0.2	1.26E+06	1.26	Y	1.19	6.8	4802.49	0.222
123467-HxCDF	36.50	J EMPC	0.9973	0.9972	-0.2	1.43E+05	1.03	N	1.19	0.772	4802.49	0.222
123478-HxCDF	**36.62**		**1.0005**	**1.0004**	**-0.2**	**7.34E+05**	**1.31**	**Y**	**1.27**	**3.91**	**4802.49**	**0.207**
123678-HxCDF	**36.76**	J	**1.0004**	**1.0005**	**+0.2**	**2.73E+05**	**1.35**	**Y**	**1.15**	**1.34**	**4802.49**	**0.211**
123479-HxCDF	NotFnd		1.0051						1.19		4802.49	0.222
123469-HxCDF	NotFnd		1.0093						1.19		4802.49	0.222
123679-HxCDF	NotFnd		0.9944						1.19		4802.49	0.222
234678-HxCDF	**37.44**	J EMPC	**1.0005**	**1.0005**	**0**	**2.37E+05**	**1.46**	**N**	**1.19**	**1.27**	**4802.49**	**0.21**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4802.49	0.222
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4802.49**	**0.266**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.45	J	1.0008	1.0013	+1.2	7.93E+04	1.19	Y	1.19	0.428	4802.49	0.222
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**2.33E+06**	**1.04**	**Y**	**1.37**	**14.9**	**3158.815**	**0.17**
1234679-HpCDF	40.15	**J**	1.0069	1.0070	+0.2	1.09E+05	1.18	Y	1.34	0.775	3158.815	0.202
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	3.29E+06	0.99	Y	1.34	23.4	3158.815	0.202
1234789-HpCDF	**41.30**	**J EMPC**	**1.0003**	**1.0002**	**-0.2**	**1.86E+05**	**0.73**	**N**	**1.31**	**1.48**	**3158.815**	**0.242**
OCDF	**43.78**		**1.0003**	**1.0003**	**0**	**6.36E+06**	**0.85**	**Y**	**1.07**	**81.7**	**4717.156**	**0.859**
OCDF-a	43.75	**EMPC**	1.0002	0.9995	-1.8	1.77E+05	1.81	N	0.07	36.6	3689.521	10.8

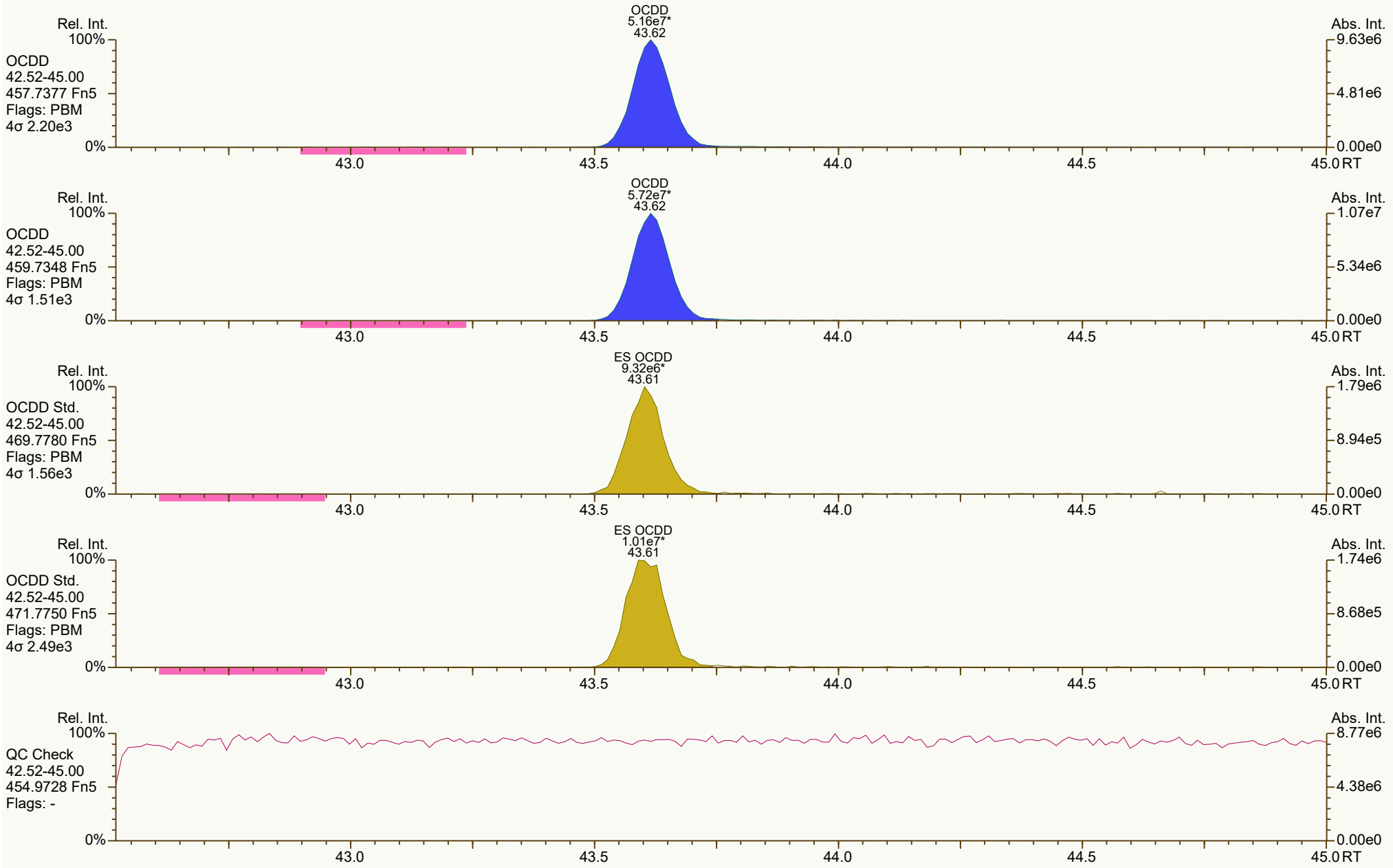

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.61e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.17e6
2.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.63e7
8.16e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.72e6
4.86e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.77e6
4.38e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

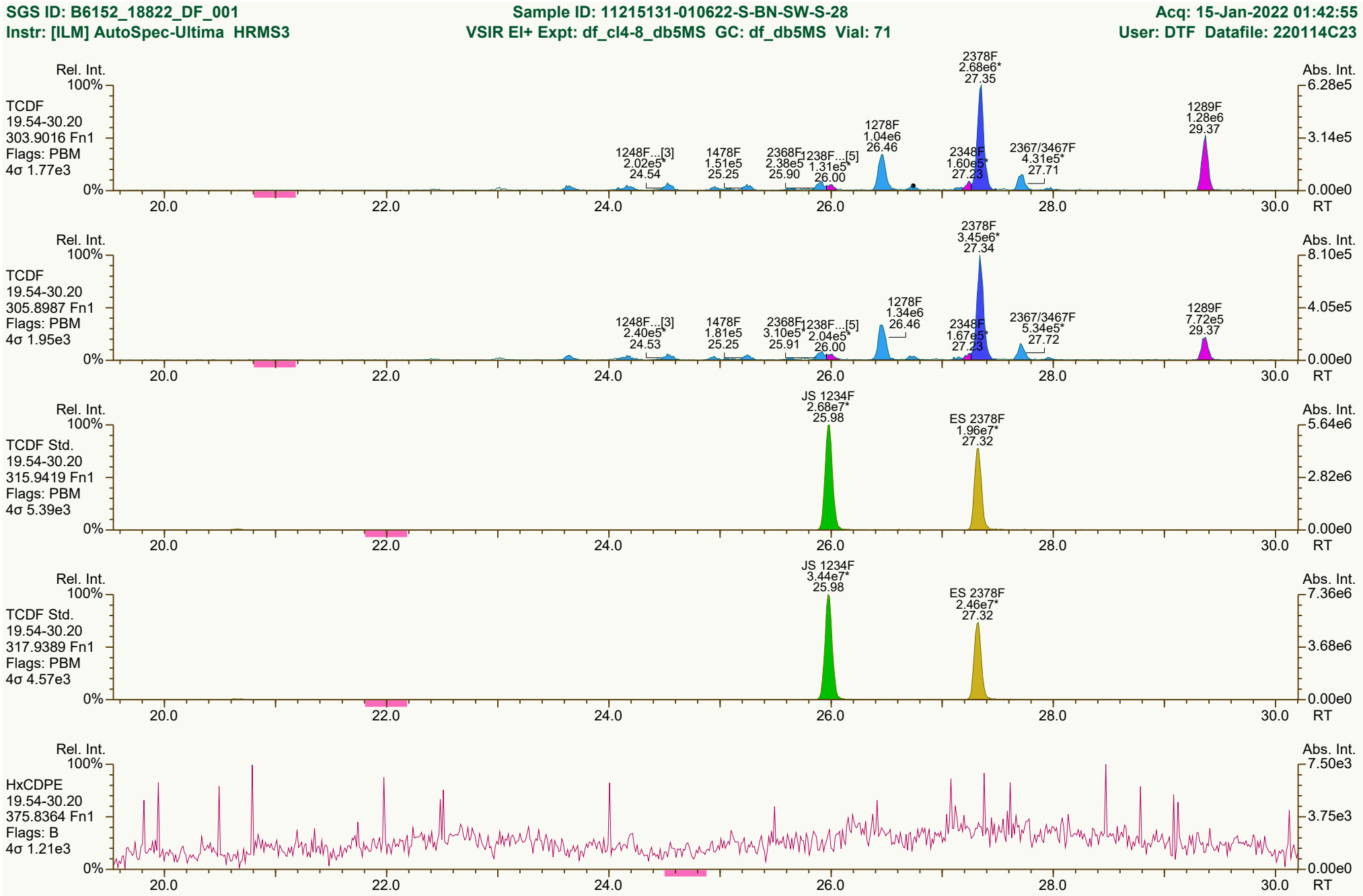

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.85e3
0%
2378D
7.42e5
28.22
1368D
6.30e4*
24.57
1469D
6.96e4
26.14
1278D
5.53e4
28.57
Abs. Int.
2.24e5
1.12e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.16e3
0%
2378D
9.70e5
28.22
1368D
5.39e4*
24.56
1469D
9.02e4
26.14
1278D
7.54e4*
28.56
Abs. Int.
2.13e5
1.07e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.03e3
0%
CS 37Cl-2378D
1.38e7
28.23
Abs. Int.
3.12e6
1.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.04e3
0%
VERIFIED
Conc(2378D) = (7.42e5 + 9.70e5) * 2000 pg / (1.29e7 + 1.57e7) * 1.18 * 10.20g = 9.95 pg/g
MLS 15-Jan-2022 10:46
JS 1234D
1.74e7
27.56
ES 2378D
1.29e7*
28.20
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.36e3
0%
JS 1234D
2.09e7
27.56
ES 2378D
1.57e7*
28.20
Abs. Int.
4.96e6
2.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

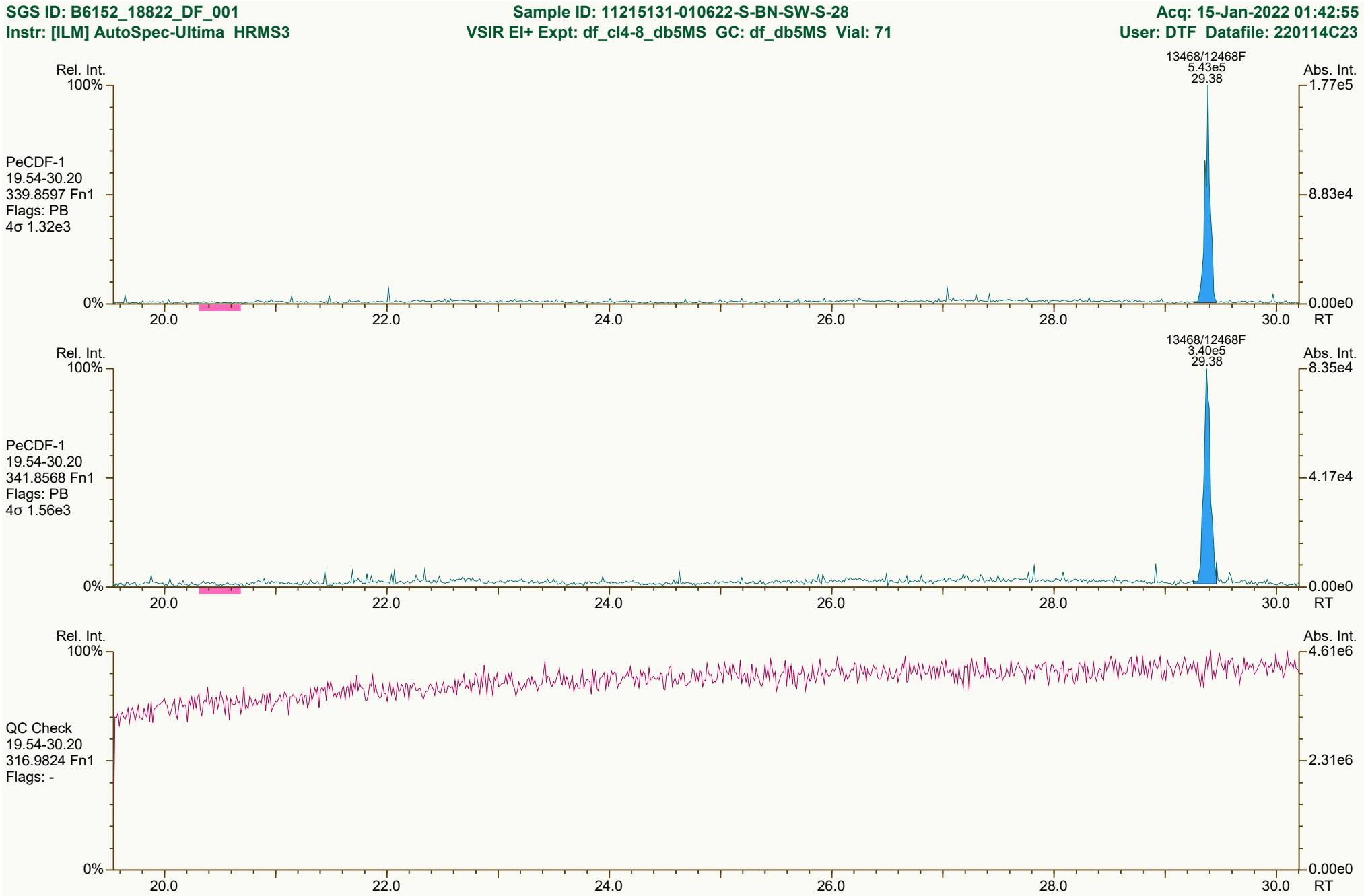

Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.46e3
12479/12468D 1.25e5 31.14
12469D 1.09e5* 31.68
12368D 7.39e4* 32.25
12478D 5.11e4* 32.43
12369D...[3] 5.43e4* 32.79
12378D 7.55e4* 33.65
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.06e3
12479/12468D 7.60e4 31.15
12469D 8.10e4* 31.68
12368D 3.92e4* 32.23
12379D 2.76e4* 32.53
12478D 3.39e4* 32.41
12369D...[3] 4.98e4* 32.79
12378D 4.77e4* 33.65
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.81e3
CS 12347D 1.47e7 33.14
ES 12378D 1.58e7 33.64
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.10e3
CS 12347D 9.07e6 33.14
ES 12378D 1.02e7 33.64
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

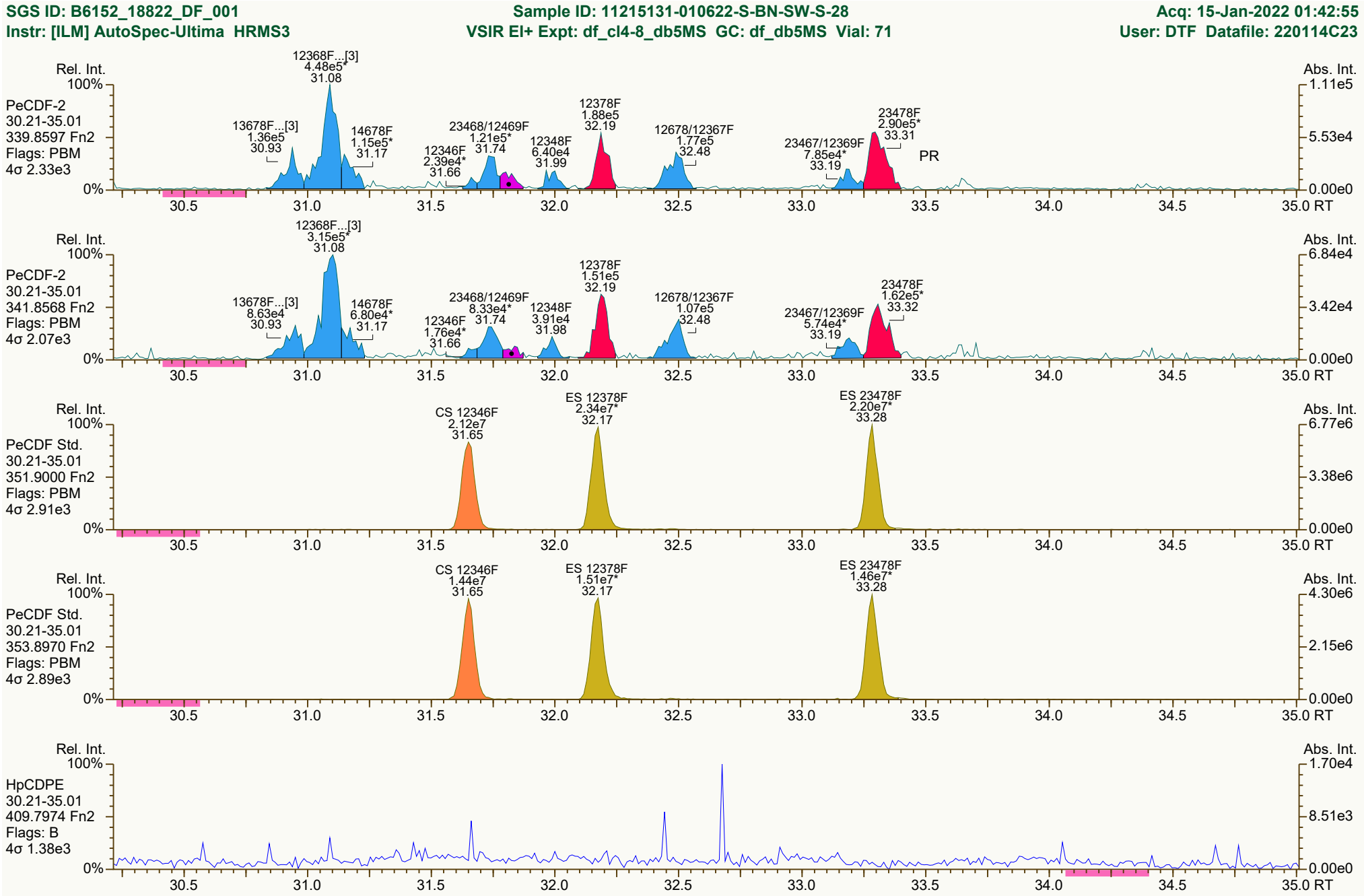

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.24e3
124679/124689D
1.15e6
35.89
123468D
1.44e5
36.55
123679/123689D
1.04e6*
36.84
123469D
9.80e4*
36.97
123478D
8.80e4
37.62
123678D
2.66e5*
37.75
123467D
6.13e4*
37.95
123789D
1.82e5*
38.06
Abs. Int.
3.63e5
1.81e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 3.15e3
124679/124689D
8.65e5
35.89
123468D
1.15e5
36.55
123679/123689D
8.63e5*
36.84
123469D
8.19e4*
36.97
123478D
4.99e4
37.62
123678D
2.70e5*
37.74
123789D
1.43e5*
38.06
Abs. Int.
2.71e5
1.35e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 3.52e3
ES 123678D
1.35e7
37.73
ES 123478D
1.26e7
37.61
JS 123467D
8.06e6
37.94
ES 123789D
1.35e7*
38.04
Abs. Int.
3.75e6
1.87e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.88e3
ES 123678D
1.05e7
37.73
ES 123478D
9.87e6
37.61
JS 123467D
6.40e6
37.94
ES 123789D
1.11e7*
38.04
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.63e7
8.16e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

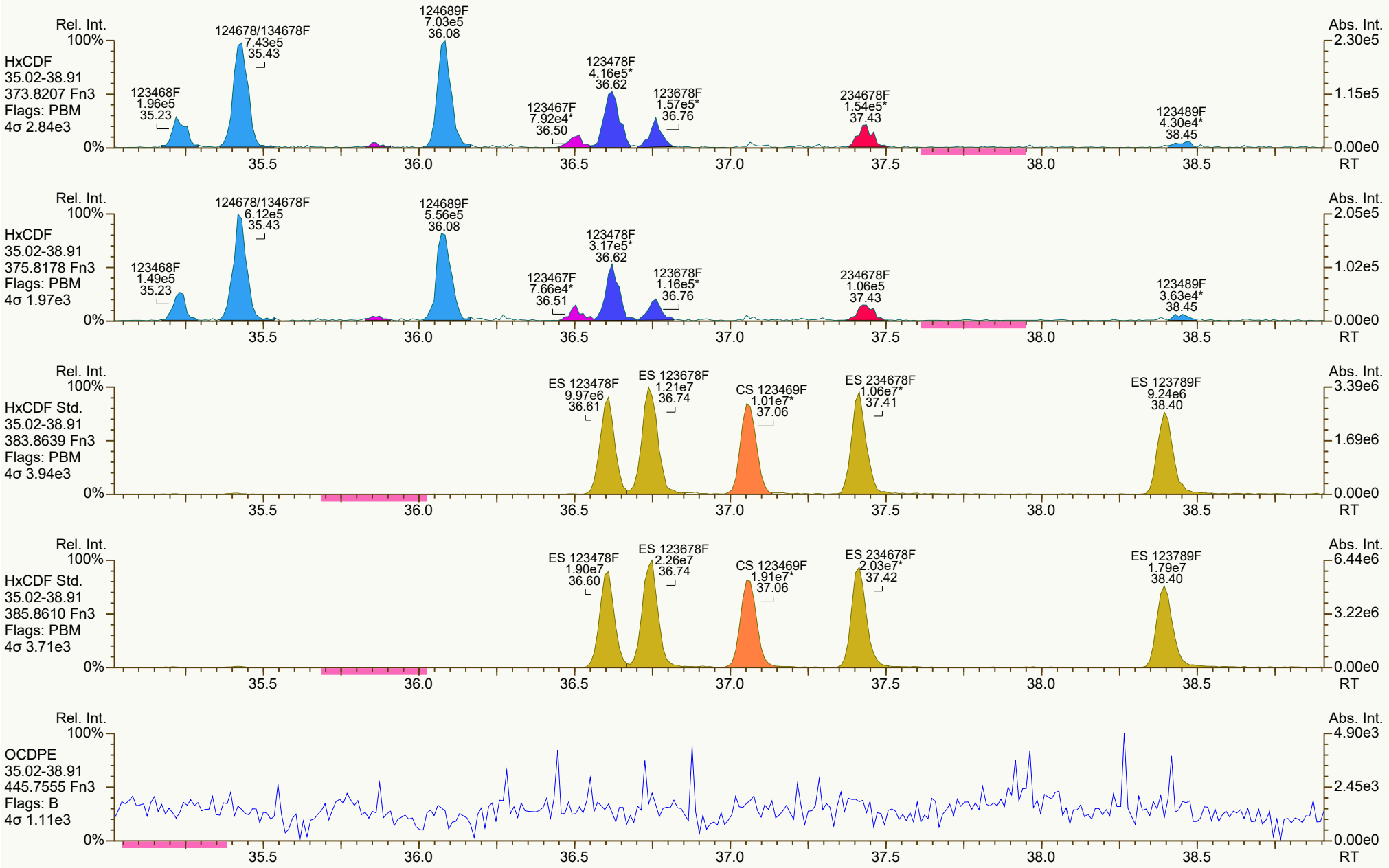

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.77e3
1234679D
7.67e6*
40.15
1234678D
5.28e6*
40.84
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.44e3
1234679D
7.48e6*
40.15
1234678D
5.07e6*
40.84
Abs. Int.
2.29e6
1.15e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.78e3
ES 1234678D
1.03e7
40.83
Abs. Int.
3.01e6
1.51e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.47e3
ES 1234678D
1.00e7
40.83
Abs. Int.
2.80e6
1.40e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
9.72e6
4.86e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

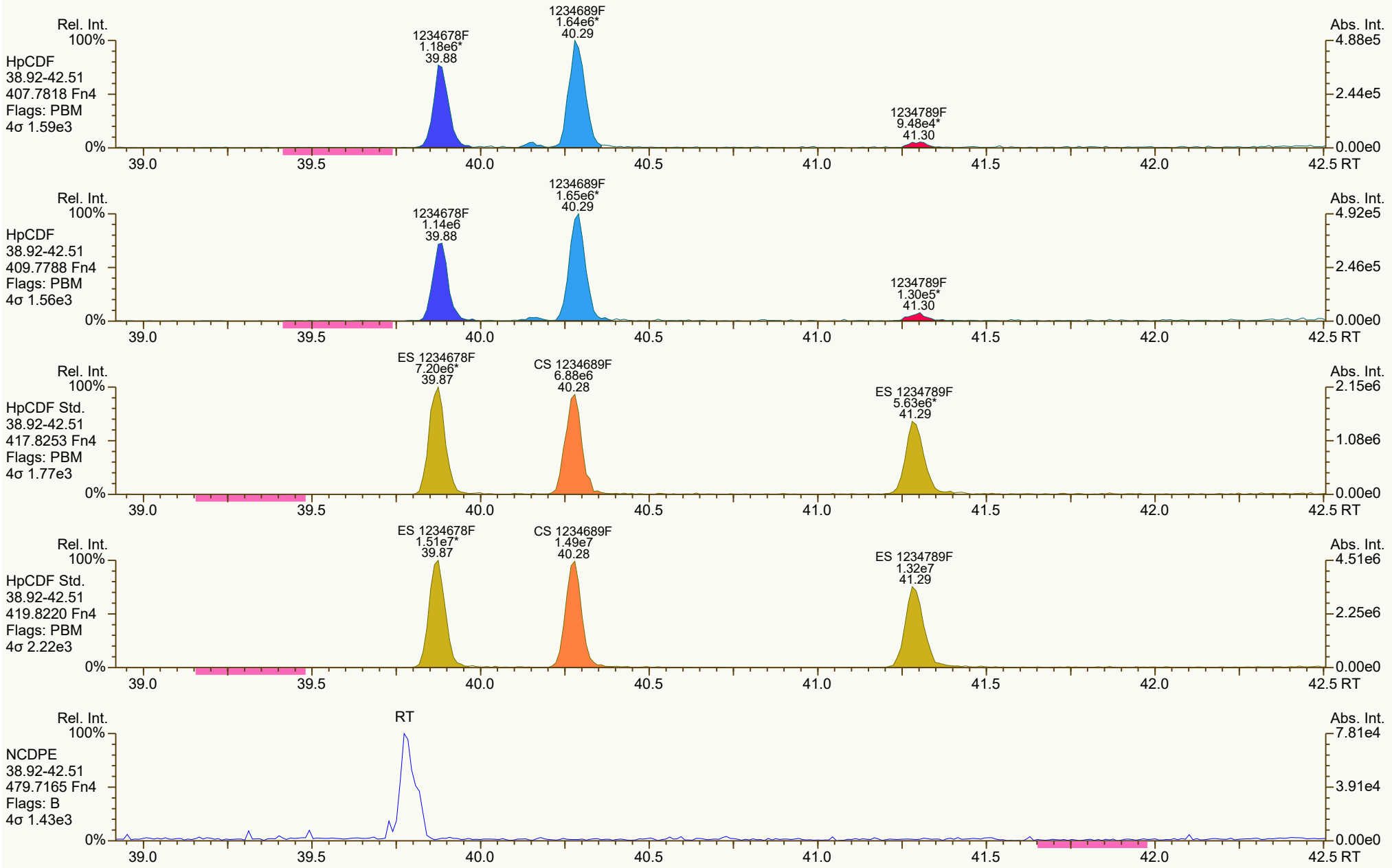

OCDD
5.16e7*
43.62
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.20e3
0%
Abs. Int.
9.63e6
4.81e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.72e7*
43.62
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 1.51e3
0%
Abs. Int.
1.07e7
5.34e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.32e6*
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.56e3
0%
Abs. Int.
1.79e6
8.94e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.01e7*
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 2.49e3
0%
Abs. Int.
1.74e6
8.68e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.77e6
4.38e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6152_18822_DF_001
Sample ID: 11215131-010622-S-BN-SW-S-28
Acq: 15-Jan-2022 01:42:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220114C23
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.77e3
2378F 2.68e6* 27.35
1289F 1.28e6 29.37
1278F 1.04e6 26.46
1248F...[3] 2.02e5* 24.54
1478F 1.51e5 25.25
2368F 2.38e5 25.90
1238F...[5] 1.31e5* 26.00
2348F 1.60e5* 27.23
2367/3467F 4.31e5* 27.71
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.95e3
2378F 3.45e6* 27.34
1289F 7.72e5 29.37
1278F 1.34e6 26.46
1248F...[3] 2.40e5* 24.53
1478F 1.81e5 25.25
2368F 3.10e5* 25.91
1238F...[5] 2.04e5* 26.00
2348F 1.67e5* 27.23
2367/3467F 5.34e5* 27.72
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 5.39e3
JS 1234F 2.68e7* 25.98
ES 2378F 1.96e7* 27.32
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 4.57e3
JS 1234F 3.44e7* 25.98
ES 2378F 2.46e7* 27.32
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
6.28e5
3.14e5
0.00e0
8.10e5
4.05e5
5.64e6
2.82e6
7.36e6
3.68e6
7.50e3
3.75e3
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_001.utp_res, saved 15-Jan-2022 10:47 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 9839, 7425, 0632 scc: 441-478
PKD: 15-Jan-2022 09:42 Printed: 15-Jan-2022 10:50 Page 7 of 12


SGS ID: B6152_18822_DF_001
Sample ID: 11215131-010622-S-BN-SW-S-28
Acq: 15-Jan-2022 01:42:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220114C23
Rel. Int.
100%
0%
Abs. Int.
1.77e5
8.83e4
0.00e0
13468/12468F
5.43e5
29.38
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
3.40e5
29.38
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.56e3
8.35e4
4.17e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
4.61e6
2.31e6
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_001.utp_res, saved 15-Jan-2022 10:47 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 3151 scc: 441-478
PKD: 15-Jan-2022 09:35 Printed: 15-Jan-2022 10:50 Page 8 of 12


SGS ID: B6152_18822_DF_001
Sample ID: 11215131-010622-S-BN-SW-S-28
Acq: 15-Jan-2022 01:42:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220114C23
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.33e3
12368F...[3] 4.48e5* 31.08
13678F...[3] 1.36e5 30.93
14678F 1.15e5* 31.17
12346F 2.39e4* 31.66
23468/12469F 1.21e5* 31.74
12348F 6.40e4 31.99
12378F 1.88e5 32.19
12678/12367F 1.77e5 32.48
23467/12369F 7.85e4* 33.19
23478F 2.90e5* 33.31
PR
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.07e3
12368F...[3] 3.15e5* 31.08
13678F...[3] 8.63e4 30.93
14678F 6.80e4* 31.17
12346F 1.76e4* 31.66
23468/12469F 8.33e4* 31.74
12348F 3.91e4 31.98
12378F 1.51e5 32.19
12678/12367F 1.07e5 32.48
23467/12369F 5.74e4* 33.19
23478F 1.62e5* 33.32
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 2.91e3
CS 12346F 2.12e7 31.65
ES 12378F 2.34e7* 32.17
ES 23478F 2.20e7* 33.28
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.89e3
CS 12346F 1.44e7 31.65
ES 12378F 1.51e7* 32.17
ES 23478F 1.46e7* 33.28
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.38e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
1.11e5
5.53e4
0.00e0
6.84e4
3.42e4
6.77e6
3.38e6
4.30e6
2.15e6
1.70e4
8.51e3
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_001.utp_res, saved 15-Jan-2022 10:47 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5300, 4990, 3017 scc: 441-478
PKD: 15-Jan-2022 09:42 Printed: 15-Jan-2022 10:50 Page 9 of 12


Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 2.84e3
123468F 1.96e5 35.23
124678/134678F 7.43e5 35.43
124689F 7.03e5 36.08
123467F 7.92e4* 36.50
123478F 4.16e5* 36.62
123678F 1.57e5* 36.76
234678F 1.54e5* 37.43
123489F 4.30e4* 38.45
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 1.97e3
123468F 1.49e5 35.23
124678/134678F 6.12e5 35.43
124689F 5.56e5 36.08
123467F 7.66e4* 36.51
123478F 3.17e5* 36.62
123678F 1.16e5* 36.76
234678F 1.06e5 37.43
123489F 3.63e4* 38.45
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 3.94e3
ES 123478F 9.97e6 36.61
ES 123678F 1.21e7 36.74
CS 123469F 1.01e7* 37.06
ES 234678F 1.06e7* 37.41
ES 123789F 9.24e6 38.40
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 3.71e3
ES 123478F 1.90e7 36.60
ES 123678F 2.26e7 36.74
CS 123469F 1.91e7* 37.06
ES 234678F 2.03e7* 37.42
ES 123789F 1.79e7 38.40
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.11e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
2.30e5
1.15e5
0.00e0
2.05e5
1.02e5
3.39e6
1.69e6
6.44e6
3.22e6
4.90e3
2.45e3


Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 1.59e3
1234678F
1.18e6*
39.88
1234689F
1.64e6*
40.29
1234789F
9.48e4*
41.30
4.88e5
2.44e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.56e3
1234678F
1.14e6
39.88
1234689F
1.65e6*
40.29
1234789F
1.30e5*
41.30
4.92e5
2.46e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 1.77e3
ES 1234678F
7.20e6*
39.87
CS 1234689F
6.88e6
40.28
ES 1234789F
5.63e6*
41.29
2.15e6
1.08e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.22e3
ES 1234678F
1.51e7*
39.87
CS 1234689F
1.49e7
40.28
ES 1234789F
1.32e7
41.29
4.51e6
2.25e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.43e3
RT
7.81e4
3.91e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDF
2.91e6
43.78
Rel. Int.
Abs. Int.
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 3.12e3
OCDF
3.45e6
43.78
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.60e3
ES OCDF
1.35e7*
43.77
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.29e3
ES OCDF
1.50e7*
43.77
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 1.59e3
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.26e3
100%
0%
43.0
43.5
44.0
44.5
45.0
RT

Lab ID: B6152_18822_DF_002 **Acq'd:** 15 Jan 2022 02:29 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-S-29 **UTP:** 15-Jan-2022 10:34:32 MLS **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 430-308-MTR

Datafile: 220114C24 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	1.90E+06	0.79	Y	1.18	8.49	3649.723	0.179
12378-PeCDD	33.66	J EMPC	1.0006	1.0006	0	5.59E+04	1.94	N	1.04	0.316	3908.178	0.192
123478-HxCDD	37.63	J	1.0004	1.0004	0	1.30E+05	1.38	Y	1.09	0.82	5412.004	0.286
123678-HxCDD	37.74	J	1.0036	1.0035	-0.2	4.04E+05	1.33	Y	1.15	2.34	5412.004	0.278
123789-HxCDD	38.06	J	1.0118	1.0118	0	2.50E+05	1.24	Y	1.05	1.51	5412.004	0.272
1234678-HpCDD	40.85		1.0003	1.0003	0	1.07E+07	1.02	Y	1.06	79.1	4141.703	0.277
OCDD	43.62		1.0003	1.0003	0	1.35E+08	0.91	Y	1.13	1,750	4292.962	0.742
2378-TCDF	27.35		1.0008	1.0008	0	6.57E+06	0.80	Y	1.08	20.9	2846.786	0.0996
12378-PeCDF	32.20	J	1.0006	1.0006	0	3.07E+05	1.57	Y	1.02	1.17	4681.853	0.156
23478-PeCDF	33.31	J	1.0006	1.0007	+0.2	3.60E+05	1.66	Y	1.02	1.47	4681.853	0.164
123478-HxCDF	36.62		1.0005	1.0005	0	6.14E+05	1.21	Y	1.27	2.55	4027.77	0.14
123678-HxCDF	36.76	J	1.0004	1.0004	0	3.10E+05	1.10	Y	1.15	1.16	4027.77	0.134
234678-HxCDF	37.44	J	1.0005	1.0005	0	2.49E+05	1.20	Y	1.19	1	4027.77	0.144
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4027.77	0.175
1234678-HpCDF	39.88		1.0003	1.0003	0	1.74E+06	1.02	Y	1.37	8.64	4466.177	0.167
1234789-HpCDF	41.29	J EMPC	1.0003	1.0001	-0.5	1.18E+05	0.78	N	1.31	0.804	4466.177	0.291
OCDF	43.78		1.0003	1.0003	0	2.64E+06	0.97	Y	1.07	27.4	3641.906	0.502

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20		1.0231	1.0232	+0.2	3.75E+07	0.83	Y	1.05	94.1
ES 12378-PeCDD	33.64		1.2198	1.2203	+1.0	3.40E+07	1.62	Y	0.88	101
ES 123478-HxCDD	37.61		0.9913	0.9913	0	2.90E+07	1.28	Y	0.97	102
ES 123678-HxCDD	37.73		0.9944	0.9944	0	2.99E+07	1.29	Y	0.94	108
ES 123789-HxCDD	38.04		1.0026	1.0026	0	3.13E+07	1.28	Y	1.09	98.2
ES 1234678-HpCDD	40.84		1.0760	1.0762	+0.5	2.54E+07	1.10	Y	0.91	95.1
ES OCDD	43.60		1.1489	1.1491	+0.5	2.72E+07	0.90	Y	0.62	74.6
ES 2378-TCDF	27.32		1.0515	1.0517	+0.3	5.79E+07	0.78	Y	1.06	88.8
ES 12378-PeCDF	32.18		1.2378	1.2385	+1.4	5.07E+07	1.55	Y	0.91	90.5
ES 23478-PeCDF	33.29		1.2804	1.2812	+1.6	4.78E+07	1.60	Y	0.88	88
ES 123478-HxCDF	36.60		0.9647	0.9646	-0.2	3.76E+07	0.54	Y	1.20	107
ES 123678-HxCDF	36.74		0.9684	0.9684	0	4.61E+07	0.53	Y	1.35	117
ES 234678-HxCDF	37.42		0.9861	0.9861	0	4.14E+07	0.53	Y	1.24	114
ES 123789-HxCDF	38.41		1.0120	1.0121	+0.2	3.50E+07	0.55	Y	1.16	104
ES 1234678-HpCDF	39.87		1.0506	1.0508	+0.5	2.92E+07	0.43	Y	0.97	103
ES 1234789-HpCDF	41.28		1.0879	1.0880	+0.2	2.23E+07	0.43	Y	0.85	89.6
ES OCDF	43.77		1.1534	1.1535	+0.3	3.58E+07	0.88	Y	0.81	75.7

Lab ID: B6152_18822_DF_002 **Acq'd:** 15 Jan 2022 02:29 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-S-29 **UTP:** 15-Jan-2022 10:34:32 MLS **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 430-308-MTR

Datafile: 220114C24 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.57		-	-	-	3.81E+07	0.81	Y	-	-
JS 1234-TCDF	25.98		-	-	-	6.16E+07	0.79	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.46E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0238	1.0240	+0.3	1.75E+07	n/a	-	1.20	95.6
CS 12347-PeCDD	33.14		1.2018	1.2023	+1.0	3.02E+07	1.69	Y	0.75	105
CS 12346-PeCDF	31.65		1.2178	1.2183	+0.9	4.61E+07	1.51	Y	0.85	87.9
CS 123469-HxCDF	37.06		0.9768	0.9768	0	3.99E+07	0.54	Y	1.12	122
CS 1234689-HpCDF	40.29		1.0615	1.0618	+0.7	2.75E+07	0.47	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0238~~	~~1.0240~~	~~+0.3~~	~~1.75E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2023~~	~~+1.0~~	~~3.02E+07~~	~~1.69~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2183~~	~~+0.9~~	~~4.61E+07~~	~~1.51~~	~~Y~~	~~0.94~~	~~96.9~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9768~~	~~0~~	~~3.99E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0615~~	~~1.0618~~	~~+0.7~~	~~2.75E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~102~~

Totals	Conc	EMPC
Total TCDD	9.72	10.6
Total PeCDD	1.4	3.55
Total HxCDD	27.5	27.5
Total HpCDD	183	183
Total Tetra-Octa Dioxins	1970	1970
Total TCDF	38.9	46.1
Total PeCDF	9.79	10.6
Total HxCDF	14.8	15.2
Total HpCDF	22.4	23.2
Total Tetra-Octa Furans	113	123
Total Tetra-Octa Dioxins & Furans	2080	2090

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.784	0.79
Response	1.91E+06	1.90E+06

Lab ID: B6152_18822_DF_002 **Acq'd:** 15 Jan 2022 02:29 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-S-29 **UTP:** 15-Jan-2022 10:34:32 MLS **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 430-308-MTR

Datafile: 220114C24 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.57	J	0.8733	0.8712	-3.1	9.80E+04	0.85	Y	1.18	0.439	3649.723	0.179
1379-TCDD	NotFnd		0.8860						1.18		3649.723	0.179
1369-TCDD	NotFnd		0.9009						1.18		3649.723	0.179
1469-TCDD	26.15	EMPC	0.9282	0.9271	-1.7	1.86E+05	0.91	N	1.18	0.832	3649.723	0.179
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3649.723	0.179
1378-TCDD	NotFnd		0.9429						1.18		3649.723	0.179
1268-TCDD	NotFnd		0.9500						1.18		3649.723	0.179
1478-TCDD	NotFnd		0.9584						1.18		3649.723	0.179
1279-TCDD	NotFnd		0.9648						1.18		3649.723	0.179
1234/1269-TCDD	NotFnd		0.9770						1.18		3649.723	0.179
1236-TCDD	NotFnd		0.9821						1.18		3649.723	0.179
1237/1238-TCDD	NotFnd		0.9909						1.18		3649.723	0.179
1239-TCDD	NotFnd		0.9959						1.18		3649.723	0.179
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	1.90E+06	0.79	Y	**1.18**	**8.49**	**3649.723**	**0.179**
1278-TCDD	28.57		1.0123	1.0129	+1.0	1.77E+05	0.70	Y	1.18	0.792	3649.723	0.179
1267-TCDD	NotFnd		1.0172						1.18		3649.723	0.179
1289-TCDD	NotFnd		1.0354						1.18		3649.723	0.179
12479/12468-PeCDD	31.15	J	0.9267	0.9261	-1.1	1.48E+05	1.34	Y	1.04	0.833	3908.178	0.192
12469-PeCDD	31.68	J EMPC	0.9426	0.9419	-1.3	1.39E+05	1.04	N	1.04	0.784	3908.178	0.192
12368-PeCDD	32.23	J EMPC	0.9587	0.9582	-1.0	5.19E+04	2.40	N	1.04	0.293	3908.178	0.192
12478-PeCDD	32.43	J EMPC	0.9642	0.9640	-0.4	5.14E+04	1.92	N	1.04	0.29	3908.178	0.192
12379-PeCDD	32.54	J EMPC	0.9674	0.9673	-0.2	4.28E+04	1.22	N	1.04	0.242	3908.178	0.192
12369/12467/12489-PeCDD	32.80	J	0.9752	0.9752	0	1.01E+05	1.53	Y	1.04	0.57	3908.178	0.192
12346/12347-PeCDD	33.16	J EMPC	0.9861	0.9857	-0.8	4.02E+04	1.05	N	1.04	0.227	3908.178	0.192
12378-PeCDD	33.66	J EMPC	**1.0006**	**1.0006**	**0**	**5.59E+04**	**1.94**	**N**	**1.04**	**0.316**	**3908.178**	**0.192**
12367-PeCDD	NotFnd		1.0036						1.04		3908.178	0.192
12389-PeCDD	NotFnd		1.0139						1.04		3908.178	0.192
124679/124689-HxCDD	35.89		0.9541	0.9543	+0.4	1.76E+06	1.17	Y	1.10	10.6	5412.004	0.278
123468-HxCDD	36.55	J	0.9715	0.9716	+0.2	2.06E+05	1.29	Y	1.10	1.24	5412.004	0.278
123679/123689-HxCDD	36.85		0.9793	0.9797	+0.9	1.68E+06	1.29	Y	1.10	10.1	5412.004	0.278
123469-HxCDD	36.97	J	0.9831	0.9830	-0.2	1.37E+05	1.11	Y	1.10	0.829	5412.004	0.278
123478-HxCDD	37.63	J	**1.0004**	**1.0004**	**0**	**1.30E+05**	**1.38**	**Y**	1.09	**0.82**	**5412.004**	**0.286**
123678-HxCDD	37.74	J	**1.0036**	**1.0035**	**-0.2**	**4.04E+05**	**1.33**	**Y**	1.15	**2.34**	**5412.004**	**0.278**
123467-HxCDD	NotFnd		1.0089						1.10		5412.004	0.278
123789-HxCDD	38.06	J	**1.0118**	**1.0118**	**0**	**2.50E+05**	**1.24**	**Y**	1.05	**1.51**	**5412.004**	**0.272**

Lab ID: B6152_18822_DF_002 **Acq'd:** 15 Jan 2022 02:29 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-S-29 **UTP:** 15-Jan-2022 10:34:32 MLS **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 430-308-MTR

Datafile: 220114C24 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

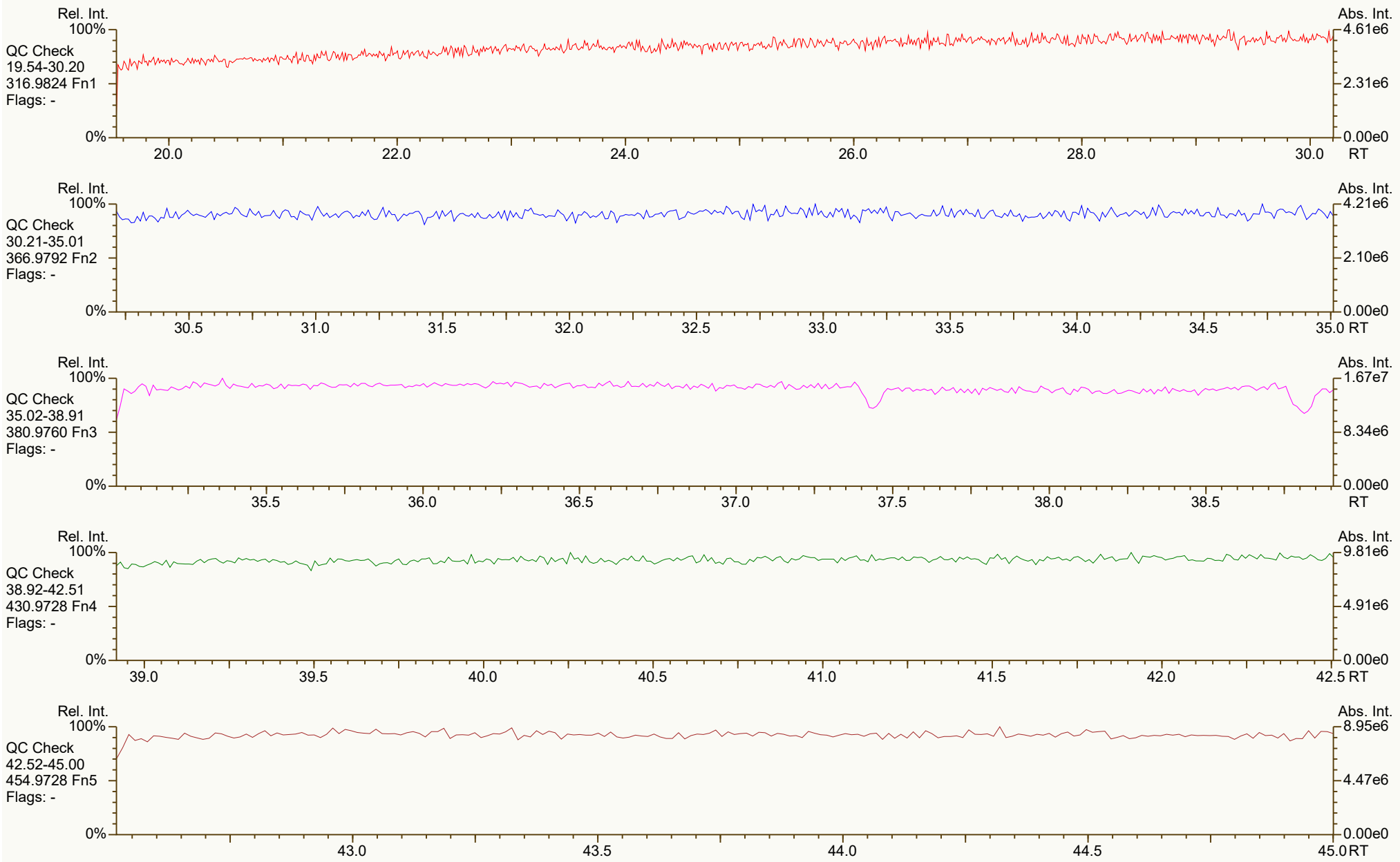
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9834	-0.2	1.40E+07	1.03	Y	1.06	104	4141.703	0.277
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**1.07E+07**	**1.02**	**Y**	**1.06**	**79.1**	**4141.703**	**0.277**
OCDD	**43.62**		**1.0003**	**1.0003**	**0**	**1.35E+08**	**0.91**	**Y**	**1.13**	**1,750**	**4292.962**	**0.742**
OCDD-a	43.61		1.0002	1.0002	0	8.51E+06	2.63	Y	0.07	1,720	4540.126	12.3
1368-TCDF	NotFnd		0.8250						1.08		2846.786	0.0996
1468-TCDF	NotFnd		0.8494						1.08		2846.786	0.0996
2468-TCDF	23.65	EMPC	0.8684	0.8653	-4.4	3.00E+05	0.94	N	1.08	0.953	2846.786	0.0996
1346/1246-TCDF	NotFnd		0.8815						1.08		2846.786	0.0996
1347/1378/1247-TCDF	24.18		0.8867	0.8851	-2.3	2.87E+05	0.80	Y	1.08	0.911	2846.786	0.0996
1348-TCDF	NotFnd		0.8966						1.08		2846.786	0.0996
1248/1367/1379-TCDF	24.55		0.9012	0.8983	-4.3	3.95E+05	0.77	Y	1.08	1.26	2846.786	0.0996
1268-TCDF	24.95		0.9148	0.9131	-2.5	2.07E+05	0.76	Y	1.08	0.658	2846.786	0.0996
1467-TCDF	25.08	J EMPC	0.9197	0.9180	-2.6	9.88E+04	1.00	N	1.08	0.314	2846.786	0.0996
1478-TCDF	25.25	EMPC	0.9258	0.9241	-2.6	4.00E+05	0.94	N	1.08	1.27	2846.786	0.0996
1369/1237-TCDF	25.64		0.9390	0.9384	-0.9	1.77E+05	0.71	Y	1.08	0.563	2846.786	0.0996
2467-TCDF	25.78	J EMPC	0.9435	0.9433	-0.3	7.65E+04	0.99	N	1.08	0.243	2846.786	0.0996
2368-TCDF	25.91		0.9488	0.9481	-1.1	5.22E+05	0.70	Y	1.08	1.66	2846.786	0.0996
1238/1234/1678/1469/1236-TCDF	26.00	EMPC	0.9527	0.9516	-1.7	2.23E+05	1.21	N	1.08	0.709	2846.786	0.0996
1278-TCDF	26.46		0.9689	0.9685	-0.6	2.77E+06	0.80	Y	1.08	8.81	2846.786	0.0996
1349-TCDF	NotFnd		0.9730						1.08		2846.786	0.0996
1267-TCDF	26.73	EMPC	0.9787	0.9782	-0.8	2.20E+05	1.13	N	1.08	0.698	2846.786	0.0996
2346/1249-TCDF	NotFnd		0.9856						1.08		2846.786	0.0996
2347/1279-TCDF	27.14	EMPC	0.9934	0.9932	-0.3	1.90E+05	0.91	N	1.08	0.603	2846.786	0.0996
2348-TCDF	27.24		0.9972	0.9968	-0.7	4.30E+05	0.84	Y	1.08	1.37	2846.786	0.0996
2378-TCDF	**27.35**		**1.0008**	**1.0008**	**0**	**6.57E+06**	**0.80**	**Y**	**1.08**	**20.9**	**2846.786**	**0.0996**
2367/3467-TCDF	27.72		1.0145	1.0144	-0.2	8.79E+05	0.78	Y	1.08	2.79	2846.786	0.0996
1269-TCDF	27.96	J EMPC	1.0236	1.0233	-0.5	1.24E+05	0.93	N	1.08	0.394	2846.786	0.0996
1239-TCDF	NotFnd		1.0333						1.08		2846.786	0.0996
1289-TCDF	29.38	EMPC	1.0740	1.0752	+2.1	6.36E+05	1.20	N	1.08	2.02	2846.786	0.0996
13468/12468-PeCDF	29.38	J	0.9138	0.9131	-1.2	5.25E+05	1.72	Y	1.02	2.07	2717.208	0.0926
13678/13467/12467-PeCDF	30.94	J	0.9614	0.9614	0	1.94E+05	1.42	Y	1.02	0.763	4681.853	0.16
12368/13478/12478-PeCDF	31.09	J	0.9661	0.9663	+0.4	5.97E+05	1.57	Y	1.02	2.35	4681.853	0.16
14678-PeCDF	31.17	J EMPC	0.9693	0.9688	-0.9	5.25E+04	0.73	N	1.02	0.207	4681.853	0.16
13479-PeCDF	NotFnd		0.9722						1.02		4681.853	0.16
13469/12479-PeCDF	NotFnd		0.9800						1.02		4681.853	0.16
12346-PeCDF	NotFnd		0.9844						1.02		4681.853	0.16

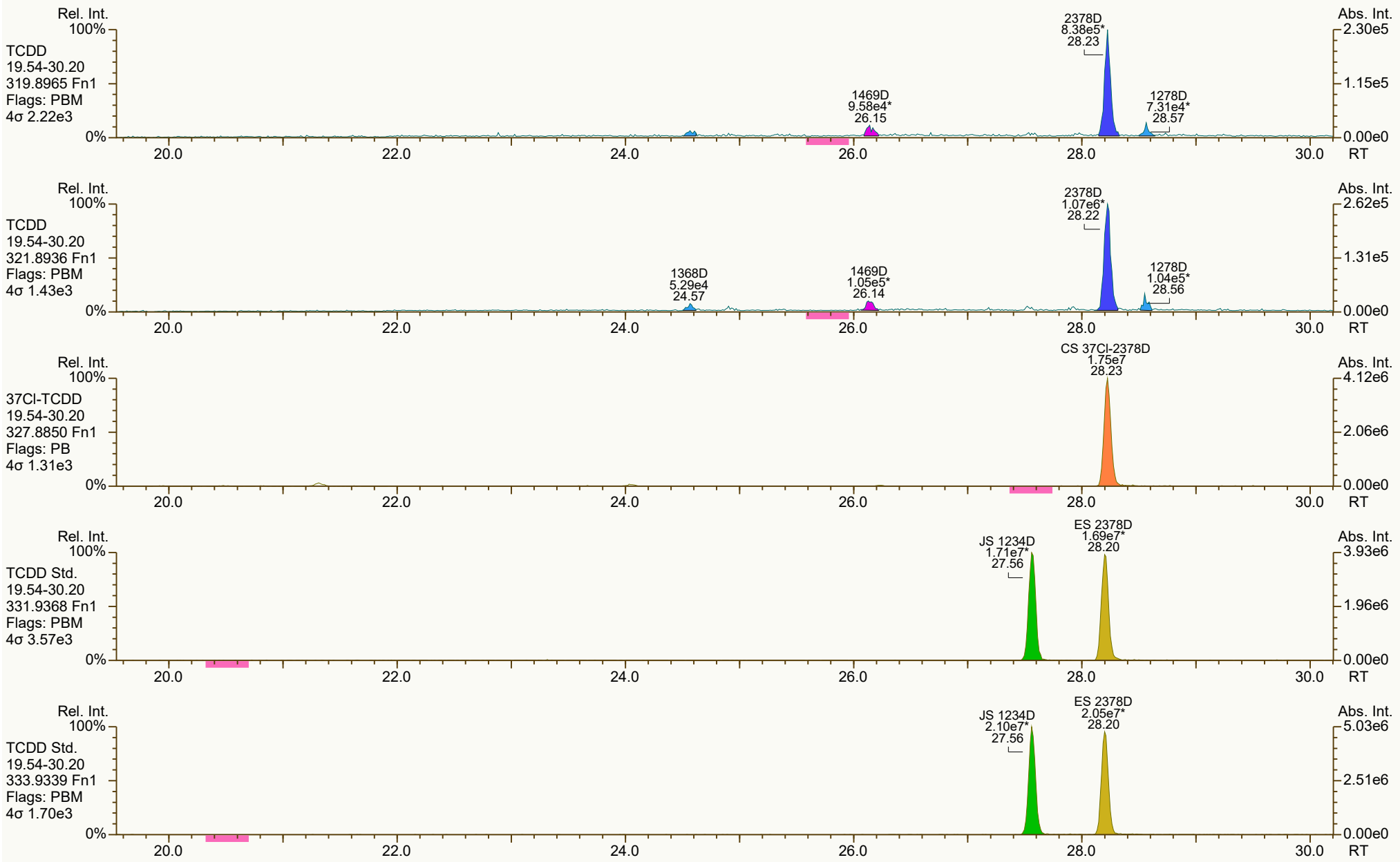
Lab ID: B6152_18822_DF_002 | Acq'd: 15 Jan 2022 02:29 DTF | Wt/Vol: 10.07 g | ICAL: HRMS3_DF_10272021 10NOV2021

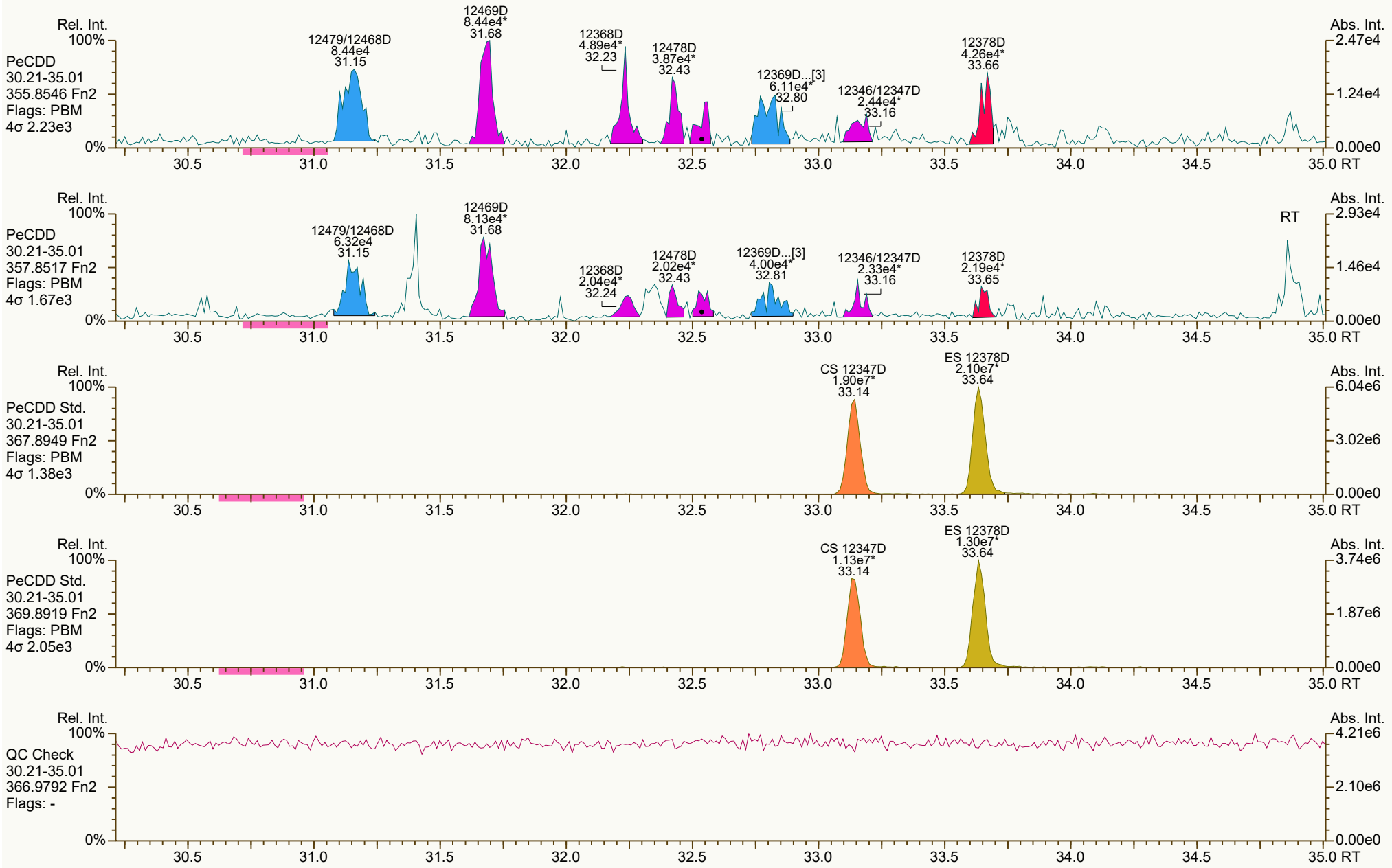
Client ID: 11215131-010622-S-BN-SW-S-29 | UTP: 15-Jan-2022 10:34:32 MLS | J-level: 0.497 pg/g | Split: 1 | Checkcode: 430-308-MTR

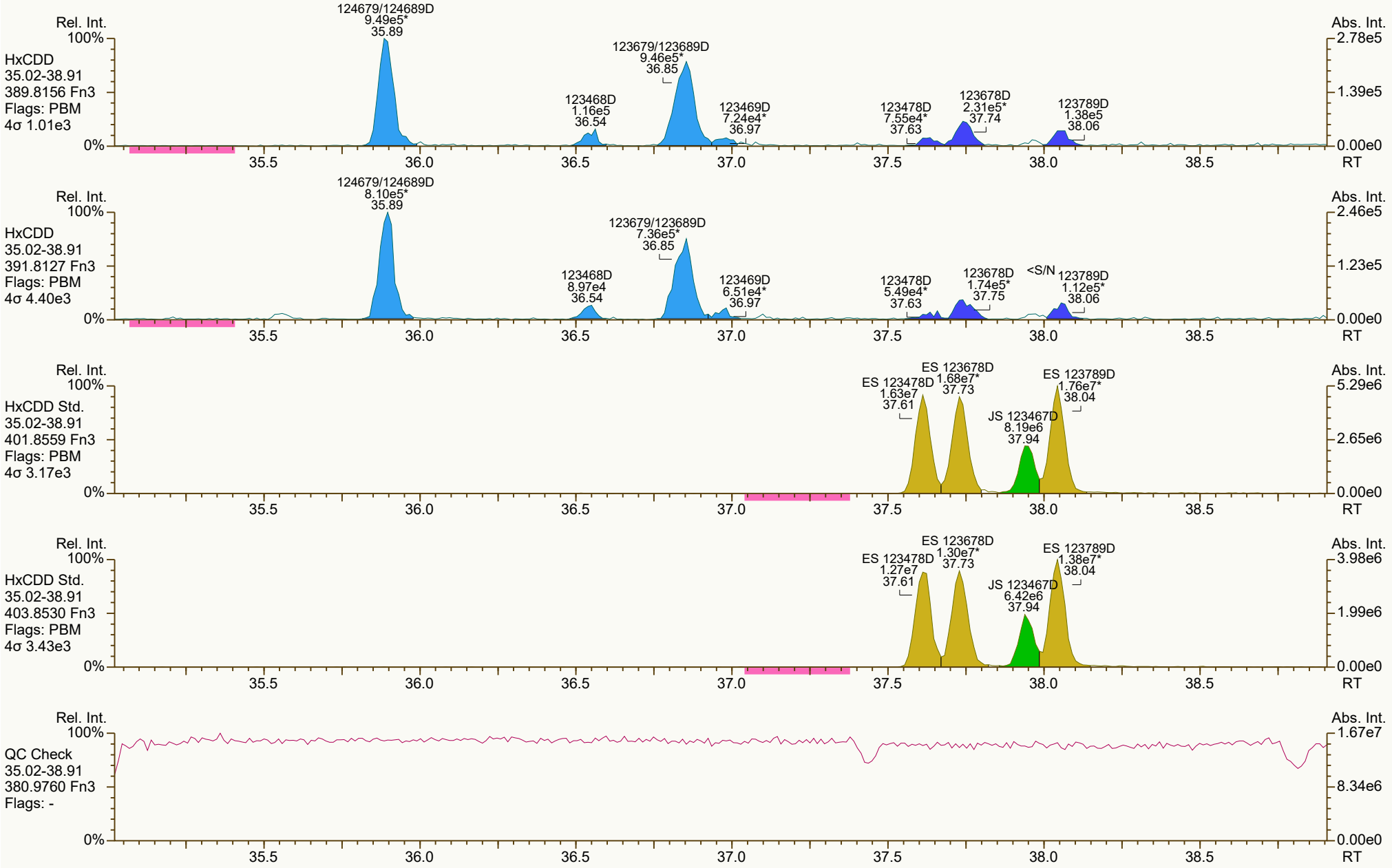
Datafile: 220114C24 | Report: 15 Jan 2022 10:40 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

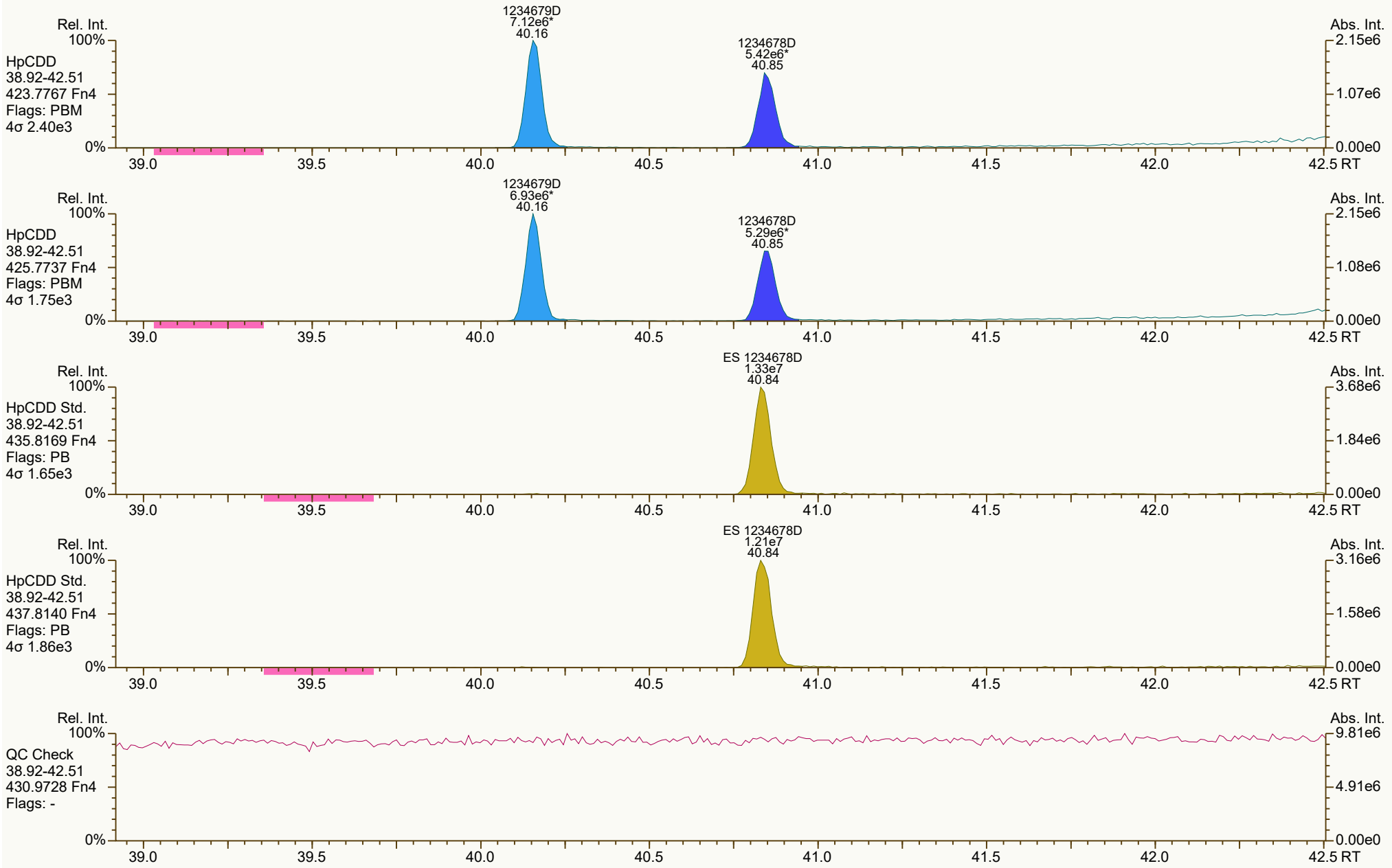
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.76	J EMPC	0.9865	0.9868	+0.6	1.41E+05	1.10	N	1.02	0.557	4681.853	0.16
12347-PeCDF	31.83	J	0.9890	0.9893	+0.6	5.70E+04	1.59	Y	1.02	0.225	4681.853	0.16
12348-PeCDF	32.00	J	0.9942	0.9944	+0.4	7.97E+04	1.47	Y	1.02	0.314	4681.853	0.16
12378-PeCDF	**32.20**	J	**1.0006**	**1.0006**	**0**	**3.07E+05**	**1.57**	**Y**	**1.02**	**1.17**	**4681.853**	**0.156**
12678/12367-PeCDF	32.49	J	1.0090	1.0096	+1.2	2.17E+05	1.41	Y	1.02	0.854	4681.853	0.16
12379-PeCDF	NotFnd		1.0142						1.02		4681.853	0.16
12679-PeCDF	NotFnd		0.9933						1.02		4681.853	0.16
23467/12369-PeCDF	33.19	J	0.9969	0.9971	+0.4	1.45E+05	1.41	Y	1.02	0.573	4681.853	0.16
23478-PeCDF	**33.31**	J	**1.0006**	**1.0007**	**+0.2**	**3.60E+05**	**1.66**	**Y**	**1.02**	**1.47**	**4681.853**	**0.164**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4681.853	0.16
12349-PeCDF	NotFnd		1.0107						1.02		4681.853	0.16
12389-PeCDF	NotFnd		1.0330						1.02		4681.853	0.16
123468-HxCDF	35.23	J	0.9627	0.9626	-0.2	3.03E+05	1.31	Y	1.19	1.26	4027.77	0.147
124678/134678-HxCDF	35.43		0.9682	0.9680	-0.4	1.12E+06	1.31	Y	1.19	4.66	4027.77	0.147
134679-HxCDF	NotFnd		0.9744						1.19		4027.77	0.147
124679-HxCDF	35.85	J	0.9798	0.9795	-0.6	5.18E+04	1.14	Y	1.19	0.215	4027.77	0.147
124689-HxCDF	36.09		0.9858	0.9859	+0.2	9.49E+05	1.16	Y	1.19	3.95	4027.77	0.147
123467-HxCDF	36.51	J EMPC	0.9973	0.9974	+0.2	1.05E+05	1.44	N	1.19	0.437	4027.77	0.147
123478-HxCDF	**36.62**		**1.0005**	**1.0005**	**0**	**6.14E+05**	**1.21**	**Y**	**1.27**	**2.55**	**4027.77**	**0.14**
123678-HxCDF	**36.76**	J	**1.0004**	**1.0004**	**0**	**3.10E+05**	**1.10**	**Y**	**1.15**	**1.16**	**4027.77**	**0.134**
123479-HxCDF	NotFnd		1.0051						1.19		4027.77	0.147
123469-HxCDF	NotFnd		1.0093						1.19		4027.77	0.147
123679-HxCDF	NotFnd		0.9944						1.19		4027.77	0.147
234678-HxCDF	**37.44**	J	**1.0005**	**1.0005**	**0**	**2.49E+05**	**1.20**	**Y**	**1.19**	**1**	**4027.77**	**0.144**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4027.77	0.147
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4027.77**	**0.175**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		4027.77	0.147
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**1.74E+06**	**1.02**	**Y**	**1.37**	**8.64**	**4466.177**	**0.167**
1234679-HpCDF	40.16	**J**	1.0069	1.0072	+0.7	8.30E+04	0.95	Y	1.34	0.479	4466.177	0.22
1234689-HpCDF	40.30		1.0103	1.0107	+1.0	2.31E+06	1.02	Y	1.34	13.3	4466.177	0.22
1234789-HpCDF	**41.29**	**J EMPC**	**1.0003**	**1.0001**	**-0.5**	**1.18E+05**	**0.78**	**N**	**1.31**	**0.804**	**4466.177**	**0.291**
OCDF	**43.78**		**1.0003**	**1.0003**	**0**	**2.64E+06**	**0.97**	**Y**	**1.07**	**27.4**	**3641.906**	**0.502**
OCDF-a	43.77		1.0002	0.9999	-0.8	1.32E+05	2.50	Y	0.07	22	3719.041	8.27

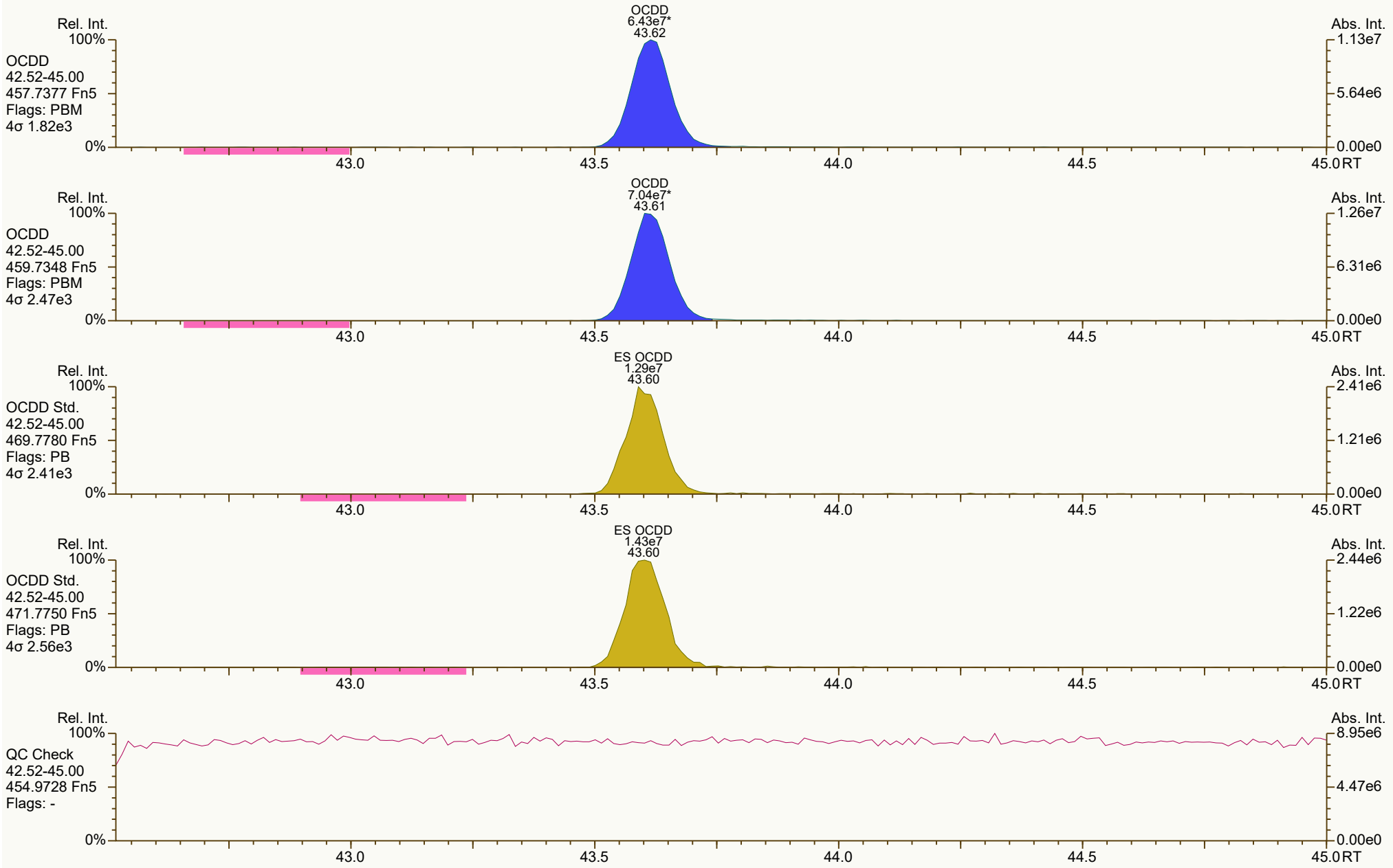

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316.9824 Fn1
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2.31e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.21e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.67e7
8.34e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.81e6
4.91e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.95e6
4.47e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.22e3
0%
2378D
8.38e5*
28.23
1469D
9.58e4*
26.15
1278D
7.31e4*
28.57
Abs. Int.
2.30e5
1.15e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.43e3
0%
2378D
1.07e6*
28.22
1368D
5.29e4
24.57
1469D
1.05e5*
26.14
1278D
1.04e5*
28.56
Abs. Int.
2.62e5
1.31e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.31e3
0%
CS 37Cl-2378D
1.75e7
28.23
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 3.57e3
0%
JS 1234D
1.71e7*
27.56
ES 2378D
1.69e7*
28.20
Abs. Int.
3.93e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
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2.10e7*
27.56
ES 2378D
2.05e7*
28.20
Abs. Int.
5.03e6
2.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.23e3
12479/12468D 8.44e4 31.15
12469D 8.44e4* 31.68
12368D 4.89e4* 32.23
12478D 3.87e4* 32.43
12369D...[3] 6.11e4* 32.80
12346/12347D 2.44e4* 33.16
12378D 4.26e4* 33.66
2.47e4
1.24e4
0.00e0
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.67e3
12479/12468D 6.32e4 31.15
12469D 8.13e4* 31.68
12368D 2.04e4* 32.24
12478D 2.02e4* 32.43
12369D...[3] 4.00e4* 32.81
12346/12347D 2.33e4* 33.16
12378D 2.19e4* 33.65
RT
2.93e4
1.46e4
0.00e0
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.38e3
CS 12347D 1.90e7* 33.14
ES 12378D 2.10e7* 33.64
6.04e6
3.02e6
0.00e0
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 2.05e3
CS 12347D 1.13e7* 33.14
ES 12378D 1.30e7* 33.64
3.74e6
1.87e6
0.00e0
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
4.21e6
2.10e6
0.00e0
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0%
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31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

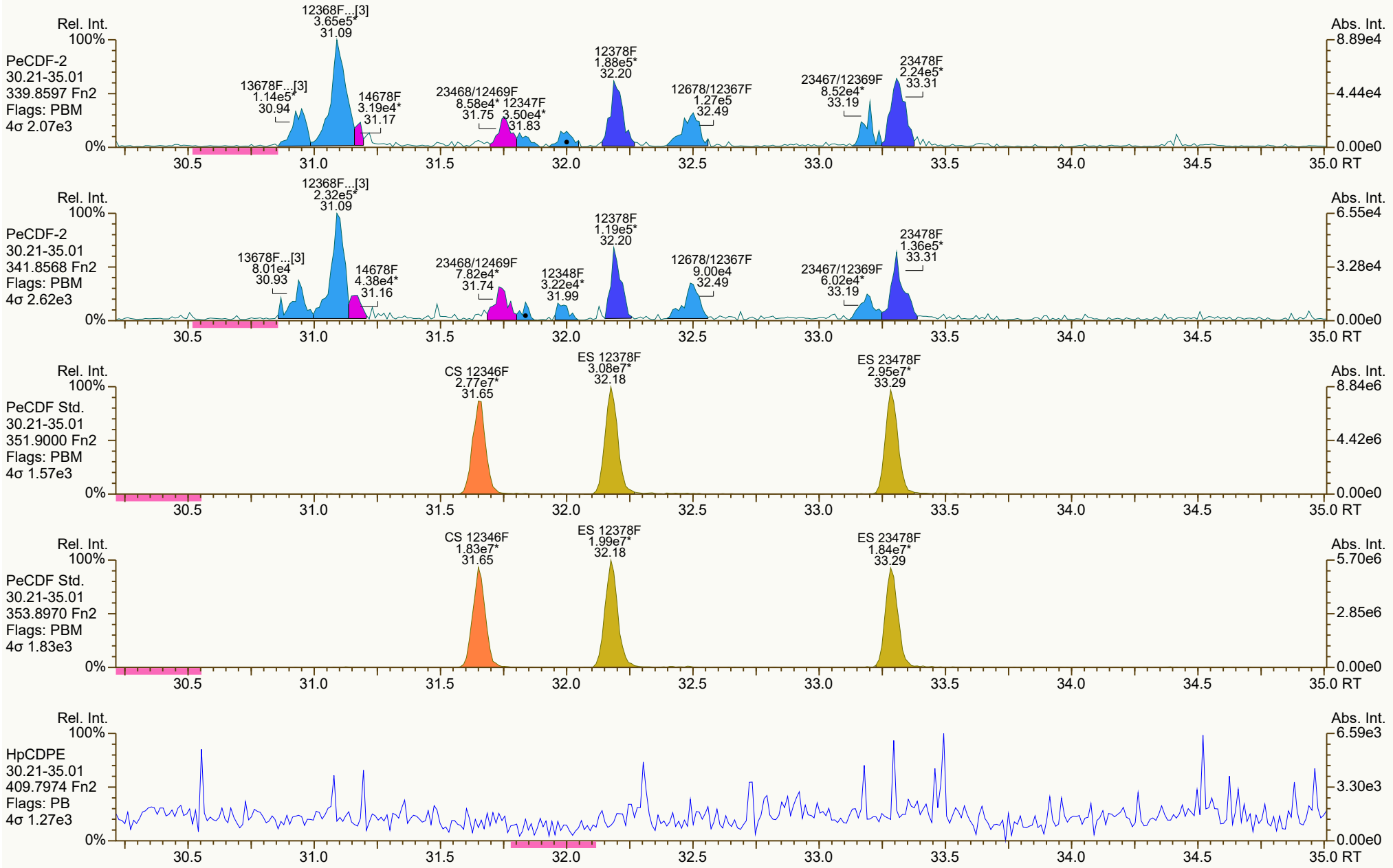

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.01e3
124679/124689D
9.49e5*
35.89
123679/123689D
9.46e5*
36.85
123468D
1.16e5
36.54
123469D
7.24e4*
36.97
123478D
7.55e4*
37.63
123678D
2.31e5*
37.74
123789D
1.38e5
38.06
Abs. Int.
2.78e5
1.39e5
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0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 4.40e3
124679/124689D
8.10e5*
35.89
123679/123689D
7.36e5*
36.85
123468D
8.97e4
36.54
123469D
6.51e4*
36.97
123478D
5.49e4*
37.63
123678D
1.74e5*
37.75
<S/N
123789D
1.12e5*
38.06
Abs. Int.
2.46e5
1.23e5
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0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 3.17e3
ES 123478D
1.63e7
37.61
ES 123678D
1.68e7*
37.73
JS 123467D
8.19e6
37.94
ES 123789D
1.76e7*
38.04
Abs. Int.
5.29e6
2.65e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 3.43e3
ES 123478D
1.27e7
37.61
ES 123678D
1.30e7*
37.73
JS 123467D
6.42e6
37.94
ES 123789D
1.38e7*
38.04
Abs. Int.
3.98e6
1.99e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.67e7
8.34e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

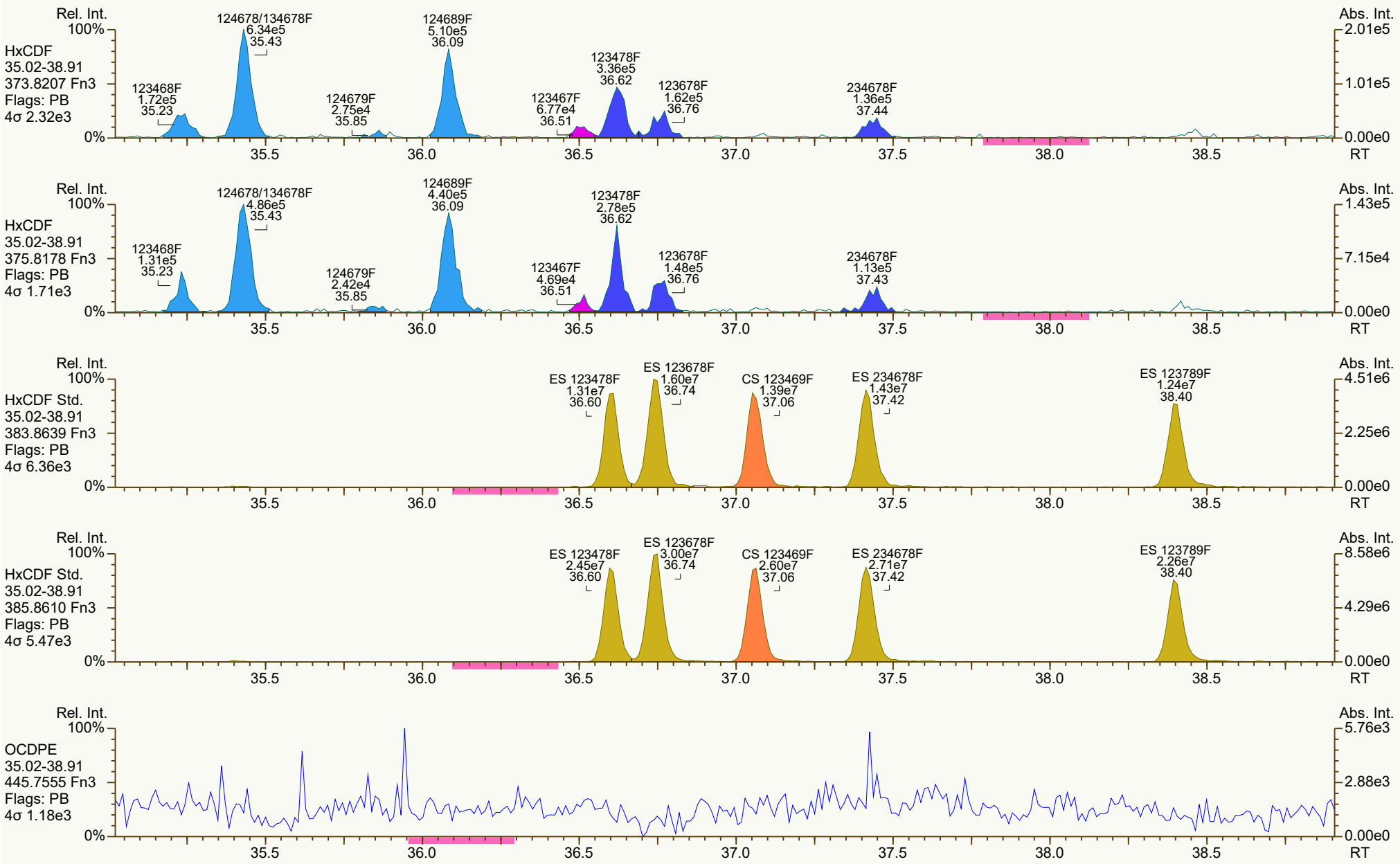

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.40e3
1234679D
7.12e6*
40.16
1234678D
5.42e6*
40.85
Abs. Int.
2.15e6
1.07e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.75e3
1234679D
6.93e6*
40.16
1234678D
5.29e6*
40.85
Abs. Int.
2.15e6
1.08e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.65e3
ES 1234678D
1.33e7
40.84
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.86e3
ES 1234678D
1.21e7
40.84
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
9.81e6
4.91e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

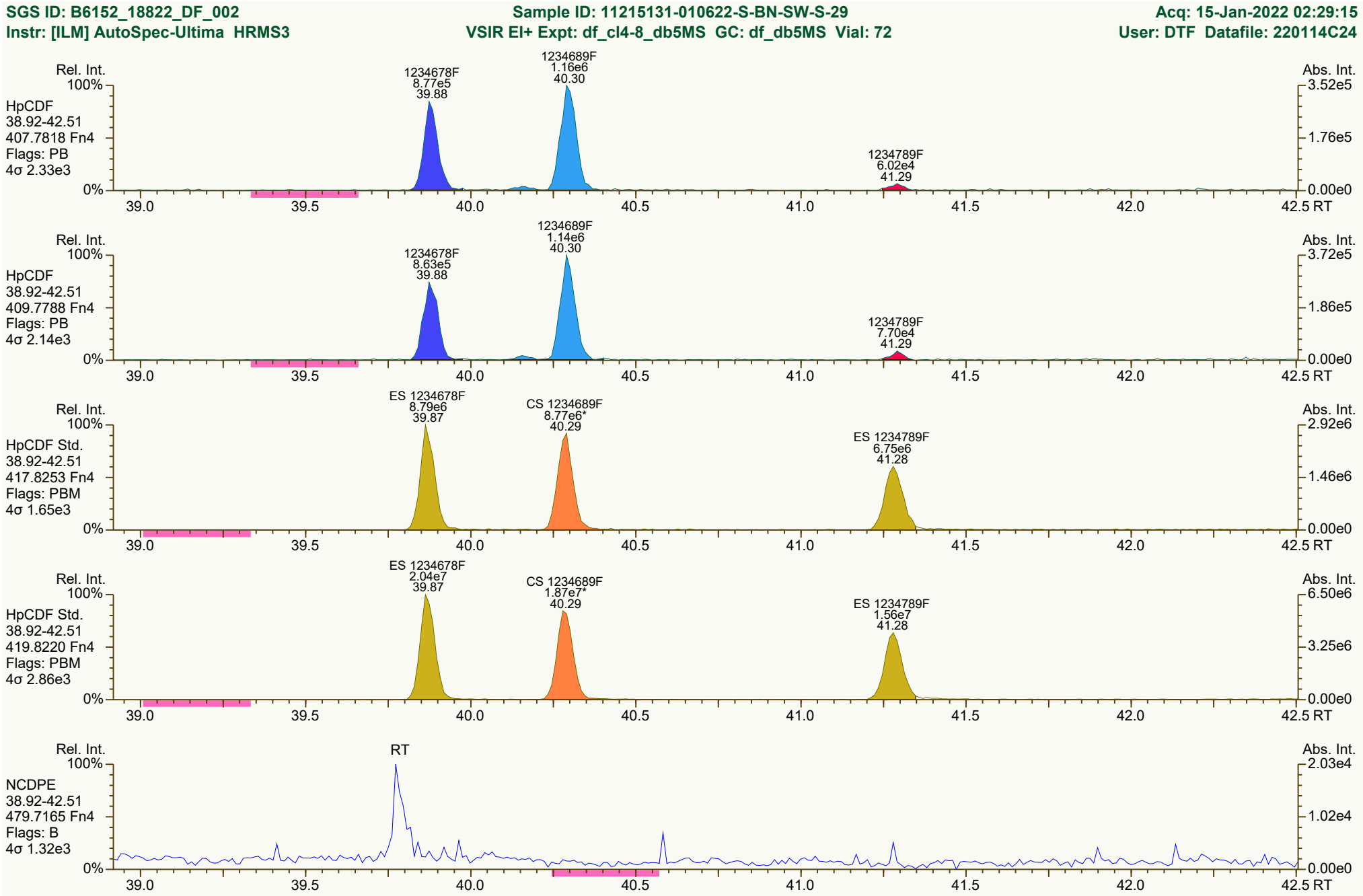

OCDD
6.43e7*
43.62
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.82e3
OCDD
7.04e7*
43.61
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.47e3
ES OCDD
1.29e7
43.60
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 2.41e3
ES OCDD
1.43e7
43.60
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.56e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
100%
0%
43.0
43.5
44.0
44.5
45.0
RT

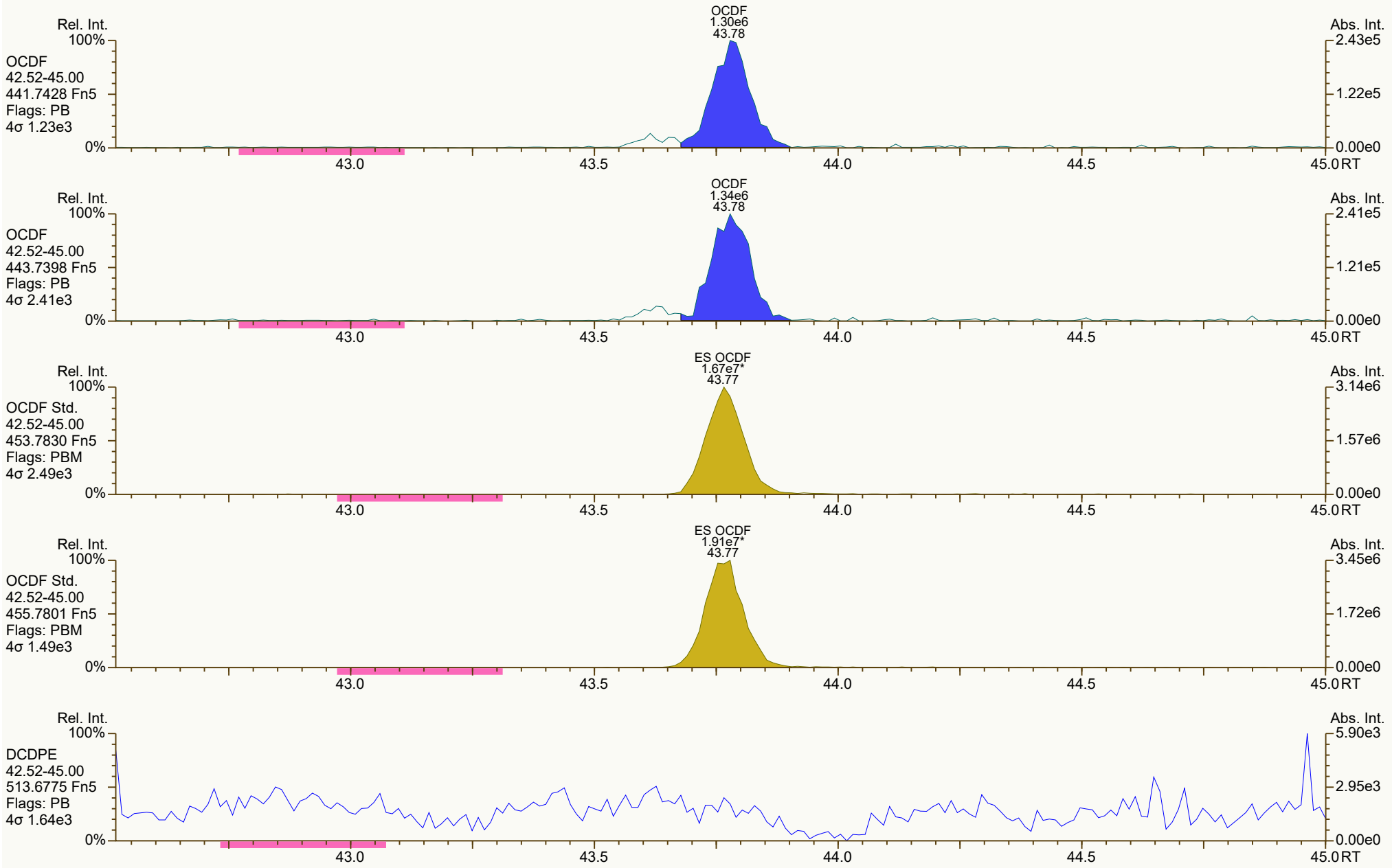

Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.31e3
2378F 2.93e6* 27.35
1278F 1.23e6* 26.46
1248F...[3] 1.72e5* 24.55
1478F 2.13e5 25.25
2368F 2.14e5* 25.91
1238F...[5] 1.53e5* 26.00
1267F 1.40e5* 26.73
2348F 1.97e5* 27.24
2367/3467F 3.85e5* 27.72
1289F 4.33e5* 29.38
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.54e3
2378F 3.65e6* 27.35
1278F 1.54e6* 26.46
1248F...[3] 2.23e5* 24.53
1478F 2.26e5 25.25
2368F 3.08e5* 25.92
2348F 2.34e5* 27.24
2367/3467F 4.94e5* 27.72
1289F 3.59e5* 29.38
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 5.61e3
JS 1234F 2.72e7* 25.98
ES 2378F 2.55e7* 27.32
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 2.96e3
JS 1234F 3.44e7* 25.98
ES 2378F 3.25e7* 27.32
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.71e4
4.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
3.32e5
29.38
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.51e3
13468/12468F
1.93e5
29.38
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.21e3
Abs. Int.
6.45e4
3.22e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.61e6
2.31e6


Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.07e3
12368F...[3] 3.65e5* 31.09
13678F...[3] 1.14e5* 30.94
14678F 3.19e4* 31.17
23468/12469F 8.58e4* 12347F 3.50e4* 31.75 31.83
12378F 1.88e5* 32.20
12678/12367F 1.27e5 32.49
23467/12369F 8.52e4* 33.19
23478F 2.24e5* 33.31
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.62e3
12368F...[3] 2.32e5* 31.09
13678F...[3] 8.01e4 30.93
14678F 4.38e4* 31.16
23468/12469F 7.82e4* 31.74
12348F 3.22e4* 31.99
12378F 1.19e5* 32.20
12678/12367F 9.00e4 32.49
23467/12369F 6.02e4* 33.19
23478F 1.36e5* 33.31
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 1.57e3
CS 12346F 2.77e7* 31.65
ES 12378F 3.08e7* 32.18
ES 23478F 2.95e7* 33.29
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 1.83e3
CS 12346F 1.83e7* 31.65
ES 12378F 1.99e7* 32.18
ES 23478F 1.84e7* 33.29
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: PB
4σ 1.27e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
8.89e4
4.44e4
0.00e0
6.55e4
3.28e4
8.84e6
4.42e6
5.70e6
2.85e6
6.59e3
3.30e3


Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PB
4σ 2.32e3
123468F 1.72e5 35.23
124678/134678F 6.34e5 35.43
124679F 2.75e4 35.85
124689F 5.10e5 36.09
123467F 6.77e4 36.51
123478F 3.36e5 36.62
123678F 1.62e5 36.76
234678F 1.36e5 37.44
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PB
4σ 1.71e3
123468F 1.31e5 35.23
124678/134678F 4.86e5 35.43
124679F 2.42e4 35.85
124689F 4.40e5 36.09
123467F 4.69e4 36.51
123478F 2.78e5 36.62
123678F 1.48e5 36.76
234678F 1.13e5 37.43
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.36e3
ES 123478F 1.31e7 36.60
ES 123678F 1.60e7 36.74
CS 123469F 1.39e7 37.06
ES 234678F 1.43e7 37.42
ES 123789F 1.24e7 38.40
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 5.47e3
ES 123478F 2.45e7 36.60
ES 123678F 3.00e7 36.74
CS 123469F 2.60e7 37.06
ES 234678F 2.71e7 37.42
ES 123789F 2.26e7 38.40
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.18e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
2.01e5
1.01e5
0.00e0
1.43e5
7.15e4
4.51e6
2.25e6
8.58e6
4.29e6
5.76e3
2.88e3


SGS ID: B6152_18822_DF_002
Sample ID: 11215131-010622-S-BN-SW-S-29
Acq: 15-Jan-2022 02:29:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220114C24
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 2.33e3
1234678F
8.77e5
39.88
1234689F
1.16e6
40.30
1234789F
6.02e4
41.29
3.52e5
1.76e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 2.14e3
1234678F
8.63e5
39.88
1234689F
1.14e6
40.30
1234789F
7.70e4
41.29
3.72e5
1.86e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 1.65e3
ES 1234678F
8.79e6
39.87
CS 1234689F
8.77e6*
40.29
ES 1234789F
6.75e6
41.28
2.92e6
1.46e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.86e3
ES 1234678F
2.04e7
39.87
CS 1234689F
1.87e7*
40.29
ES 1234789F
1.56e7
41.28
6.50e6
3.25e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.32e3
RT
2.03e4
1.02e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_002.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 1317, 6855, 7679 scc: 430-308
PKD: 15-Jan-2022 09:57 Printed: 15-Jan-2022 10:50 Page 11 of 12


OCDF
1.30e6
43.78
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
2.43e5
1.22e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.34e6
43.78
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 2.41e3
0%
Abs. Int.
2.41e5
1.21e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.67e7*
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.49e3
0%
Abs. Int.
3.14e6
1.57e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.91e7*
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 1.49e3
0%
Abs. Int.
3.45e6
1.72e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
5.90e3
2.95e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6152_18822_DF_003 **Acq'd:** 15 Jan 2022 03:15 DTF **Wt/Vol:** 10.21 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-31 **UTP:** 15-Jan-2022 10:34:33 MLS **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 809-337-BPP

Datafile: 220114C25 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22	E	1.0008	1.0008	0	5.30E+08	0.80	Y	1.18	2,200	3907.549	0.154
12378-PeCDD	33.65		1.0006	1.0006	0	4.11E+06	1.56	Y	1.04	21.8	4698.749	0.207
123478-HxCDD	37.62	J	1.0004	1.0004	0	1.46E+05	1.35	Y	1.09	0.916	5423.559	0.291
123678-HxCDD	37.73	J	1.0036	1.0036	0	4.08E+05	1.22	Y	1.15	2.24	5423.559	0.247
123789-HxCDD	38.04	J EMPC	1.0118	1.0117	-0.2	3.08E+05	1.56	N	1.05	1.82	5423.559	0.266
1234678-HpCDD	40.84		1.0003	1.0003	0	1.10E+07	1.00	Y	1.06	79.3	3129.627	0.202
OCDD	43.62		1.0003	1.0003	0	6.54E+08	0.91	Y	1.13	7,990	3954.735	0.69
2378-TCDF	27.34	E	1.0008	1.0008	0	2.02E+09	0.79	Y	1.08	5,700	3022.472	0.0956
12378-PeCDF	32.19		1.0006	1.0005	-0.2	4.43E+07	1.54	Y	1.02	158	6645.351	0.201
23478-PeCDF	33.31		1.0006	1.0008	+0.4	3.24E+07	1.53	Y	1.02	120	6645.351	0.208
123478-HxCDF	36.61		1.0005	1.0005	0	8.08E+07	1.25	Y	1.27	318	13476.987	0.406
123678-HxCDF	36.74		1.0004	1.0005	+0.2	2.18E+07	1.24	Y	1.15	78.9	13476.987	0.409
234678-HxCDF	37.42		1.0005	1.0004	-0.2	3.69E+06	1.23	Y	1.19	14.1	13476.987	0.449
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	13476.987	0.513
1234678-HpCDF	39.87		1.0003	1.0003	0	1.67E+07	1.00	Y	1.37	81	3805.087	0.153
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	5.23E+06	1.04	Y	1.31	34.7	3805.087	0.259
OCDF	43.78		1.0003	1.0003	0	1.09E+07	0.88	Y	1.07	113	2584.12	0.369

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20		1.0231	1.0229	-0.3	3.99E+07	0.83	Y	1.05	96.3
ES 12378-PeCDD	33.63		1.2198	1.2199	+0.2	3.56E+07	1.64	Y	0.88	102
ES 123478-HxCDD	37.60		0.9913	0.9913	0	2.86E+07	1.28	Y	0.97	97.7
ES 123678-HxCDD	37.72		0.9944	0.9945	+0.2	3.11E+07	1.28	Y	0.94	109
ES 123789-HxCDD	38.03		1.0026	1.0026	0	3.17E+07	1.26	Y	1.09	96.4
ES 1234678-HpCDD	40.82		1.0760	1.0762	+0.5	2.56E+07	1.09	Y	0.91	93.1
ES OCDD	43.61		1.1489	1.1497	+2.1	2.85E+07	0.93	Y	0.62	75.7
ES 2378-TCDF	27.32		1.0515	1.0516	+0.2	6.43E+07	0.81	Y	1.06	99.1
ES 12378-PeCDF	32.17		1.2378	1.2384	+1.2	5.35E+07	1.49	Y	0.91	95.9
ES 23478-PeCDF	33.28		1.2804	1.2812	+1.6	5.18E+07	1.53	Y	0.88	95.7
ES 123478-HxCDF	36.59		0.9647	0.9647	0	3.92E+07	0.54	Y	1.20	109
ES 123678-HxCDF	36.73		0.9684	0.9683	-0.2	4.70E+07	0.54	Y	1.35	116
ES 234678-HxCDF	37.40		0.9861	0.9861	0	4.32E+07	0.52	Y	1.24	115
ES 123789-HxCDF	38.38		1.0120	1.0120	0	3.53E+07	0.53	Y	1.16	101
ES 1234678-HpCDF	39.86		1.0506	1.0508	+0.5	2.95E+07	0.44	Y	0.97	101
ES 1234789-HpCDF	41.27		1.0879	1.0882	+0.7	2.26E+07	0.47	Y	0.85	88.1
ES OCDF	43.77		1.1534	1.1539	+1.3	3.55E+07	0.90	Y	0.81	72.9

Lab ID: B6152_18822_DF_003 **Acq'd:** 15 Jan 2022 03:15 DTF **Wt/Vol:** 10.21 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-31 **UTP:** 15-Jan-2022 10:34:33 MLS **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 809-337-BPP

Datafile: 220114C25 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.57		-	-	-	3.96E+07	0.83	Y	-	-
JS 1234-TCDF	25.98		-	-	-	6.13E+07	0.80	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	1.51E+07	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0238	1.0237	-0.2	1.78E+07	n/a	-	1.20	93.4
CS 12347-PeCDD	33.13		1.2018	1.2020	+0.4	3.30E+07	1.59	Y	0.75	111
CS 12346-PeCDF	31.65		1.2178	1.2184	+1.1	5.06E+07	1.49	Y	0.85	97.1
CS 123469-HxCDF	37.05		0.9768	0.9767	-0.2	4.02E+07	0.52	Y	1.12	120
CS 1234689-HpCDF	40.27		1.0615	1.0617	+0.5	2.67E+07	0.43	Y	0.89	99.9
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0238~~	~~1.0237~~	~~-0.2~~	~~1.78E+07~~	~~n/a~~		~~1.15~~	~~97.3~~
~~SS 12347-PeCDD~~	~~33.13~~		~~1.2018~~	~~1.2020~~	~~+0.4~~	~~3.30E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~108~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2184~~	~~+1.1~~	~~5.06E+07~~	~~1.49~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~37.05~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~4.02E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~103~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0617~~	~~+0.5~~	~~2.67E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~98.6~~

Totals	Conc	EMPC
Total TCDD	2390	2390
Total PeCDD	32.4	34.5
Total HxCDD	54.2	56
Total HpCDD	219	219
Total Tetra-Octa Dioxins	10700	10700
Total TCDF	11,000	11000
Total PeCDF	437	440
Total HxCDF	474	476
Total HpCDF	141	141
Total Tetra-Octa Furans	12,200	12200
Total Tetra-Octa Dioxins & Furans	22900	22900

Lab ID: B6152_18822_DF_003 | Acq'd: 15 Jan 2022 03:15 DTF | Wt/Vol: 10.21 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-31 | UTP: 15-Jan-2022 10:34:33 MLS | J-level: 0.49 pg/g | Split: 1 | Checkcode: 809-337-BPP

Datafile: 220114C25 | Report: 15 Jan 2022 10:41 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55	EMPC	0.8733	0.8706	-4.0	2.04E+05	0.97	N	1.18	0.845	3907.549	0.154
1379-TCDD	24.91	J EMPC	0.8860	0.8835	-3.7	1.01E+05	0.58	N	1.18	0.417	3907.549	0.154
1369-TCDD	25.37	J	0.9009	0.8996	-2.0	9.78E+04	0.66	Y	1.18	0.406	3907.549	0.154
1469-TCDD	26.14		0.9282	0.9269	-2.0	1.85E+06	0.87	Y	1.18	7.69	3907.549	0.154
1247/1246/1248/1249-TCDD	26.36		0.9365	0.9349	-2.5	8.50E+05	0.88	Y	1.18	3.52	3907.549	0.154
1378-TCDD	26.56		0.9429	0.9418	-1.8	1.59E+06	0.81	Y	1.18	6.57	3907.549	0.154
1268-TCDD	NotFnd		0.9500						1.18		3907.549	0.154
1478-TCDD	27.01		0.9584	0.9579	-0.8	1.55E+06	0.83	Y	1.18	6.44	3907.549	0.154
1279-TCDD	NotFnd		0.9648						1.18		3907.549	0.154
1234/1269-TCDD	27.55		0.9770	0.9770	0	2.99E+05	0.84	Y	1.18	1.24	3907.549	0.154
1236-TCDD	27.70	J	0.9821	0.9823	+0.3	1.11E+05	0.80	Y	1.18	0.46	3907.549	0.154
1237/1238-TCDD	27.94		0.9909	0.9909	0	8.79E+06	0.80	Y	1.18	36.5	3907.549	0.154
1239-TCDD	NotFnd		0.9959						1.18		3907.549	0.154
2378-TCDD	**28.22**	E	**1.0008**	1.0008	**0**	5.30E+08	0.80	Y	**1.18**	**2,200**	**3907.549**	**0.154**
1278-TCDD	28.54		1.0123	1.0121	-0.3	3.02E+07	0.79	Y	1.18	125	3907.549	0.154
1267-TCDD	28.69		1.0172	1.0175	+0.5	1.55E+06	0.73	Y	1.18	6.43	3907.549	0.154
1289-TCDD	29.21		1.0354	1.0357	+0.5	8.56E+05	0.83	Y	1.18	3.55	3907.549	0.154
12479/12468-PeCDD	31.14	J	0.9267	0.9262	-0.9	2.70E+05	1.52	Y	1.04	1.43	4698.749	0.207
12469-PeCDD	31.69		0.9426	0.9422	-0.8	1.13E+06	1.44	Y	1.04	6.02	4698.749	0.207
12368-PeCDD	32.22	J EMPC	0.9587	0.9582	-1.0	1.50E+05	1.23	N	1.04	0.794	4698.749	0.207
12478-PeCDD	32.42	J	0.9642	0.9641	-0.2	2.93E+05	1.34	Y	1.04	1.55	4698.749	0.207
12379-PeCDD	32.53	J EMPC	0.9674	0.9674	0	8.07E+04	1.20	N	1.04	0.428	4698.749	0.207
12369/12467/12489-PeCDD	32.79	J	0.9752	0.9750	-0.4	2.05E+05	1.50	Y	1.04	1.09	4698.749	0.207
12346/12347-PeCDD	33.16	J EMPC	0.9861	0.9860	-0.2	7.85E+04	1.98	N	1.04	0.416	4698.749	0.207
12378-PeCDD	33.65		**1.0006**	**1.0006**	**0**	**4.11E+06**	**1.56**	**Y**	**1.04**	**21.8**	**4698.749**	**0.207**
12367-PeCDD	33.74	J	1.0036	1.0035	-0.2	1.03E+05	1.58	Y	1.04	0.548	4698.749	0.207
12389-PeCDD	34.09	J EMPC	1.0139	1.0139	0	7.74E+04	1.21	N	1.04	0.411	4698.749	0.207
124679/124689-HxCDD	35.88		0.9541	0.9543	+0.4	6.46E+06	1.27	Y	1.10	38	5423.559	0.267
123468-HxCDD	36.53	J	0.9715	0.9717	+0.4	2.07E+05	1.41	Y	1.10	1.21	5423.559	0.267
123679/123689-HxCDD	36.83		0.9793	0.9794	+0.2	1.63E+06	1.39	Y	1.10	9.56	5423.559	0.267
123469-HxCDD	36.97	J	0.9831	0.9833	+0.4	2.70E+05	1.37	Y	1.10	1.59	5423.559	0.267
123478-HxCDD	37.62	J	**1.0004**	**1.0004**	**0**	**1.46E+05**	**1.35**	**Y**	1.09	**0.916**	**5423.559**	**0.291**
123678-HxCDD	37.73	J	**1.0036**	**1.0036**	**0**	**4.08E+05**	**1.22**	**Y**	1.15	**2.24**	**5423.559**	**0.247**
123467-HxCDD	37.94	J	1.0089	1.0092	+0.7	1.23E+05	1.35	Y	1.10	0.72	5423.559	0.267
123789-HxCDD	38.04	J EMPC	**1.0118**	**1.0117**	**-0.2**	**3.08E+05**	**1.56**	**N**	1.05	**1.82**	**5423.559**	**0.266**

Lab ID: B6152_18822_DF_003 | Acq'd: 15 Jan 2022 03:15 DTF | Wt/Vol: 10.21 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-31 | UTP: 15-Jan-2022 10:34:33 MLS | J-level: 0.49 pg/g | Split: 1 | Checkcode: 809-337-BPP

Datafile: 220114C25 | Report: 15 Jan 2022 10:41 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

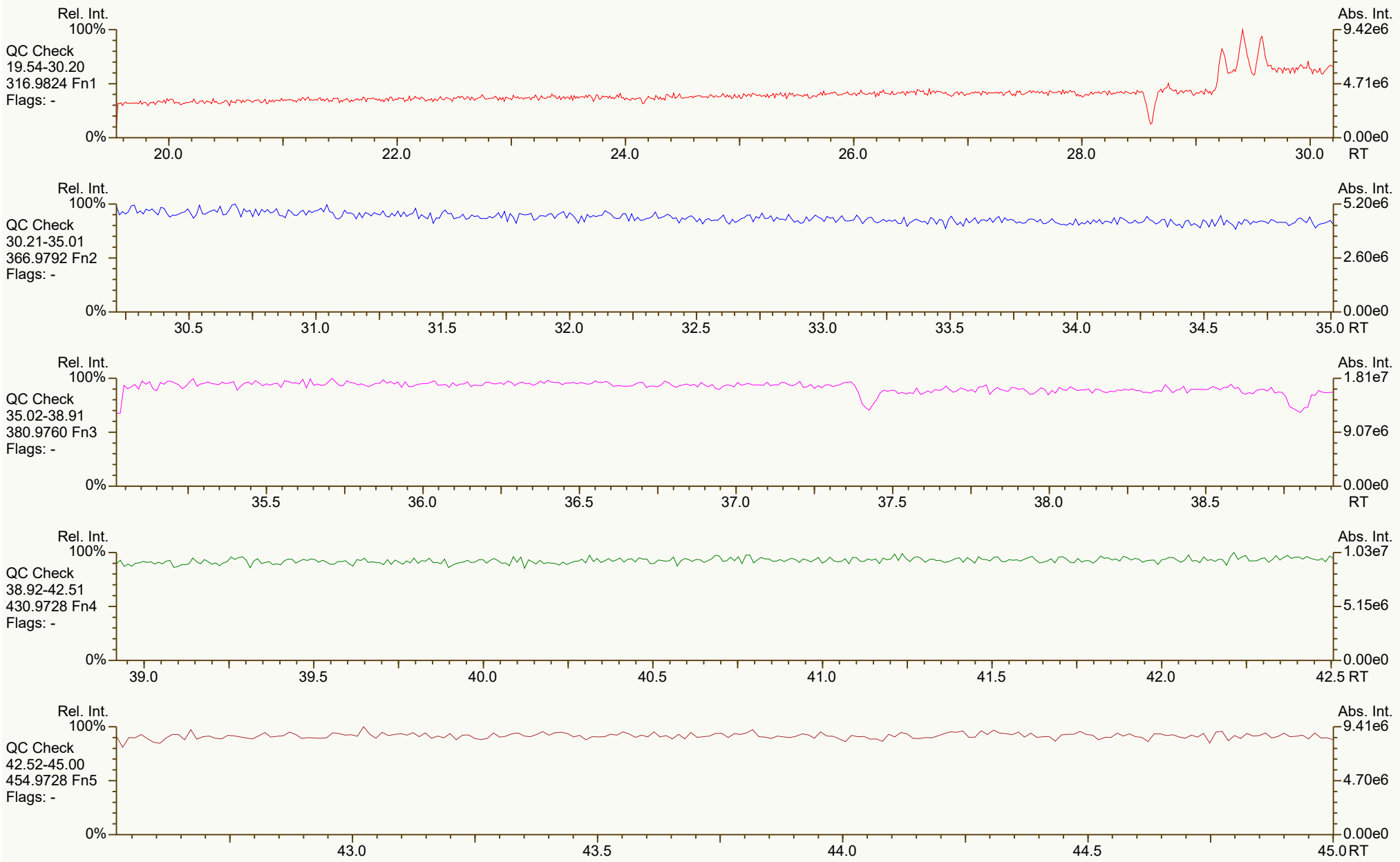
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9835	0	1.93E+07	1.00	Y	1.06	140	3129.627	0.202
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.10E+07**	**1.00**	**Y**	**1.06**	**79.3**	**3129.627**	**0.202**
OCDD	**43.62**		**1.0003**	**1.0003**	**0**	**6.54E+08**	**0.91**	**Y**	**1.13**	**7,990**	**3954.735**	**0.69**
OCDD-a	43.62		1.0002	1.0002	0	4.06E+07	2.40	Y	0.07	7,760	5753.57	15.7
1368-TCDF	22.42		0.8250	0.8207	-5.8	3.70E+05	0.80	Y	1.08	1.04	3022.472	0.0956
1468-TCDF	23.02		0.8494	0.8426	-9.4	2.32E+06	0.79	Y	1.08	6.56	3022.472	0.0956
2468-TCDF	23.64		0.8684	0.8656	-4.0	1.45E+06	0.83	Y	1.08	4.1	3022.472	0.0956
1346/1246-TCDF	24.06		0.8815	0.8806	-1.3	9.55E+05	0.77	Y	1.08	2.7	3022.472	0.0956
1347/1378/1247-TCDF	24.20		0.8867	0.8857	-1.5	1.97E+07	0.79	Y	1.08	55.8	3022.472	0.0956
1348-TCDF	NotFnd		0.8966						1.08		3022.472	0.0956
1248/1367/1379-TCDF	24.53		0.9012	0.8979	-4.9	9.31E+07	0.81	Y	1.08	263	3022.472	0.0956
1268-TCDF	24.94		0.9148	0.9130	-2.7	2.93E+07	0.79	Y	1.08	82.7	3022.472	0.0956
1467-TCDF	25.08		0.9197	0.9180	-2.6	4.05E+06	0.78	Y	1.08	11.4	3022.472	0.0956
1478-TCDF	25.24		0.9258	0.9241	-2.6	8.03E+07	0.78	Y	1.08	227	3022.472	0.0956
1369/1237-TCDF	25.63		0.9390	0.9381	-1.4	2.05E+07	0.82	Y	1.08	57.8	3022.472	0.0956
2467-TCDF	NotFnd		0.9435						1.08		3022.472	0.0956
2368-TCDF	25.88		0.9488	0.9474	-2.2	4.85E+07	0.79	Y	1.08	137	3022.472	0.0956
1238/1234/1678/1469/1236-TCDF	25.98		0.9527	0.9509	-2.8	9.65E+07	0.78	Y	1.08	273	3022.472	0.0956
1278-TCDF	26.45	E	0.9689	0.9681	-1.3	9.26E+08	0.80	Y	1.08	2,620	3022.472	0.0956
1349-TCDF	NotFnd		0.9730						1.08		3022.472	0.0956
1267-TCDF	26.72		0.9787	0.9781	-1.0	4.75E+07	0.80	Y	1.08	134	3022.472	0.0956
2346/1249-TCDF	26.93		0.9856	0.9859	+0.5	5.75E+06	0.76	Y	1.08	16.3	3022.472	0.0956
2347/1279-TCDF	27.12		0.9934	0.9927	-1.1	1.81E+07	0.76	Y	1.08	51	3022.472	0.0956
2348-TCDF	27.23		0.9972	0.9967	-0.8	1.37E+08	0.78	Y	1.08	388	3022.472	0.0956
2378-TCDF	**27.34**	E	**1.0008**	**1.0008**	**0**	**2.02E+09**	**0.79**	**Y**	**1.08**	**5,700**	**3022.472**	**0.0956**
2367/3467-TCDF	27.71		1.0145	1.0143	-0.3	1.59E+08	0.79	Y	1.08	449	3022.472	0.0956
1269-TCDF	27.97		1.0236	1.0238	+0.3	3.26E+07	0.77	Y	1.08	92.2	3022.472	0.0956
1239-TCDF	28.23		1.0333	1.0334	+0.2	2.26E+06	0.84	Y	1.08	6.39	3022.472	0.0956
1289-TCDF	29.38		1.0740	1.0756	+2.8	1.61E+08	0.80	Y	1.08	455	3022.472	0.0956
13468/12468-PeCDF	29.39		0.9138	0.9135	-0.5	1.40E+06	1.48	Y	1.02	5.09	2820.925	0.0867
13678/13467/12467-PeCDF	30.93	J	0.9614	0.9616	+0.4	5.44E+05	1.56	Y	1.02	1.98	6645.351	0.204
12368/13478/12478-PeCDF	31.10		0.9661	0.9666	+0.9	2.04E+07	1.51	Y	1.02	74.4	6645.351	0.204
14678-PeCDF	NotFnd		0.9693						1.02		6645.351	0.204
13479-PeCDF	NotFnd		0.9722						1.02		6645.351	0.204
13469/12479-PeCDF	NotFnd		0.9800						1.02		6645.351	0.204
12346-PeCDF	31.66	J EMPC	0.9844	0.9842	-0.4	8.88E+04	1.25	N	1.02	0.323	6645.351	0.204

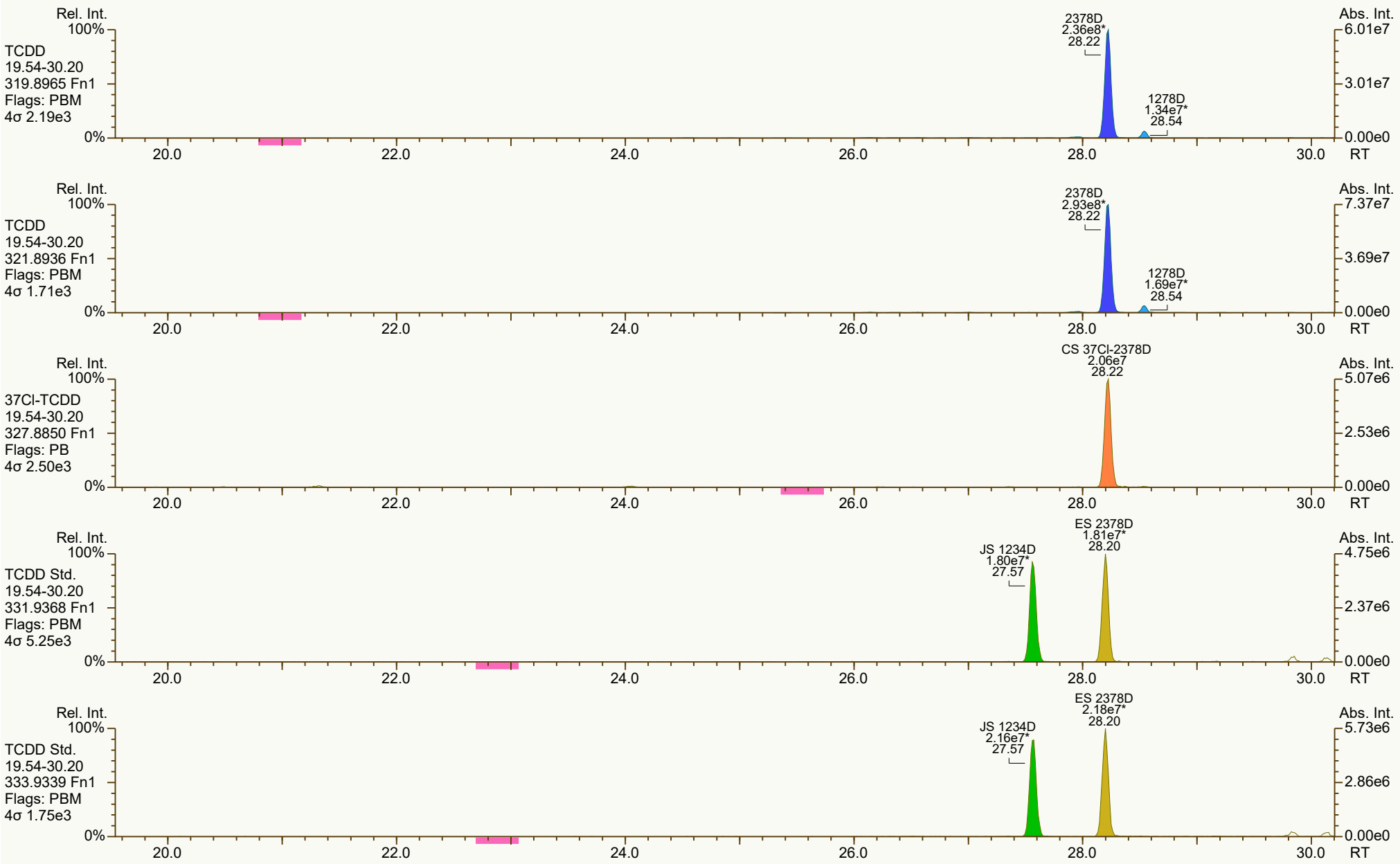
Lab ID: B6152_18822_DF_003 | Acq'd: 15 Jan 2022 03:15 DTF | Wt/Vol: 10.21 g | ICAL: HRMS3_DF_10272021 10NOV2021

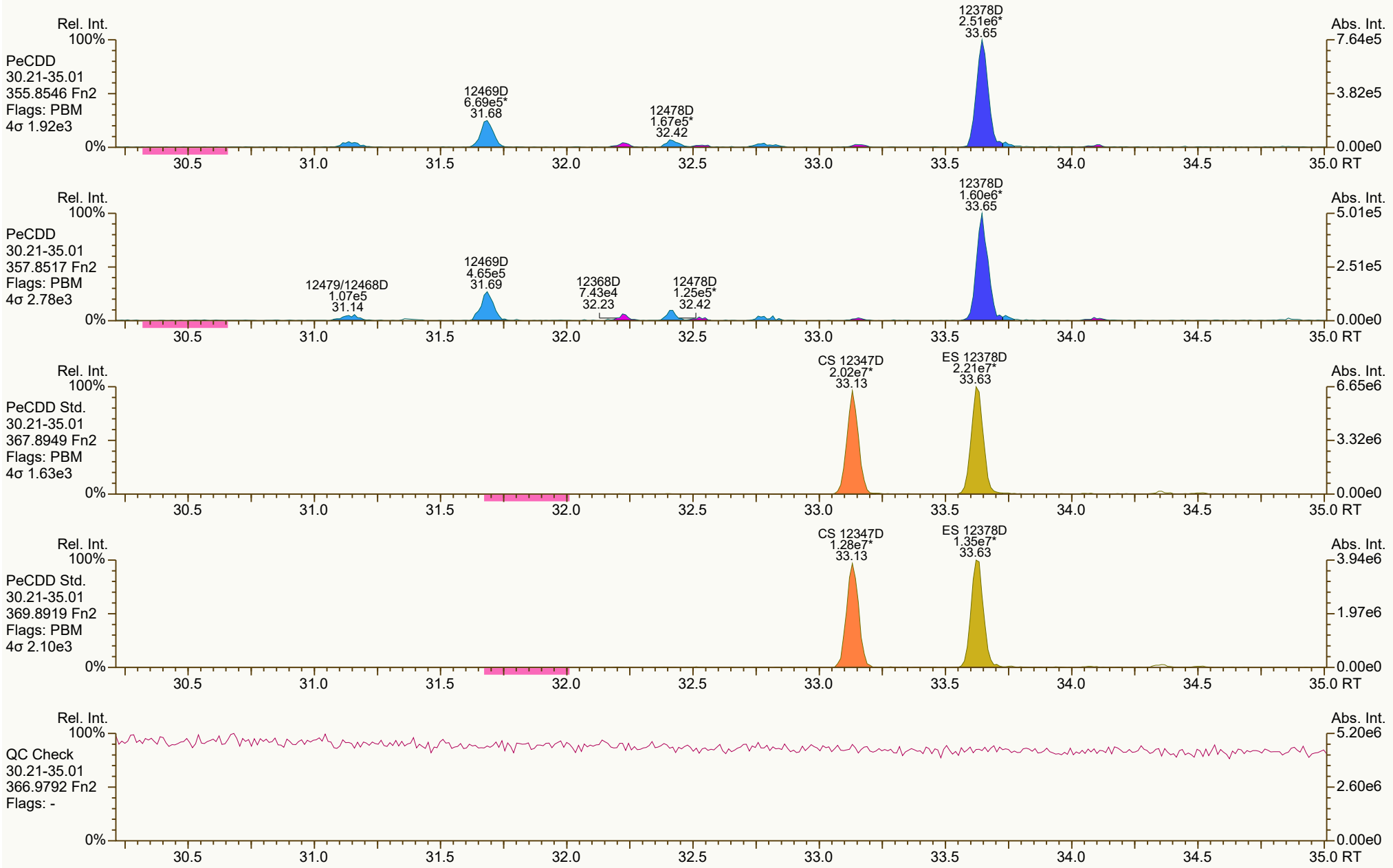
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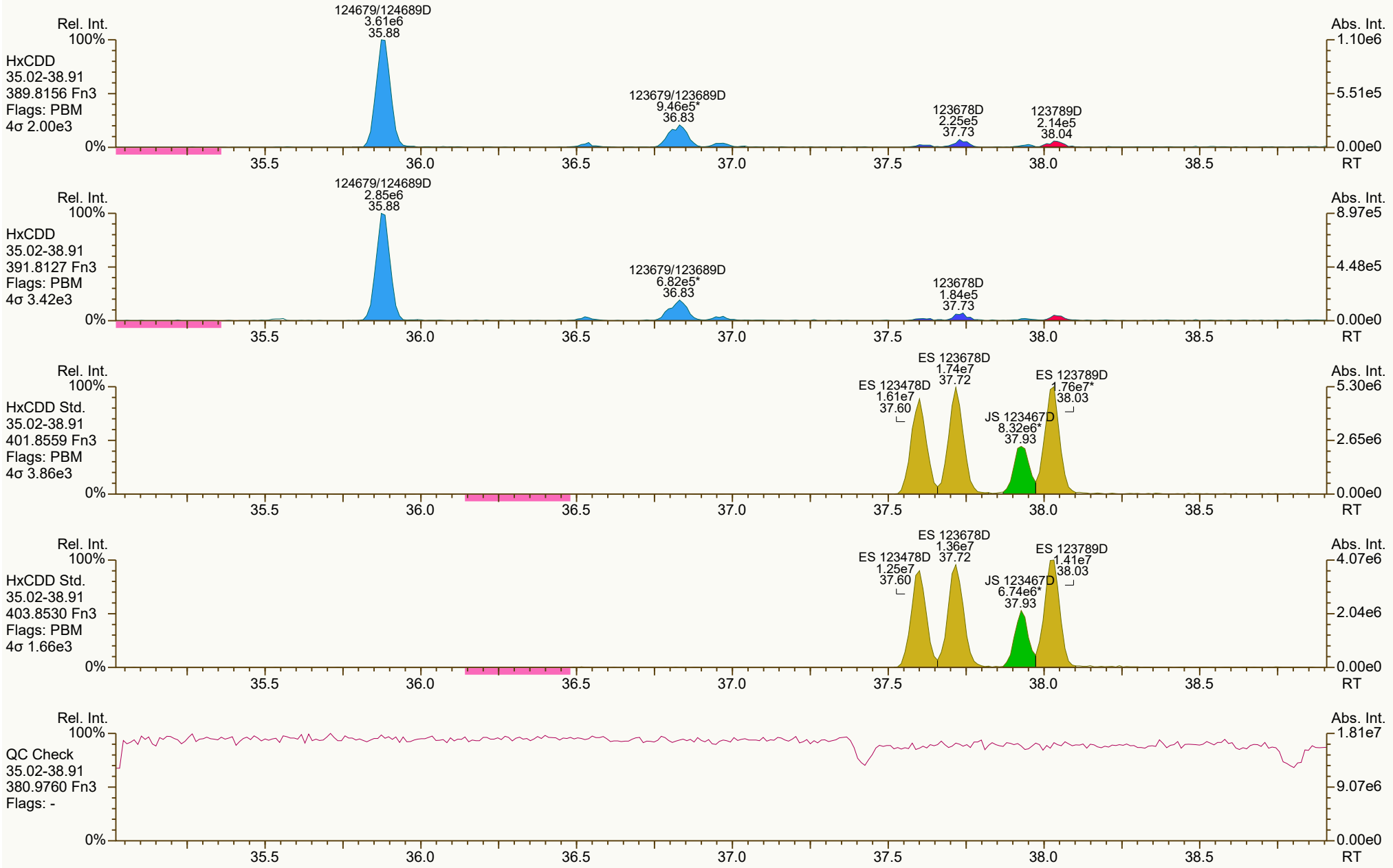
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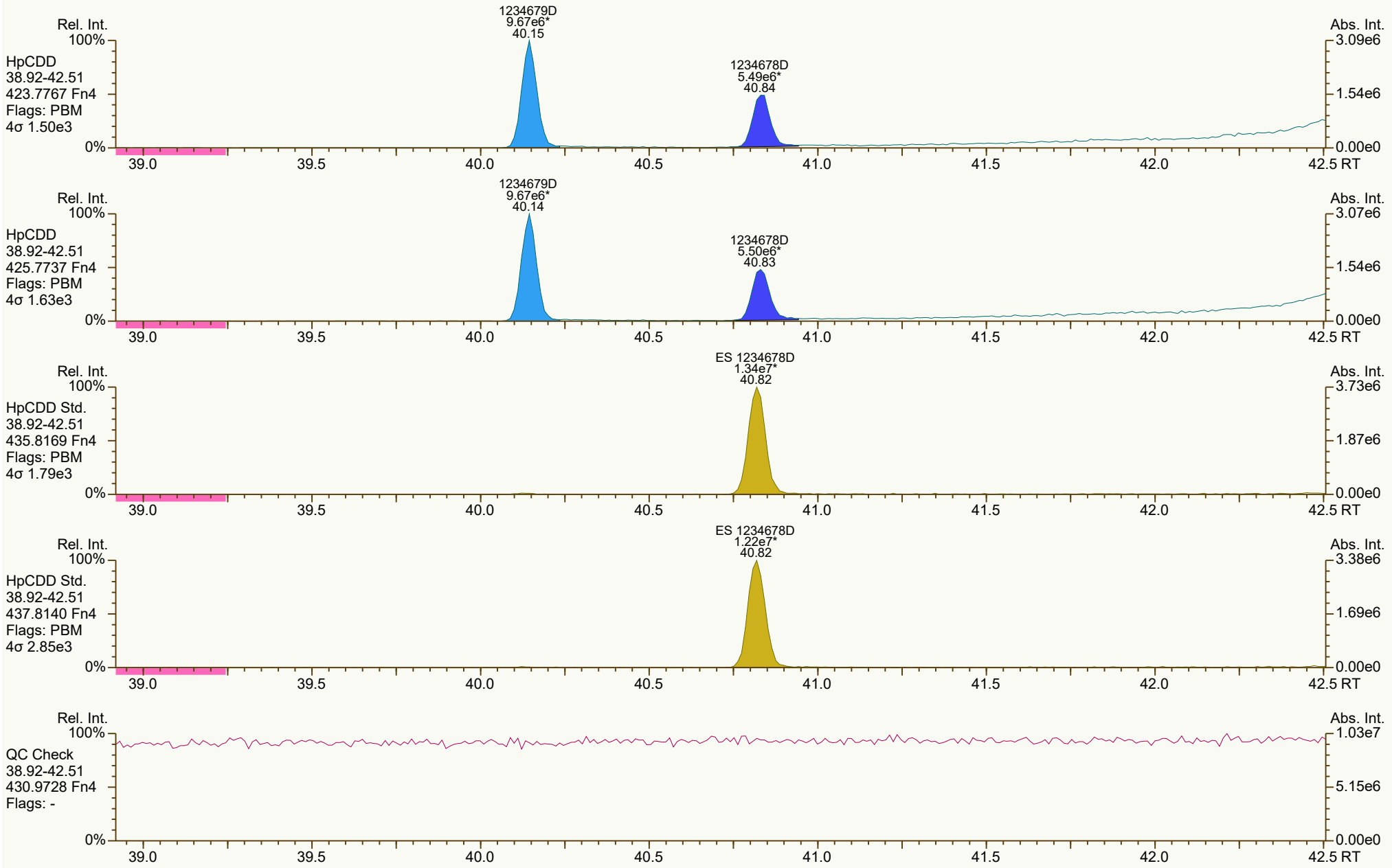
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74		0.9865	0.9865	0	8.31E+05	1.66	Y	1.02	3.03	6645.351	0.204
12347-PeCDF	31.82		0.9890	0.9892	+0.4	9.85E+05	1.64	Y	1.02	3.59	6645.351	0.204
12348-PeCDF	31.99		0.9942	0.9943	+0.2	4.09E+06	1.49	Y	1.02	14.9	6645.351	0.204
12378-PeCDF	**32.19**		**1.0006**	**1.0005**	**-0.2**	**4.43E+07**	**1.54**	**Y**	**1.02**	**158**	**6645.351**	**0.201**
12678/12367-PeCDF	32.49		1.0090	1.0099	+1.8	1.34E+07	1.50	Y	1.02	48.7	6645.351	0.204
12379-PeCDF	NotFnd		1.0142						1.02		6645.351	0.204
12679-PeCDF	NotFnd		0.9933						1.02		6645.351	0.204
23467/12369-PeCDF	33.18	J EMPC	0.9969	0.9969	0	6.00E+05	1.29	N	1.02	2.19	6645.351	0.204
23478-PeCDF	**33.31**		**1.0006**	**1.0008**	**+0.4**	**3.24E+07**	**1.53**	**Y**	**1.02**	**120**	**6645.351**	**0.208**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6645.351	0.204
12349-PeCDF	NotFnd		1.0107						1.02		6645.351	0.204
12389-PeCDF	34.38		1.0330	1.0330	0	1.82E+06	1.47	Y	1.02	6.63	6645.351	0.204
123468-HxCDF	35.22	EMPC	0.9627	0.9626	-0.2	6.56E+05	1.49	N	1.19	2.62	13476.987	0.44
124678/134678-HxCDF	35.42		0.9682	0.9680	-0.4	6.84E+06	1.26	Y	1.19	27.3	13476.987	0.44
134679-HxCDF	NotFnd		0.9744						1.19		13476.987	0.44
124679-HxCDF	NotFnd		0.9798						1.19		13476.987	0.44
124689-HxCDF	36.07		0.9858	0.9858	0	3.01E+06	1.23	Y	1.19	12	13476.987	0.44
123467-HxCDF	36.49	J	0.9973	0.9973	0	3.49E+05	1.41	Y	1.19	1.39	13476.987	0.44
123478-HxCDF	**36.61**		**1.0005**	**1.0005**	**0**	**8.08E+07**	**1.25**	**Y**	**1.27**	**318**	**13476.987**	**0.406**
123678-HxCDF	**36.74**		**1.0004**	**1.0005**	**+0.2**	**2.18E+07**	**1.24**	**Y**	**1.15**	**78.9**	**13476.987**	**0.409**
123479-HxCDF	NotFnd		1.0051						1.19		13476.987	0.44
123469-HxCDF	NotFnd		1.0093						1.19		13476.987	0.44
123679-HxCDF	NotFnd		0.9944						1.19		13476.987	0.44
234678-HxCDF	**37.42**		**1.0005**	**1.0004**	**-0.2**	**3.69E+06**	**1.23**	**Y**	**1.19**	**14.1**	**13476.987**	**0.449**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		13476.987	0.44
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**13476.987**	**0.513**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43		1.0008	1.0012	+0.9	5.54E+06	1.19	Y	1.19	22.1	13476.987	0.44
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.67E+07**	**1.00**	**Y**	**1.37**	**81**	**3805.087**	**0.153**
1234679-HpCDF	40.14	**J**	1.0069	1.0071	+0.5	1.90E+05	0.98	Y	1.34	1.07	3805.087	0.199
1234689-HpCDF	40.28		1.0103	1.0107	+1.0	4.31E+06	1.08	Y	1.34	24.2	3805.087	0.199
1234789-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**5.23E+06**	**1.04**	**Y**	**1.31**	**34.7**	**3805.087**	**0.259**
OCDF	**43.78**		**1.0003**	**1.0003**	**0**	**1.09E+07**	**0.88**	**Y**	**1.07**	**113**	**2584.12**	**0.369**
OCDF-a	43.77	**EMPC**	1.0002	1.0001	-0.3	6.32E+05	1.92	N	0.07	105	3103.077	7.16

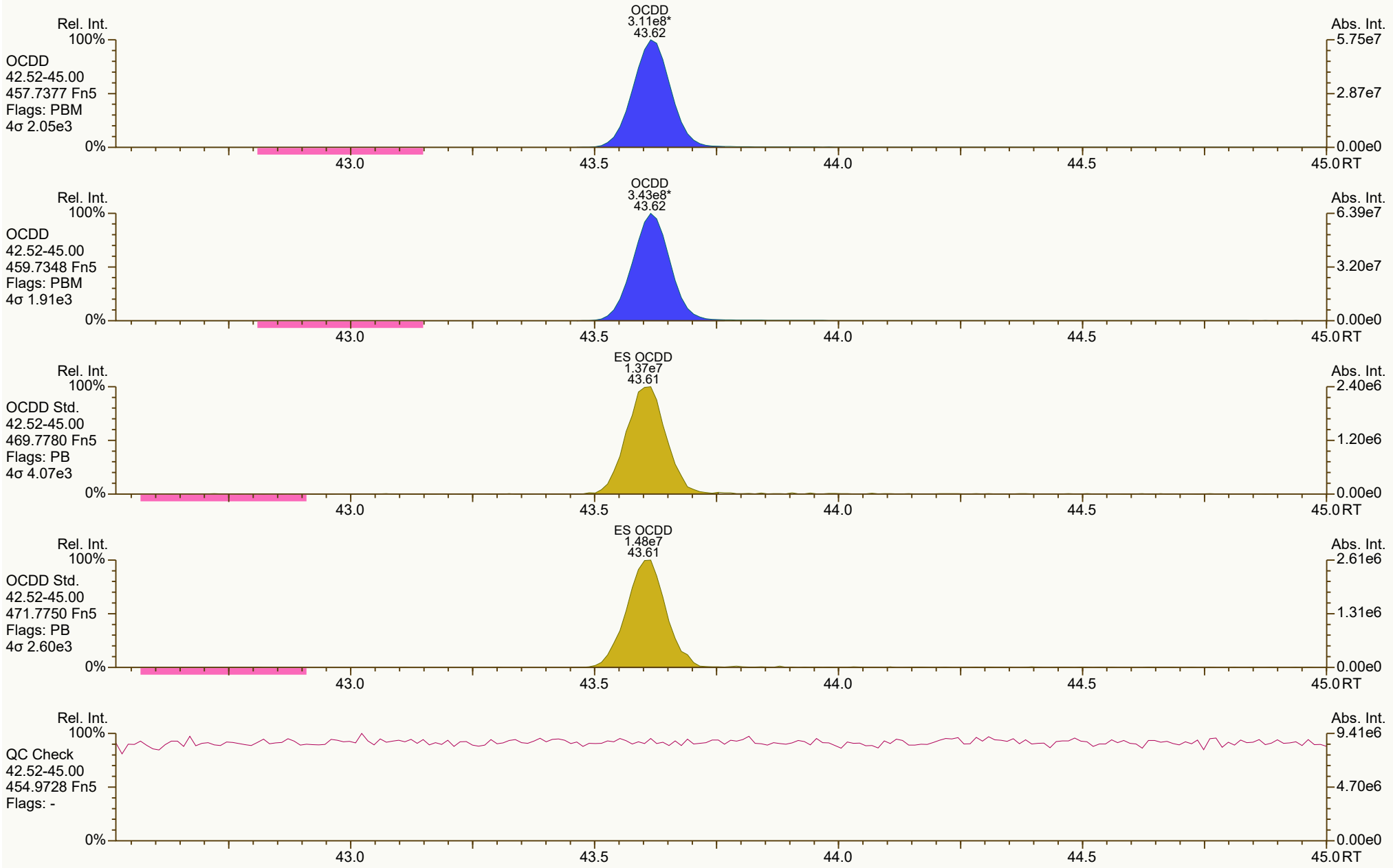

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19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
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4.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.20e6
2.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.81e7
9.07e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.03e7
5.15e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.41e6
4.70e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

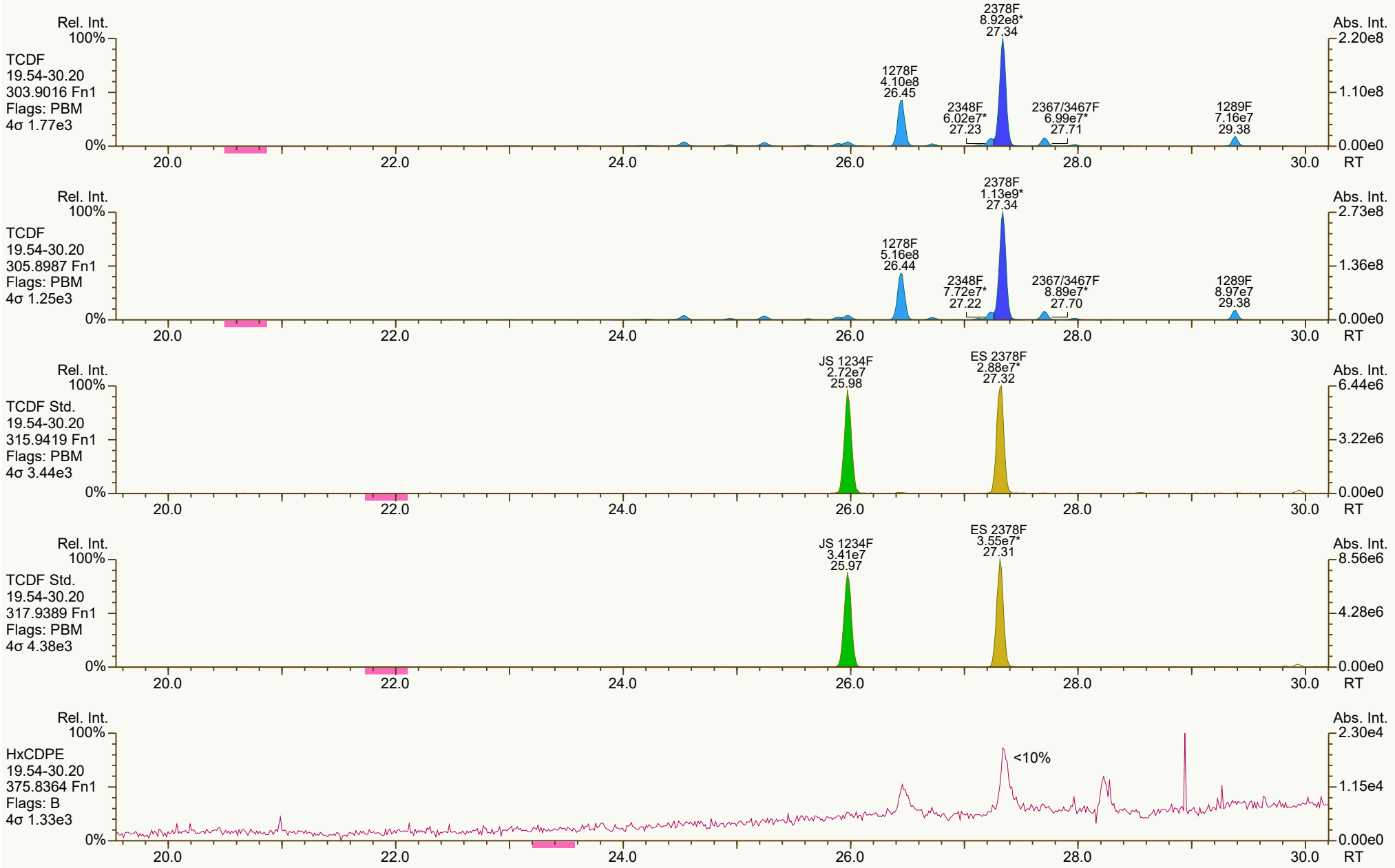

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.19e3
2378D
2.36e8*
28.22
1278D
1.34e7*
28.54
Abs. Int.
6.01e7
3.01e7
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.71e3
2378D
2.93e8*
28.22
1278D
1.69e7*
28.54
Abs. Int.
7.37e7
3.69e7
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.50e3
CS 37Cl-2378D
2.06e7
28.22
Abs. Int.
5.07e6
2.53e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.25e3
JS 1234D
1.80e7*
27.57
ES 2378D
1.81e7*
28.20
Abs. Int.
4.75e6
2.37e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 1.75e3
JS 1234D
2.16e7*
27.57
ES 2378D
2.18e7*
28.20
Abs. Int.
5.73e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

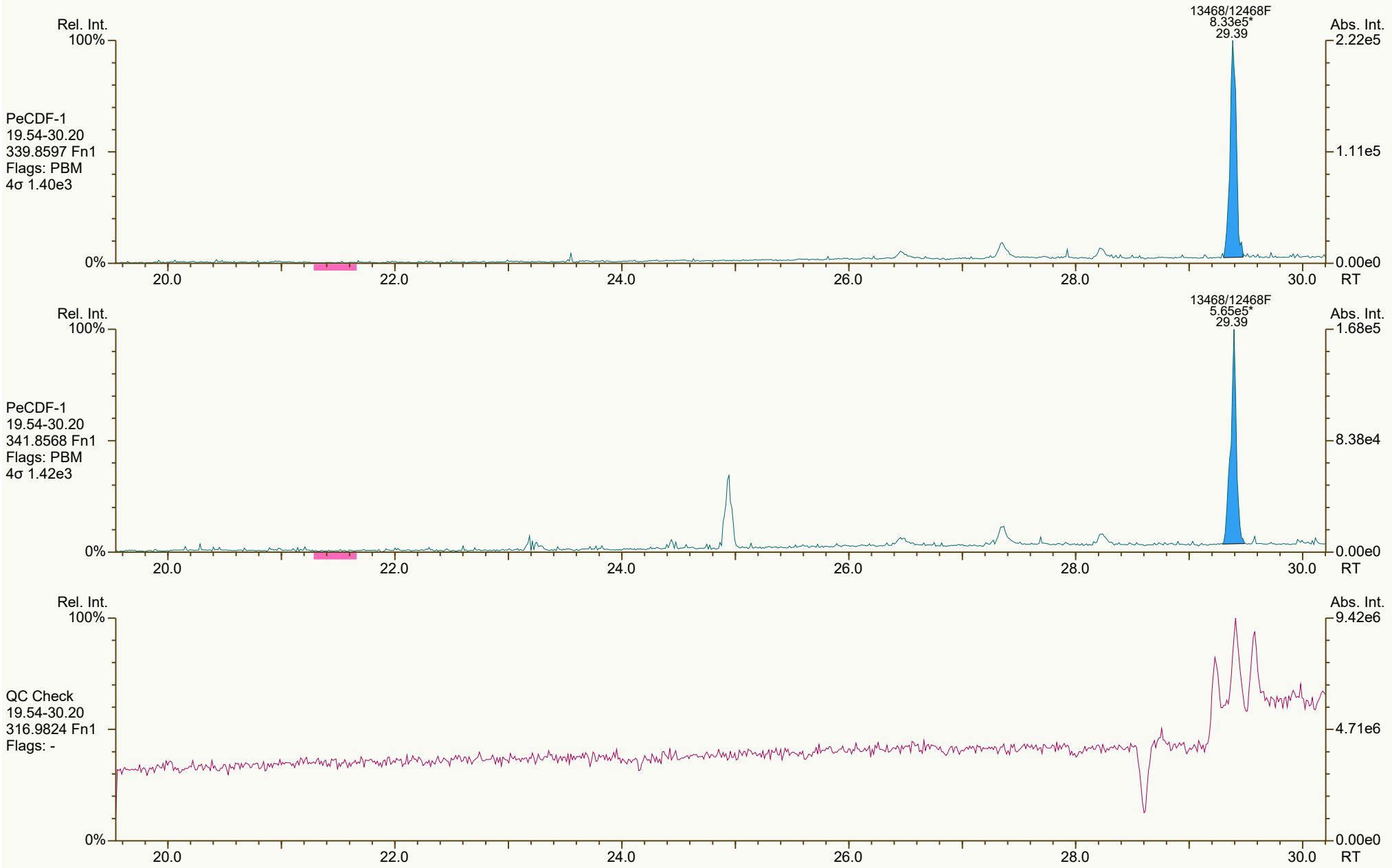

Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.92e3
12469D
6.69e5*
31.68
12478D
1.67e5*
32.42
12378D
2.51e6*
33.65
7.64e5
3.82e5
0.00e0
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.78e3
12479/12468D
1.07e5
31.14
12469D
4.65e5
31.69
12368D
7.43e4
32.23
12478D
1.25e5*
32.42
12378D
1.60e6*
33.65
5.01e5
2.51e5
0.00e0
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.63e3
CS 12347D
2.02e7*
33.13
ES 12378D
2.21e7*
33.63
6.65e6
3.32e6
0.00e0
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 2.10e3
CS 12347D
1.28e7*
33.13
ES 12378D
1.35e7*
33.63
3.94e6
1.97e6
0.00e0
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
5.20e6
2.60e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

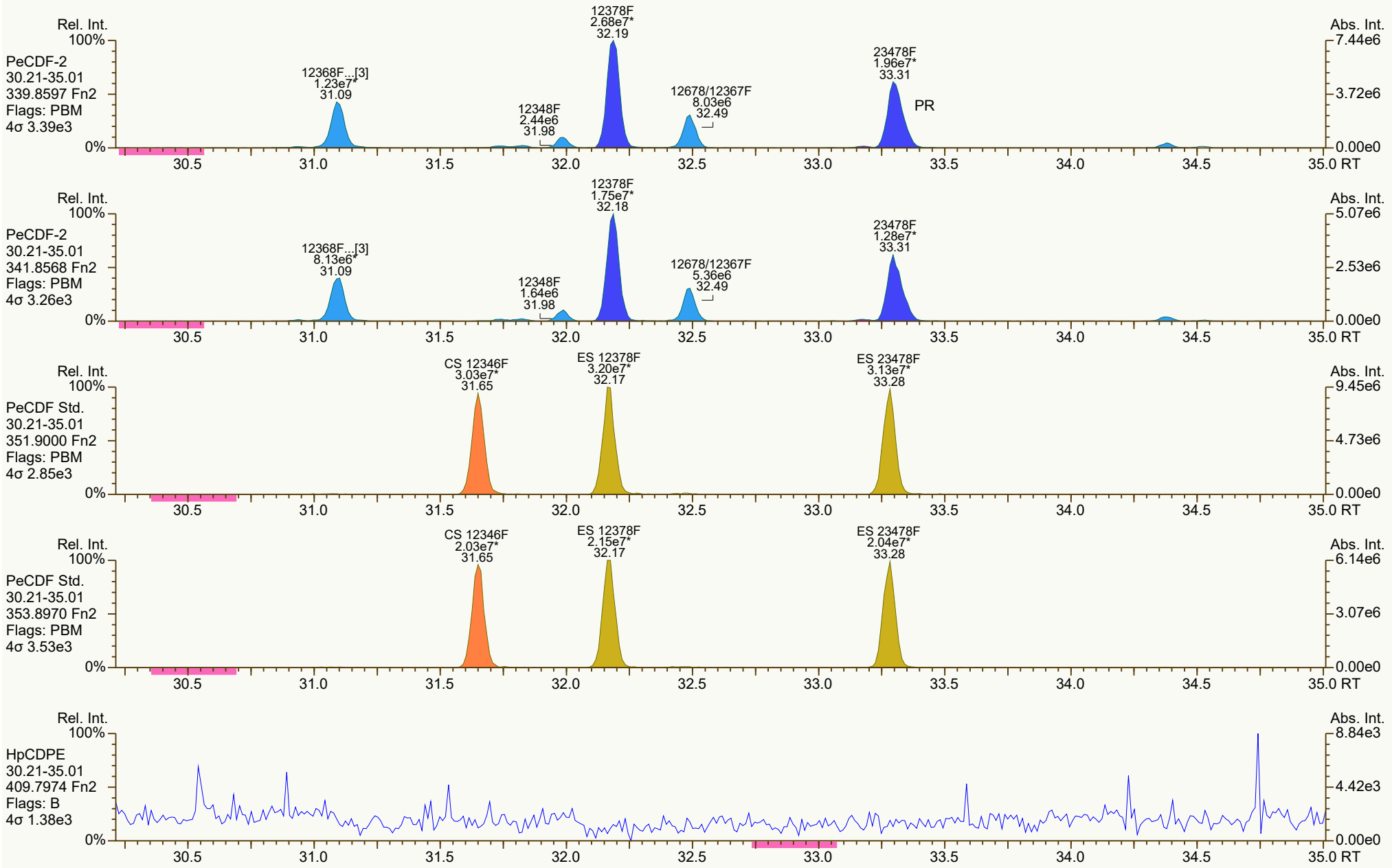

Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
3.61e6
35.88
123679/123689D
9.46e5*
36.83
123678D
2.25e5
37.73
123789D
2.14e5
38.04
1.10e6
5.51e5
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 3.42e3
124679/124689D
2.85e6
35.88
123679/123689D
6.82e5*
36.83
123678D
1.84e5
37.73
8.97e5
4.48e5
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 3.86e3
ES 123678D
1.74e7
37.72
ES 123478D
1.61e7
37.60
ES 123789D
1.76e7*
38.03
JS 123467D
8.32e6*
37.93
5.30e6
2.65e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.66e3
ES 123678D
1.36e7
37.72
ES 123478D
1.25e7
37.60
ES 123789D
1.41e7
38.03
JS 123467D
6.74e6*
37.93
4.07e6
2.04e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.81e7
9.07e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

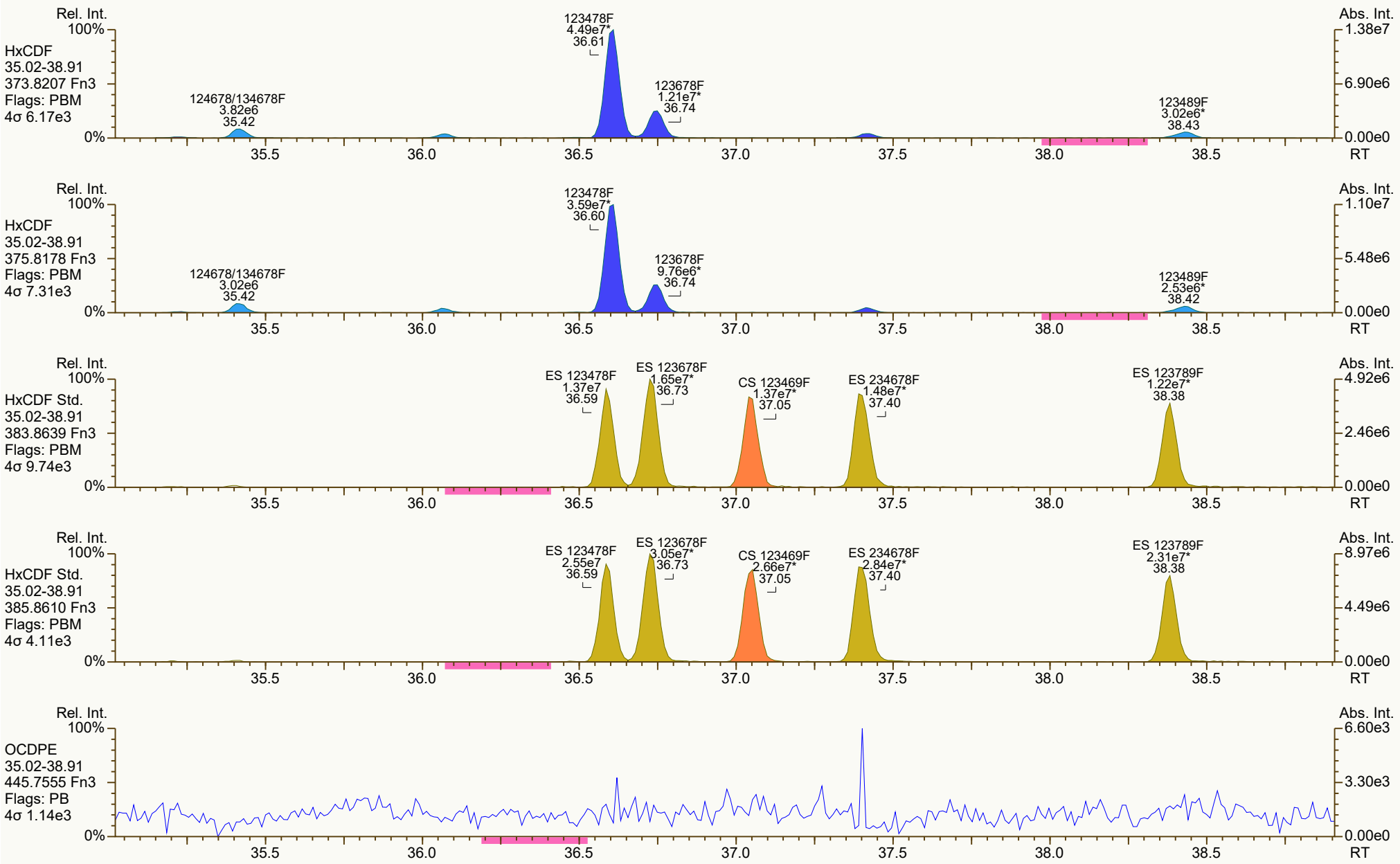

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.50e3
1234679D
9.67e6*
40.15
1234678D
5.49e6*
40.84
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.63e3
1234679D
9.67e6*
40.14
1234678D
5.50e6*
40.83
Abs. Int.
3.07e6
1.54e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 1.79e3
ES 1234678D
1.34e7*
40.82
Abs. Int.
3.73e6
1.87e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 2.85e3
ES 1234678D
1.22e7*
40.82
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
1.03e7
5.15e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

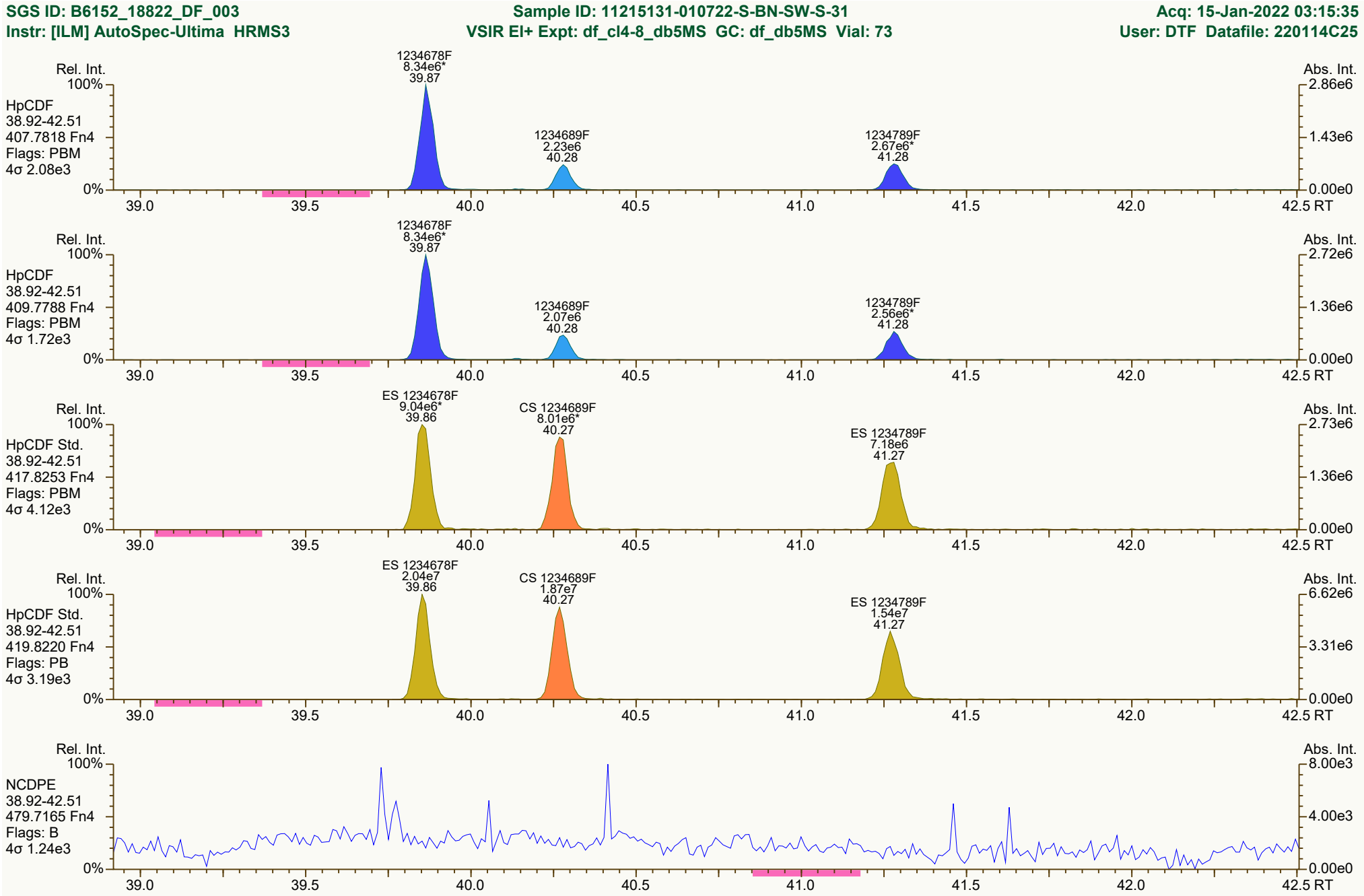

OCDD
3.11e8*
43.62
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.05e3
0%
Abs. Int.
5.75e7
2.87e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.43e8*
43.62
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
6.39e7
3.20e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.37e7
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 4.07e3
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.48e7
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.60e3
0%
Abs. Int.
2.61e6
1.31e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.41e6
4.70e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

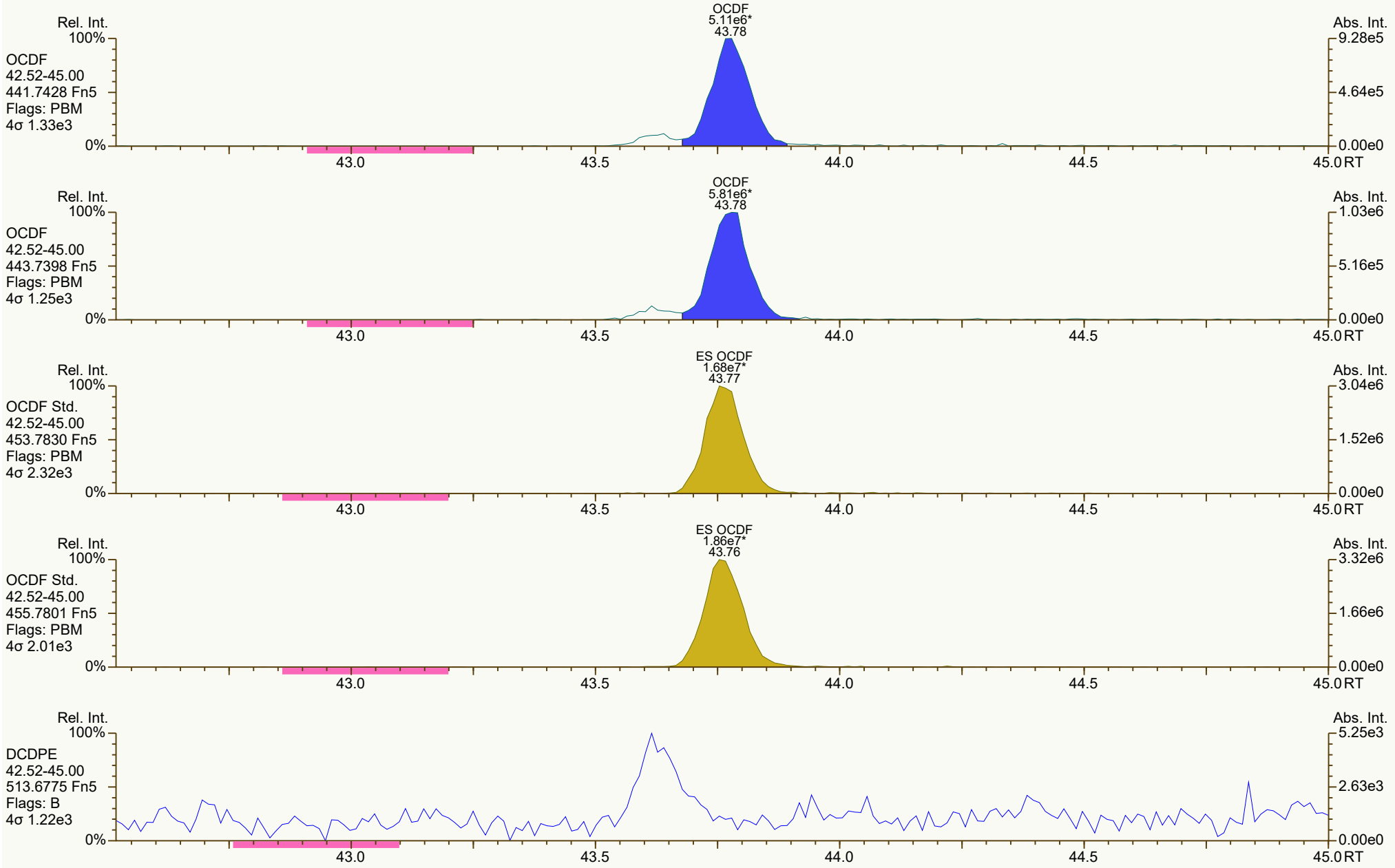

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.77e3
0%
2378F
8.92e8*
27.34
1278F
4.10e8
26.45
2348F
6.02e7*
27.23
2367/3467F
6.99e7*
27.71
1289F
7.16e7
29.38
Abs. Int.
2.20e8
1.10e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.25e3
0%
2378F
1.13e9*
27.34
1278F
5.16e8
26.44
2348F
7.72e7*
27.22
2367/3467F
8.89e7*
27.70
1289F
8.97e7
29.38
Abs. Int.
2.73e8
1.36e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 3.44e3
0%
JS 1234F
2.72e7
25.98
ES 2378F
2.88e7*
27.32
Abs. Int.
6.44e6
3.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 4.38e3
0%
JS 1234F
3.41e7
25.97
ES 2378F
3.55e7*
27.31
Abs. Int.
8.56e6
4.28e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.33e3
0%
<10%
Abs. Int.
2.30e4
1.15e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.22e5
1.11e5
0.00e0
13468/12468F
8.33e5*
29.39
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.40e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.68e5
8.38e4
0.00e0
13468/12468F
5.65e5*
29.39
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.42e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.42e6
4.71e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 3.39e3
12368F...[3]
1.23e7*
31.09
12348F
2.44e6
31.98
12378F
2.68e7*
32.19
12678/12367F
8.03e6
32.49
23478F
1.96e7*
33.31
PR
7.44e6
3.72e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 3.26e3
12368F...[3]
8.13e6*
31.09
12348F
1.64e6
31.98
12378F
1.75e7*
32.18
12678/12367F
5.36e6
32.49
23478F
1.28e7*
33.31
5.07e6
2.53e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 2.85e3
CS 12346F
3.03e7*
31.65
ES 12378F
3.20e7*
32.17
ES 23478F
3.13e7*
33.28
9.45e6
4.73e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 3.53e3
CS 12346F
2.03e7*
31.65
ES 12378F
2.15e7*
32.17
ES 23478F
2.04e7*
33.28
6.14e6
3.07e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.38e3
8.84e3
4.42e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 6.17e3
124678/134678F
3.82e6
35.42
123478F
4.49e7*
36.61
123678F
1.21e7*
36.74
123489F
3.02e6*
38.43
0%
Abs. Int.
1.38e7
6.90e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 7.31e3
124678/134678F
3.02e6
35.42
123478F
3.59e7*
36.60
123678F
9.76e6*
36.74
123489F
2.53e6*
38.42
0%
Abs. Int.
1.10e7
5.48e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 9.74e3
ES 123478F
1.37e7
36.59
ES 123678F
1.65e7*
36.73
CS 123469F
1.37e7*
37.05
ES 234678F
1.48e7*
37.40
ES 123789F
1.22e7*
38.38
0%
Abs. Int.
4.92e6
2.46e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 4.11e3
ES 123478F
2.55e7
36.59
ES 123678F
3.05e7*
36.73
CS 123469F
2.66e7*
37.05
ES 234678F
2.84e7*
37.40
ES 123789F
2.31e7*
38.38
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.14e3
0%
Abs. Int.
6.60e3
3.30e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6152_18822_DF_003
Sample ID: 11215131-010722-S-BN-SW-S-31
Acq: 15-Jan-2022 03:15:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73
User: DTF Datafile: 220114C25
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.08e3
1234678F
8.34e6*
39.87
1234689F
2.23e6
40.28
1234789F
2.67e6*
41.28
2.86e6
1.43e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.72e3
1234678F
8.34e6*
39.87
1234689F
2.07e6
40.28
1234789F
2.56e6*
41.28
2.72e6
1.36e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 4.12e3
ES 1234678F
9.04e6*
39.86
CS 1234689F
8.01e6*
40.27
ES 1234789F
7.18e6
41.27
2.73e6
1.36e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 3.19e3
ES 1234678F
2.04e7
39.86
CS 1234689F
1.87e7
40.27
ES 1234789F
1.54e7
41.27
6.62e6
3.31e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.24e3
8.00e3
4.00e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.33e3
0%
OCDF
5.11e6*
43.78
Abs. Int.
9.28e5
4.64e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.25e3
0%
OCDF
5.81e6*
43.78
Abs. Int.
1.03e6
5.16e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.32e3
0%
ES OCDF
1.68e7*
43.77
Abs. Int.
3.04e6
1.52e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 2.01e3
0%
ES OCDF
1.86e7*
43.76
Abs. Int.
3.32e6
1.66e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
5.25e3
2.63e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6152_18822_DF_004 **Acq'd:** 15 Jan 2022 04:01 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-32 **UTP:** 15-Jan-2022 10:34:33 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 796-095-NLP

Datafile: 220114C26 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22		1.0008	1.0008	0	5.08E+06	0.76	Y	1.18	27.3	4027.797	0.236
12378-PeCDD	33.66	J EMPC	1.0006	1.0007	+0.2	6.31E+04	2.18	N	1.04	0.454	3985.49	0.256
123478-HxCDD	37.62	J EMPC	1.0004	1.0002	-0.5	9.91E+04	1.03	N	1.09	0.78	4385.533	0.296
123678-HxCDD	37.74	J	1.0036	1.0035	-0.2	2.39E+05	1.12	Y	1.15	1.65	4385.533	0.275
123789-HxCDD	38.06	J	1.0118	1.0119	+0.2	2.34E+05	1.23	Y	1.05	1.77	4385.533	0.283
1234678-HpCDD	40.85		1.0003	1.0004	+0.2	6.61E+06	1.05	Y	1.06	64	5299.178	0.477
OCDD	43.62		1.0003	1.0003	0	8.57E+07	0.89	Y	1.13	1,420	5053.211	1.14
2378-TCDF	27.33		1.0008	1.0007	-0.2	1.76E+07	0.80	Y	1.08	64.9	4843.279	0.191
12378-PeCDF	32.19	J	1.0006	1.0005	-0.2	5.18E+05	1.78	Y	1.02	2.44	3776.293	0.163
23478-PeCDF	33.31	J	1.0006	1.0008	+0.4	4.40E+05	1.70	Y	1.02	2.19	3776.293	0.162
123478-HxCDF	36.61		1.0005	1.0004	-0.2	7.08E+05	1.15	Y	1.27	3.73	4394.334	0.182
123678-HxCDF	36.76	J	1.0004	1.0005	+0.2	2.61E+05	1.41	Y	1.15	1.26	4394.334	0.182
234678-HxCDF	37.43	J EMPC	1.0005	1.0005	0	1.09E+05	0.91	N	1.19	0.512	4394.334	0.185
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4394.334	0.25
1234678-HpCDF	39.88		1.0003	1.0003	0	8.16E+05	0.94	Y	1.37	4.92	2867.038	0.145
1234789-HpCDF	41.30	J	1.0003	1.0003	0	6.70E+04	1.06	Y	1.31	0.593	2867.038	0.232
OCDF	43.79		1.0003	1.0002	-0.3	6.43E+05	0.83	Y	1.07	8.59	3214.1929	0.596

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20		1.0231	1.0233	+0.3	3.09E+07	0.83	Y	1.05	86
ES 12378-PeCDD	33.63		1.2198	1.2205	+1.4	2.65E+07	1.57	Y	0.88	87.5
ES 123478-HxCDD	37.61		0.9913	0.9913	0	2.30E+07	1.31	Y	0.97	96.9
ES 123678-HxCDD	37.73		0.9944	0.9944	0	2.49E+07	1.25	Y	0.94	108
ES 123789-HxCDD	38.04		1.0026	1.0026	0	2.49E+07	1.28	Y	1.09	93.2
ES 1234678-HpCDD	40.83		1.0760	1.0763	+0.7	1.92E+07	1.04	Y	0.91	86.2
ES OCDD	43.61		1.1489	1.1494	+1.3	2.11E+07	0.93	Y	0.62	69.1
ES 2378-TCDF	27.31		1.0515	1.0518	+0.5	4.98E+07	0.77	Y	1.06	88
ES 12378-PeCDF	32.17		1.2378	1.2389	+2.1	4.09E+07	1.58	Y	0.91	84.2
ES 23478-PeCDF	33.28		1.2804	1.2816	+2.4	3.88E+07	1.54	Y	0.88	82.4
ES 123478-HxCDF	36.60		0.9647	0.9646	-0.2	2.94E+07	0.52	Y	1.20	100
ES 123678-HxCDF	36.74		0.9684	0.9683	-0.2	3.54E+07	0.52	Y	1.35	107
ES 234678-HxCDF	37.41		0.9861	0.9861	0	3.54E+07	0.53	Y	1.24	117
ES 123789-HxCDF	38.40		1.0120	1.0121	+0.2	2.73E+07	0.51	Y	1.16	96.6
ES 1234678-HpCDF	39.87		1.0506	1.0508	+0.5	2.39E+07	0.46	Y	0.97	101
ES 1234789-HpCDF	41.29		1.0879	1.0883	+1.0	1.71E+07	0.43	Y	0.85	82
ES OCDF	43.78		1.1534	1.1539	+1.3	2.75E+07	0.93	Y	0.81	69.8

Lab ID: B6152_18822_DF_004 **Acq'd:** 15 Jan 2022 04:01 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-32 **UTP:** 15-Jan-2022 10:34:33 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 796-095-NLP

Datafile: 220114C26 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	3.44E+07	0.82	Y	-	-
JS 1234-TCDF	25.97		-	-	-	5.34E+07	0.79	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.22E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0238	1.0241	+0.5	1.51E+07	n/a	-	1.20	91.3
CS 12347-PeCDD	33.13		1.2018	1.2025	+1.4	2.58E+07	1.59	Y	0.75	99.6
CS 12346-PeCDF	31.65		1.2178	1.2187	+1.7	4.07E+07	1.50	Y	0.85	89.6
CS 123469-HxCDF	37.06		0.9768	0.9767	-0.2	3.28E+07	0.53	Y	1.12	120
CS 1234689-HpCDF	40.28		1.0615	1.0617	+0.5	2.20E+07	0.45	Y	0.89	102
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~1.51E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.13~~		~~1.2018~~	~~1.2025~~	~~+1.4~~	~~2.58E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~114~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2187~~	~~+1.7~~	~~4.07E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~3.28E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~112~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0615~~	~~1.0617~~	~~+0.5~~	~~2.20E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~100~~

Totals	Conc	EMPC
Total TCDD	37.7	38.7
Total PeCDD	5.2	5.65
Total HxCDD	36	37.8
Total HpCDD	157	157
Total Tetra-Octa Dioxins	1660	1660
Total TCDF	130	134
Total PeCDF	9.93	9.93
Total HxCDF	10.1	11.7
Total HpCDF	12	12
Total Tetra-Octa Furans	170	176
Total Tetra-Octa Dioxins & Furans	1830	1840

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.757	0.76
Response	5.09E+06	5.08E+06

Lab ID: B6152_18822_DF_004 **Acq'd:** 15 Jan 2022 04:01 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-32 **UTP:** 15-Jan-2022 10:34:33 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 796-095-NLP

Datafile: 220114C26 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54	EMPC	0.8733	0.8704	-4.3	9.91E+04	0.95	N	1.18	0.533	4027.797	0.236
1379-TCDD	NotFnd		0.8860						1.18		4027.797	0.236
1369-TCDD	NotFnd		0.9009						1.18		4027.797	0.236
1469-TCDD	26.13		0.9282	0.9267	-2.4	1.32E+06	0.82	Y	1.18	7.12	4027.797	0.236
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		4027.797	0.236
1378-TCDD	NotFnd		0.9429						1.18		4027.797	0.236
1268-TCDD	NotFnd		0.9500						1.18		4027.797	0.236
1478-TCDD	NotFnd		0.9584						1.18		4027.797	0.236
1279-TCDD	NotFnd		0.9648						1.18		4027.797	0.236
1234/1269-TCDD	27.53	EMPC	0.9770	0.9763	-1.2	9.55E+04	0.57	N	1.18	0.514	4027.797	0.236
1236-TCDD	NotFnd		0.9821						1.18		4027.797	0.236
1237/1238-TCDD	27.93		0.9909	0.9905	-0.7	1.33E+05	0.70	Y	1.18	0.717	4027.797	0.236
1239-TCDD	NotFnd		0.9959						1.18		4027.797	0.236
2378-TCDD	**28.22**		**1.0008**	1.0008	**0**	5.08E+06	0.76	Y	**1.18**	**27.3**	**4027.797**	**0.236**
1278-TCDD	28.55		1.0123	1.0127	+0.7	4.64E+05	0.86	Y	1.18	2.5	4027.797	0.236
1267-TCDD	NotFnd		1.0172						1.18		4027.797	0.236
1289-TCDD	NotFnd		1.0354						1.18		4027.797	0.236
12479/12468-PeCDD	31.14	J	0.9267	0.9260	-1.3	1.58E+05	1.51	Y	1.04	1.13	3985.49	0.256
12469-PeCDD	31.68		0.9426	0.9421	-1.0	4.15E+05	1.38	Y	1.04	2.98	3985.49	0.256
12368-PeCDD	NotFnd		0.9587						1.04		3985.49	0.256
12478-PeCDD	NotFnd		0.9642						1.04		3985.49	0.256
12379-PeCDD	NotFnd		0.9674						1.04		3985.49	0.256
12369/12467/12489-PeCDD	32.79	J	0.9752	0.9749	-0.6	1.50E+05	1.34	Y	1.04	1.08	3985.49	0.256
12346/12347-PeCDD	NotFnd		0.9861						1.04		3985.49	0.256
12378-PeCDD	33.66	J EMPC	**1.0006**	**1.0007**	**+0.2**	**6.31E+04**	**2.18**	**N**	**1.04**	**0.454**	**3985.49**	**0.256**
12367-PeCDD	NotFnd		1.0036						1.04		3985.49	0.256
12389-PeCDD	NotFnd		1.0139						1.04		3985.49	0.256
124679/124689-HxCDD	35.89		0.9541	0.9542	+0.2	2.91E+06	1.27	Y	1.10	21.6	4385.533	0.284
123468-HxCDD	36.55	J	0.9715	0.9717	+0.4	1.29E+05	1.37	Y	1.10	0.957	4385.533	0.284
123679/123689-HxCDD	36.84		0.9793	0.9795	+0.4	1.26E+06	1.30	Y	1.10	9.38	4385.533	0.284
123469-HxCDD	36.97	J EMPC	0.9831	0.9829	-0.4	1.39E+05	1.57	N	1.10	1.03	4385.533	0.284
123478-HxCDD	37.62	J EMPC	**1.0004**	**1.0002**	**-0.5**	**9.91E+04**	**1.03**	**N**	1.09	**0.78**	**4385.533**	**0.296**
123678-HxCDD	37.74	J	**1.0036**	**1.0035**	**-0.2**	**2.39E+05**	**1.12**	**Y**	1.15	**1.65**	**4385.533**	**0.275**
123467-HxCDD	37.96	J	1.0089	1.0092	+0.7	8.08E+04	1.15	Y	1.10	0.6	4385.533	0.284
123789-HxCDD	38.06	J	**1.0118**	**1.0119**	**+0.2**	**2.34E+05**	**1.23**	**Y**	1.05	**1.77**	**4385.533**	**0.283**

Lab ID: B6152_18822_DF_004 **Acq'd:** 15 Jan 2022 04:01 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-32 **UTP:** 15-Jan-2022 10:34:33 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 796-095-NLP

Datafile: 220114C26 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

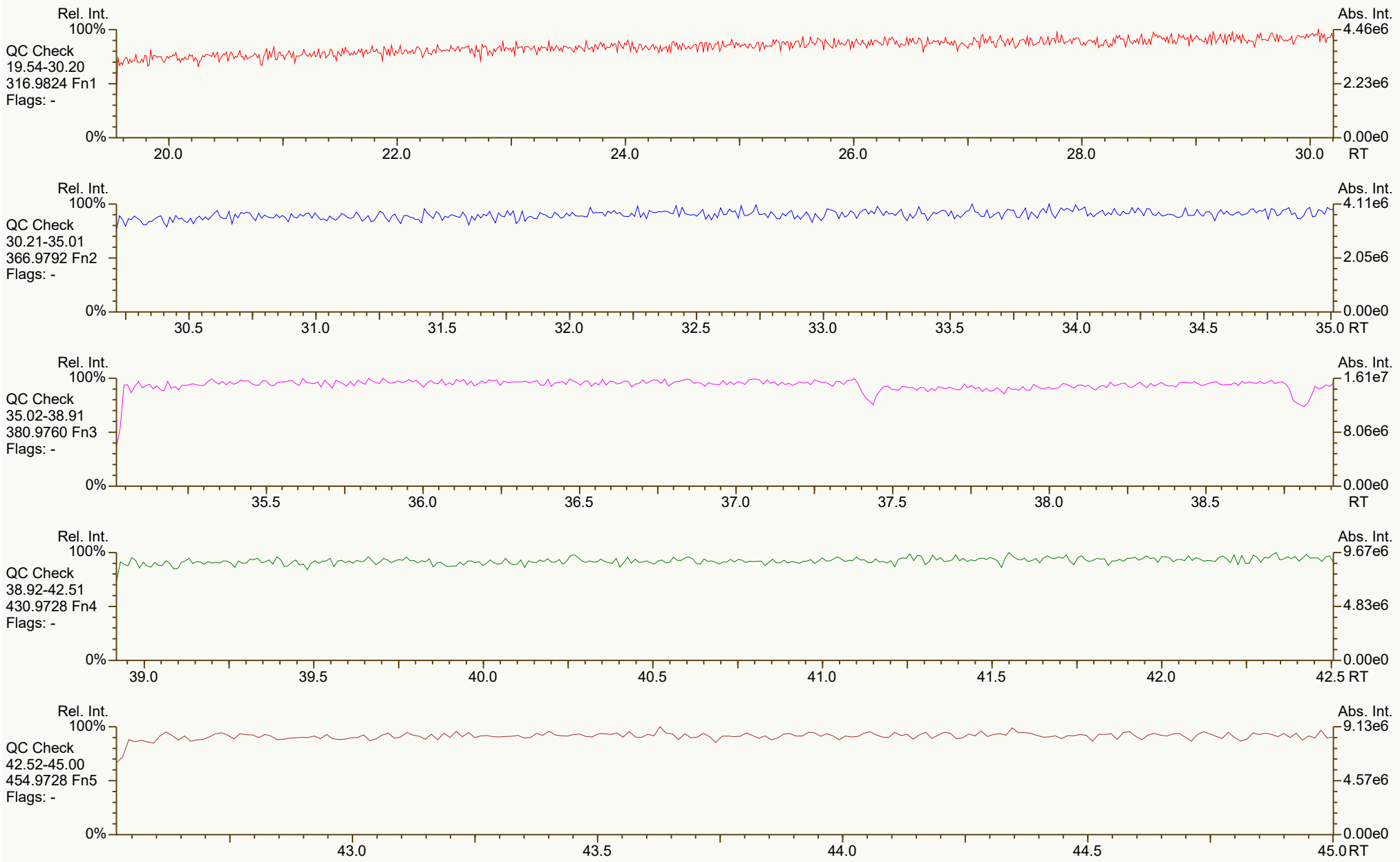
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9835	0	9.64E+06	1.09	Y	1.06	93.4	5299.178	0.477
1234678-HpCDD	**40.85**		**1.0003**	**1.0004**	**+0.2**	**6.61E+06**	**1.05**	**Y**	**1.06**	**64**	**5299.178**	**0.477**
OCDD	**43.62**		**1.0003**	**1.0003**	**0**	**8.57E+07**	**0.89**	**Y**	**1.13**	**1,420**	**5053.211**	**1.14**
OCDD-a	43.62		1.0002	1.0002	0	5.48E+06	2.58	Y	0.07	1,420	3837.858	13.5
1368-TCDF	NotFnd		0.8250						1.08		4843.279	0.191
1468-TCDF	NotFnd		0.8494						1.08		4843.279	0.191
2468-TCDF	23.62	EMPC	0.8684	0.8648	-5.1	2.39E+05	0.65	N	1.08	0.877	4843.279	0.191
1346/1246-TCDF	24.07	J EMPC	0.8815	0.8811	-0.6	9.23E+04	0.94	N	1.08	0.339	4843.279	0.191
1347/1378/1247-TCDF	24.16		0.8867	0.8845	-3.2	2.45E+05	0.83	Y	1.08	0.899	4843.279	0.191
1348-TCDF	24.51		0.8966	0.8974	+1.2	9.69E+05	0.79	Y	1.08	3.56	4843.279	0.191
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		4843.279	0.191
1268-TCDF	24.93		0.9148	0.9127	-3.1	3.63E+05	0.76	Y	1.08	1.33	4843.279	0.191
1467-TCDF	NotFnd		0.9197						1.08		4843.279	0.191
1478-TCDF	25.23		0.9258	0.9237	-3.2	7.91E+05	0.67	Y	1.08	2.91	4843.279	0.191
1369/1237-TCDF	25.62		0.9390	0.9378	-1.8	2.34E+05	0.84	Y	1.08	0.859	4843.279	0.191
2467-TCDF	NotFnd		0.9435						1.08		4843.279	0.191
2368-TCDF	25.88	EMPC	0.9488	0.9475	-2.0	5.47E+05	0.90	N	1.08	2.01	4843.279	0.191
1238/1234/1678/1469/1236-TCDF	25.98		0.9527	0.9511	-2.5	1.06E+06	0.82	Y	1.08	3.89	4843.279	0.191
1278-TCDF	26.45		0.9689	0.9684	-0.8	8.69E+06	0.80	Y	1.08	32	4843.279	0.191
1349-TCDF	NotFnd		0.9730						1.08		4843.279	0.191
1267-TCDF	26.72		0.9787	0.9781	-1.0	5.15E+05	0.77	Y	1.08	1.89	4843.279	0.191
2346/1249-TCDF	NotFnd		0.9856						1.08		4843.279	0.191
2347/1279-TCDF	27.12		0.9934	0.9929	-0.8	3.27E+05	0.81	Y	1.08	1.2	4843.279	0.191
2348-TCDF	27.22		0.9972	0.9964	-1.3	1.31E+06	0.68	Y	1.08	4.83	4843.279	0.191
2378-TCDF	**27.33**		**1.0008**	**1.0007**	**-0.2**	**1.76E+07**	**0.80**	**Y**	**1.08**	**64.9**	**4843.279**	**0.191**
2367/3467-TCDF	27.70		1.0145	1.0142	-0.5	1.59E+06	0.84	Y	1.08	5.86	4843.279	0.191
1269-TCDF	27.96	EMPC	1.0236	1.0237	+0.2	3.00E+05	0.89	N	1.08	1.1	4843.279	0.191
1239-TCDF	NotFnd		1.0333						1.08		4843.279	0.191
1289-TCDF	29.38		1.0740	1.0756	+2.8	1.51E+06	0.79	Y	1.08	5.54	4843.279	0.191
13468/12468-PeCDF	29.38	J	0.9138	0.9131	-1.2	3.93E+05	1.75	Y	1.02	1.9	2673.665	0.115
13678/13467/12467-PeCDF	30.93	J	0.9614	0.9614	0	6.13E+04	1.68	Y	1.02	0.297	3776.293	0.163
12368/13478/12478-PeCDF	31.09	J	0.9661	0.9664	+0.6	3.83E+05	1.33	Y	1.02	1.85	3776.293	0.163
14678-PeCDF	NotFnd		0.9693						1.02		3776.293	0.163
13479-PeCDF	NotFnd		0.9722						1.02		3776.293	0.163
13469/12479-PeCDF	NotFnd		0.9800						1.02		3776.293	0.163
12346-PeCDF	NotFnd		0.9844						1.02		3776.293	0.163

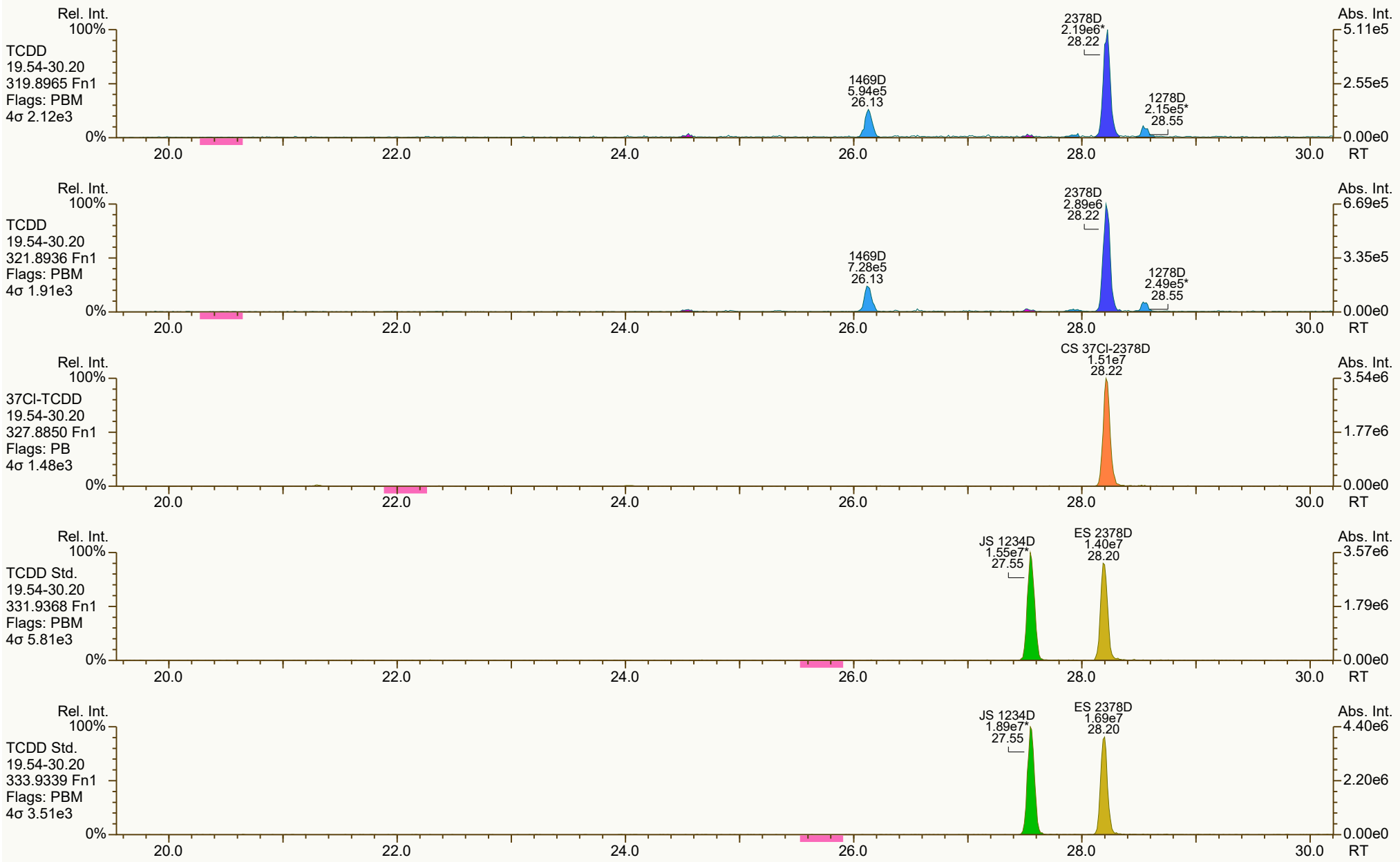
Lab ID: B6152_18822_DF_004 | Acq'd: 15 Jan 2022 04:01 DTF | Wt/Vol: 10.14 g | ICAL: HRMS3_DF_10272021 10NOV2021

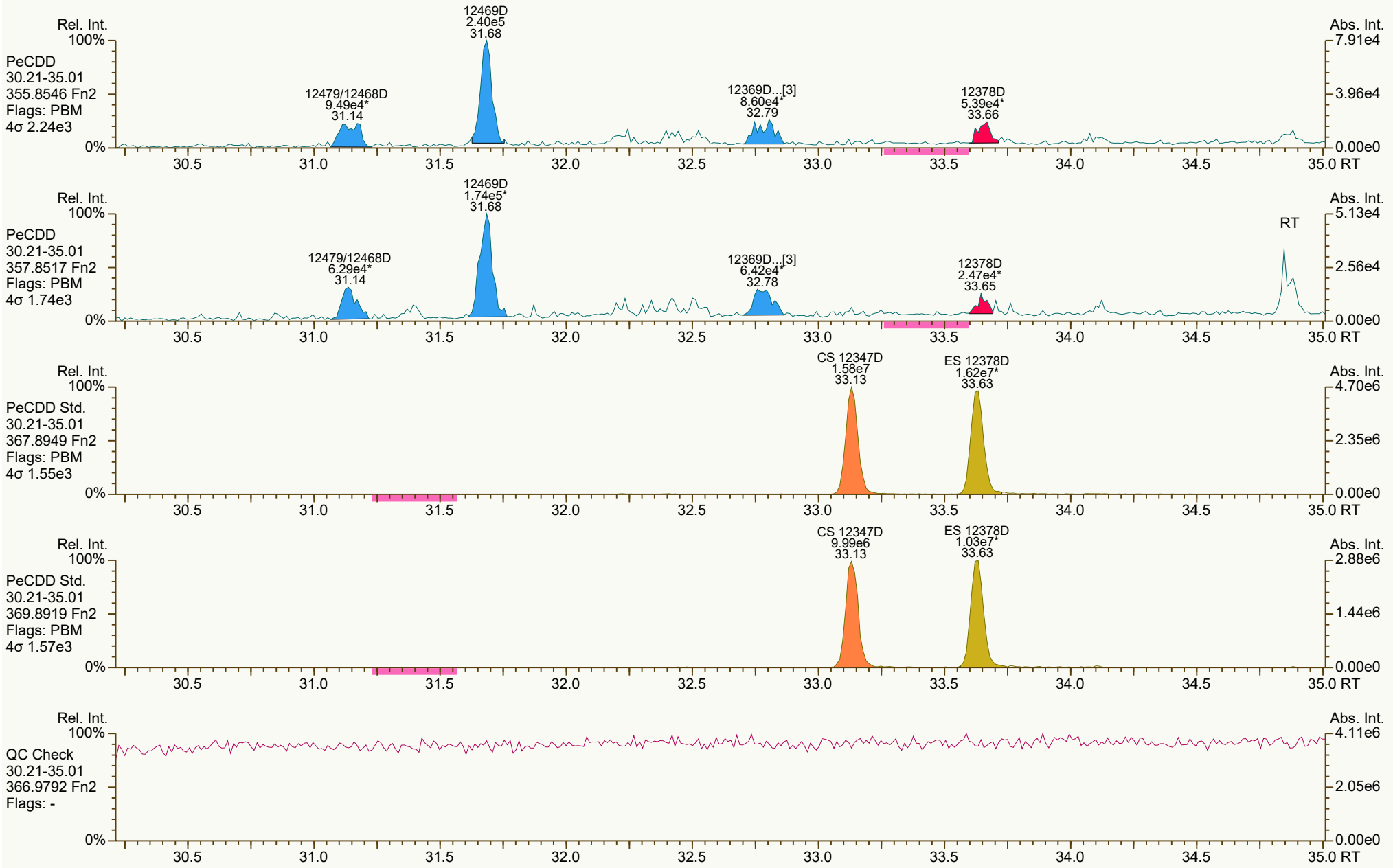
Client ID: 11215131-010722-S-BN-SW-S-32 | UTP: 15-Jan-2022 10:34:33 MLS | J-level: 0.493 pg/g | Split: 1 | Checkcode: 796-095-NLP

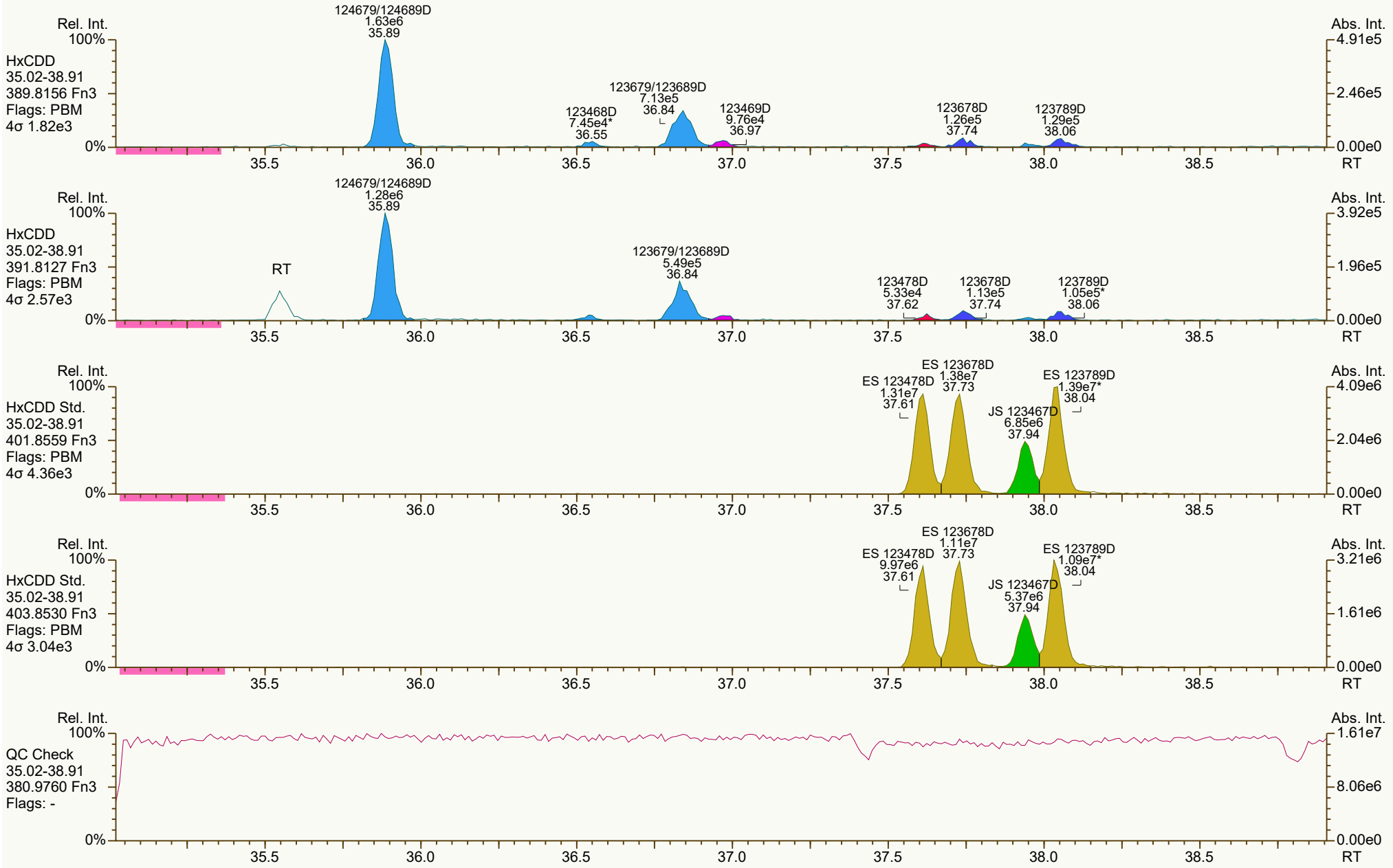
Datafile: 220114C26 | Report: 15 Jan 2022 10:41 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

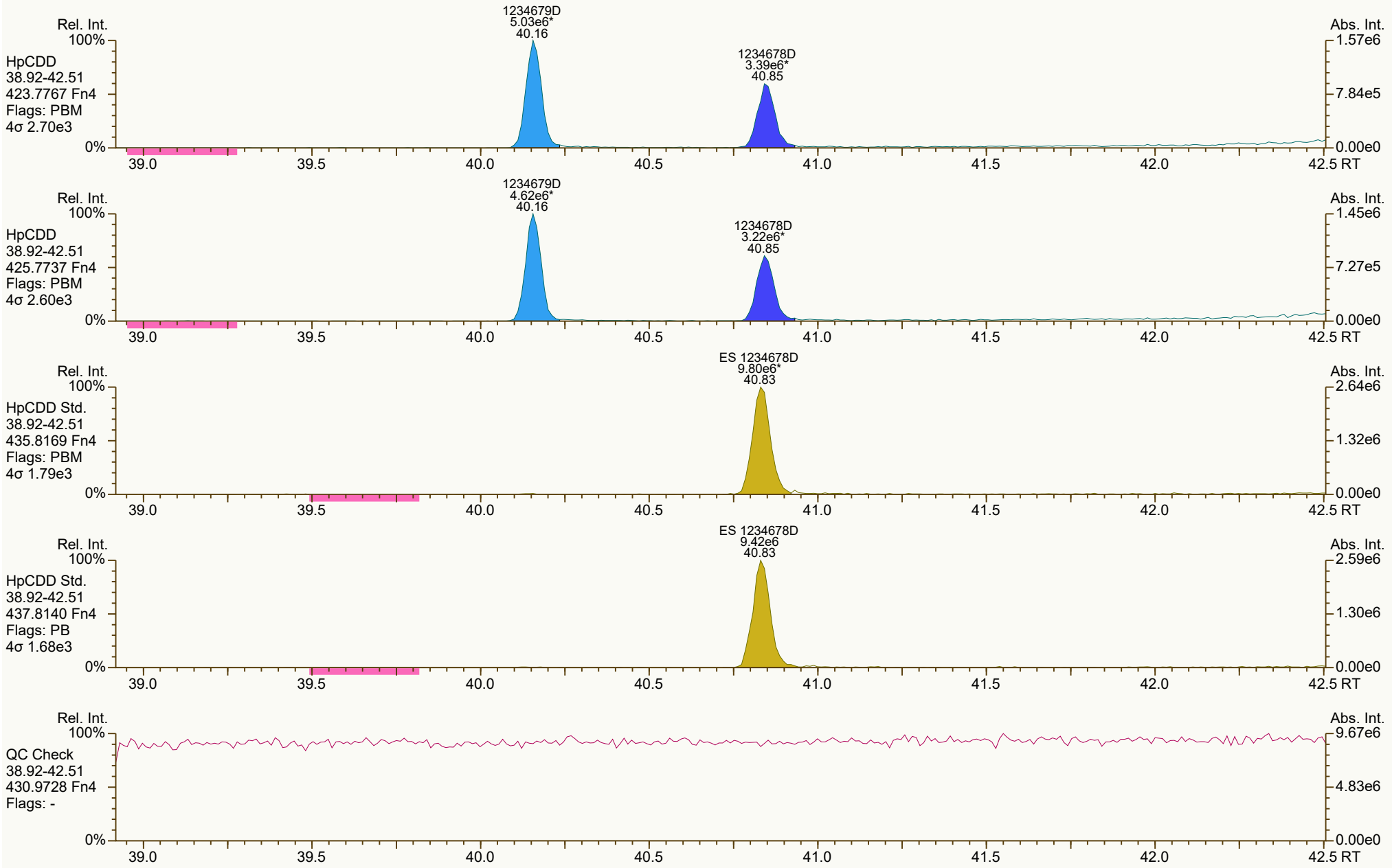
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		3776.293	0.163
12347-PeCDF	NotFnd		0.9890						1.02		3776.293	0.163
12348-PeCDF	31.99	J	0.9942	0.9942	0	5.03E+04	1.75	Y	1.02	0.244	3776.293	0.163
12378-PeCDF	**32.19**	J	**1.0006**	**1.0005**	**-0.2**	**5.18E+05**	**1.78**	**Y**	**1.02**	**2.44**	**3776.293**	**0.163**
12678/12367-PeCDF	32.49	J	1.0090	1.0098	+1.6	2.08E+05	1.36	Y	1.02	1.01	3776.293	0.163
12379-PeCDF	NotFnd		1.0142						1.02		3776.293	0.163
12679-PeCDF	NotFnd		0.9933						1.02		3776.293	0.163
23467/12369-PeCDF	NotFnd		0.9969						1.02		3776.293	0.163
23478-PeCDF	**33.31**	J	**1.0006**	**1.0008**	**+0.4**	**4.40E+05**	**1.70**	**Y**	**1.02**	**2.19**	**3776.293**	**0.162**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3776.293	0.163
12349-PeCDF	NotFnd		1.0107						1.02		3776.293	0.163
12389-PeCDF	NotFnd		1.0330						1.02		3776.293	0.163
123468-HxCDF	35.23	J EMPC	0.9627	0.9625	-0.4	1.33E+05	0.98	N	1.19	0.687	4394.334	0.197
124678/134678-HxCDF	35.42		0.9682	0.9678	-0.9	5.39E+05	1.17	Y	1.19	2.8	4394.334	0.197
134679-HxCDF	NotFnd		0.9744						1.19		4394.334	0.197
124679-HxCDF	NotFnd		0.9798						1.19		4394.334	0.197
124689-HxCDF	36.08	J	0.9858	0.9858	0	4.39E+05	1.19	Y	1.19	2.27	4394.334	0.197
123467-HxCDF	36.50	J EMPC	0.9973	0.9973	0	2.93E+04	0.91	N	1.19	0.152	4394.334	0.197
123478-HxCDF	**36.61**		**1.0005**	**1.0004**	**-0.2**	**7.08E+05**	**1.15**	**Y**	**1.27**	**3.73**	**4394.334**	**0.182**
123678-HxCDF	**36.76**	J	**1.0004**	**1.0005**	**+0.2**	**2.61E+05**	**1.41**	**Y**	**1.15**	**1.26**	**4394.334**	**0.182**
123479-HxCDF	NotFnd		1.0051						1.19		4394.334	0.197
123469-HxCDF	NotFnd		1.0093						1.19		4394.334	0.197
123679-HxCDF	NotFnd		0.9944						1.19		4394.334	0.197
234678-HxCDF	**37.43**	J EMPC	**1.0005**	**1.0005**	**0**	**1.09E+05**	**0.91**	**N**	**1.19**	**0.512**	**4394.334**	**0.185**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4394.334	0.197
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4394.334**	**0.25**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.44	J EMPC	1.0008	1.0012	+0.9	4.87E+04	1.88	N	1.19	0.252	4394.334	0.197
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**8.16E+05**	**0.94**	**Y**	**1.37**	**4.92**	**2867.038**	**0.145**
1234679-HpCDF	NotFnd		1.0069						1.34		2867.038	0.181
1234689-HpCDF	40.29		1.0103	1.0106	+0.7	9.01E+05	1.12	Y	1.34	6.49	2867.038	0.181
1234789-HpCDF	**41.30**	**J**	**1.0003**	**1.0003**	**0**	**6.70E+04**	**1.06**	**Y**	**1.31**	**0.593**	**2867.038**	**0.232**
OCDF	**43.79**		**1.0003**	**1.0002**	**-0.3**	**6.43E+05**	**0.83**	**Y**	**1.07**	**8.59**	**3214.1929**	**0.596**
OCDF-a	NotFnd		1.0002						0.07		3735.113	11.2

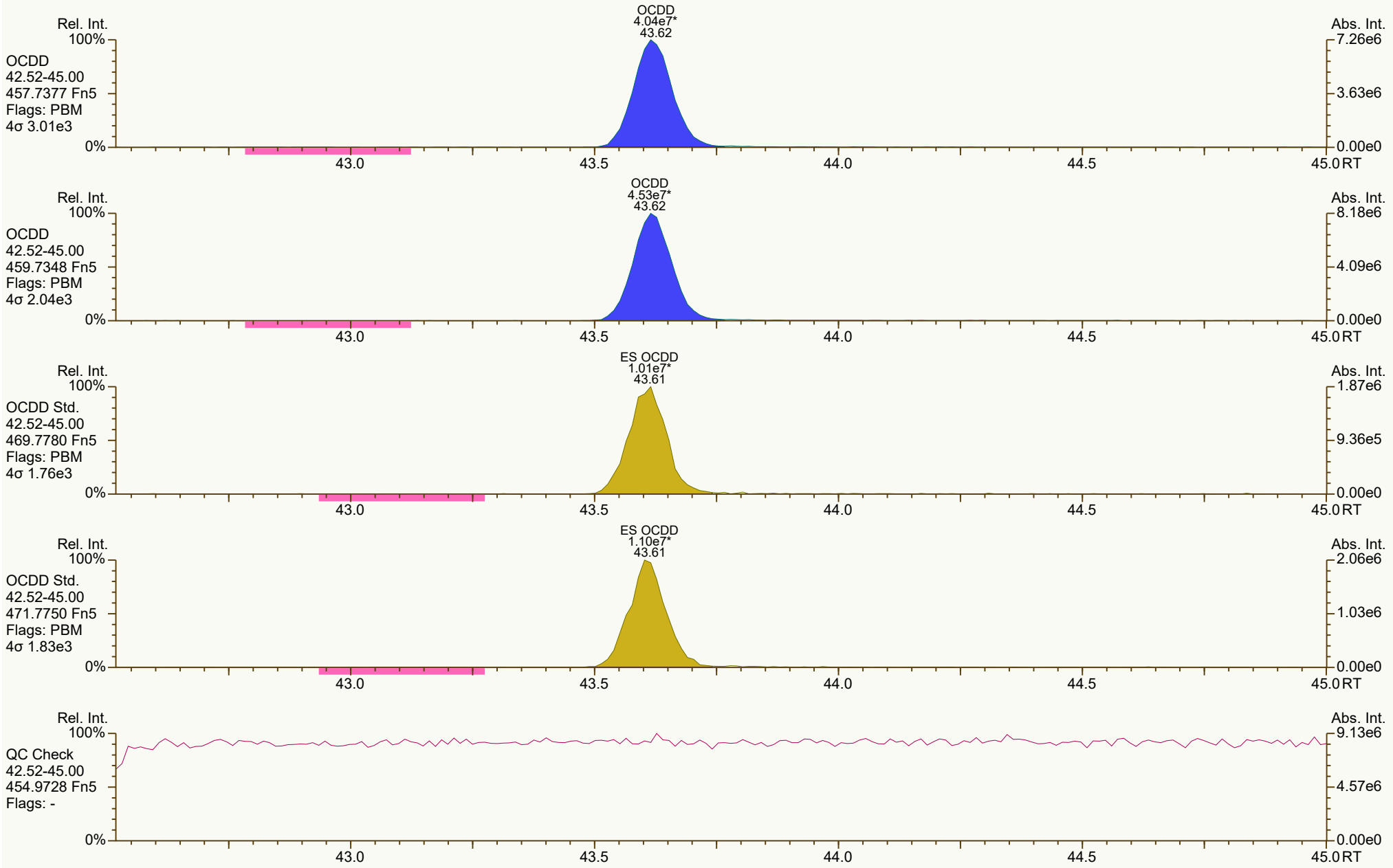

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.46e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.11e6
2.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.61e7
8.06e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.67e6
4.83e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.13e6
4.57e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

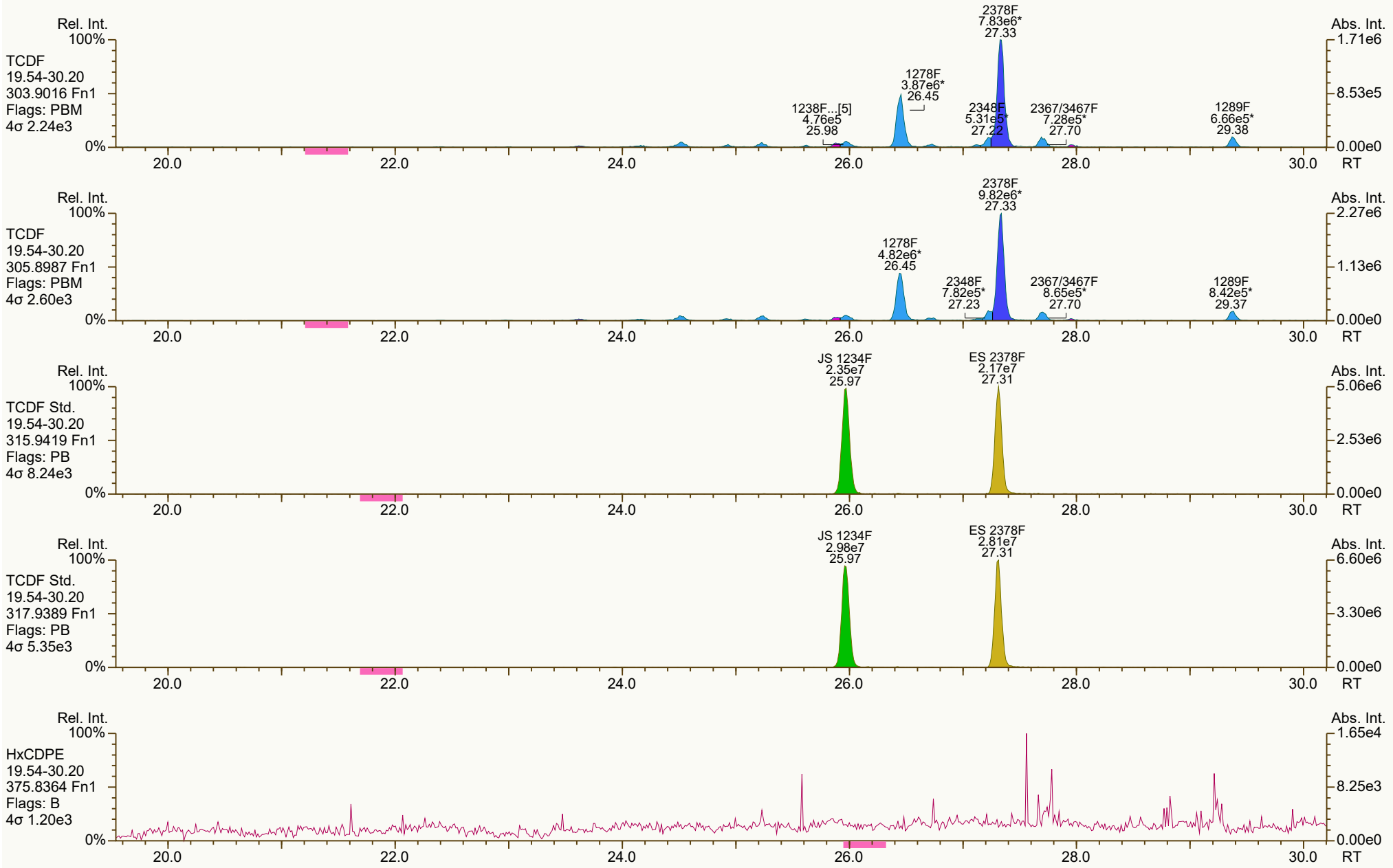

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.12e3
0%
1469D
5.94e5
26.13
2378D
2.19e6*
28.22
1278D
2.15e5*
28.55
Abs. Int.
5.11e5
2.55e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.91e3
0%
1469D
7.28e5
26.13
2378D
2.89e6
28.22
1278D
2.49e5*
28.55
Abs. Int.
6.69e5
3.35e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.48e3
0%
CS 37Cl-2378D
1.51e7
28.22
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.81e3
0%
JS 1234D
1.55e7*
27.55
ES 2378D
1.40e7
28.20
Abs. Int.
3.57e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
JS 1234D
1.89e7*
27.55
ES 2378D
1.69e7
28.20
Abs. Int.
4.40e6
2.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.24e3
12469D
2.40e5
31.68
12479/12468D
9.49e4*
31.14
12369D...[3]
8.60e4*
32.79
12378D
5.39e4*
33.66
Abs. Int.
7.91e4
3.96e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.74e3
12469D
1.74e5*
31.68
12479/12468D
6.29e4*
31.14
12369D...[3]
6.42e4*
32.78
12378D
2.47e4*
33.65
RT
Abs. Int.
5.13e4
2.56e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.55e3
CS 12347D
1.58e7
33.13
ES 12378D
1.62e7*
33.63
Abs. Int.
4.70e6
2.35e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 1.57e3
CS 12347D
9.99e6
33.13
ES 12378D
1.03e7*
33.63
Abs. Int.
2.88e6
1.44e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
4.11e6
2.05e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

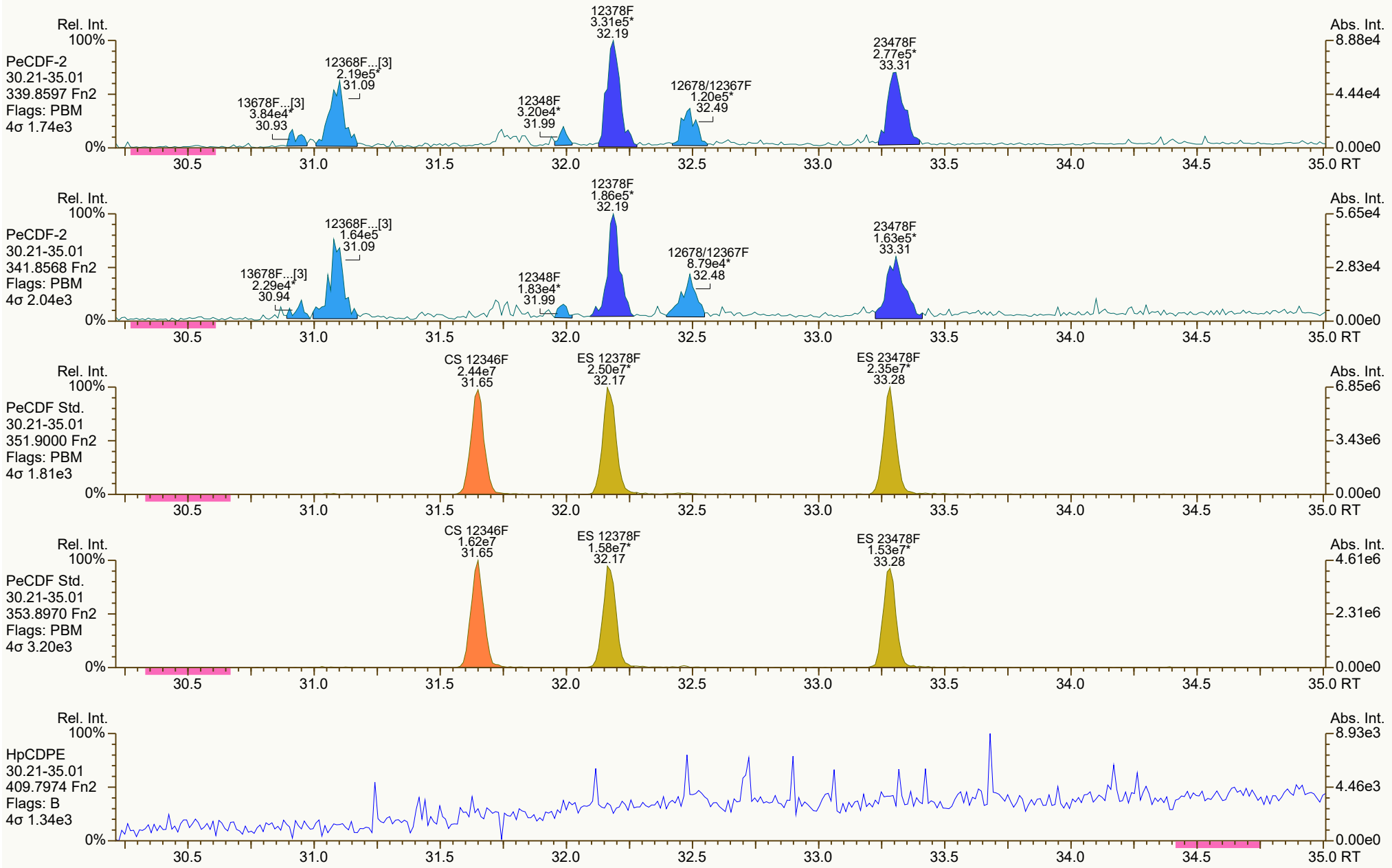

Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.82e3
124679/124689D
1.63e6
35.89
123468D
7.45e4*
36.55
123679/123689D
7.13e5
36.84
123469D
9.76e4
36.97
123678D
1.26e5
37.74
123789D
1.29e5
38.06
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.57e3
RT
124679/124689D
1.28e6
35.89
123679/123689D
5.49e5
36.84
123478D
5.33e4
37.62
123678D
1.13e5
37.74
123789D
1.05e5*
38.06
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 4.36e3
ES 123478D
1.31e7
37.61
ES 123678D
1.38e7
37.73
JS 123467D
6.85e6
37.94
ES 123789D
1.39e7*
38.04
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 3.04e3
ES 123478D
9.97e6
37.61
ES 123678D
1.11e7
37.73
JS 123467D
5.37e6
37.94
ES 123789D
1.09e7*
38.04
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
4.91e5
2.46e5
0.00e0
3.92e5
1.96e5
4.09e6
2.04e6
3.21e6
1.61e6
1.61e7
8.06e6

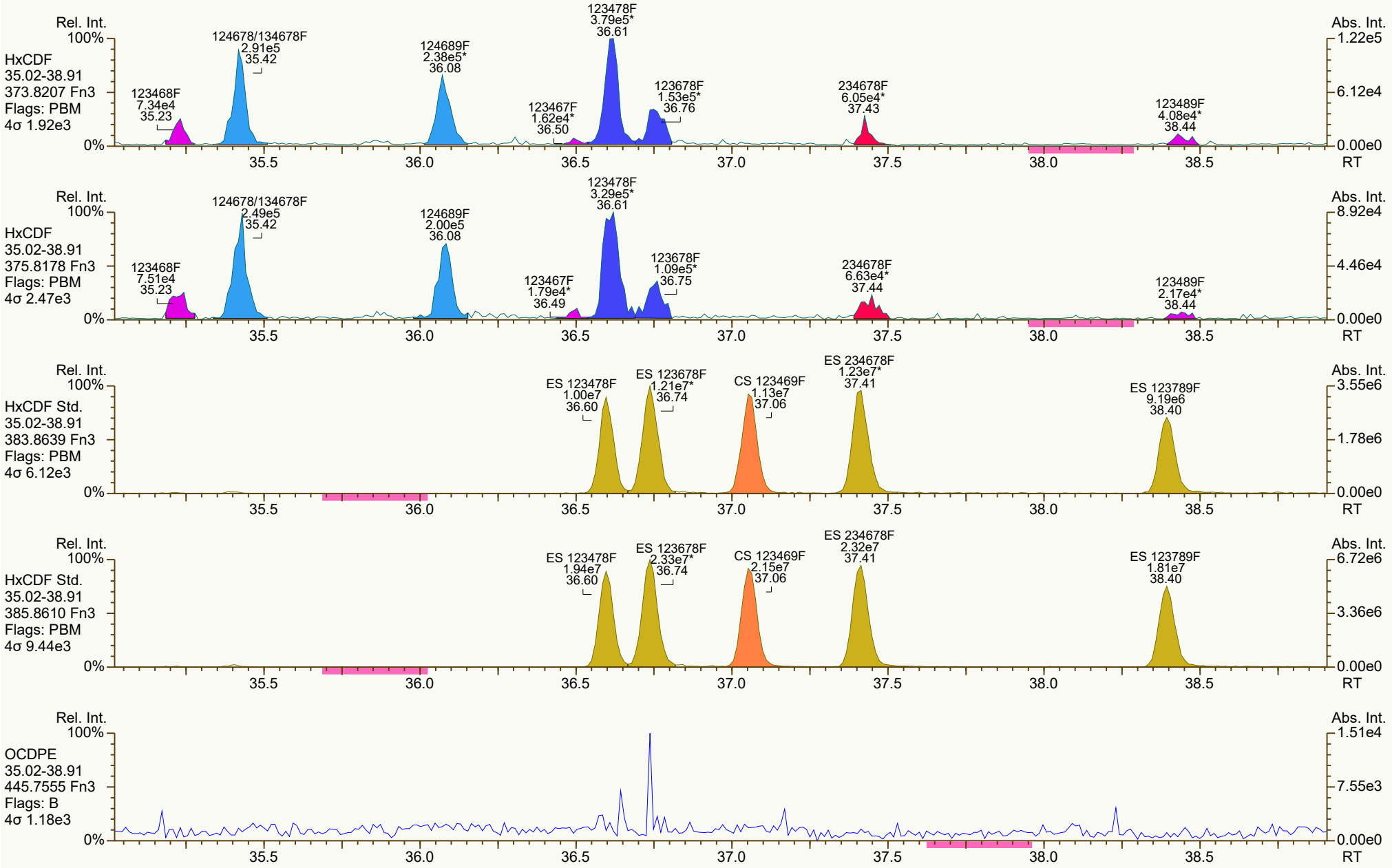

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.70e3
1234679D
5.03e6*
40.16
1234678D
3.39e6*
40.85
Abs. Int.
1.57e6
7.84e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.60e3
1234679D
4.62e6*
40.16
1234678D
3.22e6*
40.85
Abs. Int.
1.45e6
7.27e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 1.79e3
ES 1234678D
9.80e6*
40.83
Abs. Int.
2.64e6
1.32e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.68e3
ES 1234678D
9.42e6
40.83
Abs. Int.
2.59e6
1.30e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
9.67e6
4.83e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

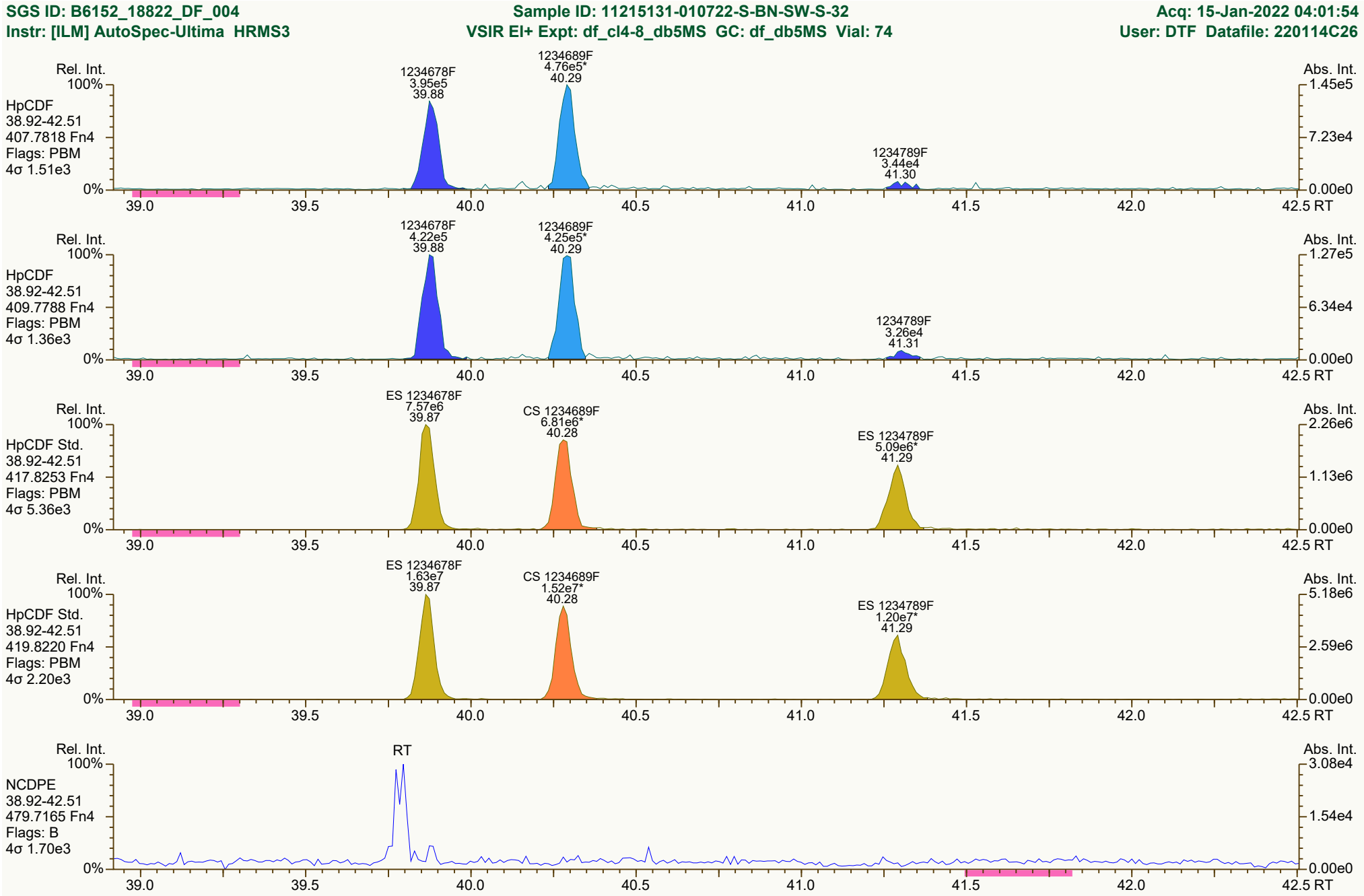

OCDD
4.04e7*
43.62
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 3.01e3
OCDD
4.53e7*
43.62
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.04e3
ES OCDD
1.01e7*
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.76e3
ES OCDD
1.10e7*
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 1.83e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
RT

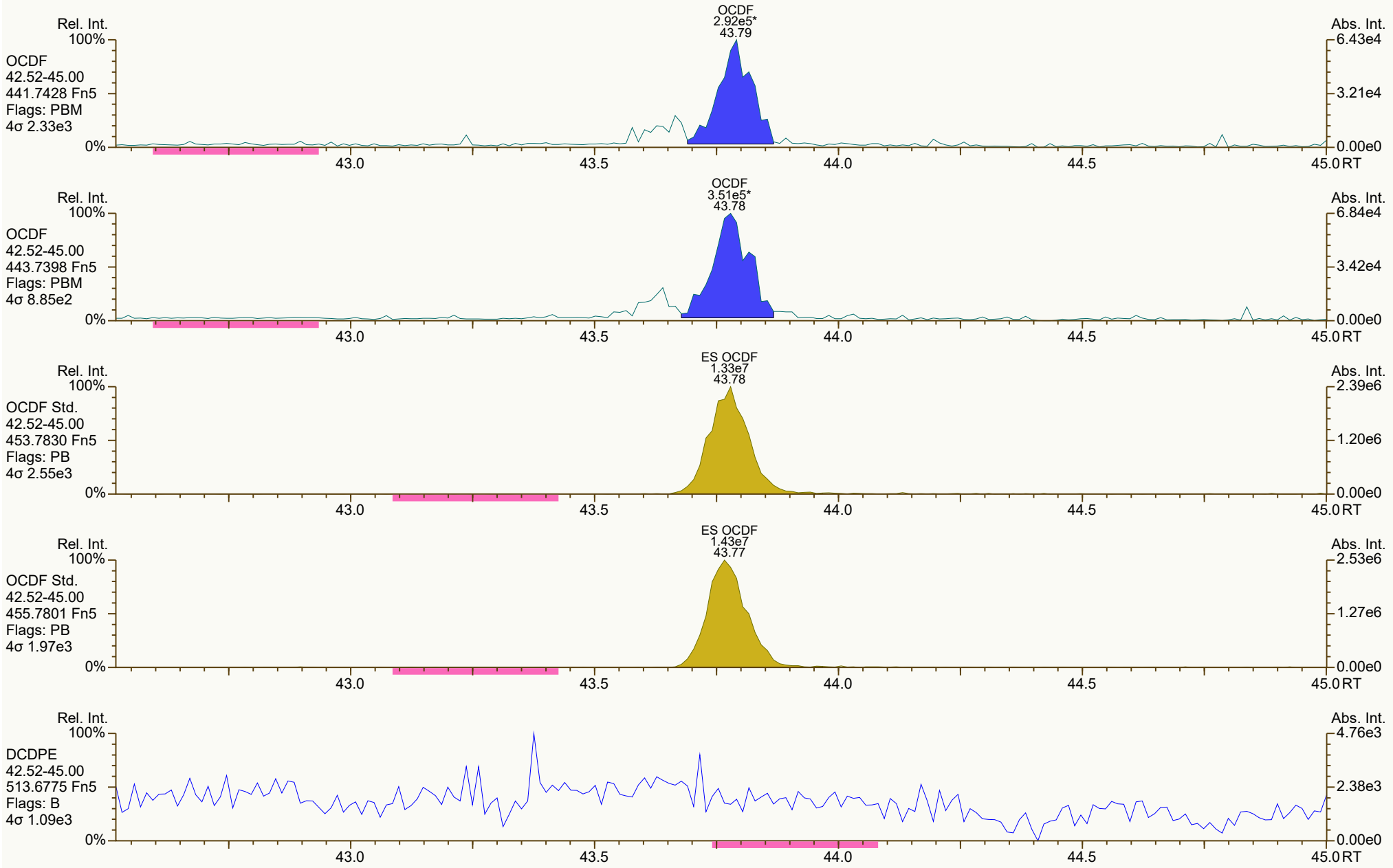

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.24e3
0%
Abs. Int.
1.71e6
8.53e5
0.00e0
2378F
7.83e6*
27.33
1278F
3.87e6*
26.45
1238F...[5]
4.76e5
25.98
2348F
5.31e5*
27.22
2367/3467F
7.28e5*
27.70
1289F
6.66e5*
29.38
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.60e3
0%
Abs. Int.
2.27e6
1.13e6
0.00e0
2378F
9.82e6*
27.33
1278F
4.82e6*
26.45
2348F
7.82e5*
27.23
2367/3467F
8.65e5*
27.70
1289F
8.42e5*
29.37
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.24e3
0%
Abs. Int.
5.06e6
2.53e6
0.00e0
JS 1234F
2.35e7
25.97
ES 2378F
2.17e7
27.31
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.35e3
0%
Abs. Int.
6.60e6
3.30e6
0.00e0
JS 1234F
2.98e7
25.97
ES 2378F
2.81e7
27.31
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.65e4
8.25e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.01e5
5.07e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
2.50e5*
29.38
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.39e3
13468/12468F
1.43e5*
29.38
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.28e3
Abs. Int.
4.14e4
2.07e4
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.46e6
2.23e6
0.00e0


Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 1.74e3
13678F...[3] 3.84e4* 30.93
12368F...[3] 2.19e5* 31.09
12348F 3.20e4* 31.99
12378F 3.31e5* 32.19
12678/12367F 1.20e5* 32.49
23478F 2.77e5* 33.31
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.04e3
13678F...[3] 2.29e4* 30.94
12368F...[3] 1.64e5 31.09
12348F 1.83e4* 31.99
12378F 1.86e5* 32.19
12678/12367F 8.79e4* 32.48
23478F 1.63e5* 33.31
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 1.81e3
CS 12346F 2.44e7 31.65
ES 12378F 2.50e7* 32.17
ES 23478F 2.35e7* 33.28
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 3.20e3
CS 12346F 1.62e7 31.65
ES 12378F 1.58e7* 32.17
ES 23478F 1.53e7* 33.28
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.34e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
8.88e4
4.44e4
0.00e0
5.65e4
2.83e4
6.85e6
3.43e6
4.61e6
2.31e6
8.93e3
4.46e3


Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 1.92e3
123468F 7.34e4 35.23
124678/134678F 2.91e5 35.42
124689F 2.38e5* 36.08
123467F 1.62e4* 36.50
123478F 3.79e5* 36.61
123678F 1.53e5* 36.76
234678F 6.05e4* 37.43
123489F 4.08e4* 38.44
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 2.47e3
123468F 7.51e4 35.23
124678/134678F 2.49e5 35.42
124689F 2.00e5 36.08
123467F 1.79e4* 36.49
123478F 3.29e5* 36.61
123678F 1.09e5* 36.75
234678F 6.63e4* 37.44
123489F 2.17e4* 38.44
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 6.12e3
ES 123478F 1.00e7 36.60
ES 123678F 1.21e7* 36.74
CS 123469F 1.13e7 37.06
ES 234678F 1.23e7* 37.41
ES 123789F 9.19e6 38.40
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 9.44e3
ES 123478F 1.94e7 36.60
ES 123678F 2.33e7* 36.74
CS 123469F 2.15e7 37.06
ES 234678F 2.32e7 37.41
ES 123789F 1.81e7 38.40
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.18e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
1.22e5
6.12e4
0.00e0
8.92e4
4.46e4
3.55e6
1.78e6
6.72e6
3.36e6
1.51e4
7.55e3


SGS ID: B6152_18822_DF_004
Sample ID: 11215131-010722-S-BN-SW-S-32
Acq: 15-Jan-2022 04:01:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220114C26
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 1.51e3
1234678F
3.95e5
39.88
1234689F
4.76e5*
40.29
1234789F
3.44e4
41.30
1.45e5
7.23e4
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.36e3
1234678F
4.22e5
39.88
1234689F
4.25e5*
40.29
1234789F
3.26e4
41.31
1.27e5
6.34e4
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 5.36e3
ES 1234678F
7.57e6
39.87
CS 1234689F
6.81e6*
40.28
ES 1234789F
5.09e6*
41.29
2.26e6
1.13e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.20e3
ES 1234678F
1.63e7
39.87
CS 1234689F
1.52e7*
40.28
ES 1234789F
1.20e7*
41.29
5.18e6
2.59e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.70e3
RT
3.08e4
1.54e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_004.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 0956, 6415, 1122 scc: 796-095
PKD: 15-Jan-2022 10:21 Printed: 15-Jan-2022 10:51 Page 11 of 12


OCDF
2.92e5*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.33e3
0%
Abs. Int.
6.43e4
3.21e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.51e5*
43.78
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 8.85e2
0%
Abs. Int.
6.84e4
3.42e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.33e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 2.55e3
0%
Abs. Int.
2.39e6
1.20e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.43e7
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.97e3
0%
Abs. Int.
2.53e6
1.27e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.09e3
0%
Abs. Int.
4.76e3
2.38e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6152_18822_DF_005 **Acq'd:** 15 Jan 2022 04:48 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-33 **UTP:** 15-Jan-2022 10:34:34 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 496-091-LKV

Datafile: 220114C27 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	6.27E+06	0.82	Y	1.18	36.2	3520.928	0.216
12378-PeCDD	33.66	J	1.0006	1.0005	-0.2	1.00E+05	1.67	Y	1.04	0.73	3720.484	0.234
123478-HxCDD	37.63	J	1.0004	1.0005	+0.2	9.94E+04	1.21	Y	1.09	0.794	3939.02	0.279
123678-HxCDD	37.74	J EMPC	1.0036	1.0033	-0.7	1.57E+05	0.85	N	1.15	1.08	3939.02	0.233
123789-HxCDD	38.06	J	1.0118	1.0120	+0.5	2.33E+05	1.12	Y	1.05	1.73	3939.02	0.252
1234678-HpCDD	40.85		1.0003	1.0003	0	4.03E+06	1.03	Y	1.06	35.3	4271.928	0.35
OCDD	43.63		1.0003	1.0003	0	4.53E+07	0.90	Y	1.13	680	4506.135	0.891
2378-TCDF	27.34		1.0008	1.0008	0	2.34E+07	0.76	Y	1.08	92.9	3089.504	0.131
12378-PeCDF	32.19		1.0006	1.0005	-0.2	6.99E+05	1.49	Y	1.02	3.49	4378.354	0.191
23478-PeCDF	33.31		1.0006	1.0007	+0.2	6.23E+05	1.52	Y	1.02	3.24	4378.354	0.188
123478-HxCDF	36.62		1.0005	1.0005	0	1.12E+06	1.30	Y	1.27	5.91	3389.152	0.154
123678-HxCDF	36.76	J	1.0004	1.0004	0	3.59E+05	1.24	Y	1.15	1.72	3389.152	0.135
234678-HxCDF	37.43	J EMPC	1.0005	1.0004	-0.2	1.03E+05	0.91	N	1.19	0.466	3389.152	0.136
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3389.152	0.172
1234678-HpCDF	39.88		1.0003	1.0003	0	5.42E+05	1.09	Y	1.37	3.18	3482.642	0.171
1234789-HpCDF	41.30	J	1.0003	1.0002	-0.2	7.28E+04	0.91	Y	1.31	0.586	3482.642	0.261
OCDF	43.79	J EMPC	1.0003	1.0002	-0.3	4.04E+05	1.09	N	1.07	4.89	5016.804	0.875

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20		1.0231	1.0233	+0.3	2.88E+07	0.81	Y	1.05	90.2
ES 12378-PeCDD	33.64		1.2198	1.2205	+1.4	2.61E+07	1.58	Y	0.88	97.3
ES 123478-HxCDD	37.61		0.9913	0.9912	-0.2	2.26E+07	1.29	Y	0.97	99.4
ES 123678-HxCDD	37.73		0.9944	0.9944	0	2.49E+07	1.28	Y	0.94	113
ES 123789-HxCDD	38.05		1.0026	1.0027	+0.2	2.52E+07	1.24	Y	1.09	98.8
ES 1234678-HpCDD	40.84		1.0760	1.0763	+0.7	2.12E+07	1.07	Y	0.91	99.4
ES OCDD	43.62		1.1489	1.1496	+1.8	2.33E+07	0.94	Y	0.62	79.6
ES 2378-TCDF	27.32		1.0515	1.0518	+0.5	4.61E+07	0.79	Y	1.06	86.7
ES 12378-PeCDF	32.18		1.2378	1.2387	+1.7	3.85E+07	1.53	Y	0.91	84.3
ES 23478-PeCDF	33.29		1.2804	1.2815	+2.2	3.72E+07	1.48	Y	0.88	84
ES 123478-HxCDF	36.61		0.9647	0.9647	0	2.93E+07	0.52	Y	1.20	104
ES 123678-HxCDF	36.74		0.9684	0.9684	0	3.56E+07	0.53	Y	1.35	113
ES 234678-HxCDF	37.42		0.9861	0.9861	0	3.66E+07	0.54	Y	1.24	126
ES 123789-HxCDF	38.40		1.0120	1.0120	0	2.82E+07	0.53	Y	1.16	104
ES 1234678-HpCDF	39.87		1.0506	1.0509	+0.7	2.45E+07	0.45	Y	0.97	108
ES 1234789-HpCDF	41.29		1.0879	1.0882	+0.7	1.87E+07	0.44	Y	0.85	93.9
ES OCDF	43.79		1.1534	1.1540	+1.6	3.04E+07	0.89	Y	0.81	80.4

Lab ID: B6152_18822_DF_005 **Acq'd:** 15 Jan 2022 04:48 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-33 **UTP:** 15-Jan-2022 10:34:34 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 496-091-LKV

Datafile: 220114C27 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.05E+07	0.82	Y	-	-
JS 1234-TCDF	25.98		-	-	-	5.02E+07	0.81	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.17E+07	1.19	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0238	1.0241	+0.5	1.39E+07	n/a	-	1.20	95
CS 12347-PeCDD	33.14		1.2018	1.2024	+1.2	2.39E+07	1.54	Y	0.75	104
CS 12346-PeCDF	31.65		1.2178	1.2185	+1.3	3.77E+07	1.58	Y	0.85	88.4
CS 123469-HxCDF	37.06		0.9768	0.9767	-0.2	3.21E+07	0.56	Y	1.12	123
CS 1234689-HpCDF	40.29		1.0615	1.0618	+0.7	2.20E+07	0.45	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~1.39E+07~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2024~~	~~+1.2~~	~~2.39E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2185~~	~~+1.3~~	~~3.77E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~3.21E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0615~~	~~1.0618~~	~~+0.7~~	~~2.20E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~97.5~~

Totals	Conc	EMPC
Total TCDD	47.9	49.2
Total PeCDD	8.25	8.25
Total HxCDD	38.5	40.9
Total HpCDD	119	119
Total Tetra-Octa Dioxins	894	898
Total TCDF	177	185
Total PeCDF	11.3	12.6
Total HxCDF	9.59	11.2
Total HpCDF	6.25	6.25
Total Tetra-Octa Furans	205	220
Total Tetra-Octa Dioxins & Furans	1100	1120

Lab ID: B6152_18822_DF_005 **Acq'd:** 15 Jan 2022 04:48 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-33 **UTP:** 15-Jan-2022 10:34:34 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 496-091-LKV

Datafile: 220114C27 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8733	0.8706	-4.0	8.77E+04	0.85	Y	1.18	0.507	3520.928	0.216
1379-TCDD	NotFnd		0.8860						1.18		3520.928	0.216
1369-TCDD	NotFnd		0.9009						1.18		3520.928	0.216
1469-TCDD	26.14		0.9282	0.9268	-2.2	1.36E+06	0.75	Y	1.18	7.85	3520.928	0.216
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3520.928	0.216
1378-TCDD	NotFnd		0.9429						1.18		3520.928	0.216
1268-TCDD	NotFnd		0.9500						1.18		3520.928	0.216
1478-TCDD	NotFnd		0.9584						1.18		3520.928	0.216
1279-TCDD	NotFnd		0.9648						1.18		3520.928	0.216
1234/1269-TCDD	27.54	EMPC	0.9770	0.9765	-0.8	1.06E+05	1.01	N	1.18	0.611	3520.928	0.216
1236-TCDD	NotFnd		0.9821						1.18		3520.928	0.216
1237/1238-TCDD	27.94	EMPC	0.9909	0.9906	-0.5	1.18E+05	0.93	N	1.18	0.684	3520.928	0.216
1239-TCDD	NotFnd		0.9959						1.18		3520.928	0.216
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	6.27E+06	0.82	Y	**1.18**	**36.2**	**3520.928**	**0.216**
1278-TCDD	28.56		1.0123	1.0126	+0.5	5.82E+05	0.79	Y	1.18	3.36	3520.928	0.216
1267-TCDD	NotFnd		1.0172						1.18		3520.928	0.216
1289-TCDD	NotFnd		1.0354						1.18		3520.928	0.216
12479/12468-PeCDD	31.15	J	0.9267	0.9261	-1.1	1.51E+05	1.74	Y	1.04	1.1	3720.484	0.234
12469-PeCDD	31.69		0.9426	0.9419	-1.3	5.64E+05	1.53	Y	1.04	4.11	3720.484	0.234
12368-PeCDD	NotFnd		0.9587						1.04		3720.484	0.234
12478-PeCDD	32.42	J	0.9642	0.9638	-0.8	5.11E+04	1.32	Y	1.04	0.372	3720.484	0.234
12379-PeCDD	32.53	J	0.9674	0.9670	-0.8	5.95E+04	1.37	Y	1.04	0.433	3720.484	0.234
12369/12467/12489-PeCDD	32.79	J	0.9752	0.9748	-0.8	2.07E+05	1.60	Y	1.04	1.5	3720.484	0.234
12346/12347-PeCDD	NotFnd		0.9861						1.04		3720.484	0.234
12378-PeCDD	33.66	J	**1.0006**	**1.0005**	**-0.2**	**1.00E+05**	**1.67**	**Y**	**1.04**	**0.73**	**3720.484**	**0.234**
12367-PeCDD	NotFnd		1.0036						1.04		3720.484	0.234
12389-PeCDD	NotFnd		1.0139						1.04		3720.484	0.234
124679/124689-HxCDD	35.89		0.9541	0.9543	+0.4	3.55E+06	1.18	Y	1.10	26.3	3939.02	0.254
123468-HxCDD	36.54	J EMPC	0.9715	0.9716	+0.2	8.90E+04	0.91	N	1.10	0.66	3939.02	0.254
123679/123689-HxCDD	36.84		0.9793	0.9795	+0.4	1.16E+06	1.22	Y	1.10	8.59	3939.02	0.254
123469-HxCDD	36.97	J	0.9831	0.9829	-0.4	1.45E+05	1.32	Y	1.10	1.07	3939.02	0.254
123478-HxCDD	37.63	J	**1.0004**	**1.0005**	**+0.2**	**9.94E+04**	**1.21**	**Y**	1.09	**0.794**	**3939.02**	**0.279**
123678-HxCDD	37.74	J EMPC	**1.0036**	**1.0033**	**-0.7**	**1.57E+05**	**0.85**	**N**	1.15	**1.08**	**3939.02**	**0.233**
123467-HxCDD	37.96	J EMPC	1.0089	1.0093	+0.9	8.26E+04	1.03	N	1.10	0.612	3939.02	0.254
123789-HxCDD	38.06	J	**1.0118**	**1.0120**	**+0.5**	**2.33E+05**	**1.12**	**Y**	1.05	**1.73**	**3939.02**	**0.252**

Lab ID: B6152_18822_DF_005 **Acq'd:** 15 Jan 2022 04:48 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-33 **UTP:** 15-Jan-2022 10:34:34 MLS **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 496-091-LKV

Datafile: 220114C27 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

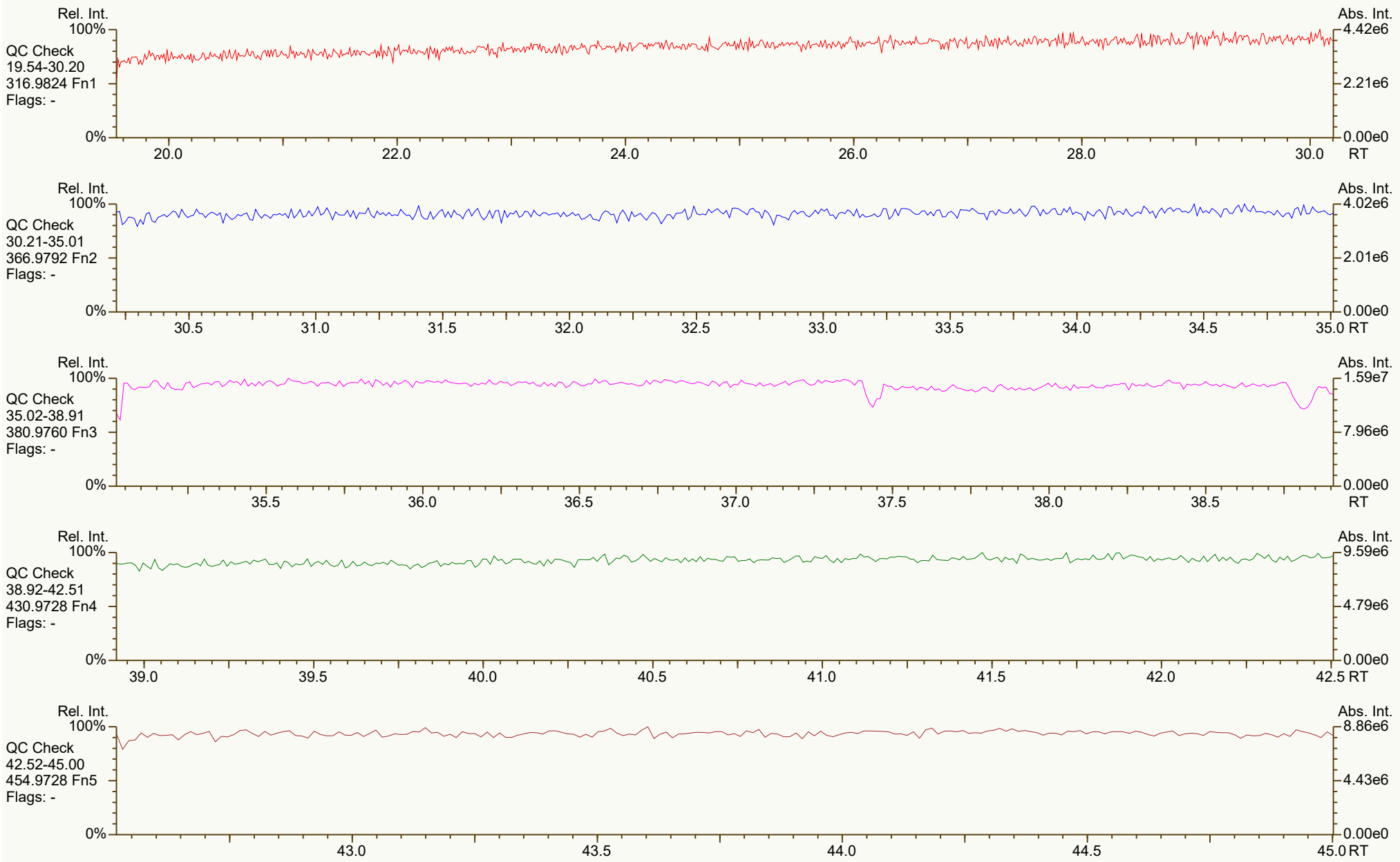
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9834	-0.2	9.60E+06	1.04	Y	1.06	84	4271.928	0.35
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**4.03E+06**	**1.03**	**Y**	**1.06**	**35.3**	**4271.928**	**0.35**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**4.53E+07**	**0.90**	**Y**	**1.13**	**680**	**4506.135**	**0.891**
OCDD-a	43.63		1.0002	1.0002	0	2.77E+06	2.35	Y	0.07	652	5003.146	15.5
1368-TCDF	NotFnd		0.8250						1.08		3089.504	0.131
1468-TCDF	NotFnd		0.8494						1.08		3089.504	0.131
2468-TCDF	23.64		0.8684	0.8652	-4.5	2.10E+05	0.73	Y	1.08	0.833	3089.504	0.131
1346/1246-TCDF	NotFnd		0.8815						1.08		3089.504	0.131
1347/1378/1247-TCDF	24.17		0.8867	0.8846	-3.0	4.08E+05	0.72	Y	1.08	1.62	3089.504	0.131
1348-TCDF	24.53		0.8966	0.8977	+1.6	1.30E+06	0.71	Y	1.08	5.15	3089.504	0.131
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3089.504	0.131
1268-TCDF	24.94		0.9148	0.9128	-3.0	3.96E+05	0.88	Y	1.08	1.57	3089.504	0.131
1467-TCDF	25.07	J	0.9197	0.9177	-3.0	8.39E+04	0.74	Y	1.08	0.333	3089.504	0.131
1478-TCDF	25.24		0.9258	0.9238	-3.0	9.61E+05	0.85	Y	1.08	3.81	3089.504	0.131
1369/1237-TCDF	25.63	EMPC	0.9390	0.9379	-1.7	2.87E+05	0.91	N	1.08	1.14	3089.504	0.131
2467-TCDF	NotFnd		0.9435						1.08		3089.504	0.131
2368-TCDF	25.89		0.9488	0.9478	-1.6	7.56E+05	0.81	Y	1.08	3	3089.504	0.131
1238/1234/1678/1469/1236-TCDF	25.99		0.9527	0.9511	-2.5	1.32E+06	0.82	Y	1.08	5.23	3089.504	0.131
1278-TCDF	26.46		0.9689	0.9683	-1.0	1.08E+07	0.82	Y	1.08	43	3089.504	0.131
1349-TCDF	NotFnd		0.9730						1.08		3089.504	0.131
1267-TCDF	26.73		0.9787	0.9783	-0.6	6.74E+05	0.77	Y	1.08	2.67	3089.504	0.131
2346/1249-TCDF	NotFnd		0.9856						1.08		3089.504	0.131
2347/1279-TCDF	27.13	EMPC	0.9934	0.9929	-0.8	2.60E+05	0.44	N	1.08	1.03	3089.504	0.131
2348-TCDF	27.23	EMPC	0.9972	0.9966	-1.0	1.27E+06	1.07	N	1.08	5.05	3089.504	0.131
2378-TCDF	**27.34**		**1.0008**	**1.0008**	**0**	**2.34E+07**	**0.76**	**Y**	**1.08**	**92.9**	**3089.504**	**0.131**
2367/3467-TCDF	27.71		1.0145	1.0141	-0.7	2.12E+06	0.85	Y	1.08	8.42	3089.504	0.131
1269-TCDF	27.96		1.0236	1.0234	-0.3	3.45E+05	0.88	Y	1.08	1.37	3089.504	0.131
1239-TCDF	NotFnd		1.0333						1.08		3089.504	0.131
1289-TCDF	29.39		1.0740	1.0756	+2.8	1.90E+06	0.84	Y	1.08	7.55	3089.504	0.131
13468/12468-PeCDF	29.38	J	0.9138	0.9131	-1.2	1.79E+05	1.73	Y	1.02	0.911	2495.492	0.108
13678/13467/12467-PeCDF	30.93	J	0.9614	0.9613	-0.2	1.31E+05	1.32	Y	1.02	0.668	4378.354	0.189
12368/13478/12478-PeCDF	31.09	J	0.9661	0.9663	+0.4	4.81E+05	1.41	Y	1.02	2.45	4378.354	0.189
14678-PeCDF	NotFnd		0.9693						1.02		4378.354	0.189
13479-PeCDF	NotFnd		0.9722						1.02		4378.354	0.189
13469/12479-PeCDF	NotFnd		0.9800						1.02		4378.354	0.189
12346-PeCDF	NotFnd		0.9844						1.02		4378.354	0.189

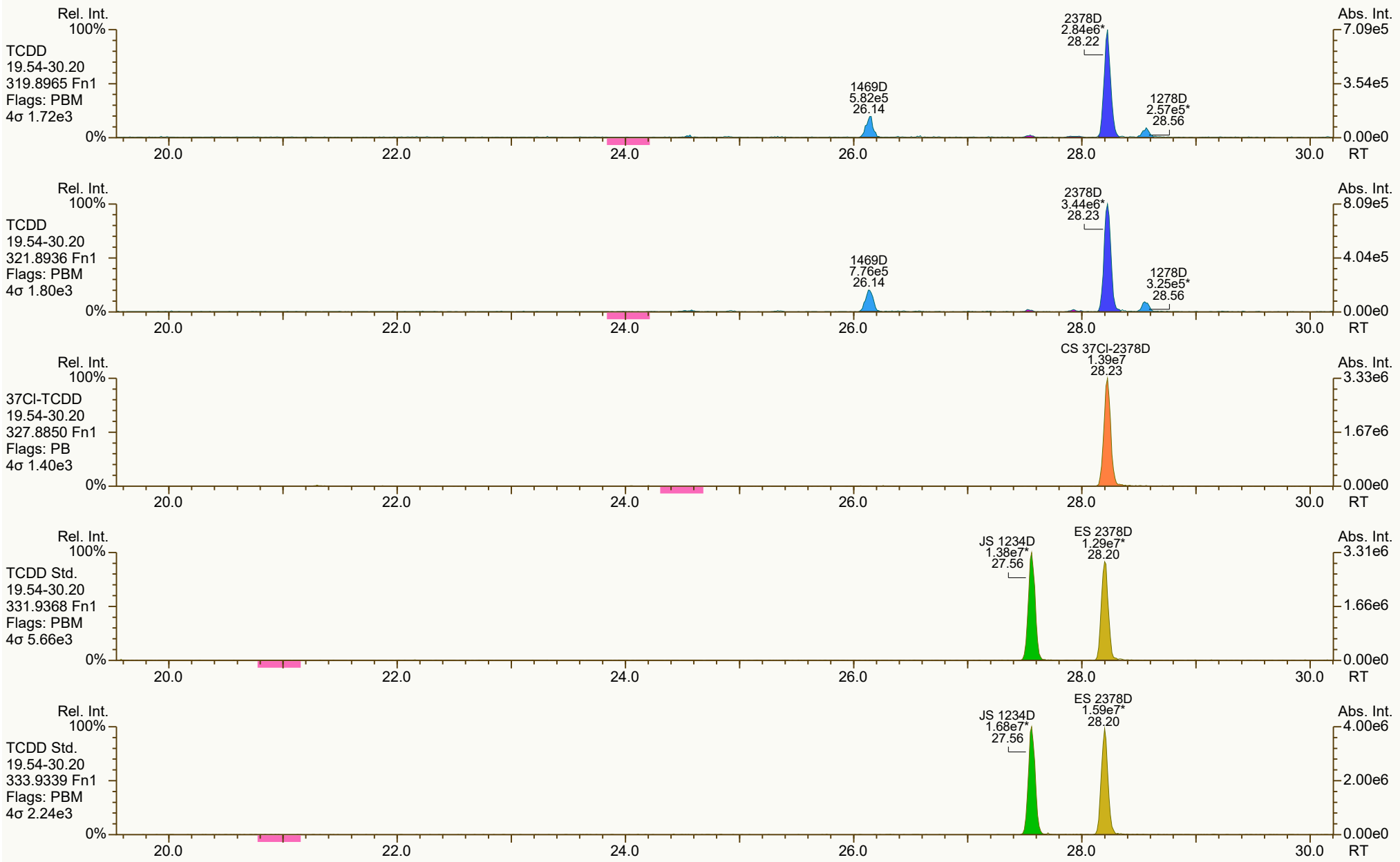
Lab ID: B6152_18822_DF_005 **Acq'd:** 15 Jan 2022 04:48 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

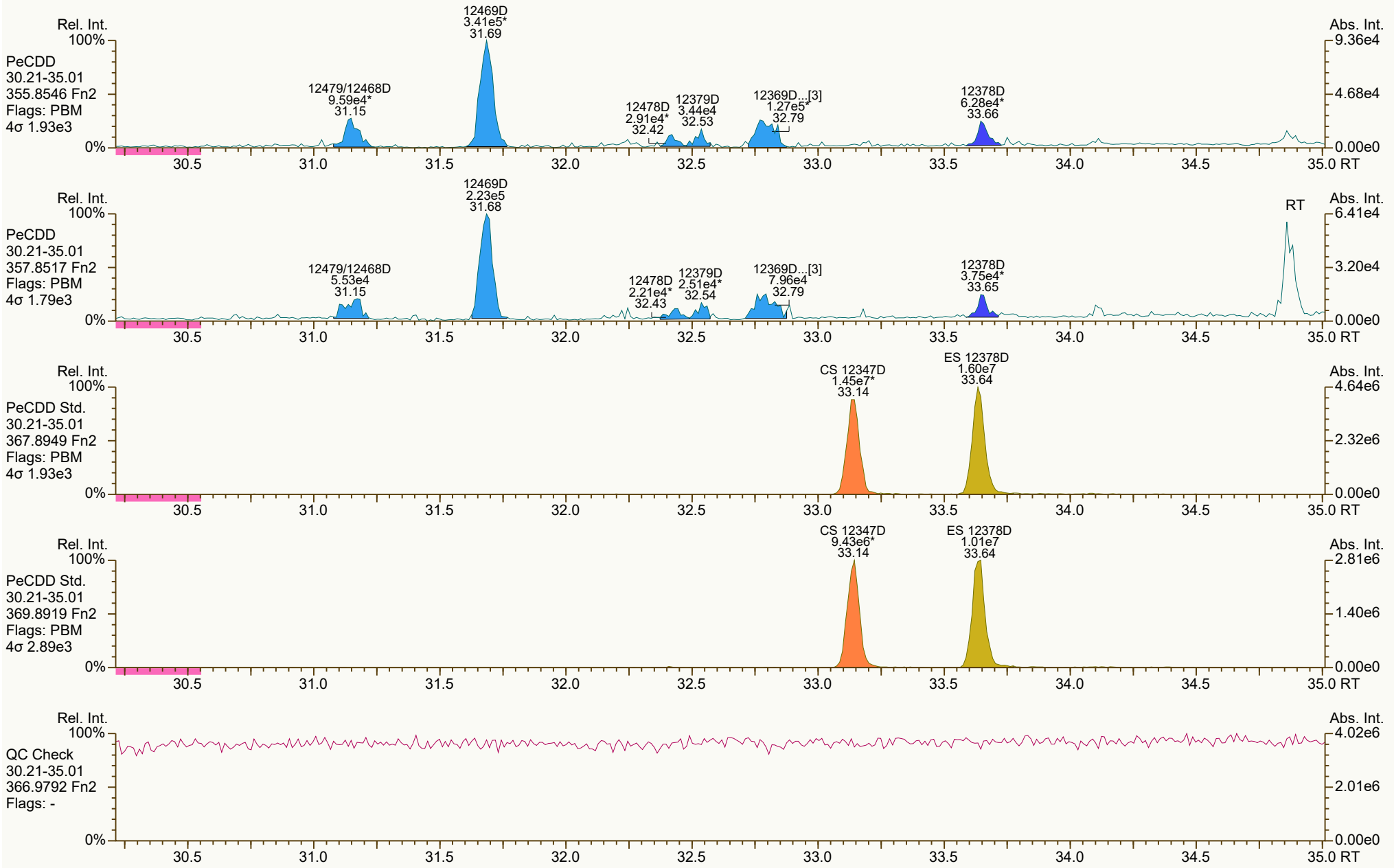
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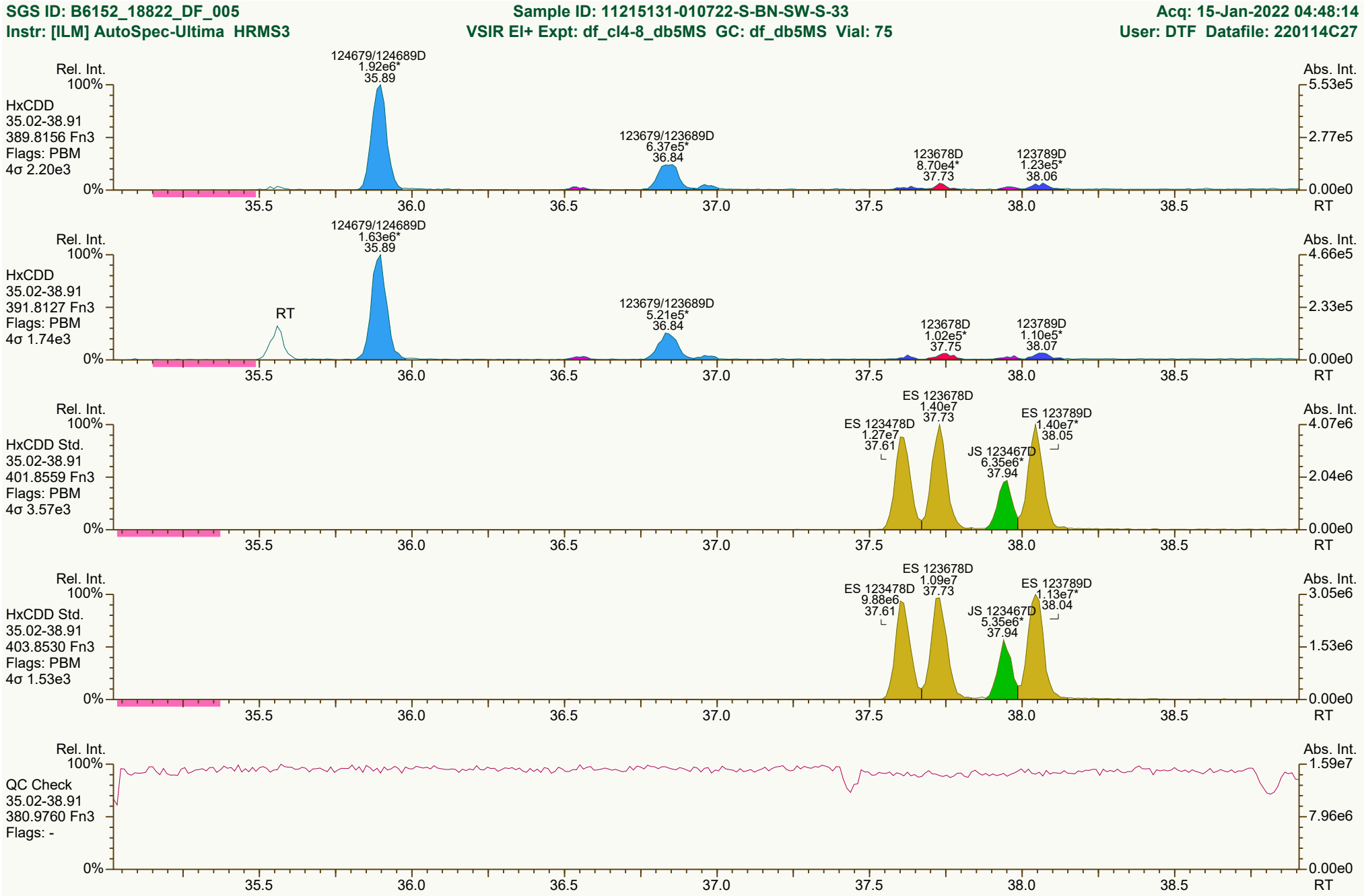
Datafile: 220114C27 **Report:** 15 Jan 2022 10:41 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		4378.354	0.189
12347-PeCDF	NotFnd		0.9890						1.02		4378.354	0.189
12348-PeCDF	31.99	J	0.9942	0.9943	+0.2	1.05E+05	1.48	Y	1.02	0.533	4378.354	0.189
12378-PeCDF	**32.19**		**1.0006**	**1.0005**	**-0.2**	**6.99E+05**	**1.49**	**Y**	**1.02**	**3.49**	**4378.354**	**0.191**
12678/12367-PeCDF	32.49	J EMPC	1.0090	1.0097	+1.4	2.11E+05	1.20	N	1.02	1.07	4378.354	0.189
12379-PeCDF	NotFnd		1.0142						1.02		4378.354	0.189
12679-PeCDF	NotFnd		0.9933						1.02		4378.354	0.189
23467/12369-PeCDF	33.19	J EMPC	0.9969	0.9971	+0.4	4.13E+04	2.02	N	1.02	0.21	4378.354	0.189
23478-PeCDF	**33.31**		**1.0006**	**1.0007**	**+0.2**	**6.23E+05**	**1.52**	**Y**	**1.02**	**3.24**	**4378.354**	**0.188**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4378.354	0.189
12349-PeCDF	NotFnd		1.0107						1.02		4378.354	0.189
12389-PeCDF	NotFnd		1.0330						1.02		4378.354	0.189
123468-HxCDF	35.24	J	0.9627	0.9626	-0.2	7.27E+04	1.29	Y	1.19	0.37	3389.152	0.147
124678/134678-HxCDF	35.43	J	0.9682	0.9679	-0.6	3.12E+05	1.18	Y	1.19	1.59	3389.152	0.147
134679-HxCDF	NotFnd		0.9744						1.19		3389.152	0.147
124679-HxCDF	NotFnd		0.9798						1.19		3389.152	0.147
124689-HxCDF	36.09	J EMPC	0.9858	0.9858	0	1.26E+05	1.72	N	1.19	0.639	3389.152	0.147
123467-HxCDF	NotFnd		0.9973						1.19		3389.152	0.147
123478-HxCDF	**36.62**		**1.0005**	**1.0005**	**0**	**1.12E+06**	**1.30**	**Y**	**1.27**	**5.91**	**3389.152**	**0.154**
123678-HxCDF	**36.76**	J	**1.0004**	**1.0004**	**0**	**3.59E+05**	**1.24**	**Y**	**1.15**	**1.72**	**3389.152**	**0.135**
123479-HxCDF	NotFnd		1.0051						1.19		3389.152	0.147
123469-HxCDF	NotFnd		1.0093						1.19		3389.152	0.147
123679-HxCDF	NotFnd		0.9944						1.19		3389.152	0.147
234678-HxCDF	**37.43**	J EMPC	**1.0005**	**1.0004**	**-0.2**	**1.03E+05**	**0.91**	**N**	**1.19**	**0.466**	**3389.152**	**0.136**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3389.152	0.147
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3389.152**	**0.172**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.44	J EMPC	1.0008	1.0011	+0.7	1.01E+05	1.53	N	1.19	0.514	3389.152	0.147
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**5.42E+05**	**1.09**	**Y**	**1.37**	**3.18**	**3482.642**	**0.171**
1234679-HpCDF	NotFnd		1.0069						1.34		3482.642	0.21
1234689-HpCDF	40.29		1.0103	1.0106	+0.7	3.65E+05	1.17	Y	1.34	2.48	3482.642	0.21
1234789-HpCDF	**41.30**	**J**	**1.0003**	**1.0002**	**-0.2**	**7.28E+04**	**0.91**	**Y**	**1.31**	**0.586**	**3482.642**	**0.261**
OCDF	**43.79**	**J EMPC**	**1.0003**	**1.0002**	**-0.3**	**4.04E+05**	**1.09**	**N**	**1.07**	**4.89**	**5016.804**	**0.875**
OCDF-a	NotFnd		1.0002						0.07		3370.259	9.49

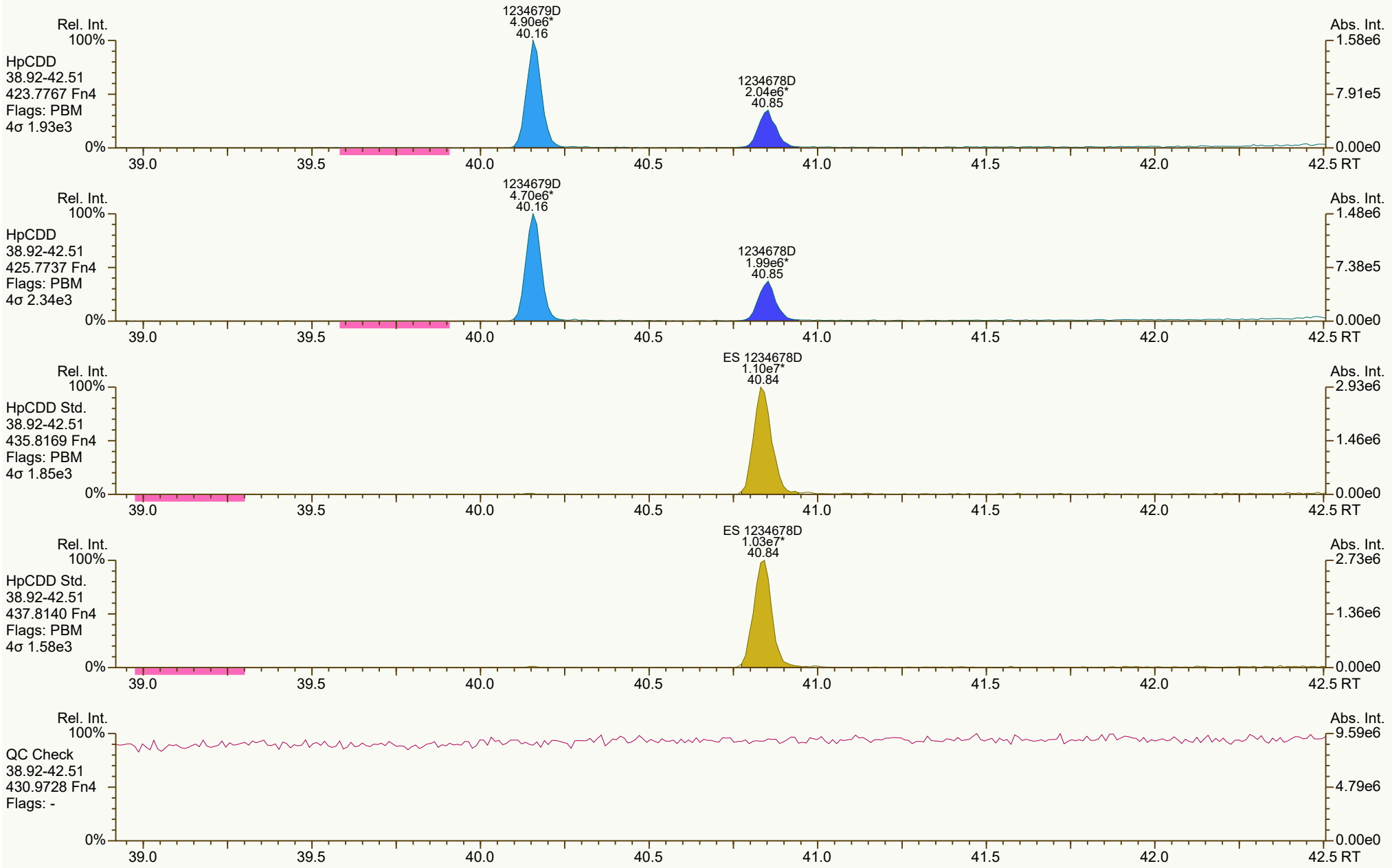

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.42e6
2.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.02e6
2.01e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.59e7
7.96e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.59e6
4.79e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.86e6
4.43e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

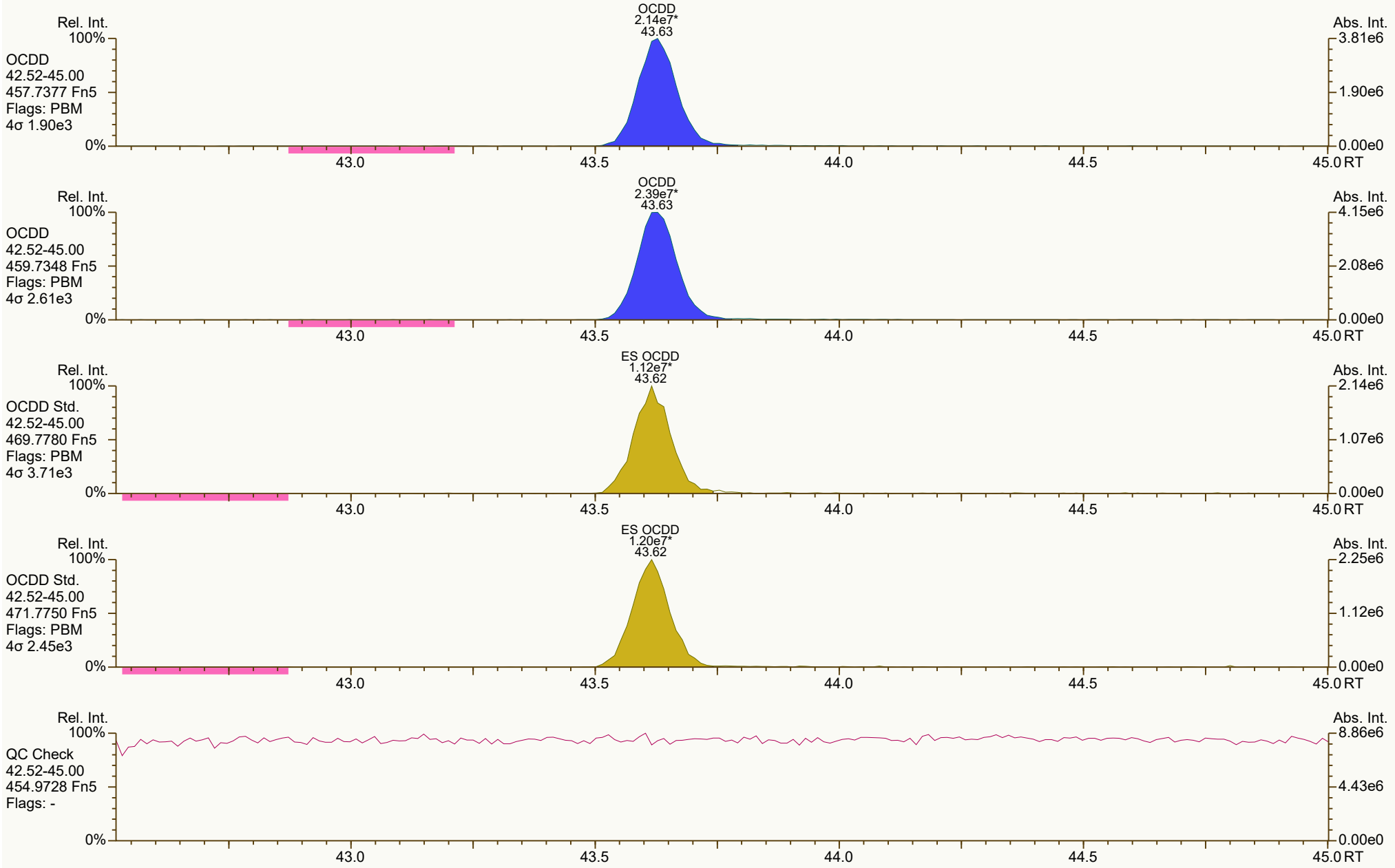

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.72e3
1469D
5.82e5
26.14
2378D
2.84e6*
28.22
1278D
2.57e5*
28.56
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.80e3
1469D
7.76e5
26.14
2378D
3.44e6*
28.23
1278D
3.25e5*
28.56
Abs. Int.
8.09e5
4.04e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.40e3
CS 37Cl-2378D
1.39e7
28.23
Abs. Int.
3.33e6
1.67e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.66e3
JS 1234D
1.38e7*
27.56
ES 2378D
1.29e7*
28.20
Abs. Int.
3.31e6
1.66e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.24e3
JS 1234D
1.68e7*
27.56
ES 2378D
1.59e7*
28.20
Abs. Int.
4.00e6
2.00e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

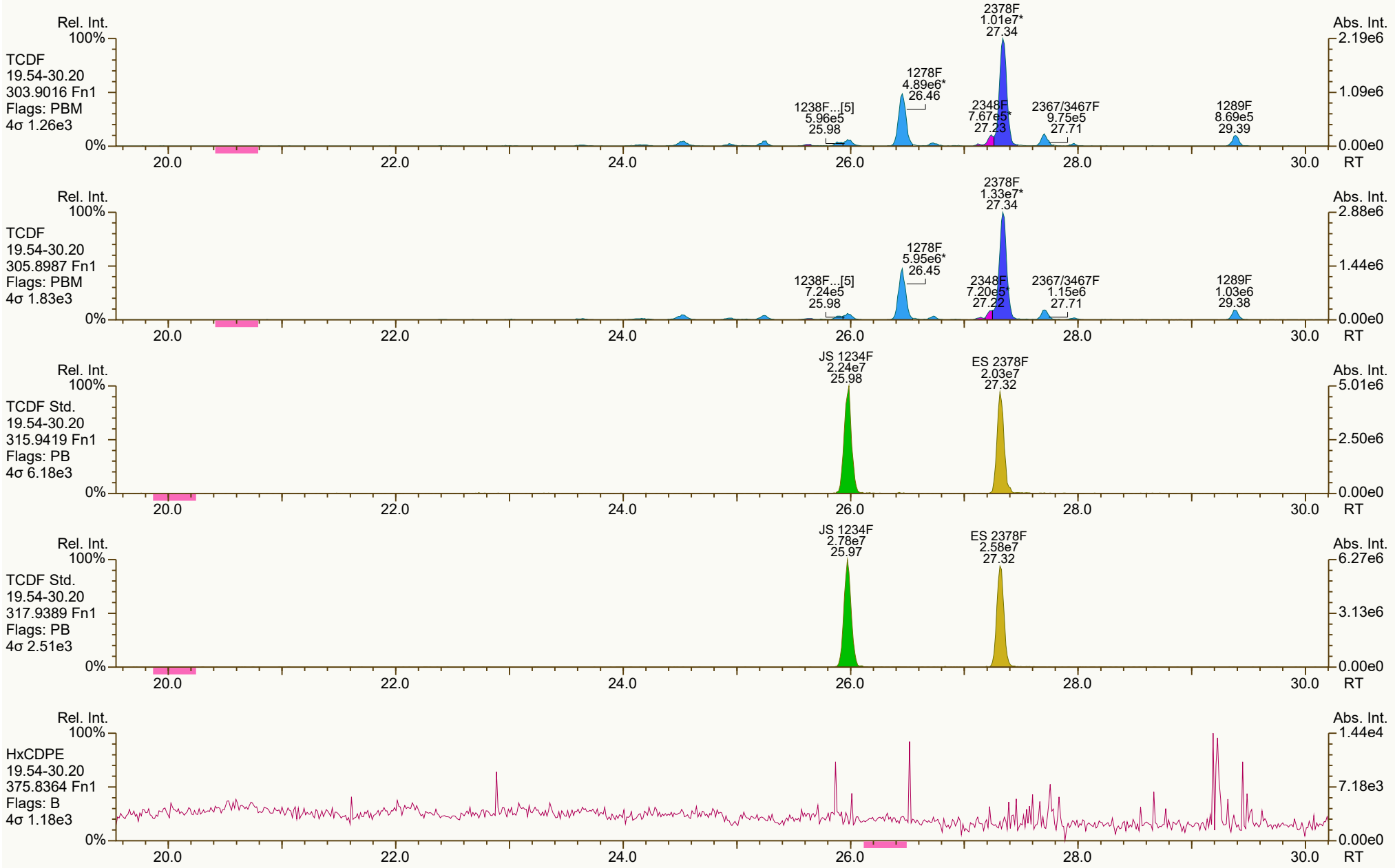

Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.93e3
12469D
3.41e5*
31.69
12479/12468D
9.59e4*
31.15
12478D
2.91e4*
32.42
12379D
3.44e4
32.53
12369D...[3]
1.27e5*
32.79
12378D
6.28e4*
33.66
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.79e3
12469D
2.23e5
31.68
12479/12468D
5.53e4
31.15
12478D
2.21e4*
32.43
12379D
2.51e4*
32.54
12369D...[3]
7.96e4
32.79
12378D
3.75e4*
33.65
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.93e3
CS 12347D
1.45e7*
33.14
ES 12378D
1.60e7
33.64
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 2.89e3
CS 12347D
9.43e6*
33.14
ES 12378D
1.01e7
33.64
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
RT



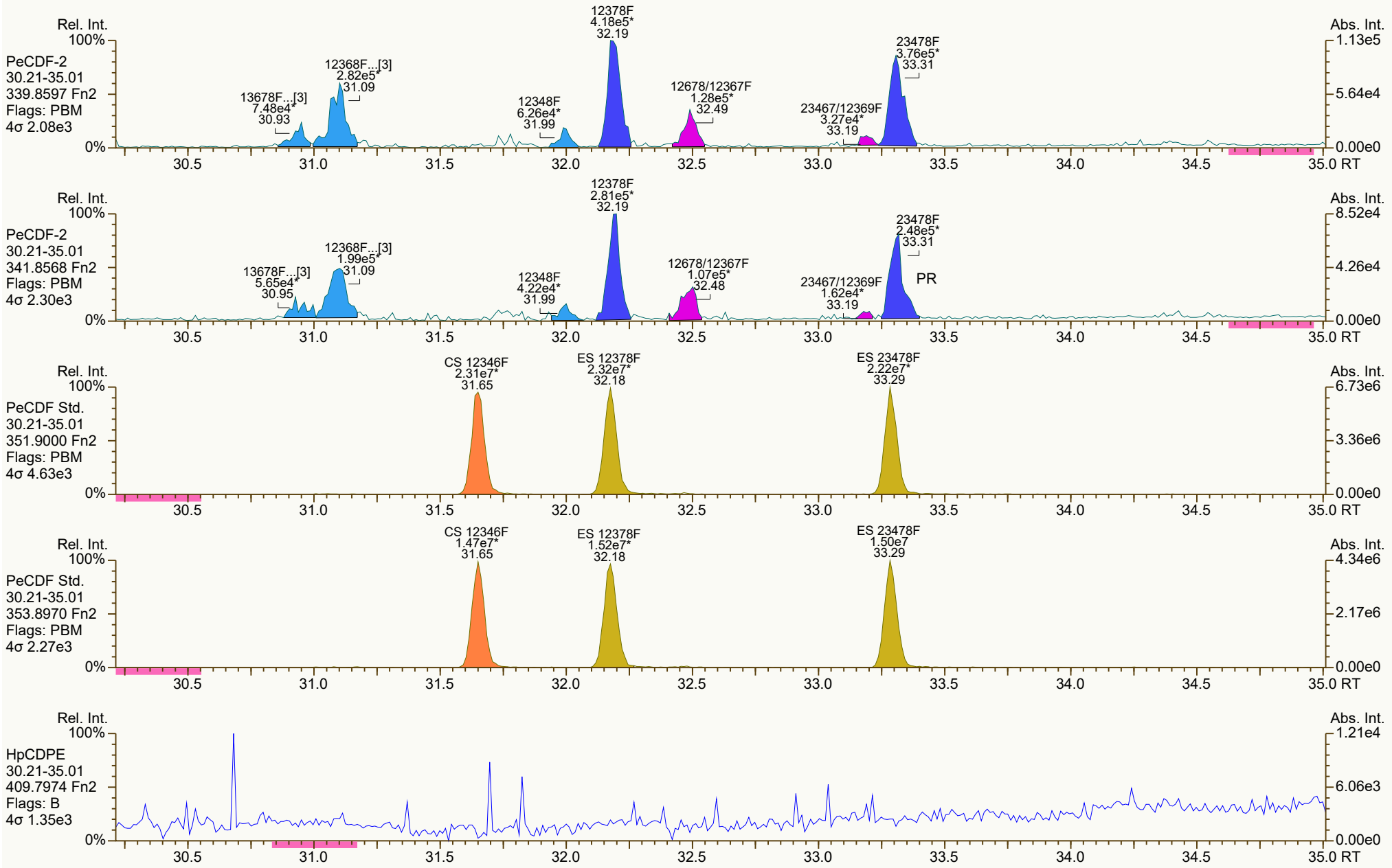
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 1234, 9382 scc: 496-091
PKD: 15-Jan-2022 10:30 Printed: 15-Jan-2022 10:51 Page 4 of 12

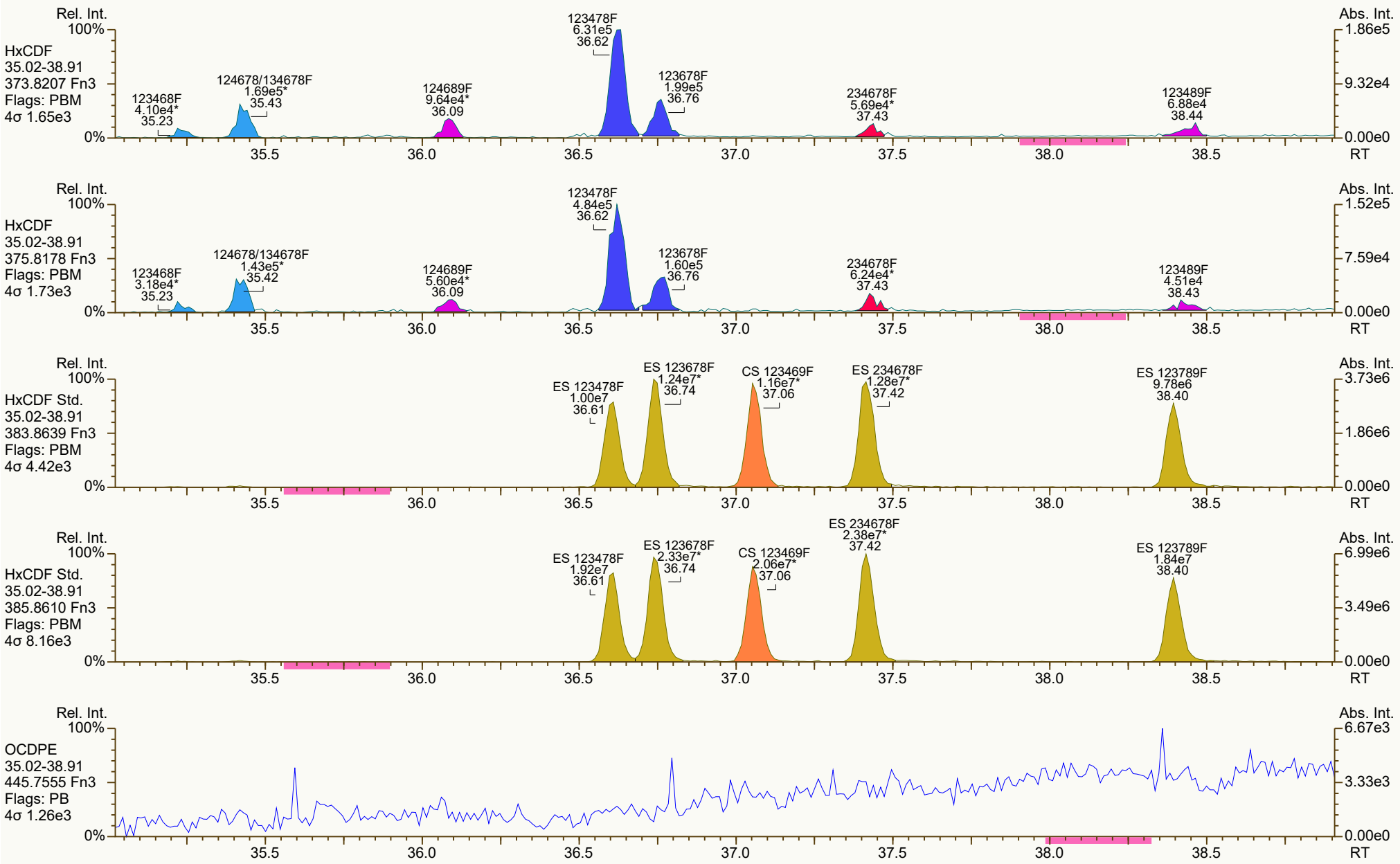

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.93e3
1234679D
4.90e6*
40.16
1234678D
2.04e6*
40.85
Abs. Int.
1.58e6
7.91e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.34e3
1234679D
4.70e6*
40.16
1234678D
1.99e6*
40.85
Abs. Int.
1.48e6
7.38e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 1.85e3
ES 1234678D
1.10e7*
40.84
Abs. Int.
2.93e6
1.46e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 1.58e3
ES 1234678D
1.03e7*
40.84
Abs. Int.
2.73e6
1.36e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
9.59e6
4.79e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
2.14e7*
43.63
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
3.81e6
1.90e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.39e7*
43.63
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.61e3
0%
Abs. Int.
4.15e6
2.08e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.12e7*
43.62
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 3.71e3
0%
Abs. Int.
2.14e6
1.07e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.20e7*
43.62
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 2.45e3
0%
Abs. Int.
2.25e6
1.12e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.86e6
4.43e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

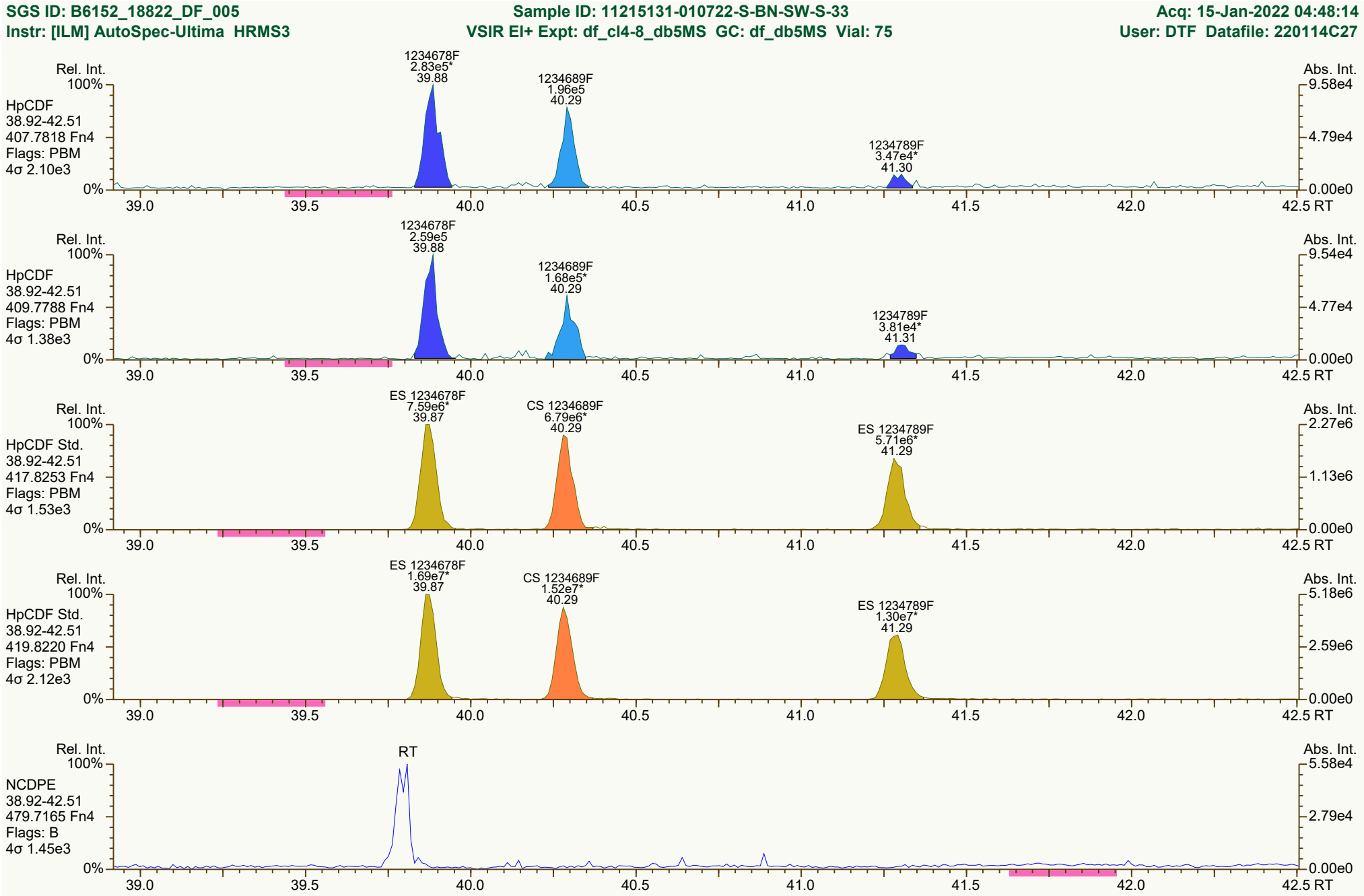

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.26e3
2378F
1.01e7*
27.34
1278F
4.89e6*
26.46
1238F...[5]
5.96e5
25.98
2348F
7.67e5*
27.23
2367/3467F
9.75e5
27.71
1289F
8.69e5
29.39
Abs. Int.
2.19e6
1.09e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.83e3
2378F
1.33e7*
27.34
1278F
5.95e6*
26.45
1238F...[5]
7.24e5
25.98
2348F
7.20e5*
27.22
2367/3467F
1.15e6
27.71
1289F
1.03e6
29.38
Abs. Int.
2.88e6
1.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.18e3
JS 1234F
2.24e7
25.98
ES 2378F
2.03e7
27.32
Abs. Int.
5.01e6
2.50e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.51e3
JS 1234F
2.78e7
25.97
ES 2378F
2.58e7
27.32
Abs. Int.
6.27e6
3.13e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.18e3
Abs. Int.
1.44e4
7.18e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

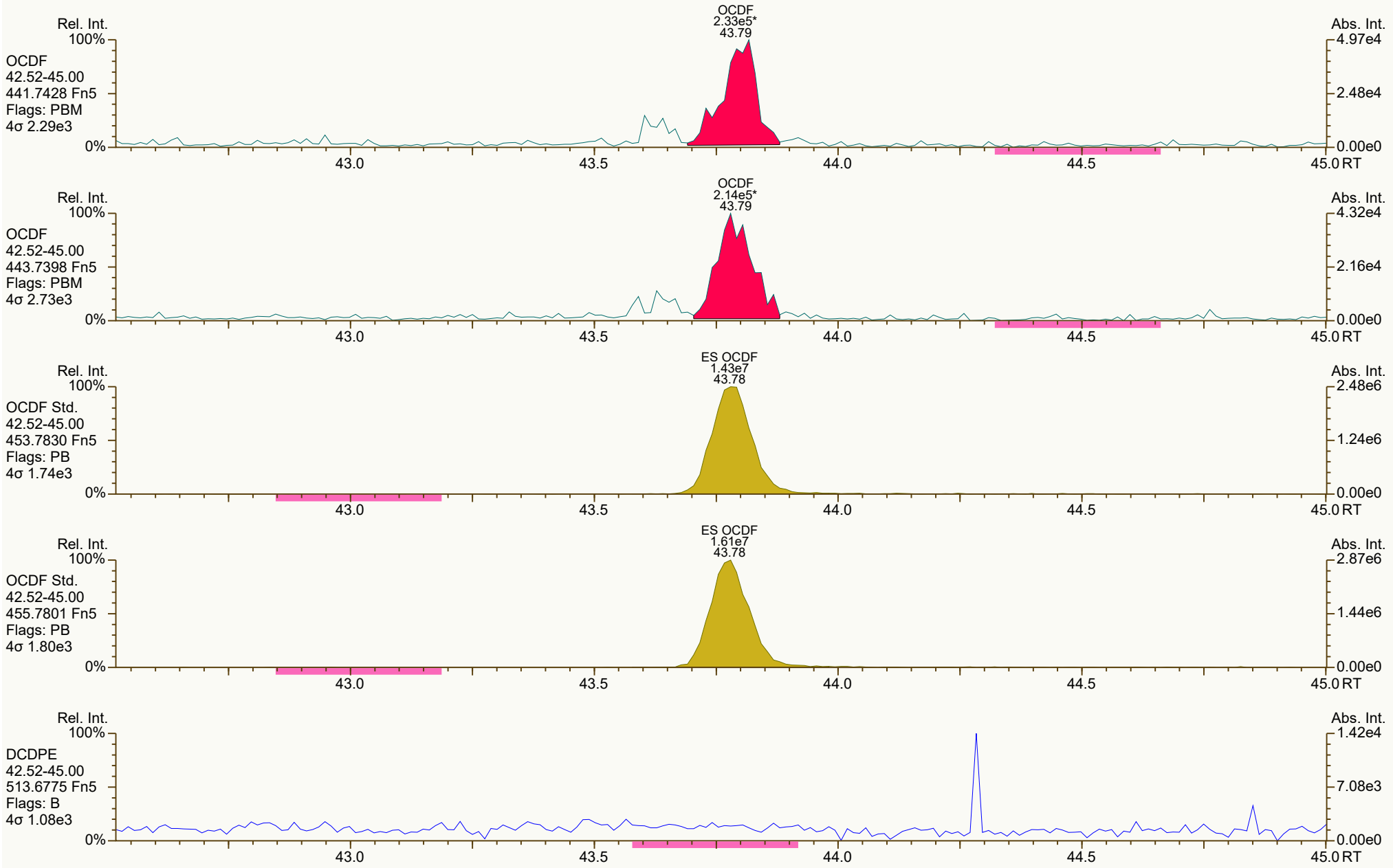

Rel. Int.
100%
0%
Abs. Int.
3.44e4
1.72e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.13e5*
29.38
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.17e3
13468/12468F
6.56e4*
29.38
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.33e3
Abs. Int.
1.91e4
9.53e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
4.42e6
2.21e6


Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.08e3
13678F...[3] 7.48e4* 30.93
12368F...[3] 2.82e5* 31.09
12348F 6.26e4* 31.99
12378F 4.18e5* 32.19
12678/12367F 1.28e5* 32.49
23467/12369F 3.27e4* 33.19
23478F 3.76e5* 33.31
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.30e3
13678F...[3] 5.65e4* 30.95
12368F...[3] 1.99e5* 31.09
12348F 4.22e4* 31.99
12378F 2.81e5* 32.19
12678/12367F 1.07e5* 32.48
23467/12369F 1.62e4* 33.19
23478F 2.48e5* 33.31
PR
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 4.63e3
CS 12346F 2.31e7* 31.65
ES 12378F 2.32e7* 32.18
ES 23478F 2.22e7* 33.29
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.27e3
CS 12346F 1.47e7* 31.65
ES 12378F 1.52e7* 32.18
ES 23478F 1.50e7 33.29
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.35e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT



Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_005.utp_res, saved 15-Jan-2022 10:34 (MLS) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5419, 1470, 9284 scc: 496-091 *PKD: 15-Jan-2022 10:30 Printed: 15-Jan-2022 10:51 Page 10 of 12*


SGS ID: B6152_18822_DF_005
Sample ID: 11215131-010722-S-BN-SW-S-33
Acq: 15-Jan-2022 04:48:14
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220114C27
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.10e3
1234678F
2.83e5*
39.88
1234689F
1.96e5
40.29
1234789F
3.47e4*
41.30
9.58e4
4.79e4
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.38e3
1234678F
2.59e5
39.88
1234689F
1.68e5*
40.29
1234789F
3.81e4*
41.31
9.54e4
4.77e4
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 1.53e3
ES 1234678F
7.59e6*
39.87
CS 1234689F
6.79e6*
40.29
ES 1234789F
5.71e6*
41.29
2.27e6
1.13e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.12e3
ES 1234678F
1.69e7*
39.87
CS 1234689F
1.52e7*
40.29
ES 1234789F
1.30e7*
41.29
5.18e6
2.59e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.45e3
RT
5.58e4
2.79e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\B6152_18822_DF_005.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 8135, 3086, 0551 scc: 496-091
PKD: 15-Jan-2022 10:30 Printed: 15-Jan-2022 10:51 Page 11 of 12


OCDF
2.33e5*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.29e3
0%
Abs. Int.
4.97e4
2.48e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.14e5*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.73e3
0%
Abs. Int.
4.32e4
2.16e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.43e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
2.48e6
1.24e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.61e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
2.87e6
1.44e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
1.42e4
7.08e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Megan_Shannahan , 1/15/2022, 10:55:09 AM

SGS Environmental Services — Run Log **Project: B6152_18822_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
17	220114C17	3	CS3_220114_DF_CB	1.00	SIL 25-347-1	DTF, MLS	994-955	14-Jan-2022	21:04:58
18	220114C18	69	OPR1_18822_DF	1.00	0_18822_OPR001	DTF, MLS	033-566	14-Jan-2022	21:51:16
19	220114C19	70	OPR2_18822_DF	1.00	0_18822_OPR002	DTF, MLS	914-582	14-Jan-2022	22:37:36
21	220114C21	2	SBS_220114_DF_CC	1.00	SIL 20-61-1	DTF, MLS	329-253	15-Jan-2022	00:10:16
22	220114C22	68	MB1_18822_DF_SDS	10.00	Method Blank	DTF, MLS	545-667	15-Jan-2022	00:56:35
23	220114C23	71	B6152_18822_DF_001	10.20	11215131-010622-S-BN-SW-S-28	DTF, MLS	441-478	15-Jan-2022	01:42:55
24	220114C24	72	B6152_18822_DF_002	10.07	11215131-010622-S-BN-SW-S-29	DTF, MLS	430-308	15-Jan-2022	02:29:15
25	220114C25	73	B6152_18822_DF_003	10.21	11215131-010722-S-BN-SW-S-31	DTF, MLS	809-337	15-Jan-2022	03:15:35
26	220114C26	74	B6152_18822_DF_004	10.14	11215131-010722-S-BN-SW-S-32	DTF, MLS	796-095	15-Jan-2022	04:01:54
27	220114C27	75	B6152_18822_DF_005	10.15	11215131-010722-S-BN-SW-S-33	DTF, MLS	496-091	15-Jan-2022	04:48:14

REVIEWED
Tamara Burkamper , 1/15/2022, 11:34:32 AM

Dioxin/Furan QC Summary	Acq'd: 14 Jan 2022 21:04 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220114_DF_CB	UTP: 15-Jan-2022 10:37:45 MLS	Checkcode: 994-955-TFR
Sample ID: SIL 25-347-1	Report: 15 Jan 2022 10:38 MS	Datafile: 220114C17

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.23	5.55E+06	0.85	Y	1.18	1.28	8%
12378-PeCDD	33.66	2.03E+07	1.54	Y	1.04	1.05	2%
123478-HxCDD	37.63	1.85E+07	1.24	Y	1.09	1.17	7%
123678-HxCDD	37.74	1.91E+07	1.25	Y	1.15	1.24	8%
123789-HxCDD	38.06	1.97E+07	1.27	Y	1.05	1.10	5%
1234678-HpCDD	40.84	1.56E+07	1.02	Y	1.06	1.05	-1%
OCDD	43.62	2.10E+07	0.89	Y	1.13	1.16	3%
2378-TCDF	27.35	7.65E+06	0.77	Y	1.08	1.05	-3%
12378-PeCDF	32.19	2.62E+07	1.54	Y	1.02	0.92	-11%
23478-PeCDF	33.30	2.56E+07	1.50	Y	1.02	0.91	-10%
123478-HxCDF	36.62	2.65E+07	1.23	Y	1.27	1.20	-6%
123678-HxCDF	36.75	2.79E+07	1.26	Y	1.15	1.10	-5%
234678-HxCDF	37.43	2.67E+07	1.25	Y	1.19	1.14	-4%
123789-HxCDF	38.41	2.39E+07	1.25	Y	1.16	1.14	-2%
1234678-HpCDF	39.88	2.20E+07	1.03	Y	1.37	1.26	-8%
1234789-HpCDF	41.30	1.84E+07	1.02	Y	1.31	1.22	-6%
OCDF	43.79	2.68E+07	0.90	Y	1.07	1.04	-3%
ES 2378-TCDD	28.21	4.32E+07	0.84	Y	1.05	1.01	-4%
ES 12378-PeCDD	33.637	3.85E+07	1.62	Y	0.88	0.90	2%
ES 123478-HxCDD	37.611	3.16E+07	1.31	Y	0.97	1.00	3%
ES 123678-HxCDD	37.729	3.08E+07	1.27	Y	0.94	0.98	4%
ES 123789-HxCDD	38.04	3.58E+07	1.29	Y	1.09	1.14	4%
ES 1234678-HpCDD	40.829	2.98E+07	1.06	Y	0.91	0.94	3%
ES OCDD	43.608	3.61E+07	0.92	Y	0.62	0.57	-8%
ES 2378-TCDF	27.33	7.30E+07	0.79	Y	1.06	1.03	-2%
ES 12378-PeCDF	32.175	5.73E+07	1.55	Y	0.91	0.81	-11%
ES 23478-PeCDF	33.283	5.60E+07	1.55	Y	0.88	0.79	-10%
ES 123478-HxCDF	36.6	4.42E+07	0.53	Y	1.20	1.40	17%
ES 123678-HxCDF	36.737	5.09E+07	0.54	Y	1.35	1.62	19%
ES 234678-HxCDF	37.415	4.70E+07	0.55	Y	1.24	1.49	20%
ES 123789-HxCDF	38.397	4.20E+07	0.54	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.868	3.50E+07	0.44	Y	0.97	1.11	15%
ES 1234789-HpCDF	41.285	3.01E+07	0.44	Y	0.85	0.96	12%
ES OCDF	43.775	5.15E+07	0.94	Y	0.81	0.82	1%

Dioxin/Furan QC Summary	Acq'd: 14 Jan 2022 21:04 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220114_DF_CB	UTP: 15-Jan-2022 10:37:45 MLS	Checkcode: 994-955-TFR
Sample ID: SIL 25-347-1	Report: 15 Jan 2022 10:38 MS	Datafile: 220114C17

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.57	4.29E+07	0.85	Y	-	-	-
JS 1234-TCDF	25.99	7.07E+07	0.77	Y	-	-	-
JS 123467-HxCDD	37.94	1.57E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.23	6.13E+06	n/a	-	1.20	1.43	19%
CS 12347-PeCDD	33.14	3.37E+07	1.63	Y	0.75	0.79	4%
CS 12346-PeCDF	31.65	5.54E+07	1.50	Y	0.85	0.78	-8%
CS 123469-HxCDF	37.06	4.62E+07	0.52	Y	1.12	1.47	31% *
CS 1234689-HpCDF	40.28	3.49E+07	0.46	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.23~~	~~6.13E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.42~~	~~24%~~
~~SS 12347-PeCDD~~	~~33.14~~	~~3.37E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~0.80~~	~~2%~~
~~SS 12346-PeCDF~~	~~31.65~~	~~5.54E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~0.97~~	~~3%~~
~~SS 123469-HxCDF~~	~~37.06~~	~~4.62E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~0.91~~	~~10%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~3.49E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.00~~	~~8%~~
~~OCDD a~~	~~43.62~~	~~1.31E+06~~	~~2.70~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~
~~OCDF a~~	~~43.78~~	~~1.60E+06~~	~~2.29~~	~~Y~~	~~0.07~~	~~0.06~~	~~-7%~~

* no M1613B criteria for this compound; no impact on results
TB 01/15/2022

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220114C17 Analysis Date: 14-JAN-2022 21:04:58

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.85	0.65 - 0.89	Y	10.8	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	50.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	53.6	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	54.1	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	52.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	49.6	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	103	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	9.71	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	44.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	44.8	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.2	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.6	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	47.9	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.9	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	45.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	46.8	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	97.2	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 15 Jan 2022 10:38 Analyst: MS

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

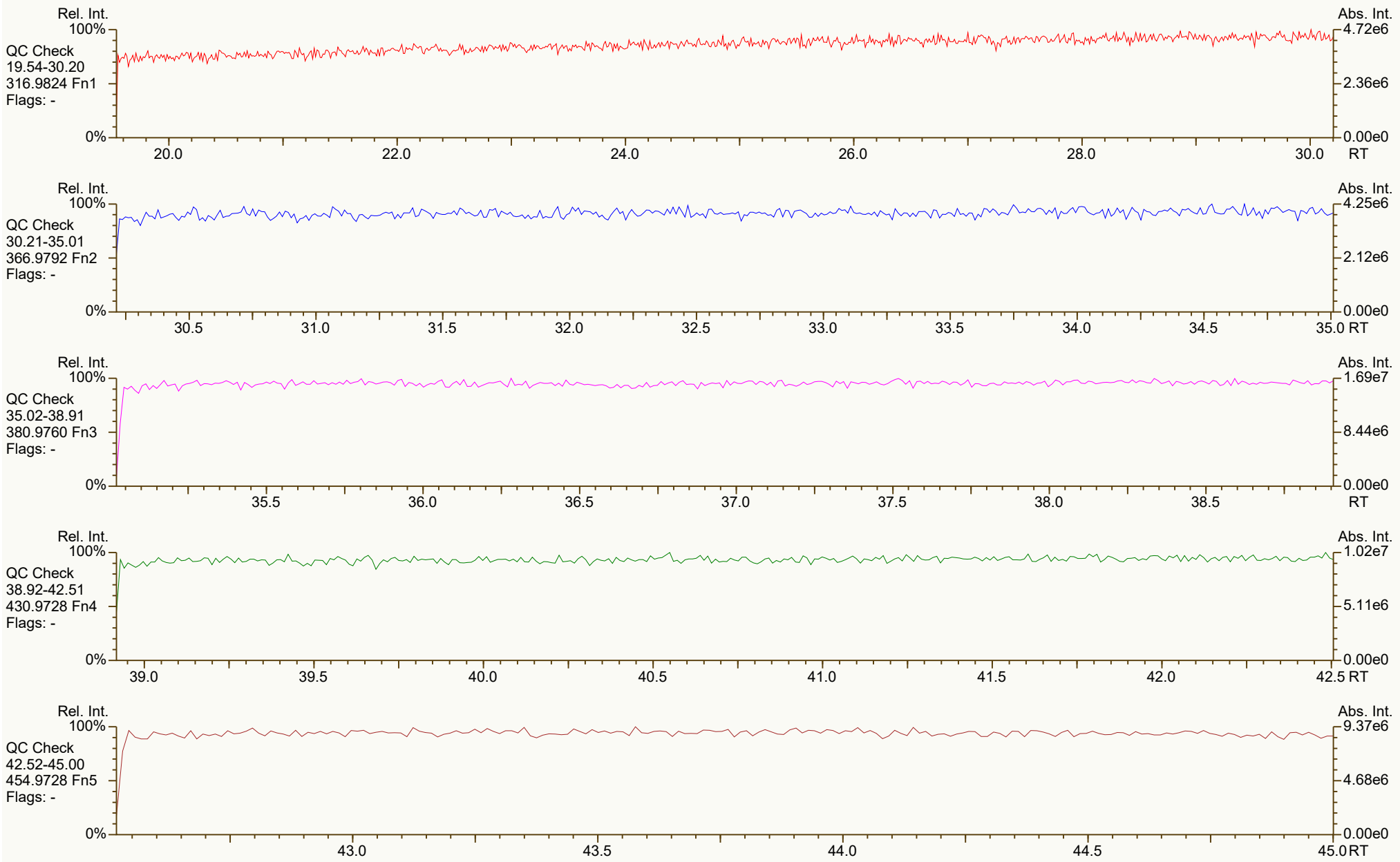
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220114C17 Analysis Date: 14-JAN-2022 21:04:58

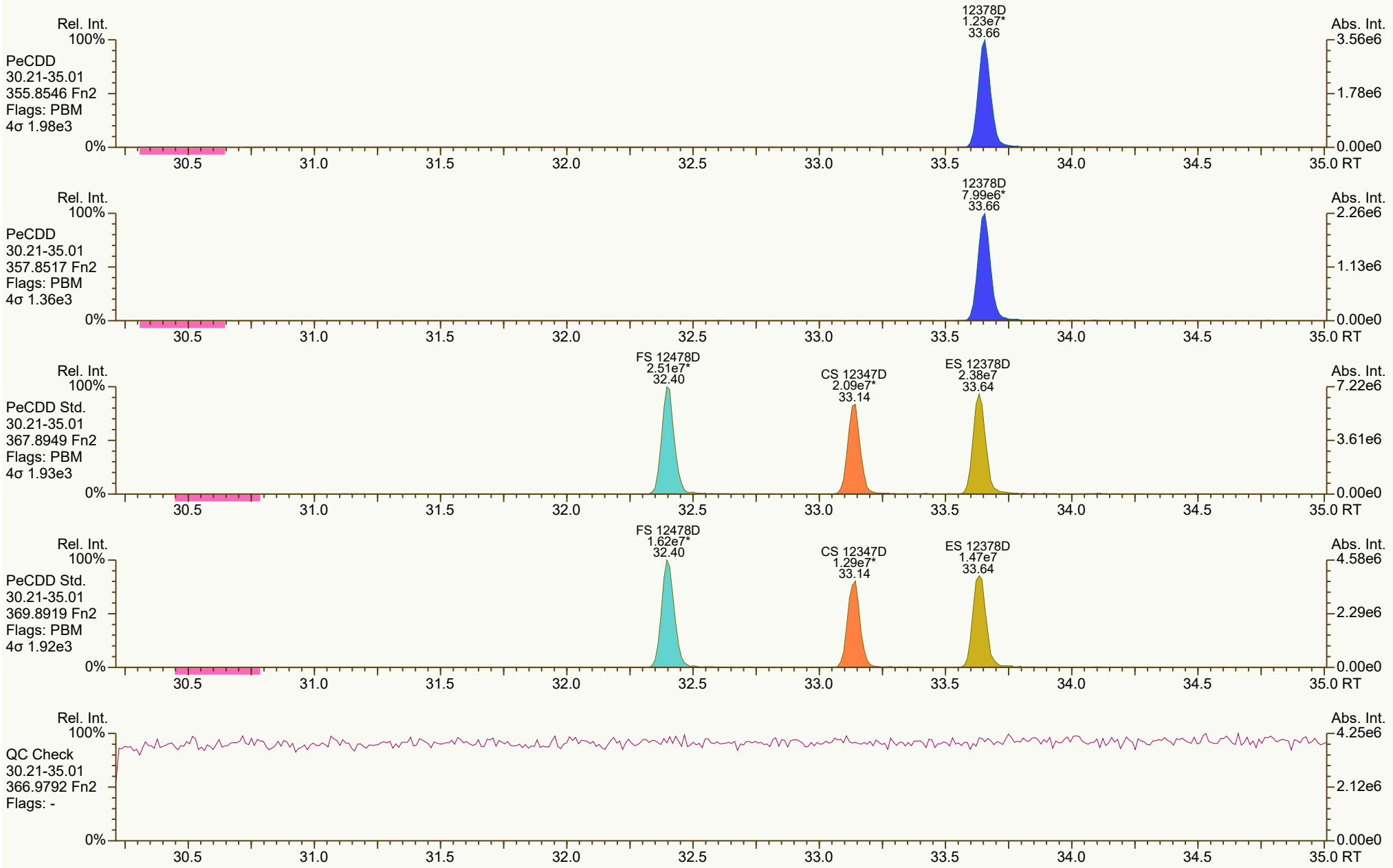
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.84	0.65	-	0.89	Y	96.3	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	102	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	103	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	104	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	104	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88	-	1.20	Y	103	72	-	138	Y
13C-OCDD	M+2/M+4	0.92	0.76	-	1.02	Y	184	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	97.6	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	89.1	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	89.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	117	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	119	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	120	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	115	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	115	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	112	77	-	129	Y
13C-OCDF	M+2/M+4	0.94	0.76	-	1.02	Y	203	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.9	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.63	1.32	-	1.78	Y	104	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.50	1.32	-	1.78	Y	92.2	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	131	70	-	130	N*
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	125	70	-	130	Y

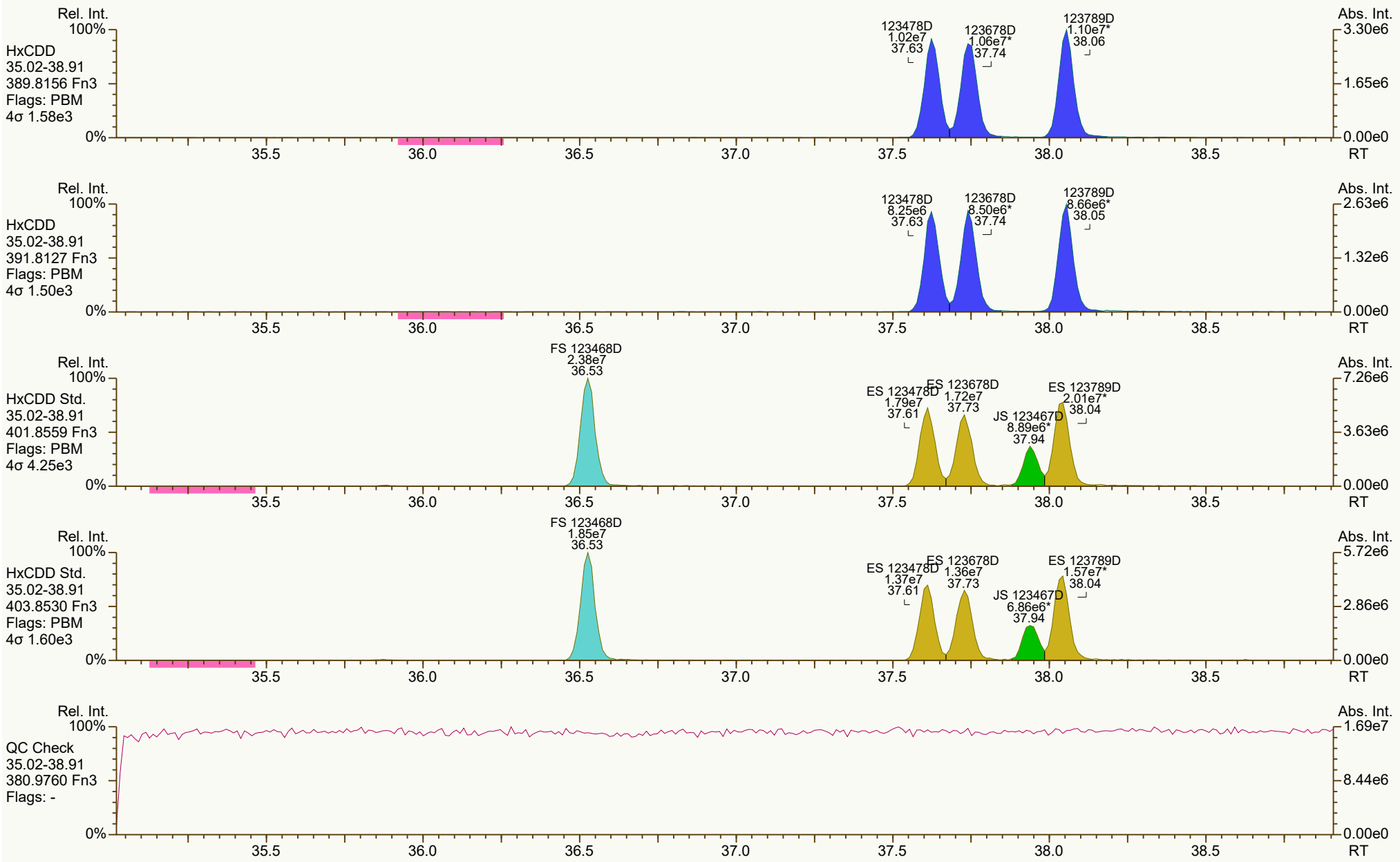
Processed: 15 Jan 2022 10:38 Analyst: MS

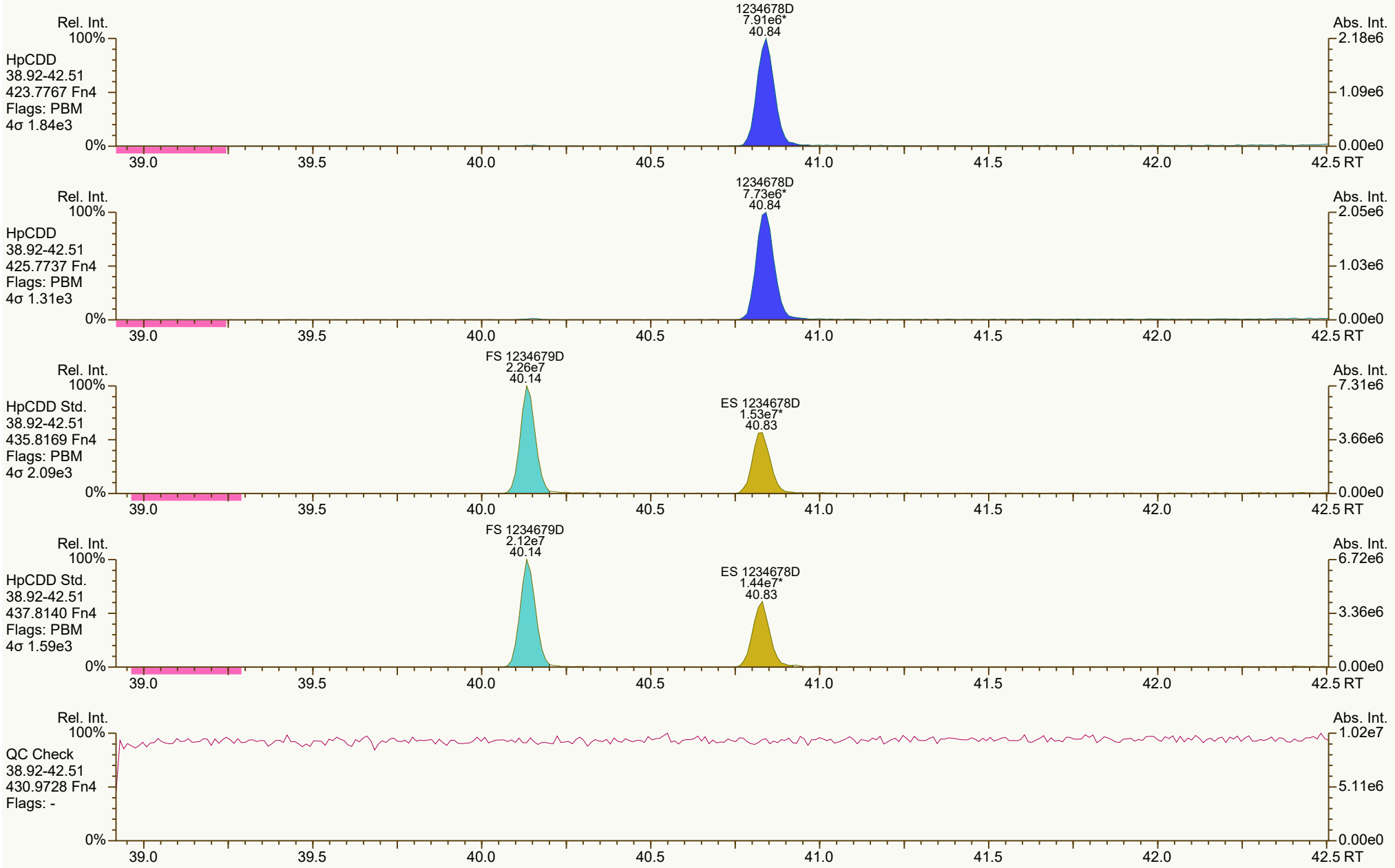
* no M1613B criteria for this compound; no impact on results
TB 01/15/2022

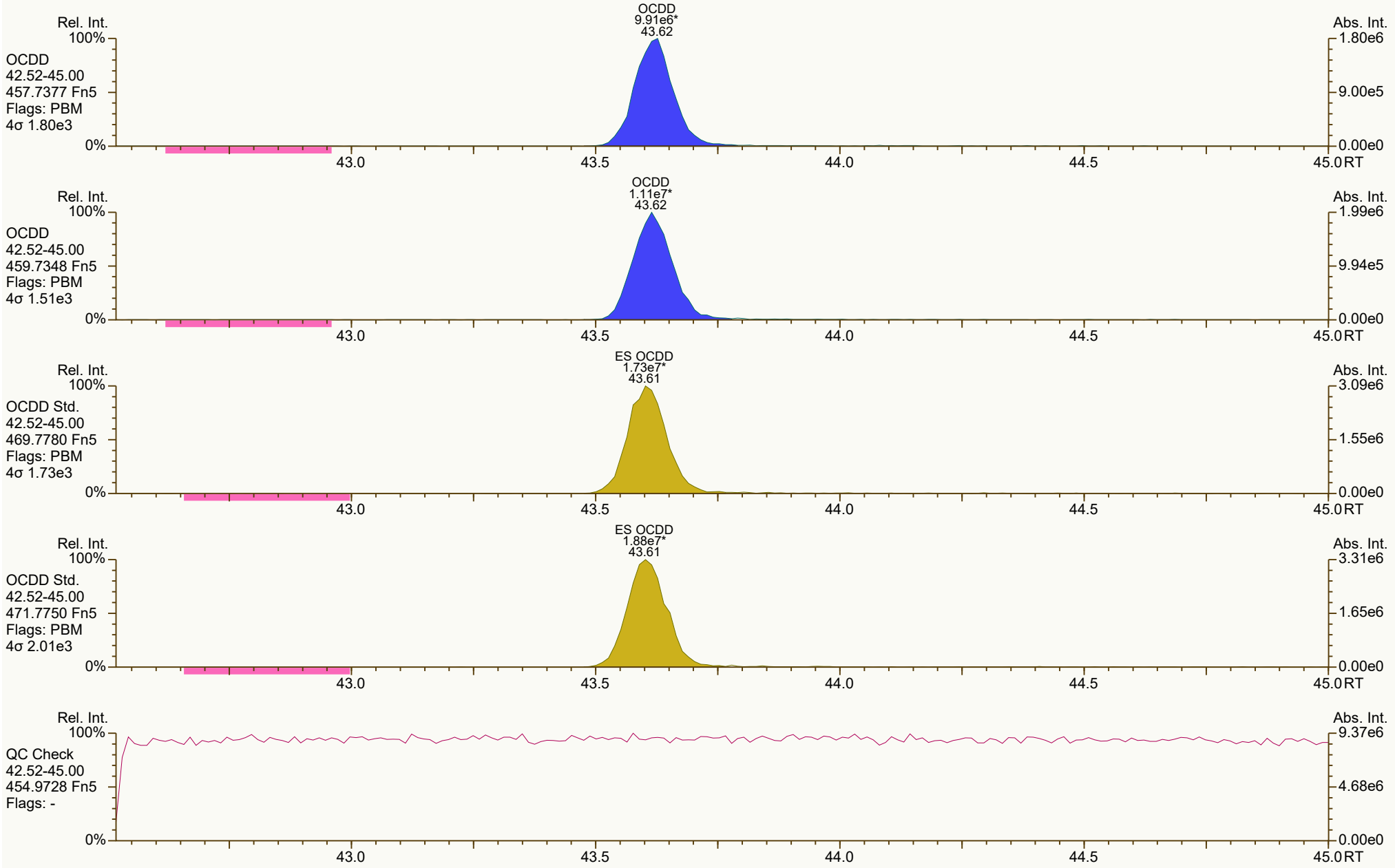

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.25e6
2.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.02e7
5.11e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.37e6
4.68e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

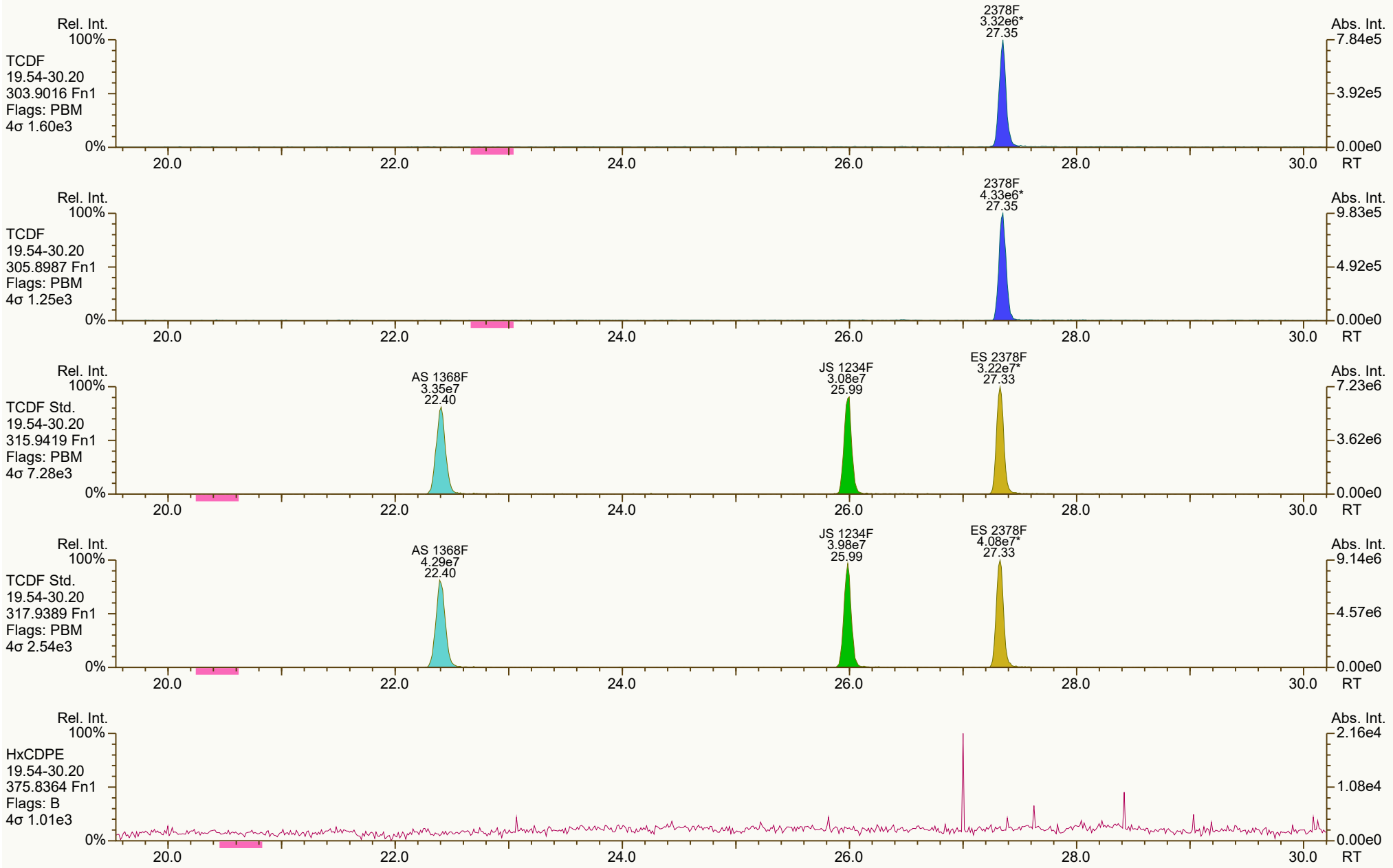

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.10e3
0%
2378D
2.55e6*
28.23
Abs. Int.
6.03e5
3.01e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
VERIFIED
Conc(2378D) = (2.55e6 + 3.00e6) *100 / (1.97e7 + 2.35e7) * 10 = 1.28
MLS 15-Jan-2022 10:43
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.60e3
2378D
3.00e6*
28.23
7.10e5
3.55e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.44e3
CS 37Cl-2378D
6.13e6
28.23
1.39e6
6.97e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 4.36e3
AS 1368D
1.99e7
24.53
TS 1378D
2.90e7*
26.55
JS 1234D
1.97e7*
27.57
ES 2378D
1.97e7*
28.21
FS 1278D
2.17e7*
28.54
6.41e6
3.21e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.06e3
AS 1368D
2.46e7
24.53
TS 1378D
3.55e7*
26.55
JS 1234D
2.32e7*
27.57
ES 2378D
2.35e7*
28.21
FS 1278D
2.62e7*
28.54
8.09e6
4.05e6


Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.98e3
12378D
1.23e7*
33.66
3.56e6
1.78e6
0.00e0
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.36e3
12378D
7.99e6*
33.66
2.26e6
1.13e6
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.93e3
FS 12478D
2.51e7*
32.40
CS 12347D
2.09e7*
33.14
ES 12378D
2.38e7
33.64
7.22e6
3.61e6
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 1.92e3
FS 12478D
1.62e7*
32.40
CS 12347D
1.29e7*
33.14
ES 12378D
1.47e7
33.64
4.58e6
2.29e6
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
4.25e6
2.12e6
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

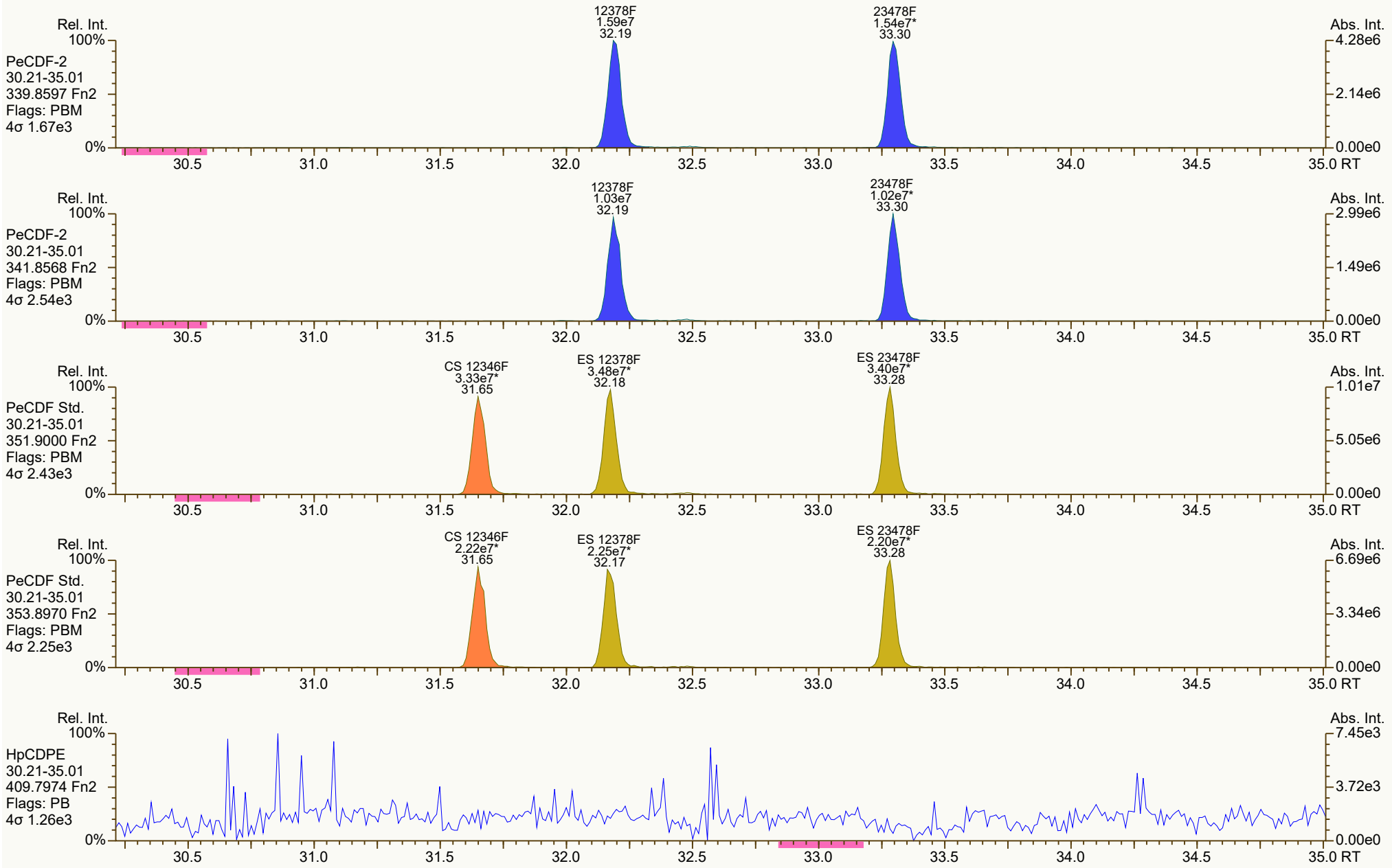

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.58e3
0%
123478D
1.02e7
37.63
123678D
1.06e7*
37.74
123789D
1.10e7*
38.06
Abs. Int.
3.30e6
1.65e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 1.50e3
0%
123478D
8.25e6
37.63
123678D
8.50e6*
37.74
123789D
8.66e6*
38.05
Abs. Int.
2.63e6
1.32e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 4.25e3
0%
FS 123468D
2.38e7
36.53
ES 123478D
1.79e7
37.61
ES 123678D
1.72e7
37.73
JS 123467D
8.89e6*
37.94
ES 123789D
2.01e7*
38.04
Abs. Int.
7.26e6
3.63e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.60e3
0%
FS 123468D
1.85e7
36.53
ES 123478D
1.37e7
37.61
ES 123678D
1.36e7
37.73
JS 123467D
6.86e6*
37.94
ES 123789D
1.57e7*
38.04
Abs. Int.
5.72e6
2.86e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

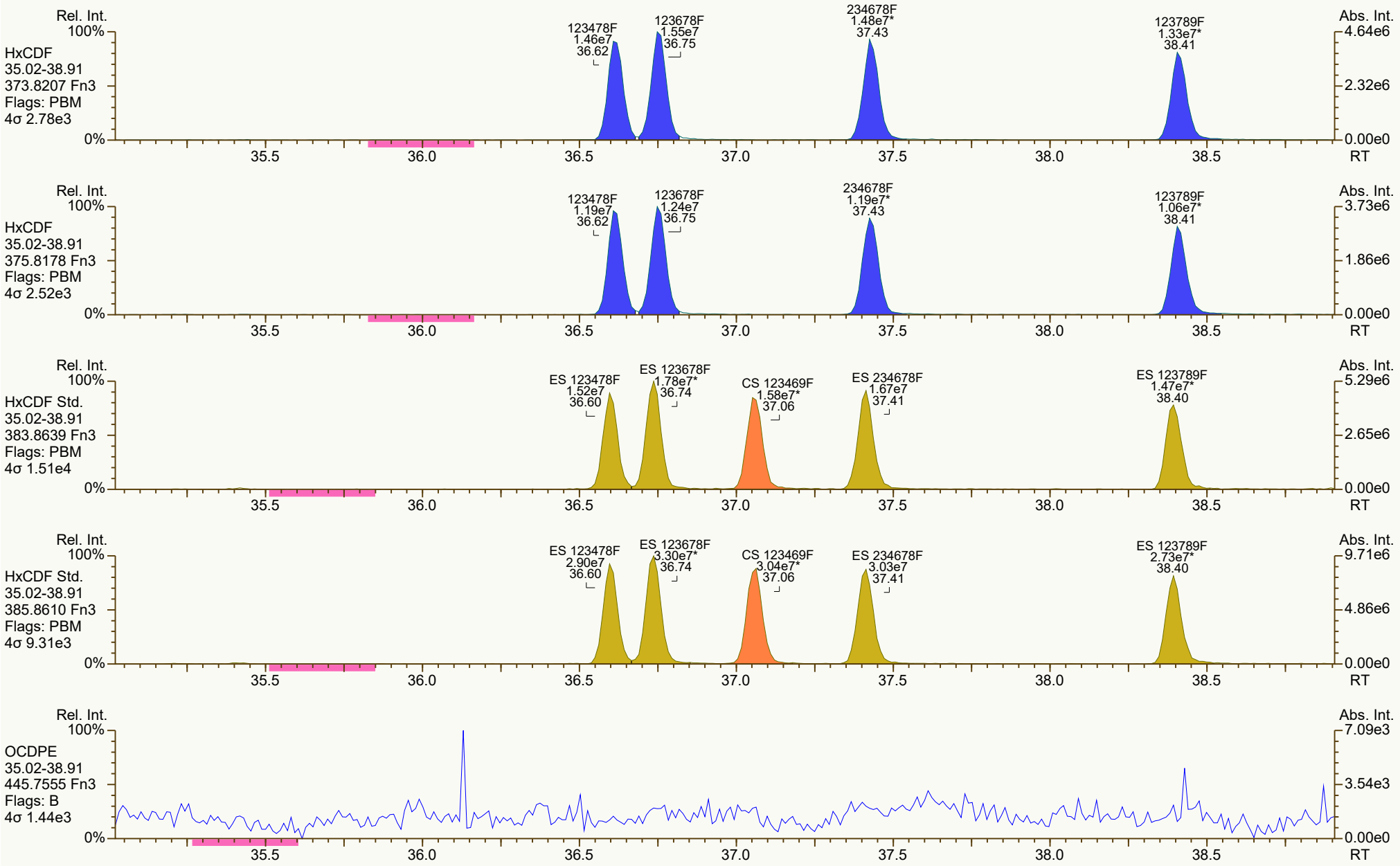

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.84e3
1234678D
7.91e6*
40.84
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.31e3
1234678D
7.73e6*
40.84
Abs. Int.
2.05e6
1.03e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 2.09e3
FS 1234679D
2.26e7
40.14
ES 1234678D
1.53e7*
40.83
Abs. Int.
7.31e6
3.66e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 1.59e3
FS 1234679D
2.12e7
40.14
ES 1234678D
1.44e7*
40.83
Abs. Int.
6.72e6
3.36e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
1.02e7
5.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

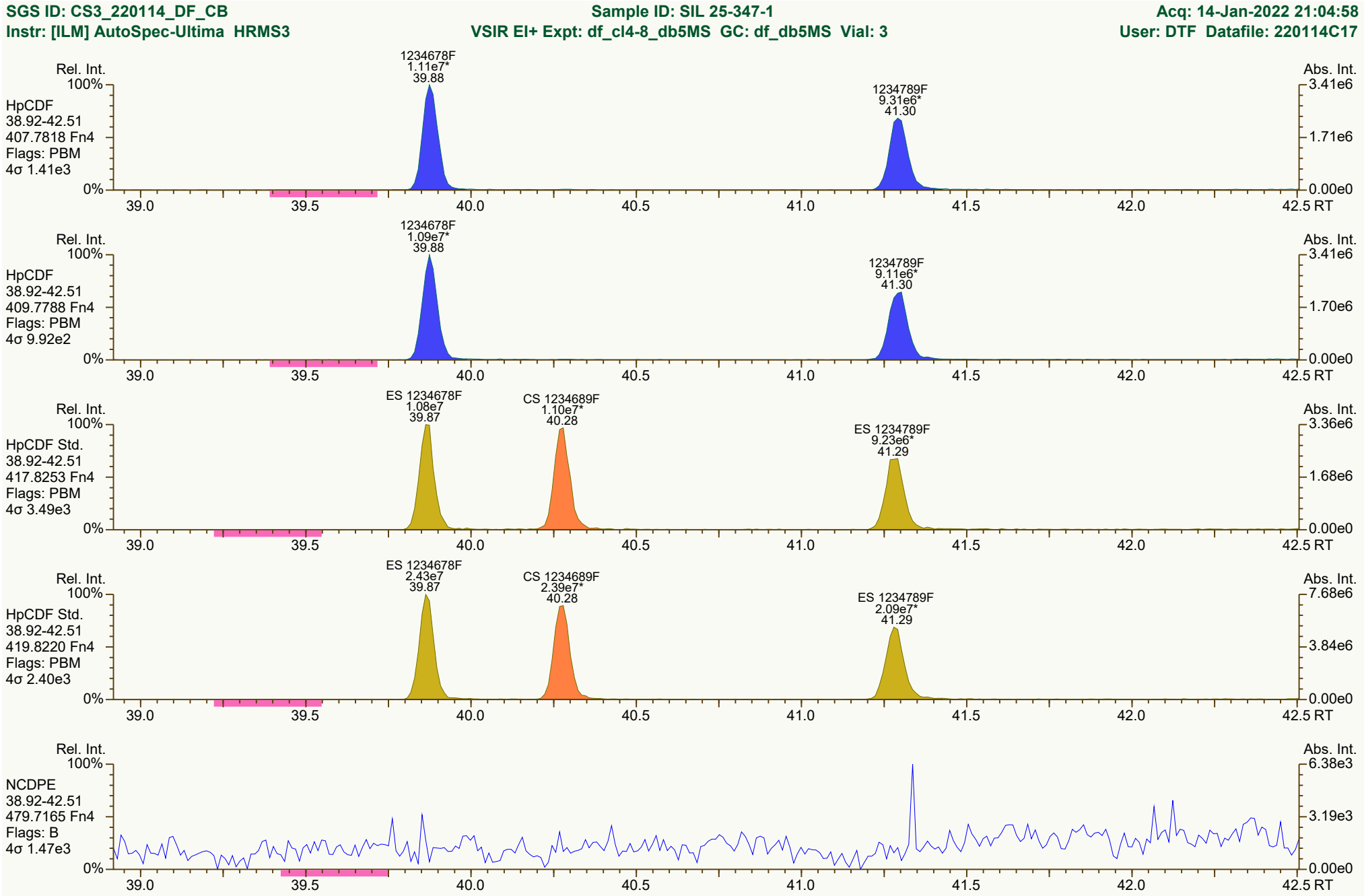

Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.80e3
0%
OCDD
9.91e6*
43.62
Abs. Int.
1.80e6
9.00e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 1.51e3
0%
OCDD
1.11e7*
43.62
Abs. Int.
1.99e6
9.94e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.73e3
0%
ES OCDD
1.73e7*
43.61
Abs. Int.
3.09e6
1.55e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 2.01e3
0%
ES OCDD
1.88e7*
43.61
Abs. Int.
3.31e6
1.65e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.37e6
4.68e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

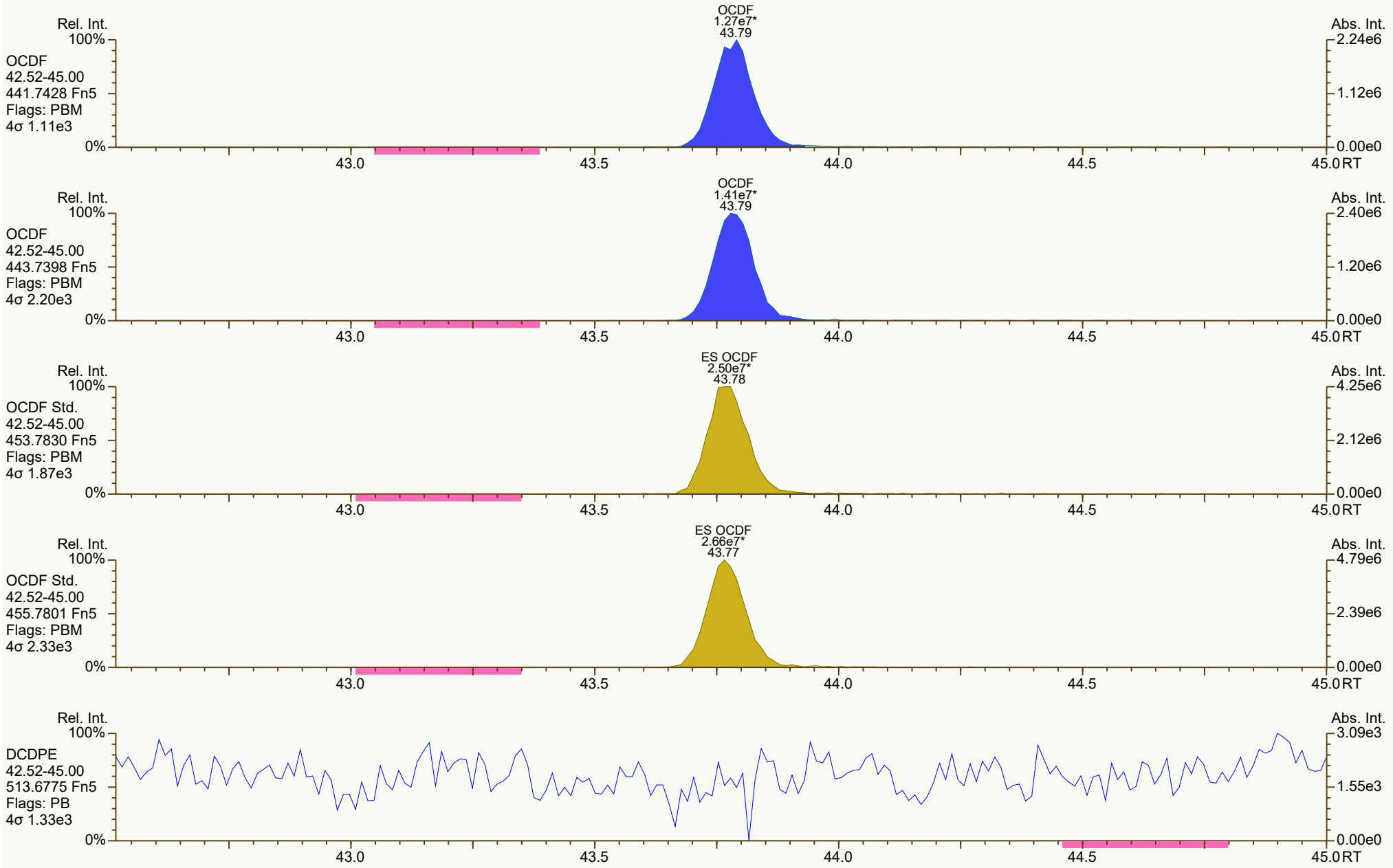

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.60e3
0%
2378F
3.32e6*
27.35
Abs. Int.
7.84e5
3.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.25e3
0%
2378F
4.33e6*
27.35
Abs. Int.
9.83e5
4.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 7.28e3
0%
AS 1368F
3.35e7
22.40
JS 1234F
3.08e7
25.99
ES 2378F
3.22e7*
27.33
Abs. Int.
7.23e6
3.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 2.54e3
0%
AS 1368F
4.29e7
22.40
JS 1234F
3.98e7
25.99
ES 2378F
4.08e7*
27.33
Abs. Int.
9.14e6
4.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.01e3
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

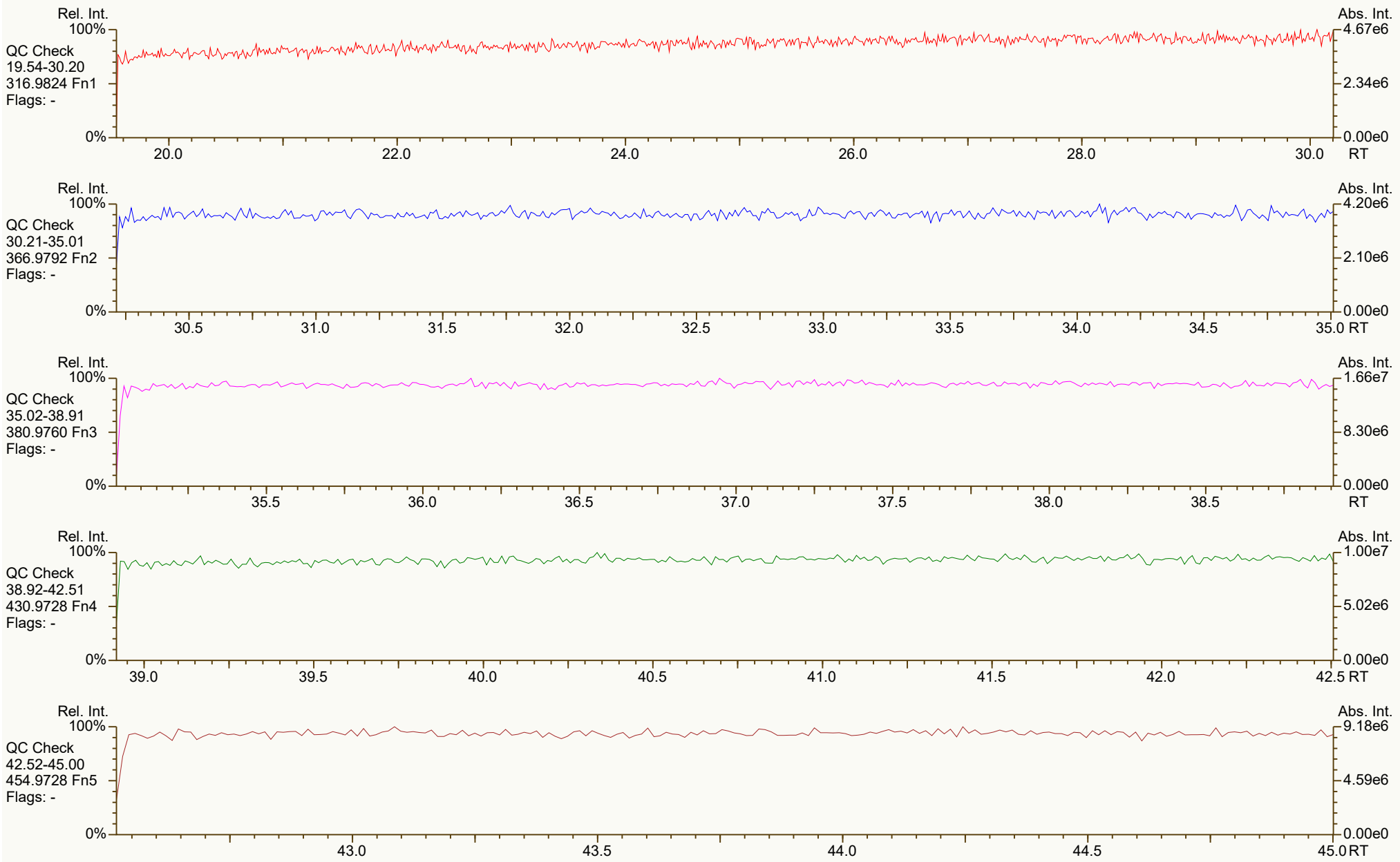

Rel. Int.
100%
0%
Abs. Int.
1.06e4
5.32e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.14e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.89e3
4.44e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 1.67e3
0%
12378F
1.59e7
32.19
23478F
1.54e7*
33.30
Abs. Int.
4.28e6
2.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.54e3
0%
12378F
1.03e7
32.19
23478F
1.02e7*
33.30
Abs. Int.
2.99e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 2.43e3
0%
CS 12346F
3.33e7*
31.65
ES 12378F
3.48e7*
32.18
ES 23478F
3.40e7*
33.28
Abs. Int.
1.01e7
5.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.25e3
0%
CS 12346F
2.22e7*
31.65
ES 12378F
2.25e7*
32.17
ES 23478F
2.20e7*
33.28
Abs. Int.
6.69e6
3.34e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 2.78e3
123478F
1.46e7
36.62
123678F
1.55e7
36.75
234678F
1.48e7*
37.43
123789F
1.33e7*
38.41
Abs. Int.
4.64e6
2.32e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 2.52e3
123478F
1.19e7
36.62
123678F
1.24e7
36.75
234678F
1.19e7*
37.43
123789F
1.06e7*
38.41
Abs. Int.
3.73e6
1.86e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 1.51e4
ES 123478F
1.52e7
36.60
ES 123678F
1.78e7*
36.74
CS 123469F
1.58e7*
37.06
ES 234678F
1.67e7
37.41
ES 123789F
1.47e7*
38.40
Abs. Int.
5.29e6
2.65e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 9.31e3
ES 123478F
2.90e7
36.60
ES 123678F
3.30e7*
36.74
CS 123469F
3.04e7*
37.06
ES 234678F
3.03e7
37.41
ES 123789F
2.73e7*
38.40
Abs. Int.
9.71e6
4.86e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.44e3
Abs. Int.
7.09e3
3.54e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

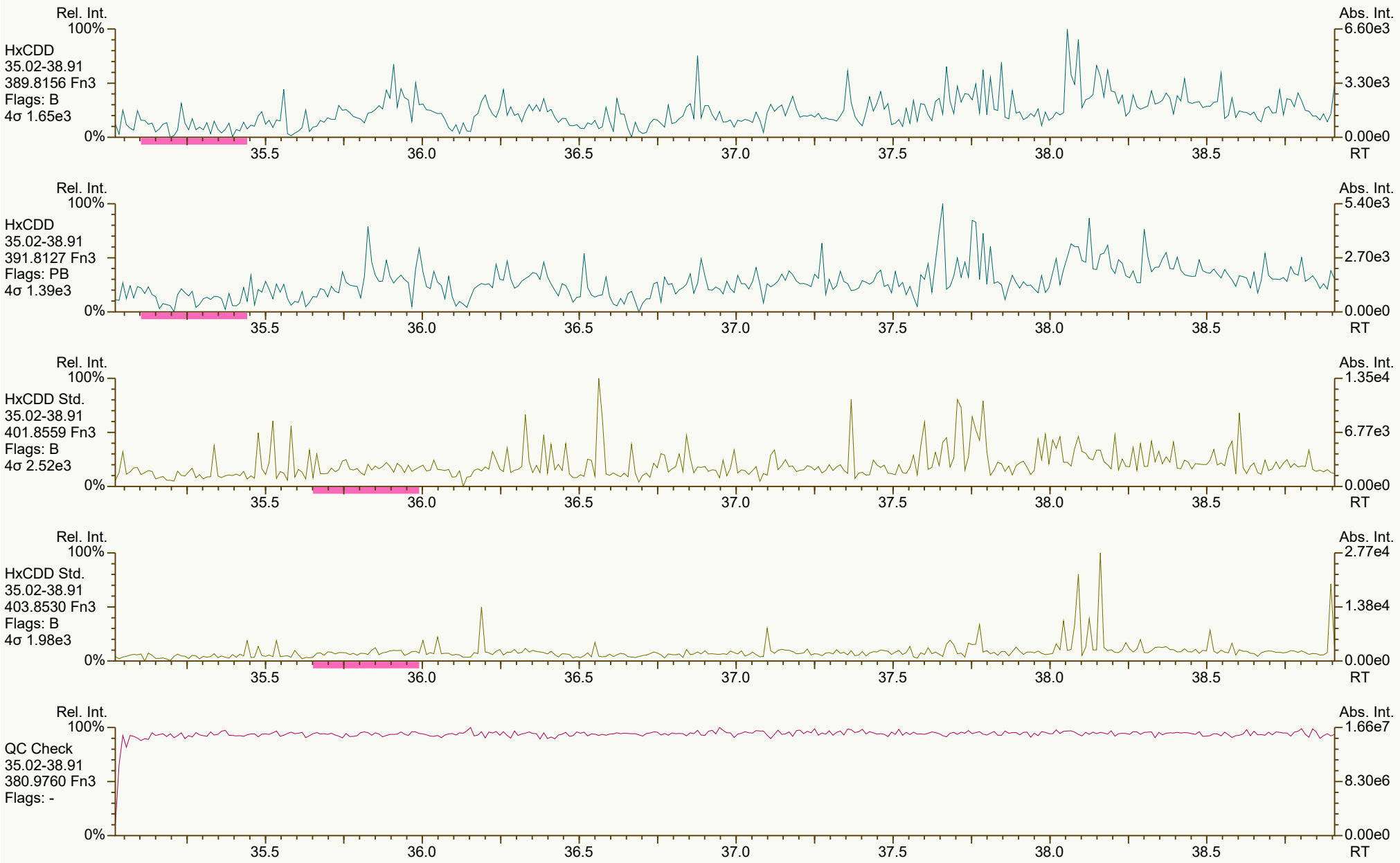

SGS ID: CS3_220114_DF_CB
Sample ID: SIL 25-347-1
Acq: 14-Jan-2022 21:04:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220114C17
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 1.41e3
1234678F
1.11e7*
39.88
1234789F
9.31e6*
41.30
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 9.92e2
1234678F
1.09e7*
39.88
1234789F
9.11e6*
41.30
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 3.49e3
ES 1234678F
1.08e7
39.87
CS 1234689F
1.10e7*
40.28
ES 1234789F
9.23e6*
41.29
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.40e3
ES 1234678F
2.43e7
39.87
CS 1234689F
2.39e7*
40.28
ES 1234789F
2.09e7*
41.29
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.47e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\CS3_220114_DF_CB.utp_res, saved 15-Jan-2022 10:44 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5854, 6949, 4645 scc: 994-955
PKD: 15-Jan-2022 09:16 Printed: 15-Jan-2022 10:49 Page 11 of 12


OCDF
1.27e7*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.11e3
0%
Abs. Int.
2.24e6
1.12e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.41e7*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.20e3
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.50e7*
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 1.87e3
0%
Abs. Int.
4.25e6
2.12e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.66e7*
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 2.33e3
0%
Abs. Int.
4.79e6
2.39e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.33e3
0%
Abs. Int.
3.09e3
1.55e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

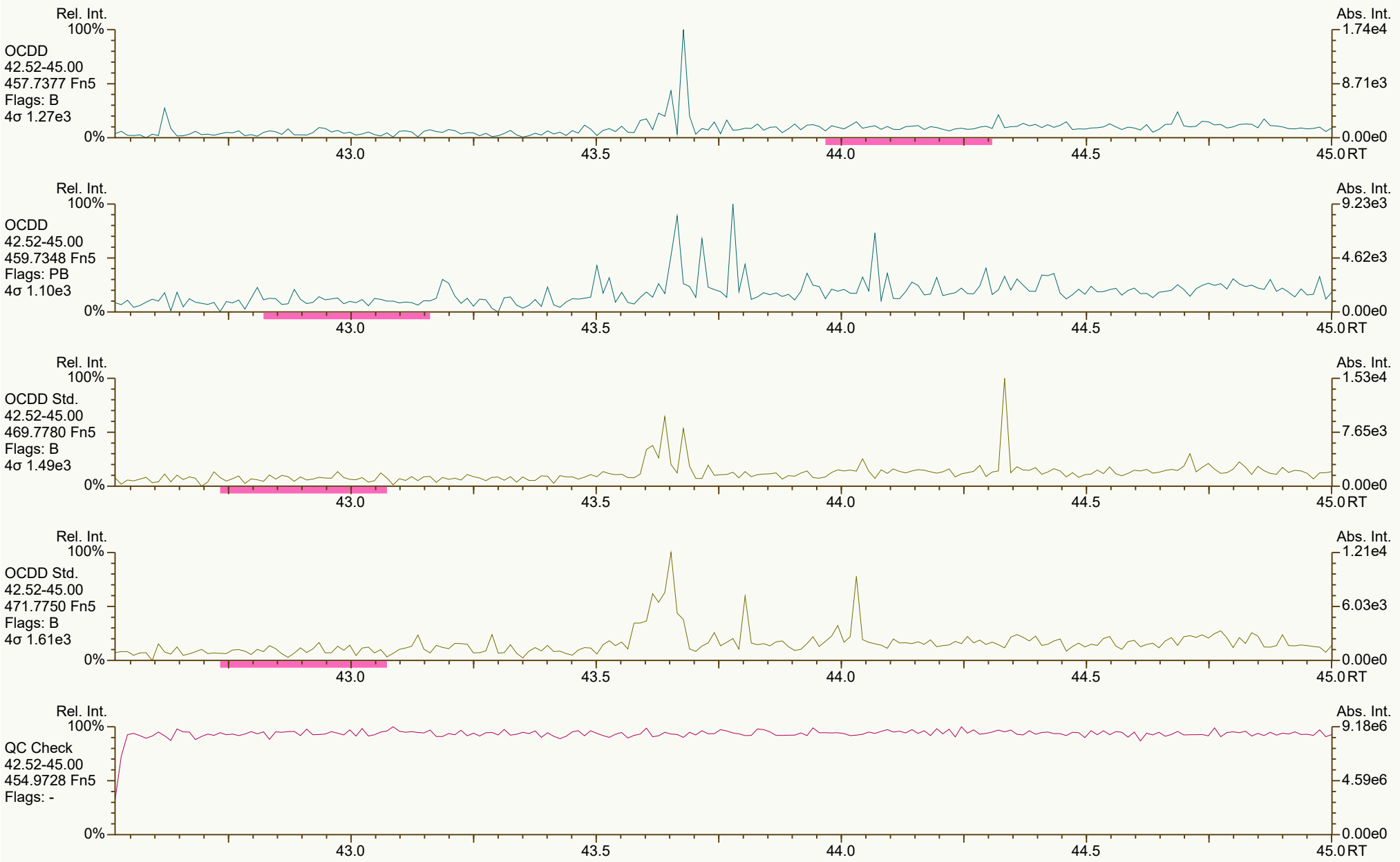

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.67e6
2.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.20e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.66e7
8.30e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.00e7
5.02e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.42e3
9.11e3
4.55e3
0.00e0
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.30e3
9.22e3
4.61e3
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.41e3
1.51e4
7.53e3
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 4.55e3
3.16e4
1.58e4
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 1.95e3
1.19e4
5.95e3
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: B
4σ 1.98e3
0%
Abs. Int.
6.22e3
3.11e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 1.19e3
0%
Abs. Int.
6.85e3
3.42e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: B
4σ 1.54e3
0%
Abs. Int.
3.17e4
1.59e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.20e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: B
4σ 1.65e3
0%
Abs. Int.
6.60e3
3.30e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.39e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.35e4
6.77e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: B
4σ 1.98e3
0%
Abs. Int.
2.77e4
1.38e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.66e7
8.30e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.19e3
2.60e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.25e3
0%
Abs. Int.
5.89e3
2.94e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.35e4
6.74e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.17e4
5.87e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.00e7
5.02e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
1.74e4
8.71e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 1.10e3
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.53e4
7.65e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.21e4
6.03e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.79e3
2468F
4.57e5*
23.67
7.47e4
3.74e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.12e3
2468F
5.38e5*
23.67
9.97e4
4.99e4
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 7.15e3
2.96e4
1.48e4
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 2.03e3
1.69e4
8.44e3
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
8.59e3
4.30e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.77e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.67e6
2.34e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: B
4σ 1.70e3
0%
Abs. Int.
8.84e3
4.42e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PB
4σ 1.87e3
0%
Abs. Int.
7.77e3
3.89e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: B
4σ 3.05e3
0%
Abs. Int.
1.79e4
8.93e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
2.27e4
1.13e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.34e3
0%
Abs. Int.
9.65e3
4.83e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

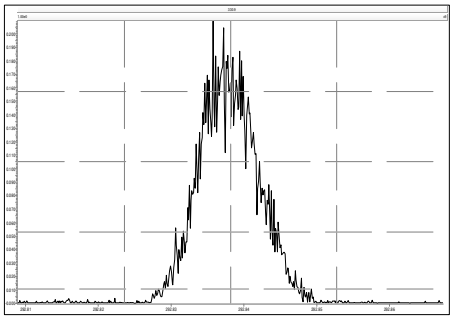

Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: B
4σ 2.26e3
0%
Abs. Int.
1.08e4
5.40e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: B
4σ 2.25e3
0%
Abs. Int.
1.08e4
5.41e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: B
4σ 3.11e3
0%
Abs. Int.
1.97e4
9.83e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: B
4σ 2.35e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.22e3
0%
Abs. Int.
5.95e3
2.98e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: B
4σ 1.32e3
0%
Abs. Int.
5.16e3
2.58e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: B
4σ 1.21e3
0%
Abs. Int.
5.68e3
2.84e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.67e4
8.36e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: B
4σ 2.07e3
0%
Abs. Int.
3.84e4
1.92e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.24e3
0%
Abs. Int.
5.42e3
2.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

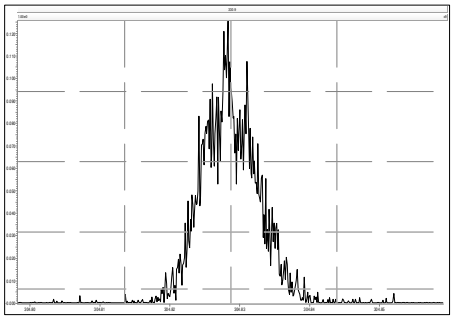

Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: B
4σ 1.63e3
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Abs. Int.
6.81e3
3.40e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
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OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.92e3
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Abs. Int.
5.62e3
2.81e3
0.00e0
43.0
43.5
44.0
44.5
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Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: B
4σ 1.52e3
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Abs. Int.
2.21e4
1.10e4
0.00e0
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44.0
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OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: B
4σ 2.02e3
0%
Abs. Int.
9.24e3
4.62e3
0.00e0
43.0
43.5
44.0
44.5
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DCDPE
42.52-45.00
513.6775 Fn5
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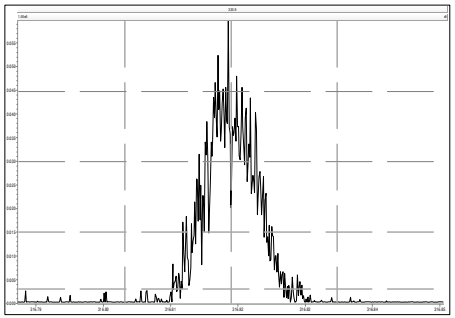
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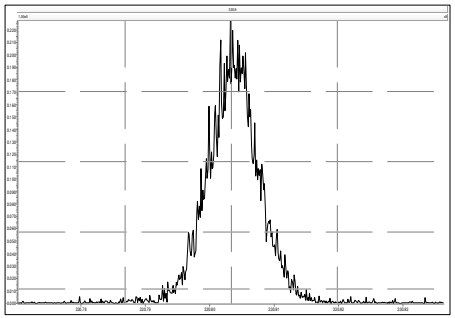
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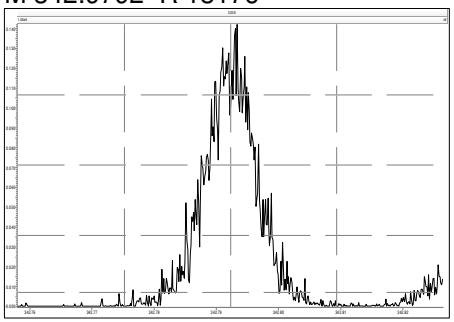
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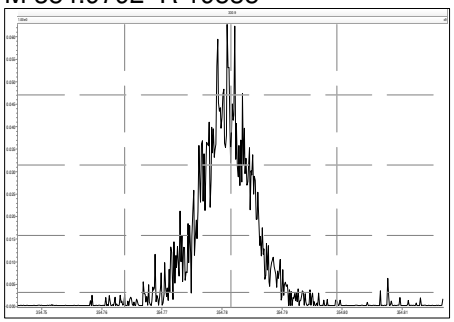
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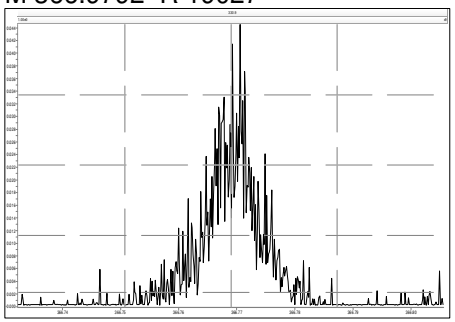
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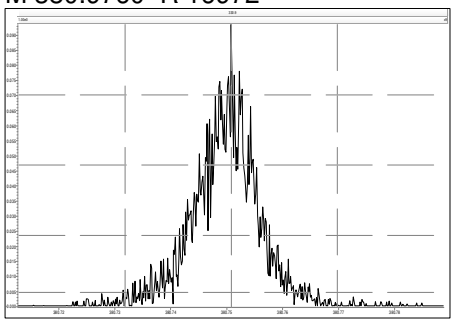
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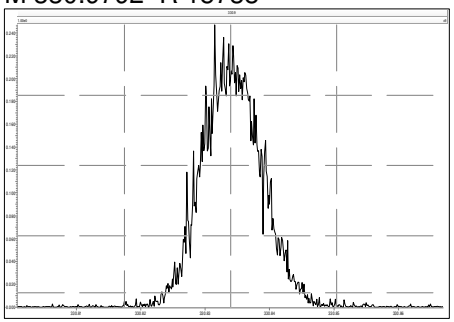
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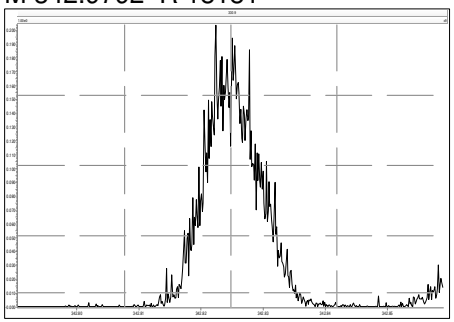
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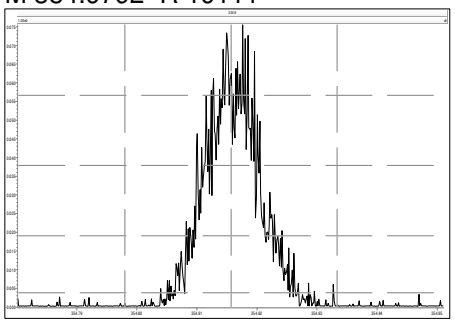
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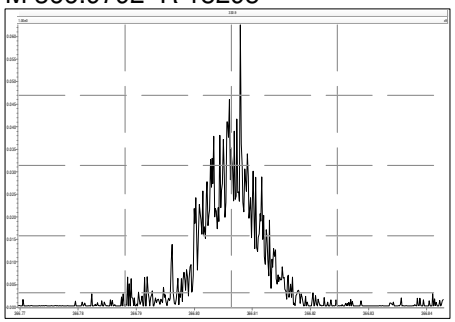
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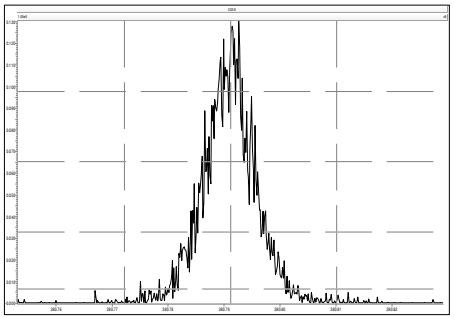
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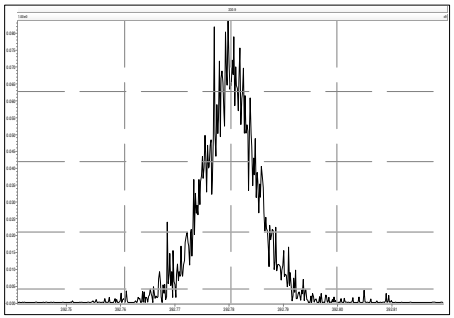
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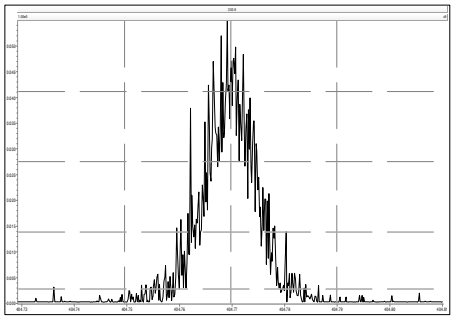
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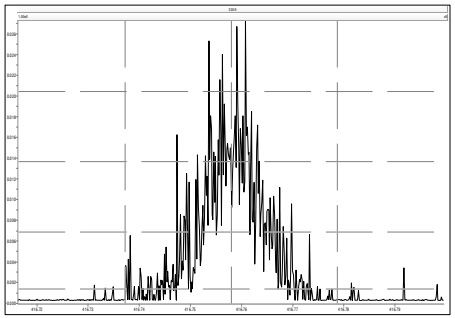
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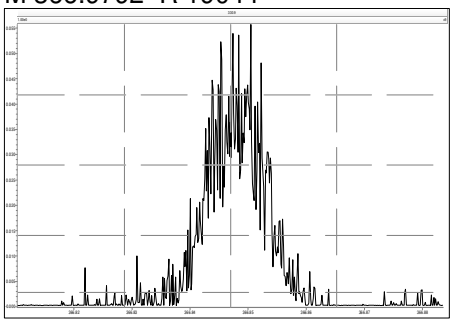
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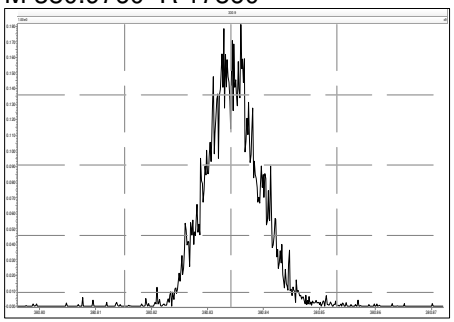
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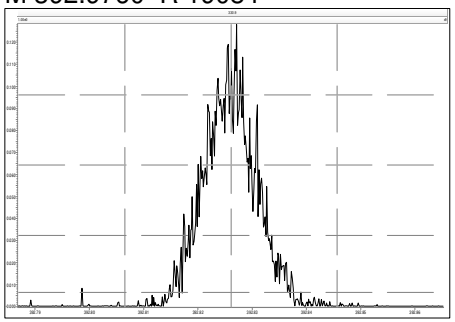
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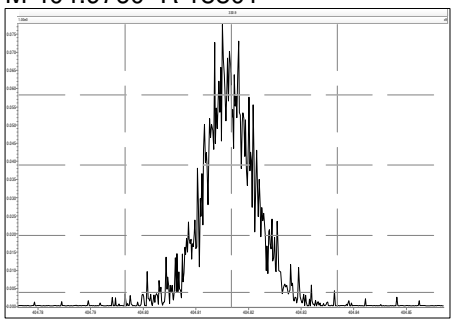
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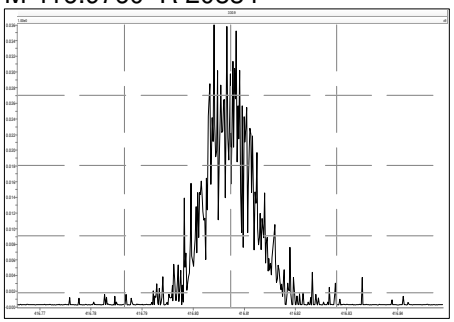
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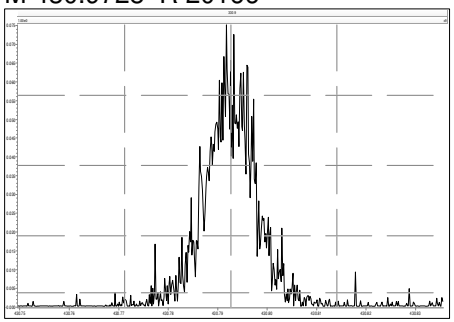
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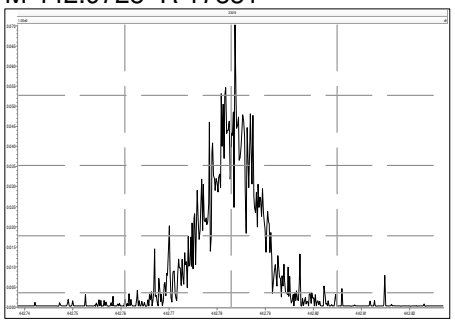
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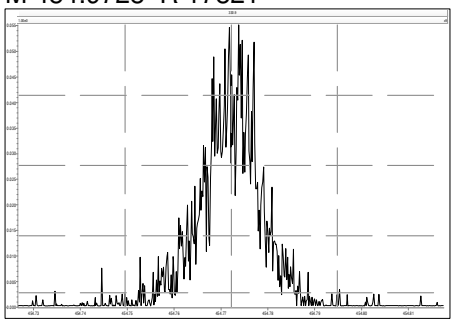
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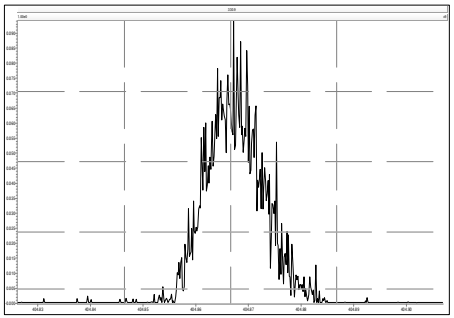
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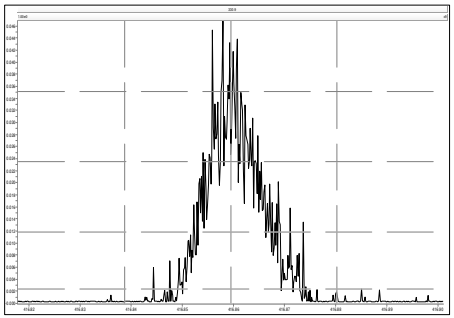
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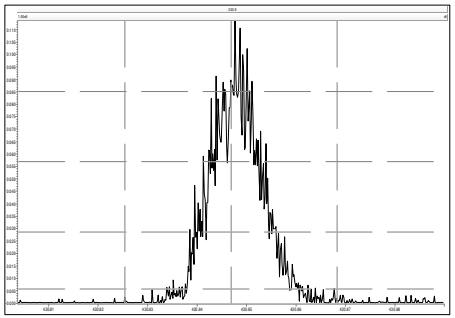
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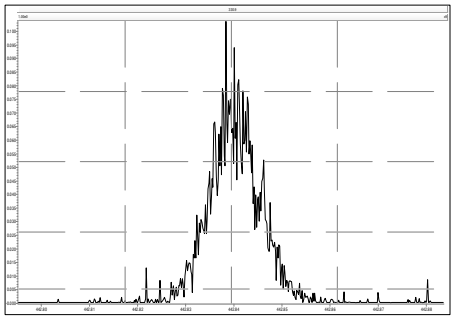
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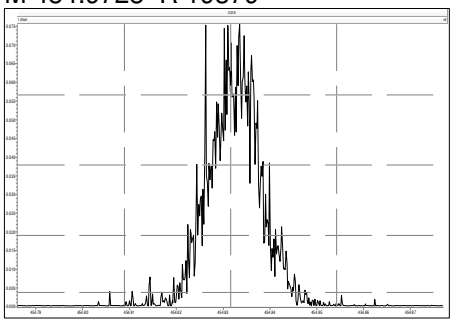
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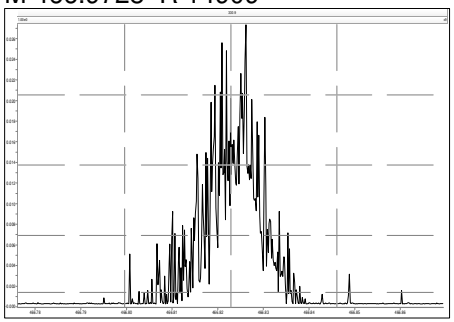
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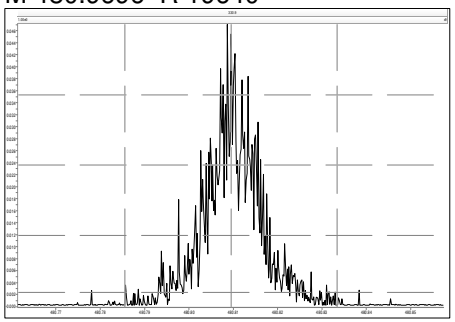
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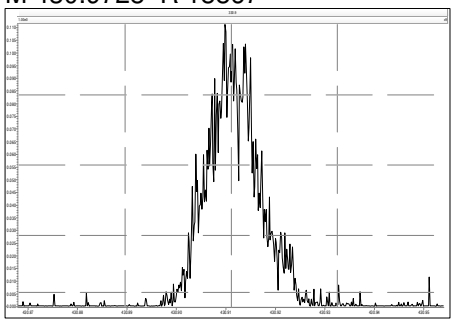
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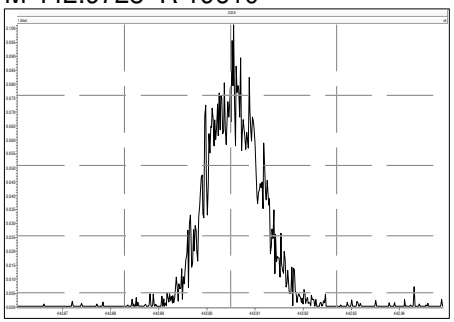
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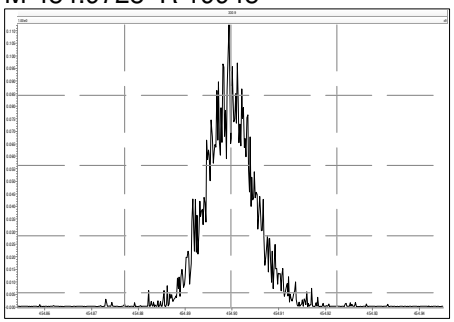
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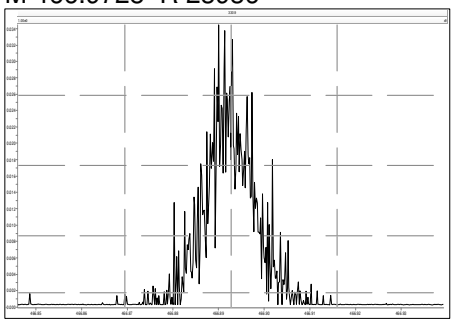
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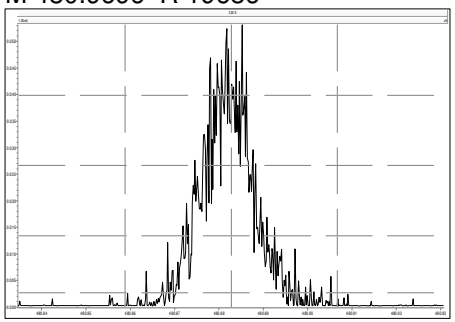
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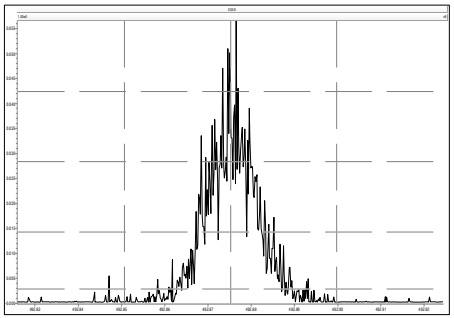
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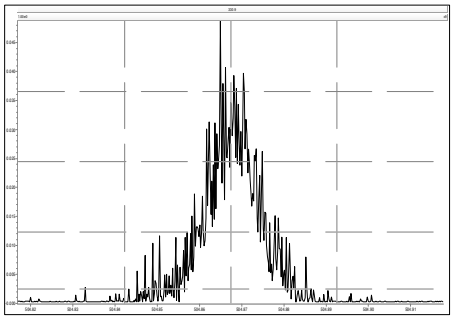
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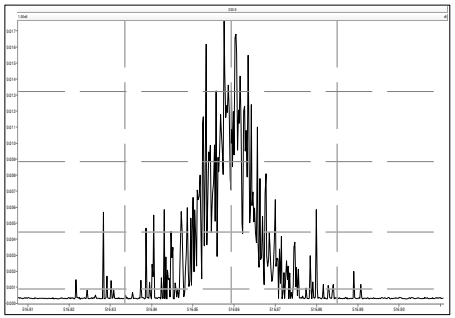
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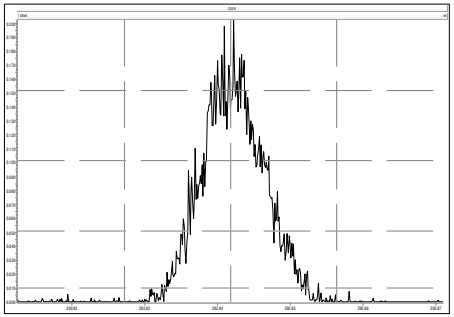


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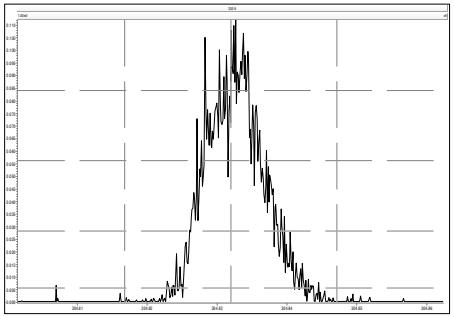


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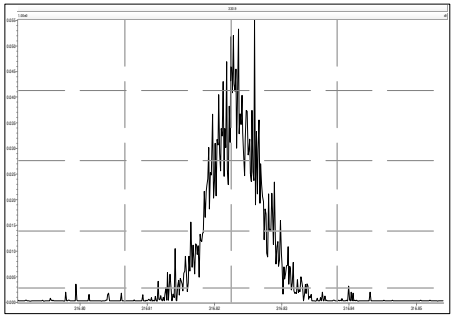
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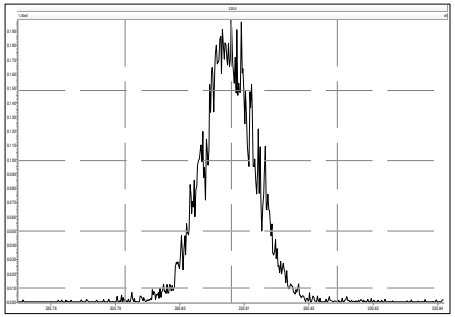
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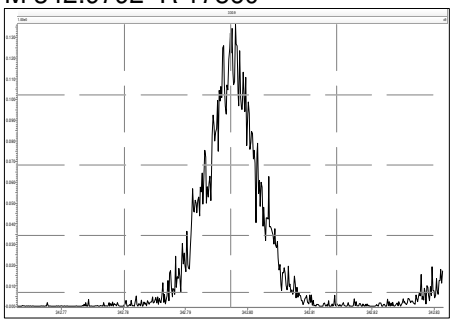
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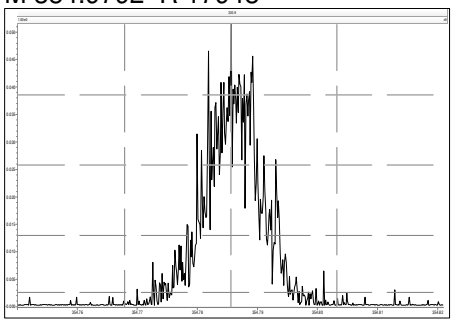
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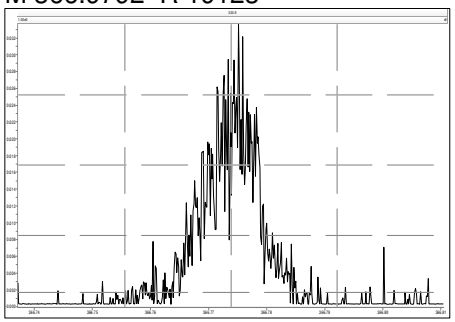
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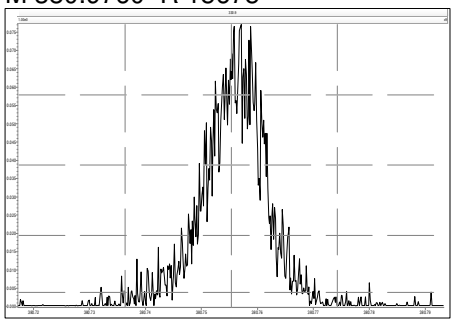
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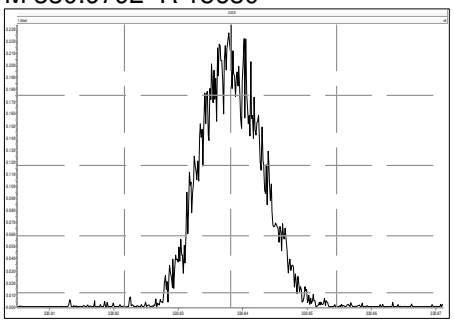
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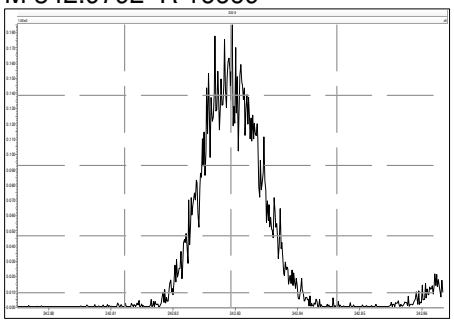
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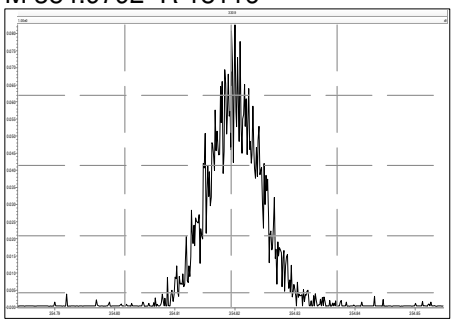
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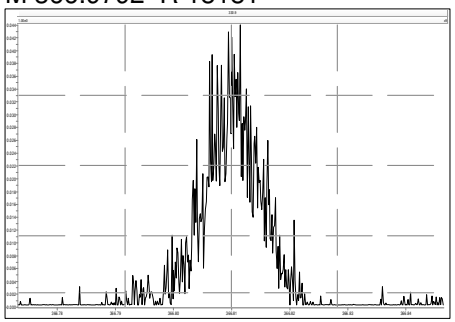
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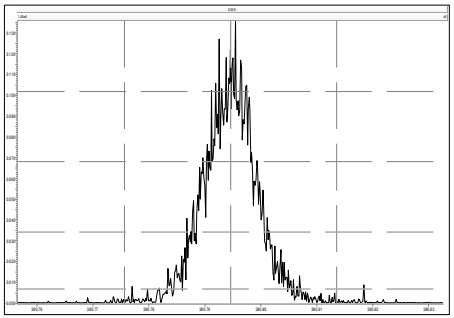
M 354.9792 R 18116



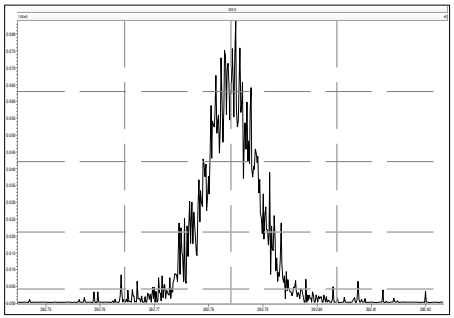
M 366.9792 R 18181



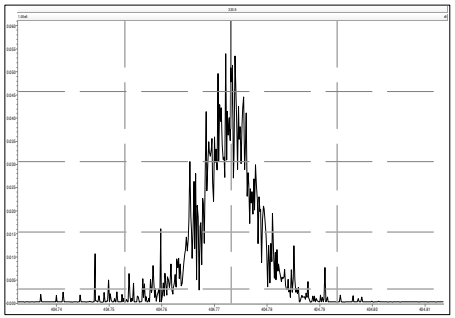
M 380.9760 R 17985



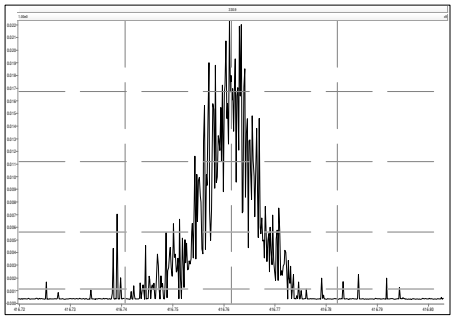
M 392.9760 R 18452



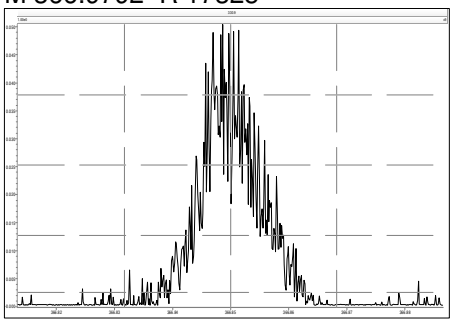
M 404.9760 R 16953



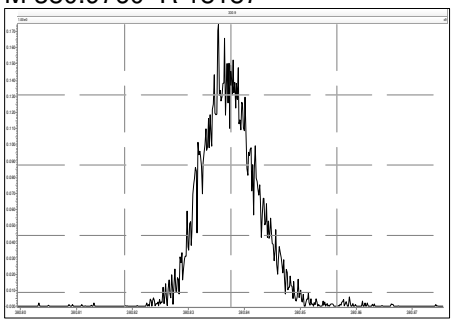
M 416.9760 R 23101



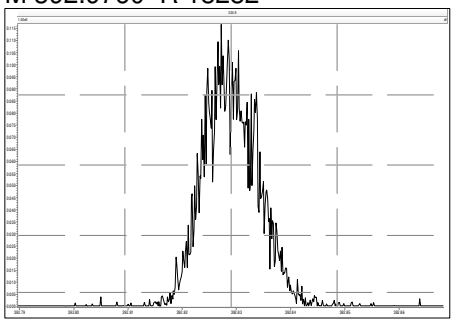
M 366.9792 R 17325



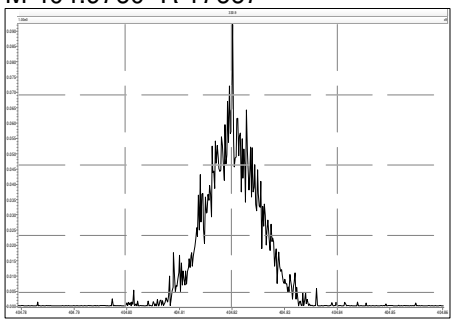
M 380.9760 R 18187



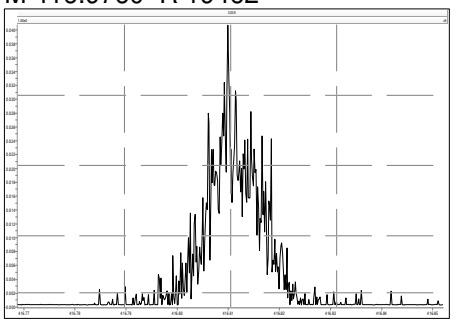
M 392.9760 R 18282



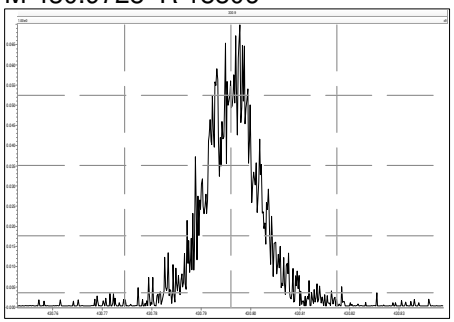
M 404.9760 R 17667



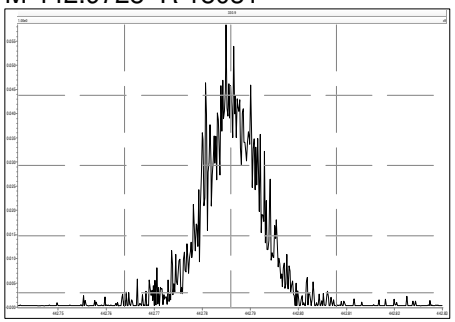
M 416.9760 R 19462



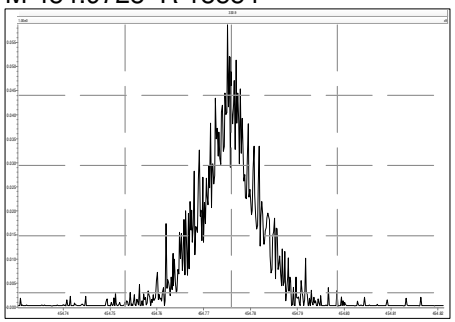
M 430.9728 R 18806



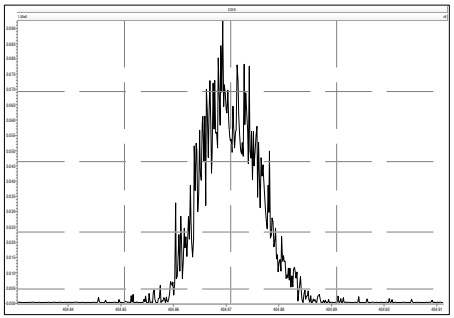
M 442.9728 R 18031



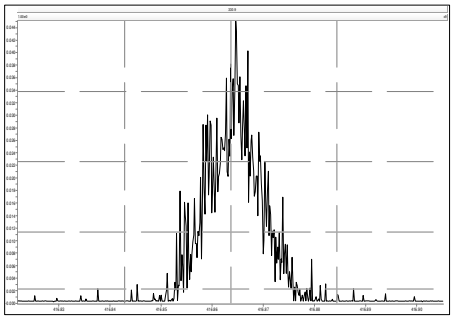
M 454.9728 R 18554



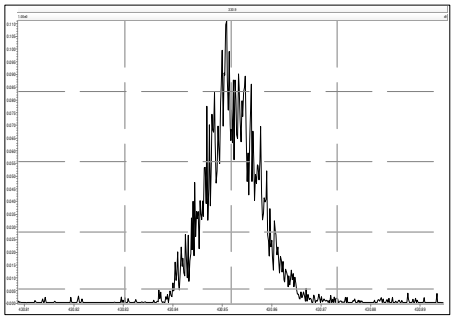
M 404.9760 R 17811



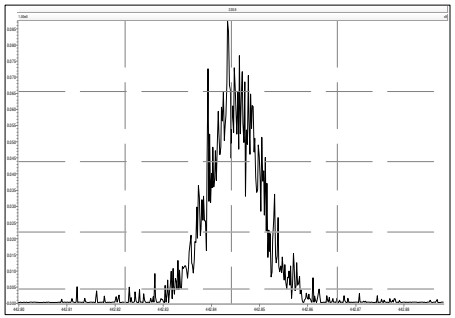
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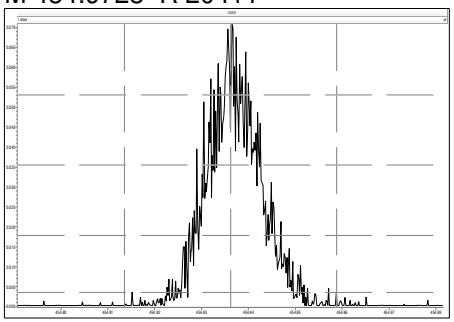
M 430.9728 R 17627



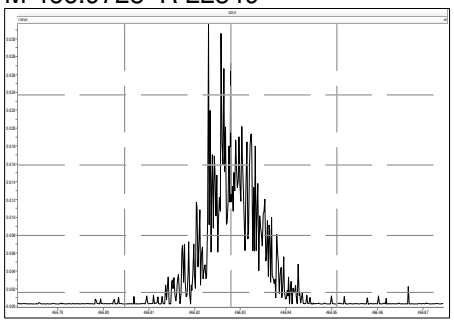
M 442.9728 R 17685



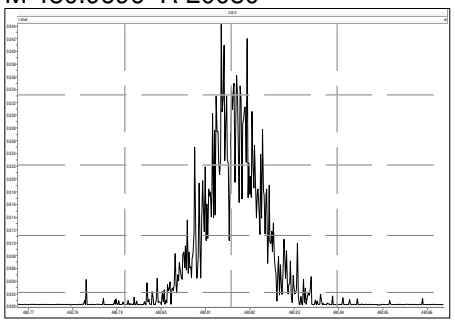
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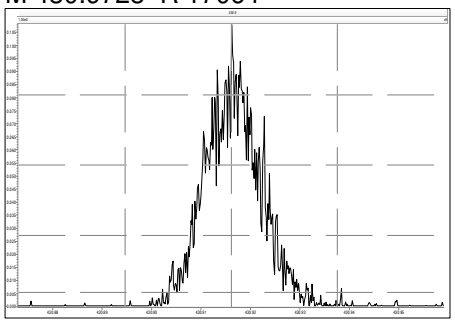
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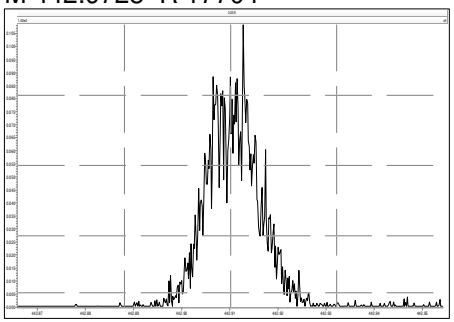
M 480.9696 R 20080



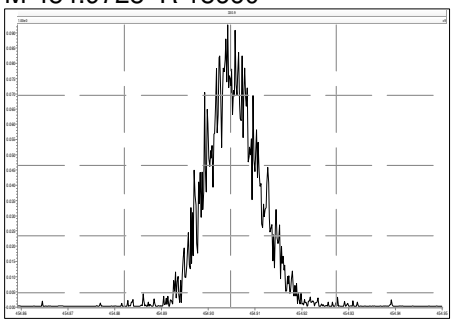
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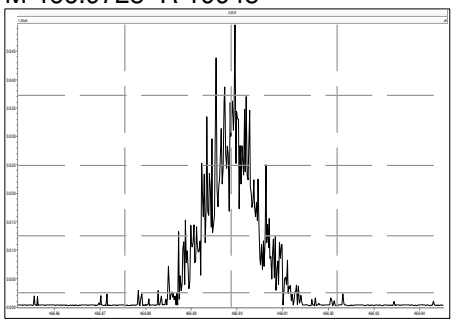
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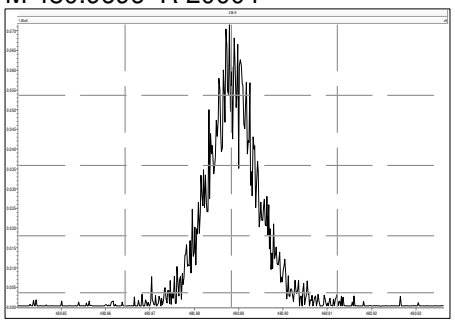
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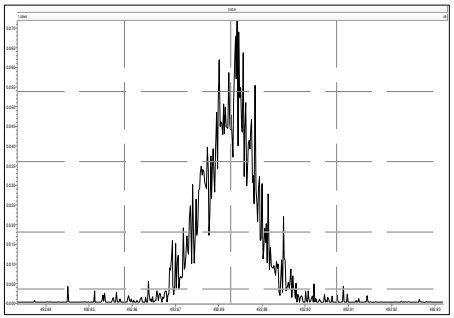
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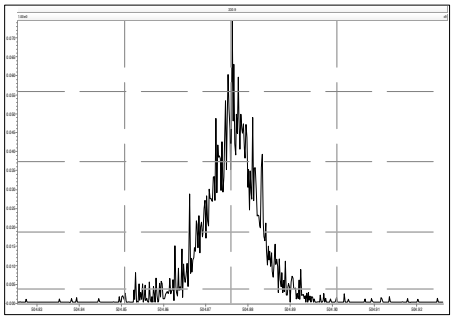
M 480.9696 R 20004



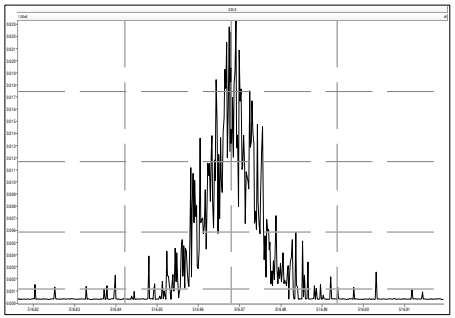
M 492.9696 R 19204



M 504.9696 R 20850



M 516.9697 R 19379



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
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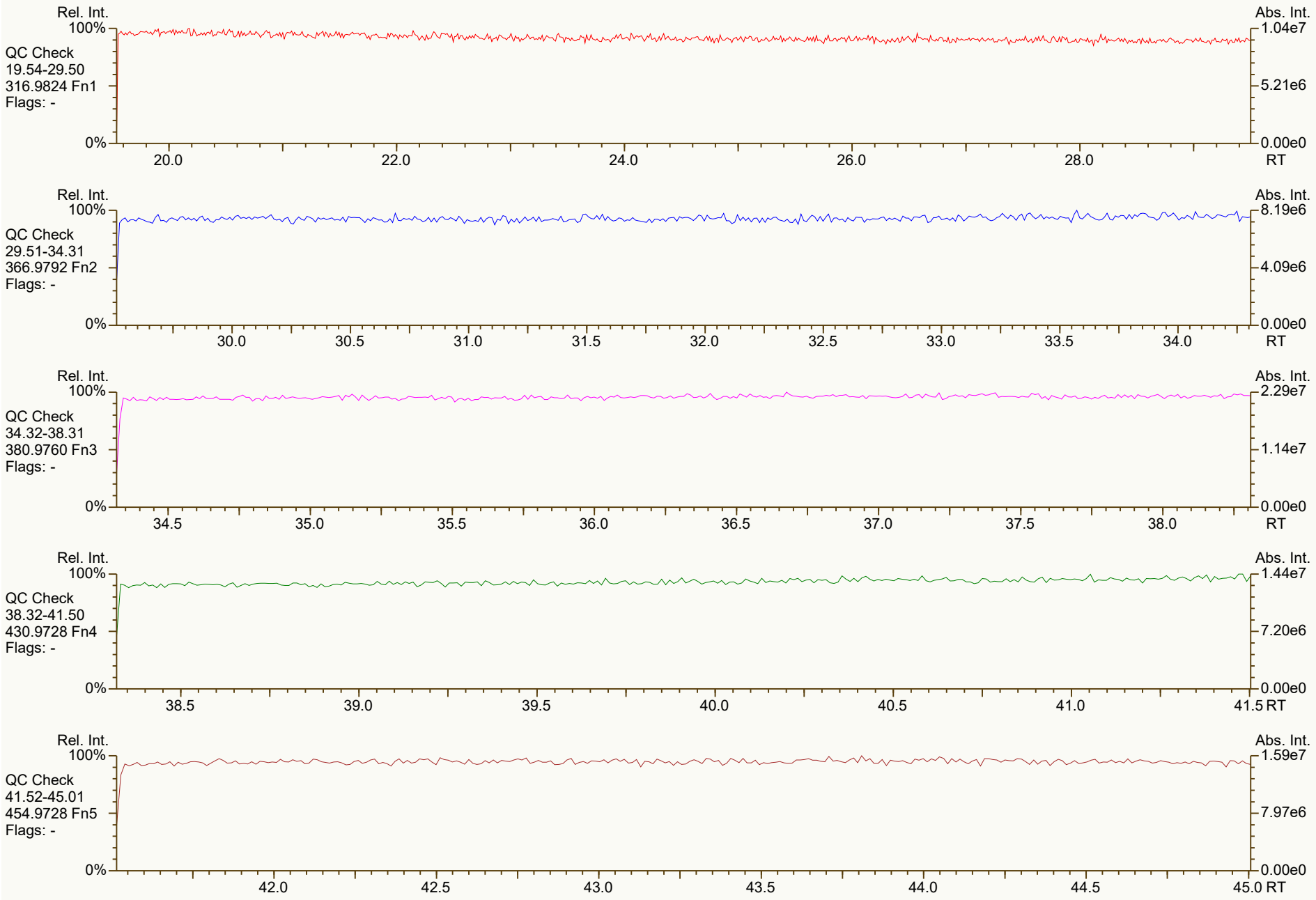
APPROVED
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Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

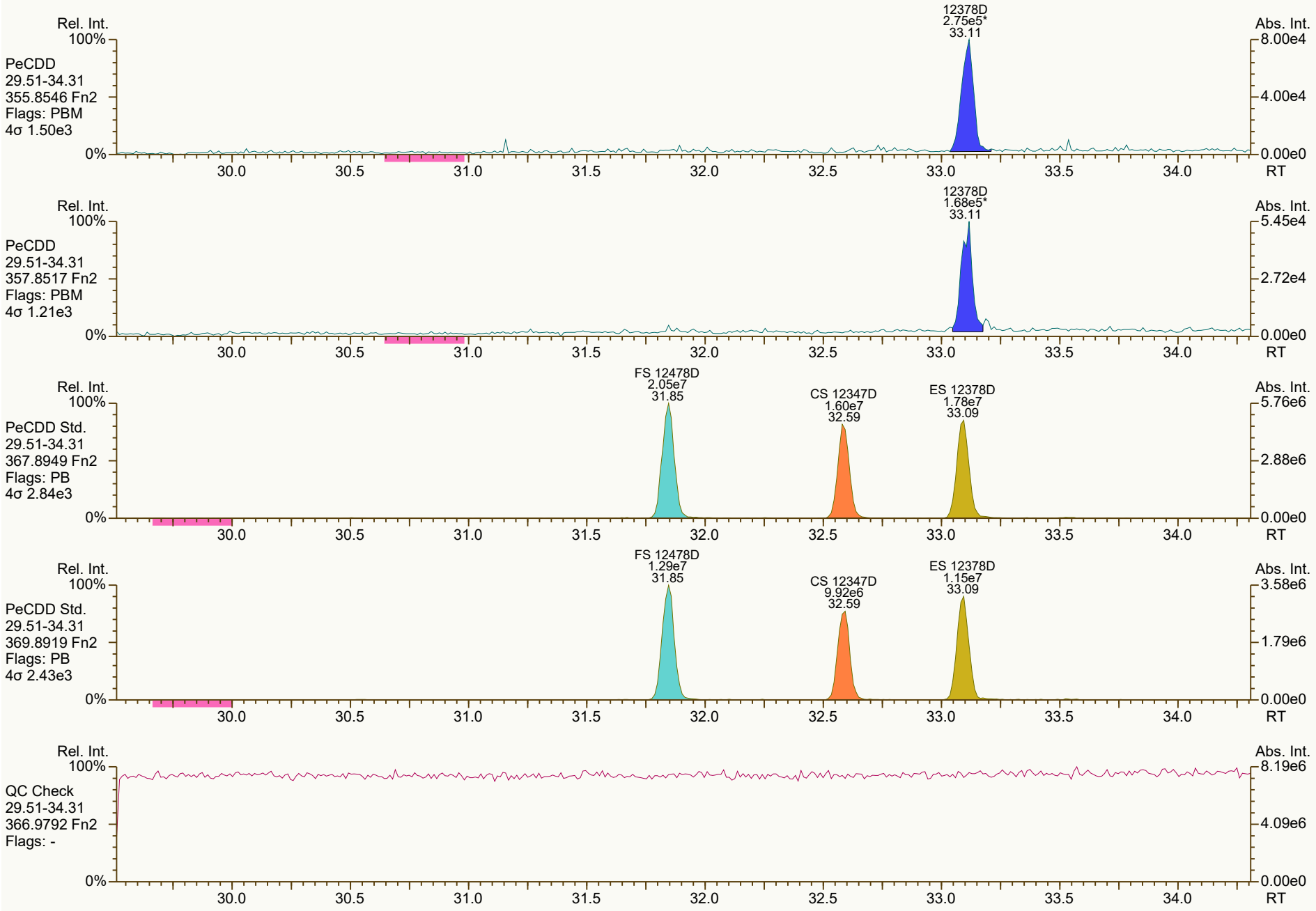
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

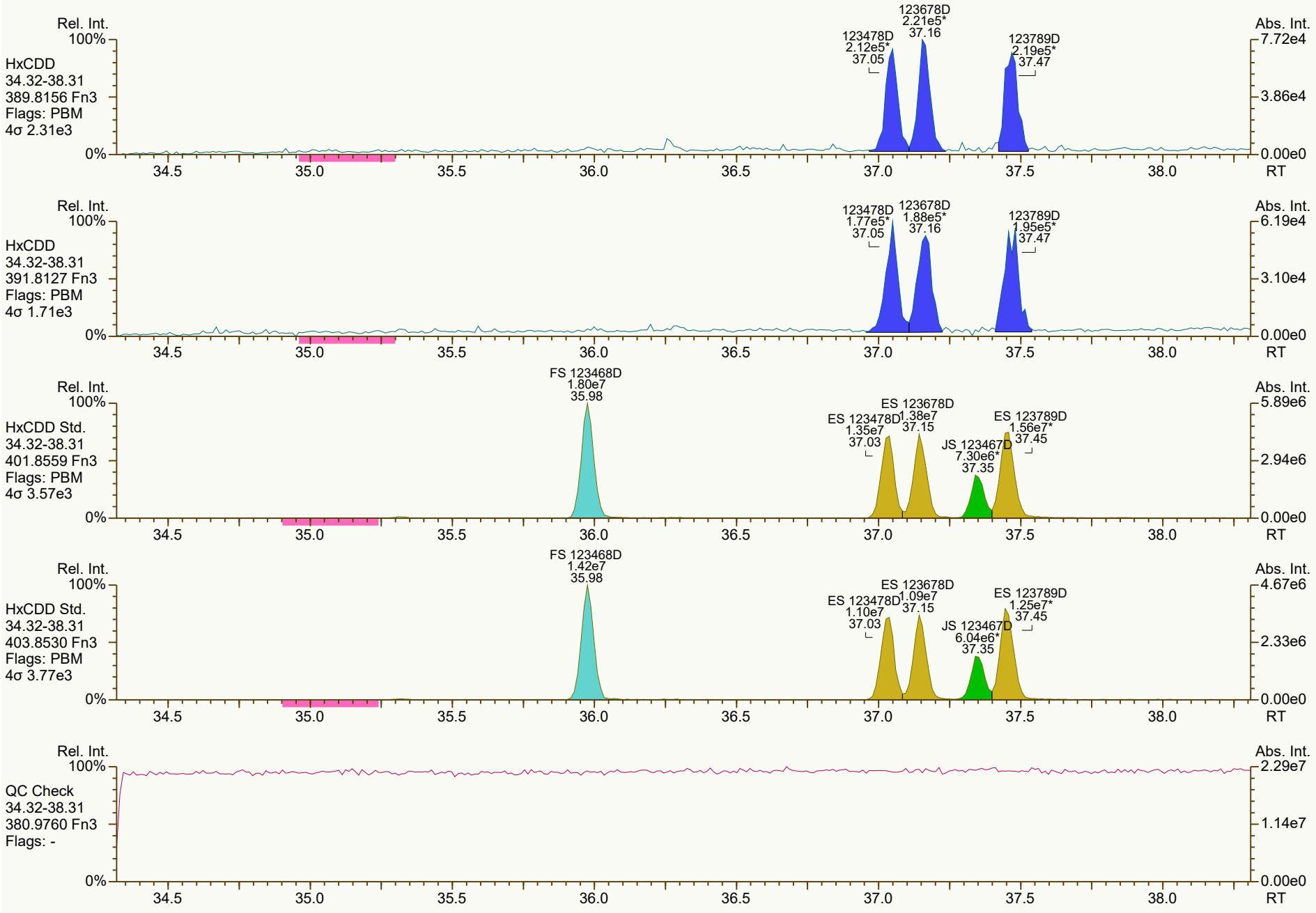
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

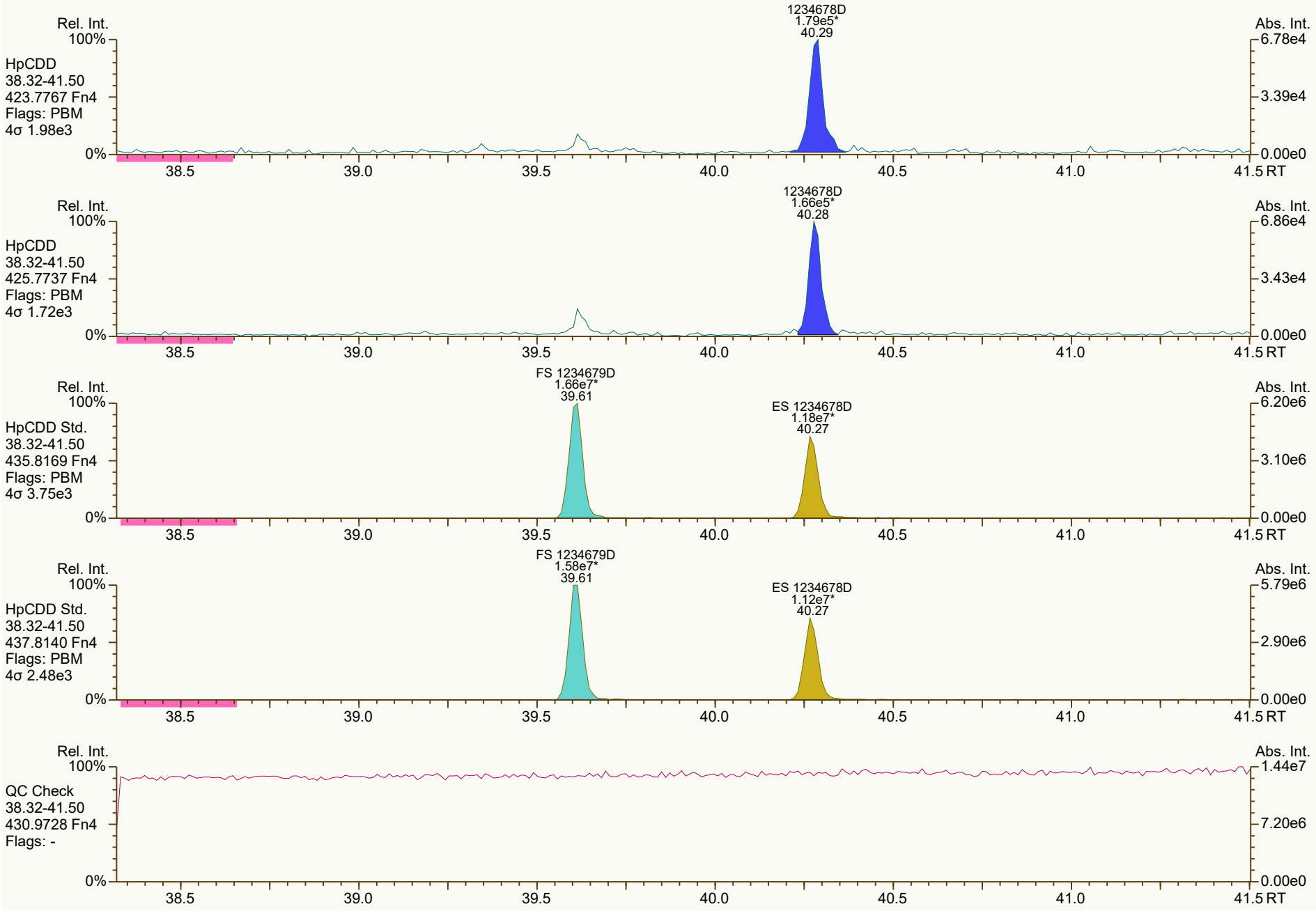
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

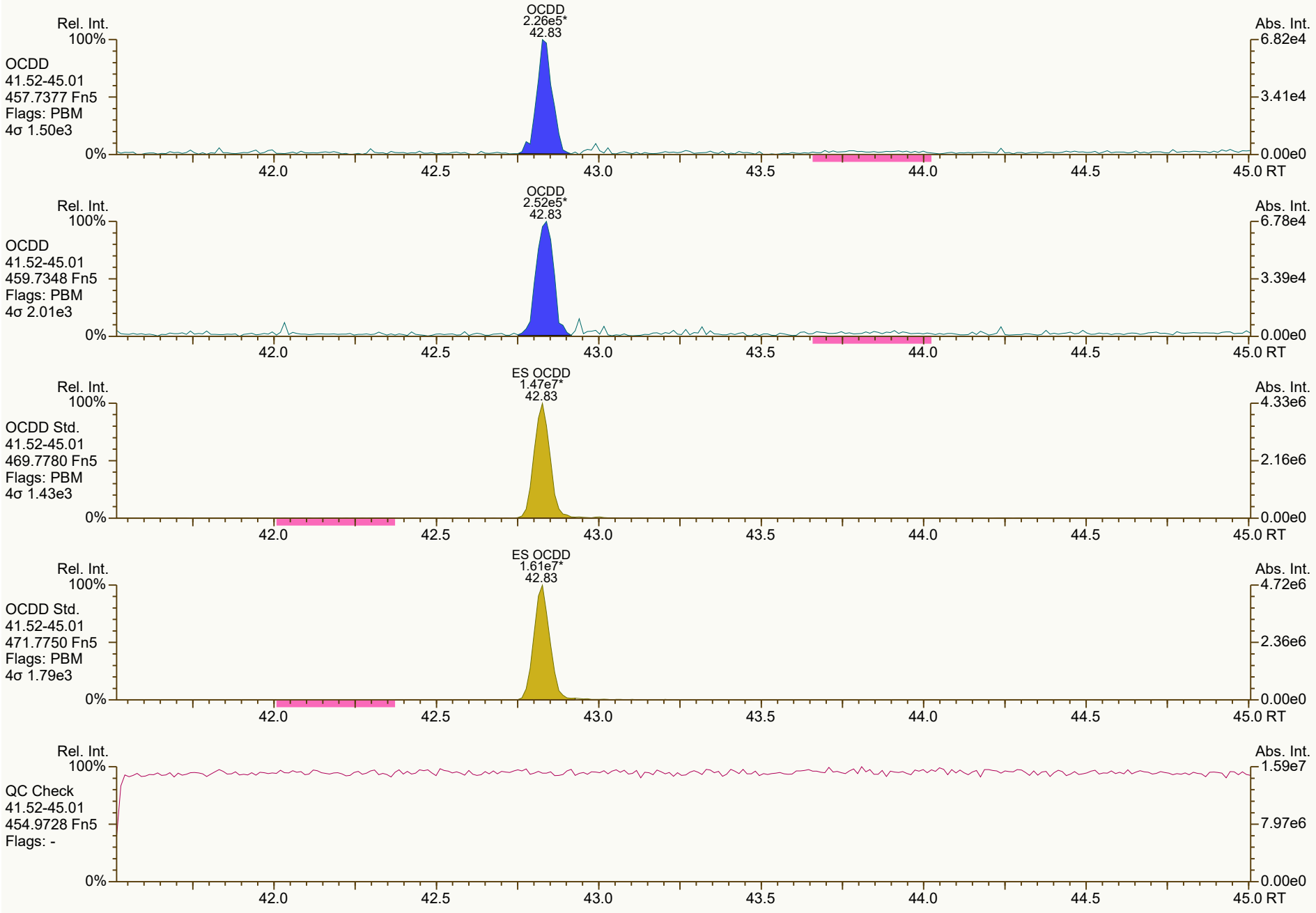

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

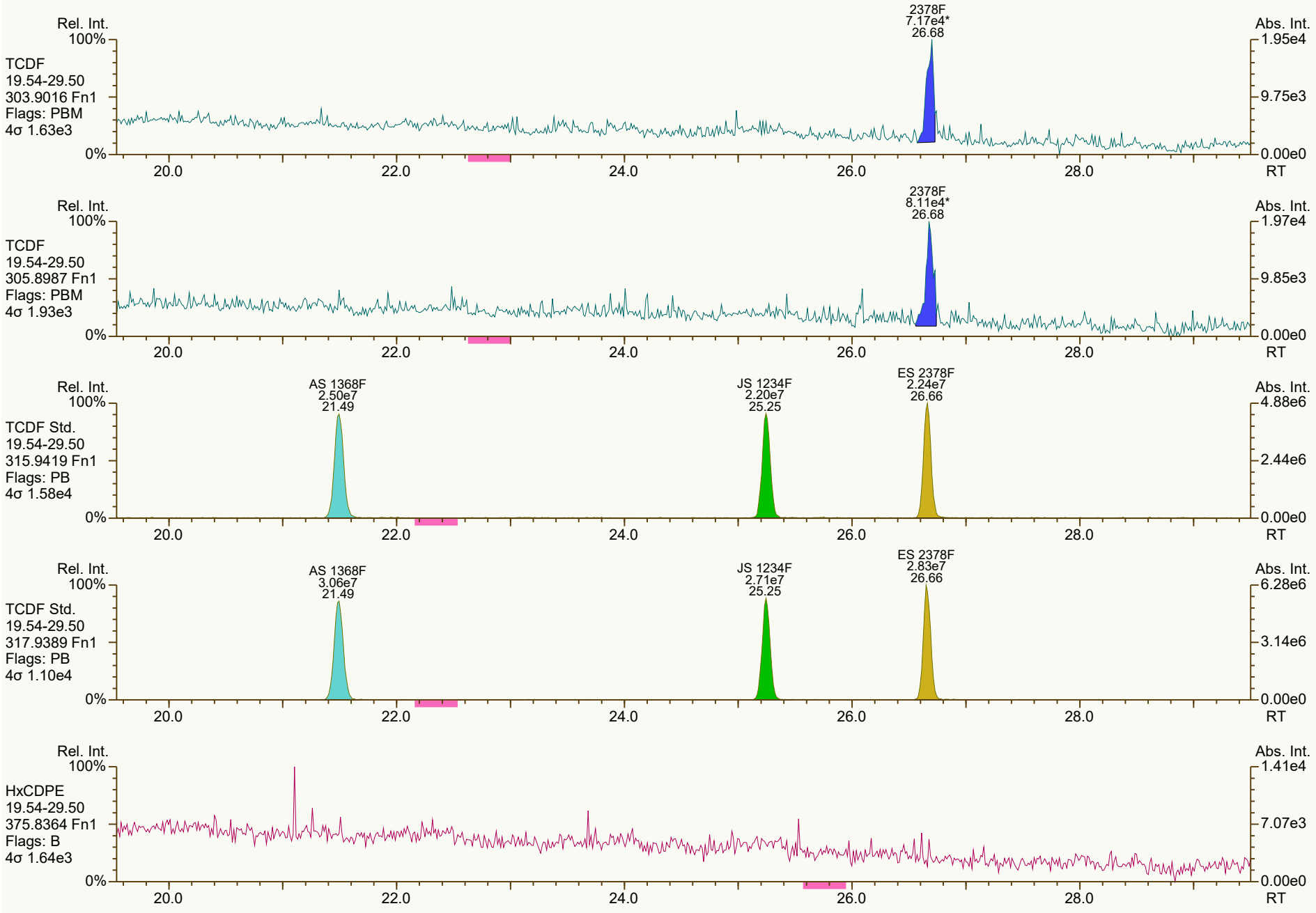

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

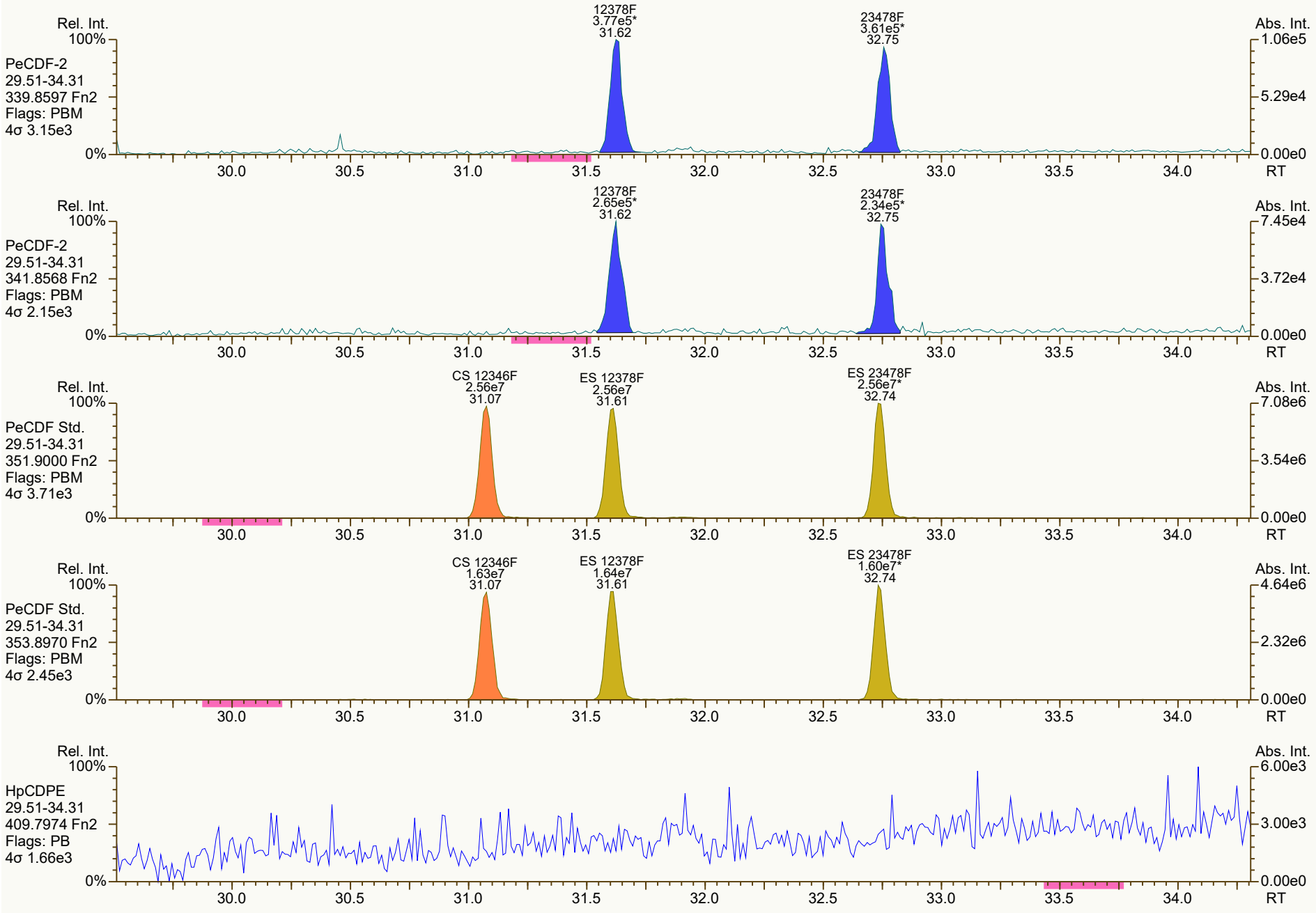

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

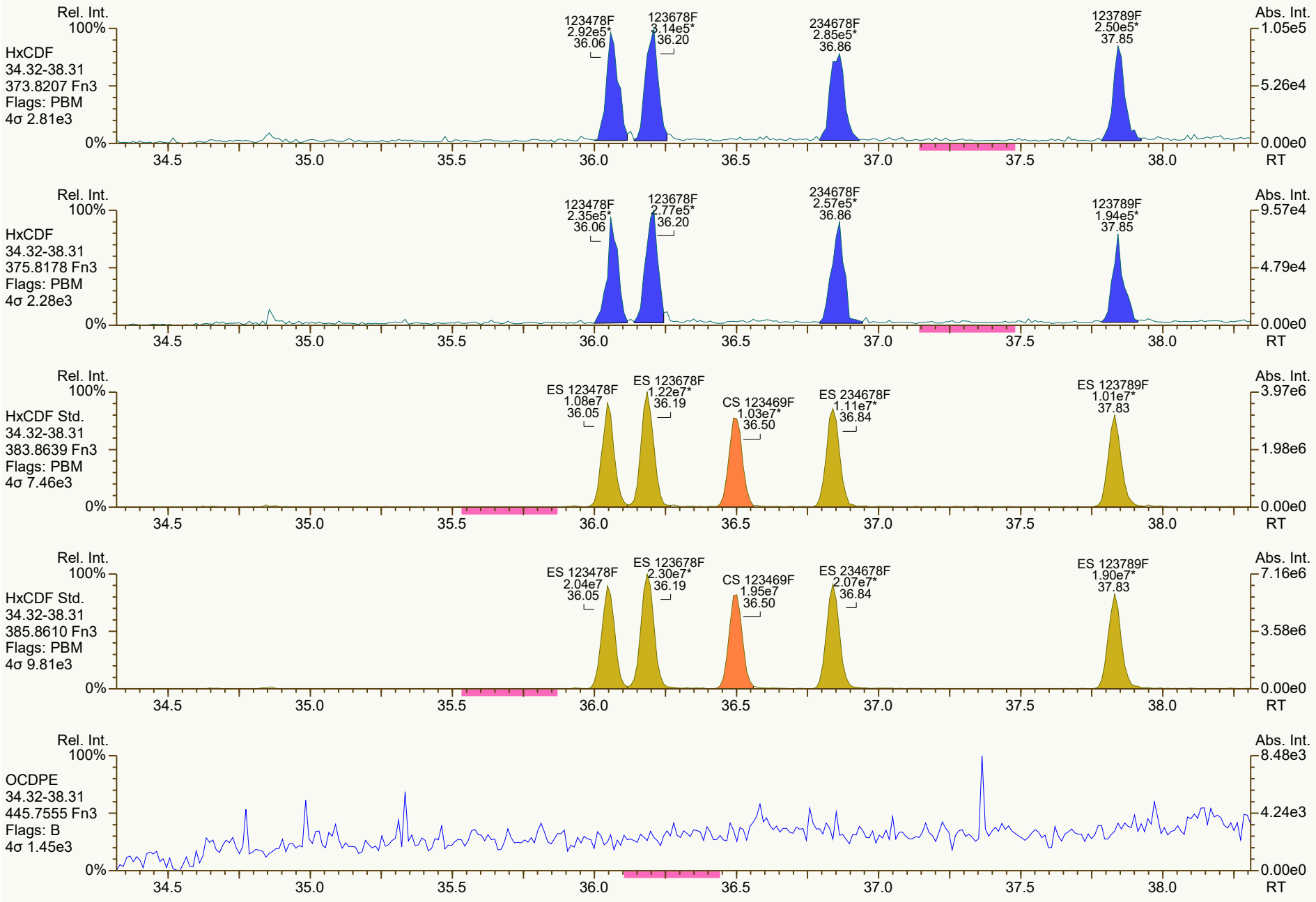

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

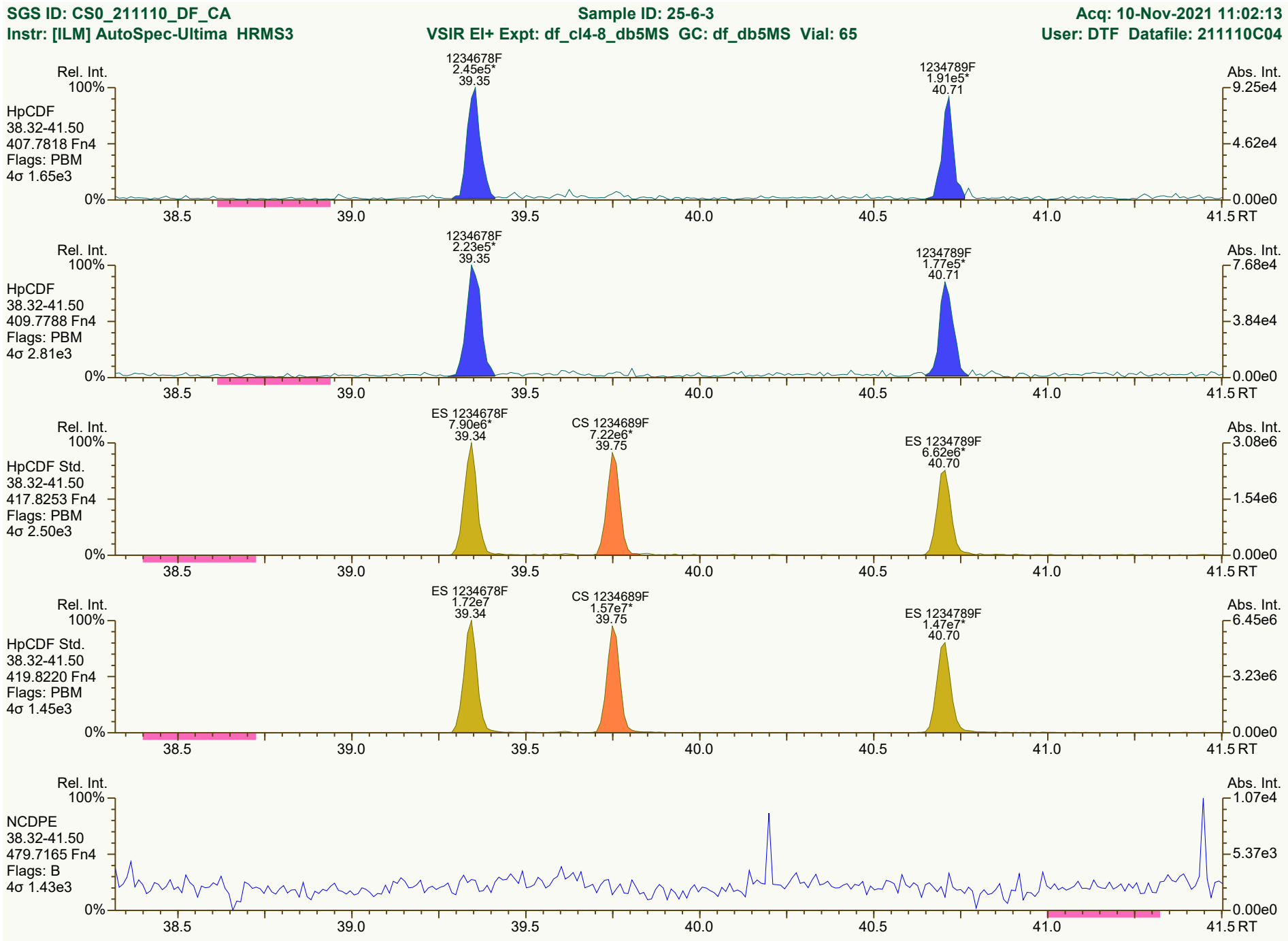
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

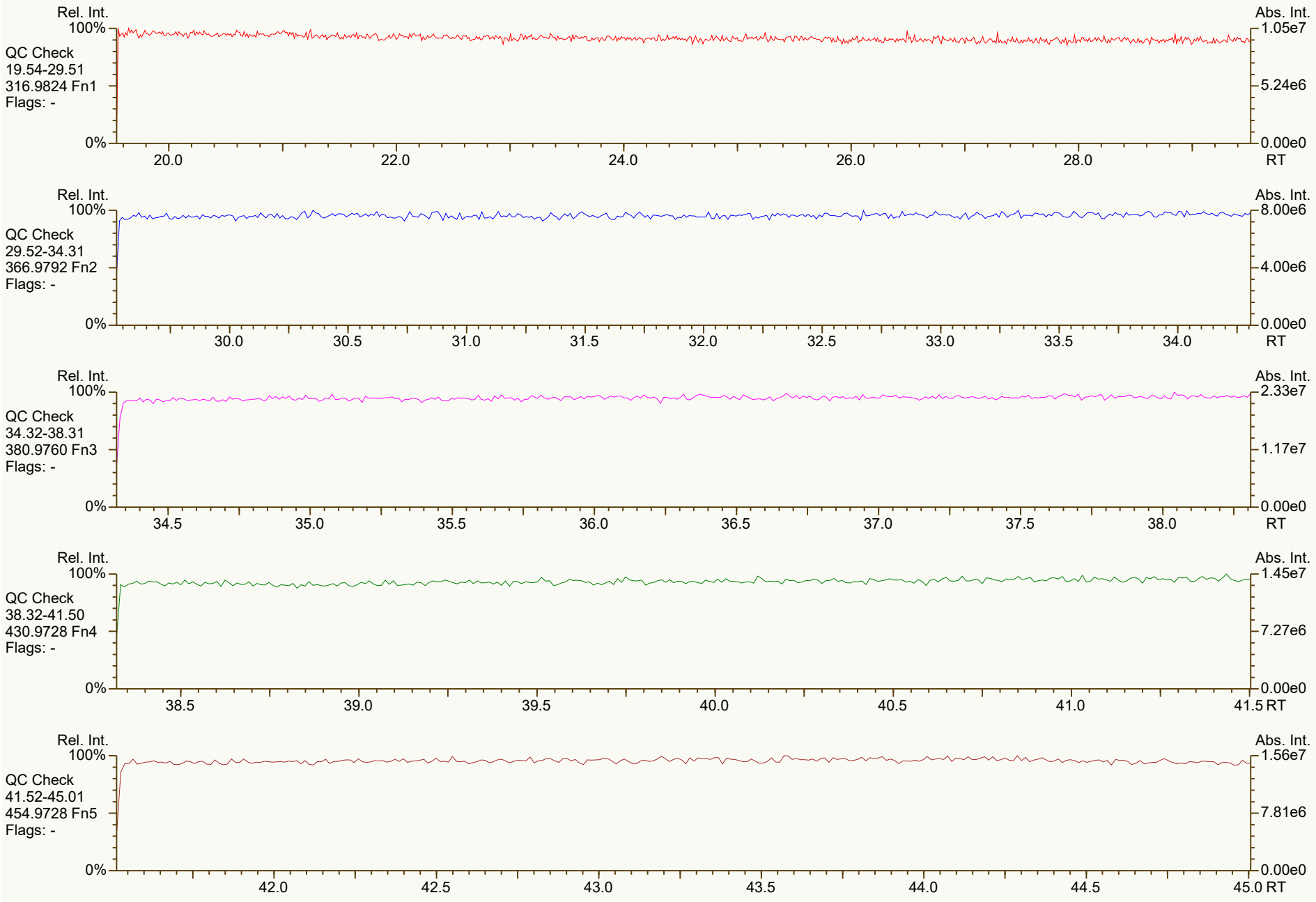

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12

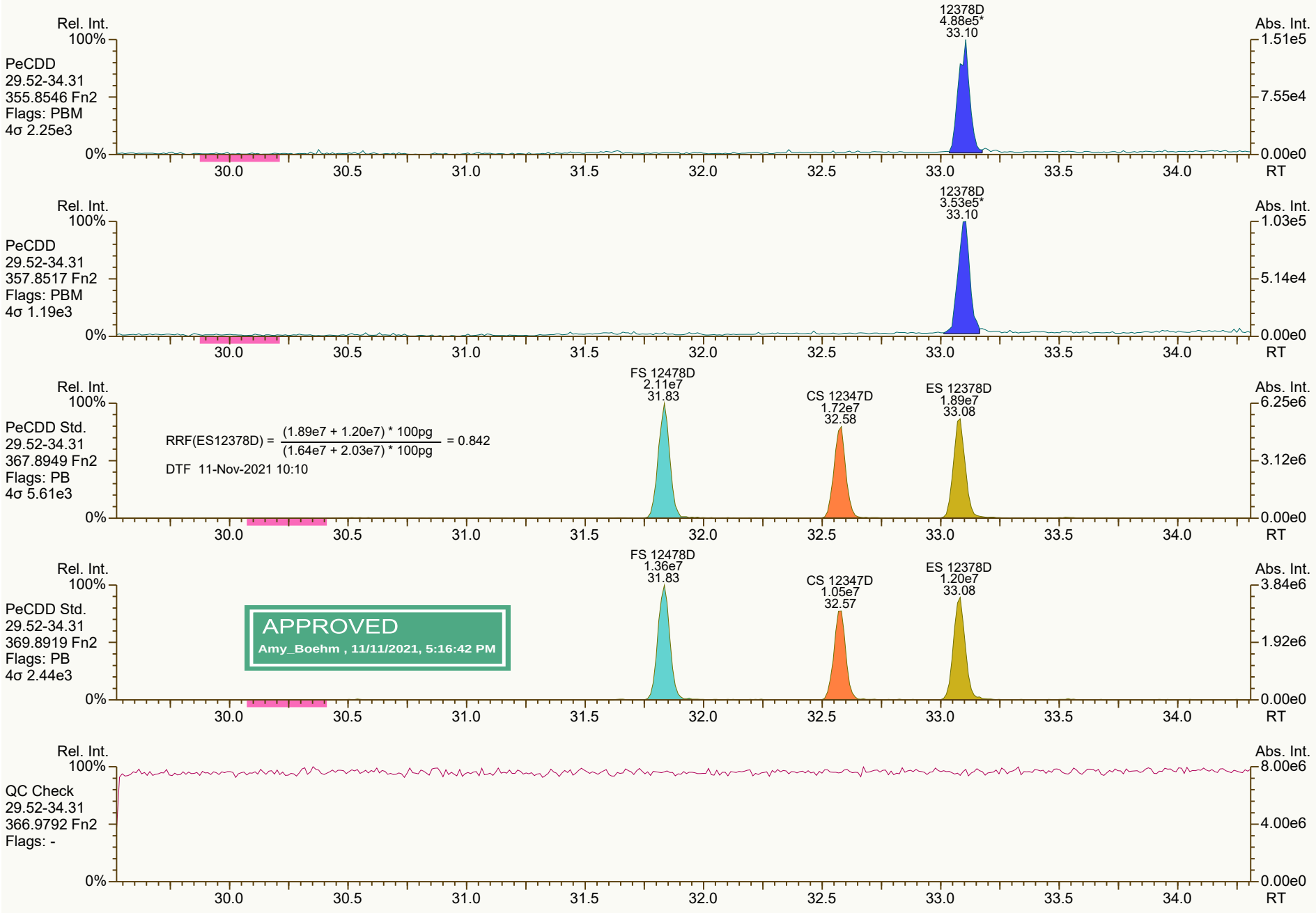

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

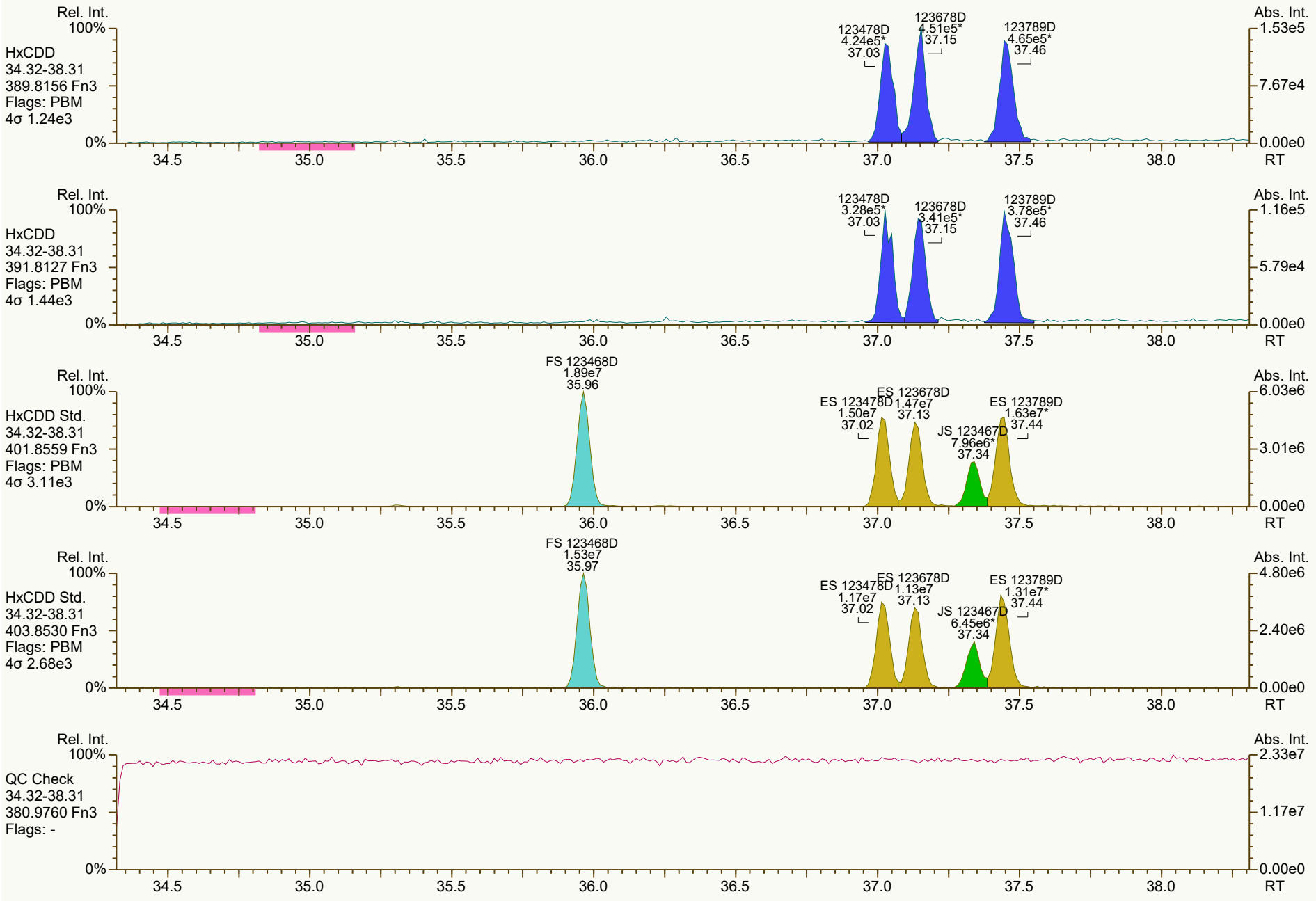
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

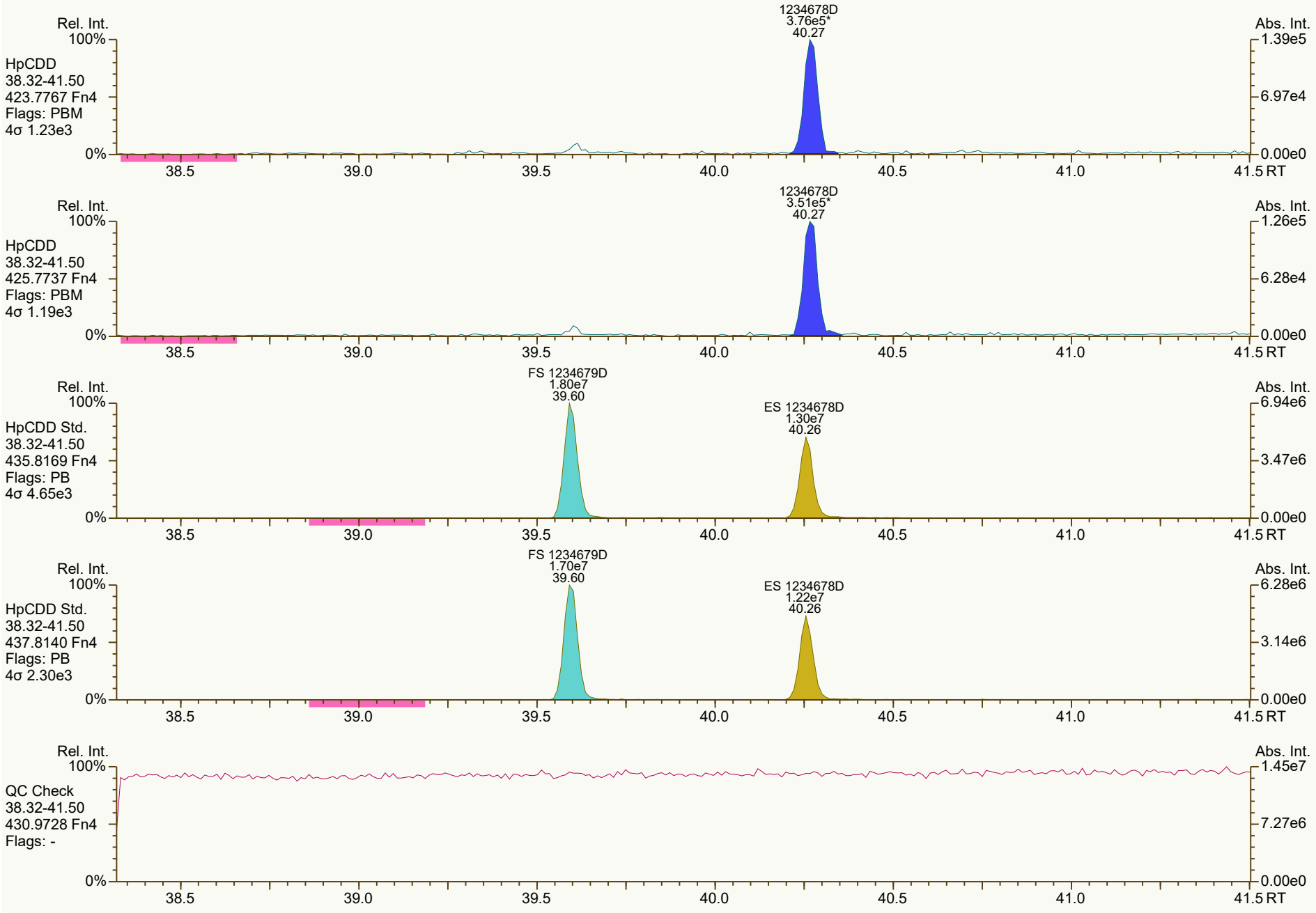
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

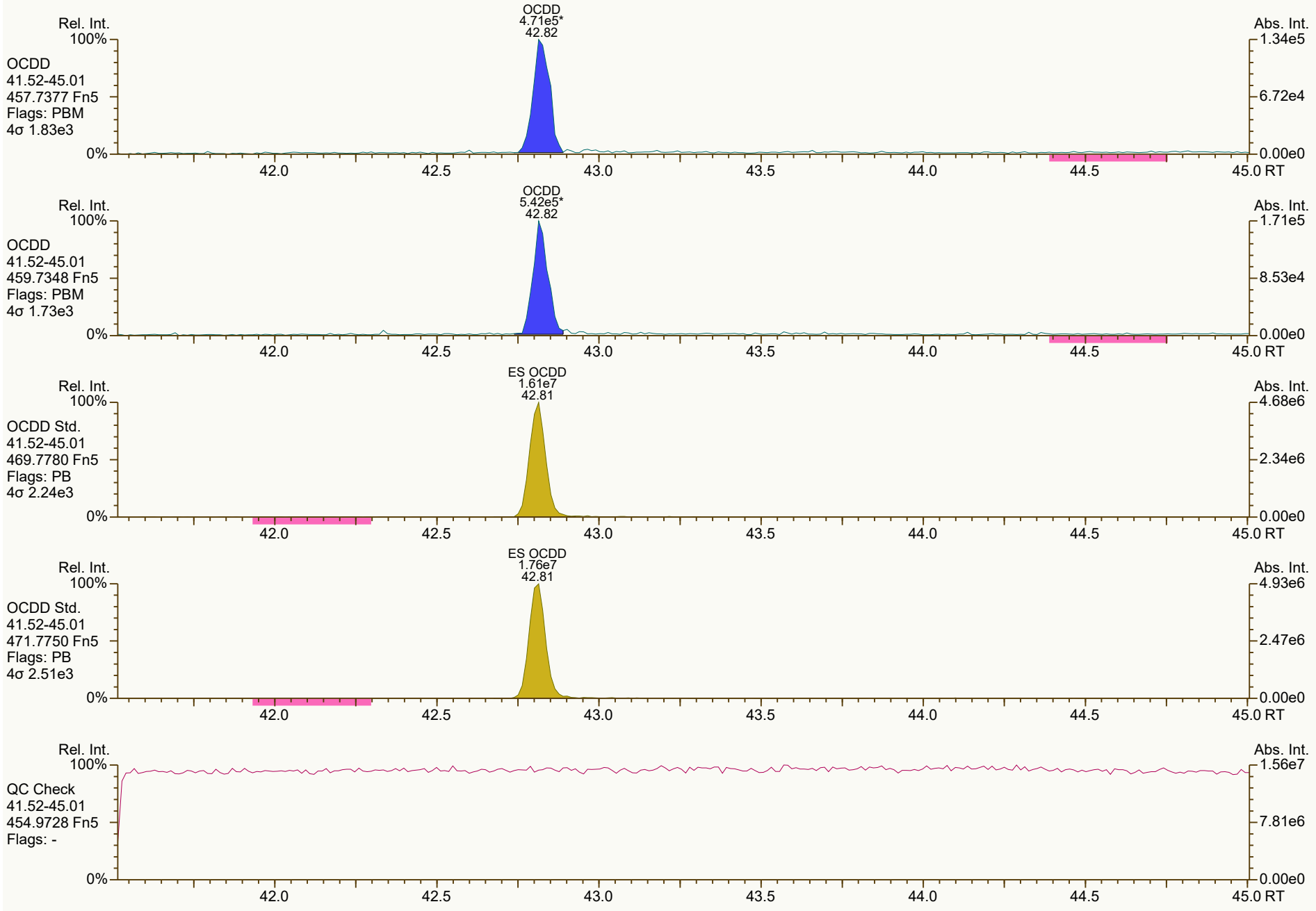

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

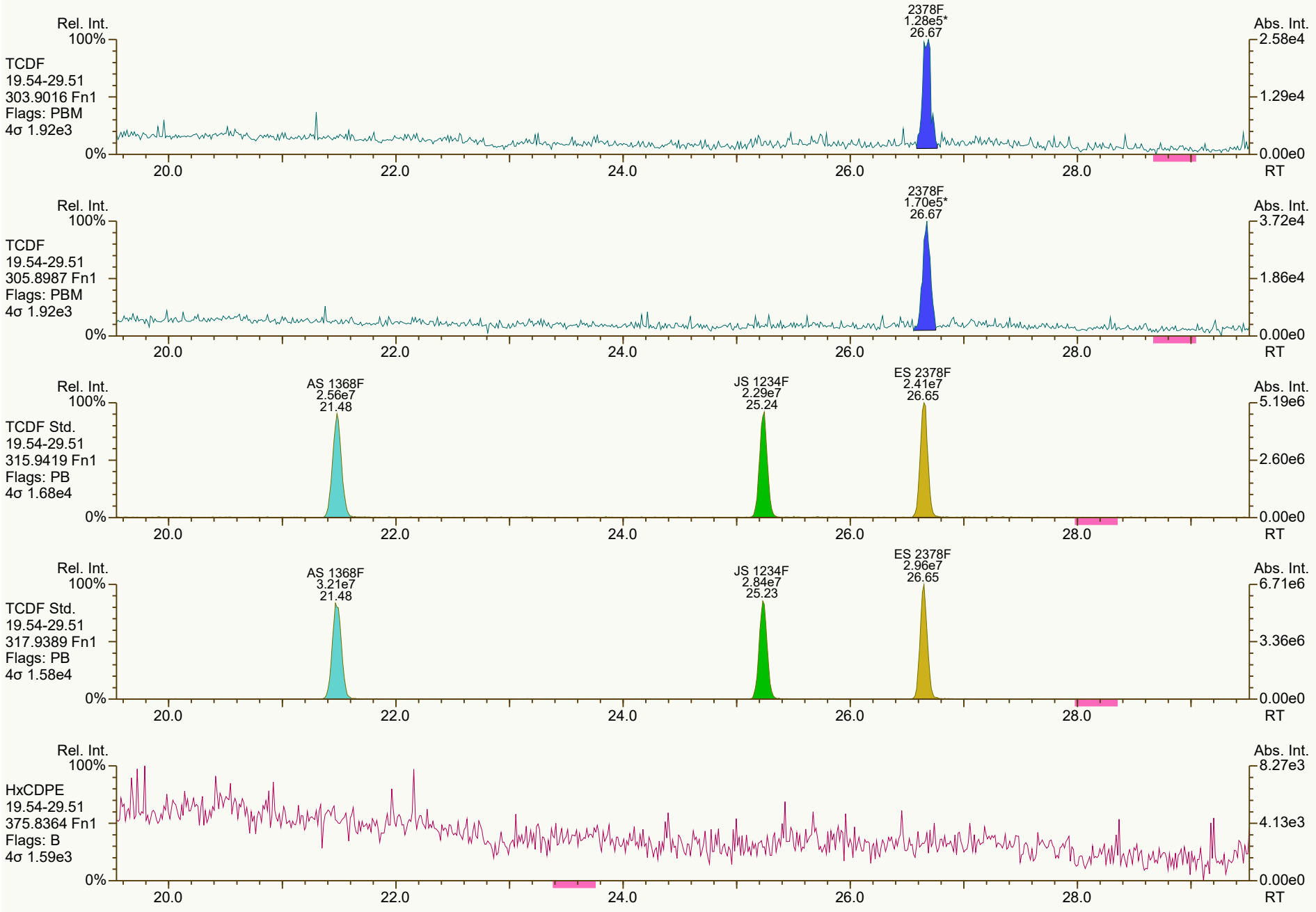

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

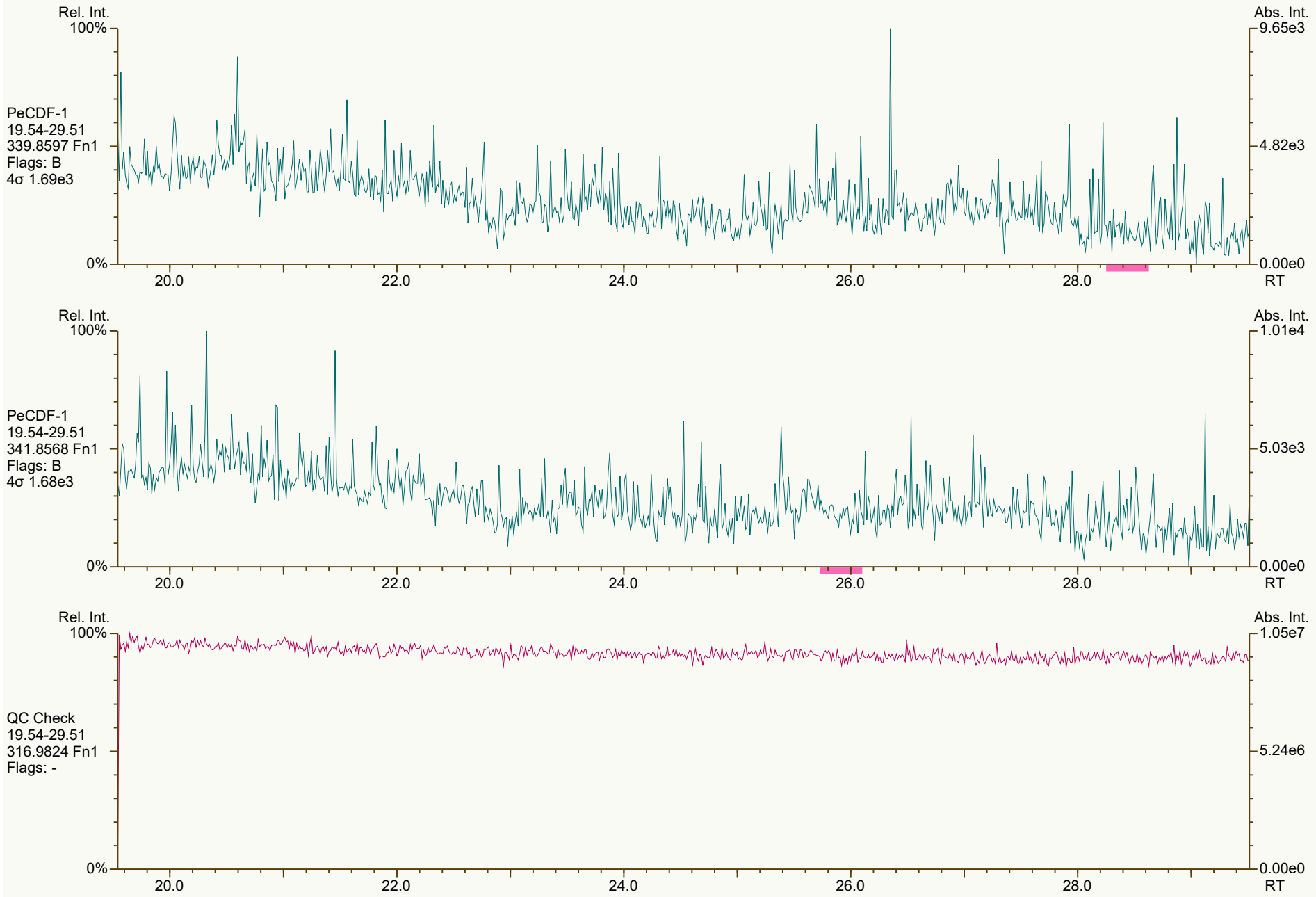

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

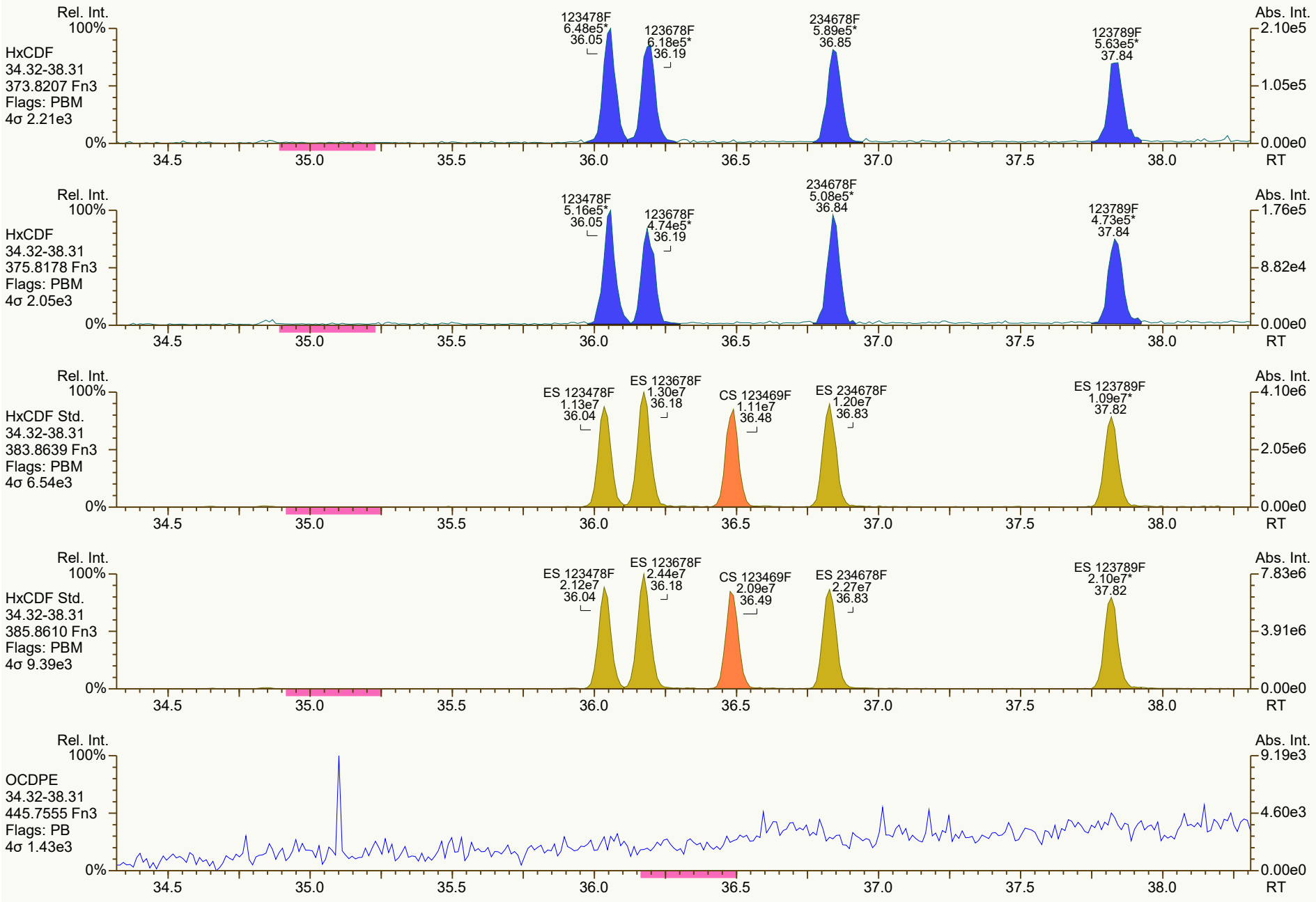

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

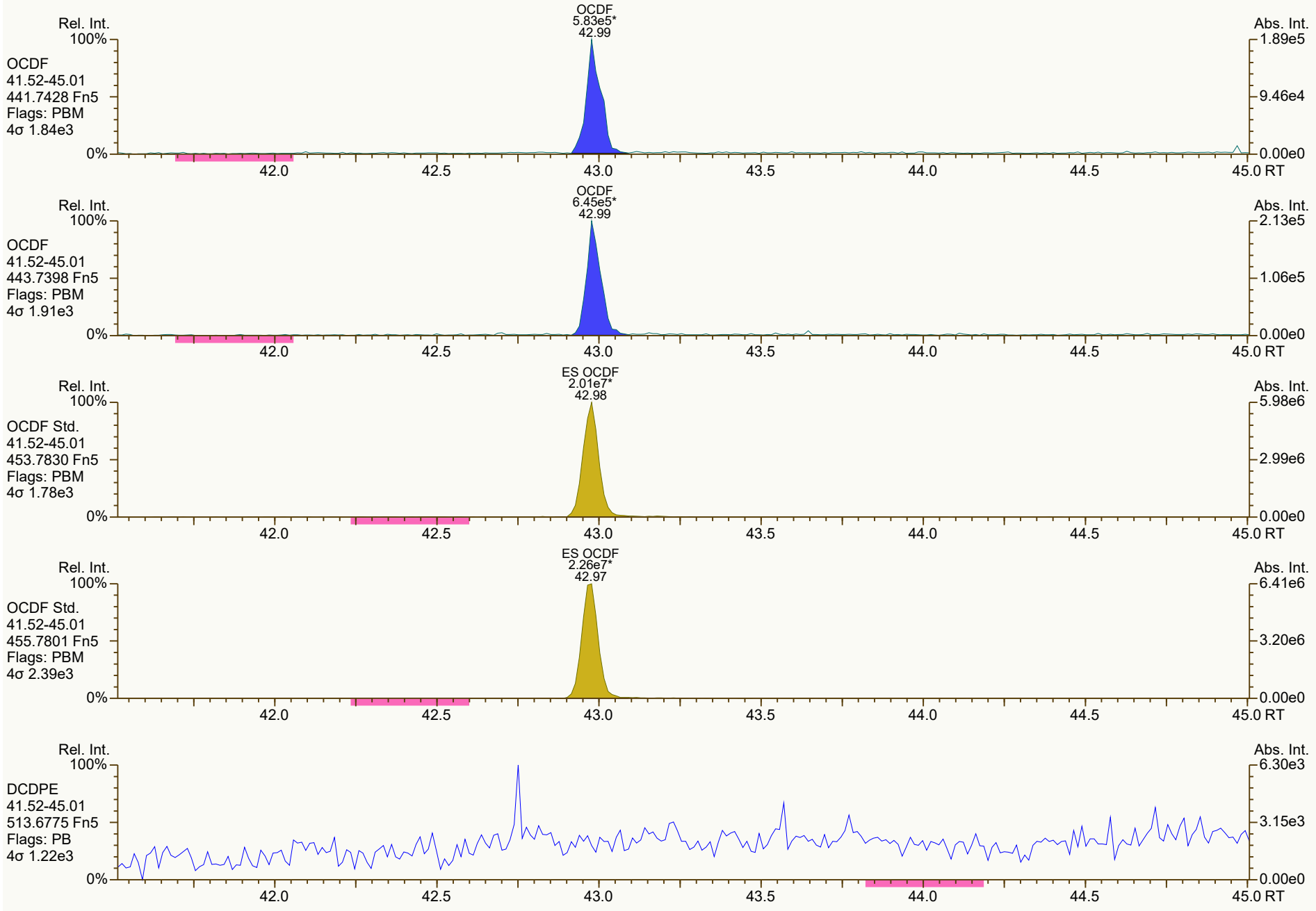

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

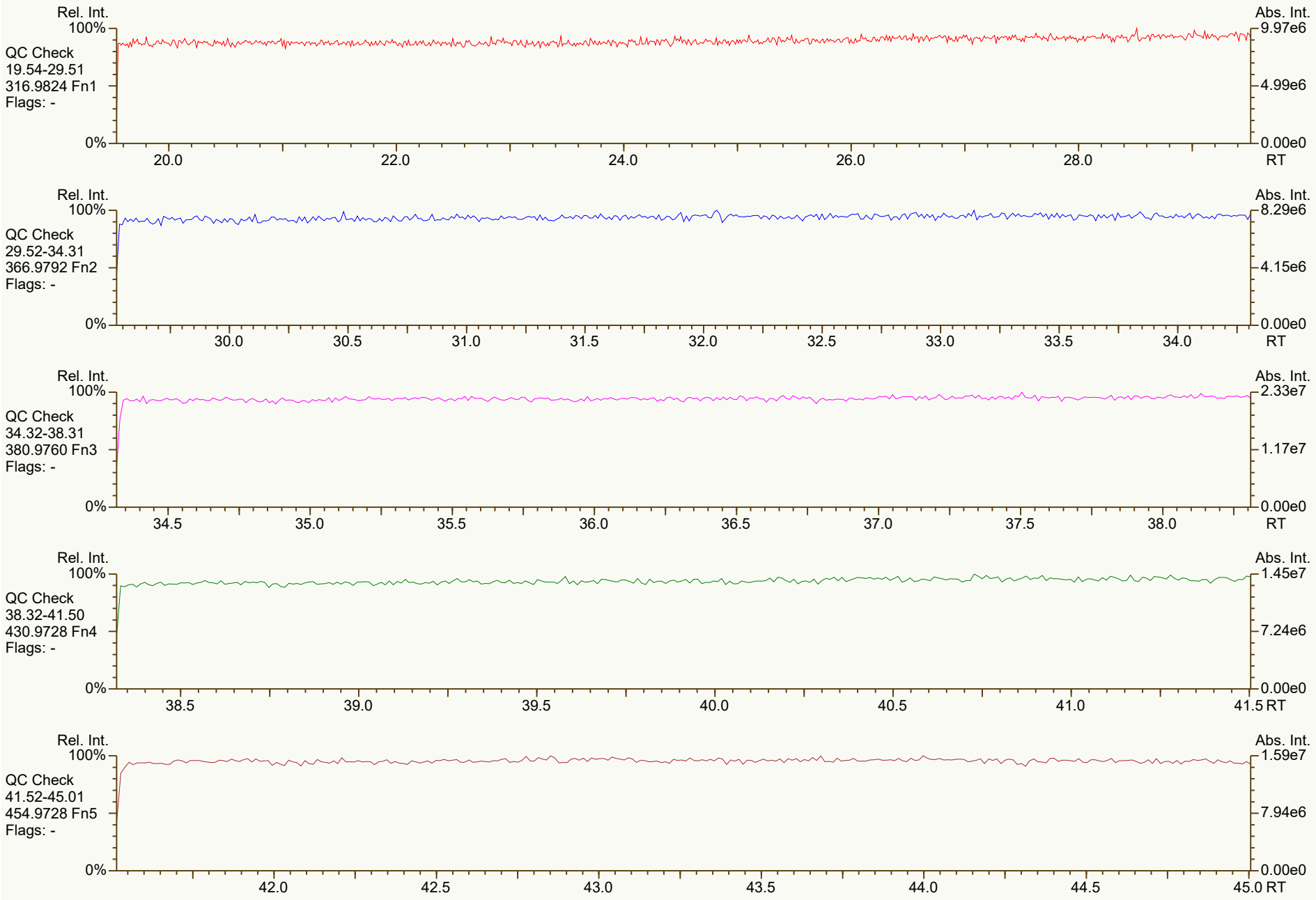

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

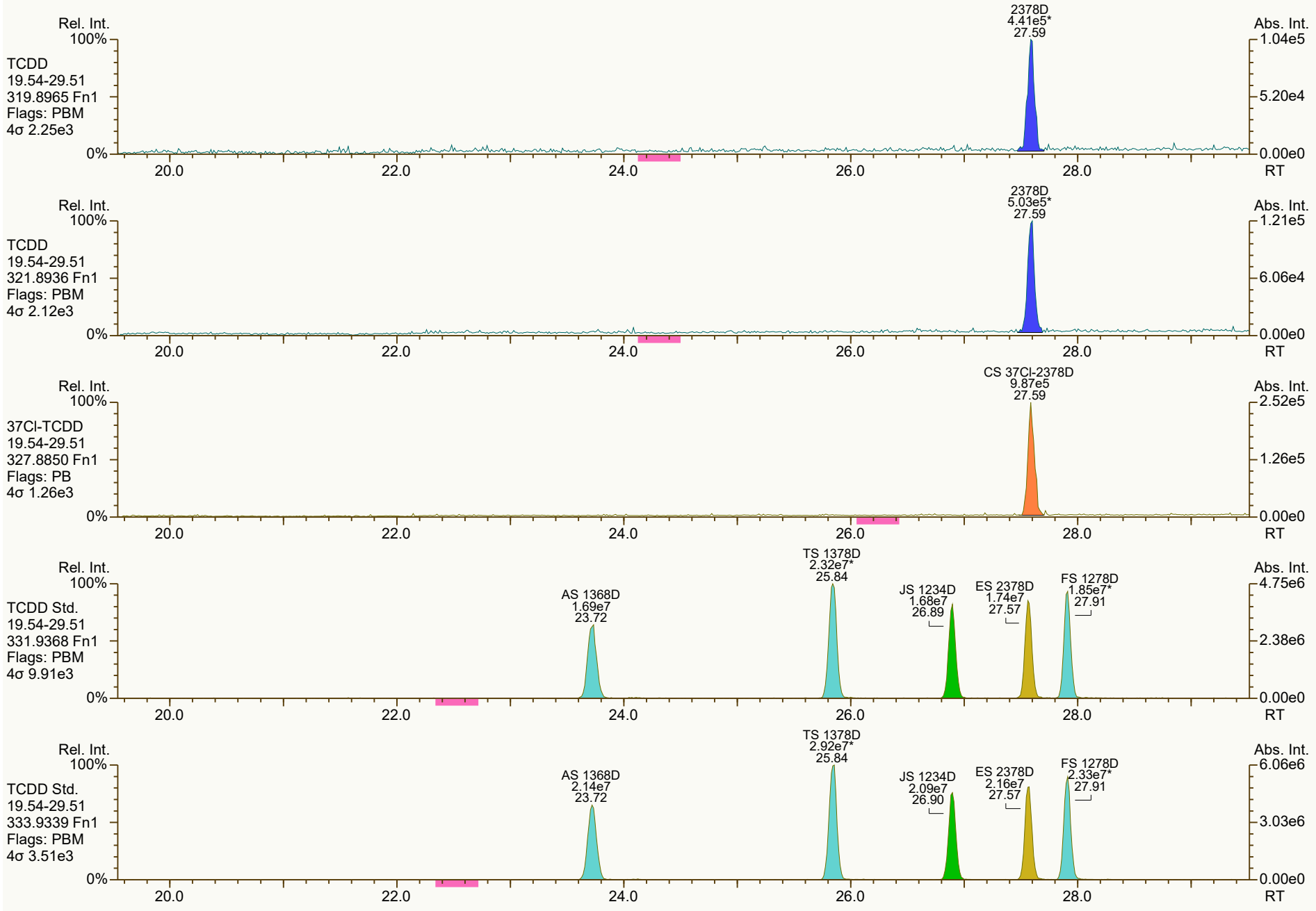
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

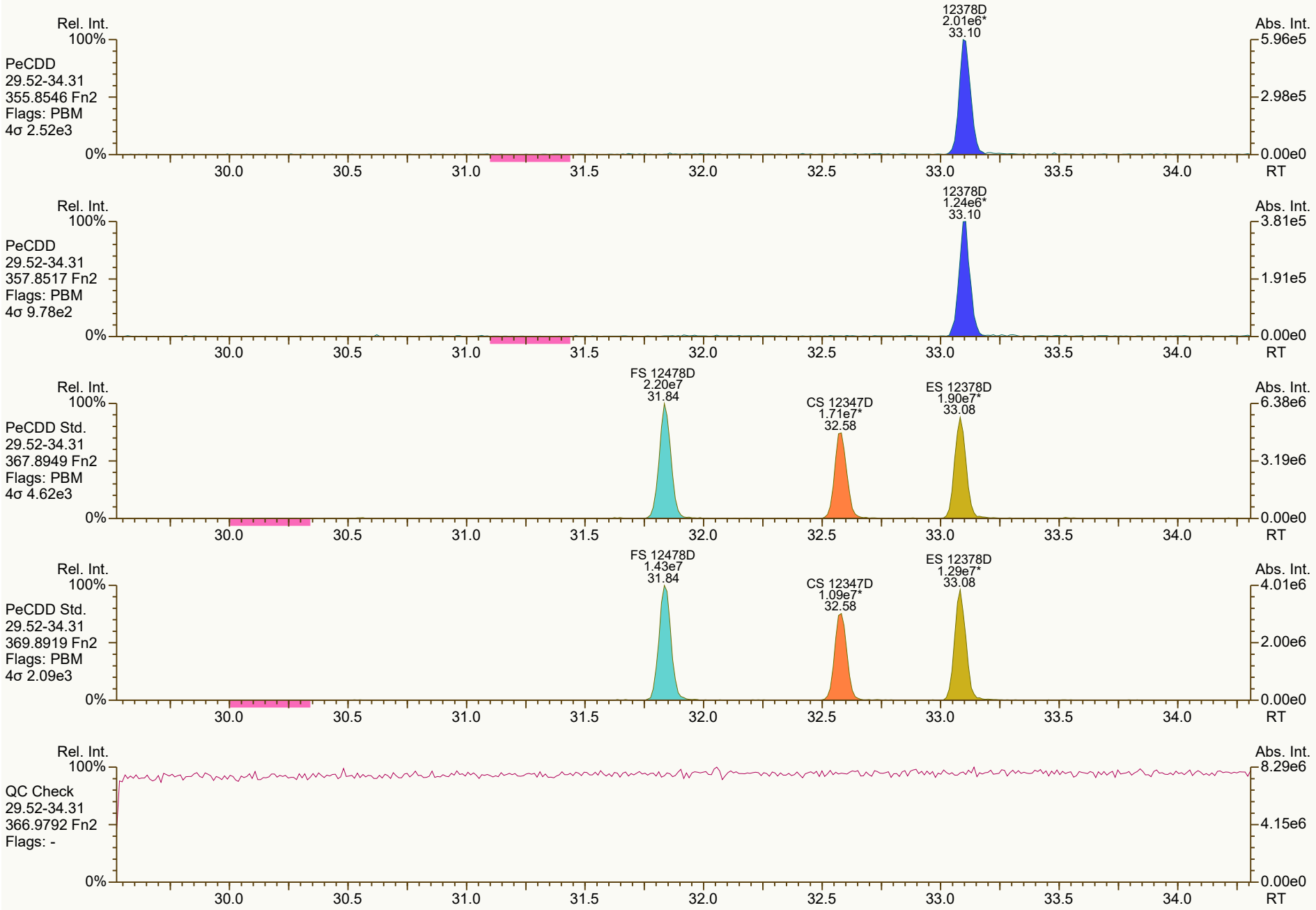
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

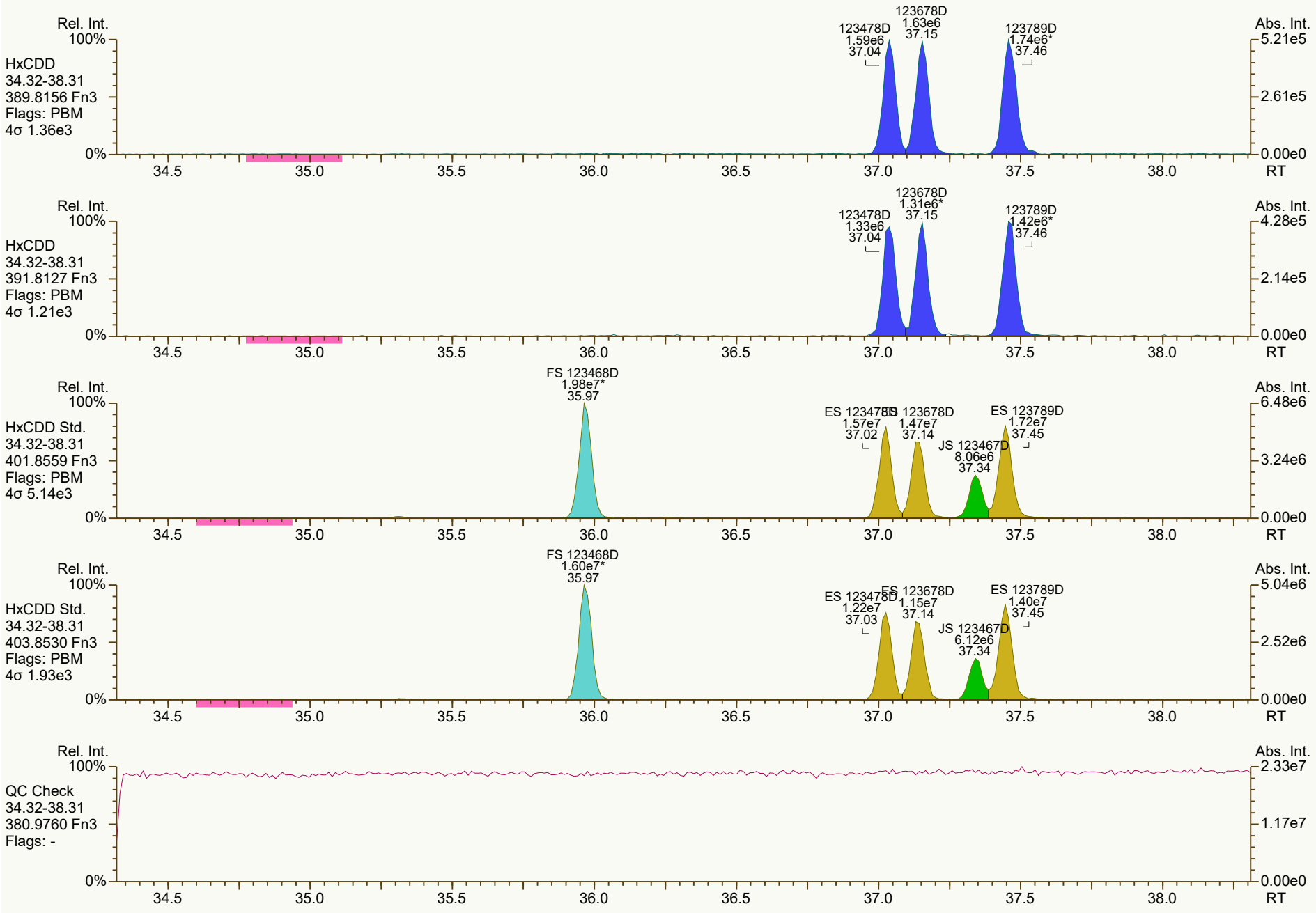
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

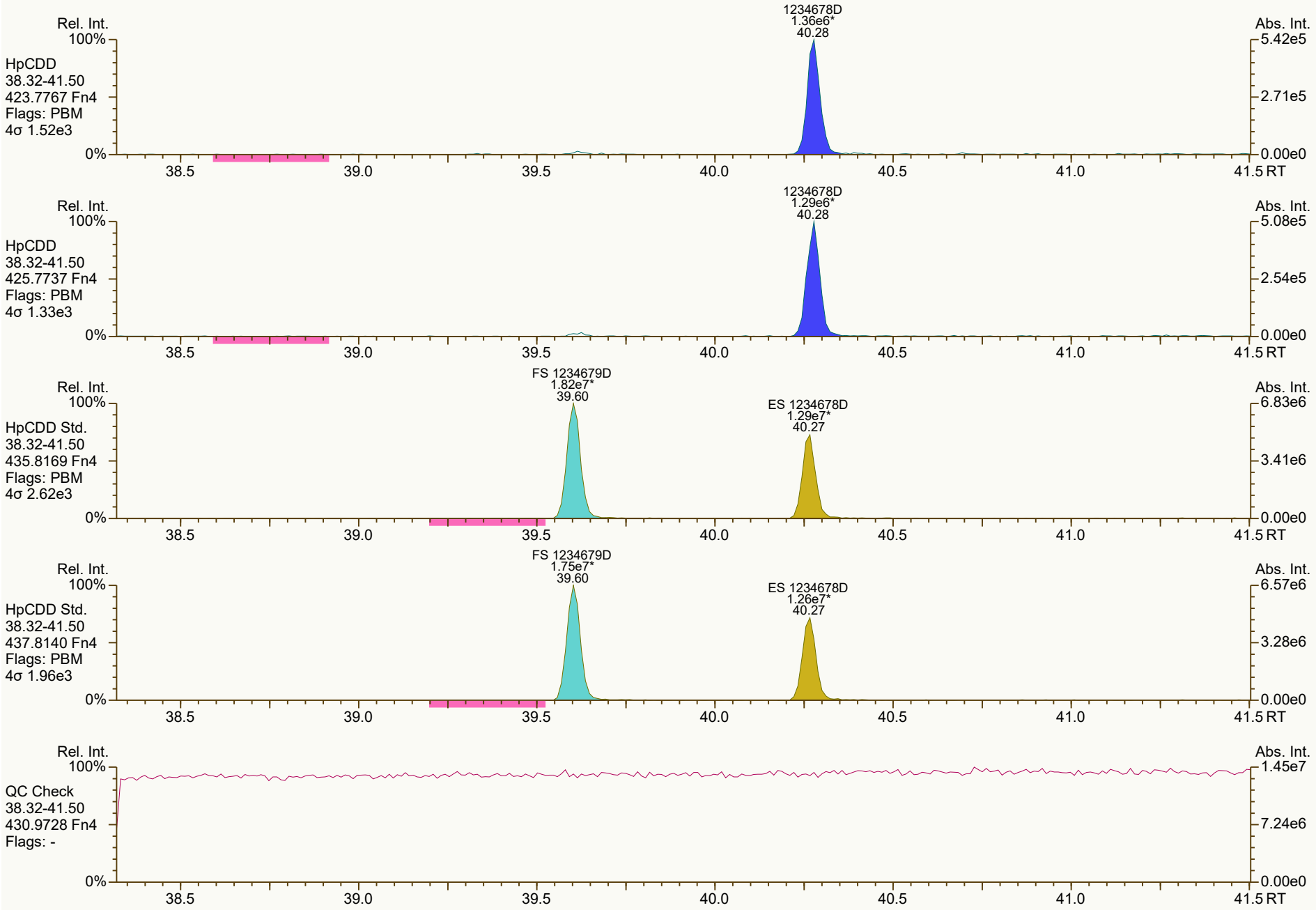
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

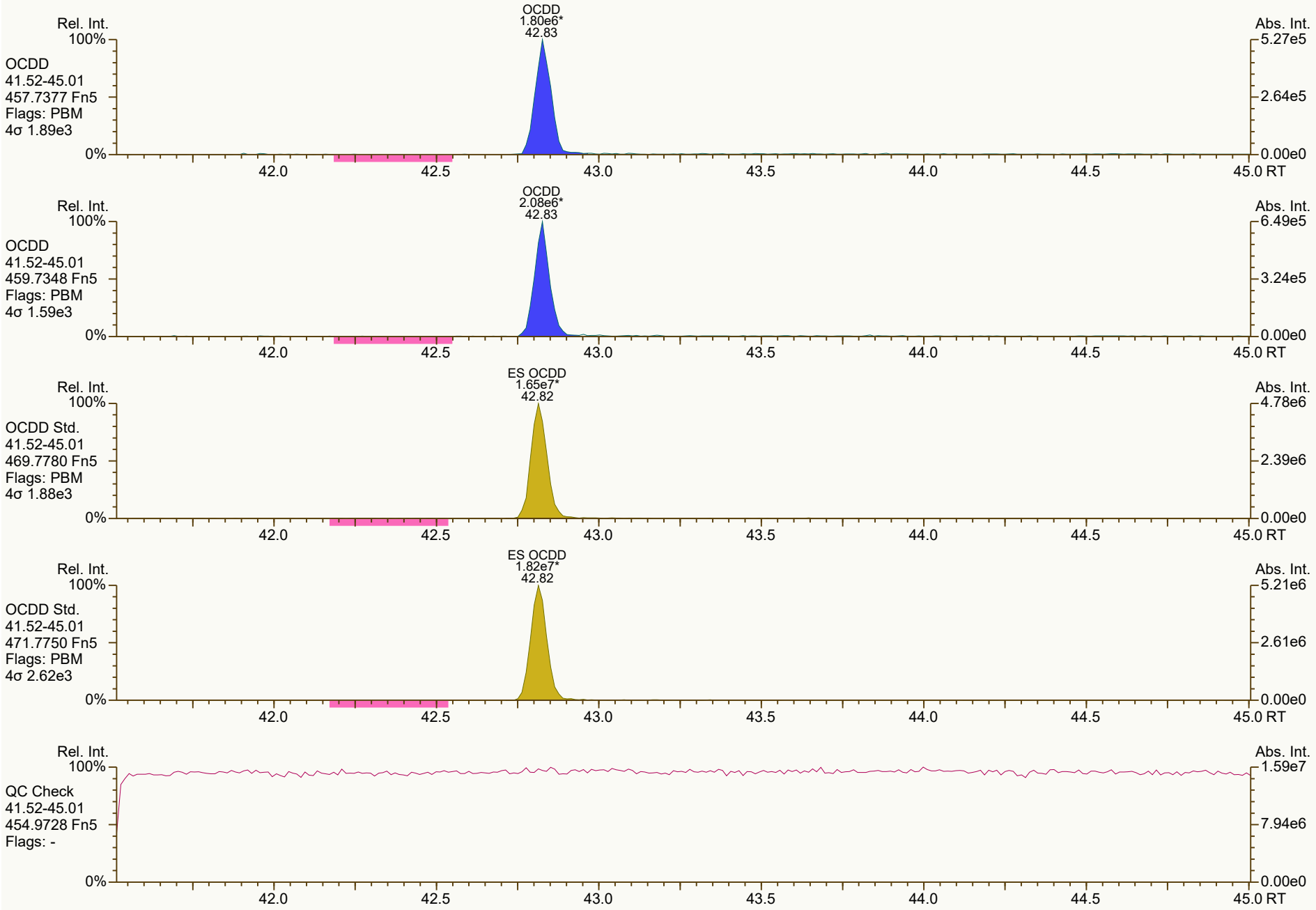

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

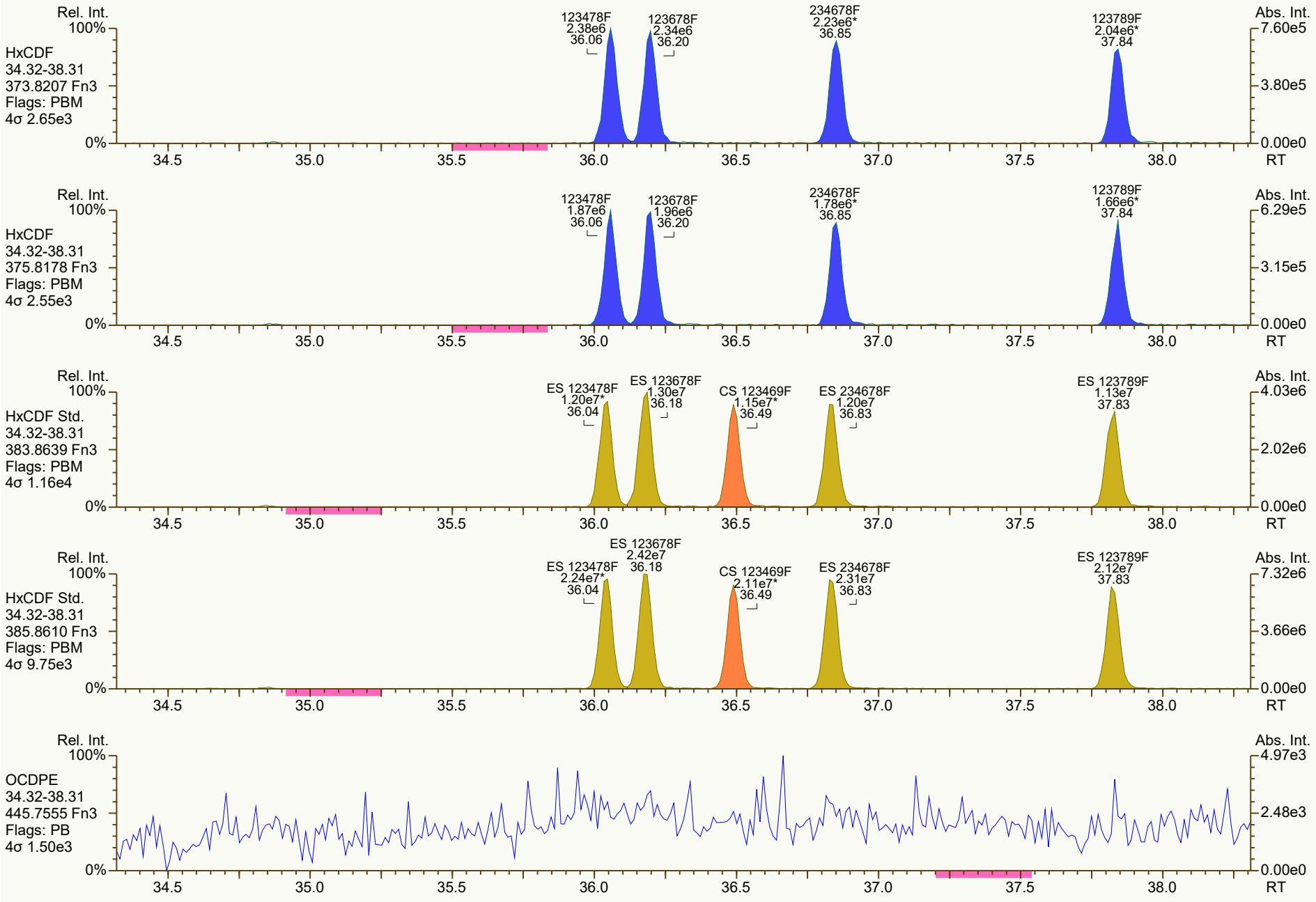

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

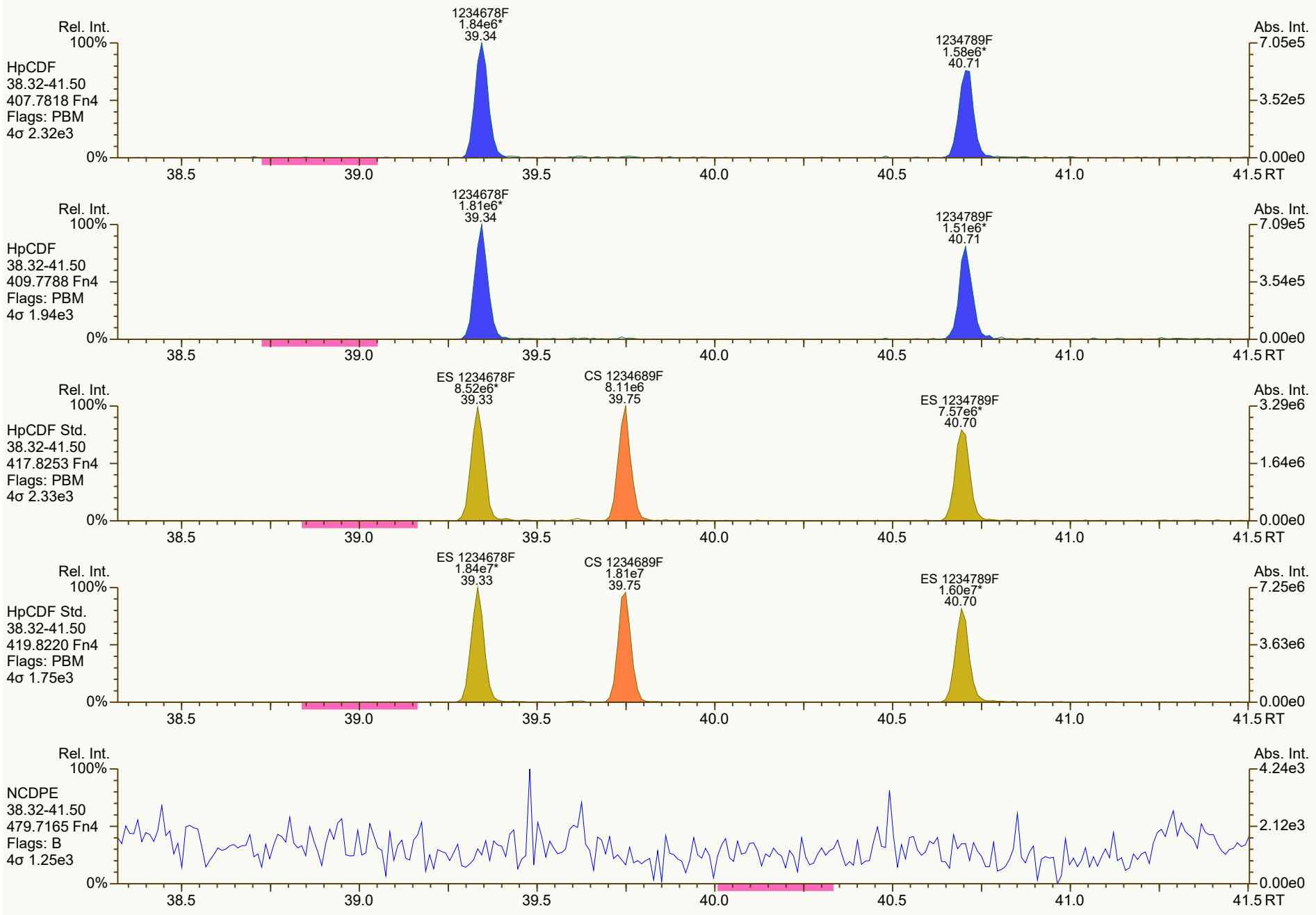

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

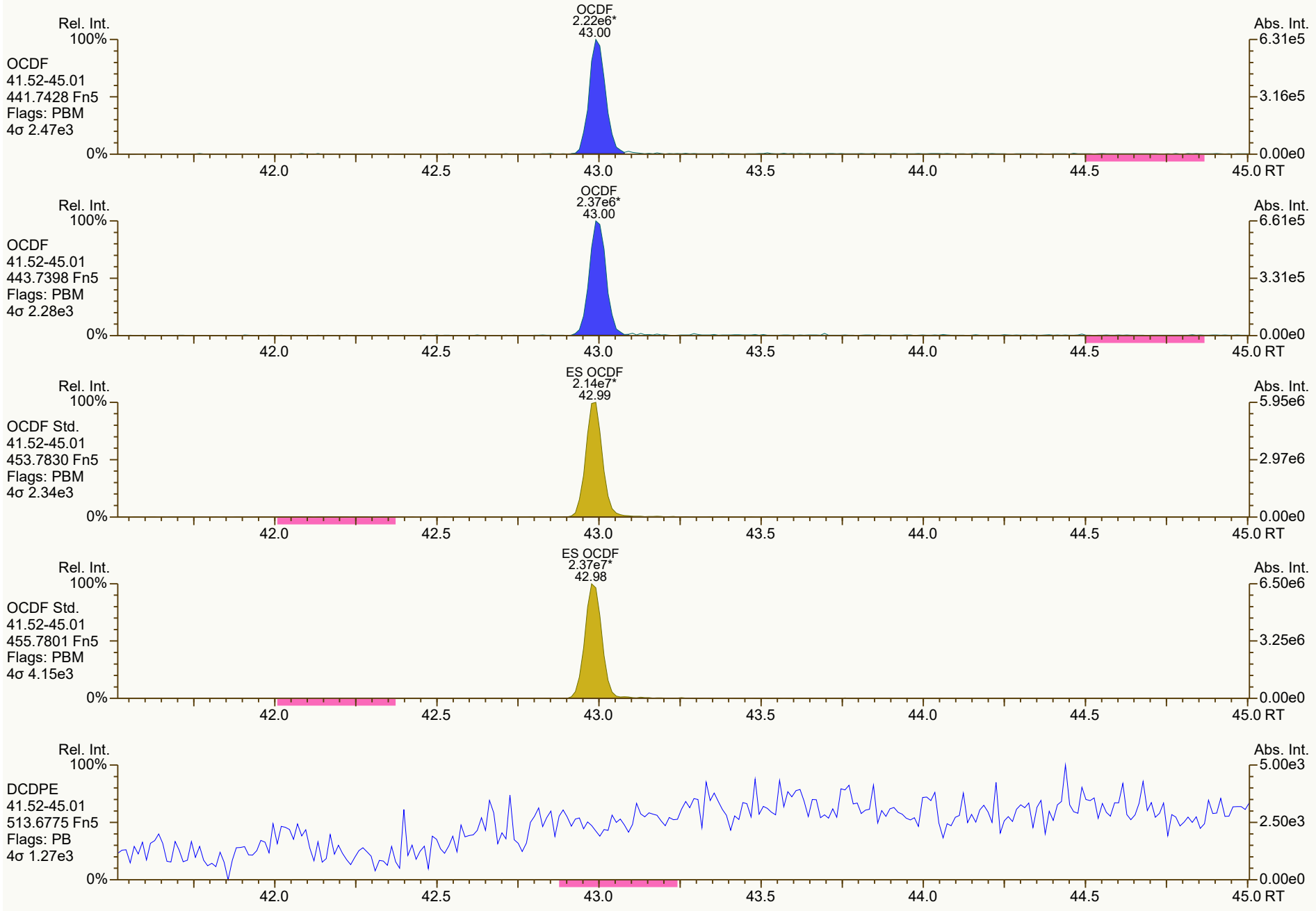

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

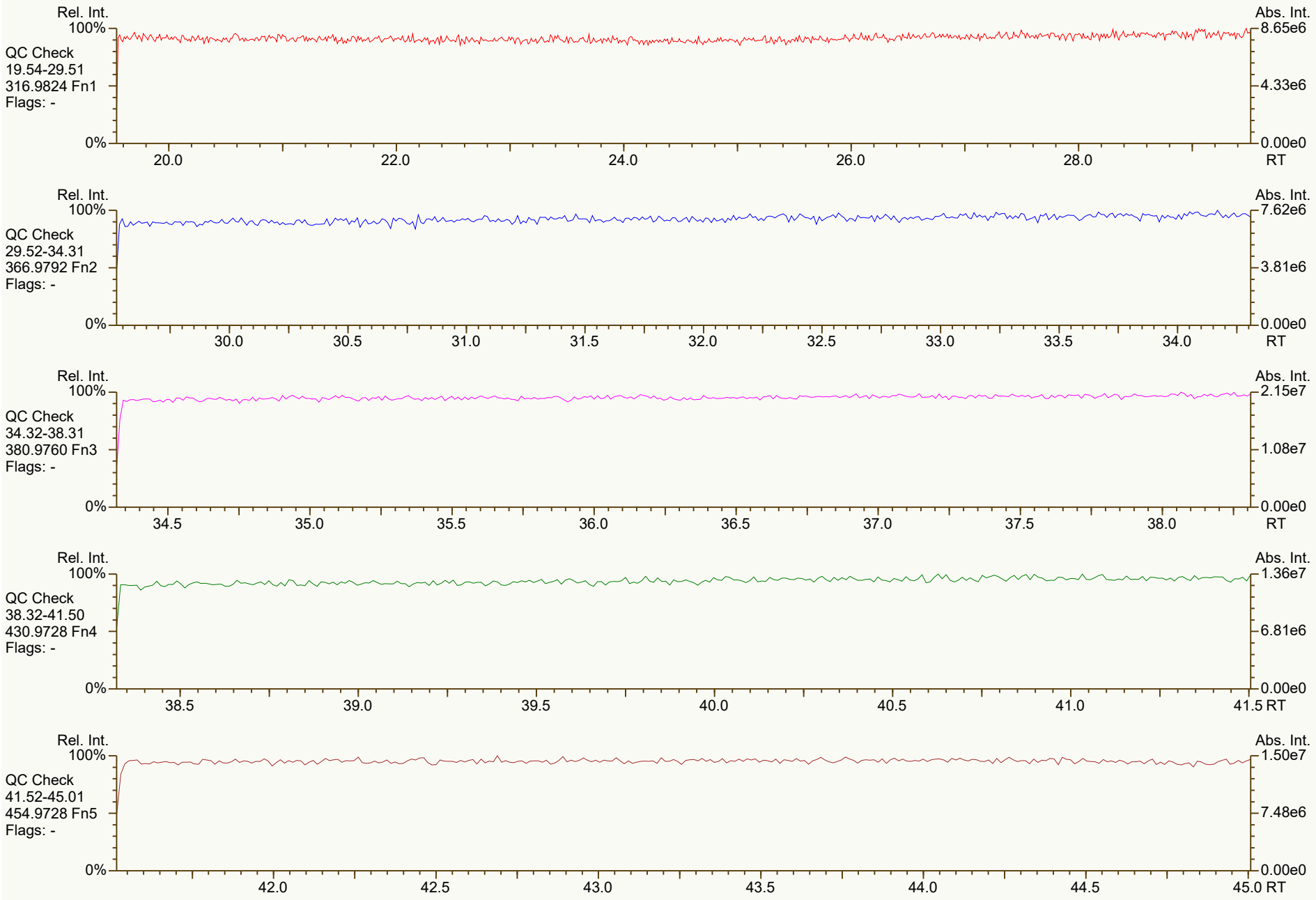

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

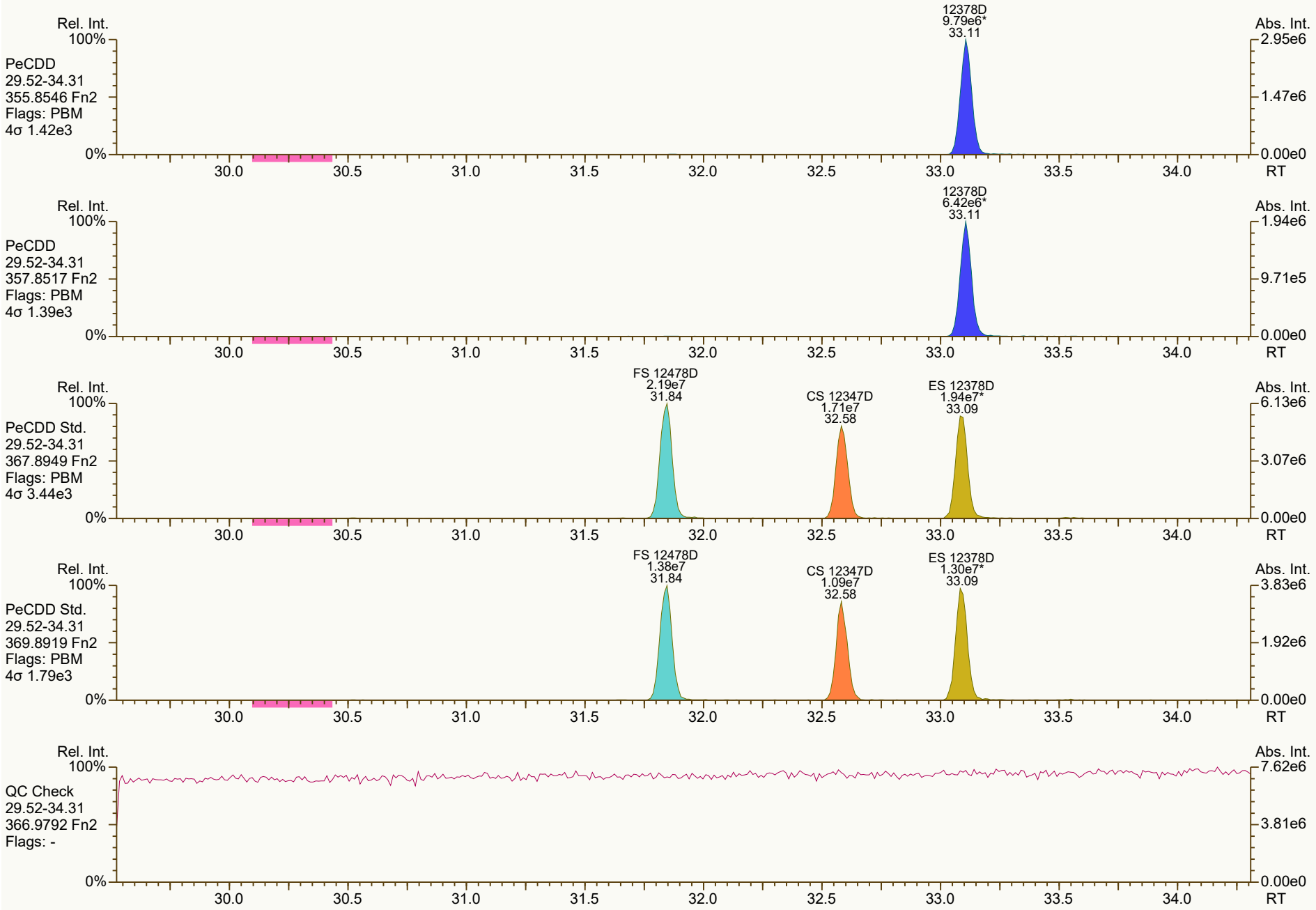
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

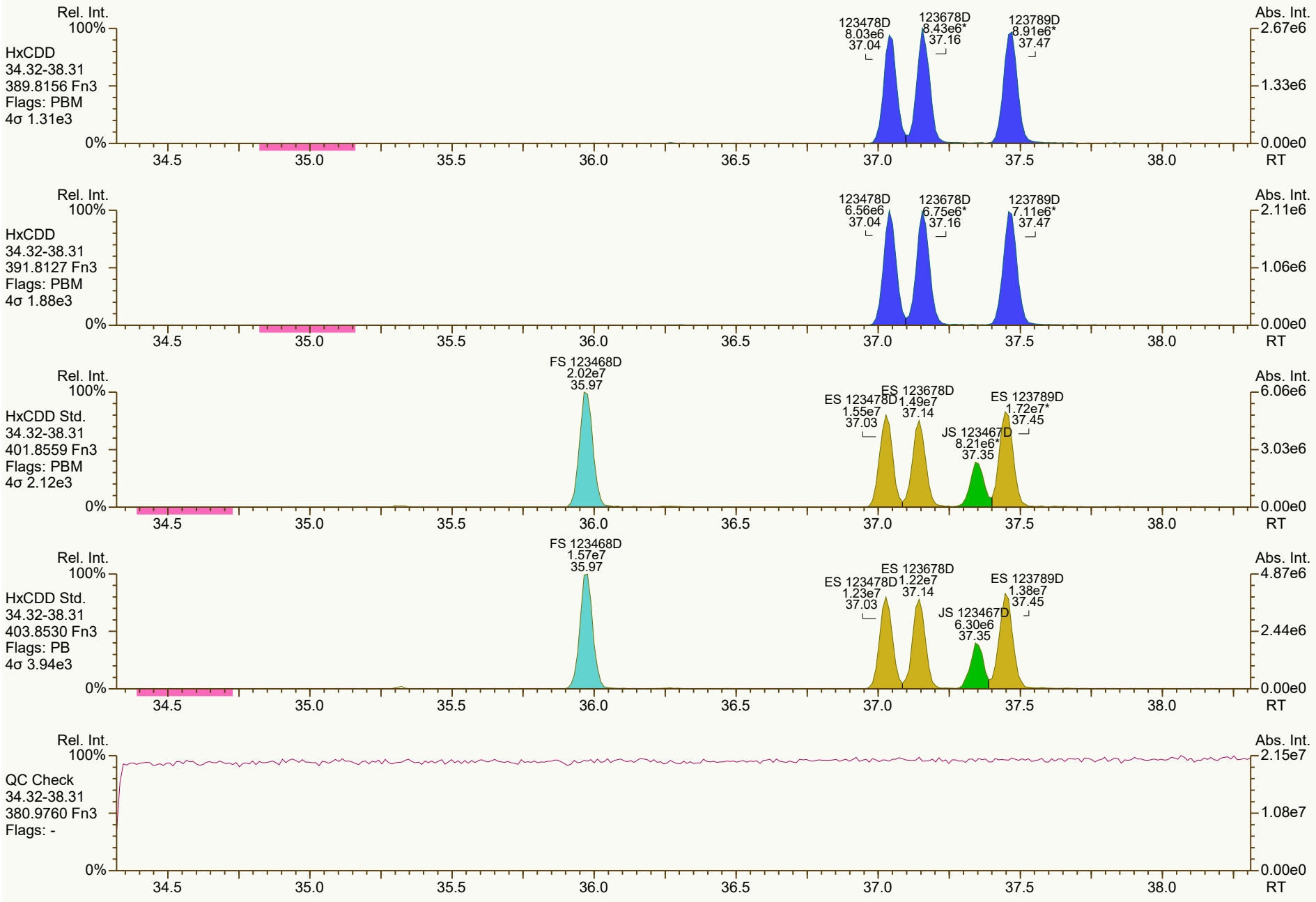
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

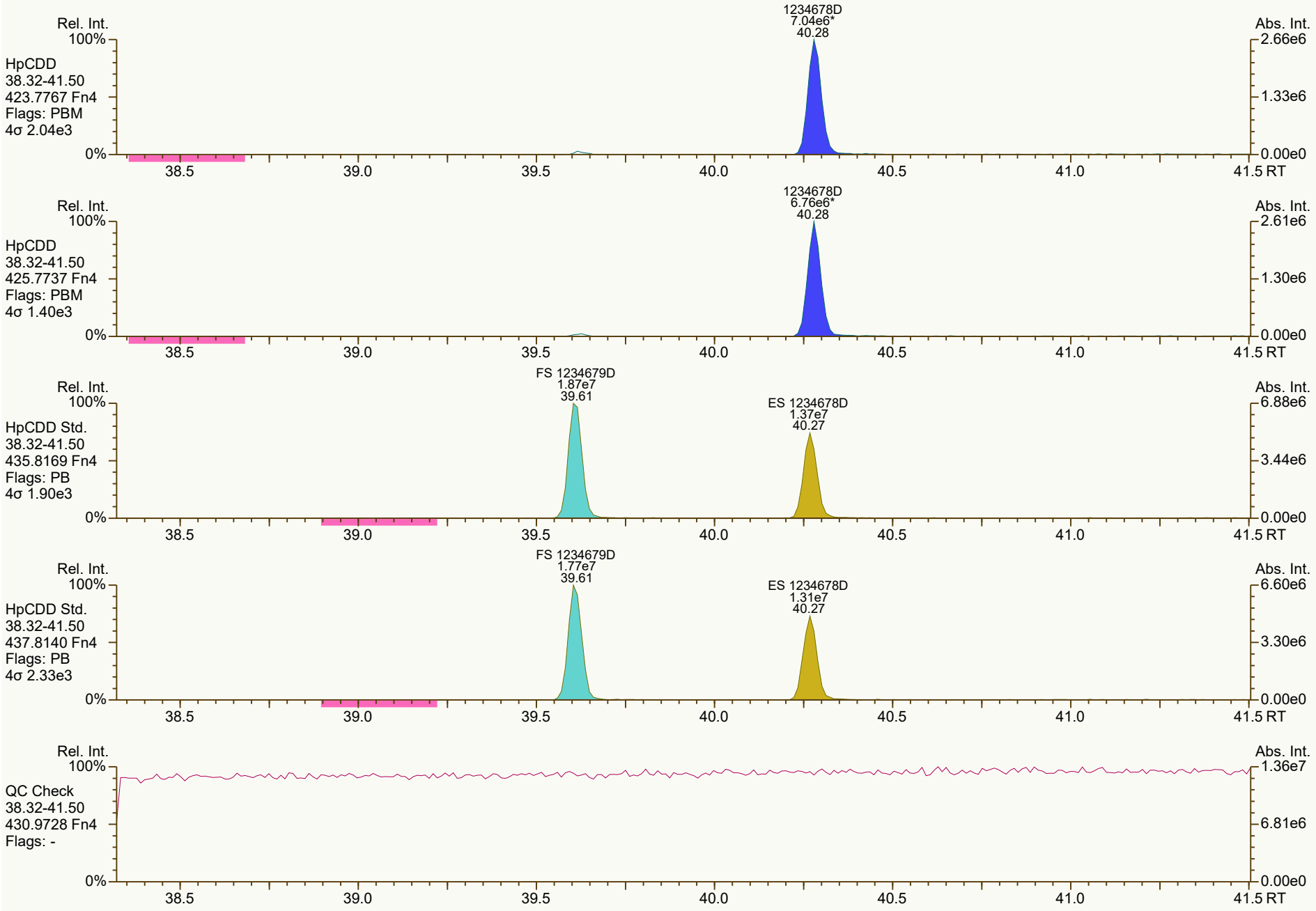
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

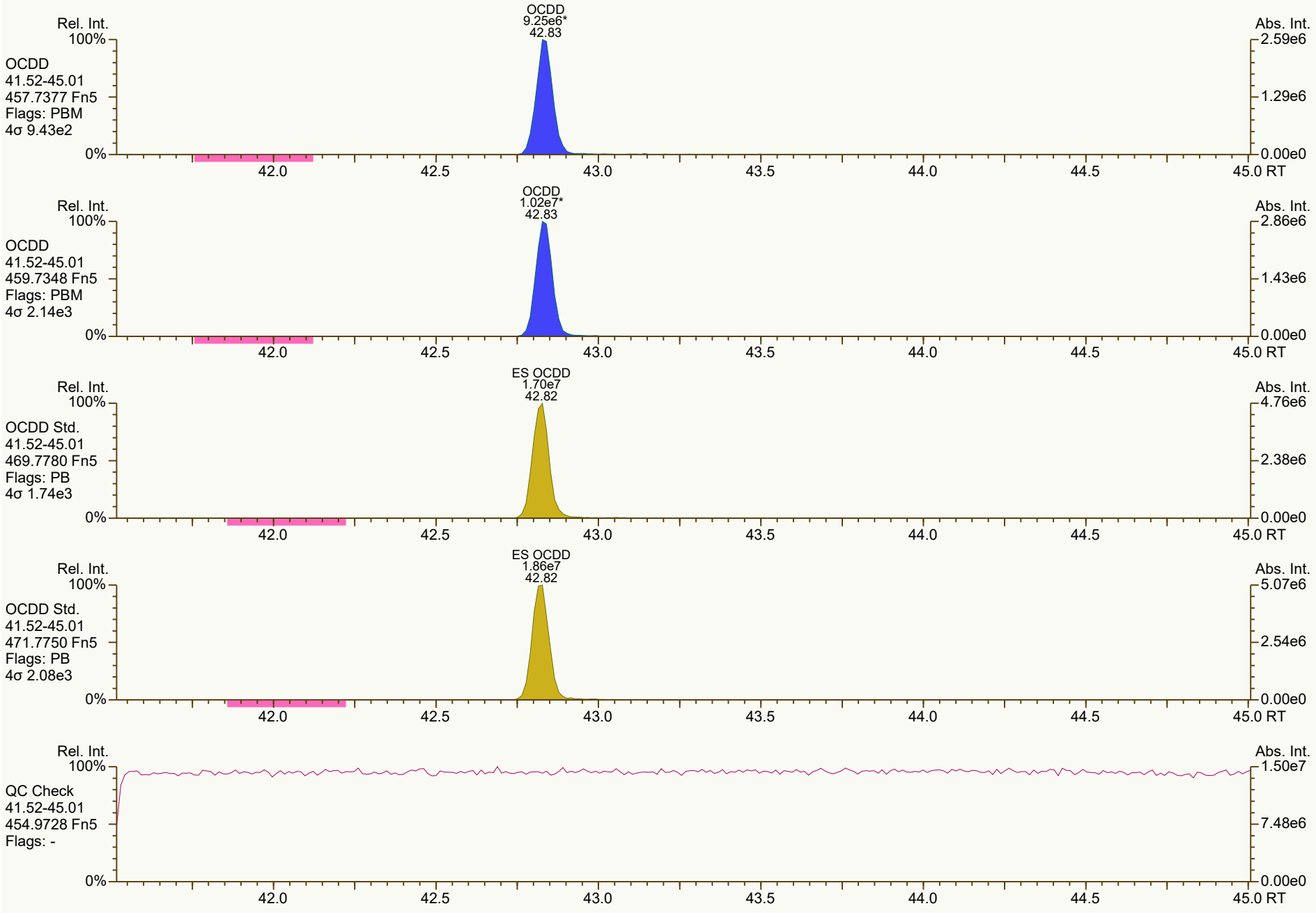

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

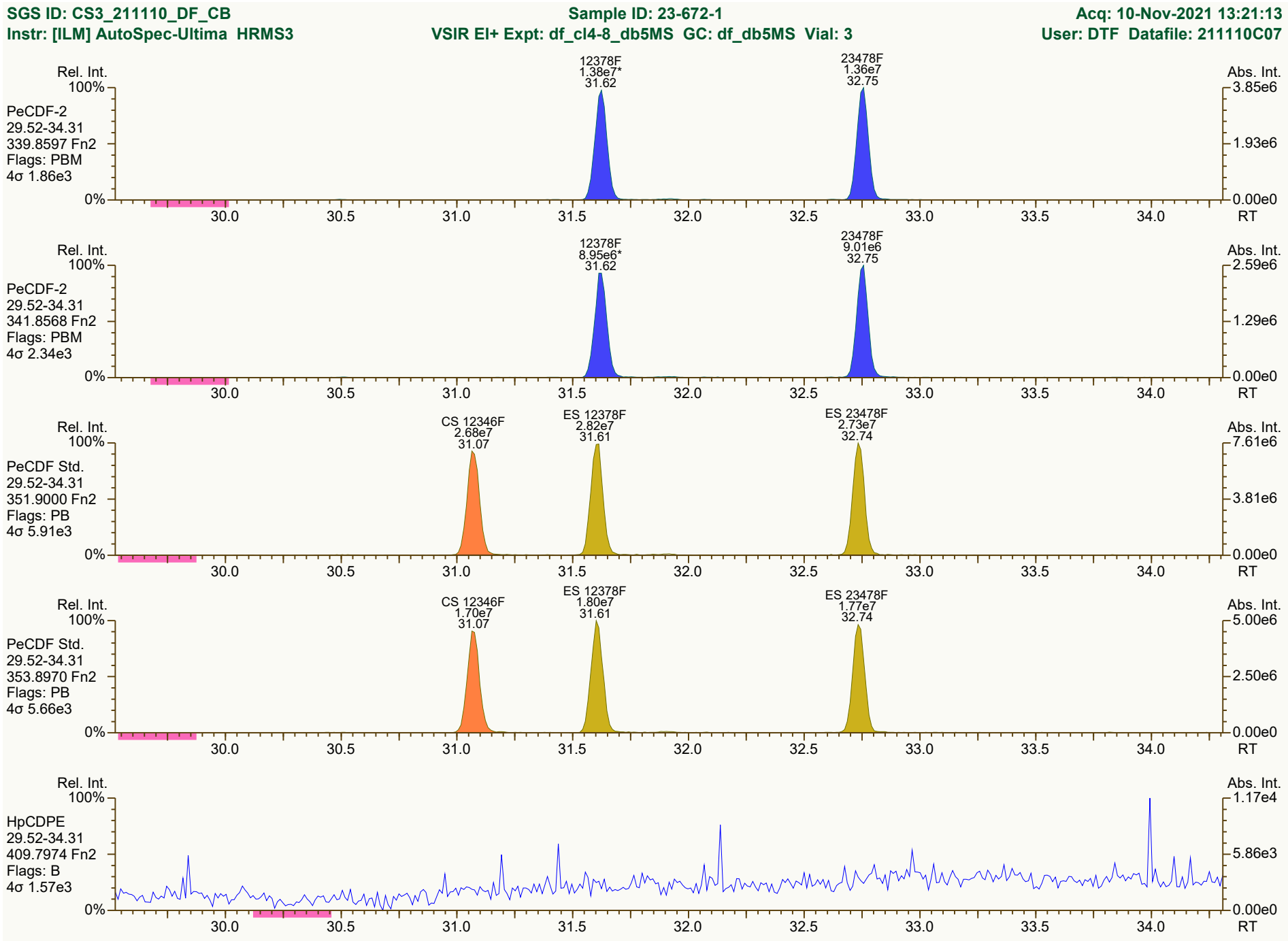

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

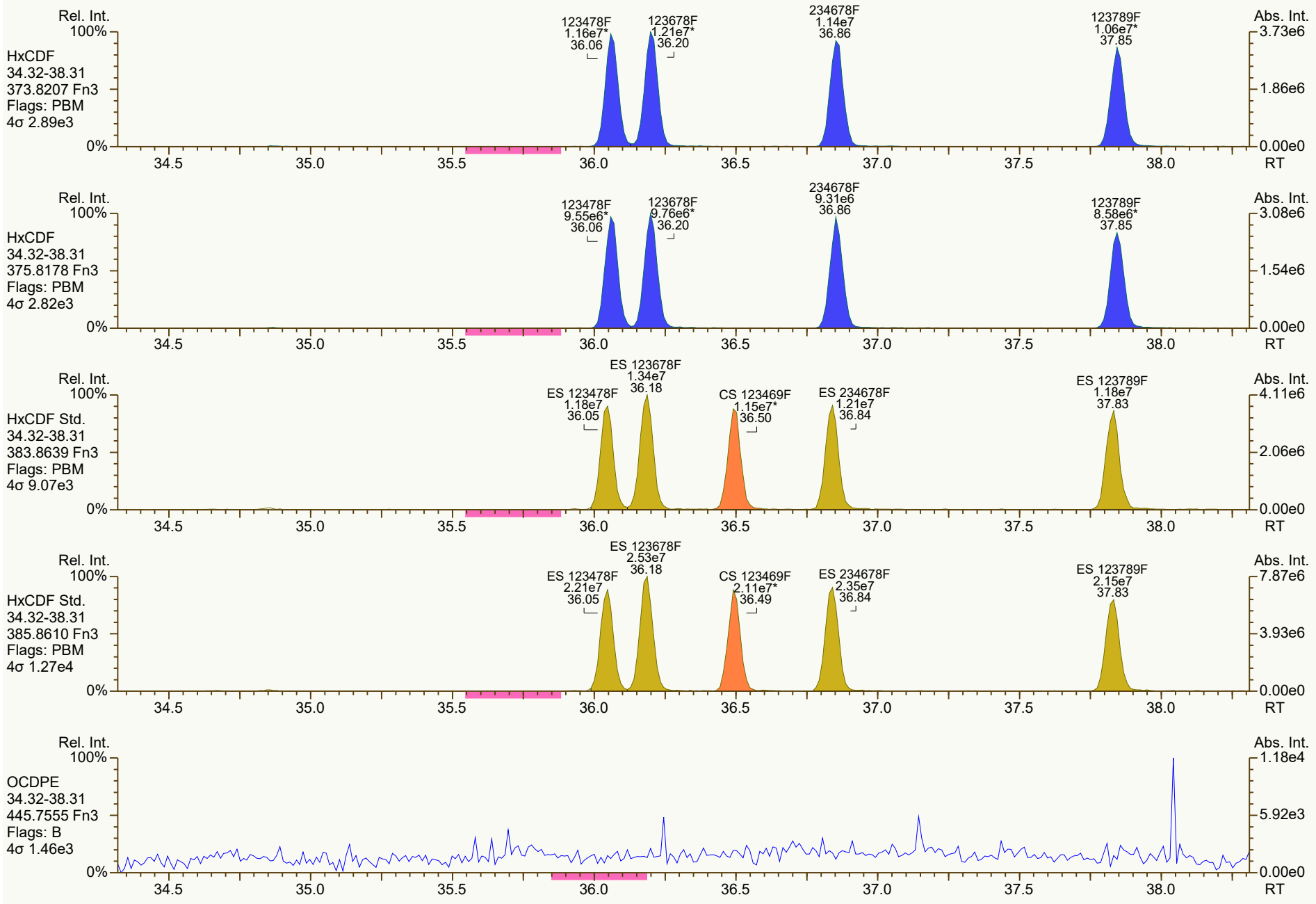

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT

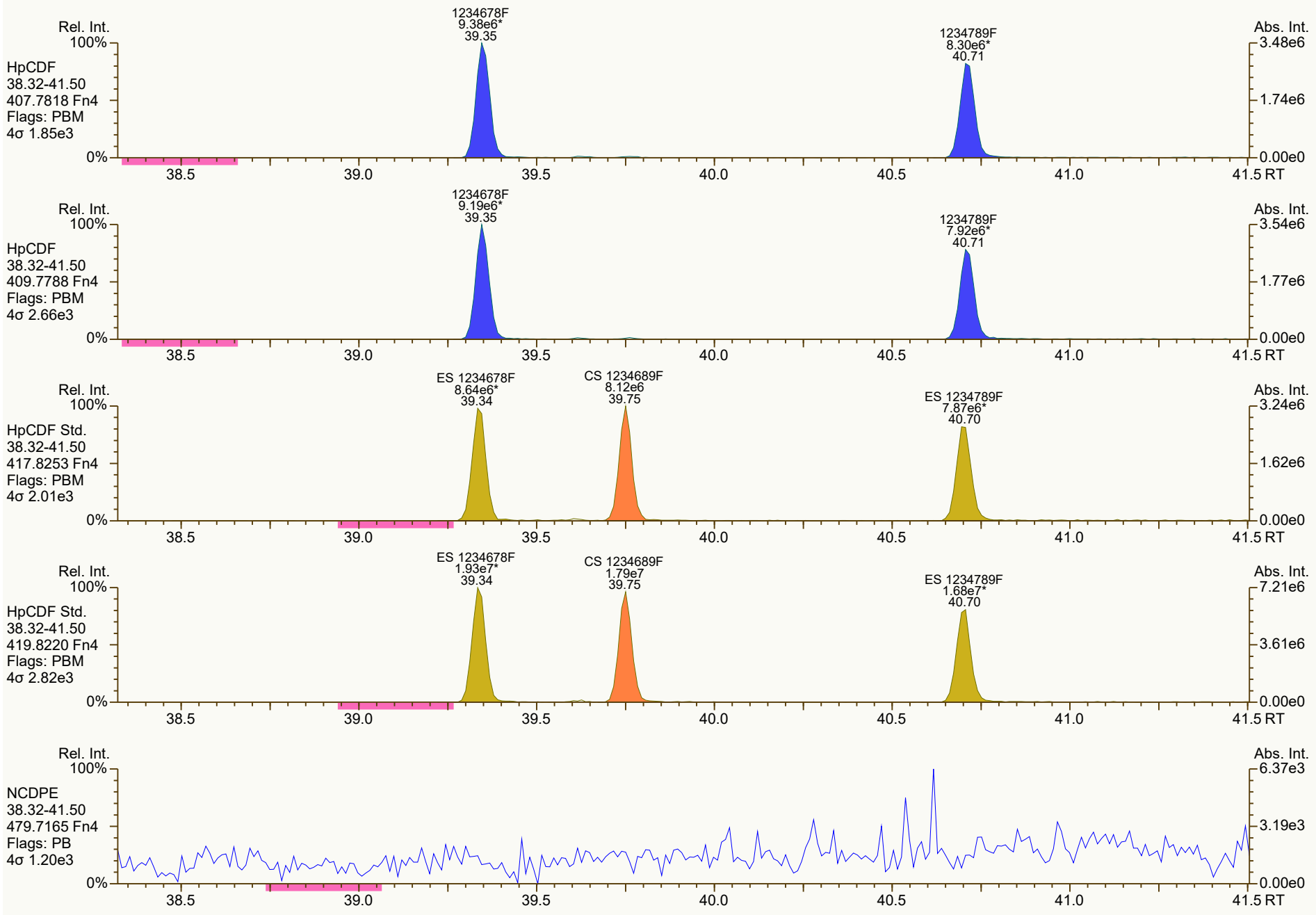

Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474 *Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12*


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

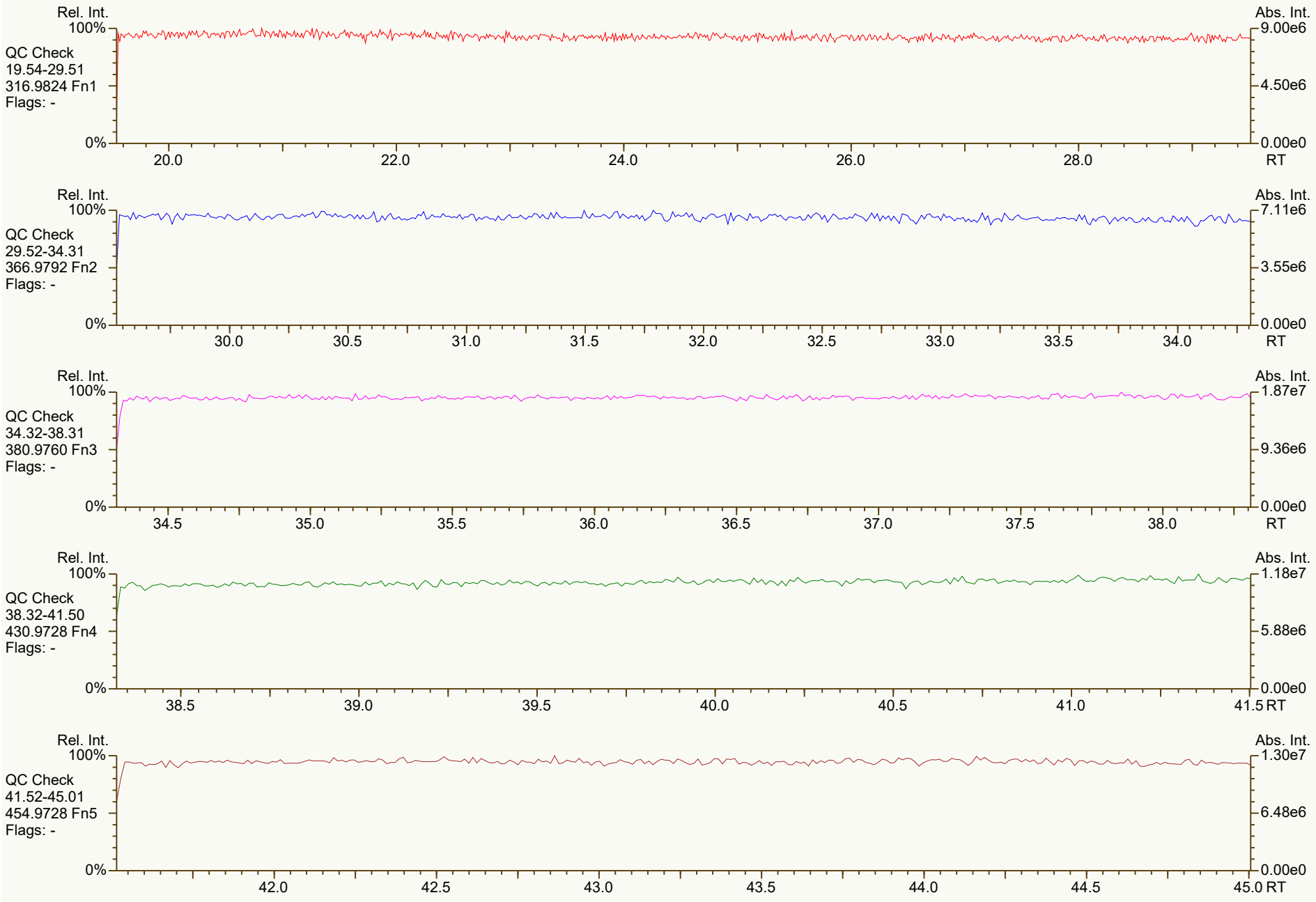

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

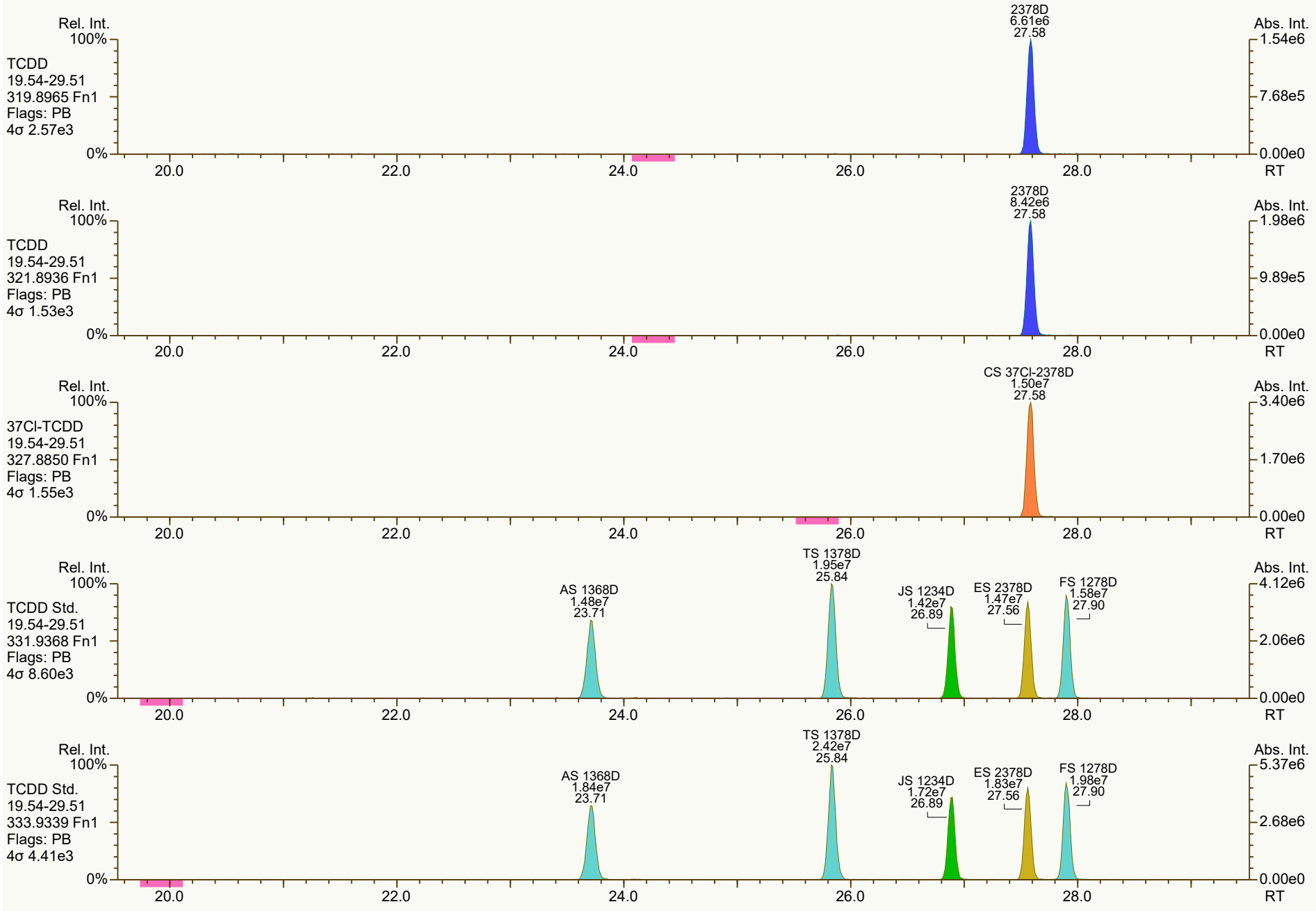
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

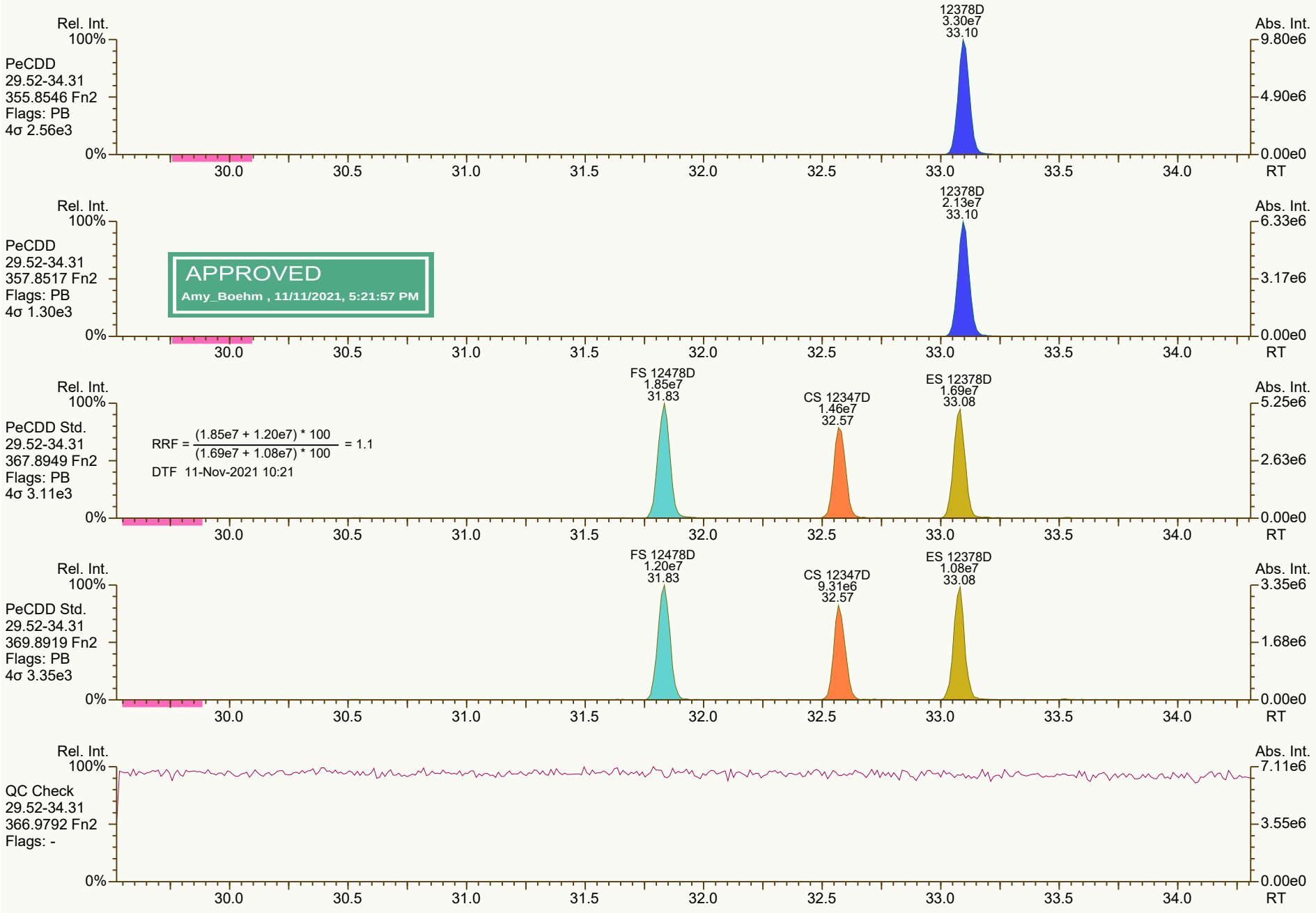
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

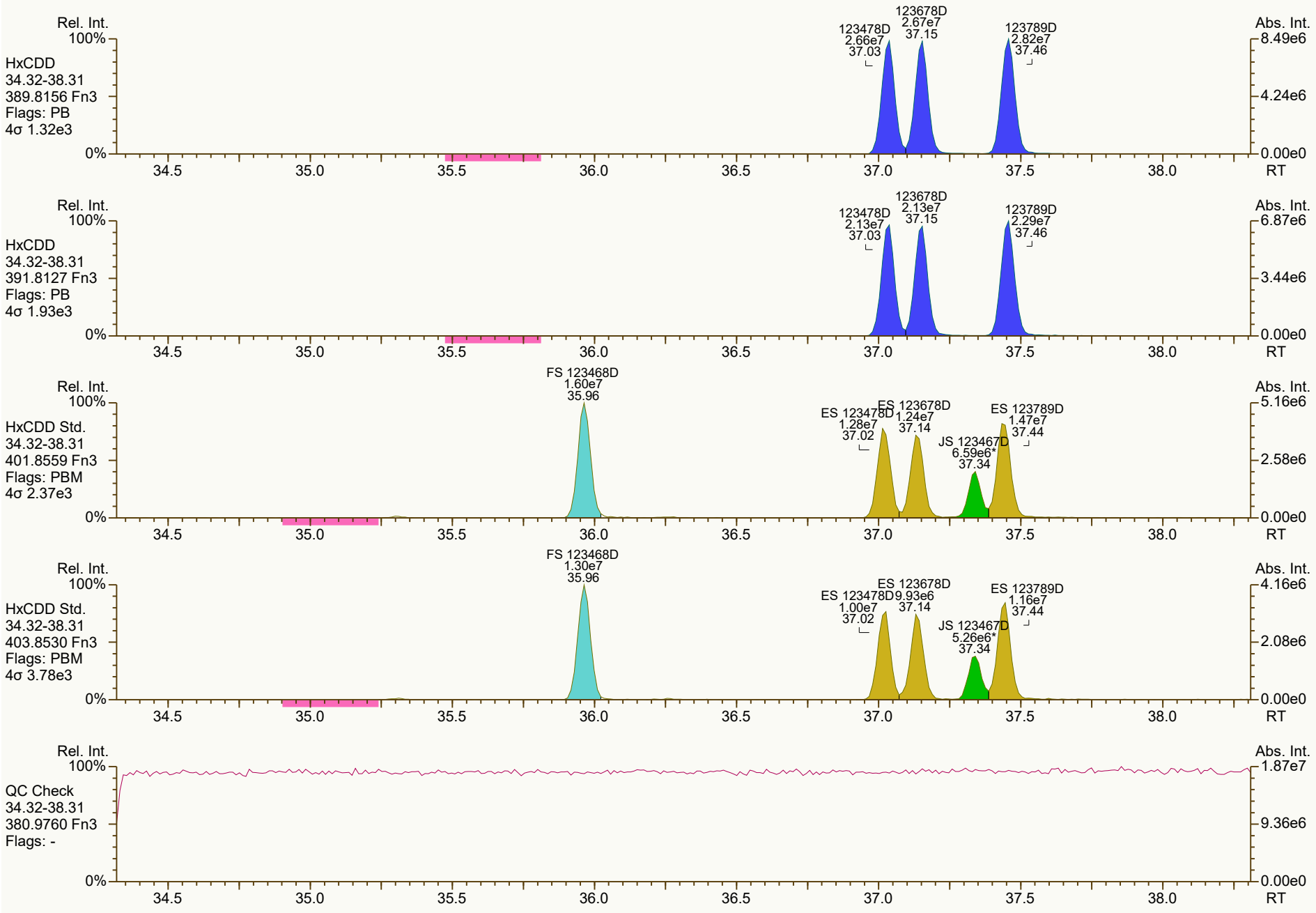
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

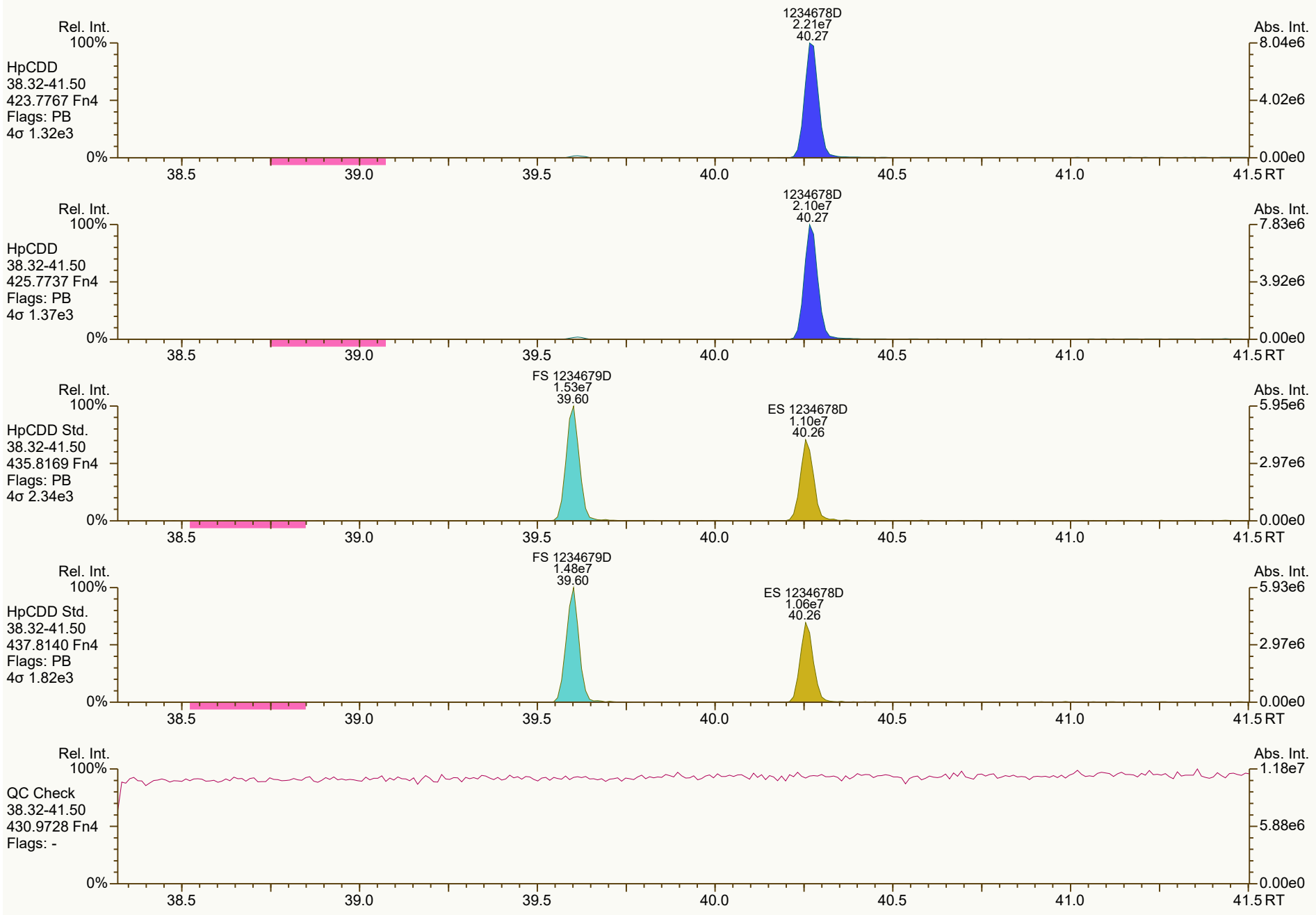
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

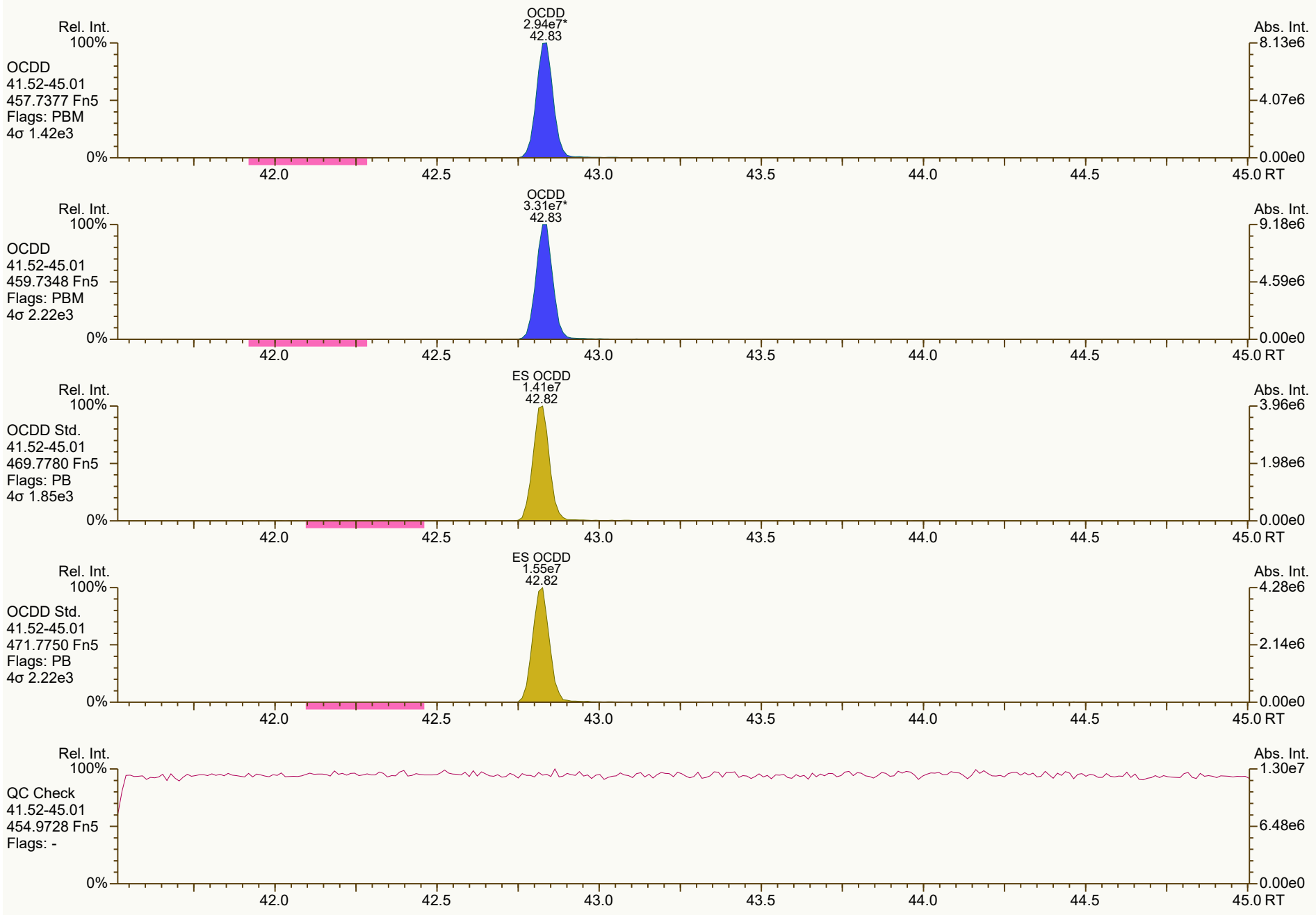

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
RT
20.0
22.0
24.0
26.0
28.0
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
2378D
6.61e6
27.58
1.54e6
7.68e5
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
2378D
8.42e6
27.58
1.98e6
9.89e5
0.00e0
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
CS 37Cl-2378D
1.50e7
27.58
3.40e6
1.70e6
0.00e0
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
4.12e6
2.06e6
0.00e0
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
5.37e6
2.68e6
0.00e0


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

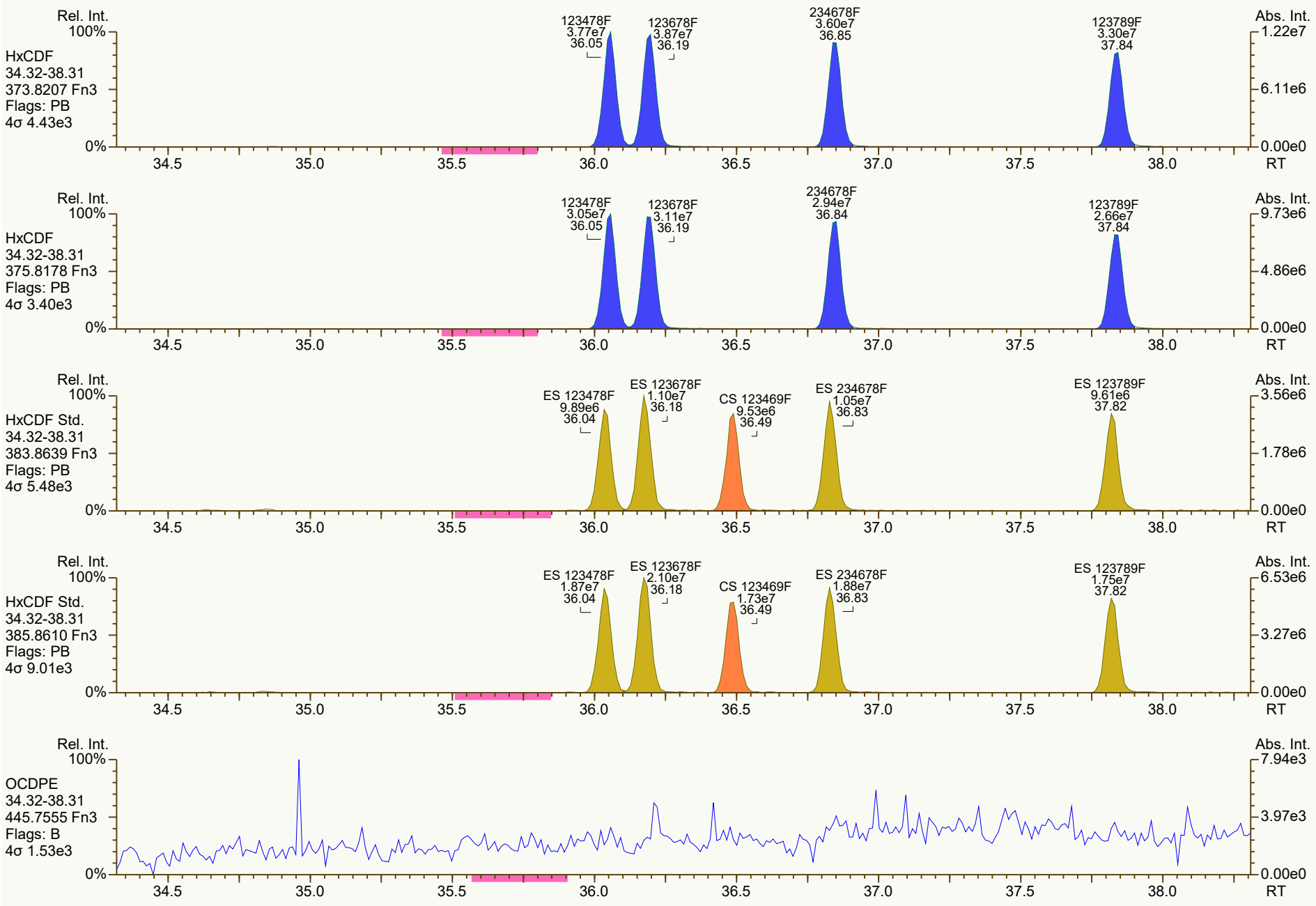

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

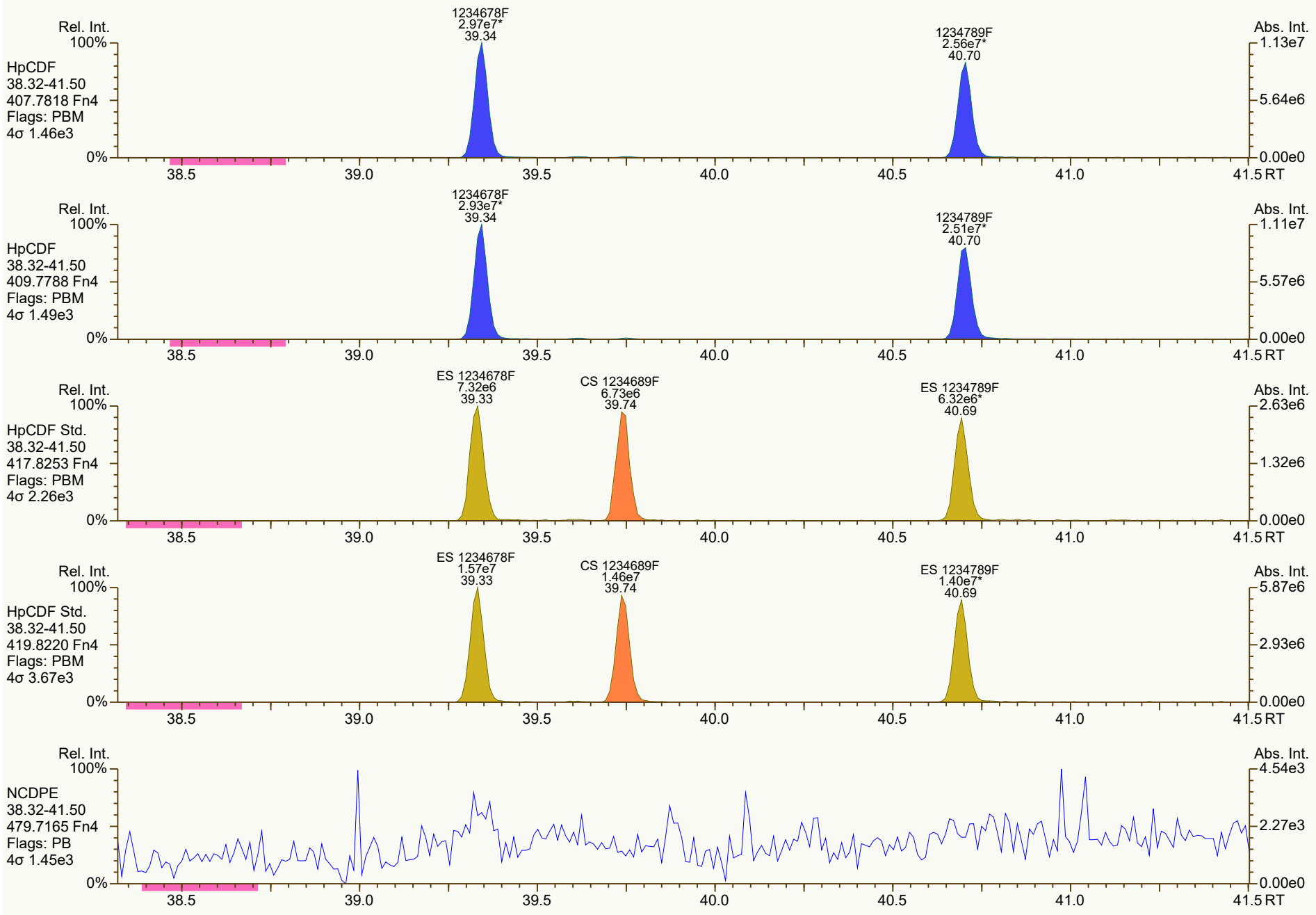

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

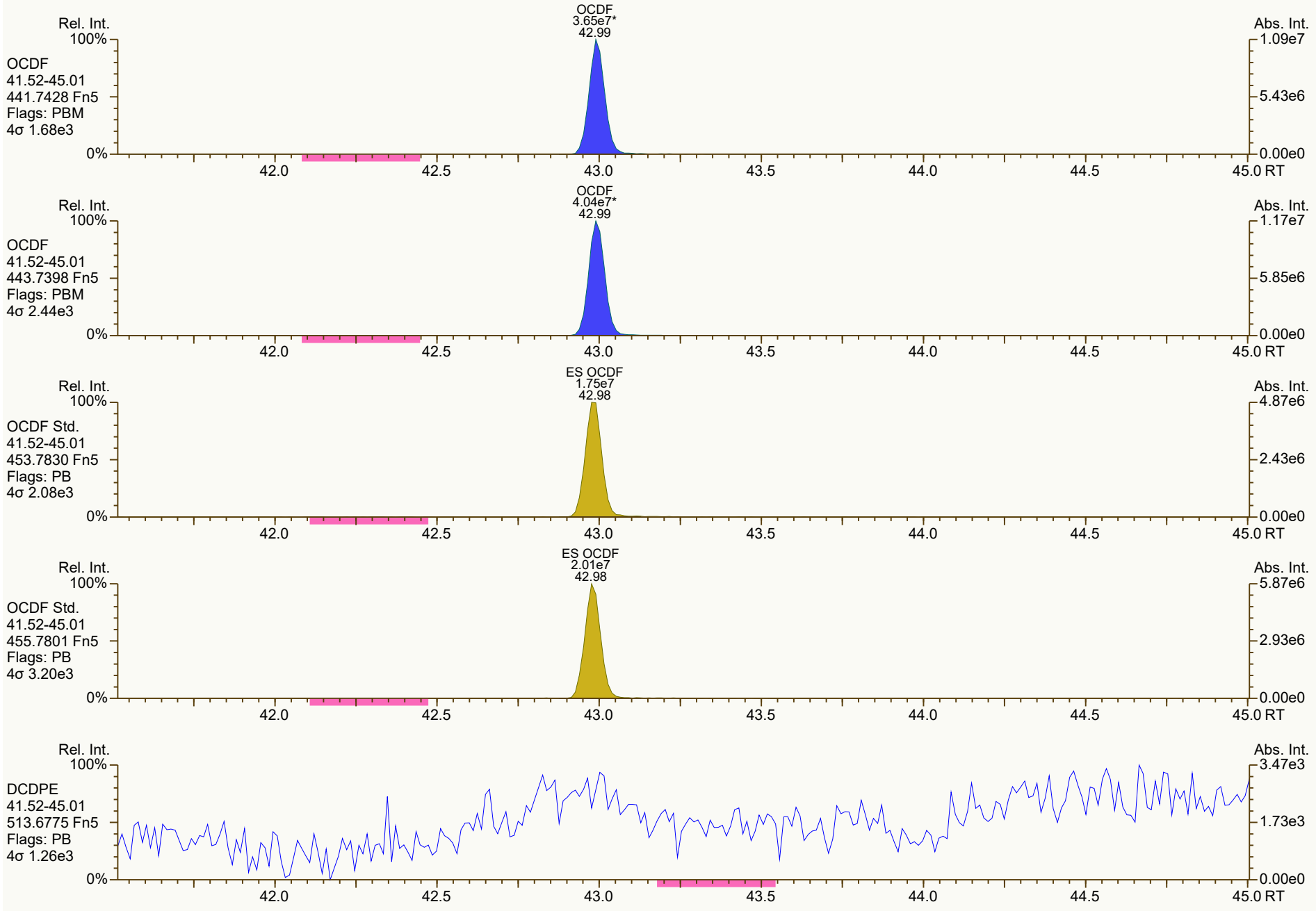

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

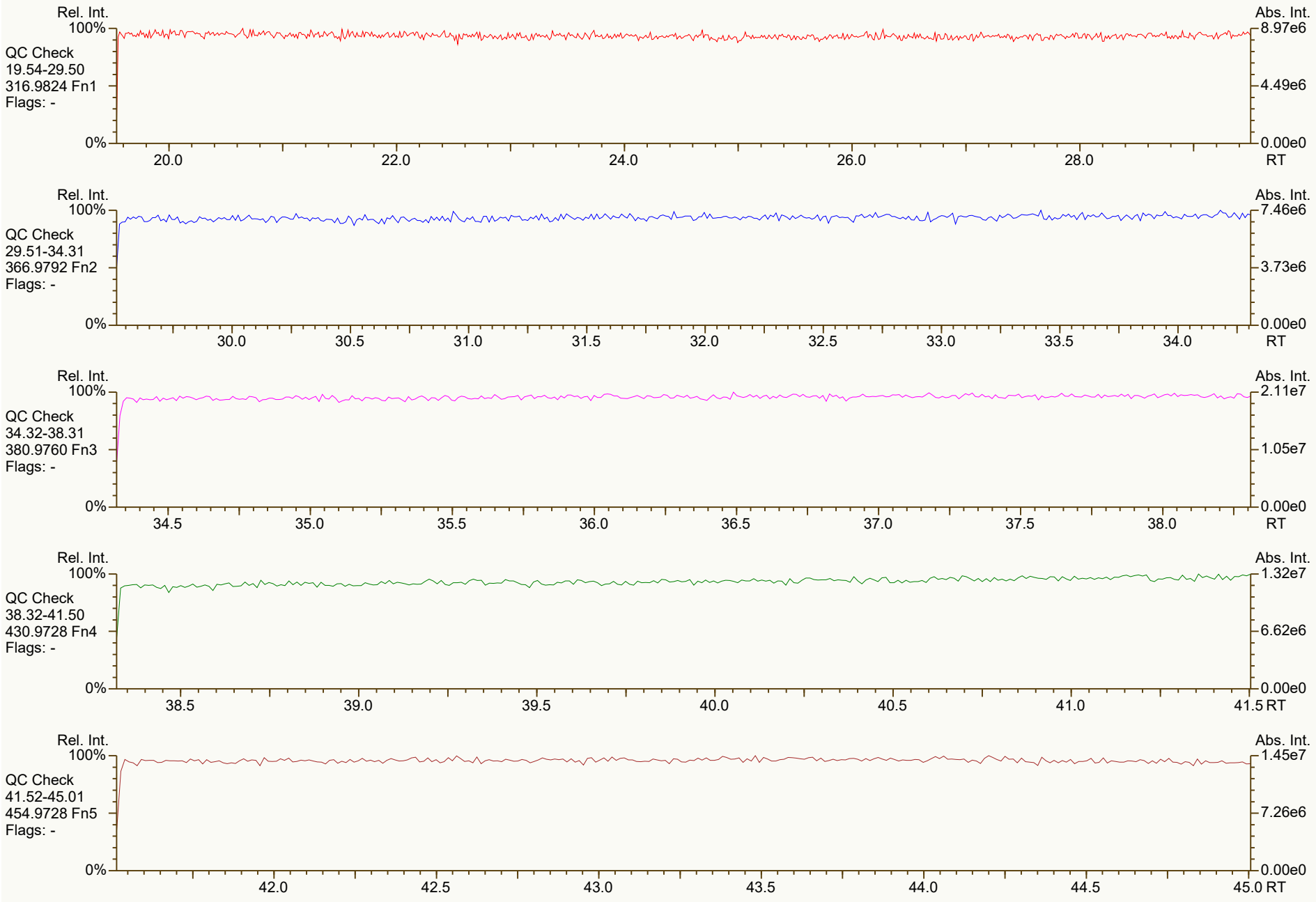

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

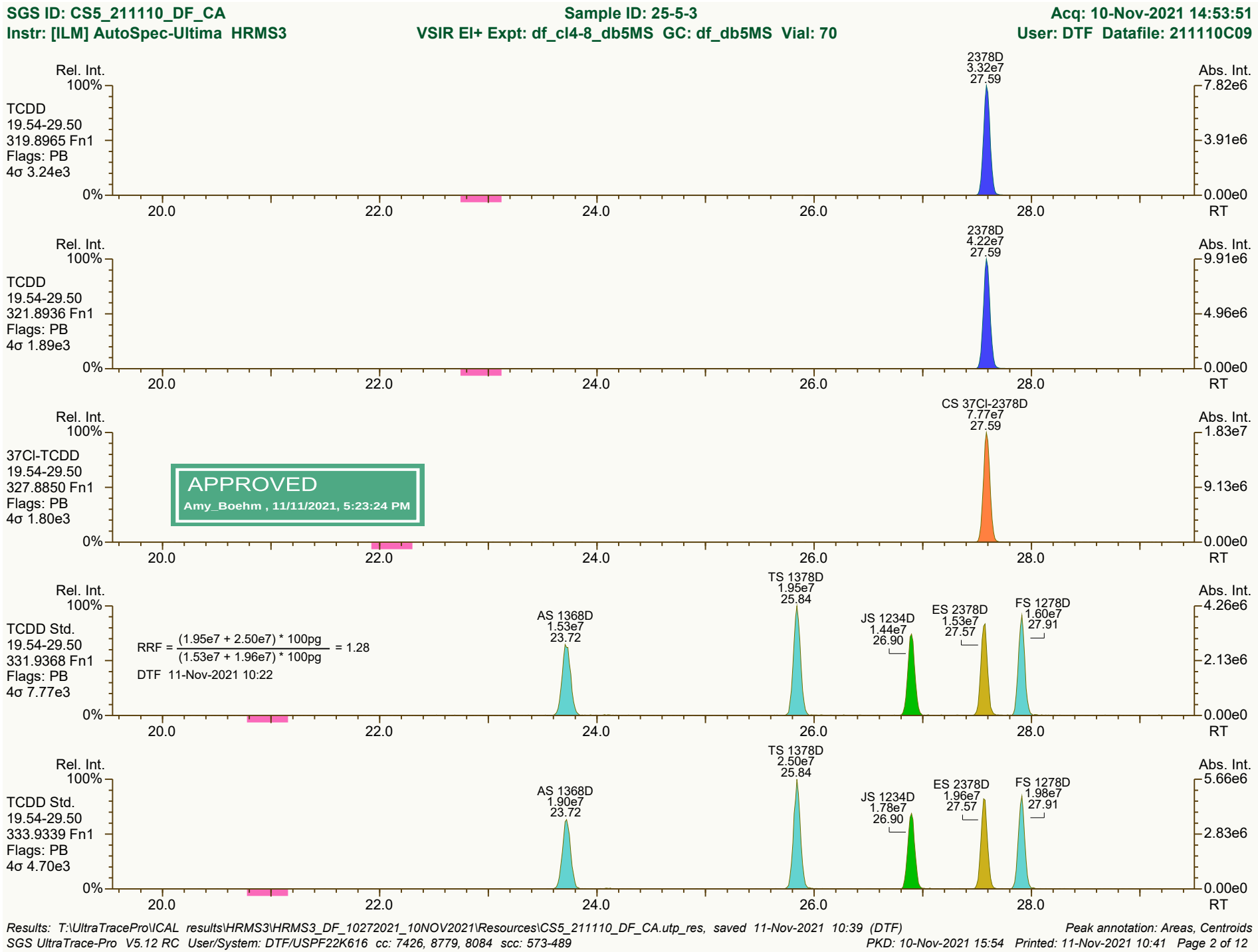

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

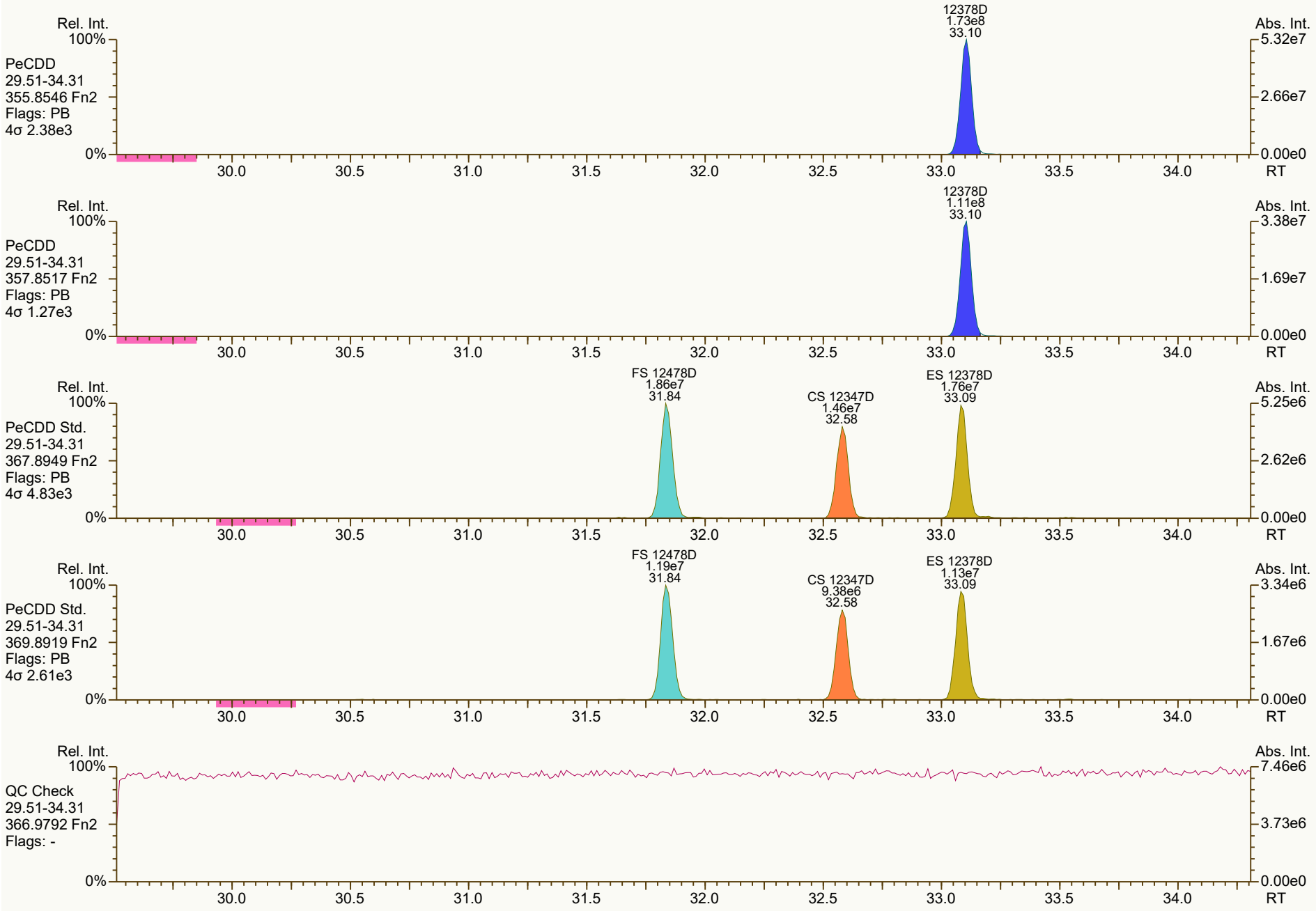
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

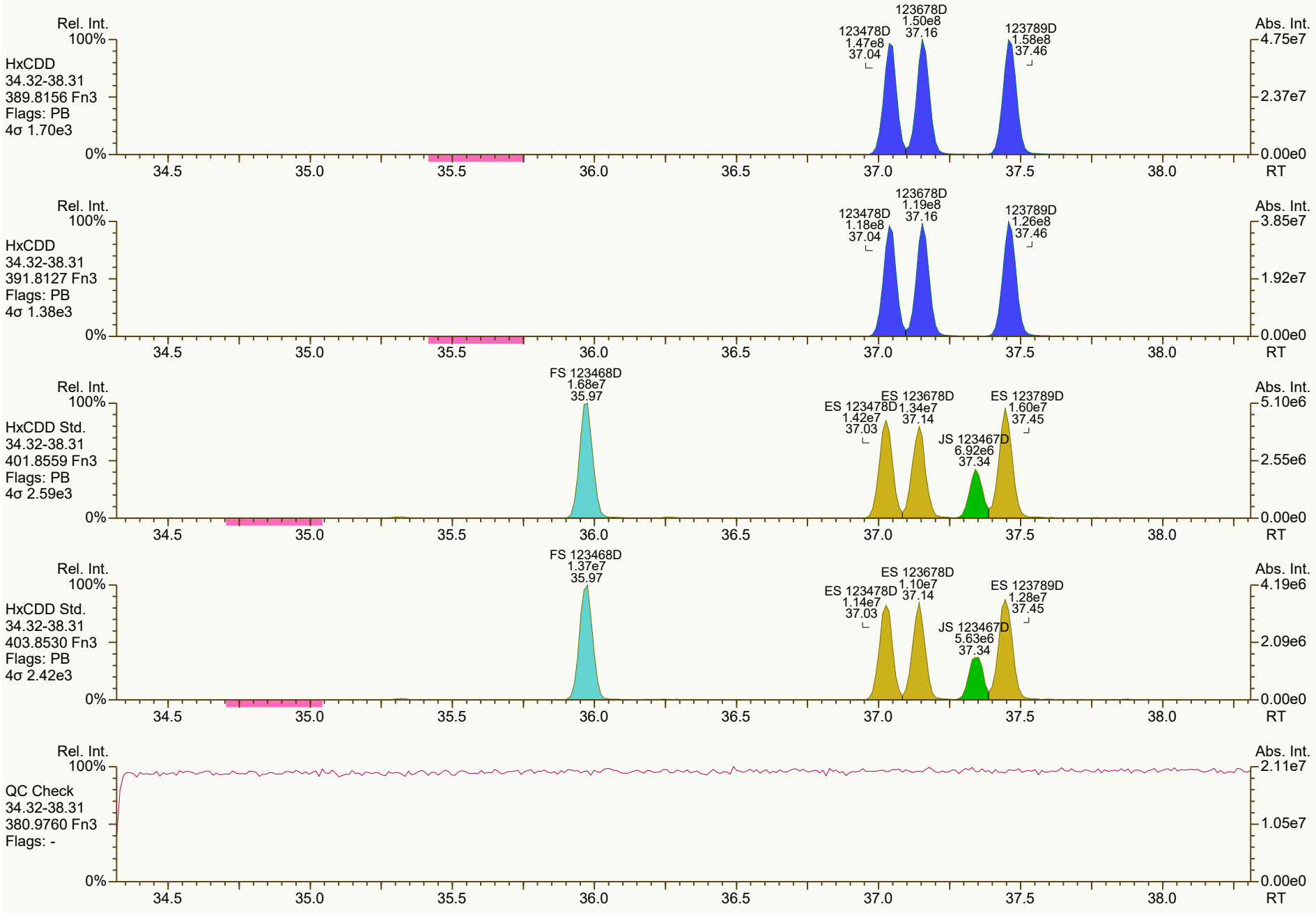
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

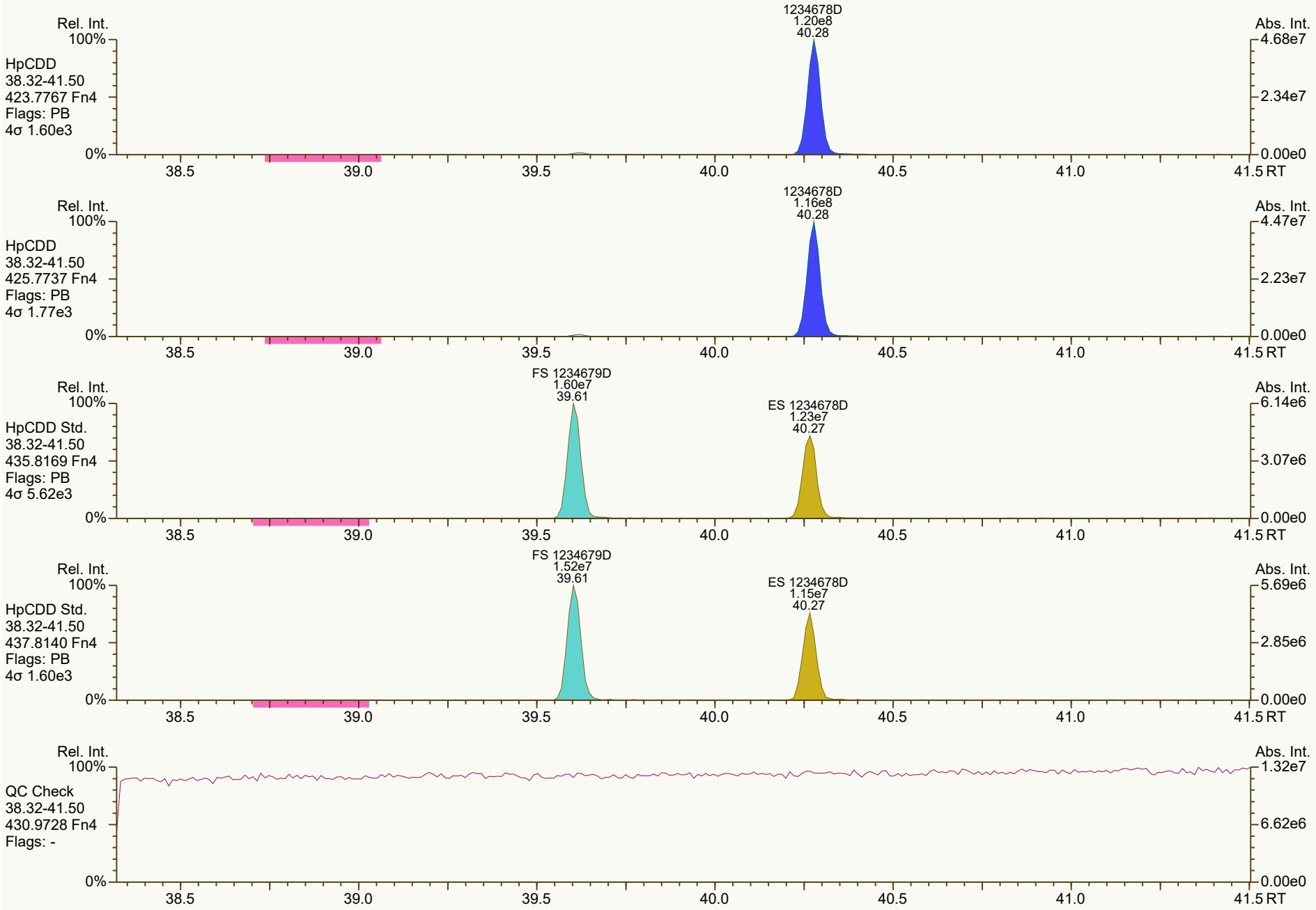
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

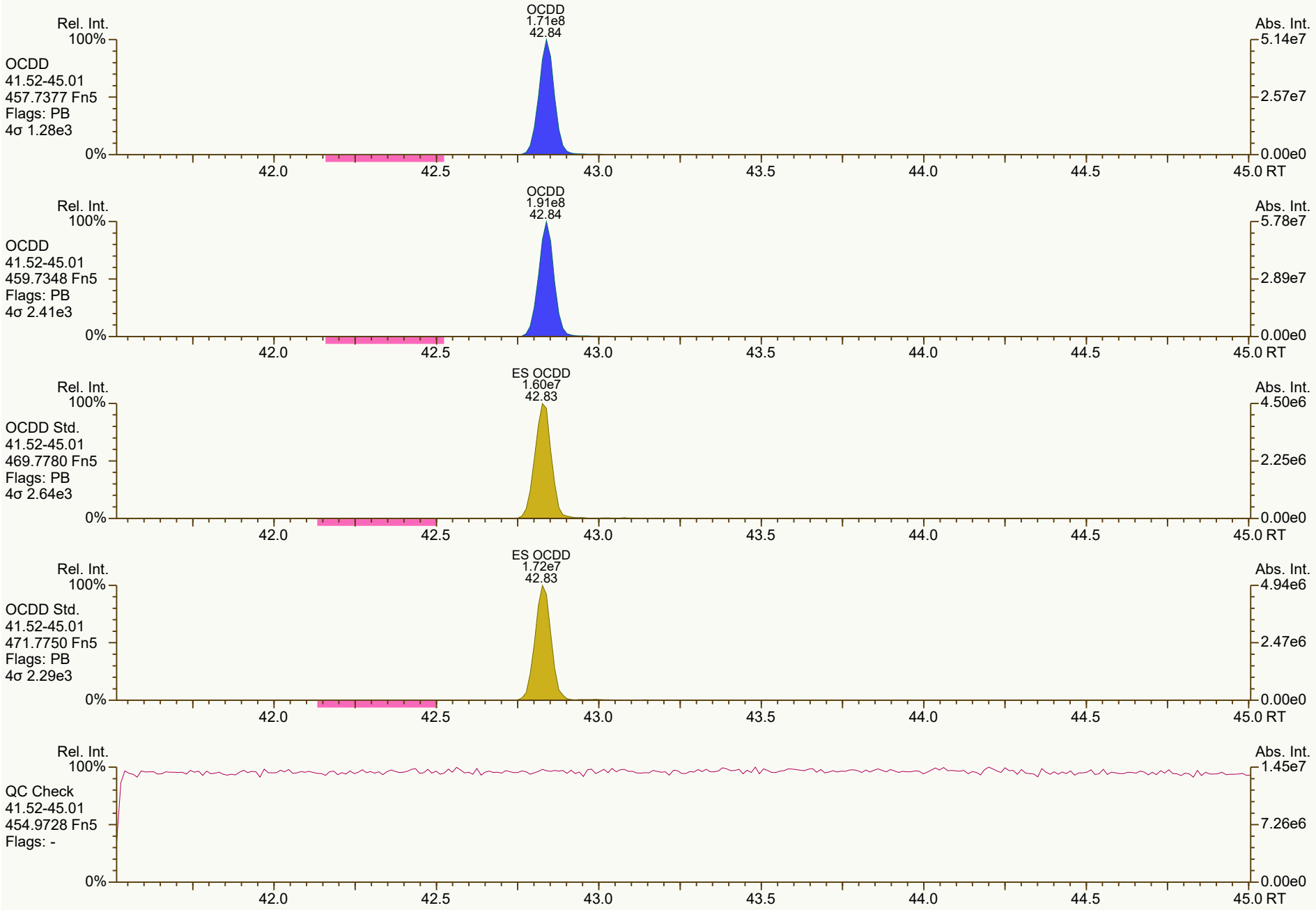

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
2378D
3.32e7
27.59
7.82e6
3.91e6
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7426, 8779, 8084 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

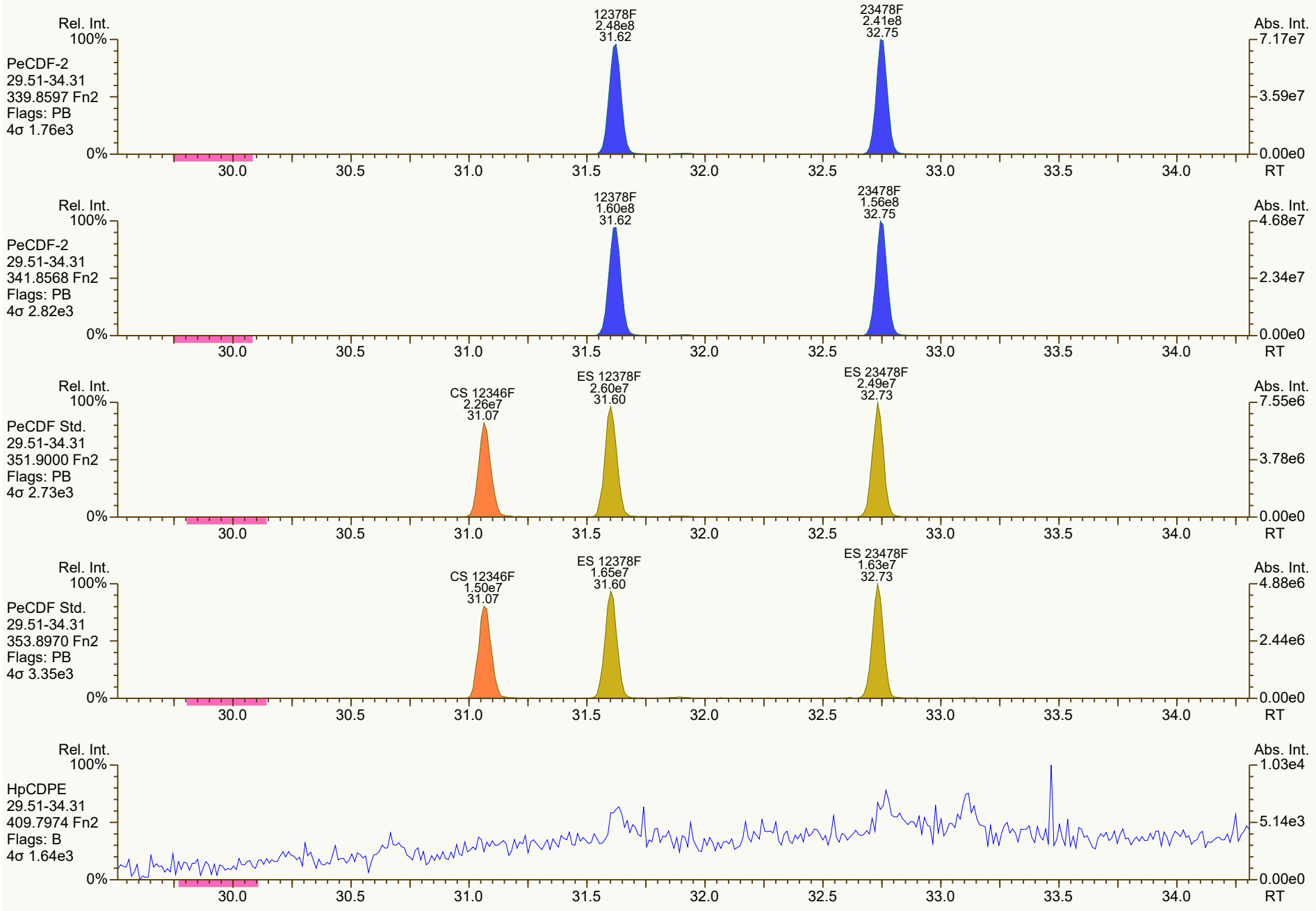

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
0%
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
0%
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
0%
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
0%
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

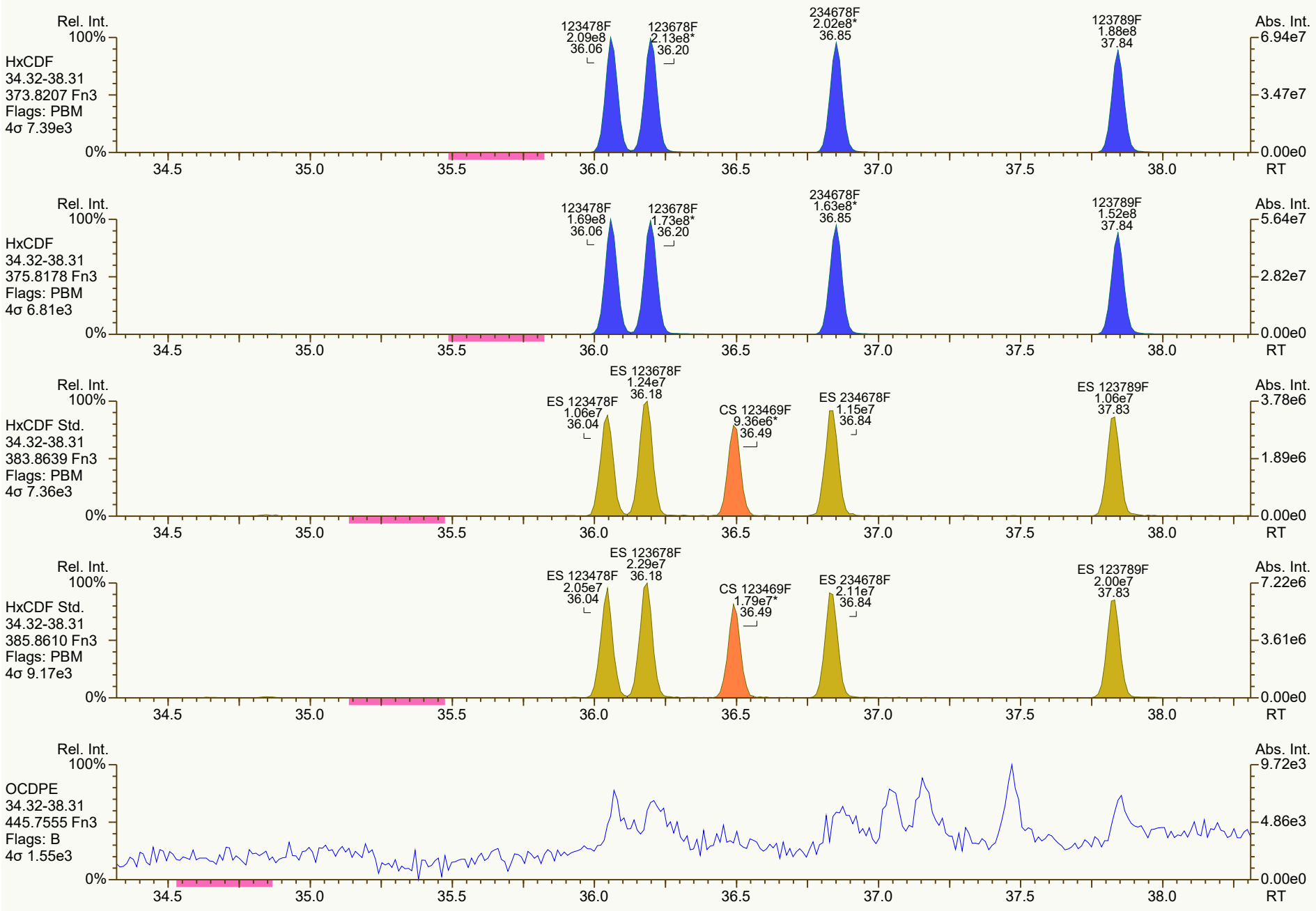

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

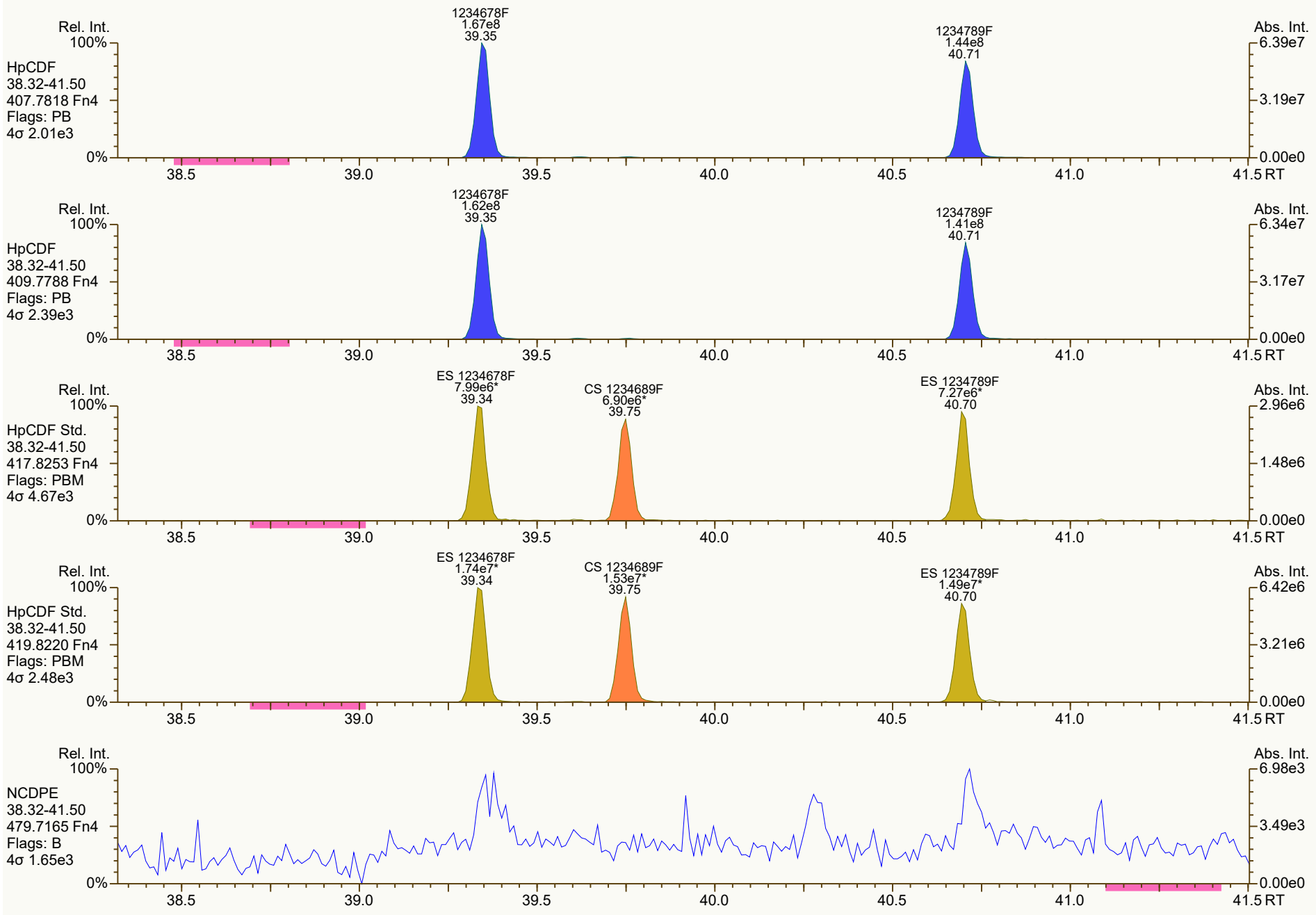

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
OCDD
1.71e8
42.84
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
OCDD
1.91e8
42.84
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
ES OCDD
1.60e7
42.83
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.72e7
42.83
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

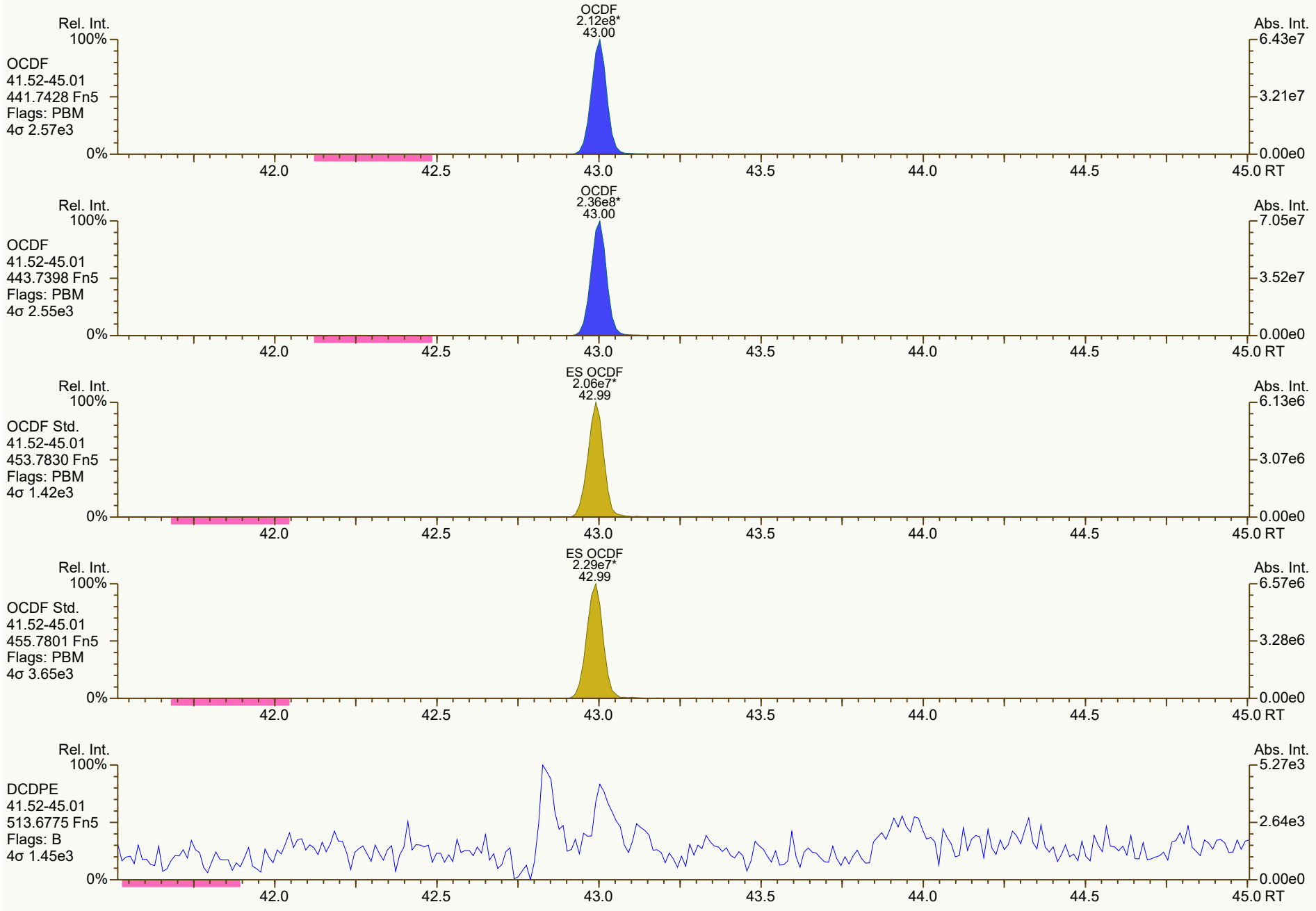

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

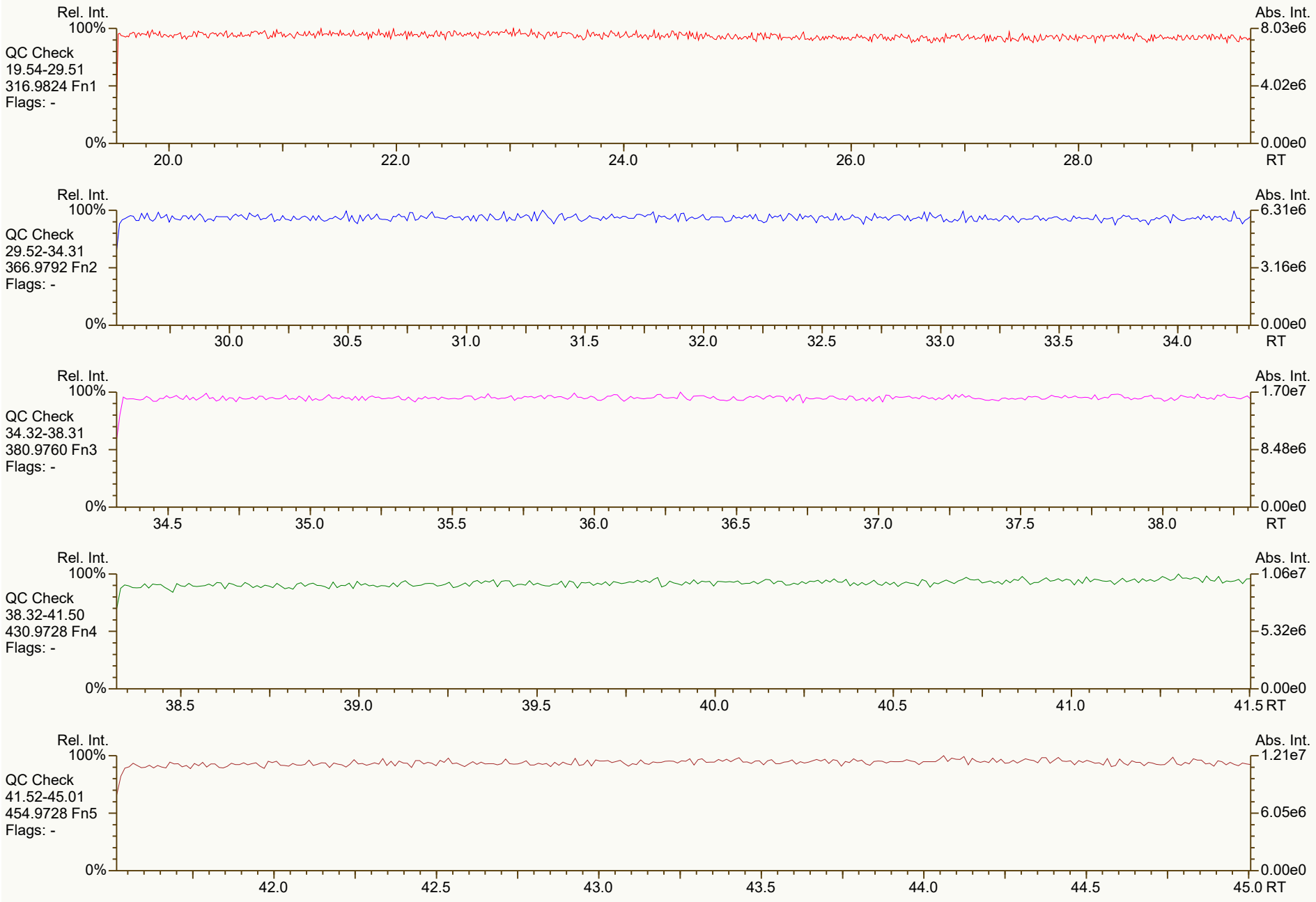

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
0%
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
Abs. Int.
6.39e7
3.19e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
0%
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
Abs. Int.
6.34e7
3.17e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
0%
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
Abs. Int.
2.96e6
1.48e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
0%
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

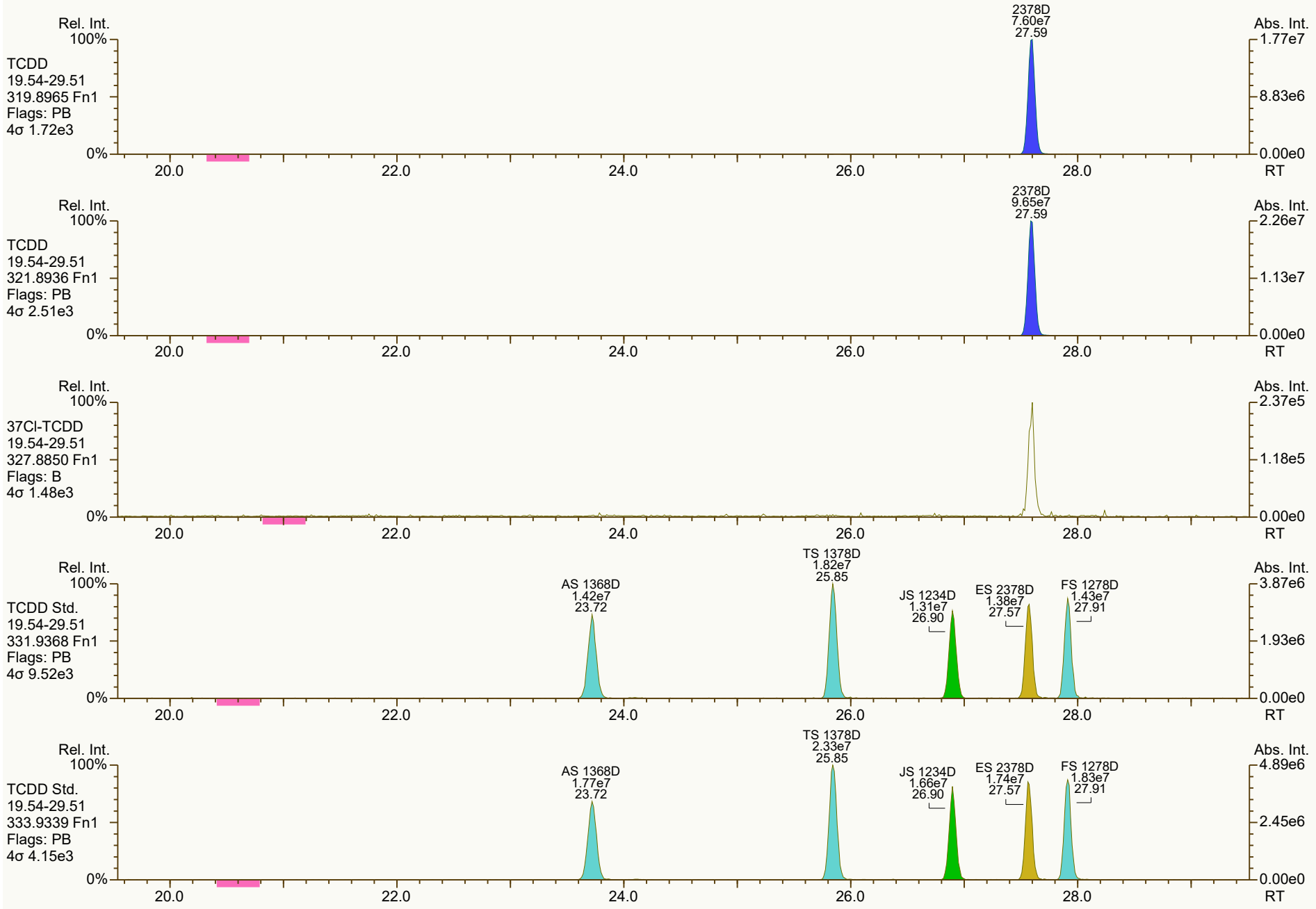

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

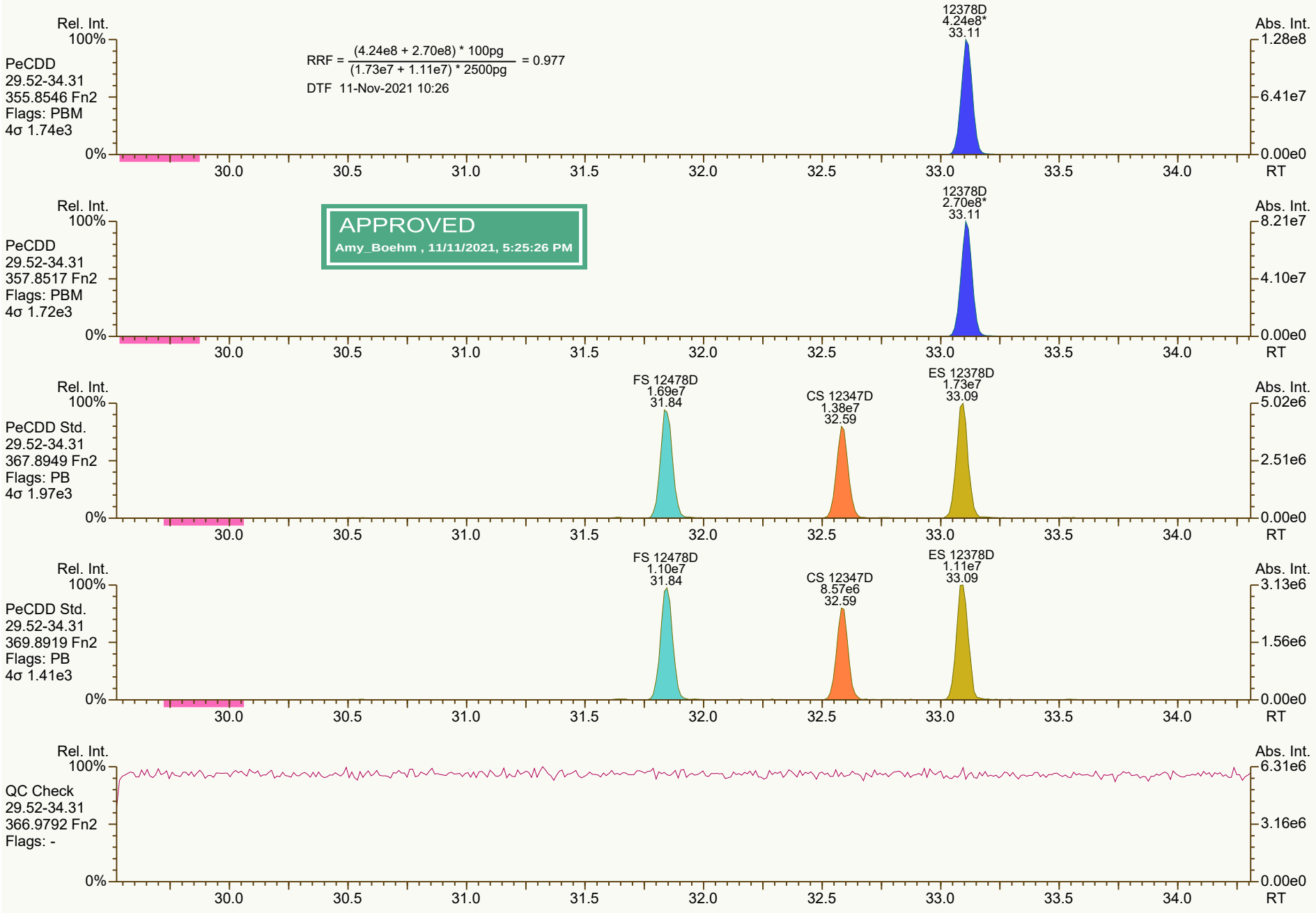
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

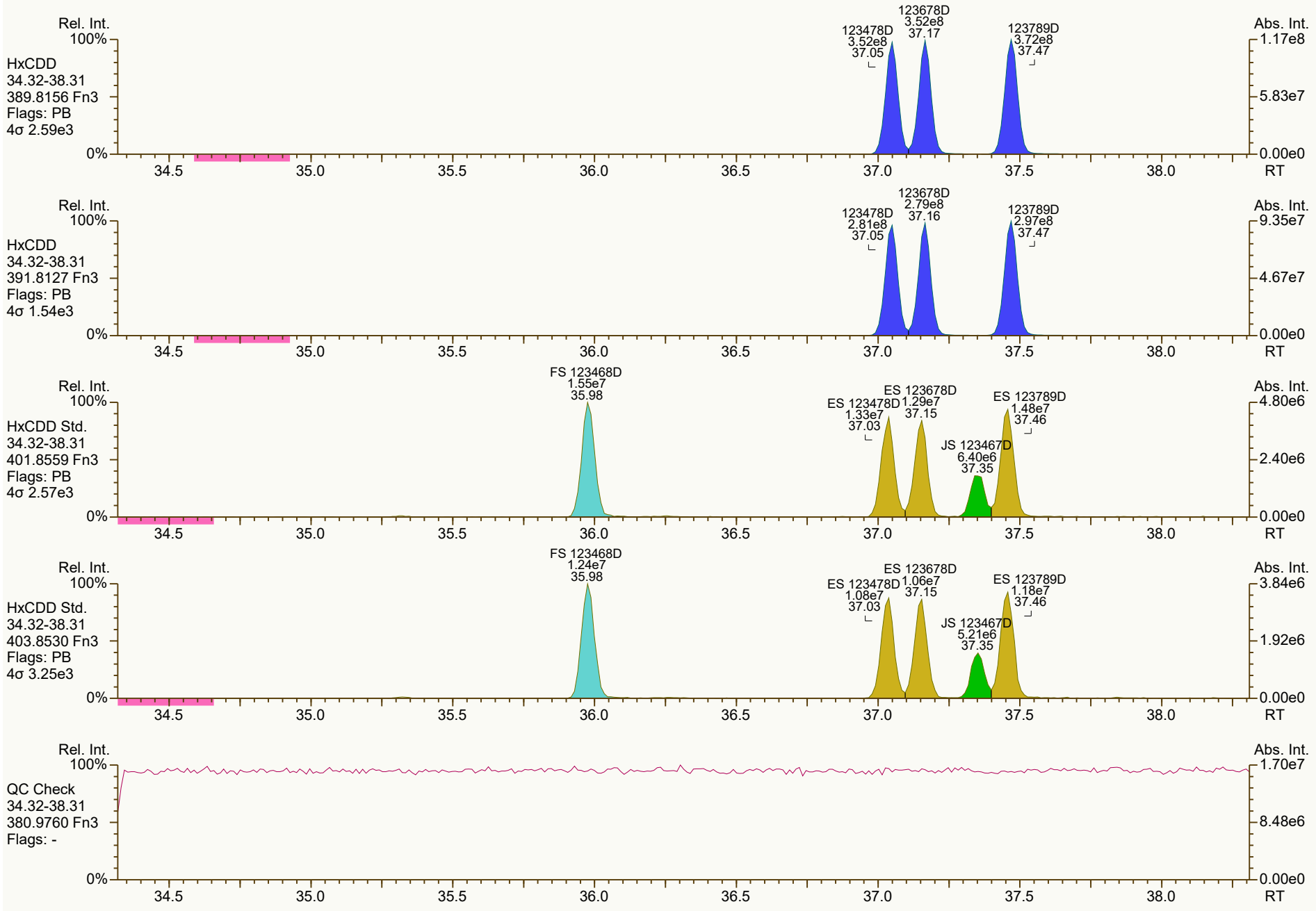
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

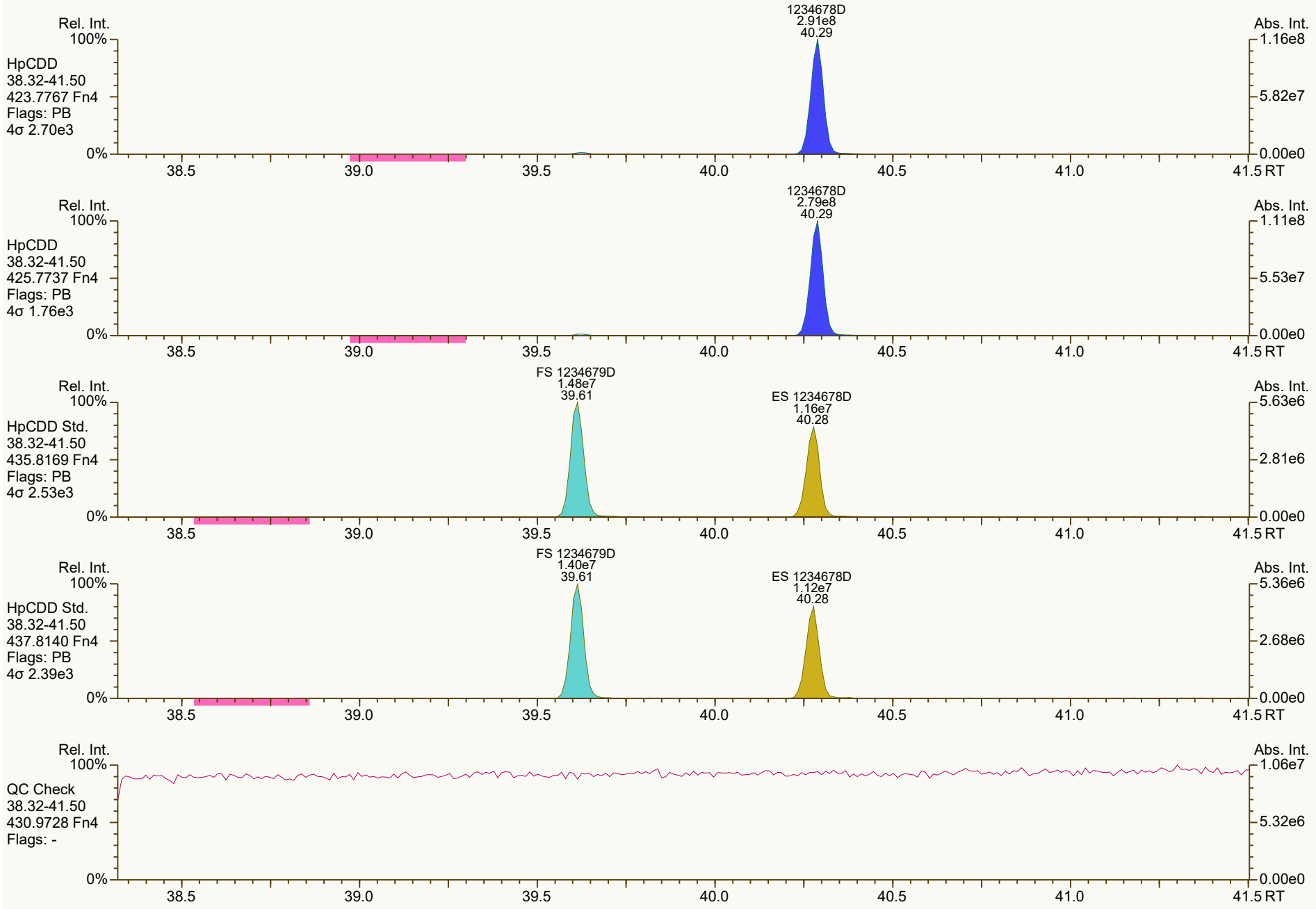
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

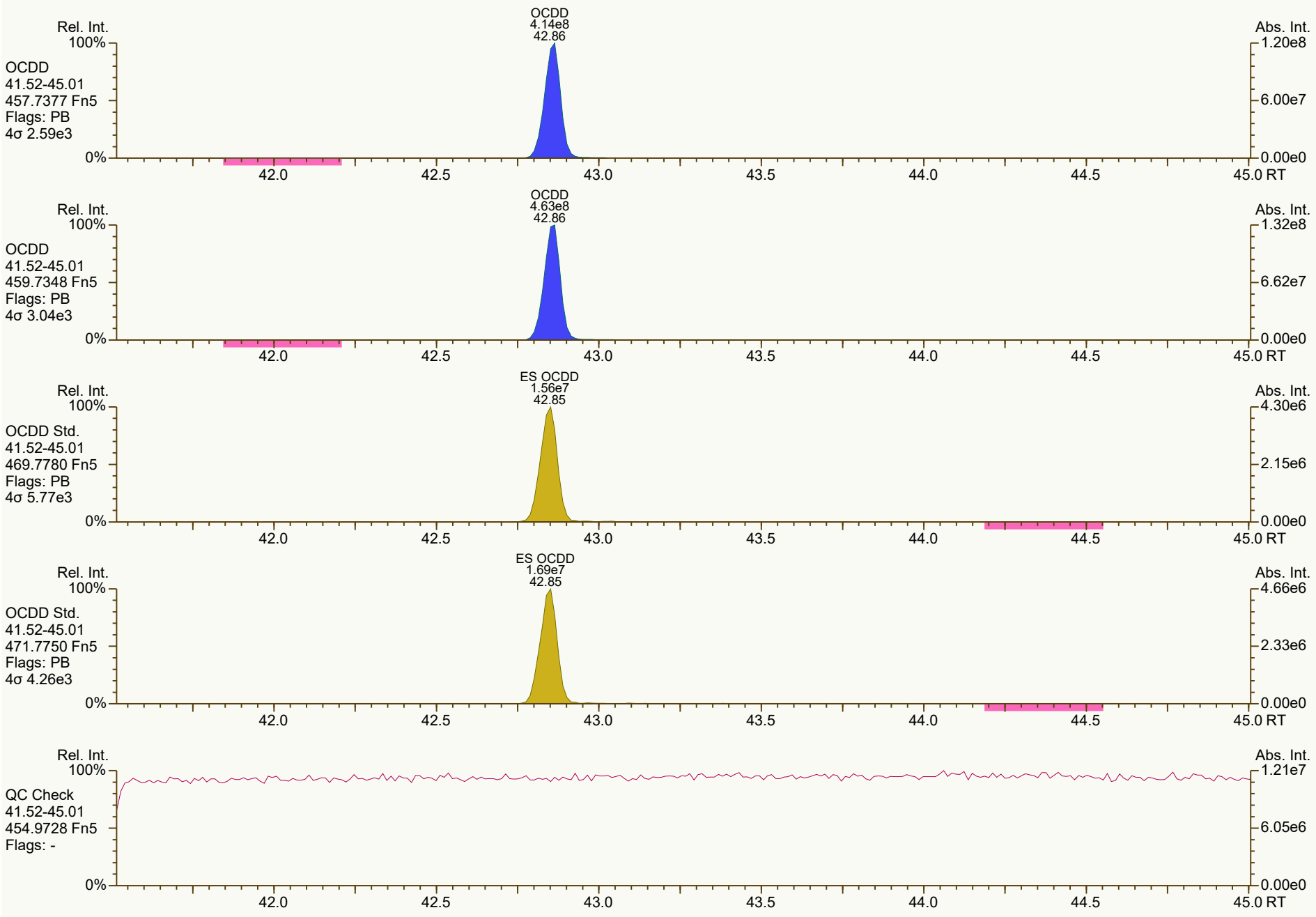

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0

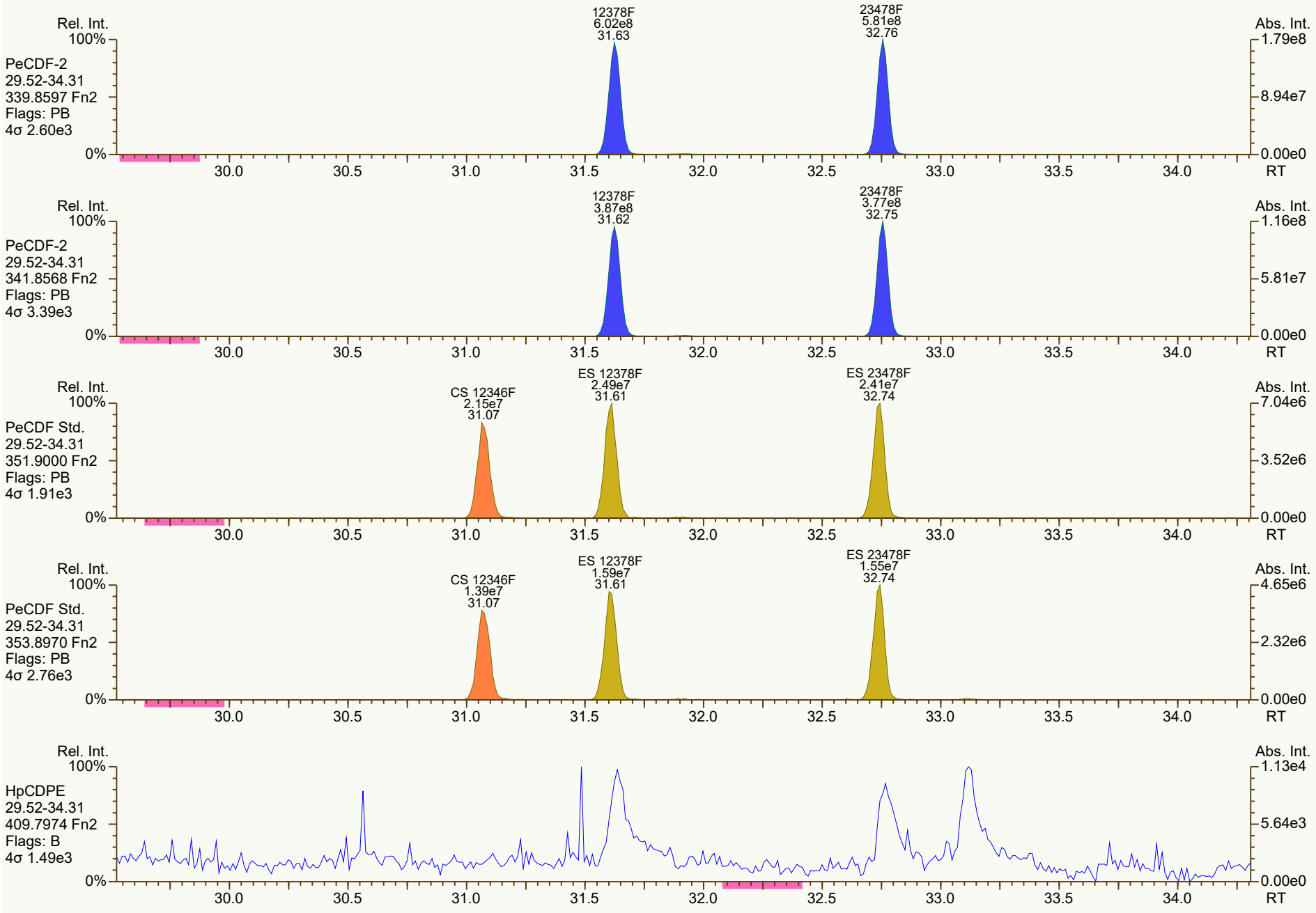

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

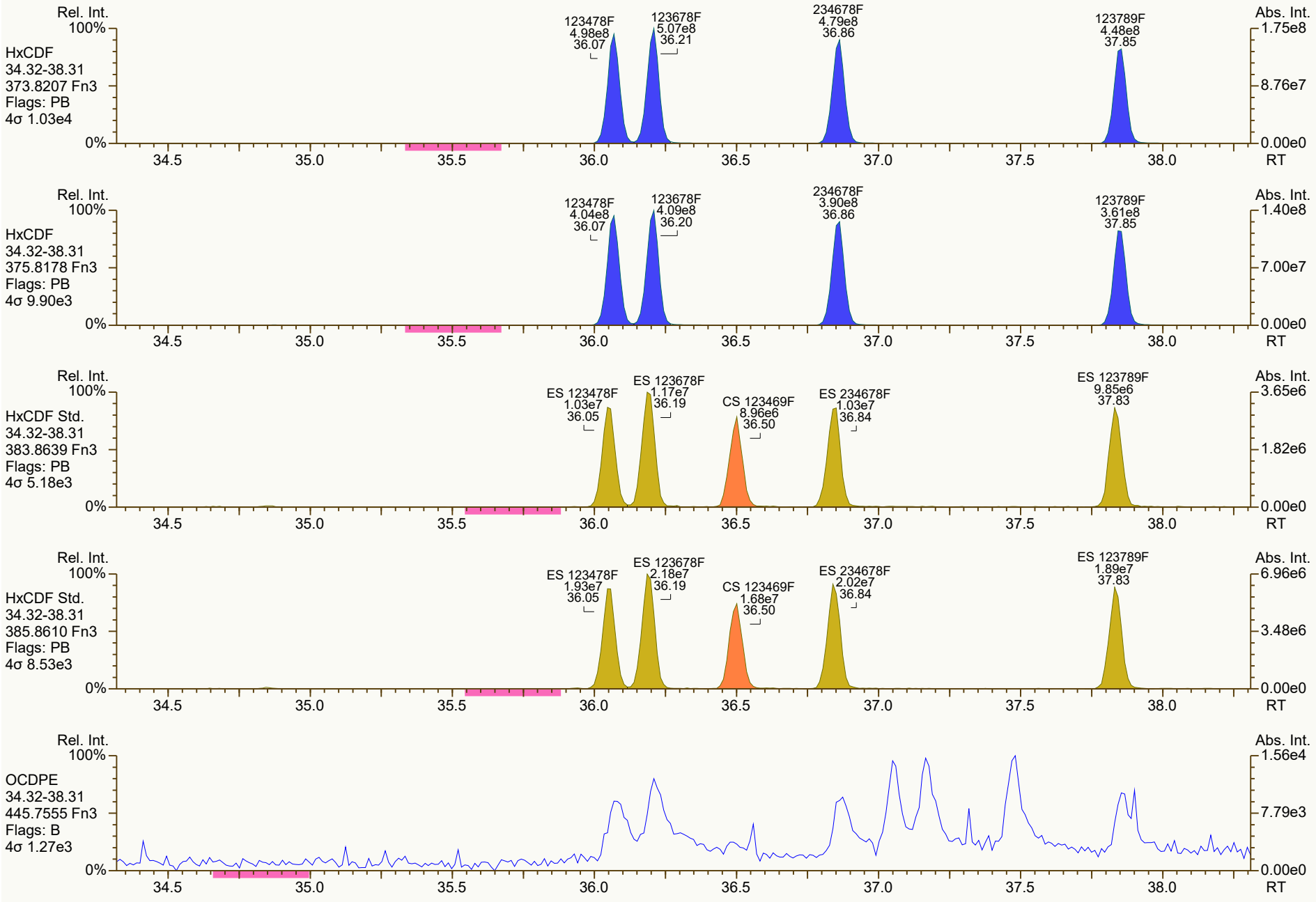

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

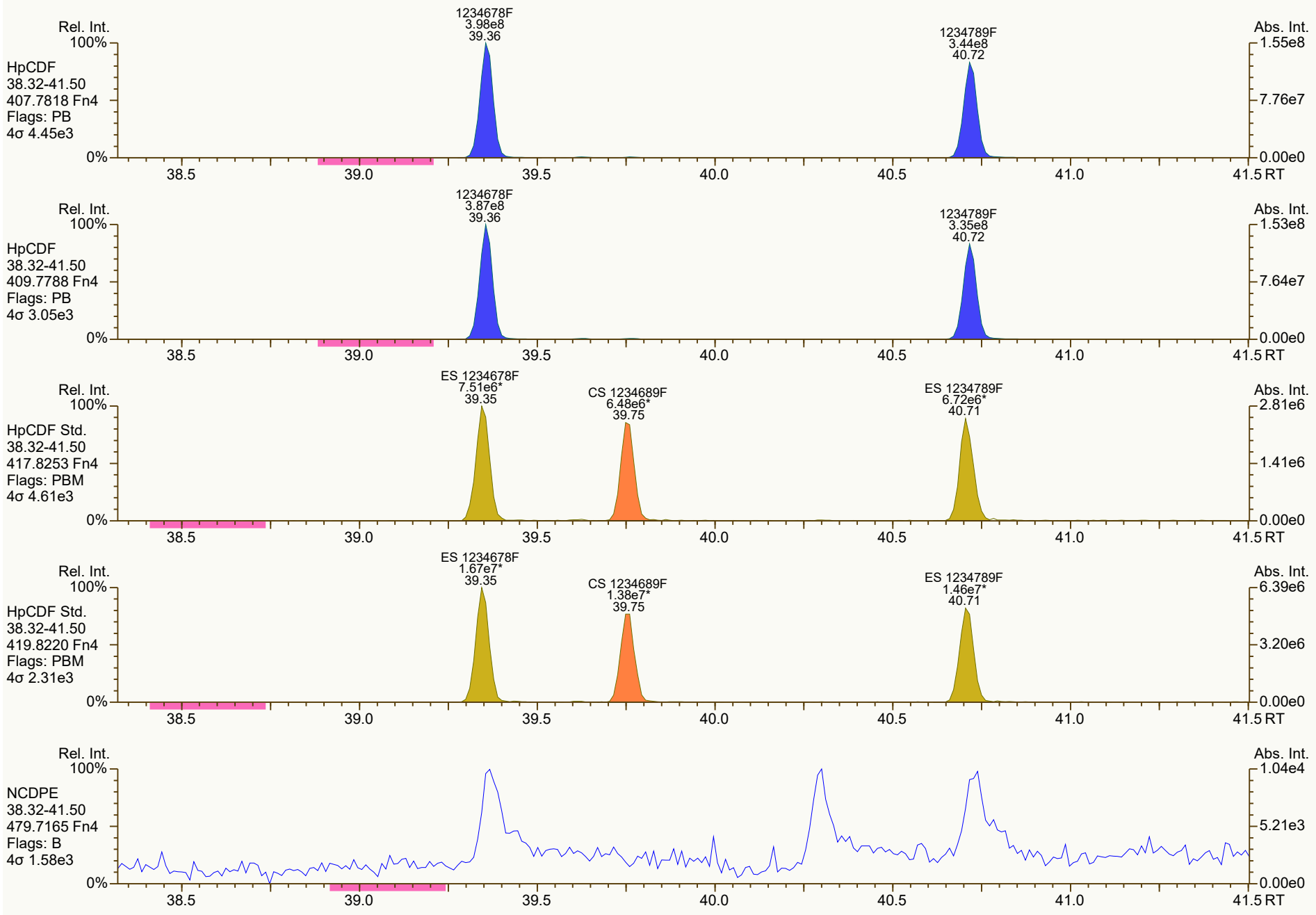

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

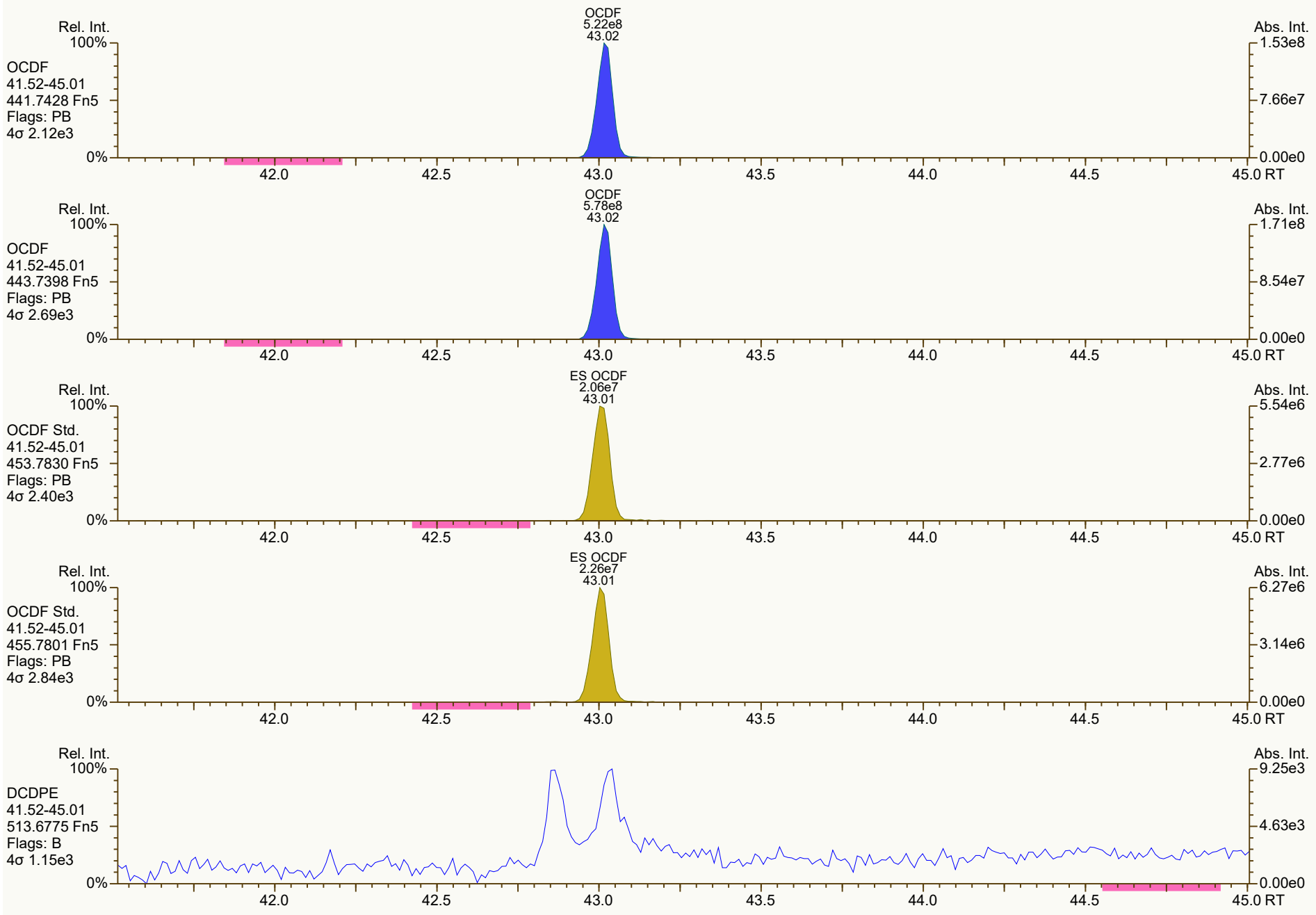

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

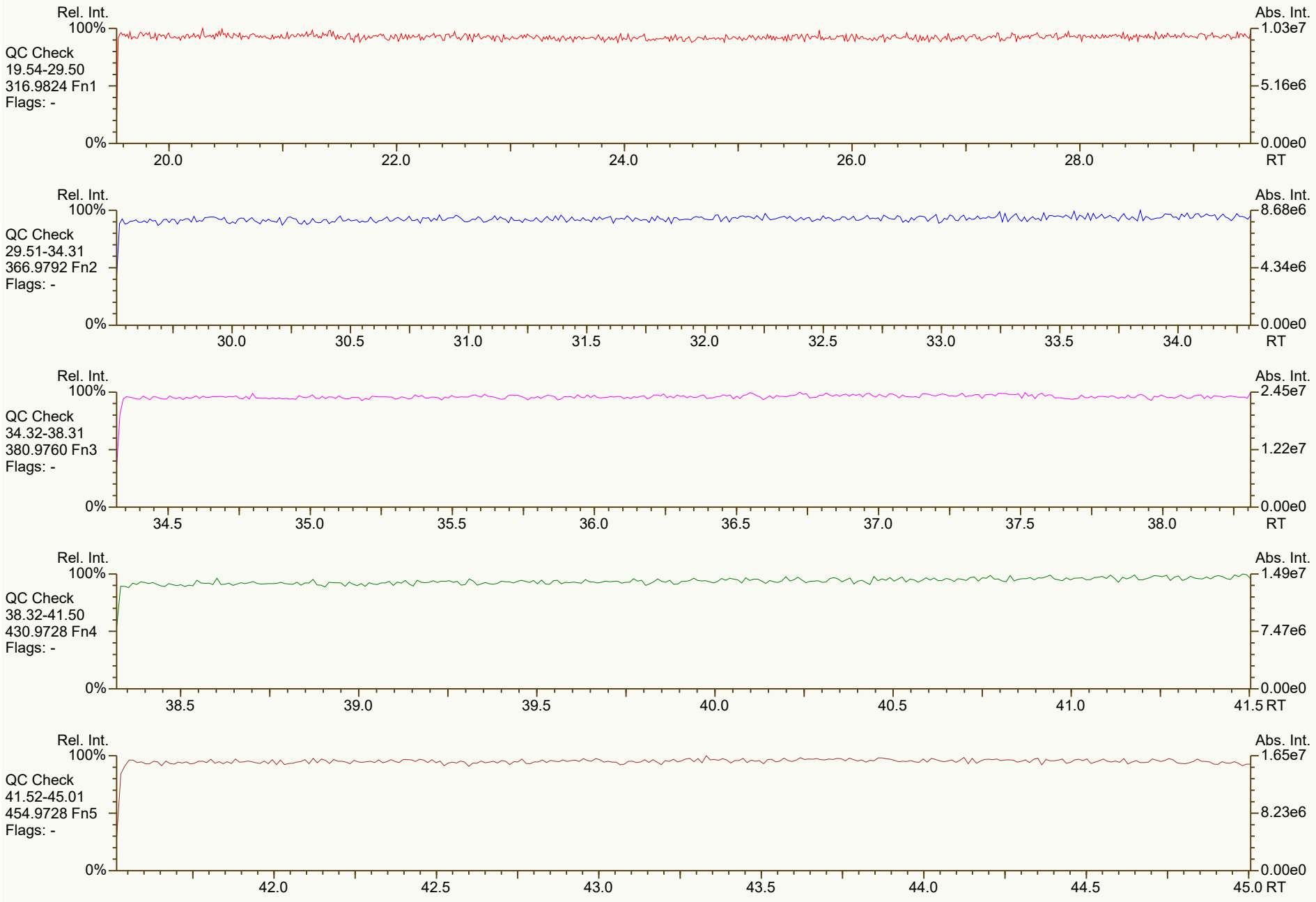

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

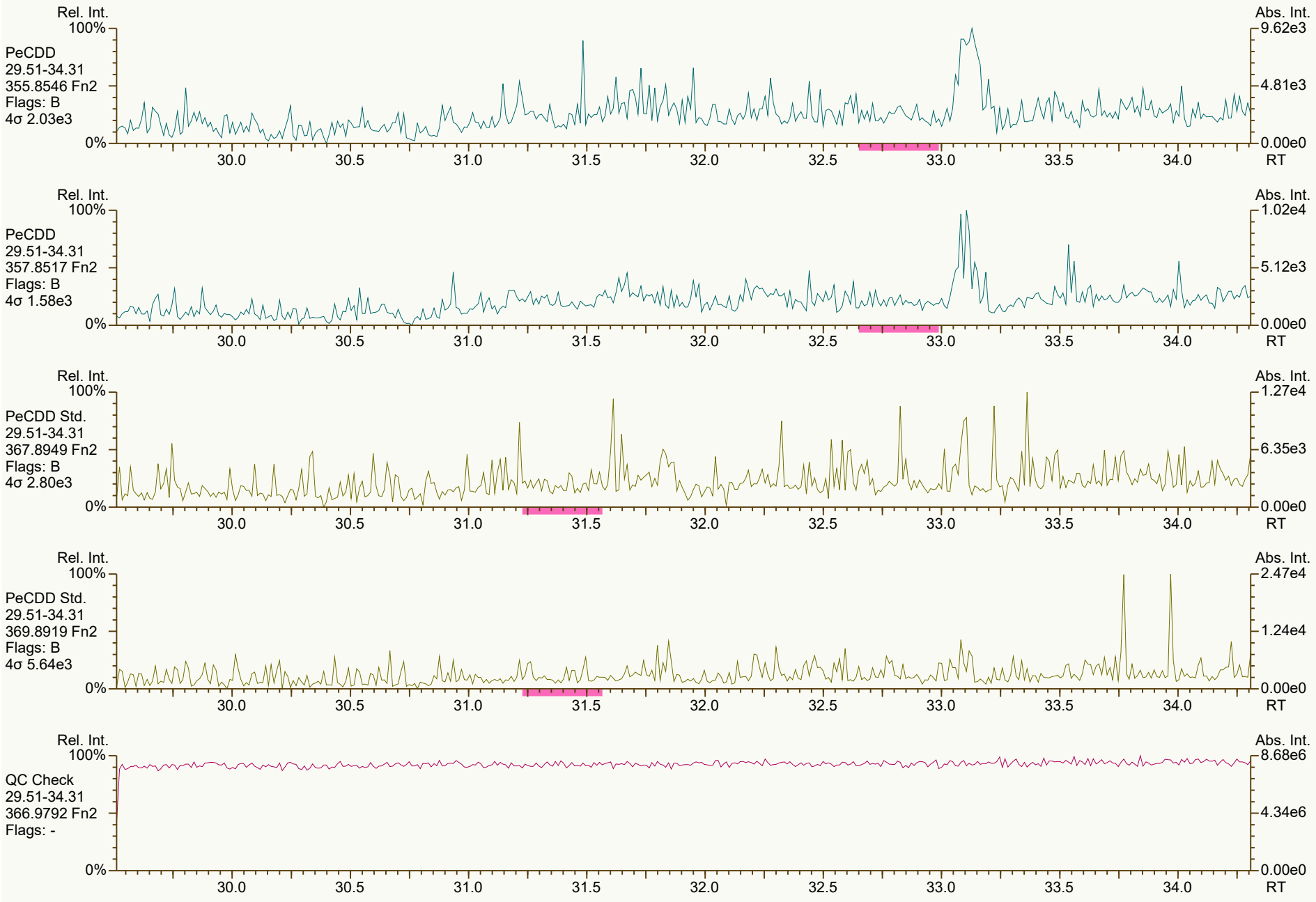

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0



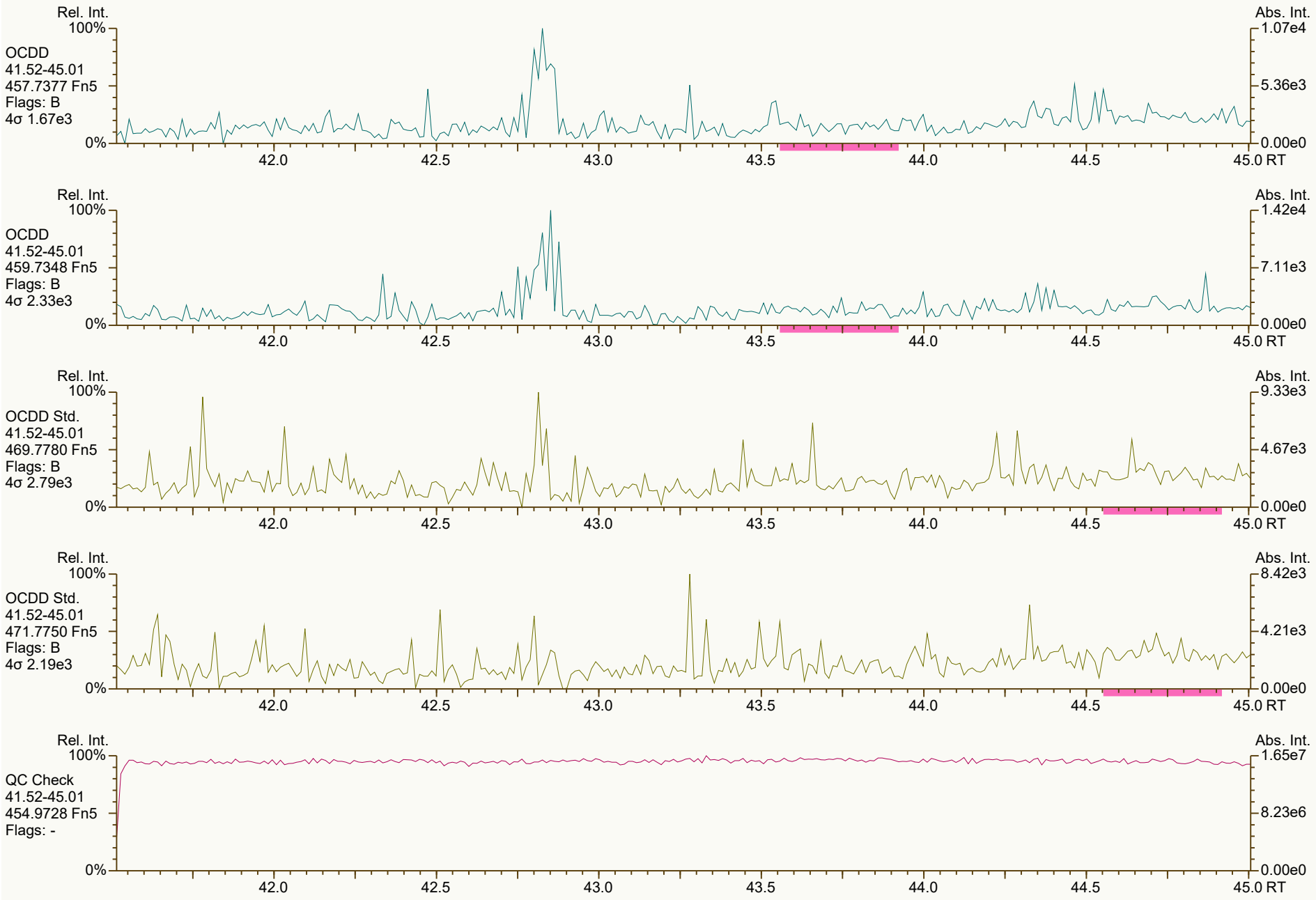
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

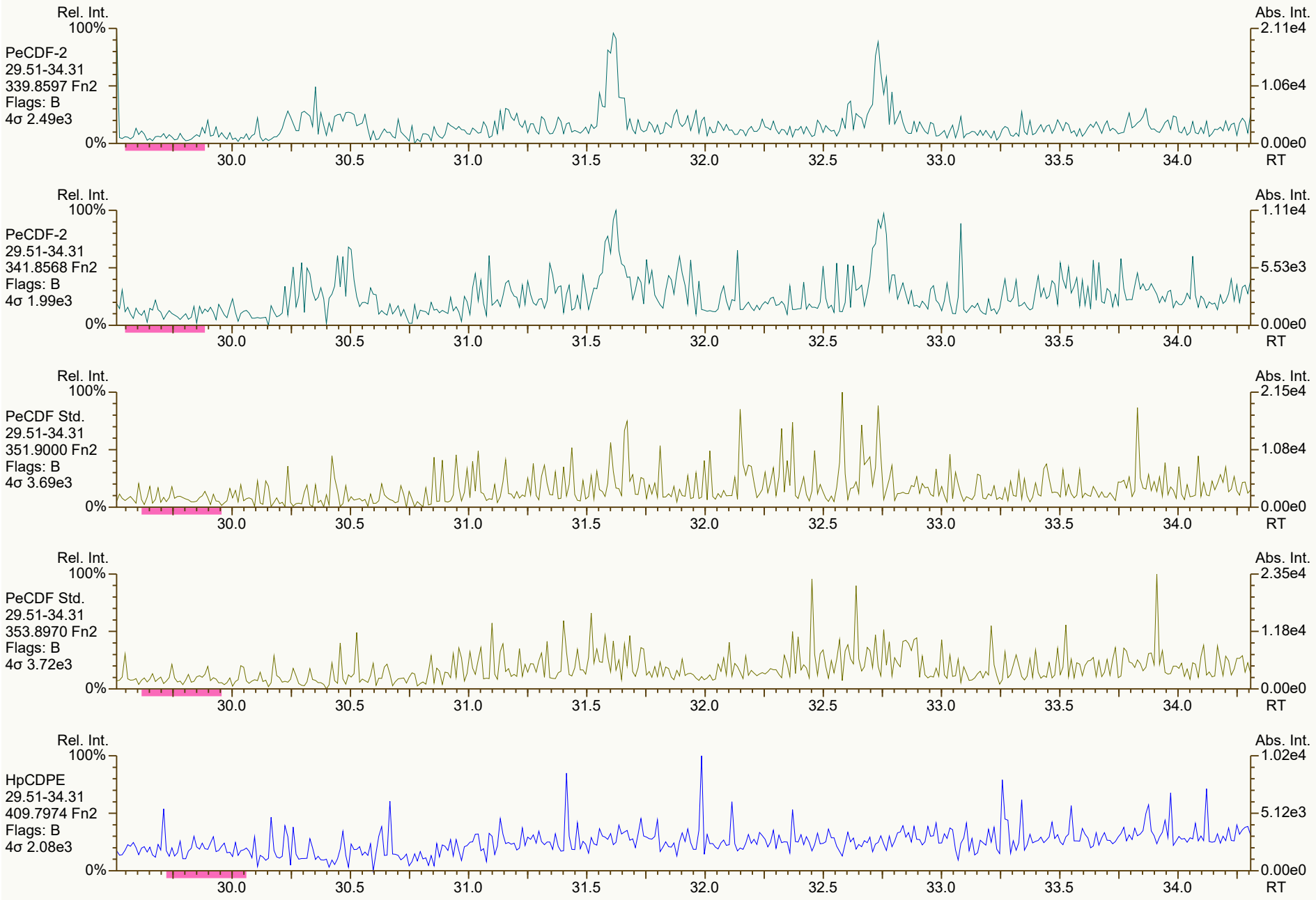

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

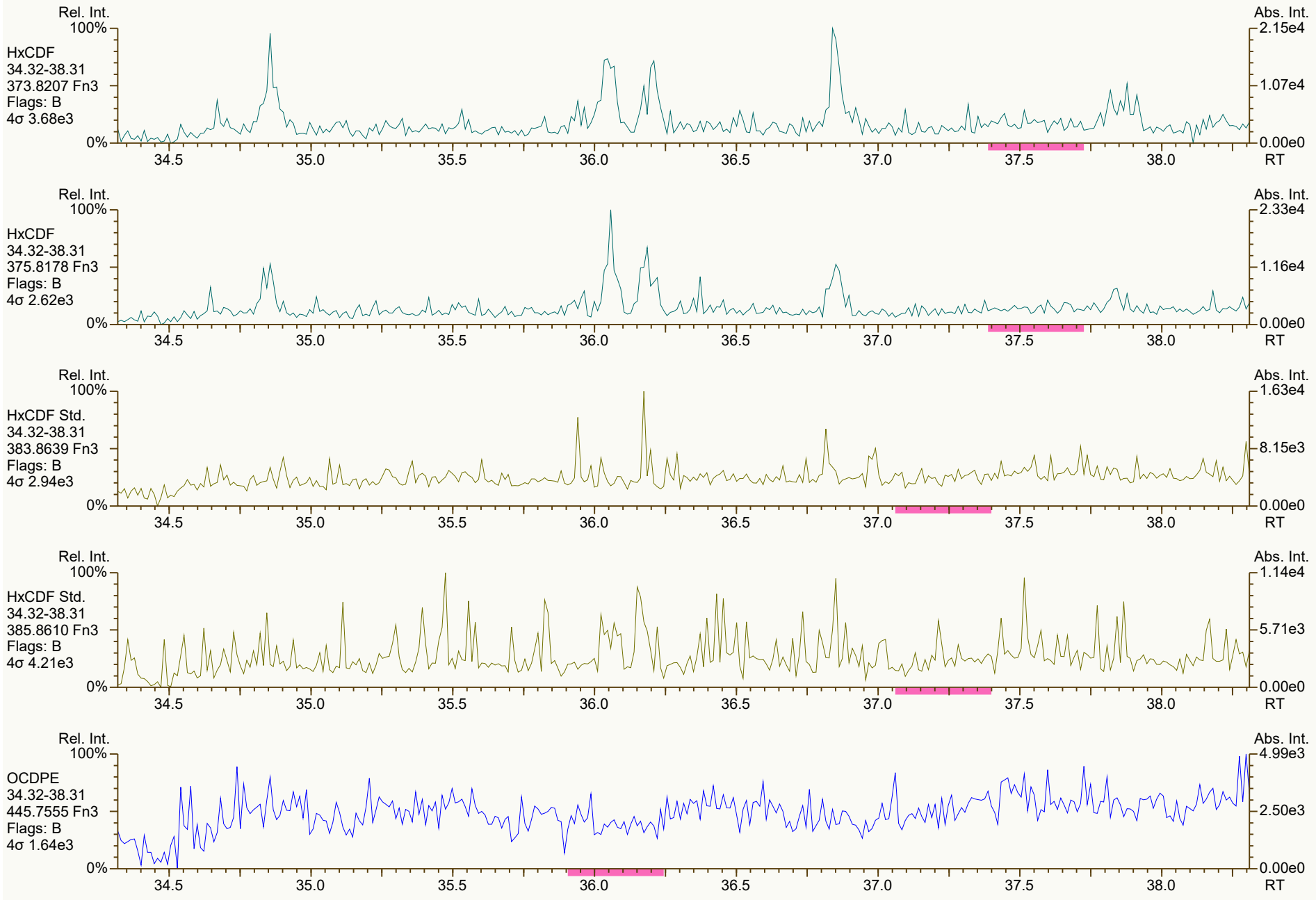

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

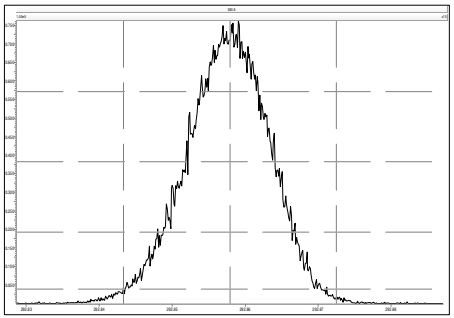

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

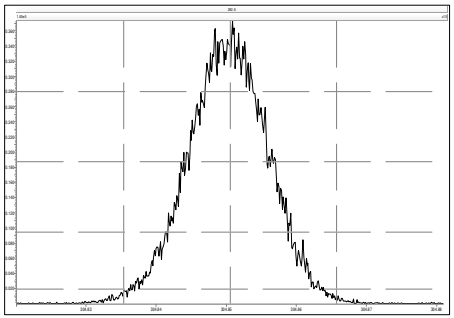
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

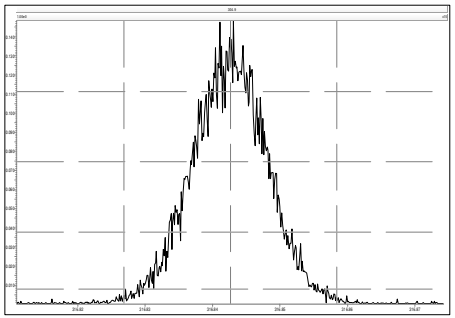
M 292.9824 R 10731



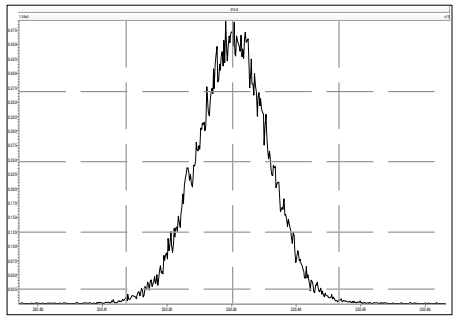
M 304.9824 R 11311



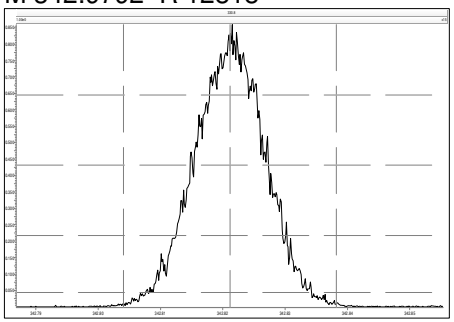
M 316.9824 R 12373



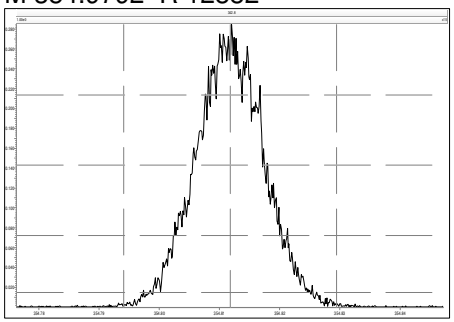
M 330.9792 R 12887



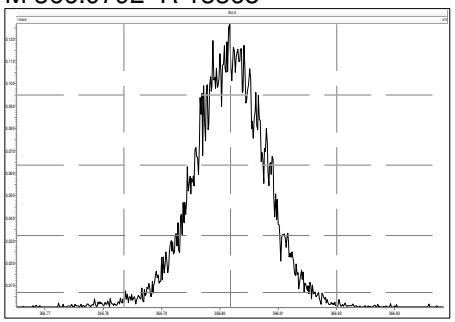
M 342.9792 R 12818



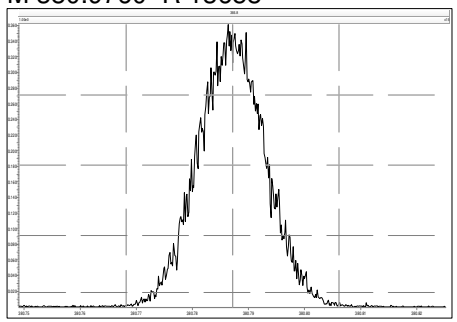
M 354.9792 R 12882



M 366.9792 R 13368



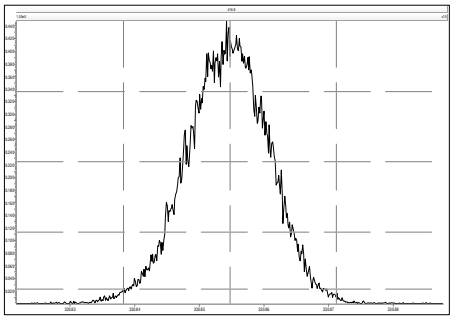
M 380.9760 R 13658



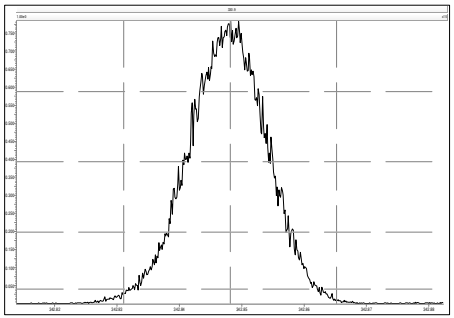
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

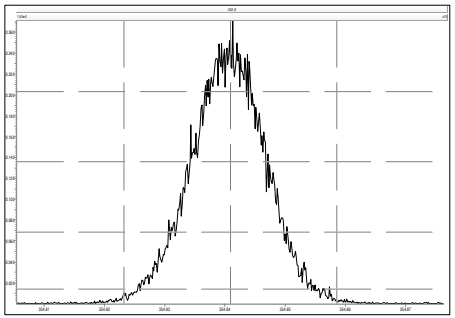
M 330.9792 R 11112



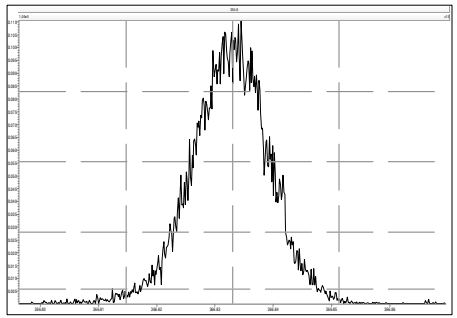
M 342.9792 R 11909



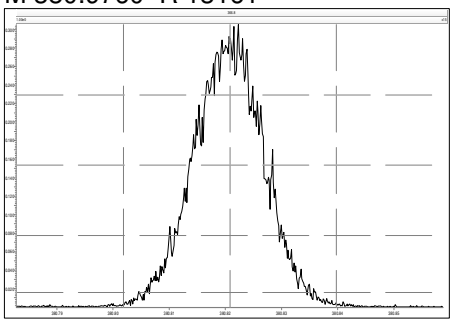
M 354.9792 R 11684



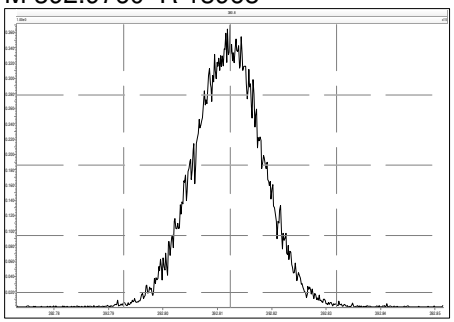
M 366.9792 R 11962



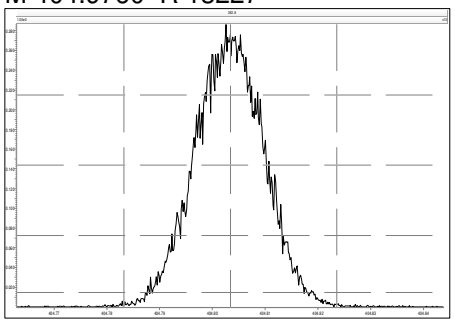
M 380.9760 R 13161



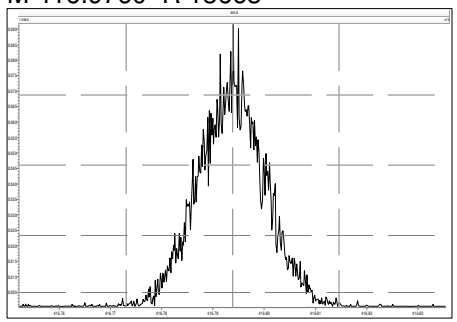
M 392.9760 R 13968



M 404.9760 R 13227



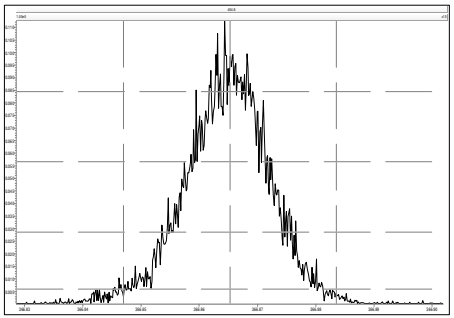
M 416.9760 R 13663



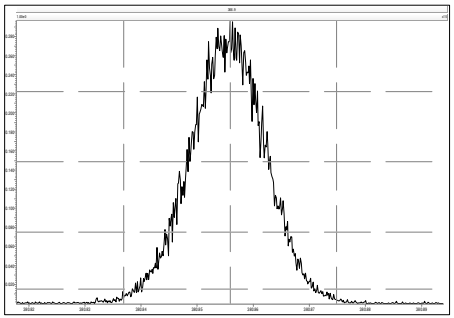
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

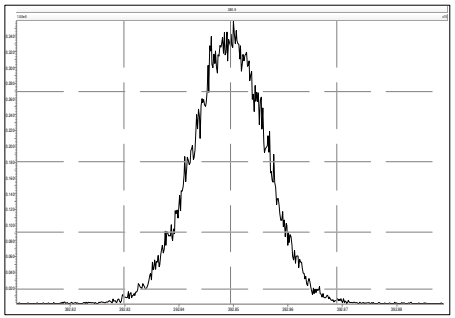
M 366.9792 R 10680



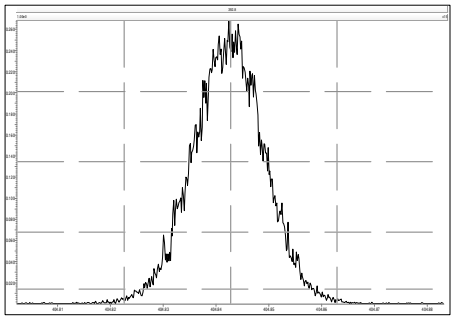
M 380.9760 R 12315



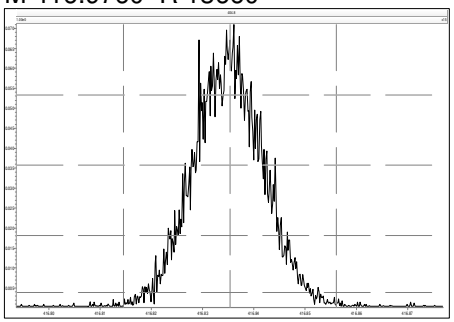
M 392.9760 R 12197



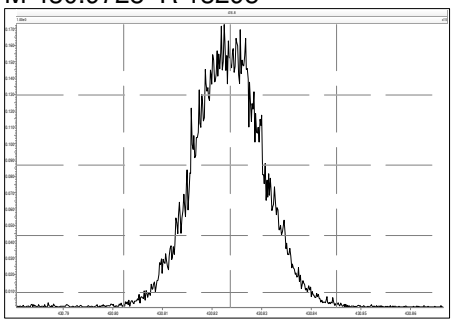
M 404.9760 R 12433



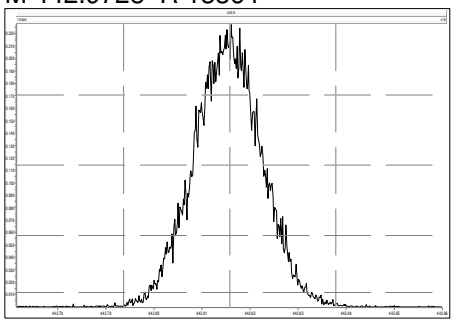
M 416.9760 R 13660



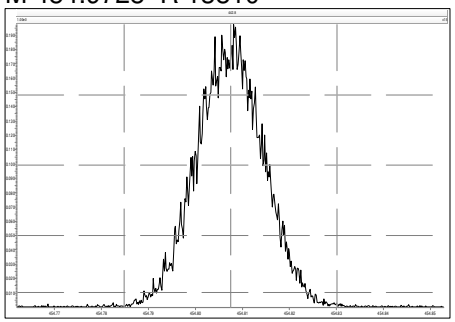
M 430.9728 R 13295



M 442.9728 R 13364



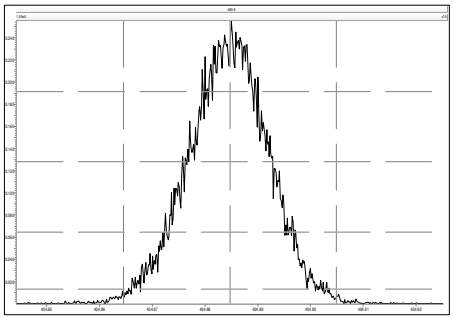
M 454.9728 R 13810



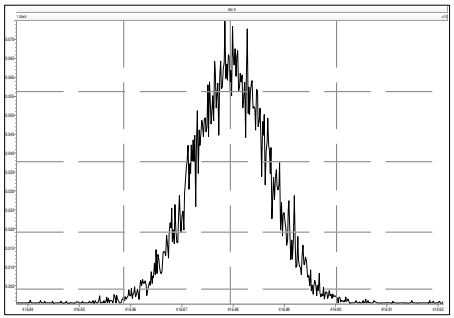
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

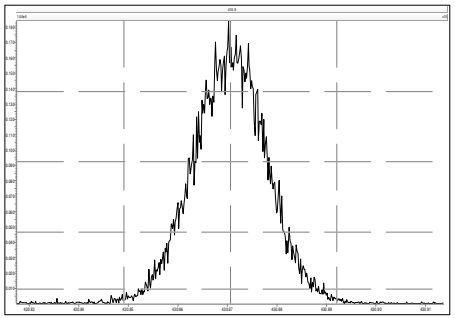
M 404.9760 R 11679



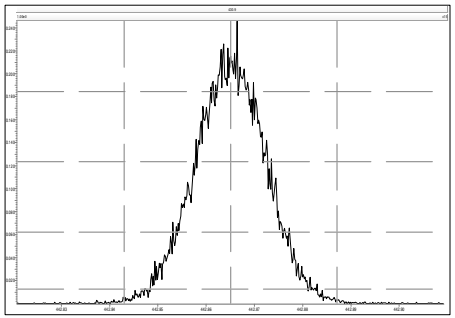
M 416.9760 R 12886



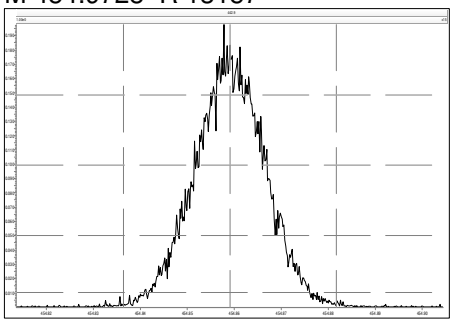
M 430.9728 R 12253



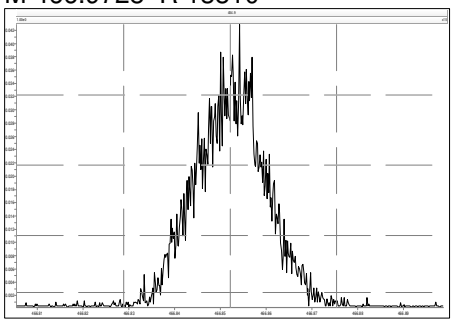
M 442.9728 R 12756



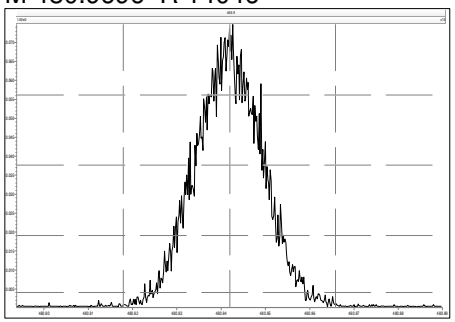
M 454.9728 R 13157



M 466.9728 R 13810



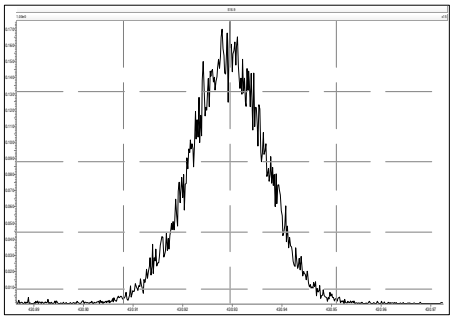
M 480.9696 R 14046



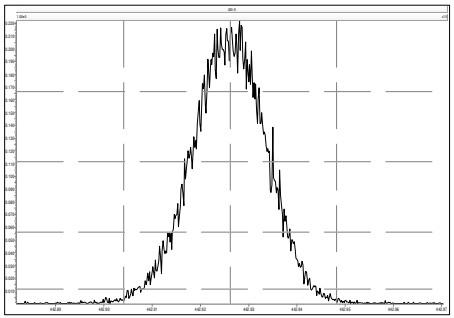
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

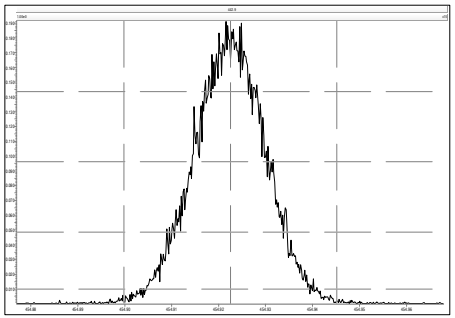
M 430.9728 R 11574



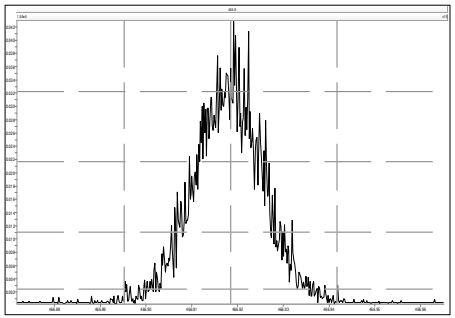
M 442.9728 R 12198



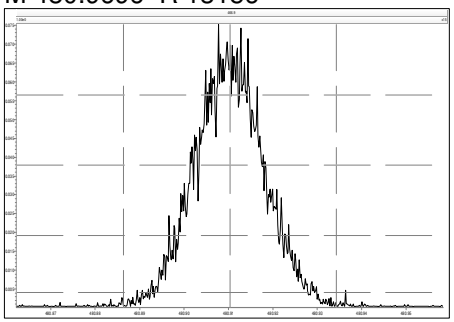
M 454.9728 R 12950



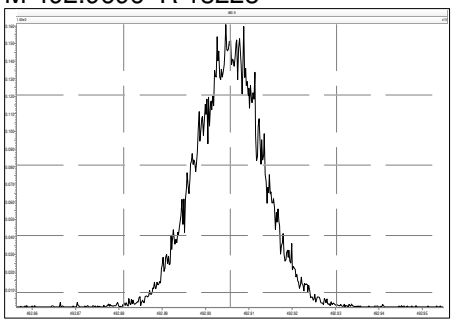
M 466.9728 R 13088



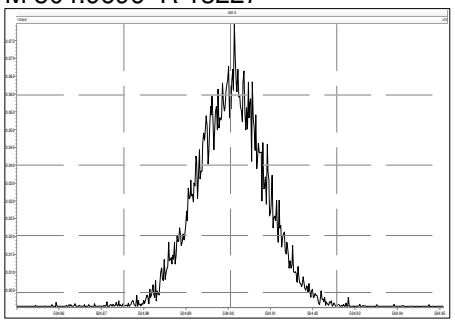
M 480.9696 R 13156



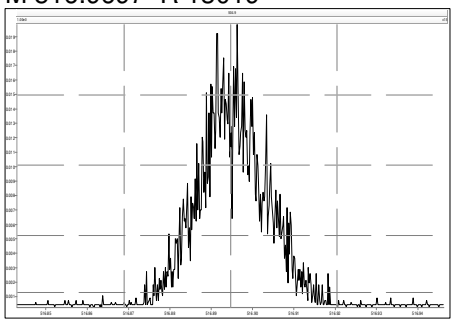
M 492.9696 R 13228



M 504.9696 R 13227



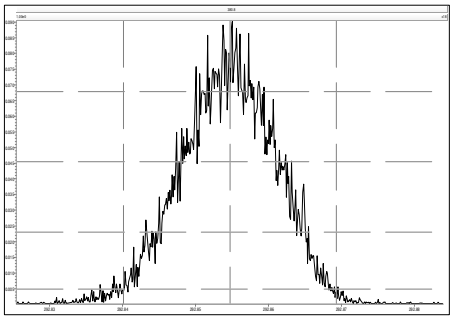
M 516.9697 R 13019



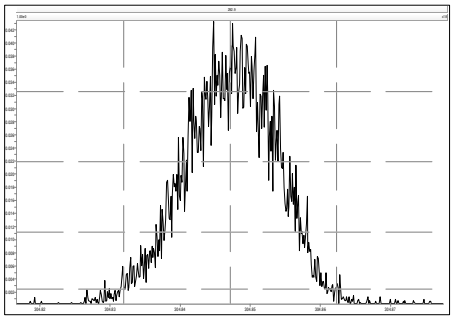
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

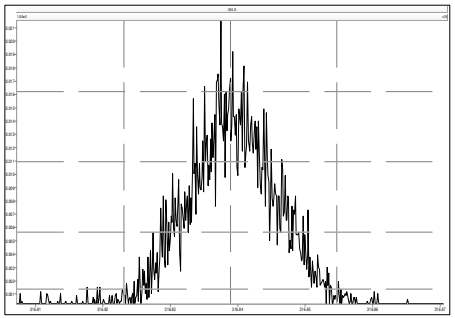
M 292.9824 R 10122



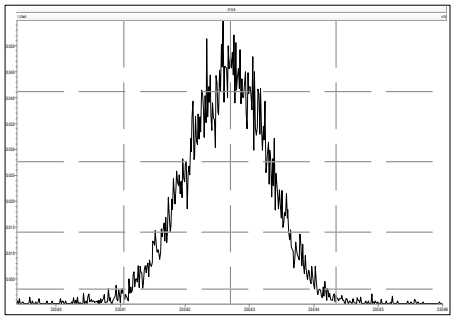
M 304.9824 R 10329



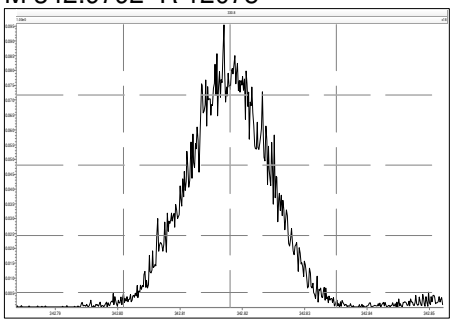
M 316.9824 R 11964



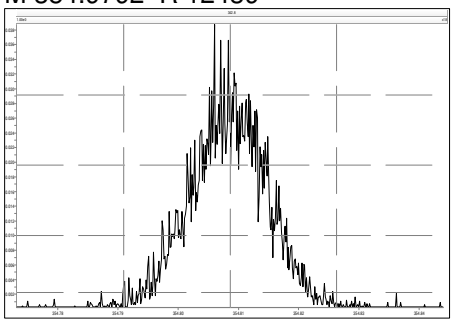
M 330.9792 R 11062



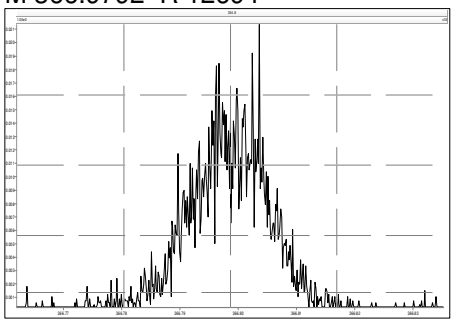
M 342.9792 R 12075



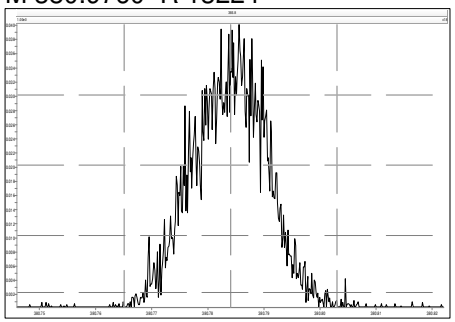
M 354.9792 R 12439



M 366.9792 R 12694



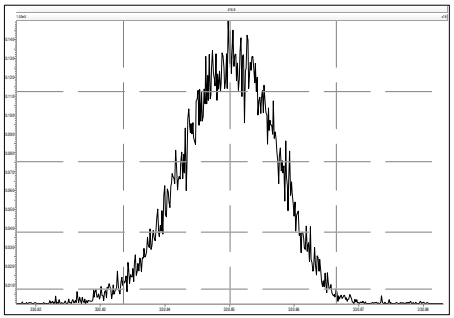
M 380.9760 R 13224



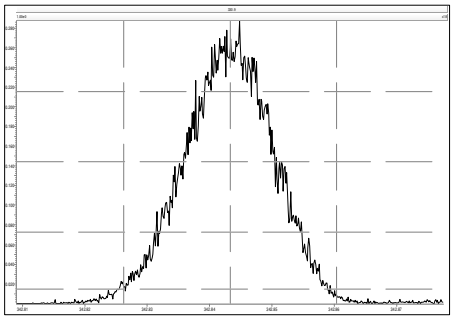
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

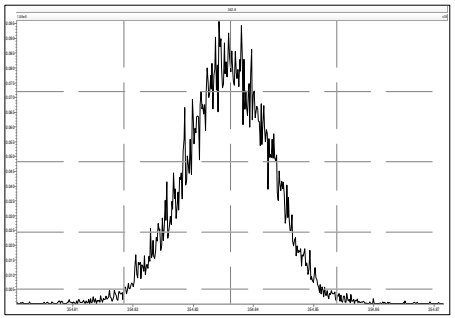
M 330.9792 R 10730



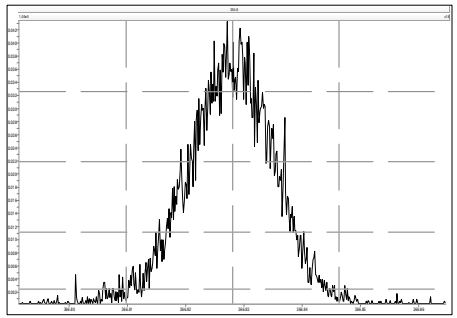
M 342.9792 R 10039



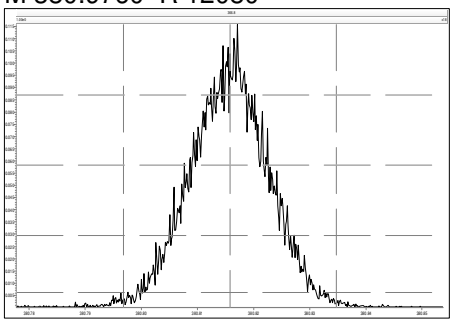
M 354.9792 R 11108



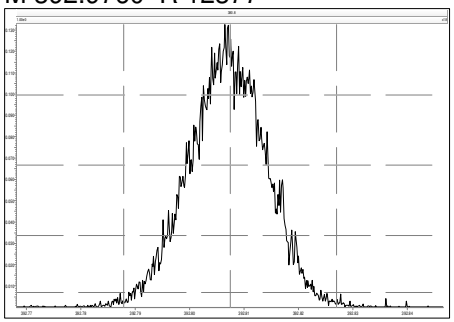
M 366.9792 R 11520



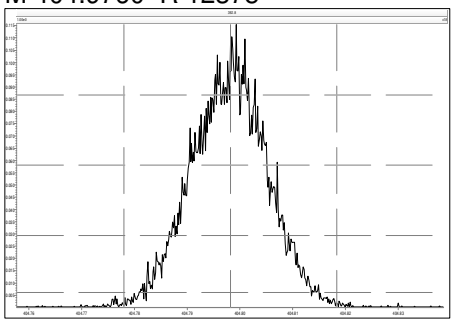
M 380.9760 R 12080



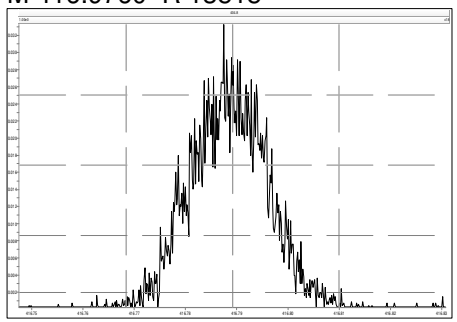
M 392.9760 R 12377



M 404.9760 R 12375



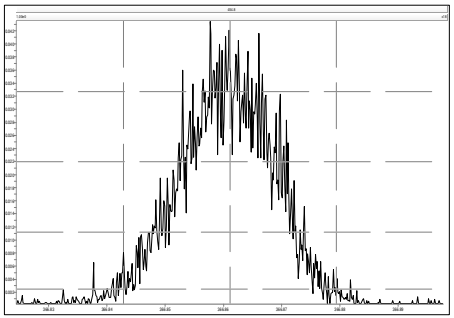
M 416.9760 R 13515



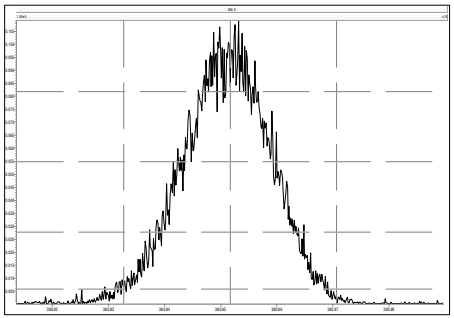
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

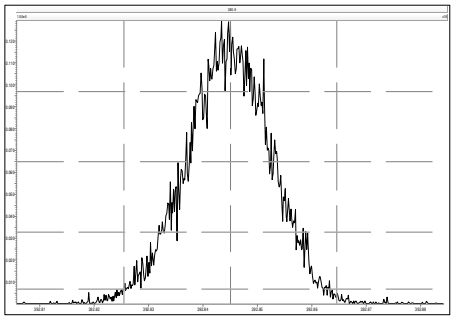
M 366.9792 R 10866



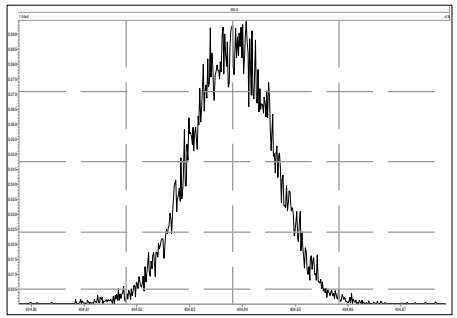
M 380.9760 R 10416



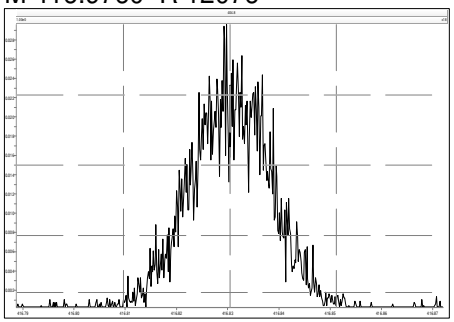
M 392.9760 R 10640



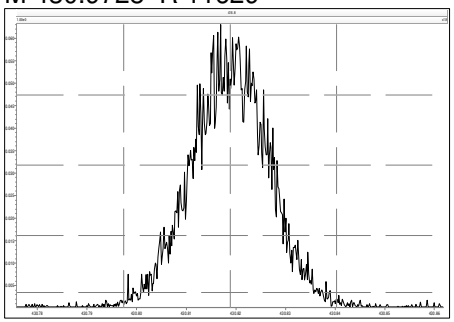
M 404.9760 R 11957



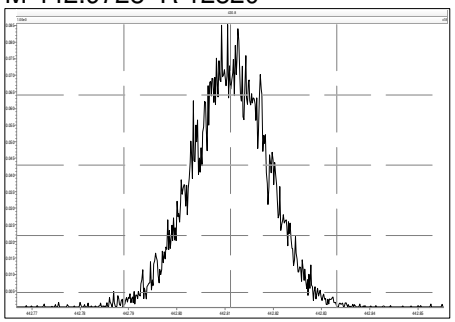
M 416.9760 R 12076



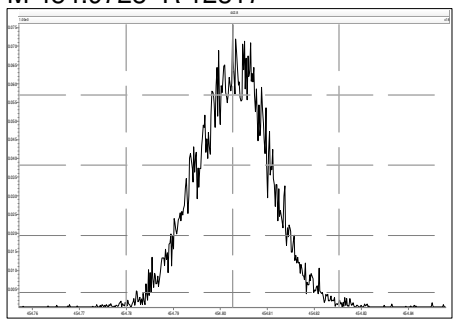
M 430.9728 R 11629



M 442.9728 R 12820



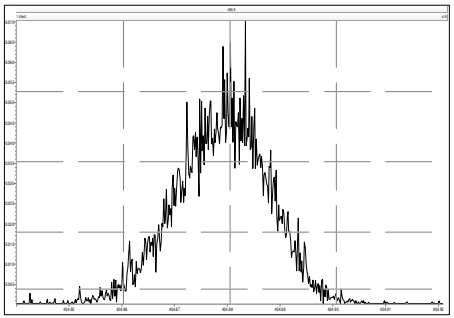
M 454.9728 R 12317



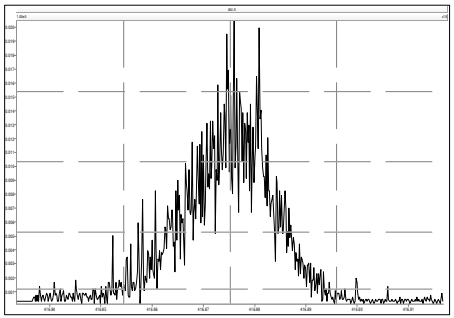
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

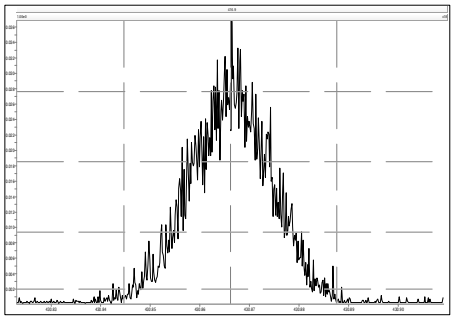
M 404.9760 R 10505



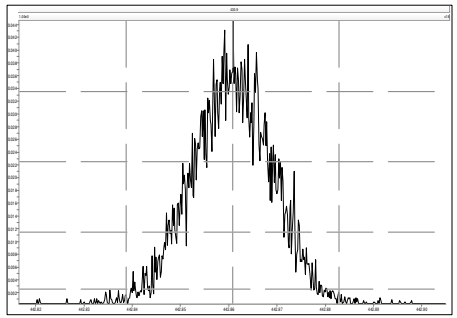
M 416.9760 R 12500



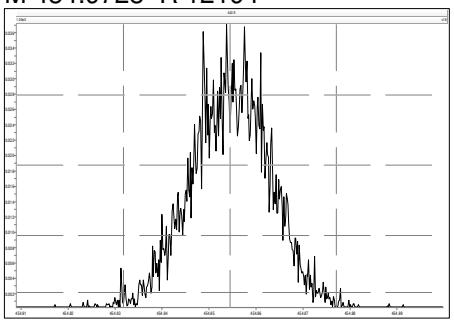
M 430.9728 R 11362



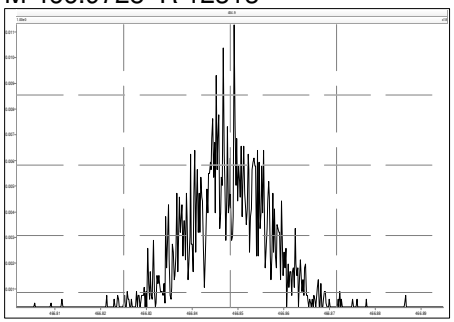
M 442.9728 R 12756



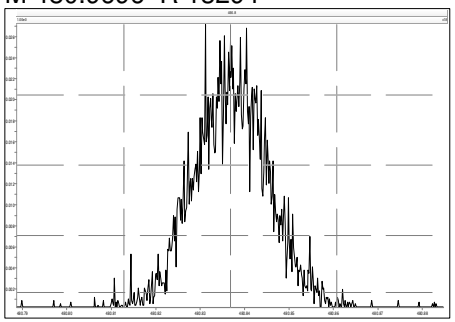
M 454.9728 R 12194



M 466.9728 R 12313



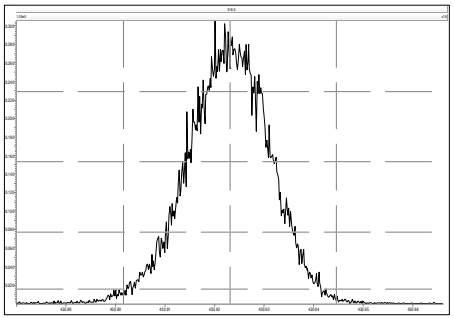
M 480.9696 R 13294



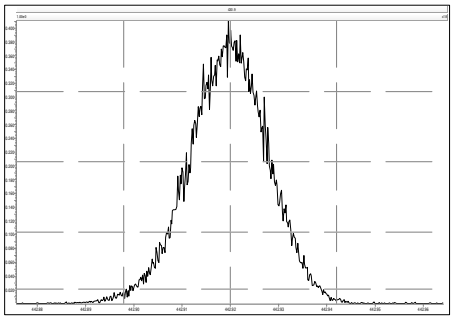
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

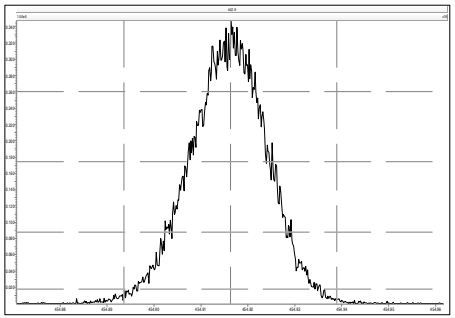
M 430.9728 R 11312



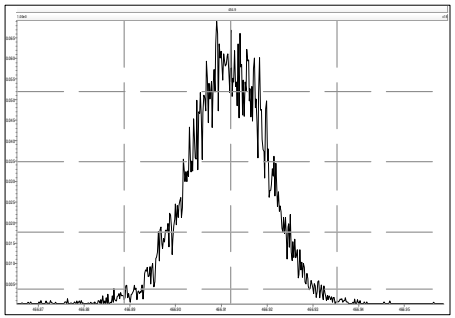
M 442.9728 R 11110



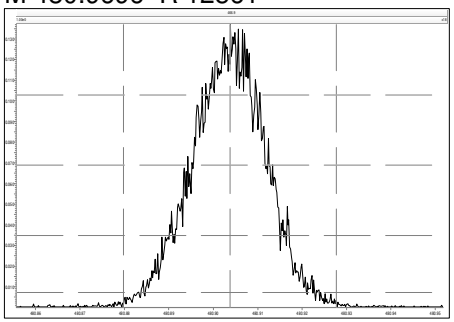
M 454.9728 R 11906



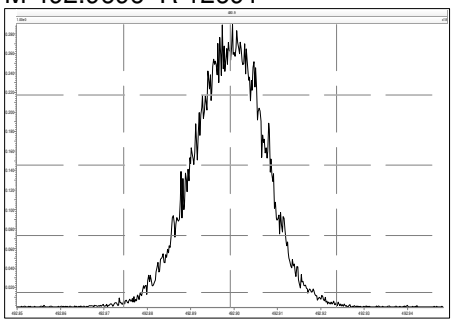
M 466.9728 R 12562



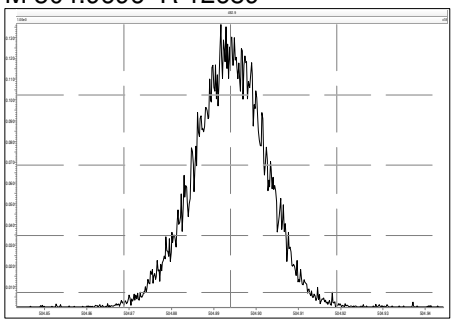
M 480.9696 R 12561



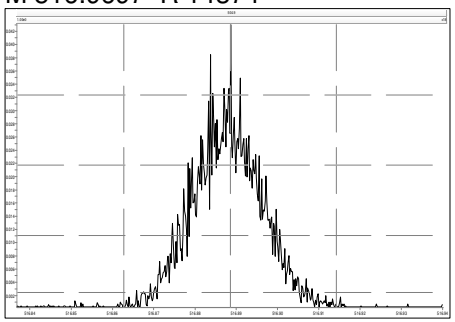
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Tamara Burkamper , 1/15/2022, 11:38:54 AM

Lab ID: OPR1_18822_DF **Acq'd:** 14 Jan 2022 21:51 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR001 **UTP:** 15-Jan-2022 10:34:30 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 033-566-YWN

Datafile: 220114C18 **Report:** 15 Jan 2022 10:39 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	5.07E+06	0.83	Y	1.18	12.7	3842.904	0.102
12378-PeCDD	33.66		1.0006	1.0006	0	1.52E+07	1.57	Y	1.04	47.9	5499.405	0.153
123478-HxCDD	37.64		1.0004	1.0004	0	1.73E+07	1.26	Y	1.09	56.3	2516.132	0.0676
123678-HxCDD	37.75		1.0036	1.0035	-0.2	2.02E+07	1.22	Y	1.15	58.3	2516.132	0.064
123789-HxCDD	38.06		1.0118	1.0118	0	1.71E+07	1.24	Y	1.05	54.8	2516.132	0.0742
1234678-HpCDD	40.86		1.0003	1.0003	0	1.41E+07	1.08	Y	1.06	52.4	2557.782	0.0884
OCDD	43.64		1.0003	1.0003	0	1.55E+07	0.92	Y	1.13	113	5424.435	0.586
2378-TCDF	27.35		1.0008	1.0008	0	6.49E+06	0.78	Y	1.08	11.2	2759.182	0.0519
12378-PeCDF	32.20		1.0006	1.0006	0	2.26E+07	1.51	Y	1.02	46.1	10547.457	0.194
23478-PeCDF	33.31		1.0006	1.0005	-0.2	2.30E+07	1.54	Y	1.02	50.7	10547.457	0.205
123478-HxCDF	36.62		1.0005	1.0005	0	2.27E+07	1.26	Y	1.27	52.3	14695.493	0.27
123678-HxCDF	36.76		1.0004	1.0005	+0.2	2.67E+07	1.26	Y	1.15	53.2	14695.493	0.259
234678-HxCDF	37.44		1.0005	1.0005	0	2.57E+07	1.25	Y	1.19	49.9	14695.493	0.241
123789-HxCDF	38.42		1.0004	1.0004	0	1.85E+07	1.24	Y	1.16	49.3	14695.493	0.332
1234678-HpCDF	39.89		1.0003	1.0003	0	2.10E+07	1.05	Y	1.37	49	3178.645	0.0614
1234789-HpCDF	41.31		1.0003	1.0003	0	1.40E+07	1.03	Y	1.31	50.1	3178.645	0.108
OCDF	43.81		1.0003	1.0003	0	1.71E+07	0.87	Y	1.07	101	3114.764	0.259

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0231	1.0232	+0.2	3.38E+07	0.83	Y	1.05	88.4
ES 12378-PeCDD	33.64	1.2198	1.2203	+1.0	3.06E+07	1.56	Y	0.88	95.3
ES 123478-HxCDD	37.62	0.9913	0.9915	+0.5	2.82E+07	1.29	Y	0.97	102
ES 123678-HxCDD	37.74	0.9944	0.9946	+0.5	3.01E+07	1.29	Y	0.94	112
ES 123789-HxCDD	38.05	1.0026	1.0027	+0.2	2.99E+07	1.32	Y	1.09	95.8
ES 1234678-HpCDD	40.84	1.0760	1.0764	+1.0	2.54E+07	1.07	Y	0.91	97.3
ES OCDD	43.63	1.1489	1.1498	+2.4	2.44E+07	0.87	Y	0.62	68.4
ES 2378-TCDF	27.33	1.0515	1.0517	+0.3	5.36E+07	0.78	Y	1.06	87.4
ES 12378-PeCDF	32.18	1.2378	1.2384	+1.2	4.78E+07	1.54	Y	0.91	90.7
ES 23478-PeCDF	33.29	1.2804	1.2811	+1.4	4.44E+07	1.54	Y	0.88	86.9
ES 123478-HxCDF	36.61	0.9647	0.9647	0	3.42E+07	0.55	Y	1.20	99.9
ES 123678-HxCDF	36.75	0.9684	0.9684	0	4.36E+07	0.52	Y	1.35	113
ES 234678-HxCDF	37.42	0.9861	0.9862	+0.2	4.33E+07	0.52	Y	1.24	122
ES 123789-HxCDF	38.40	1.0120	1.0121	+0.2	3.22E+07	0.53	Y	1.16	97.7
ES 1234678-HpCDF	39.87	1.0506	1.0508	+0.5	3.13E+07	0.46	Y	0.97	113
ES 1234789-HpCDF	41.30	1.0879	1.0883	+1.0	2.14E+07	0.45	Y	0.85	88
ES OCDF	43.80	1.1534	1.1542	+2.1	3.16E+07	0.91	Y	0.81	68.6

Lab ID: OPR1_18822_DF | **Acq'd:** 14 Jan 2022 21:51 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR001 | **UTP:** 15-Jan-2022 10:34:30 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 033-566-YWN

Datafile: 220114C18 | **Report:** 15 Jan 2022 10:39 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.57		-	-	-	3.66E+07	0.84	Y	-	-
JS 1234-TCDF	25.99		-	-	-	5.79E+07	0.78	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.43E+07	1.19	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0238	1.0240	+0.3	1.62E+07	n/a	-	1.20	92.1
CS 12347-PeCDD	33.14		1.2018	1.2022	+0.8	2.75E+07	1.60	Y	0.75	99.9
CS 12346-PeCDF	31.66		1.2178	1.2183	+0.9	4.38E+07	1.53	Y	0.85	89
CS 123469-HxCDF	37.07		0.9768	0.9769	+0.2	3.83E+07	0.55	Y	1.12	120
CS 1234689-HpCDF	40.29		1.0615	1.0617	+0.5	2.64E+07	0.44	Y	0.89	104
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0238~~	~~1.0240~~	~~+0.3~~	~~1.62E+07~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2022~~	~~+0.8~~	~~2.75E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~31.66~~		~~1.2178~~	~~1.2183~~	~~+0.9~~	~~4.38E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~98~~
~~SS 123469-HxCDF~~	~~37.07~~		~~0.9768~~	~~0.9769~~	~~+0.2~~	~~3.83E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0615~~	~~1.0617~~	~~+0.5~~	~~2.64E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~91.6~~

Totals	Conc	EMPC
Total TCDD	61.2	61.2
Total PeCDD	75.2	75.2
Total HxCDD	186	186
Total HpCDD	65.3	65.3
Total Tetra-Octa Dioxins	500	500
Total TCDF	68.8	68.8
Total PeCDF	206	206
Total HxCDF	334	334
Total HpCDF	99.2	99.2
Total Tetra-Octa Furans	809	809
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.829	0.83
Response	5.08E+06	5.07E+06

Lab ID: OPR1_18822_DF | **Acq'd:** 14 Jan 2022 21:51 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR001 | **UTP:** 15-Jan-2022 10:34:30 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 033-566-YWN

Datafile: 220114C18 | **Report:** 15 Jan 2022 10:39 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.57		0.8733	0.8708	-3.7	7.15E+06	0.78	Y	1.18	17.9	3842.904	0.102
1379-TCDD	NotFnd		0.8860						1.18		3842.904	0.102
1369-TCDD	NotFnd		0.9009						1.18		3842.904	0.102
1469-TCDD	NotFnd		0.9282						1.18		3842.904	0.102
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3842.904	0.102
1378-TCDD	NotFnd		0.9429						1.18		3842.904	0.102
1268-TCDD	NotFnd		0.9500						1.18		3842.904	0.102
1478-TCDD	NotFnd		0.9584						1.18		3842.904	0.102
1279-TCDD	NotFnd		0.9648						1.18		3842.904	0.102
1234/1269-TCDD	NotFnd		0.9770						1.18		3842.904	0.102
1236-TCDD	NotFnd		0.9821						1.18		3842.904	0.102
1237/1238-TCDD	NotFnd		0.9909						1.18		3842.904	0.102
1239-TCDD	28.09		0.9959	0.9959	0	5.01E+06	0.81	Y	1.18	12.5	3842.904	0.102
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	5.07E+06	0.83	Y	**1.18**	**12.7**	**3842.904**	**0.102**
1278-TCDD	NotFnd		1.0123						1.18		3842.904	0.102
1267-TCDD	NotFnd		1.0172						1.18		3842.904	0.102
1289-TCDD	29.23		1.0354	1.0361	+1.2	7.30E+06	0.78	Y	1.18	18.2	3842.904	0.102
12479/12468-PeCDD	31.16		0.9267	0.9261	-1.1	4.15E+06	1.51	Y	1.04	13.1	5499.405	0.153
12469-PeCDD	NotFnd		0.9426						1.04		5499.405	0.153
12368-PeCDD	NotFnd		0.9587						1.04		5499.405	0.153
12478-PeCDD	NotFnd		0.9642						1.04		5499.405	0.153
12379-PeCDD	NotFnd		0.9674						1.04		5499.405	0.153
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		5499.405	0.153
12346/12347-PeCDD	NotFnd		0.9861						1.04		5499.405	0.153
12378-PeCDD	33.66		**1.0006**	**1.0006**	**0**	**1.52E+07**	**1.57**	**Y**	**1.04**	**47.9**	**5499.405**	**0.153**
12367-PeCDD	NotFnd		1.0036						1.04		5499.405	0.153
12389-PeCDD	34.12		1.0139	1.0141	+0.4	4.54E+06	1.51	Y	1.04	14.3	5499.405	0.153
124679/124689-HxCDD	35.90		0.9541	0.9542	+0.2	5.26E+06	1.23	Y	1.10	16.3	2516.132	0.0685
123468-HxCDD	NotFnd		0.9715						1.10		2516.132	0.0685
123679/123689-HxCDD	NotFnd		0.9793						1.10		2516.132	0.0685
123469-HxCDD	NotFnd		0.9831						1.10		2516.132	0.0685
123478-HxCDD	37.64		**1.0004**	**1.0004**	**0**	**1.73E+07**	**1.26**	**Y**	1.09	**56.3**	**2516.132**	**0.0676**
123678-HxCDD	37.75		**1.0036**	**1.0035**	**-0.2**	**2.02E+07**	**1.22**	**Y**	1.15	**58.3**	**2516.132**	**0.064**
123467-HxCDD	NotFnd		1.0089						1.10		2516.132	0.0685
123789-HxCDD	38.06		**1.0118**	**1.0118**	**0**	**1.71E+07**	**1.24**	**Y**	1.05	**54.8**	**2516.132**	**0.0742**

Lab ID: OPR1_18822_DF **Acq'd:** 14 Jan 2022 21:51 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR001 **UTP:** 15-Jan-2022 10:34:30 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 033-566-YWN

Datafile: 220114C18 **Report:** 15 Jan 2022 10:39 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9833	-0.5	3.45E+06	1.02	Y	1.06	12.9	2557.782	0.0884
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**1.08**	**Y**	**1.06**	**52.4**	**2557.782**	**0.0884**
OCDD	**43.64**		**1.0003**	**1.0003**	**0**	**1.55E+07**	**0.92**	**Y**	**1.13**	**113**	**5424.435**	**0.586**
OCDD-a	43.63		1.0002	1.0001	-0.3	9.61E+05	2.83	Y	0.07	109	3538.076	5.97
1368-TCDF	22.43		0.8250	0.8208	-5.7	9.70E+06	0.83	Y	1.08	16.8	2759.182	0.0519
1468-TCDF	NotFnd		0.8494						1.08		2759.182	0.0519
2468-TCDF	23.66		0.8684	0.8656	-4.0	2.51E+06	0.78	Y	1.08	4.34	2759.182	0.0519
1346/1246-TCDF	NotFnd		0.8815						1.08		2759.182	0.0519
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2759.182	0.0519
1348-TCDF	NotFnd		0.8966						1.08		2759.182	0.0519
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2759.182	0.0519
1268-TCDF	NotFnd		0.9148						1.08		2759.182	0.0519
1467-TCDF	NotFnd		0.9197						1.08		2759.182	0.0519
1478-TCDF	NotFnd		0.9258						1.08		2759.182	0.0519
1369/1237-TCDF	NotFnd		0.9390						1.08		2759.182	0.0519
2467-TCDF	NotFnd		0.9435						1.08		2759.182	0.0519
2368-TCDF	NotFnd		0.9488						1.08		2759.182	0.0519
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		2759.182	0.0519
1278-TCDF	NotFnd		0.9689						1.08		2759.182	0.0519
1349-TCDF	NotFnd		0.9730						1.08		2759.182	0.0519
1267-TCDF	NotFnd		0.9787						1.08		2759.182	0.0519
2346/1249-TCDF	NotFnd		0.9856						1.08		2759.182	0.0519
2347/1279-TCDF	NotFnd		0.9934						1.08		2759.182	0.0519
2348-TCDF	27.25		0.9972	0.9970	-0.3	9.75E+06	0.79	Y	1.08	16.9	2759.182	0.0519
2378-TCDF	**27.35**		**1.0008**	**1.0008**	**0**	**6.49E+06**	**0.78**	**Y**	**1.08**	**11.2**	**2759.182**	**0.0519**
2367/3467-TCDF	NotFnd		1.0145						1.08		2759.182	0.0519
1269-TCDF	NotFnd		1.0236						1.08		2759.182	0.0519
1239-TCDF	NotFnd		1.0333						1.08		2759.182	0.0519
1289-TCDF	29.39		1.0740	1.0755	+2.6	1.13E+07	0.76	Y	1.08	19.5	2759.182	0.0519
13468/12468-PeCDF	29.36		0.9138	0.9123	-2.6	4.49E+07	1.59	Y	1.02	95.3	2859.069	0.0541
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		10547.457	0.2
12368/13478/12478-PeCDF	31.06		0.9661	0.9653	-1.5	1.02E+06	1.49	Y	1.02	2.16	10547.457	0.2
14678-PeCDF	NotFnd		0.9693						1.02		10547.457	0.2
13479-PeCDF	NotFnd		0.9722						1.02		10547.457	0.2
13469/12479-PeCDF	NotFnd		0.9800						1.02		10547.457	0.2
12346-PeCDF	NotFnd		0.9844						1.02		10547.457	0.2

Lab ID: OPR1_18822_DF **Acq'd:** 14 Jan 2022 21:51 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR001 **UTP:** 15-Jan-2022 10:34:30 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 033-566-YWN

Datafile: 220114C18 **Report:** 15 Jan 2022 10:39 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75	J	0.9865	0.9867	+0.4	4.60E+05	1.50	Y	1.02	0.977	10547.457	0.2
12347-PeCDF	NotFnd		0.9890						1.02		10547.457	0.2
12348-PeCDF	NotFnd		0.9942						1.02		10547.457	0.2
12378-PeCDF	**32.20**		**1.0006**	**1.0006**	**0**	**2.26E+07**	**1.51**	**Y**	**1.02**	**46.1**	**10547.457**	**0.194**
12678/12367-PeCDF	NotFnd		1.0090						1.02		10547.457	0.2
12379-PeCDF	NotFnd		1.0142						1.02		10547.457	0.2
12679-PeCDF	NotFnd		0.9933						1.02		10547.457	0.2
23467/12369-PeCDF	NotFnd		0.9969						1.02		10547.457	0.2
23478-PeCDF	**33.31**		**1.0006**	**1.0005**	**-0.2**	**2.30E+07**	**1.54**	**Y**	**1.02**	**50.7**	**10547.457**	**0.205**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10547.457	0.2
12349-PeCDF	NotFnd		1.0107						1.02		10547.457	0.2
12389-PeCDF	34.41		1.0330	1.0336	+1.2	5.15E+06	1.61	Y	1.02	10.9	10547.457	0.2
123468-HxCDF	35.24		0.9627	0.9625	-0.4	5.92E+07	1.28	Y	1.19	129	14695.493	0.271
124678/134678-HxCDF	NotFnd		0.9682						1.19		14695.493	0.271
134679-HxCDF	NotFnd		0.9744						1.19		14695.493	0.271
124679-HxCDF	NotFnd		0.9798						1.19		14695.493	0.271
124689-HxCDF	NotFnd		0.9858						1.19		14695.493	0.271
123467-HxCDF	NotFnd		0.9973						1.19		14695.493	0.271
123478-HxCDF	**36.62**		**1.0005**	**1.0005**	**0**	**2.27E+07**	**1.26**	**Y**	**1.27**	**52.3**	**14695.493**	**0.27**
123678-HxCDF	**36.76**		**1.0004**	**1.0005**	**+0.2**	**2.67E+07**	**1.26**	**Y**	**1.15**	**53.2**	**14695.493**	**0.259**
123479-HxCDF	NotFnd		1.0051						1.19		14695.493	0.271
123469-HxCDF	NotFnd		1.0093						1.19		14695.493	0.271
123679-HxCDF	NotFnd		0.9944						1.19		14695.493	0.271
234678-HxCDF	**37.44**		**1.0005**	**1.0005**	**0**	**2.57E+07**	**1.25**	**Y**	**1.19**	**49.9**	**14695.493**	**0.241**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		14695.493	0.271
123789-HxCDF	**38.42**		**1.0004**	**1.0004**	**0**	**1.85E+07**	**1.24**	**Y**	**1.16**	**49.3**	**14695.493**	**0.332**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		14695.493	0.271
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**2.10E+07**	**1.05**	**Y**	**1.37**	**49**	**3178.645**	**0.0614**
1234679-HpCDF	NotFnd		1.0069						1.34		3178.645	0.08
1234689-HpCDF	NotFnd		1.0103						1.34		3178.645	0.08
1234789-HpCDF	**41.31**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**1.03**	**Y**	**1.31**	**50.1**	**3178.645**	**0.108**
OCDF	**43.81**		**1.0003**	**1.0003**	**0**	**1.71E+07**	**0.87**	**Y**	**1.07**	**101**	**3114.764**	**0.259**
OCDF-a	43.81	**EMPC**	1.0002	1.0002	0	1.03E+06	2.02	N	0.07	97.8	4707.969	6.31

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220114C18	Analysis Date:	14-JAN-2022 21:51:16
Lab ID:	OPR1_18822_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.9	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.3	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.8	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.4	35	-	70	Y
OCDD	100	113	78	-	144	Y
2,3,7,8-TCDF	10	11.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	46.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	49.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.1	39	-	69	Y
OCDF	100	101	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 15 Jan 2022 10:39 Analyst: MS

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220114C18	Analysis Date:	14-JAN-2022 21:51:16
Lab ID:	OPR1_18822_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	88.4	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	95.3	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	102	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	112	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.3	26	-	166	Y
13C-OCDD	200	137	26	-	397	Y
13C-2,3,7,8-TCDF	100	87.4	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	90.7	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	86.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	99.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	122	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	97.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	113	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	88	20	-	186	Y
13C-OCDF	200	137	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.8	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 15 Jan 2022 10:39 Analyst: MS

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220114C18	Analysis Date:	14-JAN-2022 21:51:16
Lab ID:	OPR1_18822_DF		

Window Defining Standards Results

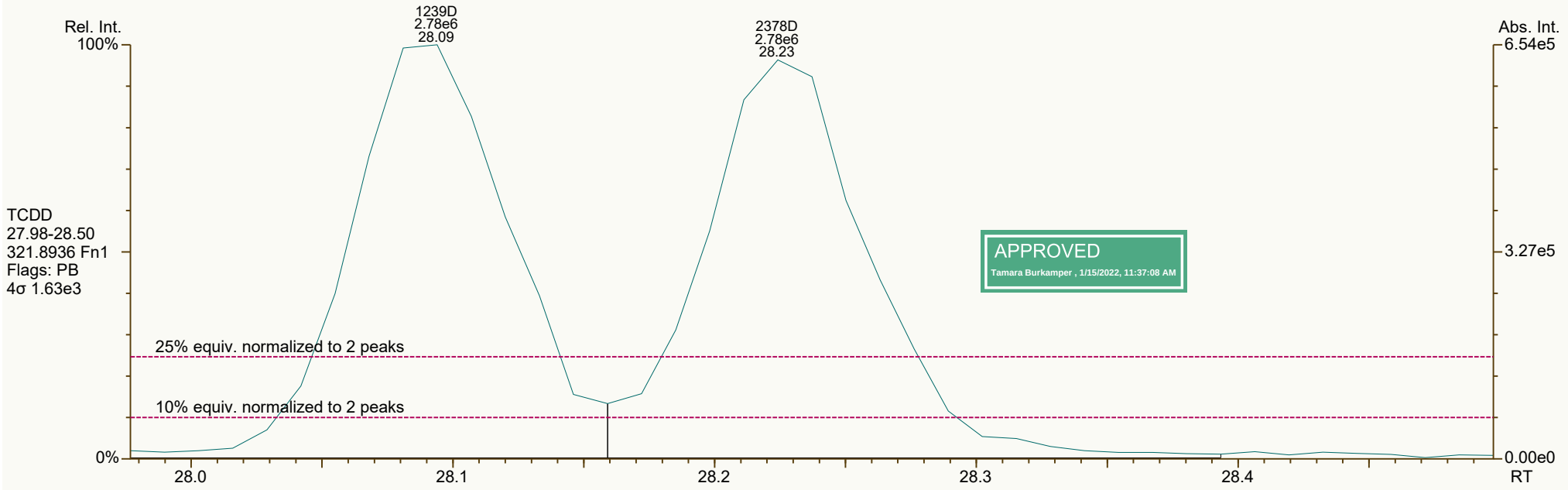
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.57	1289-TCDD	29.23
12479/12468-PeCDD	31.16	12389-PeCDD	34.12
124679/124689-HxCDD	35.90	123789-HxCDD	38.06
1234679-HpCDD	40.16	1234678-HpCDD	40.86
1368-TCDF	22.43	1289-TCDF	29.39
13468/12468-PeCDF	29.36	12389-PeCDF	34.41
123468-HxCDF	35.24	123789-HxCDF	38.42
1234678-HpCDF	39.89	1234789-HpCDF	41.31

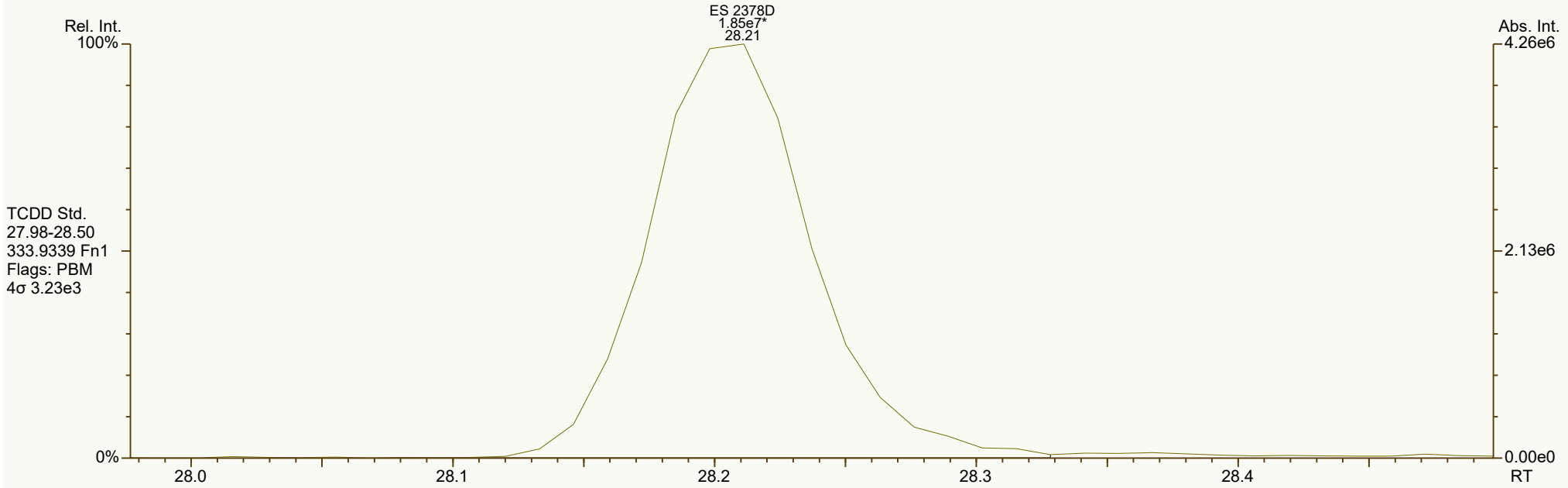
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.09	2378-TCDD	28.23
2348-TCDF	27.25	2378-TCDF	27.35

Processed: 15 Jan 2022 10:39 Analyst: MS

SGS ID: OPR1_18822_DF
Sample ID: 0_18822_OPR001
Acq: 14-Jan-2022 21:51:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 220114C18



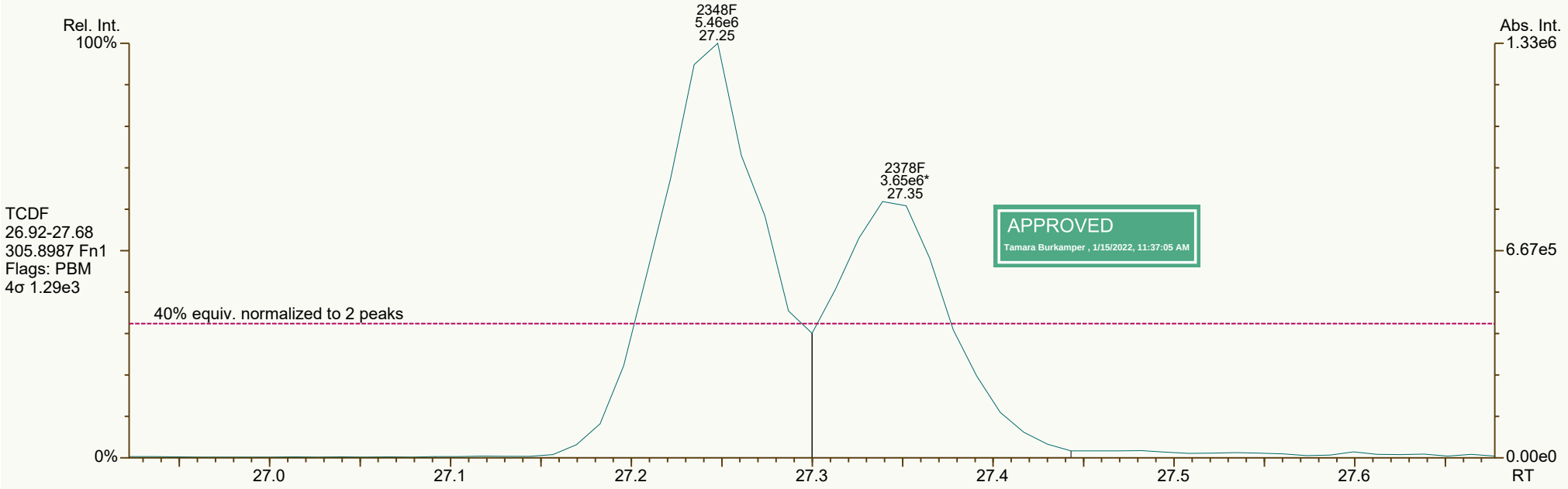


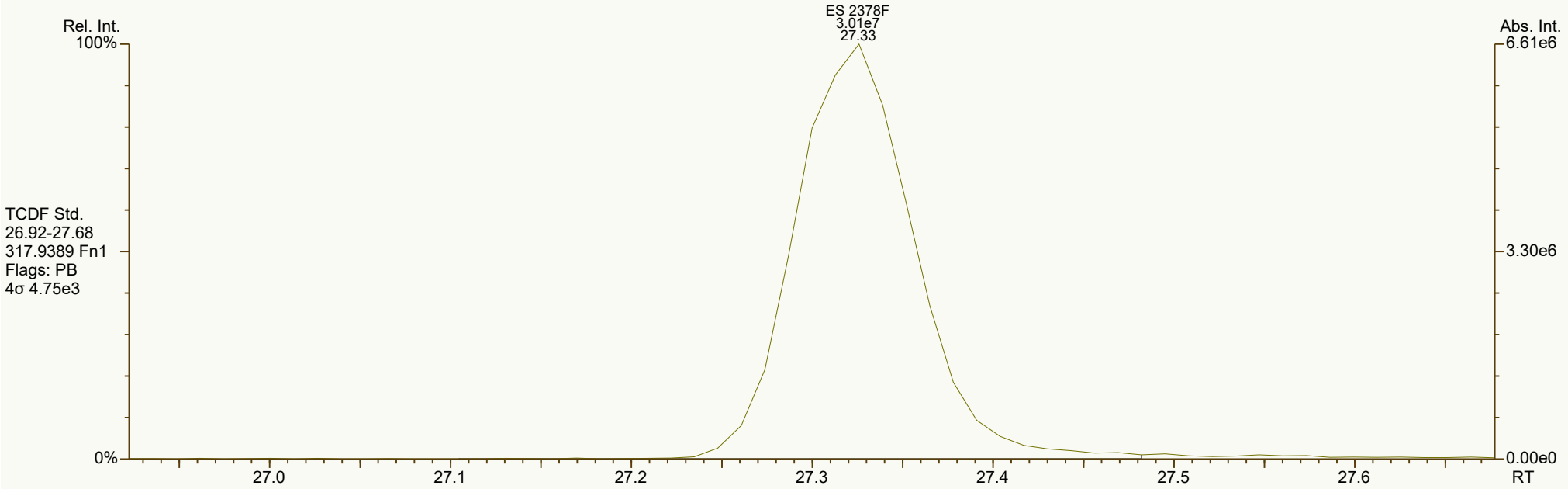
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR1_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW
Peak annotation: Areas, Centroids
PKD: 15-Jan-2022 09:24 Printed: 15-Jan-2022 10:55

SGS ID: OPR1_18822_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18822_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

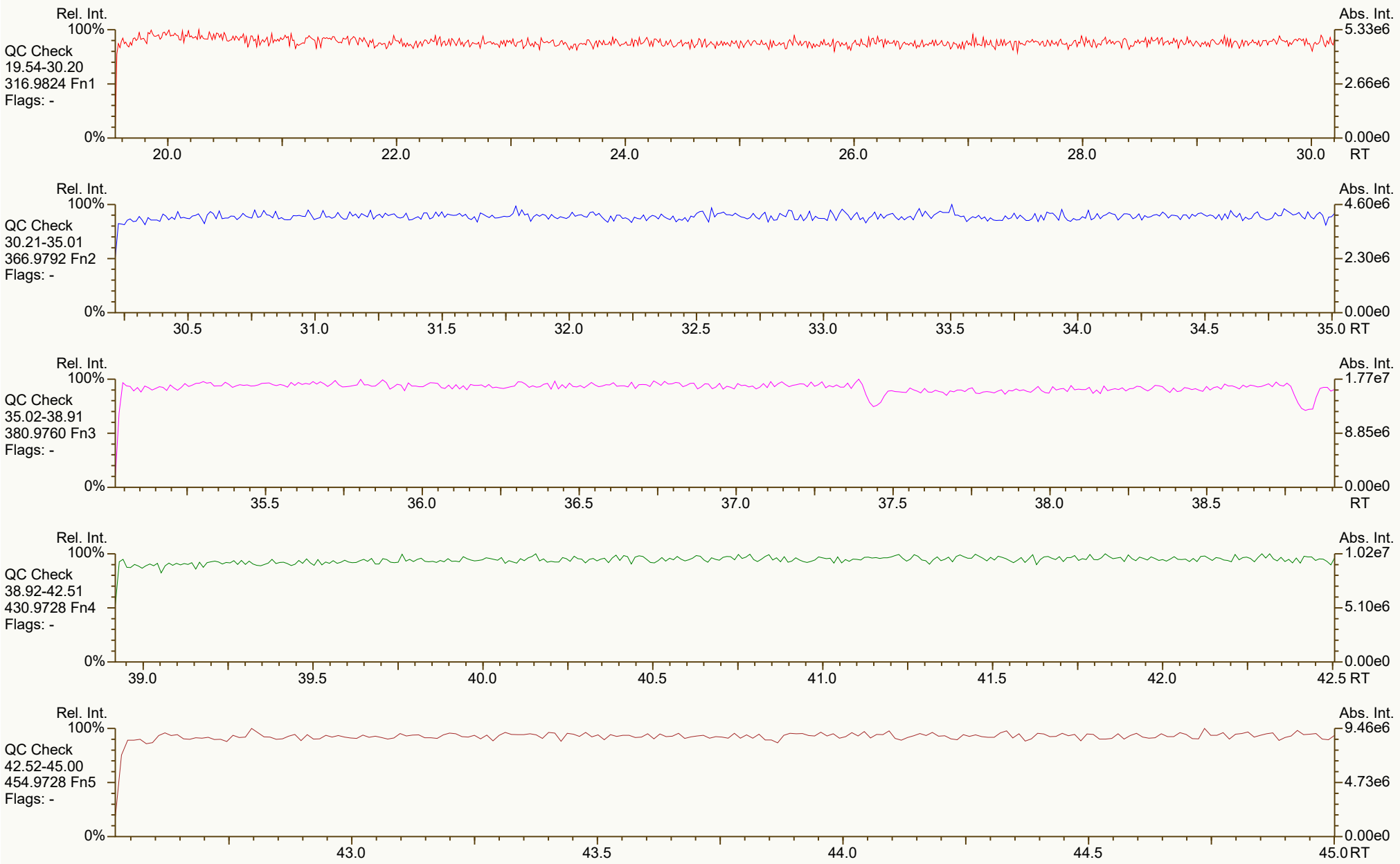
Acq: 14-Jan-2022 21:51:16
User: DTF Datafile: 220114C18

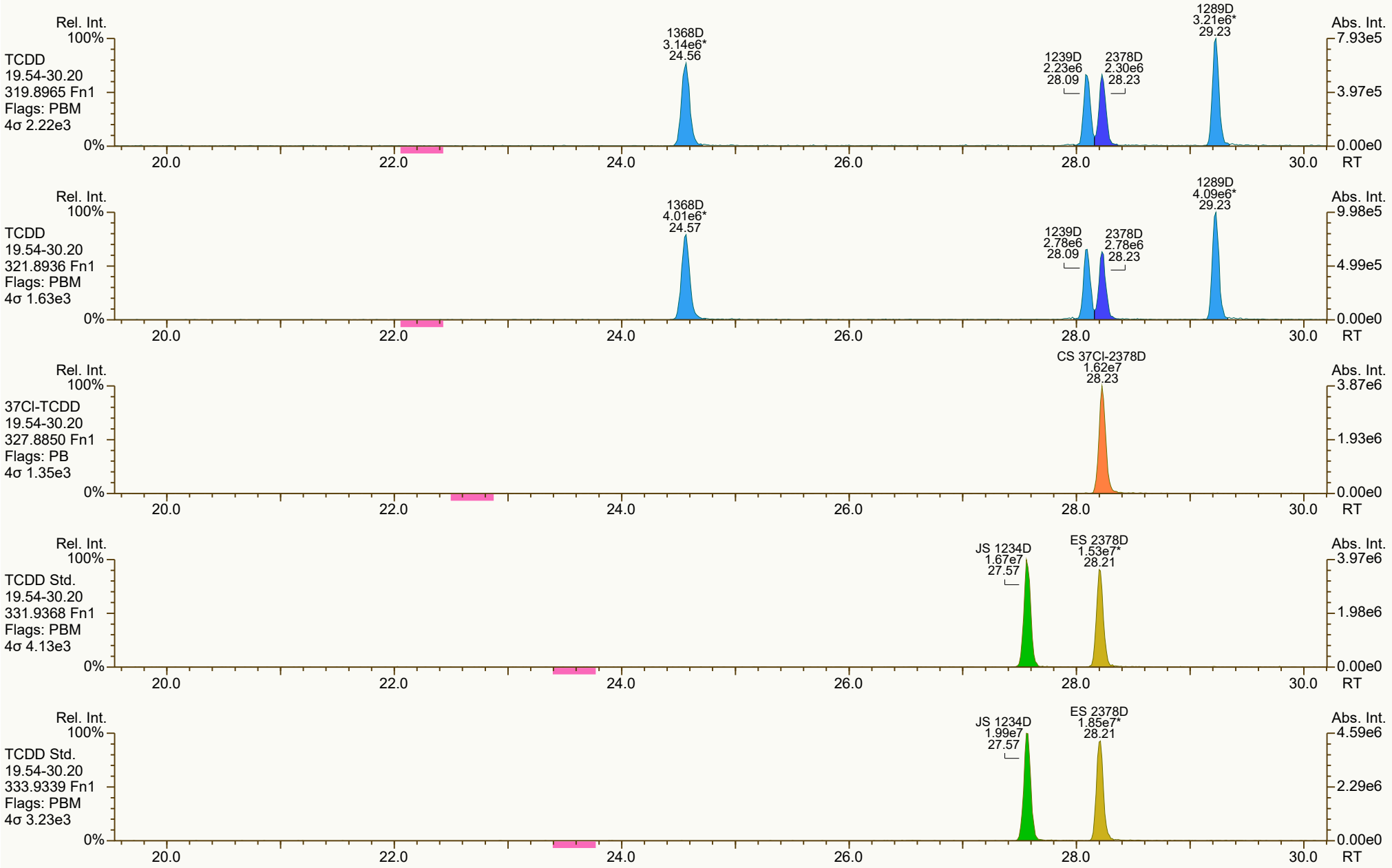


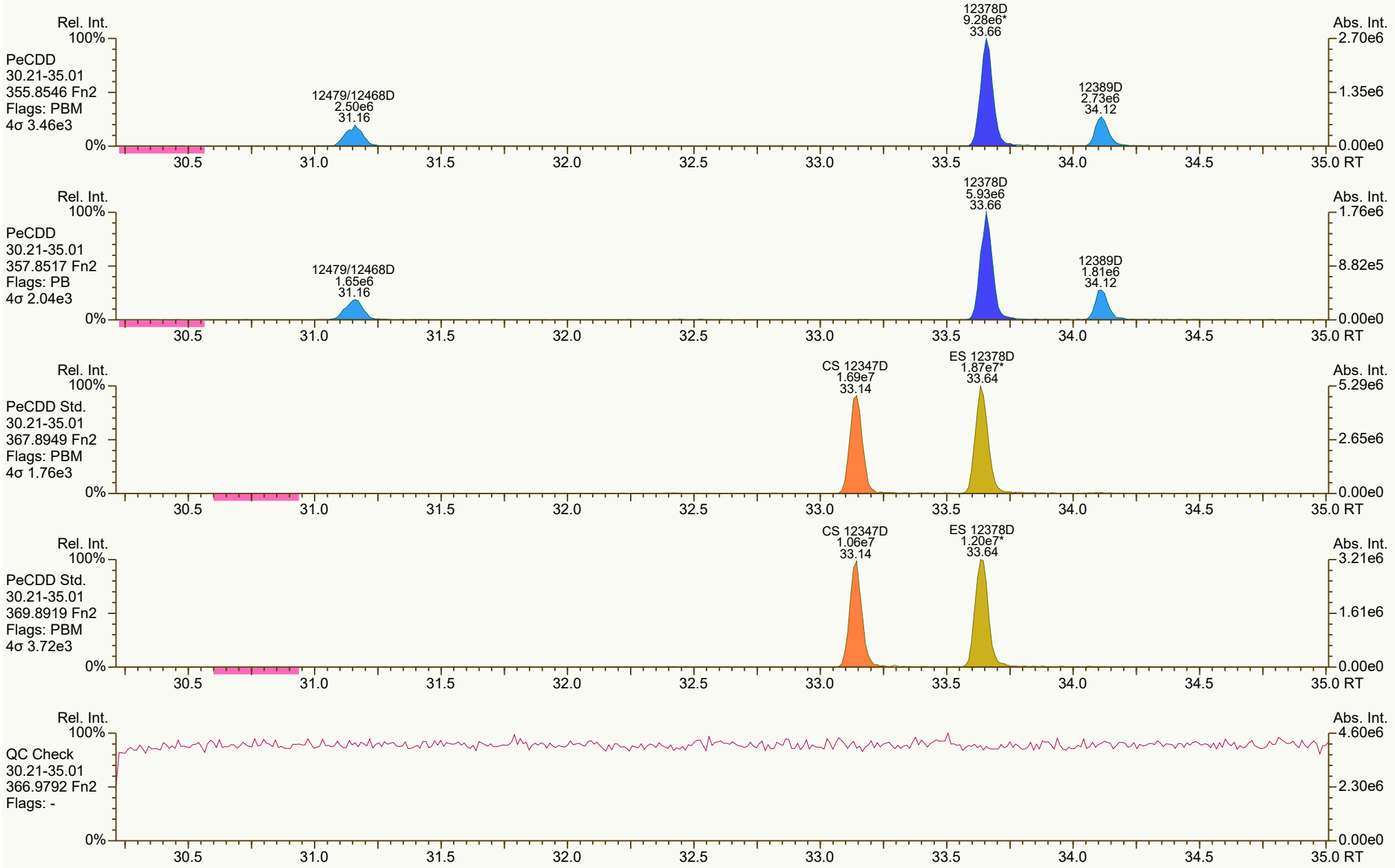


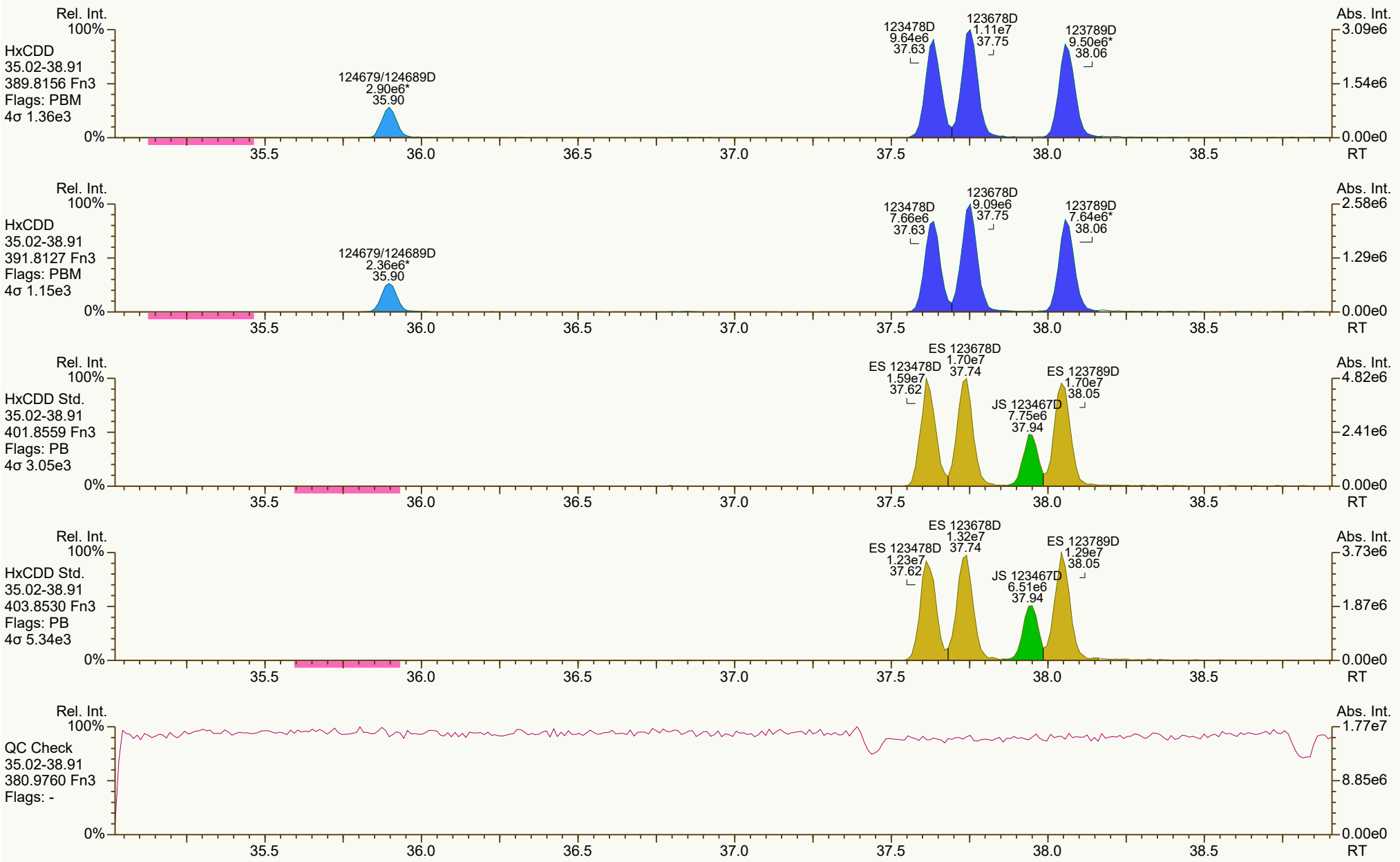
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR1_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW

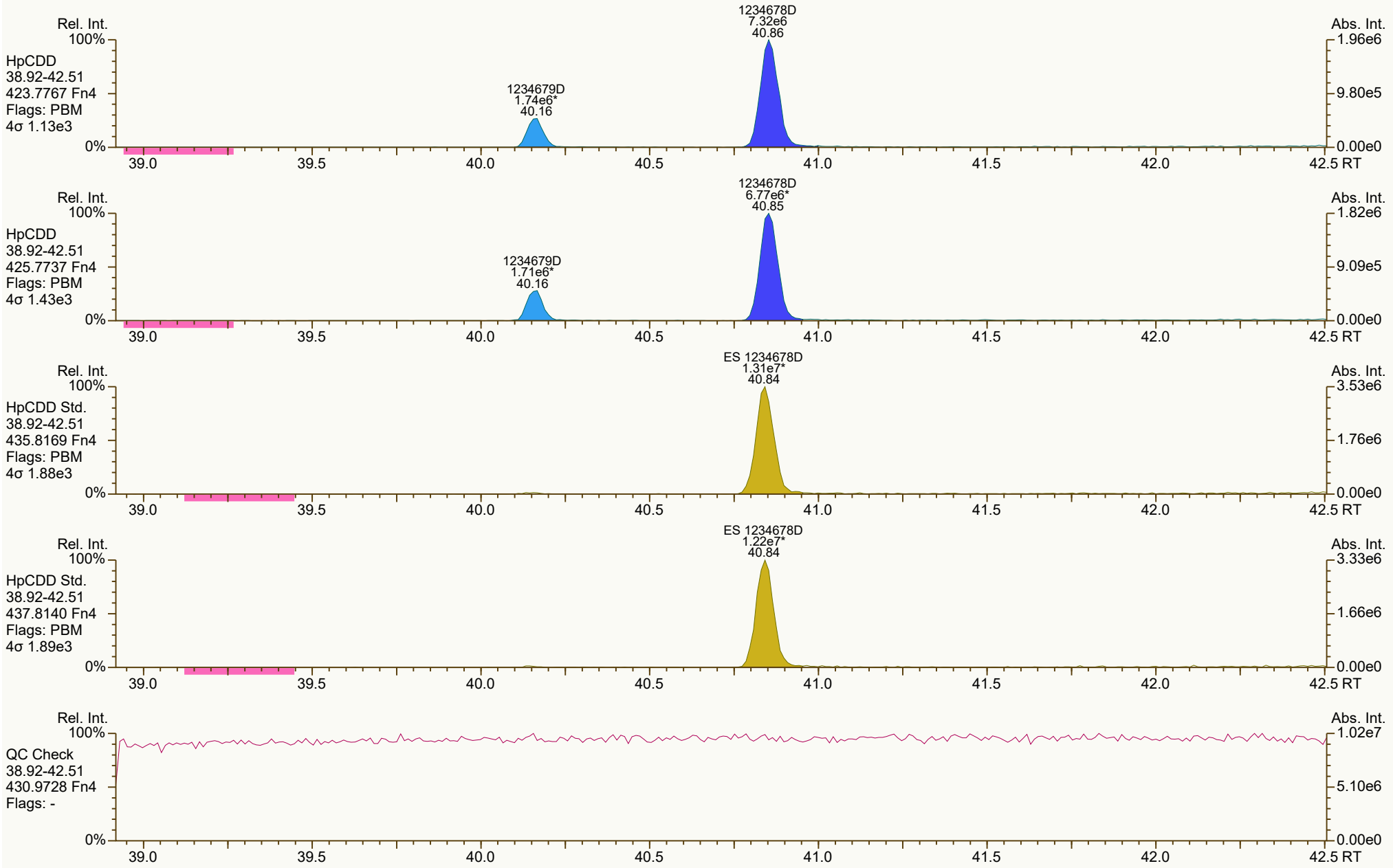
Peak annotation: Areas, Centroids
PKD: 15-Jan-2022 09:24 Printed: 15-Jan-2022 10:56

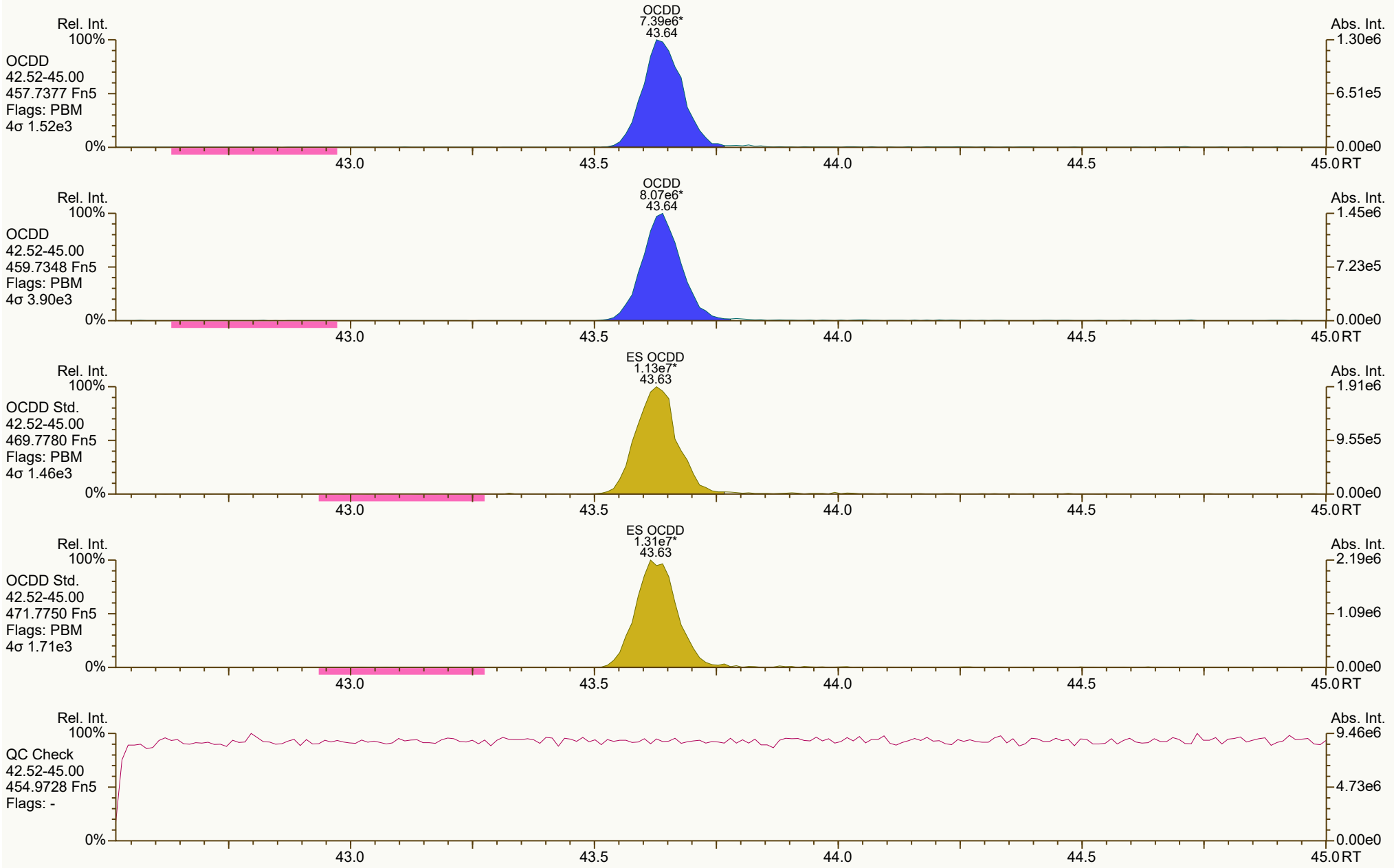

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.33e6
2.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.60e6
2.30e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.77e7
8.85e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.02e7
5.10e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.46e6
4.73e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

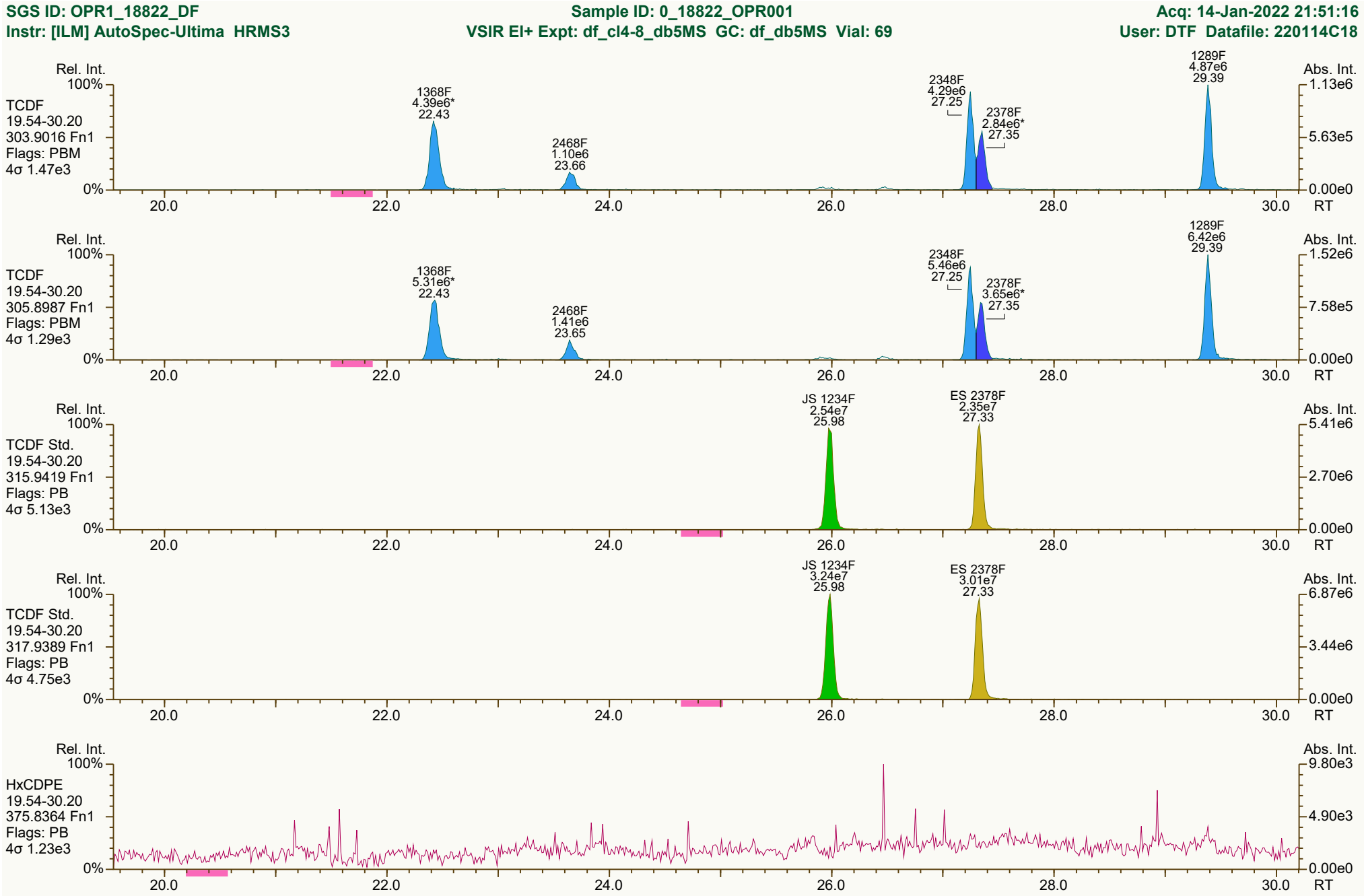

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.22e3
1368D
3.14e6*
24.56
1239D
2.23e6
28.09
2378D
2.30e6
28.23
1289D
3.21e6*
29.23
Abs. Int.
7.93e5
3.97e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.63e3
1368D
4.01e6*
24.57
1239D
2.78e6
28.09
2378D
2.78e6
28.23
1289D
4.09e6*
29.23
Abs. Int.
9.98e5
4.99e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.35e3
CS 37Cl-2378D
1.62e7
28.23
Abs. Int.
3.87e6
1.93e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 4.13e3
JS 1234D
1.67e7
27.57
ES 2378D
1.53e7*
28.21
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.23e3
JS 1234D
1.99e7
27.57
ES 2378D
1.85e7*
28.21
Abs. Int.
4.59e6
2.29e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 3.46e3
12479/12468D
2.50e6
31.16
12378D
9.28e6*
33.66
12389D
2.73e6
34.12
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 2.04e3
12479/12468D
1.65e6
31.16
12378D
5.93e6
33.66
12389D
1.81e6
34.12
Abs. Int.
1.76e6
8.82e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.76e3
CS 12347D
1.69e7
33.14
ES 12378D
1.87e7*
33.64
Abs. Int.
5.29e6
2.65e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 3.72e3
CS 12347D
1.06e7
33.14
ES 12378D
1.20e7*
33.64
Abs. Int.
3.21e6
1.61e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
4.60e6
2.30e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

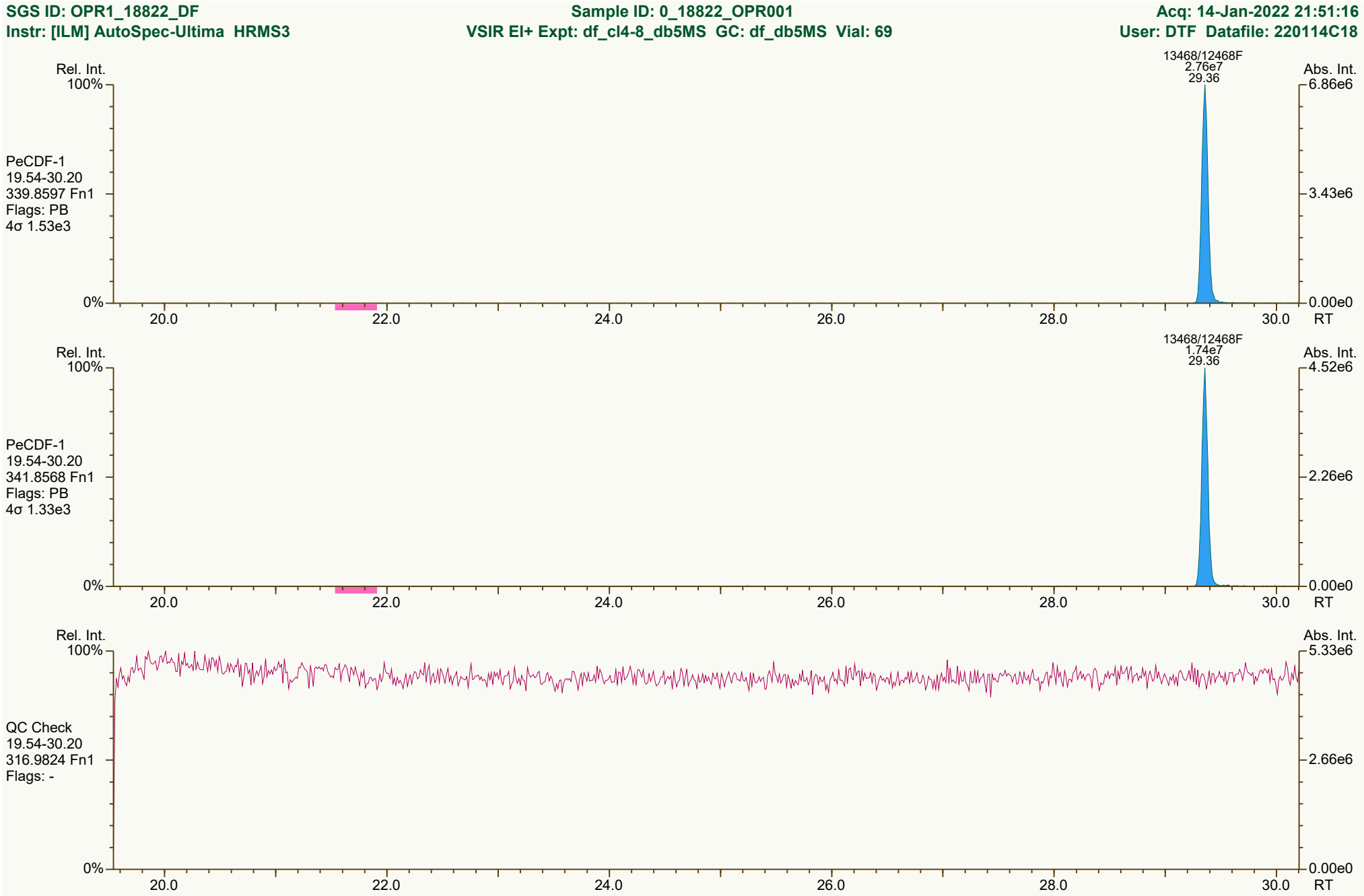

Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.36e3
124679/124689D
2.90e6*
35.90
123478D
9.64e6
37.63
123678D
1.11e7
37.75
123789D
9.50e6*
38.06
3.09e6
1.54e6
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 1.15e3
124679/124689D
2.36e6*
35.90
123478D
7.66e6
37.63
123678D
9.09e6
37.75
123789D
7.64e6*
38.06
2.58e6
1.29e6
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 3.05e3
ES 123478D
1.59e7
37.62
ES 123678D
1.70e7
37.74
JS 123467D
7.75e6
37.94
ES 123789D
1.70e7
38.05
4.82e6
2.41e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 5.34e3
ES 123478D
1.23e7
37.62
ES 123678D
1.32e7
37.74
JS 123467D
6.51e6
37.94
ES 123789D
1.29e7
38.05
3.73e6
1.87e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.77e7
8.85e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

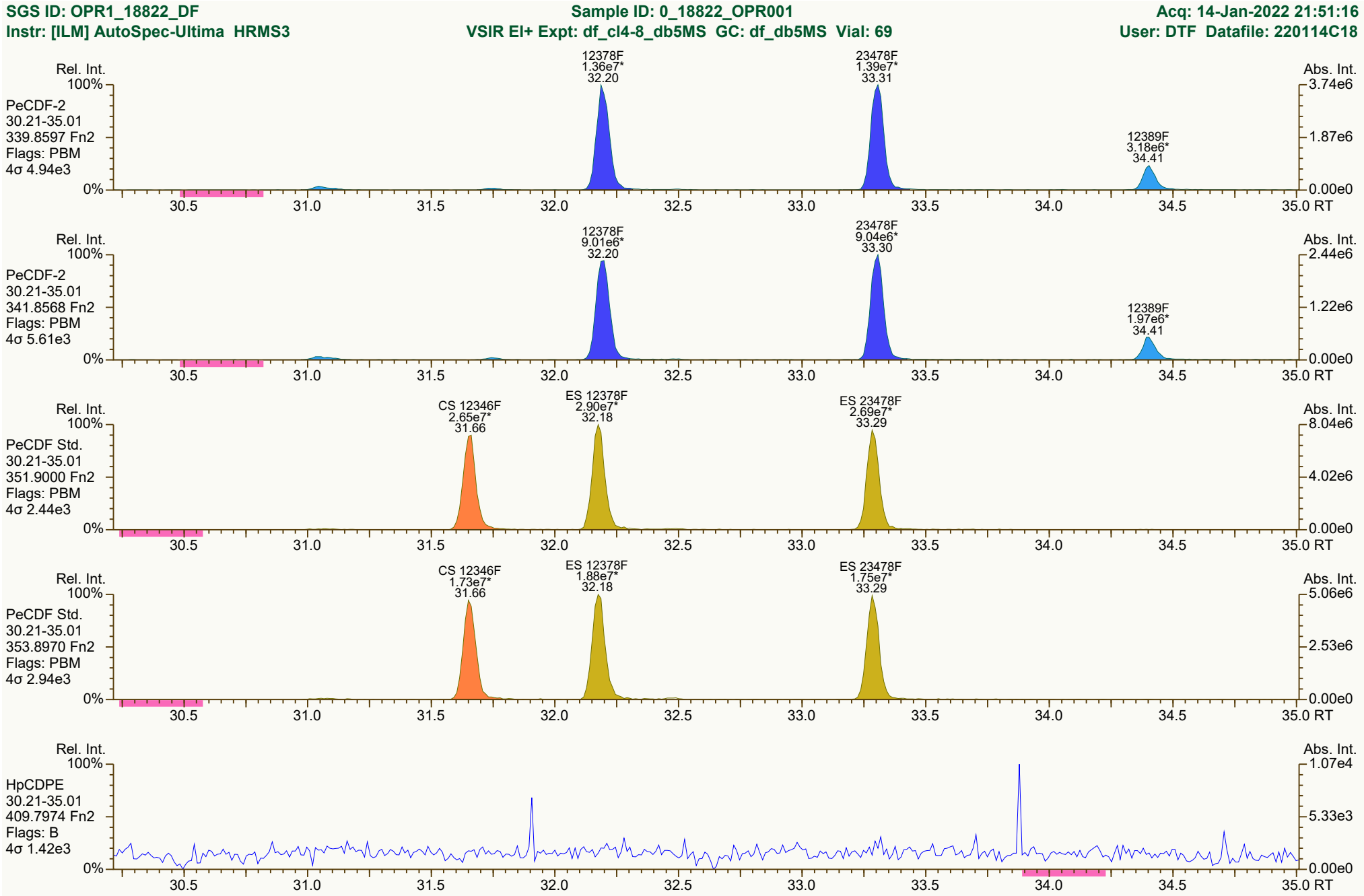

Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.13e3
1234678D
7.32e6
40.86
1234679D
1.74e6*
40.16
1.96e6
9.80e5
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.43e3
1234678D
6.77e6*
40.85
1234679D
1.71e6*
40.16
1.82e6
9.09e5
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 1.88e3
ES 1234678D
1.31e7*
40.84
3.53e6
1.76e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 1.89e3
ES 1234678D
1.22e7*
40.84
3.33e6
1.66e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
1.02e7
5.10e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

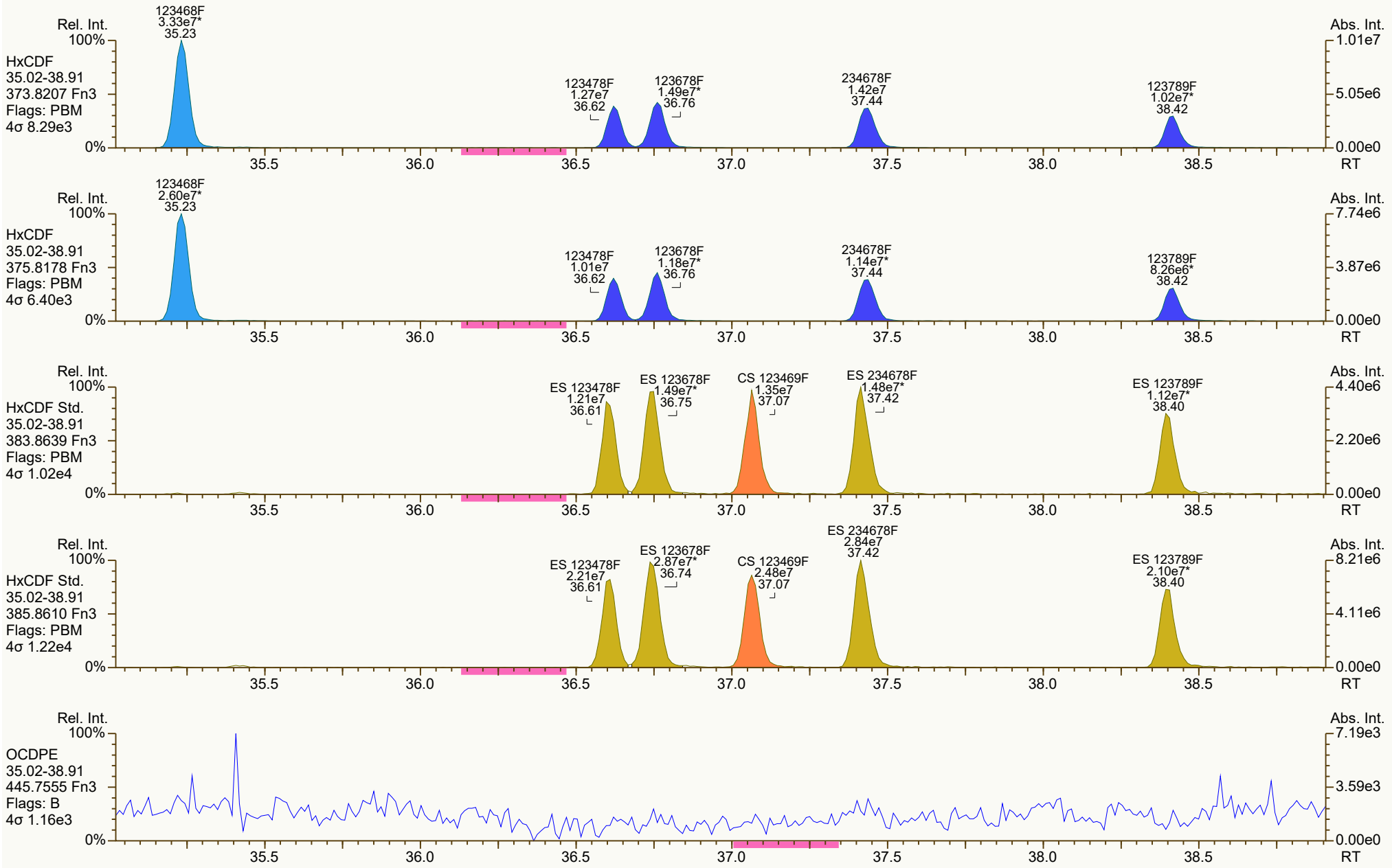

OCDD
7.39e6*
43.64
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
1.30e6
6.51e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.07e6*
43.64
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 3.90e3
1.45e6
7.23e5
ES OCDD
1.13e7*
43.63
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.46e3
1.91e6
9.55e5
ES OCDD
1.31e7*
43.63
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 1.71e3
2.19e6
1.09e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
9.46e6
4.73e6

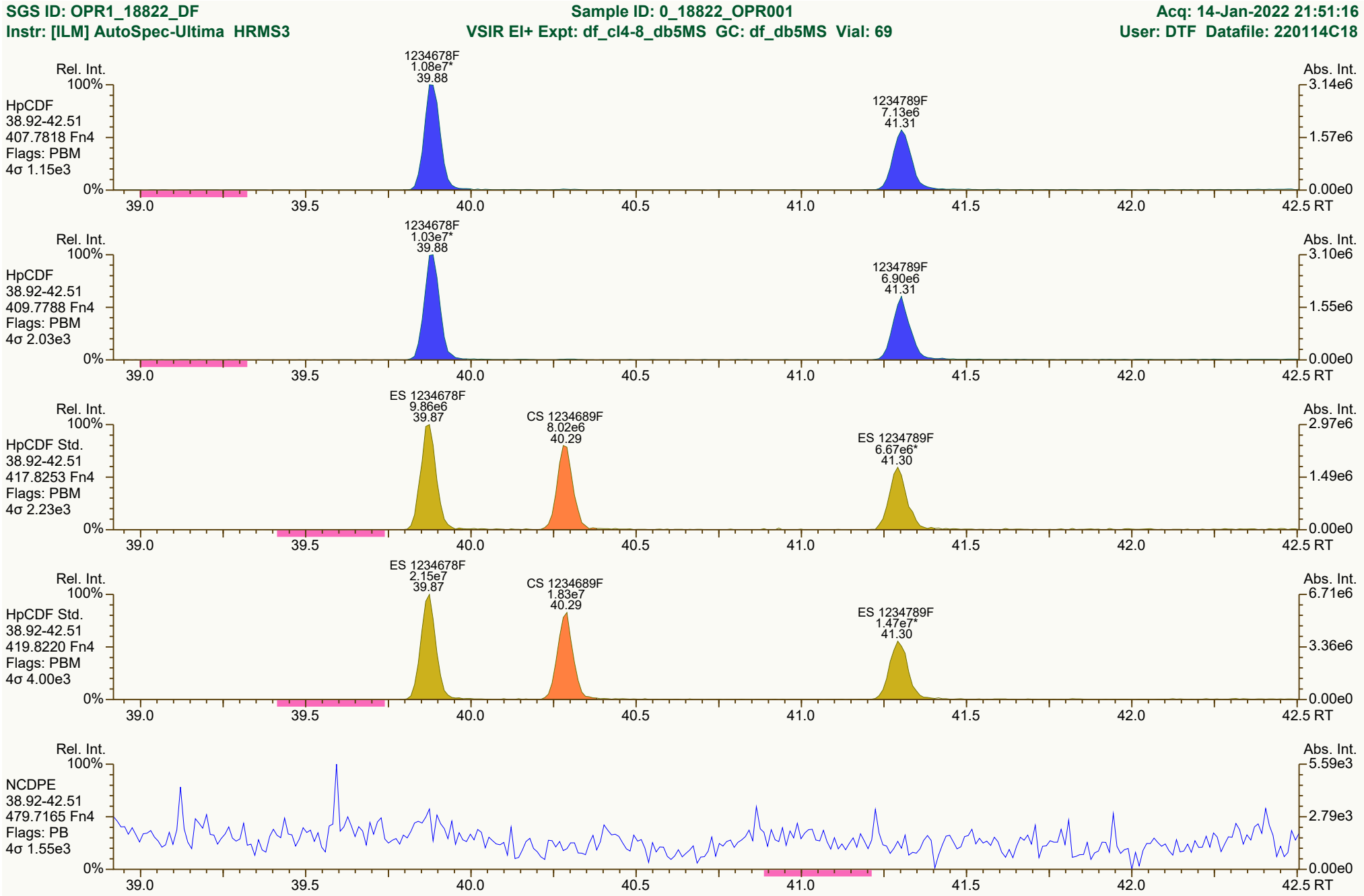


Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR1_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 0247, 6332, 9271 scc: 033-566
PKD: 15-Jan-2022 09:24 Printed: 15-Jan-2022 10:49 Page 7 of 12

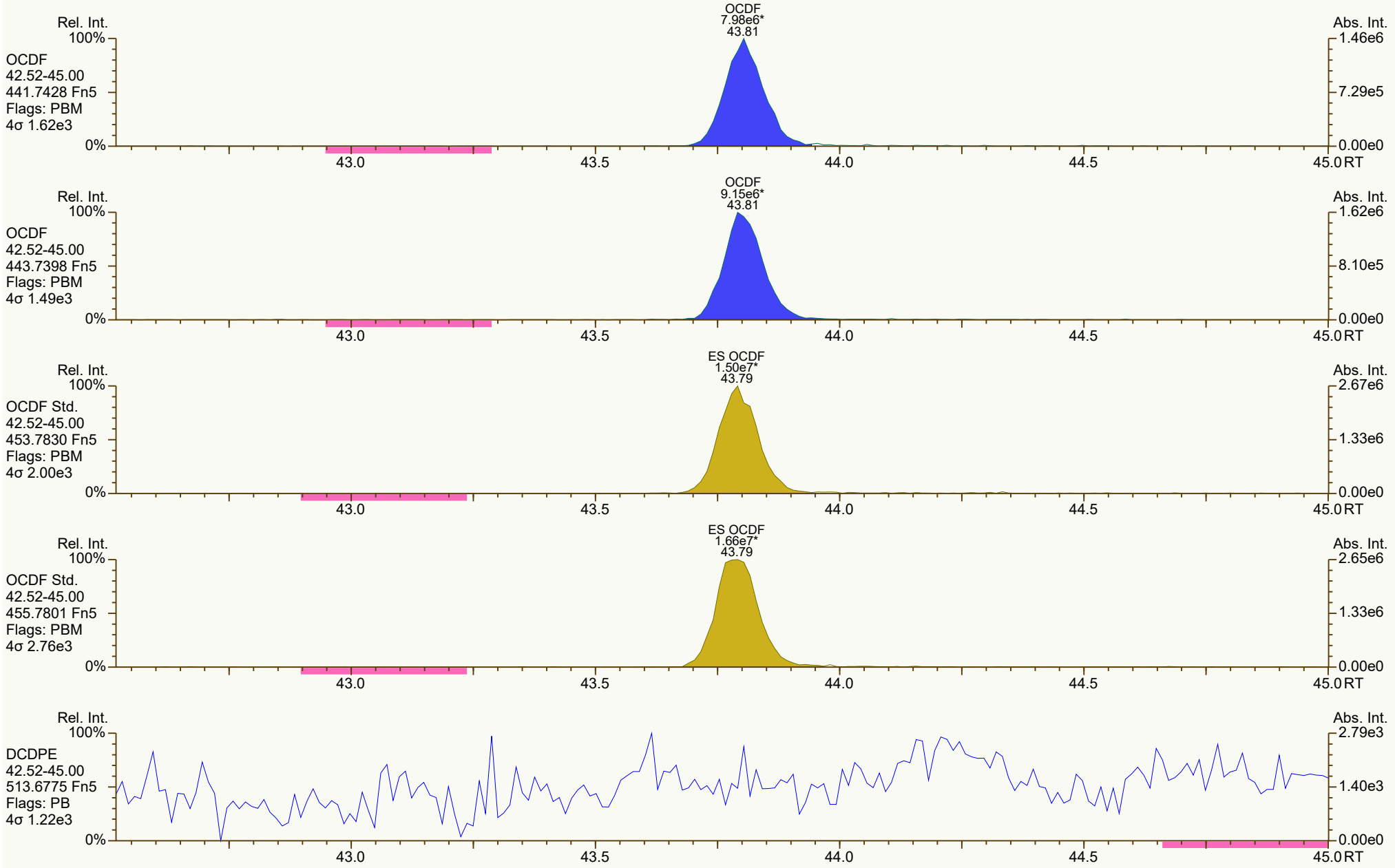

SGS ID: OPR1_18822_DF
Sample ID: 0_18822_OPR001
Acq: 14-Jan-2022 21:51:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 220114C18
Rel. Int.
100%
0%
Abs. Int.
6.86e6
3.43e6
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.53e3
13468/12468F
2.76e7
29.36
20.0
22.0
24.0
26.0
28.0
30.0
RT
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.33e3
13468/12468F
1.74e7
29.36
4.52e6
2.26e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
5.33e6
2.66e6
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR1_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 2746 scc: 033-566
PKD: 15-Jan-2022 09:24 Printed: 15-Jan-2022 10:49 Page 8 of 12


SGS ID: OPR1_18822_DF
Sample ID: 0_18822_OPR001
Acq: 14-Jan-2022 21:51:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 220114C18
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 4.94e3
12378F
1.36e7*
32.20
23478F
1.39e7*
33.31
12389F
3.18e6*
34.41
3.74e6
1.87e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 5.61e3
12378F
9.01e6*
32.20
23478F
9.04e6*
33.30
12389F
1.97e6*
34.41
2.44e6
1.22e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 2.44e3
CS 12346F
2.65e7*
31.66
ES 12378F
2.90e7*
32.18
ES 23478F
2.69e7*
33.29
8.04e6
4.02e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.94e3
CS 12346F
1.73e7*
31.66
ES 12378F
1.88e7*
32.18
ES 23478F
1.75e7*
33.29
5.06e6
2.53e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.42e3
1.07e4
5.33e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR1_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 1282, 9819, 5139 scc: 033-566
PKD: 15-Jan-2022 09:24 Printed: 15-Jan-2022 10:49 Page 9 of 12


Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 8.29e3
123468F 3.33e7* 35.23
123478F 1.27e7 36.62
123678F 1.49e7* 36.76
234678F 1.42e7 37.44
123789F 1.02e7* 38.42
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 6.40e3
123468F 2.60e7* 35.23
123478F 1.01e7 36.62
123678F 1.18e7* 36.76
234678F 1.14e7* 37.44
123789F 8.26e6* 38.42
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 1.02e4
ES 123478F 1.21e7 36.61
ES 123678F 1.49e7* 36.75
CS 123469F 1.35e7 37.07
ES 234678F 1.48e7* 37.42
ES 123789F 1.12e7* 38.40
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 1.22e4
ES 123478F 2.21e7 36.61
ES 123678F 2.87e7* 36.74
CS 123469F 2.48e7 37.07
ES 234678F 2.84e7 37.42
ES 123789F 2.10e7* 38.40
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.16e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR1_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 4808, 1356, 0345 scc: 033-566
PKD: 15-Jan-2022 09:24 Printed: 15-Jan-2022 10:49 Page 11 of 12


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.62e3
0%
OCDF
7.98e6*
43.81
Abs. Int.
1.46e6
7.29e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.49e3
0%
OCDF
9.15e6*
43.81
Abs. Int.
1.62e6
8.10e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.00e3
0%
ES OCDF
1.50e7*
43.79
Abs. Int.
2.67e6
1.33e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 2.76e3
0%
ES OCDF
1.66e7*
43.79
Abs. Int.
2.65e6
1.33e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
2.79e3
1.40e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18822_DF **Acq'd:** 14 Jan 2022 22:37 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR002 **UTP:** 15-Jan-2022 10:34:31 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 914-582-DZG

Datafile: 220114C19 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22		1.0008	1.0008	0	5.26E+06	0.83	Y	1.18	13	5015.383	0.127
12378-PeCDD	33.65		1.0006	1.0006	0	1.63E+07	1.58	Y	1.04	50.6	5055.588	0.132
123478-HxCDD	37.63		1.0004	1.0004	0	1.77E+07	1.26	Y	1.09	59.2	4947.101	0.144
123678-HxCDD	37.75		1.0036	1.0036	0	2.07E+07	1.22	Y	1.15	59.2	4947.101	0.134
123789-HxCDD	38.06		1.0118	1.0118	0	1.80E+07	1.23	Y	1.05	57.8	4947.101	0.145
1234678-HpCDD	40.85		1.0003	1.0003	0	1.43E+07	1.04	Y	1.06	54.7	2590.469	0.0974
OCDD	43.65		1.0003	1.0002	-0.3	1.45E+07	0.87	Y	1.13	115	3989.082	0.47
2378-TCDF	27.35		1.0008	1.0009	+0.2	6.39E+06	0.79	Y	1.08	11	3027.248	0.0563
12378-PeCDF	32.19		1.0006	1.0005	-0.2	2.34E+07	1.53	Y	1.02	48.5	8310.841	0.16
23478-PeCDF	33.30		1.0006	1.0005	-0.2	2.38E+07	1.55	Y	1.02	52.7	8310.841	0.153
123478-HxCDF	36.62		1.0005	1.0004	-0.2	2.38E+07	1.21	Y	1.27	55.5	12896.248	0.239
123678-HxCDF	36.76		1.0004	1.0005	+0.2	2.73E+07	1.24	Y	1.15	53.8	12896.248	0.212
234678-HxCDF	37.43		1.0005	1.0004	-0.2	2.64E+07	1.25	Y	1.19	52.6	12896.248	0.217
123789-HxCDF	38.41		1.0004	1.0004	0	1.98E+07	1.26	Y	1.16	51.7	12896.248	0.293
1234678-HpCDF	39.88		1.0003	1.0003	0	2.15E+07	1.02	Y	1.37	52	6128.534	0.114
1234789-HpCDF	41.31		1.0003	1.0003	0	1.44E+07	1.02	Y	1.31	50.8	6128.534	0.21
OCDF	43.81		1.0003	1.0003	0	1.71E+07	0.90	Y	1.07	106	3928.948	0.355

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0231	1.0232	+0.2	3.41E+07	0.82	Y	1.05	93.3
ES 12378-PeCDD	33.63	1.2198	1.2204	+1.2	3.10E+07	1.58	Y	0.88	101
ES 123478-HxCDD	37.61	0.9913	0.9914	+0.2	2.75E+07	1.23	Y	0.97	102
ES 123678-HxCDD	37.73	0.9944	0.9945	+0.2	3.04E+07	1.31	Y	0.94	116
ES 123789-HxCDD	38.04	1.0026	1.0027	+0.2	2.97E+07	1.27	Y	1.09	97.9
ES 1234678-HpCDD	40.84	1.0760	1.0764	+1.0	2.46E+07	1.04	Y	0.91	97
ES OCDD	43.64	1.1489	1.1502	+3.4	2.24E+07	0.88	Y	0.62	64.7
ES 2378-TCDF	27.32	1.0515	1.0518	+0.5	5.41E+07	0.80	Y	1.06	91.8
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	4.72E+07	1.51	Y	0.91	93.2
ES 23478-PeCDF	33.28	1.2804	1.2813	+1.8	4.42E+07	1.49	Y	0.88	90
ES 123478-HxCDF	36.60	0.9647	0.9647	0	3.37E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.74	0.9684	0.9683	-0.2	4.40E+07	0.53	Y	1.35	117
ES 234678-HxCDF	37.41	0.9861	0.9861	0	4.22E+07	0.55	Y	1.24	122
ES 123789-HxCDF	38.40	1.0120	1.0120	0	3.29E+07	0.52	Y	1.16	102
ES 1234678-HpCDF	39.87	1.0506	1.0509	+0.7	3.02E+07	0.44	Y	0.97	112
ES 1234789-HpCDF	41.29	1.0879	1.0884	+1.2	2.17E+07	0.42	Y	0.85	91.9
ES OCDF	43.80	1.1534	1.1545	+2.9	3.02E+07	0.93	Y	0.81	67.3

Lab ID: OPR2_18822_DF | Acq'd: 14 Jan 2022 22:37 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR002 | UTP: 15-Jan-2022 10:34:31 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 914-582-DZG

Datafile: 220114C19 | Report: 15 Jan 2022 10:40 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.50E+07	0.81	Y	-	-
JS 1234-TCDF	25.98		-	-	-	5.56E+07	0.79	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.39E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0238	1.0241	+0.5	1.67E+07	n/a	-	1.20	99.2
CS 12347-PeCDD	33.14		1.2018	1.2024	+1.2	2.94E+07	1.62	Y	0.75	111
CS 12346-PeCDF	31.65		1.2178	1.2184	+1.1	4.69E+07	1.62	Y	0.85	99.1
CS 123469-HxCDF	37.06		0.9768	0.9768	0	3.96E+07	0.52	Y	1.12	128
CS 1234689-HpCDF	40.29		1.0615	1.0619	+1.0	2.69E+07	0.44	Y	0.89	109
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~1.67E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2024~~	~~+1.2~~	~~2.94E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2184~~	~~+1.1~~	~~4.69E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9768~~	~~0~~	~~3.96E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0615~~	~~1.0619~~	~~+1.0~~	~~2.69E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~97~~

Totals	Conc	EMPC
Total TCDD	61.7	61.7
Total PeCDD	78.8	78.8
Total HxCDD	193	193
Total HpCDD	68.1	68.1
Total Tetra-Octa Dioxins	516	516
Total TCDF	68	68
Total PeCDF	209	209
Total HxCDF	345	345
Total HpCDF	103	103
Total Tetra-Octa Furans	831	831
Total Tetra-Octa Dioxins & Furans	1350	1350

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.824	0.83
Response	5.27E+06	5.26E+06

Lab ID: OPR2_18822_DF | **Acq'd: 14 Jan 2022 22:37 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18822_OPR002 | **UTP: 15-Jan-2022 10:34:31 MLS** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 914-582-DZG**

Datafile: 220114C19 | **Report: 15 Jan 2022 10:40 MS** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.56		0.8733	0.8708	-3.7	7.24E+06	0.78	Y	1.18	17.9	5015.383	0.127
1379-TCDD	NotFnd		0.8860						1.18		5015.383	0.127
1369-TCDD	NotFnd		0.9009						1.18		5015.383	0.127
1469-TCDD	NotFnd		0.9282						1.18		5015.383	0.127
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		5015.383	0.127
1378-TCDD	NotFnd		0.9429						1.18		5015.383	0.127
1268-TCDD	NotFnd		0.9500						1.18		5015.383	0.127
1478-TCDD	NotFnd		0.9584						1.18		5015.383	0.127
1279-TCDD	NotFnd		0.9648						1.18		5015.383	0.127
1234/1269-TCDD	NotFnd		0.9770						1.18		5015.383	0.127
1236-TCDD	NotFnd		0.9821						1.18		5015.383	0.127
1237/1238-TCDD	NotFnd		0.9909						1.18		5015.383	0.127
1239-TCDD	28.08		0.9959	0.9959	0	4.95E+06	0.81	Y	1.18	12.3	5015.383	0.127
2378-TCDD	**28.22**		**1.0008**	1.0008	**0**	5.26E+06	0.83	Y	**1.18**	**13**	**5015.383**	**0.127**
1278-TCDD	NotFnd		1.0123						1.18		5015.383	0.127
1267-TCDD	NotFnd		1.0172						1.18		5015.383	0.127
1289-TCDD	29.22		1.0354	1.0362	+1.4	7.48E+06	0.77	Y	1.18	18.5	5015.383	0.127
12479/12468-PeCDD	31.15		0.9267	0.9261	-1.1	4.27E+06	1.57	Y	1.04	13.3	5055.588	0.132
12469-PeCDD	NotFnd		0.9426						1.04		5055.588	0.132
12368-PeCDD	NotFnd		0.9587						1.04		5055.588	0.132
12478-PeCDD	NotFnd		0.9642						1.04		5055.588	0.132
12379-PeCDD	NotFnd		0.9674						1.04		5055.588	0.132
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		5055.588	0.132
12346/12347-PeCDD	NotFnd		0.9861						1.04		5055.588	0.132
12378-PeCDD	33.65		**1.0006**	**1.0006**	**0**	**1.63E+07**	**1.58**	**Y**	**1.04**	**50.6**	**5055.588**	**0.132**
12367-PeCDD	NotFnd		1.0036						1.04		5055.588	0.132
12389-PeCDD	34.11		1.0139	1.0141	+0.4	4.80E+06	1.60	Y	1.04	14.9	5055.588	0.132
124679/124689-HxCDD	35.89		0.9541	0.9543	+0.4	5.24E+06	1.25	Y	1.10	16.4	4947.101	0.141
123468-HxCDD	NotFnd		0.9715						1.10		4947.101	0.141
123679/123689-HxCDD	NotFnd		0.9793						1.10		4947.101	0.141
123469-HxCDD	NotFnd		0.9831						1.10		4947.101	0.141
123478-HxCDD	37.63		**1.0004**	**1.0004**	**0**	**1.77E+07**	**1.26**	**Y**	1.09	**59.2**	**4947.101**	**0.144**
123678-HxCDD	37.75		**1.0036**	**1.0036**	**0**	**2.07E+07**	**1.22**	**Y**	1.15	**59.2**	**4947.101**	**0.134**
123467-HxCDD	NotFnd		1.0089						1.10		4947.101	0.141
123789-HxCDD	38.06		**1.0118**	**1.0118**	**0**	**1.80E+07**	**1.23**	**Y**	1.05	**57.8**	**4947.101**	**0.145**

Lab ID: OPR2_18822_DF **Acq'd:** 14 Jan 2022 22:37 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR002 **UTP:** 15-Jan-2022 10:34:31 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 914-582-DZG

Datafile: 220114C19 **Report:** 15 Jan 2022 10:40 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9835	0	3.51E+06	1.10	Y	1.06	13.5	2590.469	0.0974
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**1.43E+07**	**1.04**	**Y**	**1.06**	**54.7**	**2590.469**	**0.0974**
OCDD	**43.65**		**1.0003**	**1.0002**	**-0.3**	**1.45E+07**	**0.87**	**Y**	**1.13**	**115**	**3989.082**	**0.47**
OCDD-a	43.63	**EMPC**	1.0002	0.9999	-0.8	3.49E+05	3.20	N	0.07	43.2	4297.241	7.92
1368-TCDF	22.42		0.8250	0.8206	-5.9	9.35E+06	0.79	Y	1.08	16	3027.248	0.0563
1468-TCDF	NotFnd		0.8494						1.08		3027.248	0.0563
2468-TCDF	23.65		0.8684	0.8655	-4.1	2.51E+06	0.80	Y	1.08	4.31	3027.248	0.0563
1346/1246-TCDF	NotFnd		0.8815						1.08		3027.248	0.0563
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3027.248	0.0563
1348-TCDF	NotFnd		0.8966						1.08		3027.248	0.0563
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3027.248	0.0563
1268-TCDF	NotFnd		0.9148						1.08		3027.248	0.0563
1467-TCDF	NotFnd		0.9197						1.08		3027.248	0.0563
1478-TCDF	NotFnd		0.9258						1.08		3027.248	0.0563
1369/1237-TCDF	NotFnd		0.9390						1.08		3027.248	0.0563
2467-TCDF	NotFnd		0.9435						1.08		3027.248	0.0563
2368-TCDF	NotFnd		0.9488						1.08		3027.248	0.0563
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		3027.248	0.0563
1278-TCDF	NotFnd		0.9689						1.08		3027.248	0.0563
1349-TCDF	NotFnd		0.9730						1.08		3027.248	0.0563
1267-TCDF	NotFnd		0.9787						1.08		3027.248	0.0563
2346/1249-TCDF	NotFnd		0.9856						1.08		3027.248	0.0563
2347/1279-TCDF	NotFnd		0.9934						1.08		3027.248	0.0563
2348-TCDF	27.24		0.9972	0.9971	-0.2	1.02E+07	0.77	Y	1.08	17.4	3027.248	0.0563
2378-TCDF	**27.35**		**1.0008**	**1.0009**	**+0.2**	**6.39E+06**	**0.79**	**Y**	**1.08**	**11**	**3027.248**	**0.0563**
2367/3467-TCDF	NotFnd		1.0145						1.08		3027.248	0.0563
1269-TCDF	NotFnd		1.0236						1.08		3027.248	0.0563
1239-TCDF	NotFnd		1.0333						1.08		3027.248	0.0563
1289-TCDF	29.38		1.0740	1.0755	+2.6	1.13E+07	0.78	Y	1.08	19.3	3027.248	0.0563
13468/12468-PeCDF	29.35		0.9138	0.9122	-2.8	4.48E+07	1.61	Y	1.02	95.9	2752.495	0.0519
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		8310.841	0.157
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		8310.841	0.157
14678-PeCDF	NotFnd		0.9693						1.02		8310.841	0.157
13479-PeCDF	NotFnd		0.9722						1.02		8310.841	0.157
13469/12479-PeCDF	NotFnd		0.9800						1.02		8310.841	0.157
12346-PeCDF	NotFnd		0.9844						1.02		8310.841	0.157

Lab ID: OPR2_18822_DF | Acq'd: 14 Jan 2022 22:37 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18822_OPR002 | UTP: 15-Jan-2022 10:34:31 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 914-582-DZG

Datafile: 220114C19 | Report: 15 Jan 2022 10:40 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		8310.841	0.157
12347-PeCDF	NotFnd		0.9890						1.02		8310.841	0.157
12348-PeCDF	NotFnd		0.9942						1.02		8310.841	0.157
12378-PeCDF	**32.19**		**1.0006**	**1.0005**	**-0.2**	**2.34E+07**	**1.53**	**Y**	**1.02**	**48.5**	**8310.841**	**0.16**
12678/12367-PeCDF	NotFnd		1.0090						1.02		8310.841	0.157
12379-PeCDF	NotFnd		1.0142						1.02		8310.841	0.157
12679-PeCDF	NotFnd		0.9933						1.02		8310.841	0.157
23467/12369-PeCDF	NotFnd		0.9969						1.02		8310.841	0.157
23478-PeCDF	**33.30**		**1.0006**	**1.0005**	**-0.2**	**2.38E+07**	**1.55**	**Y**	**1.02**	**52.7**	**8310.841**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8310.841	0.157
12349-PeCDF	NotFnd		1.0107						1.02		8310.841	0.157
12389-PeCDF	34.40		1.0330	1.0337	+1.4	5.59E+06	1.43	Y	1.02	12	8310.841	0.157
123468-HxCDF	35.23		0.9627	0.9626	-0.2	6.01E+07	1.24	Y	1.19	132	12896.248	0.236
124678/134678-HxCDF	NotFnd		0.9682						1.19		12896.248	0.236
134679-HxCDF	NotFnd		0.9744						1.19		12896.248	0.236
124679-HxCDF	NotFnd		0.9798						1.19		12896.248	0.236
124689-HxCDF	NotFnd		0.9858						1.19		12896.248	0.236
123467-HxCDF	NotFnd		0.9973						1.19		12896.248	0.236
123478-HxCDF	**36.62**		**1.0005**	**1.0004**	**-0.2**	**2.38E+07**	**1.21**	**Y**	**1.27**	**55.5**	**12896.248**	**0.239**
123678-HxCDF	**36.76**		**1.0004**	**1.0005**	**+0.2**	**2.73E+07**	**1.24**	**Y**	**1.15**	**53.8**	**12896.248**	**0.212**
123479-HxCDF	NotFnd		1.0051						1.19		12896.248	0.236
123469-HxCDF	NotFnd		1.0093						1.19		12896.248	0.236
123679-HxCDF	NotFnd		0.9944						1.19		12896.248	0.236
234678-HxCDF	**37.43**		**1.0005**	**1.0004**	**-0.2**	**2.64E+07**	**1.25**	**Y**	**1.19**	**52.6**	**12896.248**	**0.217**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12896.248	0.236
123789-HxCDF	**38.41**		**1.0004**	**1.0004**	**0**	**1.98E+07**	**1.26**	**Y**	**1.16**	**51.7**	**12896.248**	**0.293**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		12896.248	0.236
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**2.15E+07**	**1.02**	**Y**	**1.37**	**52**	**6128.534**	**0.114**
1234679-HpCDF	NotFnd		1.0069						1.34		6128.534	0.153
1234689-HpCDF	NotFnd		1.0103						1.34		6128.534	0.153
1234789-HpCDF	**41.31**		**1.0003**	**1.0003**	**0**	**1.44E+07**	**1.02**	**Y**	**1.31**	**50.8**	**6128.534**	**0.21**
OCDF	**43.81**		**1.0003**	**1.0003**	**0**	**1.71E+07**	**0.90**	**Y**	**1.07**	**106**	**3928.948**	**0.355**
OCDF-a	NotFnd		1.0002						0.07		3707.6	5.4

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220114C19	Analysis Date:	14-JAN-2022 22:37:36
Lab ID:	OPR2_18822_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	13	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	59.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	59.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	57.8	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.7	35	-	70	Y
OCDD	100	115	78	-	144	Y
2,3,7,8-TCDF	10	11	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.5	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.8	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.6	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	51.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.8	39	-	69	Y
OCDF	100	106	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 15 Jan 2022 10:40 Analyst: MS

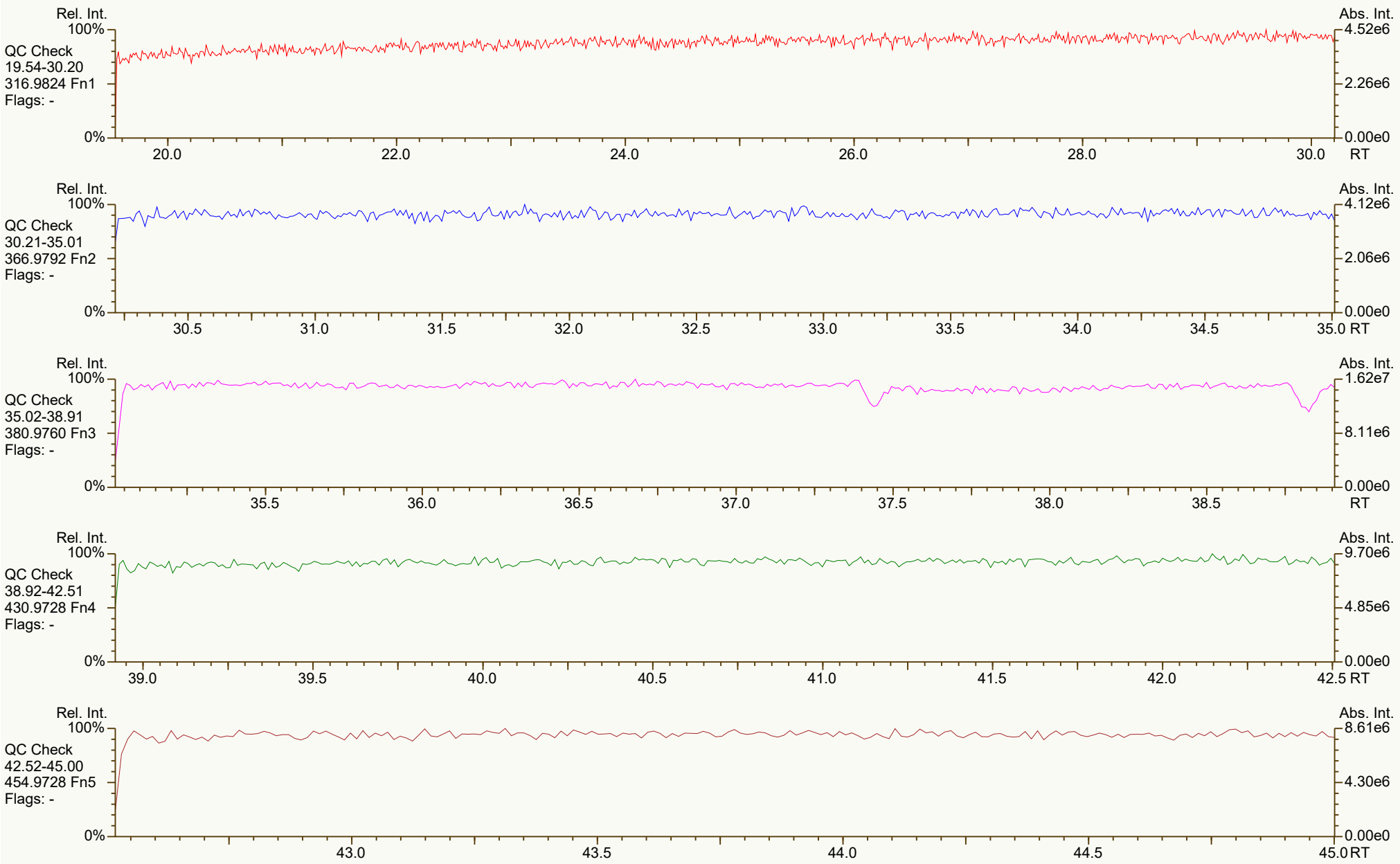
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

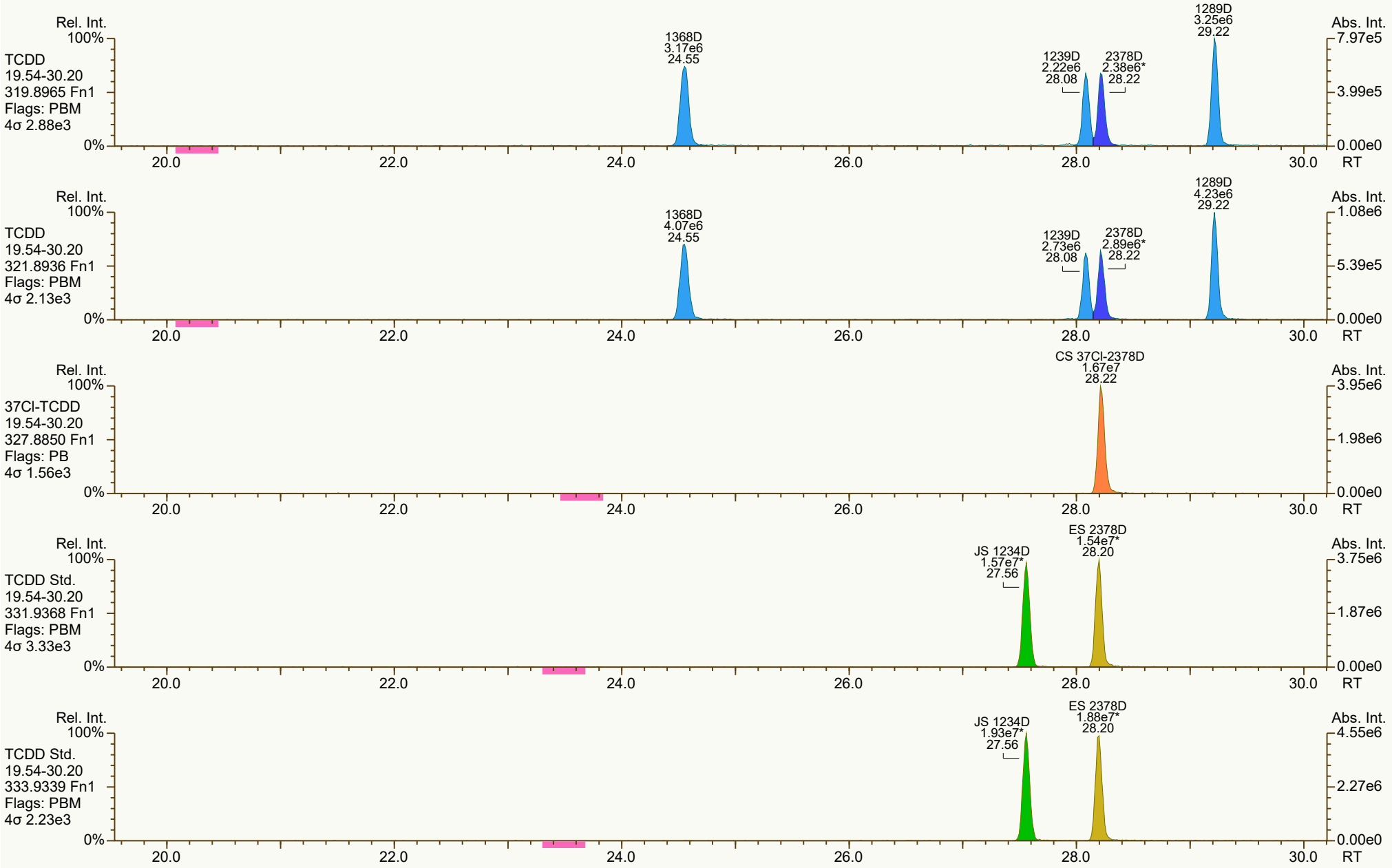
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220114C19	Analysis Date:	14-JAN-2022 22:37:36
Lab ID:	OPR2_18822_DF		

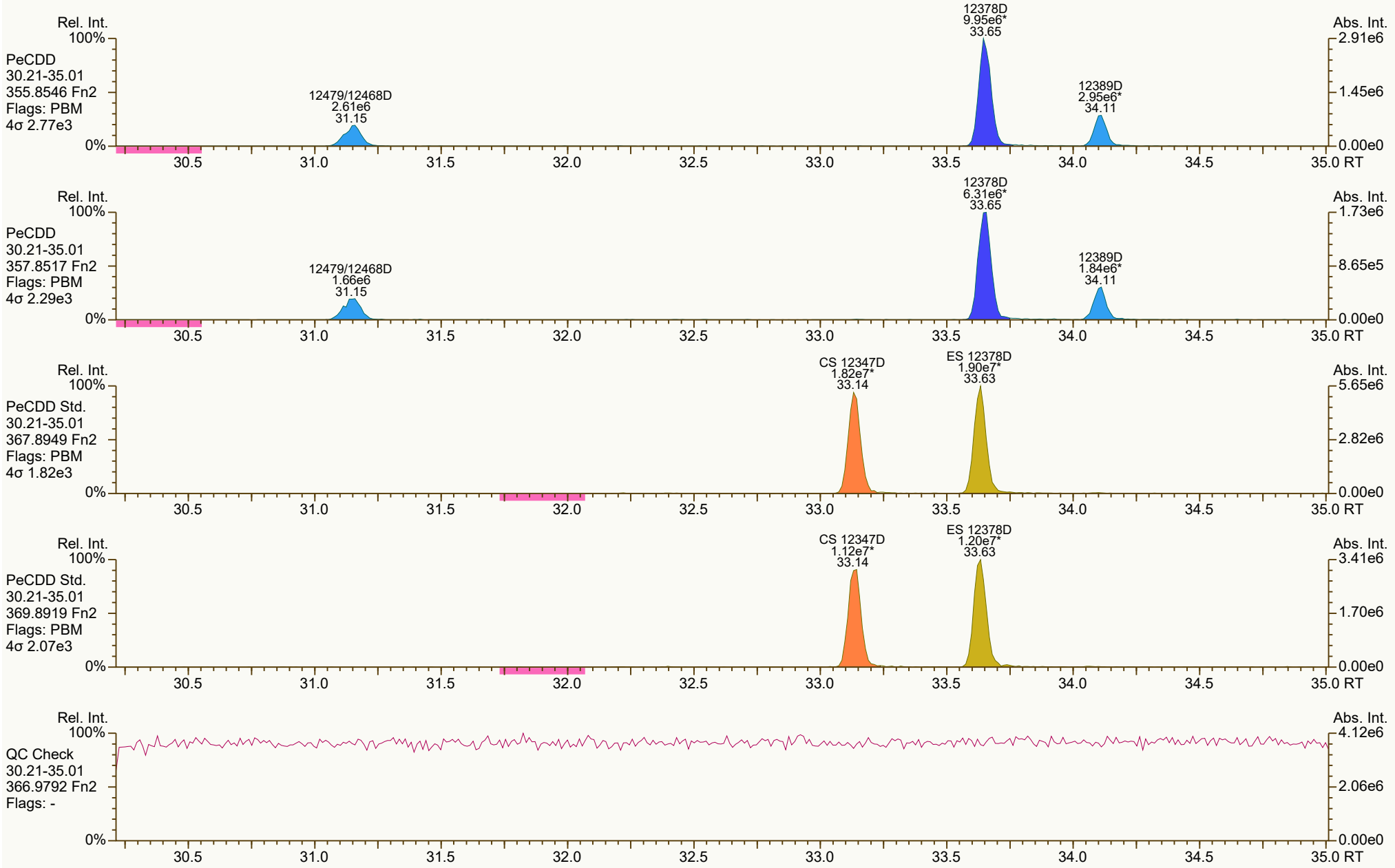
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	93.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	101	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	102	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	116	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	97.9	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97	26	-	166	Y
13C-OCDD	200	129	26	-	397	Y
13C-2,3,7,8-TCDF	100	91.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	93.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	90	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	117	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	122	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	102	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	112	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	91.9	20	-	186	Y
13C-OCDF	200	135	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.7	12.4	-	76.4	Y

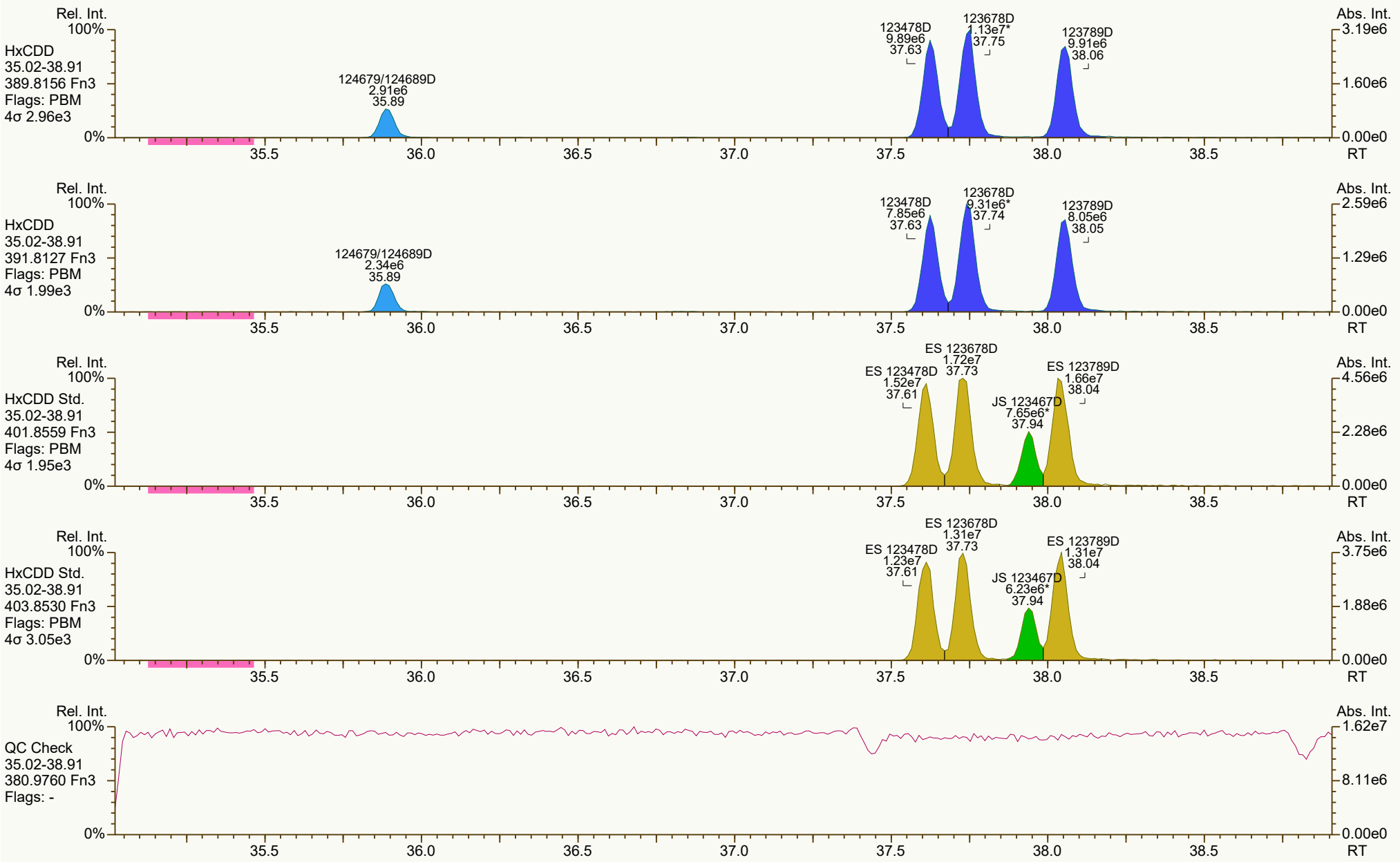
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

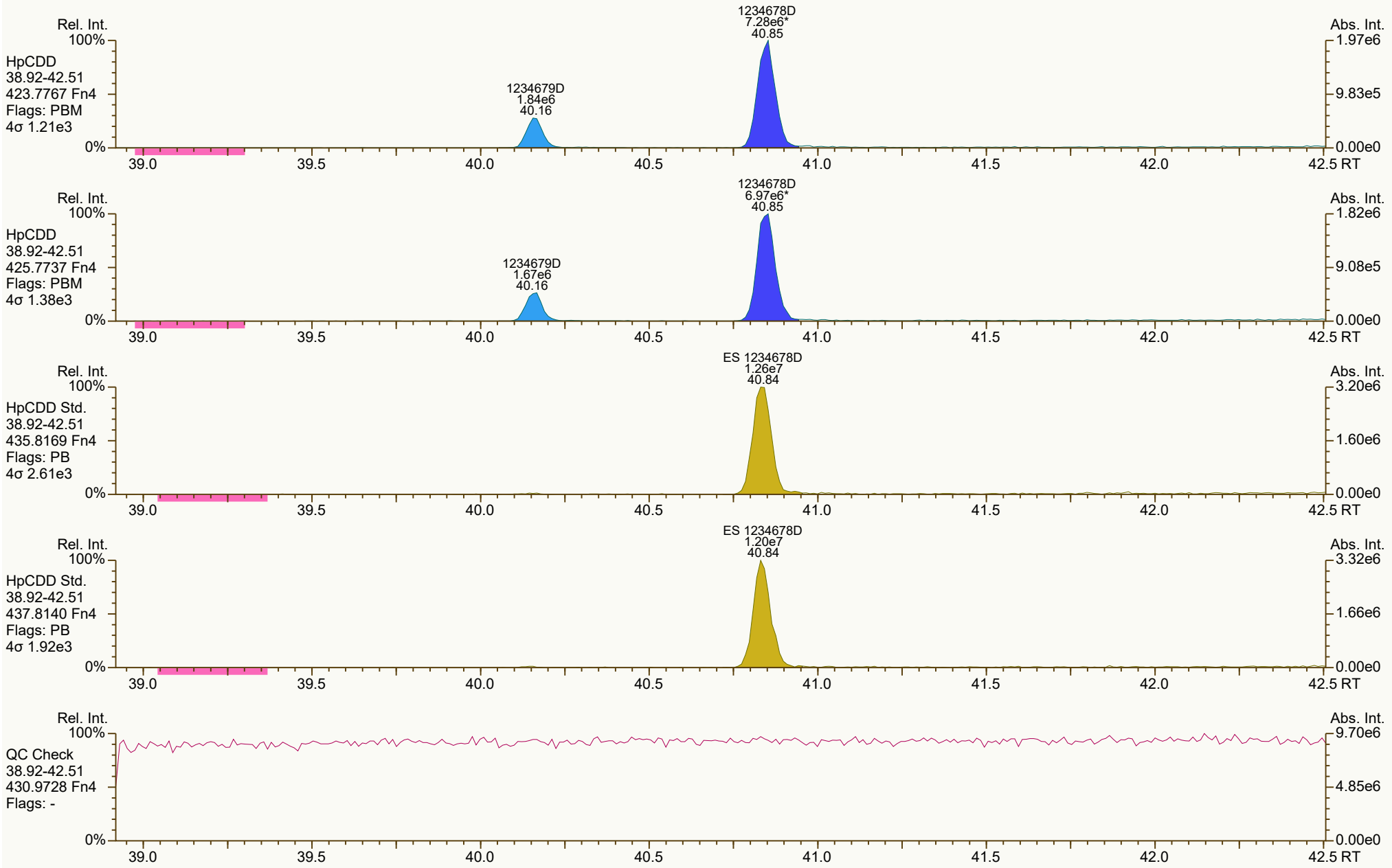
Processed: 15 Jan 2022 10:40 Analyst: MS

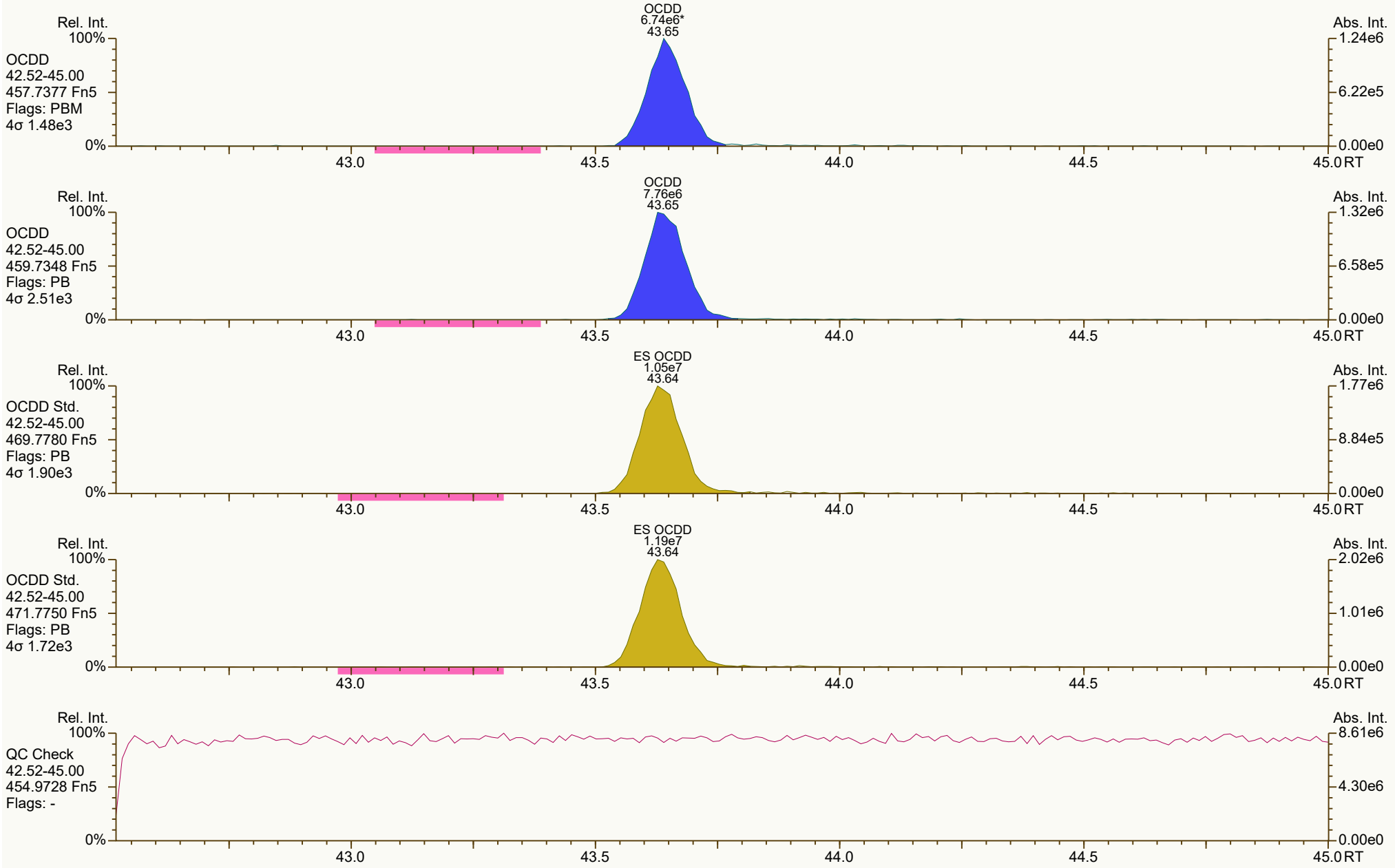

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.52e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.70e6
4.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.61e6
4.30e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

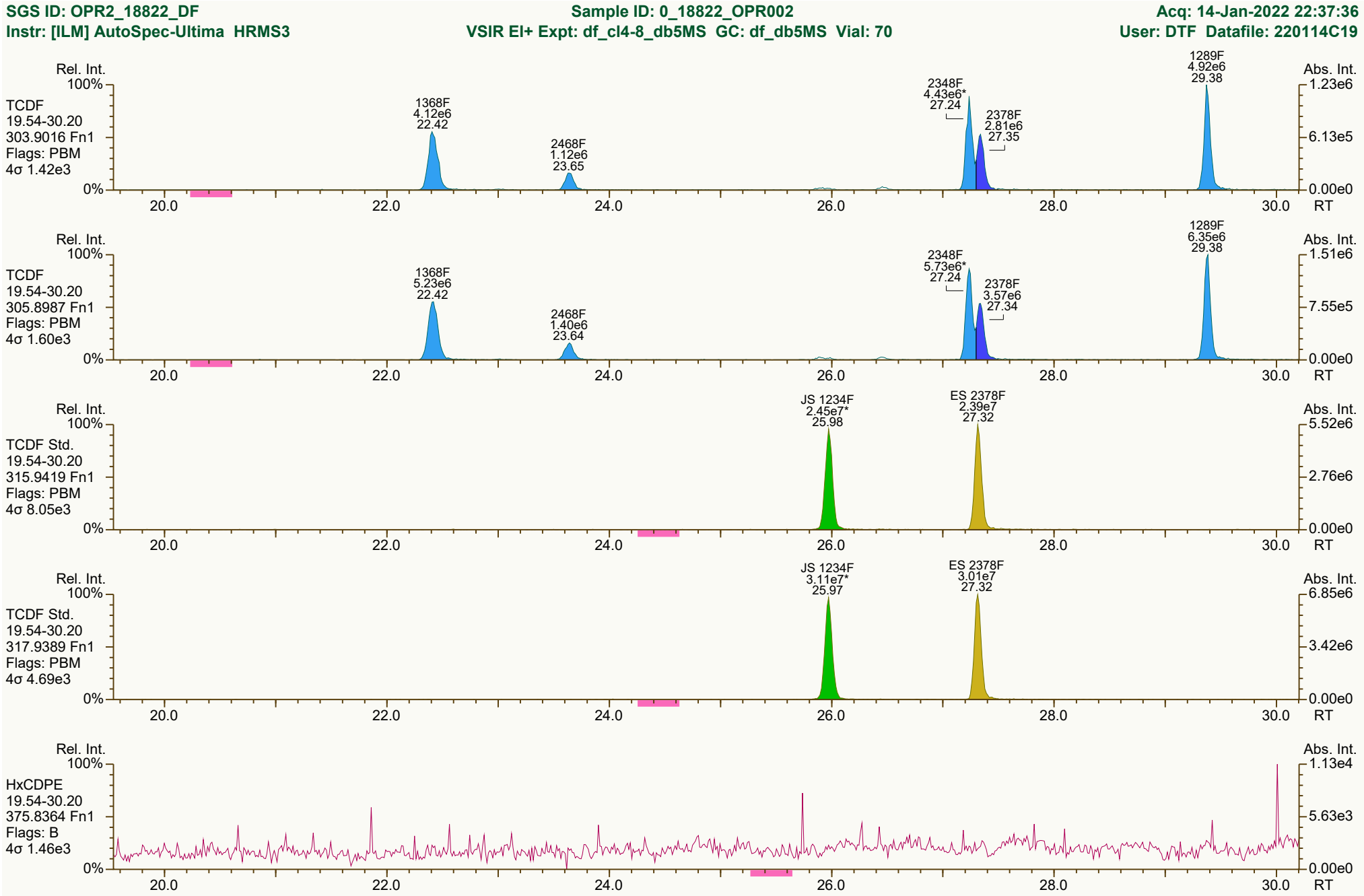

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.88e3
0%
1368D
3.17e6
24.55
1239D
2.22e6
28.08
2378D
2.38e6*
28.22
1289D
3.25e6
29.22
Abs. Int.
7.97e5
3.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.13e3
0%
1368D
4.07e6
24.55
1239D
2.73e6
28.08
2378D
2.89e6*
28.22
1289D
4.23e6
29.22
Abs. Int.
1.08e6
5.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.56e3
0%
CS 37Cl-2378D
1.67e7
28.22
Abs. Int.
3.95e6
1.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 3.33e3
0%
JS 1234D
1.57e7*
27.56
ES 2378D
1.54e7*
28.20
Abs. Int.
3.75e6
1.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.23e3
0%
JS 1234D
1.93e7*
27.56
ES 2378D
1.88e7*
28.20
Abs. Int.
4.55e6
2.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

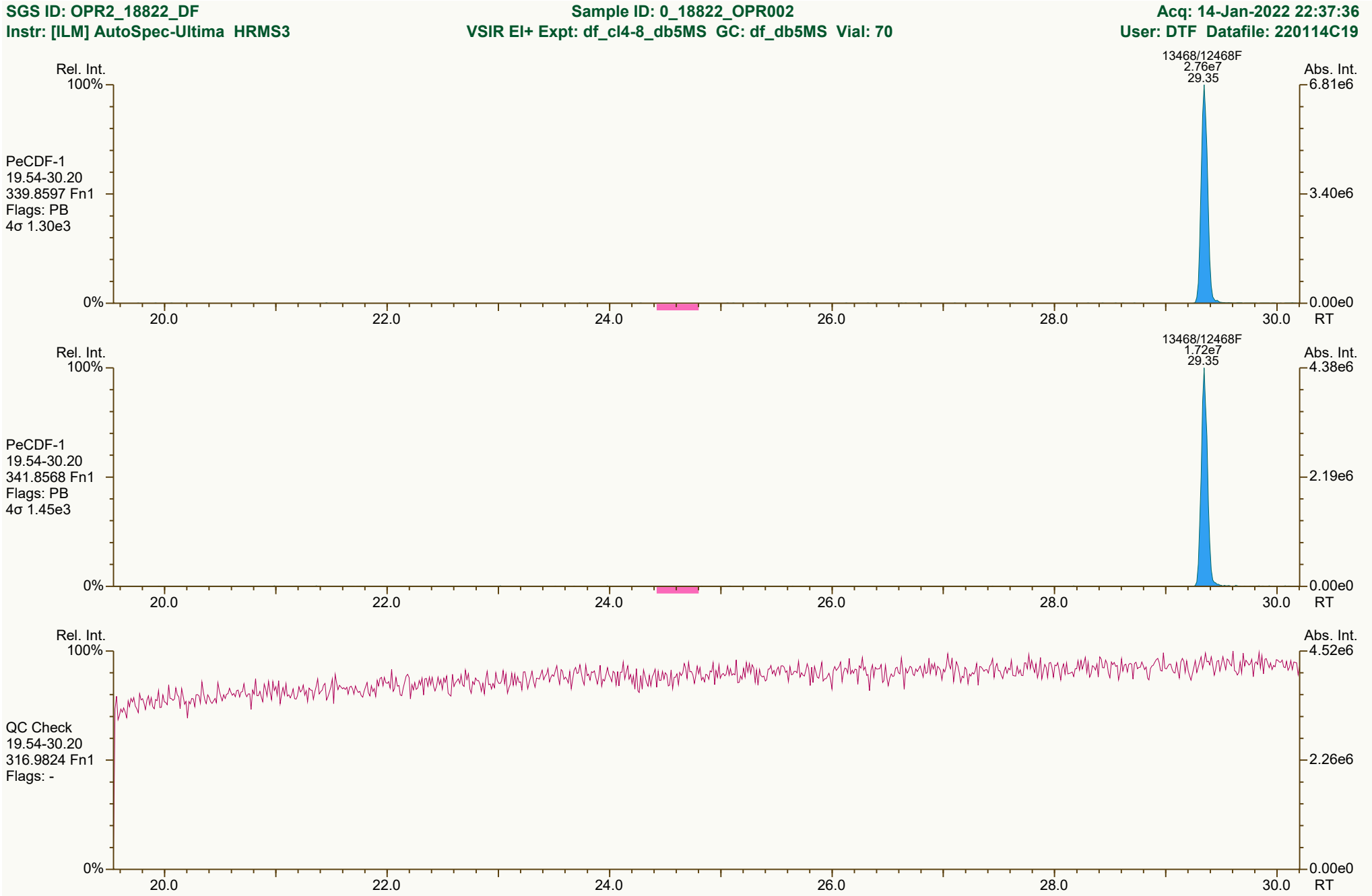

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.77e3
12479/12468D
2.61e6
31.15
12378D
9.95e6*
33.65
12389D
2.95e6*
34.11
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.29e3
12479/12468D
1.66e6
31.15
12378D
6.31e6*
33.65
12389D
1.84e6*
34.11
Abs. Int.
1.73e6
8.65e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.82e3
CS 12347D
1.82e7*
33.14
ES 12378D
1.90e7*
33.63
Abs. Int.
5.65e6
2.82e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 2.07e3
CS 12347D
1.12e7*
33.14
ES 12378D
1.20e7*
33.63
Abs. Int.
3.41e6
1.70e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
4.12e6
2.06e6
0.00e0
0%
30.5
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31.5
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32.5
33.0
33.5
34.0
34.5
35.0 RT

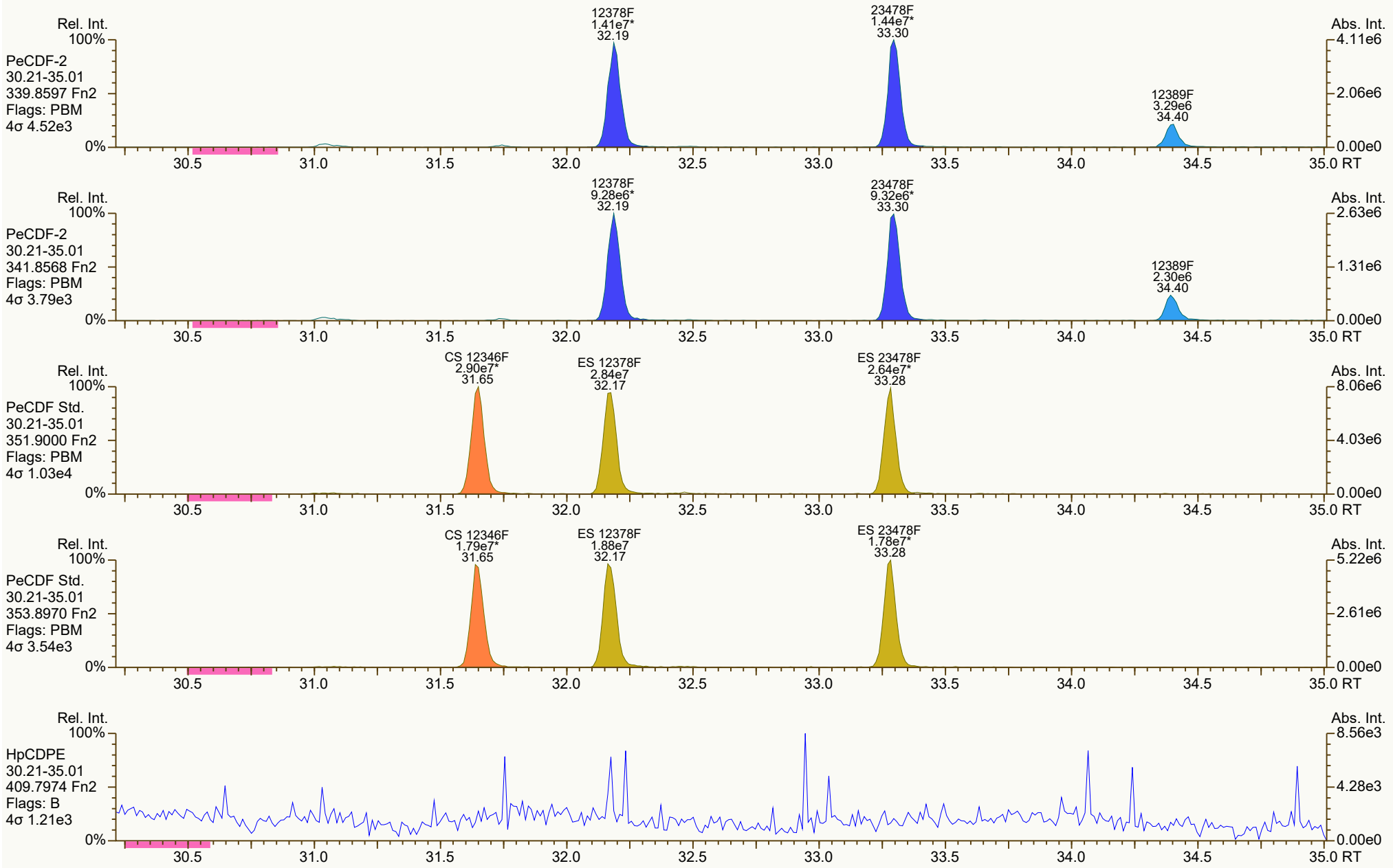

Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.96e3
124679/124689D
2.91e6
35.89
123478D
9.89e6
37.63
123678D
1.13e7*
37.75
123789D
9.91e6
38.06
3.19e6
1.60e6
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 1.99e3
124679/124689D
2.34e6
35.89
123478D
7.85e6
37.63
123678D
9.31e6*
37.74
123789D
8.05e6
38.05
2.59e6
1.29e6
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 1.95e3
ES 123478D
1.52e7
37.61
ES 123678D
1.72e7
37.73
ES 123789D
1.66e7
38.04
JS 123467D
7.65e6*
37.94
4.56e6
2.28e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 3.05e3
ES 123478D
1.23e7
37.61
ES 123678D
1.31e7
37.73
ES 123789D
1.31e7
38.04
JS 123467D
6.23e6*
37.94
3.75e6
1.88e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.62e7
8.11e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

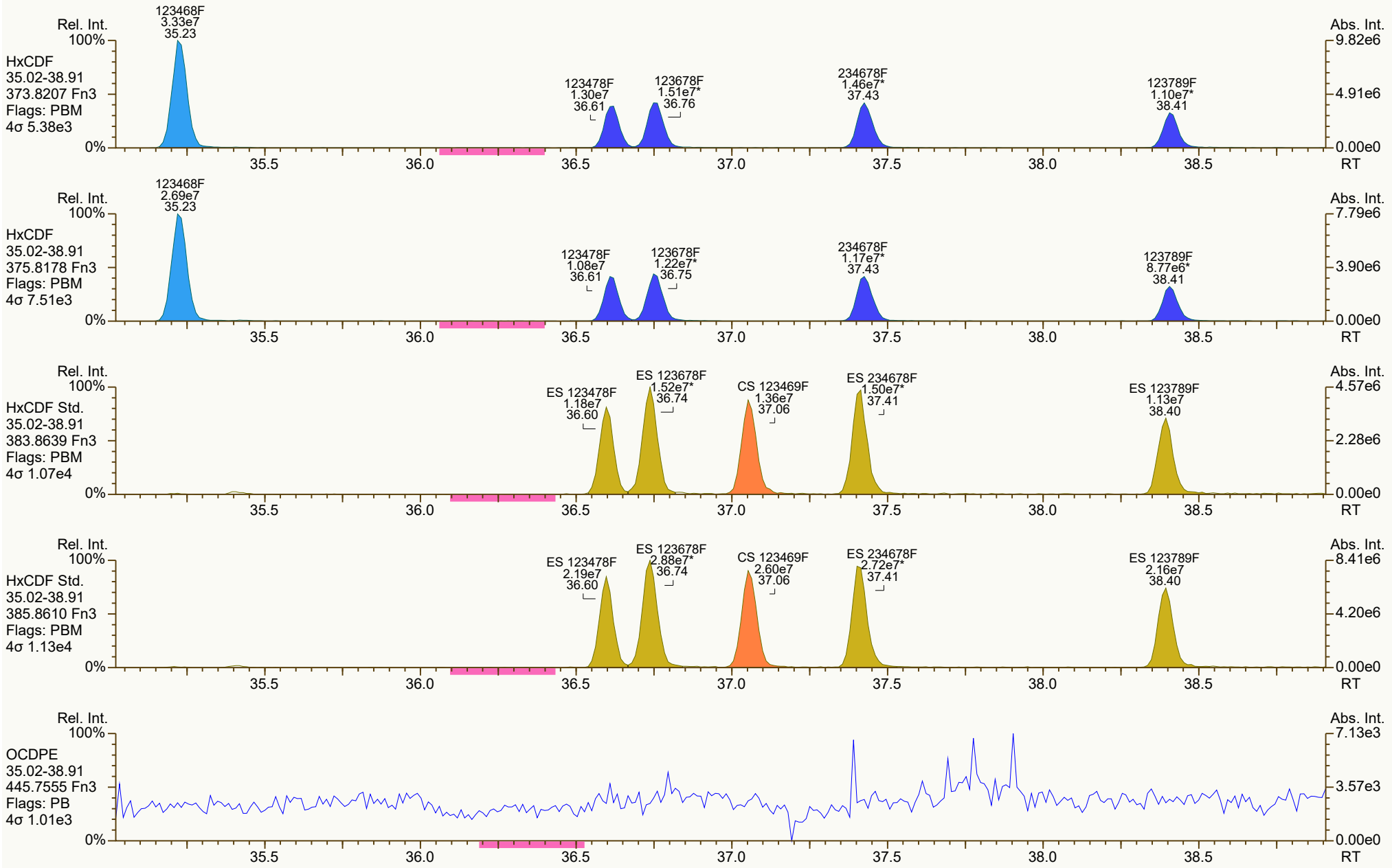

Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.21e3
1234678D
7.28e6*
40.85
1234679D
1.84e6
40.16
1.97e6
9.83e5
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.38e3
1234678D
6.97e6*
40.85
1234679D
1.67e6
40.16
1.82e6
9.08e5
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.61e3
ES 1234678D
1.26e7
40.84
3.20e6
1.60e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.92e3
ES 1234678D
1.20e7
40.84
3.32e6
1.66e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
9.70e6
4.85e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

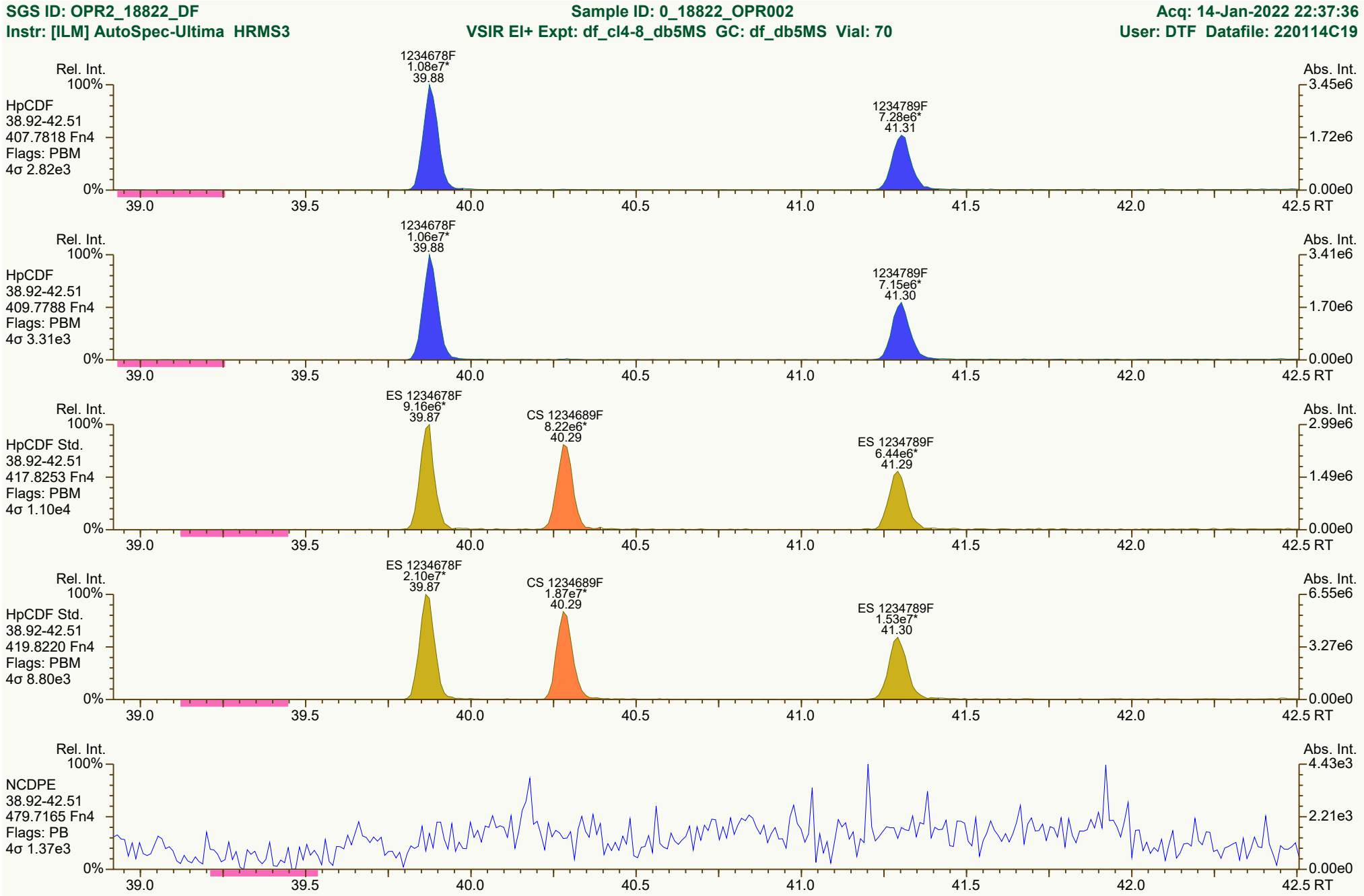

OCDD
6.74e6*
43.65
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.48e3
0%
Abs. Int.
1.24e6
6.22e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.76e6
43.65
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
1.32e6
6.58e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.05e7
43.64
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.90e3
0%
Abs. Int.
1.77e6
8.84e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.19e7
43.64
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.72e3
0%
Abs. Int.
2.02e6
1.01e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.61e6
4.30e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

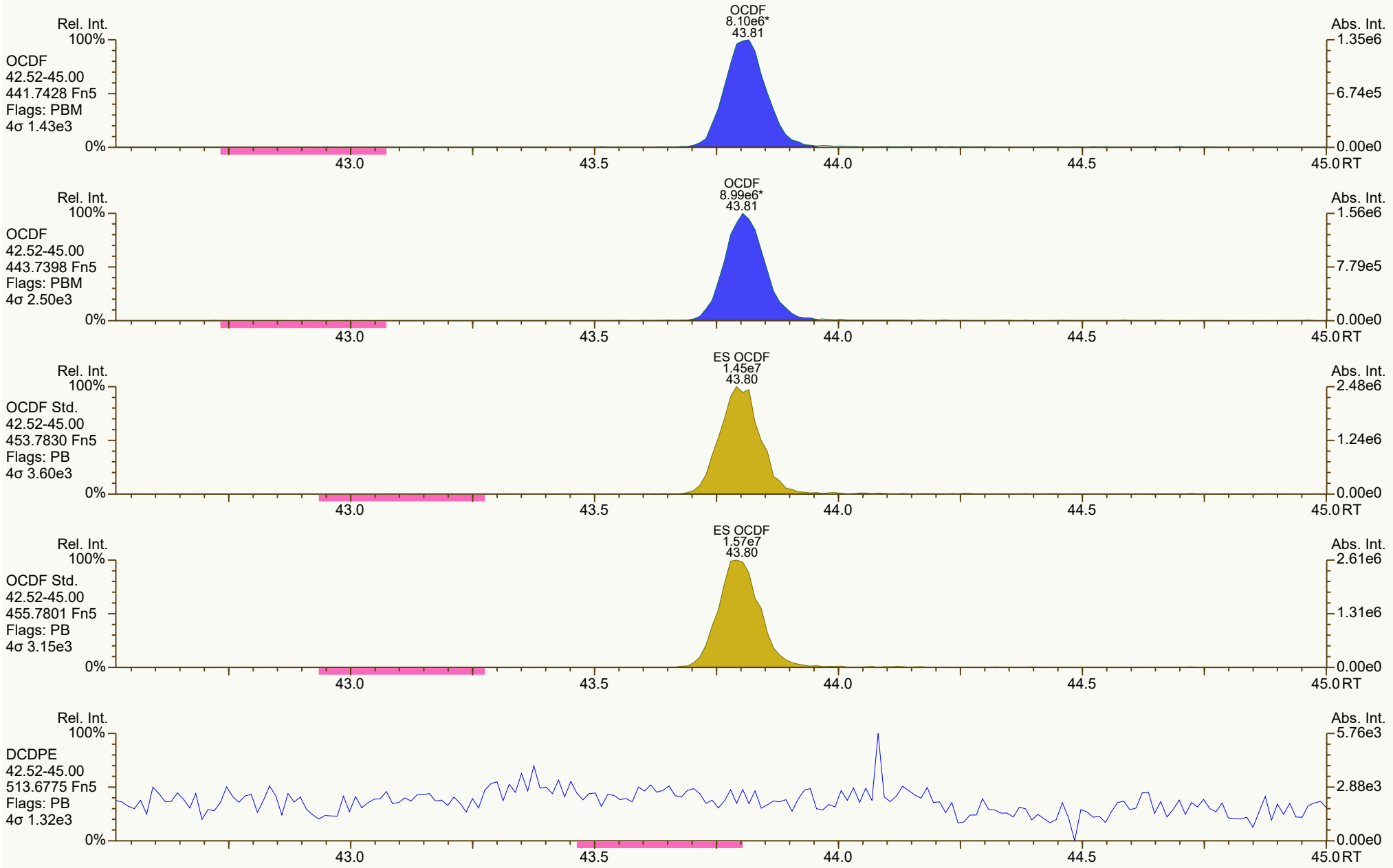

SGS ID: OPR2_18822_DF
Sample ID: 0_18822_OPR002
Acq: 14-Jan-2022 22:37:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220114C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.42e3
1368F 4.12e6 22.42
2468F 1.12e6 23.65
2348F 4.43e6* 27.24
2378F 2.81e6 27.35
1289F 4.92e6 29.38
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.60e3
1368F 5.23e6 22.42
2468F 1.40e6 23.64
2348F 5.73e6* 27.24
2378F 3.57e6 27.34
1289F 6.35e6 29.38
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 8.05e3
JS 1234F 2.45e7* 25.98
ES 2378F 2.39e7 27.32
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 4.69e3
JS 1234F 3.11e7* 25.97
ES 2378F 3.01e7 27.32
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.46e3
RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR2_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 6520, 8222, 6172 scc: 914-582
PKD: 15-Jan-2022 09:28 Printed: 15-Jan-2022 10:49 Page 7 of 12


SGS ID: OPR2_18822_DF
Sample ID: 0_18822_OPR002
Acq: 14-Jan-2022 22:37:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220114C19
Rel. Int.
100%
0%
Abs. Int.
6.81e6
3.40e6
0.00e0
13468/12468F
2.76e7
29.35
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.30e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
1.72e7
29.35
4.38e6
2.19e6
341.8568 Fn1
QC Check
316.9824 Fn1
4.52e6
2.26e6
Flags: -
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR2_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 9023 scc: 914-582
PKD: 15-Jan-2022 09:28 Printed: 15-Jan-2022 10:49 Page 8 of 12


Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 4.52e3
12378F
1.41e7*
32.19
23478F
1.44e7*
33.30
12389F
3.29e6
34.40
4.11e6
2.06e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 3.79e3
12378F
9.28e6*
32.19
23478F
9.32e6*
33.30
12389F
2.30e6
34.40
2.63e6
1.31e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 1.03e4
CS 12346F
2.90e7*
31.65
ES 12378F
2.84e7
32.17
ES 23478F
2.64e7*
33.28
8.06e6
4.03e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 3.54e3
CS 12346F
1.79e7*
31.65
ES 12378F
1.88e7
32.17
ES 23478F
1.78e7*
33.28
5.22e6
2.61e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.21e3
8.56e3
4.28e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 5.38e3
123468F 3.33e7 35.23
123478F 1.30e7 36.61
123678F 1.51e7* 36.76
234678F 1.46e7* 37.43
123789F 1.10e7* 38.41
9.82e6
4.91e6
0.00e0
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 7.51e3
123468F 2.69e7 35.23
123478F 1.08e7 36.61
123678F 1.22e7* 36.75
234678F 1.17e7* 37.43
123789F 8.77e6* 38.41
7.79e6
3.90e6
0.00e0
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 1.07e4
ES 123478F 1.18e7 36.60
ES 123678F 1.52e7* 36.74
CS 123469F 1.36e7 37.06
ES 234678F 1.50e7* 37.41
ES 123789F 1.13e7 38.40
4.57e6
2.28e6
0.00e0
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 1.13e4
ES 123478F 2.19e7 36.60
ES 123678F 2.88e7* 36.74
CS 123469F 2.60e7 37.06
ES 234678F 2.72e7* 37.41
ES 123789F 2.16e7 38.40
8.41e6
4.20e6
0.00e0
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.01e3
7.13e3
3.57e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR2_18822_DF
Sample ID: 0_18822_OPR002
Acq: 14-Jan-2022 22:37:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220114C19
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.82e3
1234678F
1.08e7*
39.88
1234789F
7.28e6*
41.31
3.45e6
1.72e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.31e3
1234678F
1.06e7*
39.88
1234789F
7.15e6*
41.30
3.41e6
1.70e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 1.10e4
ES 1234678F
9.16e6*
39.87
CS 1234689F
8.22e6*
40.29
ES 1234789F
6.44e6*
41.29
2.99e6
1.49e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 8.80e3
ES 1234678F
2.10e7*
39.87
CS 1234689F
1.87e7*
40.29
ES 1234789F
1.53e7*
41.30
6.55e6
3.27e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.37e3
4.43e3
2.21e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6152\B6152_18822 DF\Resources\OPR2_18822_DF.utp_res, saved 15-Jan-2022 10:34 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5205, 5318, 8644 scc: 914-582
PKD: 15-Jan-2022 09:28 Printed: 15-Jan-2022 10:49 Page 11 of 12


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.43e3
0%
OCDF
8.10e6*
43.81
Abs. Int.
1.35e6
6.74e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.50e3
0%
OCDF
8.99e6*
43.81
Abs. Int.
1.56e6
7.79e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 3.60e3
0%
ES OCDF
1.45e7
43.80
Abs. Int.
2.48e6
1.24e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 3.15e3
0%
ES OCDF
1.57e7
43.80
Abs. Int.
2.61e6
1.31e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.32e3
0%
Abs. Int.
5.76e3
2.88e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010622-S-BN-SW-O-11 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6153_18829_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	88.8 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:41:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	5.72				ES 2378-TCDD	95	
12378-PeCDD	1.01			J	ES 12378-PeCDD	103	
123478-HxCDD	2.85				ES 123478-HxCDD	95	
123678-HxCDD	EMPC		6.05		ES 123678-HxCDD	114	
123789-HxCDD	5.29				ES 123789-HxCDD	103	
1234678-HpCDD	245				ES 1234678-HpCDD	102	
OCDD	2,850				ES OCDD	100	
2378-TCDF	22.6				ES 2378-TCDF	91	
12378-PeCDF	3.2				ES 12378-PeCDF	96.9	
23478-PeCDF	4.43				ES 23478-PeCDF	100	
123478-HxCDF	8.14				ES 123478-HxCDF	106	
123678-HxCDF	3.42				ES 123678-HxCDF	121	
234678-HxCDF	3.34				ES 234678-HxCDF	97	
123789-HxCDF	ND	0.433			ES 123789-HxCDF	102	
1234678-HpCDF	35.3				ES 1234678-HpCDF	118	
1234789-HpCDF	EMPC		3.3		ES 1234789-HpCDF	103	
OCDF	103				ES OCDF	107	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.9	
Total TCDD	7.08		8.29		CS 12347-PeCDD	112	
Total PeCDD	6.93		10.7		CS 12346-PeCDF	107	
Total HxCDD	69		75.1		CS 123469-HxCDF	129	
Total HpCDD	574		574		CS 1234689-HpCDF	130	
Total TCDF	55.1		64.5				
Total PeCDF	34.2		37.6				
Total HxCDF	55.2		56				
Total HpCDF	89.3		94.8				
Total PCDD/Fs	**3,840**		**3,870**				
WHO-2005 TEQs							
TEQ: ND=0	16.4		17.1				
TEQ: ND=DL/2	16.4	0.838	17.1				
TEQ: ND=DL	16.5	1.68	17.1				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-010622-S-BN-SW-O-11 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6153_18829_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	88.8 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:41:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.36		12479/12468D	2.96		124679/124689D	23.6		1234679D	329	
1379D	(0.572)		12469D	[1.85]	J	123468D	4.66		1234678D	245	
1369D	(0.572)		12368D	1.44	J	123679/123689D	26.3				
1469D	[0.648]		12478D	[1.16]	J	123469D	4.52				
1247D...[4]	(0.572)		12379D	[0.743]	J	123478D	2.85				
1378D	(0.572)		12369D...[3]	0.941	J	123678D	[6.05]				
1268D	(0.572)		12346/12347D	0.566	J	123467D	1.77	J			
1478D	(0.572)		12378D	1.01	J	123789D	5.29		**Conc.**	574	
1279D	(0.572)		12367D	(0.554)					**EMPC**	574	
1234/1269D	(0.572)		12389D	(0.554)							
1236D	(0.572)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.572)										
1239D	(0.572)								OCDD	2850	
2378D	5.72										
1278D	[0.565]										
1267D	(0.572)										
1289D	(0.572)										
Conc.	7.08		**Conc.**	6.93		**Conc.**	69				
EMPC	8.29		**EMPC**	10.7		**EMPC**	75.1				

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613
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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	16.4	17.1
TEQ: ND=DL/2	16.4	17.1
TEQ: ND=DL	16.5	17.1

	Conc.	EMPC
Total PCDD/Fs	3,840	3,870

Checkcode: 620-199-KBC

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-O-11 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6153_18829_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	88.8 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:41:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.496)		13468/12468F	7.03		123468F	5.65		1234678F	35.3	
1468F	1.1		13678F...[3]	3.7		124678/134678F	18.9		1234679F	[2.17]	J
2468F	2.28		12368F...[3]	8.37		134679F	(0.372)		1234689F	54	
1346/1246F	1.02		14678F	1.36	J	124679F	[0.764]	J	1234789F	[3.3]	
1347F...[3]	[2.56]		13479F	(0.437)		124689F	12				
1348F	[0.463]	J	13469/12479F	(0.437)		123467F	2.53				
1248F...[3]	1.87		12346F	[0.806]	J	123478F	8.14				
1268F	1.38		23468/12469F	[1.78]	J	123678F	3.42				
1467F	1.03		12347F	0.878	J	123479F	(0.372)				
1478F	2.28		12348F	[0.797]	J	123469F	(0.372)				
1369/1237F	[1]		12378F	3.2		123679F	(0.372)				
2467F	1.01		12678/12367F	3.11		234678F	3.34		**Conc.**	89.3	
2368F	3.3		12379F	(0.437)		234678/123689F	0		**EMPC**	94.8	
1238F...[5]	[1.72]		12679F	(0.437)		123689F	(0.372)				
1278F	7.06		23467/12369F	2.15	J	123789F	(0.433)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.496)		23478F	4.43		123789/123489F	0			**(pg/g)**	
1267F	[1.44]		23478/12489F	0		123489F	1.2	J	OCDF	103	
2346/1249F	0.641		12489F	(0.437)							
2347/1279F	1.24		12349F	(0.437)							
2348F	1.66		12389F	(0.437)							
2378F	22.6										
2367/3467F	6.6										
1269F	(0.496)										
1239F	(0.496)										
1289F	[2.17]										
Conc.	55.1		**Conc.**	34.2		**Conc.**	55.2				
EMPC	64.5		**EMPC**	37.6		**EMPC**	56				

Checkcode: 620-199-KBC

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-O-11 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6153_18829_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18829
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 16:41
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	5.72		0.572	5.72	5.72	5.72
12378-PeCDD	1.01	J	0.554	0.507	1.01	1.01
123478-HxCDD	2.85		0.696	0.285	0.285	0.285
123678-HxCDD	[6.05]		0.603	[0.605]	[0.605]	[0.605]
123789-HxCDD	5.29		0.67	0.529	0.529	0.529
1234678-HpCDD	245		0.5	2.45	2.45	2.45
OCDD	2850		0.786	2.85	0.285	0.854
2378-TCDF	22.6		0.496	2.26	2.26	2.26
12378-PeCDF	3.2		0.445	0.16	0.16	0.096
23478-PeCDF	4.43		0.428	2.21	2.21	1.33
123478-HxCDF	8.14		0.344	0.814	0.814	0.814
123678-HxCDF	3.42		0.342	0.342	0.342	0.342
234678-HxCDF	3.34		0.39	0.334	0.334	0.334
123789-HxCDF	(0.433)		0.433	(0.0433)	(0.0433)	(0.0433)
1234678-HpCDF	35.3		0.23	0.353	0.353	0.353
1234789-HpCDF	[3.3]		0.384	[0.033]	[0.033]	[0.033]
OCDF	103		0.777	0.103	0.0103	0.0309

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TEQ Summaries			
EMPC = 0, ND = 0	18.9	16.8	16.4
EMPC = 0, ND = DL / 2	18.9	16.8	16.4
EMPC = 0, ND = DL	19	16.8	16.5
EMPC = 0, < J-level = 0	18.4	15.8	15.4
EMPC = EMPC, ND = 0	19.6	17.4	17.1
EMPC = EMPC, ND = DL / 2	19.6	17.4	17.1
EMPC = EMPC, ND = DL	19.6	17.5	17.1
EMPC = EMPC, < J-level = 0	19.1	16.4	16

Checkcode: 620-199-KBC

Sample ID: 11215131-010622-S-BN-SW-B-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6153_18829_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	75.2 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:27:57

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2.27				ES 2378-TCDD	90.8	
12378-PeCDD	ND	0.269			ES 12378-PeCDD	109	
123478-HxCDD	EMPC		0.8	J	ES 123478-HxCDD	94.4	
123678-HxCDD	1.1			J	ES 123678-HxCDD	106	
123789-HxCDD	EMPC		1.77	J	ES 123789-HxCDD	106	
1234678-HpCDD	39.4				ES 1234678-HpCDD	103	
OCDD	1,510				ES OCDD	101	
2378-TCDF	4.92				ES 2378-TCDF	90.7	
12378-PeCDF	ND	0.271			ES 12378-PeCDF	102	
23478-PeCDF	ND	0.274			ES 23478-PeCDF	104	
123478-HxCDF	ND	0.225			ES 123478-HxCDF	101	
123678-HxCDF	ND	0.223			ES 123678-HxCDF	115	
234678-HxCDF	ND	0.282			ES 234678-HxCDF	96.2	
123789-HxCDF	ND	0.244			ES 123789-HxCDF	103	
1234678-HpCDF	1.32			J	ES 1234678-HpCDF	127	
1234789-HpCDF	ND	0.239			ES 1234789-HpCDF	103	
OCDF	EMPC		3.35	J	ES OCDF	102	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.7	
Total TCDD	4.72		4.72		CS 12347-PeCDD	117	
Total PeCDD	1.34		3.72		CS 12346-PeCDF	110	
Total HxCDD	27		31.1		CS 123469-HxCDF	125	
Total HpCDD	127		127		CS 1234689-HpCDF	134	V
Total TCDF	10.2		10.8				
Total PeCDF	ND	0.273	ND				
Total HxCDF	ND	0.241	ND				
Total HpCDF	1.32		2.17				
Total PCDD/Fs	**1,680**		**1,690**				
WHO-2005 TEQs							
TEQ: ND=0	3.73		3.99				
TEQ: ND=DL/2	3.96	0.547	4.22				
TEQ: ND=DL	4.19	1.09	4.45				

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Sample ID: 11215131-010622-S-BN-SW-B-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6153_18829_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	75.2 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:27:57

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.771		12479/12468D	[0.831]	J	124679/124689D	17.9		1234679D	87.1	
1379D	(0.515)		12469D	1.34	J	123468D	[0.703]	J	1234678D	39.4	
1369D	(0.515)		12368D	(0.269)		123679/123689D	7.43				
1469D	1.68		12478D	(0.269)		123469D	[0.831]	J			
1247D...[4]	(0.515)		12379D	[0.673]	J	123478D	[0.8]	J			
1378D	(0.515)		12369D...[3]	[0.87]	J	123678D	1.1	J			
1268D	(0.515)		12346/12347D	(0.269)		123467D	0.634	J			
1478D	(0.515)		12378D	(0.269)		123789D	[1.77]	J	**Conc.**	127	
1279D	(0.515)		12367D	(0.269)					**EMPC**	127	
1234/1269D	(0.515)		12389D	(0.269)							
1236D	(0.515)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.515)										
1239D	(0.515)								OCDD	1510	
2378D	2.27										
1278D	(0.515)										
1267D	(0.515)										
1289D	(0.515)										
Conc.	4.72		**Conc.**	1.34		**Conc.**	27				
EMPC	4.72		**EMPC**	3.72		**EMPC**	31.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3.73	3.99
TEQ: ND=DL/2	3.96	4.22
TEQ: ND=DL	4.19	4.45

	Conc.	EMPC
Total PCDD/Fs	1,680	1,690

Checkcode: 419-883-SGR

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-B-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6153_18829_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	75.2 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:27:57

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.384)		13468/12468F	(0.264)		123468F	(0.241)		1234678F	1.32	J
1468F	(0.384)		13678F...[3]	(0.273)		124678/134678F	(0.241)		1234679F	(0.19)	
2468F	1.69		12368F...[3]	(0.273)		134679F	(0.241)		1234689F	[0.849]	J
1346/1246F	(0.384)		14678F	(0.273)		124679F	(0.241)		1234789F	(0.239)	
1347F...[3]	(0.384)		13479F	(0.273)		124689F	(0.241)				
1348F	(0.384)		13469/12479F	(0.273)		123467F	(0.241)				
1248F...[3]	(0.384)		12346F	(0.273)		123478F	(0.225)				
1268F	(0.384)		23468/12469F	(0.273)		123678F	(0.223)				
1467F	(0.384)		12347F	(0.273)		123479F	(0.241)				
1478F	(0.384)		12348F	(0.273)		123469F	(0.241)				
1369/1237F	(0.384)		12378F	(0.271)		123679F	(0.241)				
2467F	(0.384)		12678/12367F	(0.273)		234678F	(0.282)		**Conc.**	1.32	
2368F	(0.384)		12379F	(0.273)		234678/123689F	0		**EMPC**	2.17	
1238F...[5]	(0.384)		12679F	(0.273)		123689F	(0.241)				
1278F	2.44		23467/12369F	(0.273)		123789F	(0.244)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.384)		23478F	(0.274)		123789/123489F	0				
1267F	(0.384)		23478/12489F	0		123489F	(0.241)		OCDF	[3.35]	J
2346/1249F	(0.384)		12489F	(0.273)							
2347/1279F	(0.384)		12349F	(0.273)							
2348F	0.466	J	12389F	(0.273)							
2378F	4.92										
2367/3467F	[0.668]										
1269F	(0.384)										
1239F	(0.384)										
1289F	0.649										
Conc.	10.2		**Conc.**	0		**Conc.**	0				
EMPC	10.8		**EMPC**	0		**EMPC**	0				

Checkcode: 419-883-SGR

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-B-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6153_18829_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18829
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 17:27
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2.27		0.515	2.27	2.27	2.27
12378-PeCDD	(0.269)		0.269	(0.135)	(0.269)	(0.269)
123478-HxCDD	[0.8]	J	0.265	[0.08]	[0.08]	[0.08]
123678-HxCDD	1.1	J	0.25	0.11	0.11	0.11
123789-HxCDD	[1.77]	J	0.245	[0.177]	[0.177]	[0.177]
1234678-HpCDD	39.4		0.311	0.394	0.394	0.394
OCDD	1510		0.896	1.51	0.151	0.452
2378-TCDF	4.92		0.384	0.492	0.492	0.492
12378-PeCDF	(0.271)		0.271	(0.0136)	(0.0136)	(0.00814)
23478-PeCDF	(0.274)		0.274	(0.137)	(0.137)	(0.0821)
123478-HxCDF	(0.225)		0.225	(0.0225)	(0.0225)	(0.0225)
123678-HxCDF	(0.223)		0.223	(0.0223)	(0.0223)	(0.0223)
234678-HxCDF	(0.282)		0.282	(0.0282)	(0.0282)	(0.0282)
123789-HxCDF	(0.244)		0.244	(0.0244)	(0.0244)	(0.0244)
1234678-HpCDF	1.32	J	0.157	0.0132	0.0132	0.0132
1234789-HpCDF	(0.239)		0.239	(0.00239)	(0.00239)	(0.00239)
OCDF	[3.35]	J	0.571	[0.00335]	[0.000335]	[0.00101]

TEQ Summaries			
EMPC = 0, ND = 0	4.79	3.43	3.73
EMPC = 0, ND = DL / 2	4.98	3.69	3.96
EMPC = 0, ND = DL	5.17	3.95	4.19
EMPC = 0, < J-level = 0	4.66	3.31	3.61
EMPC = EMPC, ND = 0	5.05	3.69	3.99
EMPC = EMPC, ND = DL / 2	5.24	3.95	4.22
EMPC = EMPC, ND = DL	5.43	4.21	4.45
EMPC = EMPC, < J-level = 0	4.66	3.31	3.61

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Checkcode: 419-883-SGR

Sample ID: 11215131-010622-S-BN-SW-B-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6153_18829_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	74.6 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:14:15

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	703				ES 2378-TCDD	94.3	
12378-PeCDD	7.6				ES 12378-PeCDD	105	
123478-HxCDD	3.22				ES 123478-HxCDD	104	
123678-HxCDD	11.5				ES 123678-HxCDD	113	
123789-HxCDD	7.61				ES 123789-HxCDD	108	
1234678-HpCDD	280				ES 1234678-HpCDD	108	
OCDD	3,340				ES OCDD	112	
2378-TCDF	1,910			E	ES 2378-TCDF	98.5	
12378-PeCDF	197				ES 12378-PeCDF	106	
23478-PeCDF	120				ES 23478-PeCDF	113	
123478-HxCDF	363				ES 123478-HxCDF	110	
123678-HxCDF	108				ES 123678-HxCDF	116	
234678-HxCDF	23.5				ES 234678-HxCDF	107	
123789-HxCDF	ND	0.278			ES 123789-HxCDF	111	
1234678-HpCDF	126				ES 1234678-HpCDF	128	
1234789-HpCDF	42.8				ES 1234789-HpCDF	113	
OCDF	166				ES OCDF	115	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95	
Total TCDD	795		803		CS 12347-PeCDD	112	
Total PeCDD	24.5		26.6		CS 12346-PeCDF	105	
Total HxCDD	103		103		CS 123469-HxCDF	129	
Total HpCDD	590		590		CS 1234689-HpCDF	135	V
Total TCDF	3,850		3,850	E			
Total PeCDF	491		491				
Total HxCDF	618		618				
Total HpCDF	232		232				
Total PCDD/Fs	**10,200**		**10,200**	E			
WHO-2005 TEQs							
TEQ: ND=0	1000		1000				
TEQ: ND=DL/2	1000	0.604	1000				
TEQ: ND=DL	1000	1.21	1000				

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Sample ID: 11215131-010622-S-BN-SW-B-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6153_18829_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	74.6 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:14:15

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[3.59]		12479/12468D	5.88		124679/124689D	36.9		1234679D	310	
1379D	2.6		12469D	3.19		123468D	6.1		1234678D	280	
1369D	(0.451)		12368D	3.11		123679/123689D	34.2				
1469D	3.15		12478D	1.55	J	123469D	1.8	J			
1247D...[4]	1.85		12379D	[1.77]	J	123478D	3.22				
1378D	2.72		12369D...[3]	2.13	J	123678D	11.5				
1268D	(0.451)		12346/12347D	0.55	J	123467D	1.53	J			
1478D	1.84		12378D	7.6		123789D	7.61		**Conc.**	590	
1279D	(0.451)		12367D	0.539	J				**EMPC**	590	
1234/1269D	[0.751]		12389D	[0.324]	J						
1236D	(0.451)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	12.4										
1239D	(0.451)								OCDD	3340	
2378D	703										
1278D	67.5										
1267D	[2.09]										
1289D	[1.28]										
Conc.	795		**Conc.**	24.5		**Conc.**	103				
EMPC	803		**EMPC**	26.6		**EMPC**	103				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,000	1,000
TEQ: ND=DL/2	1,000	1,000
TEQ: ND=DL	1,000	1,000

	Conc.	EMPC
Total PCDD/Fs	10,200	10,200

Checkcode: 922-952-HTM

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-B-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6153_18829_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	06-Jan-2022	% Solid:	74.6 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:14:15

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.3		13468/12468F	6.87		123468F	7.41		1234678F	126	
1468F	4.94		13678F...[3]	3.51		124678/134678F	46.5		1234679F	4.76	
2468F	5.42		12368F...[3]	75.8		134679F	[0.337]	J	1234689F	58.5	
1346/1246F	3.47		14678F	3.79		124679F	1.07	J	1234789F	42.8	
1347F...[3]	23.2		13479F	0.478	J	124689F	21.7				
1348F	6.41		13469/12479F	0.538	J	123467F	3.96				
1248F...[3]	101		12346F	[0.481]	J	123478F	363				
1268F	35.1		23468/12469F	3.14		123678F	108				
1467F	5.05		12347F	2.32	J	123479F	4.21				
1478F	82		12348F	13.9		123469F	2.85				
1369/1237F	20.7		12378F	197		123679F	1.11	J			
2467F	3.88		12678/12367F	55.8		234678F	23.5		**Conc.**	232	
2368F	90.5		12379F	(0.421)		234678/123689F	0		**EMPC**	232	
1238F...[5]	72.5		12679F	(0.421)		123689F	(0.268)				
1278F	904		23467/12369F	2.01	J	123789F	(0.278)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.34)		23478F	120		123789/123489F	0				
1267F	49.3		23478/12489F	0		123489F	34.6		OCDF	166	
2346/1249F	7.13		12489F	(0.421)							
2347/1279F	25.5		12349F	(0.421)							
2348F	141		12389F	5.91							
2378F	1910	E									
2367/3467F	156										
1269F	31.5										
1239F	2.94										
1289F	165										
Conc.	3,850		**Conc.**	491		**Conc.**	618				
EMPC	3,850		**EMPC**	491		**EMPC**	618				

Checkcode: 922-952-HTM

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-B-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6153_18829_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18829
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 18:14
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	703		0.451	703	703	703
12378-PeCDD	7.6		0.353	3.8	7.6	7.6
123478-HxCDD	3.22		0.429	0.322	0.322	0.322
123678-HxCDD	11.5		0.389	1.15	1.15	1.15
123789-HxCDD	7.61		0.367	0.761	0.761	0.761
1234678-HpCDD	280		0.37	2.8	2.8	2.8
OCDD	3340		0.535	3.34	0.334	1
2378-TCDF	1910	E	0.34	191	191	191
12378-PeCDF	197		0.437	9.83	9.83	5.9
23478-PeCDF	120		0.405	60	60	36
123478-HxCDF	363		0.263	36.3	36.3	36.3
123678-HxCDF	108		0.249	10.8	10.8	10.8
234678-HxCDF	23.5		0.288	2.35	2.35	2.35
123789-HxCDF	(0.278)		0.278	(0.0278)	(0.0278)	(0.0278)
1234678-HpCDF	126		0.162	1.26	1.26	1.26
1234789-HpCDF	42.8		0.237	0.428	0.428	0.428
OCDF	166		0.607	0.166	0.0166	0.0499

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TEQ Summaries			
EMPC = 0, ND = 0	1030	1030	1000
EMPC = 0, ND = DL / 2	1030	1030	1000
EMPC = 0, ND = DL	1030	1030	1000
EMPC = 0, < J-level = 0	1030	1030	1000
EMPC = EMPC, ND = 0	1030	1030	1000
EMPC = EMPC, ND = DL / 2	1030	1030	1000
EMPC = EMPC, ND = DL	1030	1030	1000
EMPC = EMPC, < J-level = 0	1030	1030	1000

Checkcode: 922-952-HTM

Sample ID: 11215131-010722-S-BN-SW-O-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6153_18829_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	84.4 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:00:34

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.2				ES 2378-TCDD	95.8	
12378-PeCDD	0.664			J	ES 12378-PeCDD	108	
123478-HxCDD	0.916			J	ES 123478-HxCDD	103	
123678-HxCDD	EMPC		2.41	J	ES 123678-HxCDD	118	
123789-HxCDD	EMPC		1.73	J	ES 123789-HxCDD	108	
1234678-HpCDD	114				ES 1234678-HpCDD	104	
OCDD	3,000				ES OCDD	110	
2378-TCDF	26.5				ES 2378-TCDF	93.1	
12378-PeCDF	1.03			J	ES 12378-PeCDF	98.7	
23478-PeCDF	EMPC		1.27	J	ES 23478-PeCDF	105	
123478-HxCDF	1.88			J	ES 123478-HxCDF	110	
123678-HxCDF	1.04			J	ES 123678-HxCDF	120	
234678-HxCDF	0.874			J	ES 234678-HxCDF	110	
123789-HxCDF	ND	0.384			ES 123789-HxCDF	104	
1234678-HpCDF	14				ES 1234678-HpCDF	126	
1234789-HpCDF	1.17			J	ES 1234789-HpCDF	110	
OCDF	90				ES OCDF	113	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95	
Total TCDD	11.5		11.5		CS 12347-PeCDD	113	
Total PeCDD	3		4.4		CS 12346-PeCDF	107	
Total HxCDD	27.6		35.9		CS 123469-HxCDF	129	
Total HpCDD	327		327		CS 1234689-HpCDF	135	V
Total TCDF	55.2		55.9				
Total PeCDF	8.22		10.3				
Total HxCDF	16.6		16.6				
Total HpCDF	37.6		37.6				
Total PCDD/Fs	**3,570**		**3,590**				
WHO-2005 TEQs							
TEQ: ND=0	15.2		16				
TEQ: ND=DL/2	15.3	0.601	16				
TEQ: ND=DL	15.3	1.2	16.1				

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Sample ID: 11215131-010722-S-BN-SW-O-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6153_18829_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	84.4 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:00:34

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.446)		12479/12468D	0.944	J	124679/124689D	15.6		1234679D	213	
1379D	(0.446)		12469D	1.4	J	123468D	[1.58]	J	1234678D	114	
1369D	(0.446)		12368D	[0.332]	J	123679/123689D	11.2				
1469D	1.28		12478D	[0.374]	J	123469D	[2.02]	J			
1247D...[4]	(0.446)		12379D	(0.344)		123478D	0.916	J			
1378D	(0.446)		12369D...[3]	[0.689]	J	123678D	[2.41]	J			
1268D	(0.446)		12346/12347D	(0.344)		123467D	[0.486]	J			
1478D	(0.446)		12378D	0.664	J	123789D	[1.73]	J	**Conc.**	327	
1279D	(0.446)		12367D	(0.344)					**EMPC**	327	
1234/1269D	(0.446)		12389D	(0.344)							
1236D	(0.446)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.446)									**(pg/g)**	
1239D	(0.446)								OCDD	3000	
2378D	9.2										
1278D	1.01										
1267D	(0.446)										
1289D	(0.446)										
Conc.	11.5		**Conc.**	3		**Conc.**	27.6				
EMPC	11.5		**EMPC**	4.4		**EMPC**	35.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	15.2	16
TEQ: ND=DL/2	15.3	16
TEQ: ND=DL	15.3	16.1

	Conc.	EMPC
Total PCDD/Fs	3,570	3,590

Checkcode: 858-190-YNT

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-O-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6153_18829_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	84.4 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:00:34

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.43)		13468/12468F	2.59		123468F	1.91	J	1234678F	14	
1468F	(0.43)		13678F...[3]	0.688	J	124678/134678F	6.09		1234679F	1.09	J
2468F	0.864		12368F...[3]	2.39	J	134679F	(0.327)		1234689F	21.4	
1346/1246F	(0.43)		14678F	0.398	J	124679F	(0.327)		1234789F	1.17	J
1347F...[3]	0.997		13479F	(0.335)		124689F	4.17				
1348F	(0.43)		13469/12479F	(0.335)		123467F	0.662	J			
1248F...[3]	1.08		12346F	(0.335)		123478F	1.88	J			
1268F	0.707		23468/12469F	0.6	J	123678F	1.04	J			
1467F	(0.43)		12347F	(0.335)		123479F	(0.327)				
1478F	1.42		12348F	(0.335)		123469F	(0.327)				
1369/1237F	(0.43)		12378F	1.03	J	123679F	(0.327)				
2467F	(0.43)		12678/12367F	[0.811]	J	234678F	0.874	J	**Conc.**	37.6	
2368F	1.45		12379F	(0.335)		234678/123689F	0		**EMPC**	37.6	
1238F...[5]	1.85		12679F	(0.335)		123689F	(0.327)				
1278F	8.87		23467/12369F	0.527	J	123789F	(0.384)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.43)		23478F	[1.27]	J	123789/123489F	0				
1267F	1.29		23478/12489F	0		123489F	(0.327)		OCDF	90	
2346/1249F	(0.43)		12489F	(0.335)							
2347/1279F	[0.637]		12349F	(0.335)							
2348F	1.31		12389F	(0.335)							
2378F	26.5										
2367/3467F	4.46										
1269F	1.6										
1239F	(0.43)										
1289F	2.77										
Conc.	55.2		**Conc.**	8.22		**Conc.**	16.6				
EMPC	55.9		**EMPC**	10.3		**EMPC**	16.6				

Checkcode: 858-190-YNT

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-O-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6153_18829_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	QC Batch No.:	18829
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 19:00
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	9.2		0.446	9.2	9.2	9.2
12378-PeCDD	0.664	J	0.344	0.332	0.664	0.664
123478-HxCDD	0.916	J	0.395	0.0916	0.0916	0.0916
123678-HxCDD	[2.41]	J	0.371	[0.241]	[0.241]	[0.241]
123789-HxCDD	[1.73]	J	0.411	[0.173]	[0.173]	[0.173]
1234678-HpCDD	114		0.453	1.14	1.14	1.14
OCDD	3000		0.856	3	0.3	0.899
2378-TCDF	26.5		0.43	2.65	2.65	2.65
12378-PeCDF	1.03	J	0.34	0.0515	0.0515	0.0309
23478-PeCDF	[1.27]	J	0.329	[0.637]	[0.637]	[0.382]
123478-HxCDF	1.88	J	0.294	0.188	0.188	0.188
123678-HxCDF	1.04	J	0.309	0.104	0.104	0.104
234678-HxCDF	0.874	J	0.335	0.0874	0.0874	0.0874
123789-HxCDF	(0.384)		0.384	(0.0384)	(0.0384)	(0.0384)
1234678-HpCDF	14		0.198	0.14	0.14	0.14
1234789-HpCDF	1.17	J	0.311	0.0117	0.0117	0.0117
OCDF	90		0.505	0.09	0.009	0.027

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TEQ Summaries			
EMPC = 0, ND = 0	17.1	14.6	15.2
EMPC = 0, ND = DL / 2	17.1	14.7	15.3
EMPC = 0, ND = DL	17.1	14.7	15.3
EMPC = 0, < J-level = 0	16.2	13.4	14.1
EMPC = EMPC, ND = 0	18.1	15.7	16
EMPC = EMPC, ND = DL / 2	18.2	15.7	16
EMPC = EMPC, ND = DL	18.2	15.7	16.1
EMPC = EMPC, < J-level = 0	16.2	13.4	14.1

Checkcode: 858-190-YNT

Sample ID: 11215131-010722-S-BN-SW-O-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6153_18829_DF_005	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.0 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:46:53

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	238				ES 2378-TCDD	94.1	
12378-PeCDD	2.34			J	ES 12378-PeCDD	103	
123478-HxCDD	0.587			J	ES 123478-HxCDD	97.3	
123678-HxCDD	1.66			J	ES 123678-HxCDD	110	
123789-HxCDD	2.08			J	ES 123789-HxCDD	103	
1234678-HpCDD	63.2				ES 1234678-HpCDD	98.2	
OCDD	1,170				ES OCDD	96	
2378-TCDF	653				ES 2378-TCDF	93.8	
12378-PeCDF	25.1				ES 12378-PeCDF	101	
23478-PeCDF	20.4				ES 23478-PeCDF	105	
123478-HxCDF	36.3				ES 123478-HxCDF	104	
123678-HxCDF	9.68				ES 123678-HxCDF	116	
234678-HxCDF	2.15			J	ES 234678-HxCDF	101	
123789-HxCDF	ND	0.355			ES 123789-HxCDF	104	
1234678-HpCDF	11.5				ES 1234678-HpCDF	119	
1234789-HpCDF	EMPC		3.72		ES 1234789-HpCDF	99.8	
OCDF	11.5				ES OCDF	102	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.6	
Total TCDD	275		277		CS 12347-PeCDD	114	
Total PeCDD	9.45		11.4		CS 12346-PeCDF	106	
Total HxCDD	53.1		53.7		CS 123469-HxCDF	129	
Total HpCDD	168		168		CS 1234689-HpCDF	131	V
Total TCDF	1,320		1,320				
Total PeCDF	69.1		70.8				
Total HxCDF	56.2		60				
Total HpCDF	20		24				
Total PCDD/Fs	**3,150**		**3,160**				
WHO-2005 TEQs							
TEQ: ND=0	319		319				
TEQ: ND=DL/2	319	0.537	319				
TEQ: ND=DL	319	1.07	319				

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Sample ID: 11215131-010722-S-BN-SW-O-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6153_18829_DF_005	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.0 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:46:53

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.549]		12479/12468D	1.51	J	124679/124689D	37.6		1234679D	104	
1379D	(0.4)		12469D	5.11		123468D	0.837	J	1234678D	63.2	
1369D	(0.4)		12368D	(0.322)		123679/123689D	8.94				
1469D	8.8		12478D	0.486	J	123469D	1.35	J			
1247D...[4]	[0.405]	J	12379D	[0.313]	J	123478D	0.587	J			
1378D	[0.53]		12369D...[3]	[1.32]	J	123678D	1.66	J			
1268D	(0.4)		12346/12347D	(0.322)		123467D	[0.631]	J			
1478D	[0.451]	J	12378D	2.34	J	123789D	2.08	J	**Conc.**	168	
1279D	(0.4)		12367D	[0.277]	J				**EMPC**	168	
1234/1269D	0.854		12389D	(0.322)							
1236D	(0.4)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	3.73										
1239D	(0.4)								OCDD	1170	
2378D	238										
1278D	22.5										
1267D	0.781										
1289D	(0.4)										
Conc.	275		**Conc.**	9.45		**Conc.**	53.1				
EMPC	277		**EMPC**	11.4		**EMPC**	53.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	319	319
TEQ: ND=DL/2	319	319
TEQ: ND=DL	319	319

	Conc.	EMPC
Total PCDD/Fs	3,150	3,160

Checkcode: 711-803-WLJ

Report Created: 24-Jan-2022 14:49 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-O-14 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received: 08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6153_18829_DF_005	Date Extracted: 12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.0 %	QC Batch No.:	18829	Date Analyzed: 21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 19:46:53

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.25]	J	13468/12468F	(0.237)		123468F	[0.611]	J	1234678F	11.5	
1468F	[1.01]		13678F...[3]	[0.38]	J	124678/134678F	4.45		1234679F	[0.242]	J
2468F	1.45		12368F...[3]	11		134679F	(0.319)		1234689F	8.57	
1346/1246F	(0.242)		14678F	0.365	J	124679F	(0.319)		1234789F	[3.72]	
1347F...[3]	8.31		13479F	(0.245)		124689F	[2.85]				
1348F	1.92		13469/12479F	(0.245)		123467F	(0.319)				
1248F...[3]	33.7		12346F	(0.245)		123478F	36.3				
1268F	11.4		23468/12469F	[0.468]	J	123678F	9.68				
1467F	1.44		12347F	0.552	J	123479F	[0.38]	J			
1478F	28.5		12348F	2.71		123469F	(0.319)				
1369/1237F	7.38		12378F	25.1		123679F	(0.319)				
2467F	[0.726]		12678/12367F	8.39		234678F	2.15	J	**Conc.**	20	
2368F	55.5		12379F	(0.245)		234678/123689F	0		**EMPC**	24	
1238F...[5]	(0.242)		12679F	(0.245)		123689F	(0.319)				
1278F	310		23467/12369F	0.467	J	123789F	(0.355)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.242)		23478F	20.4		123789/123489F	0				
1267F	17.6		23478/12489F	0		123489F	3.58		OCDF	11.5	
2346/1249F	2.39		12489F	(0.245)							
2347/1279F	7.85		12349F	(0.245)							
2348F	53		12389F	[0.871]	J						
2378F	653										
2367/3467F	55.5										
1269F	10.3										
1239F	(0.242)										
1289F	55.7										
Conc.	1,320		**Conc.**	69.1		**Conc.**	56.2				
EMPC	1,320		**EMPC**	70.8		**EMPC**	60				

Checkcode: 711-803-WLJ

Report Created: 24-Jan-2022 14:49 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-O-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6153_18829_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	QC Batch No.:	18829
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 19:46
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	238		0.4	238	238	238
12378-PeCDD	2.34	J	0.322	1.17	2.34	2.34
123478-HxCDD	0.587	J	0.375	0.0587	0.0587	0.0587
123678-HxCDD	1.66	J	0.356	0.166	0.166	0.166
123789-HxCDD	2.08	J	0.349	0.208	0.208	0.208
1234678-HpCDD	63.2		0.358	0.632	0.632	0.632
OCDD	1170		0.827	1.17	0.117	0.351
2378-TCDF	653		0.242	65.3	65.3	65.3
12378-PeCDF	25.1		0.247	1.26	1.26	0.754
23478-PeCDF	20.4		0.244	10.2	10.2	6.12
123478-HxCDF	36.3		0.299	3.63	3.63	3.63
123678-HxCDF	9.68		0.274	0.968	0.968	0.968
234678-HxCDF	2.15	J	0.362	0.215	0.215	0.215
123789-HxCDF	(0.355)		0.355	(0.0355)	(0.0355)	(0.0355)
1234678-HpCDF	11.5		0.198	0.115	0.115	0.115
1234789-HpCDF	[3.72]		0.316	[0.0372]	[0.0372]	[0.0372]
OCDF	11.5		0.471	0.0115	0.00115	0.00344

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TEQ Summaries			
EMPC = 0, ND = 0	323	323	319
EMPC = 0, ND = DL / 2	323	323	319
EMPC = 0, ND = DL	323	323	319
EMPC = 0, < J-level = 0	321	320	316
EMPC = EMPC, ND = 0	323	323	319
EMPC = EMPC, ND = DL / 2	323	323	319
EMPC = EMPC, ND = DL	323	323	319
EMPC = EMPC, < J-level = 0	322	320	316

Checkcode: 711-803-WLJ

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Sample ID: 11215131-010722-S-BN-SW-B-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID	B6153_18829_DF_006	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	78.1 %	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:33:11

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,310			E	ES 2378-TCDD	98.2	
12378-PeCDD	23.3				ES 12378-PeCDD	107	
123478-HxCDD	EMPC		0.793	J	ES 123478-HxCDD	95.4	
123678-HxCDD	2.59				ES 123678-HxCDD	99.7	
123789-HxCDD	2.18			J	ES 123789-HxCDD	96.3	
1234678-HpCDD	75.4				ES 1234678-HpCDD	98.4	
OCDD	1,250				ES OCDD	90.4	
2378-TCDF	6,420			E	ES 2378-TCDF	95.7	
12378-PeCDF	157				ES 12378-PeCDF	103	
23478-PeCDF	129				ES 23478-PeCDF	102	
123478-HxCDF	290				ES 123478-HxCDF	101	
123678-HxCDF	76.4				ES 123678-HxCDF	108	
234678-HxCDF	13.6				ES 234678-HxCDF	93	
123789-HxCDF	ND	0.284			ES 123789-HxCDF	98.8	
1234678-HpCDF	93.6				ES 1234678-HpCDF	112	
1234789-HpCDF	36.6				ES 1234789-HpCDF	100	
OCDF	302				ES OCDF	97.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.4	
Total TCDD	2,590		2,600	E	CS 12347-PeCDD	116	
Total PeCDD	27.6		32.9		CS 12346-PeCDF	105	
Total HxCDD	40.7		42		CS 123469-HxCDF	117	
Total HpCDD	186		186		CS 1234689-HpCDF	122	
Total TCDF	12,500		12,500	E			
Total PeCDF	442		449				
Total HxCDF	451		451				
Total HpCDF	173		173				
Total PCDD/Fs	**18,000**		**18,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	3060		3060				
TEQ: ND=DL/2	3060	0.647	3060				
TEQ: ND=DL	3060	1.29	3060				

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Sample ID: 11215131-010722-S-BN-SW-B-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6153_18829_DF_006	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	78.1 %	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:33:11

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.31		12479/12468D	[1.1]	J	124679/124689D	23.3		1234679D	111	
1379D	[0.575]		12469D	[2.68]		123468D	1.35	J	1234678D	75.4	
1369D	(0.508)		12368D	0.861	J	123679/123689D	10.3				
1469D	5.05		12478D	1.49	J	123469D	1.03	J			
1247D...[4]	4.3		12379D	[0.319]	J	123478D	[0.793]	J			
1378D	7.69		12369D...[3]	[0.999]	J	123678D	2.59				
1268D	(0.508)		12346/12347D	0.645	J	123467D	[0.517]	J			
1478D	[6.13]		12378D	23.3		123789D	2.18	J	**Conc.**	186	
1279D	(0.508)		12367D	1.26	J				**EMPC**	186	
1234/1269D	1.57		12389D	[0.234]	J						
1236D	(0.508)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	36.5										
1239D	(0.508)								OCDD	1250	
2378D	2310	E									
1278D	223										
1267D	7.04										
1289D	[3.82]										
Conc.	2,590		**Conc.**	27.6		**Conc.**	40.7				
EMPC	2,600		**EMPC**	32.9		**EMPC**	42				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,060	3,060
TEQ: ND=DL/2	3,060	3,060
TEQ: ND=DL	3,060	3,060

	Conc.	EMPC
Total PCDD/Fs	18,000	18,000

Checkcode: 932-607-PHH

Report Created: 24-Jan-2022 14:49 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-B-16 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received: 08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6153_18829_DF_006	Date Extracted: 12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	78.1 %	QC Batch No.:	18829	Date Analyzed: 21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 20:33:11

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.77		13468/12468F	5.53		123468F	3.56		1234678F	93.6	
1468F	8.32		13678F...[3]	2	J	124678/134678F	26.4		1234679F	3.12	
2468F	6.51		12368F...[3]	71.3		134679F	(0.269)		1234689F	39.2	
1346/1246F	(0.322)		14678F	[2.2]	J	124679F	(0.269)		1234789F	36.6	
1347F...[3]	56		13479F	(0.396)		124689F	15.7				
1348F	14.7		13469/12479F	[0.469]	J	123467F	1.87	J			
1248F...[3]	274		12346F	(0.396)		123478F	290				
1268F	96.1		23468/12469F	2.99		123678F	76.4				
1467F	14.5		12347F	[4.33]		123479F	(0.269)				
1478F	257		12348F	16.5		123469F	(0.269)				
1369/1237F	66.1		12378F	157		123679F	(0.269)				
2467F	6.87		12678/12367F	48.3		234678F	13.6		**Conc.**	173	
2368F	217		12379F	(0.396)		234678/123689F	0		**EMPC**	173	
1238F...[5]	259		12679F	(0.396)		123689F	(0.269)				
1278F	3010	E	23467/12369F	2.58		123789F	(0.284)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.322)		23478F	129		123789/123489F	0				
1267F	157		23478/12489F	0		123489F	23.7		OCDF	302	
2346/1249F	19.3		12489F	(0.396)							
2347/1279F	66.2		12349F	(0.396)							
2348F	447		12389F	7.4							
2378F	6420	E									
2367/3467F	505										
1269F	101										
1239F	7.93										
1289F	532										
Conc.	12,500		**Conc.**	442		**Conc.**	451				
EMPC	12,500		**EMPC**	449		**EMPC**	451				

Checkcode: 932-607-PHH

Report Created: 24-Jan-2022 14:49 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-B-16 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6153_18829_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	QC Batch No.:	18829
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	21-Jan-2022 20:33
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2310	E	0.508	2310	2310	2310
12378-PeCDD	23.3		0.367	11.7	23.3	23.3
123478-HxCDD	[0.793]	J	0.473	[0.0793]	[0.0793]	[0.0793]
123678-HxCDD	2.59		0.433	0.259	0.259	0.259
123789-HxCDD	2.18	J	0.42	0.218	0.218	0.218
1234678-HpCDD	75.4		0.497	0.754	0.754	0.754
OCDD	1250		0.617	1.25	0.125	0.375
2378-TCDF	6420	E	0.322	642	642	642
12378-PeCDF	157		0.381	7.83	7.83	4.7
23478-PeCDF	129		0.412	64.5	64.5	38.7
123478-HxCDF	290		0.258	29	29	29
123678-HxCDF	76.4		0.236	7.64	7.64	7.64
234678-HxCDF	13.6		0.311	1.36	1.36	1.36
123789-HxCDF	(0.284)		0.284	(0.0284)	(0.0284)	(0.0284)
1234678-HpCDF	93.6		0.191	0.936	0.936	0.936
1234789-HpCDF	36.6		0.296	0.366	0.366	0.366
OCDF	302		0.637	0.302	0.0302	0.0905

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TEQ Summaries			
EMPC = 0, ND = 0	3070	3090	3060
EMPC = 0, ND = DL / 2	3070	3090	3060
EMPC = 0, ND = DL	3070	3090	3060
EMPC = 0, < J-level = 0	3070	3080	3060
EMPC = EMPC, ND = 0	3070	3090	3060
EMPC = EMPC, ND = DL / 2	3070	3090	3060
EMPC = EMPC, ND = DL	3070	3090	3060
EMPC = EMPC, < J-level = 0	3070	3080	3060

Checkcode: 932-607-PHH

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Sample ID: Method Blank B6153_18829

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18829_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:22:43

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.567			ES 2378-TCDD	93.2	
12378-PeCDD	ND	0.409			ES 12378-PeCDD	108	
123478-HxCDD	ND	0.364			ES 123478-HxCDD	100	
123678-HxCDD	ND	0.3			ES 123678-HxCDD	122	
123789-HxCDD	ND	0.386			ES 123789-HxCDD	106	
1234678-HpCDD	ND	0.388			ES 1234678-HpCDD	96.3	
OCDD	ND	0.723			ES OCDD	80.7	
2378-TCDF	ND	0.494			ES 2378-TCDF	84.1	
12378-PeCDF	ND	0.353			ES 12378-PeCDF	99.1	
23478-PeCDF	ND	0.33			ES 23478-PeCDF	98.2	
123478-HxCDF	ND	0.262			ES 123478-HxCDF	94.3	
123678-HxCDF	ND	0.229			ES 123678-HxCDF	114	
234678-HxCDF	ND	0.291			ES 234678-HxCDF	102	
123789-HxCDF	ND	0.306			ES 123789-HxCDF	90.4	
1234678-HpCDF	ND	0.175			ES 1234678-HpCDF	122	
1234789-HpCDF	ND	0.363			ES 1234789-HpCDF	82.5	
OCDF	ND	0.763			ES OCDF	81.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.2	
Total TCDD	ND	0.567	ND		CS 12347-PeCDD	119	
Total PeCDD	ND	0.409	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	0.348	ND		CS 123469-HxCDF	132	V
Total HpCDD	ND	0.388	ND		CS 1234689-HpCDF	129	
Total TCDF	ND	0.494	ND				
Total PeCDF	ND	0.341	ND				
Total HxCDF	ND	0.268	ND				
Total HpCDF	ND	0.244	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.679	0.679	0.679				
TEQ: ND=DL	1.36	1.36	1.36				

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Sample ID: Method Blank B6153_18829 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18829_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:22:43

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.567)		12479/12468D	(0.409)		124679/124689D	(0.348)		1234679D	(0.388)	
1379D	(0.567)		12469D	(0.409)		123468D	(0.348)		1234678D	(0.388)	
1369D	(0.567)		12368D	(0.409)		123679/123689D	(0.348)				
1469D	(0.567)		12478D	(0.409)		123469D	(0.348)				
1247D...[4]	(0.567)		12379D	(0.409)		123478D	(0.364)				
1378D	(0.567)		12369D...[3]	(0.409)		123678D	(0.3)				
1268D	(0.567)		12346/12347D	(0.409)		123467D	(0.348)				
1478D	(0.567)		12378D	(0.409)		123789D	(0.386)		**Conc.**	0	
1279D	(0.567)		12367D	(0.409)					**EMPC**	0	
1234/1269D	(0.567)		12389D	(0.409)							
1236D	(0.567)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.567)										
1239D	(0.567)								OCDD	(0.723)	
2378D	(0.567)										
1278D	(0.567)										
1267D	(0.567)										
1289D	(0.567)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.679	0.679
TEQ: ND=DL	1.36	1.36

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 970-966-WKG

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: Method Blank B6153_18829 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18829_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:22:43

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.494)		13468/12468F	(0.275)		123468F	(0.268)		1234678F	(0.175)	
1468F	(0.494)		13678F...[3]	(0.341)		124678/134678F	(0.268)		1234679F	(0.244)	
2468F	(0.494)		12368F...[3]	(0.341)		134679F	(0.268)		1234689F	(0.244)	
1346/1246F	(0.494)		14678F	(0.341)		124679F	(0.268)		1234789F	(0.363)	
1347F...[3]	(0.494)		13479F	(0.341)		124689F	(0.268)				
1348F	(0.494)		13469/12479F	(0.341)		123467F	(0.268)				
1248F...[3]	(0.494)		12346F	(0.341)		123478F	(0.262)				
1268F	(0.494)		23468/12469F	(0.341)		123678F	(0.229)				
1467F	(0.494)		12347F	(0.341)		123479F	(0.268)				
1478F	(0.494)		12348F	(0.341)		123469F	(0.268)				
1369/1237F	(0.494)		12378F	(0.353)		123679F	(0.268)				
2467F	(0.494)		12678/12367F	(0.341)		234678F	(0.291)		**Conc.**	0	
2368F	(0.494)		12379F	(0.341)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.494)		12679F	(0.341)		123689F	(0.268)				
1278F	(0.494)		23467/12369F	(0.341)		123789F	(0.306)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.494)		23478F	(0.33)		123789/123489F	0			**(pg/g)**	
1267F	(0.494)		23478/12489F	0		123489F	(0.268)		OCDF	(0.763)	
2346/1249F	(0.494)		12489F	(0.341)							
2347/1279F	(0.494)		12349F	(0.341)							
2348F	(0.494)		12389F	(0.341)							
2378F	(0.494)										
2367/3467F	(0.494)										
1269F	(0.494)										
1239F	(0.494)										
1289F	(0.494)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 970-966-WKG

Report Created: 24-Jan-2022 14:48 Analyst: pw

Sample ID: Method Blank B6153_18829 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18829_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18829
Date Collected:	n/a	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	21-Jan-2022 14:22
Lab Project No:	B6153	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.567)		0.567	(0.567)	(0.567)	(0.567)
12378-PeCDD	(0.409)		0.409	(0.205)	(0.409)	(0.409)
123478-HxCDD	(0.364)		0.364	(0.0364)	(0.0364)	(0.0364)
123678-HxCDD	(0.3)		0.3	(0.03)	(0.03)	(0.03)
123789-HxCDD	(0.386)		0.386	(0.0386)	(0.0386)	(0.0386)
1234678-HpCDD	(0.388)		0.388	(0.00388)	(0.00388)	(0.00388)
OCDD	(0.723)		0.723	(0.000723)	(0.0000723)	(0.000217)
2378-TCDF	(0.494)		0.494	(0.0494)	(0.0494)	(0.0494)
12378-PeCDF	(0.353)		0.353	(0.0176)	(0.0176)	(0.0106)
23478-PeCDF	(0.33)		0.33	(0.165)	(0.165)	(0.099)
123478-HxCDF	(0.262)		0.262	(0.0262)	(0.0262)	(0.0262)
123678-HxCDF	(0.229)		0.229	(0.0229)	(0.0229)	(0.0229)
234678-HxCDF	(0.291)		0.291	(0.0291)	(0.0291)	(0.0291)
123789-HxCDF	(0.306)		0.306	(0.0306)	(0.0306)	(0.0306)
1234678-HpCDF	(0.175)		0.175	(0.00175)	(0.00175)	(0.00175)
1234789-HpCDF	(0.363)		0.363	(0.00363)	(0.00363)	(0.00363)
OCDF	(0.763)		0.763	(0.000763)	(0.0000763)	(0.000229)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.614	0.716	0.679
EMPC = 0, ND = DL	1.23	1.43	1.36
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.614	0.716	0.679
EMPC = EMPC, ND = DL	1.23	1.43	1.36
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 970-966-WKG

SGS North America - DF v0.99

Sample ID: 0_18829_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18829_DF	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:03:47

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.3				ES 2378-TCDD	89.6	
12378-PeCDD	51.5				ES 12378-PeCDD	107	
123478-HxCDD	56.9				ES 123478-HxCDD	89.7	
123678-HxCDD	58.2				ES 123678-HxCDD	111	
123789-HxCDD	50.8				ES 123789-HxCDD	93.8	
1234678-HpCDD	56.8				ES 1234678-HpCDD	83.4	
OCDD	117				ES OCDD	76.8	
2378-TCDF	12				ES 2378-TCDF	82	
12378-PeCDF	54.2				ES 12378-PeCDF	94.3	
23478-PeCDF	57.8				ES 23478-PeCDF	92.9	
123478-HxCDF	54.5				ES 123478-HxCDF	84.1	
123678-HxCDF	61.7				ES 123678-HxCDF	105	
234678-HxCDF	58.8				ES 234678-HxCDF	89.8	
123789-HxCDF	57				ES 123789-HxCDF	72.2	
1234678-HpCDF	57.4				ES 1234678-HpCDF	112	
1234789-HpCDF	61.9				ES 1234789-HpCDF	70.3	
OCDF	111				ES OCDF	73.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.9	
Total TCDD	57.1		57.1		CS 12347-PeCDD	124	
Total PeCDD	77		77		CS 12346-PeCDF	104	
Total HxCDD	180		180		CS 123469-HxCDF	122	
Total HpCDD	68.9		68.9		CS 1234689-HpCDF	115	
Total TCDF	63		63				
Total PeCDF	213		213				
Total HxCDF	373		373				
Total HpCDF	119		119				
Total PCDD/Fs	**1,380**		**1,380**				
WHO-2005 TEQs							
TEQ: ND=0	126		126				
TEQ: ND=DL/2	126	0.47	126				
TEQ: ND=DL	126	0.939	126				

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Sample ID: 0_18829_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6153	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18829_DF	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18829	Date Analyzed:	21-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:50:06

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.3				ES 2378-TCDD	91.6	
12378-PeCDD	51.4				ES 12378-PeCDD	109	
123478-HxCDD	55.4				ES 123478-HxCDD	97.1	
123678-HxCDD	55.2				ES 123678-HxCDD	119	
123789-HxCDD	54.9				ES 123789-HxCDD	94.3	
1234678-HpCDD	60.3				ES 1234678-HpCDD	86.8	
OCDD	120				ES OCDD	79	
2378-TCDF	12.7				ES 2378-TCDF	82.9	
12378-PeCDF	52				ES 12378-PeCDF	103	
23478-PeCDF	55.7				ES 23478-PeCDF	98.1	
123478-HxCDF	55.4				ES 123478-HxCDF	92.9	
123678-HxCDF	57.9				ES 123678-HxCDF	115	
234678-HxCDF	56.4				ES 234678-HxCDF	92.4	
123789-HxCDF	55.6				ES 123789-HxCDF	76.7	
1234678-HpCDF	56.2				ES 1234678-HpCDF	123	
1234789-HpCDF	56.1				ES 1234789-HpCDF	80.2	
OCDF	111				ES OCDF	75.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.6	
Total TCDD	55.7		55.7		CS 12347-PeCDD	120	
Total PeCDD	76		76		CS 12346-PeCDF	109	
Total HxCDD	180		180		CS 123469-HxCDF	127	
Total HpCDD	73.6		73.6		CS 1234689-HpCDF	119	
Total TCDF	65.2		65.2				
Total PeCDF	201		201				
Total HxCDF	364		364				
Total HpCDF	112		112				
Total PCDD/Fs	**1,360**		**1,360**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.405	124				
TEQ: ND=DL	124	0.81	124				

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Sample DUP

Method 1613B

Sample ID: 0_18829_OPR001

Analyte	OPR1_18829_DF pg/uL	OPR2_18829_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.3	12.3	0.1%
1,2,3,7,8-PeCDD	51.5	51.4	0.3%
1,2,3,4,7,8-HxCDD	56.9	55.4	2.7%
1,2,3,6,7,8-HxCDD	58.2	55.2	5.4%
1,2,3,7,8,9-HxCDD	50.8	54.9	7.8%
1,2,3,4,6,7,8-HpCDD	56.8	60.3	5.9%
OCDD	117	120	2.2%
2,3,7,8-TCDF	12	12.7	5.2%
1,2,3,7,8-PeCDF	54.2	52	4.1%
2,3,4,7,8-PeCDF	57.8	55.7	3.7%
1,2,3,4,7,8-HxCDF	54.5	55.4	1.5%
1,2,3,6,7,8-HxCDF	61.7	57.9	6.3%
2,3,4,6,7,8-HxCDF	58.8	56.4	4.2%
1,2,3,7,8,9-HxCDF	57	55.6	2.5%
1,2,3,4,6,7,8-HpCDF	57.4	56.2	2.1%
1,2,3,4,7,8,9-HpCDF	61.9	56.1	9.9%
OCDF	111	111	0.3%
Totals			
Total TCDD	57.1	55.7	2.4%
Total PeCDD	77	76	1.4%
Total HxCDD	180	180	0.3%
Total HpCDD	68.9	73.6	6.6%
Total TCDF	63	65.2	3.4%
Total PeCDF	213	201	5.7%
Total HxCDF	373	364	2.4%
Total HpCDF	119	112	6.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Jan-22 at 13:00*
AP Project name:	*B6153*
Requested TAT:	*10 business days*
Projected due date:	*24-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010622-S-BN-SW-O-11	B6153_001	Solid	1	4oz Clear Glass	06-Jan-22	14:20	-0.6	1	4905 2704 3675
11215131-010622-S-BN-SW-B-13	B6153_002	Solid	1	4oz Clear Glass	06-Jan-22	14:30	-0.6	1	4905 2704 3675
11215131-010622-S-BN-SW-B-14	B6153_003	Solid	1	4oz Clear Glass	06-Jan-22	14:40	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-O-13	B6153_004	Solid	1	4oz Clear Glass	07-Jan-22	09:50	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-O-14	B6153_005	Solid	1	4oz Clear Glass	07-Jan-22	10:00	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-B-16	B6153_006	Solid	1	4oz Clear Glass	07-Jan-22	10:10	-0.6	1	4905 2704 3675

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Samples were not received frozen.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jeannie Milholland *Logged in by: Ashley Owens* *QC'ed by:* AK 10 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B0153

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: NONE

ANALYSIS & METHOD: M1613B (D/F); ~~M8290A~~ (BN); ~~M1668A~~ (BN); ~~M1668B~~ (BN); ~~HR-PAH~~ (BN); ~~M1699~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS SEE SSOW
11215131-010622-S-BN-SW-S-28	1-6-22	1400	C	S	402				1	~~SEE SSOW~~ (BN) RUSH
11215131-010622-S-BN-SW-S-29		1410							1	RUSH
11215131-010622-S-BN-SW-D-11		1420							1	*
11215131-010622-S-BN-SW-B-13		1430							1	*
11215131-010622-S-BN-SW-B-14		1440							1	*
11215131-010622-S-BN-SW-B-14H	↓	1450							1	HOLD
11215131-010722-S-BN-SW-S-31	1-7-22	0920							1	RUSH
11215131-010722-S-BN-SW-S-32		0930							1	RUSH
11215131-010722-S-BN-SW-S-33		0940							1	RUSH
11215131-010722-S-BN-SW-D-13	↓	0950	↓	↓	↓				1	*

COLLECTED/RELINQUISHED BY (1): Breanna North	DATE: (BN) 1-7-22	TIME: 1230	RECEIVED BY:
RELINQUISHED BY (2):	DATE: 1-7-22	TIME: 1315	RECEIVED BY: 1/7/22 1315
RELINQUISHED BY (3):	DATE: 1/7/22	TIME: 1315	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:
1-8-2022 1300
COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: Fed. Ex | TEMP: °C -0.6 IH4-P
TRACKING #: 4905-2704-3675

*=samples in this project.

SGS CHAIN OF CUSTODY

B6153

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	M8260A (B)	M1668A (B)	M1668C (B)	MCPAH (B)	M1699 (B)	MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-010722-S-BN-SW-B-16	1-7-22	1000	C	S	4oz		X									1	*
11215131-010722-S-BN-SW-B-16	↓	1010	↓	↓	↓		X									1	*
11215131-010722-S-BN-SW-B-11	↓	1020	↓	↓	↓		X									1	HOLD

	DATE:	TIME:		
COLLECTED/RELINQUISHED BY (1): Breanna North	1-7-22	1230	RECEIVED BY: Ellie Costa	RECEIVED BY LABORATORY: Jeanne Mitchell DATE: 1-8-2022 TIME: 1300
RELINQUISHED BY (2): Ellie Costa	1-7-22	1317	RECEIVED BY: Jeanne 1/7/22 1315	COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT
RELINQUISHED BY (3):	1/7/22	1315	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
				CARRIER: Fed Ex TEMP: °C -0.6 IR4-P
				TRACKING #: 4905 2704 3675

*=samples in this project.

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B6153

ORI GIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#1

SHIP DATE: 07JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

1/8/2022
13:00
-0.6° (T.B.)

WILMINGTON NC 28405
(910) 350-1903
REF: 48QT

FedEx Express

J191210082001uv

TRK# 0201 **4905 2704 3675**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#2

SHIP DATE: 07JAN22
ACTWGT: 26.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

1-8-2022
-0.4°C
1300pm

WILMINGTON NC 28405
(910) 350-1903
REF: 30QT

FedEx Express

J191210082001uv

TRK# 0201 **4905 2704 3664**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6153

Initiation Date: 10-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: JRH 1/12/22 RB3 1/17/22

HRMS Lab: Conv 1/24/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: Conv 1/24/22

PM Initials: akornegay Date: 10-Jan-2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18829 | Split: 1/2 ~~1/4~~ | Extract Initial/Date: KE 1/12/22 | Clean-up Initial/Date: RB3 1/17/22 | Transfer Init/Date: KDB 1/18/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6139_18829_001	4	12.31				brown, clay-like
B6139_18829_002	5	12.77				gray, clay-like
B6153_18829_001	6	11.32				brown, dry, powdery
B6153_18829_002	7	13.56				gray, sandy, clay-like
B6153_18829_003	8	13.65				gray, clay-like
B6153_18829_004	9	11.97				brown, sandy, clay-like
B6153_18829_005	10	12.47				gray, clay-like
B6153_18829_006	11	13.00				gray, clay-like
MB1_18829	1	10.00				sodium sulfate
OPR1_18829	2	10.00				sodium sulfate
OPR2_18829	3	10.01				sodium sulfate

CL 25 Jan 22

RB3 1/18/22

Supply IDs

Toluene	STL14-23
MeCHL	STL14-21
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-28C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CL 25 Jan 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	1615
	Stop:	0930
HEX	Start:	
	Stop:	CL 25 Jan 22
DCM	Start:	
	Stop:	

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18829

Inter-Department Communication Sheet

25 Jan 22

SGS

Wt. Volume Results

Batch #: 18829

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6139_001	0.8	4.66	3.97	82.12%	82.12%			12.18	12.31	10.11
B6139_002	0.8	4.98	4.12	79.43%	79.43%			12.59	12.77	10.14
B6153_001	0.81	4.11	3.74	88.79%	88.79%			11.26	11.32	10.05
B6153_002	0.8	4.1	3.28	75.15%	75.15%			13.31	13.56	10.19
B6153_003	0.8	4.7	3.71	74.62%	74.62%			13.4	13.65	10.19
B6153_004	0.8	4.97	4.32	84.41%	84.41%			11.85	11.97	10.1
B6153_005	0.8	4.7	3.96	81.03%	81.03%			12.34	12.47	10.1
B6153_006	0.81	5.14	4.19	78.06%	78.06%			12.81	13	10.15

CE 25 Jan 22

Reviewed CE 25 Jan 22

% Solid Determination WorkSheet

SGS

Batch: 18829

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWF	Comments
B6139_18829_001	0.80	4.66	3.97	12.18	
B6139_18829_002	0.80	4.98	4.12	12.59	
B6153_18829_001	0.81	4.11	3.74	11.26	
B6153_18829_002	0.80	4.10	3.78	13.31	
B6153_18829_003	0.80	4.70	3.71	13.40	
B6153_18829_004	0.80	4.97	4.32	11.85	
B6153_18829_005	0.80	4.70	3.96	12.34	
B6153_18829_006	0.81	5.14	4.19	12.81	

BC
1/18/22

Date/Initials: KE 1/12/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18829

Lab Sample ID	Spiker Initials/Date: JRH 1/20/22 D/F Ax-A Amount: 20 µL Observer Initials	JRH 1/12/22 D/F Ax-B Amount: 20 µL Observer Initials	JRH 1/12/22 D/F ES Amount: 20 µL Observer Initials	RAB 1/17/22 D/F CS Amount: 20 µL Observer Initials	RAB 1/17/22 D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6139_18829_001	–	–	KE	KE	KE		
B6139_18829_002	–	–	KE	KE	KE		
B6153_18829_001	–	–	KE	KE	KE		
B6153_18829_002	–	–	KE	KE	KE		
B6153_18829_003	–	–	KE	KE	KE		
B6153_18829_004	–	–	KE	KE	KE		
B6153_18829_005	–	–	KE	KE	KE		
B6153_18829_006	–	–	KE	KE	KE		
MB1_18829	–	–	KE	KE	KE		
OPR1_18829	KE	KE	KE	KE	KE		
OPR2_18829	KE	KE	KE	KE	KE		

RAB 1/18/22

Standard Information

Pipette ID						RAB 1/18/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	25.309.1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	
Expiration Date	7/9/25	6/22/22	illegible	11/16/22	10/8/22	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID		Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220121C01	3	CS3_220121_DF_CA	✔	1.00	SIL 25-347-1	DTF, PSW	341-966	21-Jan-2022	10:39:28
2	220121C02	71	OPR1_18829_DF		1.00	0_18829_OPR001	DTF	507-844	21-Jan-2022	12:03:47
3	220121C03	72	OPR2_18829_DF		1.00	0_18829_OPR002	DTF	338-214	21-Jan-2022	12:50:06
4	220121C04	2	SBS_220121_DF_CA		1.00	20-61-1	DTF	458-089	21-Jan-2022	13:36:24
5	220121C05	70	MB1_18829_DF_SDS		10.00	Method Blank	DTF	970-966	21-Jan-2022	14:22:43
6	220121C08	75	B6153_18829_DF_001		10.05	11215131-010622-S-BN-SW-O-11	DTF, PSW	620-199	21-Jan-2022	16:41:38
7	220121C09	76	B6153_18829_DF_002		10.19	11215131-010622-S-BN-SW-B-13	DTF, PSW	419-883	21-Jan-2022	17:27:57
8	220121C10	77	B6153_18829_DF_003		10.19	11215131-010622-S-BN-SW-B-14	DTF, PSW	922-952	21-Jan-2022	18:14:15
9	220121C11	78	B6153_18829_DF_004		10.10	11215131-010722-S-BN-SW-O-13	DTF, PSW	858-190	21-Jan-2022	19:00:34
10	220121C12	79	B6153_18829_DF_005		10.10	11215131-010722-S-BN-SW-O-14	DTF, PSW	711-803	21-Jan-2022	19:46:53
11	220121C13	80	B6153_18829_DF_006	✔	10.15	11215131-010722-S-BN-SW-B-16	DTF, PSW	932-607	21-Jan-2022	20:33:11

REVIEWED
paul_walton , 1/24/2022, 3:00:01 PM

REVIEWED
Megan_Shannahan , 1/25/2022, 3:00:19 PM

APPROVED
Carla_Lyon , 1/25/2022, 5:00:23 PM

Lab ID: MB1_18829_DF_SDS | **Acq'd:** 21 Jan 2022 14:22 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6153_18829 | **UTP:** 24-Jan-2022 14:42:52 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 970-966-WKG

Datafile: 220121C05 | **Report:** 24 Jan 2022 14:48 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5113.583	0.567
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3550.145	0.409
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3101.614	0.364
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3101.614	0.3
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3101.614	0.386
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3220.233	0.388
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2801.233	0.723
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	6250.861	0.494
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4695.612	0.353
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4695.612	0.33
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3122.794	0.262
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3122.794	0.229
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3122.794	0.291
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3122.794	0.306
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2777.399	0.175
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2777.399	0.363
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3796.085	0.763

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0236	+0.5	1.79E+07	0.82	Y	1.05	93.2
ES 12378-PeCDD	33.94	1.2121	1.2133	+2.4	1.73E+07	1.56	Y	0.88	108
ES 123478-HxCDD	37.83	0.9921	0.9922	+0.2	1.47E+07	1.26	Y	0.97	100
ES 123678-HxCDD	37.95	0.9951	0.9953	+0.5	1.74E+07	1.28	Y	0.94	122
ES 123789-HxCDD	38.24	1.0025	1.0029	+0.9	1.75E+07	1.35	Y	1.09	106
ES 1234678-HpCDD	40.86	1.0709	1.0717	+2.0	1.33E+07	1.02	Y	0.91	96.3
ES OCDD	43.51	1.1403	1.1412	+2.3	1.52E+07	0.90	Y	0.62	80.7
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.70E+07	0.80	Y	1.06	84.1
ES 12378-PeCDF	32.50	1.2281	1.2297	+3.1	2.74E+07	1.58	Y	0.91	99.1
ES 23478-PeCDF	33.61	1.2698	1.2715	+3.4	2.63E+07	1.58	Y	0.88	98.2
ES 123478-HxCDF	36.83	0.9657	0.9658	+0.2	1.70E+07	0.52	Y	1.20	94.3
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.33E+07	0.54	Y	1.35	114
ES 234678-HxCDF	37.65	0.9874	0.9875	+0.2	1.91E+07	0.53	Y	1.24	102
ES 123789-HxCDF	38.59	1.0116	1.0121	+1.2	1.57E+07	0.56	Y	1.16	90.4
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.78E+07	0.45	Y	0.97	122
ES 1234789-HpCDF	41.32	1.0830	1.0838	+2.0	1.06E+07	0.46	Y	0.85	82.5
ES OCDF	43.70	1.1451	1.1461	+2.6	1.99E+07	0.90	Y	0.81	81.9

Lab ID: MB1_18829_DF_SDS | **Acq'd:** 21 Jan 2022 14:22 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6153_18829 | **UTP:** 24-Jan-2022 14:42:52 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 970-966-WKG

Datafile: 220121C05 | **Report:** 24 Jan 2022 14:48 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.83E+07	0.80	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.04E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.53E+06	1.16	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.13E+06	n/a	-	1.20	92.2	
CS 12347-PeCDD	33.44		1.1943	1.1954	+2.2	1.64E+07	1.64	Y	0.75	119	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.70E+07	1.68	Y	0.85	105	
CS 123469-HxCDF	37.28	V	0.9778	0.9779	+0.2	2.22E+07	0.53	Y	1.12	132	
CS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.73E+07	0.46	Y	0.89	129	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.13E+06~~	~~n/a~~		~~1.15~~	~~99.1~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.64E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~110~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.70E+07~~	~~1.68~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.22E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~115~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.73E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18829_DF_SDS **Acq'd: 21 Jan 2022 14:22 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6153_18829 **UTP: 24-Jan-2022 14:42:52 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 970-966-WKG**

Datafile: 220121C05 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5113.583	0.567
1379-TCDD	NotFnd		0.8876						1.18		5113.583	0.567
1369-TCDD	NotFnd		0.9023						1.18		5113.583	0.567
1469-TCDD	NotFnd		0.9291						1.18		5113.583	0.567
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5113.583	0.567
1378-TCDD	NotFnd		0.9440						1.18		5113.583	0.567
1268-TCDD	NotFnd		0.9506						1.18		5113.583	0.567
1478-TCDD	NotFnd		0.9591						1.18		5113.583	0.567
1279-TCDD	NotFnd		0.9649						1.18		5113.583	0.567
1234/1269-TCDD	NotFnd		0.9771						1.18		5113.583	0.567
1236-TCDD	NotFnd		0.9820						1.18		5113.583	0.567
1237/1238-TCDD	NotFnd		0.9908						1.18		5113.583	0.567
1239-TCDD	NotFnd		0.9954						1.18		5113.583	0.567
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**5113.583**	**0.567**
1278-TCDD	NotFnd		1.0121						1.18		5113.583	0.567
1267-TCDD	NotFnd		1.0167						1.18		5113.583	0.567
1289-TCDD	NotFnd		1.0341						1.18		5113.583	0.567
12479/12468-PeCDD	NotFnd		0.9273						1.04		3550.145	0.409
12469-PeCDD	NotFnd		0.9430						1.04		3550.145	0.409
12368-PeCDD	NotFnd		0.9592						1.04		3550.145	0.409
12478-PeCDD	NotFnd		0.9647						1.04		3550.145	0.409
12379-PeCDD	NotFnd		0.9676						1.04		3550.145	0.409
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3550.145	0.409
12346/12347-PeCDD	NotFnd		0.9860						1.04		3550.145	0.409
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3550.145**	**0.409**
12367-PeCDD	NotFnd		1.0034						1.04		3550.145	0.409
12389-PeCDD	NotFnd		1.0134						1.04		3550.145	0.409
124679/124689-HxCDD	NotFnd		0.9545						1.10		3101.614	0.348
123468-HxCDD	NotFnd		0.9715						1.10		3101.614	0.348
123679/123689-HxCDD	NotFnd		0.9793						1.10		3101.614	0.348
123469-HxCDD	NotFnd		0.9829						1.10		3101.614	0.348
123478-HxCDD	NotFnd		**1.0004**						1.09		**3101.614**	**0.364**
123678-HxCDD	NotFnd		**1.0034**						1.15		**3101.614**	**0.3**
123467-HxCDD	NotFnd		1.0082						1.10		3101.614	0.348
123789-HxCDD	NotFnd		**1.0109**						1.05		**3101.614**	**0.386**

Lab ID: MB1_18829_DF_SDS **Acq'd:** 21 Jan 2022 14:22 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6153_18829 **UTP:** 24-Jan-2022 14:42:52 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 970-966-WKG

Datafile: 220121C05 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

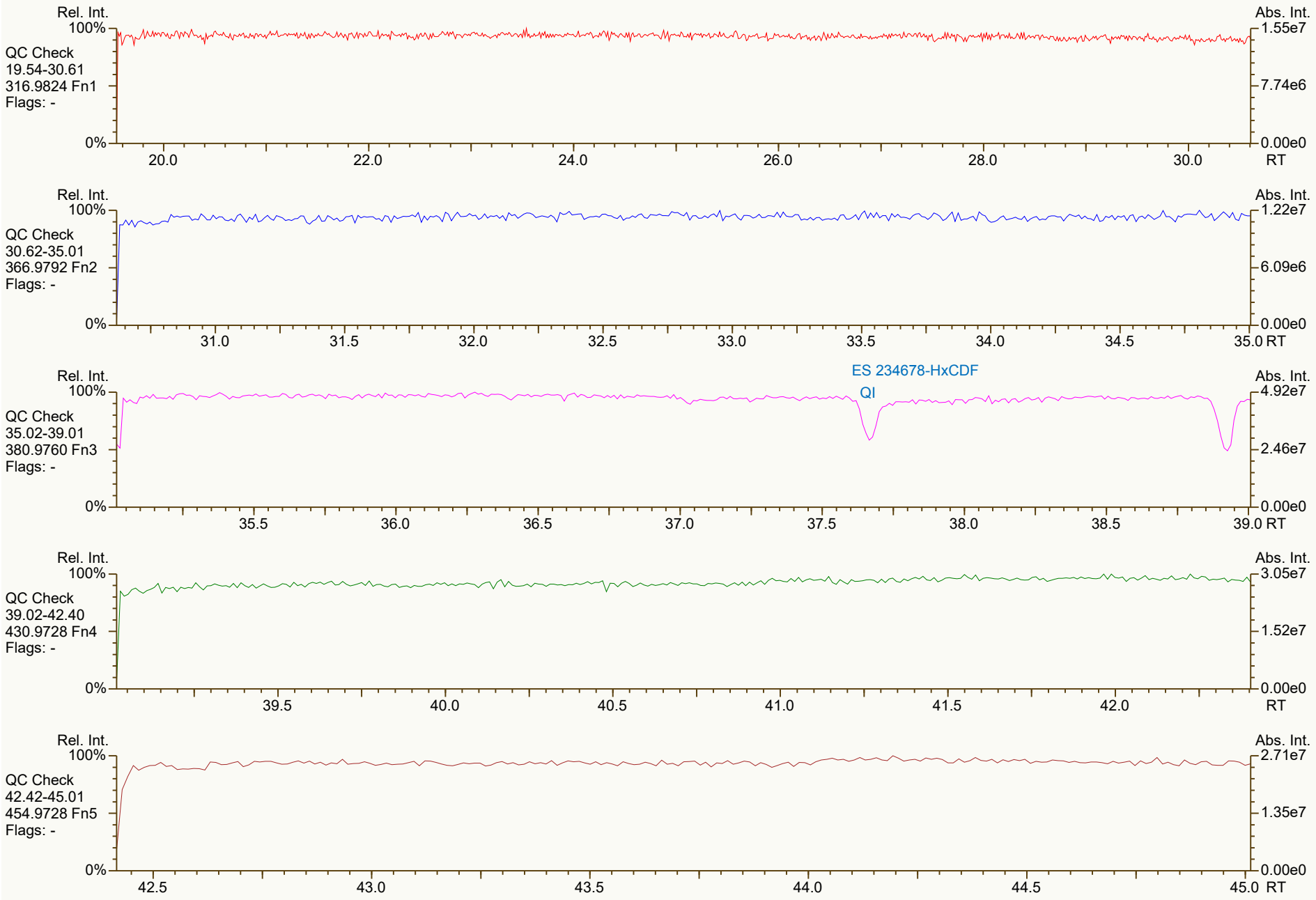
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3220.233	0.388
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3220.233**	**0.388**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2801.233**	**0.723**
OCDD-a	NotFnd		1.0002						0.07		3401.691	13.7
1368-TCDF	NotFnd		0.8282						1.08		6250.861	0.494
1468-TCDF	NotFnd		0.8485						1.08		6250.861	0.494
2468-TCDF	NotFnd		0.8709						1.08		6250.861	0.494
1346/1246-TCDF	NotFnd		0.8829						1.08		6250.861	0.494
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6250.861	0.494
1348-TCDF	NotFnd		0.8980						1.08		6250.861	0.494
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6250.861	0.494
1268-TCDF	NotFnd		0.9158						1.08		6250.861	0.494
1467-TCDF	NotFnd		0.9206						1.08		6250.861	0.494
1478-TCDF	NotFnd		0.9266						1.08		6250.861	0.494
1369/1237-TCDF	NotFnd		0.9397						1.08		6250.861	0.494
2467-TCDF	NotFnd		0.9440						1.08		6250.861	0.494
2368-TCDF	NotFnd		0.9497						1.08		6250.861	0.494
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6250.861	0.494
1278-TCDF	NotFnd		0.9690						1.08		6250.861	0.494
1349-TCDF	NotFnd		0.9730						1.08		6250.861	0.494
1267-TCDF	NotFnd		0.9787						1.08		6250.861	0.494
2346/1249-TCDF	NotFnd		0.9850						1.08		6250.861	0.494
2347/1279-TCDF	NotFnd		0.9929						1.08		6250.861	0.494
2348-TCDF	NotFnd		0.9970						1.08		6250.861	0.494
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**6250.861**	**0.494**
2367/3467-TCDF	NotFnd		1.0136						1.08		6250.861	0.494
1269-TCDF	NotFnd		1.0221						1.08		6250.861	0.494
1239-TCDF	NotFnd		1.0319						1.08		6250.861	0.494
1289-TCDF	NotFnd		1.0740						1.08		6250.861	0.494
13468/12468-PeCDF	NotFnd		0.9145						1.02		3776.219	0.275
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4695.612	0.341
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4695.612	0.341
14678-PeCDF	NotFnd		0.9695						1.02		4695.612	0.341
13479-PeCDF	NotFnd		0.9724						1.02		4695.612	0.341
13469/12479-PeCDF	NotFnd		0.9801						1.02		4695.612	0.341
12346-PeCDF	NotFnd		0.9842						1.02		4695.612	0.341

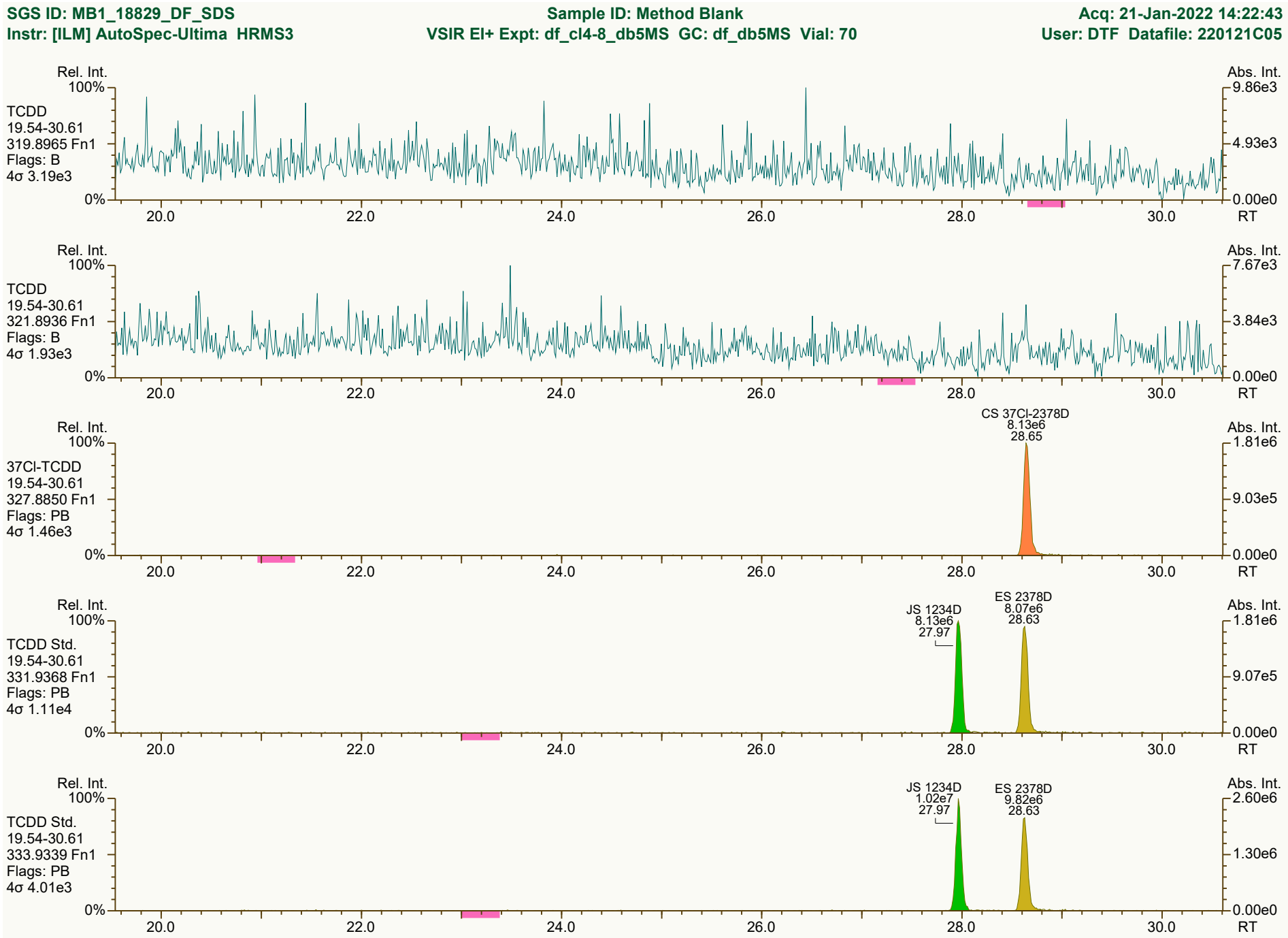
Lab ID: MB1_18829_DF_SDS | **Acq'd: 21 Jan 2022 14:22 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

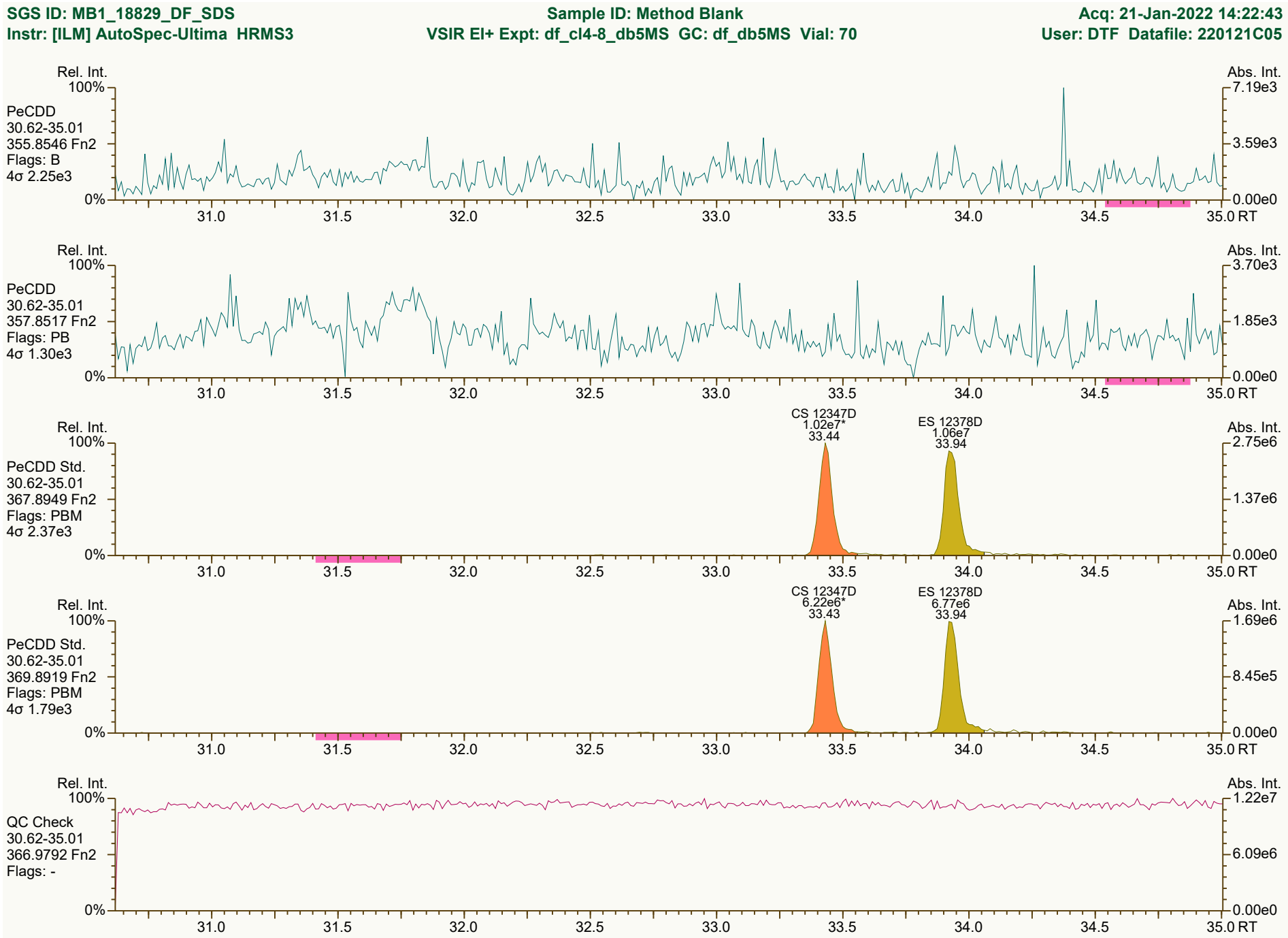
Client ID: Method Blank B6153_18829 | **UTP: 24-Jan-2022 14:42:52 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 970-966-WKG**

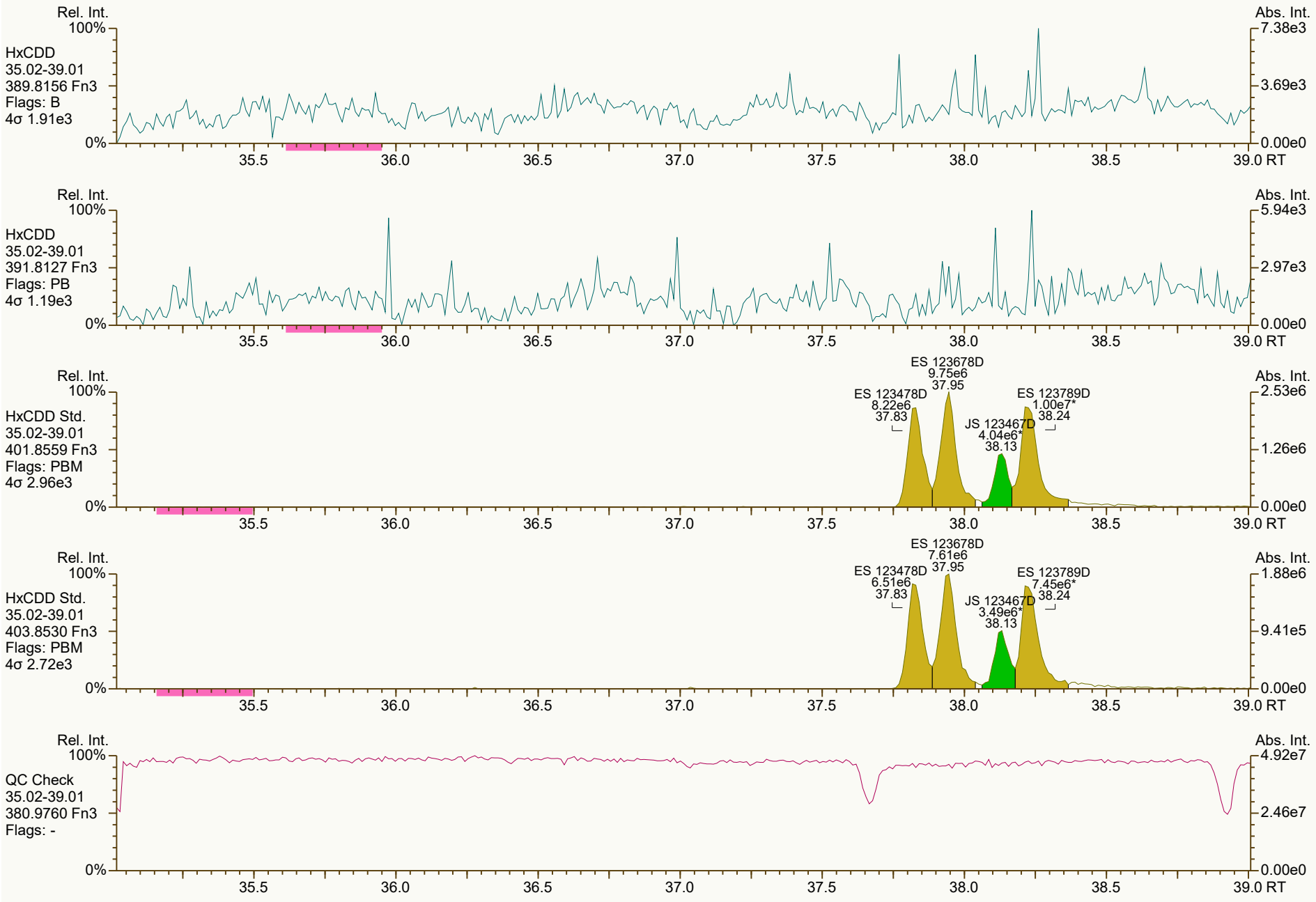
Datafile: 220121C05 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

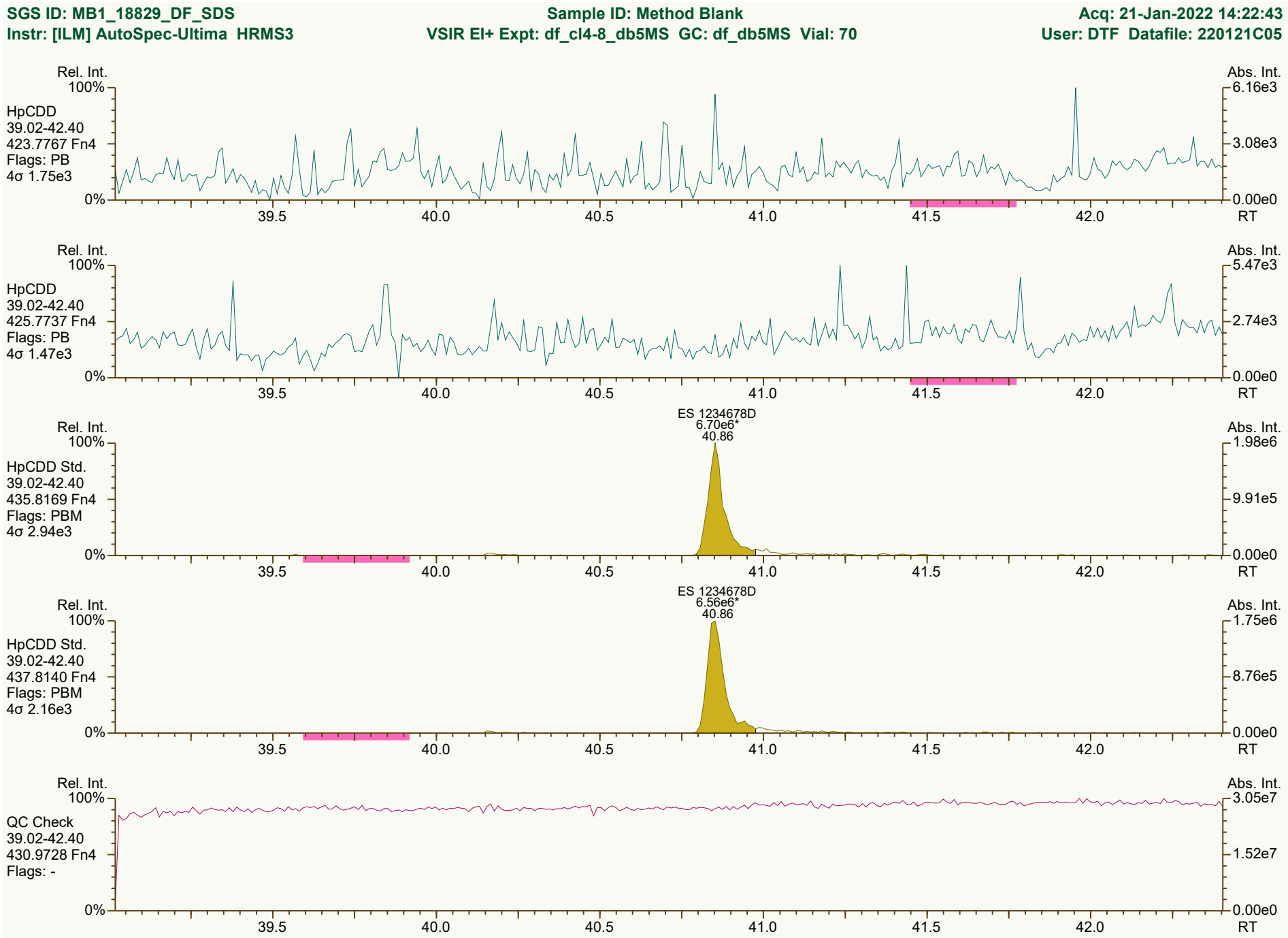
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4695.612	0.341
12347-PeCDF	NotFnd		0.9895						1.02		4695.612	0.341
12348-PeCDF	NotFnd		0.9941						1.02		4695.612	0.341
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4695.612**	**0.353**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4695.612	0.341
12379-PeCDF	NotFnd		1.0142						1.02		4695.612	0.341
12679-PeCDF	NotFnd		0.9931						1.02		4695.612	0.341
23467/12369-PeCDF	NotFnd		0.9966						1.02		4695.612	0.341
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4695.612**	**0.33**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4695.612	0.341
12349-PeCDF	NotFnd		1.0101						1.02		4695.612	0.341
12389-PeCDF	NotFnd		1.0322						1.02		4695.612	0.341
123468-HxCDF	NotFnd		0.9627						1.19		3122.794	0.268
124678/134678-HxCDF	NotFnd		0.9684						1.19		3122.794	0.268
134679-HxCDF	NotFnd		0.9747						1.19		3122.794	0.268
124679-HxCDF	NotFnd		0.9802						1.19		3122.794	0.268
124689-HxCDF	NotFnd		0.9858						1.19		3122.794	0.268
123467-HxCDF	NotFnd		0.9972						1.19		3122.794	0.268
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3122.794**	**0.262**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3122.794**	**0.229**
123479-HxCDF	NotFnd		1.0051						1.19		3122.794	0.268
123469-HxCDF	NotFnd		1.0091						1.19		3122.794	0.268
123679-HxCDF	NotFnd		0.9943						1.19		3122.794	0.268
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3122.794**	**0.291**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3122.794	0.268
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3122.794**	**0.306**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3122.794	0.268
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2777.399**	**0.175**
1234679-HpCDF	NotFnd		1.0067						1.34		2777.399	0.244
1234689-HpCDF	NotFnd		1.0101						1.34		2777.399	0.244
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2777.399**	**0.363**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3796.085**	**0.763**
OCDF-a	NotFnd		1.0002						0.07		3542.055	11.5


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.55e7
7.74e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.22e7
6.09e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.92e7
2.46e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.05e7
1.52e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.71e7
1.35e7
0.00e0

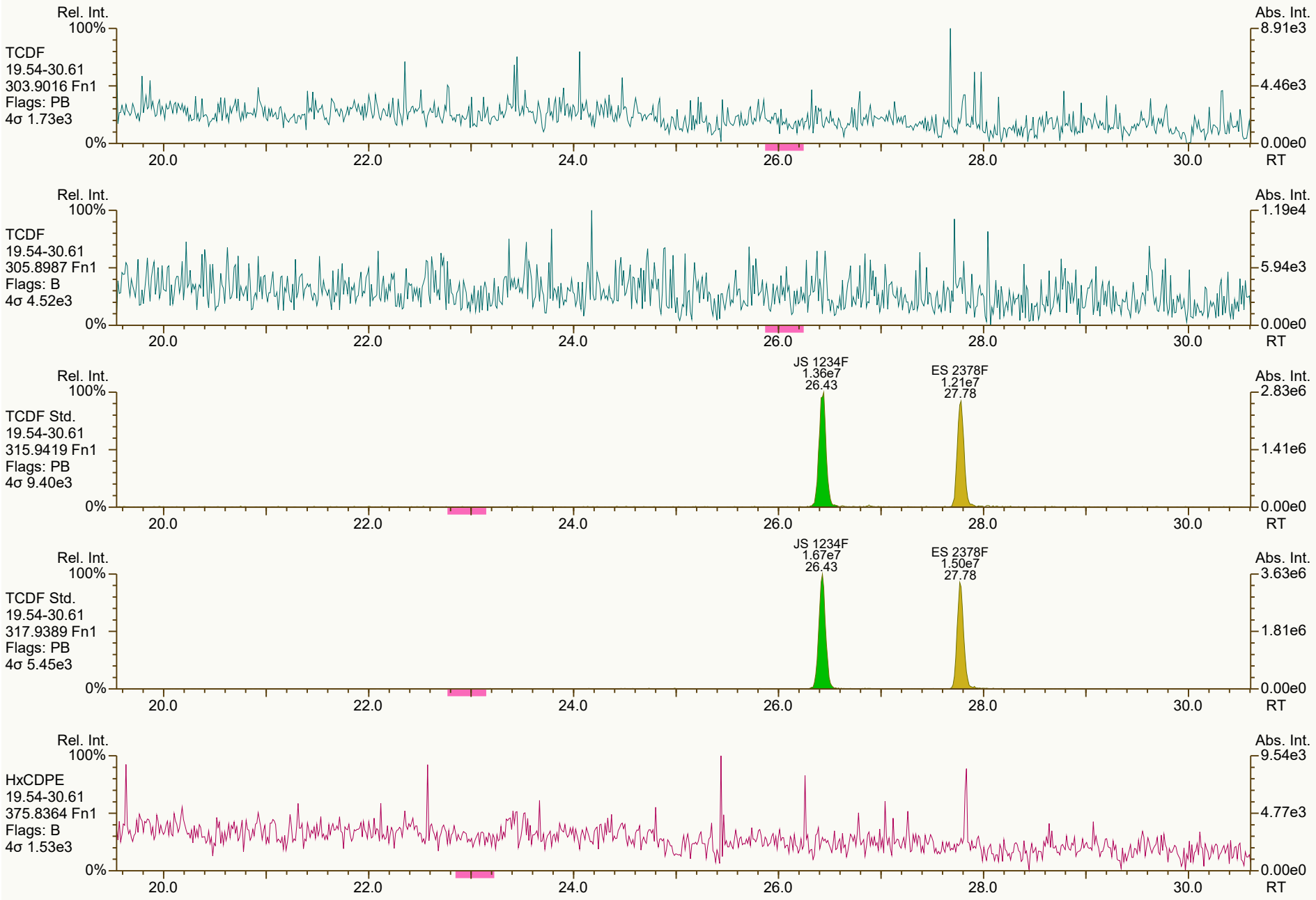

SGS ID: MB1_18829_DF_SDS
Sample ID: Method Blank
Acq: 21-Jan-2022 14:22:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220121C05
Rel. Int.
Abs. Int.
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.19e3
9.86e3
4.93e3
0.00e0
RT
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.93e3
7.67e3
3.84e3
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.46e3
CS 37Cl-2378D
8.13e6
28.65
1.81e6
9.03e5
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 1.11e4
JS 1234D
8.13e6
27.97
ES 2378D
8.07e6
28.63
9.07e5
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.01e3
JS 1234D
1.02e7
27.97
ES 2378D
9.82e6
28.63
2.60e6
1.30e6
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\MB1_18829_DF_SDS.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0943, 1966, 9230 scc: 970-966
PKD: 24-Jan-2022 08:44 Printed: 24-Jan-2022 14:53 Page 2 of 12


SGS ID: MB1_18829_DF_SDS
Sample ID: Method Blank
Acq: 21-Jan-2022 14:22:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220121C05
Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: B
4σ 2.25e3
7.19e3
3.59e3
0.00e0
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.30e3
3.70e3
1.85e3
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 2.37e3
CS 12347D
1.02e7*
33.44
ES 12378D
1.06e7
33.94
2.75e6
1.37e6
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 1.79e3
CS 12347D
6.22e6*
33.43
ES 12378D
6.77e6
33.94
1.69e6
8.45e5
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
1.22e7
6.09e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\MB1_18829_DF_SDS.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4999, 7082 scc: 970-966
Revised: 24-Jan-2022 08:44 (DTF) Printed: 24-Jan-2022 14:53 Page 3 of 12

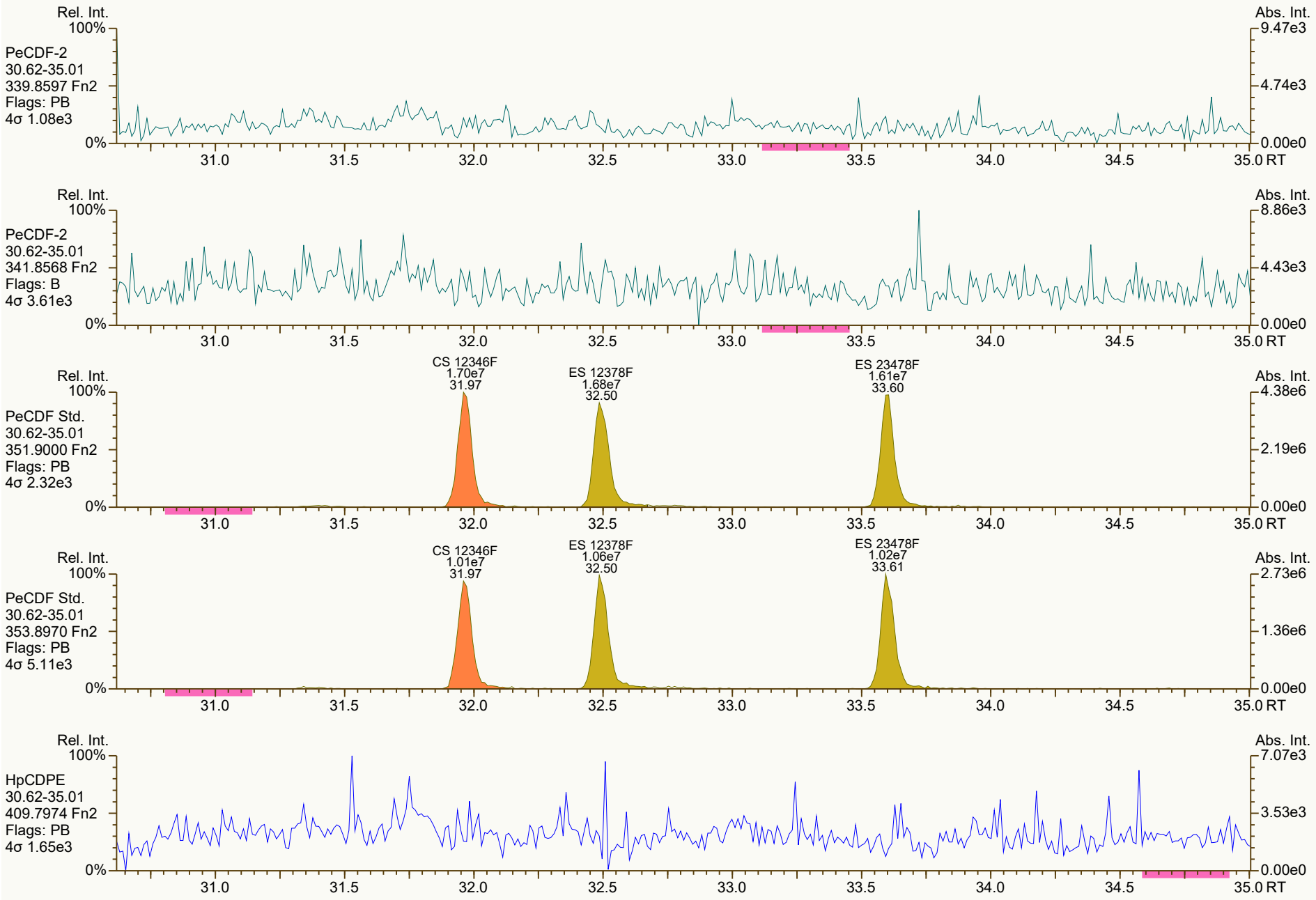

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.91e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.19e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.96e3
0%
ES 123678D
9.75e6
37.95
ES 123478D
8.22e6
37.83
ES 123789D
1.00e7*
38.24
JS 123467D
4.04e6*
38.13
Abs. Int.
2.53e6
1.26e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.72e3
0%
ES 123678D
7.61e6
37.95
ES 123478D
6.51e6
37.83
ES 123789D
7.45e6*
38.24
JS 123467D
3.49e6*
38.13
Abs. Int.
1.88e6
9.41e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
4.92e7
2.46e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

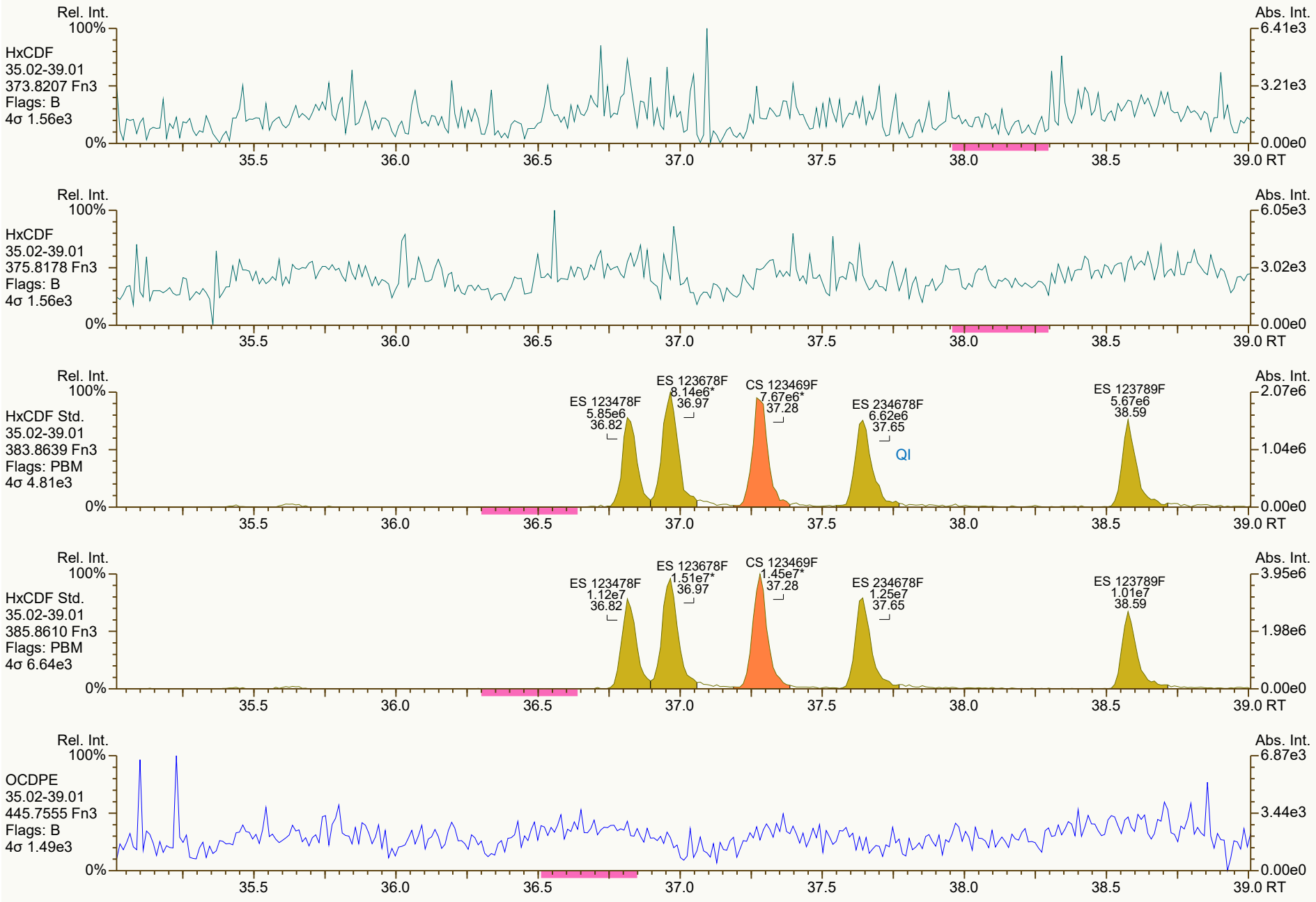

SGS ID: MB1_18829_DF_SDS
Sample ID: Method Blank
Acq: 21-Jan-2022 14:22:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220121C05
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.75e3
6.16e3
3.08e3
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.47e3
5.47e3
2.74e3
ES 1234678D
6.70e6*
40.86
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.94e3
1.98e6
9.91e5
ES 1234678D
6.56e6*
40.86
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.16e3
1.75e6
8.76e5
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
3.05e7
1.52e7
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\MB1_18829_DF_SDS.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5549, 7084 scc: 970-966
Revised: 24-Jan-2022 08:43 (DTF) Printed: 24-Jan-2022 14:53 Page 5 of 12

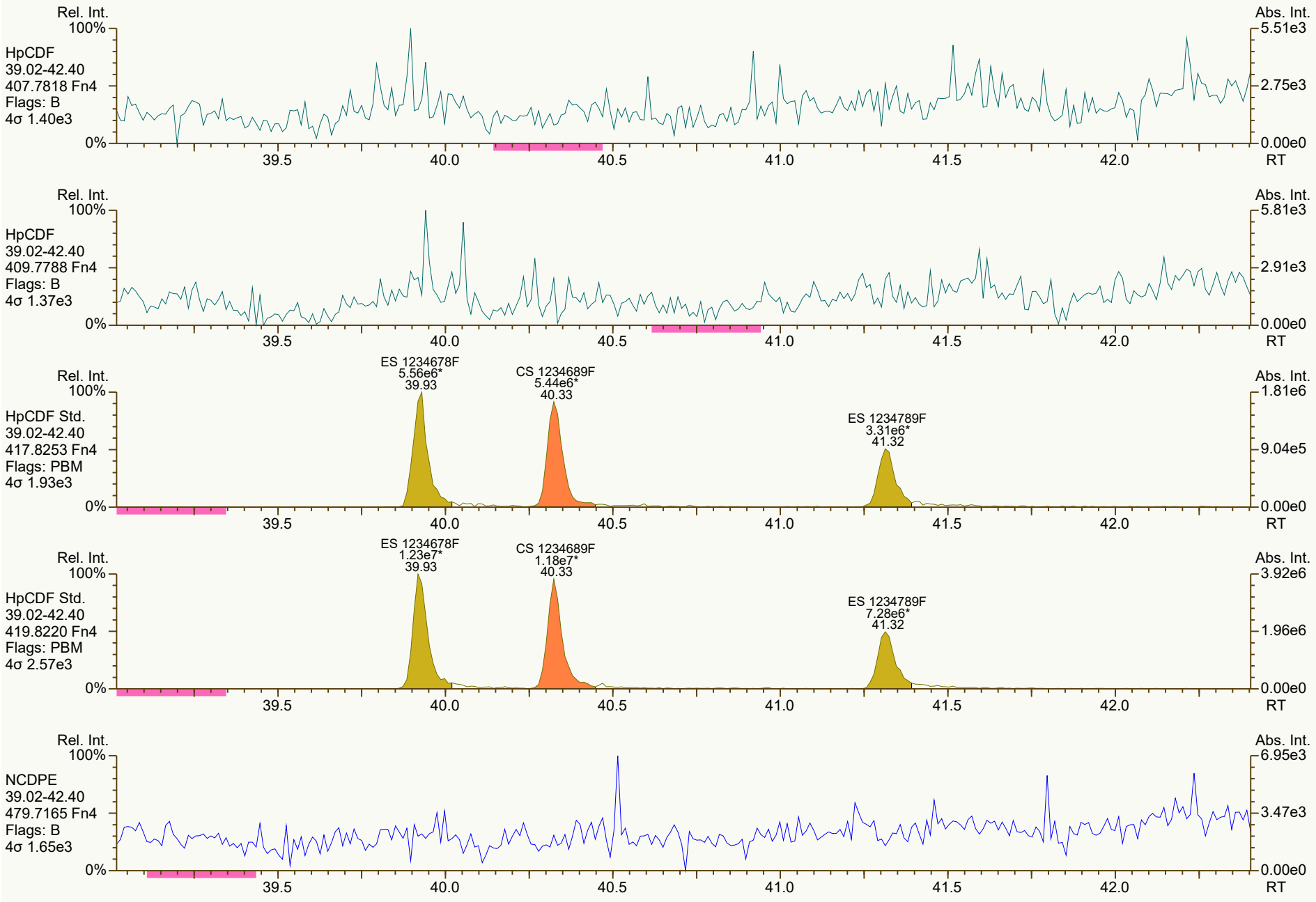

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
5.09e3
2.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.42e3
0%
Abs. Int.
4.07e3
2.04e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.21e6*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.66e3
0%
Abs. Int.
1.63e6
8.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.98e6*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 3.08e3
0%
Abs. Int.
1.77e6
8.83e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

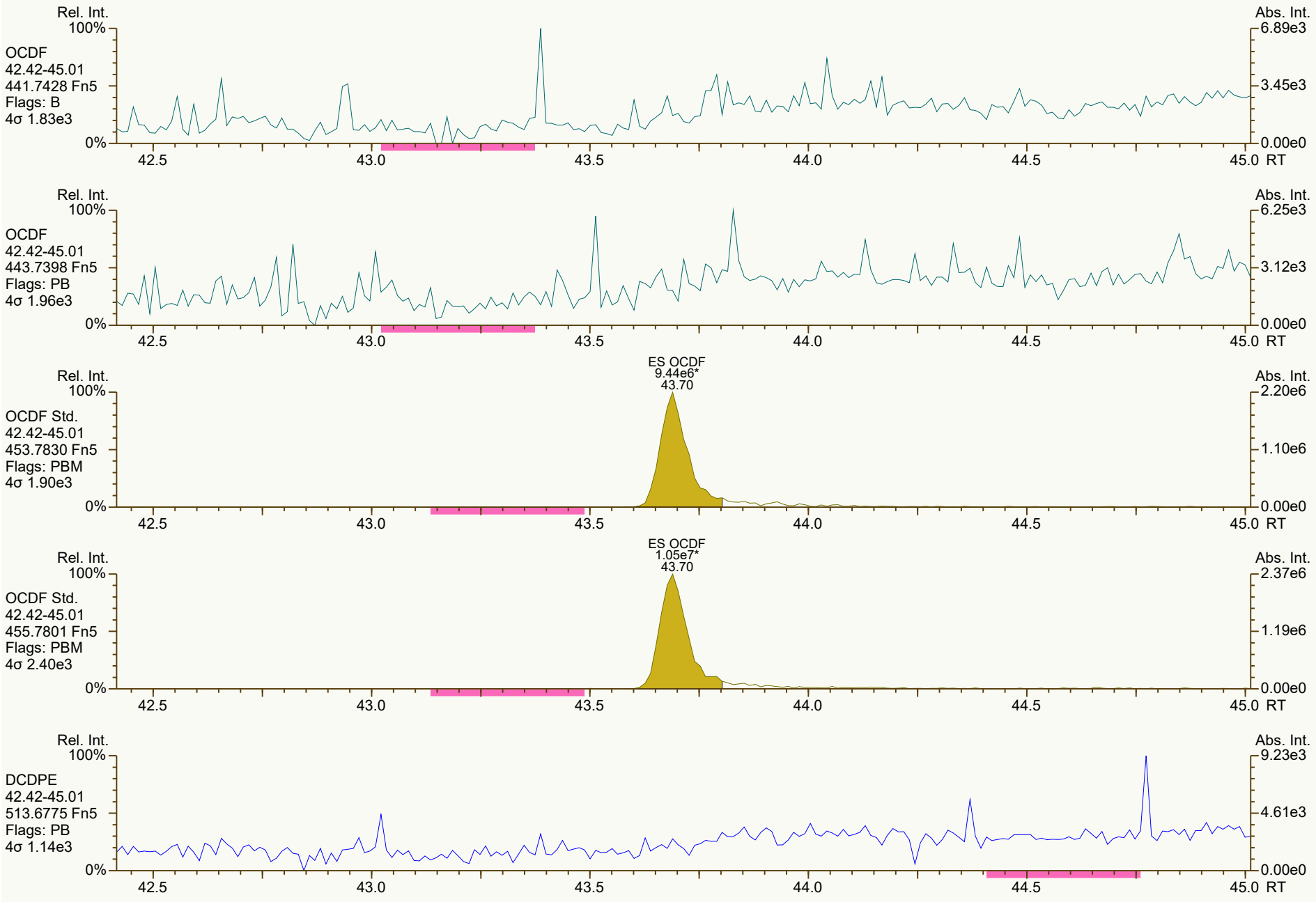

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.73e3
0%
Abs. Int.
8.91e3
4.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 4.52e3
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 9.40e3
0%
JS 1234F
1.36e7
26.43
ES 2378F
1.21e7
27.78
Abs. Int.
2.83e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 5.45e3
0%
JS 1234F
1.67e7
26.43
ES 2378F
1.50e7
27.78
Abs. Int.
3.63e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.53e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.21e3
4.60e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.60e3
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.17e3
1.42e4
7.10e3
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
1.55e7
7.74e6


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 1.08e3
0%
Abs. Int.
9.47e3
4.74e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: B
4σ 3.61e3
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.32e3
0%
CS 12346F
1.70e7
31.97
ES 12378F
1.68e7
32.50
ES 23478F
1.61e7
33.60
Abs. Int.
4.38e6
2.19e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 5.11e3
0%
CS 12346F
1.01e7
31.97
ES 12378F
1.06e7
32.50
ES 23478F
1.02e7
33.61
Abs. Int.
2.73e6
1.36e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.65e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.56e3
0%
Abs. Int.
6.41e3
3.21e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.56e3
0%
Abs. Int.
6.05e3
3.02e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.81e3
0%
ES 123478F
5.85e6
36.82
ES 123678F
8.14e6*
36.97
CS 123469F
7.67e6*
37.28
ES 234678F
6.62e6
37.65
QI
ES 123789F
5.67e6
38.59
Abs. Int.
2.07e6
1.04e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 6.64e3
0%
ES 123478F
1.12e7
36.82
ES 123678F
1.51e7*
36.97
CS 123469F
1.45e7*
37.28
ES 234678F
1.25e7
37.65
ES 123789F
1.01e7
38.59
Abs. Int.
3.95e6
1.98e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.49e3
0%
Abs. Int.
6.87e3
3.44e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
5.51e3
2.75e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
5.81e3
2.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
0%
ES 1234678F
5.56e6*
39.93
CS 1234689F
5.44e6*
40.33
ES 1234789F
3.31e6*
41.32
Abs. Int.
1.81e6
9.04e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.57e3
0%
ES 1234678F
1.23e7*
39.93
CS 1234689F
1.18e7*
40.33
ES 1234789F
7.28e6*
41.32
Abs. Int.
3.92e6
1.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.65e3
0%
Abs. Int.
6.95e3
3.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.83e3
0%
Abs. Int.
6.89e3
3.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.96e3
0%
Abs. Int.
6.25e3
3.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.44e6*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
2.20e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.05e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.40e3
0%
Abs. Int.
2.37e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.14e3
0%
Abs. Int.
9.23e3
4.61e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6153_18829_DF_001 **Acq'd:** 21 Jan 2022 16:41 DTF **Wt/Vol:** 10.05 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-O-11 **UTP:** 24-Jan-2022 14:42:53 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 620-199-KBC

Datafile: 220121C08 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	6.30E+05	0.80	Y	1.18	5.72	6140.676	0.572
12378-PeCDD	33.94	J	1.0006	1.0001	-1.0	8.93E+04	1.47	Y	1.04	1.01	4802.387	0.554
123478-HxCDD	37.84		1.0004	1.0002	-0.5	2.18E+05	1.24	Y	1.09	2.85	5878.365	0.696
123678-HxCDD	37.97	EMPC	1.0034	1.0035	+0.2	5.69E+05	1.45	N	1.15	6.05	5878.365	0.603
123789-HxCDD	38.25		1.0109	1.0111	+0.5	4.74E+05	1.34	Y	1.05	5.29	5878.365	0.67
1234678-HpCDD	40.88		1.0003	1.0003	0	1.84E+07	1.03	Y	1.06	245	4278.895	0.5
OCDD	43.54		1.0002	1.0003	+0.3	1.52E+08	0.90	Y	1.13	2,850	3593.417	0.786
2378-TCDF	27.80		1.0008	1.0007	-0.2	3.57E+06	0.77	Y	1.08	22.6	7294.983	0.496
12378-PeCDF	32.52		1.0005	1.0005	0	4.39E+05	1.69	Y	1.02	3.2	6515.989	0.445
23478-PeCDF	33.63		1.0005	1.0007	+0.4	6.06E+05	1.41	Y	1.02	4.43	6515.989	0.428
123478-HxCDF	36.84		1.0004	1.0004	0	9.98E+05	1.26	Y	1.27	8.14	4763.347	0.344
123678-HxCDF	36.99		1.0004	1.0005	+0.2	4.90E+05	1.17	Y	1.15	3.42	4763.347	0.342
234678-HxCDF	37.67		1.0004	1.0005	+0.2	3.63E+05	1.10	Y	1.19	3.34	4763.347	0.39
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4763.347	0.433
1234678-HpCDF	39.94		1.0002	1.0002	0	4.21E+06	1.04	Y	1.37	35.3	3458.715	0.23
1234789-HpCDF	41.34	EMPC	1.0003	1.0004	+0.2	2.86E+05	1.30	N	1.31	3.3	3458.715	0.384
OCDF	43.72		1.0002	1.0003	+0.3	7.25E+06	0.93	Y	1.07	103	4718.69	0.777

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0235	+0.3	1.85E+07	0.82	Y	1.05	95
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.69E+07	1.59	Y	0.88	103
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.40E+07	1.30	Y	0.97	95
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.63E+07	1.32	Y	0.94	114
ES 123789-HxCDD	38.24	1.0025	1.0029	+0.9	1.70E+07	1.28	Y	1.09	103
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.41E+07	1.05	Y	0.91	102
ES OCDD	43.52	1.1403	1.1413	+2.6	1.89E+07	0.94	Y	0.62	100
ES 2378-TCDF	27.78	1.0506	1.0510	+0.7	2.91E+07	0.80	Y	1.06	91
ES 12378-PeCDF	32.50	1.2281	1.2296	+2.9	2.66E+07	1.53	Y	0.91	96.9
ES 23478-PeCDF	33.60	1.2698	1.2715	+3.4	2.67E+07	1.58	Y	0.88	100
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.92E+07	0.54	Y	1.20	106
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.47E+07	0.53	Y	1.35	121
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.82E+07	0.57	Y	1.24	97
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.78E+07	0.51	Y	1.16	102
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.73E+07	0.46	Y	0.97	118
ES 1234789-HpCDF	41.33	1.0830	1.0837	+1.7	1.32E+07	0.45	Y	0.85	103
ES OCDF	43.71	1.1451	1.1462	+2.9	2.62E+07	0.93	Y	0.81	107

Lab ID: B6153_18829_DF_001 **Acq'd:** 21 Jan 2022 16:41 DTF **Wt/Vol:** 10.05 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-O-11 **UTP:** 24-Jan-2022 14:42:53 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 620-199-KBC

Datafile: 220121C08 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.86E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.02E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.55E+06	1.30	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.51E+06	n/a	-	1.20	94.9	
CS 12347-PeCDD	33.44		1.1943	1.1955	+2.4	1.57E+07	1.62	Y	0.75	112	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.74E+07	1.50	Y	0.85	107	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.18E+07	0.53	Y	1.12	129	
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.74E+07	0.44	Y	0.89	130	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.51E+06~~	~~n/a~~		~~1.15~~	~~100~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1955~~	~~+2.4~~	~~1.57E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~100~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.74E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~110~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.18E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.74E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~109~~	

Totals	Conc	EMPC
Total TCDD	7.08	8.29
Total PeCDD	6.93	10.7
Total HxCDD	69	75.1
Total HpCDD	574	574
Total Tetra-Octa Dioxins	3500	3520
Total TCDF	55.1	64.5
Total PeCDF	34.2	37.6
Total HxCDF	55.2	56
Total HpCDF	89.3	94.8
Total Tetra-Octa Furans	337	356
Total Tetra-Octa Dioxins & Furans	3840	3870

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.792	0.80
Response	6.36E+05	6.30E+05

Lab ID: B6153_18829_DF_001 **Acq'd: 21 Jan 2022 16:41 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-O-11 **UTP: 24-Jan-2022 14:42:53 PSW** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 620-199-KBC**

Datafile: 220121C08 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8745	-1.5	1.50E+05	0.83	Y	1.18	1.36	6140.676	0.572
1379-TCDD	NotFnd		0.8876						1.18		6140.676	0.572
1369-TCDD	NotFnd		0.9023						1.18		6140.676	0.572
1469-TCDD	26.58	EMPC	0.9291	0.9286	-0.8	7.14E+04	1.08	N	1.18	0.648	6140.676	0.572
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		6140.676	0.572
1378-TCDD	NotFnd		0.9440						1.18		6140.676	0.572
1268-TCDD	NotFnd		0.9506						1.18		6140.676	0.572
1478-TCDD	NotFnd		0.9591						1.18		6140.676	0.572
1279-TCDD	NotFnd		0.9649						1.18		6140.676	0.572
1234/1269-TCDD	NotFnd		0.9771						1.18		6140.676	0.572
1236-TCDD	NotFnd		0.9820						1.18		6140.676	0.572
1237/1238-TCDD	NotFnd		0.9908						1.18		6140.676	0.572
1239-TCDD	NotFnd		0.9954						1.18		6140.676	0.572
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	6.30E+05	0.80	Y	**1.18**	**5.72**	**6140.676**	**0.572**
1278-TCDD	28.96	EMPC	1.0121	1.0117	-0.7	6.23E+04	0.53	N	1.18	0.565	6140.676	0.572
1267-TCDD	NotFnd		1.0167						1.18		6140.676	0.572
1289-TCDD	NotFnd		1.0341						1.18		6140.676	0.572
12479/12468-PeCDD	31.46		0.9273	0.9268	-0.9	2.61E+05	1.70	Y	1.04	2.96	4802.387	0.554
12469-PeCDD	31.99	J EMPC	0.9430	0.9425	-1.0	1.63E+05	1.19	N	1.04	1.85	4802.387	0.554
12368-PeCDD	32.54	J	0.9592	0.9588	-0.8	1.27E+05	1.76	Y	1.04	1.44	4802.387	0.554
12478-PeCDD	32.72	J EMPC	0.9647	0.9641	-1.2	1.02E+05	1.22	N	1.04	1.16	4802.387	0.554
12379-PeCDD	32.82	J EMPC	0.9676	0.9671	-1.0	6.55E+04	1.81	N	1.04	0.743	4802.387	0.554
12369/12467/12489-PeCDD	33.09	J	0.9752	0.9749	-0.6	8.29E+04	1.35	Y	1.04	0.941	4802.387	0.554
12346/12347-PeCDD	33.45	J	0.9860	0.9856	-0.8	4.99E+04	1.63	Y	1.04	0.566	4802.387	0.554
12378-PeCDD	33.94	J	**1.0006**	**1.0001**	**-1.0**	**8.93E+04**	**1.47**	**Y**	**1.04**	**1.01**	**4802.387**	**0.554**
12367-PeCDD	NotFnd		1.0034						1.04		4802.387	0.554
12389-PeCDD	NotFnd		1.0134						1.04		4802.387	0.554
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.05E+06	1.23	Y	1.10	23.6	5878.365	0.653
123468-HxCDD	36.75		0.9715	0.9714	-0.2	4.05E+05	1.31	Y	1.10	4.66	5878.365	0.653
123679/123689-HxCDD	37.05		0.9793	0.9793	0	2.29E+06	1.26	Y	1.10	26.3	5878.365	0.653
123469-HxCDD	37.18		0.9829	0.9828	-0.2	3.92E+05	1.13	Y	1.10	4.52	5878.365	0.653
123478-HxCDD	37.84		**1.0004**	**1.0002**	**-0.5**	**2.18E+05**	**1.24**	**Y**	1.09	**2.85**	**5878.365**	**0.696**
123678-HxCDD	37.97	EMPC	**1.0034**	**1.0035**	**+0.2**	**5.69E+05**	**1.45**	**N**	1.15	**6.05**	**5878.365**	**0.603**
123467-HxCDD	38.15	J	1.0082	1.0085	+0.7	1.54E+05	1.39	Y	1.10	1.77	5878.365	0.653
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**4.74E+05**	**1.34**	**Y**	1.05	**5.29**	**5878.365**	**0.67**

Lab ID: B6153_18829_DF_001 **Acq'd: 21 Jan 2022 16:41 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-O-11 **UTP: 24-Jan-2022 14:42:53 PSW** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 620-199-KBC**

Datafile: 220121C08 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

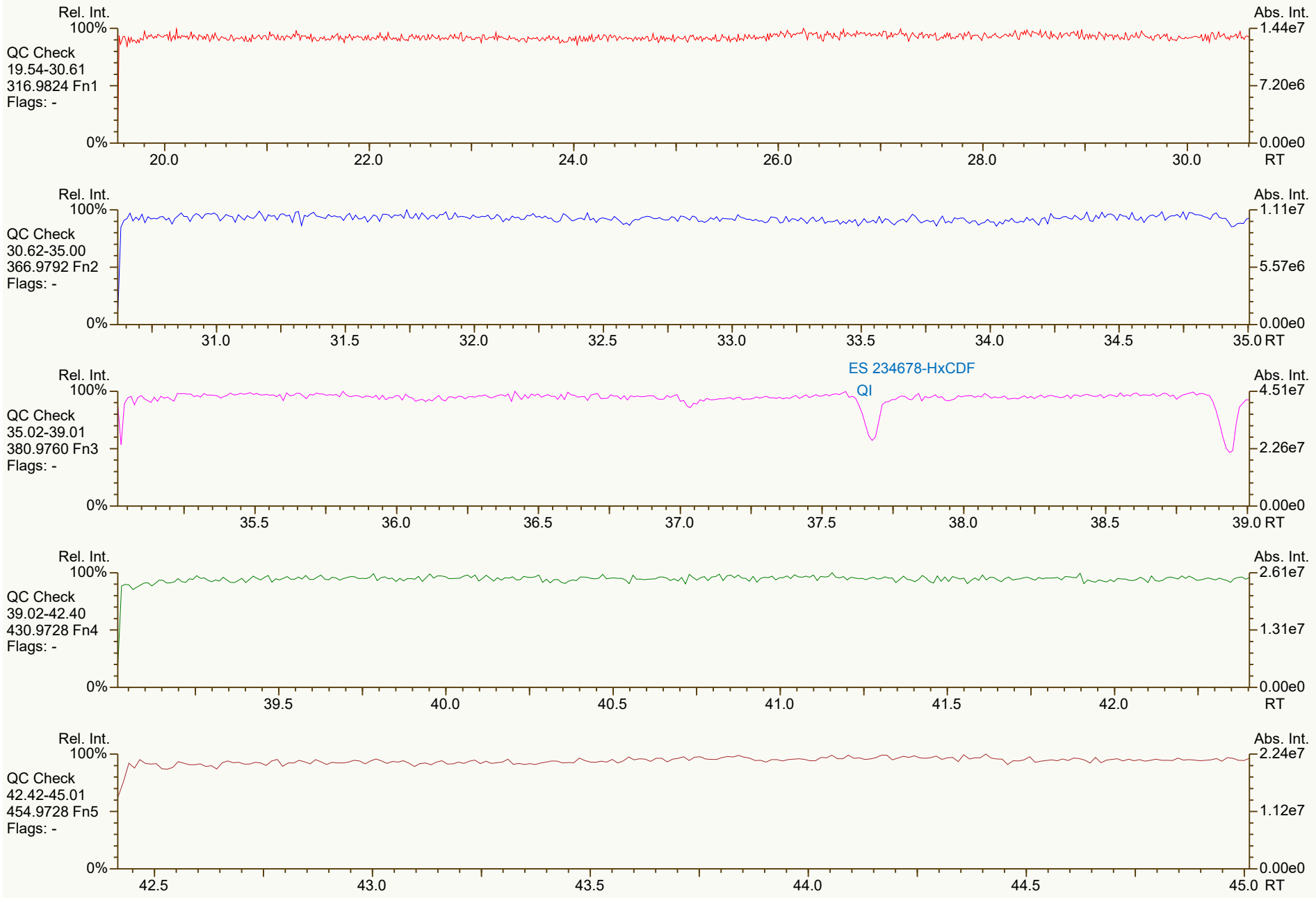
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	2.47E+07	1.05	Y	1.06	329	4278.895	0.5
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.84E+07**	**1.03**	**Y**	**1.06**	**245**	**4278.895**	**0.5**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**1.52E+08**	**0.90**	**Y**	**1.13**	**2,850**	**3593.417**	**0.786**
OCDD-a	43.53		1.0002	1.0002	0	9.33E+06	2.69	Y	0.07	2,730	3403.595	11.6
1368-TCDF	NotFnd		0.8282						1.08		7294.983	0.496
1468-TCDF	23.54		0.8485	0.8475	-1.4	1.74E+05	0.66	Y	1.08	1.1	7294.983	0.496
2468-TCDF	24.17		0.8709	0.8700	-1.3	3.60E+05	0.84	Y	1.08	2.28	7294.983	0.496
1346/1246-TCDF	24.53		0.8829	0.8831	+0.3	1.61E+05	0.85	Y	1.08	1.02	7294.983	0.496
1347/1378/1247-TCDF	24.67	EMPC	0.8884	0.8880	-0.6	4.04E+05	0.60	N	1.08	2.56	7294.983	0.496
1348-TCDF	24.95	J EMPC	0.8980	0.8982	+0.3	7.30E+04	0.53	N	1.08	0.463	7294.983	0.496
1248/1367/1379-TCDF	25.04		0.9026	0.9014	-1.8	2.95E+05	0.72	Y	1.08	1.87	7294.983	0.496
1268-TCDF	25.43		0.9158	0.9153	-0.8	2.18E+05	0.70	Y	1.08	1.38	7294.983	0.496
1467-TCDF	25.55		0.9206	0.9196	-1.5	1.63E+05	0.84	Y	1.08	1.03	7294.983	0.496
1478-TCDF	25.72		0.9266	0.9261	-0.8	3.60E+05	0.75	Y	1.08	2.28	7294.983	0.496
1369/1237-TCDF	26.10	EMPC	0.9397	0.9395	-0.3	1.58E+05	0.97	N	1.08	1	7294.983	0.496
2467-TCDF	26.22		0.9440	0.9438	-0.3	1.59E+05	0.83	Y	1.08	1.01	7294.983	0.496
2368-TCDF	26.38		0.9497	0.9495	-0.3	5.21E+05	0.83	Y	1.08	3.3	7294.983	0.496
1238/1234/1678/1469/1236-TCDF	26.47	EMPC	0.9528	0.9529	+0.2	2.72E+05	0.90	N	1.08	1.72	7294.983	0.496
1278-TCDF	26.91		0.9690	0.9686	-0.6	1.11E+06	0.78	Y	1.08	7.06	7294.983	0.496
1349-TCDF	NotFnd		0.9730						1.08		7294.983	0.496
1267-TCDF	27.18	EMPC	0.9787	0.9786	-0.2	2.28E+05	0.65	N	1.08	1.44	7294.983	0.496
2346/1249-TCDF	27.36		0.9850	0.9848	-0.3	1.01E+05	0.68	Y	1.08	0.641	7294.983	0.496
2347/1279-TCDF	27.57		0.9929	0.9926	-0.5	1.96E+05	0.78	Y	1.08	1.24	7294.983	0.496
2348-TCDF	27.68		0.9970	0.9966	-0.7	2.61E+05	0.72	Y	1.08	1.66	7294.983	0.496
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**3.57E+06**	**0.77**	**Y**	**1.08**	**22.6**	**7294.983**	**0.496**
2367/3467-TCDF	28.15		1.0136	1.0134	-0.3	1.04E+06	0.79	Y	1.08	6.6	7294.983	0.496
1269-TCDF	NotFnd		1.0221						1.08		7294.983	0.496
1239-TCDF	NotFnd		1.0319						1.08		7294.983	0.496
1289-TCDF	29.77	EMPC	1.0740	1.0718	-3.9	3.42E+05	1.02	N	1.08	2.17	7294.983	0.496
13468/12468-PeCDF	29.72		0.9145	0.9144	-0.2	9.63E+05	1.37	Y	1.02	7.03	4871.897	0.327
13678/13467/12467-PeCDF	31.26		0.9619	0.9618	-0.2	5.07E+05	1.75	Y	1.02	3.7	6515.989	0.437
12368/13478/12478-PeCDF	31.41		0.9665	0.9664	-0.2	1.15E+06	1.49	Y	1.02	8.37	6515.989	0.437
14678-PeCDF	31.50	J	0.9695	0.9693	-0.4	1.86E+05	1.64	Y	1.02	1.36	6515.989	0.437
13479-PeCDF	NotFnd		0.9724						1.02		6515.989	0.437
13469/12479-PeCDF	NotFnd		0.9801						1.02		6515.989	0.437
12346-PeCDF	31.98	J EMPC	0.9842	0.9841	-0.2	1.10E+05	1.81	N	1.02	0.806	6515.989	0.437

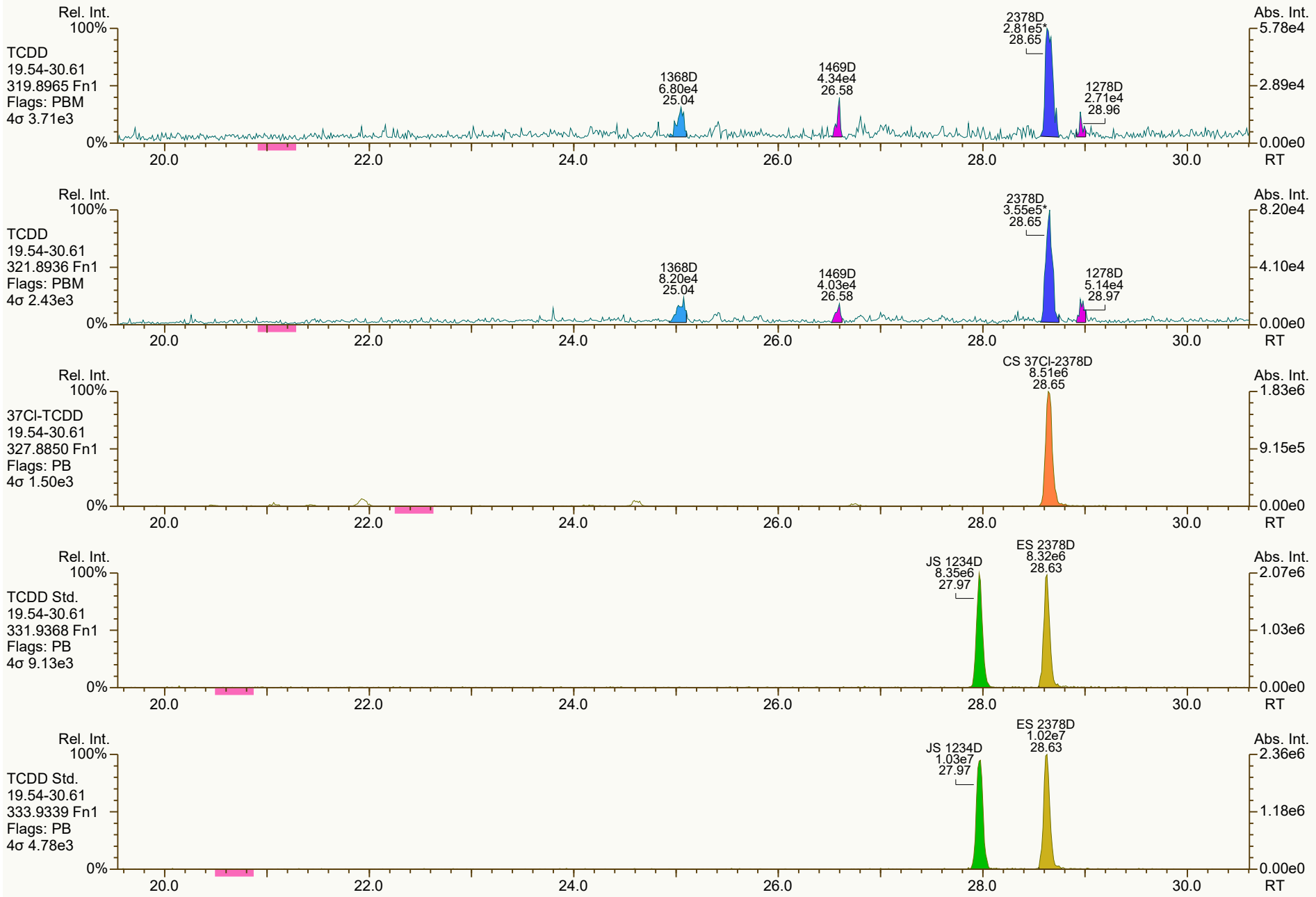
Lab ID: B6153_18829_DF_001 **Acq'd: 21 Jan 2022 16:41 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

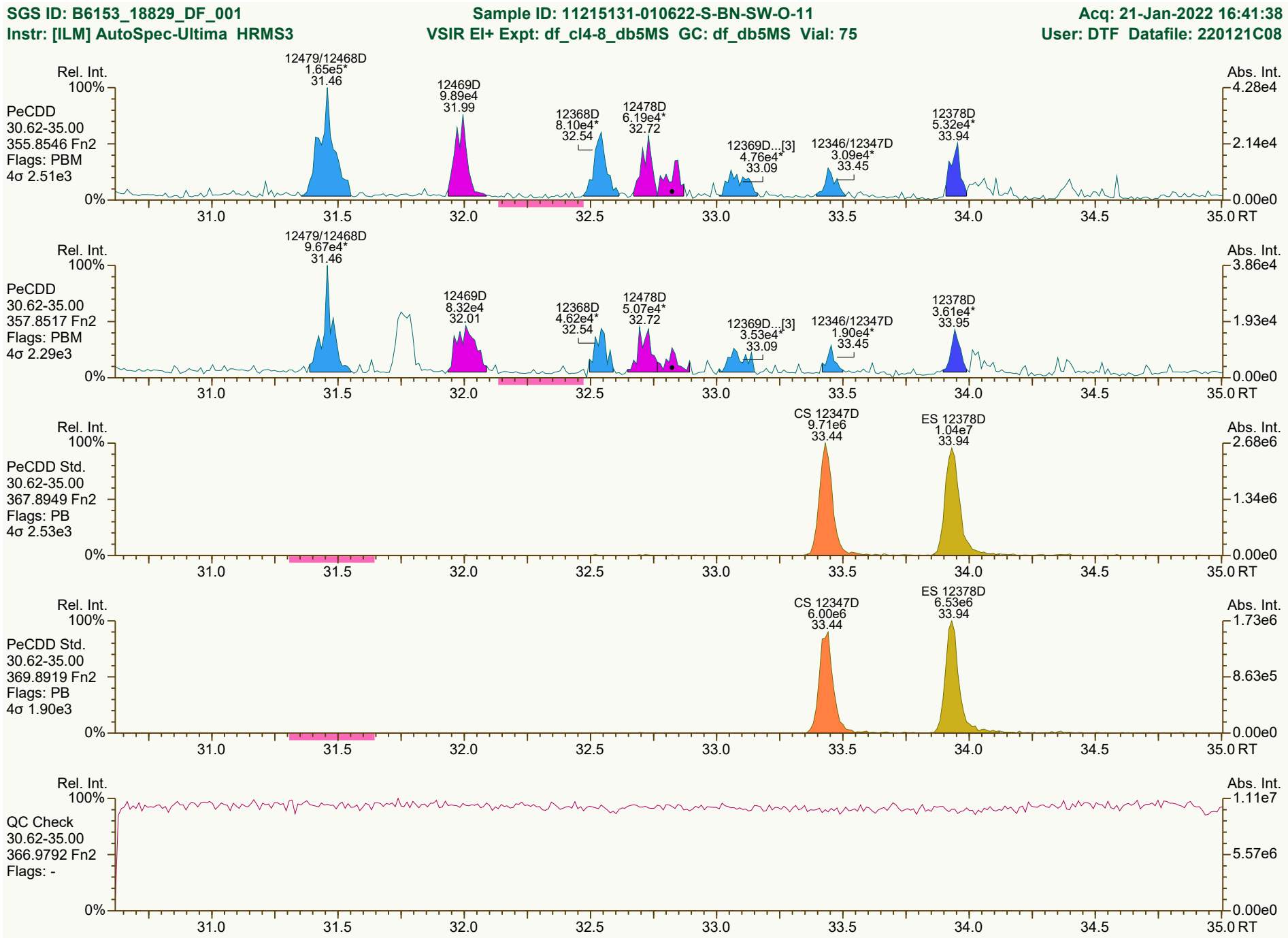
Client ID: 11215131-010622-S-BN-SW-O-11 **UTP: 24-Jan-2022 14:42:53 PSW** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 620-199-KBC**

Datafile: 220121C08 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

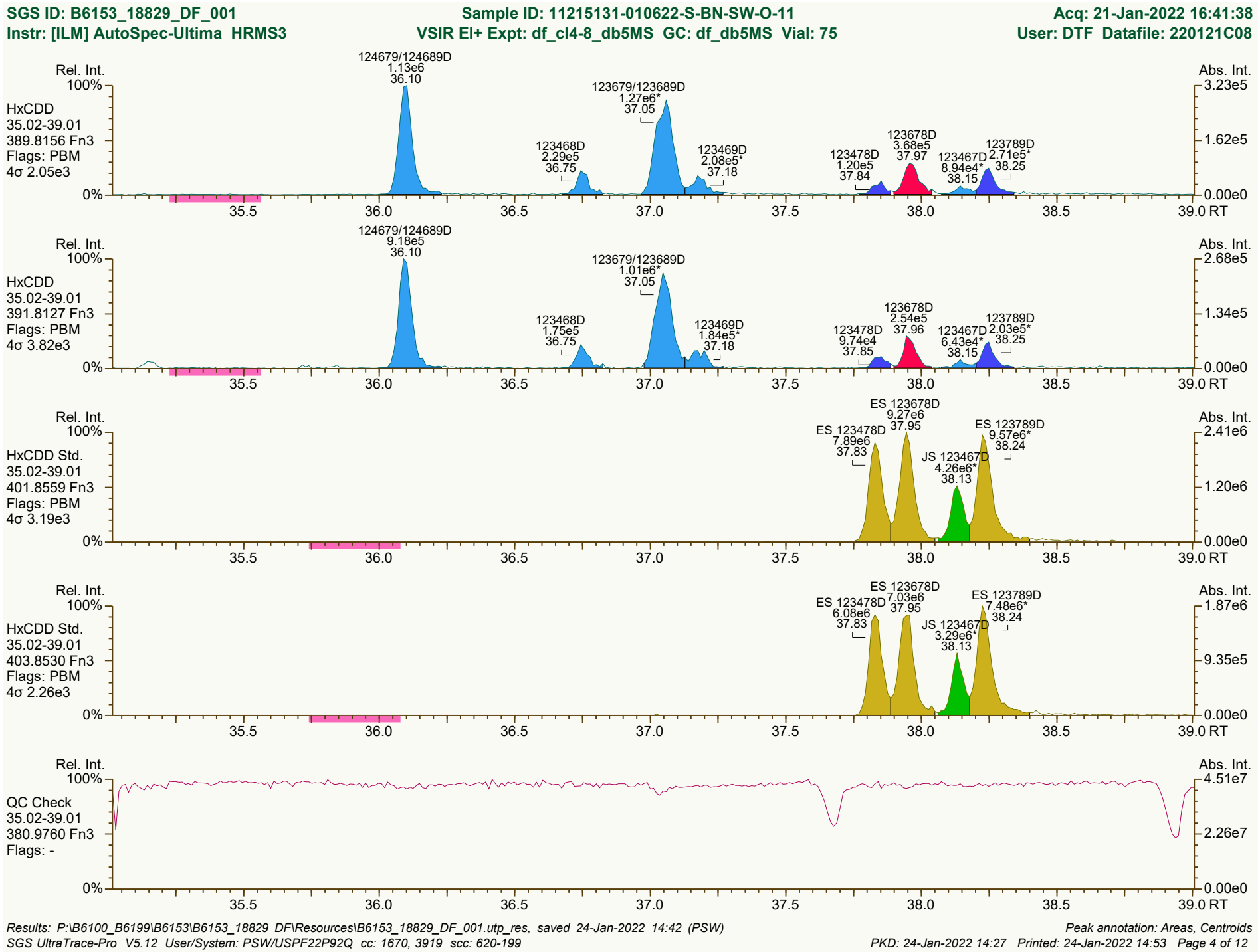
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07	J EMPC	0.9868	0.9868	0	2.44E+05	1.32	N	1.02	1.78	6515.989	0.437
12347-PeCDF	32.14	J	0.9895	0.9890	-1.0	1.20E+05	1.64	Y	1.02	0.878	6515.989	0.437
12348-PeCDF	32.29	J EMPC	0.9941	0.9937	-0.8	1.09E+05	1.90	N	1.02	0.797	6515.989	0.437
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**4.39E+05**	**1.69**	**Y**	**1.02**	**3.2**	**6515.989**	**0.445**
12678/12367-PeCDF	32.79		1.0090	1.0091	+0.2	4.27E+05	1.47	Y	1.02	3.11	6515.989	0.437
12379-PeCDF	NotFnd		1.0142						1.02		6515.989	0.437
12679-PeCDF	NotFnd		0.9931						1.02		6515.989	0.437
23467/12369-PeCDF	33.49	J	0.9966	0.9967	+0.2	2.94E+05	1.45	Y	1.02	2.15	6515.989	0.437
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**6.06E+05**	**1.41**	**Y**	**1.02**	**4.43**	**6515.989**	**0.428**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6515.989	0.437
12349-PeCDF	NotFnd		1.0101						1.02		6515.989	0.437
12389-PeCDF	NotFnd		1.0322						1.02		6515.989	0.437
123468-HxCDF	35.46		0.9627	0.9628	+0.2	6.78E+05	1.22	Y	1.19	5.65	4763.347	0.372
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	2.27E+06	1.27	Y	1.19	18.9	4763.347	0.372
134679-HxCDF	NotFnd		0.9747						1.19		4763.347	0.372
124679-HxCDF	36.08	J EMPC	0.9802	0.9798	-0.9	9.16E+04	1.04	N	1.19	0.764	4763.347	0.372
124689-HxCDF	36.30		0.9858	0.9858	0	1.44E+06	1.24	Y	1.19	12	4763.347	0.372
123467-HxCDF	36.72		0.9972	0.9971	-0.2	3.03E+05	1.29	Y	1.19	2.53	4763.347	0.372
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**9.98E+05**	**1.26**	**Y**	**1.27**	**8.14**	**4763.347**	**0.344**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**4.90E+05**	**1.17**	**Y**	**1.15**	**3.42**	**4763.347**	**0.342**
123479-HxCDF	NotFnd		1.0051						1.19		4763.347	0.372
123469-HxCDF	NotFnd		1.0091						1.19		4763.347	0.372
123679-HxCDF	NotFnd		0.9943						1.19		4763.347	0.372
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**3.63E+05**	**1.10**	**Y**	**1.19**	**3.34**	**4763.347**	**0.39**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4763.347	0.372
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4763.347**	**0.433**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63	J	1.0007	1.0009	+0.5	1.44E+05	1.14	Y	1.19	1.2	4763.347	0.372
1234678-HpCDF	**39.94**		**1.0002**	**1.0002**	**0**	**4.21E+06**	**1.04**	**Y**	**1.37**	**35.3**	**3458.715**	**0.23**
1234679-HpCDF	40.19	**J EMPC**	1.0067	1.0065	-0.5	2.23E+05	0.84	N	1.34	2.17	3458.715	0.296
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	5.54E+06	1.04	Y	1.34	54	3458.715	0.296
1234789-HpCDF	**41.34**	**EMPC**	**1.0003**	**1.0004**	**+0.2**	**2.86E+05**	**1.30**	**N**	**1.31**	**3.3**	**3458.715**	**0.384**
OCDF	**43.72**		**1.0002**	**1.0003**	**+0.3**	**7.25E+06**	**0.93**	**Y**	**1.07**	**103**	**4718.69**	**0.777**
OCDF-a	43.71		1.0002	1.0000	-0.5	4.31E+05	2.30	Y	0.07	98.8	3659.263	9.73

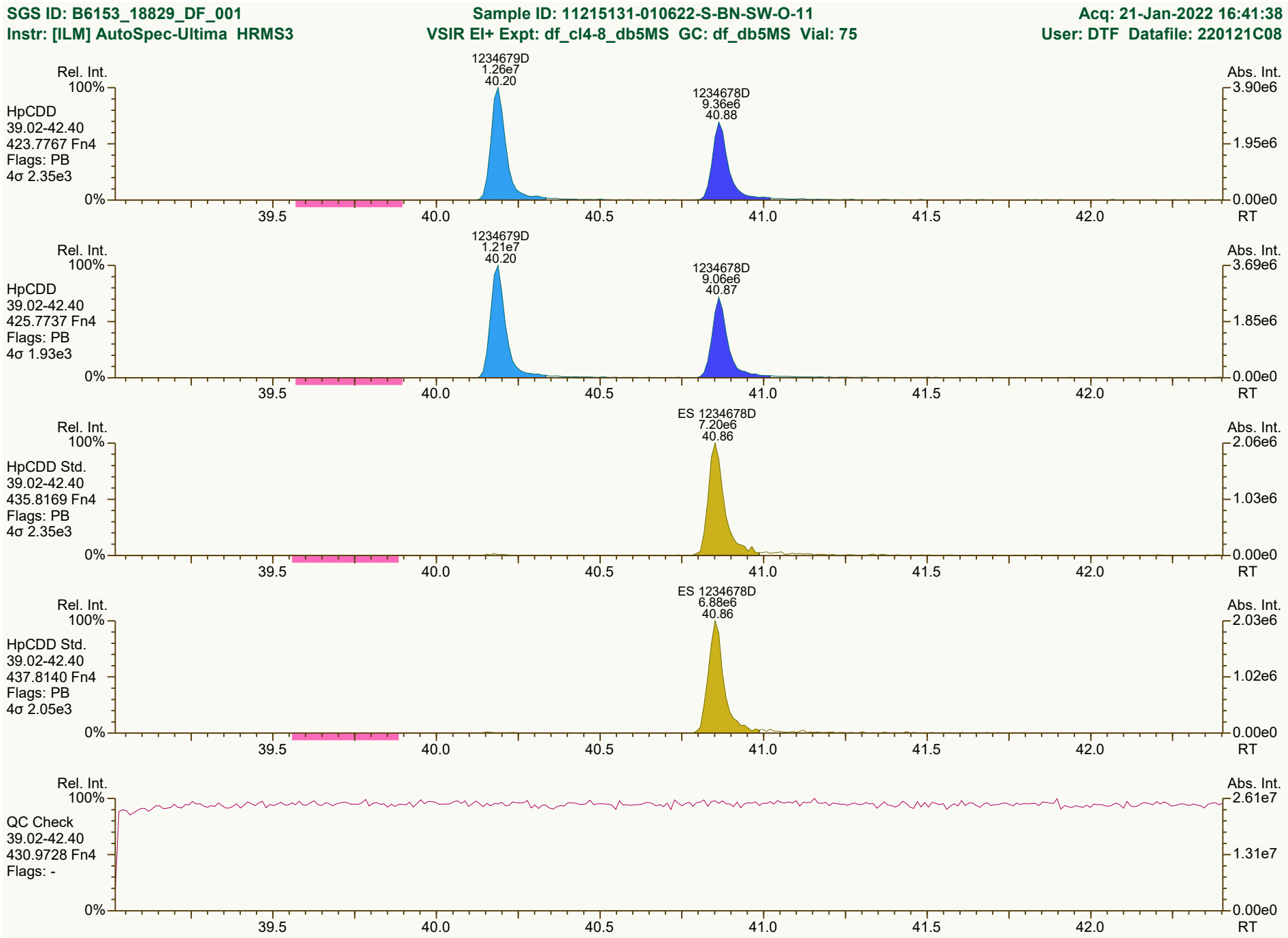

Rel. Int.
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QC Check
19.54-30.61
316.9824 Fn1
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0%
Abs. Int.
1.44e7
7.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.11e7
5.57e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.51e7
2.26e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.61e7
1.31e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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1.12e7
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42.5
43.0
43.5
44.0
44.5
45.0 RT

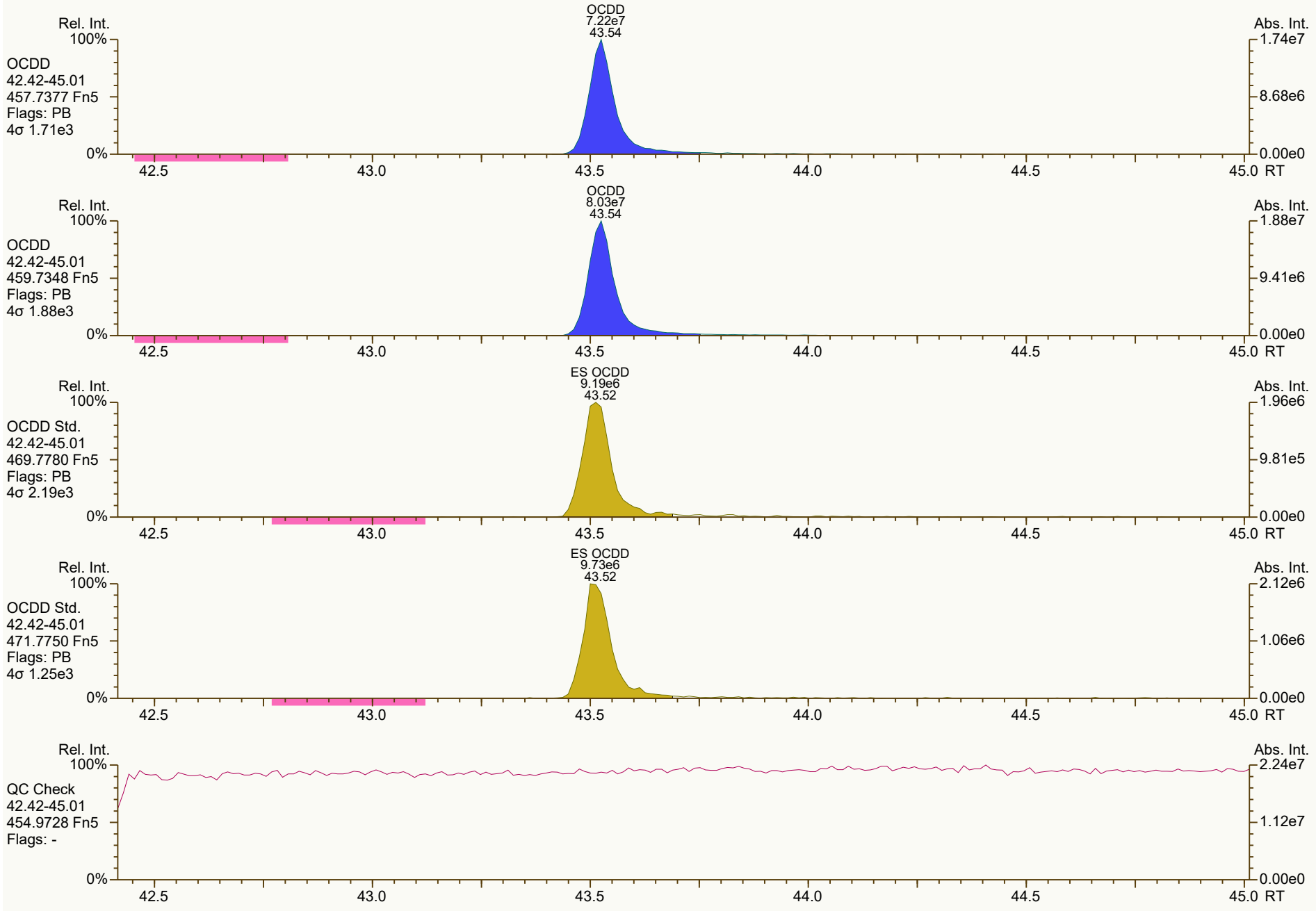

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.71e3
0%
1368D
6.80e4
25.04
1469D
4.34e4
26.58
2378D
2.81e5*
28.65
1278D
2.71e4
28.96
Abs. Int.
5.78e4
2.89e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.43e3
0%
1368D
8.20e4
25.04
1469D
4.03e4
26.58
2378D
3.55e5*
28.65
1278D
5.14e4
28.97
Abs. Int.
8.20e4
4.10e4
0.00e0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.50e3
0%
CS 37Cl-2378D
8.51e6
28.65
Abs. Int.
1.83e6
9.15e5
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.13e3
0%
JS 1234D
8.35e6
27.97
ES 2378D
8.32e6
28.63
Abs. Int.
2.07e6
1.03e6
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.78e3
0%
JS 1234D
1.03e7
27.97
ES 2378D
1.02e7
28.63
Abs. Int.
2.36e6
1.18e6
0.00e0
RT



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_001.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3243, 5017 scc: 620-199
PKD: 24-Jan-2022 14:27 Printed: 24-Jan-2022 14:53 Page 3 of 12

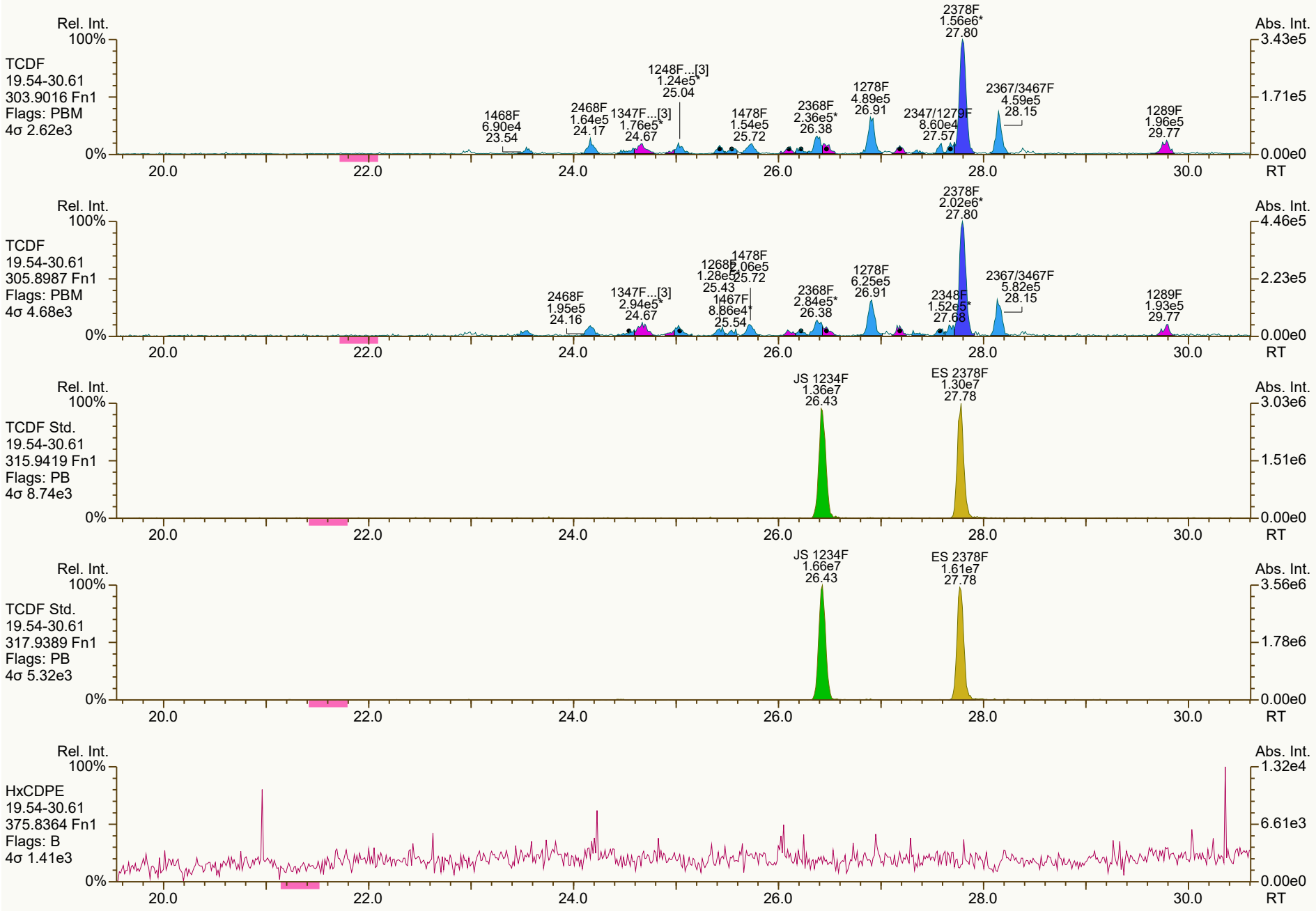

SGS ID: B6153_18829_DF_001
Sample ID: 11215131-010622-S-BN-SW-O-11
Acq: 21-Jan-2022 16:41:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220121C08
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.05e3
124679/124689D
1.13e6
36.10
123679/123689D
1.27e6*
37.05
123468D
2.29e5
36.75
123469D
2.08e5*
37.18
123678D
3.68e5
37.97
123478D
1.20e5
37.84
123467D
8.94e4*
38.15
123789D
2.71e5*
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.82e3
124679/124689D
9.18e5
36.10
123679/123689D
1.01e6*
37.05
123468D
1.75e5
36.75
123469D
1.84e5*
37.18
123678D
2.54e5
37.96
123478D
9.74e4
37.85
123467D
6.43e4*
38.15
123789D
2.03e5*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.19e3
ES 123678D
9.27e6
37.95
ES 123478D
7.89e6
37.83
ES 123789D
9.57e6*
38.24
JS 123467D
4.26e6*
38.13
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.26e3
ES 123678D
7.03e6
37.95
ES 123478D
6.08e6
37.83
ES 123789D
7.48e6*
38.24
JS 123467D
3.29e6*
38.13
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
3.23e5
1.62e5
0.00e0
2.68e5
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1.87e6
9.35e5
4.51e7
2.26e7


SGS ID: B6153_18829_DF_001
Sample ID: 11215131-010622-S-BN-SW-O-11
Acq: 21-Jan-2022 16:41:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220121C08
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.35e3
1234679D
1.26e7
40.20
1234678D
9.36e6
40.88
3.90e6
1.95e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.93e3
1234679D
1.21e7
40.20
1234678D
9.06e6
40.87
3.69e6
1.85e6
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.35e3
ES 1234678D
7.20e6
40.86
2.06e6
1.03e6
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.05e3
ES 1234678D
6.88e6
40.86
2.03e6
1.02e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.61e7
1.31e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_001.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8597, 6832 scc: 620-199
PKD: 24-Jan-2022 14:27 Printed: 24-Jan-2022 14:53 Page 5 of 12


OCDD
7.22e7
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.71e3
0%
Abs. Int.
1.74e7
8.68e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.03e7
43.54
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.88e3
1.88e7
9.41e6
ES OCDD
9.19e6
43.52
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.19e3
1.96e6
9.81e5
ES OCDD
9.73e6
43.52
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.25e3
2.12e6
1.06e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
2.24e7
1.12e7

SGS ID: B6153_18829_DF_001 | Sample ID: 11215131-010622-S-BN-SW-O-11 | Acq: 21-Jan-2022 16:41:38

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75 | User: DTF Datafile: 220121C08



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_001.utp_res, saved 24-Jan-2022 14:42 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3450, 2526, 7512 scc: 620-199 | *PKD: 24-Jan-2022 14:27 Printed: 24-Jan-2022 14:54 Page 7 of 12*

SGS ID: B6153_18829_DF_001 | Sample ID: 11215131-010622-S-BN-SW-O-11 | Acq: 21-Jan-2022 16:41:38

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75 | User: DTF Datafile: 220121C08

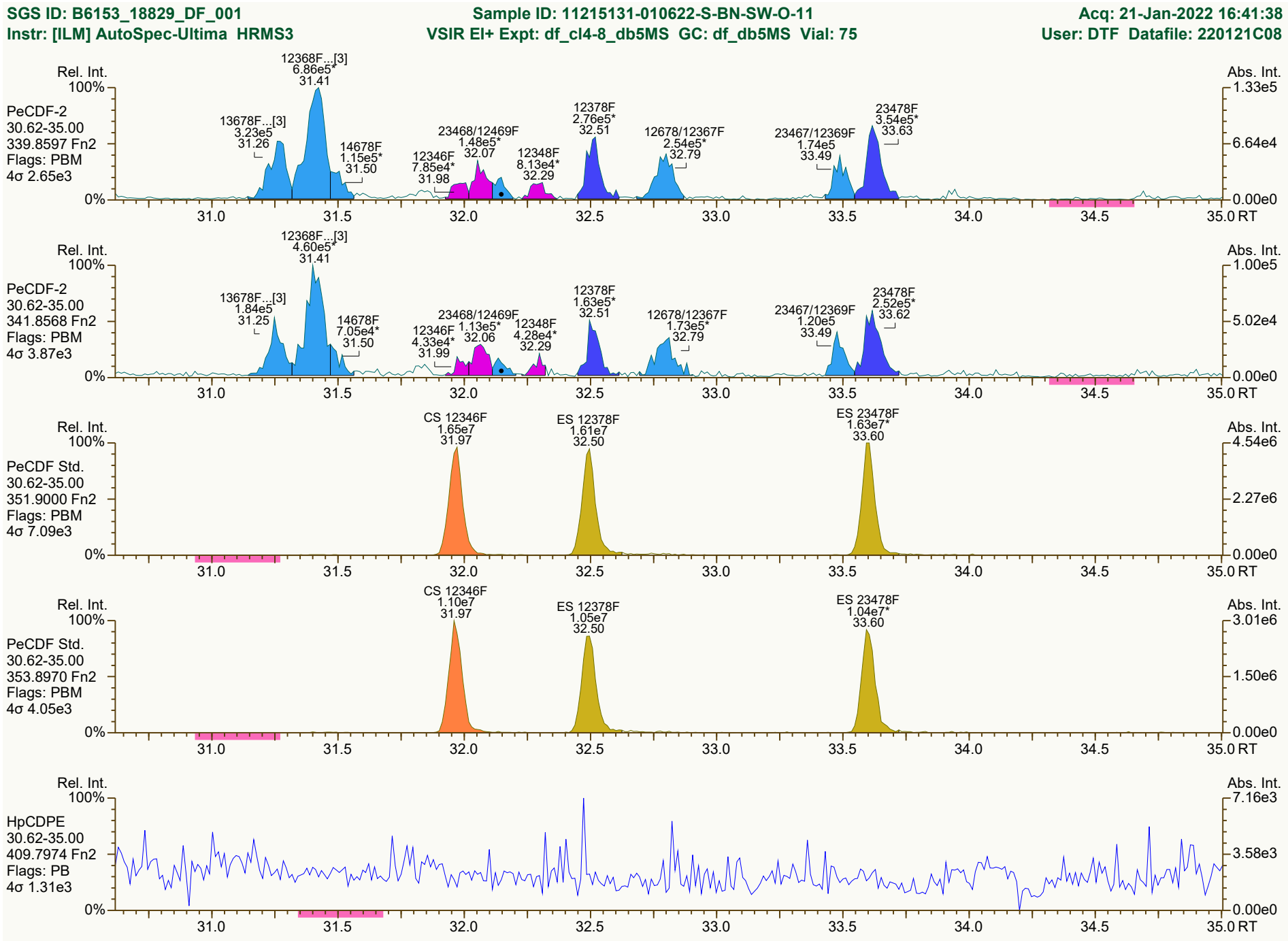


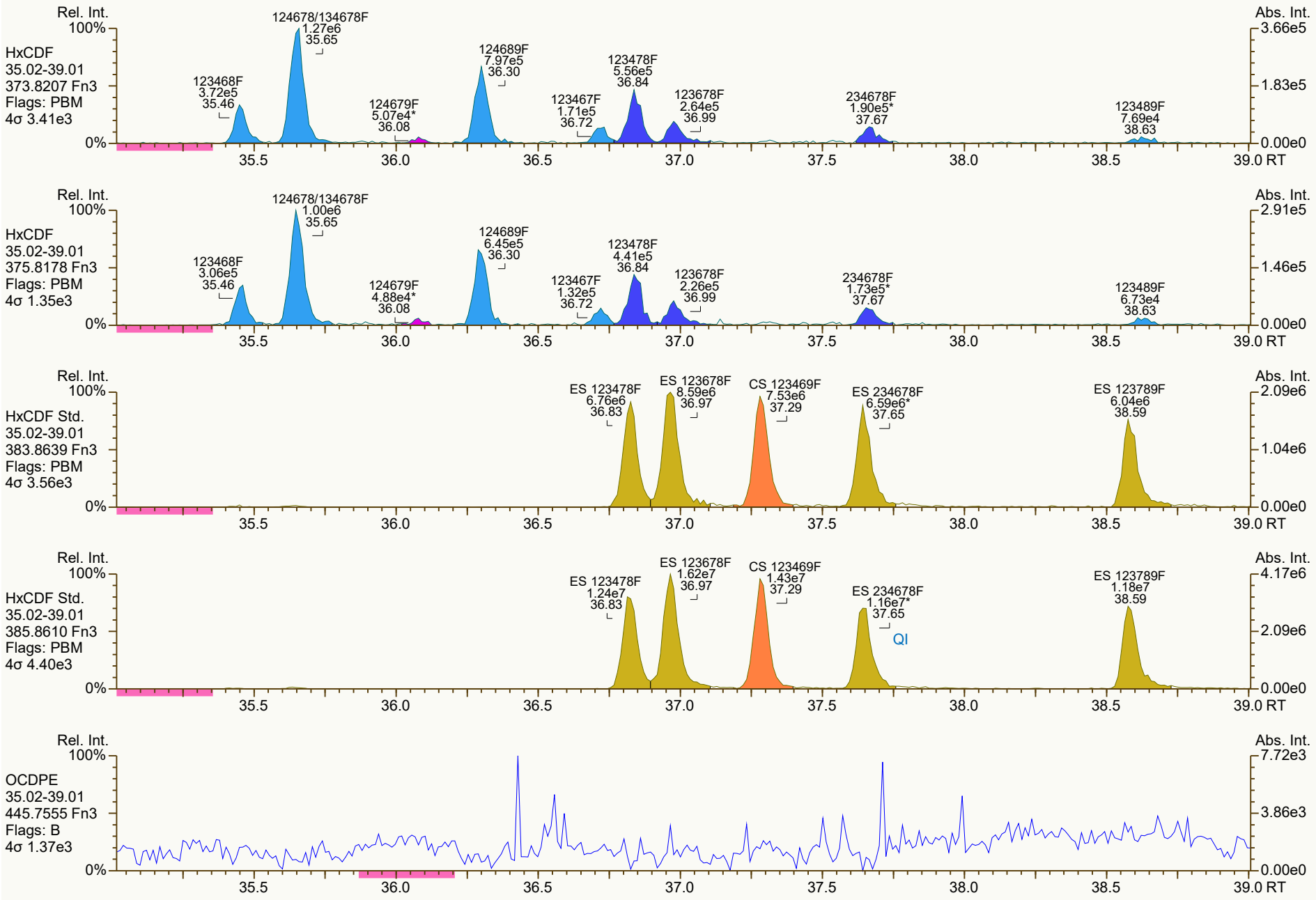
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_001.utp_res, saved 24-Jan-2022 14:42 (PSW)

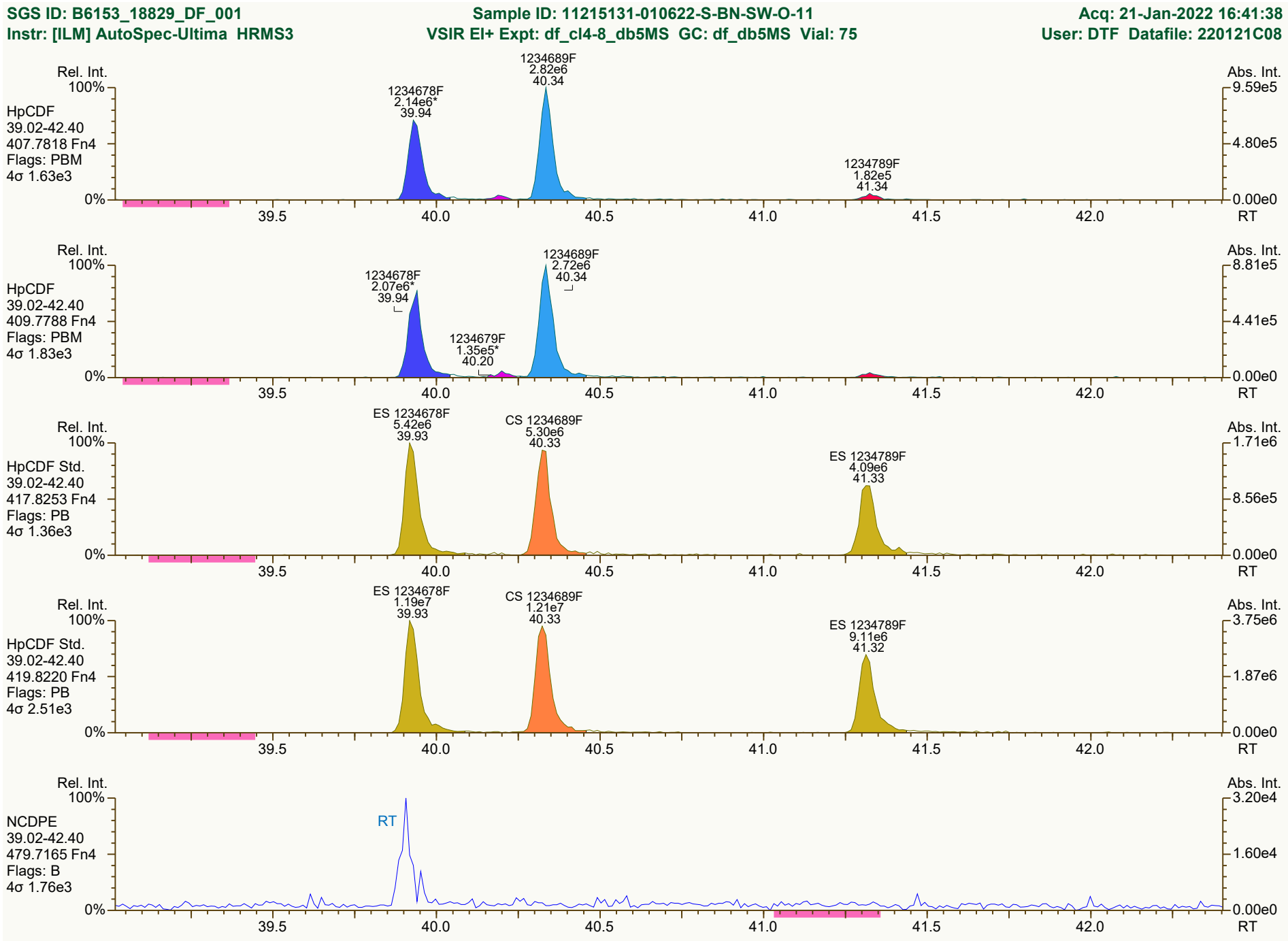
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3564 scc: 620-199

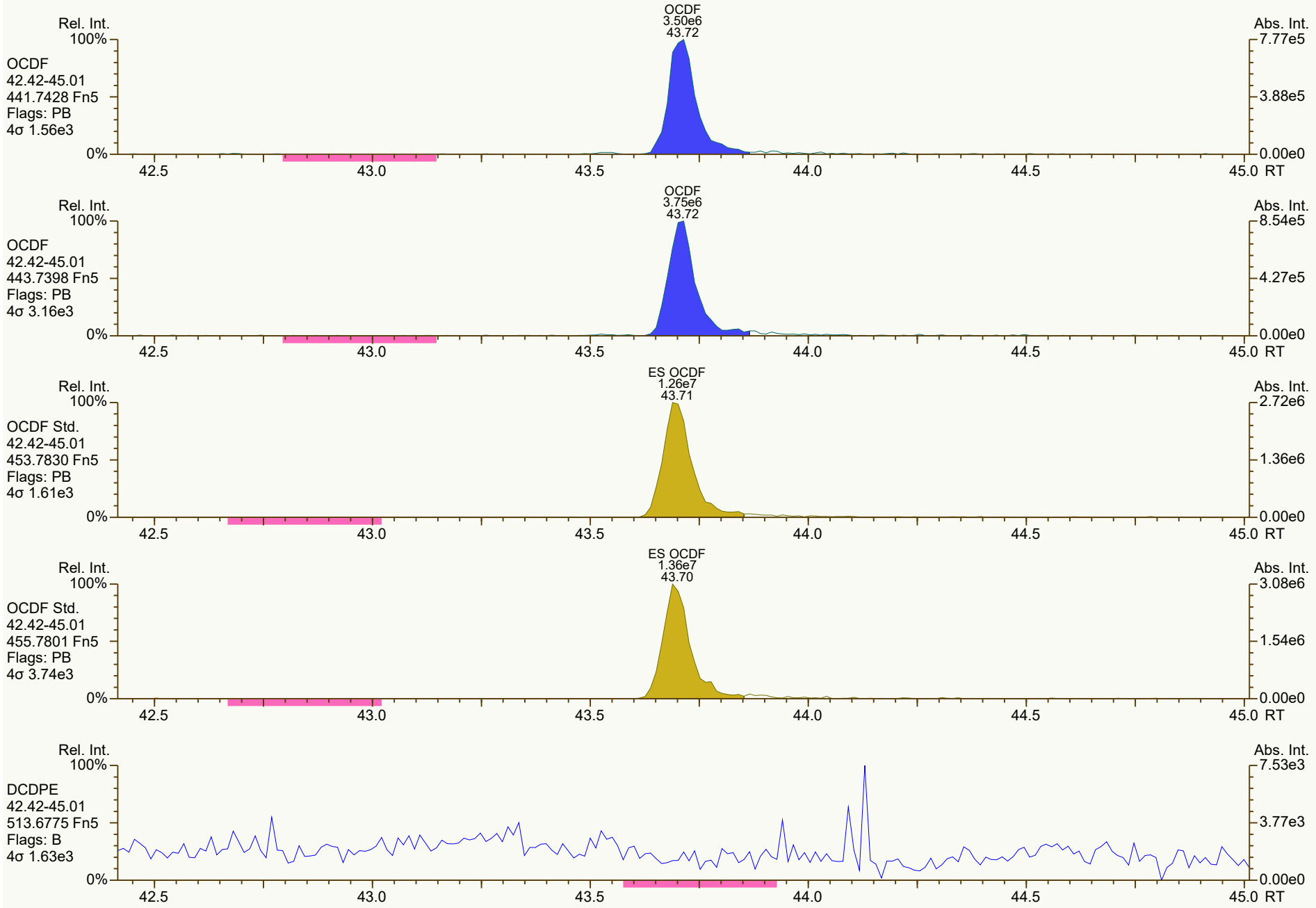
PKD: 24-Jan-2022 14:27 Printed: 24-Jan-2022 14:54 Page 8 of 12


SGS ID: B6153_18829_DF_001
Sample ID: 11215131-010622-S-BN-SW-O-11
Acq: 21-Jan-2022 16:41:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220121C08
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 2.65e3
12368F...[3] 6.86e5* 31.41
13678F...[3] 3.23e5 31.26
14678F 1.15e5* 31.50
12346F 7.85e4* 31.98
23468/12469F 1.48e5* 32.07
12348F 8.13e4* 32.29
12378F 2.76e5* 32.51
12678/12367F 2.54e5* 32.79
23467/12369F 1.74e5 33.49
23478F 3.54e5* 33.63
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 3.87e3
12368F...[3] 4.60e5* 31.41
13678F...[3] 1.84e5 31.25
14678F 7.05e4* 31.50
12346F 4.33e4* 31.99
23468/12469F 1.13e5* 32.06
12348F 4.28e4* 32.29
12378F 1.63e5* 32.51
12678/12367F 1.73e5* 32.79
23467/12369F 1.20e5 33.49
23478F 2.52e5* 33.62
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 7.09e3
CS 12346F 1.65e7 31.97
ES 12378F 1.61e7 32.50
ES 23478F 1.63e7* 33.60
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 4.05e3
CS 12346F 1.10e7 31.97
ES 12378F 1.05e7 32.50
ES 23478F 1.04e7* 33.60
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: PB
4σ 1.31e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_001.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0576, 7991, 1301 scc: 620-199
PKD: 24-Jan-2022 14:27 Printed: 24-Jan-2022 14:54 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.41e3
123468F 3.72e5 35.46
124678/134678F 1.27e6 35.65
124679F 5.07e4* 36.08
124689F 7.97e5 36.30
123467F 1.71e5 36.72
123478F 5.56e5 36.84
123678F 2.64e5 36.99
234678F 1.90e5* 37.67
123489F 7.69e4 38.63
Abs. Int.
3.66e5
1.83e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.35e3
123468F 3.06e5 35.46
124678/134678F 1.00e6 35.65
124679F 4.88e4* 36.08
124689F 6.45e5 36.30
123467F 1.32e5 36.72
123478F 4.41e5 36.84
123678F 2.26e5 36.99
234678F 1.73e5* 37.67
123489F 6.73e4 38.63
Abs. Int.
2.91e5
1.46e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.56e3
ES 123478F 6.76e6 36.83
ES 123678F 8.59e6 36.97
CS 123469F 7.53e6 37.29
ES 234678F 6.59e6* 37.65
ES 123789F 6.04e6 38.59
Abs. Int.
2.09e6
1.04e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.40e3
ES 123478F 1.24e7 36.83
ES 123678F 1.62e7 36.97
CS 123469F 1.43e7 37.29
ES 234678F 1.16e7* 37.65
QI
ES 123789F 1.18e7 38.59
Abs. Int.
4.17e6
2.09e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.37e3
Abs. Int.
7.72e3
3.86e3
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_001.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1224, 5609, 2748 scc: 620-199
PKD: 24-Jan-2022 14:27 Printed: 24-Jan-2022 14:54 Page 11 of 12


OCDF
3.50e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.56e3
0%
Abs. Int.
7.77e5
3.88e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.75e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 3.16e3
0%
Abs. Int.
8.54e5
4.27e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.26e7
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.61e3
0%
Abs. Int.
2.72e6
1.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 3.74e3
0%
Abs. Int.
3.08e6
1.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6153_18829_DF_002 **Acq'd:** 21 Jan 2022 17:27 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-13 **UTP:** 24-Jan-2022 14:42:53 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 419-883-SGR

Datafile: 220121C09 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0007	-0.2	2.67E+05	0.82	Y	1.18	2.27	5887.228	0.515
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3051.941	0.269
123478-HxCDD	37.86	J EMPC	1.0004	1.0005	+0.2	7.64E+04	1.05	N	1.09	0.8	2952.102	0.265
123678-HxCDD	37.96	J	1.0034	1.0034	0	1.20E+05	1.41	Y	1.15	1.1	2952.102	0.25
123789-HxCDD	38.25	J EMPC	1.0109	1.0110	+0.2	2.05E+05	0.99	N	1.05	1.77	2952.102	0.245
1234678-HpCDD	40.88		1.0003	1.0003	0	3.75E+06	1.07	Y	1.06	39.4	3339.514	0.311
OCDD	43.53		1.0002	1.0003	+0.3	1.02E+08	0.91	Y	1.13	1,510	5368.466	0.896
2378-TCDF	27.80		1.0008	1.0007	-0.2	8.55E+05	0.87	Y	1.08	4.92	5678.461	0.384
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4679.686	0.271
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4679.686	0.274
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3813.065	0.225
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3813.065	0.223
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3813.065	0.282
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3813.065	0.244
1234678-HpCDF	39.94	J	1.0002	1.0001	-0.2	2.13E+05	1.09	Y	1.37	1.32	3096.159	0.157
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3096.159	0.239
OCDF	43.71	J EMPC	1.0002	1.0002	0	2.81E+05	0.67	N	1.07	3.35	4142.814	0.571

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63		1.0233	1.0235	+0.3	1.94E+07	0.84	Y	1.05	90.8
ES 12378-PeCDD	33.94		1.2121	1.2132	+2.2	1.97E+07	1.57	Y	0.88	109
ES 123478-HxCDD	37.83		0.9921	0.9921	0	1.72E+07	1.21	Y	0.97	94.4
ES 123678-HxCDD	37.95		0.9951	0.9952	+0.2	1.87E+07	1.25	Y	0.94	106
ES 123789-HxCDD	38.24		1.0025	1.0028	+0.7	2.17E+07	1.27	Y	1.09	106
ES 1234678-HpCDD	40.87		1.0709	1.0717	+2.0	1.76E+07	1.07	Y	0.91	103
ES OCDD	43.52		1.1403	1.1411	+2.1	2.36E+07	0.88	Y	0.62	101
ES 2378-TCDF	27.78		1.0506	1.0511	+0.8	3.16E+07	0.83	Y	1.06	90.7
ES 12378-PeCDF	32.50		1.2281	1.2296	+2.9	3.04E+07	1.56	Y	0.91	102
ES 23478-PeCDF	33.61		1.2698	1.2714	+3.2	3.03E+07	1.59	Y	0.88	104
ES 123478-HxCDF	36.83		0.9657	0.9657	0	2.26E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.98		0.9695	0.9696	+0.2	2.92E+07	0.54	Y	1.35	115
ES 234678-HxCDF	37.66		0.9874	0.9875	+0.2	2.24E+07	0.56	Y	1.24	96.2
ES 123789-HxCDF	38.60		1.0116	1.0121	+1.2	2.22E+07	0.54	Y	1.16	103
ES 1234678-HpCDF	39.94		1.0467	1.0472	+1.2	2.30E+07	0.45	Y	0.97	127
ES 1234789-HpCDF	41.33		1.0830	1.0837	+1.7	1.64E+07	0.46	Y	0.85	103
ES OCDF	43.71		1.1451	1.1461	+2.6	3.07E+07	0.91	Y	0.81	102

Lab ID: B6153_18829_DF_002 **Acq'd:** 21 Jan 2022 17:27 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-13 **UTP:** 24-Jan-2022 14:42:53 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 419-883-SGR

Datafile: 220121C09 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	2.05E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.29E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	9.36E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	9.03E+06	n/a	-	1.20	91.7	
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.81E+07	1.66	Y	0.75	117	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	3.08E+07	1.54	Y	0.85	110	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.62E+07	0.53	Y	1.12	125	
CS 1234689-HpCDF	40.34	V	1.0571	1.0577	+1.5	2.22E+07	0.48	Y	0.89	134	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~9.03E+06~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.81E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~107~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~3.08E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~100~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.62E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~100~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~2.22E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~105~~	

Totals	Conc	EMPC
Total TCDD	4.72	4.72
Total PeCDD	1.34	3.72
Total HxCDD	27	31.1
Total HpCDD	127	127
Total Tetra-Octa Dioxins	1670	1670
Total TCDF	10.2	10.8
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	1.32	2.17
Total Tetra-Octa Furans	11.5	16.4
Total Tetra-Octa Dioxins & Furans	1680	1690

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.787	0.82
Response	2.72E+05	2.67E+05

Lab ID: B6153_18829_DF_002 **Acq'd: 21 Jan 2022 17:27 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-13 **UTP: 24-Jan-2022 14:42:53 PSW** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 419-883-SGR**

Datafile: 220121C09 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.06		0.8755	0.8750	-0.8	9.05E+04	0.83	Y	1.18	0.771	5887.228	0.515
1379-TCDD	NotFnd		0.8876						1.18		5887.228	0.515
1369-TCDD	NotFnd		0.9023						1.18		5887.228	0.515
1469-TCDD	26.59		0.9291	0.9286	-0.8	1.97E+05	0.75	Y	1.18	1.68	5887.228	0.515
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5887.228	0.515
1378-TCDD	NotFnd		0.9440						1.18		5887.228	0.515
1268-TCDD	NotFnd		0.9506						1.18		5887.228	0.515
1478-TCDD	NotFnd		0.9591						1.18		5887.228	0.515
1279-TCDD	NotFnd		0.9649						1.18		5887.228	0.515
1234/1269-TCDD	NotFnd		0.9771						1.18		5887.228	0.515
1236-TCDD	NotFnd		0.9820						1.18		5887.228	0.515
1237/1238-TCDD	NotFnd		0.9908						1.18		5887.228	0.515
1239-TCDD	NotFnd		0.9954						1.18		5887.228	0.515
2378-TCDD	**28.65**		**1.0008**	1.0007	**-0.2**	2.67E+05	0.82	Y	**1.18**	**2.27**	**5887.228**	**0.515**
1278-TCDD	NotFnd		1.0121						1.18		5887.228	0.515
1267-TCDD	NotFnd		1.0167						1.18		5887.228	0.515
1289-TCDD	NotFnd		1.0341						1.18		5887.228	0.515
12479/12468-PeCDD	31.46	J EMPC	0.9273	0.9268	-0.9	8.64E+04	1.93	N	1.04	0.831	3051.941	0.269
12469-PeCDD	32.00	J	0.9430	0.9428	-0.4	1.40E+05	1.66	Y	1.04	1.34	3051.941	0.269
12368-PeCDD	NotFnd		0.9592						1.04		3051.941	0.269
12478-PeCDD	NotFnd		0.9647						1.04		3051.941	0.269
12379-PeCDD	32.83	J EMPC	0.9676	0.9672	-0.8	7.00E+04	1.88	N	1.04	0.673	3051.941	0.269
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9750	-0.4	9.04E+04	2.14	N	1.04	0.87	3051.941	0.269
12346/12347-PeCDD	NotFnd		0.9860						1.04		3051.941	0.269
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3051.941**	**0.269**
12367-PeCDD	NotFnd		1.0034						1.04		3051.941	0.269
12389-PeCDD	NotFnd		1.0134						1.04		3051.941	0.269
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	1.92E+06	1.22	Y	1.10	17.9	2952.102	0.252
123468-HxCDD	36.76	J EMPC	0.9715	0.9716	+0.2	7.54E+04	1.01	N	1.10	0.703	2952.102	0.252
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	7.97E+05	1.30	Y	1.10	7.43	2952.102	0.252
123469-HxCDD	37.19	J EMPC	0.9829	0.9831	+0.4	8.91E+04	1.00	N	1.10	0.831	2952.102	0.252
123478-HxCDD	37.86	J EMPC	**1.0004**	**1.0005**	**+0.2**	**7.64E+04**	**1.05**	**N**	1.09	**0.8**	**2952.102**	**0.265**
123678-HxCDD	37.96	J	**1.0034**	**1.0034**	**0**	**1.20E+05**	**1.41**	**Y**	1.15	**1.1**	**2952.102**	**0.25**
123467-HxCDD	38.15	J	1.0082	1.0082	0	6.80E+04	1.07	Y	1.10	0.634	2952.102	0.252
123789-HxCDD	38.25	J EMPC	**1.0109**	**1.0110**	**+0.2**	**2.05E+05**	**0.99**	**N**	1.05	**1.77**	**2952.102**	**0.245**

Lab ID: B6153_18829_DF_002 **Acq'd: 21 Jan 2022 17:27 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-13 **UTP: 24-Jan-2022 14:42:53 PSW** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 419-883-SGR**

Datafile: 220121C09 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

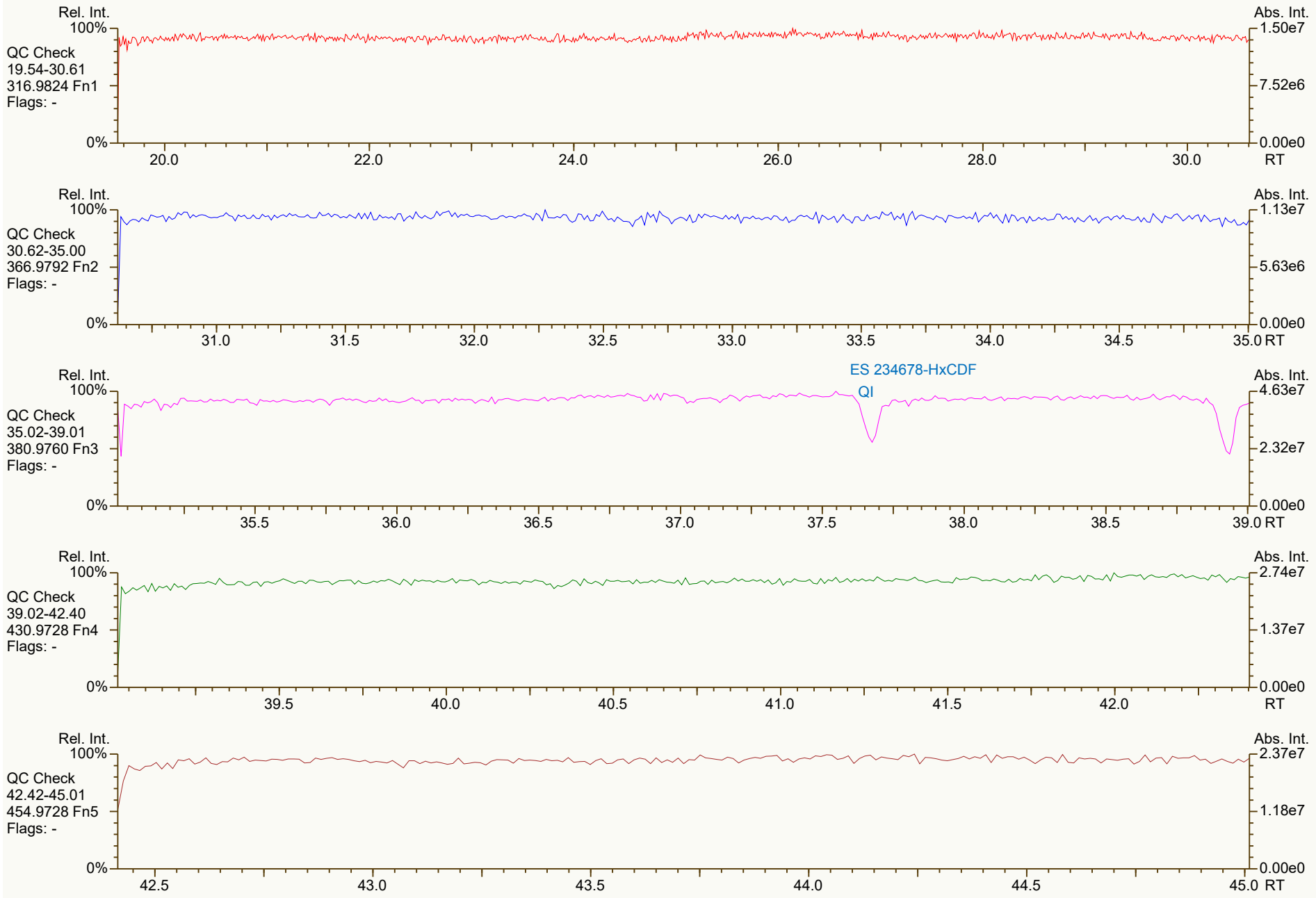
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9836	-0.5	8.30E+06	1.05	Y	1.06	87.1	3339.514	0.311
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**3.75E+06**	**1.07**	**Y**	**1.06**	**39.4**	**3339.514**	**0.311**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.02E+08**	**0.91**	**Y**	**1.13**	**1,510**	**5368.466**	**0.896**
OCDD-a	43.53		1.0002	1.0002	0	6.44E+06	2.43	Y	0.07	1,480	3941.14	10.3
1368-TCDF	NotFnd		0.8282						1.08		5678.461	0.384
1468-TCDF	NotFnd		0.8485						1.08		5678.461	0.384
2468-TCDF	24.17		0.8709	0.8699	-1.5	2.93E+05	0.85	Y	1.08	1.69	5678.461	0.384
1346/1246-TCDF	NotFnd		0.8829						1.08		5678.461	0.384
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5678.461	0.384
1348-TCDF	NotFnd		0.8980						1.08		5678.461	0.384
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		5678.461	0.384
1268-TCDF	NotFnd		0.9158						1.08		5678.461	0.384
1467-TCDF	NotFnd		0.9206						1.08		5678.461	0.384
1478-TCDF	NotFnd		0.9266						1.08		5678.461	0.384
1369/1237-TCDF	NotFnd		0.9397						1.08		5678.461	0.384
2467-TCDF	NotFnd		0.9440						1.08		5678.461	0.384
2368-TCDF	NotFnd		0.9497						1.08		5678.461	0.384
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5678.461	0.384
1278-TCDF	26.91		0.9690	0.9687	-0.5	4.24E+05	0.78	Y	1.08	2.44	5678.461	0.384
1349-TCDF	NotFnd		0.9730						1.08		5678.461	0.384
1267-TCDF	NotFnd		0.9787						1.08		5678.461	0.384
2346/1249-TCDF	NotFnd		0.9850						1.08		5678.461	0.384
2347/1279-TCDF	NotFnd		0.9929						1.08		5678.461	0.384
2348-TCDF	27.68	J	0.9970	0.9963	-1.2	8.09E+04	0.77	Y	1.08	0.466	5678.461	0.384
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**8.55E+05**	**0.87**	**Y**	**1.08**	**4.92**	**5678.461**	**0.384**
2367/3467-TCDF	28.16	EMPC	1.0136	1.0136	0	1.16E+05	0.92	N	1.08	0.668	5678.461	0.384
1269-TCDF	NotFnd		1.0221						1.08		5678.461	0.384
1239-TCDF	NotFnd		1.0319						1.08		5678.461	0.384
1289-TCDF	29.79		1.0740	1.0722	-3.2	1.13E+05	0.78	Y	1.08	0.649	5678.461	0.384
13468/12468-PeCDF	NotFnd		0.9145						1.02		4540.719	0.264
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4679.686	0.273
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4679.686	0.273
14678-PeCDF	NotFnd		0.9695						1.02		4679.686	0.273
13479-PeCDF	NotFnd		0.9724						1.02		4679.686	0.273
13469/12479-PeCDF	NotFnd		0.9801						1.02		4679.686	0.273
12346-PeCDF	NotFnd		0.9842						1.02		4679.686	0.273

Lab ID: B6153_18829_DF_002 **Acq'd: 21 Jan 2022 17:27 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-13 **UTP: 24-Jan-2022 14:42:53 PSW** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 419-883-SGR**

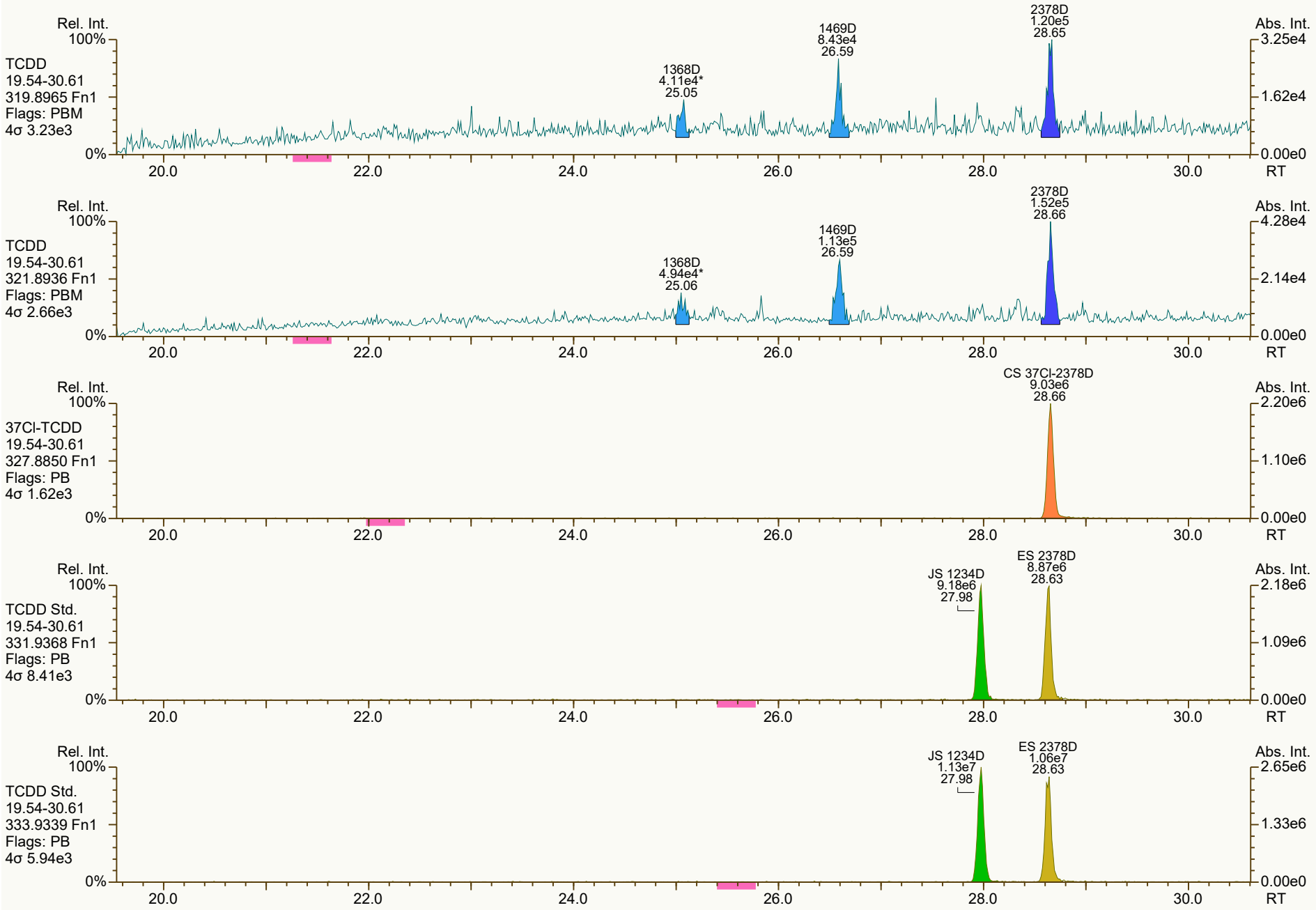
Datafile: 220121C09 **Report: 24 Jan 2022 14:48 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4679.686	0.273
12347-PeCDF	NotFnd		0.9895						1.02		4679.686	0.273
12348-PeCDF	NotFnd		0.9941						1.02		4679.686	0.273
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4679.686**	**0.271**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4679.686	0.273
12379-PeCDF	NotFnd		1.0142						1.02		4679.686	0.273
12679-PeCDF	NotFnd		0.9931						1.02		4679.686	0.273
23467/12369-PeCDF	NotFnd		0.9966						1.02		4679.686	0.273
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4679.686**	**0.274**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4679.686	0.273
12349-PeCDF	NotFnd		1.0101						1.02		4679.686	0.273
12389-PeCDF	NotFnd		1.0322						1.02		4679.686	0.273
123468-HxCDF	NotFnd		0.9627						1.19		3813.065	0.241
124678/134678-HxCDF	NotFnd		0.9684						1.19		3813.065	0.241
134679-HxCDF	NotFnd		0.9747						1.19		3813.065	0.241
124679-HxCDF	NotFnd		0.9802						1.19		3813.065	0.241
124689-HxCDF	NotFnd		0.9858						1.19		3813.065	0.241
123467-HxCDF	NotFnd		0.9972						1.19		3813.065	0.241
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3813.065**	**0.225**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3813.065**	**0.223**
123479-HxCDF	NotFnd		1.0051						1.19		3813.065	0.241
123469-HxCDF	NotFnd		1.0091						1.19		3813.065	0.241
123679-HxCDF	NotFnd		0.9943						1.19		3813.065	0.241
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3813.065**	**0.282**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3813.065	0.241
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3813.065**	**0.244**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3813.065	0.241
1234678-HpCDF	**39.94**	**J**	**1.0002**	**1.0001**	**-0.2**	**2.13E+05**	**1.09**	**Y**	**1.37**	**1.32**	**3096.159**	**0.157**
1234679-HpCDF	NotFnd		1.0067						1.34		3096.159	0.19
1234689-HpCDF	40.34	**J EMPC**	1.0101	1.0102	+0.2	1.14E+05	1.26	N	1.34	0.849	3096.159	0.19
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3096.159**	**0.239**
OCDF	**43.71**	**J EMPC**	**1.0002**	**1.0002**	**0**	**2.81E+05**	**0.67**	**N**	**1.07**	**3.35**	**4142.814**	**0.571**
OCDF-a	NotFnd		1.0002						0.07		4104.775	9.13


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.50e7
7.52e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.13e7
5.63e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.63e7
2.32e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.74e7
1.37e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.37e7
1.18e7
0.00e0

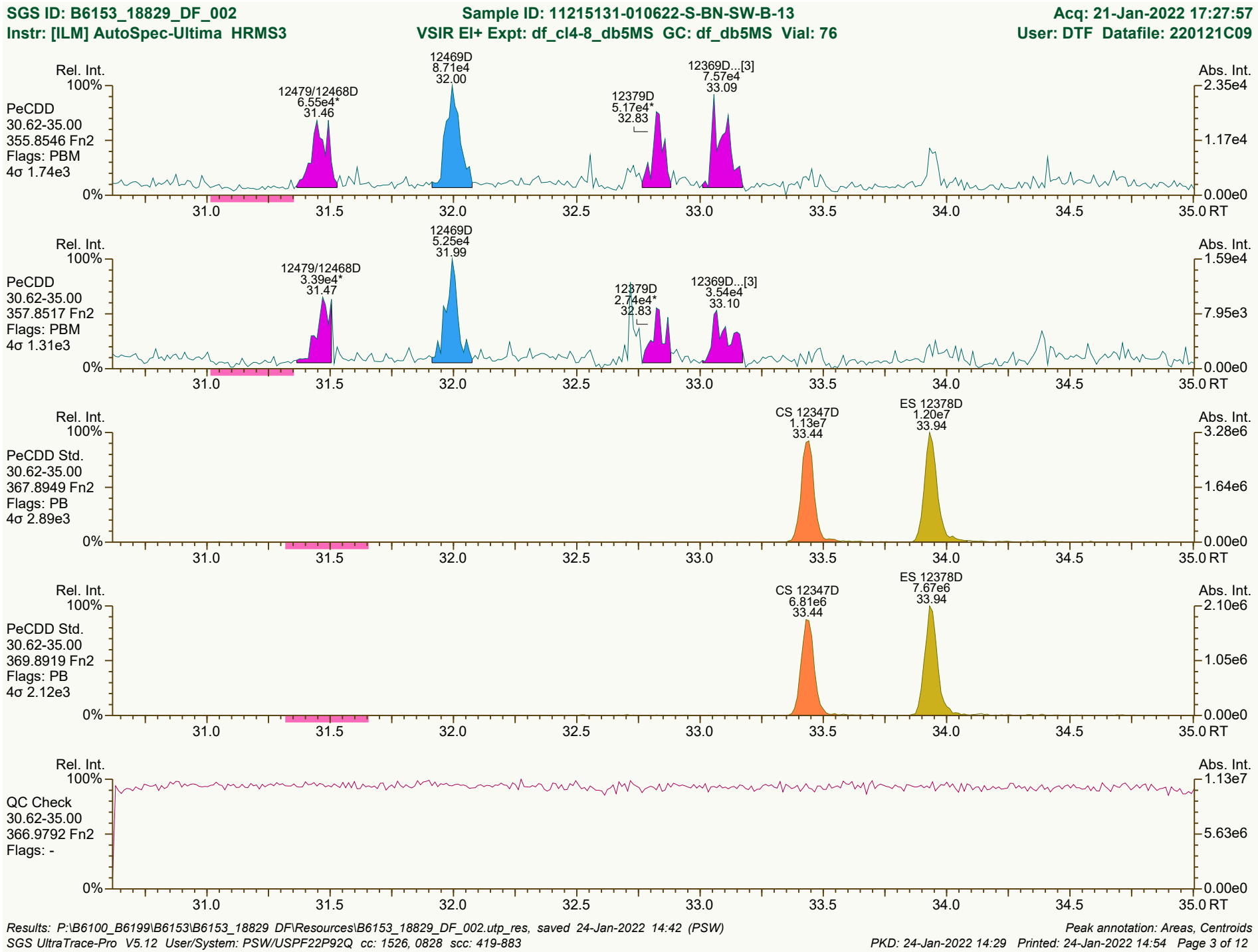
SGS ID: B6153_18829_DF_002 | Sample ID: 11215131-010622-S-BN-SW-B-13 | Acq: 21-Jan-2022 17:27:57

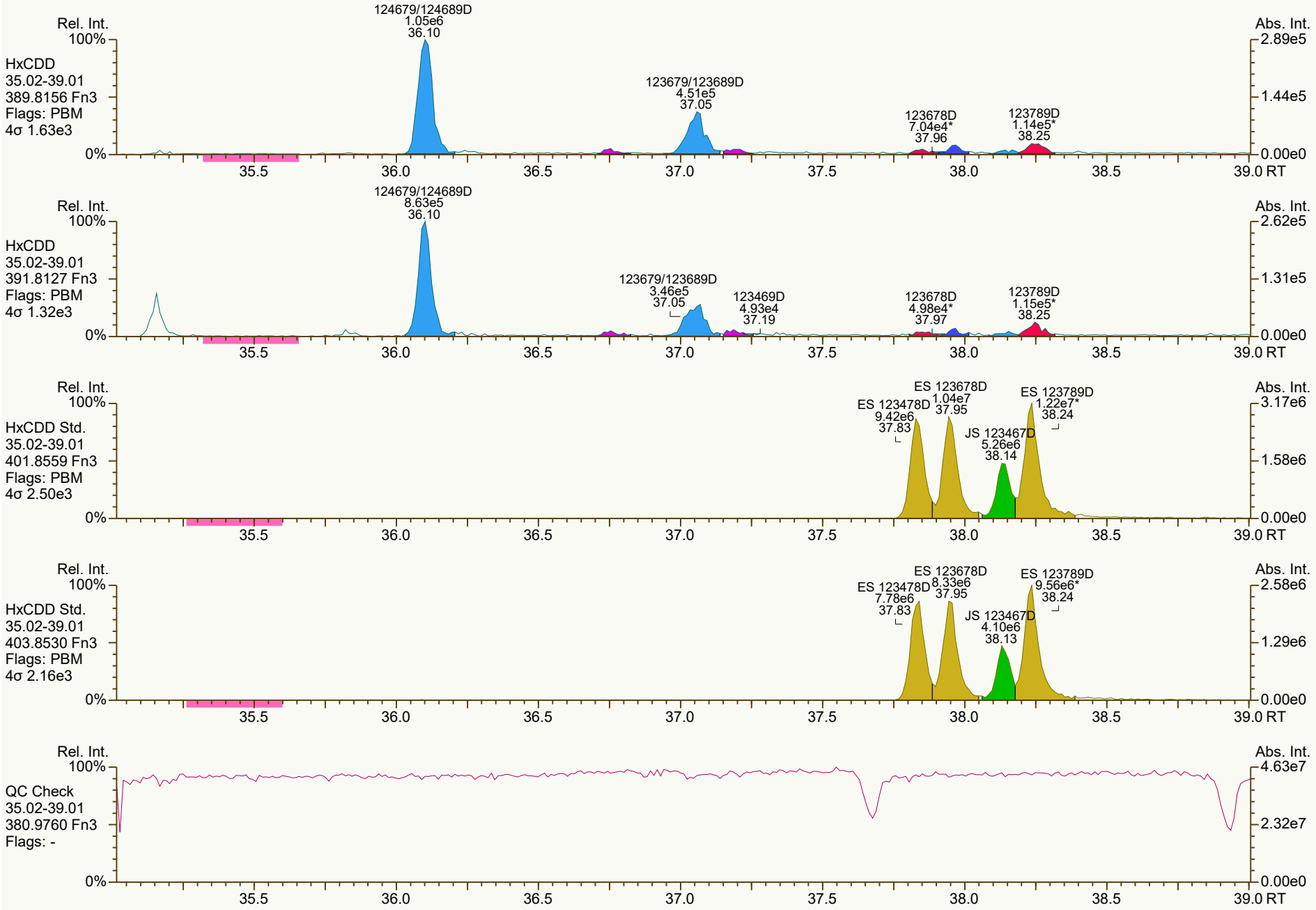
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220121C09

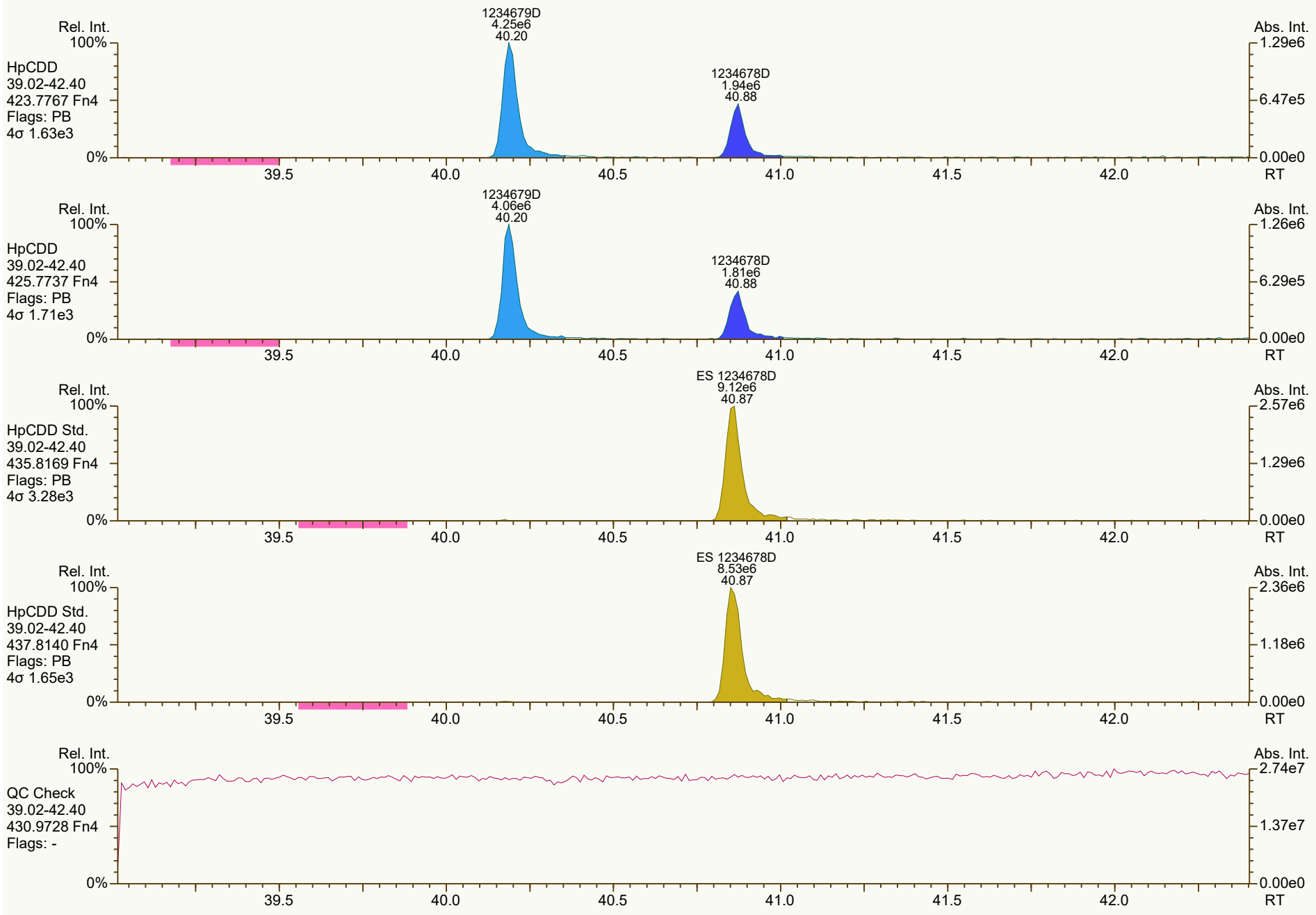


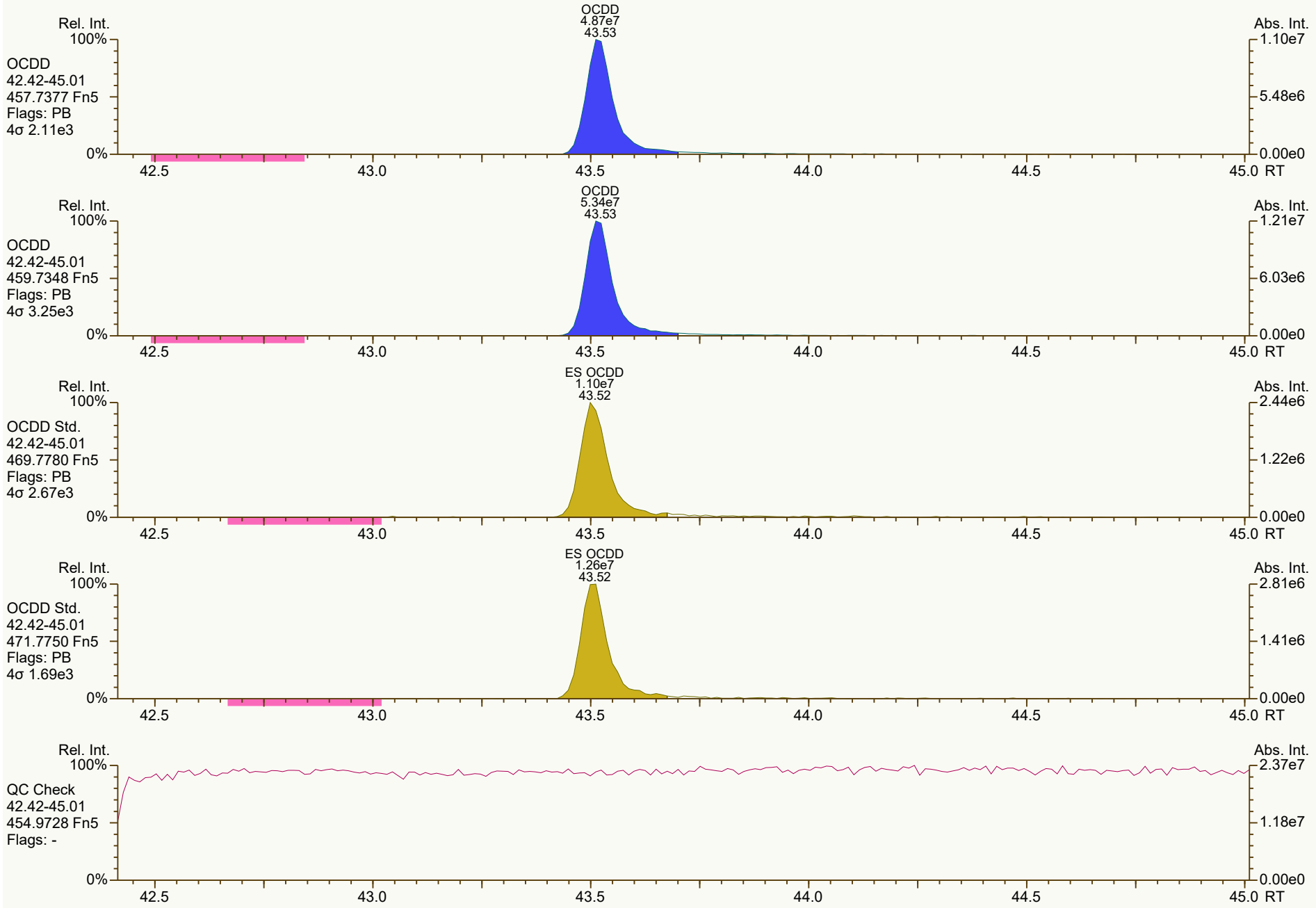
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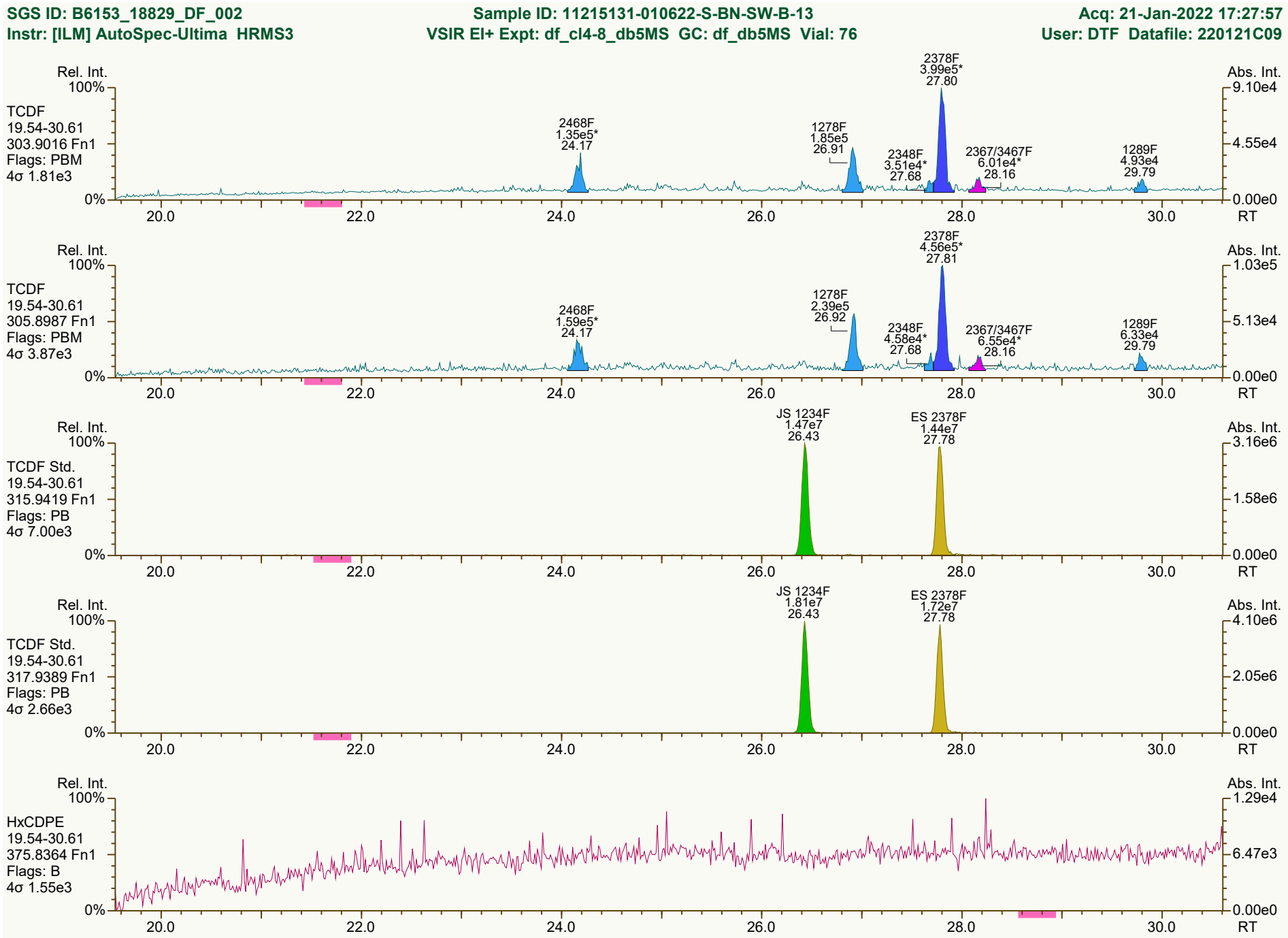
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9052, 9049, 2823 scc: 419-883 | *PKD: 24-Jan-2022 14:29 Printed: 24-Jan-2022 14:54 Page 2 of 12*


SGS ID: B6153_18829_DF_002
Sample ID: 11215131-010622-S-BN-SW-B-13
Acq: 21-Jan-2022 17:27:57
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220121C09
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.74e3
12479/12468D
6.55e4*
31.46
12469D
8.71e4
32.00
12379D
5.17e4*
32.83
12369D...[3]
7.57e4
33.09
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.31e3
12479/12468D
3.39e4*
31.47
12469D
5.25e4
31.99
12379D
2.74e4*
32.83
12369D...[3]
3.54e4
33.10
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.89e3
CS 12347D
1.13e7
33.44
ES 12378D
1.20e7
33.94
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.12e3
CS 12347D
6.81e6
33.44
ES 12378D
7.67e6
33.94
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_002.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1526, 0828 scc: 419-883
PKD: 24-Jan-2022 14:29 Printed: 24-Jan-2022 14:54 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.63e3
124679/124689D
1.05e6
36.10
123679/123689D
4.51e5
37.05
123678D
7.04e4*
37.96
123789D
1.14e5*
38.25
Abs. Int.
2.89e5
1.44e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.32e3
124679/124689D
8.63e5
36.10
123679/123689D
3.46e5
37.05
123469D
4.93e4
37.19
123678D
4.98e4*
37.97
123789D
1.15e5*
38.25
Abs. Int.
2.62e5
1.31e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.50e3
ES 123678D
1.04e7
37.95
ES 123478D
9.42e6
37.83
JS 123467D
5.26e6
38.14
ES 123789D
1.22e7*
38.24
Abs. Int.
3.17e6
1.58e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.16e3
ES 123678D
8.33e6
37.95
ES 123478D
7.78e6
37.83
JS 123467D
4.10e6
38.13
ES 123789D
9.56e6*
38.24
Abs. Int.
2.58e6
1.29e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.63e7
2.32e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.63e3
1234679D
4.25e6
40.20
1234678D
1.94e6
40.88
Abs. Int.
1.29e6
6.47e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.71e3
1234679D
4.06e6
40.20
1234678D
1.81e6
40.88
Abs. Int.
1.26e6
6.29e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 3.28e3
ES 1234678D
9.12e6
40.87
Abs. Int.
2.57e6
1.29e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.65e3
ES 1234678D
8.53e6
40.87
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.74e7
1.37e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
4.87e7
43.53
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.11e3
0%
Abs. Int.
1.10e7
5.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.34e7
43.53
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 3.25e3
0%
Abs. Int.
1.21e7
6.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.10e7
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.67e3
0%
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.26e7
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.69e3
0%
Abs. Int.
2.81e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.37e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_002.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0524, 1873, 7763 scc: 419-883
PKD: 24-Jan-2022 14:29 Printed: 24-Jan-2022 14:54 Page 7 of 12

SGS ID: B6153_18829_DF_002 | Sample ID: 11215131-010622-S-BN-SW-B-13 | Acq: 21-Jan-2022 17:27:57

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220121C09

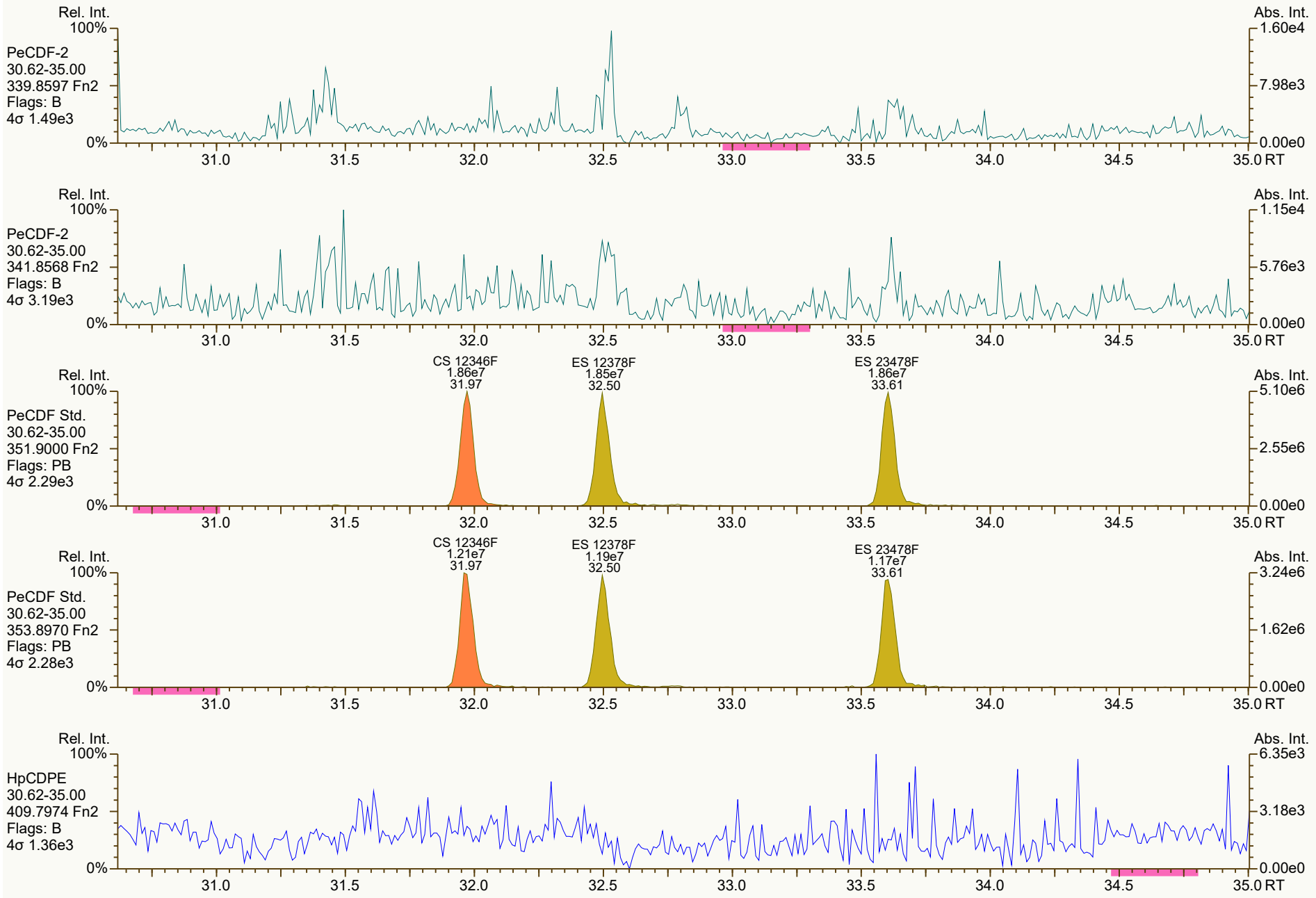


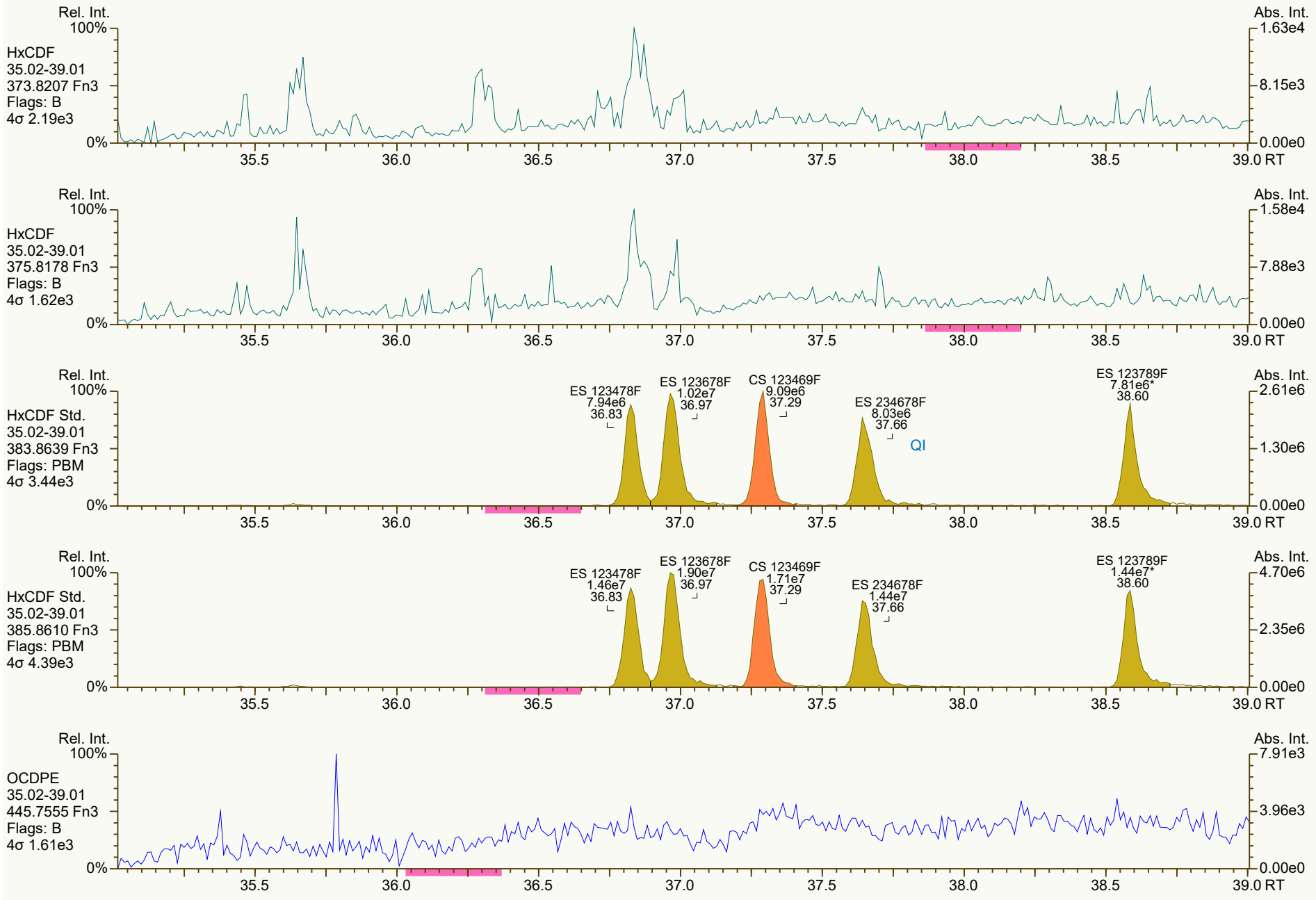
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_002.utp_res, saved 24-Jan-2022 14:42 (PSW)

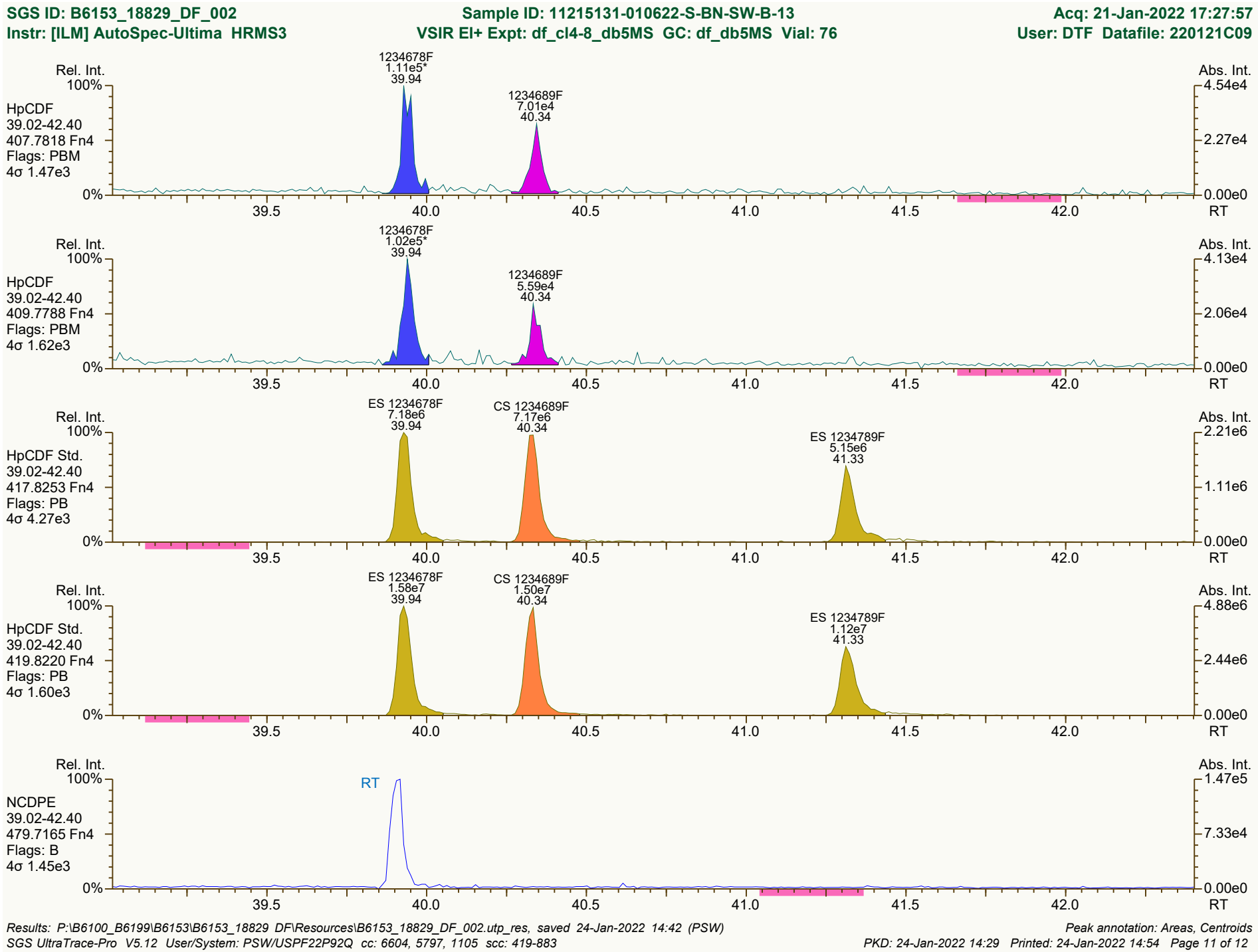
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1631 scc: 419-883

PKD: 24-Jan-2022 14:29 Printed: 24-Jan-2022 14:54 Page 8 of 12

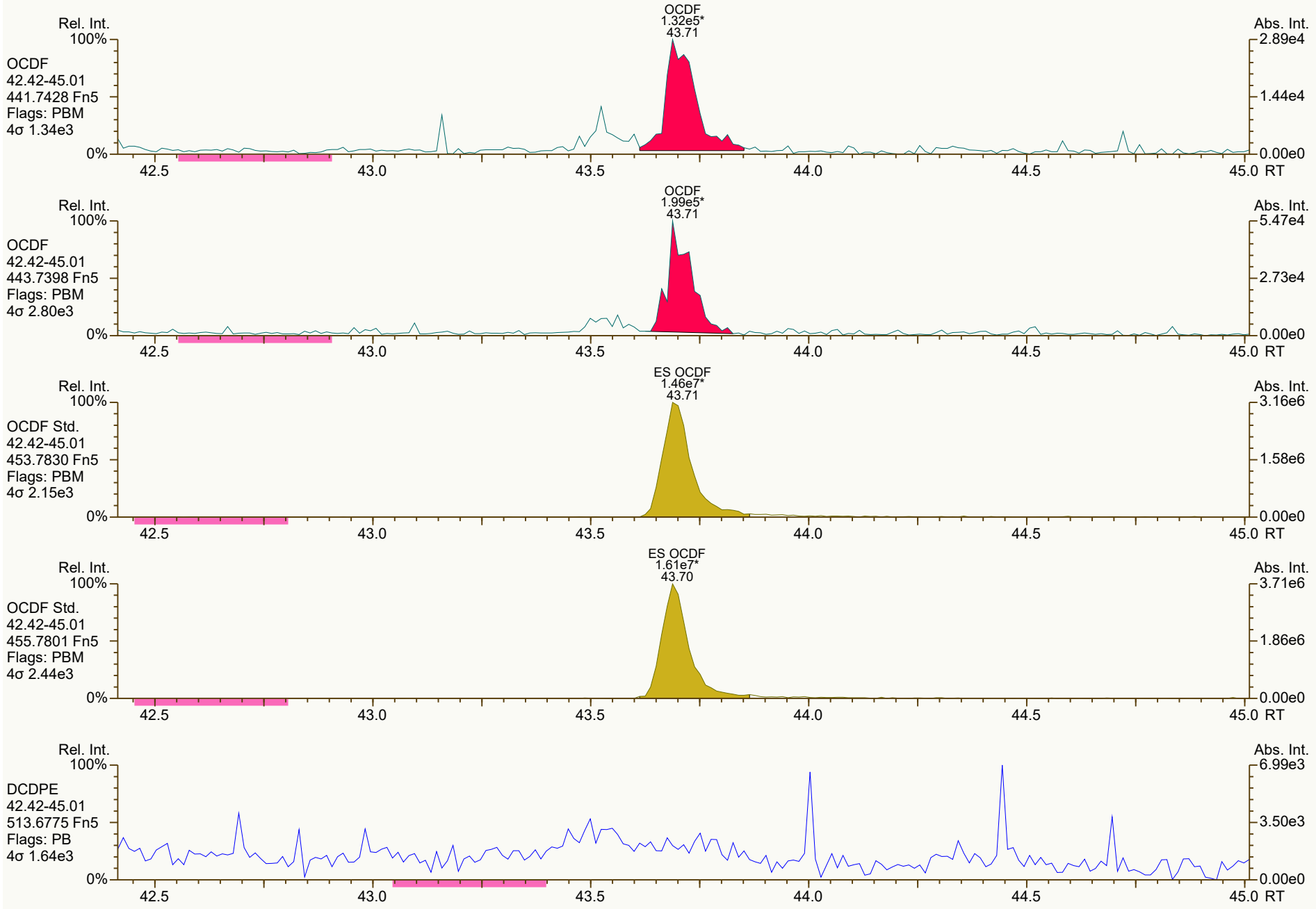

Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.60e4
7.98e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 3.19e3
0%
Abs. Int.
1.15e4
5.76e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.29e3
0%
CS 12346F
1.86e7
31.97
ES 12378F
1.85e7
32.50
ES 23478F
1.86e7
33.61
Abs. Int.
5.10e6
2.55e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.28e3
0%
CS 12346F
1.21e7
31.97
ES 12378F
1.19e7
32.50
ES 23478F
1.17e7
33.61
Abs. Int.
3.24e6
1.62e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.35e3
3.18e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 2.19e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.58e4
7.88e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.44e3
0%
ES 123478F
7.94e6
36.83
ES 123678F
1.02e7
36.97
CS 123469F
9.09e6
37.29
ES 234678F
8.03e6
37.66
QI
ES 123789F
7.81e6*
38.60
Abs. Int.
2.61e6
1.30e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.39e3
0%
ES 123478F
1.46e7
36.83
ES 123678F
1.90e7
36.97
CS 123469F
1.71e7
37.29
ES 234678F
1.44e7
37.66
ES 123789F
1.44e7*
38.60
Abs. Int.
4.70e6
2.35e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.61e3
0%
Abs. Int.
7.91e3
3.96e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6153_18829_DF_002
Sample ID: 11215131-010622-S-BN-SW-B-13
Acq: 21-Jan-2022 17:27:57
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220121C09
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.47e3
1234678F
1.11e5*
39.94
1234689F
7.01e4
40.34
4.54e4
2.27e4
0.00e0
RT
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.62e3
1234678F
1.02e5*
39.94
1234689F
5.59e4
40.34
4.13e4
2.06e4
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 4.27e3
ES 1234678F
7.18e6
39.94
CS 1234689F
7.17e6
40.34
ES 1234789F
5.15e6
41.33
2.21e6
1.11e6
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 1.60e3
ES 1234678F
1.58e7
39.94
CS 1234689F
1.50e7
40.34
ES 1234789F
1.12e7
41.33
4.88e6
2.44e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.45e3
RT
1.47e5
7.33e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_002.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6604, 5797, 1105 scc: 419-883
PKD: 24-Jan-2022 14:29 Printed: 24-Jan-2022 14:54 Page 11 of 12

SGS ID: B6153_18829_DF_002 | Sample ID: 11215131-010622-S-BN-SW-B-13 | Acq: 21-Jan-2022 17:27:57

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220121C09



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_002.utp_res, saved 24-Jan-2022 14:42 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1269, 8855, 0941 scc: 419-883 | *PKD: 24-Jan-2022 14:29 Printed: 24-Jan-2022 14:54 Page 12 of 12*

Lab ID: B6153_18829_DF_003 **Acq'd:** 21 Jan 2022 18:14 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-14 **UTP:** 24-Jan-2022 14:42:54 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 922-952-HTM

Datafile: 220121C10 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	8.83E+07	0.80	Y	1.18	703	5474.718	0.451
12378-PeCDD	33.95		1.0006	1.0005	-0.2	7.81E+05	1.56	Y	1.04	7.6	3993.898	0.353
123478-HxCDD	37.84		1.0004	1.0002	-0.5	3.19E+05	1.36	Y	1.09	3.22	4630.73	0.429
123678-HxCDD	37.96		1.0034	1.0035	+0.2	1.27E+06	1.28	Y	1.15	11.5	4630.73	0.389
123789-HxCDD	38.24		1.0109	1.0109	0	8.43E+05	1.26	Y	1.05	7.61	4630.73	0.367
1234678-HpCDD	40.86		1.0003	1.0003	0	2.64E+07	1.02	Y	1.06	280	4368.138	0.37
OCDD	43.51		1.0002	1.0003	+0.3	2.37E+08	0.90	Y	1.13	3,340	3682.068	0.535
2378-TCDF	27.80	E	1.0008	1.0008	0	3.56E+08	0.80	Y	1.08	1,910	5993.802	0.34
12378-PeCDF	32.51		1.0005	1.0005	0	3.23E+07	1.49	Y	1.02	197	7608.131	0.437
23478-PeCDF	33.63		1.0005	1.0007	+0.4	2.02E+07	1.53	Y	1.02	120	7608.131	0.405
123478-HxCDF	36.84		1.0004	1.0005	+0.2	5.46E+07	1.24	Y	1.27	363	4464.027	0.263
123678-HxCDF	36.98		1.0004	1.0004	0	1.76E+07	1.28	Y	1.15	108	4464.027	0.249
234678-HxCDF	37.67		1.0004	1.0005	+0.2	3.35E+06	1.22	Y	1.19	23.5	4464.027	0.288
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4464.027	0.278
1234678-HpCDF	39.93		1.0002	1.0003	+0.2	1.92E+07	1.02	Y	1.37	126	3270.53	0.162
1234789-HpCDF	41.33		1.0003	1.0003	0	4.86E+06	1.06	Y	1.31	42.8	3270.53	0.237
OCDF	43.70		1.0002	1.0003	+0.3	1.49E+07	0.88	Y	1.07	166	4994.491	0.607

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0235	+0.3	2.08E+07	0.81	Y	1.05	94.3
ES 12378-PeCDD	33.93	1.2121	1.2131	+2.0	1.95E+07	1.57	Y	0.88	105
ES 123478-HxCDD	37.83	0.9921	0.9922	+0.2	1.79E+07	1.28	Y	0.97	104
ES 123678-HxCDD	37.94	0.9951	0.9952	+0.2	1.89E+07	1.32	Y	0.94	113
ES 123789-HxCDD	38.23	1.0025	1.0027	+0.5	2.07E+07	1.25	Y	1.09	108
ES 1234678-HpCDD	40.85	1.0709	1.0715	+1.5	1.75E+07	1.08	Y	0.91	108
ES OCDD	43.50	1.1403	1.1410	+1.8	2.48E+07	0.87	Y	0.62	112
ES 2378-TCDF	27.78	1.0506	1.0510	+0.7	3.39E+07	0.82	Y	1.06	98.5
ES 12378-PeCDF	32.50	1.2281	1.2295	+2.7	3.15E+07	1.55	Y	0.91	106
ES 23478-PeCDF	33.60	1.2698	1.2714	+3.2	3.23E+07	1.58	Y	0.88	113
ES 123478-HxCDF	36.82	0.9657	0.9657	0	2.32E+07	0.56	Y	1.20	110
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.77E+07	0.54	Y	1.35	116
ES 234678-HxCDF	37.65	0.9874	0.9874	0	2.36E+07	0.55	Y	1.24	107
ES 123789-HxCDF	38.58	1.0116	1.0119	+0.7	2.26E+07	0.54	Y	1.16	111
ES 1234678-HpCDF	39.92	1.0467	1.0471	+1.0	2.18E+07	0.46	Y	0.97	128
ES 1234789-HpCDF	41.31	1.0830	1.0836	+1.5	1.70E+07	0.45	Y	0.85	113
ES OCDF	43.69	1.1451	1.1459	+2.1	3.28E+07	0.92	Y	0.81	115

Lab ID: B6153_18829_DF_003 **Acq'd:** 21 Jan 2022 18:14 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-14 **UTP:** 24-Jan-2022 14:42:54 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 922-952-HTM

Datafile: 220121C10 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	2.11E+07	0.79	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.25E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	8.83E+06	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0243	+0.3	9.63E+06	n/a	-	1.20	95	
CS 12347-PeCDD	33.43		1.1943	1.1952	+1.8	1.77E+07	1.55	Y	0.75	112	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.91E+07	1.56	Y	0.85	105	
CS 123469-HxCDF	37.28		0.9778	0.9779	+0.2	2.55E+07	0.54	Y	1.12	129	
CS 1234689-HpCDF	40.32	V	1.0571	1.0576	+1.2	2.12E+07	0.46	Y	0.89	135	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~9.63E+06~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1952~~	~~+1.8~~	~~1.77E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~106~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.91E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~98.7~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.55E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~111~~	
~~SS 1234689-HpCDF~~	~~40.32~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~2.12E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~	

Totals	Conc	EMPC
Total TCDD	795	803
Total PeCDD	24.5	26.6
Total HxCDD	103	103
Total HpCDD	590	590
Total Tetra-Octa Dioxins	4850	4860
Total TCDF	3,850	3850
Total PeCDF	491	491
Total HxCDF	618	618
Total HpCDF	232	232
Total Tetra-Octa Furans	5,350	5350
Total Tetra-Octa Dioxins & Furans	10200	10200

Lab ID: B6153_18829_DF_003 | **Acq'd: 21 Jan 2022 18:14 DTF** | **Wt/Vol: 10.19 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-14 | **UTP: 24-Jan-2022 14:42:54 PSW** | **J-level: 0.491 pg/g** | **Split: 1** | **Checkcode: 922-952-HTM**

Datafile: 220121C10 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04	EMPC	0.8755	0.8747	-1.2	4.51E+05	0.92	N	1.18	3.59	5474.718	0.451
1379-TCDD	25.39		0.8876	0.8870	-0.9	3.27E+05	0.85	Y	1.18	2.6	5474.718	0.451
1369-TCDD	NotFnd		0.9023						1.18		5474.718	0.451
1469-TCDD	26.58		0.9291	0.9284	-1.1	3.96E+05	0.72	Y	1.18	3.15	5474.718	0.451
1247/1246/1248/1249-TCDD	26.82		0.9373	0.9368	-0.8	2.32E+05	0.89	Y	1.18	1.85	5474.718	0.451
1378-TCDD	27.02		0.9440	0.9436	-0.6	3.41E+05	0.82	Y	1.18	2.72	5474.718	0.451
1268-TCDD	NotFnd		0.9506						1.18		5474.718	0.451
1478-TCDD	27.46		0.9591	0.9590	-0.2	2.30E+05	0.77	Y	1.18	1.84	5474.718	0.451
1279-TCDD	NotFnd		0.9649						1.18		5474.718	0.451
1234/1269-TCDD	27.96	EMPC	0.9771	0.9767	-0.7	9.43E+04	1.18	N	1.18	0.751	5474.718	0.451
1236-TCDD	NotFnd		0.9820						1.18		5474.718	0.451
1237/1238-TCDD	28.36		0.9908	0.9907	-0.2	1.55E+06	0.78	Y	1.18	12.4	5474.718	0.451
1239-TCDD	NotFnd		0.9954						1.18		5474.718	0.451
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	8.83E+07	0.80	Y	**1.18**	**703**	**5474.718**	**0.451**
1278-TCDD	28.97		1.0121	1.0120	-0.2	8.47E+06	0.82	Y	1.18	67.5	5474.718	0.451
1267-TCDD	29.11	EMPC	1.0167	1.0170	+0.5	2.63E+05	0.91	N	1.18	2.09	5474.718	0.451
1289-TCDD	29.61	EMPC	1.0341	1.0341	0	1.60E+05	1.05	N	1.18	1.28	5474.718	0.451
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	6.04E+05	1.59	Y	1.04	5.88	3993.898	0.353
12469-PeCDD	31.99		0.9430	0.9427	-0.6	3.27E+05	1.35	Y	1.04	3.19	3993.898	0.353
12368-PeCDD	32.54		0.9592	0.9589	-0.6	3.19E+05	1.61	Y	1.04	3.11	3993.898	0.353
12478-PeCDD	32.73	J	0.9647	0.9644	-0.6	1.59E+05	1.53	Y	1.04	1.55	3993.898	0.353
12379-PeCDD	32.83	J EMPC	0.9676	0.9675	-0.2	1.82E+05	1.97	N	1.04	1.77	3993.898	0.353
12369/12467/12489-PeCDD	33.09	J	0.9752	0.9750	-0.4	2.19E+05	1.54	Y	1.04	2.13	3993.898	0.353
12346/12347-PeCDD	33.45	J	0.9860	0.9857	-0.6	5.65E+04	1.51	Y	1.04	0.55	3993.898	0.353
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**7.81E+05**	**1.56**	**Y**	**1.04**	**7.6**	**3993.898**	**0.353**
12367-PeCDD	34.04	J	1.0034	1.0031	-0.6	5.54E+04	1.49	Y	1.04	0.539	3993.898	0.353
12389-PeCDD	34.38	J EMPC	1.0134	1.0133	-0.2	3.33E+04	1.03	N	1.04	0.324	3993.898	0.353
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	3.94E+06	1.27	Y	1.10	36.9	4630.73	0.393
123468-HxCDD	36.75		0.9715	0.9715	0	6.52E+05	1.36	Y	1.10	6.1	4630.73	0.393
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	3.66E+06	1.29	Y	1.10	34.2	4630.73	0.393
123469-HxCDD	37.17	J	0.9829	0.9827	-0.4	1.92E+05	1.26	Y	1.10	1.8	4630.73	0.393
123478-HxCDD	37.84		**1.0004**	**1.0002**	**-0.5**	**3.19E+05**	**1.36**	**Y**	1.09	**3.22**	**4630.73**	**0.429**
123678-HxCDD	37.96		**1.0034**	**1.0035**	**+0.2**	**1.27E+06**	**1.28**	**Y**	1.15	**11.5**	**4630.73**	**0.389**
123467-HxCDD	38.13	J	1.0082	1.0081	-0.2	1.64E+05	1.06	Y	1.10	1.53	4630.73	0.393
123789-HxCDD	38.24		**1.0109**	**1.0109**	**0**	**8.43E+05**	**1.26**	**Y**	1.05	**7.61**	**4630.73**	**0.367**

Lab ID: B6153_18829_DF_003 **Acq'd:** 21 Jan 2022 18:14 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-14 **UTP:** 24-Jan-2022 14:42:54 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 922-952-HTM

Datafile: 220121C10 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

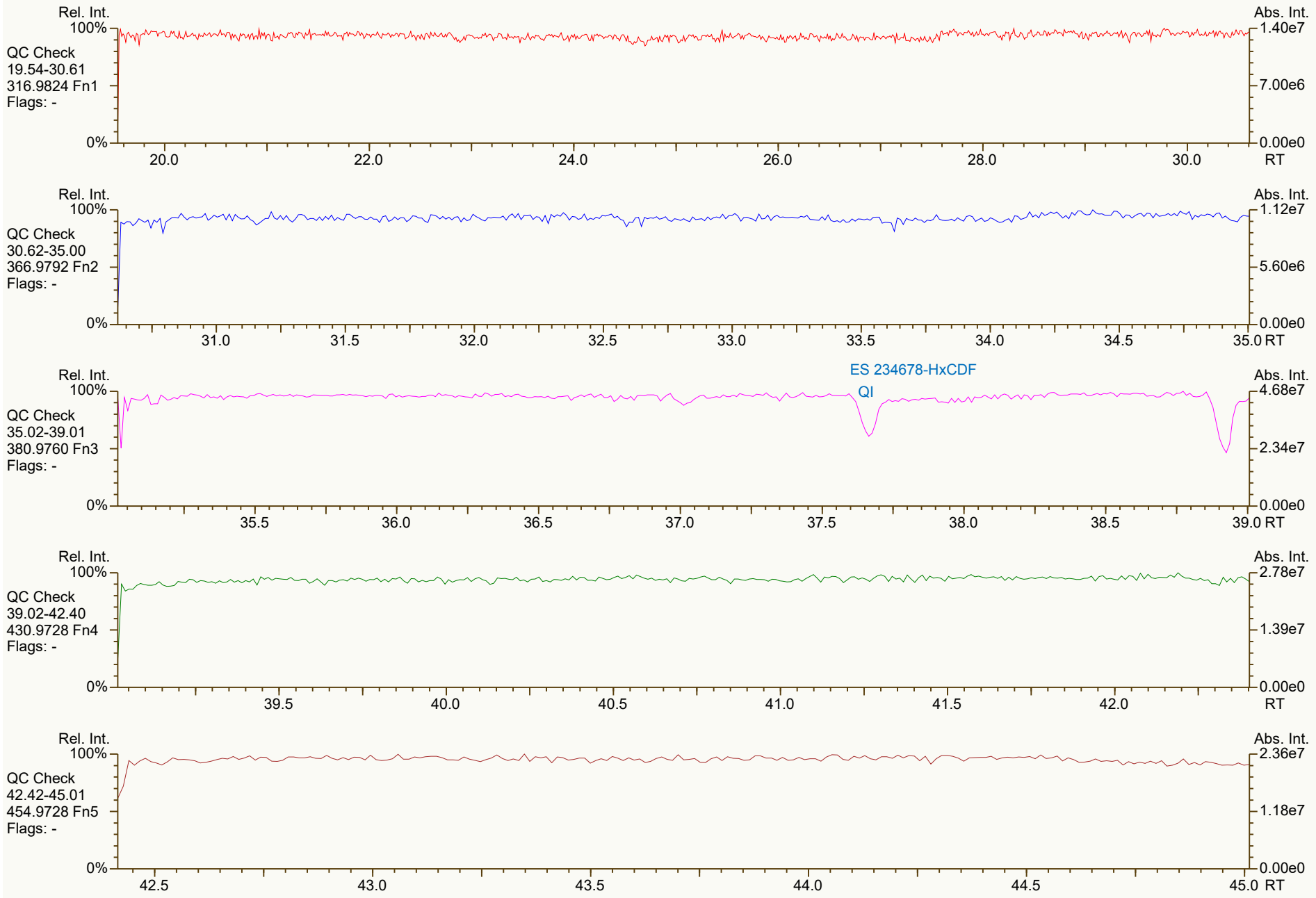
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9838	0	2.93E+07	1.05	Y	1.06	310	4368.138	0.37
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**2.64E+07**	**1.02**	**Y**	**1.06**	**280**	**4368.138**	**0.37**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**2.37E+08**	**0.90**	**Y**	**1.13**	**3,340**	**3682.068**	**0.535**
OCDD-a	43.51		1.0002	1.0002	0	1.45E+07	2.36	Y	0.07	3,190	4577.985	10.4
1368-TCDF	22.98		0.8282	0.8271	-1.5	2.42E+05	0.66	Y	1.08	1.3	5993.802	0.34
1468-TCDF	23.54		0.8485	0.8474	-1.6	9.21E+05	0.80	Y	1.08	4.94	5993.802	0.34
2468-TCDF	24.17		0.8709	0.8700	-1.3	1.01E+06	0.88	Y	1.08	5.42	5993.802	0.34
1346/1246-TCDF	24.57		0.8829	0.8844	+2.2	6.47E+05	0.85	Y	1.08	3.47	5993.802	0.34
1347/1378/1247-TCDF	24.69		0.8884	0.8889	+0.7	4.33E+06	0.81	Y	1.08	23.2	5993.802	0.34
1348-TCDF	24.92		0.8980	0.8971	-1.3	1.20E+06	0.77	Y	1.08	6.41	5993.802	0.34
1248/1367/1379-TCDF	25.02		0.9026	0.9007	-2.9	1.88E+07	0.78	Y	1.08	101	5993.802	0.34
1268-TCDF	25.43		0.9158	0.9154	-0.6	6.54E+06	0.81	Y	1.08	35.1	5993.802	0.34
1467-TCDF	25.56		0.9206	0.9202	-0.6	9.40E+05	0.66	Y	1.08	5.05	5993.802	0.34
1478-TCDF	25.73		0.9266	0.9261	-0.8	1.53E+07	0.79	Y	1.08	82	5993.802	0.34
1369/1237-TCDF	26.10		0.9397	0.9396	-0.2	3.85E+06	0.78	Y	1.08	20.7	5993.802	0.34
2467-TCDF	26.21		0.9440	0.9435	-0.8	7.23E+05	0.83	Y	1.08	3.88	5993.802	0.34
2368-TCDF	26.39		0.9497	0.9499	+0.3	1.69E+07	0.78	Y	1.08	90.5	5993.802	0.34
1238/1234/1678/1469/1236-TCDF	26.46		0.9528	0.9525	-0.5	1.35E+07	0.82	Y	1.08	72.5	5993.802	0.34
1278-TCDF	26.91		0.9690	0.9687	-0.5	1.68E+08	0.77	Y	1.08	904	5993.802	0.34
1349-TCDF	NotFnd		0.9730						1.08		5993.802	0.34
1267-TCDF	27.18		0.9787	0.9785	-0.3	9.20E+06	0.81	Y	1.08	49.3	5993.802	0.34
2346/1249-TCDF	27.36		0.9850	0.9850	0	1.33E+06	0.87	Y	1.08	7.13	5993.802	0.34
2347/1279-TCDF	27.57		0.9929	0.9927	-0.3	4.74E+06	0.77	Y	1.08	25.5	5993.802	0.34
2348-TCDF	27.68		0.9970	0.9966	-0.7	2.62E+07	0.77	Y	1.08	141	5993.802	0.34
2378-TCDF	**27.80**	E	**1.0008**	**1.0008**	**0**	**3.56E+08**	**0.80**	**Y**	**1.08**	**1,910**	**5993.802**	**0.34**
2367/3467-TCDF	28.15		1.0136	1.0134	-0.3	2.91E+07	0.79	Y	1.08	156	5993.802	0.34
1269-TCDF	28.40		1.0221	1.0223	+0.3	5.87E+06	0.80	Y	1.08	31.5	5993.802	0.34
1239-TCDF	28.66		1.0319	1.0316	-0.5	5.48E+05	0.67	Y	1.08	2.94	5993.802	0.34
1289-TCDF	29.79		1.0740	1.0726	-2.5	3.07E+07	0.80	Y	1.08	165	5993.802	0.34
13468/12468-PeCDF	29.72		0.9145	0.9146	+0.2	1.14E+06	1.59	Y	1.02	6.87	3775.777	0.209
13678/13467/12467-PeCDF	31.26		0.9619	0.9620	+0.2	5.84E+05	1.59	Y	1.02	3.51	7608.131	0.421
12368/13478/12478-PeCDF	31.42		0.9665	0.9670	+0.9	1.26E+07	1.53	Y	1.02	75.8	7608.131	0.421
14678-PeCDF	31.50		0.9695	0.9694	-0.2	6.30E+05	1.74	Y	1.02	3.79	7608.131	0.421
13479-PeCDF	31.60	J	0.9724	0.9725	+0.2	7.95E+04	1.47	Y	1.02	0.478	7608.131	0.421
13469/12479-PeCDF	31.81	J	0.9801	0.9789	-2.3	8.94E+04	1.69	Y	1.02	0.538	7608.131	0.421
12346-PeCDF	31.98	J EMPC	0.9842	0.9841	-0.2	7.99E+04	1.80	N	1.02	0.481	7608.131	0.421

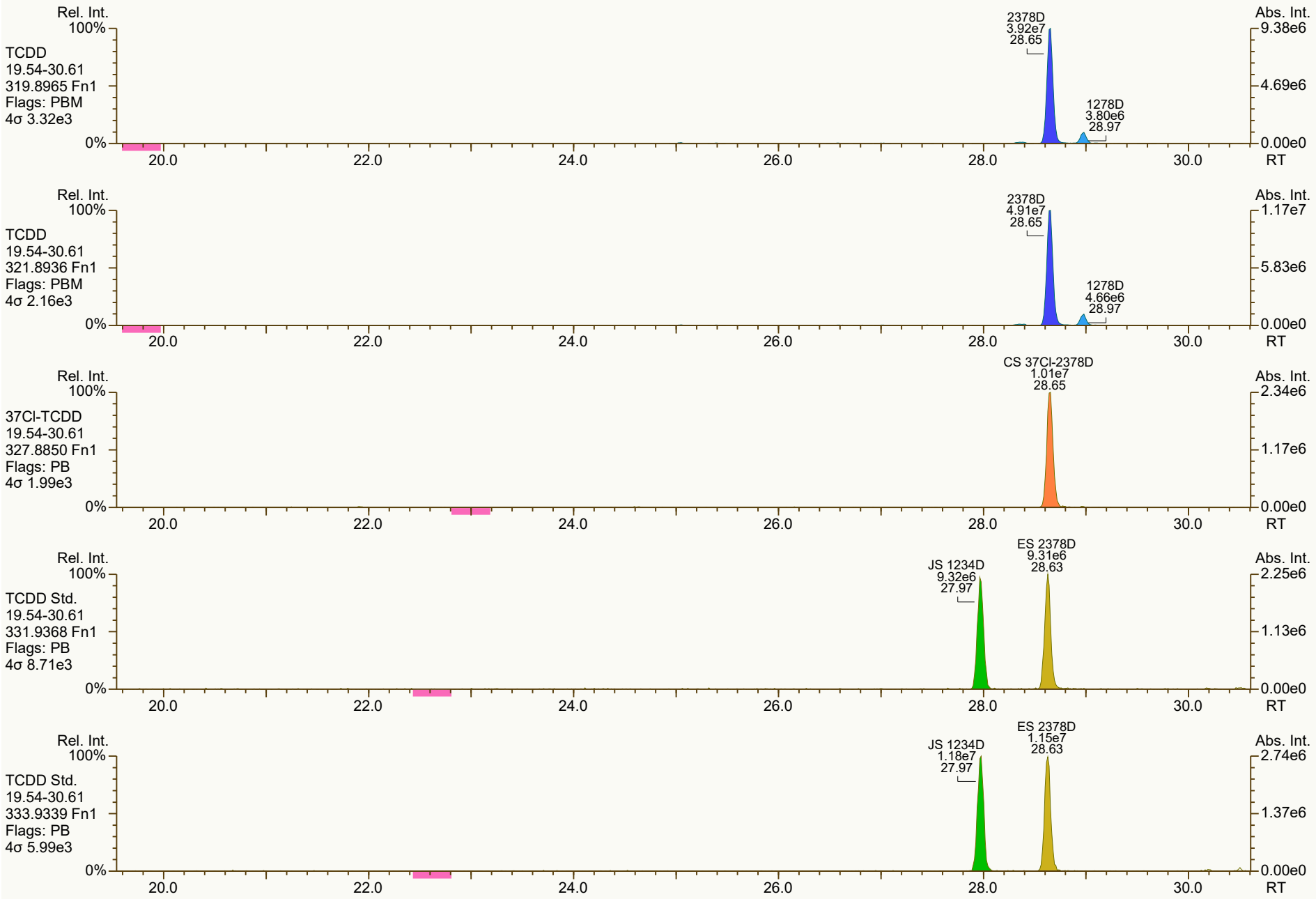
Lab ID: B6153_18829_DF_003 **Acq'd: 21 Jan 2022 18:14 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

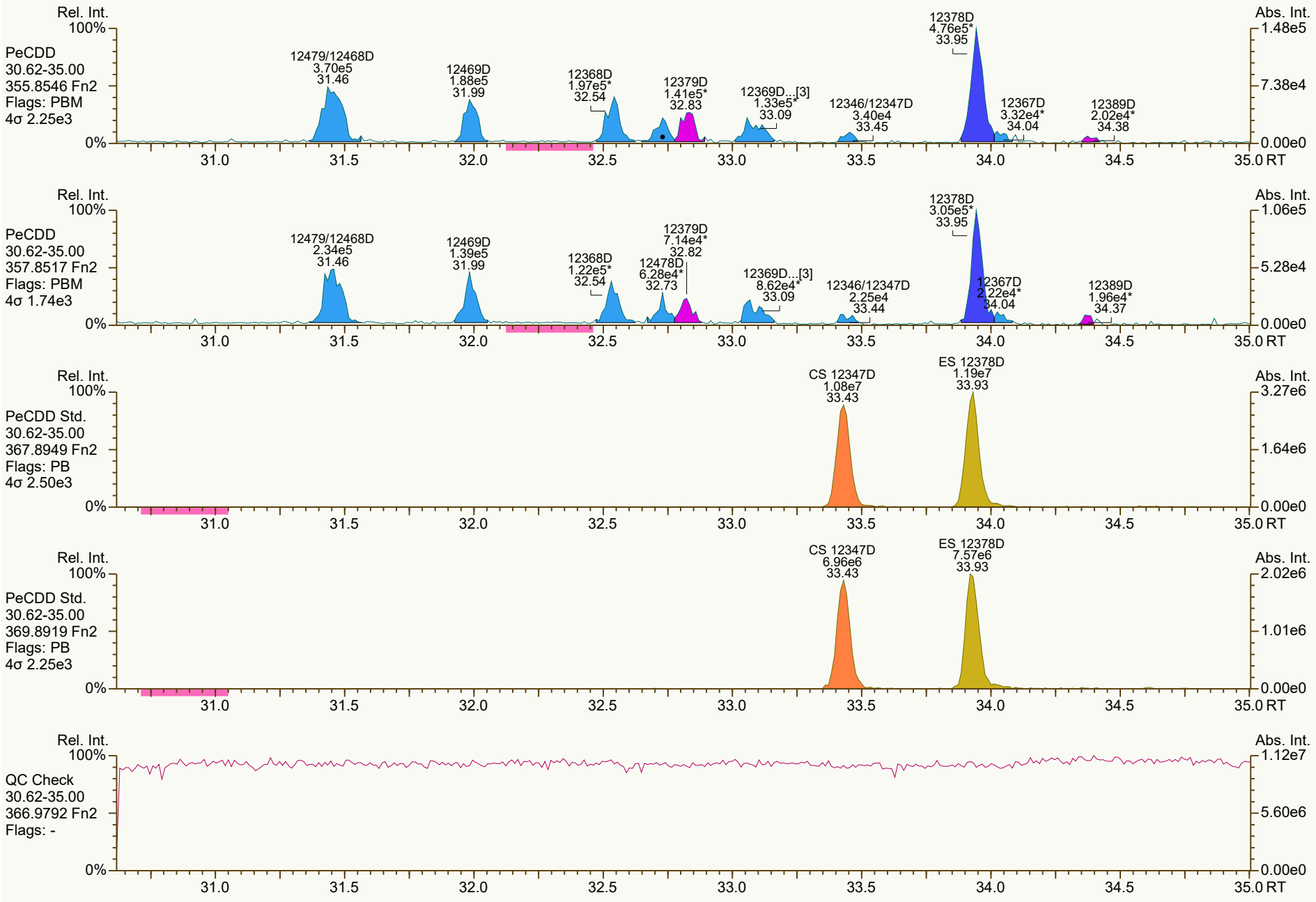
Client ID: 11215131-010622-S-BN-SW-B-14 **UTP: 24-Jan-2022 14:42:54 PSW** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 922-952-HTM**

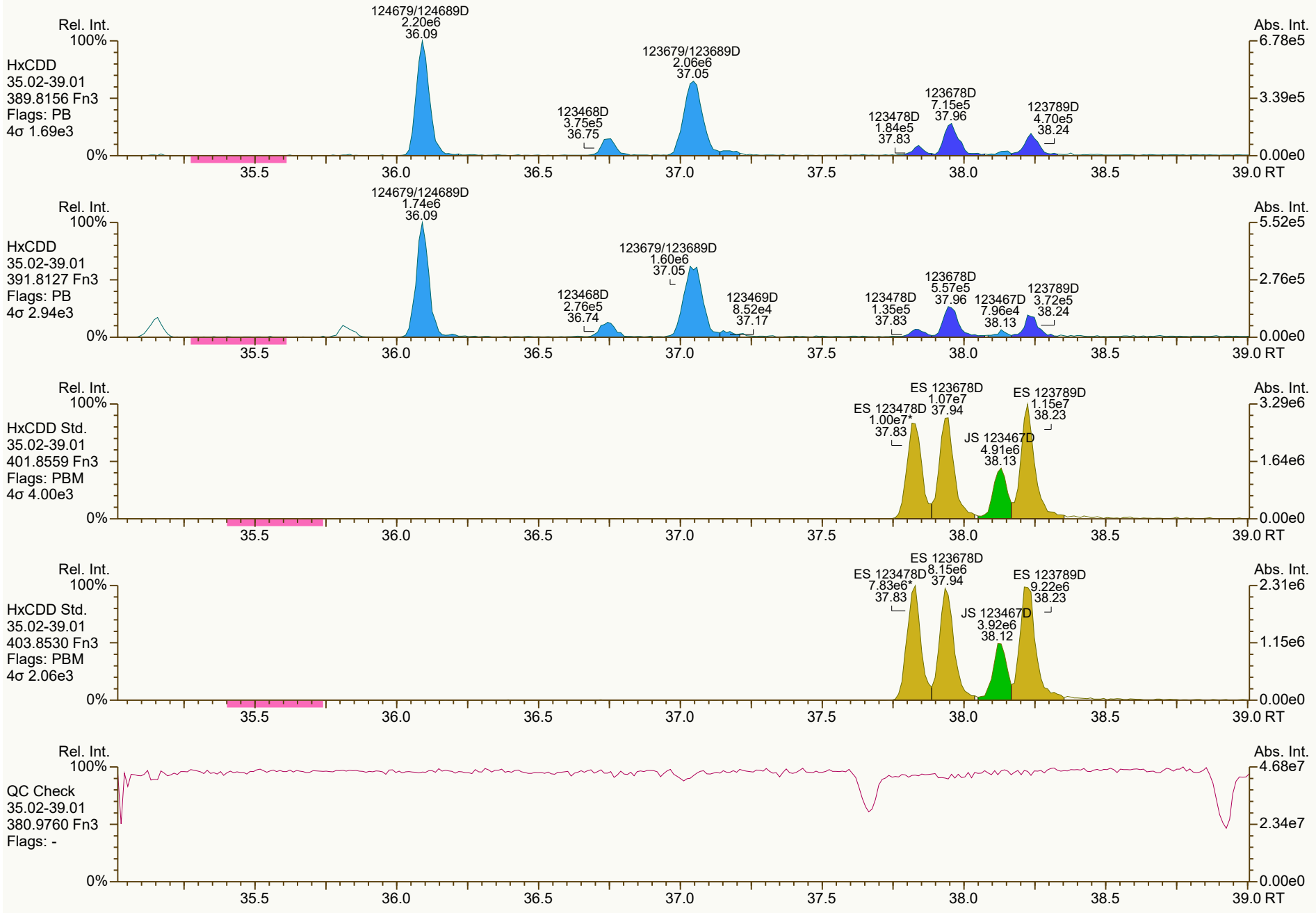
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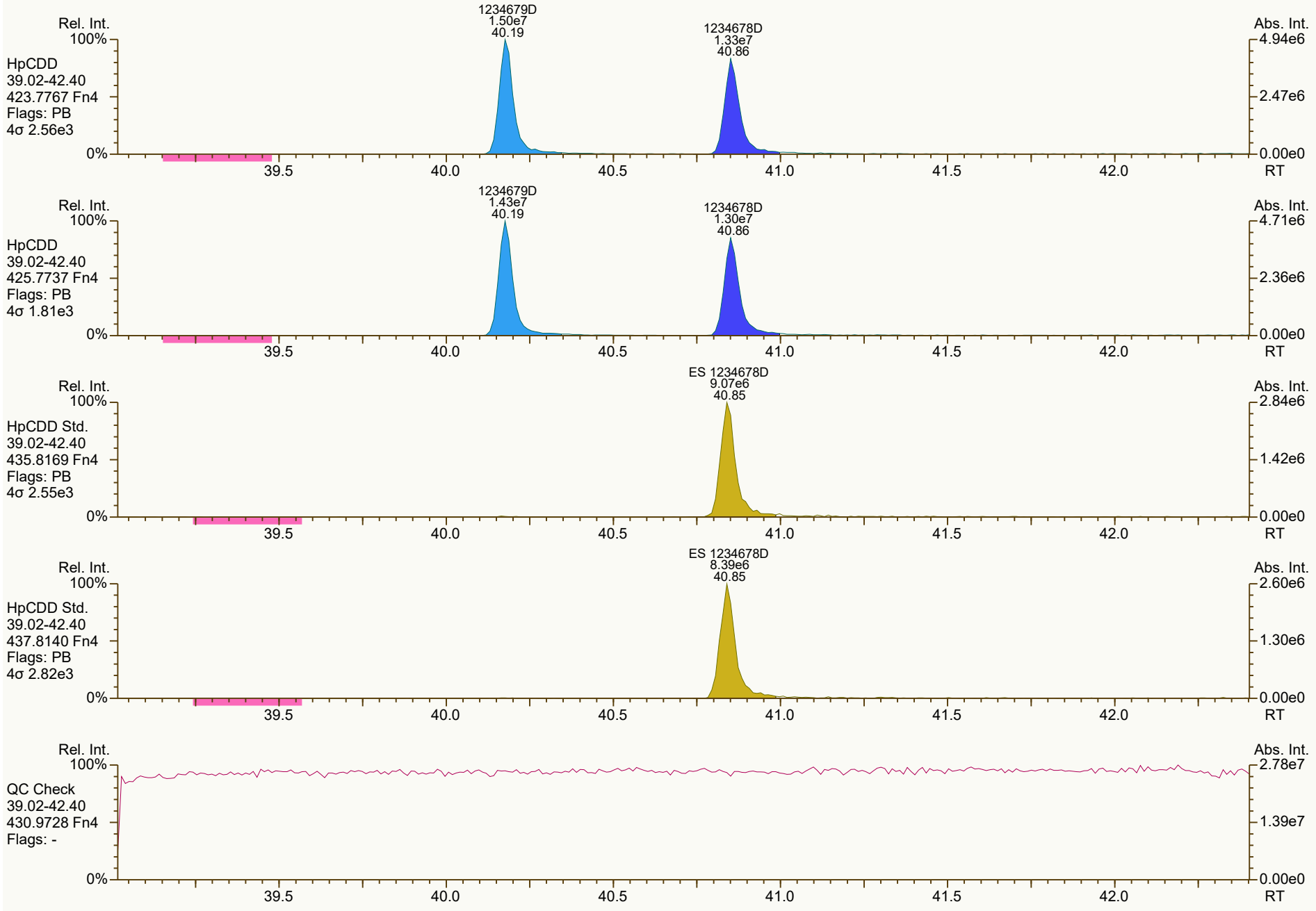
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07		0.9868	0.9869	+0.2	5.22E+05	1.62	Y	1.02	3.14	7608.131	0.421
12347-PeCDF	32.15	J	0.9895	0.9892	-0.6	3.85E+05	1.75	Y	1.02	2.32	7608.131	0.421
12348-PeCDF	32.30		0.9941	0.9940	-0.2	2.32E+06	1.64	Y	1.02	13.9	7608.131	0.421
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**3.23E+07**	**1.49**	**Y**	**1.02**	**197**	**7608.131**	**0.437**
12678/12367-PeCDF	32.80		1.0090	1.0095	+1.0	9.27E+06	1.52	Y	1.02	55.8	7608.131	0.421
12379-PeCDF	NotFnd		1.0142						1.02		7608.131	0.421
12679-PeCDF	NotFnd		0.9931						1.02		7608.131	0.421
23467/12369-PeCDF	33.48	J	0.9966	0.9965	-0.2	3.34E+05	1.73	Y	1.02	2.01	7608.131	0.421
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**2.02E+07**	**1.53**	**Y**	**1.02**	**120**	**7608.131**	**0.405**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7608.131	0.421
12349-PeCDF	NotFnd		1.0101						1.02		7608.131	0.421
12389-PeCDF	34.69		1.0322	1.0323	+0.2	9.82E+05	1.58	Y	1.02	5.91	7608.131	0.421
123468-HxCDF	35.45		0.9627	0.9629	+0.4	1.09E+06	1.27	Y	1.19	7.41	4464.027	0.268
124678/134678-HxCDF	35.65		0.9684	0.9683	-0.2	6.86E+06	1.28	Y	1.19	46.5	4464.027	0.268
134679-HxCDF	35.88	J EMPC	0.9747	0.9745	-0.4	4.97E+04	1.58	N	1.19	0.337	4464.027	0.268
124679-HxCDF	36.07	J	0.9802	0.9798	-0.9	1.58E+05	1.10	Y	1.19	1.07	4464.027	0.268
124689-HxCDF	36.30		0.9858	0.9858	0	3.20E+06	1.25	Y	1.19	21.7	4464.027	0.268
123467-HxCDF	36.71		0.9972	0.9971	-0.2	5.85E+05	1.09	Y	1.19	3.96	4464.027	0.268
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**5.46E+07**	**1.24**	**Y**	**1.27**	**363**	**4464.027**	**0.263**
123678-HxCDF	**36.98**		**1.0004**	**1.0004**	**0**	**1.76E+07**	**1.28**	**Y**	**1.15**	**108**	**4464.027**	**0.249**
123479-HxCDF	37.14		1.0051	1.0046	-1.1	6.21E+05	1.16	Y	1.19	4.21	4464.027	0.268
123469-HxCDF	37.29		1.0091	1.0088	-0.7	4.20E+05	1.19	Y	1.19	2.85	4464.027	0.268
123679-HxCDF	37.43	J	0.9943	0.9942	-0.2	1.63E+05	1.16	Y	1.19	1.11	4464.027	0.268
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**3.35E+06**	**1.22**	**Y**	**1.19**	**23.5**	**4464.027**	**0.288**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4464.027	0.268
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4464.027**	**0.278**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62		1.0007	1.0011	+0.9	5.10E+06	1.22	Y	1.19	34.6	4464.027	0.268
1234678-HpCDF	**39.93**		**1.0002**	**1.0003**	**+0.2**	**1.92E+07**	**1.02**	**Y**	**1.37**	**126**	**3270.53**	**0.162**
1234679-HpCDF	40.19		1.0067	1.0066	-0.2	6.32E+05	0.95	Y	1.34	4.76	3270.53	0.195
1234689-HpCDF	40.33		1.0101	1.0103	+0.5	7.75E+06	1.05	Y	1.34	58.5	3270.53	0.195
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**4.86E+06**	**1.06**	**Y**	**1.31**	**42.8**	**3270.53**	**0.237**
OCDF	**43.70**		**1.0002**	**1.0003**	**+0.3**	**1.49E+07**	**0.88**	**Y**	**1.07**	**166**	**4994.491**	**0.607**
OCDF-a	43.69		1.0002	1.0001	-0.3	8.09E+05	2.33	Y	0.07	146	3894.412	7.65

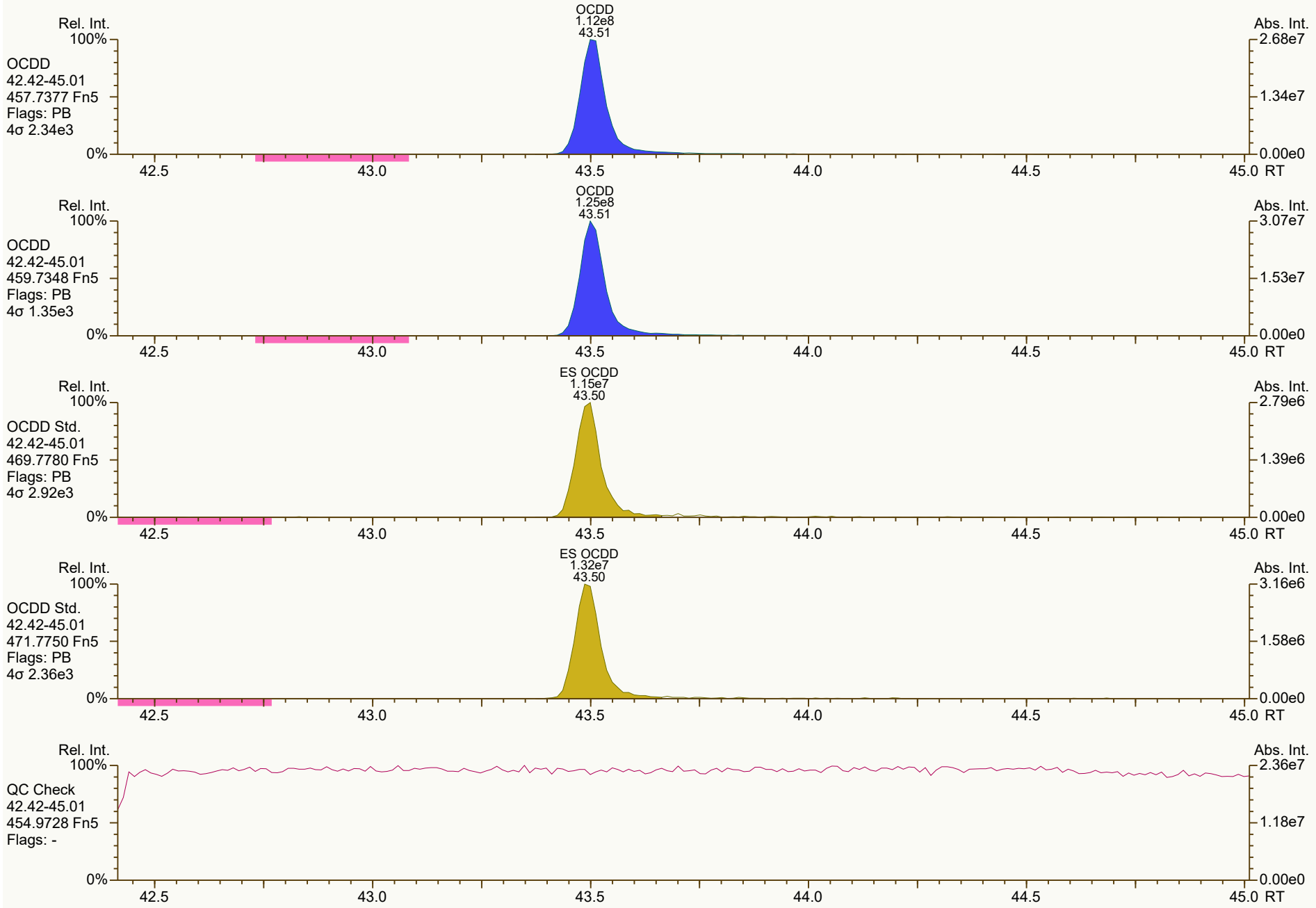

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32.5
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QC Check
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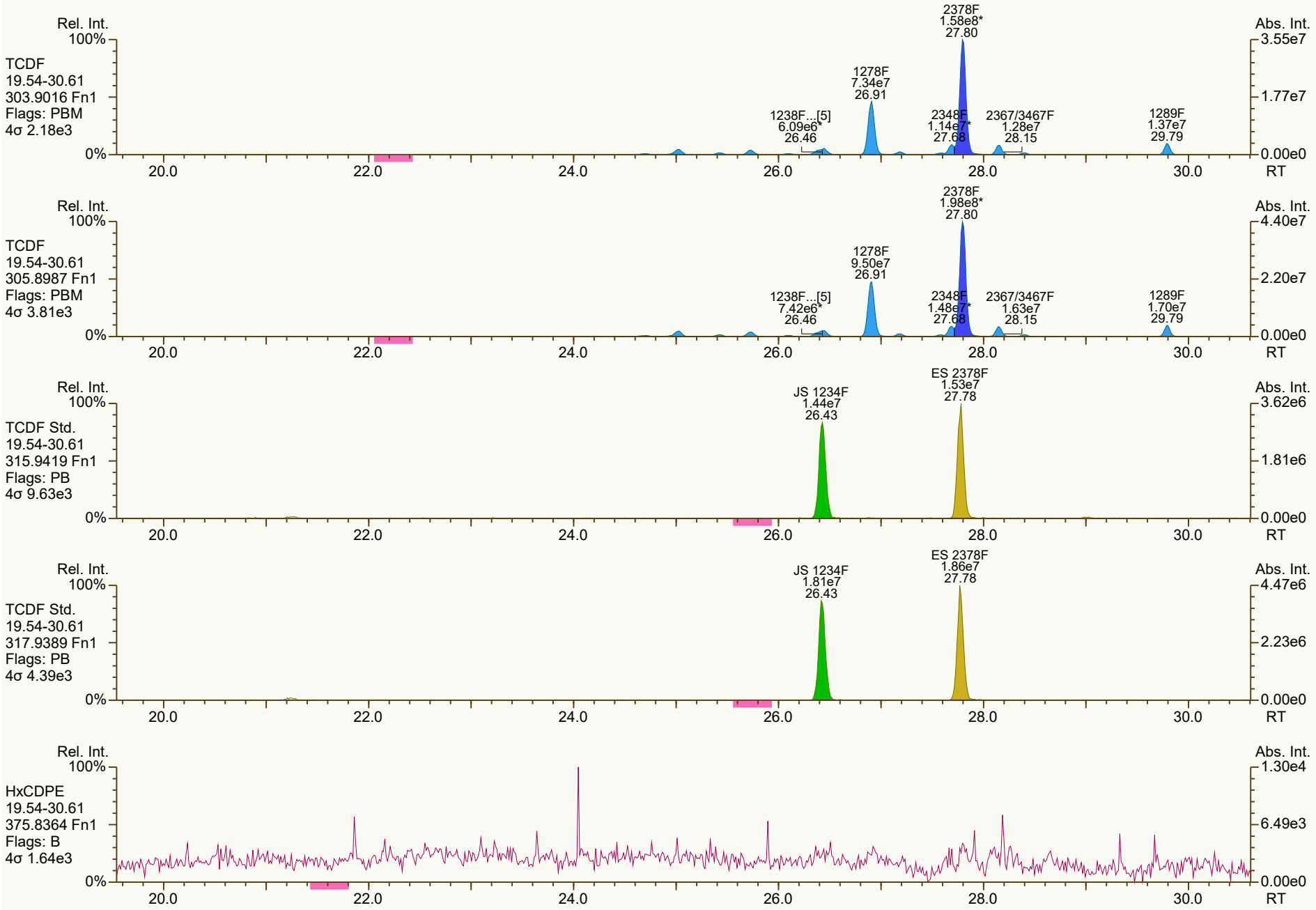

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TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.32e3
0%
2378D
3.92e7
28.65
1278D
3.80e6
28.97
Abs. Int.
9.38e6
4.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.16e3
0%
2378D
4.91e7
28.65
1278D
4.66e6
28.97
Abs. Int.
1.17e7
5.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.99e3
0%
CS 37Cl-2378D
1.01e7
28.65
Abs. Int.
2.34e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 8.71e3
0%
JS 1234D
9.32e6
27.97
ES 2378D
9.31e6
28.63
Abs. Int.
2.25e6
1.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.99e3
0%
JS 1234D
1.18e7
27.97
ES 2378D
1.15e7
28.63
Abs. Int.
2.74e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12479/12468D 3.70e5 31.46
12469D 1.88e5 31.99
12368D 1.97e5* 32.54
12379D 1.41e5* 32.83
12369D...[3] 1.33e5* 33.09
12346/12347D 3.40e4 33.45
12378D 4.76e5* 33.95
12367D 3.32e4* 34.04
12389D 2.02e4* 34.38
Abs. Int.
1.48e5
7.38e4
0.00e0
0%
31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.74e3
12479/12468D 2.34e5 31.46
12469D 1.39e5 31.99
12368D 1.22e5* 32.54
12478D 6.28e4* 32.73
12379D 7.14e4* 32.82
12369D...[3] 8.62e4* 33.09
12346/12347D 2.25e4 33.44
12378D 3.05e5* 33.95
12367D 2.22e4* 34.04
12389D 1.96e4* 34.37
Abs. Int.
1.06e5
5.28e4
0.00e0
0%
31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.50e3
CS 12347D 1.08e7 33.43
ES 12378D 1.19e7 33.93
Abs. Int.
3.27e6
1.64e6
0.00e0
0%
31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.25e3
CS 12347D 6.96e6 33.43
ES 12378D 7.57e6 33.93
Abs. Int.
2.02e6
1.01e6
0.00e0
0%
31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
1.12e7
5.60e6
0.00e0
0%
31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

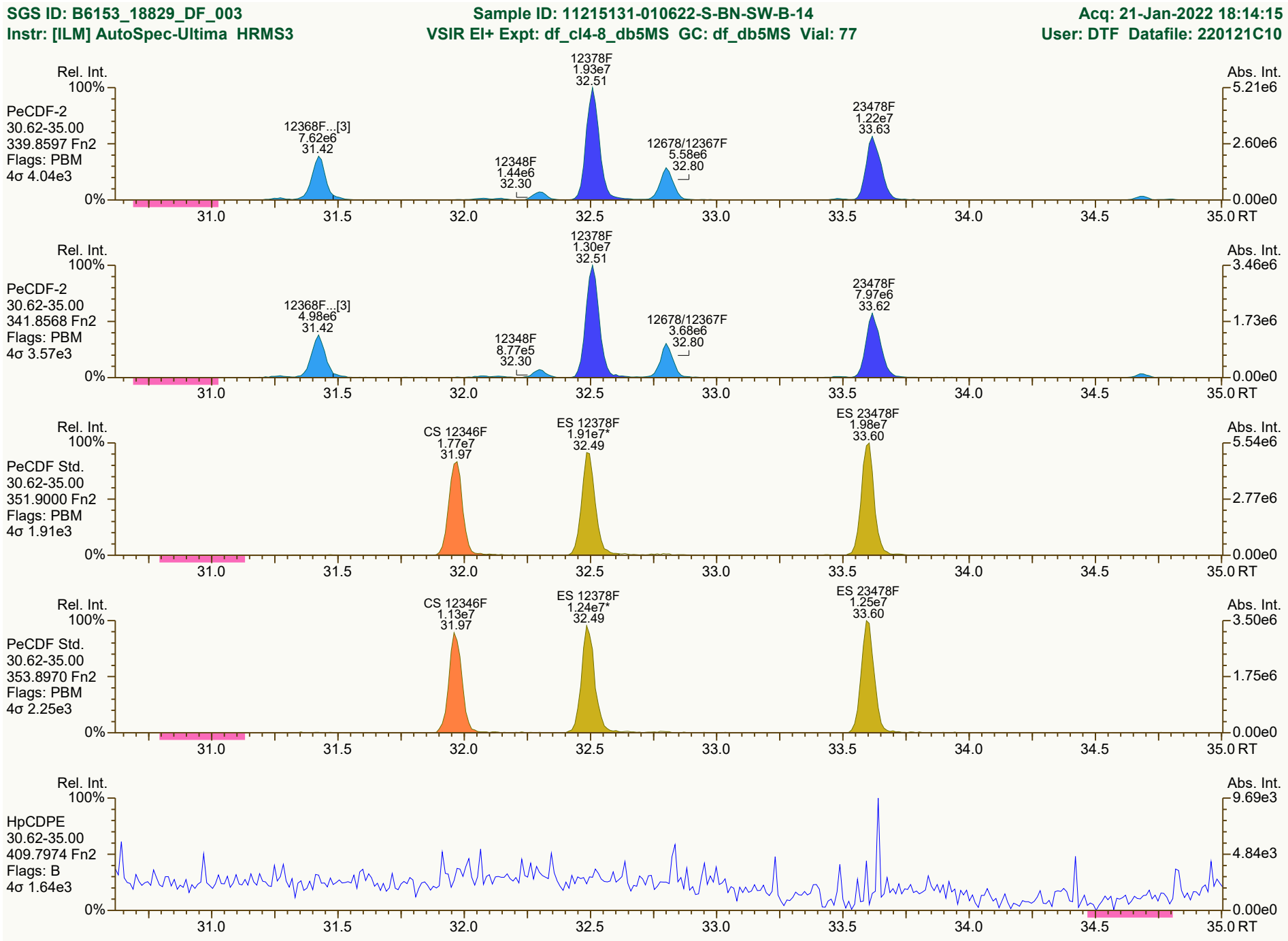

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.69e3
124679/124689D
2.20e6
36.09
123679/123689D
2.06e6
37.05
123468D
3.75e5
36.75
123678D
7.15e5
37.96
123478D
1.84e5
37.83
123789D
4.70e5
38.24
Abs. Int.
6.78e5
3.39e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 2.94e3
124679/124689D
1.74e6
36.09
123679/123689D
1.60e6
37.05
123468D
2.76e5
36.74
123469D
8.52e4
37.17
123678D
5.57e5
37.96
123478D
1.35e5
37.83
123467D
7.96e4
38.13
123789D
3.72e5
38.24
Abs. Int.
5.52e5
2.76e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.00e3
ES 123678D
1.07e7
37.94
ES 123478D
1.00e7*
37.83
ES 123789D
1.15e7
38.23
JS 123467D
4.91e6
38.13
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.06e3
ES 123678D
8.15e6
37.94
ES 123478D
7.83e6*
37.83
ES 123789D
9.22e6
38.23
JS 123467D
3.92e6
38.12
Abs. Int.
2.31e6
1.15e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.56e3
1234679D
1.50e7
40.19
1234678D
1.33e7
40.86
Abs. Int.
4.94e6
2.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.81e3
1234679D
1.43e7
40.19
1234678D
1.30e7
40.86
Abs. Int.
4.71e6
2.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.55e3
ES 1234678D
9.07e6
40.85
Abs. Int.
2.84e6
1.42e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.82e3
ES 1234678D
8.39e6
40.85
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.78e7
1.39e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

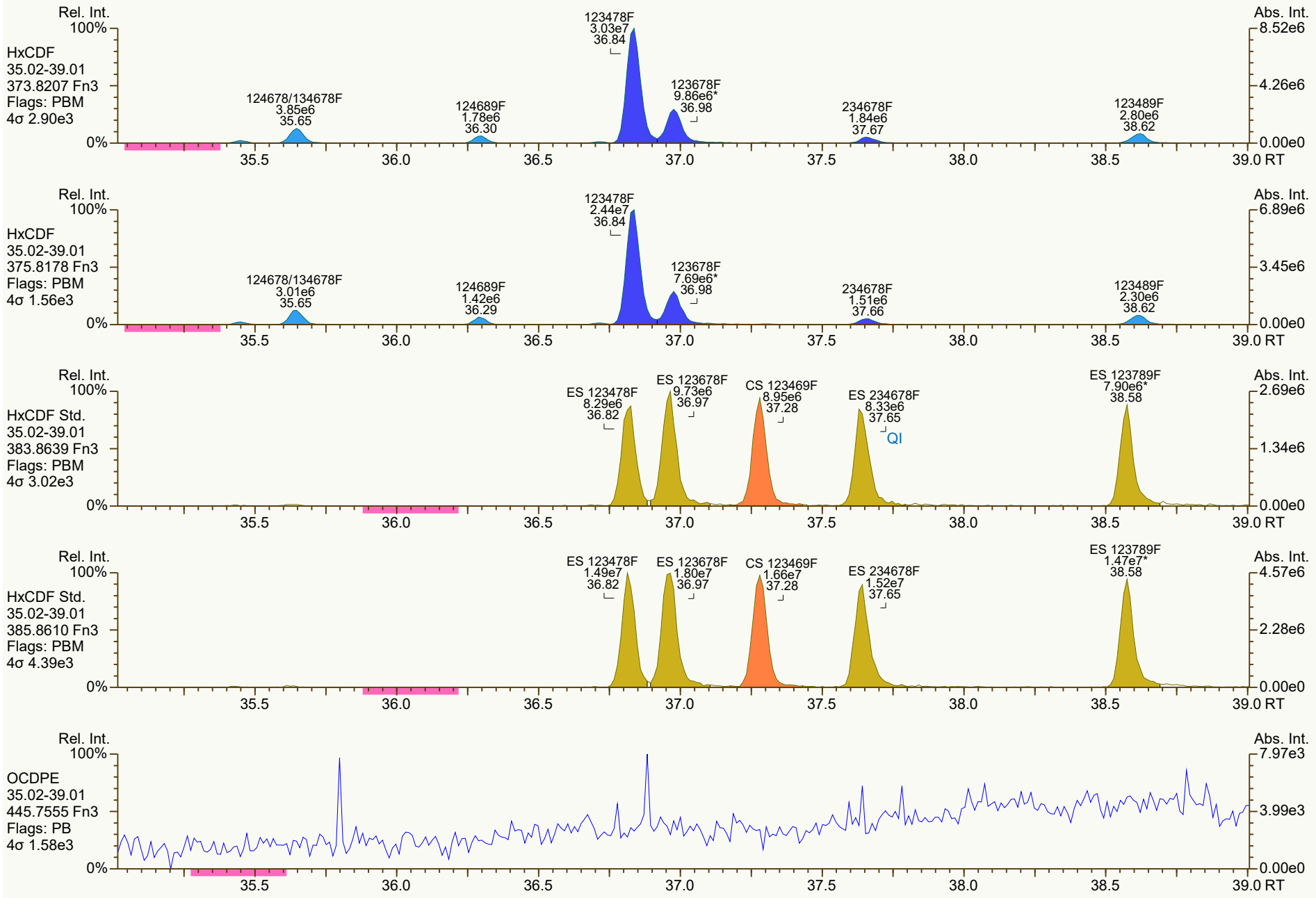

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.34e3
0%
OCDD
1.12e8
43.51
Abs. Int.
2.68e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.35e3
0%
OCDD
1.25e8
43.51
Abs. Int.
3.07e7
1.53e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.92e3
0%
ES OCDD
1.15e7
43.50
Abs. Int.
2.79e6
1.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 2.36e3
0%
ES OCDD
1.32e7
43.50
Abs. Int.
3.16e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.36e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

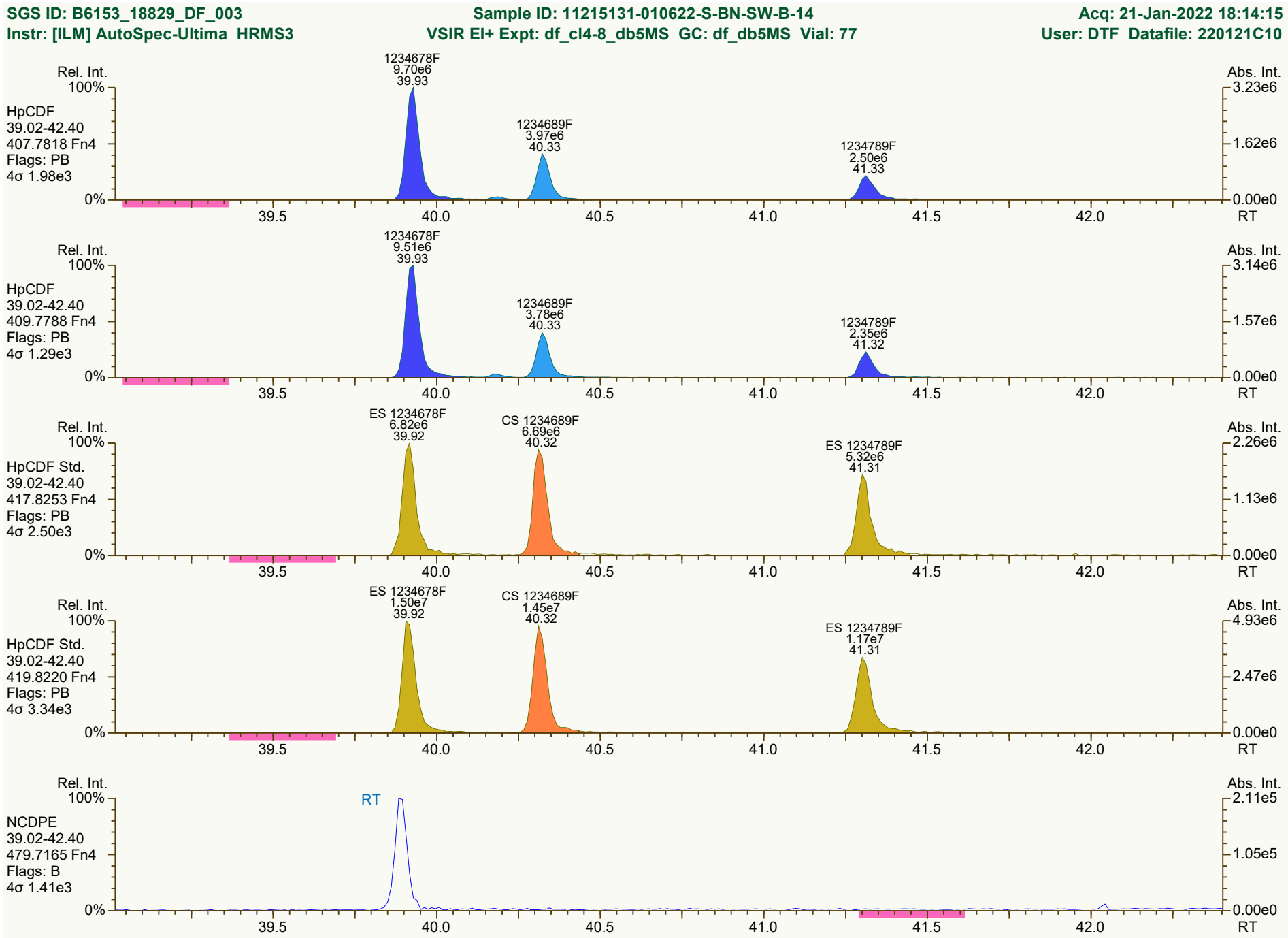

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.18e3
0%
2378F
1.58e8*
27.80
1278F
7.34e7
26.91
1238F...[5]
6.09e6*
26.46
2348F
1.14e7*
27.68
2367/3467F
1.28e7
28.15
1289F
1.37e7
29.79
Abs. Int.
3.55e7
1.77e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.81e3
0%
2378F
1.98e8*
27.80
1278F
9.50e7
26.91
1238F...[5]
7.42e6*
26.46
2348F
1.48e7*
27.68
2367/3467F
1.63e7
28.15
1289F
1.70e7
29.79
Abs. Int.
4.40e7
2.20e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 9.63e3
0%
JS 1234F
1.44e7
26.43
ES 2378F
1.53e7
27.78
Abs. Int.
3.62e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.39e3
0%
JS 1234F
1.81e7
26.43
ES 2378F
1.86e7
27.78
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.63e3
13468/12468F
7.01e5
29.72
Abs. Int.
1.85e5
9.25e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 2.15e3
13468/12468F
4.41e5
29.72
Abs. Int.
1.08e5
5.40e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.40e7
7.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

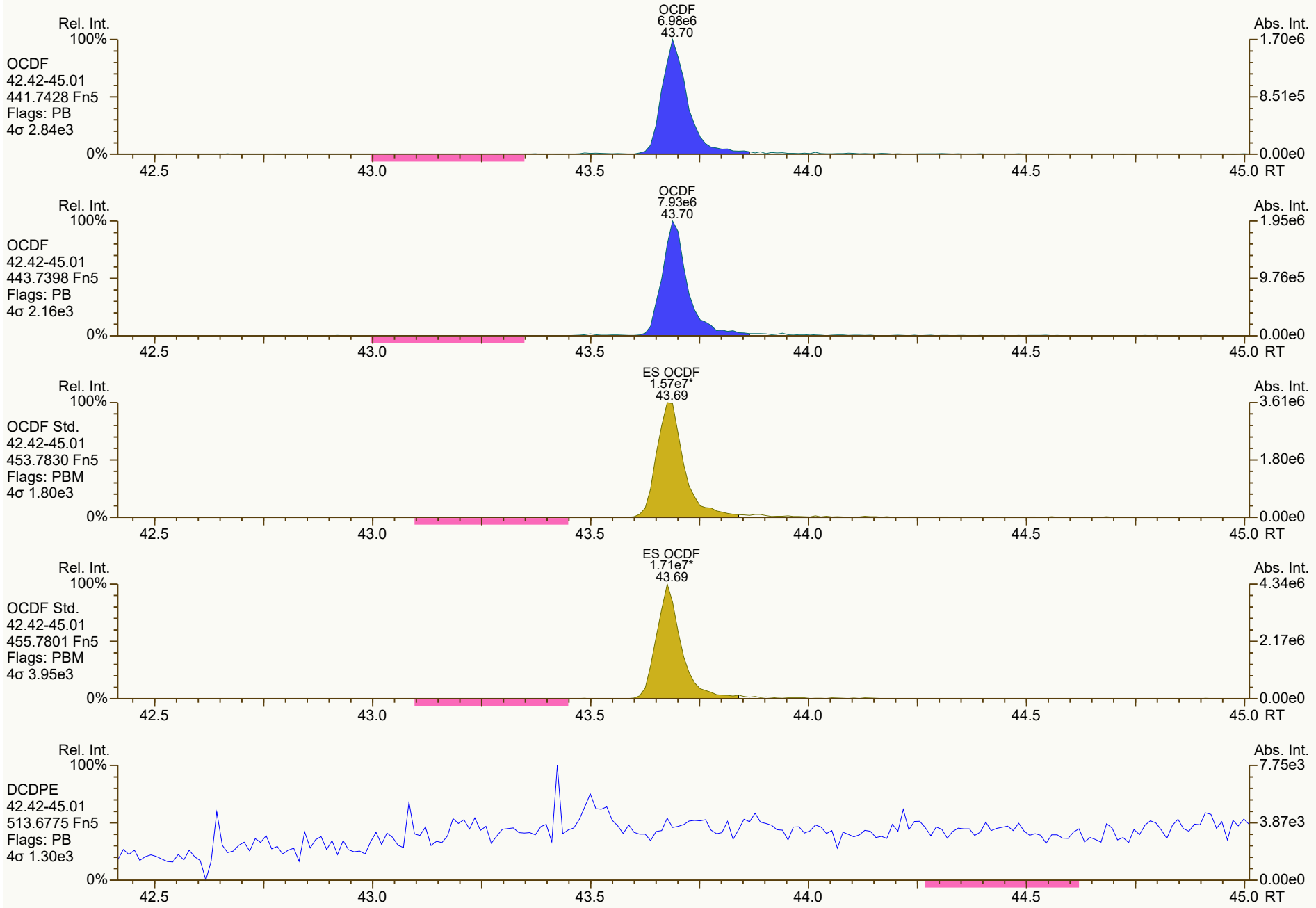


Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_003.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8005, 3952, 2713 scc: 922-952
PKD: 24-Jan-2022 14:32 Printed: 24-Jan-2022 14:54 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.90e3
0%
123478F
3.03e7
36.84
124678/134678F
3.85e6
35.65
124689F
1.78e6
36.30
123678F
9.86e6*
36.98
234678F
1.84e6
37.67
123489F
2.80e6
38.62
Abs. Int.
8.52e6
4.26e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.56e3
123478F
2.44e7
36.84
124678/134678F
3.01e6
35.65
124689F
1.42e6
36.29
123678F
7.69e6*
36.98
234678F
1.51e6
37.66
123489F
2.30e6
38.62
6.89e6
3.45e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.02e3
ES 123478F
8.29e6
36.82
ES 123678F
9.73e6
36.97
CS 123469F
8.95e6
37.28
ES 234678F
8.33e6
37.65
QI
ES 123789F
7.90e6*
38.58
2.69e6
1.34e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.39e3
ES 123478F
1.49e7
36.82
ES 123678F
1.80e7
36.97
CS 123469F
1.66e7
37.28
ES 234678F
1.52e7
37.65
ES 123789F
1.47e7*
38.58
4.57e6
2.28e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.58e3
7.97e3
3.99e3



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_003.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0530, 1818, 5870 scc: 922-952
PKD: 24-Jan-2022 14:32 Printed: 24-Jan-2022 14:54 Page 11 of 12


OCDF
6.98e6
43.70
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.84e3
0%
Abs. Int.
1.70e6
8.51e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.93e6
43.70
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 2.16e3
0%
Abs. Int.
1.95e6
9.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.57e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
3.61e6
1.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.71e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.95e3
0%
Abs. Int.
4.34e6
2.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
7.75e3
3.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6153_18829_DF_004 **Acq'd:** 21 Jan 2022 19:00 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-O-13 **UTP:** 24-Jan-2022 14:42:54 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 858-190-YNT

Datafile: 220121C11 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0006	-0.3	1.03E+06	0.77	Y	1.18	9.2	4886.057	0.446
12378-PeCDD	33.96	J	1.0006	1.0007	+0.2	6.19E+04	1.38	Y	1.04	0.664	3692.229	0.344
123478-HxCDD	37.85	J	1.0004	1.0003	-0.2	8.09E+04	1.41	Y	1.09	0.916	4237.36	0.395
123678-HxCDD	37.96	J EMPC	1.0034	1.0034	0	2.50E+05	1.47	N	1.15	2.41	4237.36	0.371
123789-HxCDD	38.25	J EMPC	1.0109	1.0109	0	1.74E+05	1.45	N	1.05	1.73	4237.36	0.411
1234678-HpCDD	40.88		1.0003	1.0003	0	9.26E+06	1.04	Y	1.06	114	4073.065	0.453
OCDD	43.53		1.0002	1.0003	+0.3	1.88E+08	0.91	Y	1.13	3,000	5061.013	0.856
2378-TCDF	27.80		1.0008	1.0008	0	4.38E+06	0.78	Y	1.08	26.5	6336.902	0.43
12378-PeCDF	32.51	J	1.0005	1.0004	-0.2	1.47E+05	1.40	Y	1.02	1.03	4951.821	0.34
23478-PeCDF	33.63	J EMPC	1.0005	1.0008	+0.6	1.86E+05	1.92	N	1.02	1.27	4951.821	0.329
123478-HxCDF	36.84	J	1.0004	1.0005	+0.2	2.55E+05	1.22	Y	1.27	1.88	4835.338	0.294
123678-HxCDF	36.99	J	1.0004	1.0005	+0.2	1.58E+05	1.31	Y	1.15	1.04	4835.338	0.309
234678-HxCDF	37.67	J	1.0004	1.0004	0	1.16E+05	1.34	Y	1.19	0.874	4835.338	0.335
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4835.338	0.384
1234678-HpCDF	39.94		1.0002	1.0002	0	1.90E+06	1.00	Y	1.37	14	3661.618	0.198
1234789-HpCDF	41.33	J	1.0003	1.0001	-0.5	1.16E+05	1.17	Y	1.31	1.17	3661.618	0.311
OCDF	43.72		1.0002	1.0002	0	7.13E+06	0.88	Y	1.07	90	3590.788	0.505

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0236	+0.5	1.88E+07	0.81	Y	1.05	95.8
ES 12378-PeCDD	33.94	1.2121	1.2134	+2.6	1.78E+07	1.54	Y	0.88	108
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.61E+07	1.24	Y	0.97	103
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.79E+07	1.29	Y	0.94	118
ES 123789-HxCDD	38.24	1.0025	1.0028	+0.7	1.90E+07	1.33	Y	1.09	108
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.52E+07	1.07	Y	0.91	104
ES OCDD	43.52	1.1403	1.1413	+2.6	2.20E+07	0.92	Y	0.62	110
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	3.03E+07	0.83	Y	1.06	93.1
ES 12378-PeCDF	32.50	1.2281	1.2298	+3.3	2.76E+07	1.54	Y	0.91	98.7
ES 23478-PeCDF	33.60	1.2698	1.2716	+3.6	2.84E+07	1.59	Y	0.88	105
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.12E+07	0.52	Y	1.20	110
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.62E+07	0.55	Y	1.35	120
ES 234678-HxCDF	37.65	0.9874	0.9874	0	2.21E+07	0.52	Y	1.24	110
ES 123789-HxCDF	38.59	1.0116	1.0119	+0.7	1.94E+07	0.53	Y	1.16	104
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.96E+07	0.45	Y	0.97	126
ES 1234789-HpCDF	41.33	1.0830	1.0837	+1.7	1.50E+07	0.45	Y	0.85	110
ES OCDF	43.71	1.1451	1.1462	+2.9	2.92E+07	0.93	Y	0.81	113

Lab ID: B6153_18829_DF_004 **Acq'd:** 21 Jan 2022 19:00 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-O-13 **UTP:** 24-Jan-2022 14:42:54 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 858-190-YNT

Datafile: 220121C11 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.87E+07	0.84	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.07E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	8.03E+06	1.35	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.56E+06	n/a	-	1.20	95	
CS 12347-PeCDD	33.44		1.1943	1.1955	+2.4	1.59E+07	1.65	Y	0.75	113	
CS 12346-PeCDF	31.97		1.2083	1.2098	+2.9	2.80E+07	1.53	Y	0.85	107	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.32E+07	0.57	Y	1.12	129	
CS 1234689-HpCDF	40.33	V	1.0571	1.0577	+1.5	1.92E+07	0.44	Y	0.89	135	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.56E+06~~	~~n/a~~		~~1.15~~	~~99.4~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1955~~	~~+2.4~~	~~1.59E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~104~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~2.80E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~109~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.32E+07~~	~~0.57~~	~~Y~~	~~0.83~~	~~107~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.92E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~107~~	

Totals	Conc	EMPC
Total TCDD	11.5	11.5
Total PeCDD	3	4.4
Total HxCDD	27.6	35.9
Total HpCDD	327	327
Total Tetra-Octa Dioxins	3370	3380
Total TCDF	55.2	55.9
Total PeCDF	8.22	10.3
Total HxCDF	16.6	16.6
Total HpCDF	37.6	37.6
Total Tetra-Octa Furans	208	210
Total Tetra-Octa Dioxins & Furans	3570	3590

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.764	0.77
Response	1.04E+06	1.03E+06

Lab ID: B6153_18829_DF_004 **Acq'd: 21 Jan 2022 19:00 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-O-13 **UTP: 24-Jan-2022 14:42:54 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 858-190-YNT**

Datafile: 220121C11 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4886.057	0.446
1379-TCDD	NotFnd		0.8876						1.18		4886.057	0.446
1369-TCDD	NotFnd		0.9023						1.18		4886.057	0.446
1469-TCDD	26.58		0.9291	0.9284	-1.1	1.43E+05	0.76	Y	1.18	1.28	4886.057	0.446
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4886.057	0.446
1378-TCDD	NotFnd		0.9440						1.18		4886.057	0.446
1268-TCDD	NotFnd		0.9506						1.18		4886.057	0.446
1478-TCDD	NotFnd		0.9591						1.18		4886.057	0.446
1279-TCDD	NotFnd		0.9649						1.18		4886.057	0.446
1234/1269-TCDD	NotFnd		0.9771						1.18		4886.057	0.446
1236-TCDD	NotFnd		0.9820						1.18		4886.057	0.446
1237/1238-TCDD	NotFnd		0.9908						1.18		4886.057	0.446
1239-TCDD	NotFnd		0.9954						1.18		4886.057	0.446
2378-TCDD	**28.65**		**1.0008**	1.0006	**-0.3**	1.03E+06	0.77	Y	**1.18**	**9.2**	**4886.057**	**0.446**
1278-TCDD	28.98		1.0121	1.0121	0	1.14E+05	0.68	Y	1.18	1.01	4886.057	0.446
1267-TCDD	NotFnd		1.0167						1.18		4886.057	0.446
1289-TCDD	NotFnd		1.0341						1.18		4886.057	0.446
12479/12468-PeCDD	31.45	J	0.9273	0.9268	-0.9	8.80E+04	1.44	Y	1.04	0.944	3692.229	0.344
12469-PeCDD	31.99	J	0.9430	0.9426	-0.8	1.30E+05	1.47	Y	1.04	1.4	3692.229	0.344
12368-PeCDD	32.53	J EMPC	0.9592	0.9586	-1.2	3.09E+04	1.95	N	1.04	0.332	3692.229	0.344
12478-PeCDD	32.73	J EMPC	0.9647	0.9646	-0.2	3.49E+04	2.07	N	1.04	0.374	3692.229	0.344
12379-PeCDD	NotFnd		0.9676						1.04		3692.229	0.344
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9751	-0.2	6.42E+04	1.31	N	1.04	0.689	3692.229	0.344
12346/12347-PeCDD	NotFnd		0.9860						1.04		3692.229	0.344
12378-PeCDD	33.96	J	**1.0006**	**1.0007**	**+0.2**	**6.19E+04**	**1.38**	**Y**	**1.04**	**0.664**	**3692.229**	**0.344**
12367-PeCDD	NotFnd		1.0034						1.04		3692.229	0.344
12389-PeCDD	NotFnd		1.0134						1.04		3692.229	0.344
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	1.52E+06	1.34	Y	1.10	15.6	4237.36	0.392
123468-HxCDD	36.75	J EMPC	0.9715	0.9715	0	1.54E+05	1.00	N	1.10	1.58	4237.36	0.392
123679/123689-HxCDD	37.05		0.9793	0.9793	0	1.09E+06	1.19	Y	1.10	11.2	4237.36	0.392
123469-HxCDD	37.18	J EMPC	0.9829	0.9827	-0.4	1.97E+05	1.48	N	1.10	2.02	4237.36	0.392
123478-HxCDD	37.85	J	**1.0004**	**1.0003**	**-0.2**	**8.09E+04**	**1.41**	**Y**	1.09	**0.916**	**4237.36**	**0.395**
123678-HxCDD	37.96	J EMPC	**1.0034**	**1.0034**	**0**	**2.50E+05**	**1.47**	**N**	1.15	**2.41**	**4237.36**	**0.371**
123467-HxCDD	38.15	J EMPC	1.0082	1.0085	+0.7	4.74E+04	1.53	N	1.10	0.486	4237.36	0.392
123789-HxCDD	38.25	J EMPC	**1.0109**	**1.0109**	**0**	**1.74E+05**	**1.45**	**N**	1.05	**1.73**	**4237.36**	**0.411**

Lab ID: B6153_18829_DF_004 **Acq'd:** 21 Jan 2022 19:00 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-O-13 **UTP:** 24-Jan-2022 14:42:54 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 858-190-YNT

Datafile: 220121C11 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

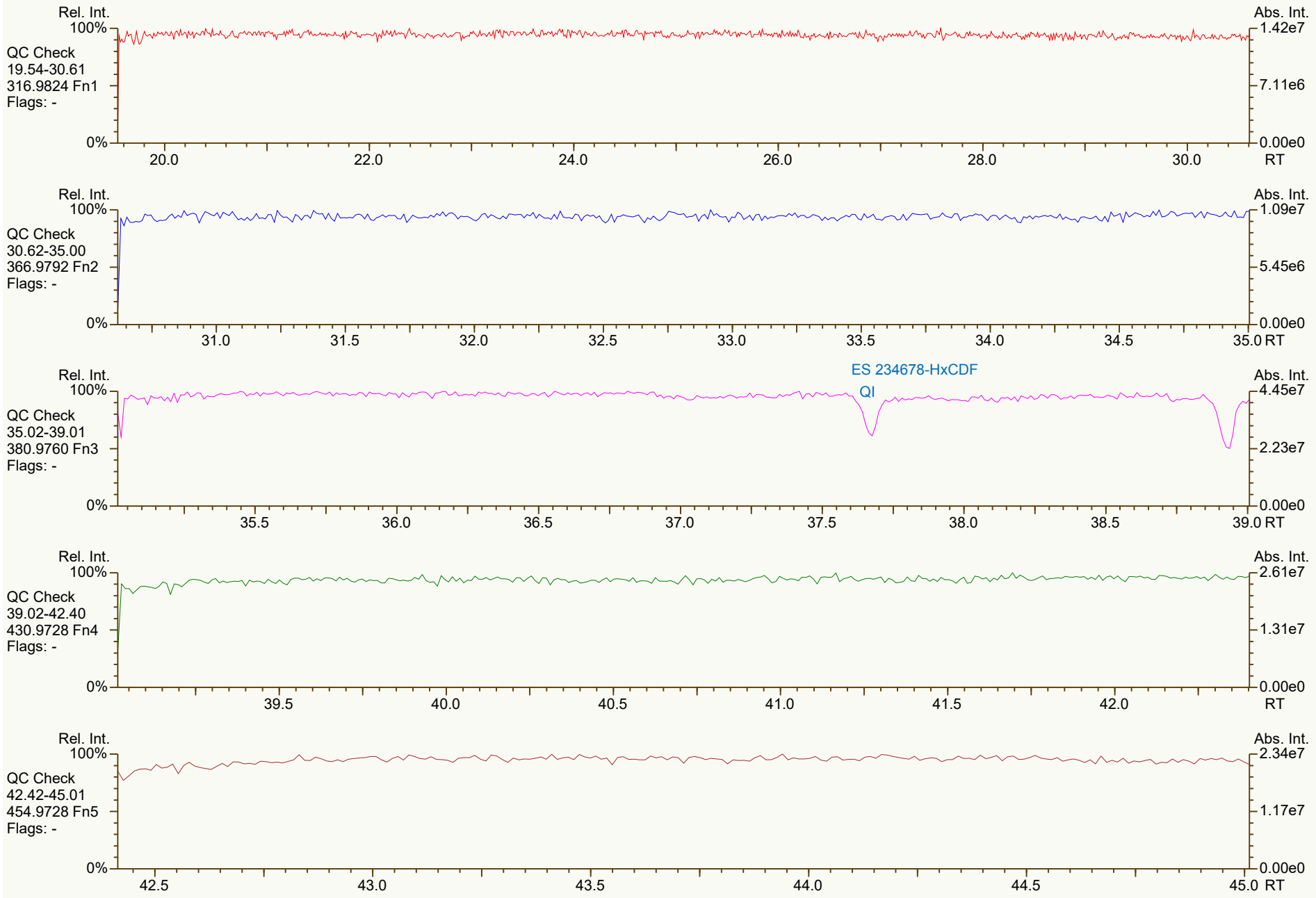
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	1.73E+07	1.04	Y	1.06	213	4073.065	0.453
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**9.26E+06**	**1.04**	**Y**	**1.06**	**114**	**4073.065**	**0.453**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.88E+08**	**0.91**	**Y**	**1.13**	**3,000**	**5061.013**	**0.856**
OCDD-a	43.52		1.0002	1.0000	-0.5	1.08E+07	2.50	Y	0.07	2,690	4095.131	10.8
1368-TCDF	NotFnd		0.8282						1.08		6336.902	0.43
1468-TCDF	NotFnd		0.8485						1.08		6336.902	0.43
2468-TCDF	24.16		0.8709	0.8699	-1.4	1.42E+05	0.83	Y	1.08	0.864	6336.902	0.43
1346/1246-TCDF	NotFnd		0.8829						1.08		6336.902	0.43
1347/1378/1247-TCDF	24.69		0.8884	0.8889	+0.7	1.64E+05	0.78	Y	1.08	0.997	6336.902	0.43
1348-TCDF	NotFnd		0.8980						1.08		6336.902	0.43
1248/1367/1379-TCDF	25.02		0.9026	0.9008	-2.7	1.79E+05	0.79	Y	1.08	1.08	6336.902	0.43
1268-TCDF	25.42		0.9158	0.9151	-1.1	1.17E+05	0.88	Y	1.08	0.707	6336.902	0.43
1467-TCDF	NotFnd		0.9206						1.08		6336.902	0.43
1478-TCDF	25.73		0.9266	0.9262	-0.6	2.34E+05	0.79	Y	1.08	1.42	6336.902	0.43
1369/1237-TCDF	NotFnd		0.9397						1.08		6336.902	0.43
2467-TCDF	NotFnd		0.9440						1.08		6336.902	0.43
2368-TCDF	26.37		0.9497	0.9494	-0.5	2.39E+05	0.83	Y	1.08	1.45	6336.902	0.43
1238/1234/1678/1469/1236-TCDF	26.47		0.9528	0.9528	0	3.06E+05	0.83	Y	1.08	1.85	6336.902	0.43
1278-TCDF	26.91		0.9690	0.9687	-0.5	1.46E+06	0.82	Y	1.08	8.87	6336.902	0.43
1349-TCDF	NotFnd		0.9730						1.08		6336.902	0.43
1267-TCDF	27.18		0.9787	0.9786	-0.2	2.12E+05	0.68	Y	1.08	1.29	6336.902	0.43
2346/1249-TCDF	NotFnd		0.9850						1.08		6336.902	0.43
2347/1279-TCDF	27.57	EMPC	0.9929	0.9926	-0.5	1.05E+05	0.91	N	1.08	0.637	6336.902	0.43
2348-TCDF	27.68		0.9970	0.9966	-0.7	2.17E+05	0.87	Y	1.08	1.31	6336.902	0.43
2378-TCDF	**27.80**		**1.0008**	**1.0008**	**0**	**4.38E+06**	**0.78**	**Y**	**1.08**	**26.5**	**6336.902**	**0.43**
2367/3467-TCDF	28.15		1.0136	1.0134	-0.3	7.35E+05	0.78	Y	1.08	4.46	6336.902	0.43
1269-TCDF	28.39		1.0221	1.0221	0	2.64E+05	0.69	Y	1.08	1.6	6336.902	0.43
1239-TCDF	NotFnd		1.0319						1.08		6336.902	0.43
1289-TCDF	29.80		1.0740	1.0727	-2.3	4.57E+05	0.78	Y	1.08	2.77	6336.902	0.43
13468/12468-PeCDF	29.71		0.9145	0.9143	-0.4	3.74E+05	1.61	Y	1.02	2.59	4200.034	0.284
13678/13467/12467-PeCDF	31.27	J	0.9619	0.9622	+0.6	9.93E+04	1.51	Y	1.02	0.688	4951.821	0.335
12368/13478/12478-PeCDF	31.41	J	0.9665	0.9665	0	3.45E+05	1.39	Y	1.02	2.39	4951.821	0.335
14678-PeCDF	31.49	J	0.9695	0.9691	-0.8	5.74E+04	1.46	Y	1.02	0.398	4951.821	0.335
13479-PeCDF	NotFnd		0.9724						1.02		4951.821	0.335
13469/12479-PeCDF	NotFnd		0.9801						1.02		4951.821	0.335
12346-PeCDF	NotFnd		0.9842						1.02		4951.821	0.335

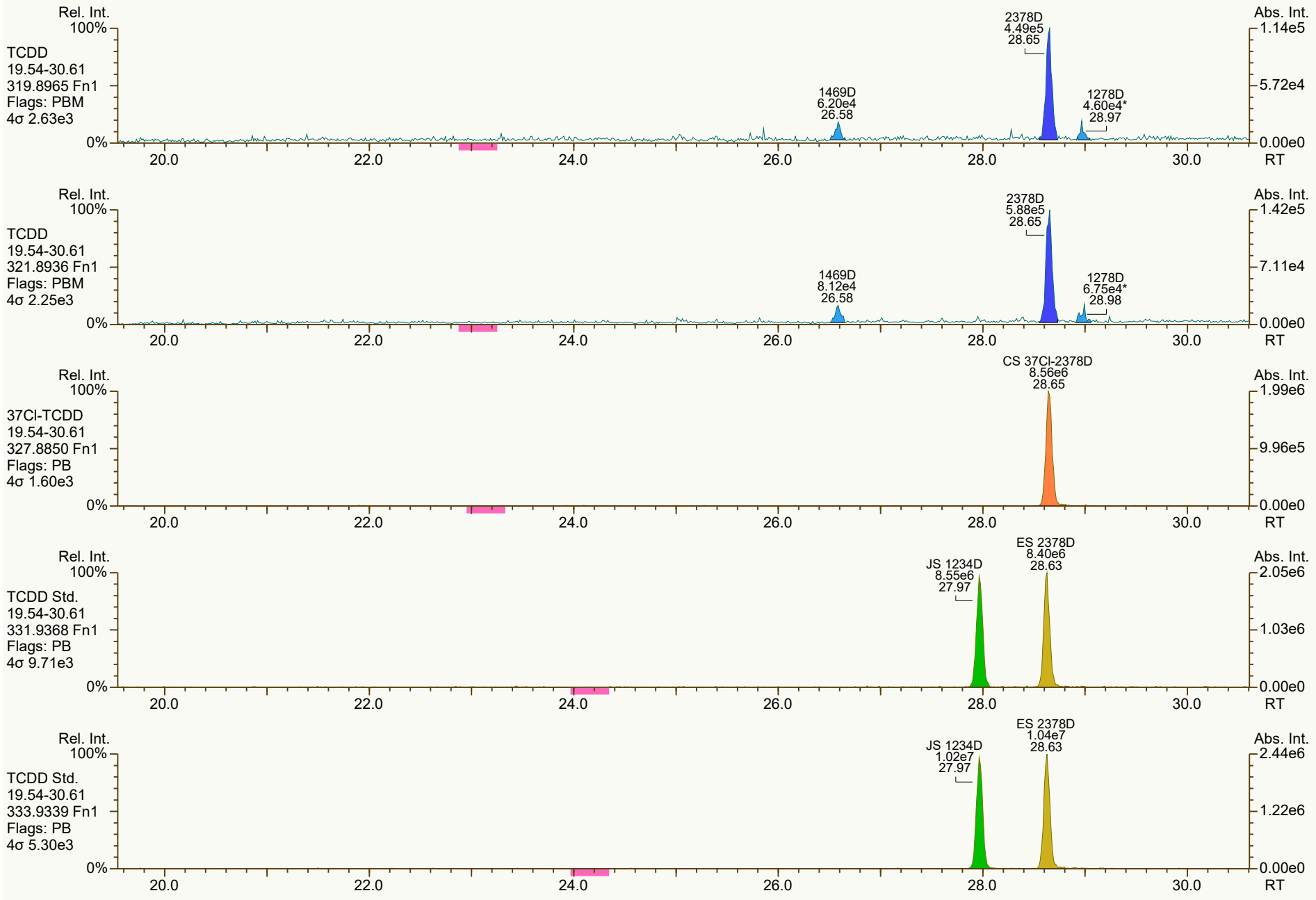
Lab ID: B6153_18829_DF_004 **Acq'd: 21 Jan 2022 19:00 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

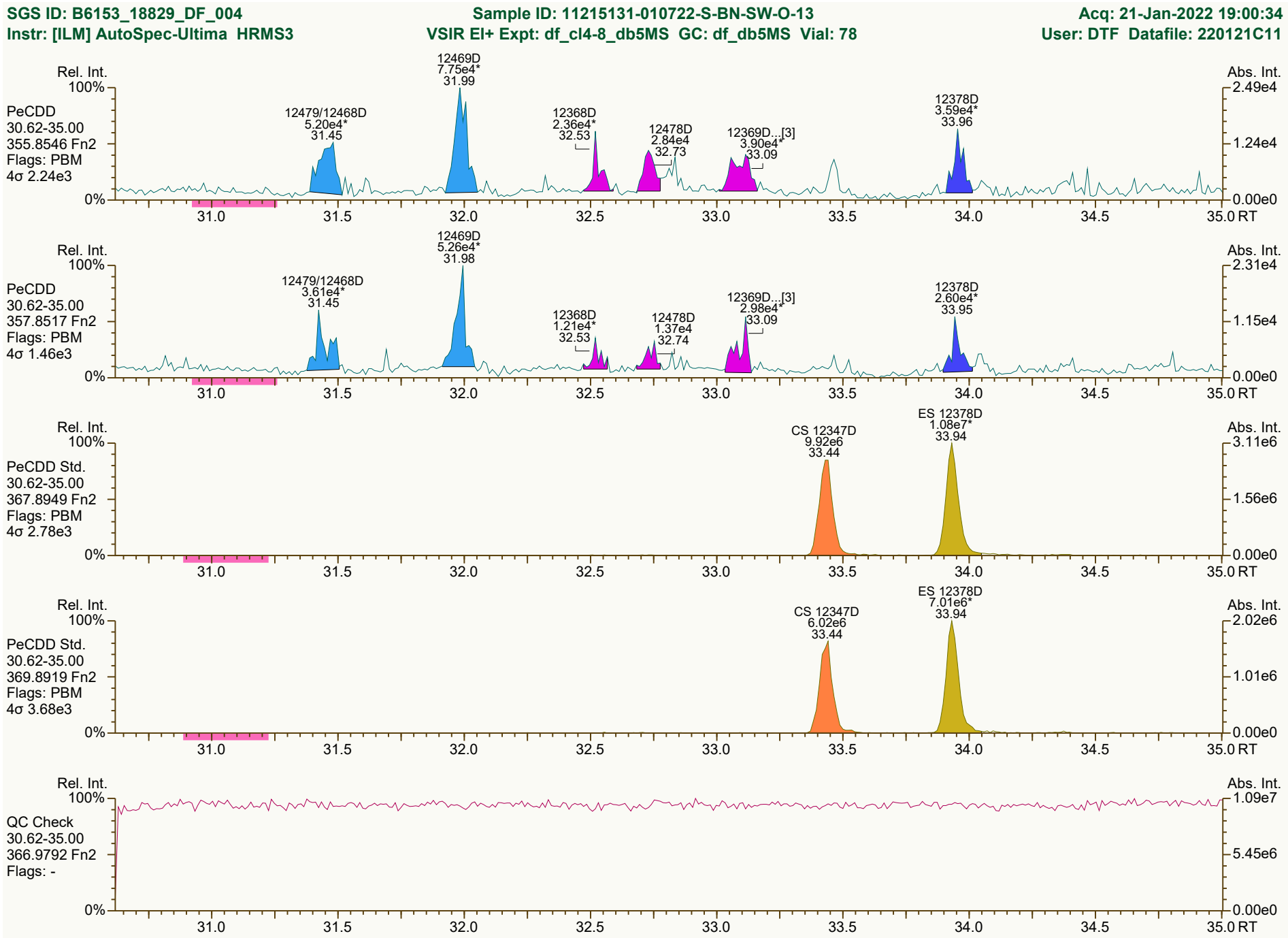
Client ID: 11215131-010722-S-BN-SW-O-13 **UTP: 24-Jan-2022 14:42:54 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 858-190-YNT**

Datafile: 220121C11 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

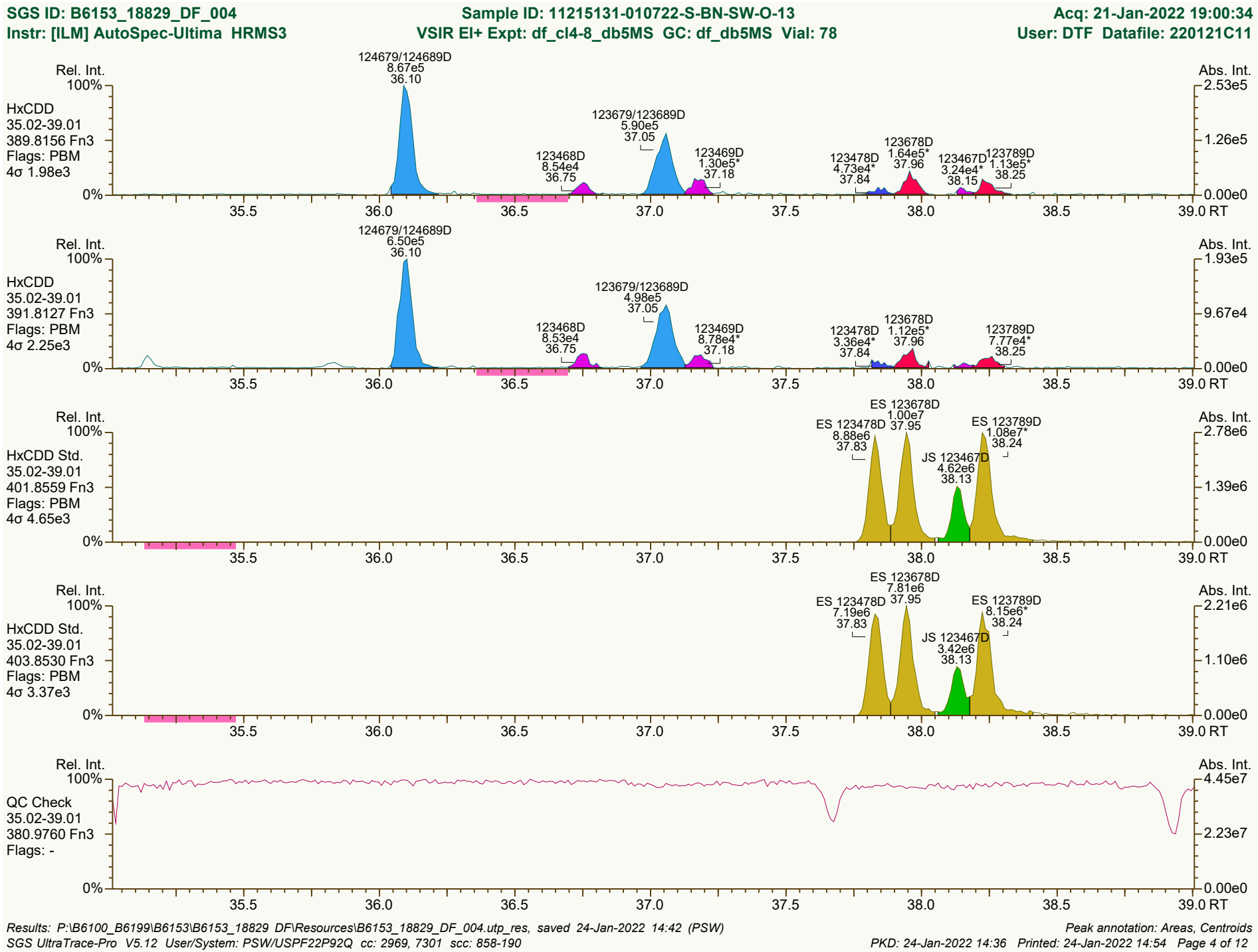
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07	J	0.9868	0.9867	-0.2	8.66E+04	1.44	Y	1.02	0.6	4951.821	0.335
12347-PeCDF	NotFnd		0.9895						1.02		4951.821	0.335
12348-PeCDF	NotFnd		0.9941						1.02		4951.821	0.335
12378-PeCDF	**32.51**	J	**1.0005**	**1.0004**	**-0.2**	**1.47E+05**	**1.40**	**Y**	**1.02**	**1.03**	**4951.821**	**0.34**
12678/12367-PeCDF	32.80	J EMPC	1.0090	1.0092	+0.4	1.17E+05	1.31	N	1.02	0.811	4951.821	0.335
12379-PeCDF	NotFnd		1.0142						1.02		4951.821	0.335
12679-PeCDF	NotFnd		0.9931						1.02		4951.821	0.335
23467/12369-PeCDF	33.49	J	0.9966	0.9967	+0.2	7.61E+04	1.56	Y	1.02	0.527	4951.821	0.335
23478-PeCDF	**33.63**	J EMPC	**1.0005**	**1.0008**	**+0.6**	**1.86E+05**	**1.92**	**N**	**1.02**	**1.27**	**4951.821**	**0.329**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4951.821	0.335
12349-PeCDF	NotFnd		1.0101						1.02		4951.821	0.335
12389-PeCDF	NotFnd		1.0322						1.02		4951.821	0.335
123468-HxCDF	35.46	J	0.9627	0.9629	+0.4	2.55E+05	1.18	Y	1.19	1.91	4835.338	0.327
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	8.15E+05	1.16	Y	1.19	6.09	4835.338	0.327
134679-HxCDF	NotFnd		0.9747						1.19		4835.338	0.327
124679-HxCDF	NotFnd		0.9802						1.19		4835.338	0.327
124689-HxCDF	36.30		0.9858	0.9858	0	5.58E+05	1.31	Y	1.19	4.17	4835.338	0.327
123467-HxCDF	36.72	J	0.9972	0.9972	0	8.85E+04	1.21	Y	1.19	0.662	4835.338	0.327
123478-HxCDF	**36.84**	J	**1.0004**	**1.0005**	**+0.2**	**2.55E+05**	**1.22**	**Y**	**1.27**	**1.88**	**4835.338**	**0.294**
123678-HxCDF	**36.99**	J	**1.0004**	**1.0005**	**+0.2**	**1.58E+05**	**1.31**	**Y**	**1.15**	**1.04**	**4835.338**	**0.309**
123479-HxCDF	NotFnd		1.0051						1.19		4835.338	0.327
123469-HxCDF	NotFnd		1.0091						1.19		4835.338	0.327
123679-HxCDF	NotFnd		0.9943						1.19		4835.338	0.327
234678-HxCDF	**37.67**	J	**1.0004**	**1.0004**	**0**	**1.16E+05**	**1.34**	**Y**	**1.19**	**0.874**	**4835.338**	**0.335**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4835.338	0.327
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4835.338**	**0.384**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4835.338	0.327
1234678-HpCDF	**39.94**		**1.0002**	**1.0002**	**0**	**1.90E+06**	**1.00**	**Y**	**1.37**	**14**	**3661.618**	**0.198**
1234679-HpCDF	40.20	**J**	1.0067	1.0067	0	1.28E+05	0.93	Y	1.34	1.09	3661.618	0.247
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	2.50E+06	1.09	Y	1.34	21.4	3661.618	0.247
1234789-HpCDF	**41.33**	**J**	**1.0003**	**1.0001**	**-0.5**	**1.16E+05**	**1.17**	**Y**	**1.31**	**1.17**	**3661.618**	**0.311**
OCDF	**43.72**		**1.0002**	**1.0002**	**0**	**7.13E+06**	**0.88**	**Y**	**1.07**	**90**	**3590.788**	**0.505**
OCDF-a	43.70	**EMPC**	1.0002	0.9999	-0.8	3.11E+05	3.03	N	0.07	63.4	3896.768	8.84

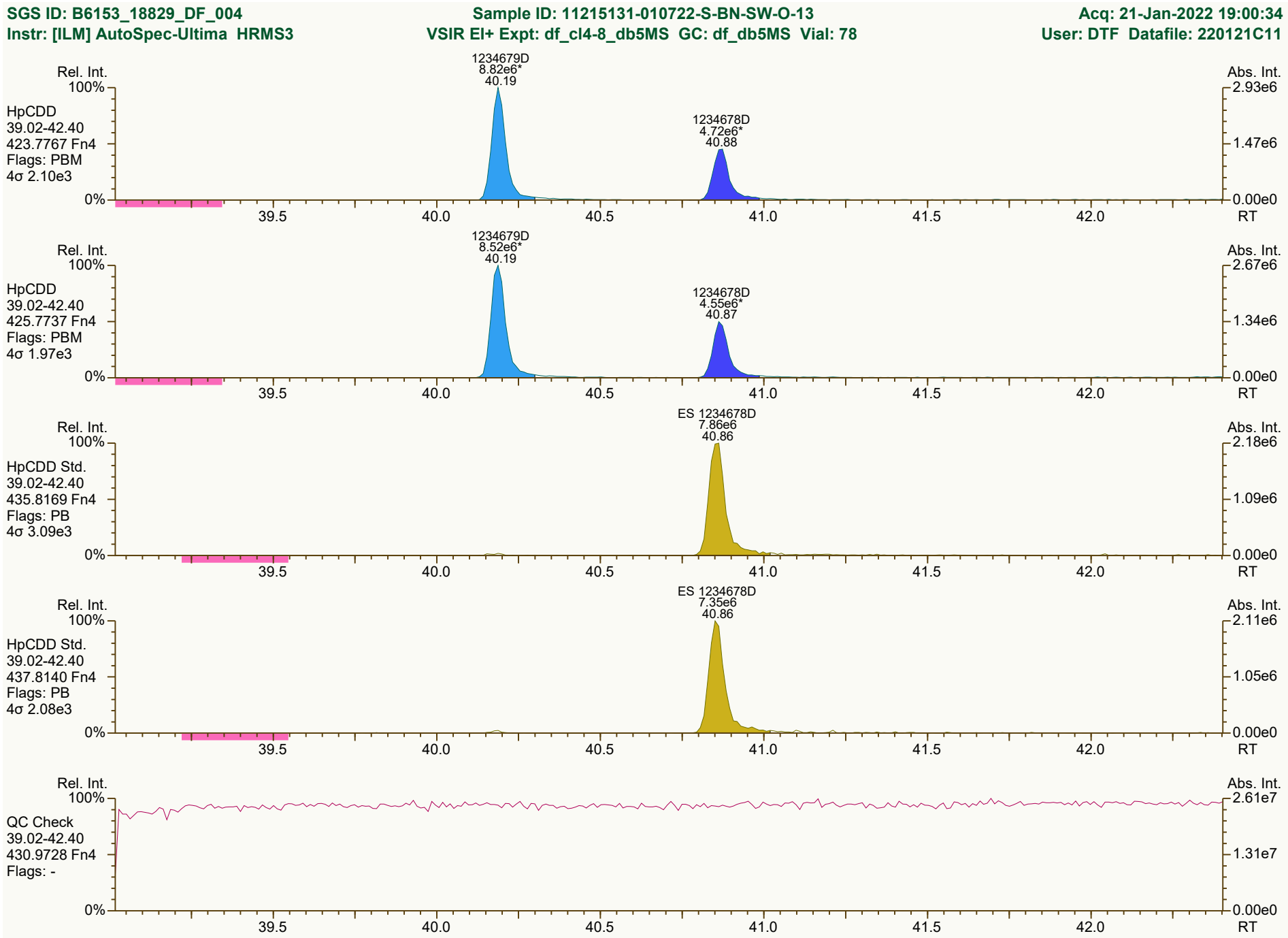

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.42e7
7.11e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.09e7
5.45e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.45e7
2.23e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.61e7
1.31e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.34e7
1.17e7
0.00e0

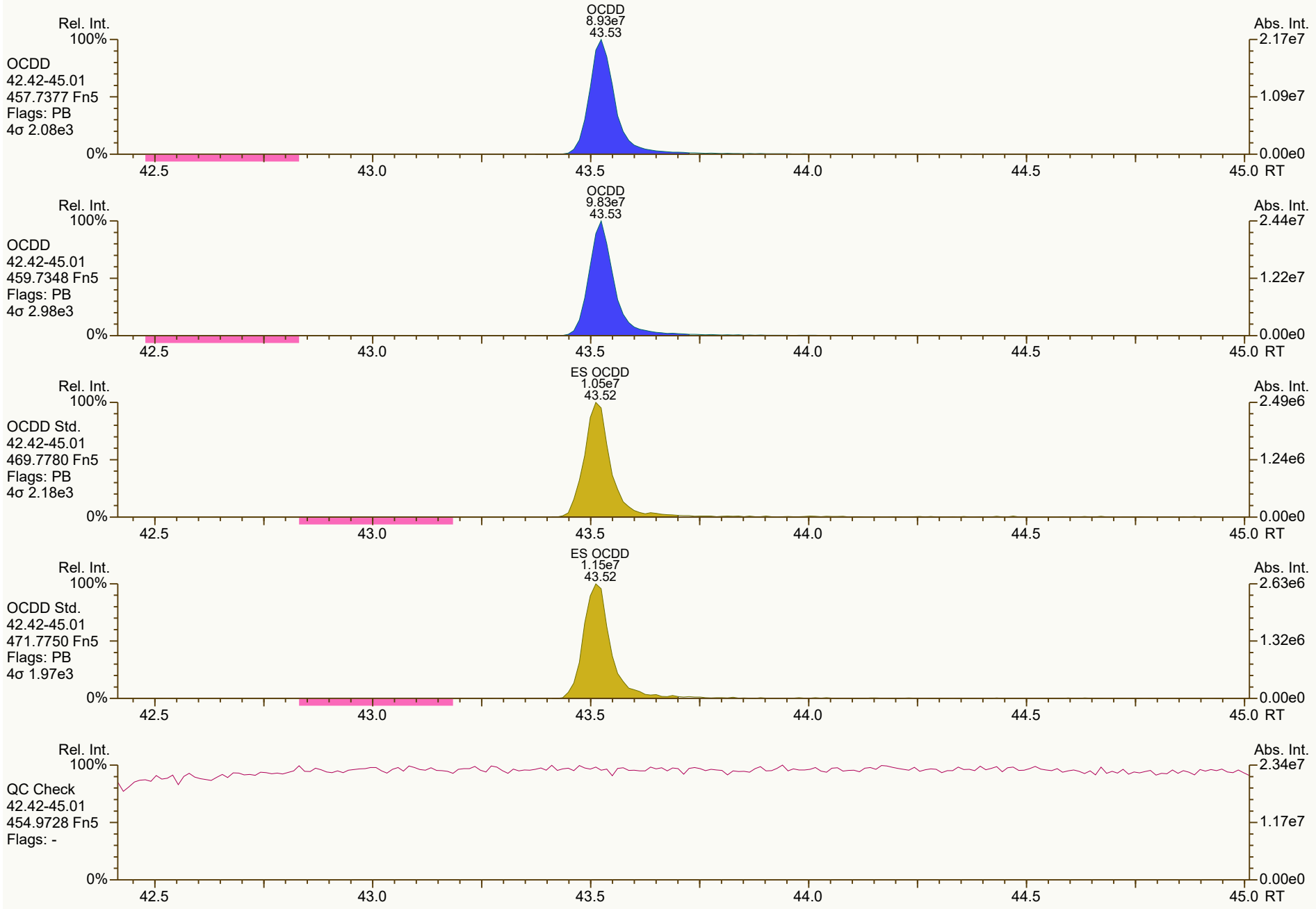

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.63e3
0%
2378D
4.49e5
28.65
1469D
6.20e4
26.58
1278D
4.60e4*
28.97
Abs. Int.
1.14e5
5.72e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
5.88e5
28.65
1469D
8.12e4
26.58
1278D
6.75e4*
28.98
Abs. Int.
1.42e5
7.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.60e3
0%
CS 37Cl-2378D
8.56e6
28.65
Abs. Int.
1.99e6
9.96e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.71e3
0%
JS 1234D
8.55e6
27.97
ES 2378D
8.40e6
28.63
Abs. Int.
2.05e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.30e3
0%
JS 1234D
1.02e7
27.97
ES 2378D
1.04e7
28.63
Abs. Int.
2.44e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

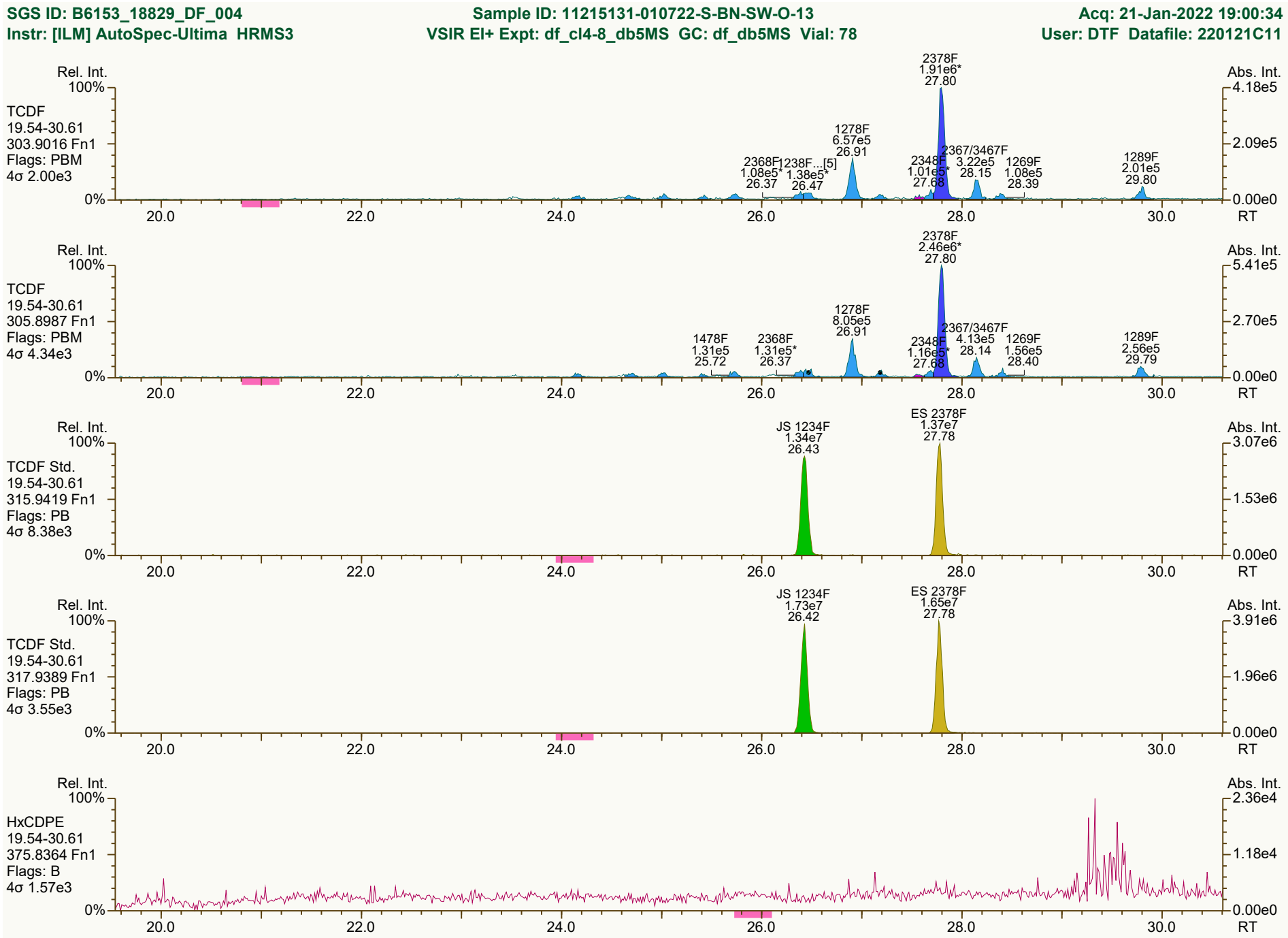


Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6781, 2019 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 3 of 12


SGS ID: B6153_18829_DF_004
Sample ID: 11215131-010722-S-BN-SW-O-13
Acq: 21-Jan-2022 19:00:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78
User: DTF Datafile: 220121C11
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.98e3
124679/124689D
8.67e5
36.10
123679/123689D
5.90e5
37.05
123468D
8.54e4
36.75
123469D
1.30e5*
37.18
123478D
4.73e4*
37.84
123678D
1.64e5*
37.96
123467D
3.24e4*
38.15
123789D
1.13e5*
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.25e3
124679/124689D
6.50e5
36.10
123679/123689D
4.98e5
37.05
123468D
8.53e4
36.75
123469D
8.78e4*
37.18
123478D
3.36e4*
37.84
123678D
1.12e5*
37.96
123789D
7.77e4*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.65e3
ES 123678D
1.00e7
37.95
ES 123478D
8.88e6
37.83
ES 123789D
1.08e7*
38.24
JS 123467D
4.62e6
38.13
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.37e3
ES 123678D
7.81e6
37.95
ES 123478D
7.19e6
37.83
ES 123789D
8.15e6*
38.24
JS 123467D
3.42e6
38.13
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
2.53e5
1.26e5
0.00e0
1.93e5
9.67e4
2.78e6
1.39e6
2.21e6
1.10e6
4.45e7
2.23e7
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2969, 7301 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 4 of 12


SGS ID: B6153_18829_DF_004
Sample ID: 11215131-010722-S-BN-SW-O-13
Acq: 21-Jan-2022 19:00:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78
User: DTF Datafile: 220121C11
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.10e3
1234679D
8.82e6*
40.19
1234678D
4.72e6*
40.88
2.93e6
1.47e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.97e3
1234679D
8.52e6*
40.19
1234678D
4.55e6*
40.87
2.67e6
1.34e6
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 3.09e3
ES 1234678D
7.86e6
40.86
2.18e6
1.09e6
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.08e3
ES 1234678D
7.35e6
40.86
2.11e6
1.05e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.61e7
1.31e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7097, 3569 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 5 of 12


OCDD
8.93e7
43.53
Rel. Int.
100%
Abs. Int.
2.17e7
1.09e7
0.00e0
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.08e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.83e7
43.53
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 2.98e3
Abs. Int.
2.44e7
1.22e7
ES OCDD
1.05e7
43.52
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.18e3
Abs. Int.
2.49e6
1.24e6
ES OCDD
1.15e7
43.52
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.97e3
Abs. Int.
2.63e6
1.32e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
Abs. Int.
2.34e7
1.17e7


SGS ID: B6153_18829_DF_004
Sample ID: 11215131-010722-S-BN-SW-O-13
Acq: 21-Jan-2022 19:00:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78
User: DTF Datafile: 220121C11
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.00e3
2378F 1.91e6* 27.80
1278F 6.57e5 26.91
2368F 1.08e5* 26.37
1238F...[5] 1.38e5* 26.47
2348F 1.01e5* 27.68
2367/3467F 3.22e5 28.15
1269F 1.08e5 28.39
1289F 2.01e5 29.80
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.34e3
2378F 2.46e6* 27.80
1278F 8.05e5 26.91
1478F 1.31e5 25.72
2368F 1.31e5* 26.37
2348F 1.16e5* 27.68
2367/3467F 4.13e5 28.14
1269F 1.56e5 28.40
1289F 2.56e5 29.79
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 8.38e3
JS 1234F 1.34e7 26.43
ES 2378F 1.37e7 27.78
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.55e3
JS 1234F 1.73e7 26.42
ES 2378F 1.65e7 27.78
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.57e3
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3522, 3125, 5029 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 7 of 12

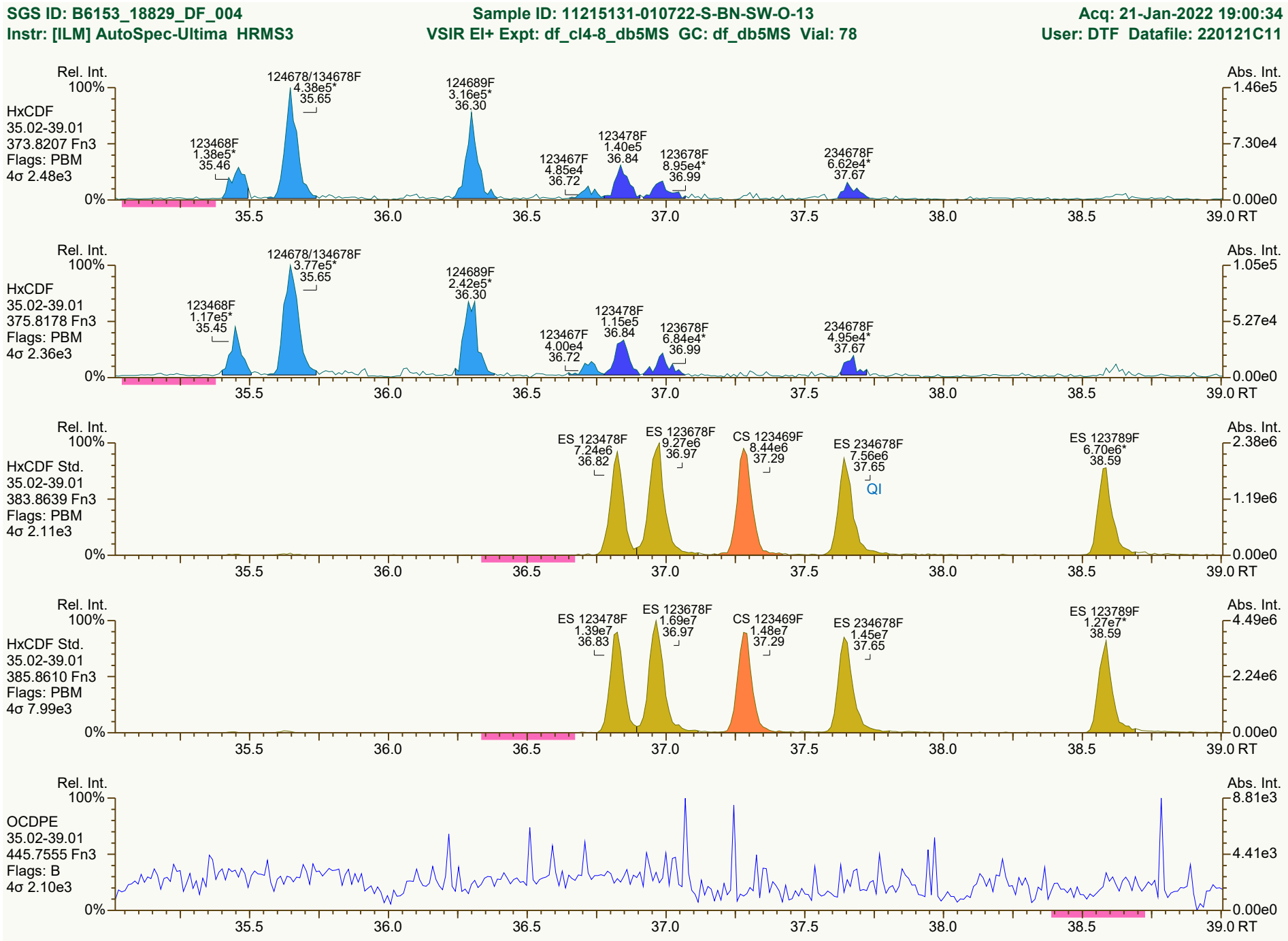
SGS ID: B6153_18829_DF_004 | Sample ID: 11215131-010722-S-BN-SW-O-13 | Acq: 21-Jan-2022 19:00:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78 | User: DTF Datafile: 220121C11



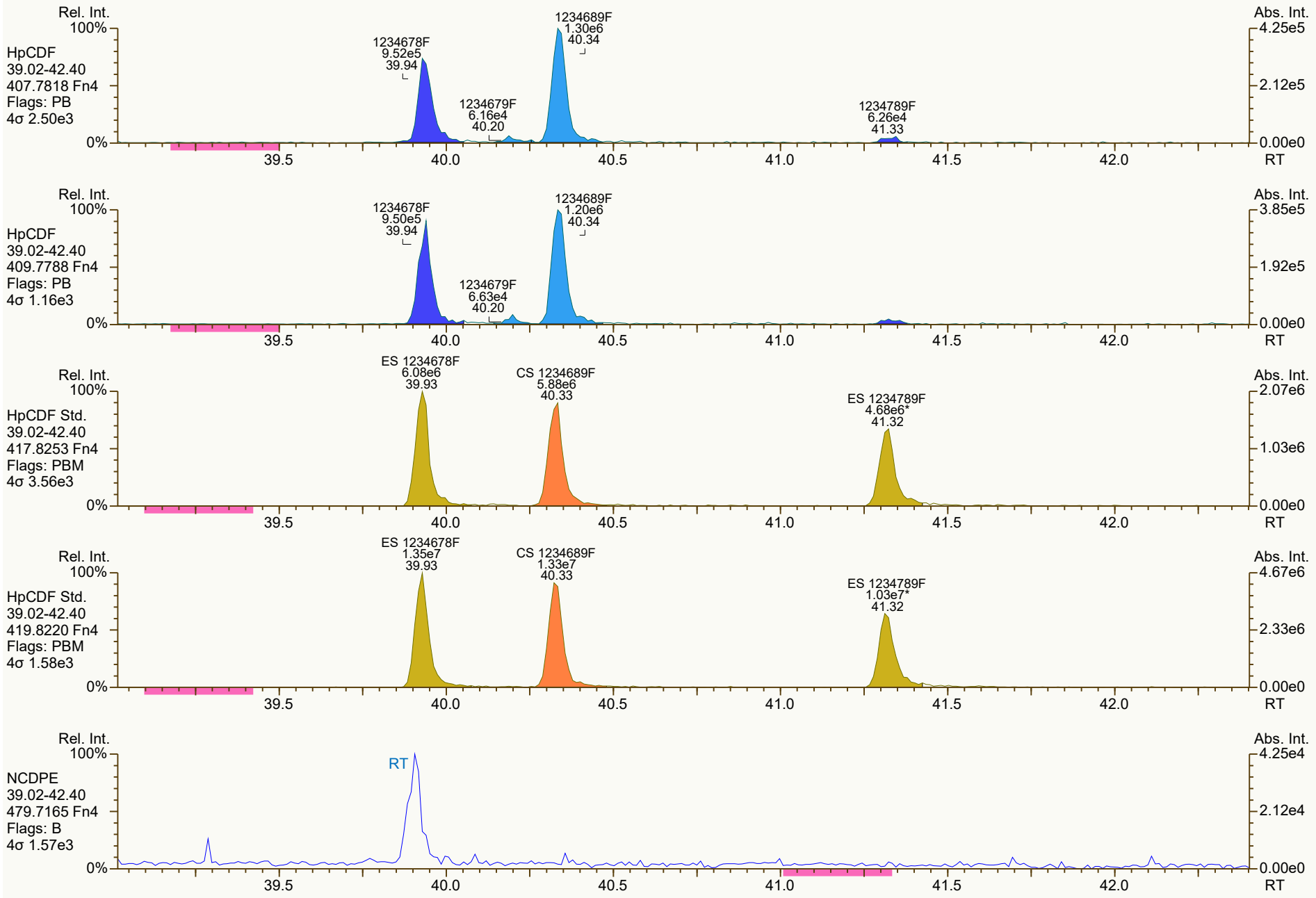
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2738 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 8 of 12



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6208, 3637, 5676 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 9 of 12



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_004.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3460, 7203, 2058 scc: 858-190
PKD: 24-Jan-2022 14:36 Printed: 24-Jan-2022 14:54 Page 10 of 12


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.50e3
1234678F
9.52e5
39.94
1234679F
6.16e4
40.20
1234689F
1.30e6
40.34
1234789F
6.26e4
41.33
Abs. Int.
4.25e5
2.12e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.16e3
1234678F
9.50e5
39.94
1234679F
6.63e4
40.20
1234689F
1.20e6
40.34
Abs. Int.
3.85e5
1.92e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 3.56e3
ES 1234678F
6.08e6
39.93
CS 1234689F
5.88e6
40.33
ES 1234789F
4.68e6*
41.32
Abs. Int.
2.07e6
1.03e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.58e3
ES 1234678F
1.35e7
39.93
CS 1234689F
1.33e7
40.33
ES 1234789F
1.03e7*
41.32
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.57e3
RT
Abs. Int.
4.25e4
2.12e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
3.33e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.78e3
0%
Abs. Int.
7.62e5
3.81e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.80e6
43.71
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.81e3
0%
Abs. Int.
9.05e5
4.53e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.41e7
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 2.00e3
0%
Abs. Int.
3.17e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.51e7
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 1.95e3
0%
Abs. Int.
3.48e6
1.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
5.28e3
2.64e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6153_18829_DF_005 **Acq'd:** 21 Jan 2022 19:46 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-O-14 **UTP:** 24-Jan-2022 14:42:55 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 711-803-WLJ

Datafile: 220121C12 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	3.10E+07	0.80	Y	1.18	238	5171.254	0.4
12378-PeCDD	33.95	J	1.0006	1.0005	-0.2	2.47E+05	1.69	Y	1.04	2.34	3700.896	0.322
123478-HxCDD	37.86	J	1.0004	1.0006	+0.5	5.65E+04	1.35	Y	1.09	0.587	4153.708	0.375
123678-HxCDD	37.96	J	1.0034	1.0034	0	1.84E+05	1.12	Y	1.15	1.66	4153.708	0.356
123789-HxCDD	38.26	J	1.0109	1.0112	+0.7	2.28E+05	1.11	Y	1.05	2.08	4153.708	0.349
1234678-HpCDD	40.87		1.0003	1.0003	0	5.61E+06	1.03	Y	1.06	63.2	3666.826	0.358
OCDD	43.53		1.0002	1.0003	+0.3	7.38E+07	0.90	Y	1.13	1,170	5206.853	0.827
2378-TCDF	27.80		1.0008	1.0008	0	1.27E+08	0.80	Y	1.08	653	4216.642	0.242
12378-PeCDF	32.52		1.0005	1.0005	0	4.30E+06	1.53	Y	1.02	25.1	4671.609	0.247
23478-PeCDF	33.63		1.0005	1.0006	+0.2	3.49E+06	1.58	Y	1.02	20.4	4671.609	0.244
123478-HxCDF	36.84		1.0004	1.0004	0	5.39E+06	1.31	Y	1.27	36.3	5094.091	0.299
123678-HxCDF	36.99		1.0004	1.0004	0	1.63E+06	1.34	Y	1.15	9.68	5094.091	0.274
234678-HxCDF	37.67	J	1.0004	1.0004	0	3.01E+05	1.25	Y	1.19	2.15	5094.091	0.362
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5094.091	0.355
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	1.69E+06	0.99	Y	1.37	11.5	3843.252	0.198
1234789-HpCDF	41.33	EMPC	1.0003	1.0001	-0.5	3.86E+05	1.21	N	1.31	3.72	3843.252	0.316
OCDF	43.71		1.0002	1.0002	0	9.42E+05	0.88	Y	1.07	11.5	3791.94	0.471

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0235	+0.3	2.18E+07	0.84	Y	1.05	94.1
ES 12378-PeCDD	33.94	1.2121	1.2132	+2.2	2.01E+07	1.56	Y	0.88	103
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.75E+07	1.33	Y	0.97	97.3
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.92E+07	1.29	Y	0.94	110
ES 123789-HxCDD	38.24	1.0025	1.0028	+0.7	2.07E+07	1.28	Y	1.09	103
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.66E+07	1.09	Y	0.91	98.2
ES OCDD	43.52	1.1403	1.1412	+2.3	2.21E+07	0.93	Y	0.62	96
ES 2378-TCDF	27.78	1.0506	1.0509	+0.5	3.56E+07	0.80	Y	1.06	93.8
ES 12378-PeCDF	32.50	1.2281	1.2294	+2.5	3.31E+07	1.60	Y	0.91	101
ES 23478-PeCDF	33.61	1.2698	1.2712	+2.8	3.32E+07	1.58	Y	0.88	105
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.32E+07	0.53	Y	1.20	104
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.89E+07	0.56	Y	1.35	116
ES 234678-HxCDF	37.65	0.9874	0.9874	0	2.33E+07	0.54	Y	1.24	101
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	2.21E+07	0.54	Y	1.16	104
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	2.13E+07	0.44	Y	0.97	119
ES 1234789-HpCDF	41.32	1.0830	1.0837	+1.7	1.57E+07	0.45	Y	0.85	99.8
ES OCDF	43.70	1.1451	1.1459	+2.1	3.04E+07	0.94	Y	0.81	102

Lab ID: B6153_18829_DF_005 **Acq'd:** 21 Jan 2022 19:46 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-O-14 **UTP:** 24-Jan-2022 14:42:55 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 711-803-WLJ

Datafile: 220121C12 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	2.21E+07	0.83	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	3.58E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	9.24E+06	1.32	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	9.96E+06	n/a	-	1.20	93.6	
CS 12347-PeCDD	33.44		1.1943	1.1952	+1.8	1.91E+07	1.55	Y	0.75	114	
CS 12346-PeCDF	31.97		1.2083	1.2093	+1.9	3.24E+07	1.59	Y	0.85	106	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.66E+07	0.54	Y	1.12	129	
CS 1234689-HpCDF	40.33	V	1.0571	1.0577	+1.5	2.15E+07	0.45	Y	0.89	131	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~9.96E+06~~	~~n/a~~		~~1.15~~	~~99.7~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1952~~	~~+1.8~~	~~1.91E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~111~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2093~~	~~+1.9~~	~~3.24E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.66E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~111~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~2.15E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~110~~	

Totals	Conc	EMPC
Total TCDD	275	277
Total PeCDD	9.45	11.4
Total HxCDD	53.1	53.7
Total HpCDD	168	168
Total Tetra-Octa Dioxins	1680	1680
Total TCDF	1,320	1320
Total PeCDF	69.1	70.8
Total HxCDF	56.2	60
Total HpCDF	20	24
Total Tetra-Octa Furans	1,470	1480
Total Tetra-Octa Dioxins & Furans	3150	3160

Lab ID: B6153_18829_DF_005 **Acq'd: 21 Jan 2022 19:46 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-O-14 **UTP: 24-Jan-2022 14:42:55 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 711-803-WLJ**

Datafile: 220121C12 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05	EMPC	0.8755	0.8748	-1.1	7.16E+04	1.08	N	1.18	0.549	5171.254	0.4
1379-TCDD	NotFnd		0.8876						1.18		5171.254	0.4
1369-TCDD	NotFnd		0.9023						1.18		5171.254	0.4
1469-TCDD	26.59		0.9291	0.9286	-0.8	1.15E+06	0.78	Y	1.18	8.8	5171.254	0.4
1247/1246/1248/1249-TCDD	26.84	J EMPC	0.9373	0.9375	+0.3	5.27E+04	0.89	N	1.18	0.405	5171.254	0.4
1378-TCDD	27.02	EMPC	0.9440	0.9436	-0.6	6.91E+04	0.91	N	1.18	0.53	5171.254	0.4
1268-TCDD	NotFnd		0.9506						1.18		5171.254	0.4
1478-TCDD	27.45	J EMPC	0.9591	0.9586	-0.8	5.88E+04	0.94	N	1.18	0.451	5171.254	0.4
1279-TCDD	NotFnd		0.9649						1.18		5171.254	0.4
1234/1269-TCDD	27.97		0.9771	0.9769	-0.3	1.11E+05	0.85	Y	1.18	0.854	5171.254	0.4
1236-TCDD	NotFnd		0.9820						1.18		5171.254	0.4
1237/1238-TCDD	28.36		0.9908	0.9906	-0.3	4.86E+05	0.69	Y	1.18	3.73	5171.254	0.4
1239-TCDD	NotFnd		0.9954						1.18		5171.254	0.4
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	3.10E+07	0.80	Y	**1.18**	**238**	**5171.254**	**0.4**
1278-TCDD	28.98		1.0121	1.0120	-0.2	2.93E+06	0.76	Y	1.18	22.5	5171.254	0.4
1267-TCDD	29.11		1.0167	1.0166	-0.2	1.02E+05	0.86	Y	1.18	0.781	5171.254	0.4
1289-TCDD	NotFnd		1.0341						1.18		5171.254	0.4
12479/12468-PeCDD	31.47	J	0.9273	0.9272	-0.2	1.59E+05	1.47	Y	1.04	1.51	3700.896	0.322
12469-PeCDD	31.99		0.9430	0.9426	-0.8	5.38E+05	1.60	Y	1.04	5.11	3700.896	0.322
12368-PeCDD	NotFnd		0.9592						1.04		3700.896	0.322
12478-PeCDD	32.73	J	0.9647	0.9645	-0.4	5.11E+04	1.67	Y	1.04	0.486	3700.896	0.322
12379-PeCDD	32.84	J EMPC	0.9676	0.9676	0	3.30E+04	1.87	N	1.04	0.313	3700.896	0.322
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9751	-0.2	1.39E+05	2.04	N	1.04	1.32	3700.896	0.322
12346/12347-PeCDD	NotFnd		0.9860						1.04		3700.896	0.322
12378-PeCDD	33.95	J	**1.0006**	**1.0005**	**-0.2**	**2.47E+05**	**1.69**	**Y**	**1.04**	**2.34**	**3700.896**	**0.322**
12367-PeCDD	34.05	J EMPC	1.0034	1.0032	-0.4	2.92E+04	0.97	N	1.04	0.277	3700.896	0.322
12389-PeCDD	NotFnd		1.0134						1.04		3700.896	0.322
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	3.97E+06	1.31	Y	1.10	37.6	4153.708	0.359
123468-HxCDD	36.76	J	0.9715	0.9715	0	8.84E+04	1.19	Y	1.10	0.837	4153.708	0.359
123679/123689-HxCDD	37.05		0.9793	0.9793	0	9.45E+05	1.21	Y	1.10	8.94	4153.708	0.359
123469-HxCDD	37.19	J	0.9829	0.9829	0	1.43E+05	1.20	Y	1.10	1.35	4153.708	0.359
123478-HxCDD	37.86	J	**1.0004**	**1.0006**	**+0.5**	**5.65E+04**	**1.35**	**Y**	1.09	**0.587**	**4153.708**	**0.375**
123678-HxCDD	37.96	J	**1.0034**	**1.0034**	**0**	**1.84E+05**	**1.12**	**Y**	1.15	**1.66**	**4153.708**	**0.356**
123467-HxCDD	38.16	J EMPC	1.0082	1.0085	+0.7	6.67E+04	1.59	N	1.10	0.631	4153.708	0.359
123789-HxCDD	38.26	J	**1.0109**	**1.0112**	**+0.7**	**2.28E+05**	**1.11**	**Y**	1.05	**2.08**	**4153.708**	**0.349**

Lab ID: B6153_18829_DF_005 **Acq'd: 21 Jan 2022 19:46 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-O-14 **UTP: 24-Jan-2022 14:42:55 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 711-803-WLJ**

Datafile: 220121C12 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

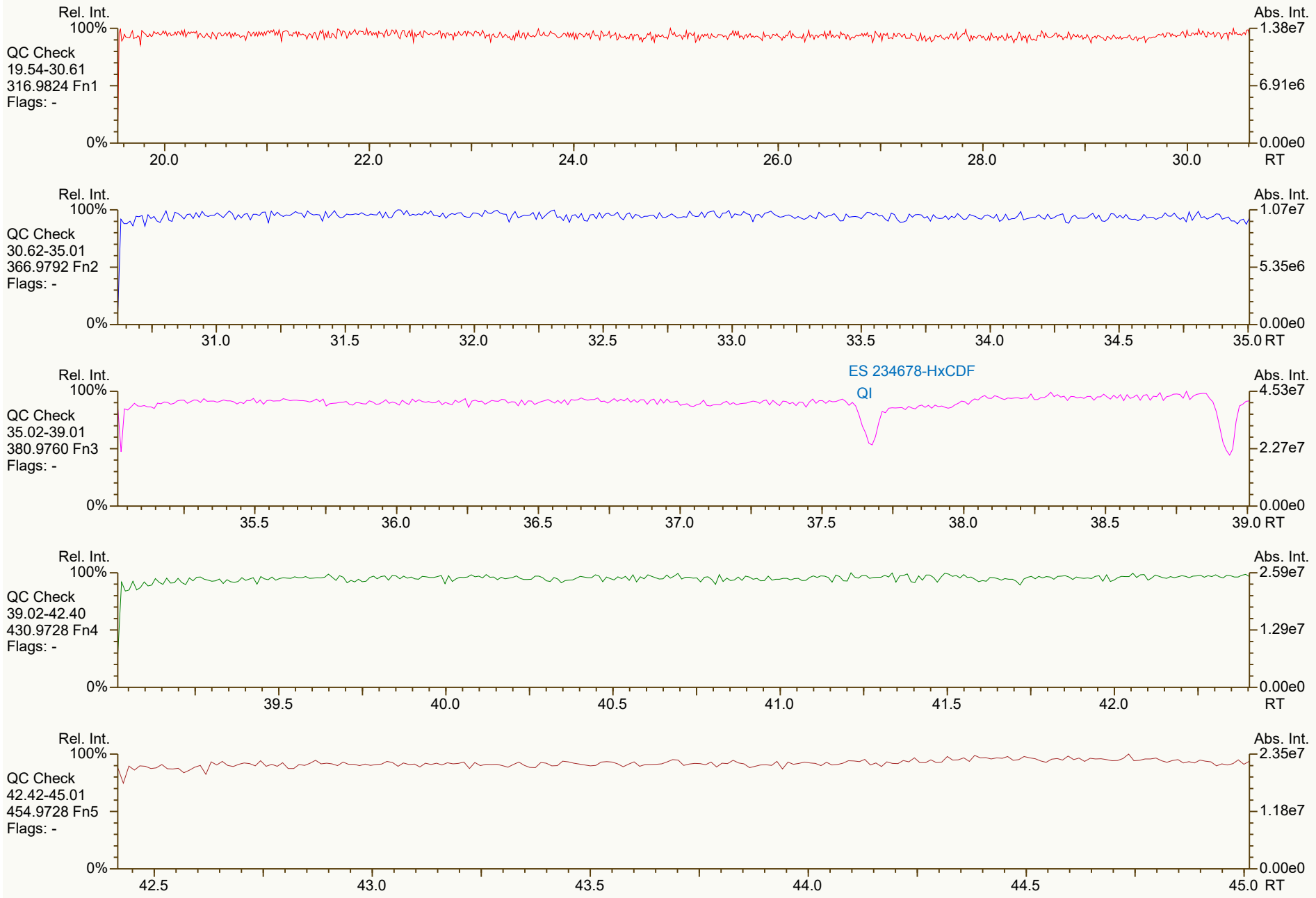
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	9.27E+06	1.06	Y	1.06	104	3666.826	0.358
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**5.61E+06**	**1.03**	**Y**	**1.06**	**63.2**	**3666.826**	**0.358**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**7.38E+07**	**0.90**	**Y**	**1.13**	**1,170**	**5206.853**	**0.827**
OCDD-a	43.52		1.0002	1.0000	-0.5	4.48E+06	2.44	Y	0.07	1,110	3700.659	9.19
1368-TCDF	22.98	J EMPC	0.8282	0.8272	-1.4	4.85E+04	0.43	N	1.08	0.25	4216.642	0.242
1468-TCDF	23.54	EMPC	0.8485	0.8471	-2.0	1.95E+05	0.90	N	1.08	1.01	4216.642	0.242
2468-TCDF	24.17		0.8709	0.8700	-1.3	2.82E+05	0.77	Y	1.08	1.45	4216.642	0.242
1346/1246-TCDF	NotFnd		0.8829						1.08		4216.642	0.242
1347/1378/1247-TCDF	24.68		0.8884	0.8883	-0.1	1.61E+06	0.88	Y	1.08	8.31	4216.642	0.242
1348-TCDF	24.92		0.8980	0.8969	-1.6	3.72E+05	0.77	Y	1.08	1.92	4216.642	0.242
1248/1367/1379-TCDF	25.02		0.9026	0.9007	-2.9	6.54E+06	0.77	Y	1.08	33.7	4216.642	0.242
1268-TCDF	25.43		0.9158	0.9154	-0.6	2.22E+06	0.86	Y	1.08	11.4	4216.642	0.242
1467-TCDF	25.57		0.9206	0.9203	-0.5	2.80E+05	0.86	Y	1.08	1.44	4216.642	0.242
1478-TCDF	25.73		0.9266	0.9262	-0.6	5.53E+06	0.83	Y	1.08	28.5	4216.642	0.242
1369/1237-TCDF	26.11		0.9397	0.9397	0	1.43E+06	0.86	Y	1.08	7.38	4216.642	0.242
2467-TCDF	26.23	EMPC	0.9440	0.9440	0	1.41E+05	0.94	N	1.08	0.726	4216.642	0.242
2368-TCDF	26.43		0.9497	0.9512	+2.4	1.08E+07	0.80	Y	1.08	55.5	4216.642	0.242
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4216.642	0.242
1278-TCDF	26.92		0.9690	0.9688	-0.3	6.01E+07	0.79	Y	1.08	310	4216.642	0.242
1349-TCDF	NotFnd		0.9730						1.08		4216.642	0.242
1267-TCDF	27.18		0.9787	0.9785	-0.3	3.41E+06	0.74	Y	1.08	17.6	4216.642	0.242
2346/1249-TCDF	27.37		0.9850	0.9853	+0.5	4.63E+05	0.84	Y	1.08	2.39	4216.642	0.242
2347/1279-TCDF	27.58		0.9929	0.9925	-0.7	1.52E+06	0.84	Y	1.08	7.85	4216.642	0.242
2348-TCDF	27.69		0.9970	0.9967	-0.5	1.03E+07	0.81	Y	1.08	53	4216.642	0.242
2378-TCDF	**27.80**		**1.0008**	**1.0008**	**0**	**1.27E+08**	**0.80**	**Y**	**1.08**	**653**	**4216.642**	**0.242**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	1.08E+07	0.82	Y	1.08	55.5	4216.642	0.242
1269-TCDF	28.40		1.0221	1.0222	+0.2	2.00E+06	0.77	Y	1.08	10.3	4216.642	0.242
1239-TCDF	NotFnd		1.0319						1.08		4216.642	0.242
1289-TCDF	29.80		1.0740	1.0725	-2.7	1.08E+07	0.80	Y	1.08	55.7	4216.642	0.242
13468/12468-PeCDF	NotFnd		0.9145						1.02		4506.15	0.237
13678/13467/12467-PeCDF	31.27	J EMPC	0.9619	0.9622	+0.6	6.51E+04	2.29	N	1.02	0.38	4671.609	0.245
12368/13478/12478-PeCDF	31.42		0.9665	0.9669	+0.8	1.89E+06	1.56	Y	1.02	11	4671.609	0.245
14678-PeCDF	31.51	J	0.9695	0.9695	0	6.24E+04	1.60	Y	1.02	0.365	4671.609	0.245
13479-PeCDF	NotFnd		0.9724						1.02		4671.609	0.245
13469/12479-PeCDF	NotFnd		0.9801						1.02		4671.609	0.245
12346-PeCDF	NotFnd		0.9842						1.02		4671.609	0.245

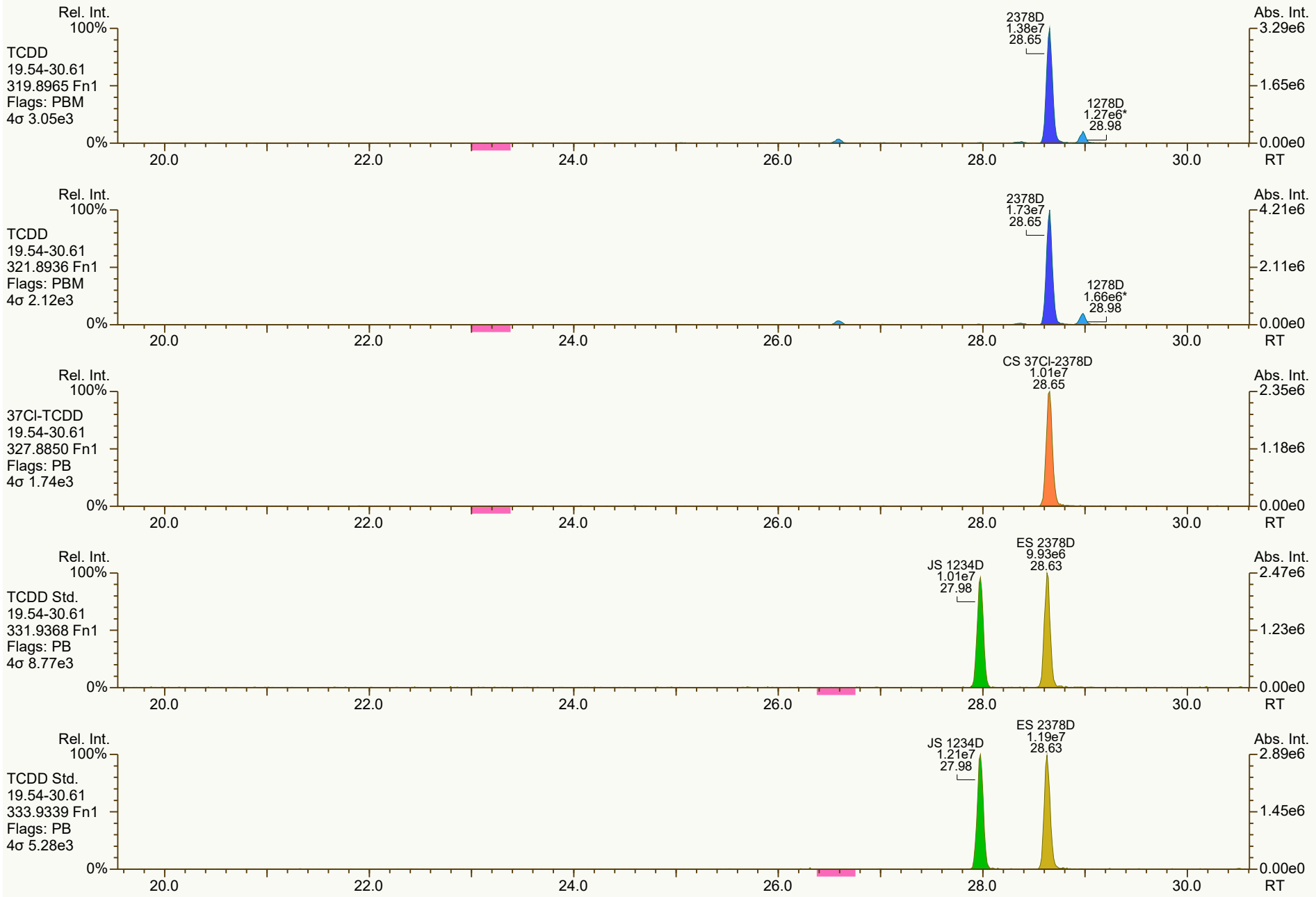
Lab ID: B6153_18829_DF_005 **Acq'd: 21 Jan 2022 19:46 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

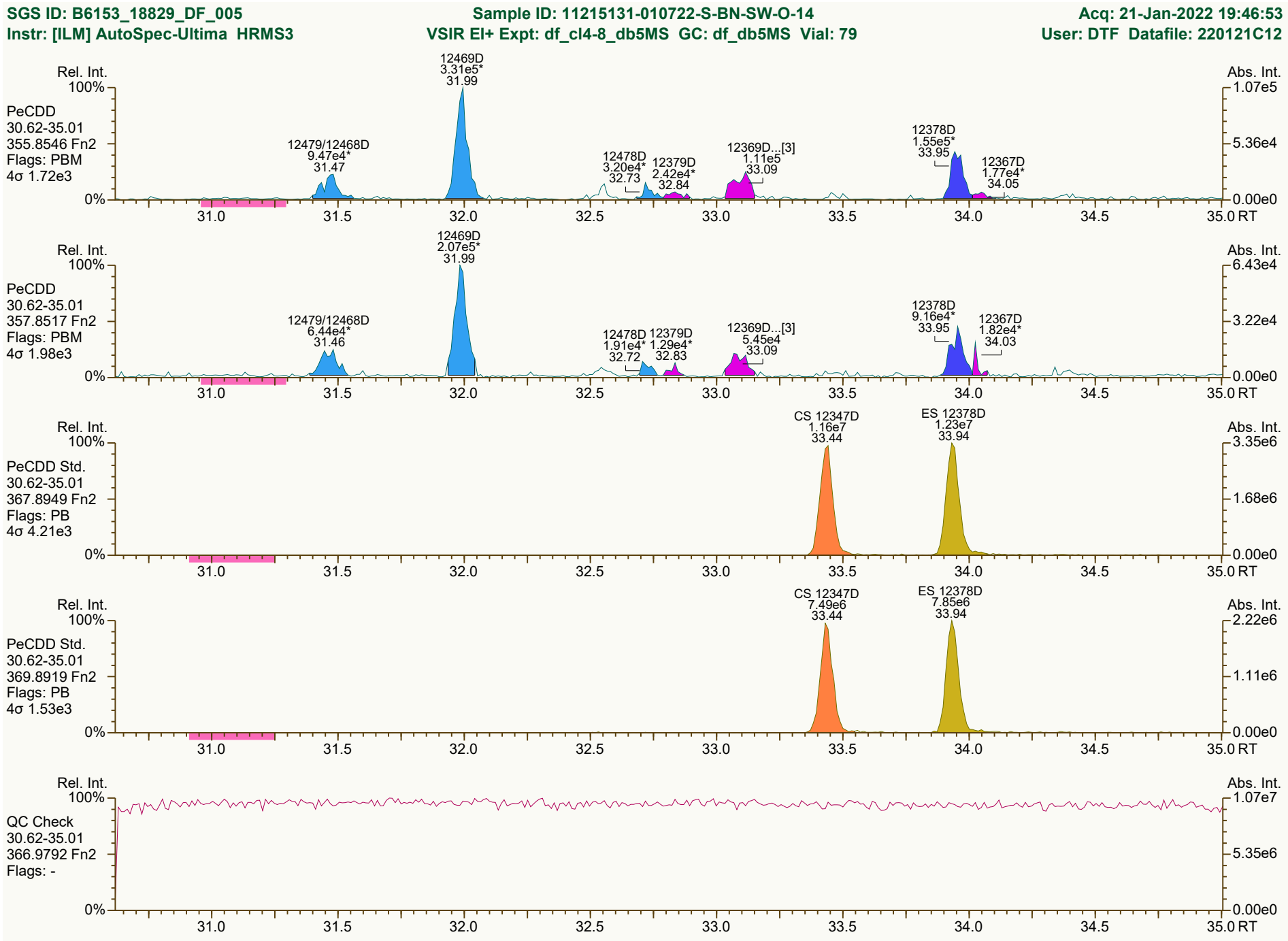
Client ID: 11215131-010722-S-BN-SW-O-14 **UTP: 24-Jan-2022 14:42:55 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 711-803-WLJ**

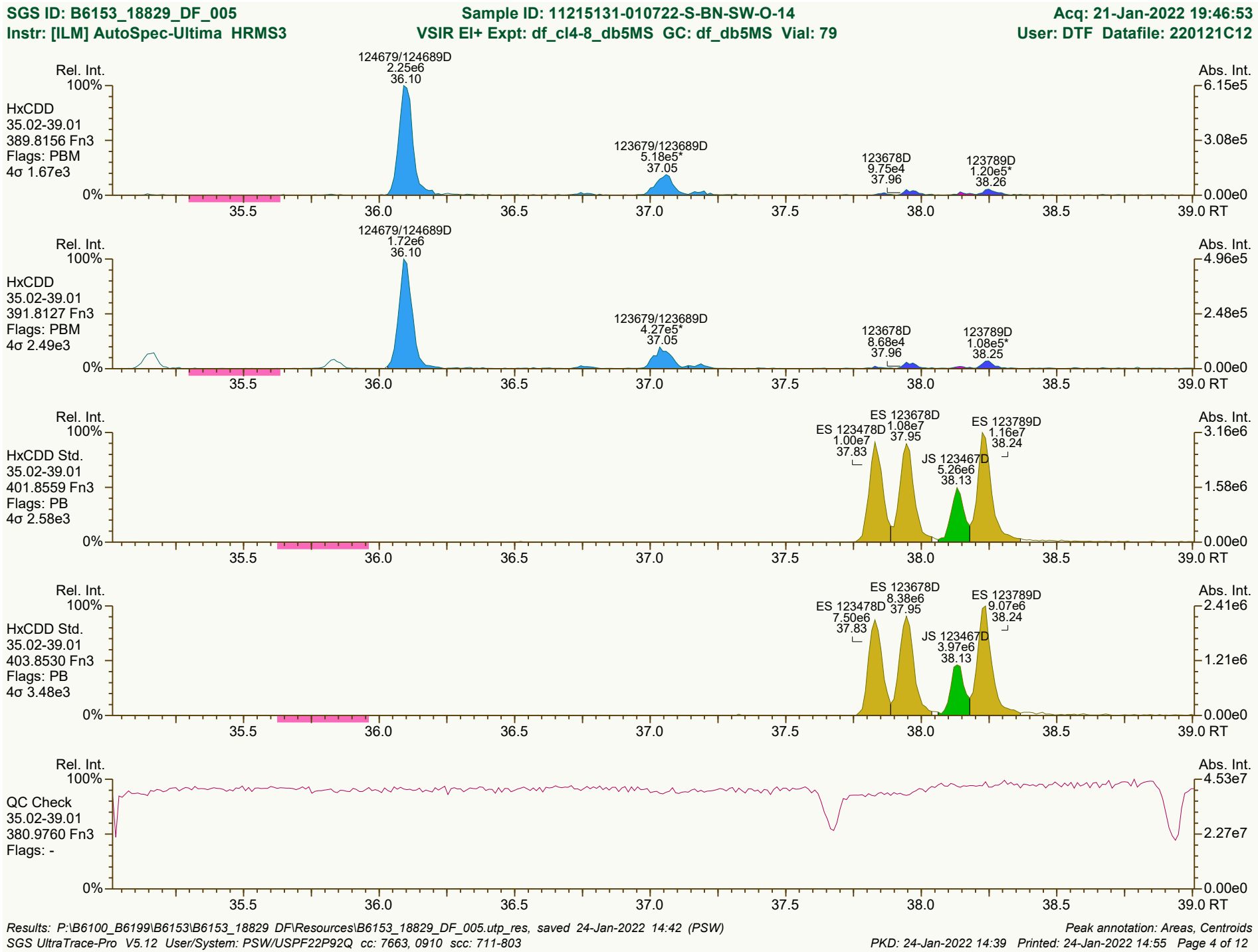
Datafile: 220121C12 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

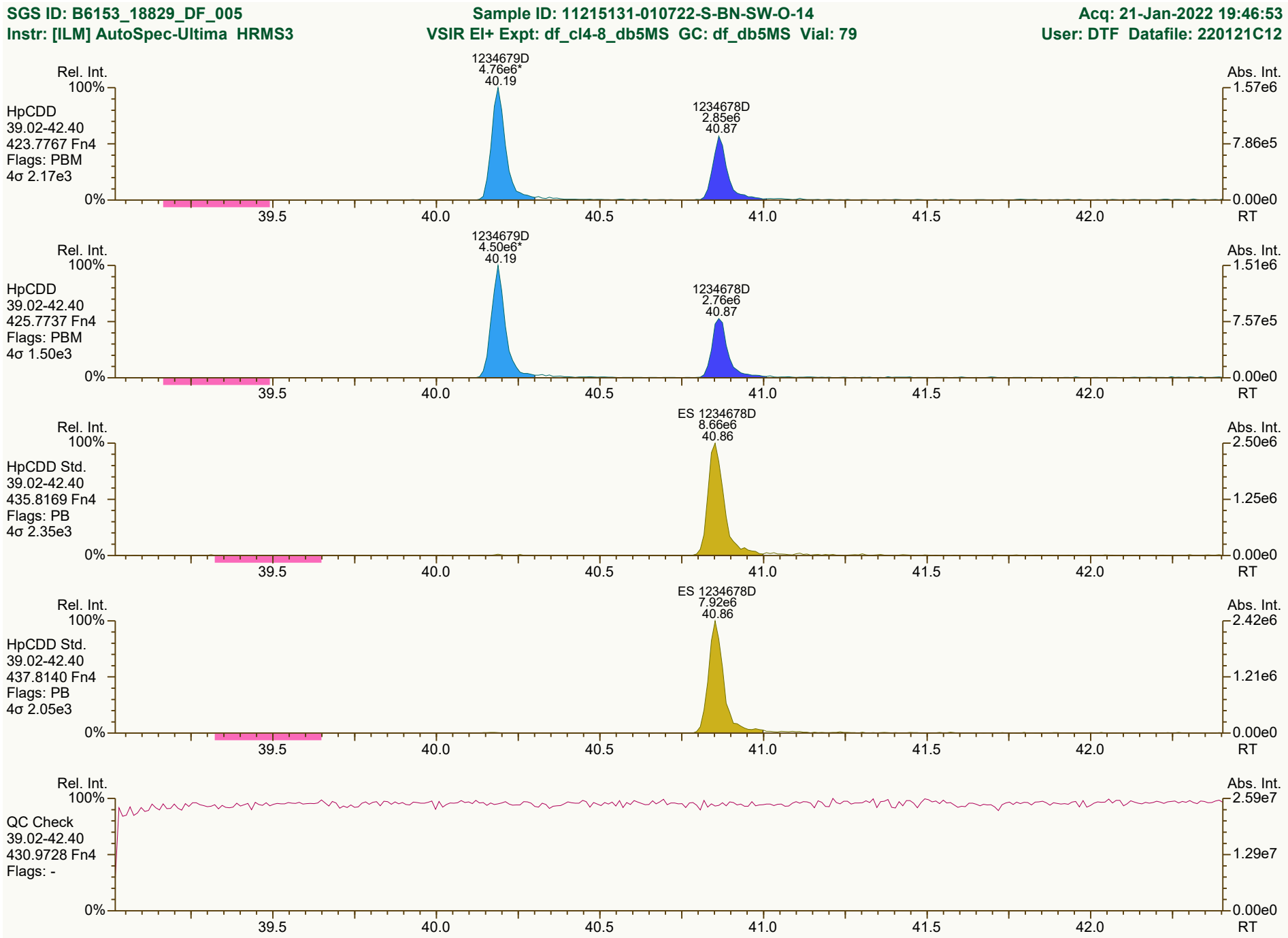
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06	J EMPC	0.9868	0.9865	-0.6	8.01E+04	1.98	N	1.02	0.468	4671.609	0.245
12347-PeCDF	32.14	J	0.9895	0.9890	-1.0	9.44E+04	1.36	Y	1.02	0.552	4671.609	0.245
12348-PeCDF	32.30		0.9941	0.9939	-0.4	4.63E+05	1.71	Y	1.02	2.71	4671.609	0.245
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**4.30E+06**	**1.53**	**Y**	**1.02**	**25.1**	**4671.609**	**0.247**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	1.44E+06	1.52	Y	1.02	8.39	4671.609	0.245
12379-PeCDF	NotFnd		1.0142						1.02		4671.609	0.245
12679-PeCDF	NotFnd		0.9931						1.02		4671.609	0.245
23467/12369-PeCDF	33.49	J	0.9966	0.9966	0	7.99E+04	1.62	Y	1.02	0.467	4671.609	0.245
23478-PeCDF	**33.63**		**1.0005**	**1.0006**	**+0.2**	**3.49E+06**	**1.58**	**Y**	**1.02**	**20.4**	**4671.609**	**0.244**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4671.609	0.245
12349-PeCDF	NotFnd		1.0101						1.02		4671.609	0.245
12389-PeCDF	34.69	J EMPC	1.0322	1.0323	+0.2	1.49E+05	1.17	N	1.02	0.871	4671.609	0.245
123468-HxCDF	35.45	J EMPC	0.9627	0.9627	0	8.98E+04	0.86	N	1.19	0.611	5094.091	0.319
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	6.54E+05	1.07	Y	1.19	4.45	5094.091	0.319
134679-HxCDF	NotFnd		0.9747						1.19		5094.091	0.319
124679-HxCDF	NotFnd		0.9802						1.19		5094.091	0.319
124689-HxCDF	36.30	EMPC	0.9858	0.9857	-0.2	4.18E+05	1.43	N	1.19	2.85	5094.091	0.319
123467-HxCDF	NotFnd		0.9972						1.19		5094.091	0.319
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**5.39E+06**	**1.31**	**Y**	**1.27**	**36.3**	**5094.091**	**0.299**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**1.63E+06**	**1.34**	**Y**	**1.15**	**9.68**	**5094.091**	**0.274**
123479-HxCDF	37.14	J EMPC	1.0051	1.0044	-1.6	5.59E+04	1.73	N	1.19	0.38	5094.091	0.319
123469-HxCDF	NotFnd		1.0091						1.19		5094.091	0.319
123679-HxCDF	NotFnd		0.9943						1.19		5094.091	0.319
234678-HxCDF	**37.67**	J	**1.0004**	**1.0004**	**0**	**3.01E+05**	**1.25**	**Y**	**1.19**	**2.15**	**5094.091**	**0.362**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5094.091	0.319
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5094.091**	**0.355**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0010	+0.7	5.25E+05	1.08	Y	1.19	3.58	5094.091	0.319
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**1.69E+06**	**0.99**	**Y**	**1.37**	**11.5**	**3843.252**	**0.198**
1234679-HpCDF	40.20	**J EMPC**	1.0067	1.0066	-0.2	3.03E+04	1.95	N	1.34	0.242	3843.252	0.248
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	1.07E+06	1.00	Y	1.34	8.57	3843.252	0.248
1234789-HpCDF	**41.33**	**EMPC**	**1.0003**	**1.0001**	**-0.5**	**3.86E+05**	**1.21**	**N**	**1.31**	**3.72**	**3843.252**	**0.316**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**9.42E+05**	**0.88**	**Y**	**1.07**	**11.5**	**3791.94**	**0.471**
OCDF-a	NotFnd		1.0002						0.07		3360.559	6.74

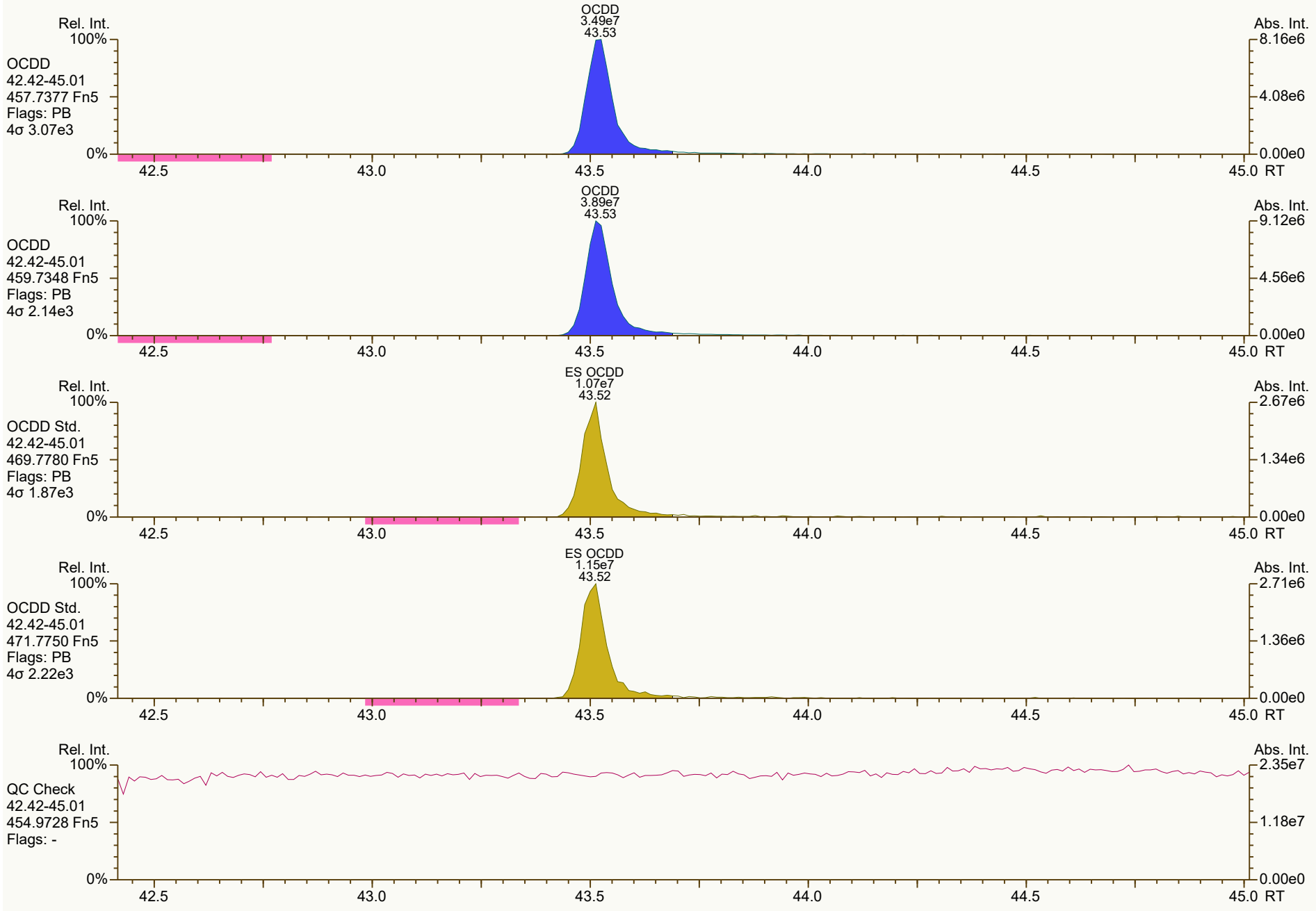

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.38e7
6.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.07e7
5.35e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
4.53e7
2.27e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.59e7
1.29e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.35e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

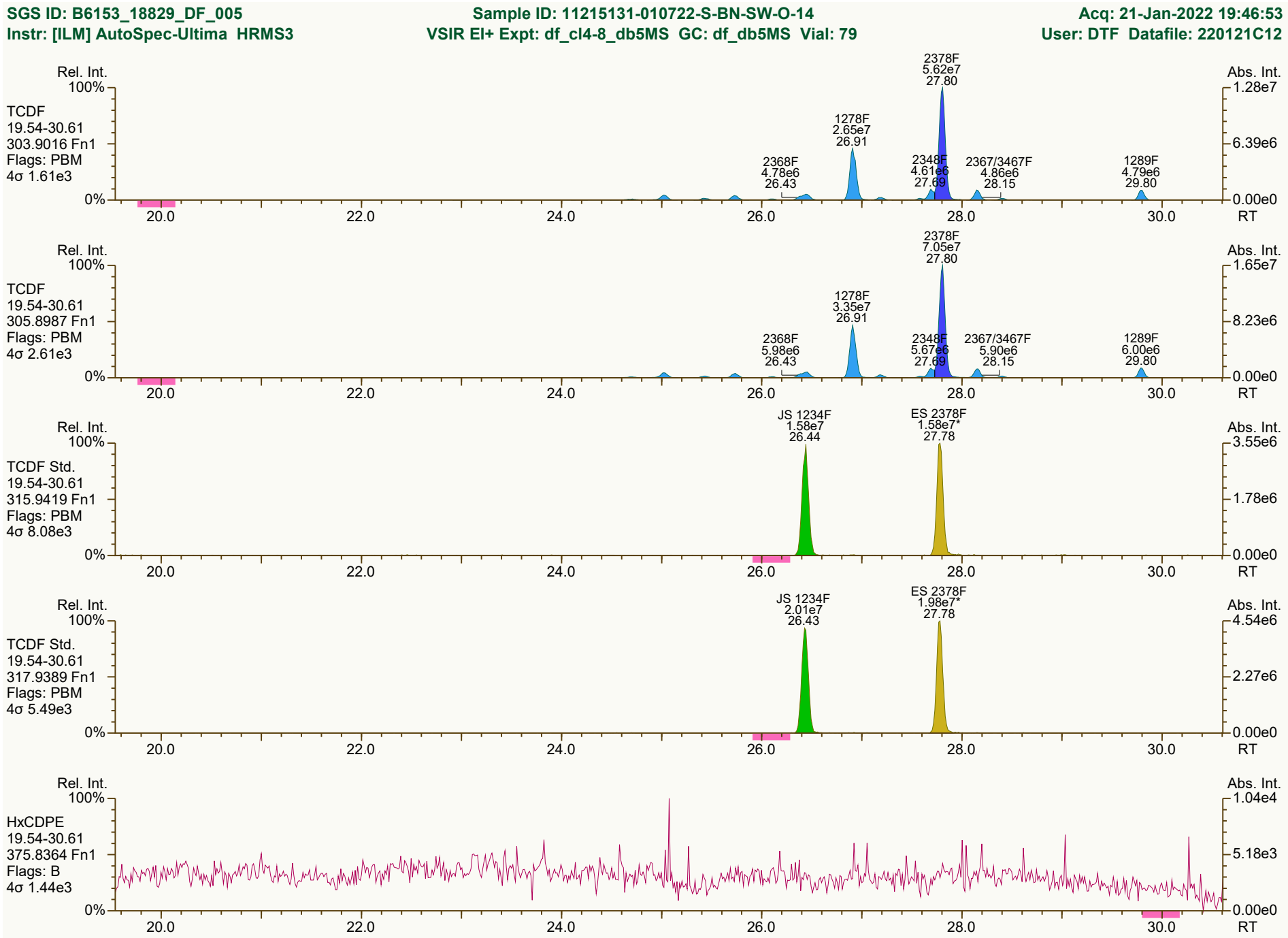

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.05e3
0%
2378D
1.38e7
28.65
1278D
1.27e6*
28.98
Abs. Int.
3.29e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
1.73e7
28.65
1278D
1.66e6*
28.98
Abs. Int.
4.21e6
2.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.74e3
0%
CS 37Cl-2378D
1.01e7
28.65
Abs. Int.
2.35e6
1.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 8.77e3
0%
JS 1234D
1.01e7
27.98
ES 2378D
9.93e6
28.63
Abs. Int.
2.47e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.28e3
0%
JS 1234D
1.21e7
27.98
ES 2378D
1.19e7
28.63
Abs. Int.
2.89e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.72e3
12469D 3.31e5* 31.99
12479/12468D 9.47e4* 31.47
12478D 3.20e4* 32.73
12379D 2.42e4* 32.84
12369D...[3] 1.11e5 33.09
12378D 1.55e5* 33.95
12367D 1.77e4* 34.05
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.98e3
12469D 2.07e5* 31.99
12479/12468D 6.44e4* 31.46
12478D 1.91e4* 32.72
12379D 1.29e4* 32.83
12369D...[3] 5.45e4 33.09
12378D 9.16e4* 33.95
12367D 1.82e4* 34.03
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 4.21e3
CS 12347D 1.16e7 33.44
ES 12378D 1.23e7 33.94
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 1.53e3
CS 12347D 7.49e6 33.44
ES 12378D 7.85e6 33.94
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
RT


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.67e3
124679/124689D
2.25e6
36.10
123679/123689D
5.18e5*
37.05
123678D
9.75e4
37.96
123789D
1.20e5*
38.26
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.49e3
124679/124689D
1.72e6
36.10
123679/123689D
4.27e5*
37.05
123678D
8.68e4
37.96
123789D
1.08e5*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 2.58e3
ES 123678D
1.08e7
37.95
ES 123478D
1.00e7
37.83
JS 123467D
5.26e6
38.13
ES 123789D
1.16e7
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 3.48e3
ES 123678D
8.38e6
37.95
ES 123478D
7.50e6
37.83
JS 123467D
3.97e6
38.13
ES 123789D
9.07e6
38.24
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7663, 0910 scc: 711-803
PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 4 of 12


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.17e3
1234679D
4.76e6*
40.19
1234678D
2.85e6
40.87
1.57e6
7.86e5
0.00e0
RT
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.50e3
1234679D
4.50e6*
40.19
1234678D
2.76e6
40.87
1.51e6
7.57e5
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.35e3
ES 1234678D
8.66e6
40.86
2.50e6
1.25e6
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.05e3
ES 1234678D
7.92e6
40.86
2.42e6
1.21e6
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.59e7
1.29e7
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2647, 0474 scc: 711-803
PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 3.07e3
0%
OCDD
3.49e7
43.53
Abs. Int.
8.16e6
4.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 2.14e3
0%
OCDD
3.89e7
43.53
Abs. Int.
9.12e6
4.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 1.87e3
0%
ES OCDD
1.07e7
43.52
Abs. Int.
2.67e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.15e7
43.52
Abs. Int.
2.71e6
1.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.35e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.61e3
0%
2378F
5.62e7
27.80
1278F
2.65e7
26.91
2368F
4.78e6
26.43
2348F
4.61e6
27.69
2367/3467F
4.86e6
28.15
1289F
4.79e6
29.80
Abs. Int.
1.28e7
6.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.61e3
0%
2378F
7.05e7
27.80
1278F
3.35e7
26.91
2368F
5.98e6
26.43
2348F
5.67e6
27.69
2367/3467F
5.90e6
28.15
1289F
6.00e6
29.80
Abs. Int.
1.65e7
8.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 8.08e3
0%
JS 1234F
1.58e7
26.44
ES 2378F
1.58e7*
27.78
Abs. Int.
3.55e6
1.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 5.49e3
0%
JS 1234F
2.01e7
26.43
ES 2378F
1.98e7*
27.78
Abs. Int.
4.54e6
2.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5032, 0813, 0379 scc: 711-803
PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 7 of 12

SGS ID: B6153_18829_DF_005 | Sample ID: 11215131-010722-S-BN-SW-O-14 | Acq: 21-Jan-2022 19:46:53

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79 | User: DTF Datafile: 220121C12

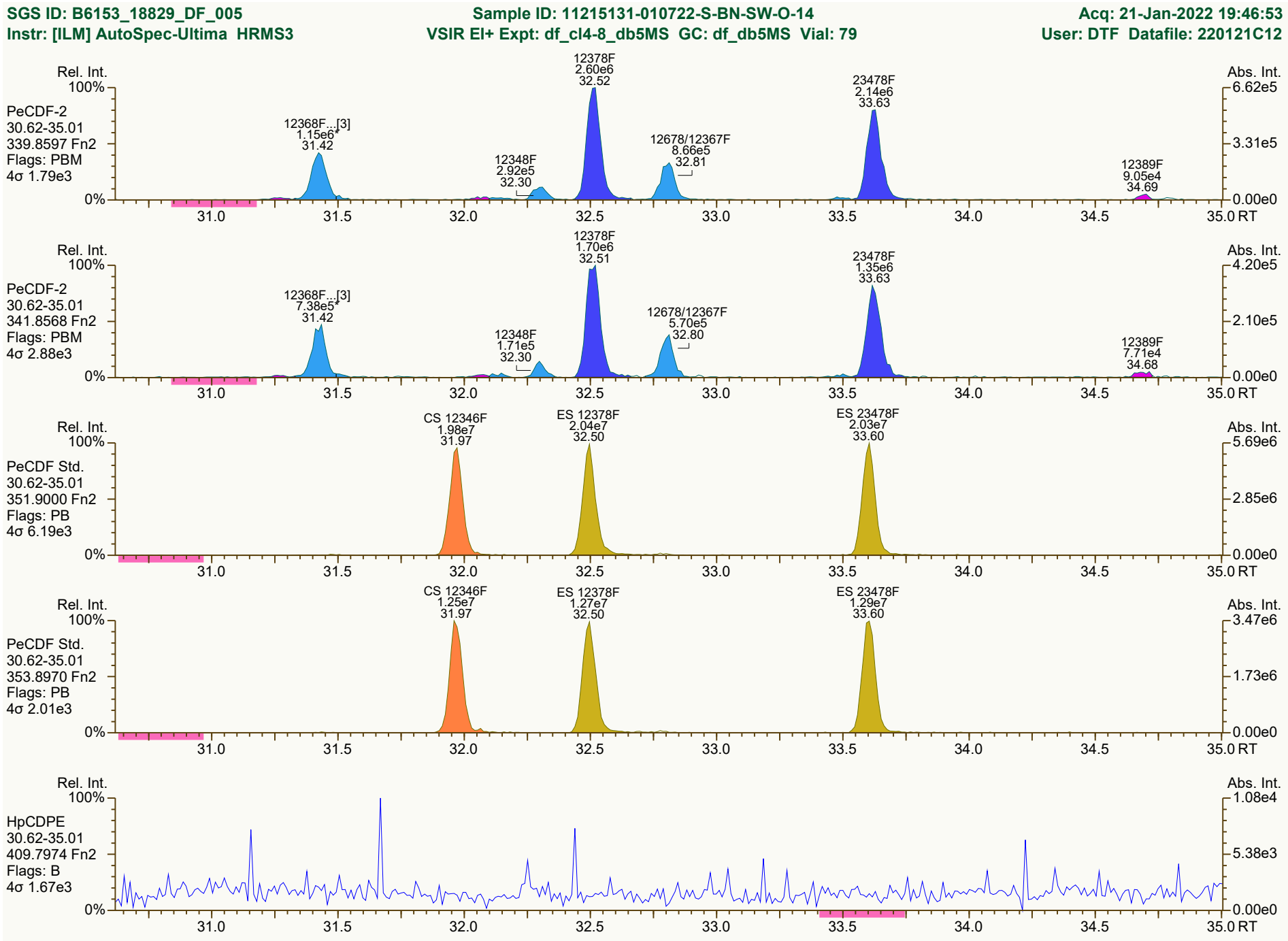


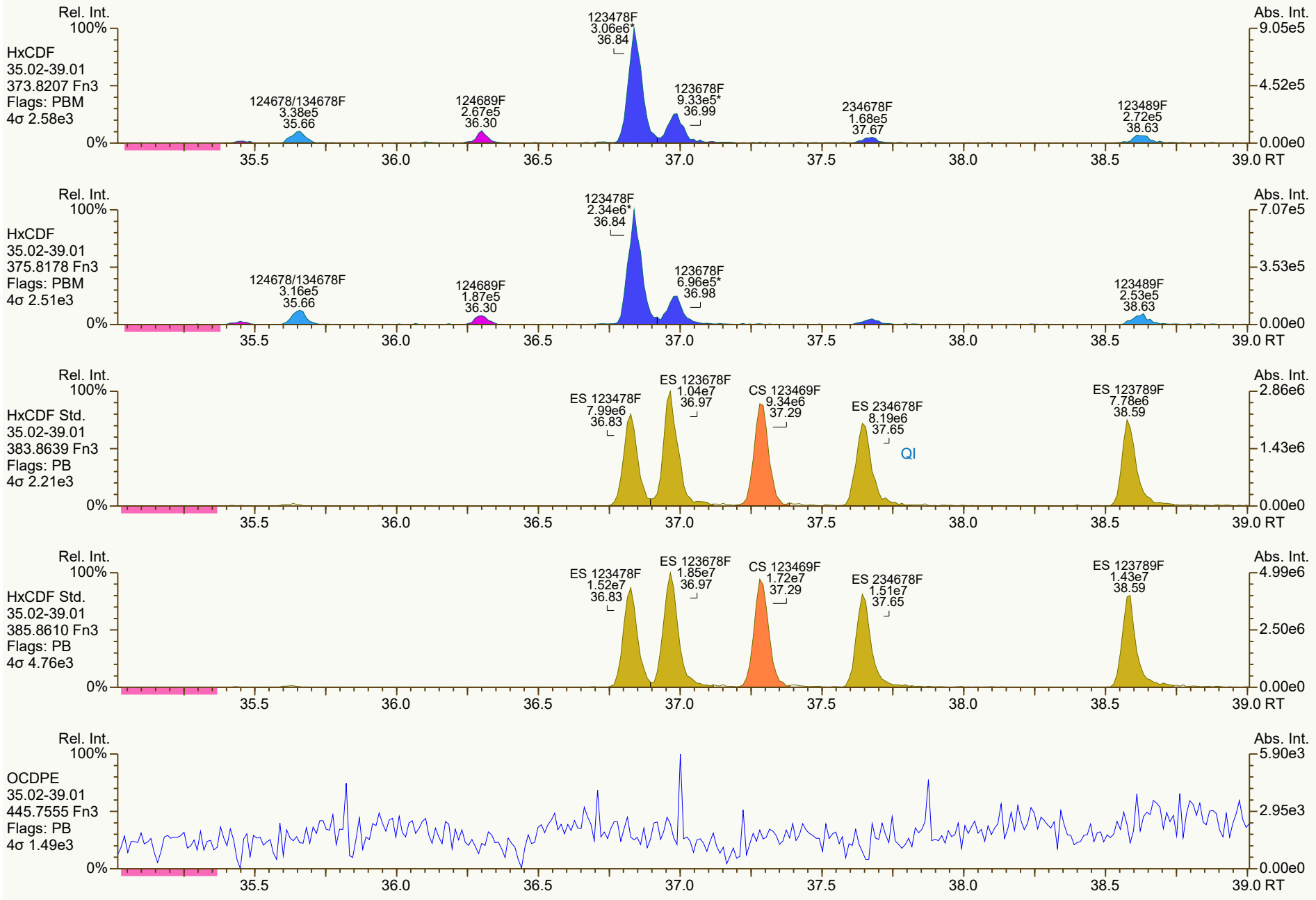
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)

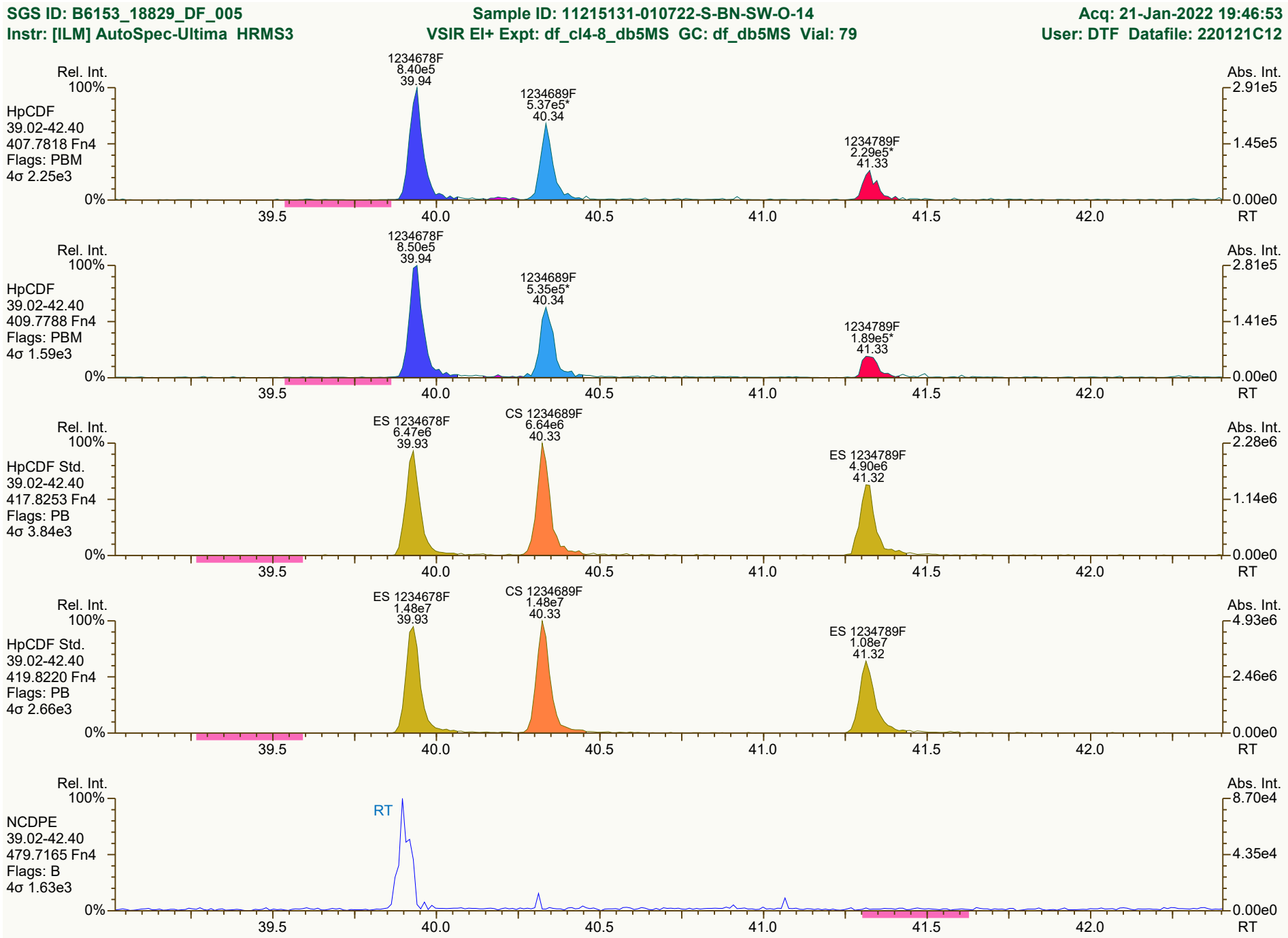
Peak annotation: Areas, Centroids

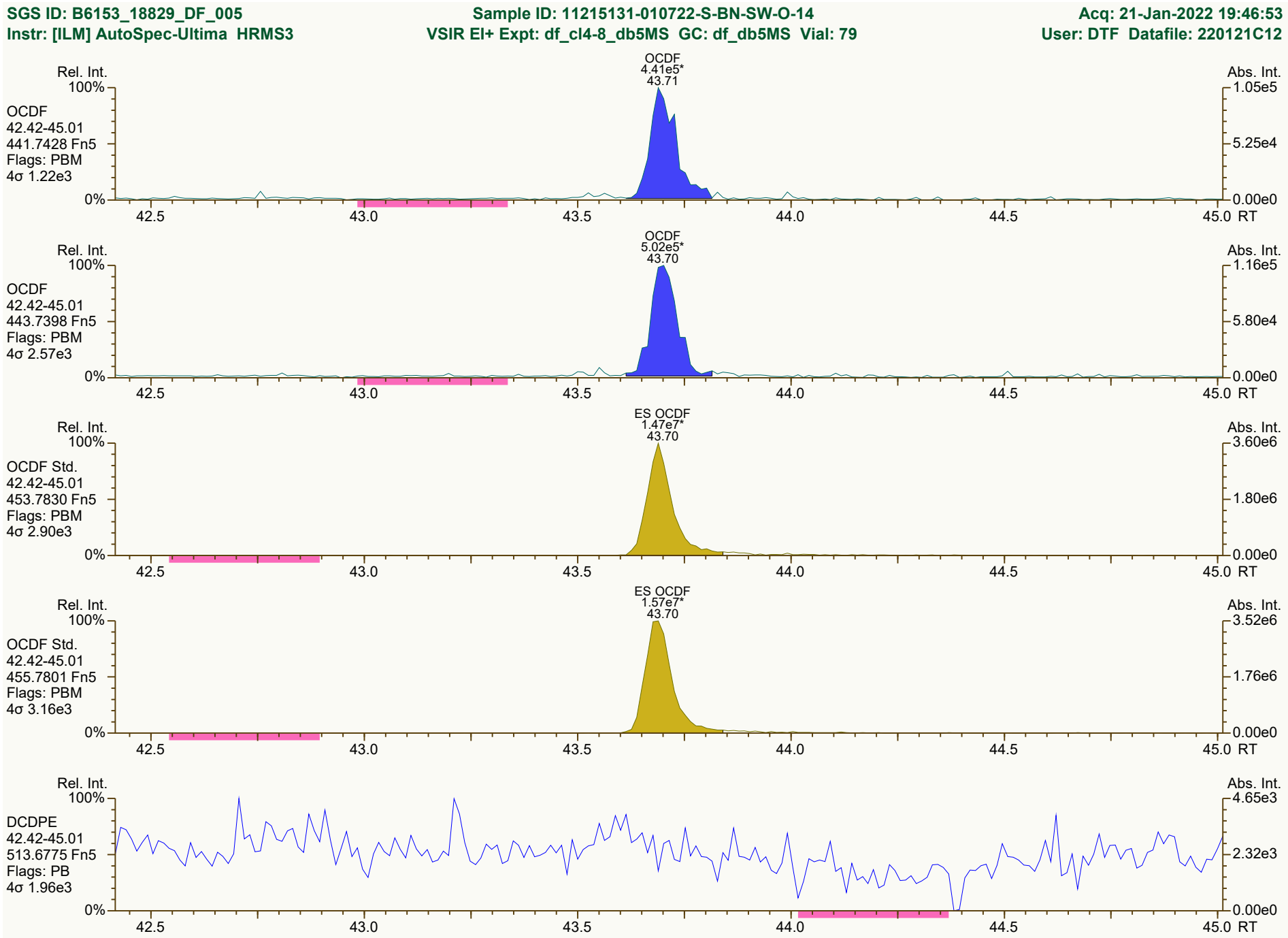
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5006 scc: 711-803

PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 8 of 12


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 1.79e3
12368F...[3] 1.15e6 31.42
12348F 2.92e5 32.30
12378F 2.60e6 32.52
12678/12367F 8.66e5 32.81
23478F 2.14e6 33.63
12389F 9.05e4 34.69
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.88e3
12368F...[3] 7.38e5 31.42
12348F 1.71e5 32.30
12378F 1.70e6 32.51
12678/12367F 5.70e5 32.80
23478F 1.35e6 33.63
12389F 7.71e4 34.68
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 6.19e3
CS 12346F 1.98e7 31.97
ES 12378F 2.04e7 32.50
ES 23478F 2.03e7 33.60
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.01e3
CS 12346F 1.25e7 31.97
ES 12378F 1.27e7 32.50
ES 23478F 1.29e7 33.60
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.67e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
6.62e5
3.31e5
0.00e0
4.20e5
2.10e5
5.69e6
2.85e6
3.47e6
1.73e6
1.08e4
5.38e3
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8839, 7209, 6635 scc: 711-803
PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.58e3
123478F
3.06e6*
36.84
124678/134678F
3.38e5
35.66
124689F
2.67e5
36.30
123678F
9.33e5*
36.99
234678F
1.68e5
37.67
123489F
2.72e5
38.63
Abs. Int.
9.05e5
4.52e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.51e3
123478F
2.34e6*
36.84
124678/134678F
3.16e5
35.66
124689F
1.87e5
36.30
123678F
6.96e5*
36.98
123489F
2.53e5
38.63
7.07e5
3.53e5
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.21e3
ES 123478F
7.99e6
36.83
ES 123678F
1.04e7
36.97
CS 123469F
9.34e6
37.29
ES 234678F
8.19e6
37.65
QI
ES 123789F
7.78e6
38.59
2.86e6
1.43e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 4.76e3
ES 123478F
1.52e7
36.83
ES 123678F
1.85e7
36.97
CS 123469F
1.72e7
37.29
ES 234678F
1.51e7
37.65
ES 123789F
1.43e7
38.59
4.99e6
2.50e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.49e3
5.90e3
2.95e3


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.25e3
1234678F
8.40e5
39.94
1234689F
5.37e5*
40.34
1234789F
2.29e5*
41.33
2.91e5
1.45e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.59e3
1234678F
8.50e5
39.94
1234689F
5.35e5*
40.34
1234789F
1.89e5*
41.33
2.81e5
1.41e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 3.84e3
ES 1234678F
6.47e6
39.93
CS 1234689F
6.64e6
40.33
ES 1234789F
4.90e6
41.32
2.28e6
1.14e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 2.66e3
ES 1234678F
1.48e7
39.93
CS 1234689F
1.48e7
40.33
ES 1234789F
1.08e7
41.32
4.93e6
2.46e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.63e3
RT
8.70e4
4.35e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7898, 0723, 1575 scc: 711-803
PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 11 of 12


SGS ID: B6153_18829_DF_005
Sample ID: 11215131-010722-S-BN-SW-O-14
Acq: 21-Jan-2022 19:46:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220121C12
OCDF
4.41e5*
43.71
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.22e3
OCDF
5.02e5*
43.70
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.57e3
ES OCDF
1.47e7*
43.70
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.90e3
ES OCDF
1.57e7*
43.70
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.16e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.96e3
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_005.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8720, 2453, 8347 scc: 711-803
PKD: 24-Jan-2022 14:39 Printed: 24-Jan-2022 14:55 Page 12 of 12

Lab ID: B6153_18829_DF_006 **Acq'd:** 21 Jan 2022 20:33 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-B-16 **UTP:** 24-Jan-2022 14:42:55 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 932-607-PHH

Datafile: 220121C13 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66	E	1.0008	1.0008	0	3.07E+08	0.80	Y	1.18	2,310	6438.069	0.508
12378-PeCDD	33.96		1.0006	1.0005	-0.2	2.48E+06	1.58	Y	1.04	23.3	4165.345	0.367
123478-HxCDD	37.84	J EMPC	1.0004	1.0004	0	8.06E+04	1.53	N	1.09	0.793	5140.839	0.473
123678-HxCDD	37.96		1.0034	1.0034	0	2.82E+05	1.37	Y	1.15	2.59	5140.839	0.433
123789-HxCDD	38.24	J	1.0109	1.0109	0	2.42E+05	1.24	Y	1.05	2.18	5140.839	0.42
1234678-HpCDD	40.87		1.0003	1.0003	0	7.23E+06	1.04	Y	1.06	75.4	5478.077	0.497
OCDD	43.52		1.0002	1.0003	+0.3	8.00E+07	0.91	Y	1.13	1,250	3739.559	0.617
2378-TCDF	27.81	E	1.0008	1.0007	-0.2	1.25E+09	0.79	Y	1.08	6,420	6010.338	0.322
12378-PeCDF	32.52		1.0005	1.0005	0	2.68E+07	1.56	Y	1.02	157	7114.302	0.381
23478-PeCDF	33.63		1.0005	1.0007	+0.4	2.11E+07	1.58	Y	1.02	129	7114.302	0.412
123478-HxCDF	36.84		1.0004	1.0005	+0.2	4.48E+07	1.25	Y	1.27	290	4632.419	0.258
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.29E+07	1.29	Y	1.15	76.4	4632.419	0.236
234678-HxCDF	37.66		1.0004	1.0004	0	1.88E+06	1.23	Y	1.19	13.6	4632.419	0.311
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4632.419	0.284
1234678-HpCDF	39.93		1.0002	1.0003	+0.2	1.40E+07	1.03	Y	1.37	93.6	3757.807	0.191
1234789-HpCDF	41.33		1.0003	1.0003	0	4.12E+06	1.07	Y	1.31	36.6	3757.807	0.296
OCDF	43.70		1.0002	1.0003	+0.3	2.57E+07	0.90	Y	1.07	302	5124.076	0.637

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0233	0	2.21E+07	0.80	Y	1.05	98.2
ES 12378-PeCDD	33.94	1.2121	1.2127	+1.2	2.02E+07	1.56	Y	0.88	107
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.84E+07	1.25	Y	0.97	95.4
ES 123678-HxCDD	37.94	0.9951	0.9951	0	1.87E+07	1.28	Y	0.94	99.7
ES 123789-HxCDD	38.23	1.0025	1.0027	+0.5	2.09E+07	1.21	Y	1.09	96.3
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.78E+07	1.09	Y	0.91	98.4
ES OCDD	43.50	1.1403	1.1409	+1.6	2.24E+07	0.94	Y	0.62	90.4
ES 2378-TCDF	27.79	1.0506	1.0510	+0.7	3.56E+07	0.81	Y	1.06	95.7
ES 12378-PeCDF	32.51	1.2281	1.2294	+2.5	3.29E+07	1.57	Y	0.91	103
ES 23478-PeCDF	33.61	1.2698	1.2712	+2.8	3.16E+07	1.57	Y	0.88	102
ES 123478-HxCDF	36.82	0.9657	0.9657	0	2.40E+07	0.52	Y	1.20	101
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.89E+07	0.51	Y	1.35	108
ES 234678-HxCDF	37.65	0.9874	0.9873	-0.2	2.29E+07	0.53	Y	1.24	93
ES 123789-HxCDF	38.58	1.0116	1.0118	+0.5	2.27E+07	0.52	Y	1.16	98.8
ES 1234678-HpCDF	39.92	1.0467	1.0470	+0.7	2.16E+07	0.44	Y	0.97	112
ES 1234789-HpCDF	41.31	1.0830	1.0835	+1.2	1.70E+07	0.47	Y	0.85	100
ES OCDF	43.69	1.1451	1.1458	+1.8	3.13E+07	0.91	Y	0.81	97.7

Lab ID: B6153_18829_DF_006 **Acq'd:** 21 Jan 2022 20:33 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-B-16 **UTP:** 24-Jan-2022 14:42:55 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 932-607-PHH

Datafile: 220121C13 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.99		-	-	-	2.16E+07	0.86	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	3.52E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	9.92E+06	1.34	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0240	-0.2	9.68E+06	n/a	-	1.20	93.4	
CS 12347-PeCDD	33.44		1.1943	1.1949	+1.2	1.88E+07	1.60	Y	0.75	116	
CS 12346-PeCDF	31.98		1.2083	1.2095	+2.3	3.13E+07	1.66	Y	0.85	105	
CS 123469-HxCDF	37.28		0.9778	0.9778	0	2.59E+07	0.52	Y	1.12	117	
CS 1234689-HpCDF	40.32		1.0571	1.0575	+1.0	2.14E+07	0.44	Y	0.89	122	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0240~~	~~-0.2~~	~~9.68E+06~~	~~n/a~~		~~1.15~~	~~95.4~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1949~~	~~+1.2~~	~~1.88E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~109~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~3.13E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.59E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~109~~	
~~SS 1234689-HpCDF~~	~~40.32~~		~~1.0571~~	~~1.0575~~	~~+1.0~~	~~2.14E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~108~~	

Totals	Conc	EMPC
Total TCDD	2590	2600
Total PeCDD	27.6	32.9
Total HxCDD	40.7	42
Total HpCDD	186	186
Total Tetra-Octa Dioxins	4100	4110
Total TCDF	12,500	12500
Total PeCDF	442	449
Total HxCDF	451	451
Total HpCDF	173	173
Total Tetra-Octa Furans	13,900	13900
Total Tetra-Octa Dioxins & Furans	18000	18000

Lab ID: B6153_18829_DF_006 **Acq'd: 21 Jan 2022 20:33 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-B-16 **UTP: 24-Jan-2022 14:42:55 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 932-607-PHH**

Datafile: 220121C13 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.06		0.8755	0.8749	-0.9	1.75E+05	0.82	Y	1.18	1.31	6438.069	0.508
1379-TCDD	25.41	EMPC	0.8876	0.8873	-0.5	7.64E+04	1.02	N	1.18	0.575	6438.069	0.508
1369-TCDD	NotFnd		0.9023						1.18		6438.069	0.508
1469-TCDD	26.60		0.9291	0.9288	-0.5	6.72E+05	0.82	Y	1.18	5.05	6438.069	0.508
1247/1246/1248/1249-TCDD	26.82		0.9373	0.9366	-1.1	5.72E+05	0.78	Y	1.18	4.3	6438.069	0.508
1378-TCDD	27.03		0.9440	0.9439	-0.2	1.02E+06	0.75	Y	1.18	7.69	6438.069	0.508
1268-TCDD	NotFnd		0.9506						1.18		6438.069	0.508
1478-TCDD	27.46	EMPC	0.9591	0.9589	-0.3	8.15E+05	0.90	N	1.18	6.13	6438.069	0.508
1279-TCDD	NotFnd		0.9649						1.18		6438.069	0.508
1234/1269-TCDD	27.98		0.9771	0.9769	-0.3	2.09E+05	0.86	Y	1.18	1.57	6438.069	0.508
1236-TCDD	NotFnd		0.9820						1.18		6438.069	0.508
1237/1238-TCDD	28.38		0.9908	0.9908	0	4.86E+06	0.84	Y	1.18	36.5	6438.069	0.508
1239-TCDD	NotFnd		0.9954						1.18		6438.069	0.508
2378-TCDD	**28.66**	E	**1.0008**	1.0008	**0**	3.07E+08	0.80	Y	**1.18**	**2,310**	**6438.069**	**0.508**
1278-TCDD	28.99		1.0121	1.0121	0	2.96E+07	0.81	Y	1.18	223	6438.069	0.508
1267-TCDD	29.13		1.0167	1.0171	+0.7	9.37E+05	0.82	Y	1.18	7.04	6438.069	0.508
1289-TCDD	29.61	EMPC	1.0341	1.0340	-0.2	5.08E+05	0.97	N	1.18	3.82	6438.069	0.508
12479/12468-PeCDD	31.47	J EMPC	0.9273	0.9272	-0.2	1.17E+05	1.81	N	1.04	1.1	4165.345	0.367
12469-PeCDD	32.00	EMPC	0.9430	0.9428	-0.4	2.85E+05	1.88	N	1.04	2.68	4165.345	0.367
12368-PeCDD	32.55	J	0.9592	0.9589	-0.6	9.16E+04	1.33	Y	1.04	0.861	4165.345	0.367
12478-PeCDD	32.74	J	0.9647	0.9647	0	1.58E+05	1.77	Y	1.04	1.49	4165.345	0.367
12379-PeCDD	32.84	J EMPC	0.9676	0.9676	0	3.39E+04	2.85	N	1.04	0.319	4165.345	0.367
12369/12467/12489-PeCDD	33.10	J EMPC	0.9752	0.9752	0	1.06E+05	2.03	N	1.04	0.999	4165.345	0.367
12346/12347-PeCDD	33.46	J	0.9860	0.9857	-0.6	6.86E+04	1.42	Y	1.04	0.645	4165.345	0.367
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**2.48E+06**	**1.58**	**Y**	**1.04**	**23.3**	**4165.345**	**0.367**
12367-PeCDD	34.05	J	1.0034	1.0034	0	1.34E+05	1.69	Y	1.04	1.26	4165.345	0.367
12389-PeCDD	34.39	J EMPC	1.0134	1.0133	-0.2	2.48E+04	2.06	N	1.04	0.234	4165.345	0.367
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	2.50E+06	1.27	Y	1.10	23.3	5140.839	0.44
123468-HxCDD	36.74	J	0.9715	0.9714	-0.2	1.45E+05	1.12	Y	1.10	1.35	5140.839	0.44
123679/123689-HxCDD	37.05		0.9793	0.9793	0	1.10E+06	1.27	Y	1.10	10.3	5140.839	0.44
123469-HxCDD	37.18	J	0.9829	0.9828	-0.2	1.11E+05	1.19	Y	1.10	1.03	5140.839	0.44
123478-HxCDD	37.84	J EMPC	**1.0004**	**1.0004**	**0**	**8.06E+04**	**1.53**	**N**	1.09	**0.793**	**5140.839**	**0.473**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**2.82E+05**	**1.37**	**Y**	1.15	**2.59**	**5140.839**	**0.433**
123467-HxCDD	38.14	J EMPC	1.0082	1.0082	0	5.55E+04	1.83	N	1.10	0.517	5140.839	0.44
123789-HxCDD	38.24	J	**1.0109**	**1.0109**	**0**	**2.42E+05**	**1.24**	**Y**	1.05	**2.18**	**5140.839**	**0.42**

Lab ID: B6153_18829_DF_006 **Acq'd:** 21 Jan 2022 20:33 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-B-16 **UTP:** 24-Jan-2022 14:42:55 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 932-607-PHH

Datafile: 220121C13 **Report:** 24 Jan 2022 14:49 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

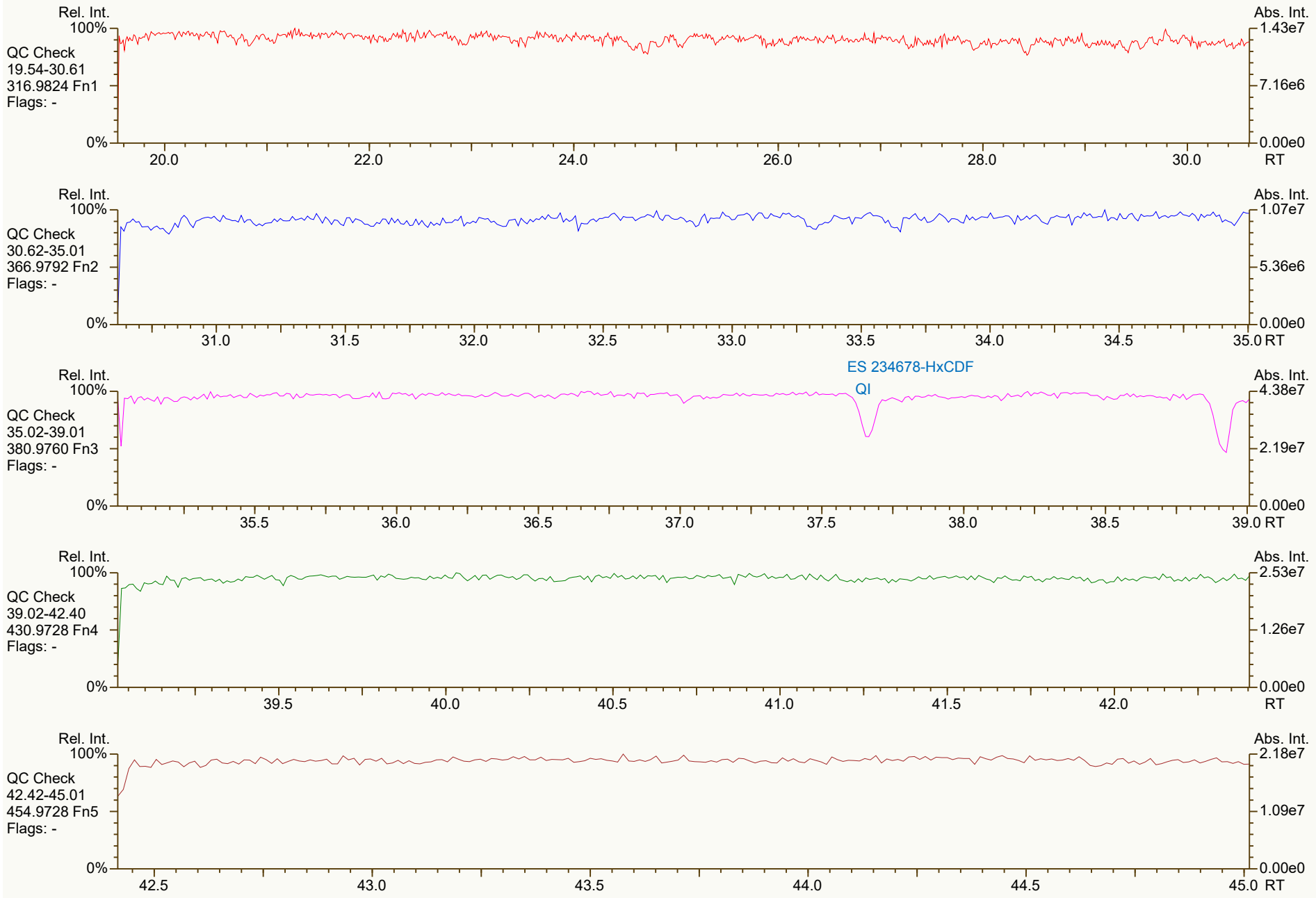
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	1.06E+07	1.03	Y	1.06	111	5478.077	0.497
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**7.23E+06**	**1.04**	**Y**	**1.06**	**75.4**	**5478.077**	**0.497**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**8.00E+07**	**0.91**	**Y**	**1.13**	**1,250**	**3739.559**	**0.617**
OCDD-a	43.51		1.0002	1.0002	0	4.97E+06	2.78	Y	0.07	1,210	4045.929	10.4
1368-TCDF	22.99		0.8282	0.8272	-1.4	3.45E+05	0.74	Y	1.08	1.77	6010.338	0.322
1468-TCDF	23.56		0.8485	0.8478	-1.0	1.62E+06	0.81	Y	1.08	8.32	6010.338	0.322
2468-TCDF	24.18		0.8709	0.8702	-1.0	1.27E+06	0.78	Y	1.08	6.51	6010.338	0.322
1346/1246-TCDF	NotFnd		0.8829						1.08		6010.338	0.322
1347/1378/1247-TCDF	24.72		0.8884	0.8896	+1.8	1.09E+07	0.76	Y	1.08	56	6010.338	0.322
1348-TCDF	24.94		0.8980	0.8972	-1.2	2.87E+06	0.78	Y	1.08	14.7	6010.338	0.322
1248/1367/1379-TCDF	25.04		0.9026	0.9011	-2.3	5.34E+07	0.80	Y	1.08	274	6010.338	0.322
1268-TCDF	25.44		0.9158	0.9155	-0.5	1.87E+07	0.80	Y	1.08	96.1	6010.338	0.322
1467-TCDF	25.57		0.9206	0.9202	-0.6	2.83E+06	0.77	Y	1.08	14.5	6010.338	0.322
1478-TCDF	25.74		0.9266	0.9263	-0.5	5.00E+07	0.79	Y	1.08	257	6010.338	0.322
1369/1237-TCDF	26.12		0.9397	0.9399	+0.3	1.29E+07	0.79	Y	1.08	66.1	6010.338	0.322
2467-TCDF	26.23		0.9440	0.9437	-0.5	1.34E+06	0.78	Y	1.08	6.87	6010.338	0.322
2368-TCDF	26.39		0.9497	0.9496	-0.2	4.23E+07	0.77	Y	1.08	217	6010.338	0.322
1238/1234/1678/1469/1236-TCDF	26.46		0.9528	0.9522	-1.0	5.05E+07	0.80	Y	1.08	259	6010.338	0.322
1278-TCDF	26.92	E	0.9690	0.9686	-0.6	5.87E+08	0.80	Y	1.08	3,010	6010.338	0.322
1349-TCDF	NotFnd		0.9730						1.08		6010.338	0.322
1267-TCDF	27.19		0.9787	0.9784	-0.5	3.05E+07	0.76	Y	1.08	157	6010.338	0.322
2346/1249-TCDF	27.38		0.9850	0.9853	+0.5	3.77E+06	0.82	Y	1.08	19.3	6010.338	0.322
2347/1279-TCDF	27.58		0.9929	0.9924	-0.8	1.29E+07	0.77	Y	1.08	66.2	6010.338	0.322
2348-TCDF	27.69		0.9970	0.9965	-0.8	8.71E+07	0.77	Y	1.08	447	6010.338	0.322
2378-TCDF	**27.81**	E	**1.0008**	**1.0007**	**-0.2**	**1.25E+09**	**0.79**	**Y**	**1.08**	**6,420**	**6010.338**	**0.322**
2367/3467-TCDF	28.16		1.0136	1.0133	-0.5	9.86E+07	0.78	Y	1.08	505	6010.338	0.322
1269-TCDF	28.41		1.0221	1.0225	+0.7	1.96E+07	0.82	Y	1.08	101	6010.338	0.322
1239-TCDF	28.67		1.0319	1.0316	-0.5	1.55E+06	0.81	Y	1.08	7.93	6010.338	0.322
1289-TCDF	29.81		1.0740	1.0726	-2.5	1.04E+08	0.80	Y	1.08	532	6010.338	0.322
13468/12468-PeCDF	29.74		0.9145	0.9149	+0.7	9.25E+05	1.69	Y	1.02	5.53	3867.394	0.215
13678/13467/12467-PeCDF	31.27	J	0.9619	0.9621	+0.4	3.35E+05	1.75	Y	1.02	2	7114.302	0.396
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	1.19E+07	1.55	Y	1.02	71.3	7114.302	0.396
14678-PeCDF	31.51	J EMPC	0.9695	0.9694	-0.2	3.68E+05	1.83	N	1.02	2.2	7114.302	0.396
13479-PeCDF	NotFnd		0.9724						1.02		7114.302	0.396
13469/12479-PeCDF	31.81	J EMPC	0.9801	0.9785	-3.1	7.86E+04	2.12	N	1.02	0.469	7114.302	0.396
12346-PeCDF	NotFnd		0.9842						1.02		7114.302	0.396

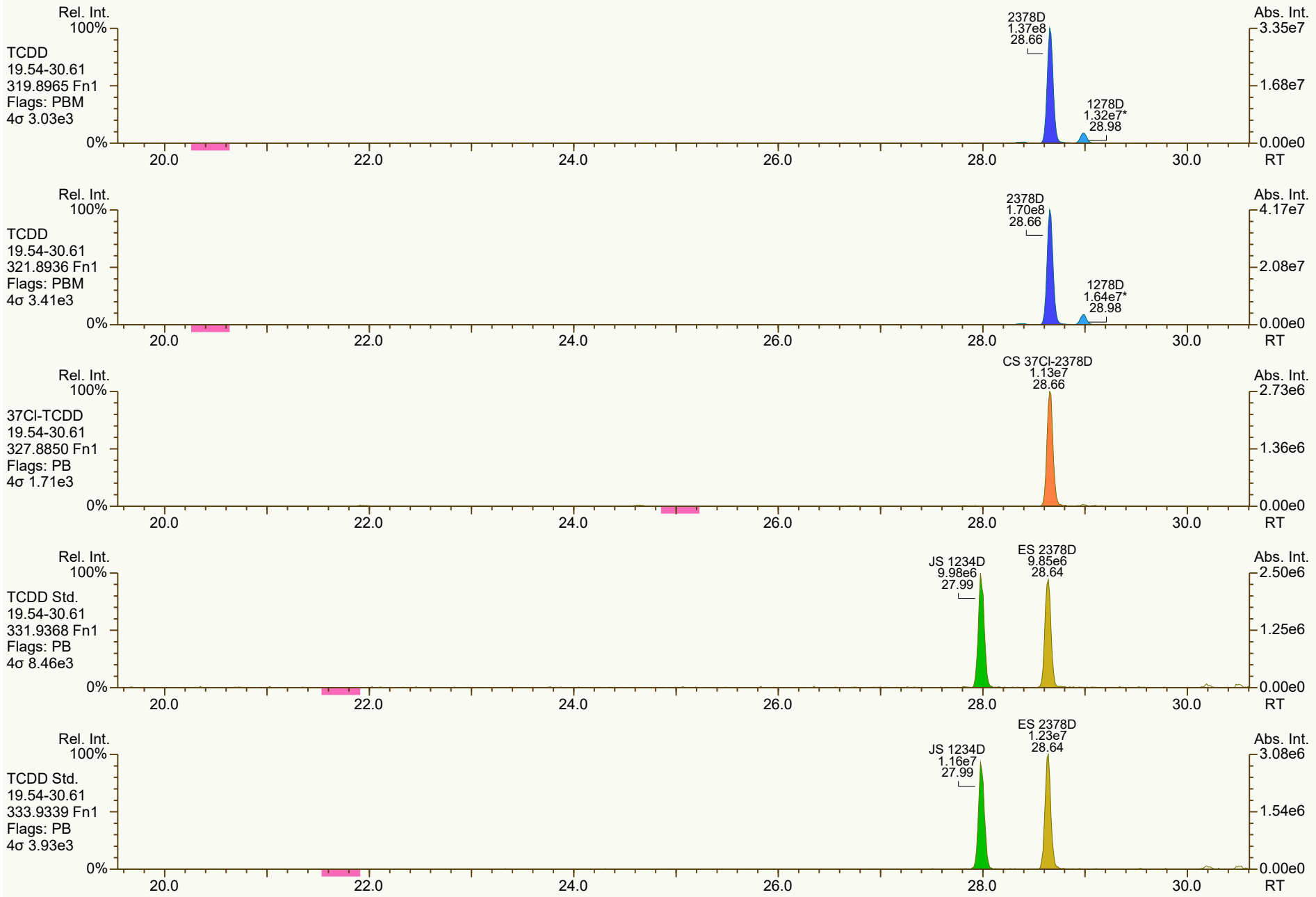
Lab ID: B6153_18829_DF_006 **Acq'd: 21 Jan 2022 20:33 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-B-16 **UTP: 24-Jan-2022 14:42:55 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 932-607-PHH**

Datafile: 220121C13 **Report: 24 Jan 2022 14:49 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07		0.9868	0.9866	-0.4	5.00E+05	1.68	Y	1.02	2.99	7114.302	0.396
12347-PeCDF	32.15	EMPC	0.9895	0.9890	-1.0	7.25E+05	1.81	N	1.02	4.33	7114.302	0.396
12348-PeCDF	32.31		0.9941	0.9940	-0.2	2.76E+06	1.52	Y	1.02	16.5	7114.302	0.396
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**2.68E+07**	**1.56**	**Y**	**1.02**	**157**	**7114.302**	**0.381**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	8.09E+06	1.55	Y	1.02	48.3	7114.302	0.396
12379-PeCDF	NotFnd		1.0142						1.02		7114.302	0.396
12679-PeCDF	NotFnd		0.9931						1.02		7114.302	0.396
23467/12369-PeCDF	33.49		0.9966	0.9964	-0.4	4.32E+05	1.55	Y	1.02	2.58	7114.302	0.396
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**2.11E+07**	**1.58**	**Y**	**1.02**	**129**	**7114.302**	**0.412**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7114.302	0.396
12349-PeCDF	NotFnd		1.0101						1.02		7114.302	0.396
12389-PeCDF	34.69		1.0322	1.0322	0	1.24E+06	1.52	Y	1.02	7.4	7114.302	0.396
123468-HxCDF	35.46		0.9627	0.9630	+0.6	5.31E+05	1.27	Y	1.19	3.56	4632.419	0.269
124678/134678-HxCDF	35.65		0.9684	0.9683	-0.2	3.93E+06	1.28	Y	1.19	26.4	4632.419	0.269
134679-HxCDF	NotFnd		0.9747						1.19		4632.419	0.269
124679-HxCDF	NotFnd		0.9802						1.19		4632.419	0.269
124689-HxCDF	36.30		0.9858	0.9858	0	2.35E+06	1.25	Y	1.19	15.7	4632.419	0.269
123467-HxCDF	36.71	J	0.9972	0.9970	-0.4	2.79E+05	1.20	Y	1.19	1.87	4632.419	0.269
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**4.48E+07**	**1.25**	**Y**	**1.27**	**290**	**4632.419**	**0.258**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.29E+07**	**1.29**	**Y**	**1.15**	**76.4**	**4632.419**	**0.236**
123479-HxCDF	NotFnd		1.0051						1.19		4632.419	0.269
123469-HxCDF	NotFnd		1.0091						1.19		4632.419	0.269
123679-HxCDF	NotFnd		0.9943						1.19		4632.419	0.269
234678-HxCDF	**37.66**		**1.0004**	**1.0004**	**0**	**1.88E+06**	**1.23**	**Y**	**1.19**	**13.6**	**4632.419**	**0.311**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4632.419	0.269
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4632.419**	**0.284**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62		1.0007	1.0010	+0.7	3.54E+06	1.26	Y	1.19	23.7	4632.419	0.269
1234678-HpCDF	**39.93**		**1.0002**	**1.0003**	**+0.2**	**1.40E+07**	**1.03**	**Y**	**1.37**	**93.6**	**3757.807**	**0.191**
1234679-HpCDF	40.16		1.0067	1.0060	-1.7	4.08E+05	1.11	Y	1.34	3.12	3757.807	0.237
1234689-HpCDF	40.34		1.0101	1.0104	+0.7	5.13E+06	1.03	Y	1.34	39.2	3757.807	0.237
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**4.12E+06**	**1.07**	**Y**	**1.31**	**36.6**	**3757.807**	**0.296**
OCDF	**43.70**		**1.0002**	**1.0003**	**+0.3**	**2.57E+07**	**0.90**	**Y**	**1.07**	**302**	**5124.076**	**0.637**
OCDF-a	43.70		1.0002	1.0001	-0.3	1.64E+06	2.54	Y	0.07	310	4212.392	8.46

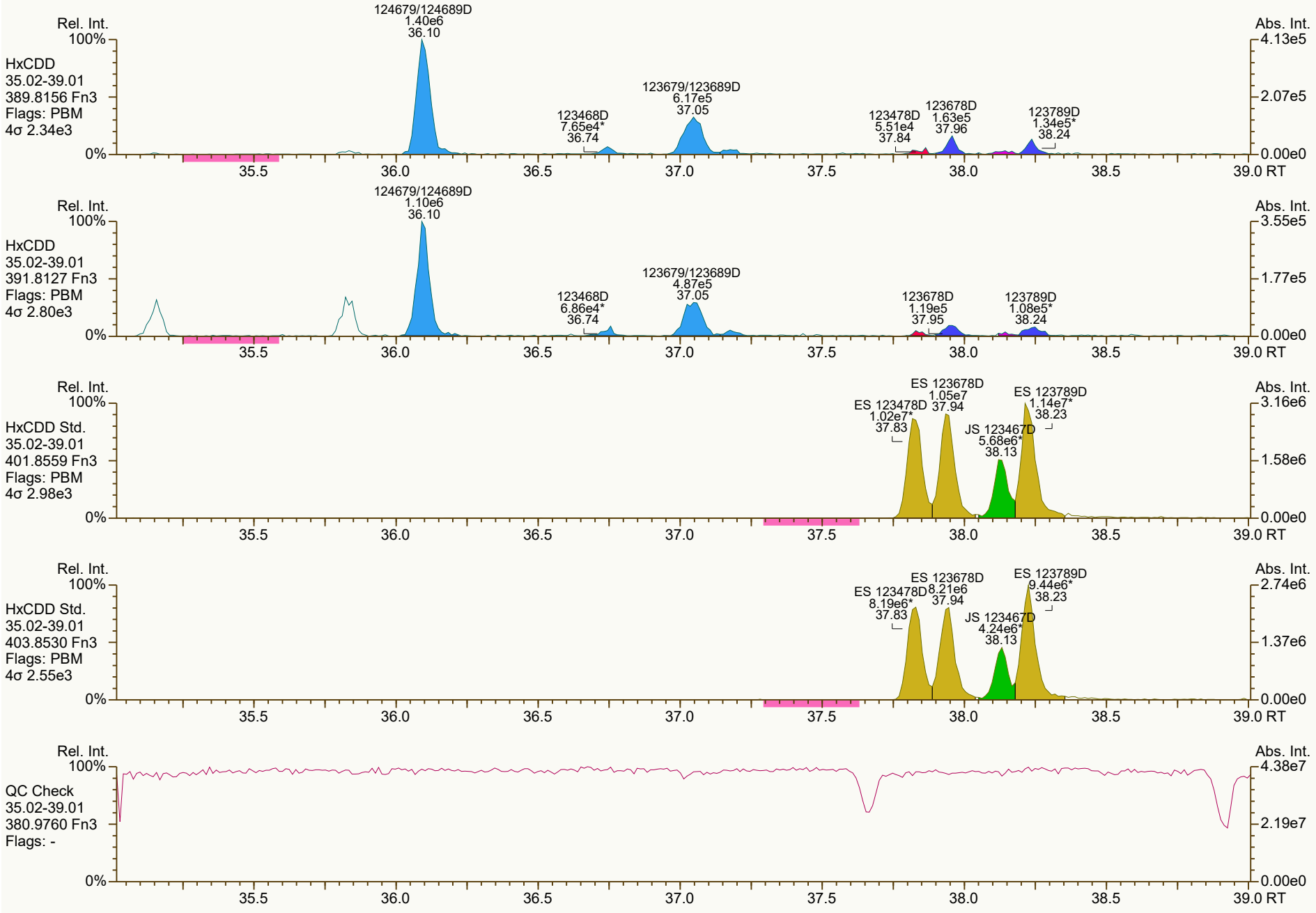

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19.54-30.61
316.9824 Fn1
Flags: -
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.43e7
7.16e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.07e7
5.36e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
ES 234678-HxCDF
QI
Abs. Int.
4.38e7
2.19e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
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1.26e7
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Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
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42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.18e7
1.09e7
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.03e3
0%
2378D
1.37e8
28.66
1278D
1.32e7*
28.98
Abs. Int.
3.35e7
1.68e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
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0%
2378D
1.70e8
28.66
1278D
1.64e7*
28.98
Abs. Int.
4.17e7
2.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.71e3
0%
CS 37Cl-2378D
1.13e7
28.66
Abs. Int.
2.73e6
1.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
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0%
JS 1234D
9.98e6
27.99
ES 2378D
9.85e6
28.64
Abs. Int.
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1.25e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.93e3
0%
JS 1234D
1.16e7
27.99
ES 2378D
1.23e7
28.64
Abs. Int.
3.08e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 2.59e3
0%
12469D
2.10e5
32.00
12478D
1.01e5*
32.74
12369D...[3]
8.45e4
33.10
12378D
1.52e6*
33.96
12367D
8.43e4*
34.05
Abs. Int.
4.45e5
2.22e5
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32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.57e3
0%
12469D
1.12e5
32.00
12478D
5.70e4*
32.73
12369D...[3]
4.17e4
33.09
12346/12347D
2.83e4
33.46
12378D
9.62e5*
33.96
12367D
5.00e4*
34.05
Abs. Int.
2.78e5
1.39e5
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31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 2.52e3
0%
CS 12347D
1.16e7
33.44
ES 12378D
1.23e7
33.94
Abs. Int.
3.32e6
1.66e6
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31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 2.94e3
0%
CS 12347D
7.26e6
33.44
ES 12378D
7.89e6
33.94
Abs. Int.
2.18e6
1.09e6
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31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.07e7
5.36e6
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32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

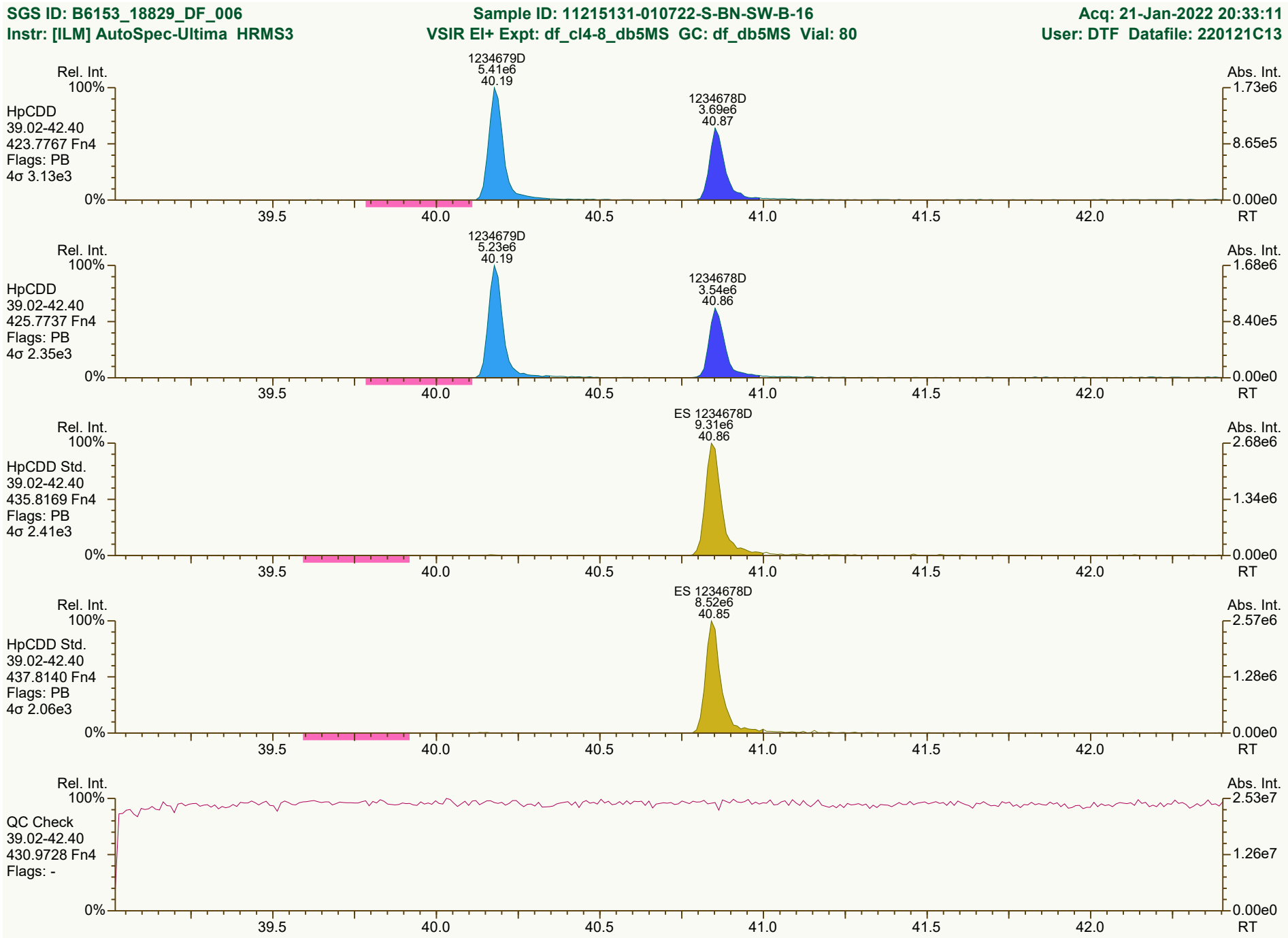
SGS ID: B6153_18829_DF_006 | Sample ID: 11215131-010722-S-BN-SW-B-16 | Acq: 21-Jan-2022 20:33:11

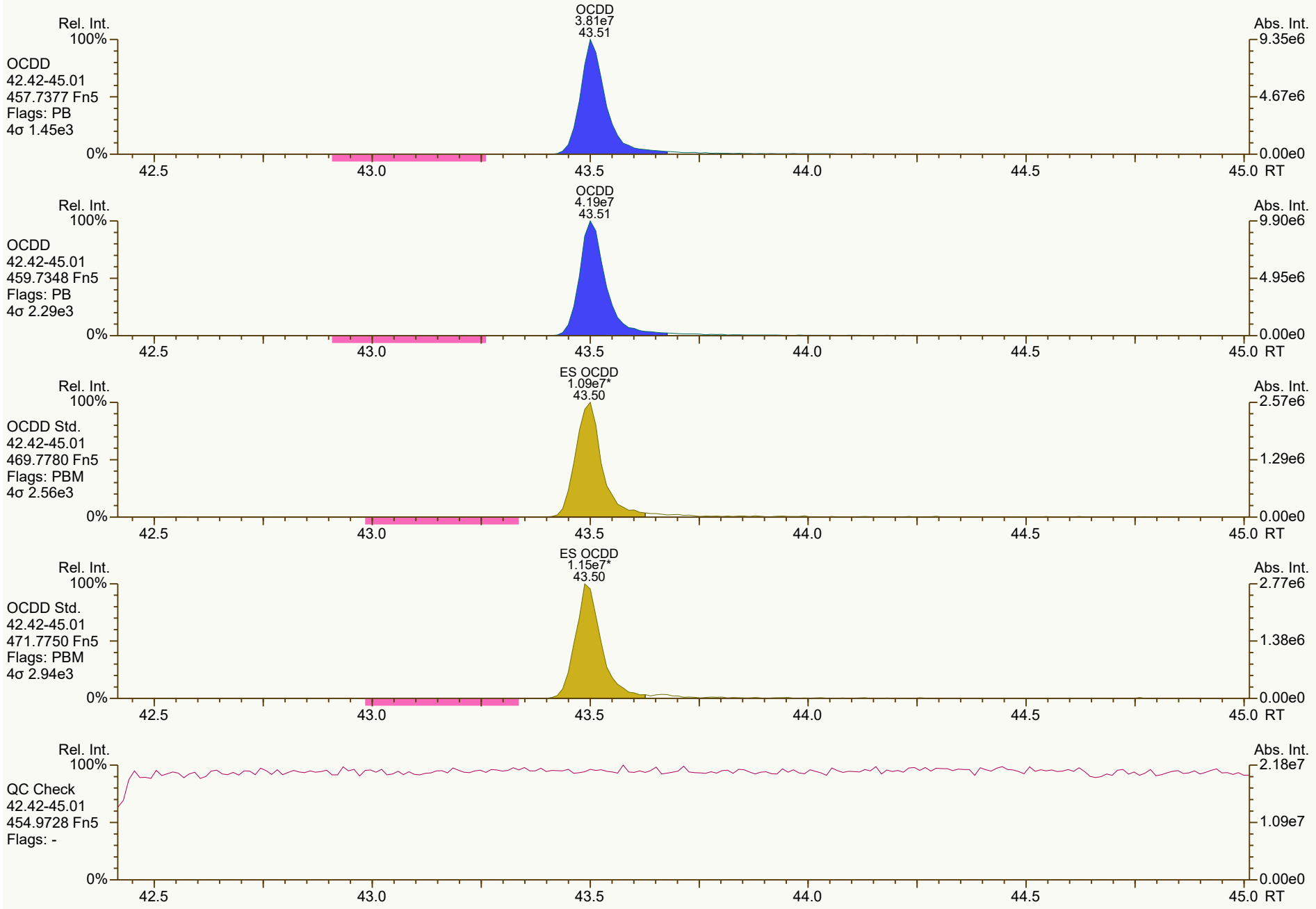
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80 | User: DTF Datafile: 220121C13

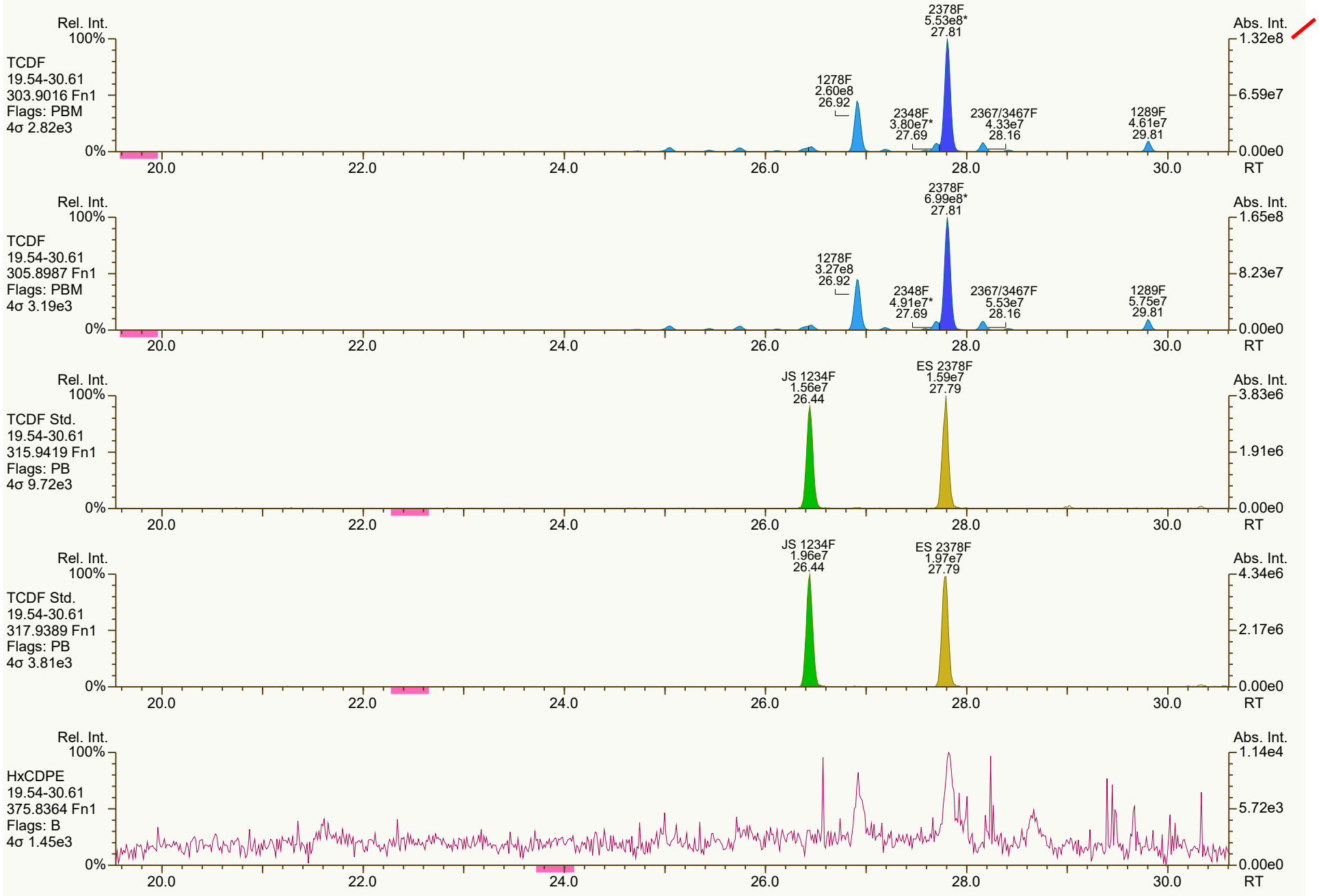


Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_006.utp_res, saved 24-Jan-2022 14:51 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0388, 6417 scc: 932-607 | *PKD: 24-Jan-2022 14:42 Printed: 24-Jan-2022 14:55 Page 4 of 12*


SGS ID: B6153_18829_DF_006
Sample ID: 11215131-010722-S-BN-SW-B-16
Acq: 21-Jan-2022 20:33:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80
User: DTF Datafile: 220121C13
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 3.13e3
1234679D
5.41e6
40.19
1234678D
3.69e6
40.87
1.73e6
8.65e5
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.35e3
1234679D
5.23e6
40.19
1234678D
3.54e6
40.86
1.68e6
8.40e5
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.41e3
ES 1234678D
9.31e6
40.86
2.68e6
1.34e6
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.06e3
ES 1234678D
8.52e6
40.85
2.57e6
1.28e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
2.53e7
1.26e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_006.utp_res, saved 24-Jan-2022 14:51 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8627, 4359 scc: 932-607
PKD: 24-Jan-2022 14:42 Printed: 24-Jan-2022 14:55 Page 5 of 12


OCDD
3.81e7
43.51
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
9.35e6
4.67e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.19e7
43.51
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 2.29e3
0%
Abs. Int.
9.90e6
4.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.09e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.56e3
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.15e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.94e3
0%
Abs. Int.
2.77e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.82e3
0%
2378F
5.53e8*
27.81
1278F
2.60e8
26.92
2348F
3.80e7*
27.69
2367/3467F
4.33e7
28.16
1289F
4.61e7
29.81
Abs. Int.
1.32e8
6.59e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.19e3
0%
2378F
6.99e8*
27.81
1278F
3.27e8
26.92
2348F
4.91e7*
27.69
2367/3467F
5.53e7
28.16
1289F
5.75e7
29.81
Abs. Int.
1.65e8
8.23e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 9.72e3
0%
JS 1234F
1.56e7
26.44
ES 2378F
1.59e7
27.79
Abs. Int.
3.83e6
1.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.81e3
0%
JS 1234F
1.96e7
26.44
ES 2378F
1.97e7
27.79
Abs. Int.
4.34e6
2.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.14e4
5.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

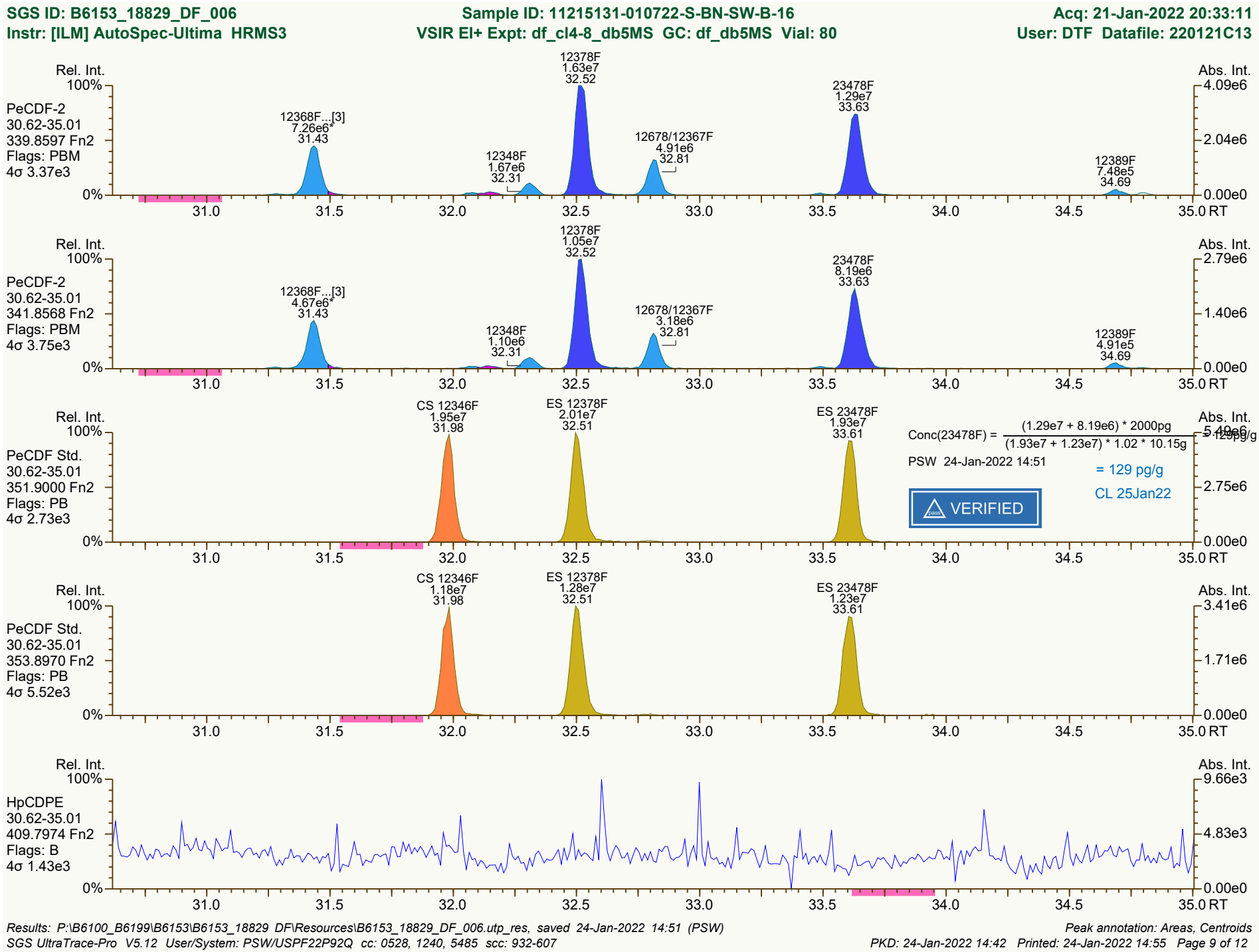
SGS ID: B6153_18829_DF_006 | Sample ID: 11215131-010722-S-BN-SW-B-16 | Acq: 21-Jan-2022 20:33:11

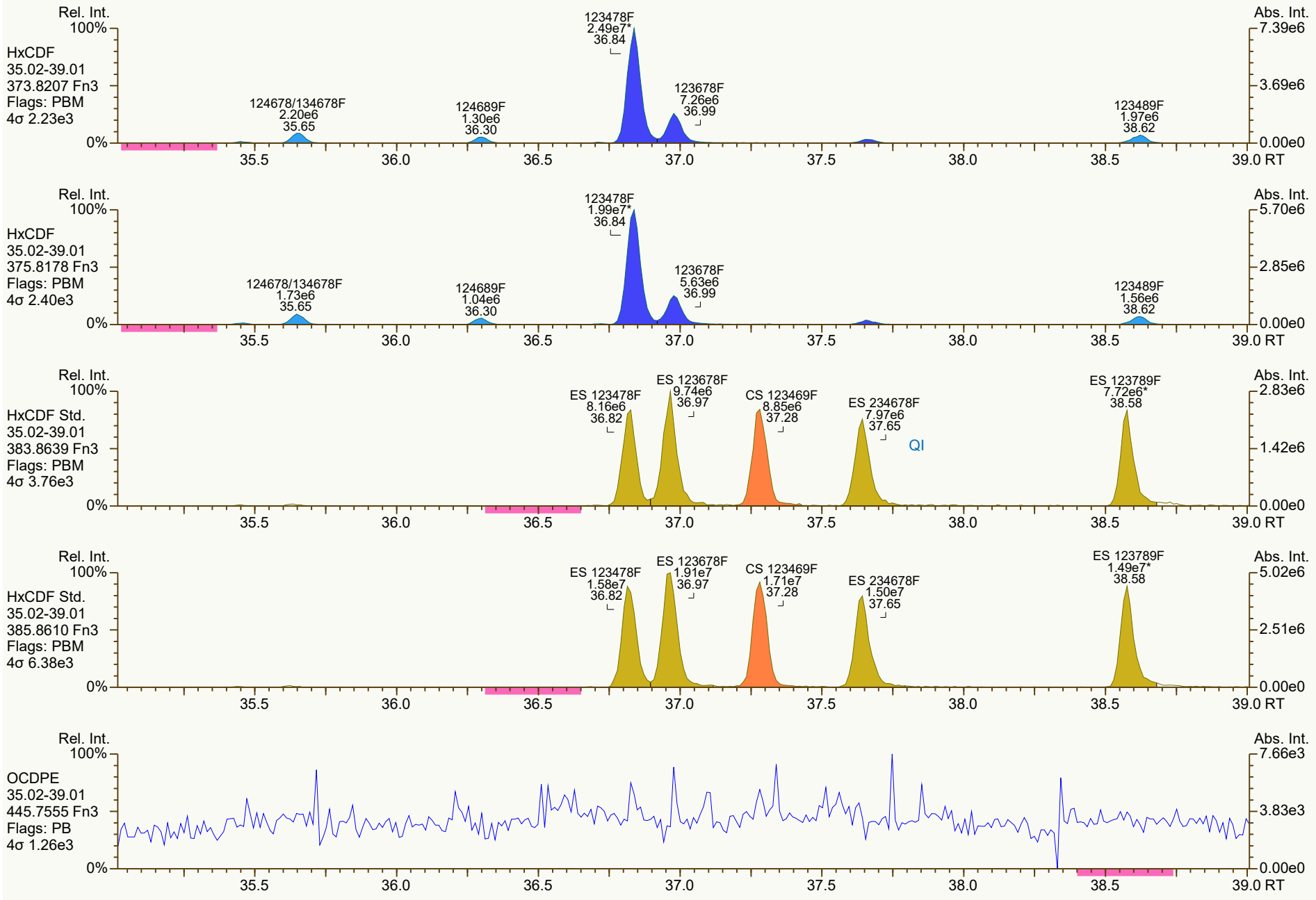
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80 | User: DTF Datafile: 220121C13

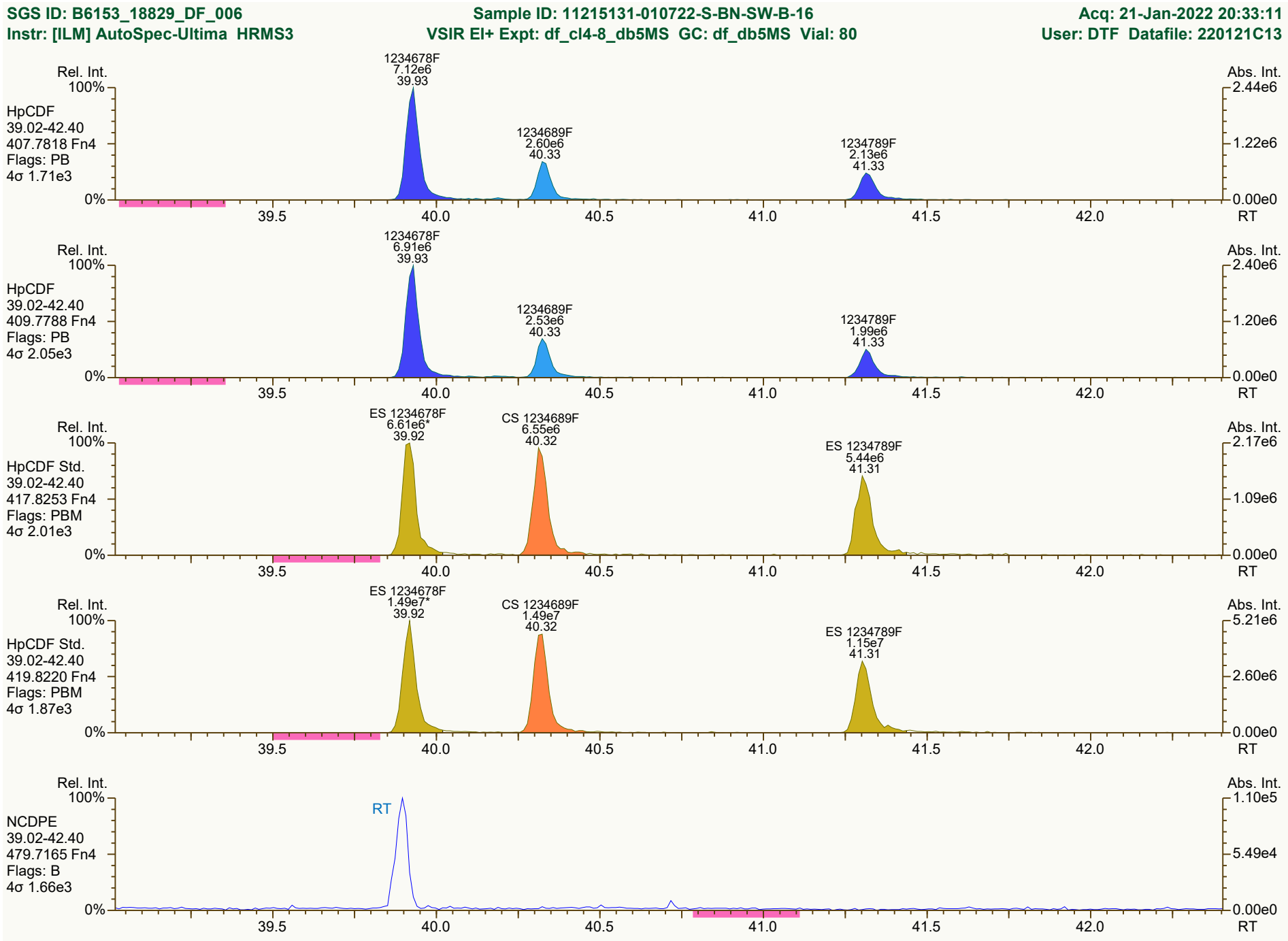


Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_006.utp_res, saved 24-Jan-2022 14:51 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4691 scc: 932-607 | *PKD: 24-Jan-2022 14:42 Printed: 24-Jan-2022 14:55 Page 8 of 12*

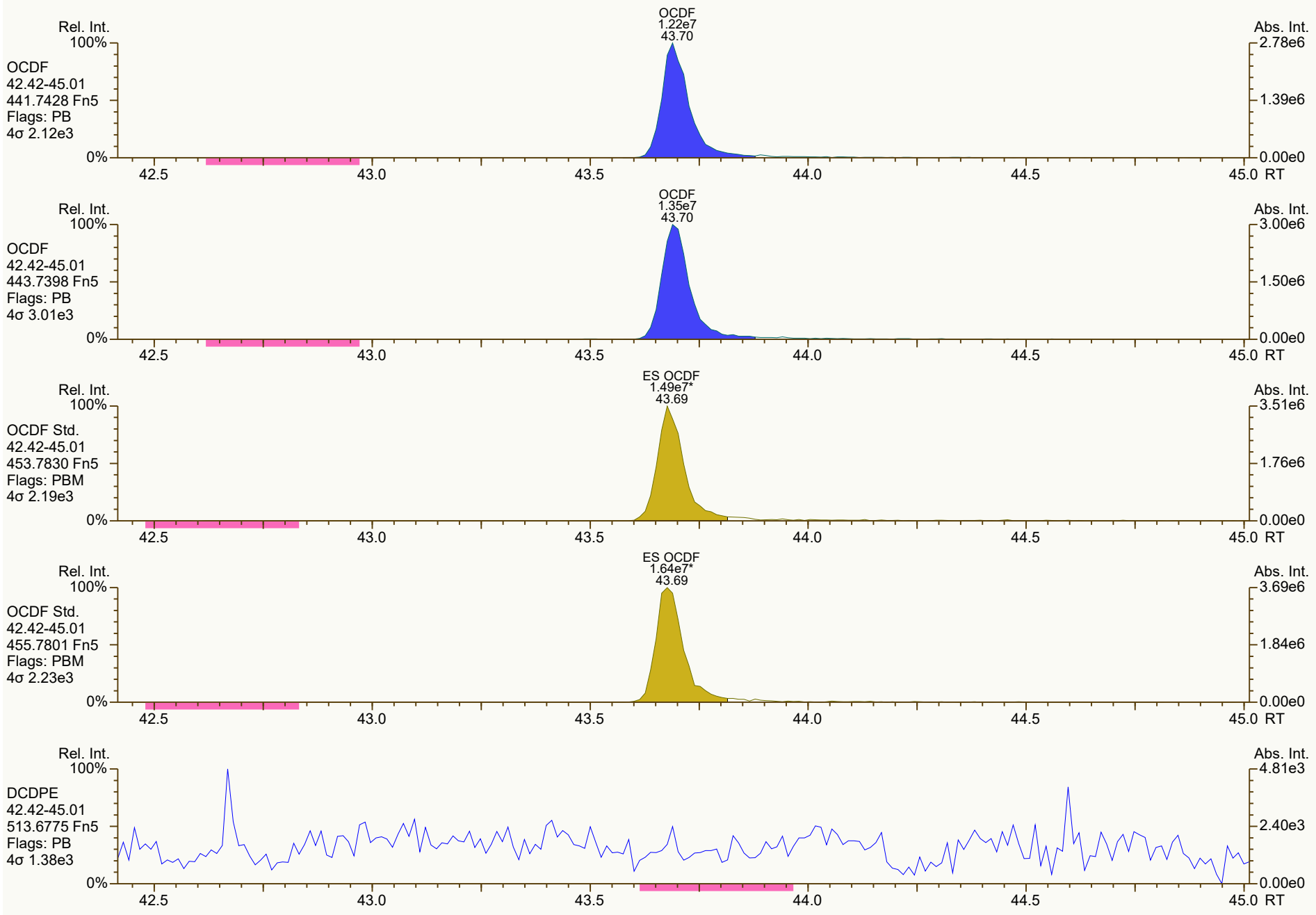

SGS ID: B6153_18829_DF_006
Sample ID: 11215131-010722-S-BN-SW-B-16
Acq: 21-Jan-2022 20:33:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80
User: DTF Datafile: 220121C13
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 3.37e3
12368F...[3] 7.26e6* 31.43
12348F 1.67e6 32.31
12378F 1.63e7 32.52
12678/12367F 4.91e6 32.81
23478F 1.29e7 33.63
12389F 7.48e5 34.69
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 3.75e3
12368F...[3] 4.67e6* 31.43
12348F 1.10e6 32.31
12378F 1.05e7 32.52
12678/12367F 3.18e6 32.81
23478F 8.19e6 33.63
12389F 4.91e5 34.69
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F 1.95e7 31.98
ES 12378F 2.01e7 32.51
ES 23478F 1.93e7 33.61
Conc(23478F) = (1.29e7 + 8.19e6) * 2000pg / (1.93e7 + 1.23e7) * 1.02 * 10.15g
= 129pg/g
PSW 24-Jan-2022 14:51
= 129 pg/g
CL 25Jan22
VERIFIED
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 5.52e3
CS 12346F 1.18e7 31.98
ES 12378F 1.28e7 32.51
ES 23478F 1.23e7 33.61
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.43e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_006.utp_res, saved 24-Jan-2022 14:51 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0528, 1240, 5485 scc: 932-607
PKD: 24-Jan-2022 14:42 Printed: 24-Jan-2022 14:55 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.23e3
123478F
2.49e7*
36.84
124678/134678F
2.20e6
35.65
124689F
1.30e6
36.30
123678F
7.26e6
36.99
123489F
1.97e6
38.62
Abs. Int.
7.39e6
3.69e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.40e3
123478F
1.99e7*
36.84
124678/134678F
1.73e6
35.65
124689F
1.04e6
36.30
123678F
5.63e6
36.99
123489F
1.56e6
38.62
Abs. Int.
5.70e6
2.85e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.76e3
ES 123478F
8.16e6
36.82
ES 123678F
9.74e6
36.97
CS 123469F
8.85e6
37.28
ES 234678F
7.97e6
37.65
QI
ES 123789F
7.72e6*
38.58
Abs. Int.
2.83e6
1.42e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 6.38e3
ES 123478F
1.58e7
36.82
ES 123678F
1.91e7
36.97
CS 123469F
1.71e7
37.28
ES 234678F
1.50e7
37.65
ES 123789F
1.49e7*
38.58
Abs. Int.
5.02e6
2.51e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.26e3
Abs. Int.
7.66e3
3.83e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6153_18829_DF_006
Sample ID: 11215131-010722-S-BN-SW-B-16
Acq: 21-Jan-2022 20:33:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80
User: DTF Datafile: 220121C13
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.71e3
1234678F
7.12e6
39.93
1234689F
2.60e6
40.33
1234789F
2.13e6
41.33
2.44e6
1.22e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.05e3
1234678F
6.91e6
39.93
1234689F
2.53e6
40.33
1234789F
1.99e6
41.33
2.40e6
1.20e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
6.61e6*
39.92
CS 1234689F
6.55e6
40.32
ES 1234789F
5.44e6
41.31
2.17e6
1.09e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.87e3
ES 1234678F
1.49e7*
39.92
CS 1234689F
1.49e7
40.32
ES 1234789F
1.15e7
41.31
5.21e6
2.60e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.66e3
RT
1.10e5
5.49e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_006.utp_res, saved 24-Jan-2022 14:51 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2539, 2862, 8713 scc: 932-607
PKD: 24-Jan-2022 14:42 Printed: 24-Jan-2022 14:55 Page 11 of 12

SGS ID: B6153_18829_DF_006 | Sample ID: 11215131-010722-S-BN-SW-B-16 | Acq: 21-Jan-2022 20:33:11

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80 | User: DTF Datafile: 220121C13



Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\B6153_18829_DF_006.utp_res, saved 24-Jan-2022 14:51 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6457, 0768, 8645 scc: 932-607 | *PKD: 24-Jan-2022 14:42 Printed: 24-Jan-2022 14:55 Page 12 of 12*

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220121C01	3	CS3_220121_DF_CA	1.00	SIL 25-347-1	DTF, PSW	341-966	21-Jan-2022	10:39:28
2	220121C02	71	OPR1_18829_DF	1.00	0_18829_OPR001	DTF	507-844	21-Jan-2022	12:03:47
3	220121C03	72	OPR2_18829_DF	1.00	0_18829_OPR002	DTF	338-214	21-Jan-2022	12:50:06
4	220121C04	2	SBS_220121_DF_CA	1.00	20-61-1	DTF	458-089	21-Jan-2022	13:36:24
5	220121C05	70	MB1_18829_DF_SDS	10.00	Method Blank	DTF	970-966	21-Jan-2022	14:22:43
6	220121C08	75	B6153_18829_DF_001	10.05	11215131-010622-S-BN-SW-O-11	DTF, PSW	620-199	21-Jan-2022	16:41:38
7	220121C09	76	B6153_18829_DF_002	10.19	11215131-010622-S-BN-SW-B-13	DTF, PSW	419-883	21-Jan-2022	17:27:57
8	220121C10	77	B6153_18829_DF_003	10.19	11215131-010622-S-BN-SW-B-14	DTF, PSW	922-952	21-Jan-2022	18:14:15
9	220121C11	78	B6153_18829_DF_004	10.10	11215131-010722-S-BN-SW-O-13	DTF, PSW	858-190	21-Jan-2022	19:00:34
10	220121C12	79	B6153_18829_DF_005	10.10	11215131-010722-S-BN-SW-O-14	DTF, PSW	711-803	21-Jan-2022	19:46:53
11	220121C13	80	B6153_18829_DF_006	10.15	11215131-010722-S-BN-SW-B-16	DTF, PSW	932-607	21-Jan-2022	20:33:11

APPROVED
Carla_Lyon , 1/25/2022, 10:41:00 PM

REVIEWED
paul_walton , 1/24/2022, 3:00:01 PM

REVIEWED
Megan_Shannahan , 1/25/2022, 3:00:19 PM

Dioxin/Furan QC Summary	Acq'd: 21 Jan 2022 10:39 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220121_DF_CA	UTP: 24-Jan-2022 11:51:58 MLS	Checkcode: 341-966-GBL
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 11:52 MS	Datafile: 220121C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.67	2.03E+06	0.81	Y	1.18	1.09	-8%
12378-PeCDD	33.97	8.10E+06	1.57	Y	1.04	1.01	-2%
123478-HxCDD	37.85	6.79E+06	1.24	Y	1.09	1.02	-7%
123678-HxCDD	37.96	8.26E+06	1.23	Y	1.15	1.11	-4%
123789-HxCDD	38.26	7.93E+06	1.26	Y	1.05	0.96	-9%
1234678-HpCDD	40.87	6.44E+06	1.04	Y	1.06	1.01	-5%
OCDD	43.52	9.68E+06	0.94	Y	1.13	1.13	0%
2378-TCDF	27.81	3.06E+06	0.80	Y	1.08	1.06	-2%
12378-PeCDF	32.53	1.29E+07	1.59	Y	1.02	1.02	0%
23478-PeCDF	33.63	1.30E+07	1.55	Y	1.02	1.05	3%
123478-HxCDF	36.85	1.13E+07	1.26	Y	1.27	1.26	-1%
123678-HxCDF	37.00	1.34E+07	1.26	Y	1.15	1.13	-2%
234678-HxCDF	37.68	1.24E+07	1.24	Y	1.19	1.18	0%
123789-HxCDF	38.62	9.95E+06	1.22	Y	1.16	1.21	4%
1234678-HpCDF	39.95	1.11E+07	1.06	Y	1.37	1.40	2%
1234789-HpCDF	41.34	8.71E+06	1.03	Y	1.31	1.40	7%
OCDF	43.71	1.46E+07	0.93	Y	1.07	1.07	0%
ES 2378-TCDD	28.64	1.87E+07	0.80	Y	1.05	1.04	0%
ES 12378-PeCDD	33.946	1.60E+07	1.62	Y	0.88	0.89	1%
ES 123478-HxCDD	37.839	1.33E+07	1.27	Y	0.97	0.97	0%
ES 123678-HxCDD	37.952	1.49E+07	1.26	Y	0.94	1.09	15%
ES 123789-HxCDD	38.247	1.66E+07	1.21	Y	1.09	1.21	10%
ES 1234678-HpCDD	40.86	1.28E+07	1.08	Y	0.91	0.93	2%
ES OCDD	43.509	1.72E+07	0.94	Y	0.62	0.62	0%
ES 2378-TCDF	27.791	2.89E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	32.51	2.51E+07	1.58	Y	0.91	0.90	-1%
ES 23478-PeCDF	33.613	2.49E+07	1.52	Y	0.88	0.89	1%
ES 123478-HxCDF	36.83	1.79E+07	0.52	Y	1.20	1.30	8%
ES 123678-HxCDF	36.978	2.37E+07	0.55	Y	1.35	1.72	27%
ES 234678-HxCDF	37.659	2.09E+07	0.55	Y	1.24	1.52	22%
ES 123789-HxCDF	38.6	1.64E+07	0.54	Y	1.16	1.19	3%
ES 1234678-HpCDF	39.938	1.59E+07	0.45	Y	0.97	1.16	20%
ES 1234789-HpCDF	41.321	1.24E+07	0.44	Y	0.85	0.90	6%
ES OCDF	43.697	2.72E+07	0.88	Y	0.81	0.99	23%

Dioxin/Furan QC Summary	Acq'd: 21 Jan 2022 10:39 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220121_DF_CA	UTP: 24-Jan-2022 11:51:58 MLS	Checkcode: 341-966-GBL
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 11:52 MS	Datafile: 220121C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.98	1.79E+07	0.80	Y	-	-	-
JS 1234-TCDF	26.44	2.79E+07	0.82	Y	-	-	-
JS 123467-HxCDD	38.13	6.88E+06	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.67	2.39E+06	n/a	-	1.20	1.33	11%
CS 12347-PeCDD	33.45	1.43E+07	1.57	Y	0.75	0.80	6%
CS 12346-PeCDF	31.98	2.37E+07	1.62	Y	0.85	0.85	0%
CS 123469-HxCDF	37.29	2.05E+07	0.55	Y	1.12	1.49	33% **
CS 1234689-HpCDF	40.33	1.68E+07	0.44	Y	0.89	1.22	38% **
~~SS 37Cl-2378-TCDD~~	~~28.67~~	~~2.39E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.28~~	~~11%~~
~~SS 12347-PeCDD~~	~~33.45~~	~~1.43E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~0.90~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.98~~	~~2.37E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~0.94~~	~~1%~~
~~SS 123469-HxCDF~~	~~37.29~~	~~2.05E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.86~~	~~4%~~
~~SS 1234689-HpCDF~~	~~40.33~~	~~1.68E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~1.06~~	~~15%~~
~~OCDD-a~~	~~43.52~~	~~5.66E+05~~	~~2.90~~	~~N~~	~~0.07~~	~~0.07~~	~~-9%~~
~~OCDF-a~~	~~43.70~~	~~9.22E+05~~	~~2.26~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~

Not used in this project.
CL 25Jan22

** No criteria specified in M1613B
CL 25Jan22

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220121C01 Analysis Date: 21-JAN-2022 10:39:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	9.18	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	49	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.7	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	45.6	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	47.5	43 - 58	Y
OCDD	M+2/M+4	0.94	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	9.79	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	50	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	51.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.1	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.8	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	52	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	51	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	53.7	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	99.7	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 24 Jan 2022 11:52 Analyst: MS

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

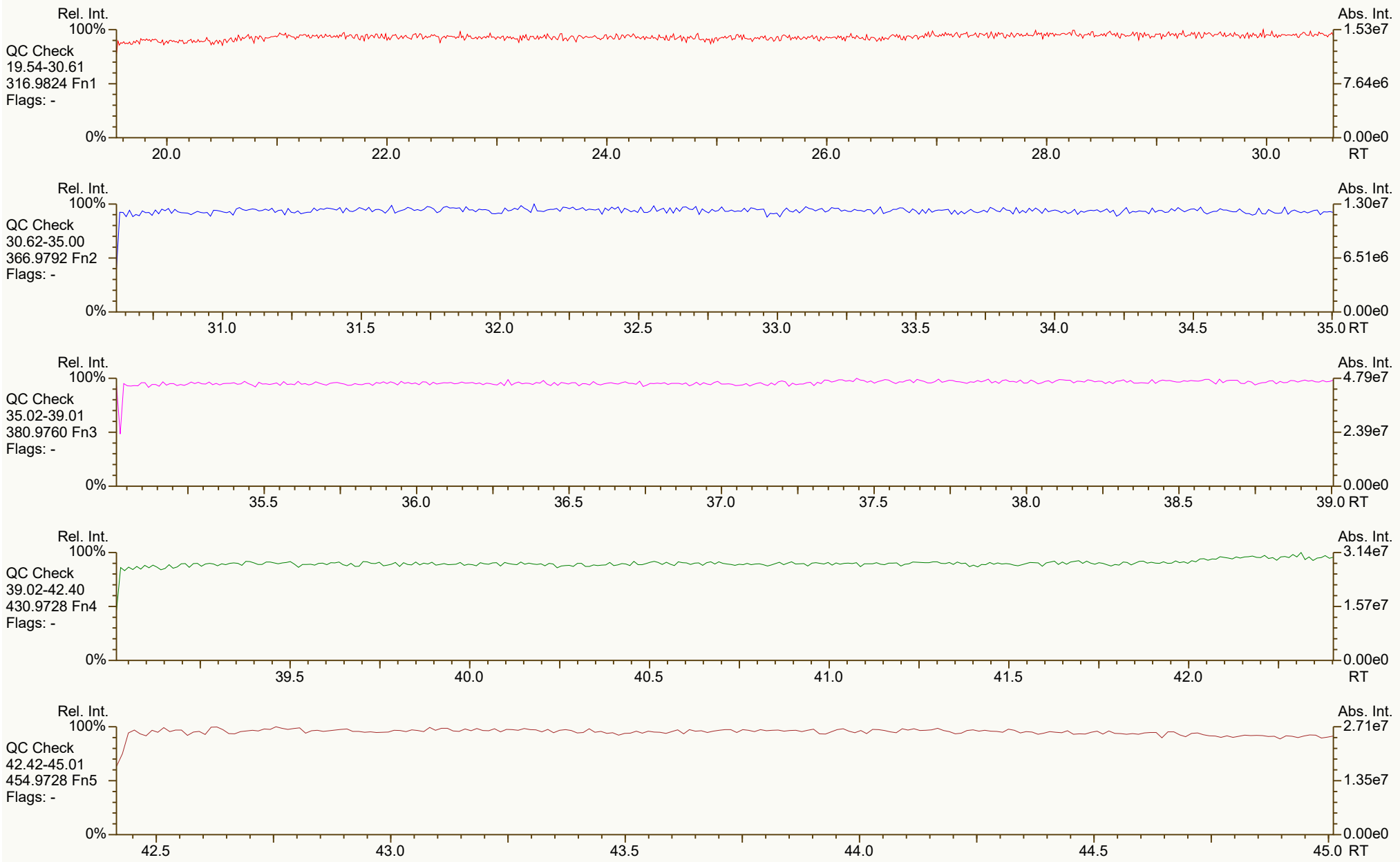
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220121C01 Analysis Date: 21-JAN-2022 10:39:28

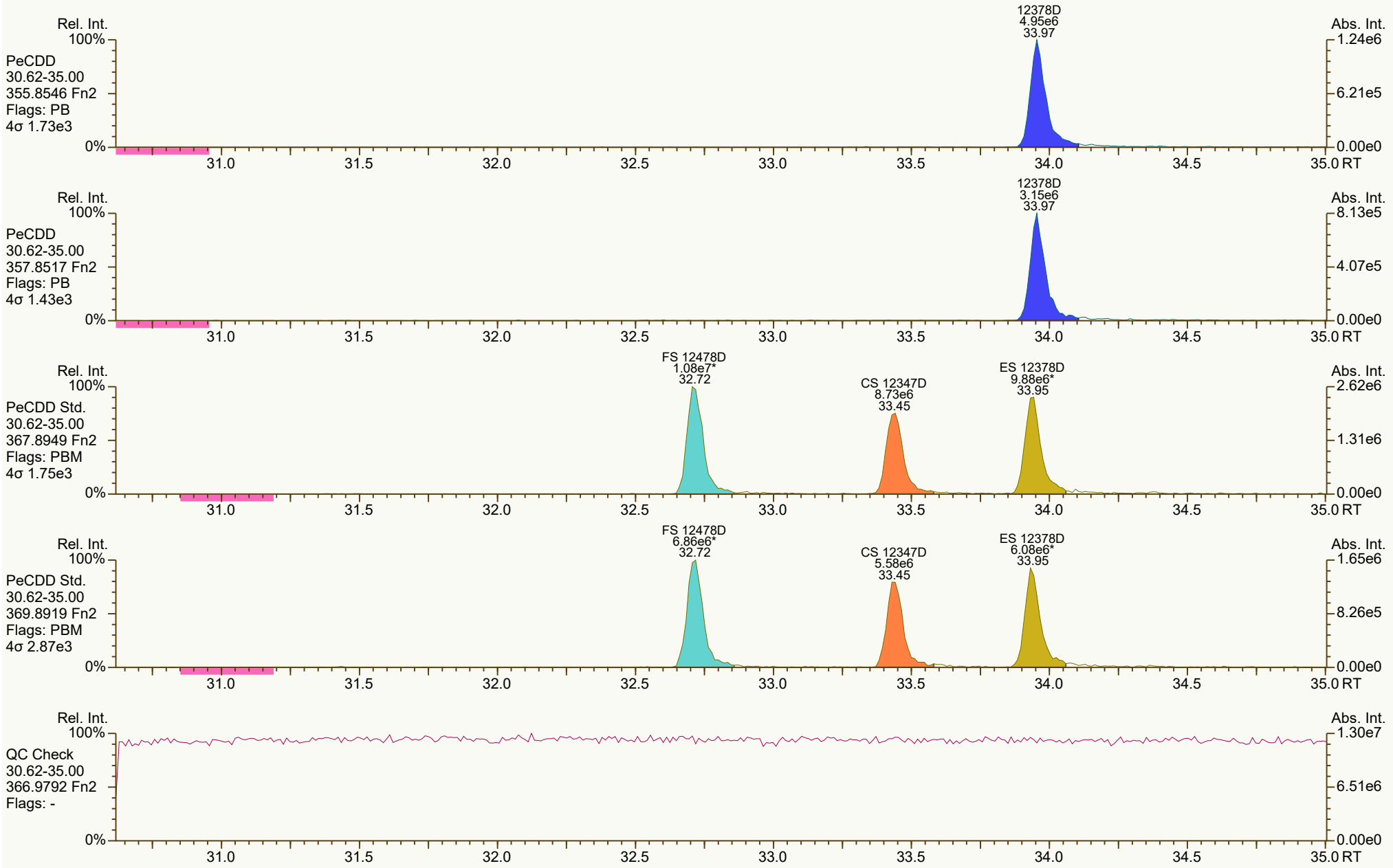
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.7	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	101	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	99.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	115	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05	-	1.43	Y	110	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88	-	1.20	Y	102	72	-	138	Y
13C-OCDD	M+2/M+4	0.94	0.76	-	1.02	Y	200	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	97.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	98.9	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	101	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	108	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	127	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	122	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	120	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	106	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	245	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.1	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	106	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	99.7	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	133 *	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	138 *	70	-	130	N

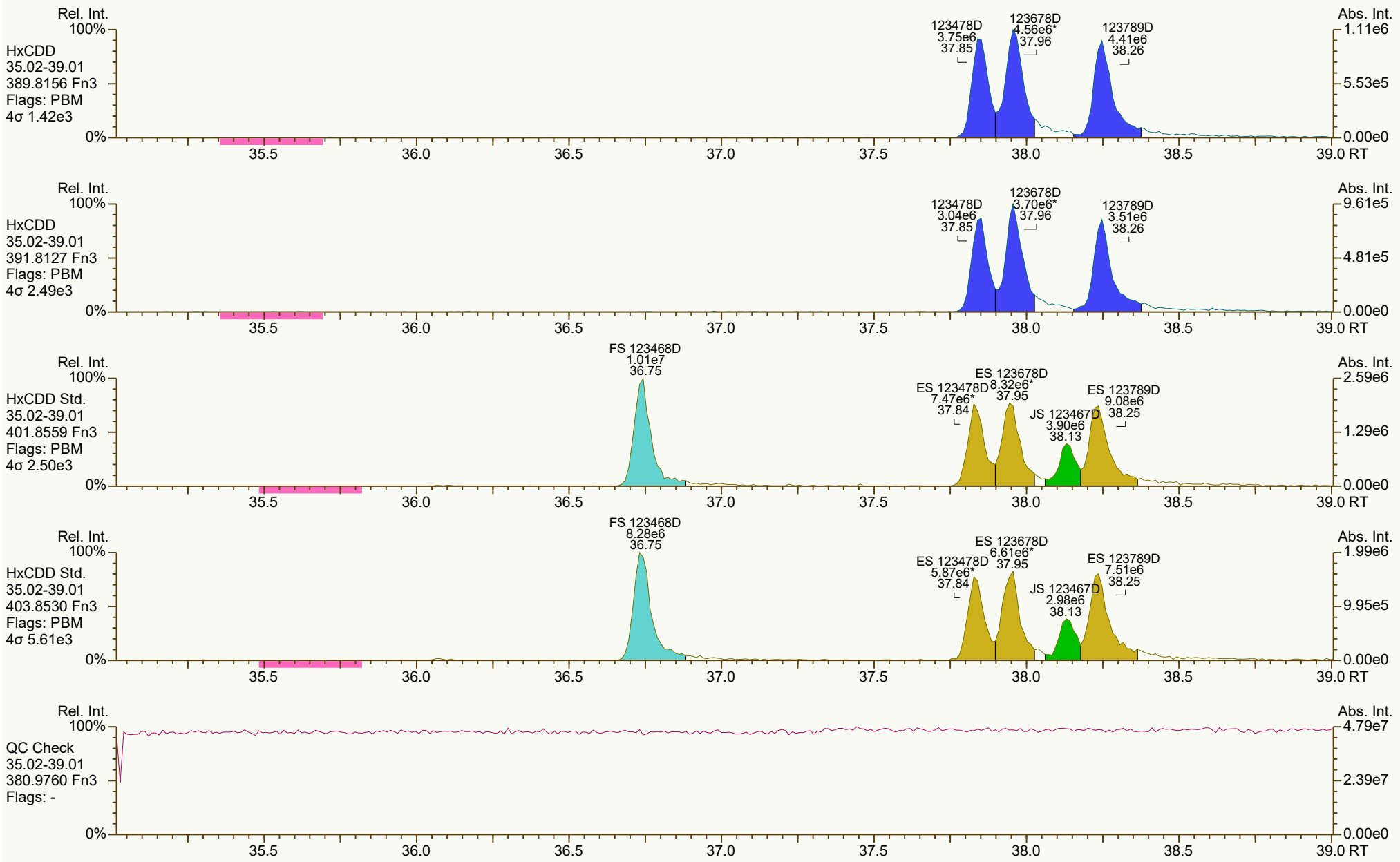
* No criteria specified in M1613B
CL 25Jan22

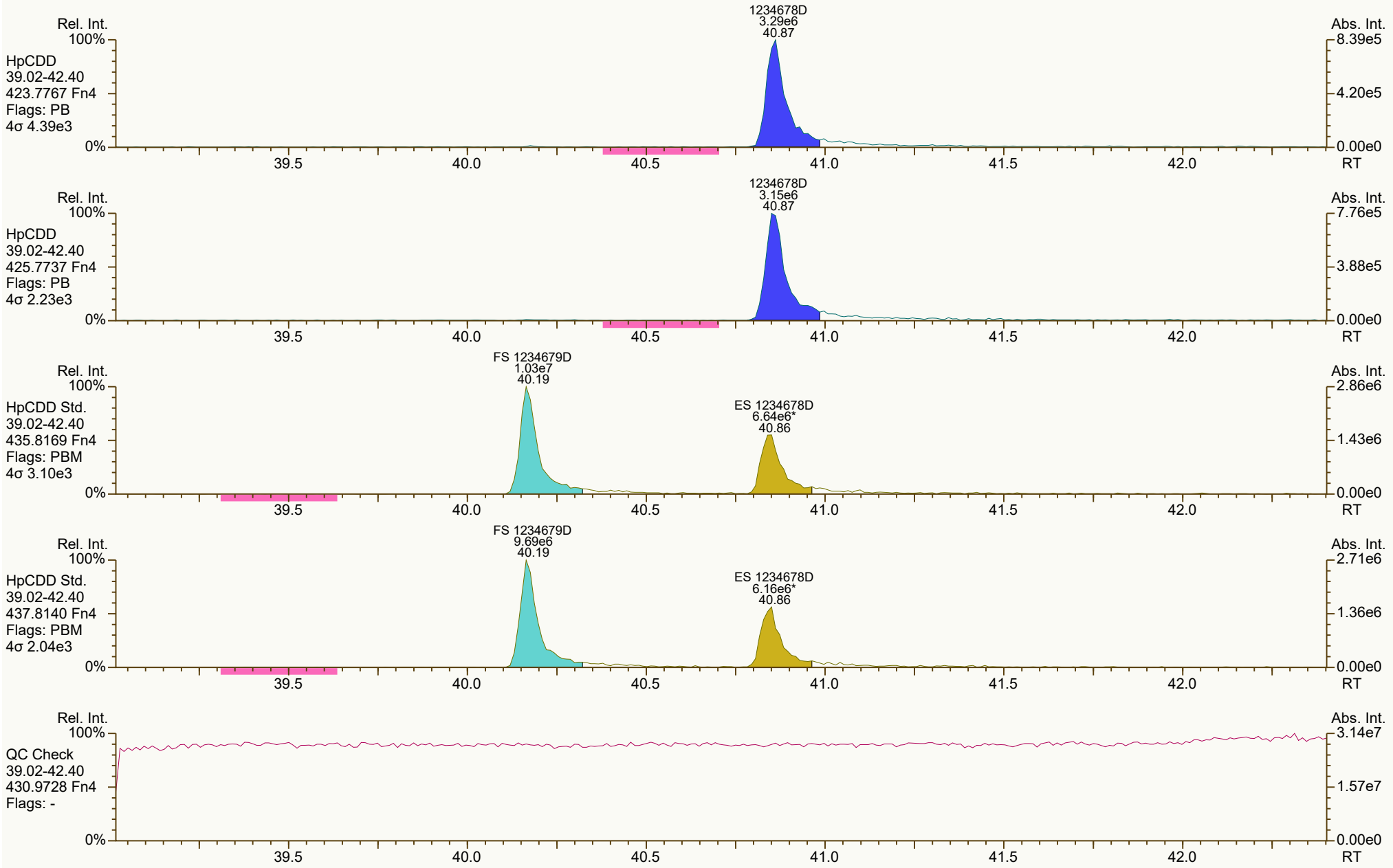
Processed: 24 Jan 2022 11:52 Analyst: MS

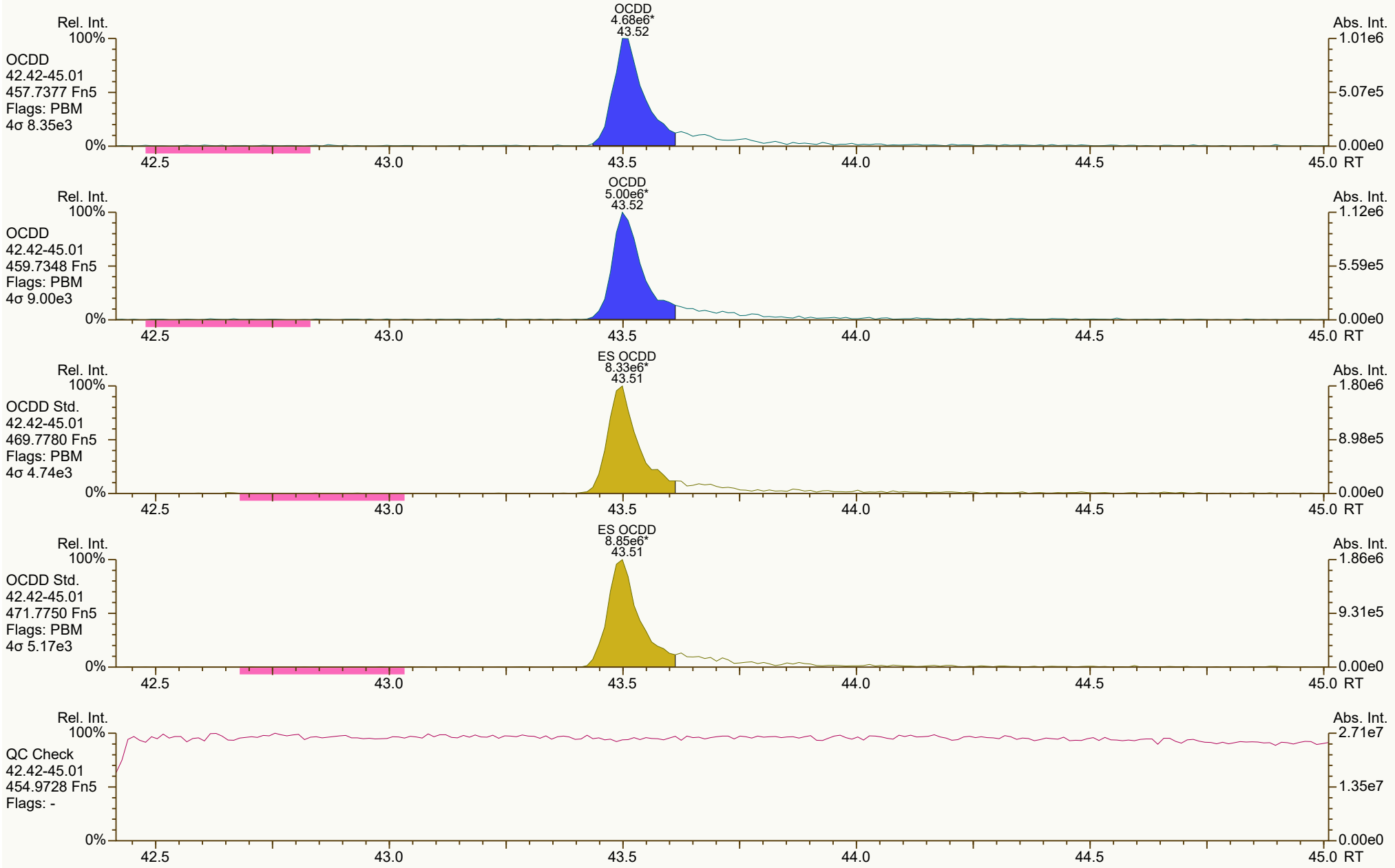

Rel. Int.
100%
0%
Abs. Int.
1.53e7
7.64e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.30e7
6.51e6
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.79e7
2.39e7
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.14e7
1.57e7
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.33e3
0%
2378D
9.10e5
28.67
Abs. Int.
1.90e5
9.51e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 1.82e3
RRF(2378D) = (9.10e5 + 1.12e6) * 100 pg/uL / (8.31e6 + 1.04e7) * 10pg/uL = 1.08
MLS 24-Jan-2022 11:59
VERIFIED
2378D
1.12e6
28.66
Abs. Int.
2.50e5
1.25e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
2.39e6
28.67
Abs. Int.
5.68e5
2.84e5
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 9.17e3
AS 1368D
8.86e6
25.02
TS 1378D
1.25e7
27.00
JS 1234D
7.98e6
27.98
ES 2378D
8.31e6
28.64
FS 1278D
8.95e6
28.96
Abs. Int.
2.65e6
1.32e6
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.61e3
AS 1368D
1.12e7
25.02
TS 1378D
1.56e7
27.00
JS 1234D
9.94e6
27.98
ES 2378D
1.04e7
28.64
FS 1278D
1.13e7
28.96
Abs. Int.
3.43e6
1.71e6
0.00e0


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.73e3
0%
12378D
4.95e6
33.97
Abs. Int.
1.24e6
6.21e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.43e3
0%
12378D
3.15e6
33.97
Abs. Int.
8.13e5
4.07e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 1.75e3
0%
FS 12478D
1.08e7*
32.72
CS 12347D
8.73e6
33.45
ES 12378D
9.88e6*
33.95
Abs. Int.
2.62e6
1.31e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 2.87e3
0%
FS 12478D
6.86e6*
32.72
CS 12347D
5.58e6
33.45
ES 12378D
6.08e6*
33.95
Abs. Int.
1.65e6
8.26e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.30e7
6.51e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

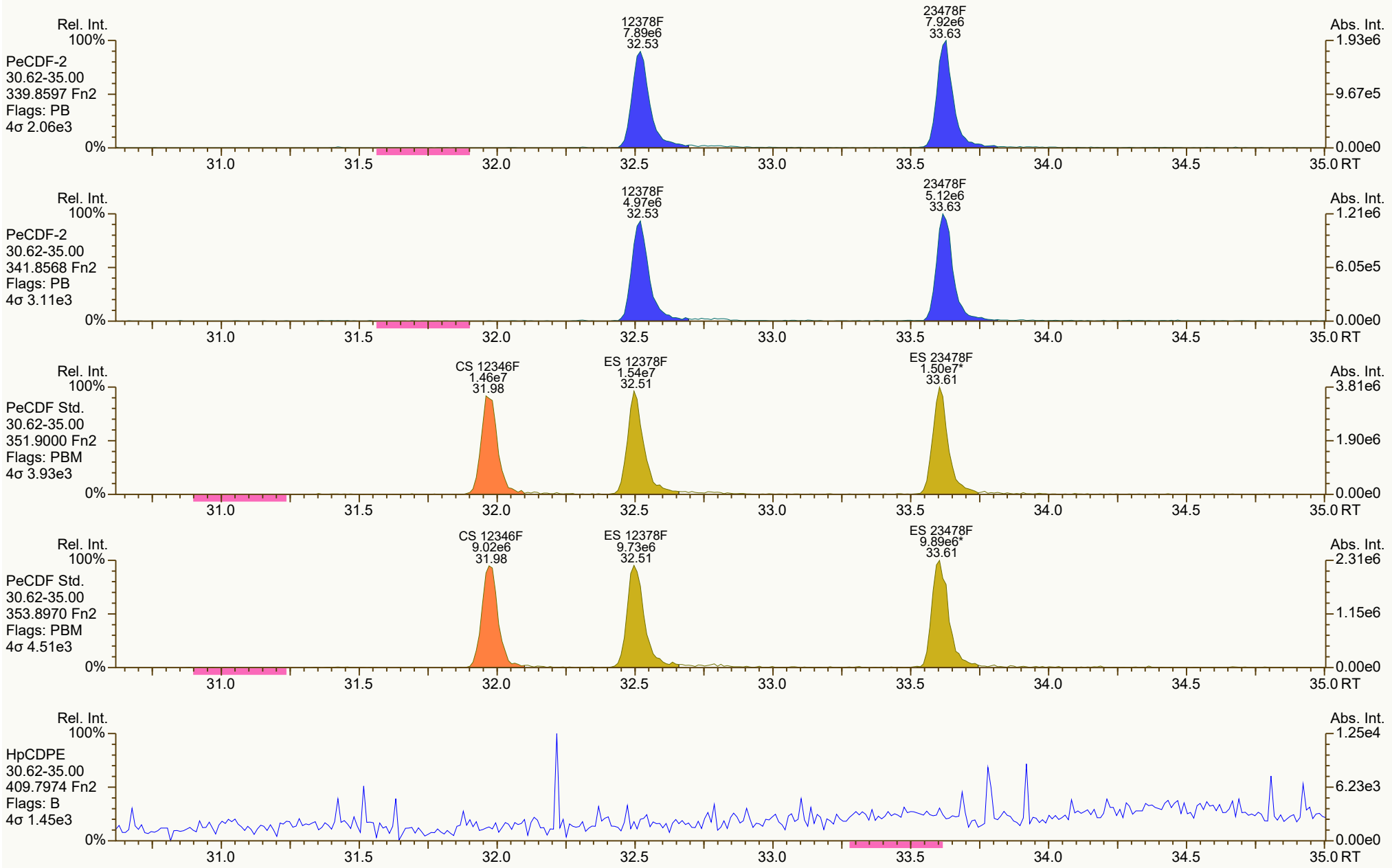

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.42e3
123478D 3.75e6 37.85
123678D 4.56e6* 37.96
123789D 4.41e6 38.26
1.11e6
5.53e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.49e3
123478D 3.04e6 37.85
123678D 3.70e6* 37.96
123789D 3.51e6 38.26
9.61e5
4.81e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.50e3
FS 123468D 1.01e7 36.75
ES 123478D 7.47e6* 37.84
ES 123678D 8.32e6* 37.95
JS 123467D 3.90e6 38.13
ES 123789D 9.08e6 38.25
2.59e6
1.29e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 5.61e3
FS 123468D 8.28e6 36.75
ES 123478D 5.87e6* 37.84
ES 123678D 6.61e6* 37.95
JS 123467D 2.98e6 38.13
ES 123789D 7.51e6 38.25
1.99e6
9.95e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.79e7
2.39e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

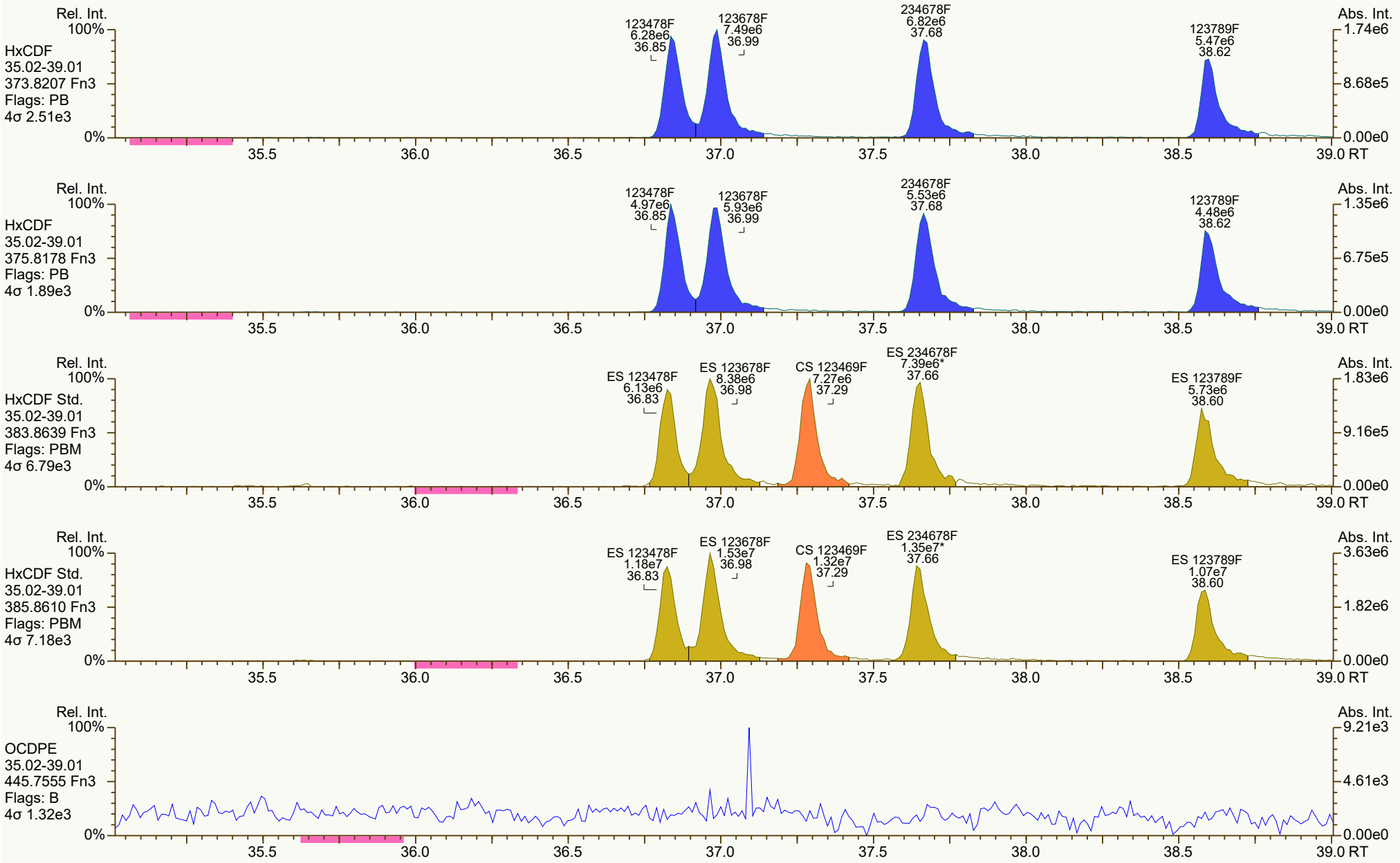

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 4.39e3
1234678D
3.29e6
40.87
Abs. Int.
8.39e5
4.20e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.23e3
1234678D
3.15e6
40.87
Abs. Int.
7.76e5
3.88e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.10e3
FS 1234679D
1.03e7
40.19
ES 1234678D
6.64e6*
40.86
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.04e3
FS 1234679D
9.69e6
40.19
ES 1234678D
6.16e6*
40.86
Abs. Int.
2.71e6
1.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.14e7
1.57e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

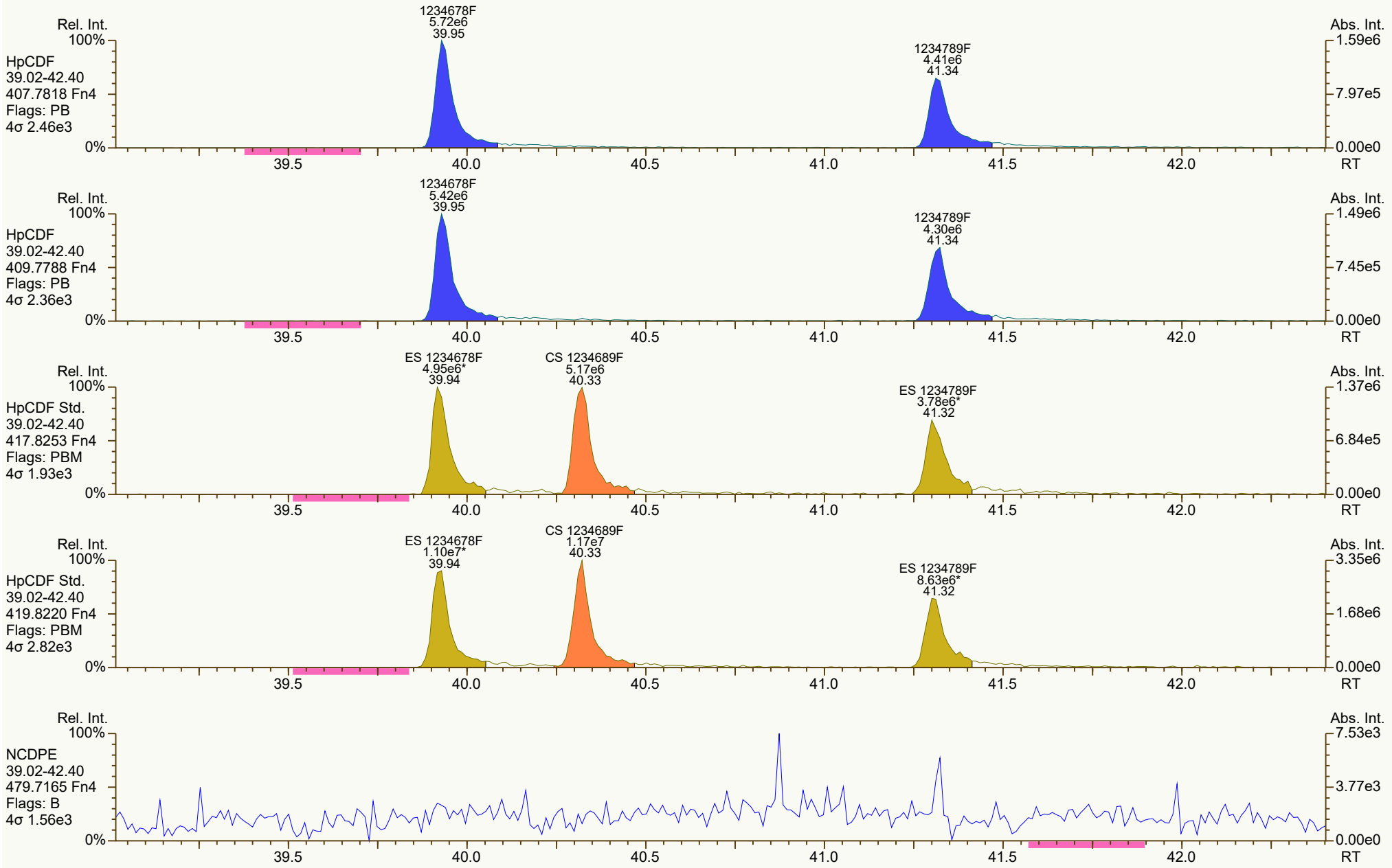

OCDD
4.68e6*
43.52
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 8.35e3
0%
Abs. Int.
1.01e6
5.07e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.00e6*
43.52
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 9.00e3
0%
Abs. Int.
1.12e6
5.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.33e6*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 4.74e3
0%
Abs. Int.
1.80e6
8.98e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.85e6*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 5.17e3
0%
Abs. Int.
1.86e6
9.31e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

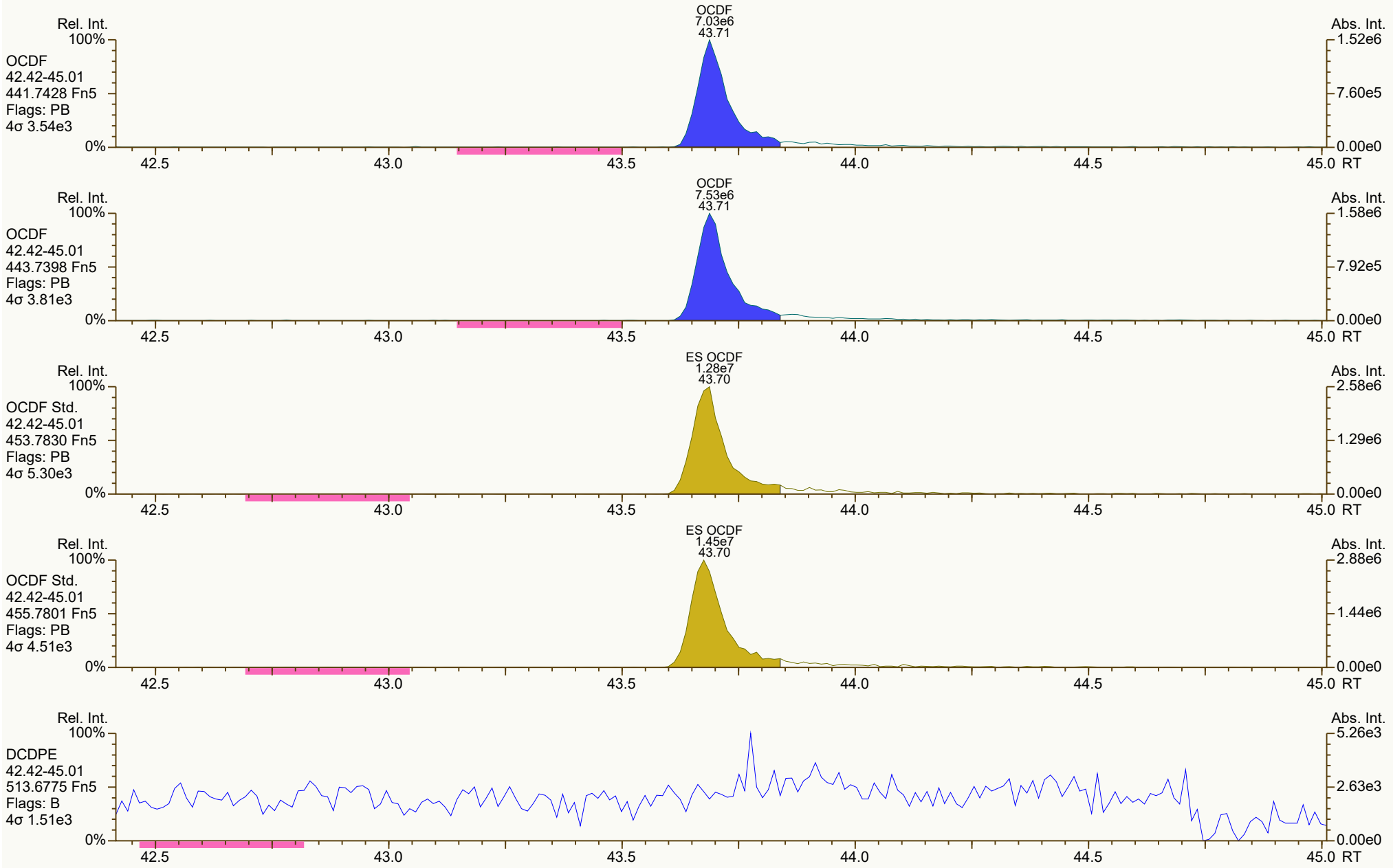

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.99e3
0%
2378F
1.35e6
27.81
Abs. Int.
2.72e5
1.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 3.61e3
0%
2378F
1.70e6
27.81
Abs. Int.
3.50e5
1.75e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 1.27e4
0%
AS 1368F
1.52e7
22.95
JS 1234F
1.26e7
26.44
ES 2378F
1.28e7
27.79
Abs. Int.
2.79e6
1.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 8.43e3
0%
AS 1368F
1.87e7
22.95
JS 1234F
1.53e7
26.44
ES 2378F
1.61e7
27.79
Abs. Int.
3.47e6
1.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.81e4
9.06e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

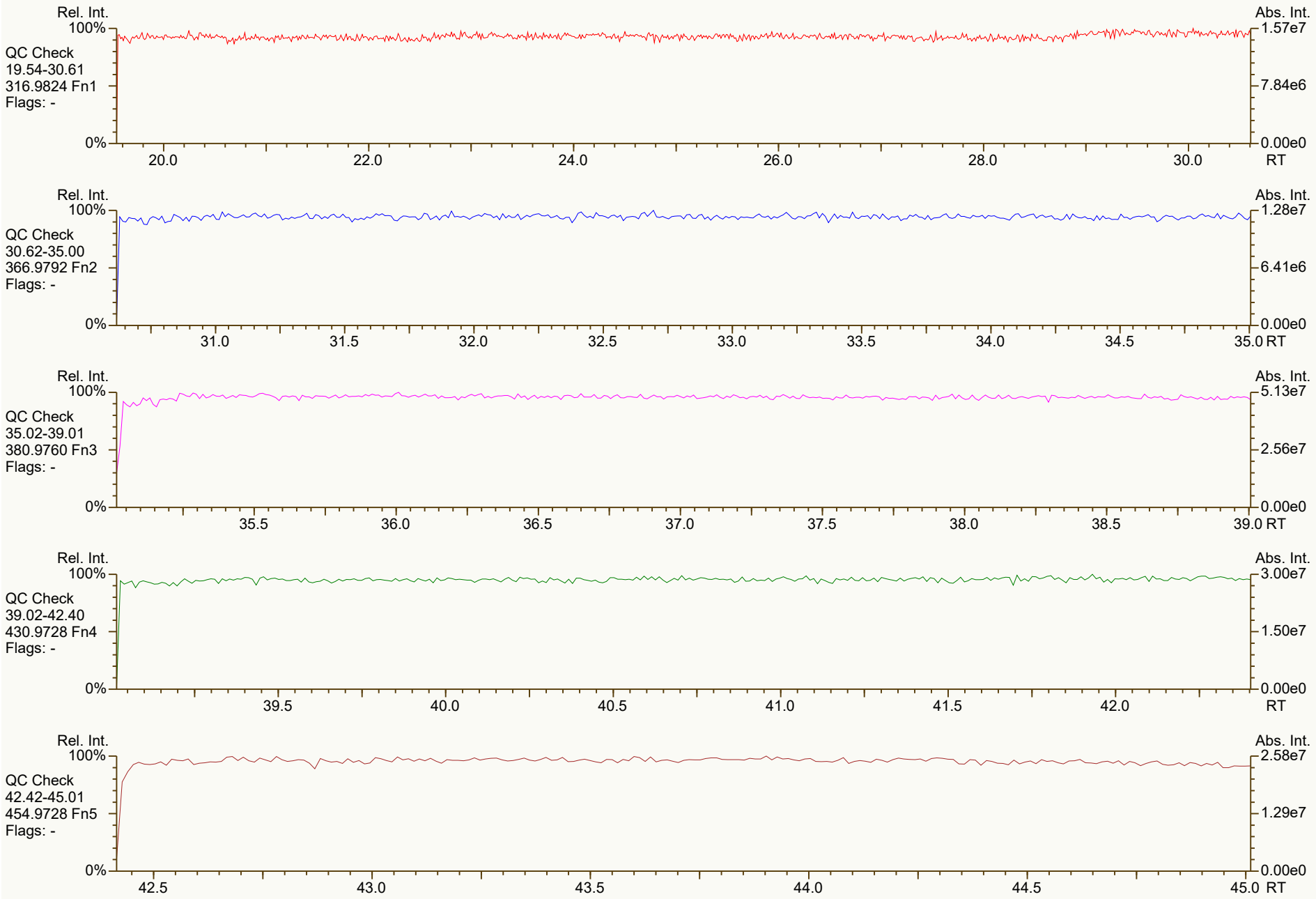

Rel. Int.
100%
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.19e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e7
7.64e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 2.06e3
12378F
7.89e6
32.53
23478F
7.92e6
33.63
Abs. Int.
1.93e6
9.67e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 3.11e3
12378F
4.97e6
32.53
23478F
5.12e6
33.63
Abs. Int.
1.21e6
6.05e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 3.93e3
CS 12346F
1.46e7
31.98
ES 12378F
1.54e7
32.51
ES 23478F
1.50e7*
33.61
Abs. Int.
3.81e6
1.90e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 4.51e3
CS 12346F
9.02e6
31.98
ES 12378F
9.73e6
32.51
ES 23478F
9.89e6*
33.61
Abs. Int.
2.31e6
1.15e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.45e3
Abs. Int.
1.25e4
6.23e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

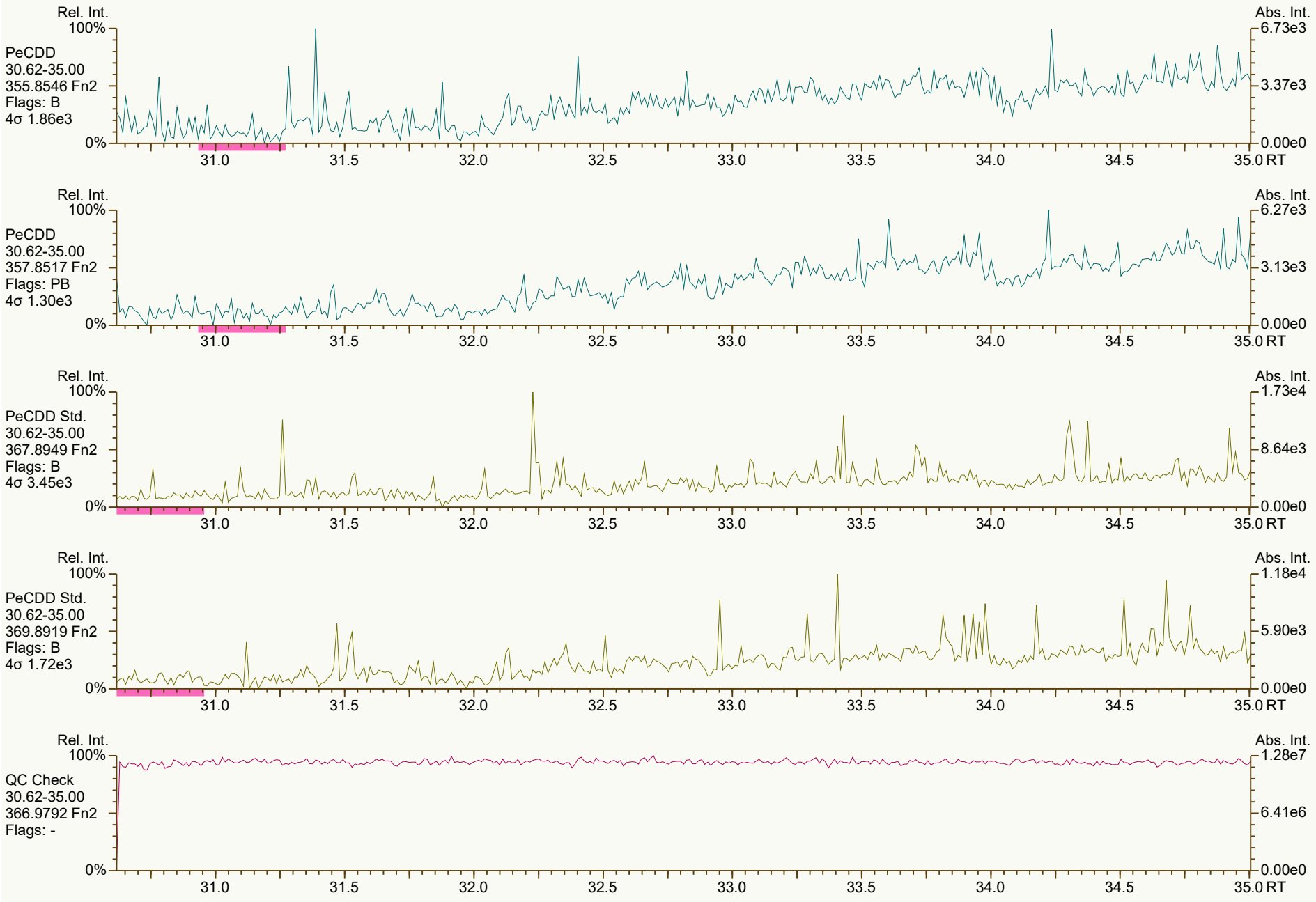

Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 2.51e3
123478F
6.28e6
36.85
123678F
7.49e6
36.99
234678F
6.82e6
37.68
123789F
5.47e6
38.62
Abs. Int.
1.74e6
8.68e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.89e3
123478F
4.97e6
36.85
123678F
5.93e6
36.99
234678F
5.53e6
37.68
123789F
4.48e6
38.62
Abs. Int.
1.35e6
6.75e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 6.79e3
ES 123478F
6.13e6
36.83
ES 123678F
8.38e6
36.98
CS 123469F
7.27e6
37.29
ES 234678F
7.39e6*
37.66
ES 123789F
5.73e6
38.60
Abs. Int.
1.83e6
9.16e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 7.18e3
ES 123478F
1.18e7
36.83
ES 123678F
1.53e7
36.98
CS 123469F
1.32e7
37.29
ES 234678F
1.35e7*
37.66
ES 123789F
1.07e7
38.60
Abs. Int.
3.63e6
1.82e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.32e3
Abs. Int.
9.21e3
4.61e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.46e3
1234678F
5.72e6
39.95
1234789F
4.41e6
41.34
Abs. Int.
1.59e6
7.97e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.36e3
1234678F
5.42e6
39.95
1234789F
4.30e6
41.34
Abs. Int.
1.49e6
7.45e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
ES 1234678F
4.95e6*
39.94
CS 1234689F
5.17e6
40.33
ES 1234789F
3.78e6*
41.32
Abs. Int.
1.37e6
6.84e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.10e7*
39.94
CS 1234689F
1.17e7
40.33
ES 1234789F
8.63e6*
41.32
Abs. Int.
3.35e6
1.68e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.56e3
Abs. Int.
7.53e3
3.77e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
7.03e6
43.71
Rel. Int.
Abs. Int.
100%
0%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 3.54e3
1.52e6
7.60e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.53e6
43.71
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 3.81e3
1.58e6
7.92e5
ES OCDF
1.28e7
43.70
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 5.30e3
2.58e6
1.29e6
ES OCDF
1.45e7
43.70
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 4.51e3
2.88e6
1.44e6
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.51e3
5.26e3
2.63e3


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.57e7
7.84e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.28e7
6.41e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
5.13e7
2.56e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.00e7
1.50e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.58e7
1.29e7
0.00e0

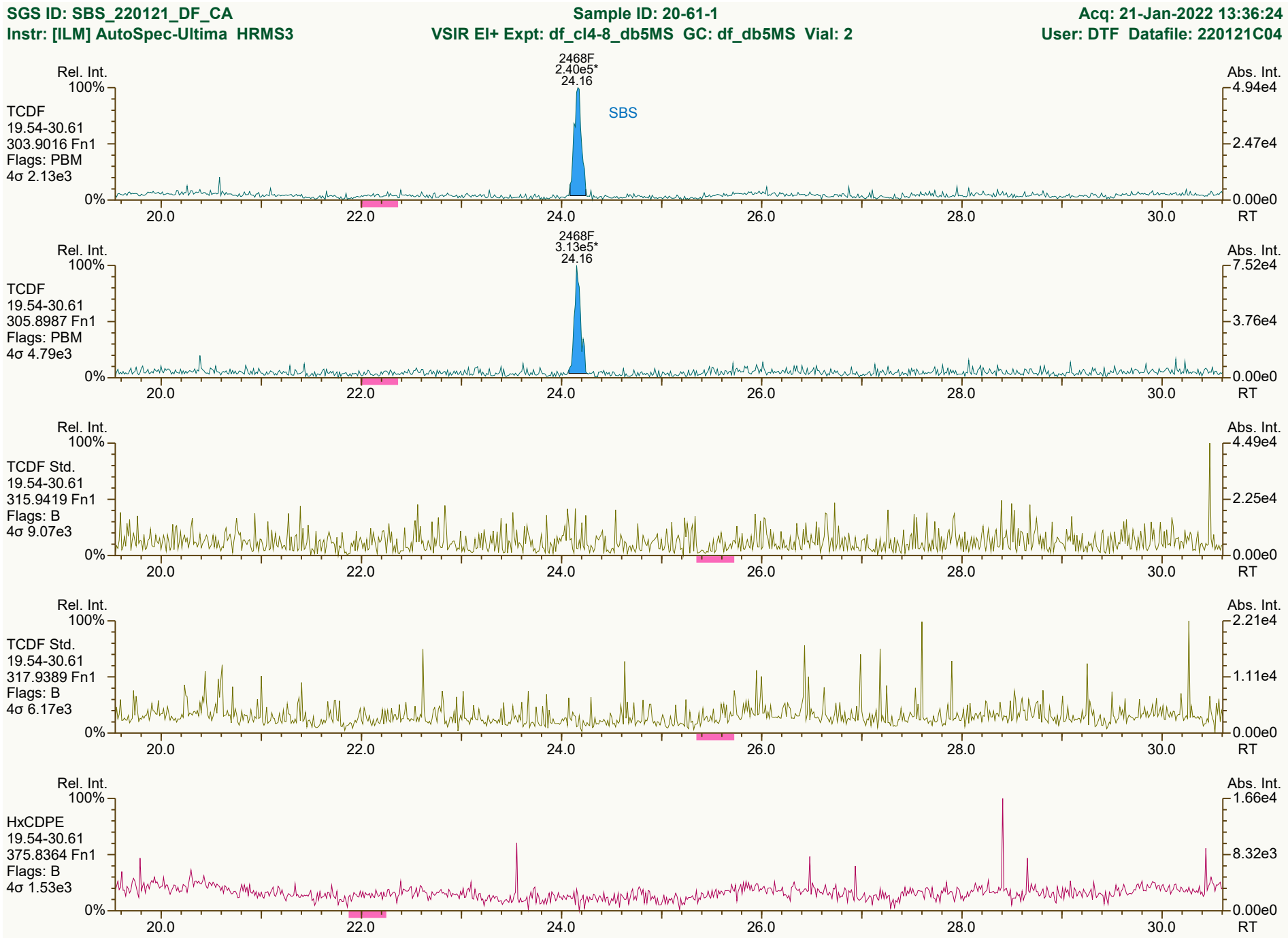

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.52e3
0%
Abs. Int.
9.49e3
4.74e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
6.93e3
3.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.46e3
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 8.04e3
0%
Abs. Int.
3.61e4
1.80e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 6.86e3
0%
Abs. Int.
2.23e4
1.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
Abs. Int.
6.27e3
3.13e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: B
4σ 3.45e3
0%
Abs. Int.
1.73e4
8.64e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: B
4σ 1.72e3
0%
Abs. Int.
1.18e4
5.90e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.28e7
6.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.71e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 2.18e3
0%
Abs. Int.
7.68e3
3.84e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 2.91e3
0%
Abs. Int.
1.53e4
7.67e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 3.42e3
0%
Abs. Int.
1.09e4
5.46e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
5.13e7
2.56e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

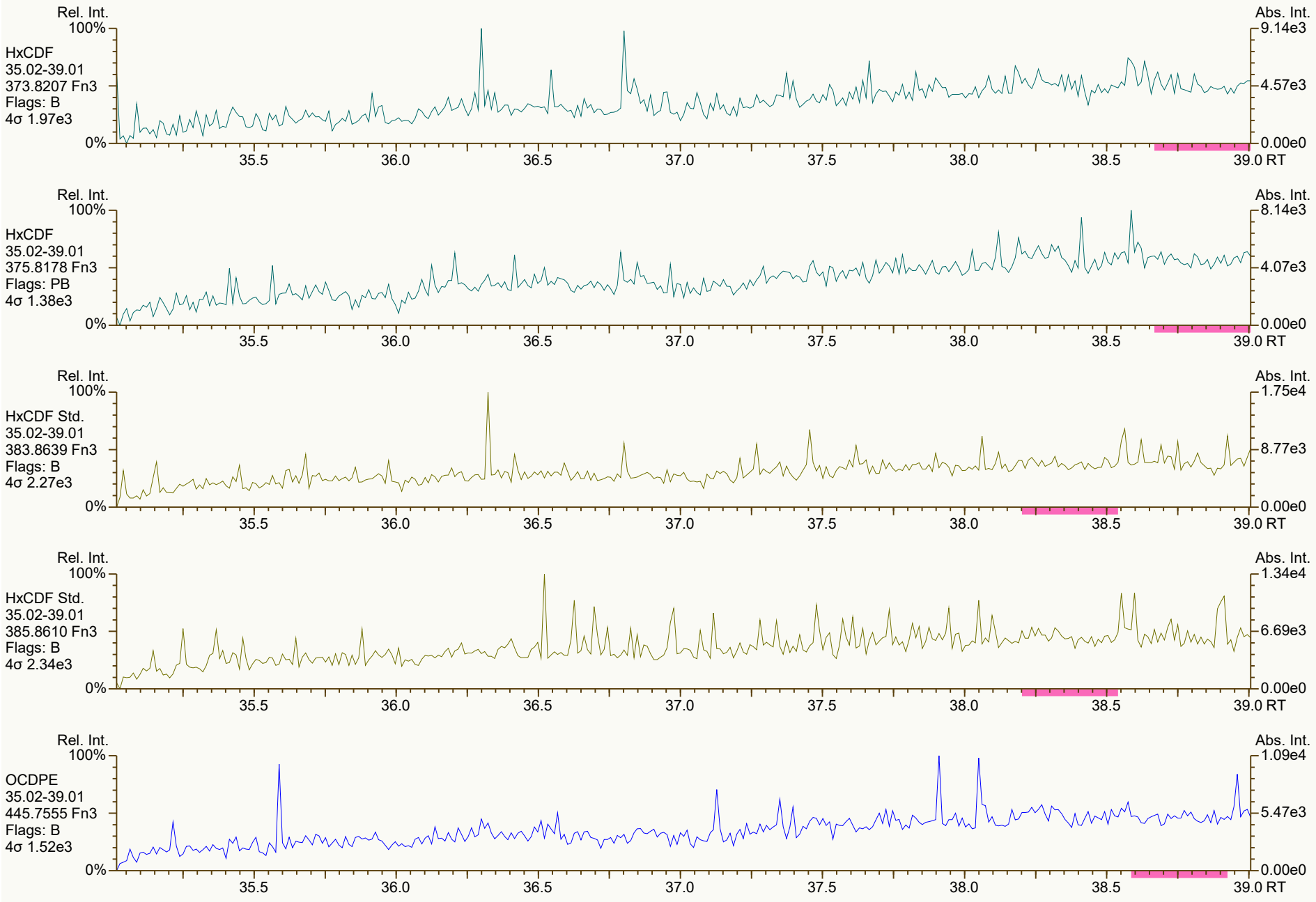

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.02e3
0%
Abs. Int.
7.60e3
3.80e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.47e3
0%
Abs. Int.
4.94e3
2.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.90e3
0%
Abs. Int.
1.44e4
7.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.67e3
0%
Abs. Int.
7.83e3
3.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.00e7
1.50e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
5.53e3
2.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: B
4σ 3.18e3
0%
Abs. Int.
1.13e4
5.65e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: B
4σ 2.13e3
0%
Abs. Int.
1.34e4
6.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220121_DF_CA
Sample ID: 20-61-1
Acq: 21-Jan-2022 13:36:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220121C04
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.13e3
2468F
2.40e5*
24.16
SBS
4.94e4
2.47e4
0.00e0
RT
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.79e3
2468F
3.13e5*
24.16
7.52e4
3.76e4
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 9.07e3
4.49e4
2.25e4
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 6.17e3
2.21e4
1.11e4
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.53e3
1.66e4
8.32e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\SBS_220121_DF_CA.utp_res, saved 24-Jan-2022 08:43 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9306, 2107, 4252 scc: 458-089
Revised: 24-Jan-2022 08:42 (DTF) Printed: 24-Jan-2022 14:53 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.59e4
7.97e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e7
7.84e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.53e3
0%
Abs. Int.
1.58e4
7.88e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.77e3
0%
Abs. Int.
9.04e3
4.52e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.63e4
8.14e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.29e4
6.46e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.98e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.97e3
0%
Abs. Int.
9.14e3
4.57e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.38e3
0%
Abs. Int.
8.14e3
4.07e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 2.27e3
0%
Abs. Int.
1.75e4
8.77e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 2.34e3
0%
Abs. Int.
1.34e4
6.69e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

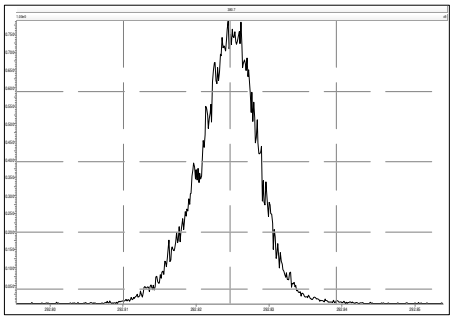

Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.71e3
0%
Abs. Int.
6.31e3
3.16e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.38e3
0%
Abs. Int.
5.30e3
2.65e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 2.43e3
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
8.83e3
4.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.63e3
0%
Abs. Int.
4.42e3
2.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.17e3
0%
Abs. Int.
1.06e4
5.28e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.87e3
0%
Abs. Int.
5.89e3
2.95e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: B
4σ 1.82e3
0%
Abs. Int.
1.48e4
7.40e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.71e3
0%
Abs. Int.
7.55e3
3.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

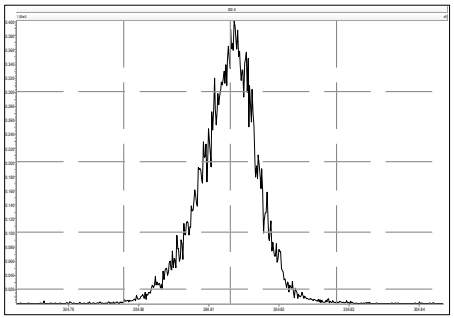
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:02 Eastern Standard Time

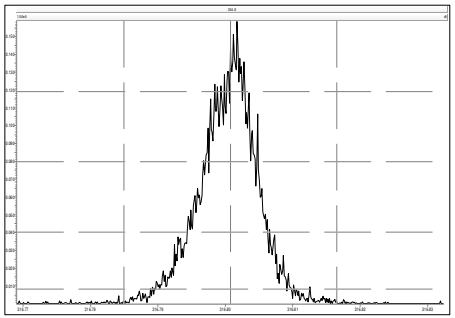
M 292.9824 R 14368



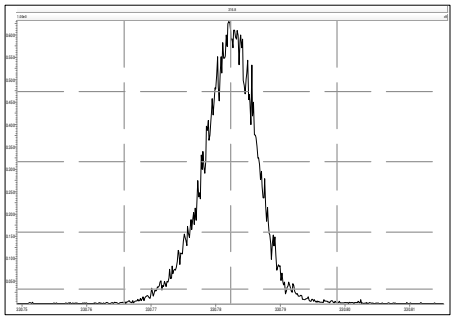
M 304.9824 R 14885



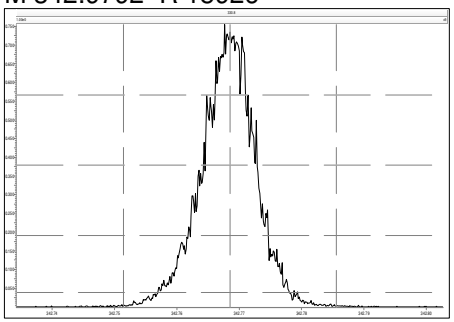
M 316.9824 R 15425



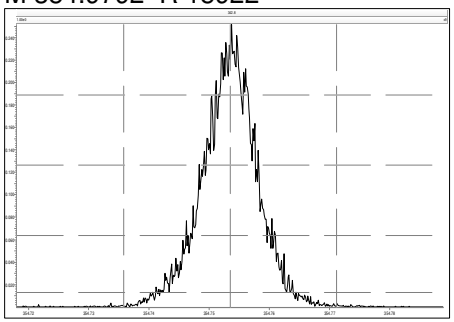
M 330.9792 R 16665



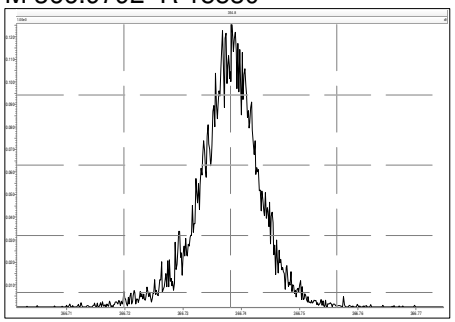
M 342.9792 R 15926



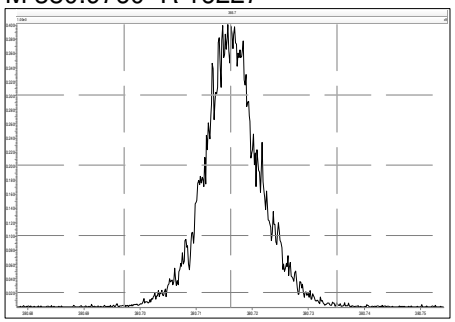
M 354.9792 R 15922



M 366.9792 R 15530



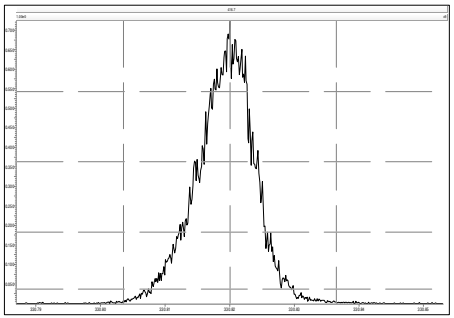
M 380.9760 R 16227



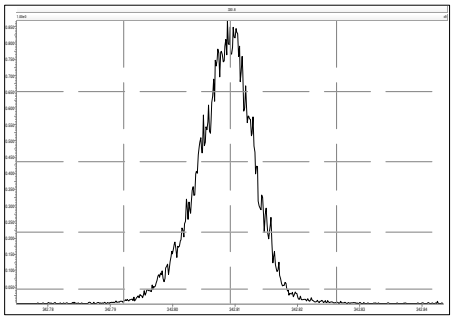
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:19 Eastern Standard Time

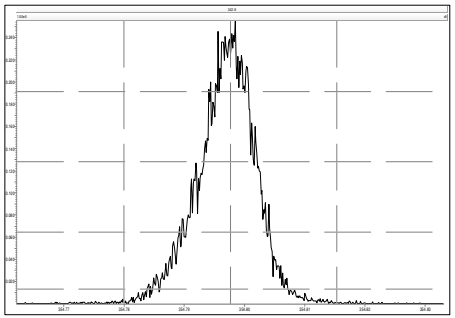
M 330.9792 R 14970



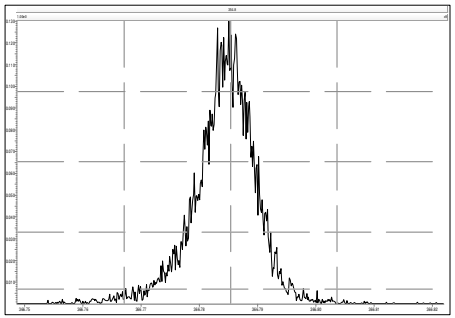
M 342.9792 R 15525



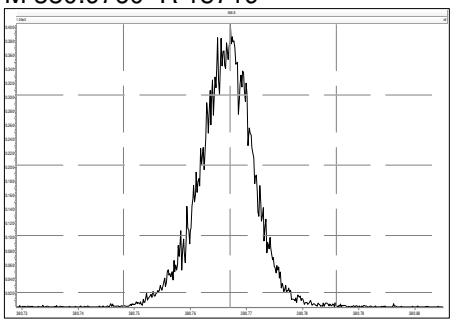
M 354.9792 R 16448



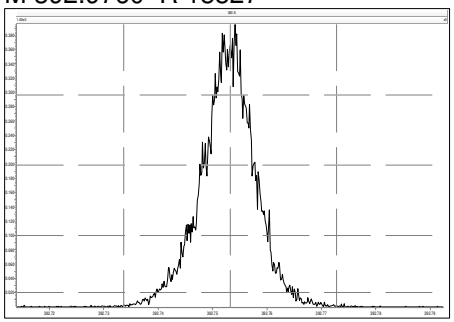
M 366.9792 R 15335



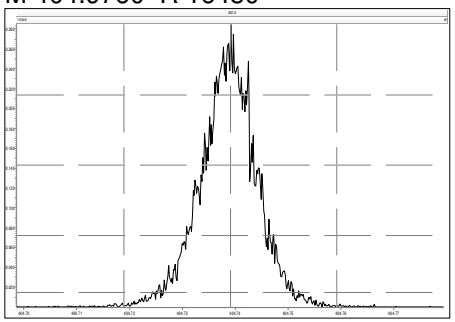
M 380.9760 R 15719



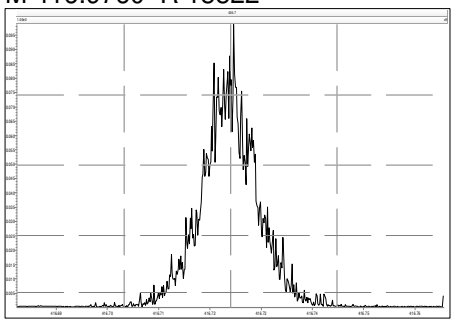
M 392.9760 R 15527



M 404.9760 R 16450



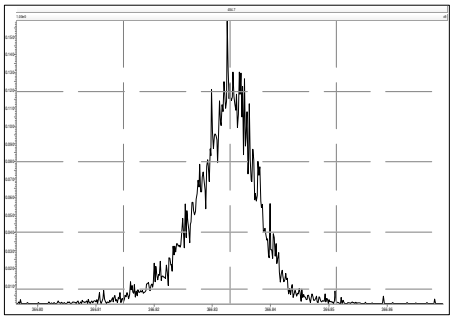
M 416.9760 R 15522



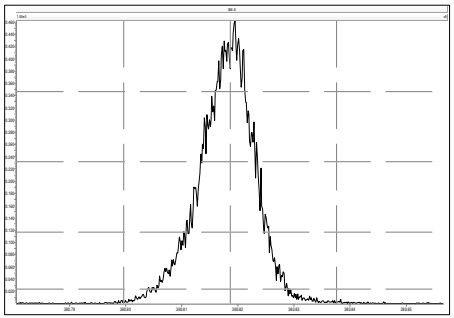
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:36 Eastern Standard Time

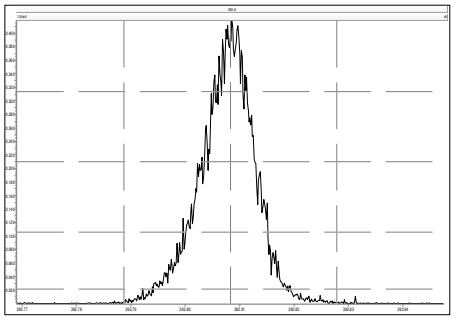
M 366.9792 R 14793



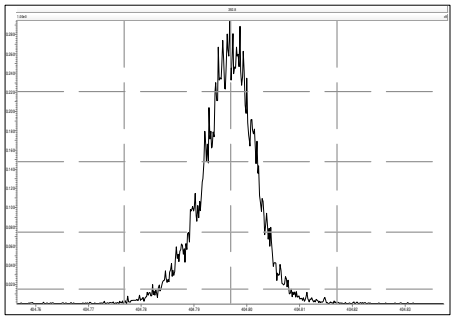
M 380.9760 R 16664



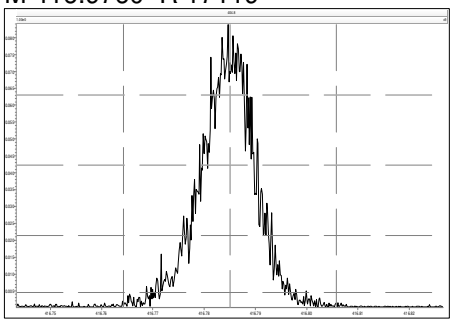
M 392.9760 R 15824



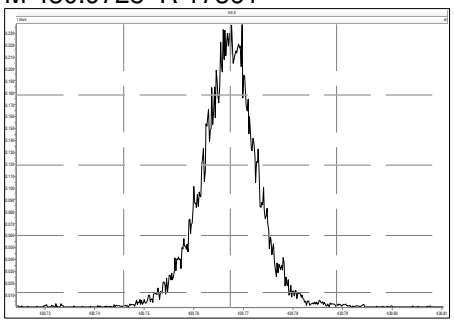
M 404.9760 R 16555



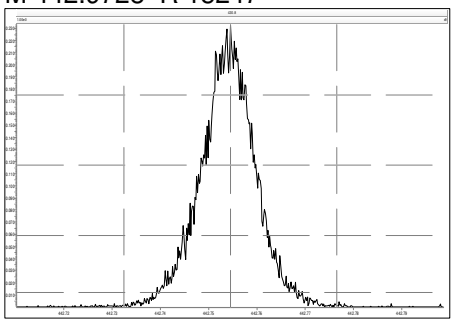
M 416.9760 R 17119



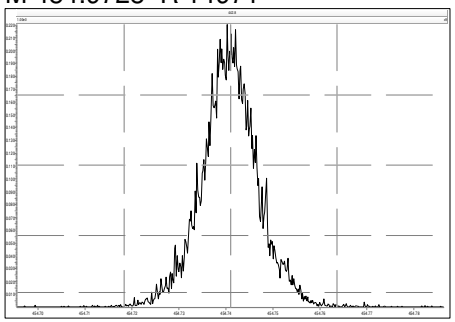
M 430.9728 R 17361



M 442.9728 R 15247



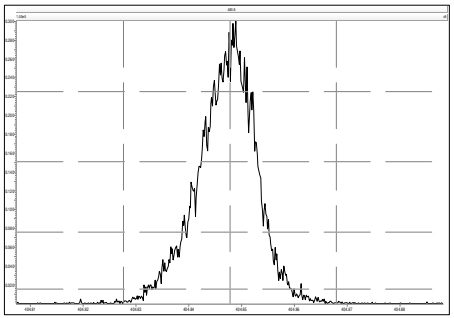
M 454.9728 R 14971



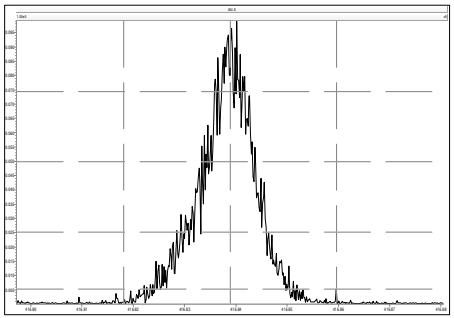
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:36:51 Eastern Standard Time

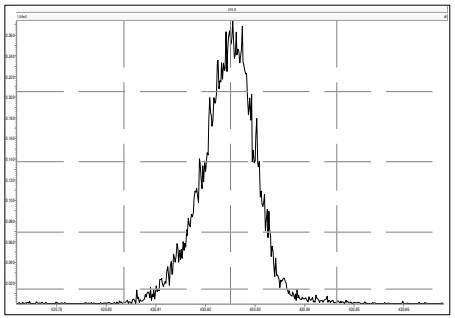
M 404.9760 R 14620



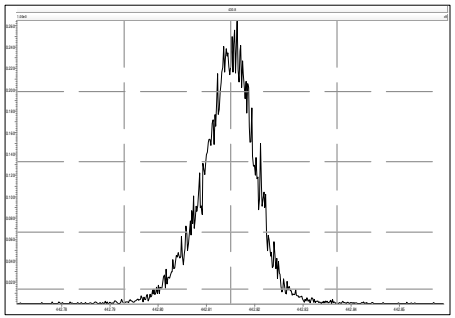
M 416.9760 R 15827



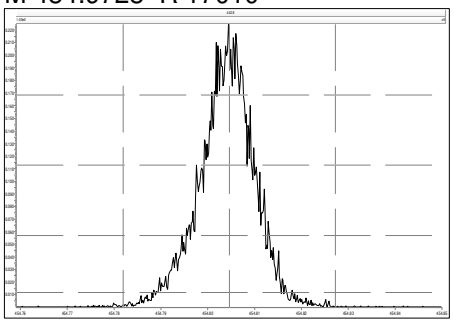
M 430.9728 R 16669



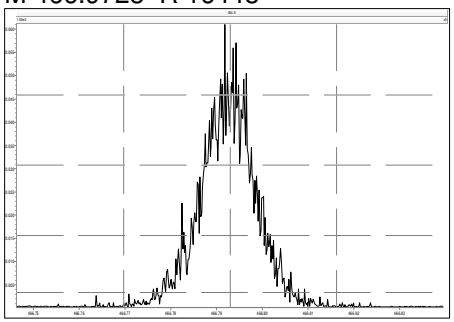
M 442.9728 R 17006



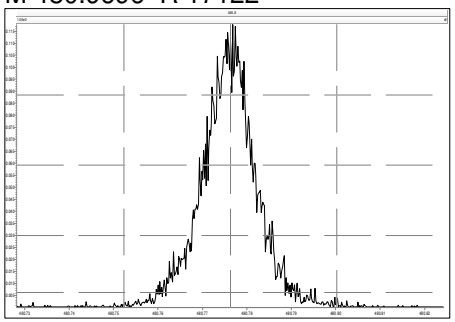
M 454.9728 R 17010



M 466.9728 R 16448



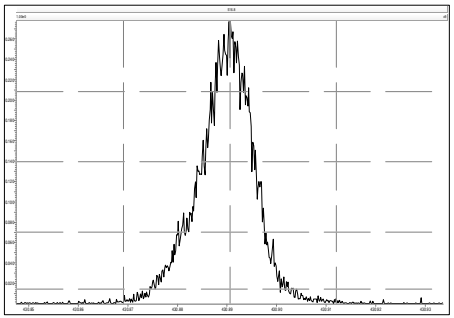
M 480.9696 R 17122



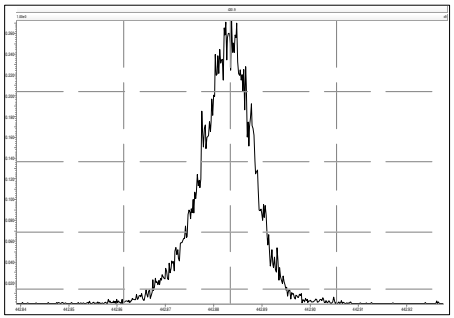
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Friday, January 21, 2022 10:37:07 Eastern Standard Time

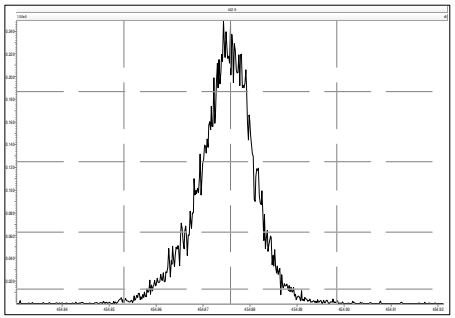
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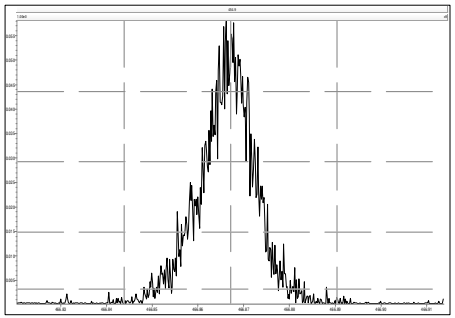
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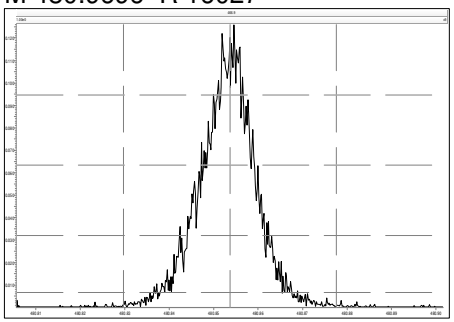
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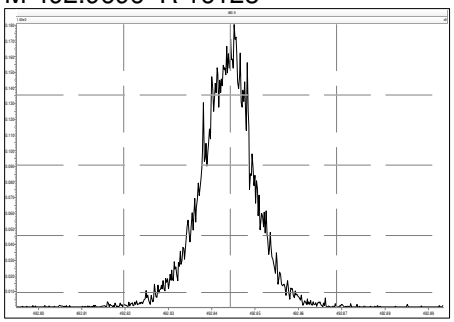
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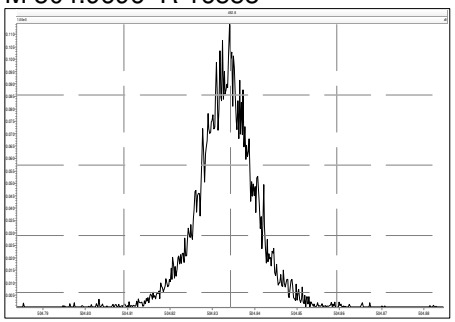
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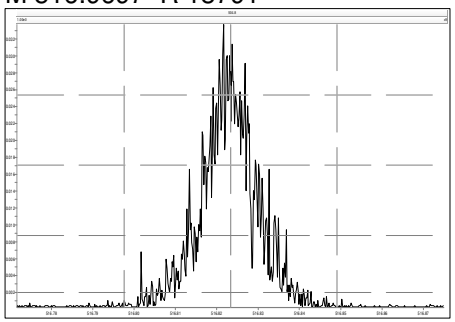
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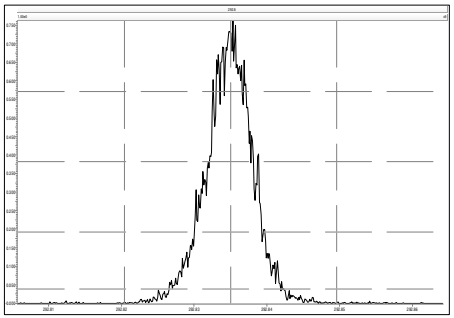


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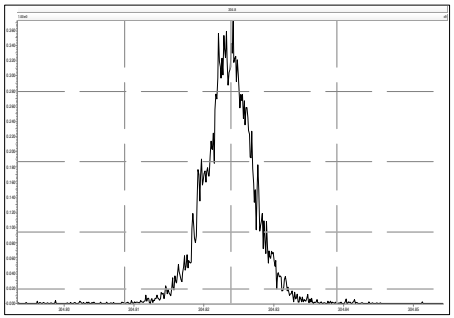


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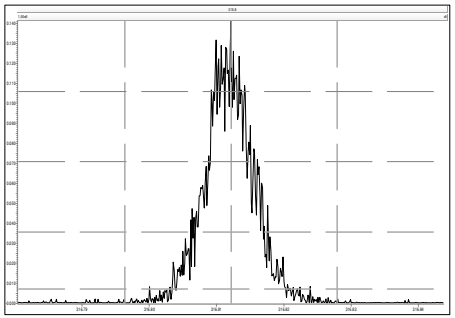
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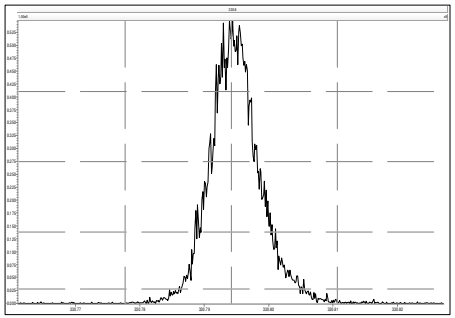
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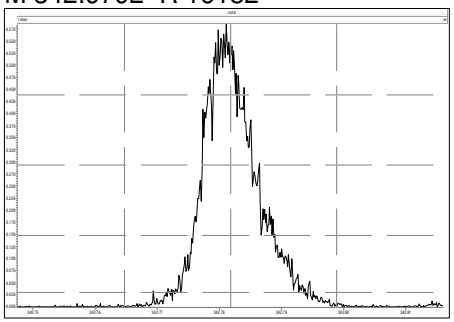
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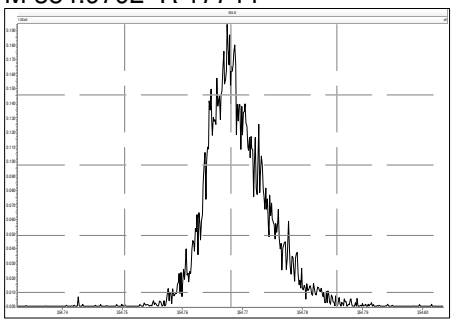
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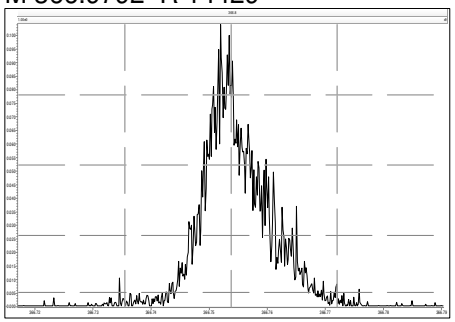
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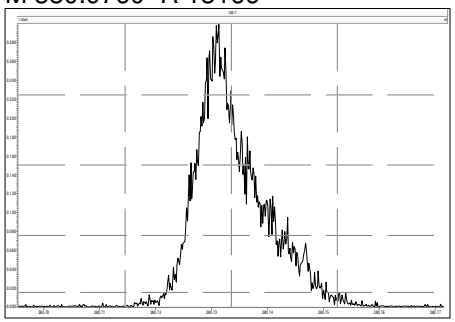
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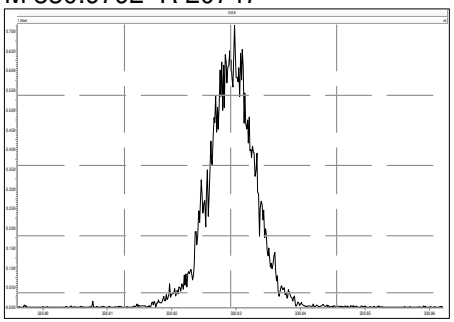
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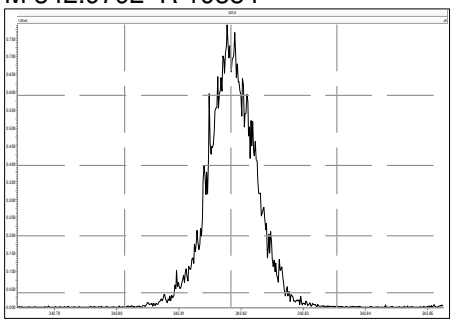
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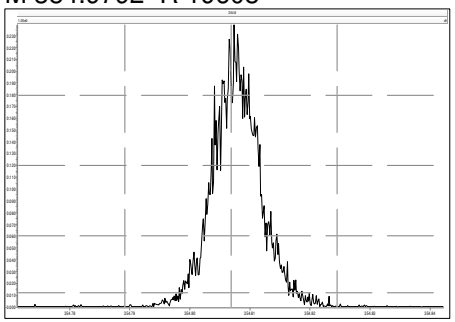
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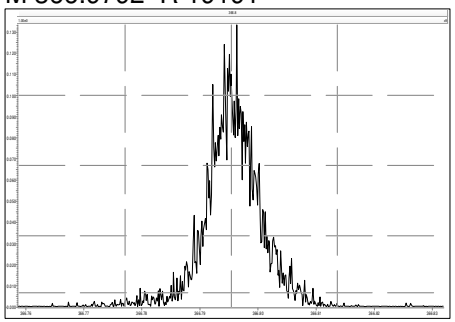
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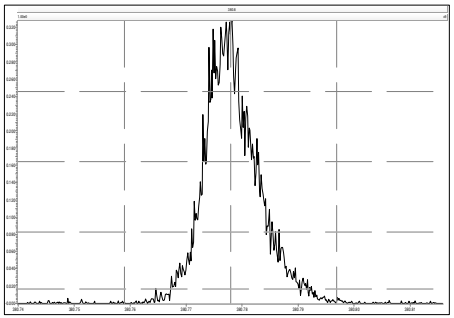
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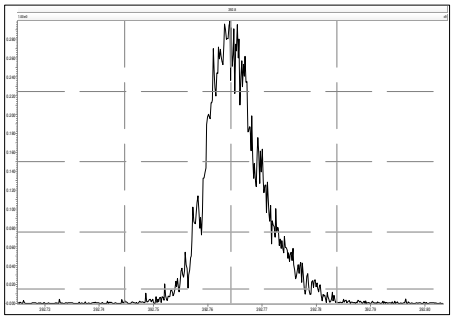
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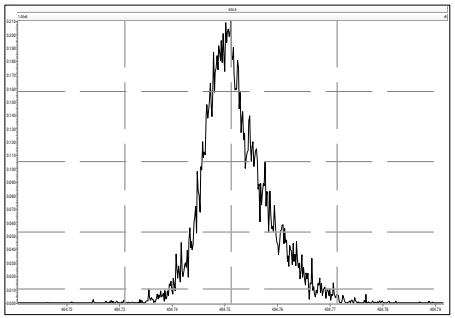
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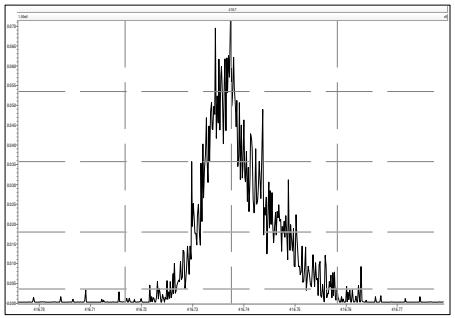
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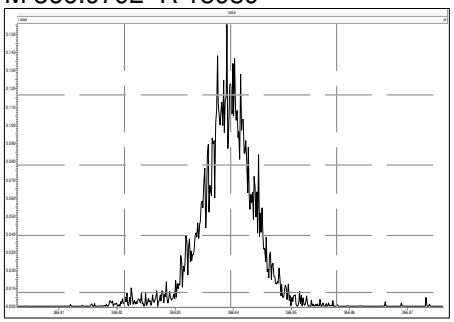
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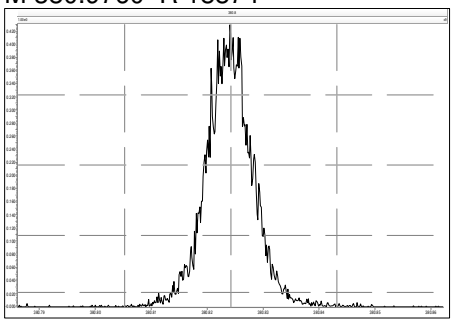
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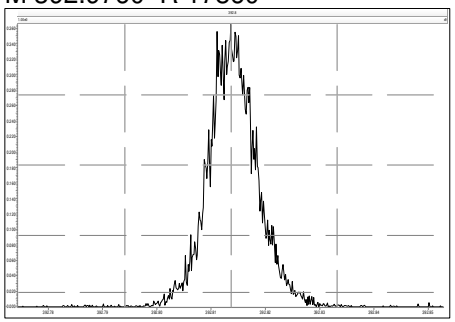
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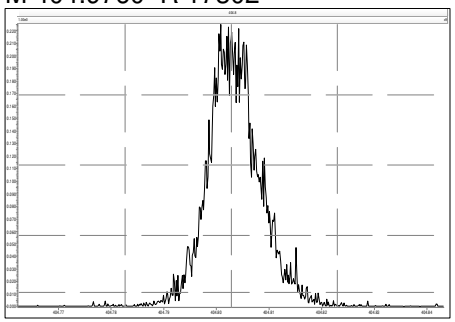
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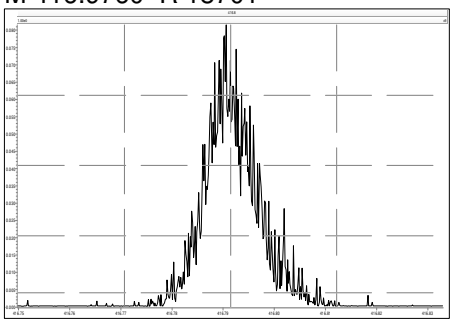
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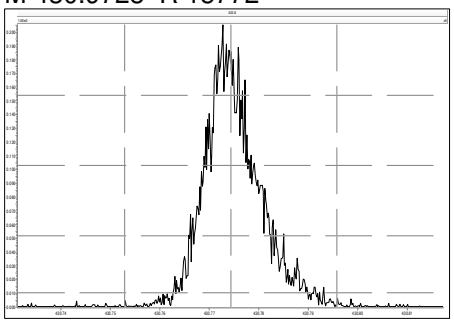
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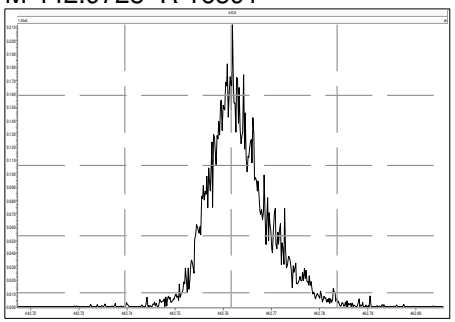
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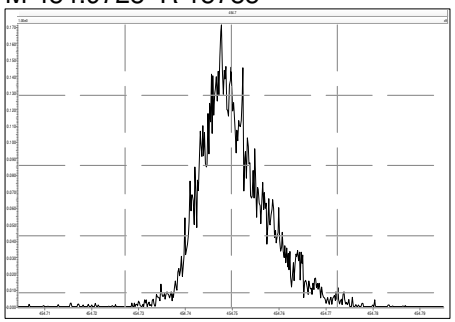
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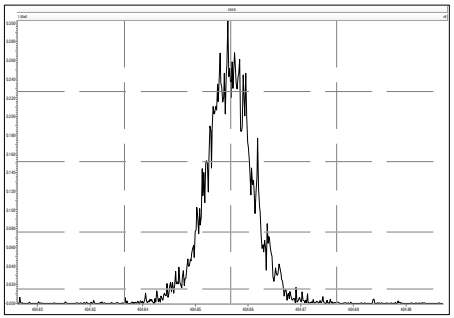
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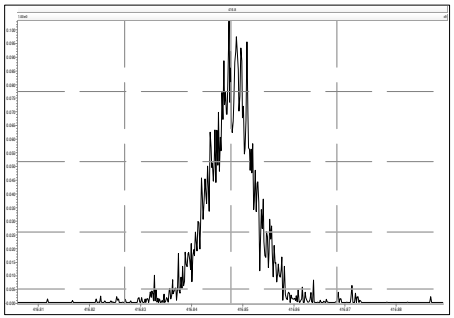
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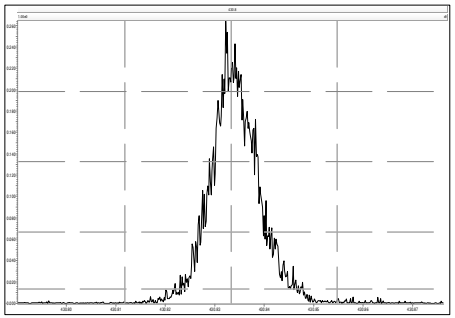
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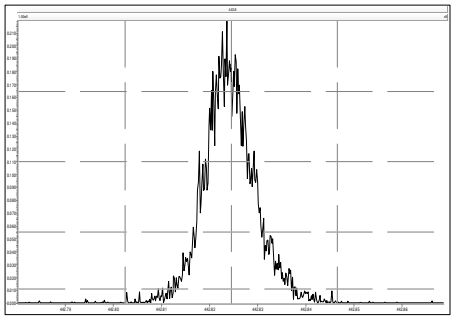
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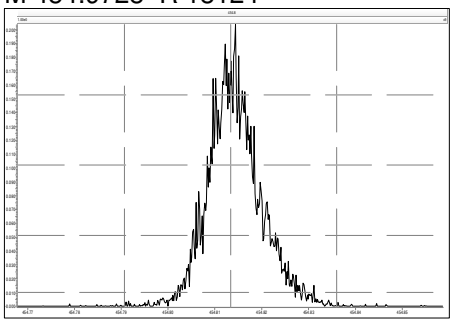
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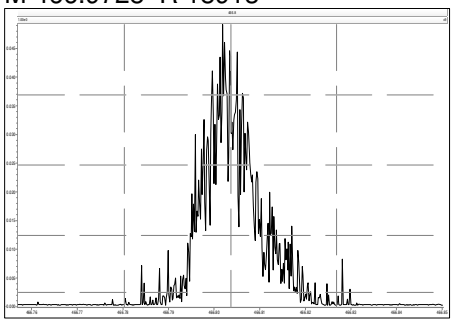
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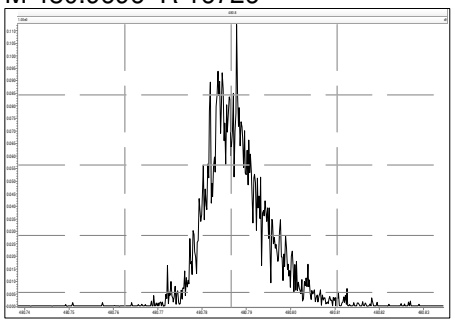
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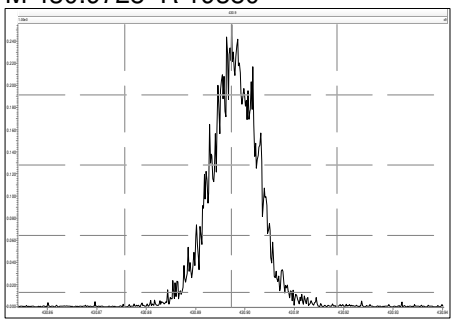
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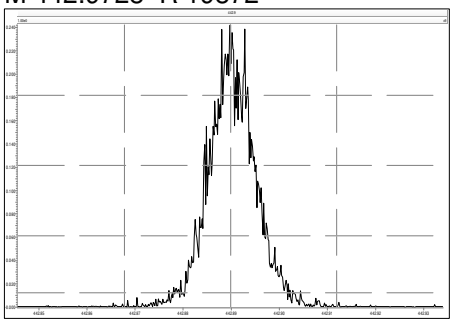
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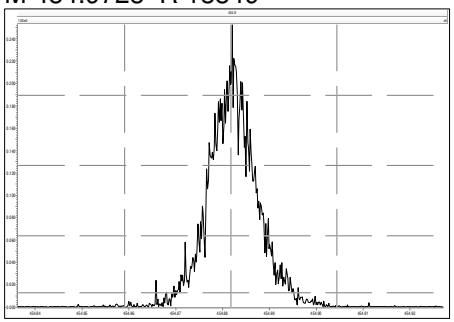
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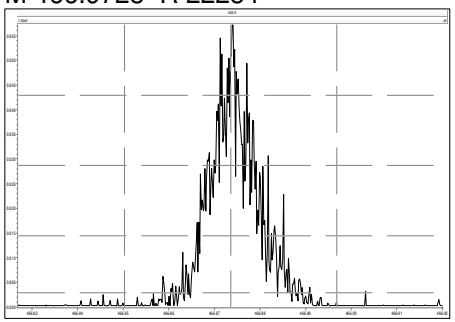
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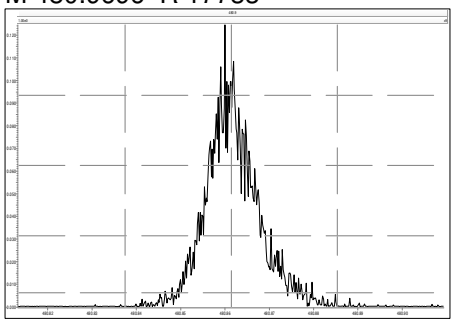
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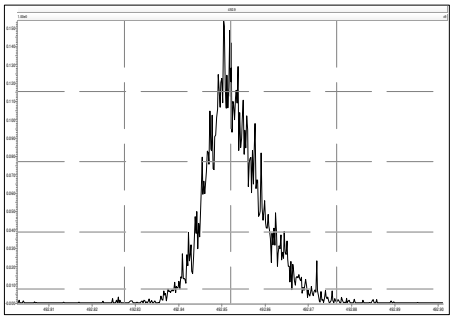
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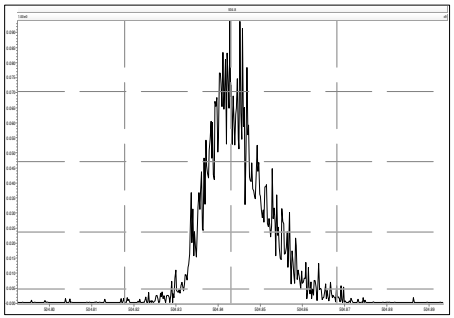
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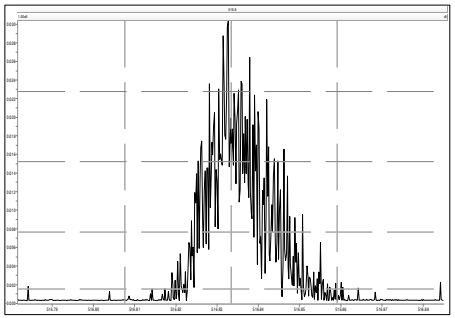
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M 516.9697 R 19942



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

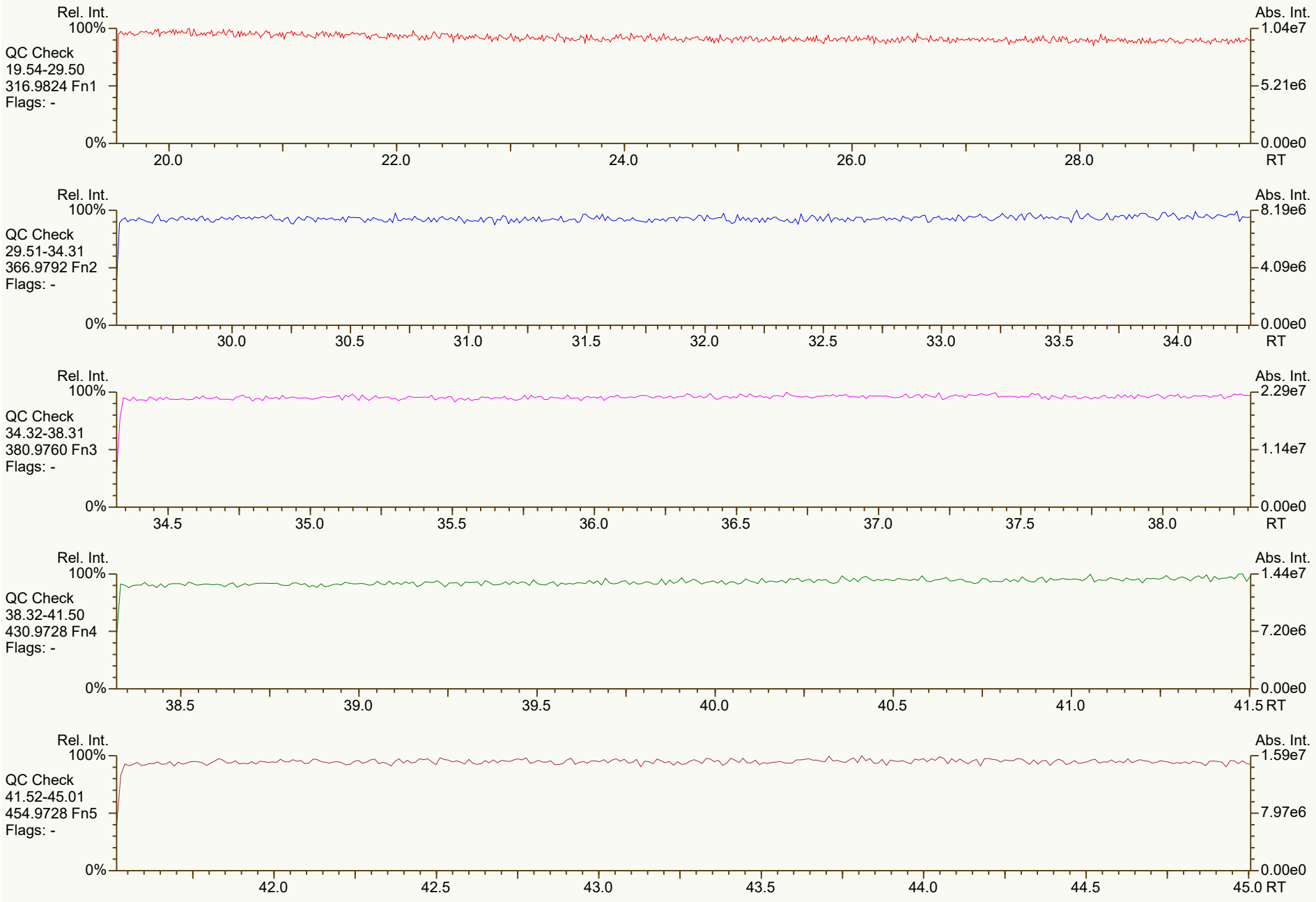
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

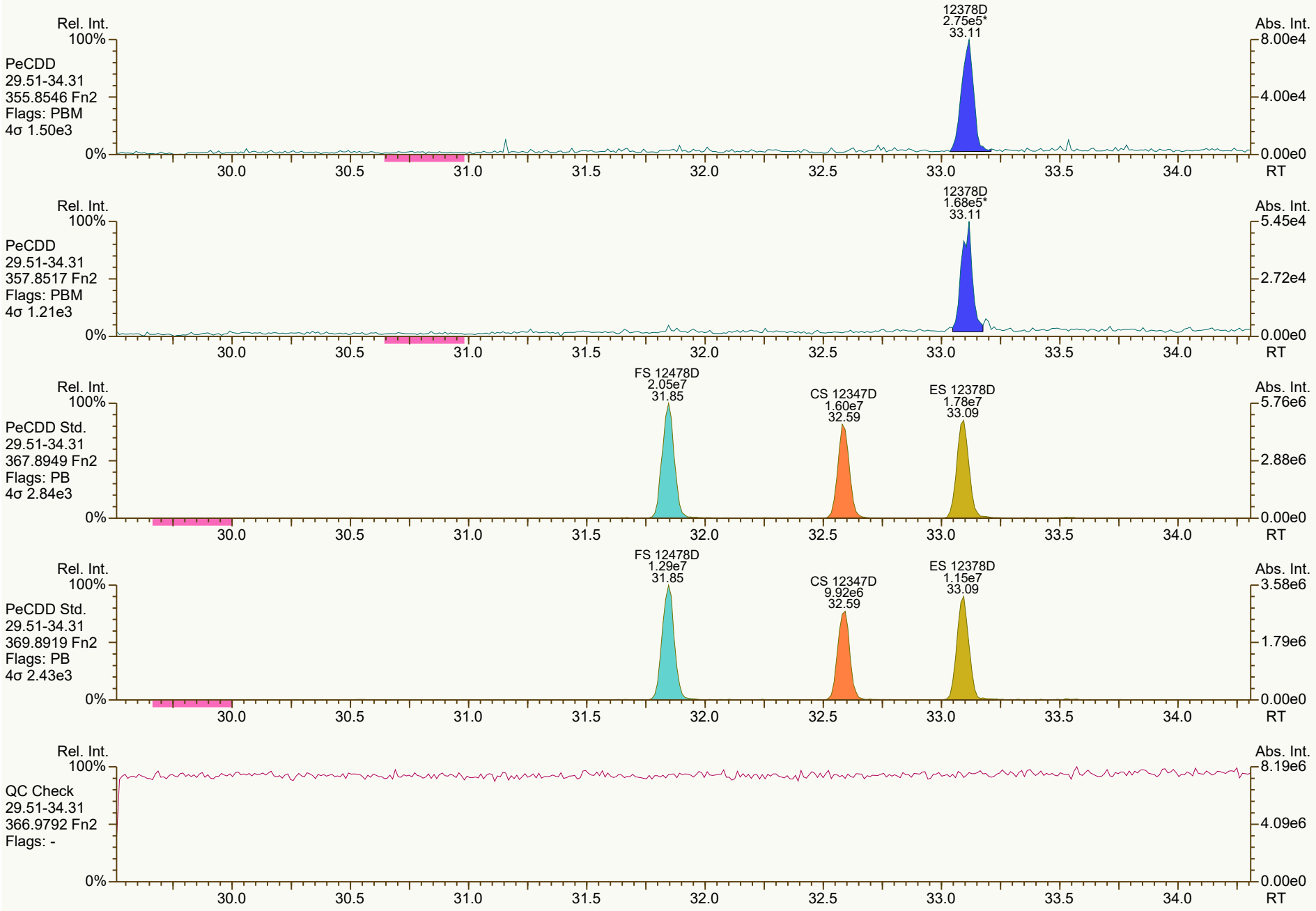
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

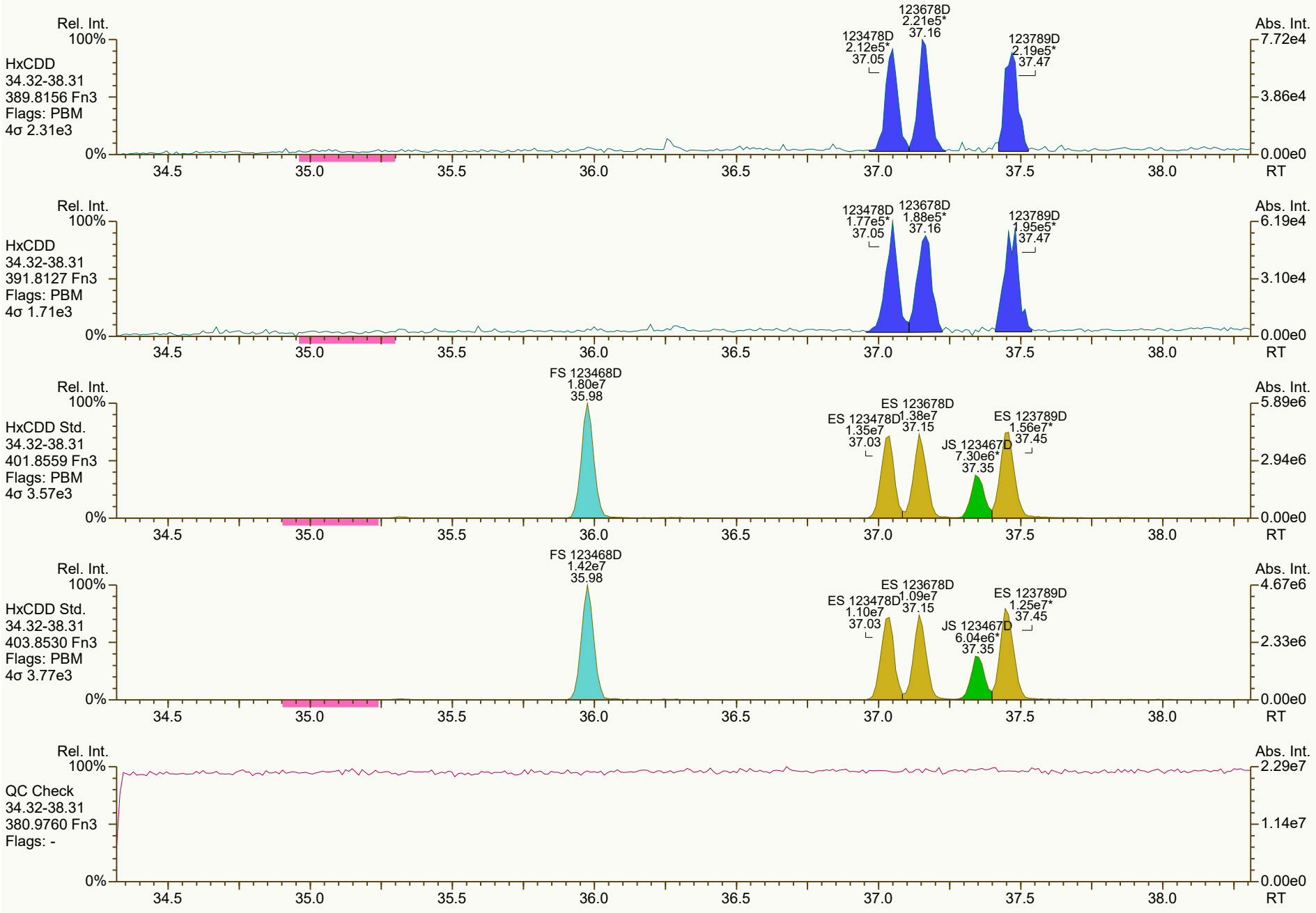
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

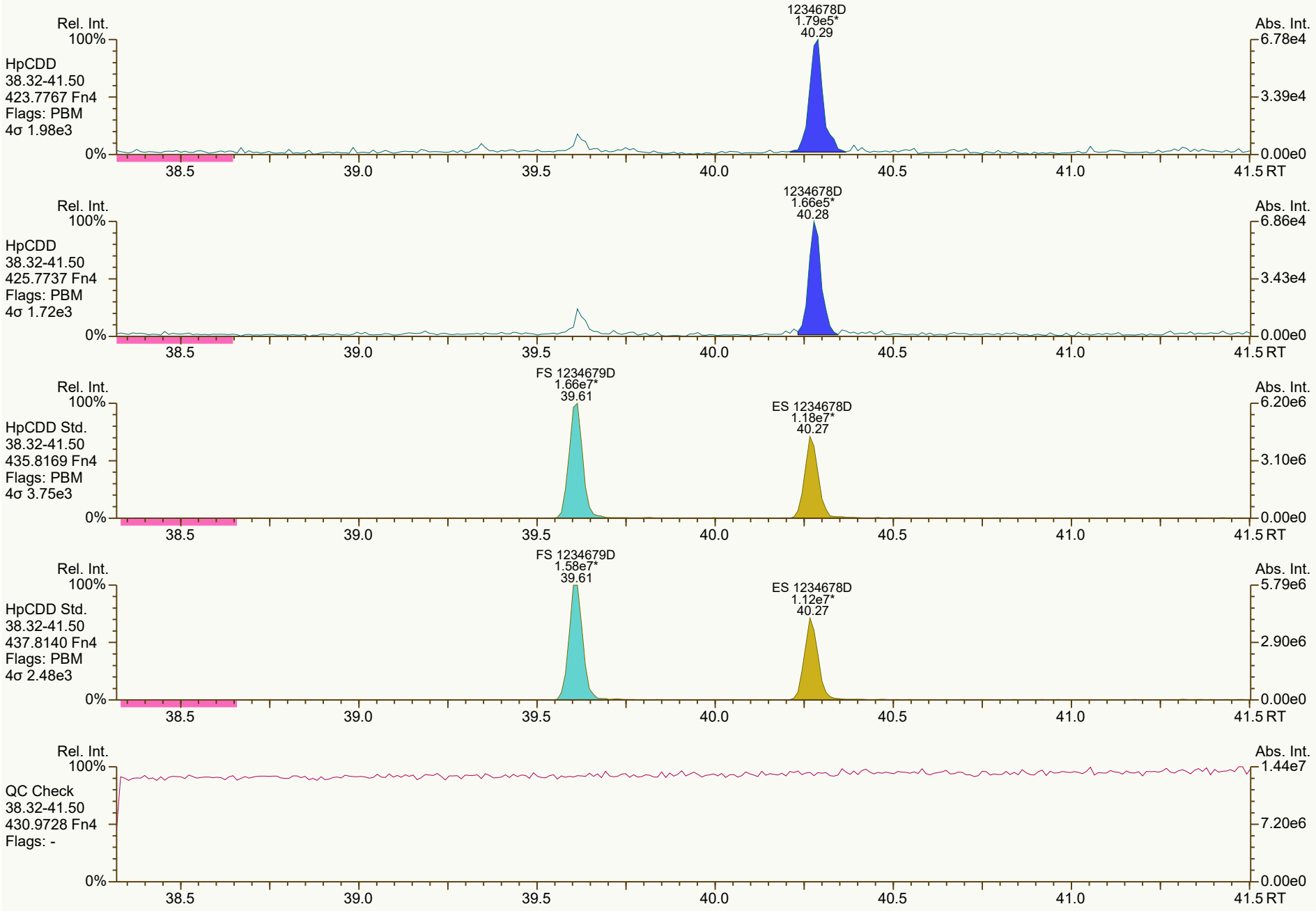
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

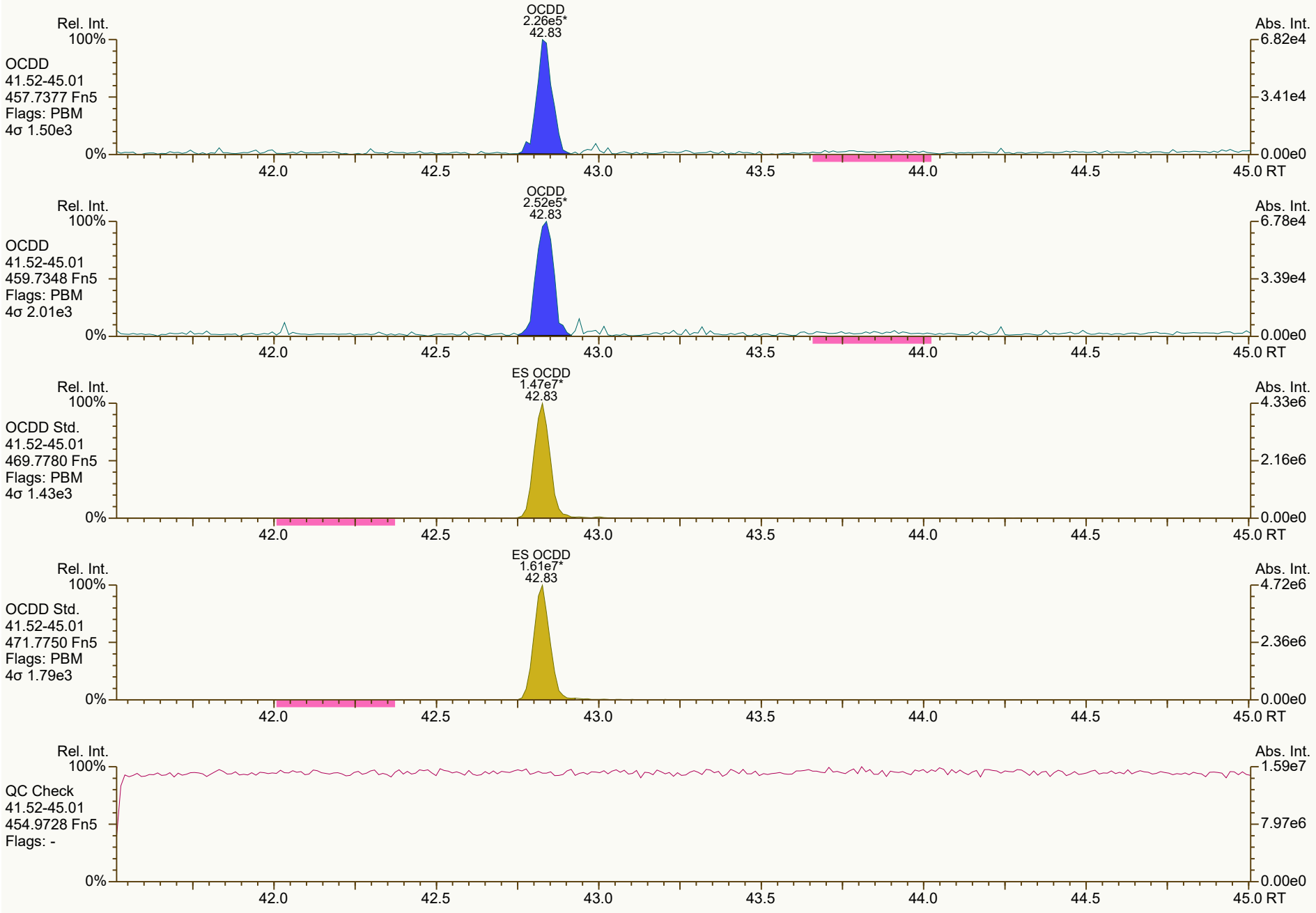

Rel. Int.
100%
QC Check
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316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
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Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
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42.5
43.0
43.5
44.0
44.5
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Abs. Int.
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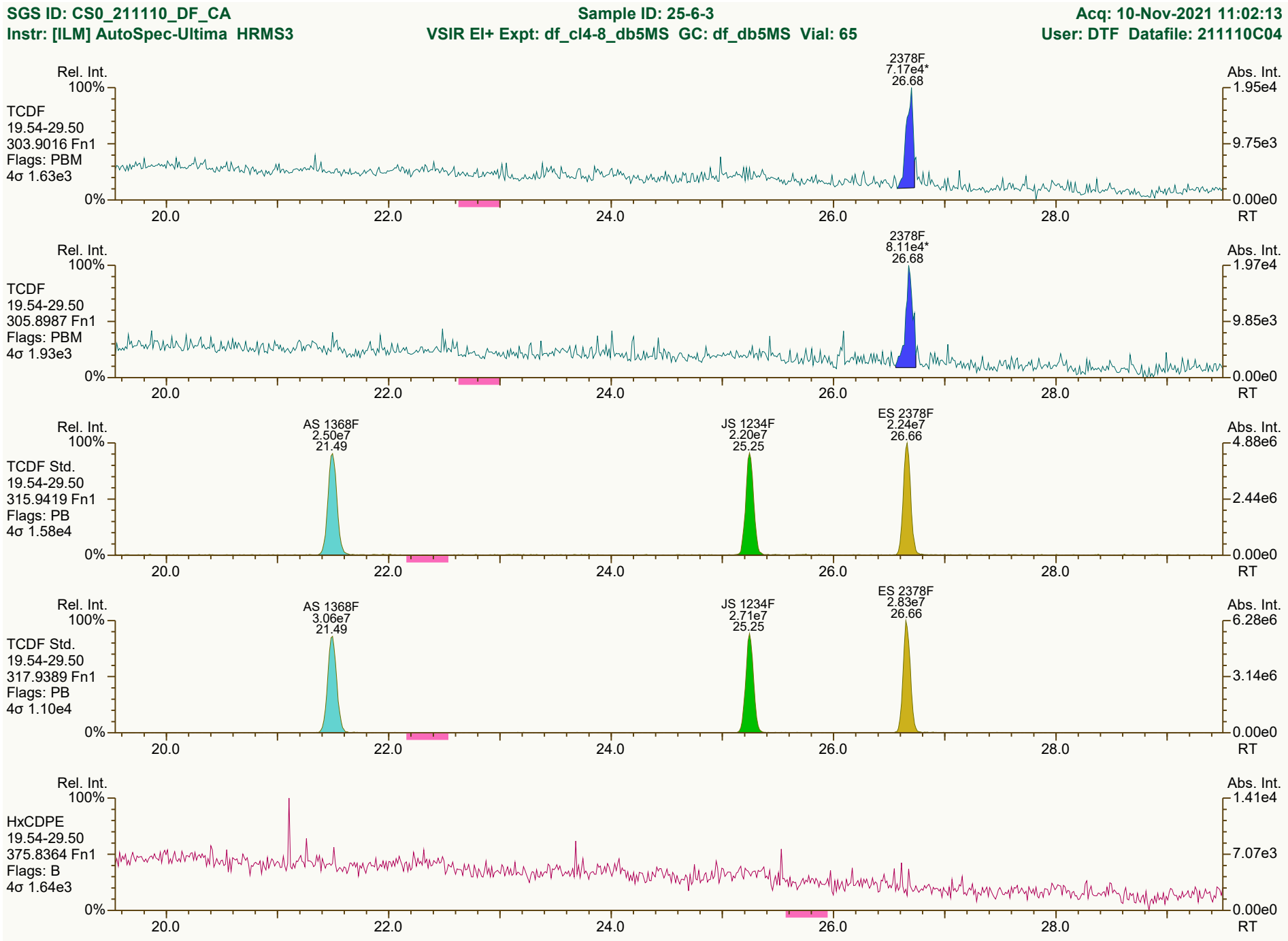

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
2378D
5.29e4*
27.60
1.67e4
8.35e3
0.00e0
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

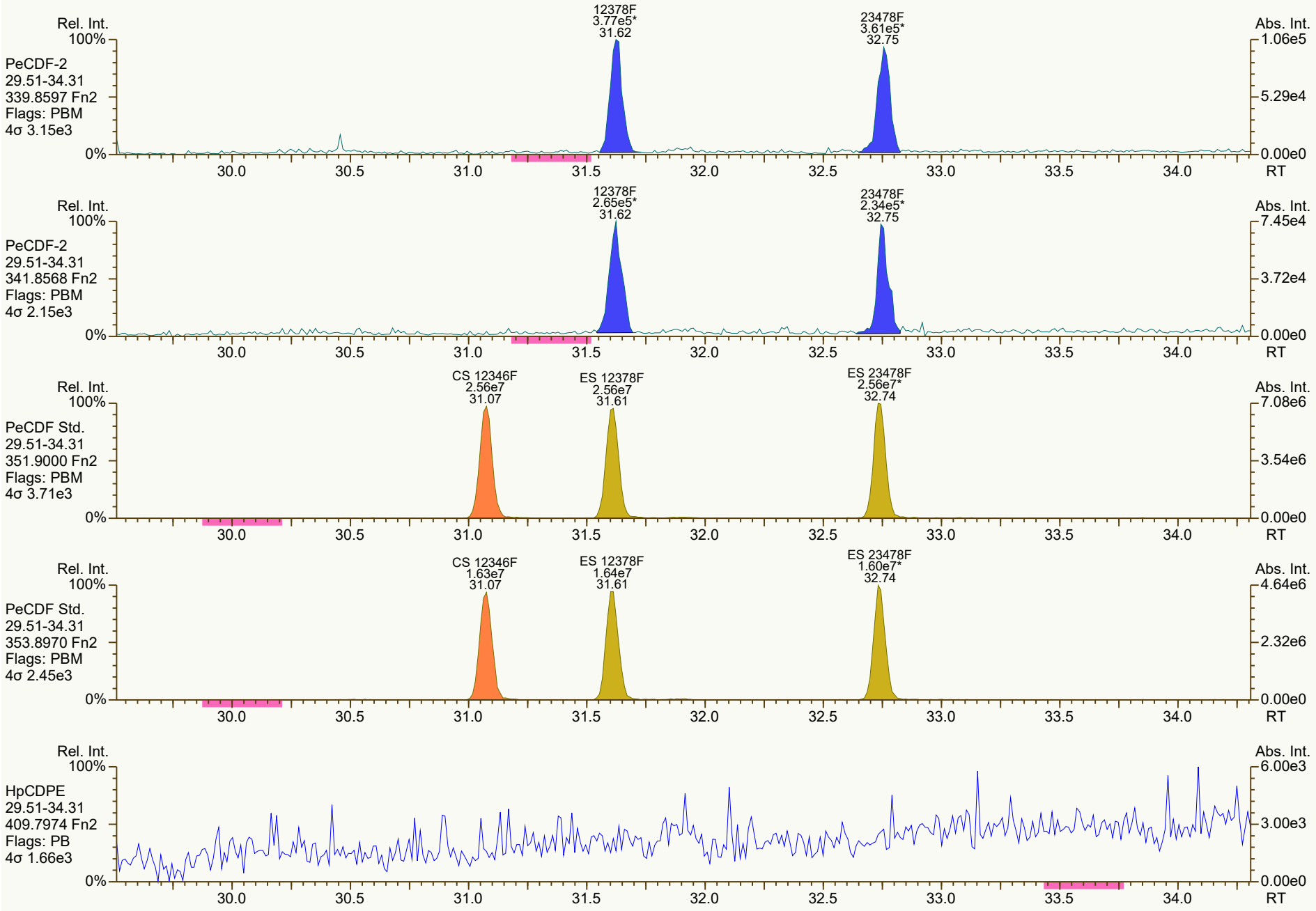

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

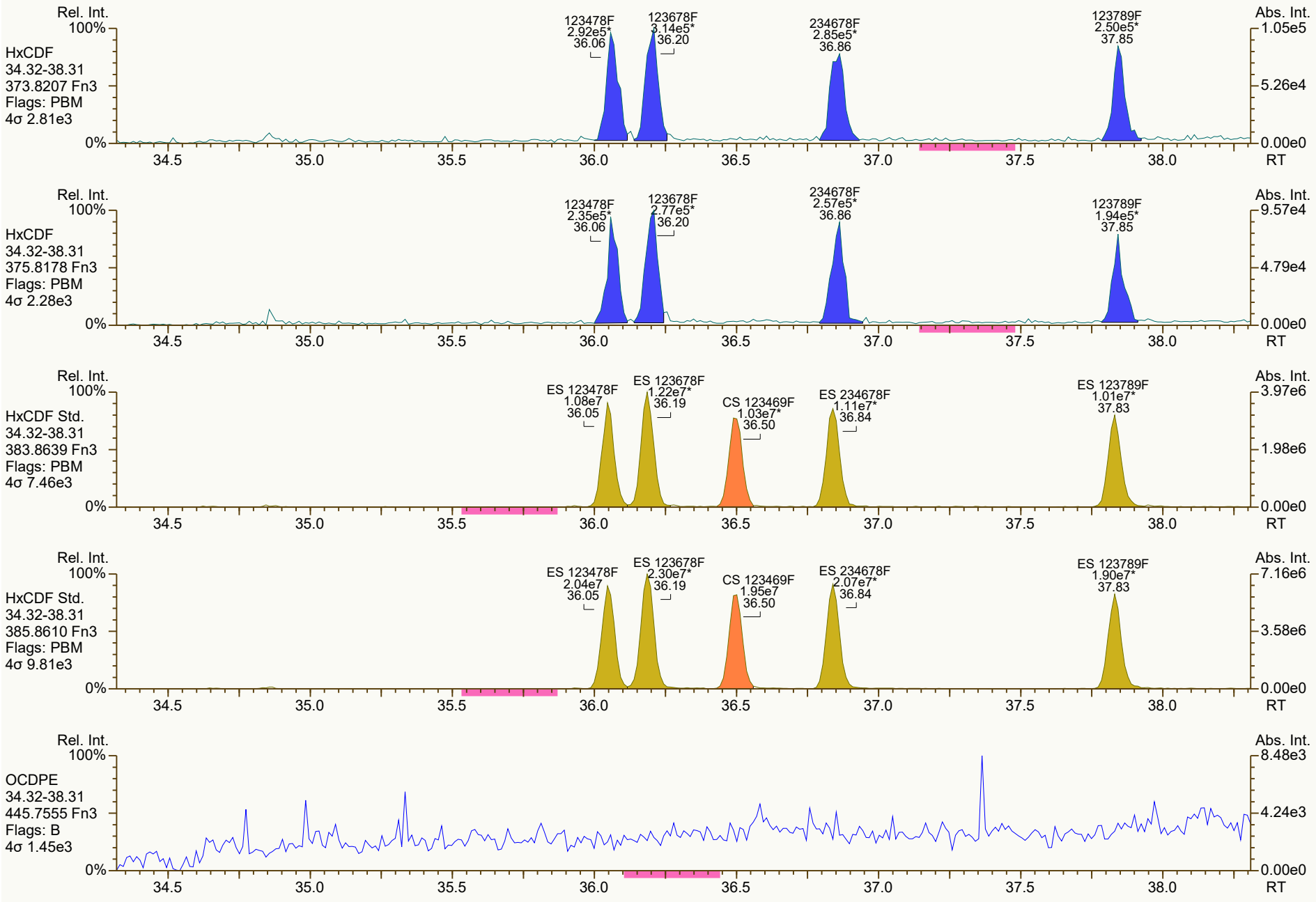

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

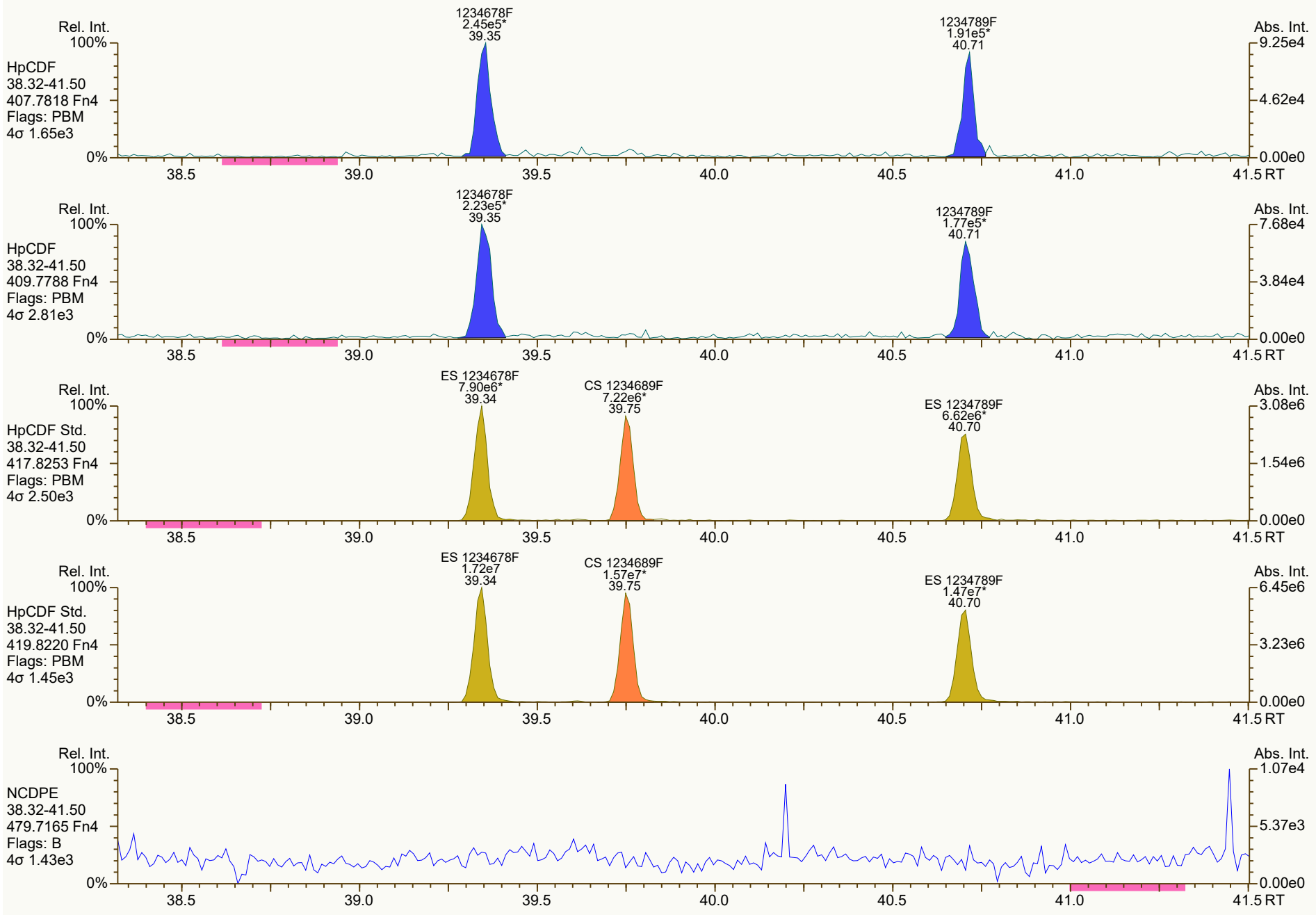

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
1.95e4
9.75e3
0.00e0
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
1.97e4
9.85e3
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
4.88e6
2.44e6
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
6.28e6
3.14e6
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
1.41e4
7.07e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5762, 7924, 6610 scc: 245-007
Revised: 10-Nov-2021 13:35 (DTF) Printed: 11-Nov-2021 16:32 Page 7 of 12

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04




Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

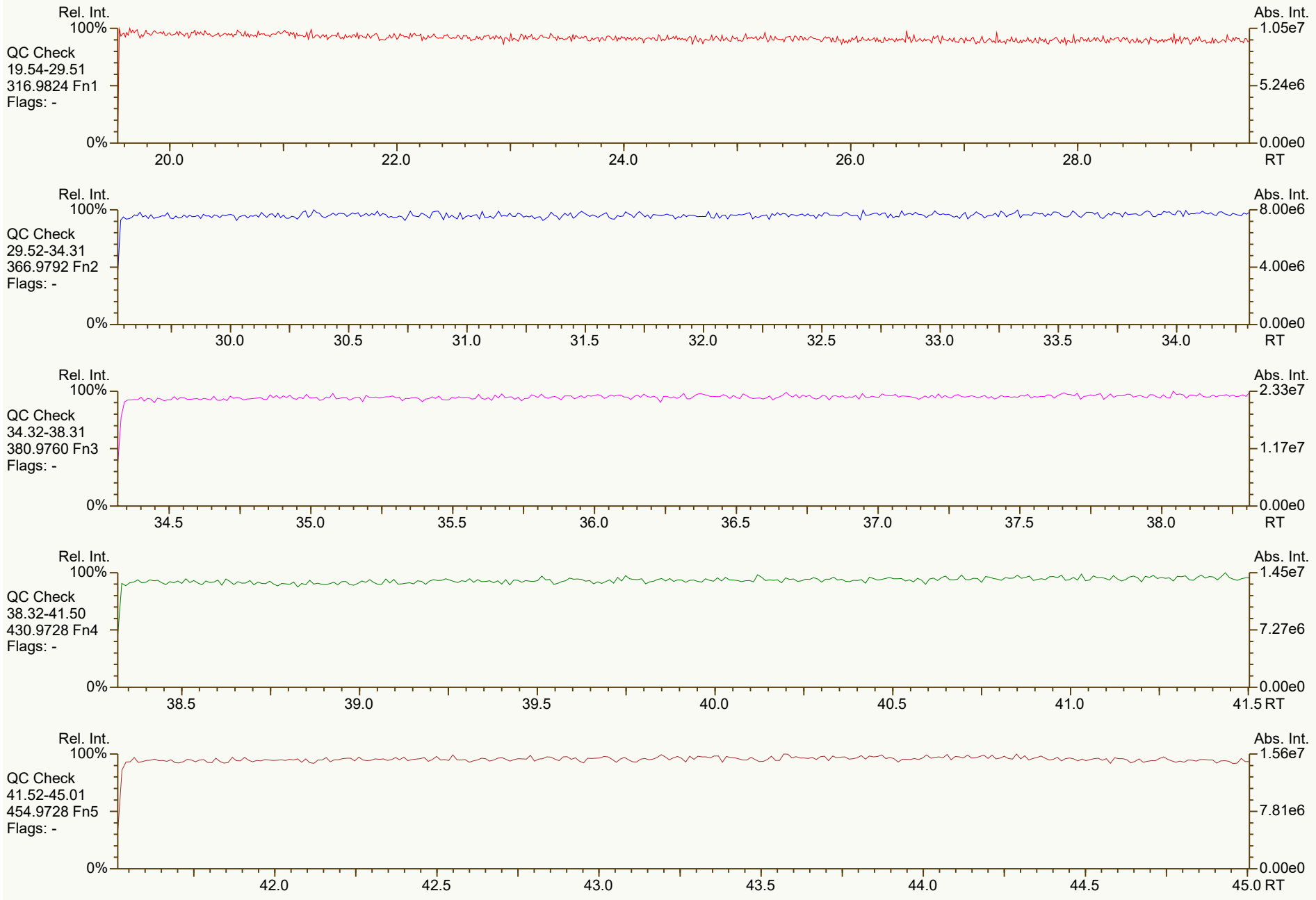

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

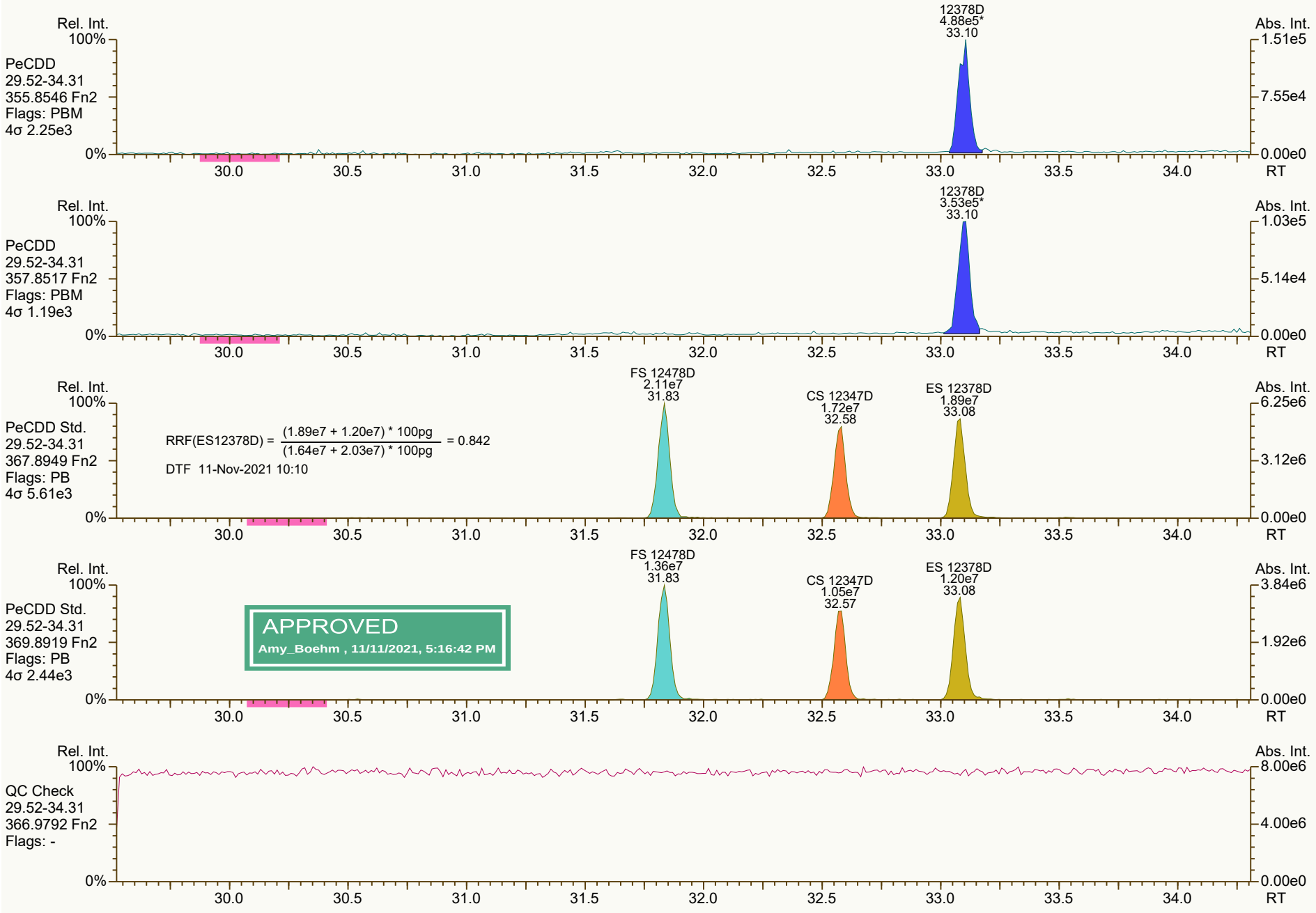
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

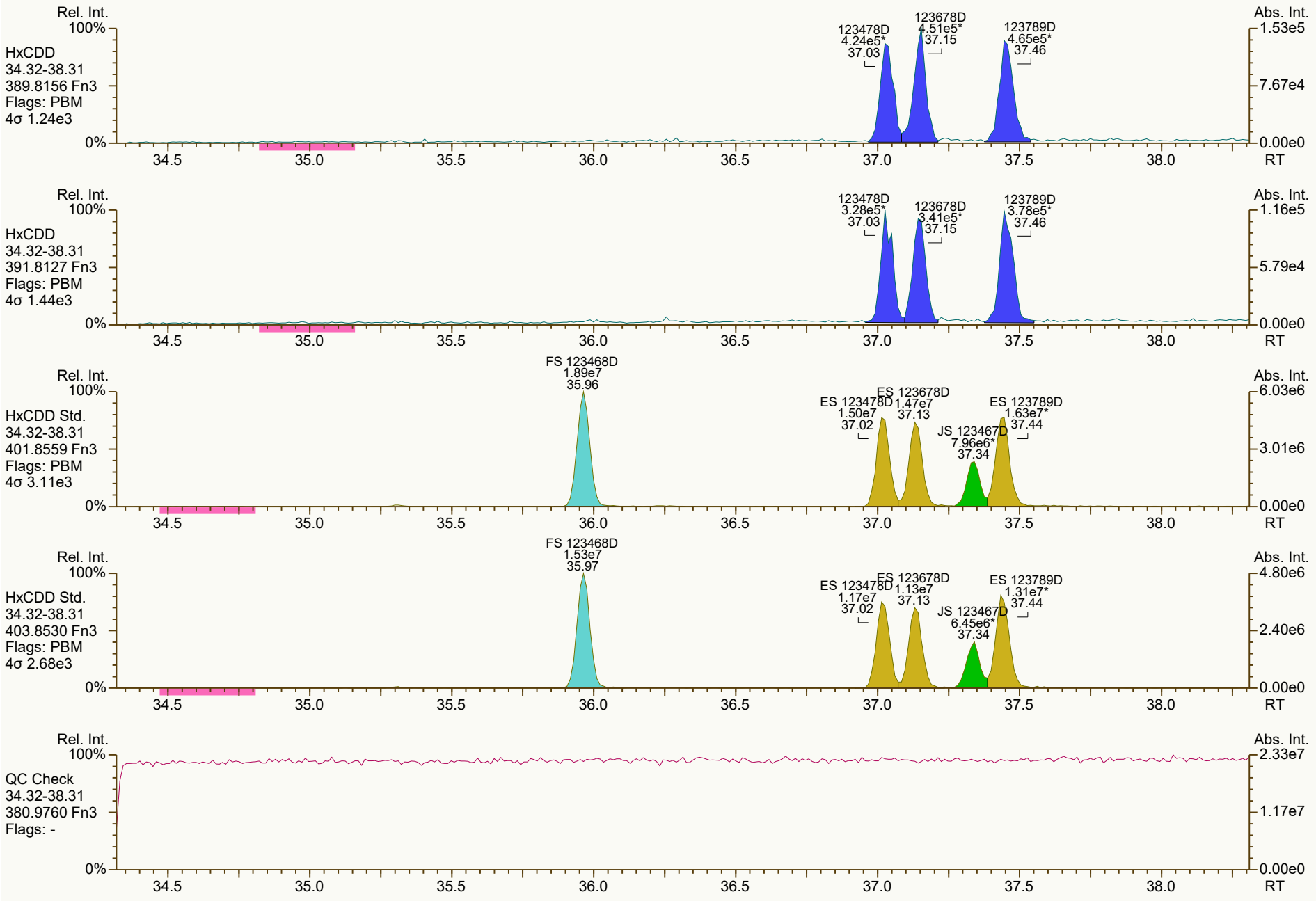
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

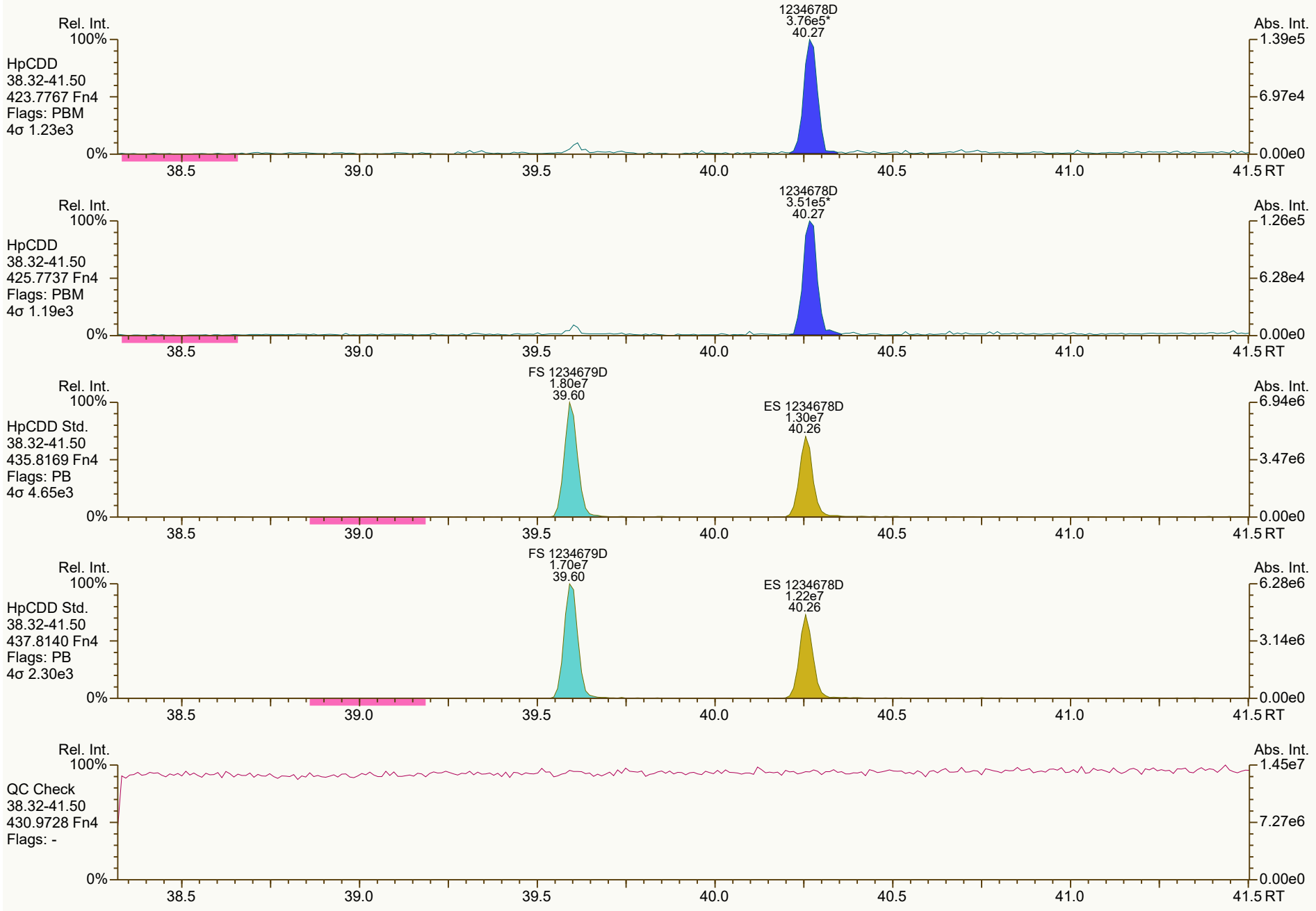
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

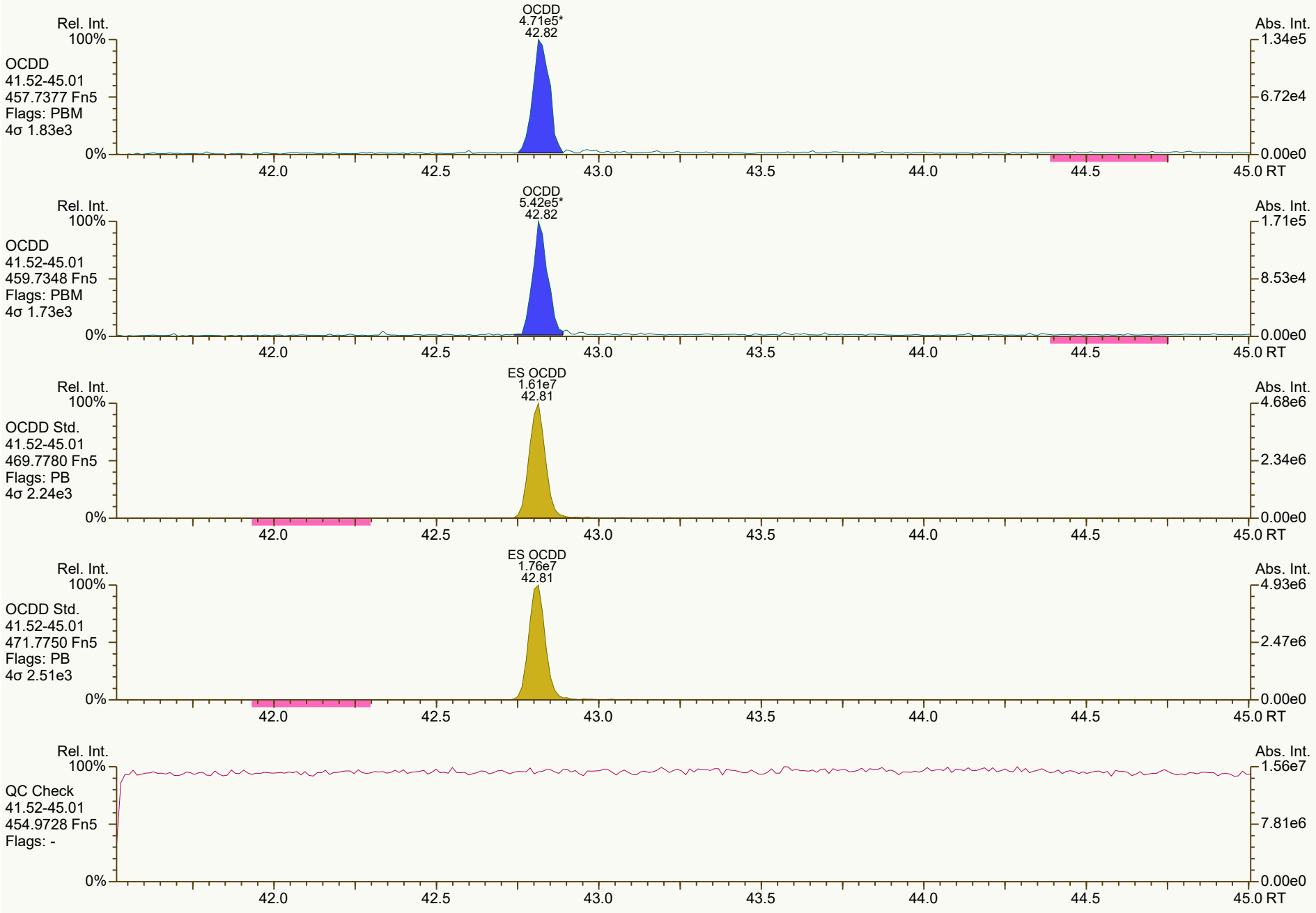

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.05e7
5.24e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.00e6
4.00e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.33e7
1.17e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.45e7
7.27e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.56e7
7.81e6
0.00e0
RT

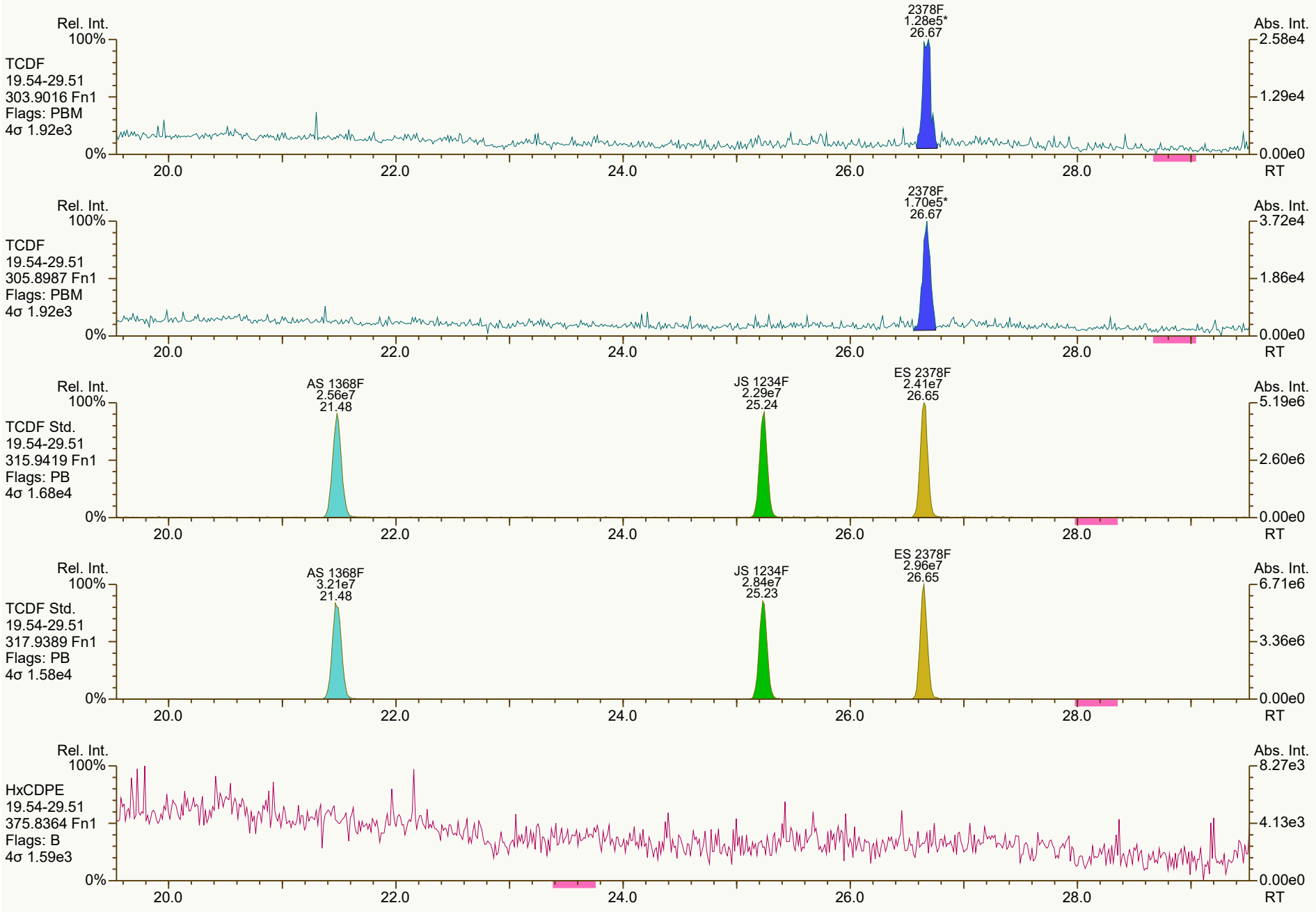

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

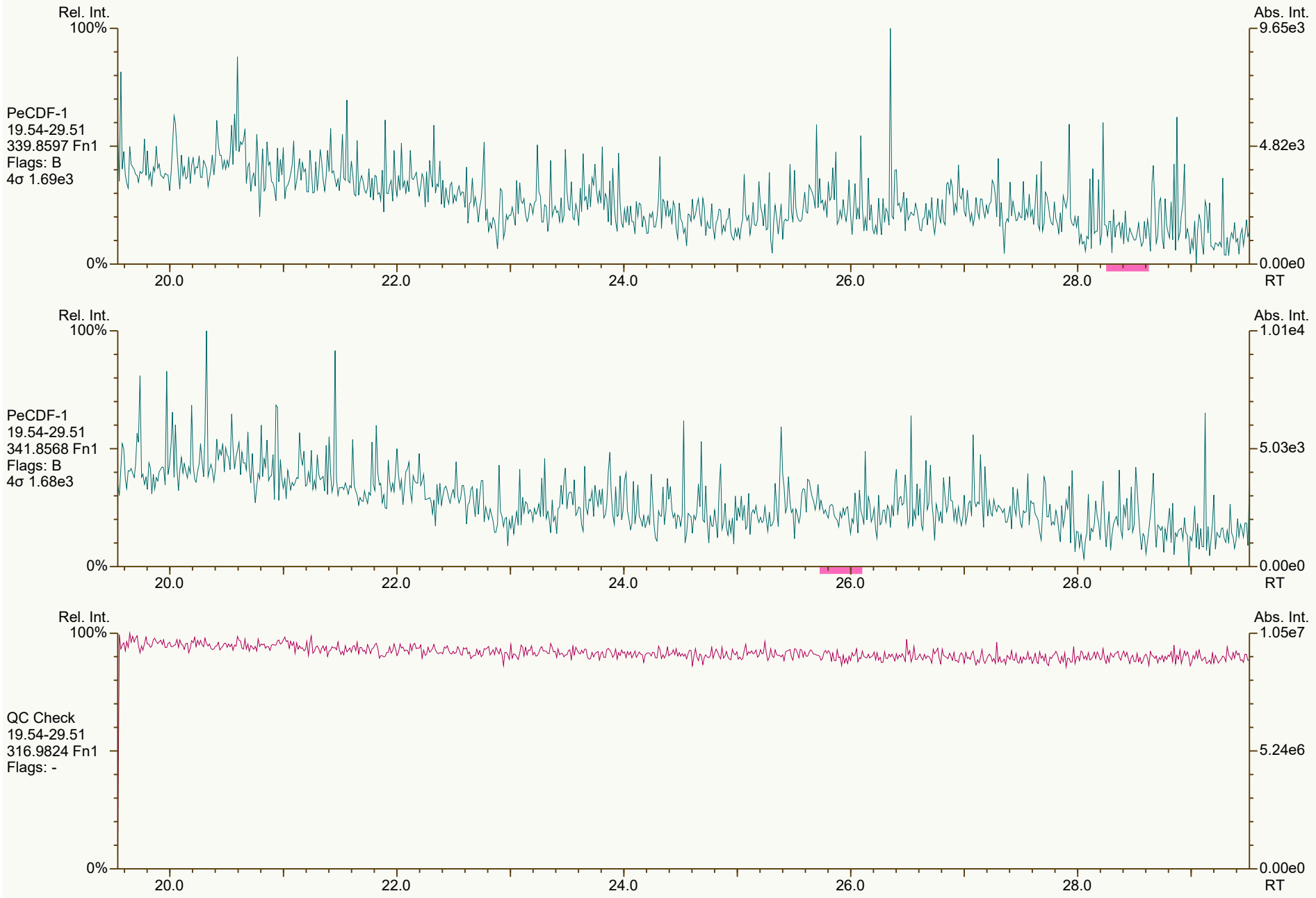

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

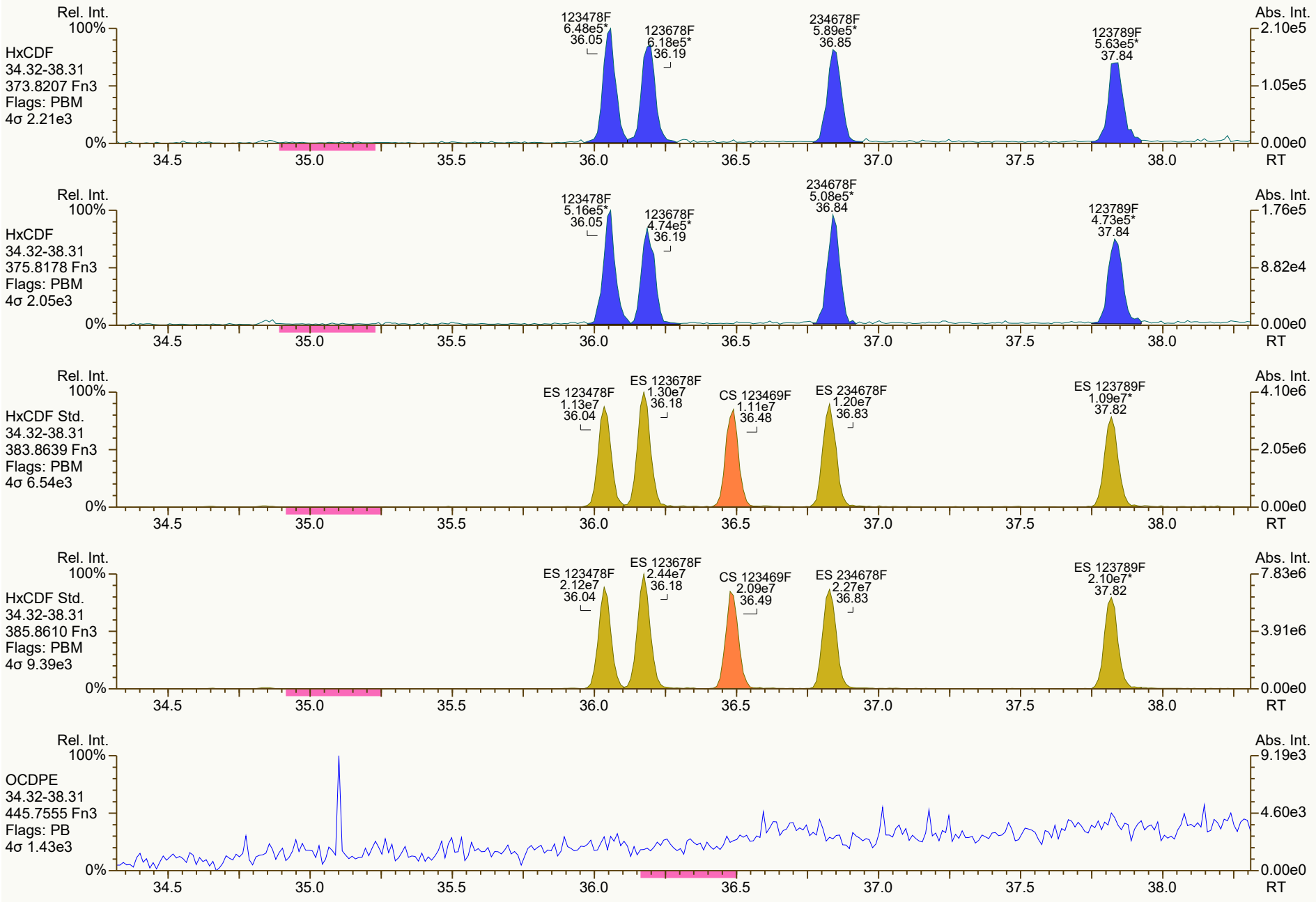

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

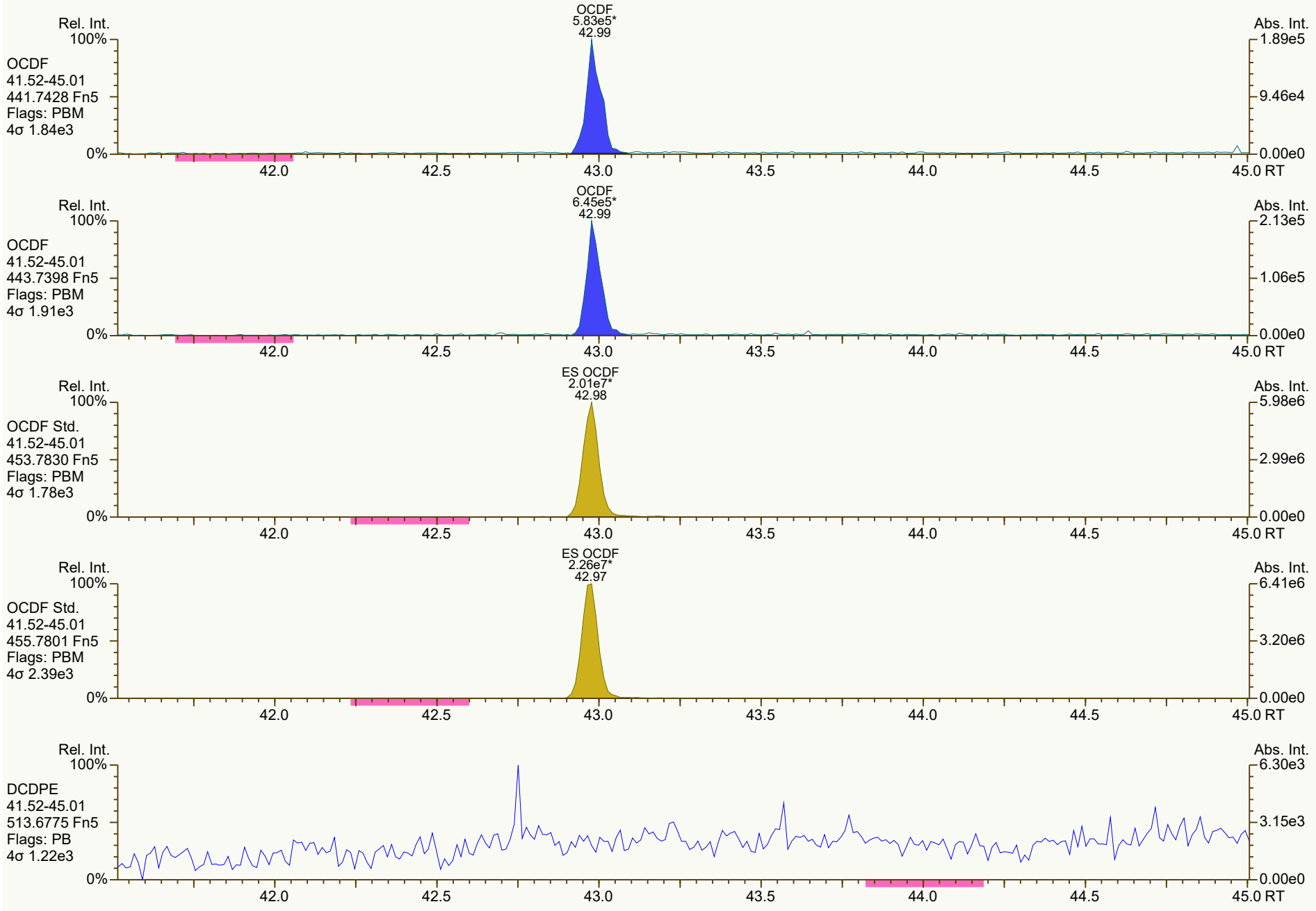

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

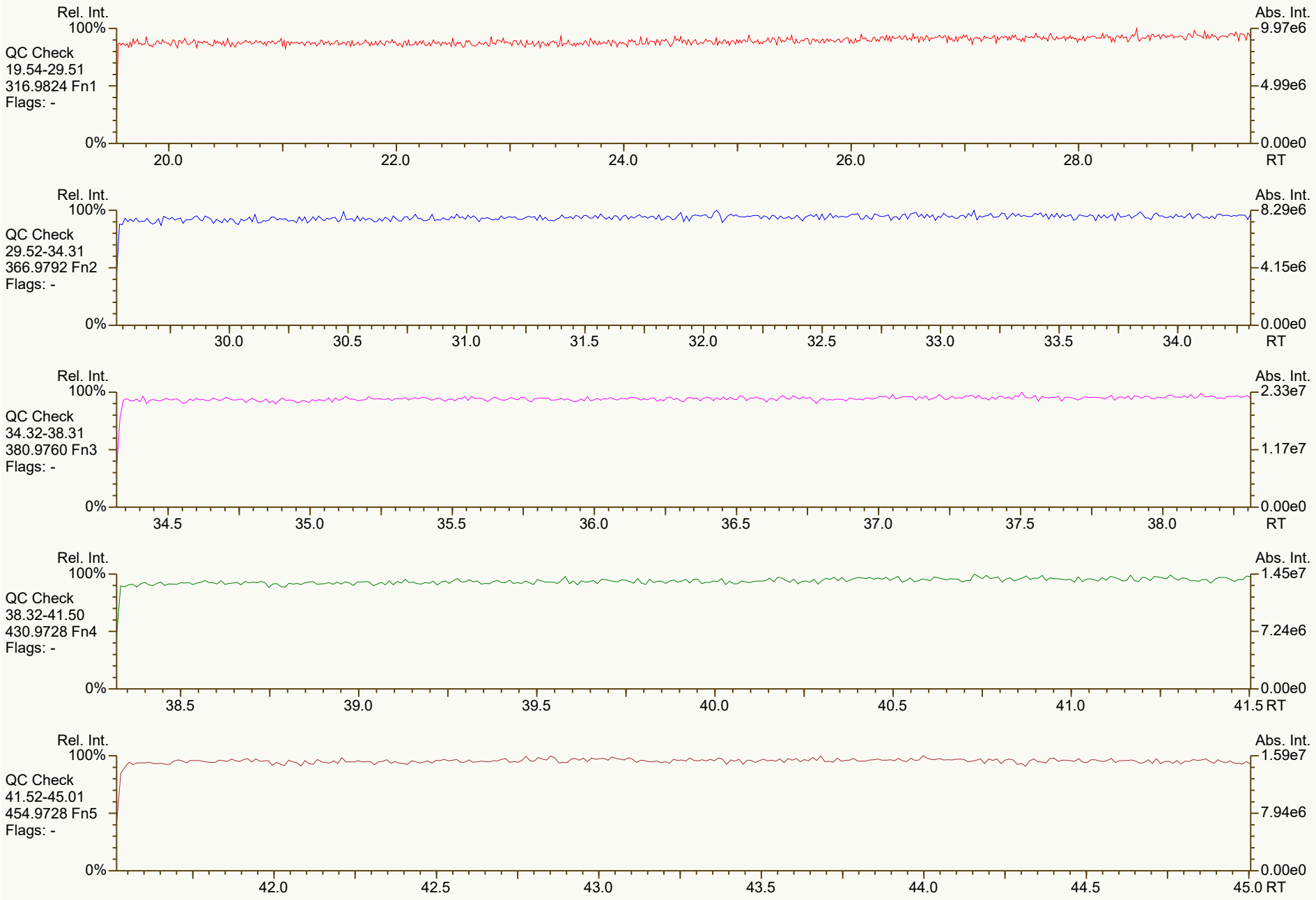

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

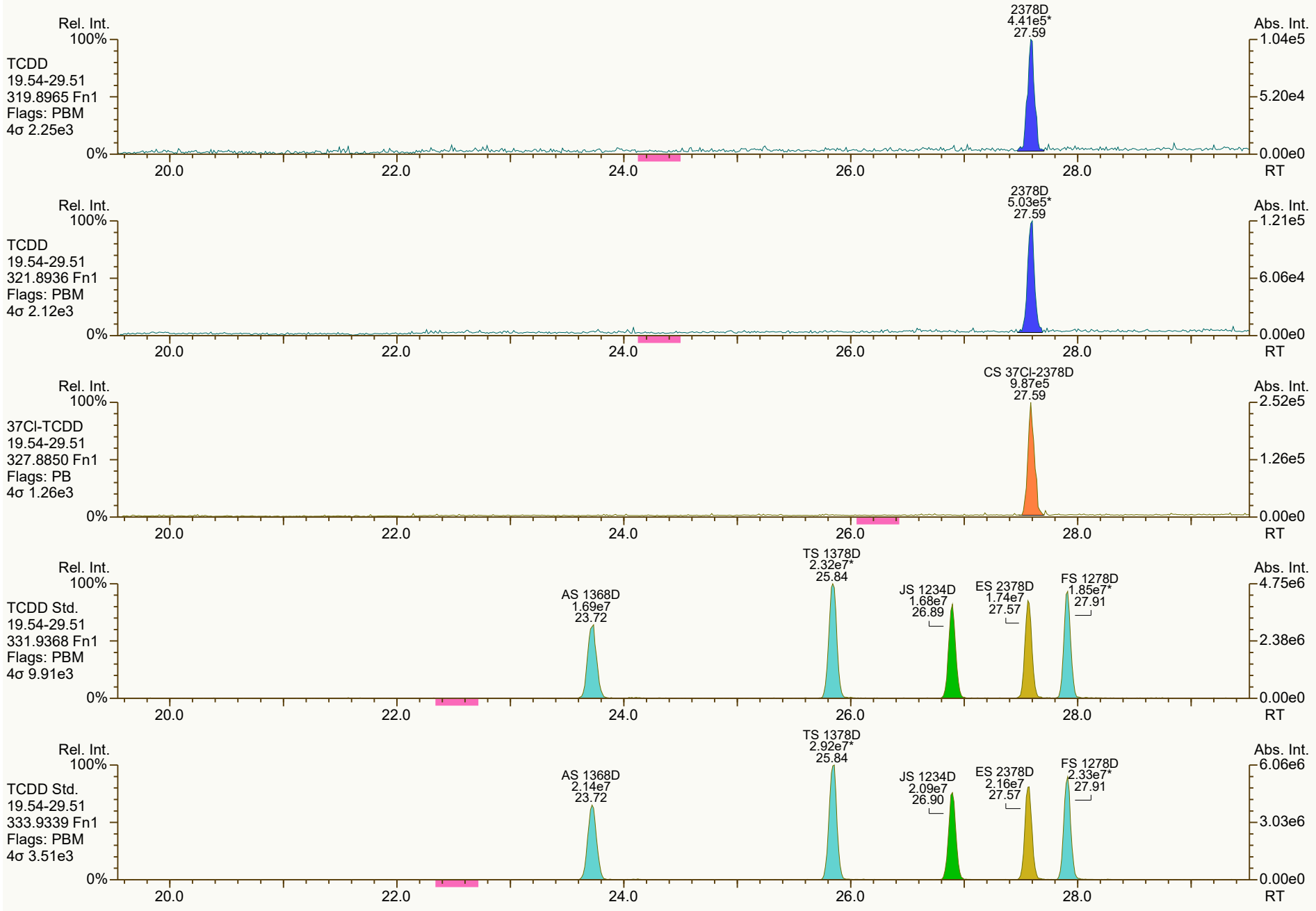
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

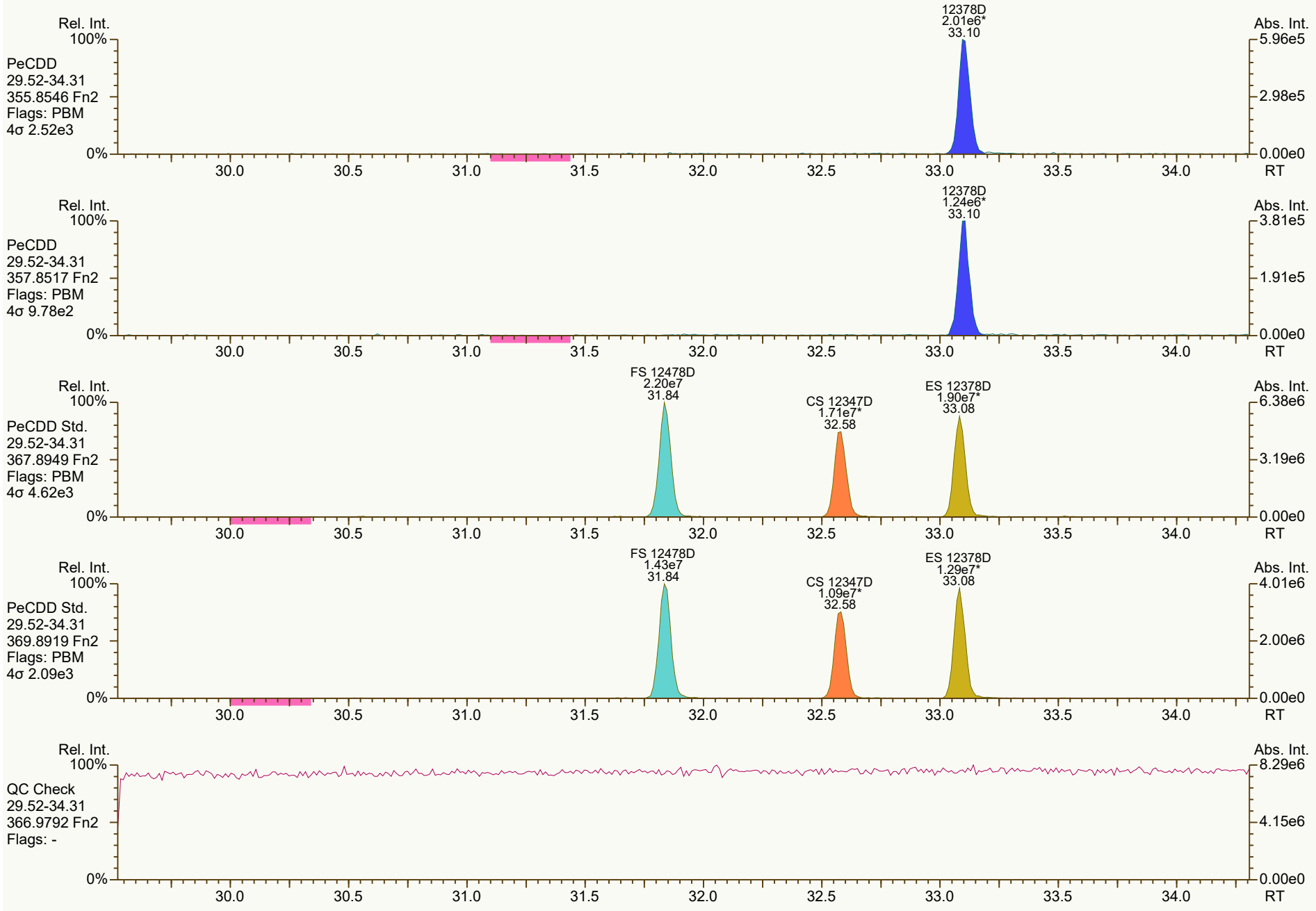
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

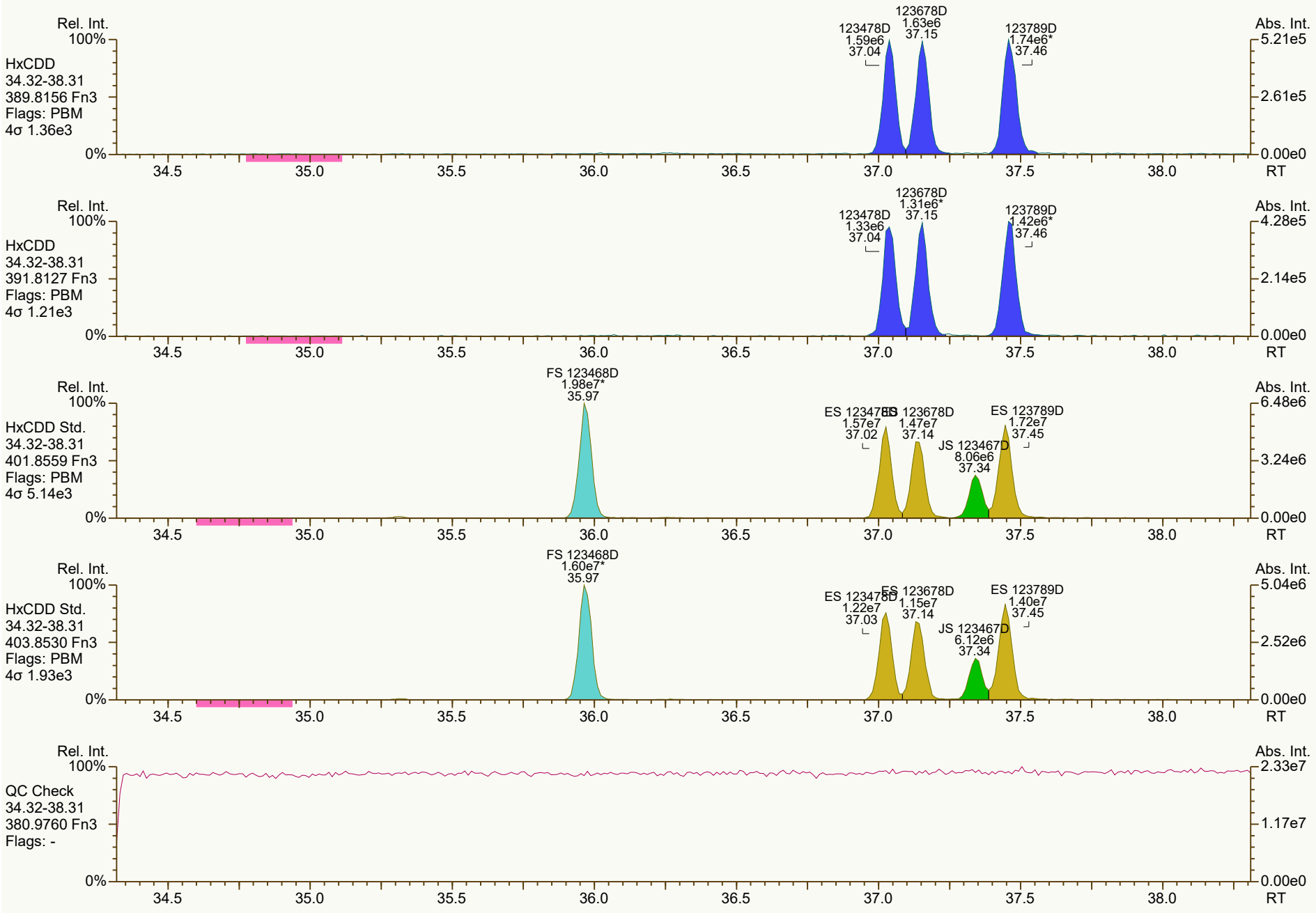
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

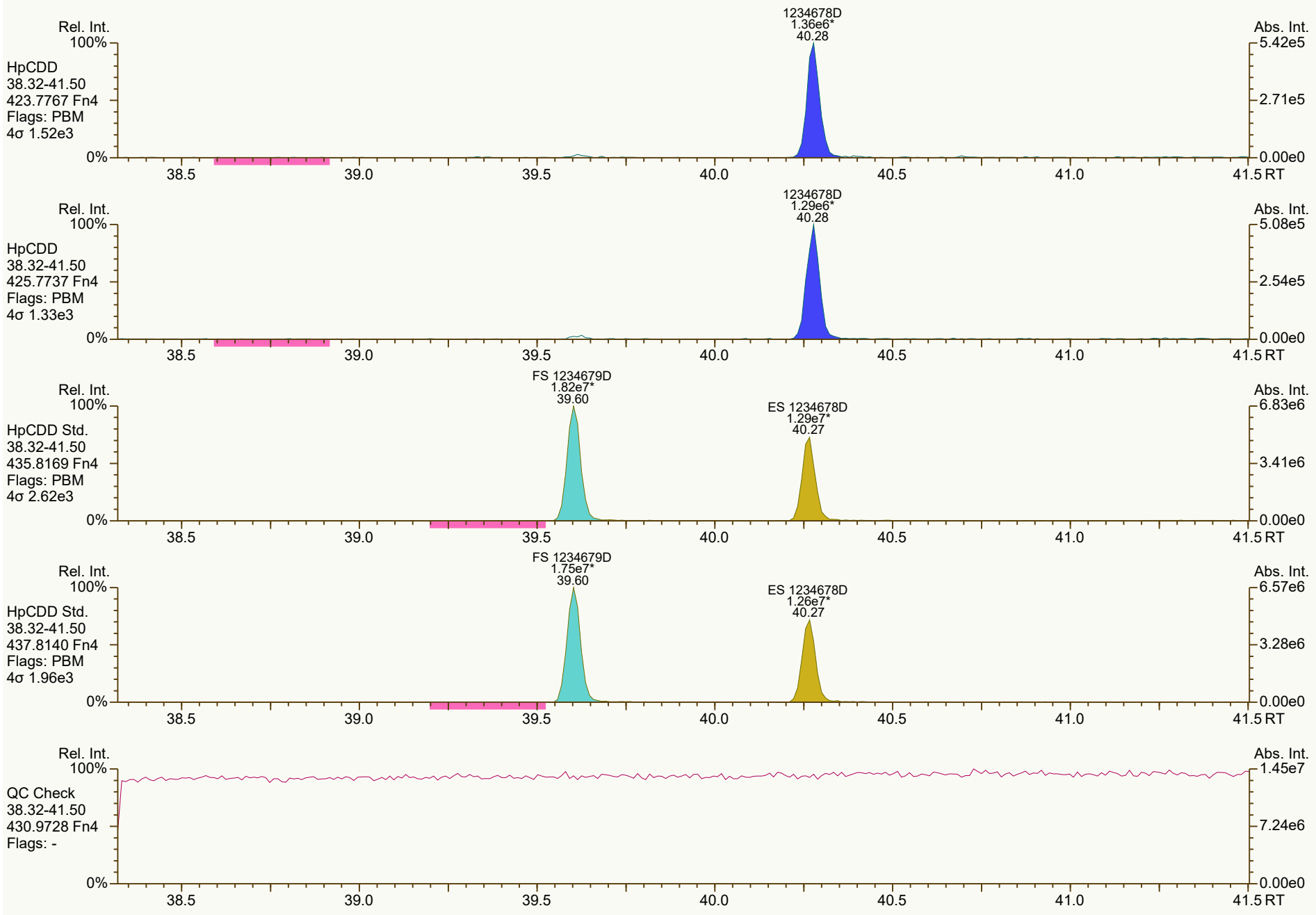
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

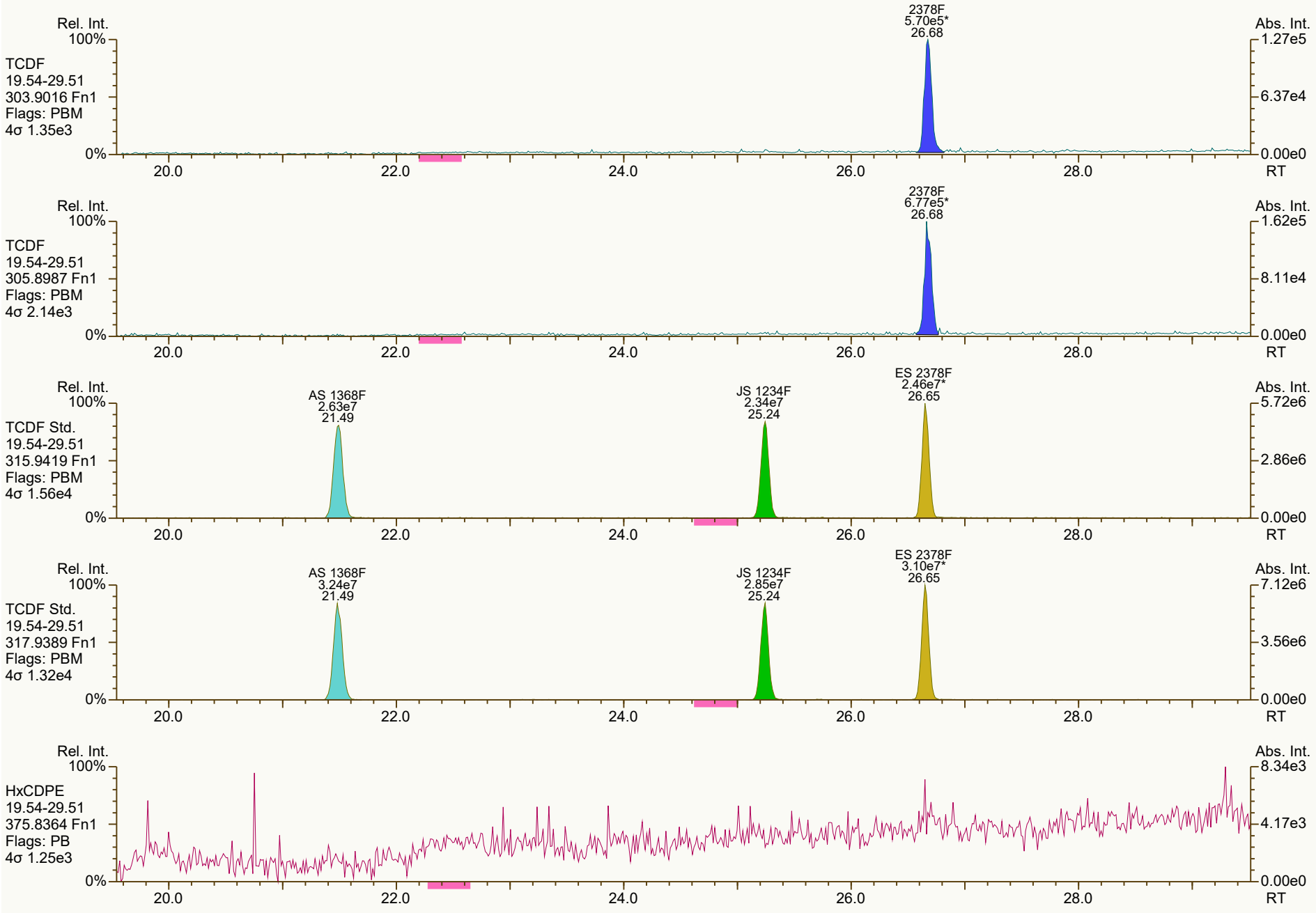

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

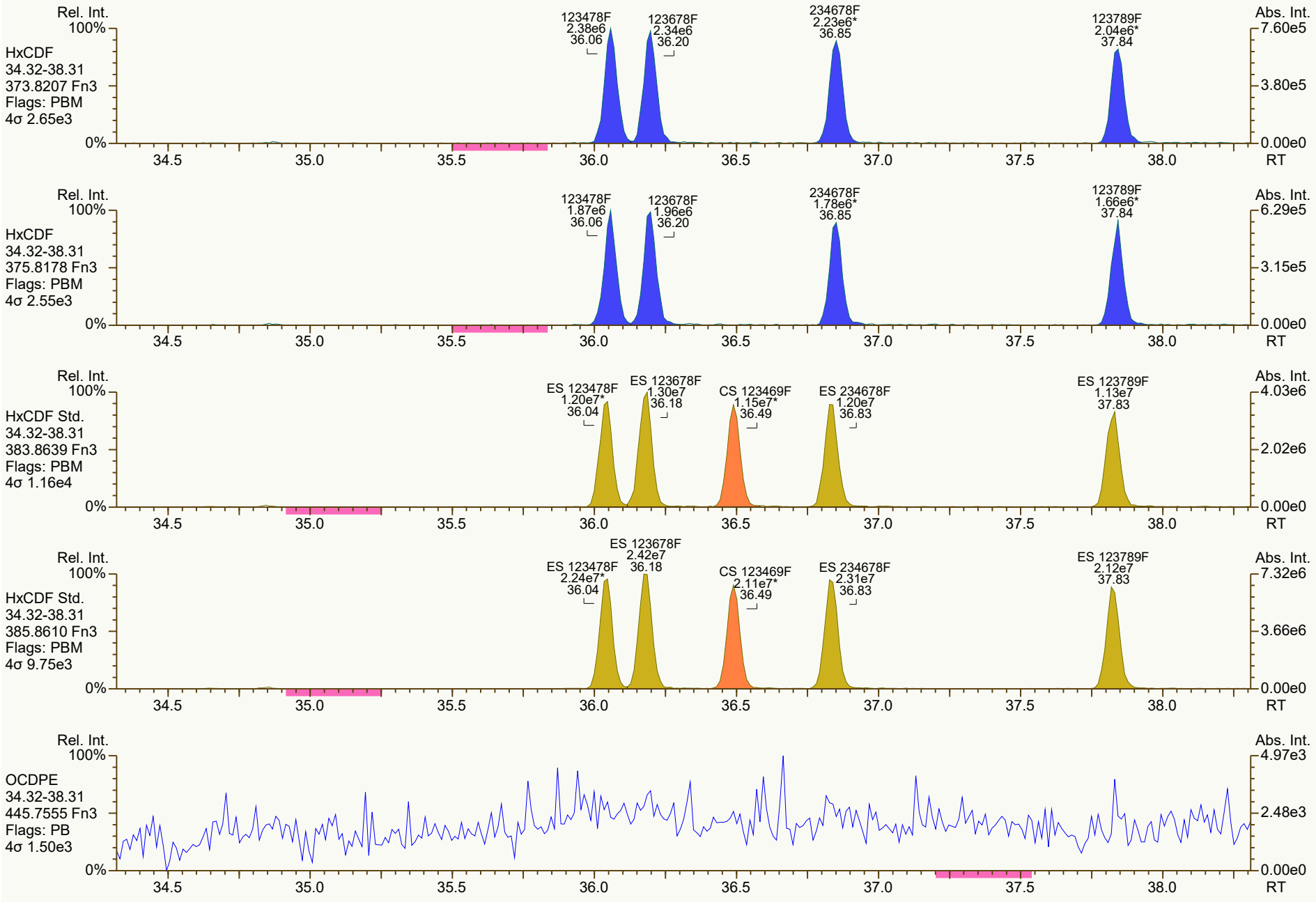

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

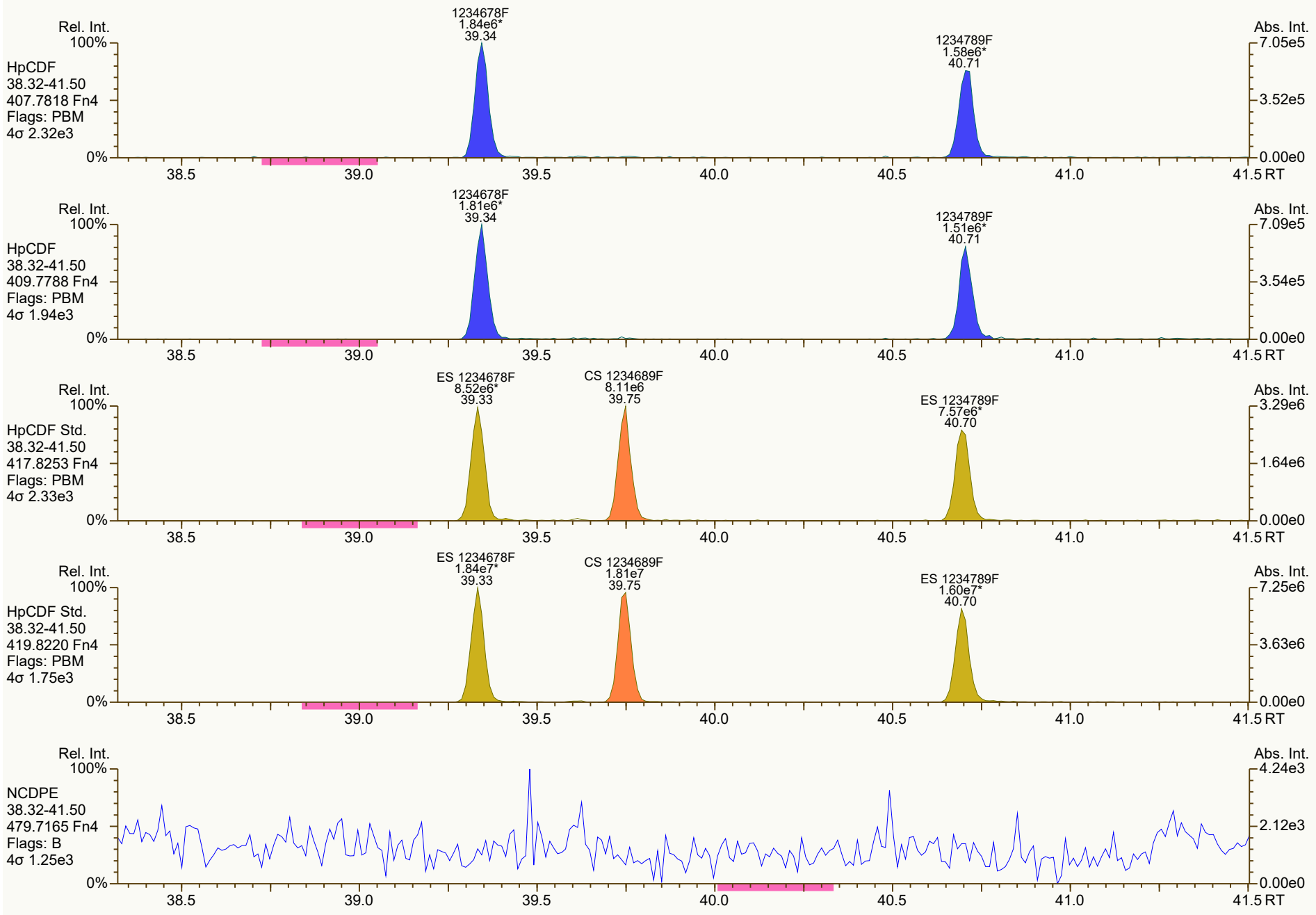

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

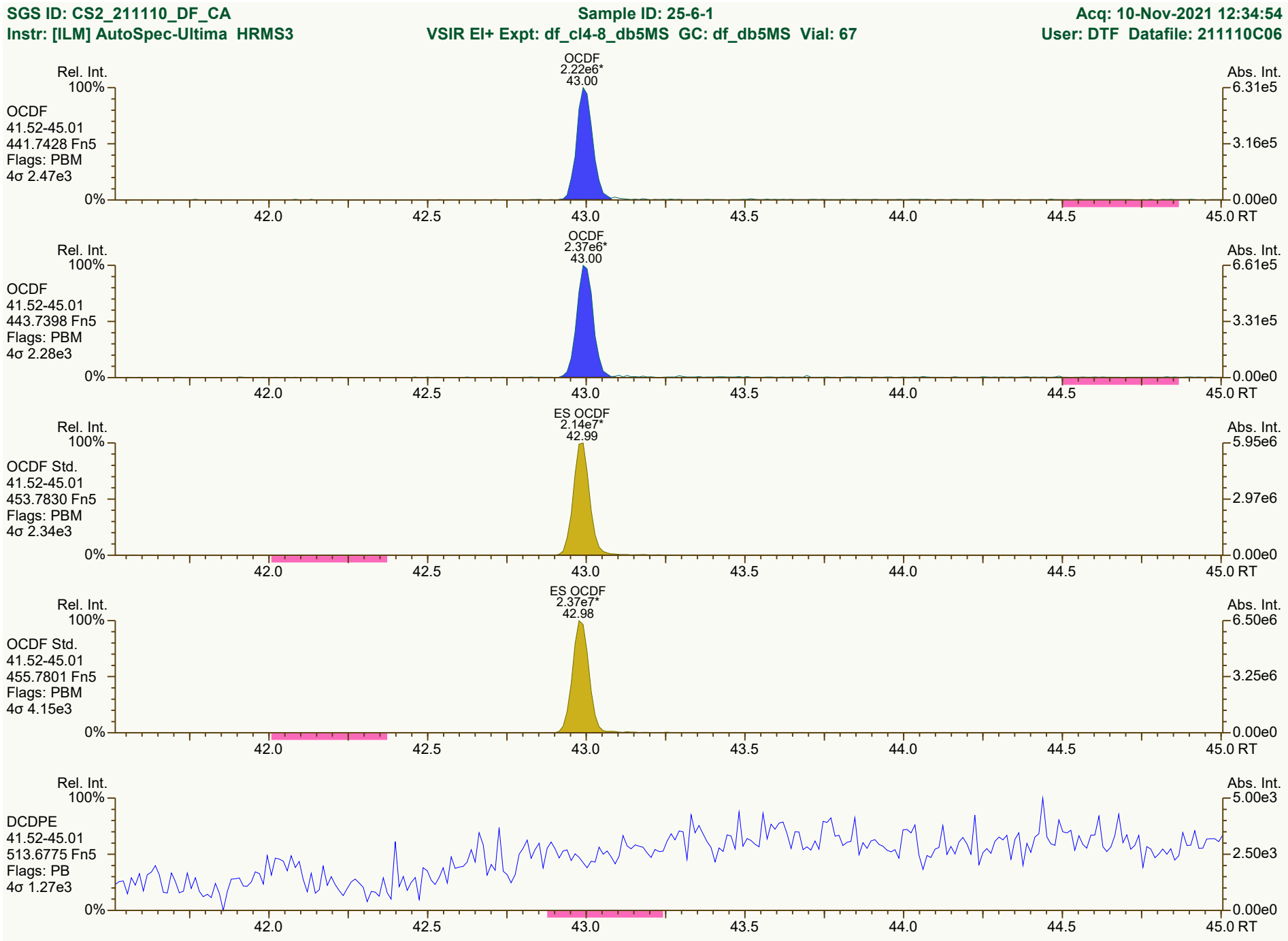

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

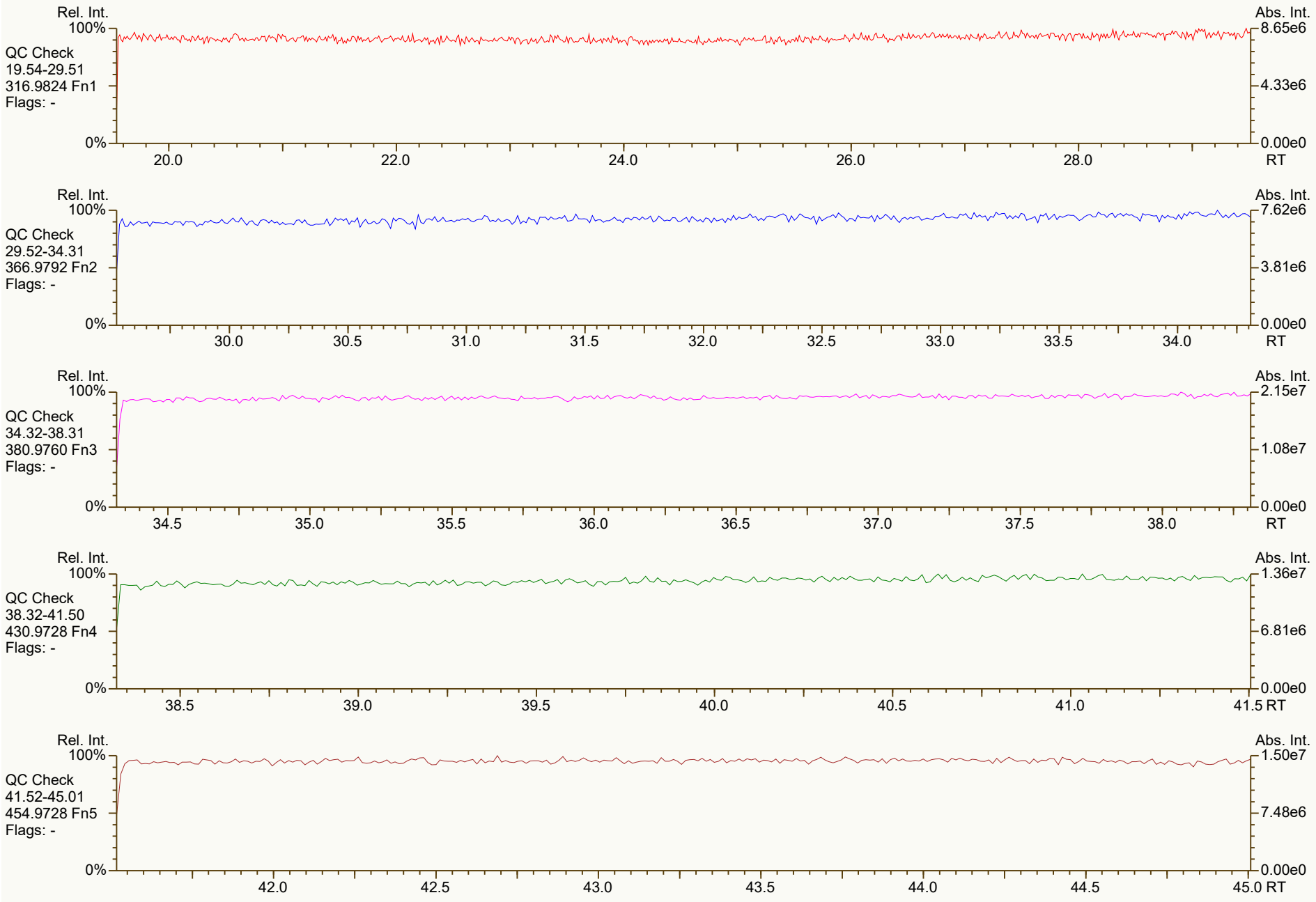
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758 *Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12*

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

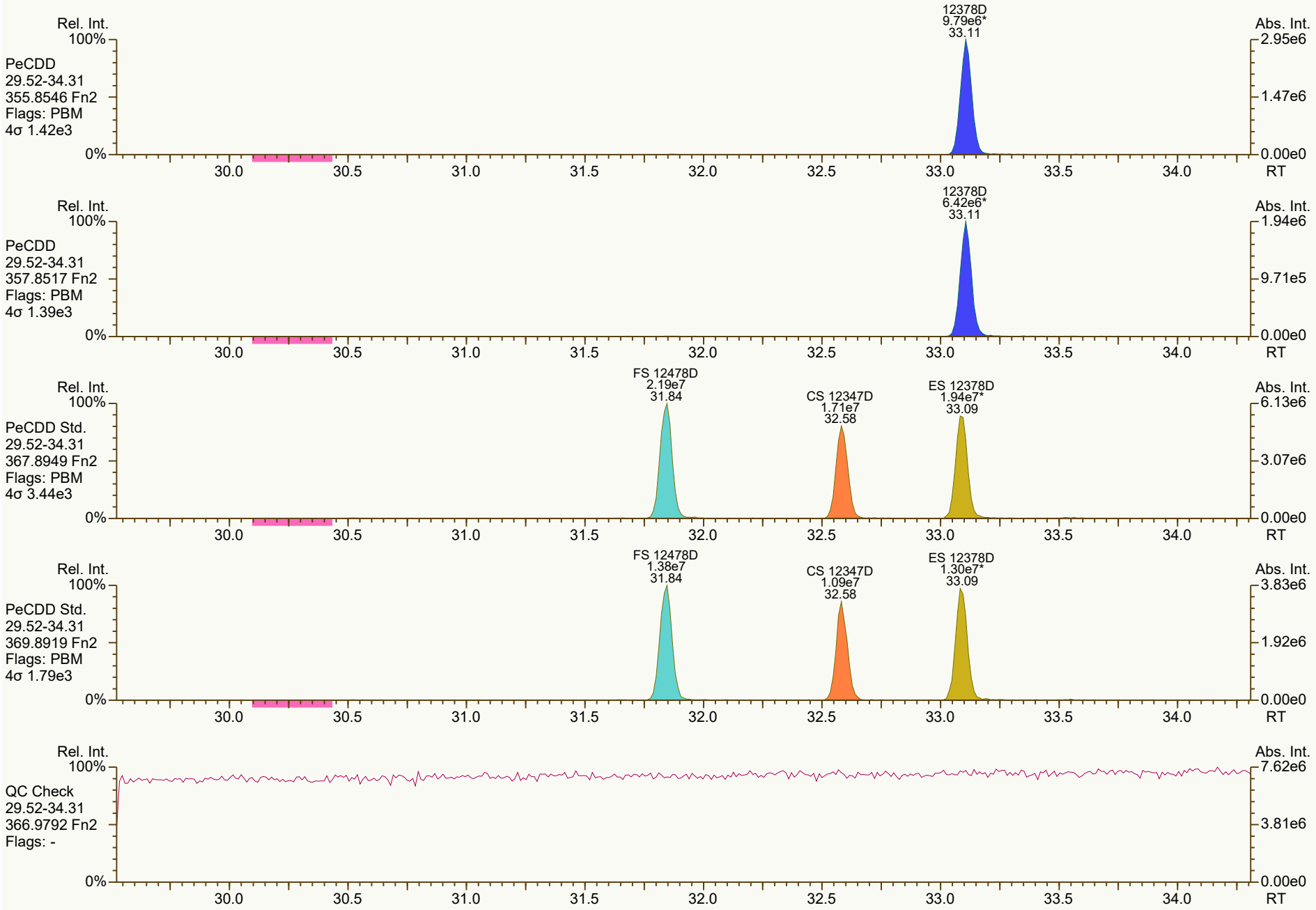
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

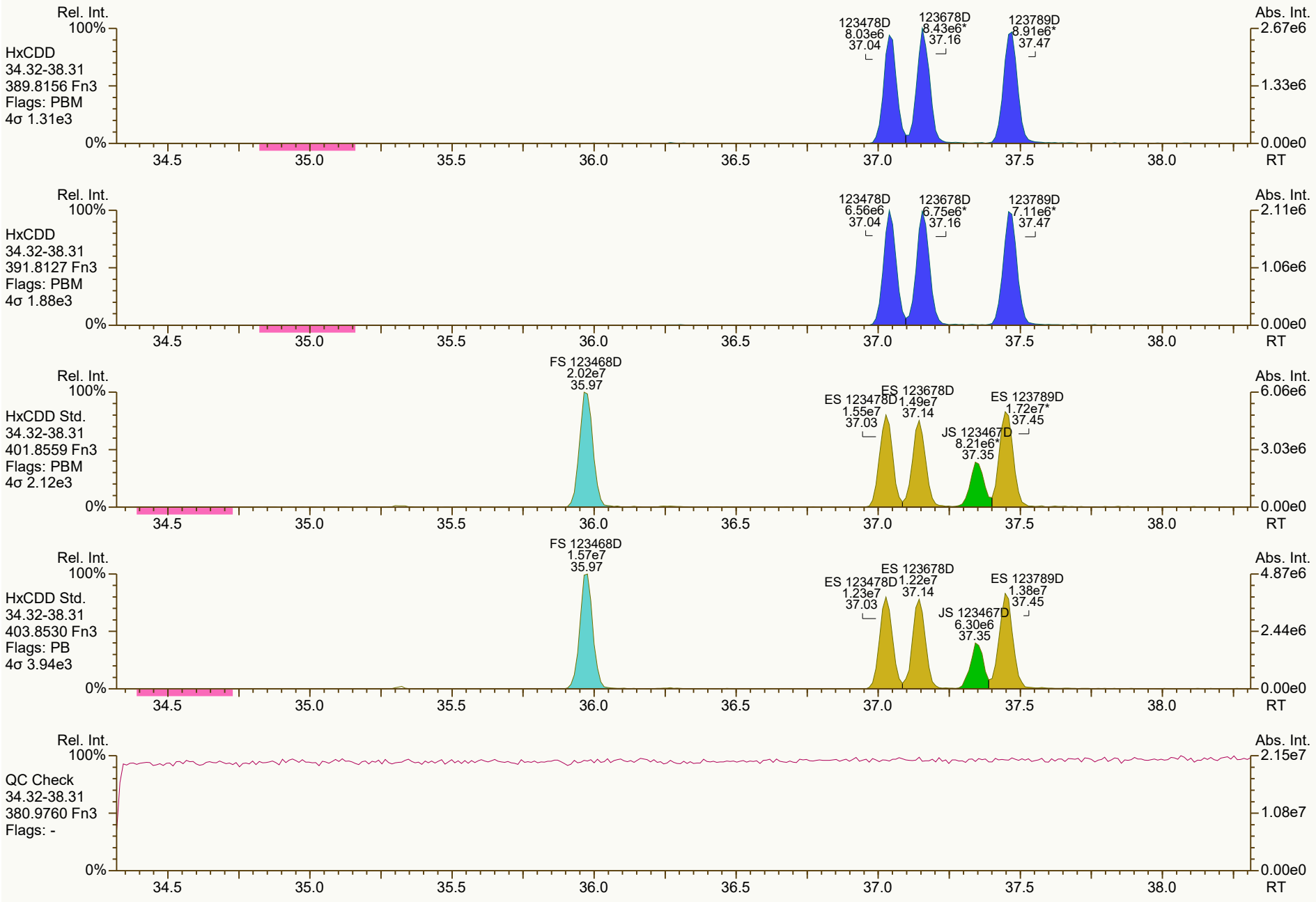
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

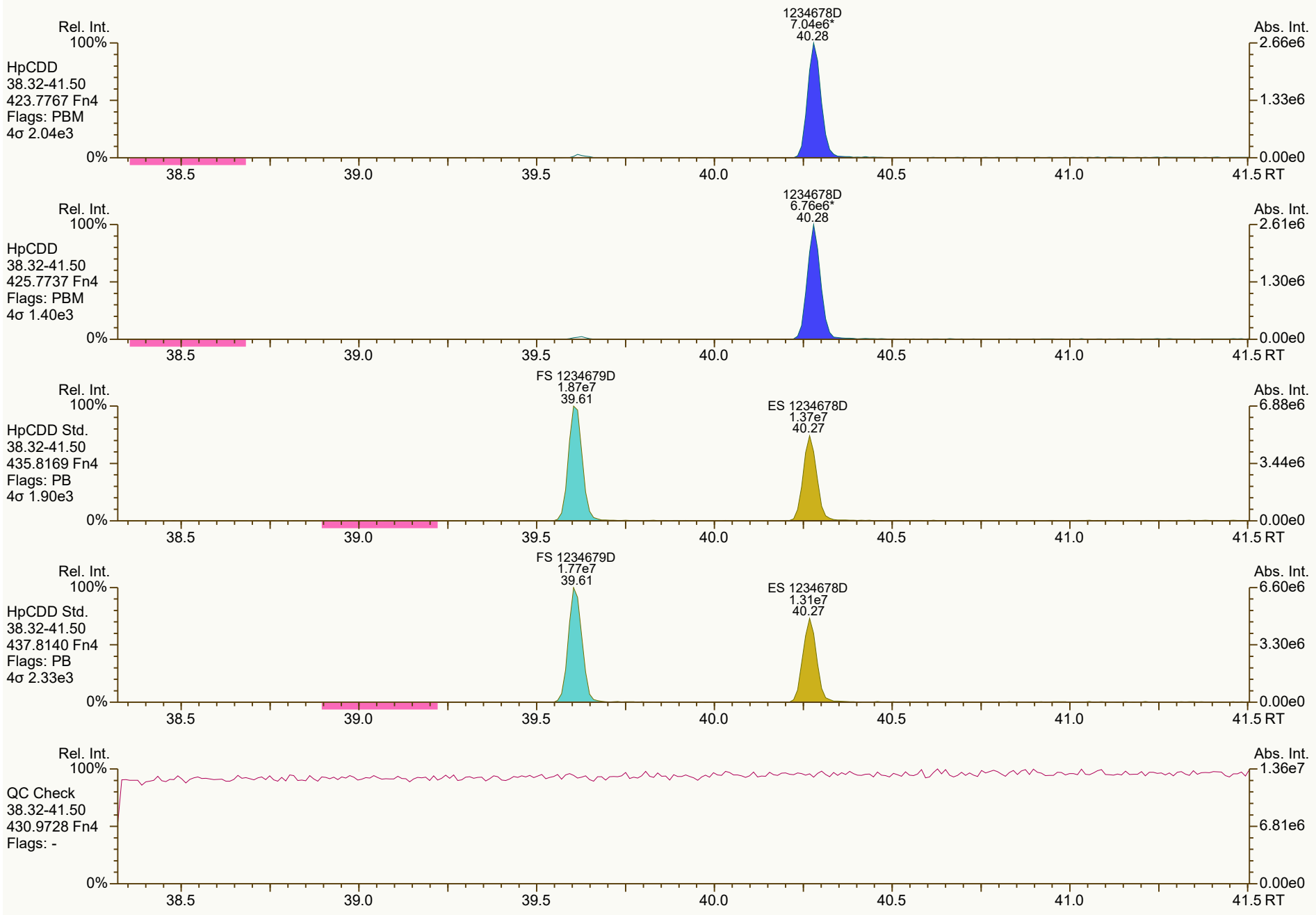
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.65e6
4.33e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.62e6
3.81e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.15e7
1.08e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

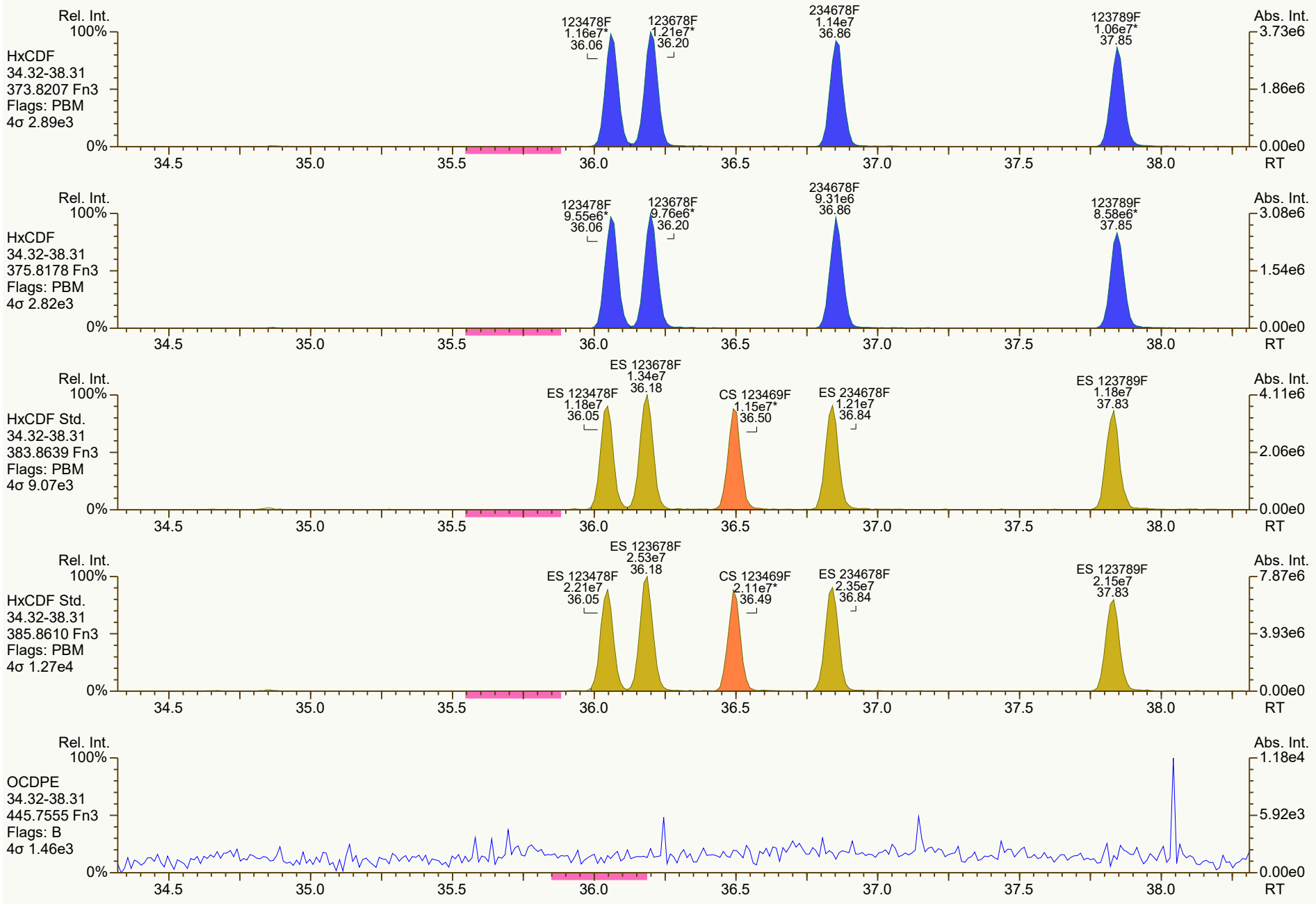

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

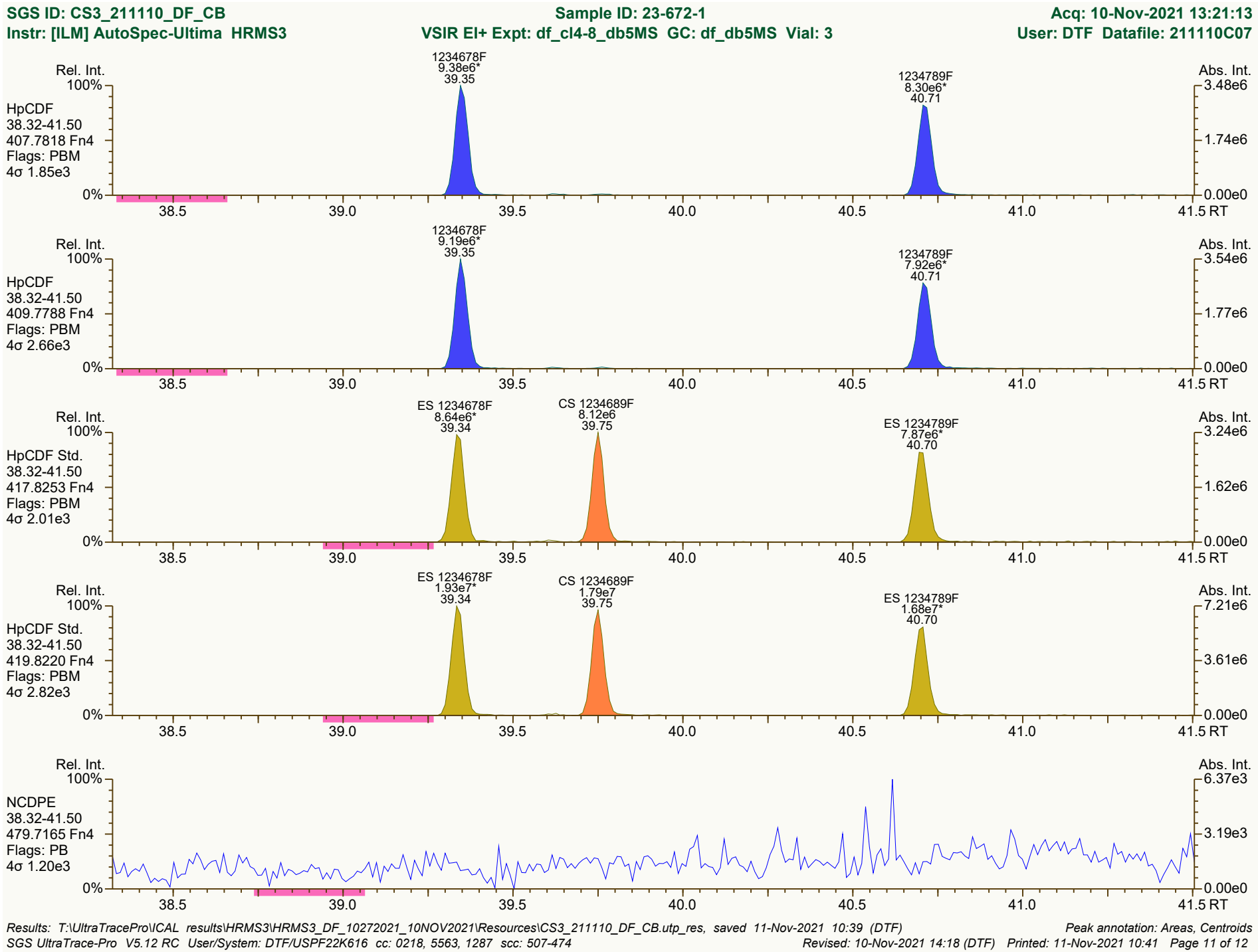

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123678F
1.34e7
36.18
ES 123478F
1.18e7
36.05
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123678F
2.53e7
36.18
ES 123478F
2.21e7
36.05
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0

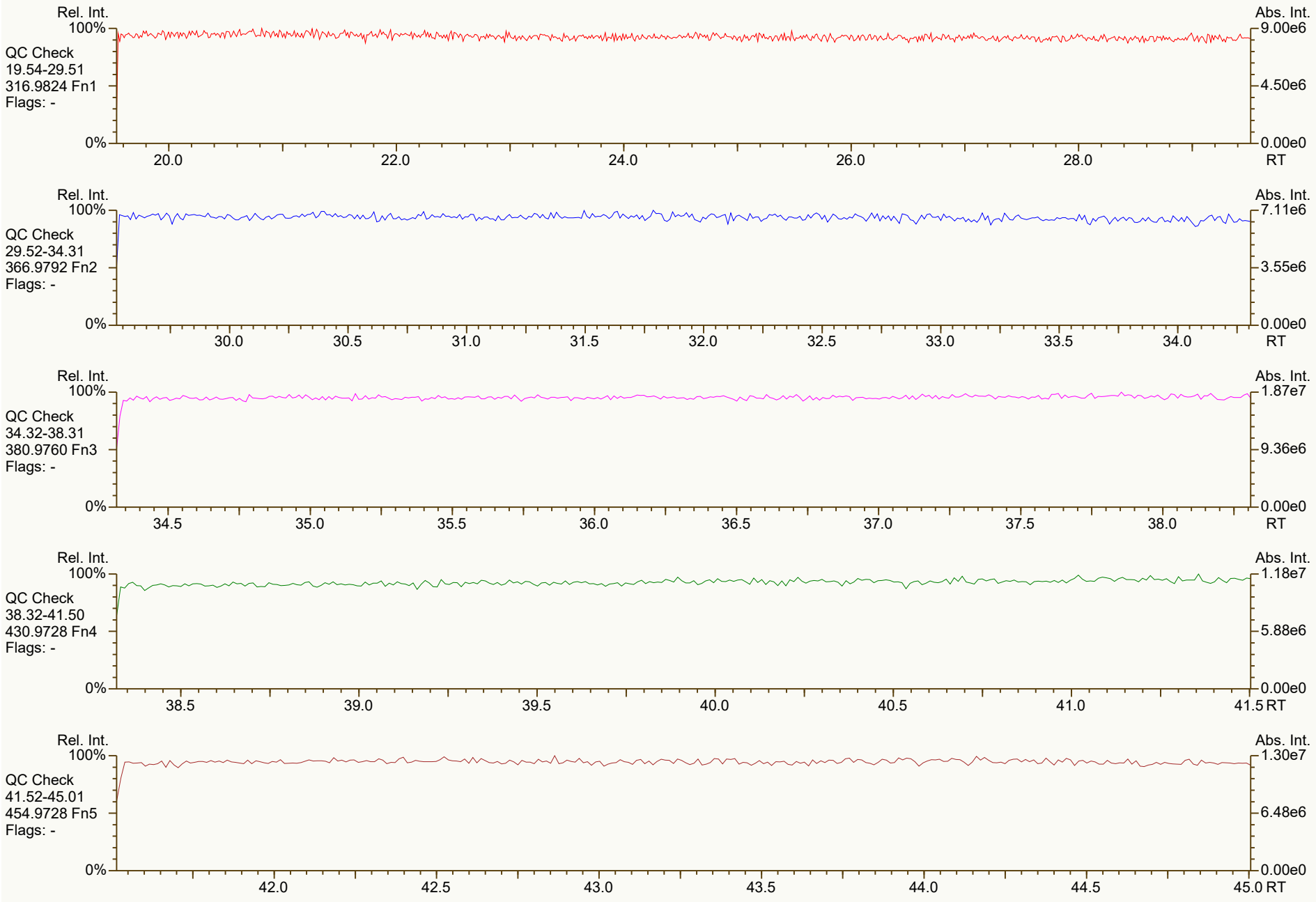

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

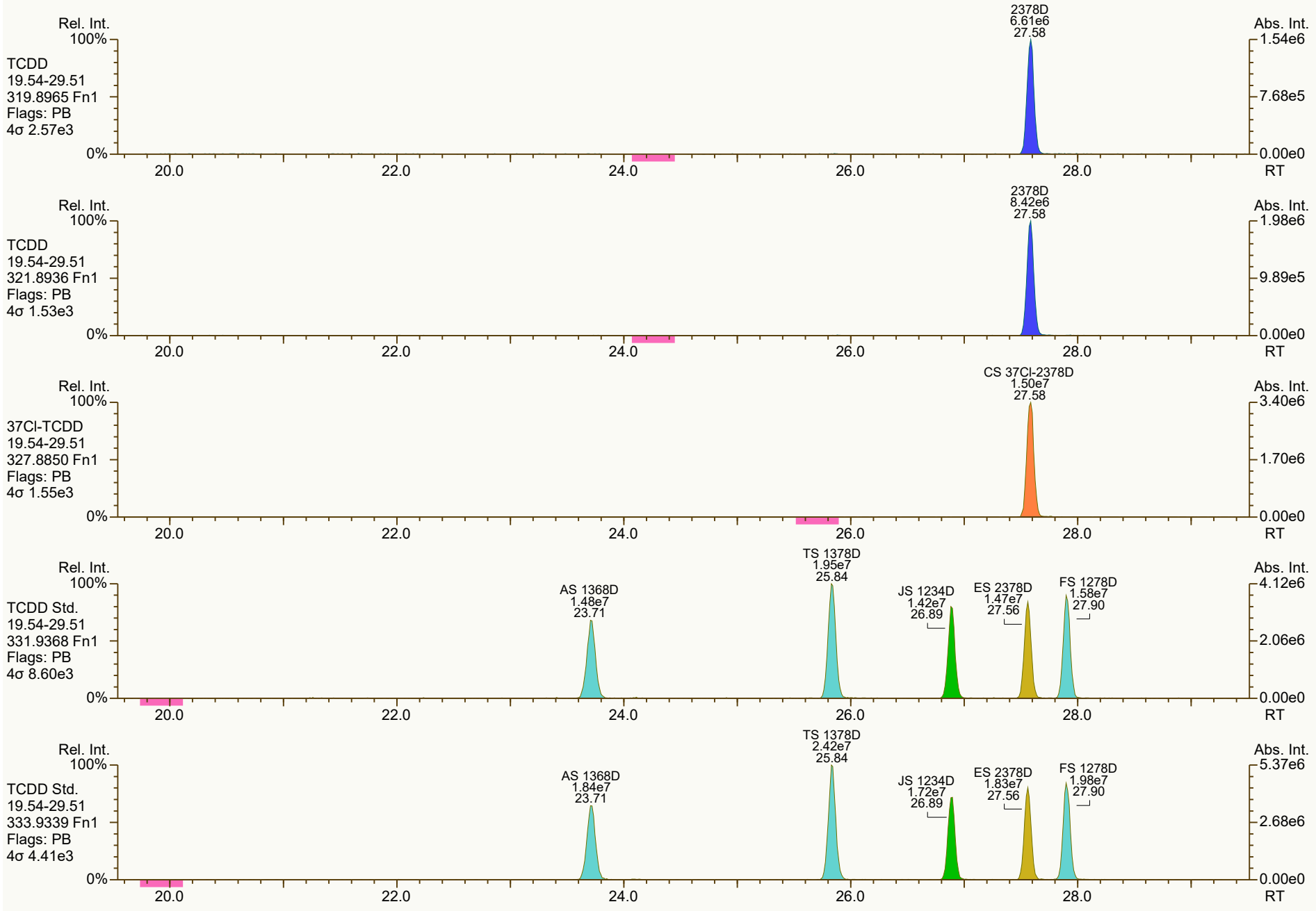

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

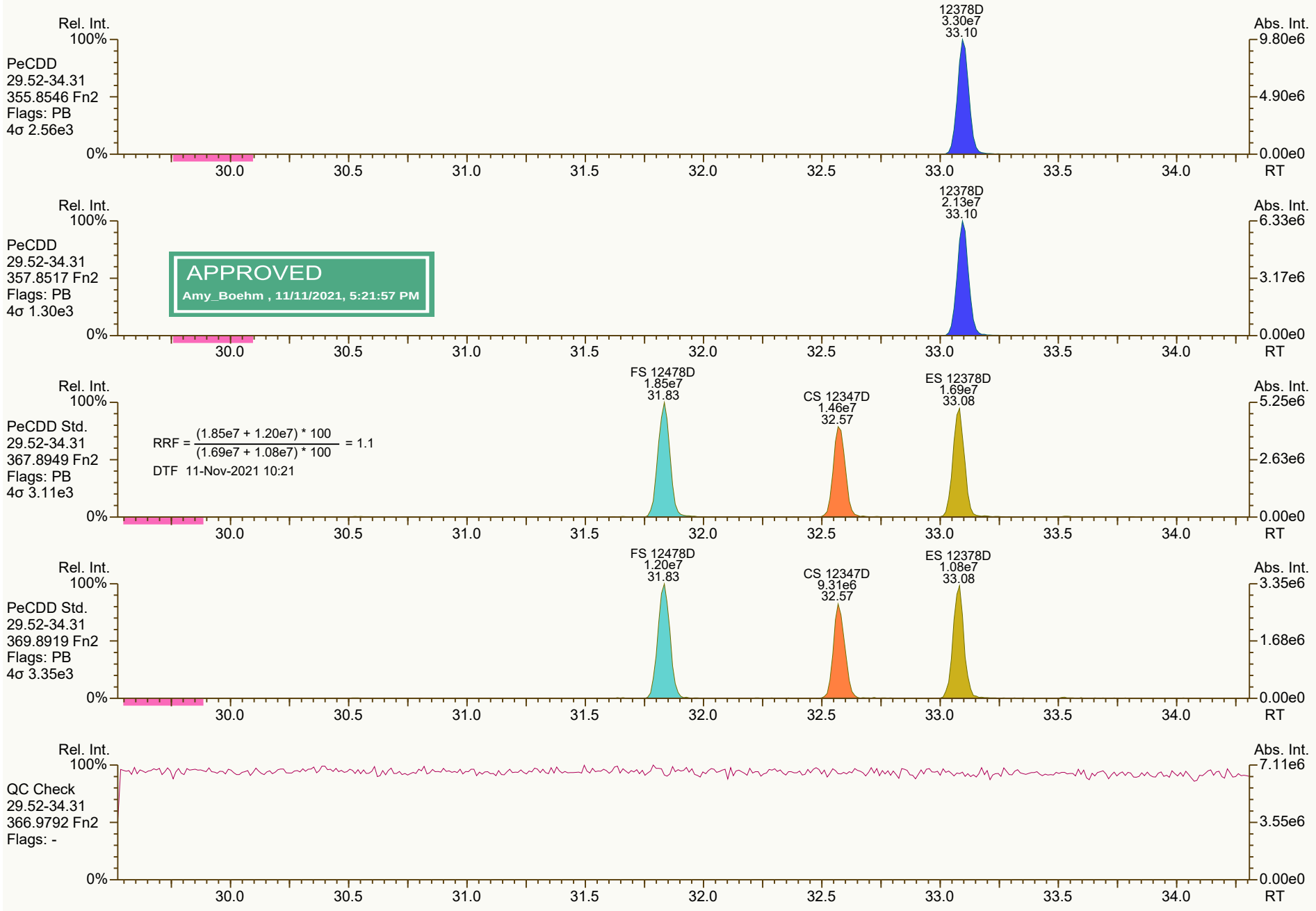
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

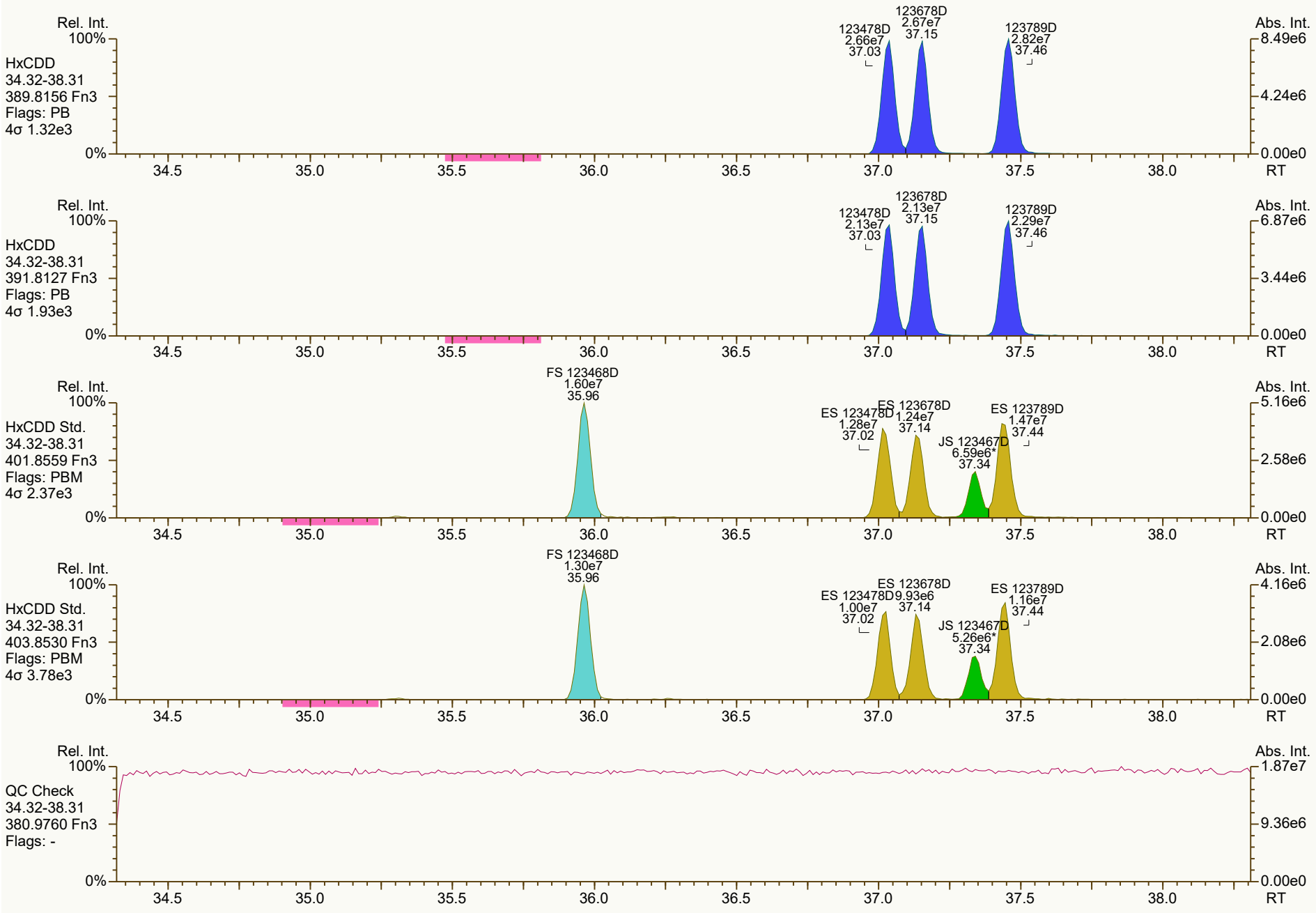
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

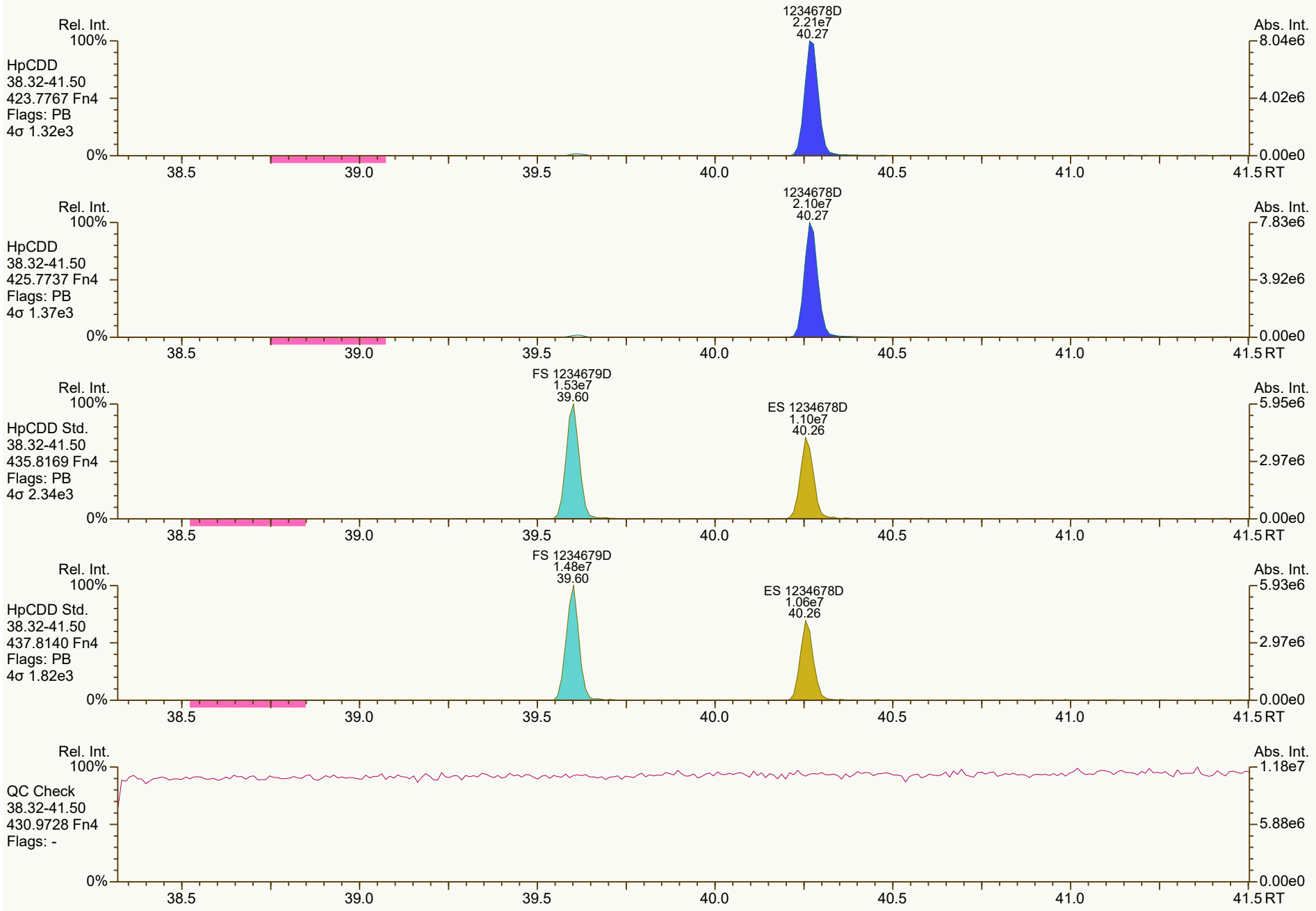
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

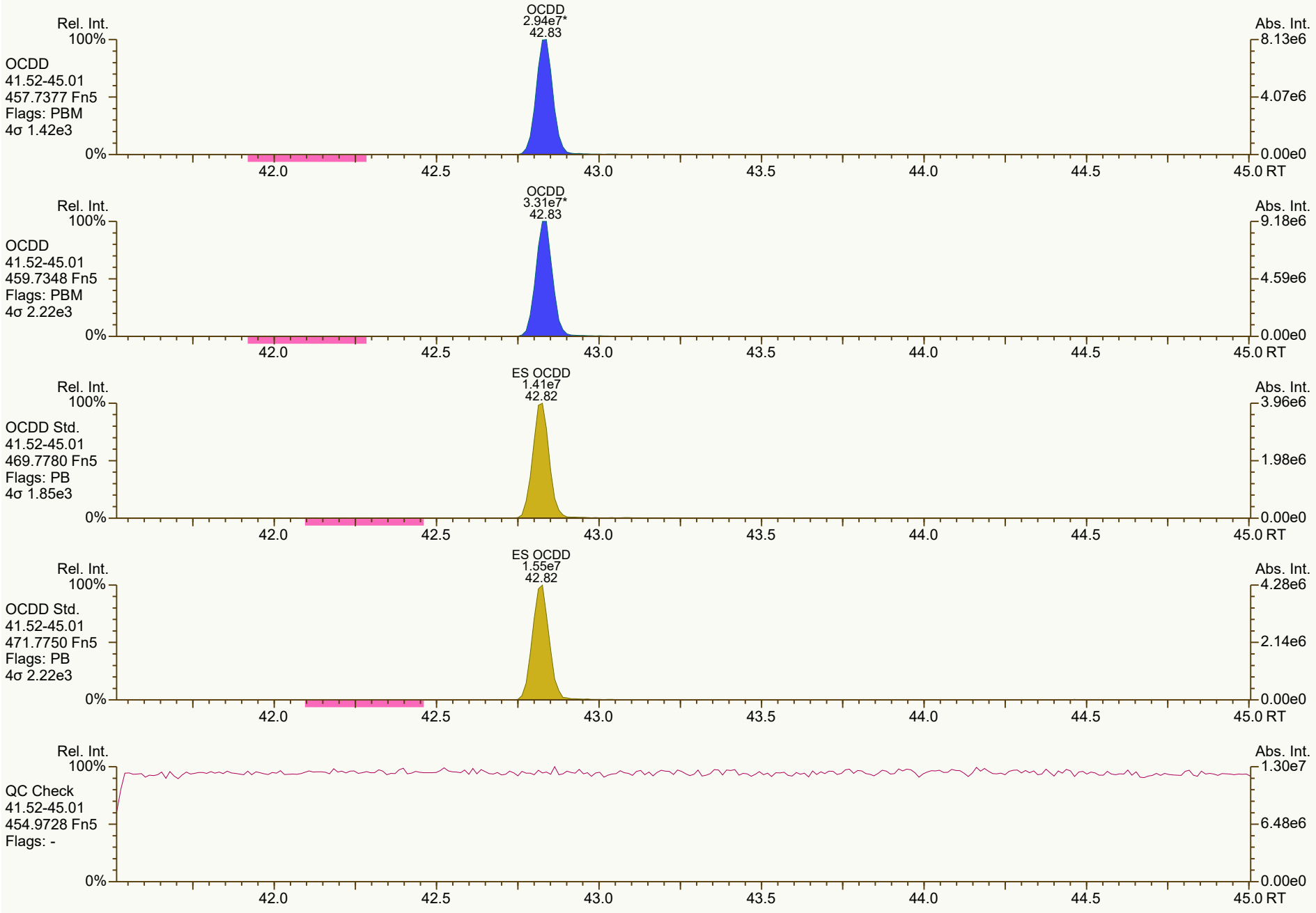

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

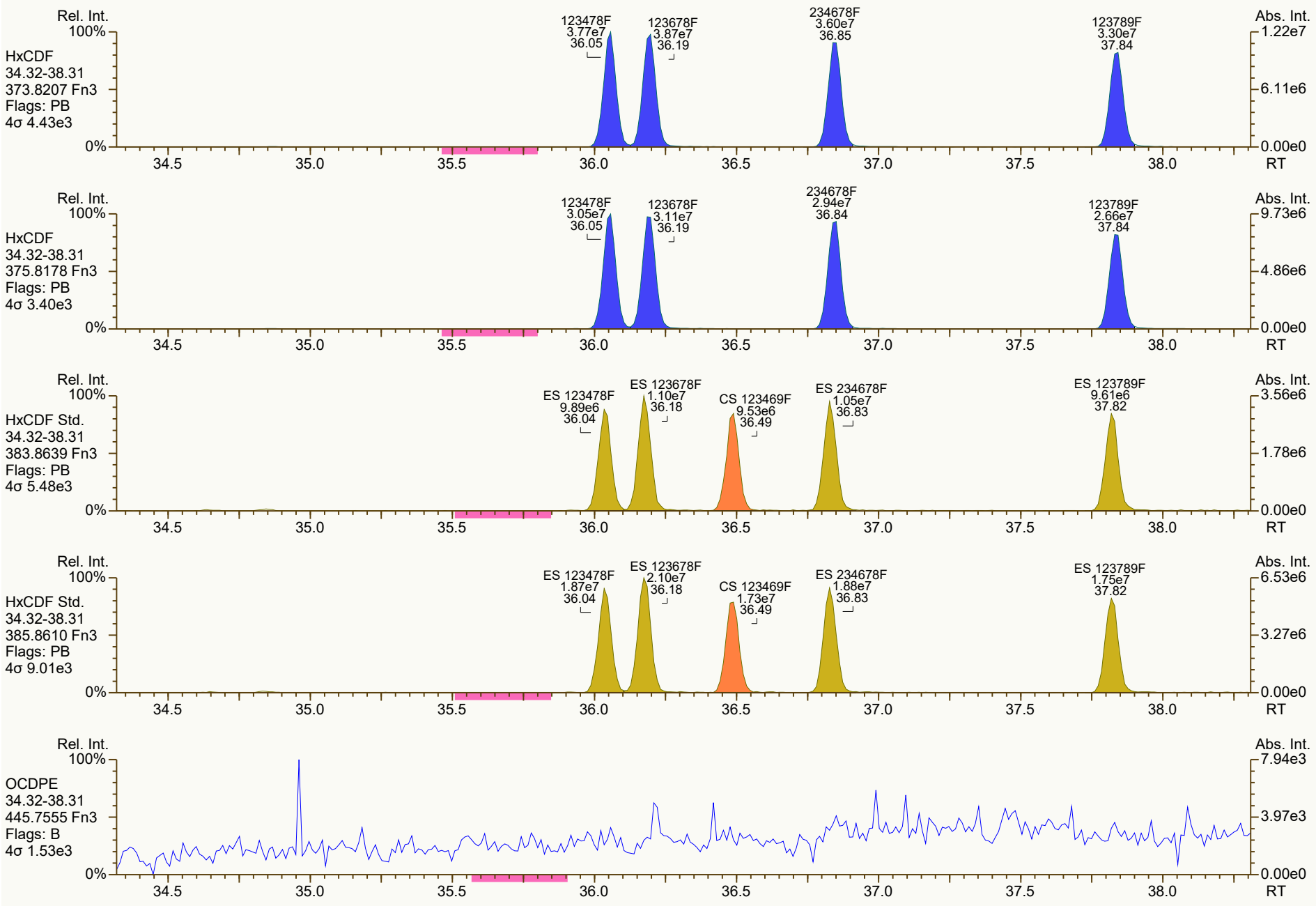

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

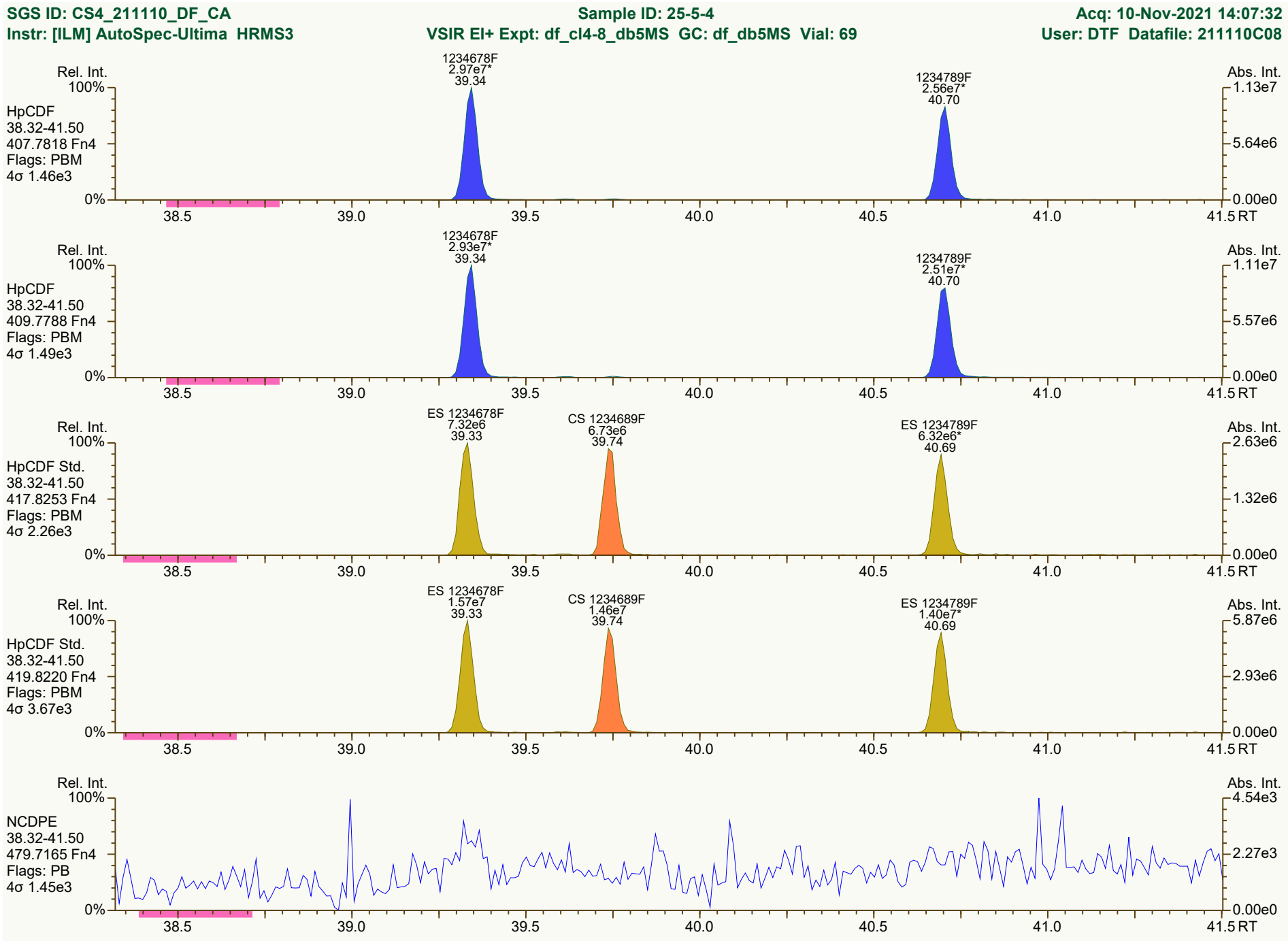

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

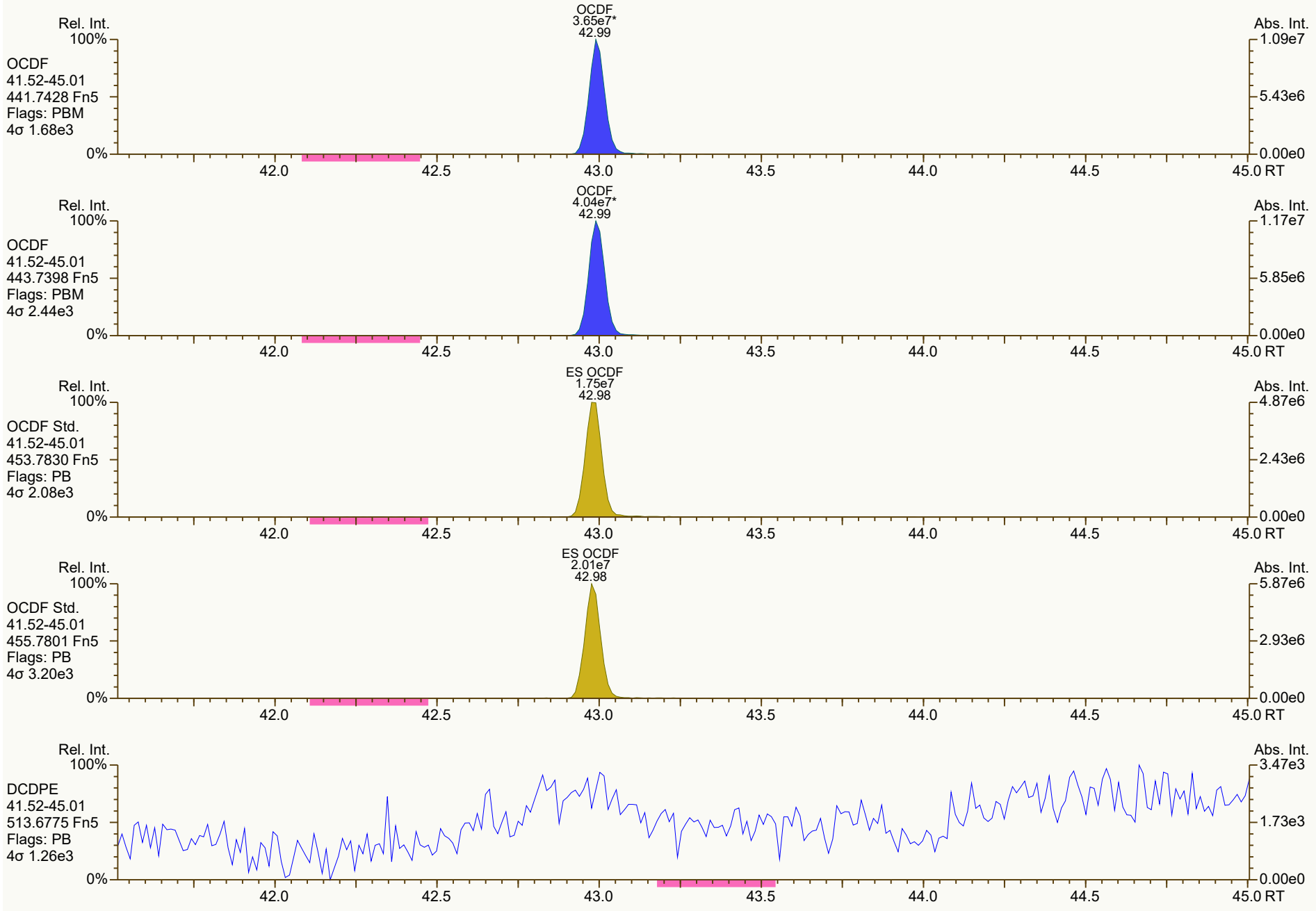

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12


OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

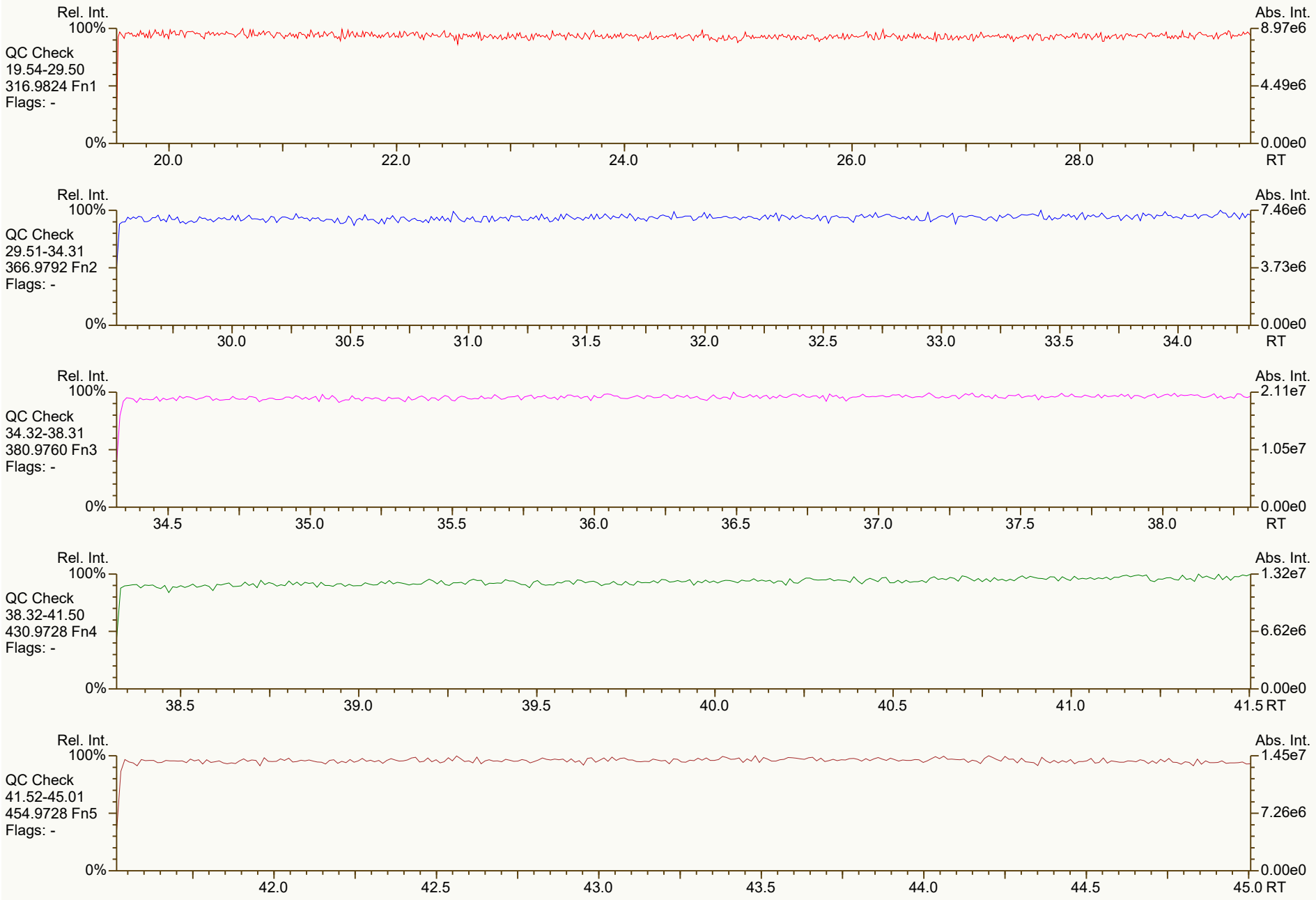
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

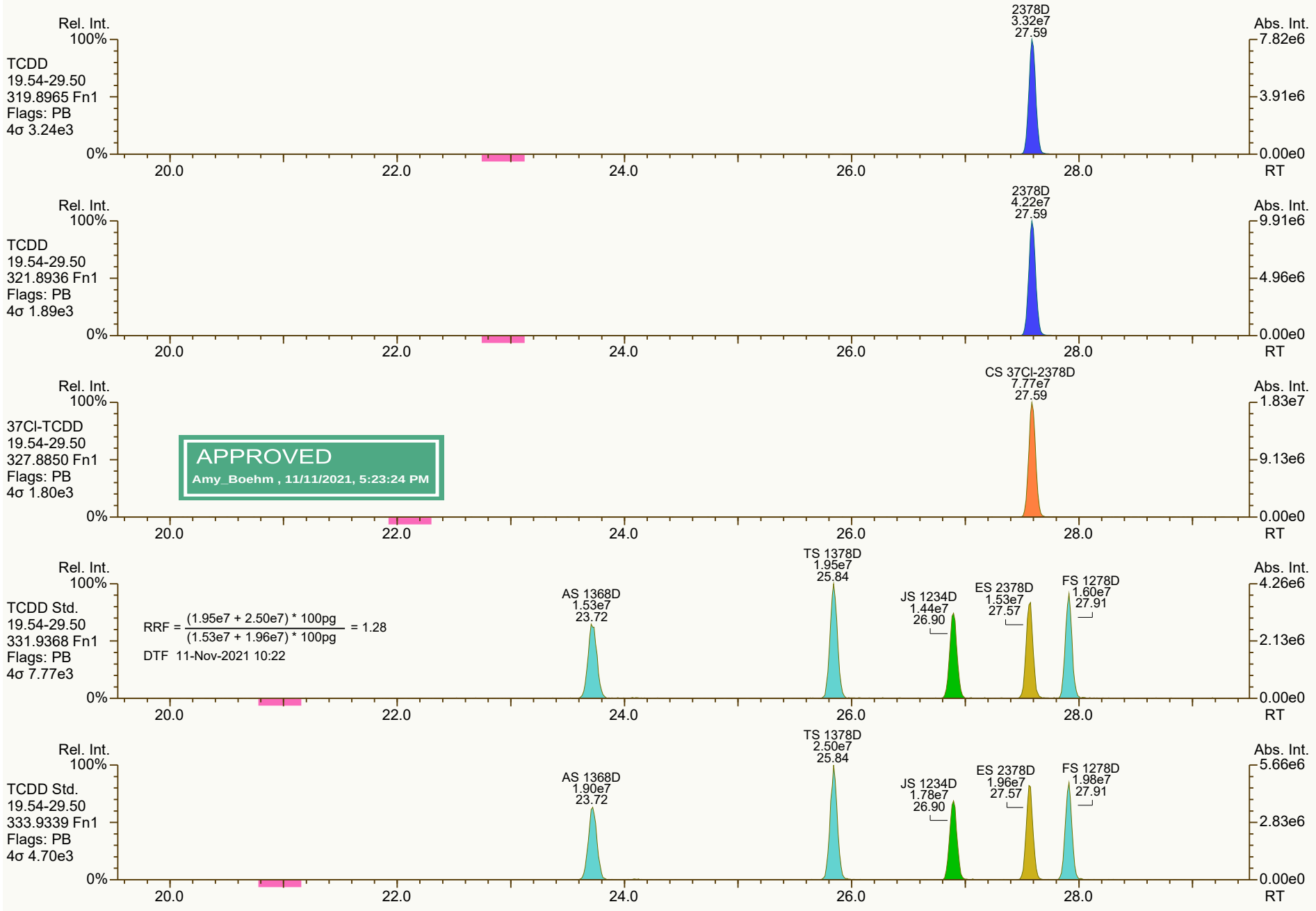
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

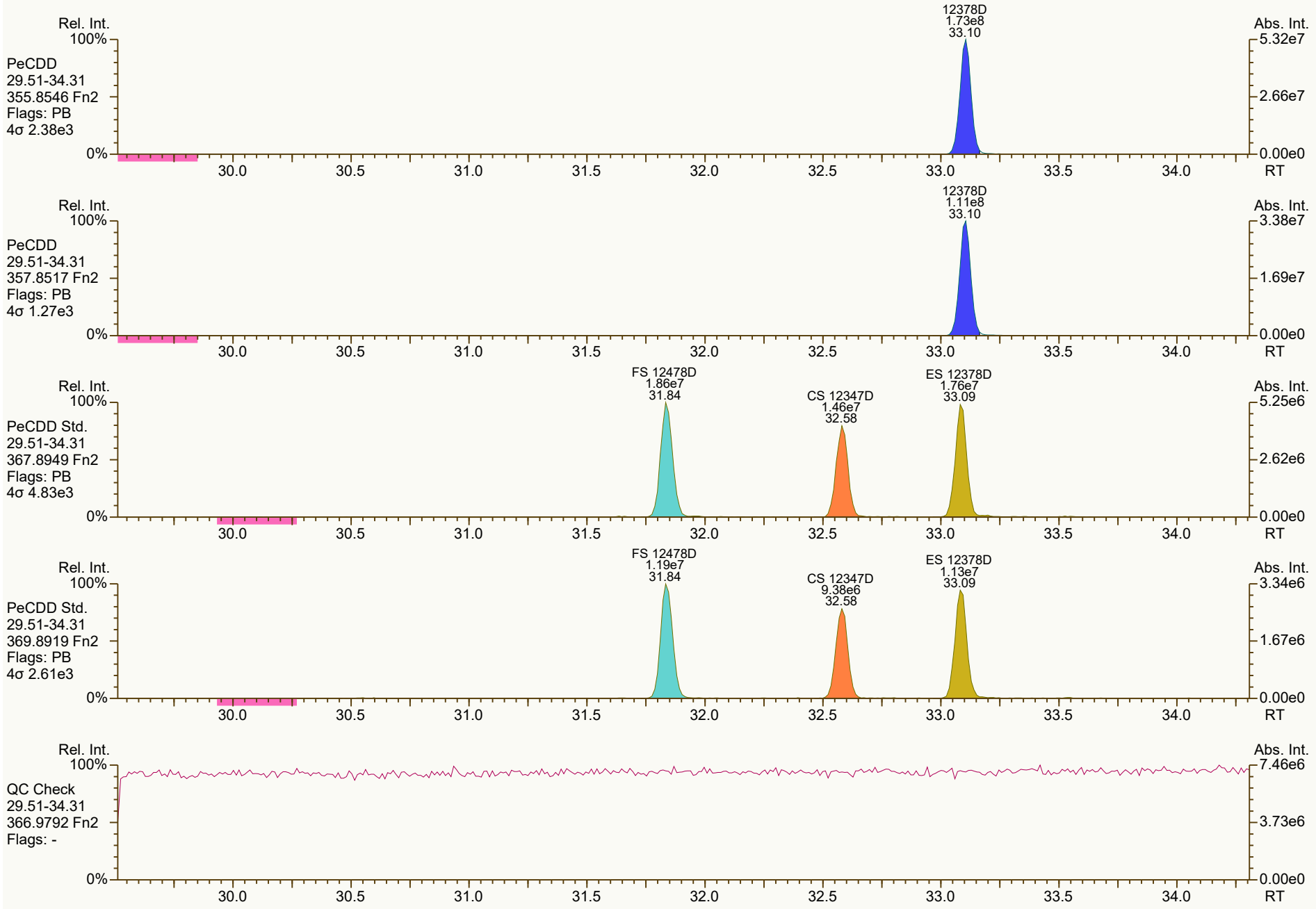
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

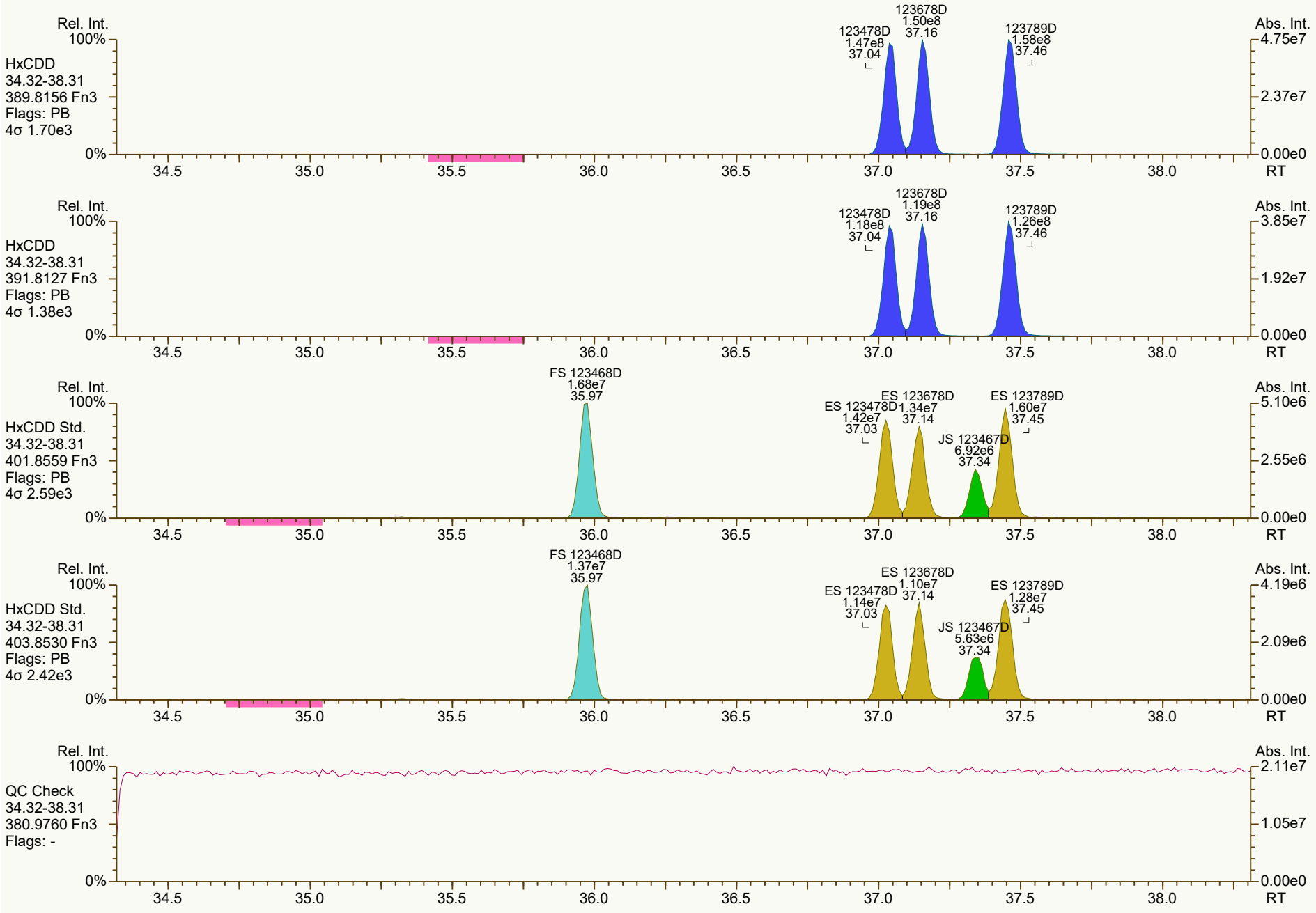
SGS ID: CS5_211110_DF_CA | **Sample ID: 25-5-3** | **Acq: 10-Nov-2021 14:53:51**
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70** | **User: DTF Datafile: 211110C09**

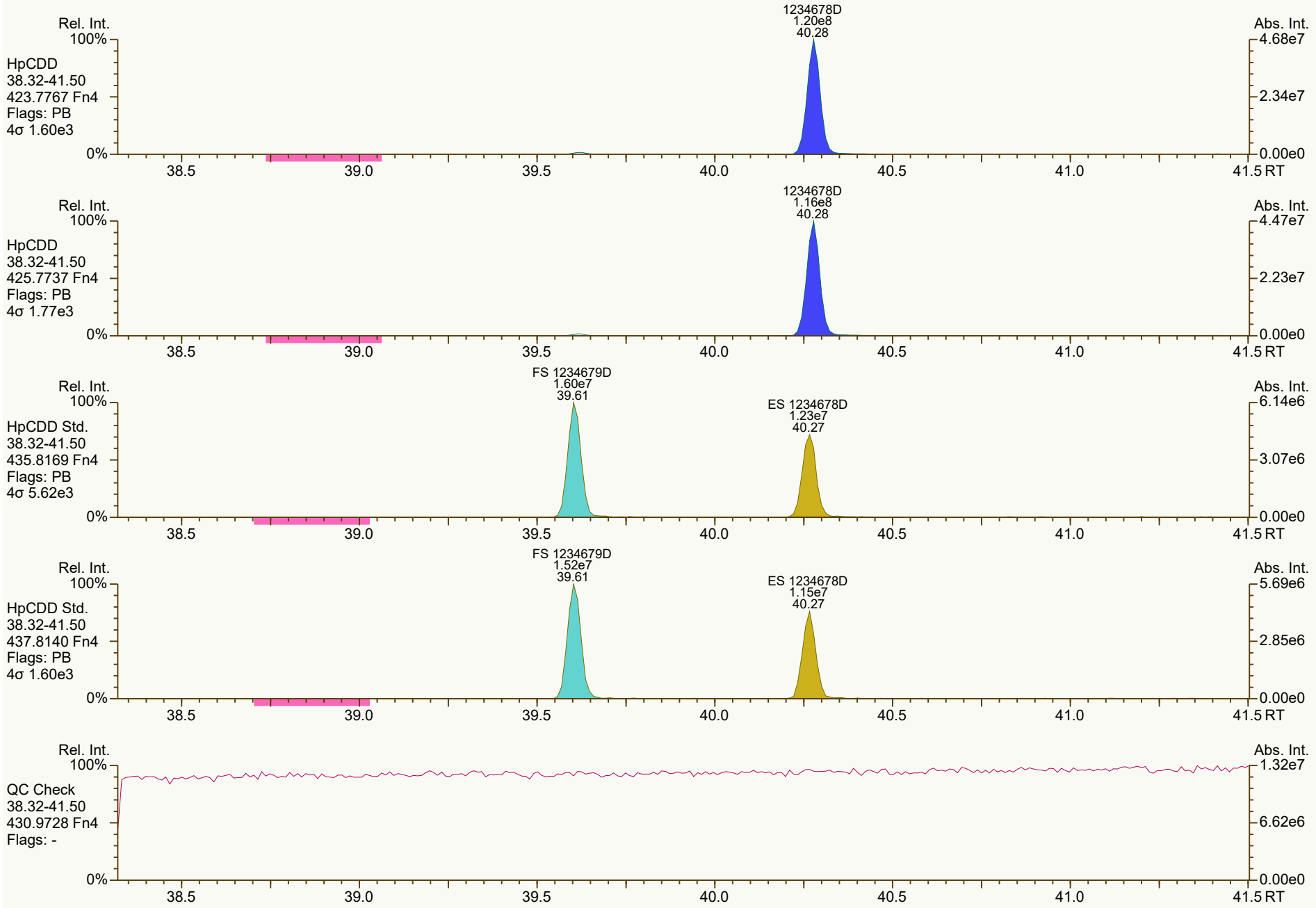


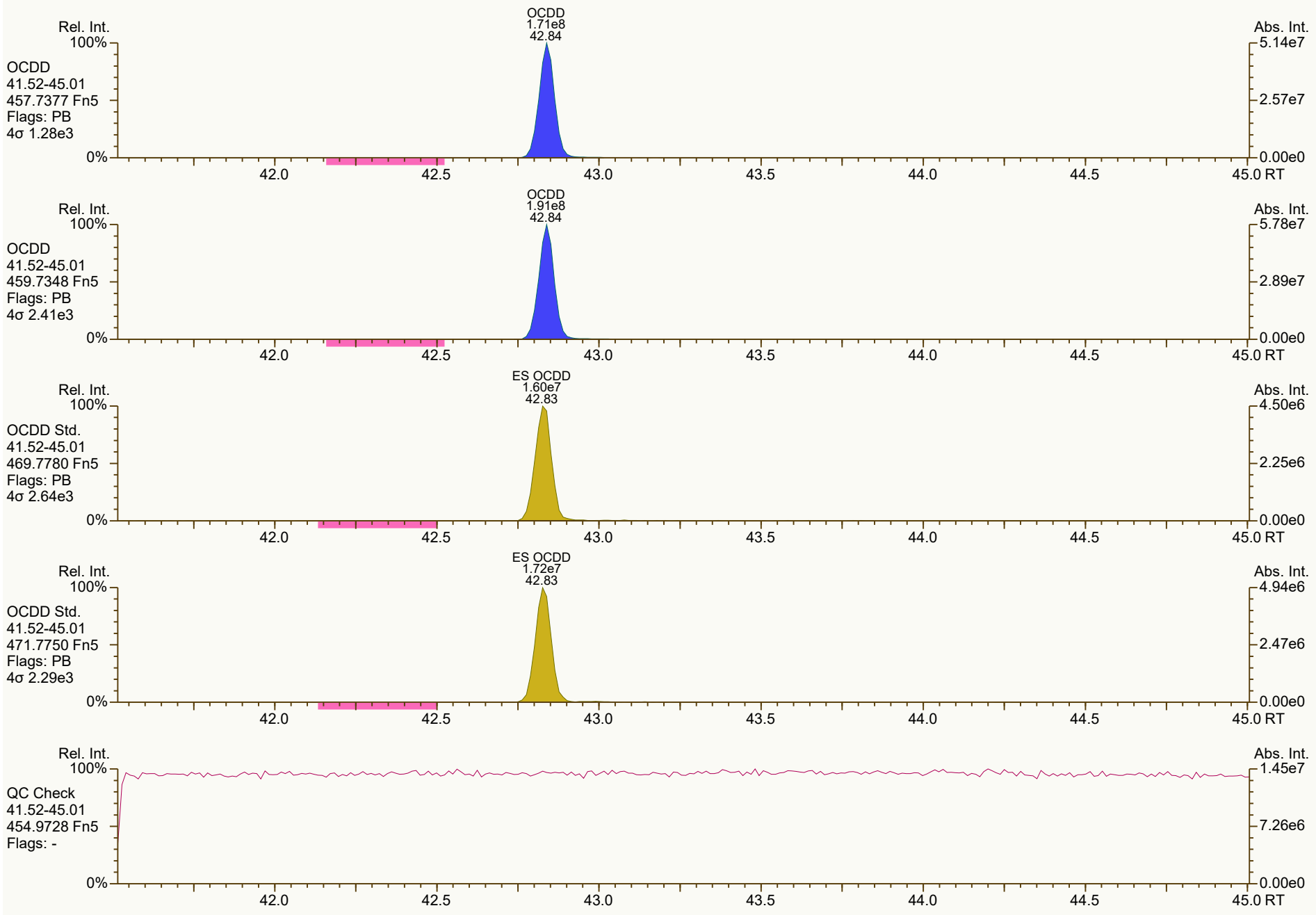
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 573-489 *PKD: n/a Printed: 11-Nov-2021 10:41 Page 1 of 12*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

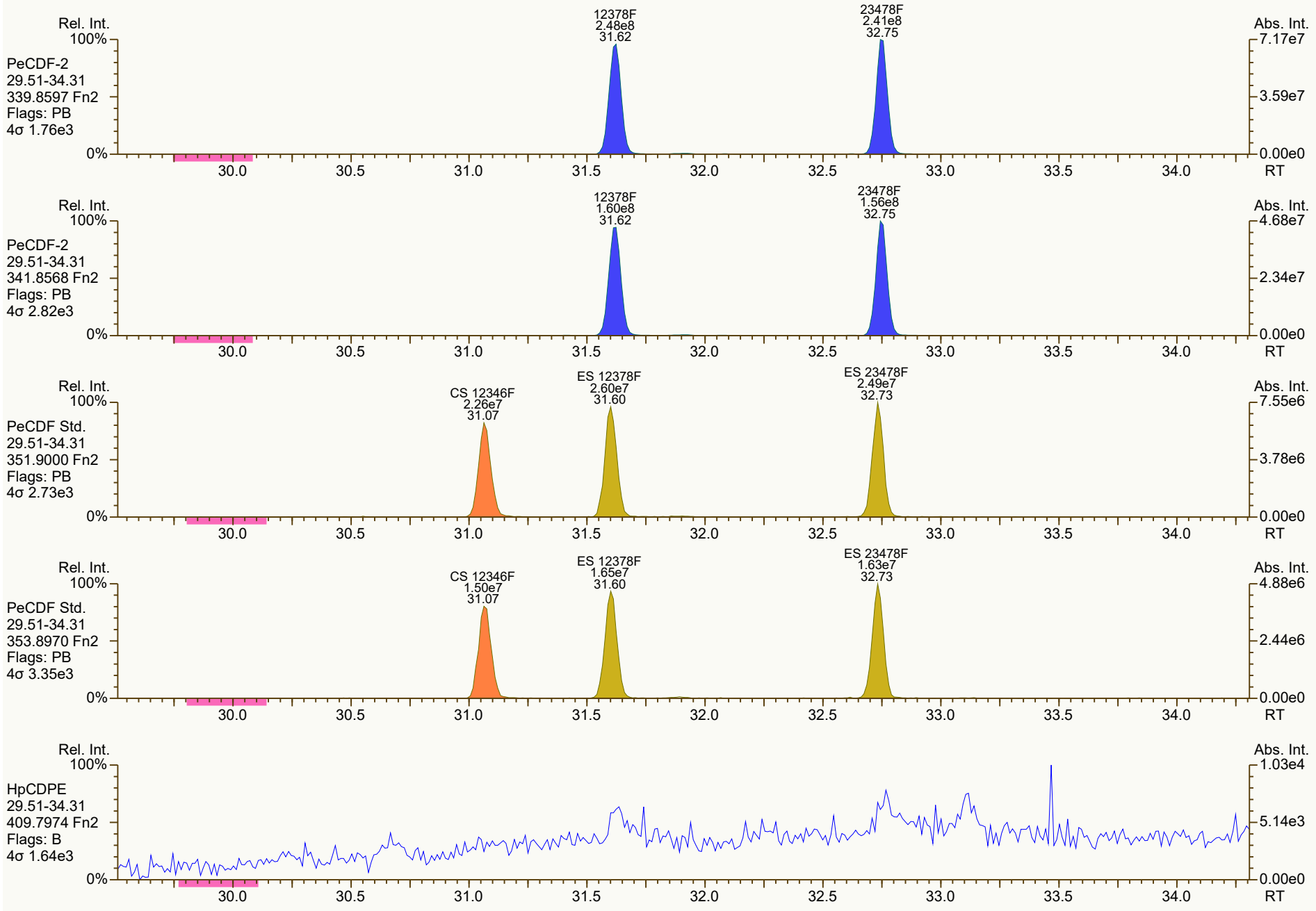

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

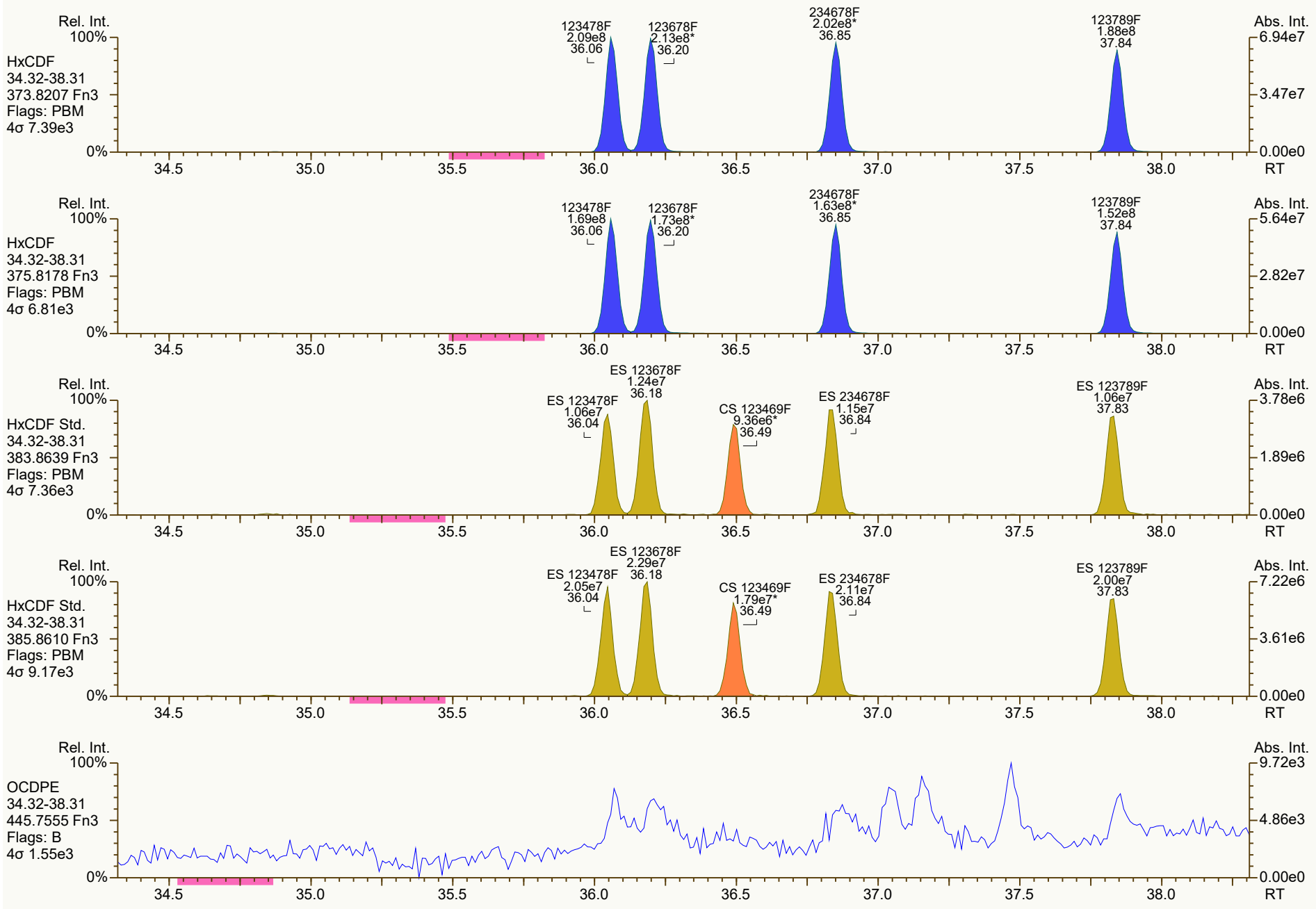

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

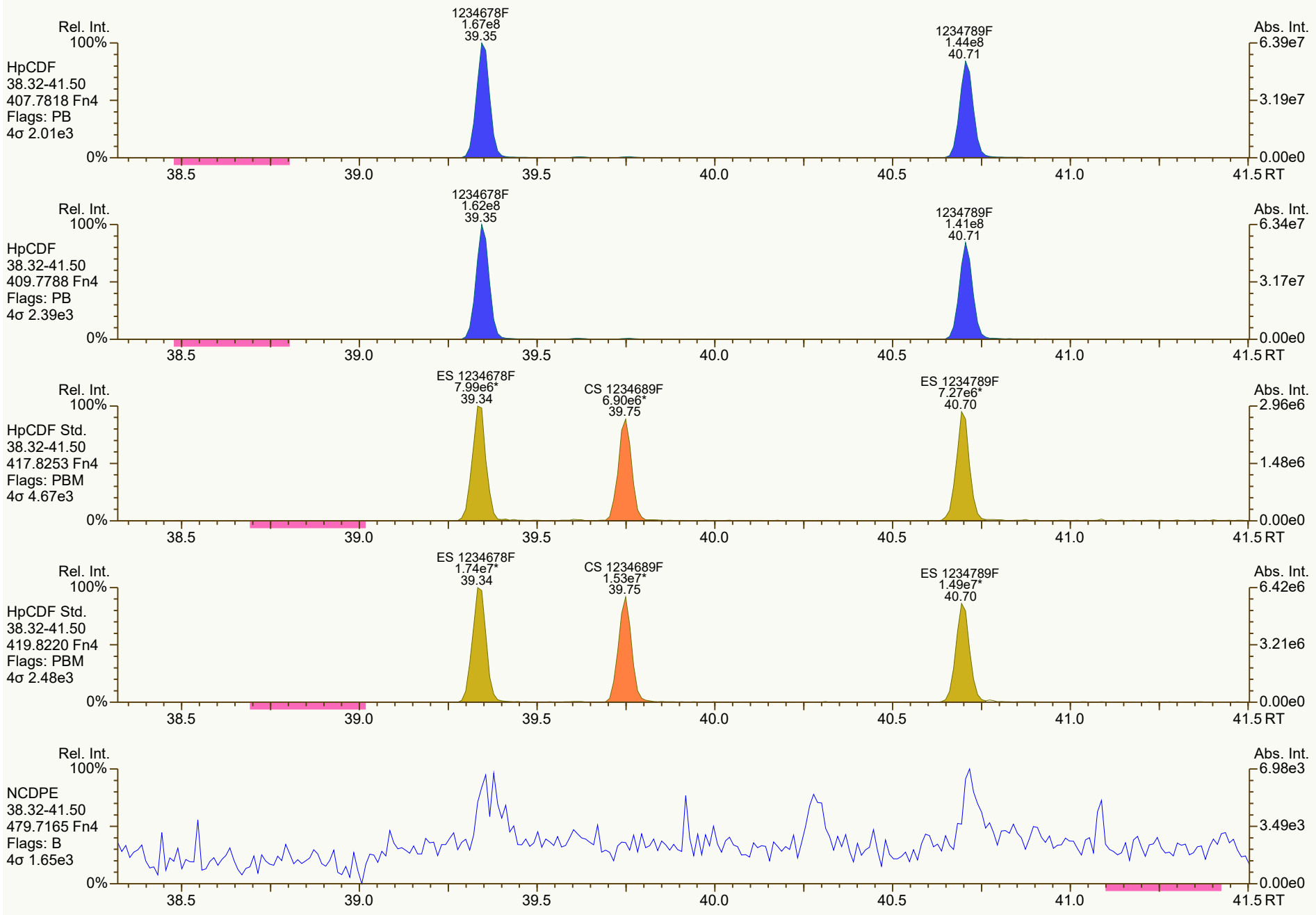

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

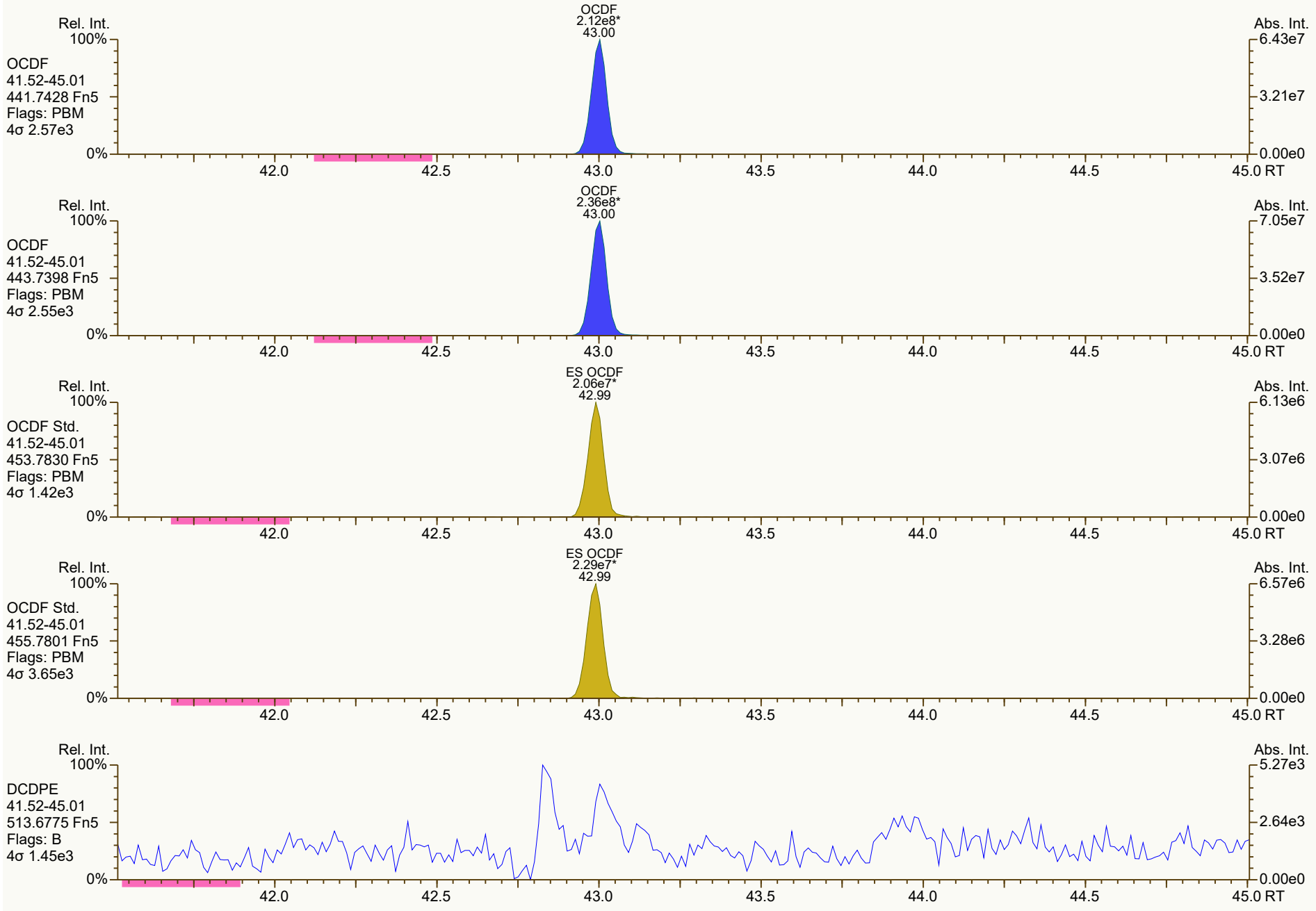

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

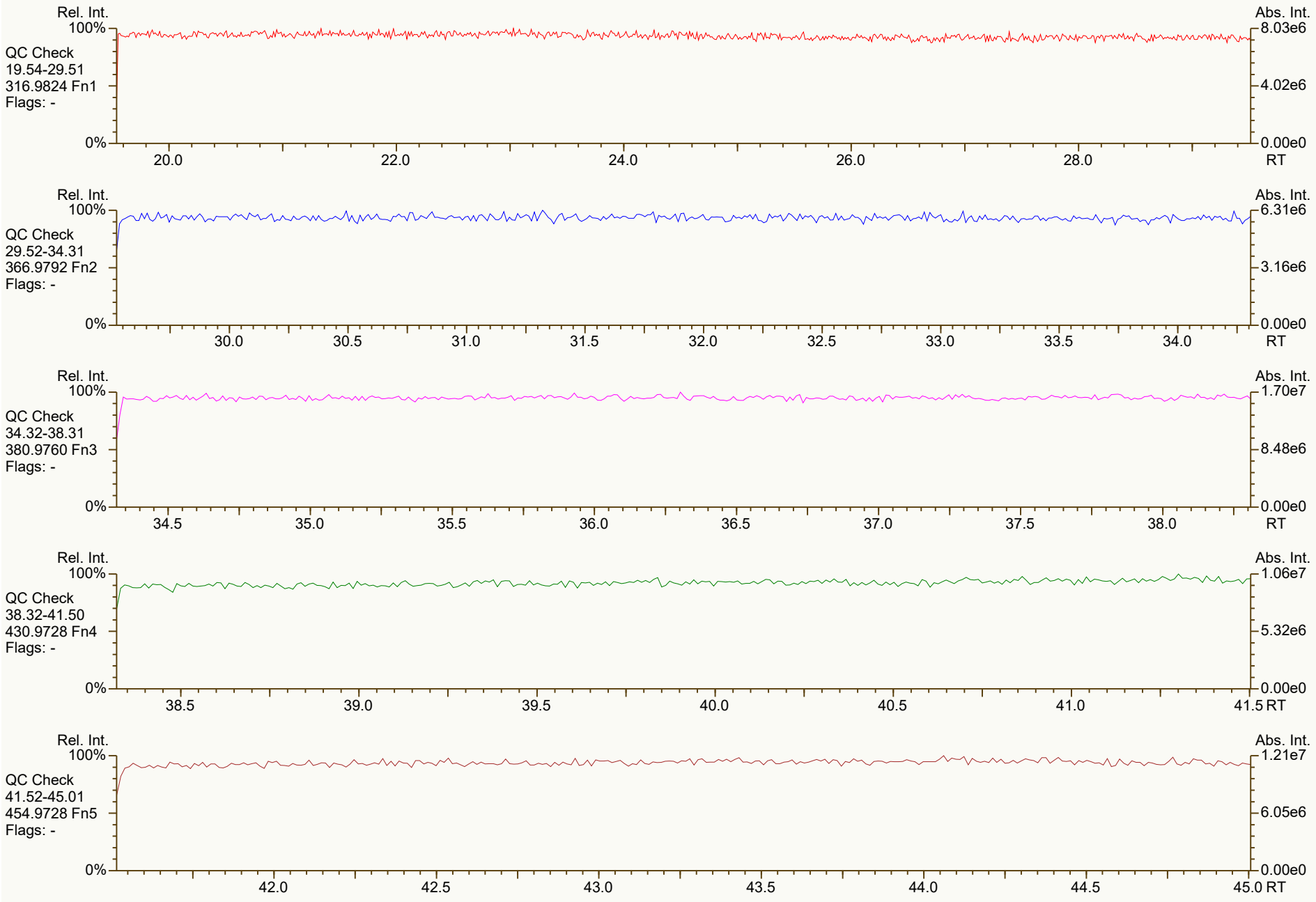

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

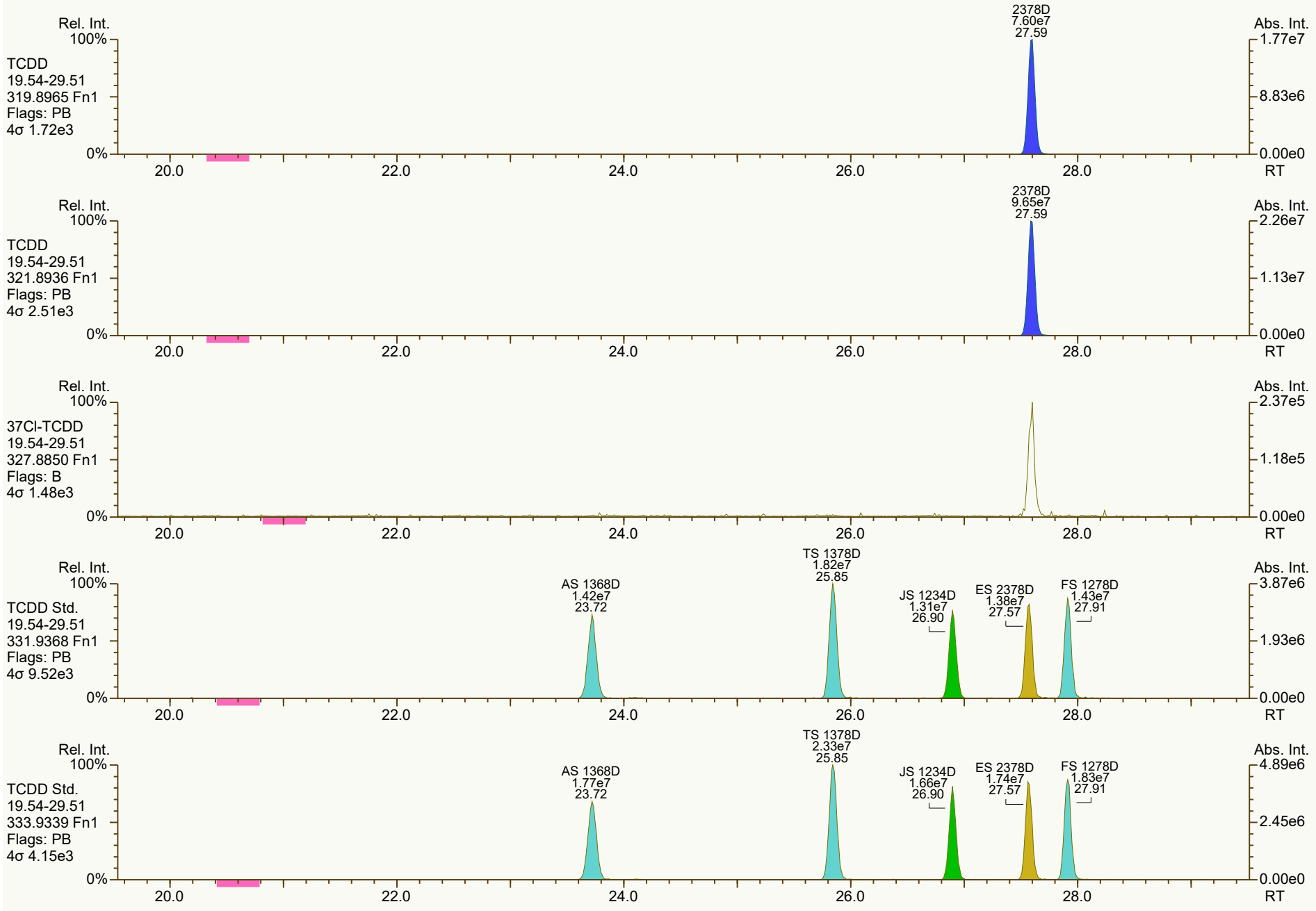
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

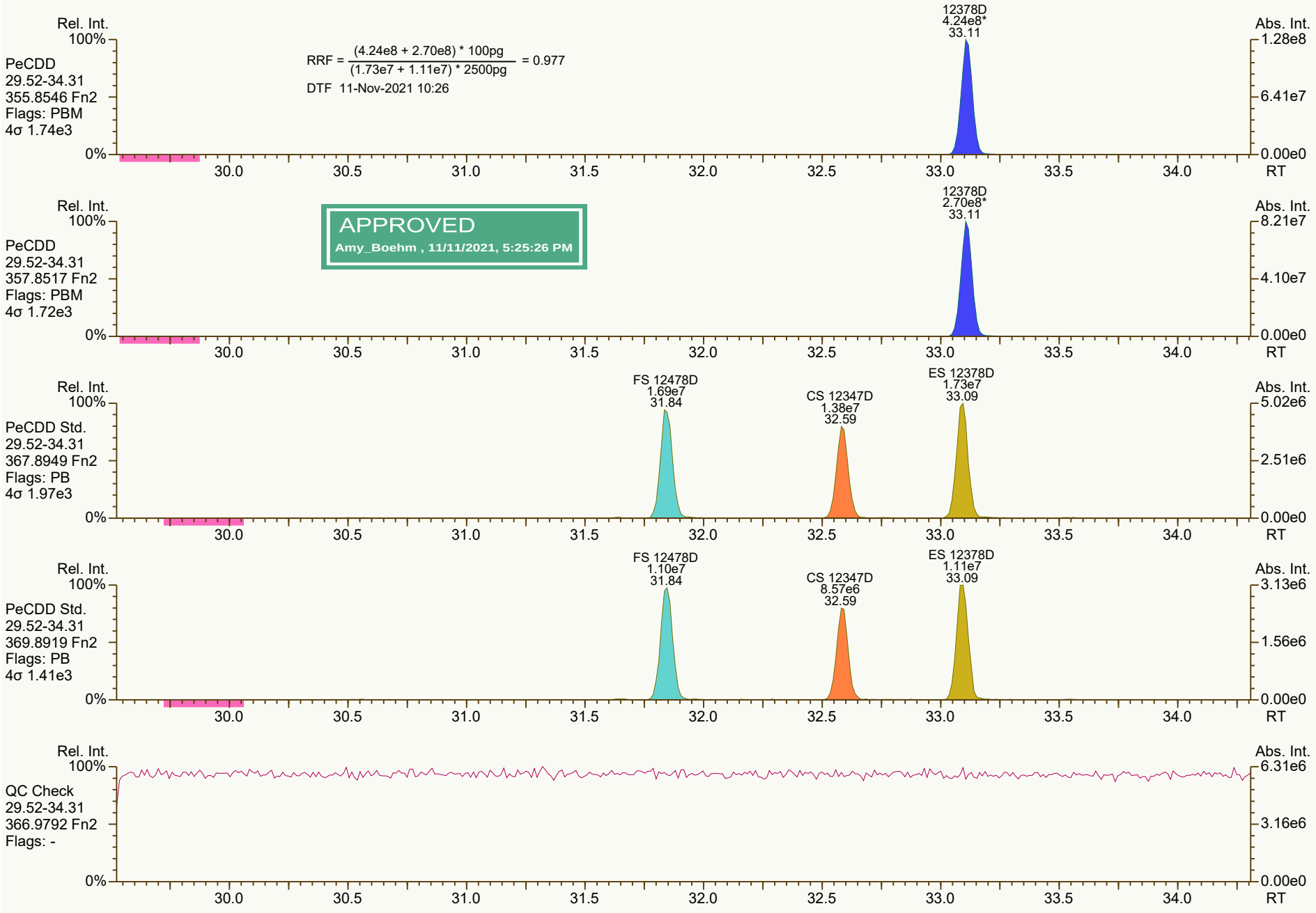
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

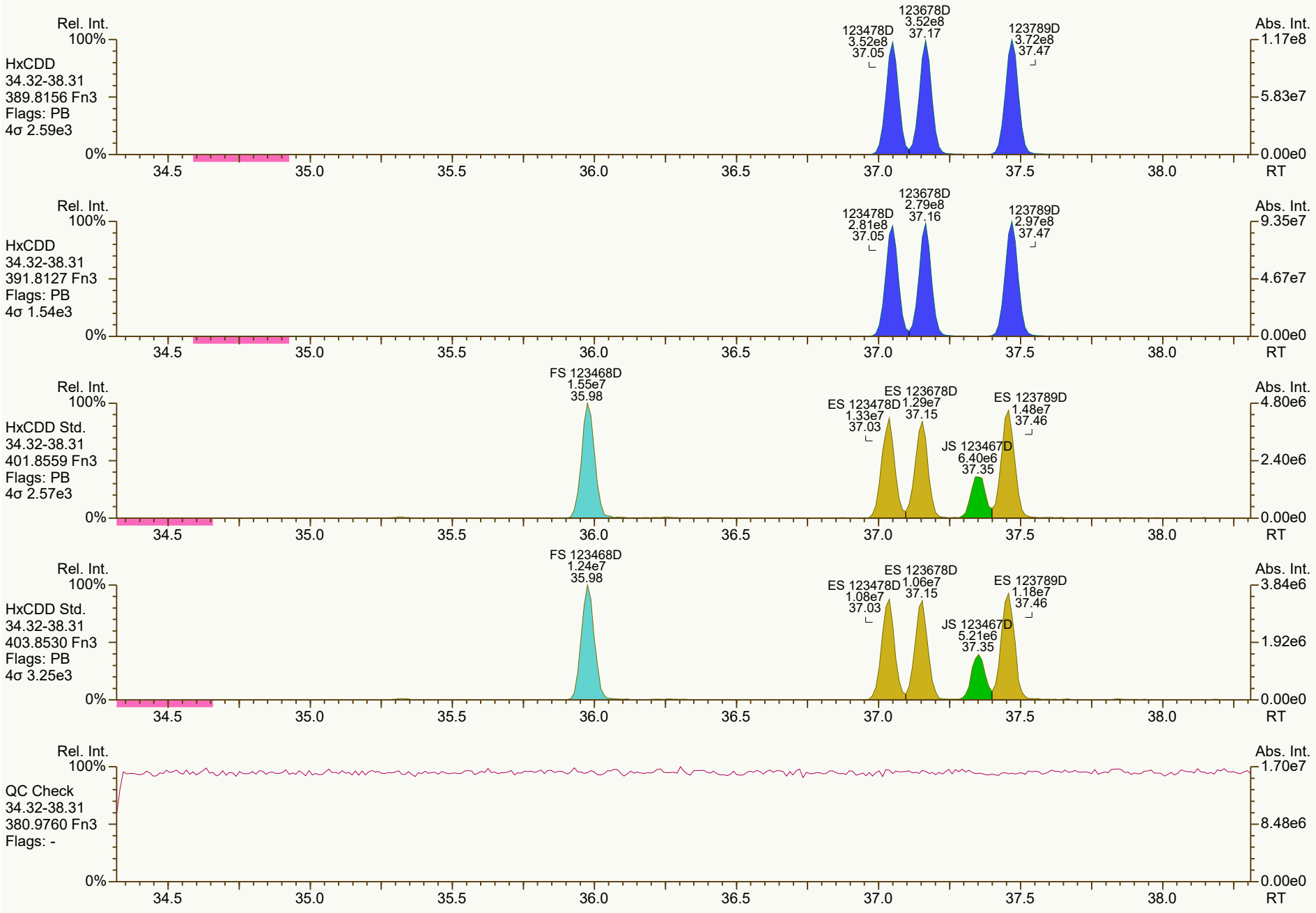
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

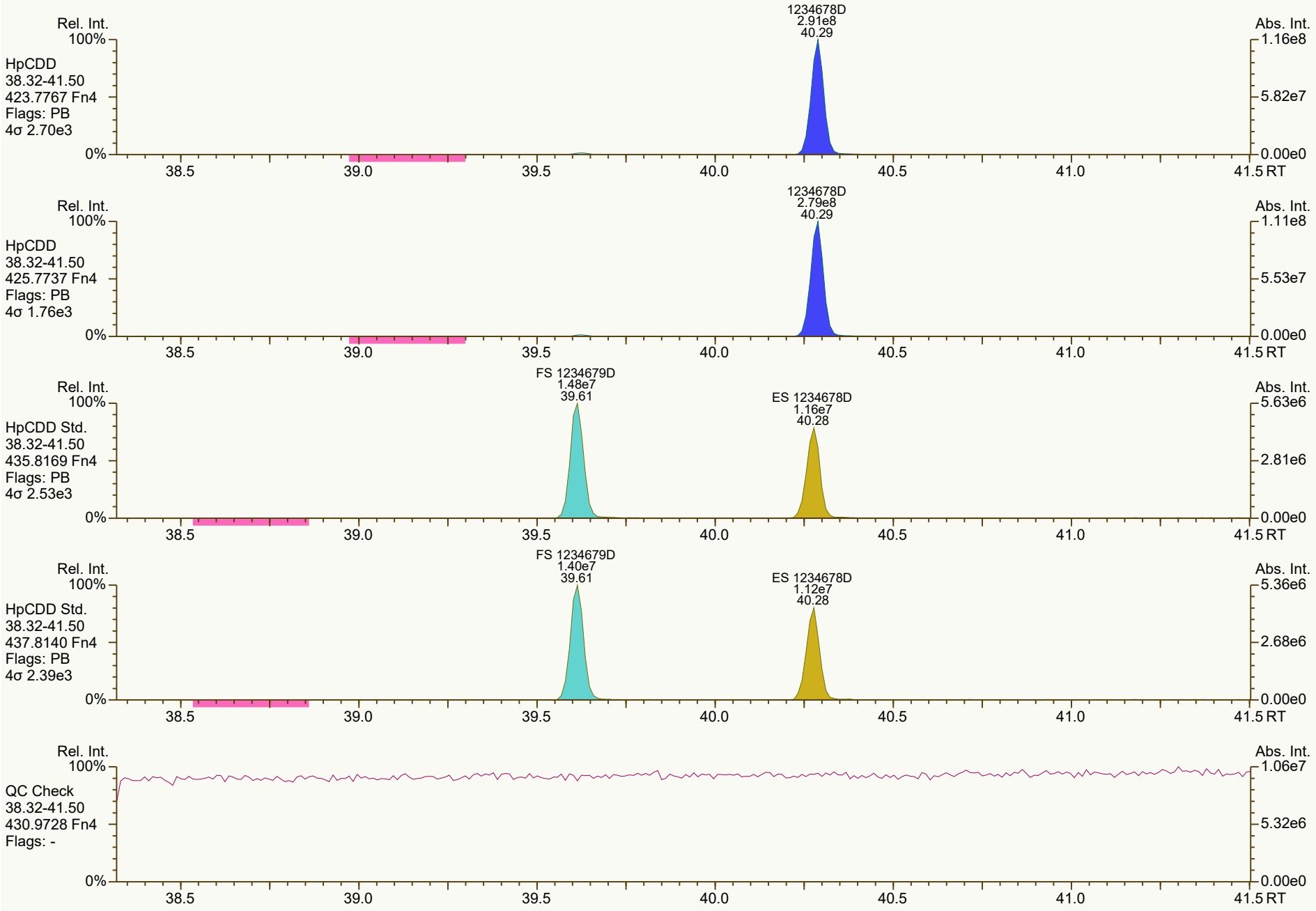
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

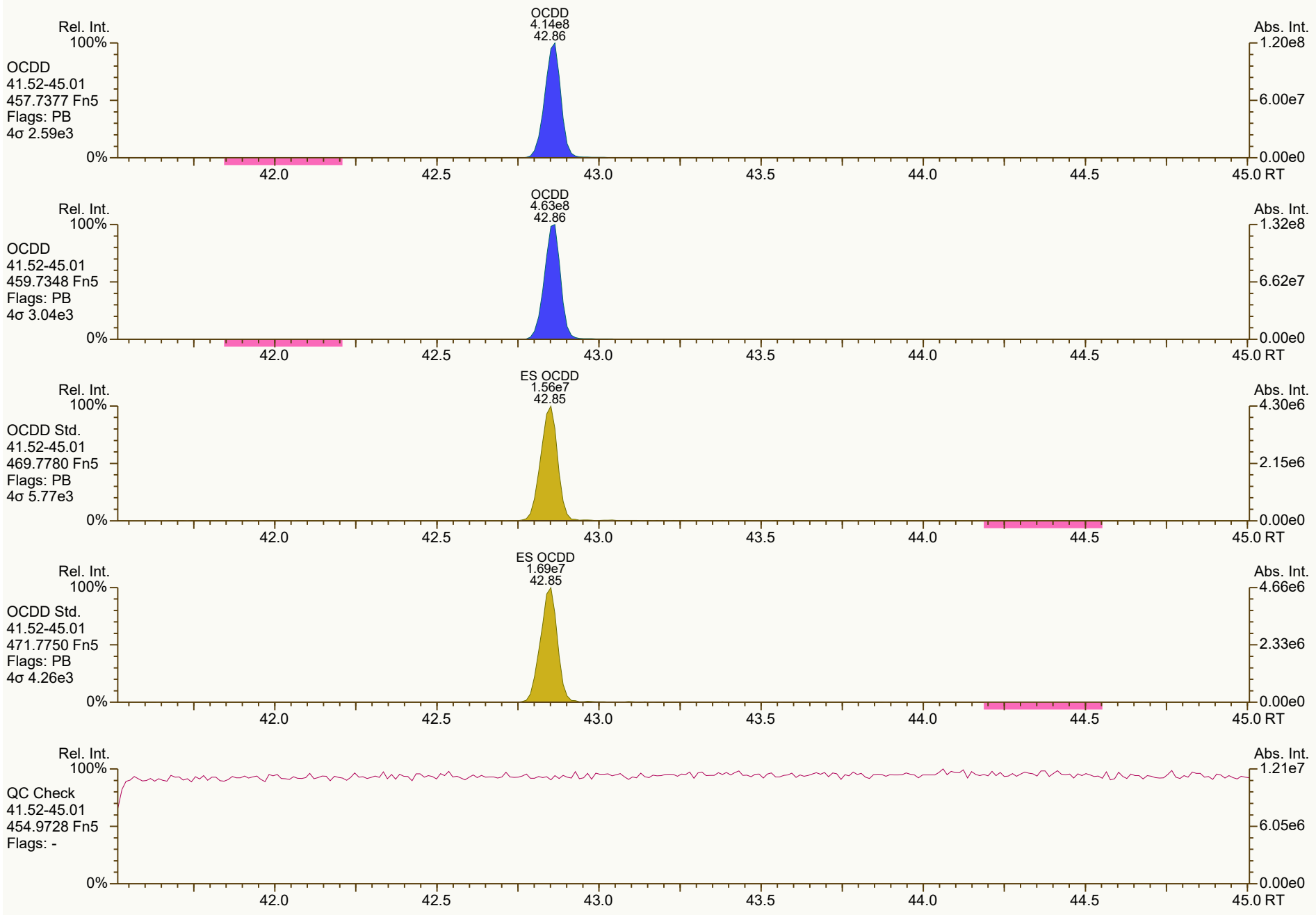

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

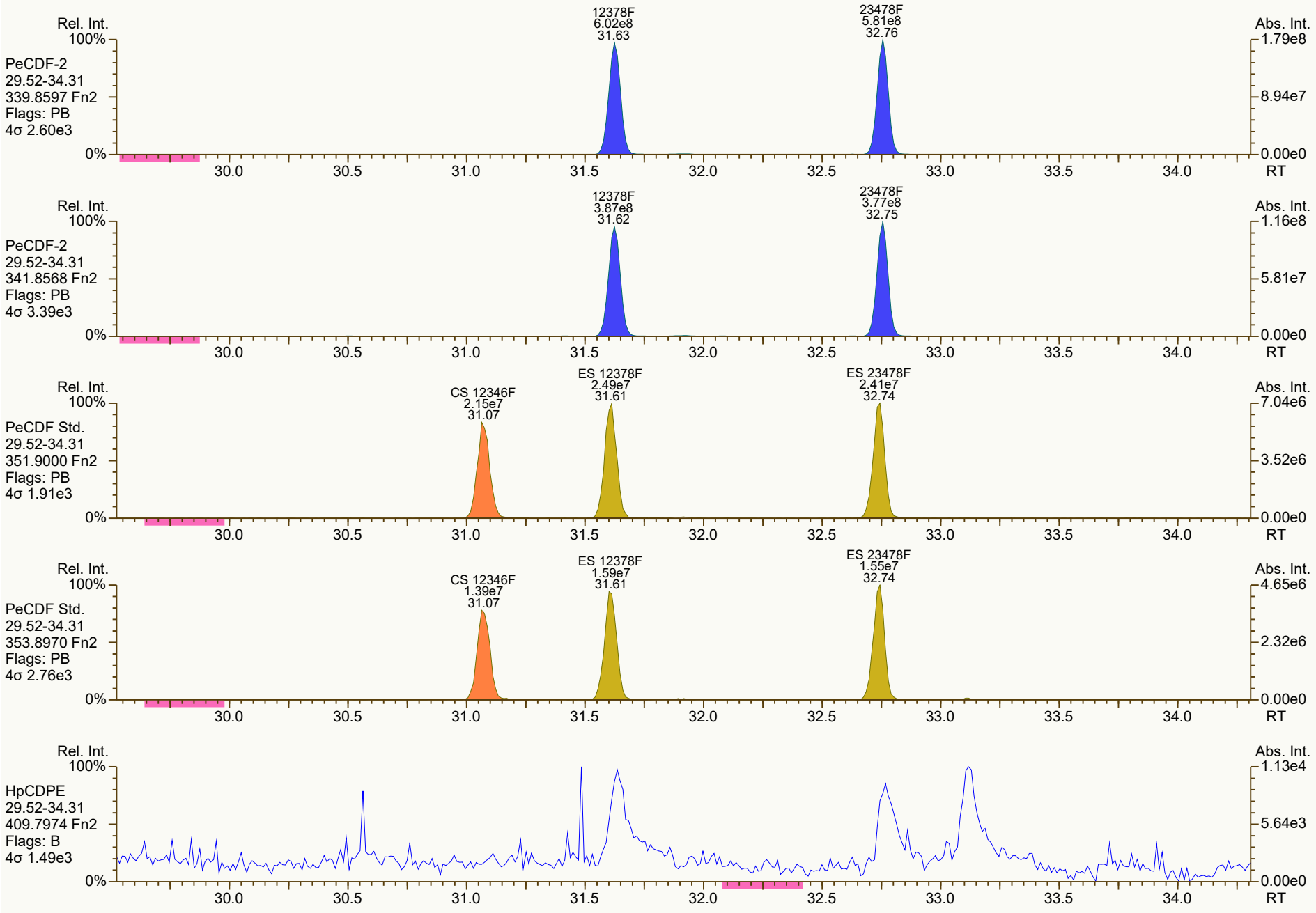

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

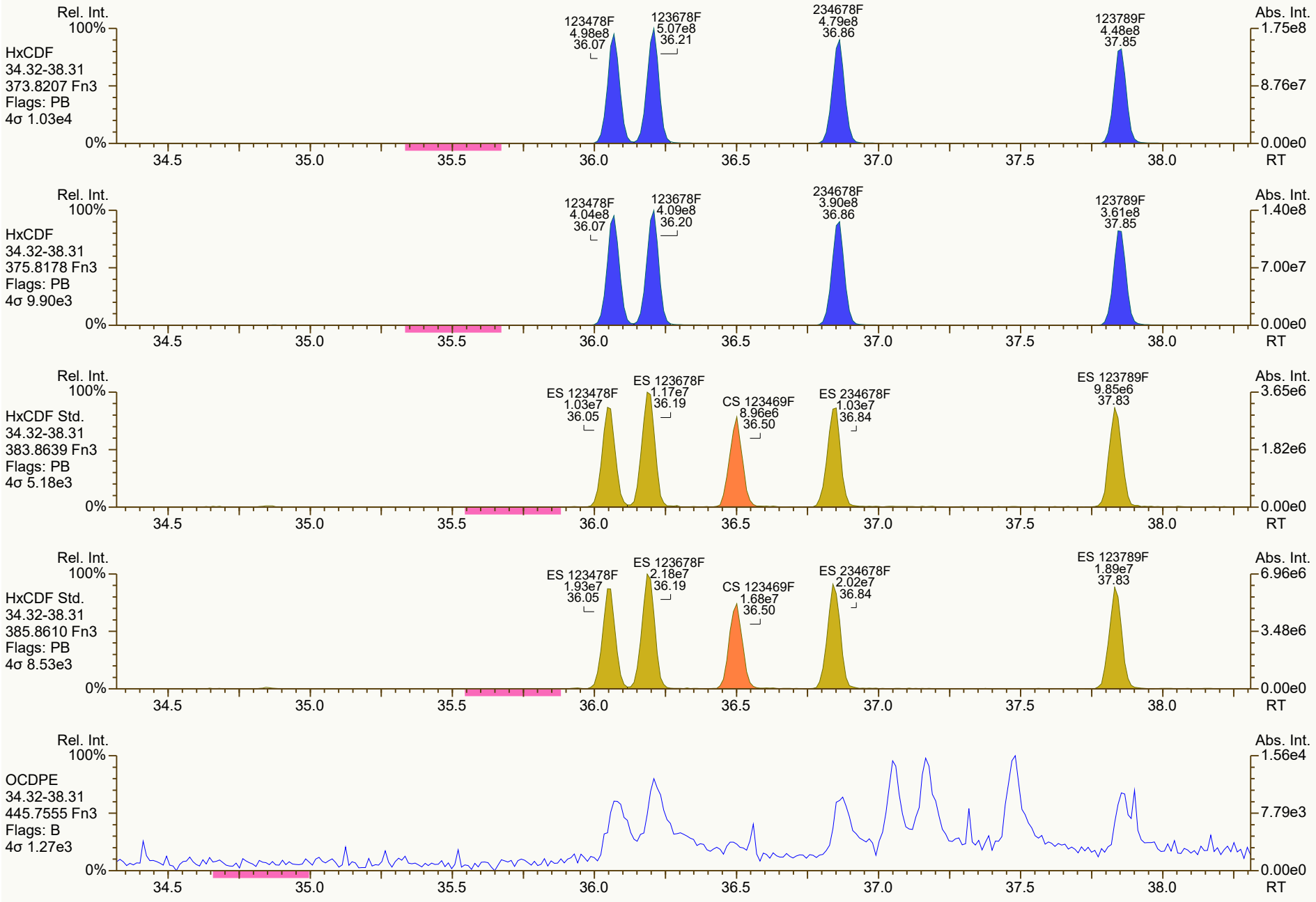

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

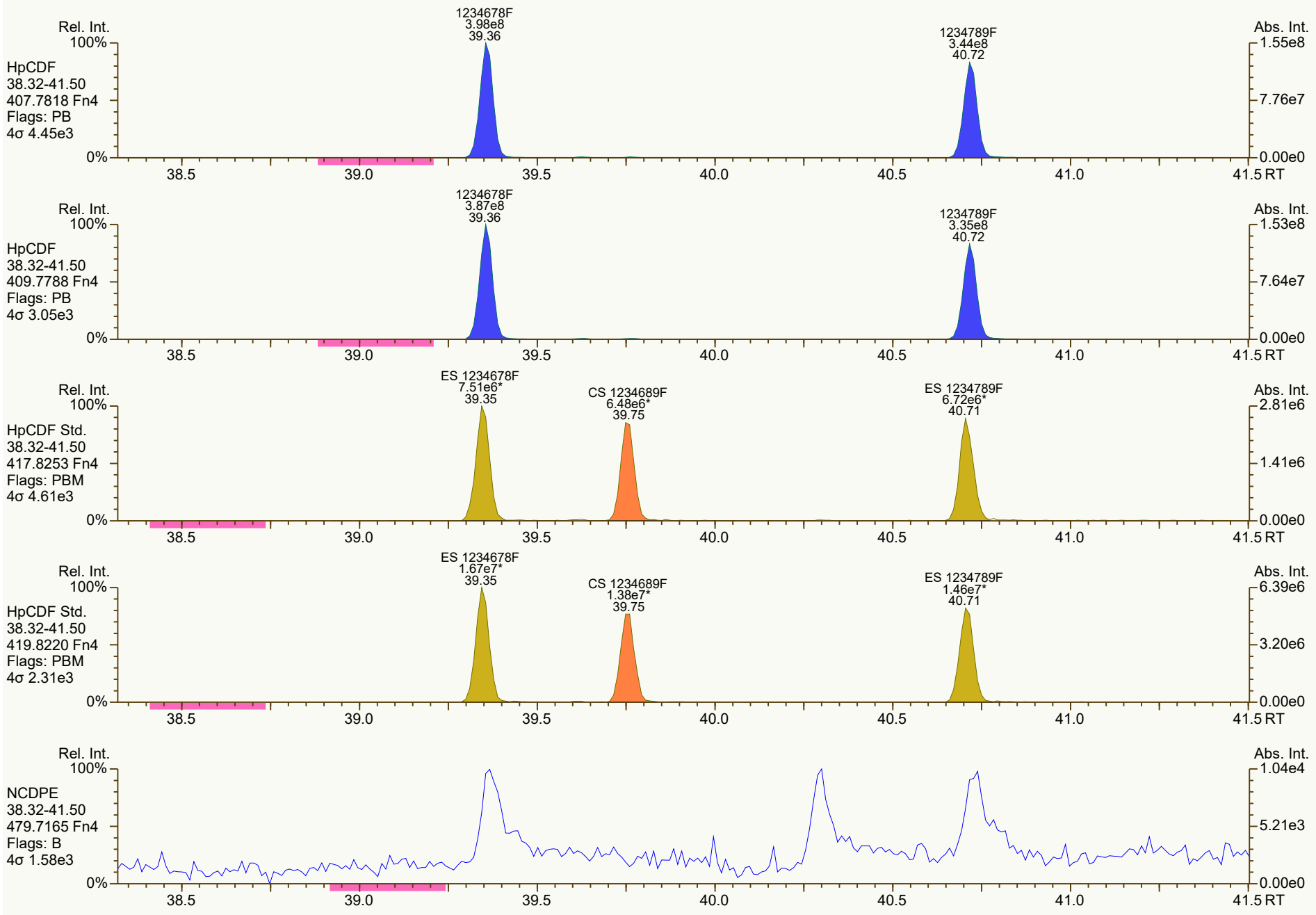

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

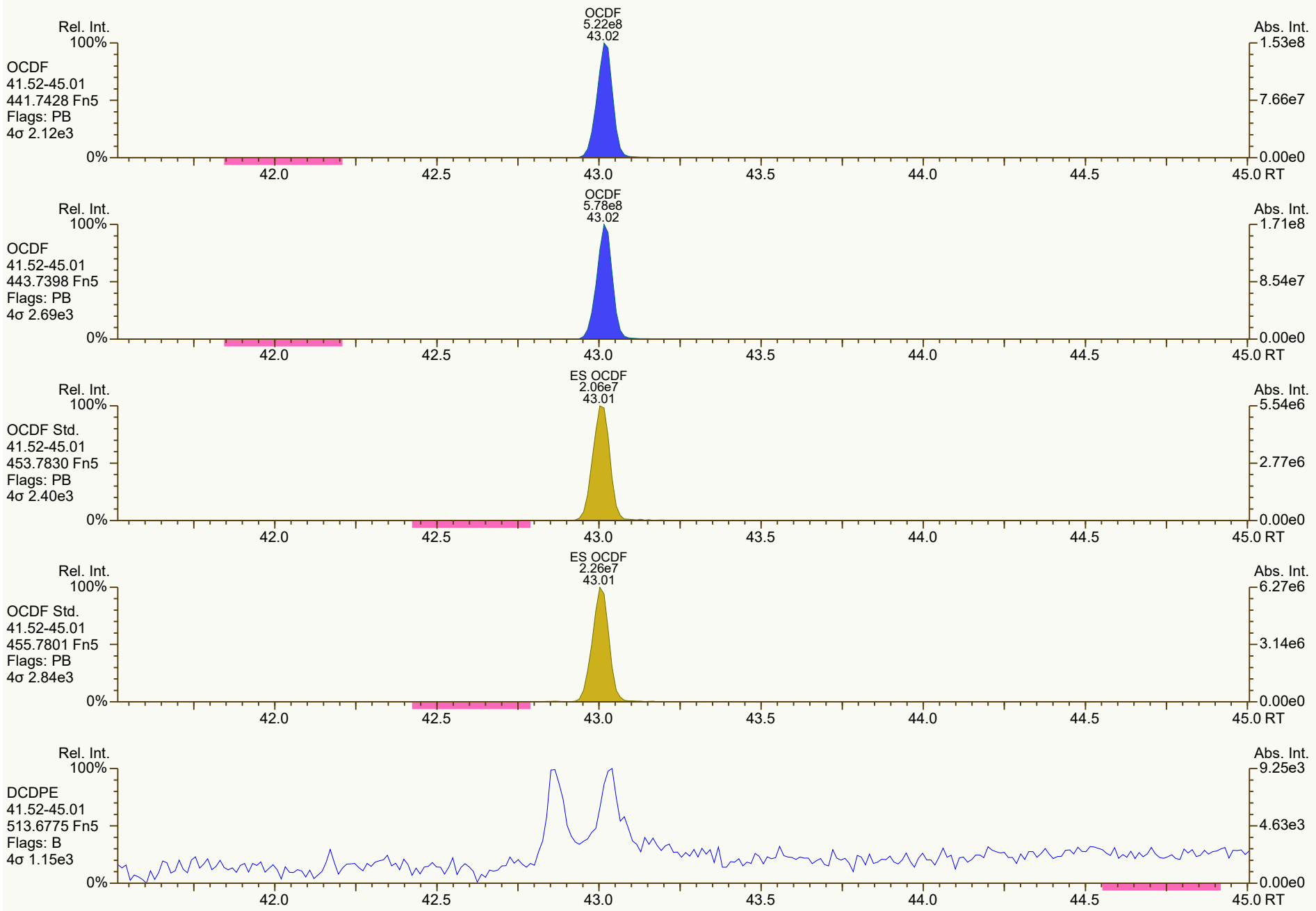

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

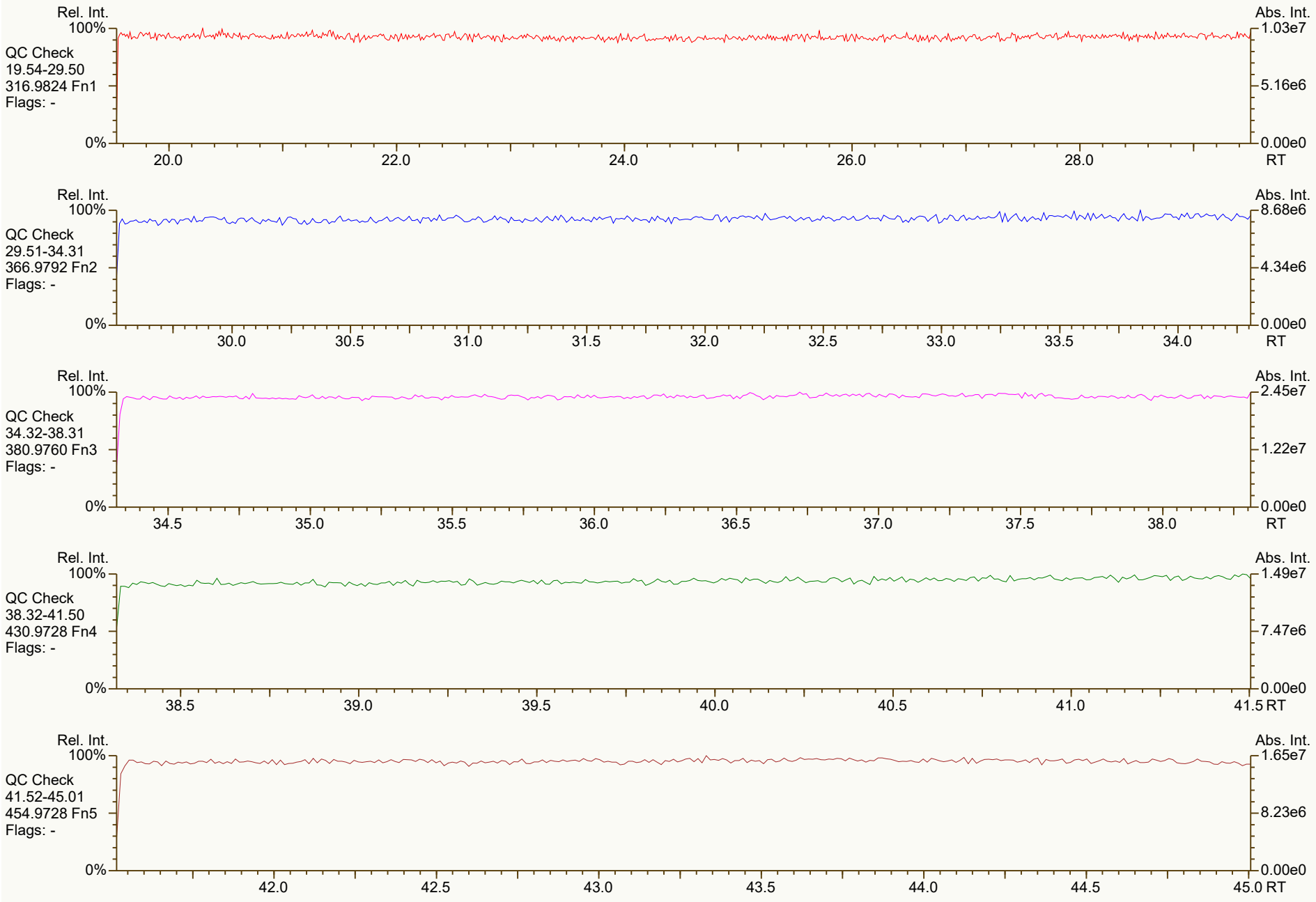

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

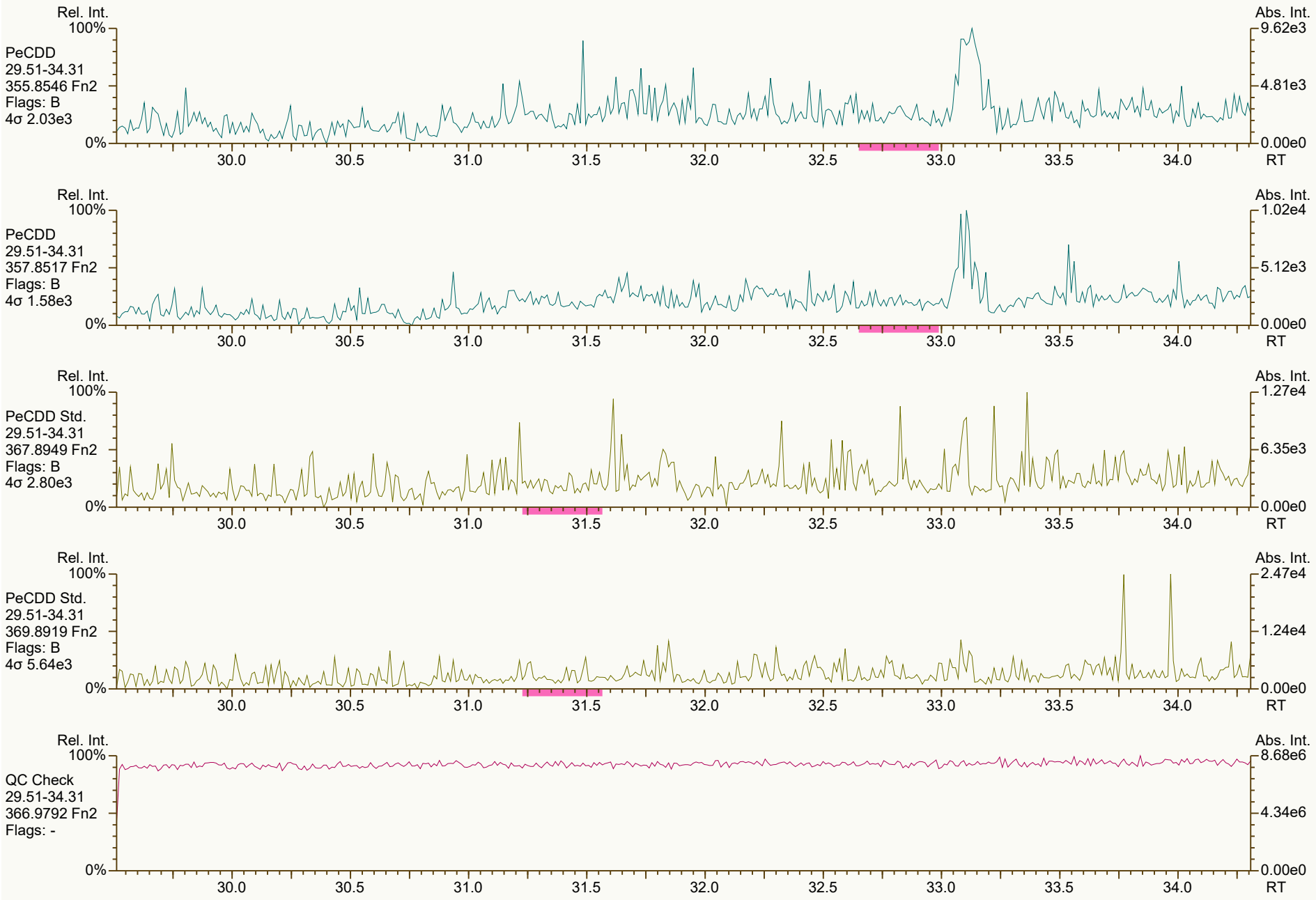
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

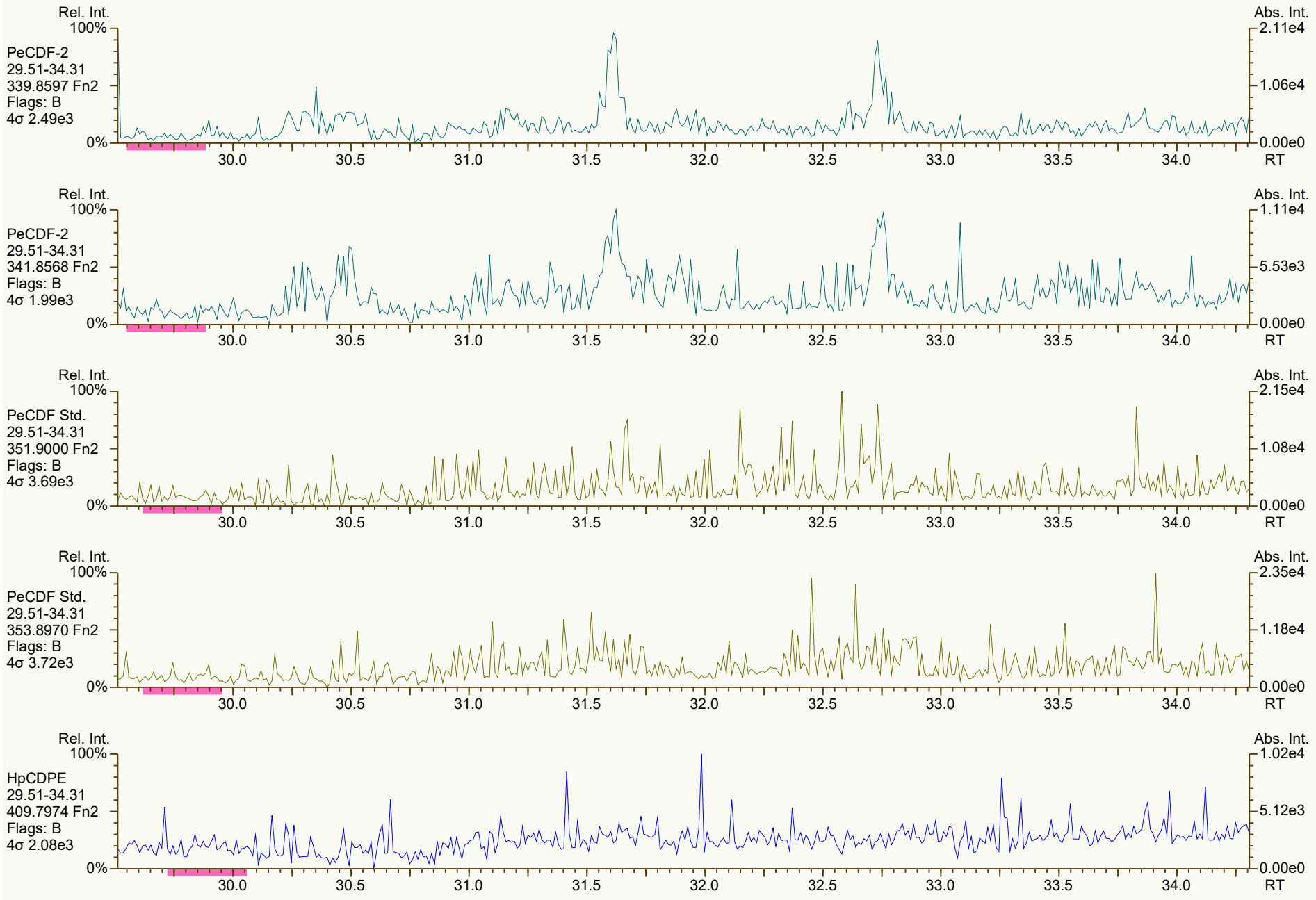

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

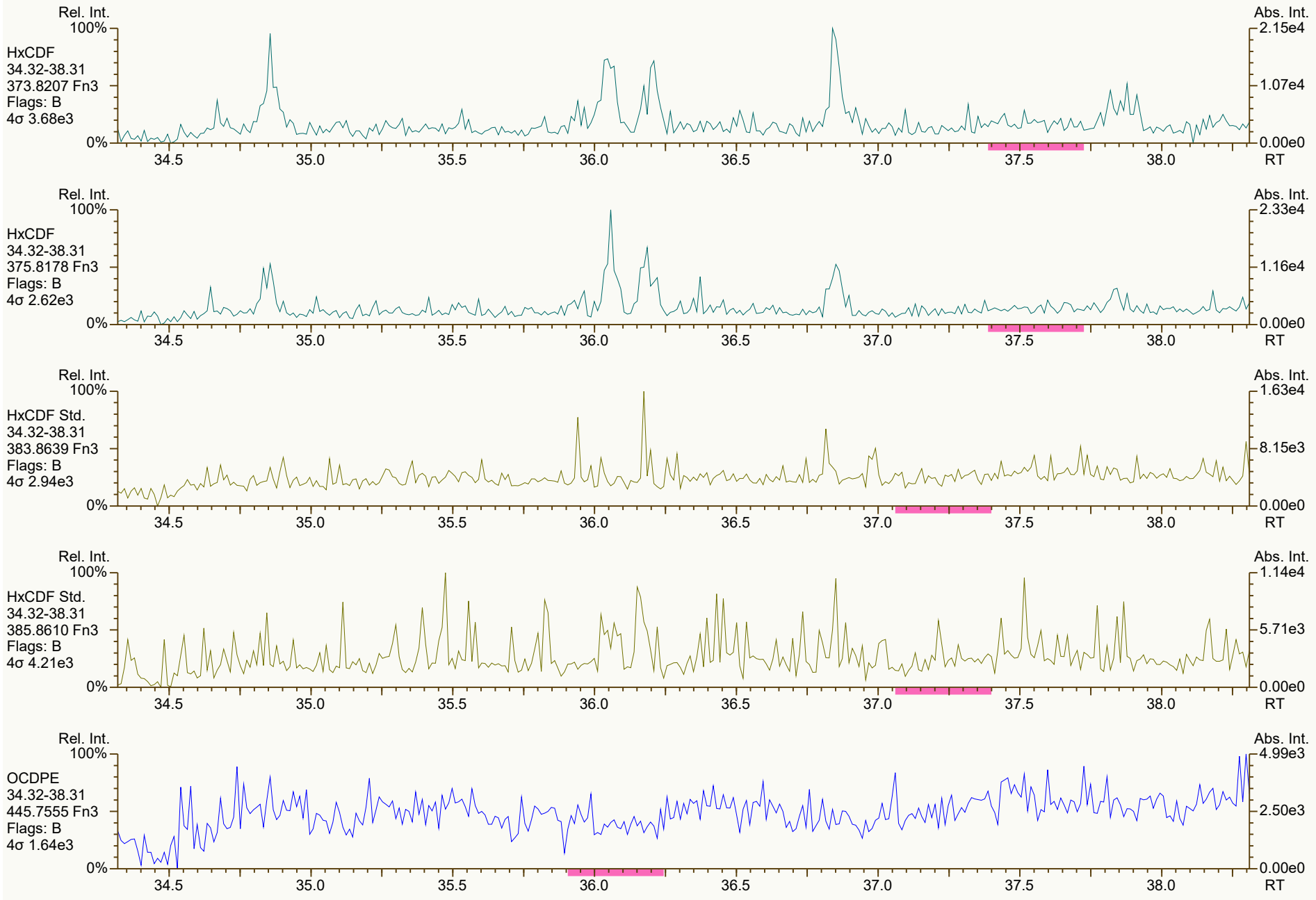

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

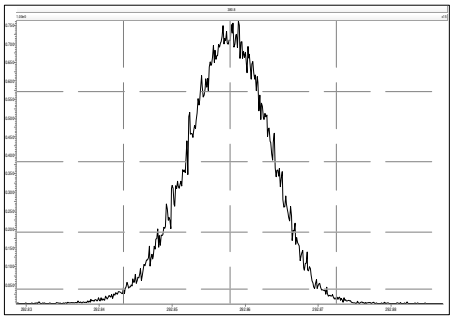

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

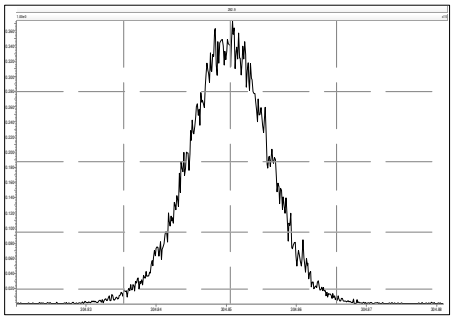
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

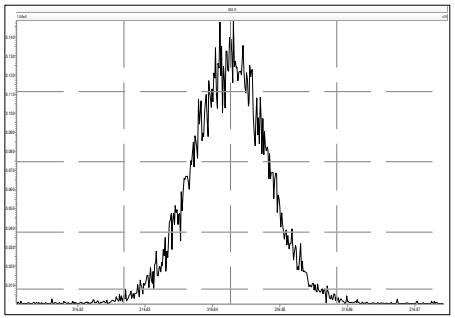
M 292.9824 R 10731



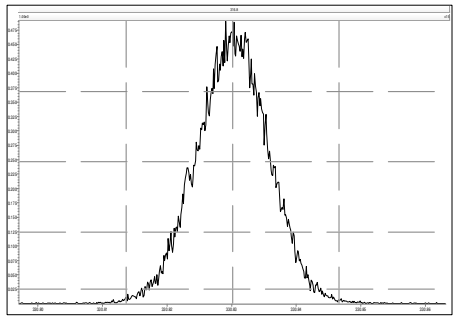
M 304.9824 R 11311



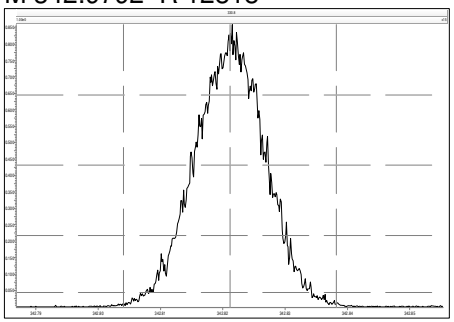
M 316.9824 R 12373



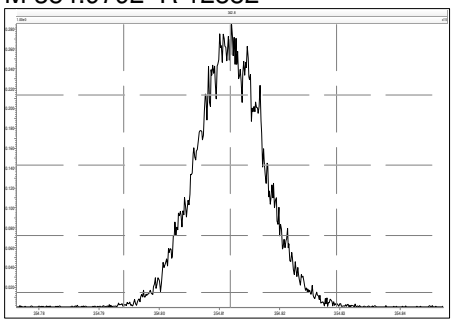
M 330.9792 R 12887



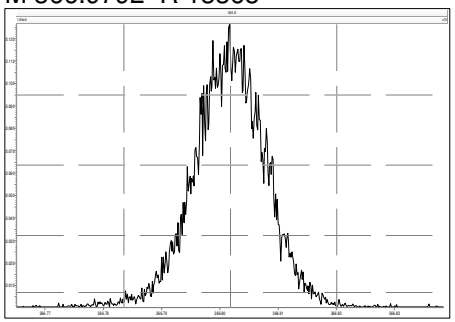
M 342.9792 R 12818



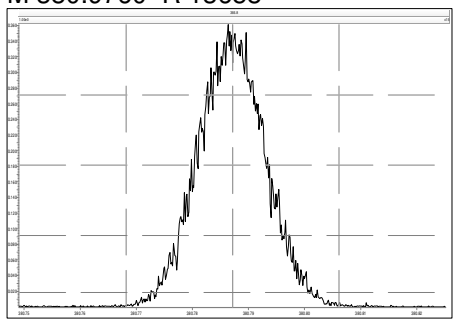
M 354.9792 R 12882



M 366.9792 R 13368



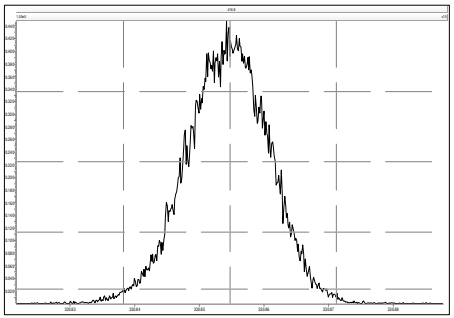
M 380.9760 R 13658



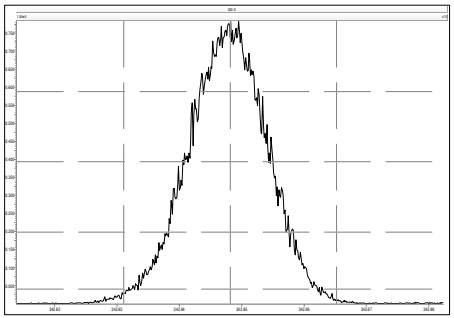
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

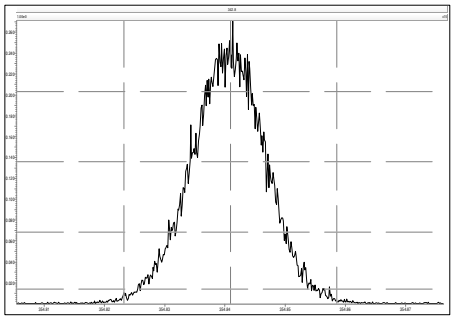
M 330.9792 R 11112



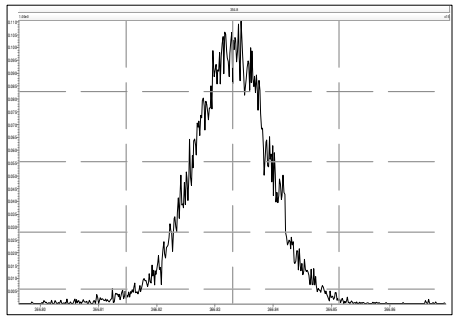
M 342.9792 R 11909



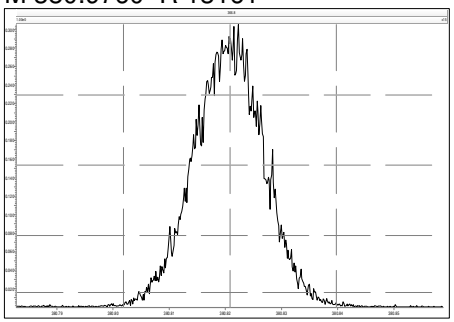
M 354.9792 R 11684



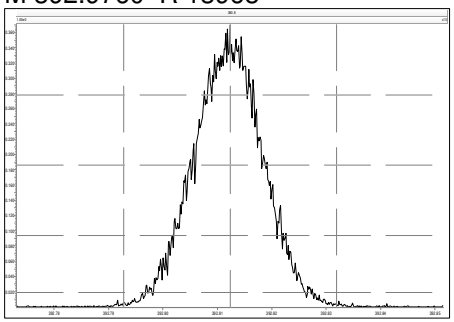
M 366.9792 R 11962



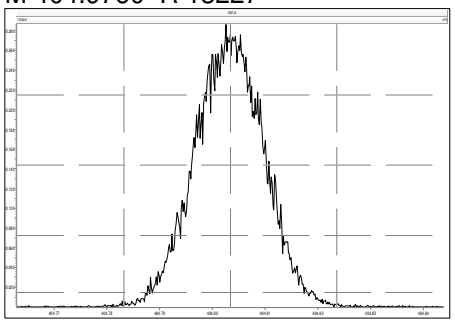
M 380.9760 R 13161



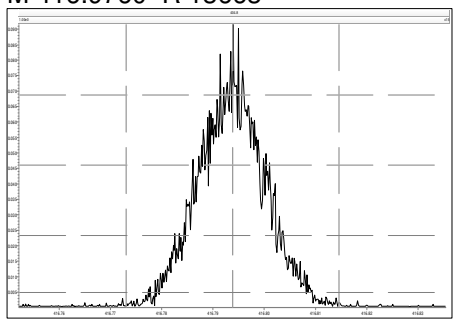
M 392.9760 R 13968



M 404.9760 R 13227



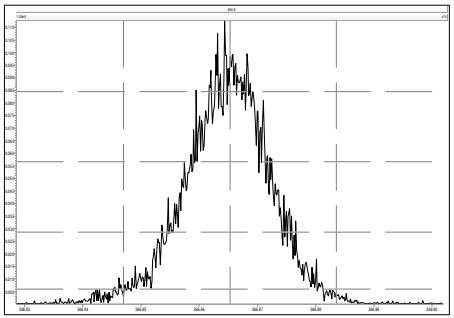
M 416.9760 R 13663



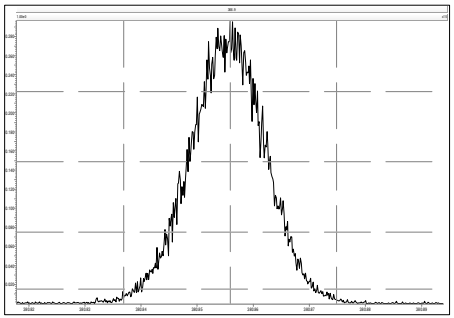
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

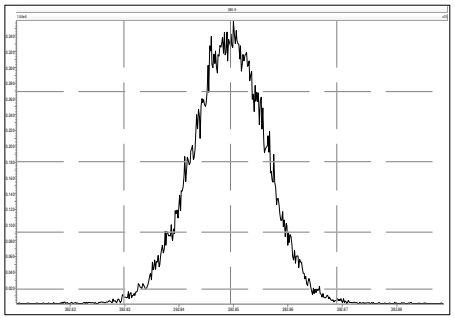
M 366.9792 R 10680



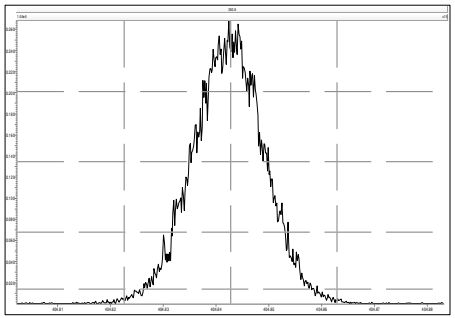
M 380.9760 R 12315



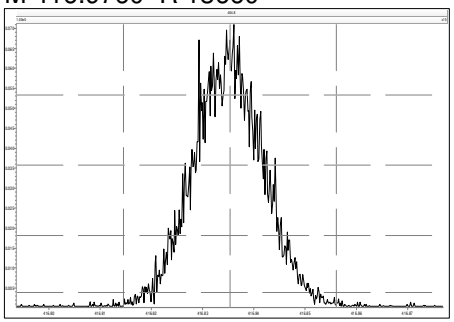
M 392.9760 R 12197



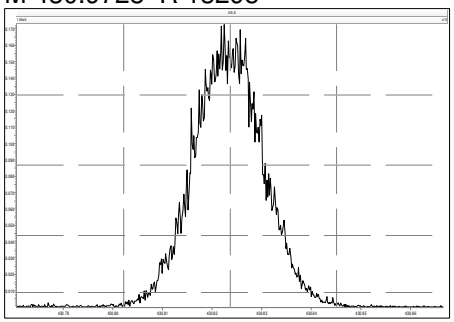
M 404.9760 R 12433



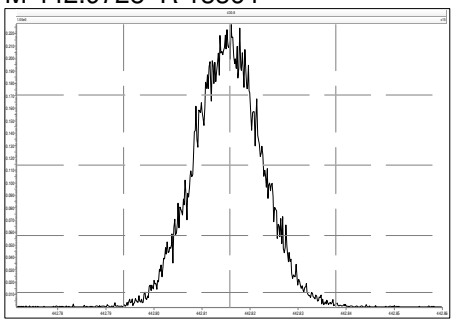
M 416.9760 R 13660



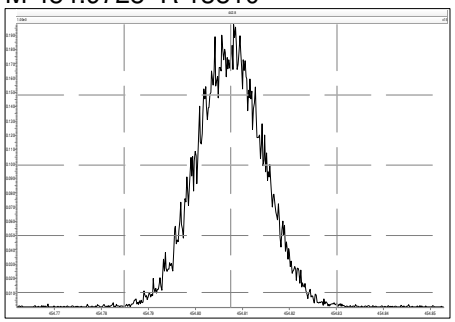
M 430.9728 R 13295



M 442.9728 R 13364



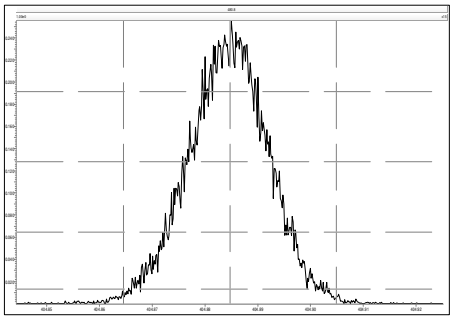
M 454.9728 R 13810



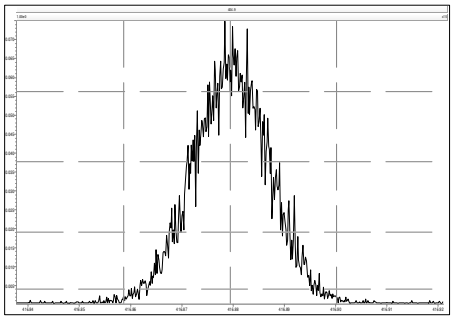
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

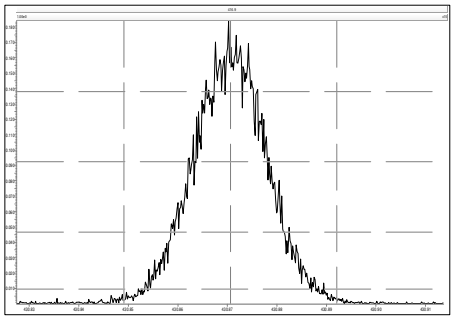
M 404.9760 R 11679



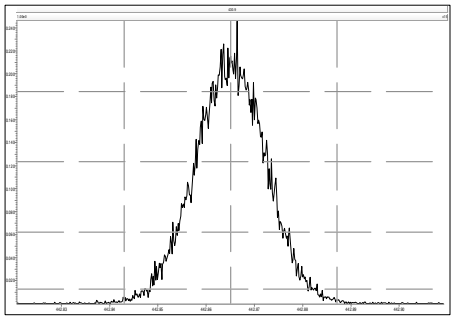
M 416.9760 R 12886



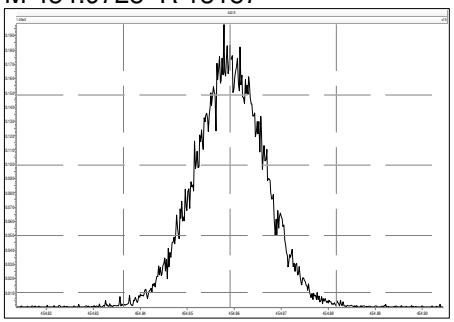
M 430.9728 R 12253



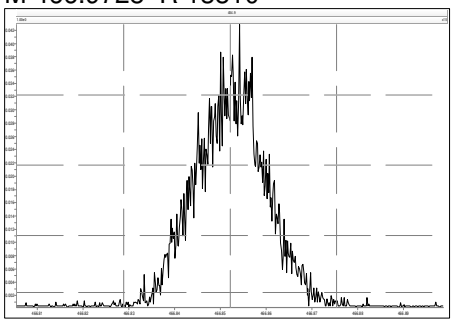
M 442.9728 R 12756



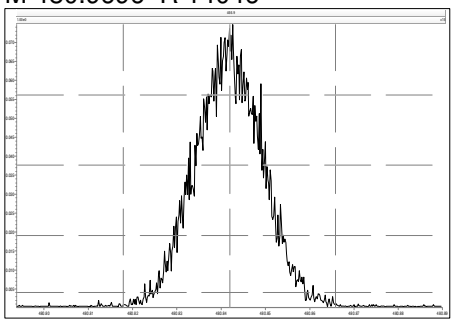
M 454.9728 R 13157



M 466.9728 R 13810



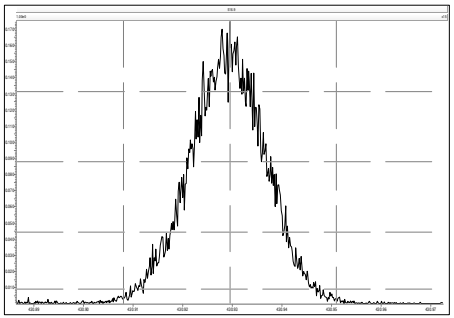
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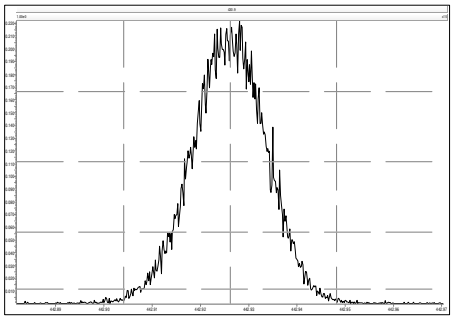
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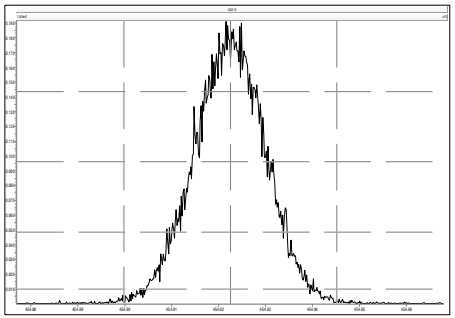
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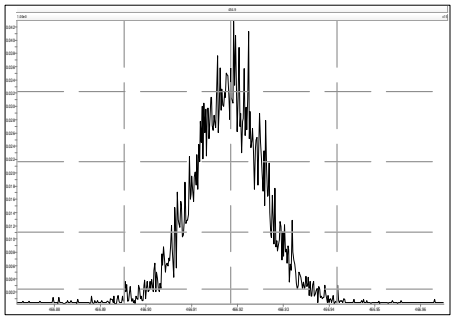
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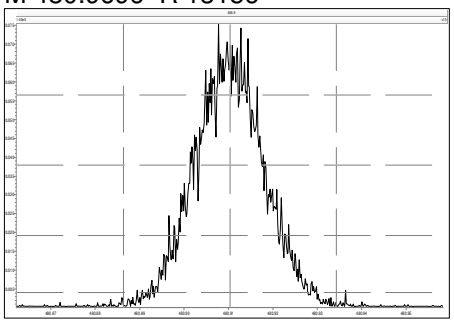
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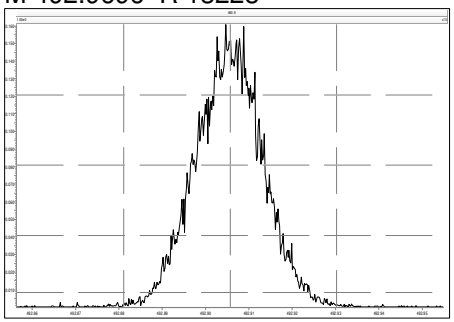
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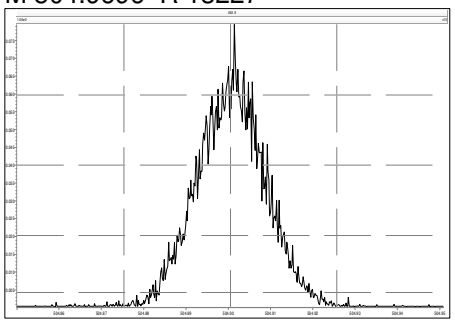
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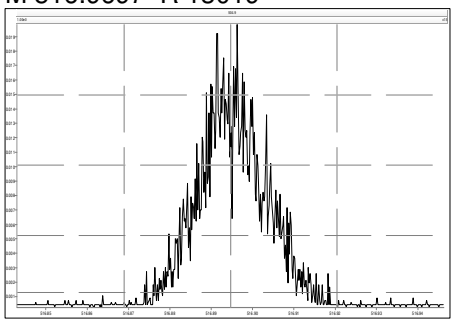
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M 504.9696 R 13227



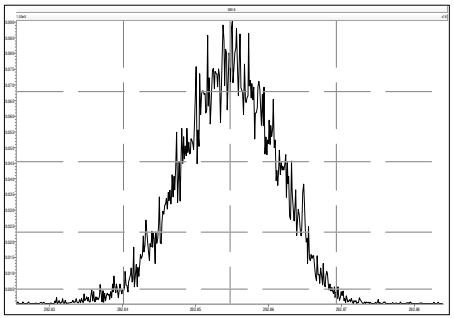
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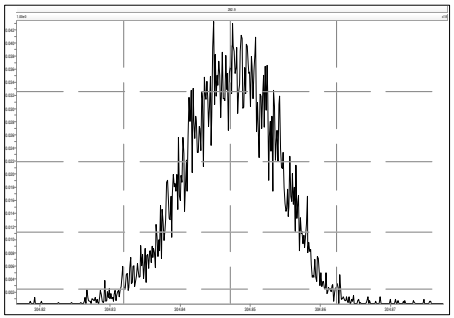
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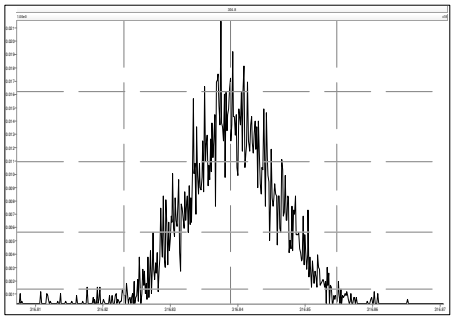
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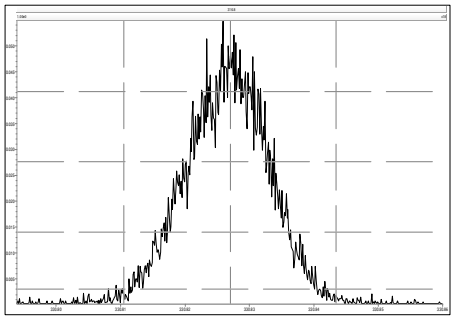
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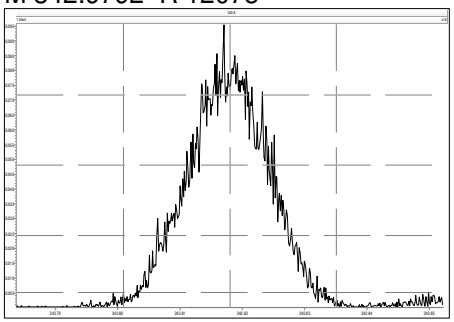
M 316.9824 R 11964



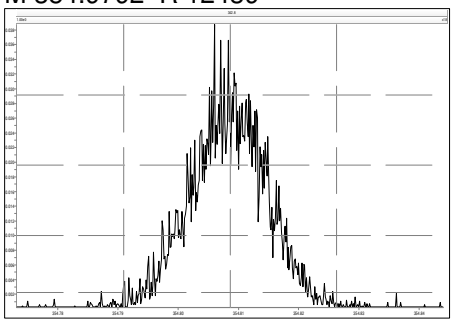
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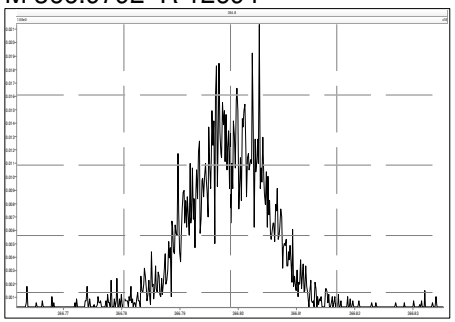
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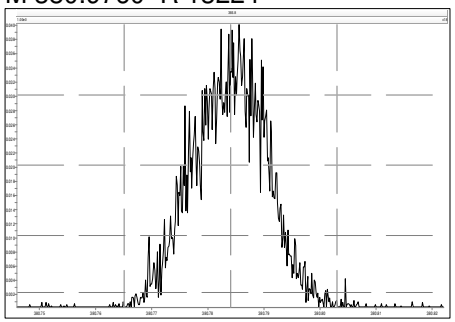
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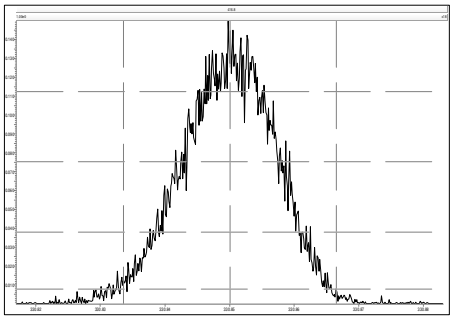
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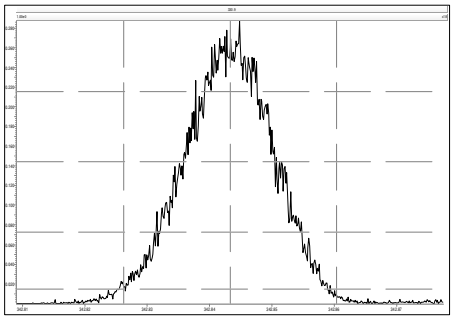
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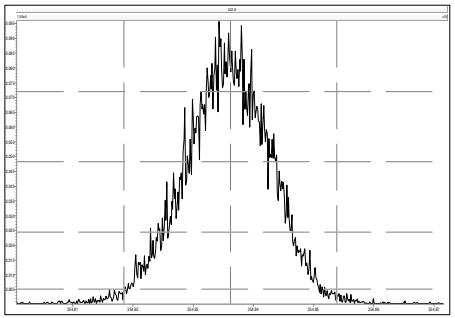
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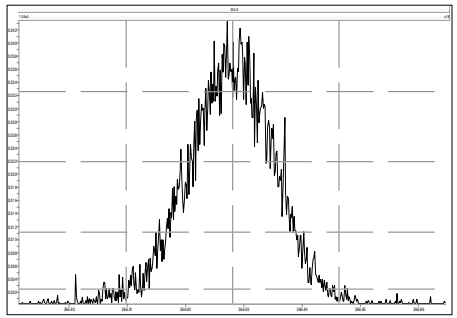
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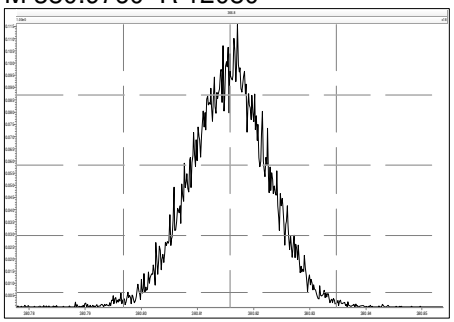
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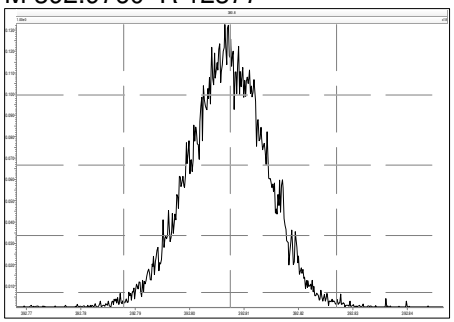
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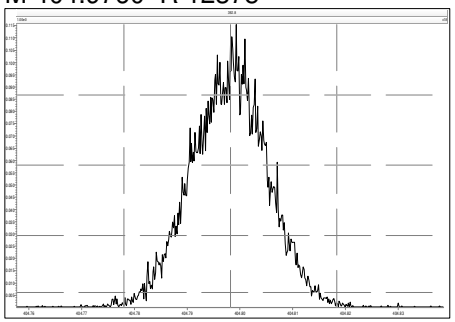
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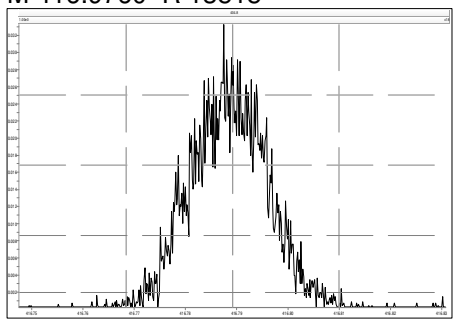
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M 404.9760 R 12375



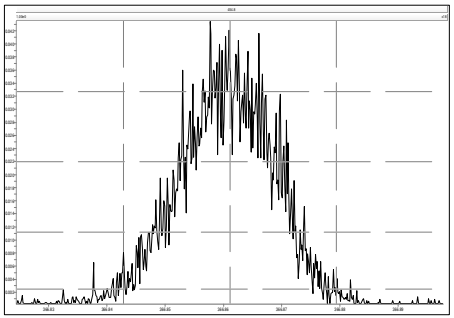
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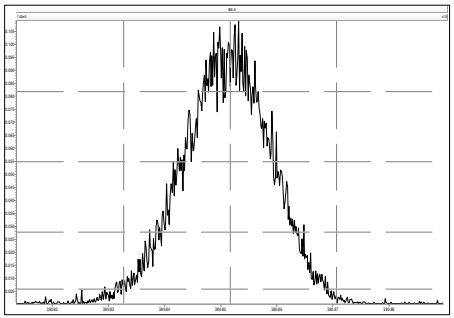
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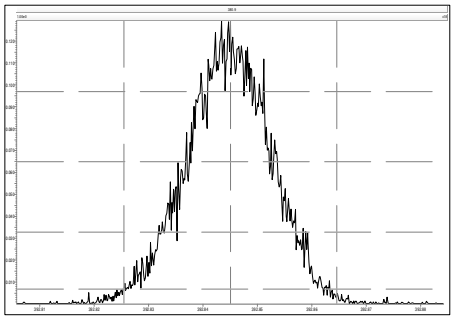
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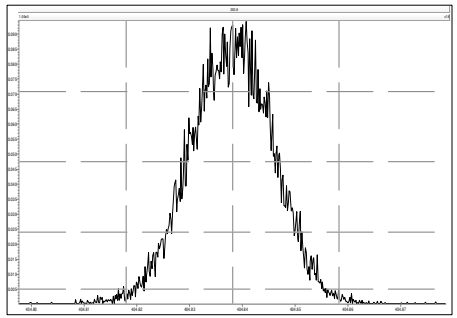
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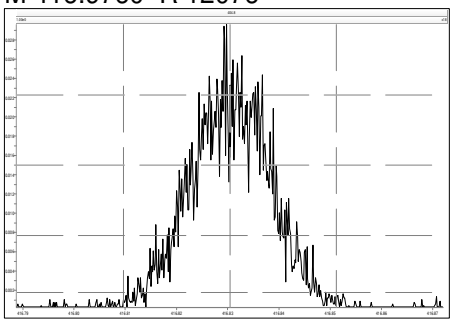
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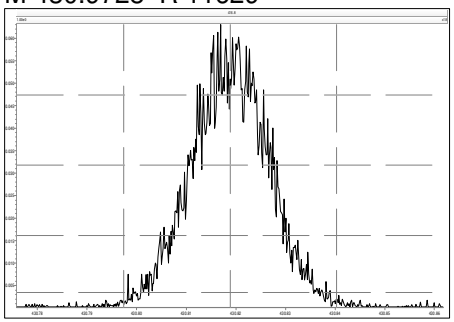
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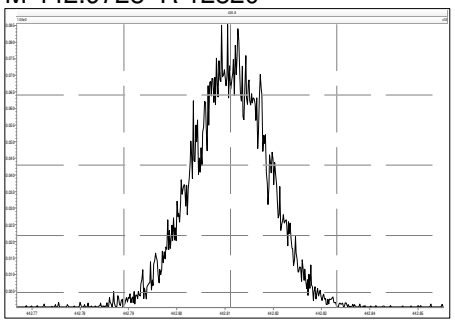
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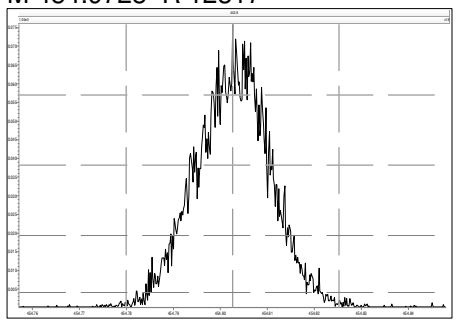
M 430.9728 R 11629



M 442.9728 R 12820



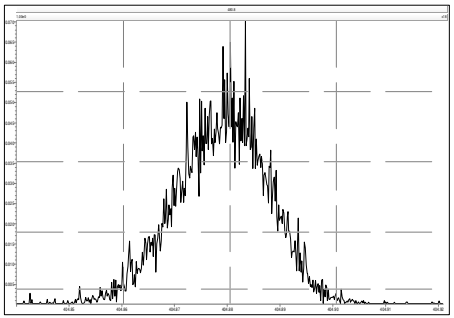
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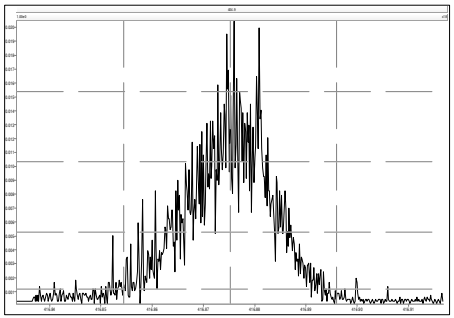
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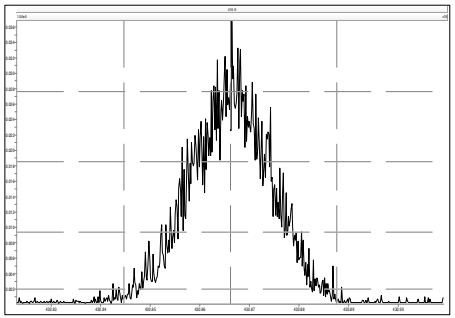
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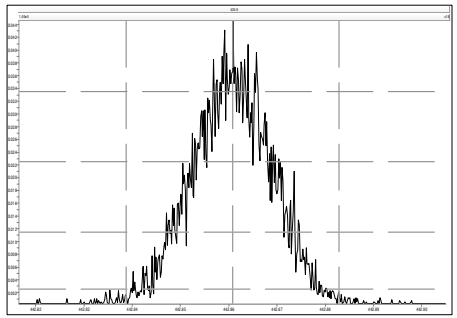
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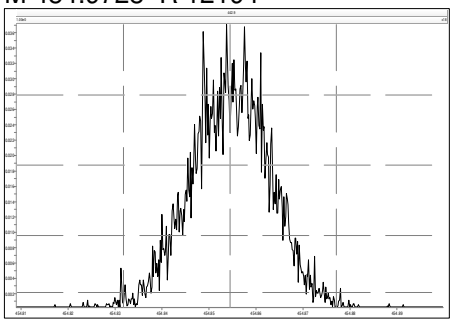
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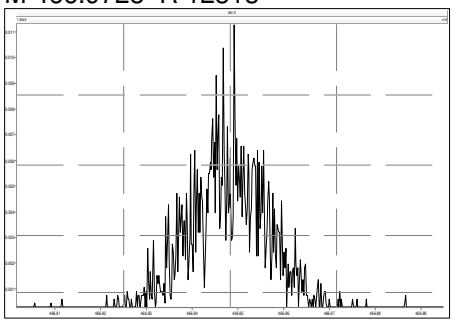
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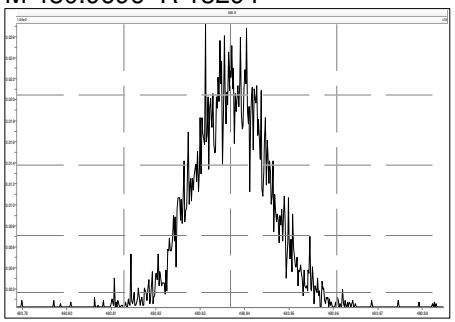
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M 466.9728 R 12313



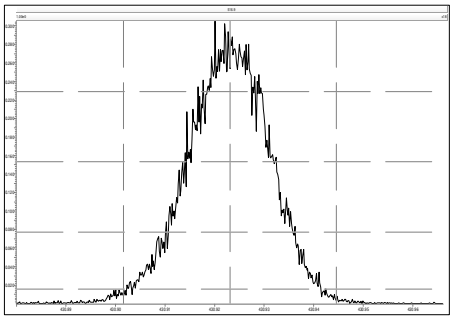
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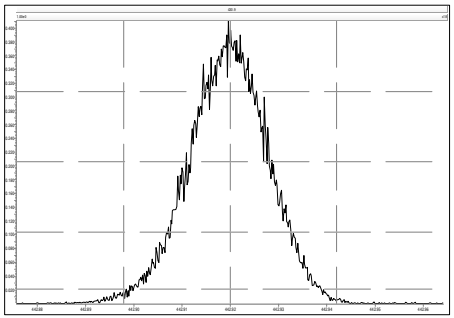
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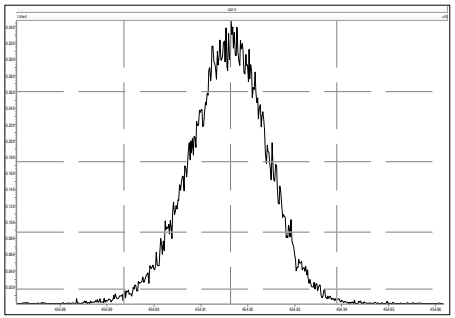
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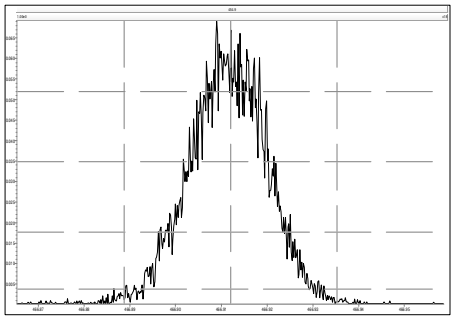
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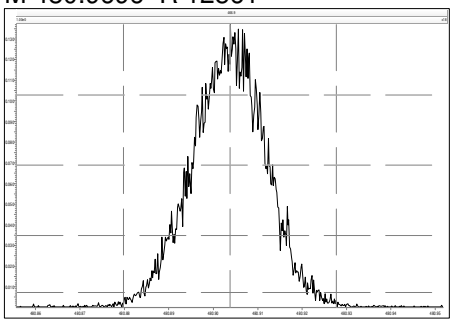
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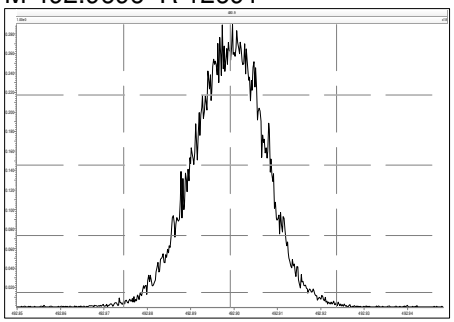
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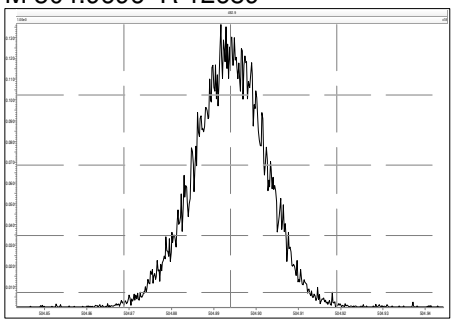
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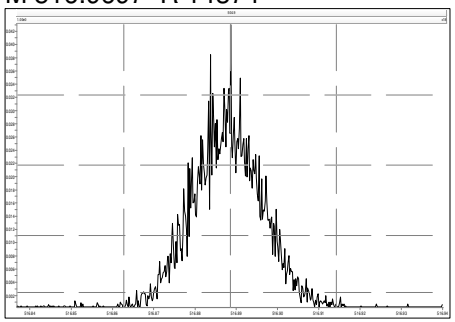
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18829_DF

APPROVED
Carla_Lyon , 1/25/2022, 10:49:25 PM

Acq'd: 21 Jan 2022 12:03 DTF

Wt/Vol: 1 uL

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Client ID: 0_18829_OPR001

UTP: 24-Jan-2022 14:42:51 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 507-844-HKB

Datafile: 220121C02

Report: 24 Jan 2022 14:48 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

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12378-PeCDD	33.96		1.0006	1.0005	-0.2	8.32E+06	1.54	Y	1.04	51.5	3984.834	0.251
123478-HxCDD	37.85		1.0004	1.0004	0	8.19E+06	1.28	Y	1.09	56.9	3016.341	0.185
123678-HxCDD	37.96		1.0034	1.0034	0	1.06E+07	1.28	Y	1.15	58.2	3016.341	0.168
123789-HxCDD	38.25		1.0109	1.0111	+0.5	8.25E+06	1.29	Y	1.05	50.8	3016.341	0.204
1234678-HpCDD	40.87		1.0003	1.0003	0	6.94E+06	1.04	Y	1.06	56.8	4347.222	0.346
OCDD	43.52		1.0002	1.0002	0	9.55E+06	0.91	Y	1.13	117	3799.646	0.583
2378-TCDF	27.81		1.0008	1.0007	-0.2	3.22E+06	0.72	Y	1.08	12	6178.313	0.279
12378-PeCDF	32.53		1.0005	1.0006	+0.2	1.36E+07	1.57	Y	1.02	54.2	7686.037	0.322
23478-PeCDF	33.63		1.0005	1.0005	0	1.38E+07	1.62	Y	1.02	57.8	7686.037	0.314
123478-HxCDF	36.84		1.0004	1.0004	0	1.06E+07	1.25	Y	1.27	54.5	5437.82	0.255
123678-HxCDF	36.99		1.0004	1.0006	+0.4	1.52E+07	1.27	Y	1.15	61.7	5437.82	0.25
234678-HxCDF	37.68		1.0004	1.0006	+0.5	1.18E+07	1.22	Y	1.19	58.8	5437.82	0.273
123789-HxCDF	38.61		1.0004	1.0005	+0.2	8.38E+06	1.27	Y	1.16	57	5437.82	0.332
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	1.29E+07	1.02	Y	1.37	57.4	7094.721	0.261
1234789-HpCDF	41.34		1.0003	1.0005	+0.5	7.34E+06	1.07	Y	1.31	61.9	7094.721	0.554
OCDF	43.70		1.0002	1.0002	0	1.07E+07	0.91	Y	1.07	111	5316.514	0.615

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0236	+0.5	1.54E+07	0.79	Y	1.05	89.6
ES 12378-PeCDD	33.95	1.2121	1.2133	+2.4	1.56E+07	1.56	Y	0.88	107
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.32E+07	1.27	Y	0.97	89.7
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.58E+07	1.26	Y	0.94	111
ES 123789-HxCDD	38.24	1.0025	1.0028	+0.7	1.55E+07	1.28	Y	1.09	93.8
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.15E+07	1.09	Y	0.91	83.4
ES OCDD	43.51	1.1403	1.1410	+1.8	1.45E+07	0.90	Y	0.62	76.8
ES 2378-TCDF	27.79	1.0506	1.0512	+1.0	2.48E+07	0.83	Y	1.06	82
ES 12378-PeCDF	32.51	1.2281	1.2296	+2.9	2.45E+07	1.59	Y	0.91	94.3
ES 23478-PeCDF	33.61	1.2698	1.2715	+3.4	2.34E+07	1.53	Y	0.88	92.9
ES 123478-HxCDF	36.83	0.9657	0.9658	+0.2	1.53E+07	0.55	Y	1.20	84.1
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.14E+07	0.57	Y	1.35	105
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.69E+07	0.52	Y	1.24	89.8
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.26E+07	0.52	Y	1.16	72.2
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.64E+07	0.47	Y	0.97	112
ES 1234789-HpCDF	41.32	1.0830	1.0835	+1.2	9.07E+06	0.45	Y	0.85	70.3
ES OCDF	43.69	1.1451	1.1458	+1.8	1.79E+07	0.94	Y	0.81	73.2

Lab ID: OPR1_18829_DF **Acq'd:** 21 Jan 2022 12:03 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR001 **UTP:** 24-Jan-2022 14:42:51 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 507-844-HKB

Datafile: 220121C02 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	1.65E+07	0.83	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	2.86E+07	0.76	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.57E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0245	+0.7	7.36E+06	n/a	-	1.20	92.9	
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.54E+07	1.56	Y	0.75	124	
CS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.52E+07	1.54	Y	0.85	104	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.07E+07	0.55	Y	1.12	122	
CS 1234689-HpCDF	40.33		1.0571	1.0575	+1.0	1.55E+07	0.46	Y	0.89	115	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0245~~	~~+0.7~~	~~7.36E+06~~	~~n/a~~		~~1.15~~	~~104~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.54E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~115~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~2.52E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~110~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.07E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~117~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0575~~	~~+1.0~~	~~1.55E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~103~~	

Totals	Conc	EMPC
Total TCDD	57.1	57.1
Total PeCDD	77	77
Total HxCDD	180	180
Total HpCDD	68.9	68.9
Total Tetra-Octa Dioxins	500	500
Total TCDF	63	63
Total PeCDF	213	213
Total HxCDF	373	373
Total HpCDF	119	119
Total Tetra-Octa Furans	880	880
Total Tetra-Octa Dioxins & Furans	1380	1380

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.873	0.88
Response	2.26E+06	2.26E+06

Lab ID: OPR1_18829_DF | **Acq'd: 21 Jan 2022 12:03 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR001 | **UTP: 24-Jan-2022 14:42:51 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 507-844-HKB**

Datafile: 220121C02 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8748	-1.1	3.09E+06	0.83	Y	1.18	16.9	5730.765	0.377
1379-TCDD	NotFnd		0.8876						1.18		5730.765	0.377
1369-TCDD	NotFnd		0.9023						1.18		5730.765	0.377
1469-TCDD	NotFnd		0.9291						1.18		5730.765	0.377
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5730.765	0.377
1378-TCDD	NotFnd		0.9440						1.18		5730.765	0.377
1268-TCDD	NotFnd		0.9506						1.18		5730.765	0.377
1478-TCDD	NotFnd		0.9591						1.18		5730.765	0.377
1279-TCDD	NotFnd		0.9649						1.18		5730.765	0.377
1234/1269-TCDD	NotFnd		0.9771						1.18		5730.765	0.377
1236-TCDD	NotFnd		0.9820						1.18		5730.765	0.377
1237/1238-TCDD	NotFnd		0.9908						1.18		5730.765	0.377
1239-TCDD	28.50		0.9954	0.9950	-0.7	1.97E+06	0.86	Y	1.18	10.8	5730.765	0.377
2378-TCDD	**28.66**		**1.0008**	1.0007	**-0.2**	2.26E+06	0.88	Y	**1.18**	**12.3**	**5730.765**	**0.377**
1278-TCDD	NotFnd		1.0121						1.18		5730.765	0.377
1267-TCDD	NotFnd		1.0167						1.18		5730.765	0.377
1289-TCDD	29.62		1.0341	1.0344	+0.5	3.12E+06	0.79	Y	1.18	17.1	5730.765	0.377
12479/12468-PeCDD	31.47		0.9273	0.9270	-0.6	1.98E+06	1.75	Y	1.04	12.3	3984.834	0.251
12469-PeCDD	NotFnd		0.9430						1.04		3984.834	0.251
12368-PeCDD	NotFnd		0.9592						1.04		3984.834	0.251
12478-PeCDD	NotFnd		0.9647						1.04		3984.834	0.251
12379-PeCDD	NotFnd		0.9676						1.04		3984.834	0.251
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3984.834	0.251
12346/12347-PeCDD	NotFnd		0.9860						1.04		3984.834	0.251
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**8.32E+06**	**1.54**	**Y**	**1.04**	**51.5**	**3984.834**	**0.251**
12367-PeCDD	NotFnd		1.0034						1.04		3984.834	0.251
12389-PeCDD	34.40		1.0134	1.0134	0	2.13E+06	1.54	Y	1.04	13.2	3984.834	0.251
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	2.33E+06	1.35	Y	1.10	14.3	3016.341	0.185
123468-HxCDD	NotFnd		0.9715						1.10		3016.341	0.185
123679/123689-HxCDD	NotFnd		0.9793						1.10		3016.341	0.185
123469-HxCDD	NotFnd		0.9829						1.10		3016.341	0.185
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**8.19E+06**	**1.28**	**Y**	1.09	**56.9**	**3016.341**	**0.185**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.06E+07**	**1.28**	**Y**	1.15	**58.2**	**3016.341**	**0.168**
123467-HxCDD	NotFnd		1.0082						1.10		3016.341	0.185
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**8.25E+06**	**1.29**	**Y**	1.05	**50.8**	**3016.341**	**0.204**

Lab ID: OPR1_18829_DF | **Acq'd: 21 Jan 2022 12:03 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR001 | **UTP: 24-Jan-2022 14:42:51 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 507-844-HKB**

Datafile: 220121C02 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	1.48E+06	1.13	Y	1.06	12.1	4347.222	0.346
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**6.94E+06**	**1.04**	**Y**	**1.06**	**56.8**	**4347.222**	**0.346**
OCDD	**43.52**		**1.0002**	**1.0002**	**0**	**9.55E+06**	**0.91**	**Y**	**1.13**	**117**	**3799.646**	**0.583**
OCDD-a	NotFnd		1.0002						0.07		4255.896	10.2
1368-TCDF	22.98		0.8282	0.8271	-1.5	4.34E+06	0.80	Y	1.08	16.2	6178.313	0.279
1468-TCDF	NotFnd		0.8485						1.08		6178.313	0.279
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.12E+06	0.79	Y	1.08	4.19	6178.313	0.279
1346/1246-TCDF	NotFnd		0.8829						1.08		6178.313	0.279
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6178.313	0.279
1348-TCDF	NotFnd		0.8980						1.08		6178.313	0.279
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6178.313	0.279
1268-TCDF	NotFnd		0.9158						1.08		6178.313	0.279
1467-TCDF	NotFnd		0.9206						1.08		6178.313	0.279
1478-TCDF	NotFnd		0.9266						1.08		6178.313	0.279
1369/1237-TCDF	NotFnd		0.9397						1.08		6178.313	0.279
2467-TCDF	NotFnd		0.9440						1.08		6178.313	0.279
2368-TCDF	NotFnd		0.9497						1.08		6178.313	0.279
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6178.313	0.279
1278-TCDF	NotFnd		0.9690						1.08		6178.313	0.279
1349-TCDF	NotFnd		0.9730						1.08		6178.313	0.279
1267-TCDF	NotFnd		0.9787						1.08		6178.313	0.279
2346/1249-TCDF	NotFnd		0.9850						1.08		6178.313	0.279
2347/1279-TCDF	NotFnd		0.9929						1.08		6178.313	0.279
2348-TCDF	27.70		0.9970	0.9968	-0.3	3.99E+06	0.82	Y	1.08	14.9	6178.313	0.279
2378-TCDF	**27.81**		**1.0008**	**1.0007**	**-0.2**	**3.22E+06**	**0.72**	**Y**	**1.08**	**12**	**6178.313**	**0.279**
2367/3467-TCDF	NotFnd		1.0136						1.08		6178.313	0.279
1269-TCDF	NotFnd		1.0221						1.08		6178.313	0.279
1239-TCDF	NotFnd		1.0319						1.08		6178.313	0.279
1289-TCDF	29.79		1.0740	1.0722	-3.2	4.21E+06	0.78	Y	1.08	15.7	6178.313	0.279
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	2.23E+07	1.57	Y	1.02	90.8	4585.232	0.19
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7686.037	0.318
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7686.037	0.318
14678-PeCDF	NotFnd		0.9695						1.02		7686.037	0.318
13479-PeCDF	NotFnd		0.9724						1.02		7686.037	0.318
13469/12479-PeCDF	NotFnd		0.9801						1.02		7686.037	0.318
12346-PeCDF	NotFnd		0.9842						1.02		7686.037	0.318

Lab ID: OPR1_18829_DF | **Acq'd: 21 Jan 2022 12:03 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR001 | **UTP: 24-Jan-2022 14:42:51 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 507-844-HKB**

Datafile: 220121C02 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7686.037	0.318
12347-PeCDF	NotFnd		0.9895						1.02		7686.037	0.318
12348-PeCDF	NotFnd		0.9941						1.02		7686.037	0.318
12378-PeCDF	**32.53**		**1.0005**	**1.0006**	**+0.2**	**1.36E+07**	**1.57**	**Y**	**1.02**	**54.2**	**7686.037**	**0.322**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7686.037	0.318
12379-PeCDF	NotFnd		1.0142						1.02		7686.037	0.318
12679-PeCDF	NotFnd		0.9931						1.02		7686.037	0.318
23467/12369-PeCDF	NotFnd		0.9966						1.02		7686.037	0.318
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.38E+07**	**1.62**	**Y**	**1.02**	**57.8**	**7686.037**	**0.314**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7686.037	0.318
12349-PeCDF	NotFnd		1.0101						1.02		7686.037	0.318
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.52E+06	1.55	Y	1.02	10.3	7686.037	0.318
123468-HxCDF	35.46		0.9627	0.9629	+0.4	2.79E+07	1.24	Y	1.19	141	5437.82	0.272
124678/134678-HxCDF	NotFnd		0.9684						1.19		5437.82	0.272
134679-HxCDF	NotFnd		0.9747						1.19		5437.82	0.272
124679-HxCDF	NotFnd		0.9802						1.19		5437.82	0.272
124689-HxCDF	NotFnd		0.9858						1.19		5437.82	0.272
123467-HxCDF	NotFnd		0.9972						1.19		5437.82	0.272
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**1.06E+07**	**1.25**	**Y**	**1.27**	**54.5**	**5437.82**	**0.255**
123678-HxCDF	**36.99**		**1.0004**	**1.0006**	**+0.4**	**1.52E+07**	**1.27**	**Y**	**1.15**	**61.7**	**5437.82**	**0.25**
123479-HxCDF	NotFnd		1.0051						1.19		5437.82	0.272
123469-HxCDF	NotFnd		1.0091						1.19		5437.82	0.272
123679-HxCDF	NotFnd		0.9943						1.19		5437.82	0.272
234678-HxCDF	**37.68**		**1.0004**	**1.0006**	**+0.5**	**1.18E+07**	**1.22**	**Y**	**1.19**	**58.8**	**5437.82**	**0.273**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5437.82	0.272
123789-HxCDF	**38.61**		**1.0004**	**1.0005**	**+0.2**	**8.38E+06**	**1.27**	**Y**	**1.16**	**57**	**5437.82**	**0.332**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		5437.82	0.272
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**1.29E+07**	**1.02**	**Y**	**1.37**	**57.4**	**7094.721**	**0.261**
1234679-HpCDF	NotFnd		1.0067						1.34		7094.721	0.365
1234689-HpCDF	NotFnd		1.0101						1.34		7094.721	0.365
1234789-HpCDF	**41.34**		**1.0003**	**1.0005**	**+0.5**	**7.34E+06**	**1.07**	**Y**	**1.31**	**61.9**	**7094.721**	**0.554**
OCDF	**43.70**		**1.0002**	**1.0002**	**0**	**1.07E+07**	**0.91**	**Y**	**1.07**	**111**	**5316.514**	**0.615**
OCDF-a	NotFnd		1.0002						0.07		4026.139	7.52

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C02	Analysis Date:	21-JAN-2022 12:03:47
Lab ID:	OPR1_18829_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.8	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56.8	35	-	70	Y
OCDD	100	117	78	-	144	Y
2,3,7,8-TCDF	10	12	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	54.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	61.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	58.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	57	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	57.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	61.9	39	-	69	Y
OCDF	100	111	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 14:48 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C02	Analysis Date:	21-JAN-2022 12:03:47
Lab ID:	OPR1_18829_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	89.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	107	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	89.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	111	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	83.4	26	-	166	Y
13C-OCDD	200	154	26	-	397	Y
13C-2,3,7,8-TCDF	100	82	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	84.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	105	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	89.8	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	72.2	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	112	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	70.3	20	-	186	Y
13C-OCDF	200	146	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 14:48 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220121C02	Analysis Date:	21-JAN-2022 12:03:47
Lab ID:	OPR1_18829_DF		

Window Defining Standards Results

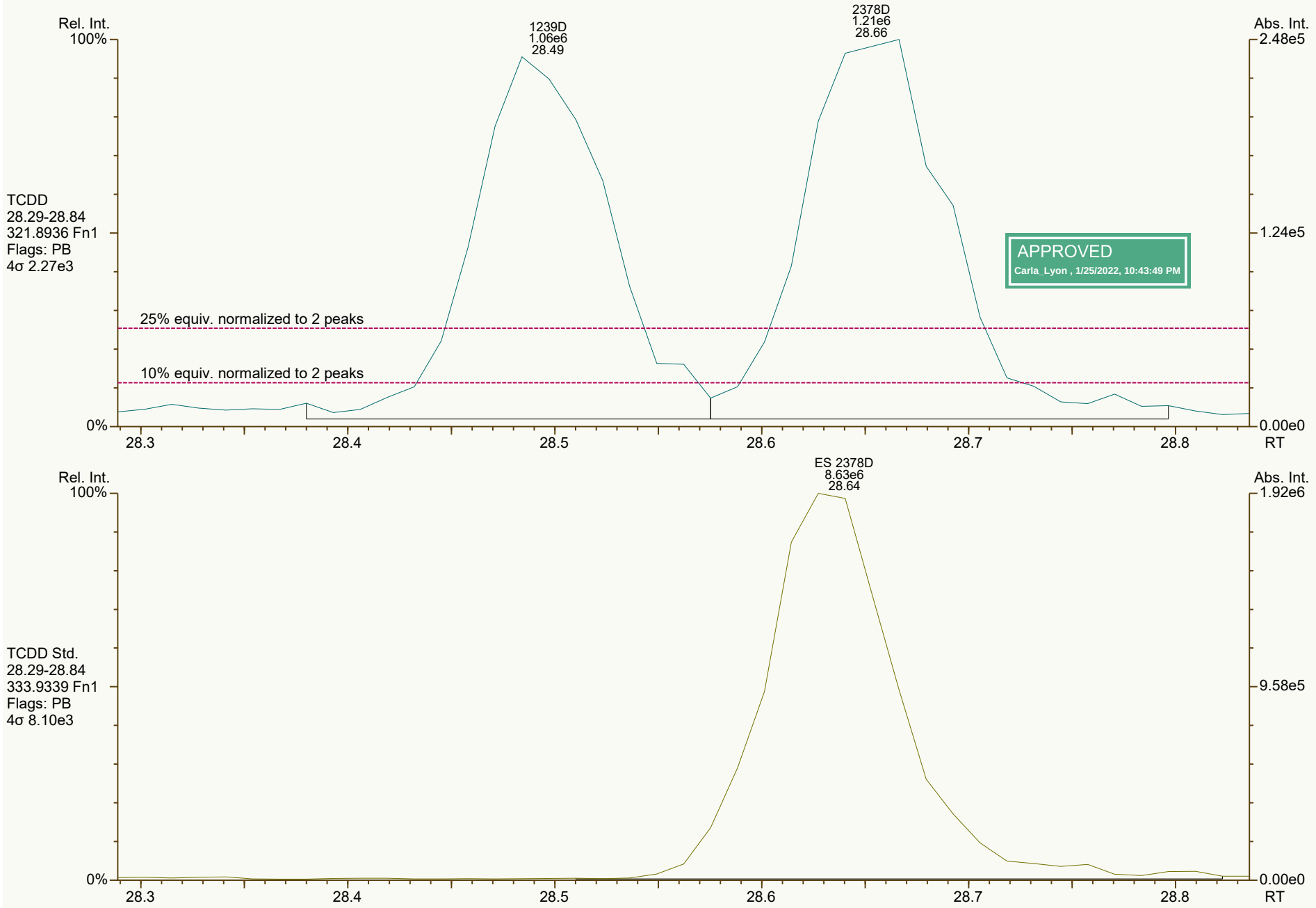
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.05	1289-TCDD	29.62
12479/12468-PeCDD	31.47	12389-PeCDD	34.40
124679/124689-HxCDD	36.10	123789-HxCDD	38.25
1234679-HpCDD	40.19	1234678-HpCDD	40.87
1368-TCDF	22.98	1289-TCDF	29.79
13468/12468-PeCDF	29.70	12389-PeCDF	34.70
123468-HxCDF	35.46	123789-HxCDF	38.61
1234678-HpCDF	39.94	1234789-HpCDF	41.34

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.50	2378-TCDD	28.66
2348-TCDF	27.70	2378-TCDF	27.81

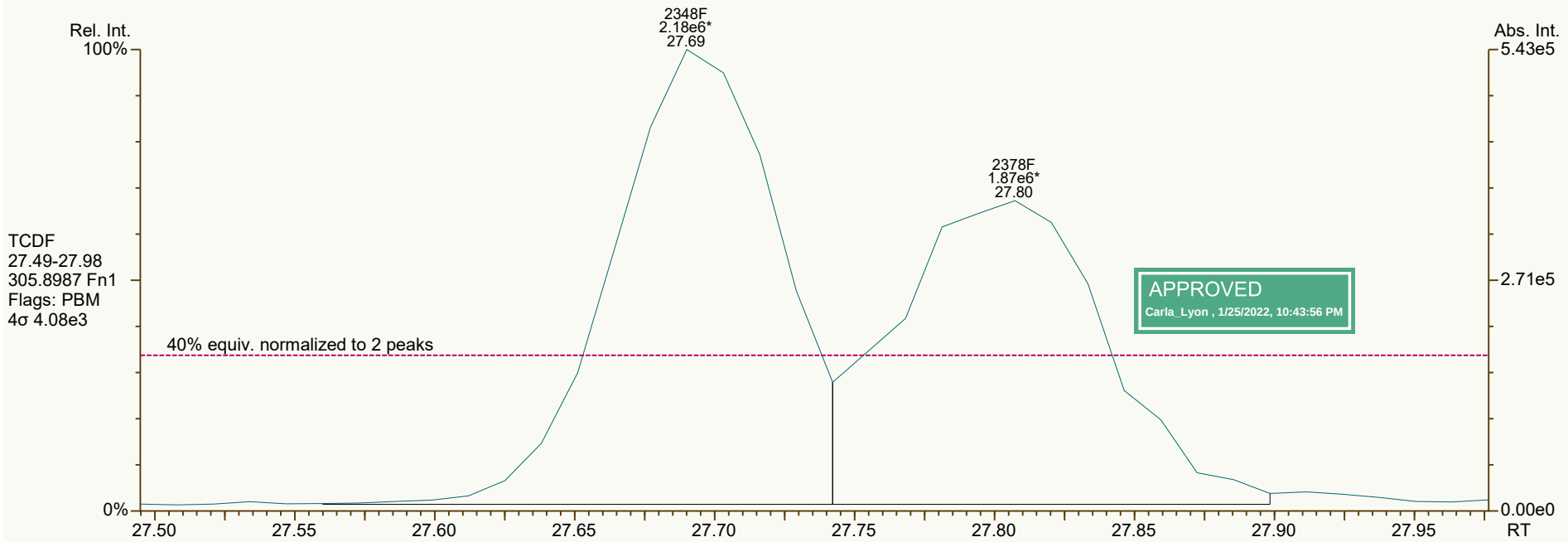
Processed: 24 Jan 2022 14:48 Analyst: pw

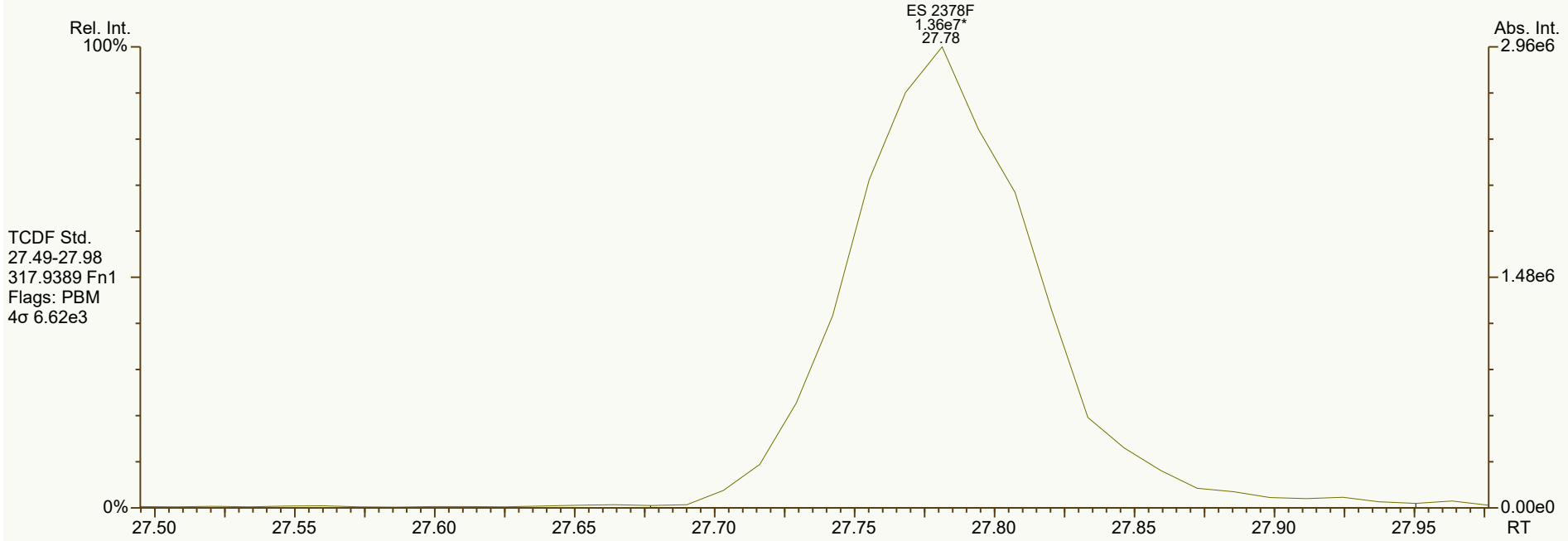
SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02



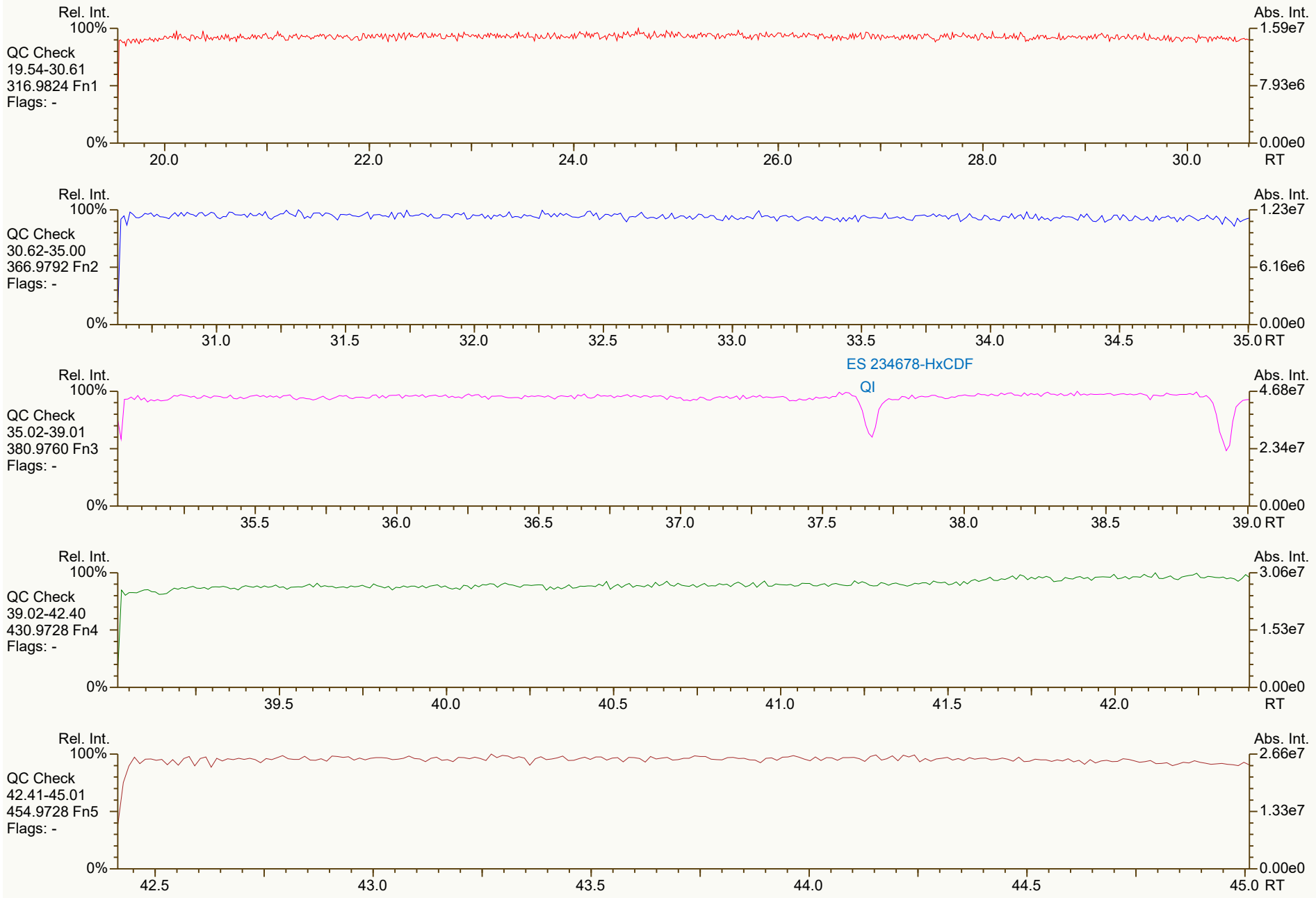
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 24-Jan-2022 08:36 (DTF) Printed: 24-Jan-2022 14:51

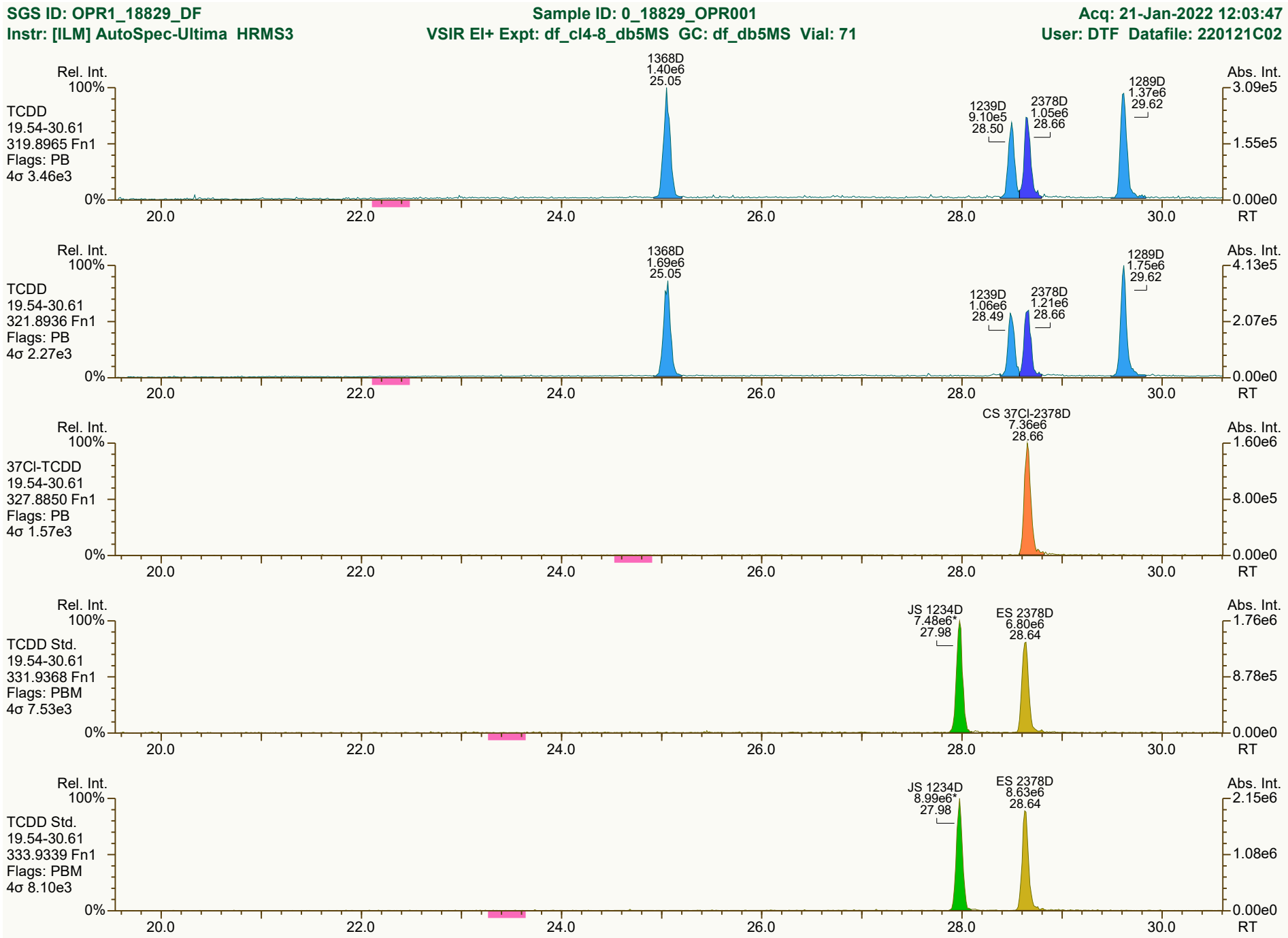
SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02



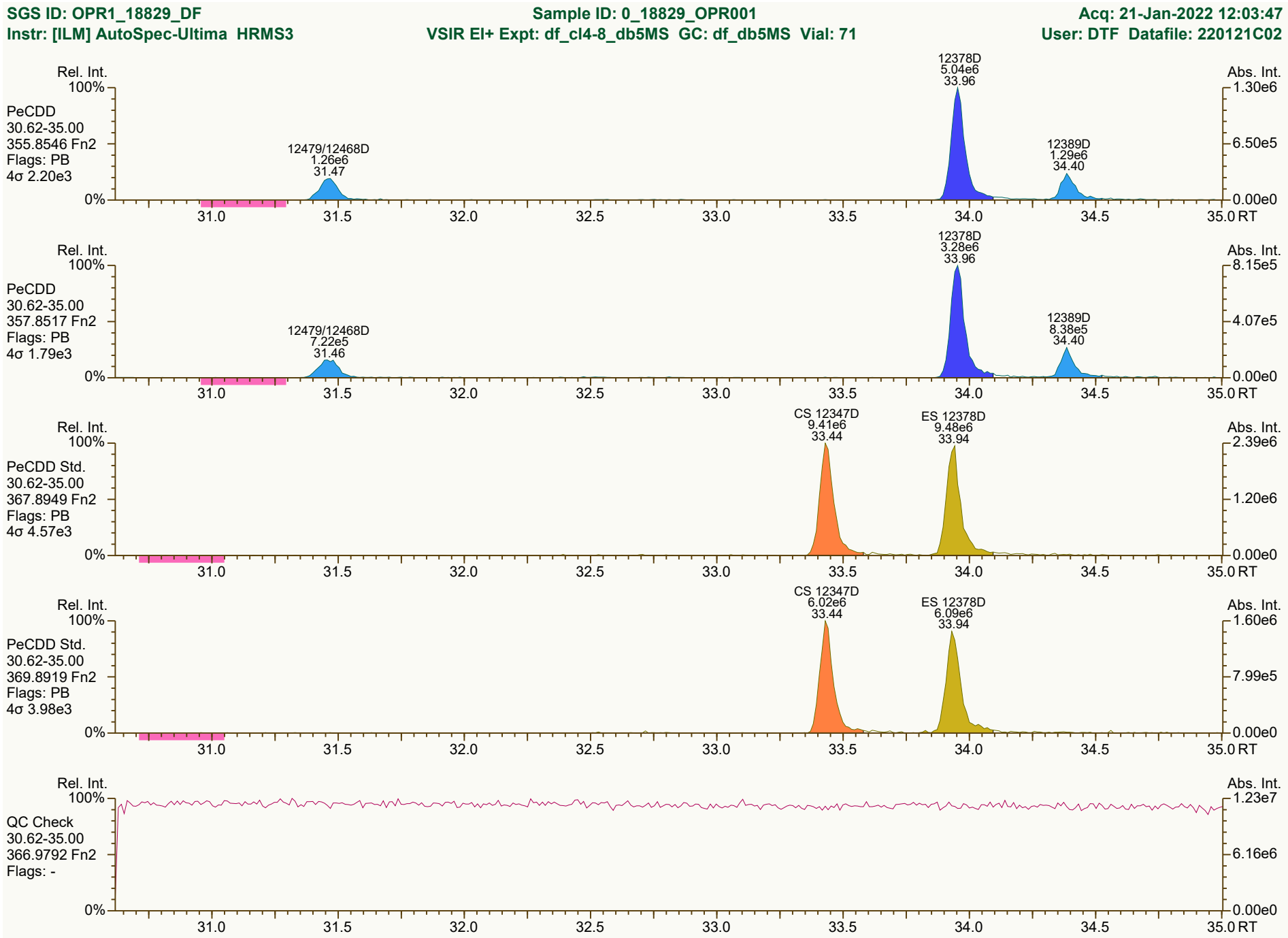


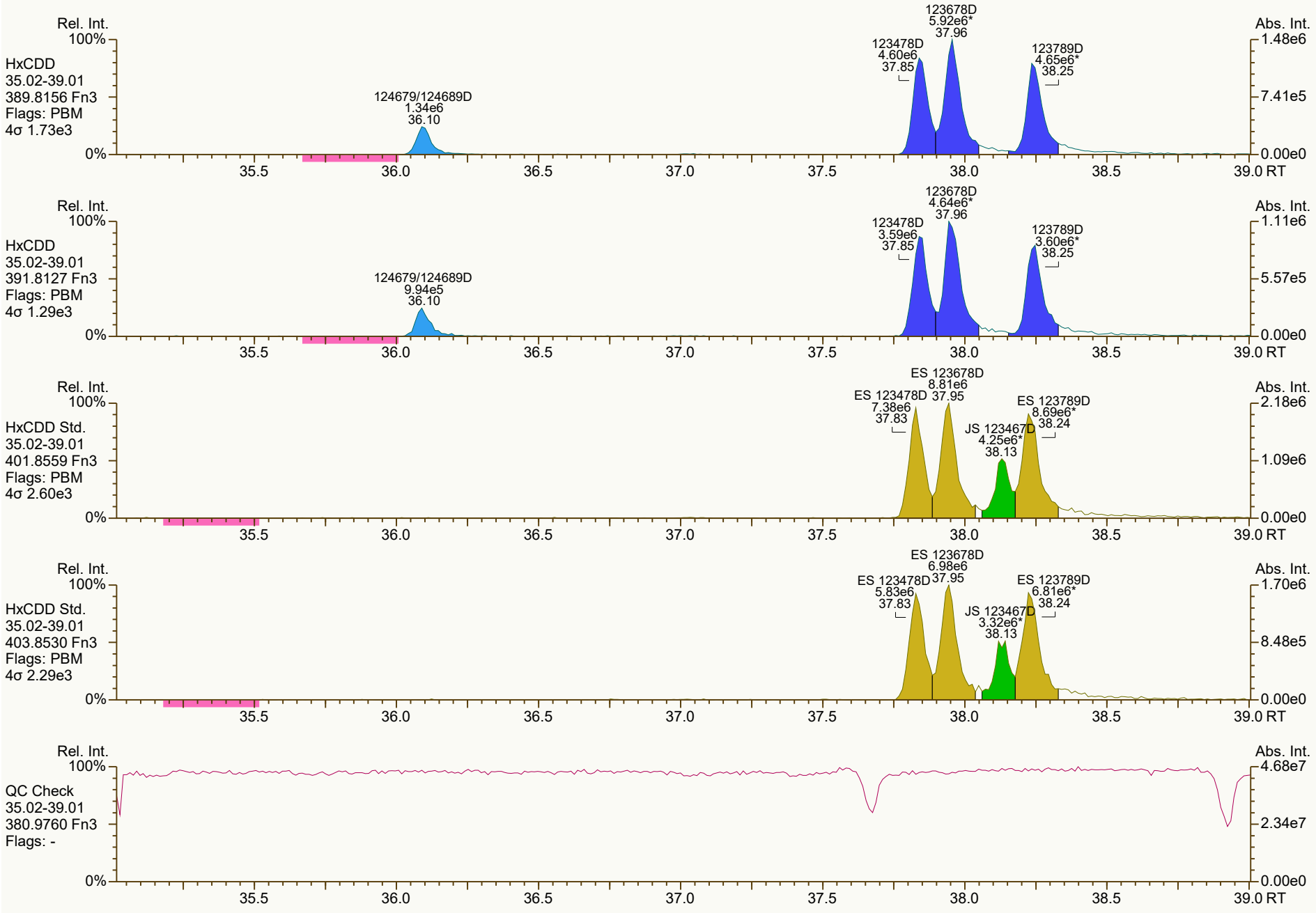
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 24-Jan-2022 08:37 (DTF) Printed: 24-Jan-2022 14:51

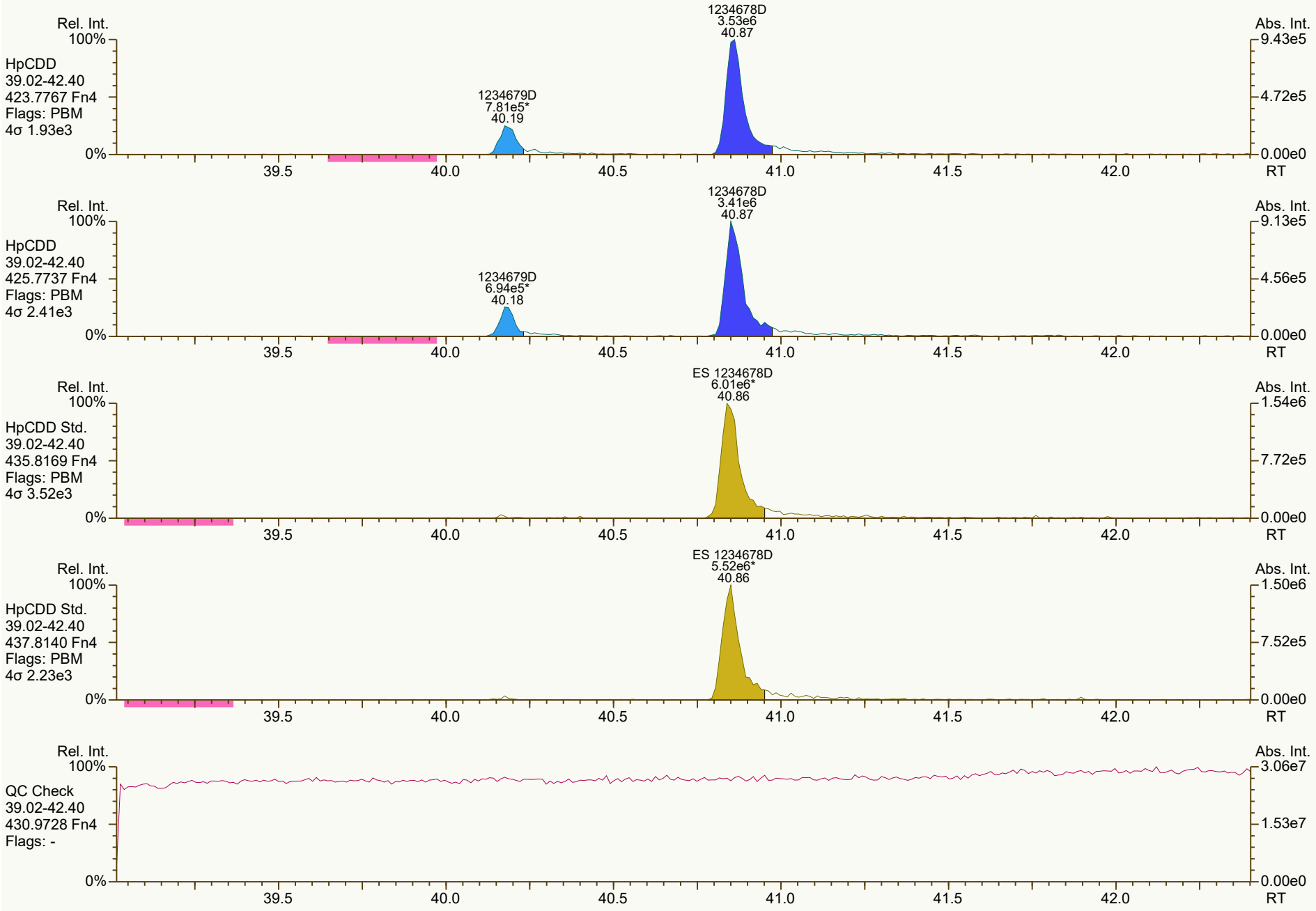

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.59e7
7.93e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.23e7
6.16e6
0.00e0
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
4.68e7
2.34e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.06e7
1.53e7
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.66e7
1.33e7
0.00e0

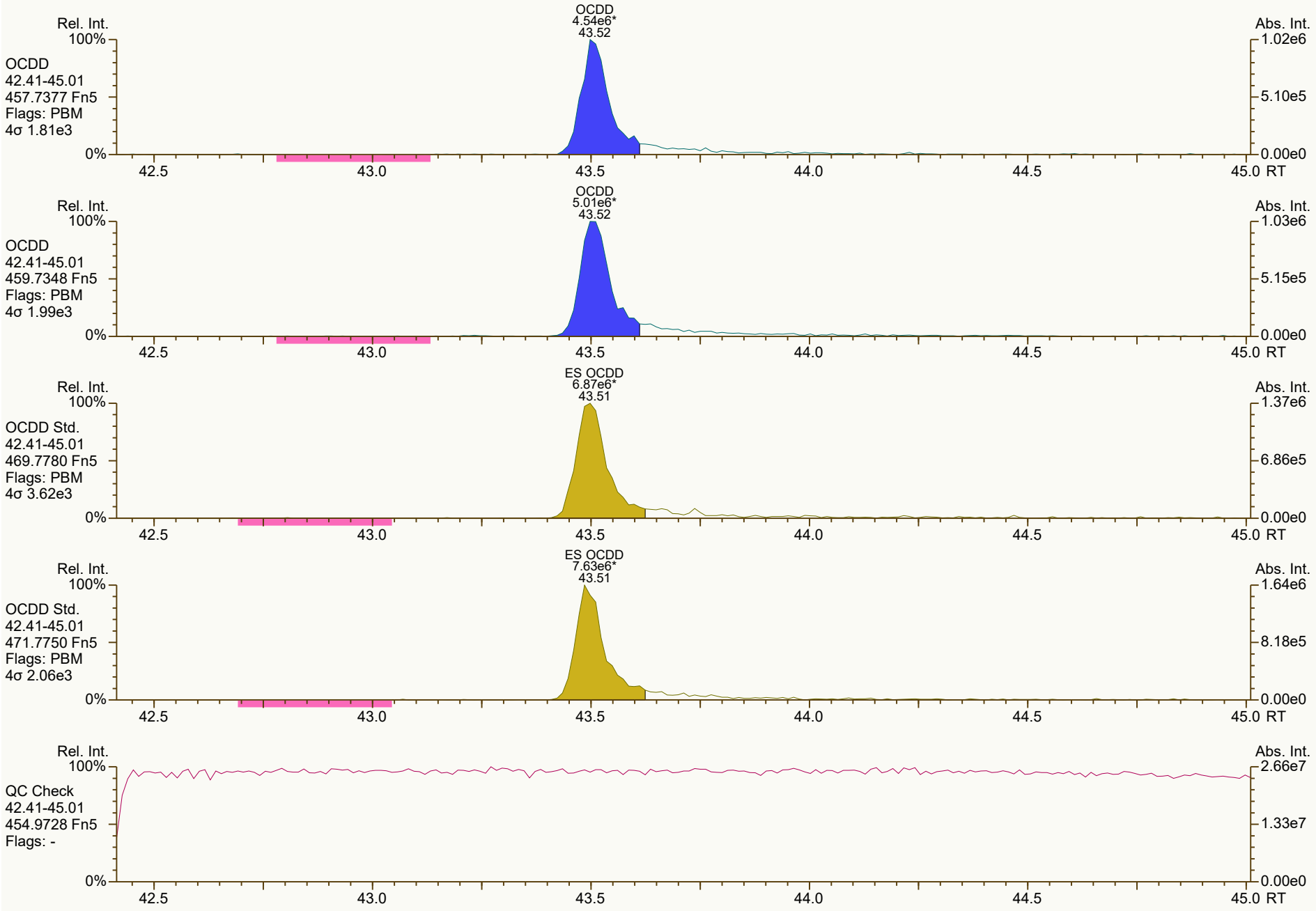


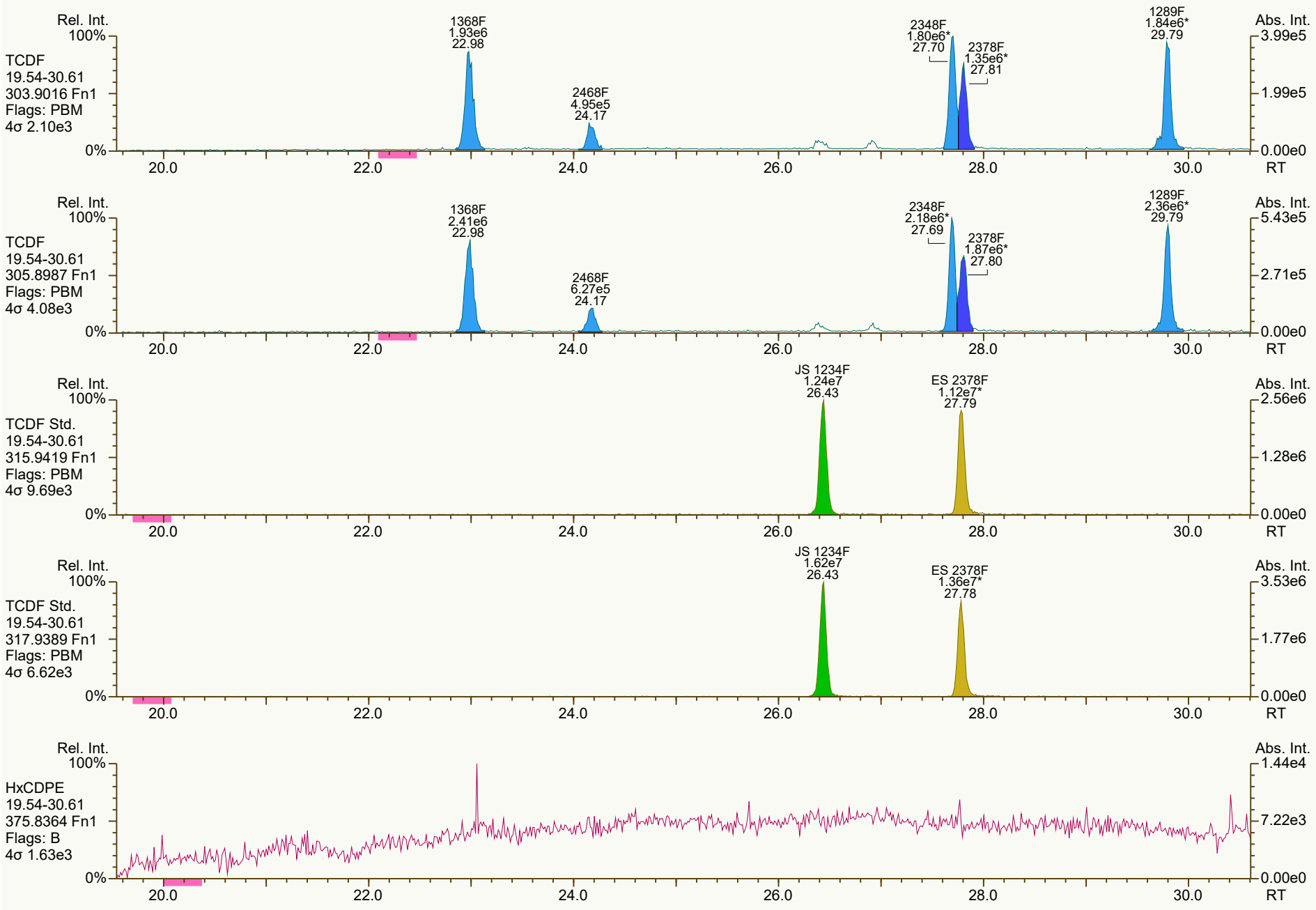
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1279, 7270, 9087 scc: 507-844
Revised: 24-Jan-2022 08:36 (DTF) Printed: 24-Jan-2022 14:52 Page 2 of 12


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 2.20e3
12479/12468D
1.26e6
31.47
12378D
5.04e6
33.96
12389D
1.29e6
34.40
1.30e6
6.50e5
0.00e0
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.79e3
12479/12468D
7.22e5
31.46
12378D
3.28e6
33.96
12389D
8.38e5
34.40
8.15e5
4.07e5
0.00e0
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 4.57e3
CS 12347D
9.41e6
33.44
ES 12378D
9.48e6
33.94
2.39e6
1.20e6
0.00e0
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 3.98e3
CS 12347D
6.02e6
33.44
ES 12378D
6.09e6
33.94
1.60e6
7.99e5
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
1.23e7
6.16e6
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3986, 2683 scc: 507-844
PKD: 24-Jan-2022 08:38 Printed: 24-Jan-2022 14:52 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.73e3
124679/124689D
1.34e6
36.10
123478D
4.60e6
37.85
123678D
5.92e6*
37.96
123789D
4.65e6*
38.25
Abs. Int.
1.48e6
7.41e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.29e3
124679/124689D
9.94e5
36.10
123478D
3.59e6
37.85
123678D
4.64e6*
37.96
123789D
3.60e6*
38.25
Abs. Int.
1.11e6
5.57e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.60e3
ES 123478D
7.38e6
37.83
ES 123678D
8.81e6
37.95
JS 123467D
4.25e6*
38.13
ES 123789D
8.69e6*
38.24
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.29e3
ES 123478D
5.83e6
37.83
ES 123678D
6.98e6
37.95
JS 123467D
3.32e6*
38.13
ES 123789D
6.81e6*
38.24
Abs. Int.
1.70e6
8.48e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.93e3
1234678D
3.53e6
40.87
1234679D
7.81e5*
40.19
Abs. Int.
9.43e5
4.72e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.41e3
1234678D
3.41e6
40.87
1234679D
6.94e5*
40.18
Abs. Int.
9.13e5
4.56e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.52e3
ES 1234678D
6.01e6*
40.86
Abs. Int.
1.54e6
7.72e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.23e3
ES 1234678D
5.52e6*
40.86
Abs. Int.
1.50e6
7.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.06e7
1.53e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

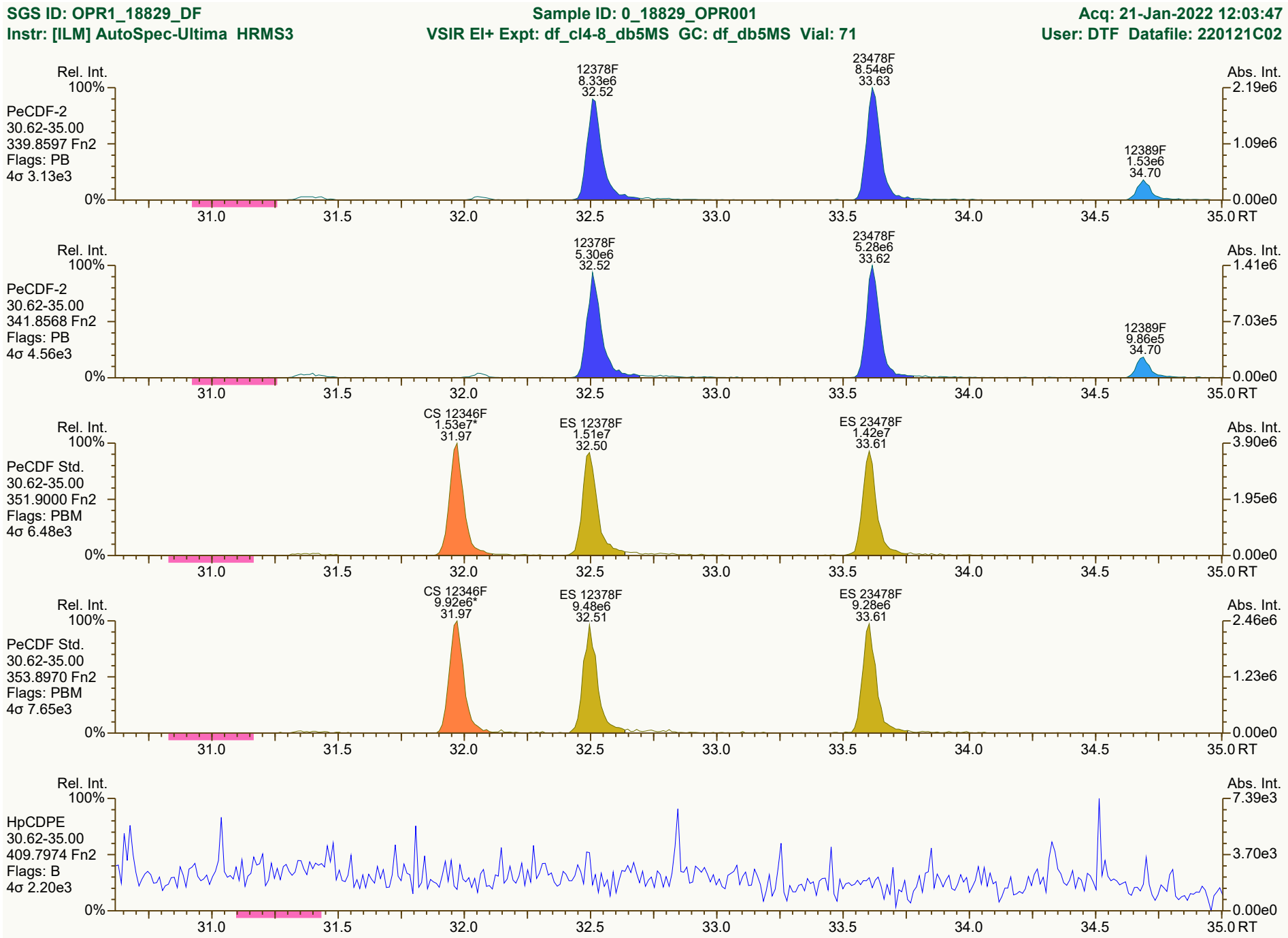

OCDD
4.54e6*
43.52
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.81e3
OCDD
5.01e6*
43.52
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.99e3
ES OCDD
6.87e6*
43.51
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.62e3
ES OCDD
7.63e6*
43.51
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.06e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

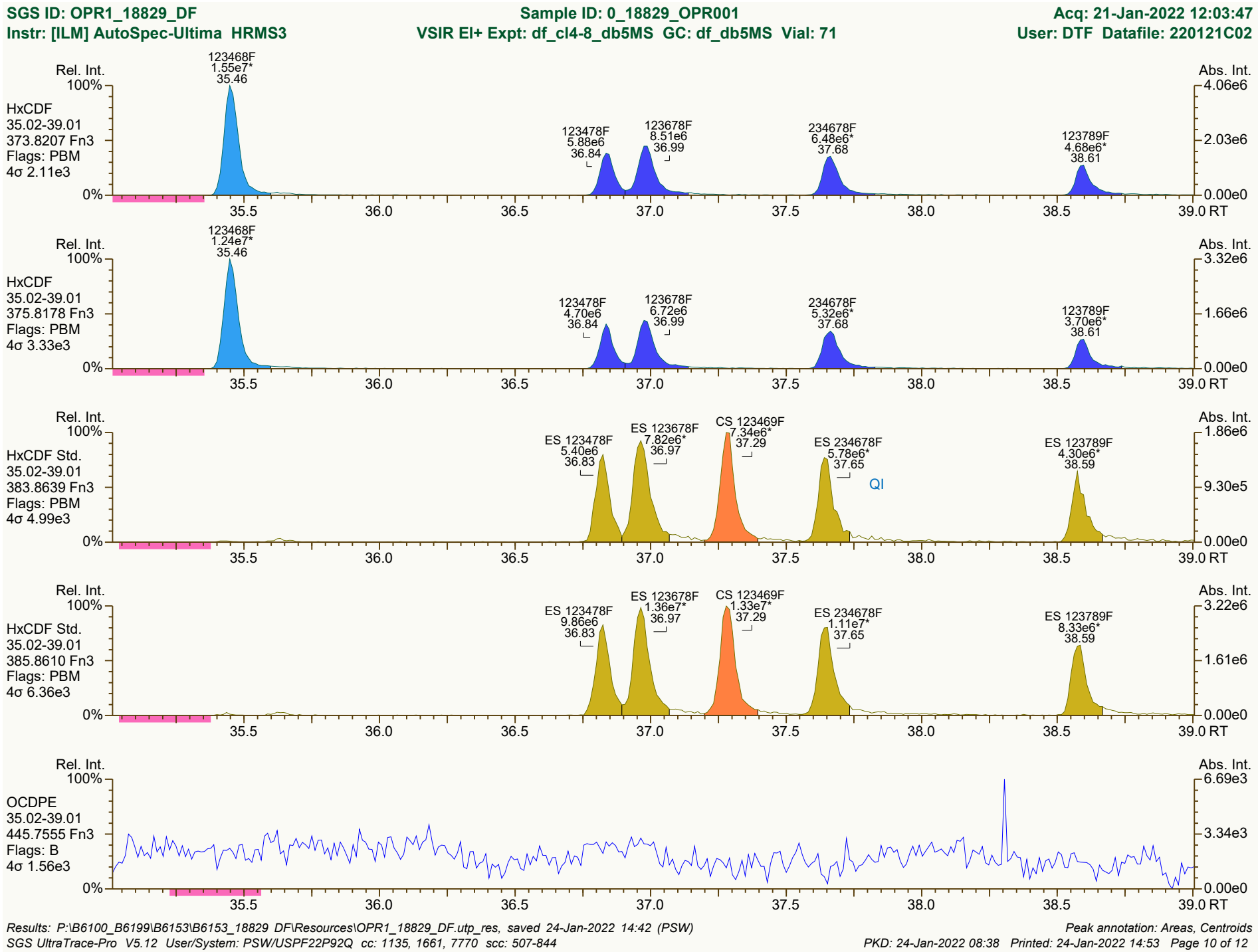

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.10e3
0%
1368F
1.93e6
22.98
2468F
4.95e5
24.17
2348F
1.80e6*
27.70
2378F
1.35e6*
27.81
1289F
1.84e6*
29.79
Abs. Int.
3.99e5
1.99e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 4.08e3
0%
1368F
2.41e6
22.98
2468F
6.27e5
24.17
2348F
2.18e6*
27.69
2378F
1.87e6*
27.80
1289F
2.36e6*
29.79
Abs. Int.
5.43e5
2.71e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 9.69e3
0%
JS 1234F
1.24e7
26.43
ES 2378F
1.12e7*
27.79
Abs. Int.
2.56e6
1.28e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 6.62e3
0%
JS 1234F
1.62e7
26.43
ES 2378F
1.36e7*
27.78
Abs. Int.
3.53e6
1.77e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.44e4
7.22e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0

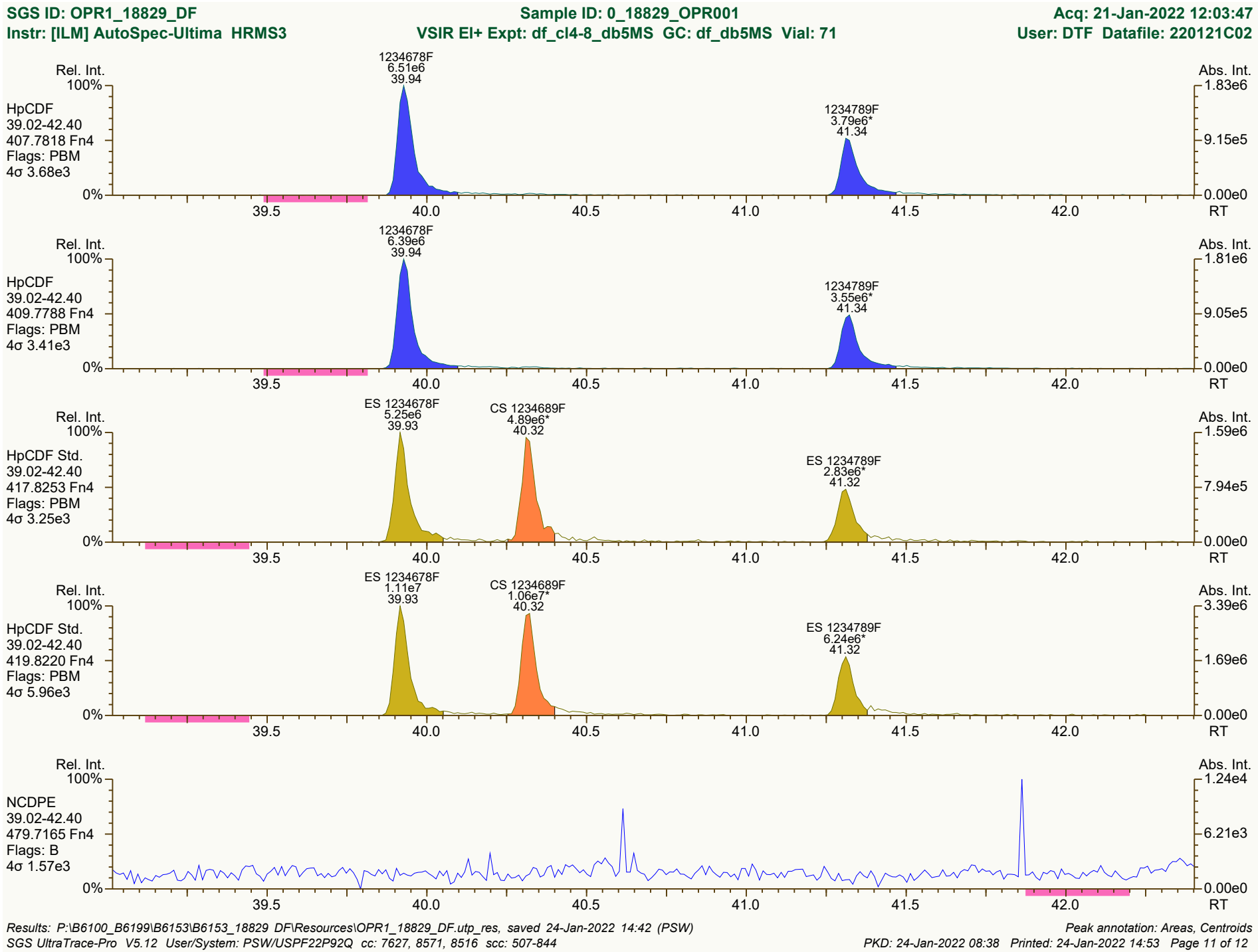
SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02

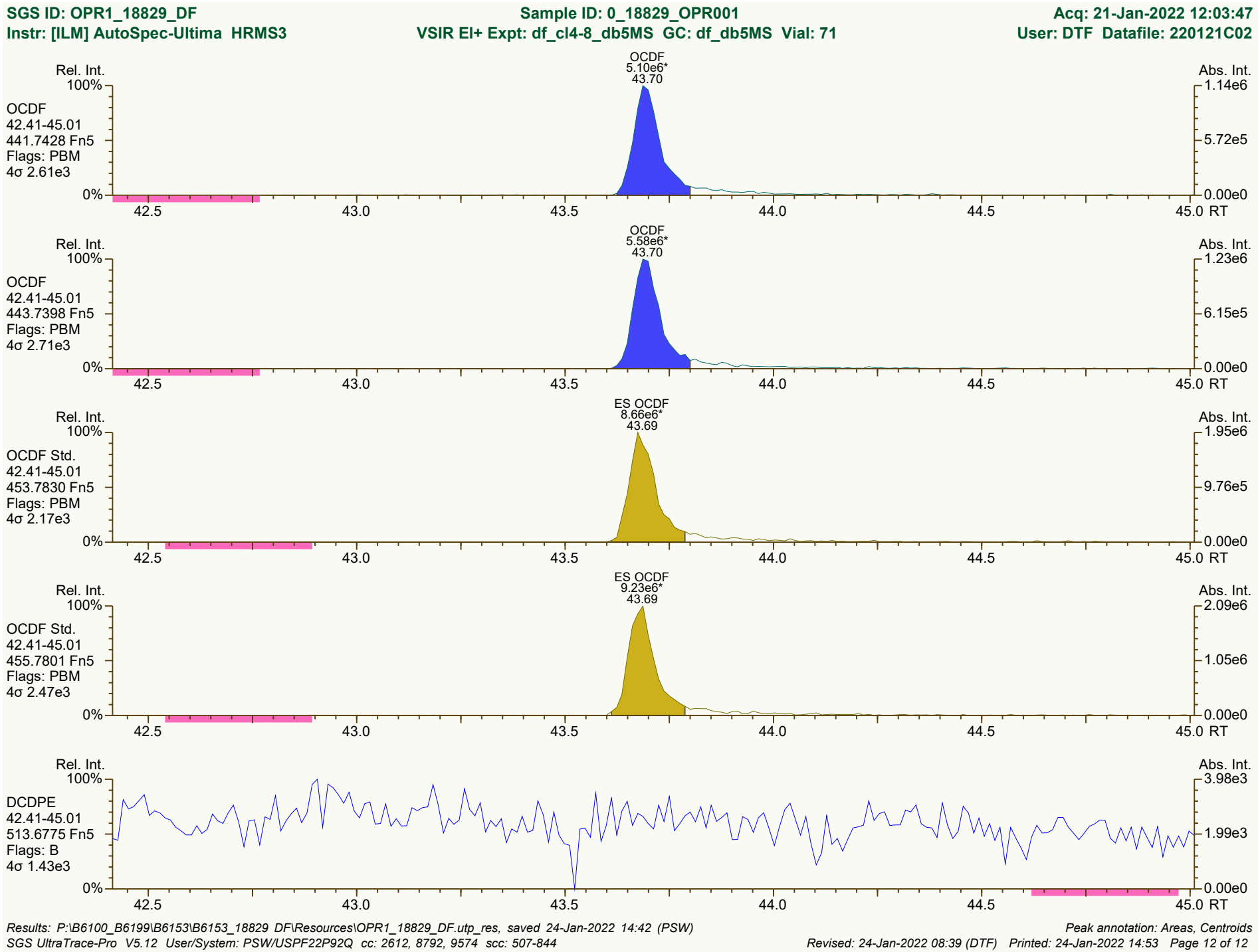


Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7443 scc: 507-844
PKD: 24-Jan-2022 08:35 Printed: 24-Jan-2022 14:53 Page 8 of 12


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 3.13e3
12378F
8.33e6
32.52
23478F
8.54e6
33.63
12389F
1.53e6
34.70
2.19e6
1.09e6
0.00e0
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 4.56e3
12378F
5.30e6
32.52
23478F
5.28e6
33.62
12389F
9.86e5
34.70
1.41e6
7.03e5
0.00e0
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 6.48e3
CS 12346F
1.53e7*
31.97
ES 12378F
1.51e7
32.50
ES 23478F
1.42e7
33.61
3.90e6
1.95e6
0.00e0
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 7.65e3
CS 12346F
9.92e6*
31.97
ES 12378F
9.48e6
32.51
ES 23478F
9.28e6
33.61
2.46e6
1.23e6
0.00e0
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 2.20e3
7.39e3
3.70e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1304, 4455, 0490 scc: 507-844
Revised: 24-Jan-2022 08:38 (DTF) Printed: 24-Jan-2022 14:53 Page 9 of 12


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.11e3
123468F 1.55e7* 35.46
123478F 5.88e6 36.84
123678F 8.51e6 36.99
234678F 6.48e6* 37.68
123789F 4.68e6* 38.61
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 3.33e3
123468F 1.24e7* 35.46
123478F 4.70e6 36.84
123678F 6.72e6 36.99
234678F 5.32e6* 37.68
123789F 3.70e6* 38.61
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.99e3
ES 123478F 5.40e6 36.83
ES 123678F 7.82e6* 36.97
CS 123469F 7.34e6* 37.29
ES 234678F 5.78e6* 37.65
QI
ES 123789F 4.30e6* 38.59
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 6.36e3
ES 123478F 9.86e6 36.83
ES 123678F 1.36e7* 36.97
CS 123469F 1.33e7* 37.29
ES 234678F 1.11e7* 37.65
ES 123789F 8.33e6* 38.59
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.56e3
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
4.06e6
2.03e6
0.00e0
3.32e6
1.66e6
1.86e6
9.30e5
3.22e6
1.61e6
6.69e3
3.34e3
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1135, 1661, 7770 scc: 507-844
PKD: 24-Jan-2022 08:38 Printed: 24-Jan-2022 14:53 Page 10 of 12


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 3.68e3
1234678F
6.51e6
39.94
1234789F
3.79e6*
41.34
1.83e6
9.15e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 3.41e3
1234678F
6.39e6
39.94
1234789F
3.55e6*
41.34
1.81e6
9.05e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 3.25e3
ES 1234678F
5.25e6
39.93
CS 1234689F
4.89e6*
40.32
ES 1234789F
2.83e6*
41.32
1.59e6
7.94e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 5.96e3
ES 1234678F
1.11e7
39.93
CS 1234689F
1.06e7*
40.32
ES 1234789F
6.24e6*
41.32
3.39e6
1.69e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.57e3
1.24e4
6.21e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7627, 8571, 8516 scc: 507-844
PKD: 24-Jan-2022 08:38 Printed: 24-Jan-2022 14:53 Page 11 of 12


SGS ID: OPR1_18829_DF
Sample ID: 0_18829_OPR001
Acq: 21-Jan-2022 12:03:47
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220121C02
Rel. Int.
Abs. Int.
OCDF
5.10e6*
43.70
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.61e3
1.14e6
5.72e5
0.00e0
OCDF
5.58e6*
43.70
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.71e3
1.23e6
6.15e5
ES OCDF
8.66e6*
43.69
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.17e3
1.95e6
9.76e5
ES OCDF
9.23e6*
43.69
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.47e3
2.09e6
1.05e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.43e3
3.98e3
1.99e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR1_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2612, 8792, 9574 scc: 507-844
Revised: 24-Jan-2022 08:39 (DTF) Printed: 24-Jan-2022 14:53 Page 12 of 12

Lab ID: OPR2_18829_DF **Acq'd:** 21 Jan 2022 12:50 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR002 **UTP:** 24-Jan-2022 14:42:52 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 338-214-YGX

Datafile: 220121C03 **Report:** 24 Jan 2022 14:48 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	2.76E+06	0.82	Y	1.18	12.3	5987.704	0.299
12378-PeCDD	33.96		1.0006	1.0005	-0.2	1.01E+07	1.59	Y	1.04	51.4	4924.328	0.245
123478-HxCDD	37.85		1.0004	1.0004	0	9.69E+06	1.25	Y	1.09	55.4	4383.678	0.225
123678-HxCDD	37.96		1.0034	1.0034	0	1.21E+07	1.28	Y	1.15	55.2	4383.678	0.201
123789-HxCDD	38.25		1.0109	1.0111	+0.5	1.01E+07	1.22	Y	1.05	54.9	4383.678	0.263
1234678-HpCDD	40.88		1.0003	1.0004	+0.2	8.61E+06	1.09	Y	1.06	60.3	3168.479	0.206
OCDD	43.52		1.0002	1.0002	0	1.13E+07	0.92	Y	1.13	120	3800.529	0.423
2378-TCDF	27.80		1.0008	1.0007	-0.2	3.97E+06	0.80	Y	1.08	12.7	6679.135	0.233
12378-PeCDF	32.52		1.0005	1.0005	0	1.65E+07	1.52	Y	1.02	52	8009.978	0.255
23478-PeCDF	33.63		1.0005	1.0005	0	1.63E+07	1.51	Y	1.02	55.7	8009.978	0.261
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.33E+07	1.24	Y	1.27	55.4	4855.308	0.204
123678-HxCDF	36.99		1.0004	1.0006	+0.4	1.77E+07	1.26	Y	1.15	57.9	4855.308	0.147
234678-HxCDF	37.67		1.0004	1.0006	+0.5	1.31E+07	1.29	Y	1.19	56.4	4855.308	0.205
123789-HxCDF	38.61		1.0004	1.0005	+0.2	9.74E+06	1.21	Y	1.16	55.6	4855.308	0.265
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	1.56E+07	1.03	Y	1.37	56.2	3592.468	0.0975
1234789-HpCDF	41.33		1.0003	1.0004	+0.2	8.51E+06	1.02	Y	1.31	56.1	3592.468	0.205
OCDF	43.71		1.0002	1.0003	+0.3	1.23E+07	0.90	Y	1.07	111	3516.723	0.357

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63		1.0233	1.0235	+0.3	1.89E+07	0.78	Y	1.05	91.6
ES 12378-PeCDD	33.94		1.2121	1.2134	+2.6	1.90E+07	1.57	Y	0.88	109
ES 123478-HxCDD	37.83		0.9921	0.9921	0	1.60E+07	1.23	Y	0.97	97.1
ES 123678-HxCDD	37.95		0.9951	0.9952	+0.2	1.91E+07	1.26	Y	0.94	119
ES 123789-HxCDD	38.24		1.0025	1.0027	+0.5	1.75E+07	1.25	Y	1.09	94.3
ES 1234678-HpCDD	40.86		1.0709	1.0714	+1.2	1.35E+07	1.13	Y	0.91	86.8
ES OCDD	43.51		1.1403	1.1409	+1.6	1.68E+07	0.93	Y	0.62	79
ES 2378-TCDF	27.78		1.0506	1.0511	+0.8	2.91E+07	0.82	Y	1.06	82.9
ES 12378-PeCDF	32.50		1.2281	1.2297	+3.1	3.09E+07	1.60	Y	0.91	103
ES 23478-PeCDF	33.61		1.2698	1.2715	+3.4	2.87E+07	1.53	Y	0.88	98.1
ES 123478-HxCDF	36.83		0.9657	0.9657	0	1.89E+07	0.53	Y	1.20	92.9
ES 123678-HxCDF	36.97		0.9695	0.9695	0	2.65E+07	0.54	Y	1.35	115
ES 234678-HxCDF	37.65	QI	0.9874	0.9873	-0.2	1.95E+07	0.56	Y	1.24	92.4
ES 123789-HxCDF	38.59		1.0116	1.0118	+0.5	1.51E+07	0.54	Y	1.16	76.7
ES 1234678-HpCDF	39.93		1.0467	1.0471	+1.0	2.03E+07	0.46	Y	0.97	123
ES 1234789-HpCDF	41.32		1.0830	1.0835	+1.2	1.16E+07	0.44	Y	0.85	80.2
ES OCDF	43.70		1.1451	1.1458	+1.8	2.07E+07	0.92	Y	0.81	75.6

Lab ID: OPR2_18829_DF | Acq'd: 21 Jan 2022 12:50 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18829_OPR002 | UTP: 24-Jan-2022 14:42:52 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 338-214-YGX

Datafile: 220121C03 | Report: 24 Jan 2022 14:48 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.97E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.31E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	8.49E+06	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	9.17E+06	n/a	-	1.20	96.6	
CS 12347-PeCDD	33.44		1.1943	1.1954	+2.2	1.78E+07	1.61	Y	0.75	120	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	3.08E+07	1.49	Y	0.85	109	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.41E+07	0.54	Y	1.12	127	
CS 1234689-HpCDF	40.33		1.0571	1.0576	+1.2	1.80E+07	0.47	Y	0.89	119	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~9.17E+06~~	~~n/a~~		~~1.15~~	~~106~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.70E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~109~~	CL 25Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~3.08E+07~~	~~1.49~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.41E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.80E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~96.7~~	

Totals	Conc	EMPC
Total TCDD	55.7	55.7
Total PeCDD	76	76
Total HxCDD	180	180
Total HpCDD	73.6	73.6
Total Tetra-Octa Dioxins	505	505
Total TCDF	65.2	65.2
Total PeCDF	201	201
Total HxCDF	364	364
Total HpCDF	112	112
Total Tetra-Octa Furans	854	854
Total Tetra-Octa Dioxins & Furans	1360	1360

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.816	0.82
Response	2.77E+06	2.76E+06

Lab ID: OPR2_18829_DF | **Acq'd: 21 Jan 2022 12:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR002 | **UTP: 24-Jan-2022 14:42:52 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 338-214-YGX**

Datafile: 220121C03 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8747	-1.2	3.65E+06	0.78	Y	1.18	16.3	5987.704	0.299
1379-TCDD	NotFnd		0.8876						1.18		5987.704	0.299
1369-TCDD	NotFnd		0.9023						1.18		5987.704	0.299
1469-TCDD	NotFnd		0.9291						1.18		5987.704	0.299
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5987.704	0.299
1378-TCDD	NotFnd		0.9440						1.18		5987.704	0.299
1268-TCDD	NotFnd		0.9506						1.18		5987.704	0.299
1478-TCDD	NotFnd		0.9591						1.18		5987.704	0.299
1279-TCDD	NotFnd		0.9649						1.18		5987.704	0.299
1234/1269-TCDD	NotFnd		0.9771						1.18		5987.704	0.299
1236-TCDD	NotFnd		0.9820						1.18		5987.704	0.299
1237/1238-TCDD	NotFnd		0.9908						1.18		5987.704	0.299
1239-TCDD	28.50		0.9954	0.9952	-0.3	2.39E+06	0.84	Y	1.18	10.7	5987.704	0.299
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	2.76E+06	0.82	Y	**1.18**	**12.3**	**5987.704**	**0.299**
1278-TCDD	NotFnd		1.0121						1.18		5987.704	0.299
1267-TCDD	NotFnd		1.0167						1.18		5987.704	0.299
1289-TCDD	29.62		1.0341	1.0343	+0.4	3.68E+06	0.79	Y	1.18	16.4	5987.704	0.299
12479/12468-PeCDD	31.46		0.9273	0.9269	-0.8	2.44E+06	1.54	Y	1.04	12.4	4924.328	0.245
12469-PeCDD	NotFnd		0.9430						1.04		4924.328	0.245
12368-PeCDD	NotFnd		0.9592						1.04		4924.328	0.245
12478-PeCDD	NotFnd		0.9647						1.04		4924.328	0.245
12379-PeCDD	NotFnd		0.9676						1.04		4924.328	0.245
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		4924.328	0.245
12346/12347-PeCDD	NotFnd		0.9860						1.04		4924.328	0.245
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**1.01E+07**	**1.59**	**Y**	**1.04**	**51.4**	**4924.328**	**0.245**
12367-PeCDD	NotFnd		1.0034						1.04		4924.328	0.245
12389-PeCDD	34.40		1.0134	1.0133	-0.2	2.40E+06	1.68	Y	1.04	12.2	4924.328	0.245
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.73E+06	1.25	Y	1.10	14.2	4383.678	0.228
123468-HxCDD	NotFnd		0.9715						1.10		4383.678	0.228
123679/123689-HxCDD	NotFnd		0.9793						1.10		4383.678	0.228
123469-HxCDD	NotFnd		0.9829						1.10		4383.678	0.228
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**9.69E+06**	**1.25**	**Y**	1.09	**55.4**	**4383.678**	**0.225**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.21E+07**	**1.28**	**Y**	1.15	**55.2**	**4383.678**	**0.201**
123467-HxCDD	NotFnd		1.0082						1.10		4383.678	0.228
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**1.01E+07**	**1.22**	**Y**	1.05	**54.9**	**4383.678**	**0.263**

Lab ID: OPR2_18829_DF | **Acq'd: 21 Jan 2022 12:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR002 | **UTP: 24-Jan-2022 14:42:52 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 338-214-YGX**

Datafile: 220121C03 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9838	0	1.90E+06	1.13	Y	1.06	13.3	3168.479	0.206
1234678-HpCDD	**40.88**		**1.0003**	**1.0004**	**+0.2**	**8.61E+06**	**1.09**	**Y**	**1.06**	**60.3**	**3168.479**	**0.206**
OCDD	**43.52**		**1.0002**	**1.0002**	**0**	**1.13E+07**	**0.92**	**Y**	**1.13**	**120**	**3800.529**	**0.423**
OCDD-a	43.52		1.0002	1.0003	+0.3	6.43E+05	2.41	Y	0.07	106	4061.67	7.08
1368-TCDF	22.98		0.8282	0.8270	-1.7	5.05E+06	0.76	Y	1.08	16.1	6679.135	0.233
1468-TCDF	NotFnd		0.8485						1.08		6679.135	0.233
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.24E+06	0.81	Y	1.08	3.96	6679.135	0.233
1346/1246-TCDF	NotFnd		0.8829						1.08		6679.135	0.233
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6679.135	0.233
1348-TCDF	NotFnd		0.8980						1.08		6679.135	0.233
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6679.135	0.233
1268-TCDF	NotFnd		0.9158						1.08		6679.135	0.233
1467-TCDF	NotFnd		0.9206						1.08		6679.135	0.233
1478-TCDF	NotFnd		0.9266						1.08		6679.135	0.233
1369/1237-TCDF	NotFnd		0.9397						1.08		6679.135	0.233
2467-TCDF	NotFnd		0.9440						1.08		6679.135	0.233
2368-TCDF	NotFnd		0.9497						1.08		6679.135	0.233
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6679.135	0.233
1278-TCDF	NotFnd		0.9690						1.08		6679.135	0.233
1349-TCDF	NotFnd		0.9730						1.08		6679.135	0.233
1267-TCDF	NotFnd		0.9787						1.08		6679.135	0.233
2346/1249-TCDF	NotFnd		0.9850						1.08		6679.135	0.233
2347/1279-TCDF	NotFnd		0.9929						1.08		6679.135	0.233
2348-TCDF	27.69		0.9970	0.9967	-0.5	4.73E+06	0.80	Y	1.08	15.1	6679.135	0.233
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**3.97E+06**	**0.80**	**Y**	**1.08**	**12.7**	**6679.135**	**0.233**
2367/3467-TCDF	NotFnd		1.0136						1.08		6679.135	0.233
1269-TCDF	NotFnd		1.0221						1.08		6679.135	0.233
1239-TCDF	NotFnd		1.0319						1.08		6679.135	0.233
1289-TCDF	29.79		1.0740	1.0722	-3.2	5.45E+06	0.77	Y	1.08	17.4	6679.135	0.233
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	2.57E+07	1.61	Y	1.02	84.3	4347.841	0.14
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		8009.978	0.258
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		8009.978	0.258
14678-PeCDF	NotFnd		0.9695						1.02		8009.978	0.258
13479-PeCDF	NotFnd		0.9724						1.02		8009.978	0.258
13469/12479-PeCDF	NotFnd		0.9801						1.02		8009.978	0.258
12346-PeCDF	NotFnd		0.9842						1.02		8009.978	0.258

Lab ID: OPR2_18829_DF | **Acq'd: 21 Jan 2022 12:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18829_OPR002 | **UTP: 24-Jan-2022 14:42:52 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 338-214-YGX**

Datafile: 220121C03 | **Report: 24 Jan 2022 14:48 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		8009.978	0.258
12347-PeCDF	NotFnd		0.9895						1.02		8009.978	0.258
12348-PeCDF	NotFnd		0.9941						1.02		8009.978	0.258
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.65E+07**	**1.52**	**Y**	**1.02**	**52**	**8009.978**	**0.255**
12678/12367-PeCDF	NotFnd		1.0090						1.02		8009.978	0.258
12379-PeCDF	NotFnd		1.0142						1.02		8009.978	0.258
12679-PeCDF	NotFnd		0.9931						1.02		8009.978	0.258
23467/12369-PeCDF	NotFnd		0.9966						1.02		8009.978	0.258
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.63E+07**	**1.51**	**Y**	**1.02**	**55.7**	**8009.978**	**0.261**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8009.978	0.258
12349-PeCDF	NotFnd		1.0101						1.02		8009.978	0.258
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.77E+06	1.41	Y	1.02	9.09	8009.978	0.258
123468-HxCDF	35.46		0.9627	0.9629	+0.4	3.31E+07	1.24	Y	1.19	139	4855.308	0.197
124678/134678-HxCDF	NotFnd		0.9684						1.19		4855.308	0.197
134679-HxCDF	NotFnd		0.9747						1.19		4855.308	0.197
124679-HxCDF	NotFnd		0.9802						1.19		4855.308	0.197
124689-HxCDF	NotFnd		0.9858						1.19		4855.308	0.197
123467-HxCDF	NotFnd		0.9972						1.19		4855.308	0.197
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.33E+07**	**1.24**	**Y**	**1.27**	**55.4**	**4855.308**	**0.204**
123678-HxCDF	**36.99**		**1.0004**	**1.0006**	**+0.4**	**1.77E+07**	**1.26**	**Y**	**1.15**	**57.9**	**4855.308**	**0.147**
123479-HxCDF	NotFnd		1.0051						1.19		4855.308	0.197
123469-HxCDF	NotFnd		1.0091						1.19		4855.308	0.197
123679-HxCDF	NotFnd		0.9943						1.19		4855.308	0.197
234678-HxCDF	**37.67**		**1.0004**	**1.0006**	**+0.5**	**1.31E+07**	**1.29**	**Y**	**1.19**	**56.4**	**4855.308**	**0.205**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4855.308	0.197
123789-HxCDF	**38.61**		**1.0004**	**1.0005**	**+0.2**	**9.74E+06**	**1.21**	**Y**	**1.16**	**55.6**	**4855.308**	**0.265**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4855.308	0.197
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**1.56E+07**	**1.03**	**Y**	**1.37**	**56.2**	**3592.468**	**0.0975**
1234679-HpCDF	NotFnd		1.0067						1.34		3592.468	0.136
1234689-HpCDF	NotFnd		1.0101						1.34		3592.468	0.136
1234789-HpCDF	**41.33**		**1.0003**	**1.0004**	**+0.2**	**8.51E+06**	**1.02**	**Y**	**1.31**	**56.1**	**3592.468**	**0.205**
OCDF	**43.71**		**1.0002**	**1.0003**	**+0.3**	**1.23E+07**	**0.90**	**Y**	**1.07**	**111**	**3516.723**	**0.357**
OCDF-a	43.70		1.0002	1.0002	0	7.17E+05	2.16	Y	0.07	104	4265.743	6.98

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C03	Analysis Date:	21-JAN-2022 12:50:06
Lab ID:	OPR2_18829_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	60.3	35	-	70	Y
OCDD	100	120	78	-	144	Y
2,3,7,8-TCDF	10	12.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	57.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	56.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	55.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	56.2	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	56.1	39	-	69	Y
OCDF	100	111	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 14:48 Analyst: pw

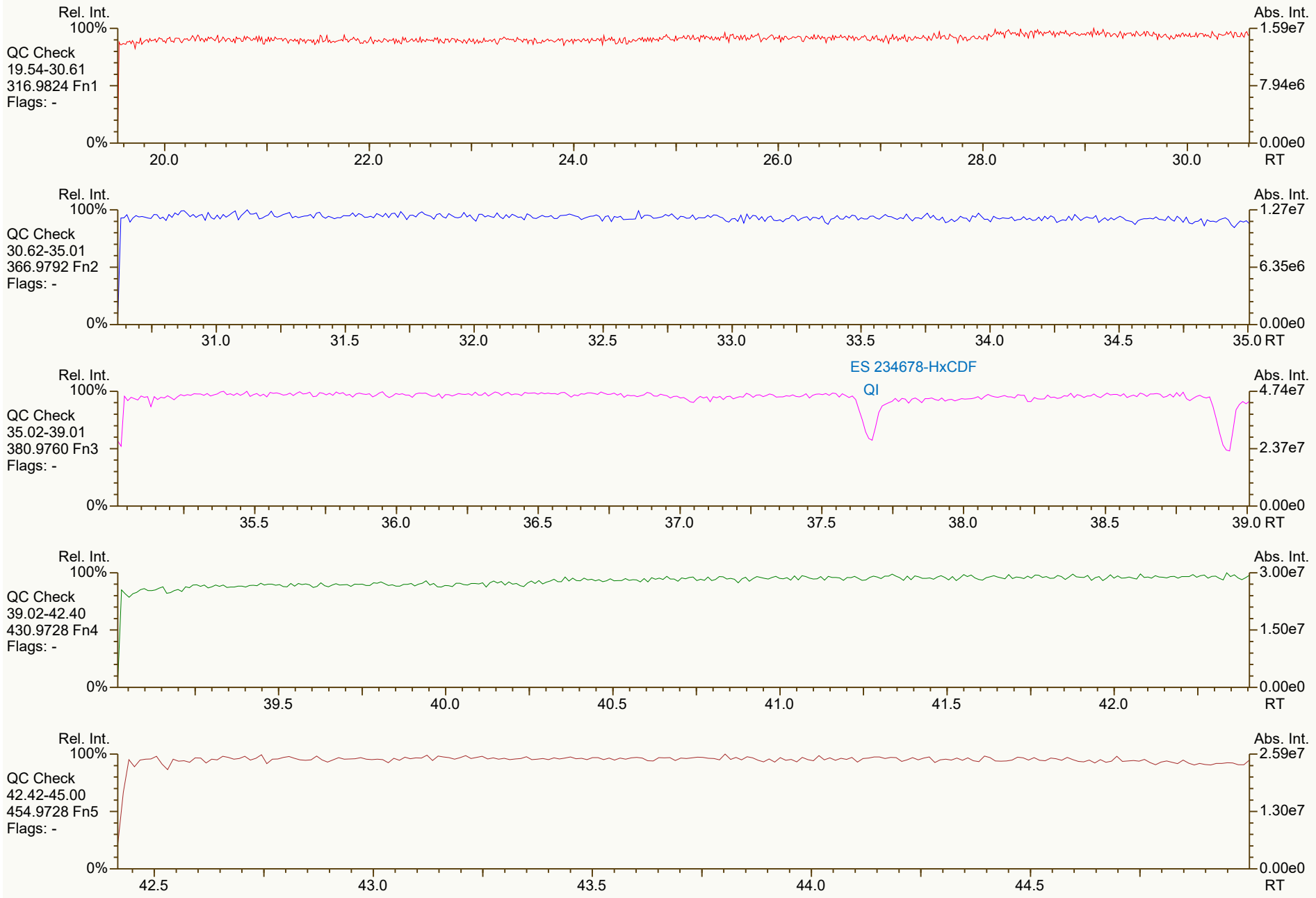
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

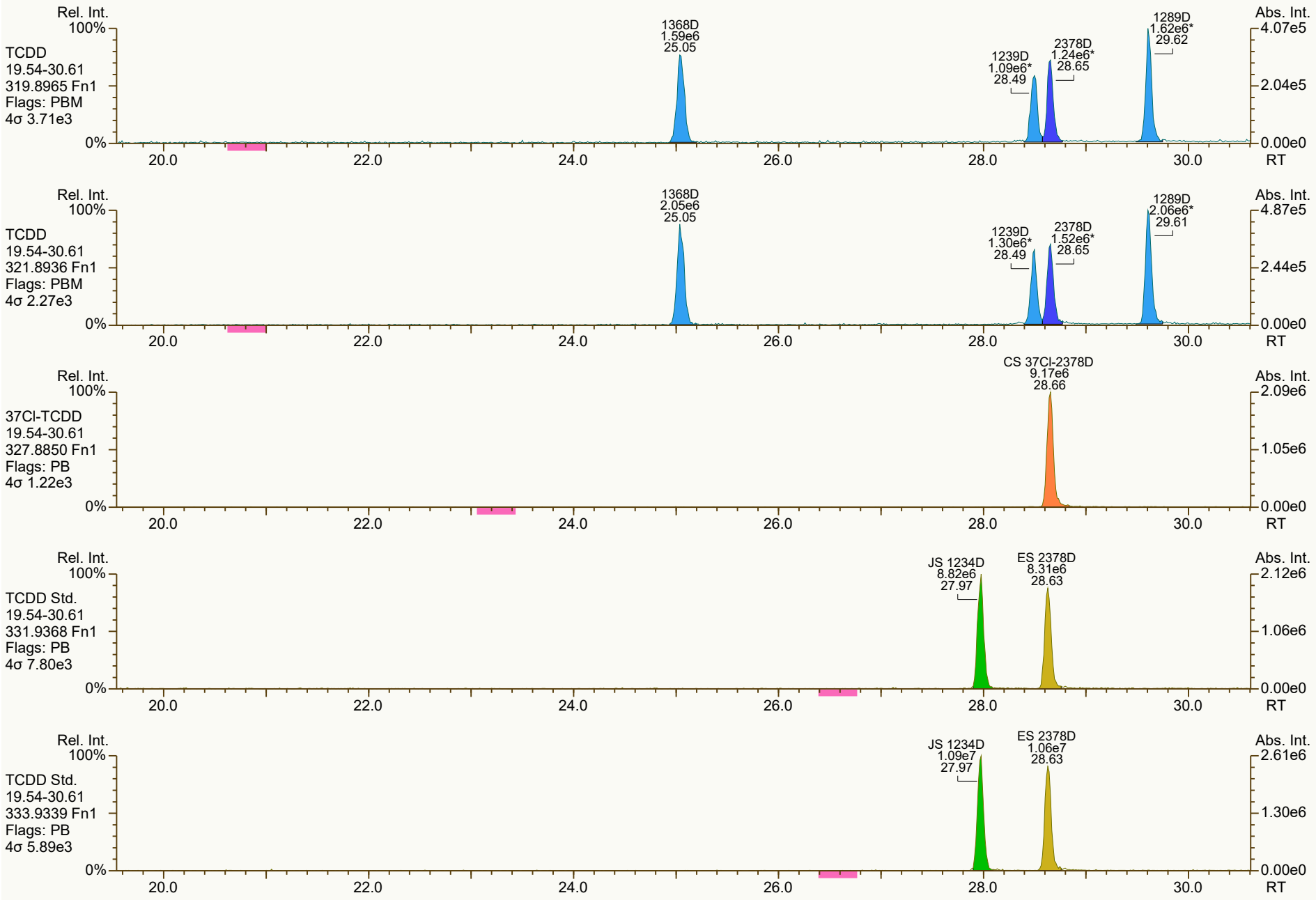
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220121C03	Analysis Date:	21-JAN-2022 12:50:06
Lab ID:	OPR2_18829_DF		

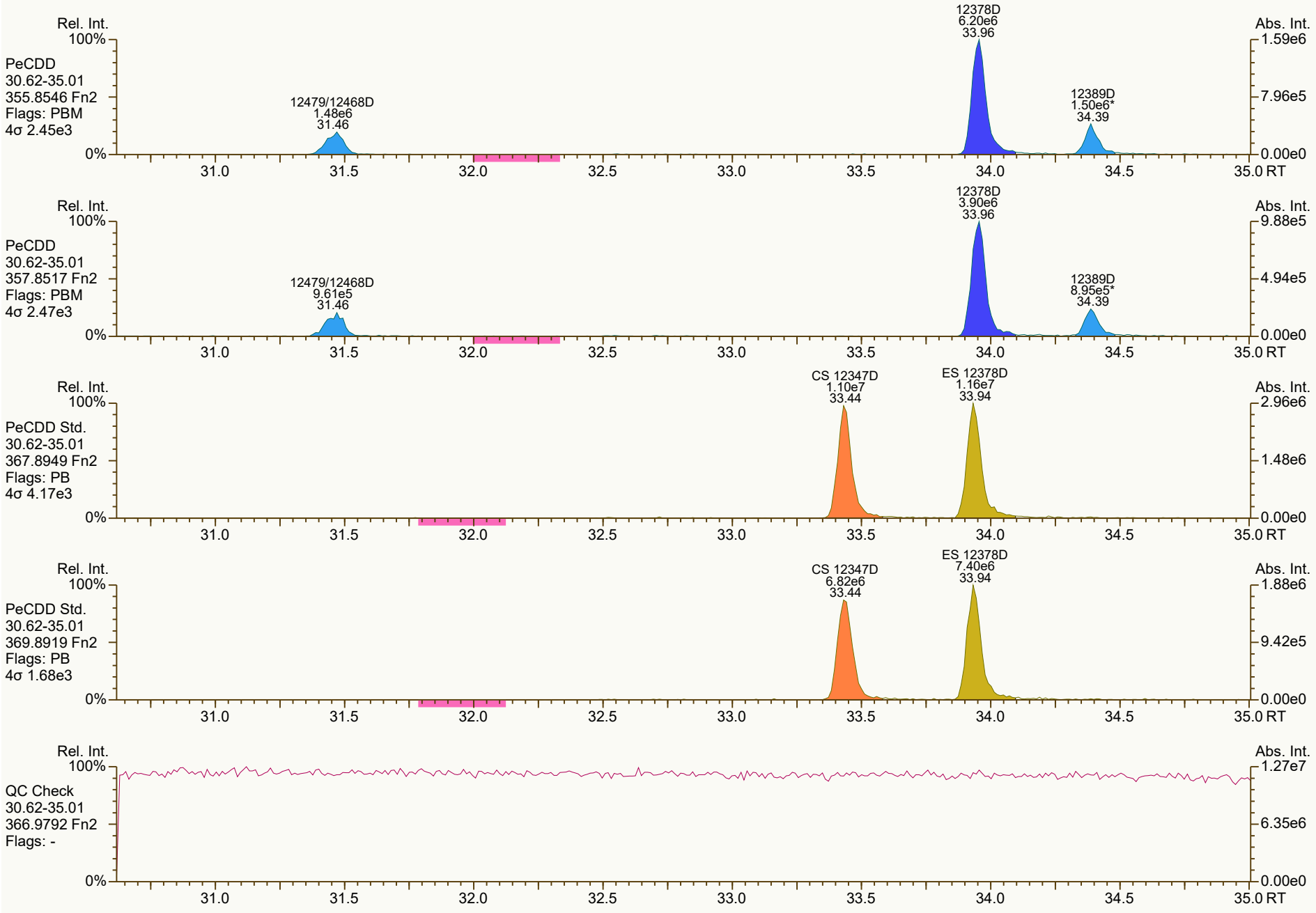
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	109	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	97.1	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	119	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	86.8	26	-	166	Y
13C-OCDD	200	158	26	-	397	Y
13C-2,3,7,8-TCDF	100	82.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	103	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	98.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	92.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	115	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	92.4	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	76.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	123	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	80.2	20	-	186	Y
13C-OCDF	200	151	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.6	12.4	-	76.4	Y

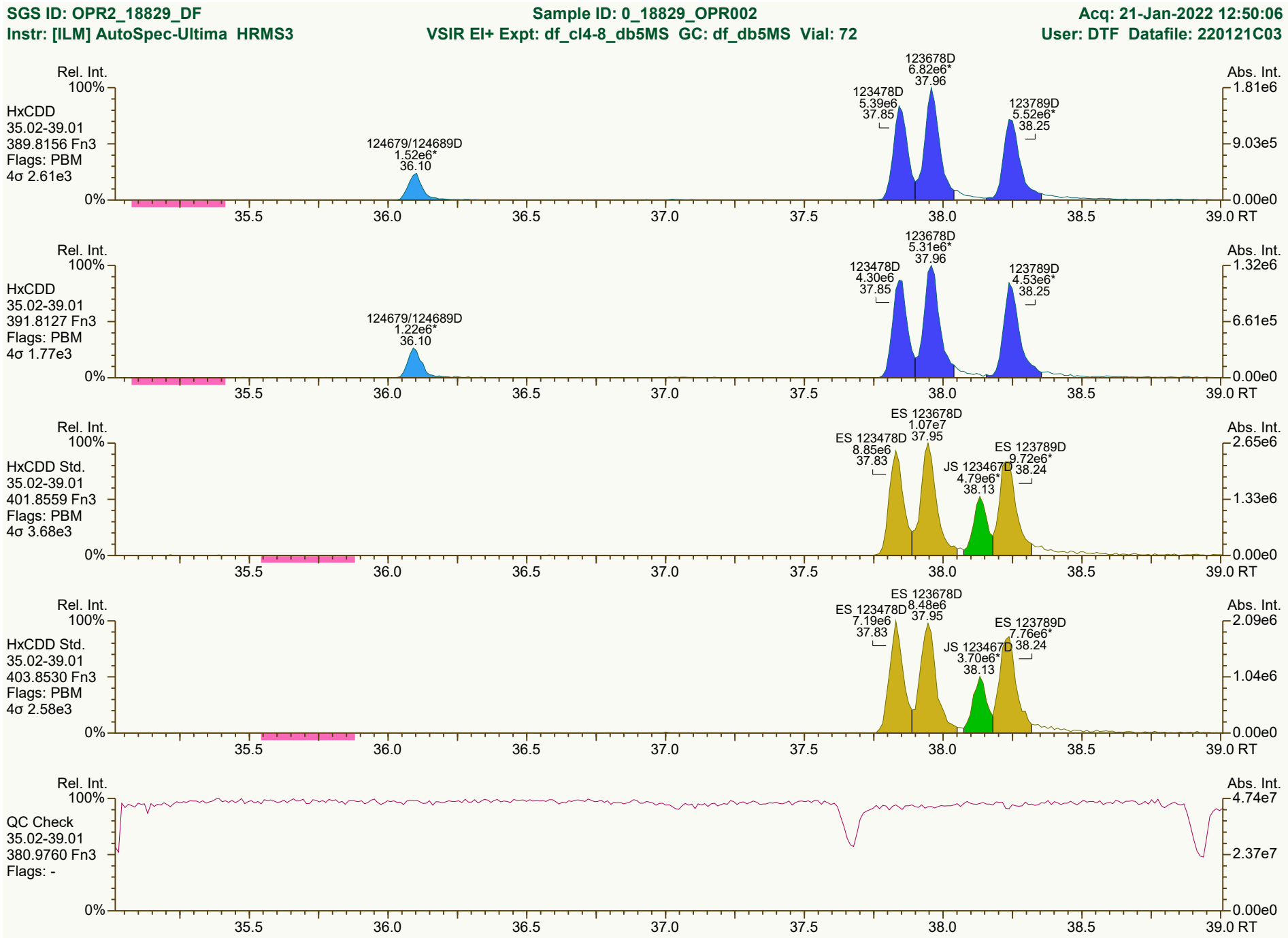
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

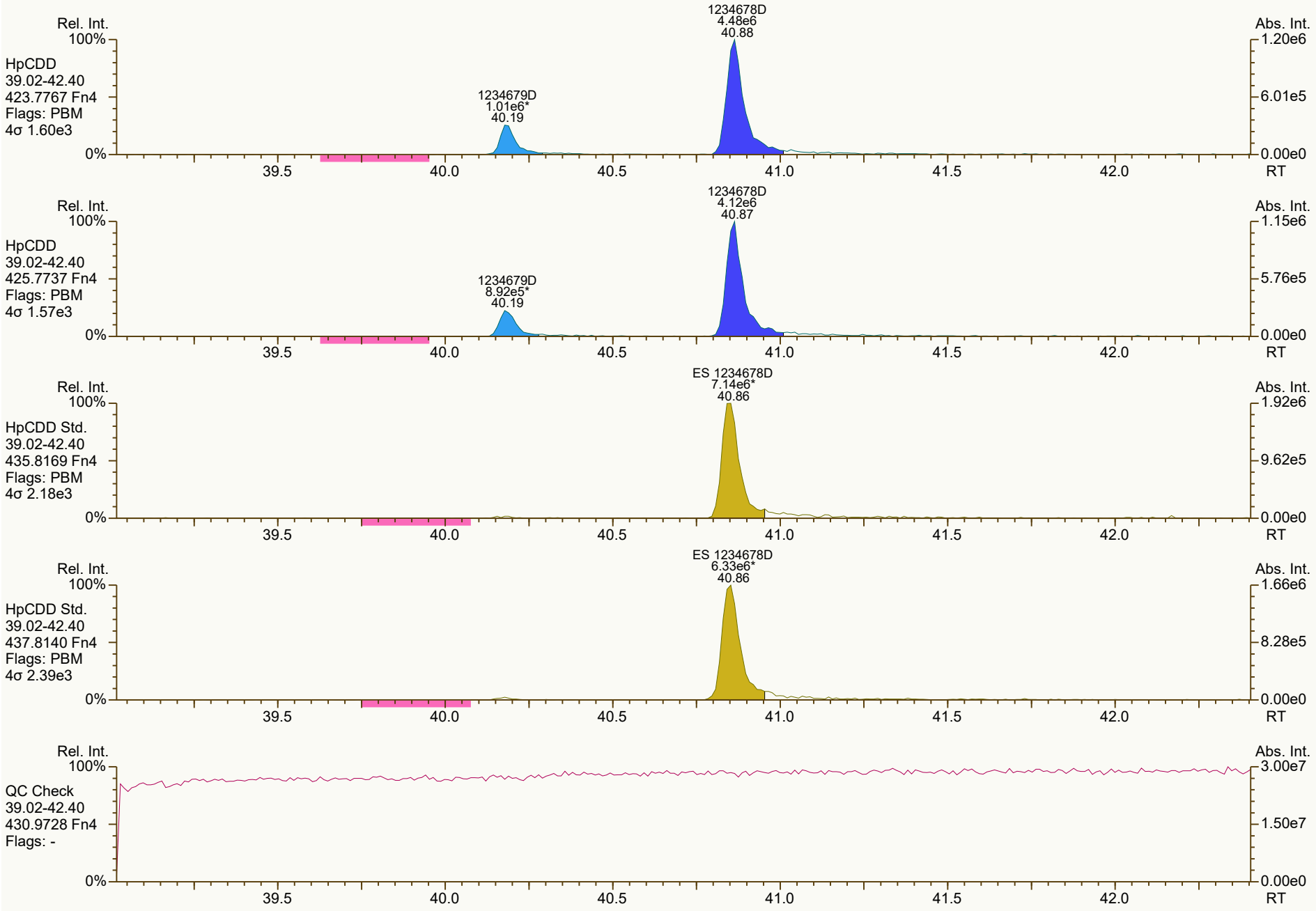
Processed: 24 Jan 2022 14:48 Analyst: pw

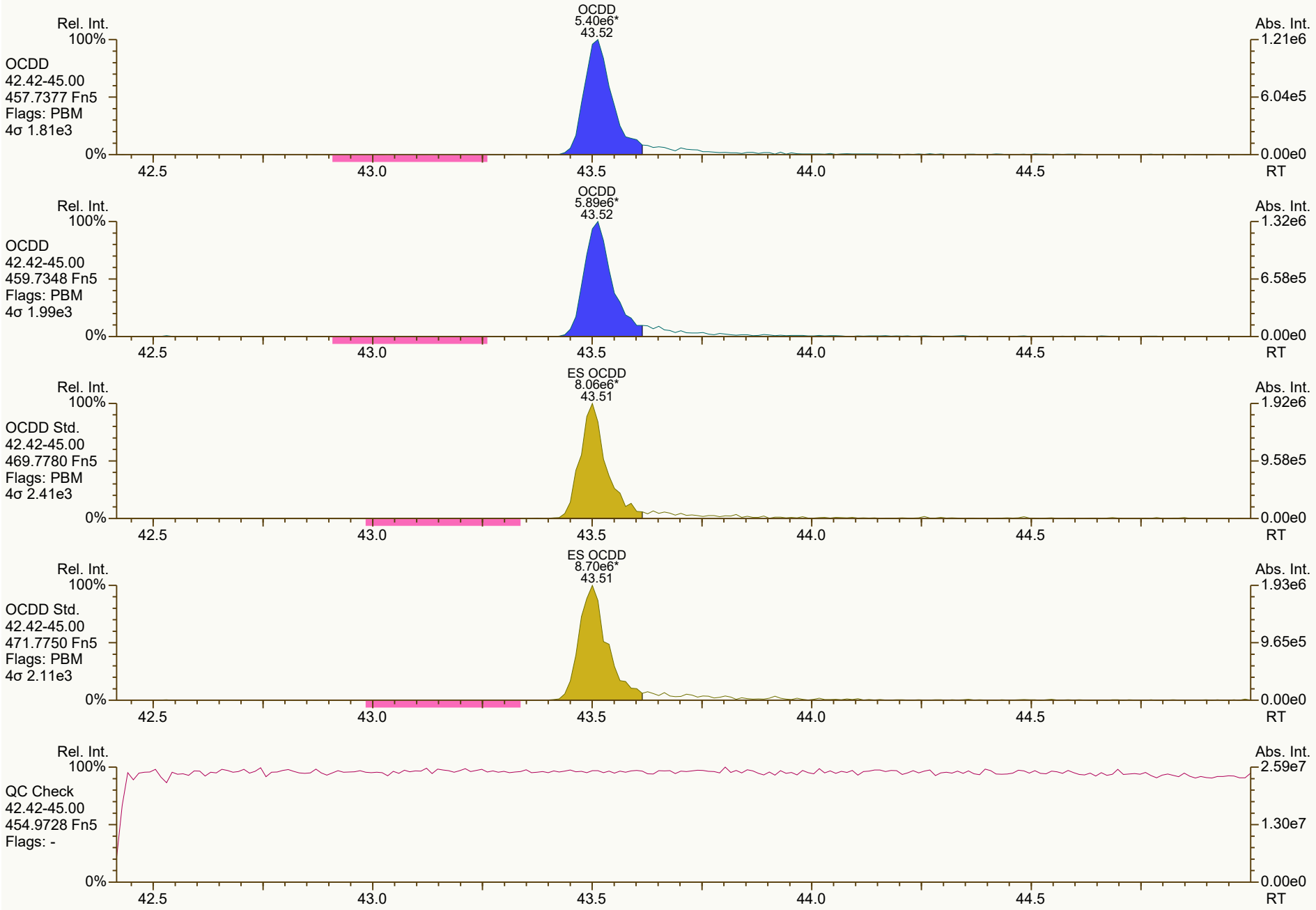

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.59e7
7.94e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
1.27e7
6.35e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
ES 234678-HxCDF
QI
Abs. Int.
4.74e7
2.37e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.00e7
1.50e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
RT
Abs. Int.
2.59e7
1.30e7
0.00e0

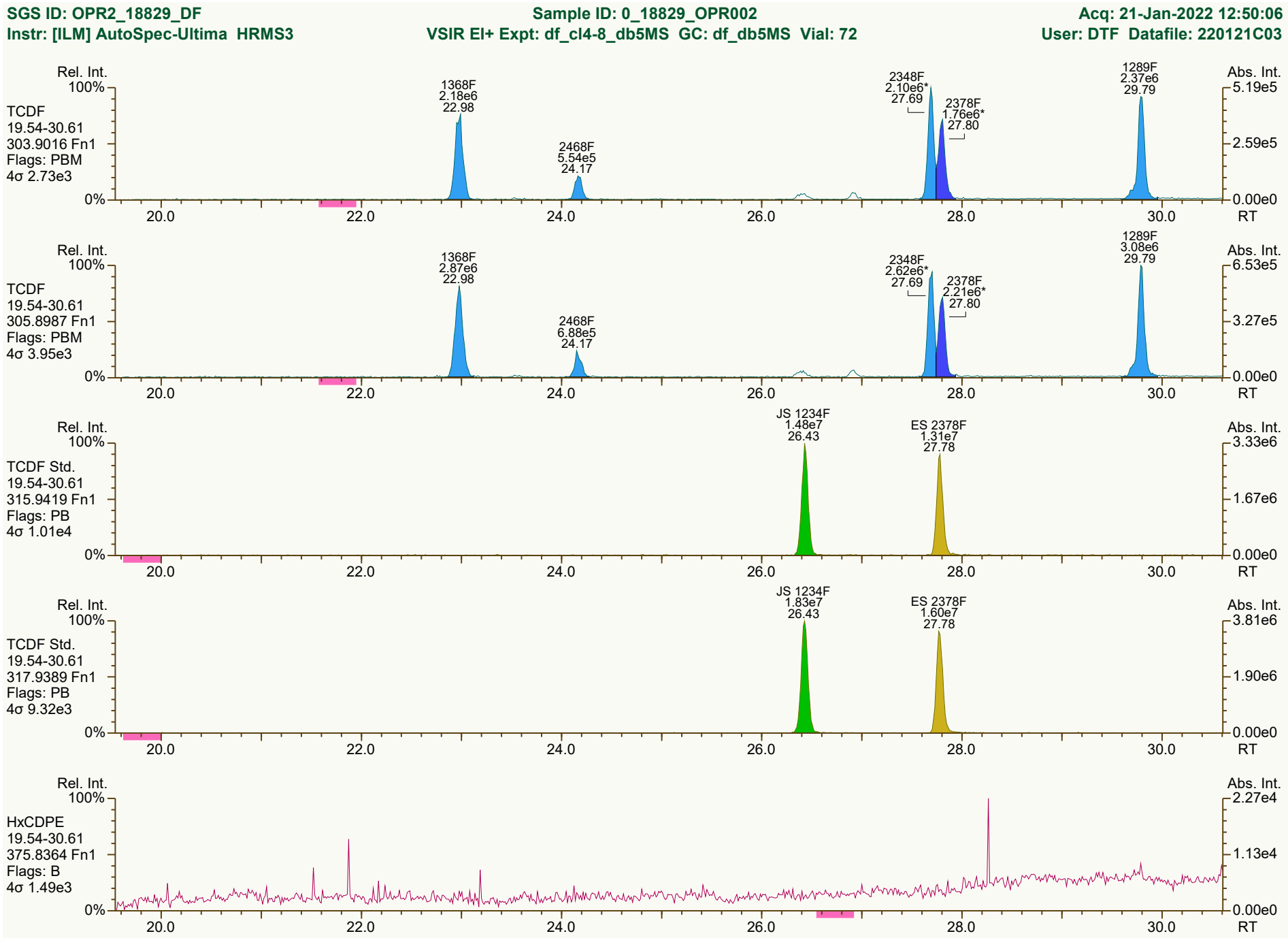

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.71e3
0%
1368D
1.59e6
25.05
1239D
1.09e6*
28.49
2378D
1.24e6*
28.65
1289D
1.62e6*
29.62
Abs. Int.
4.07e5
2.04e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.27e3
0%
1368D
2.05e6
25.05
1239D
1.30e6*
28.49
2378D
1.52e6*
28.65
1289D
2.06e6*
29.61
Abs. Int.
4.87e5
2.44e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.22e3
0%
CS 37Cl-2378D
9.17e6
28.66
Abs. Int.
2.09e6
1.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 7.80e3
0%
JS 1234D
8.82e6
27.97
ES 2378D
8.31e6
28.63
Abs. Int.
2.12e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.89e3
0%
JS 1234D
1.09e7
27.97
ES 2378D
1.06e7
28.63
Abs. Int.
2.61e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 2.45e3
12479/12468D
1.48e6
31.46
12378D
6.20e6
33.96
12389D
1.50e6*
34.39
Abs. Int.
1.59e6
7.96e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 2.47e3
12479/12468D
9.61e5
31.46
12378D
3.90e6
33.96
12389D
8.95e5*
34.39
Abs. Int.
9.88e5
4.94e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 4.17e3
CS 12347D
1.10e7
33.44
ES 12378D
1.16e7
33.94
Abs. Int.
2.96e6
1.48e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 1.68e3
CS 12347D
6.82e6
33.44
ES 12378D
7.40e6
33.94
Abs. Int.
1.88e6
9.42e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
Abs. Int.
1.27e7
6.35e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

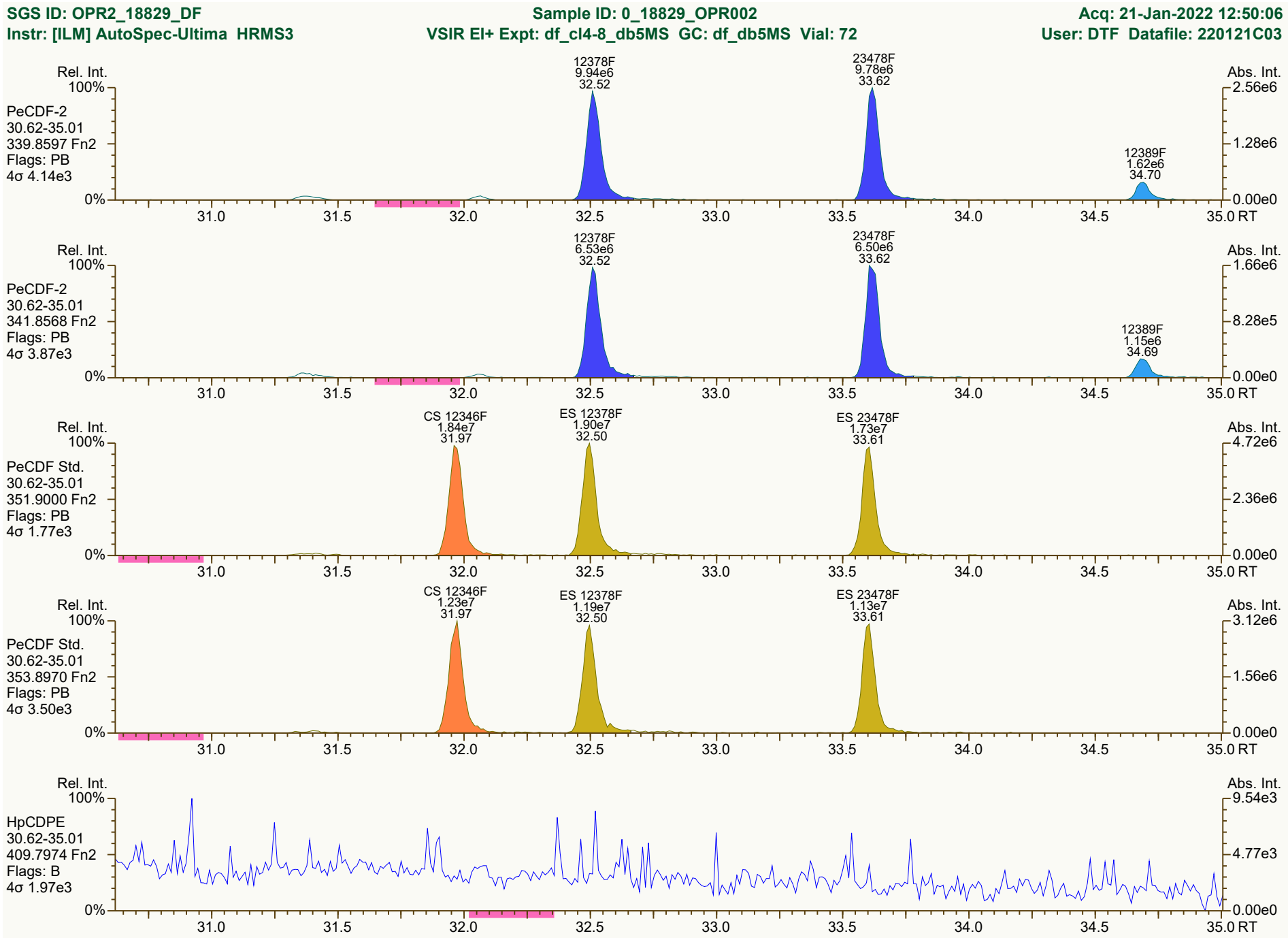

SGS ID: OPR2_18829_DF
Sample ID: 0_18829_OPR002
Acq: 21-Jan-2022 12:50:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220121C03
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.61e3
124679/124689D
1.52e6*
36.10
123478D
5.39e6
37.85
123678D
6.82e6*
37.96
123789D
5.52e6*
38.25
1.81e6
9.03e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.77e3
124679/124689D
1.22e6*
36.10
123478D
4.30e6
37.85
123678D
5.31e6*
37.96
123789D
4.53e6*
38.25
1.32e6
6.61e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.68e3
ES 123478D
8.85e6
37.83
ES 123678D
1.07e7
37.95
JS 123467D
4.79e6*
38.13
ES 123789D
9.72e6*
38.24
2.65e6
1.33e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.58e3
ES 123478D
7.19e6
37.83
ES 123678D
8.48e6
37.95
JS 123467D
3.70e6*
38.13
ES 123789D
7.76e6*
38.24
2.09e6
1.04e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
4.74e7
2.37e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR2_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3055, 7577 scc: 338-214
Revised: 24-Jan-2022 08:41 (DTF) Printed: 24-Jan-2022 14:53 Page 4 of 12

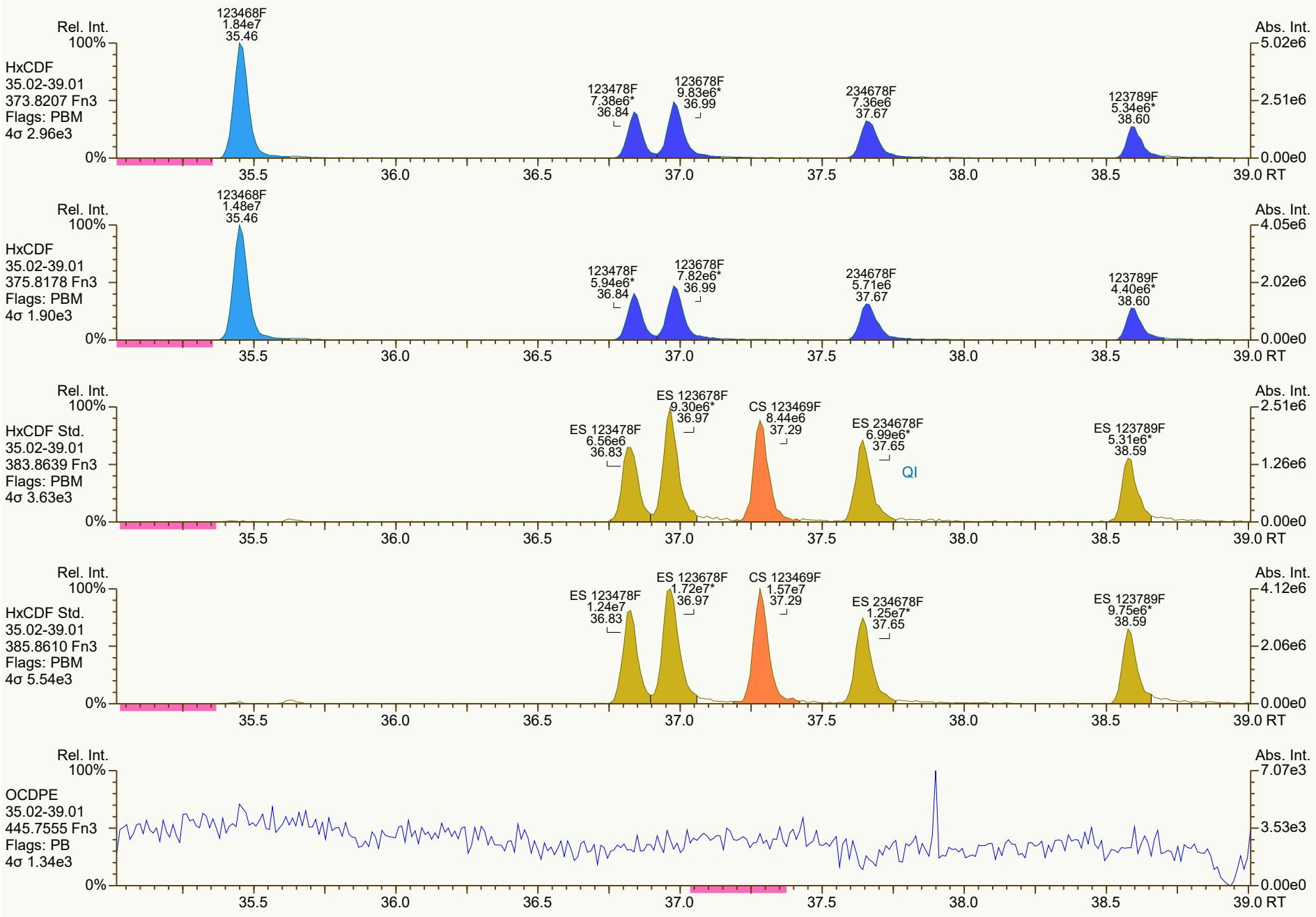

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.60e3
1234678D
4.48e6
40.88
1234679D
1.01e6*
40.19
Abs. Int.
1.20e6
6.01e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.57e3
1234678D
4.12e6
40.87
1234679D
8.92e5*
40.19
Abs. Int.
1.15e6
5.76e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.18e3
ES 1234678D
7.14e6*
40.86
Abs. Int.
1.92e6
9.62e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.39e3
ES 1234678D
6.33e6*
40.86
Abs. Int.
1.66e6
8.28e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.00e7
1.50e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

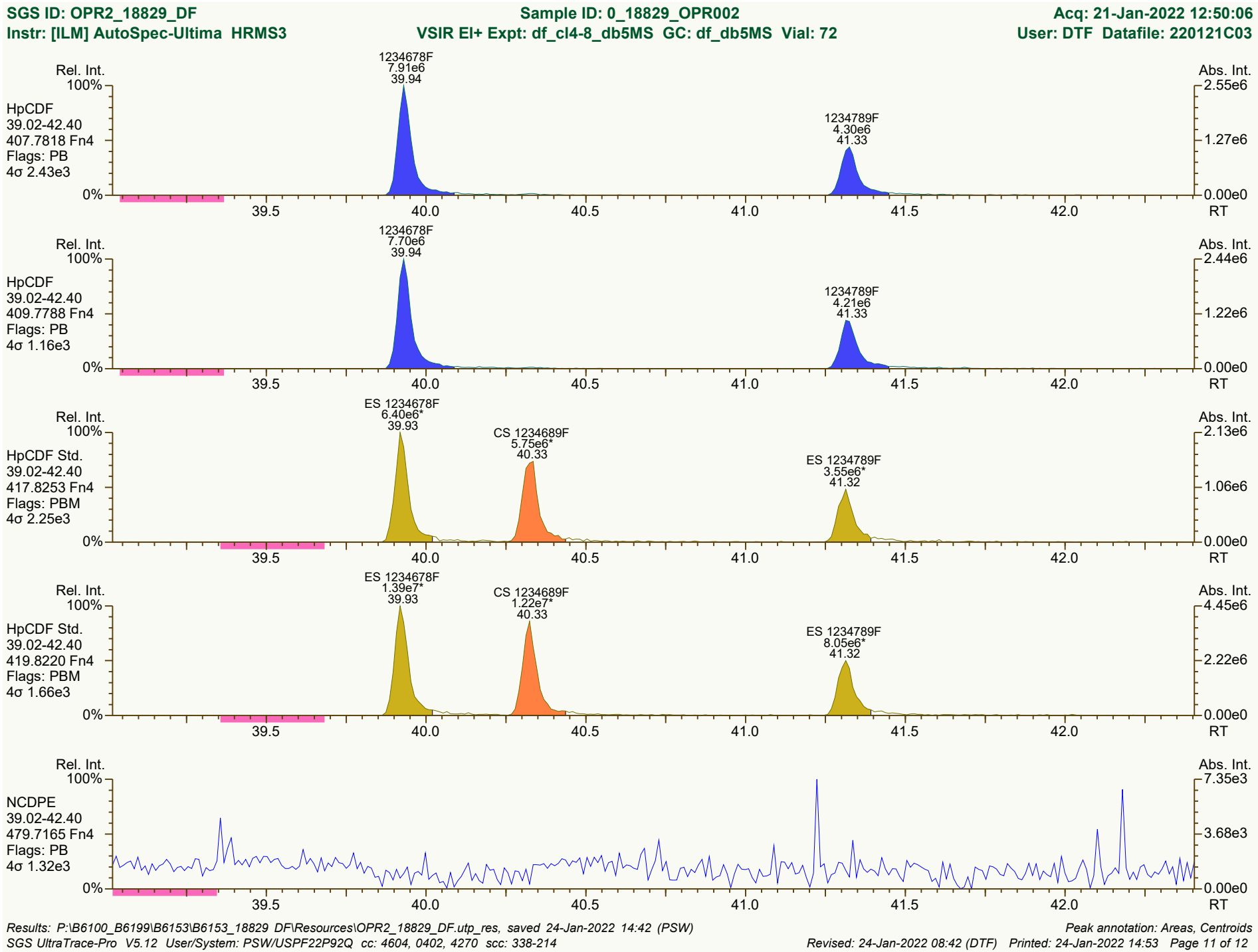

OCDD
5.40e6*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.81e3
0%
Abs. Int.
1.21e6
6.04e5
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
OCDD
5.89e6*
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.99e3
1.32e6
6.58e5
ES OCDD
8.06e6*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.41e3
1.92e6
9.58e5
ES OCDD
8.70e6*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.11e3
1.93e6
9.65e5
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
2.59e7
1.30e7

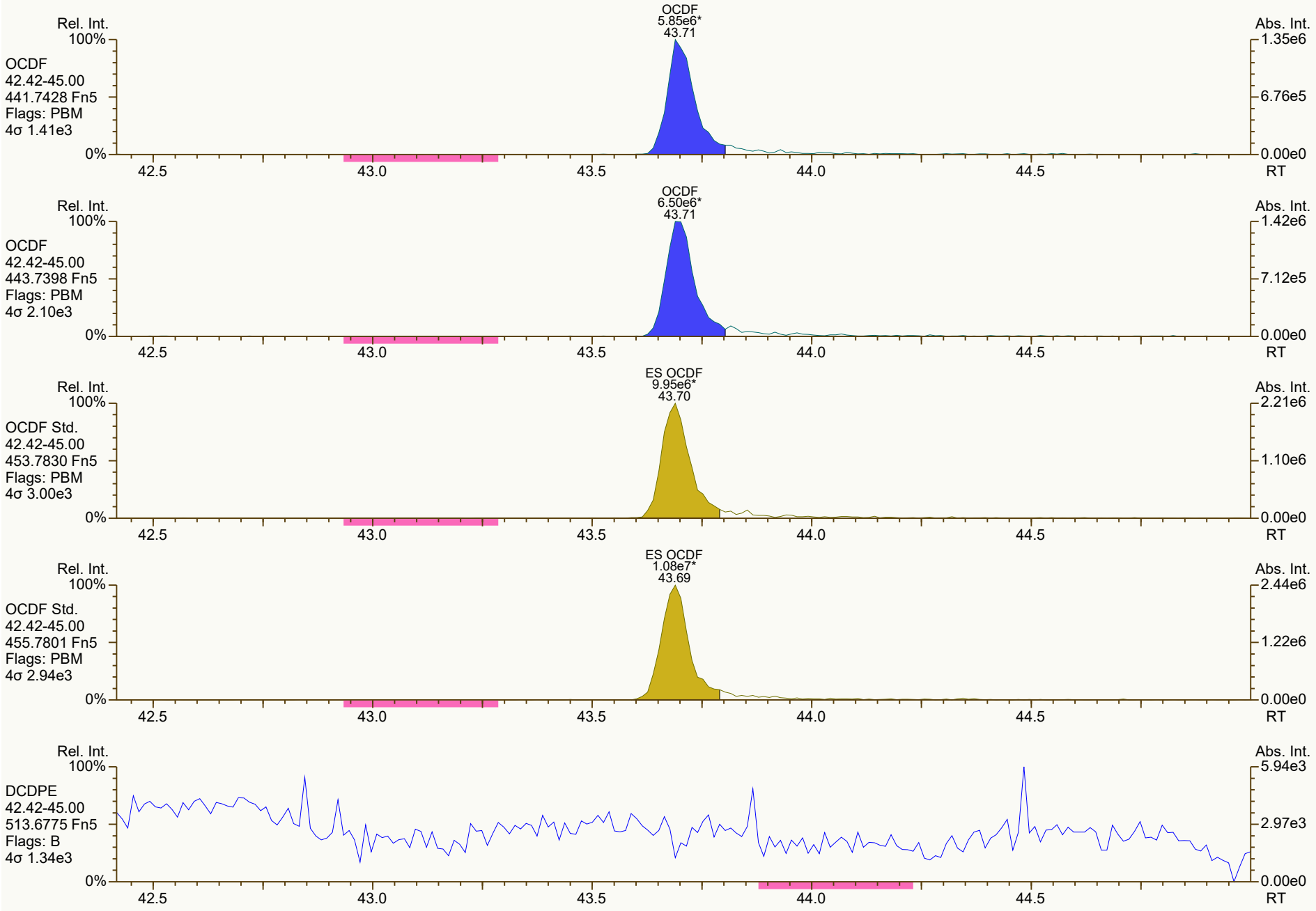

SGS ID: OPR2_18829_DF
Sample ID: 0_18829_OPR002
Acq: 21-Jan-2022 12:50:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220121C03
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.73e3
1368F 2.18e6 22.98
2468F 5.54e5 24.17
2348F 2.10e6* 27.69
2378F 1.76e6* 27.80
1289F 2.37e6 29.79
5.19e5
2.59e5
0.00e0
RT
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.95e3
1368F 2.87e6 22.98
2468F 6.88e5 24.17
2348F 2.62e6* 27.69
2378F 2.21e6* 27.80
1289F 3.08e6 29.79
6.53e5
3.27e5
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 1.01e4
JS 1234F 1.48e7 26.43
ES 2378F 1.31e7 27.78
3.33e6
1.67e6
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 9.32e3
JS 1234F 1.83e7 26.43
ES 2378F 1.60e7 27.78
3.81e6
1.90e6
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.49e3
2.27e4
1.13e4
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR2_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5188, 1426, 0038 scc: 338-214
PKD: 24-Jan-2022 08:41 Printed: 24-Jan-2022 14:53 Page 7 of 12


13468/12468F
1.58e7
29.69
Rel. Int.
100%
0%
Abs. Int.
4.07e6
2.04e6
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.84e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
9.83e6
29.69
Rel. Int.
100%
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR2_18829_DF
Sample ID: 0_18829_OPR002
Acq: 21-Jan-2022 12:50:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220121C03
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 4.14e3
12378F
9.94e6
32.52
23478F
9.78e6
33.62
12389F
1.62e6
34.70
2.56e6
1.28e6
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 3.87e3
12378F
6.53e6
32.52
23478F
6.50e6
33.62
12389F
1.15e6
34.69
1.66e6
8.28e5
0.00e0
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 1.77e3
CS 12346F
1.84e7
31.97
ES 12378F
1.90e7
32.50
ES 23478F
1.73e7
33.61
4.72e6
2.36e6
0.00e0
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.50e3
CS 12346F
1.23e7
31.97
ES 12378F
1.19e7
32.50
ES 23478F
1.13e7
33.61
3.12e6
1.56e6
0.00e0
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.97e3
9.54e3
4.77e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR2_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2099, 9790, 5160 scc: 338-214
PKD: 24-Jan-2022 08:41 Printed: 24-Jan-2022 14:53 Page 9 of 12


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.96e3
123468F
1.84e7
35.46
123478F
7.38e6*
36.84
123678F
9.83e6*
36.99
234678F
7.36e6
37.67
123789F
5.34e6*
38.60
5.02e6
2.51e6
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.90e3
123468F
1.48e7
35.46
123478F
5.94e6*
36.84
123678F
7.82e6*
36.99
234678F
5.71e6
37.67
123789F
4.40e6*
38.60
4.05e6
2.02e6
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.63e3
ES 123478F
6.56e6
36.83
ES 123678F
9.30e6*
36.97
CS 123469F
8.44e6
37.29
ES 234678F
6.99e6*
37.65
QI
ES 123789F
5.31e6*
38.59
2.51e6
1.26e6
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.54e3
ES 123478F
1.24e7
36.83
ES 123678F
1.72e7*
36.97
CS 123469F
1.57e7
37.29
ES 234678F
1.25e7*
37.65
ES 123789F
9.75e6*
38.59
4.12e6
2.06e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.34e3
7.07e3
3.53e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR2_18829_DF
Sample ID: 0_18829_OPR002
Acq: 21-Jan-2022 12:50:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220121C03
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.43e3
1234678F
7.91e6
39.94
1234789F
4.30e6
41.33
2.55e6
1.27e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.16e3
1234678F
7.70e6
39.94
1234789F
4.21e6
41.33
2.44e6
1.22e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.25e3
ES 1234678F
6.40e6*
39.93
CS 1234689F
5.75e6*
40.33
ES 1234789F
3.55e6*
41.32
2.13e6
1.06e6
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.66e3
ES 1234678F
1.39e7*
39.93
CS 1234689F
1.22e7*
40.33
ES 1234789F
8.05e6*
41.32
4.45e6
2.22e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.32e3
7.35e3
3.68e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6153\B6153_18829 DF\Resources\OPR2_18829_DF.utp_res, saved 24-Jan-2022 14:42 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4604, 0402, 4270 scc: 338-214
Revised: 24-Jan-2022 08:42 (DTF) Printed: 24-Jan-2022 14:53 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.41e3
0%
OCDF
5.85e6*
43.71
Abs. Int.
1.35e6
6.76e5
0.00e0
RT
42.5
43.0
43.5
44.0
44.5
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.10e3
0%
OCDF
6.50e6*
43.71
Abs. Int.
1.42e6
7.12e5
0.00e0
RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 3.00e3
0%
ES OCDF
9.95e6*
43.70
Abs. Int.
2.21e6
1.10e6
0.00e0
RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.94e3
0%
ES OCDF
1.08e7*
43.69
Abs. Int.
2.44e6
1.22e6
0.00e0
RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010622-S-BN-SW-B-14H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	Lab Sample ID	B6154_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	79.9 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:28:15

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	14.7				ES 2378-TCDD	103	
12378-PeCDD	EMPC		0.255	J	ES 12378-PeCDD	114	
123478-HxCDD	EMPC		0.333	J	ES 123478-HxCDD	99.3	
123678-HxCDD	EMPC		0.686	J	ES 123678-HxCDD	111	
123789-HxCDD	0.91			J	ES 123789-HxCDD	96.2	
1234678-HpCDD	27.6				ES 1234678-HpCDD	106	
OCDD	474				ES OCDD	102	
2378-TCDF	36.8				ES 2378-TCDF	87.4	
12378-PeCDF	1.64			J	ES 12378-PeCDF	104	
23478-PeCDF	EMPC		1.26	J	ES 23478-PeCDF	99.7	
123478-HxCDF	2.54				ES 123478-HxCDF	95.4	
123678-HxCDF	0.776			J	ES 123678-HxCDF	107	
234678-HxCDF	EMPC		0.243	J	ES 234678-HxCDF	116	
123789-HxCDF	ND	0.186			ES 123789-HxCDF	93.2	
1234678-HpCDF	3.41				ES 1234678-HpCDF	127	
1234789-HpCDF	EMPC		0.45	J	ES 1234789-HpCDF	91.6	
OCDF	14.2				ES OCDF	88.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	102	
Total TCDD	18.6		19.4		CS 12347-PeCDD	115	
Total PeCDD	2.98		3.5		CS 12346-PeCDF	105	
Total HxCDD	20.7		21.7		CS 123469-HxCDF	109	
Total HpCDD	66.7		66.7		CS 1234689-HpCDF	117	
Total TCDF	70.7		81.4				
Total PeCDF	2.8		4.93				
Total HxCDF	4.29		5.2				
Total HpCDF	5.42		5.87				
Total PCDD/Fs	**680**		**697**				
WHO-2005 TEQs							
TEQ: ND=0	19.3		20.1				
TEQ: ND=DL/2	19.3	0.411	20.1				
TEQ: ND=DL	19.3	0.823	20.1				

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Sample ID: 11215131-010622-S-BN-SW-B-14H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	Lab Sample ID:	B6154_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	79.9 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:28:15

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.331)		12479/12468D	0.735	J	124679/124689D	15.6		1234679D	39.1	
1379D	(0.331)		12469D	1.56	J	123468D	(0.336)		1234678D	27.6	
1369D	(0.331)		12368D	(0.225)		123679/123689D	4.16				
1469D	2.56		12478D	(0.225)		123469D	(0.336)				
1247D...[4]	(0.331)		12379D	[0.263]	J	123478D	[0.333]	J			
1378D	(0.331)		12369D...[3]	0.685	J	123678D	[0.686]	J			
1268D	(0.331)		12346/12347D	(0.225)		123467D	(0.336)				
1478D	(0.331)		12378D	[0.255]	J	123789D	0.91	J	**Conc.**	66.7	
1279D	(0.331)		12367D	(0.225)					**EMPC**	66.7	
1234/1269D	[0.474]	J	12389D	(0.225)							
1236D	(0.331)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.348]	J									
1239D	(0.331)								OCDD	474	
2378D	14.7										
1278D	1.32										
1267D	(0.331)										
1289D	(0.331)										
Conc.	18.6		**Conc.**	2.98		**Conc.**	20.7				
EMPC	19.4		**EMPC**	3.5		**EMPC**	21.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	19.3	20.1
TEQ: ND=DL/2	19.3	20.1
TEQ: ND=DL	19.3	20.1

	Conc.	EMPC
Total PCDD/Fs	680	697

Checkcode: 858-619-LXR

Report Created: 21-Feb-2022 11:02 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-B-14H — Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received: 08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	Lab Sample ID:	B6154_18911_DF_001	Date Extracted: 16-Feb-2022
Date Collected:	06-Jan-2022	% Solid:	79.9 %	QC Batch No.:	18911	Date Analyzed: 20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 7:28:15

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.259]	J	13468/12468F	(0.135)		123468F	[0.238]	J	1234678F	3.41	
1468F	[0.466]	J	13678F...[3]	[0.221]	J	124678/134678F	0.974	J	1234679F	(0.253)	
2468F	[0.657]		12368F...[3]	1.17	J	134679F	(0.161)		1234689F	2.02	J
1346/1246F	(0.2)		14678F	(0.203)		124679F	(0.161)		1234789F	[0.45]	J
1347F...[3]	1.69		13479F	(0.203)		124689F	[0.264]	J			
1348F	0.408	J	13469/12479F	(0.203)		123467F	(0.161)				
1248F...[3]	2.37		12346F	(0.203)		123478F	2.54				
1268F	0.872		23468/12469F	(0.203)		123678F	0.776	J			
1467F	[0.389]	J	12347F	(0.203)		123479F	(0.161)				
1478F	1.78		12348F	(0.203)		123469F	(0.161)				
1369/1237F	0.828		12378F	1.64	J	123679F	(0.161)				
2467F	0.426	J	12678/12367F	[0.652]	J	234678F	[0.243]	J	**Conc.**	5.42	
2368F	1.06		12379F	(0.203)		234678/123689F	0		**EMPC**	5.87	
1238F...[5]	[2.66]		12679F	(0.203)		123689F	(0.161)				
1278F	18.1		23467/12369F	(0.203)		123789F	(0.186)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	[0.315]	J	23478F	[1.26]	J	123789/123489F	0				
1267F	1.28		23478/12489F	0		123489F	[0.162]	J	OCDF	14.2	
2346/1249F	[0.405]	J	12489F	(0.203)							
2347/1279F	0.774		12349F	(0.203)							
2348F	[2.36]		12389F	(0.203)							
2378F	36.8										
2367/3467F	3.4										
1269F	0.891										
1239F	(0.2)										
1289F	[3.17]										
Conc.	70.7		**Conc.**	2.8		**Conc.**	4.29				
EMPC	81.4		**EMPC**	4.93		**EMPC**	5.2				

Checkcode: 858-619-LXR

Report Created: 21-Feb-2022 11:02 Analyst: pw

Sample ID: 11215131-010622-S-BN-SW-B-14H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6154_18911_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	QC Batch No.:	18911
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 07:28
Lab Project No:	B6154	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	14.7		0.331	14.7	14.7	14.7
12378-PeCDD	[0.255]	J	0.225	[0.127]	[0.255]	[0.255]
123478-HxCDD	[0.333]	J	0.355	[0.0333]	[0.0333]	[0.0333]
123678-HxCDD	[0.686]	J	0.324	[0.0686]	[0.0686]	[0.0686]
123789-HxCDD	0.91	J	0.33	0.091	0.091	0.091
1234678-HpCDD	27.6		0.381	0.276	0.276	0.276
OCDD	474		1.07	0.474	0.0474	0.142
2378-TCDF	36.8		0.2	3.68	3.68	3.68
12378-PeCDF	1.64	J	0.193	0.0819	0.0819	0.0491
23478-PeCDF	[1.26]	J	0.215	[0.628]	[0.628]	[0.377]
123478-HxCDF	2.54		0.17	0.254	0.254	0.254
123678-HxCDF	0.776	J	0.148	0.0776	0.0776	0.0776
234678-HxCDF	[0.243]	J	0.149	[0.0243]	[0.0243]	[0.0243]
123789-HxCDF	(0.186)		0.186	(0.0186)	(0.0186)	(0.0186)
1234678-HpCDF	3.41		0.186	0.0341	0.0341	0.0341
1234789-HpCDF	[0.45]	J	0.36	[0.0045]	[0.0045]	[0.0045]
OCDF	14.2		0.481	0.0142	0.00142	0.00426

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TEQ Summaries			
EMPC = 0, ND = 0	19.7	19.2	19.3
EMPC = 0, ND = DL / 2	19.7	19.2	19.3
EMPC = 0, ND = DL	19.7	19.3	19.3
EMPC = 0, < J-level = 0	19.4	19	19.1
EMPC = EMPC, ND = 0	20.6	20.3	20.1
EMPC = EMPC, ND = DL / 2	20.6	20.3	20.1
EMPC = EMPC, ND = DL	20.6	20.3	20.1
EMPC = EMPC, < J-level = 0	19.4	19	19.1

Checkcode: 858-619-LXR

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Sample ID: 11215131-010722-S-BN-SW-B-16H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	Lab Sample ID	B6154_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	07-Jan-2022	% Solid:	74.5 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:14:36

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2.42				ES 2378-TCDD	87.9	
12378-PeCDD	0.537			J	ES 12378-PeCDD	97.1	
123478-HxCDD	ND	0.449			ES 123478-HxCDD	88.4	
123678-HxCDD	0.695			J	ES 123678-HxCDD	95.1	
123789-HxCDD	1.39			J	ES 123789-HxCDD	89.9	
1234678-HpCDD	25.5				ES 1234678-HpCDD	92.9	
OCDD	477				ES OCDD	87.8	
2378-TCDF	7.07				ES 2378-TCDF	78.3	
12378-PeCDF	EMPC		0.533	J	ES 12378-PeCDF	91.4	
23478-PeCDF	ND	0.198			ES 23478-PeCDF	86.8	
123478-HxCDF	0.763			J	ES 123478-HxCDF	87.5	
123678-HxCDF	0.331			J	ES 123678-HxCDF	97.8	
234678-HxCDF	ND	0.152			ES 234678-HxCDF	102	
123789-HxCDF	ND	0.188			ES 123789-HxCDF	85	
1234678-HpCDF	0.472			J	ES 1234678-HpCDF	111	
1234789-HpCDF	ND	0.266			ES 1234789-HpCDF	84.2	
OCDF	ND	0.481			ES OCDF	79.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.8	
Total TCDD	18.8		18.8		CS 12347-PeCDD	108	
Total PeCDD	7.98		8.5		CS 12346-PeCDF	96.9	
Total HxCDD	33.8		33.8		CS 123469-HxCDF	108	
Total HpCDD	83.1		83.1		CS 1234689-HpCDF	113	
Total TCDF	17.5		21.1				
Total PeCDF	ND		0.533				
Total HxCDF	1.09		1.09				
Total HpCDF	0.472		0.472				
Total PCDD/Fs	**640**		**644**				
WHO-2005 TEQs							
TEQ: ND=0	4.38		4.4				
TEQ: ND=DL/2	4.45	0.454	4.47				
TEQ: ND=DL	4.52	0.907	4.54				

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Sample ID: 11215131-010722-S-BN-SW-B-16H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	Lab Sample ID:	B6154_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	07-Jan-2022	% Solid:	74.5 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:14:36

Tetra-Dioxins	Conc. (pg/g)	Qualifiers
1368D	(0.385)	
1379D	(0.385)	
1369D	0.579	
1469D	14.9	
1247D...[4]	(0.385)	
1378D	(0.385)	
1268D	(0.385)	
1478D	(0.385)	
1279D	(0.385)	
1234/1269D	0.851	
1236D	(0.385)	
1237/1238D	(0.385)	
1239D	(0.385)	
2378D	2.42	
1278D	(0.385)	
1267D	(0.385)	
1289D	(0.385)	
Conc.	18.8	
EMPC	18.8	

Penta-Dioxins	Conc. (pg/g)	Qualifiers
12479/12468D	0.996	J
12469D	5.29	
12368D	(0.244)	
12478D	[0.299]	J
12379D	[0.218]	J
12369D...[3]	1.16	J
12346/12347D	(0.244)	
12378D	0.537	J
12367D	(0.244)	
12389D	(0.244)	
Conc.	7.98	
EMPC	8.5	

Hexa-Dioxins	Conc (pg/g)	Qualifiers
124679/124689D	25.3	
123468D	(0.398)	
123679/123689D	5.53	
123469D	0.882	J
123478D	(0.449)	
123678D	0.695	J
123467D	(0.398)	
123789D	1.39	J
Conc.	33.8	
EMPC	33.8	

Hepta-Dioxins	Conc (pg/g)	Qualifiers
1234679D	57.6	
1234678D	25.5	
Conc.	83.1	
EMPC	83.1	

Octa-Dioxin	Conc (pg/g)	Qualifiers
OCDD	477	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	4.38	4.4
TEQ: ND=DL/2	4.45	4.47
TEQ: ND=DL	4.52	4.54

	Conc.	EMPC
Total PCDD/Fs	640	644

Checkcode: 318-250-WLN

Report Created: 21-Feb-2022 11:05 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-B-16H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	Lab Sample ID:	B6154_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	07-Jan-2022	% Solid:	74.5 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:14:36

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.33	J	13468/12468F	(0.189)		123468F	(0.158)		1234678F	0.472	J
1468F	(0.206)		13678F...[3]	(0.201)		124678/134678F	(0.158)		1234679F	(0.189)	
2468F	0.772		12368F...[3]	(0.201)		134679F	(0.158)		1234689F	(0.189)	
1346/1246F	(0.206)		14678F	(0.201)		124679F	(0.158)		1234789F	(0.266)	
1347F...[3]	1.48		13479F	(0.201)		124689F	(0.158)				
1348F	(0.206)		13469/12479F	(0.201)		123467F	(0.158)				
1248F...[3]	[0.863]		12346F	(0.201)		123478F	0.763	J			
1268F	[0.316]	J	23468/12469F	(0.201)		123678F	0.331	J			
1467F	(0.206)		12347F	(0.201)		123479F	(0.158)				
1478F	0.671		12348F	(0.201)		123469F	(0.158)				
1369/1237F	[0.513]		12378F	[0.533]	J	123679F	(0.158)				
2467F	[0.308]	J	12678/12367F	(0.201)		234678F	(0.152)		**Conc.**	0.472	
2368F	[0.252]	J	12379F	(0.201)		234678/123689F	0		**EMPC**	0.472	
1238F...[5]	1.45		12679F	(0.201)		123689F	(0.158)				
1278F	3.84		23467/12369F	(0.201)		123789F	(0.188)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.206)		23478F	(0.198)		123789/123489F	0				
1267F	0.605		23478/12489F	0		123489F	(0.158)		OCDF	(0.481)	
2346/1249F	(0.206)		12489F	(0.201)							
2347/1279F	[0.352]	J	12349F	(0.201)							
2348F	0.669		12389F	(0.201)							
2378F	7.07										
2367/3467F	[1.03]										
1269F	(0.206)										
1239F	(0.206)										
1289F	0.627										
Conc.	17.5		**Conc.**	0		**Conc.**	1.09				
EMPC	21.1		**EMPC**	0.533		**EMPC**	1.09				

Checkcode: 318-250-WLN

Report Created: 21-Feb-2022 11:05 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-B-16H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6154_18911_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.46 g	QC Batch No.:	18911
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 08:14
Lab Project No:	B6154	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2.42		0.385	2.42	2.42	2.42
12378-PeCDD	0.537	J	0.244	0.269	0.537	0.537
123478-HxCDD	(0.449)		0.449	(0.0449)	(0.0449)	(0.0449)
123678-HxCDD	0.695	J	0.387	0.0695	0.0695	0.0695
123789-HxCDD	1.39	J	0.364	0.139	0.139	0.139
1234678-HpCDD	25.5		0.406	0.255	0.255	0.255
OCDD	477		0.844	0.477	0.0477	0.143
2378-TCDF	7.07		0.206	0.707	0.707	0.707
12378-PeCDF	[0.533]	J	0.204	[0.0266]	[0.0266]	[0.016]
23478-PeCDF	(0.198)		0.198	(0.0991)	(0.0991)	(0.0594)
123478-HxCDF	0.763	J	0.156	0.0763	0.0763	0.0763
123678-HxCDF	0.331	J	0.145	0.0331	0.0331	0.0331
234678-HxCDF	(0.152)		0.152	(0.0152)	(0.0152)	(0.0152)
123789-HxCDF	(0.188)		0.188	(0.0188)	(0.0188)	(0.0188)
1234678-HpCDF	0.472	J	0.138	0.00472	0.00472	0.00472
1234789-HpCDF	(0.266)		0.266	(0.00266)	(0.00266)	(0.00266)
OCDF	(0.481)		0.481	(0.000481)	(0.0000481)	(0.000144)

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TEQ Summaries			
EMPC = 0, ND = 0	4.45	4.29	4.38
EMPC = 0, ND = DL / 2	4.54	4.38	4.45
EMPC = 0, ND = DL	4.63	4.47	4.52
EMPC = 0, < J-level = 0	3.86	3.43	3.52
EMPC = EMPC, ND = 0	4.48	4.31	4.4
EMPC = EMPC, ND = DL / 2	4.57	4.4	4.47
EMPC = EMPC, ND = DL	4.66	4.5	4.54
EMPC = EMPC, < J-level = 0	3.86	3.43	3.52

Checkcode: 318-250-WLN

Sample ID: Method Blank B6154_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.388			ES 2378-TCDD	89.5	
12378-PeCDD	ND	0.236			ES 12378-PeCDD	98.9	
123478-HxCDD	ND	0.269			ES 123478-HxCDD	90.6	
123678-HxCDD	ND	0.25			ES 123678-HxCDD	95.4	
123789-HxCDD	ND	0.266			ES 123789-HxCDD	88.3	
1234678-HpCDD	ND	0.39			ES 1234678-HpCDD	93.1	
OCDD	ND	0.598			ES OCDD	88.9	
2378-TCDF	ND	0.224			ES 2378-TCDF	79.3	
12378-PeCDF	ND	0.182			ES 12378-PeCDF	93.4	
23478-PeCDF	ND	0.183			ES 23478-PeCDF	93.7	
123478-HxCDF	ND	0.184			ES 123478-HxCDF	90.9	
123678-HxCDF	ND	0.173			ES 123678-HxCDF	102	
234678-HxCDF	ND	0.178			ES 234678-HxCDF	106	
123789-HxCDF	ND	0.198			ES 123789-HxCDF	88.6	
1234678-HpCDF	ND	0.211			ES 1234678-HpCDF	97.9	
1234789-HpCDF	ND	0.31			ES 1234789-HpCDF	89.8	
OCDF	ND	0.451			ES OCDF	88.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	ND	0.388	ND		CS 12347-PeCDD	120	
Total PeCDD	ND	0.236	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	0.261	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.39	ND		CS 1234689-HpCDF	106	
Total TCDF	ND	0.224	ND				
Total PeCDF	ND	0.183	ND				
Total HxCDF	ND	0.182	ND				
Total HpCDF	ND	0.254	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.434	0.434	0.434				
TEQ: ND=DL	0.868	0.868	0.868				

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Sample ID: Method Blank B6154_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.388)		12479/12468D	(0.236)		124679/124689D	(0.261)		1234679D	(0.39)	
1379D	(0.388)		12469D	(0.236)		123468D	(0.261)		1234678D	(0.39)	
1369D	(0.388)		12368D	(0.236)		123679/123689D	(0.261)				
1469D	(0.388)		12478D	(0.236)		123469D	(0.261)				
1247D...[4]	(0.388)		12379D	(0.236)		123478D	(0.269)				
1378D	(0.388)		12369D...[3]	(0.236)		123678D	(0.25)				
1268D	(0.388)		12346/12347D	(0.236)		123467D	(0.261)				
1478D	(0.388)		12378D	(0.236)		123789D	(0.266)		**Conc.**	0	
1279D	(0.388)		12367D	(0.236)					**EMPC**	0	
1234/1269D	(0.388)		12389D	(0.236)							
1236D	(0.388)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.388)										
1239D	(0.388)								OCDD	(0.598)	
2378D	(0.388)										
1278D	(0.388)										
1267D	(0.388)										
1289D	(0.388)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.434	0.434
TEQ: ND=DL	0.868	0.868

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 11:02 Analyst: pw

Sample ID: Method Blank B6154_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.224)		13468/12468F	(0.17)		123468F	(0.182)		1234678F	(0.211)	
1468F	(0.224)		13678F...[3]	(0.183)		124678/134678F	(0.182)		1234679F	(0.254)	
2468F	(0.224)		12368F...[3]	(0.183)		134679F	(0.182)		1234689F	(0.254)	
1346/1246F	(0.224)		14678F	(0.183)		124679F	(0.182)		1234789F	(0.31)	
1347F...[3]	(0.224)		13479F	(0.183)		124689F	(0.182)				
1348F	(0.224)		13469/12479F	(0.183)		123467F	(0.182)				
1248F...[3]	(0.224)		12346F	(0.183)		123478F	(0.184)				
1268F	(0.224)		23468/12469F	(0.183)		123678F	(0.173)				
1467F	(0.224)		12347F	(0.183)		123479F	(0.182)				
1478F	(0.224)		12348F	(0.183)		123469F	(0.182)				
1369/1237F	(0.224)		12378F	(0.182)		123679F	(0.182)				
2467F	(0.224)		12678/12367F	(0.183)		234678F	(0.178)		**Conc.**	0	
2368F	(0.224)		12379F	(0.183)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.224)		12679F	(0.183)		123689F	(0.182)				
1278F	(0.224)		23467/12369F	(0.183)		123789F	(0.198)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.224)		23478F	(0.183)		123789/123489F	0				
1267F	(0.224)		23478/12489F	0		123489F	(0.182)		OCDF	(0.451)	
2346/1249F	(0.224)		12489F	(0.183)							
2347/1279F	(0.224)		12349F	(0.183)							
2348F	(0.224)		12389F	(0.183)							
2378F	(0.224)										
2367/3467F	(0.224)										
1269F	(0.224)										
1239F	(0.224)										
1289F	(0.224)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 11:02 Analyst: pw

Sample ID: Method Blank B6154_18911 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18911_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18911
Date Collected:	n/a	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	19-Feb-2022 19:37
Lab Project No:	B6154	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.388)		0.388	(0.388)	(0.388)	(0.388)
12378-PeCDD	(0.236)		0.236	(0.118)	(0.236)	(0.236)
123478-HxCDD	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
123678-HxCDD	(0.25)		0.25	(0.025)	(0.025)	(0.025)
123789-HxCDD	(0.266)		0.266	(0.0266)	(0.0266)	(0.0266)
1234678-HpCDD	(0.39)		0.39	(0.0039)	(0.0039)	(0.0039)
OCDD	(0.598)		0.598	(0.000598)	(0.0000598)	(0.000179)
2378-TCDF	(0.224)		0.224	(0.0224)	(0.0224)	(0.0224)
12378-PeCDF	(0.182)		0.182	(0.00912)	(0.00912)	(0.00547)
23478-PeCDF	(0.183)		0.183	(0.0915)	(0.0915)	(0.0549)
123478-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
123678-HxCDF	(0.173)		0.173	(0.0173)	(0.0173)	(0.0173)
234678-HxCDF	(0.178)		0.178	(0.0178)	(0.0178)	(0.0178)
123789-HxCDF	(0.198)		0.198	(0.0198)	(0.0198)	(0.0198)
1234678-HpCDF	(0.211)		0.211	(0.00211)	(0.00211)	(0.00211)
1234789-HpCDF	(0.31)		0.31	(0.0031)	(0.0031)	(0.0031)
OCDF	(0.451)		0.451	(0.000451)	(0.0000451)	(0.000135)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.395	0.454	0.434
EMPC = 0, ND = DL	0.791	0.908	0.868
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.395	0.454	0.434
EMPC = EMPC, ND = DL	0.791	0.908	0.868
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 399-492-BMX

Sample ID: 0_18911_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:04:19

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.7				ES 2378-TCDD	91.5	
12378-PeCDD	50.5				ES 12378-PeCDD	90.9	
123478-HxCDD	54.5				ES 123478-HxCDD	98.2	
123678-HxCDD	56.6				ES 123678-HxCDD	102	
123789-HxCDD	52.2				ES 123789-HxCDD	92	
1234678-HpCDD	54.9				ES 1234678-HpCDD	97.5	
OCDD	112				ES OCDD	90	
2378-TCDF	10.9				ES 2378-TCDF	77.7	
12378-PeCDF	48.7				ES 12378-PeCDF	91.4	
23478-PeCDF	54.1				ES 23478-PeCDF	85.6	
123478-HxCDF	51.5				ES 123478-HxCDF	96.2	
123678-HxCDF	53.7				ES 123678-HxCDF	103	
234678-HxCDF	54.4				ES 234678-HxCDF	111	
123789-HxCDF	48.7				ES 123789-HxCDF	94.4	
1234678-HpCDF	50.9				ES 1234678-HpCDF	104	
1234789-HpCDF	51.7				ES 1234789-HpCDF	95.5	
OCDF	103				ES OCDF	91.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.6	
Total TCDD	53.1		53.1		CS 12347-PeCDD	108	
Total PeCDD	77.7		77.7		CS 12346-PeCDF	98.4	
Total HxCDD	179		179		CS 123469-HxCDF	119	
Total HpCDD	68.4		68.4		CS 1234689-HpCDF	113	
Total TCDF	63.5		63.5				
Total PeCDF	206		206				
Total HxCDF	334		334				
Total HpCDF	103		103				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.265	120				
TEQ: ND=DL	120	0.53	120				

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Sample ID: 0_18911_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6154	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:55:34

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.1				ES 2378-TCDD	97.9	
12378-PeCDD	47.5				ES 12378-PeCDD	103	
123478-HxCDD	52.2				ES 123478-HxCDD	98.4	
123678-HxCDD	54.5				ES 123678-HxCDD	104	
123789-HxCDD	51.6				ES 123789-HxCDD	91.9	
1234678-HpCDD	52.2				ES 1234678-HpCDD	98	
OCDD	109				ES OCDD	92.5	
2378-TCDF	10.7				ES 2378-TCDF	85.1	
12378-PeCDF	49.7				ES 12378-PeCDF	96.4	
23478-PeCDF	50.9				ES 23478-PeCDF	100	
123478-HxCDF	51.4				ES 123478-HxCDF	91.9	
123678-HxCDF	50.6				ES 123678-HxCDF	105	
234678-HxCDF	50.7				ES 234678-HxCDF	114	
123789-HxCDF	47.8				ES 123789-HxCDF	94	
1234678-HpCDF	49.8				ES 1234678-HpCDF	107	
1234789-HpCDF	49.1				ES 1234789-HpCDF	95.3	
OCDF	103				ES OCDF	92.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	101	
Total TCDD	52.3		52.3		CS 12347-PeCDD	116	
Total PeCDD	73.6		73.6		CS 12346-PeCDF	105	
Total HxCDD	174		174		CS 123469-HxCDF	109	
Total HpCDD	65.2		65.2		CS 1234689-HpCDF	106	
Total TCDF	63.4		63.4				
Total PeCDF	197		197				
Total HxCDF	320		320				
Total HpCDF	98.8		98.8				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.279	114				
TEQ: ND=DL	114	0.558	114				

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Sample DUP

Method 1613B

Sample ID: 0_18911_OPR001

Analyte	OPR1_18911_DF pg/uL	OPR2_18911_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.7	11.1	5.3%
1,2,3,7,8-PeCDD	50.5	47.5	6.1%
1,2,3,4,7,8-HxCDD	54.5	52.2	4.3%
1,2,3,6,7,8-HxCDD	56.6	54.5	3.9%
1,2,3,7,8,9-HxCDD	52.2	51.6	1.2%
1,2,3,4,6,7,8-HpCDD	54.9	52.2	5.0%
OCDD	112	109	2.6%
2,3,7,8-TCDF	10.9	10.7	2.1%
1,2,3,7,8-PeCDF	48.7	49.7	2.1%
2,3,4,7,8-PeCDF	54.1	50.9	6.3%
1,2,3,4,7,8-HxCDF	51.5	51.4	0.2%
1,2,3,6,7,8-HxCDF	53.7	50.6	5.9%
2,3,4,6,7,8-HxCDF	54.4	50.7	7.0%
1,2,3,7,8,9-HxCDF	48.7	47.8	1.9%
1,2,3,4,6,7,8-HpCDF	50.9	49.8	2.3%
1,2,3,4,7,8,9-HpCDF	51.7	49.1	5.3%
OCDF	103	103	0.9%
Totals			
Total TCDD	53.1	52.3	1.6%
Total PeCDD	77.7	73.6	5.4%
Total HxCDD	179	174	3.0%
Total HpCDD	68.4	65.2	4.8%
Total TCDF	63.5	63.4	0.1%
Total PeCDF	206	197	4.6%
Total HxCDF	334	320	4.2%
Total HpCDF	103	98.8	3.8%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager: *Tamara Burkamper*
Receipt Date & Time: *08-Jan-22 at 13:00*
AP Project name: *B6154*
Requested TAT: *10 business days*
Projected due date: *21-Feb-22*
Matrix: *Solid*
Phone#: *910-794-1613*
Email Address: *Tamara.Burkamper@sgs.com*

Company Contact: *Meagan Willis*
Company: *GHD Services Inc.*
Project Name & Site: *11215131-SJRWP-PCFSE*
Project PO#: *340-002625*
QAAP/Contract #: *n/a*
Requested Analysis: *M1613B*
Phone#: *713-907-3710*
Email Address: *Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010622-S-BN-SW-B-14H	B6154_001*	Solid	1	4oz Amber	06-Jan-22	14:50	-0.6	1	4905 2704 3675
11215131-010722-S-BN-SW-B-16H	B6154_002*	Solid	1	4oz Amber	07-Jan-22	10:20	-0.6	1	4905 2704 3675

Preservation Type:
Sample Seals: No
Notes/Comments:

Samples received intact. Samples not received frozen. *sample taken off HOLD per email dated 02/04/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jeannie Milholland *Logged in by: Ashley Owens* *QC'ed by:* TB 02/07/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B60154

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☐ Level II ☐ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☐ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, -
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B (D/F)	~~M8290A~~ (BN)	~~M1668A~~ (BN)	~~M1668B~~ (BN)	~~HR-PAH~~ (BN)	~~M1699~~	QC: MS	MSD	DUP	QTY	REMARKS
11215131-010622-S-BN-SW-S-28	1-6-22	1400	C	S	402	X										1	~~SEE SSOW~~ (BN) RUSH
11215131-010622-S-BN-SW-S-29		1410				X										1	RUSH
11215131-010622-S-BN-SW-D-11		1420				X										1	
11215131-010622-S-BN-SW-B-13		1430				X										1	
11215131-010622-S-BN-SW-B-14		1440				X										1	
11215131-010622-S-BN-SW-B-14A	↓	1450				X										1	HOLD *
11215131-010722-S-BN-SW-S-31	1-7-22	0920				X										1	RUSH
11215131-010722-S-BN-SW-S-32		0930				X										1	RUSH
11215131-010722-S-BN-SW-S-33		0940				X										1	RUSH
11215131-010722-S-BN-SW-D-13	↓	0950	↓	↓	↓	X										1	

COLLECTED/RELINQUISHED BY (1): Breanna North	DATE: (BN) 1-7-22	TIME: 1730	RECEIVED BY: Eddie Gast	RECEIVED BY LABORATORY: Jeannie Micholand	DATE: 1-8-2022 TIME: 1300
RELINQUISHED BY (2): Eddie Gast	DATE: 1-7-22	TIME: 1315	RECEIVED BY: Jon Kerr 1/7/22	COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT	
RELINQUISHED BY (3): Jon Kerr	DATE: 1/7/22	TIME: 1315	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT	
				CARRIER: Fed. Ex	TEMP: °C -0.6
				TRACKING #: 4905-2704-3675	

*=samples in this project.

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

B60154

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	4082904	M4668A	M4668C	MR-PAH	MT699	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-010722-S-BN-SW-0[illegible]	1-7-22	1000	C	S	4oz		X									1	
11215131-010722-S-BN-SW-B-16	↓	1010	↓	↓	↓		X									1	
11215131-010722-S-BN-SW-B-[illegible]	↓	1020	↓	↓	↓		X									1	HOLD *

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna Worth	1-7-22	1230	Eddie Castro
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Eddie Castro	1-7-22	1317	[signature] 1/7/22 1315
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
[signature]	1/7/22	1315	

RECEIVED BY LABORATORY: [signature] DATE: 1-8-2022 TIME: 1300
COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: Fed Ex TEMP: °C -0.6 IR-P
TRACKING #: 4905 2704 3675

* = samples in this project.

B6154

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#1

SHIP DATE: 07JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: 48QT

1/8/2022
13:00
-0.6° (T.B.)

565C2/01EF/05A2

FedEx Express

J191219002001uv

TRK# 0201 4905 2704 3675

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US RDU

Part # 156146-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#2

SHIP DATE: 07JAN22
ACTWGT: 26.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: 30QT

1-8-2022
-0.4°C
1300pm

FedEx Express

J191219082001uv

TRK# 0201 4905 2704 3664

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US RDU

Part # 156146-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6154

Initiation Date: 07-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: HRMS Lab: RMW 2/21/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: RMW 2/21/22

PM Initials: tburkamper Date: 07-Feb-2022

SGS

Methods: PCB PAH | ~~PCDD/F~~ WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: ~~SDS~~ CLL | TALEX Carbon SPE | [Solid] | Final Volume: 20µL

Batch# 18911 | Split: 1/2 ~~1/4~~ | Extract Initial/Date: JH 2/16/22 | Clean-up Initial/Date: ~~KAB~~ 2/18/22 | Transfer Init/Date: ~~KAB~~ 2/18/22

Lab Sample ID	Extraction Position Solvent: DCM	Extraction Weight/Volume g / mL	(Td)	ASECS #	Observations
B5962_18911_003	4	15.46			black/gray, sticky, clay-like
B5964_18911_007	5	13.65			black/gray, sticky, clay-like
B5992_18911_002	6	13.35			fuel smell, gray, clay-like
B6008_18911_001	7	13.84			black/gray, sticky, clay-like
B6008_18911_003	8	13.22			black/gray, clay-like
B6080_18911_002	9	16.54			black/gray, clay-like, moist, fuel smell
B6110_18911_002	10	14.58			black/gray, clay-like
B6140_18911_001	11	13.22			black/gray, clay-like
B6148_18911_002	12	14.15			black/gray, clay-like
B6148_18911_004	13	13.42			black/gray, clay-like
B6154_18911_001	14	12.82			gray, sandy/clay-like
B6154_18911_002	15	14.03			gray, clay-like
B6208_18911_001	16	12.78			gray, clay-like
B6208_18911_002	17	14.25			gray, clay-like, fuel smell
B6208_18911_003	18	13.32			gray, clay-like, fuel smell
B6208_18911_004	19	13.66			black/gray, clay-like, strong fuel smell
MB1_18911	1	10.00			sodium sulfate
OPR1_18911	2	10.00			sodium sulfate
OPR2_18911	3	10.00			sodium sulfate

TB 2/23/2022

Supply IDs

Toluene STL 14-96
MeCHL STL14-17
Florisil SPLS-83
Hexane STL14-29
Silica SPLS-69
S Nitrate N/A
Base Silica SPLS-86
HydroMatrix N/A
Tetradecane SPLS-730
H_2SO_4 N/A
A Silica SPLS-90
Sodium Sulfate SPLS-808

Additional Cleanup

Acid Partition Date/Initial:
Mini-Acid Date/Initial:
Carbon Column Date/Initial: TB 2/23/2022
GPC Date/Initial:
Bond-Elute Date/Initial:

Cycle Time

TOL Start: 1630 Stop: 0900
HEX Start: Stop:
DCM Start: Stop:

TB 2/23/2022

~~KAB~~ 2/18/22

TB 2/23/2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18911

Inter-Department Communication Sheet

TB
2/23/2022

SGS

Wt. Volume Results

Batch #: 18911

Comments:

ak 2/24/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B5962_003	2.36	5.09	4.16	65.93%	65.93%			15.17	15.46	10.19
B5964_007	2.3	4.53	4	76.23%	76.23%			13.12	13.65	10.41
B5992_002	2.37	4.8	4.22	76.13%	76.13%			13.14	13.35	10.16
B6008_001	2.37	4.44	3.92	74.88%	74.88%			13.35	13.84	10.36
B6008_003	2.41	4.46	3.98	76.59%	76.59%			13.06	13.22	10.13
B6080_002	2.39	4.82	3.98	65.43%	65.43%			15.28	16.54	10.82
B6110_002	2.4	4.86	4.13	70.33%	70.33%			14.22	14.58	10.25
B6140_001	2.36	5.24	4.6	77.78%	77.78%			12.86	13.22	10.28
B6148_002	2.35	4.43	3.93	75.96%	75.96%			13.16	14.15	10.75
B6148_004	2.36	4.55	4.03	76.26%	76.26%			13.11	13.42	10.23
B6154_001	2.33	5.22	4.64	79.93%	79.93%			12.51	12.82	10.25
B6154_002	2.38	4.5	3.96	74.53%	74.53%			13.42	14.03	10.46
B6208_001	2.33	5.5	4.85	79.50%	79.50%			12.58	12.78	10.16
B6208_002	2.33	4.77	4.1	72.54%	72.54%			13.79	14.25	10.34
B6208_003	2.33	5.23	4.56	76.90%	76.90%			13	13.32	10.24
B6208_004	2.32	5.1	4.45	76.62%	76.62%			13.05	13.66	10.47

TB 2/23/2022

TB 2/23/2022

SGS
SGS

Batch: 18911
Batch: 18911

Lab Sample ID	Boat Wt.	Sample Wt + Boat Wt.	Dried Sample + Boat Wt.	DWE / log DWE	Comments
B5962_18911_003	2.386	5.099	4.166	15.17	
B5962_18911_003 B5964_18911_007	2.386	4.655	4.020	13.13	
B5964_18911_007 B5992_18911_002	2.357	4.988	4.222	13.14	
B5992_18911_002 B6008_18911_001	2.37	4.444	3.998	13.35	
B6008_18911_001 B6008_18911_003	2.411	4.446	3.988	13.86	
B6008_18911_003 B6080_18911_002	2.389	4.482	3.977	13.88	
B6080_18911_002 B6110_18911_002	2.410	4.896	4.13	14.22	
B6110_18911_002 B6140_18911_001	2.376	5.214	4.166	12.86	
B6140_18911_001 B6148_18911_002	2.355	4.413	3.993	13.16	
B6148_18911_002 B6148_18911_004	2.396	4.455	4.03	13.11	
B6148_18911_004 B6154_18911_001	2.333	5.282	4.164	12.51	
B6154_18911_001 B6154_18911_002	2.388	4.550	3.996	13.43	
B6154_18911_002 B6208_18911_001	2.333	5.580	4.185	12.58	
B6208_18911_001 B6208_18911_002	2.333	4.777	4.149	13.79	
B6208_18911_002 B6208_18911_003	2.332	5.253	4.186	13.00	
B6208_18911_003 B6208_18911_004	2.350	5.200	4.245	13.05	
B6208_18911_004					

2/14/22

Date/Initials: JKH 2/14/22

Date/Initials: JKH 2/14/22

SGS

Methods: PCB PAH PCDD/F WHO-2 QUANTICS USV DoD PCDD/F PEST Solid

Batch # 18911

Batch # 18911

Lab Sample ID	Spiker Initials/Date:							
	O/F Ax-A Amount: 20µL	O/F Ax-B Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B5962_18911_003 B5962_18911_003	–	–						
B5964_18911_007 B5964_18911_007	–	–						
B5992_18911_002 B5992_18911_002	–	–						
B6008_18911_001 B6008_18911_001	–	–						
B6008_18911_003 B6008_18911_003	–	–						
B6080_18911_002 B6080_18911_002	–	–						
B6110_18911_002 B6110_18911_002	–	–						
B6140_18911_001 B6140_18911_001	–	–						
B6148_18911_002 B6148_18911_002	–	–						
B6148_18911_004 B6148_18911_004	–	–						
B6154_18911_001 B6154_18911_001	–	–						
B6154_18911_002 B6154_18911_002	–	–						
B6208_18911_001 B6208_18911_001	–	–						
B6208_18911_002 B6208_18911_002	–	–						
B6208_18911_003 B6208_18911_003	–	–						
B6208_18911_004 B6208_18911_004	–	–						
MB1_18911 MB1_18911	–	–						
OPR1_18911 OPR1_18911								
OPR2_18911 OPR2_18911								

2/18/22

Standard Information

Pipette ID							
Spike ID	O/F Ax-A	O/F Ax-B					
SIL #							
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/14/23	6/22/22	8/[illegible]/22	11/16/2022	1/28/2023		

2/18/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA ✓	1.00	25-347-1	DTF, PSW	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF, PSW	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
4	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF, PSW	399-492	19-Feb-2022	19:37:00
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF, PSW	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF, PSW	488-895	20-Feb-2022	05:55:34
18	220219C18	2	SBS_220219_DF_CC	1.00	20-61-1	DTF	590-722	20-Feb-2022	06:41:55
19	220219C19	38	B6154_18911_DF_001	10.25	11215131-010622-S-BN-SW-B-14H	DTF, PSW	858-619	20-Feb-2022	07:28:15
20	220219C20	39	B6154_18911_DF_002 ✓	10.46	11215131-010722-S-BN-SW-B-16H	DTF, PSW	318-250	20-Feb-2022	08:14:36

REVIEWED
paul_walton , 2/21/2022, 11:12:03 AM

REVIEWED
Amber_Kornegay , 2/23/2022, 8:45:33 AM

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6154_18911 | **UTP:** 21-Feb-2022 11:01:44 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 11:02 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4631.374	0.388
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2783.22	0.236
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3118.687	0.269
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	3118.687	0.25
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	3118.687	0.266
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	4399.488	0.39
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3230.665	0.598
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3471.373	0.224
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.182
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.183
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3096.37	0.184
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3096.37	0.173
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3096.37	0.178
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3096.37	0.198
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3605.552	0.211
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3605.552	0.31
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2961.523	0.451

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.20E+07	0.81	Y	1.05	89.5
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.05E+07	1.59	Y	0.88	98.9
ES 123478-HxCDD	37.56	0.9916	0.9916	0	1.85E+07	1.28	Y	0.97	90.6
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	1.89E+07	1.29	Y	0.94	95.4
ES 123789-HxCDD	37.99	1.0029	1.0028	-0.2	2.02E+07	1.23	Y	1.09	88.3
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	1.78E+07	1.06	Y	0.91	93.1
ES OCDD	43.41	1.1460	1.1460	0	2.32E+07	0.89	Y	0.62	88.9
ES 2378-TCDF	27.36	1.0531	1.0534	+0.5	3.24E+07	0.79	Y	1.06	79.3
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	3.28E+07	1.56	Y	0.91	93.4
ES 23478-PeCDF	33.29	1.2810	1.2818	+1.6	3.19E+07	1.50	Y	0.88	93.7
ES 123478-HxCDF	36.55	0.9650	0.9650	0	2.28E+07	0.54	Y	1.20	90.9
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.90E+07	0.56	Y	1.35	102
ES 234678-HxCDF	37.38	0.9866	0.9867	+0.2	2.76E+07	0.53	Y	1.24	106
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.14E+07	0.55	Y	1.16	88.6
ES 1234678-HpCDF	39.78	1.0501	1.0500	-0.2	1.98E+07	0.44	Y	0.97	97.9
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	1.60E+07	0.46	Y	0.85	89.8
ES OCDF	43.59	1.1505	1.1505	0	3.00E+07	0.93	Y	0.81	88.7

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6154_18911 | **UTP:** 21-Feb-2022 11:01:44 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 11:02 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.35E+07	0.80	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.86E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.05E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.08E+07	n/a	-	1.20	95.7
CS 12347-PeCDD	33.12		1.2016	1.2020	+0.8	2.12E+07	1.58	Y	0.75	120
CS 12346-PeCDF	31.63		1.2172	1.2180	+1.5	3.45E+07	1.61	Y	0.85	105
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.65E+07	0.53	Y	1.12	113
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	1.98E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~2.12E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.45E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.65E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.98E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18911_DF_SDS **Acq'd: 19 Feb 2022 19:37 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6154_18911 **UTP: 21-Feb-2022 11:01:44 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 399-492-BMX**

Datafile: 220219C04 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4631.374	0.388
1379-TCDD	NotFnd		0.8829						1.18		4631.374	0.388
1369-TCDD	NotFnd		0.8982						1.18		4631.374	0.388
1469-TCDD	NotFnd		0.9261						1.18		4631.374	0.388
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4631.374	0.388
1378-TCDD	NotFnd		0.9417						1.18		4631.374	0.388
1268-TCDD	NotFnd		0.9487						1.18		4631.374	0.388
1478-TCDD	NotFnd		0.9576						1.18		4631.374	0.388
1279-TCDD	NotFnd		0.9636						1.18		4631.374	0.388
1234/1269-TCDD	NotFnd		0.9761						1.18		4631.374	0.388
1236-TCDD	NotFnd		0.9812						1.18		4631.374	0.388
1237/1238-TCDD	NotFnd		0.9905						1.18		4631.374	0.388
1239-TCDD	NotFnd		0.9951						1.18		4631.374	0.388
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4631.374**	**0.388**
1278-TCDD	NotFnd		1.0124						1.18		4631.374	0.388
1267-TCDD	NotFnd		1.0172						1.18		4631.374	0.388
1289-TCDD	NotFnd		1.0354						1.18		4631.374	0.388
12479/12468-PeCDD	NotFnd		0.9255						1.04		2783.22	0.236
12469-PeCDD	NotFnd		0.9416						1.04		2783.22	0.236
12368-PeCDD	NotFnd		0.9582						1.04		2783.22	0.236
12478-PeCDD	NotFnd		0.9637						1.04		2783.22	0.236
12379-PeCDD	NotFnd		0.9668						1.04		2783.22	0.236
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2783.22	0.236
12346/12347-PeCDD	NotFnd		0.9858						1.04		2783.22	0.236
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2783.22**	**0.236**
12367-PeCDD	NotFnd		1.0036						1.04		2783.22	0.236
12389-PeCDD	NotFnd		1.0137						1.04		2783.22	0.236
124679/124689-HxCDD	NotFnd		0.9540						1.10		3118.687	0.261
123468-HxCDD	NotFnd		0.9715						1.10		3118.687	0.261
123679/123689-HxCDD	NotFnd		0.9793						1.10		3118.687	0.261
123469-HxCDD	NotFnd		0.9829						1.10		3118.687	0.261
123478-HxCDD	NotFnd		**1.0004**						1.09		**3118.687**	**0.269**
123678-HxCDD	NotFnd		**1.0036**						1.15		**3118.687**	**0.25**
123467-HxCDD	NotFnd		1.0089						1.10		3118.687	0.261
123789-HxCDD	NotFnd		**1.0118**						1.05		**3118.687**	**0.266**

Lab ID: MB1_18911_DF_SDS **Acq'd:** 19 Feb 2022 19:37 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6154_18911 **UTP:** 21-Feb-2022 11:01:44 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 399-492-BMX

Datafile: 220219C04 **Report:** 21 Feb 2022 11:02 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		4399.488	0.39
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**4399.488**	**0.39**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3230.665**	**0.598**
OCDD-a	NotFnd		1.0002						0.07		3130.658	9.06
1368-TCDF	NotFnd		0.8191						1.08		3471.373	0.224
1468-TCDF	NotFnd		0.8408						1.08		3471.373	0.224
2468-TCDF	NotFnd		0.8645						1.08		3471.373	0.224
1346/1246-TCDF	NotFnd		0.8772						1.08		3471.373	0.224
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3471.373	0.224
1348-TCDF	NotFnd		0.8932						1.08		3471.373	0.224
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3471.373	0.224
1268-TCDF	NotFnd		0.9119						1.08		3471.373	0.224
1467-TCDF	NotFnd		0.9170						1.08		3471.373	0.224
1478-TCDF	NotFnd		0.9234						1.08		3471.373	0.224
1369/1237-TCDF	NotFnd		0.9369						1.08		3471.373	0.224
2467-TCDF	NotFnd		0.9415						1.08		3471.373	0.224
2368-TCDF	NotFnd		0.9475						1.08		3471.373	0.224
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3471.373	0.224
1278-TCDF	NotFnd		0.9676						1.08		3471.373	0.224
1349-TCDF	NotFnd		0.9722						1.08		3471.373	0.224
1267-TCDF	NotFnd		0.9777						1.08		3471.373	0.224
2346/1249-TCDF	NotFnd		0.9843						1.08		3471.373	0.224
2347/1279-TCDF	NotFnd		0.9926						1.08		3471.373	0.224
2348-TCDF	NotFnd		0.9968						1.08		3471.373	0.224
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3471.373**	**0.224**
2367/3467-TCDF	NotFnd		1.0142						1.08		3471.373	0.224
1269-TCDF	NotFnd		1.0235						1.08		3471.373	0.224
1239-TCDF	NotFnd		1.0329						1.08		3471.373	0.224
1289-TCDF	NotFnd		1.0742						1.08		3471.373	0.224
13468/12468-PeCDF	NotFnd		0.9122						1.02		2974.037	0.17
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3188.391	0.183
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3188.391	0.183
14678-PeCDF	NotFnd		0.9685						1.02		3188.391	0.183
13479-PeCDF	NotFnd		0.9716						1.02		3188.391	0.183
13469/12479-PeCDF	NotFnd		0.9794						1.02		3188.391	0.183
12346-PeCDF	NotFnd		0.9836						1.02		3188.391	0.183

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

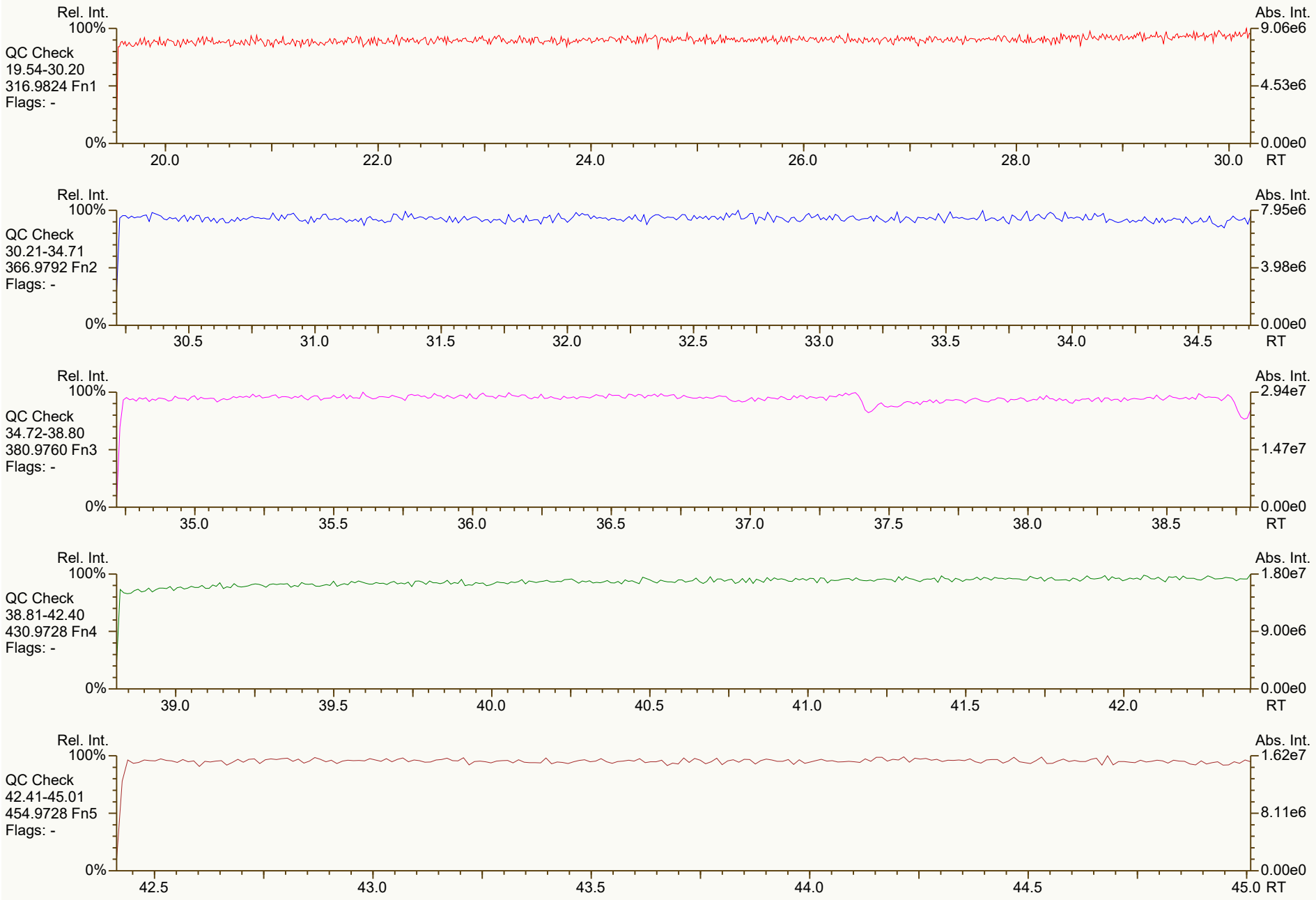
Client ID: Method Blank B6154_18911 | **UTP:** 21-Feb-2022 11:01:44 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 11:02 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3188.391	0.183
12347-PeCDF	NotFnd		0.9891						1.02		3188.391	0.183
12348-PeCDF	NotFnd		0.9938						1.02		3188.391	0.183
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.182**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3188.391	0.183
12379-PeCDF	NotFnd		1.0144						1.02		3188.391	0.183
12679-PeCDF	NotFnd		0.9927						1.02		3188.391	0.183
23467/12369-PeCDF	NotFnd		0.9965						1.02		3188.391	0.183
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.183**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3188.391	0.183
12349-PeCDF	NotFnd		1.0101						1.02		3188.391	0.183
12389-PeCDF	NotFnd		1.0330						1.02		3188.391	0.183
123468-HxCDF	NotFnd		0.9622						1.19		3096.37	0.182
124678/134678-HxCDF	NotFnd		0.9678						1.19		3096.37	0.182
134679-HxCDF	NotFnd		0.9741						1.19		3096.37	0.182
124679-HxCDF	NotFnd		0.9795						1.19		3096.37	0.182
124689-HxCDF	NotFnd		0.9856						1.19		3096.37	0.182
123467-HxCDF	NotFnd		0.9972						1.19		3096.37	0.182
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3096.37**	**0.184**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3096.37**	**0.173**
123479-HxCDF	NotFnd		1.0048						1.19		3096.37	0.182
123469-HxCDF	NotFnd		1.0089						1.19		3096.37	0.182
123679-HxCDF	NotFnd		0.9942						1.19		3096.37	0.182
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3096.37**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3096.37	0.182
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3096.37**	**0.198**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3096.37	0.182
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3605.552**	**0.211**
1234679-HpCDF	NotFnd		1.0068						1.34		3605.552	0.254
1234689-HpCDF	NotFnd		1.0104						1.34		3605.552	0.254
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3605.552**	**0.31**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2961.523**	**0.451**
OCDF-a	NotFnd		1.0001						0.07		3481.601	8.57

SGS ID: MB1_18911_DF_SDS | **Sample ID: Method Blank** | **Acq: 19-Feb-2022 19:37:00**

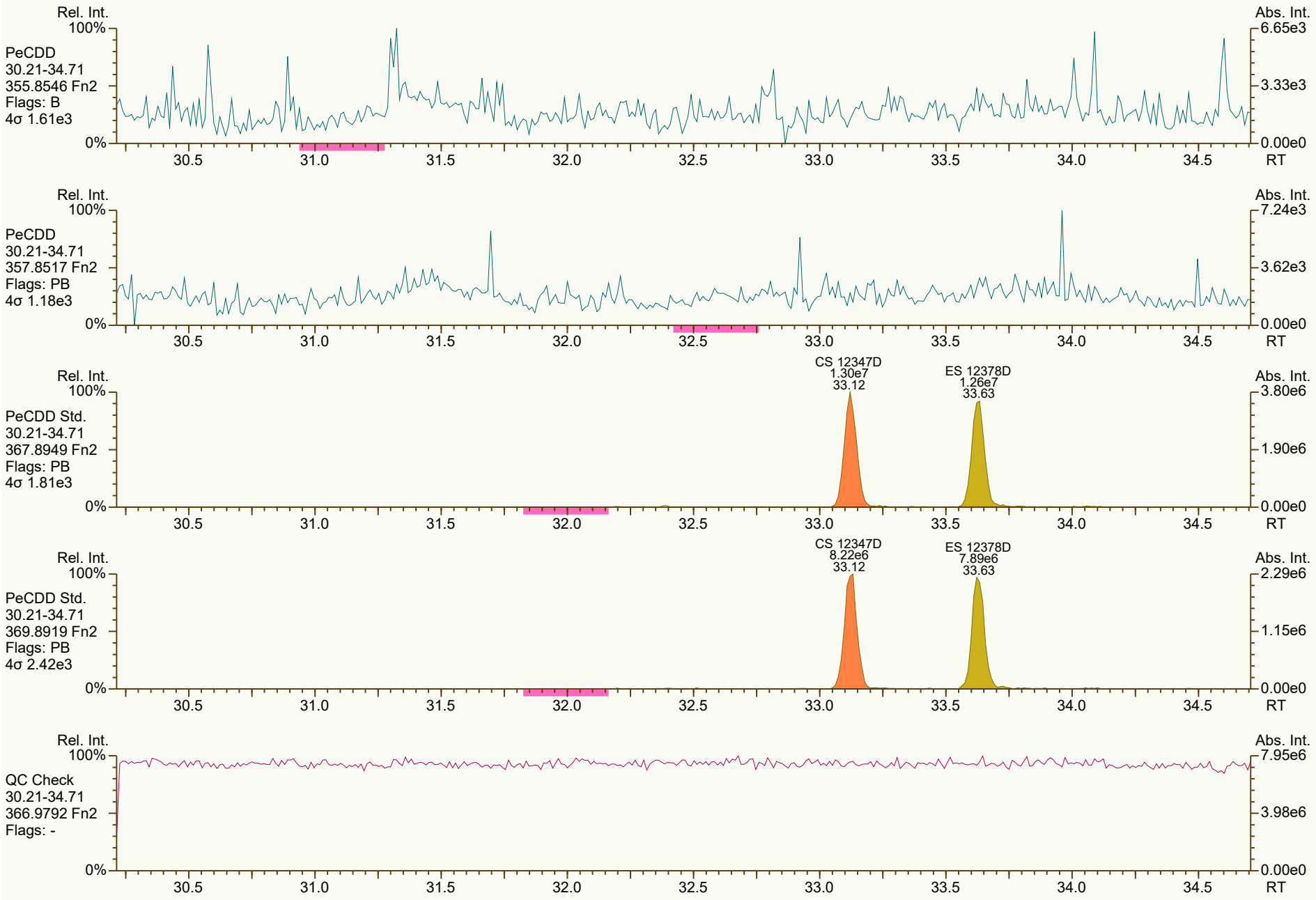
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25** | **User: DTF Datafile: 220219C04**



Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\MB1_18911_DF_SDS.utp_res, saved 21-Feb-2022 11:01 (PSW) | *Peak annotation: Areas, Centroids*

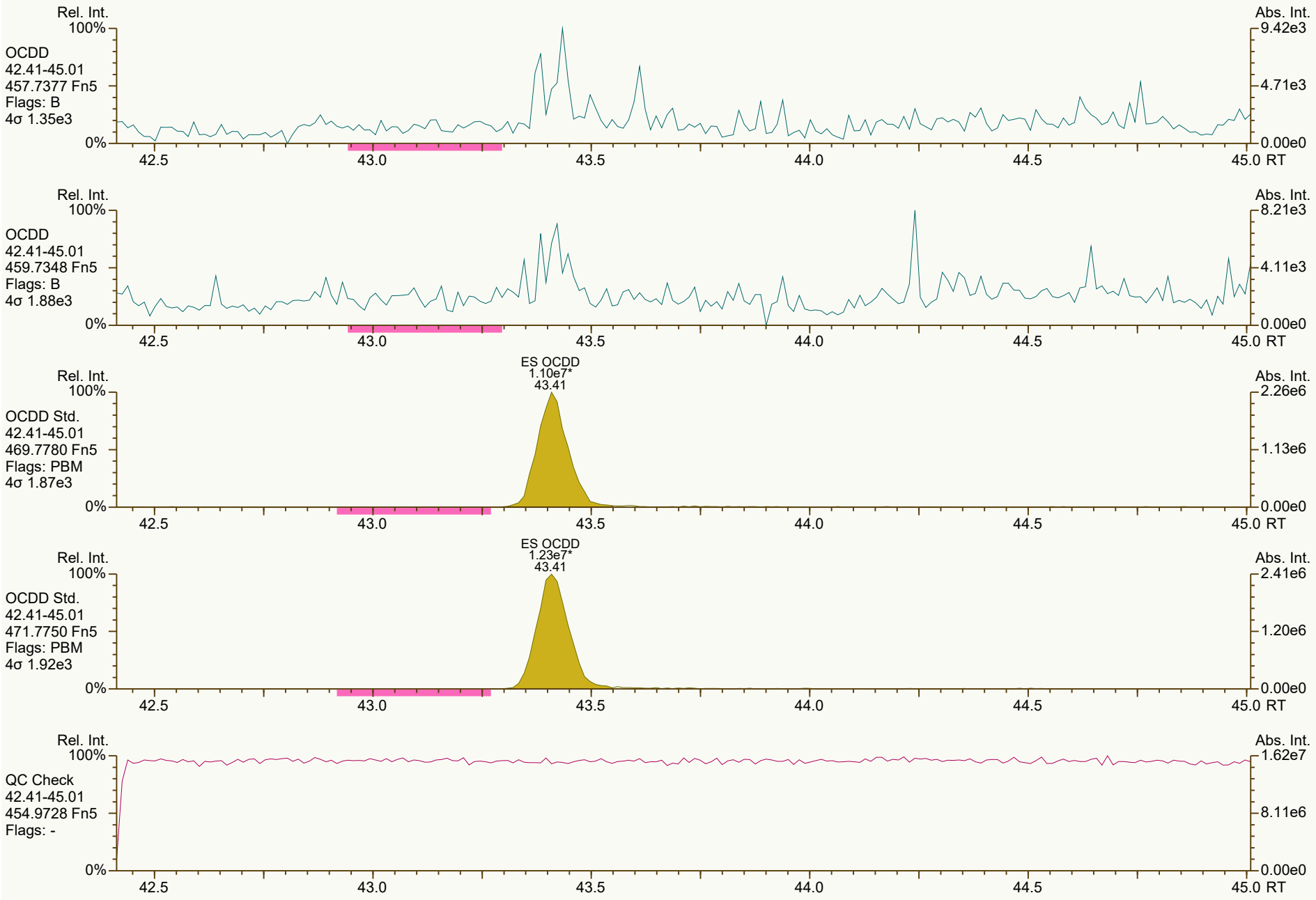
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 399-492 | *PKD: n/a Printed: 21-Feb-2022 11:07 Page 1 of 12*

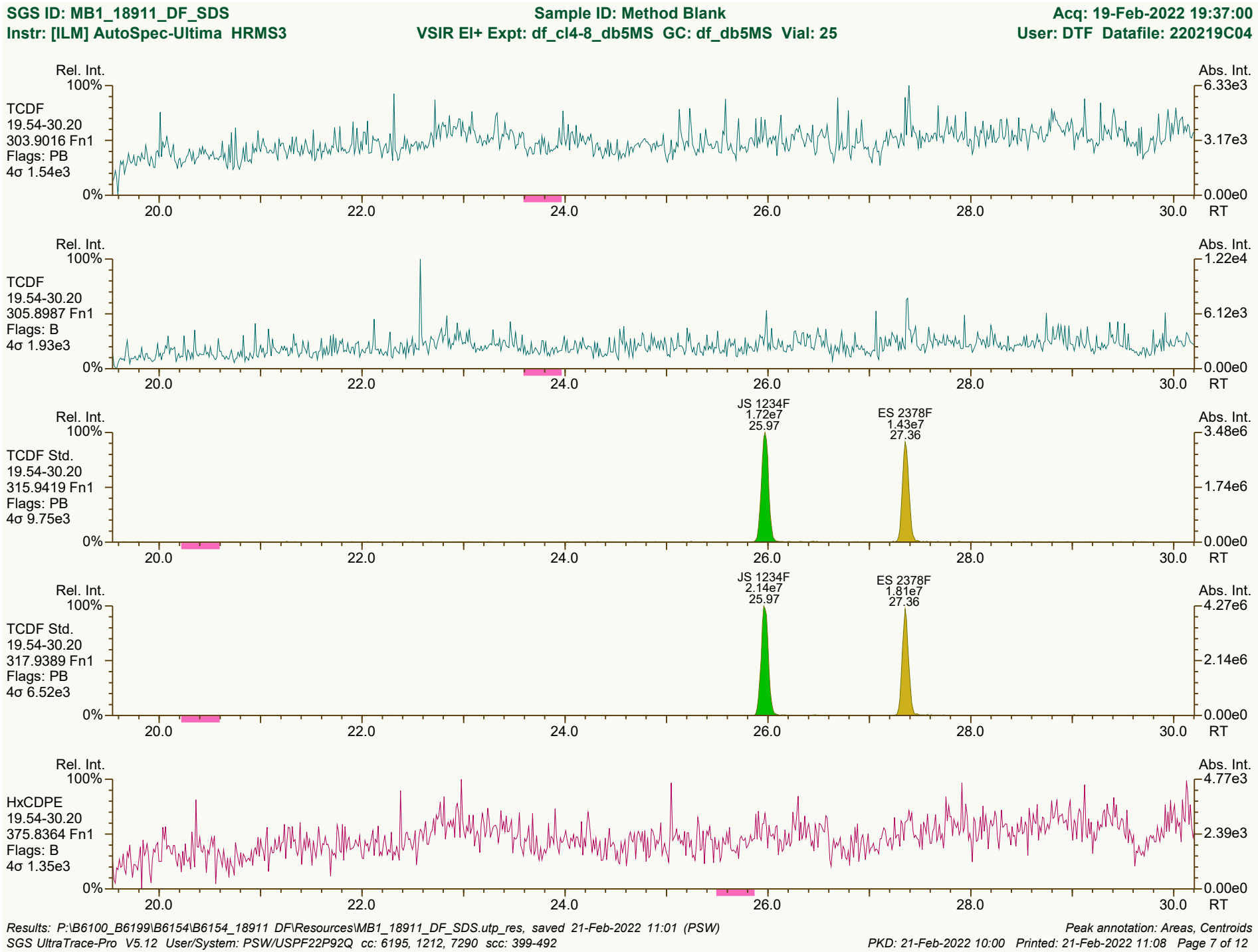

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.16e3
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.01e3
3.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
1.08e7
28.25
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.73e3
0%
JS 1234D
1.05e7
27.56
ES 2378D
9.82e6
28.23
Abs. Int.
2.47e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.28e3
0%
JS 1234D
1.30e7
27.56
ES 2378D
1.22e7
28.23
Abs. Int.
2.91e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
6.65e3
3.33e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.18e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.81e3
0%
CS 12347D
1.30e7
33.12
ES 12378D
1.26e7
33.63
Abs. Int.
3.80e6
1.90e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.42e3
0%
CS 12347D
8.22e6
33.12
ES 12378D
7.89e6
33.63
Abs. Int.
2.29e6
1.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.95e6
3.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

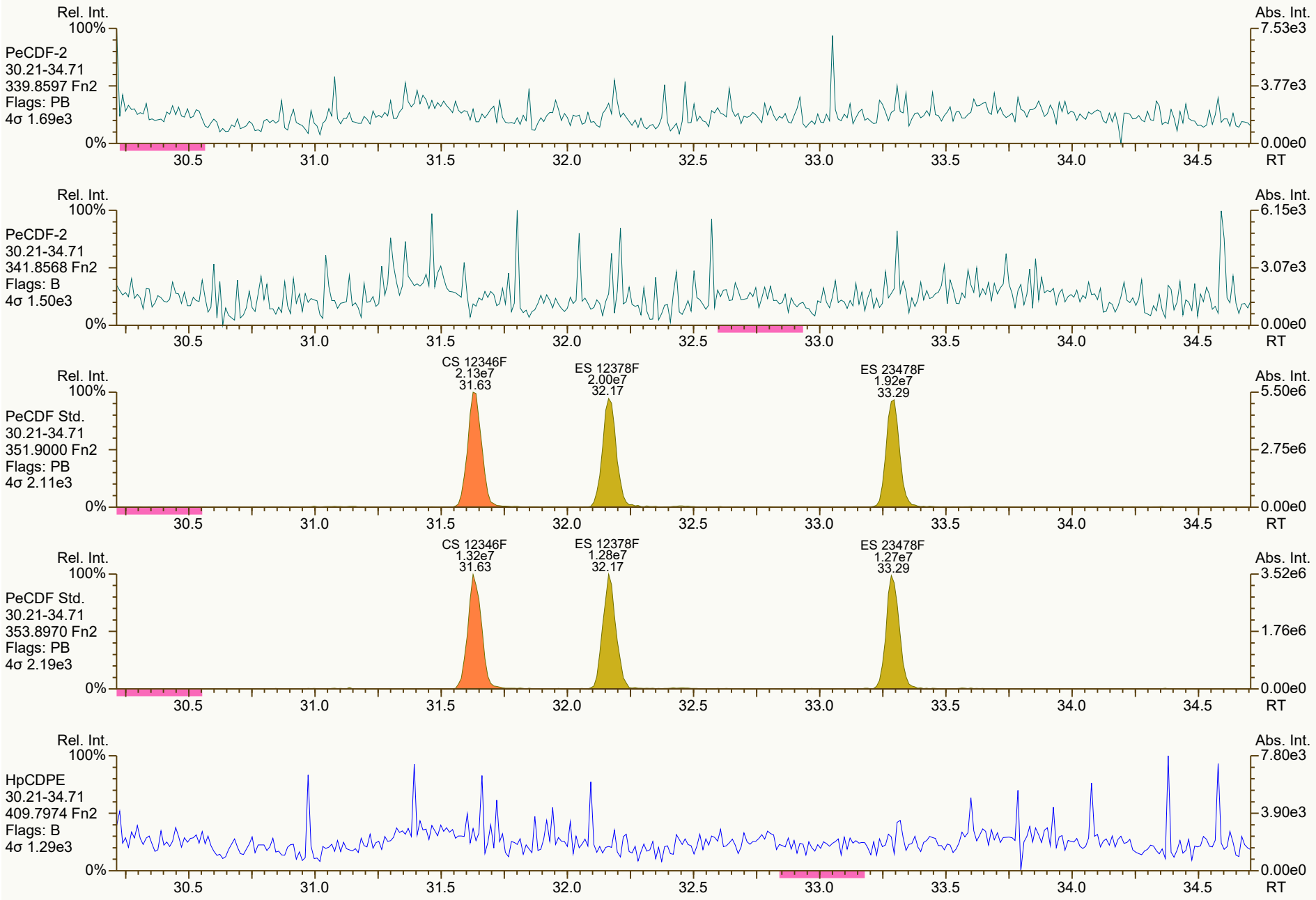

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.60e3
0%
Abs. Int.
7.73e3
3.86e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.67e3
0%
ES 123678D
1.06e7
37.68
ES 123478D
1.04e7
37.56
ES 123789D
1.11e7
37.99
JS 123467D
5.95e6
37.88
Abs. Int.
3.09e6
1.55e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.29e3
0%
ES 123678D
8.25e6
37.68
ES 123478D
8.10e6
37.56
ES 123789D
9.03e6
37.99
JS 123467D
4.51e6
37.88
Abs. Int.
2.52e6
1.26e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

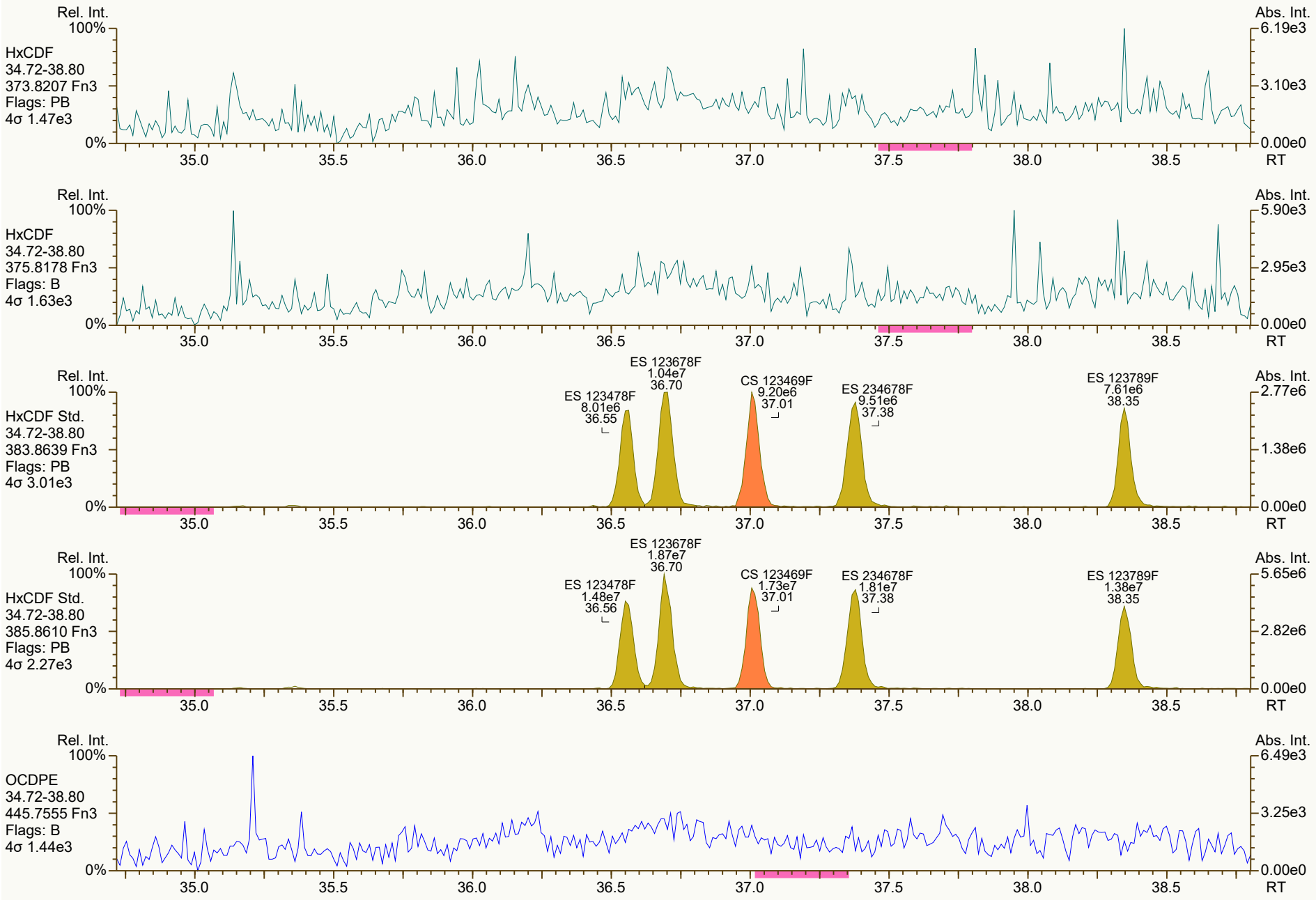

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.98e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.15e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.66e3
0%
Abs. Int.
2.73e6
1.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.65e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.85e3
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
9.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

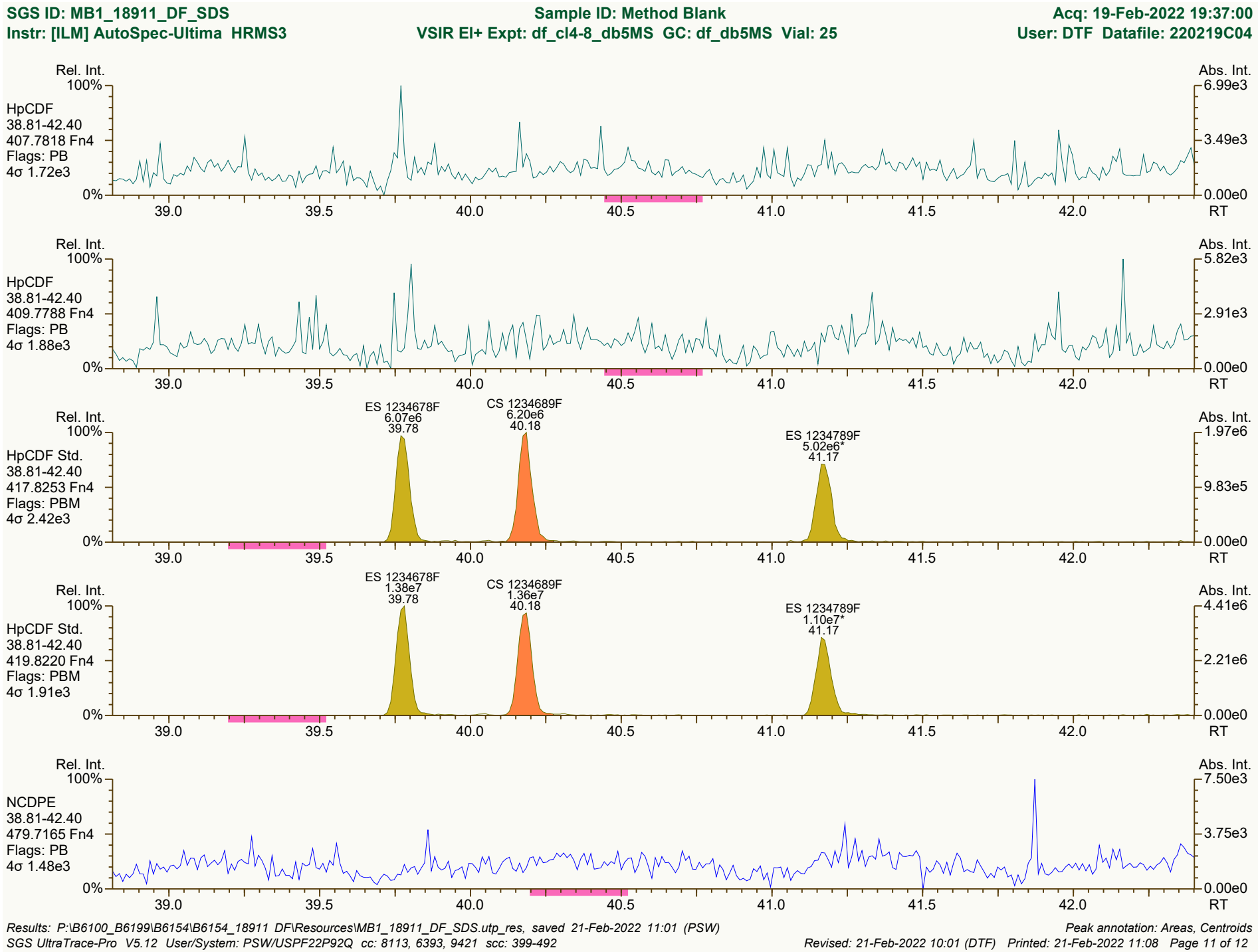

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.42e3
4.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.88e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.87e3
0%
ES OCDD
1.10e7*
43.41
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.92e3
0%
ES OCDD
1.23e7*
43.41
Abs. Int.
2.41e6
1.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18911_DF_SDS
Sample ID: Method Blank
Acq: 19-Feb-2022 19:37:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: DTF Datafile: 220219C04
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.54e3
6.33e3
3.17e3
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.93e3
1.22e4
6.12e3
JS 1234F
1.72e7
25.97
ES 2378F
1.43e7
27.36
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.75e3
3.48e6
1.74e6
JS 1234F
2.14e7
25.97
ES 2378F
1.81e7
27.36
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.52e3
4.27e6
2.14e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
4.77e3
2.39e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\MB1_18911_DF_SDS.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6195, 1212, 7290 scc: 399-492
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 11:08 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.41e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.06e6
4.53e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.69e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.15e3
3.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.11e3
0%
CS 12346F
2.13e7
31.63
ES 12378F
2.00e7
32.17
ES 23478F
1.92e7
33.29
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12346F
1.32e7
31.63
ES 12378F
1.28e7
32.17
ES 23478F
1.27e7
33.29
Abs. Int.
3.52e6
1.76e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.47e3
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.63e3
5.90e3
2.95e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.01e3
ES 123678F
1.04e7
36.70
ES 123478F
8.01e6
36.55
CS 123469F
9.20e6
37.01
ES 234678F
9.51e6
37.38
ES 123789F
7.61e6
38.35
2.77e6
1.38e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.27e3
ES 123678F
1.87e7
36.70
ES 123478F
1.48e7
36.56
CS 123469F
1.73e7
37.01
ES 234678F
1.81e7
37.38
ES 123789F
1.38e7
38.35
5.65e6
2.82e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.44e3
6.49e3
3.25e3


SGS ID: MB1_18911_DF_SDS
Sample ID: Method Blank
Acq: 19-Feb-2022 19:37:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: DTF Datafile: 220219C04
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.72e3
6.99e3
3.49e3
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.88e3
5.82e3
2.91e3
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.42e3
ES 1234678F
6.07e6
39.78
CS 1234689F
6.20e6
40.18
ES 1234789F
5.02e6*
41.17
1.97e6
9.83e5
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678F
1.38e7
39.78
CS 1234689F
1.36e7
40.18
ES 1234789F
1.10e7*
41.17
4.41e6
2.21e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.48e3
7.50e3
3.75e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\MB1_18911_DF_SDS.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8113, 6393, 9421 scc: 399-492
Revised: 21-Feb-2022 10:01 (DTF) Printed: 21-Feb-2022 11:08 Page 11 of 12


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
4.39e3
2.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
4.25e3
2.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.56e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.28e3
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6154_18911_DF_001 **Acq'd:** 20 Feb 2022 07:28 DTF **Wt/Vol:** 10.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-14H **UTP:** 21-Feb-2022 11:01:46 PSW **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 858-619-LXR

Datafile: 220219C19 **Report:** 21 Feb 2022 11:02 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	2.26E+06	0.79	Y	1.18	14.7	4970.787	0.331
12378-PeCDD	33.65	J EMPC	1.0007	1.0006	-0.2	3.21E+04	1.12	N	1.04	0.255	3295.173	0.225
123478-HxCDD	37.58	J EMPC	1.0004	1.0006	+0.5	3.72E+04	0.70	N	1.09	0.333	4429.85	0.355
123678-HxCDD	37.70	J EMPC	1.0036	1.0038	+0.5	8.78E+04	1.69	N	1.15	0.686	4429.85	0.324
123789-HxCDD	38.00	J	1.0118	1.0118	0	1.06E+05	1.36	Y	1.05	0.91	4429.85	0.33
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	3.00E+06	1.00	Y	1.06	27.6	4807.319	0.381
OCDD	43.41		1.0003	1.0003	0	3.60E+07	0.90	Y	1.13	474	7024.588	1.07
2378-TCDF	27.38		1.0008	1.0008	0	7.23E+06	0.77	Y	1.08	36.8	3470.764	0.2
12378-PeCDF	32.19	J	1.0005	1.0005	0	3.12E+05	1.36	Y	1.02	1.64	4013.332	0.193
23478-PeCDF	33.32	J EMPC	1.0005	1.0008	+0.6	2.22E+05	1.24	N	1.02	1.26	4013.332	0.215
123478-HxCDF	36.57		1.0004	1.0004	0	3.92E+05	1.20	Y	1.27	2.54	3033.195	0.17
123678-HxCDF	36.71	J	1.0004	1.0003	-0.2	1.37E+05	1.20	Y	1.15	0.776	3033.195	0.148
234678-HxCDF	37.39	J EMPC	1.0005	1.0005	0	4.42E+04	0.80	N	1.19	0.243	3033.195	0.149
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3033.195	0.186
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	6.08E+05	0.91	Y	1.37	3.41	4497.882	0.186
1234789-HpCDF	41.17	J EMPC	1.0003	1.0001	-0.5	4.87E+04	1.25	N	1.31	0.45	4497.882	0.36
OCDF	43.58		1.0002	1.0002	0	1.15E+06	0.85	Y	1.07	14.2	3067.65	0.481

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23		1.0243	1.0244	+0.2	2.53E+07	0.81	Y	1.05	103
ES 12378-PeCDD	33.63		1.2198	1.2202	+0.8	2.38E+07	1.60	Y	0.88	114
ES 123478-HxCDD	37.56		0.9916	0.9915	-0.2	2.00E+07	1.28	Y	0.97	99.3
ES 123678-HxCDD	37.68		0.9947	0.9947	0	2.17E+07	1.28	Y	0.94	111
ES 123789-HxCDD	37.98		1.0029	1.0027	-0.5	2.18E+07	1.29	Y	1.09	96.2
ES 1234678-HpCDD	40.71		1.0749	1.0748	-0.2	2.00E+07	1.04	Y	0.91	106
ES OCDD	43.40		1.1460	1.1456	-1.0	2.63E+07	0.92	Y	0.62	102
ES 2378-TCDF	27.36		1.0531	1.0534	+0.5	3.55E+07	0.80	Y	1.06	87.4
ES 12378-PeCDF	32.17		1.2378	1.2385	+1.4	3.62E+07	1.59	Y	0.91	104
ES 23478-PeCDF	33.29		1.2810	1.2817	+1.4	3.38E+07	1.54	Y	0.88	99.7
ES 123478-HxCDF	36.55		0.9650	0.9650	0	2.37E+07	0.54	Y	1.20	95.4
ES 123678-HxCDF	36.70		0.9688	0.9688	0	2.99E+07	0.54	Y	1.35	107
ES 234678-HxCDF	37.37		0.9866	0.9867	+0.2	2.99E+07	0.52	Y	1.24	116
ES 123789-HxCDF	38.35		1.0125	1.0124	-0.2	2.23E+07	0.54	Y	1.16	93.2
ES 1234678-HpCDF	39.77		1.0501	1.0499	-0.5	2.54E+07	0.44	Y	0.97	127
ES 1234789-HpCDF	41.17		1.0870	1.0868	-0.5	1.62E+07	0.44	Y	0.85	91.6
ES OCDF	43.58		1.1505	1.1504	-0.3	2.95E+07	0.88	Y	0.81	88.2

Lab ID: B6154_18911_DF_001 **Acq'd:** 20 Feb 2022 07:28 DTF **Wt/Vol:** 10.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-SW-B-14H **UTP:** 21-Feb-2022 11:01:46 PSW **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 858-619-LXR

Datafile: 220219C19 **Report:** 21 Feb 2022 11:02 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.36E+07	0.80	Y	-	-
JS 1234-TCDF	25.98		-	-	-	3.84E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.04E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.16E+07	n/a	-	1.20	102
CS 12347-PeCDD	33.12		1.2016	1.2019	+0.6	2.04E+07	1.62	Y	0.75	115
CS 12346-PeCDF	31.64		1.2172	1.2180	+1.5	3.42E+07	1.56	Y	0.85	105
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.53E+07	0.54	Y	1.12	109
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	2.15E+07	0.48	Y	0.89	117
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.16E+07~~	~~n/a~~		~~1.15~~	~~99.6~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2019~~	~~+0.6~~	~~2.04E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~100~~
~~SS 12346-PeCDF~~	~~31.64~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.42E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.53E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~102~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~2.15E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~92.1~~

Totals	Conc	EMPC
Total TCDD	18.6	19.4
Total PeCDD	2.98	3.5
Total HxCDD	20.7	21.7
Total HpCDD	66.7	66.7
Total Tetra-Octa Dioxins	583	585
Total TCDF	70.7	81.4
Total PeCDF	2.8	4.93
Total HxCDF	4.29	5.2
Total HpCDF	5.42	5.87
Total Tetra-Octa Furans	97.4	112
Total Tetra-Octa Dioxins & Furans	680	697

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.781	0.79
Response	2.27E+06	2.26E+06

Lab ID: B6154_18911_DF_001 **Acq'd: 20 Feb 2022 07:28 DTF** **Wt/Vol: 10.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-14H **UTP: 21-Feb-2022 11:01:46 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 858-619-LXR**

Datafile: 220219C19 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4970.787	0.331
1379-TCDD	NotFnd		0.8829						1.18		4970.787	0.331
1369-TCDD	NotFnd		0.8982						1.18		4970.787	0.331
1469-TCDD	26.14		0.9261	0.9259	-0.3	3.93E+05	0.69	Y	1.18	2.56	4970.787	0.331
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4970.787	0.331
1378-TCDD	NotFnd		0.9417						1.18		4970.787	0.331
1268-TCDD	NotFnd		0.9487						1.18		4970.787	0.331
1478-TCDD	NotFnd		0.9576						1.18		4970.787	0.331
1279-TCDD	NotFnd		0.9636						1.18		4970.787	0.331
1234/1269-TCDD	27.55	J EMPC	0.9761	0.9759	-0.3	7.28E+04	1.04	N	1.18	0.474	4970.787	0.331
1236-TCDD	NotFnd		0.9812						1.18		4970.787	0.331
1237/1238-TCDD	27.95	J EMPC	0.9905	0.9902	-0.5	5.35E+04	0.89	N	1.18	0.348	4970.787	0.331
1239-TCDD	NotFnd		0.9951						1.18		4970.787	0.331
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	2.26E+06	0.79	Y	**1.18**	**14.7**	**4970.787**	**0.331**
1278-TCDD	28.59		1.0124	1.0127	+0.5	2.03E+05	0.82	Y	1.18	1.32	4970.787	0.331
1267-TCDD	NotFnd		1.0172						1.18		4970.787	0.331
1289-TCDD	NotFnd		1.0354						1.18		4970.787	0.331
12479/12468-PeCDD	31.13	J	0.9255	0.9256	+0.2	9.27E+04	1.68	Y	1.04	0.735	3295.173	0.225
12469-PeCDD	31.66	J	0.9416	0.9416	0	1.97E+05	1.65	Y	1.04	1.56	3295.173	0.225
12368-PeCDD	NotFnd		0.9582						1.04		3295.173	0.225
12478-PeCDD	NotFnd		0.9637						1.04		3295.173	0.225
12379-PeCDD	32.52	J EMPC	0.9668	0.9669	+0.2	3.32E+04	1.15	N	1.04	0.263	3295.173	0.225
12369/12467/12489-PeCDD	32.78	J	0.9746	0.9747	+0.2	8.64E+04	1.69	Y	1.04	0.685	3295.173	0.225
12346/12347-PeCDD	NotFnd		0.9858						1.04		3295.173	0.225
12378-PeCDD	33.65	J EMPC	**1.0007**	**1.0006**	**-0.2**	**3.21E+04**	**1.12**	**N**	**1.04**	**0.255**	**3295.173**	**0.225**
12367-PeCDD	NotFnd		1.0036						1.04		3295.173	0.225
12389-PeCDD	NotFnd		1.0137						1.04		3295.173	0.225
124679/124689-HxCDD	35.83		0.9540	0.9541	+0.2	1.85E+06	1.30	Y	1.10	15.6	4429.85	0.336
123468-HxCDD	NotFnd		0.9715						1.10		4429.85	0.336
123679/123689-HxCDD	36.78		0.9793	0.9795	+0.4	4.94E+05	1.42	Y	1.10	4.16	4429.85	0.336
123469-HxCDD	NotFnd		0.9829						1.10		4429.85	0.336
123478-HxCDD	37.58	J EMPC	**1.0004**	**1.0006**	**+0.5**	**3.72E+04**	**0.70**	**N**	1.09	**0.333**	**4429.85**	**0.355**
123678-HxCDD	37.70	J EMPC	**1.0036**	**1.0038**	**+0.5**	**8.78E+04**	**1.69**	**N**	1.15	**0.686**	**4429.85**	**0.324**
123467-HxCDD	NotFnd		1.0089						1.10		4429.85	0.336
123789-HxCDD	38.00	J	**1.0118**	**1.0118**	**0**	**1.06E+05**	**1.36**	**Y**	1.05	**0.91**	**4429.85**	**0.33**

Lab ID: B6154_18911_DF_001 **Acq'd: 20 Feb 2022 07:28 DTF** **Wt/Vol: 10.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-SW-B-14H **UTP: 21-Feb-2022 11:01:46 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 858-619-LXR**

Datafile: 220219C19 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

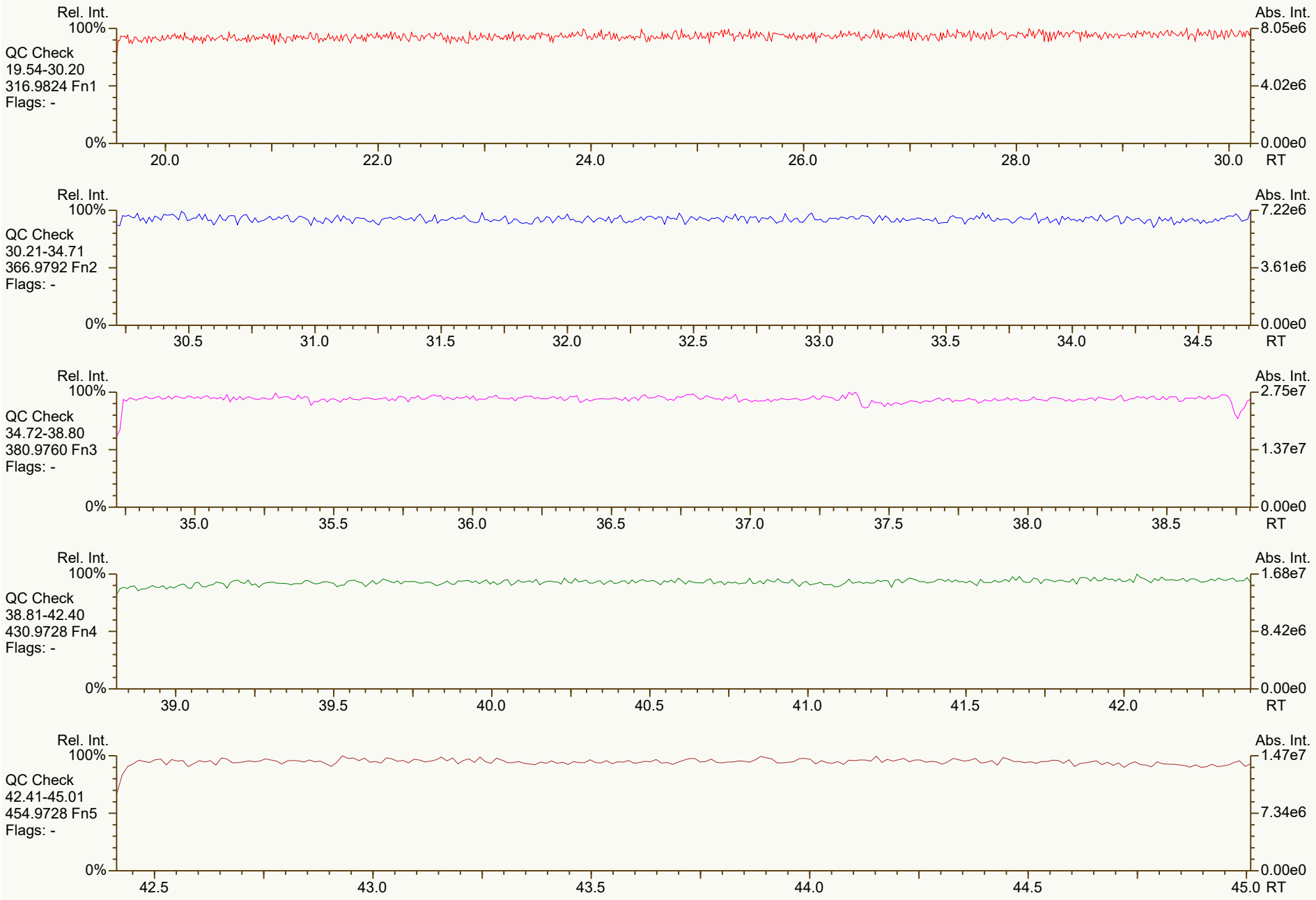
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	4.24E+06	1.07	Y	1.06	39.1	4807.319	0.381
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**3.00E+06**	**1.00**	**Y**	**1.06**	**27.6**	**4807.319**	**0.381**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**3.60E+07**	**0.90**	**Y**	**1.13**	**474**	**7024.588**	**1.07**
OCDD-a	43.40	**EMPC**	1.0002	1.0002	0	2.29E+06	2.01	N	0.07	471	3256.545	7.77
1368-TCDF	22.40	J EMPC	0.8191	0.8187	-0.5	5.09E+04	1.00	N	1.08	0.259	3470.764	0.2
1468-TCDF	22.98	J EMPC	0.8408	0.8397	-1.5	9.16E+04	1.13	N	1.08	0.466	3470.764	0.2
2468-TCDF	23.64	EMPC	0.8645	0.8638	-1.0	1.29E+05	0.96	N	1.08	0.657	3470.764	0.2
1346/1246-TCDF	NotFnd		0.8772						1.08		3470.764	0.2
1347/1378/1247-TCDF	24.17		0.8833	0.8832	-0.1	3.33E+05	0.76	Y	1.08	1.69	3470.764	0.2
1348-TCDF	24.42	J	0.8932	0.8926	-0.9	8.02E+04	0.68	Y	1.08	0.408	3470.764	0.2
1248/1367/1379-TCDF	24.53		0.8980	0.8966	-2.1	4.65E+05	0.79	Y	1.08	2.37	3470.764	0.2
1268-TCDF	24.94		0.9119	0.9115	-0.6	1.71E+05	0.84	Y	1.08	0.872	3470.764	0.2
1467-TCDF	25.08	J EMPC	0.9170	0.9164	-0.9	7.65E+04	0.98	N	1.08	0.389	3470.764	0.2
1478-TCDF	25.25		0.9234	0.9230	-0.6	3.50E+05	0.68	Y	1.08	1.78	3470.764	0.2
1369/1237-TCDF	25.63		0.9369	0.9366	-0.5	1.63E+05	0.76	Y	1.08	0.828	3470.764	0.2
2467-TCDF	25.76	J	0.9415	0.9416	+0.2	8.38E+04	0.76	Y	1.08	0.426	3470.764	0.2
2368-TCDF	25.90		0.9475	0.9466	-1.4	2.08E+05	0.68	Y	1.08	1.06	3470.764	0.2
1238/1234/1678/1469/1236-TCDF	25.99	EMPC	0.9507	0.9499	-1.2	5.22E+05	0.90	N	1.08	2.66	3470.764	0.2
1278-TCDF	26.47		0.9676	0.9674	-0.3	3.56E+06	0.76	Y	1.08	18.1	3470.764	0.2
1349-TCDF	26.59	J EMPC	0.9722	0.9719	-0.5	6.19E+04	1.06	N	1.08	0.315	3470.764	0.2
1267-TCDF	26.74		0.9777	0.9774	-0.5	2.51E+05	0.67	Y	1.08	1.28	3470.764	0.2
2346/1249-TCDF	26.96	J EMPC	0.9843	0.9854	+1.8	7.96E+04	0.98	N	1.08	0.405	3470.764	0.2
2347/1279-TCDF	27.15		0.9926	0.9921	-0.8	1.52E+05	0.80	Y	1.08	0.774	3470.764	0.2
2348-TCDF	27.27	EMPC	0.9968	0.9965	-0.5	4.64E+05	0.90	N	1.08	2.36	3470.764	0.2
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**7.23E+06**	**0.77**	**Y**	**1.08**	**36.8**	**3470.764**	**0.2**
2367/3467-TCDF	27.75		1.0142	1.0140	-0.3	6.68E+05	0.88	Y	1.08	3.4	3470.764	0.2
1269-TCDF	27.99		1.0235	1.0230	-0.8	1.75E+05	0.86	Y	1.08	0.891	3470.764	0.2
1239-TCDF	NotFnd		1.0329						1.08		3470.764	0.2
1289-TCDF	29.41	EMPC	1.0742	1.0750	+1.4	6.23E+05	0.89	N	1.08	3.17	3470.764	0.2
13468/12468-PeCDF	NotFnd		0.9122						1.02		2668.746	0.135
13678/13467/12467-PeCDF	30.92	J EMPC	0.9606	0.9610	+0.7	4.06E+04	1.02	N	1.02	0.221	4013.332	0.203
12368/13478/12478-PeCDF	31.08	J	0.9655	0.9661	+1.1	2.14E+05	1.61	Y	1.02	1.17	4013.332	0.203
14678-PeCDF	NotFnd		0.9685						1.02		4013.332	0.203
13479-PeCDF	NotFnd		0.9716						1.02		4013.332	0.203
13469/12479-PeCDF	NotFnd		0.9794						1.02		4013.332	0.203
12346-PeCDF	NotFnd		0.9836						1.02		4013.332	0.203

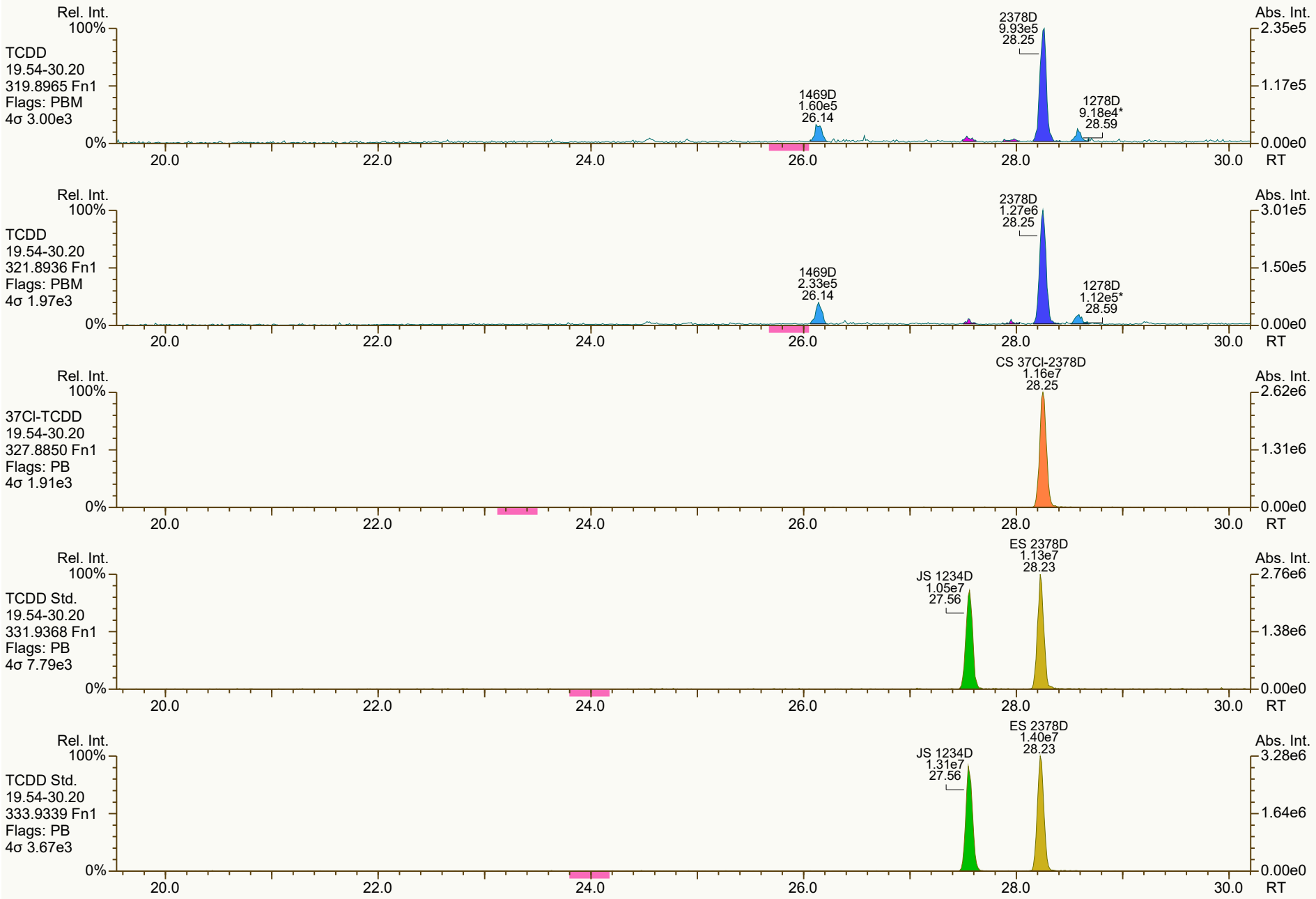
Lab ID: B6154_18911_DF_001 **Acq'd: 20 Feb 2022 07:28 DTF** **Wt/Vol: 10.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

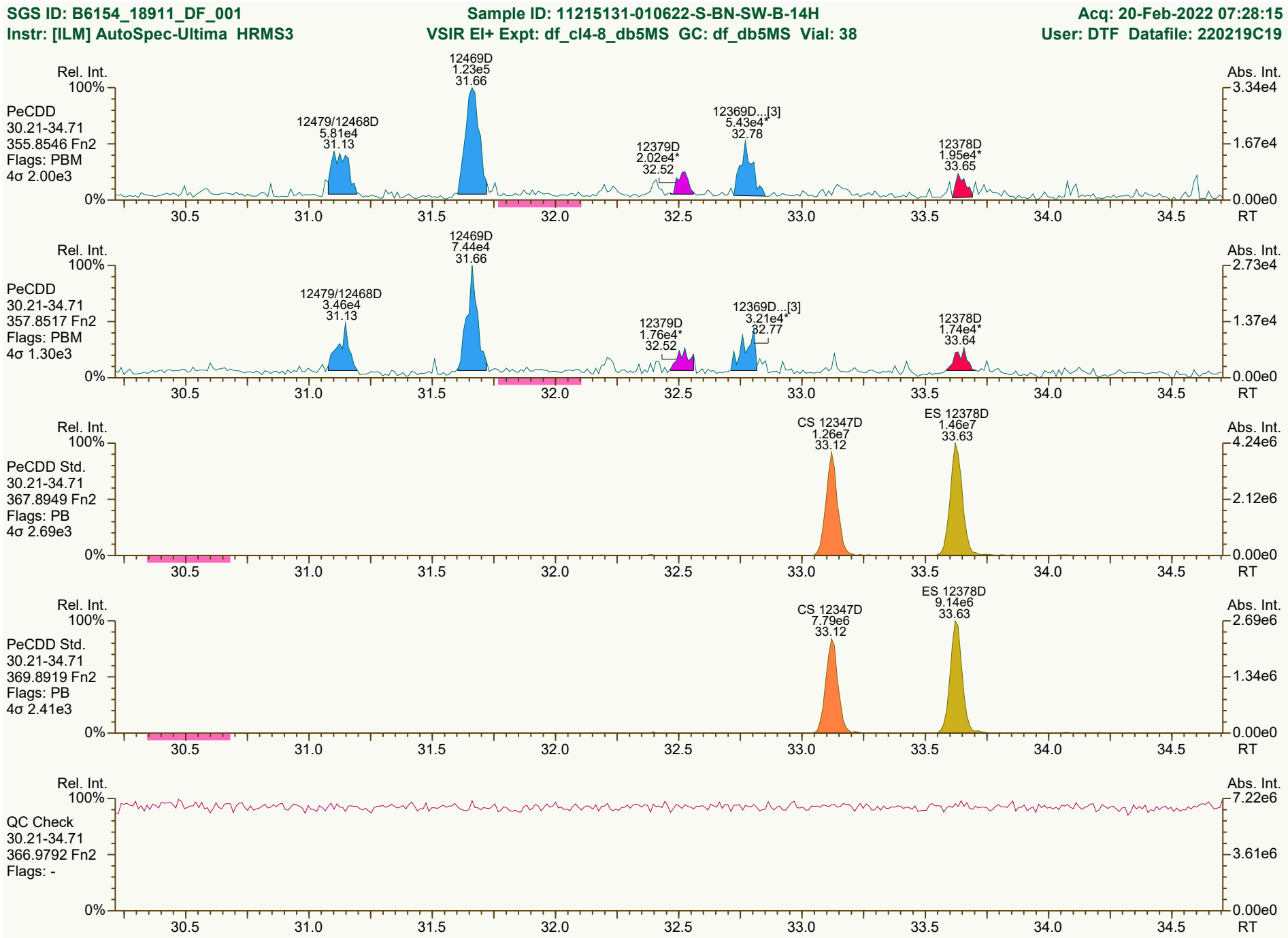
Client ID: 11215131-010622-S-BN-SW-B-14H **UTP: 21-Feb-2022 11:01:46 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 858-619-LXR**

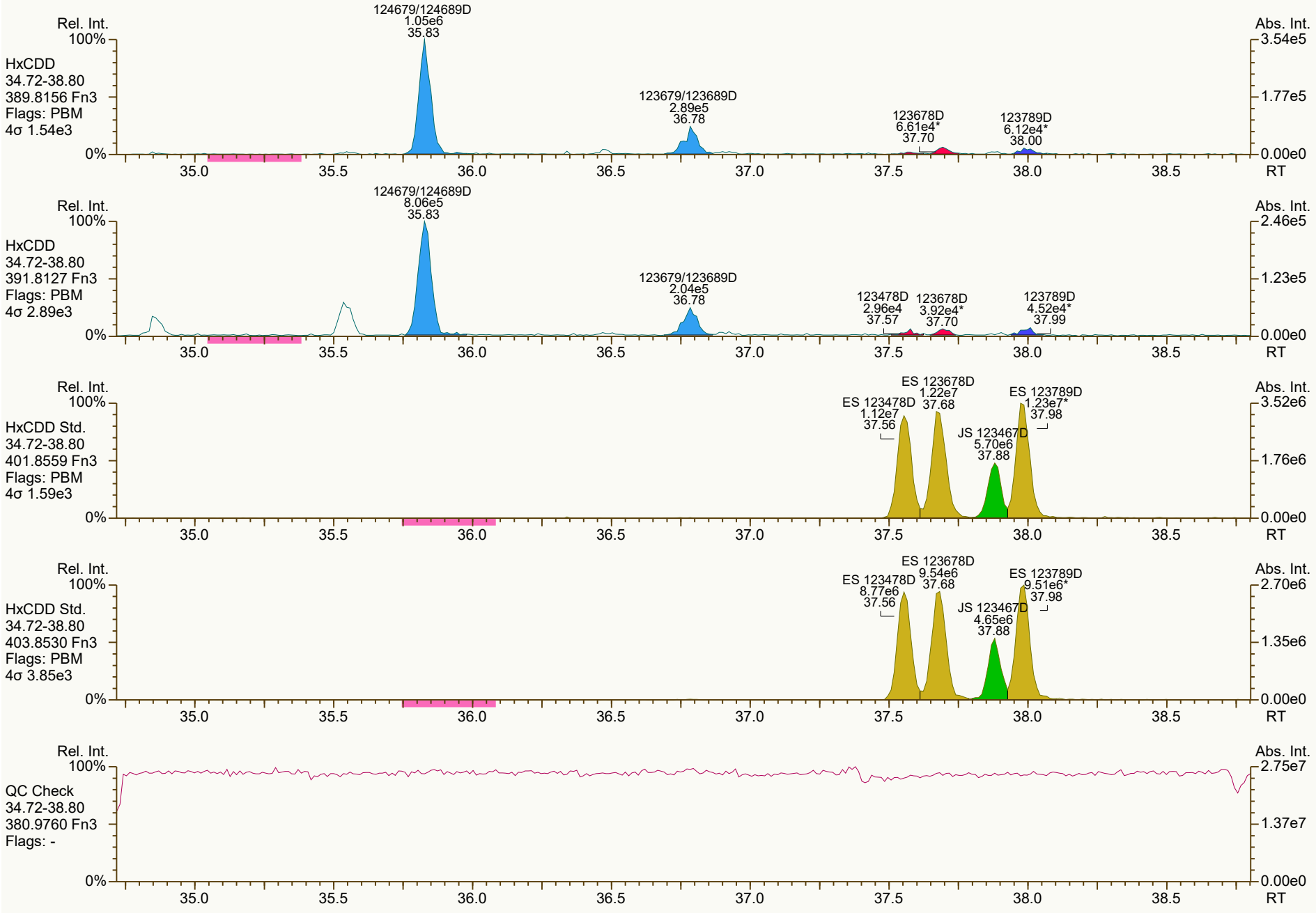
Datafile: 220219C19 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

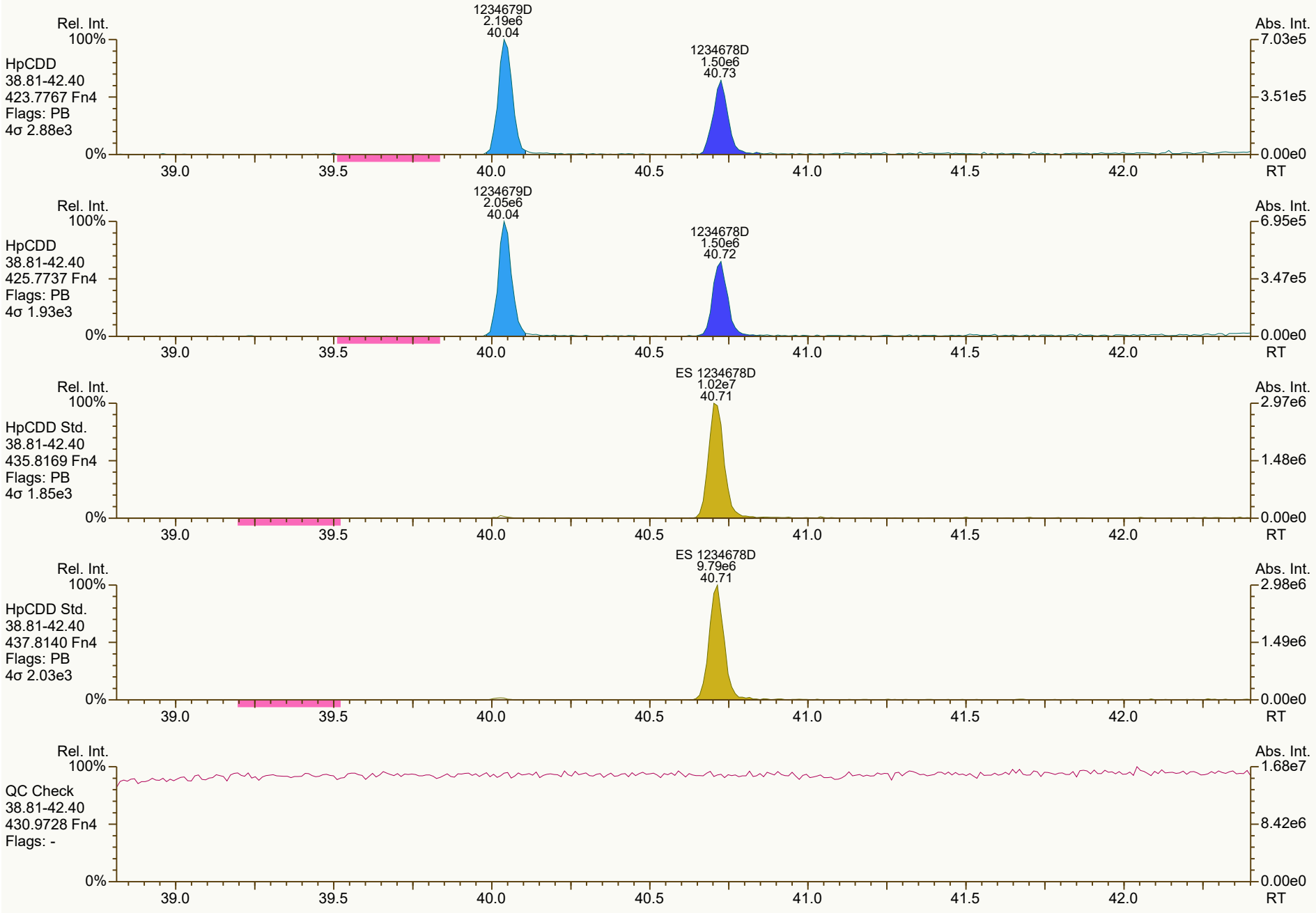
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		4013.332	0.203
12347-PeCDF	NotFnd		0.9891						1.02		4013.332	0.203
12348-PeCDF	NotFnd		0.9938						1.02		4013.332	0.203
12378-PeCDF	**32.19**	J	**1.0005**	**1.0005**	**0**	**3.12E+05**	**1.36**	**Y**	**1.02**	**1.64**	**4013.332**	**0.193**
12678/12367-PeCDF	32.48	J EMPC	1.0091	1.0097	+1.2	1.20E+05	1.28	N	1.02	0.652	4013.332	0.203
12379-PeCDF	NotFnd		1.0144						1.02		4013.332	0.203
12679-PeCDF	NotFnd		0.9927						1.02		4013.332	0.203
23467/12369-PeCDF	NotFnd		0.9965						1.02		4013.332	0.203
23478-PeCDF	**33.32**	J EMPC	**1.0005**	**1.0008**	**+0.6**	**2.22E+05**	**1.24**	**N**	**1.02**	**1.26**	**4013.332**	**0.215**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4013.332	0.203
12349-PeCDF	NotFnd		1.0101						1.02		4013.332	0.203
12389-PeCDF	NotFnd		1.0330						1.02		4013.332	0.203
123468-HxCDF	35.17	J EMPC	0.9622	0.9623	+0.2	3.85E+04	2.07	N	1.19	0.238	3033.195	0.161
124678/134678-HxCDF	35.37	J	0.9678	0.9677	-0.2	1.58E+05	1.36	Y	1.19	0.974	3033.195	0.161
134679-HxCDF	NotFnd		0.9741						1.19		3033.195	0.161
124679-HxCDF	NotFnd		0.9795						1.19		3033.195	0.161
124689-HxCDF	36.03	J EMPC	0.9856	0.9857	+0.2	4.27E+04	2.07	N	1.19	0.264	3033.195	0.161
123467-HxCDF	NotFnd		0.9972						1.19		3033.195	0.161
123478-HxCDF	**36.57**		**1.0004**	**1.0004**	**0**	**3.92E+05**	**1.20**	**Y**	**1.27**	**2.54**	**3033.195**	**0.17**
123678-HxCDF	**36.71**	J	**1.0004**	**1.0003**	**-0.2**	**1.37E+05**	**1.20**	**Y**	**1.15**	**0.776**	**3033.195**	**0.148**
123479-HxCDF	NotFnd		1.0048						1.19		3033.195	0.161
123469-HxCDF	NotFnd		1.0089						1.19		3033.195	0.161
123679-HxCDF	NotFnd		0.9942						1.19		3033.195	0.161
234678-HxCDF	**37.39**	J EMPC	**1.0005**	**1.0005**	**0**	**4.42E+04**	**0.80**	**N**	**1.19**	**0.243**	**3033.195**	**0.149**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3033.195	0.161
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3033.195**	**0.186**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J EMPC	1.0006	1.0009	+0.7	2.61E+04	1.04	N	1.19	0.162	3033.195	0.161
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**6.08E+05**	**0.91**	**Y**	**1.37**	**3.41**	**4497.882**	**0.186**
1234679-HpCDF	NotFnd		1.0068						1.34		4497.882	0.253
1234689-HpCDF	40.19	**J**	1.0104	1.0105	+0.2	2.88E+05	1.16	Y	1.34	2.02	4497.882	0.253
1234789-HpCDF	**41.17**	**J EMPC**	**1.0003**	**1.0001**	**-0.5**	**4.87E+04**	**1.25**	**N**	**1.31**	**0.45**	**4497.882**	**0.36**
OCDF	**43.58**		**1.0002**	**1.0002**	**0**	**1.15E+06**	**0.85**	**Y**	**1.07**	**14.2**	**3067.65**	**0.481**
OCDF-a	NotFnd		1.0001						0.07		3454.993	8.75

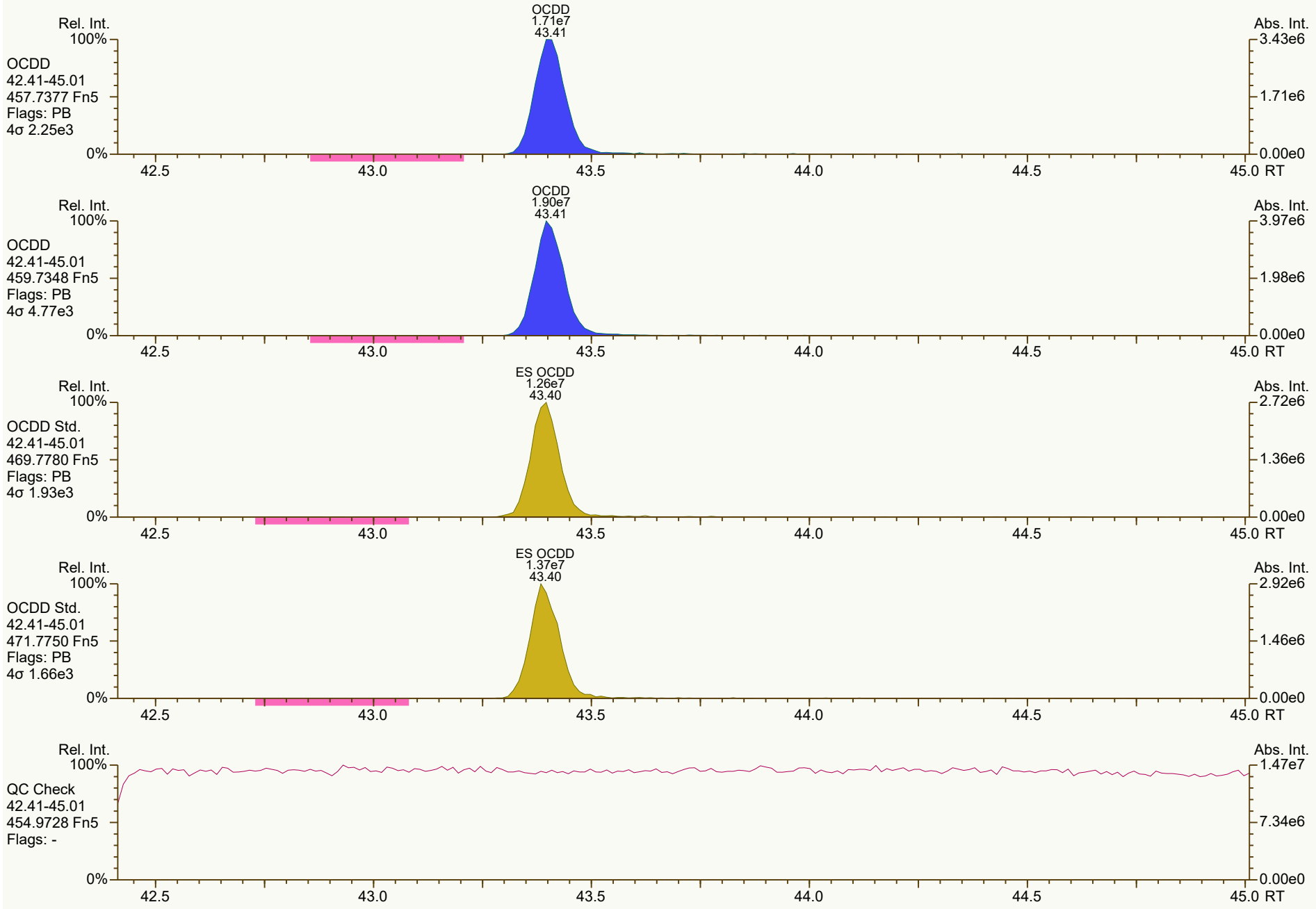

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.05e6
4.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.22e6
3.61e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.75e7
1.37e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.68e7
8.42e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.47e7
7.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

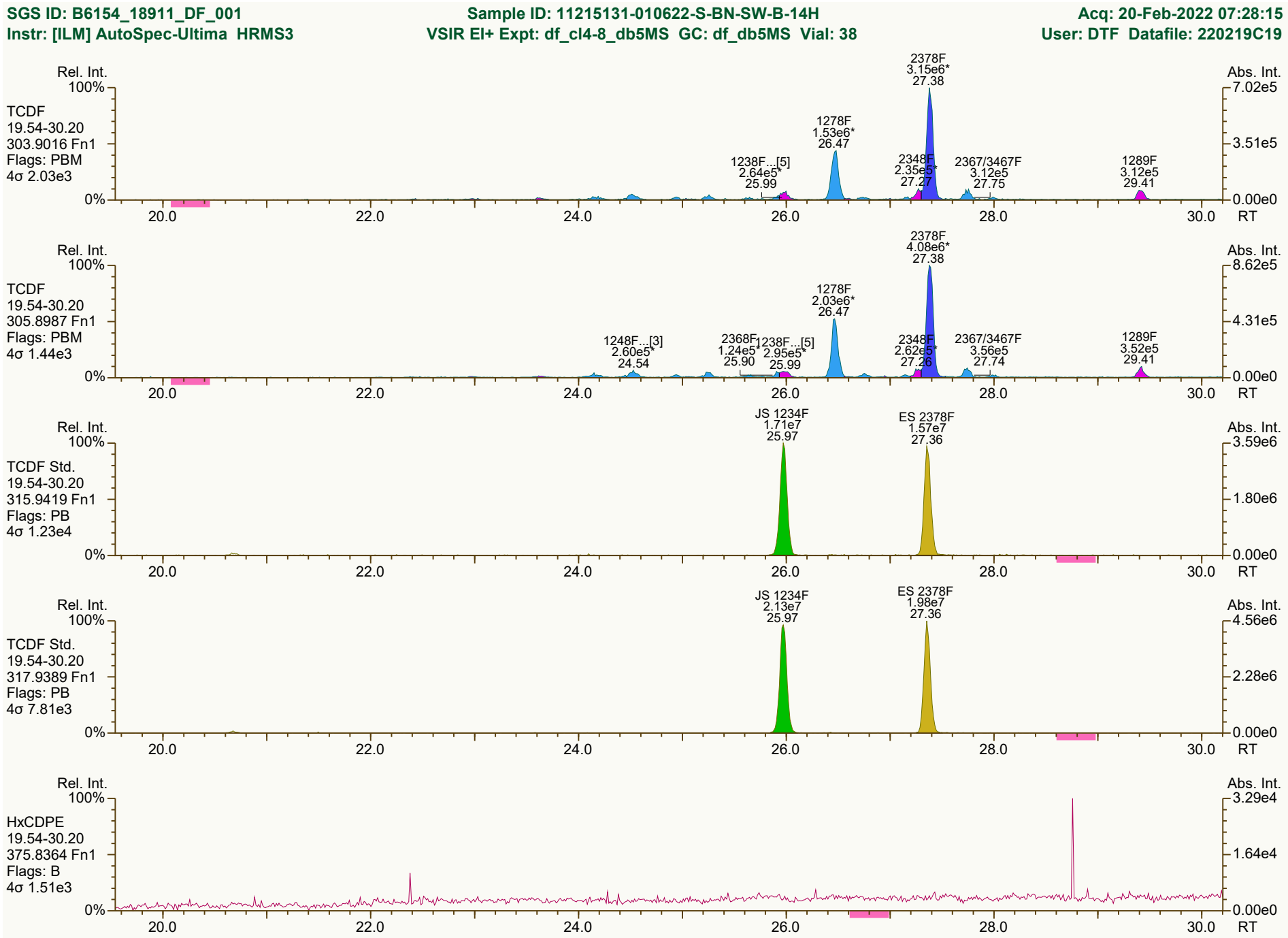

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.00e3
0%
2378D
9.93e5
28.25
1469D
1.60e5
26.14
1278D
9.18e4*
28.59
Abs. Int.
2.35e5
1.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.97e3
0%
2378D
1.27e6
28.25
1469D
2.33e5
26.14
1278D
1.12e5*
28.59
Abs. Int.
3.01e5
1.50e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.91e3
0%
CS 37Cl-2378D
1.16e7
28.25
Abs. Int.
2.62e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.79e3
0%
ES 2378D
1.13e7
28.23
JS 1234D
1.05e7
27.56
Abs. Int.
2.76e6
1.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.67e3
0%
ES 2378D
1.40e7
28.23
JS 1234D
1.31e7
27.56
Abs. Int.
3.28e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6154_18911_DF_001
Sample ID: 11215131-010622-S-BN-SW-B-14H
Acq: 20-Feb-2022 07:28:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220219C19
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.00e3
12479/12468D
5.81e4
31.13
12469D
1.23e5
31.66
12379D
2.02e4*
32.52
12369D...[3]
5.43e4*
32.78
12378D
1.95e4*
33.65
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.30e3
12479/12468D
3.46e4
31.13
12469D
7.44e4
31.66
12379D
1.76e4*
32.52
12369D...[3]
3.21e4*
32.77
12378D
1.74e4*
33.64
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.69e3
CS 12347D
1.26e7
33.12
ES 12378D
1.46e7
33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.41e3
CS 12347D
7.79e6
33.12
ES 12378D
9.14e6
33.63
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_001.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0872, 3891 scc: 858-619
PKD: 21-Feb-2022 10:58 Printed: 21-Feb-2022 11:09 Page 3 of 12


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.54e3
124679/124689D
1.05e6
35.83
123679/123689D
2.89e5
36.78
123678D
6.61e4*
37.70
123789D
6.12e4*
38.00
Abs. Int.
3.54e5
1.77e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.89e3
124679/124689D
8.06e5
35.83
123679/123689D
2.04e5
36.78
123478D
2.96e4
37.57
123678D
3.92e4*
37.70
123789D
4.52e4*
37.99
Abs. Int.
2.46e5
1.23e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.59e3
ES 123678D
1.22e7
37.68
ES 123478D
1.12e7
37.56
ES 123789D
1.23e7*
37.98
JS 123467D
5.70e6
37.88
Abs. Int.
3.52e6
1.76e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 3.85e3
ES 123678D
9.54e6
37.68
ES 123478D
8.77e6
37.56
ES 123789D
9.51e6*
37.98
JS 123467D
4.65e6
37.88
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.75e7
1.37e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.88e3
1234679D
2.19e6
40.04
1234678D
1.50e6
40.73
Abs. Int.
7.03e5
3.51e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.93e3
1234679D
2.05e6
40.04
1234678D
1.50e6
40.72
Abs. Int.
6.95e5
3.47e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.85e3
ES 1234678D
1.02e7
40.71
Abs. Int.
2.97e6
1.48e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.03e3
ES 1234678D
9.79e6
40.71
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.68e7
8.42e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.71e7
43.41
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.25e3
0%
Abs. Int.
3.43e6
1.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.90e7
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 4.77e3
3.97e6
1.98e6
ES OCDD
1.26e7
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.93e3
2.72e6
1.36e6
ES OCDD
1.37e7
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.66e3
2.92e6
1.46e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.34e6


SGS ID: B6154_18911_DF_001
Sample ID: 11215131-010622-S-BN-SW-B-14H
Acq: 20-Feb-2022 07:28:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220219C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.03e3
2378F 3.15e6* 27.38
1278F 1.53e6* 26.47
1238F...[5] 2.64e5* 25.99
2348F 2.35e5* 27.27
2367/3467F 3.12e5 27.75
1289F 3.12e5 29.41
7.02e5
3.51e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.44e3
2378F 4.08e6* 27.38
1278F 2.03e6* 26.47
1248F...[3] 2.60e5* 24.54
2368F 1.24e5* 25.90
1238F...[5] 2.95e5* 25.99
2348F 2.62e5* 27.26
2367/3467F 3.56e5 27.74
1289F 3.52e5 29.41
8.62e5
4.31e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.23e4
JS 1234F 1.71e7 25.97
ES 2378F 1.57e7 27.36
3.59e6
1.80e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.81e3
JS 1234F 2.13e7 25.97
ES 2378F 1.98e7 27.36
4.56e6
2.28e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.51e3
3.29e4
1.64e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_001.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3319, 1563, 5335 scc: 858-619
PKD: 21-Feb-2022 10:58 Printed: 21-Feb-2022 11:09 Page 7 of 12

SGS ID: B6154_18911_DF_001 | Sample ID: 11215131-010622-S-BN-SW-B-14H | Acq: 20-Feb-2022 07:28:15

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38 | User: DTF Datafile: 220219C19

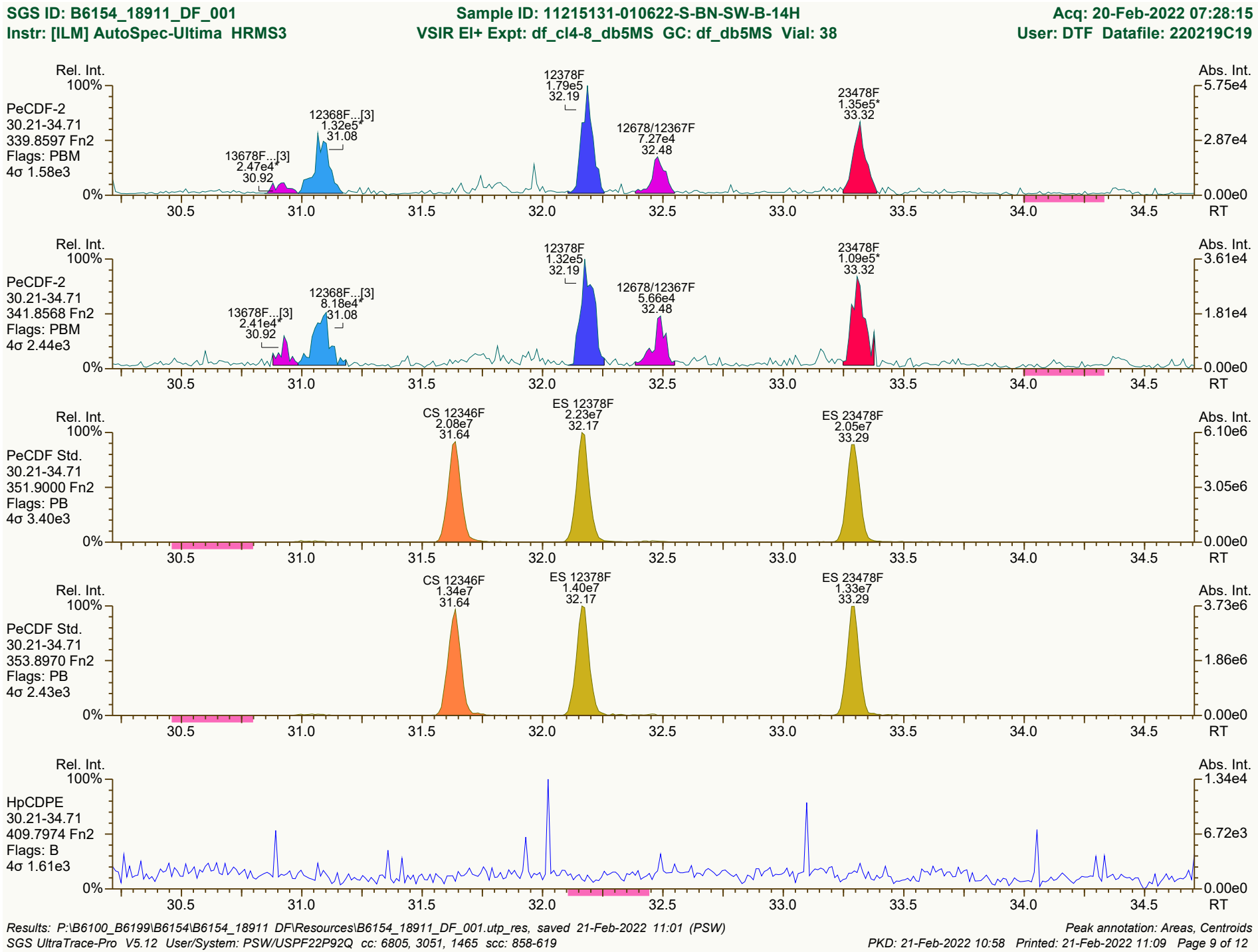


Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_001.utp_res, saved 21-Feb-2022 11:01 (PSW)

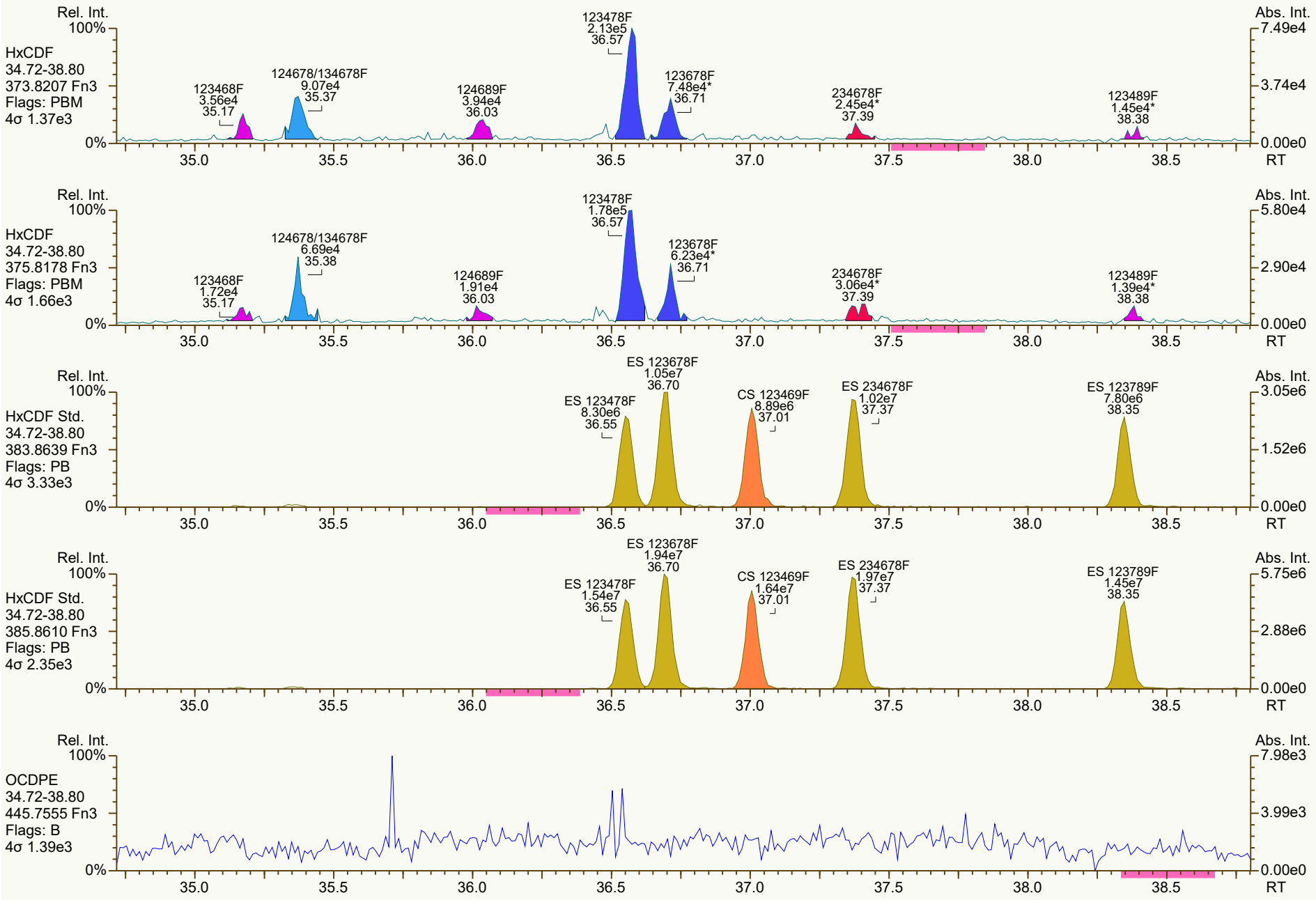
Peak annotation: Areas, Centroids

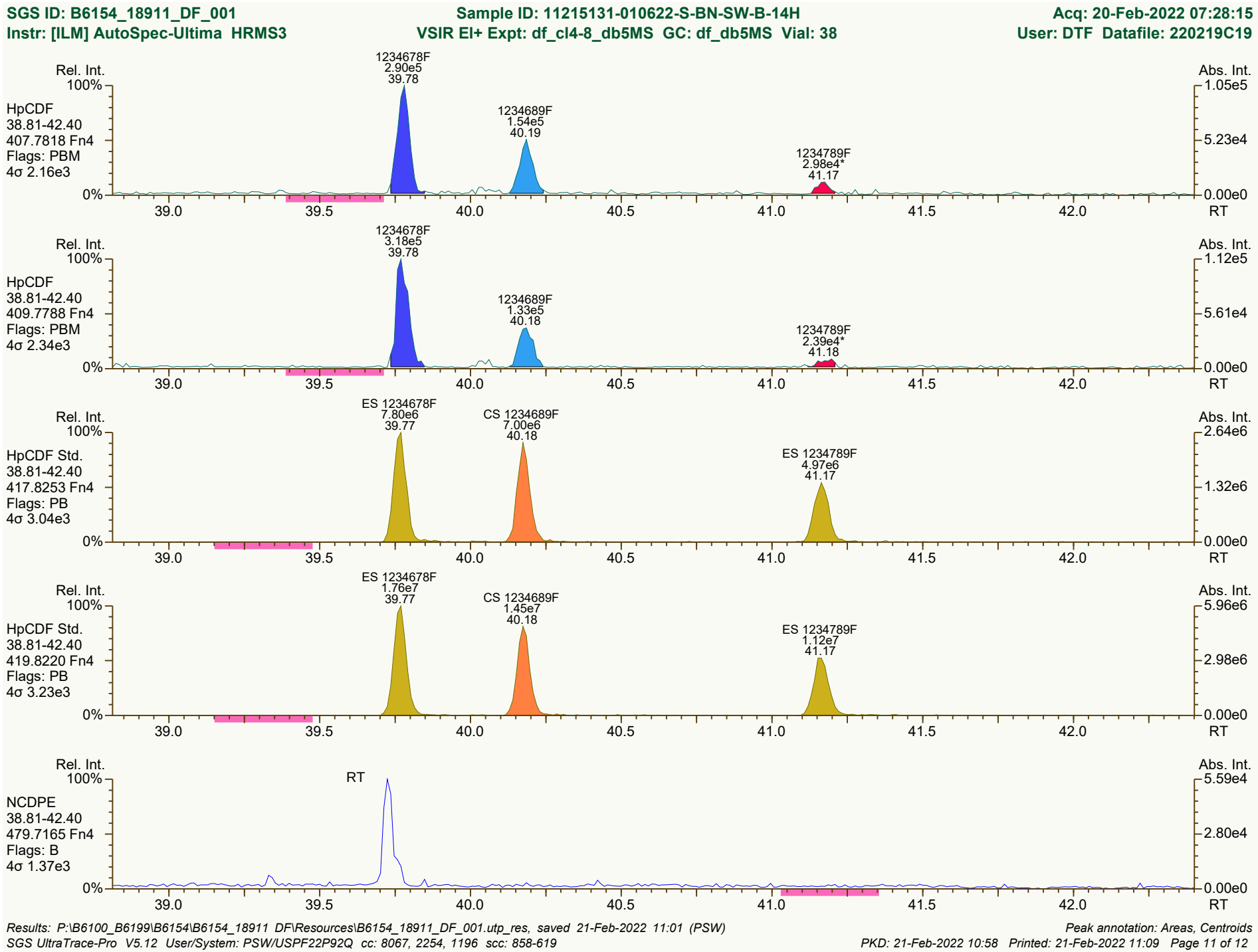
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9020 scc: 858-619

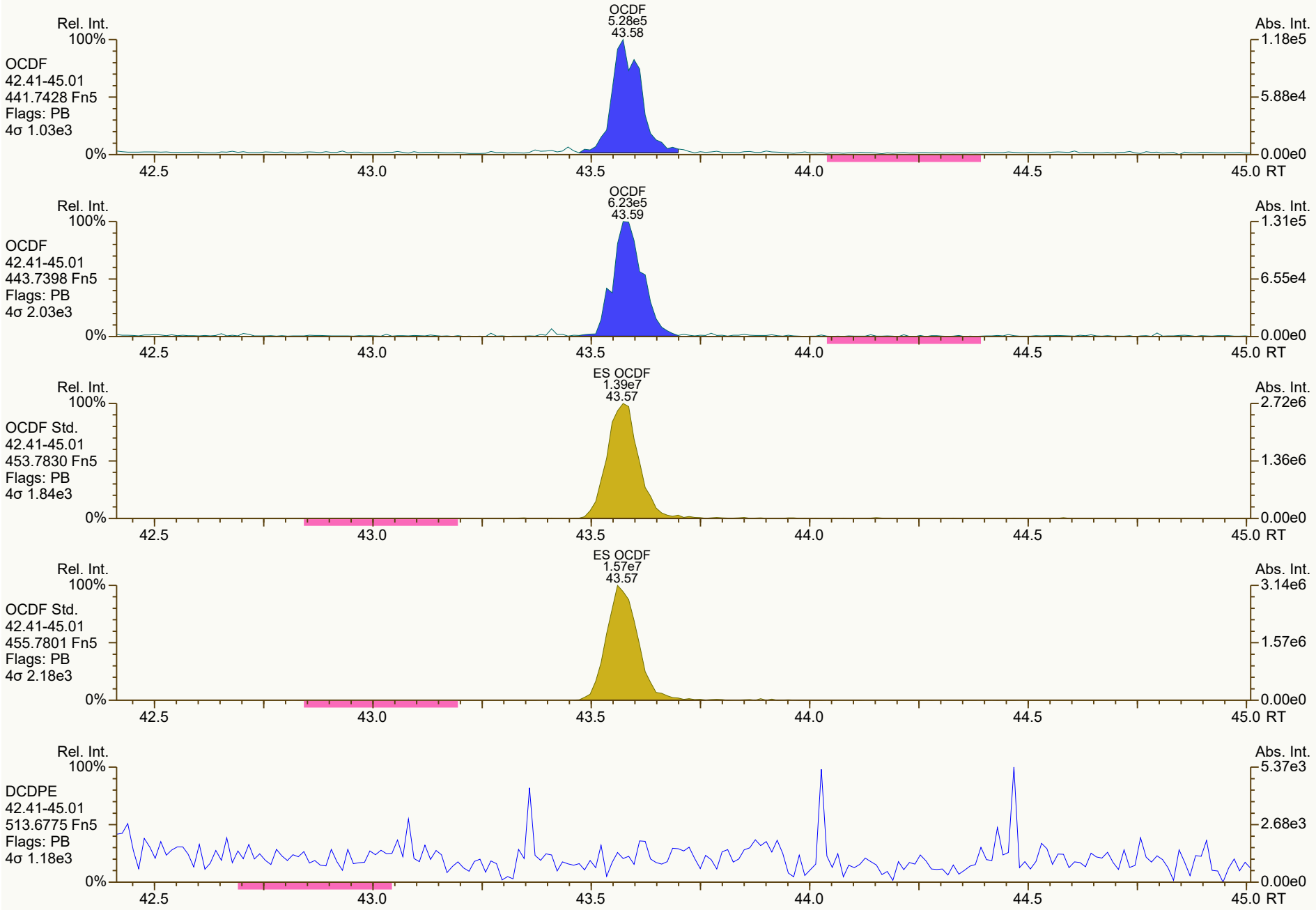
PKD: 21-Feb-2022 10:58 Printed: 21-Feb-2022 11:09 Page 8 of 12



Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_001.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6805, 3051, 1465 scc: 858-619
PKD: 21-Feb-2022 10:58 Printed: 21-Feb-2022 11:09 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.37e3
123468F 3.56e4 35.17
124678/134678F 9.07e4 35.37
124689F 3.94e4 36.03
123478F 2.13e5 36.57
123678F 7.48e4* 36.71
234678F 2.45e4* 37.39
123489F 1.45e4* 38.38
Abs. Int.
7.49e4
3.74e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.66e3
123468F 1.72e4 35.17
124678/134678F 6.69e4 35.38
124689F 1.91e4 36.03
123478F 1.78e5 36.57
123678F 6.23e4* 36.71
234678F 3.06e4* 37.39
123489F 1.39e4* 38.38
5.80e4
2.90e4
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.33e3
ES 123478F 8.30e6 36.55
ES 123678F 1.05e7 36.70
CS 123469F 8.89e6 37.01
ES 234678F 1.02e7 37.37
ES 123789F 7.80e6 38.35
3.05e6
1.52e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.35e3
ES 123478F 1.54e7 36.55
ES 123678F 1.94e7 36.70
CS 123469F 1.64e7 37.01
ES 234678F 1.97e7 37.37
ES 123789F 1.45e7 38.35
5.75e6
2.88e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.39e3
7.98e3
3.99e3


SGS ID: B6154_18911_DF_001
Sample ID: 11215131-010622-S-BN-SW-B-14H
Acq: 20-Feb-2022 07:28:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220219C19
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.16e3
1234678F
2.90e5
39.78
1234689F
1.54e5
40.19
1234789F
2.98e4*
41.17
1.05e5
5.23e4
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.34e3
1234678F
3.18e5
39.78
1234689F
1.33e5
40.18
1234789F
2.39e4*
41.18
1.12e5
5.61e4
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.04e3
ES 1234678F
7.80e6
39.77
CS 1234689F
7.00e6
40.18
ES 1234789F
4.97e6
41.17
2.64e6
1.32e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 3.23e3
ES 1234678F
1.76e7
39.77
CS 1234689F
1.45e7
40.18
ES 1234789F
1.12e7
41.17
5.96e6
2.98e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.37e3
RT
5.59e4
2.80e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_001.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8067, 2254, 1196 scc: 858-619
PKD: 21-Feb-2022 10:58 Printed: 21-Feb-2022 11:09 Page 11 of 12


OCDF
5.28e5
43.58
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.03e3
0%
Abs. Int.
1.18e5
5.88e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.23e5
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.03e3
1.31e5
6.55e4
ES OCDF
1.39e7
43.57
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.84e3
2.72e6
1.36e6
ES OCDF
1.57e7
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.18e3
3.14e6
1.57e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.18e3
5.37e3
2.68e3

Lab ID: B6154_18911_DF_002 **Acq'd:** 20 Feb 2022 08:14 DTF **Wt/Vol:** 10.46 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-B-16H **UTP:** 21-Feb-2022 11:04:09 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 318-250-WLN

Datafile: 220219C20 **Report:** 21 Feb 2022 11:05 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0006	-0.3	3.19E+05	0.75	Y	1.18	2.42	4800.16	0.385
12378-PeCDD	33.62	J	1.0007	1.0003	-0.8	5.76E+04	1.33	Y	1.04	0.537	2885.357	0.244
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	4603.999	0.449
123678-HxCDD	37.67	J	1.0036	1.0034	-0.5	7.51E+04	1.30	Y	1.15	0.695	4603.999	0.387
123789-HxCDD	37.99	J	1.0118	1.0118	0	1.50E+05	1.19	Y	1.05	1.39	4603.999	0.364
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	2.41E+06	1.06	Y	1.06	25.5	4454.244	0.406
OCDD	43.41		1.0003	1.0003	0	3.09E+07	0.91	Y	1.13	477	4640.538	0.844
2378-TCDF	27.36		1.0008	1.0008	0	1.25E+06	0.80	Y	1.08	7.07	3300.542	0.206
12378-PeCDF	32.16	J EMPC	1.0005	1.0003	-0.4	8.97E+04	1.87	N	1.02	0.533	3551.751	0.204
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3551.751	0.198
123478-HxCDF	36.56	J	1.0004	1.0004	0	1.07E+05	1.30	Y	1.27	0.763	2667.37	0.156
123678-HxCDF	36.69	J	1.0004	1.0002	-0.4	5.29E+04	1.09	Y	1.15	0.331	2667.37	0.145
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2667.37	0.152
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2667.37	0.188
1234678-HpCDF	39.77	J	1.0003	1.0002	-0.2	7.29E+04	1.13	Y	1.37	0.472	2873.228	0.138
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2873.228	0.266
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2908.229	0.481

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	2.13E+07	0.76	Y	1.05	87.9
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	1.98E+07	1.61	Y	0.88	97.1
ES 123478-HxCDD	37.55	0.9916	0.9914	-0.5	1.72E+07	1.27	Y	0.97	88.4
ES 123678-HxCDD	37.67	0.9947	0.9946	-0.2	1.80E+07	1.23	Y	0.94	95.1
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	1.97E+07	1.25	Y	1.09	89.9
ES 1234678-HpCDD	40.70	1.0749	1.0748	-0.2	1.70E+07	1.11	Y	0.91	92.9
ES OCDD	43.40	1.1460	1.1459	-0.3	2.20E+07	0.89	Y	0.62	87.8
ES 2378-TCDF	27.34	1.0531	1.0535	+0.7	3.13E+07	0.80	Y	1.06	78.3
ES 12378-PeCDF	32.15	1.2378	1.2391	+2.5	3.14E+07	1.62	Y	0.91	91.4
ES 23478-PeCDF	33.27	1.2810	1.2823	+2.6	2.90E+07	1.54	Y	0.88	86.8
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.10E+07	0.52	Y	1.20	87.5
ES 123678-HxCDF	36.68	0.9688	0.9686	-0.4	2.65E+07	0.54	Y	1.35	97.8
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.54E+07	0.53	Y	1.24	102
ES 123789-HxCDF	38.34	1.0125	1.0123	-0.5	1.97E+07	0.52	Y	1.16	85
ES 1234678-HpCDF	39.76	1.0501	1.0499	-0.5	2.16E+07	0.47	Y	0.97	111
ES 1234789-HpCDF	41.16	1.0870	1.0868	-0.5	1.44E+07	0.46	Y	0.85	84.2
ES OCDF	43.57	1.1505	1.1505	0	2.57E+07	0.91	Y	0.81	79.2

Lab ID: B6154_18911_DF_002 **Acq'd:** 20 Feb 2022 08:14 DTF **Wt/Vol:** 10.46 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-B-16H **UTP:** 21-Feb-2022 11:04:09 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 318-250-WLN

Datafile: 220219C20 **Report:** 21 Feb 2022 11:05 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.32E+07	0.83	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.78E+07	0.79	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.00E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	1.04E+07	n/a	-	1.20	92.8
CS 12347-PeCDD	33.10		1.2016	1.2022	+1.2	1.89E+07	1.56	Y	0.75	108
CS 12346-PeCDF	31.62		1.2172	1.2184	+2.3	3.11E+07	1.60	Y	0.85	96.9
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.41E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	2.01E+07	0.47	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.04E+07~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~1.89E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2184~~	~~+2.3~~	~~3.11E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.41E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~2.01E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~101~~

Totals	Conc	EMPC
Total TCDD	18.8	18.8
Total PeCDD	7.98	8.5
Total HxCDD	33.8	33.8
Total HpCDD	83.1	83.1
Total Tetra-Octa Dioxins	621	621
Total TCDF	17.5	21.1
Total PeCDF	0	0.533
Total HxCDF	1.09	1.09
Total HpCDF	0.472	0.472
Total Tetra-Octa Furans	19.1	23.2
Total Tetra-Octa Dioxins & Furans	640	644

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.726	0.75
Response	3.25E+05	3.19E+05

Lab ID: B6154_18911_DF_002 **Acq'd: 20 Feb 2022 08:14 DTF** **Wt/Vol: 10.46 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-B-16H **UTP: 21-Feb-2022 11:04:09 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 318-250-WLN**

Datafile: 220219C20 **Report: 21 Feb 2022 11:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4800.16	0.385
1379-TCDD	NotFnd		0.8829						1.18		4800.16	0.385
1369-TCDD	25.31		0.8982	0.8970	-1.8	7.64E+04	0.70	Y	1.18	0.579	4800.16	0.385
1469-TCDD	26.12		0.9261	0.9258	-0.5	1.97E+06	0.75	Y	1.18	14.9	4800.16	0.385
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4800.16	0.385
1378-TCDD	NotFnd		0.9417						1.18		4800.16	0.385
1268-TCDD	NotFnd		0.9487						1.18		4800.16	0.385
1478-TCDD	NotFnd		0.9576						1.18		4800.16	0.385
1279-TCDD	NotFnd		0.9636						1.18		4800.16	0.385
1234/1269-TCDD	27.54		0.9761	0.9762	+0.2	1.12E+05	0.74	Y	1.18	0.851	4800.16	0.385
1236-TCDD	NotFnd		0.9812						1.18		4800.16	0.385
1237/1238-TCDD	NotFnd		0.9905						1.18		4800.16	0.385
1239-TCDD	NotFnd		0.9951						1.18		4800.16	0.385
2378-TCDD	**28.23**		**1.0008**	1.0006	**-0.3**	3.19E+05	0.75	Y	**1.18**	**2.42**	**4800.16**	**0.385**
1278-TCDD	NotFnd		1.0124						1.18		4800.16	0.385
1267-TCDD	NotFnd		1.0172						1.18		4800.16	0.385
1289-TCDD	NotFnd		1.0354						1.18		4800.16	0.385
12479/12468-PeCDD	31.10	J	0.9255	0.9252	-0.6	1.07E+05	1.36	Y	1.04	0.996	2885.357	0.244
12469-PeCDD	31.64		0.9416	0.9414	-0.4	5.67E+05	1.53	Y	1.04	5.29	2885.357	0.244
12368-PeCDD	NotFnd		0.9582						1.04		2885.357	0.244
12478-PeCDD	32.39	J EMPC	0.9637	0.9636	-0.2	3.20E+04	1.99	N	1.04	0.299	2885.357	0.244
12379-PeCDD	32.49	J EMPC	0.9668	0.9666	-0.4	2.34E+04	1.24	N	1.04	0.218	2885.357	0.244
12369/12467/12489-PeCDD	32.76	J	0.9746	0.9745	-0.2	1.25E+05	1.66	Y	1.04	1.16	2885.357	0.244
12346/12347-PeCDD	NotFnd		0.9858						1.04		2885.357	0.244
12378-PeCDD	33.62	J	**1.0007**	**1.0003**	**-0.8**	**5.76E+04**	**1.33**	**Y**	**1.04**	**0.537**	**2885.357**	**0.244**
12367-PeCDD	NotFnd		1.0036						1.04		2885.357	0.244
12389-PeCDD	NotFnd		1.0137						1.04		2885.357	0.244
124679/124689-HxCDD	35.82		0.9540	0.9540	0	2.65E+06	1.23	Y	1.10	25.3	4603.999	0.398
123468-HxCDD	NotFnd		0.9715						1.10		4603.999	0.398
123679/123689-HxCDD	36.77		0.9793	0.9793	0	5.80E+05	1.34	Y	1.10	5.53	4603.999	0.398
123469-HxCDD	36.90	J	0.9829	0.9828	-0.2	9.24E+04	1.31	Y	1.10	0.882	4603.999	0.398
123478-HxCDD	NotFnd		**1.0004**						1.09		**4603.999**	**0.449**
123678-HxCDD	37.67	J	**1.0036**	**1.0034**	**-0.5**	**7.51E+04**	**1.30**	**Y**	1.15	**0.695**	**4603.999**	**0.387**
123467-HxCDD	NotFnd		1.0089						1.10		4603.999	0.398
123789-HxCDD	37.99	J	**1.0118**	**1.0118**	**0**	**1.50E+05**	**1.19**	**Y**	1.05	**1.39**	**4603.999**	**0.364**

Lab ID: B6154_18911_DF_002 **Acq'd: 20 Feb 2022 08:14 DTF** **Wt/Vol: 10.46 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-B-16H **UTP: 21-Feb-2022 11:04:09 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 318-250-WLN**

Datafile: 220219C20 **Report: 21 Feb 2022 11:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

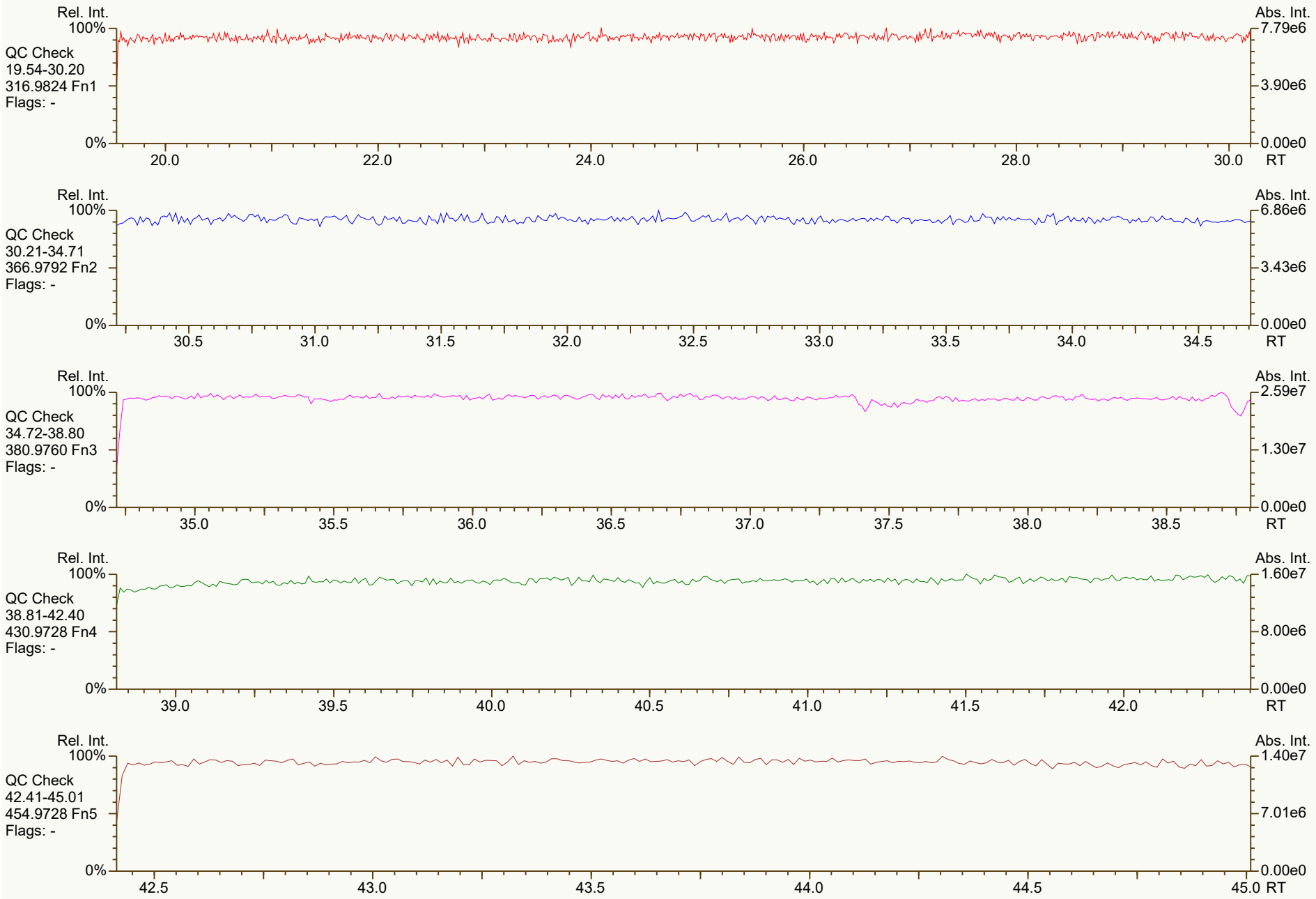
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9835	-0.2	5.43E+06	1.00	Y	1.06	57.6	4454.244	0.406
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**2.41E+06**	**1.06**	**Y**	**1.06**	**25.5**	**4454.244**	**0.406**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**3.09E+07**	**0.91**	**Y**	**1.13**	**477**	**4640.538**	**0.844**
OCDD-a	43.40		1.0002	1.0002	0	1.91E+06	2.66	Y	0.07	462	3661.856	10.4
1368-TCDF	22.37	J	0.8191	0.8182	-1.2	5.83E+04	0.66	Y	1.08	0.33	3300.542	0.206
1468-TCDF	NotFnd		0.8408						1.08		3300.542	0.206
2468-TCDF	23.61		0.8645	0.8637	-1.1	1.36E+05	0.85	Y	1.08	0.772	3300.542	0.206
1346/1246-TCDF	NotFnd		0.8772						1.08		3300.542	0.206
1347/1378/1247-TCDF	24.13		0.8833	0.8828	-0.7	2.62E+05	0.73	Y	1.08	1.48	3300.542	0.206
1348-TCDF	NotFnd		0.8932						1.08		3300.542	0.206
1248/1367/1379-TCDF	24.51	EMPC	0.8980	0.8964	-2.4	1.53E+05	0.98	N	1.08	0.863	3300.542	0.206
1268-TCDF	24.93	J EMPC	0.9119	0.9119	0	5.58E+04	0.99	N	1.08	0.316	3300.542	0.206
1467-TCDF	NotFnd		0.9170						1.08		3300.542	0.206
1478-TCDF	25.23		0.9234	0.9230	-0.6	1.19E+05	0.79	Y	1.08	0.671	3300.542	0.206
1369/1237-TCDF	25.60	EMPC	0.9369	0.9364	-0.8	9.06E+04	0.92	N	1.08	0.513	3300.542	0.206
2467-TCDF	25.74	J EMPC	0.9415	0.9415	0	5.45E+04	0.57	N	1.08	0.308	3300.542	0.206
2368-TCDF	25.88	J EMPC	0.9475	0.9467	-1.2	4.45E+04	0.51	N	1.08	0.252	3300.542	0.206
1238/1234/1678/1469/1236-TCDF	25.97		0.9507	0.9501	-0.9	2.56E+05	0.77	Y	1.08	1.45	3300.542	0.206
1278-TCDF	26.45		0.9676	0.9675	-0.2	6.79E+05	0.78	Y	1.08	3.84	3300.542	0.206
1349-TCDF	NotFnd		0.9722						1.08		3300.542	0.206
1267-TCDF	26.73		0.9777	0.9778	+0.2	1.07E+05	0.80	Y	1.08	0.605	3300.542	0.206
2346/1249-TCDF	NotFnd		0.9843						1.08		3300.542	0.206
2347/1279-TCDF	27.13	J EMPC	0.9926	0.9922	-0.7	6.22E+04	0.52	N	1.08	0.352	3300.542	0.206
2348-TCDF	27.24		0.9968	0.9963	-0.8	1.18E+05	0.79	Y	1.08	0.669	3300.542	0.206
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**1.25E+06**	**0.80**	**Y**	**1.08**	**7.07**	**3300.542**	**0.206**
2367/3467-TCDF	27.72	EMPC	1.0142	1.0140	-0.3	1.81E+05	0.97	N	1.08	1.03	3300.542	0.206
1269-TCDF	NotFnd		1.0235						1.08		3300.542	0.206
1239-TCDF	NotFnd		1.0329						1.08		3300.542	0.206
1289-TCDF	29.39		1.0742	1.0749	+1.2	1.11E+05	0.81	Y	1.08	0.627	3300.542	0.206
13468/12468-PeCDF	NotFnd		0.9122						1.02		3331.899	0.189
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3551.751	0.201
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3551.751	0.201
14678-PeCDF	NotFnd		0.9685						1.02		3551.751	0.201
13479-PeCDF	NotFnd		0.9716						1.02		3551.751	0.201
13469/12479-PeCDF	NotFnd		0.9794						1.02		3551.751	0.201
12346-PeCDF	NotFnd		0.9836						1.02		3551.751	0.201

Lab ID: B6154_18911_DF_002 **Acq'd: 20 Feb 2022 08:14 DTF** **Wt/Vol: 10.46 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

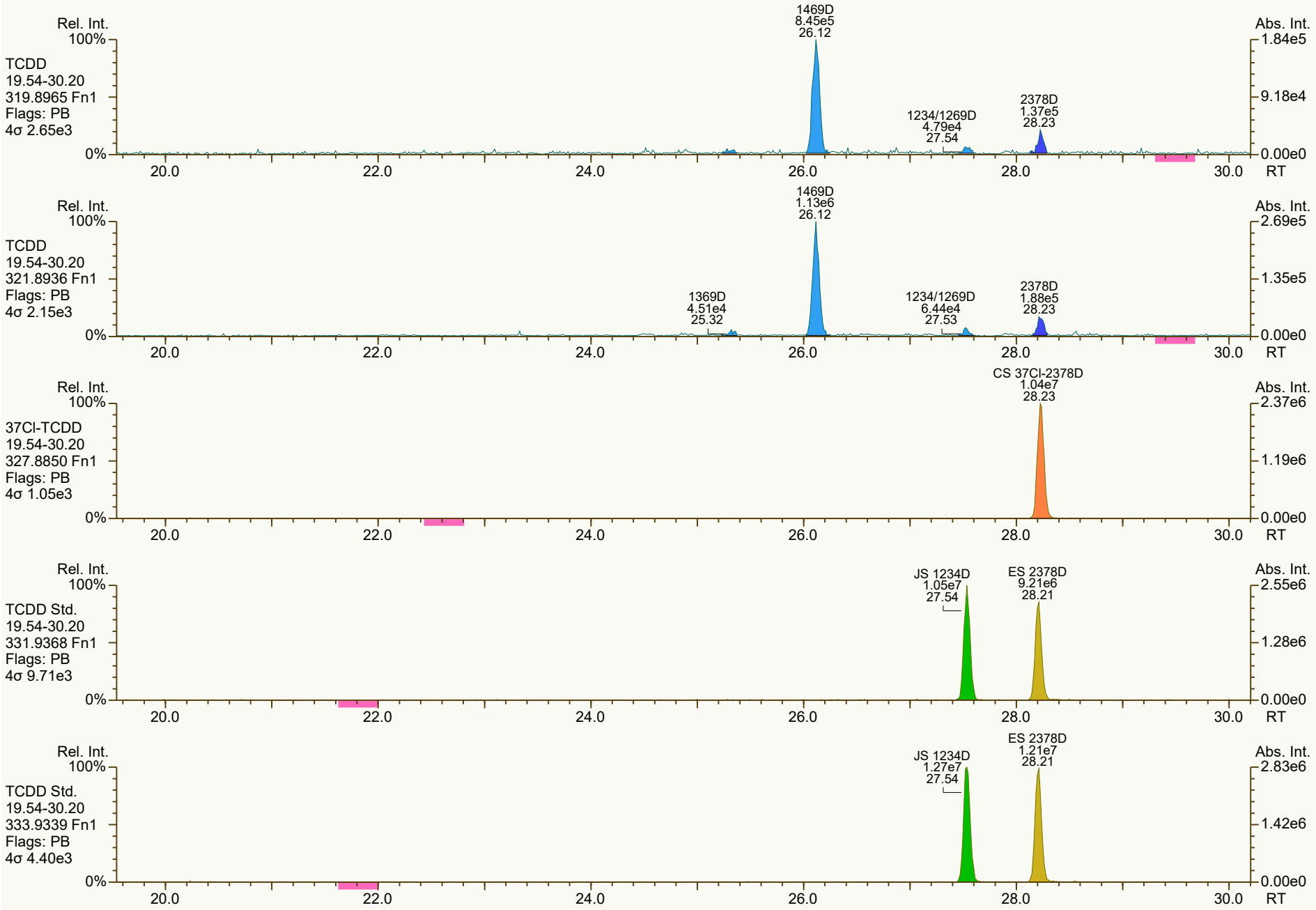
Client ID: 11215131-010722-S-BN-SW-B-16H **UTP: 21-Feb-2022 11:04:09 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 318-250-WLN**

Datafile: 220219C20 **Report: 21 Feb 2022 11:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

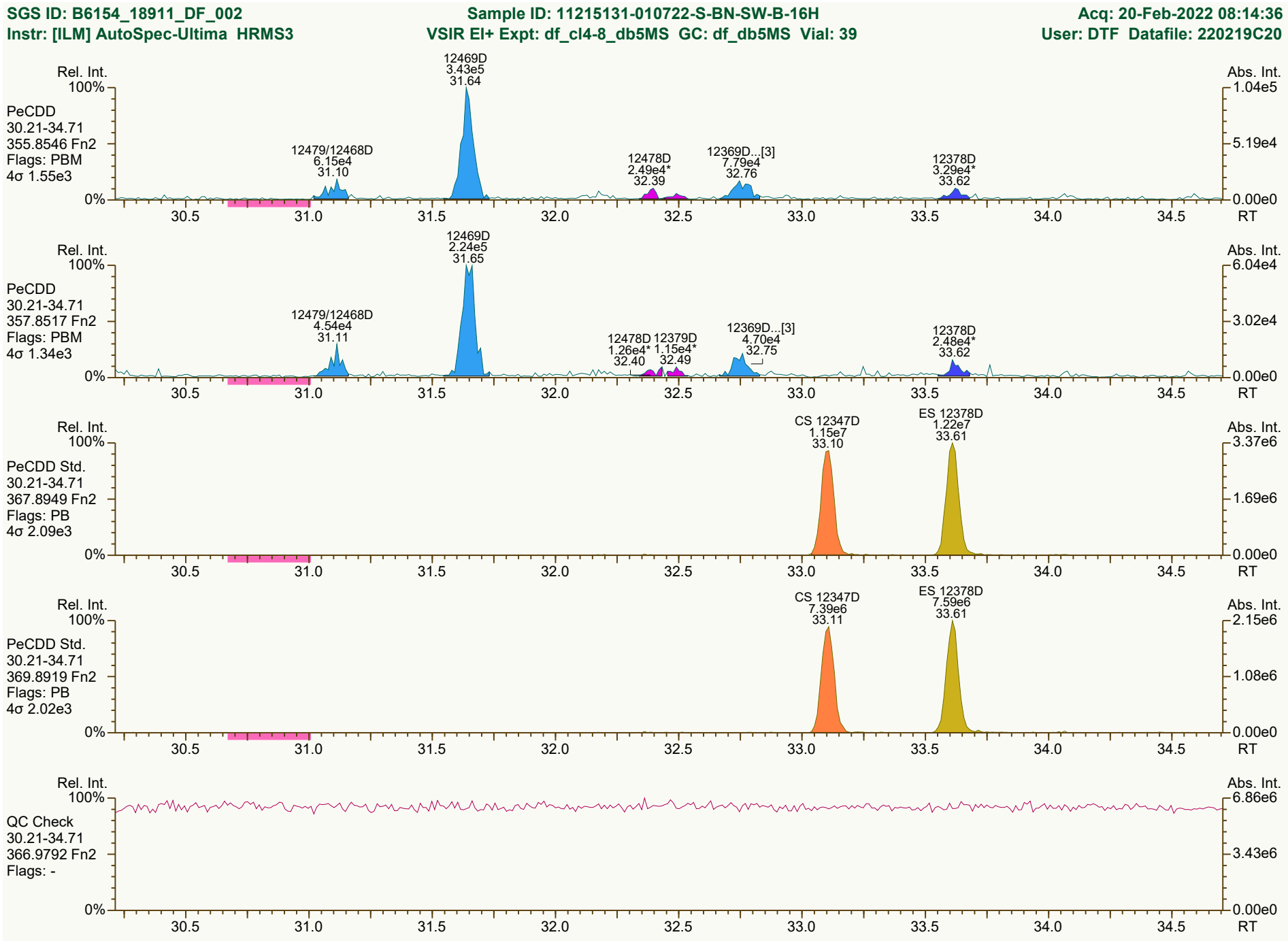
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3551.751	0.201
12347-PeCDF	NotFnd		0.9891						1.02		3551.751	0.201
12348-PeCDF	NotFnd		0.9938						1.02		3551.751	0.201
12378-PeCDF	**32.16**	J EMPC	**1.0005**	**1.0003**	**-0.4**	**8.97E+04**	**1.87**	**N**	**1.02**	**0.533**	**3551.751**	**0.204**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3551.751	0.201
12379-PeCDF	NotFnd		1.0144						1.02		3551.751	0.201
12679-PeCDF	NotFnd		0.9927						1.02		3551.751	0.201
23467/12369-PeCDF	NotFnd		0.9965						1.02		3551.751	0.201
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3551.751**	**0.198**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3551.751	0.201
12349-PeCDF	NotFnd		1.0101						1.02		3551.751	0.201
12389-PeCDF	NotFnd		1.0330						1.02		3551.751	0.201
123468-HxCDF	NotFnd		0.9622						1.19		2667.37	0.158
124678/134678-HxCDF	NotFnd		0.9678						1.19		2667.37	0.158
134679-HxCDF	NotFnd		0.9741						1.19		2667.37	0.158
124679-HxCDF	NotFnd		0.9795						1.19		2667.37	0.158
124689-HxCDF	NotFnd		0.9856						1.19		2667.37	0.158
123467-HxCDF	NotFnd		0.9972						1.19		2667.37	0.158
123478-HxCDF	**36.56**	J	**1.0004**	**1.0004**	**0**	**1.07E+05**	**1.30**	**Y**	**1.27**	**0.763**	**2667.37**	**0.156**
123678-HxCDF	**36.69**	J	**1.0004**	**1.0002**	**-0.4**	**5.29E+04**	**1.09**	**Y**	**1.15**	**0.331**	**2667.37**	**0.145**
123479-HxCDF	NotFnd		1.0048						1.19		2667.37	0.158
123469-HxCDF	NotFnd		1.0089						1.19		2667.37	0.158
123679-HxCDF	NotFnd		0.9942						1.19		2667.37	0.158
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2667.37**	**0.152**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2667.37	0.158
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2667.37**	**0.188**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2667.37	0.158
1234678-HpCDF	**39.77**	**J**	**1.0003**	**1.0002**	**-0.2**	**7.29E+04**	**1.13**	**Y**	**1.37**	**0.472**	**2873.228**	**0.138**
1234679-HpCDF	NotFnd		1.0068						1.34		2873.228	0.189
1234689-HpCDF	NotFnd		1.0104						1.34		2873.228	0.189
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2873.228**	**0.266**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2908.229**	**0.481**
OCDF-a	NotFnd		1.0001						0.07		2838.769	7.59

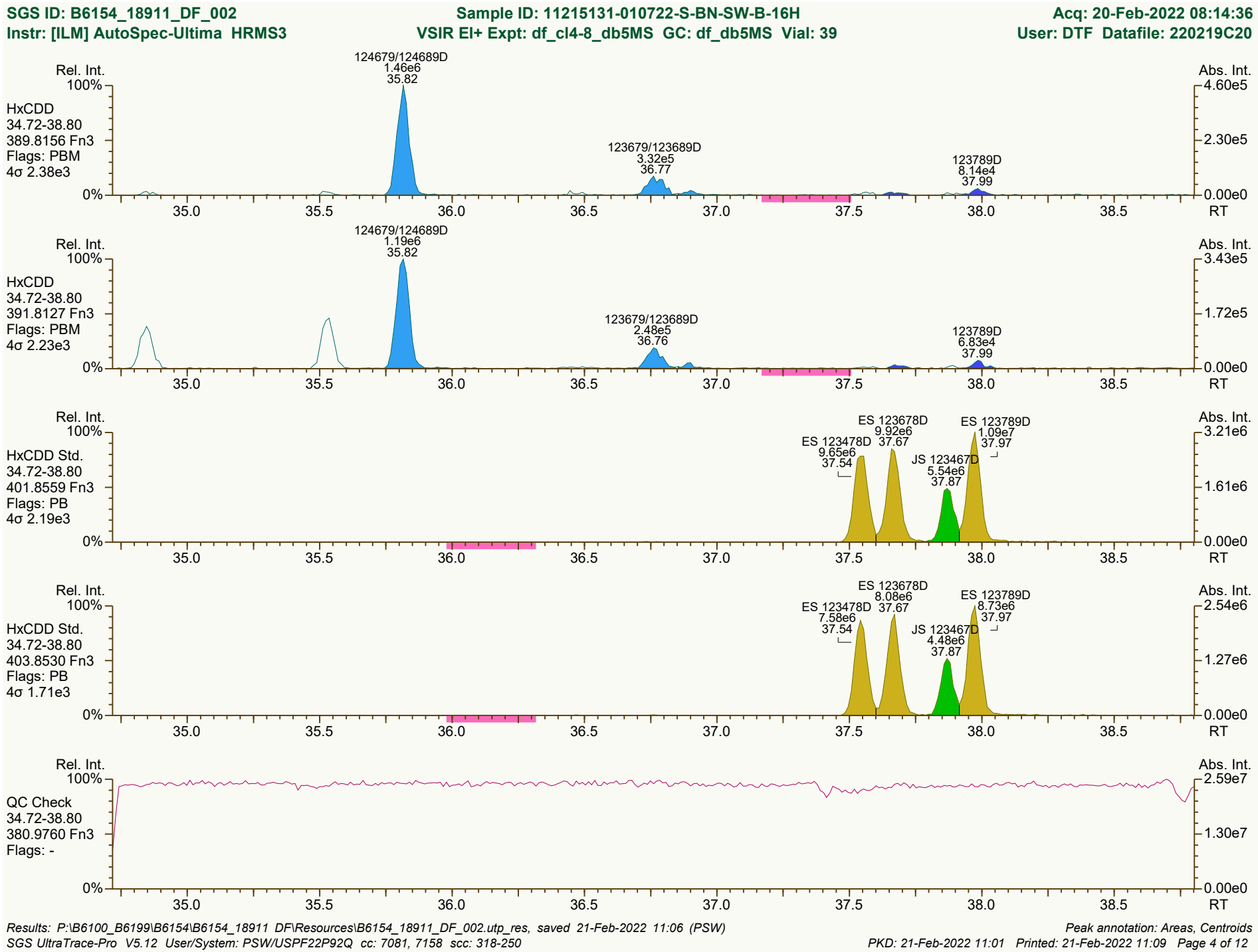

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.79e6
3.90e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
6.86e6
3.43e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.59e7
1.30e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.60e7
8.00e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.40e7
7.01e6
0.00e0

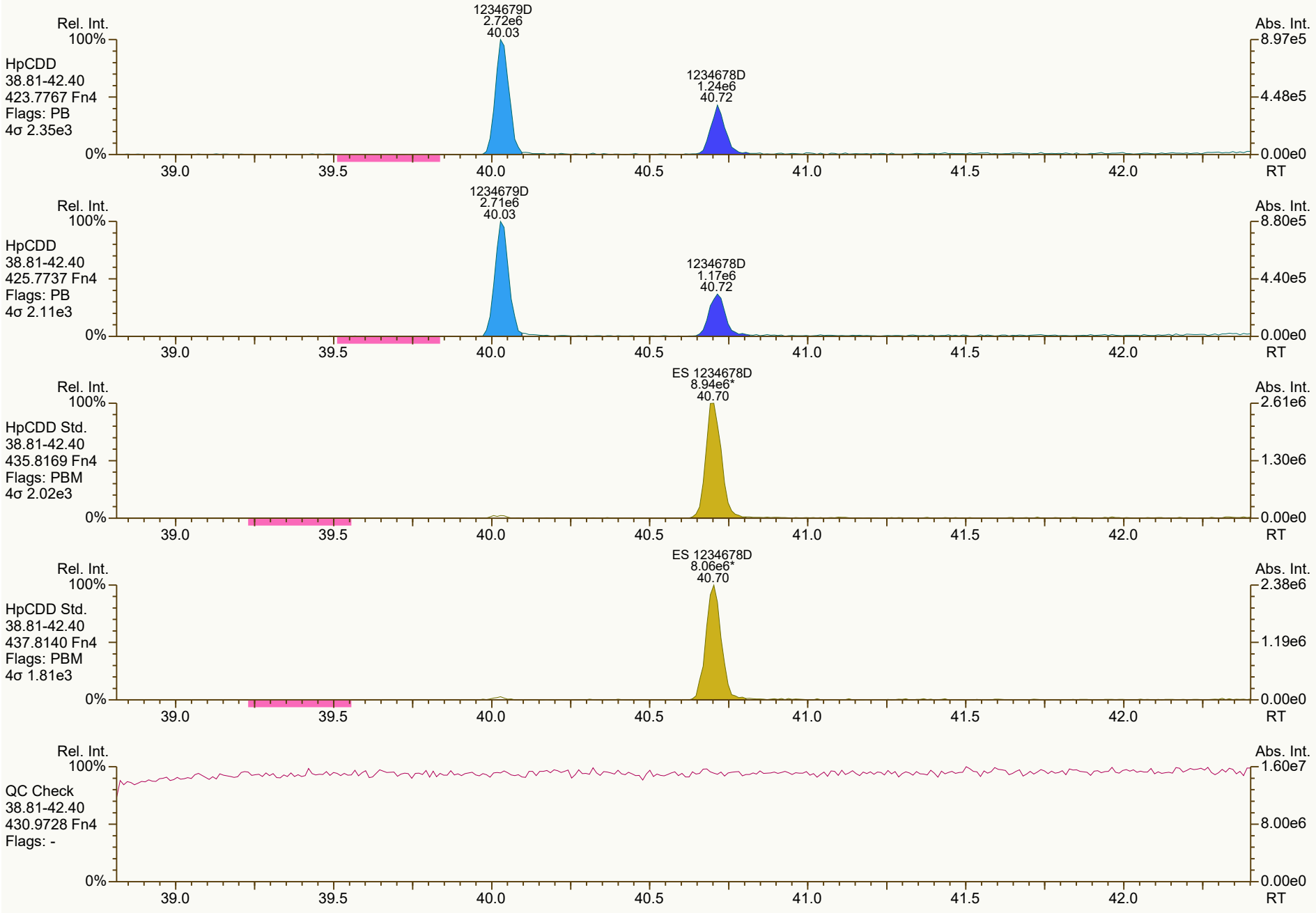
SGS ID: B6154_18911_DF_002 Sample ID: 11215131-010722-S-BN-SW-B-16H Acq: 20-Feb-2022 08:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39 User: DTF Datafile: 220219C20

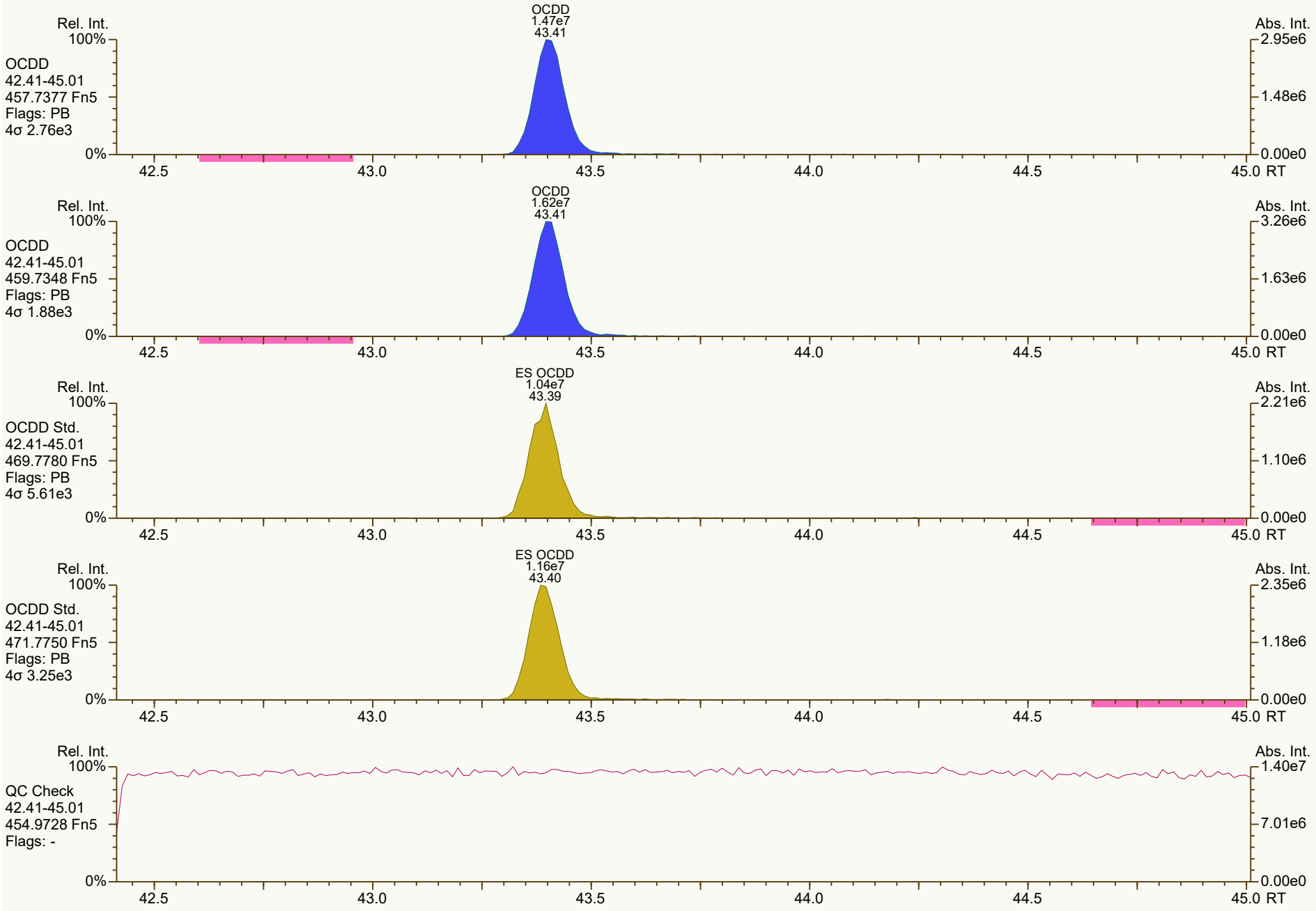


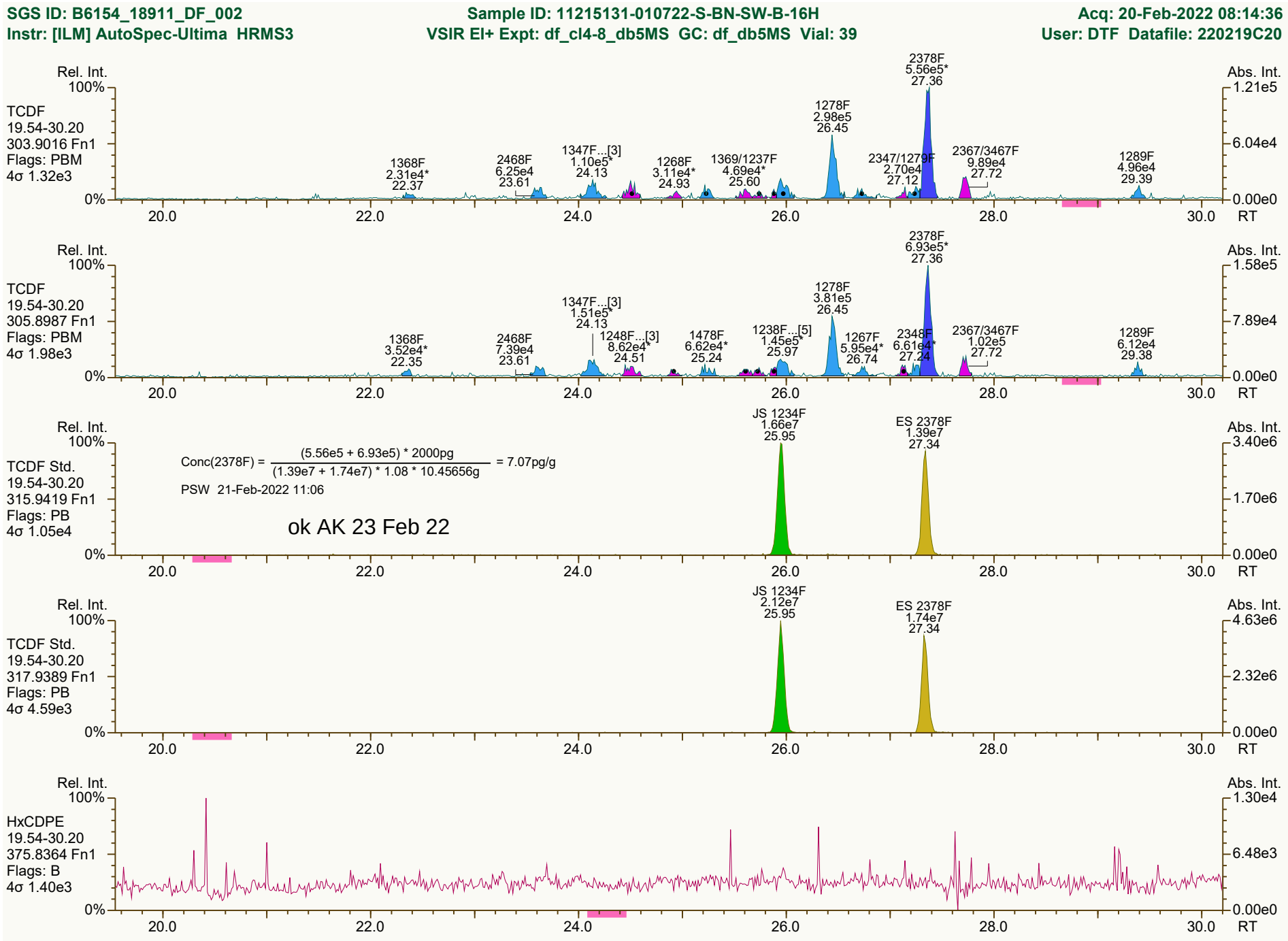
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7541, 3016, 9758 scc: 318-250 *PKD: 21-Feb-2022 11:01 Printed: 21-Feb-2022 11:09 Page 2 of 12*


SGS ID: B6154_18911_DF_002
Sample ID: 11215131-010722-S-BN-SW-B-16H
Acq: 20-Feb-2022 08:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220219C20
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.55e3
12469D
3.43e5
31.64
12479/12468D
6.15e4
31.10
12478D
2.49e4*
32.39
12369D...[3]
7.79e4
32.76
12378D
3.29e4*
33.62
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.34e3
12469D
2.24e5
31.65
12479/12468D
4.54e4
31.11
12478D
1.26e4*
32.40
12379D
1.15e4*
32.49
12369D...[3]
4.70e4
32.75
12378D
2.48e4*
33.62
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.09e3
CS 12347D
1.15e7
33.10
ES 12378D
1.22e7
33.61
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.02e3
CS 12347D
7.39e6
33.11
ES 12378D
7.59e6
33.61
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8657, 5780 scc: 318-250
PKD: 21-Feb-2022 11:01 Printed: 21-Feb-2022 11:09 Page 3 of 12


SGS ID: B6154_18911_DF_002
Sample ID: 11215131-010722-S-BN-SW-B-16H
Acq: 20-Feb-2022 08:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220219C20
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.38e3
124679/124689D
1.46e6
35.82
123679/123689D
3.32e5
36.77
123789D
8.14e4
37.99
4.60e5
2.30e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.23e3
124679/124689D
1.19e6
35.82
123679/123689D
2.48e5
36.76
123789D
6.83e4
37.99
3.43e5
1.72e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.19e3
ES 123478D
9.65e6
37.54
ES 123678D
9.92e6
37.67
JS 123467D
5.54e6
37.87
ES 123789D
1.09e7
37.97
3.21e6
1.61e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.71e3
ES 123478D
7.58e6
37.54
ES 123678D
8.08e6
37.67
JS 123467D
4.48e6
37.87
ES 123789D
8.73e6
37.97
2.54e6
1.27e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.59e7
1.30e7
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7081, 7158 scc: 318-250
PKD: 21-Feb-2022 11:01 Printed: 21-Feb-2022 11:09 Page 4 of 12

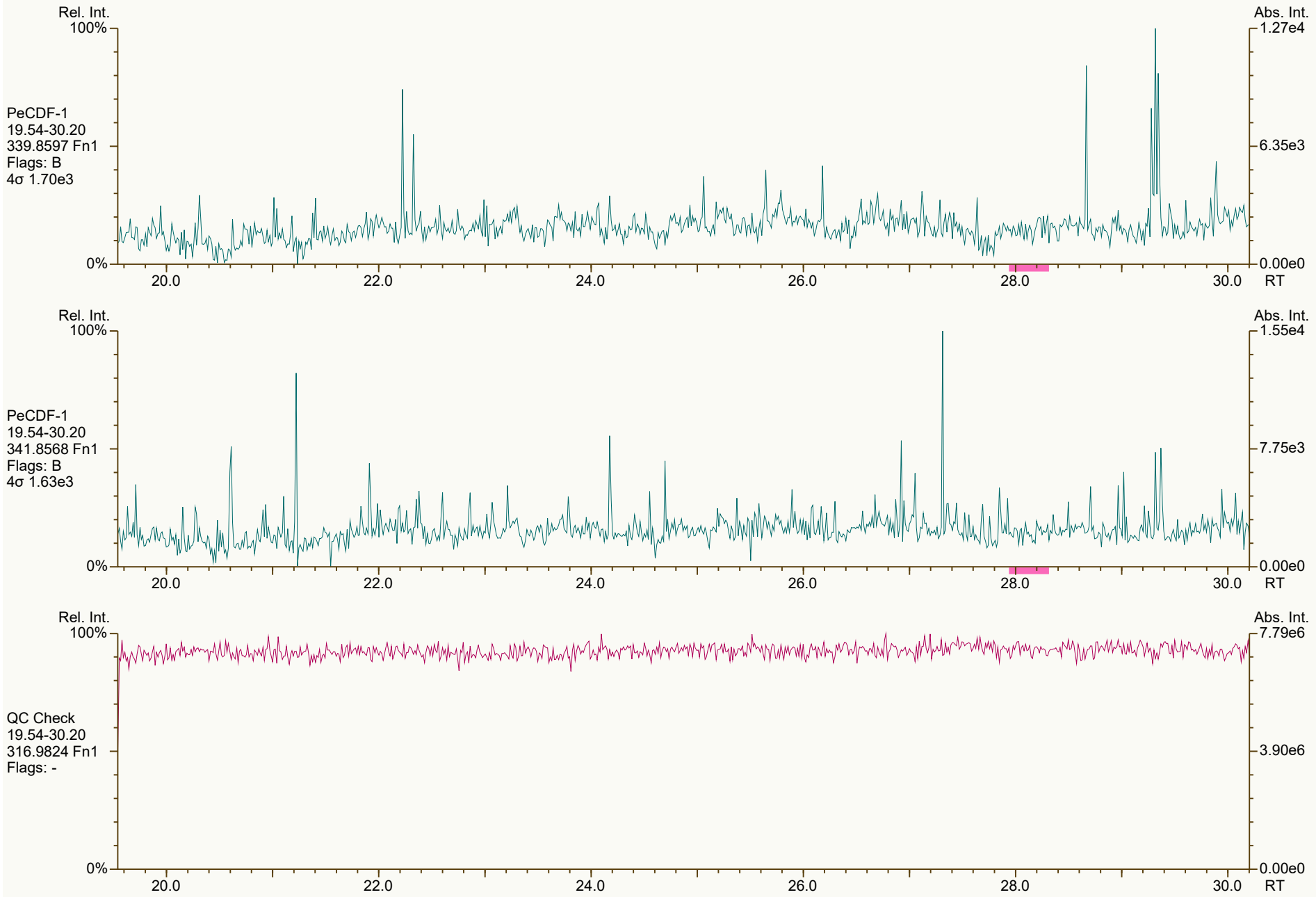

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.35e3
1234679D
2.72e6
40.03
1234678D
1.24e6
40.72
Abs. Int.
8.97e5
4.48e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.11e3
1234679D
2.71e6
40.03
1234678D
1.17e6
40.72
Abs. Int.
8.80e5
4.40e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.02e3
ES 1234678D
8.94e6*
40.70
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.81e3
ES 1234678D
8.06e6*
40.70
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.60e7
8.00e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.47e7
43.41
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.76e3
0%
Abs. Int.
2.95e6
1.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.62e7
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.88e3
3.26e6
1.63e6
ES OCDD
1.04e7
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 5.61e3
2.21e6
1.10e6
ES OCDD
1.16e7
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 3.25e3
2.35e6
1.18e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.40e7
7.01e6


SGS ID: B6154_18911_DF_002
Sample ID: 11215131-010722-S-BN-SW-B-16H
Acq: 20-Feb-2022 08:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220219C20
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.32e3
1368F 2.31e4* 22.37
2468F 6.25e4 23.61
1347F...[3] 1.10e5* 24.13
1268F 3.11e4* 24.93
1369/1237F 4.69e4* 25.60
1278F 2.98e5 26.45
2378F 5.56e5* 27.36
2347/1279F 2.70e4 27.12
2367/3467F 9.89e4 27.72
1289F 4.96e4 29.39
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.98e3
1368F 3.52e4* 22.35
2468F 7.39e4 23.61
1347F...[3] 1.51e5* 24.13
1248F...[3] 8.62e4* 24.51
1478F 6.62e4* 25.24
1238F...[5] 1.45e5* 25.97
1278F 3.81e5 26.45
1267F 5.95e4* 26.74
2348F 6.61e4* 27.24
2378F 6.93e5* 27.36
2367/3467F 1.02e5 27.72
1289F 6.12e4 29.38
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.05e4
Conc(2378F) = (5.56e5 + 6.93e5) * 2000pg / (1.39e7 + 1.74e7) * 1.08 * 10.45656g = 7.07pg/g
PSW 21-Feb-2022 11:06
ok AK 23 Feb 22
JS 1234F 1.66e7 25.95
ES 2378F 1.39e7 27.34
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.59e3
JS 1234F 2.12e7 25.95
ES 2378F 1.74e7 27.34
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.40e3
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1289, 7533, 5289 scc: 318-250
Revised: 21-Feb-2022 11:04 (PSW) Printed: 21-Feb-2022 11:09 Page 7 of 12

SGS ID: B6154_18911_DF_002 | Sample ID: 11215131-010722-S-BN-SW-B-16H | Acq: 20-Feb-2022 08:14:36

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39 | User: DTF Datafile: 220219C20

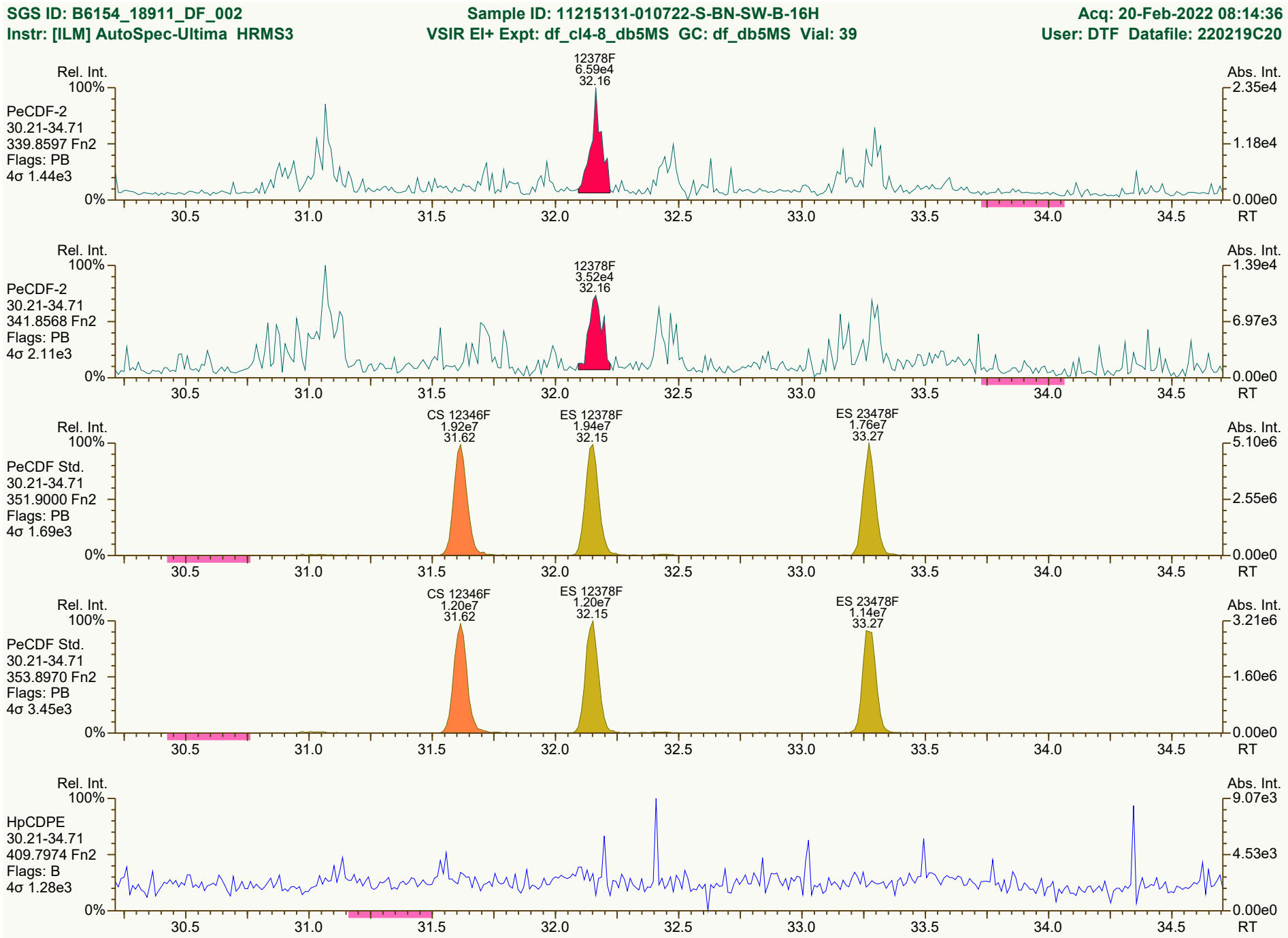


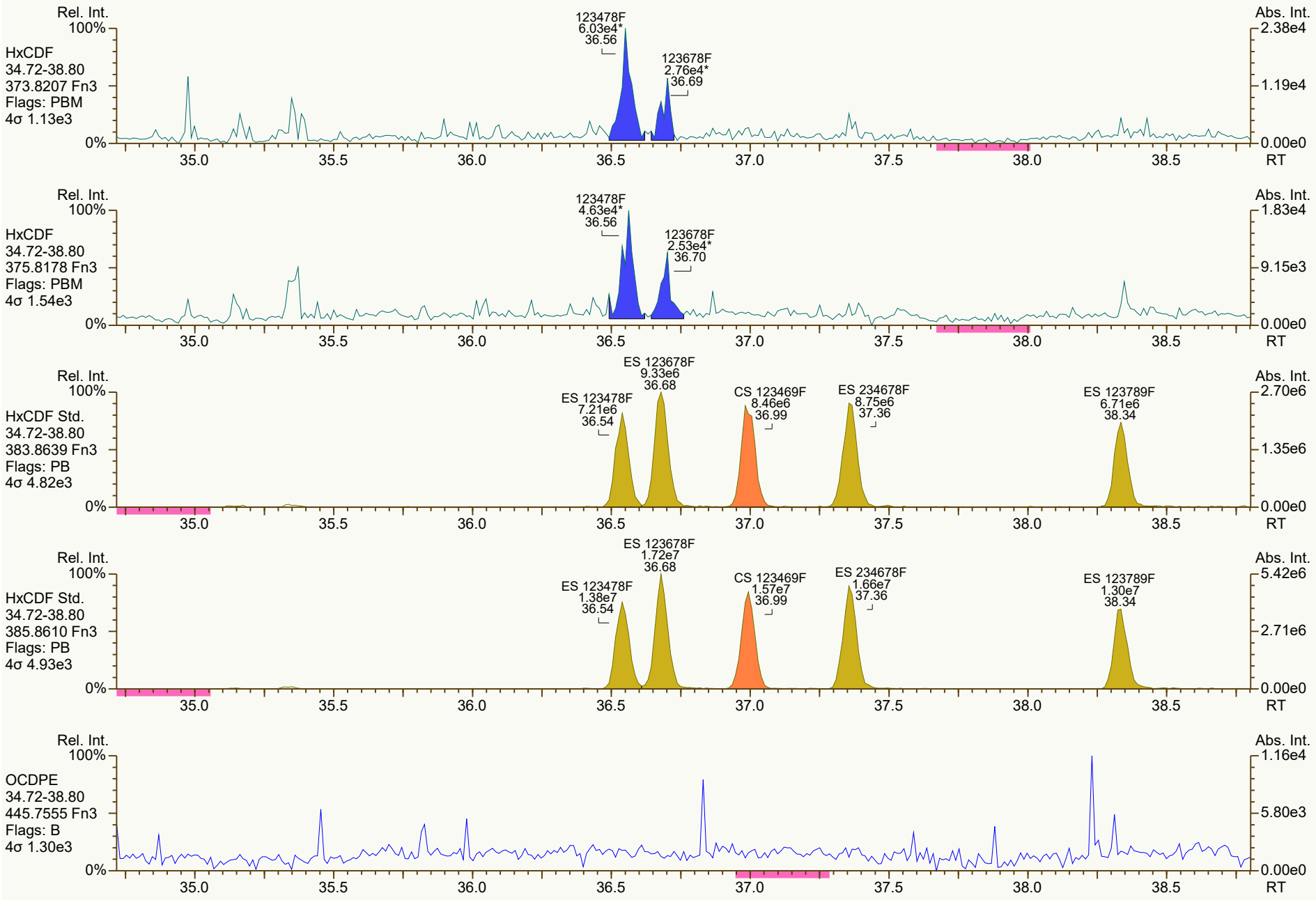
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW)

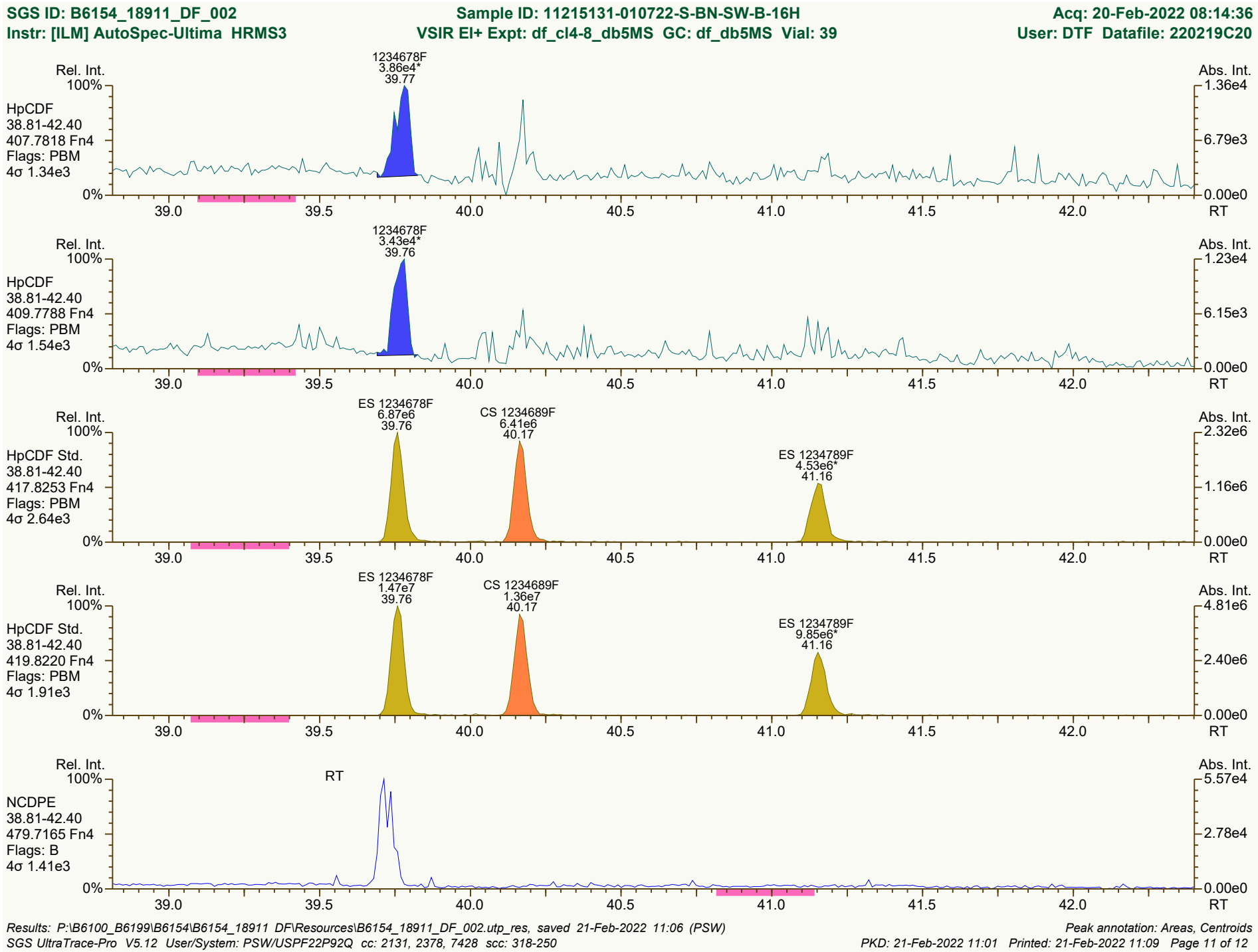
Peak annotation: Areas, Centroids

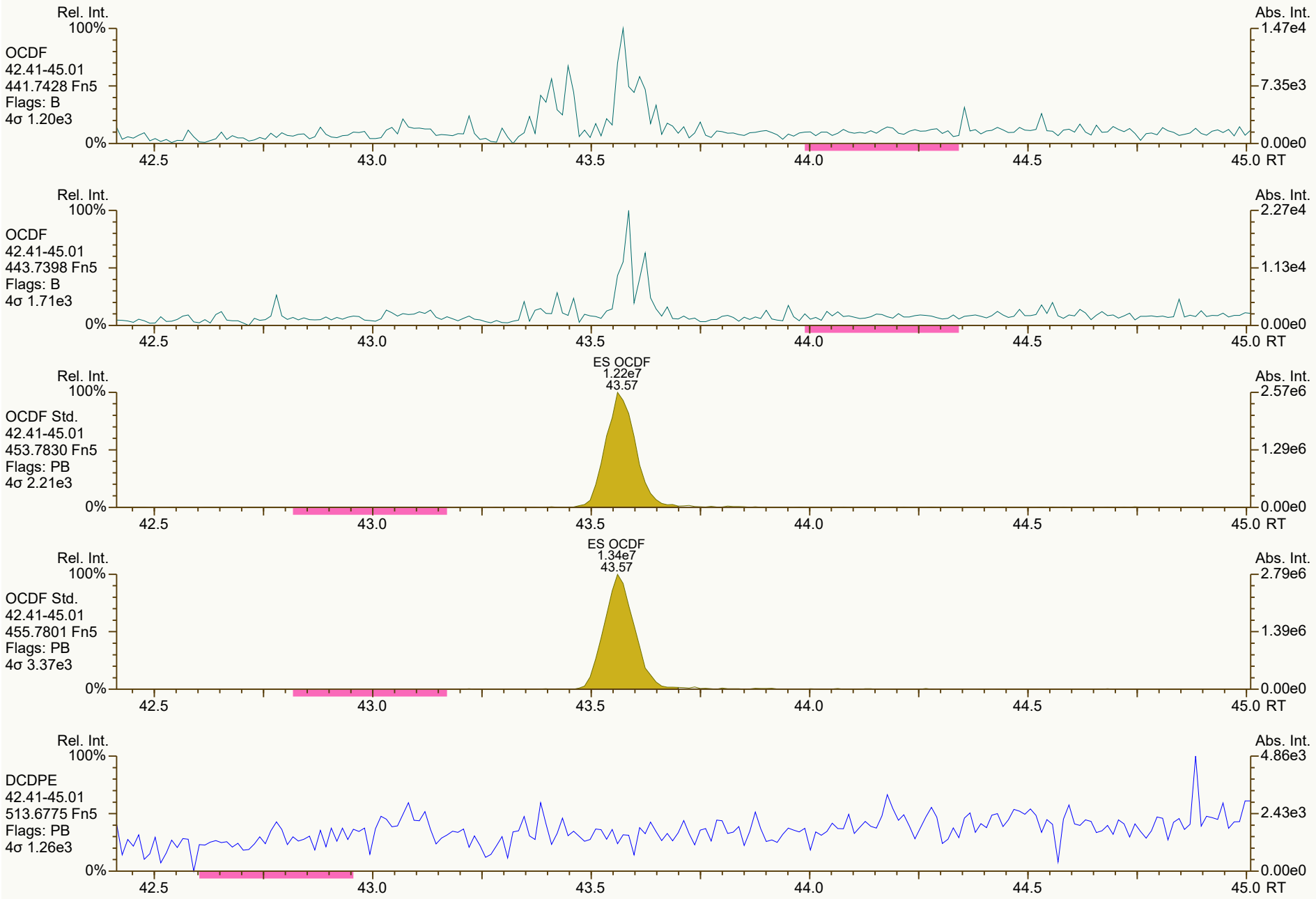
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1221 scc: 318-250

PKD: 21-Feb-2022 11:01 Printed: 21-Feb-2022 11:09 Page 8 of 12


SGS ID: B6154_18911_DF_002
Sample ID: 11215131-010722-S-BN-SW-B-16H
Acq: 20-Feb-2022 08:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220219C20
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.44e3
12378F
6.59e4
32.16
2.35e4
1.18e4
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.11e3
12378F
3.52e4
32.16
1.39e4
6.97e3
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.69e3
CS 12346F
1.92e7
31.62
ES 12378F
1.94e7
32.15
ES 23478F
1.76e7
33.27
5.10e6
2.55e6
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.45e3
CS 12346F
1.20e7
31.62
ES 12378F
1.20e7
32.15
ES 23478F
1.14e7
33.27
3.21e6
1.60e6
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.28e3
9.07e3
4.53e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7061, 4066, 2460 scc: 318-250
PKD: 21-Feb-2022 11:01 Printed: 21-Feb-2022 11:09 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.13e3
123478F
6.03e4*
36.56
123678F
2.76e4*
36.69
Abs. Int.
2.38e4
1.19e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.54e3
123478F
4.63e4*
36.56
123678F
2.53e4*
36.70
Abs. Int.
1.83e4
9.15e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.82e3
ES 123678F
9.33e6
36.68
ES 123478F
7.21e6
36.54
CS 123469F
8.46e6
36.99
ES 234678F
8.75e6
37.36
ES 123789F
6.71e6
38.34
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 4.93e3
ES 123678F
1.72e7
36.68
ES 123478F
1.38e7
36.54
CS 123469F
1.57e7
36.99
ES 234678F
1.66e7
37.36
ES 123789F
1.30e7
38.34
Abs. Int.
5.42e6
2.71e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.30e3
Abs. Int.
1.16e4
5.80e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6154_18911_DF_002
Sample ID: 11215131-010722-S-BN-SW-B-16H
Acq: 20-Feb-2022 08:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220219C20
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.34e3
1234678F
3.86e4*
39.77
1.36e4
6.79e3
0.00e0
RT
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.54e3
1234678F
3.43e4*
39.76
1.23e4
6.15e3
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.64e3
ES 1234678F
6.87e6
39.76
CS 1234689F
6.41e6
40.17
ES 1234789F
4.53e6*
41.16
2.32e6
1.16e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678F
1.47e7
39.76
CS 1234689F
1.36e7
40.17
ES 1234789F
9.85e6*
41.16
4.81e6
2.40e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
RT
5.57e4
2.78e4
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\B6154_18911_DF_002.utp_res, saved 21-Feb-2022 11:06 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2131, 2378, 7428 scc: 318-250
PKD: 21-Feb-2022 11:01 Printed: 21-Feb-2022 11:09 Page 11 of 12


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.47e4
7.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.71e3
0%
Abs. Int.
2.27e4
1.13e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.22e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.21e3
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.34e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.37e3
0%
Abs. Int.
2.79e6
1.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
4.86e3
2.43e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA ✓	1.00	25-347-1	DTF, PSW	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF, PSW	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
4	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF, PSW	399-492	19-Feb-2022	19:37:00
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF, PSW	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF, PSW	488-895	20-Feb-2022	05:55:34
18	220219C18	2	SBS_220219_DF_CC	1.00	20-61-1	DTF	590-722	20-Feb-2022	06:41:55
19	220219C19	38	B6154_18911_DF_001	10.25	11215131-010622-S-BN-SW-B-14H	DTF, PSW	858-619	20-Feb-2022	07:28:15
20	220219C20	39	B6154_18911_DF_002 ✓	10.46	11215131-010722-S-BN-SW-B-16H	DTF, PSW	318-250	20-Feb-2022	08:14:36

REVIEWED
paul_walton , 2/21/2022, 11:12:03 AM

REVIEWED
Amber_Kornegay , 2/23/2022, 8:30:33 AM

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 11:01:43 PSW	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 11:02 pw	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.26	4.72E+06	0.82	Y	1.18	1.22	3%
12378-PeCDD	33.64	1.81E+07	1.55	Y	1.04	1.03	0%
123478-HxCDD	37.57	1.64E+07	1.25	Y	1.09	1.11	2%
123678-HxCDD	37.69	1.71E+07	1.27	Y	1.15	1.15	1%
123789-HxCDD	38.00	1.80E+07	1.23	Y	1.05	1.03	-2%
1234678-HpCDD	40.72	1.61E+07	1.04	Y	1.06	1.07	1%
OCDD	43.42	2.64E+07	0.91	Y	1.13	1.10	-2%
2378-TCDF	27.39	6.75E+06	0.78	Y	1.08	1.12	4%
12378-PeCDF	32.18	2.71E+07	1.55	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.62E+07	1.50	Y	1.02	0.98	-3%
123478-HxCDF	36.57	2.44E+07	1.23	Y	1.27	1.23	-3%
123678-HxCDF	36.71	2.56E+07	1.23	Y	1.15	1.13	-2%
234678-HxCDF	37.39	2.43E+07	1.25	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.22E+07	1.26	Y	1.16	1.11	-5%
1234678-HpCDF	39.78	2.21E+07	1.06	Y	1.37	1.37	0%
1234789-HpCDF	41.17	1.96E+07	1.01	Y	1.31	1.30	0%
OCDF	43.59	3.40E+07	0.93	Y	1.07	1.05	-2%
ES 2378-TCDD	28.23	3.87E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.623	3.49E+07	1.62	Y	0.88	0.91	4%
ES 123478-HxCDD	37.554	2.95E+07	1.26	Y	0.97	0.98	1%
ES 123678-HxCDD	37.673	2.96E+07	1.28	Y	0.94	0.98	4%
ES 123789-HxCDD	37.979	3.50E+07	1.25	Y	1.09	1.16	6%
ES 1234678-HpCDD	40.706	3.01E+07	1.10	Y	0.91	1.00	10%
ES OCDD	43.406	4.79E+07	0.89	Y	0.62	0.80	28%
ES 2378-TCDF	27.366	6.03E+07	0.80	Y	1.06	1.01	-5%
ES 12378-PeCDF	32.162	5.31E+07	1.64	Y	0.91	0.89	-2%
ES 23478-PeCDF	33.285	5.33E+07	1.61	Y	0.88	0.89	1%
ES 123478-HxCDF	36.549	3.97E+07	0.54	Y	1.20	1.32	10%
ES 123678-HxCDF	36.689	4.53E+07	0.54	Y	1.35	1.51	11%
ES 234678-HxCDF	37.366	4.22E+07	0.55	Y	1.24	1.40	13%
ES 123789-HxCDF	38.343	4.00E+07	0.54	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.764	3.22E+07	0.46	Y	0.97	1.07	11%
ES 1234789-HpCDF	41.161	3.02E+07	0.47	Y	0.85	1.00	18%
ES OCDF	43.579	6.45E+07	0.91	Y	0.81	1.07	33% *

*OK-Meets M1613B criteria.
AK 23 Feb 22

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 11:01:43 PSW	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 11:02 pw	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.57	3.82E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.99	5.98E+07	0.83	Y	-	-	-
JS 123467-HxCDD	37.87	1.50E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.26	5.16E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.12	3.13E+07	1.61	Y	0.75	0.82	8%
CS 12346-PeCDF	31.63	5.27E+07	1.55	Y	0.85	0.88	4%
CS 123469-HxCDF	37.00	4.17E+07	0.54	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.17	3.39E+07	0.48	Y	0.89	1.13	27%
~~SS 37Cl-2378-TCDD~~	~~28.26~~	~~5.16E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.33~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.12~~	~~3.13E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.27E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.17E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.92~~	~~11%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.39E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~1.05~~	~~14%~~
~~OCDD-a~~	~~43.42~~	~~1.55E+06~~	~~2.64~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~
~~OCDF-a~~	~~43.59~~	~~2.17E+06~~	~~2.56~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	49.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	49	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.3	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.8	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.4	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	49.7	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	48.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	49	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	50.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 11:01 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

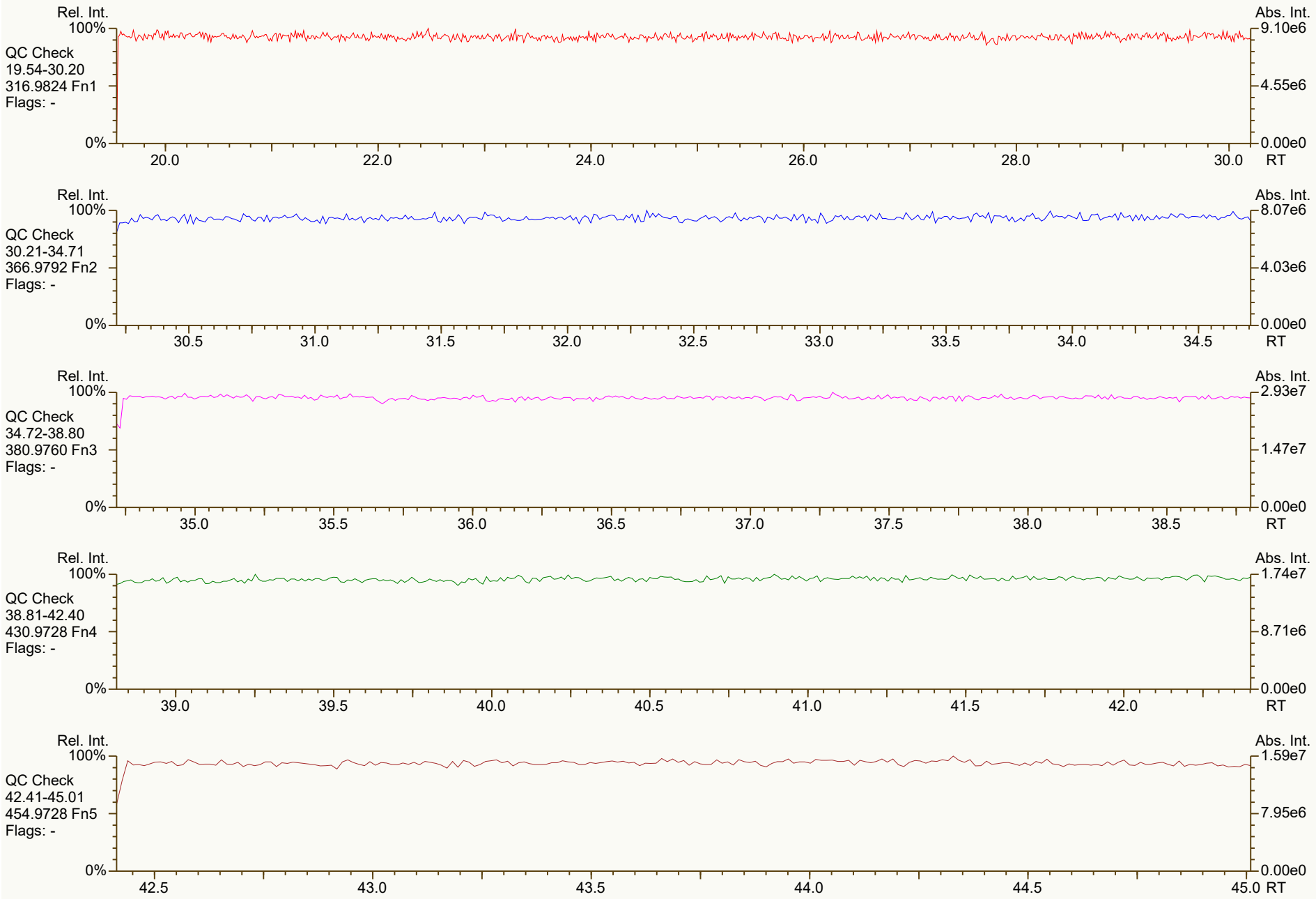
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

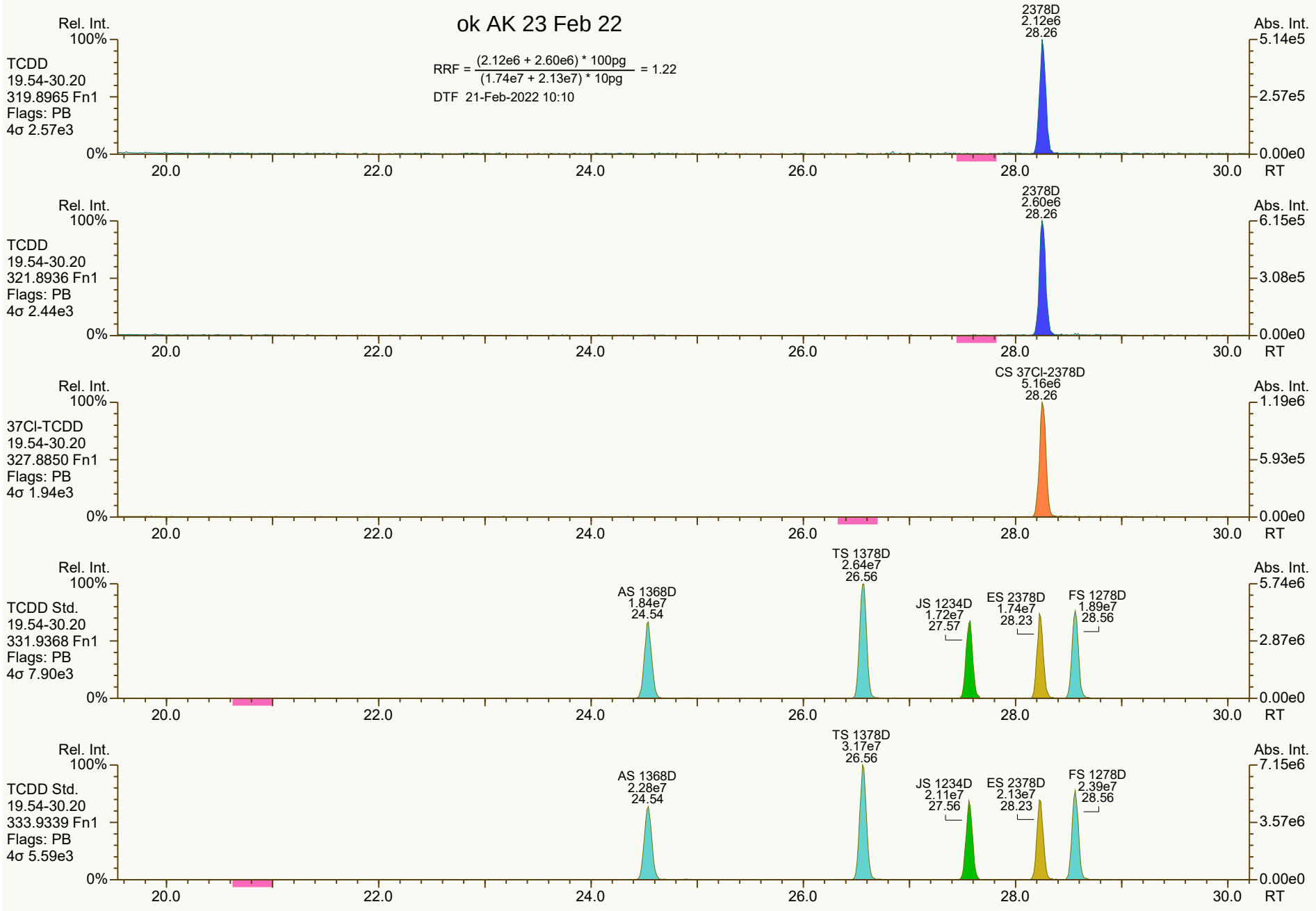
Instrument ID: HRMS3 GC Column ID: ZB-5ms

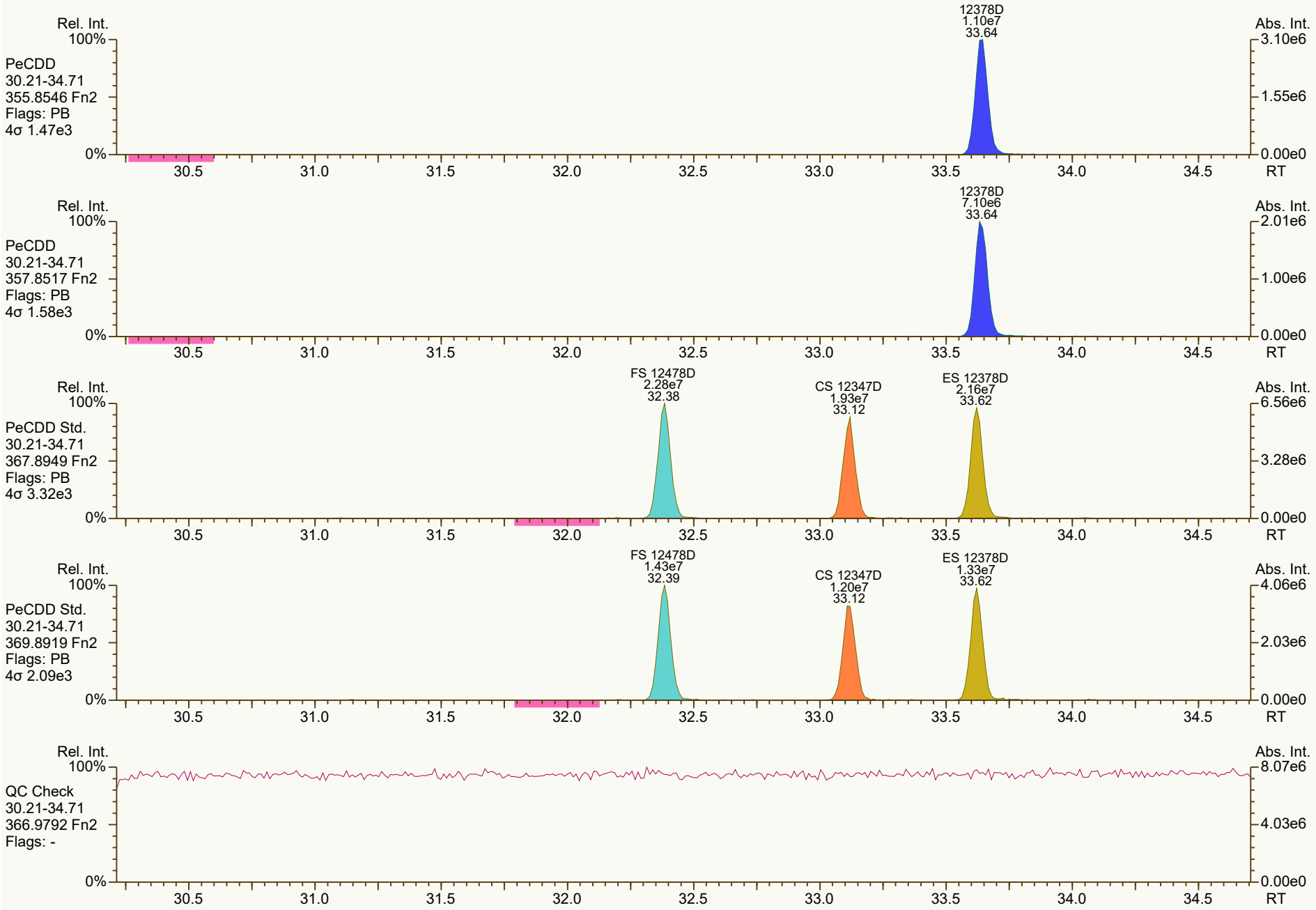
VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

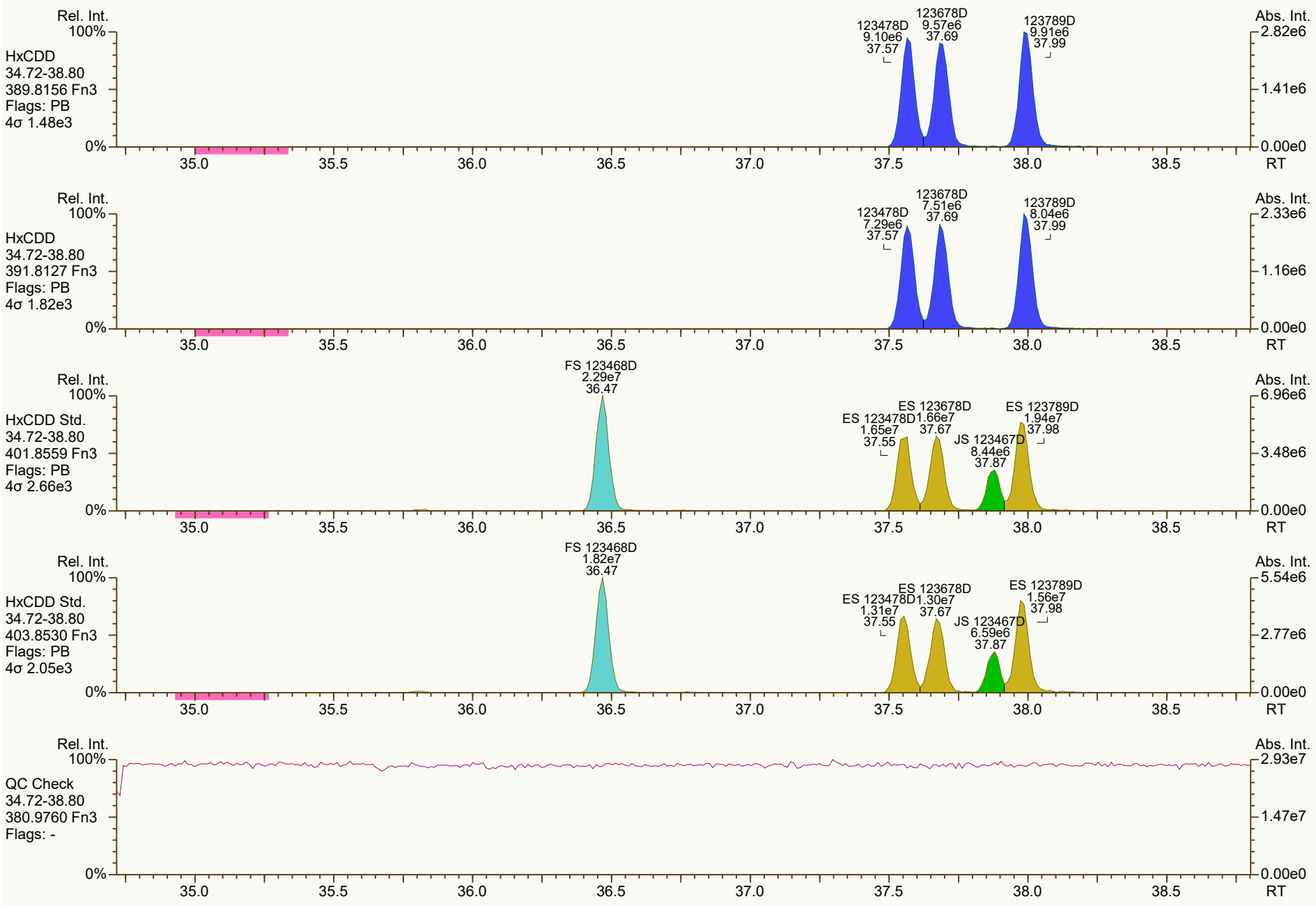
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	96.7	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	104	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	101	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	104	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	106	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88	-	1.20	Y	110	72	-	138	Y
13C-OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	255	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	95.2	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32	-	1.78	Y	97.6	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32	-	1.78	Y	101	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	110	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	111	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	113	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	115	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	111	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	118	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	266	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.2	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	108	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	104	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	127	70	-	130	Y

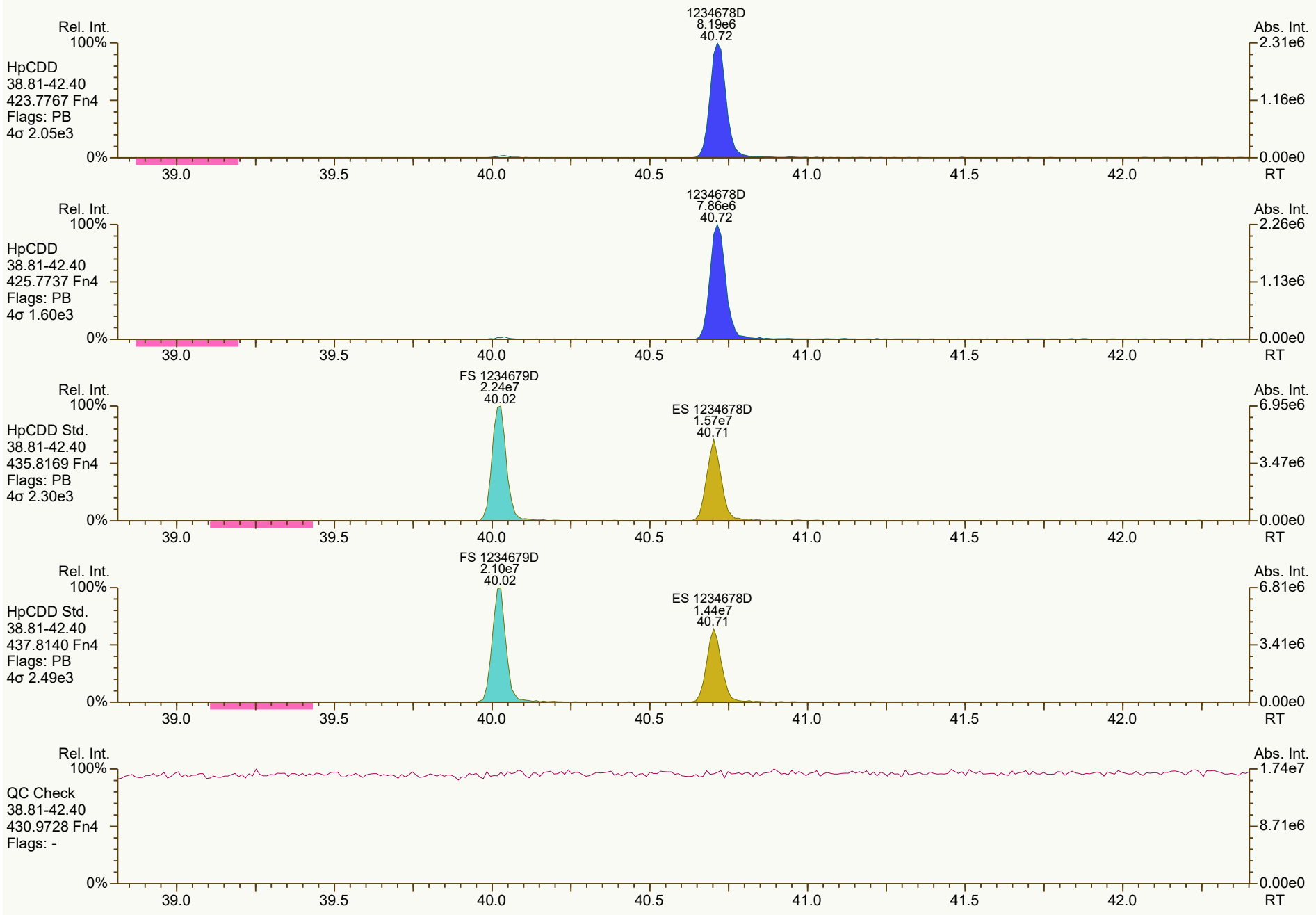
Processed: 21 Feb 2022 11:01 Analyst: pw

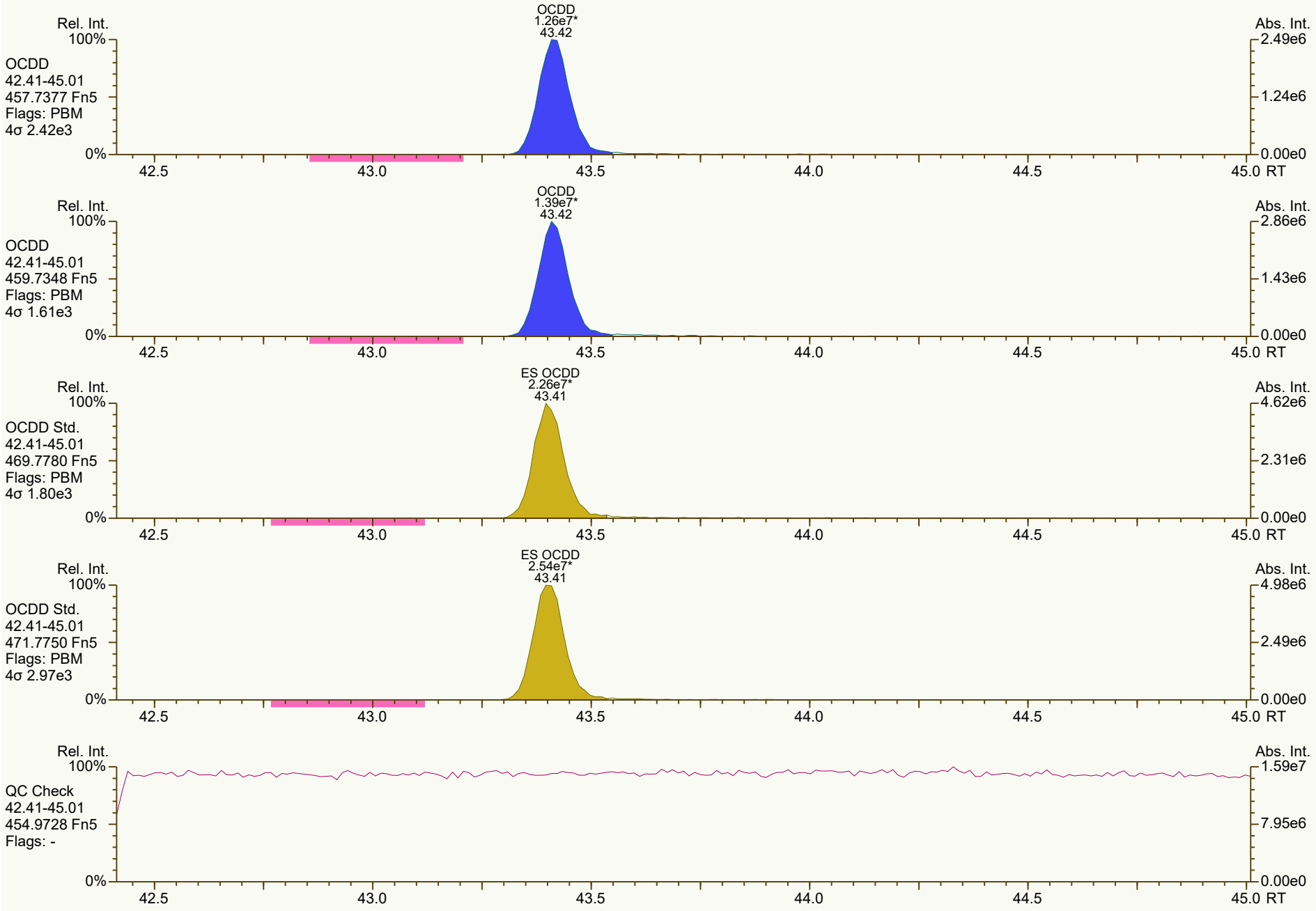

Rel. Int.
100%
0%
Abs. Int.
9.10e6
4.55e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.07e6
4.03e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
2.93e7
1.47e7
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.74e7
8.71e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.95e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

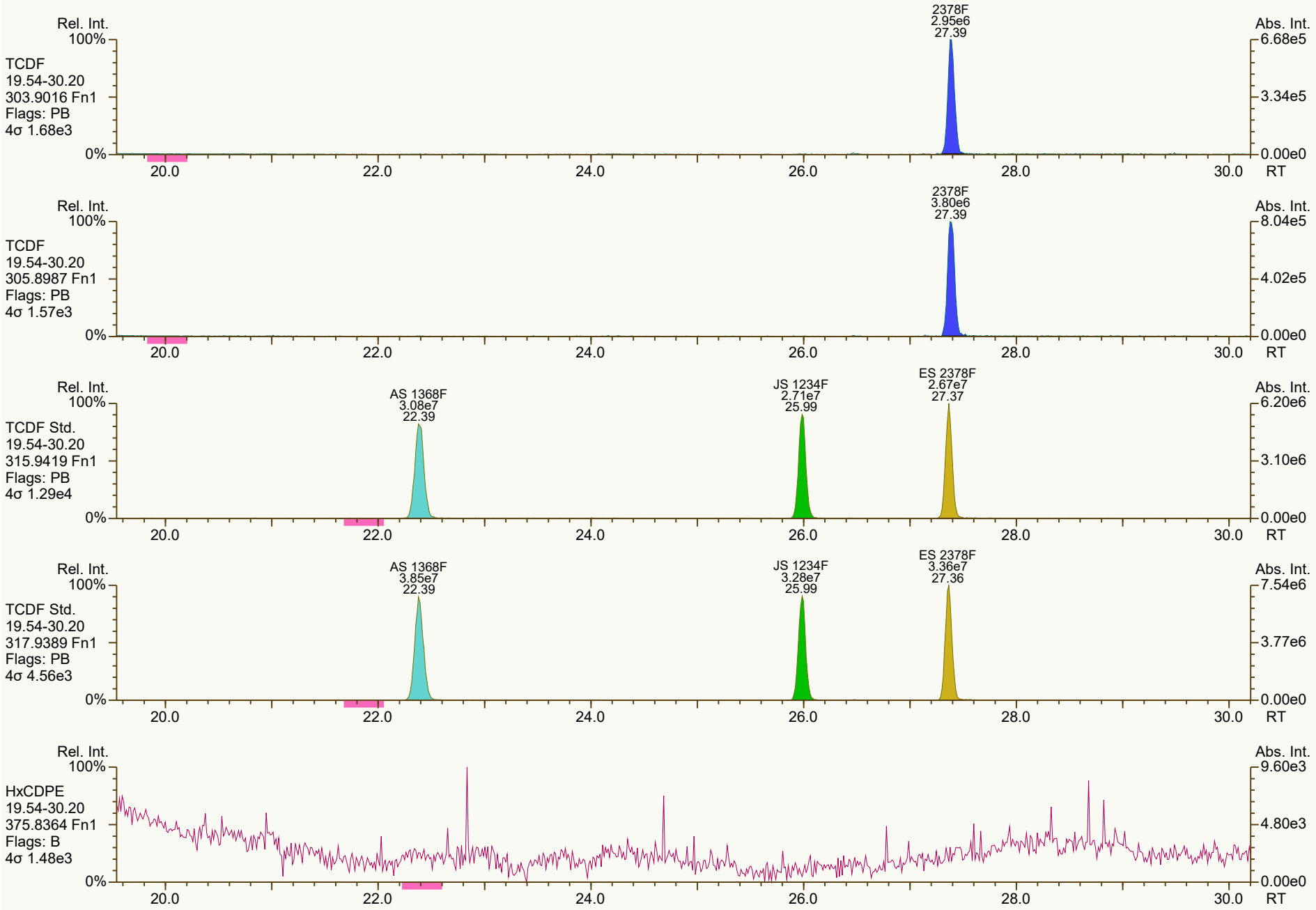

ok AK 23 Feb 22
RRF = (2.12e6 + 2.60e6) * 100pg / (1.74e7 + 2.13e7) * 10pg = 1.22
DTF 21-Feb-2022 10:10
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.57e3
2378D
2.12e6
28.26
5.14e5
2.57e5
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.44e3
2378D
2.60e6
28.26
6.15e5
3.08e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.94e3
CS 37Cl-2378D
5.16e6
28.26
1.19e6
5.93e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.90e3
AS 1368D
1.84e7
24.54
TS 1378D
2.64e7
26.56
JS 1234D
1.72e7
27.57
ES 2378D
1.74e7
28.23
FS 1278D
1.89e7
28.56
5.74e6
2.87e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.28e7
24.54
TS 1378D
3.17e7
26.56
JS 1234D
2.11e7
27.56
ES 2378D
2.13e7
28.23
FS 1278D
2.39e7
28.56
7.15e6
3.57e6
0%
100%
20.0
22.0
24.0
26.0
28.0
30.0
RT
0.00e0


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.47e3
0%
12378D
1.10e7
33.64
Abs. Int.
3.10e6
1.55e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.58e3
0%
12378D
7.10e6
33.64
Abs. Int.
2.01e6
1.00e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.32e3
0%
FS 12478D
2.28e7
32.38
CS 12347D
1.93e7
33.12
ES 12378D
2.16e7
33.62
Abs. Int.
6.56e6
3.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.09e3
0%
FS 12478D
1.43e7
32.39
CS 12347D
1.20e7
33.12
ES 12378D
1.33e7
33.62
Abs. Int.
4.06e6
2.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.07e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

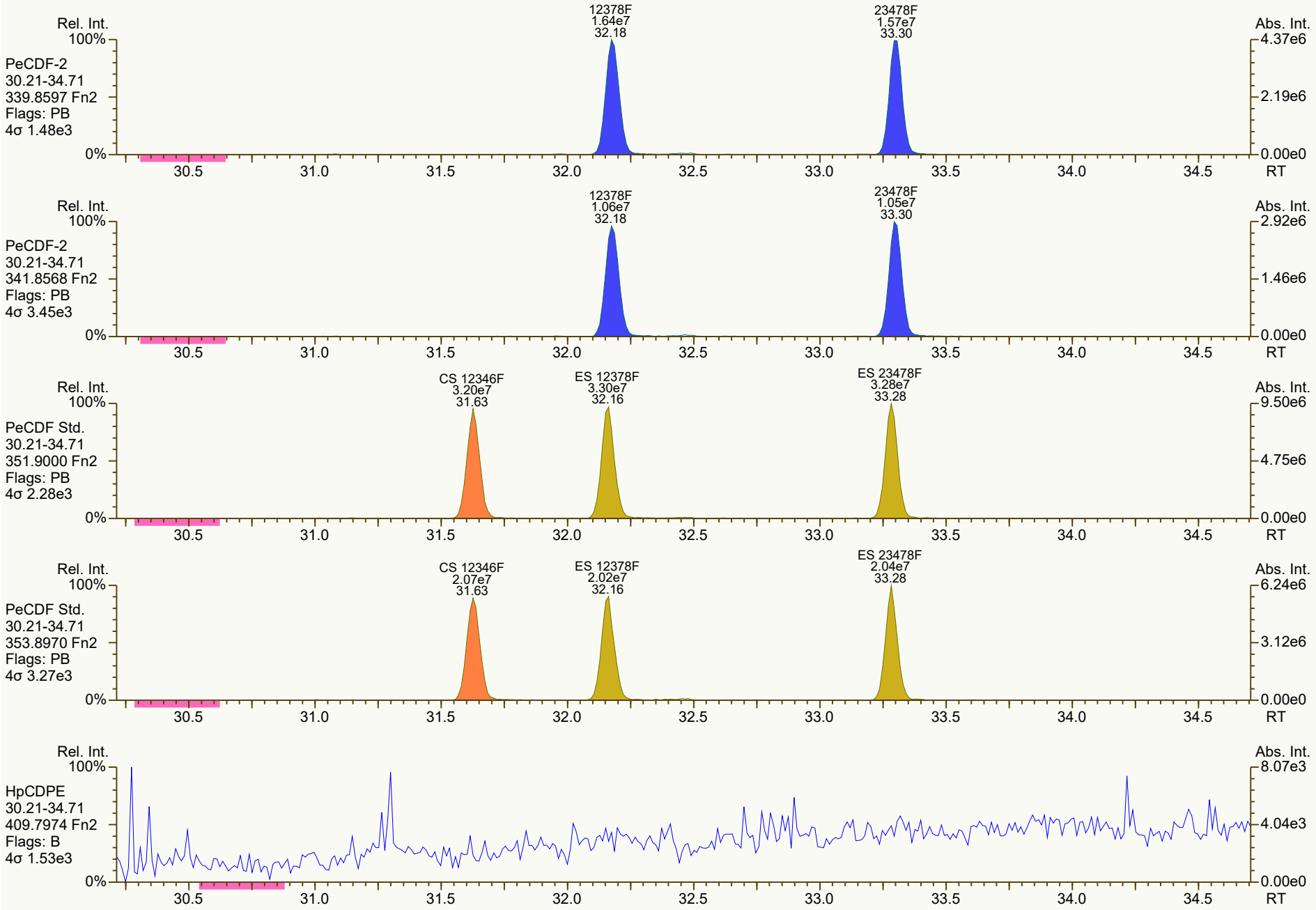

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.48e3
123478D 9.10e6 37.57
123678D 9.57e6 37.69
123789D 9.91e6 37.99
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.82e3
123478D 7.29e6 37.57
123678D 7.51e6 37.69
123789D 8.04e6 37.99
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.66e3
FS 123468D 2.29e7 36.47
ES 123478D 1.65e7 37.55
ES 123678D 1.66e7 37.67
JS 123467D 8.44e6 37.87
ES 123789D 1.94e7 37.98
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.05e3
FS 123468D 1.82e7 36.47
ES 123478D 1.31e7 37.55
ES 123678D 1.30e7 37.67
JS 123467D 6.59e6 37.87
ES 123789D 1.56e7 37.98
Abs. Int.
5.54e6
2.77e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.93e7
1.47e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

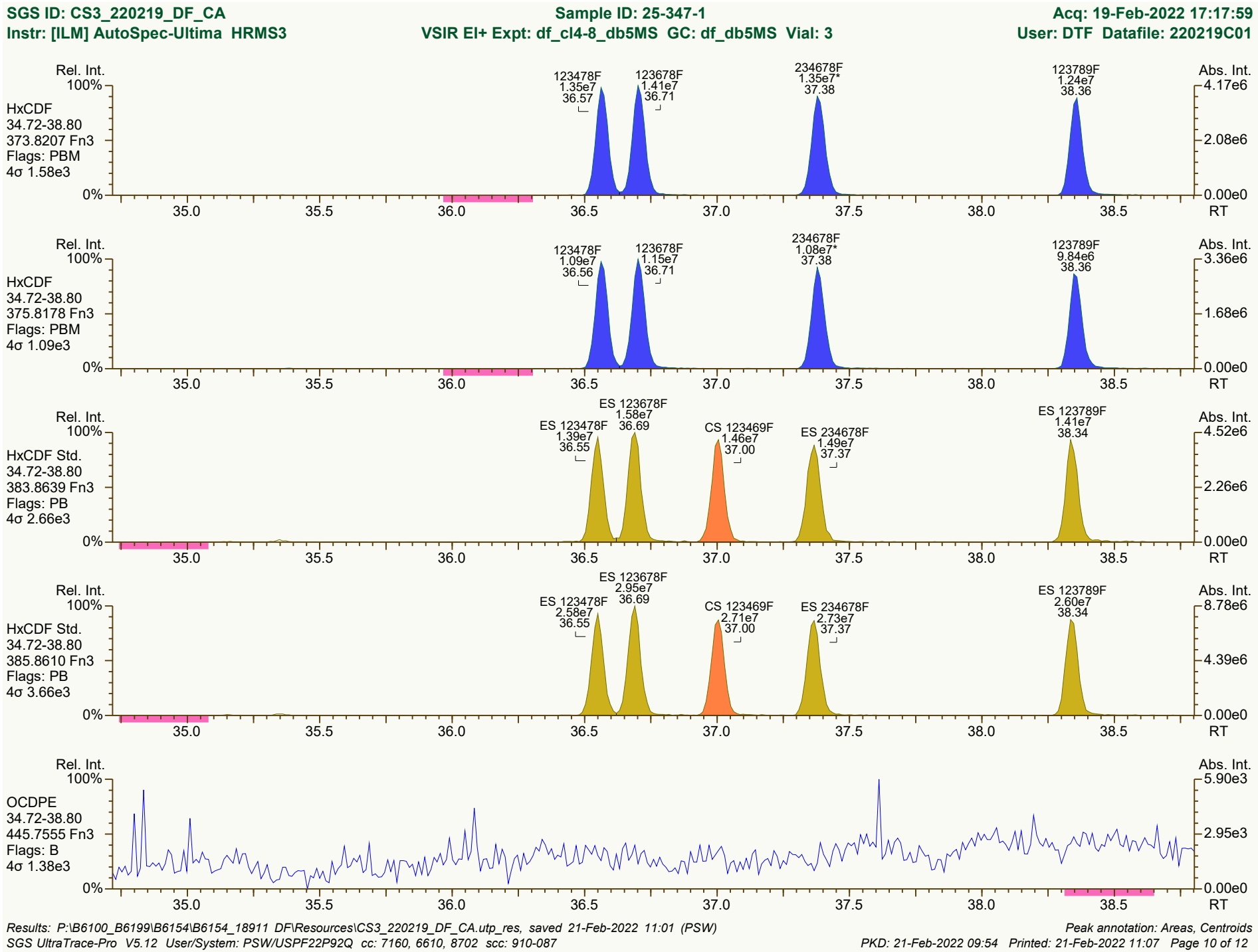

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.05e3
1234678D
8.19e6
40.72
Abs. Int.
2.31e6
1.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.60e3
1234678D
7.86e6
40.72
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
2.24e7
40.02
ES 1234678D
1.57e7
40.71
Abs. Int.
6.95e6
3.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.49e3
FS 1234679D
2.10e7
40.02
ES 1234678D
1.44e7
40.71
Abs. Int.
6.81e6
3.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.74e7
8.71e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.26e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.39e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.61e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.26e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
4.62e6
2.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.54e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.97e3
0%
Abs. Int.
4.98e6
2.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

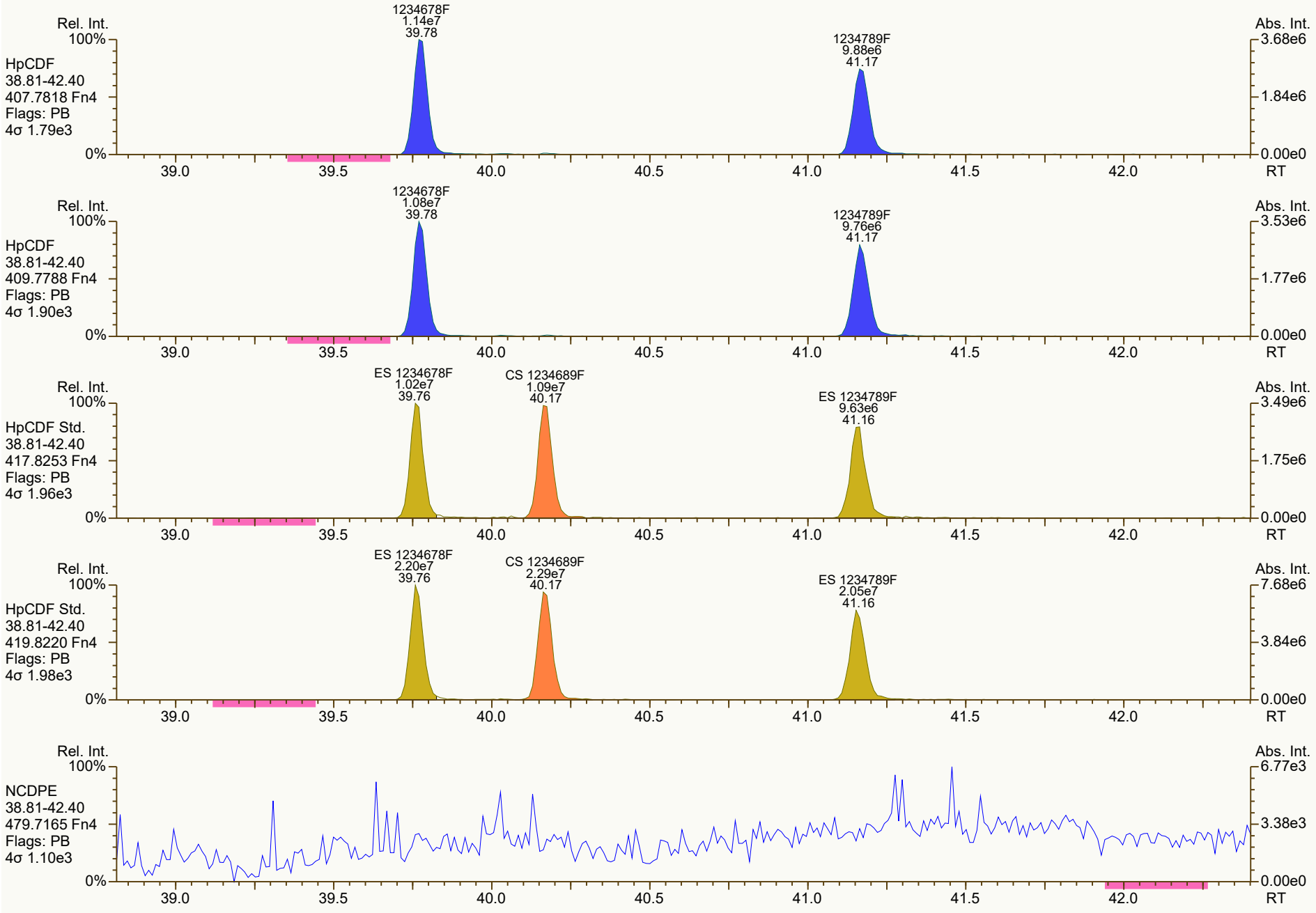

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.68e3
0%
2378F
2.95e6
27.39
Abs. Int.
6.68e5
3.34e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.57e3
0%
2378F
3.80e6
27.39
Abs. Int.
8.04e5
4.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.29e4
0%
AS 1368F
3.08e7
22.39
JS 1234F
2.71e7
25.99
ES 2378F
2.67e7
27.37
Abs. Int.
6.20e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.56e3
0%
AS 1368F
3.85e7
22.39
JS 1234F
3.28e7
25.99
ES 2378F
3.36e7
27.36
Abs. Int.
7.54e6
3.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.53e3
4.77e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.89e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.53e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.10e6
4.55e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.48e3
0%
12378F
1.64e7
32.18
23478F
1.57e7
33.30
Abs. Int.
4.37e6
2.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.45e3
0%
12378F
1.06e7
32.18
23478F
1.05e7
33.30
Abs. Int.
2.92e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.28e3
0%
CS 12346F
3.20e7
31.63
ES 12378F
3.30e7
32.16
ES 23478F
3.28e7
33.28
Abs. Int.
9.50e6
4.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.27e3
0%
CS 12346F
2.07e7
31.63
ES 12378F
2.02e7
32.16
ES 23478F
2.04e7
33.28
Abs. Int.
6.24e6
3.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
8.07e3
4.04e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7160, 6610, 8702 scc: 910-087
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 11:07 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
1234678F
1.14e7
39.78
1234789F
9.88e6
41.17
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.90e3
1234678F
1.08e7
39.78
1234789F
9.76e6
41.17
Abs. Int.
3.53e6
1.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.96e3
ES 1234678F
1.02e7
39.76
CS 1234689F
1.09e7
40.17
ES 1234789F
9.63e6
41.16
Abs. Int.
3.49e6
1.75e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.98e3
ES 1234678F
2.20e7
39.76
CS 1234689F
2.29e7
40.17
ES 1234789F
2.05e7
41.16
Abs. Int.
7.68e6
3.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.10e3
Abs. Int.
6.77e3
3.38e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.64e7
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.19e3
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.77e7
43.59
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.63e3
0%
Abs. Int.
3.65e6
1.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.07e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
6.19e6
3.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.38e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.73e3
0%
Abs. Int.
6.71e6
3.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.48e3
0%
Abs. Int.
6.60e3
3.30e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 11:01:44 PSW	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 11:02 pw	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.25	4.70E+06	0.75	Y	1.18	1.18	0%
12378-PeCDD	33.64	1.87E+07	1.58	Y	1.04	1.05	1%
123478-HxCDD	37.57	1.68E+07	1.28	Y	1.09	1.10	1%
123678-HxCDD	37.69	1.73E+07	1.30	Y	1.15	1.18	2%
123789-HxCDD	37.99	1.84E+07	1.25	Y	1.05	1.05	0%
1234678-HpCDD	40.72	1.66E+07	1.05	Y	1.06	1.04	-2%
OCDD	43.40	2.76E+07	0.92	Y	1.13	1.14	1%
2378-TCDF	27.39	6.83E+06	0.79	Y	1.08	1.07	-1%
12378-PeCDF	32.18	2.81E+07	1.56	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.73E+07	1.53	Y	1.02	1.02	0%
123478-HxCDF	36.56	2.55E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.71	2.64E+07	1.21	Y	1.15	1.13	-2%
234678-HxCDF	37.38	2.50E+07	1.27	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.27E+07	1.24	Y	1.16	1.14	-2%
1234678-HpCDF	39.77	2.31E+07	1.04	Y	1.37	1.31	-4%
1234789-HpCDF	41.17	2.06E+07	1.03	Y	1.31	1.28	-2%
OCDF	43.58	3.51E+07	0.93	Y	1.07	1.06	-1%
ES 2378-TCDD	28.23	3.98E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.621	3.55E+07	1.56	Y	0.88	0.90	3%
ES 123478-HxCDD	37.55	3.06E+07	1.24	Y	0.97	0.95	-2%
ES 123678-HxCDD	37.672	2.94E+07	1.24	Y	0.94	0.91	-3%
ES 123789-HxCDD	37.977	3.51E+07	1.23	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.707	3.19E+07	1.07	Y	0.91	0.99	8%
ES OCDD	43.391	4.86E+07	0.91	Y	0.62	0.75	21%
ES 2378-TCDF	27.363	6.37E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	32.159	5.53E+07	1.61	Y	0.91	0.90	-2%
ES 23478-PeCDF	33.282	5.37E+07	1.59	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.547	4.21E+07	0.54	Y	1.20	1.31	9%
ES 123678-HxCDF	36.688	4.69E+07	0.53	Y	1.35	1.45	8%
ES 234678-HxCDF	37.364	4.34E+07	0.53	Y	1.24	1.35	8%
ES 123789-HxCDF	38.343	3.96E+07	0.54	Y	1.16	1.23	6%
ES 1234678-HpCDF	39.764	3.53E+07	0.49	Y	0.97	1.10	13%
ES 1234789-HpCDF	41.162	3.21E+07	0.47	Y	0.85	1.00	17%
ES OCDF	43.572	6.63E+07	0.90	Y	0.81	1.03	27%

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 11:01:44 PSW	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 11:02 pw	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.56	3.94E+07	0.80	Y	-	-	-
JS 1234-TCDF	25.98	6.18E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.88	1.61E+07	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.25	5.65E+06	n/a	-	1.20	1.44	19%
CS 12347-PeCDD	33.11	3.20E+07	1.61	Y	0.75	0.81	8%
CS 12346-PeCDF	31.63	5.28E+07	1.56	Y	0.85	0.85	0%
CS 123469-HxCDF	37.00	4.19E+07	0.54	Y	1.12	1.30	16%
CS 1234689-HpCDF	40.17	3.57E+07	0.46	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.25~~	~~5.65E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.42~~	~~24%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~3.20E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.28E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~0.95~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.19E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.89~~	~~8%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.57E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.40~~	~~1.62E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.07~~	~~-8%~~
~~OCDF-a~~	~~43.58~~	~~2.27E+06~~	~~2.26~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.75	0.65 - 0.89	Y	9.95	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.6	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	51.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	49	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.93	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	49.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	49.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.6	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	48.9	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.8	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 11:02 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

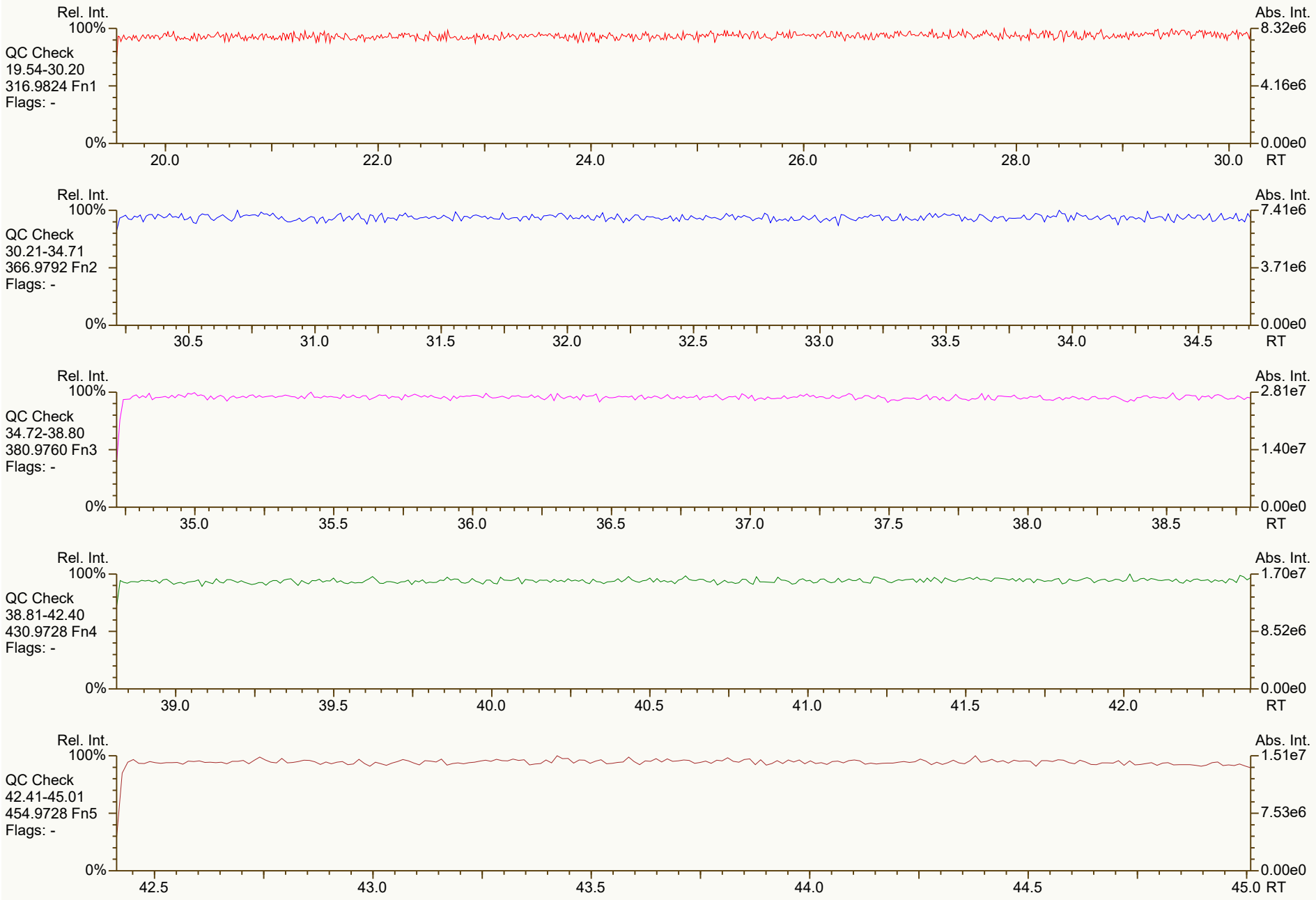
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

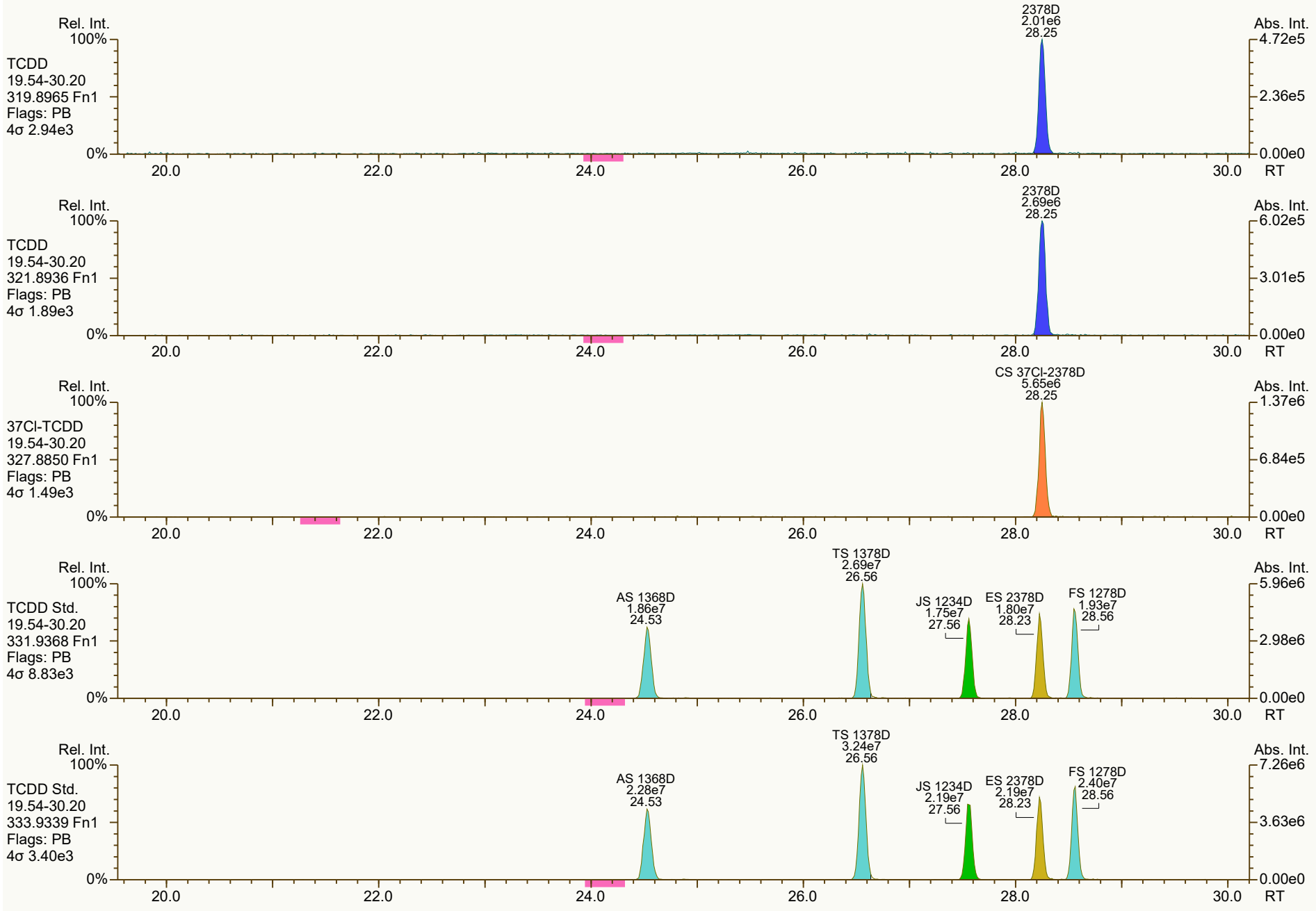
Instrument ID: HRMS3 GC Column ID: ZB-5ms

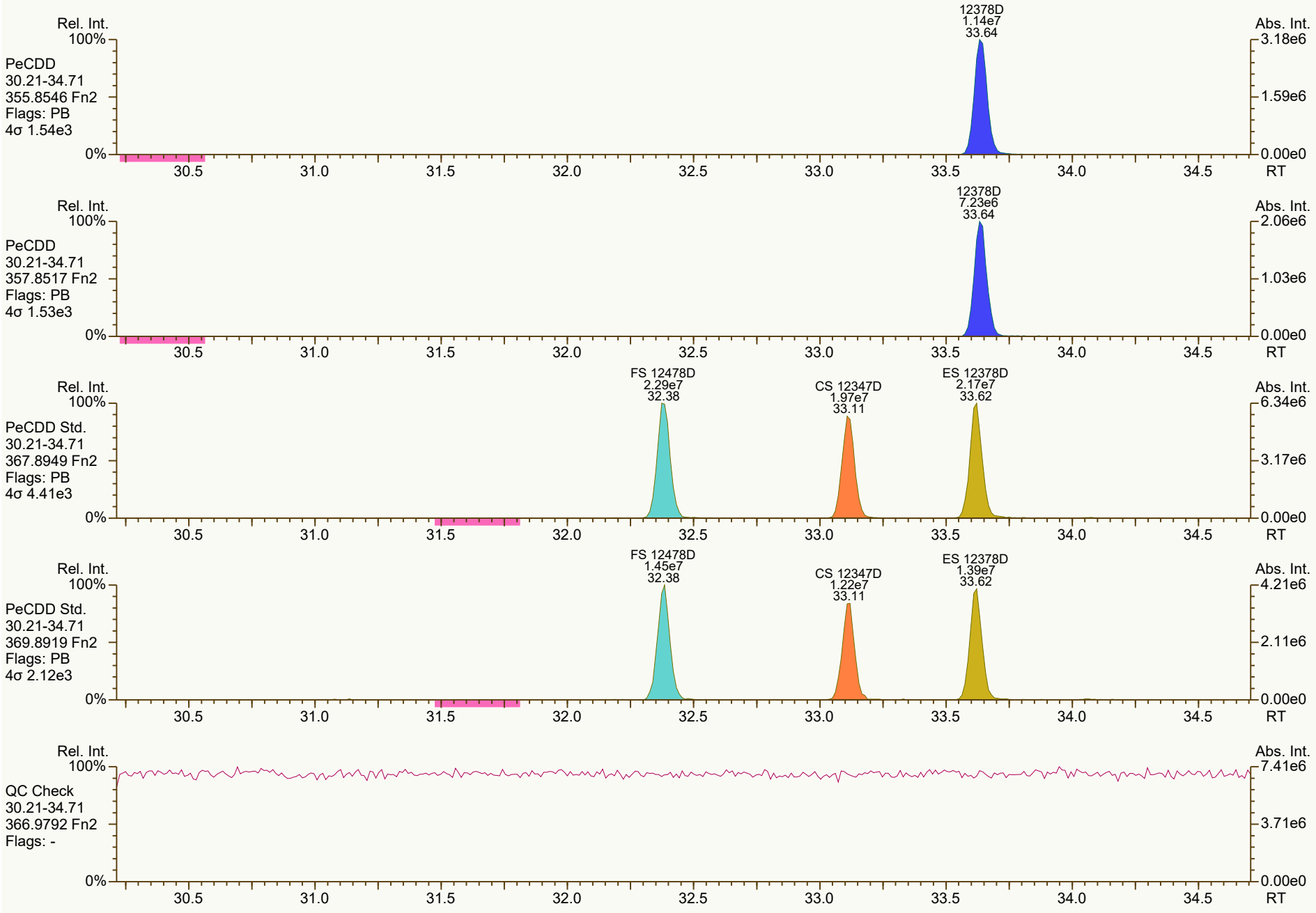
VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

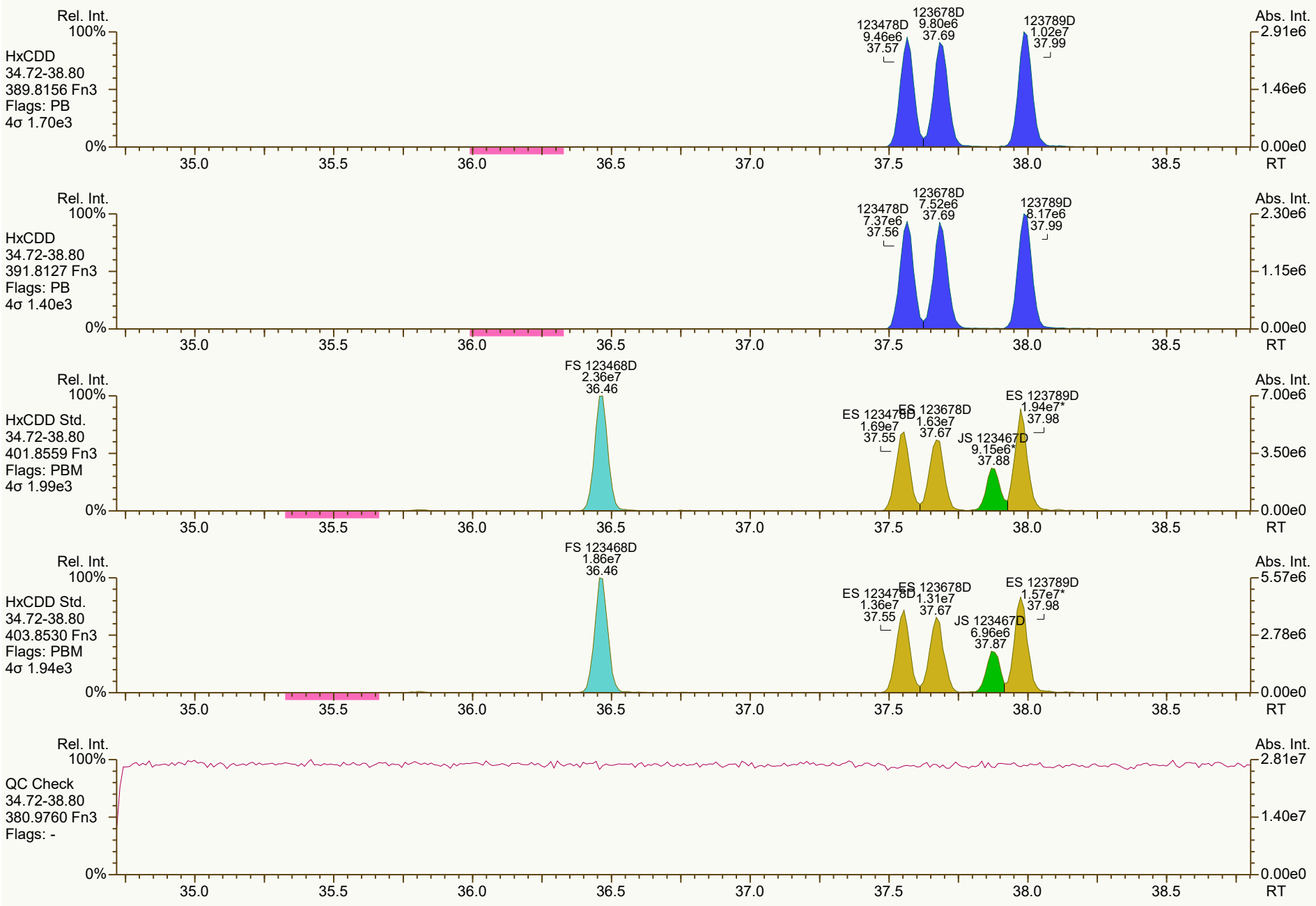
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	96.8	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	103	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	97.5	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	96.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	99.7	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	108	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	242	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	97.4	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32	-	1.78	Y	98.4	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	98.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	106	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.49	0.37	-	0.51	Y	113	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	117	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	255	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.9	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	108	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	116	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	125	70	-	130	Y

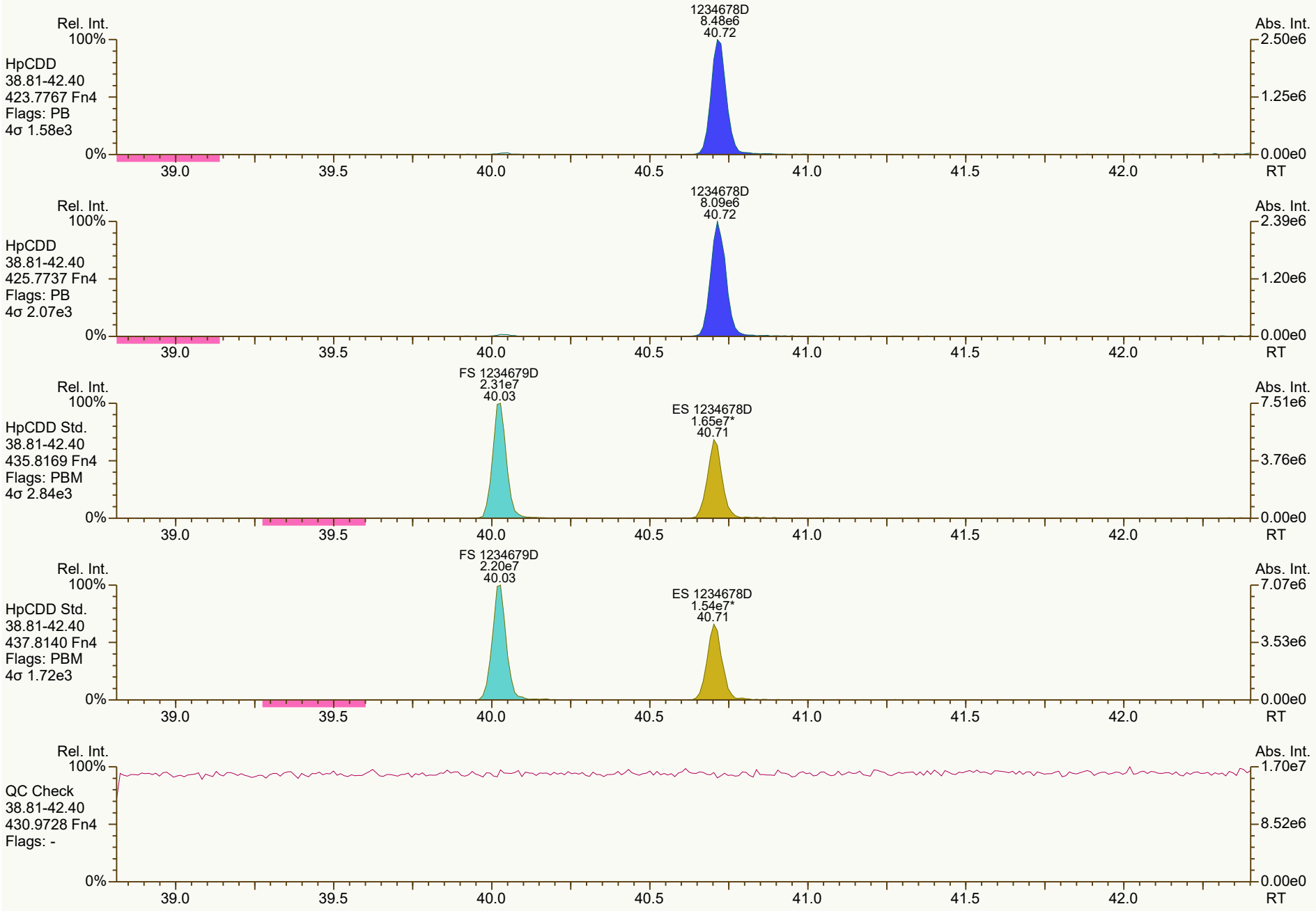
Processed: 21 Feb 2022 11:02 Analyst: pw

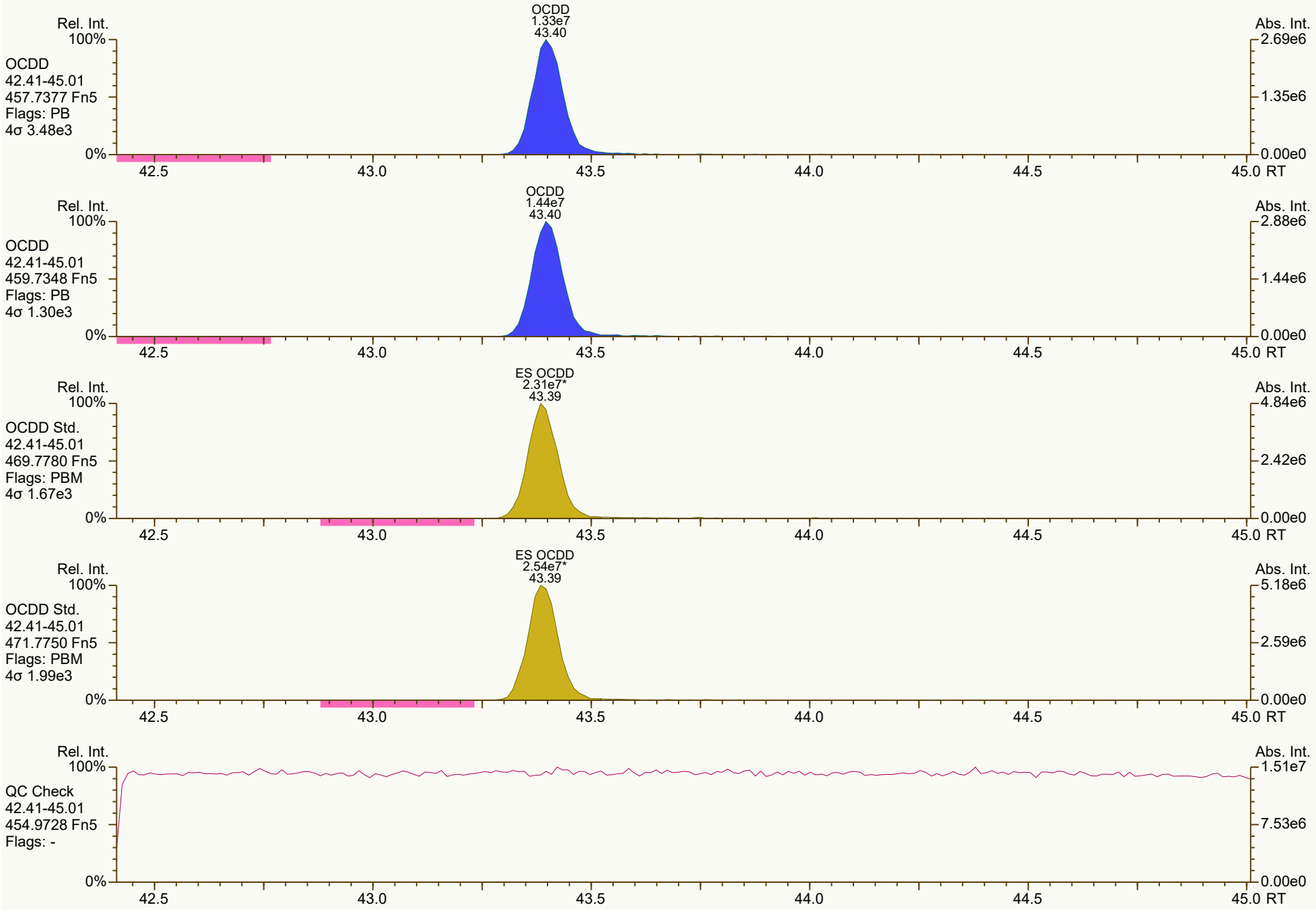

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
8.32e6
4.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.41e6
3.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.81e7
1.40e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.70e7
8.52e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
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7.53e6
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43.0
43.5
44.0
44.5
45.0
RT

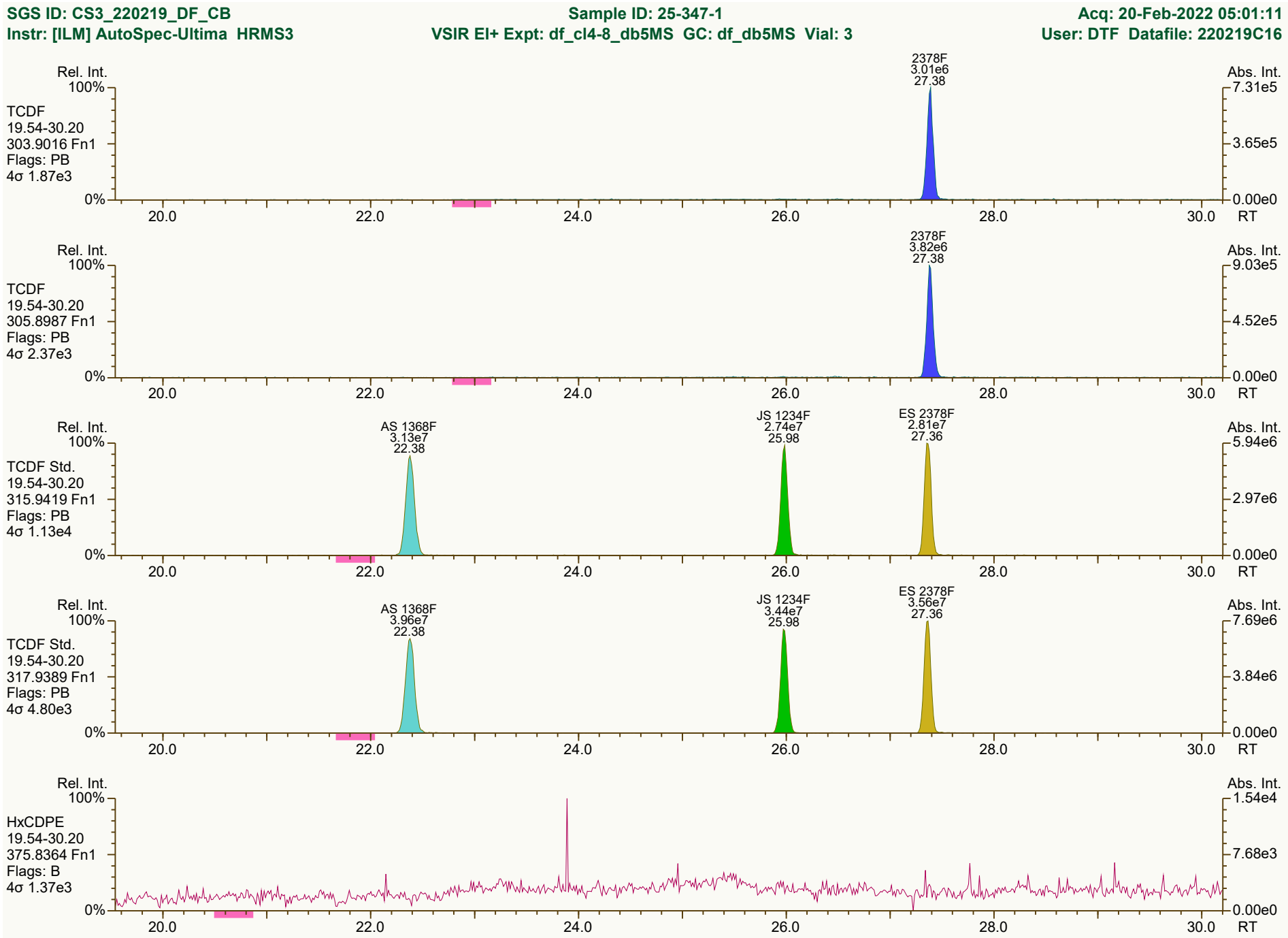

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.94e3
0%
2378D
2.01e6
28.25
Abs. Int.
4.72e5
2.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
2.69e6
28.25
Abs. Int.
6.02e5
3.01e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
5.65e6
28.25
Abs. Int.
1.37e6
6.84e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.83e3
0%
AS 1368D
1.86e7
24.53
TS 1378D
2.69e7
26.56
JS 1234D
1.75e7
27.56
ES 2378D
1.80e7
28.23
FS 1278D
1.93e7
28.56
Abs. Int.
5.96e6
2.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.40e3
0%
AS 1368D
2.28e7
24.53
TS 1378D
3.24e7
26.56
JS 1234D
2.19e7
27.56
ES 2378D
2.19e7
28.23
FS 1278D
2.40e7
28.56
Abs. Int.
7.26e6
3.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.54e3
12378D
1.14e7
33.64
Abs. Int.
3.18e6
1.59e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.53e3
12378D
7.23e6
33.64
Abs. Int.
2.06e6
1.03e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.41e3
FS 12478D
2.29e7
32.38
CS 12347D
1.97e7
33.11
ES 12378D
2.17e7
33.62
Abs. Int.
6.34e6
3.17e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.12e3
FS 12478D
1.45e7
32.38
CS 12347D
1.22e7
33.11
ES 12378D
1.39e7
33.62
Abs. Int.
4.21e6
2.11e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.41e6
3.71e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
9.46e6
37.57
123678D
9.80e6
37.69
123789D
1.02e7
37.99
Abs. Int.
2.91e6
1.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.40e3
123478D
7.37e6
37.56
123678D
7.52e6
37.69
123789D
8.17e6
37.99
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.99e3
FS 123468D
2.36e7
36.46
ES 123478D
1.69e7
37.55
ES 123678D
1.63e7
37.67
JS 123467D
9.15e6*
37.88
ES 123789D
1.94e7*
37.98
Abs. Int.
7.00e6
3.50e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.94e3
FS 123468D
1.86e7
36.46
ES 123478D
1.36e7
37.55
ES 123678D
1.31e7
37.67
JS 123467D
6.96e6
37.87
ES 123789D
1.57e7*
37.98
Abs. Int.
5.57e6
2.78e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.81e7
1.40e7
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0%
35.0
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37.5
38.0
38.5
RT

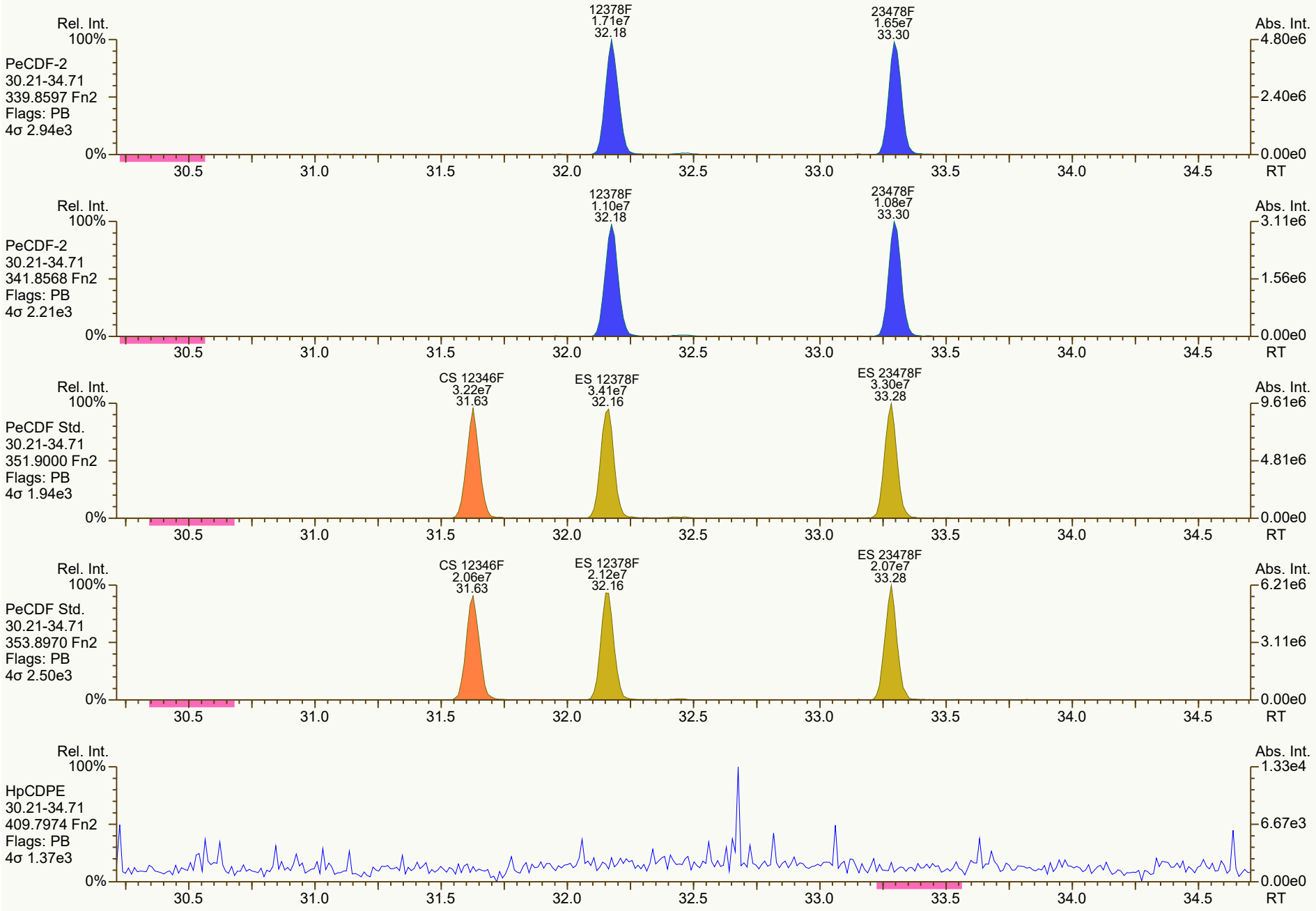

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.58e3
1234678D
8.48e6
40.72
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.07e3
1234678D
8.09e6
40.72
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.84e3
FS 1234679D
2.31e7
40.03
ES 1234678D
1.65e7*
40.71
Abs. Int.
7.51e6
3.76e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.72e3
FS 1234679D
2.20e7
40.03
ES 1234678D
1.54e7*
40.71
Abs. Int.
7.07e6
3.53e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.70e7
8.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

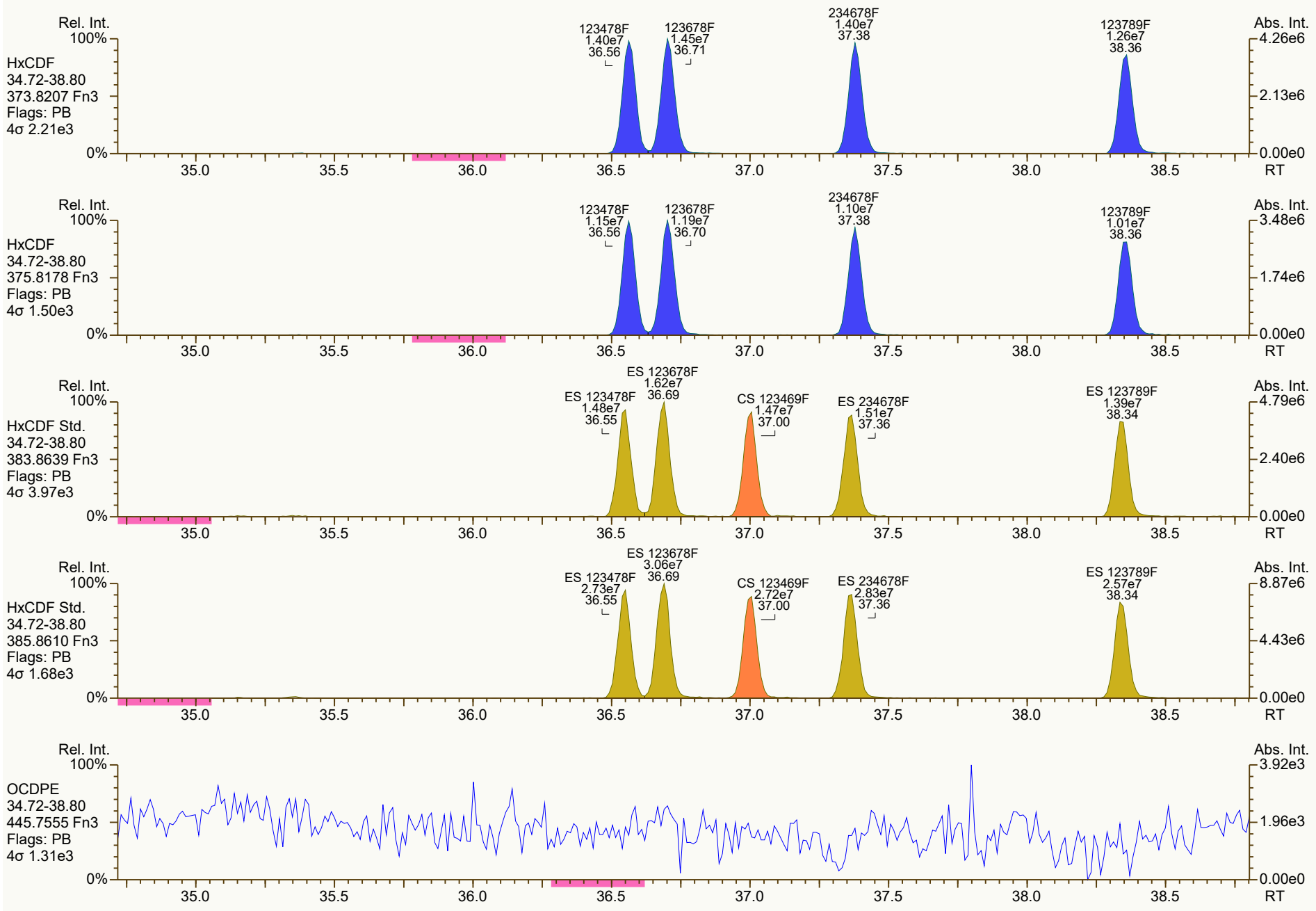

OCDD
1.33e7
43.40
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.48e3
OCDD
1.44e7
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.30e3
ES OCDD
2.31e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.67e3
ES OCDD
2.54e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.99e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

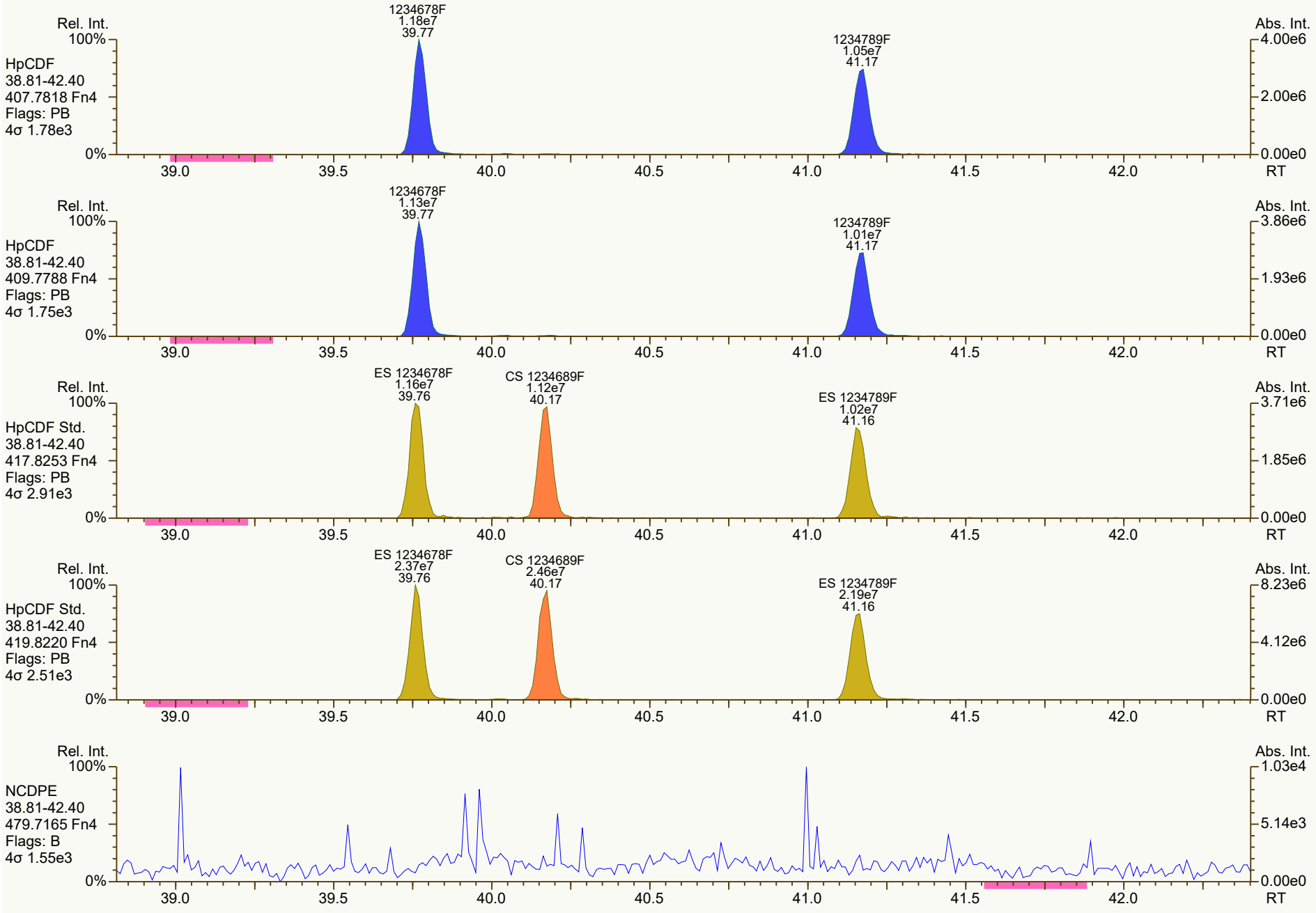


Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\CS3_220219_DF_CB.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3507, 1910, 6890 scc: 111-739
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 11:08 Page 7 of 12

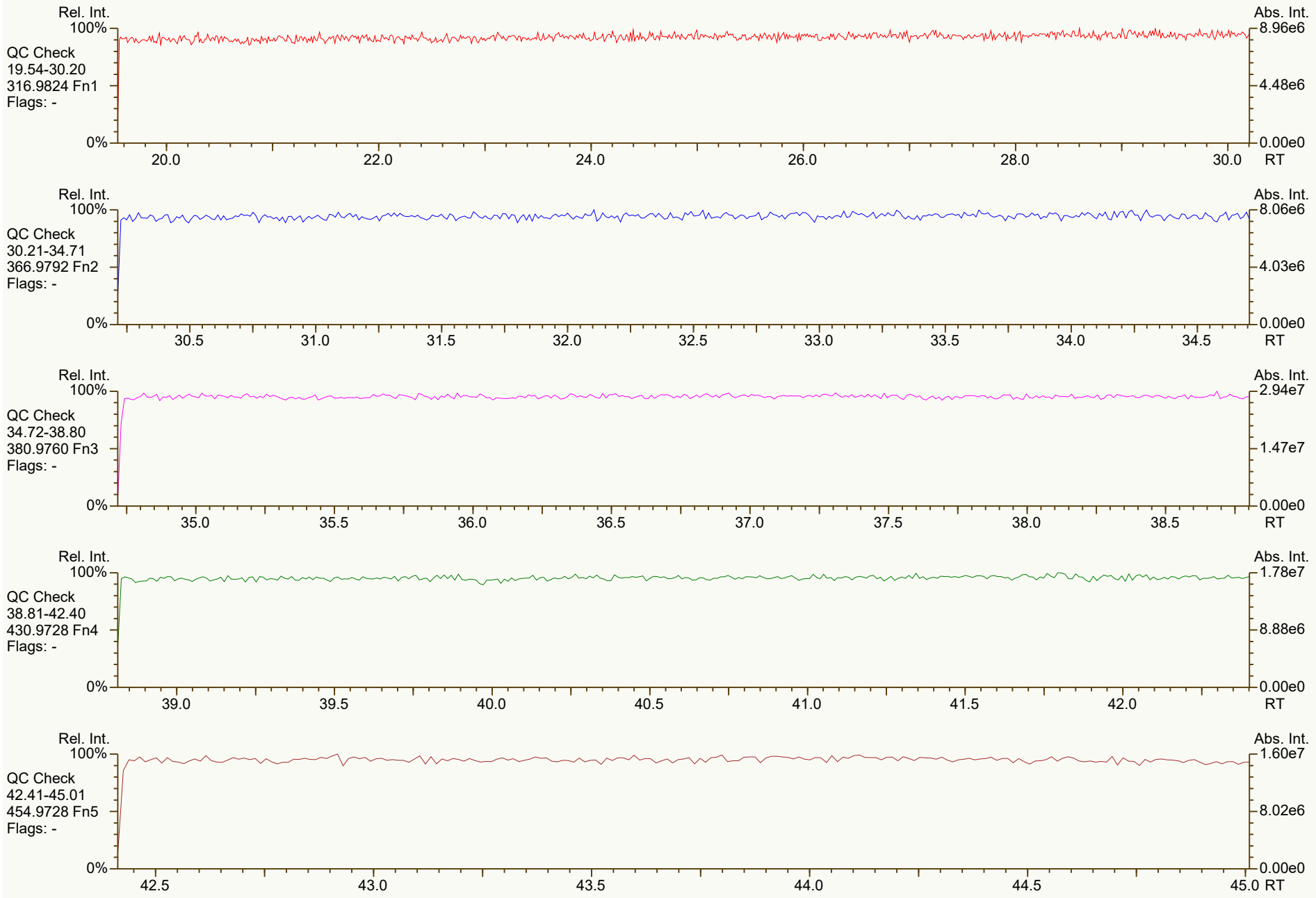

Rel. Int.
100%
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.09e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.76e4
8.80e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.32e6
4.16e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.94e3
0%
12378F
1.71e7
32.18
23478F
1.65e7
33.30
Abs. Int.
4.80e6
2.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.21e3
0%
12378F
1.10e7
32.18
23478F
1.08e7
33.30
Abs. Int.
3.11e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
0%
CS 12346F
3.22e7
31.63
ES 12378F
3.41e7
32.16
ES 23478F
3.30e7
33.28
Abs. Int.
9.61e6
4.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.50e3
0%
CS 12346F
2.06e7
31.63
ES 12378F
2.12e7
32.16
ES 23478F
2.07e7
33.28
Abs. Int.
6.21e6
3.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.37e3
0%
Abs. Int.
1.33e4
6.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

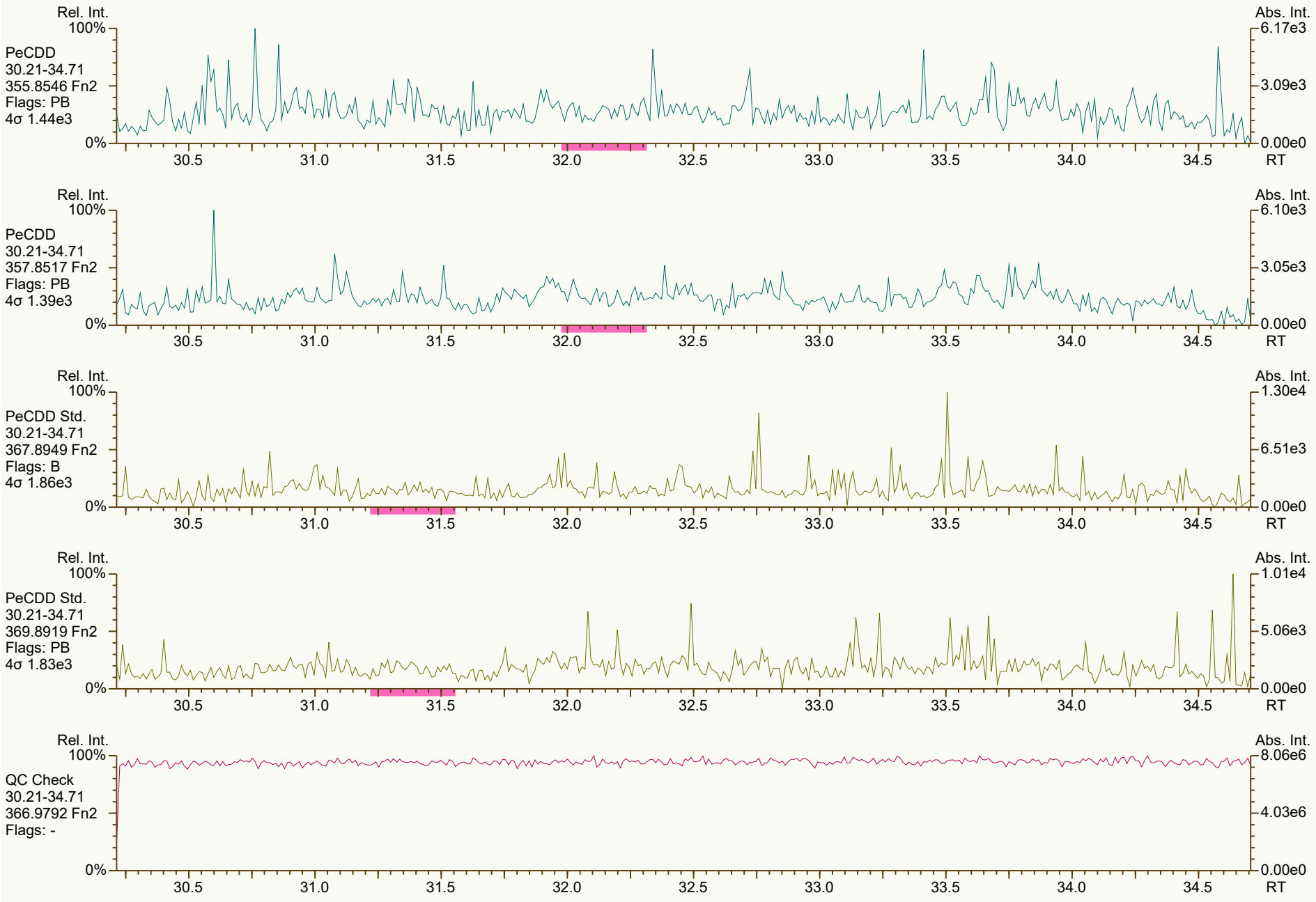

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 2.21e3
0%
123478F
1.40e7
36.56
123678F
1.45e7
36.71
234678F
1.40e7
37.38
123789F
1.26e7
38.36
Abs. Int.
4.26e6
2.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.50e3
123478F
1.15e7
36.56
123678F
1.19e7
36.70
234678F
1.10e7
37.38
123789F
1.01e7
38.36
3.48e6
1.74e6
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.97e3
ES 123478F
1.48e7
36.55
ES 123678F
1.62e7
36.69
CS 123469F
1.47e7
37.00
ES 234678F
1.51e7
37.36
ES 123789F
1.39e7
38.34
4.79e6
2.40e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.68e3
ES 123478F
2.73e7
36.55
ES 123678F
3.06e7
36.69
CS 123469F
2.72e7
37.00
ES 234678F
2.83e7
37.36
ES 123789F
2.57e7
38.34
8.87e6
4.43e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.31e3
3.92e3
1.96e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.78e3
1234678F
1.18e7
39.77
1234789F
1.05e7
41.17
Abs. Int.
4.00e6
2.00e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.75e3
1234678F
1.13e7
39.77
1234789F
1.01e7
41.17
Abs. Int.
3.86e6
1.93e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.91e3
ES 1234678F
1.16e7
39.76
CS 1234689F
1.12e7
40.17
ES 1234789F
1.02e7
41.16
Abs. Int.
3.71e6
1.85e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.51e3
ES 1234678F
2.37e7
39.76
CS 1234689F
2.46e7
40.17
ES 1234789F
2.19e7
41.16
Abs. Int.
8.23e6
4.12e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.55e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.69e7*
43.58
Rel. Int.
Abs. Int.
100%
0%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.33e3
3.38e6
1.69e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.82e7*
43.58
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.30e3
3.52e6
1.76e6
ES OCDF
3.14e7
43.57
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.35e3
6.16e6
3.08e6
ES OCDF
3.49e7
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.39e3
6.93e6
3.46e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.36e3
3.82e3
1.91e3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.96e6
4.48e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
8.06e6
4.03e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.94e7
1.47e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.78e7
8.88e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.60e7
8.02e6
0.00e0

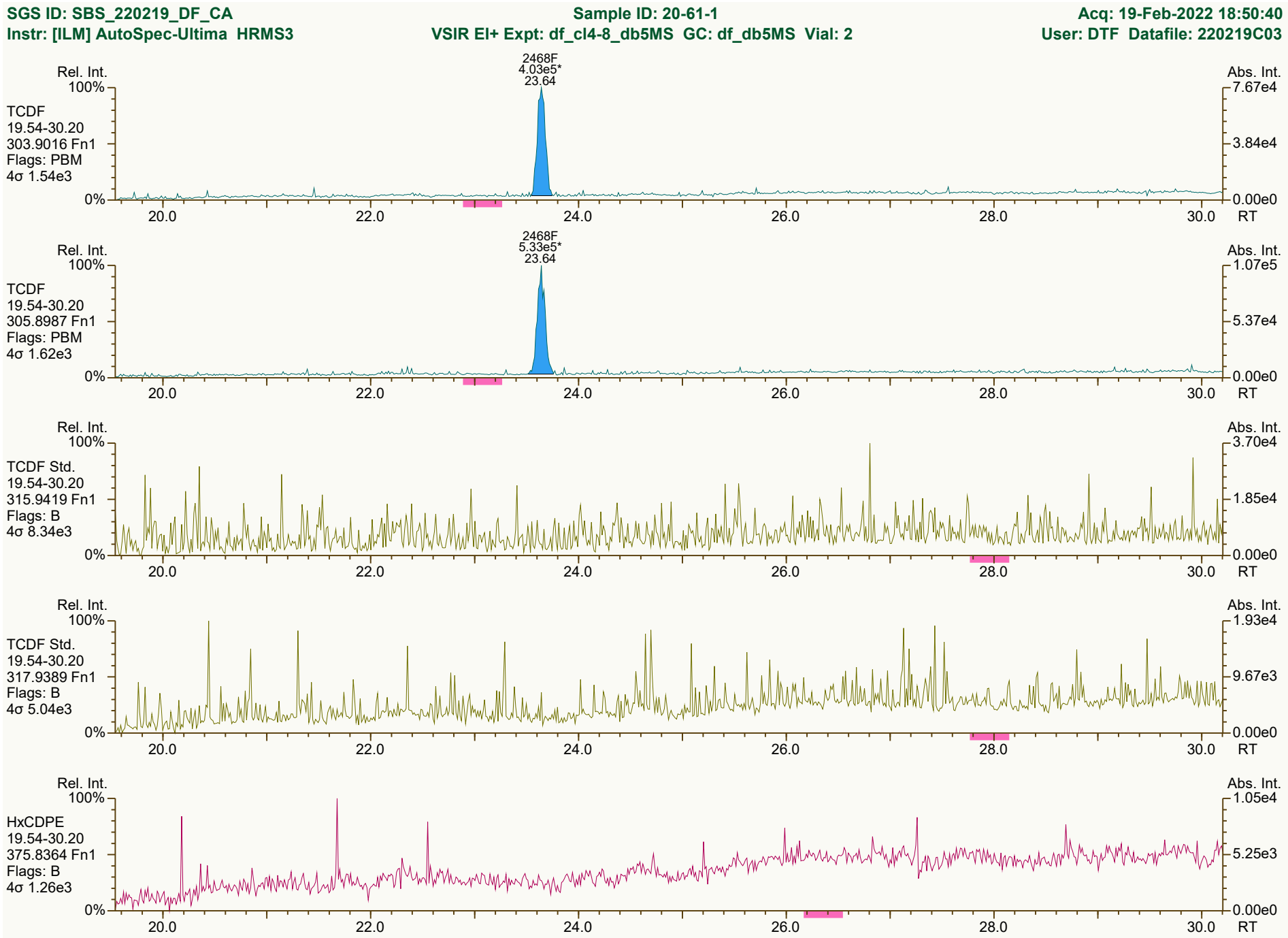

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.21e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.39e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 9.01e3
0%
Abs. Int.
3.19e4
1.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.90e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.44e3
0%
Abs. Int.
6.17e3
3.09e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.83e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.33e4
6.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.57e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.82e3
0%
Abs. Int.
3.19e4
1.60e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 2.05e3
0%
Abs. Int.
8.35e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.42e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 2.23e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.88e3
0%
Abs. Int.
9.38e3
4.69e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.78e7
8.88e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.84e3
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.60e7
8.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220219_DF_CA
Sample ID: 20-61-1
Acq: 19-Feb-2022 18:50:40
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220219C03
2468F
4.03e5*
23.64
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
7.67e4
3.84e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.33e5*
23.64
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.62e3
1.07e5
5.37e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 8.34e3
3.70e4
1.85e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 5.04e3
1.93e4
9.67e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
1.05e4
5.25e3
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\SBS_220219_DF_CA.utp_res, saved 21-Feb-2022 09:57 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8513, 7109, 4794 scc: 501-491
Revised: 21-Feb-2022 09:57 (DTF) Printed: 21-Feb-2022 11:07 Page 7 of 12

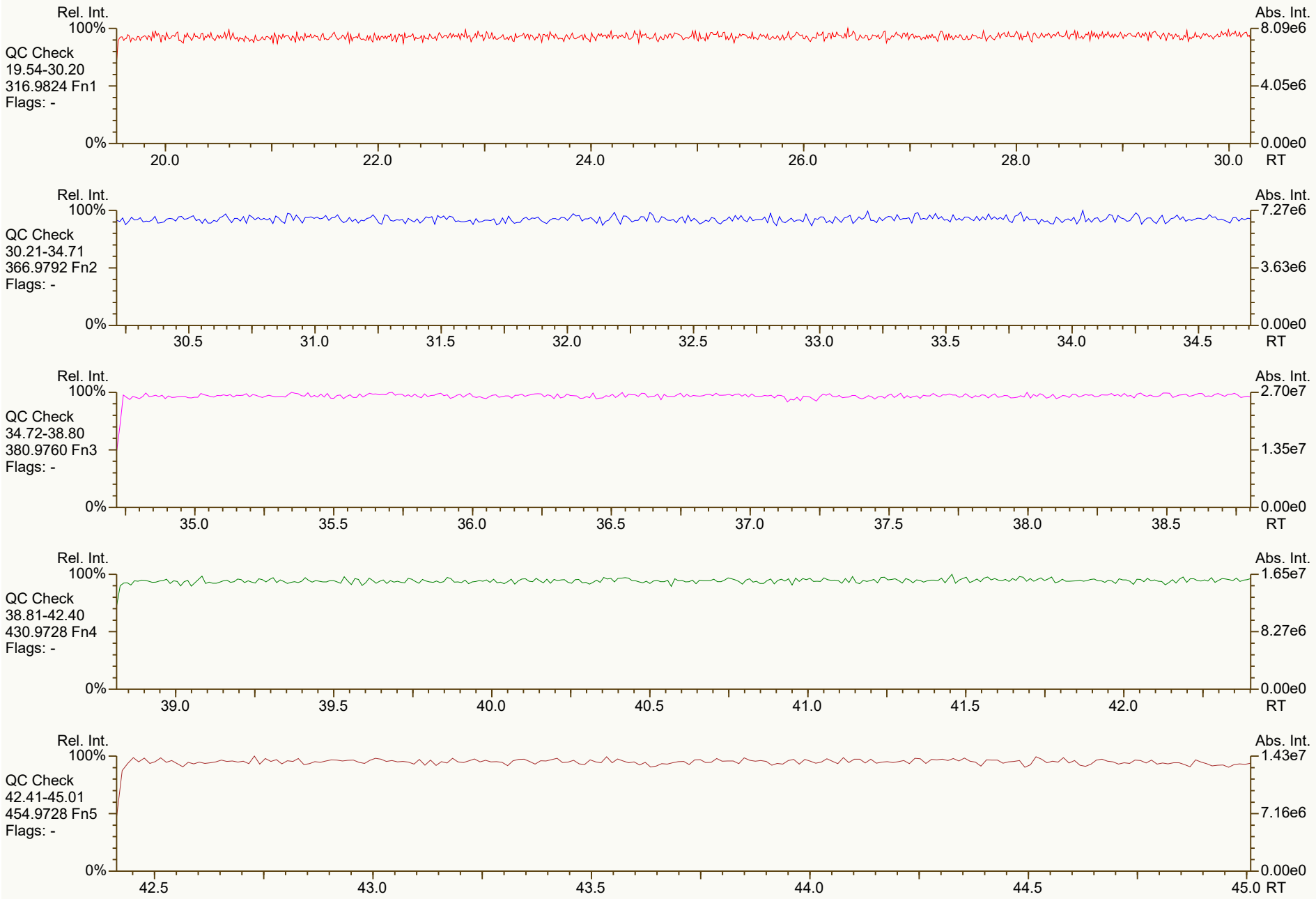

Rel. Int.
100%
0%
Abs. Int.
9.51e3
4.75e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e4
7.22e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.63e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.96e6
4.48e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.96e3
0%
Abs. Int.
8.41e3
4.21e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.54e3
0%
Abs. Int.
7.96e3
3.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.74e3
0%
Abs. Int.
6.81e3
3.41e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.11e3
0%
Abs. Int.
8.37e3
4.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.37e4
6.84e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.35e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
0%
Abs. Int.
7.08e3
3.54e3
0.00e0
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.96e3
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.37e3
0%
Abs. Int.
4.45e3
2.22e3
0.00e0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.72e3
4.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.29e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 2.55e3
0%
Abs. Int.
4.05e4
2.02e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.46e3
3.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

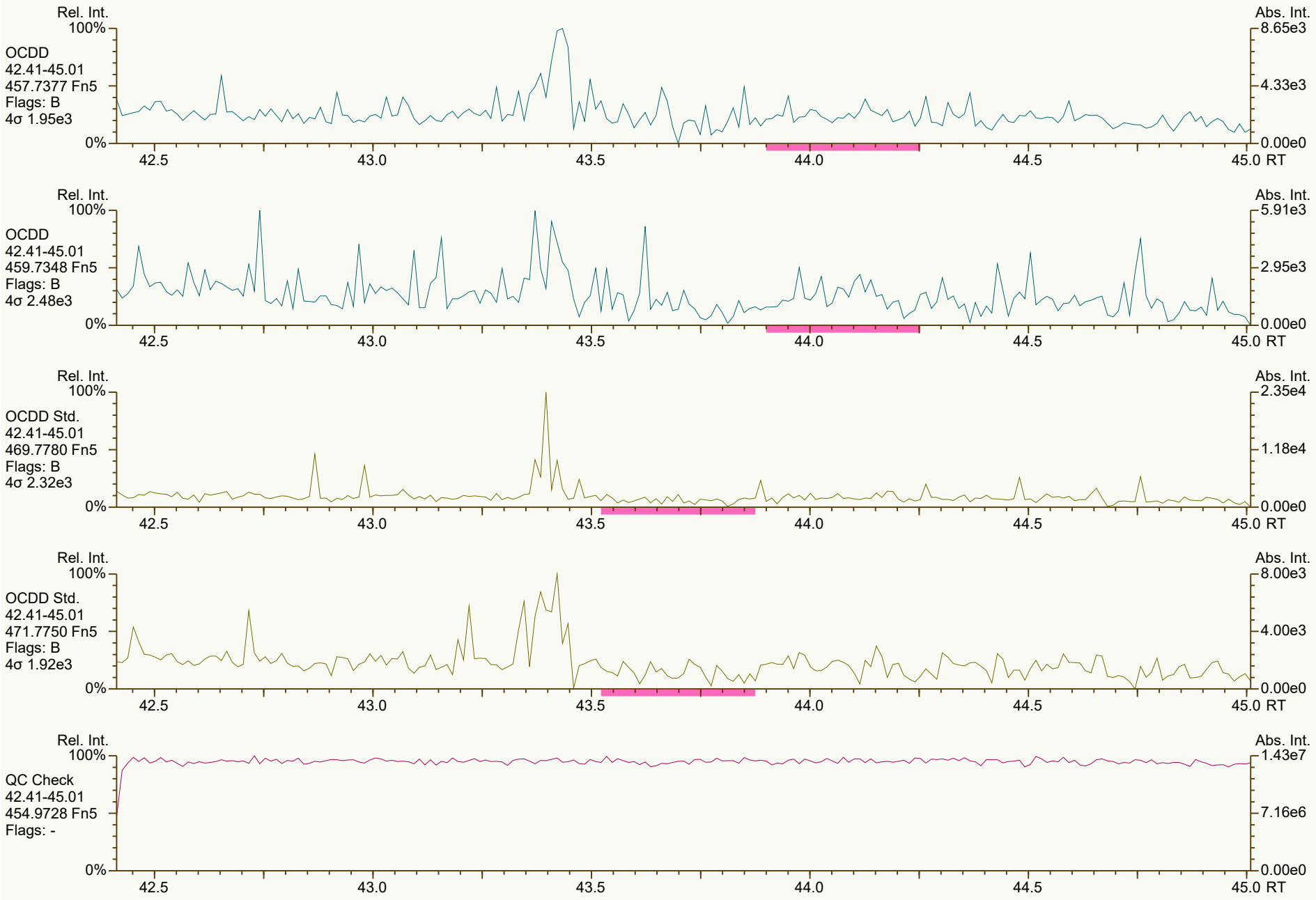

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.09e6
4.05e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.27e6
3.63e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.70e7
1.35e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.65e7
8.27e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.43e7
7.16e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.07e3
0%
Abs. Int.
8.27e3
4.14e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.57e3
2.78e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.80e4
9.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 8.20e3
0%
Abs. Int.
3.23e4
1.61e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 4.31e3
0%
Abs. Int.
1.75e4
8.76e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 9.41e2
0%
Abs. Int.
5.42e3
2.71e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
4.03e3
2.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.56e3
0%
Abs. Int.
9.57e3
4.79e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 2.35e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.27e6
3.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

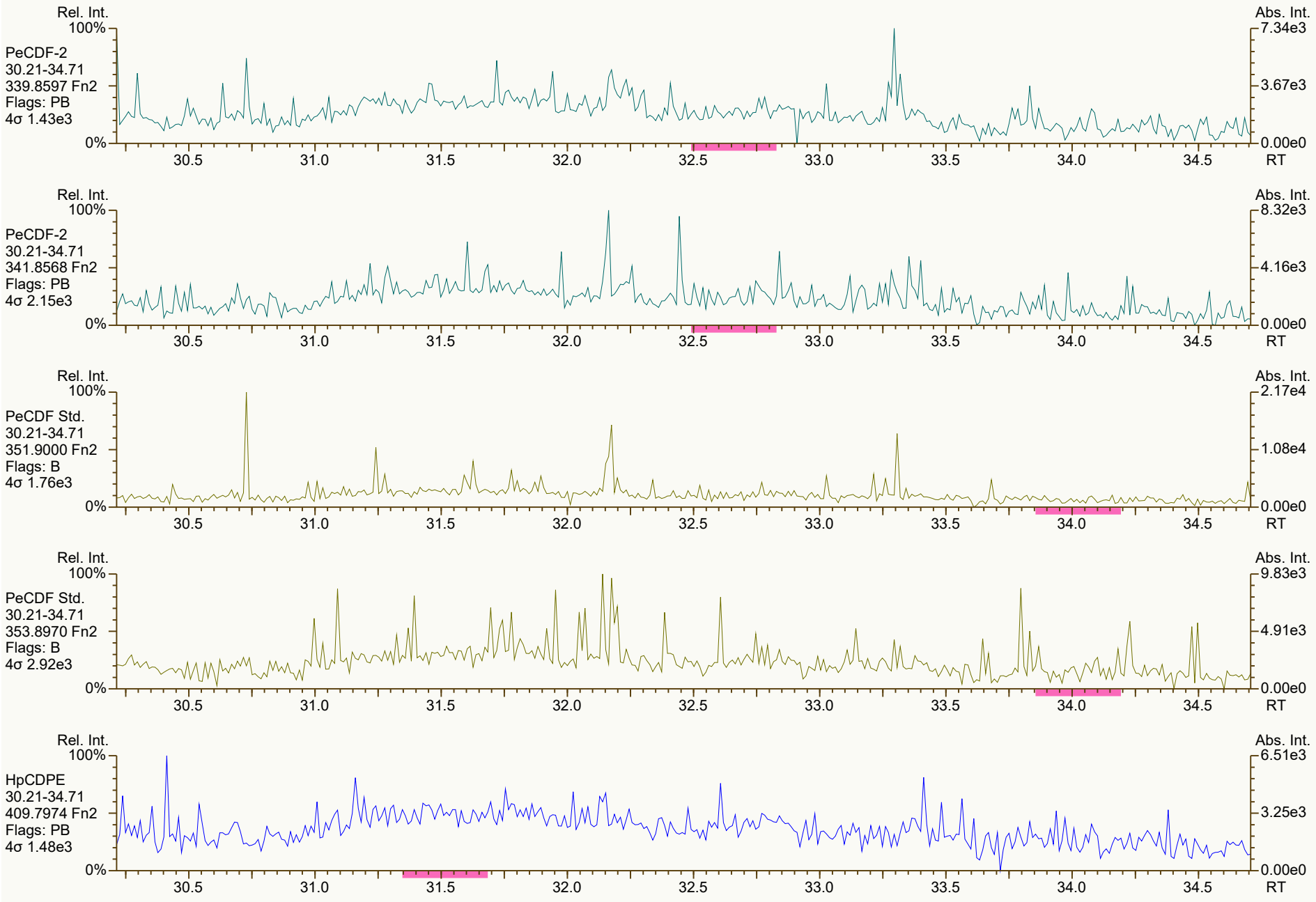

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.91e3
0%
Abs. Int.
7.65e3
3.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
8.02e3
4.01e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 2.66e3
0%
Abs. Int.
9.41e3
4.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.49e4
1.25e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.70e7
1.35e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.46e3
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.85e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.77e3
0%
Abs. Int.
9.50e3
4.75e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.65e7
8.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.95e3
0%
Abs. Int.
8.65e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 2.48e3
0%
Abs. Int.
5.91e3
2.95e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 2.32e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.00e3
4.00e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.43e7
7.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.23e3
2468F
3.63e5*
23.64
Abs. Int.
7.60e4
3.80e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.67e3
2468F
4.49e5*
23.64
Abs. Int.
8.42e4
4.21e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 9.66e3
Abs. Int.
3.15e4
1.58e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 6.62e3
Abs. Int.
2.23e4
1.12e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.42e3
Abs. Int.
1.43e4
7.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.99e4
9.96e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.16e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.08e4
5.41e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.88e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.09e6
4.05e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
7.34e3
3.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.15e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.76e3
0%
Abs. Int.
2.17e4
1.08e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 2.92e3
0%
Abs. Int.
9.83e3
4.91e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
6.51e3
3.25e3
0.00e0
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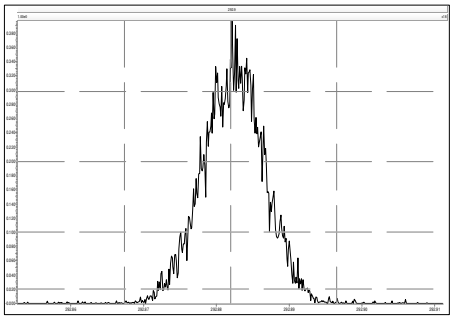

Rel. Int.
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HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
7.32e3
3.66e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.92e3
3.46e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 2.28e3
0%
Abs. Int.
8.95e3
4.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.53e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.25e3
0%
Abs. Int.
6.85e3
3.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.68e3
0%
Abs. Int.
8.44e3
4.22e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.69e3
0%
Abs. Int.
7.31e3
3.66e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 2.46e3
0%
Abs. Int.
1.65e4
8.25e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 2.17e3
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
7.13e3
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41.0
41.5
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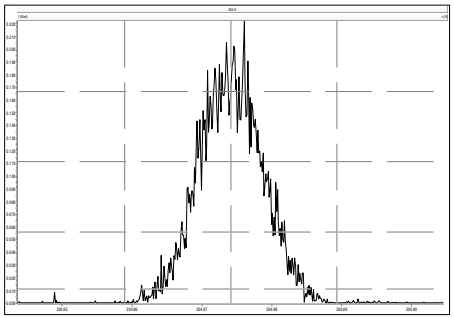

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.74e3
0%
Abs. Int.
1.21e4
6.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.72e3
0%
Abs. Int.
5.91e3
2.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 3.31e3
0%
Abs. Int.
1.41e4
7.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
2.64e4
1.32e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
5.85e3
2.93e3
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43.5
44.0
44.5
45.0 RT

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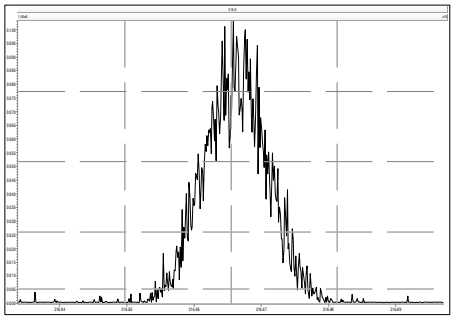
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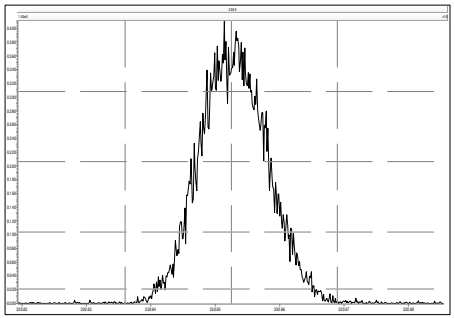
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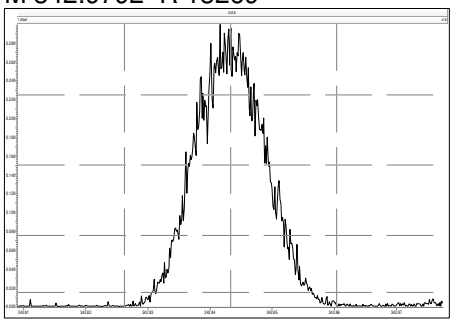
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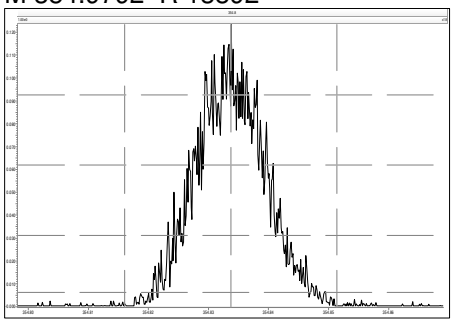
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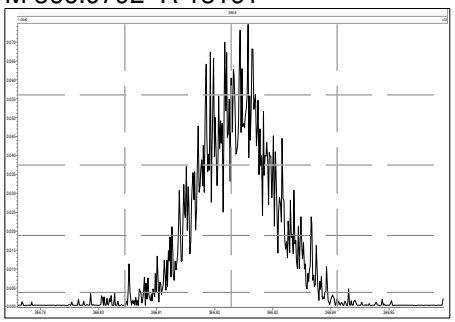
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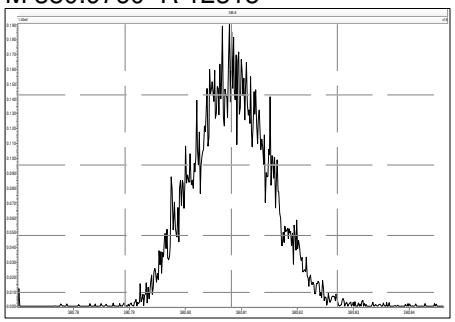
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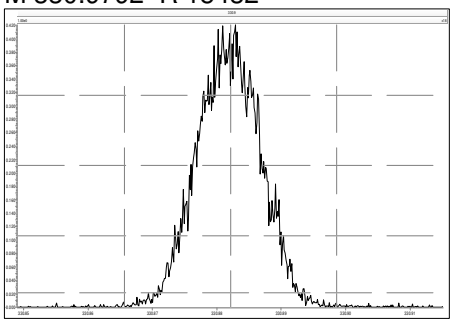
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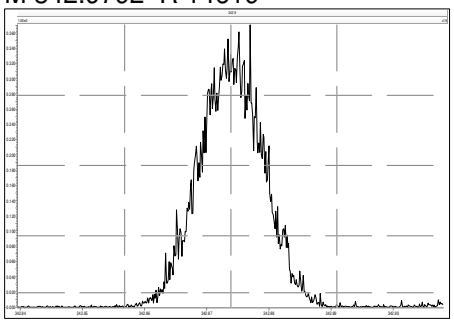
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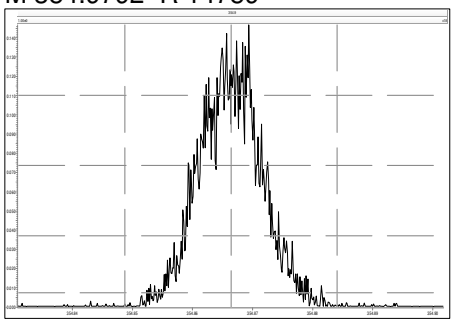
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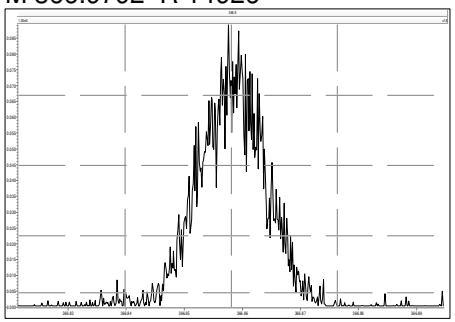
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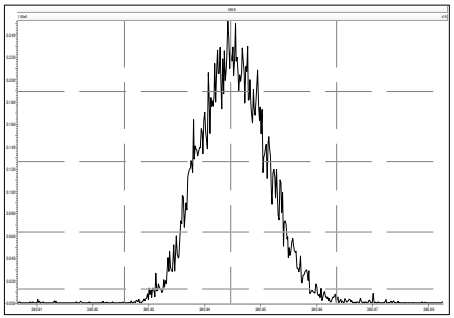
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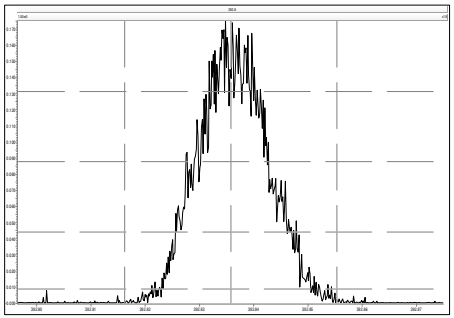
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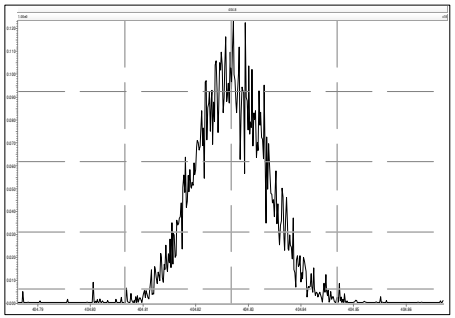
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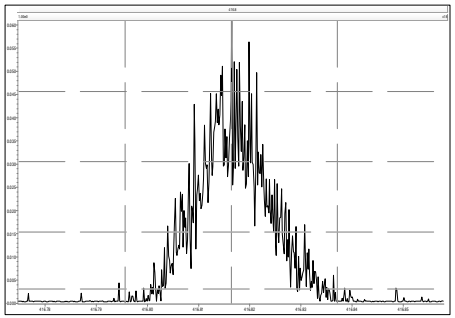
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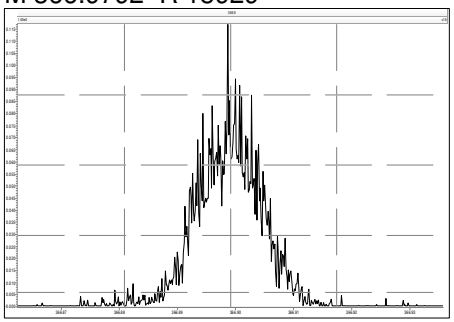
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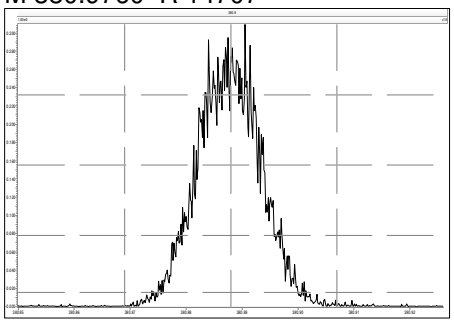
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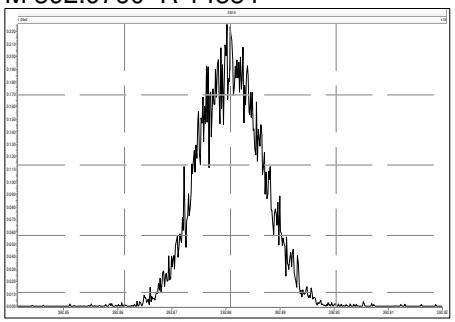
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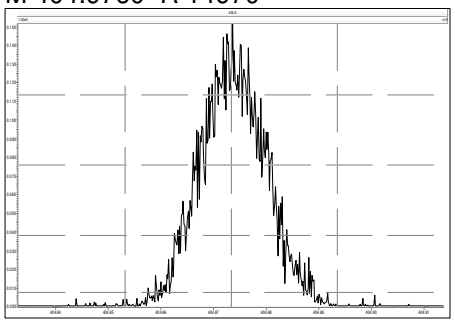
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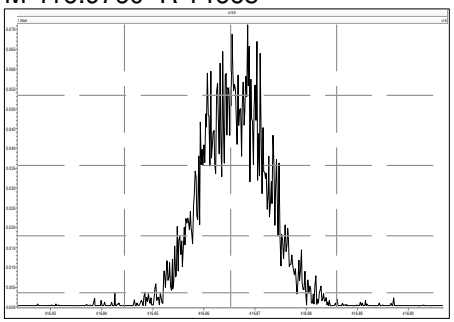
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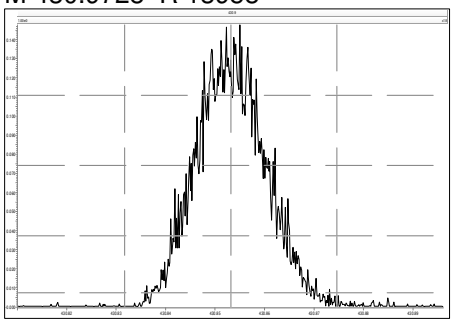
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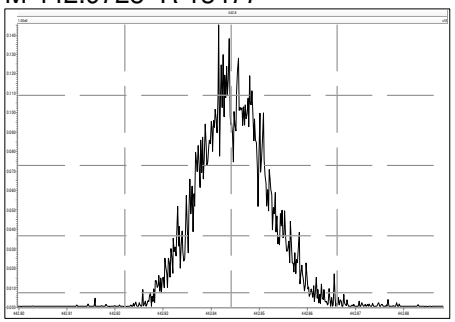
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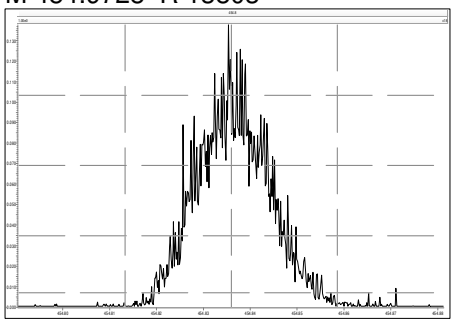
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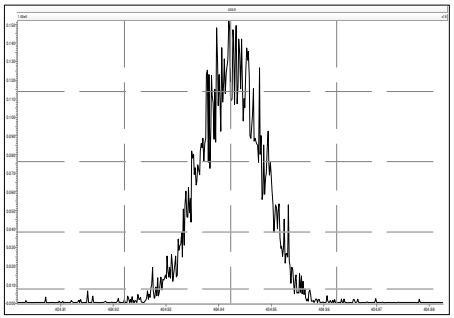
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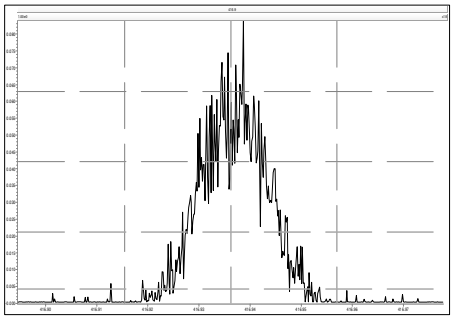
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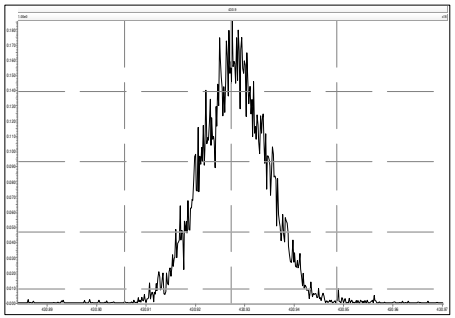
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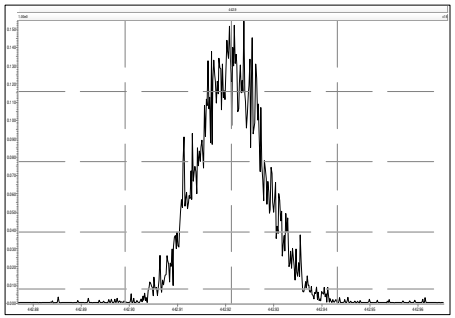
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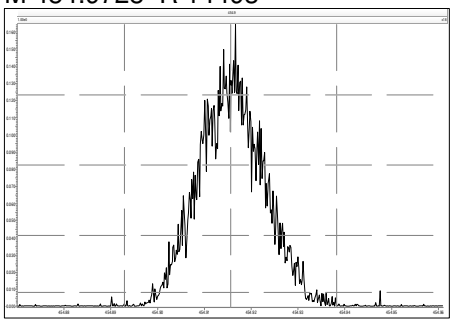
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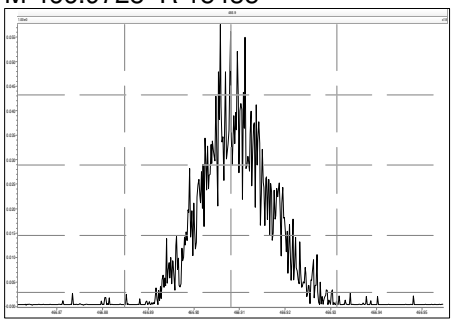
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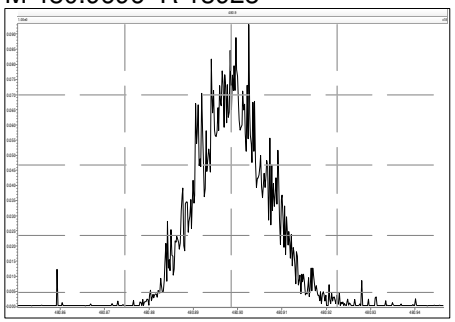
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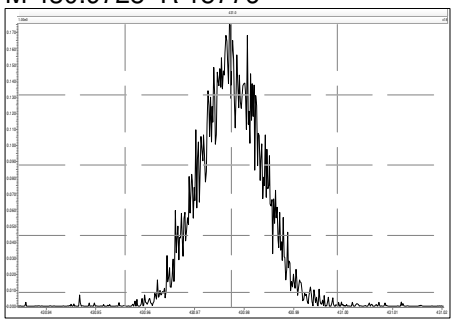
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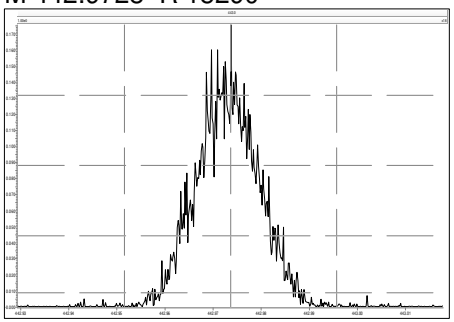
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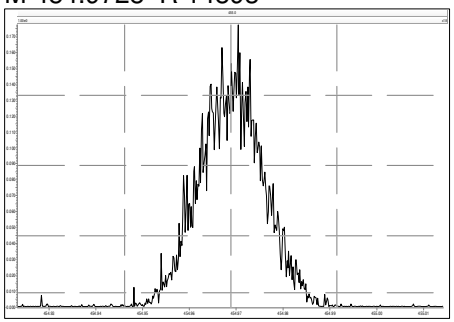
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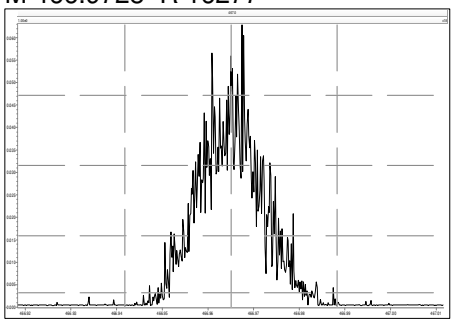
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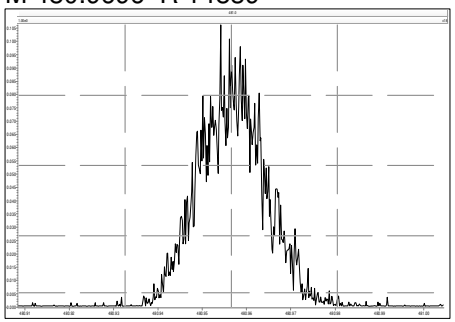
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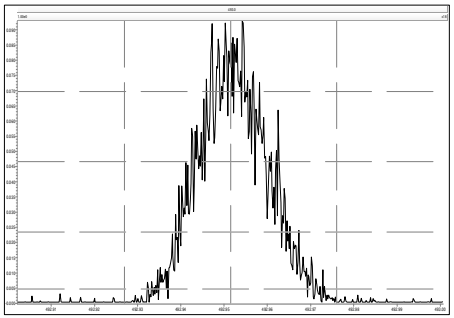
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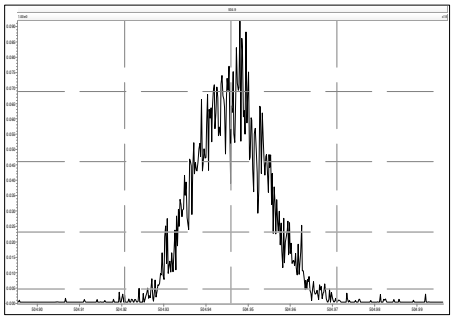
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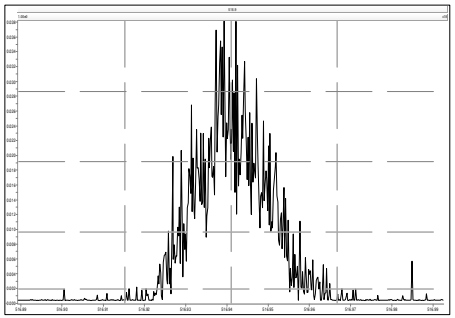
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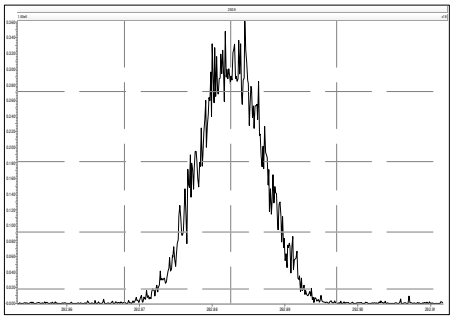


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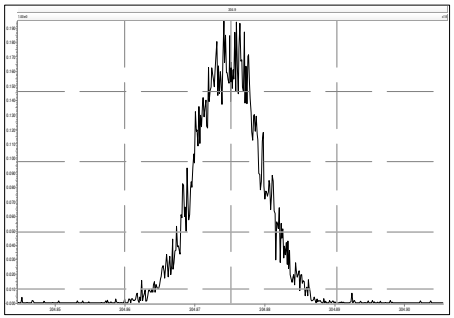


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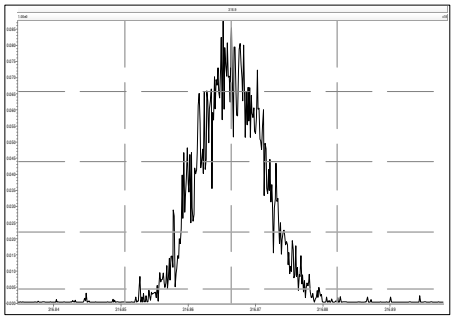
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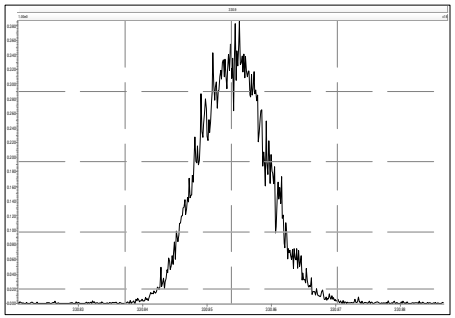
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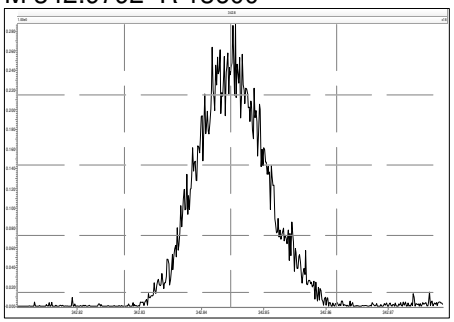
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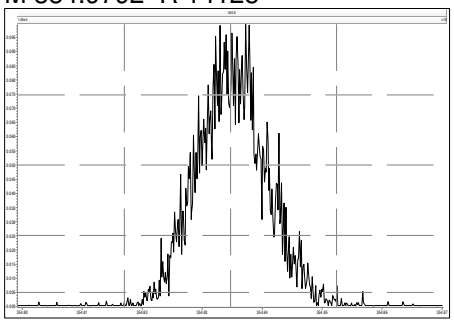
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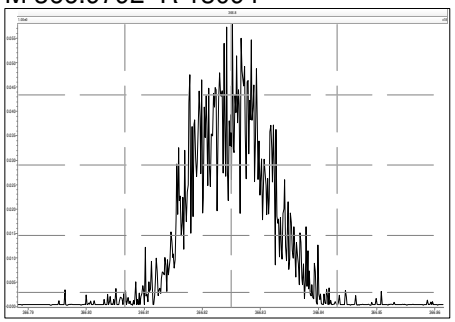
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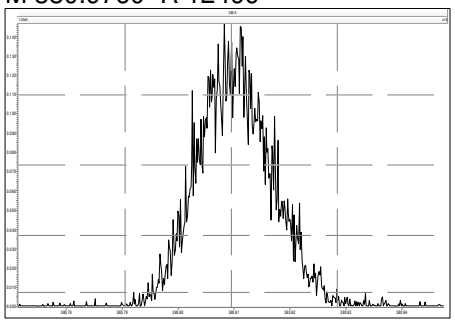
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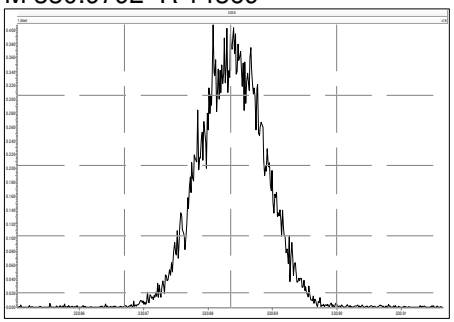
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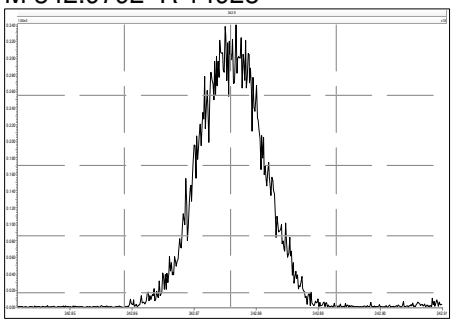
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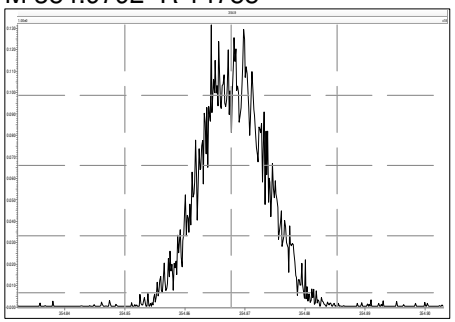
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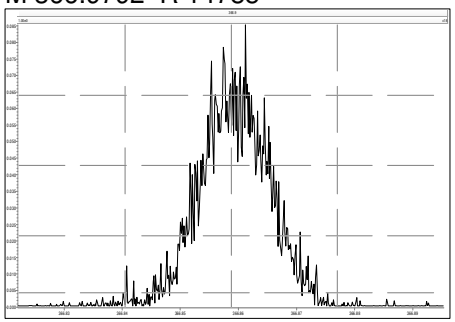
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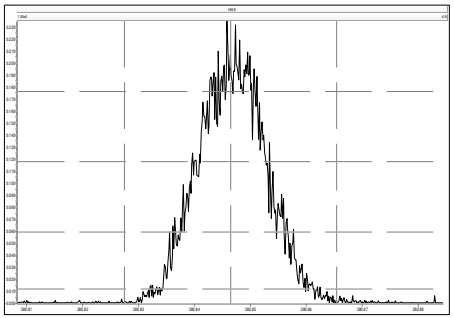
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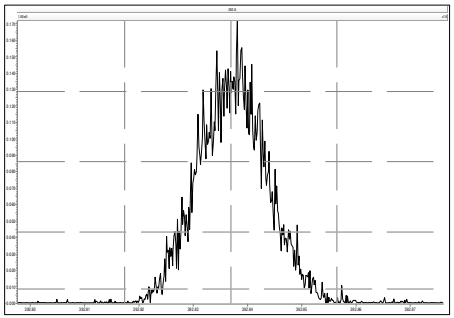
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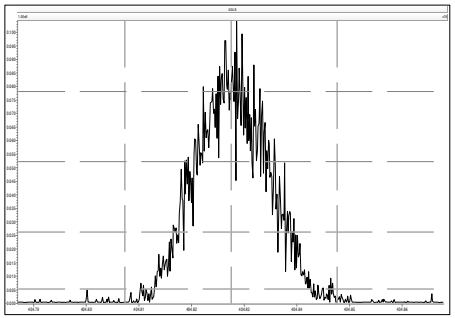
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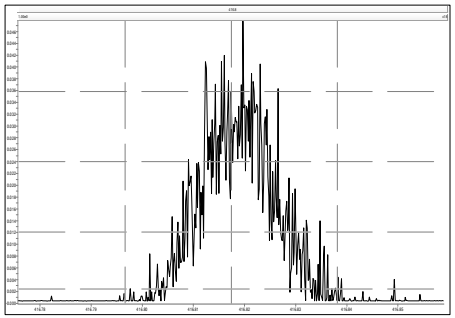
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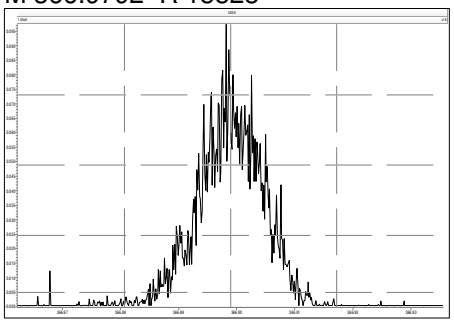
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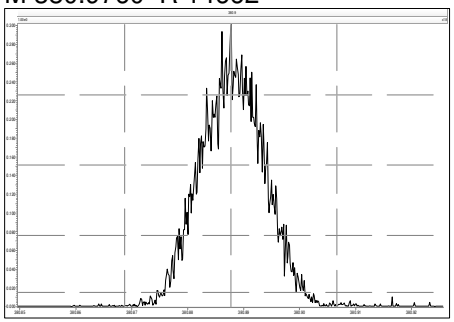
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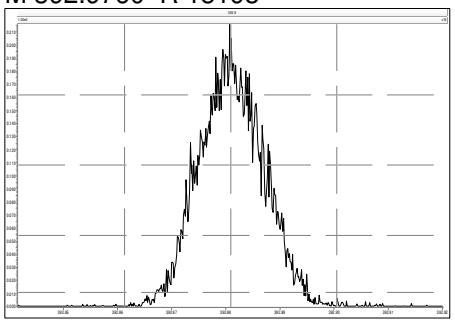
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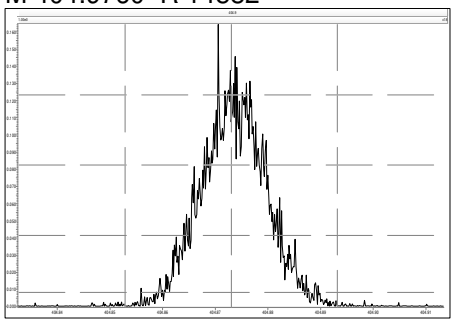
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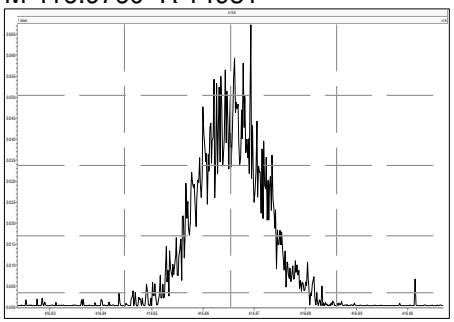
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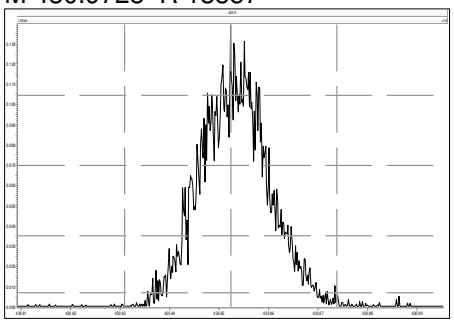
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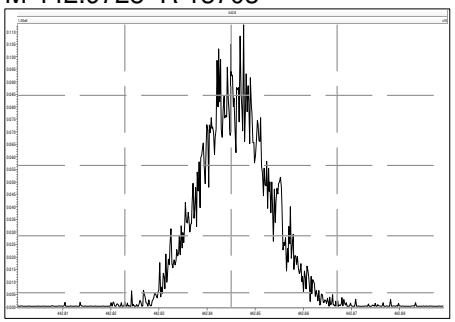
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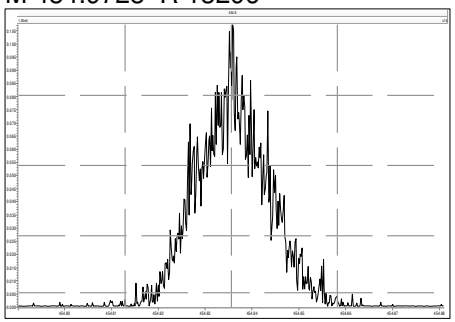
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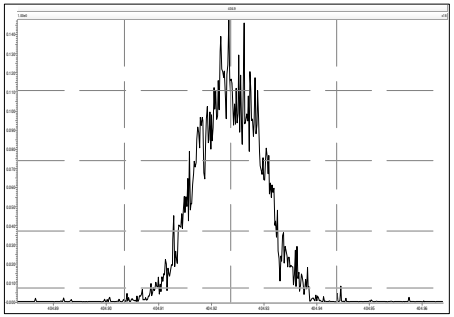
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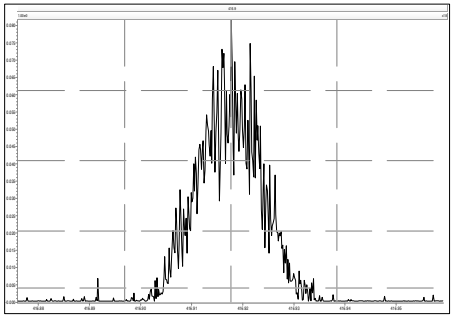
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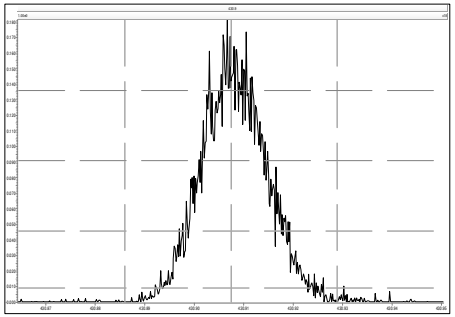
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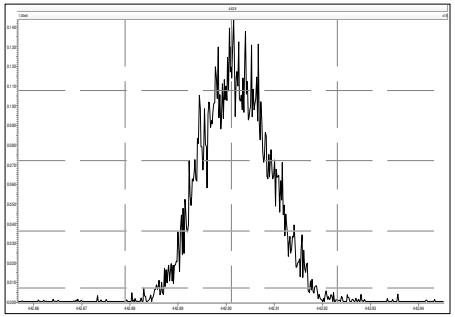
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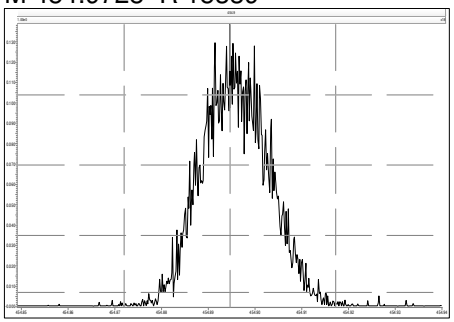
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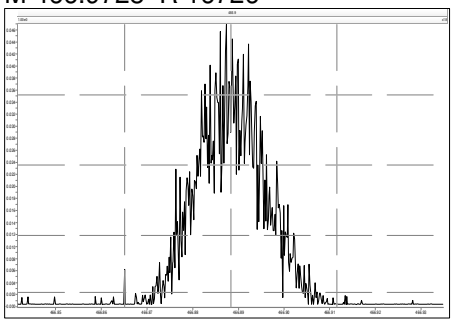
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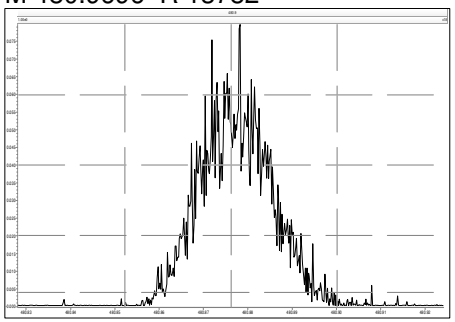
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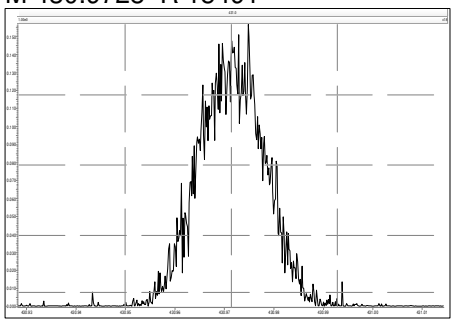
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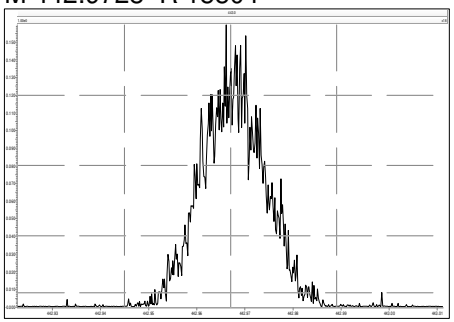
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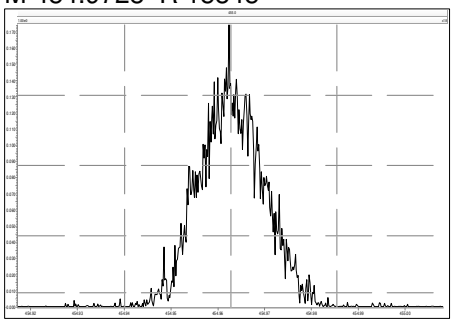
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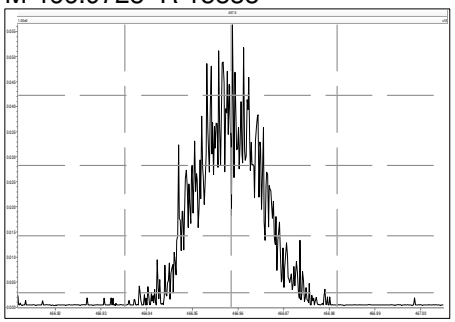
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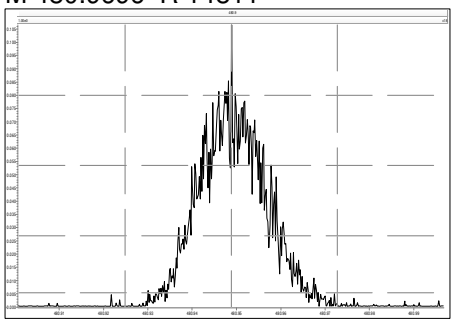
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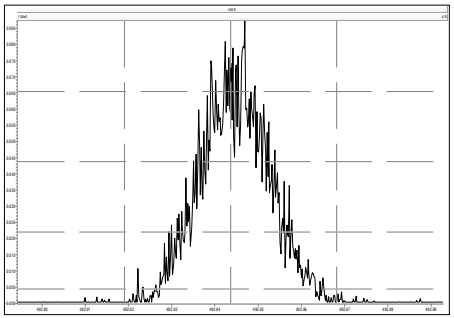
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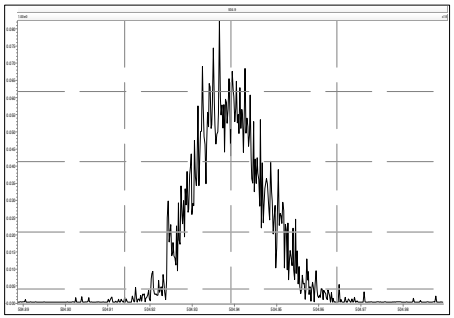
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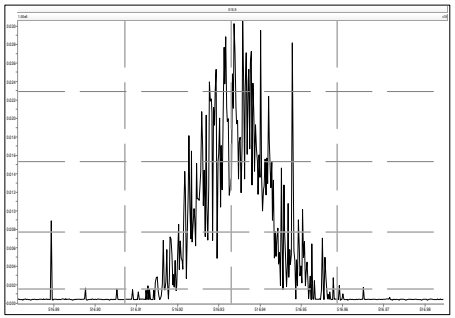
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M 504.9696 R 14353

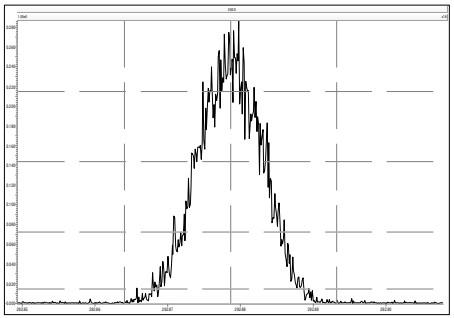


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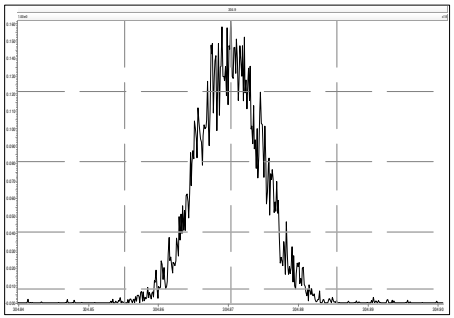


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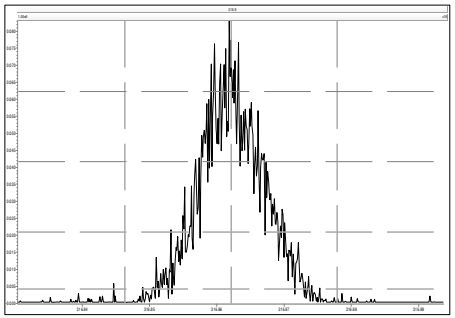
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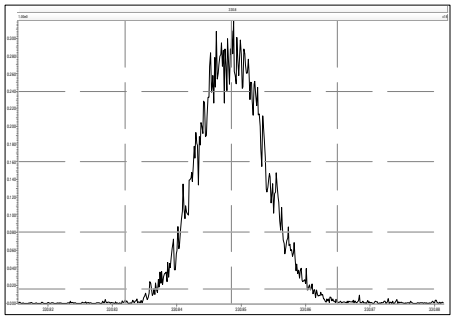
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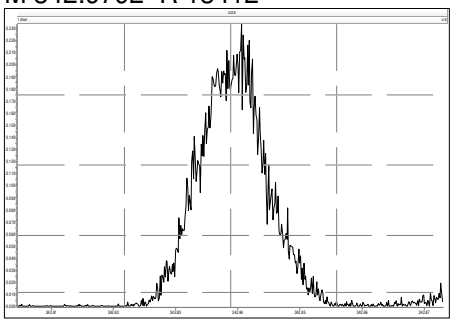
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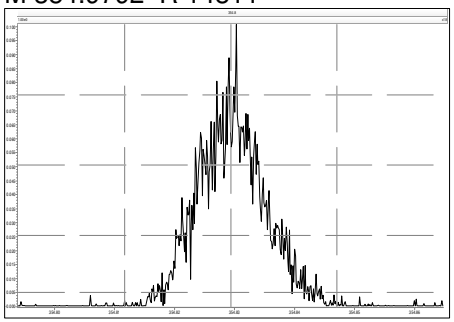
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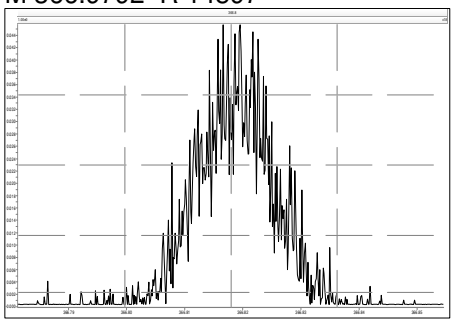
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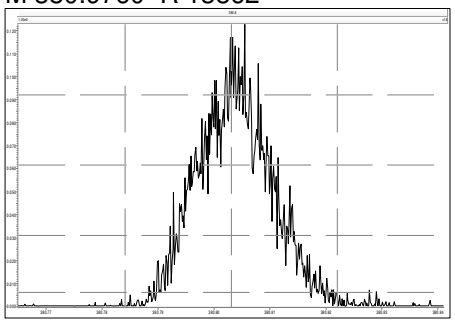
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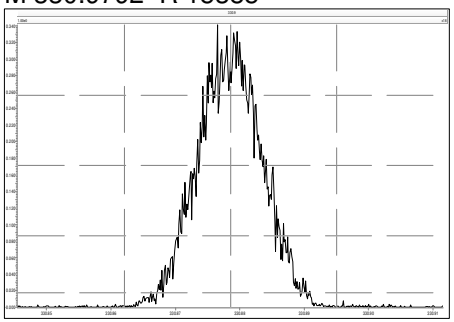
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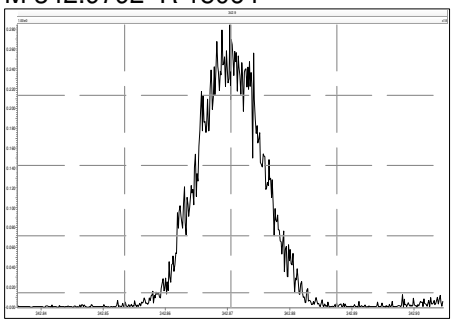
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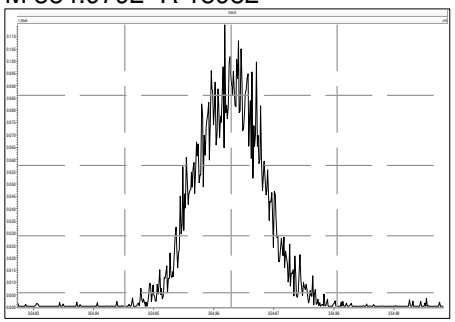
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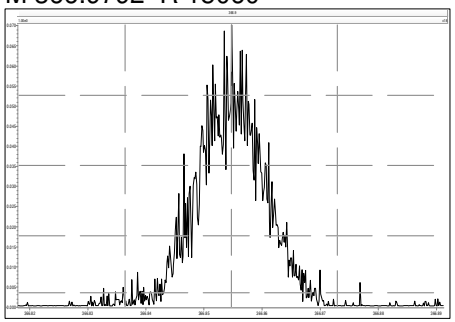
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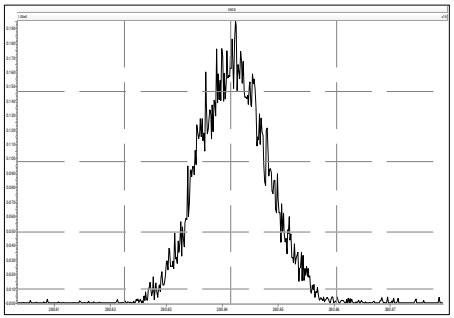
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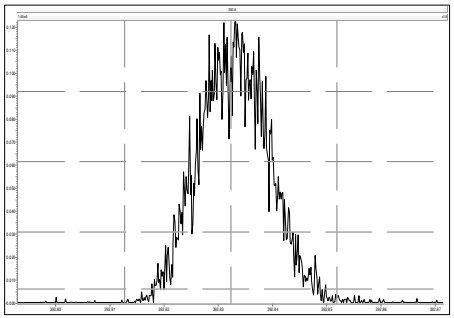
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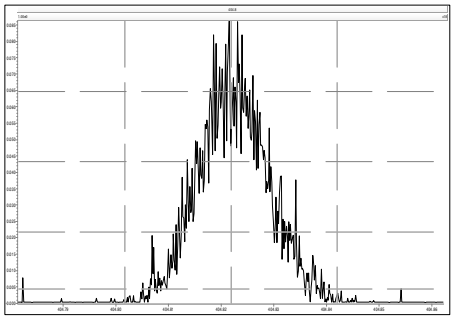
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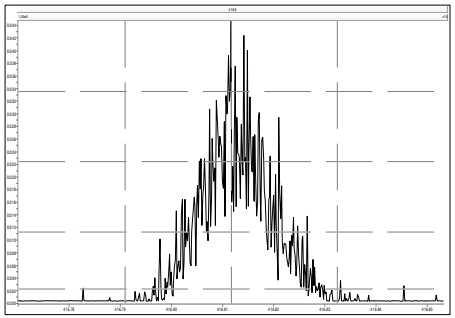
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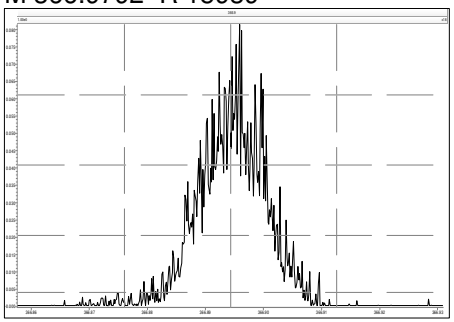
M 404.9760 R 14779



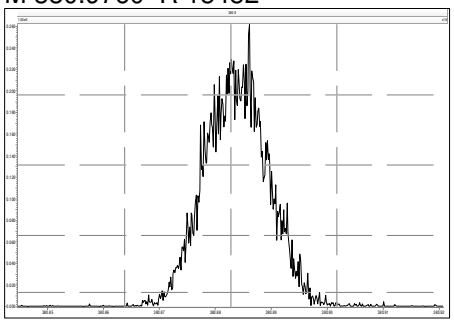
M 416.9760 R 16472



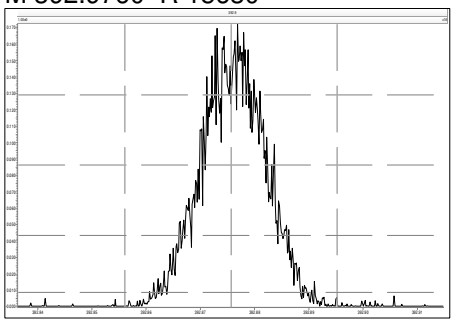
M 366.9792 R 15939



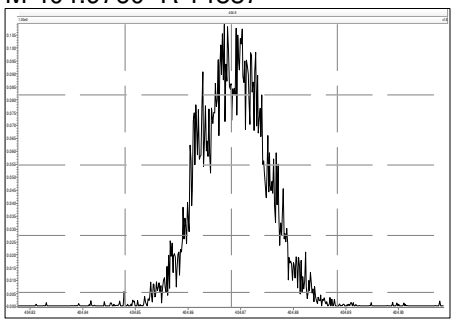
M 380.9760 R 15452



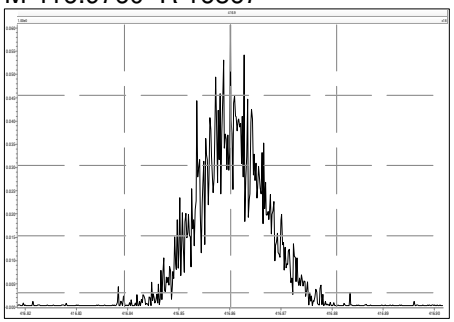
M 392.9760 R 15630



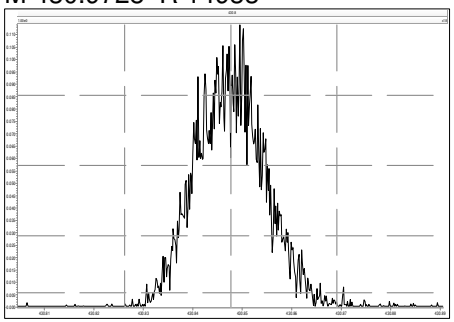
M 404.9760 R 14837



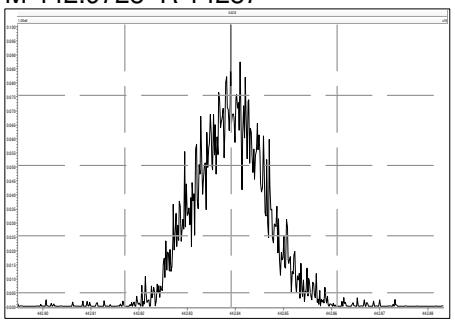
M 416.9760 R 16867



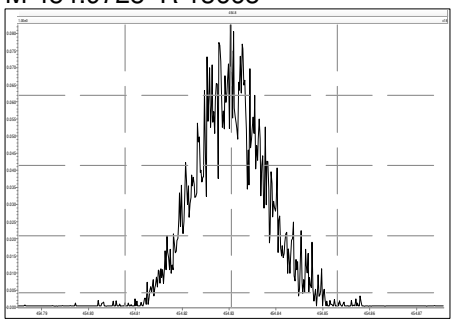
M 430.9728 R 14933



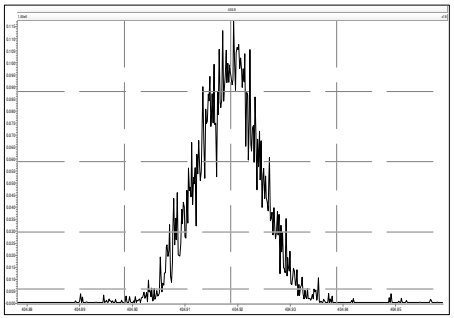
M 442.9728 R 14287



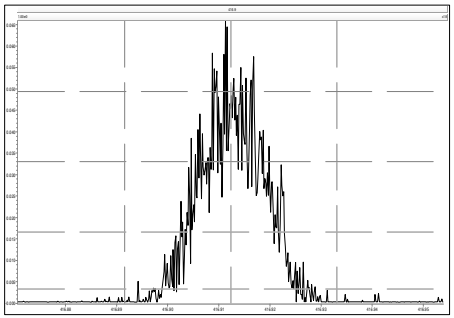
M 454.9728 R 13668



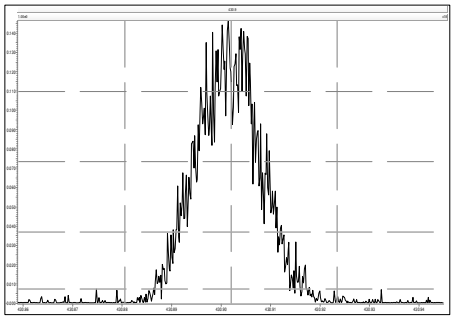
M 404.9760 R 15384



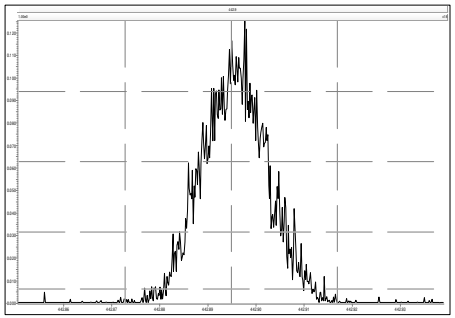
M 416.9760 R 17035



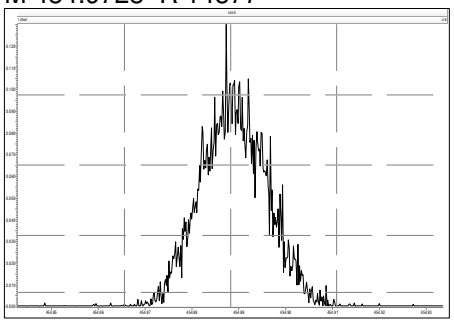
M 430.9728 R 15685



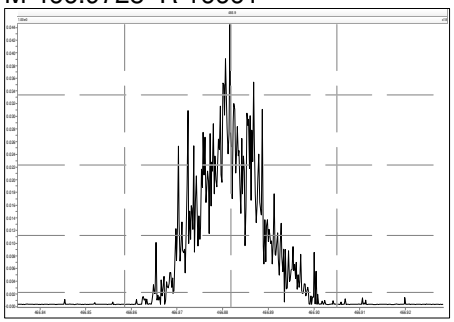
M 442.9728 R 14619



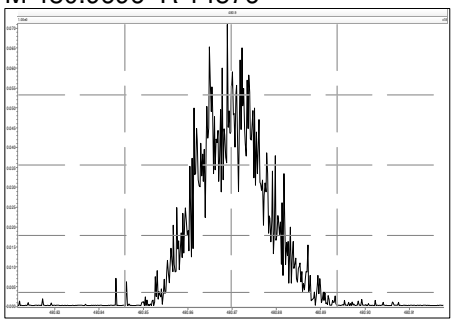
M 454.9728 R 14577



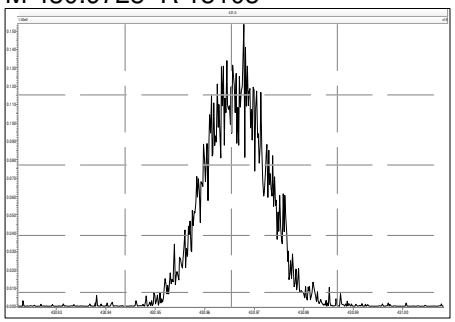
M 466.9728 R 16661



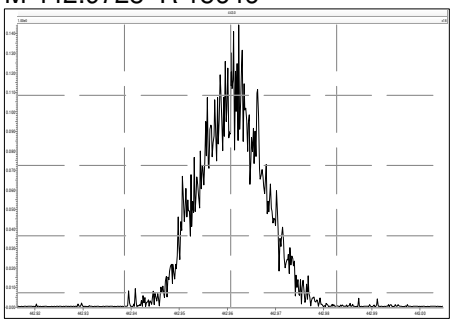
M 480.9696 R 14576



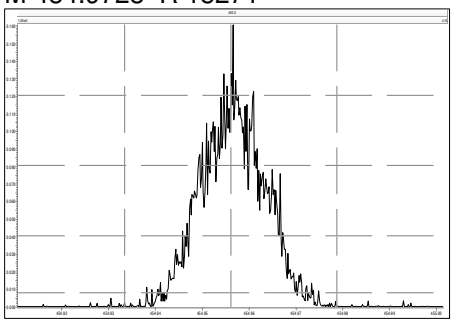
M 430.9728 R 15105



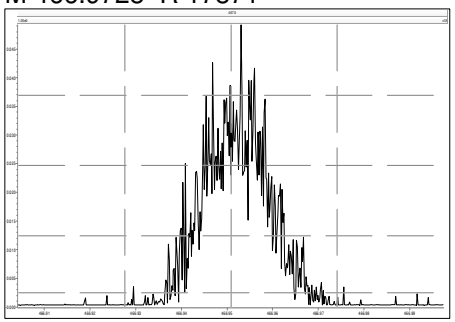
M 442.9728 R 15646



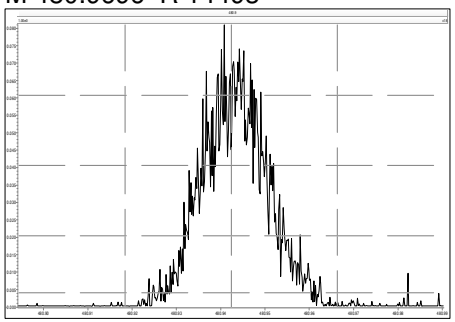
M 454.9728 R 15271



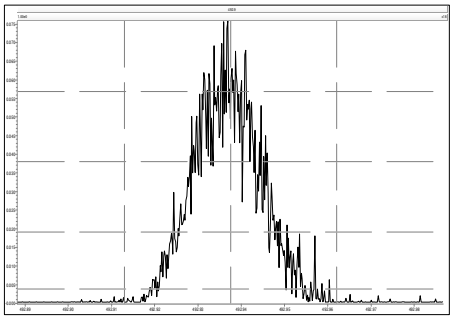
M 466.9728 R 17871



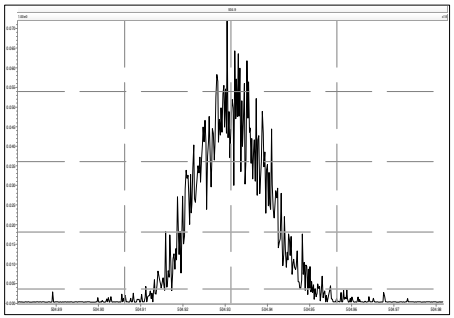
M 480.9696 R 14493



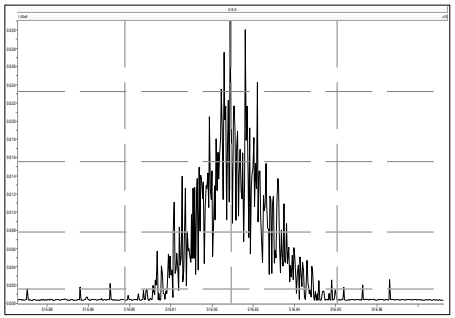
M 492.9696 R 15013



M 504.9696 R 14189



M 516.9697 R 15975



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

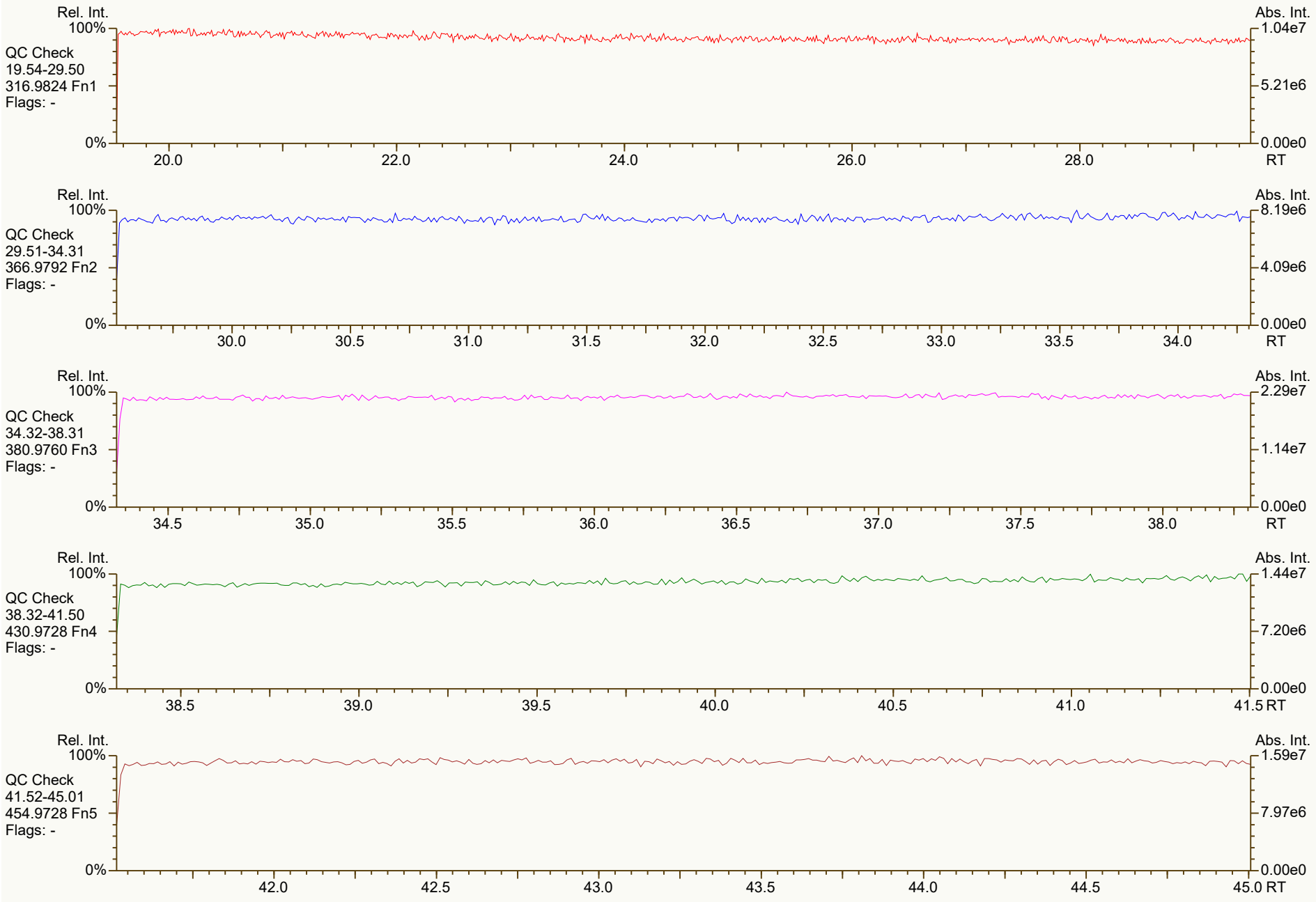
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

SGS ID: CS0_211110_DF_CA | **Sample ID: 25-6-3** | **Acq: 10-Nov-2021 11:02:13**

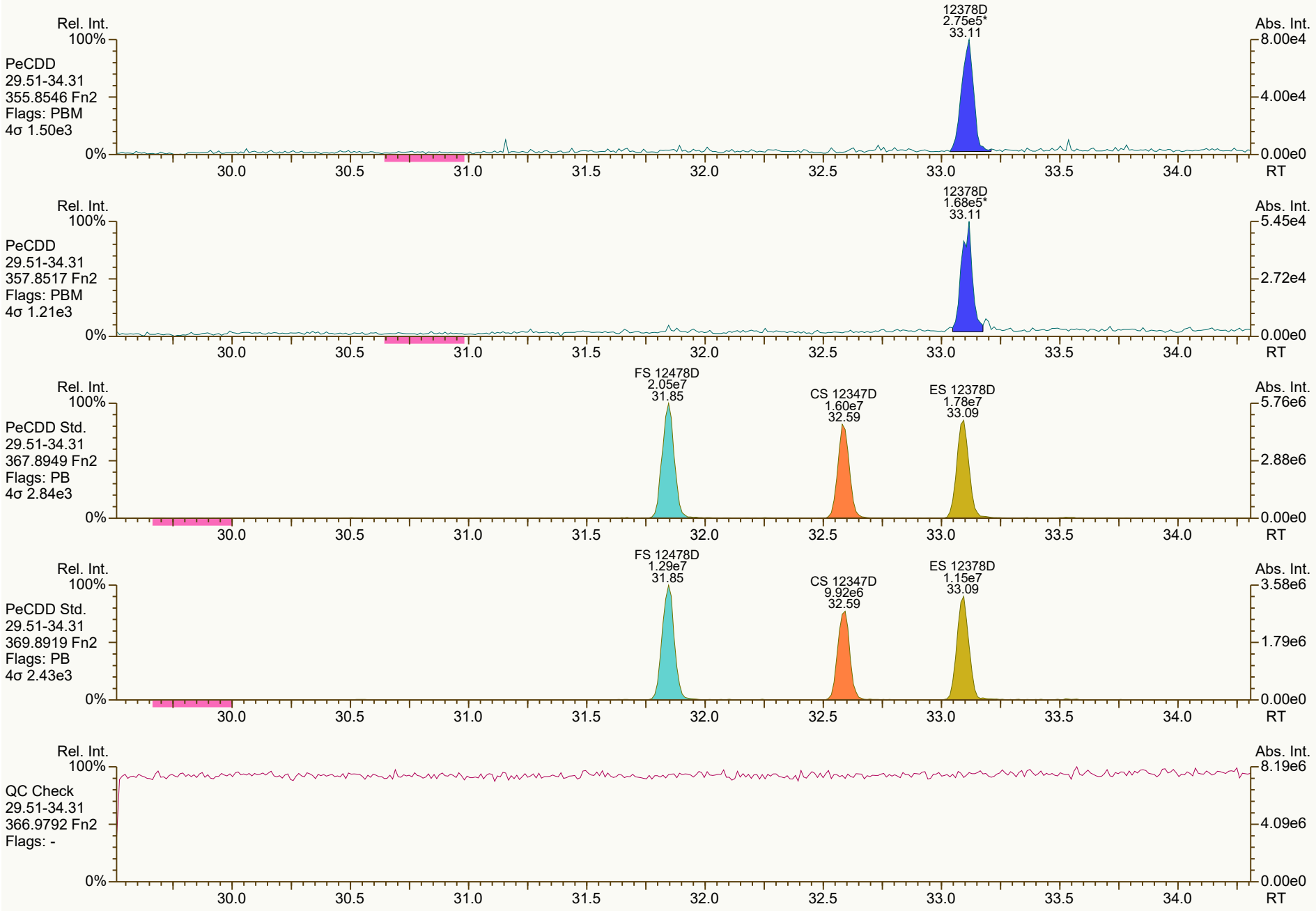
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65** | **User: DTF Datafile: 211110C04**

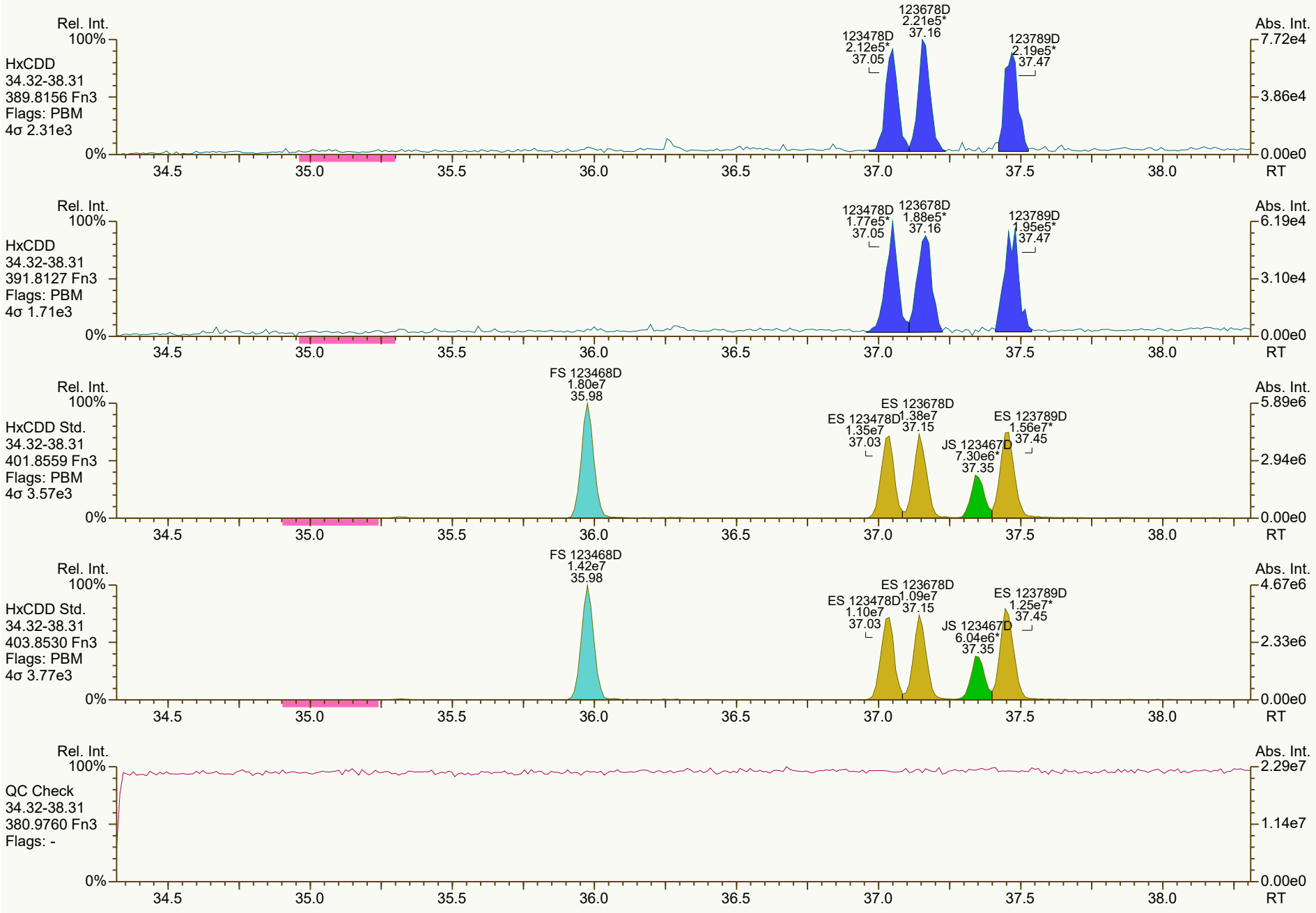


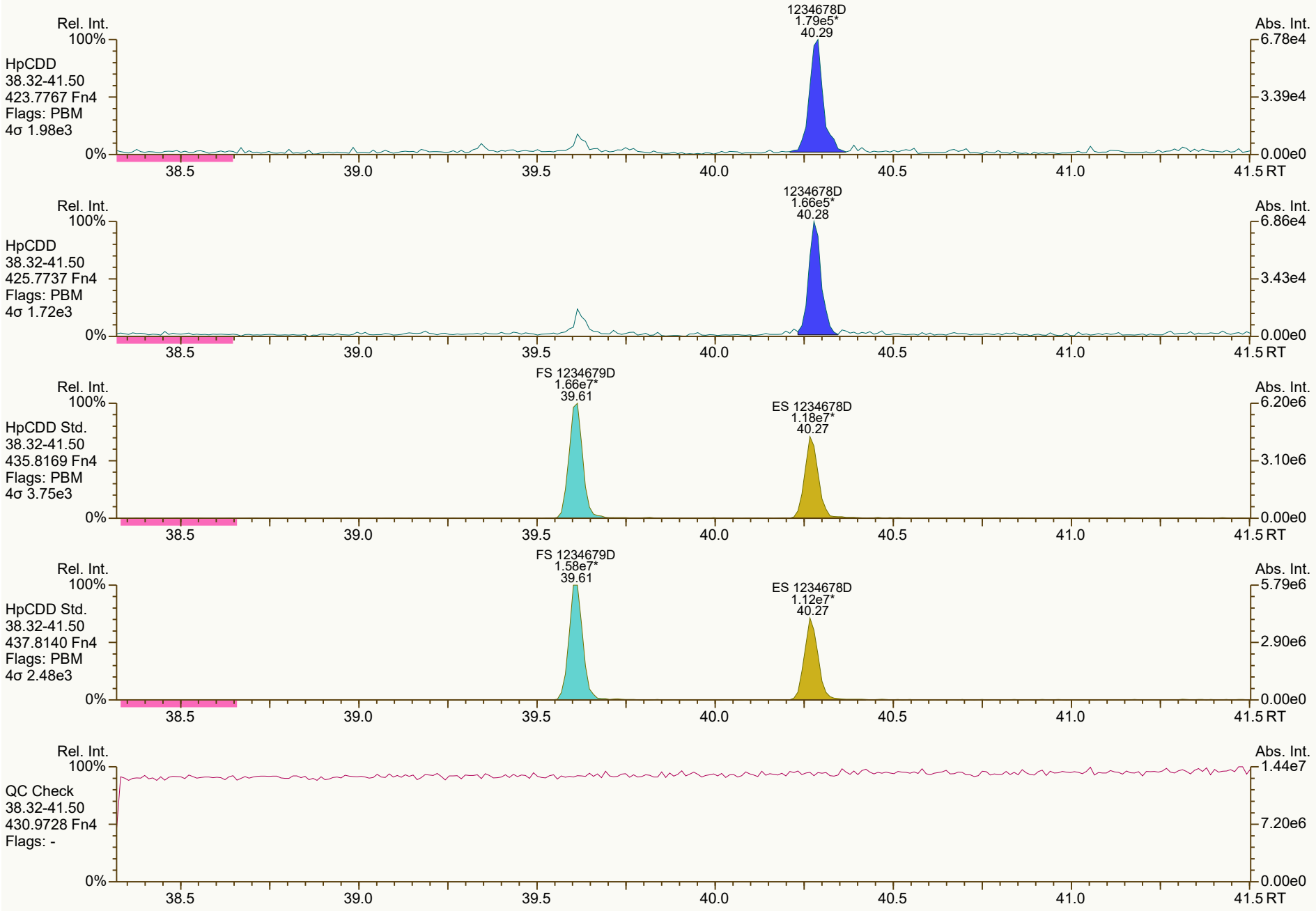
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF) *Peak annotation: Areas, Centroids*

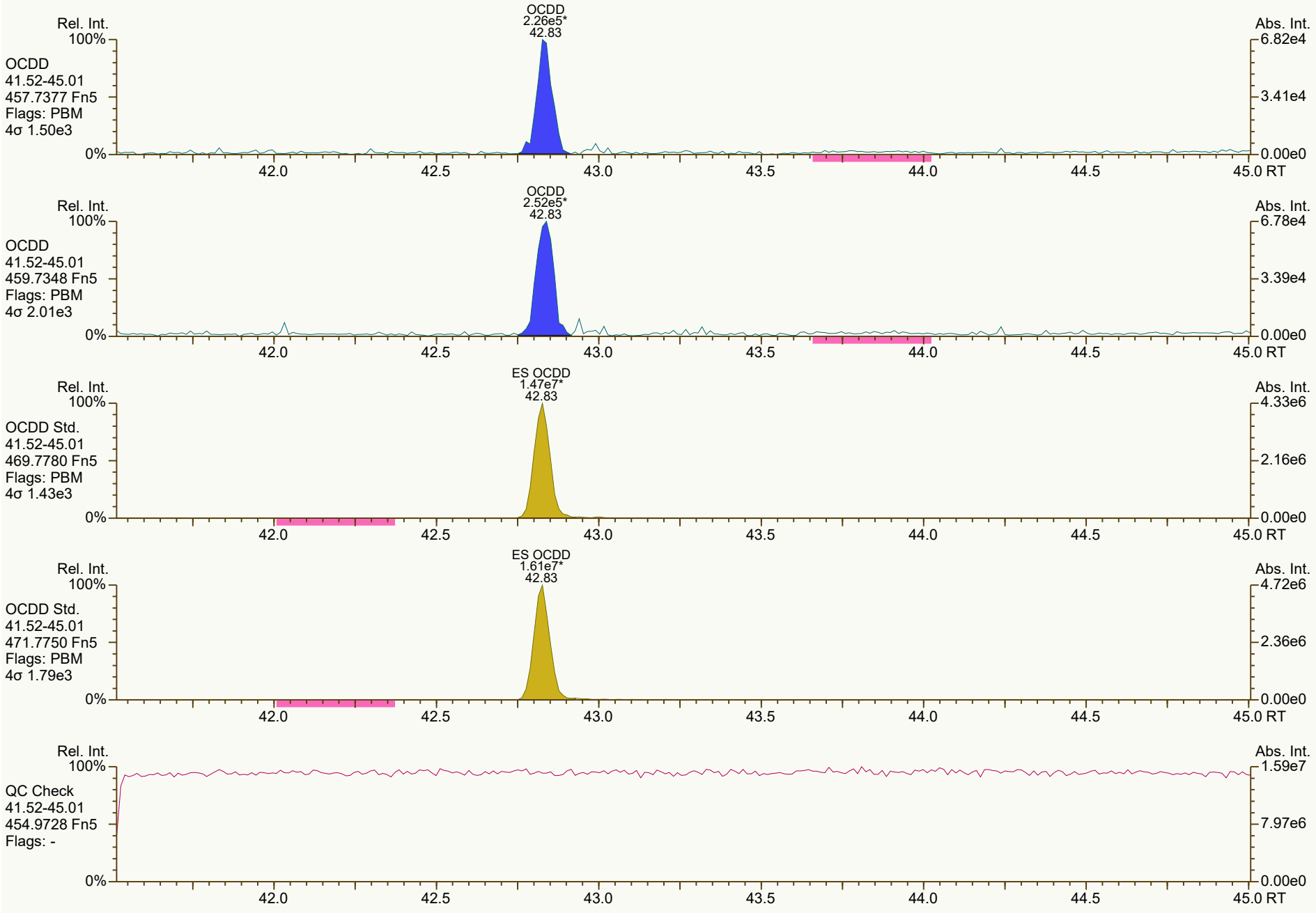
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 245-007 *PKD: n/a Printed: 11-Nov-2021 16:32 Page 1 of 12*

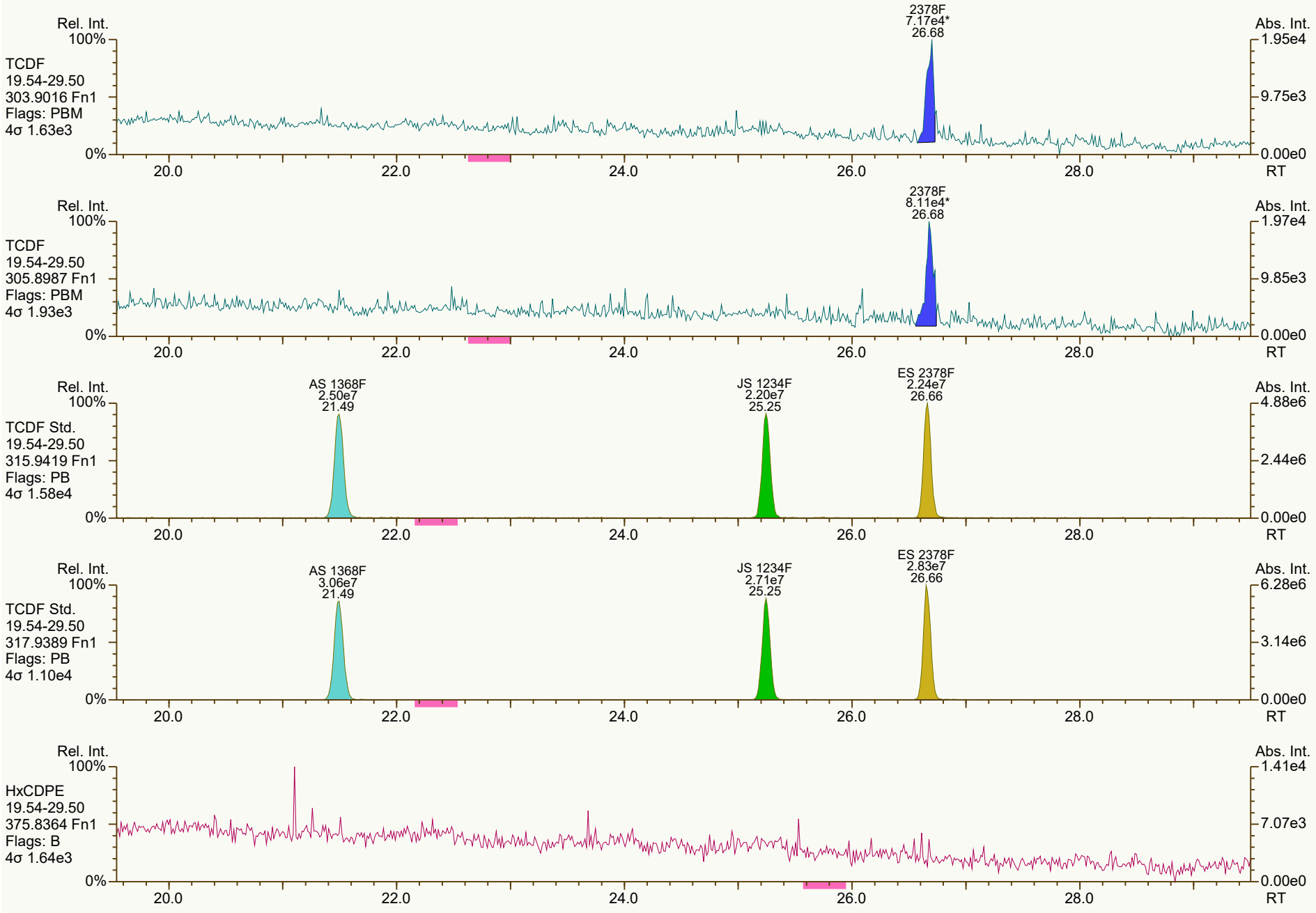

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

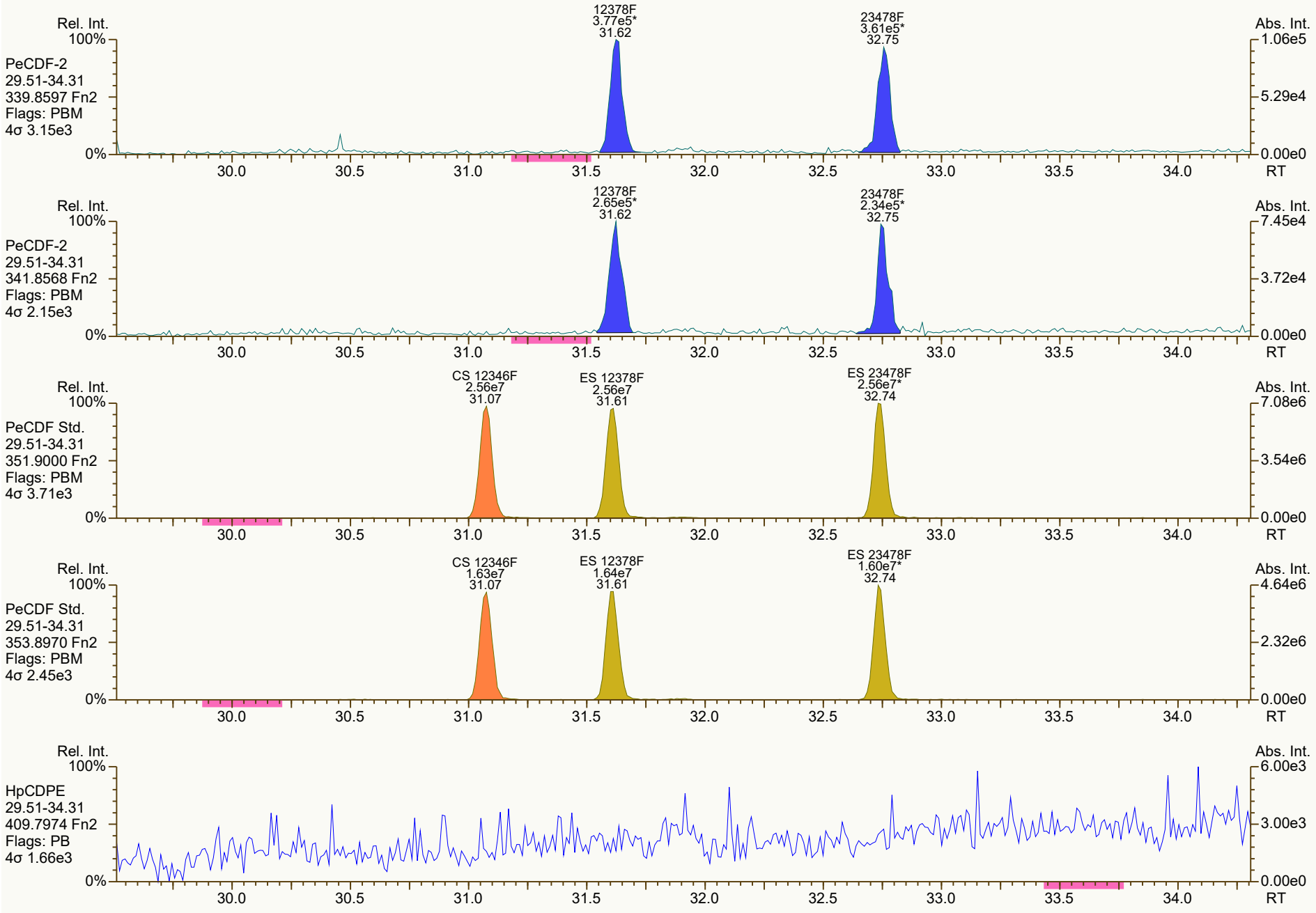

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

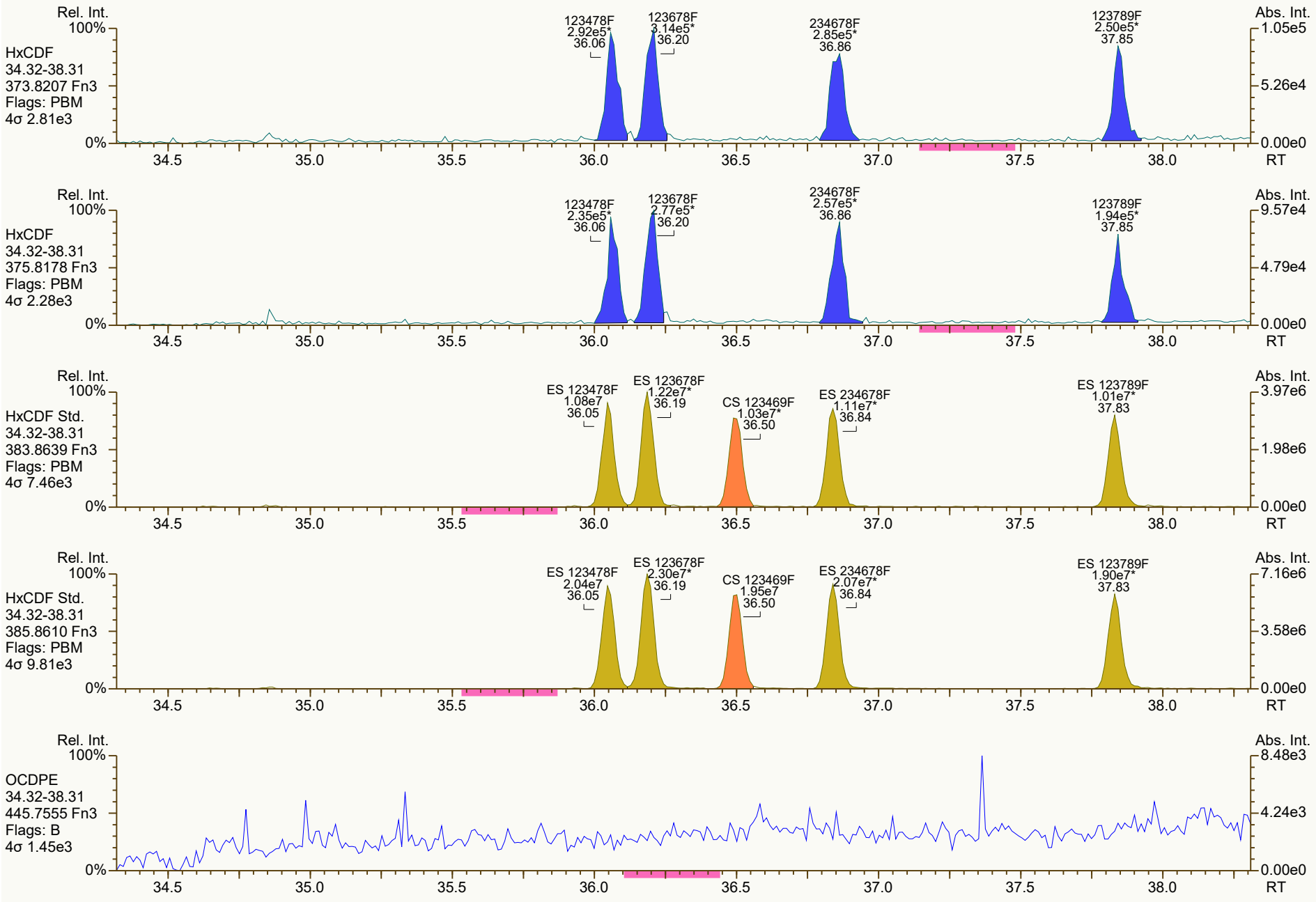

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

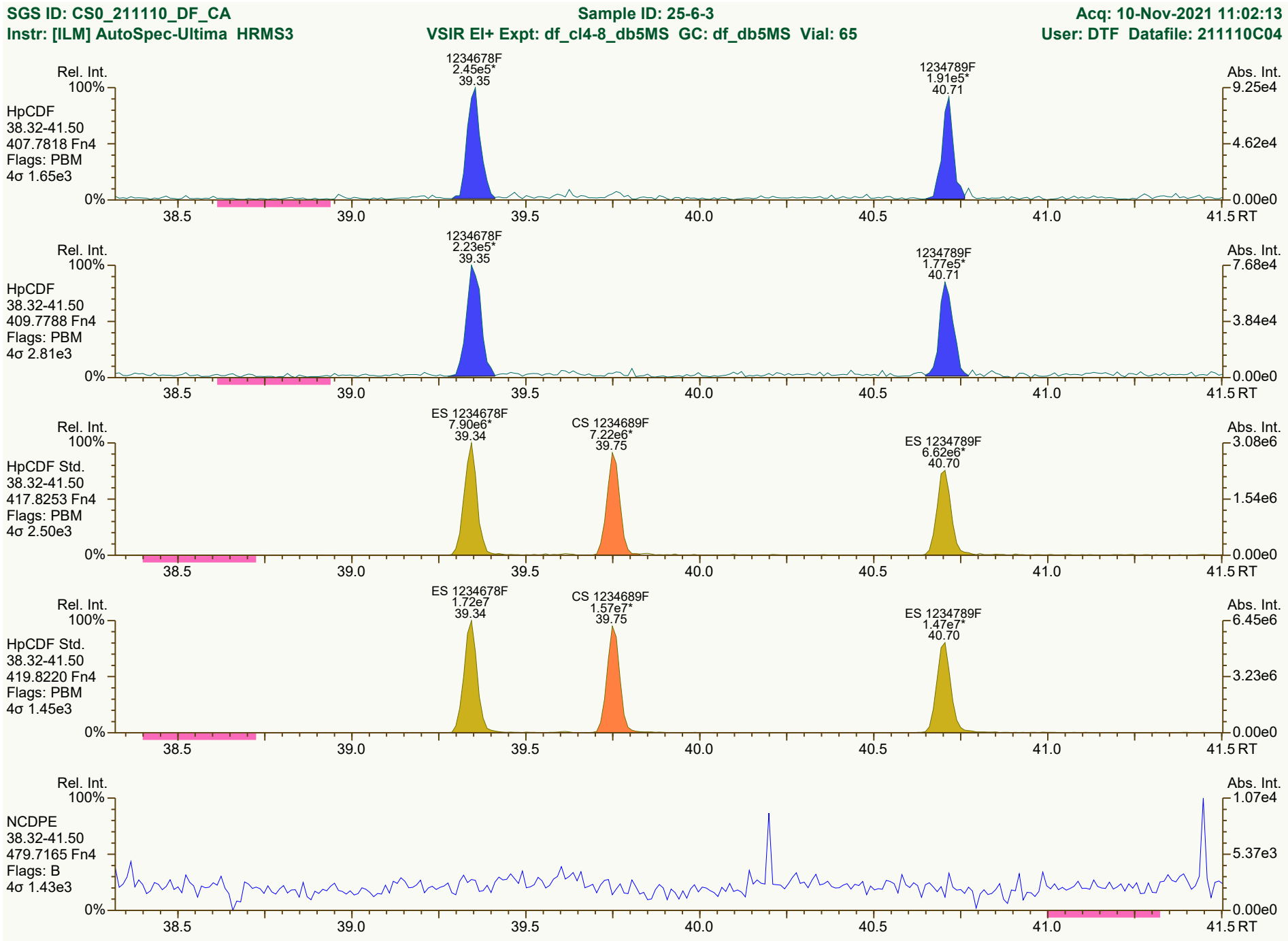

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

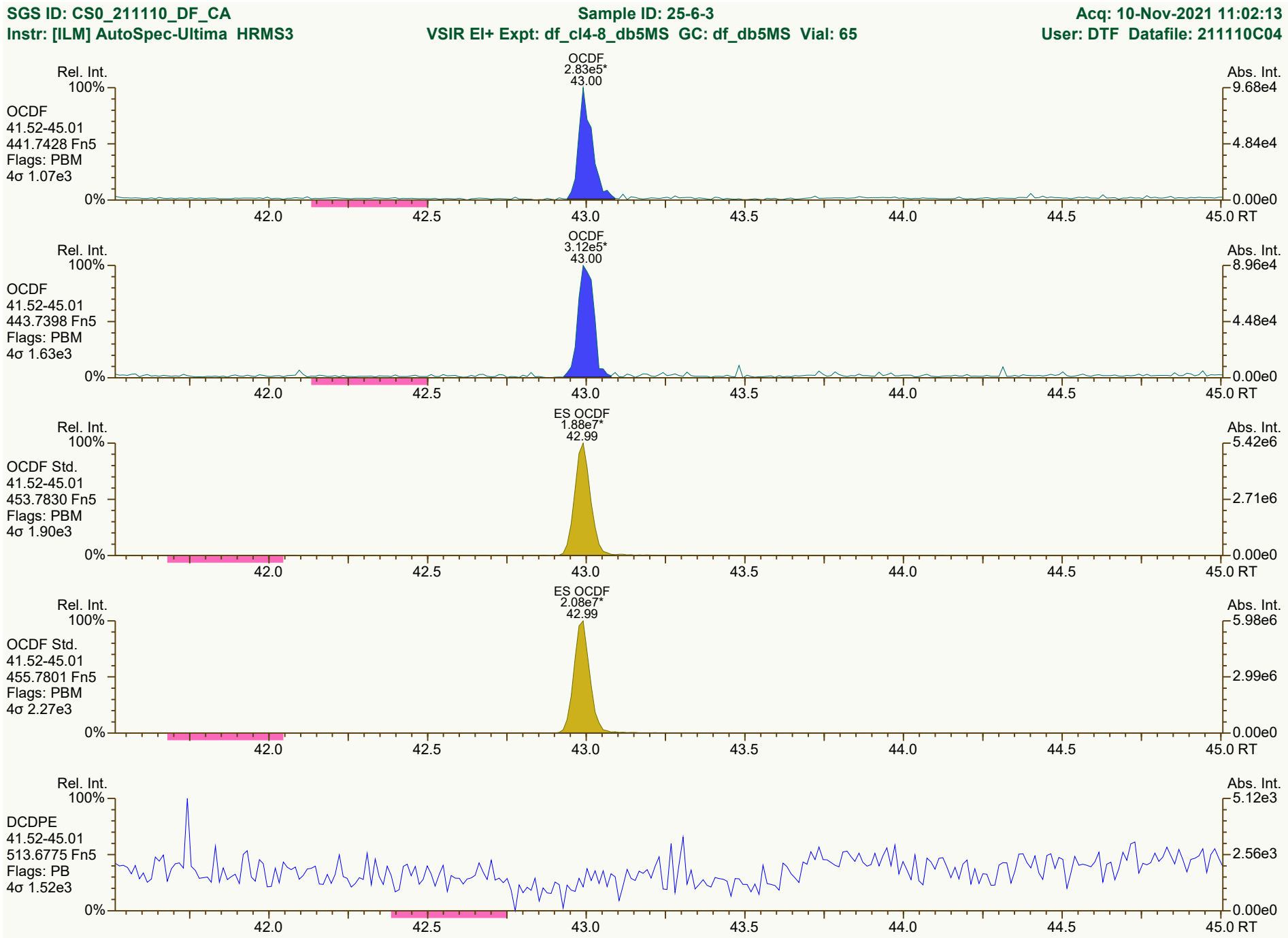

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

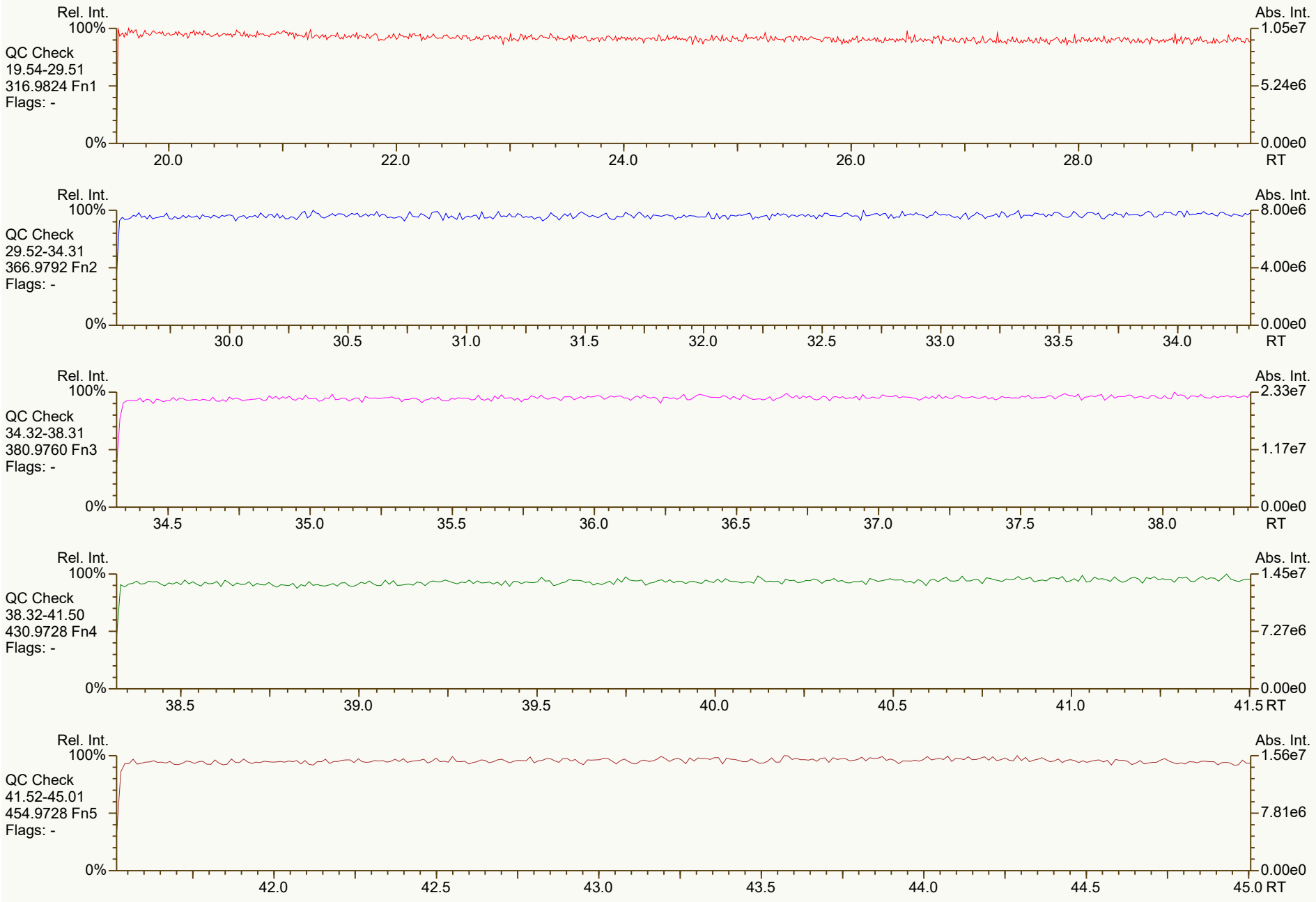

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
OCDF
2.83e5*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
9.68e4
4.84e4
0.00e0
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
8.96e4
4.48e4
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
5.42e6
2.71e6
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
5.98e6
2.99e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
5.12e3
2.56e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

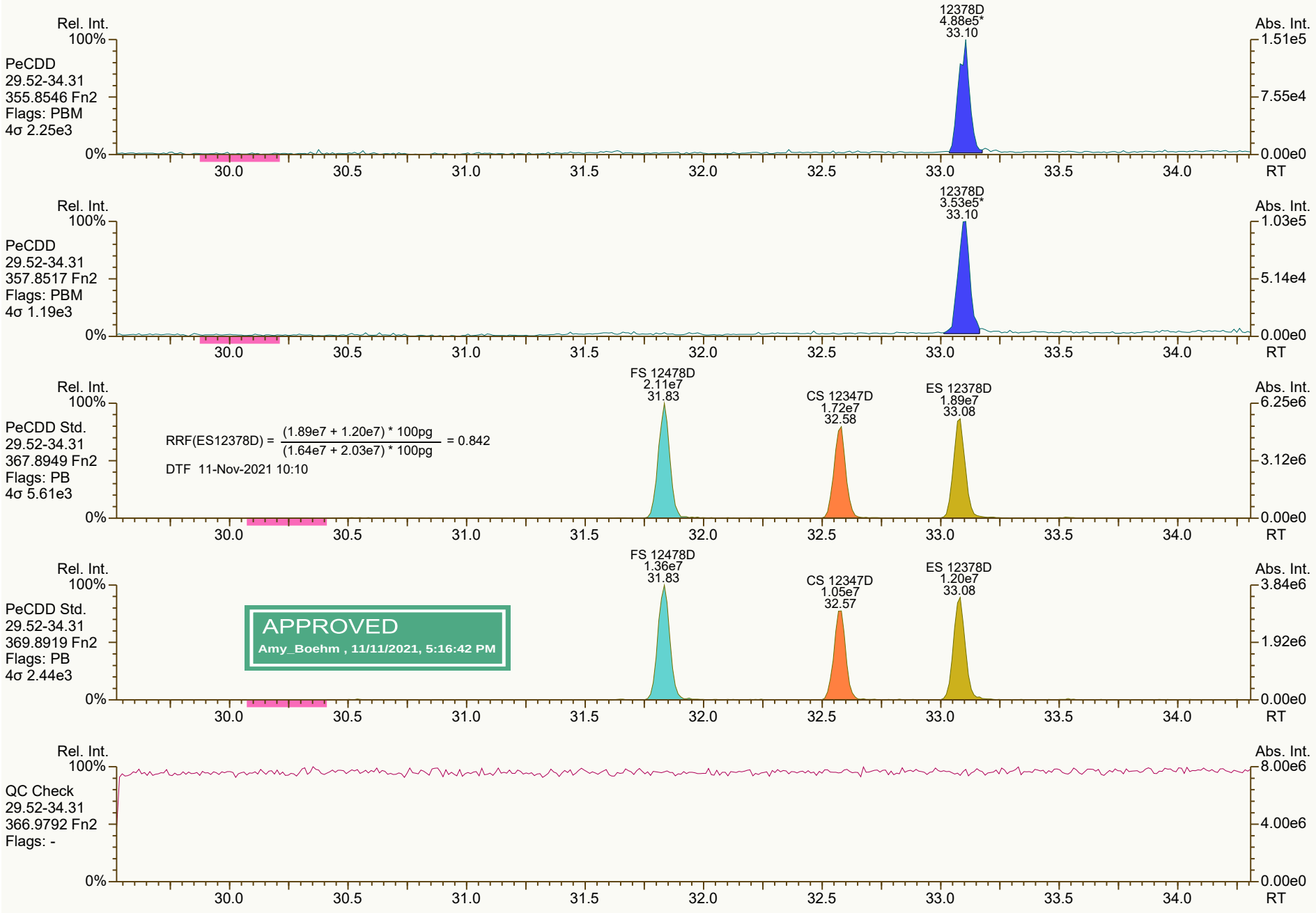
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

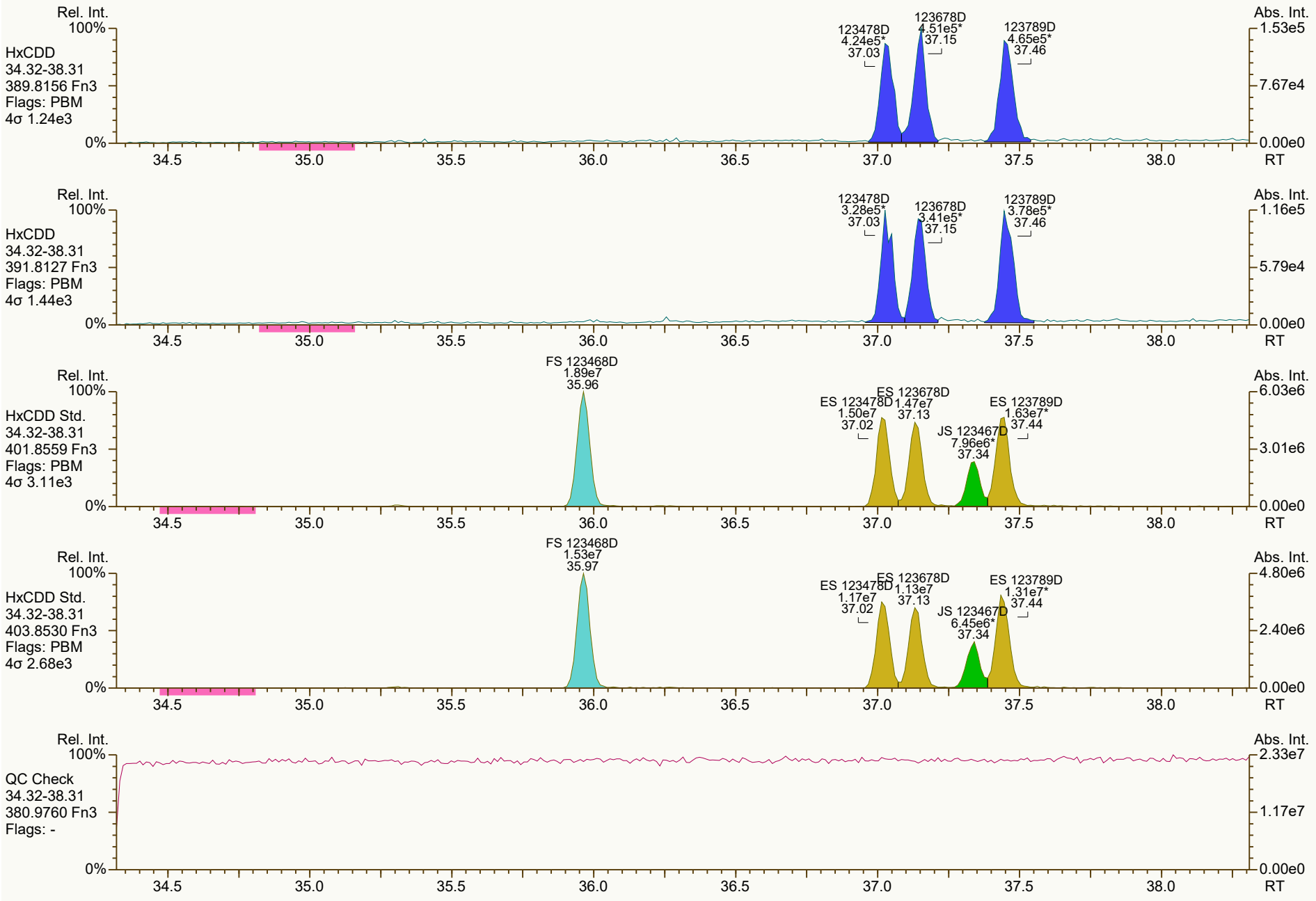
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

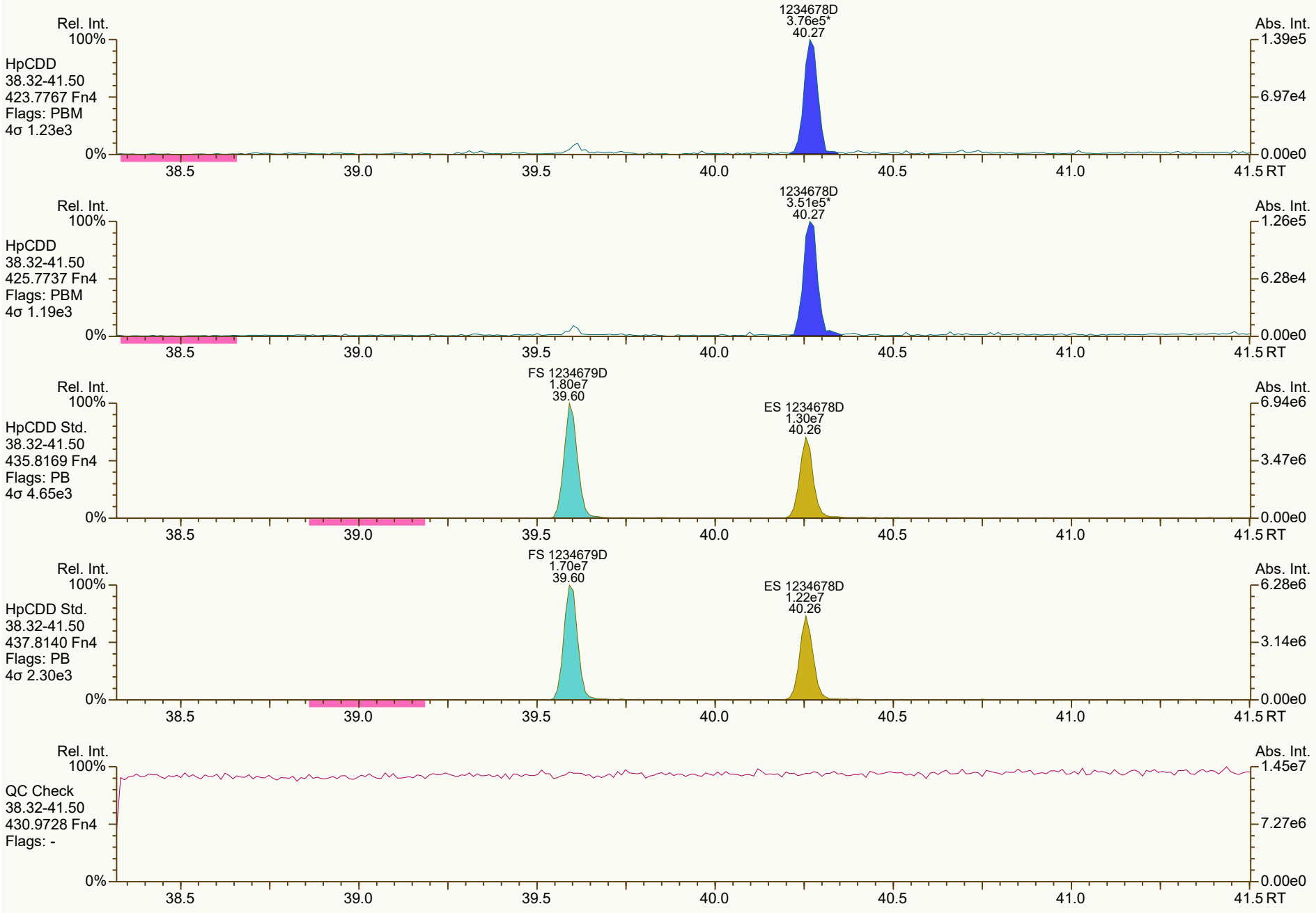
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

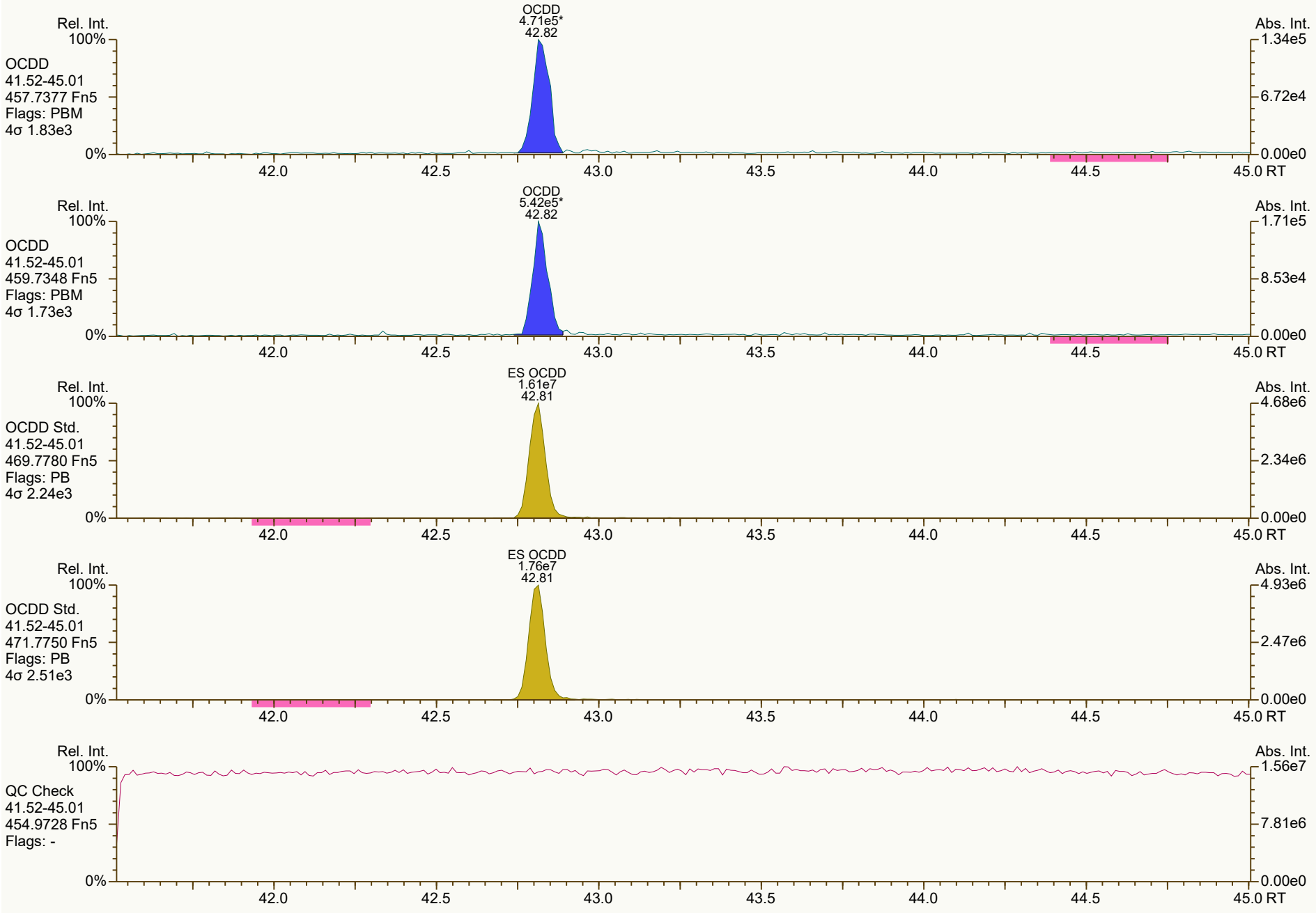

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

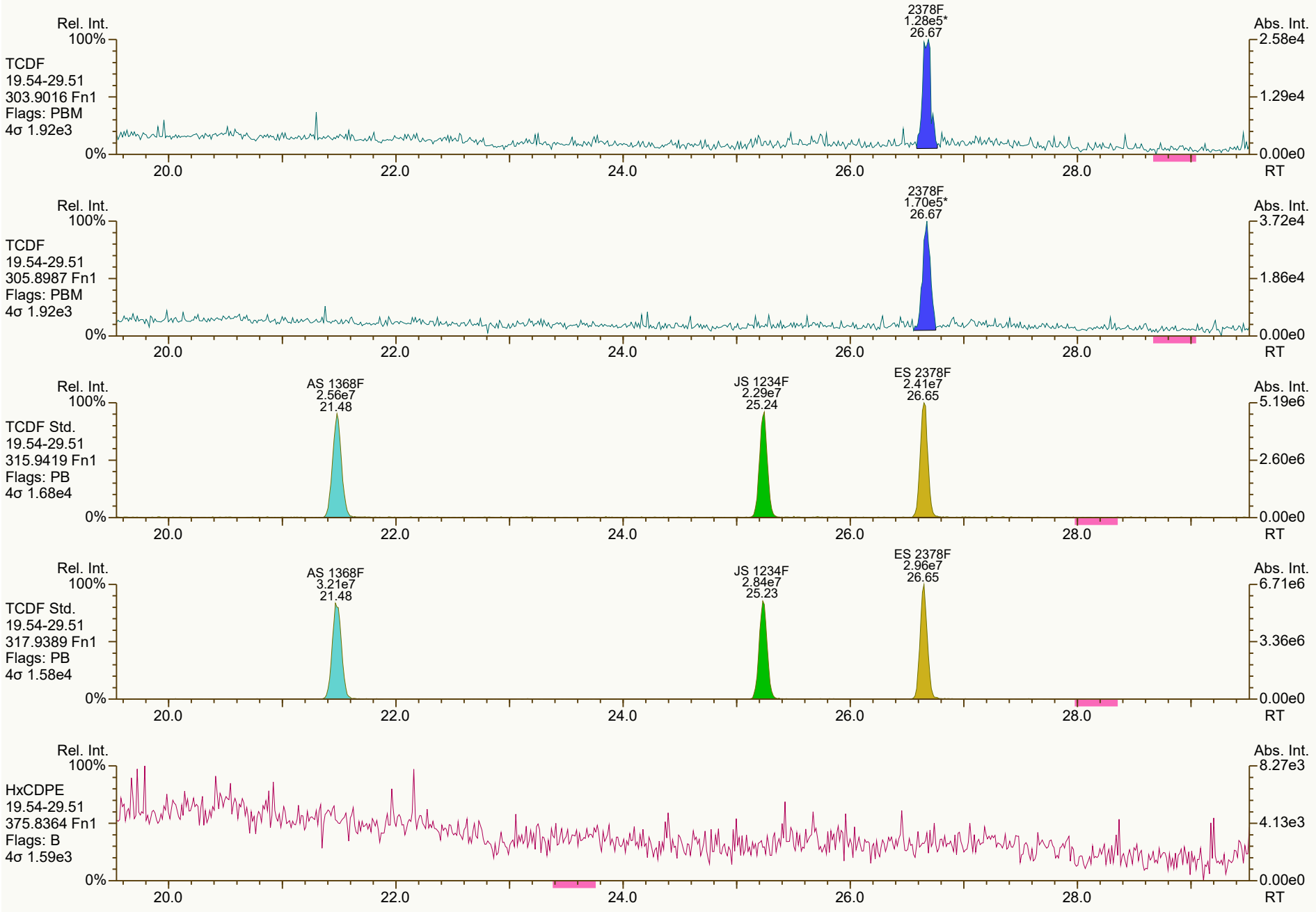

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
2.99e4
1.49e4
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
5.18e4
2.59e4
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
4.92e6
2.46e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
6.21e6
3.10e6

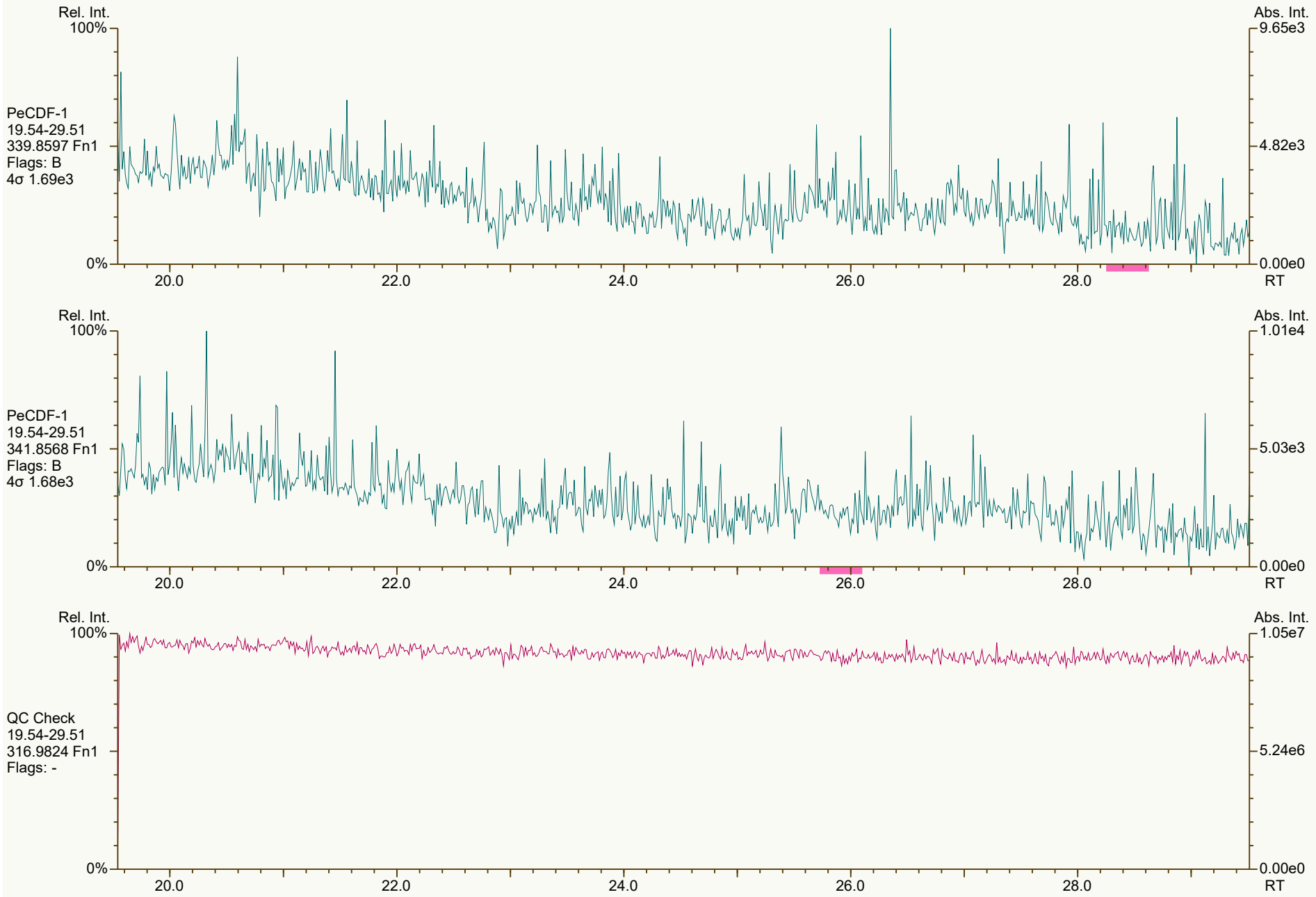

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

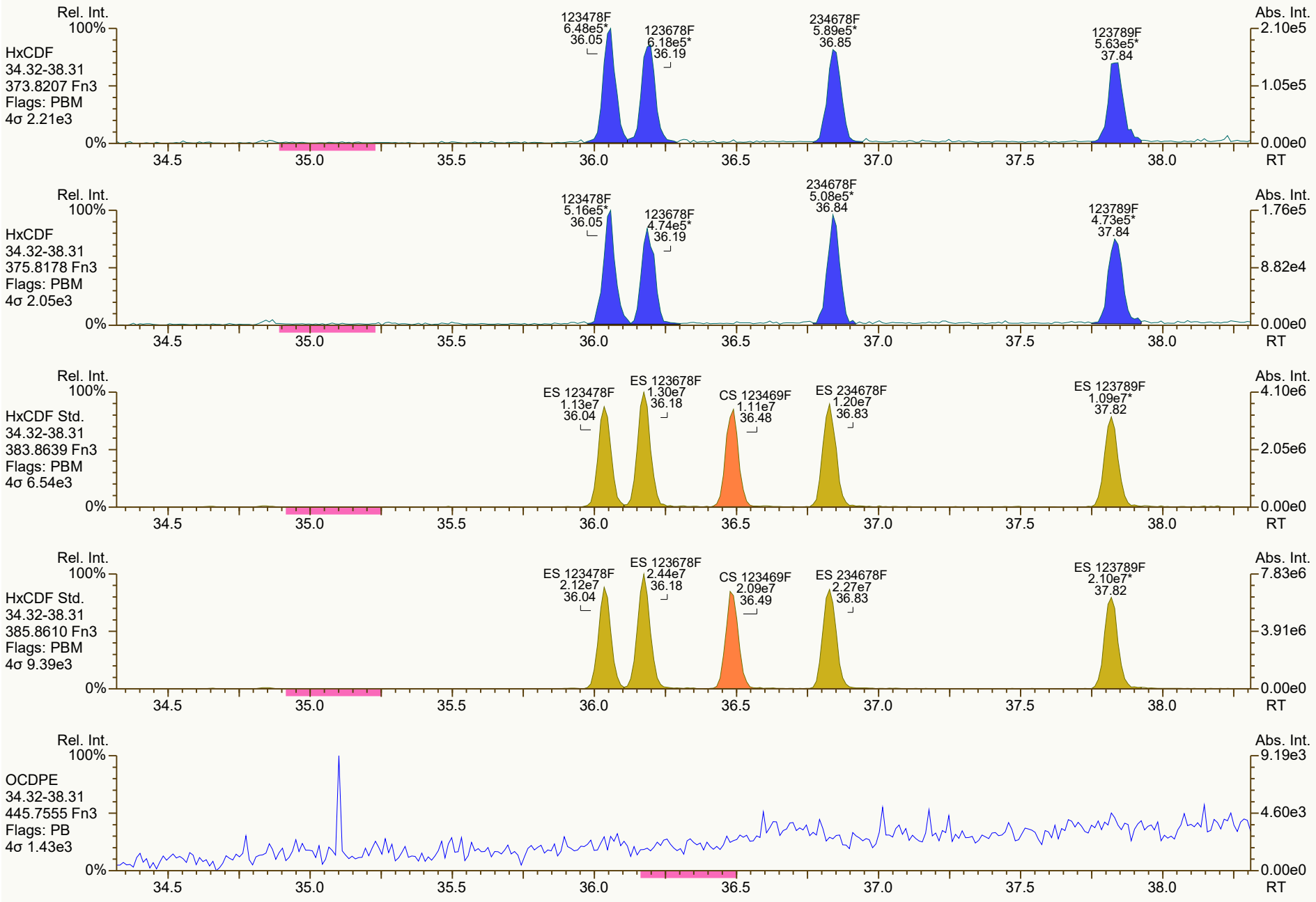

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

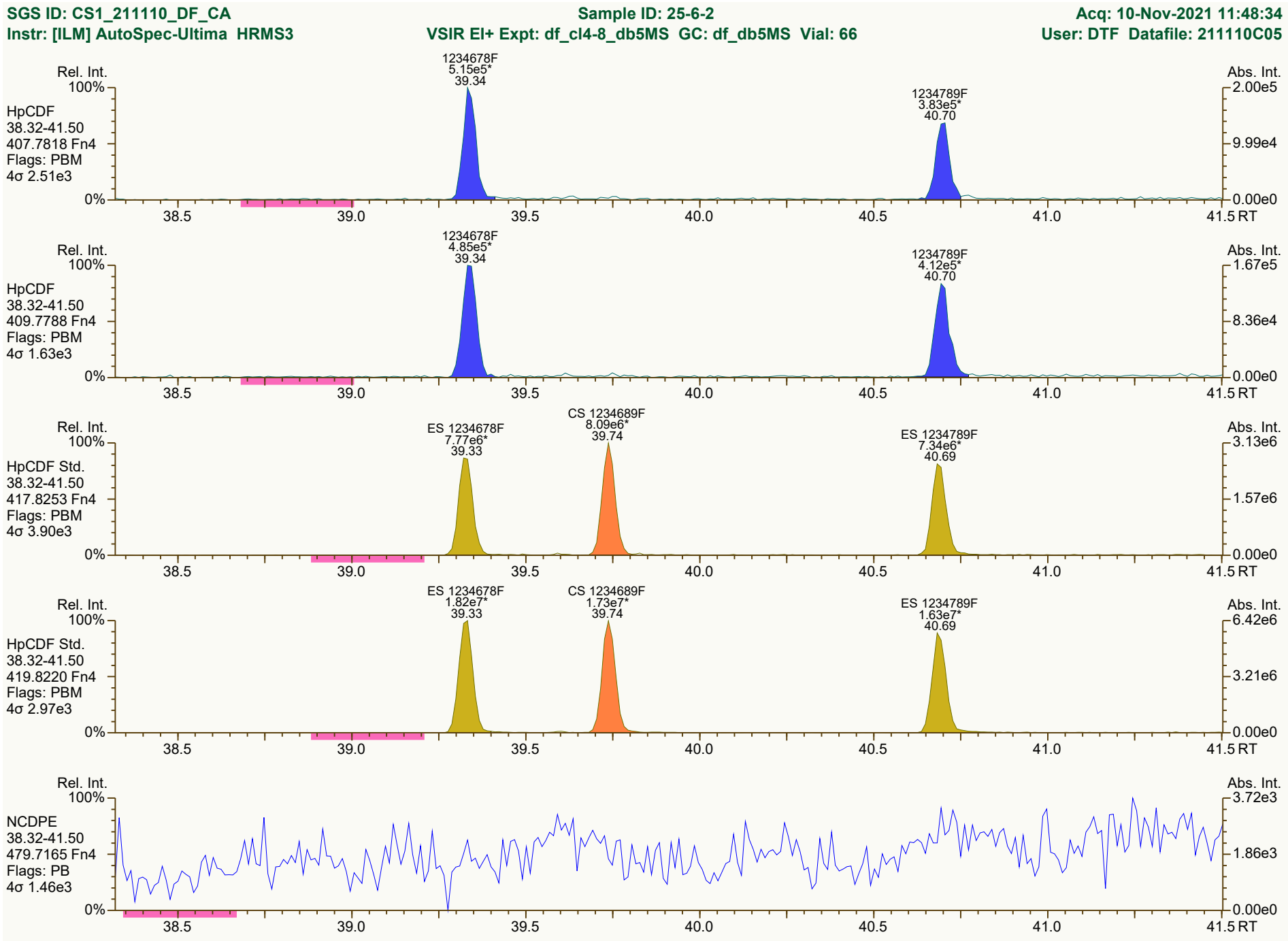

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

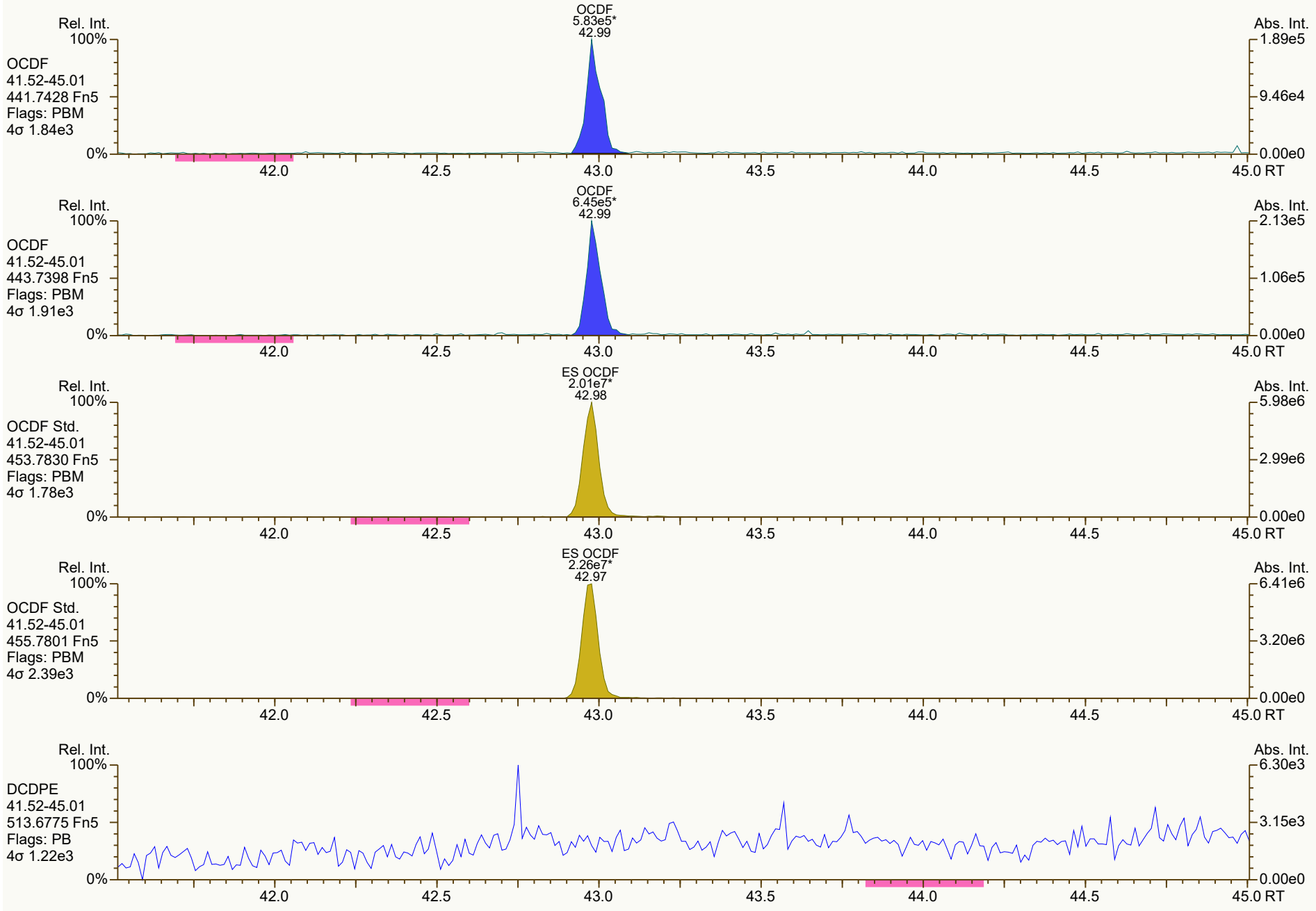

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

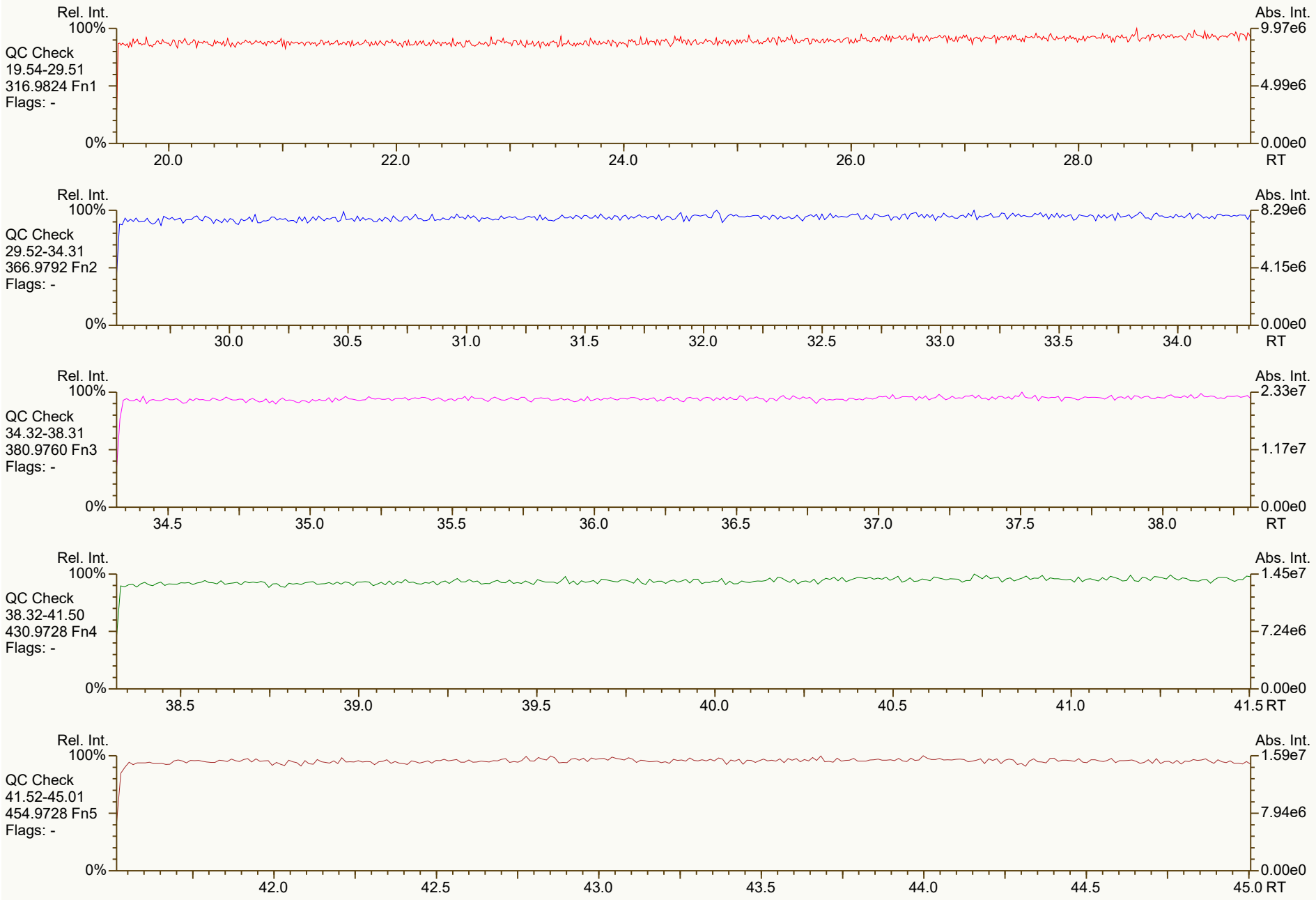

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

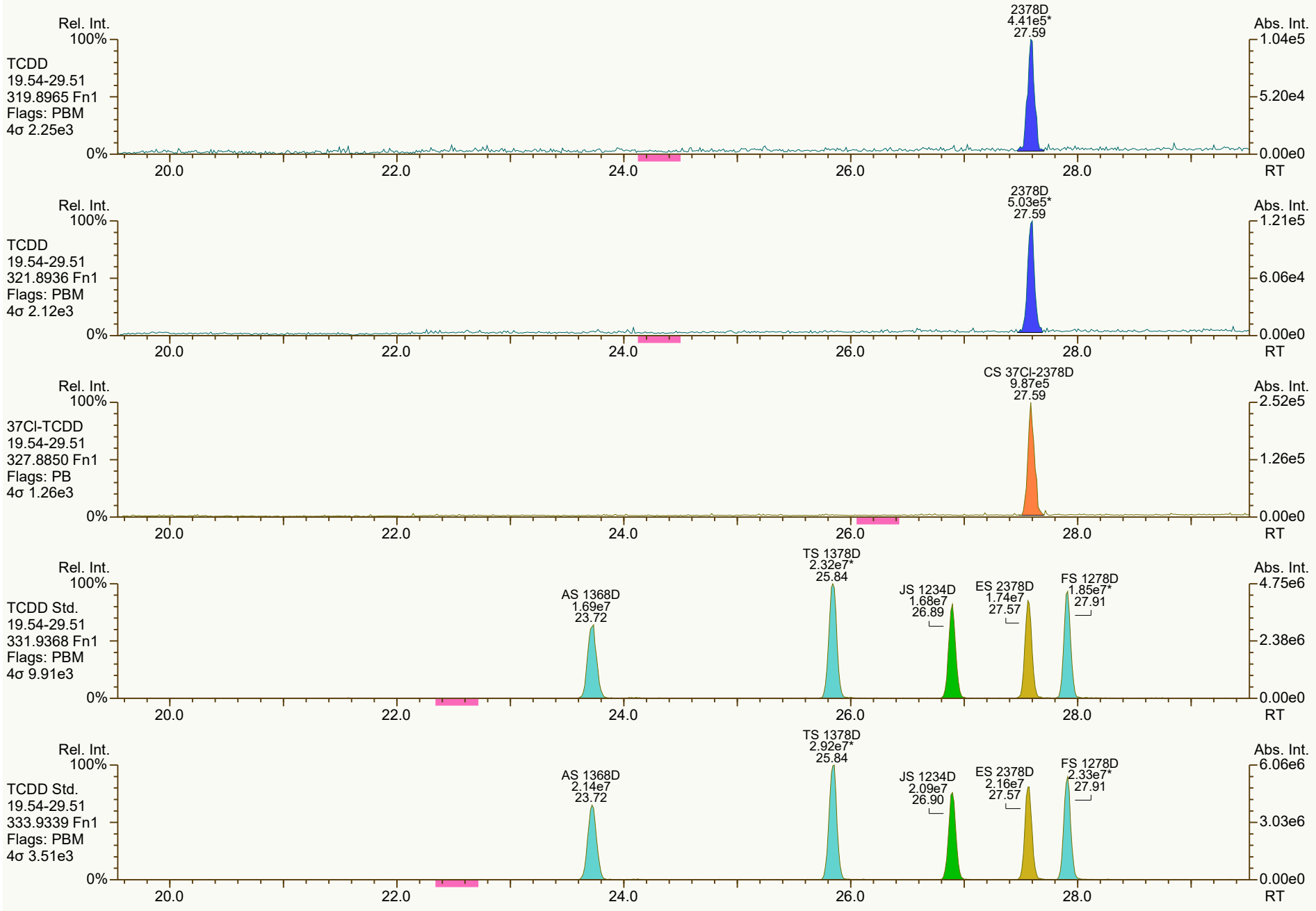
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

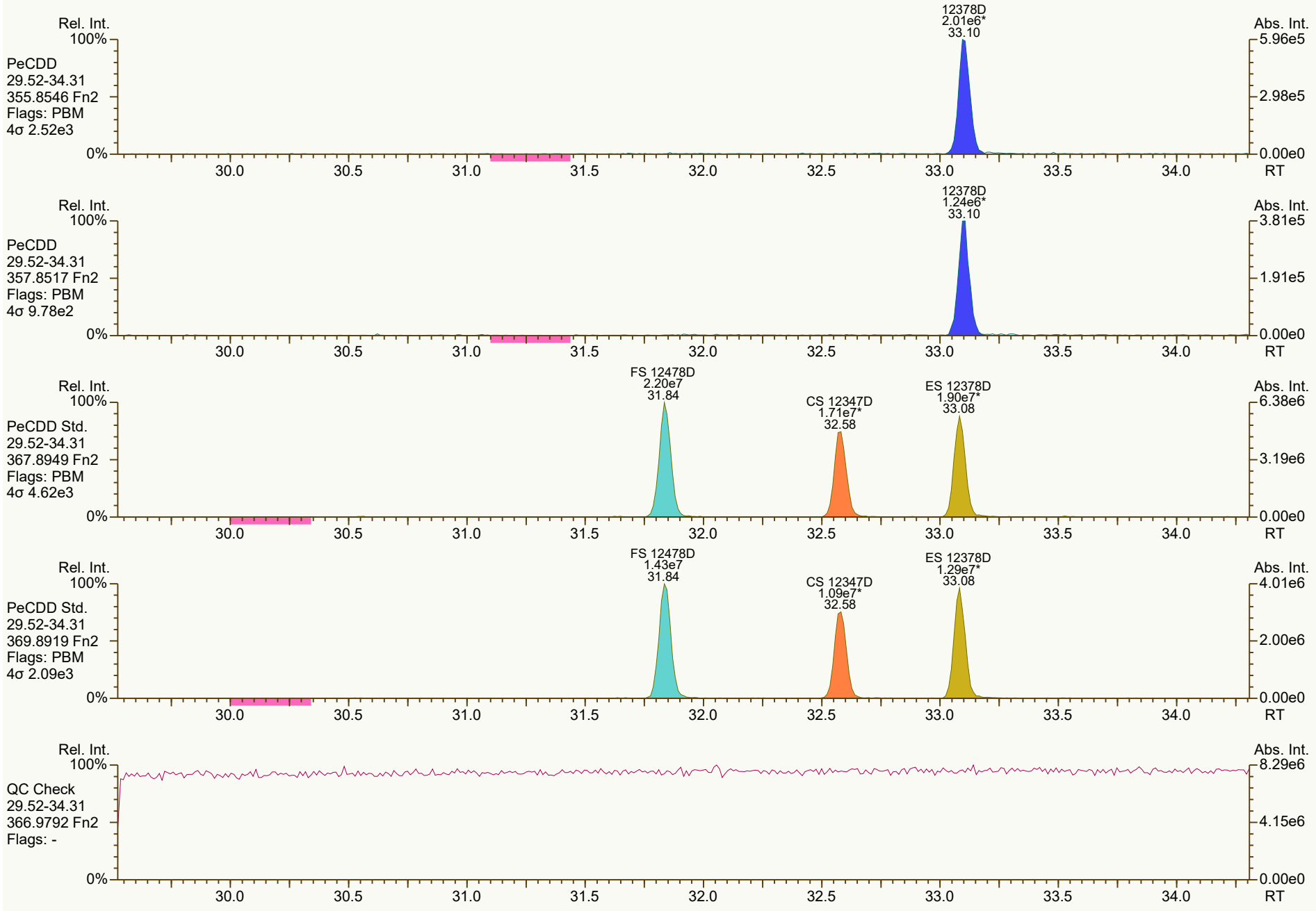
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

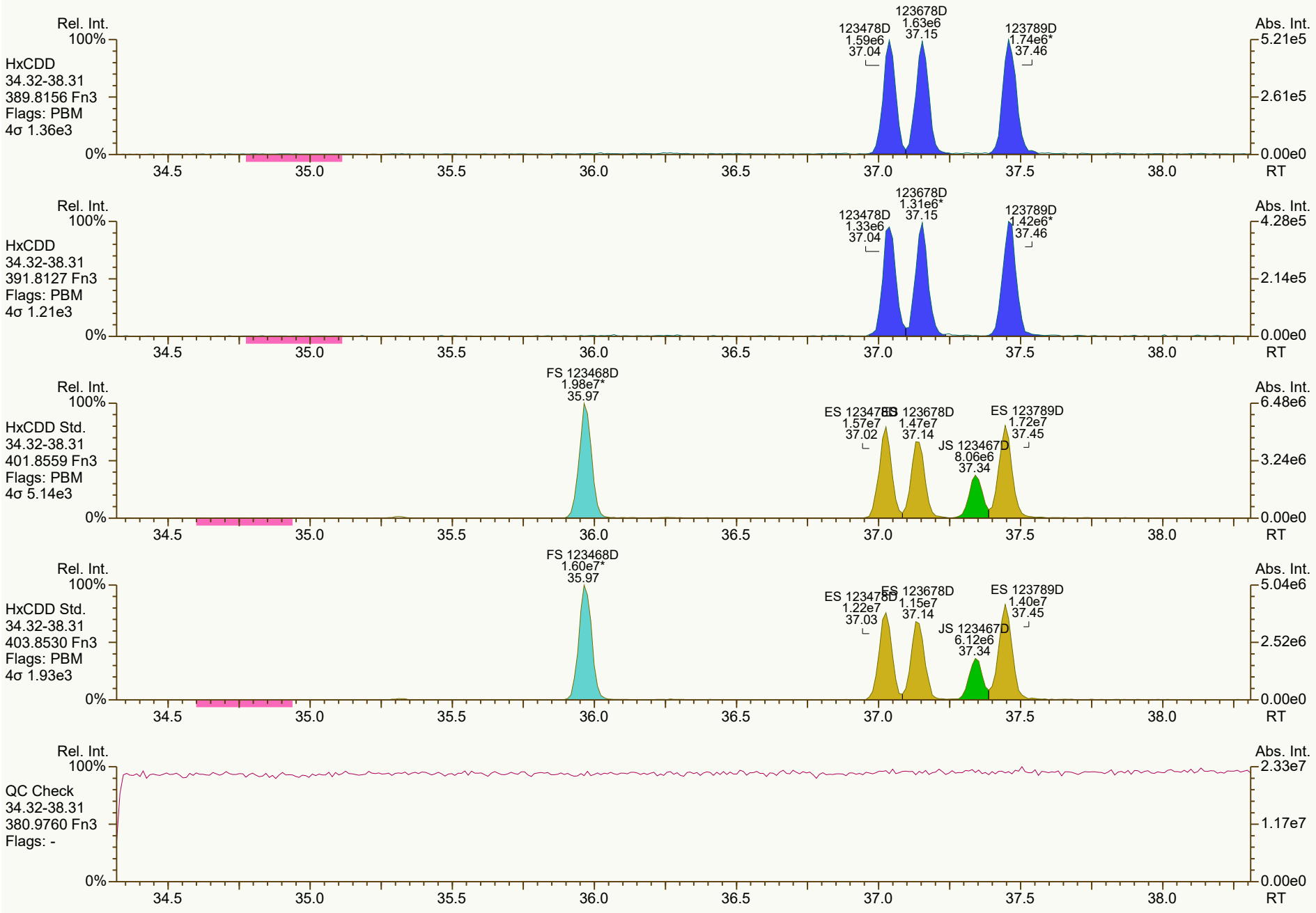
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

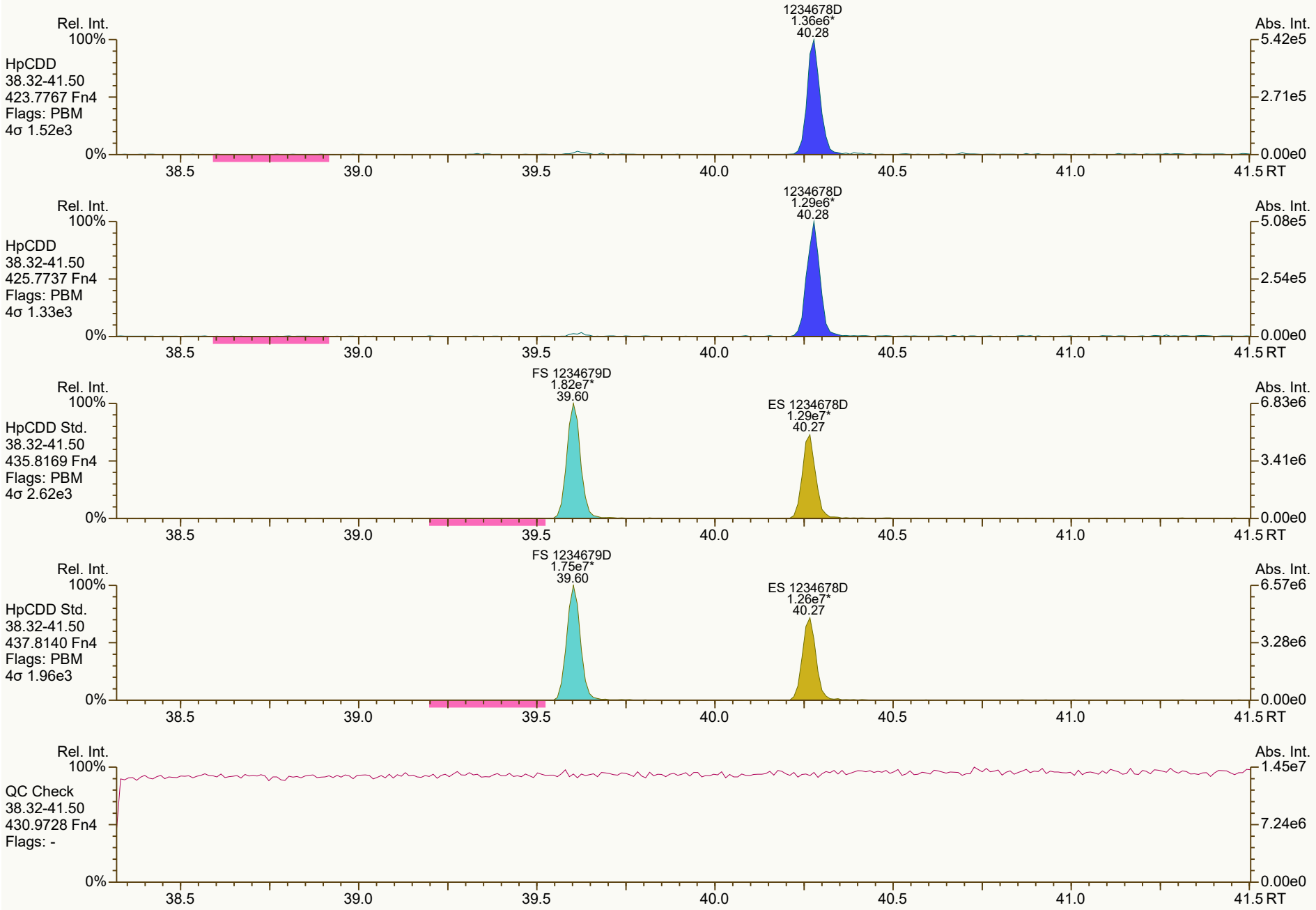
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

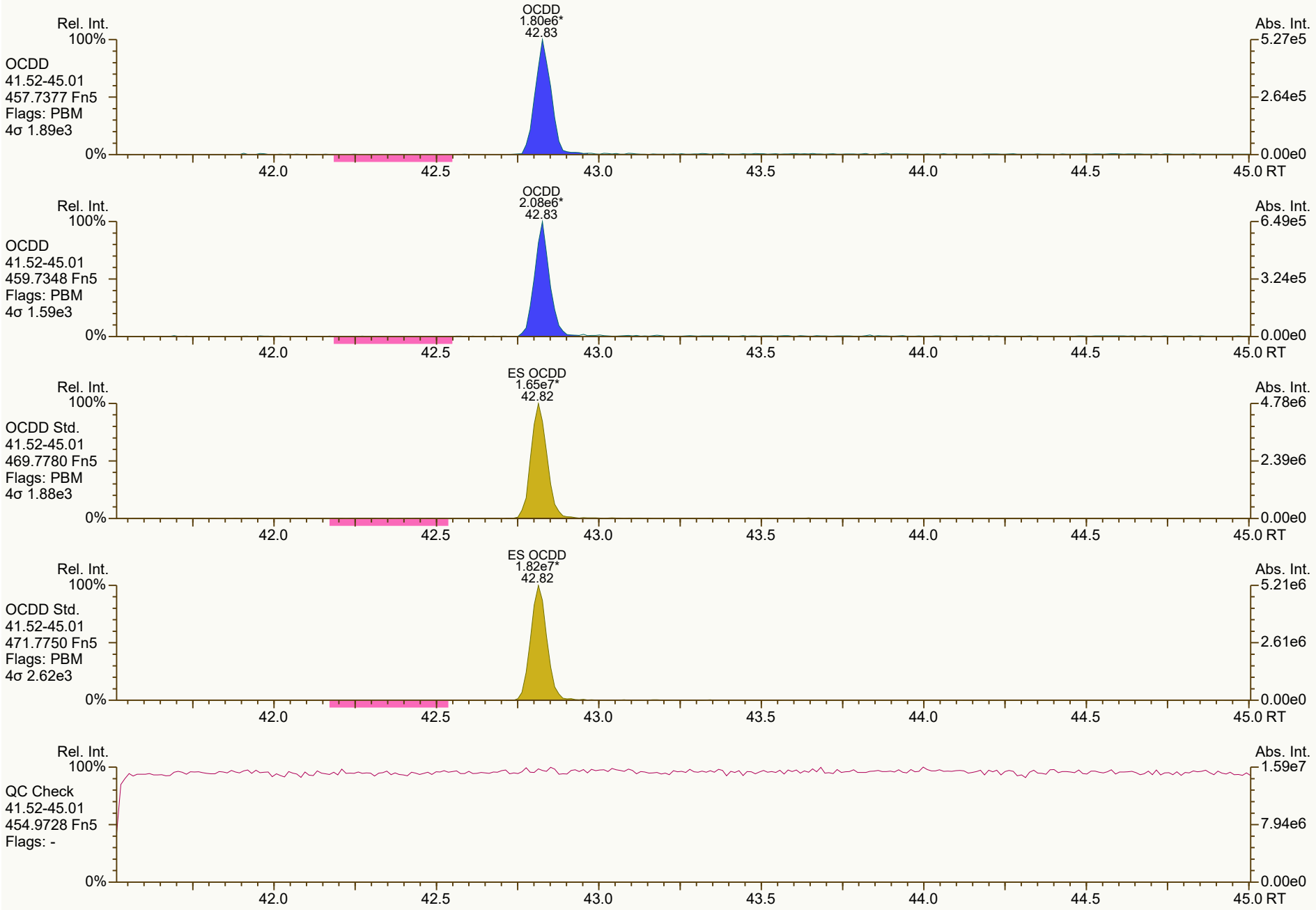

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

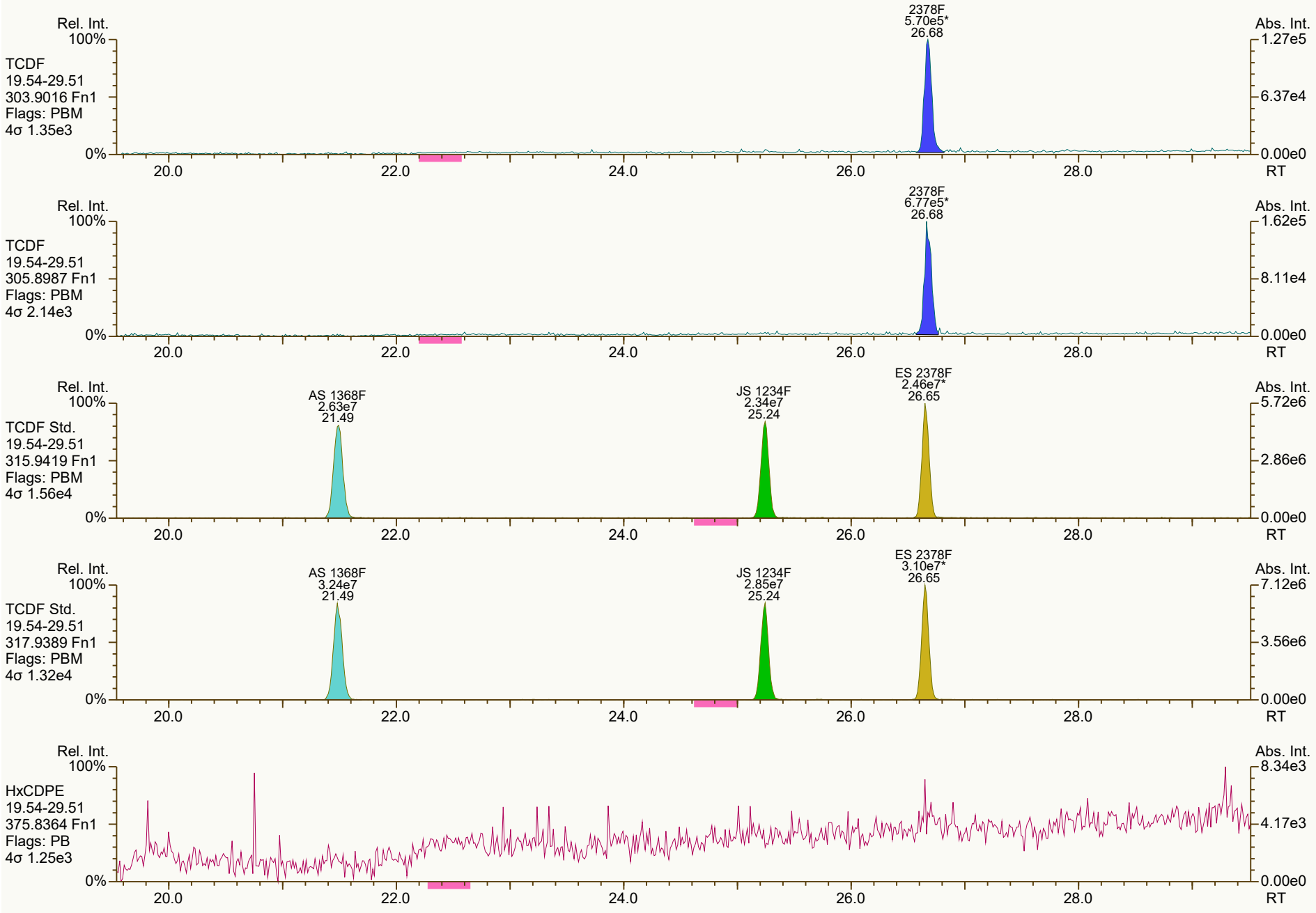

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

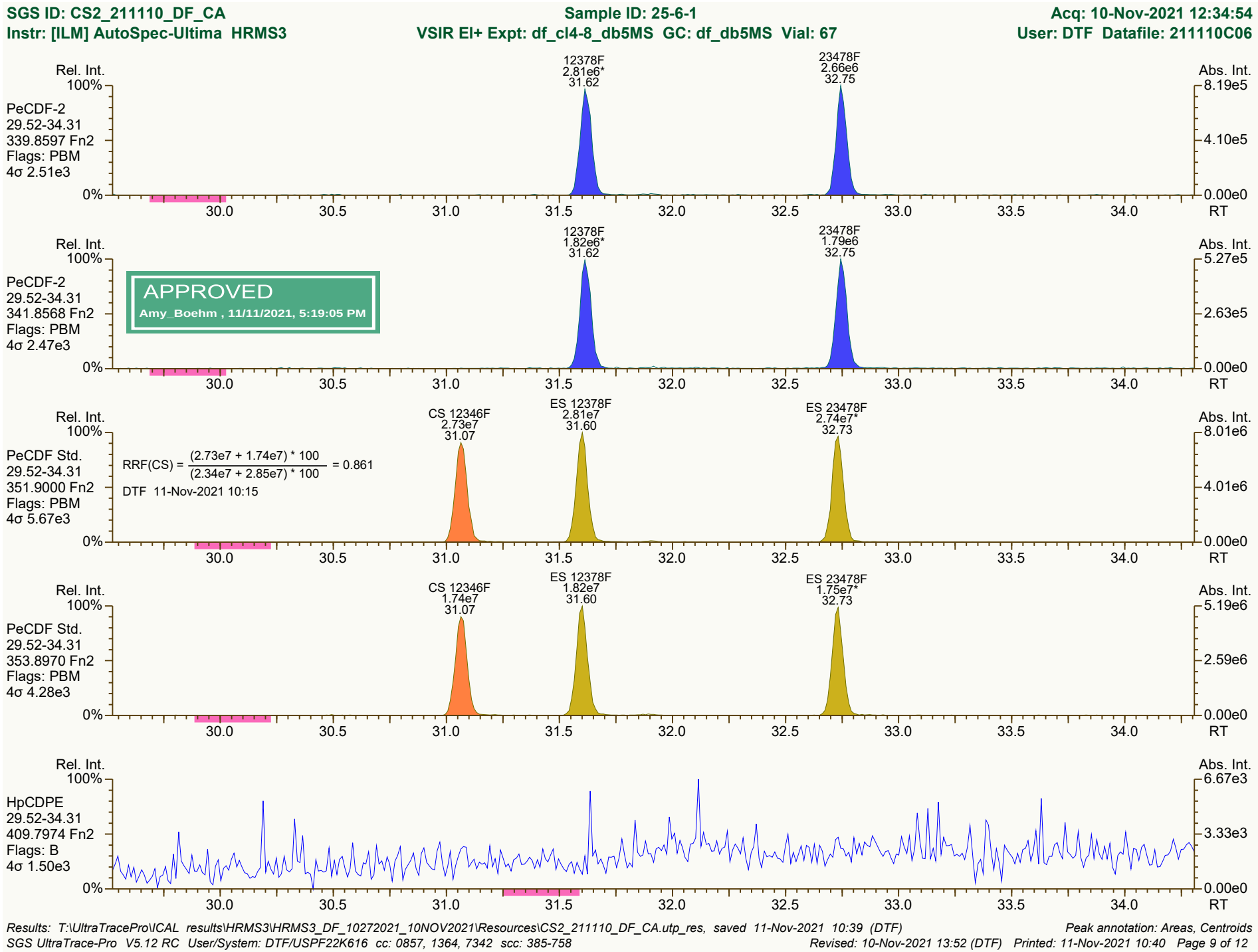

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D 1.59e6 37.04
123678D 1.63e6 37.15
123789D 1.74e6* 37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D 1.33e6 37.04
123678D 1.31e6* 37.15
123789D 1.42e6* 37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D 1.98e7* 35.97
ES 123478D 1.57e7 37.02
ES 123678D 1.47e7 37.14
JS 123467D 8.06e6 37.34
ES 123789D 1.72e7 37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D 1.60e7* 35.97
ES 123478D 1.22e7 37.03
ES 123678D 1.15e7 37.14
JS 123467D 6.12e6 37.34
ES 123789D 1.40e7 37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

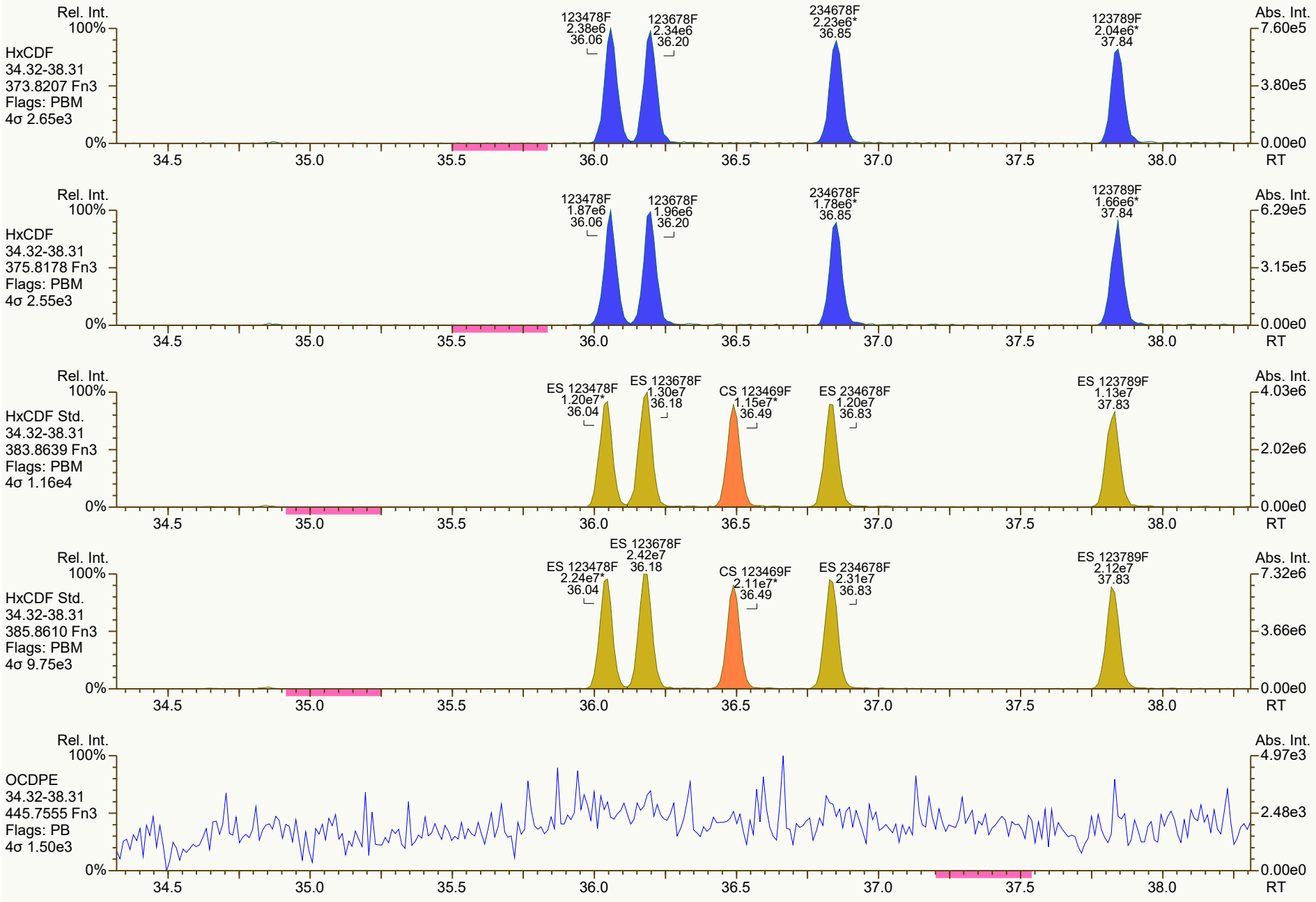

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

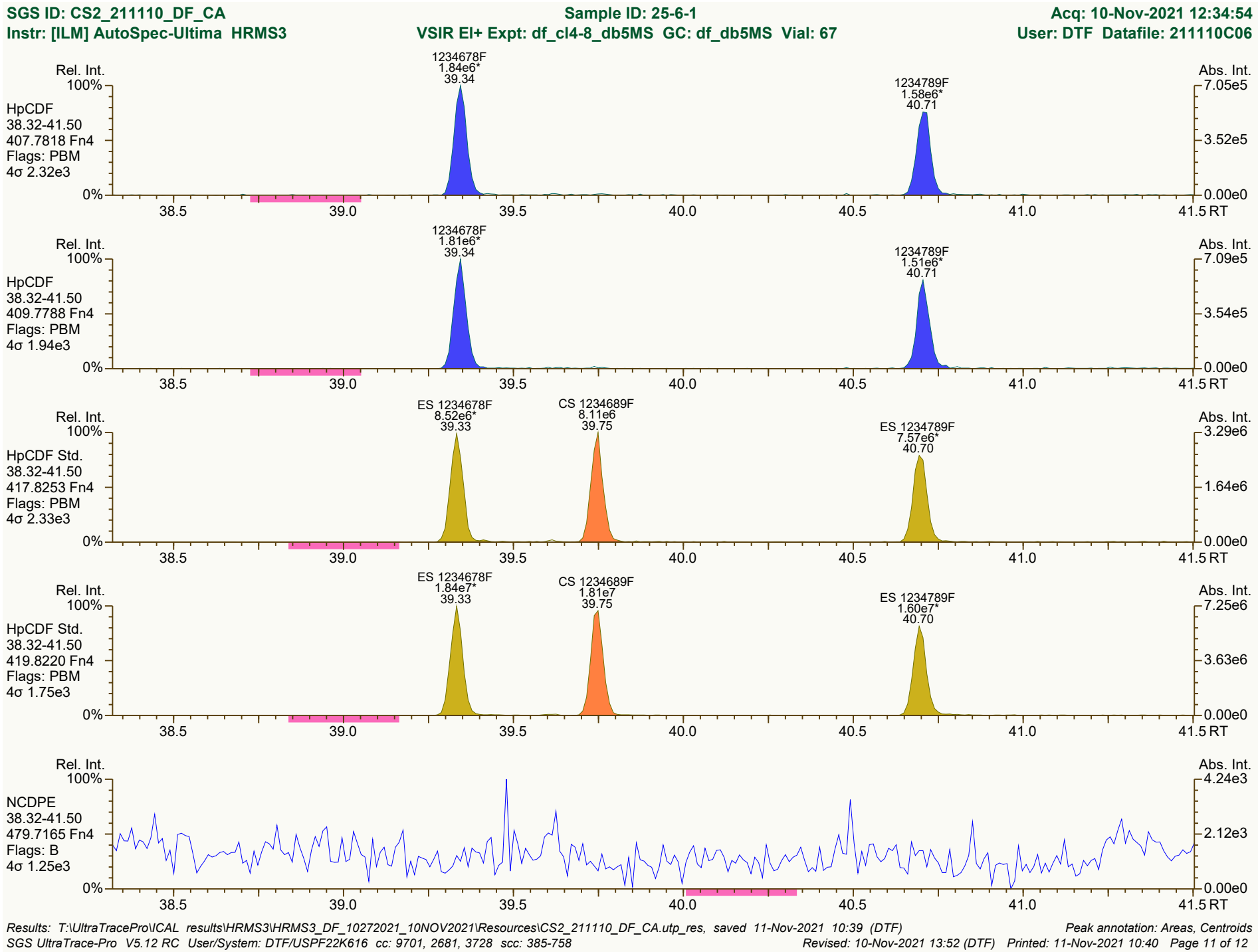

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
6.49e5
3.24e5
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
4.78e6
2.39e6
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
5.21e6
2.61e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.94e6

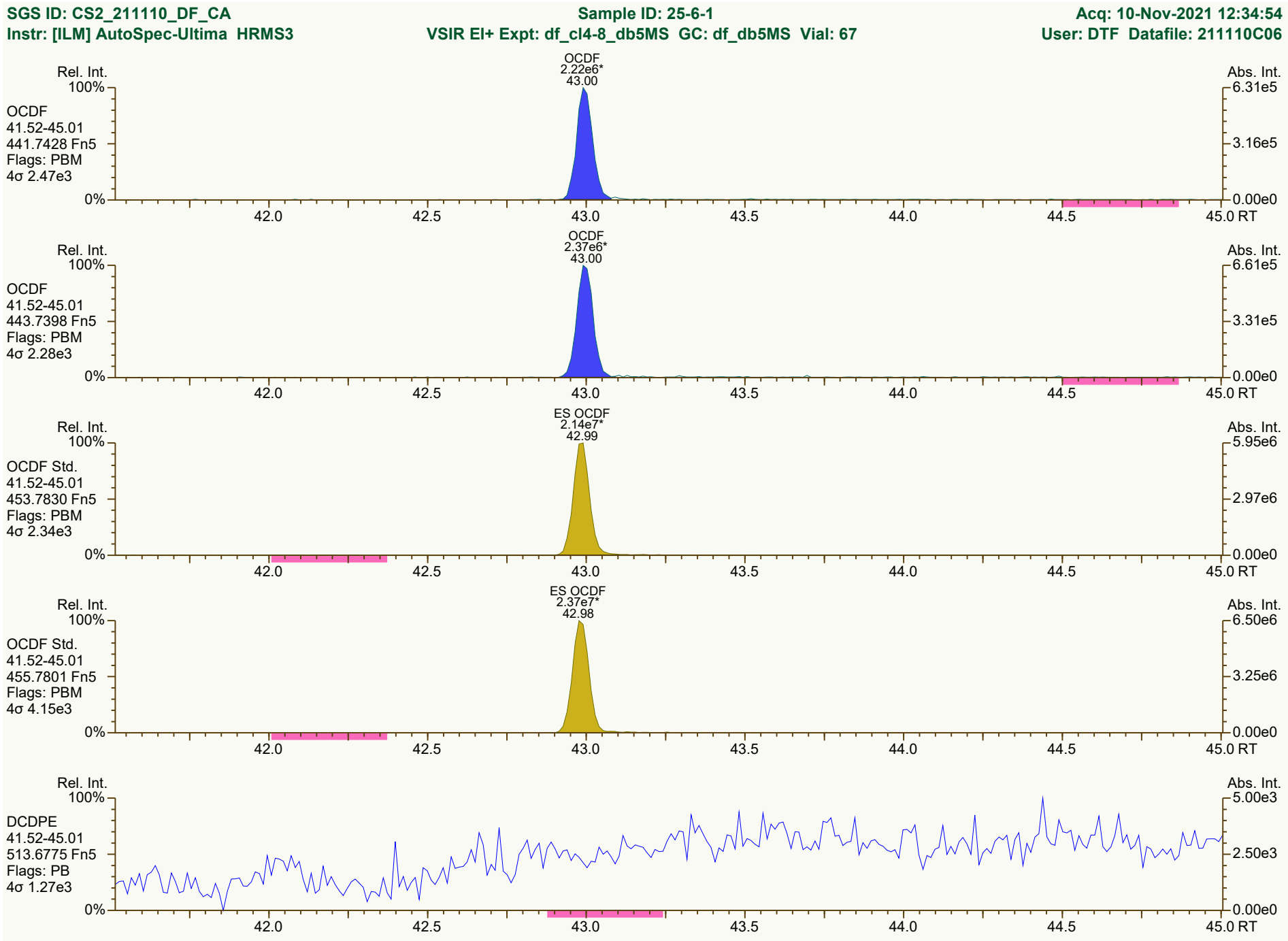

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12

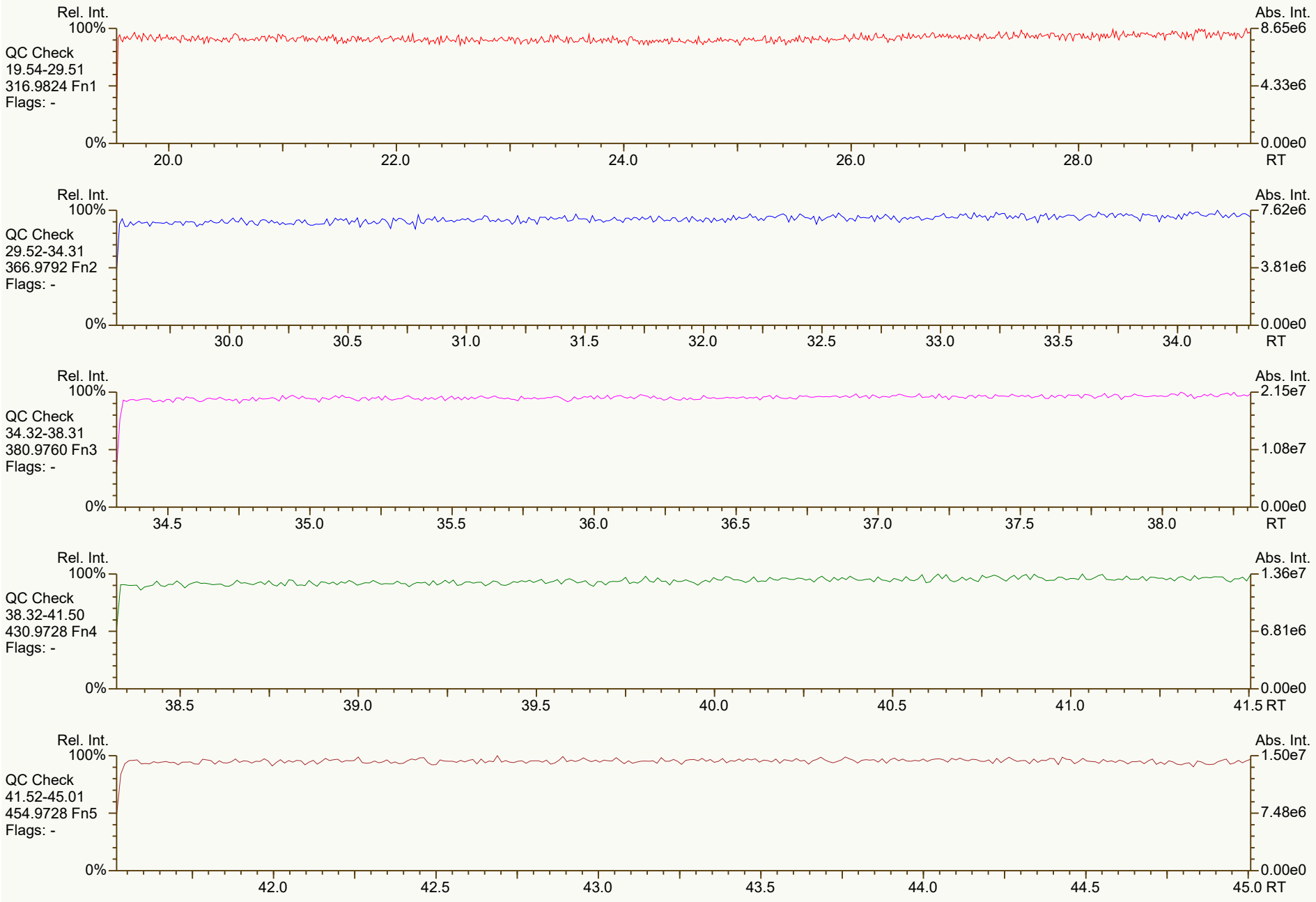

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

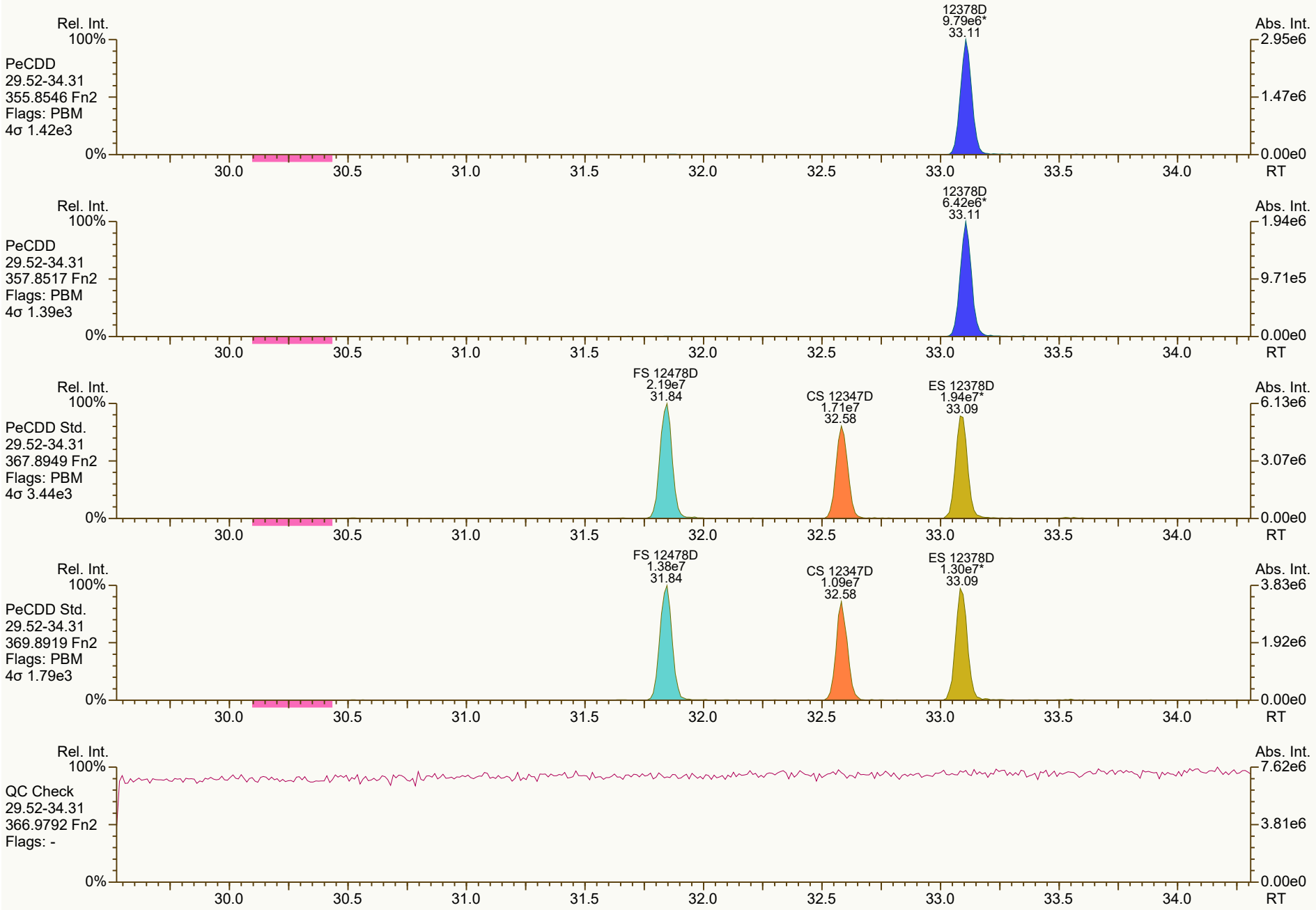

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

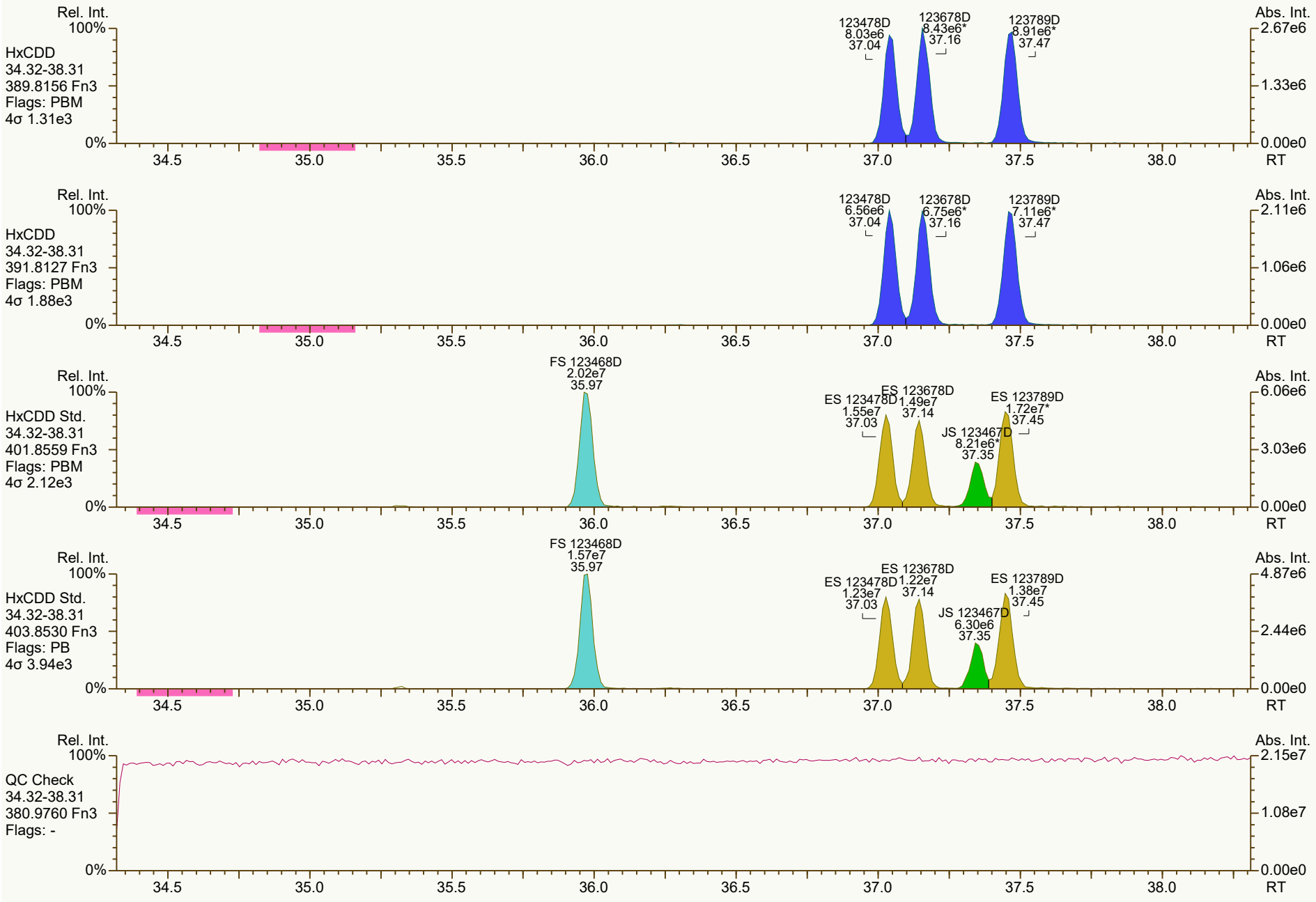
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

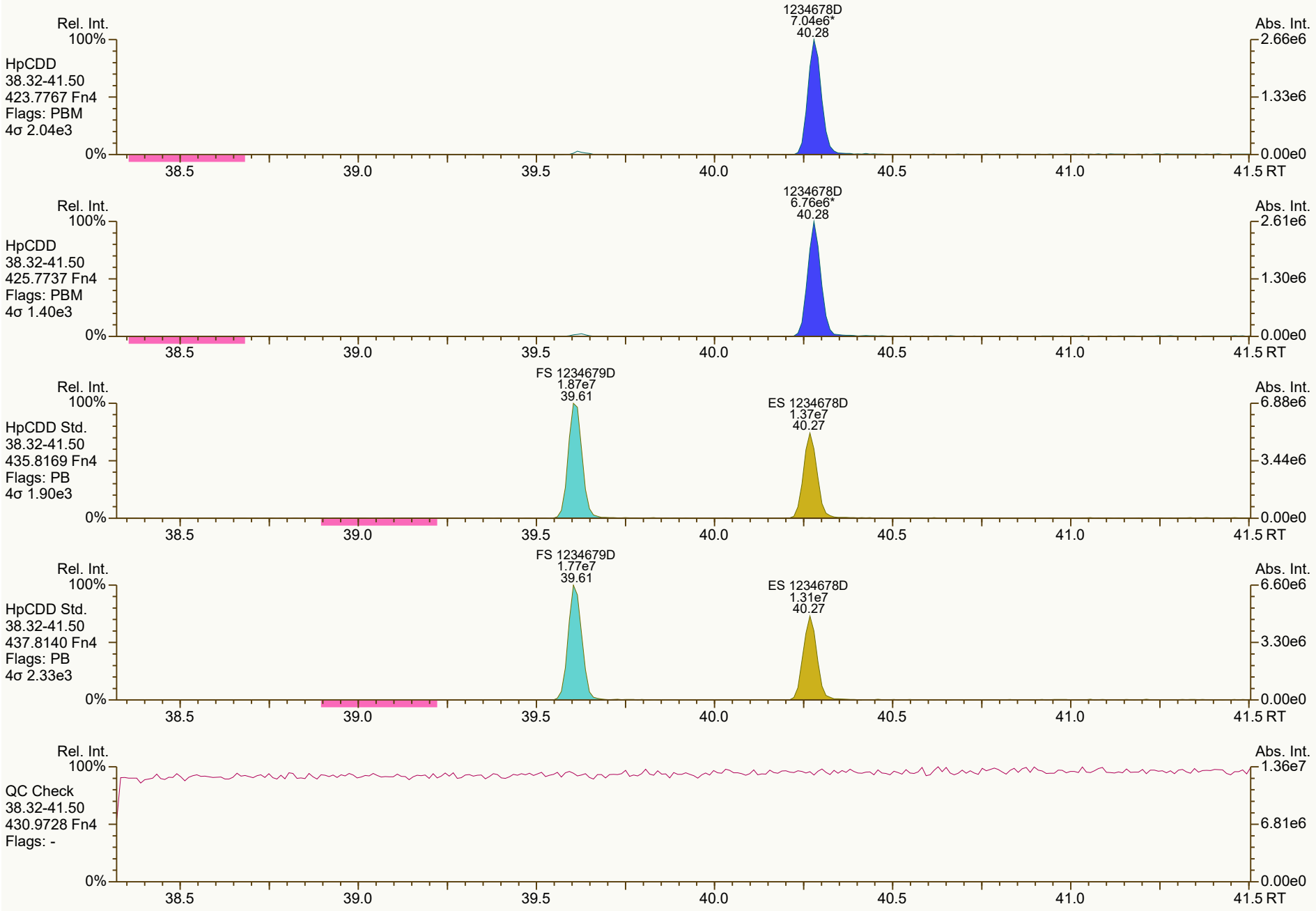
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

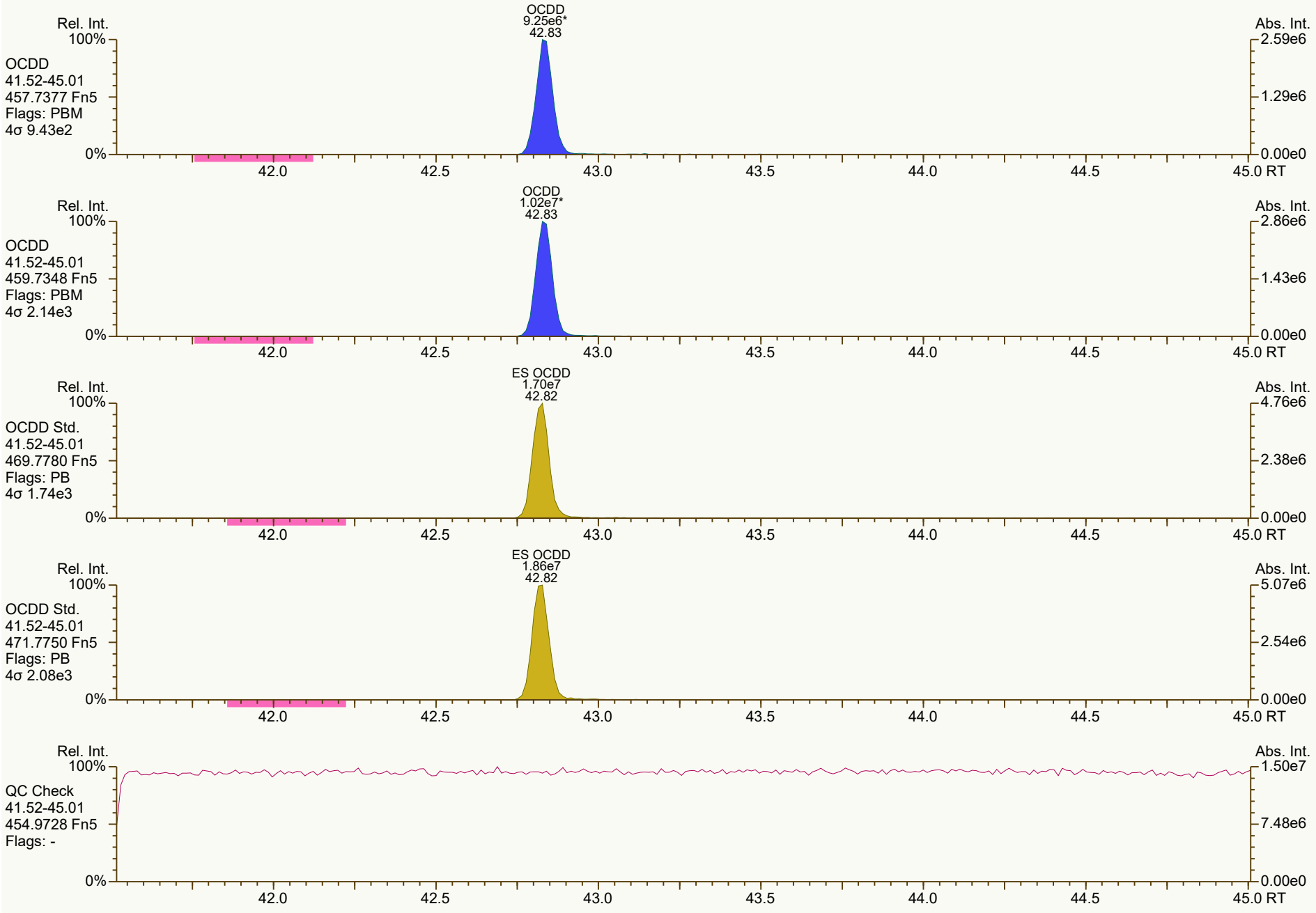

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

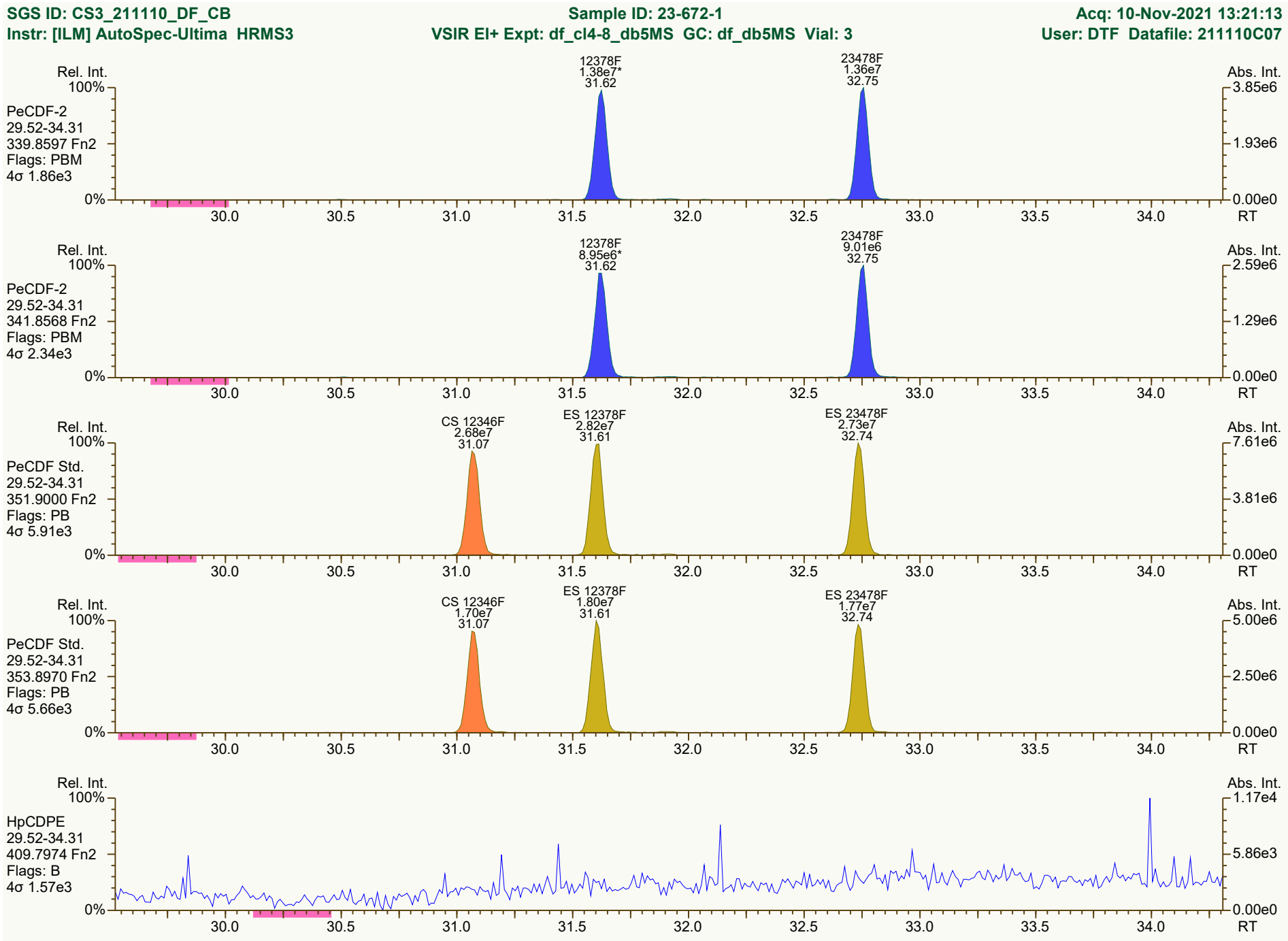

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

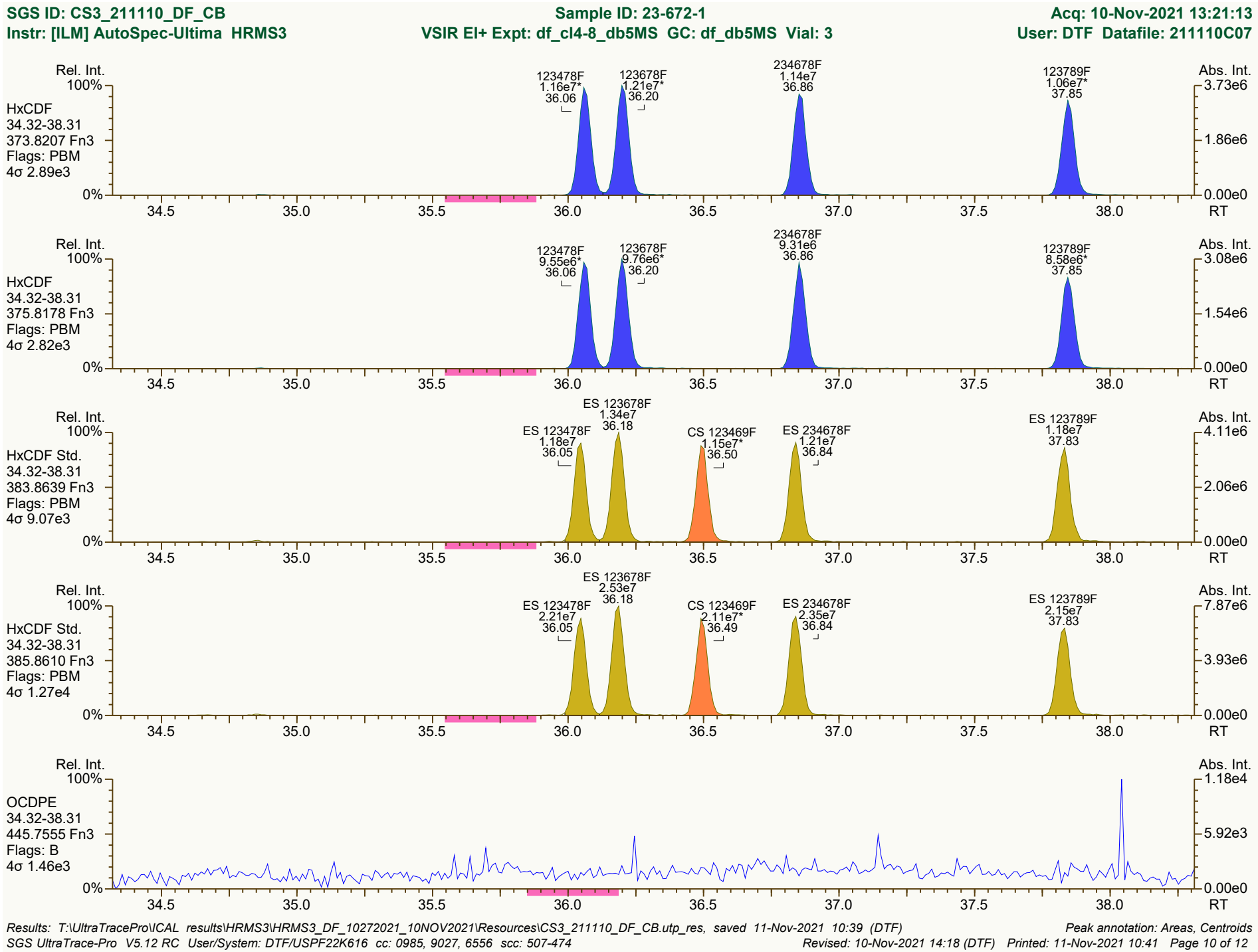

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

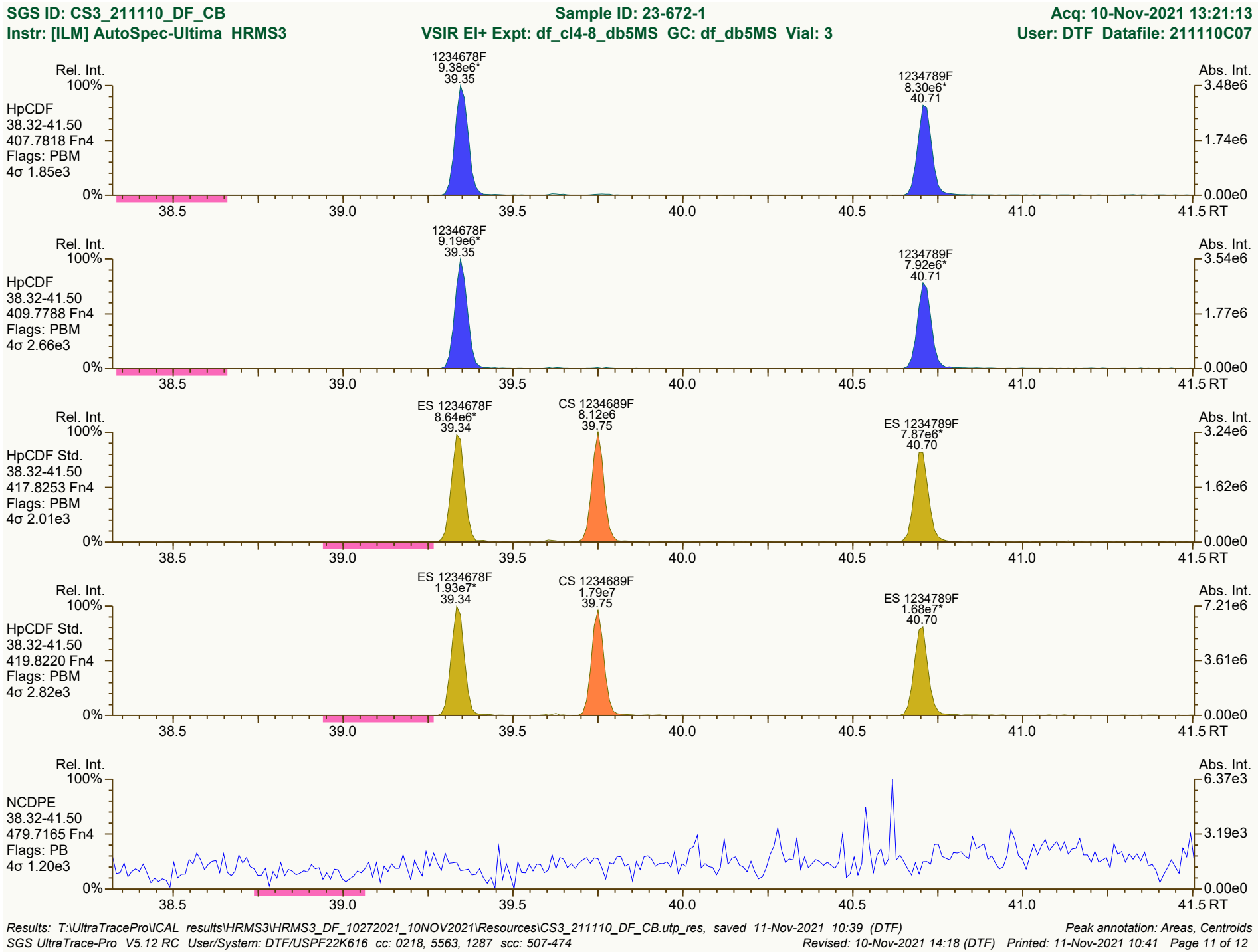

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
3.85e6
1.93e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
2.59e6
1.29e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
7.61e6
3.81e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
5.00e6
2.50e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
1.17e4
5.86e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

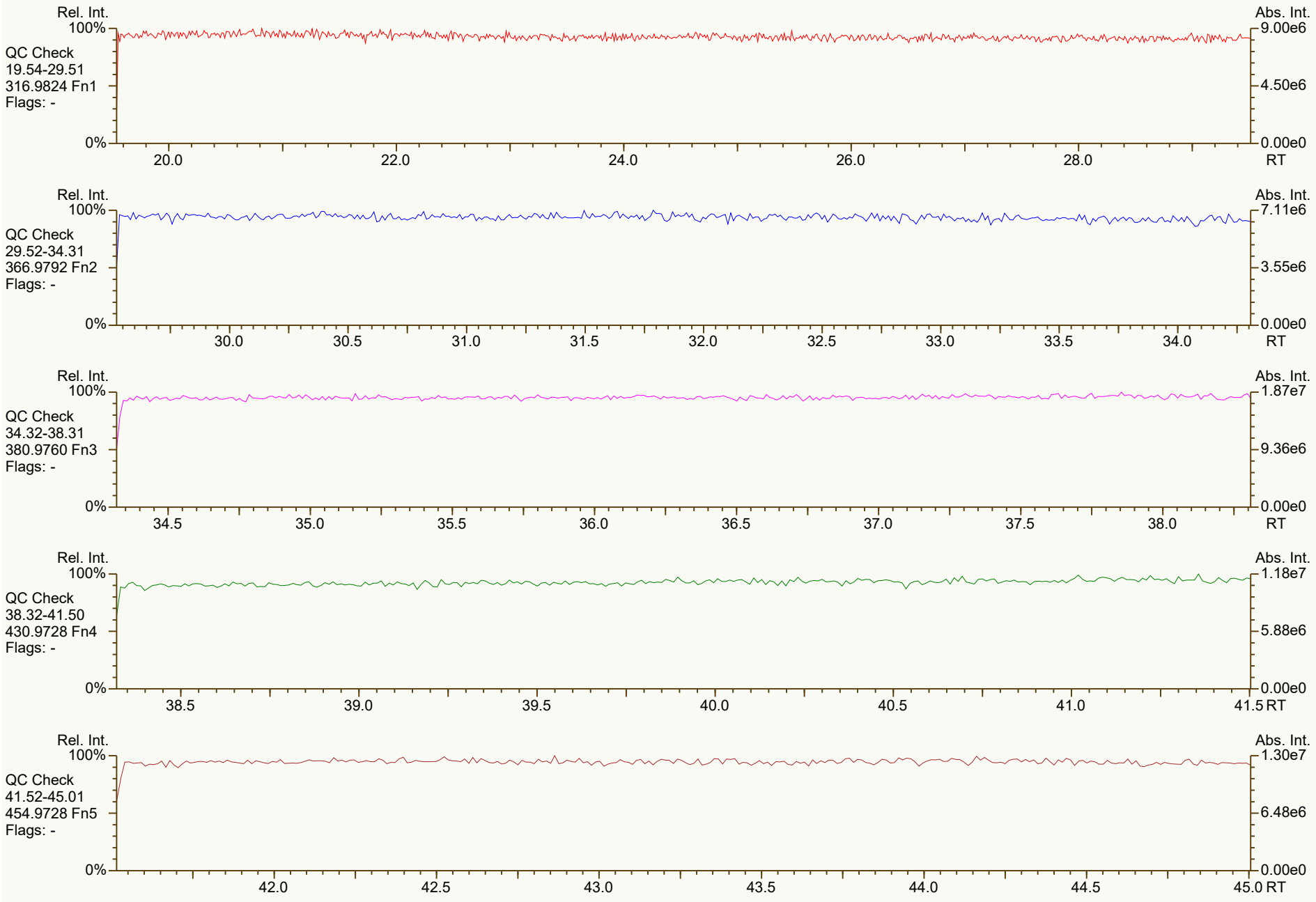

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

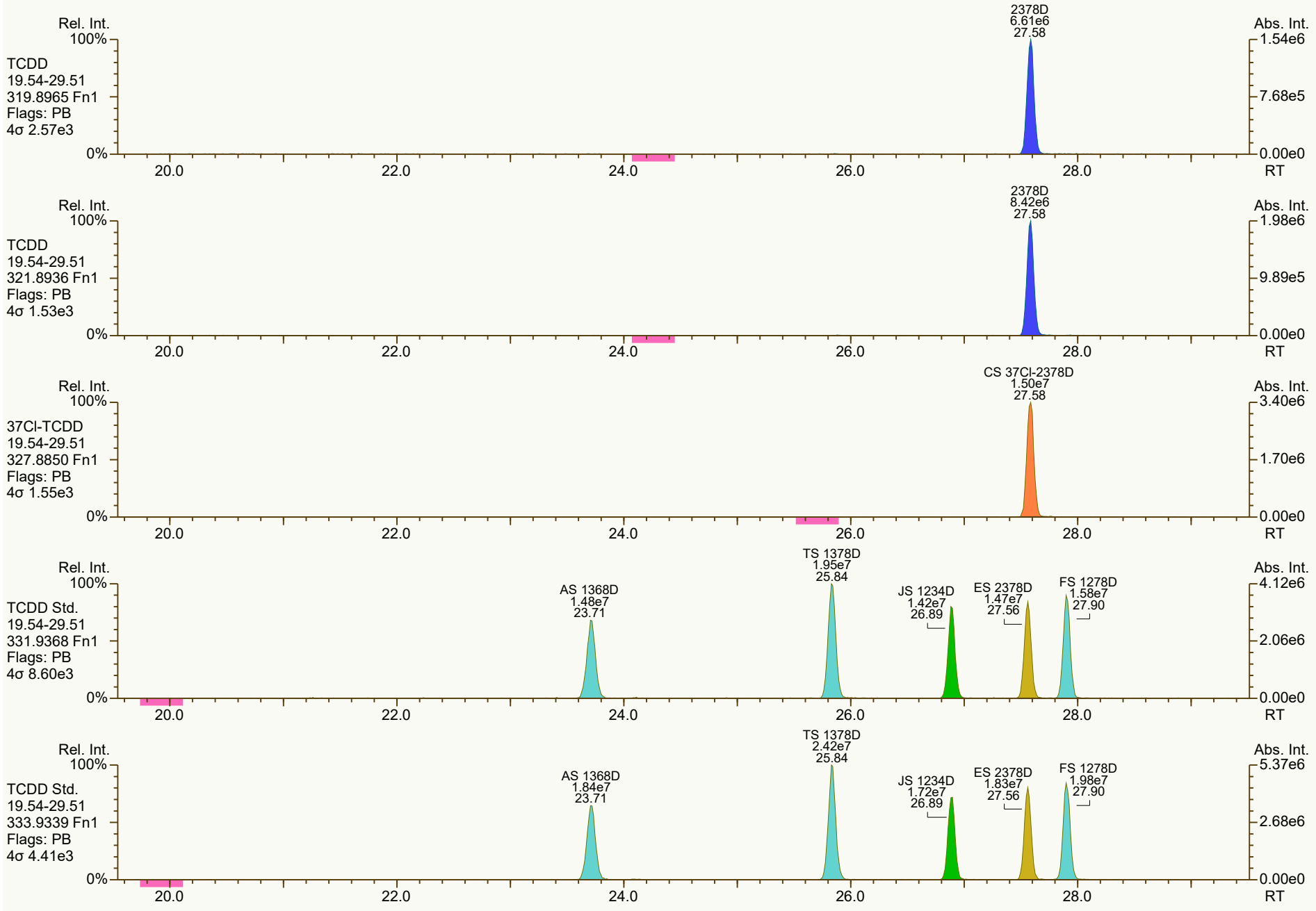

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
3.25e6
1.62e6
0.00e0
0%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
3.53e6
1.76e6
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
6.08e6
3.04e6
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
6.65e6
3.32e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
4.82e3
2.41e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

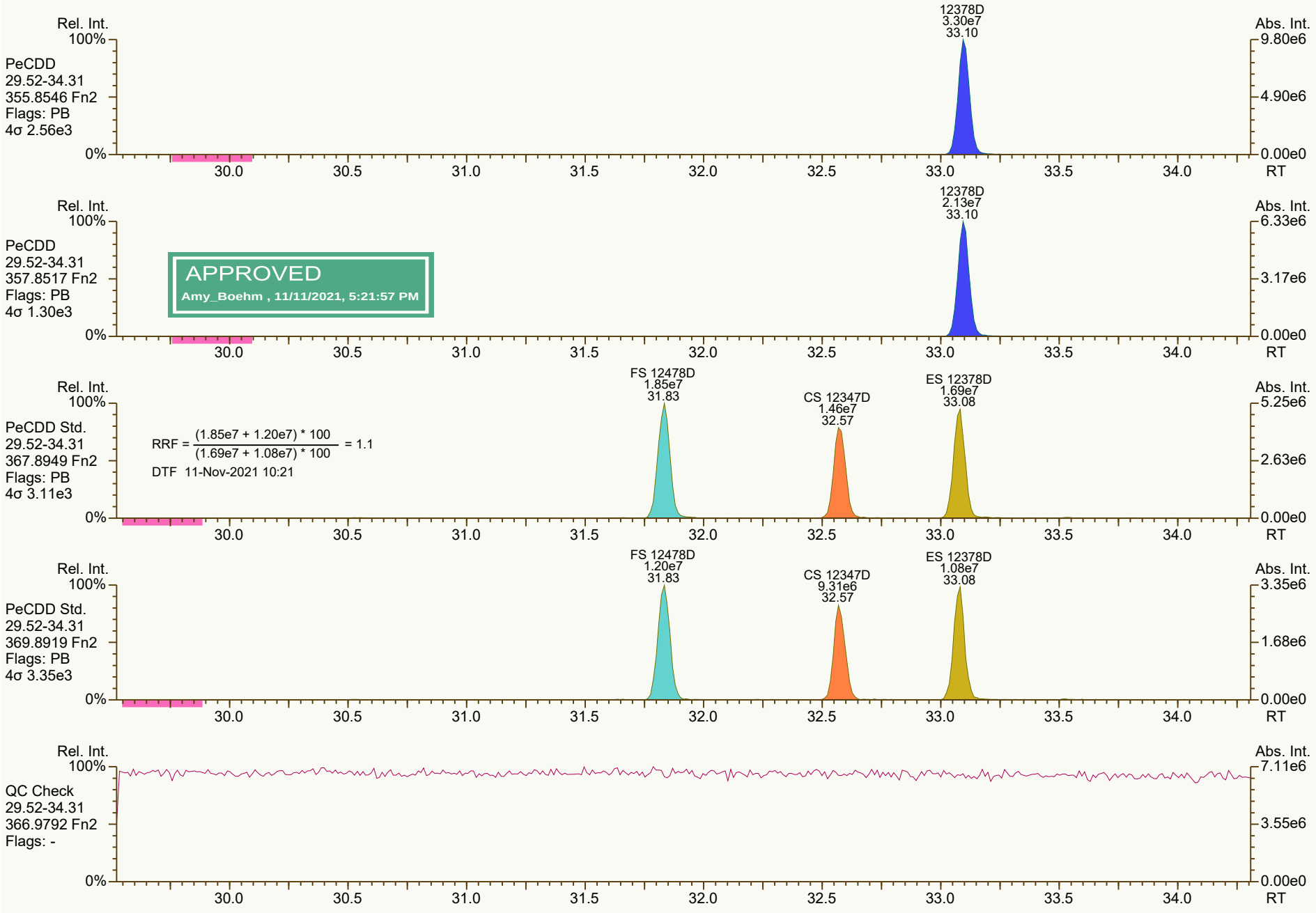
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

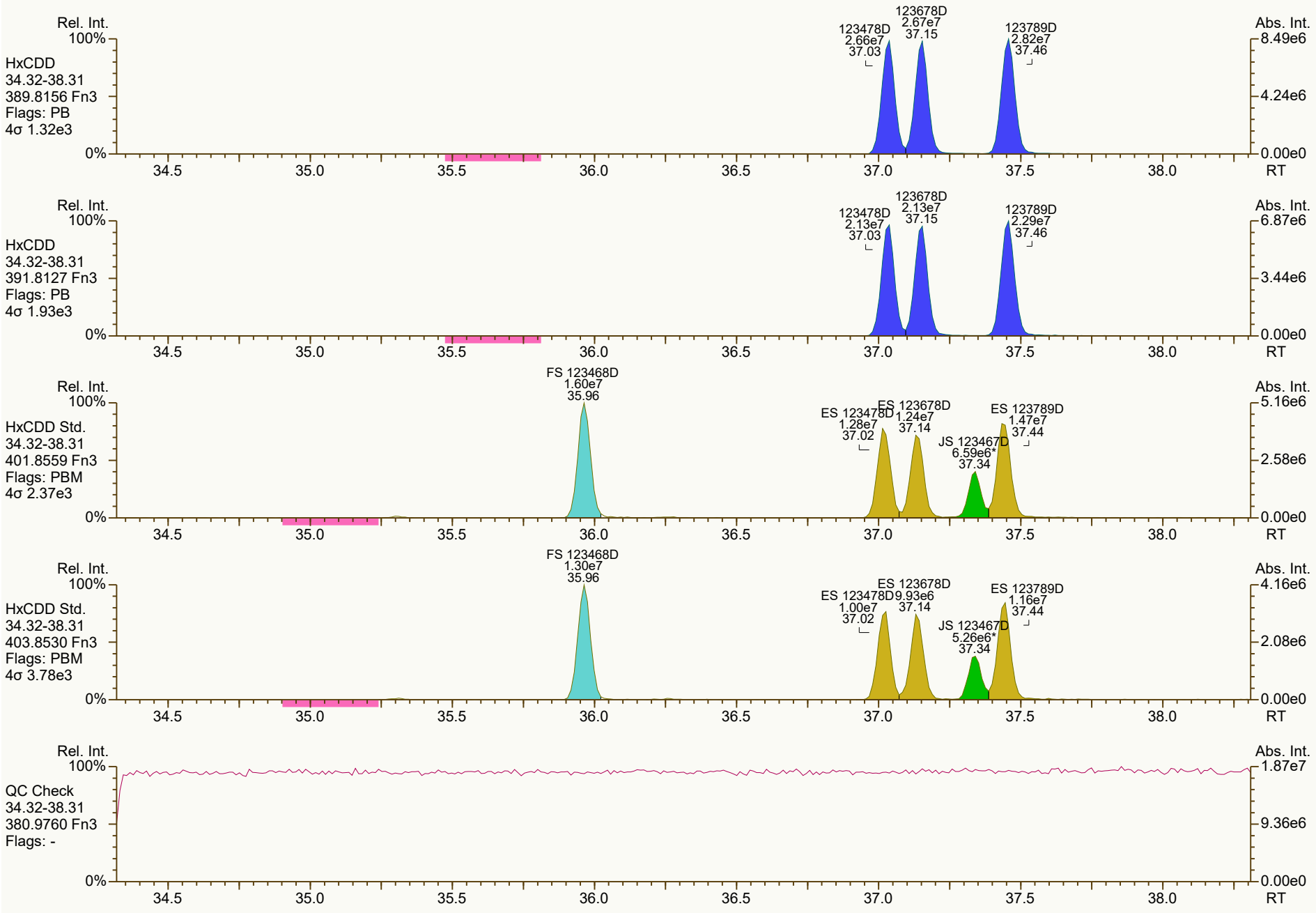
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

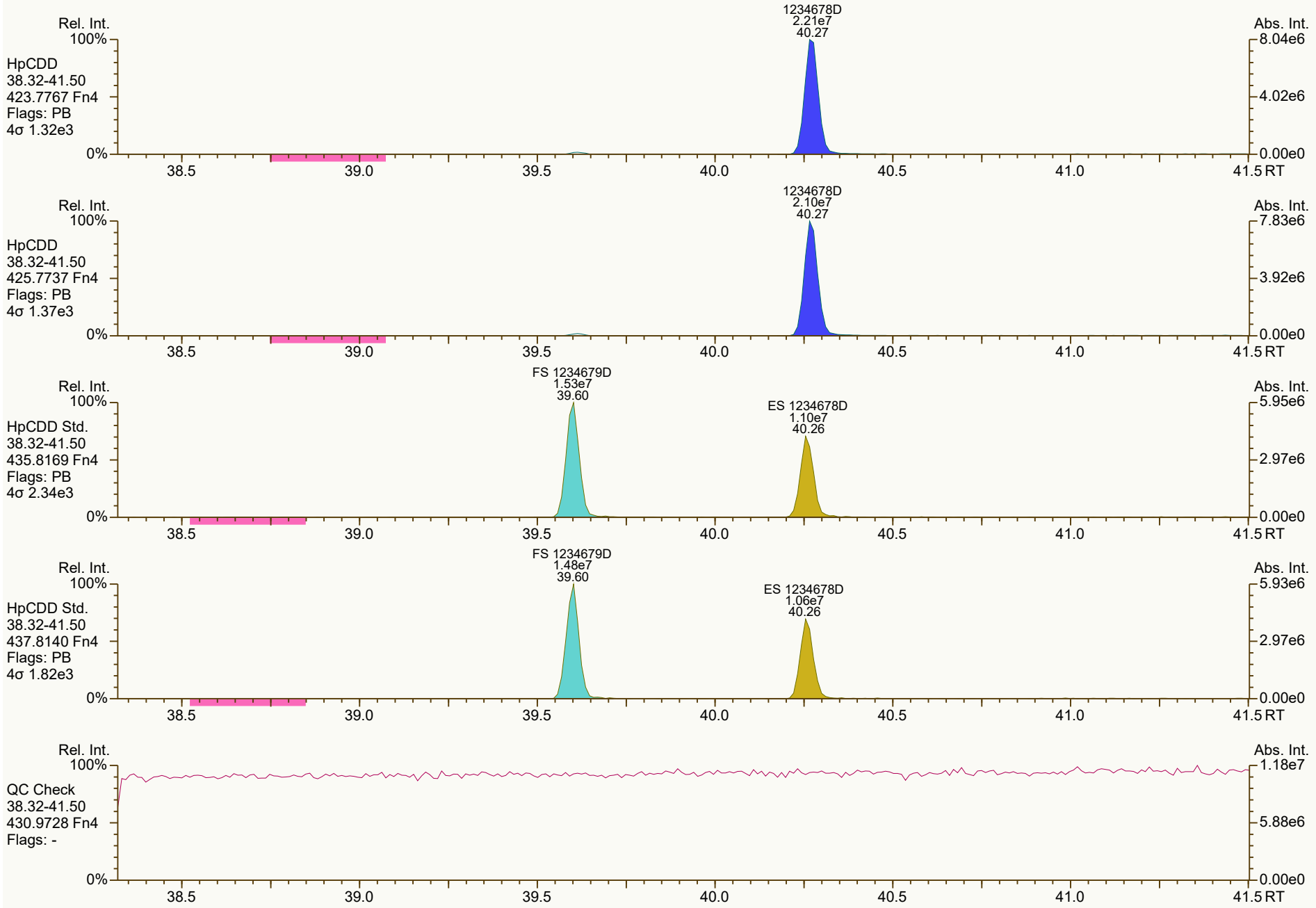
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

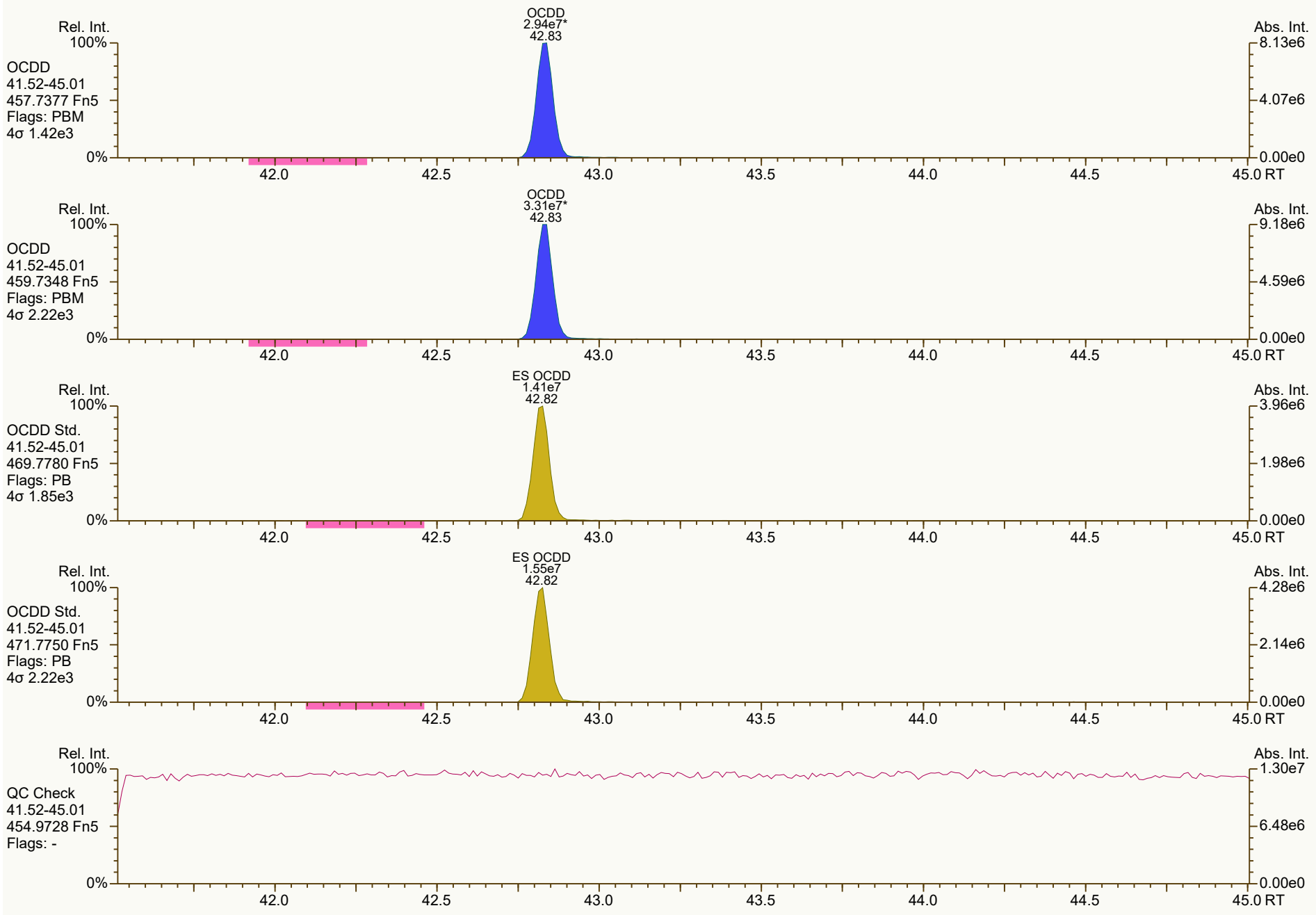

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

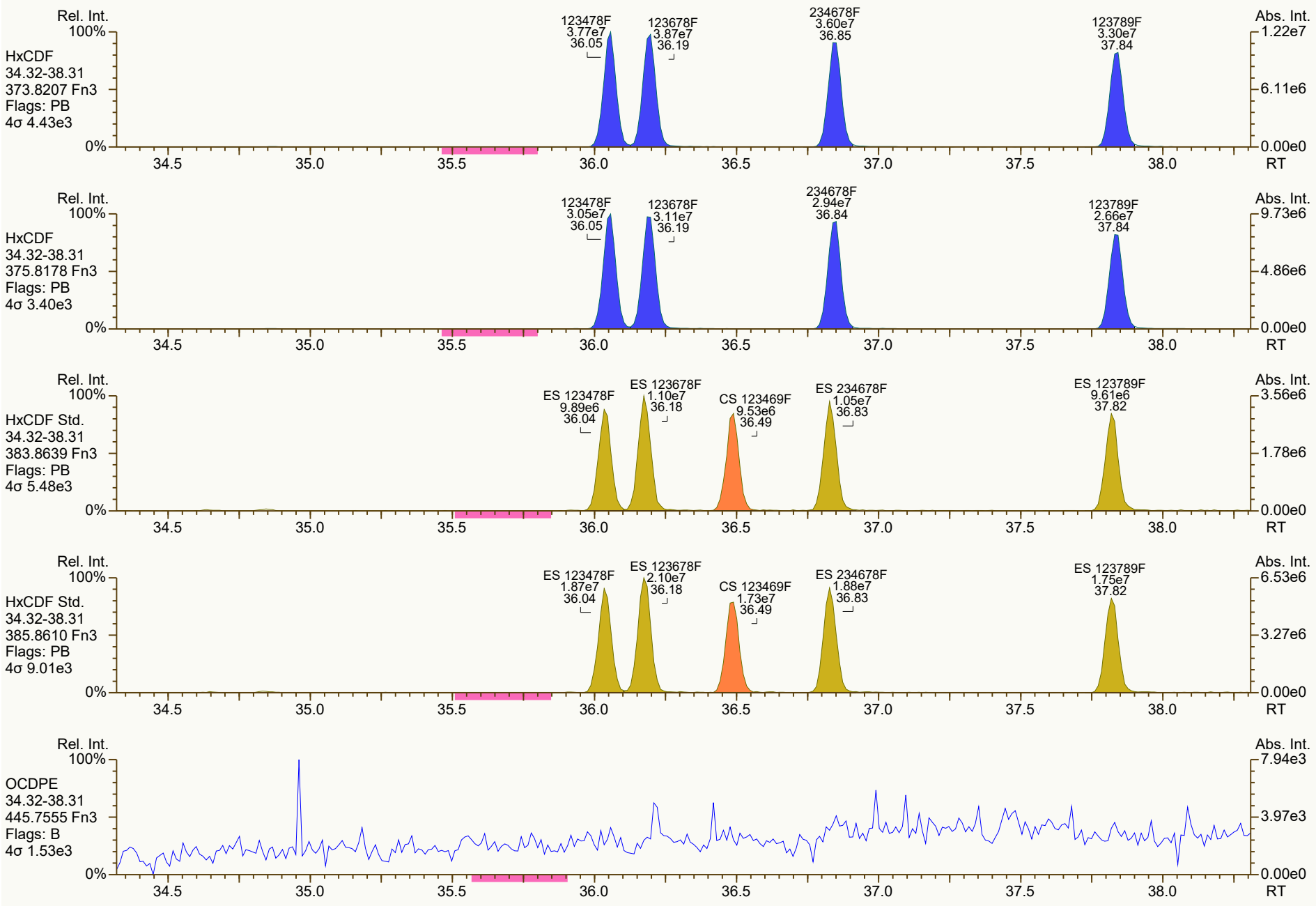

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

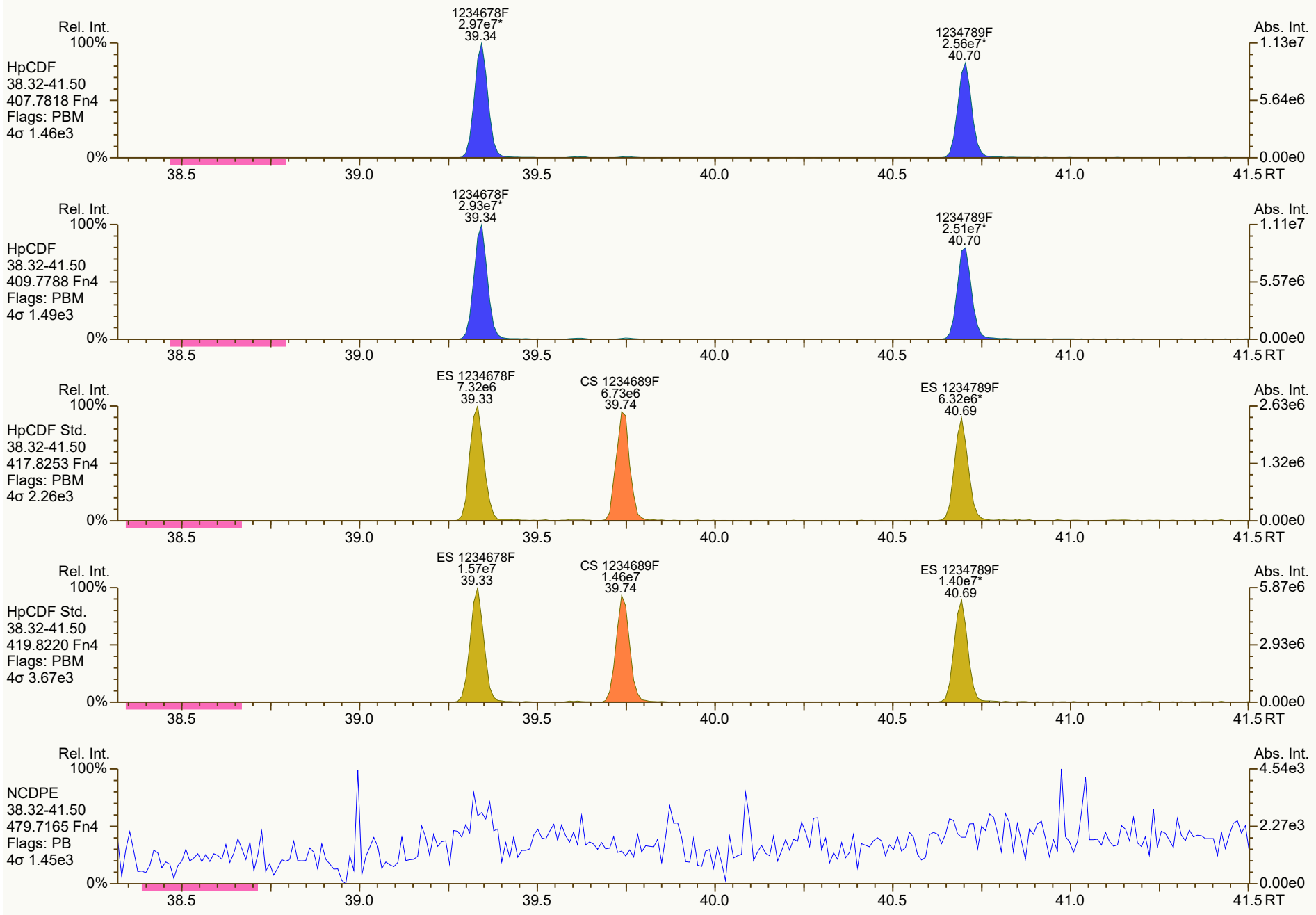

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

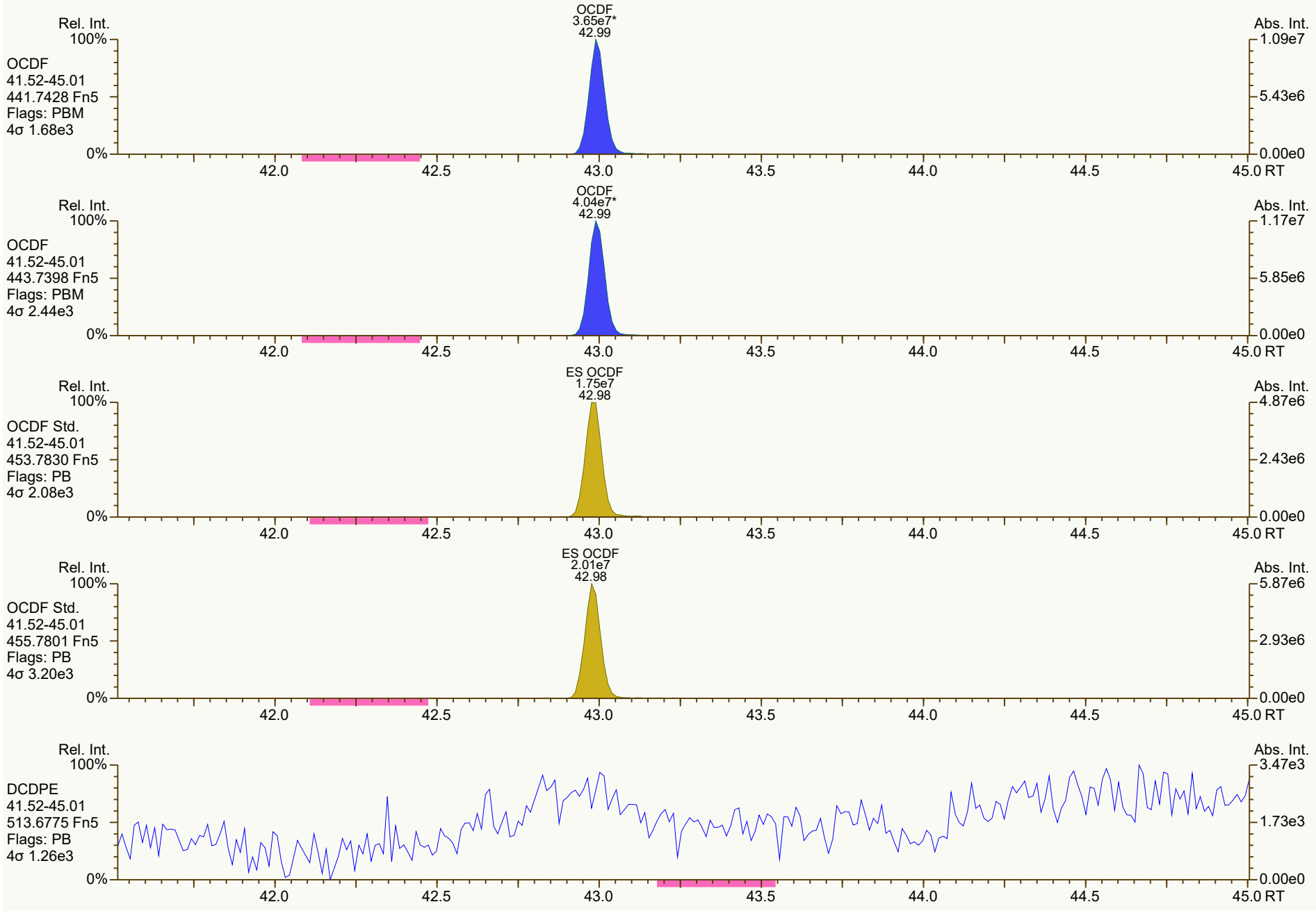

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

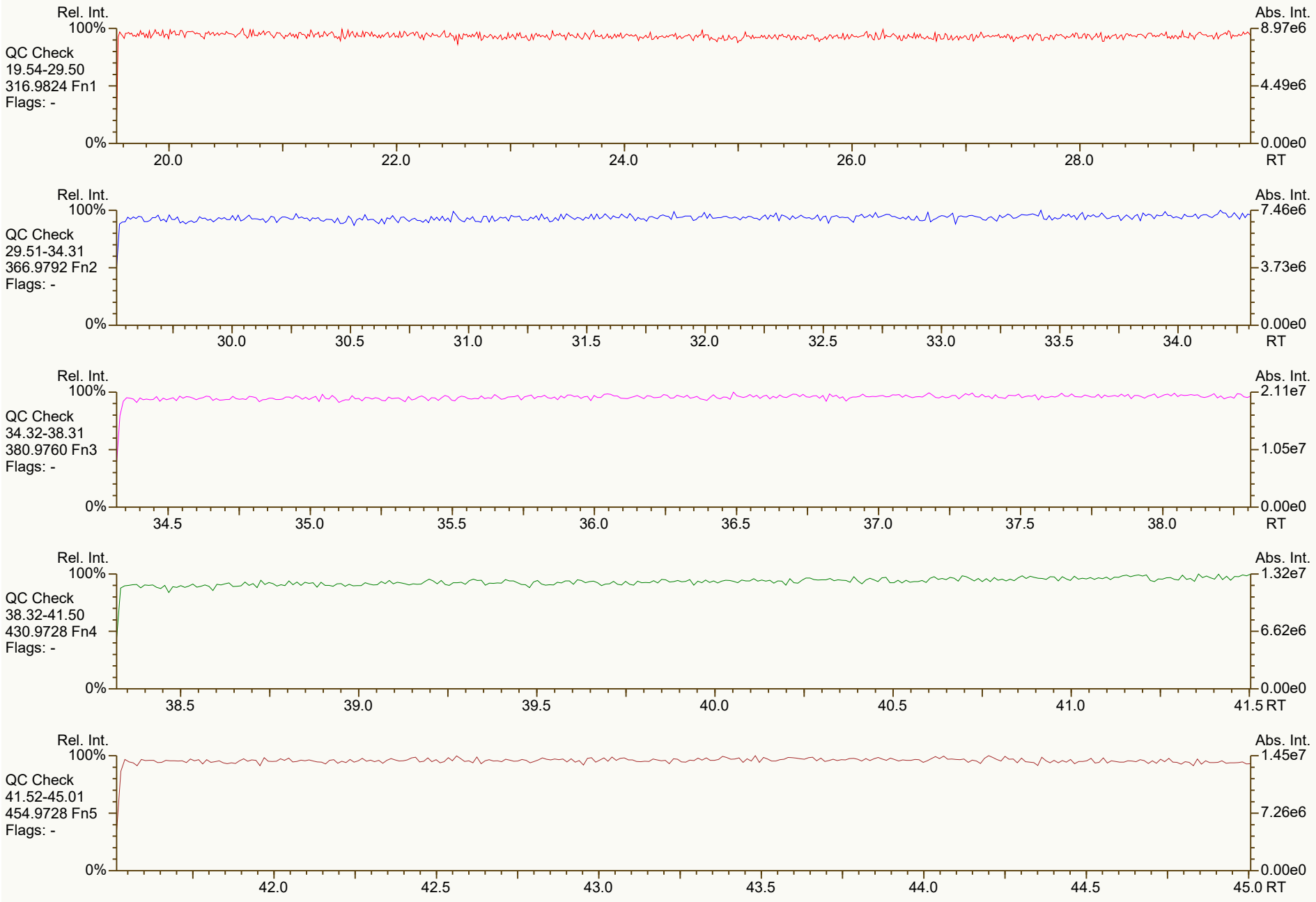

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

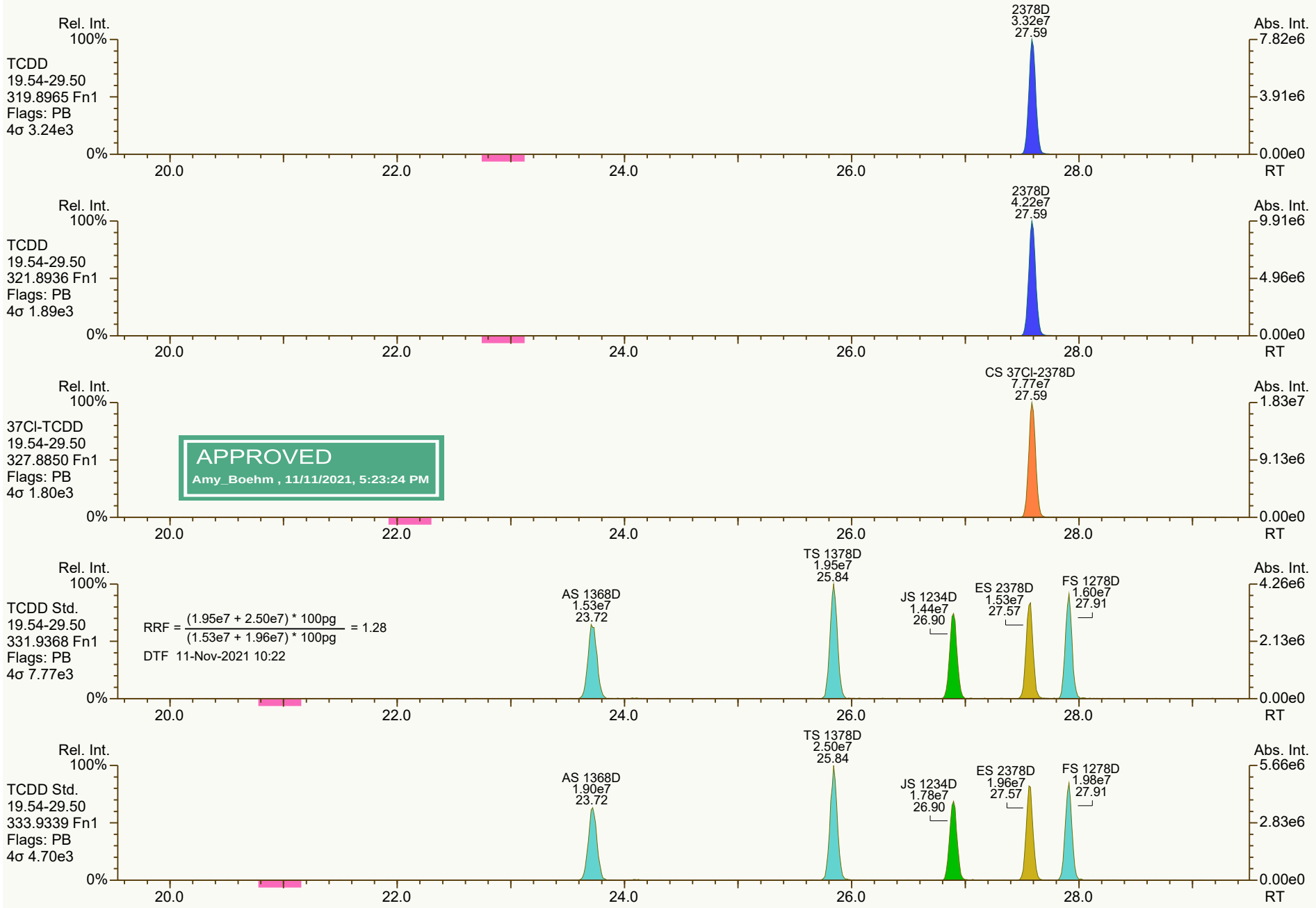
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

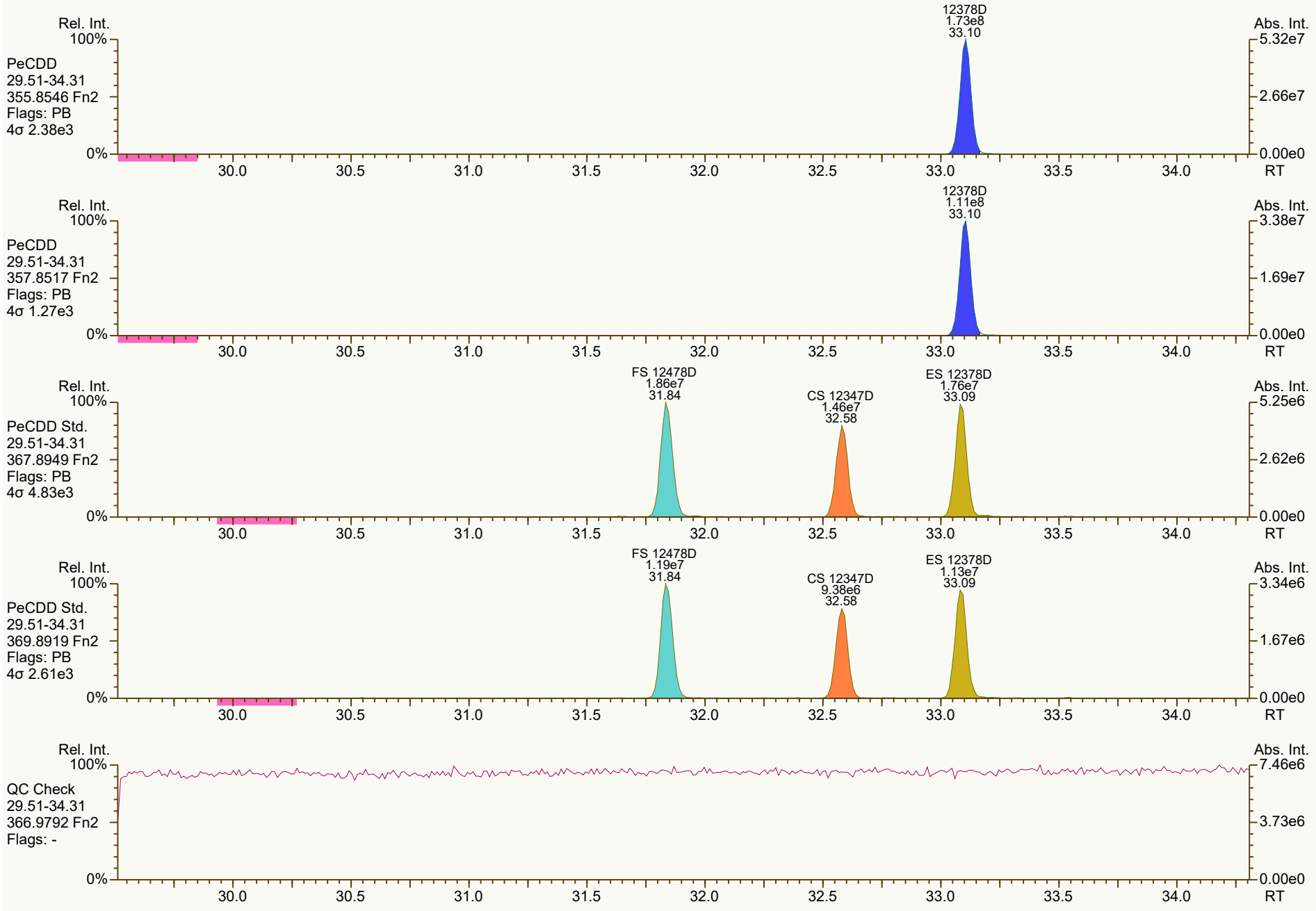
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

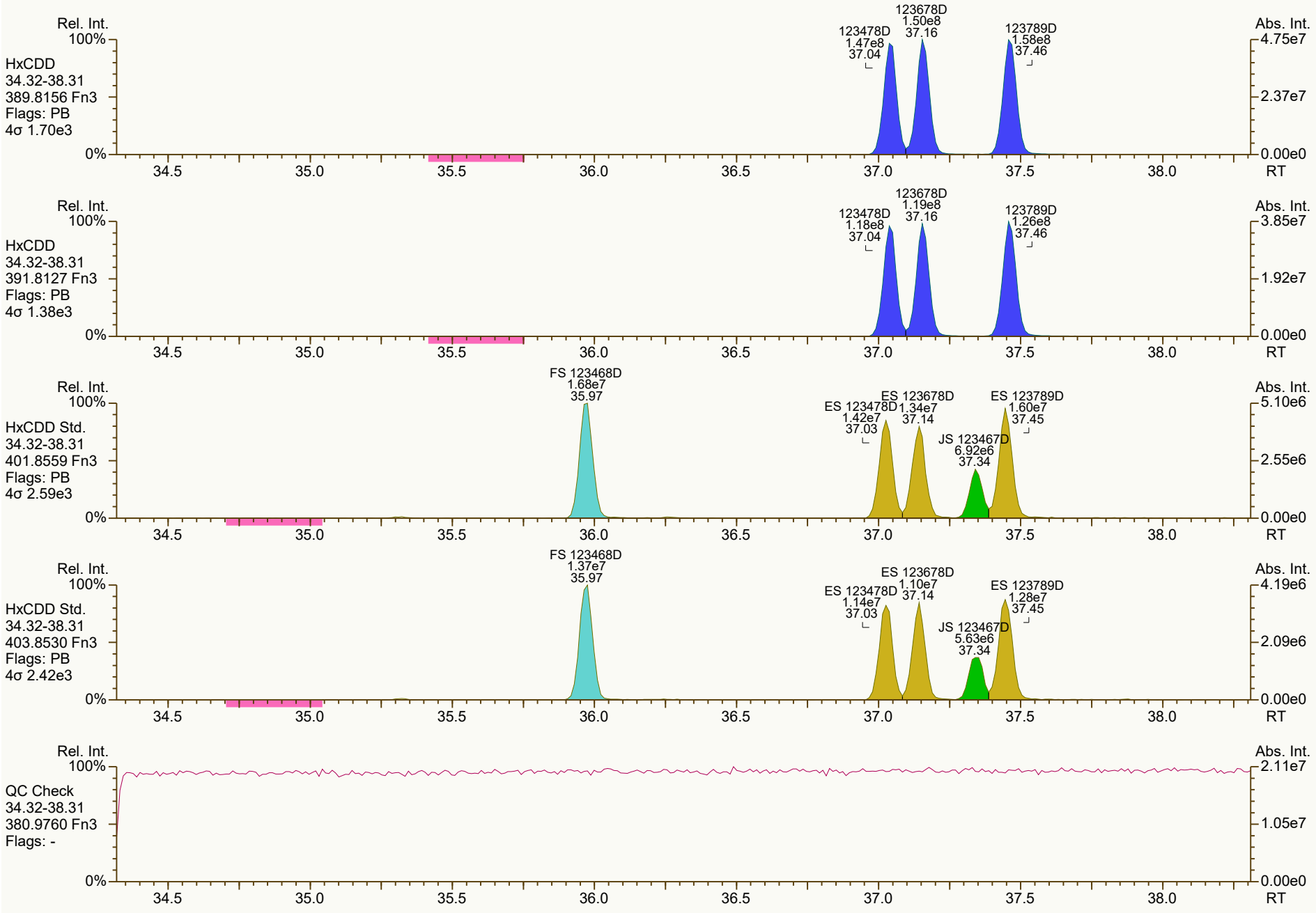
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

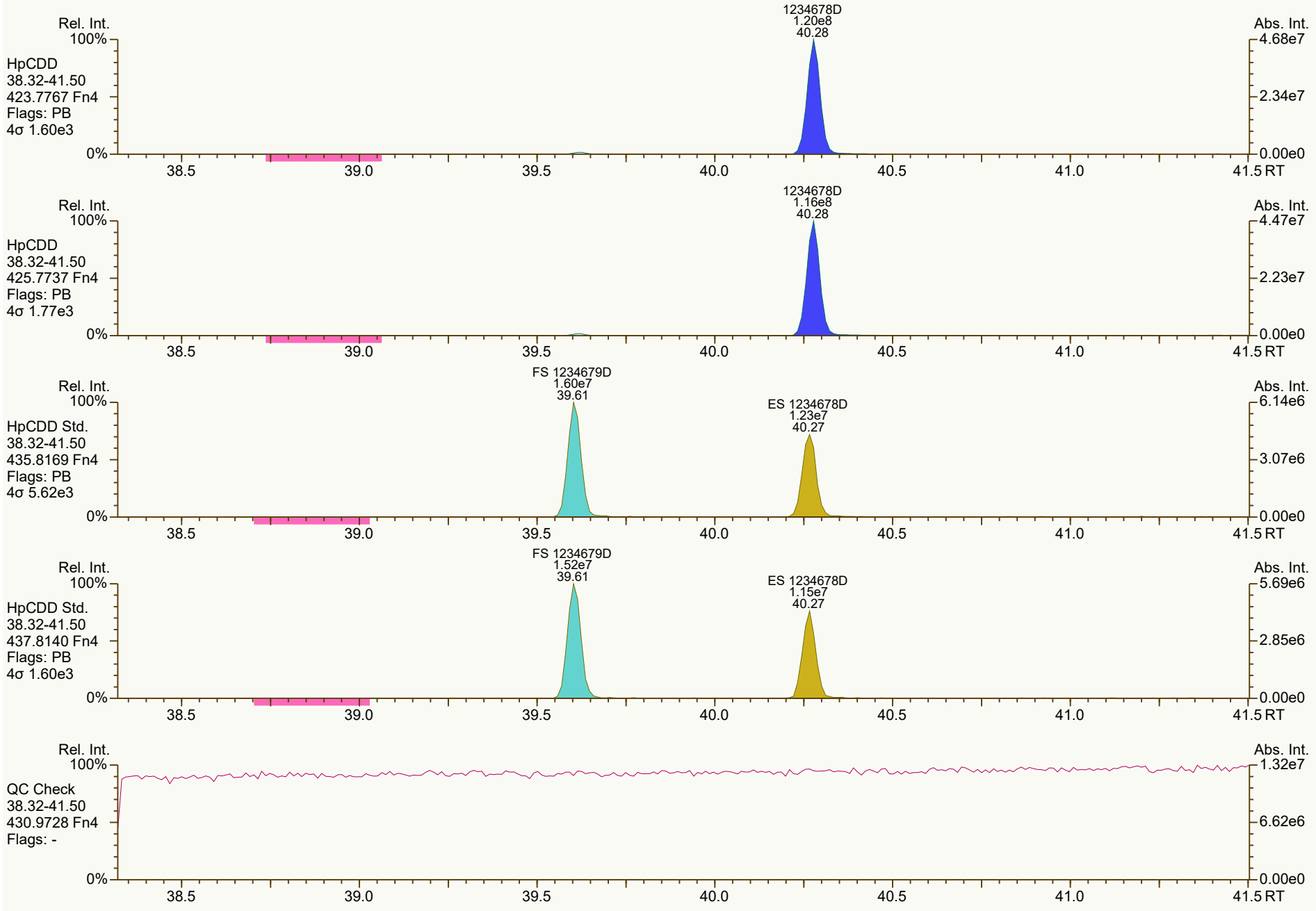
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

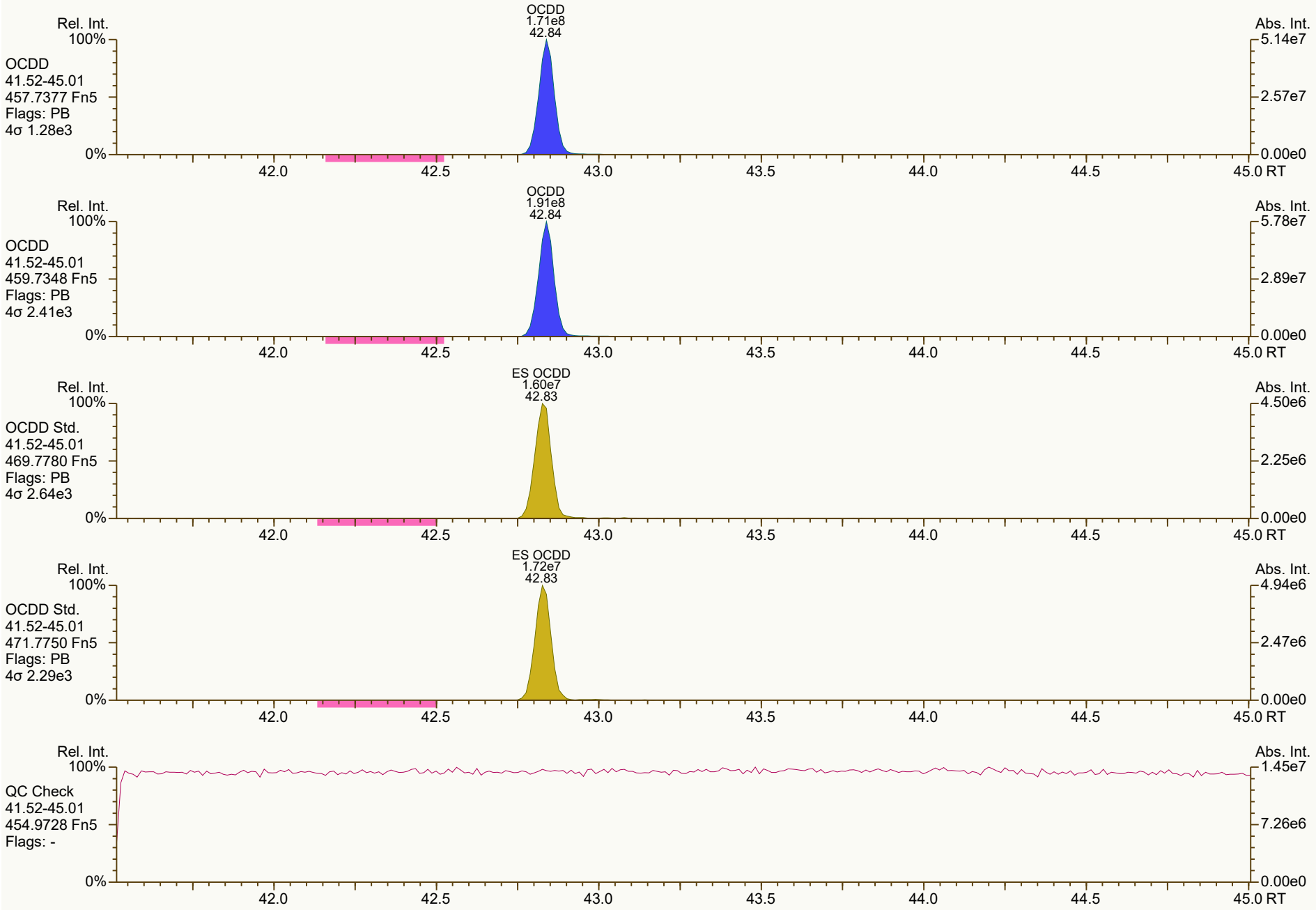

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

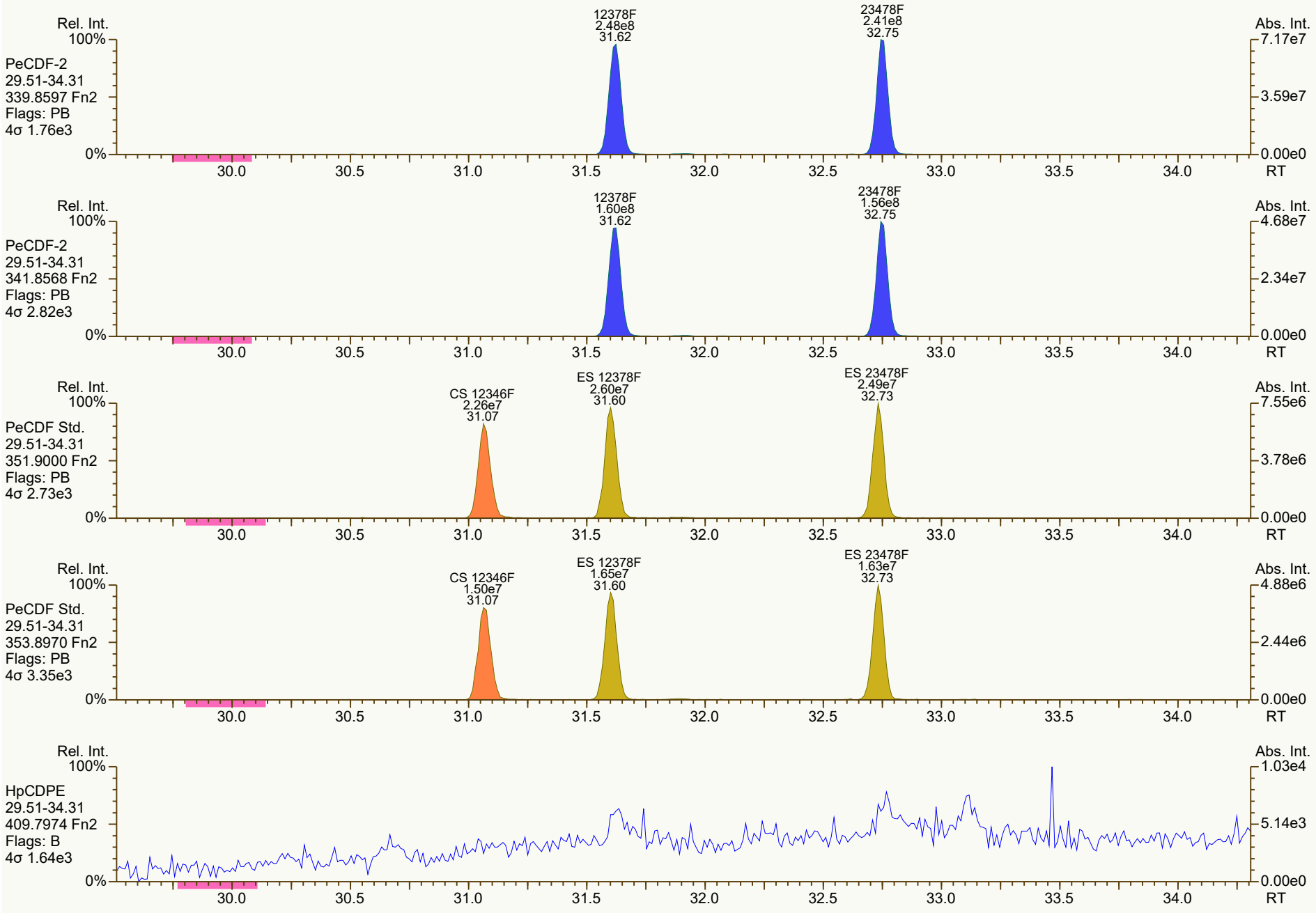

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

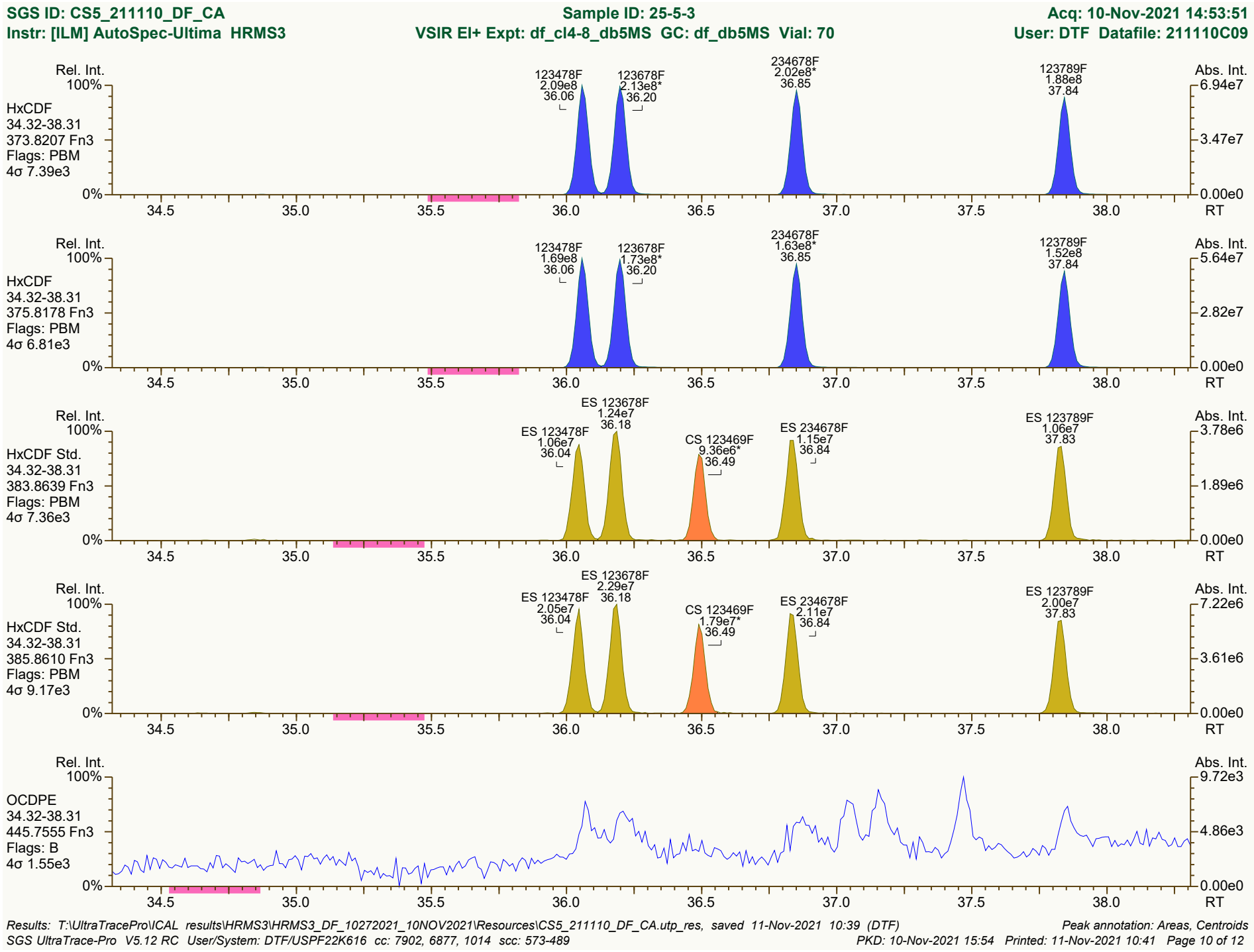

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

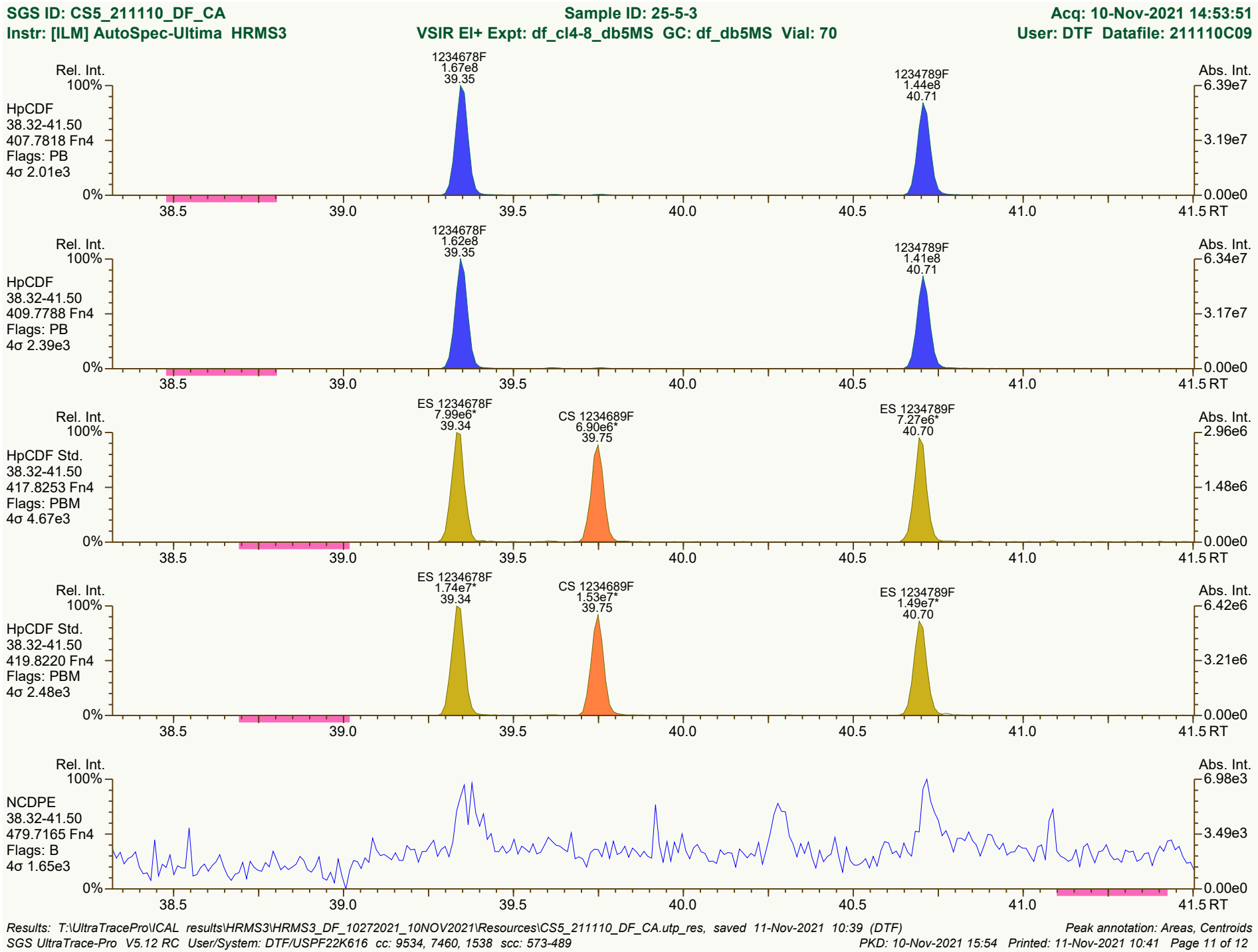

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

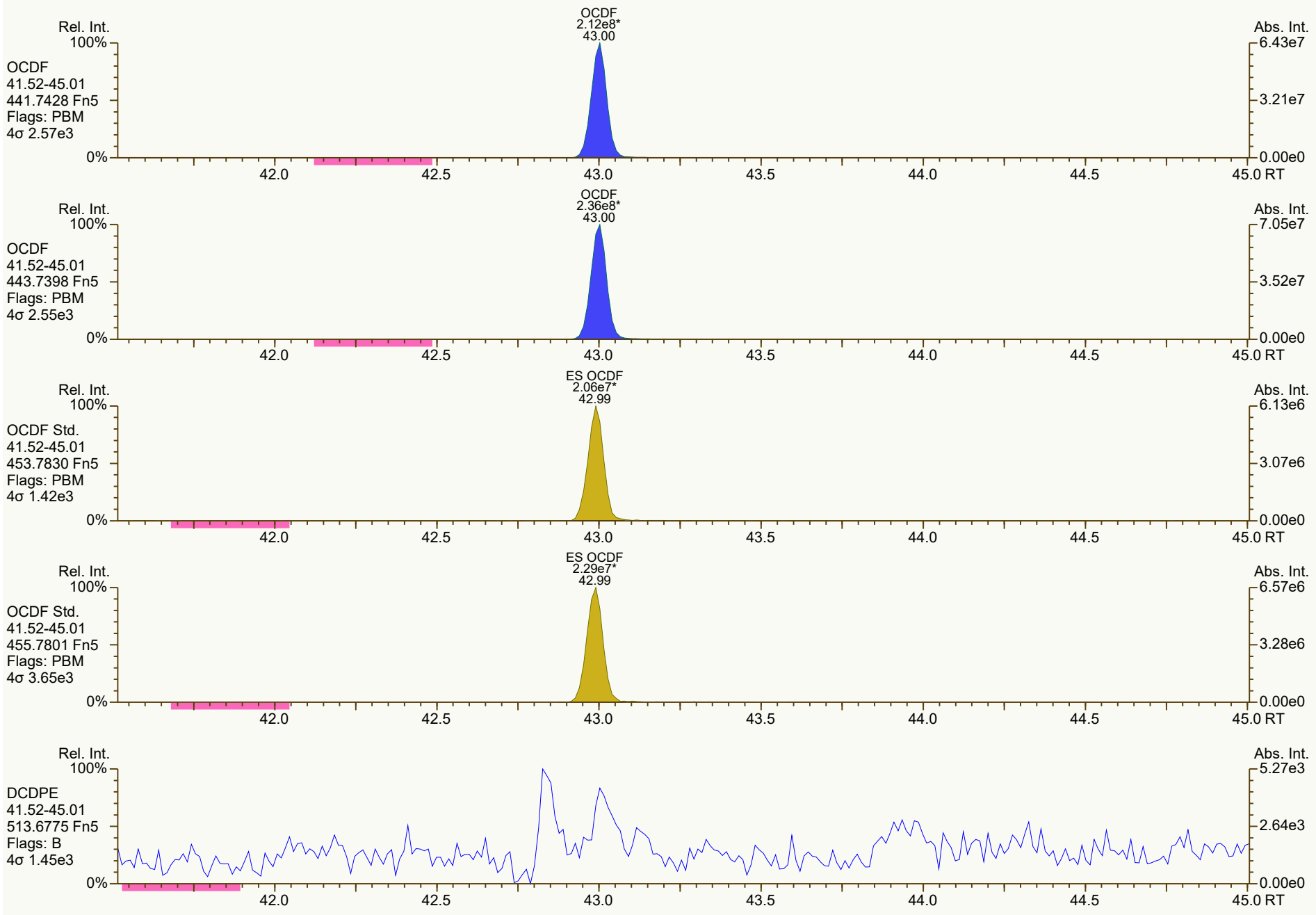

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F 2.09e8 36.06
123678F 2.13e8* 36.20
234678F 2.02e8* 36.85
123789F 1.88e8 37.84
6.94e7
3.47e7
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F 1.69e8 36.06
123678F 1.73e8* 36.20
234678F 1.63e8* 36.85
123789F 1.52e8 37.84
5.64e7
2.82e7
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123478F 1.06e7 36.04
ES 123678F 1.24e7 36.18
CS 123469F 9.36e6* 36.49
ES 234678F 1.15e7 36.84
ES 123789F 1.06e7 37.83
3.78e6
1.89e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123478F 2.05e7 36.04
ES 123678F 2.29e7 36.18
CS 123469F 1.79e7* 36.49
ES 234678F 2.11e7 36.84
ES 123789F 2.00e7 37.83
7.22e6
3.61e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
9.72e3
4.86e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

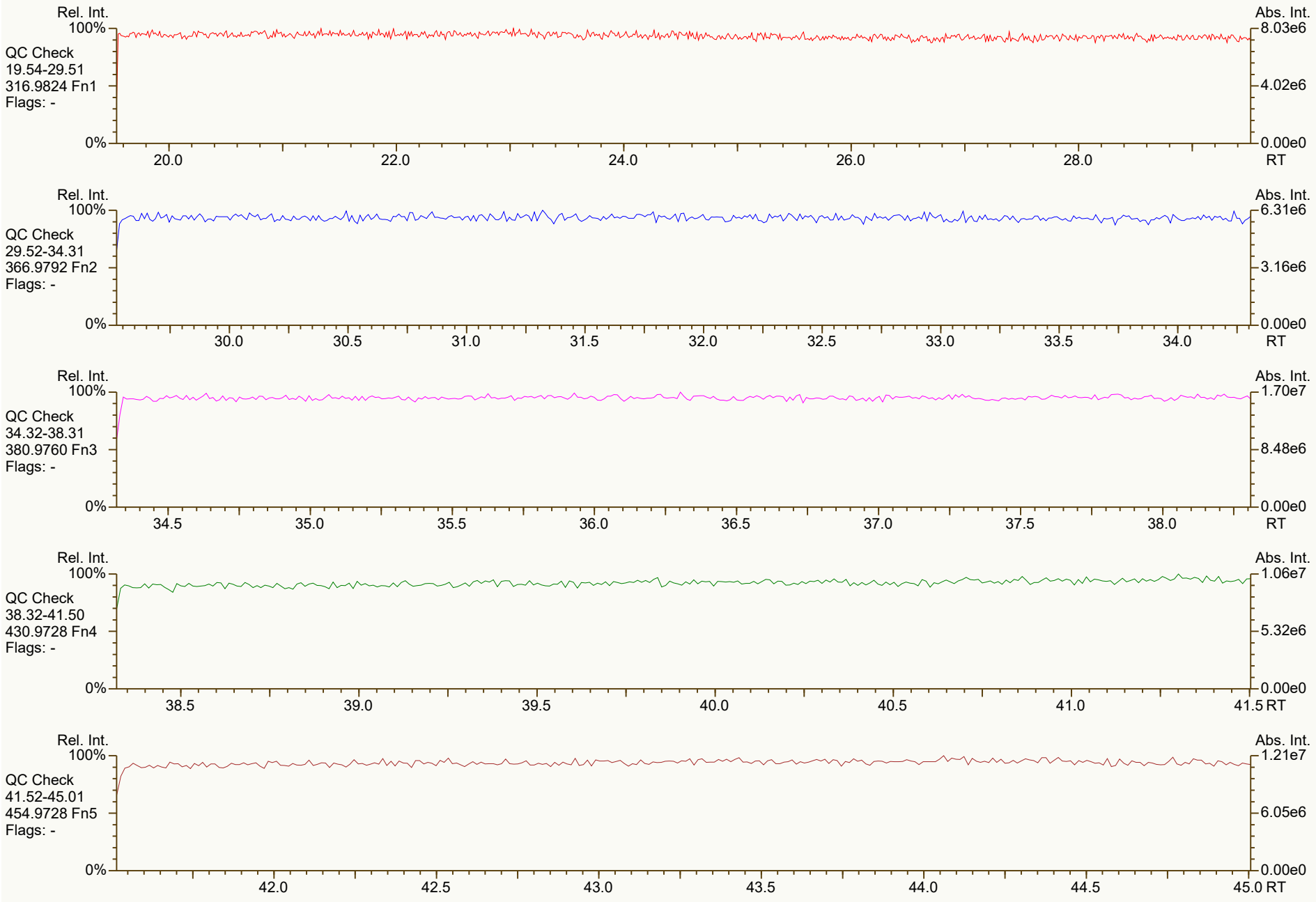

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

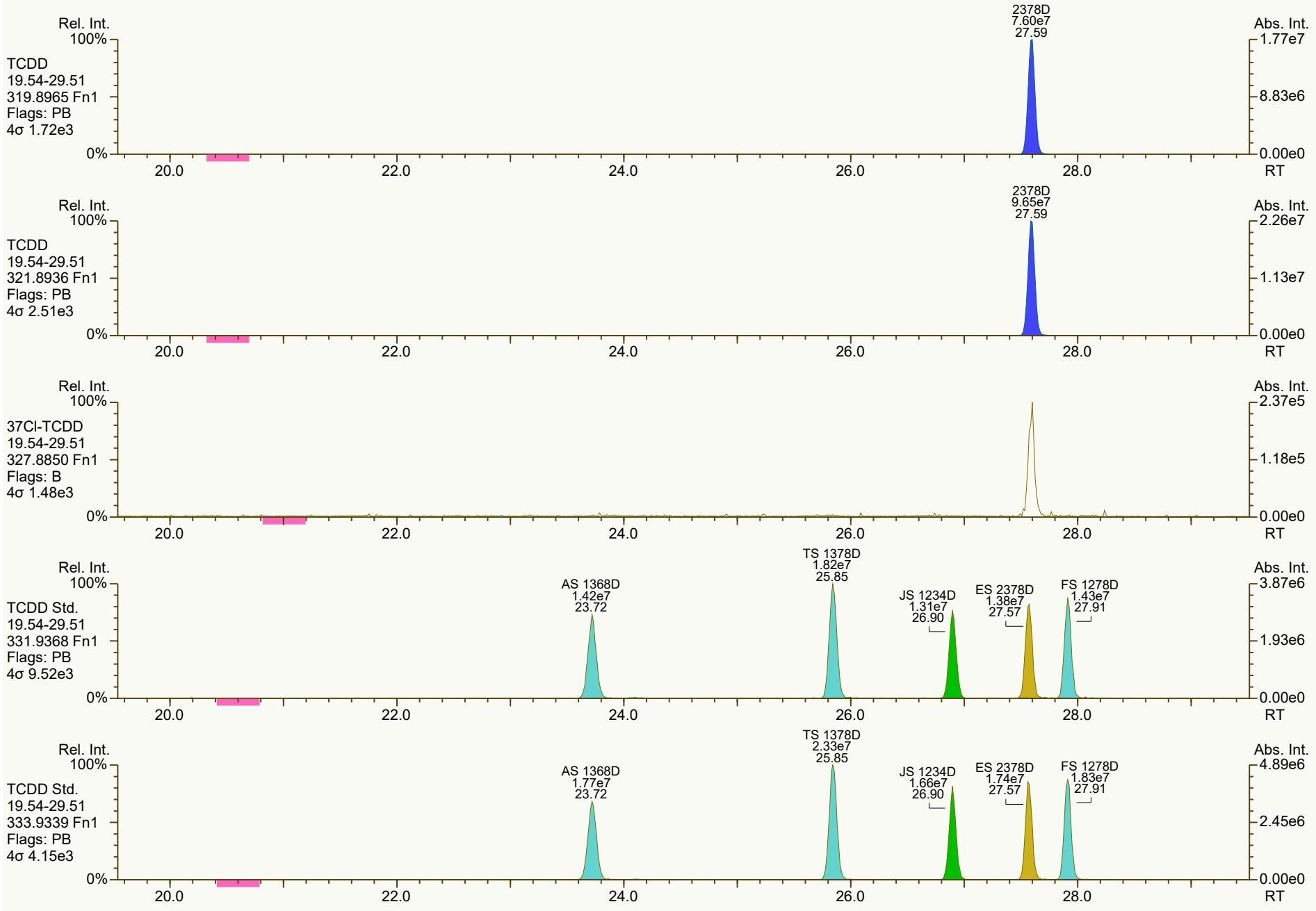

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

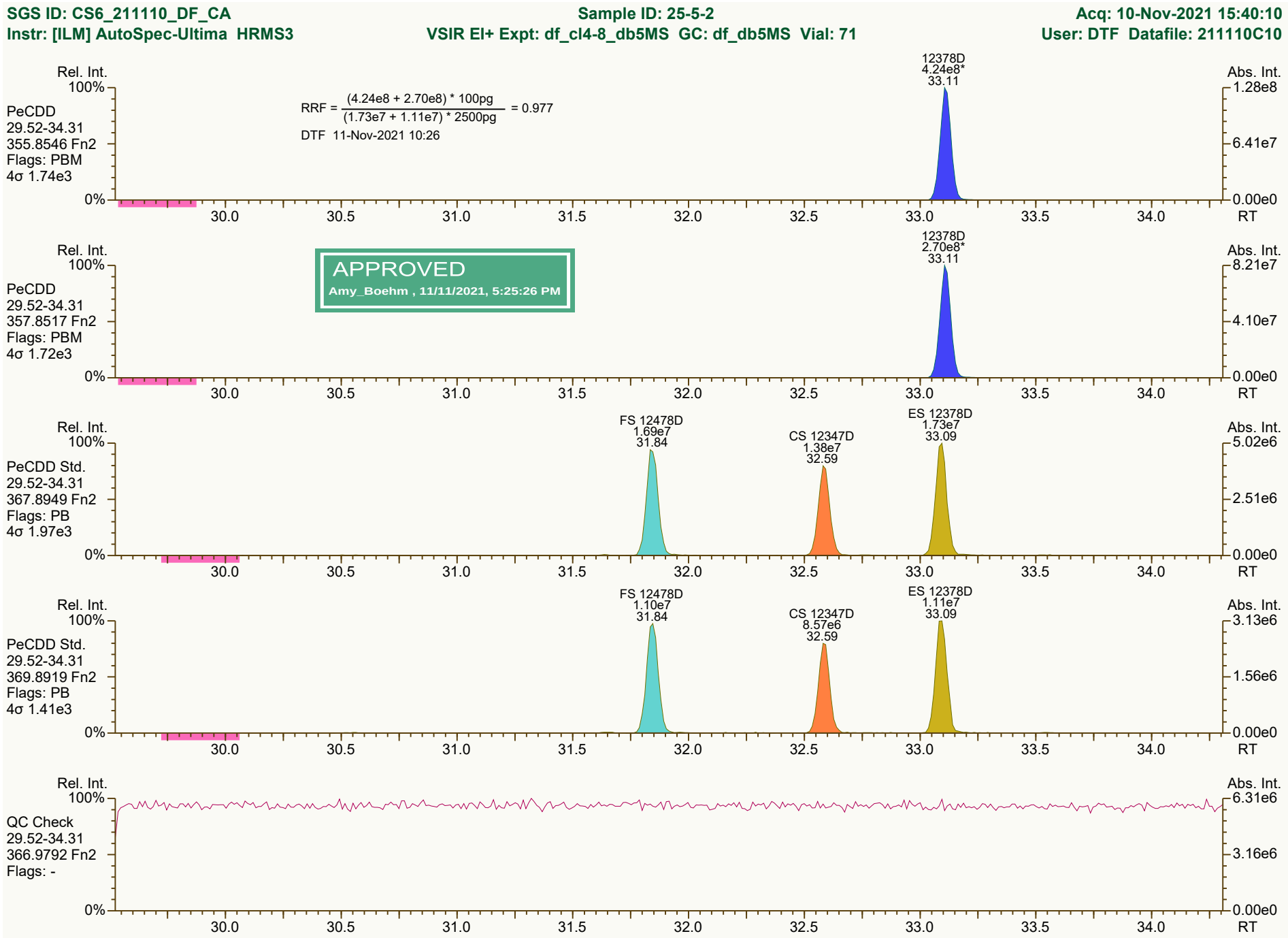
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

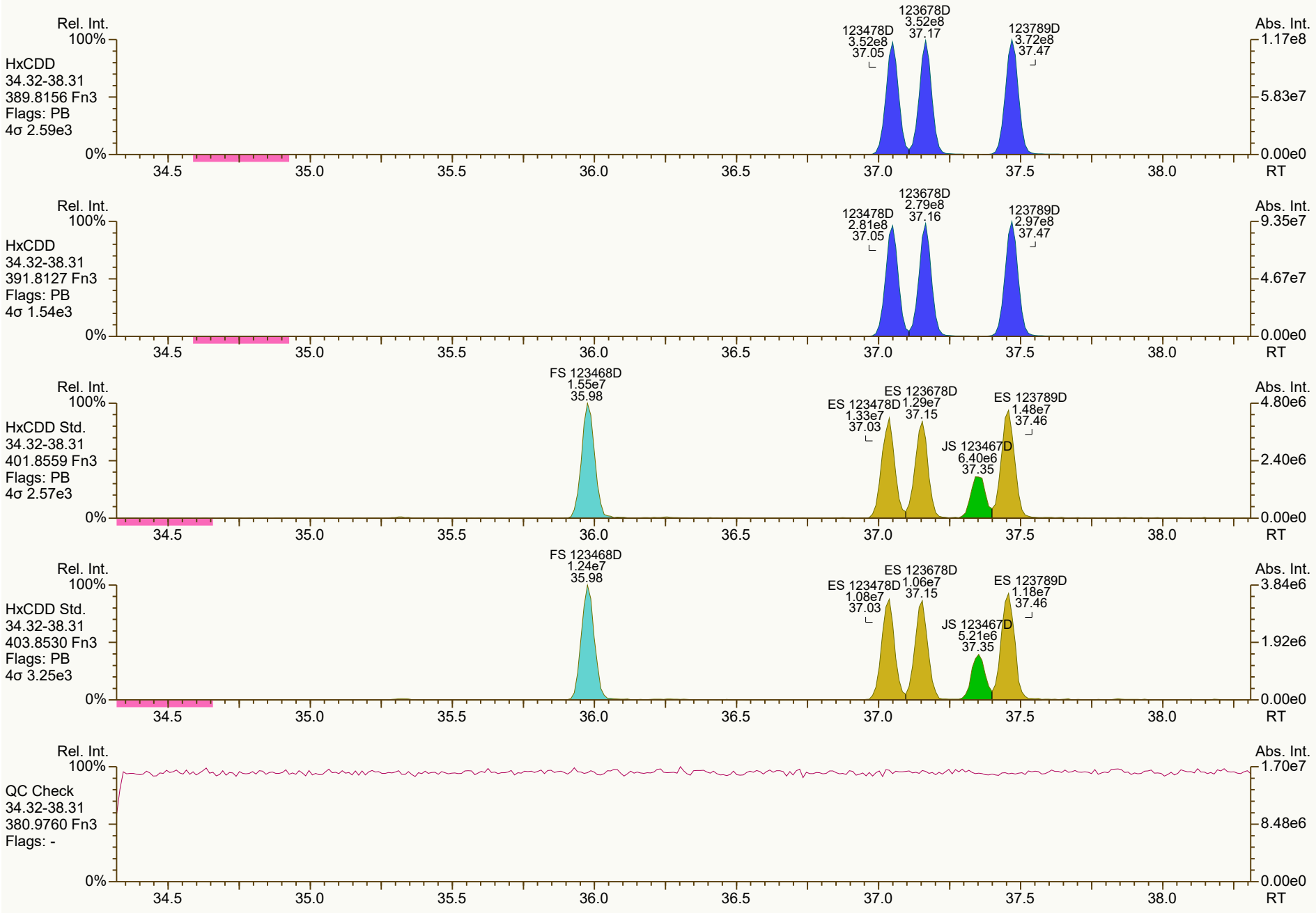
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

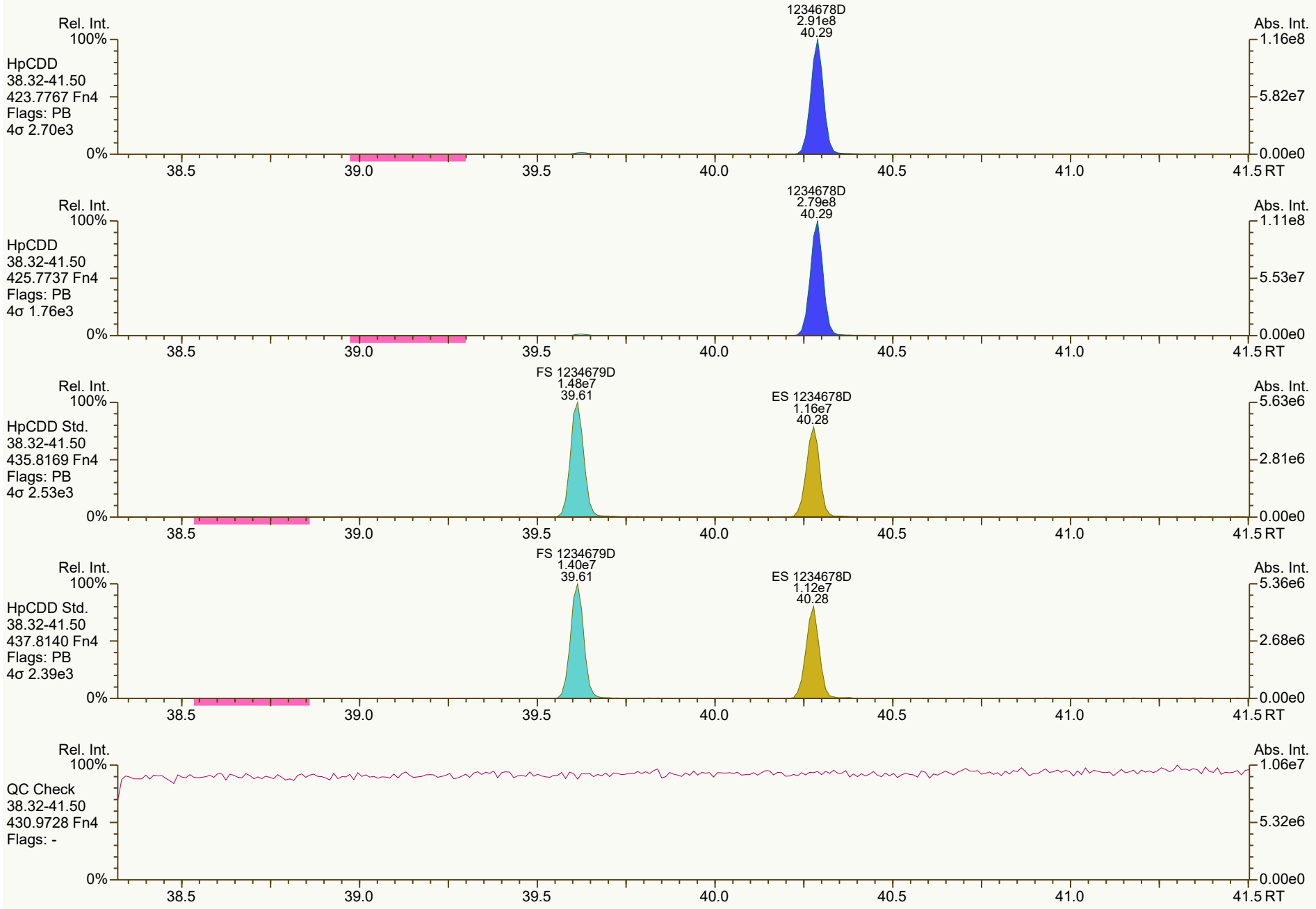
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

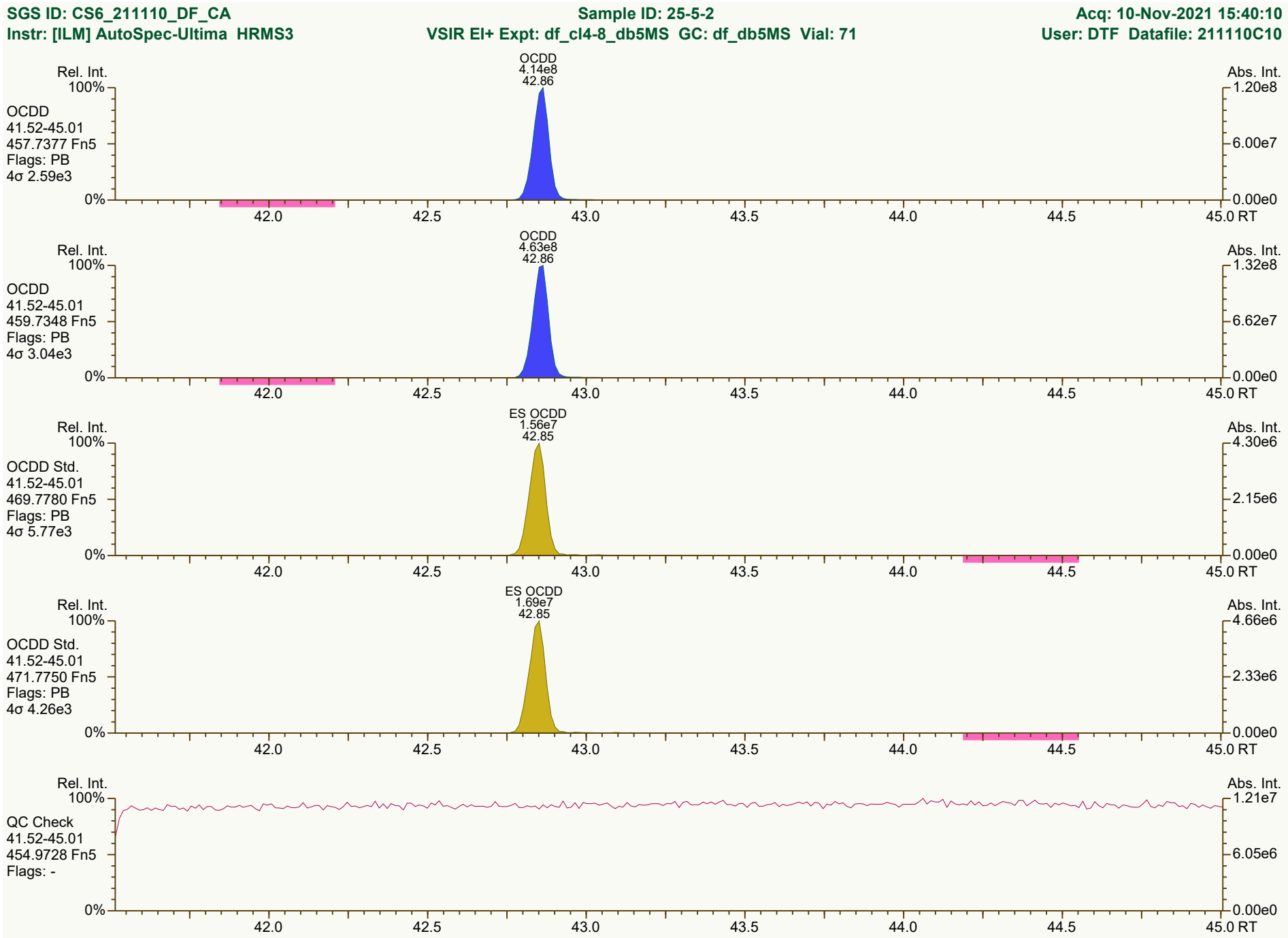

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
12378D
2.70e8*
33.11
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0456, 7992 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 3 of 12

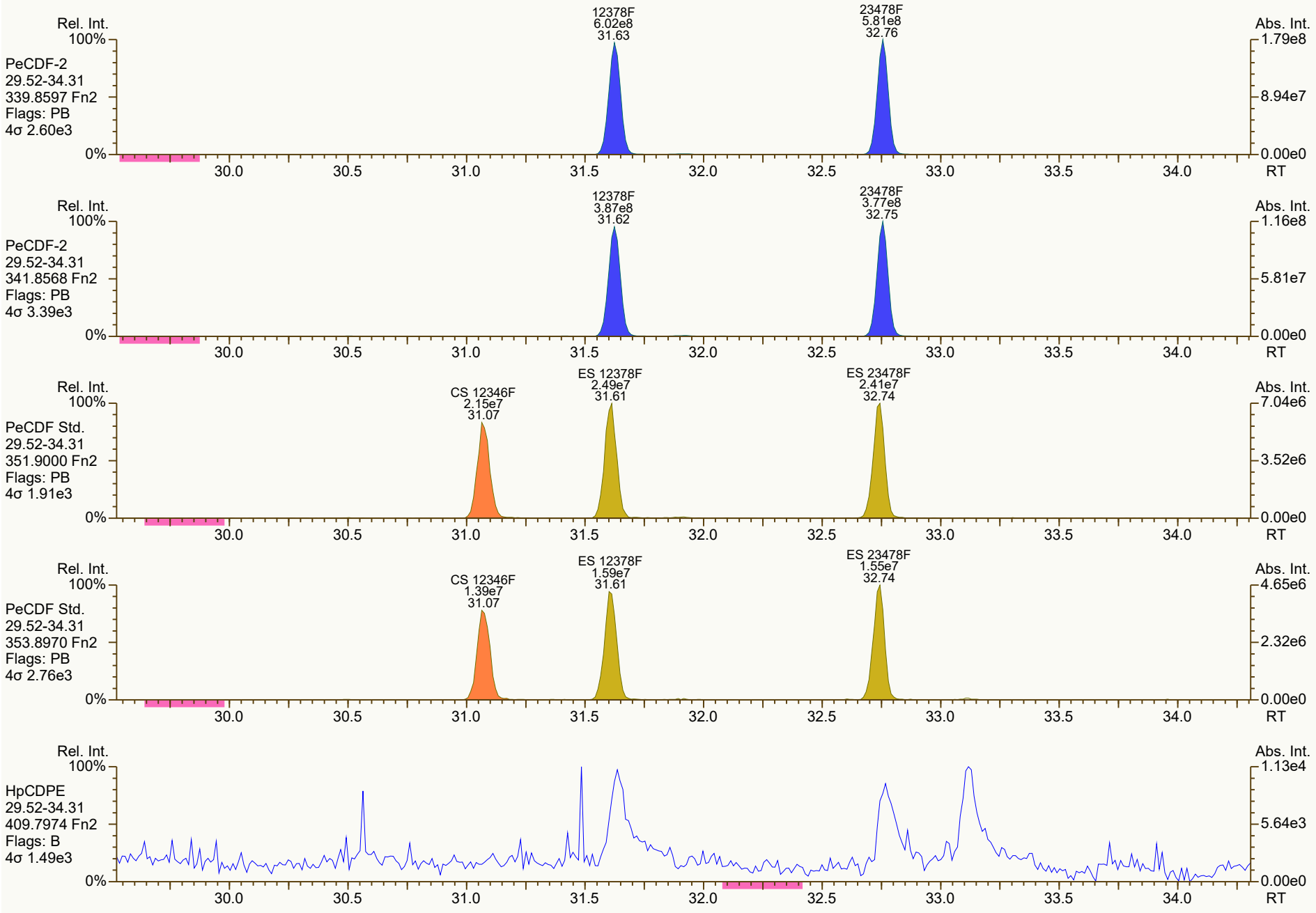

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

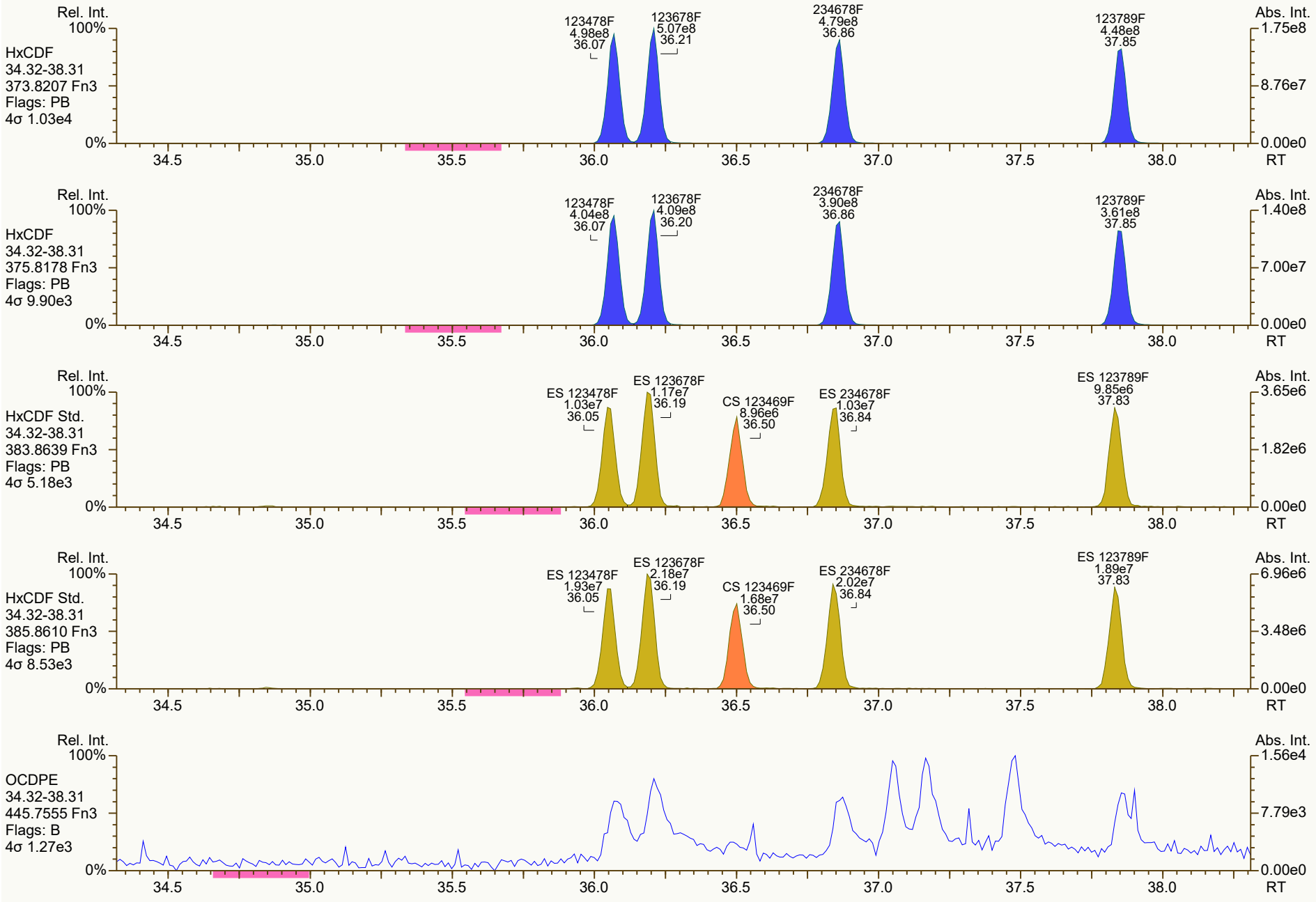

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

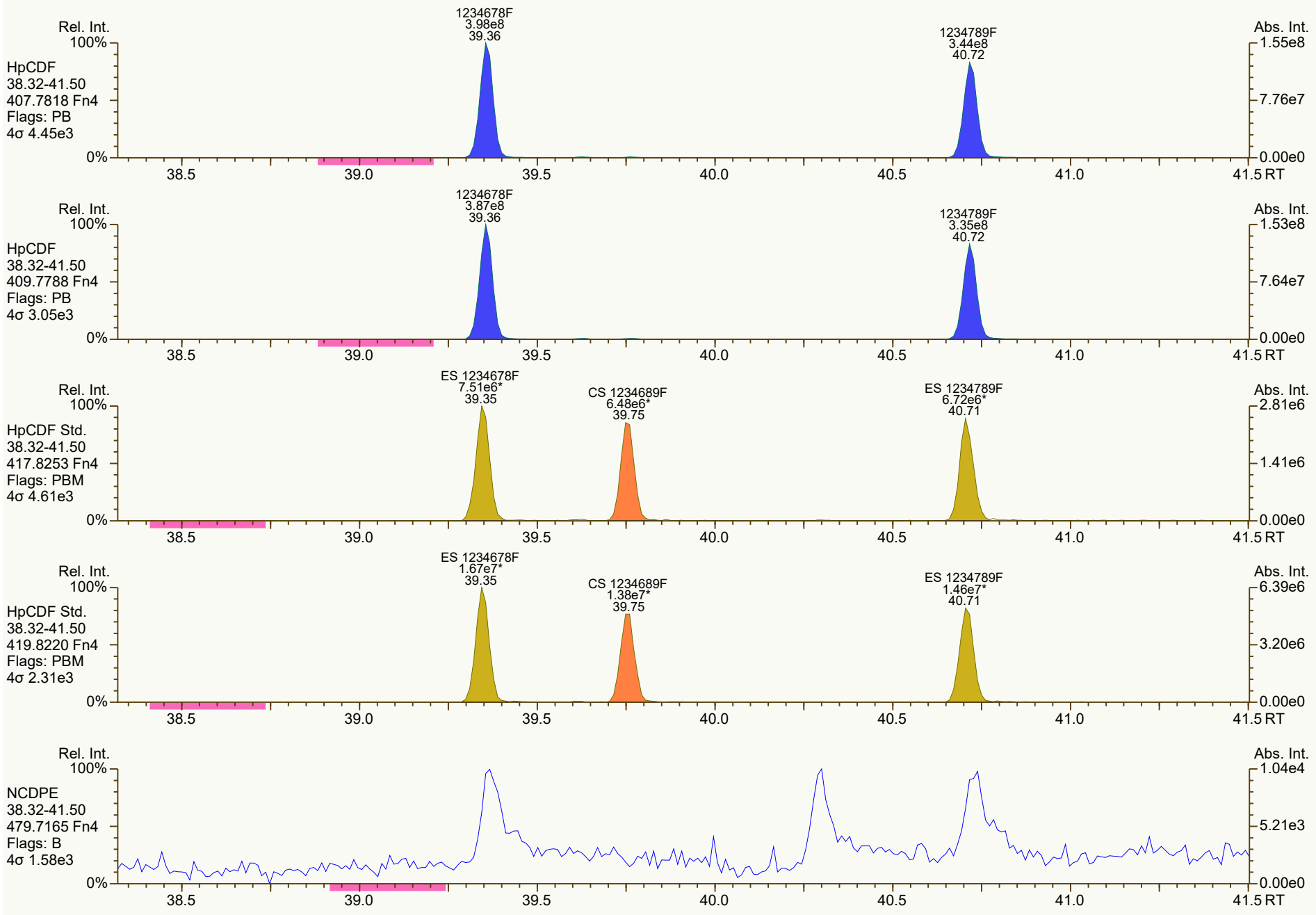

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
OCDD
4.14e8
42.86
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
1.20e8
6.00e7
0.00e0
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
1.32e8
6.62e7
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
4.30e6
2.15e6
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
4.66e6
2.33e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.21e7
6.05e6
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

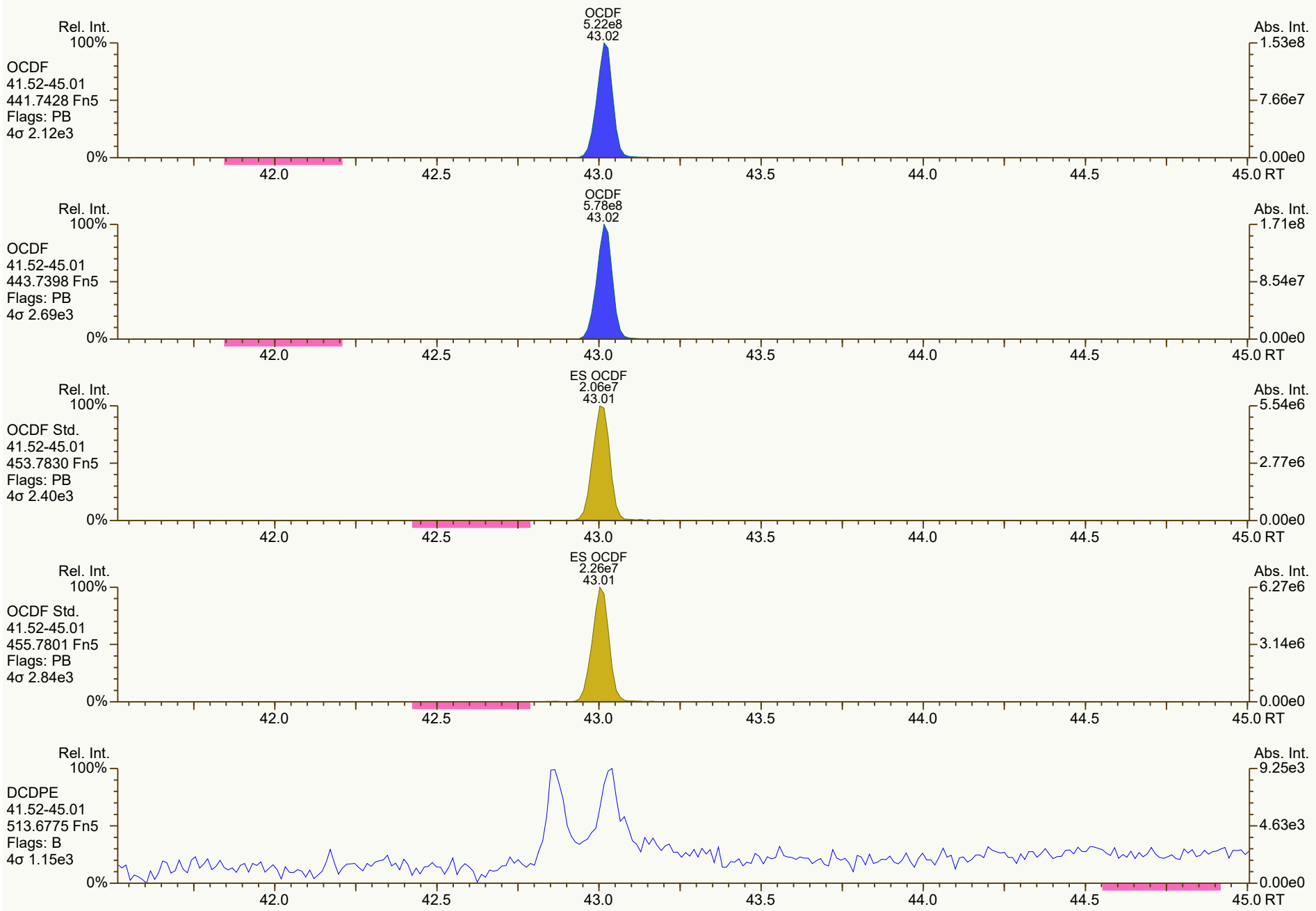

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

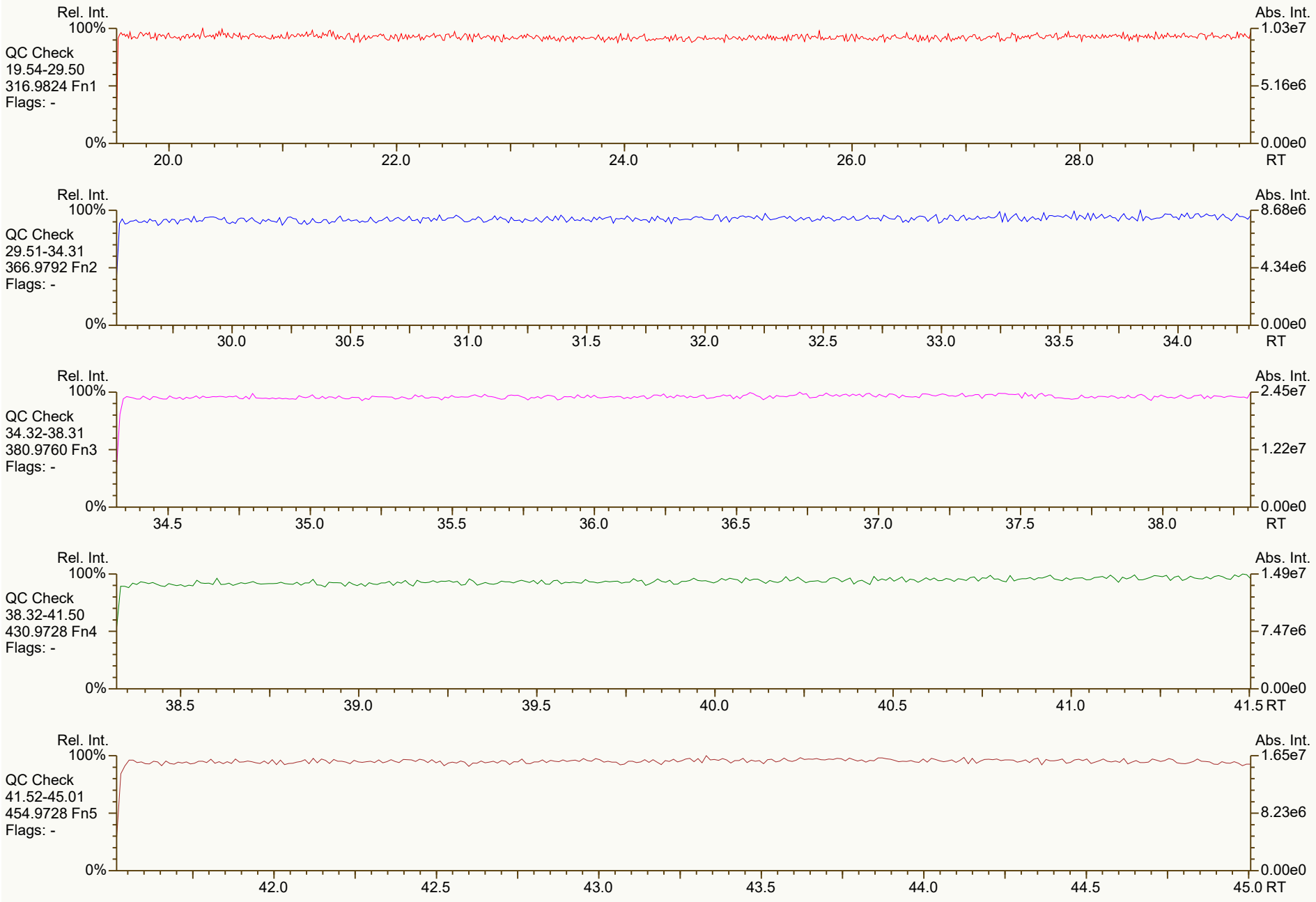

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

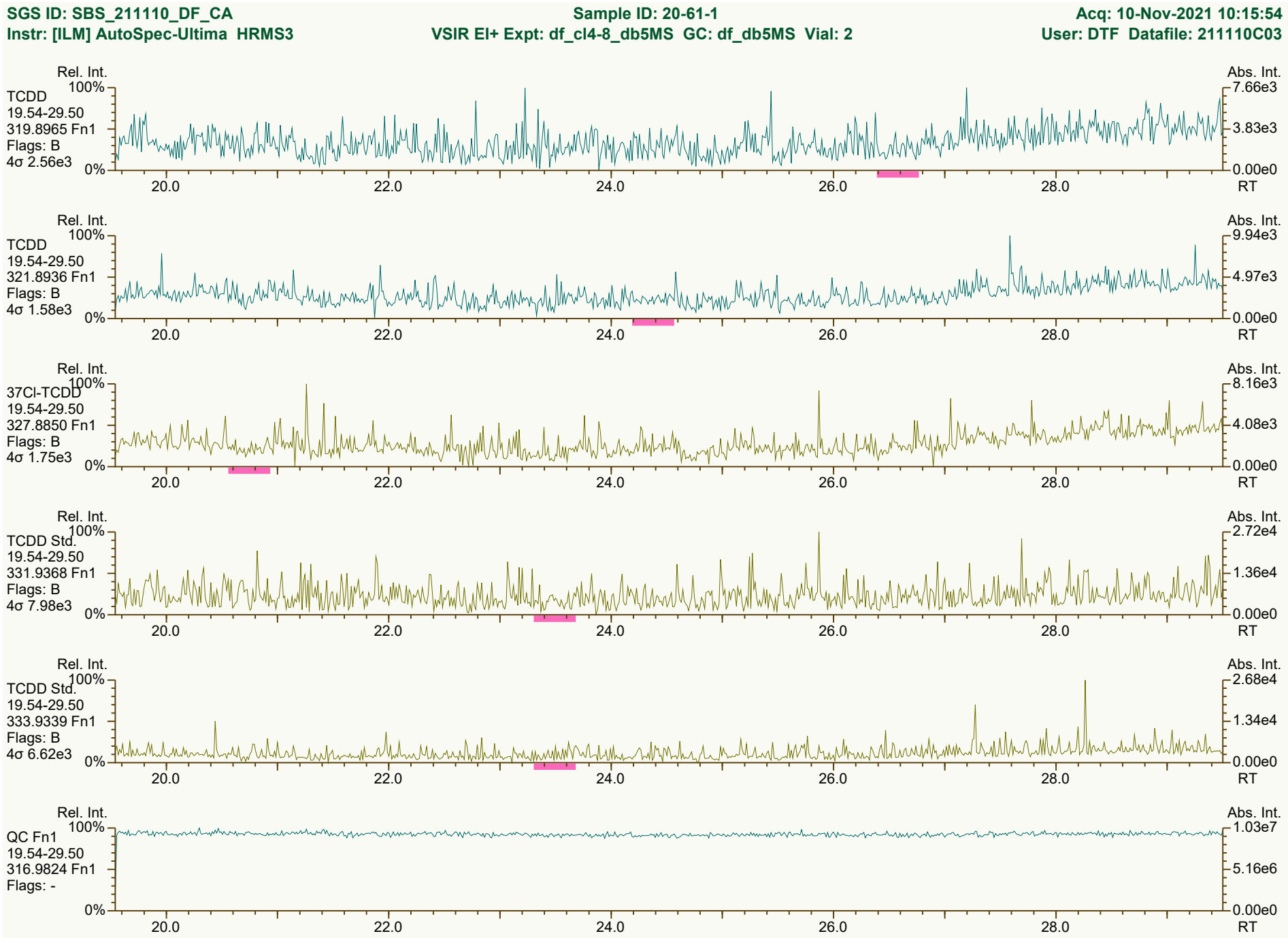

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

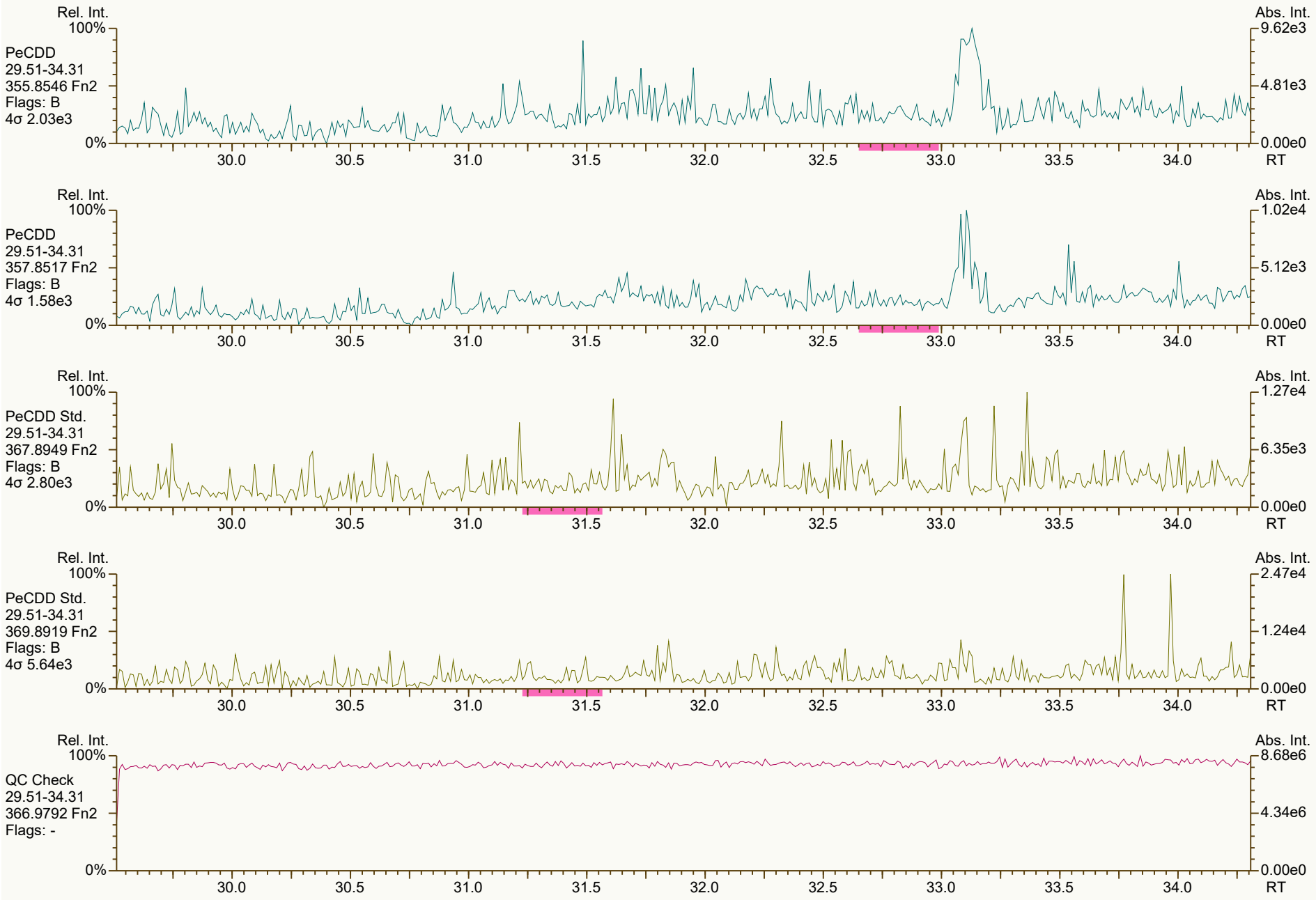

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

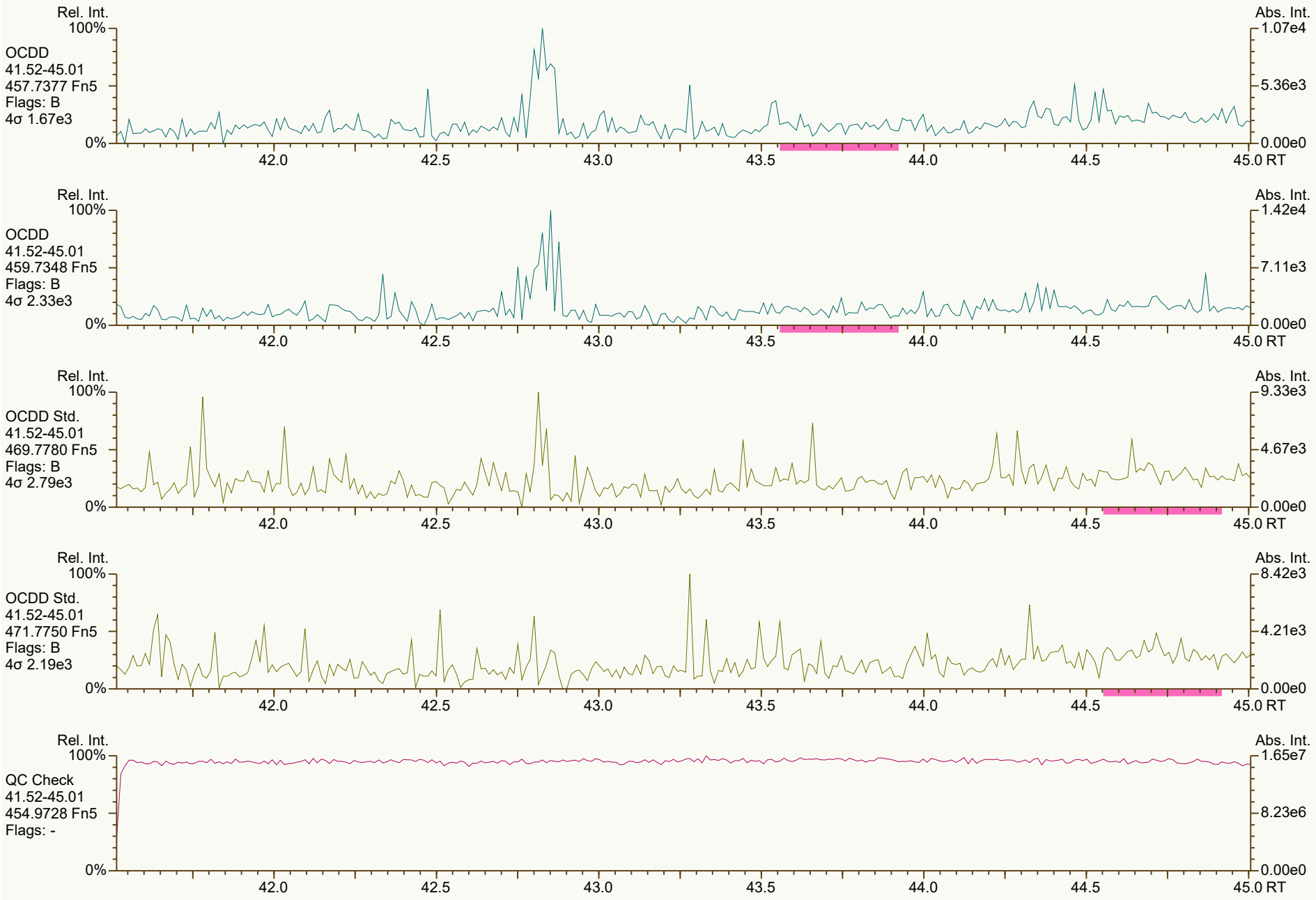

SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

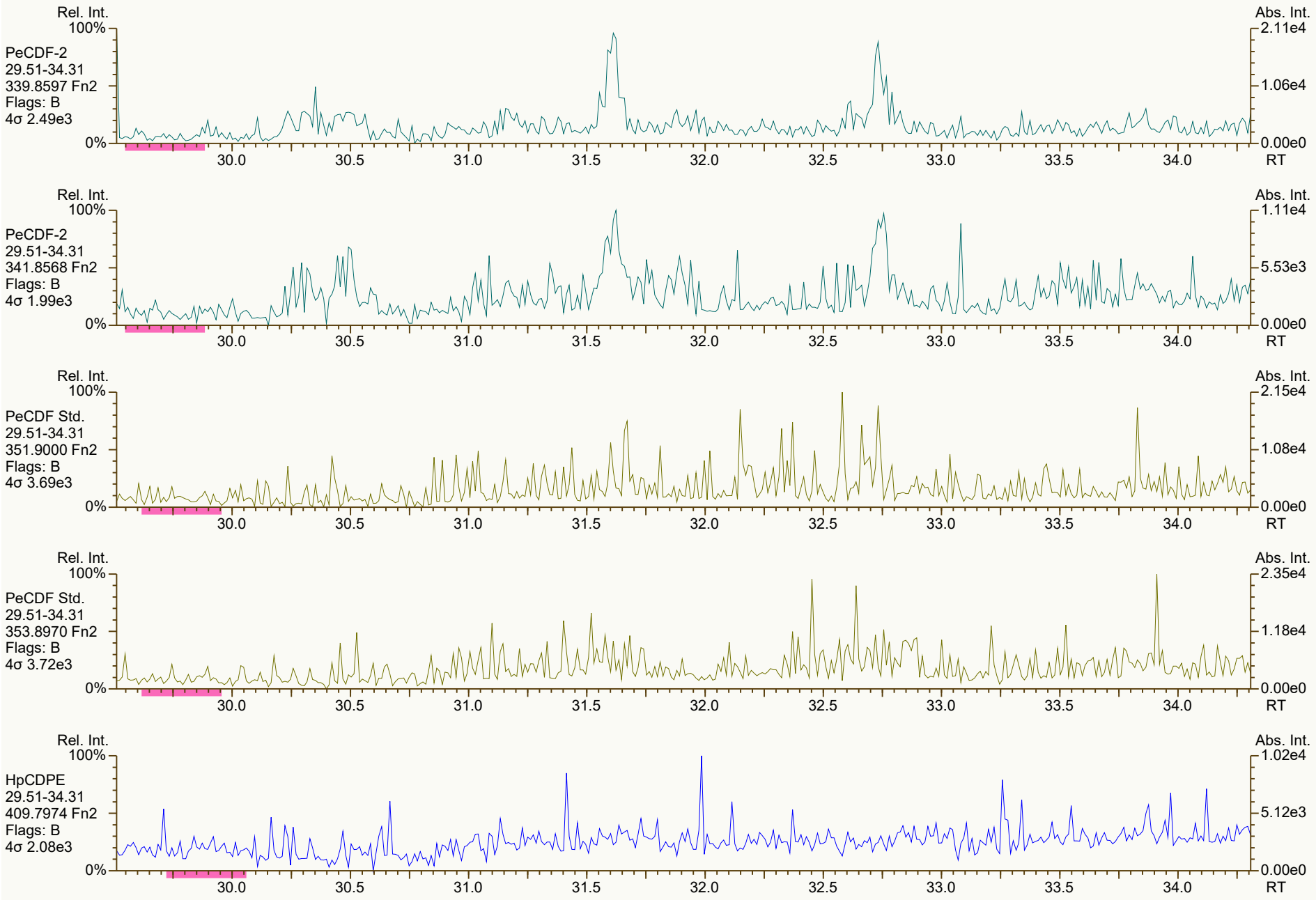

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

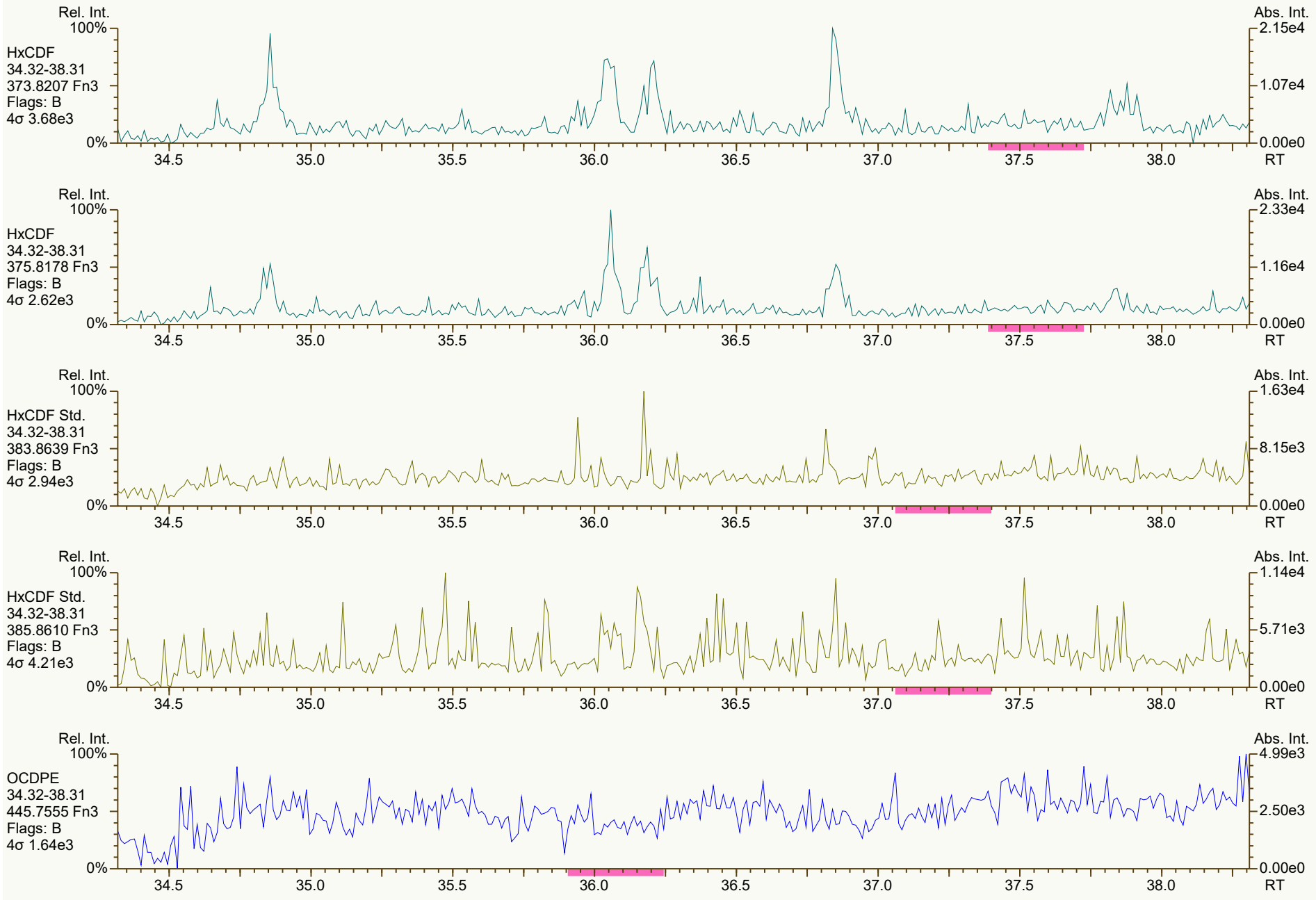

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

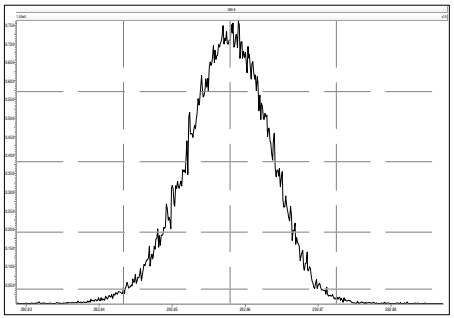

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

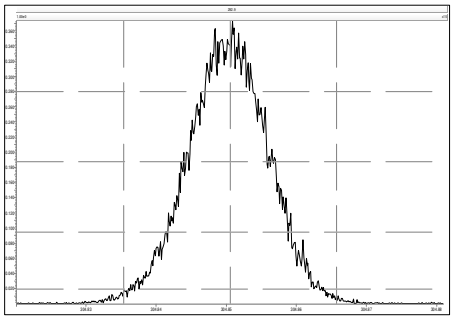
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

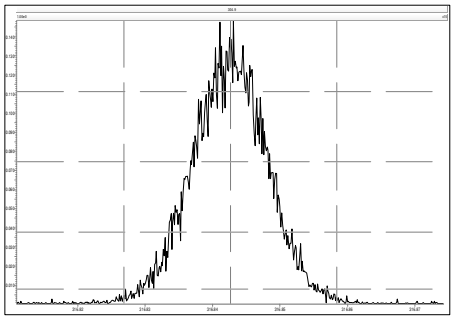
M 292.9824 R 10731



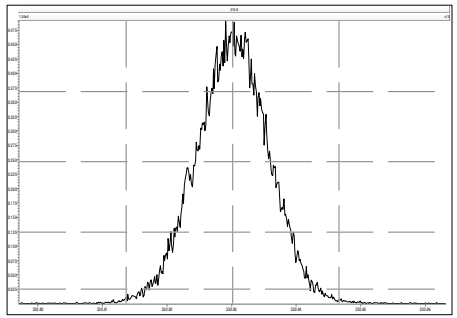
M 304.9824 R 11311



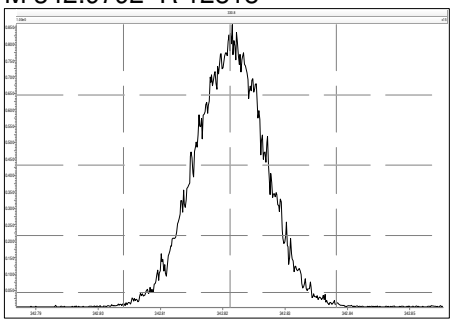
M 316.9824 R 12373



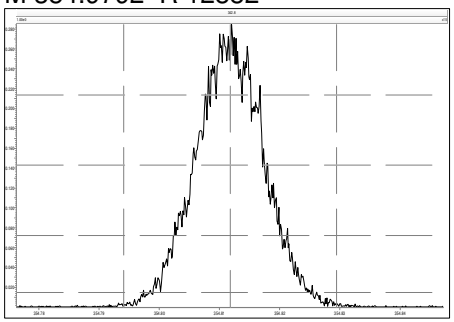
M 330.9792 R 12887



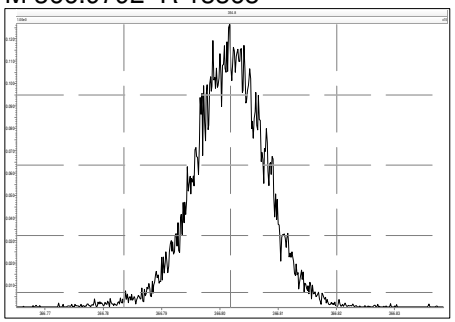
M 342.9792 R 12818



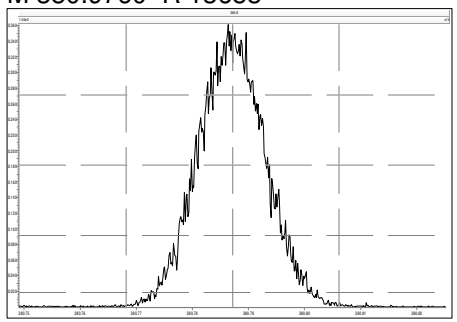
M 354.9792 R 12882



M 366.9792 R 13368



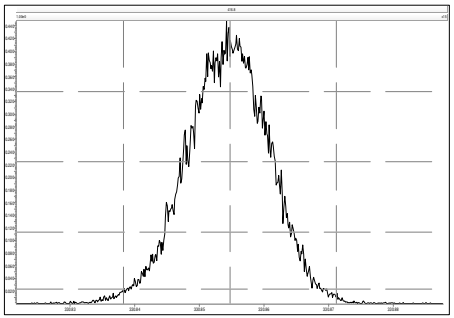
M 380.9760 R 13658



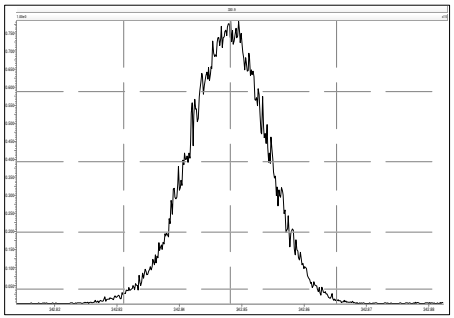
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

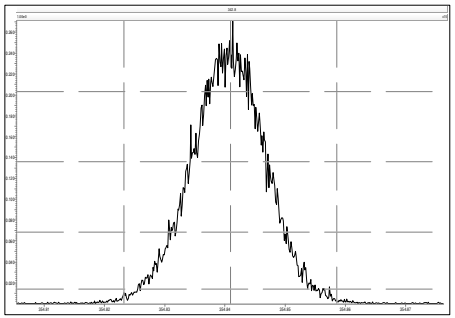
M 330.9792 R 11112



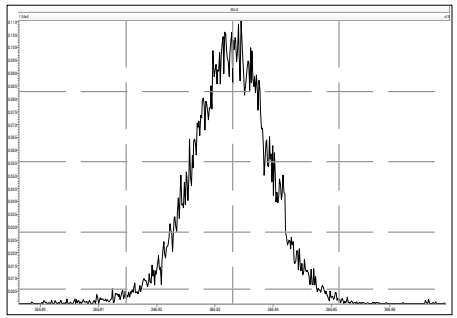
M 342.9792 R 11909



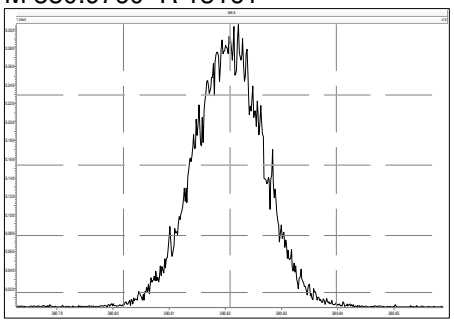
M 354.9792 R 11684



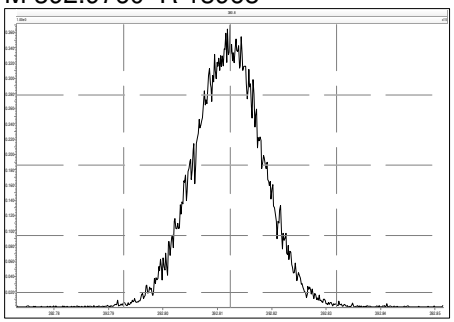
M 366.9792 R 11962



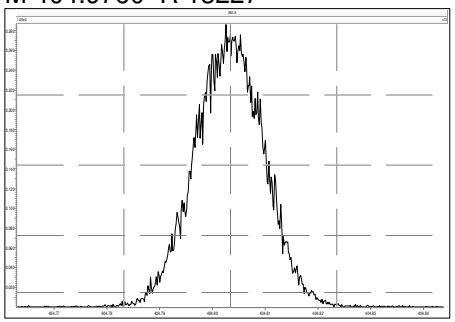
M 380.9760 R 13161



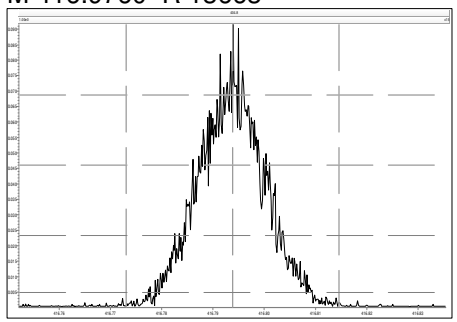
M 392.9760 R 13968



M 404.9760 R 13227



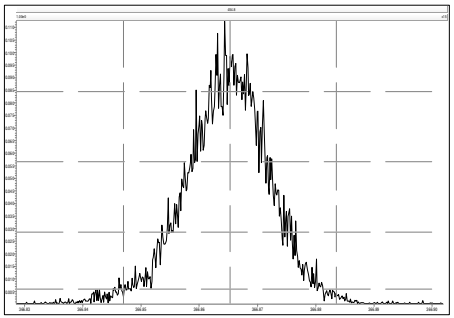
M 416.9760 R 13663



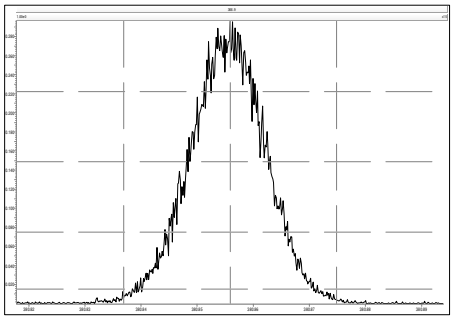
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

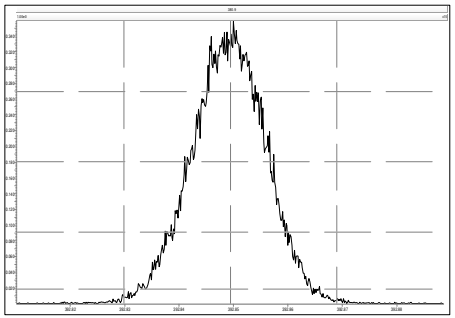
M 366.9792 R 10680



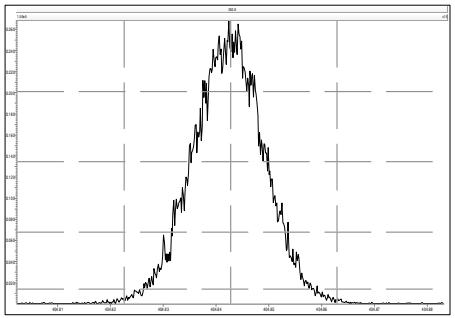
M 380.9760 R 12315



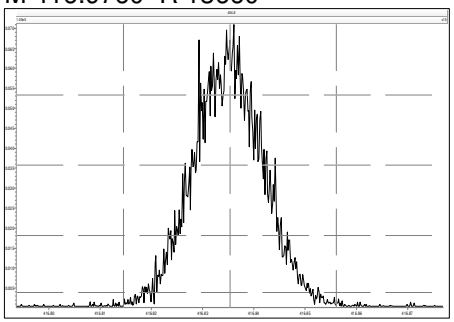
M 392.9760 R 12197



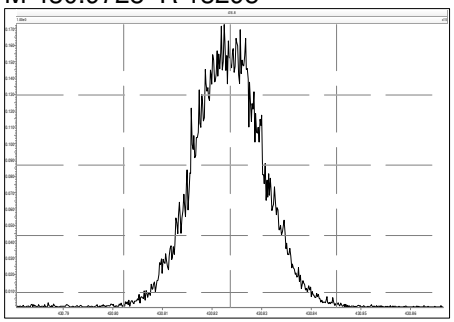
M 404.9760 R 12433



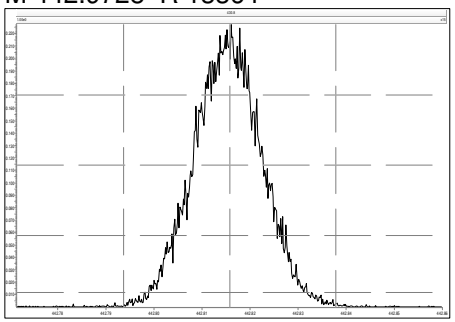
M 416.9760 R 13660



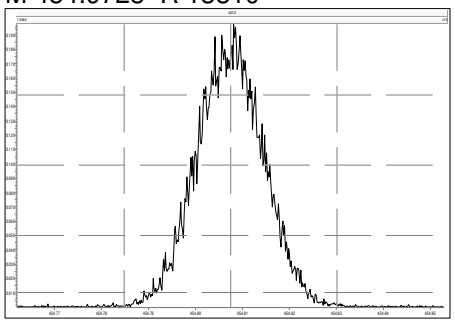
M 430.9728 R 13295



M 442.9728 R 13364



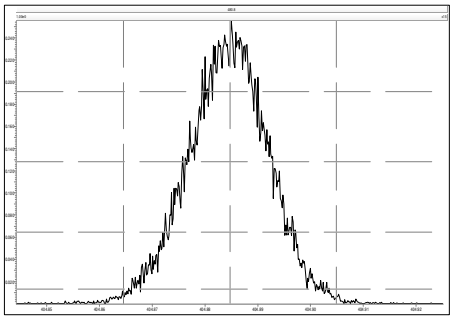
M 454.9728 R 13810



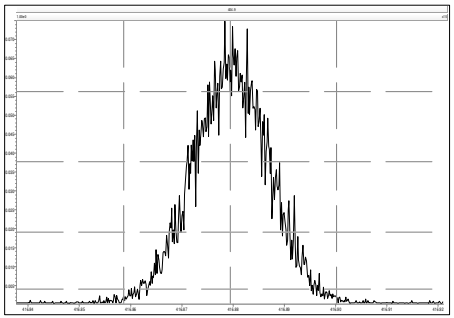
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

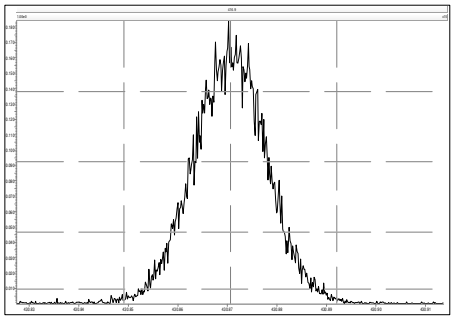
M 404.9760 R 11679



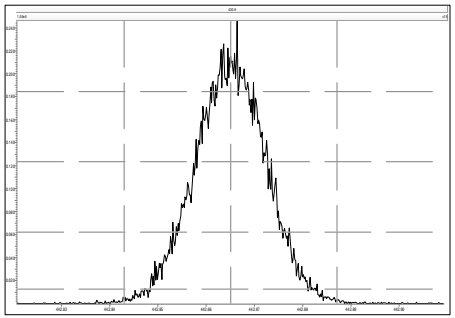
M 416.9760 R 12886



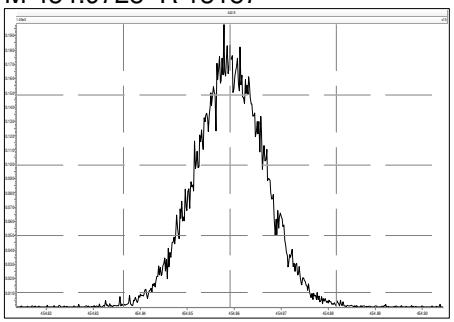
M 430.9728 R 12253



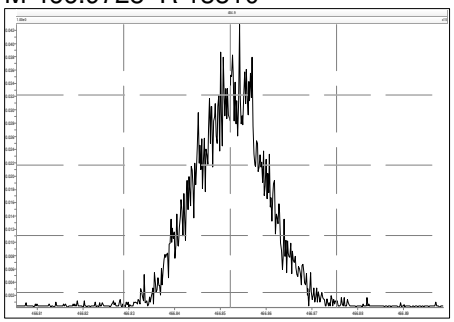
M 442.9728 R 12756



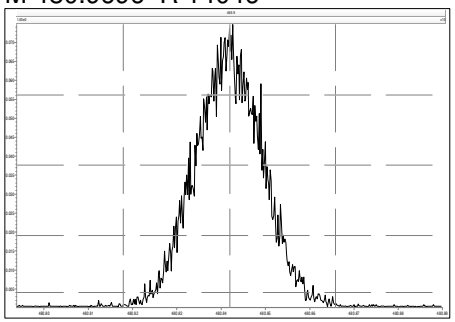
M 454.9728 R 13157



M 466.9728 R 13810



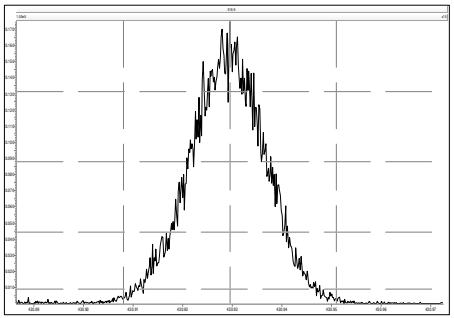
M 480.9696 R 14046



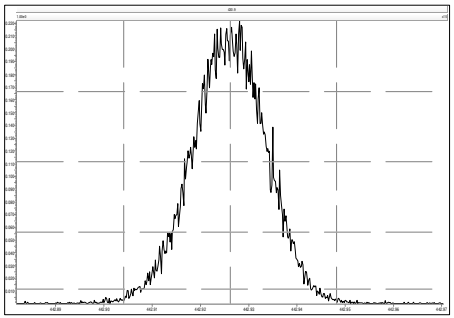
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

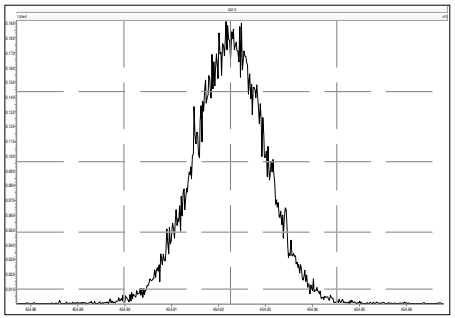
M 430.9728 R 11574



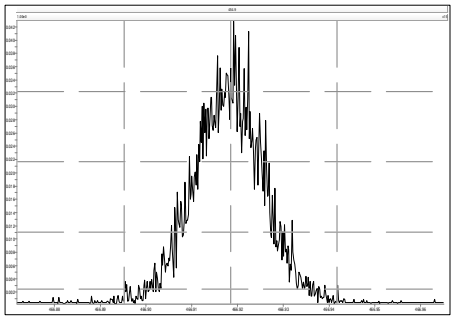
M 442.9728 R 12198



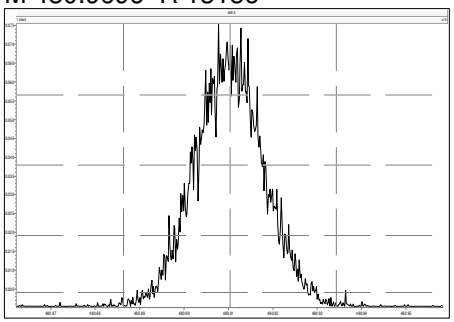
M 454.9728 R 12950



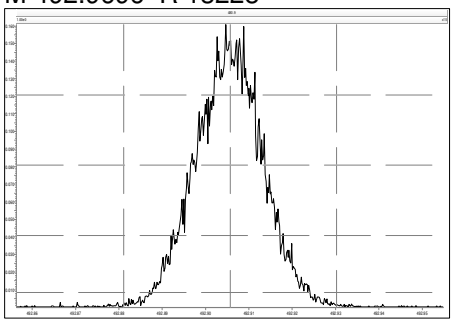
M 466.9728 R 13088



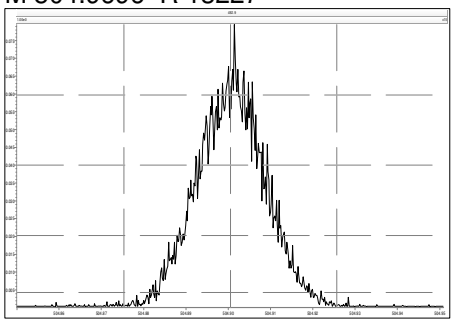
M 480.9696 R 13156



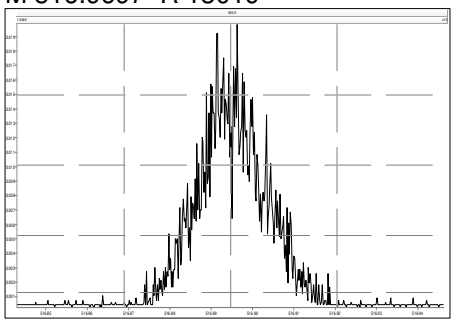
M 492.9696 R 13228



M 504.9696 R 13227



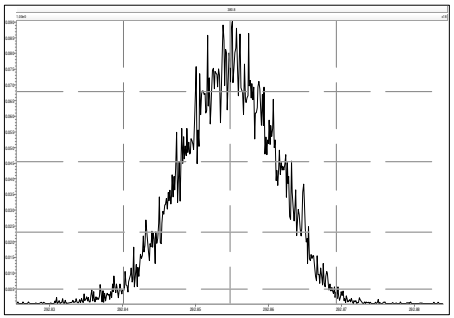
M 516.9697 R 13019



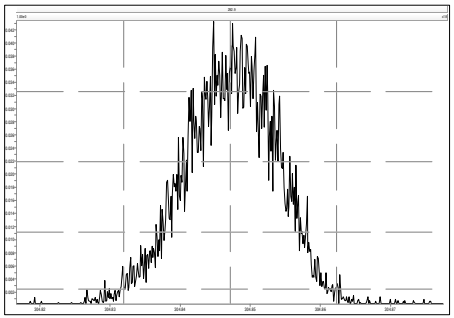
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

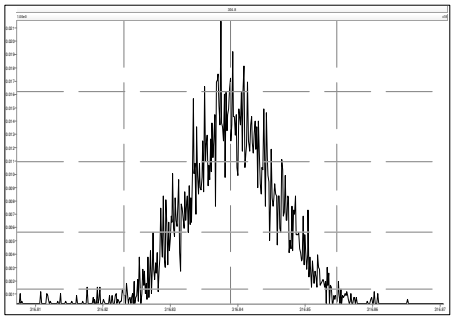
M 292.9824 R 10122



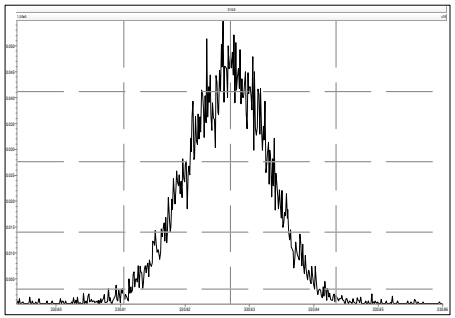
M 304.9824 R 10329



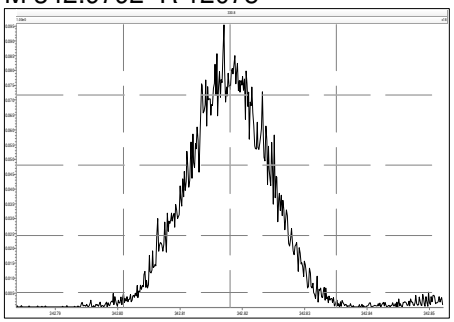
M 316.9824 R 11964



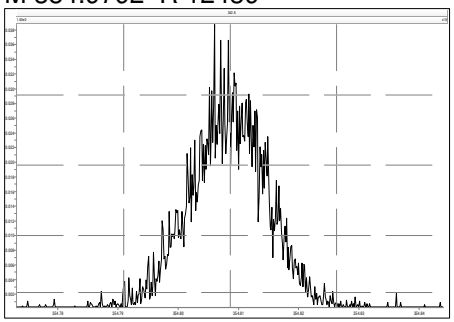
M 330.9792 R 11062



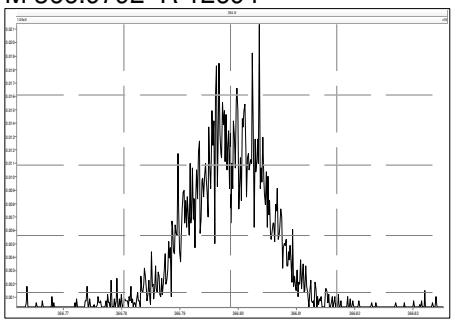
M 342.9792 R 12075



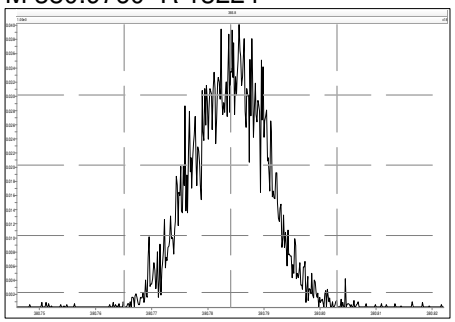
M 354.9792 R 12439



M 366.9792 R 12694



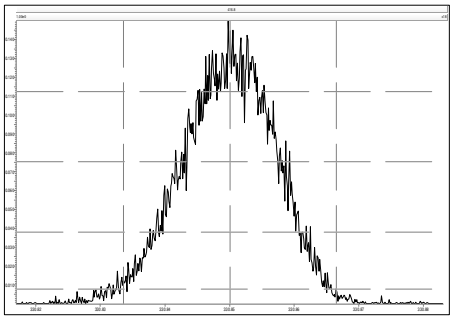
M 380.9760 R 13224



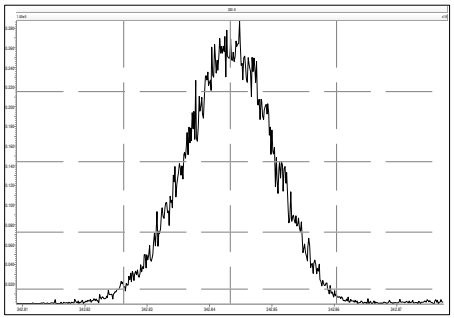
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

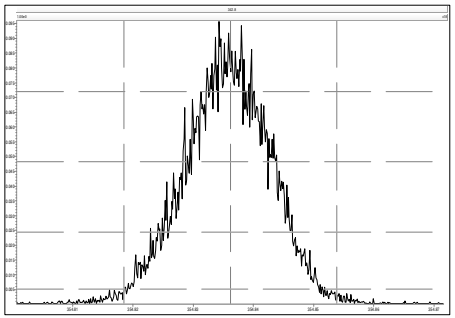
M 330.9792 R 10730



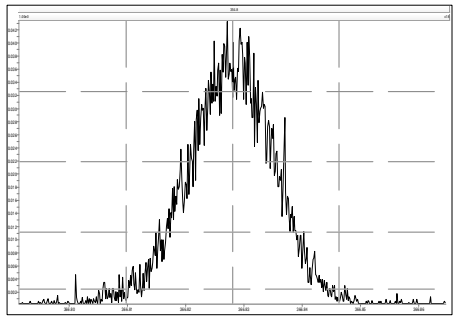
M 342.9792 R 10039



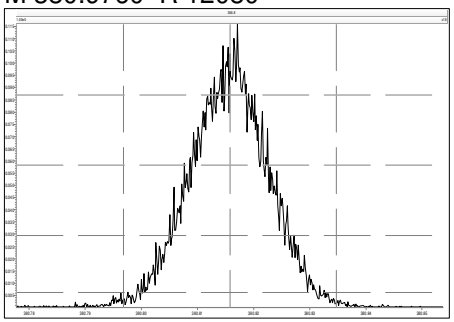
M 354.9792 R 11108



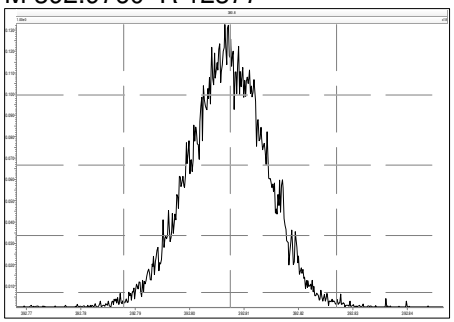
M 366.9792 R 11520



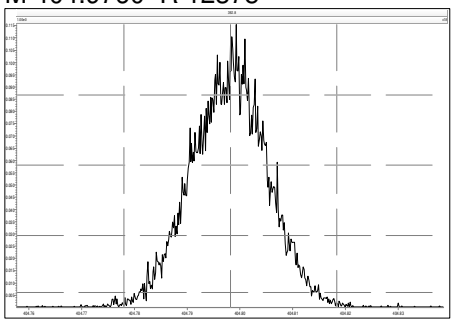
M 380.9760 R 12080



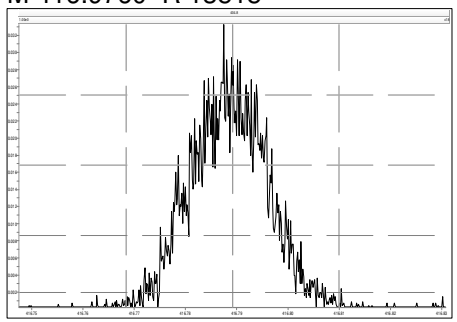
M 392.9760 R 12377



M 404.9760 R 12375



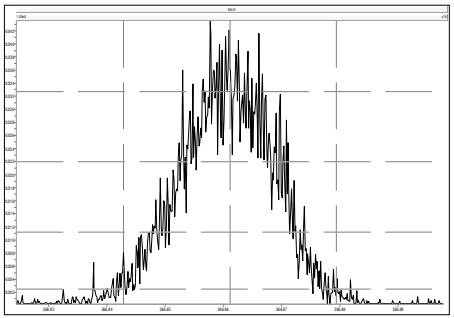
M 416.9760 R 13515



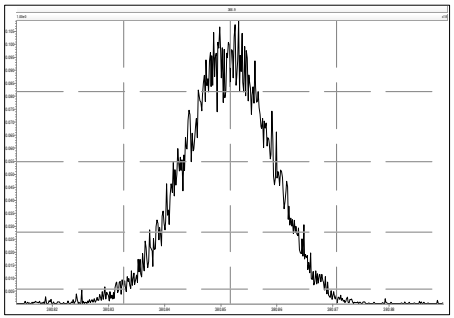
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

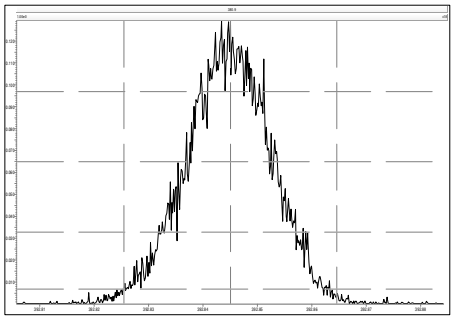
M 366.9792 R 10866



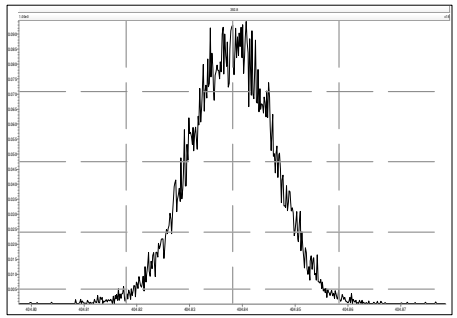
M 380.9760 R 10416



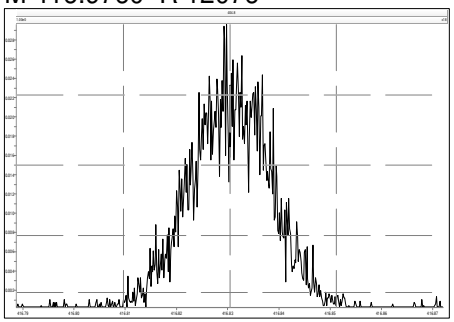
M 392.9760 R 10640



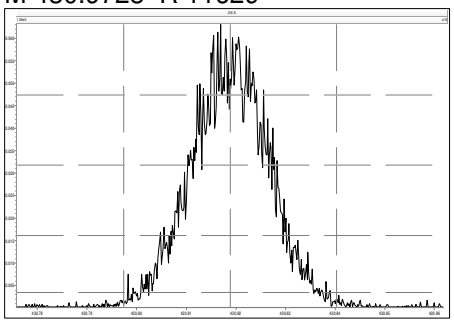
M 404.9760 R 11957



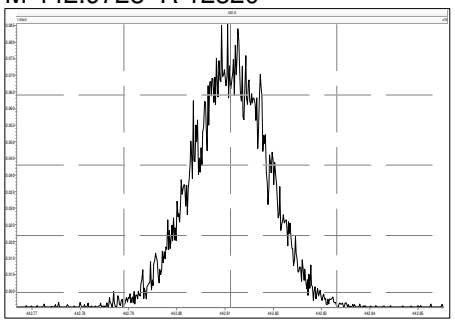
M 416.9760 R 12076



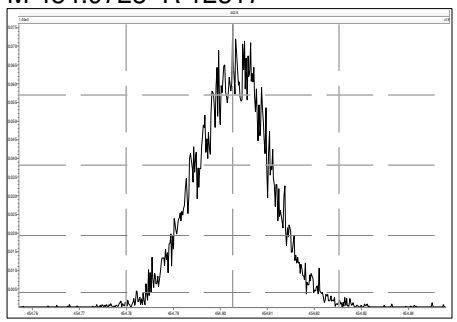
M 430.9728 R 11629



M 442.9728 R 12820



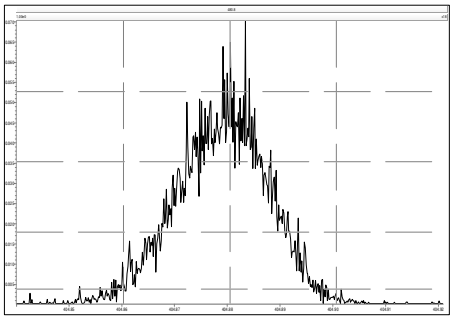
M 454.9728 R 12317



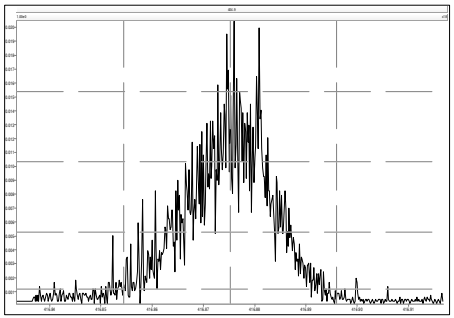
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

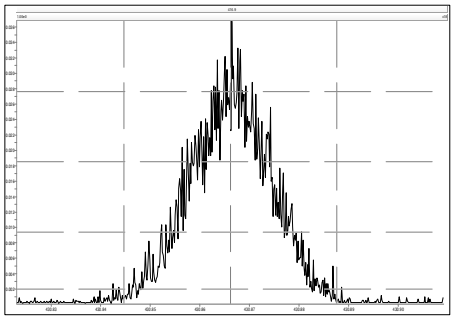
M 404.9760 R 10505



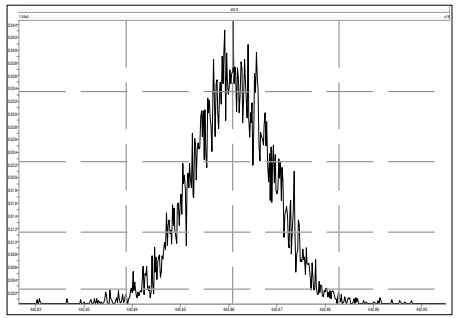
M 416.9760 R 12500



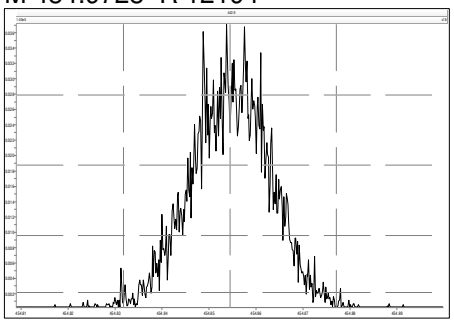
M 430.9728 R 11362



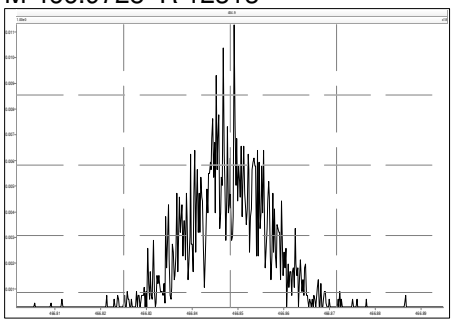
M 442.9728 R 12756



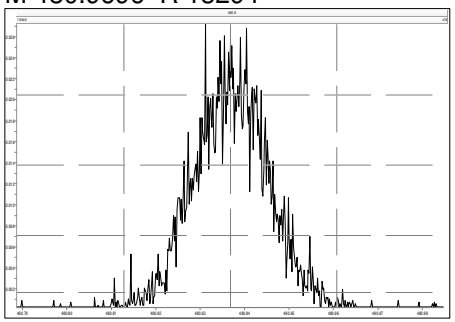
M 454.9728 R 12194



M 466.9728 R 12313



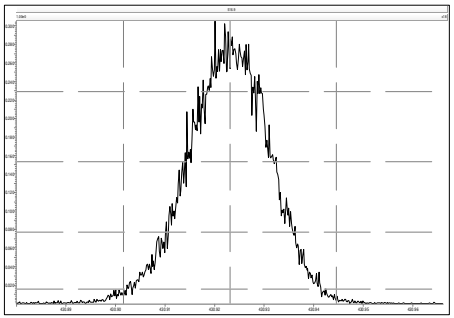
M 480.9696 R 13294



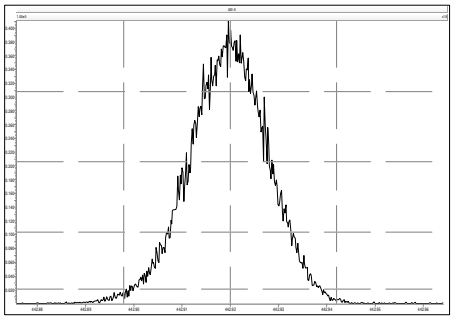
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

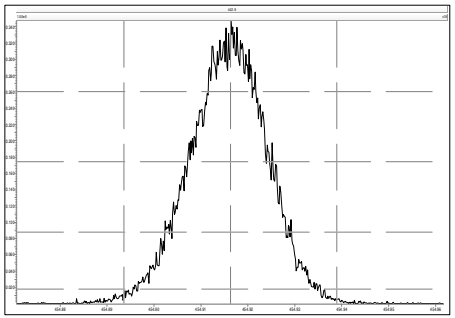
M 430.9728 R 11312



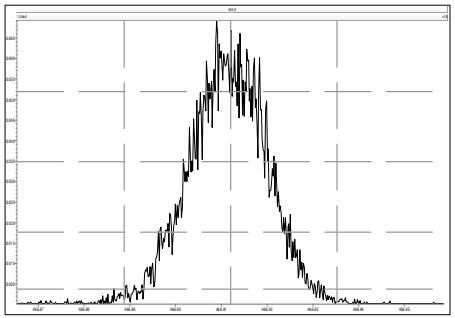
M 442.9728 R 11110



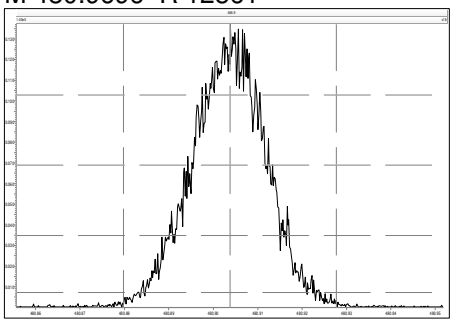
M 454.9728 R 11906



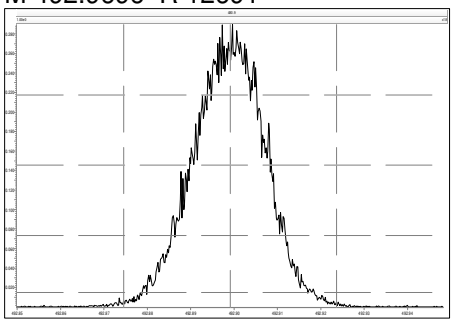
M 466.9728 R 12562



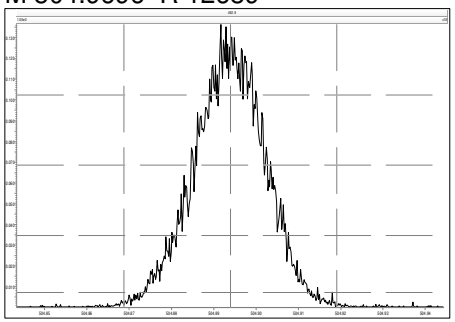
M 480.9696 R 12561



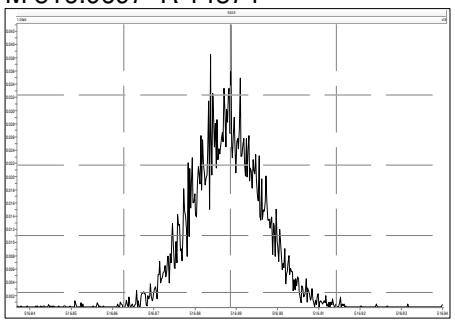
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18911_DF

REVIEWED
Amber_Kornegay , 2/23/2022, 8:35:52 AM

Acq'd: 19 Feb 2022 18:04 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001

UTP: 21-Feb-2022 11:01:43 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 320-676-ZPS

Datafile: 220219C02

Report: 21 Feb 2022 11:02 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	3.56E+06	0.80	Y	1.18	11.7	4737.647	0.171
12378-PeCDD	33.63		1.0007	1.0006	-0.2	1.13E+07	1.58	Y	1.04	50.5	4309.427	0.179
123478-HxCDD	37.56		1.0004	1.0004	0	1.18E+07	1.29	Y	1.09	54.5	3601.285	0.148
123678-HxCDD	37.68		1.0036	1.0036	0	1.31E+07	1.25	Y	1.15	56.6	3601.285	0.146
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.15E+07	1.29	Y	1.05	52.2	3601.285	0.148
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.08E+07	1.02	Y	1.06	54.9	4312.014	0.183
OCDD	43.42		1.0003	1.0003	0	1.48E+07	0.91	Y	1.13	112	3115.786	0.284
2378-TCDF	27.36		1.0008	1.0008	0	4.24E+06	0.74	Y	1.08	10.9	2688.114	0.0822
12378-PeCDF	32.17		1.0005	1.0006	+0.2	1.82E+07	1.53	Y	1.02	48.7	8840.749	0.222
23478-PeCDF	33.29		1.0005	1.0005	0	1.83E+07	1.54	Y	1.02	54.1	8840.749	0.238
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.58E+07	1.23	Y	1.27	51.5	4297.3	0.112
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.80E+07	1.23	Y	1.15	53.7	4297.3	0.107
234678-HxCDF	37.38		1.0005	1.0005	0	1.87E+07	1.23	Y	1.19	54.4	4297.3	0.116
123789-HxCDF	38.35		1.0004	1.0004	0	1.29E+07	1.22	Y	1.16	48.7	4297.3	0.129
1234678-HpCDF	39.77		1.0003	1.0003	0	1.47E+07	1.03	Y	1.37	50.9	2466.46	0.0653
1234789-HpCDF	41.18		1.0003	1.0003	0	1.15E+07	1.03	Y	1.31	51.7	2466.46	0.0967
OCDF	43.59		1.0002	1.0002	0	1.69E+07	0.89	Y	1.07	103	4841.252	0.375

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	2.57E+07	0.79	Y	1.05	91.5
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	2.15E+07	1.57	Y	0.88	90.9
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.99E+07	1.24	Y	0.97	98.2
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	2.01E+07	1.25	Y	0.94	102
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.10E+07	1.19	Y	1.09	92
ES 1234678-HpCDD	40.71	1.0749	1.0749	0	1.86E+07	1.12	Y	0.91	97.5
ES OCDD	43.40	1.1460	1.1462	+0.5	2.35E+07	0.91	Y	0.62	90
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	3.60E+07	0.80	Y	1.06	77.7
ES 12378-PeCDF	32.15	1.2378	1.2387	+1.7	3.64E+07	1.55	Y	0.91	91.4
ES 23478-PeCDF	33.27	1.2810	1.2820	+2.0	3.31E+07	1.61	Y	0.88	85.6
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.41E+07	0.52	Y	1.20	96.2
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.91E+07	0.53	Y	1.35	103
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.89E+07	0.54	Y	1.24	111
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.28E+07	0.51	Y	1.16	94.4
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.11E+07	0.49	Y	0.97	104
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.70E+07	0.46	Y	0.85	95.5
ES OCDF	43.58	1.1505	1.1508	+0.8	3.08E+07	0.89	Y	0.81	91.2

Lab ID: OPR1_18911_DF | **Acq'd:** 19 Feb 2022 18:04 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001 | **UTP:** 21-Feb-2022 11:01:43 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 320-676-ZPS

Datafile: 220219C02 | **Report:** 21 Feb 2022 11:02 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.69E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.38E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.04E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	1.26E+07	n/a	-	1.20	97.6
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	2.18E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	3.66E+07	1.61	Y	0.85	98.4
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.77E+07	0.54	Y	1.12	119
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	2.10E+07	0.45	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.26E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.18E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2182~~	~~+1.9~~	~~3.66E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.77E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~115~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0608~~	~~0~~	~~2.10E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	53.1	53.1
Total PeCDD	77.7	77.7
Total HxCDD	179	179
Total HpCDD	68.4	68.4
Total Tetra-Octa Dioxins	490	490
Total TCDF	63.5	63.5
Total PeCDF	206	206
Total HxCDF	334	334
Total HpCDF	103	103
Total Tetra-Octa Furans	809	809
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.795	0.80
Response	3.56E+06	3.56E+06

Lab ID: OPR1_18911_DF **Acq'd: 19 Feb 2022 18:04 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 **UTP: 21-Feb-2022 11:01:43 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 320-676-ZPS**

Datafile: 220219C02 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8695	-0.9	4.68E+06	0.83	Y	1.18	15.4	4737.647	0.171
1379-TCDD	NotFnd		0.8829						1.18		4737.647	0.171
1369-TCDD	NotFnd		0.8982						1.18		4737.647	0.171
1469-TCDD	NotFnd		0.9261						1.18		4737.647	0.171
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4737.647	0.171
1378-TCDD	NotFnd		0.9417						1.18		4737.647	0.171
1268-TCDD	NotFnd		0.9487						1.18		4737.647	0.171
1478-TCDD	NotFnd		0.9576						1.18		4737.647	0.171
1279-TCDD	NotFnd		0.9636						1.18		4737.647	0.171
1234/1269-TCDD	NotFnd		0.9761						1.18		4737.647	0.171
1236-TCDD	NotFnd		0.9812						1.18		4737.647	0.171
1237/1238-TCDD	NotFnd		0.9905						1.18		4737.647	0.171
1239-TCDD	28.07		0.9951	0.9951	0	3.39E+06	0.82	Y	1.18	11.1	4737.647	0.171
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	3.56E+06	0.80	Y	**1.18**	**11.7**	**4737.647**	**0.171**
1278-TCDD	NotFnd		1.0124						1.18		4737.647	0.171
1267-TCDD	NotFnd		1.0172						1.18		4737.647	0.171
1289-TCDD	29.21		1.0354	1.0356	+0.4	4.56E+06	0.77	Y	1.18	15	4737.647	0.171
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	2.98E+06	1.53	Y	1.04	13.4	4309.427	0.179
12469-PeCDD	NotFnd		0.9416						1.04		4309.427	0.179
12368-PeCDD	NotFnd		0.9582						1.04		4309.427	0.179
12478-PeCDD	NotFnd		0.9637						1.04		4309.427	0.179
12379-PeCDD	NotFnd		0.9668						1.04		4309.427	0.179
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4309.427	0.179
12346/12347-PeCDD	NotFnd		0.9858						1.04		4309.427	0.179
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**1.13E+07**	**1.58**	**Y**	**1.04**	**50.5**	**4309.427**	**0.179**
12367-PeCDD	NotFnd		1.0036						1.04		4309.427	0.179
12389-PeCDD	34.07		1.0137	1.0137	0	3.06E+06	1.61	Y	1.04	13.8	4309.427	0.179
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	3.45E+06	1.27	Y	1.10	15.5	3601.285	0.147
123468-HxCDD	NotFnd		0.9715						1.10		3601.285	0.147
123679/123689-HxCDD	NotFnd		0.9793						1.10		3601.285	0.147
123469-HxCDD	NotFnd		0.9829						1.10		3601.285	0.147
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.18E+07**	**1.29**	**Y**	1.09	**54.5**	**3601.285**	**0.148**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**1.31E+07**	**1.25**	**Y**	1.15	**56.6**	**3601.285**	**0.146**
123467-HxCDD	NotFnd		1.0089						1.10		3601.285	0.147
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.15E+07**	**1.29**	**Y**	1.05	**52.2**	**3601.285**	**0.148**

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 11:01:43 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 11:02 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	2.67E+06	1.00	Y	1.06	13.5	4312.014	0.183
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.08E+07**	**1.02**	**Y**	**1.06**	**54.9**	**4312.014**	**0.183**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.48E+07**	**0.91**	**Y**	**1.13**	**112**	**3115.786**	**0.284**
OCDD-a	43.41	**EMPC**	1.0002	1.0002	0	6.52E+05	3.38	N	0.07	77.2	4555.212	6.49
1368-TCDF	22.37		0.8191	0.8181	-1.3	6.15E+06	0.76	Y	1.08	15.8	2688.114	0.0822
1468-TCDF	NotFnd		0.8408						1.08		2688.114	0.0822
2468-TCDF	23.62		0.8645	0.8639	-0.9	1.47E+06	0.84	Y	1.08	3.77	2688.114	0.0822
1346/1246-TCDF	NotFnd		0.8772						1.08		2688.114	0.0822
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2688.114	0.0822
1348-TCDF	NotFnd		0.8932						1.08		2688.114	0.0822
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2688.114	0.0822
1268-TCDF	NotFnd		0.9119						1.08		2688.114	0.0822
1467-TCDF	NotFnd		0.9170						1.08		2688.114	0.0822
1478-TCDF	NotFnd		0.9234						1.08		2688.114	0.0822
1369/1237-TCDF	NotFnd		0.9369						1.08		2688.114	0.0822
2467-TCDF	NotFnd		0.9415						1.08		2688.114	0.0822
2368-TCDF	NotFnd		0.9475						1.08		2688.114	0.0822
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2688.114	0.0822
1278-TCDF	NotFnd		0.9676						1.08		2688.114	0.0822
1349-TCDF	NotFnd		0.9722						1.08		2688.114	0.0822
1267-TCDF	NotFnd		0.9777						1.08		2688.114	0.0822
2346/1249-TCDF	NotFnd		0.9843						1.08		2688.114	0.0822
2347/1279-TCDF	NotFnd		0.9926						1.08		2688.114	0.0822
2348-TCDF	27.25		0.9968	0.9968	0	6.14E+06	0.83	Y	1.08	15.8	2688.114	0.0822
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**4.24E+06**	**0.74**	**Y**	**1.08**	**10.9**	**2688.114**	**0.0822**
2367/3467-TCDF	NotFnd		1.0142						1.08		2688.114	0.0822
1269-TCDF	NotFnd		1.0235						1.08		2688.114	0.0822
1239-TCDF	NotFnd		1.0329						1.08		2688.114	0.0822
1289-TCDF	29.39		1.0742	1.0748	+1.1	6.68E+06	0.76	Y	1.08	17.2	2688.114	0.0822
13468/12468-PeCDF	29.31		0.9122	0.9116	-1.1	3.29E+07	1.55	Y	1.02	92.6	3214.62	0.0834
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		8840.749	0.229
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		8840.749	0.229
14678-PeCDF	NotFnd		0.9685						1.02		8840.749	0.229
13479-PeCDF	NotFnd		0.9716						1.02		8840.749	0.229
13469/12479-PeCDF	NotFnd		0.9794						1.02		8840.749	0.229
12346-PeCDF	NotFnd		0.9836						1.02		8840.749	0.229

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 11:01:43 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 11:02 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		8840.749	0.229
12347-PeCDF	NotFnd		0.9891						1.02		8840.749	0.229
12348-PeCDF	NotFnd		0.9938						1.02		8840.749	0.229
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**1.82E+07**	**1.53**	**Y**	**1.02**	**48.7**	**8840.749**	**0.222**
12678/12367-PeCDF	NotFnd		1.0091						1.02		8840.749	0.229
12379-PeCDF	NotFnd		1.0144						1.02		8840.749	0.229
12679-PeCDF	NotFnd		0.9927						1.02		8840.749	0.229
23467/12369-PeCDF	NotFnd		0.9965						1.02		8840.749	0.229
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.83E+07**	**1.54**	**Y**	**1.02**	**54.1**	**8840.749**	**0.238**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8840.749	0.229
12349-PeCDF	NotFnd		1.0101						1.02		8840.749	0.229
12389-PeCDF	34.37		1.0330	1.0330	0	3.90E+06	1.60	Y	1.02	11	8840.749	0.229
123468-HxCDF	35.16		0.9622	0.9622	0	3.94E+07	1.25	Y	1.19	126	4297.3	0.115
124678/134678-HxCDF	NotFnd		0.9678						1.19		4297.3	0.115
134679-HxCDF	NotFnd		0.9741						1.19		4297.3	0.115
124679-HxCDF	NotFnd		0.9795						1.19		4297.3	0.115
124689-HxCDF	NotFnd		0.9856						1.19		4297.3	0.115
123467-HxCDF	NotFnd		0.9972						1.19		4297.3	0.115
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.58E+07**	**1.23**	**Y**	**1.27**	**51.5**	**4297.3**	**0.112**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.80E+07**	**1.23**	**Y**	**1.15**	**53.7**	**4297.3**	**0.107**
123479-HxCDF	NotFnd		1.0048						1.19		4297.3	0.115
123469-HxCDF	NotFnd		1.0089						1.19		4297.3	0.115
123679-HxCDF	NotFnd		0.9942						1.19		4297.3	0.115
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.87E+07**	**1.23**	**Y**	**1.19**	**54.4**	**4297.3**	**0.116**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4297.3	0.115
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.29E+07**	**1.22**	**Y**	**1.16**	**48.7**	**4297.3**	**0.129**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4297.3	0.115
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.47E+07**	**1.03**	**Y**	**1.37**	**50.9**	**2466.46**	**0.0653**
1234679-HpCDF	NotFnd		1.0068						1.34		2466.46	0.0792
1234689-HpCDF	NotFnd		1.0104						1.34		2466.46	0.0792
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.15E+07**	**1.03**	**Y**	**1.31**	**51.7**	**2466.46**	**0.0967**
OCDF	**43.59**		**1.0002**	**1.0002**	**0**	**1.69E+07**	**0.89**	**Y**	**1.07**	**103**	**4841.252**	**0.375**
OCDF-a	43.58		1.0001	1.0001	0	1.01E+06	2.78	Y	0.07	99.1	3888.99	4.86

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	10.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.1	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.9	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.7	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 11:02 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C02 Analysis Date: 19-FEB-2022 18:04:19

Lab ID: OPR1_18911_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.9	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.5	26	-	166	Y
13C-OCDD	200	180	26	-	397	Y
13C-2,3,7,8-TCDF	100	77.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	85.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	103	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	111	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.5	20	-	186	Y
13C-OCDF	200	182	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 21 Feb 2022 11:02 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.53	1289-TCDD	29.21
12479/12468-PeCDD	31.11	12389-PeCDD	34.07
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.37	1289-TCDF	29.39
13468/12468-PeCDF	29.31	12389-PeCDF	34.37
123468-HxCDF	35.16	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.18

Isomer Specificity Test Standard Results

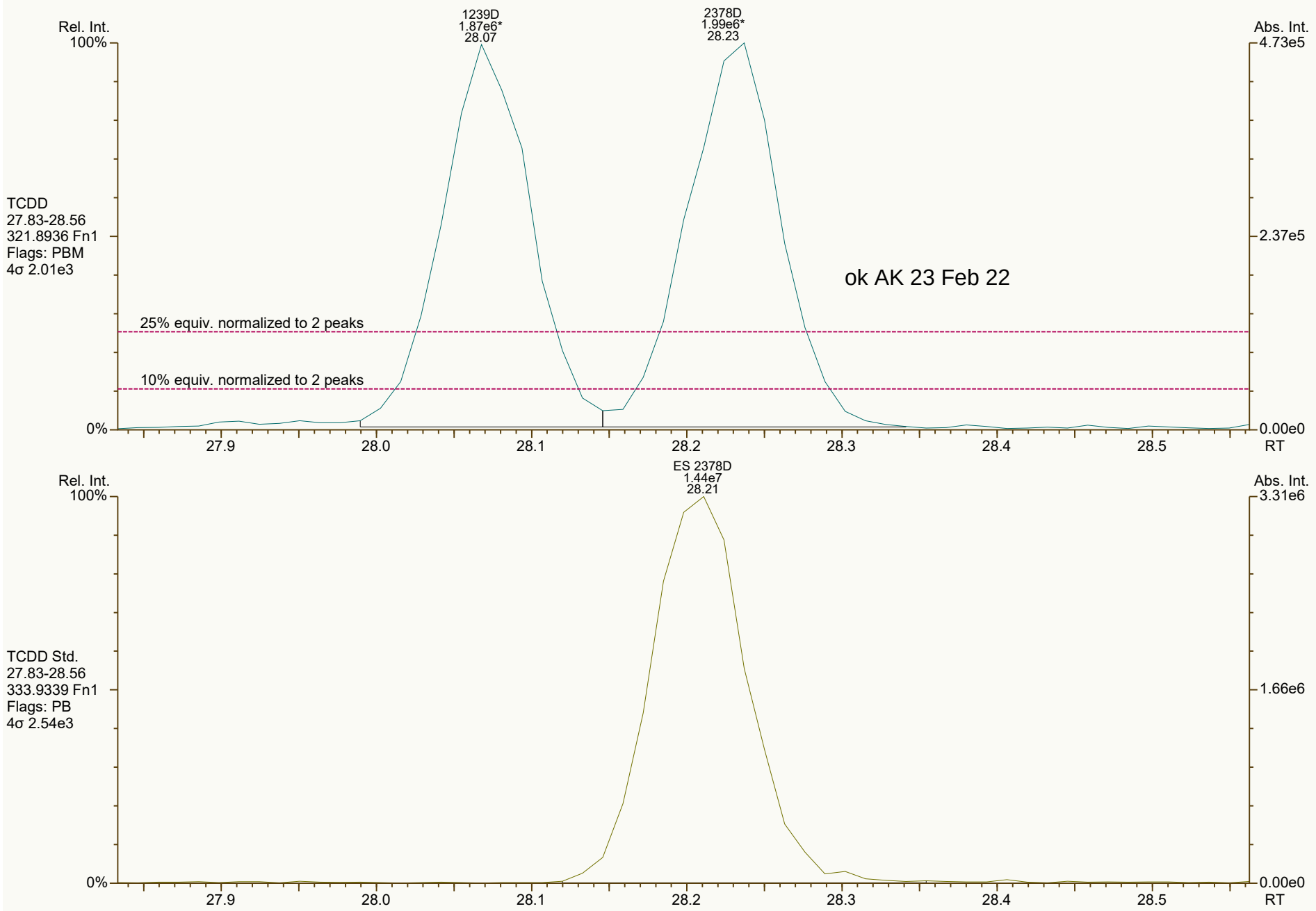
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.07	2378-TCDD	28.23
2348-TCDF	27.25	2378-TCDF	27.36

Processed: 21 Feb 2022 11:02 Analyst: pw

SGS ID: OPR1_18911_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18911_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26

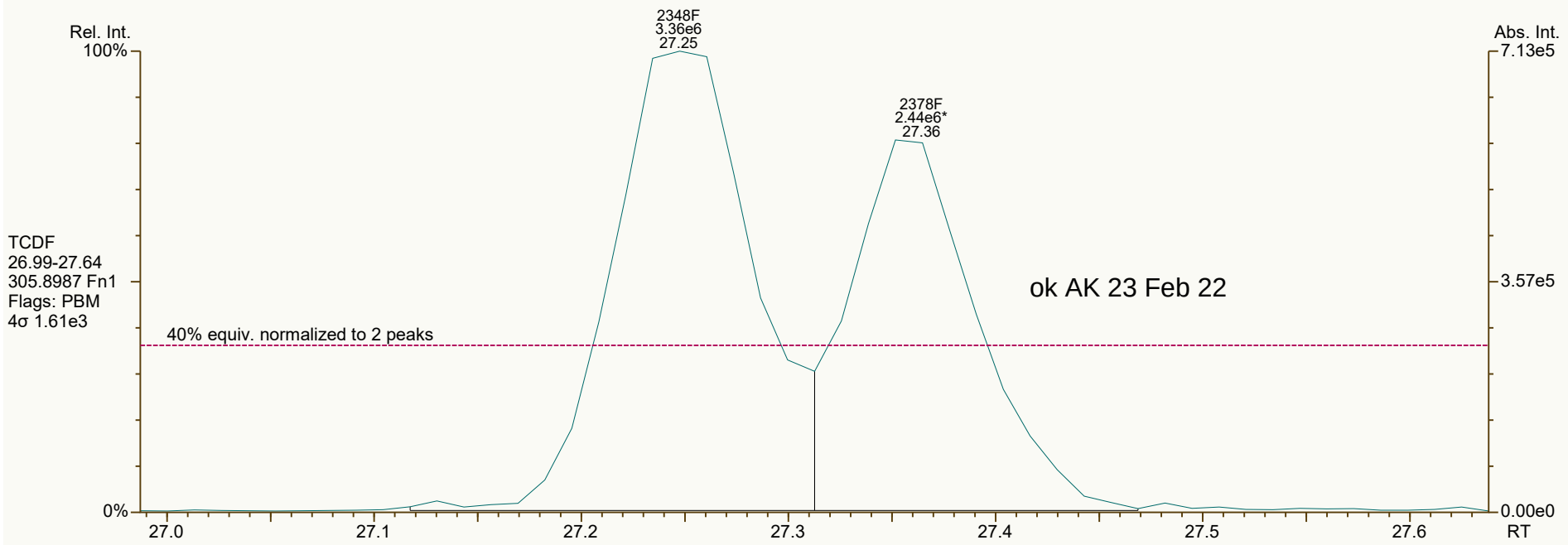
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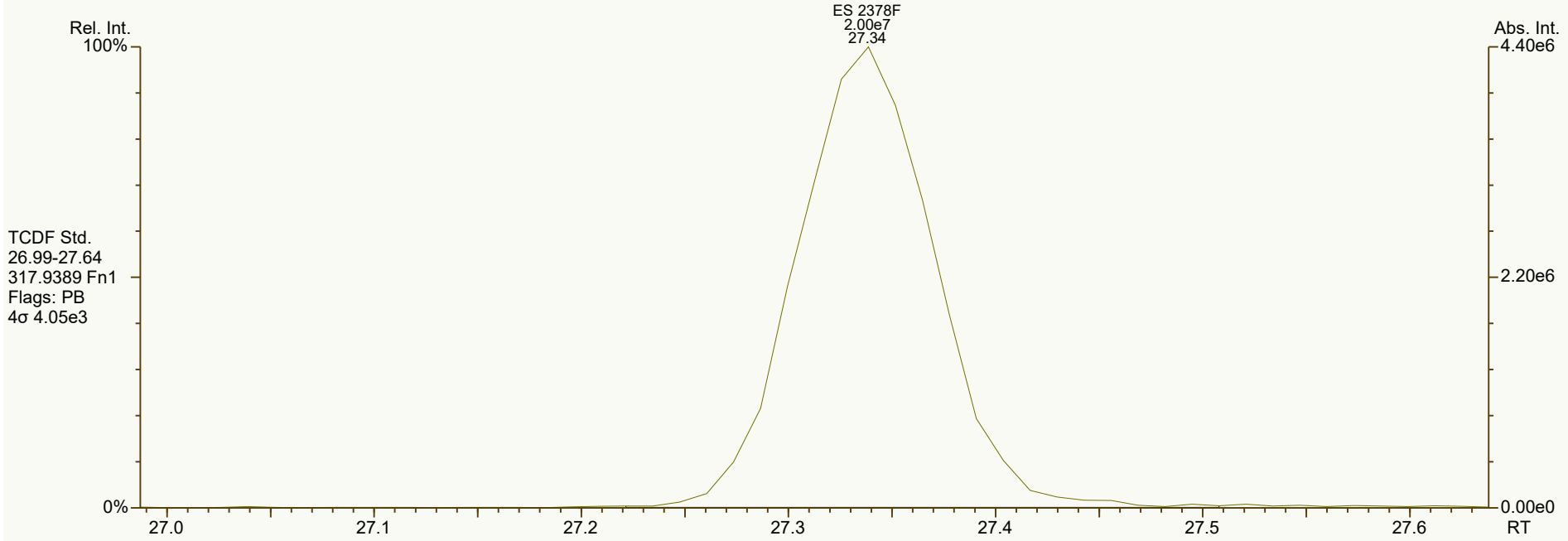


Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

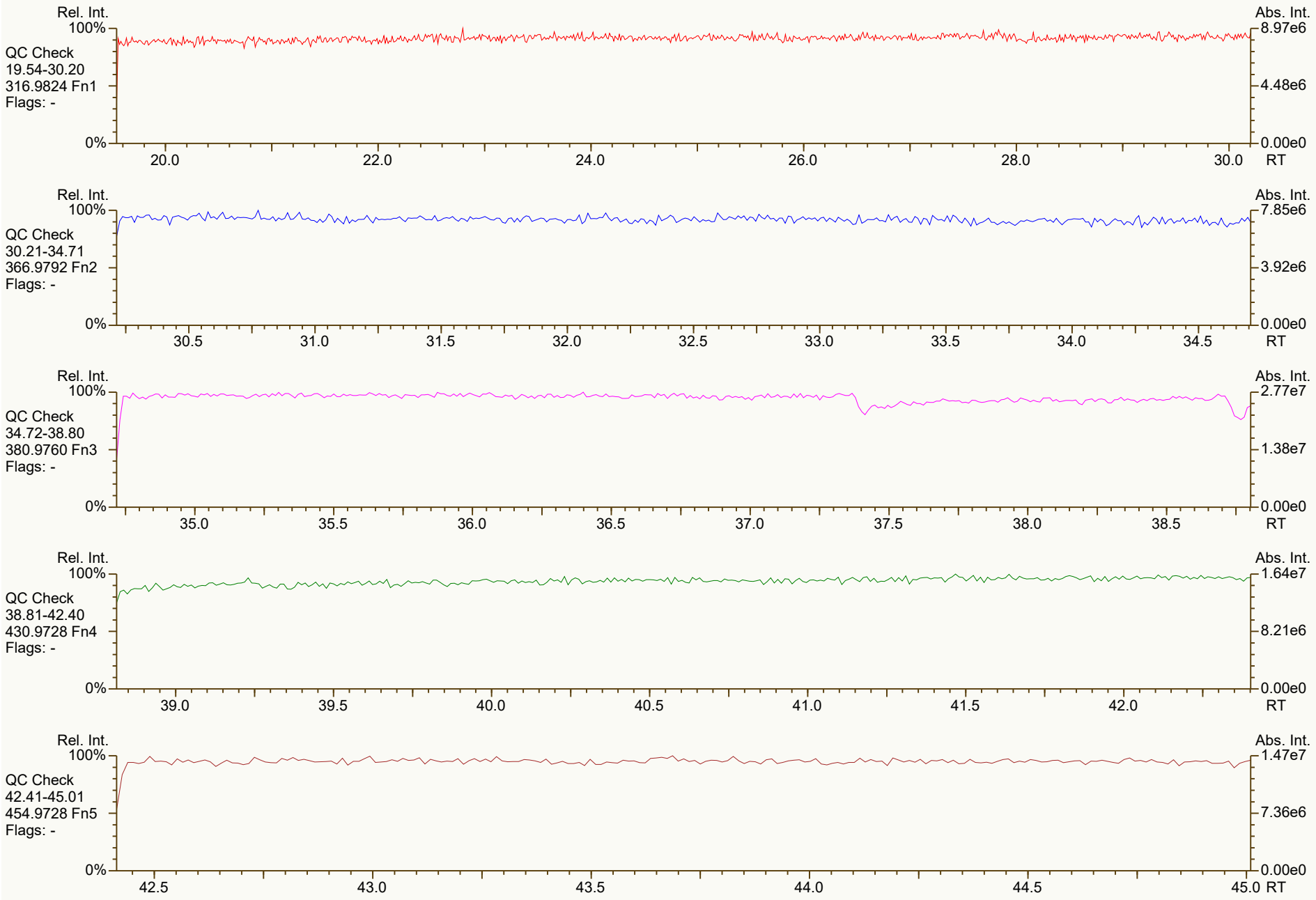
Peak annotation: Areas, Centroids
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 11:06

SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02



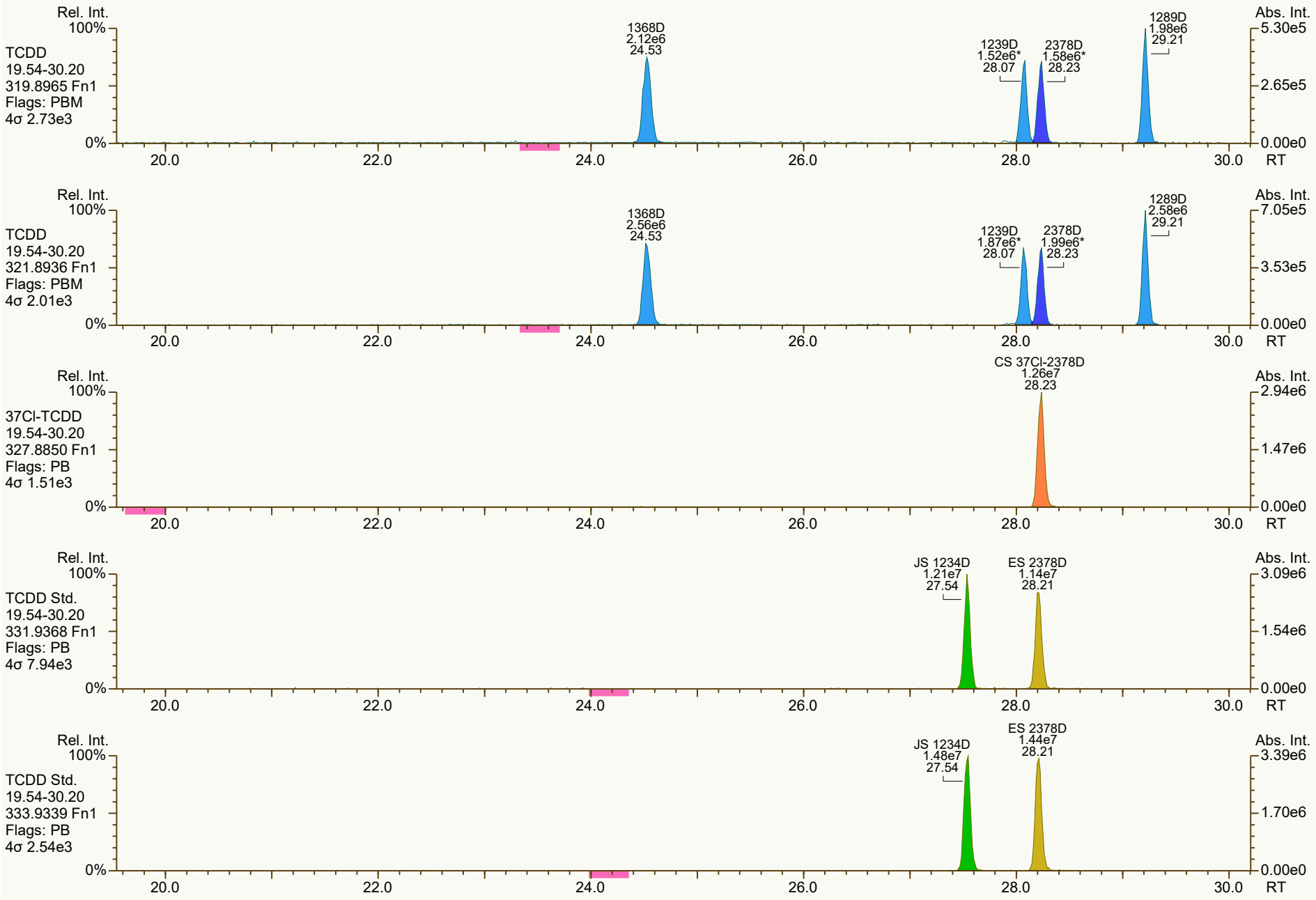


Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 11:07


Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
8.97e6
4.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.85e6
3.92e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.77e7
1.38e7
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.64e7
8.21e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.36e6
42.5
43.0
43.5
44.0
44.5
45.0

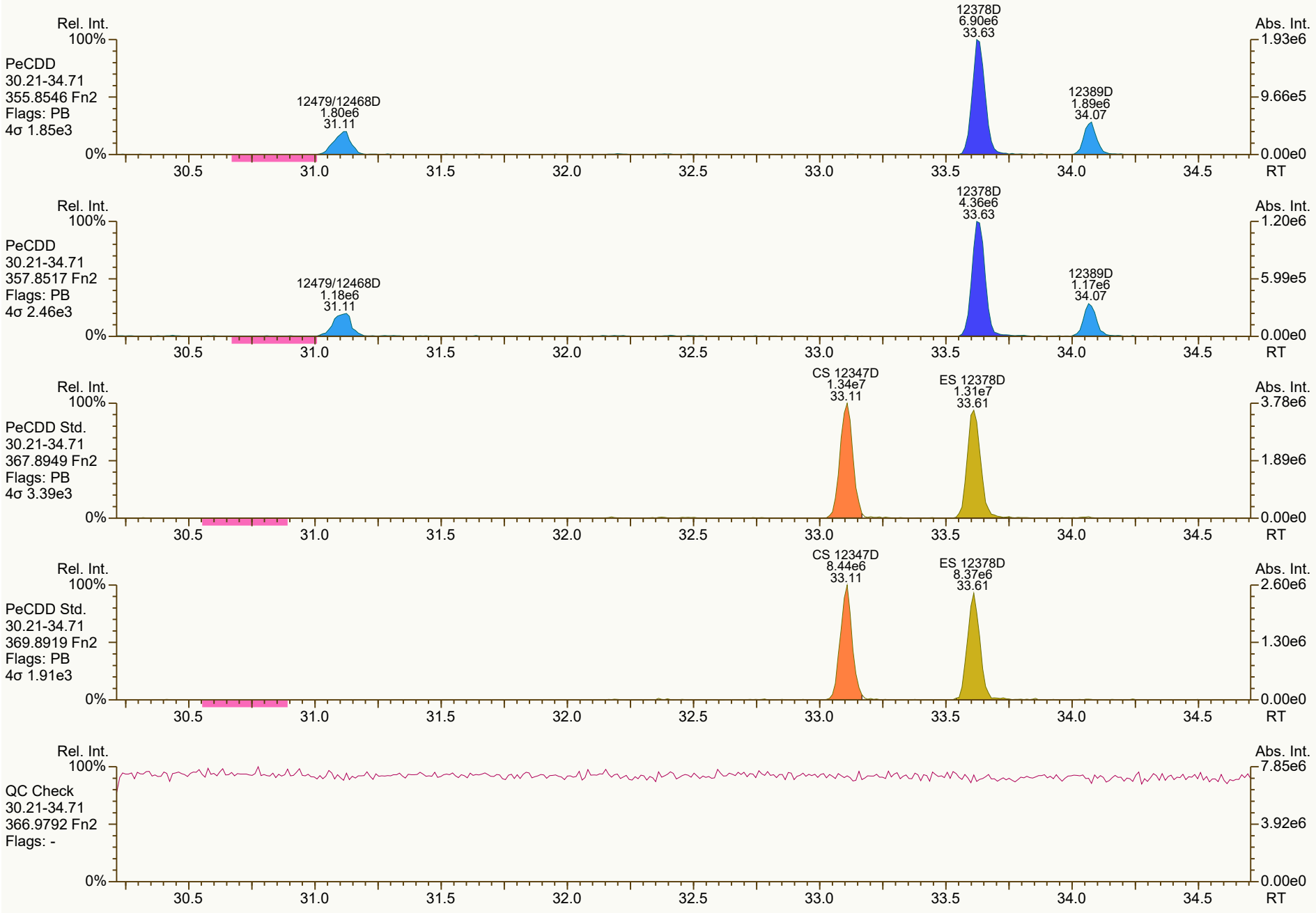
SGS ID: OPR1_18911_DF | Sample ID: 0_18911_OPR001 | Acq: 19-Feb-2022 18:04:19

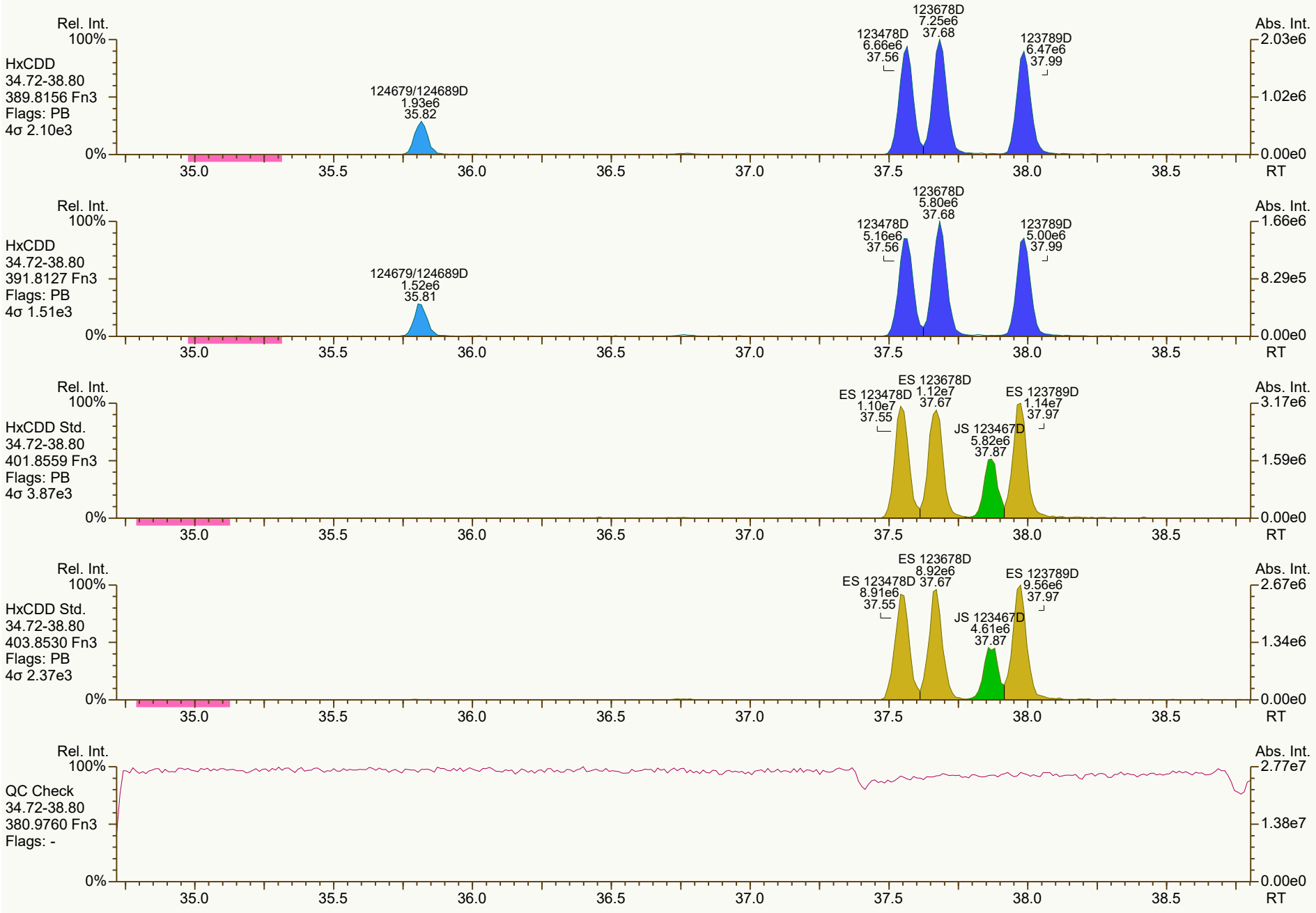
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: DTF Datafile: 220219C02

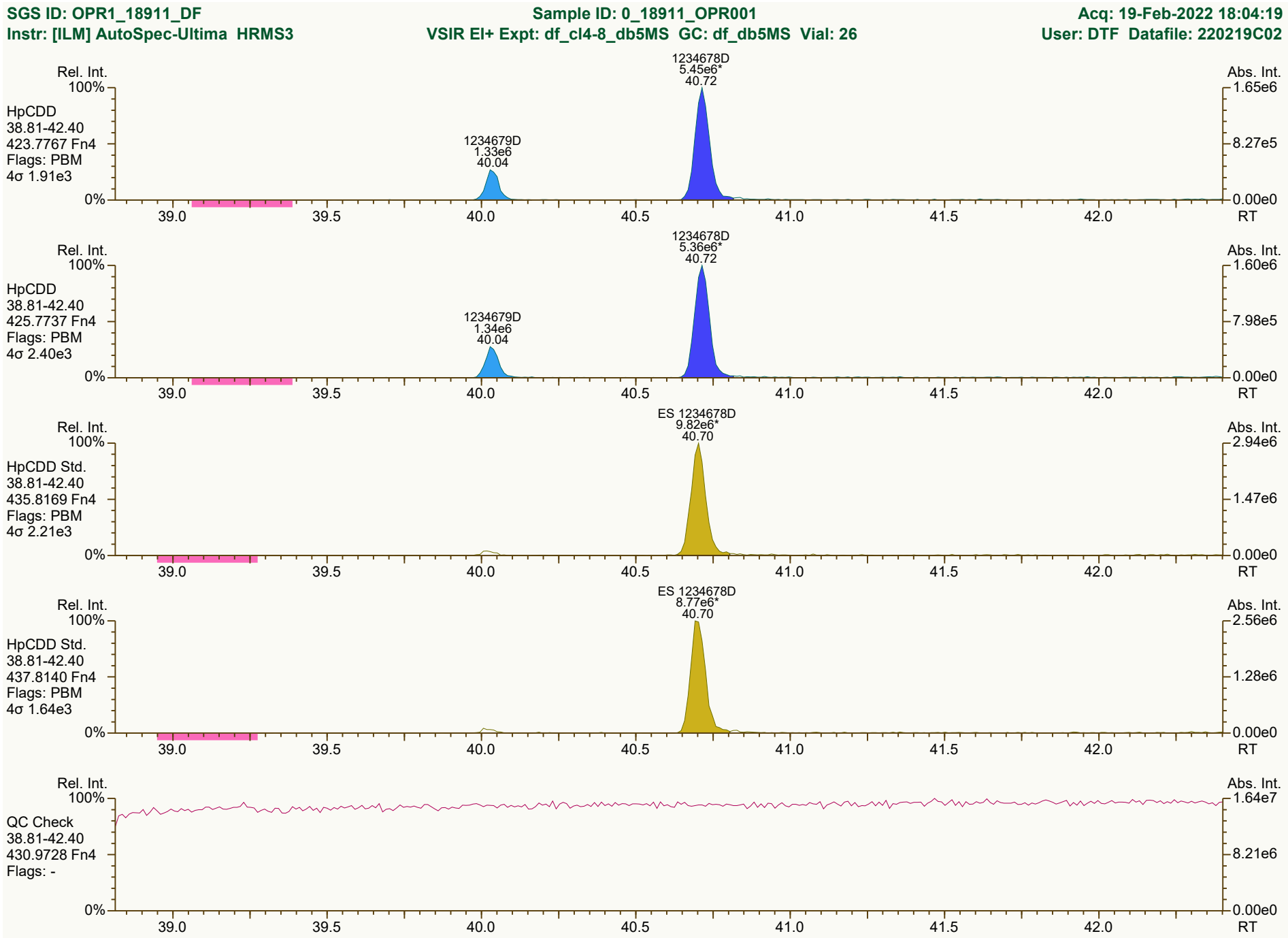


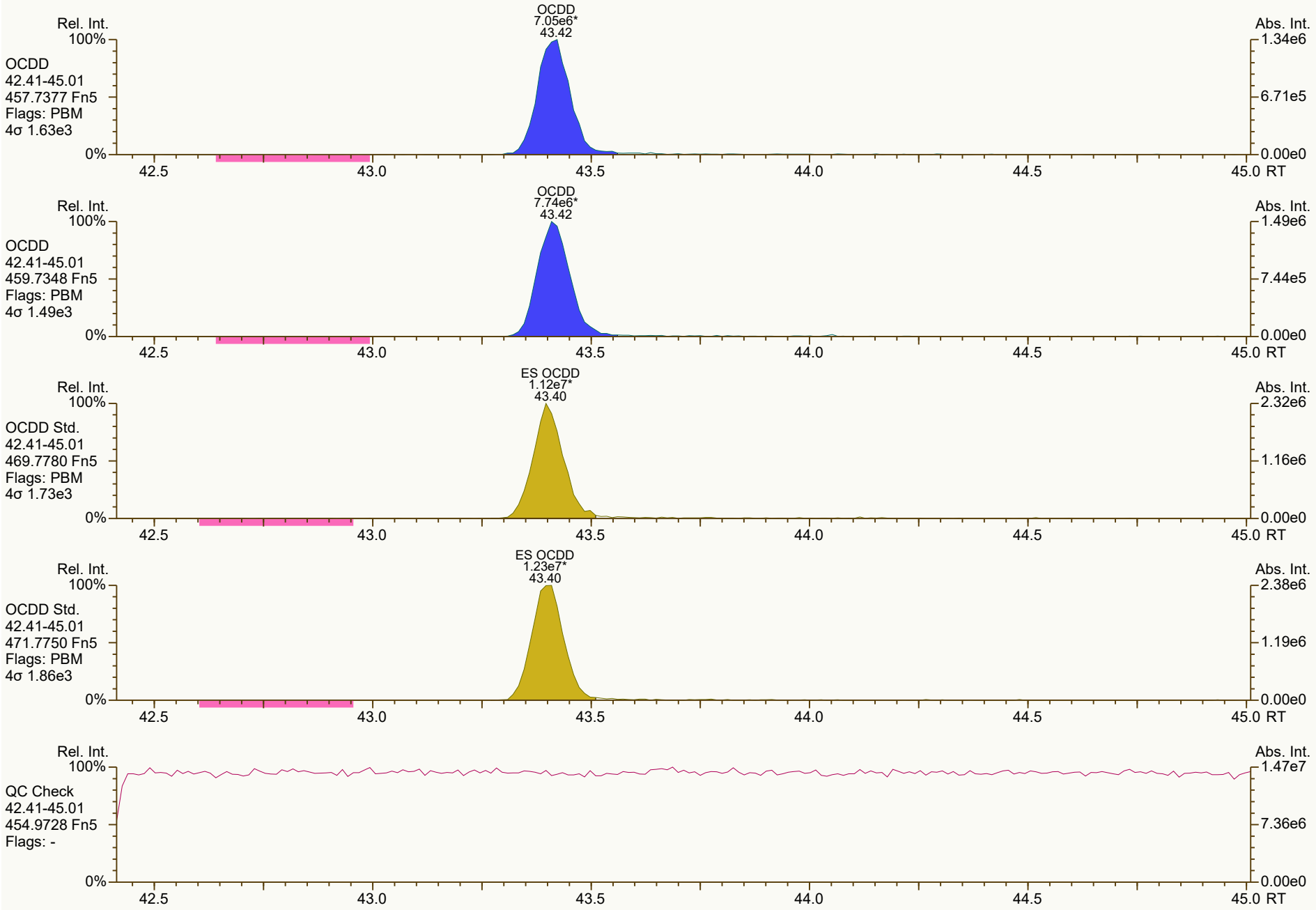
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW) | *Peak annotation: Areas, Centroids*

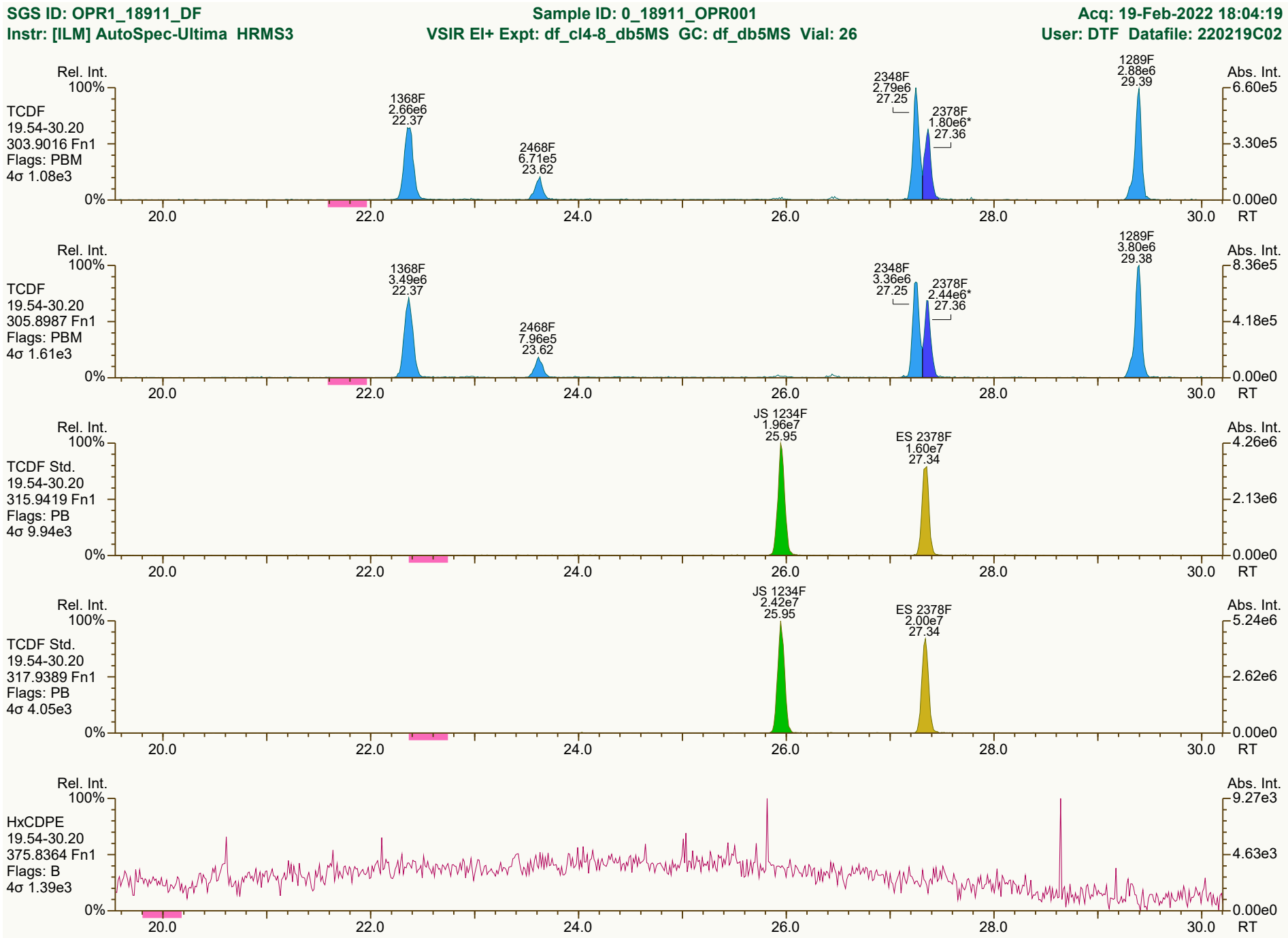
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5839, 2331, 5791 scc: 320-676 | *Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 11:07 Page 2 of 12*


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.85e3
12479/12468D
1.80e6
31.11
12378D
6.90e6
33.63
12389D
1.89e6
34.07
Abs. Int.
1.93e6
9.66e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.46e3
12479/12468D
1.18e6
31.11
12378D
4.36e6
33.63
12389D
1.17e6
34.07
Abs. Int.
1.20e6
5.99e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.39e3
CS 12347D
1.34e7
33.11
ES 12378D
1.31e7
33.61
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
8.44e6
33.11
ES 12378D
8.37e6
33.61
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.85e6
3.92e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.10e3
0%
124679/124689D
1.93e6
35.82
123478D
6.66e6
37.56
123678D
7.25e6
37.68
123789D
6.47e6
37.99
Abs. Int.
2.03e6
1.02e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.51e3
0%
124679/124689D
1.52e6
35.81
123478D
5.16e6
37.56
123678D
5.80e6
37.68
123789D
5.00e6
37.99
Abs. Int.
1.66e6
8.29e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.87e3
0%
ES 123478D
1.10e7
37.55
ES 123678D
1.12e7
37.67
JS 123467D
5.82e6
37.87
ES 123789D
1.14e7
37.97
Abs. Int.
3.17e6
1.59e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.37e3
0%
ES 123478D
8.91e6
37.55
ES 123678D
8.92e6
37.67
JS 123467D
4.61e6
37.87
ES 123789D
9.56e6
37.97
Abs. Int.
2.67e6
1.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.77e7
1.38e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.91e3
1234678D
5.45e6*
40.72
1234679D
1.33e6
40.04
1.65e6
8.27e5
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.40e3
1234678D
5.36e6*
40.72
1234679D
1.34e6
40.04
1.60e6
7.98e5
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.21e3
ES 1234678D
9.82e6*
40.70
2.94e6
1.47e6
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.64e3
ES 1234678D
8.77e6*
40.70
2.56e6
1.28e6
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.64e7
8.21e6
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4827, 2312 scc: 320-676
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 11:07 Page 5 of 12


OCDD
7.05e6*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
1.34e6
6.71e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.74e6*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.49e3
1.49e6
7.44e5
ES OCDD
1.12e7*
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.73e3
2.32e6
1.16e6
ES OCDD
1.23e7*
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.86e3
2.38e6
1.19e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.36e6



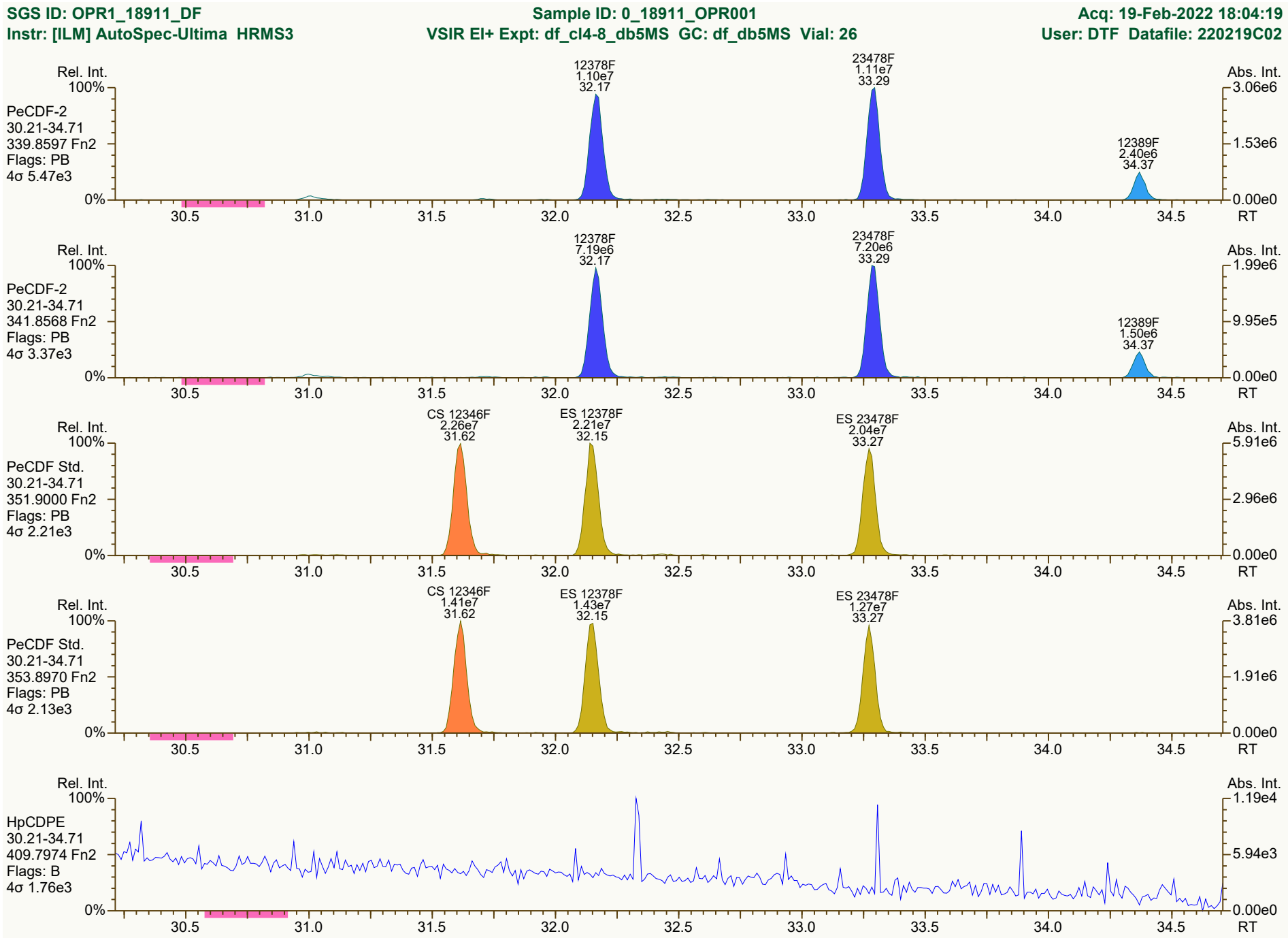
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1430, 6706, 7026 scc: 320-676 *Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 11:07 Page 7 of 12*

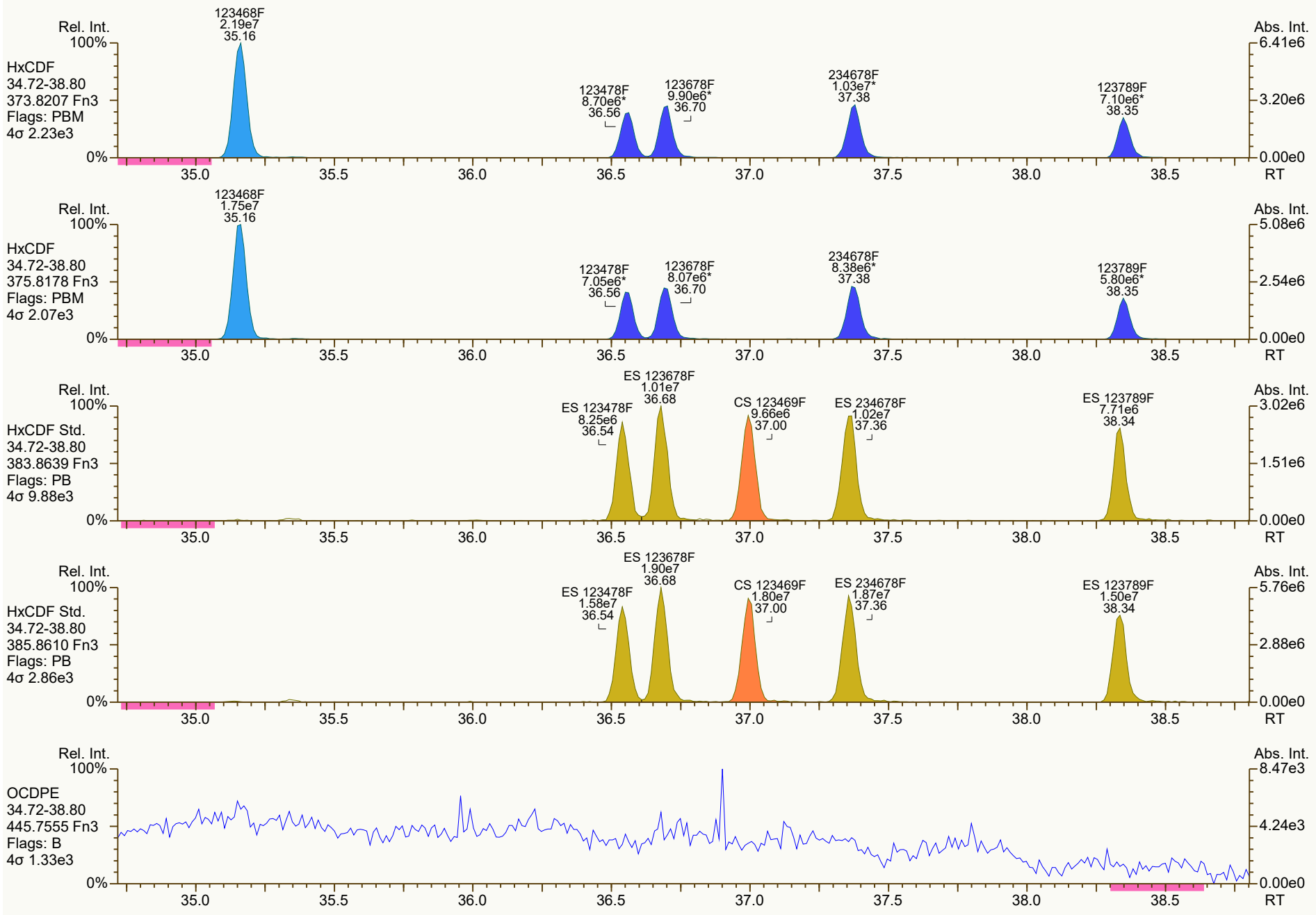
SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02

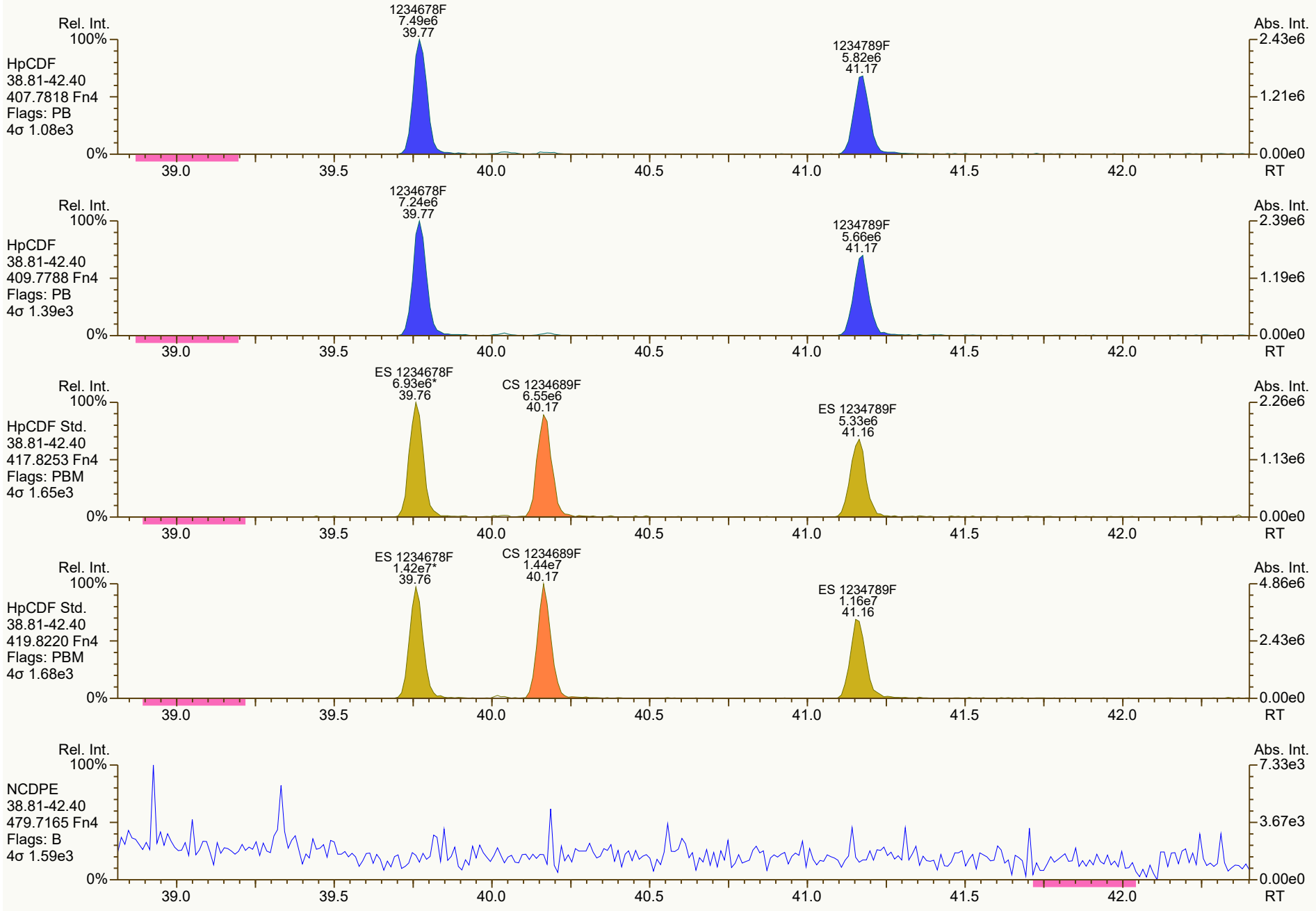


Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6476 scc: 320-676
PKD: 21-Feb-2022 09:55 Printed: 21-Feb-2022 11:07 Page 8 of 12



Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6039, 5543, 7701 scc: 320-676
PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 11:07 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.23e3
0%
123468F
2.19e7
35.16
123478F
8.70e6*
36.56
123678F
9.90e6*
36.70
234678F
1.03e7*
37.38
123789F
7.10e6*
38.35
Abs. Int.
6.41e6
3.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.07e3
0%
123468F
1.75e7
35.16
123478F
7.05e6*
36.56
123678F
8.07e6*
36.70
234678F
8.38e6*
37.38
123789F
5.80e6*
38.35
Abs. Int.
5.08e6
2.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 9.88e3
0%
ES 123678F
1.01e7
36.68
ES 123478F
8.25e6
36.54
CS 123469F
9.66e6
37.00
ES 234678F
1.02e7
37.36
ES 123789F
7.71e6
38.34
Abs. Int.
3.02e6
1.51e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.86e3
0%
ES 123678F
1.90e7
36.68
ES 123478F
1.58e7
36.54
CS 123469F
1.80e7
37.00
ES 234678F
1.87e7
37.36
ES 123789F
1.50e7
38.34
Abs. Int.
5.76e6
2.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.33e3
0%
Abs. Int.
8.47e3
4.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.08e3
1234678F
7.49e6
39.77
1234789F
5.82e6
41.17
Abs. Int.
2.43e6
1.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.39e3
1234678F
7.24e6
39.77
1234789F
5.66e6
41.17
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.65e3
ES 1234678F
6.93e6*
39.76
CS 1234689F
6.55e6
40.17
ES 1234789F
5.33e6
41.16
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.68e3
ES 1234678F
1.42e7*
39.76
CS 1234689F
1.44e7
40.17
ES 1234789F
1.16e7
41.16
Abs. Int.
4.86e6
2.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.59e3
Abs. Int.
7.33e3
3.67e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
OCDF
7.97e6*
43.59
Abs. Int.
1.72e6
8.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 3.16e3
0%
OCDF
8.93e6*
43.59
Abs. Int.
1.82e6
9.12e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.14e3
0%
ES OCDF
1.44e7
43.58
Abs. Int.
2.83e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDF
1.63e7
43.58
Abs. Int.
3.22e6
1.61e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.21e3
0%
Abs. Int.
7.11e3
3.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 11:01:45 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	3.07E+06	0.81	Y	1.18	11.1	3950.923	0.148
12378-PeCDD	33.64		1.0007	1.0006	-0.2	1.02E+07	1.56	Y	1.04	47.5	5313.903	0.214
123478-HxCDD	37.56		1.0004	1.0004	0	1.08E+07	1.27	Y	1.09	52.2	4150.967	0.177
123678-HxCDD	37.69		1.0036	1.0036	0	1.22E+07	1.26	Y	1.15	54.5	4150.967	0.16
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.08E+07	1.25	Y	1.05	51.6	4150.967	0.164
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	9.84E+06	1.04	Y	1.06	52.2	4096.641	0.179
OCDD	43.40		1.0003	1.0003	0	1.41E+07	0.87	Y	1.13	109	3700.127	0.359
2378-TCDF	27.38		1.0008	1.0008	0	3.77E+06	0.76	Y	1.08	10.7	4704.21	0.149
12378-PeCDF	32.18		1.0005	1.0005	0	1.62E+07	1.53	Y	1.02	49.7	5913.964	0.17
23478-PeCDF	33.30		1.0005	1.0005	0	1.67E+07	1.53	Y	1.02	50.9	5913.964	0.162
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.43E+07	1.20	Y	1.27	51.4	6194.584	0.187
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.64E+07	1.24	Y	1.15	50.6	6194.584	0.157
234678-HxCDF	37.38		1.0005	1.0004	-0.2	1.70E+07	1.22	Y	1.19	50.7	6194.584	0.164
123789-HxCDF	38.35		1.0004	1.0004	0	1.20E+07	1.28	Y	1.16	47.8	6194.584	0.216
1234678-HpCDF	39.77		1.0003	1.0003	0	1.40E+07	1.02	Y	1.37	49.8	3861.13	0.103
1234789-HpCDF	41.17		1.0003	1.0003	0	1.03E+07	1.04	Y	1.31	49.1	3861.13	0.152
OCDF	43.57		1.0002	1.0002	0	1.64E+07	0.92	Y	1.07	103	4020.581	0.297

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.34E+07	0.80	Y	1.05	97.9
ES 12378-PeCDD	33.62	1.2198	1.2200	+0.4	2.07E+07	1.60	Y	0.88	103
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.90E+07	1.28	Y	0.97	98.4
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	1.96E+07	1.24	Y	0.94	104
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.00E+07	1.24	Y	1.09	91.9
ES 1234678-HpCDD	40.70	1.0749	1.0747	-0.5	1.78E+07	1.04	Y	0.91	98
ES OCDD	43.39	1.1460	1.1458	-0.5	2.30E+07	0.90	Y	0.62	92.5
ES 2378-TCDF	27.36	1.0531	1.0533	+0.3	3.27E+07	0.80	Y	1.06	85.1
ES 12378-PeCDF	32.16	1.2378	1.2382	+0.8	3.18E+07	1.60	Y	0.91	96.4
ES 23478-PeCDF	33.28	1.2810	1.2814	+0.8	3.21E+07	1.62	Y	0.88	100
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.19E+07	0.52	Y	1.20	91.9
ES 123678-HxCDF	36.69	0.9688	0.9688	0	2.81E+07	0.55	Y	1.35	105
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.82E+07	0.56	Y	1.24	114
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.16E+07	0.54	Y	1.16	94
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.05E+07	0.47	Y	0.97	107
ES 1234789-HpCDF	41.15	1.0870	1.0868	-0.5	1.61E+07	0.50	Y	0.85	95.3
ES OCDF	43.56	1.1505	1.1503	-0.5	2.97E+07	0.89	Y	0.81	92.3

Lab ID: OPR2_18911_DF | **Acq'd:** 20 Feb 2022 05:55 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR002 | **UTP:** 21-Feb-2022 11:01:45 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 488-895-CRP

Datafile: 220219C17 | **Report:** 21 Feb 2022 11:02 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.29E+07	0.79	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.62E+07	0.85	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.94E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.11E+07	n/a	-	1.20	101
CS 12347-PeCDD	33.11		1.2016	1.2017	+0.2	2.00E+07	1.54	Y	0.75	116
CS 12346-PeCDF	31.63		1.2172	1.2177	+0.9	3.25E+07	1.62	Y	0.85	105
CS 123469-HxCDF	37.00		0.9771	0.9771	0	2.43E+07	0.52	Y	1.12	109
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	1.87E+07	0.47	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2017~~	~~+0.2~~	~~2.00E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2177~~	~~+0.9~~	~~3.25E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9771~~	~~0~~	~~2.43E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.87E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	52.3	52.3
Total PeCDD	73.6	73.6
Total HxCDD	174	174
Total HpCDD	65.2	65.2
Total Tetra-Octa Dioxins	474	474
Total TCDF	63.4	63.4
Total PeCDF	197	197
Total HxCDF	320	320
Total HpCDF	98.8	98.8
Total Tetra-Octa Furans	783	783
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.804	0.81
Response	3.07E+06	3.07E+06

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 11:01:45 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 11:02 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8699	-0.3	4.12E+06	0.81	Y	1.18	14.9	3950.923	0.148
1379-TCDD	NotFnd		0.8829						1.18		3950.923	0.148
1369-TCDD	NotFnd		0.8982						1.18		3950.923	0.148
1469-TCDD	NotFnd		0.9261						1.18		3950.923	0.148
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3950.923	0.148
1378-TCDD	NotFnd		0.9417						1.18		3950.923	0.148
1268-TCDD	NotFnd		0.9487						1.18		3950.923	0.148
1478-TCDD	NotFnd		0.9576						1.18		3950.923	0.148
1279-TCDD	NotFnd		0.9636						1.18		3950.923	0.148
1234/1269-TCDD	NotFnd		0.9761						1.18		3950.923	0.148
1236-TCDD	NotFnd		0.9812						1.18		3950.923	0.148
1237/1238-TCDD	NotFnd		0.9905						1.18		3950.923	0.148
1239-TCDD	28.09		0.9951	0.9951	0	3.30E+06	0.85	Y	1.18	11.9	3950.923	0.148
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	3.07E+06	0.81	Y	**1.18**	**11.1**	**3950.923**	**0.148**
1278-TCDD	NotFnd		1.0124						1.18		3950.923	0.148
1267-TCDD	NotFnd		1.0172						1.18		3950.923	0.148
1289-TCDD	29.23		1.0354	1.0356	+0.4	3.99E+06	0.80	Y	1.18	14.4	3950.923	0.148
12479/12468-PeCDD	31.12		0.9255	0.9257	+0.4	2.80E+06	1.51	Y	1.04	13.1	5313.903	0.214
12469-PeCDD	NotFnd		0.9416						1.04		5313.903	0.214
12368-PeCDD	NotFnd		0.9582						1.04		5313.903	0.214
12478-PeCDD	NotFnd		0.9637						1.04		5313.903	0.214
12379-PeCDD	NotFnd		0.9668						1.04		5313.903	0.214
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		5313.903	0.214
12346/12347-PeCDD	NotFnd		0.9858						1.04		5313.903	0.214
12378-PeCDD	33.64		**1.0007**	**1.0006**	**-0.2**	**1.02E+07**	**1.56**	**Y**	**1.04**	**47.5**	**5313.903**	**0.214**
12367-PeCDD	NotFnd		1.0036						1.04		5313.903	0.214
12389-PeCDD	34.08		1.0137	1.0137	0	2.78E+06	1.56	Y	1.04	13	5313.903	0.214
124679/124689-HxCDD	35.82		0.9540	0.9540	0	3.28E+06	1.31	Y	1.10	15.4	4150.967	0.167
123468-HxCDD	NotFnd		0.9715						1.10		4150.967	0.167
123679/123689-HxCDD	NotFnd		0.9793						1.10		4150.967	0.167
123469-HxCDD	NotFnd		0.9829						1.10		4150.967	0.167
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.27**	**Y**	1.09	**52.2**	**4150.967**	**0.177**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.22E+07**	**1.26**	**Y**	1.15	**54.5**	**4150.967**	**0.16**
123467-HxCDD	NotFnd		1.0089						1.10		4150.967	0.167
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.08E+07**	**1.25**	**Y**	1.05	**51.6**	**4150.967**	**0.164**

Lab ID: OPR2_18911_DF | Acq'd: 20 Feb 2022 05:55 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR002 | UTP: 21-Feb-2022 11:01:45 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 488-895-CRP

Datafile: 220219C17 | Report: 21 Feb 2022 11:02 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	2.46E+06	1.02	Y	1.06	13	4096.641	0.179
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**9.84E+06**	**1.04**	**Y**	**1.06**	**52.2**	**4096.641**	**0.179**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**0.87**	**Y**	**1.13**	**109**	**3700.127**	**0.359**
OCDD-a	NotFnd		1.0002						0.07		3841.736	5.82
1368-TCDF	22.40		0.8191	0.8187	-0.5	5.60E+06	0.78	Y	1.08	15.9	4704.21	0.149
1468-TCDF	NotFnd		0.8408						1.08		4704.21	0.149
2468-TCDF	23.64		0.8645	0.8643	-0.3	1.46E+06	0.78	Y	1.08	4.15	4704.21	0.149
1346/1246-TCDF	NotFnd		0.8772						1.08		4704.21	0.149
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		4704.21	0.149
1348-TCDF	NotFnd		0.8932						1.08		4704.21	0.149
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		4704.21	0.149
1268-TCDF	NotFnd		0.9119						1.08		4704.21	0.149
1467-TCDF	NotFnd		0.9170						1.08		4704.21	0.149
1478-TCDF	NotFnd		0.9234						1.08		4704.21	0.149
1369/1237-TCDF	NotFnd		0.9369						1.08		4704.21	0.149
2467-TCDF	NotFnd		0.9415						1.08		4704.21	0.149
2368-TCDF	NotFnd		0.9475						1.08		4704.21	0.149
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4704.21	0.149
1278-TCDF	NotFnd		0.9676						1.08		4704.21	0.149
1349-TCDF	NotFnd		0.9722						1.08		4704.21	0.149
1267-TCDF	NotFnd		0.9777						1.08		4704.21	0.149
2346/1249-TCDF	NotFnd		0.9843						1.08		4704.21	0.149
2347/1279-TCDF	NotFnd		0.9926						1.08		4704.21	0.149
2348-TCDF	27.27		0.9968	0.9967	-0.2	5.44E+06	0.82	Y	1.08	15.4	4704.21	0.149
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**3.77E+06**	**0.76**	**Y**	**1.08**	**10.7**	**4704.21**	**0.149**
2367/3467-TCDF	NotFnd		1.0142						1.08		4704.21	0.149
1269-TCDF	NotFnd		1.0235						1.08		4704.21	0.149
1239-TCDF	NotFnd		1.0329						1.08		4704.21	0.149
1289-TCDF	29.40		1.0742	1.0746	+0.7	6.08E+06	0.81	Y	1.08	17.2	4704.21	0.149
13468/12468-PeCDF	29.32		0.9122	0.9118	-0.7	2.80E+07	1.58	Y	1.02	85.7	3202.845	0.0899
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5913.964	0.166
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5913.964	0.166
14678-PeCDF	NotFnd		0.9685						1.02		5913.964	0.166
13479-PeCDF	NotFnd		0.9716						1.02		5913.964	0.166
13469/12479-PeCDF	NotFnd		0.9794						1.02		5913.964	0.166
12346-PeCDF	NotFnd		0.9836						1.02		5913.964	0.166

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 11:01:45 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 11:02 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5913.964	0.166
12347-PeCDF	NotFnd		0.9891						1.02		5913.964	0.166
12348-PeCDF	NotFnd		0.9938						1.02		5913.964	0.166
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**1.62E+07**	**1.53**	**Y**	**1.02**	**49.7**	**5913.964**	**0.17**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5913.964	0.166
12379-PeCDF	NotFnd		1.0144						1.02		5913.964	0.166
12679-PeCDF	NotFnd		0.9927						1.02		5913.964	0.166
23467/12369-PeCDF	NotFnd		0.9965						1.02		5913.964	0.166
23478-PeCDF	**33.30**		**1.0005**	**1.0005**	**0**	**1.67E+07**	**1.53**	**Y**	**1.02**	**50.9**	**5913.964**	**0.162**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5913.964	0.166
12349-PeCDF	NotFnd		1.0101						1.02		5913.964	0.166
12389-PeCDF	34.38		1.0330	1.0329	-0.2	3.53E+06	1.50	Y	1.02	10.8	5913.964	0.166
123468-HxCDF	35.17		0.9622	0.9623	+0.2	3.57E+07	1.24	Y	1.19	120	6194.584	0.178
124678/134678-HxCDF	NotFnd		0.9678						1.19		6194.584	0.178
134679-HxCDF	NotFnd		0.9741						1.19		6194.584	0.178
124679-HxCDF	NotFnd		0.9795						1.19		6194.584	0.178
124689-HxCDF	NotFnd		0.9856						1.19		6194.584	0.178
123467-HxCDF	NotFnd		0.9972						1.19		6194.584	0.178
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.43E+07**	**1.20**	**Y**	**1.27**	**51.4**	**6194.584**	**0.187**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.64E+07**	**1.24**	**Y**	**1.15**	**50.6**	**6194.584**	**0.157**
123479-HxCDF	NotFnd		1.0048						1.19		6194.584	0.178
123469-HxCDF	NotFnd		1.0089						1.19		6194.584	0.178
123679-HxCDF	NotFnd		0.9942						1.19		6194.584	0.178
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**1.70E+07**	**1.22**	**Y**	**1.19**	**50.7**	**6194.584**	**0.164**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6194.584	0.178
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.20E+07**	**1.28**	**Y**	**1.16**	**47.8**	**6194.584**	**0.216**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6194.584	0.178
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**1.02**	**Y**	**1.37**	**49.8**	**3861.13**	**0.103**
1234679-HpCDF	NotFnd		1.0068						1.34		3861.13	0.124
1234689-HpCDF	NotFnd		1.0104						1.34		3861.13	0.124
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.04**	**Y**	**1.31**	**49.1**	**3861.13**	**0.152**
OCDF	**43.57**		**1.0002**	**1.0002**	**0**	**1.64E+07**	**0.92**	**Y**	**1.07**	**103**	**4020.581**	**0.297**
OCDF-a	43.57		1.0001	1.0002	+0.3	1.04E+06	2.23	Y	0.07	105	3176.37	3.79

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.2	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	10.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.1	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 11:02 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	97.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	104	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.9	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	98	26	-	166	Y
13C-OCDD	200	185	26	-	397	Y
13C-2,3,7,8-TCDF	100	85.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	100	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	105	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	114	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	107	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.3	20	-	186	Y
13C-OCDF	200	185	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	40.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 21 Feb 2022 11:02 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

Window Defining Standards Results

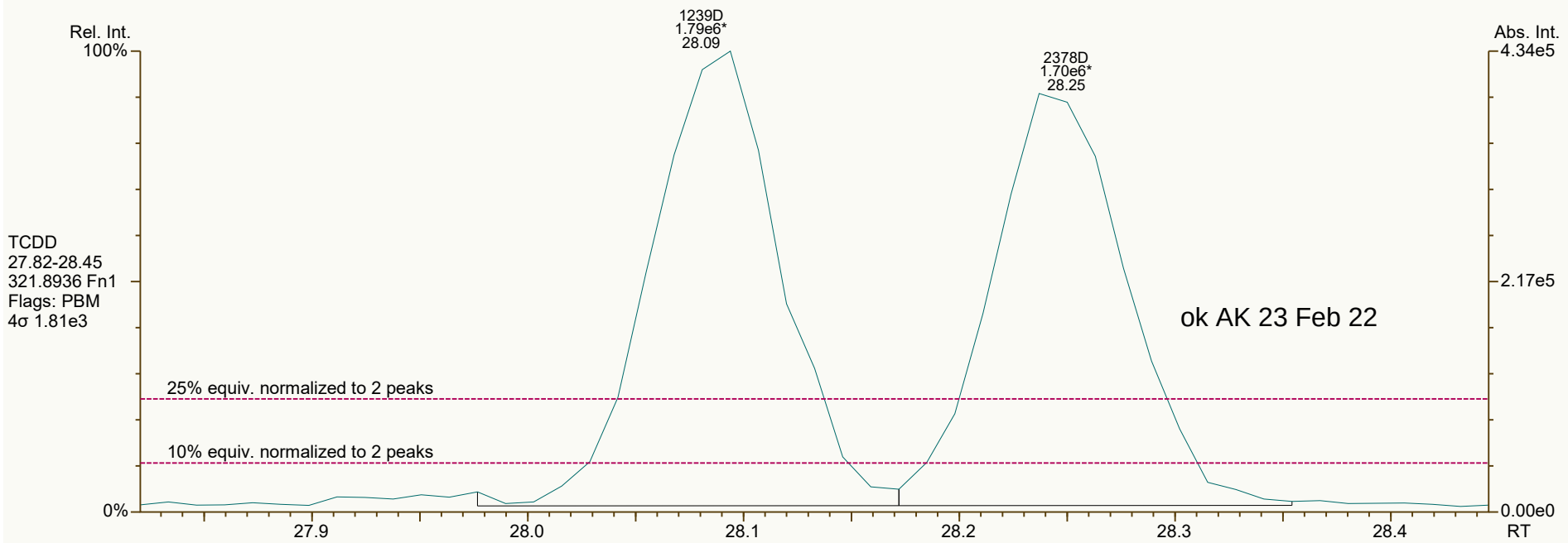
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.55	1289-TCDD	29.23
12479/12468-PeCDD	31.12	12389-PeCDD	34.08
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.03	1234678-HpCDD	40.71
1368-TCDF	22.40	1289-TCDF	29.40
13468/12468-PeCDF	29.32	12389-PeCDF	34.38
123468-HxCDF	35.17	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.17

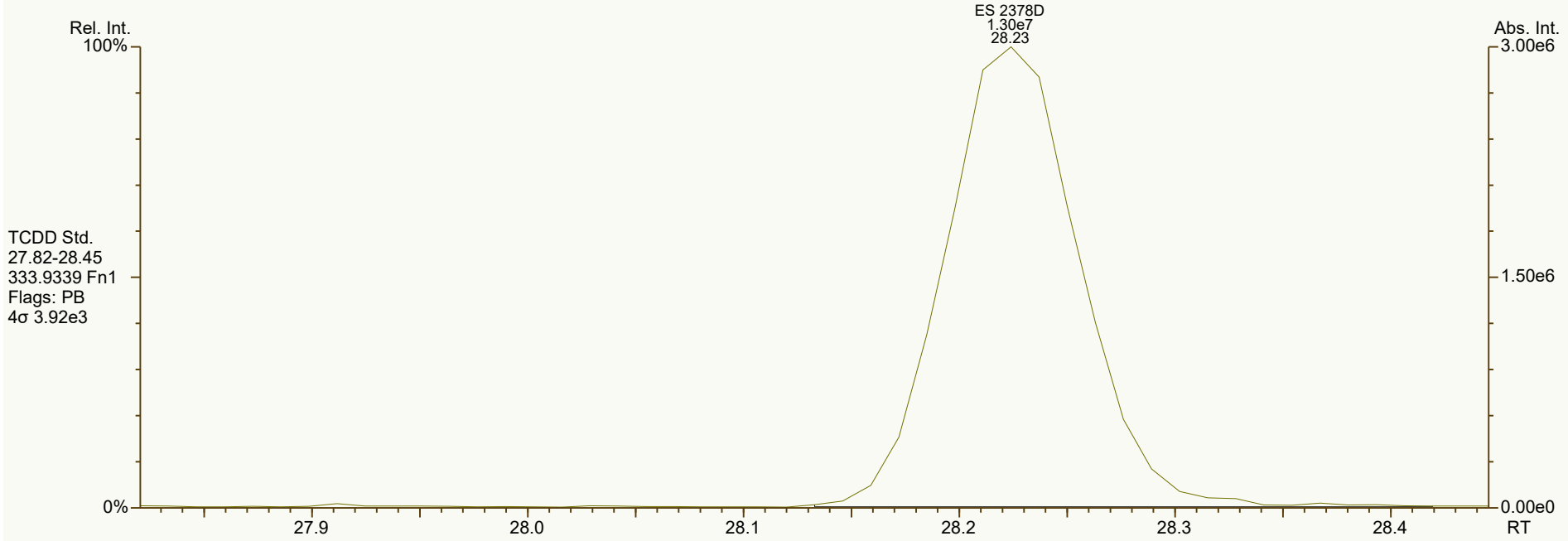
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.09	2378-TCDD	28.25
2348-TCDF	27.27	2378-TCDF	27.38

Processed: 21 Feb 2022 11:02 Analyst: pw

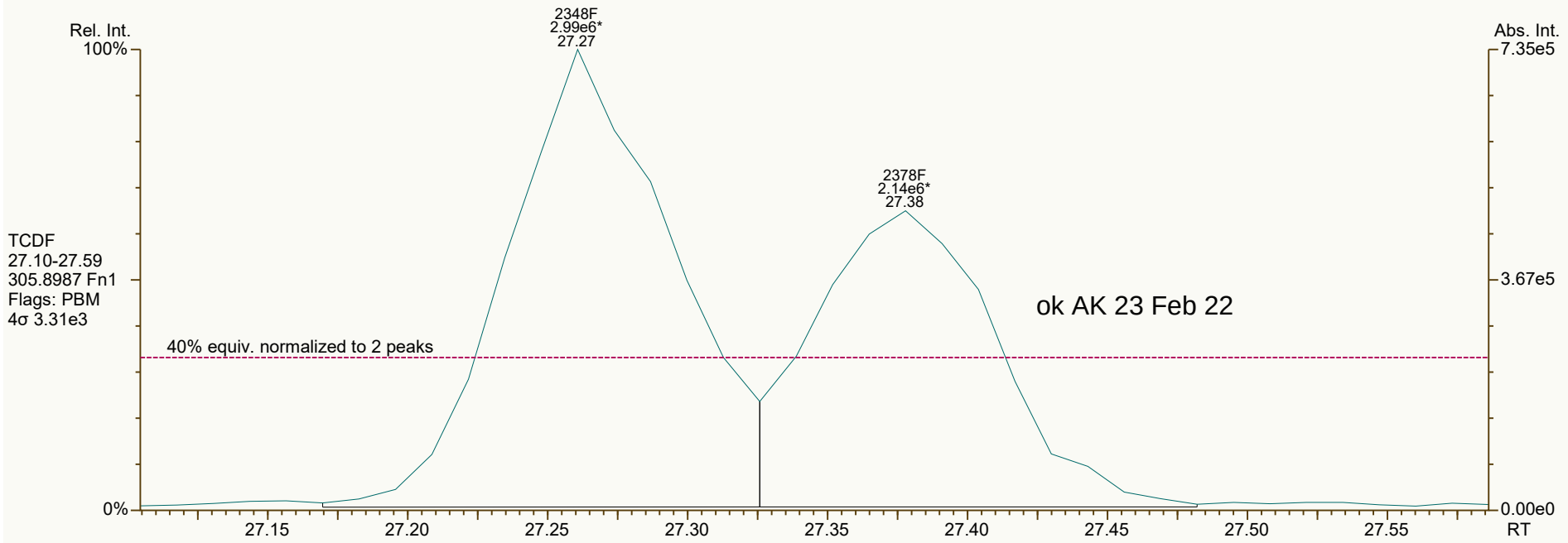
SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17

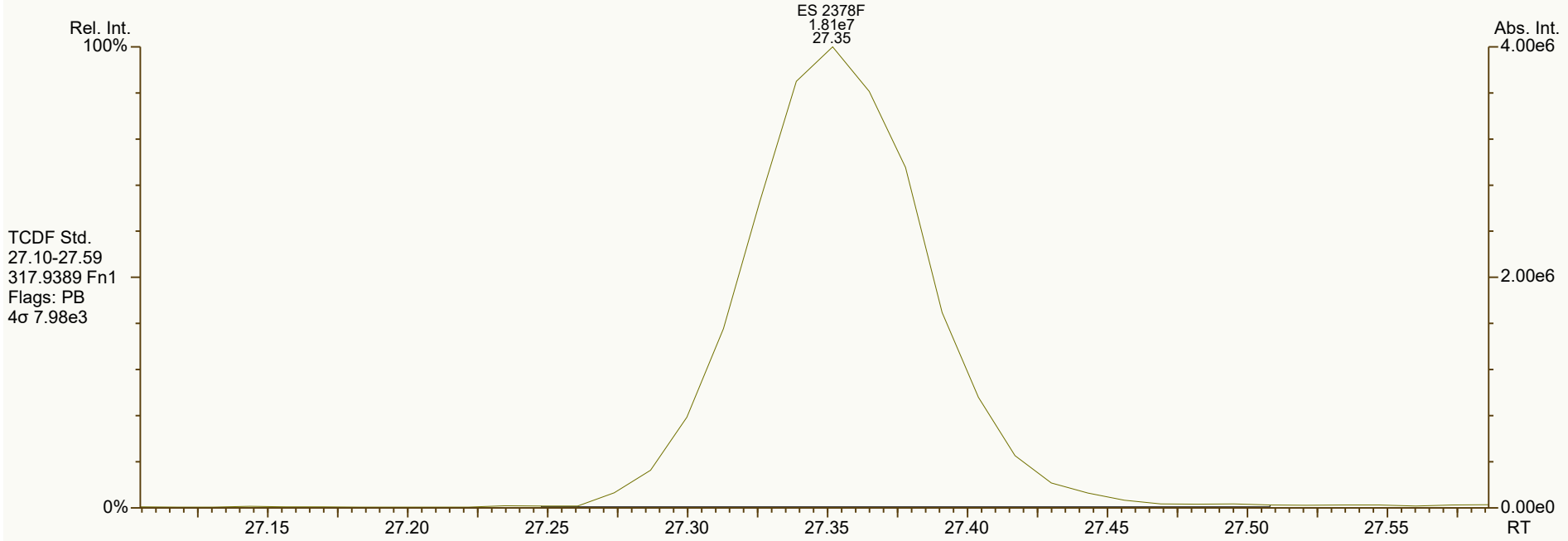




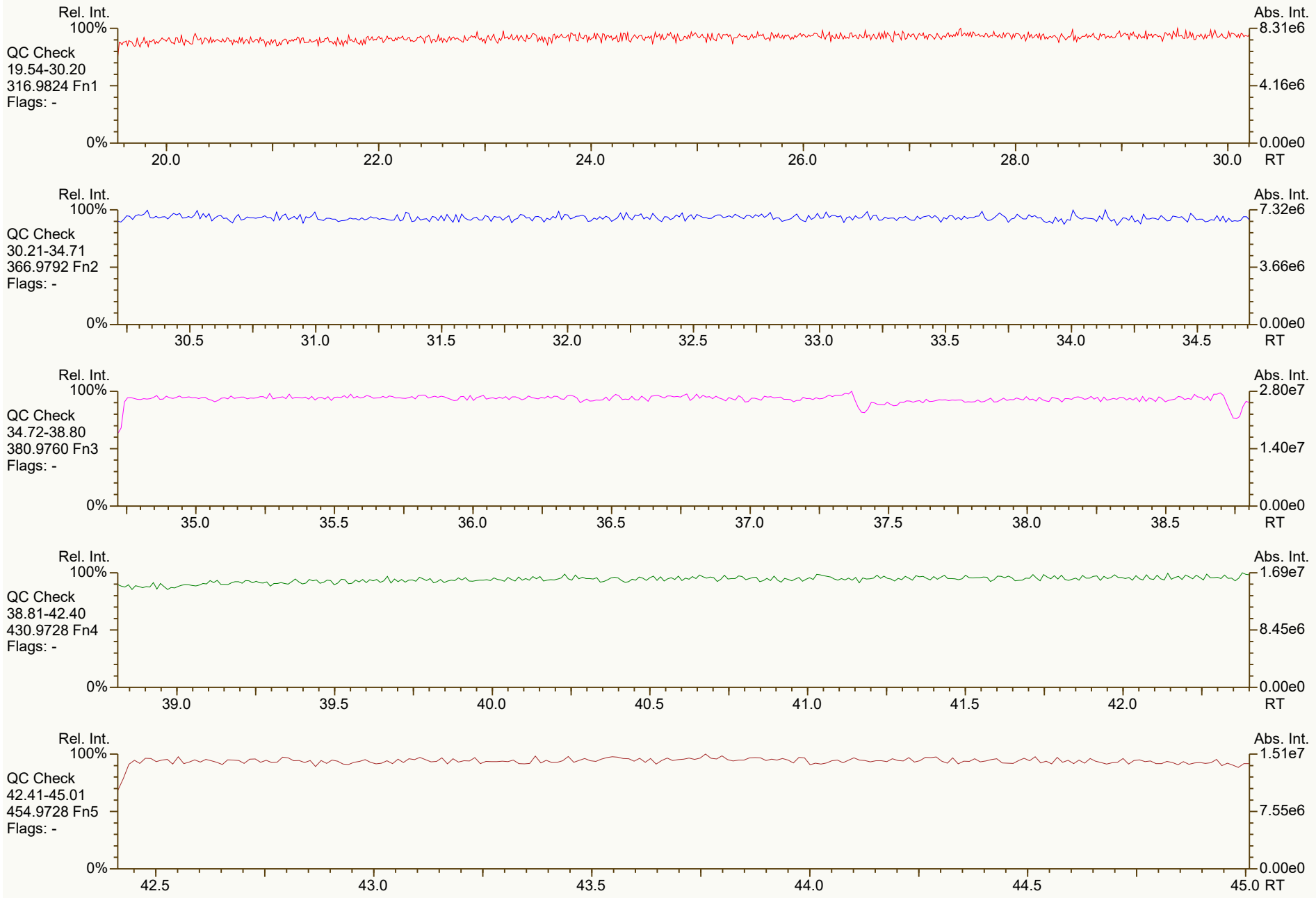
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 11:06

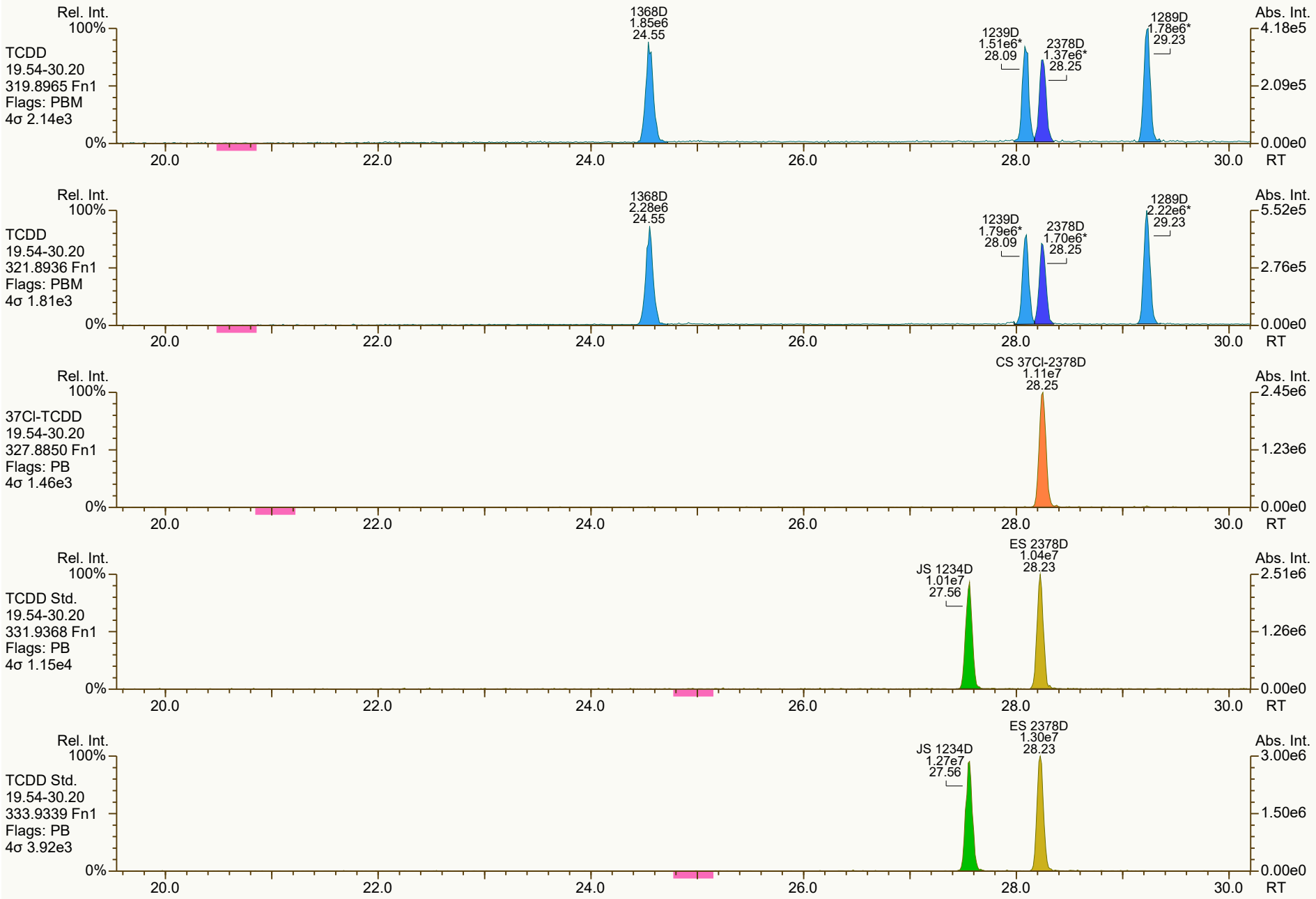
SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17

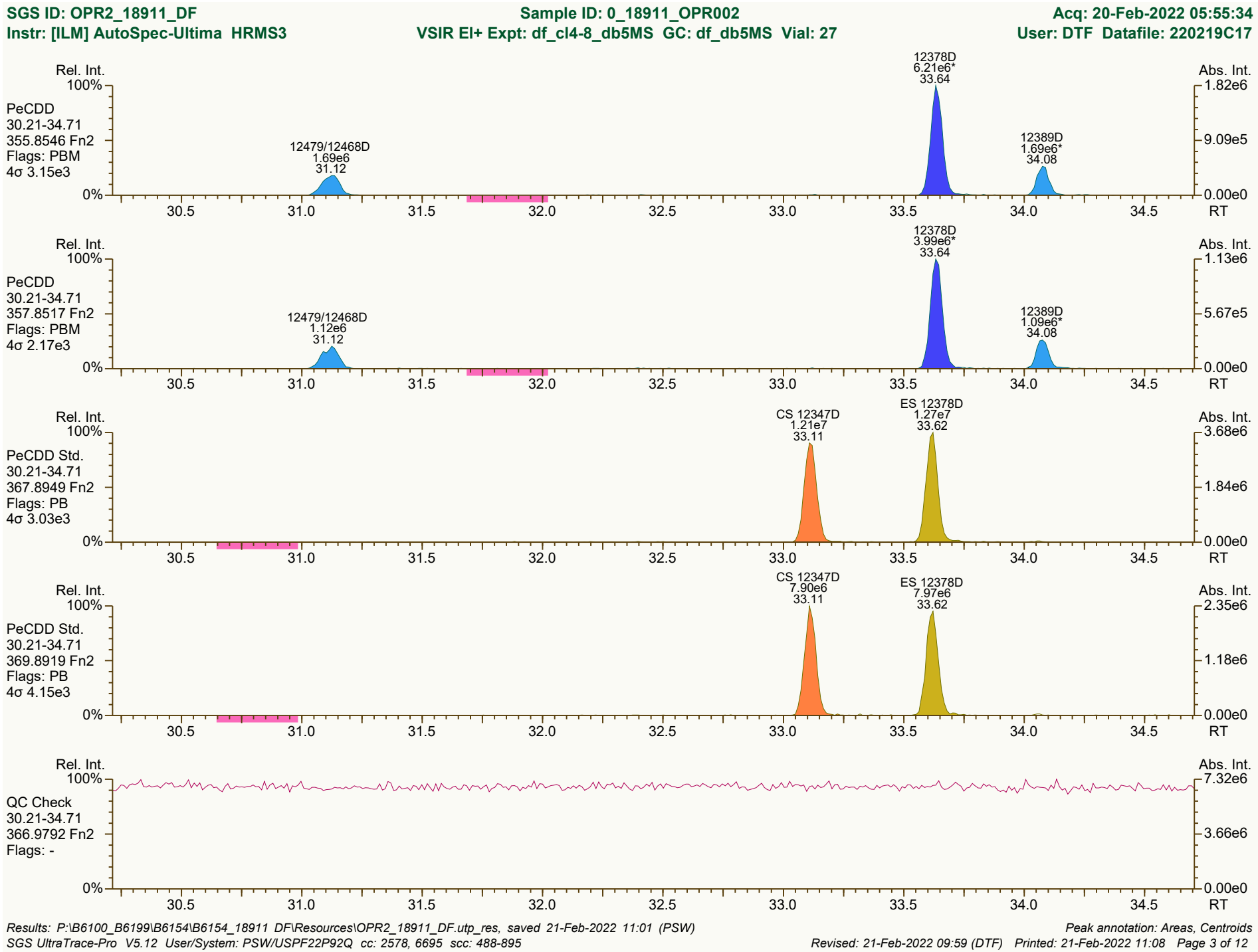


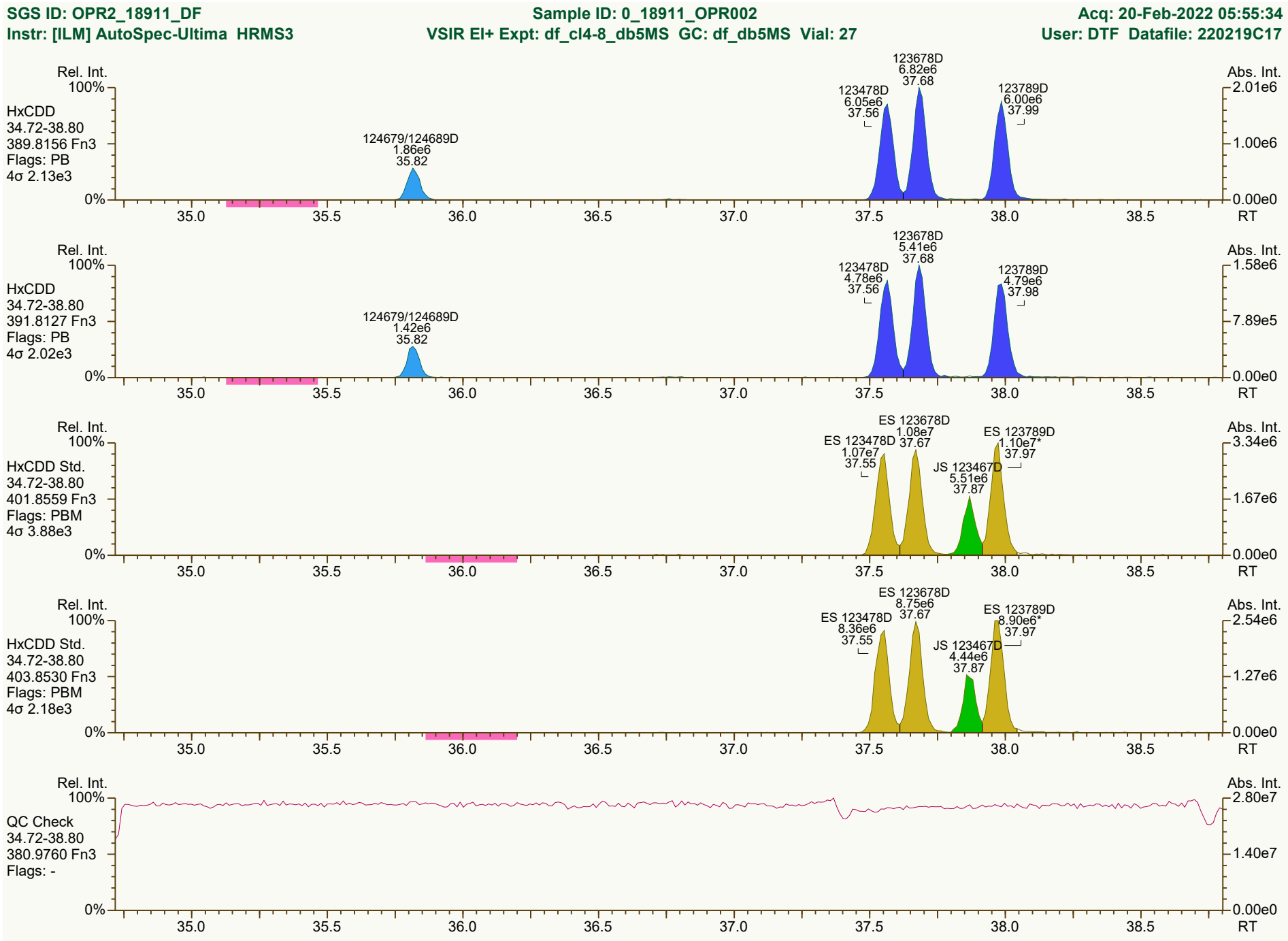


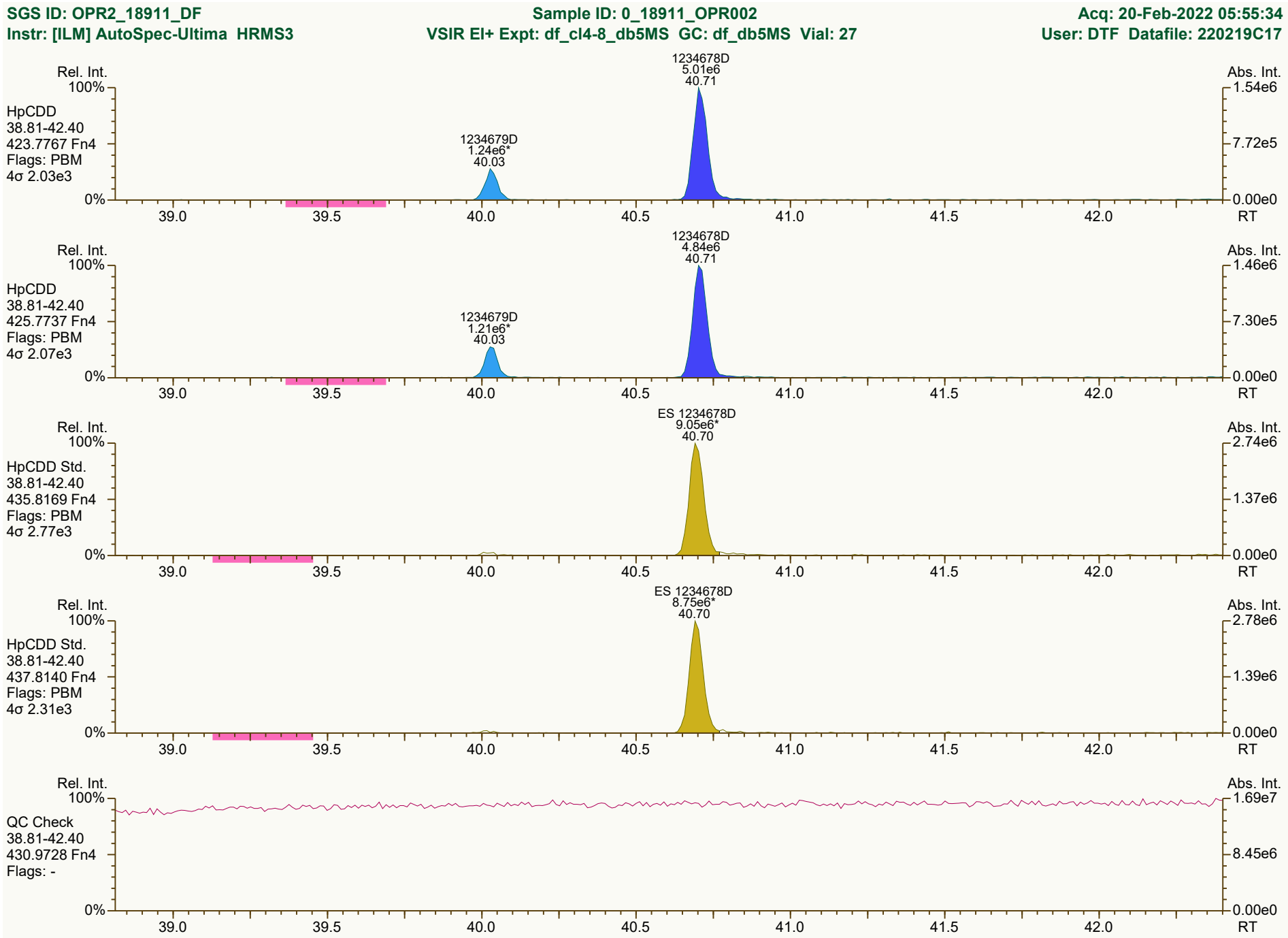
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 11:06

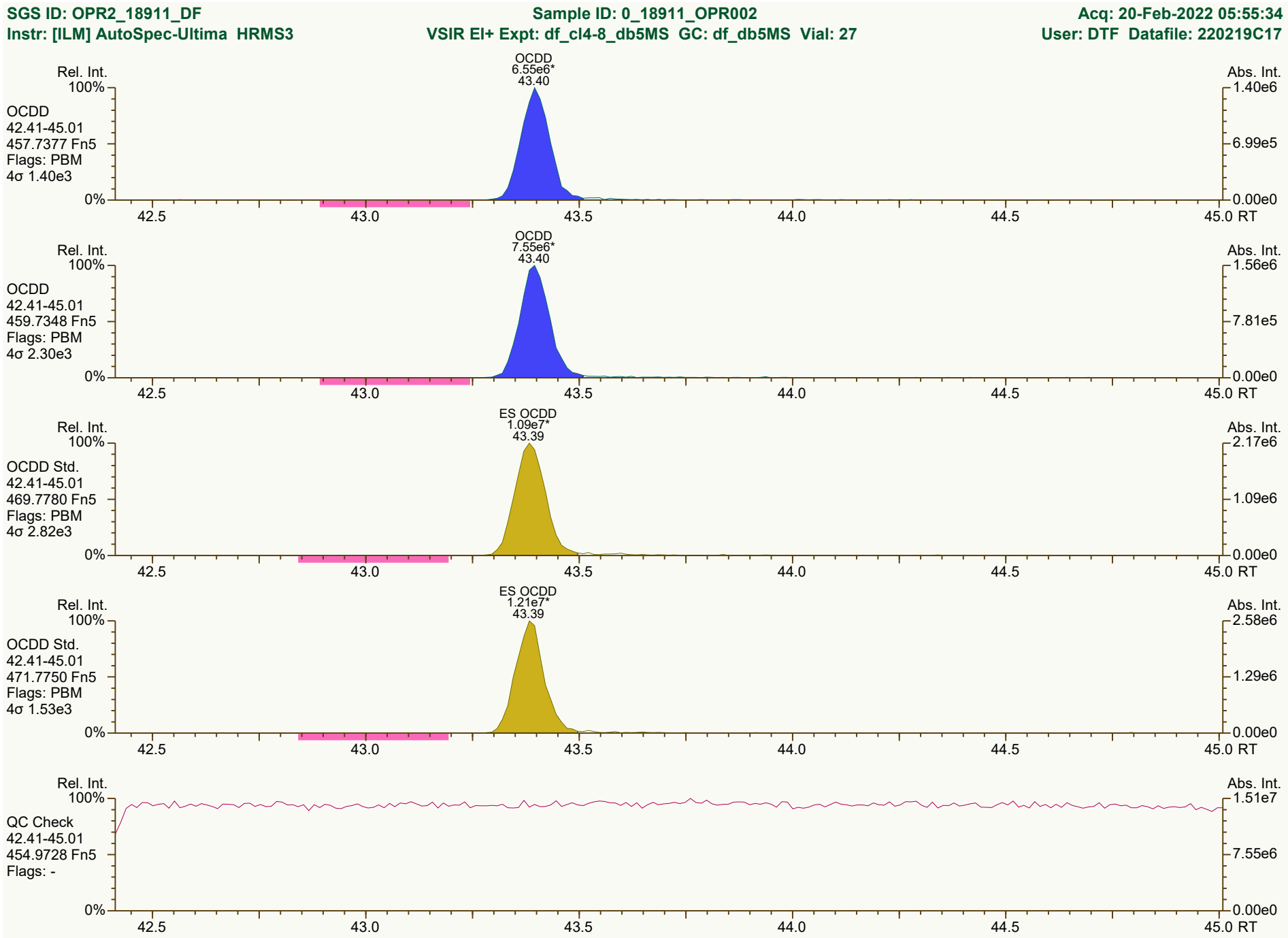

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.31e6
4.16e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.32e6
3.66e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.80e7
1.40e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.69e7
8.45e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.51e7
7.55e6
0.00e0

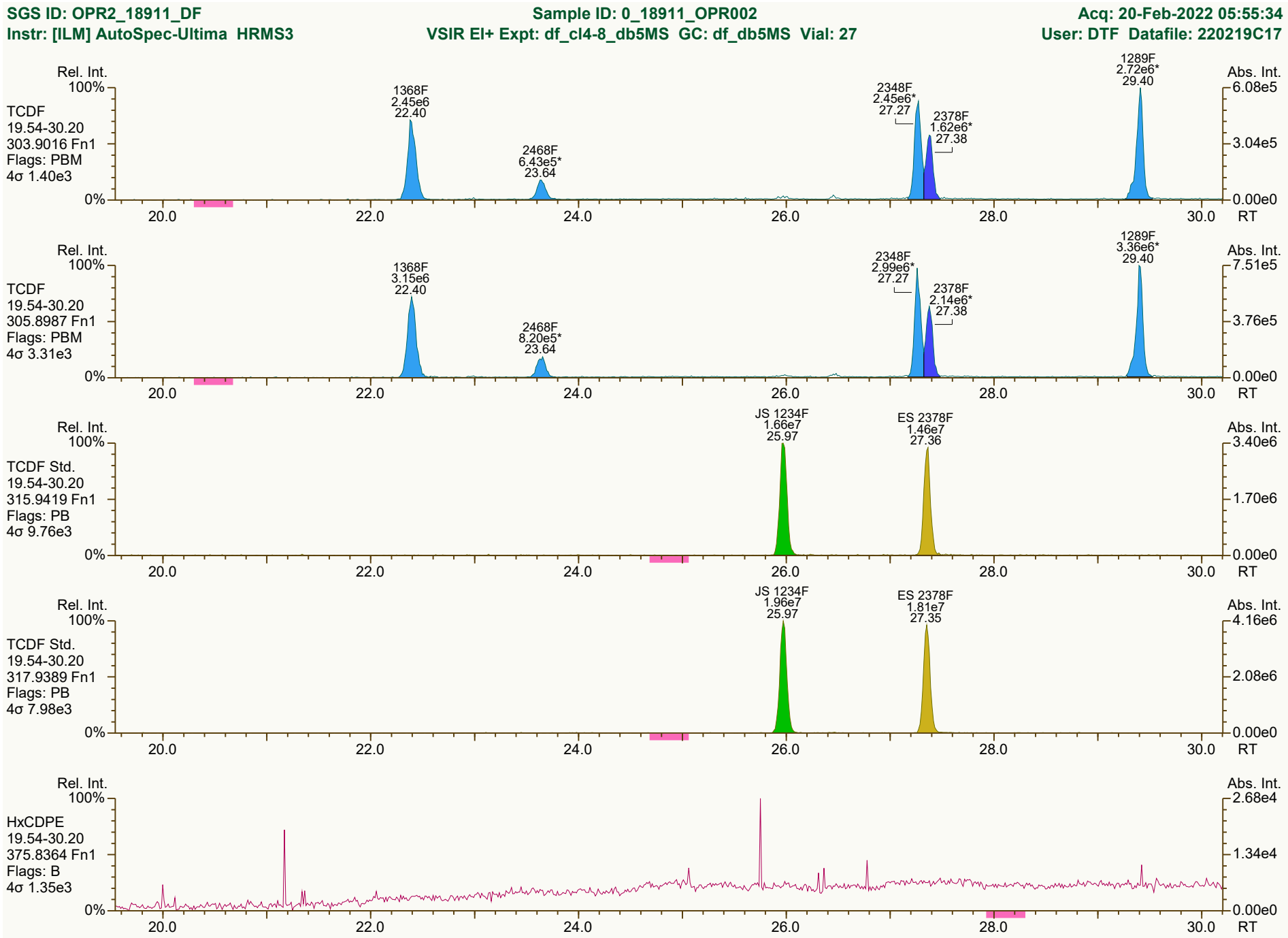

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.14e3
1368D
1.85e6
24.55
1239D
1.51e6*
28.09
2378D
1.37e6*
28.25
1289D
1.78e6*
29.23
Abs. Int.
4.18e5
2.09e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.81e3
1368D
2.28e6
24.55
1239D
1.79e6*
28.09
2378D
1.70e6*
28.25
1289D
2.22e6*
29.23
Abs. Int.
5.52e5
2.76e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
CS 37Cl-2378D
1.11e7
28.25
Abs. Int.
2.45e6
1.23e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.15e4
JS 1234D
1.01e7
27.56
ES 2378D
1.04e7
28.23
Abs. Int.
2.51e6
1.26e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.92e3
JS 1234D
1.27e7
27.56
ES 2378D
1.30e7
28.23
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
1.69e6
31.12
12378D
6.21e6*
33.64
12389D
1.69e6*
34.08
1.82e6
9.09e5
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.17e3
12479/12468D
1.12e6
31.12
12378D
3.99e6*
33.64
12389D
1.09e6*
34.08
1.13e6
5.67e5
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.03e3
CS 12347D
1.21e7
33.11
ES 12378D
1.27e7
33.62
3.68e6
1.84e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 4.15e3
CS 12347D
7.90e6
33.11
ES 12378D
7.97e6
33.62
2.35e6
1.18e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.32e6
3.66e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2578, 6695 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 11:08 Page 3 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.13e3
124679/124689D
1.86e6
35.82
123478D
6.05e6
37.56
123678D
6.82e6
37.68
123789D
6.00e6
37.99
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.02e3
124679/124689D
1.42e6
35.82
123478D
4.78e6
37.56
123678D
5.41e6
37.68
123789D
4.79e6
37.98
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.88e3
ES 123478D
1.07e7
37.55
ES 123678D
1.08e7
37.67
JS 123467D
5.51e6
37.87
ES 123789D
1.10e7*
37.97
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.18e3
ES 123478D
8.36e6
37.55
ES 123678D
8.75e6
37.67
JS 123467D
4.44e6
37.87
ES 123789D
8.90e6*
37.97
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
100%
0%
2.01e6
1.00e6
0.00e0
1.58e6
7.89e5
3.34e6
1.67e6
2.54e6
1.27e6
2.80e7
1.40e7
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0675, 7530 scc: 488-895
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 11:08 Page 4 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.03e3
1234678D
5.01e6
40.71
1234679D
1.24e6*
40.03
1.54e6
7.72e5
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.07e3
1234678D
4.84e6
40.71
1234679D
1.21e6*
40.03
1.46e6
7.30e5
0.00e0
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.77e3
ES 1234678D
9.05e6*
40.70
2.74e6
1.37e6
0.00e0
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678D
8.75e6*
40.70
2.78e6
1.39e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.69e7
8.45e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6613, 2029 scc: 488-895
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 11:08 Page 5 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
OCDD
6.55e6*
43.40
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.40e3
1.40e6
6.99e5
0.00e0
OCDD
7.55e6*
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.30e3
1.56e6
7.81e5
0.00e0
ES OCDD
1.09e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.82e3
2.17e6
1.09e6
0.00e0
ES OCDD
1.21e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.53e3
2.58e6
1.29e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.51e7
7.55e6
0.00e0
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1597, 6824 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 11:08 Page 6 of 12



Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3357, 9674, 4960 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 11:08 Page 7 of 12

SGS ID: OPR2_18911_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

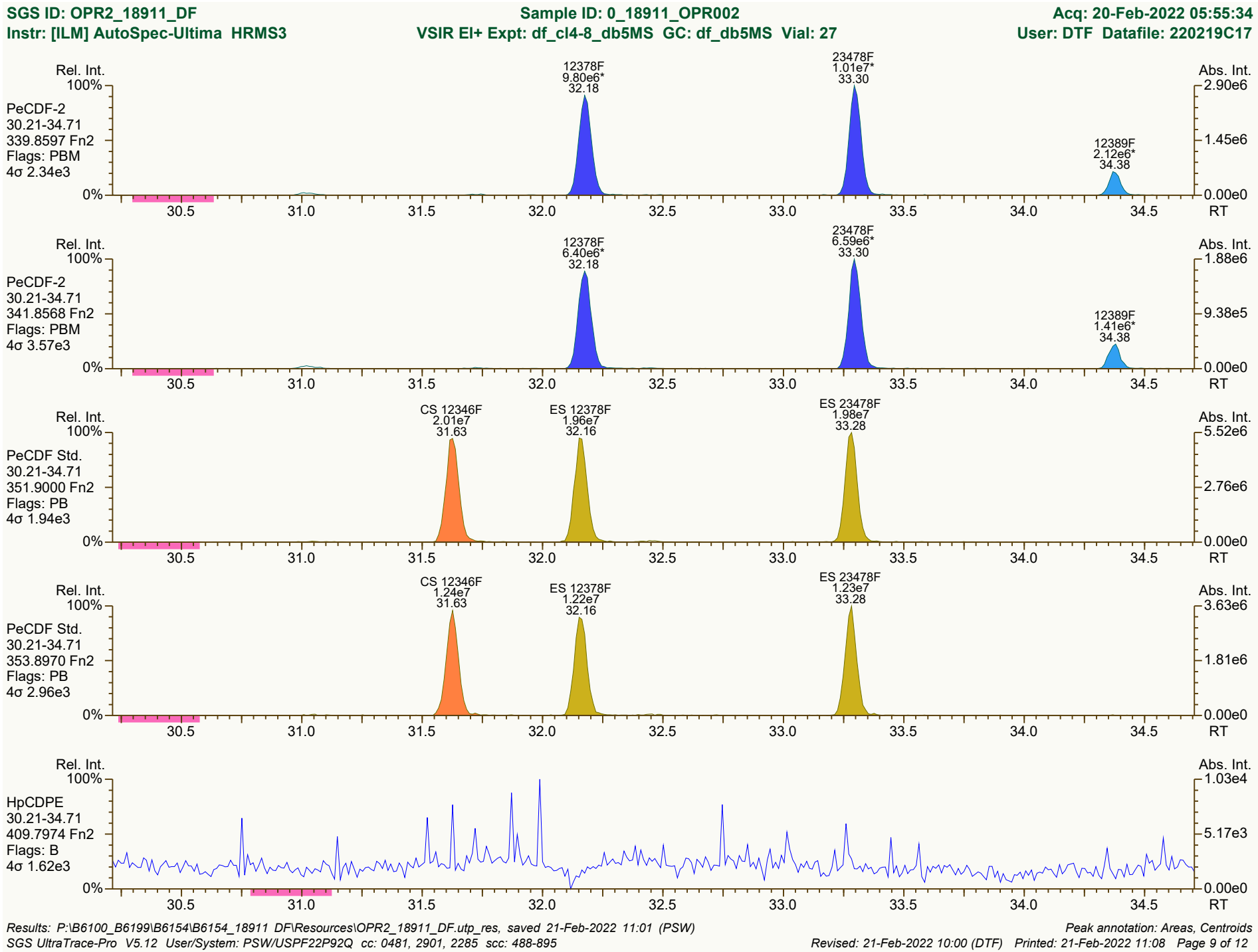
Sample ID: 0_18911_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27

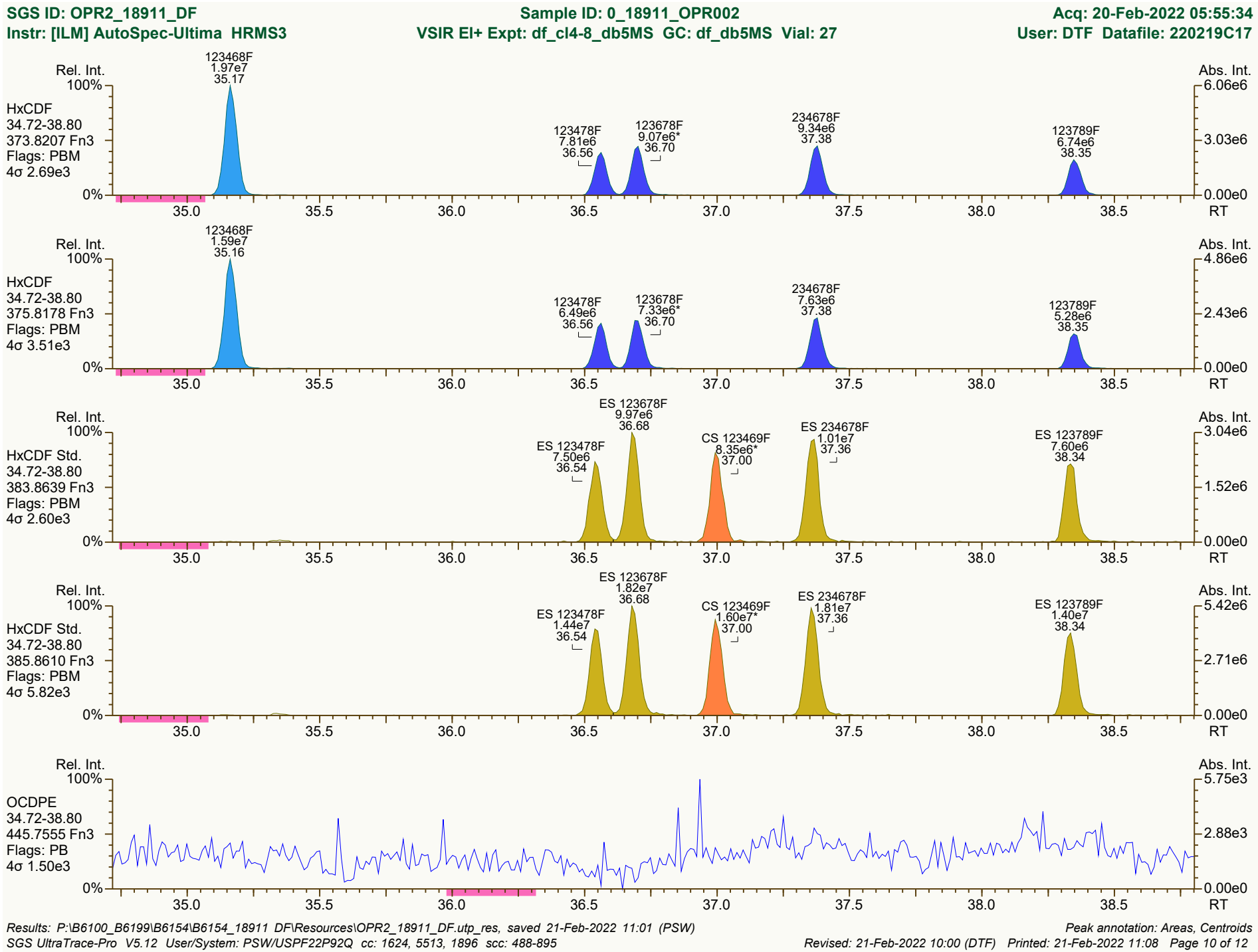
Acq: 20-Feb-2022 05:55:34
User: DTF Datafile: 220219C17

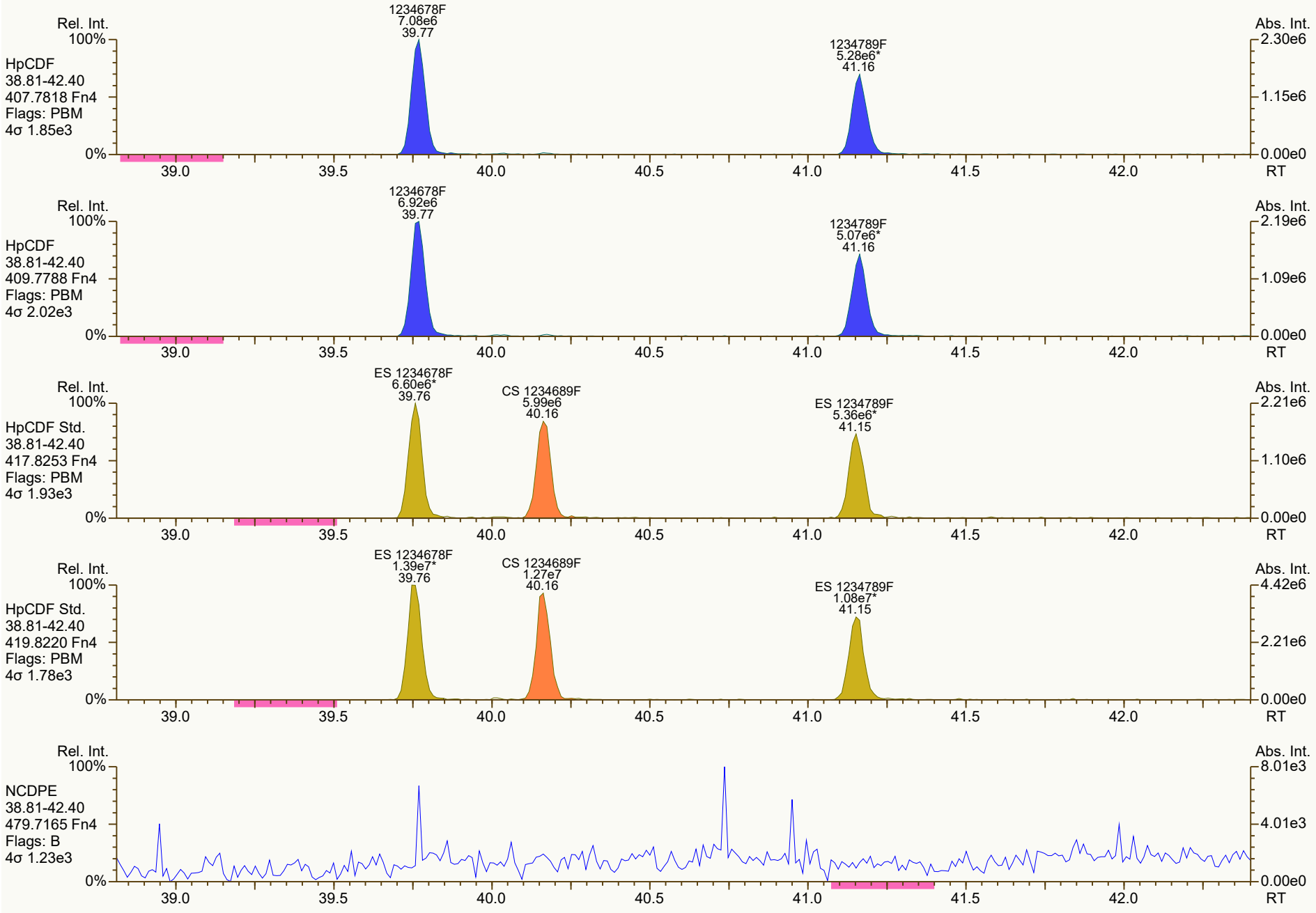


Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9329 scc: 488-895

Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 09:58 Printed: 21-Feb-2022 11:08 Page 8 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.34e3
12378F
9.80e6*
32.18
23478F
1.01e7*
33.30
12389F
2.12e6*
34.38
2.90e6
1.45e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.57e3
12378F
6.40e6*
32.18
23478F
6.59e6*
33.30
12389F
1.41e6*
34.38
1.88e6
9.38e5
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
CS 12346F
2.01e7
31.63
ES 12378F
1.96e7
32.16
ES 23478F
1.98e7
33.28
5.52e6
2.76e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.96e3
CS 12346F
1.24e7
31.63
ES 12378F
1.22e7
32.16
ES 23478F
1.23e7
33.28
3.63e6
1.81e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.62e3
1.03e4
5.17e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0481, 2901, 2285 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 11:08 Page 9 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.69e3
123468F 1.97e7 35.17
123478F 7.81e6 36.56
123678F 9.07e6* 36.70
234678F 9.34e6 37.38
123789F 6.74e6 38.35
6.06e6
3.03e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.51e3
123468F 1.59e7 35.16
123478F 6.49e6 36.56
123678F 7.33e6* 36.70
234678F 7.63e6 37.38
123789F 5.28e6 38.35
4.86e6
2.43e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.60e3
ES 123678F 9.97e6 36.68
ES 123478F 7.50e6 36.54
CS 123469F 8.35e6* 37.00
ES 234678F 1.01e7 37.36
ES 123789F 7.60e6 38.34
3.04e6
1.52e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 5.82e3
ES 123678F 1.82e7 36.68
ES 123478F 1.44e7 36.54
CS 123469F 1.60e7* 37.00
ES 234678F 1.81e7 37.36
ES 123789F 1.40e7 38.34
5.42e6
2.71e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.50e3
5.75e3
2.88e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6154\B6154_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 11:01 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1624, 5513, 1896 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 11:08 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
7.08e6
39.77
1234789F
5.28e6*
41.16
Abs. Int.
2.30e6
1.15e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.02e3
0%
1234678F
6.92e6
39.77
1234789F
5.07e6*
41.16
Abs. Int.
2.19e6
1.09e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
0%
ES 1234678F
6.60e6*
39.76
CS 1234689F
5.99e6
40.16
ES 1234789F
5.36e6*
41.15
Abs. Int.
2.21e6
1.10e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.78e3
0%
ES 1234678F
1.39e7*
39.76
CS 1234689F
1.27e7
40.16
ES 1234789F
1.08e7*
41.15
Abs. Int.
4.42e6
2.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.23e3
0%
Abs. Int.
8.01e3
4.01e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
7.88e6*
43.57
Rel. Int.
100%
Abs. Int.
1.68e6
8.41e5
0.00e0
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.24e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.57e6*
43.57
Rel. Int.
100%
Abs. Int.
1.84e6
9.21e5
0.00e0
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.79e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.40e7*
43.56
Rel. Int.
100%
Abs. Int.
2.98e6
1.49e6
0.00e0
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.70e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.57e7*
43.56
Rel. Int.
100%
Abs. Int.
3.27e6
1.63e6
0.00e0
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.28e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
4.24e3
2.12e3
0.00e0
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010622-S-BN-RB-10 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6155_18842_DF_001	Date Extracted:	17-Jan-2022
Date Collected:	06-Jan-2022	pH:	5	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:55:45

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	8.55			ES 2378-TCDD	84	
12378-PeCDD	ND	5.03			ES 12378-PeCDD	87	
123478-HxCDD	ND	4.73			ES 123478-HxCDD	81.7	
123678-HxCDD	ND	4.23			ES 123678-HxCDD	100	
123789-HxCDD	ND	4.55			ES 123789-HxCDD	75.8	
1234678-HpCDD	ND	5.29			ES 1234678-HpCDD	80.6	
OCDD	ND	10.6			ES OCDD	65.6	
2378-TCDF	ND	5.51			ES 2378-TCDF	78.7	
12378-PeCDF	ND	4.32			ES 12378-PeCDF	86.3	
23478-PeCDF	ND	4.42			ES 23478-PeCDF	83.8	
123478-HxCDF	ND	3.25			ES 123478-HxCDF	83.8	
123678-HxCDF	ND	3.06			ES 123678-HxCDF	102	
234678-HxCDF	ND	3.78			ES 234678-HxCDF	87.5	
123789-HxCDF	ND	4.3			ES 123789-HxCDF	74.7	
1234678-HpCDF	ND	3.13			ES 1234678-HpCDF	84.5	
1234789-HpCDF	ND	5.15			ES 1234789-HpCDF	74.5	
OCDF	ND	12.7			ES OCDF	65.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92	
Total TCDD	ND	8.55	ND		CS 12347-PeCDD	111	
Total PeCDD	ND	5.03	ND		CS 12346-PeCDF	103	
Total HxCDD	ND	4.49	ND		CS 123469-HxCDF	126	
Total HpCDD	ND	5.29	ND		CS 1234689-HpCDF	117	
Total TCDF	ND	5.51	ND				
Total PeCDF	ND	4.37	ND				
Total HxCDF	ND	3.52	ND				
Total HpCDF	ND	4	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	9.26	9.26	9.26				
TEQ: ND=DL	18.5	18.5	18.5				

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Sample ID: 11215131-010622-S-BN-RB-10 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6155_18842_DF_001	Date Extracted:	17-Jan-2022
Date Collected:	06-Jan-2022	pH:	5	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:55:45

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(8.55)		12479/12468D	(5.03)		124679/124689D	(4.49)		1234679D	(5.29)	
1379D	(8.55)		12469D	(5.03)		123468D	(4.49)		1234678D	(5.29)	
1369D	(8.55)		12368D	(5.03)		123679/123689D	(4.49)				
1469D	(8.55)		12478D	(5.03)		123469D	(4.49)				
1247D...[4]	(8.55)		12379D	(5.03)		123478D	(4.73)				
1378D	(8.55)		12369D...[3]	(5.03)		123678D	(4.23)				
1268D	(8.55)		12346/12347D	(5.03)		123467D	(4.49)				
1478D	(8.55)		12378D	(5.03)		123789D	(4.55)		**Conc.**	0	
1279D	(8.55)		12367D	(5.03)					**EMPC**	0	
1234/1269D	(8.55)		12389D	(5.03)							
1236D	(8.55)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(8.55)										
1239D	(8.55)								OCDD	(10.6)	
2378D	(8.55)										
1278D	(8.55)										
1267D	(8.55)										
1289D	(8.55)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	9.26	9.26
TEQ: ND=DL	18.5	18.5

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 704-489-QWP

Report Created: 24-Jan-2022 15:25 Analyst: MS

Sample ID: 11215131-010622-S-BN-RB-10 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	08-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6155_18842_DF_001	Date Extracted:	17-Jan-2022
Date Collected:	06-Jan-2022	pH:	5	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:55:45

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(5.51)		13468/12468F	(4.55)		123468F	(3.52)		1234678F	(3.13)	
1468F	(5.51)		13678F...[3]	(4.37)		124678/134678F	(3.52)		1234679F	(4)	
2468F	(5.51)		12368F...[3]	(4.37)		134679F	(3.52)		1234689F	(4)	
1346/1246F	(5.51)		14678F	(4.37)		124679F	(3.52)		1234789F	(5.15)	
1347F...[3]	(5.51)		13479F	(4.37)		124689F	(3.52)				
1348F	(5.51)		13469/12479F	(4.37)		123467F	(3.52)				
1248F...[3]	(5.51)		12346F	(4.37)		123478F	(3.25)				
1268F	(5.51)		23468/12469F	(4.37)		123678F	(3.06)				
1467F	(5.51)		12347F	(4.37)		123479F	(3.52)				
1478F	(5.51)		12348F	(4.37)		123469F	(3.52)				
1369/1237F	(5.51)		12378F	(4.32)		123679F	(3.52)				
2467F	(5.51)		12678/12367F	(4.37)		234678F	(3.78)		**Conc.**	0	
2368F	(5.51)		12379F	(4.37)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(5.51)		12679F	(4.37)		123689F	(3.52)				
1278F	(5.51)		23467/12369F	(4.37)		123789F	(4.3)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(5.51)		23478F	(4.42)		123789/123489F	0				
1267F	(5.51)		23478/12489F	0		123489F	(3.52)		OCDF	(12.7)	
2346/1249F	(5.51)		12489F	(4.37)							
2347/1279F	(5.51)		12349F	(4.37)							
2348F	(5.51)		12389F	(4.37)							
2378F	(5.51)										
2367/3467F	(5.51)										
1269F	(5.51)										
1239F	(5.51)										
1289F	(5.51)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 704-489-QWP

Report Created: 24-Jan-2022 15:25 Analyst: MS

Sample ID: 11215131-010622-S-BN-RB-10 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6155_18842_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18842
Date Collected:	06-Jan-2022	Split:	-	Date Extracted:	17-Jan-2022
Date Received:	08-Jan-2022	Dilution:	-	Date Analyzed:	23-Jan-2022 16:55
Lab Project No:	B6155	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(8.55)		8.55	(8.55)	(8.55)	(8.55)
12378-PeCDD	(5.03)		5.03	(2.52)	(5.03)	(5.03)
123478-HxCDD	(4.73)		4.73	(0.473)	(0.473)	(0.473)
123678-HxCDD	(4.23)		4.23	(0.423)	(0.423)	(0.423)
123789-HxCDD	(4.55)		4.55	(0.455)	(0.455)	(0.455)
1234678-HpCDD	(5.29)		5.29	(0.0529)	(0.0529)	(0.0529)
OCDD	(10.6)		10.6	(0.0106)	(0.00106)	(0.00318)
2378-TCDF	(5.51)		5.51	(0.551)	(0.551)	(0.551)
12378-PeCDF	(4.32)		4.32	(0.216)	(0.216)	(0.13)
23478-PeCDF	(4.42)		4.42	(2.21)	(2.21)	(1.33)
123478-HxCDF	(3.25)		3.25	(0.325)	(0.325)	(0.325)
123678-HxCDF	(3.06)		3.06	(0.306)	(0.306)	(0.306)
234678-HxCDF	(3.78)		3.78	(0.378)	(0.378)	(0.378)
123789-HxCDF	(4.3)		4.3	(0.43)	(0.43)	(0.43)
1234678-HpCDF	(3.13)		3.13	(0.0313)	(0.0313)	(0.0313)
1234789-HpCDF	(5.15)		5.15	(0.0515)	(0.0515)	(0.0515)
OCDF	(12.7)		12.7	(0.0127)	(0.00127)	(0.00382)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	8.5	9.75	9.26
EMPC = 0, ND = DL	17	19.5	18.5
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	8.5	9.75	9.26
EMPC = EMPC, ND = DL	17	19.5	18.5
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 704-489-QWP

SGS North America - DF v0.99

Sample ID: Method Blank B6155_18842 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18842_DF_TLX	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:27

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	6.18			ES 2378-TCDD	80.6	
12378-PeCDD	ND	3.13			ES 12378-PeCDD	90.2	
123478-HxCDD	ND	2.96			ES 123478-HxCDD	92	
123678-HxCDD	ND	2.7			ES 123678-HxCDD	114	
123789-HxCDD	ND	3.26			ES 123789-HxCDD	93.5	
1234678-HpCDD	ND	4.39			ES 1234678-HpCDD	81.8	
OCDD	ND	7.37			ES OCDD	68	
2378-TCDF	ND	3.8			ES 2378-TCDF	79.8	
12378-PeCDF	ND	3.61			ES 12378-PeCDF	82.6	
23478-PeCDF	ND	3.24			ES 23478-PeCDF	84.5	
123478-HxCDF	ND	2.66			ES 123478-HxCDF	87.7	
123678-HxCDF	ND	2.59			ES 123678-HxCDF	106	
234678-HxCDF	ND	2.99			ES 234678-HxCDF	95.5	
123789-HxCDF	ND	3.44			ES 123789-HxCDF	83.2	
1234678-HpCDF	ND	2.23			ES 1234678-HpCDF	94.7	
1234789-HpCDF	ND	3.74			ES 1234789-HpCDF	81.9	
OCDF	ND	7.82			ES OCDF	73.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	ND	6.18	ND		CS 12347-PeCDD	110	
Total PeCDD	ND	3.13	ND		CS 12346-PeCDF	95.1	
Total HxCDD	ND	2.96	ND		CS 123469-HxCDF	130	
Total HpCDD	ND	4.39	ND		CS 1234689-HpCDF	125	
Total TCDF	ND	3.8	ND				
Total PeCDF	ND	3.43	ND				
Total HxCDF	ND	2.88	ND				
Total HpCDF	ND	2.87	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	6.47	6.47	6.47				
TEQ: ND=DL	12.9	12.9	12.9				

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Sample ID: Method Blank B6155_18842 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18842_DF_TLX	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:27

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(6.18)		12479/12468D	(3.13)		124679/124689D	(2.96)		1234679D	(4.39)	
1379D	(6.18)		12469D	(3.13)		123468D	(2.96)		1234678D	(4.39)	
1369D	(6.18)		12368D	(3.13)		123679/123689D	(2.96)				
1469D	(6.18)		12478D	(3.13)		123469D	(2.96)				
1247D...[4]	(6.18)		12379D	(3.13)		123478D	(2.96)				
1378D	(6.18)		12369D...[3]	(3.13)		123678D	(2.7)				
1268D	(6.18)		12346/12347D	(3.13)		123467D	(2.96)				
1478D	(6.18)		12378D	(3.13)		123789D	(3.26)		**Conc.**	0	
1279D	(6.18)		12367D	(3.13)					**EMPC**	0	
1234/1269D	(6.18)		12389D	(3.13)							
1236D	(6.18)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(6.18)										
1239D	(6.18)								OCDD	(7.37)	
2378D	(6.18)										
1278D	(6.18)										
1267D	(6.18)										
1289D	(6.18)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	6.47	6.47
TEQ: ND=DL	12.9	12.9

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 973-869-CYP

Report Created: 24-Jan-2022 15:25 Analyst: MS

Sample ID: Method Blank B6155_18842 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18842_DF_TLX	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:27

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(3.8)		13468/12468F	(2.79)		123468F	(2.88)		1234678F	(2.23)	
1468F	(3.8)		13678F...[3]	(3.43)		124678/134678F	(2.88)		1234679F	(2.87)	
2468F	(3.8)		12368F...[3]	(3.43)		134679F	(2.88)		1234689F	(2.87)	
1346/1246F	(3.8)		14678F	(3.43)		124679F	(2.88)		1234789F	(3.74)	
1347F...[3]	(3.8)		13479F	(3.43)		124689F	(2.88)				
1348F	(3.8)		13469/12479F	(3.43)		123467F	(2.88)				
1248F...[3]	(3.8)		12346F	(3.43)		123478F	(2.66)				
1268F	(3.8)		23468/12469F	(3.43)		123678F	(2.59)				
1467F	(3.8)		12347F	(3.43)		123479F	(2.88)				
1478F	(3.8)		12348F	(3.43)		123469F	(2.88)				
1369/1237F	(3.8)		12378F	(3.61)		123679F	(2.88)				
2467F	(3.8)		12678/12367F	(3.43)		234678F	(2.99)		**Conc.**	0	
2368F	(3.8)		12379F	(3.43)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(3.8)		12679F	(3.43)		123689F	(2.88)				
1278F	(3.8)		23467/12369F	(3.43)		123789F	(3.44)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(3.8)		23478F	(3.24)		123789/123489F	0				
1267F	(3.8)		23478/12489F	0		123489F	(2.88)		OCDF	(7.82)	
2346/1249F	(3.8)		12489F	(3.43)							
2347/1279F	(3.8)		12349F	(3.43)							
2348F	(3.8)		12389F	(3.43)							
2378F	(3.8)										
2367/3467F	(3.8)										
1269F	(3.8)										
1239F	(3.8)										
1289F	(3.8)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 973-869-CYP

Report Created: 24-Jan-2022 15:25 Analyst: MS

Sample ID: Method Blank B6155_18842 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18842_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18842
Date Collected:	n/a	Split:	-	Date Extracted:	17-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	23-Jan-2022 16:09
Lab Project No:	B6155	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(6.18)		6.18	(6.18)	(6.18)	(6.18)
12378-PeCDD	(3.13)		3.13	(1.56)	(3.13)	(3.13)
123478-HxCDD	(2.96)		2.96	(0.296)	(0.296)	(0.296)
123678-HxCDD	(2.7)		2.7	(0.27)	(0.27)	(0.27)
123789-HxCDD	(3.26)		3.26	(0.326)	(0.326)	(0.326)
1234678-HpCDD	(4.39)		4.39	(0.0439)	(0.0439)	(0.0439)
OCDD	(7.37)		7.37	(0.00737)	(0.000737)	(0.00221)
2378-TCDF	(3.8)		3.8	(0.38)	(0.38)	(0.38)
12378-PeCDF	(3.61)		3.61	(0.18)	(0.18)	(0.108)
23478-PeCDF	(3.24)		3.24	(1.62)	(1.62)	(0.973)
123478-HxCDF	(2.66)		2.66	(0.266)	(0.266)	(0.266)
123678-HxCDF	(2.59)		2.59	(0.259)	(0.259)	(0.259)
234678-HxCDF	(2.99)		2.99	(0.299)	(0.299)	(0.299)
123789-HxCDF	(3.44)		3.44	(0.344)	(0.344)	(0.344)
1234678-HpCDF	(2.23)		2.23	(0.0223)	(0.0223)	(0.0223)
1234789-HpCDF	(3.74)		3.74	(0.0374)	(0.0374)	(0.0374)
OCDF	(7.82)		7.82	(0.00782)	(0.000782)	(0.00235)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	6.05	6.83	6.47
EMPC = 0, ND = DL	12.1	13.7	12.9
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	6.05	6.83	6.47
EMPC = EMPC, ND = DL	12.1	13.7	12.9
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 973-869-CYP

Sample ID: 0_18842_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18842_DF	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:50:36

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.4				ES 2378-TCDD	91.5	
12378-PeCDD	50.7				ES 12378-PeCDD	98.5	
123478-HxCDD	54.5				ES 123478-HxCDD	91.5	
123678-HxCDD	55.3				ES 123678-HxCDD	122	
123789-HxCDD	51.4				ES 123789-HxCDD	95.8	
1234678-HpCDD	57.3				ES 1234678-HpCDD	86.2	
OCDD	111				ES OCDD	73.7	
2378-TCDF	11.8				ES 2378-TCDF	83.6	
12378-PeCDF	50.5				ES 12378-PeCDF	89.2	
23478-PeCDF	53.8				ES 23478-PeCDF	93.2	
123478-HxCDF	53.8				ES 123478-HxCDF	90.7	
123678-HxCDF	55.5				ES 123678-HxCDF	111	
234678-HxCDF	58.2				ES 234678-HxCDF	105	
123789-HxCDF	55.9				ES 123789-HxCDF	77.6	
1234678-HpCDF	54.7				ES 1234678-HpCDF	104	
1234789-HpCDF	53.3				ES 1234789-HpCDF	84.8	
OCDF	105				ES OCDF	78	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98	
Total TCDD	52.1		52.1		CS 12347-PeCDD	116	
Total PeCDD	75.1		75.1		CS 12346-PeCDF	95.1	
Total HxCDD	174		174		CS 123469-HxCDF	131	
Total HpCDD	69.4		69.4		CS 1234689-HpCDF	125	
Total TCDF	61.7		61.7				
Total PeCDF	199		199				
Total HxCDF	358		358				
Total HpCDF	108		108				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	121		121				
TEQ: ND=DL/2	121	0.413	121				
TEQ: ND=DL	121	0.825	121				

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www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18842_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6155	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18842_DF	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:36:49

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.4				ES 2378-TCDD	83.5	
12378-PeCDD	50.3				ES 12378-PeCDD	94.4	
123478-HxCDD	59.5				ES 123478-HxCDD	86	
123678-HxCDD	58.1				ES 123678-HxCDD	113	
123789-HxCDD	53.4				ES 123789-HxCDD	92.1	
1234678-HpCDD	57.7				ES 1234678-HpCDD	83	
OCDD	117				ES OCDD	68.5	
2378-TCDF	12.1				ES 2378-TCDF	85	
12378-PeCDF	54				ES 12378-PeCDF	90.2	
23478-PeCDF	57.5				ES 23478-PeCDF	91.7	
123478-HxCDF	56.5				ES 123478-HxCDF	86.1	
123678-HxCDF	56.1				ES 123678-HxCDF	108	
234678-HxCDF	53.5				ES 234678-HxCDF	91.4	
123789-HxCDF	55.9				ES 123789-HxCDF	82.8	
1234678-HpCDF	54				ES 1234678-HpCDF	97.3	
1234789-HpCDF	58.5				ES 1234789-HpCDF	75.8	
OCDF	110				ES OCDF	75.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89	
Total TCDD	55.4		55.4		CS 12347-PeCDD	106	
Total PeCDD	74.8		74.8		CS 12346-PeCDF	99.7	
Total HxCDD	185		185		CS 123469-HxCDF	124	
Total HpCDD	69.5		69.5		CS 1234689-HpCDF	117	
Total TCDF	64.7		64.7				
Total PeCDF	208		208				
Total HxCDF	354		354				
Total HpCDF	113		113				
Total PCDD/Fs	**1,350**		**1,350**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.42	124				
TEQ: ND=DL	124	0.839	124				

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Sample DUP

Method 1613B

Sample ID: 0_18842_OPR001

Analyte	OPR1_18842_DF pg/uL	OPR2_18842_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.4	12.4	8.4%
1,2,3,7,8-PeCDD	50.7	50.3	0.8%
1,2,3,4,7,8-HxCDD	54.5	59.5	8.8%
1,2,3,6,7,8-HxCDD	55.3	58.1	5.1%
1,2,3,7,8,9-HxCDD	51.4	53.4	3.7%
1,2,3,4,6,7,8-HpCDD	57.3	57.7	0.8%
OCDD	111	117	5.4%
2,3,7,8-TCDF	11.8	12.1	2.6%
1,2,3,7,8-PeCDF	50.5	54	6.6%
2,3,4,7,8-PeCDF	53.8	57.5	6.6%
1,2,3,4,7,8-HxCDF	53.8	56.5	4.8%
1,2,3,6,7,8-HxCDF	55.5	56.1	1.1%
2,3,4,6,7,8-HxCDF	58.2	53.5	8.4%
1,2,3,7,8,9-HxCDF	55.9	55.9	0.0%
1,2,3,4,6,7,8-HpCDF	54.7	54	1.2%
1,2,3,4,7,8,9-HpCDF	53.3	58.5	9.3%
OCDF	105	110	5.0%
Totals			
Total TCDD	52.1	55.4	6.2%
Total PeCDD	75.1	74.8	0.5%
Total HxCDD	174	185	6.2%
Total HpCDD	69.4	69.5	0.1%
Total TCDF	61.7	64.7	4.6%
Total PeCDF	199	208	4.1%
Total HxCDF	358	354	1.3%
Total HpCDF	108	113	4.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Jan-22 at 13:00*
AP Project name:	*B6155*
Requested TAT:	*10 business days*
Projected due date:	*24-Jan-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010622-S-BN-RB-10	B6155_001	Water - Rinse Blanks	2	1-Liter Amber	06-Jan-22	15:30	-0.4	2	4905 2704 3664

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Sample not received frozen.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jeannie Milholland *Logged in by: Ashley Owens* *QC'ed by:* AK 10 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BL0155

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	M1613B	M8290A (PW)	M1668A (PW)	M1668C (PW)	HR-PAH (PW)	M1699 (PW)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-010622-S-PW-RB-10	1-6-22	1530		W	1L		X									2	RINSEBLANKS *

See SSOW

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Breanna North	1-7-22	1230	Eddie Castro	Jeannie Mitchell	1-8-2022	1300
RELINQUISHED BY (2): Eddie Castro	DATE: 1-7-22	TIME: 1315	RECEIVED BY:	COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT		
RELINQUISHED BY (3):	DATE: 1/7/22	TIME: 1315	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
				CARRIER: Fed Ex	TEMP: °C -0.4 IR4P	
				TRACKING #: 4905 2704 3664		

*=samples in this project.

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#1

SHIP DATE: 07JAN22
ACTWGT: 48.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

1/8/2022
13:00
-0.6° (T.B.)

WILMINGTON NC 28405
(910) 350-1903
REF: 48QT

565C2/01EF/0502

FedEx Express

J191219082001uv

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3675**

XO ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

BU155

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

#2

SHIP DATE: 07JAN22
ACTWGT: 26.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

1-8-2022
-0.4°C
1300pm

WILMINGTON NC 28405
(910) 350-1903
REF: 30QT

FedEx Express

J191219082001uv

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3664**

XO ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6155

Initiation Date: 10-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

1L extraction

Read and understood, initial and date: Prep Lab: JRH 1/17/22 RAS 1/20/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 10-Jan-2022

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Methods: PCB / PAH; PCDD/F / WHO-2; QUANTICS / USV; DoD PCDD/F / PEST

Extraction Type: SDS / ~~CLL~~; TALEX Carbon SPE

Aqueous

Final Volume: 20 µL

Batch# 18842

Split: ~~172~~ ~~174~~

Extract Initial/Date: JRH 1/17/22

Clean-up Initial/Date: ~~KB~~ 1/20/22

Transfer Init/Date: ~~KB~~ 1/20/22

Lab Sample ID	Extraction Position / Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	pH	Cl⁻	Observations
B6155_18842_001	4	1023.3				5	0	clear, colorless
B6161_18842_001	5	1040.3				7	0	clear, colorless
B6161_18842_002	6	1029.5				7	0	clear, colorless
B6161_18842_003	7	1020.7				6	0	chemical smell, cloudy, brown, PM
B6172_18842_001	8	1020.6				5	0	clear, colorless
B6172_18842_002	9	1011.9				5	0	clear, colorless
MB1_18842	1	1000.0				5	0	Distilled H_2O
OPR1_18842	2	1000.0				5	0	Distilled H_2O
OPR2_18842	3	1000.0				5	0	Distilled H_2O

CL 26 Jan 22

~~KB~~ 1/20/22

Supply IDs

Toluene	N/A
MeCHL	STL14-23
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	SPLS-72
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-28C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CL 26 Jan 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	
	Stop:	
HEX	Start:	CL 26 Jan 22
	Stop:	
DCM	Start: ~~1430~~	1430
	Stop:	1130

JRH 1/17/22

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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Aqueous

Batch# 18842

Inter-Department Communication Sheet

26 Jan 22

Ce

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Aqueous

Batch # 18842

Lab Sample ID	Spiker Initials/Date: JRH 1/17/22	JRH 1/17/22	JRH 1/17/22	1/20/22	1/20/22		
	D/F Ax-A	D/F Ax-B	D/F 63	D/F CS	D/F JS		
	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6155_18842_001	—	—	KE	KE	JRH		
B6161_18842_001	—	—	KE	KE	JRH		
B6161_18842_002	—	—	KE	KE	JRH		
B6161_18842_003	—	—	KE	KE	JRH		
B6172_18842_001	—	—	KE	KE	JRH		
B6172_18842_002	—	—	KE	KE	JRH		
MB1_18842	—	—	KE	KE	JRH		
OPR1_18842	KE	KE	KE	KE	JRH		
OPR2_18842	KE	KE	KE	KE	JRH		

1/20/22

Standard Information

Pipette ID					
Spike ID	D/F Ax-A	D/F Ax-B	D/F 63	D/F CS	D/F JS
SIL #	26-2-8	25-187-8	106-2-9	25.338.1	25.309.1
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL
Expiration Date	7/9/28	6/22/22	5/2028	11/16/22	10/8/22

1/20/22

REVIEWED
Megan_Shannahan , 1/24/2022, 3:36:18 PM

SGS Environmental Services — Run Log **Project: B6155_18842_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

APPROVED
Carla_Lyon , 1/26/2022, 12:32:58 PM

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220123C01	3	CS3_220123_DF_CA	1.00	SIL 25-347-1	DTF, MLS	360-463	23-Jan-2022	12:26:11
1	220123C02	7	OPR1_18842_DF	1.00	0_18842_OPR001	DTF, MLS	322-778	23-Jan-2022	13:50:36
2	220123C03	8	OPR2_18842_DF	1.00	0_18842_OPR002	DTF, MLS	606-439	23-Jan-2022	14:36:49
3	220123C04	2	SBS_220123_DF_CA	1.00	SIL 20-61-1	DTF	105-853	23-Jan-2022	15:23:08
4	220123C05	6	MB1_18842_DF_TLX	1.00	Method Blank	DTF, MLS	973-869	23-Jan-2022	16:09:27
5	220123C06	9	B6155_18842_DF_001	1.02	11215131-010622-S-BN-RB-10	DTF, MLS	704-489	23-Jan-2022	16:55:45

Lab ID: MB1_18842_DF_TLX **Acq'd:** 23 Jan 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6155_18842 **UTP:** 24-Jan-2022 15:20:19 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 973-869-CYP

Datafile: 220123C05 **Report:** 24 Jan 2022 15:25 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4945.879	6.18
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2582.581	3.13
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2587.0503	2.96
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2587.0503	2.7
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2587.0503	3.26
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3003.175	4.39
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2501.629	7.37
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	5003.885	3.8
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4212.968	3.61
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4212.968	3.24
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3101.07	2.66
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3101.07	2.59
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3101.07	2.99
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3101.07	3.44
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2758.204	2.23
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2758.204	3.74
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3295.339	7.82

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0237	+0.7	1.60E+07	0.80	Y	1.05	80.6
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.50E+07	1.59	Y	0.88	90.2
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.36E+07	1.24	Y	0.97	92
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.63E+07	1.25	Y	0.94	114
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.55E+07	1.27	Y	1.09	93.5
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.13E+07	1.13	Y	0.91	81.8
ES OCDD	43.51	1.1403	1.1411	+2.1	1.29E+07	0.91	Y	0.62	68
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.73E+07	0.79	Y	1.06	79.8
ES 12378-PeCDF	32.50	1.2281	1.2297	+3.1	2.43E+07	1.57	Y	0.91	82.6
ES 23478-PeCDF	33.60	1.2698	1.2716	+3.6	2.41E+07	1.55	Y	0.88	84.5
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.59E+07	0.58	Y	1.20	87.7
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.16E+07	0.53	Y	1.35	106
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.80E+07	0.55	Y	1.24	95.5
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.46E+07	0.56	Y	1.16	83.2
ES 1234678-HpCDF	39.93	1.0467	1.0471	+1.0	1.39E+07	0.44	Y	0.97	94.7
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.06E+07	0.48	Y	0.85	81.9
ES OCDF	43.70	1.1451	1.1460	+2.4	1.80E+07	0.91	Y	0.81	73.5

Lab ID: MB1_18842_DF_TLX | Acq'd: 23 Jan 2022 16:09 DTF | Wt/Vol: 1.00 L | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6155_18842 | UTP: 24-Jan-2022 15:20:19 MLS | J-level: 5 pg/L | Split: 1 | Checkcode: 973-869-CYP

Datafile: 220123C05 | Report: 24 Jan 2022 15:25 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.90E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.23E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.58E+06	1.30	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.40E+06	n/a	-	1.20	92.1	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.57E+07	1.58	Y	0.75	110	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.61E+07	1.55	Y	0.85	95.1	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.21E+07	0.55	Y	1.12	130	
CS 1234689-HpCDF	40.33		1.0571	1.0576	+1.2	1.68E+07	0.46	Y	0.89	125	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.40E+06~~	~~n/a~~		~~1.15~~	~~115~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.57E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~121~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.61E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~115~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.21E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~123~~	
~~SS 1234689-HpCDF~~	~~40.33~~	~~Y~~	~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.68E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~132~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18842_DF_TLX **Acq'd:** 23 Jan 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6155_18842 **UTP:** 24-Jan-2022 15:20:19 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 973-869-CYP

Datafile: 220123C05 **Report:** 24 Jan 2022 15:25 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4945.879	6.18
1379-TCDD	NotFnd		0.8876						1.18		4945.879	6.18
1369-TCDD	NotFnd		0.9023						1.18		4945.879	6.18
1469-TCDD	NotFnd		0.9291						1.18		4945.879	6.18
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4945.879	6.18
1378-TCDD	NotFnd		0.9440						1.18		4945.879	6.18
1268-TCDD	NotFnd		0.9506						1.18		4945.879	6.18
1478-TCDD	NotFnd		0.9591						1.18		4945.879	6.18
1279-TCDD	NotFnd		0.9649						1.18		4945.879	6.18
1234/1269-TCDD	NotFnd		0.9771						1.18		4945.879	6.18
1236-TCDD	NotFnd		0.9820						1.18		4945.879	6.18
1237/1238-TCDD	NotFnd		0.9908						1.18		4945.879	6.18
1239-TCDD	NotFnd		0.9954						1.18		4945.879	6.18
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4945.879**	**6.18**
1278-TCDD	NotFnd		1.0121						1.18		4945.879	6.18
1267-TCDD	NotFnd		1.0167						1.18		4945.879	6.18
1289-TCDD	NotFnd		1.0341						1.18		4945.879	6.18
12479/12468-PeCDD	NotFnd		0.9273						1.04		2582.581	3.13
12469-PeCDD	NotFnd		0.9430						1.04		2582.581	3.13
12368-PeCDD	NotFnd		0.9592						1.04		2582.581	3.13
12478-PeCDD	NotFnd		0.9647						1.04		2582.581	3.13
12379-PeCDD	NotFnd		0.9676						1.04		2582.581	3.13
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2582.581	3.13
12346/12347-PeCDD	NotFnd		0.9860						1.04		2582.581	3.13
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2582.581**	**3.13**
12367-PeCDD	NotFnd		1.0034						1.04		2582.581	3.13
12389-PeCDD	NotFnd		1.0134						1.04		2582.581	3.13
124679/124689-HxCDD	NotFnd		0.9545						1.10		2587.0503	2.96
123468-HxCDD	NotFnd		0.9715						1.10		2587.0503	2.96
123679/123689-HxCDD	NotFnd		0.9793						1.10		2587.0503	2.96
123469-HxCDD	NotFnd		0.9829						1.10		2587.0503	2.96
123478-HxCDD	NotFnd		**1.0004**						1.09		**2587.0503**	**2.96**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2587.0503**	**2.7**
123467-HxCDD	NotFnd		1.0082						1.10		2587.0503	2.96
123789-HxCDD	NotFnd		**1.0109**						1.05		**2587.0503**	**3.26**

Lab ID: MB1_18842_DF_TLX **Acq'd:** 23 Jan 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6155_18842 **UTP:** 24-Jan-2022 15:20:19 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 973-869-CYP

Datafile: 220123C05 **Report:** 24 Jan 2022 15:25 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

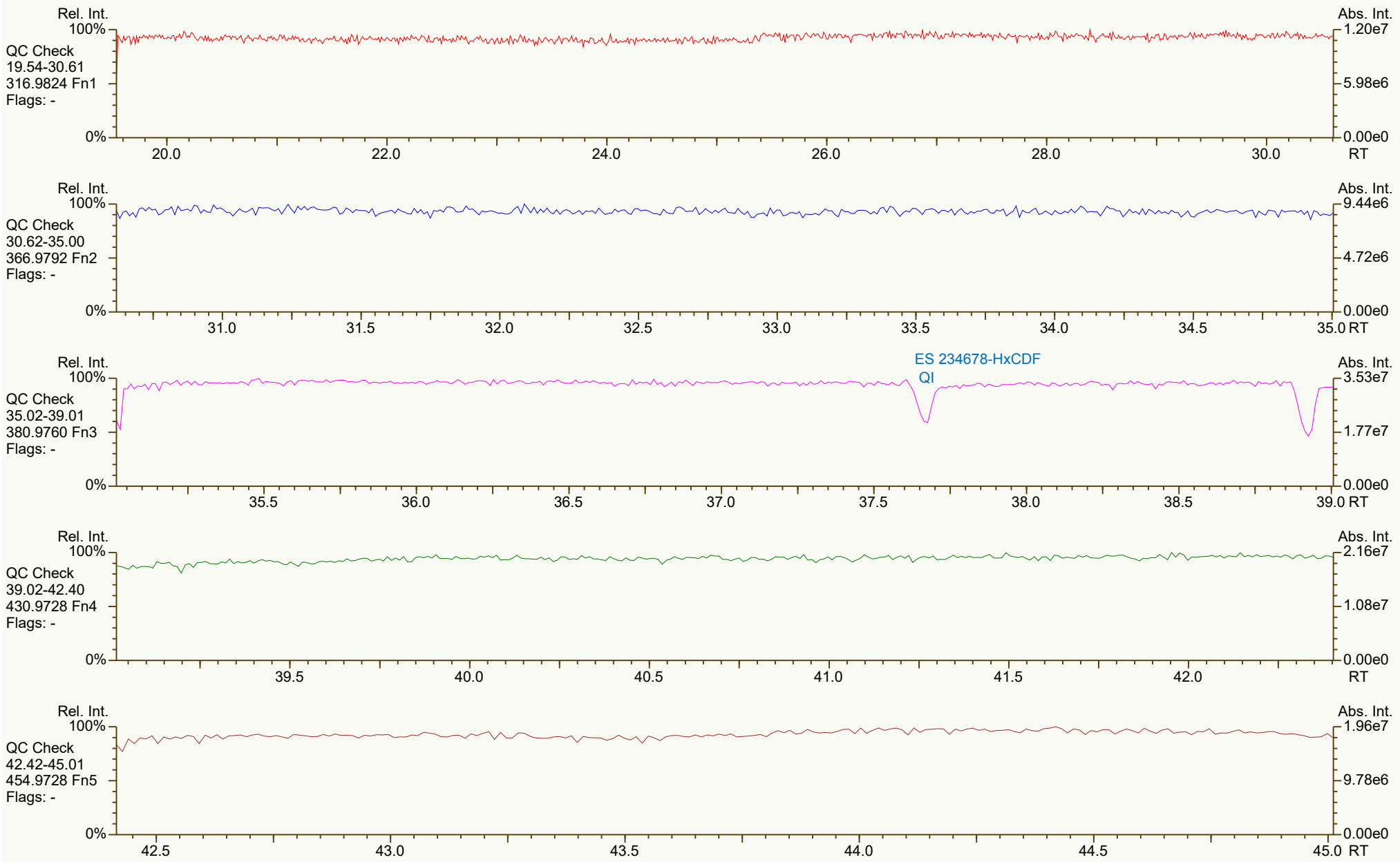
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3003.175	4.39
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3003.175**	**4.39**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2501.629**	**7.37**
OCDD-a	NotFnd		1.0002						0.07		3109.48	143
1368-TCDF	NotFnd		0.8282						1.08		5003.885	3.8
1468-TCDF	NotFnd		0.8485						1.08		5003.885	3.8
2468-TCDF	NotFnd		0.8709						1.08		5003.885	3.8
1346/1246-TCDF	NotFnd		0.8829						1.08		5003.885	3.8
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5003.885	3.8
1348-TCDF	NotFnd		0.8980						1.08		5003.885	3.8
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		5003.885	3.8
1268-TCDF	NotFnd		0.9158						1.08		5003.885	3.8
1467-TCDF	NotFnd		0.9206						1.08		5003.885	3.8
1478-TCDF	NotFnd		0.9266						1.08		5003.885	3.8
1369/1237-TCDF	NotFnd		0.9397						1.08		5003.885	3.8
2467-TCDF	NotFnd		0.9440						1.08		5003.885	3.8
2368-TCDF	NotFnd		0.9497						1.08		5003.885	3.8
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5003.885	3.8
1278-TCDF	NotFnd		0.9690						1.08		5003.885	3.8
1349-TCDF	NotFnd		0.9730						1.08		5003.885	3.8
1267-TCDF	NotFnd		0.9787						1.08		5003.885	3.8
2346/1249-TCDF	NotFnd		0.9850						1.08		5003.885	3.8
2347/1279-TCDF	NotFnd		0.9929						1.08		5003.885	3.8
2348-TCDF	NotFnd		0.9970						1.08		5003.885	3.8
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**5003.885**	**3.8**
2367/3467-TCDF	NotFnd		1.0136						1.08		5003.885	3.8
1269-TCDF	NotFnd		1.0221						1.08		5003.885	3.8
1239-TCDF	NotFnd		1.0319						1.08		5003.885	3.8
1289-TCDF	NotFnd		1.0740						1.08		5003.885	3.8
13468/12468-PeCDF	NotFnd		0.9145						1.02		3434.053	2.79
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4212.968	3.43
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4212.968	3.43
14678-PeCDF	NotFnd		0.9695						1.02		4212.968	3.43
13479-PeCDF	NotFnd		0.9724						1.02		4212.968	3.43
13469/12479-PeCDF	NotFnd		0.9801						1.02		4212.968	3.43
12346-PeCDF	NotFnd		0.9842						1.02		4212.968	3.43

Lab ID: MB1_18842_DF_TLX | Acq'd: 23 Jan 2022 16:09 DTF | Wt/Vol: 1.00 L | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6155_18842 | UTP: 24-Jan-2022 15:20:19 MLS | J-level: 5 pg/L | Split: 1 | Checkcode: 973-869-CYP

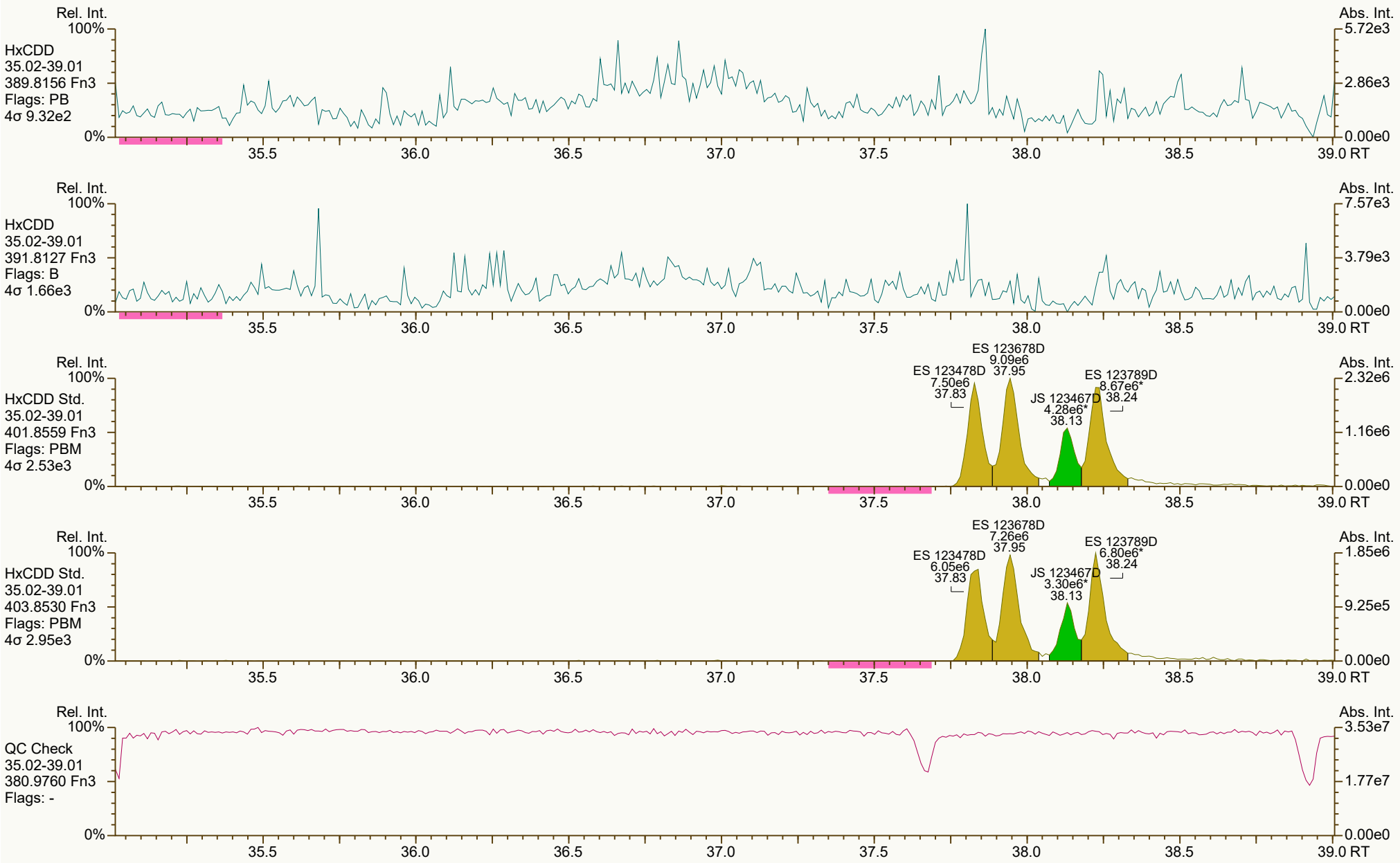
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Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4212.968	3.43
12347-PeCDF	NotFnd		0.9895						1.02		4212.968	3.43
12348-PeCDF	NotFnd		0.9941						1.02		4212.968	3.43
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4212.968**	**3.61**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4212.968	3.43
12379-PeCDF	NotFnd		1.0142						1.02		4212.968	3.43
12679-PeCDF	NotFnd		0.9931						1.02		4212.968	3.43
23467/12369-PeCDF	NotFnd		0.9966						1.02		4212.968	3.43
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4212.968**	**3.24**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4212.968	3.43
12349-PeCDF	NotFnd		1.0101						1.02		4212.968	3.43
12389-PeCDF	NotFnd		1.0322						1.02		4212.968	3.43
123468-HxCDF	NotFnd		0.9627						1.19		3101.07	2.88
124678/134678-HxCDF	NotFnd		0.9684						1.19		3101.07	2.88
134679-HxCDF	NotFnd		0.9747						1.19		3101.07	2.88
124679-HxCDF	NotFnd		0.9802						1.19		3101.07	2.88
124689-HxCDF	NotFnd		0.9858						1.19		3101.07	2.88
123467-HxCDF	NotFnd		0.9972						1.19		3101.07	2.88
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3101.07**	**2.66**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3101.07**	**2.59**
123479-HxCDF	NotFnd		1.0051						1.19		3101.07	2.88
123469-HxCDF	NotFnd		1.0091						1.19		3101.07	2.88
123679-HxCDF	NotFnd		0.9943						1.19		3101.07	2.88
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3101.07**	**2.99**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3101.07	2.88
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3101.07**	**3.44**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3101.07	2.88
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2758.204**	**2.23**
1234679-HpCDF	NotFnd		1.0067						1.34		2758.204	2.87
1234689-HpCDF	NotFnd		1.0101						1.34		2758.204	2.87
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2758.204**	**3.74**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3295.339**	**7.82**
OCDF-a	NotFnd		1.0002						0.07		3019.183	116

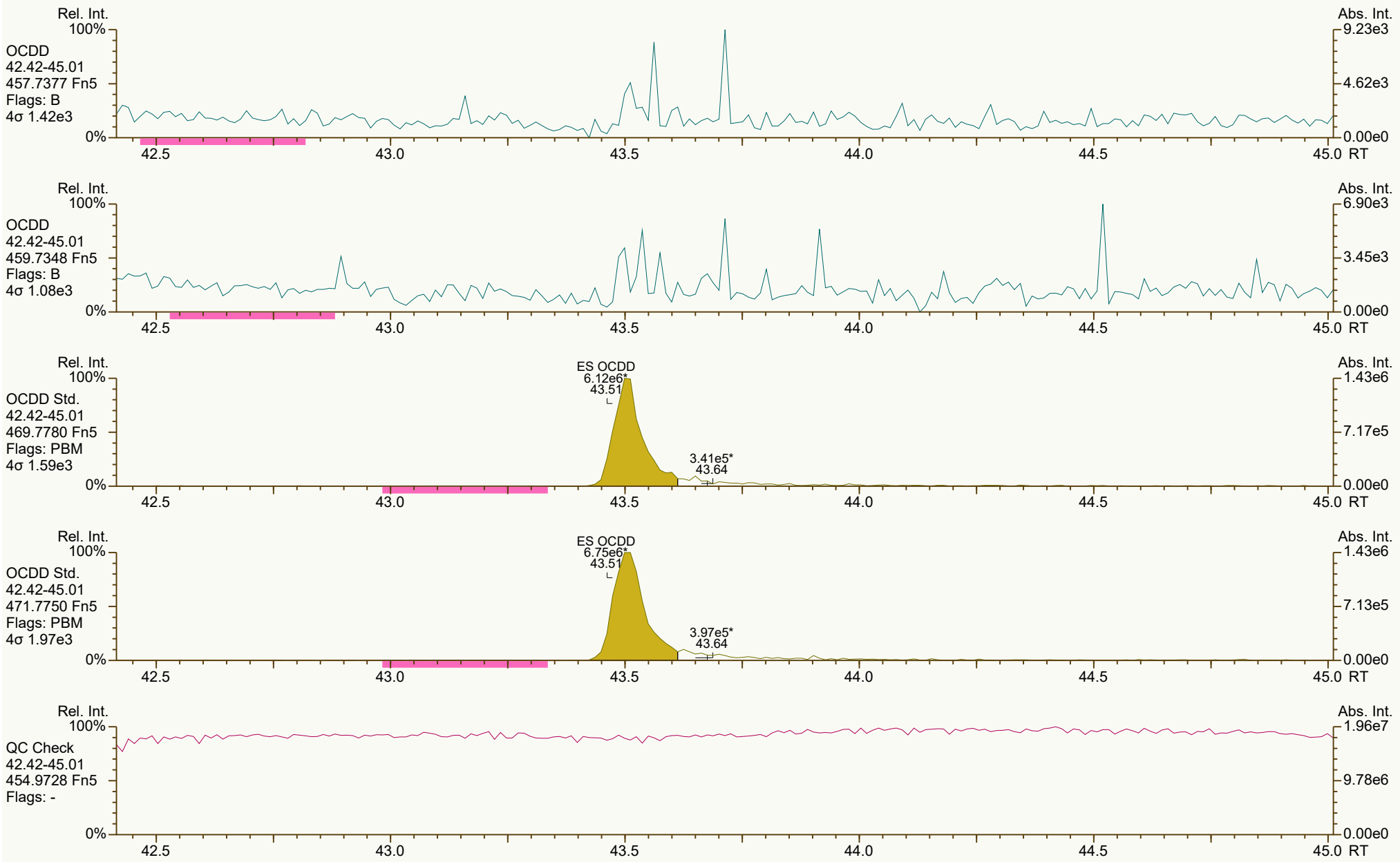

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.20e7
5.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.44e6
4.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 234678-HxCDF
QI
Abs. Int.
3.53e7
1.77e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.16e7
1.08e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.96e7
9.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 2.72e3
0%
Abs. Int.
7.58e3
3.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
7.14e3
3.57e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.44e3
0%
CS 37Cl-2378D
8.40e6
28.65
Abs. Int.
1.95e6
9.74e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 8.03e3
0%
JS 1234D
8.45e6
27.97
ES 2378D
7.12e6
28.63
Abs. Int.
1.87e6
9.35e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.65e3
0%
JS 1234D
1.05e7
27.97
ES 2378D
8.86e6
28.63
Abs. Int.
2.28e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.54e3
9.00e3
4.50e3
0.00e0
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.04e3
4.83e3
2.42e3
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.13e3
CS 12347D
9.59e6
33.44
ES 12378D
9.22e6
33.94
2.52e6
1.26e6
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.76e3
CS 12347D
6.07e6
33.44
ES 12378D
5.82e6
33.94
1.55e6
7.73e5
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
9.44e6
4.72e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

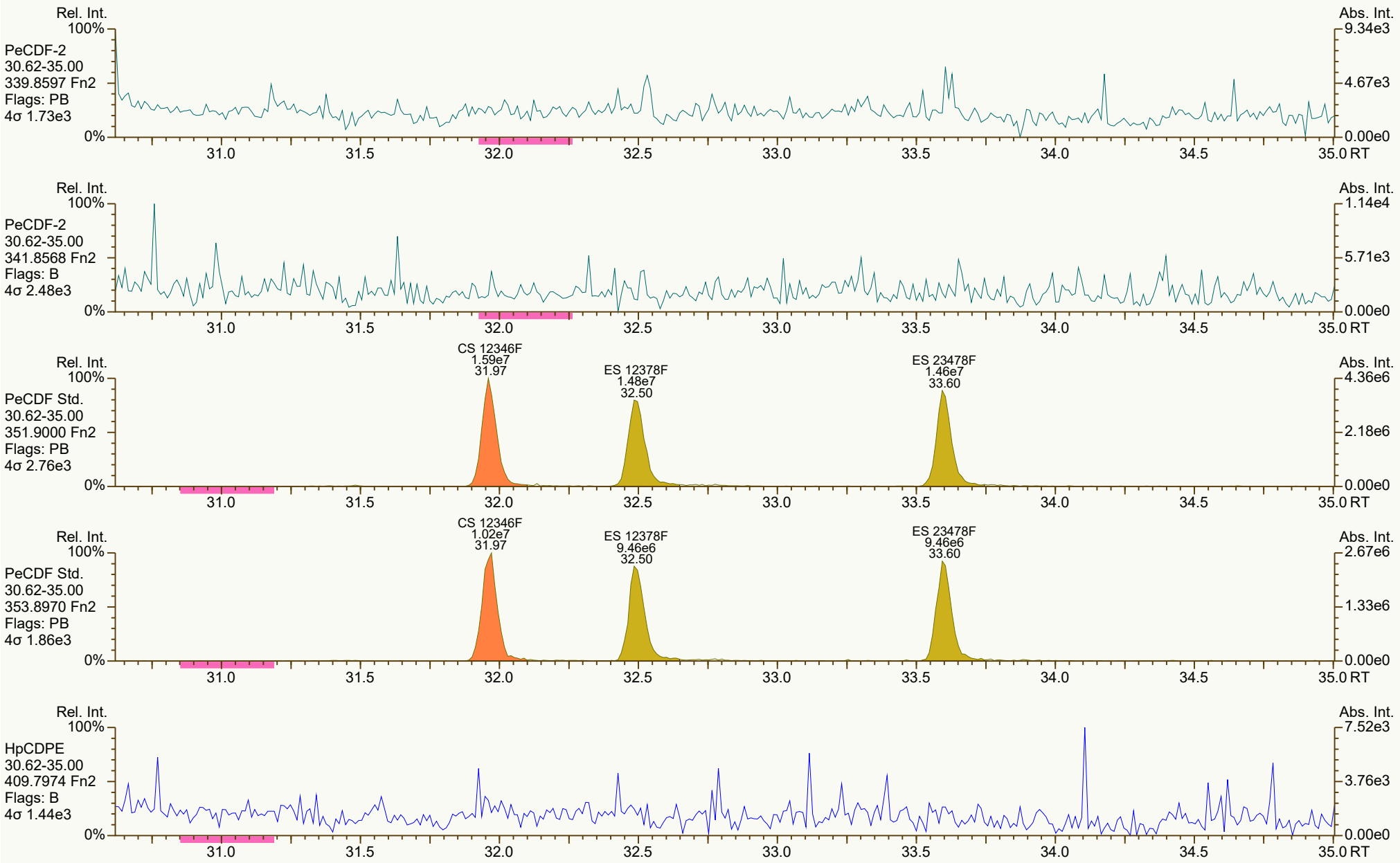

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 9.32e2
5.72e3
2.86e3
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.66e3
7.57e3
3.79e3
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.53e3
ES 123478D
7.50e6
37.83
ES 123678D
9.09e6
37.95
JS 123467D
4.28e6*
38.13
ES 123789D
8.67e6*
38.24
2.32e6
1.16e6
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.95e3
ES 123478D
6.05e6
37.83
ES 123678D
7.26e6
37.95
JS 123467D
3.30e6*
38.13
ES 123789D
6.80e6*
38.24
1.85e6
9.25e5
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
3.53e7
1.77e7
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

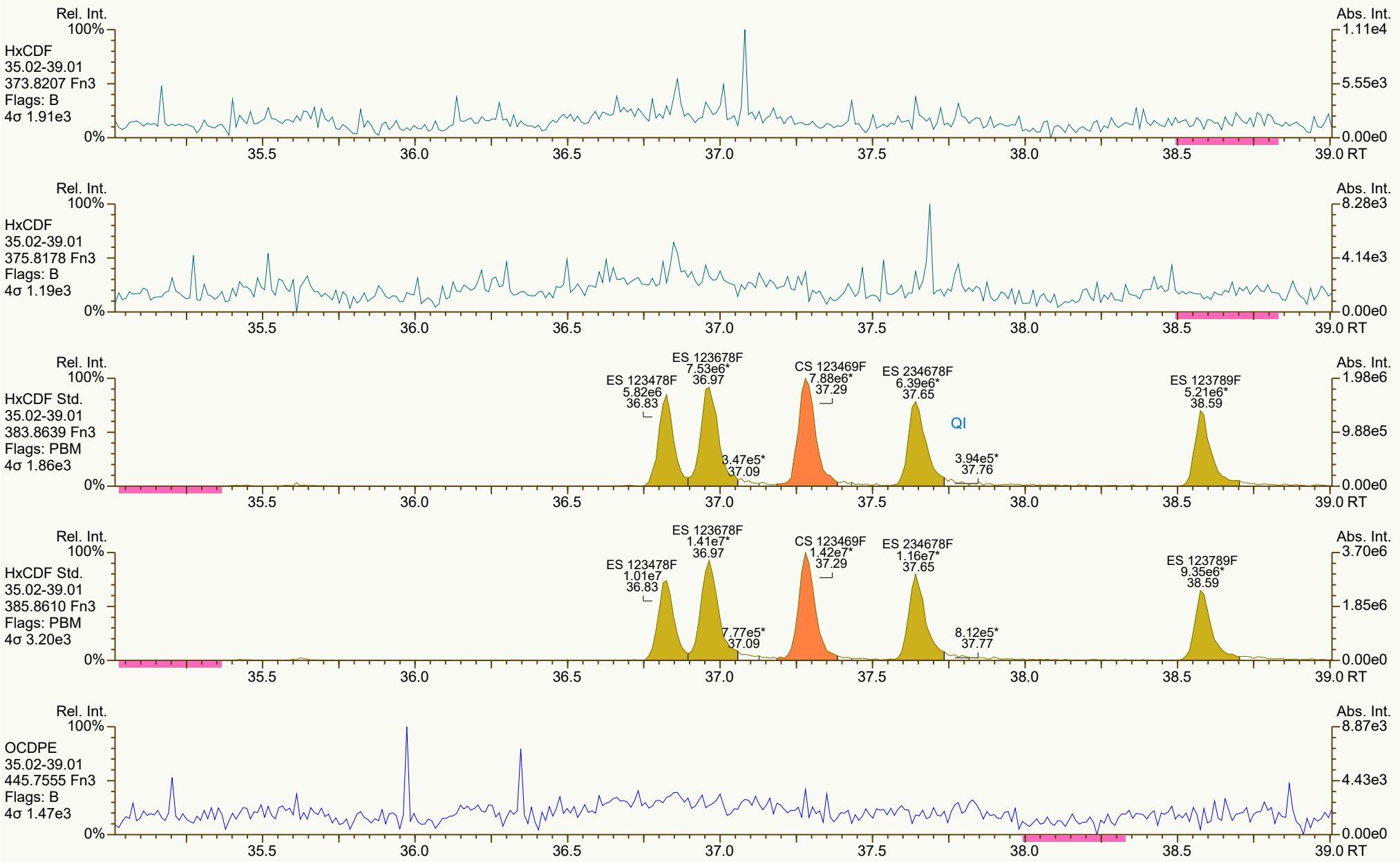

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.44e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.56e3
0%
Abs. Int.
6.08e3
3.04e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.42e3
ES 1234678D
5.99e6*
40.86
3.19e5*
40.97
0%
Abs. Int.
1.71e6
8.55e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.10e3
ES 1234678D
5.32e6*
40.86
3.56e5*
40.97
0%
Abs. Int.
1.51e6
7.57e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.16e7
1.08e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

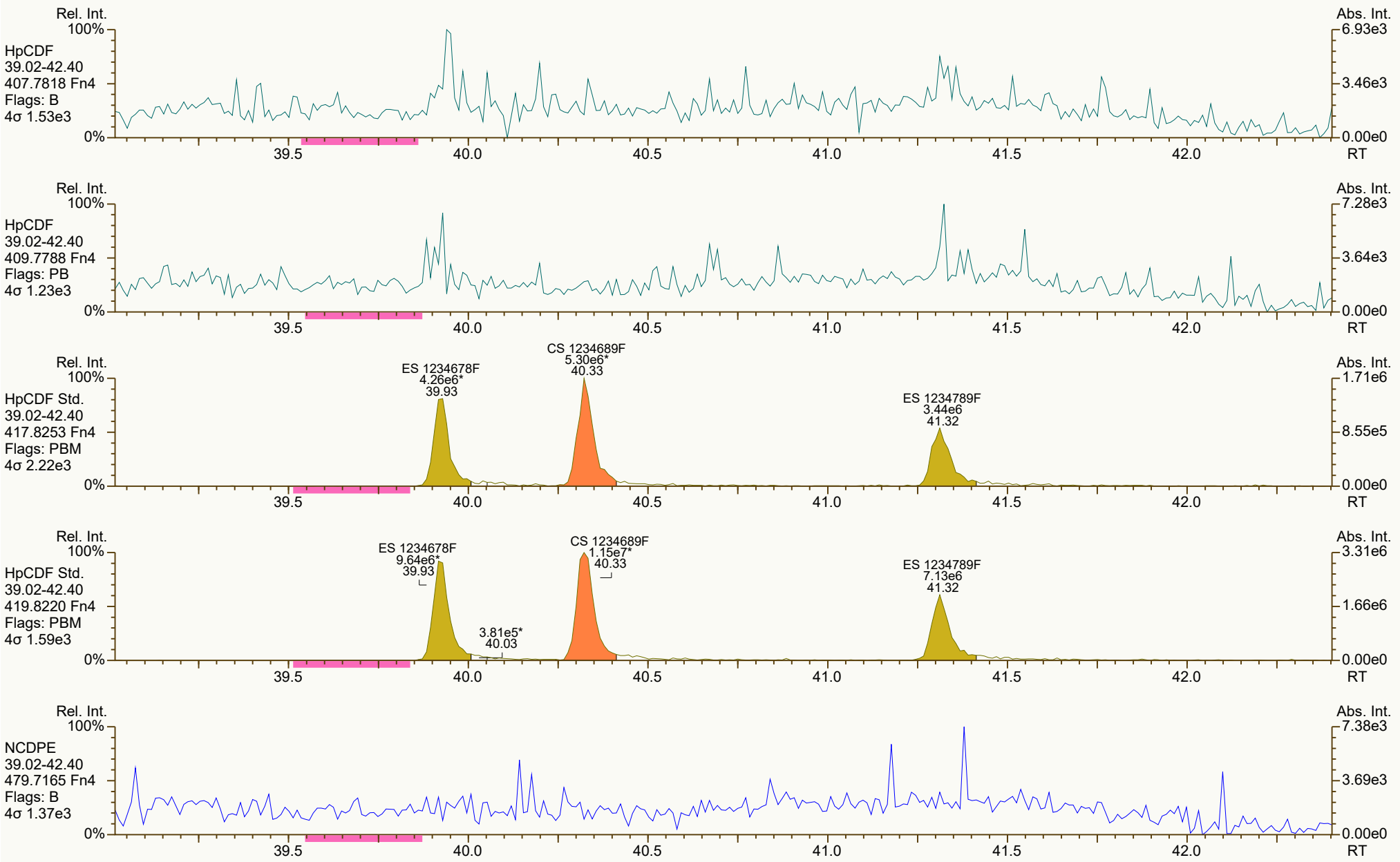

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 1.42e3
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
6.90e3
3.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.59e3
0%
ES OCDD
6.12e6*
43.51
3.41e5*
43.64
Abs. Int.
1.43e6
7.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.97e3
0%
ES OCDD
6.75e6*
43.51
3.97e5*
43.64
Abs. Int.
1.43e6
7.13e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.96e7
9.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

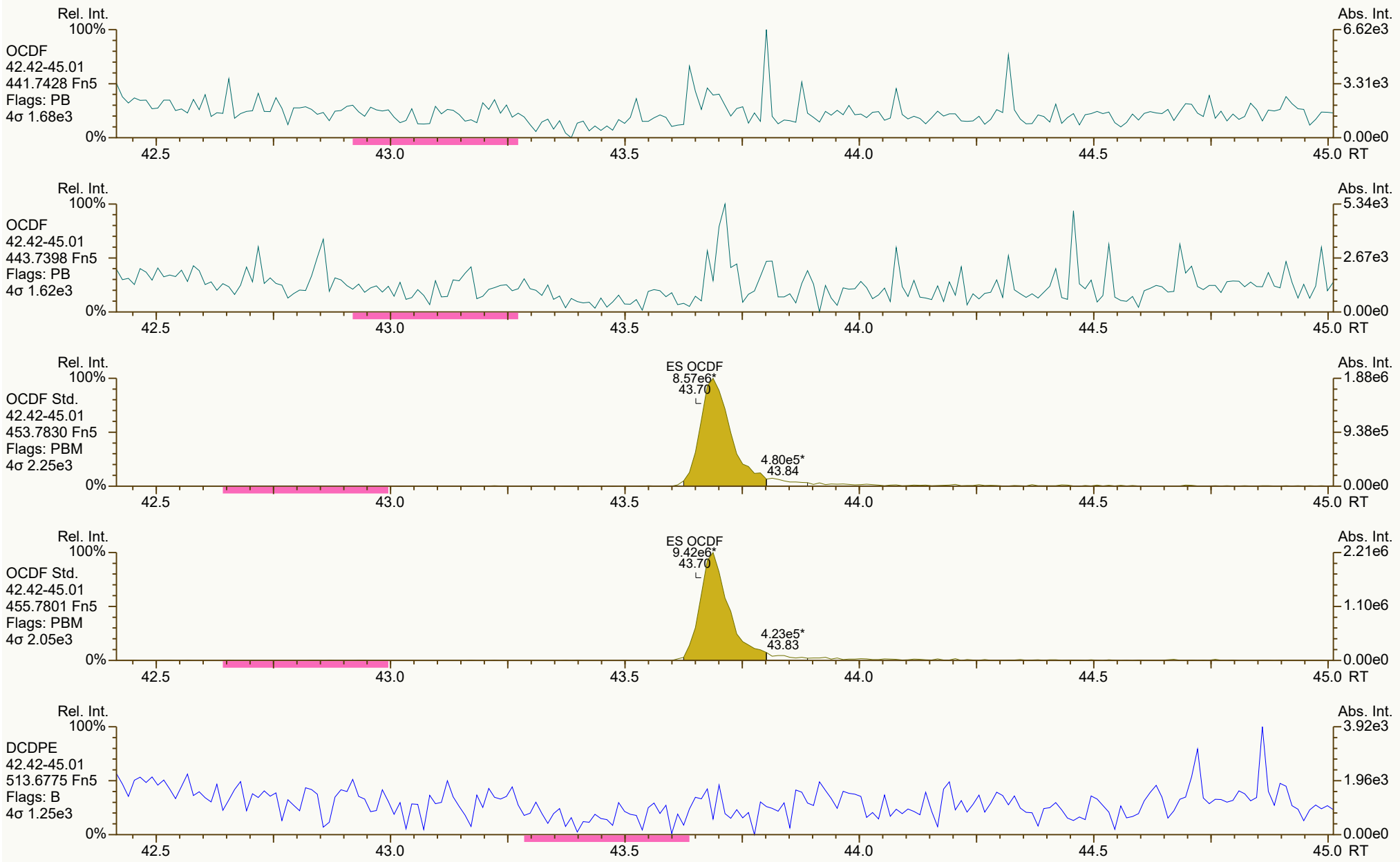

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 1.51e3
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 3.49e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 6.13e3
0%
JS 1234F
1.41e7
26.43
ES 2378F
1.20e7
27.78
Abs. Int.
2.99e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.41e3
0%
JS 1234F
1.82e7
26.42
ES 2378F
1.53e7
27.77
Abs. Int.
3.92e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
2.01e4
1.00e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.23e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.61e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.20e7
5.98e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.73e3
0%
Abs. Int.
9.34e3
4.67e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.48e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.59e7
31.97
ES 12378F
1.48e7
32.50
ES 23478F
1.46e7
33.60
Abs. Int.
4.36e6
2.18e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.86e3
0%
CS 12346F
1.02e7
31.97
ES 12378F
9.46e6
32.50
ES 23478F
9.46e6
33.60
Abs. Int.
2.67e6
1.33e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
7.52e3
3.76e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.91e3
1.11e4
5.55e3
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.19e3
8.28e3
4.14e3
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 1.86e3
ES 123678F
7.53e6*
36.97
ES 123478F
5.82e6
36.83
CS 123469F
7.88e6*
37.29
ES 234678F
6.39e6*
37.65
ES 123789F
5.21e6*
38.59
QI
3.47e5*
37.09
3.94e5*
37.76
1.98e6
9.88e5
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.20e3
ES 123678F
1.41e7*
36.97
ES 123478F
1.01e7
36.83
CS 123469F
1.42e7*
37.29
ES 234678F
1.16e7*
37.65
ES 123789F
9.35e6*
38.59
7.77e5*
37.09
8.12e5*
37.77
3.70e6
1.85e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.47e3
8.87e3
4.43e3
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.53e3
0%
Abs. Int.
6.93e3
3.46e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.23e3
0%
Abs. Int.
7.28e3
3.64e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.22e3
0%
ES 1234678F
4.26e6*
39.93
CS 1234689F
5.30e6*
40.33
ES 1234789F
3.44e6
41.32
Abs. Int.
1.71e6
8.55e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.59e3
0%
ES 1234678F
9.64e6*
39.93
3.81e5*
40.03
CS 1234689F
1.15e7*
40.33
ES 1234789F
7.13e6
41.32
Abs. Int.
3.31e6
1.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
6.62e3
3.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.62e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.25e3
0%
ES OCDF
8.57e6*
43.70
4.80e5*
43.84
Abs. Int.
1.88e6
9.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.05e3
0%
ES OCDF
9.42e6*
43.70
4.23e5*
43.83
Abs. Int.
2.21e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
3.92e3
1.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6155_18842_DF_001 **Acq'd:** 23 Jan 2022 16:55 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-RB-10 **UTP:** 24-Jan-2022 15:20:19 MLS **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 704-489-QWP

Datafile: 220123C06 **Report:** 24 Jan 2022 15:25 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5864.526	8.55
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2990.168	5.03
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2722.095	4.73
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2722.095	4.23
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2722.095	4.55
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3070.863	5.29
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2589.842	10.6
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	5386.479	5.51
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4096.806	4.32
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4096.806	4.42
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2920.352	3.25
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2920.352	3.06
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2920.352	3.78
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2920.352	4.3
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2692.465	3.13
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2692.465	5.15
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3847.495	12.7

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0236	+0.5	1.23E+07	0.80	Y	1.05	84
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.07E+07	1.65	Y	0.88	87
ES 123478-HxCDD	37.84	0.9921	0.9920	-0.2	9.19E+06	1.29	Y	0.97	81.7
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.10E+07	1.25	Y	0.94	100
ES 123789-HxCDD	38.24	1.0025	1.0026	+0.2	9.57E+06	1.28	Y	1.09	75.8
ES 1234678-HpCDD	40.86	1.0709	1.0714	+1.2	8.52E+06	1.09	Y	0.91	80.6
ES OCDD	43.52	1.1403	1.1410	+1.8	9.48E+06	0.89	Y	0.62	65.6
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	1.98E+07	0.80	Y	1.06	78.7
ES 12378-PeCDF	32.50	1.2281	1.2297	+3.1	1.87E+07	1.59	Y	0.91	86.3
ES 23478-PeCDF	33.61	1.2698	1.2715	+3.4	1.76E+07	1.59	Y	0.88	83.8
ES 123478-HxCDF	36.83	0.9657	0.9656	-0.2	1.16E+07	0.56	Y	1.20	83.8
ES 123678-HxCDF	36.97	0.9695	0.9694	-0.2	1.60E+07	0.53	Y	1.35	102
ES 234678-HxCDF	37.65	0.9874	0.9872	-0.5	1.26E+07	0.53	Y	1.24	87.5
ES 123789-HxCDF	38.59	1.0116	1.0119	+0.7	9.98E+06	0.52	Y	1.16	74.7
ES 1234678-HpCDF	39.93	1.0467	1.0470	+0.7	9.47E+06	0.47	Y	0.97	84.5
ES 1234789-HpCDF	41.33	1.0830	1.0835	+1.2	7.34E+06	0.46	Y	0.85	74.5
ES OCDF	43.70	1.1451	1.1458	+1.8	1.22E+07	0.95	Y	0.81	65.2

Lab ID: B6155_18842_DF_001 **Acq'd:** 23 Jan 2022 16:55 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-RB-10 **UTP:** 24-Jan-2022 15:20:19 MLS **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 704-489-QWP

Datafile: 220123C06 **Report:** 24 Jan 2022 15:25 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.40E+07	0.85	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	2.38E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	5.78E+06	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	6.18E+06	n/a	-	1.20	92	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.17E+07	1.56	Y	0.75	111	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.08E+07	1.52	Y	0.85	103	
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.63E+07	0.56	Y	1.12	126	
CS 1234689-HpCDF	40.33		1.0571	1.0574	+0.7	1.21E+07	0.44	Y	0.89	117	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~6.18E+06~~	~~n/a~~		~~1.15~~	~~110~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.17E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~120~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.08E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~119~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~1.63E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~123~~	
~~SS 1234689-HpCDF~~	~~40.33~~	~~Y~~	~~1.0571~~	~~1.0574~~	~~+0.7~~	~~1.21E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~139~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: B6155_18842_DF_001 **Acq'd:** 23 Jan 2022 16:55 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-RB-10 **UTP:** 24-Jan-2022 15:20:19 MLS **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 704-489-QWP

Datafile: 220123C06 **Report:** 24 Jan 2022 15:25 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5864.526	8.55
1379-TCDD	NotFnd		0.8876						1.18		5864.526	8.55
1369-TCDD	NotFnd		0.9023						1.18		5864.526	8.55
1469-TCDD	NotFnd		0.9291						1.18		5864.526	8.55
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5864.526	8.55
1378-TCDD	NotFnd		0.9440						1.18		5864.526	8.55
1268-TCDD	NotFnd		0.9506						1.18		5864.526	8.55
1478-TCDD	NotFnd		0.9591						1.18		5864.526	8.55
1279-TCDD	NotFnd		0.9649						1.18		5864.526	8.55
1234/1269-TCDD	NotFnd		0.9771						1.18		5864.526	8.55
1236-TCDD	NotFnd		0.9820						1.18		5864.526	8.55
1237/1238-TCDD	NotFnd		0.9908						1.18		5864.526	8.55
1239-TCDD	NotFnd		0.9954						1.18		5864.526	8.55
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**5864.526**	**8.55**
1278-TCDD	NotFnd		1.0121						1.18		5864.526	8.55
1267-TCDD	NotFnd		1.0167						1.18		5864.526	8.55
1289-TCDD	NotFnd		1.0341						1.18		5864.526	8.55
12479/12468-PeCDD	NotFnd		0.9273						1.04		2990.168	5.03
12469-PeCDD	NotFnd		0.9430						1.04		2990.168	5.03
12368-PeCDD	NotFnd		0.9592						1.04		2990.168	5.03
12478-PeCDD	NotFnd		0.9647						1.04		2990.168	5.03
12379-PeCDD	NotFnd		0.9676						1.04		2990.168	5.03
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2990.168	5.03
12346/12347-PeCDD	NotFnd		0.9860						1.04		2990.168	5.03
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2990.168**	**5.03**
12367-PeCDD	NotFnd		1.0034						1.04		2990.168	5.03
12389-PeCDD	NotFnd		1.0134						1.04		2990.168	5.03
124679/124689-HxCDD	NotFnd		0.9545						1.10		2722.095	4.49
123468-HxCDD	NotFnd		0.9715						1.10		2722.095	4.49
123679/123689-HxCDD	NotFnd		0.9793						1.10		2722.095	4.49
123469-HxCDD	NotFnd		0.9829						1.10		2722.095	4.49
123478-HxCDD	NotFnd		**1.0004**						1.09		**2722.095**	**4.73**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2722.095**	**4.23**
123467-HxCDD	NotFnd		1.0082						1.10		2722.095	4.49
123789-HxCDD	NotFnd		**1.0109**						1.05		**2722.095**	**4.55**

Lab ID: B6155_18842_DF_001 **Acq'd: 23 Jan 2022 16:55 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010622-S-BN-RB-10 **UTP: 24-Jan-2022 15:20:19 MLS** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 704-489-QWP**

Datafile: 220123C06 **Report: 24 Jan 2022 15:25 MS** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

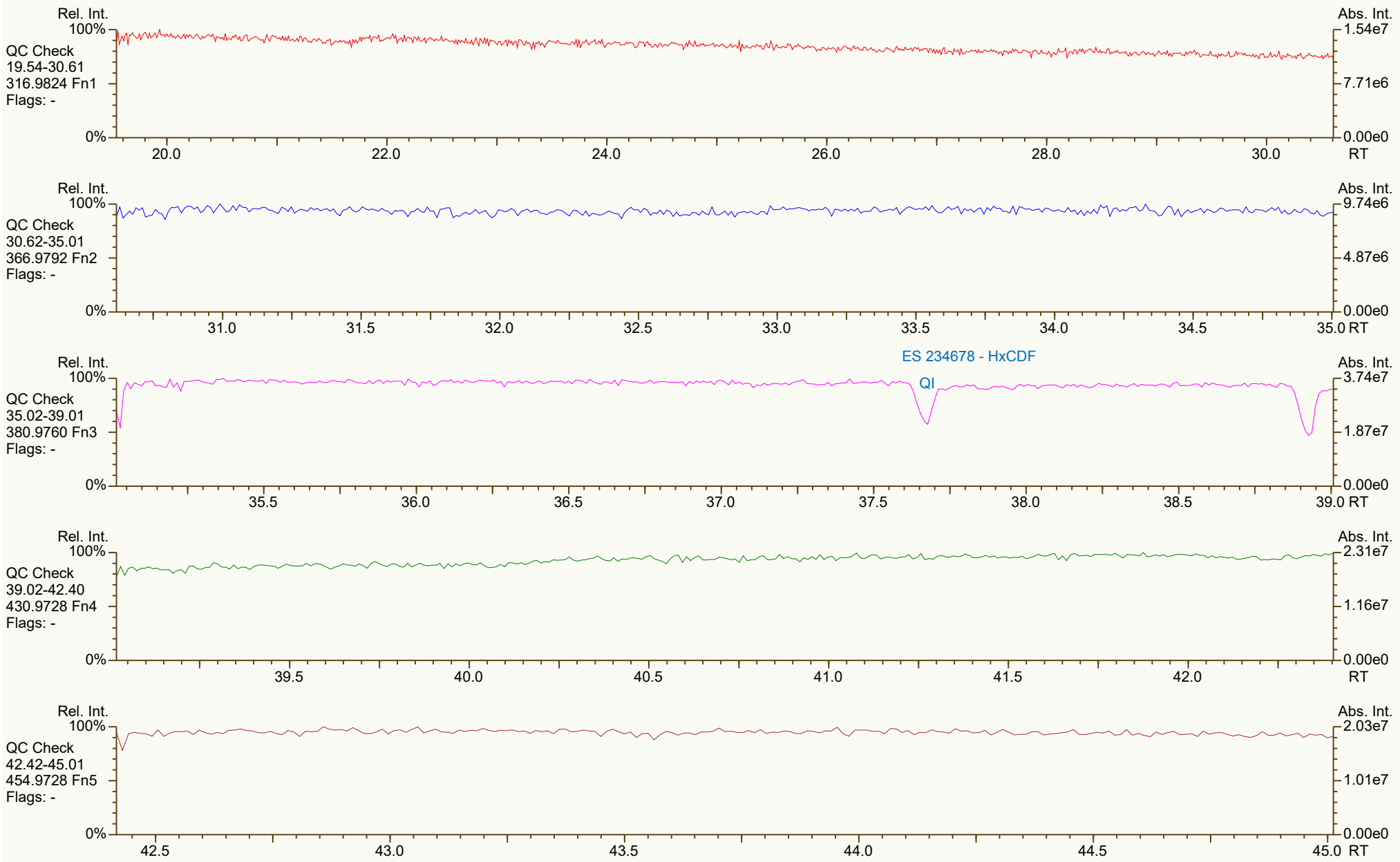
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3070.863	5.29
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3070.863**	**5.29**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2589.842**	**10.6**
OCDD-a	NotFnd		1.0002						0.07		3532.865	226
1368-TCDF	NotFnd		0.8282						1.08		5386.479	5.51
1468-TCDF	NotFnd		0.8485						1.08		5386.479	5.51
2468-TCDF	NotFnd		0.8709						1.08		5386.479	5.51
1346/1246-TCDF	NotFnd		0.8829						1.08		5386.479	5.51
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5386.479	5.51
1348-TCDF	NotFnd		0.8980						1.08		5386.479	5.51
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		5386.479	5.51
1268-TCDF	NotFnd		0.9158						1.08		5386.479	5.51
1467-TCDF	NotFnd		0.9206						1.08		5386.479	5.51
1478-TCDF	NotFnd		0.9266						1.08		5386.479	5.51
1369/1237-TCDF	NotFnd		0.9397						1.08		5386.479	5.51
2467-TCDF	NotFnd		0.9440						1.08		5386.479	5.51
2368-TCDF	NotFnd		0.9497						1.08		5386.479	5.51
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5386.479	5.51
1278-TCDF	NotFnd		0.9690						1.08		5386.479	5.51
1349-TCDF	NotFnd		0.9730						1.08		5386.479	5.51
1267-TCDF	NotFnd		0.9787						1.08		5386.479	5.51
2346/1249-TCDF	NotFnd		0.9850						1.08		5386.479	5.51
2347/1279-TCDF	NotFnd		0.9929						1.08		5386.479	5.51
2348-TCDF	NotFnd		0.9970						1.08		5386.479	5.51
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**5386.479**	**5.51**
2367/3467-TCDF	NotFnd		1.0136						1.08		5386.479	5.51
1269-TCDF	NotFnd		1.0221						1.08		5386.479	5.51
1239-TCDF	NotFnd		1.0319						1.08		5386.479	5.51
1289-TCDF	NotFnd		1.0740						1.08		5386.479	5.51
13468/12468-PeCDF	NotFnd		0.9145						1.02		4265.943	4.55
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4096.806	4.37
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4096.806	4.37
14678-PeCDF	NotFnd		0.9695						1.02		4096.806	4.37
13479-PeCDF	NotFnd		0.9724						1.02		4096.806	4.37
13469/12479-PeCDF	NotFnd		0.9801						1.02		4096.806	4.37
12346-PeCDF	NotFnd		0.9842						1.02		4096.806	4.37

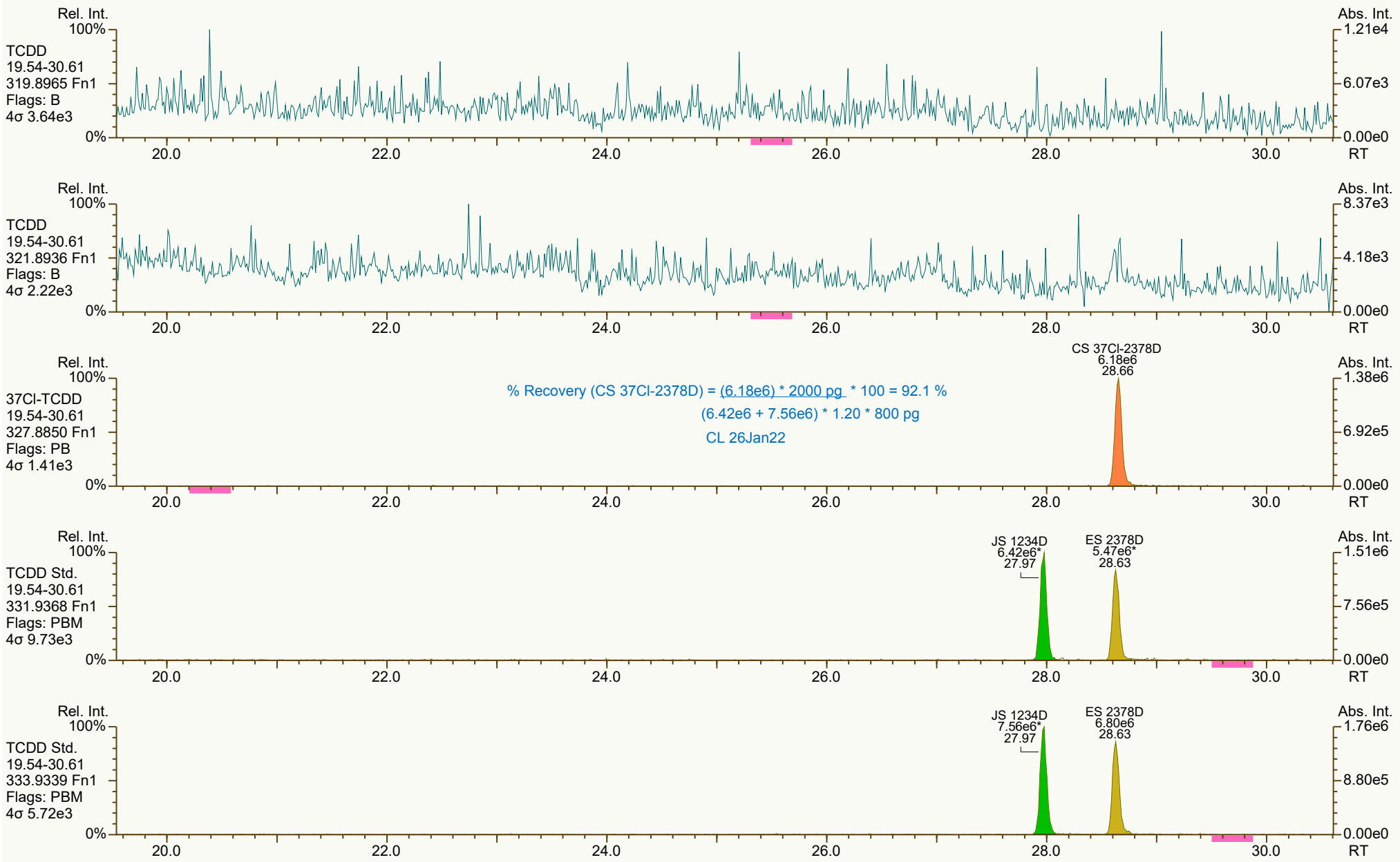
Lab ID: B6155_18842_DF_001 | Acq'd: 23 Jan 2022 16:55 DTF | Wt/Vol: 1.02 L | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010622-S-BN-RB-10 | UTP: 24-Jan-2022 15:20:19 MLS | J-level: 4.9 pg/L | Split: 1 | Checkcode: 704-489-QWP

Datafile: 220123C06 | Report: 24 Jan 2022 15:25 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

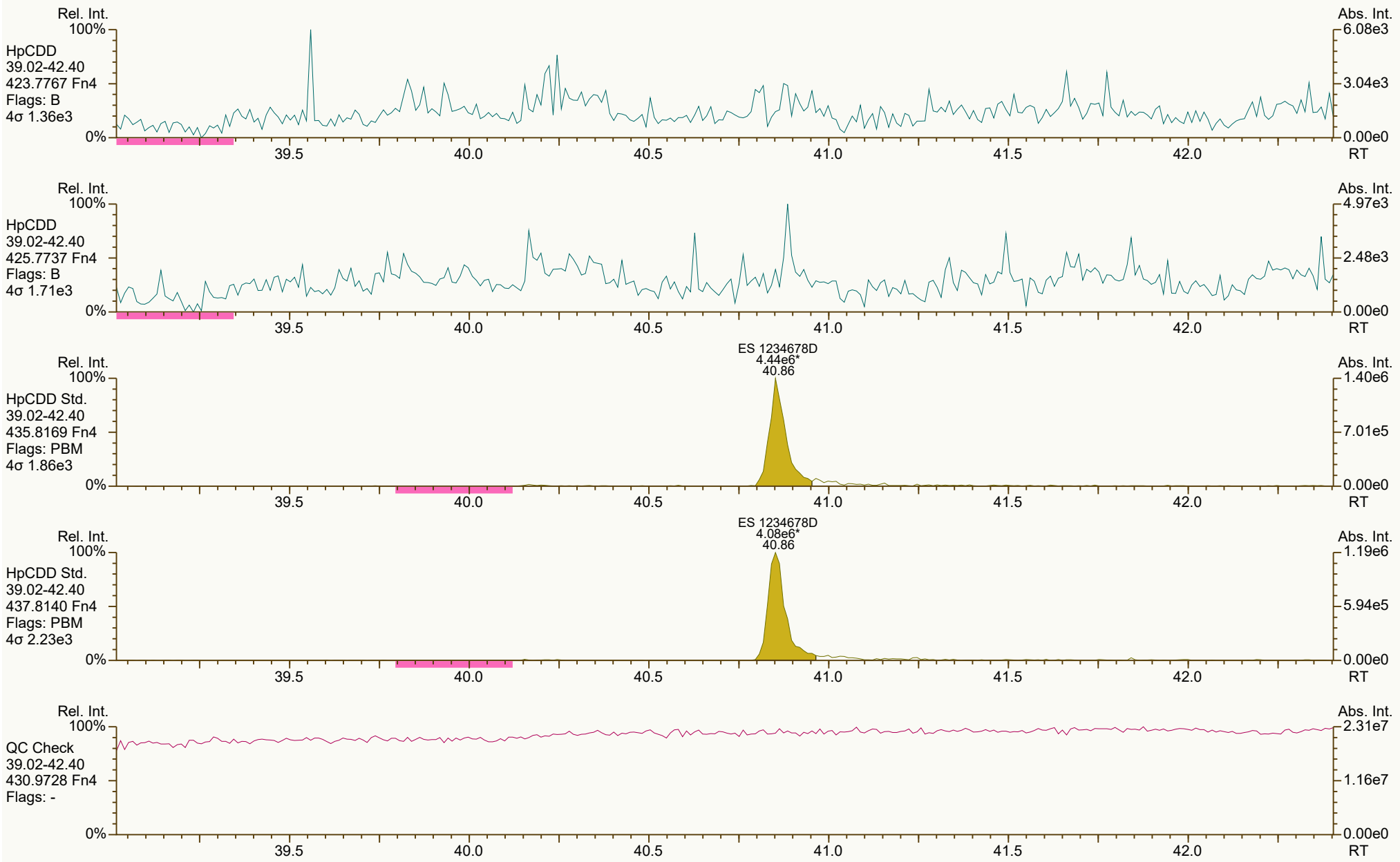
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4096.806	4.37
12347-PeCDF	NotFnd		0.9895						1.02		4096.806	4.37
12348-PeCDF	NotFnd		0.9941						1.02		4096.806	4.37
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4096.806**	**4.32**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4096.806	4.37
12379-PeCDF	NotFnd		1.0142						1.02		4096.806	4.37
12679-PeCDF	NotFnd		0.9931						1.02		4096.806	4.37
23467/12369-PeCDF	NotFnd		0.9966						1.02		4096.806	4.37
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4096.806**	**4.42**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4096.806	4.37
12349-PeCDF	NotFnd		1.0101						1.02		4096.806	4.37
12389-PeCDF	NotFnd		1.0322						1.02		4096.806	4.37
123468-HxCDF	NotFnd		0.9627						1.19		2920.352	3.52
124678/134678-HxCDF	NotFnd		0.9684						1.19		2920.352	3.52
134679-HxCDF	NotFnd		0.9747						1.19		2920.352	3.52
124679-HxCDF	NotFnd		0.9802						1.19		2920.352	3.52
124689-HxCDF	NotFnd		0.9858						1.19		2920.352	3.52
123467-HxCDF	NotFnd		0.9972						1.19		2920.352	3.52
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2920.352**	**3.25**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2920.352**	**3.06**
123479-HxCDF	NotFnd		1.0051						1.19		2920.352	3.52
123469-HxCDF	NotFnd		1.0091						1.19		2920.352	3.52
123679-HxCDF	NotFnd		0.9943						1.19		2920.352	3.52
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2920.352**	**3.78**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2920.352	3.52
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2920.352**	**4.3**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2920.352	3.52
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2692.465**	**3.13**
1234679-HpCDF	NotFnd		1.0067						1.34		2692.465	4
1234689-HpCDF	NotFnd		1.0101						1.34		2692.465	4
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2692.465**	**5.15**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3847.495**	**12.7**
OCDF-a	NotFnd		1.0002						0.07		3135.75	167

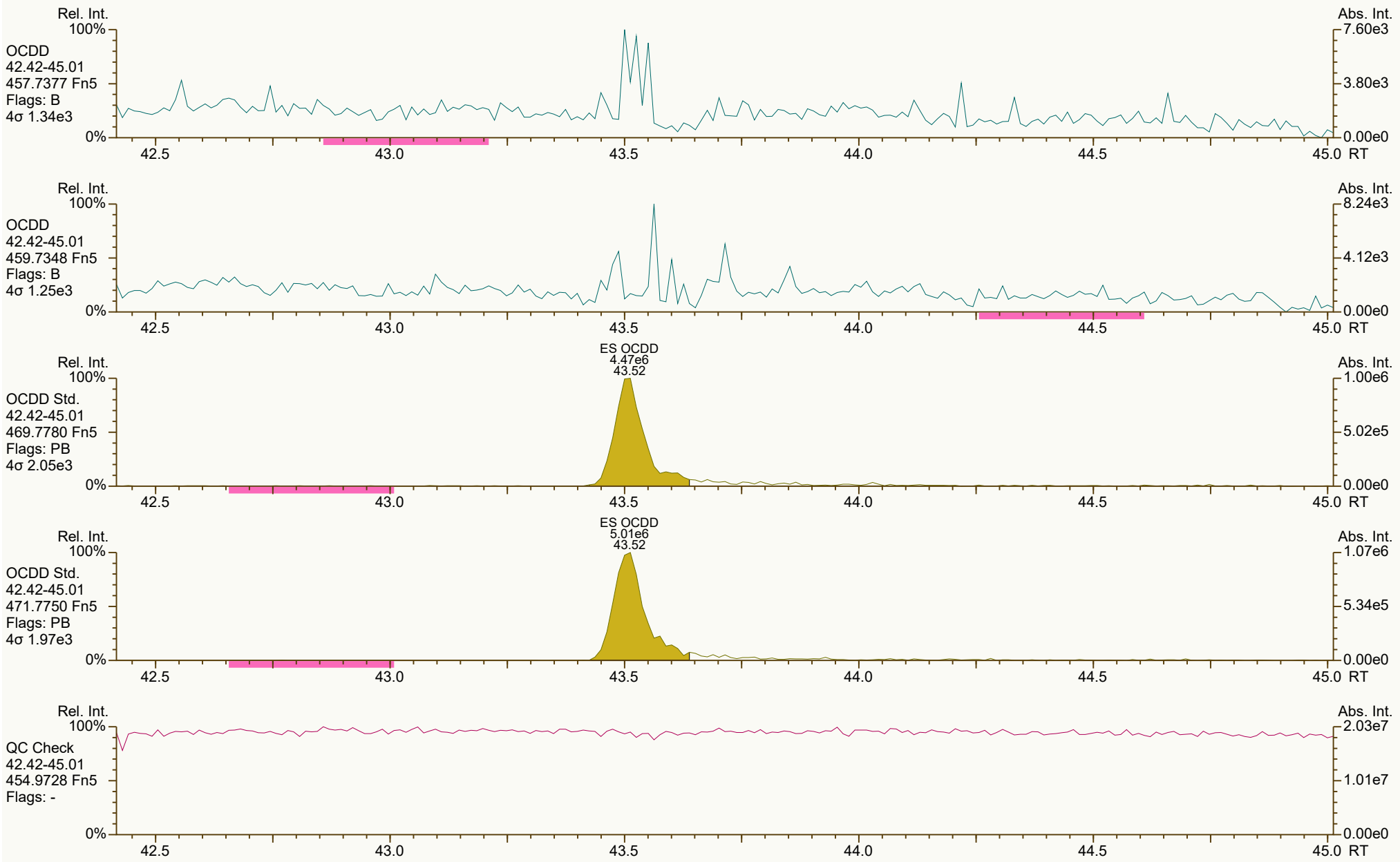

Rel. Int.
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QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.54e7
7.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.74e6
4.87e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
ES 234678 - HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.74e7
1.87e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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1.01e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

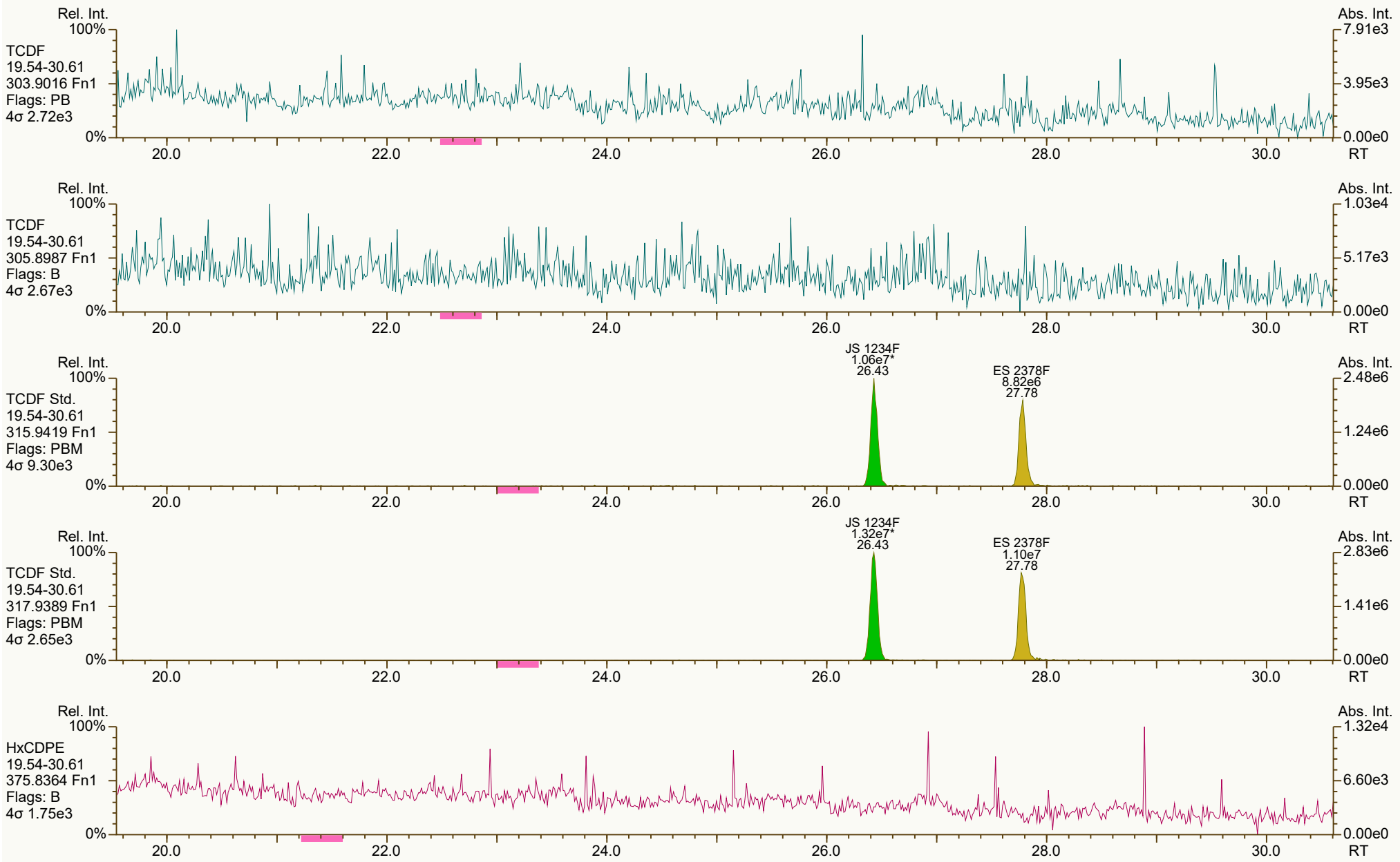

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.64e3
0%
Abs. Int.
1.21e4
6.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
8.37e3
4.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.41e3
0%
CS 37Cl-2378D
6.18e6
28.66
% Recovery (CS 37Cl-2378D) = (6.18e6) * 2000 pg * 100 = 92.1 %
(6.42e6 + 7.56e6) * 1.20 * 800 pg
CL 26Jan22
Abs. Int.
1.38e6
6.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 9.73e3
0%
JS 1234D
6.42e6*
27.97
ES 2378D
5.47e6*
28.63
Abs. Int.
1.51e6
7.56e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 5.72e3
0%
JS 1234D
7.56e6*
27.97
ES 2378D
6.80e6
28.63
Abs. Int.
1.76e6
8.80e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.69e3
0%
Abs. Int.
5.61e3
2.81e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
Abs. Int.
4.61e3
2.31e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 1.48e3
CS 12347D
7.14e6*
33.44
ES 12378D
6.65e6*
33.94
0%
Abs. Int.
1.92e6
9.60e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 1.67e3
CS 12347D
4.59e6*
33.44
ES 12378D
4.04e6*
33.94
0%
Abs. Int.
1.21e6
6.04e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.74e6
4.87e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

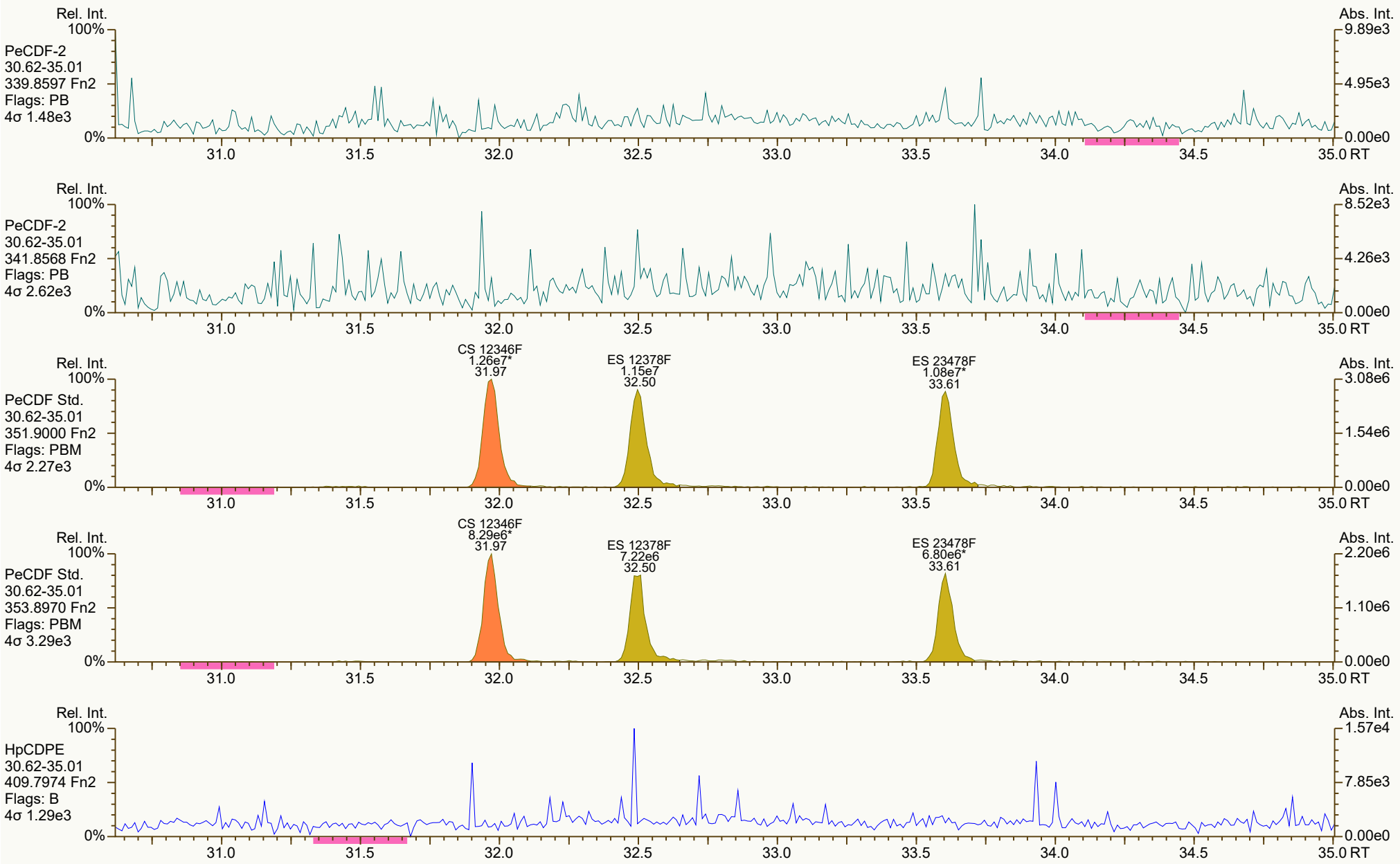

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
4.95e3
2.48e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.20e3
0%
Abs. Int.
8.65e3
4.33e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.09e3
0%
ES 123678D
6.09e6
37.95
ES 123478D
5.18e6
37.84
JS 123467D
3.25e6*
38.14
ES 123789D
5.38e6*
38.24
Abs. Int.
1.57e6
7.87e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.52e3
0%
ES 123678D
4.86e6
37.95
ES 123478D
4.01e6
37.83
JS 123467D
2.53e6*
38.14
ES 123789D
4.19e6*
38.24
Abs. Int.
1.28e6
6.41e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.74e7
1.87e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

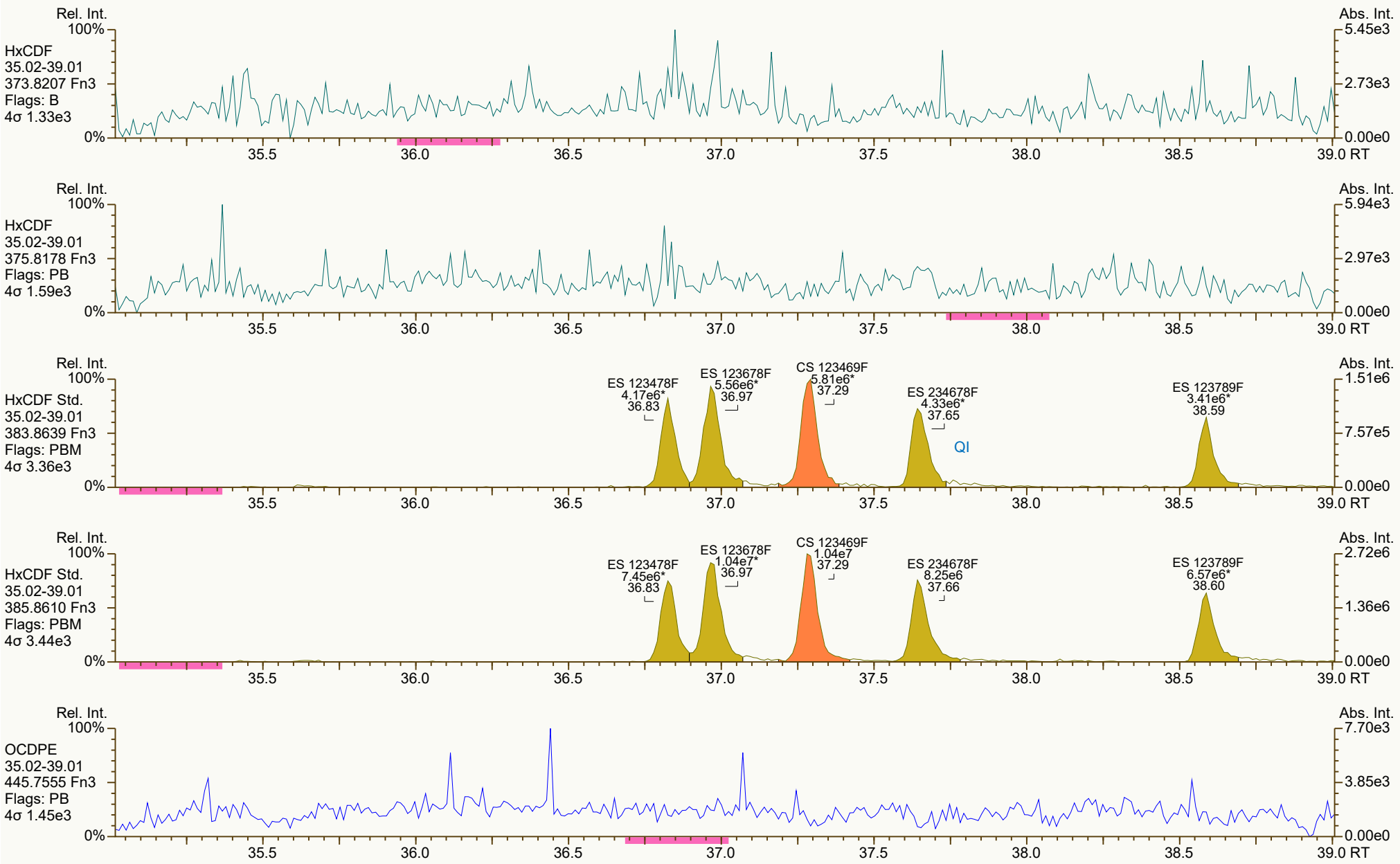

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.08e3
3.04e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.71e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
4.44e6*
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.86e3
0%
Abs. Int.
1.40e6
7.01e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
4.08e6*
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
1.19e6
5.94e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
7.60e3
3.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
8.24e3
4.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
4.47e6
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.05e3
0%
Abs. Int.
1.00e6
5.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.01e6
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.97e3
0%
Abs. Int.
1.07e6
5.34e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.03e7
1.01e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 2.72e3
0%
Abs. Int.
7.91e3
3.95e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 2.67e3
0%
Abs. Int.
1.03e4
5.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 9.30e3
0%
JS 1234F
1.06e7*
26.43
ES 2378F
8.82e6
27.78
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 2.65e3
0%
JS 1234F
1.32e7*
26.43
ES 2378F
1.10e7
27.78
Abs. Int.
2.83e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.66e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.72e4
8.62e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.61e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.54e7
7.71e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
9.89e3
4.95e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 2.62e3
0%
Abs. Int.
8.52e3
4.26e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PBM
4σ 2.27e3
0%
CS 12346F
1.26e7*
31.97
ES 12378F
1.15e7
32.50
ES 23478F
1.08e7*
33.61
Abs. Int.
3.08e6
1.54e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PBM
4σ 3.29e3
0%
CS 12346F
8.29e6*
31.97
ES 12378F
7.22e6
32.50
ES 23478F
6.80e6*
33.61
Abs. Int.
2.20e6
1.10e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.57e4
7.85e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.33e3
0%
Abs. Int.
5.45e3
2.73e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.59e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.36e3
0%
ES 123478F
4.17e6*
36.83
ES 123678F
5.56e6*
36.97
CS 123469F
5.81e6*
37.29
ES 234678F
4.33e6*
37.65
QI
ES 123789F
3.41e6*
38.59
Abs. Int.
1.51e6
7.57e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.44e3
0%
ES 123478F
7.45e6*
36.83
ES 123678F
1.04e7*
36.97
CS 123469F
1.04e7
37.29
ES 234678F
8.25e6
37.66
ES 123789F
6.57e6*
38.60
Abs. Int.
2.72e6
1.36e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.45e3
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.26e3
0%
Abs. Int.
1.12e4
5.59e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.43e3
0%
Abs. Int.
9.71e3
4.86e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.11e3
0%
ES 1234678F
3.03e6*
39.93
CS 1234689F
3.67e6
40.33
ES 1234789F
2.33e6*
41.32
Abs. Int.
1.18e6
5.92e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.62e3
0%
ES 1234678F
6.43e6
39.93
CS 1234689F
8.40e6*
40.34
ES 1234789F
5.01e6*
41.33
Abs. Int.
2.55e6
1.28e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.35e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.91e3
0%
Abs. Int.
5.48e3
2.74e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.15e3
3.58e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.82e3
0%
ES OCDF
5.92e6*
43.70
Abs. Int.
1.35e6
6.73e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.11e3
0%
ES OCDF
6.27e6*
43.70
Abs. Int.
1.32e6
6.61e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
5.55e3
2.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Megan_Shannahan , 1/24/2022, 3:36:18 PM

SGS Environmental Services — Run Log **Project: B6155_18842_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

APPROVED
Carla_Lyon , 1/26/2022, 12:12:49 PM

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220123C01	3	CS3_220123_DF_CA	1.00	SIL 25-347-1	DTF, MLS	360-463	23-Jan-2022	12:26:11
1	220123C02	7	OPR1_18842_DF	1.00	0_18842_OPR001	DTF, MLS	322-778	23-Jan-2022	13:50:36
2	220123C03	8	OPR2_18842_DF	1.00	0_18842_OPR002	DTF, MLS	606-439	23-Jan-2022	14:36:49
3	220123C04	2	SBS_220123_DF_CA	1.00	SIL 20-61-1	DTF	105-853	23-Jan-2022	15:23:08
4	220123C05	6	MB1_18842_DF_TLX	1.00	Method Blank	DTF, MLS	973-869	23-Jan-2022	16:09:27
5	220123C06	9	B6155_18842_DF_001	1.02	11215131-010622-S-BN-RB-10	DTF, MLS	704-489	23-Jan-2022	16:55:45

Dioxin/Furan QC Summary	Acq'd: 23 Jan 2022 12:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220123_DF_CA	UTP: 24-Jan-2022 15:20:17 MLS	Checkcode: 360-463-GFZ
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 15:24 MS	Datafile: 220123C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.67	2.34E+06	0.80	Y	1.18	1.22	3%
12378-PeCDD	33.97	8.45E+06	1.59	Y	1.04	1.01	-3%
123478-HxCDD	37.86	7.79E+06	1.28	Y	1.09	1.13	4%
123678-HxCDD	37.97	8.99E+06	1.35	Y	1.15	1.14	-1%
123789-HxCDD	38.26	8.06E+06	1.24	Y	1.05	0.97	-8%
1234678-HpCDD	40.89	7.58E+06	1.06	Y	1.06	1.09	3%
OCDD	43.53	1.01E+07	0.89	Y	1.13	1.12	-1%
2378-TCDF	27.82	3.77E+06	0.80	Y	1.08	1.11	3%
12378-PeCDF	32.54	1.49E+07	1.55	Y	1.02	1.05	2%
23478-PeCDF	33.64	1.55E+07	1.53	Y	1.02	1.03	1%
123478-HxCDF	36.85	1.30E+07	1.27	Y	1.27	1.31	3%
123678-HxCDF	36.99	1.54E+07	1.23	Y	1.15	1.21	5%
234678-HxCDF	37.68	1.32E+07	1.20	Y	1.19	1.16	-2%
123789-HxCDF	38.62	1.00E+07	1.23	Y	1.16	1.13	-3%
1234678-HpCDF	39.95	1.27E+07	1.05	Y	1.37	1.46	7%
1234789-HpCDF	41.34	8.72E+06	1.06	Y	1.31	1.26	-4%
OCDF	43.72	1.40E+07	0.94	Y	1.07	1.11	3%
ES 2378-TCDD	28.65	1.92E+07	0.80	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.951	1.68E+07	1.61	Y	0.88	0.89	1%
ES 123478-HxCDD	37.842	1.37E+07	1.28	Y	0.97	0.90	-7%
ES 123678-HxCDD	37.955	1.58E+07	1.41	Y	0.94	1.04	10%
ES 123789-HxCDD	38.247	1.66E+07	1.24	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.873	1.39E+07	1.06	Y	0.91	0.92	0%
ES OCDD	43.522	1.81E+07	0.90	Y	0.62	0.59	-5%
ES 2378-TCDF	27.797	3.39E+07	0.81	Y	1.06	1.08	2%
ES 12378-PeCDF	32.518	2.85E+07	1.46	Y	0.91	0.90	-1%
ES 23478-PeCDF	33.624	3.01E+07	1.62	Y	0.88	0.95	8%
ES 123478-HxCDF	36.836	1.99E+07	0.54	Y	1.20	1.31	9%
ES 123678-HxCDF	36.978	2.55E+07	0.54	Y	1.35	1.67	24%
ES 234678-HxCDF	37.663	2.28E+07	0.51	Y	1.24	1.50	21%
ES 123789-HxCDF	38.603	1.76E+07	0.55	Y	1.16	1.16	0%
ES 1234678-HpCDF	39.94	1.73E+07	0.45	Y	0.97	1.14	18%
ES 1234789-HpCDF	41.333	1.39E+07	0.46	Y	0.85	0.91	7%
ES OCDF	43.711	2.53E+07	0.91	Y	0.81	0.83	3%

Dioxin/Furan QC Summary	Acq'd: 23 Jan 2022 12:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220123_DF_CA	UTP: 24-Jan-2022 15:20:17 MLS	Checkcode: 360-463-GFZ
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 15:24 MS	Datafile: 220123C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.98	1.90E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.44	3.15E+07	0.83	Y	-	-	-
JS 123467-HxCDD	38.14	7.60E+06	1.41	Y	-	-	-
CS 37Cl-2378-TCDD	28.67	2.73E+06	n/a	-	1.20	1.44	20%
CS 12347-PeCDD	33.45	1.56E+07	1.56	Y	0.75	0.82	9%
CS 12346-PeCDF	31.98	2.83E+07	1.54	Y	0.85	0.90	5%
CS 123469-HxCDF	37.30	2.35E+07	0.54	Y	1.12	1.55	38% **
CS 1234689-HpCDF	40.34	1.87E+07	0.44	Y	0.89	1.23	38% **
~~SS 37Cl-2378-TCDD~~	~~28.67~~	~~2.73E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.42~~	~~24%~~
~~SS 12347-PeCDD~~	~~33.45~~	~~1.56E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~0.93~~	~~8%~~
~~SS 12346-PeCDF~~	~~31.98~~	~~2.83E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.30~~	~~2.35E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.92~~	~~12%~~
~~SS 1234689-HpCDF~~	~~40.34~~	~~1.87E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~1.08~~	~~17%~~
Not used in this project.						** No criteria specified in M1613B	
CL 26Jan22						CL 26Jan22	
~~OCDD-a~~	~~43.53~~	~~6.61E+05~~	~~2.21~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~
~~OCDF-a~~	~~43.72~~	~~7.61E+05~~	~~2.43~~	~~Y~~	~~0.07~~	~~0.06~~	~~-9%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220123C01 Analysis Date: 23-JAN-2022 12:26:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	48.5	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	52.1	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.35	1.05 - 1.43	Y	49.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.2	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	51.4	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	99.2	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.3	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	51.1	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	50.5	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	51.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	52.5	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05 - 1.43	Y	48.9	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	53.4	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	48.1	43 - 58	Y
OCDF	M+2/M+4	0.94	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 24 Jan 2022 15:24 Analyst: MS

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

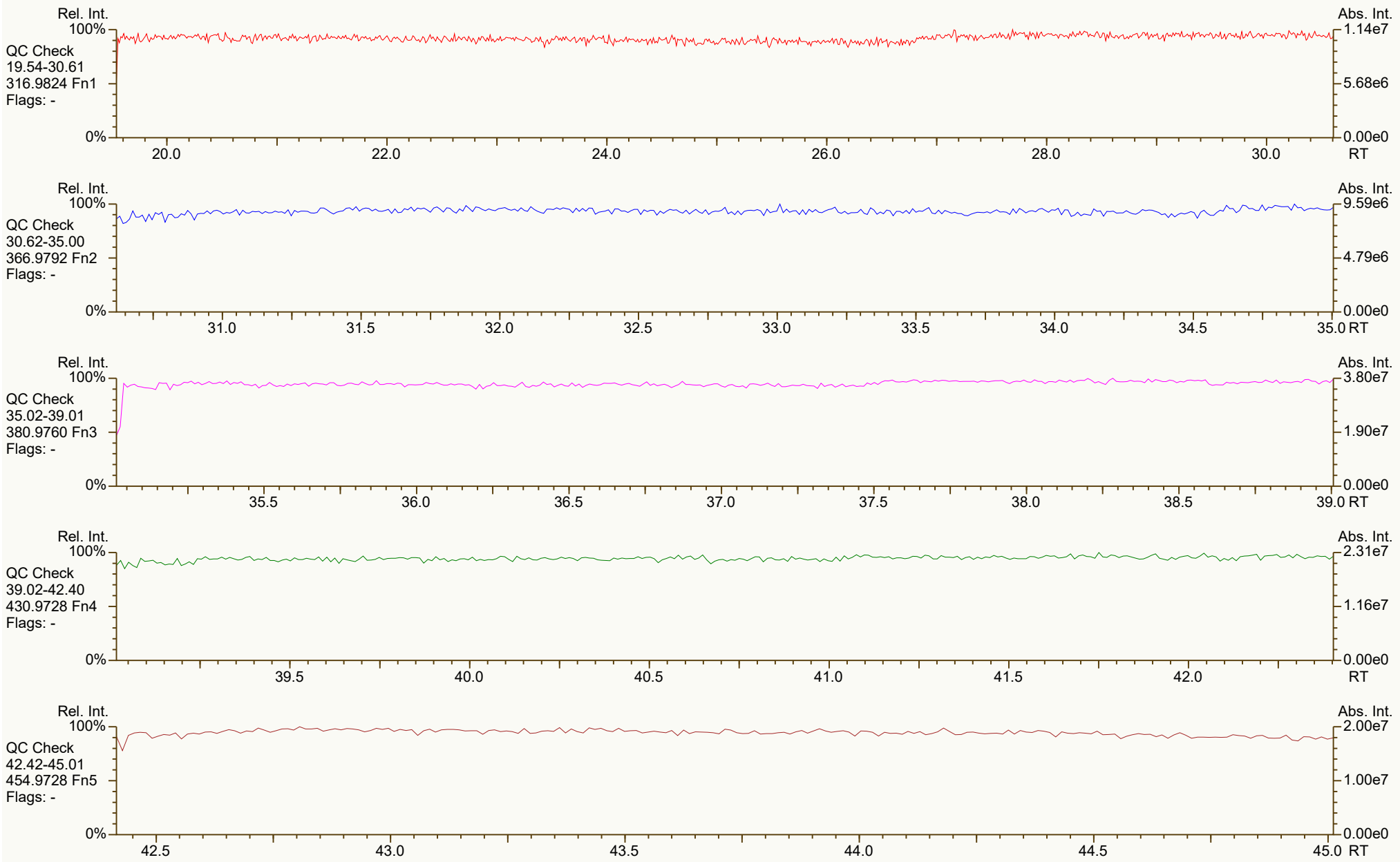
VER Data Filename: 220123C01 Analysis Date: 23-JAN-2022 12:26:11

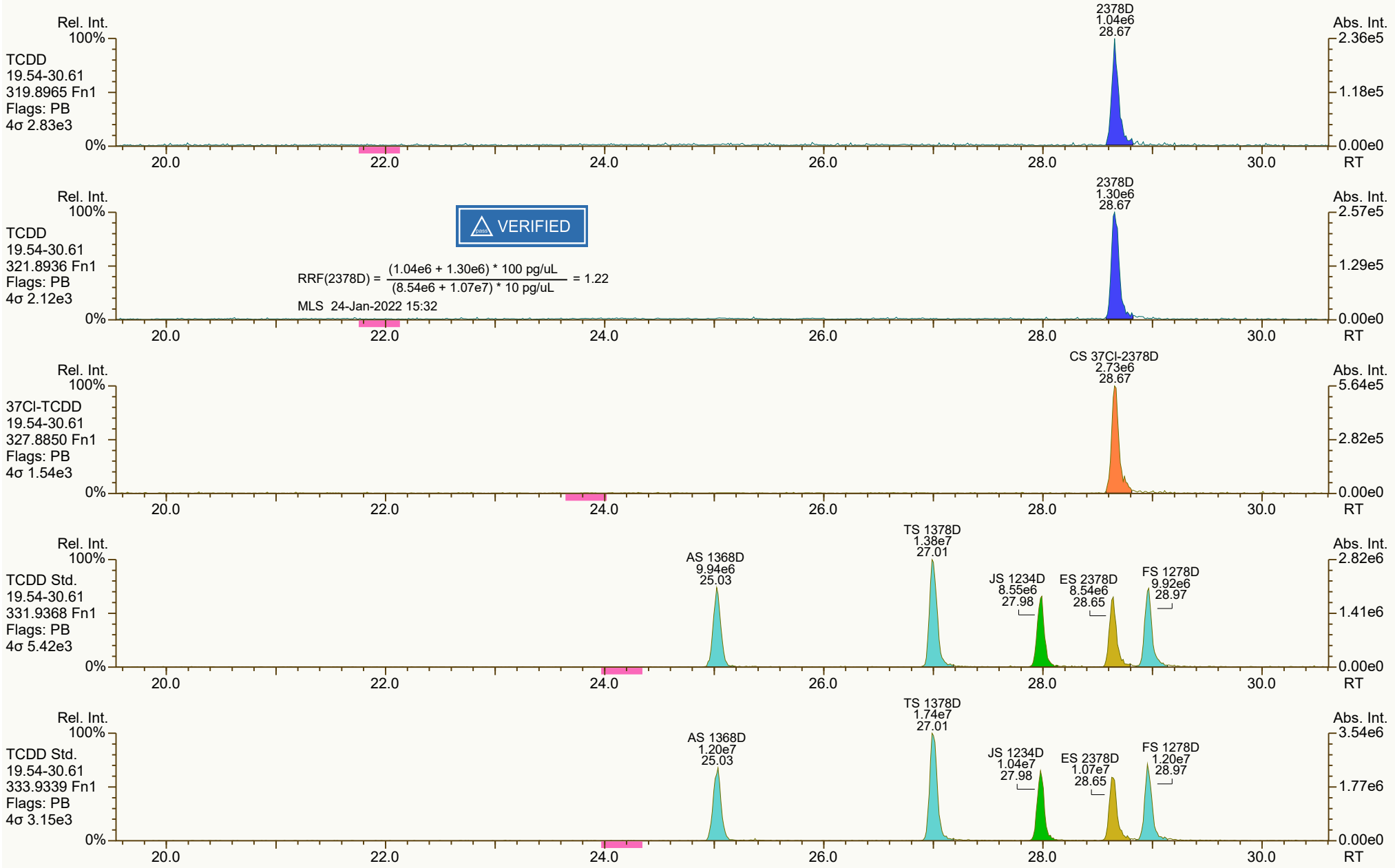
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	96.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	101	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	92.8	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.41	1.05	-	1.43	Y	110	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88	-	1.20	Y	100	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	190	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65	-	0.89	Y	102	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.46	1.32	-	1.78	Y	99.2	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	108	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	121	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	100	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	118	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	107	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	206	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						12	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	109	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.54	1.32	-	1.78	Y	105	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	138 *	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	138 *	70	-	130	N

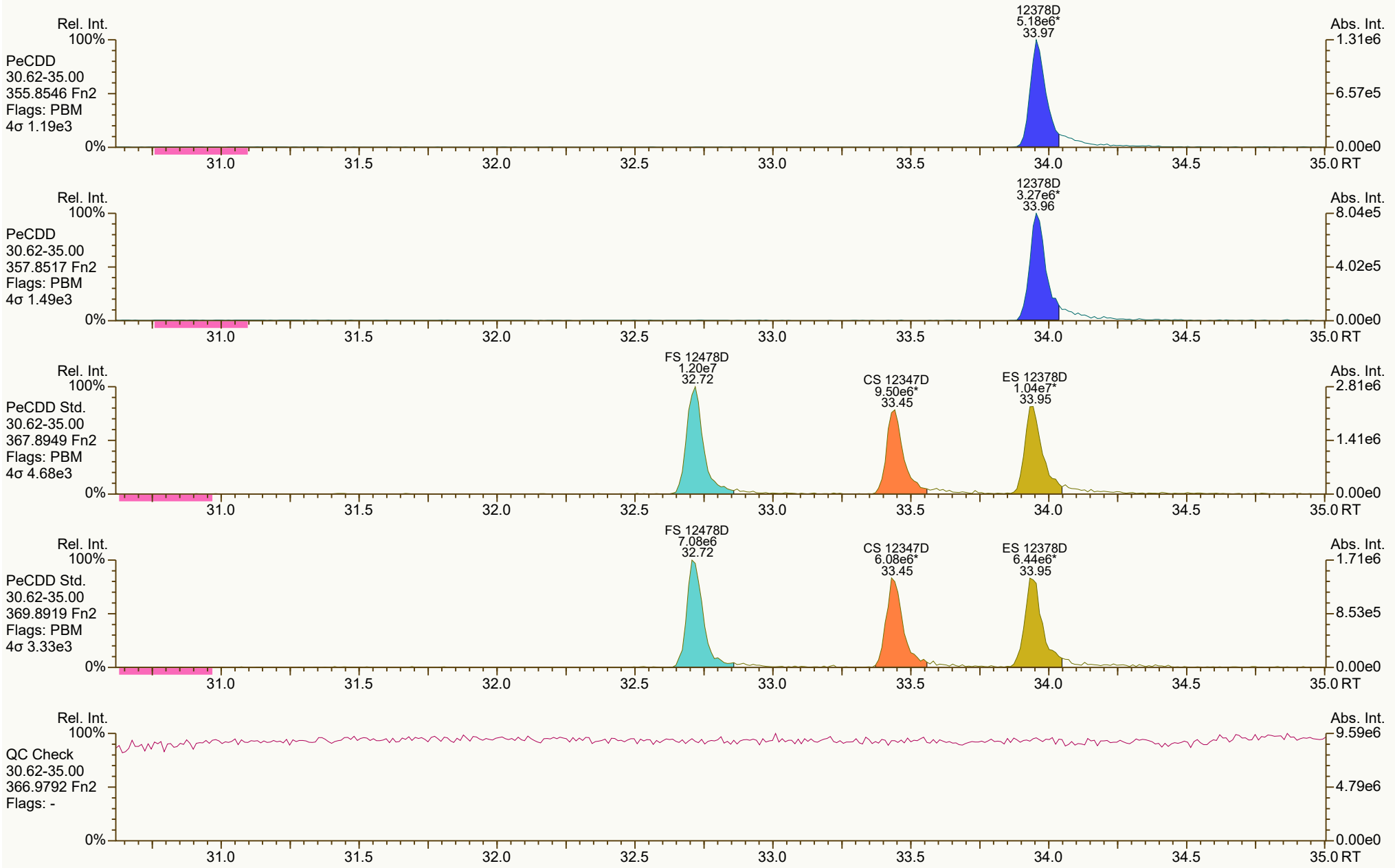
* No criteria specified in M1613B

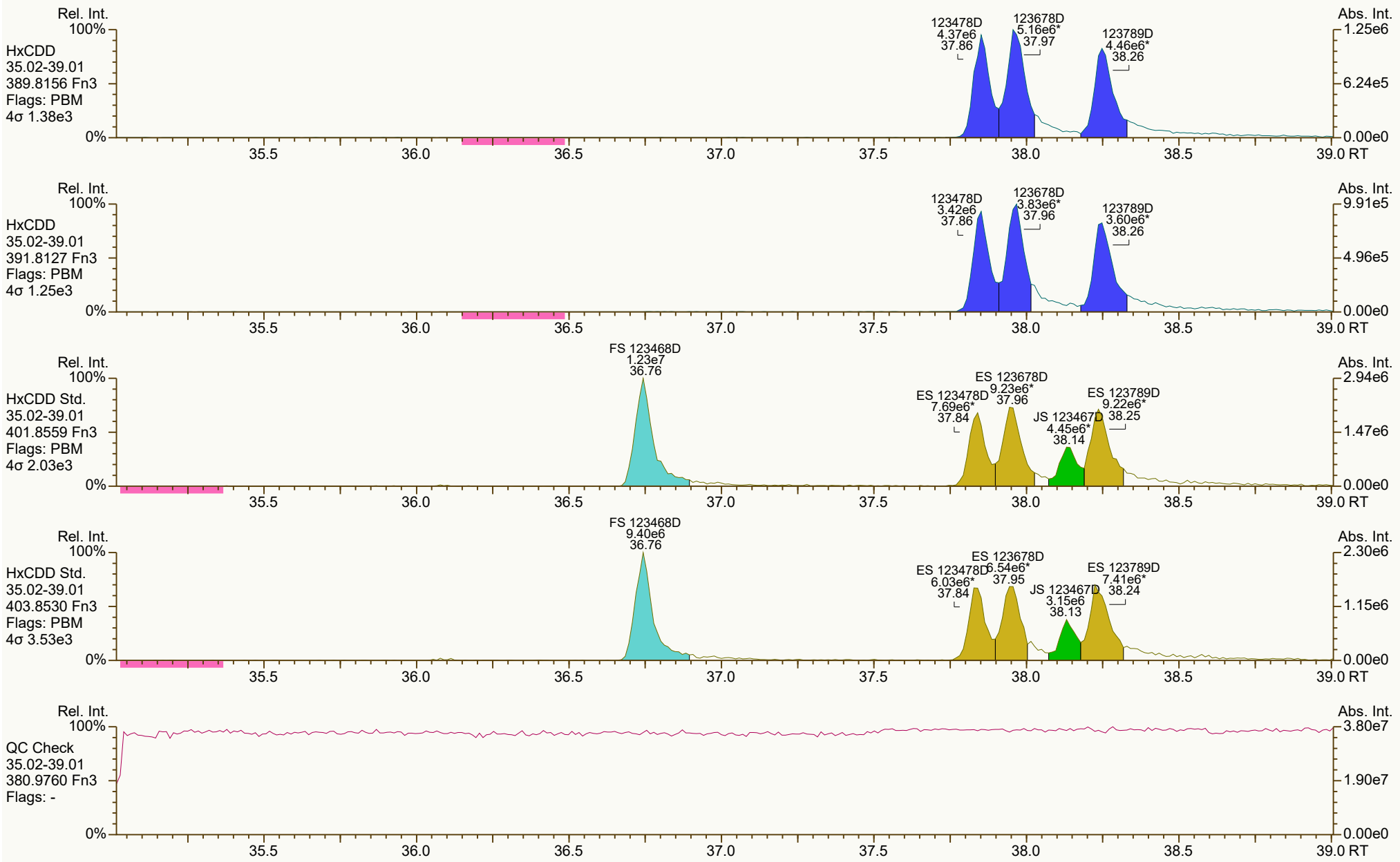
CL 26Jan22

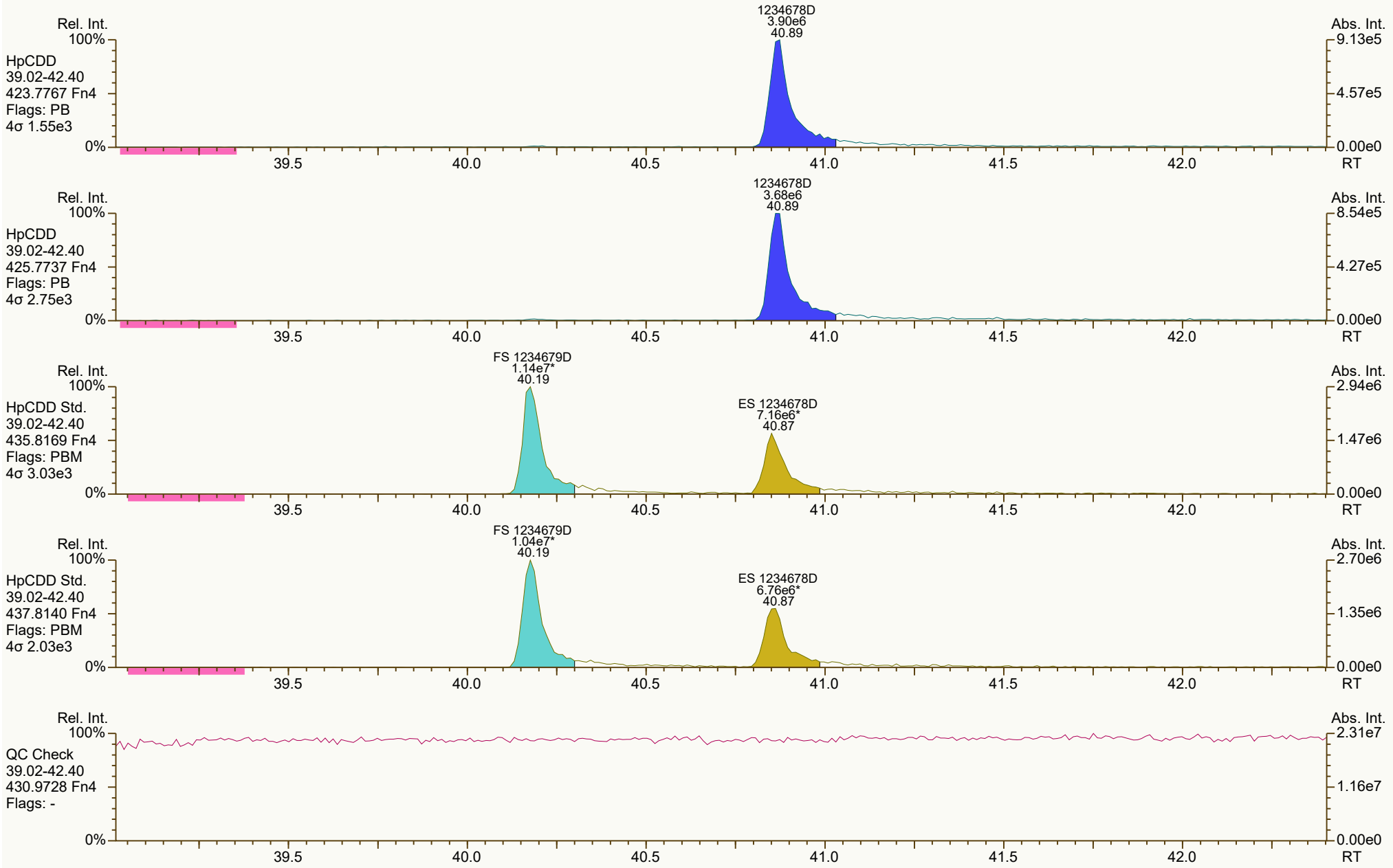
Processed: 24 Jan 2022 15:24 Analyst: MS

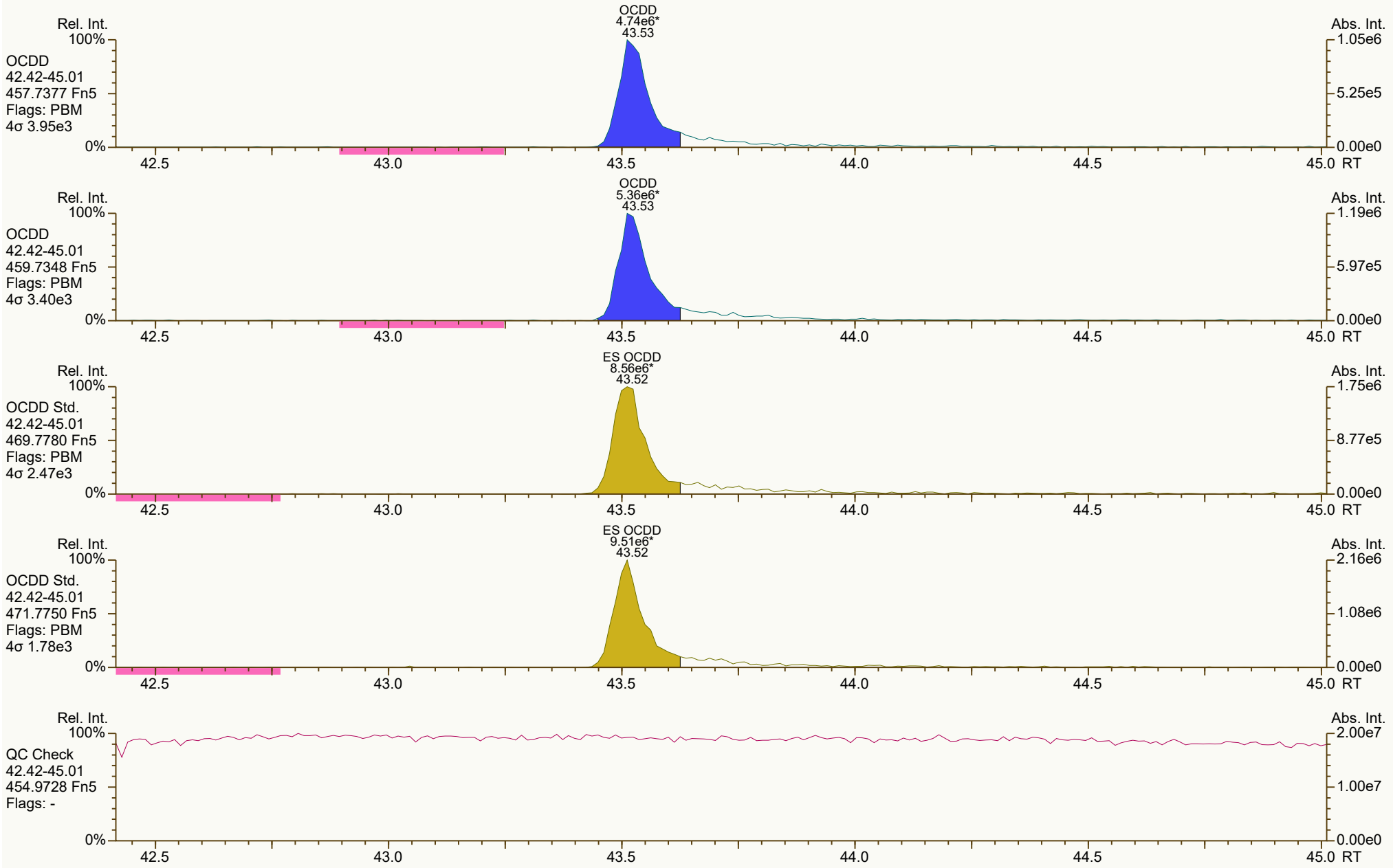

Rel. Int.
100%
0%
Abs. Int.
1.14e7
5.68e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.59e6
4.79e6
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 2.83e3
0%
2378D
1.04e6
28.67
Abs. Int.
2.36e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
VERIFIED
RRF(2378D) = (1.04e6 + 1.30e6) * 100 pg/uL / (8.54e6 + 1.07e7) * 10 pg/uL = 1.22
MLS 24-Jan-2022 15:32
2378D
1.30e6
28.67
Abs. Int.
2.57e5
1.29e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.54e3
0%
CS 37Cl-2378D
2.73e6
28.67
Abs. Int.
5.64e5
2.82e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.42e3
0%
AS 1368D
9.94e6
25.03
TS 1378D
1.38e7
27.01
JS 1234D
8.55e6
27.98
ES 2378D
8.54e6
28.65
FS 1278D
9.92e6
28.97
Abs. Int.
2.82e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.15e3
0%
AS 1368D
1.20e7
25.03
TS 1378D
1.74e7
27.01
JS 1234D
1.04e7
27.98
ES 2378D
1.07e7
28.65
FS 1278D
1.20e7
28.97
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.19e3
0%
12378D
5.18e6*
33.97
Abs. Int.
1.31e6
6.57e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.49e3
0%
12378D
3.27e6*
33.96
Abs. Int.
8.04e5
4.02e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 4.68e3
0%
FS 12478D
1.20e7
32.72
CS 12347D
9.50e6*
33.45
ES 12378D
1.04e7*
33.95
Abs. Int.
2.81e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 3.33e3
0%
FS 12478D
7.08e6
32.72
CS 12347D
6.08e6*
33.45
ES 12378D
6.44e6*
33.95
Abs. Int.
1.71e6
8.53e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.59e6
4.79e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

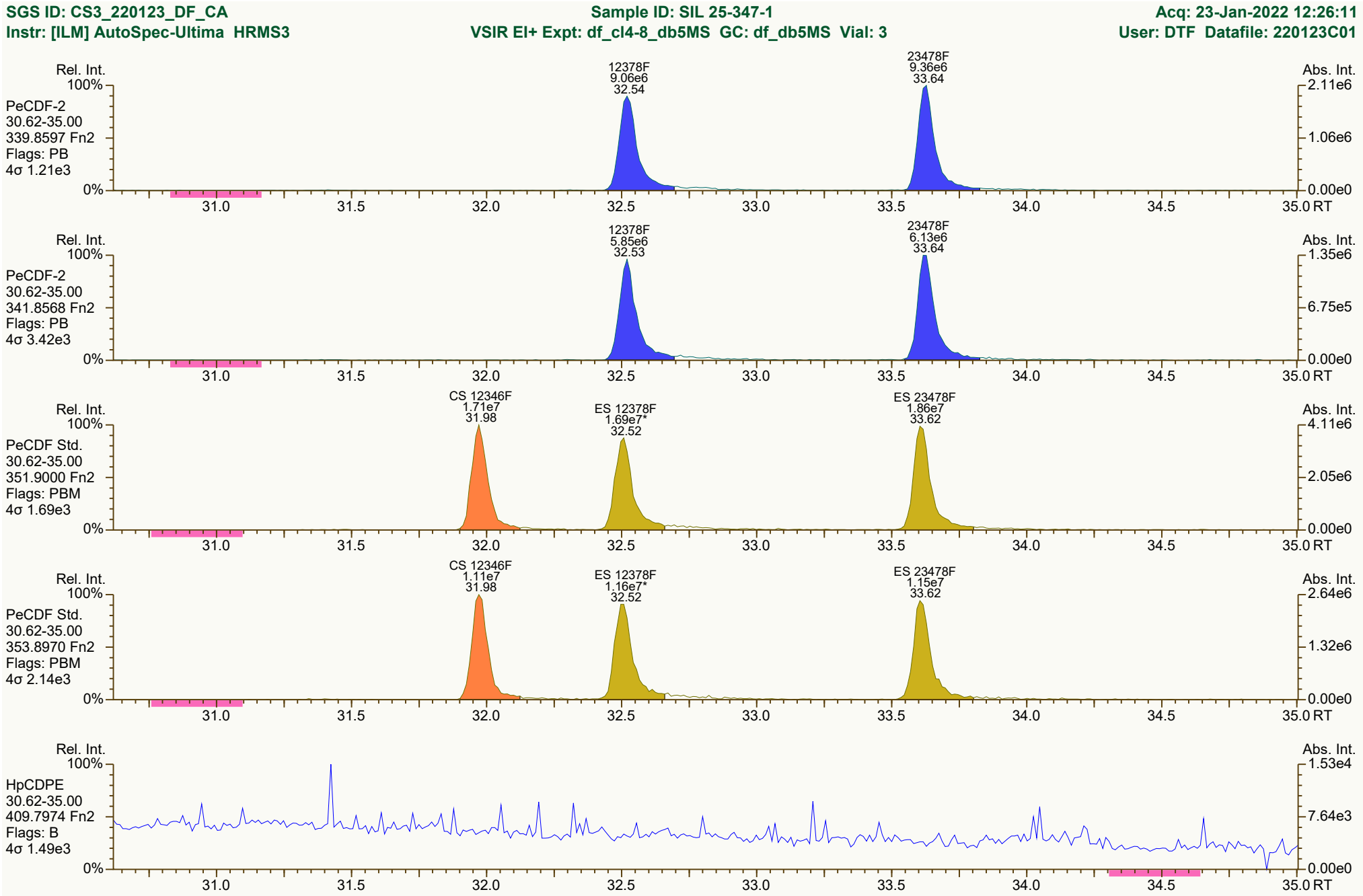

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.38e3
0%
123478D
4.37e6
37.86
123678D
5.16e6*
37.97
123789D
4.46e6*
38.26
Abs. Int.
1.25e6
6.24e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.25e3
0%
123478D
3.42e6
37.86
123678D
3.83e6*
37.96
123789D
3.60e6*
38.26
Abs. Int.
9.91e5
4.96e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.03e3
0%
FS 123468D
1.23e7
36.76
ES 123678D
9.23e6*
37.96
ES 123478D
7.69e6*
37.84
ES 123789D
9.22e6*
38.25
JS 123467D
4.45e6*
38.14
Abs. Int.
2.94e6
1.47e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.53e3
0%
FS 123468D
9.40e6
36.76
ES 123678D
6.54e6*
37.95
ES 123478D
6.03e6*
37.84
ES 123789D
7.41e6*
38.24
JS 123467D
3.15e6
38.13
Abs. Int.
2.30e6
1.15e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

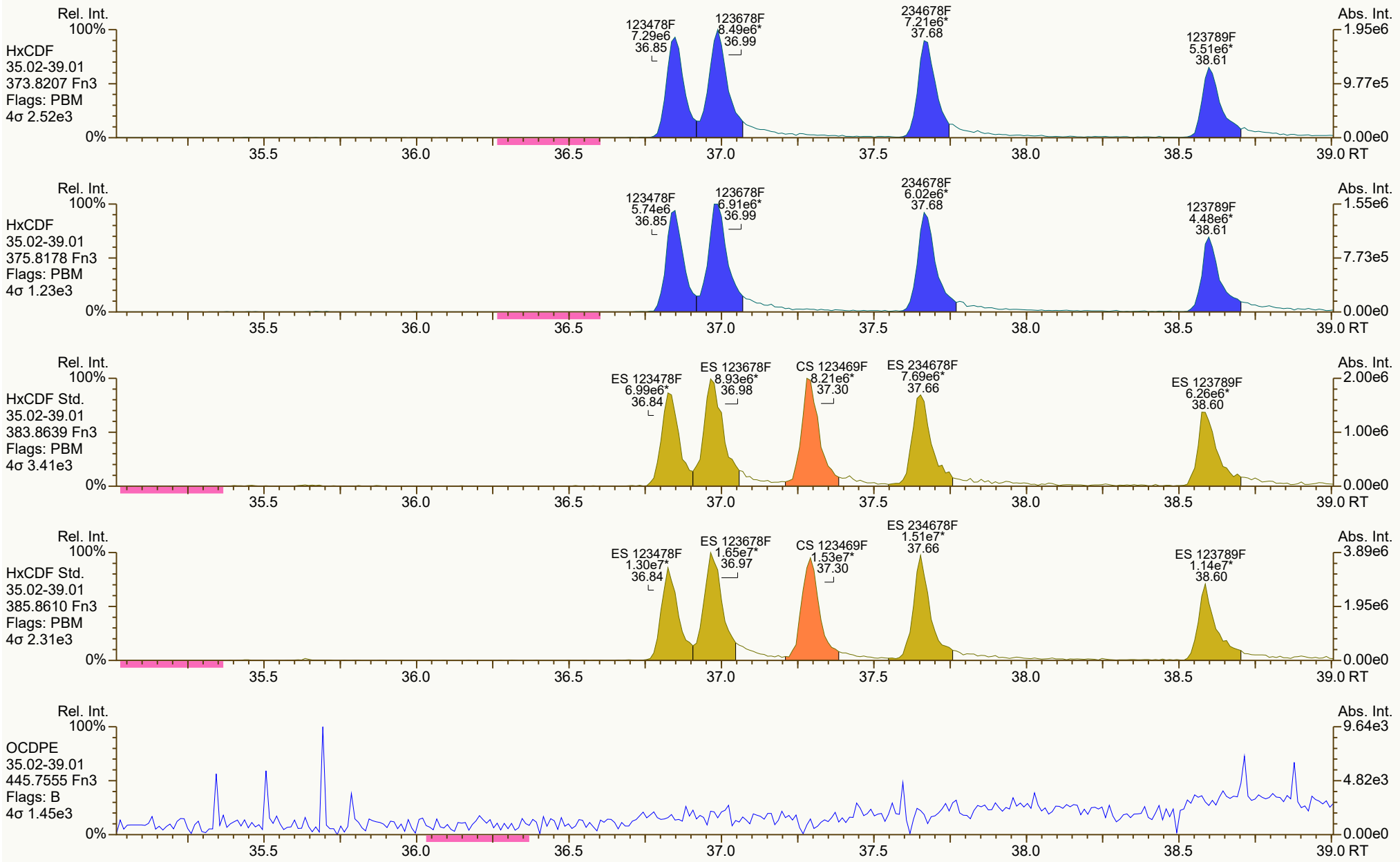

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.55e3
1234678D
3.90e6
40.89
Abs. Int.
9.13e5
4.57e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.75e3
1234678D
3.68e6
40.89
Abs. Int.
8.54e5
4.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.03e3
FS 1234679D
1.14e7*
40.19
ES 1234678D
7.16e6*
40.87
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.03e3
FS 1234679D
1.04e7*
40.19
ES 1234678D
6.76e6*
40.87
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.31e7
1.16e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

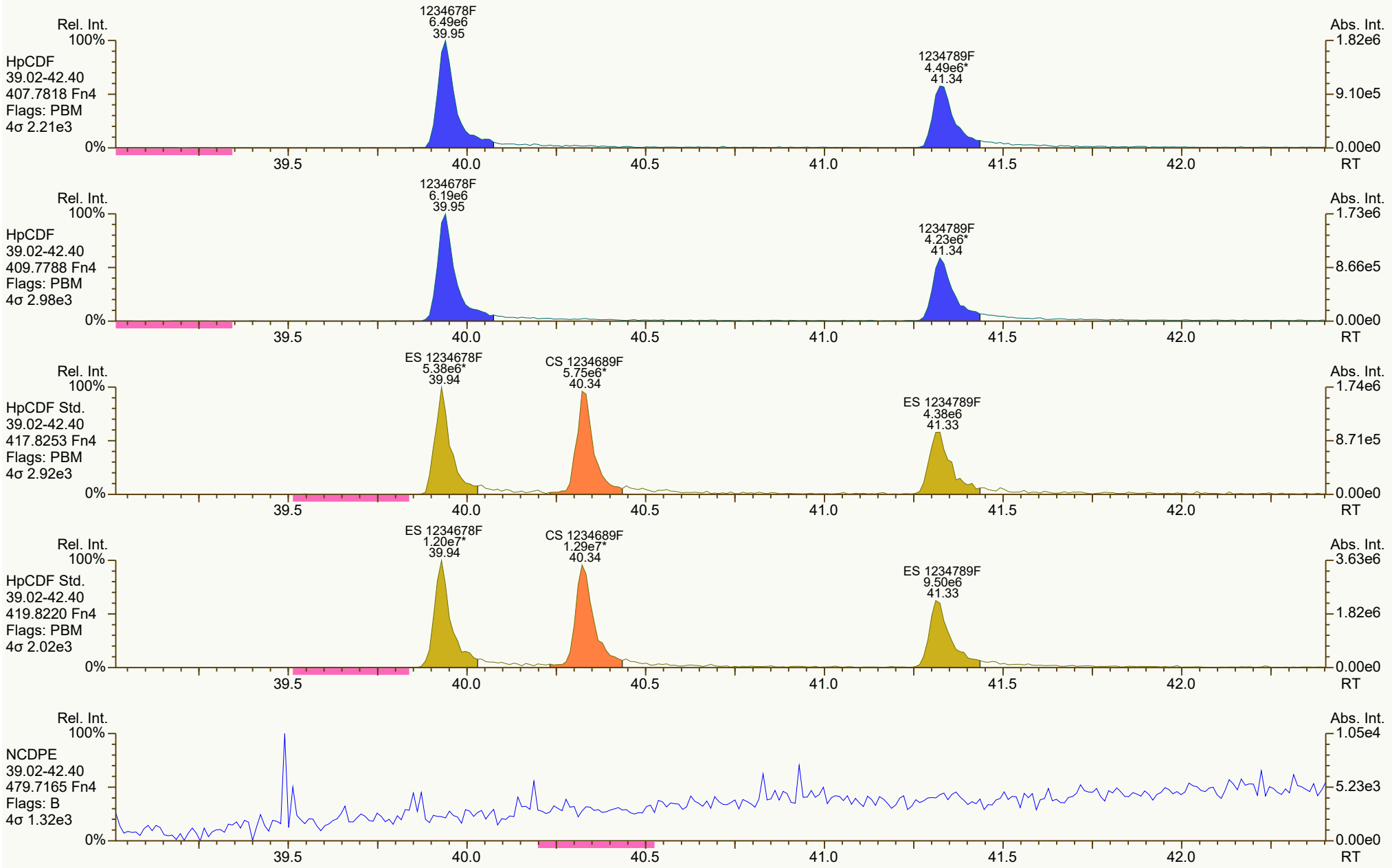

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 3.95e3
0%
OCDD
4.74e6*
43.53
Abs. Int.
1.05e6
5.25e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 3.40e3
0%
OCDD
5.36e6*
43.53
Abs. Int.
1.19e6
5.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.47e3
0%
ES OCDD
8.56e6*
43.52
Abs. Int.
1.75e6
8.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDD
9.51e6*
43.52
Abs. Int.
2.16e6
1.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.48e3
0%
2378F
1.67e6
27.82
Abs. Int.
3.34e5
1.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 3.02e3
0%
2378F
2.10e6
27.82
Abs. Int.
4.28e5
2.14e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 7.59e3
0%
AS 1368F
1.76e7*
22.96
JS 1234F
1.42e7
26.44
ES 2378F
1.51e7
27.80
Abs. Int.
3.20e6
1.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 5.50e3
0%
AS 1368F
2.26e7*
22.96
JS 1234F
1.73e7
26.44
ES 2378F
1.88e7
27.80
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.68e4
8.41e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

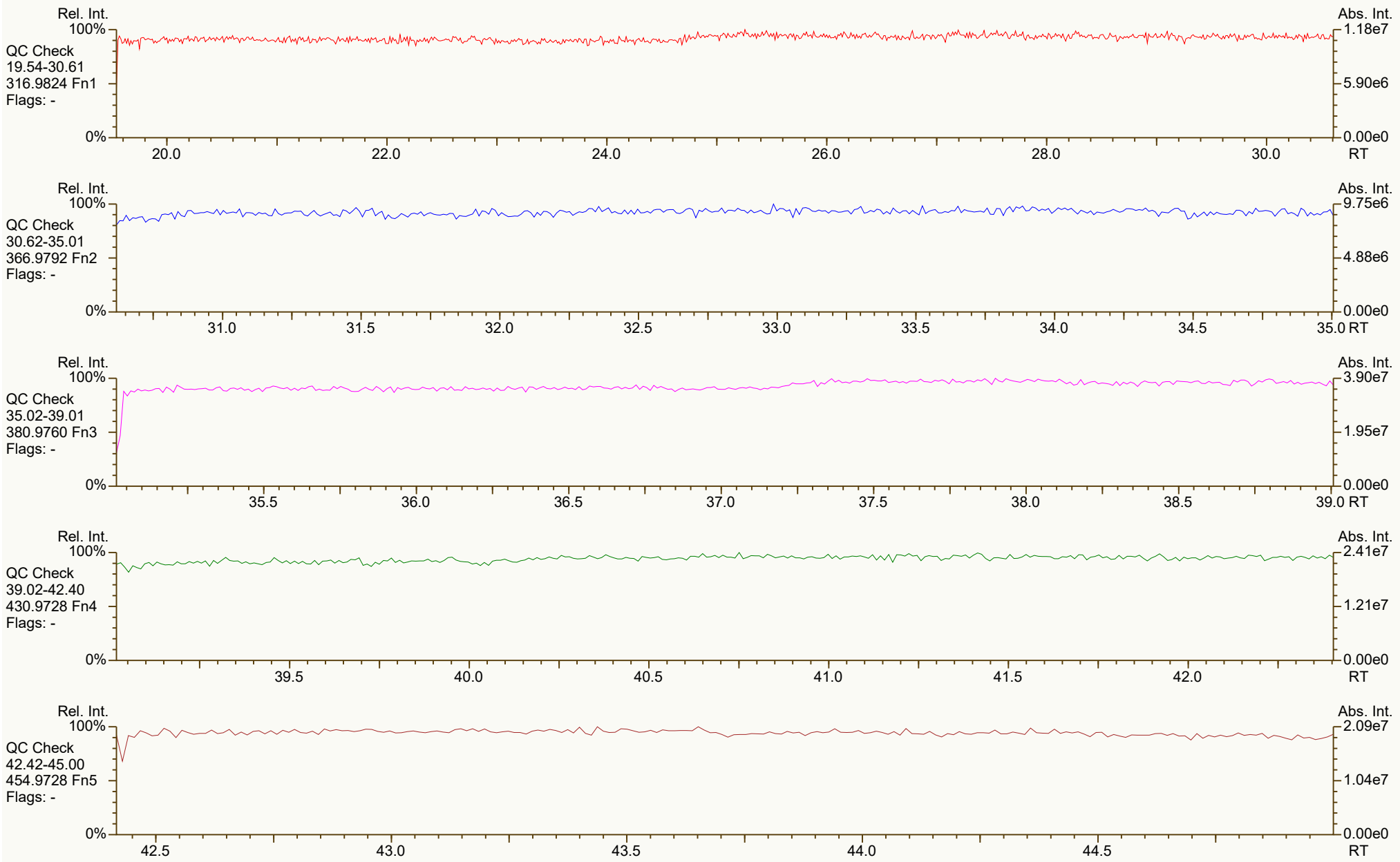

Rel. Int.
100%
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.36e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.82e4
9.12e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.27e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.14e7
5.68e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: CS3_220123_DF_CA
Sample ID: SIL 25-347-1
Acq: 23-Jan-2022 12:26:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220123C01
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.21e3
12378F
9.06e6
32.54
23478F
9.36e6
33.64
2.11e6
1.06e6
0.00e0
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 3.42e3
12378F
5.85e6
32.53
23478F
6.13e6
33.64
1.35e6
6.75e5
0.00e0
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 1.69e3
CS 12346F
1.71e7
31.98
ES 12378F
1.69e7*
32.52
ES 23478F
1.86e7
33.62
4.11e6
2.05e6
0.00e0
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 2.14e3
CS 12346F
1.11e7
31.98
ES 12378F
1.16e7*
32.52
ES 23478F
1.15e7
33.62
2.64e6
1.32e6
0.00e0
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.49e3
1.53e4
7.64e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\CS3_220123_DF_CA.utp_res, saved 24-Jan-2022 15:32 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 6023, 9026, 4950 scc: 360-463
PKD: 23-Jan-2022 13:27 Printed: 24-Jan-2022 15:33 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.52e3
123478F 7.29e6 36.85
123678F 8.49e6* 36.99
234678F 7.21e6* 37.68
123789F 5.51e6* 38.61
Abs. Int.
1.95e6
9.77e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.23e3
123478F 5.74e6 36.85
123678F 6.91e6* 36.99
234678F 6.02e6* 37.68
123789F 4.48e6* 38.61
Abs. Int.
1.55e6
7.73e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.41e3
ES 123478F 6.99e6* 36.84
ES 123678F 8.93e6* 36.98
CS 123469F 8.21e6* 37.30
ES 234678F 7.69e6* 37.66
ES 123789F 6.26e6* 38.60
Abs. Int.
2.00e6
1.00e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.31e3
ES 123478F 1.30e7* 36.84
ES 123678F 1.65e7* 36.97
CS 123469F 1.53e7* 37.30
ES 234678F 1.51e7* 37.66
ES 123789F 1.14e7* 38.60
Abs. Int.
3.89e6
1.95e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
9.64e3
4.82e3
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT

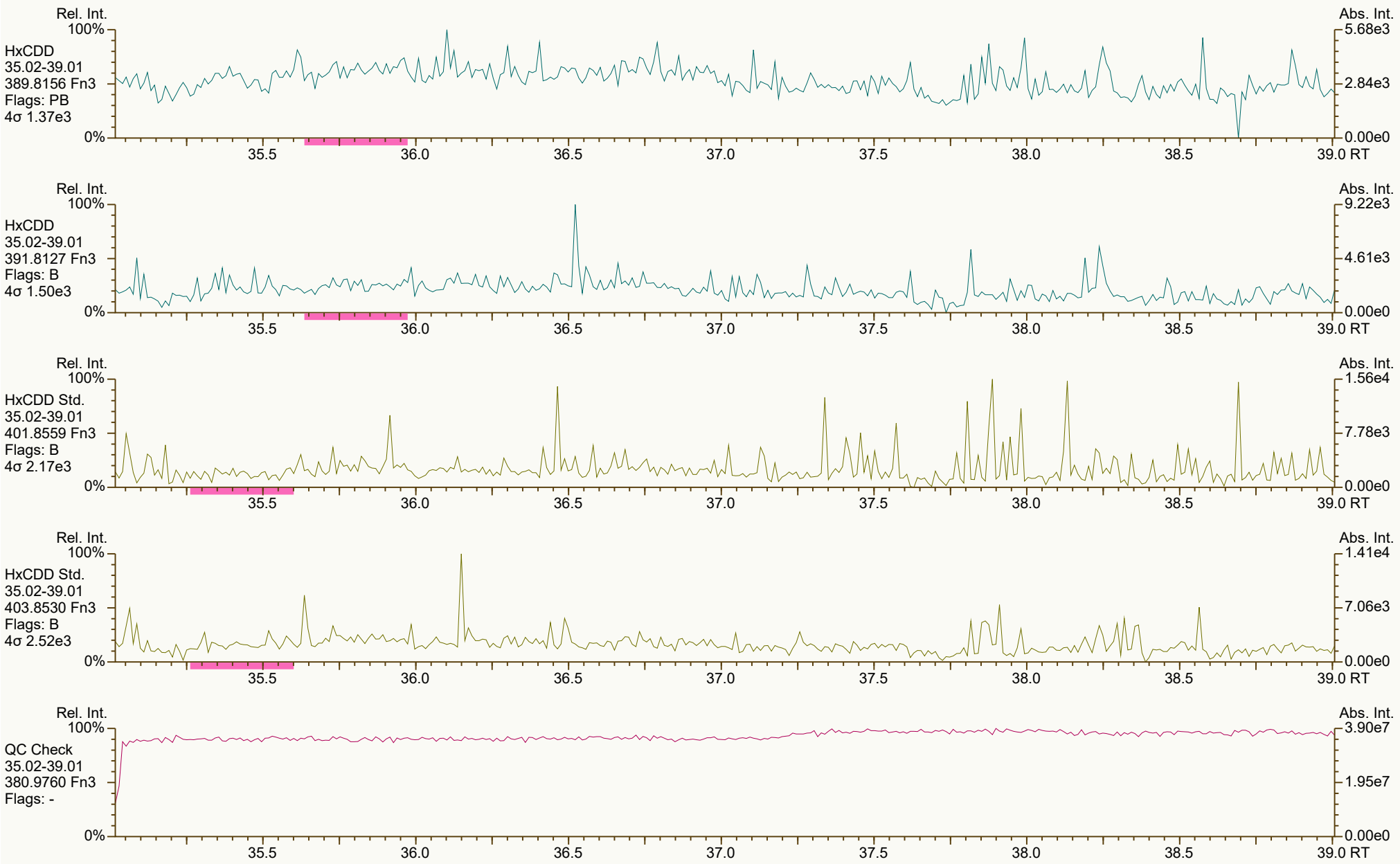

Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.21e3
1234678F
6.49e6
39.95
1234789F
4.49e6*
41.34
Abs. Int.
1.82e6
9.10e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.98e3
1234678F
6.19e6
39.95
1234789F
4.23e6*
41.34
Abs. Int.
1.73e6
8.66e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.92e3
ES 1234678F
5.38e6*
39.94
CS 1234689F
5.75e6*
40.34
ES 1234789F
4.38e6
41.33
Abs. Int.
1.74e6
8.71e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.02e3
ES 1234678F
1.20e7*
39.94
CS 1234689F
1.29e7*
40.34
ES 1234789F
9.50e6
41.33
Abs. Int.
3.63e6
1.82e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.32e3
Abs. Int.
1.05e4
5.23e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

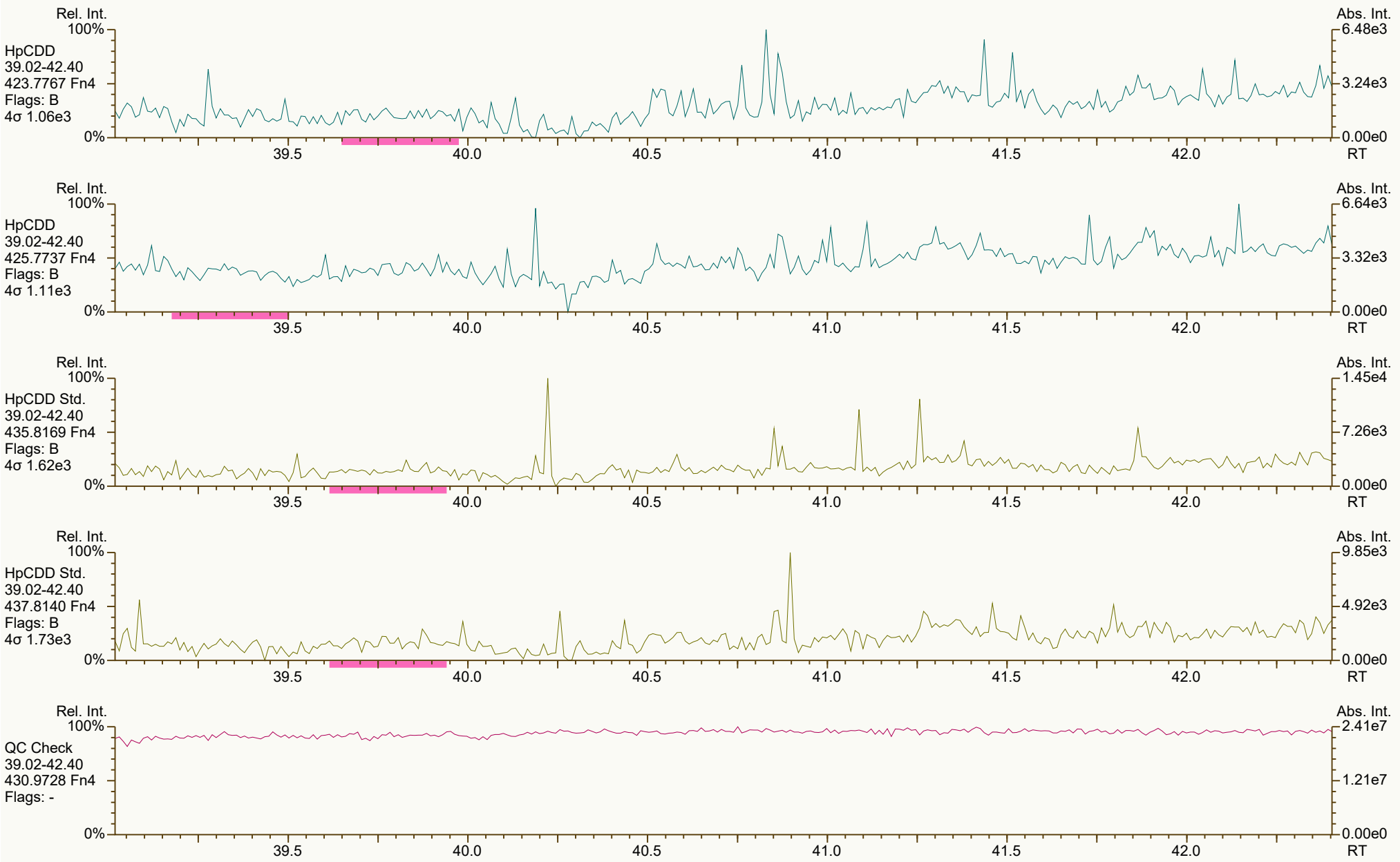

OCDF
6.77e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.59e3
0%
Abs. Int.
1.48e6
7.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.23e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.82e3
0%
Abs. Int.
1.50e6
7.49e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.21e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
2.48e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.32e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.31e3
0%
Abs. Int.
2.75e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
6.53e3
3.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

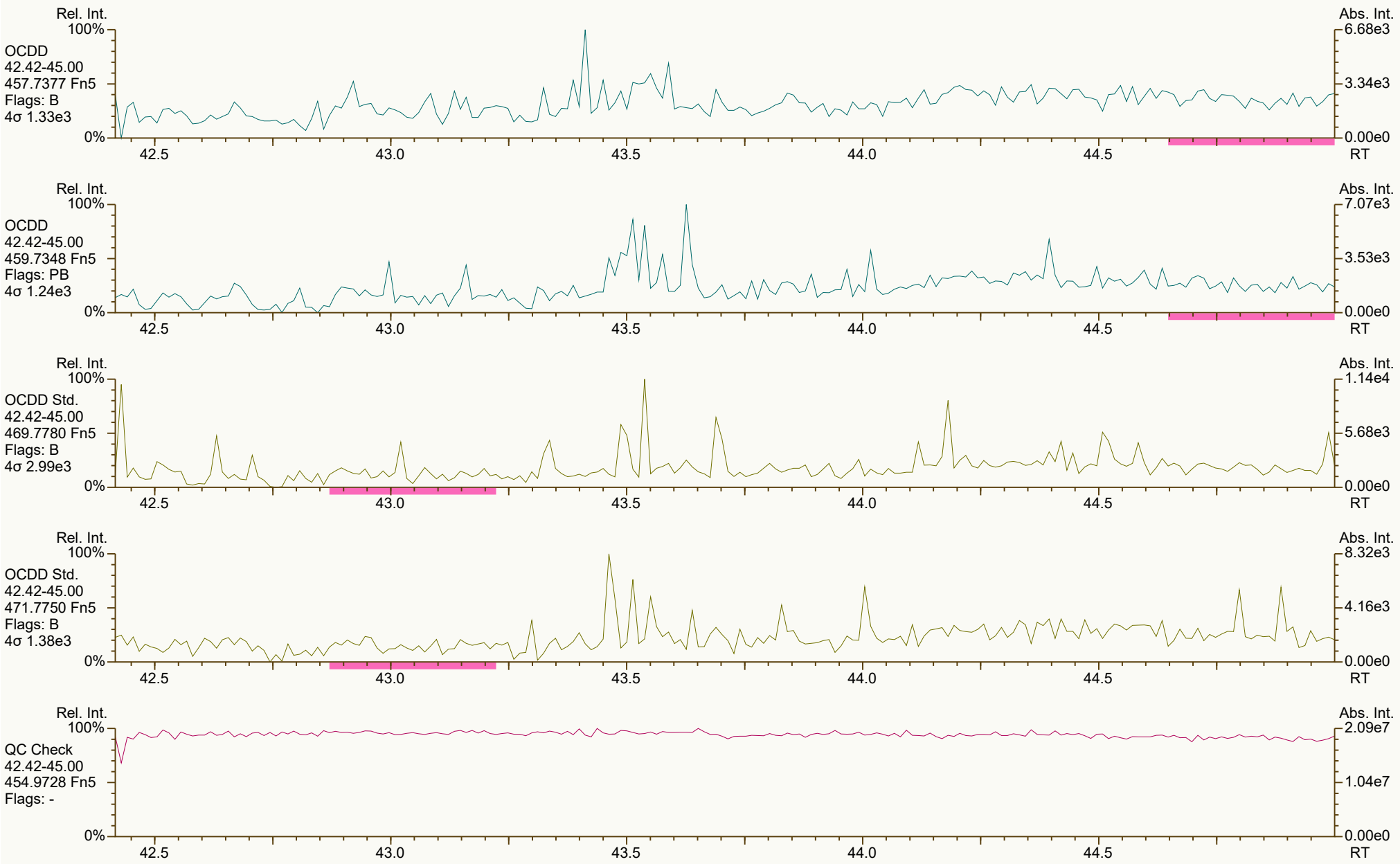

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.18e7
5.90e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
9.75e6
4.88e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
3.90e7
1.95e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.41e7
1.21e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
RT
Abs. Int.
2.09e7
1.04e7
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.38e3
1.13e4
5.66e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.96e3
8.94e3
4.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.15e3
1.13e4
5.65e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 1.08e4
2.75e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 5.59e3
1.98e4
9.89e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.64e3
0%
Abs. Int.
5.01e3
2.51e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.21e3
0%
Abs. Int.
4.92e3
2.46e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.96e4
9.80e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: B
4σ 2.95e3
0%
Abs. Int.
2.69e4
1.35e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.75e6
4.88e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.37e3
0%
Abs. Int.
5.68e3
2.84e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.50e3
0%
Abs. Int.
9.22e3
4.61e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 2.17e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.41e4
7.06e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.90e7
1.95e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

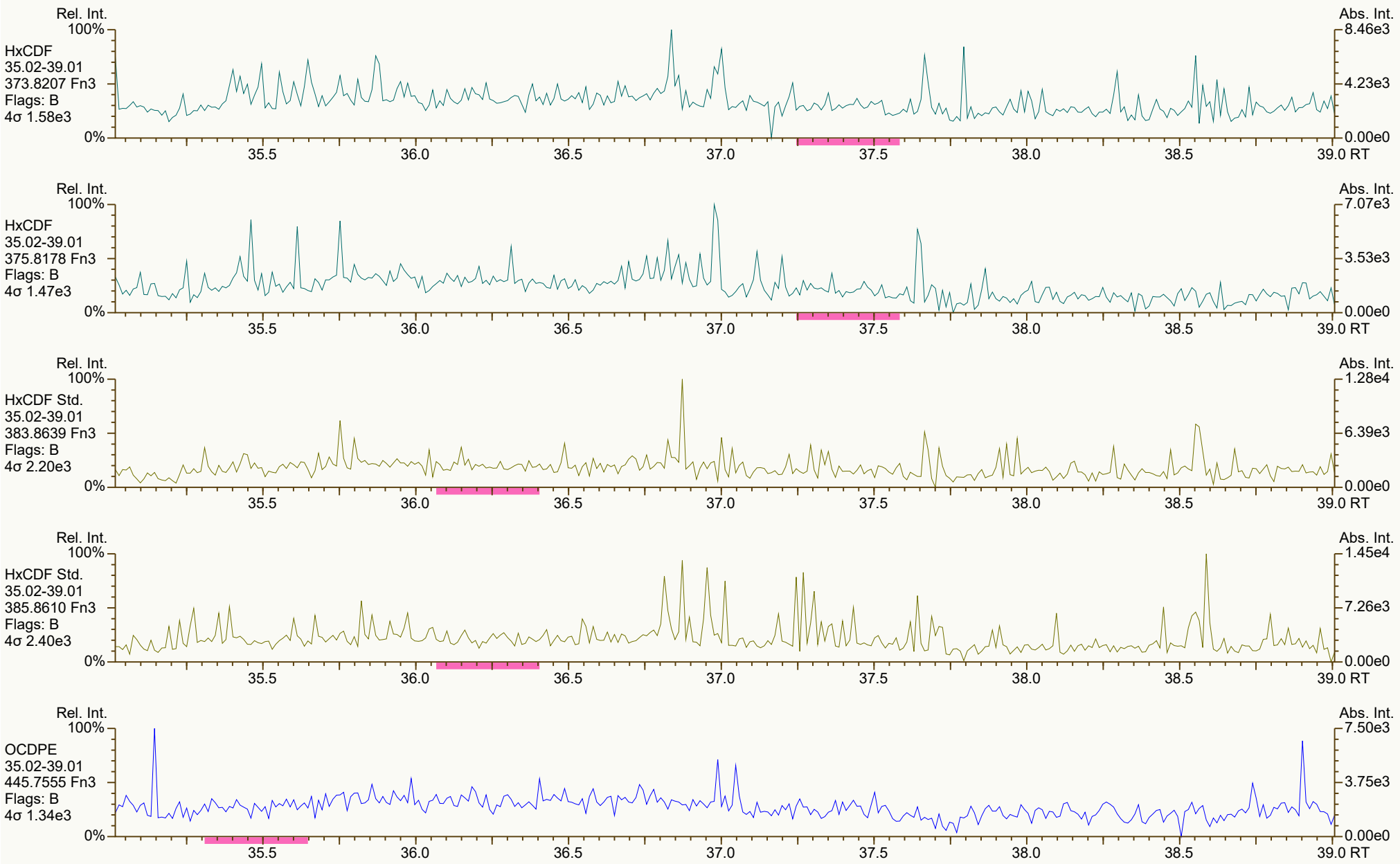

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.06e3
0%
Abs. Int.
6.48e3
3.24e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.11e3
0%
Abs. Int.
6.64e3
3.32e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.73e3
0%
Abs. Int.
9.85e3
4.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.41e7
1.21e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.33e3
0%
Abs. Int.
6.68e3
3.34e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 2.99e3
0%
Abs. Int.
1.14e4
5.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.09e7
1.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.67e3
2468F
2.37e5*
24.16
SBS
Abs. Int.
5.26e4
2.63e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.19e3
2468F
3.30e5*
24.16
Abs. Int.
7.23e4
3.62e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 6.79e3
Abs. Int.
5.26e4
2.63e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 3.93e3
Abs. Int.
2.19e4
1.09e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.49e3
Abs. Int.
1.14e4
5.68e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.75e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.51e4
7.56e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.96e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.90e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: B
4σ 3.05e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.28e4
6.42e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.55e3
4.77e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.58e3
0%
Abs. Int.
8.46e3
4.23e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 2.40e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

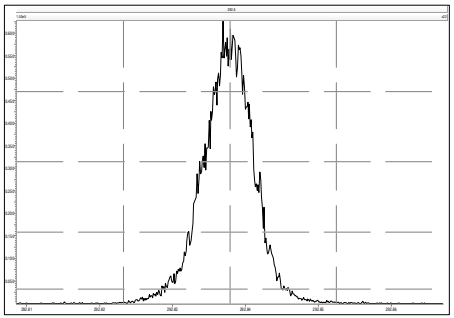

Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.86e3
0%
Abs. Int.
7.95e3
3.97e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
6.89e3
3.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
2.06e4
1.03e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.26e3
0%
Abs. Int.
8.52e3
4.26e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
7.67e3
3.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.66e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.09e4
1.04e4
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.36e3
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
5.85e3
2.93e3
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42.5
43.0
43.5
44.0
44.5
RT

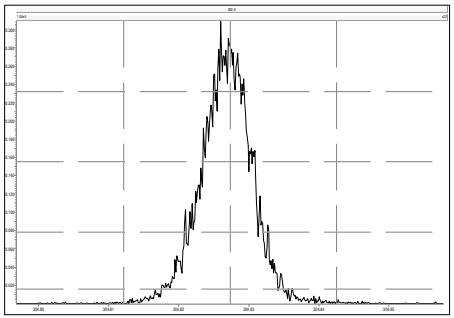
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:24:24 Eastern Standard Time

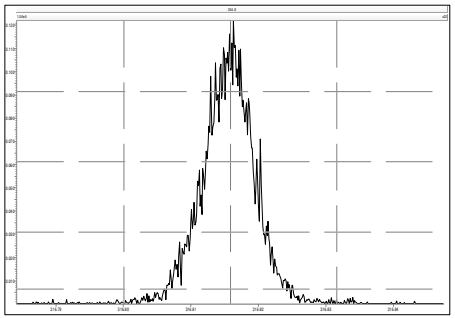
M 292.9824 R 16999



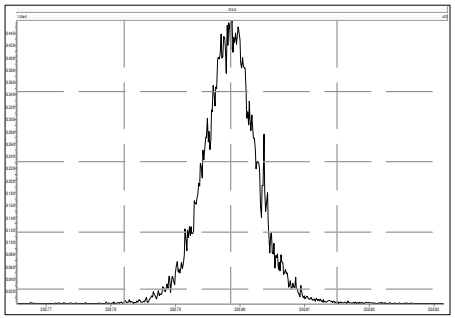
M 304.9824 R 17238



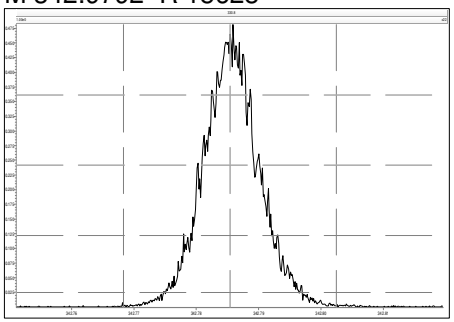
M 316.9824 R 17125



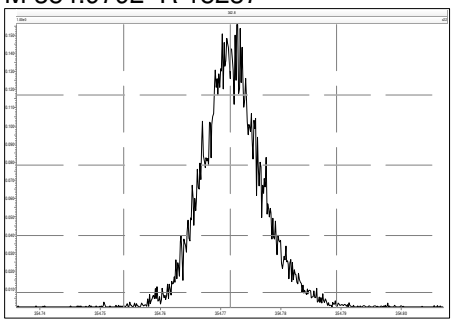
M 330.9792 R 16777



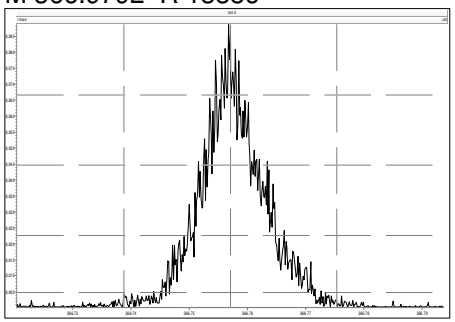
M 342.9792 R 15628



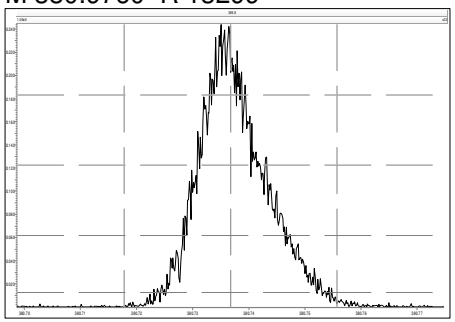
M 354.9792 R 15237



M 366.9792 R 13886



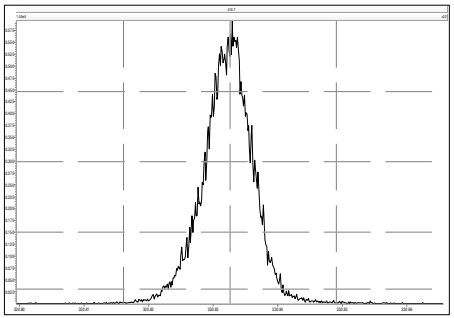
M 380.9760 R 13299



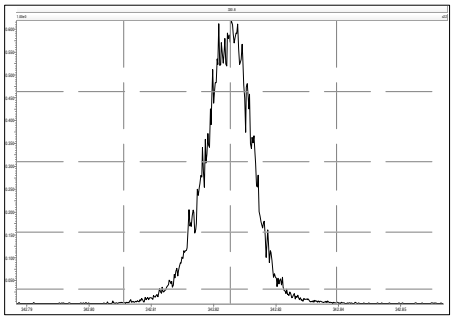
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:24:40 Eastern Standard Time

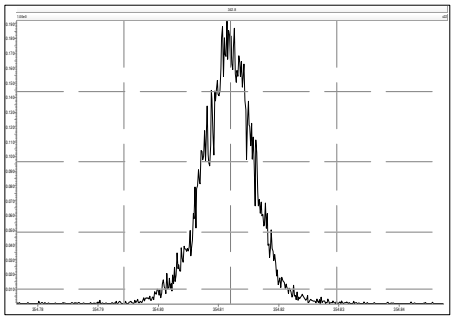
M 330.9792 R 17858



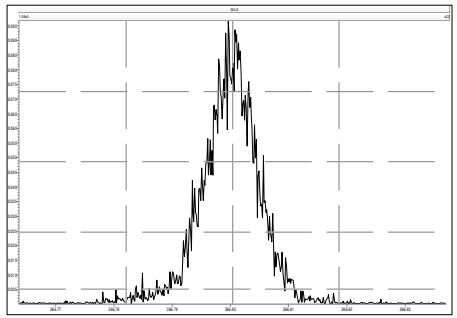
M 342.9792 R 17728



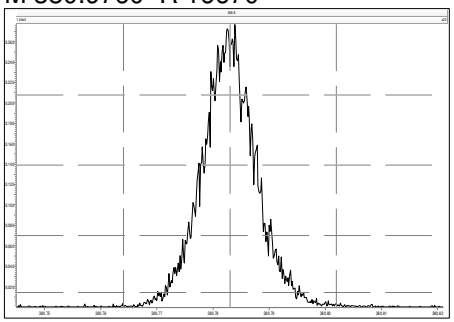
M 354.9792 R 18384



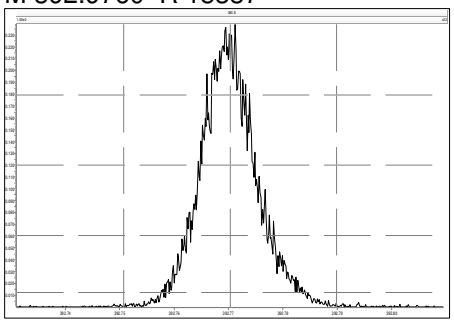
M 366.9792 R 16890



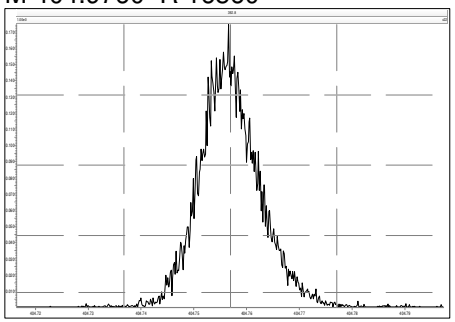
M 380.9760 R 16670



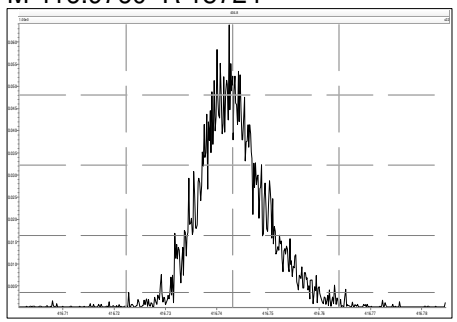
M 392.9760 R 15337



M 404.9760 R 16560



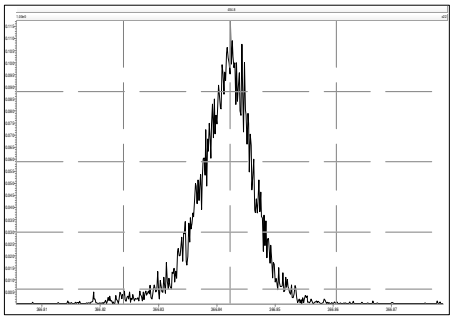
M 416.9760 R 15724



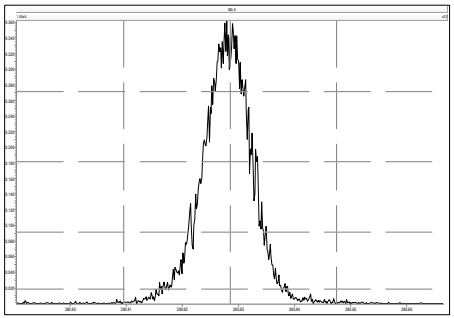
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

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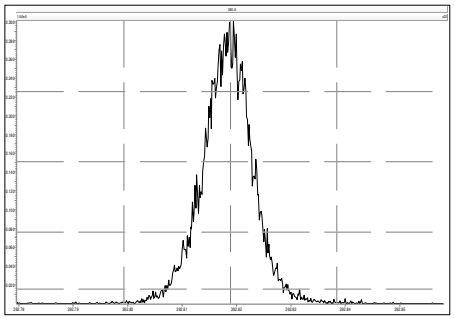
M 366.9792 R 17242



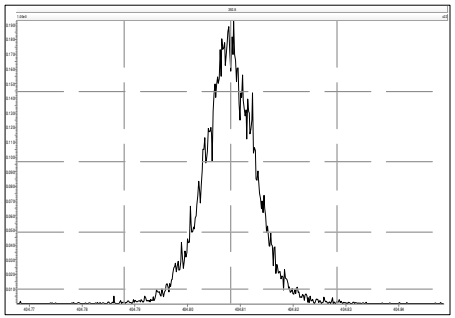
M 380.9760 R 17855



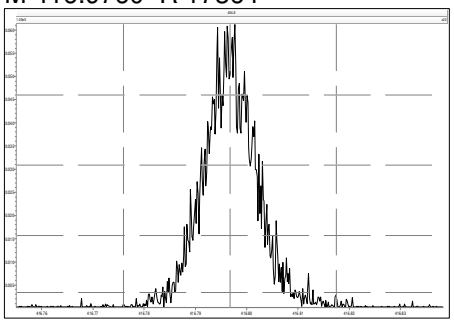
M 392.9760 R 18250



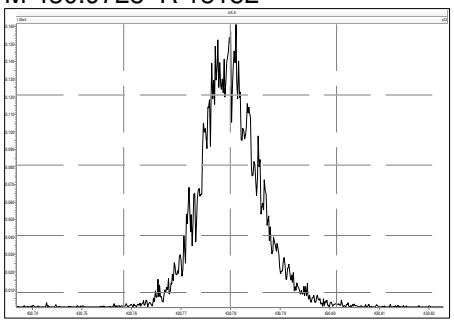
M 404.9760 R 17605



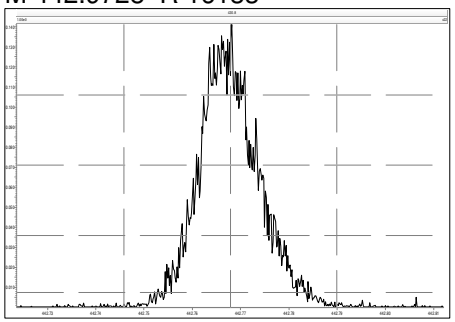
M 416.9760 R 17364



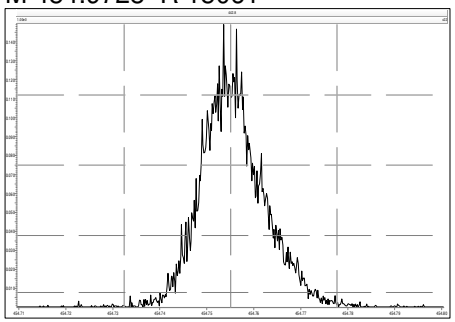
M 430.9728 R 15152



M 442.9728 R 16133



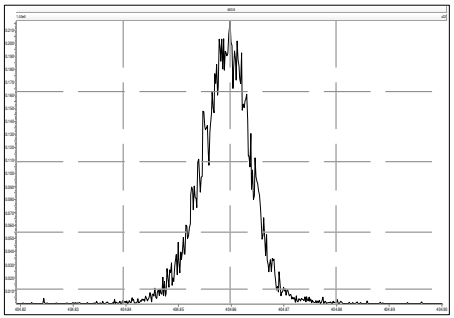
M 454.9728 R 15061



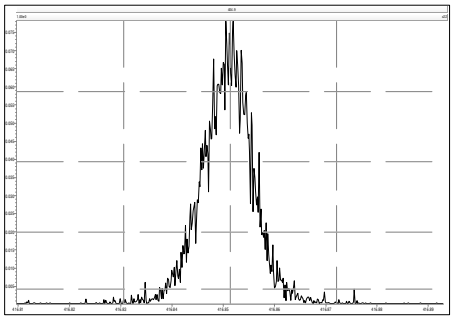
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:25:13 Eastern Standard Time

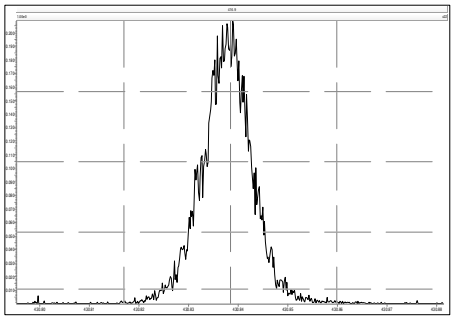
M 404.9760 R 19078



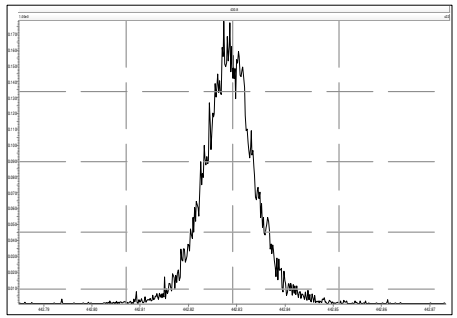
M 416.9760 R 18247



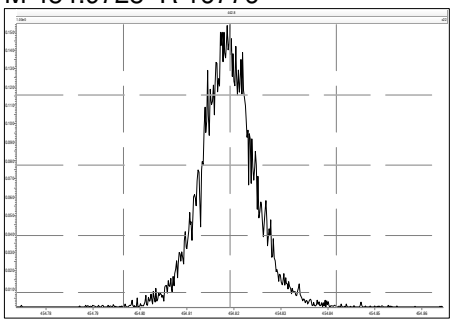
M 430.9728 R 19383



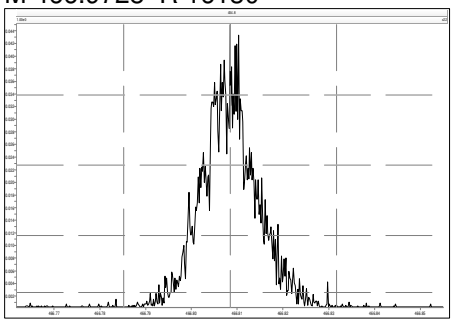
M 442.9728 R 18657



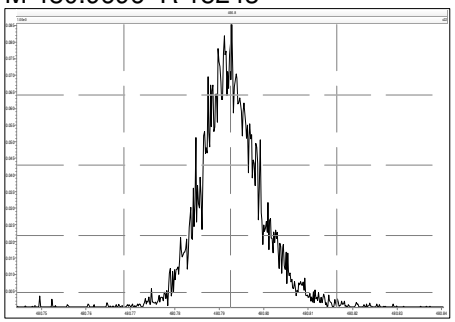
M 454.9728 R 16776



M 466.9728 R 16130



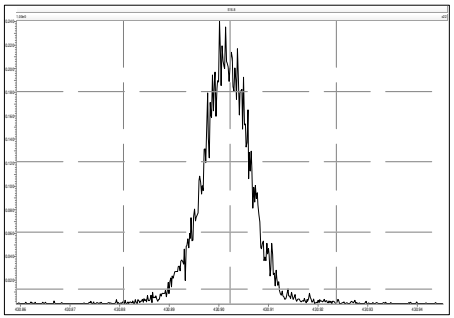
M 480.9696 R 15243



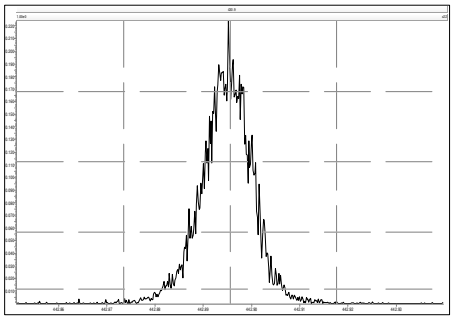
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:25:29 Eastern Standard Time

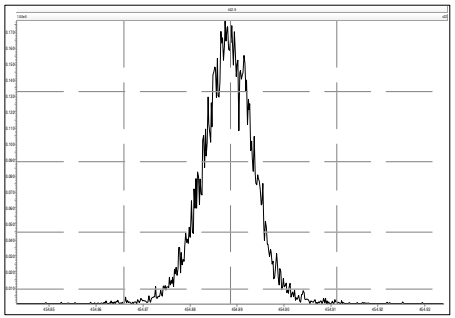
M 430.9728 R 19230



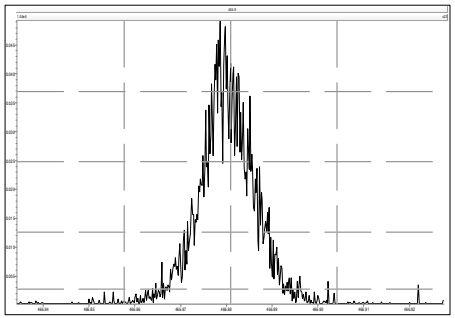
M 442.9728 R 16889



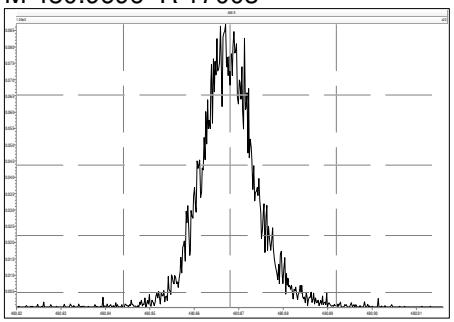
M 454.9728 R 17236



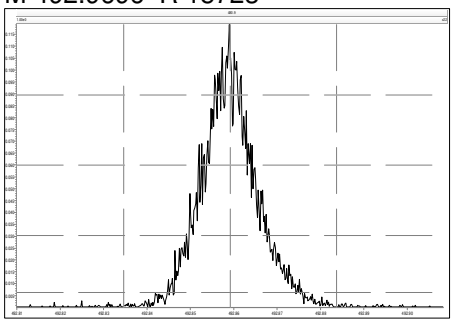
M 466.9728 R 17855



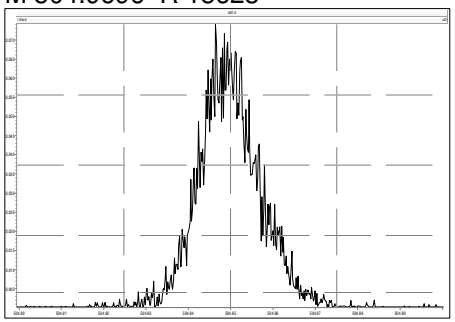
M 480.9696 R 17003



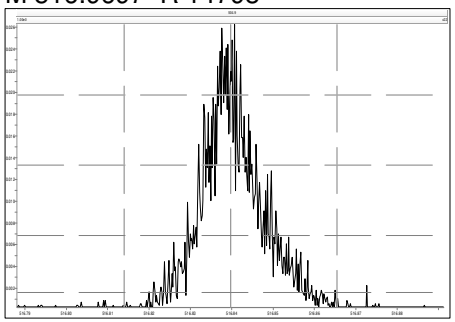
M 492.9696 R 15723



M 504.9696 R 15623

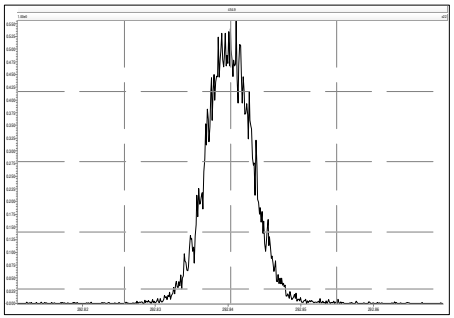


M 516.9697 R 14798

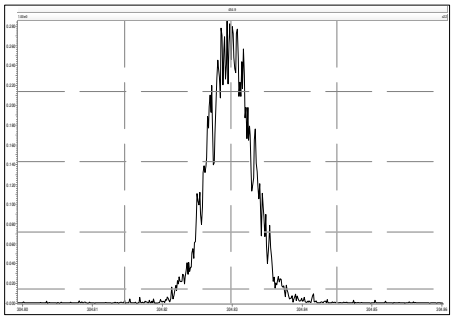


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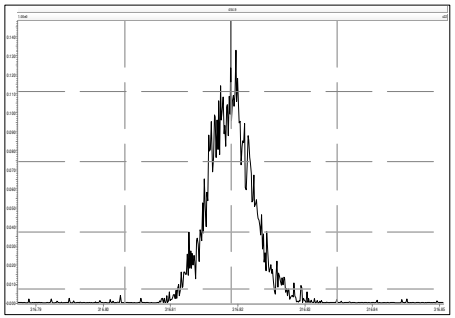
M 292.9824 R 19695



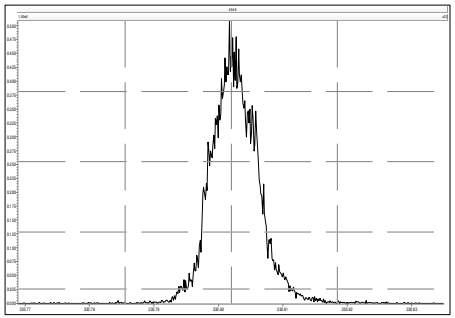
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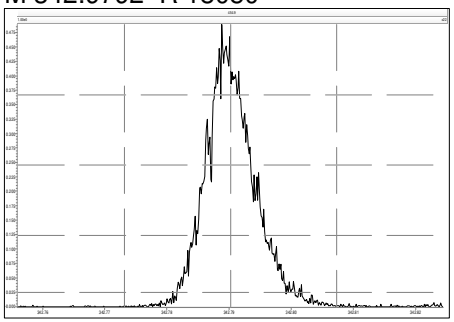
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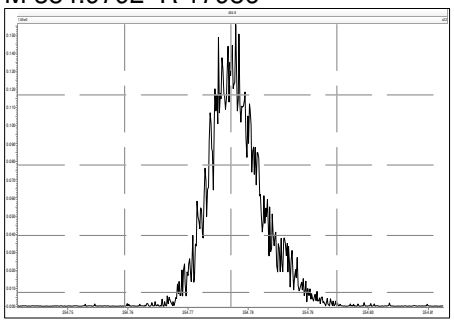
M 330.9792 R 18315



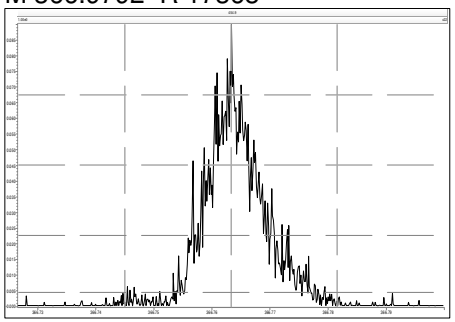
M 342.9792 R 18050



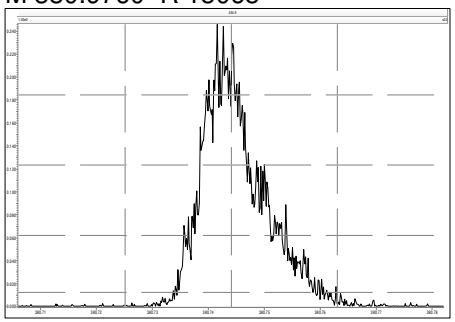
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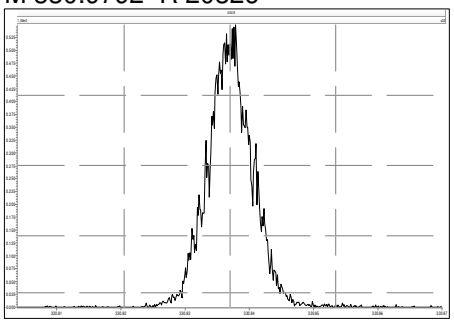
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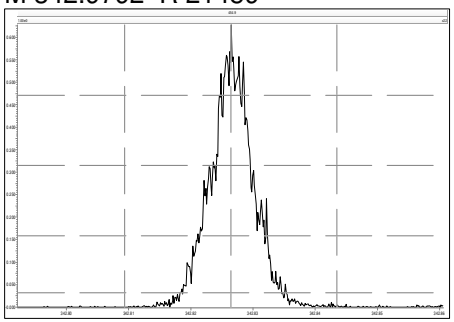
M 380.9760 R 15065



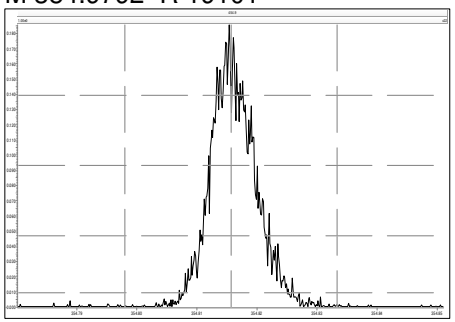
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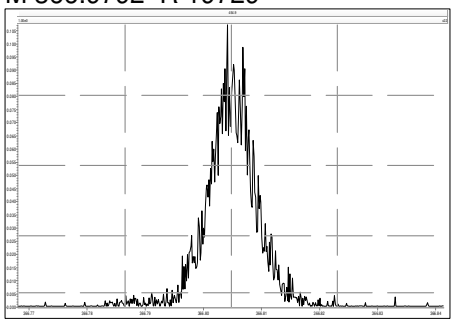
M 342.9792 R 21459



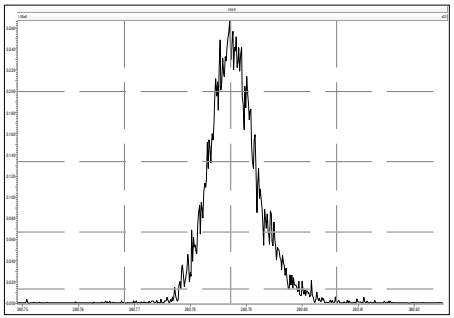
M 354.9792 R 19101



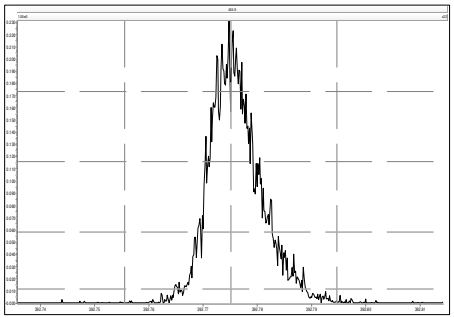
M 366.9792 R 19729



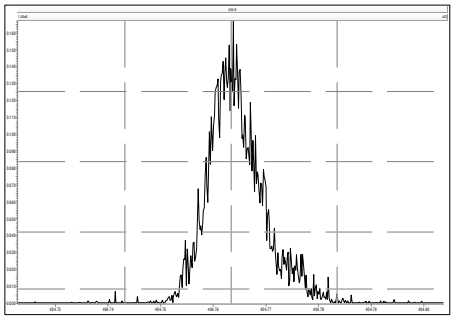
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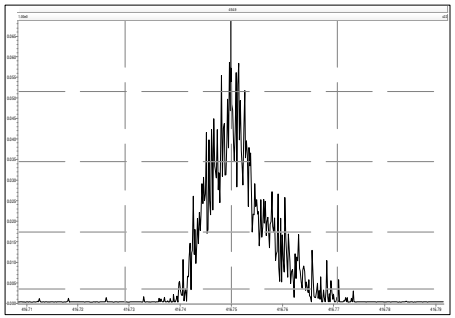
M 392.9760 R 17216



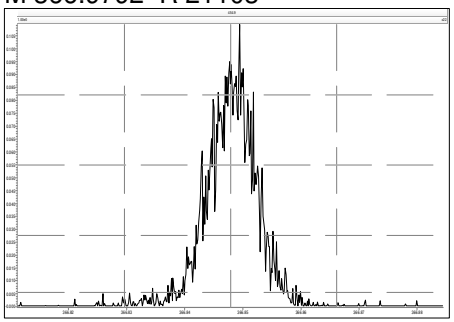
M 404.9760 R 17080



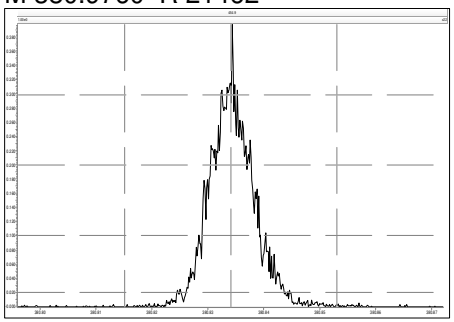
M 416.9760 R 19686



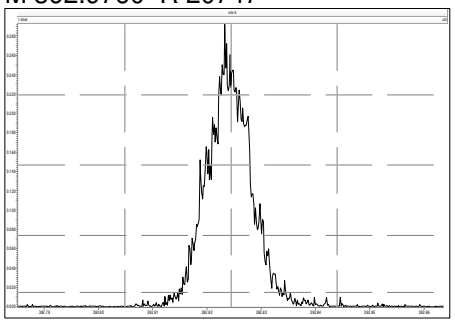
M 366.9792 R 21103



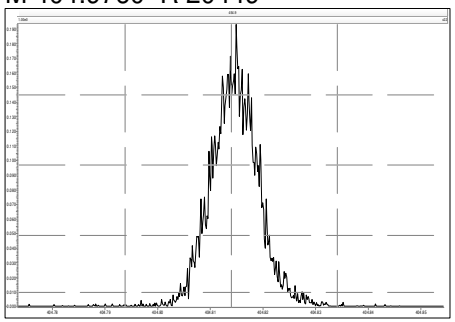
M 380.9760 R 21462



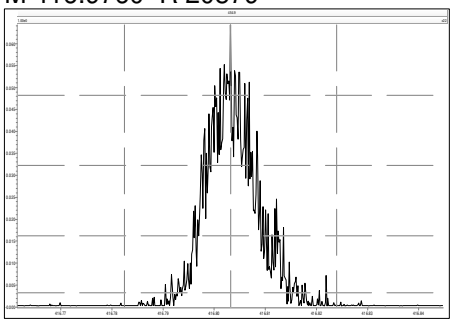
M 392.9760 R 20747



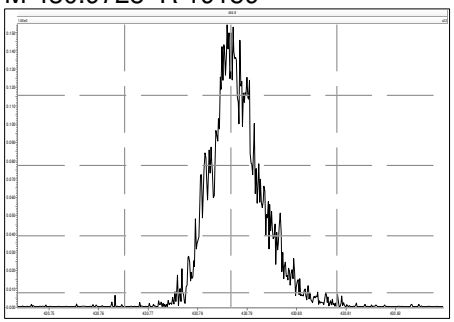
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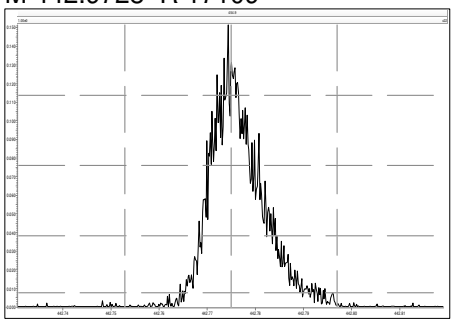
M 416.9760 R 20579



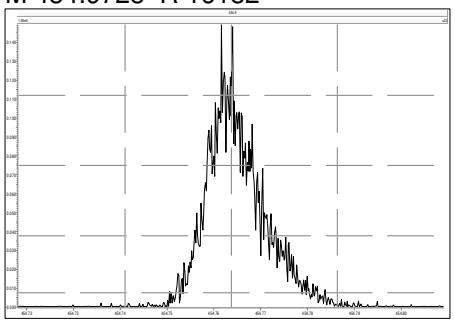
M 430.9728 R 19159



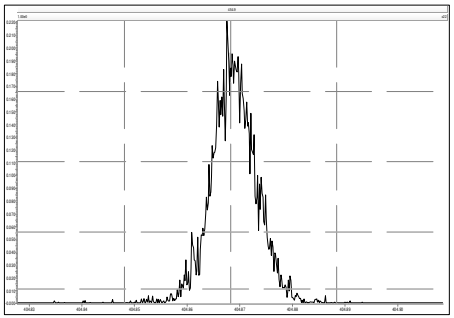
M 442.9728 R 17109



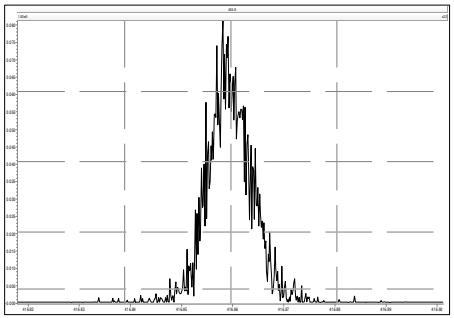
M 454.9728 R 16182



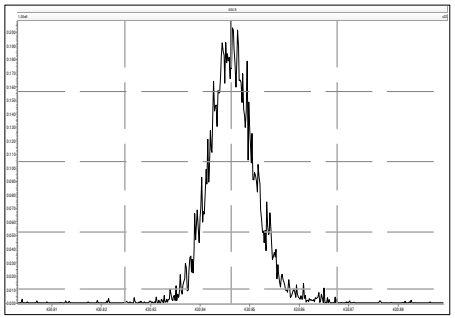
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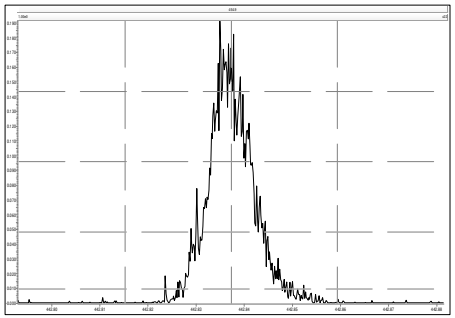
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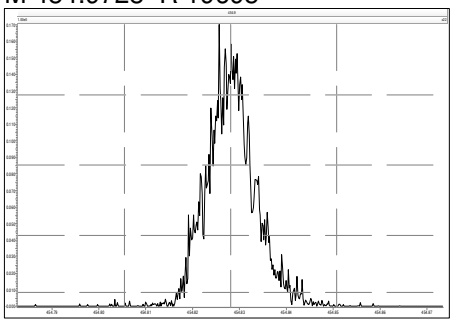
M 430.9728 R 21740



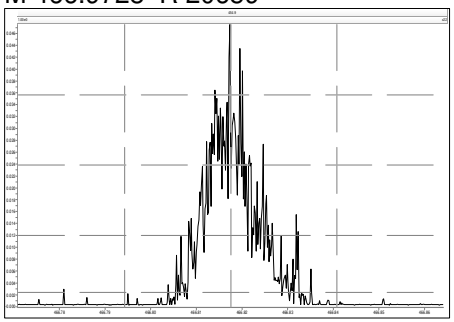
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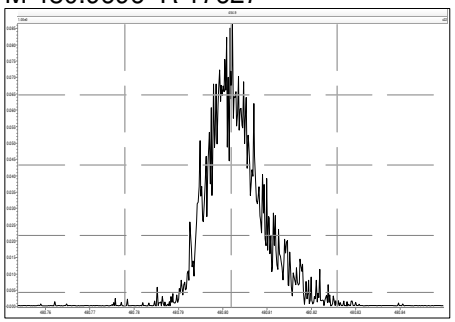
M 454.9728 R 19695



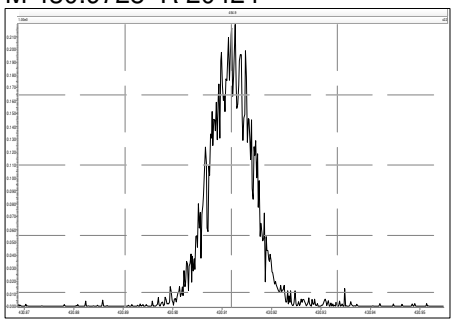
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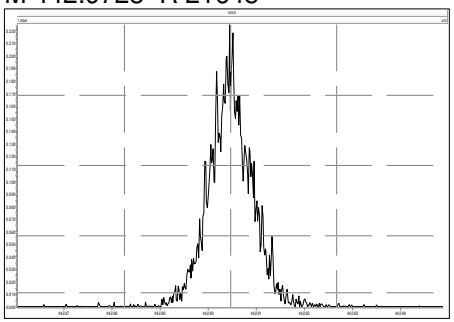
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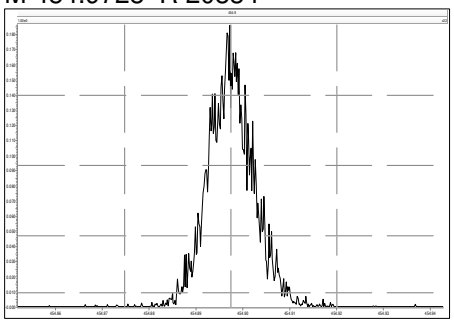
M 430.9728 R 20424



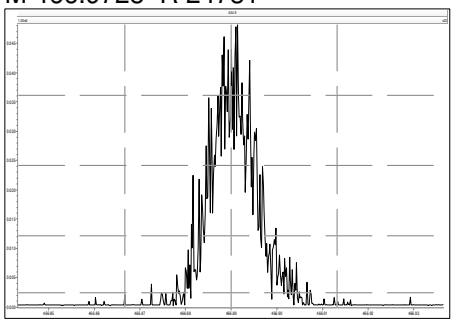
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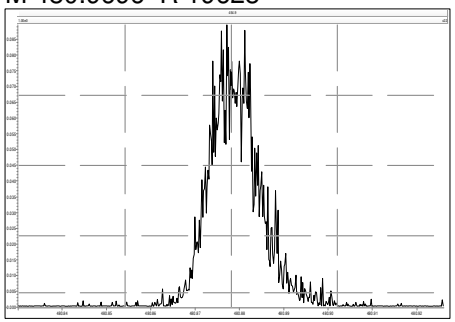
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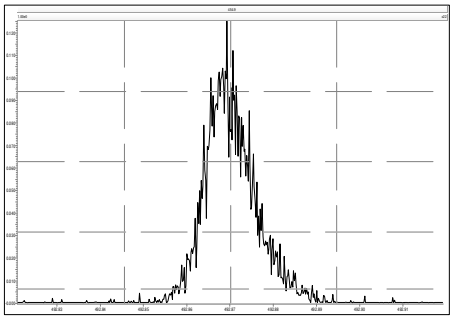
M 466.9728 R 24731



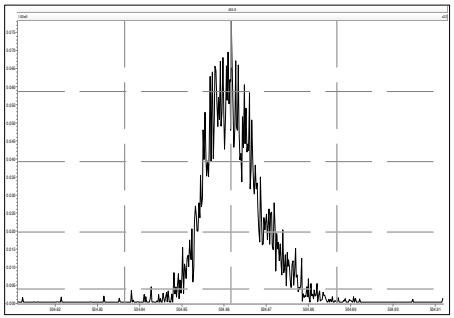
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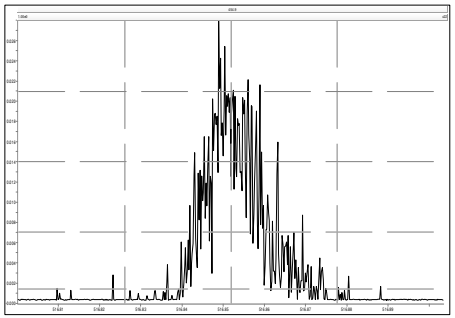
M 492.9696 R 19521



M 504.9696 R 18295



M 516.9697 R 20584



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

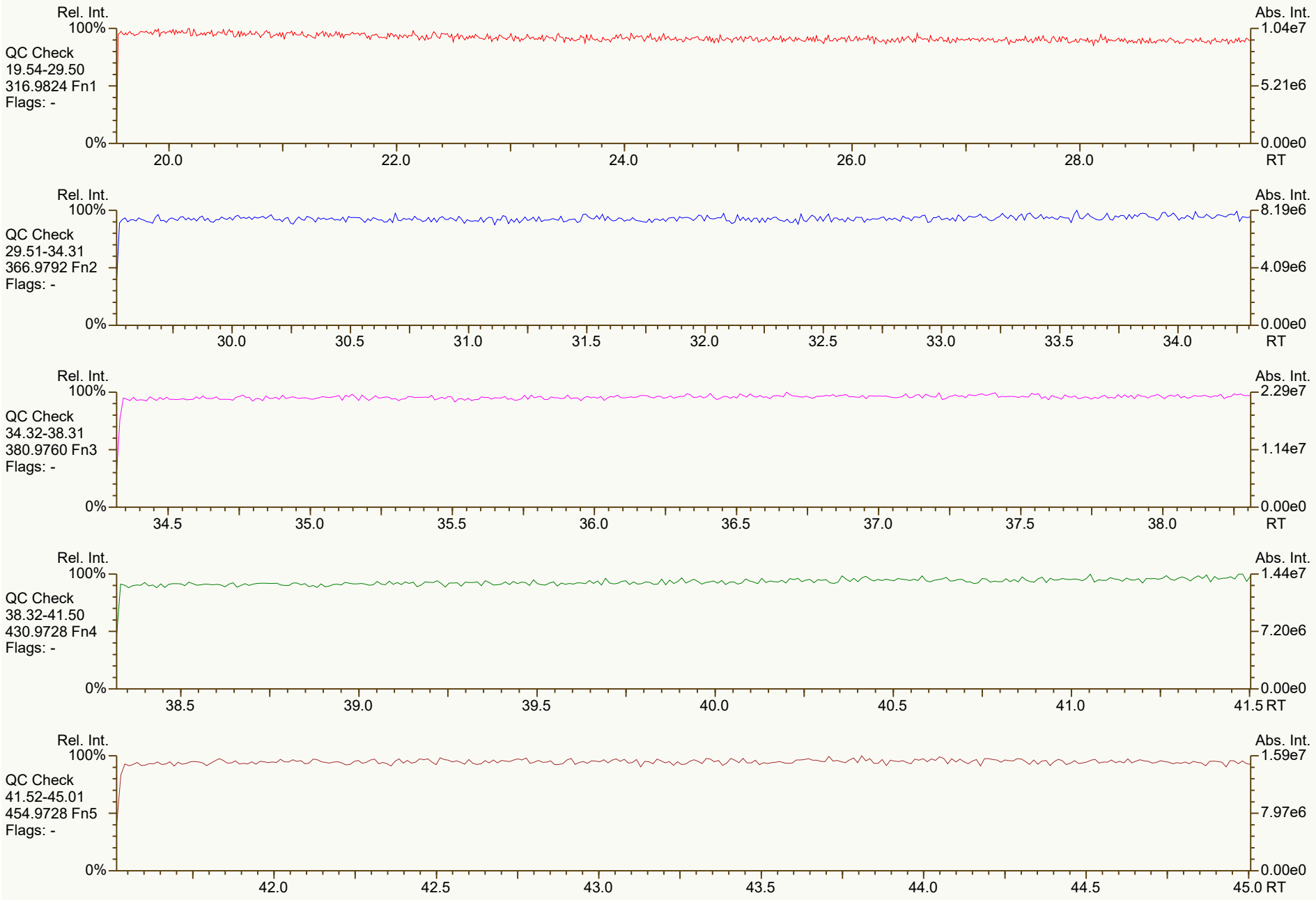
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

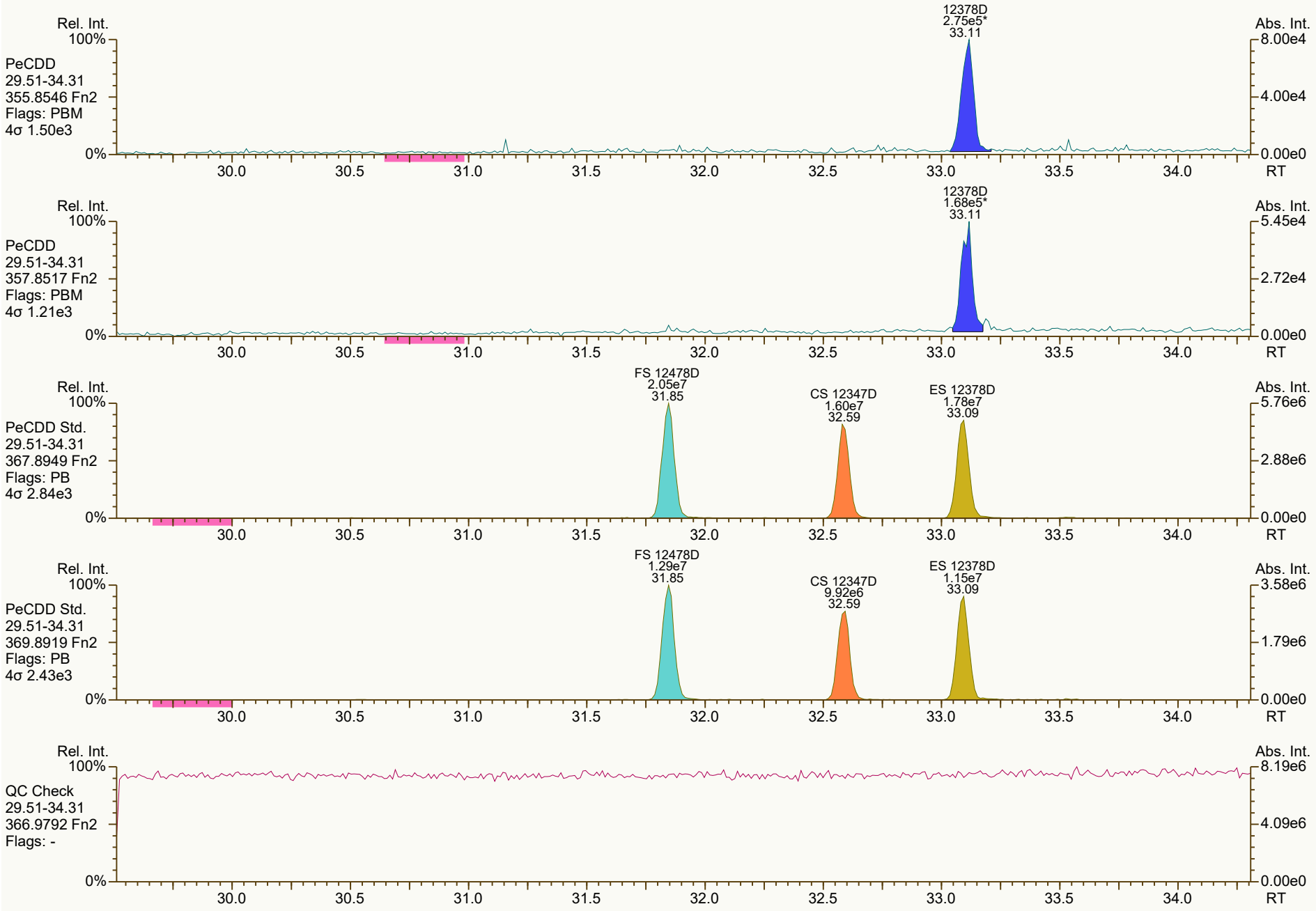
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

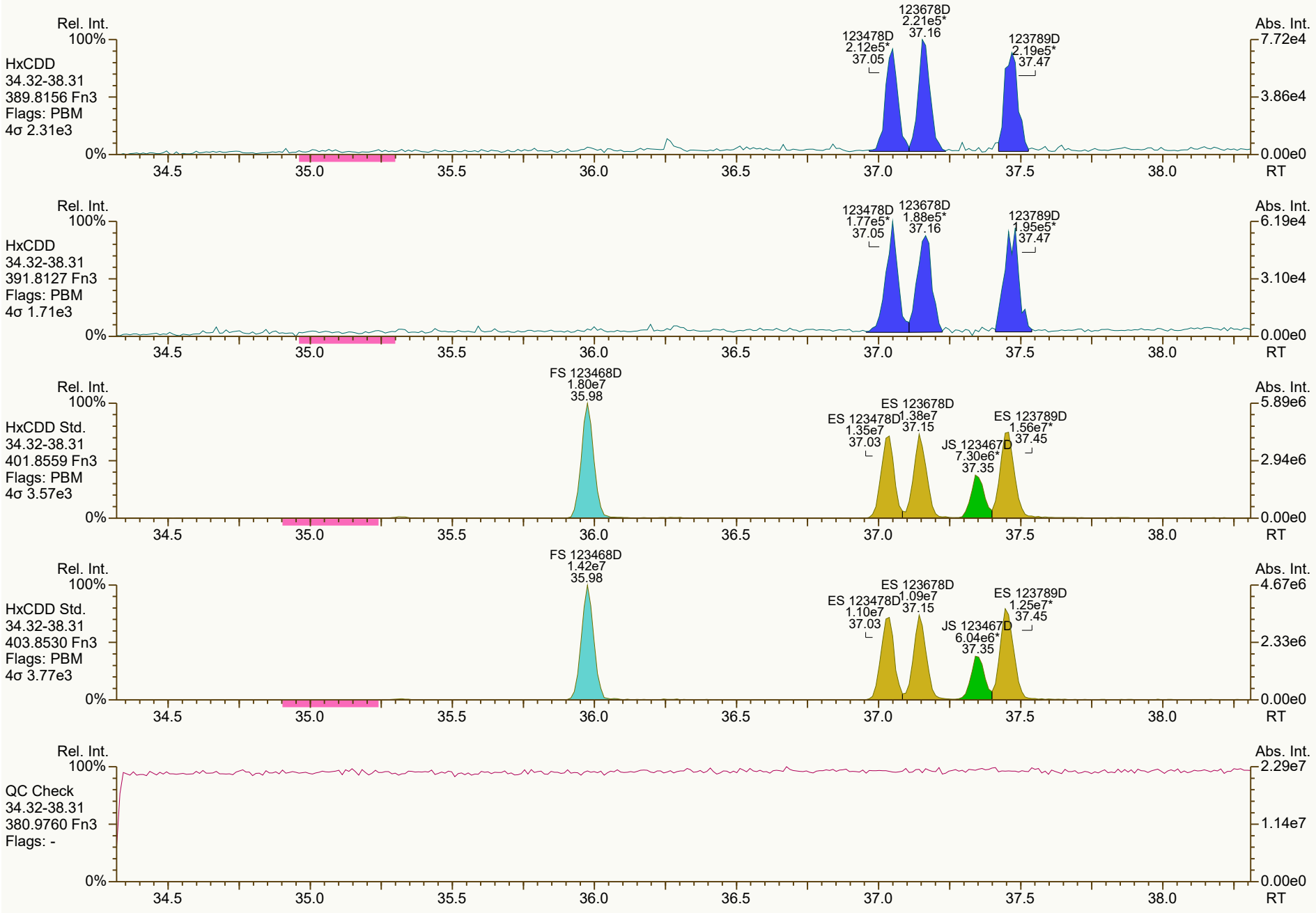
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

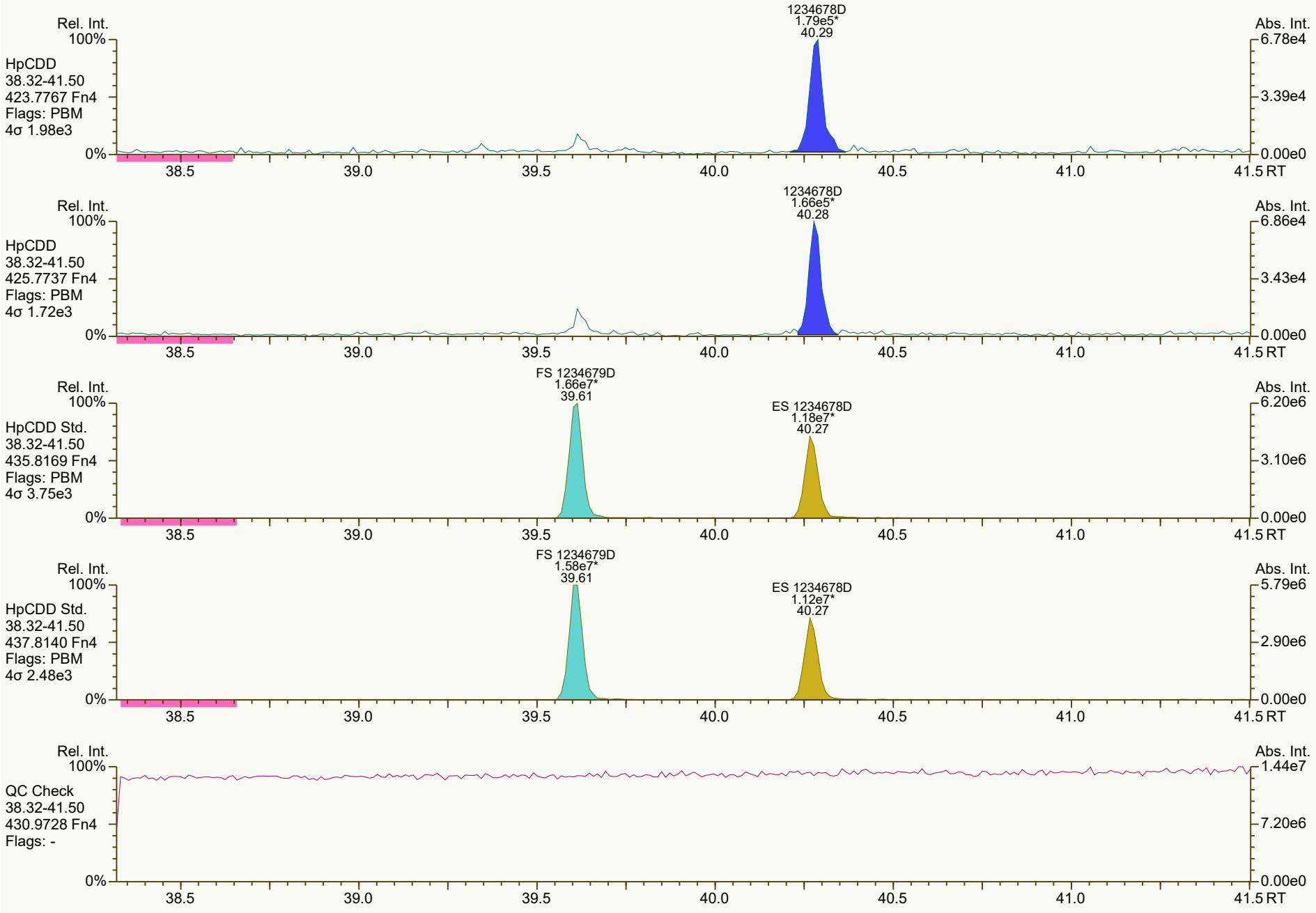
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

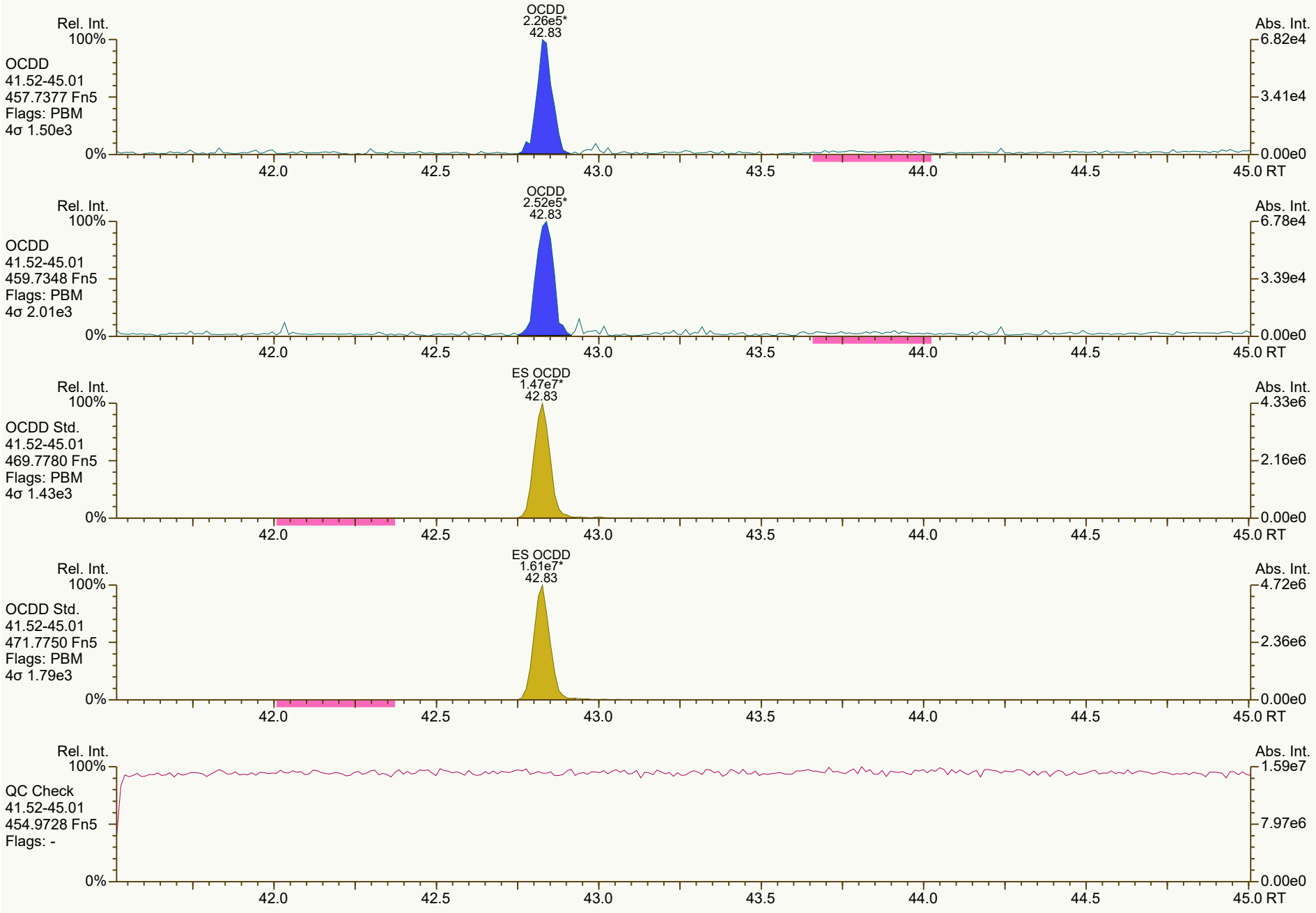

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

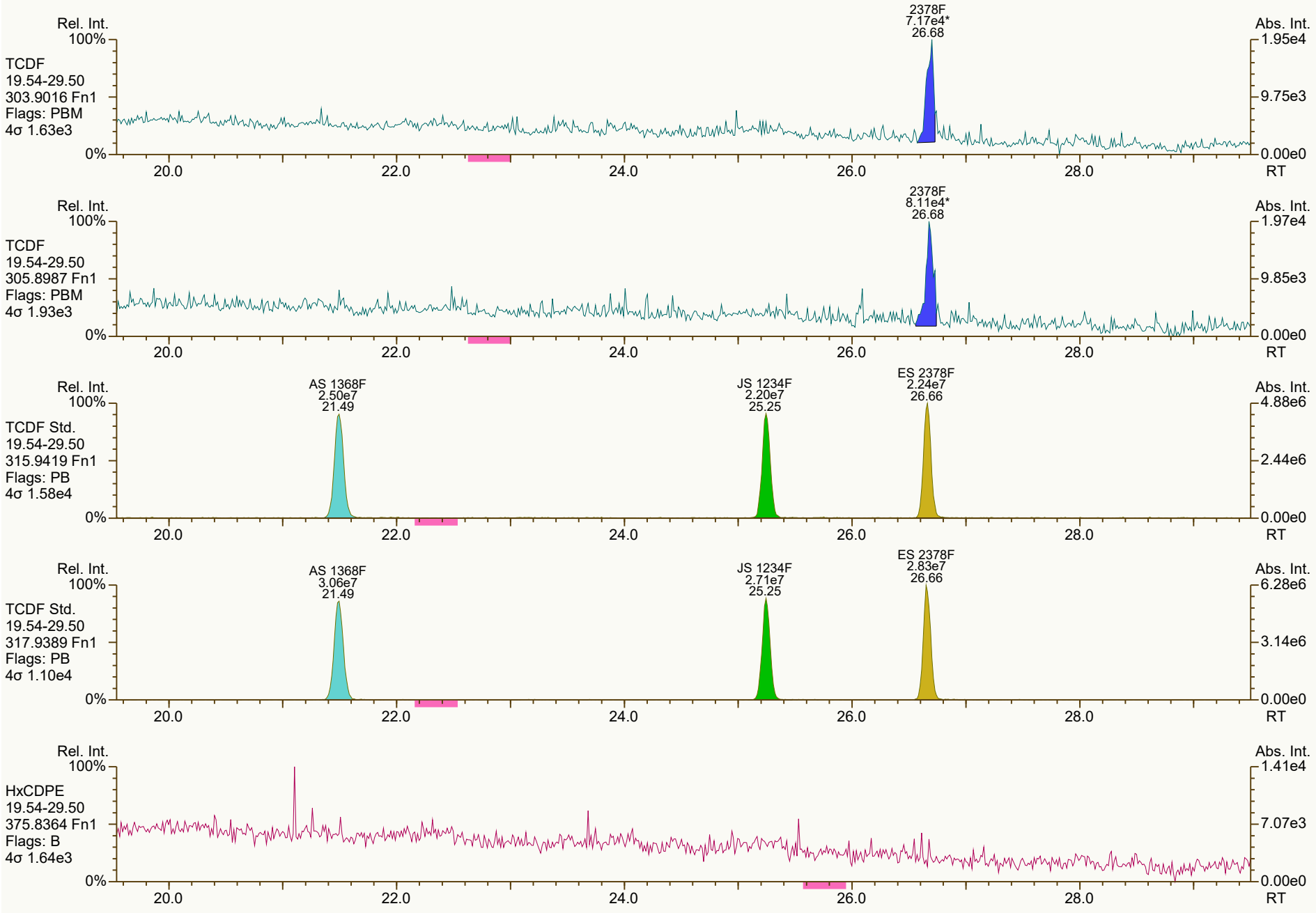

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
2378D
5.29e4*
27.60
1.67e4
8.35e3
0.00e0
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

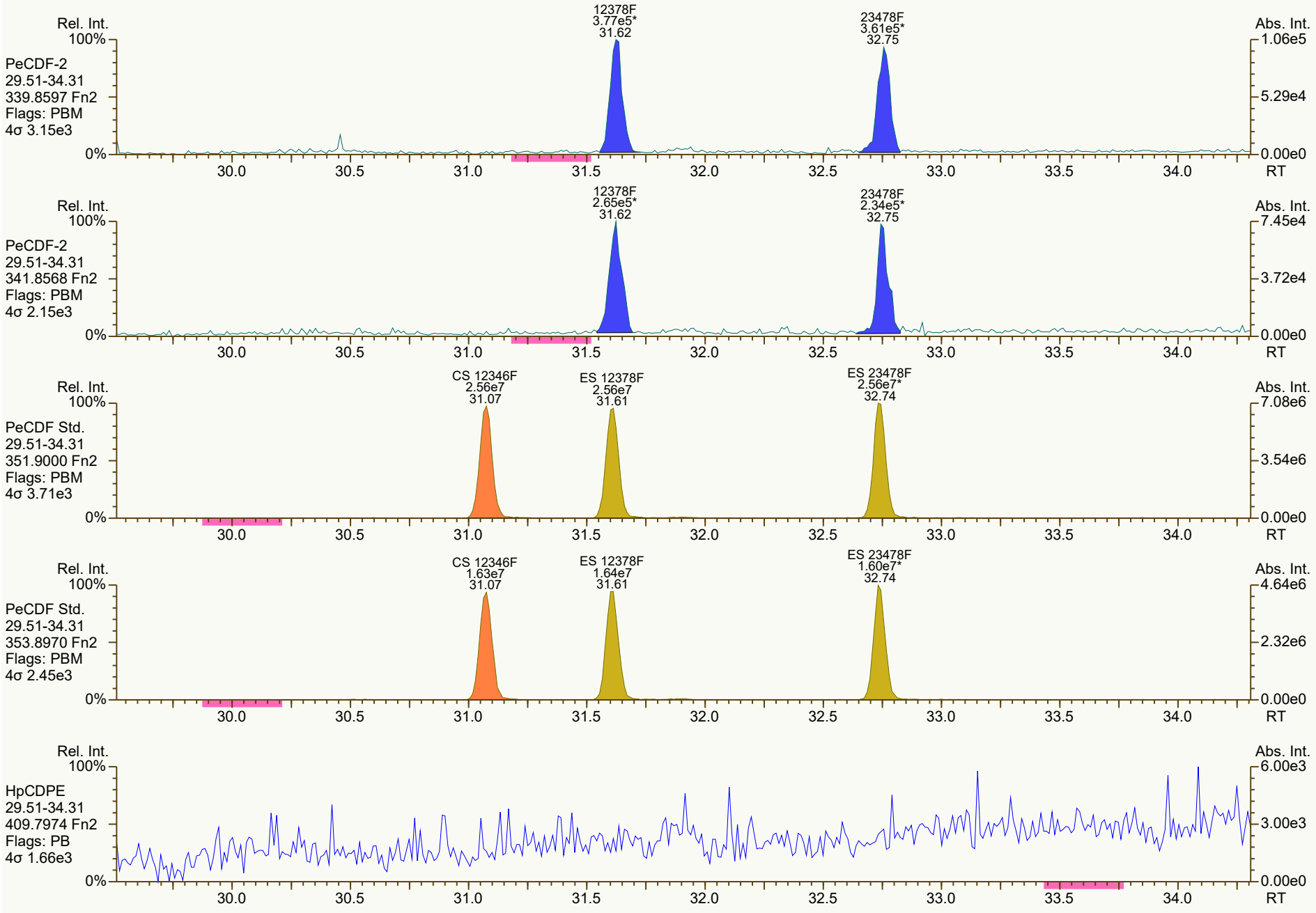

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

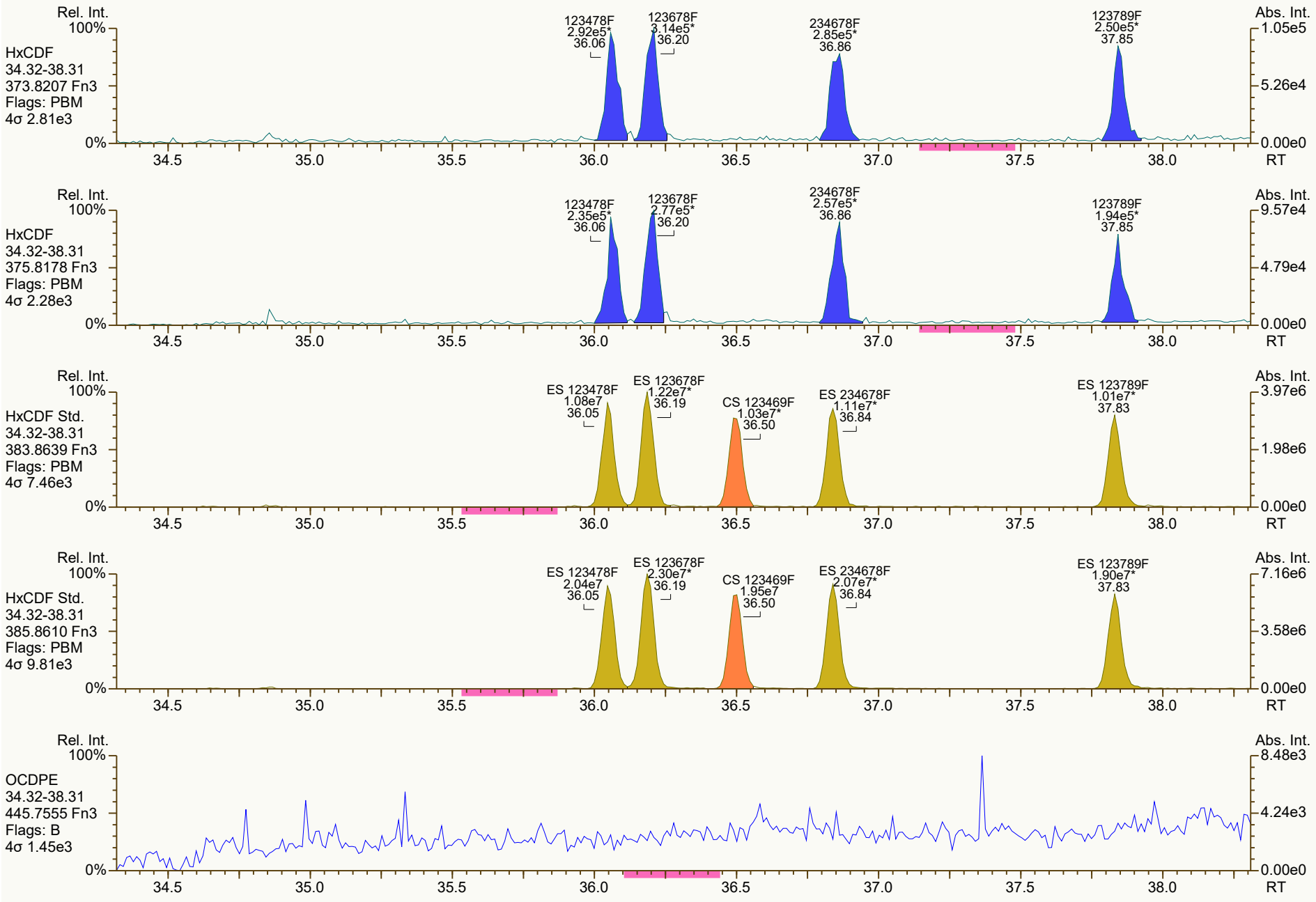

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

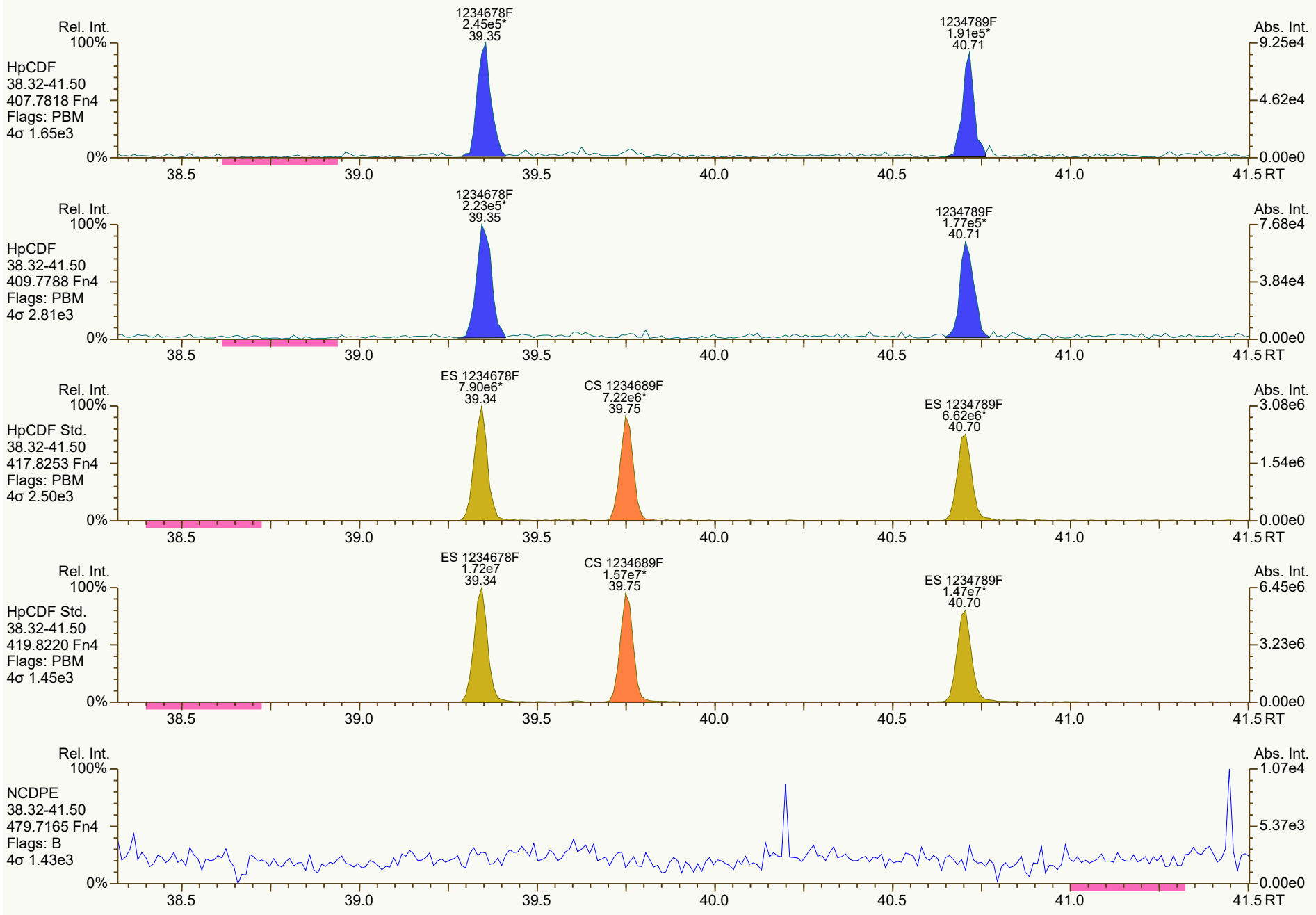
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

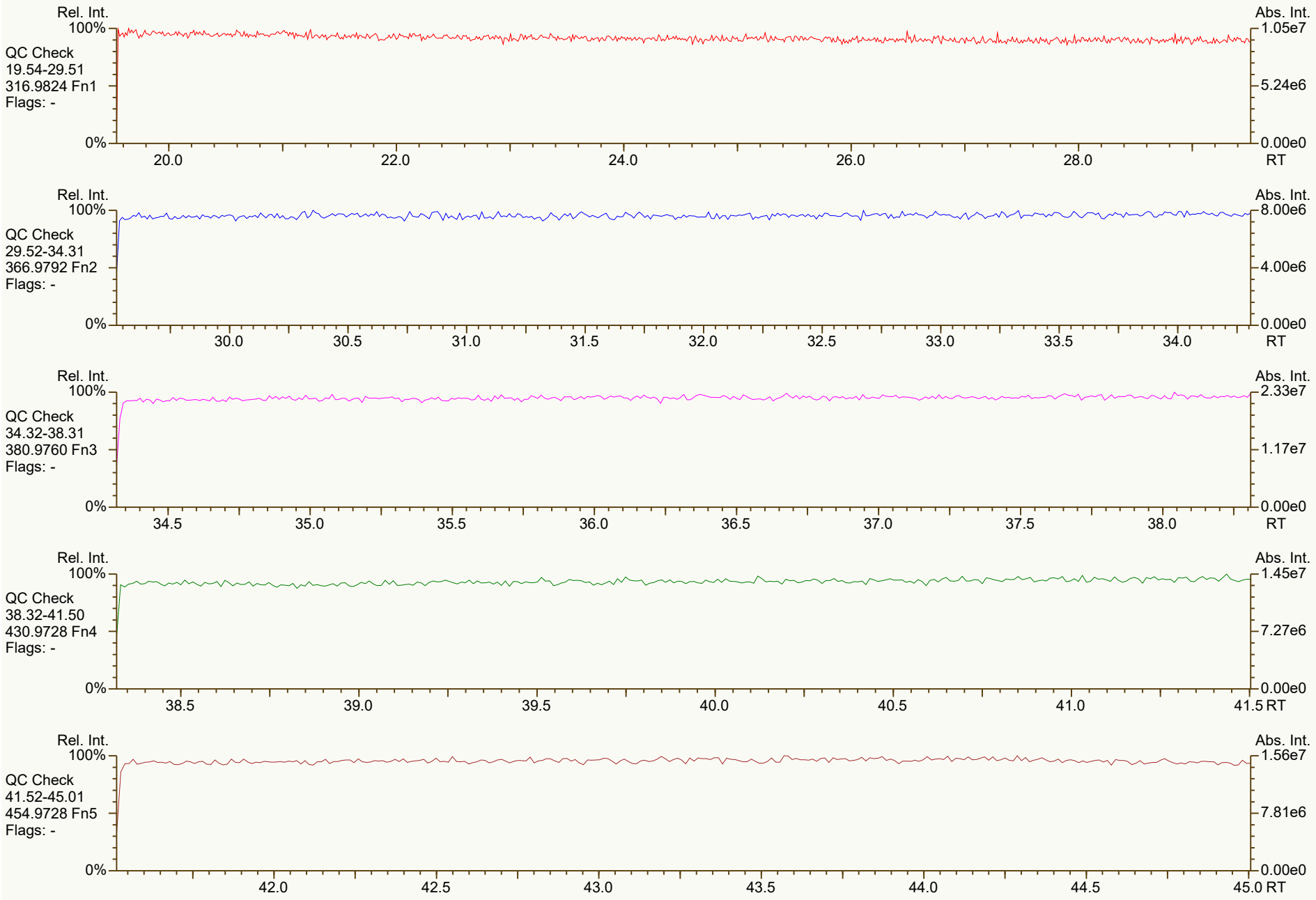

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

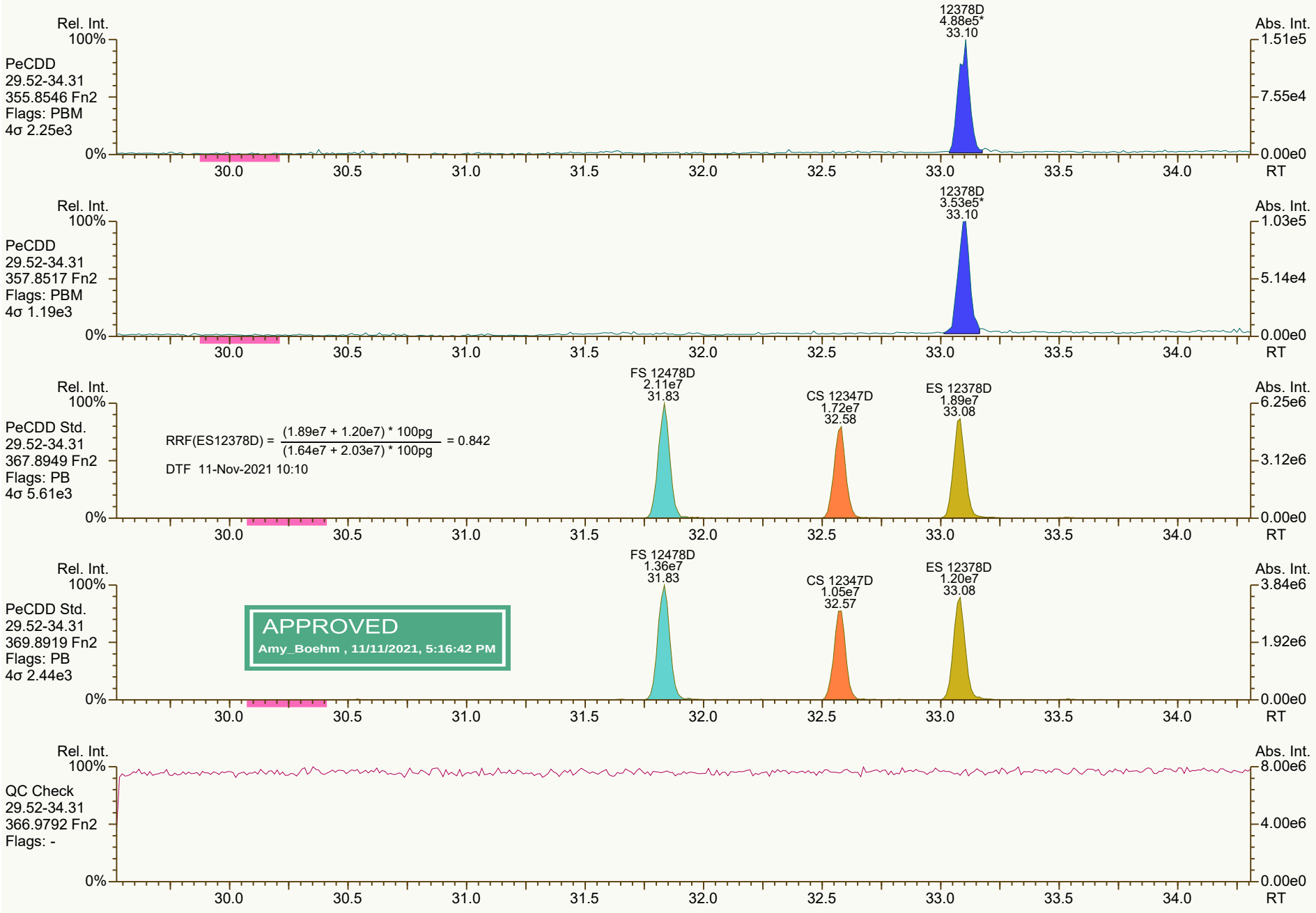

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

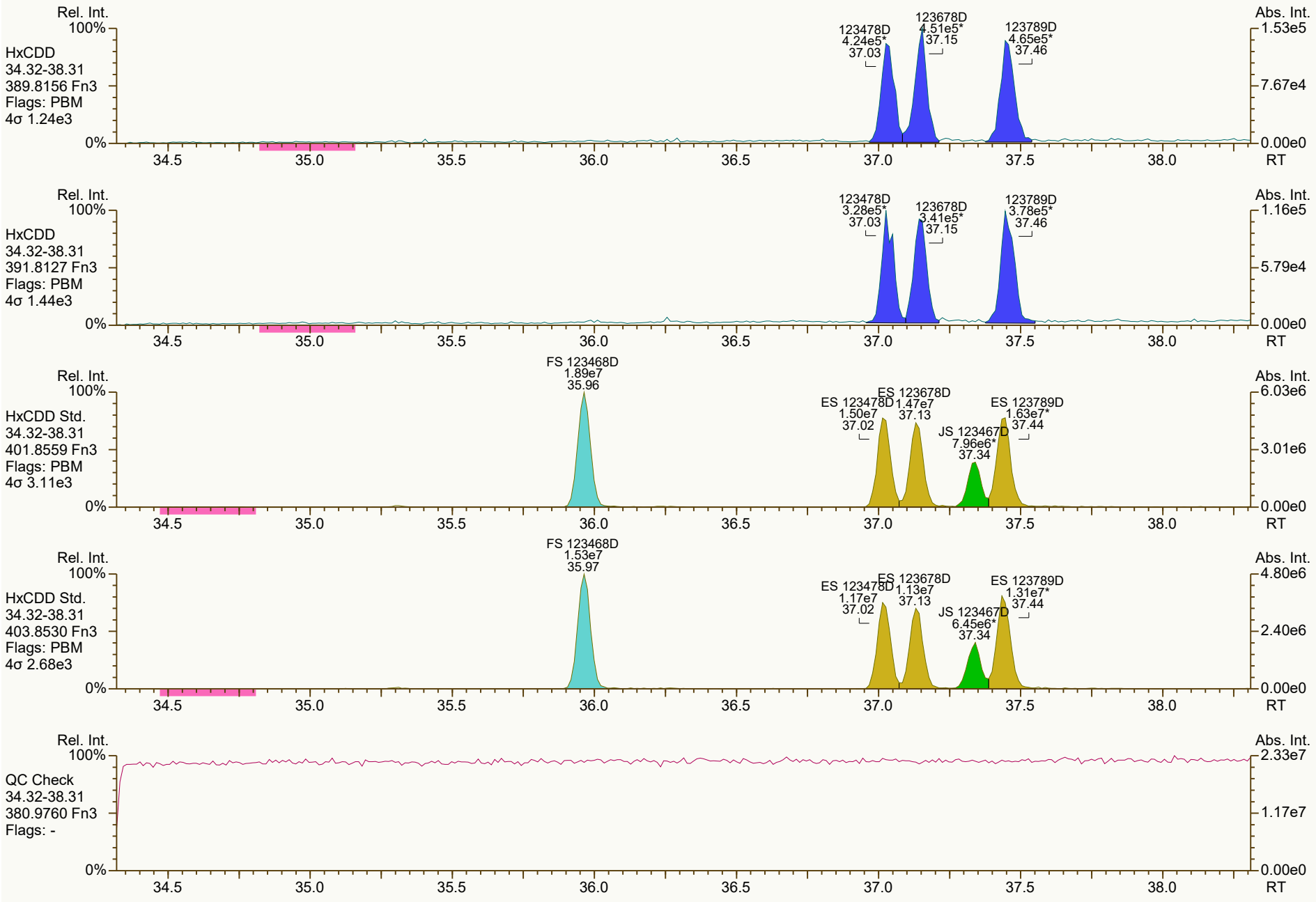
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

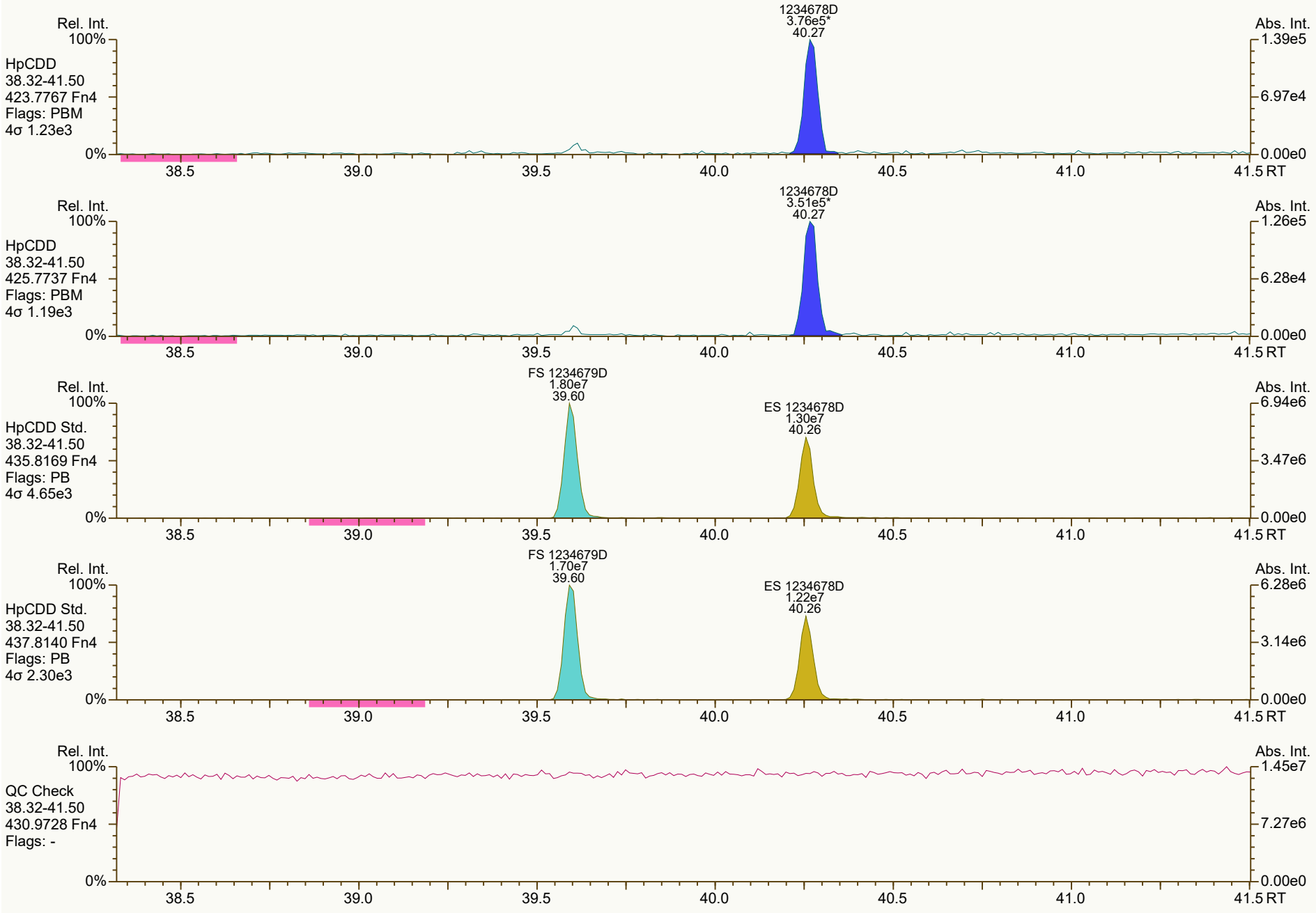
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

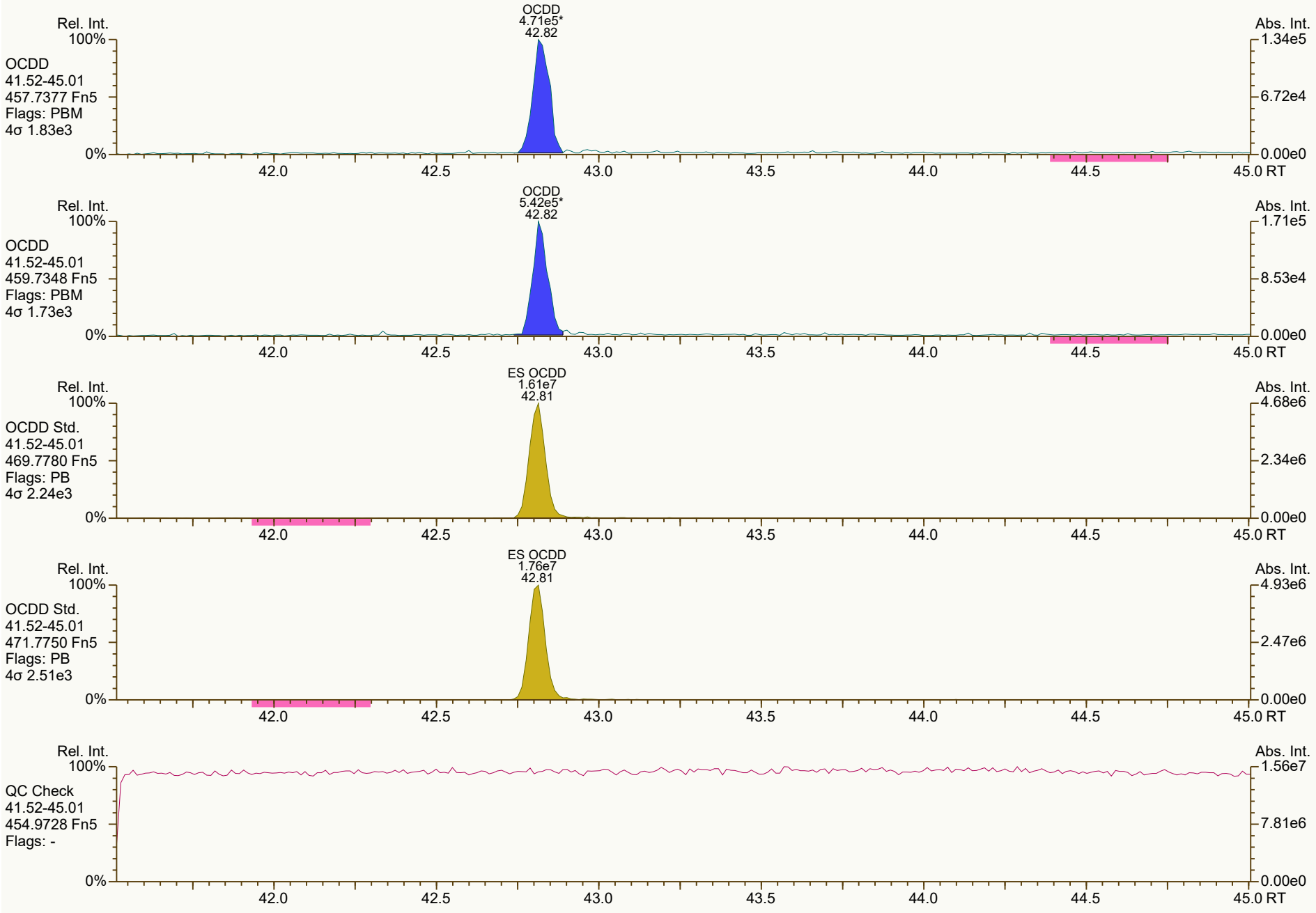

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

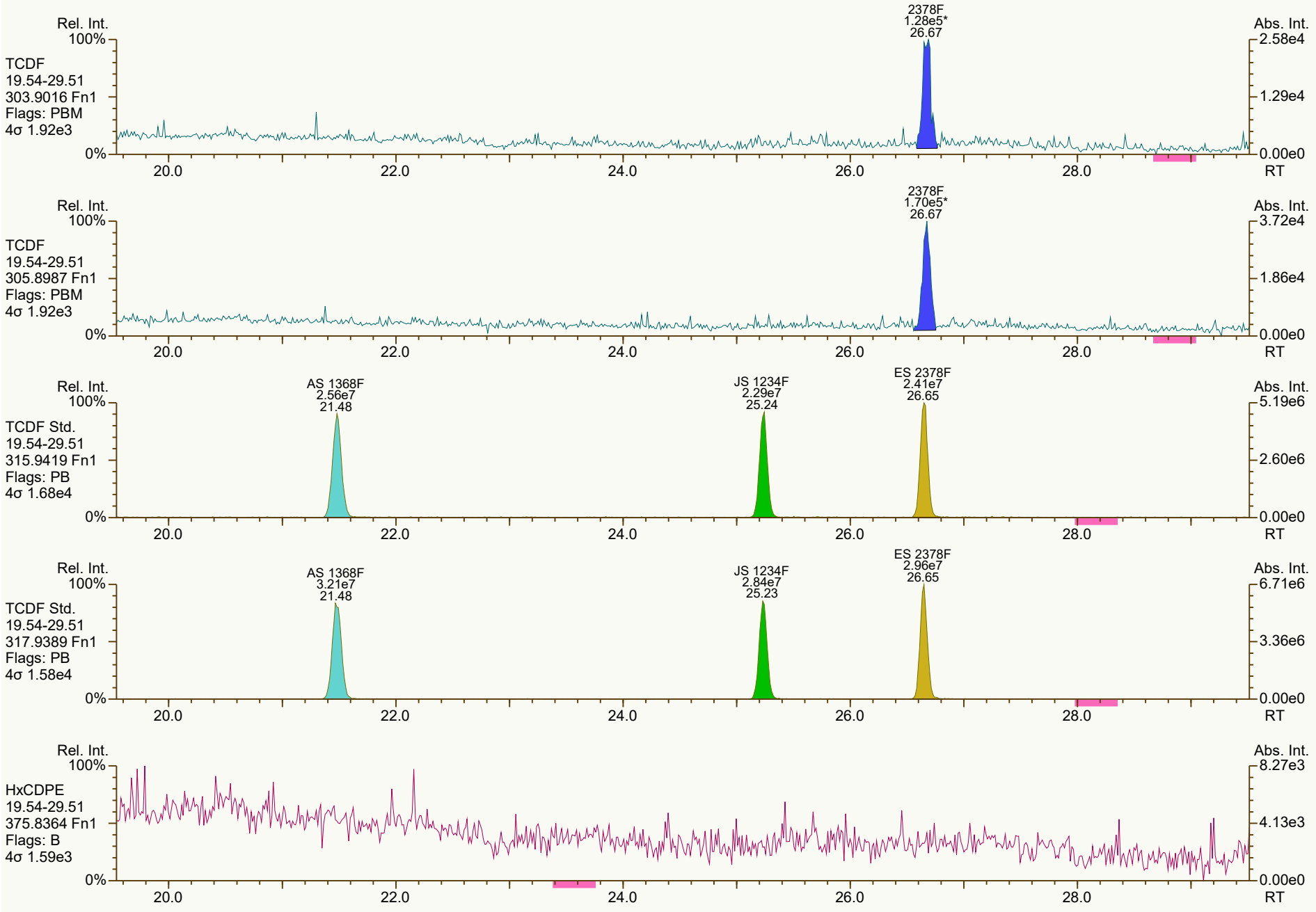

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

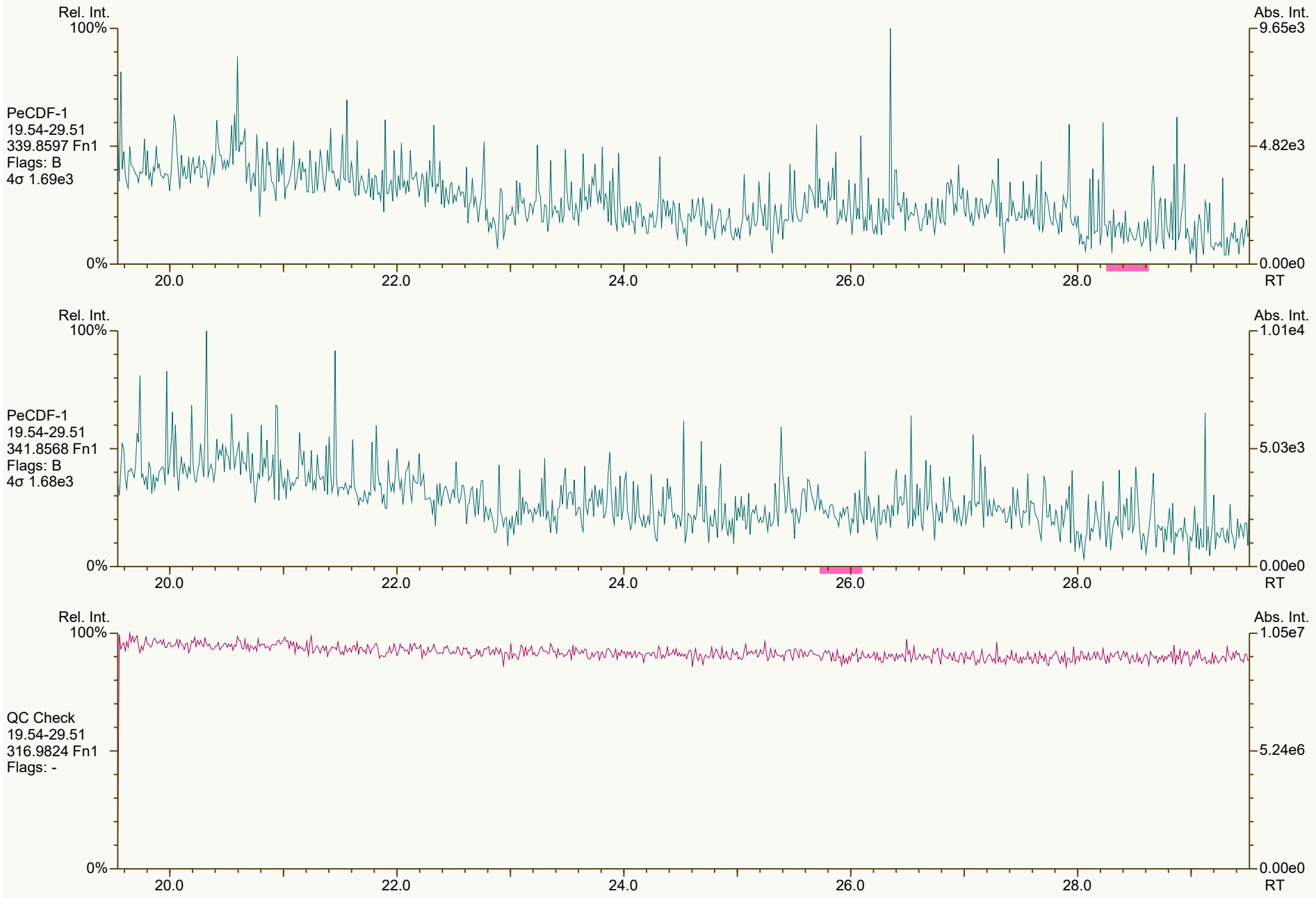

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

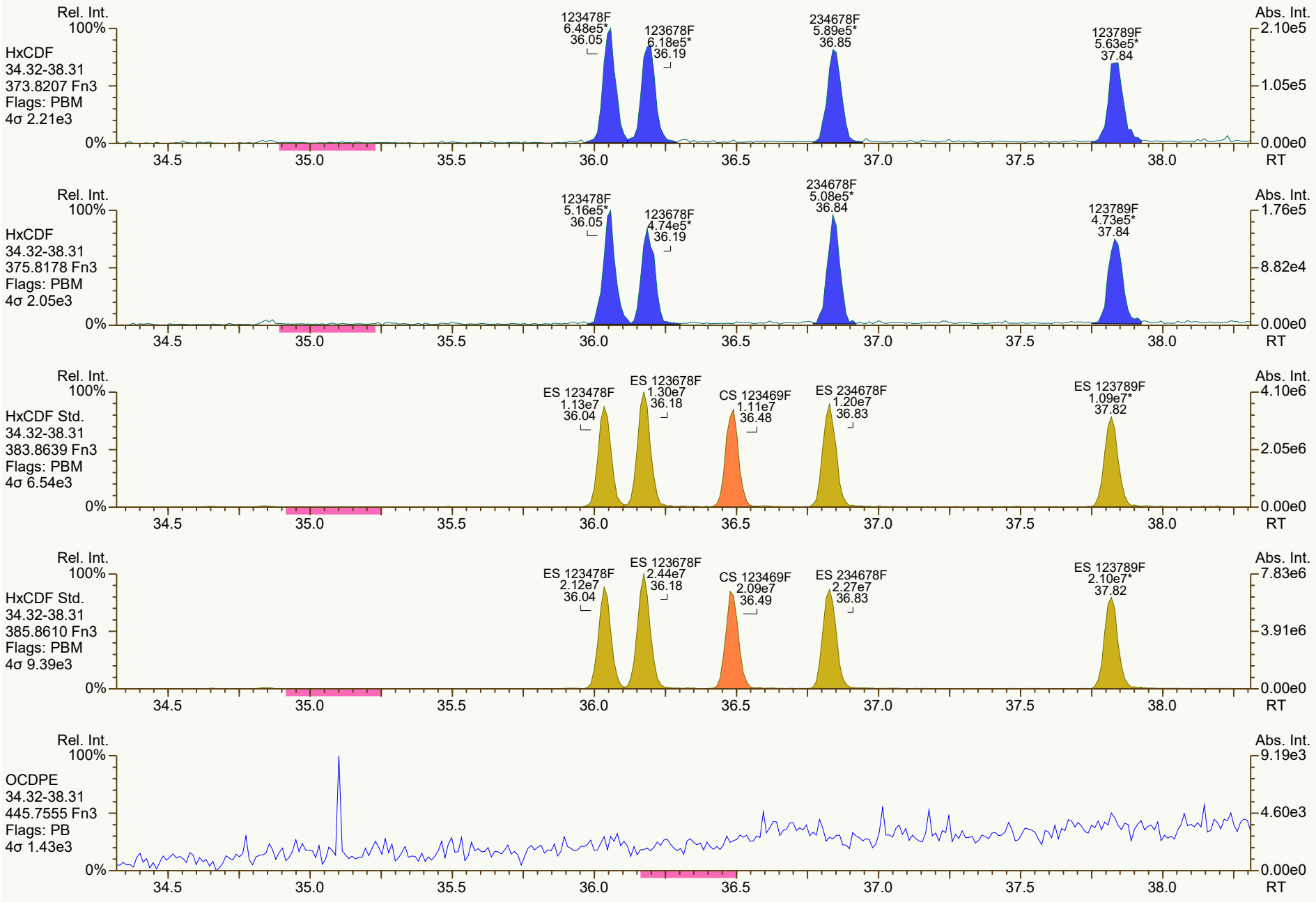

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

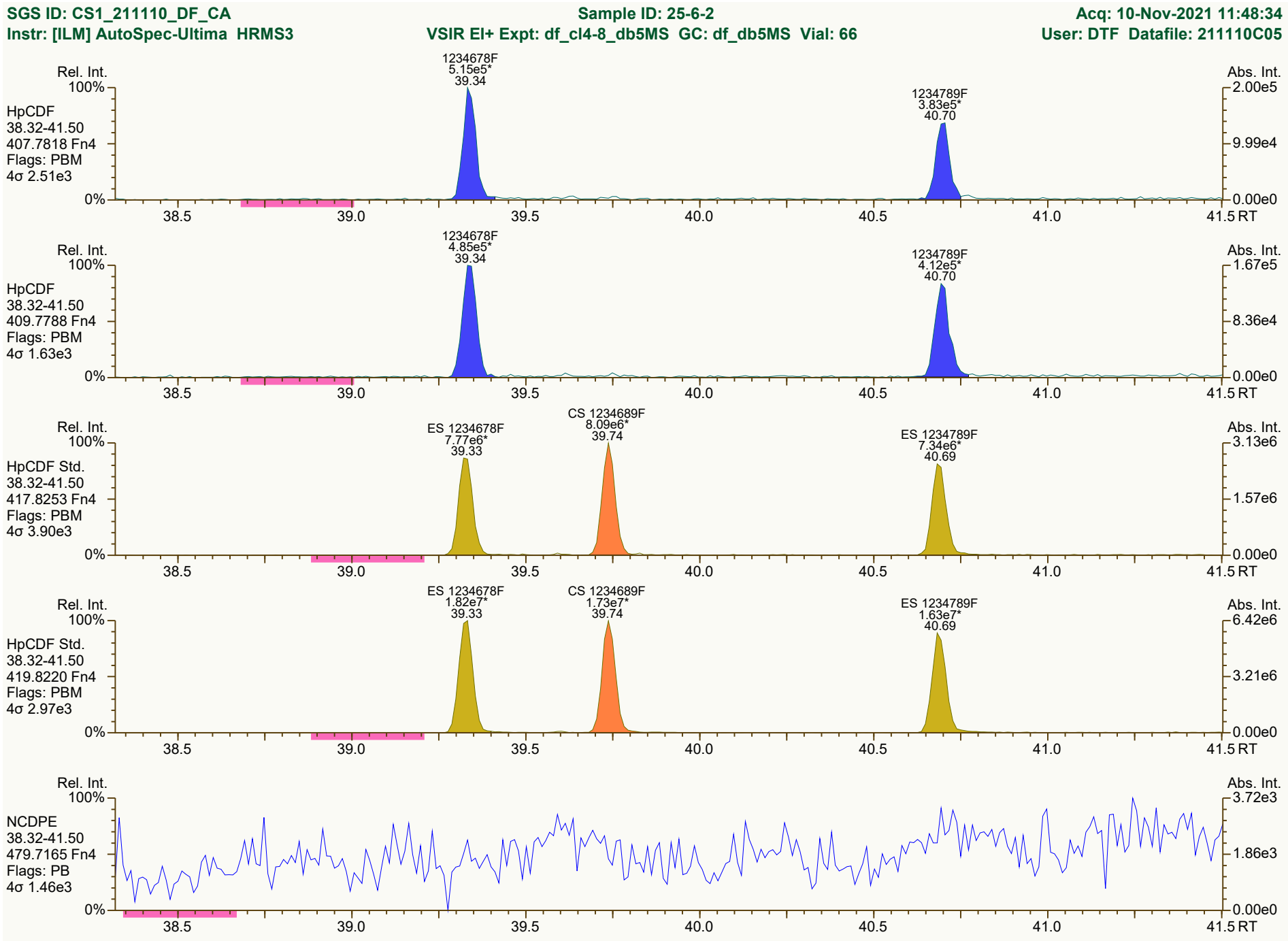

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

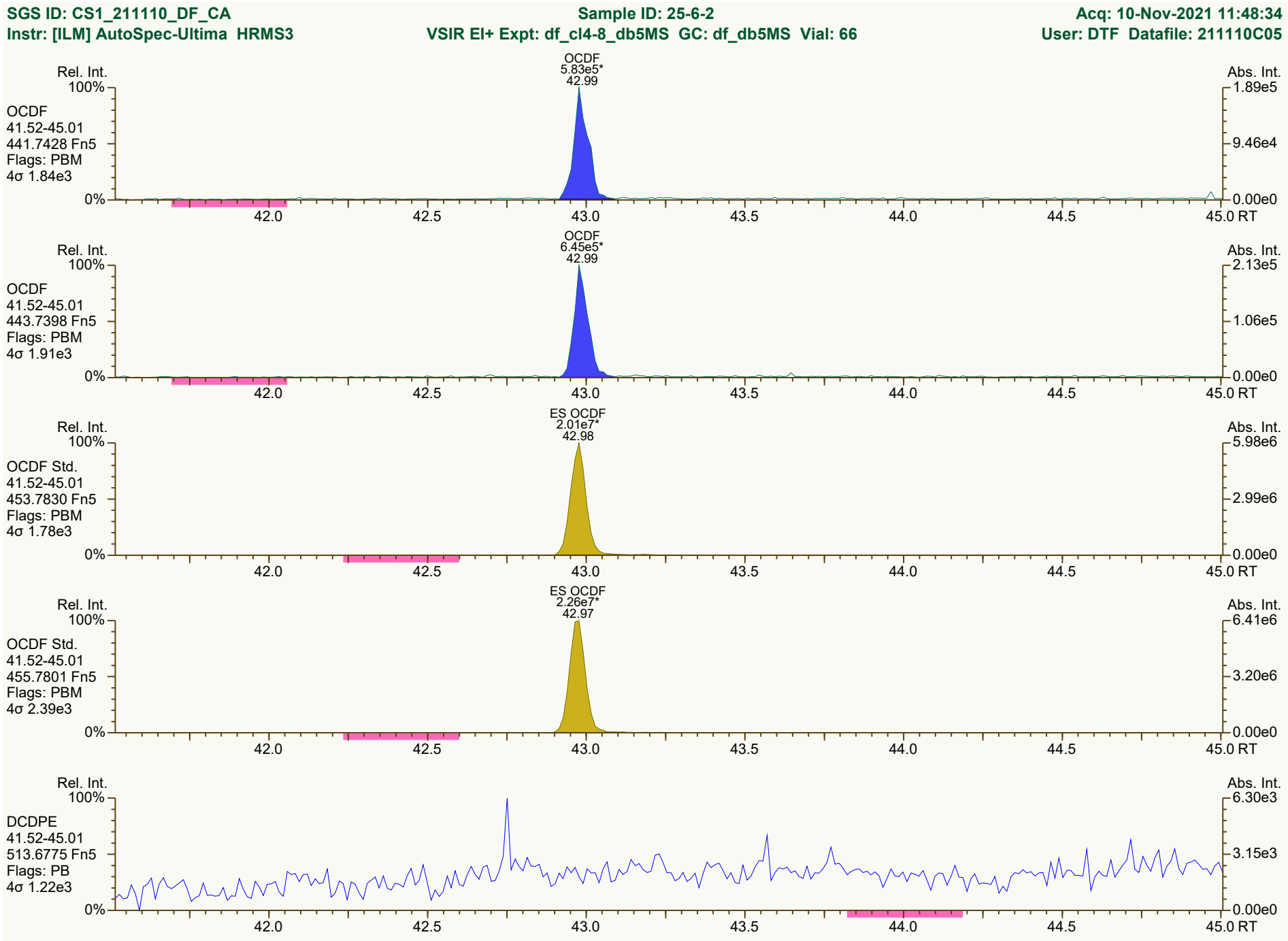

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

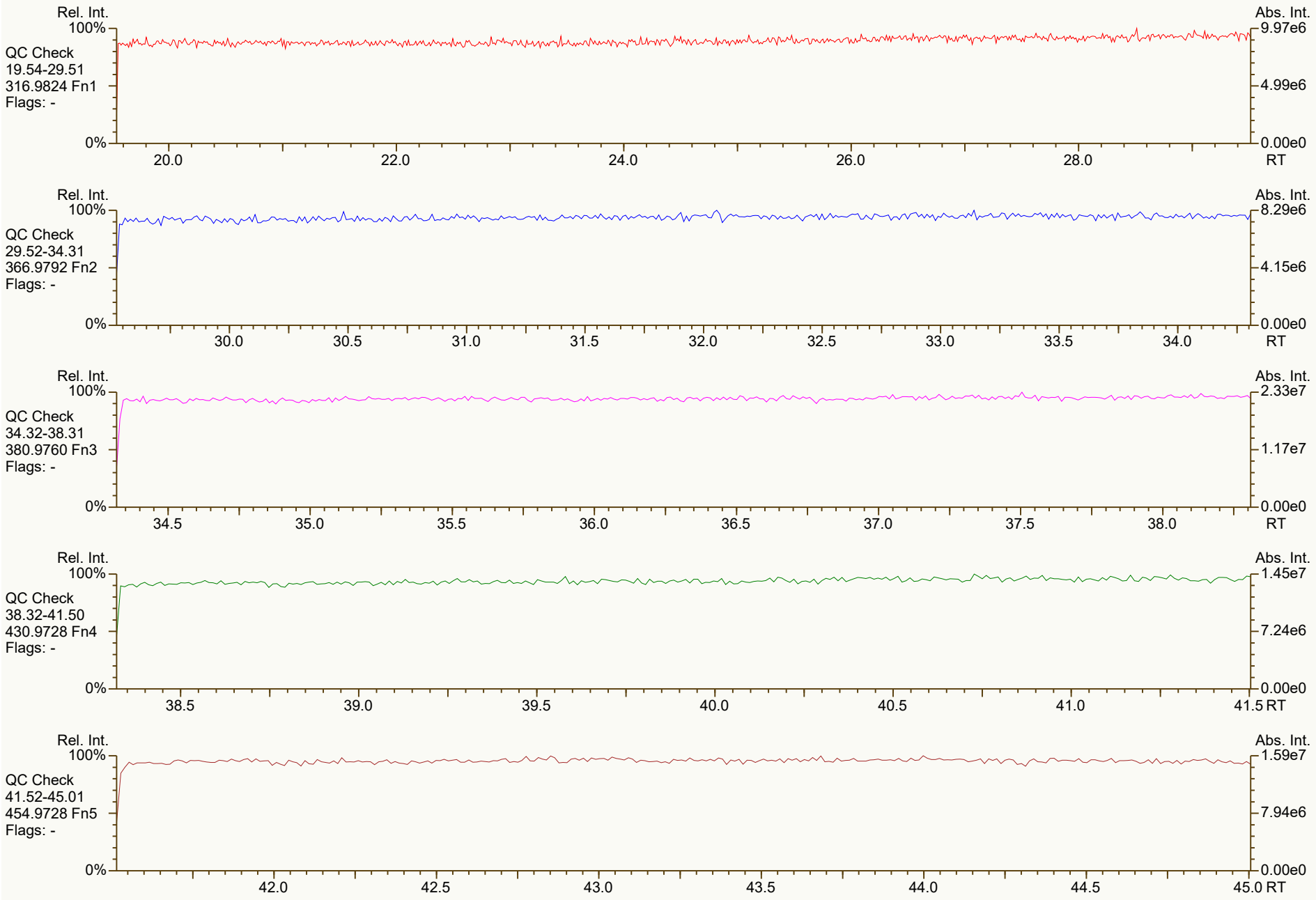

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
OCDF
5.83e5*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
1.89e5
9.46e4
0.00e0
OCDF
6.45e5*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
2.13e5
1.06e5
0.00e0
ES OCDF
2.01e7*
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
5.98e6
2.99e6
0.00e0
ES OCDF
2.26e7*
42.97
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
6.41e6
3.20e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
6.30e3
3.15e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1506, 2210, 2191 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

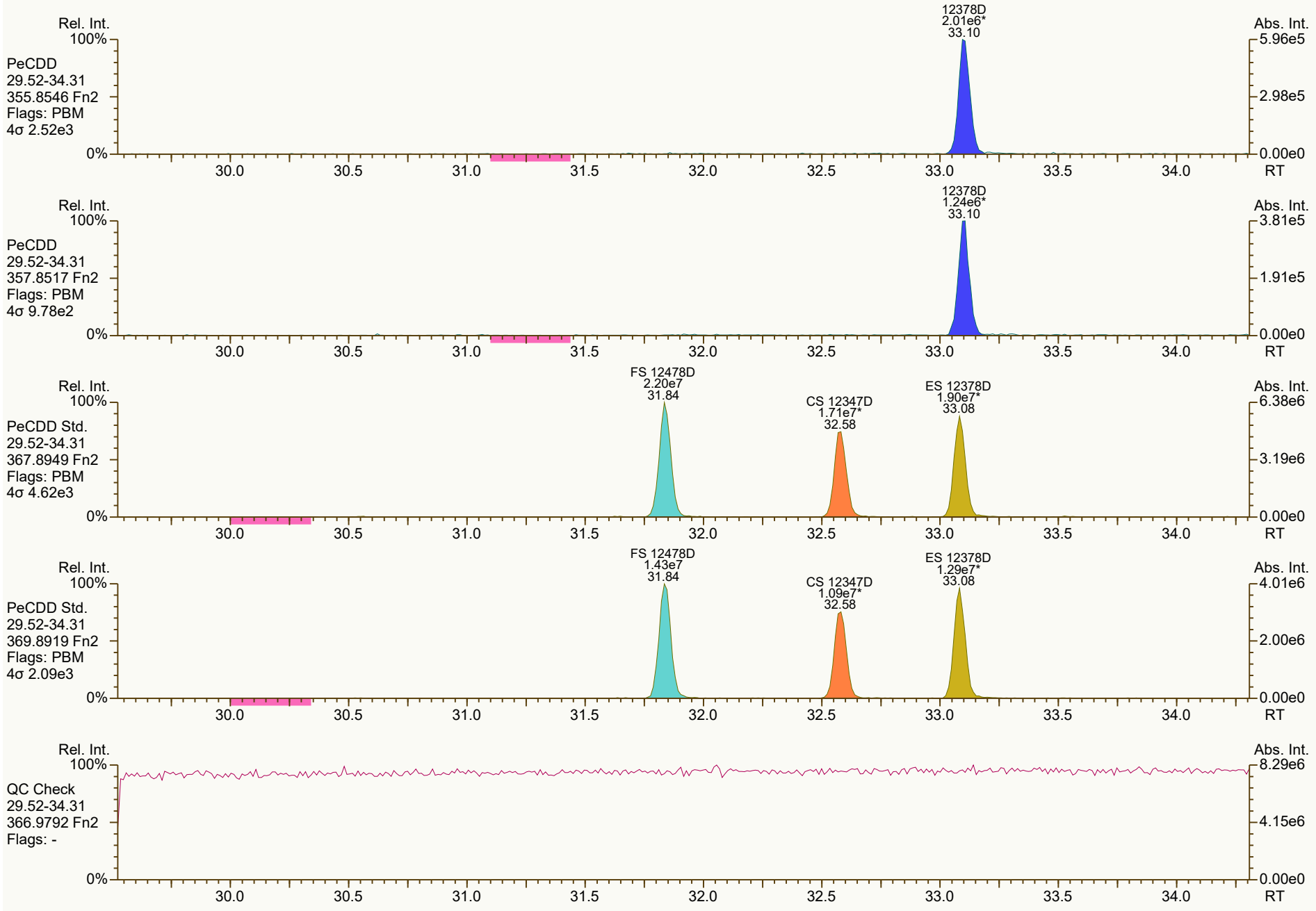
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

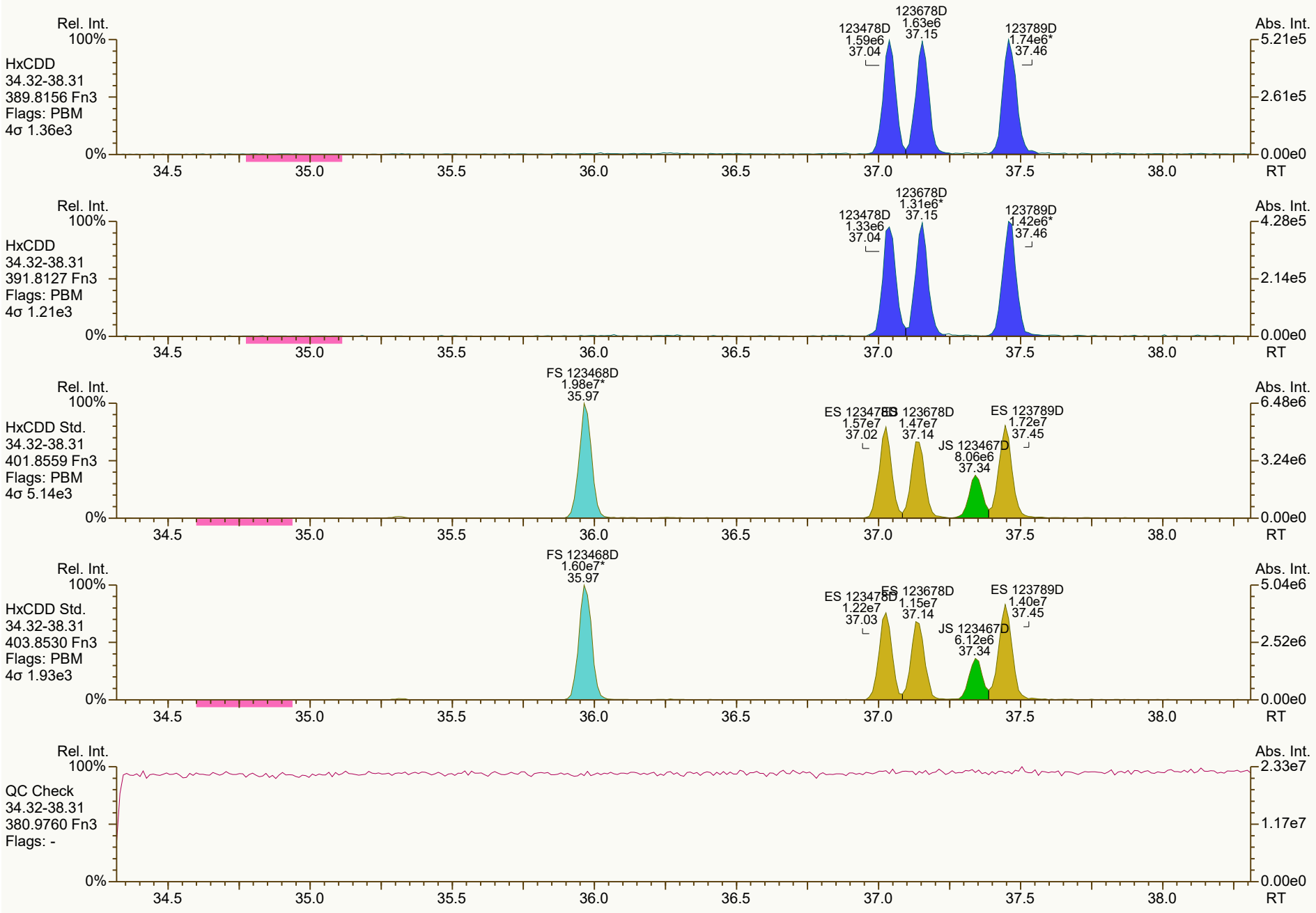
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

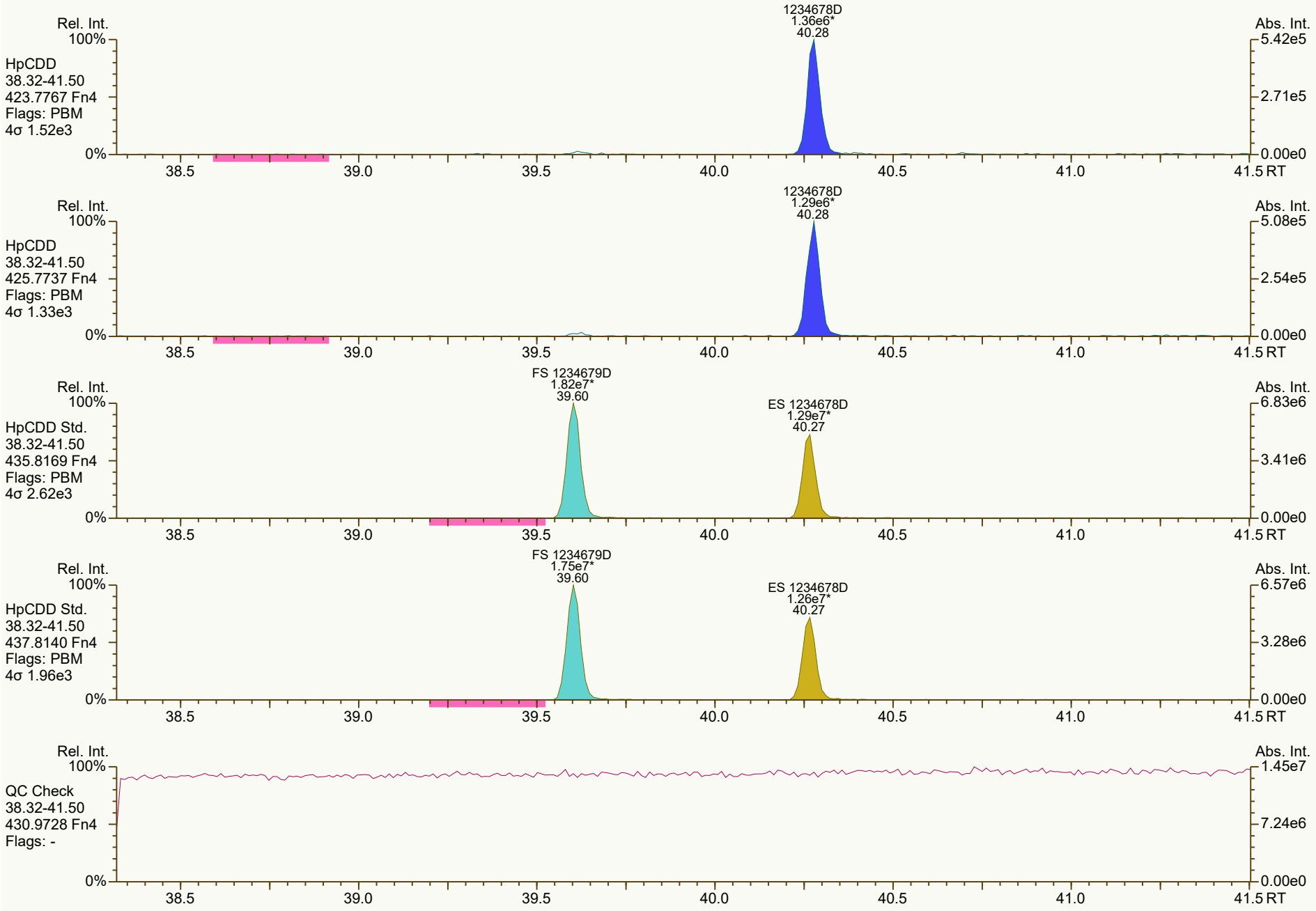
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

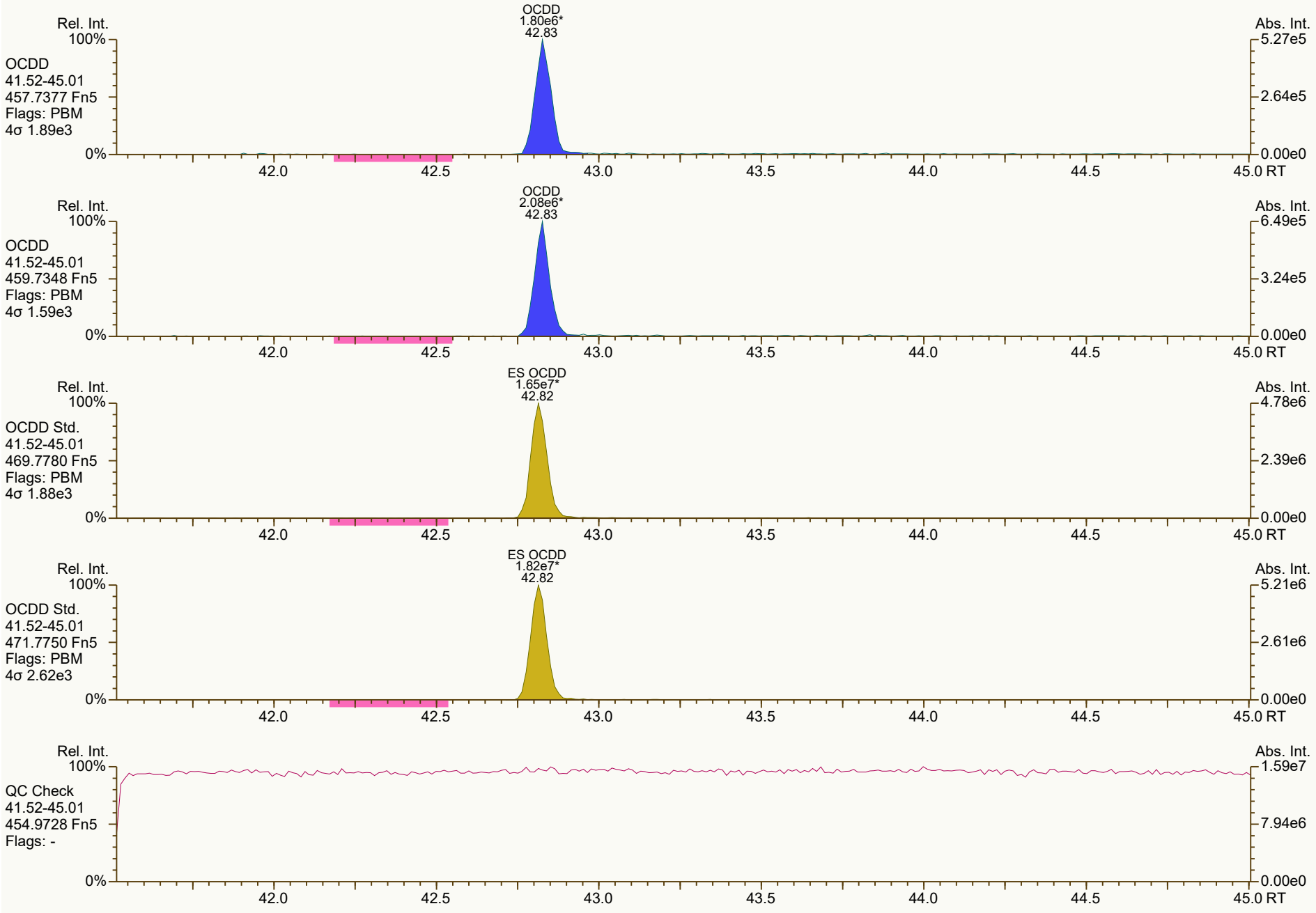

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

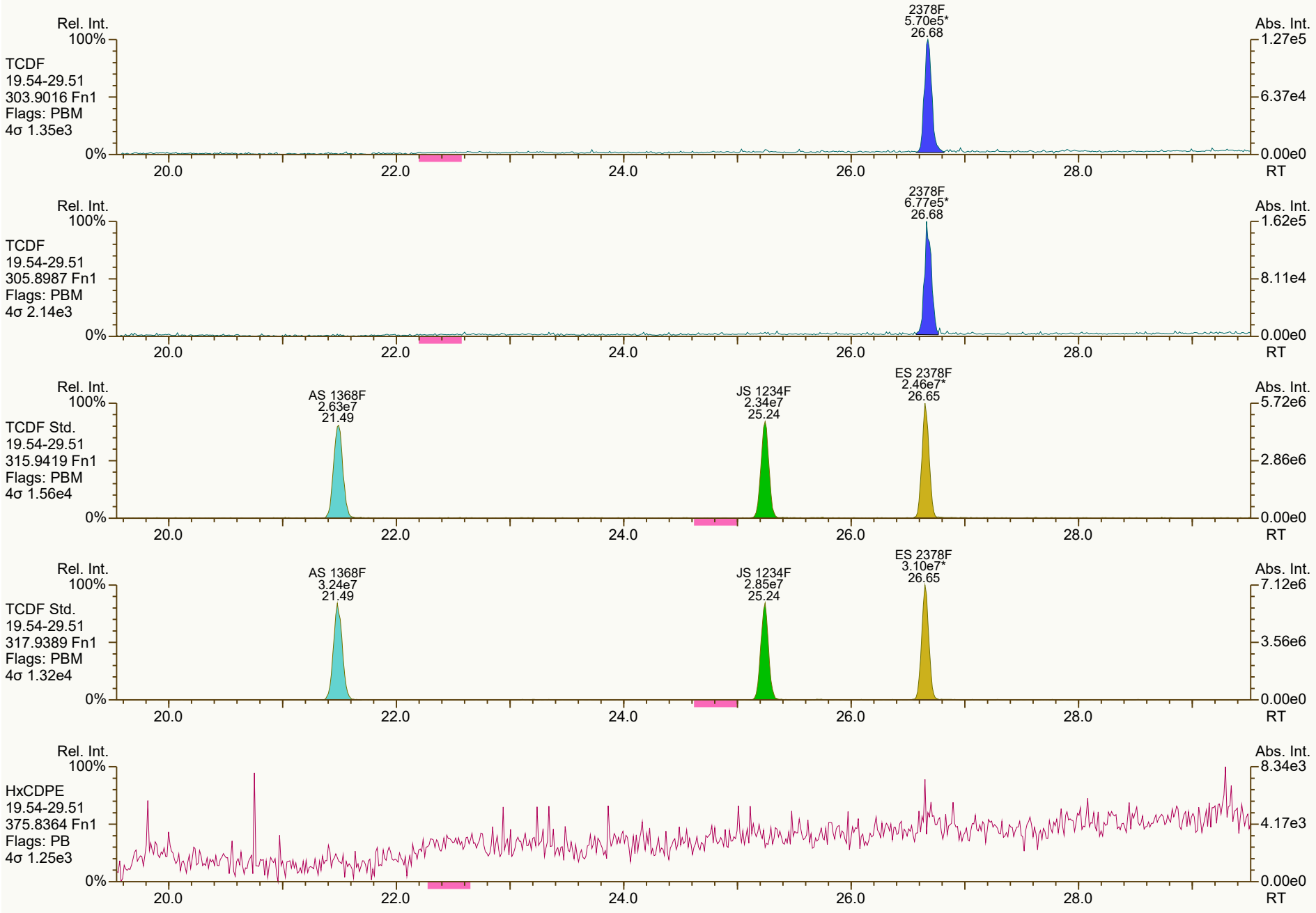

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

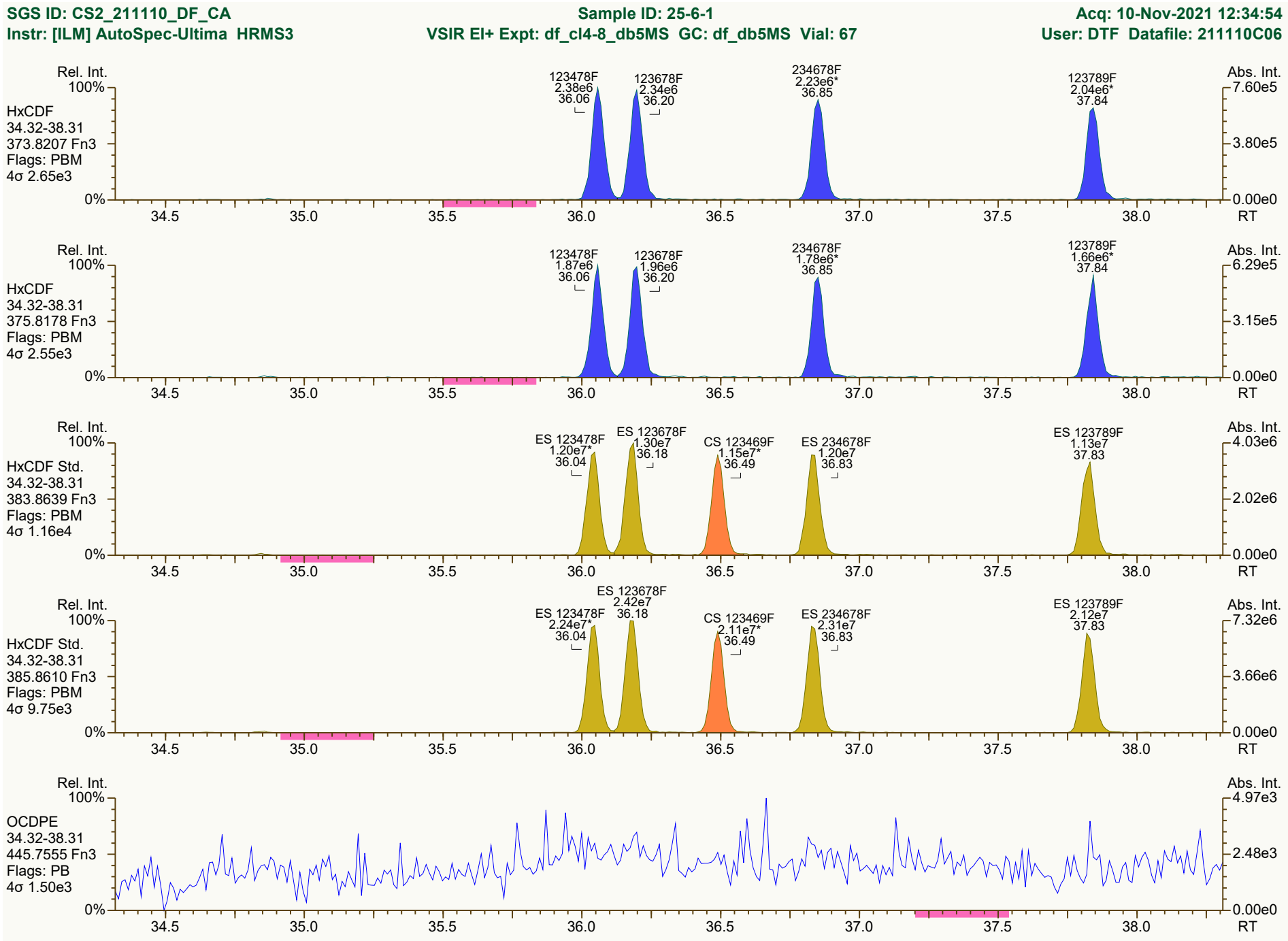

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

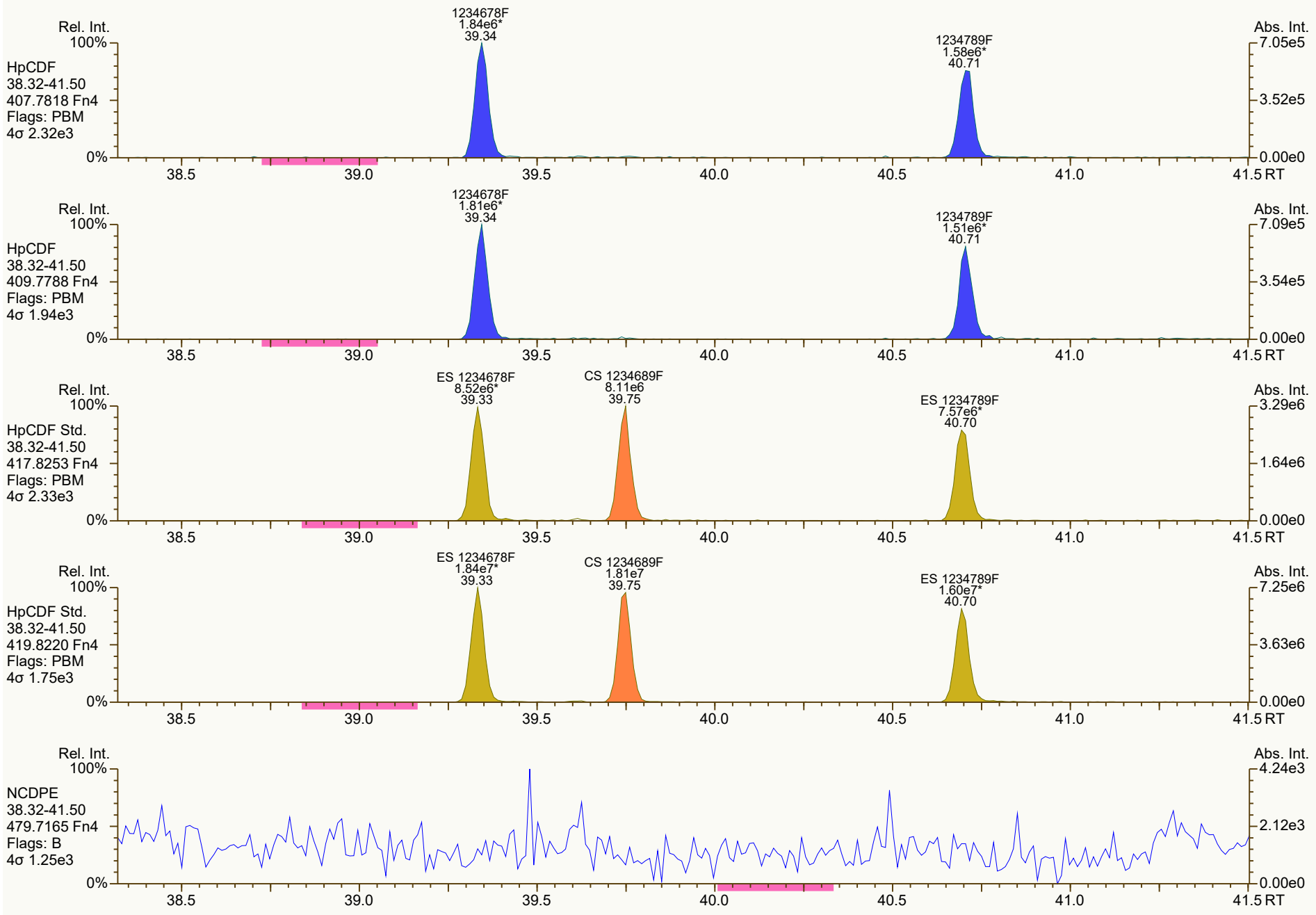

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

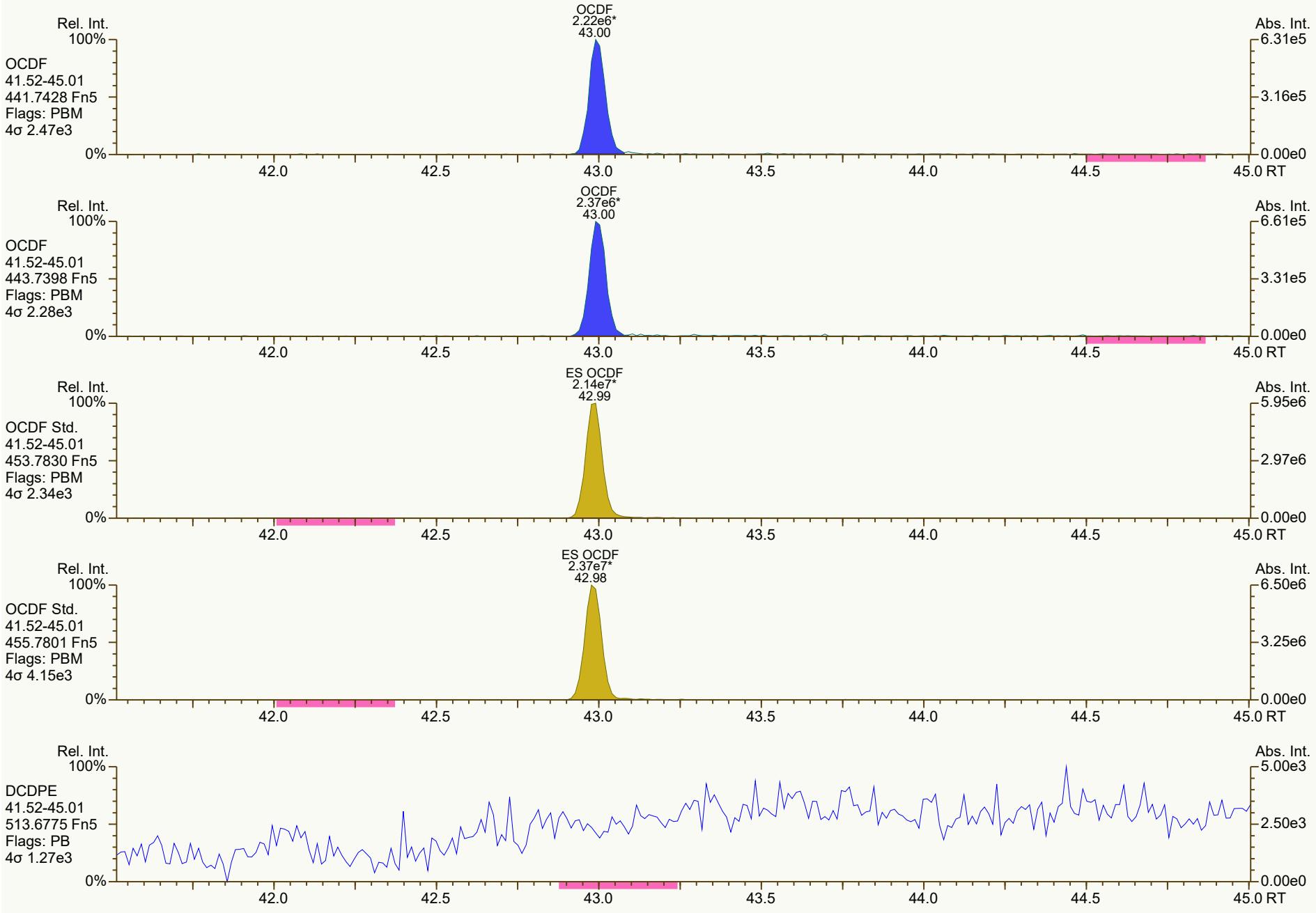

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
123478F 2.38e6 36.06
123678F 2.34e6 36.20
234678F 2.23e6* 36.85
123789F 2.04e6* 37.84
7.60e5
3.80e5
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F 1.87e6 36.06
123678F 1.96e6 36.20
234678F 1.78e6* 36.85
123789F 1.66e6* 37.84
6.29e5
3.15e5
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F 1.20e7* 36.04
ES 123678F 1.30e7 36.18
CS 123469F 1.15e7* 36.49
ES 234678F 1.20e7 36.83
ES 123789F 1.13e7 37.83
4.03e6
2.02e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F 2.24e7* 36.04
ES 123678F 2.42e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.31e7 36.83
ES 123789F 2.12e7 37.83
7.32e6
3.66e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12

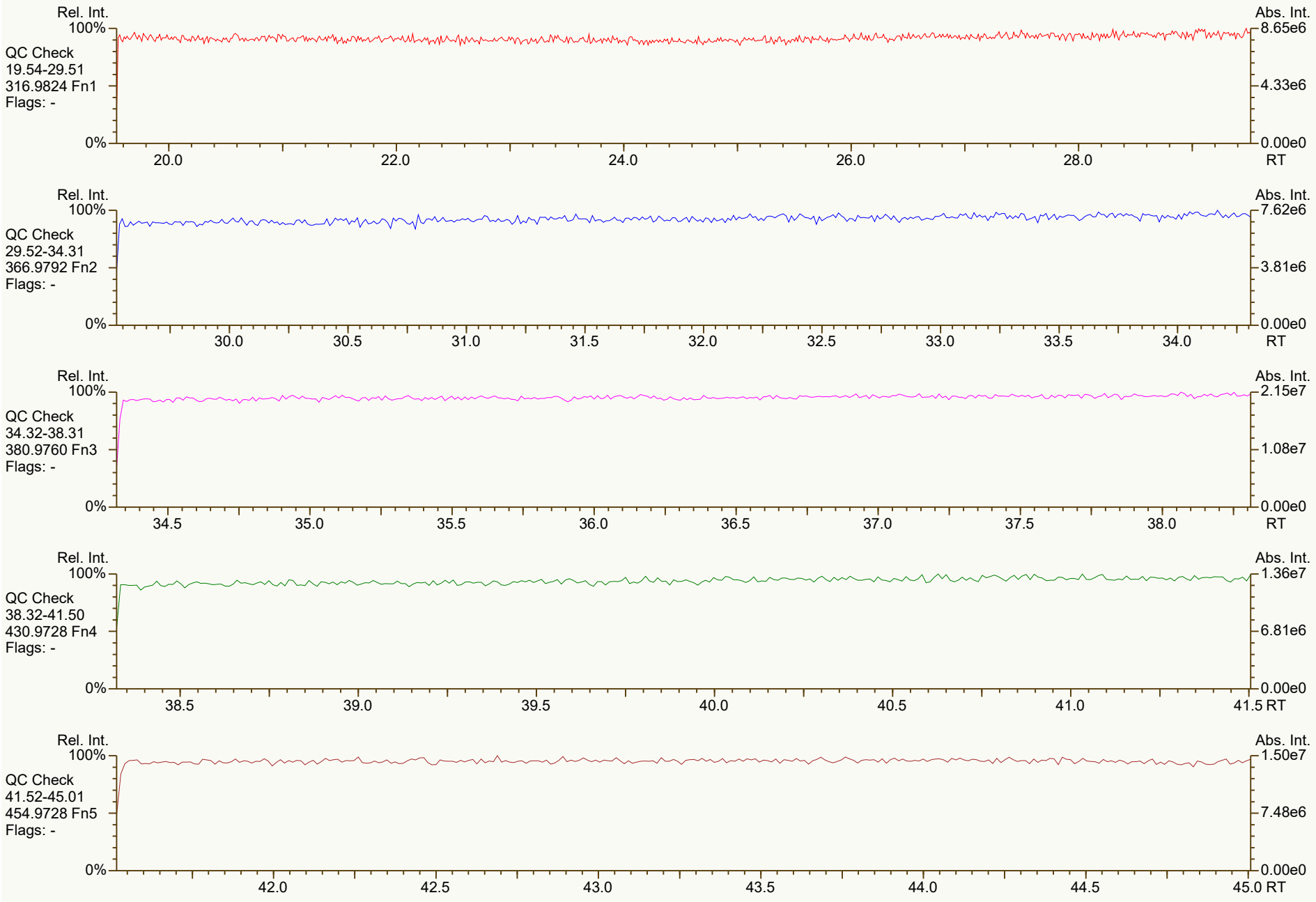

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

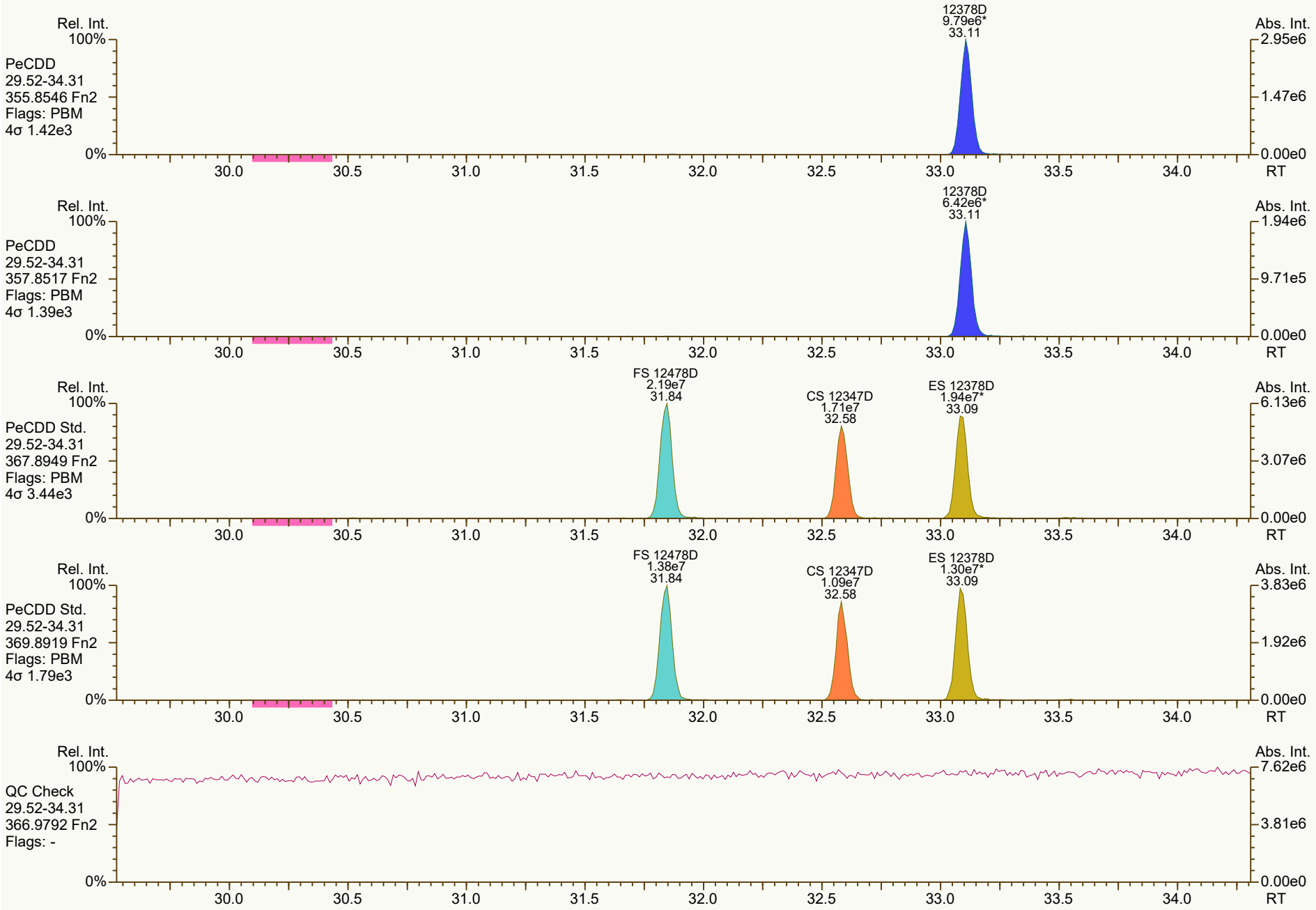
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

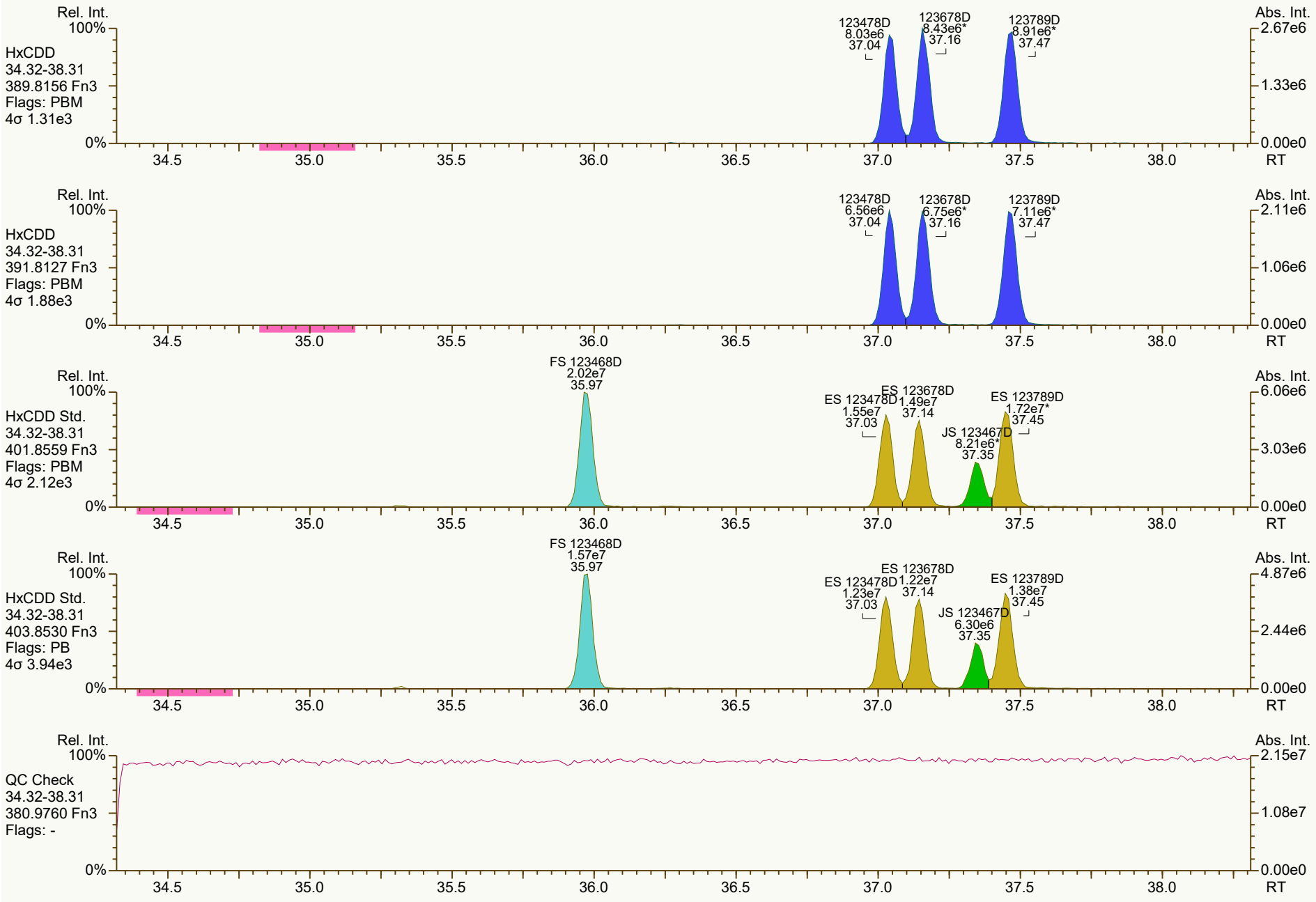
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

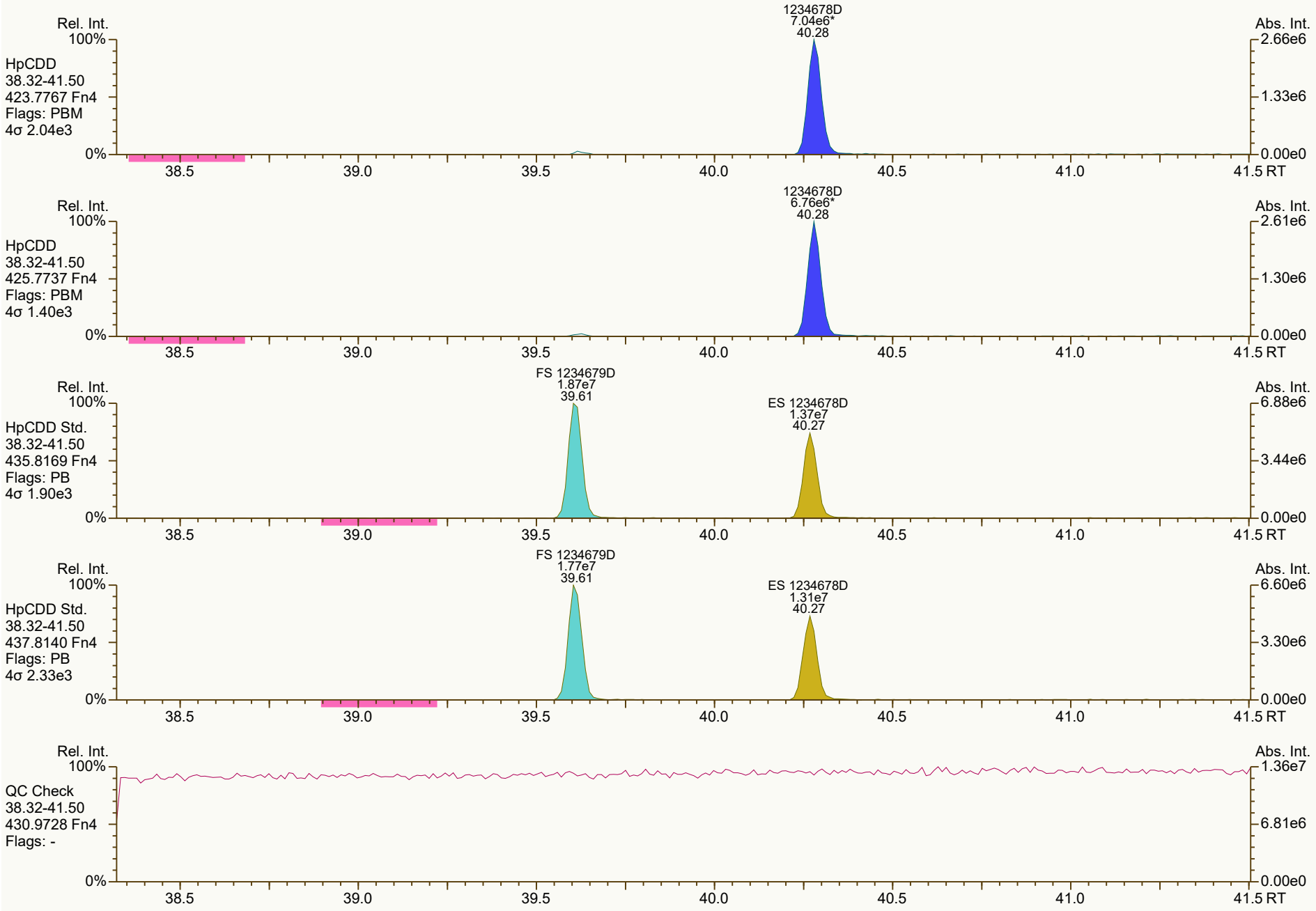
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

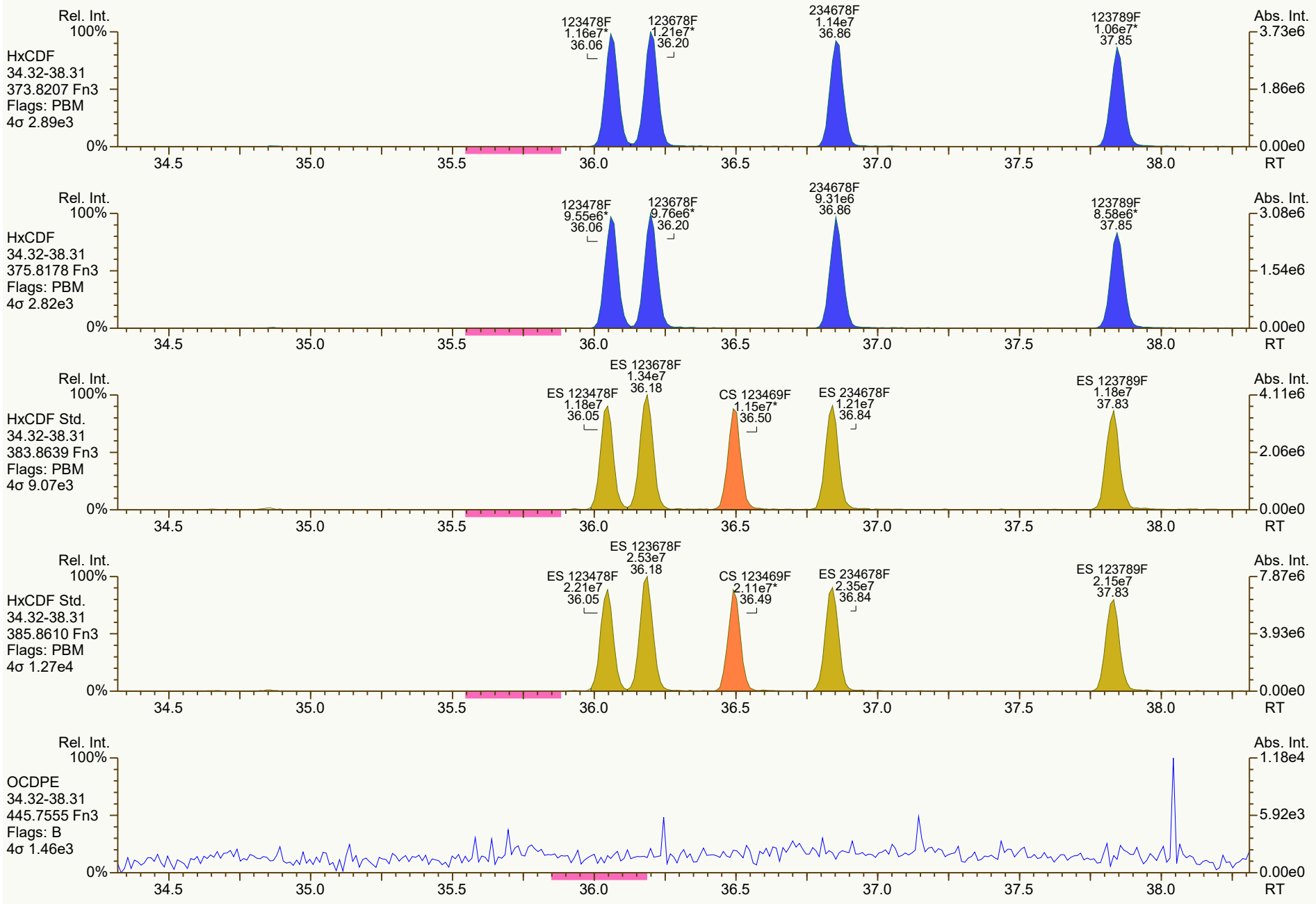

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
0%
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
0%
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
0%
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

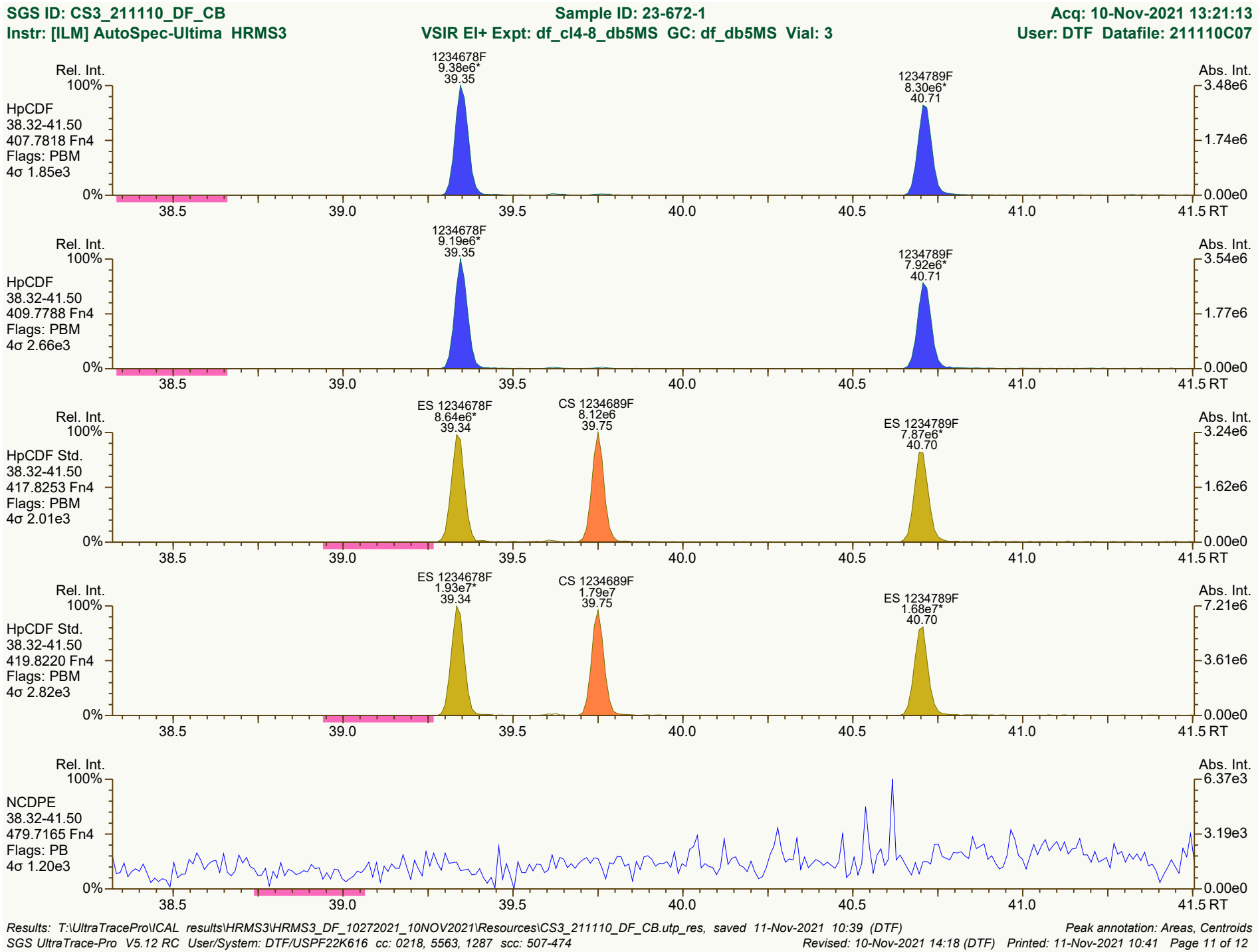

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

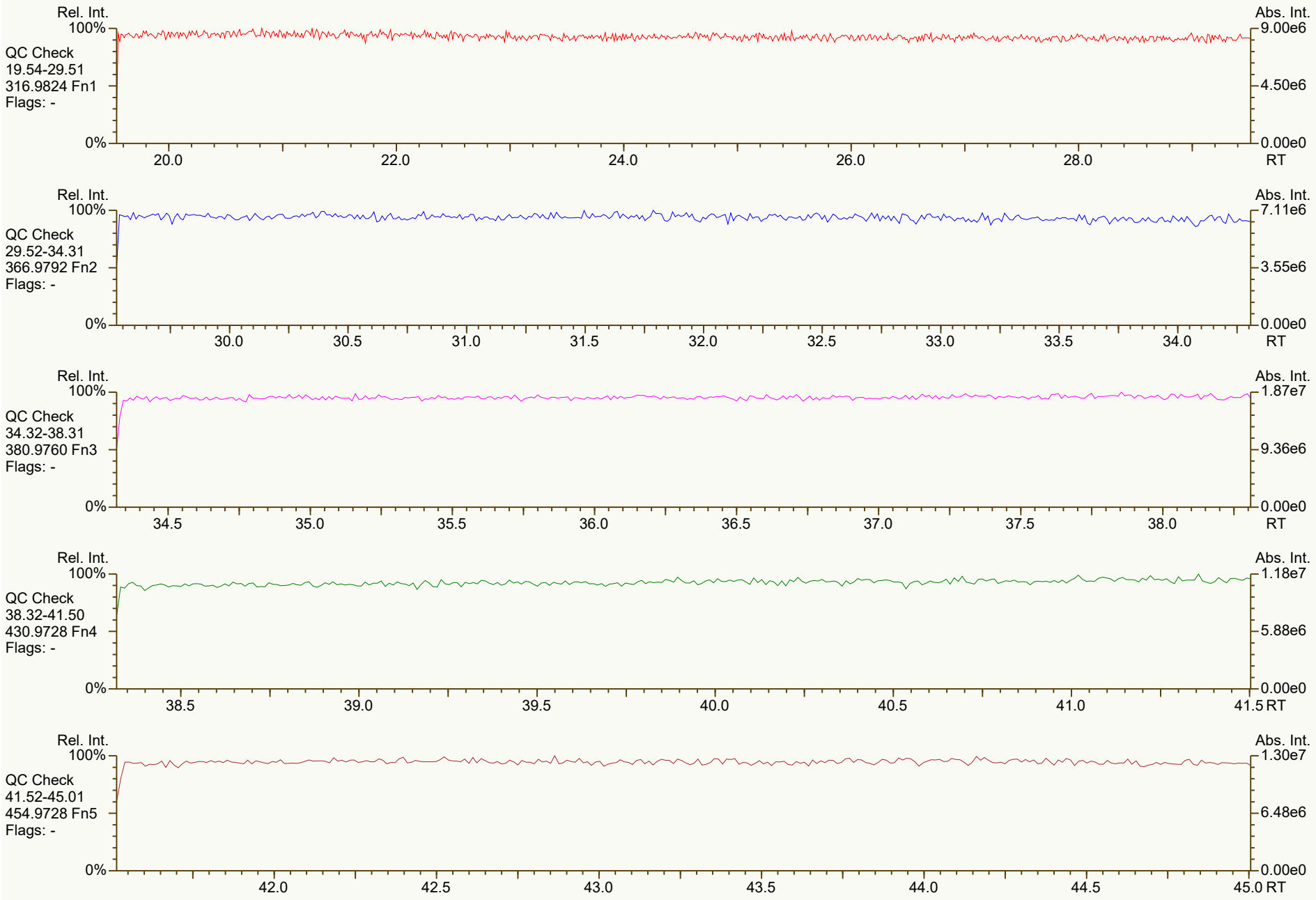

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123678F
1.34e7
36.18
ES 123478F
1.18e7
36.05
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123678F
2.53e7
36.18
ES 123478F
2.21e7
36.05
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0

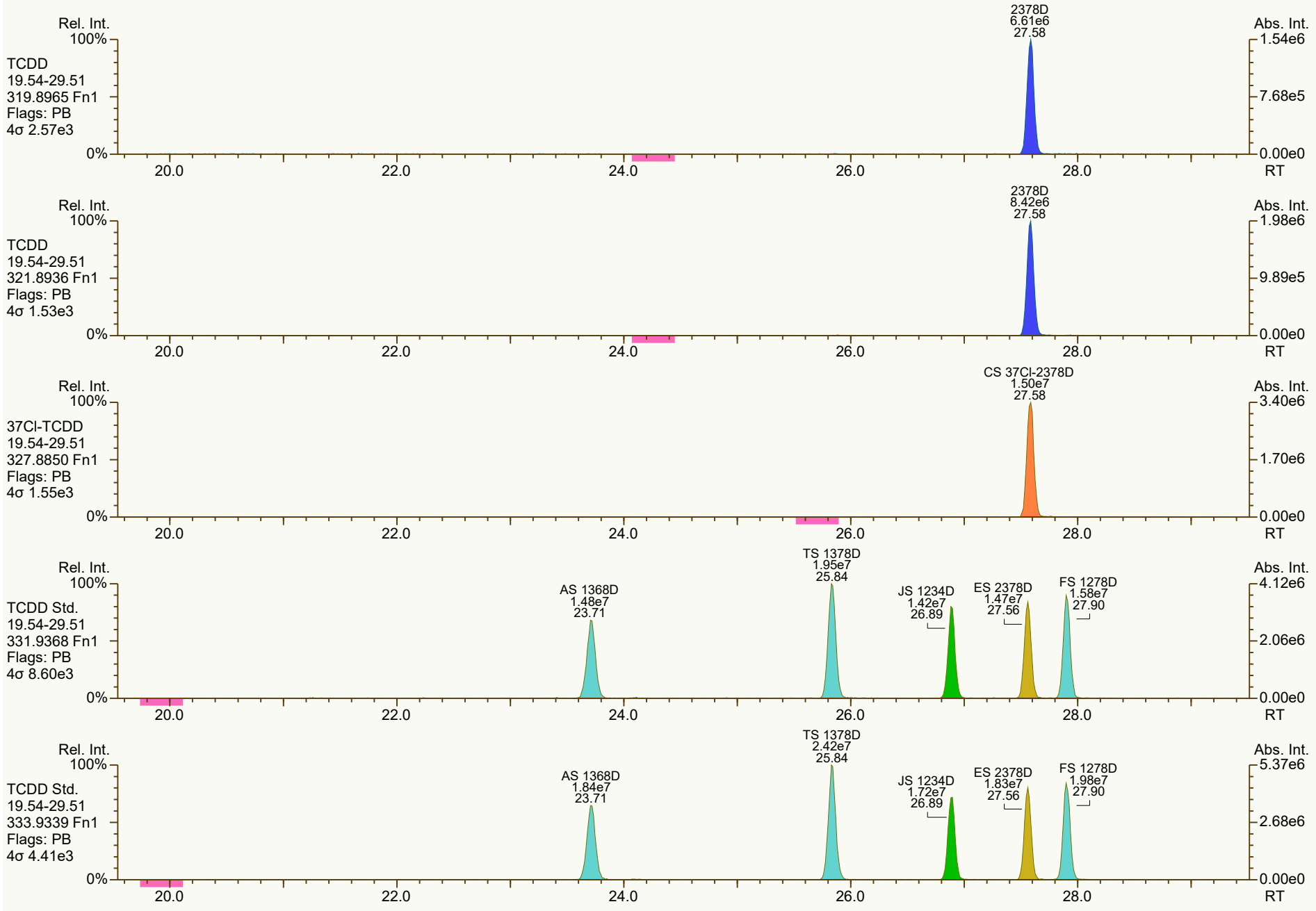

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

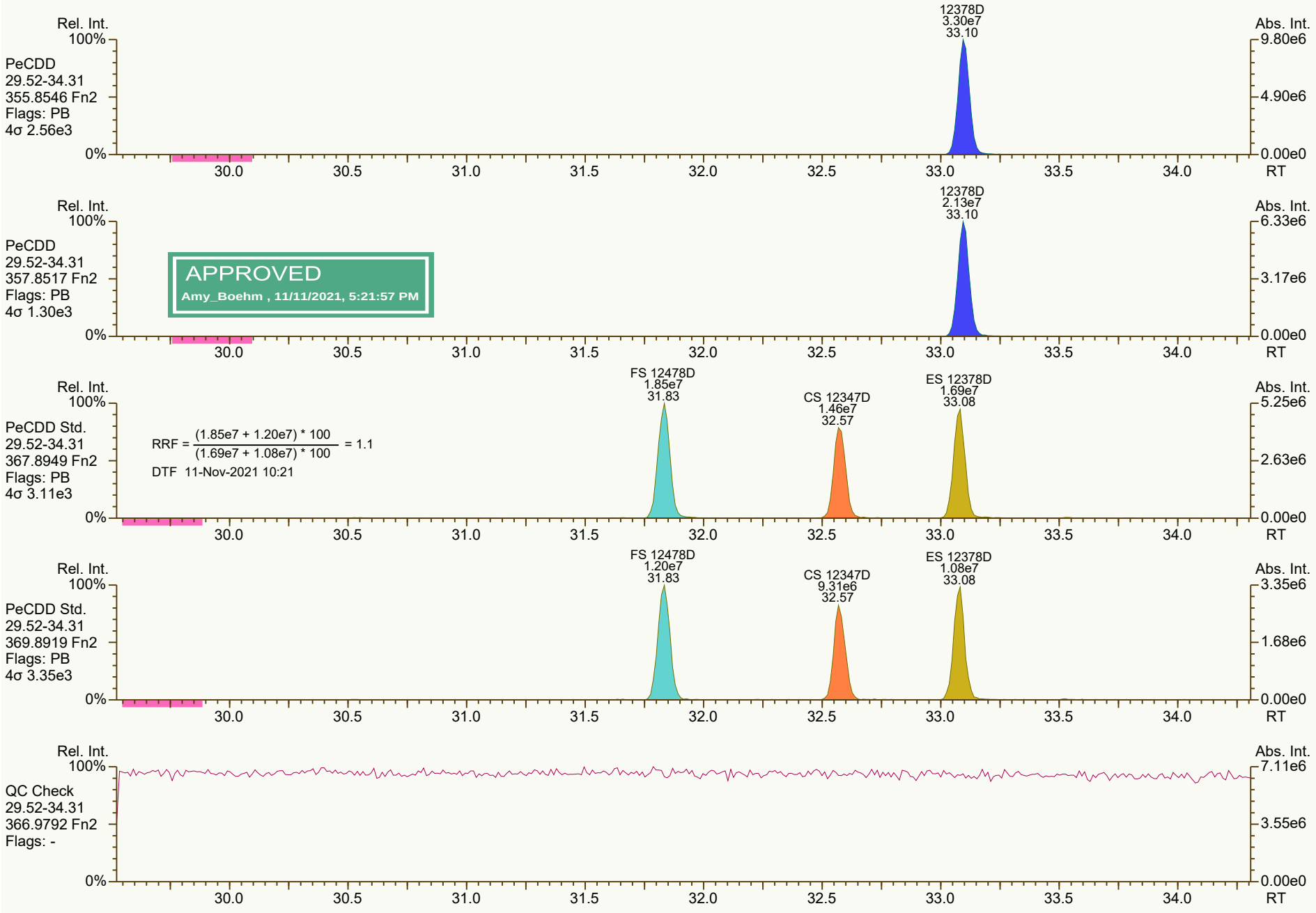

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

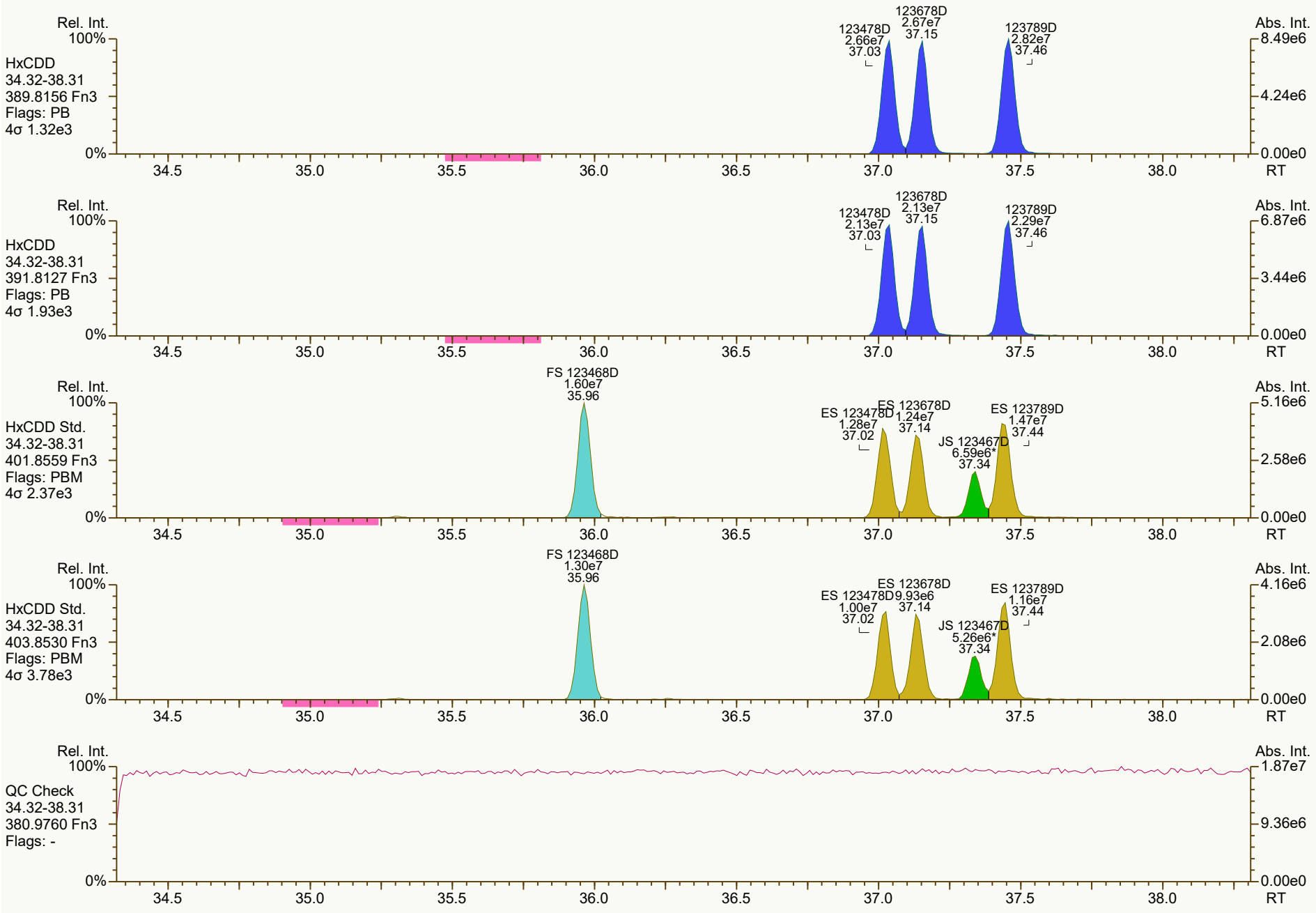
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

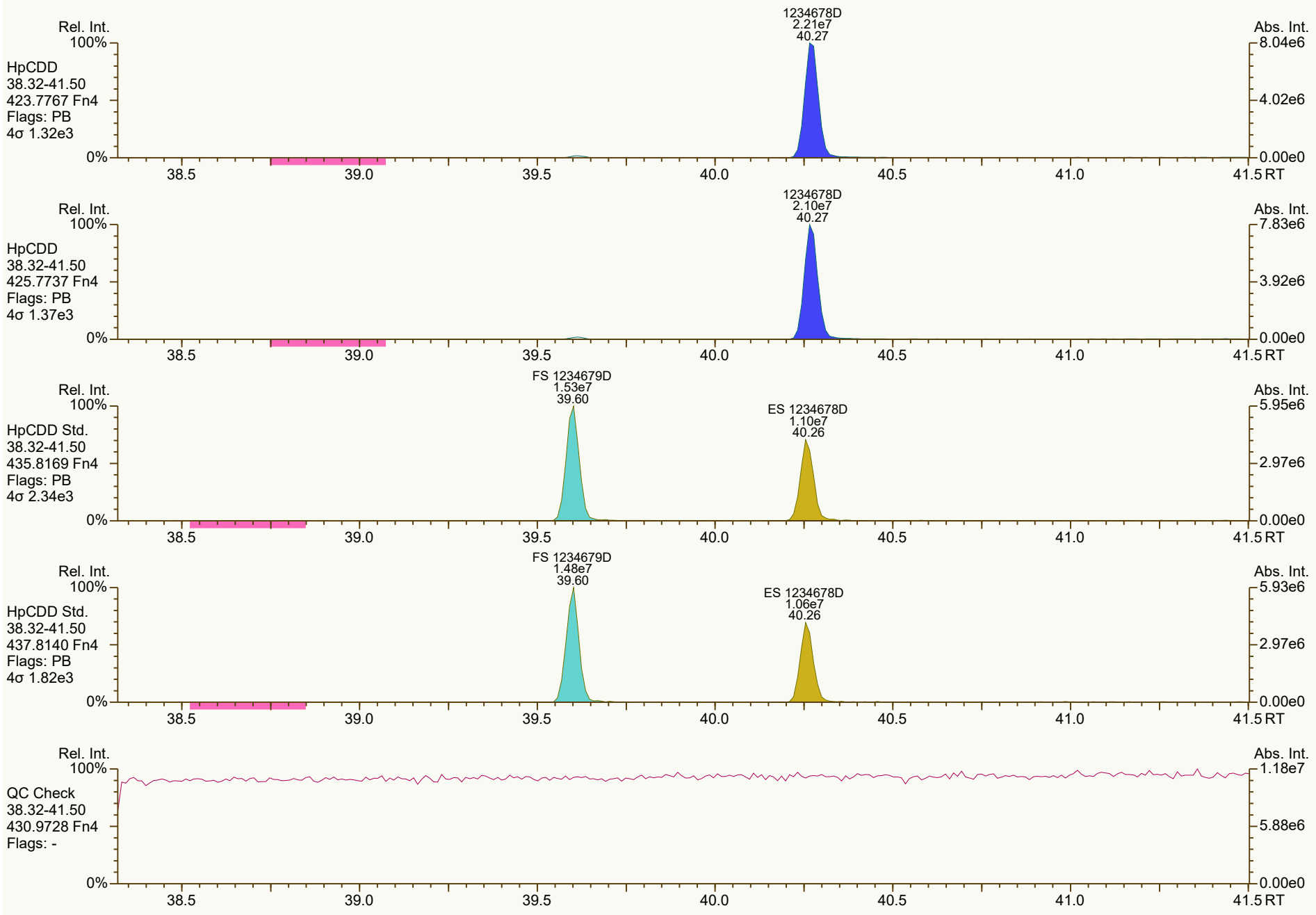
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

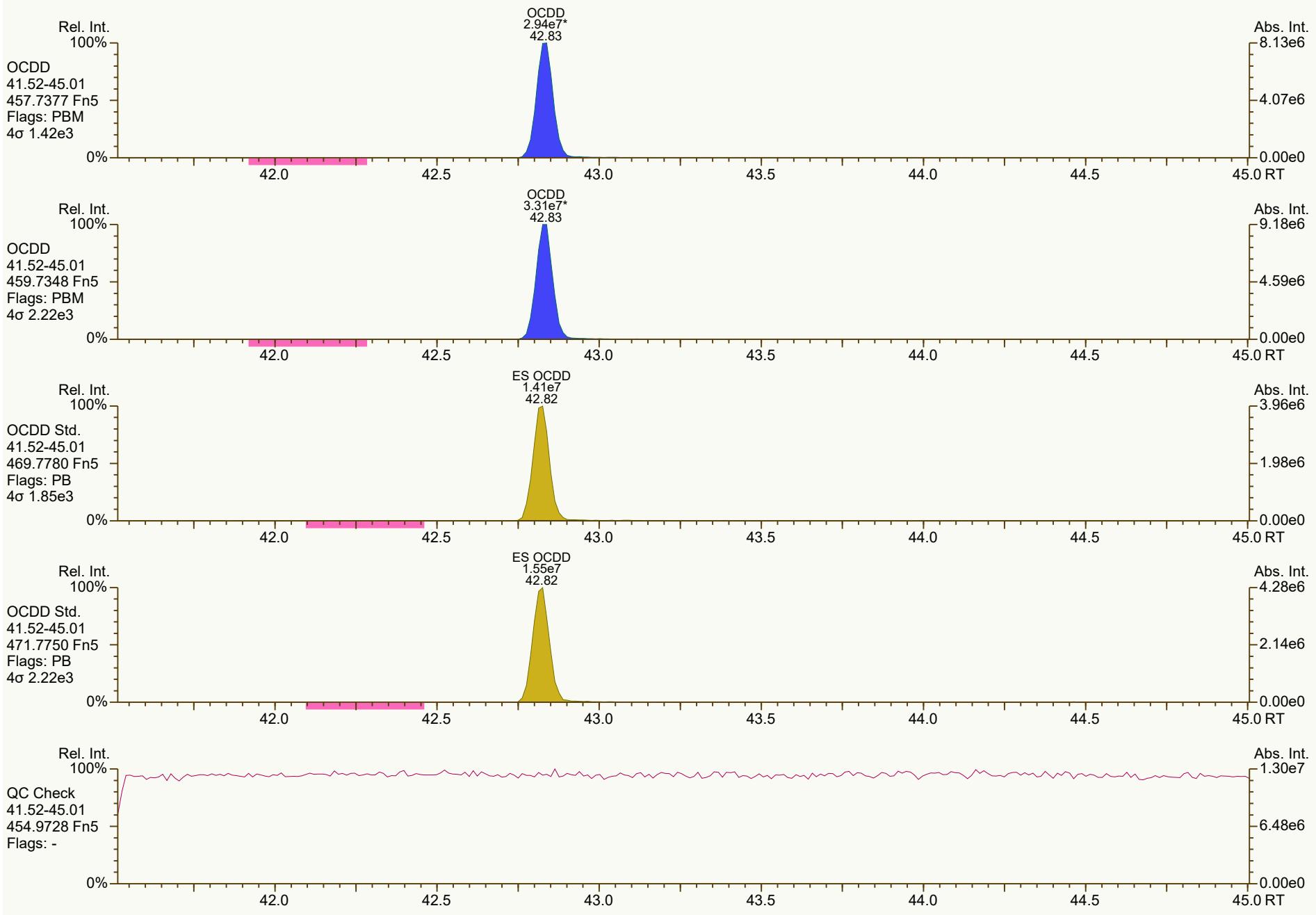

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

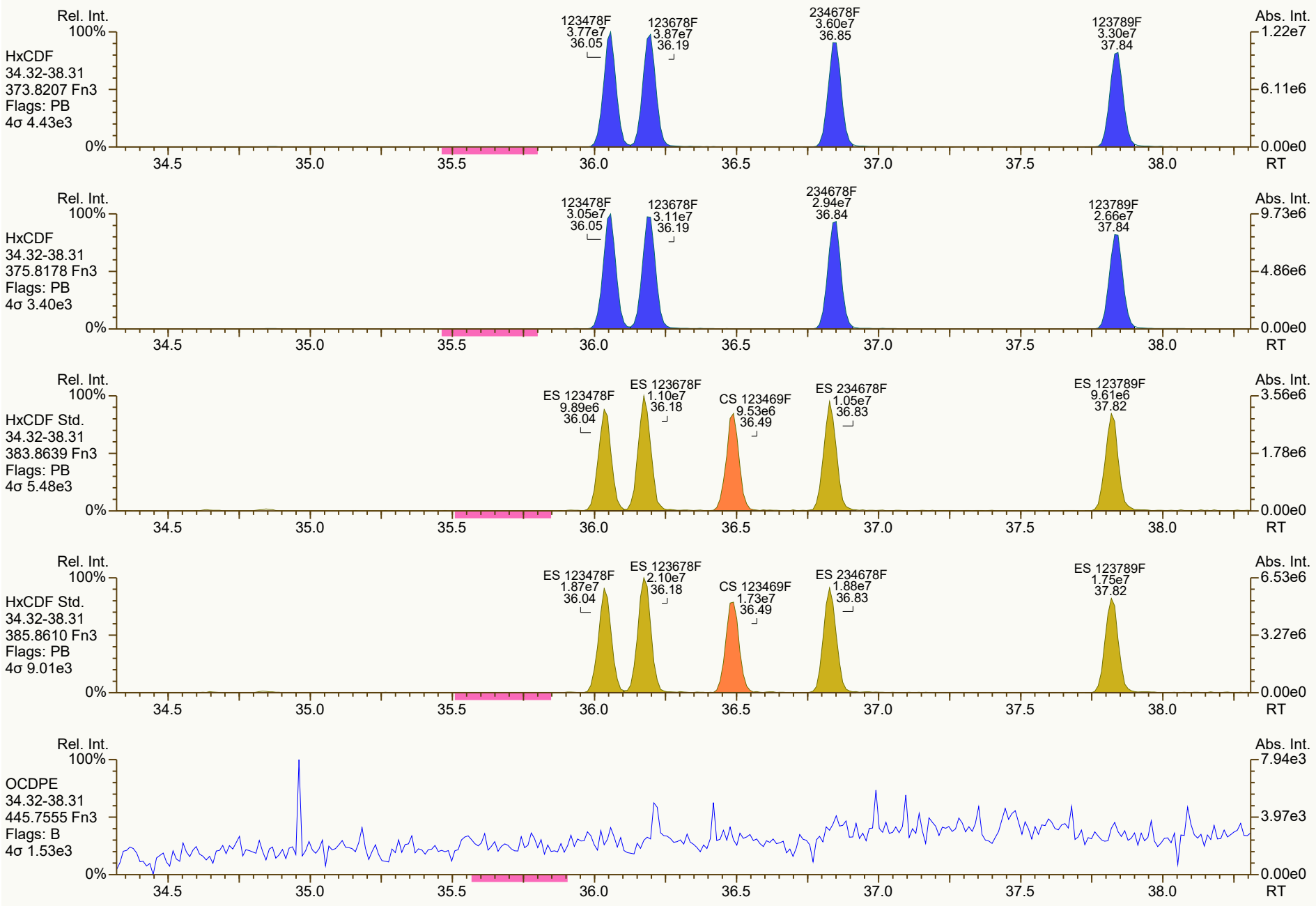

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

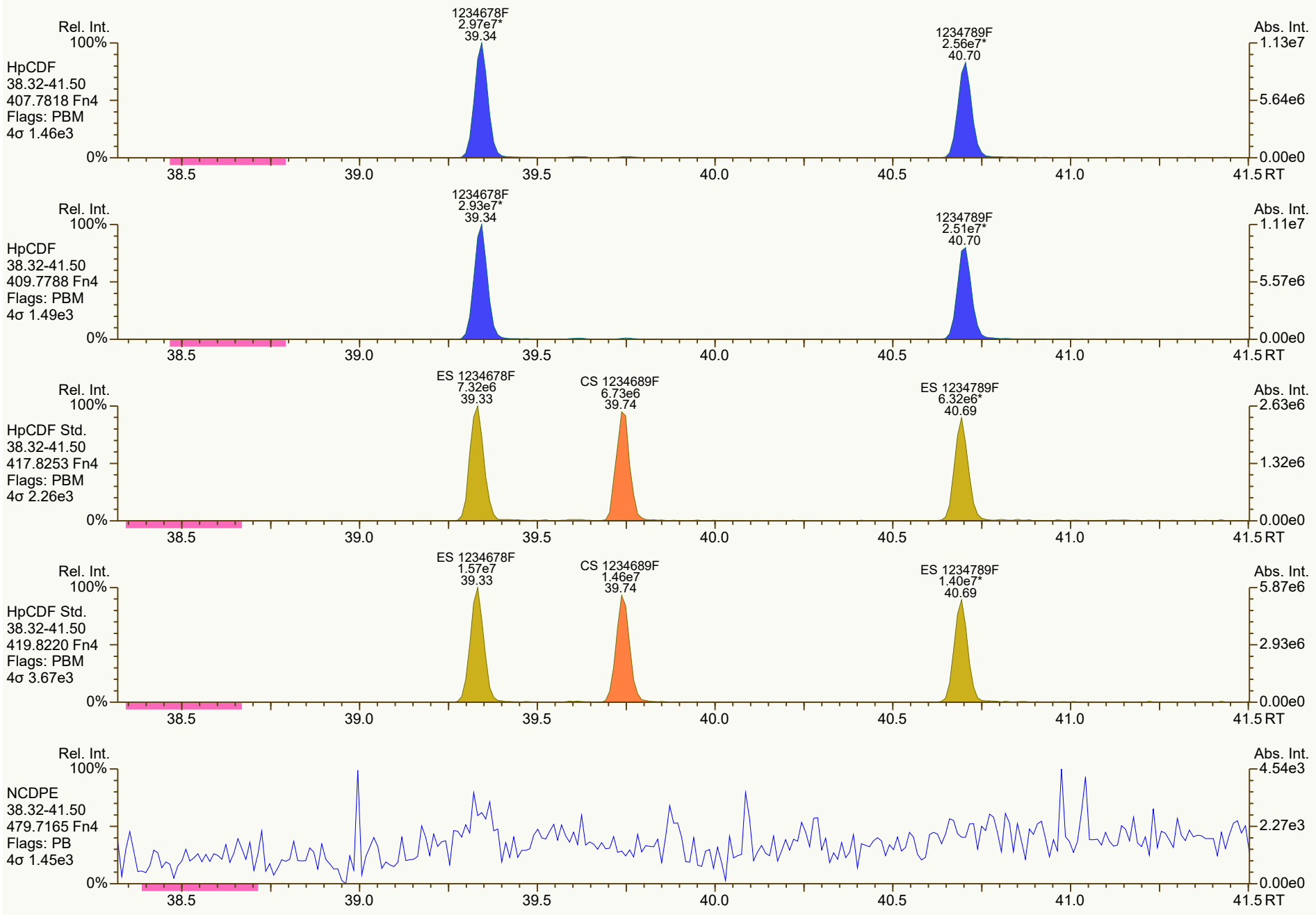

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

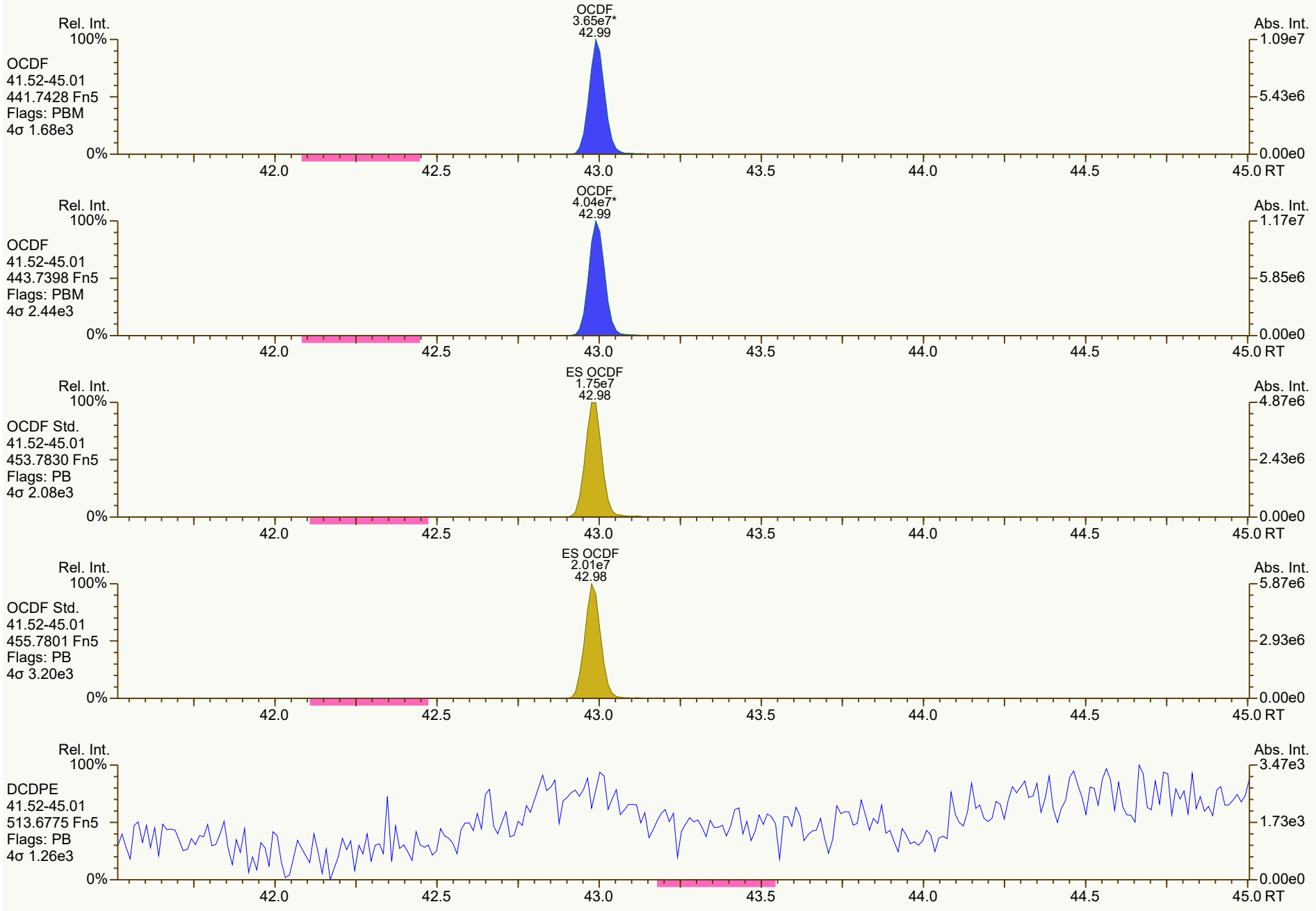

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

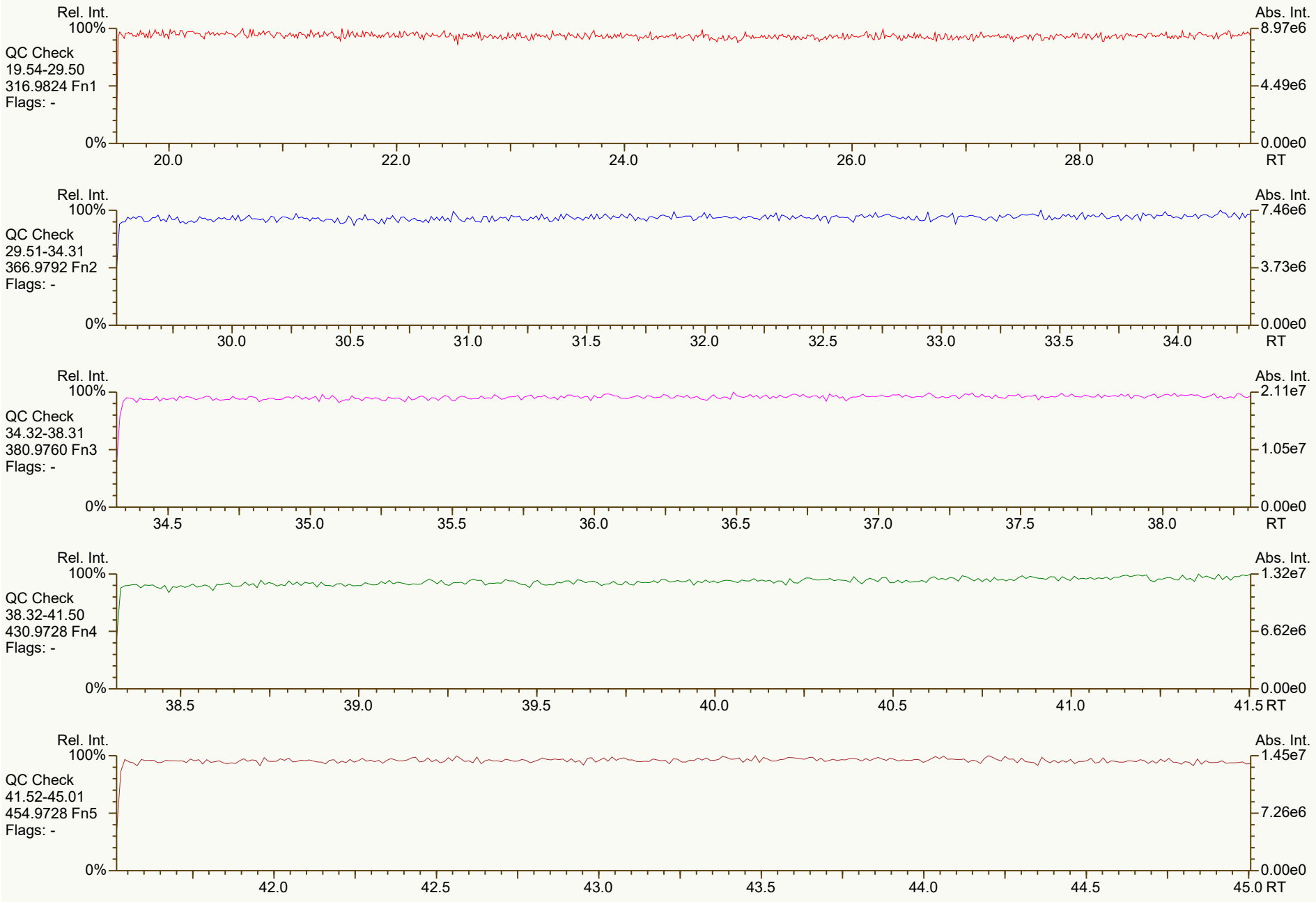

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

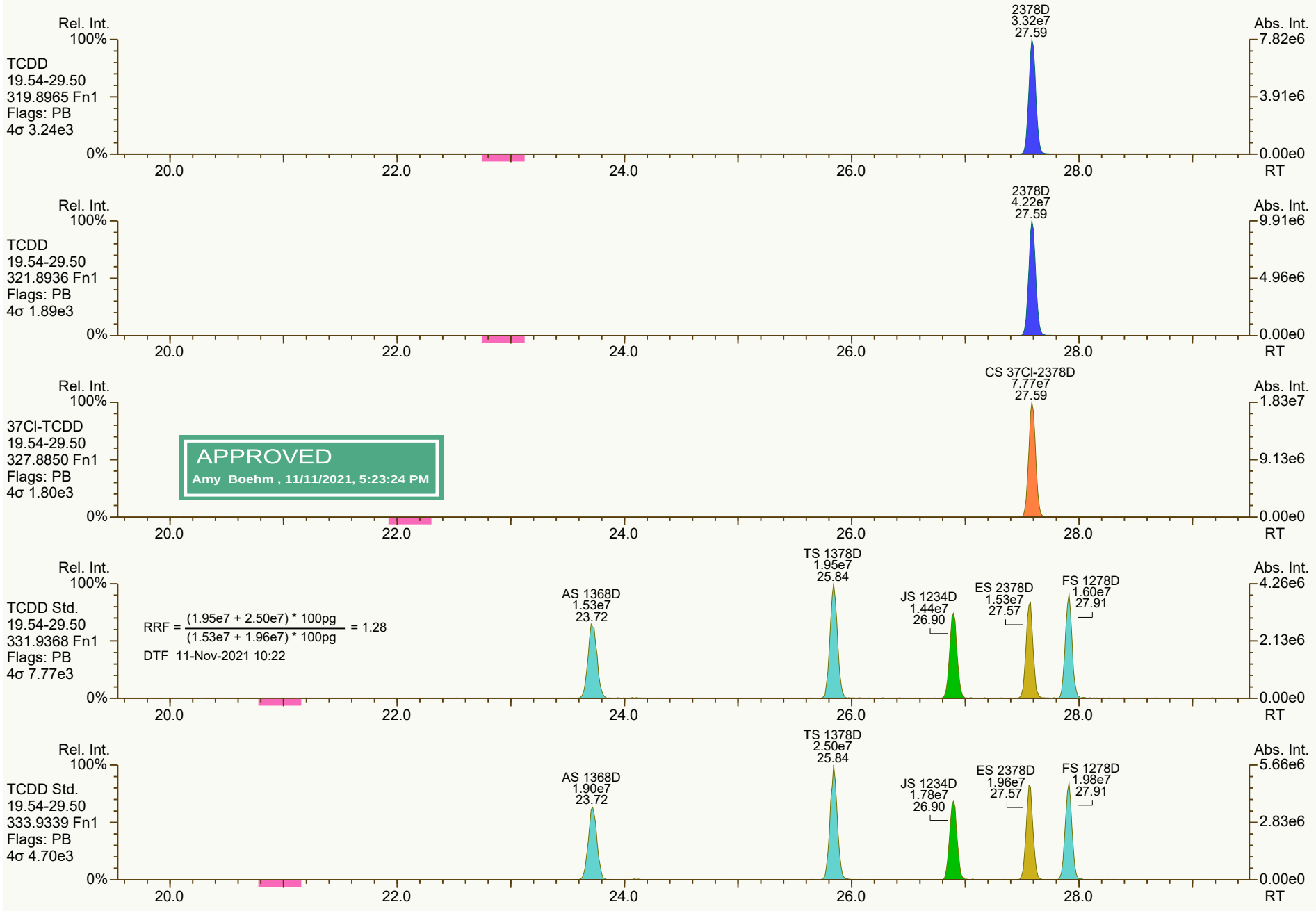

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

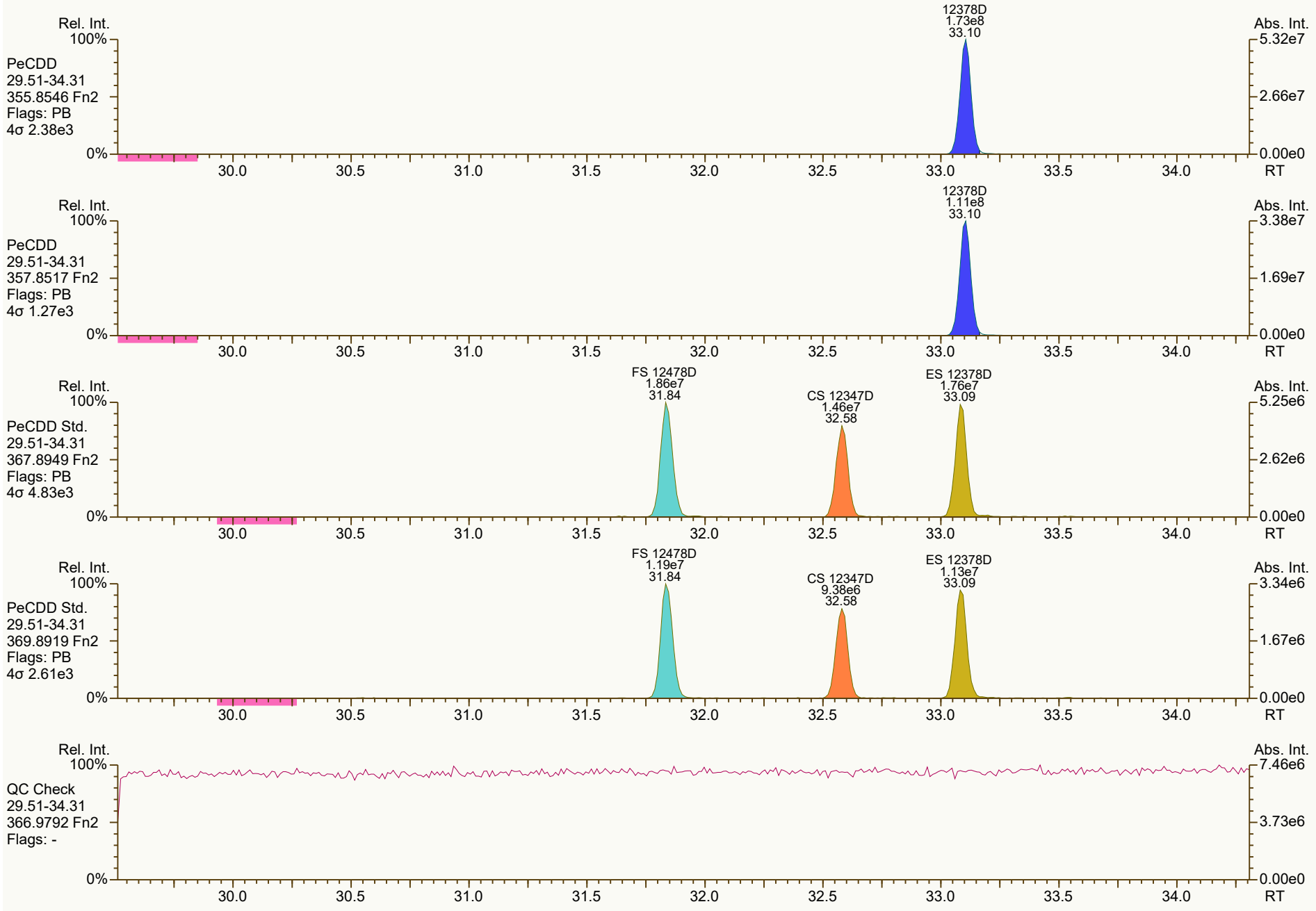

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

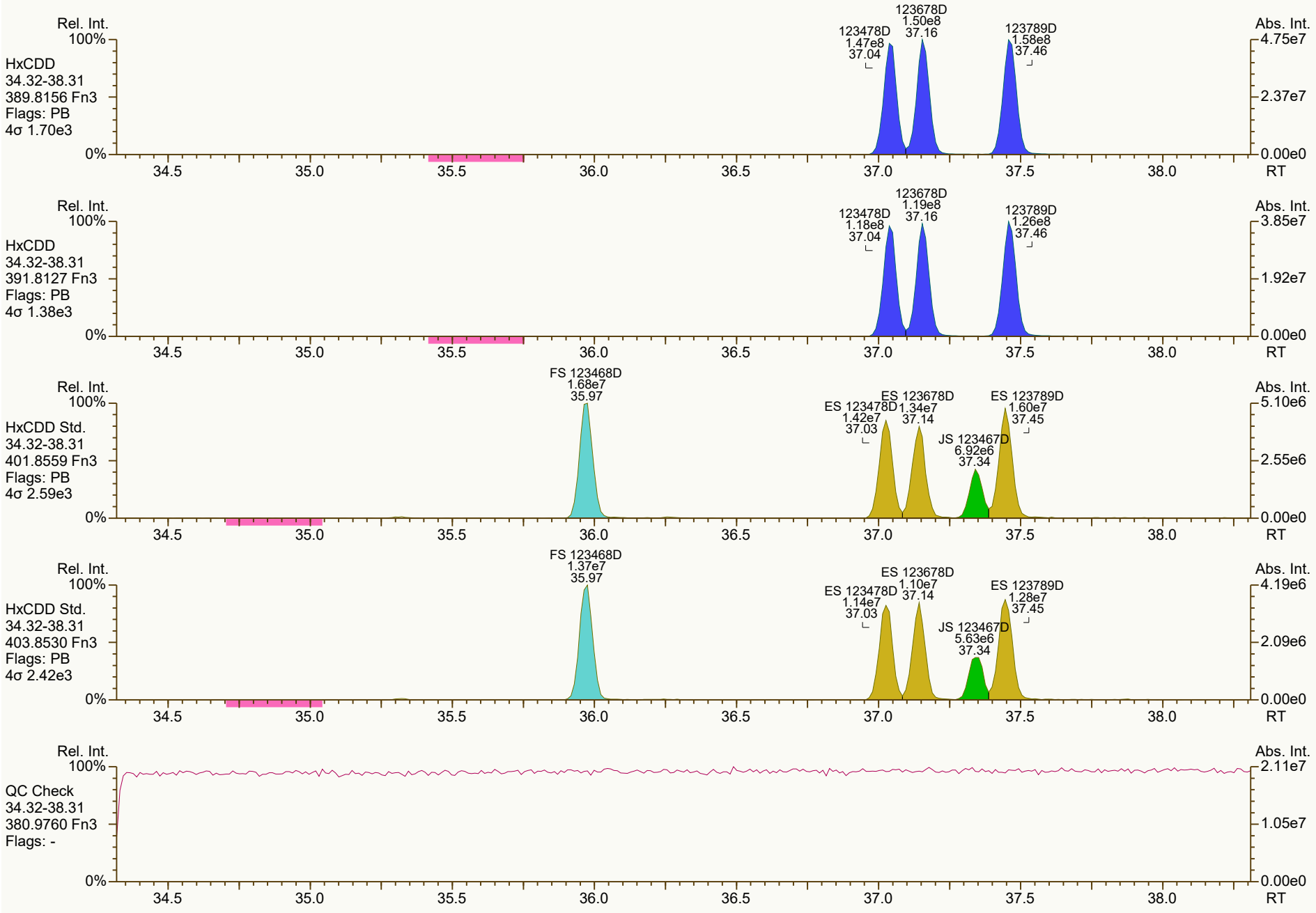
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

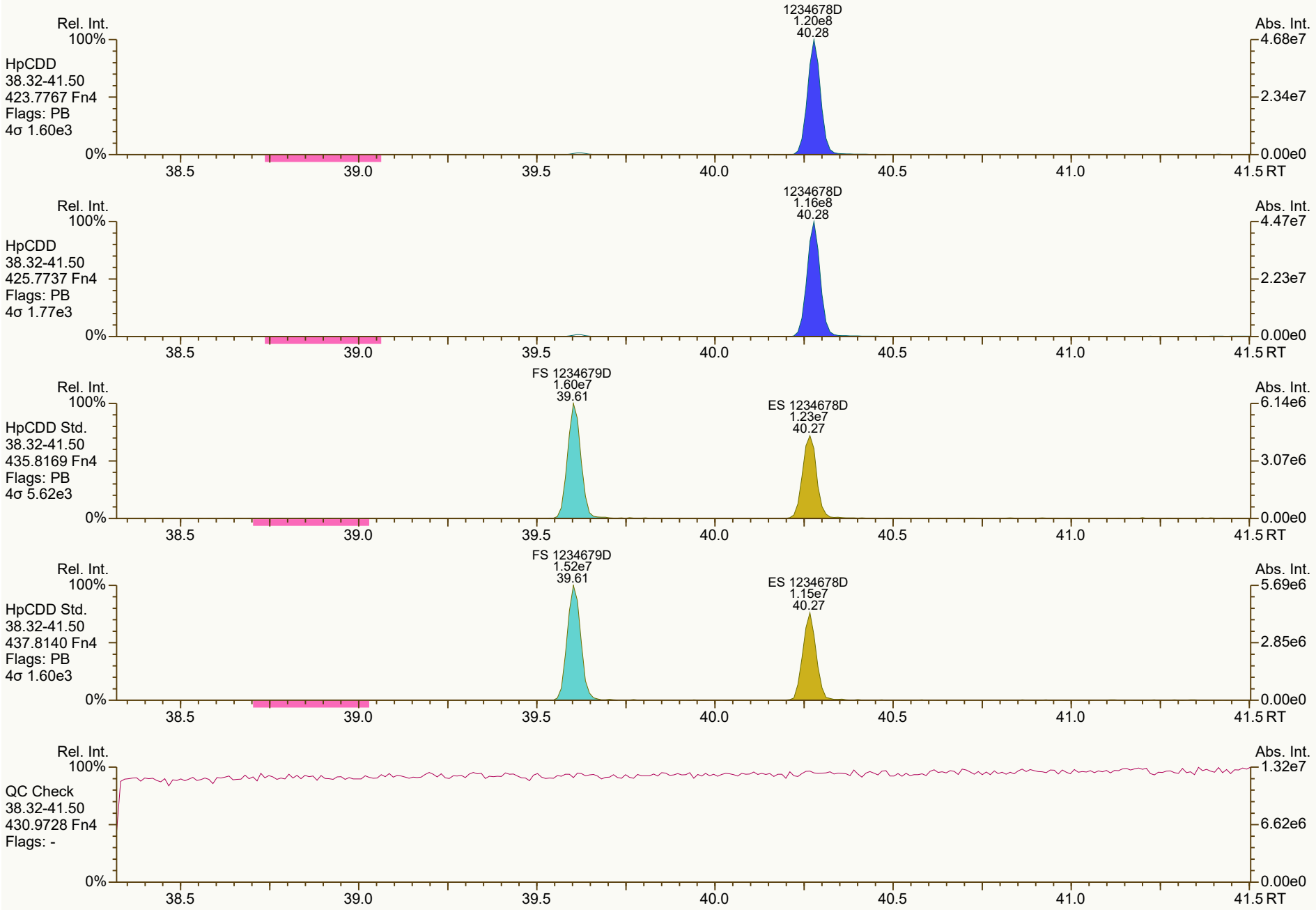
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

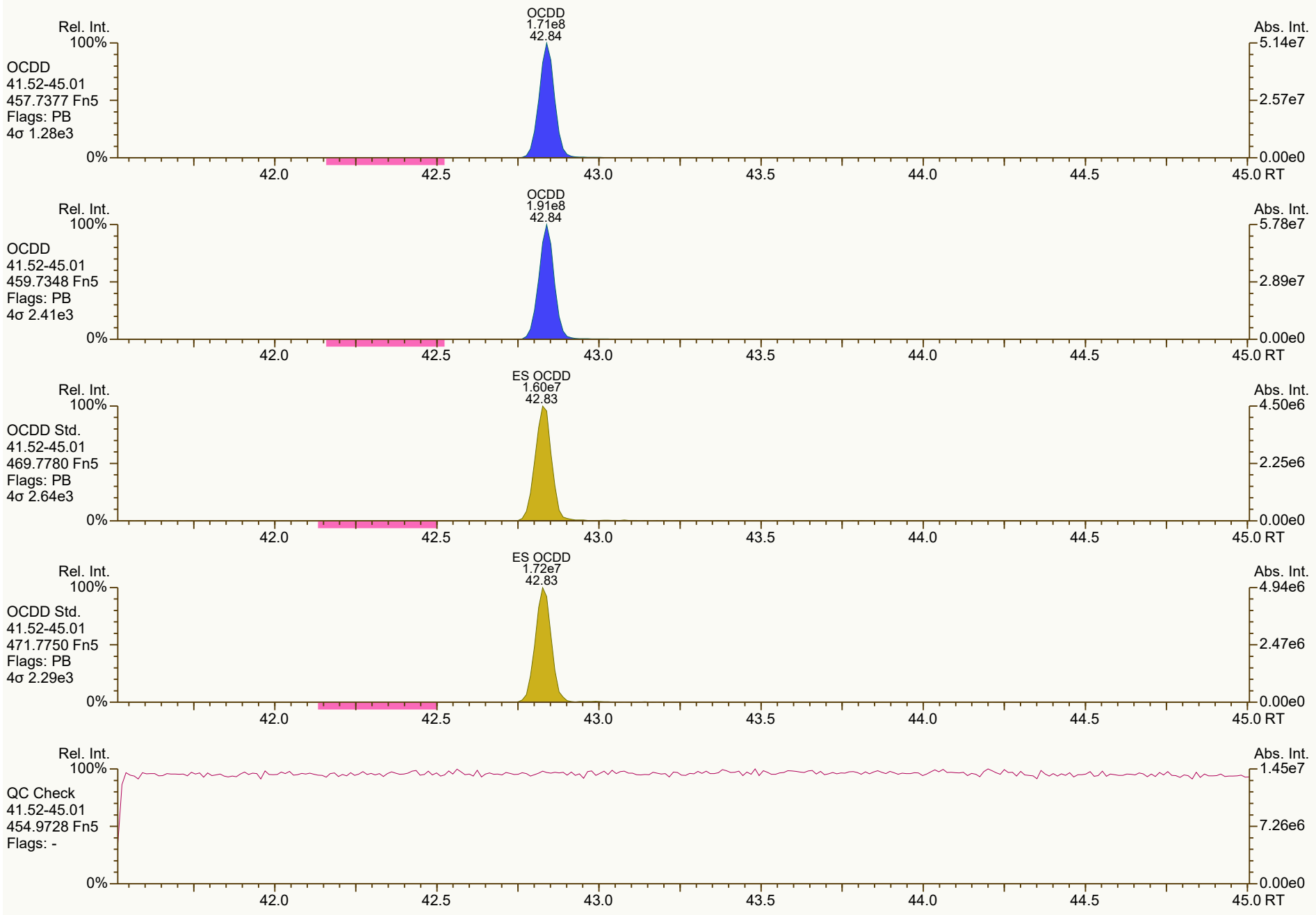

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

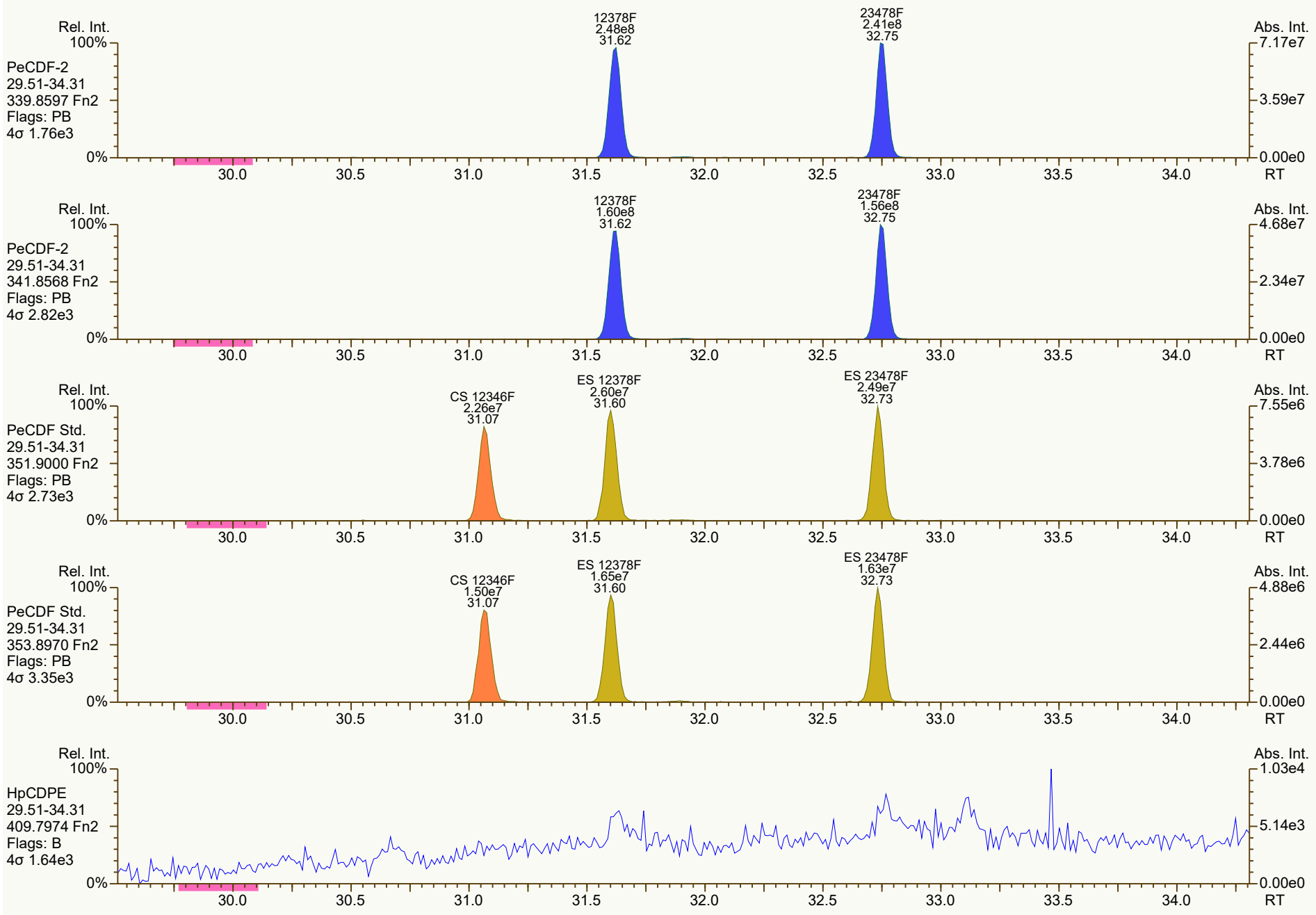

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
0%
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
0%
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
0%
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
0%
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

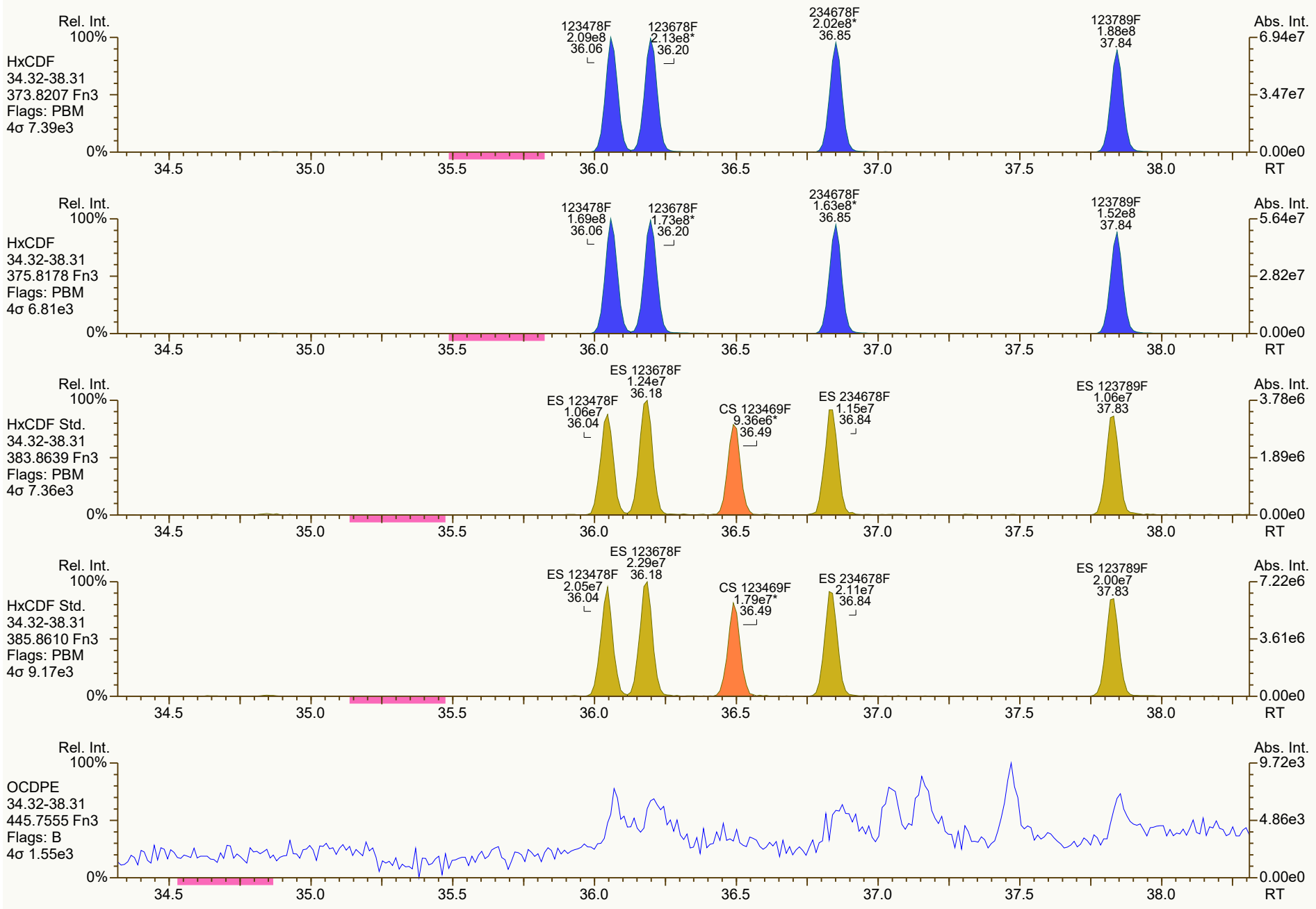

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

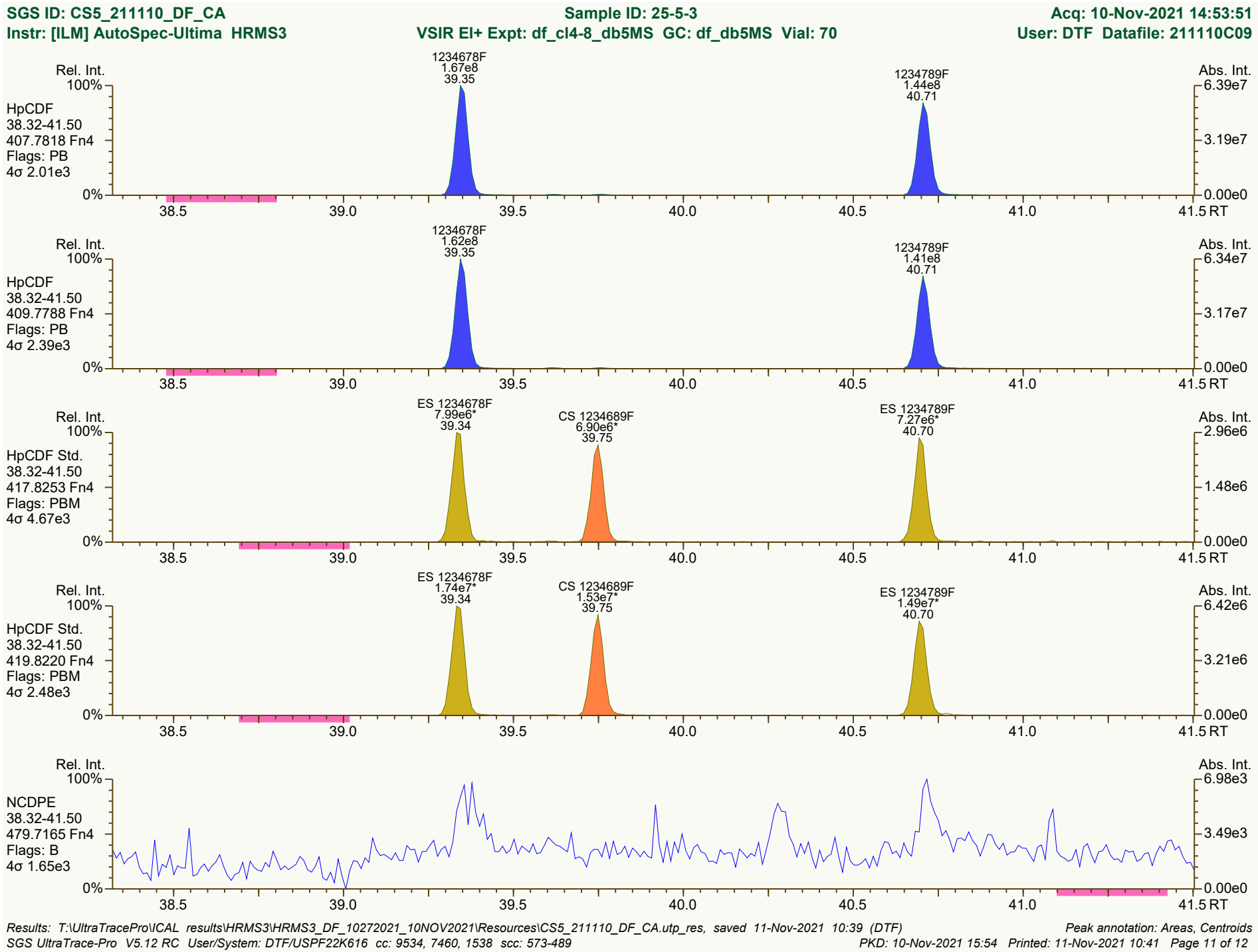
SGS ID: CS5_211110_DF_CA | Sample ID: 25-5-3 | Acq: 10-Nov-2021 14:53:51

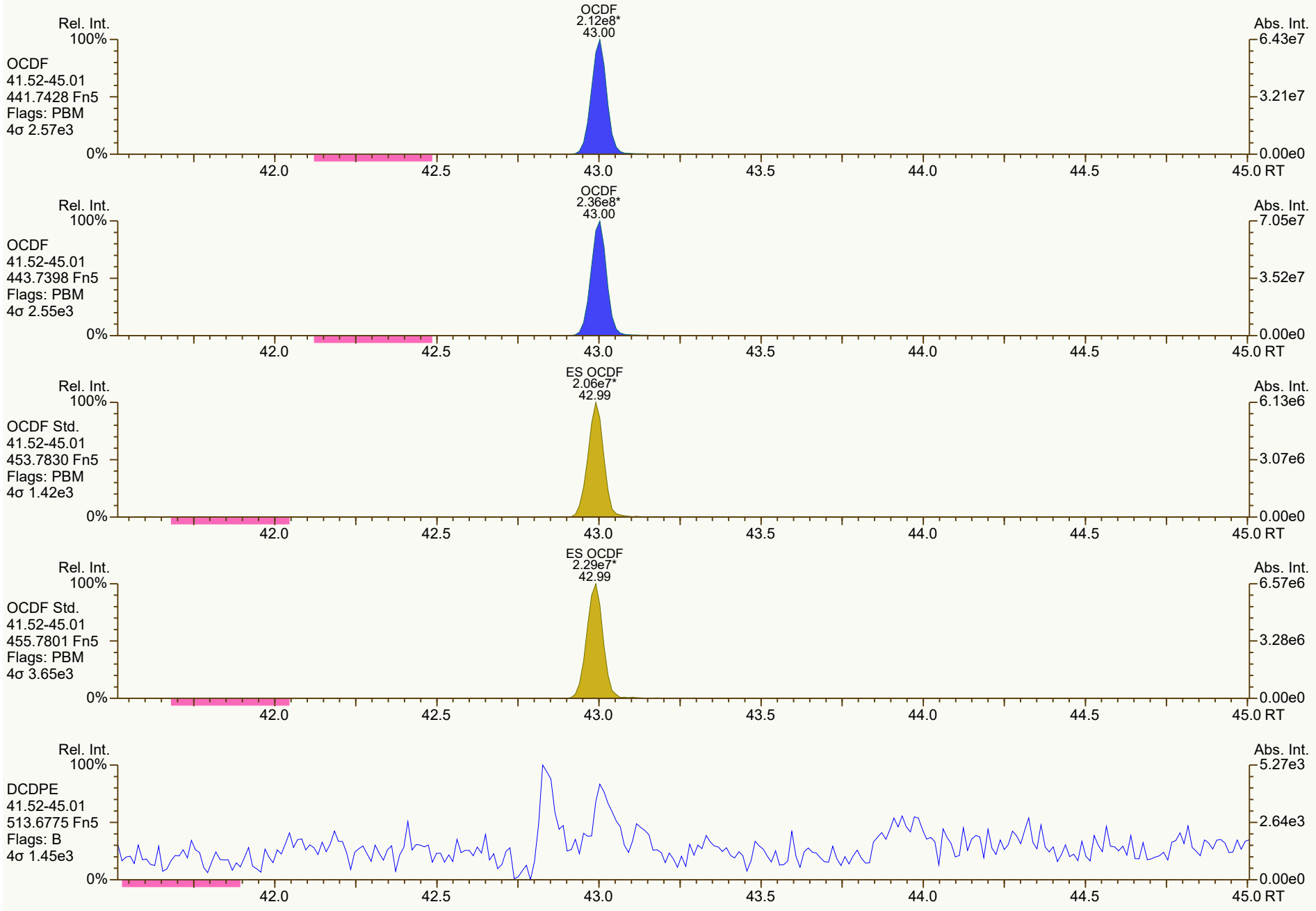
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489 *PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12*


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

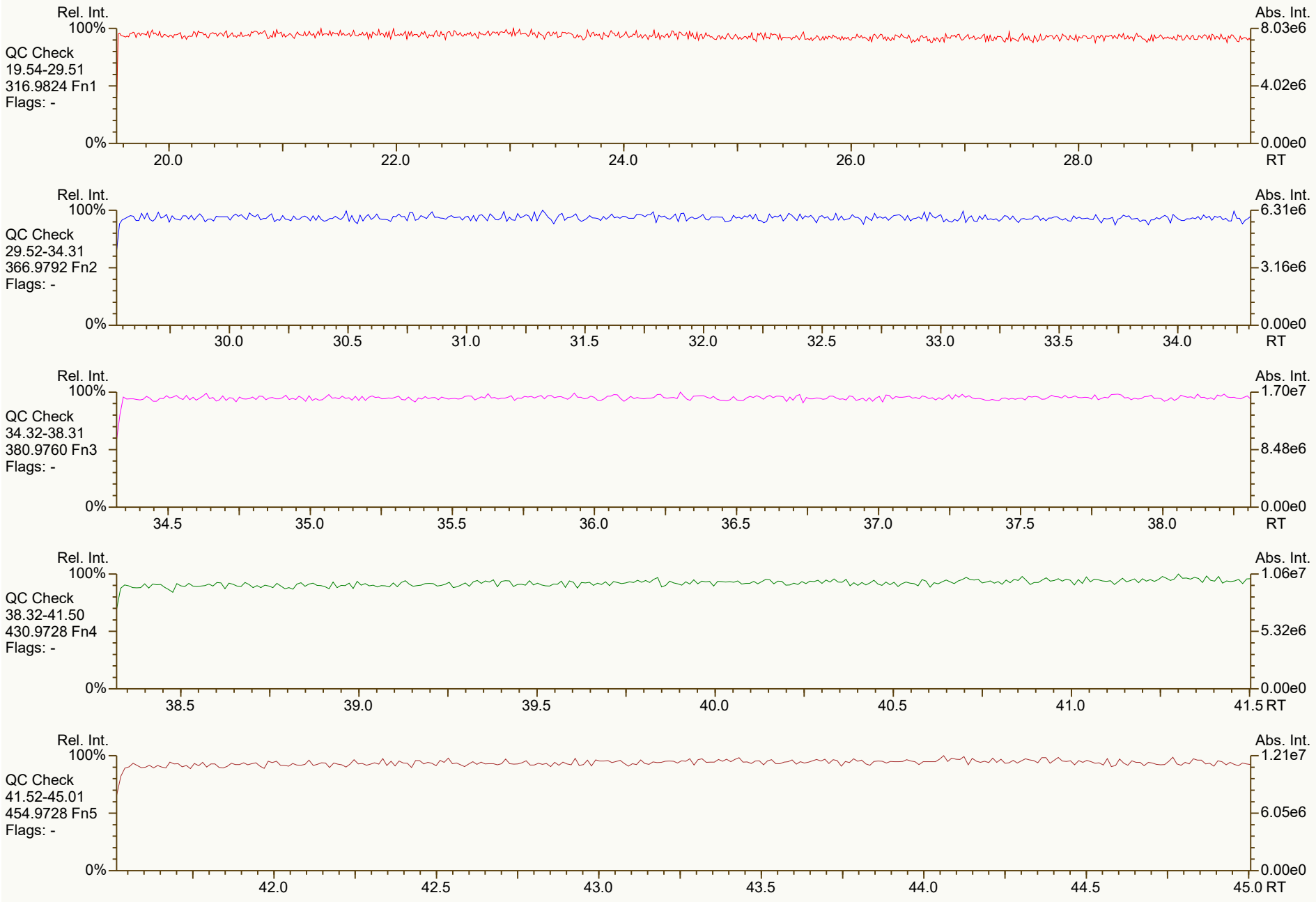

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

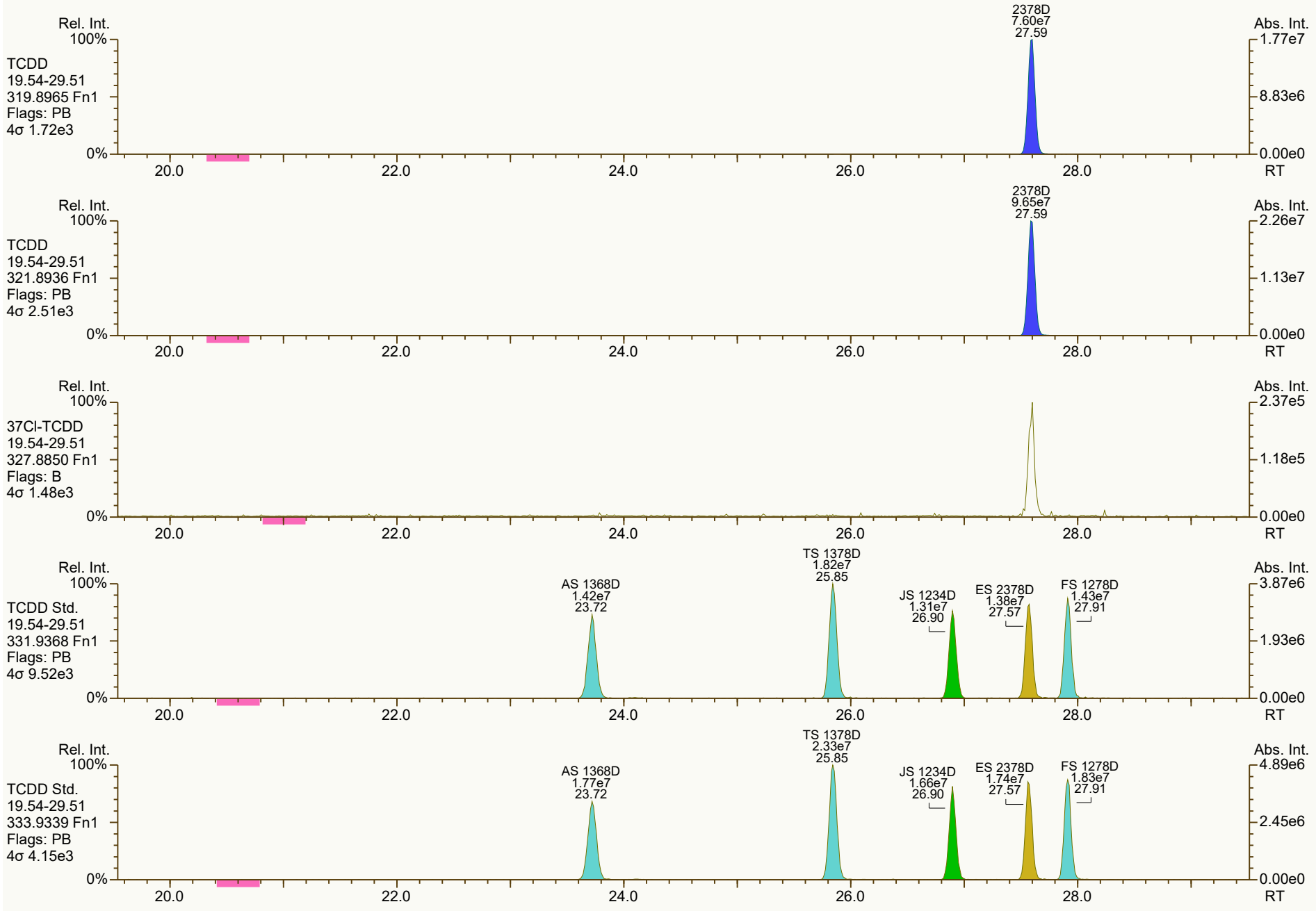
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

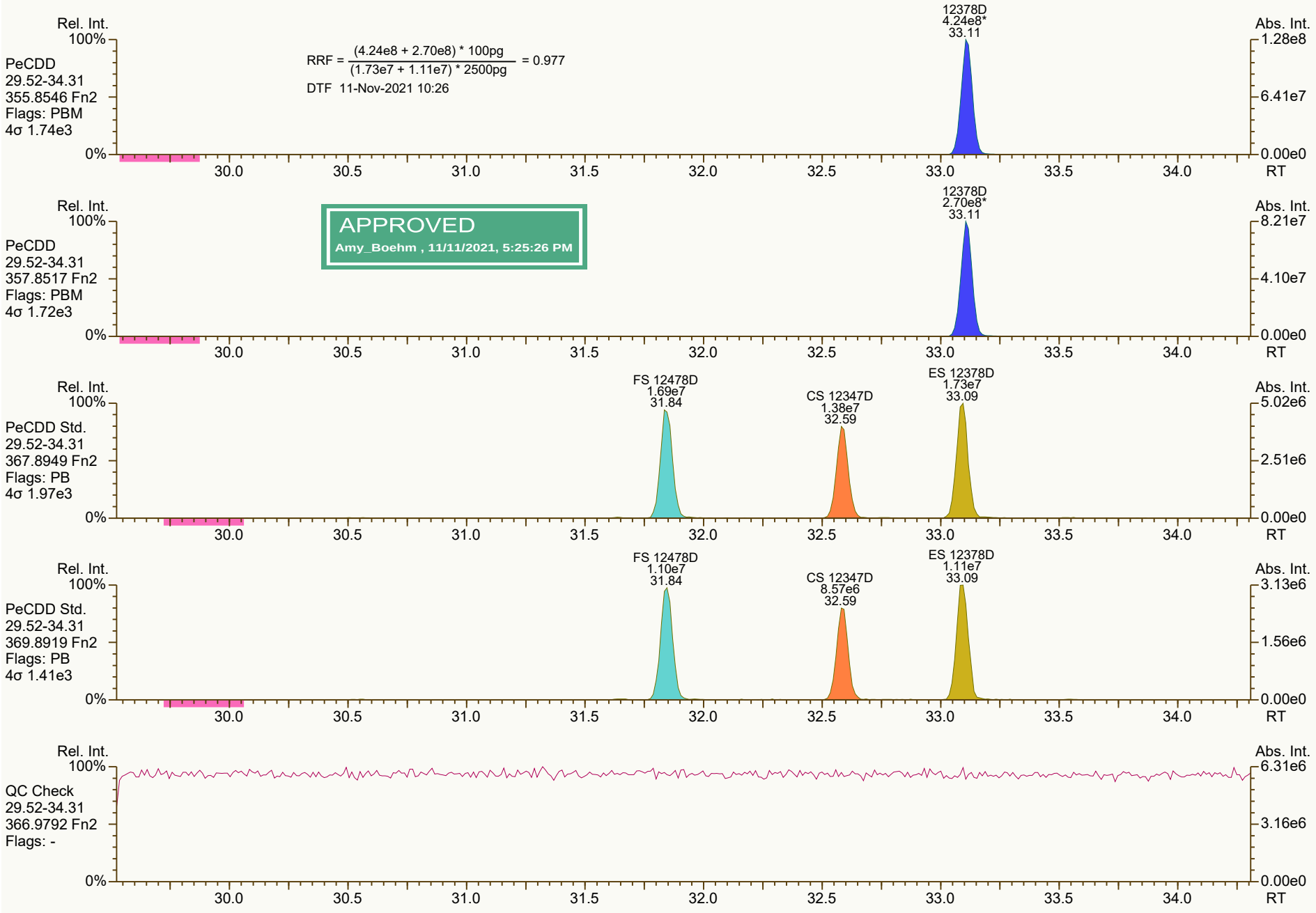
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

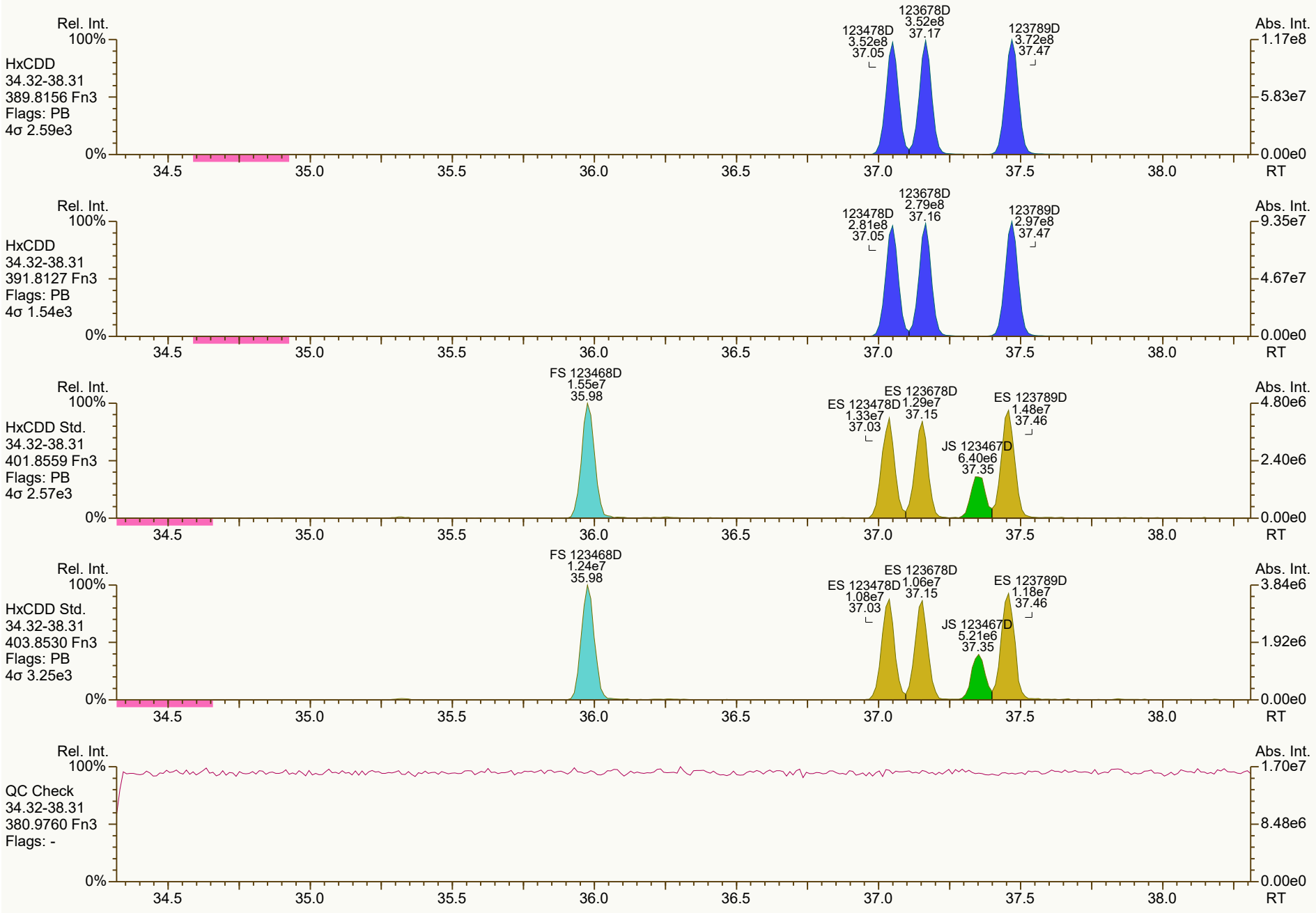
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

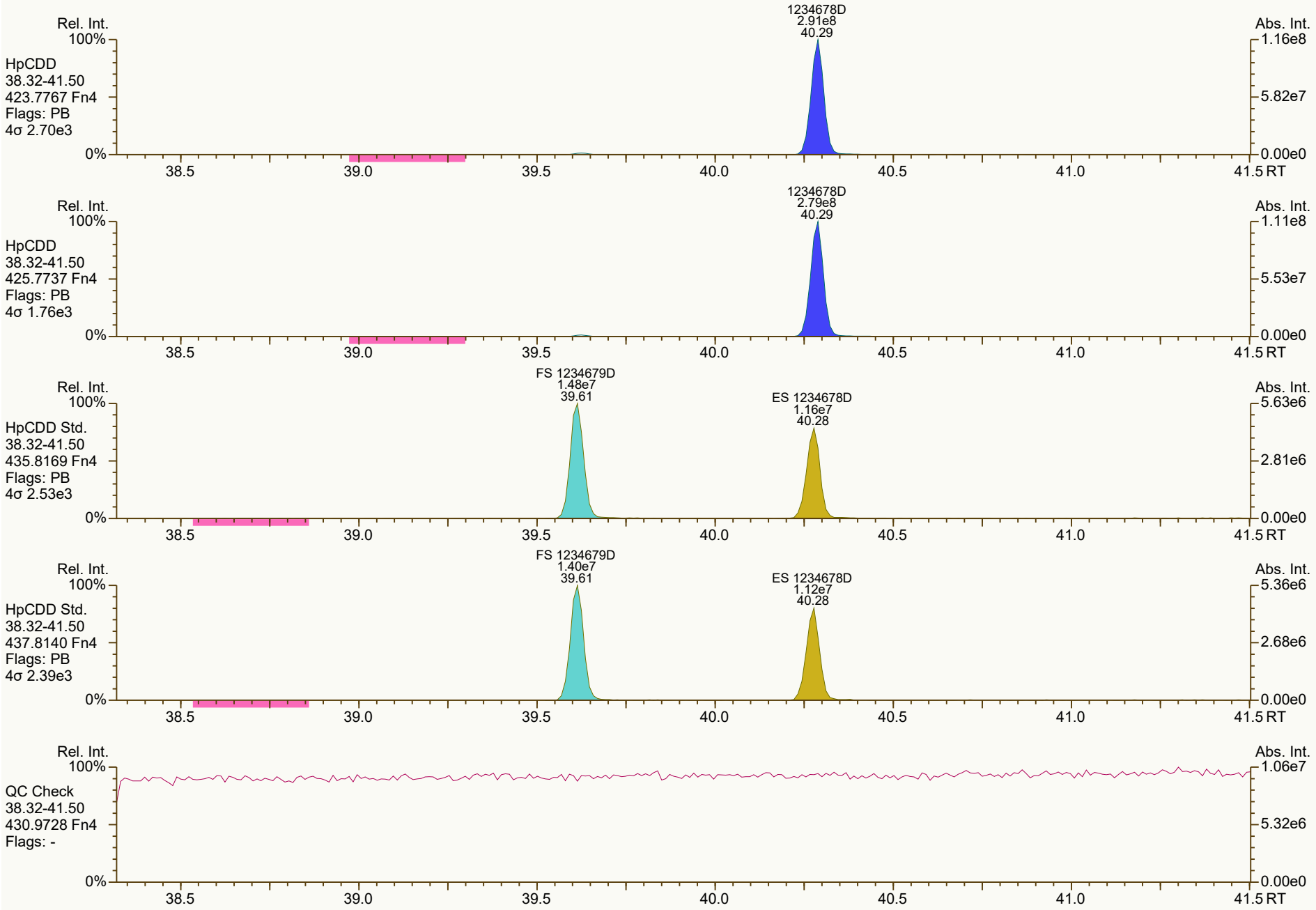
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

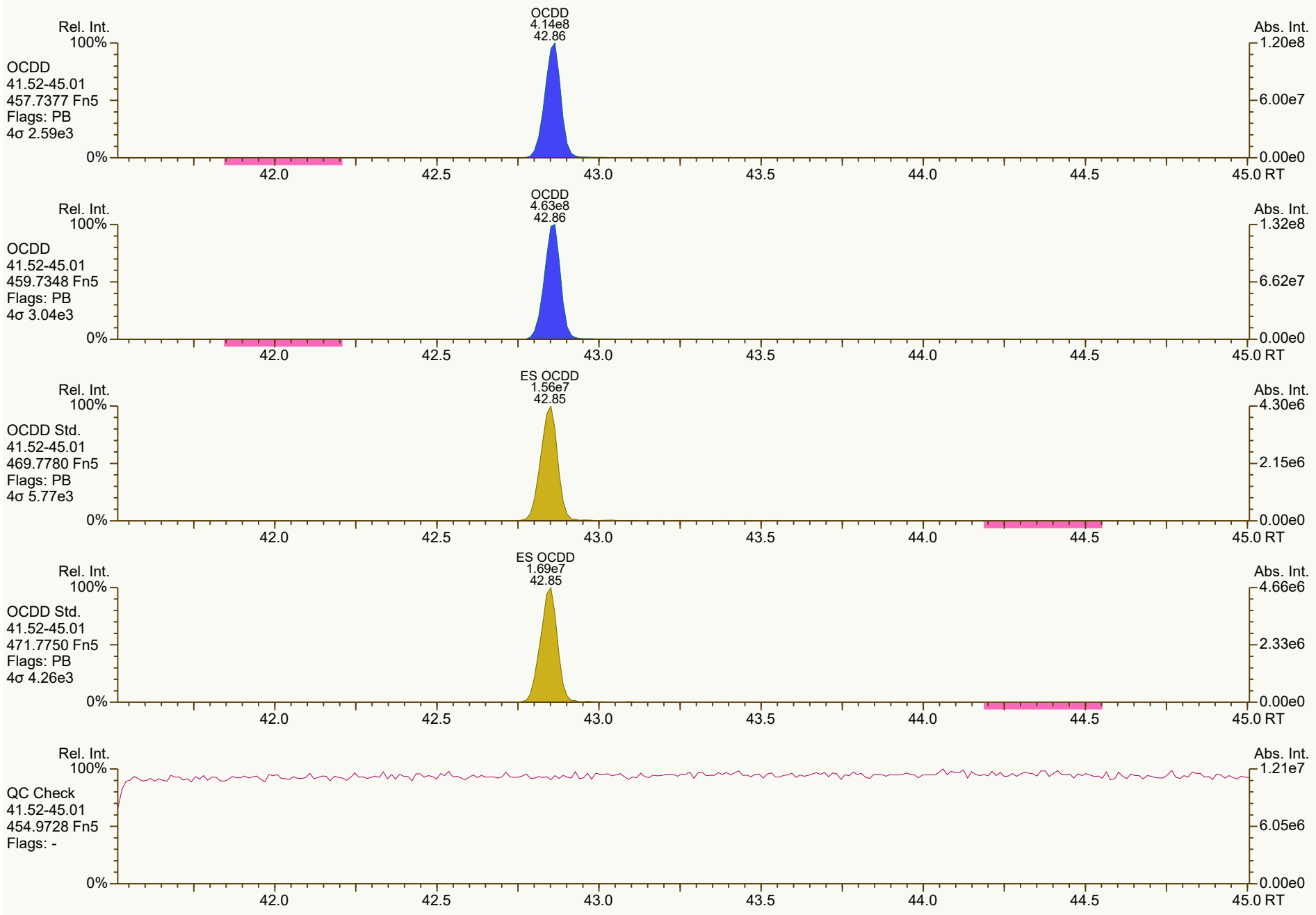

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
2378F
1.26e8
26.68
2.85e7
1.42e7
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
4.38e6
2.19e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
5.43e6
2.72e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
6.34e3
3.17e3

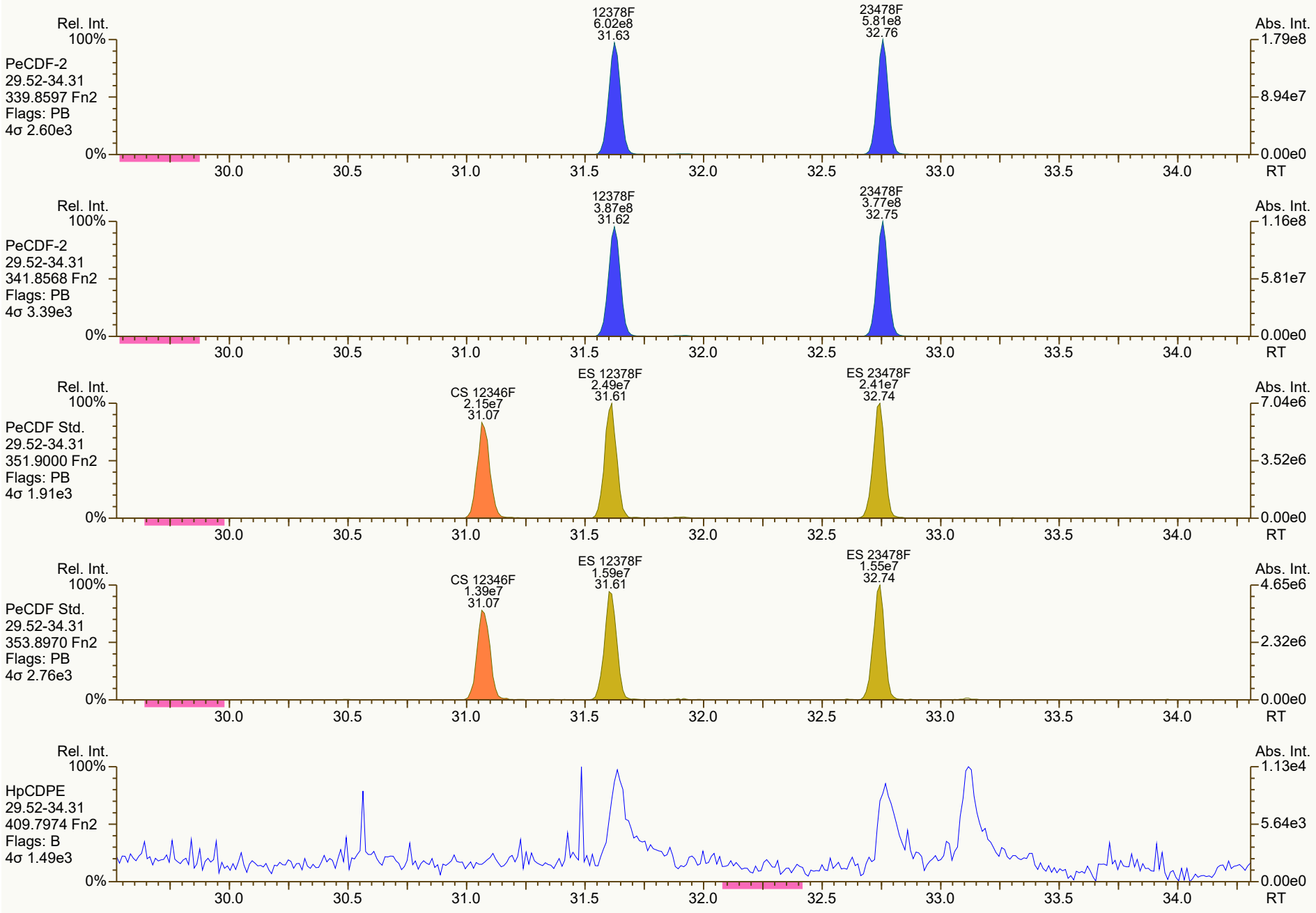
SGS ID: CS6_211110_DF_CA | Sample ID: 25-5-2 | Acq: 10-Nov-2021 15:40:10

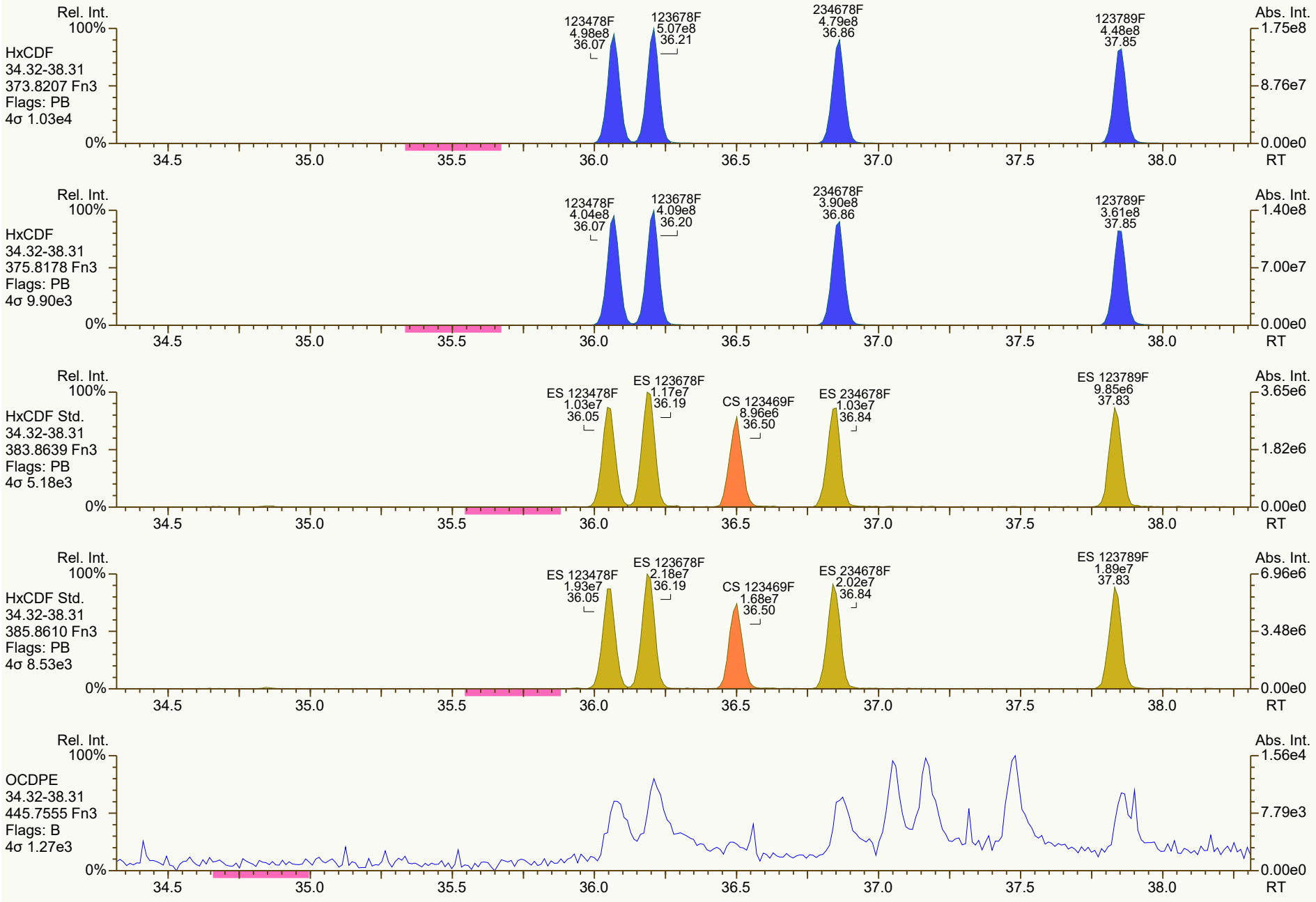
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 211110C10

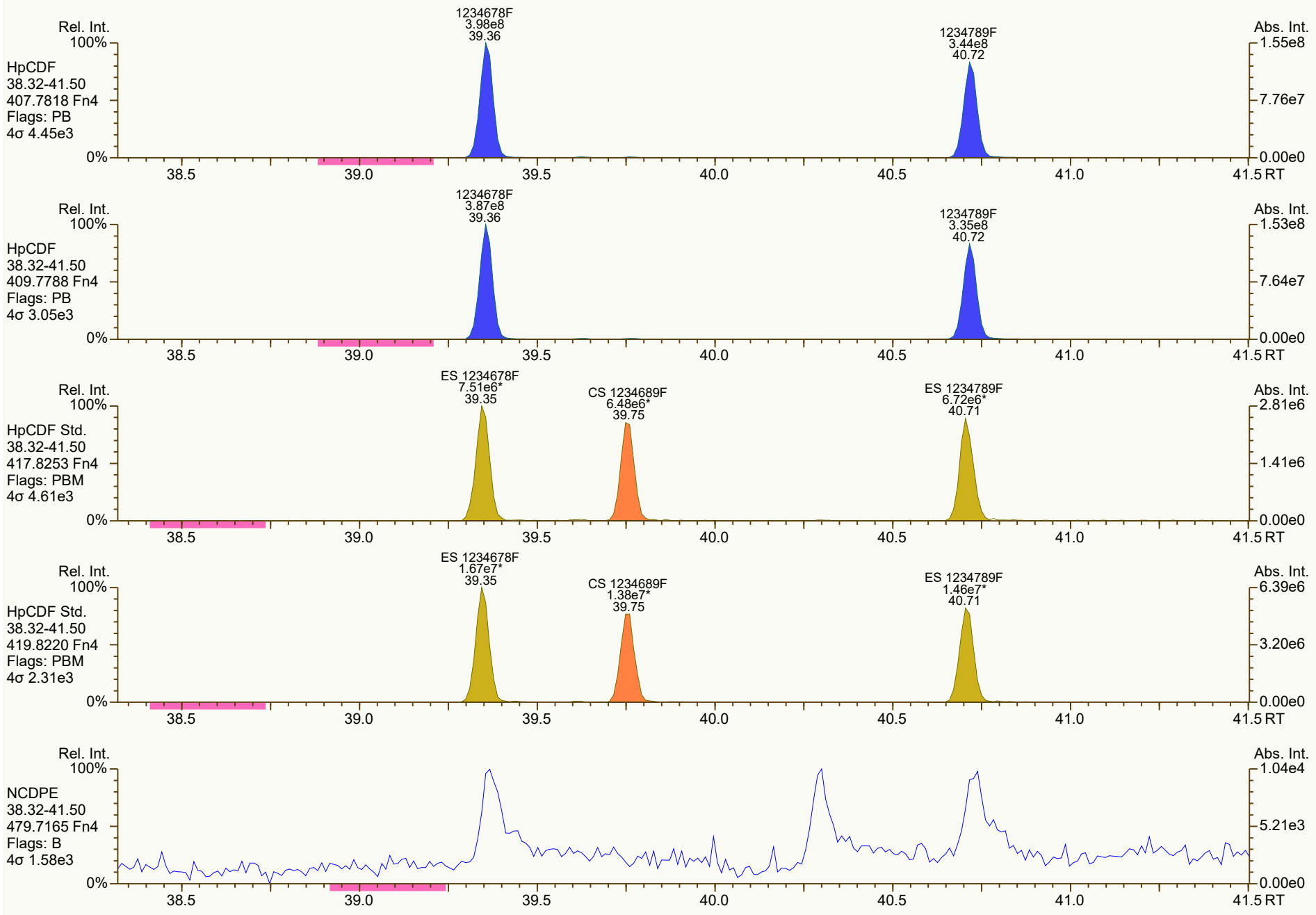


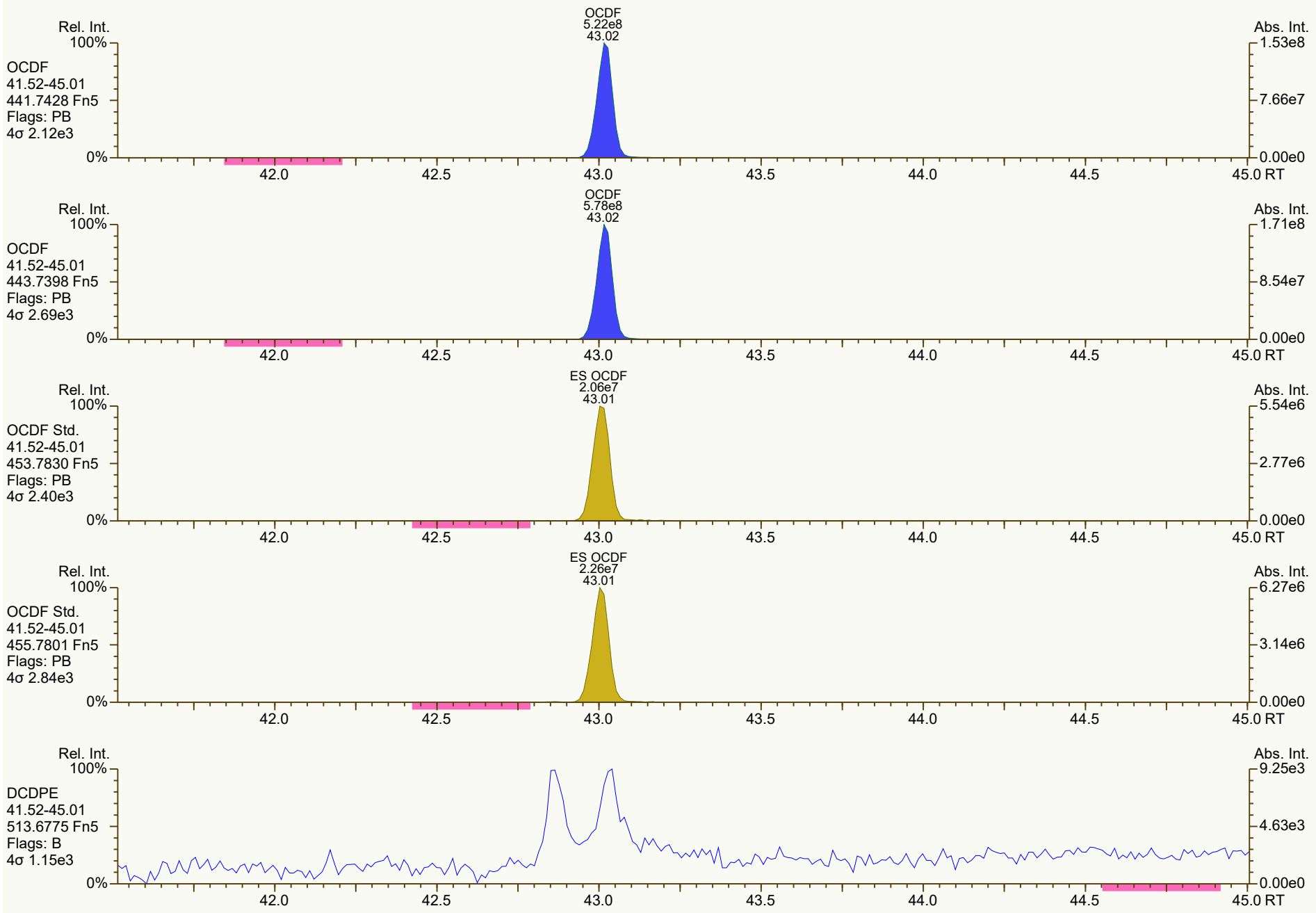
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

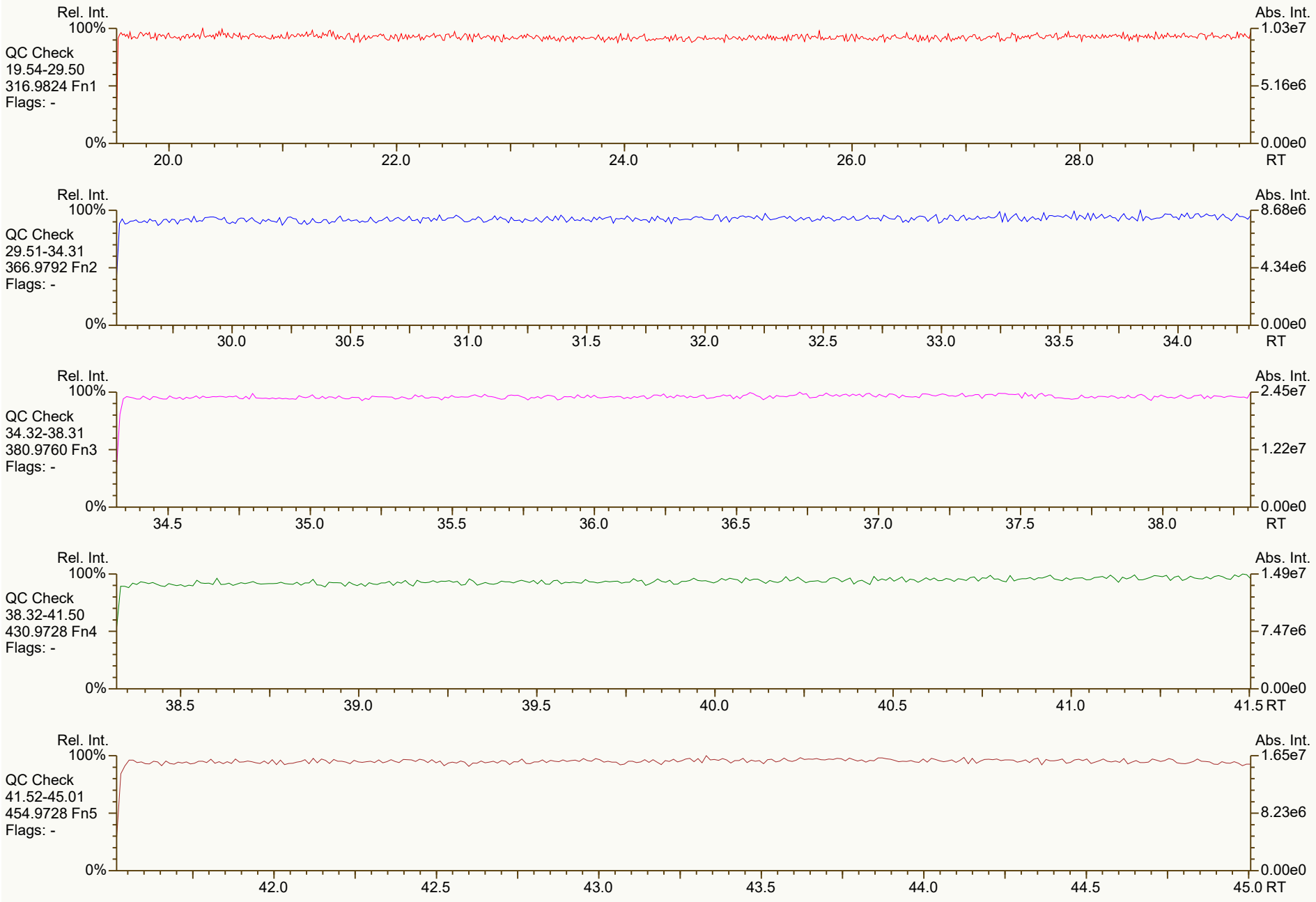
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736 *PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

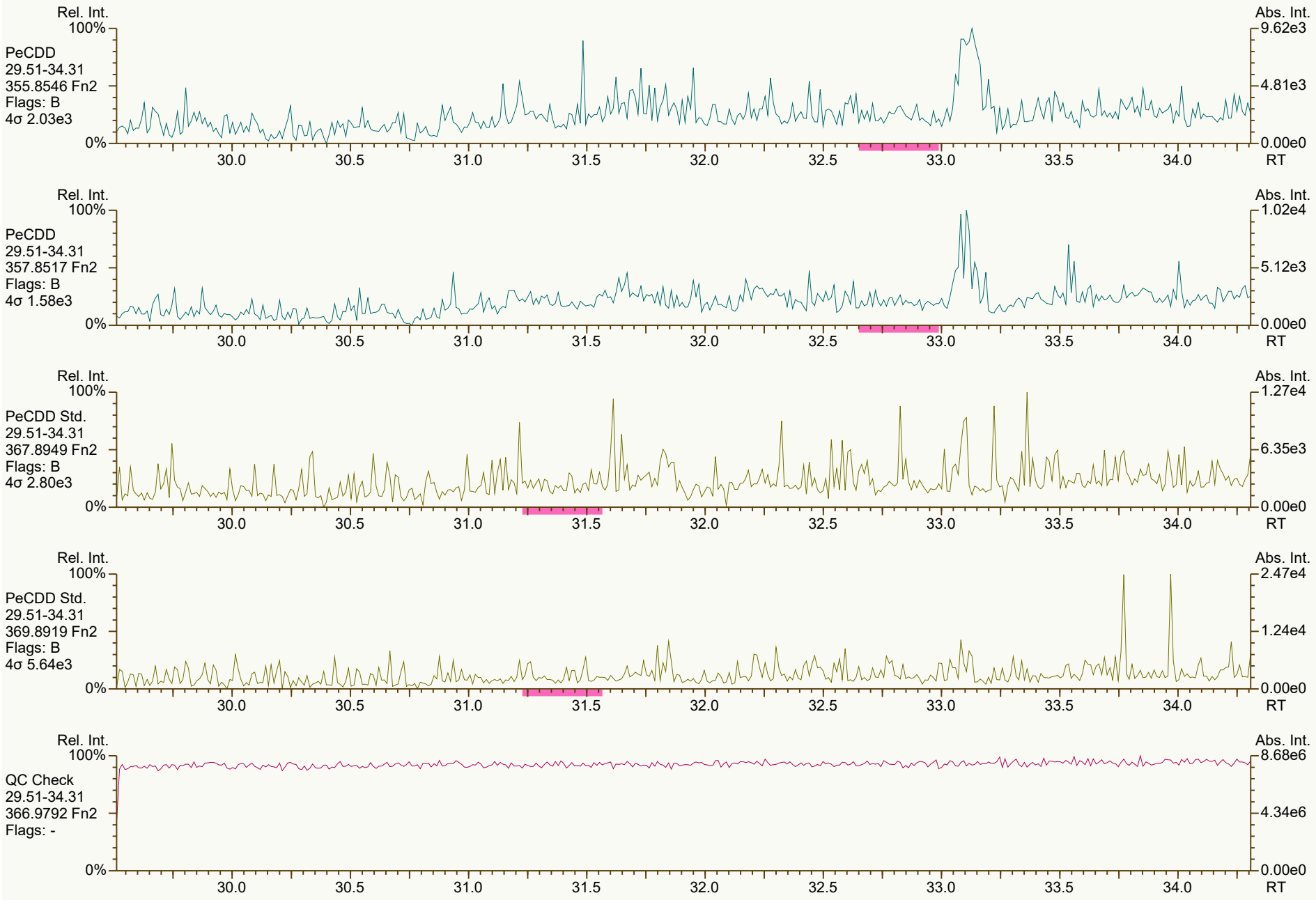
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

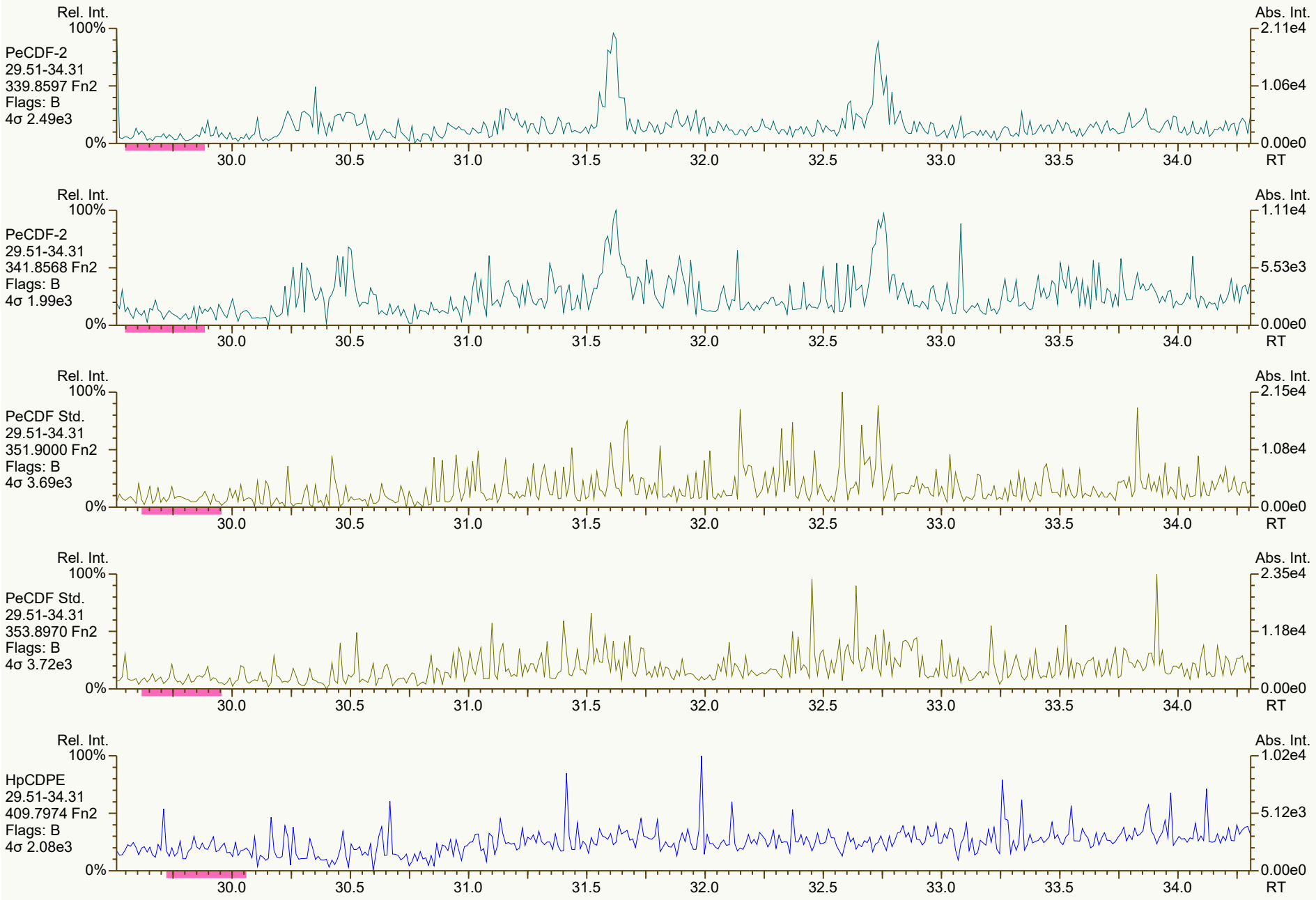

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

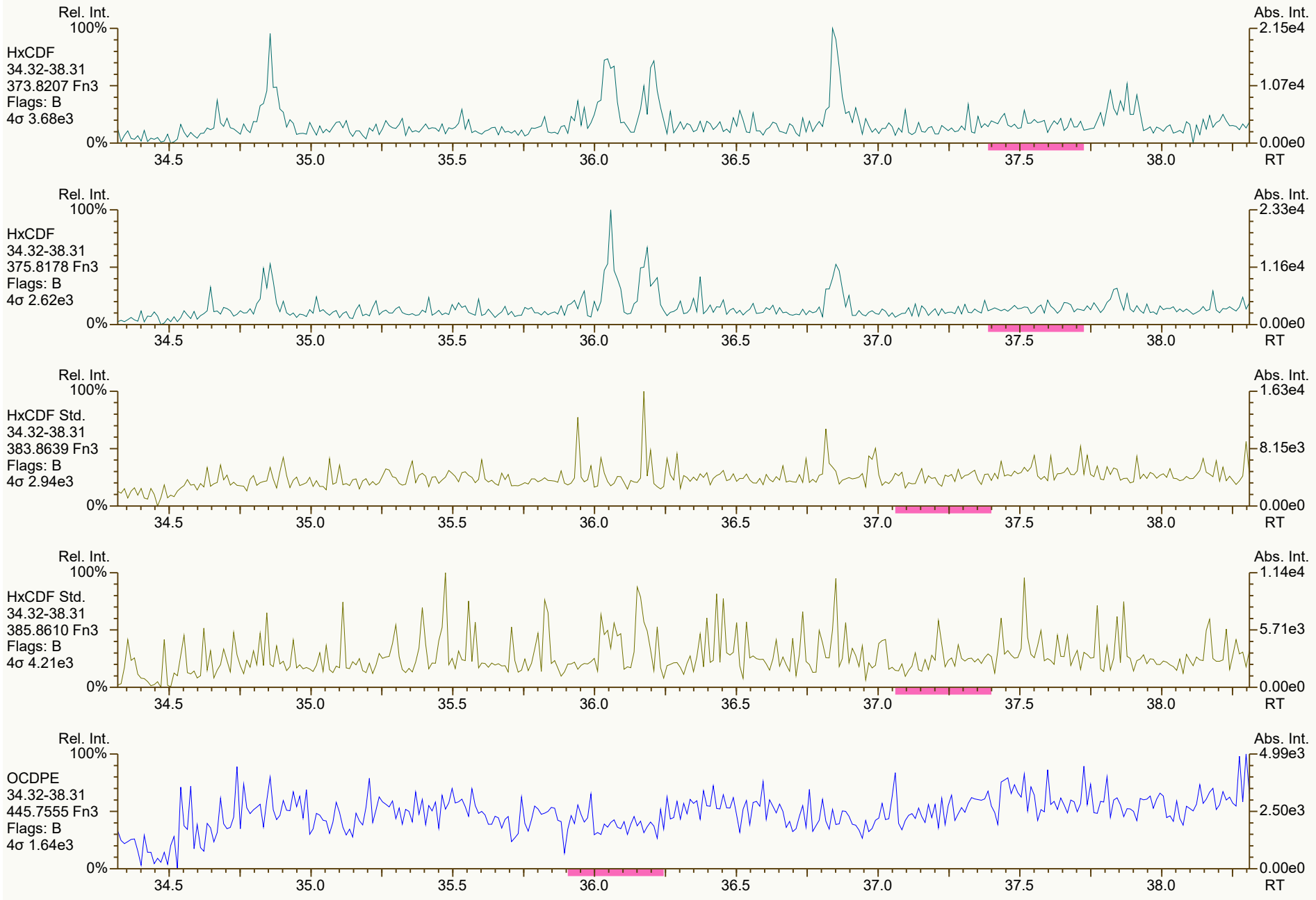

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

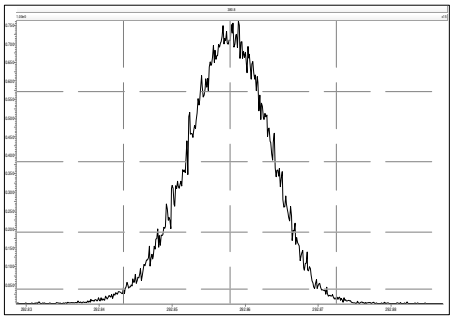

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

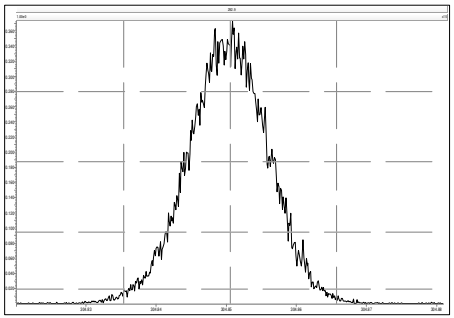
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

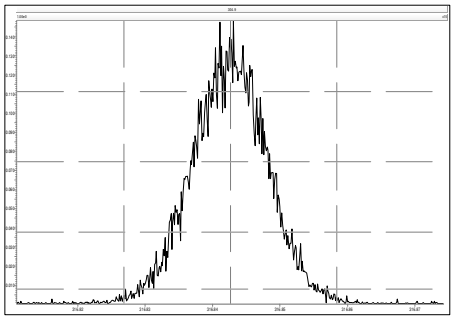
M 292.9824 R 10731



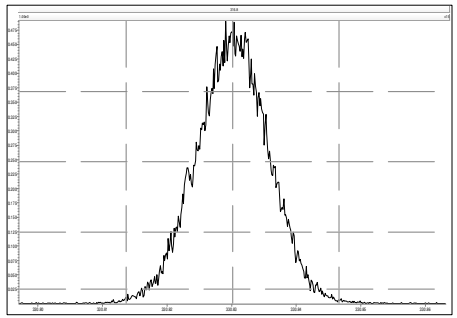
M 304.9824 R 11311



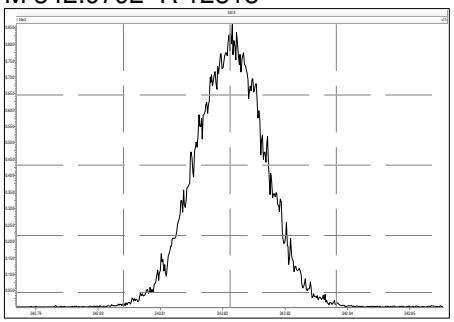
M 316.9824 R 12373



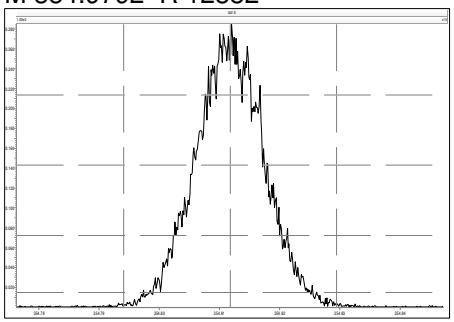
M 330.9792 R 12887



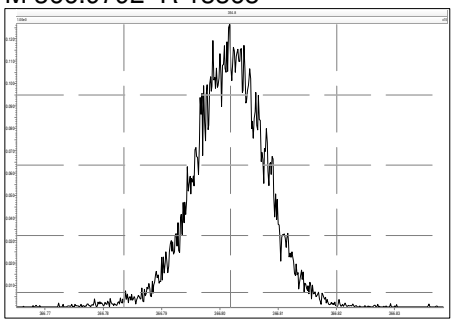
M 342.9792 R 12818



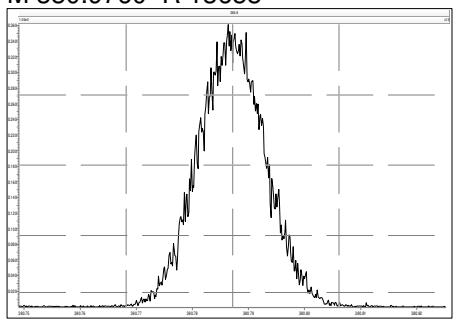
M 354.9792 R 12882



M 366.9792 R 13368



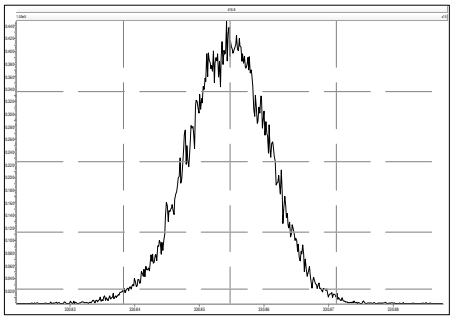
M 380.9760 R 13658



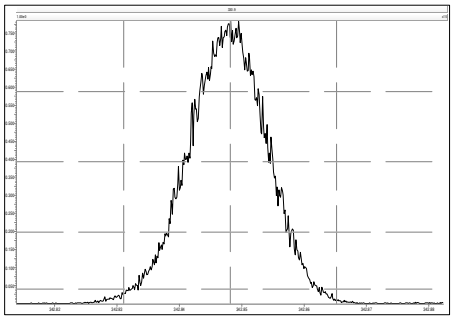
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

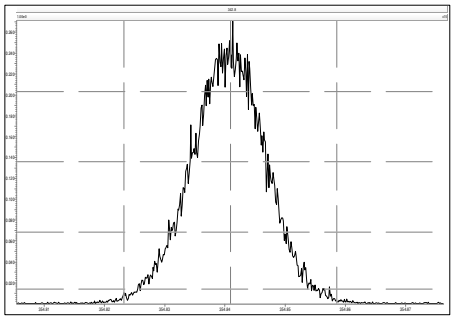
M 330.9792 R 11112



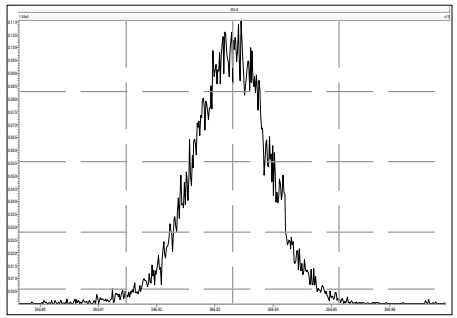
M 342.9792 R 11909



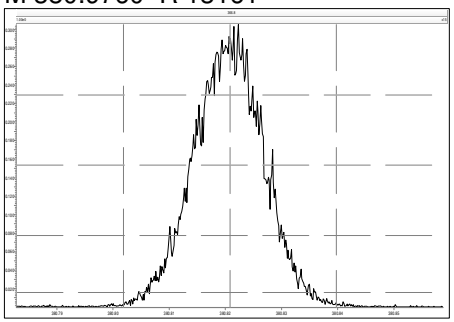
M 354.9792 R 11684



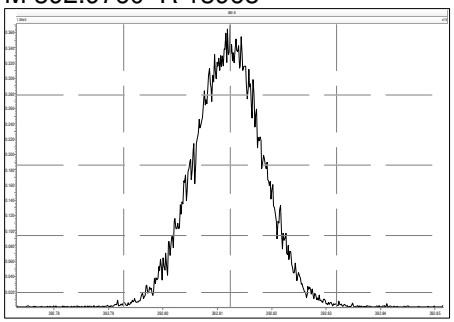
M 366.9792 R 11962



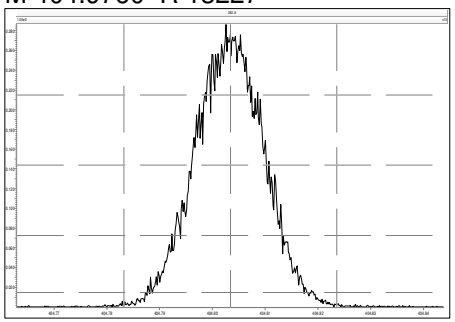
M 380.9760 R 13161



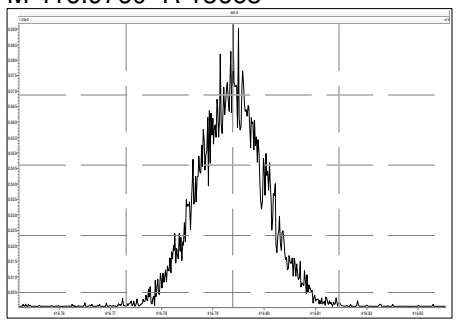
M 392.9760 R 13968



M 404.9760 R 13227



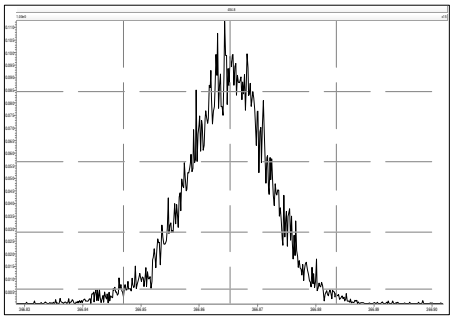
M 416.9760 R 13663



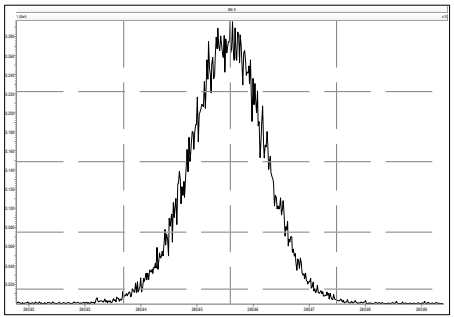
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

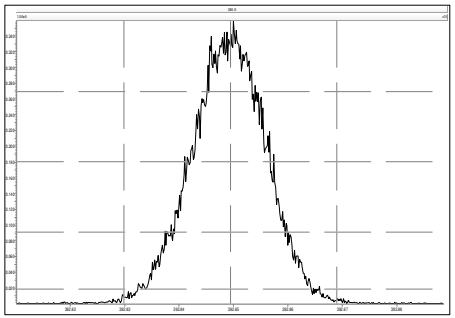
M 366.9792 R 10680



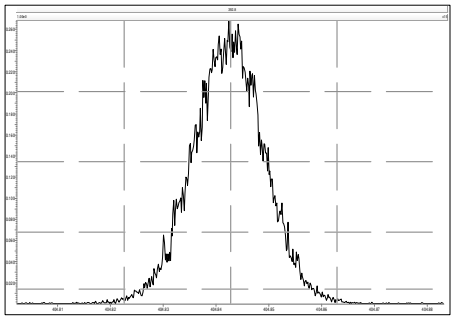
M 380.9760 R 12315



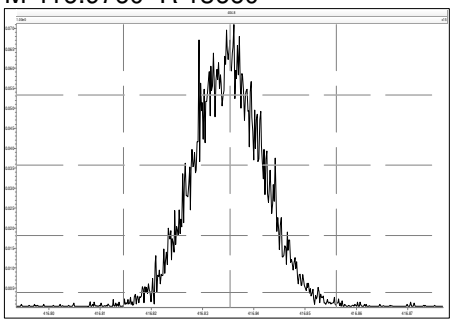
M 392.9760 R 12197



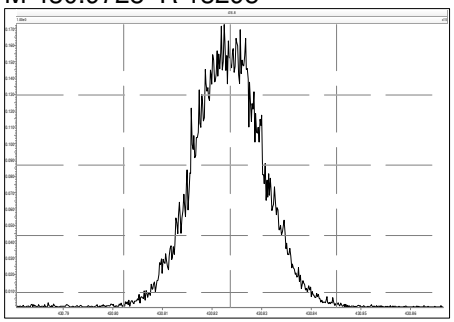
M 404.9760 R 12433



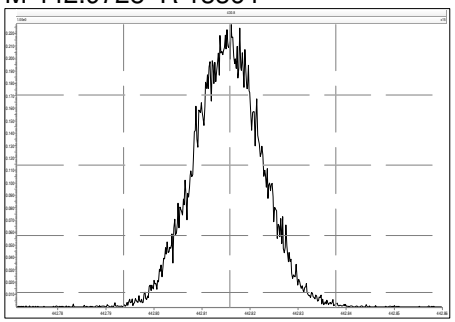
M 416.9760 R 13660



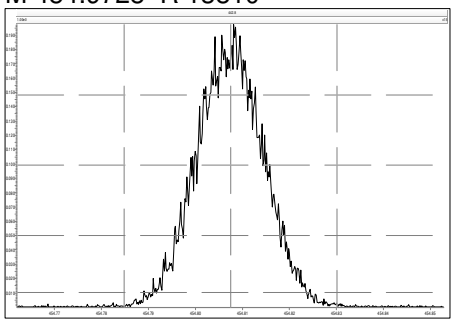
M 430.9728 R 13295



M 442.9728 R 13364



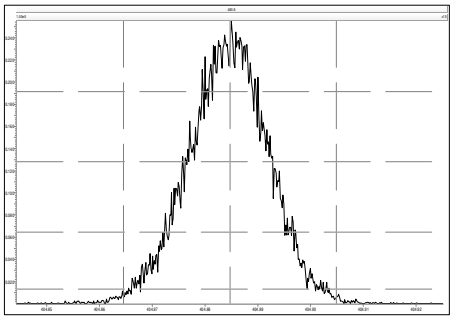
M 454.9728 R 13810



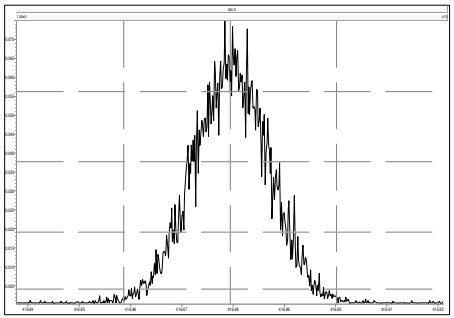
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

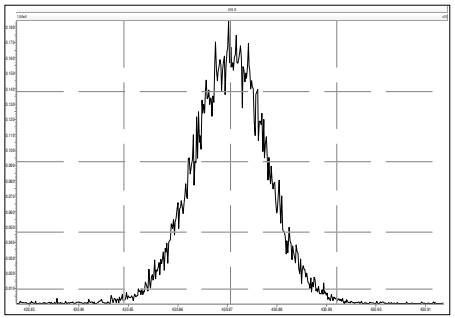
M 404.9760 R 11679



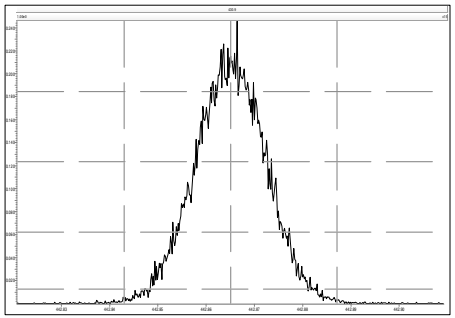
M 416.9760 R 12886



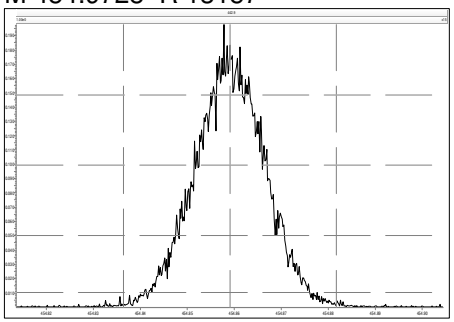
M 430.9728 R 12253



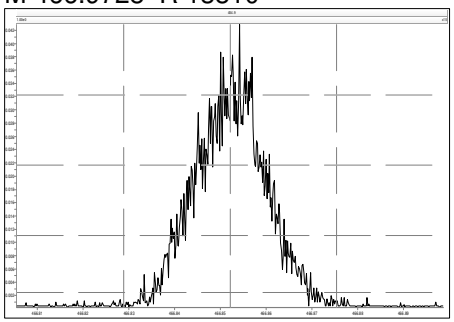
M 442.9728 R 12756



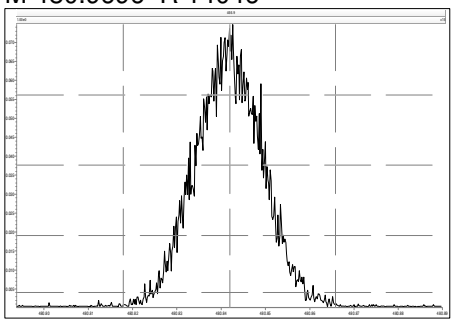
M 454.9728 R 13157



M 466.9728 R 13810



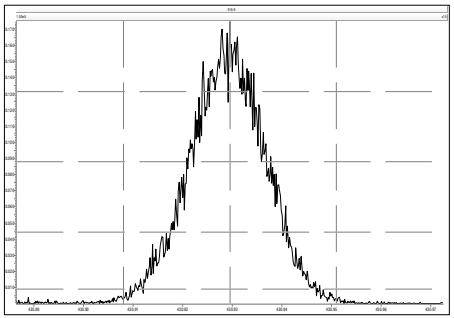
M 480.9696 R 14046



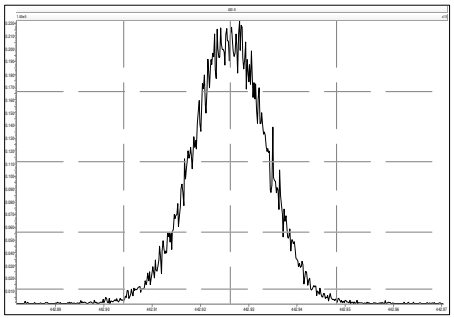
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

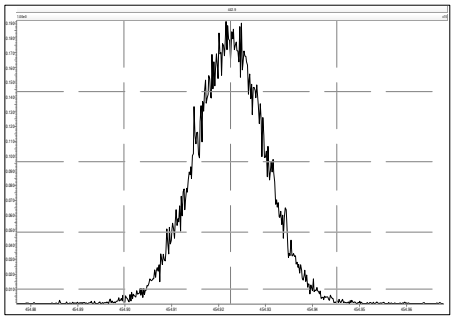
M 430.9728 R 11574



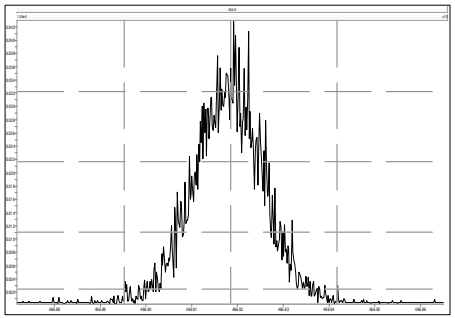
M 442.9728 R 12198



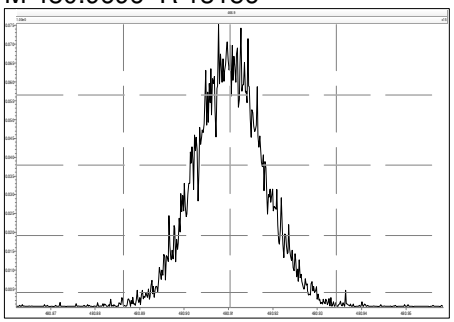
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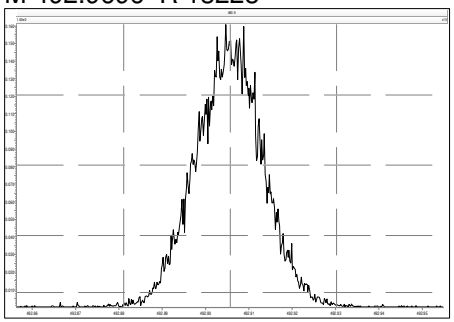
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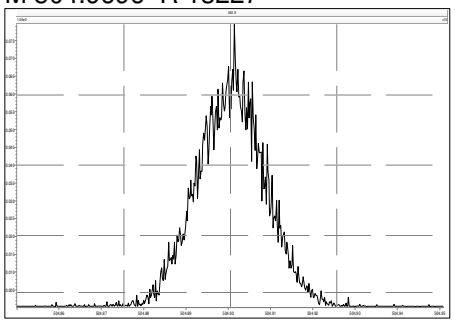
M 480.9696 R 13156



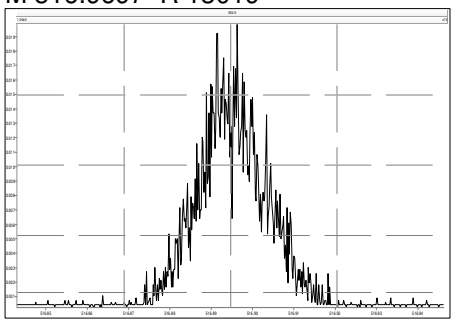
M 492.9696 R 13228



M 504.9696 R 13227



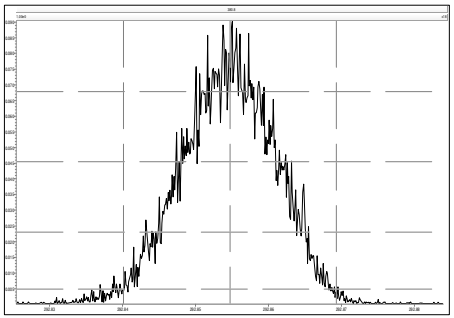
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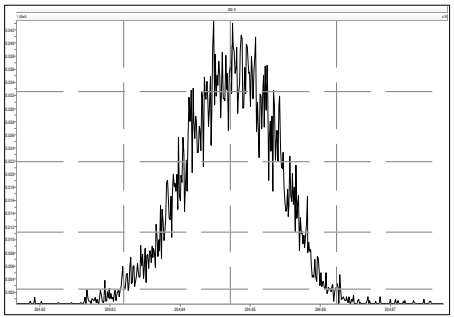
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

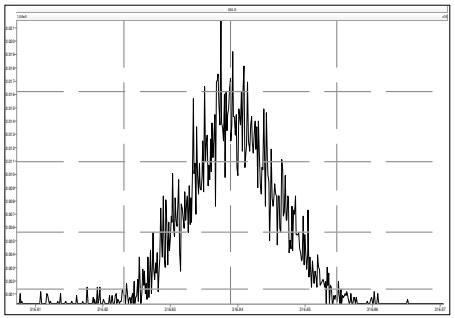
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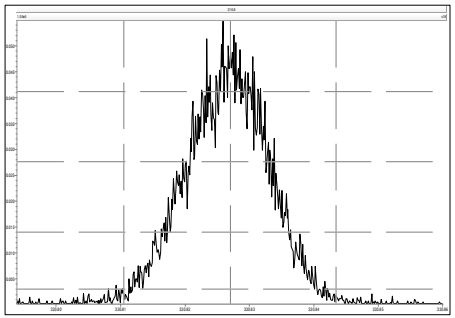
M 304.9824 R 10329



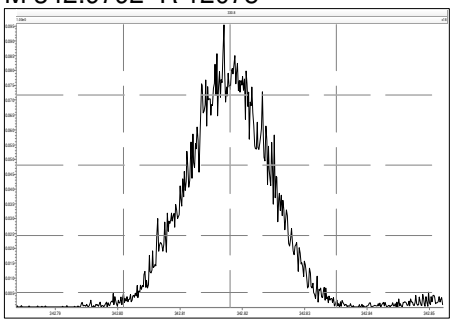
M 316.9824 R 11964



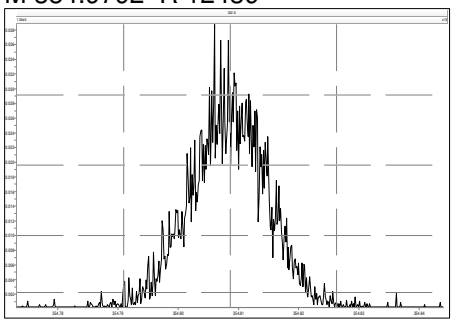
M 330.9792 R 11062



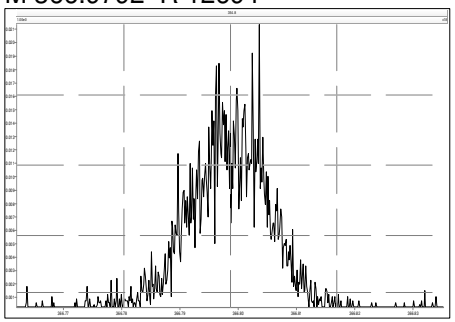
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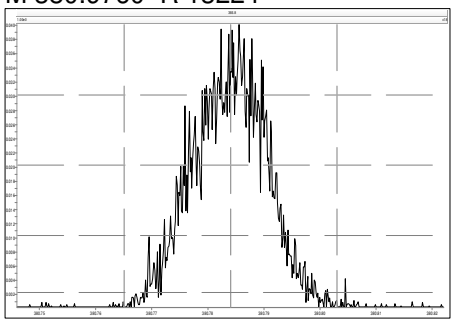
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M 366.9792 R 12694



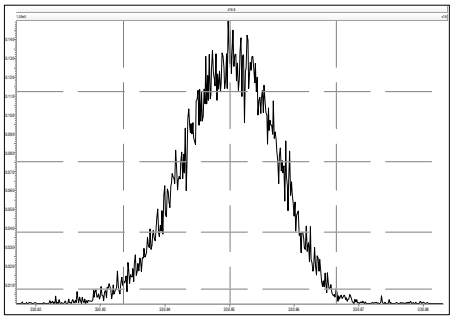
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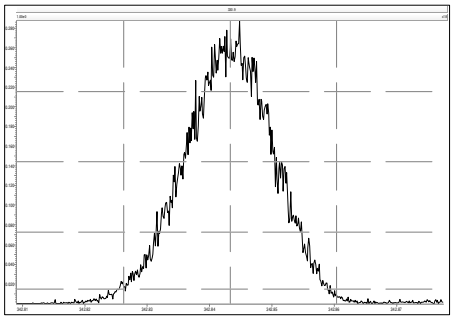
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

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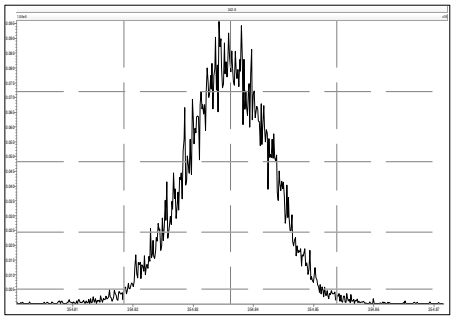
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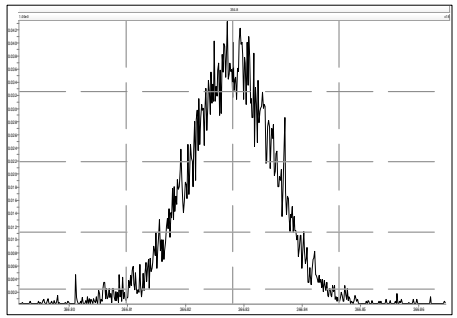
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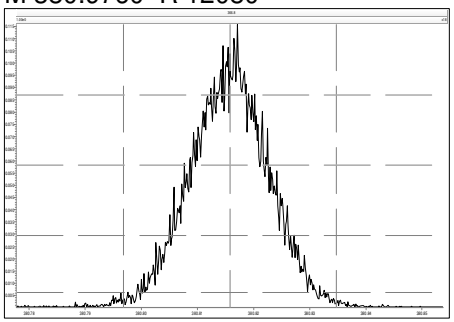
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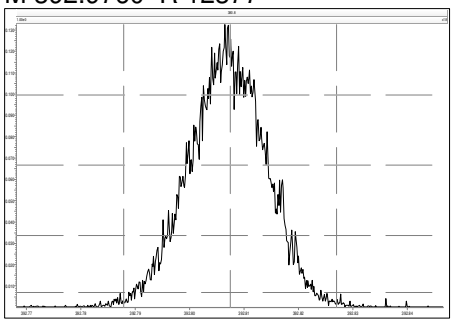
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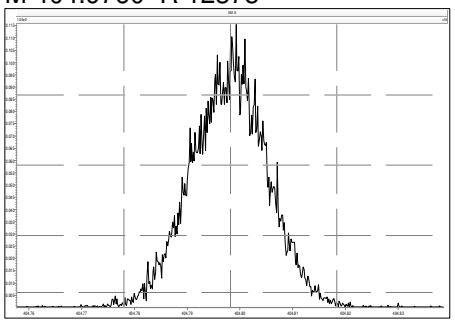
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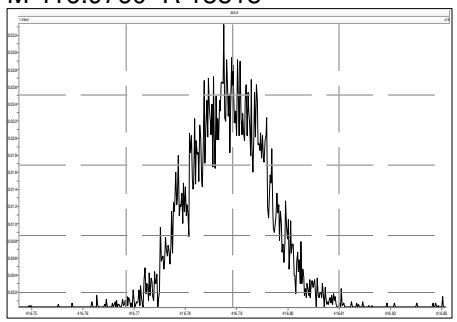
M 392.9760 R 12377



M 404.9760 R 12375



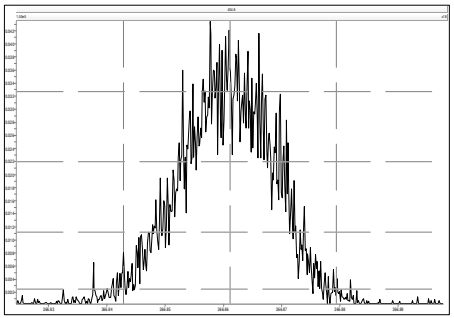
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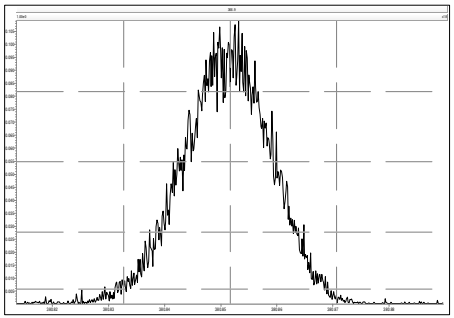
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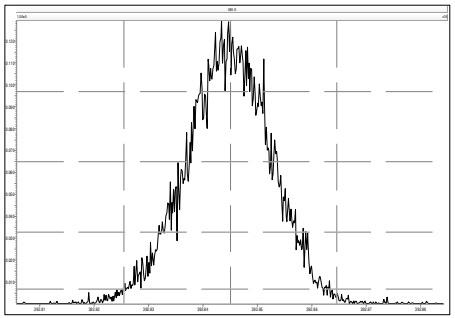
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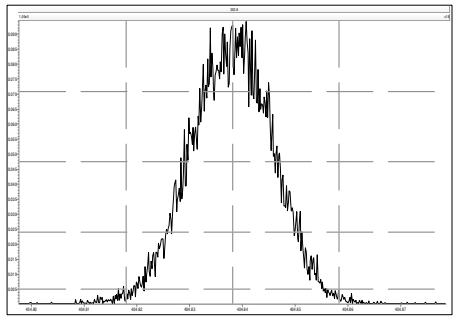
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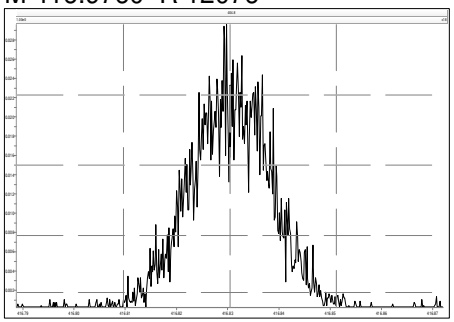
M 392.9760 R 10640



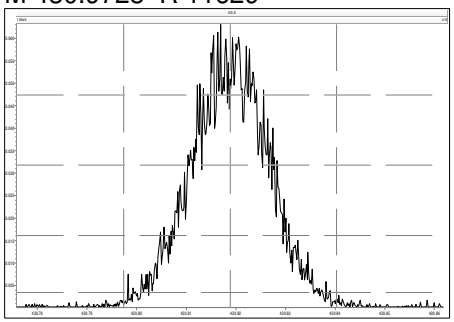
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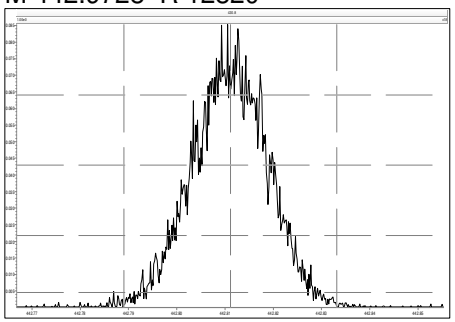
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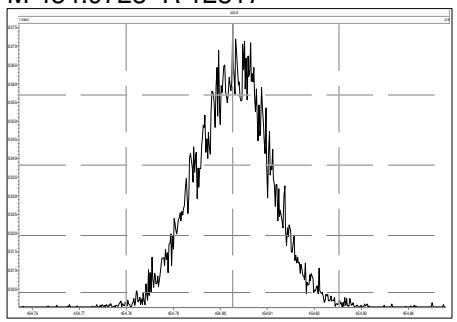
M 430.9728 R 11629



M 442.9728 R 12820



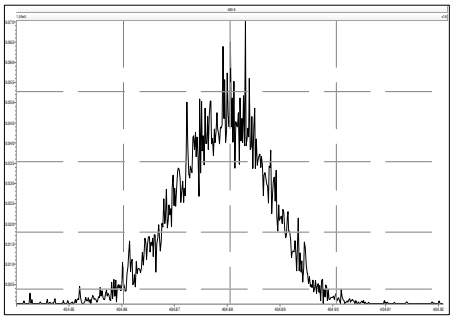
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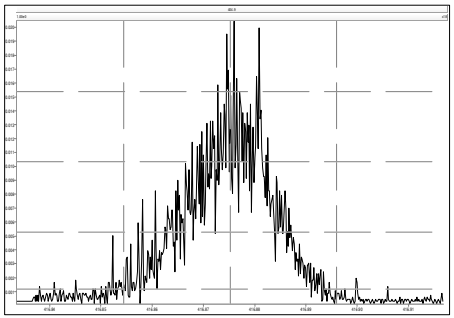
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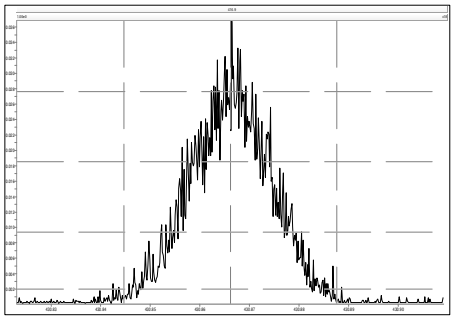
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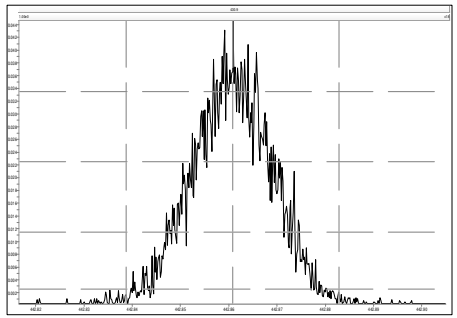
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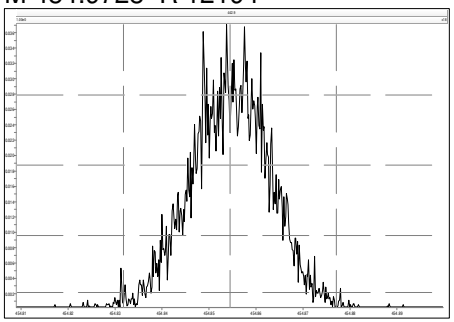
M 430.9728 R 11362



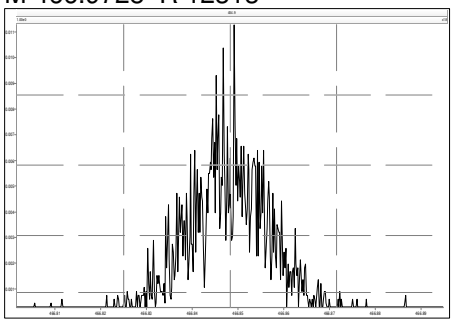
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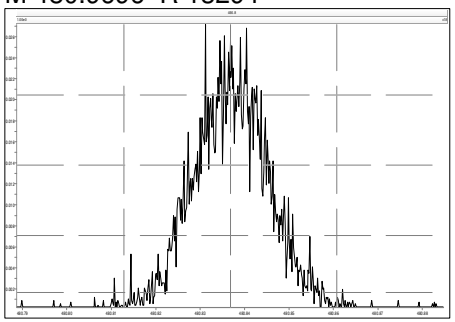
M 454.9728 R 12194



M 466.9728 R 12313



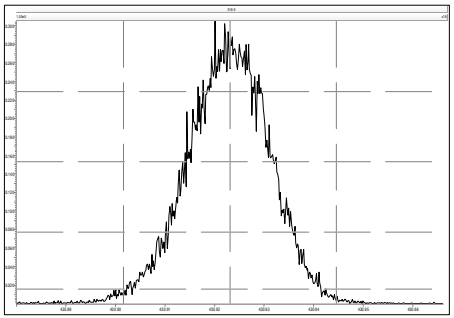
M 480.9696 R 13294



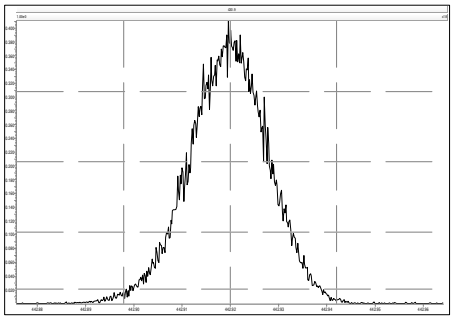
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

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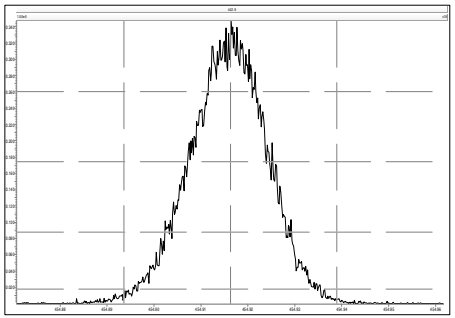
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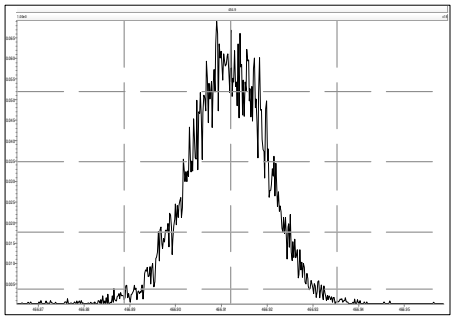
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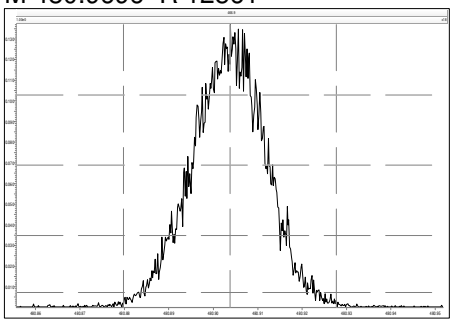
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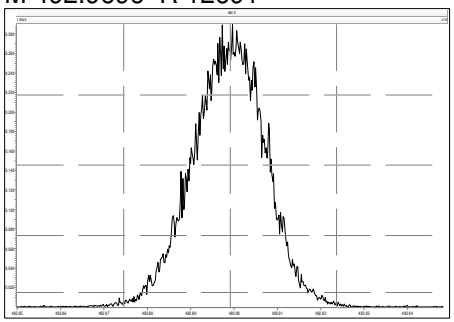
M 466.9728 R 12562



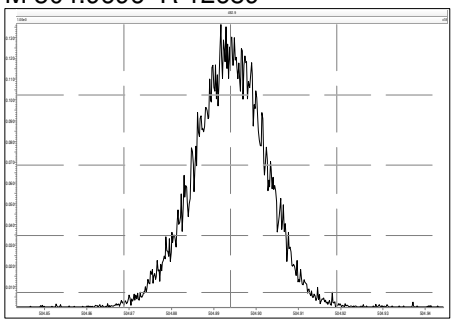
M 480.9696 R 12561



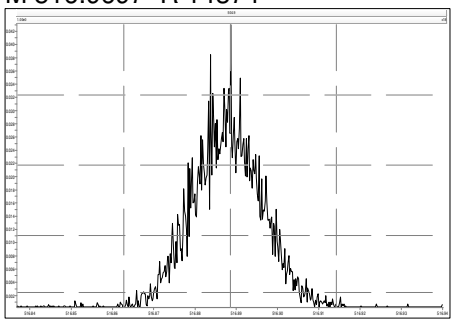
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18842_DF
Client ID: 0_18842_OPR001
Datafile: 220123C02

APPROVED
Carla_Lyon , 1/26/2022, 12:21:00 PM

Acq'd: 23 Jan 2022 13:50 DTF
UTP: 24-Jan-2022 15:20:18 MLS
Report: 24 Jan 2022 15:24 MS

Wt/Vol: 1 uL
J-level: 0.25 pg/uL **Split:** 1
Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

ICAL: HRMS3_DF_10272021 10NOV2021
Checkcode: 322-778-GPP

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0006	-0.3	2.28E+06	0.82	Y	1.18	11.4	5414.473	0.293
12378-PeCDD	33.97		1.0006	1.0006	0	8.01E+06	1.64	Y	1.04	50.7	3928.619	0.266
123478-HxCDD	37.85		1.0004	1.0004	0	7.81E+06	1.25	Y	1.09	54.5	2357.0007	0.147
123678-HxCDD	37.96		1.0034	1.0034	0	1.08E+07	1.28	Y	1.15	55.3	2357.0007	0.131
123789-HxCDD	38.25		1.0109	1.0111	+0.5	8.34E+06	1.30	Y	1.05	51.4	2357.0007	0.165
1234678-HpCDD	40.88		1.0003	1.0005	+0.5	7.06E+06	1.06	Y	1.06	57.3	3828.041	0.278
OCDD	43.52		1.0002	1.0003	+0.3	8.52E+06	0.88	Y	1.13	111	3338.773	0.452
2378-TCDF	27.81		1.0008	1.0007	-0.2	3.44E+06	0.78	Y	1.08	11.8	4881.919	0.188
12378-PeCDF	32.52		1.0005	1.0005	0	1.29E+07	1.57	Y	1.02	50.5	7544.014	0.328
23478-PeCDF	33.63		1.0005	1.0004	-0.2	1.38E+07	1.50	Y	1.02	53.8	7544.014	0.298
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.10E+07	1.25	Y	1.27	53.8	4667.512	0.222
123678-HxCDF	36.99		1.0004	1.0004	0	1.42E+07	1.28	Y	1.15	55.5	4667.512	0.202
234678-HxCDF	37.68		1.0004	1.0007	+0.7	1.33E+07	1.27	Y	1.19	58.2	4667.512	0.213
123789-HxCDF	38.61		1.0004	1.0006	+0.5	8.62E+06	1.29	Y	1.16	55.9	4667.512	0.312
1234678-HpCDF	39.95		1.0002	1.0004	+0.5	1.11E+07	1.05	Y	1.37	54.7	5433.133	0.214
1234789-HpCDF	41.34		1.0003	1.0003	0	7.44E+06	1.04	Y	1.31	53.3	5433.133	0.379
OCDF	43.71		1.0002	1.0003	+0.3	1.05E+07	0.89	Y	1.07	105	4398.083	0.5

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0237	+0.7	1.68E+07	0.83	Y	1.05	91.5
ES 12378-PeCDD	33.95	1.2121	1.2134	+2.6	1.52E+07	1.59	Y	0.88	98.5
ES 123478-HxCDD	37.84	0.9921	0.9923	+0.5	1.32E+07	1.29	Y	0.97	91.5
ES 123678-HxCDD	37.95	0.9951	0.9953	+0.5	1.71E+07	1.32	Y	0.94	122
ES 123789-HxCDD	38.24	1.0025	1.0029	+0.9	1.55E+07	1.27	Y	1.09	95.8
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.16E+07	1.02	Y	0.91	86.2
ES OCDD	43.51	1.1403	1.1410	+1.8	1.36E+07	0.95	Y	0.62	73.7
ES 2378-TCDF	27.79	1.0506	1.0511	+0.8	2.71E+07	0.81	Y	1.06	83.6
ES 12378-PeCDF	32.51	1.2281	1.2297	+3.1	2.49E+07	1.53	Y	0.91	89.2
ES 23478-PeCDF	33.61	1.2698	1.2715	+3.4	2.52E+07	1.56	Y	0.88	93.2
ES 123478-HxCDF	36.83	0.9657	0.9658	+0.2	1.61E+07	0.55	Y	1.20	90.7
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.22E+07	0.55	Y	1.35	111
ES 234678-HxCDF	37.66	0.9874	0.9876	+0.5	1.93E+07	0.55	Y	1.24	105
ES 123789-HxCDF	38.59	1.0116	1.0121	+1.2	1.33E+07	0.52	Y	1.16	77.6
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.49E+07	0.46	Y	0.97	104
ES 1234789-HpCDF	41.33	1.0830	1.0838	+2.0	1.07E+07	0.44	Y	0.85	84.8
ES OCDF	43.69	1.1451	1.1459	+2.1	1.86E+07	0.96	Y	0.81	78

Lab ID: OPR1_18842_DF | Acq'd: 23 Jan 2022 13:50 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 | UTP: 24-Jan-2022 15:20:18 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 322-778-GPP

Datafile: 220123C02 | Report: 24 Jan 2022 15:24 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	1.76E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.06E+07	0.77	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.39E+06	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0245	+0.7	8.29E+06	n/a	-	1.20	98	
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.53E+07	1.54	Y	0.75	116	
CS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.48E+07	1.59	Y	0.85	95.1	
CS 123469-HxCDF	37.29		0.9778	0.9780	+0.4	2.17E+07	0.53	Y	1.12	131	
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.64E+07	0.45	Y	0.89	125	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0245~~	~~+0.7~~	~~8.29E+06~~	~~n/a~~		~~1.15~~	~~107~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.53E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~117~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2095~~	~~+2.3~~	~~2.48E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9780~~	~~+0.4~~	~~2.17E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.64E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~120~~	

Totals	Conc	EMPC
Total TCDD	52.1	52.1
Total PeCDD	75.1	75.1
Total HxCDD	174	174
Total HpCDD	69.4	69.4
Total Tetra-Octa Dioxins	481	481
Total TCDF	61.7	61.7
Total PeCDF	199	199
Total HxCDF	358	358
Total HpCDF	108	108
Total Tetra-Octa Furans	832	832
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.82	0.82
Response	2.28E+06	2.28E+06

Lab ID: OPR1_18842_DF | **Acq'd:** 23 Jan 2022 13:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 | **UTP:** 24-Jan-2022 15:20:18 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 322-778-GPP

Datafile: 220123C02 | **Report:** 24 Jan 2022 15:24 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8746	-1.4	3.05E+06	0.78	Y	1.18	15.3	5414.473	0.293
1379-TCDD	NotFnd		0.8876						1.18		5414.473	0.293
1369-TCDD	NotFnd		0.9023						1.18		5414.473	0.293
1469-TCDD	NotFnd		0.9291						1.18		5414.473	0.293
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5414.473	0.293
1378-TCDD	NotFnd		0.9440						1.18		5414.473	0.293
1268-TCDD	NotFnd		0.9506						1.18		5414.473	0.293
1478-TCDD	NotFnd		0.9591						1.18		5414.473	0.293
1279-TCDD	NotFnd		0.9649						1.18		5414.473	0.293
1234/1269-TCDD	NotFnd		0.9771						1.18		5414.473	0.293
1236-TCDD	NotFnd		0.9820						1.18		5414.473	0.293
1237/1238-TCDD	NotFnd		0.9908						1.18		5414.473	0.293
1239-TCDD	28.49		0.9954	0.9949	-0.9	1.99E+06	0.77	Y	1.18	9.95	5414.473	0.293
2378-TCDD	**28.66**		**1.0008**	1.0006	**-0.3**	2.28E+06	0.82	Y	**1.18**	**11.4**	**5414.473**	**0.293**
1278-TCDD	NotFnd		1.0121						1.18		5414.473	0.293
1267-TCDD	NotFnd		1.0167						1.18		5414.473	0.293
1289-TCDD	29.62		1.0341	1.0343	+0.4	3.08E+06	0.80	Y	1.18	15.4	5414.473	0.293
12479/12468-PeCDD	31.47		0.9273	0.9270	-0.6	1.90E+06	1.50	Y	1.04	12	3928.619	0.266
12469-PeCDD	NotFnd		0.9430						1.04		3928.619	0.266
12368-PeCDD	NotFnd		0.9592						1.04		3928.619	0.266
12478-PeCDD	NotFnd		0.9647						1.04		3928.619	0.266
12379-PeCDD	NotFnd		0.9676						1.04		3928.619	0.266
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3928.619	0.266
12346/12347-PeCDD	NotFnd		0.9860						1.04		3928.619	0.266
12378-PeCDD	33.97		**1.0006**	**1.0006**	**0**	**8.01E+06**	**1.64**	**Y**	**1.04**	**50.7**	**3928.619**	**0.266**
12367-PeCDD	NotFnd		1.0034						1.04		3928.619	0.266
12389-PeCDD	34.40		1.0134	1.0133	-0.2	1.95E+06	1.51	Y	1.04	12.3	3928.619	0.266
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	2.10E+06	1.30	Y	1.10	12.6	2357.0007	0.147
123468-HxCDD	NotFnd		0.9715						1.10		2357.0007	0.147
123679/123689-HxCDD	NotFnd		0.9793						1.10		2357.0007	0.147
123469-HxCDD	NotFnd		0.9829						1.10		2357.0007	0.147
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**7.81E+06**	**1.25**	**Y**	1.09	**54.5**	**2357.0007**	**0.147**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.08E+07**	**1.28**	**Y**	1.15	**55.3**	**2357.0007**	**0.131**
123467-HxCDD	NotFnd		1.0082						1.10		2357.0007	0.147
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**8.34E+06**	**1.30**	**Y**	1.05	**51.4**	**2357.0007**	**0.165**

Lab ID: OPR1_18842_DF | **Acq'd:** 23 Jan 2022 13:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 | **UTP:** 24-Jan-2022 15:20:18 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 322-778-GPP

Datafile: 220123C02 | **Report:** 24 Jan 2022 15:24 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9838	0	1.50E+06	1.06	Y	1.06	12.2	3828.041	0.278
1234678-HpCDD	**40.88**		**1.0003**	**1.0005**	**+0.5**	**7.06E+06**	**1.06**	**Y**	**1.06**	**57.3**	**3828.041**	**0.278**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**8.52E+06**	**0.88**	**Y**	**1.13**	**111**	**3338.773**	**0.452**
OCDD-a	43.52		1.0002	1.0004	+0.5	6.73E+05	2.52	Y	0.07	137	4234.304	8.96
1368-TCDF	22.98		0.8282	0.8270	-1.7	4.61E+06	0.83	Y	1.08	15.8	4881.919	0.188
1468-TCDF	NotFnd		0.8485						1.08		4881.919	0.188
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.13E+06	0.78	Y	1.08	3.86	4881.919	0.188
1346/1246-TCDF	NotFnd		0.8829						1.08		4881.919	0.188
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4881.919	0.188
1348-TCDF	NotFnd		0.8980						1.08		4881.919	0.188
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4881.919	0.188
1268-TCDF	NotFnd		0.9158						1.08		4881.919	0.188
1467-TCDF	NotFnd		0.9206						1.08		4881.919	0.188
1478-TCDF	NotFnd		0.9266						1.08		4881.919	0.188
1369/1237-TCDF	NotFnd		0.9397						1.08		4881.919	0.188
2467-TCDF	NotFnd		0.9440						1.08		4881.919	0.188
2368-TCDF	NotFnd		0.9497						1.08		4881.919	0.188
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4881.919	0.188
1278-TCDF	NotFnd		0.9690						1.08		4881.919	0.188
1349-TCDF	NotFnd		0.9730						1.08		4881.919	0.188
1267-TCDF	NotFnd		0.9787						1.08		4881.919	0.188
2346/1249-TCDF	NotFnd		0.9850						1.08		4881.919	0.188
2347/1279-TCDF	NotFnd		0.9929						1.08		4881.919	0.188
2348-TCDF	27.70		0.9970	0.9967	-0.5	4.27E+06	0.83	Y	1.08	14.6	4881.919	0.188
2378-TCDF	**27.81**		**1.0008**	**1.0007**	**-0.2**	**3.44E+06**	**0.78**	**Y**	**1.08**	**11.8**	**4881.919**	**0.188**
2367/3467-TCDF	NotFnd		1.0136						1.08		4881.919	0.188
1269-TCDF	NotFnd		1.0221						1.08		4881.919	0.188
1239-TCDF	NotFnd		1.0319						1.08		4881.919	0.188
1289-TCDF	29.80		1.0740	1.0724	-2.9	4.60E+06	0.78	Y	1.08	15.7	4881.919	0.188
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	2.18E+07	1.55	Y	1.02	85.3	3330.268	0.138
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7544.014	0.313
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7544.014	0.313
14678-PeCDF	NotFnd		0.9695						1.02		7544.014	0.313
13479-PeCDF	NotFnd		0.9724						1.02		7544.014	0.313
13469/12479-PeCDF	NotFnd		0.9801						1.02		7544.014	0.313
12346-PeCDF	NotFnd		0.9842						1.02		7544.014	0.313

Lab ID: OPR1_18842_DF | **Acq'd:** 23 Jan 2022 13:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 | **UTP:** 24-Jan-2022 15:20:18 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 322-778-GPP

Datafile: 220123C02 | **Report:** 24 Jan 2022 15:24 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7544.014	0.313
12347-PeCDF	NotFnd		0.9895						1.02		7544.014	0.313
12348-PeCDF	NotFnd		0.9941						1.02		7544.014	0.313
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.29E+07**	**1.57**	**Y**	**1.02**	**50.5**	**7544.014**	**0.328**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7544.014	0.313
12379-PeCDF	NotFnd		1.0142						1.02		7544.014	0.313
12679-PeCDF	NotFnd		0.9931						1.02		7544.014	0.313
23467/12369-PeCDF	NotFnd		0.9966						1.02		7544.014	0.313
23478-PeCDF	**33.63**		**1.0005**	**1.0004**	**-0.2**	**1.38E+07**	**1.50**	**Y**	**1.02**	**53.8**	**7544.014**	**0.298**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7544.014	0.313
12349-PeCDF	NotFnd		1.0101						1.02		7544.014	0.313
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.51E+06	1.58	Y	1.02	9.8	7544.014	0.313
123468-HxCDF	35.46		0.9627	0.9630	+0.6	2.85E+07	1.25	Y	1.19	135	4667.512	0.23
124678/134678-HxCDF	NotFnd		0.9684						1.19		4667.512	0.23
134679-HxCDF	NotFnd		0.9747						1.19		4667.512	0.23
124679-HxCDF	NotFnd		0.9802						1.19		4667.512	0.23
124689-HxCDF	NotFnd		0.9858						1.19		4667.512	0.23
123467-HxCDF	NotFnd		0.9972						1.19		4667.512	0.23
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.10E+07**	**1.25**	**Y**	**1.27**	**53.8**	**4667.512**	**0.222**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**1.42E+07**	**1.28**	**Y**	**1.15**	**55.5**	**4667.512**	**0.202**
123479-HxCDF	NotFnd		1.0051						1.19		4667.512	0.23
123469-HxCDF	NotFnd		1.0091						1.19		4667.512	0.23
123679-HxCDF	NotFnd		0.9943						1.19		4667.512	0.23
234678-HxCDF	**37.68**		**1.0004**	**1.0007**	**+0.7**	**1.33E+07**	**1.27**	**Y**	**1.19**	**58.2**	**4667.512**	**0.213**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4667.512	0.23
123789-HxCDF	**38.61**		**1.0004**	**1.0006**	**+0.5**	**8.62E+06**	**1.29**	**Y**	**1.16**	**55.9**	**4667.512**	**0.312**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4667.512	0.23
1234678-HpCDF	**39.95**		**1.0002**	**1.0004**	**+0.5**	**1.11E+07**	**1.05**	**Y**	**1.37**	**54.7**	**5433.133**	**0.214**
1234679-HpCDF	NotFnd		1.0067						1.34		5433.133	0.282
1234689-HpCDF	NotFnd		1.0101						1.34		5433.133	0.282
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**7.44E+06**	**1.04**	**Y**	**1.31**	**53.3**	**5433.133**	**0.379**
OCDF	**43.71**		**1.0002**	**1.0003**	**+0.3**	**1.05E+07**	**0.89**	**Y**	**1.07**	**105**	**4398.083**	**0.5**
OCDF-a	43.70	**EMPC**	1.0002	1.0001	-0.3	6.73E+05	2.98	N	0.07	109	3570.946	6.55

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220123C02	Analysis Date:	23-JAN-2022 13:50:36
Lab ID:	OPR1_18842_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.4	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.3	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.3	35	-	70	Y
OCDD	100	111	78	-	144	Y
2,3,7,8-TCDF	10	11.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.5	40	-	67	Y
2,3,4,7,8-PeCDF	50	53.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.8	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.5	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	58.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	55.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.7	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	53.3	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 15:24 Analyst: MS

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220123C02	Analysis Date:	23-JAN-2022 13:50:36
Lab ID:	OPR1_18842_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	98.5	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	91.5	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	122	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	86.2	26	-	166	Y
13C-OCDD	200	147	26	-	397	Y
13C-2,3,7,8-TCDF	100	83.6	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	93.2	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	90.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	111	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	105	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	77.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	84.8	20	-	186	Y
13C-OCDF	200	156	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 15:24 Analyst: MS

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220123C02	Analysis Date:	23-JAN-2022 13:50:36
Lab ID:	OPR1_18842_DF		

Window Defining Standards Results

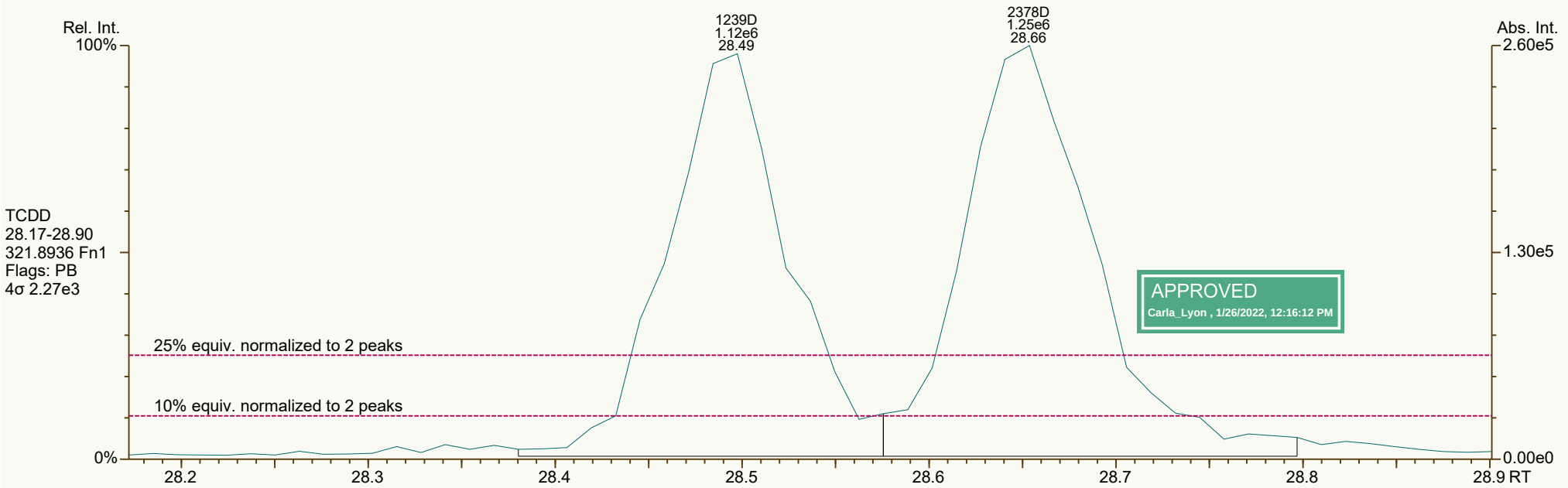
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.05	1289-TCDD	29.62
12479/12468-PeCDD	31.47	12389-PeCDD	34.40
124679/124689-HxCDD	36.10	123789-HxCDD	38.25
1234679-HpCDD	40.20	1234678-HpCDD	40.88
1368-TCDF	22.98	1289-TCDF	29.80
13468/12468-PeCDF	29.70	12389-PeCDF	34.70
123468-HxCDF	35.46	123789-HxCDF	38.61
1234678-HpCDF	39.95	1234789-HpCDF	41.34

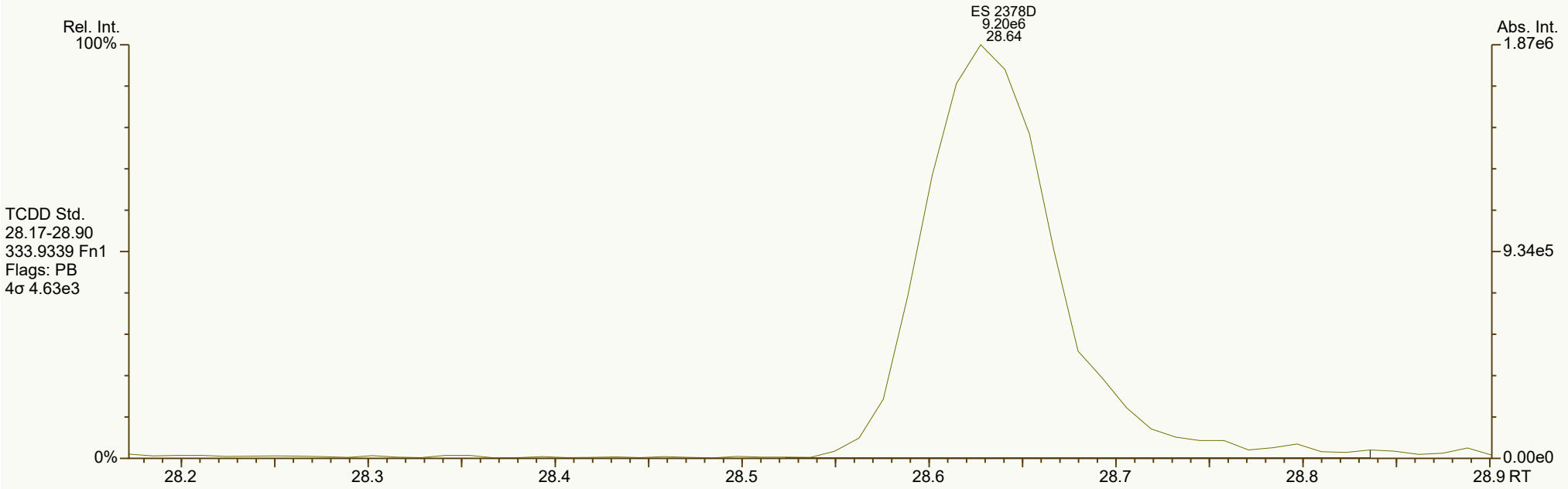
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.49	2378-TCDD	28.66
2348-TCDF	27.70	2378-TCDF	27.81

Processed: 24 Jan 2022 15:24 Analyst: MS

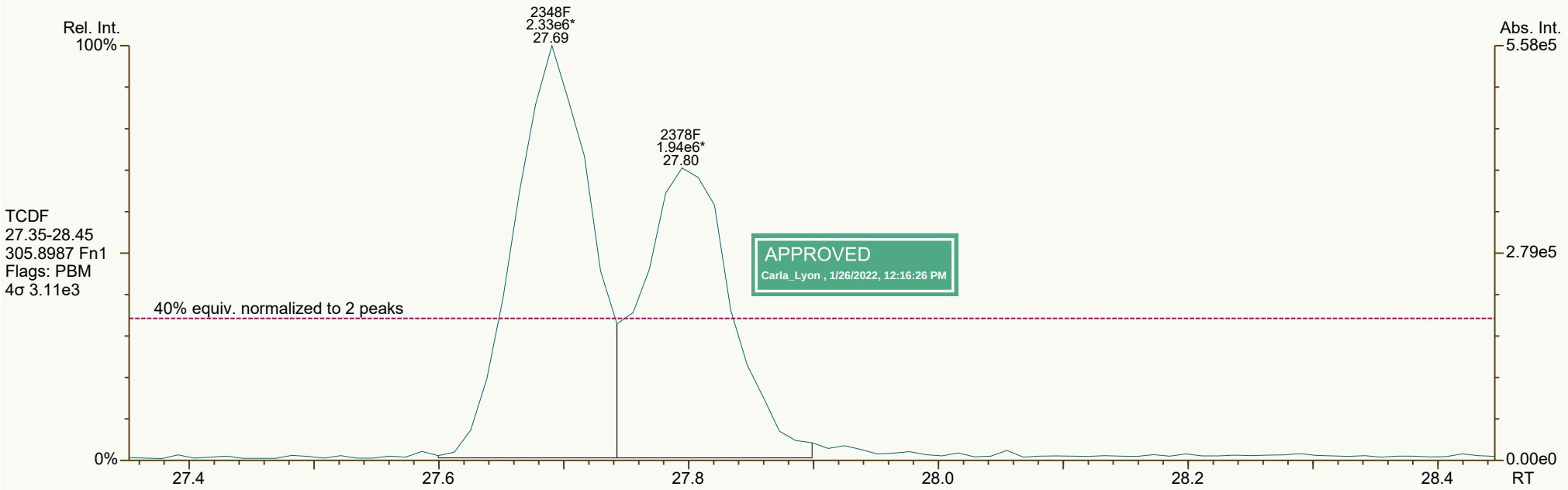
SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02

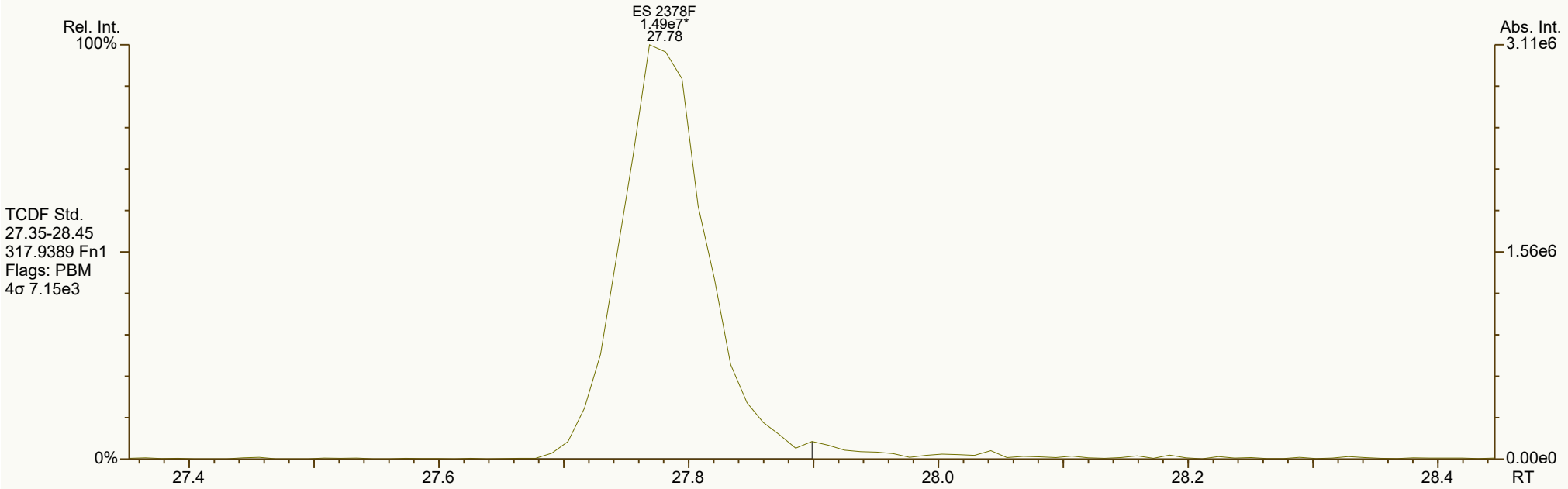




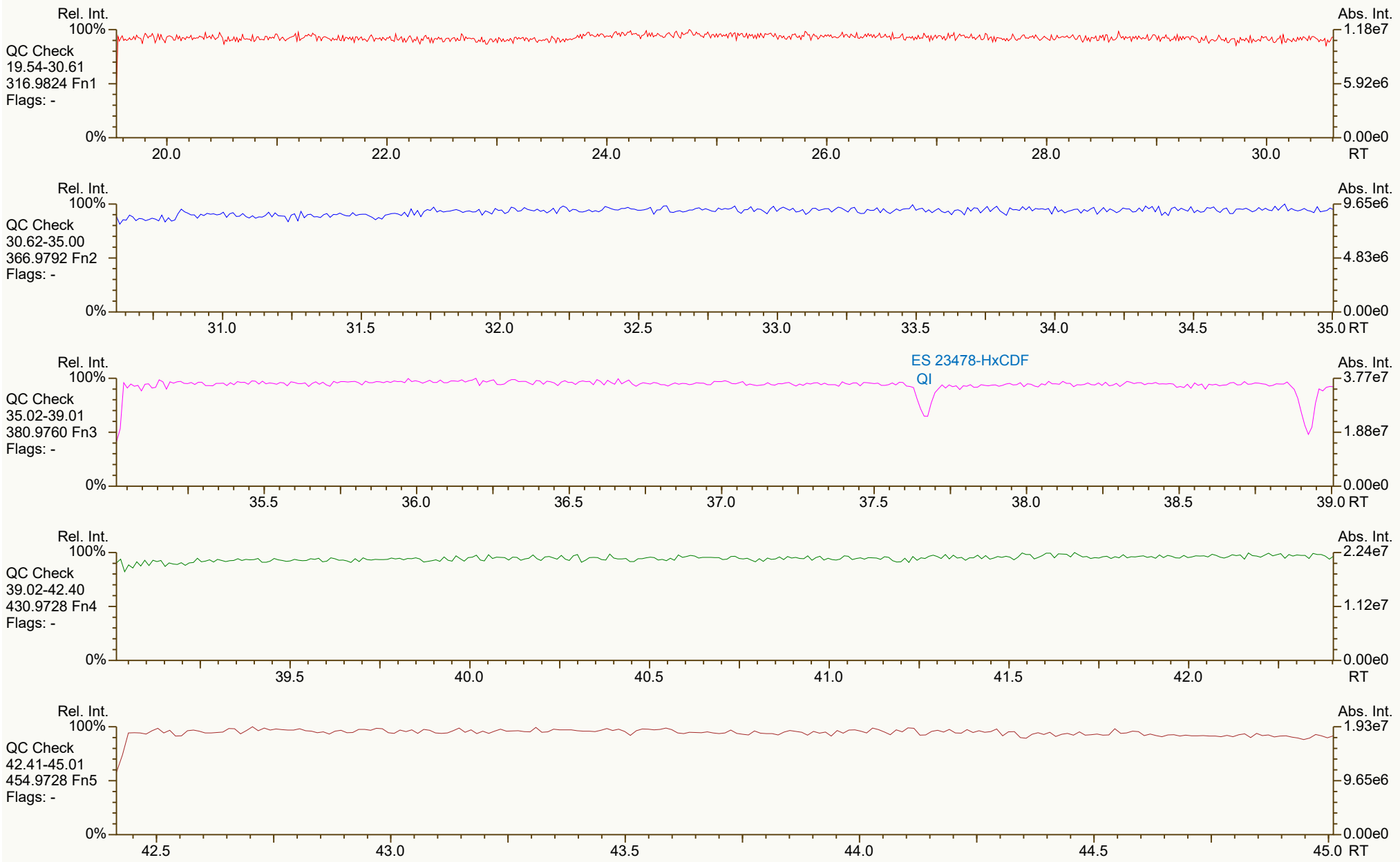
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW
PKD: 24-Jan-2022 09:18 Printed: 24-Jan-2022 15:40

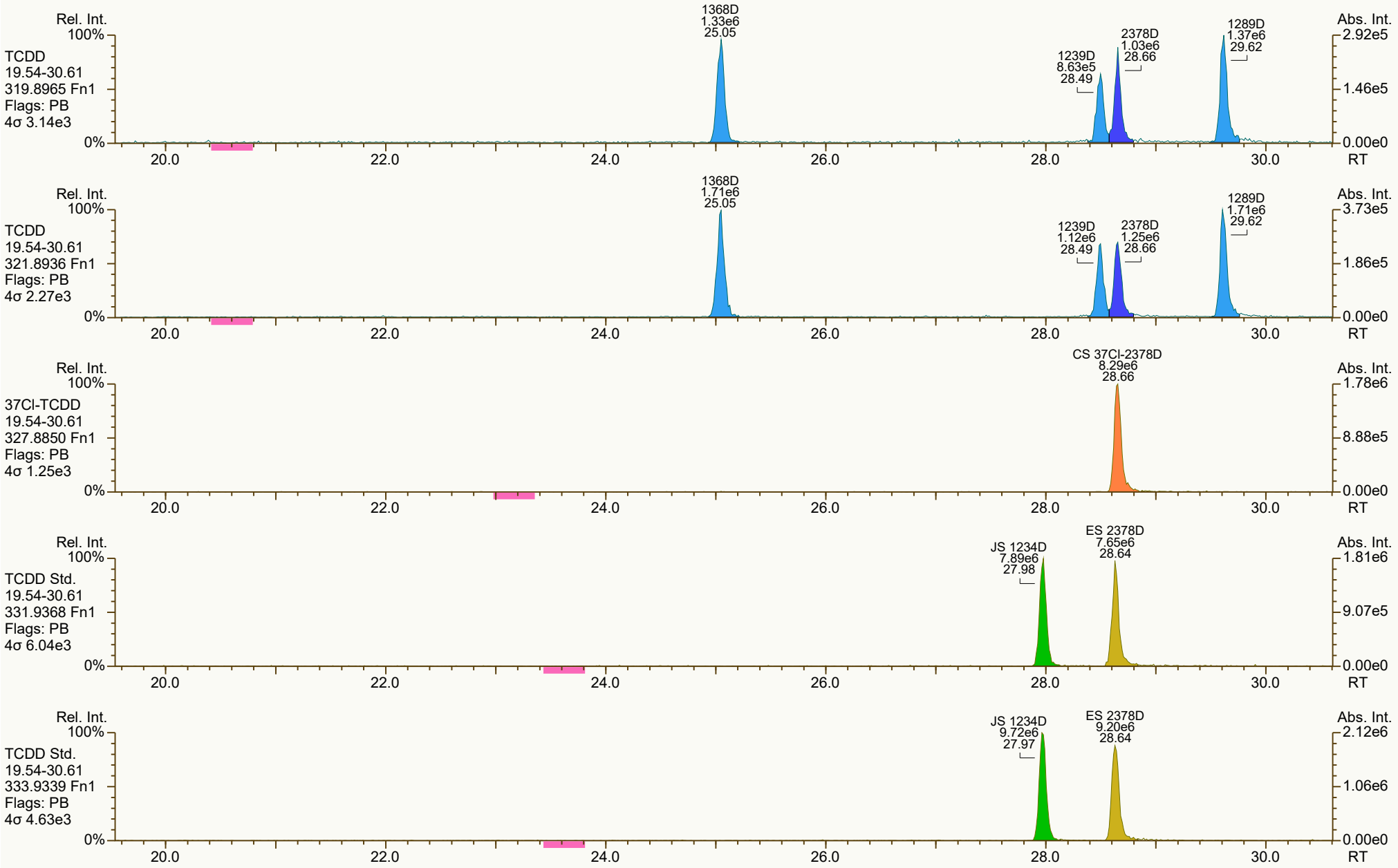
SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02

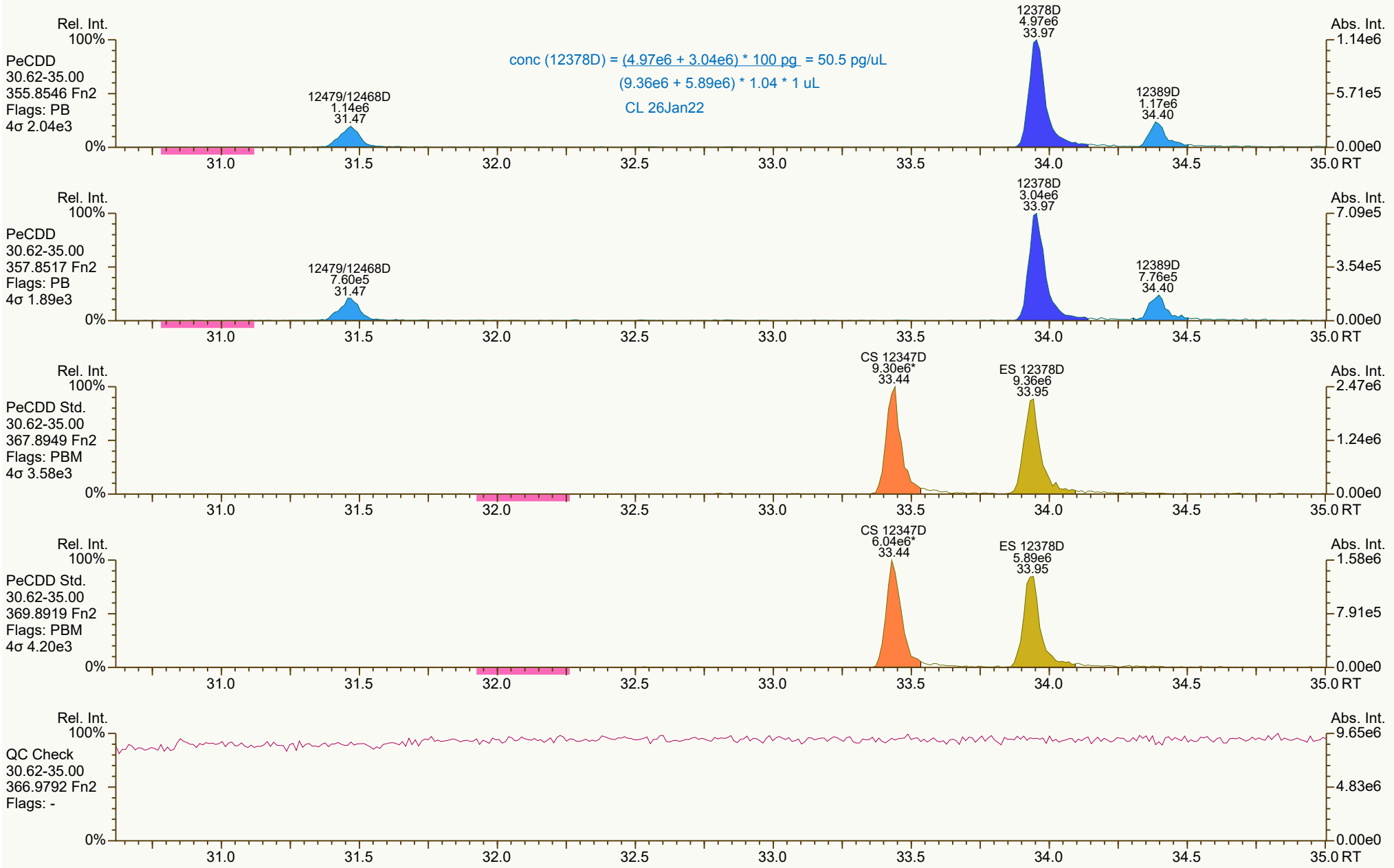


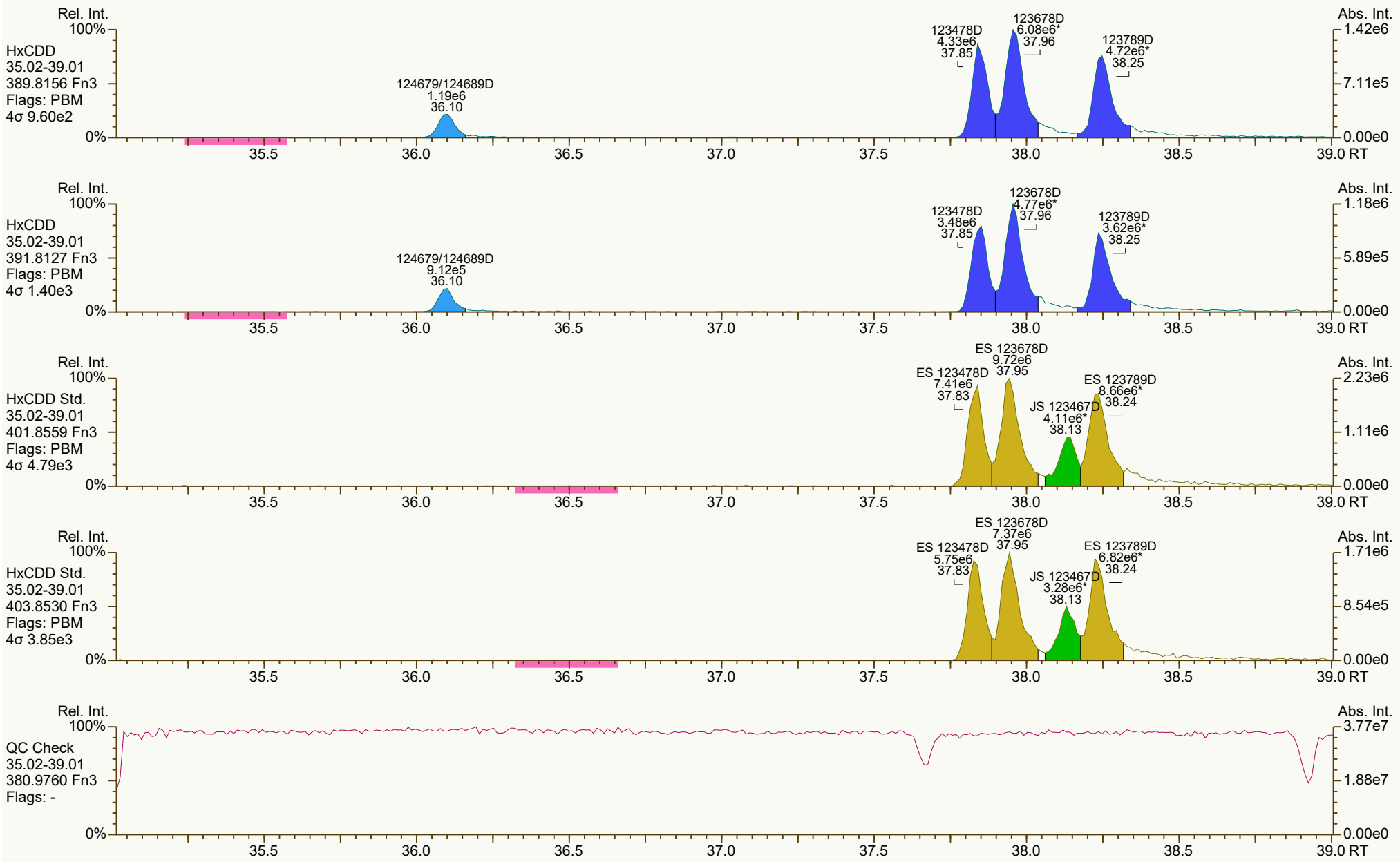


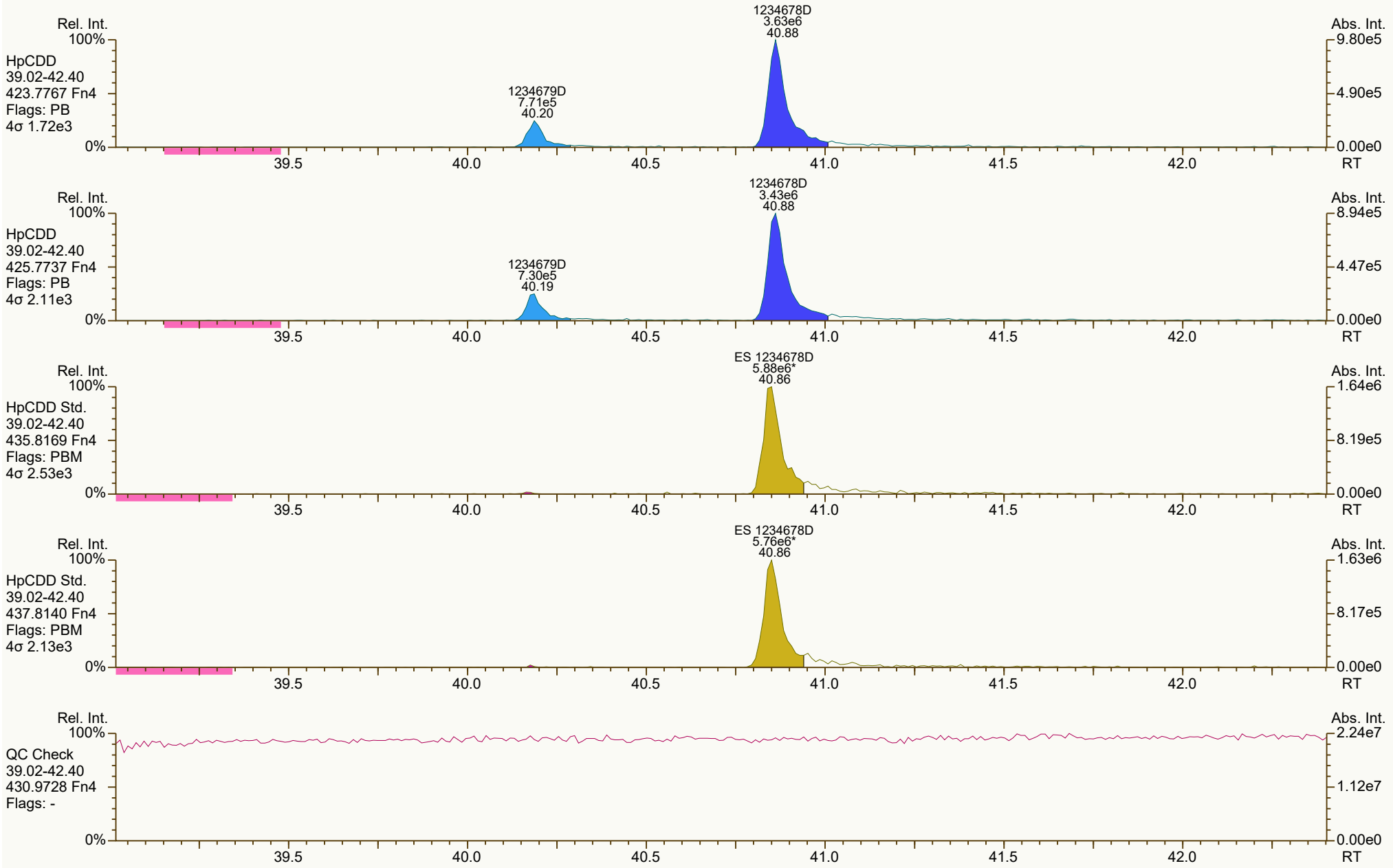
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW
Revised: 24-Jan-2022 09:20 (DTF) Printed: 24-Jan-2022 15:40

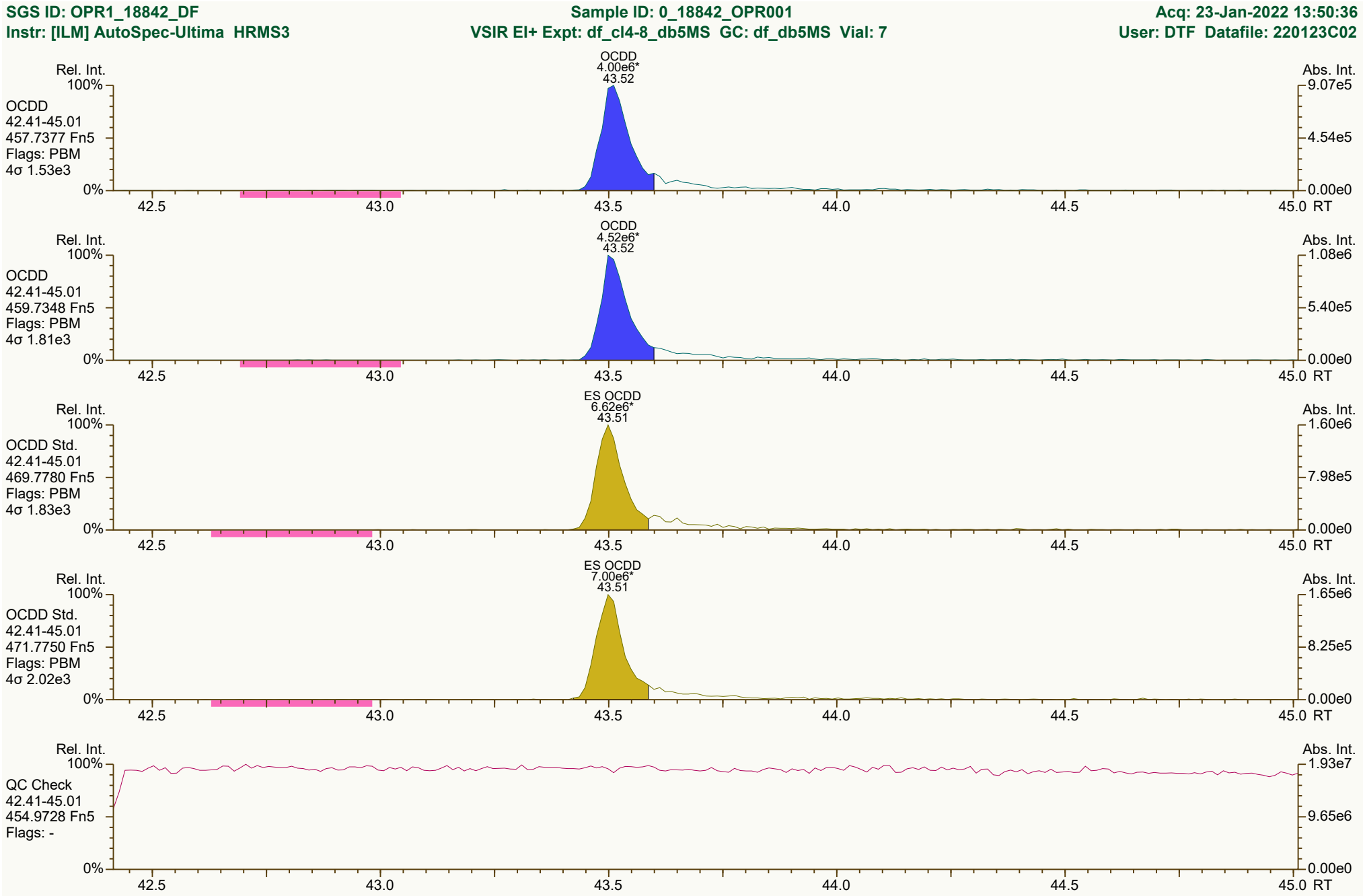

Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.92e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.65e6
4.83e6
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
3.77e7
1.88e7
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
ES 23478-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
2.24e7
1.12e7
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.93e7
9.65e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

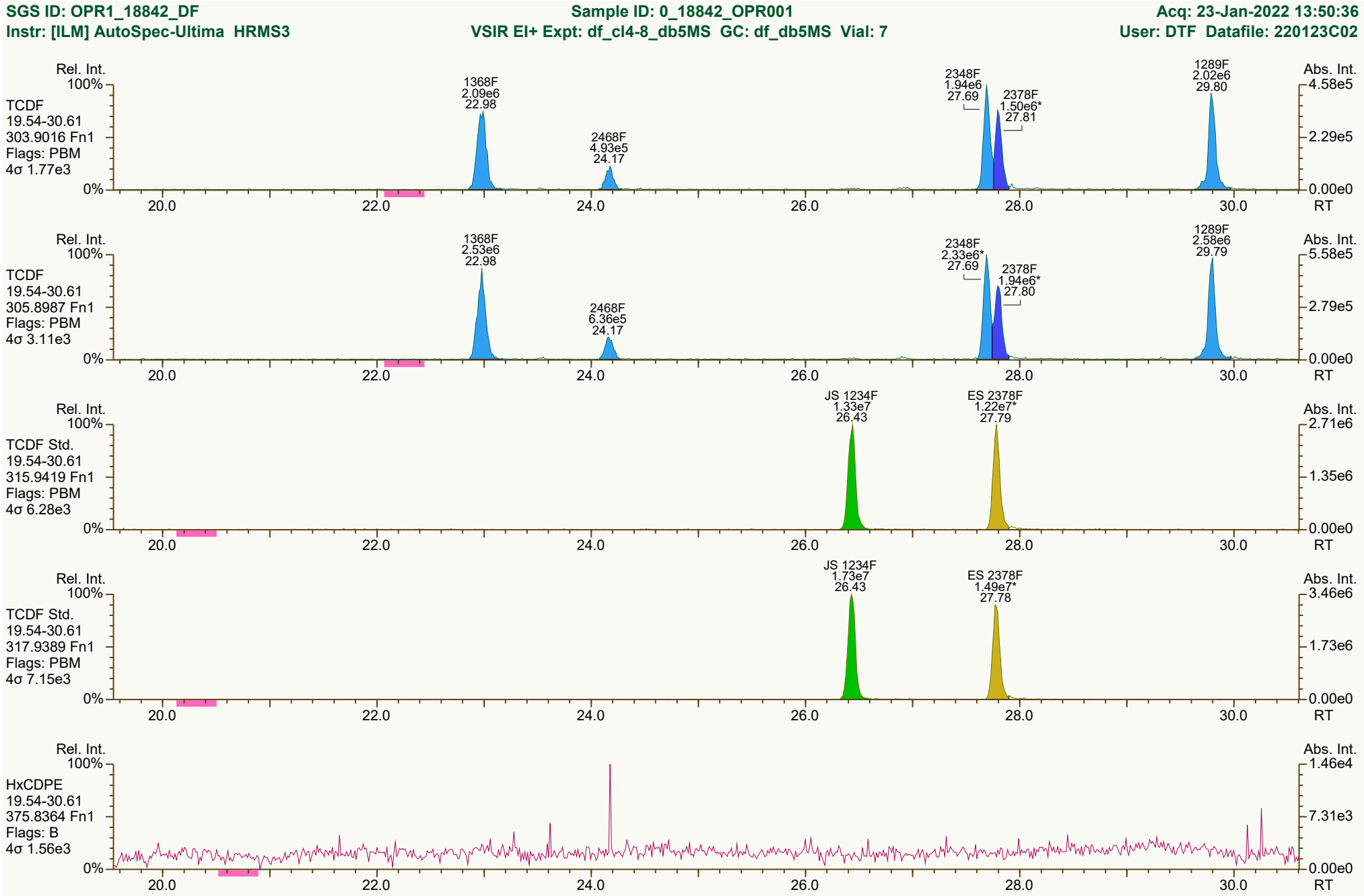

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.14e3
1368D
1.33e6
25.05
1239D
8.63e5
28.49
2378D
1.03e6
28.66
1289D
1.37e6
29.62
Abs. Int.
2.92e5
1.46e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.27e3
1368D
1.71e6
25.05
1239D
1.12e6
28.49
2378D
1.25e6
28.66
1289D
1.71e6
29.62
Abs. Int.
3.73e5
1.86e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.25e3
CS 37Cl-2378D
8.29e6
28.66
Abs. Int.
1.78e6
8.88e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.04e3
JS 1234D
7.89e6
27.98
ES 2378D
7.65e6
28.64
Abs. Int.
1.81e6
9.07e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.63e3
JS 1234D
9.72e6
27.97
ES 2378D
9.20e6
28.64
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

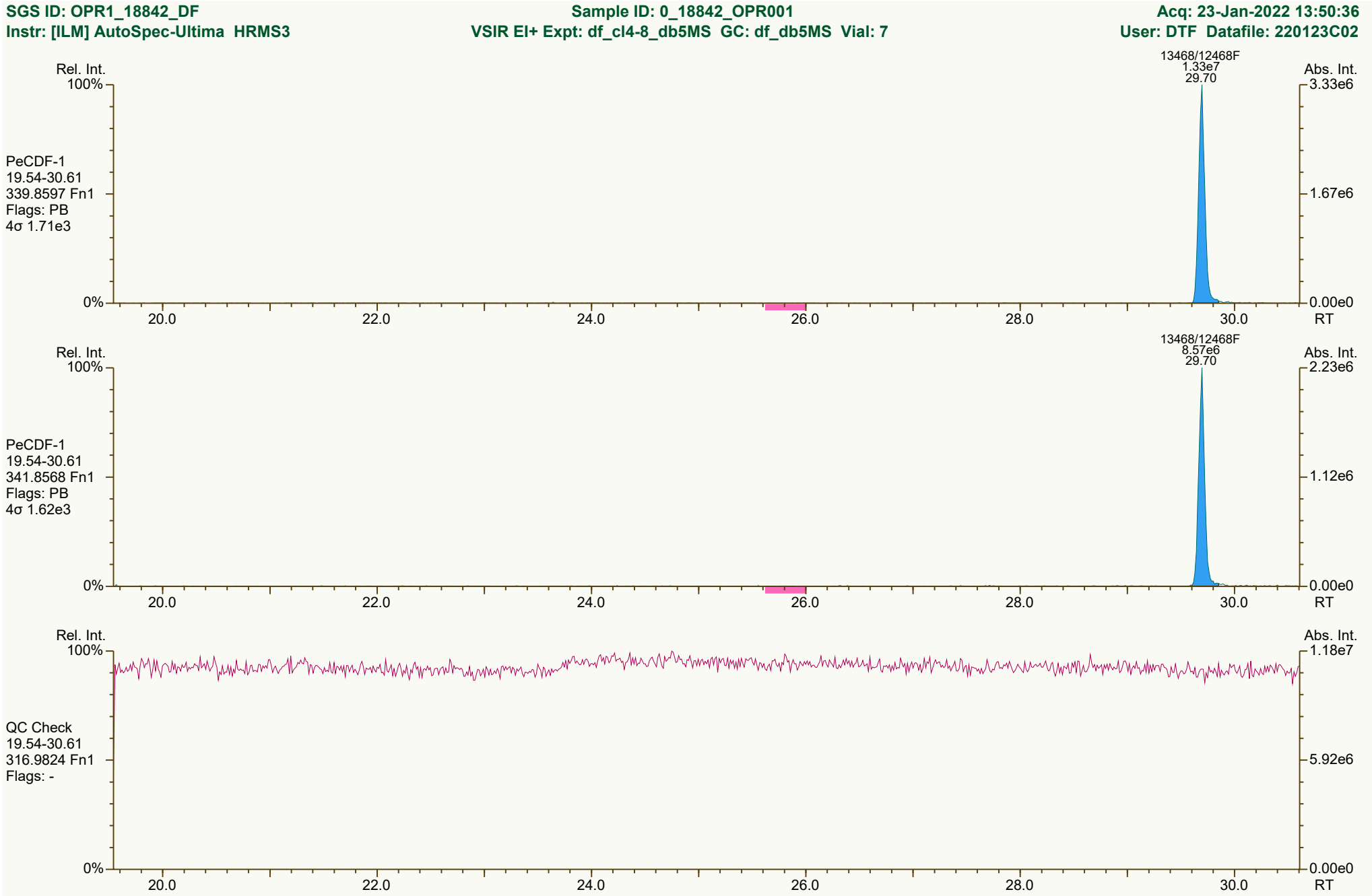

Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 2.04e3
0%
12479/12468D
1.14e6
31.47
12378D
4.97e6
33.97
12389D
1.17e6
34.40
conc (12378D) = (4.97e6 + 3.04e6) * 100 pg = 50.5 pg/uL
(9.36e6 + 5.89e6) * 1.04 * 1 uL
CL 26Jan22
Abs. Int.
1.14e6
5.71e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.89e3
0%
12479/12468D
7.60e5
31.47
12378D
3.04e6
33.97
12389D
7.76e5
34.40
Abs. Int.
7.09e5
3.54e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 3.58e3
0%
CS 12347D
9.30e6*
33.44
ES 12378D
9.36e6
33.95
Abs. Int.
2.47e6
1.24e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 4.20e3
0%
CS 12347D
6.04e6*
33.44
ES 12378D
5.89e6
33.95
Abs. Int.
1.58e6
7.91e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.65e6
4.83e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

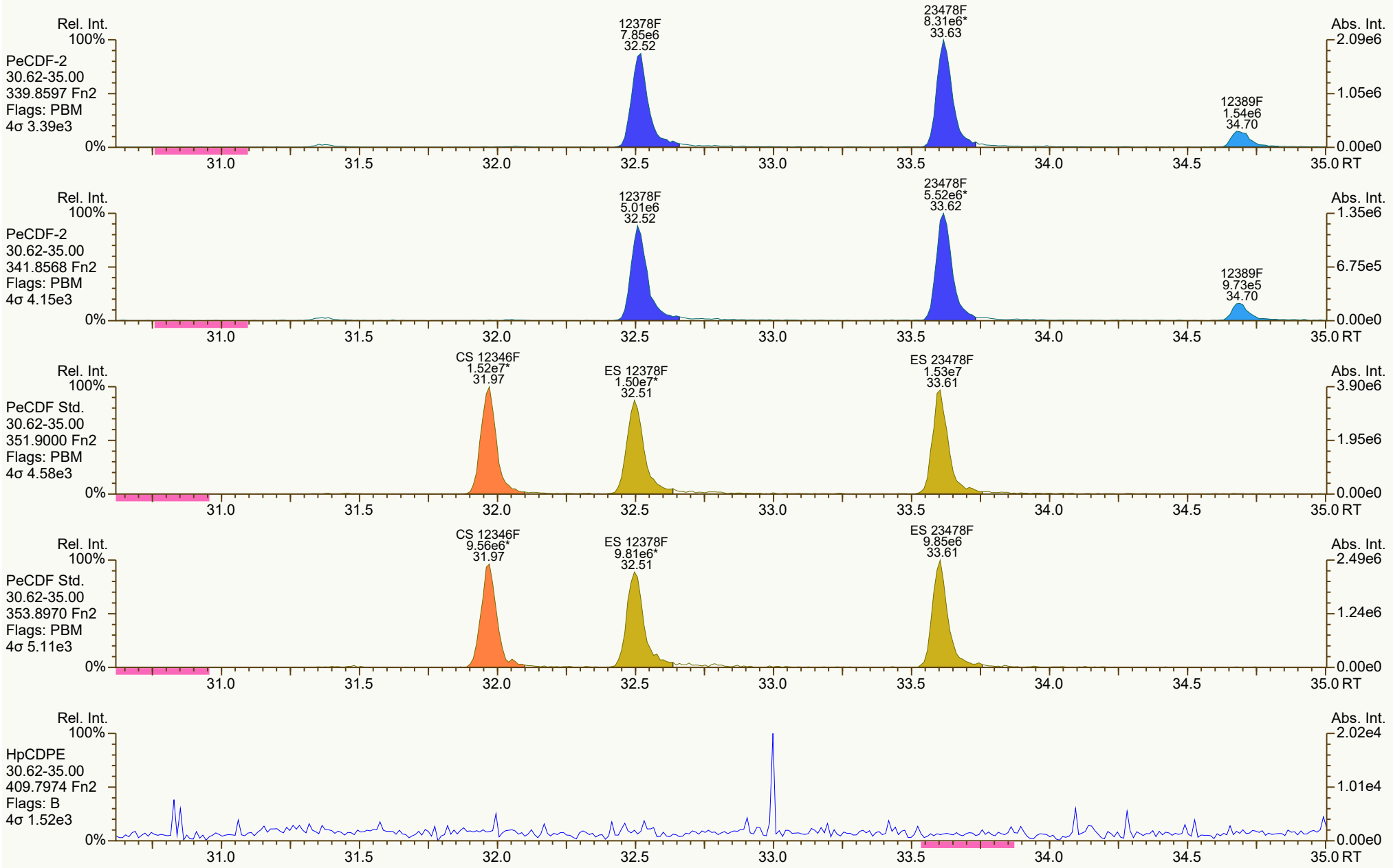

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 9.60e2
124679/124689D
1.19e6
36.10
123478D
4.33e6
37.85
123678D
6.08e6*
37.96
123789D
4.72e6*
38.25
1.42e6
7.11e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.40e3
124679/124689D
9.12e5
36.10
123478D
3.48e6
37.85
123678D
4.77e6*
37.96
123789D
3.62e6*
38.25
1.18e6
5.89e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.79e3
ES 123678D
9.72e6
37.95
ES 123478D
7.41e6
37.83
ES 123789D
8.66e6*
38.24
JS 123467D
4.11e6*
38.13
2.23e6
1.11e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.85e3
ES 123678D
7.37e6
37.95
ES 123478D
5.75e6
37.83
ES 123789D
6.82e6*
38.24
JS 123467D
3.28e6*
38.13
1.71e6
8.54e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
3.77e7
1.88e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

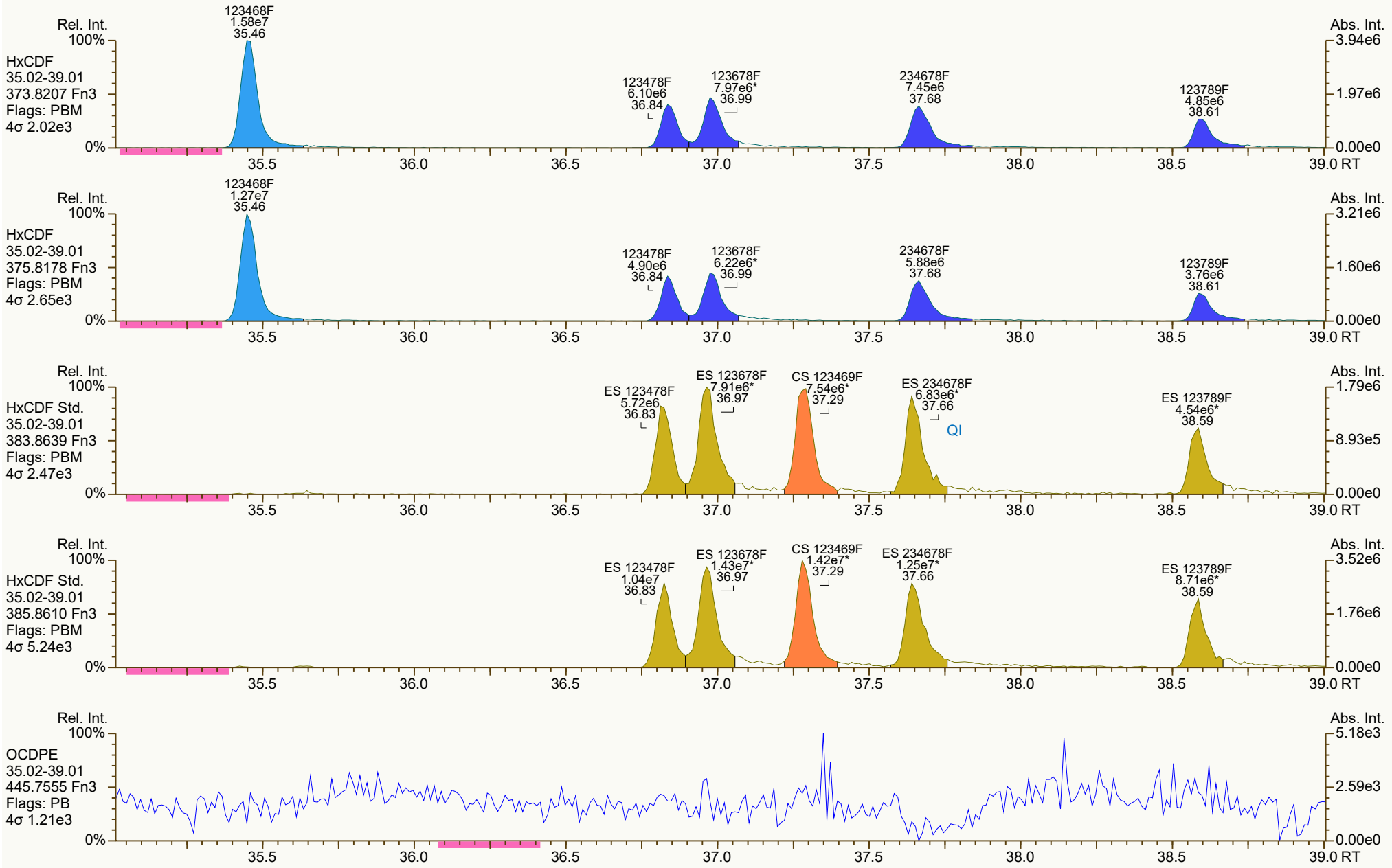

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.72e3
1234678D
3.63e6
40.88
1234679D
7.71e5
40.20
Abs. Int.
9.80e5
4.90e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.11e3
1234678D
3.43e6
40.88
1234679D
7.30e5
40.19
Abs. Int.
8.94e5
4.47e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.53e3
ES 1234678D
5.88e6*
40.86
Abs. Int.
1.64e6
8.19e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.13e3
ES 1234678D
5.76e6*
40.86
Abs. Int.
1.63e6
8.17e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.24e7
1.12e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

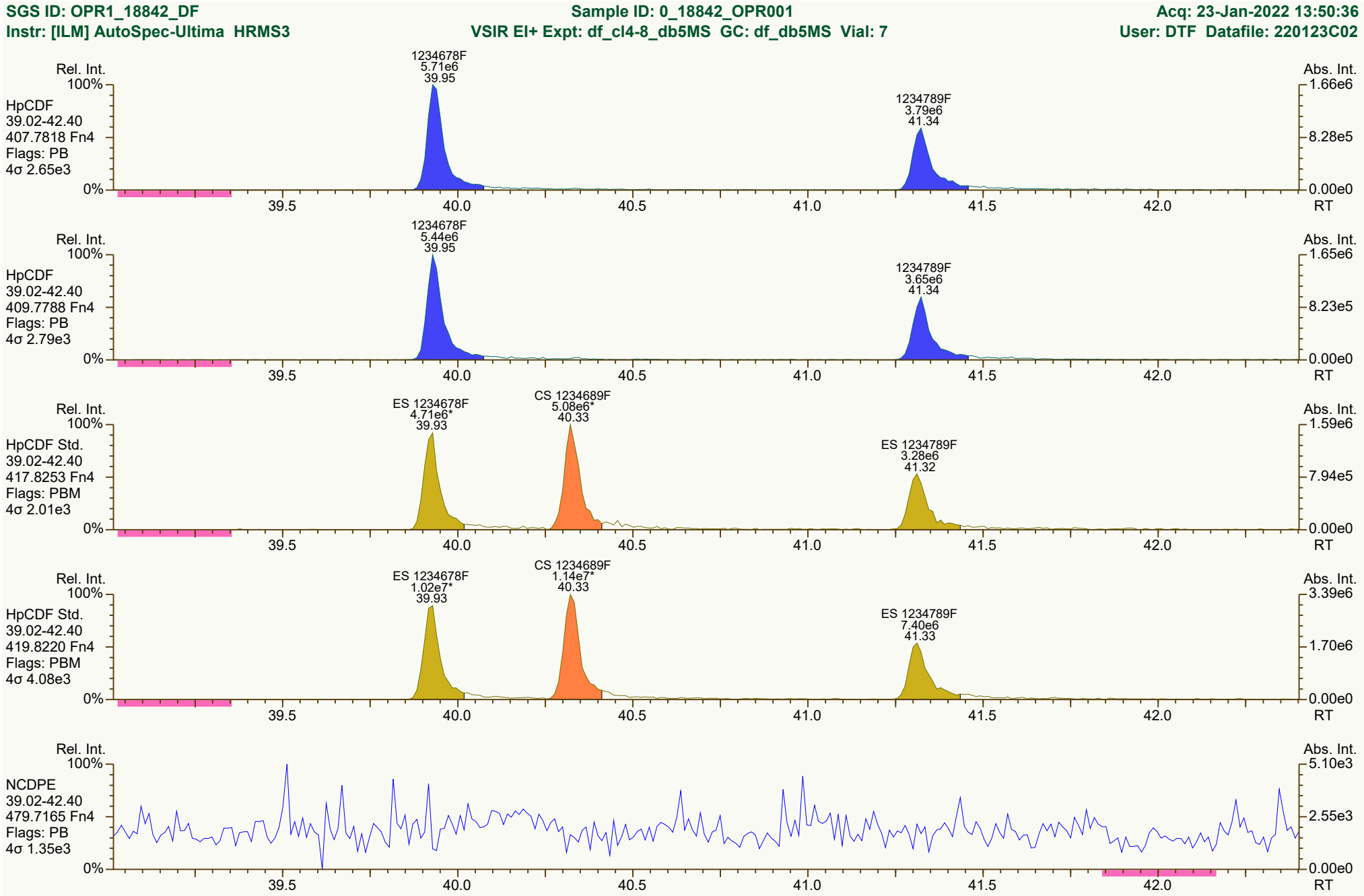

SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02
OCDD
4.00e6*
43.52
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.53e3
OCDD
4.52e6*
43.52
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.81e3
ES OCDD
6.62e6*
43.51
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.83e3
ES OCDD
7.00e6*
43.51
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.02e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
RT
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 3872, 8559 scc: 322-778
PKD: 24-Jan-2022 09:20 Printed: 24-Jan-2022 15:33 Page 6 of 12

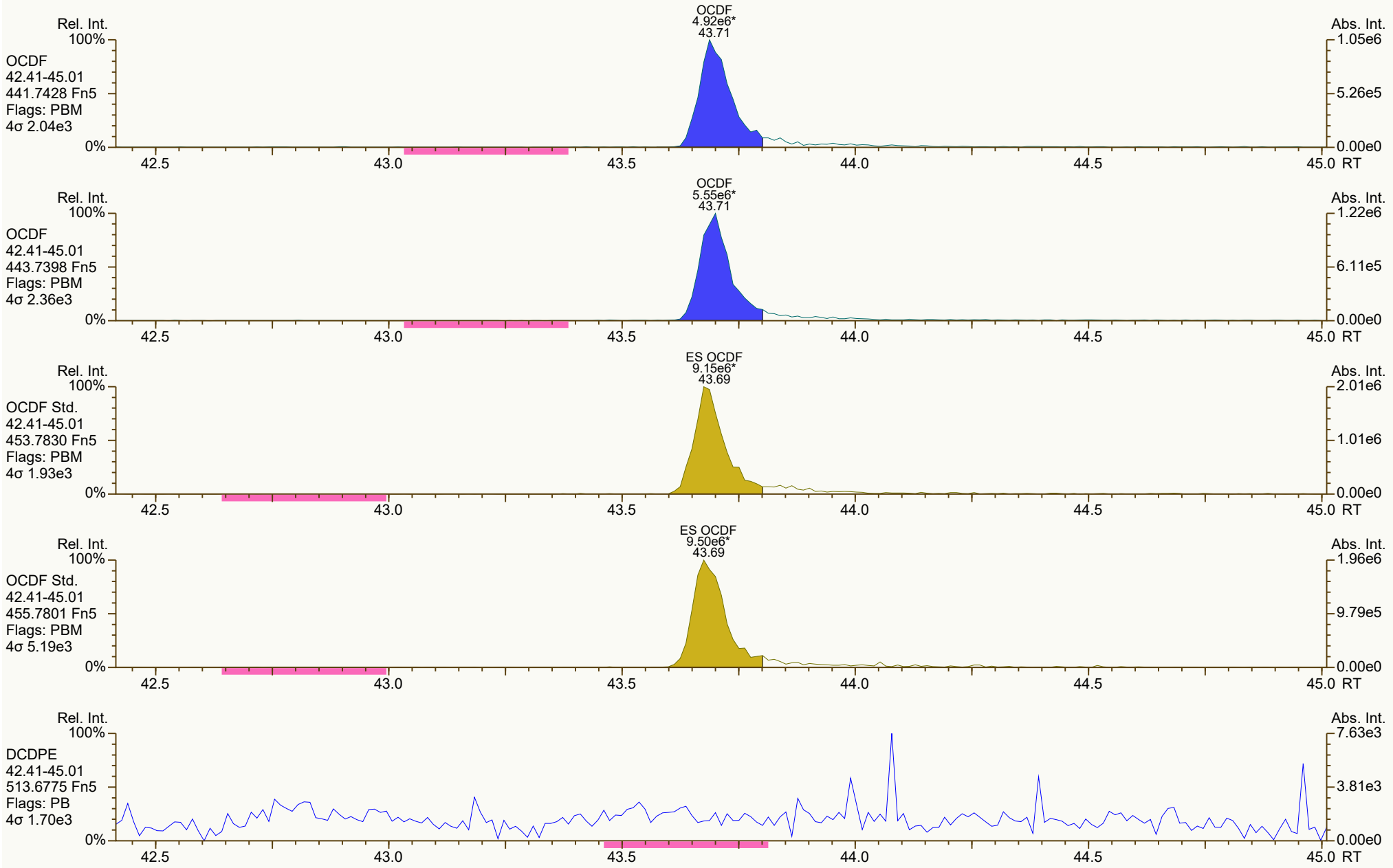

SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.77e3
1368F 2.09e6 22.98
2468F 4.93e5 24.17
2348F 1.94e6 27.69
2378F 1.50e6* 27.81
1289F 2.02e6 29.80
4.58e5
2.29e5
0.00e0
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.11e3
1368F 2.53e6 22.98
2468F 6.36e5 24.17
2348F 2.33e6* 27.69
2378F 1.94e6* 27.80
1289F 2.58e6 29.79
5.58e5
2.79e5
0.00e0
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 6.28e3
JS 1234F 1.33e7 26.43
ES 2378F 1.22e7* 27.79
2.71e6
1.35e6
0.00e0
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 7.15e3
JS 1234F 1.73e7 26.43
ES 2378F 1.49e7* 27.78
3.46e6
1.73e6
0.00e0
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.56e3
1.46e4
7.31e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 8875, 8948, 3610 scc: 322-778
PKD: 24-Jan-2022 09:20 Printed: 24-Jan-2022 15:33 Page 7 of 12


SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02
Rel. Int.
100%
0%
Abs. Int.
3.33e6
1.67e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.33e7
29.70
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.71e3
13468/12468F
8.57e6
29.70
2.23e6
1.12e6
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.62e3
1.18e7
5.92e6
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5449 scc: 322-778
PKD: 24-Jan-2022 09:18 Printed: 24-Jan-2022 15:33 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 3.39e3
12378F
7.85e6
32.52
23478F
8.31e6*
33.63
12389F
1.54e6
34.70
Abs. Int.
2.09e6
1.05e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 4.15e3
12378F
5.01e6
32.52
23478F
5.52e6*
33.62
12389F
9.73e5
34.70
Abs. Int.
1.35e6
6.75e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 4.58e3
CS 12346F
1.52e7*
31.97
ES 12378F
1.50e7*
32.51
ES 23478F
1.53e7
33.61
Abs. Int.
3.90e6
1.95e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 5.11e3
CS 12346F
9.56e6*
31.97
ES 12378F
9.81e6*
32.51
ES 23478F
9.85e6
33.61
Abs. Int.
2.49e6
1.24e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.52e3
Abs. Int.
2.02e4
1.01e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.02e3
123468F 1.58e7 35.46
123478F 6.10e6 36.84
123678F 7.97e6* 36.99
234678F 7.45e6 37.68
123789F 4.85e6 38.61
3.94e6
1.97e6
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.65e3
123468F 1.27e7 35.46
123478F 4.90e6 36.84
123678F 6.22e6* 36.99
234678F 5.88e6 37.68
123789F 3.76e6 38.61
3.21e6
1.60e6
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.47e3
ES 123478F 5.72e6 36.83
ES 123678F 7.91e6* 36.97
CS 123469F 7.54e6* 37.29
ES 234678F 6.83e6* 37.66
QI
ES 123789F 4.54e6* 38.59
1.79e6
8.93e5
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.24e3
ES 123478F 1.04e7 36.83
ES 123678F 1.43e7* 36.97
CS 123469F 1.42e7* 37.29
ES 234678F 1.25e7* 37.66
ES 123789F 8.71e6* 38.59
3.52e6
1.76e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.21e3
5.18e3
2.59e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.65e3
1234678F
5.71e6
39.95
1234789F
3.79e6
41.34
1.66e6
8.28e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.79e3
1234678F
5.44e6
39.95
1234789F
3.65e6
41.34
1.65e6
8.23e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
4.71e6*
39.93
CS 1234689F
5.08e6*
40.33
ES 1234789F
3.28e6
41.32
1.59e6
7.94e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 4.08e3
ES 1234678F
1.02e7*
39.93
CS 1234689F
1.14e7*
40.33
ES 1234789F
7.40e6
41.33
3.39e6
1.70e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.35e3
5.10e3
2.55e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5462, 8296, 5671 scc: 322-778
PKD: 24-Jan-2022 09:20 Printed: 24-Jan-2022 15:33 Page 11 of 12


OCDF
4.92e6*
43.71
Rel. Int.
Abs. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.04e3
1.05e6
5.26e5
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.55e6*
43.71
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.36e3
1.22e6
6.11e5
ES OCDF
9.15e6*
43.69
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.93e3
2.01e6
1.01e6
ES OCDF
9.50e6*
43.69
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 5.19e3
1.96e6
9.79e5
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.70e3
7.63e3
3.81e3

Lab ID: OPR2_18842_DF **Acq'd:** 23 Jan 2022 14:36 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 **UTP:** 24-Jan-2022 15:20:18 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 606-439-XMN

Datafile: 220123C03 **Report:** 24 Jan 2022 15:24 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0007	-0.2	2.53E+06	0.84	Y	1.18	12.4	5022.625	0.267
12378-PeCDD	33.96		1.0006	1.0005	-0.2	8.55E+06	1.57	Y	1.04	50.3	3929.073	0.236
123478-HxCDD	37.85		1.0004	1.0004	0	8.91E+06	1.31	Y	1.09	59.5	2737.649	0.176
123678-HxCDD	37.97		1.0034	1.0036	+0.5	1.17E+07	1.21	Y	1.15	58.1	2737.649	0.14
123789-HxCDD	38.26		1.0109	1.0111	+0.5	9.24E+06	1.24	Y	1.05	53.4	2737.649	0.173
1234678-HpCDD	40.88		1.0003	1.0003	0	7.62E+06	1.02	Y	1.06	57.7	3781.485	0.278
OCDD	43.53		1.0002	1.0003	+0.3	9.29E+06	0.90	Y	1.13	117	3114.034	0.393
2378-TCDF	27.80		1.0008	1.0006	-0.3	3.75E+06	0.77	Y	1.08	12.1	4327.401	0.162
12378-PeCDF	32.52		1.0005	1.0005	0	1.45E+07	1.56	Y	1.02	54	7603.001	0.287
23478-PeCDF	33.63		1.0005	1.0005	0	1.52E+07	1.55	Y	1.02	57.5	7603.001	0.277
123478-HxCDF	36.84		1.0004	1.0004	0	1.22E+07	1.27	Y	1.27	56.5	9367.947	0.398
123678-HxCDF	36.99		1.0004	1.0003	-0.2	1.55E+07	1.26	Y	1.15	56.1	9367.947	0.385
234678-HxCDF	37.67		1.0004	1.0004	0	1.19E+07	1.26	Y	1.19	53.5	9367.947	0.427
123789-HxCDF	38.62		1.0004	1.0005	+0.2	1.02E+07	1.28	Y	1.16	55.9	9367.947	0.525
1234678-HpCDF	39.95		1.0002	1.0002	0	1.15E+07	1.02	Y	1.37	54	2986.104	0.119
1234789-HpCDF	41.34		1.0003	1.0003	0	8.12E+06	1.01	Y	1.31	58.5	2986.104	0.19
OCDF	43.71		1.0002	1.0002	0	1.19E+07	0.93	Y	1.07	110	3664.628	0.413

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63		1.0233	1.0236	+0.5	1.72E+07	0.79	Y	1.05	83.5
ES 12378-PeCDD	33.94		1.2121	1.2134	+2.6	1.64E+07	1.61	Y	0.88	94.4
ES 123478-HxCDD	37.84		0.9921	0.9922	+0.2	1.38E+07	1.31	Y	0.97	86
ES 123678-HxCDD	37.95		0.9951	0.9952	+0.2	1.76E+07	1.24	Y	0.94	113
ES 123789-HxCDD	38.24		1.0025	1.0028	+0.7	1.65E+07	1.27	Y	1.09	92.1
ES 1234678-HpCDD	40.86		1.0709	1.0716	+1.7	1.25E+07	1.10	Y	0.91	83
ES OCDD	43.51		1.1403	1.1411	+2.1	1.41E+07	0.91	Y	0.62	68.5
ES 2378-TCDF	27.78		1.0506	1.0512	+1.0	2.88E+07	0.80	Y	1.06	85
ES 12378-PeCDF	32.50		1.2281	1.2298	+3.3	2.63E+07	1.54	Y	0.91	90.2
ES 23478-PeCDF	33.61		1.2698	1.2716	+3.6	2.59E+07	1.53	Y	0.88	91.7
ES 123478-HxCDF	36.83		0.9657	0.9657	0	1.70E+07	0.53	Y	1.20	86.1
ES 123678-HxCDF	36.98		0.9695	0.9696	+0.2	2.40E+07	0.55	Y	1.35	108
ES 234678-HxCDF	37.66		0.9874	0.9875	+0.2	1.87E+07	0.57	Y	1.24	91.4
ES 123789-HxCDF	38.60		1.0116	1.0121	+1.2	1.57E+07	0.54	Y	1.16	82.8
ES 1234678-HpCDF	39.94		1.0467	1.0473	+1.4	1.55E+07	0.47	Y	0.97	97.3
ES 1234789-HpCDF	41.32		1.0830	1.0836	+1.5	1.06E+07	0.44	Y	0.85	75.8
ES OCDF	43.70		1.1451	1.1460	+2.4	2.02E+07	0.91	Y	0.81	75.9

Lab ID: OPR2_18842_DF **Acq'd:** 23 Jan 2022 14:36 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 **UTP:** 24-Jan-2022 15:20:18 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 606-439-XMN

Datafile: 220123C03 **Report:** 24 Jan 2022 15:24 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.98E+07	0.83	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.20E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	8.22E+06	1.40	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.45E+06	n/a	-	1.20	89	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.58E+07	1.56	Y	0.75	106	
CS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	2.71E+07	1.61	Y	0.85	99.7	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.28E+07	0.51	Y	1.12	124	
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.71E+07	0.44	Y	0.89	117	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~8.45E+06~~	~~n/a~~		~~1.15~~	~~107~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.58E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~113~~	CL 26Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2097~~	~~+2.7~~	~~2.71E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~110~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.28E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~115~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.71E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~120~~	

Totals	Conc	EMPC
Total TCDD	55.4	55.4
Total PeCDD	74.8	74.8
Total HxCDD	185	185
Total HpCDD	69.5	69.5
Total Tetra-Octa Dioxins	502	502
Total TCDF	64.7	64.7
Total PeCDF	208	208
Total HxCDF	354	354
Total HpCDF	113	113
Total Tetra-Octa Furans	849	849
Total Tetra-Octa Dioxins & Furans	1350	1350

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.836	0.84
Response	2.54E+06	2.53E+06

Lab ID: OPR2_18842_DF | **Acq'd:** 23 Jan 2022 14:36 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 | **UTP:** 24-Jan-2022 15:20:18 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 606-439-XMN

Datafile: 220123C03 | **Report:** 24 Jan 2022 15:24 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8747	-1.2	3.35E+06	0.82	Y	1.18	16.4	5022.625	0.267
1379-TCDD	NotFnd		0.8876						1.18		5022.625	0.267
1369-TCDD	NotFnd		0.9023						1.18		5022.625	0.267
1469-TCDD	NotFnd		0.9291						1.18		5022.625	0.267
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5022.625	0.267
1378-TCDD	NotFnd		0.9440						1.18		5022.625	0.267
1268-TCDD	NotFnd		0.9506						1.18		5022.625	0.267
1478-TCDD	NotFnd		0.9591						1.18		5022.625	0.267
1279-TCDD	NotFnd		0.9649						1.18		5022.625	0.267
1234/1269-TCDD	NotFnd		0.9771						1.18		5022.625	0.267
1236-TCDD	NotFnd		0.9820						1.18		5022.625	0.267
1237/1238-TCDD	NotFnd		0.9908						1.18		5022.625	0.267
1239-TCDD	28.49		0.9954	0.9950	-0.7	2.14E+06	0.76	Y	1.18	10.5	5022.625	0.267
2378-TCDD	**28.65**		**1.0008**	1.0007	**-0.2**	2.53E+06	0.84	Y	**1.18**	**12.4**	**5022.625**	**0.267**
1278-TCDD	NotFnd		1.0121						1.18		5022.625	0.267
1267-TCDD	NotFnd		1.0167						1.18		5022.625	0.267
1289-TCDD	29.61		1.0341	1.0344	+0.5	3.29E+06	0.81	Y	1.18	16.1	5022.625	0.267
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	1.97E+06	1.58	Y	1.04	11.6	3929.073	0.236
12469-PeCDD	NotFnd		0.9430						1.04		3929.073	0.236
12368-PeCDD	NotFnd		0.9592						1.04		3929.073	0.236
12478-PeCDD	NotFnd		0.9647						1.04		3929.073	0.236
12379-PeCDD	NotFnd		0.9676						1.04		3929.073	0.236
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3929.073	0.236
12346/12347-PeCDD	NotFnd		0.9860						1.04		3929.073	0.236
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**8.55E+06**	**1.57**	**Y**	**1.04**	**50.3**	**3929.073**	**0.236**
12367-PeCDD	NotFnd		1.0034						1.04		3929.073	0.236
12389-PeCDD	34.40		1.0134	1.0135	+0.2	2.19E+06	1.52	Y	1.04	12.9	3929.073	0.236
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.44E+06	1.31	Y	1.10	14	2737.649	0.161
123468-HxCDD	NotFnd		0.9715						1.10		2737.649	0.161
123679/123689-HxCDD	NotFnd		0.9793						1.10		2737.649	0.161
123469-HxCDD	NotFnd		0.9829						1.10		2737.649	0.161
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**8.91E+06**	**1.31**	**Y**	1.09	**59.5**	**2737.649**	**0.176**
123678-HxCDD	37.97		**1.0034**	**1.0036**	**+0.5**	**1.17E+07**	**1.21**	**Y**	1.15	**58.1**	**2737.649**	**0.14**
123467-HxCDD	NotFnd		1.0082						1.10		2737.649	0.161
123789-HxCDD	38.26		**1.0109**	**1.0111**	**+0.5**	**9.24E+06**	**1.24**	**Y**	1.05	**53.4**	**2737.649**	**0.173**

Lab ID: OPR2_18842_DF | **Acq'd:** 23 Jan 2022 14:36 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 | **UTP:** 24-Jan-2022 15:20:18 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 606-439-XMN

Datafile: 220123C03 | **Report:** 24 Jan 2022 15:24 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	1.55E+06	1.09	Y	1.06	11.8	3781.485	0.278
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**7.62E+06**	**1.02**	**Y**	**1.06**	**57.7**	**3781.485**	**0.278**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**9.29E+06**	**0.90**	**Y**	**1.13**	**117**	**3114.034**	**0.393**
OCDD-a	43.53		1.0002	1.0005	+0.8	2.43E+05	2.43	Y	0.07	48.1	4066.803	8.02
1368-TCDF	22.97		0.8282	0.8269	-1.8	5.06E+06	0.82	Y	1.08	16.3	4327.401	0.162
1468-TCDF	NotFnd		0.8485						1.08		4327.401	0.162
2468-TCDF	24.17		0.8709	0.8699	-1.4	1.38E+06	0.87	Y	1.08	4.45	4327.401	0.162
1346/1246-TCDF	NotFnd		0.8829						1.08		4327.401	0.162
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4327.401	0.162
1348-TCDF	NotFnd		0.8980						1.08		4327.401	0.162
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4327.401	0.162
1268-TCDF	NotFnd		0.9158						1.08		4327.401	0.162
1467-TCDF	NotFnd		0.9206						1.08		4327.401	0.162
1478-TCDF	NotFnd		0.9266						1.08		4327.401	0.162
1369/1237-TCDF	NotFnd		0.9397						1.08		4327.401	0.162
2467-TCDF	NotFnd		0.9440						1.08		4327.401	0.162
2368-TCDF	NotFnd		0.9497						1.08		4327.401	0.162
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4327.401	0.162
1278-TCDF	NotFnd		0.9690						1.08		4327.401	0.162
1349-TCDF	NotFnd		0.9730						1.08		4327.401	0.162
1267-TCDF	NotFnd		0.9787						1.08		4327.401	0.162
2346/1249-TCDF	NotFnd		0.9850						1.08		4327.401	0.162
2347/1279-TCDF	NotFnd		0.9929						1.08		4327.401	0.162
2348-TCDF	27.69		0.9970	0.9966	-0.7	4.60E+06	0.77	Y	1.08	14.8	4327.401	0.162
2378-TCDF	**27.80**		**1.0008**	**1.0006**	**-0.3**	**3.75E+06**	**0.77**	**Y**	**1.08**	**12.1**	**4327.401**	**0.162**
2367/3467-TCDF	NotFnd		1.0136						1.08		4327.401	0.162
1269-TCDF	NotFnd		1.0221						1.08		4327.401	0.162
1239-TCDF	NotFnd		1.0319						1.08		4327.401	0.162
1289-TCDF	29.79		1.0740	1.0721	-3.4	5.30E+06	0.78	Y	1.08	17.1	4327.401	0.162
13468/12468-PeCDF	29.69		0.9145	0.9135	-1.8	2.29E+07	1.59	Y	1.02	85.9	3929.494	0.146
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7603.001	0.282
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7603.001	0.282
14678-PeCDF	NotFnd		0.9695						1.02		7603.001	0.282
13479-PeCDF	NotFnd		0.9724						1.02		7603.001	0.282
13469/12479-PeCDF	NotFnd		0.9801						1.02		7603.001	0.282
12346-PeCDF	NotFnd		0.9842						1.02		7603.001	0.282

Lab ID: OPR2_18842_DF | Acq'd: 23 Jan 2022 14:36 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 | UTP: 24-Jan-2022 15:20:18 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 606-439-XMN

Datafile: 220123C03 | Report: 24 Jan 2022 15:24 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7603.001	0.282
12347-PeCDF	NotFnd		0.9895						1.02		7603.001	0.282
12348-PeCDF	NotFnd		0.9941						1.02		7603.001	0.282
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.45E+07**	**1.56**	**Y**	**1.02**	**54**	**7603.001**	**0.287**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7603.001	0.282
12379-PeCDF	NotFnd		1.0142						1.02		7603.001	0.282
12679-PeCDF	NotFnd		0.9931						1.02		7603.001	0.282
23467/12369-PeCDF	NotFnd		0.9966						1.02		7603.001	0.282
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.52E+07**	**1.55**	**Y**	**1.02**	**57.5**	**7603.001**	**0.277**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7603.001	0.282
12349-PeCDF	NotFnd		1.0101						1.02		7603.001	0.282
12389-PeCDF	34.70		1.0322	1.0325	+0.6	2.77E+06	1.58	Y	1.02	10.4	7603.001	0.282
123468-HxCDF	35.46		0.9627	0.9628	+0.2	2.96E+07	1.28	Y	1.19	132	9367.947	0.426
124678/134678-HxCDF	NotFnd		0.9684						1.19		9367.947	0.426
134679-HxCDF	NotFnd		0.9747						1.19		9367.947	0.426
124679-HxCDF	NotFnd		0.9802						1.19		9367.947	0.426
124689-HxCDF	NotFnd		0.9858						1.19		9367.947	0.426
123467-HxCDF	NotFnd		0.9972						1.19		9367.947	0.426
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.27**	**Y**	**1.27**	**56.5**	**9367.947**	**0.398**
123678-HxCDF	**36.99**		**1.0004**	**1.0003**	**-0.2**	**1.55E+07**	**1.26**	**Y**	**1.15**	**56.1**	**9367.947**	**0.385**
123479-HxCDF	NotFnd		1.0051						1.19		9367.947	0.426
123469-HxCDF	NotFnd		1.0091						1.19		9367.947	0.426
123679-HxCDF	NotFnd		0.9943						1.19		9367.947	0.426
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**1.19E+07**	**1.26**	**Y**	**1.19**	**53.5**	**9367.947**	**0.427**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9367.947	0.426
123789-HxCDF	**38.62**		**1.0004**	**1.0005**	**+0.2**	**1.02E+07**	**1.28**	**Y**	**1.16**	**55.9**	**9367.947**	**0.525**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		9367.947	0.426
1234678-HpCDF	**39.95**		**1.0002**	**1.0002**	**0**	**1.15E+07**	**1.02**	**Y**	**1.37**	**54**	**2986.104**	**0.119**
1234679-HpCDF	NotFnd		1.0067						1.34		2986.104	0.148
1234689-HpCDF	NotFnd		1.0101						1.34		2986.104	0.148
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**8.12E+06**	**1.01**	**Y**	**1.31**	**58.5**	**2986.104**	**0.19**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**1.19E+07**	**0.93**	**Y**	**1.07**	**110**	**3664.628**	**0.413**
OCDF-a	NotFnd		1.0002						0.07		3097.485	5.64

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220123C03	Analysis Date:	23-JAN-2022 14:36:49
Lab ID:	OPR2_18842_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.4	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	59.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.1	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	53.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.7	35	-	70	Y
OCDD	100	117	78	-	144	Y
2,3,7,8-TCDF	10	12.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	56.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	55.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	58.5	39	-	69	Y
OCDF	100	110	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 15:24 Analyst: MS

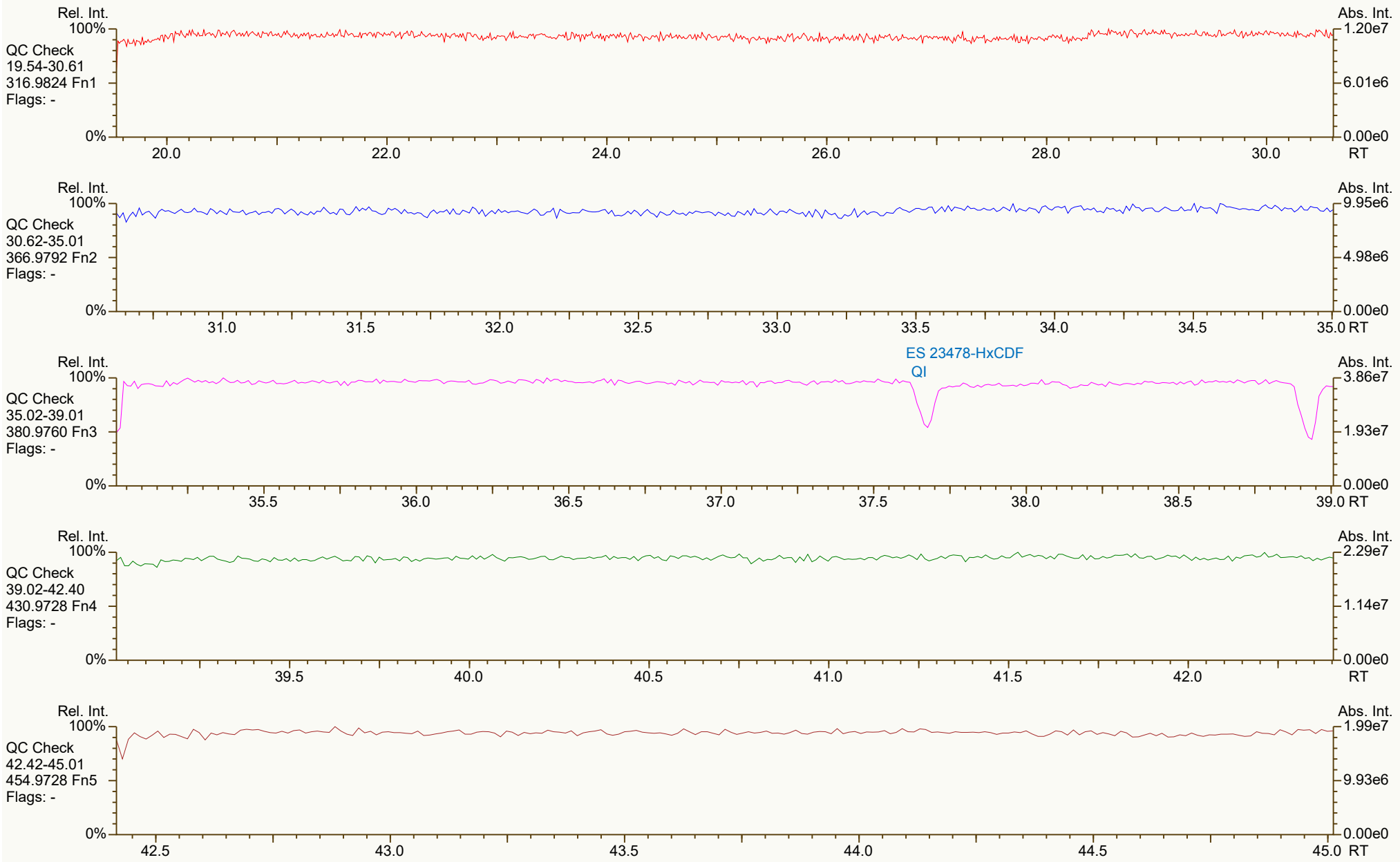
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

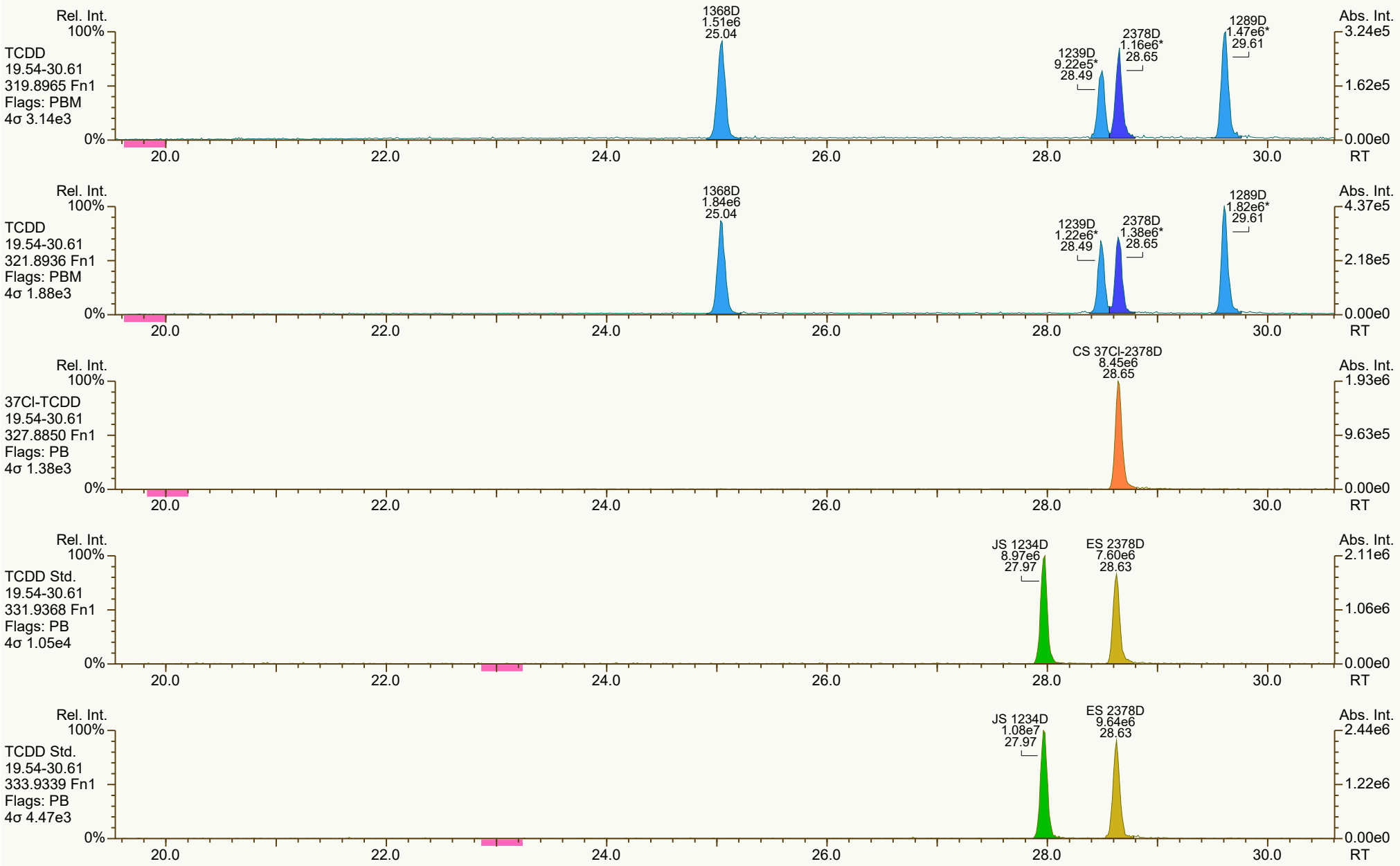
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220123C03	Analysis Date:	23-JAN-2022 14:36:49
Lab ID:	OPR2_18842_DF		

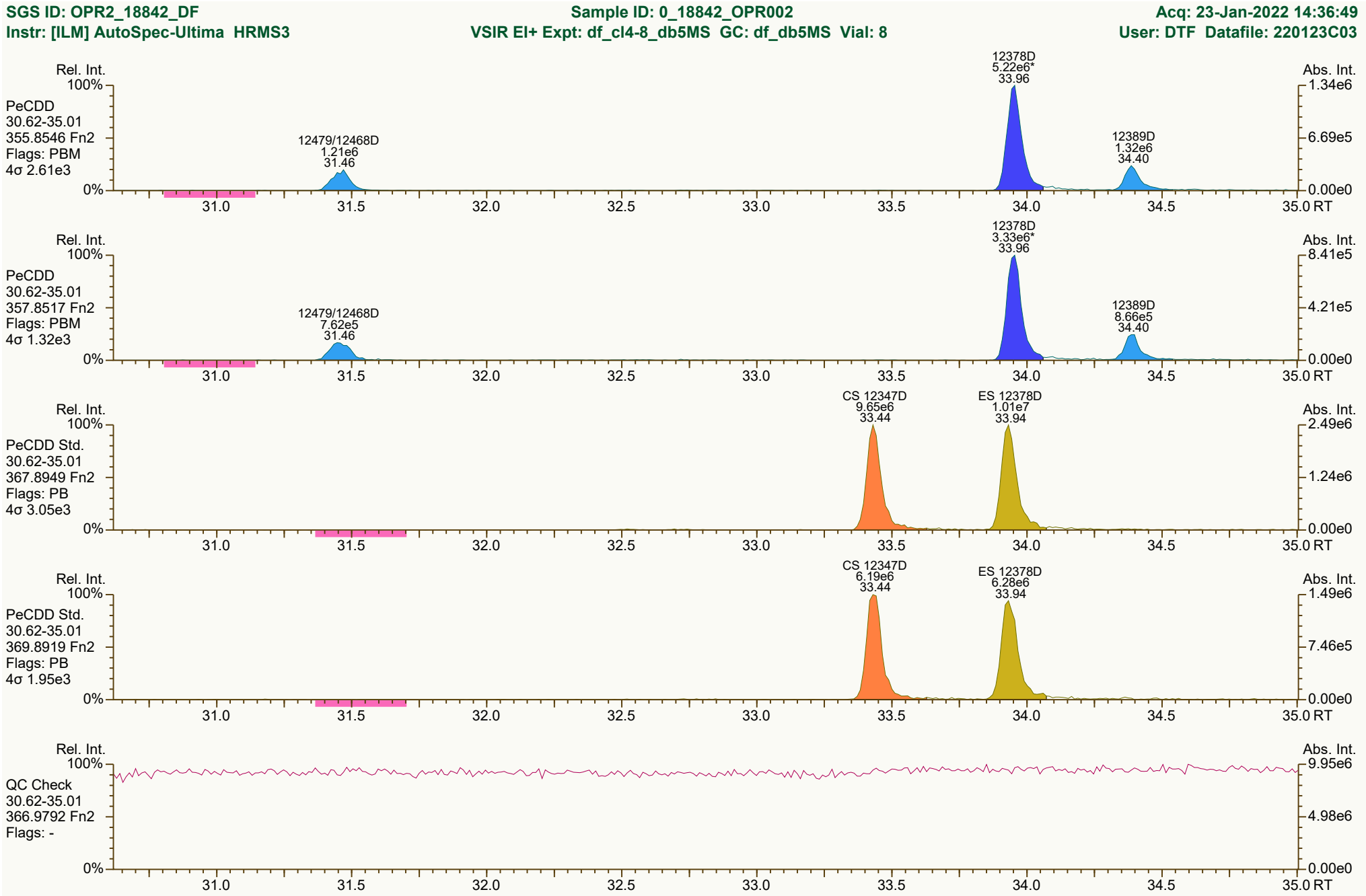
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	83.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	94.4	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	86	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	113	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92.1	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	83	26	-	166	Y
13C-OCDD	200	137	26	-	397	Y
13C-2,3,7,8-TCDF	100	85	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	90.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	91.7	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	86.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	108	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	91.4	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	82.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	97.3	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	75.8	20	-	186	Y
13C-OCDF	200	152	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.6	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

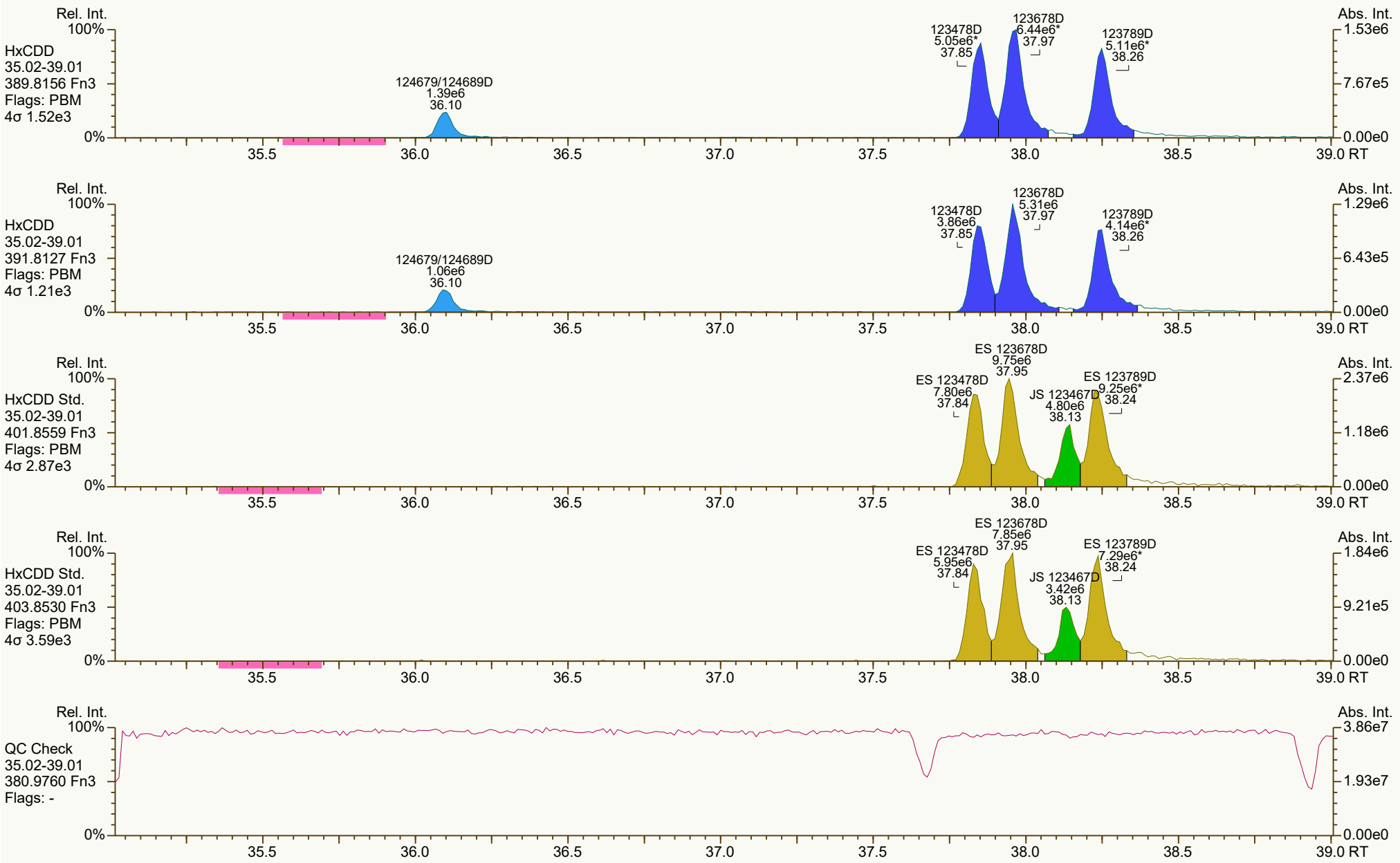
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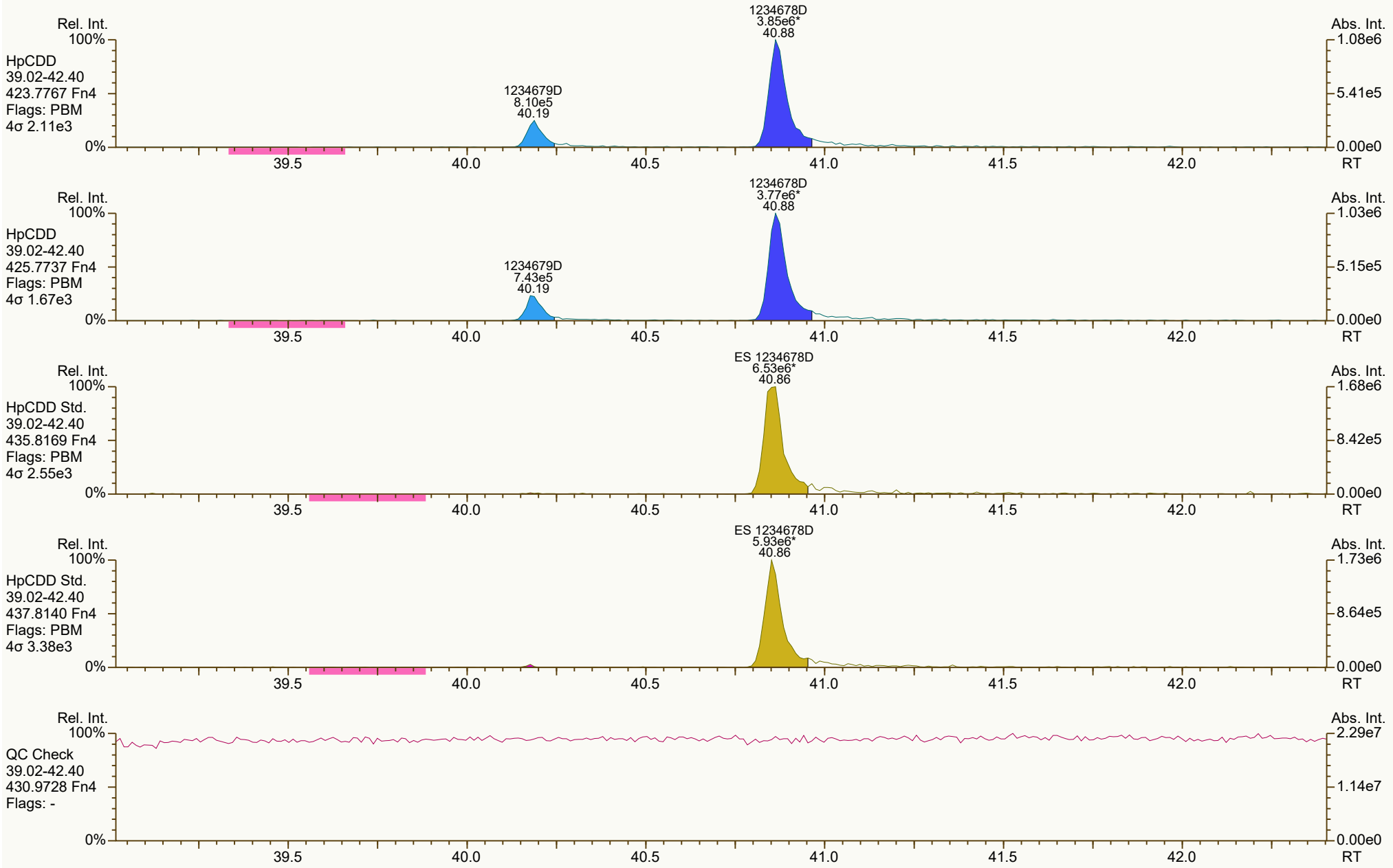

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.20e7
6.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.95e6
4.98e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 23478-HxCDF
QI
Abs. Int.
3.86e7
1.93e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.99e7
9.93e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

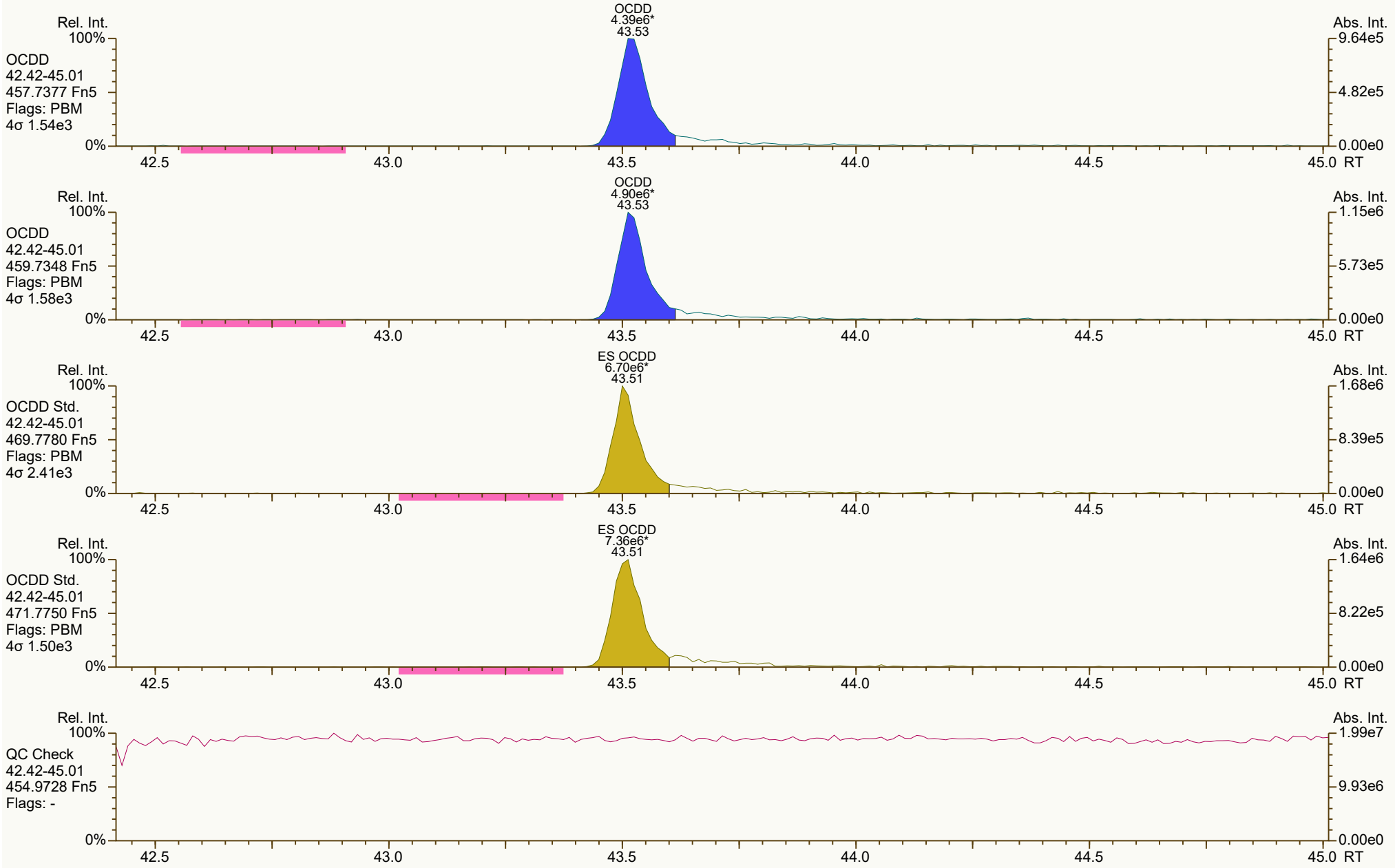

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.14e3
1368D
1.51e6
25.04
1239D
9.22e5*
28.49
2378D
1.16e6*
28.65
1289D
1.47e6*
29.61
Abs. Int.
3.24e5
1.62e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.88e3
1368D
1.84e6
25.04
1239D
1.22e6*
28.49
2378D
1.38e6*
28.65
1289D
1.82e6*
29.61
Abs. Int.
4.37e5
2.18e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.38e3
CS 37Cl-2378D
8.45e6
28.65
Abs. Int.
1.93e6
9.63e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 1.05e4
JS 1234D
8.97e6
27.97
ES 2378D
7.60e6
28.63
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.47e3
JS 1234D
1.08e7
27.97
ES 2378D
9.64e6
28.63
Abs. Int.
2.44e6
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0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT



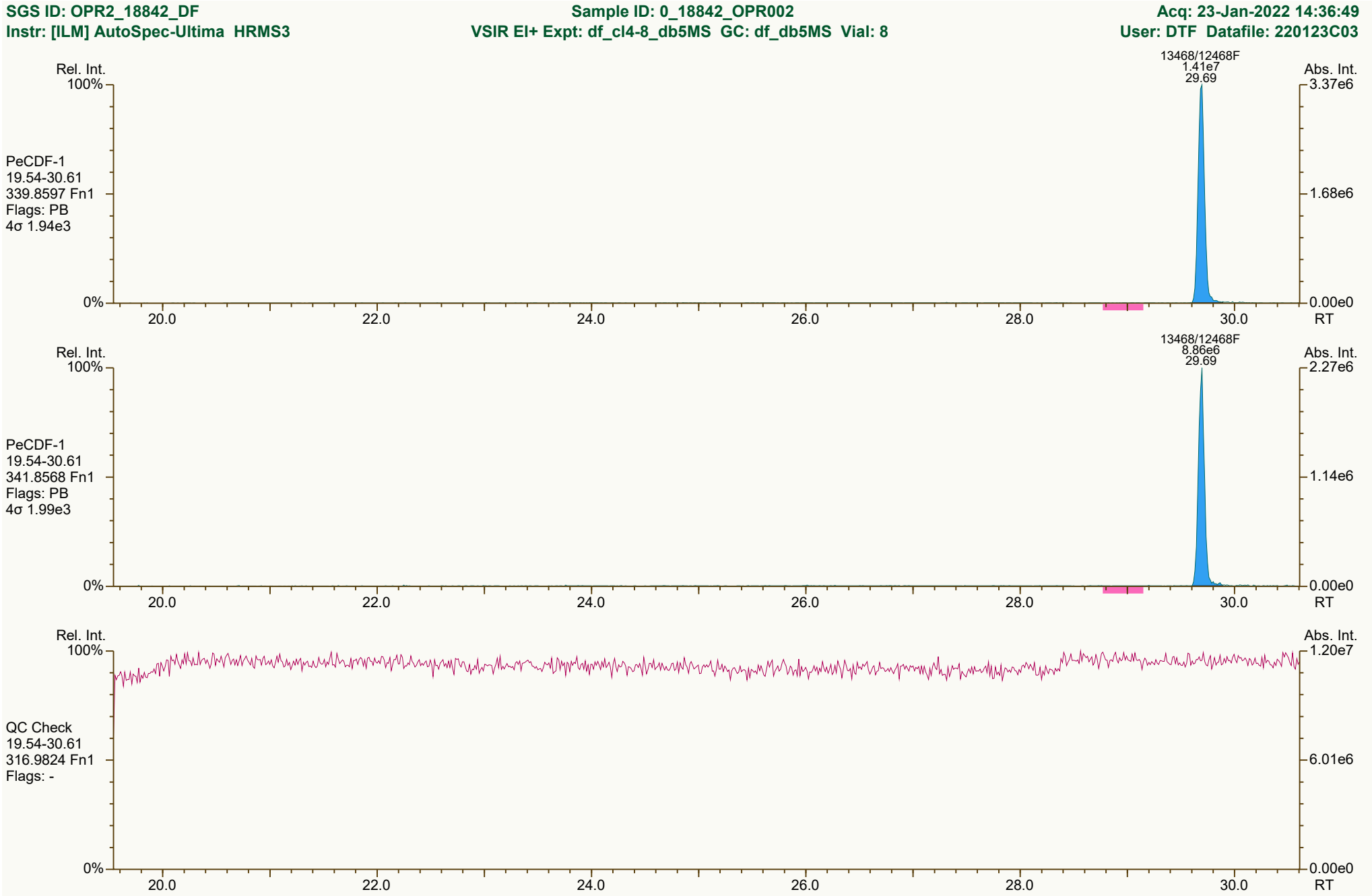
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 1516, 0624 scc: 606-439
Revised: 24-Jan-2022 09:21 (DTF) Printed: 24-Jan-2022 15:33 Page 3 of 12

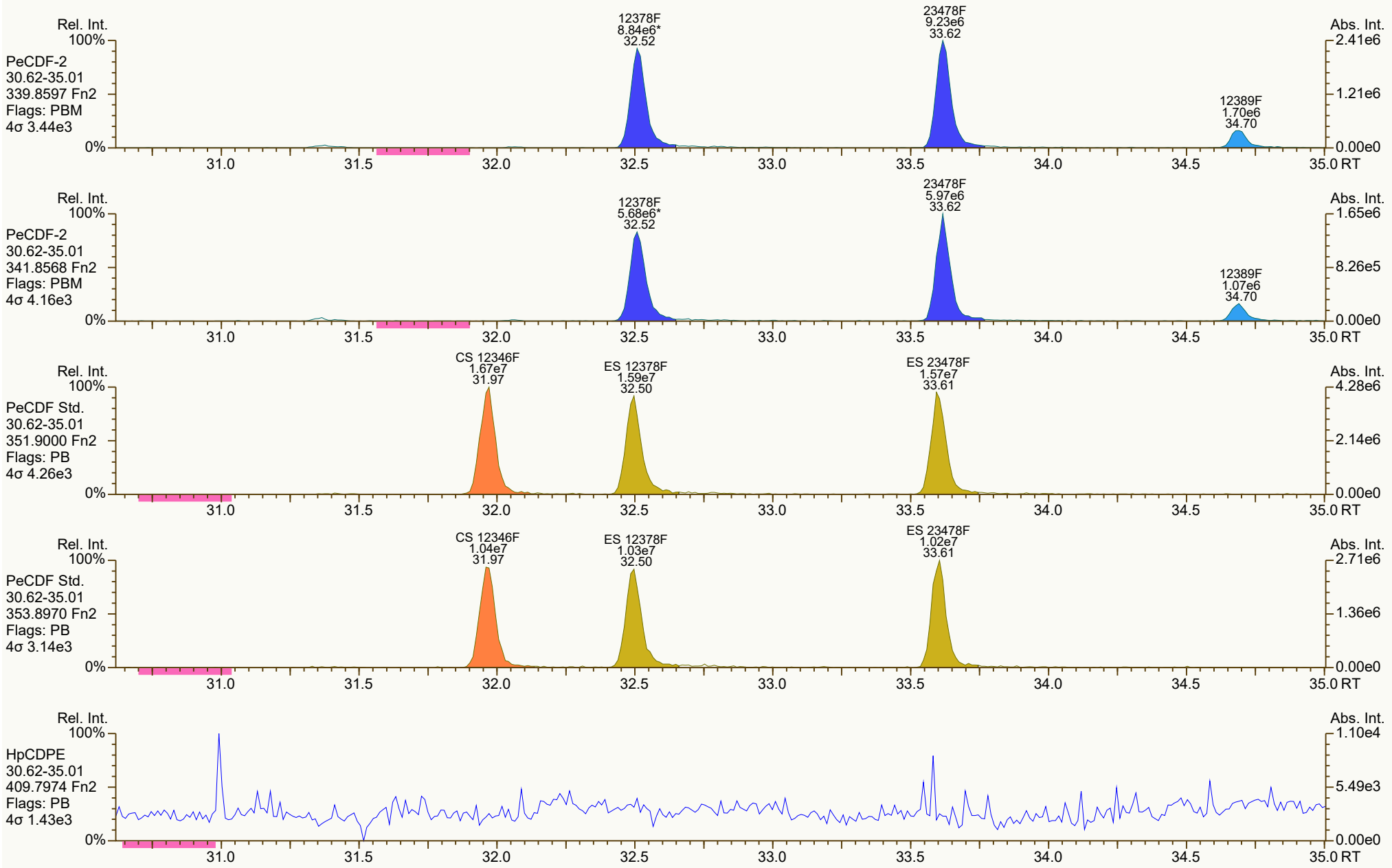

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.52e3
124679/124689D
1.39e6
36.10
123478D
5.05e6*
37.85
123678D
6.44e6*
37.97
123789D
5.11e6*
38.26
1.53e6
7.67e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.21e3
124679/124689D
1.06e6
36.10
123478D
3.86e6
37.85
123678D
5.31e6
37.97
123789D
4.14e6*
38.26
1.29e6
6.43e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.87e3
ES 123478D
7.80e6
37.84
ES 123678D
9.75e6
37.95
JS 123467D
4.80e6
38.13
ES 123789D
9.25e6*
38.24
2.37e6
1.18e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.59e3
ES 123478D
5.95e6
37.84
ES 123678D
7.85e6
37.95
JS 123467D
3.42e6
38.13
ES 123789D
7.29e6*
38.24
1.84e6
9.21e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
3.86e7
1.93e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

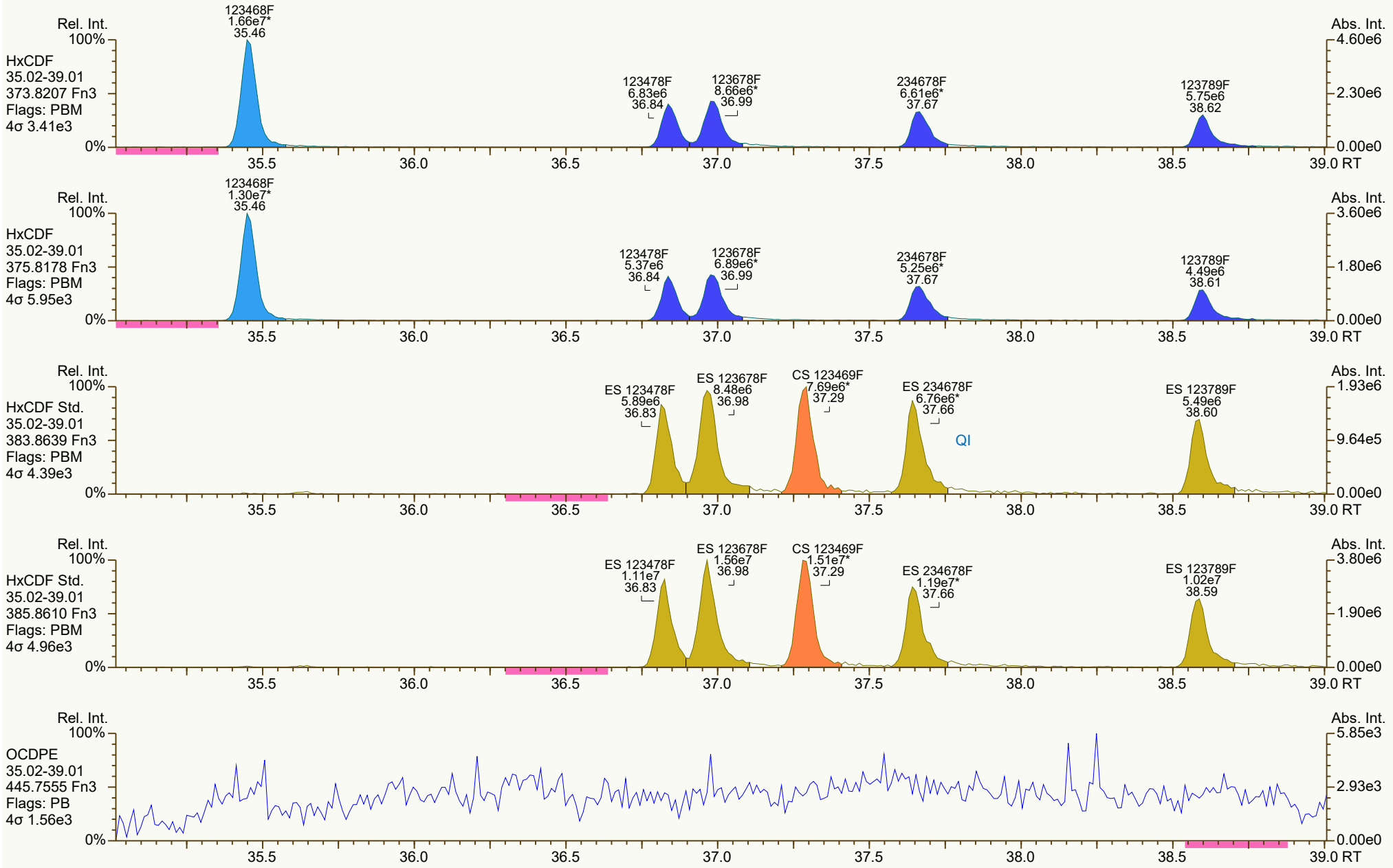

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.11e3
1234678D
3.85e6*
40.88
1234679D
8.10e5
40.19
Abs. Int.
1.08e6
5.41e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.67e3
1234678D
3.77e6*
40.88
1234679D
7.43e5
40.19
Abs. Int.
1.03e6
5.15e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.55e3
ES 1234678D
6.53e6*
40.86
Abs. Int.
1.68e6
8.42e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 3.38e3
ES 1234678D
5.93e6*
40.86
Abs. Int.
1.73e6
8.64e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

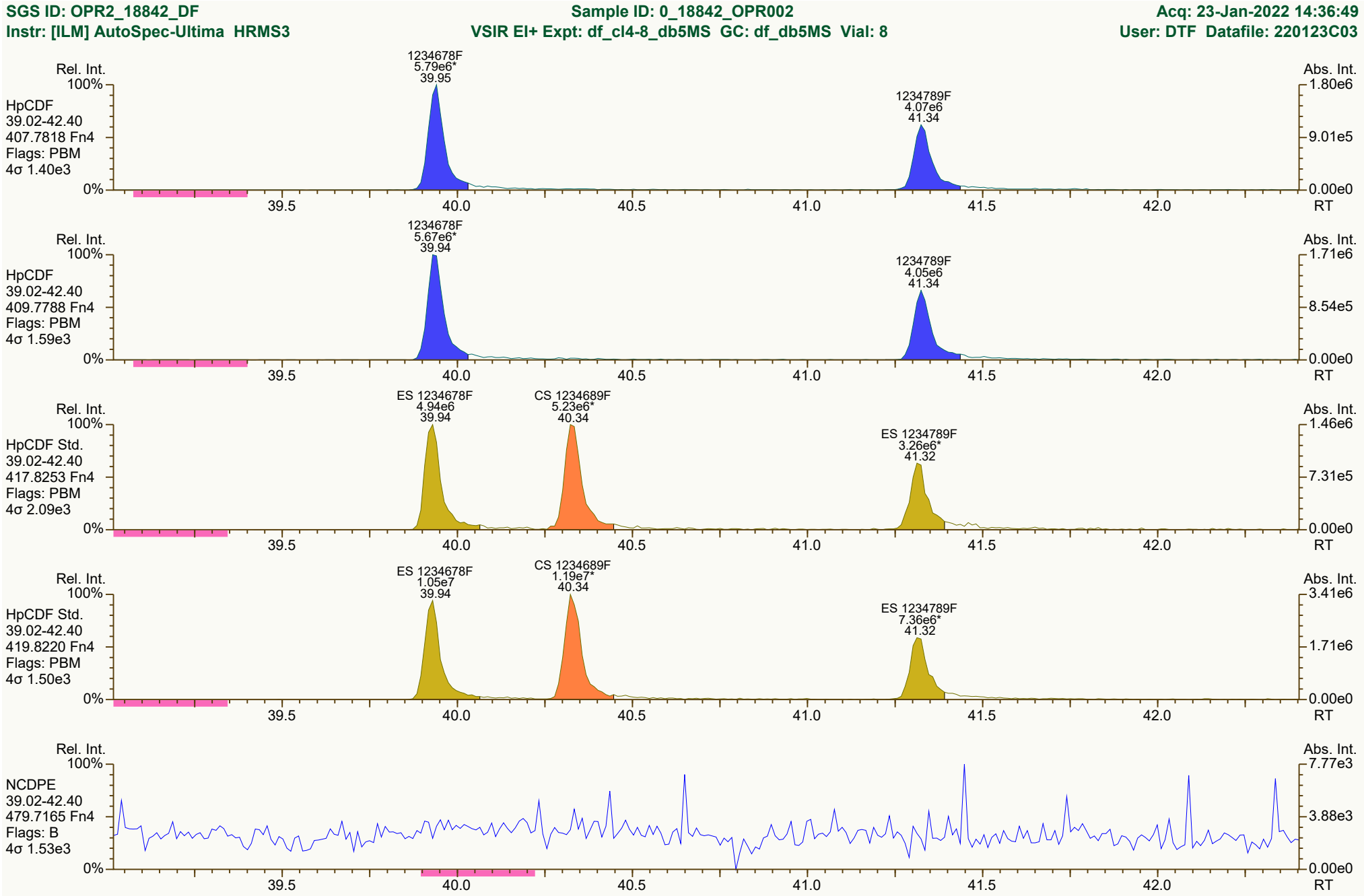

OCDD
4.39e6*
43.53
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
9.64e5
4.82e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.90e6*
43.53
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.58e3
0%
Abs. Int.
1.15e6
5.73e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.70e6*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.41e3
0%
Abs. Int.
1.68e6
8.39e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.36e6*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
1.64e6
8.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.99e7
9.93e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.85e3
1368F
2.28e6
22.97
2468F
6.44e5
24.17
2348F
2.00e6
27.69
2378F
1.63e6*
27.80
1289F
2.32e6*
29.79
Abs. Int.
5.12e5
2.56e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.48e3
1368F
2.78e6
22.97
2468F
7.40e5
24.16
2348F
2.60e6
27.68
2378F
2.12e6*
27.80
1289F
2.98e6*
29.78
Abs. Int.
6.06e5
3.03e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 5.59e3
JS 1234F
1.44e7
26.43
ES 2378F
1.28e7
27.78
Abs. Int.
3.03e6
1.51e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.69e3
JS 1234F
1.76e7
26.43
ES 2378F
1.60e7
27.78
Abs. Int.
3.54e6
1.77e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.48e3
Abs. Int.
1.41e4
7.03e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR2_18842_DF
Sample ID: 0_18842_OPR002
Acq: 23-Jan-2022 14:36:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: DTF Datafile: 220123C03
Rel. Int.
100%
0%
Abs. Int.
3.37e6
1.68e6
0.00e0
13468/12468F
1.41e7
29.69
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.94e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
8.86e6
29.69
2.27e6
1.14e6
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.99e3
1.20e7
6.01e6
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR2_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 6840 scc: 606-439
PKD: 24-Jan-2022 09:20 Printed: 24-Jan-2022 15:34 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 3.44e3
0%
12378F
8.84e6*
32.52
23478F
9.23e6
33.62
12389F
1.70e6
34.70
Abs. Int.
2.41e6
1.21e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 4.16e3
0%
12378F
5.68e6*
32.52
23478F
5.97e6
33.62
12389F
1.07e6
34.70
Abs. Int.
1.65e6
8.26e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 4.26e3
0%
CS 12346F
1.67e7
31.97
ES 12378F
1.59e7
32.50
ES 23478F
1.57e7
33.61
Abs. Int.
4.28e6
2.14e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.14e3
0%
CS 12346F
1.04e7
31.97
ES 12378F
1.03e7
32.50
ES 23478F
1.02e7
33.61
Abs. Int.
2.71e6
1.36e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
1.10e4
5.49e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.41e3
123468F 1.66e7* 35.46
123478F 6.83e6 36.84
123678F 8.66e6* 36.99
234678F 6.61e6* 37.67
123789F 5.75e6 38.62
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 5.95e3
123468F 1.30e7* 35.46
123478F 5.37e6 36.84
123678F 6.89e6* 36.99
234678F 5.25e6* 37.67
123789F 4.49e6 38.61
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.39e3
ES 123478F 5.89e6 36.83
ES 123678F 8.48e6 36.98
CS 123469F 7.69e6* 37.29
ES 234678F 6.76e6* 37.66
QI
ES 123789F 5.49e6 38.60
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.96e3
ES 123478F 1.11e7 36.83
ES 123678F 1.56e7 36.98
CS 123469F 1.51e7* 37.29
ES 234678F 1.19e7* 37.66
ES 123789F 1.02e7 38.59
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.56e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
4.60e6
2.30e6
0.00e0
3.60e6
1.80e6
1.93e6
9.64e5
3.80e6
1.90e6
5.85e3
2.93e3



Results: P:\B6100_B6199\B6155\B6155_18842 DF\Resources\OPR2_18842_DF.utp_res, saved 24-Jan-2022 15:20 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 3878, 9444, 5176 scc: 606-439
PKD: 24-Jan-2022 09:22 Printed: 24-Jan-2022 15:34 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.11e3
0%
OCDF
5.74e6*
43.71
Abs. Int.
1.25e6
6.24e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.56e3
0%
OCDF
6.15e6*
43.71
Abs. Int.
1.42e6
7.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.81e3
0%
ES OCDF
9.63e6*
43.70
Abs. Int.
1.98e6
9.89e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.15e3
0%
ES OCDF
1.05e7*
43.70
Abs. Int.
2.23e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.13e3
0%
Abs. Int.
4.31e3
2.15e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011022-S-BN-NC-S-20 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6169_18833_DF_001	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	81.7 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:12:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	33.2				ES 2378-TCDD	86.9	
12378-PeCDD	EMPC		0.907	J	ES 12378-PeCDD	102	
123478-HxCDD	1.29			J	ES 123478-HxCDD	95	
123678-HxCDD	3.62				ES 123678-HxCDD	103	
123789-HxCDD	2.28			J	ES 123789-HxCDD	92.3	
1234678-HpCDD	96.5				ES 1234678-HpCDD	96.3	
OCDD	1,240				ES OCDD	71.5	
2378-TCDF	87.7				ES 2378-TCDF	88	
12378-PeCDF	7.14				ES 12378-PeCDF	99.3	
23478-PeCDF	3.8			PR	ES 23478-PeCDF	96.8	
123478-HxCDF	10.8				ES 123478-HxCDF	102	
123678-HxCDF	EMPC		2.37	J	ES 123678-HxCDF	109	
234678-HxCDF	EMPC		1.46	J	ES 234678-HxCDF	116	
123789-HxCDF	ND	0.44			ES 123789-HxCDF	103	
1234678-HpCDF	21.2				ES 1234678-HpCDF	113	
1234789-HpCDF	2.74				ES 1234789-HpCDF	101	
OCDF	82.3				ES OCDF	76.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.1	
Total TCDD	52.2		52.2		CS 12347-PeCDD	107	
Total PeCDD	7.64		10		CS 12346-PeCDF	102	
Total HxCDD	60.5		60.5		CS 123469-HxCDF	116	
Total HpCDD	254		254		CS 1234689-HpCDF	113	
Total TCDF	152		162				
Total PeCDF	17.8		21.5				
Total HxCDF	28.9		32.7				
Total HpCDF	55.9		55.9				
Total PCDD/Fs	**1,960**		**1,970**				
WHO-2005 TEQs							
TEQ: ND=0	46.7		48				
TEQ: ND=DL/2	46.7	0.68	48				
TEQ: ND=DL	46.7	1.36	48				

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Sample ID: 11215131-011022-S-BN-NC-S-20 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6169_18833_DF_001	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	81.7 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:12:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.392)		12479/12468D	[1.49]	J	124679/124689D	36.8		1234679D	158	
1379D	(0.392)		12469D	6.59		123468D	1.79	J	1234678D	96.5	
1369D	(0.392)		12368D	(0.588)		123679/123689D	13.3				
1469D	14.3		12478D	(0.588)		123469D	1.38	J			
1247D...[4]	(0.392)		12379D	(0.588)		123478D	1.29	J			
1378D	(0.392)		12369D...[3]	1.06	J	123678D	3.62				
1268D	(0.392)		12346/12347D	(0.588)		123467D	(0.387)				
1478D	(0.392)		12378D	[0.907]	J	123789D	2.28	J	**Conc.**	254	
1279D	(0.392)		12367D	(0.588)					**EMPC**	254	
1234/1269D	(0.392)		12389D	(0.588)							
1236D	(0.392)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.82										
1239D	(0.392)								OCDD	1240	
2378D	33.2										
1278D	2.88										
1267D	(0.392)										
1289D	(0.392)										
Conc.	52.2		**Conc.**	7.64		**Conc.**	60.5				
EMPC	52.2		**EMPC**	10		**EMPC**	60.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	46.7	48
TEQ: ND=DL/2	46.7	48
TEQ: ND=DL	46.7	48

	Conc.	EMPC
Total PCDD/Fs	1,960	1,970

Checkcode: 380-762-WJY

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-20 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received: 12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6169_18833_DF_001	Date Extracted: 13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	81.7 %	QC Batch No.:	18833	Date Analyzed: 17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 12:12:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.25)		13468/12468F	[2.3]	J	123468F	2.41	J	1234678F	21.2	
1468F	(0.25)		13678F...[3]	1.33	J	124678/134678F	8.25		1234679F	0.795	J
2468F	1.05		12368F...[3]	5.51		134679F	(0.398)		1234689F	31.1	
1346/1246F	(0.25)		14678F	(0.202)		124679F	(0.398)		1234789F	2.74	
1347F...[3]	3.21		13479F	(0.202)		124689F	6.6				
1348F	4.28		13469/12479F	(0.202)		123467F	(0.398)				
1248F...[3]	(0.25)		12346F	(0.202)		123478F	10.8				
1268F	1.87		23468/12469F	(0.202)		123678F	[2.37]	J			
1467F	0.684		12347F	(0.202)		123479F	(0.398)				
1478F	[3.62]		12348F	(0.202)		123469F	(0.398)				
1369/1237F	1.38		12378F	7.14		123679F	(0.398)				
2467F	(0.25)		12678/12367F	[1.41]	J	234678F	[1.46]	J	**Conc.**	55.9	
2368F	3.45		12379F	(0.202)		234678/123689F	0		**EMPC**	55.9	
1238F...[5]	3.47		12679F	(0.202)		123689F	(0.398)				
1278F	28.2		23467/12369F	(0.202)		123789F	(0.44)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.25)		23478F	3.8	PR	123789/123489F	0				
1267F	1.9		23478/12489F	0		123489F	0.806	J	OCDF	82.3	
2346/1249F	(0.25)		12489F	(0.202)							
2347/1279F	[1.2]		12349F	(0.202)							
2348F	[4.51]		12389F	(0.202)							
2378F	87.7										
2367/3467F	8.52										
1269F	1.34										
1239F	(0.25)										
1289F	5.26										
Conc.	152		**Conc.**	17.8		**Conc.**	28.9				
EMPC	162		**EMPC**	21.5		**EMPC**	32.7				

Checkcode: 380-762-WJY

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-20 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18833
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 12:12
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	33.2		0.392	33.2	33.2	33.2
12378-PeCDD	[0.907]	J	0.588	[0.453]	[0.907]	[0.907]
123478-HxCDD	1.29	J	0.399	0.129	0.129	0.129
123678-HxCDD	3.62		0.375	0.362	0.362	0.362
123789-HxCDD	2.28	J	0.39	0.228	0.228	0.228
1234678-HpCDD	96.5		0.352	0.965	0.965	0.965
OCDD	1240		1.12	1.24	0.124	0.373
2378-TCDF	87.7		0.25	8.77	8.77	8.77
12378-PeCDF	7.14		0.196	0.357	0.357	0.214
23478-PeCDF	3.8		0.208	1.9	1.9	1.14
123478-HxCDF	10.8		0.397	1.08	1.08	1.08
123678-HxCDF	[2.37]	J	0.373	[0.237]	[0.237]	[0.237]
234678-HxCDF	[1.46]	J	0.394	[0.146]	[0.146]	[0.146]
123789-HxCDF	(0.44)		0.44	(0.044)	(0.044)	(0.044)
1234678-HpCDF	21.2		0.197	0.212	0.212	0.212
1234789-HpCDF	2.74		0.309	0.0274	0.0274	0.0274
OCDF	82.3		0.568	0.0823	0.00823	0.0247

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TEQ Summaries			
EMPC = 0, ND = 0	48.5	47.3	46.7
EMPC = 0, ND = DL / 2	48.6	47.4	46.7
EMPC = 0, ND = DL	48.6	47.4	46.7
EMPC = 0, < J-level = 0	48.2	47	46.3
EMPC = EMPC, ND = 0	49.4	48.6	48
EMPC = EMPC, ND = DL / 2	49.4	48.6	48
EMPC = EMPC, ND = DL	49.4	48.7	48
EMPC = EMPC, < J-level = 0	48.2	47	46.3

Checkcode: 380-762-WJY

Sample ID: 11215131-011022-S-BN-NC-S-32 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID	B6169_18833_DF_002	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.6 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:58:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	18.2				ES 2378-TCDD	78.4	
12378-PeCDD	EMPC		0.825	J	ES 12378-PeCDD	101	
123478-HxCDD	EMPC		0.983	J	ES 123478-HxCDD	93.1	
123678-HxCDD	EMPC		3.58		ES 123678-HxCDD	98.3	
123789-HxCDD	EMPC		2.28	J	ES 123789-HxCDD	87.6	
1234678-HpCDD	89.6				ES 1234678-HpCDD	86.5	
OCDD	1,250				ES OCDD	63.4	
2378-TCDF	51.2				ES 2378-TCDF	78.1	
12378-PeCDF	EMPC		2.57		ES 12378-PeCDF	90.6	
23478-PeCDF	EMPC		2.54		ES 23478-PeCDF	91.1	
123478-HxCDF	5				ES 123478-HxCDF	93	
123678-HxCDF	1.45			J	ES 123678-HxCDF	102	
234678-HxCDF	EMPC		1.09	J	ES 234678-HxCDF	113	
123789-HxCDF	ND	0.482			ES 123789-HxCDF	90.4	
1234678-HpCDF	15.5				ES 1234678-HpCDF	109	
1234789-HpCDF	1.75			J	ES 1234789-HpCDF	84.7	
OCDF	71.6				ES OCDF	67.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.1	
Total TCDD	21.4		22.8		CS 12347-PeCDD	120	
Total PeCDD	8.11		9.57		CS 12346-PeCDF	103	
Total HxCDD	41.2		50		CS 123469-HxCDF	117	
Total HpCDD	258		258		CS 1234689-HpCDF	118	
Total TCDF	81.7		98.1				
Total PeCDF	8.19		14.8				
Total HxCDF	21.5		23.3				
Total HpCDF	41		41				
Total PCDD/Fs	**1,810**		**1,840**				
WHO-2005 TEQs							
TEQ: ND=0	25.4		27.9				
TEQ: ND=DL/2	25.5	0.749	27.9				
TEQ: ND=DL	25.5	1.5	27.9				

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Sample ID: 11215131-011022-S-BN-NC-S-32 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6169_18833_DF_002	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.6 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:58:59

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.72)		12479/12468D	1.95	J	124679/124689D	25		1234679D	168	
1379D	(0.72)		12469D	2.75		123468D	2.1	J	1234678D	89.6	
1369D	(0.72)		12368D	[0.629]	J	123679/123689D	12.8				
1469D	3.25		12478D	0.642	J	123469D	[1.97]	J			
1247D...[4]	(0.72)		12379D	1.4	J	123478D	[0.983]	J			
1378D	(0.72)		12369D...[3]	1.37	J	123678D	[3.58]				
1268D	(0.72)		12346/12347D	(0.369)		123467D	1.26	J			
1478D	(0.72)		12378D	[0.825]	J	123789D	[2.28]	J	**Conc.**	258	
1279D	(0.72)		12367D	(0.369)					**EMPC**	258	
1234/1269D	(0.72)		12389D	(0.369)							
1236D	(0.72)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.72)										
1239D	(0.72)								OCDD	1250	
2378D	18.2										
1278D	[1.4]										
1267D	(0.72)										
1289D	(0.72)										
Conc.	21.4		**Conc.**	8.11		**Conc.**	41.2				
EMPC	22.8		**EMPC**	9.57		**EMPC**	50				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	25.4	27.9
TEQ: ND=DL/2	25.5	27.9
TEQ: ND=DL	25.5	27.9

	Conc.	EMPC
Total PCDD/Fs	1,810	1,840

Checkcode: 316-237-SQX

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-32 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received: 12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6169_18833_DF_002	Date Extracted: 13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.6 %	QC Batch No.:	18833	Date Analyzed: 17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 12:58:59

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.482]	J	13468/12468F	2.72		123468F	1.98	J	1234678F	15.5	
1468F	0.82		13678F...[3]	[1.48]	J	124678/134678F	7.21		1234679F	1.04	J
2468F	[1.76]		12368F...[3]	4.04		134679F	(0.383)		1234689F	22.6	
1346/1246F	(0.191)		14678F	(0.332)		124679F	(0.383)		1234789F	1.75	J
1347F...[3]	2.49		13479F	(0.332)		124689F	5.05				
1348F	[2.52]		13469/12479F	(0.332)		123467F	0.807	J			
1248F...[3]	(0.191)		12346F	(0.332)		123478F	5				
1268F	1.11		23468/12469F	(0.332)		123678F	1.45	J			
1467F	[0.368]	J	12347F	(0.332)		123479F	(0.383)				
1478F	[2.1]		12348F	(0.332)		123469F	(0.383)				
1369/1237F	0.809		12378F	[2.57]		123679F	(0.383)				
2467F	0.581		12678/12367F	1.44	J	234678F	[1.09]	J	**Conc.**	41	
2368F	2.48		12379F	(0.332)		234678/123689F	0		**EMPC**	41	
1238F...[5]	2.47		12679F	(0.332)		123689F	(0.383)				
1278F	15.4		23467/12369F	(0.332)		123789F	(0.482)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.191)		23478F	[2.54]		123789/123489F	0				
1267F	1.54		23478/12489F	0		123489F	[0.672]	J	OCDF	71.6	
2346/1249F	(0.191)		12489F	(0.332)							
2347/1279F	[0.703]		12349F	(0.332)							
2348F	[1.37]		12389F	(0.332)							
2378F	51.2										
2367/3467F	[6.28]										
1269F	[0.818]										
1239F	(0.191)										
1289F	2.83										
Conc.	81.7		**Conc.**	8.19		**Conc.**	21.5				
EMPC	98.1		**EMPC**	14.8		**EMPC**	23.3				

Checkcode: 316-237-SQX

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-32 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	QC Batch No.:	18833
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 12:58
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	18.2		0.72	18.2	18.2	18.2
12378-PeCDD	[0.825]	J	0.369	[0.412]	[0.825]	[0.825]
123478-HxCDD	[0.983]	J	0.371	[0.0983]	[0.0983]	[0.0983]
123678-HxCDD	[3.58]		0.343	[0.358]	[0.358]	[0.358]
123789-HxCDD	[2.28]	J	0.392	[0.228]	[0.228]	[0.228]
1234678-HpCDD	89.6		0.382	0.896	0.896	0.896
OCDD	1250		1.17	1.25	0.125	0.376
2378-TCDF	51.2		0.191	5.12	5.12	5.12
12378-PeCDF	[2.57]		0.334	[0.129]	[0.129]	[0.0772]
23478-PeCDF	[2.54]		0.33	[1.27]	[1.27]	[0.761]
123478-HxCDF	5		0.385	0.5	0.5	0.5
123678-HxCDF	1.45	J	0.364	0.145	0.145	0.145
234678-HxCDF	[1.09]	J	0.328	[0.109]	[0.109]	[0.109]
123789-HxCDF	(0.482)		0.482	(0.0482)	(0.0482)	(0.0482)
1234678-HpCDF	15.5		0.324	0.155	0.155	0.155
1234789-HpCDF	1.75	J	0.624	0.0175	0.0175	0.0175
OCDF	71.6		0.92	0.0716	0.00716	0.0215

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TEQ Summaries			
EMPC = 0, ND = 0	26.4	25.2	25.4
EMPC = 0, ND = DL / 2	26.4	25.2	25.5
EMPC = 0, ND = DL	26.4	25.2	25.5
EMPC = 0, < J-level = 0	26.2	25	25.3
EMPC = EMPC, ND = 0	29	28.2	27.9
EMPC = EMPC, ND = DL / 2	29	28.2	27.9
EMPC = EMPC, ND = DL	29	28.2	27.9
EMPC = EMPC, < J-level = 0	27.9	26.8	26.5

Checkcode: 316-237-SQX

Sample ID: 11215131-011022-S-BN-NC-S-31 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID	B6169_18833_DF_003	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.1 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:45:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,040			E	ES 2378-TCDD	81.3	
12378-PeCDD	19.5				ES 12378-PeCDD	96.7	
123478-HxCDD	2.95				ES 123478-HxCDD	87.6	
123678-HxCDD	14.7				ES 123678-HxCDD	91.7	
123789-HxCDD	6.94				ES 123789-HxCDD	85.5	
1234678-HpCDD	416				ES 1234678-HpCDD	95.5	
OCDD	5,950				ES OCDD	84.7	
2378-TCDF	5,650			E	ES 2378-TCDF	83.1	
12378-PeCDF	241				ES 12378-PeCDF	89.4	
23478-PeCDF	190			PR	ES 23478-PeCDF	91.5	
123478-HxCDF	344				ES 123478-HxCDF	93.6	
123678-HxCDF	87.6				ES 123678-HxCDF	97.3	
234678-HxCDF	20.7				ES 234678-HxCDF	95.4	
123789-HxCDF	ND	0.714			ES 123789-HxCDF	100	
1234678-HpCDF	181				ES 1234678-HpCDF	102	
1234789-HpCDF	40.8				ES 1234789-HpCDF	100	
OCDF	1,560				ES OCDF	90	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79	
Total TCDD	2,240		2,250		CS 12347-PeCDD	99.3	
Total PeCDD	42.9		43.9		CS 12346-PeCDF	87.3	
Total HxCDD	126		128		CS 123469-HxCDF	98.4	
Total HpCDD	880		880		CS 1234689-HpCDF	101	
Total TCDF	11,100		11,100				
Total PeCDF	707		708				
Total HxCDF	590		590				
Total HpCDF	372		372				
Total PCDD/Fs	**23,600**		**23,600**				
WHO-2005 TEQs							
TEQ: ND=0	2740		2740				
TEQ: ND=DL/2	2740	0.637	2740				
TEQ: ND=DL	2740	1.27	2740				

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Sample ID: 11215131-011022-S-BN-NC-S-31 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6169_18833_DF_003	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:45:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	5.31		12479/12468D	6.14		124679/124689D	49		1234679D	464	
1379D	2.11		12469D	3.33		123468D	7.51		1234678D	416	
1369D	[0.505]		12368D	5.3		123679/123689D	42				
1469D	3.68		12478D	2.33	J	123469D	[2.76]				
1247D...[4]	4.09		12379D	1.89	J	123478D	2.95				
1378D	6.78		12369D...[3]	2.33	J	123678D	14.7				
1268D	[0.611]		12346/12347D	1.16	J	123467D	2.4	J			
1478D	5.49		12378D	19.5		123789D	6.94		**Conc.**	880	
1279D	(0.255)		12367D	[0.984]	J				**EMPC**	880	
1234/1269D	[1.49]		12389D	0.945	J						
1236D	(0.255)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	35.3										
1239D	(0.255)								OCDD	5950	
2378D	2040	E									
1278D	136										
1267D	5.49										
1289D	[3.28]										
Conc.	2,240		**Conc.**	42.9		**Conc.**	126				
EMPC	2,250		**EMPC**	43.9		**EMPC**	128				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,740	2,740
TEQ: ND=DL/2	2,740	2,740
TEQ: ND=DL	2,740	2,740

	Conc.	EMPC
Total PCDD/Fs	23,600	23,600

Checkcode: 432-718-GPY

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-31 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6169_18833_DF_003	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:45:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.75		13468/12468F	15.8		123468F	10		1234678F	181	
1468F	9.52		13678F...[3]	5.37		124678/134678F	50		1234679F	5.1	
2468F	9.64		12368F...[3]	113		134679F	(0.652)		1234689F	145	
1346/1246F	(0.137)		14678F	(0.439)		124679F	1.21	J	1234789F	40.8	
1347F...[3]	65.1		13479F	(0.439)		124689F	39.4				
1348F	281		13469/12479F	1.75	J	123467F	4.09				
1248F...[3]	(0.137)		12346F	(0.439)		123478F	344				
1268F	92.6		23468/12469F	7.94		123678F	87.6				
1467F	13.2		12347F	5.37		123479F	(0.652)				
1478F	229		12348F	27.9		123469F	2.08	J			
1369/1237F	62.9		12378F	241		123679F	(0.652)				
2467F	[5.9]		12678/12367F	82.8		234678F	20.7		**Conc.**	372	
2368F	145		12379F	(0.439)		234678/123689F	0		**EMPC**	372	
1238F...[5]	300		12679F	[0.712]	J	123689F	(0.652)				
1278F	2570	E	23467/12369F	3.99		123789F	(0.714)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.137)		23478F	190	PR	123789/123489F	0				
1267F	138		23478/12489F	0		123489F	31.7		OCDF	1560	
2346/1249F	15.9		12489F	(0.439)							
2347/1279F	76.4		12349F	(0.439)							
2348F	463		12389F	11.7							
2378F	5650	E									
2367/3467F	442										
1269F	87.2										
1239F	6.88										
1289F	433										
Conc.	11,100		**Conc.**	707		**Conc.**	590				
EMPC	11,100		**EMPC**	708		**EMPC**	590				

Checkcode: 432-718-GPY

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-31 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	QC Batch No.:	18833
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 13:45
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2040	E	0.255	2040	2040	2040
12378-PeCDD	19.5		0.382	9.75	19.5	19.5
123478-HxCDD	2.95		0.704	0.295	0.295	0.295
123678-HxCDD	14.7		0.657	1.47	1.47	1.47
123789-HxCDD	6.94		0.726	0.694	0.694	0.694
1234678-HpCDD	416		0.426	4.16	4.16	4.16
OCDD	5950		0.737	5.95	0.595	1.78
2378-TCDF	5650	E	0.137	565	565	565
12378-PeCDF	241		0.447	12	12	7.22
23478-PeCDF	190		0.431	95.2	95.2	57.1
123478-HxCDF	344		0.617	34.4	34.4	34.4
123678-HxCDF	87.6		0.623	8.76	8.76	8.76
234678-HxCDF	20.7		0.663	2.07	2.07	2.07
123789-HxCDF	(0.714)		0.714	(0.0714)	(0.0714)	(0.0714)
1234678-HpCDF	181		0.227	1.81	1.81	1.81
1234789-HpCDF	40.8		0.313	0.408	0.408	0.408
OCDF	1560		0.59	1.56	0.156	0.469

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TEQ Summaries			
EMPC = 0, ND = 0	2780	2780	2740
EMPC = 0, ND = DL / 2	2780	2780	2740
EMPC = 0, ND = DL	2780	2780	2740
EMPC = 0, < J-level = 0	2780	2780	2740
EMPC = EMPC, ND = 0	2780	2780	2740
EMPC = EMPC, ND = DL / 2	2780	2780	2740
EMPC = EMPC, ND = DL	2780	2780	2740
EMPC = EMPC, < J-level = 0	2780	2780	2740

Checkcode: 432-718-GPY

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Sample ID: 11215131-011122-S-BN-NC-S-24 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID	B6169_18833_DF_004	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	80.1 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:31:39

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	654				ES 2378-TCDD	93.8	
12378-PeCDD	6.66				ES 12378-PeCDD	110	
123478-HxCDD	1.84			J	ES 123478-HxCDD	102	
123678-HxCDD	6.24				ES 123678-HxCDD	109	
123789-HxCDD	3.68				ES 123789-HxCDD	98.2	
1234678-HpCDD	145				ES 1234678-HpCDD	105	
OCDD	2,000				ES OCDD	83.6	
2378-TCDF	1,760			E	ES 2378-TCDF	100	
12378-PeCDF	58.4				ES 12378-PeCDF	107	
23478-PeCDF	48.1			PR	ES 23478-PeCDF	108	
123478-HxCDF	87.6				ES 123478-HxCDF	111	
123678-HxCDF	22.7				ES 123678-HxCDF	118	
234678-HxCDF	5.91				ES 234678-HxCDF	122	
123789-HxCDF	ND	0.482			ES 123789-HxCDF	111	
1234678-HpCDF	58.4				ES 1234678-HpCDF	123	
1234789-HpCDF	11.8				ES 1234789-HpCDF	99.9	
OCDF	293				ES OCDF	79.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.6	
Total TCDD	737		739		CS 12347-PeCDD	113	
Total PeCDD	14.1		17		CS 12346-PeCDF	101	
Total HxCDD	69.3		72.9		CS 123469-HxCDF	122	
Total HpCDD	347		347		CS 1234689-HpCDF	118	
Total TCDF	3,400		3,400				
Total PeCDF	177		178				
Total HxCDF	162		163				
Total HpCDF	128		128				
Total PCDD/Fs	**7,320**		**7,340**				
WHO-2005 TEQs							
TEQ: ND=0	869		869				
TEQ: ND=DL/2	869	0.577	869				
TEQ: ND=DL	869	1.15	869				

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Sample ID: 11215131-011122-S-BN-NC-S-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6169_18833_DF_004	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	80.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:31:39

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.45		12479/12468D	2.57		124679/124689D	33.1		1234679D	202	
1379D	0.76		12469D	[2.84]		123468D	[2.51]		1234678D	145	
1369D	(0.283)		12368D	1.26	J	123679/123689D	22.4				
1469D	3.07		12478D	1.01	J	123469D	2.09	J			
1247D...[4]	1.36		12379D	0.774	J	123478D	1.84	J			
1378D	[2.36]		12369D...[3]	1.85	J	123678D	6.24				
1268D	(0.283)		12346/12347D	(0.392)		123467D	[1.1]	J			
1478D	1.93		12378D	6.66		123789D	3.68		**Conc.**	347	
1279D	(0.283)		12367D	(0.392)					**EMPC**	347	
1234/1269D	1.39		12389D	(0.392)							
1236D	(0.283)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	10.9										
1239D	(0.283)								OCDD	2000	
2378D	654										
1278D	60.7										
1267D	(0.283)										
1289D	1.01										
Conc.	737		**Conc.**	14.1		**Conc.**	69.3				
EMPC	739		**EMPC**	17		**EMPC**	72.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	869	869
TEQ: ND=DL/2	869	869
TEQ: ND=DL	869	869

	Conc.	EMPC
Total PCDD/Fs	7,320	7,340

Checkcode: 225-388-HDH

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6169_18833_DF_004	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	80.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:31:39

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.82		13468/12468F	5.37		123468F	4.74		1234678F	58.4	
1468F	3.07		13678F...[3]	2.19	J	124678/134678F	18.6		1234679F	1.47	J
2468F	[2.96]		12368F...[3]	30.4		134679F	(0.408)		1234689F	55.9	
1346/1246F	(0.208)		14678F	(0.352)		124679F	(0.408)		1234789F	11.8	
1347F...[3]	21.8		13479F	(0.352)		124689F	14.7				
1348F	(0.208)		13469/12479F	(0.352)		123467F	[0.983]	J			
1248F...[3]	84.7		12346F	(0.352)		123478F	87.6				
1268F	28.7		23468/12469F	2.08	J	123678F	22.7				
1467F	4.39		12347F	1.89	J	123479F	(0.408)				
1478F	69.2		12348F	6.69		123469F	(0.408)				
1369/1237F	19.7		12378F	58.4		123679F	(0.408)				
2467F	2.1		12678/12367F	18.8		234678F	5.91		**Conc.**	128	
2368F	51		12379F	(0.352)		234678/123689F	0		**EMPC**	128	
1238F...[5]	87.8		12679F	(0.352)		123689F	(0.408)				
1278F	756		23467/12369F	[1.16]	J	123789F	(0.482)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.208)		23478F	48.1	PR	123789/123489F	0				
1267F	45.3		23478/12489F	0		123489F	7.54		OCDF	293	
2346/1249F	5.43		12489F	(0.352)							
2347/1279F	21.5		12349F	(0.352)							
2348F	125		12389F	2.76							
2378F	1760	E									
2367/3467F	150										
1269F	27.4										
1239F	(0.208)										
1289F	137										
Conc.	3,400		**Conc.**	177		**Conc.**	162				
EMPC	3,400		**EMPC**	178		**EMPC**	163				

Checkcode: 225-388-HDH

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-24 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	QC Batch No.:	18833
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 14:31
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	654		0.283	654	654	654
12378-PeCDD	6.66		0.392	3.33	6.66	6.66
123478-HxCDD	1.84	J	0.574	0.184	0.184	0.184
123678-HxCDD	6.24		0.502	0.624	0.624	0.624
123789-HxCDD	3.68		0.556	0.368	0.368	0.368
1234678-HpCDD	145		0.617	1.45	1.45	1.45
OCDD	2000		1.25	2	0.2	0.599
2378-TCDF	1760	E	0.208	176	176	176
12378-PeCDF	58.4		0.359	2.92	2.92	1.75
23478-PeCDF	48.1		0.345	24.1	24.1	14.4
123478-HxCDF	87.6		0.408	8.76	8.76	8.76
123678-HxCDF	22.7		0.375	2.27	2.27	2.27
234678-HxCDF	5.91		0.385	0.591	0.591	0.591
123789-HxCDF	(0.482)		0.482	(0.0482)	(0.0482)	(0.0482)
1234678-HpCDF	58.4		0.32	0.584	0.584	0.584
1234789-HpCDF	11.8		0.55	0.118	0.118	0.118
OCDF	293		0.978	0.293	0.0293	0.088

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TEQ Summaries			
EMPC = 0, ND = 0	878	879	869
EMPC = 0, ND = DL / 2	878	879	869
EMPC = 0, ND = DL	878	879	869
EMPC = 0, < J-level = 0	878	879	869
EMPC = EMPC, ND = 0	878	879	869
EMPC = EMPC, ND = DL / 2	878	879	869
EMPC = EMPC, ND = DL	878	879	869
EMPC = EMPC, < J-level = 0	878	879	869

Sample ID: 11215131-011122-S-BN-NC-S-25 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID	B6169_18833_DF_005	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	82.3 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:17:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,080			E	ES 2378-TCDD	81.3	
12378-PeCDD	11				ES 12378-PeCDD	91.3	
123478-HxCDD	1			J	ES 123478-HxCDD	89.3	
123678-HxCDD	2.36			J	ES 123678-HxCDD	100	
123789-HxCDD	EMPC		1.43	J	ES 123789-HxCDD	86.6	
1234678-HpCDD	66.7				ES 1234678-HpCDD	85.6	
OCDD	1,000				ES OCDD	69.3	
2378-TCDF	2,970			E	ES 2378-TCDF	86.8	
12378-PeCDF	93.1				ES 12378-PeCDF	89.2	
23478-PeCDF	76.9			PR	ES 23478-PeCDF	89.5	
123478-HxCDF	141				ES 123478-HxCDF	93	
123678-HxCDF	38				ES 123678-HxCDF	101	
234678-HxCDF	7.14				ES 234678-HxCDF	116	
123789-HxCDF	ND	0.743			ES 123789-HxCDF	89	
1234678-HpCDF	48.4				ES 1234678-HpCDF	109	
1234789-HpCDF	17				ES 1234789-HpCDF	88.1	
OCDF	60.2				ES OCDF	68.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.5	
Total TCDD	1,200		1,210		CS 12347-PeCDD	102	
Total PeCDD	14.8		21.6		CS 12346-PeCDF	95.4	
Total HxCDD	39.3		40.7		CS 123469-HxCDF	111	
Total HpCDD	159		159		CS 1234689-HpCDF	106	
Total TCDF	5,580		5,730				
Total PeCDF	264		268				
Total HxCDF	219		222				
Total HpCDF	87.3		88.2				
Total PCDD/Fs	**8,620**		**8,800**				
WHO-2005 TEQs							
TEQ: ND=0	1430		1430				
TEQ: ND=DL/2	1430	0.672	1430				
TEQ: ND=DL	1430	1.34	1430				

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Sample ID: 11215131-011122-S-BN-NC-S-25 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6169_18833_DF_005	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	82.3 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:17:59

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.11		12479/12468D	1.86	J	124679/124689D	25.9		1234679D	92.1	
1379D	0.606		12469D	[4.79]		123468D	1.12	J	1234678D	66.7	
1369D	(0.398)		12368D	[0.82]	J	123679/123689D	8.92				
1469D	[5.08]		12478D	1.25	J	123469D	(0.408)				
1247D...[4]	[1.81]		12379D	0.738	J	123478D	1	J			
1378D	3.6		12369D...[3]	[1.13]	J	123678D	2.36	J			
1268D	(0.398)		12346/12347D	(0.399)		123467D	(0.408)				
1478D	[2.82]		12378D	11		123789D	[1.43]	J	**Conc.**	159	
1279D	(0.398)		12367D	(0.399)					**EMPC**	159	
1234/1269D	1.31		12389D	(0.399)							
1236D	(0.398)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	16.4										
1239D	(0.398)								OCDD	1000	
2378D	1080	E									
1278D	98										
1267D	[2.15]										
1289D	(0.398)										
Conc.	1,200		**Conc.**	14.8		**Conc.**	39.3				
EMPC	1,210		**EMPC**	21.6		**EMPC**	40.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,430	1,430
TEQ: ND=DL/2	1,430	1,430
TEQ: ND=DL	1,430	1,430

	Conc.	EMPC
Total PCDD/Fs	8,620	8,800

Checkcode: 749-441-BFB

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-25 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received: 12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6169_18833_DF_005	Date Extracted: 13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	82.3 %	QC Batch No.:	18833	Date Analyzed: 17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 15:17:59

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.884		13468/12468F	[2.56]		123468F	[2.27]	J	1234678F	48.4	
1468F	4.27		13678F...[3]	1.77	J	124678/134678F	15.1		1234679F	[0.807]	J
2468F	3.25		12368F...[3]	43.7		134679F	(0.587)		1234689F	21.9	
1346/1246F	(0.315)		14678F	(0.426)		124679F	(0.587)		1234789F	17	
1347F...[3]	35.2		13479F	(0.426)		124689F	6.8				
1348F	145		13469/12479F	(0.426)		123467F	1.06	J			
1248F...[3]	(0.315)		12346F	(0.426)		123478F	141				
1268F	46.2		23468/12469F	2.39	J	123678F	38				
1467F	6.73		12347F	2.45		123479F	(0.587)				
1478F	121		12348F	9.64		123469F	(0.587)				
1369/1237F	31.8		12378F	93.1		123679F	(0.587)				
2467F	2.91		12678/12367F	30		234678F	7.14		**Conc.**	87.3	
2368F	73.6		12379F	(0.426)		234678/123689F	0		**EMPC**	88.2	
1238F...[5]	[143]		12679F	(0.426)		123689F	(0.587)				
1278F	1310	E	23467/12369F	[1.44]	J	123789F	(0.743)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.315)		23478F	76.9	PR	123789/123489F	0				
1267F	71.1		23478/12489F	0		123489F	10.2		OCDF	60.2	
2346/1249F	8.33		12489F	(0.426)							
2347/1279F	34.9		12349F	(0.426)							
2348F	211		12389F	4.05							
2378F	2970	E									
2367/3467F	241										
1269F	42.9										
1239F	[2.77]										
1289F	226										
Conc.	5,580		**Conc.**	264		**Conc.**	219				
EMPC	5,730		**EMPC**	268		**EMPC**	222				

Checkcode: 749-441-BFB

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-25 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	QC Batch No.:	18833
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 15:17
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1080	E	0.398	1080	1080	1080
12378-PeCDD	11		0.399	5.49	11	11
123478-HxCDD	1	J	0.447	0.1	0.1	0.1
123678-HxCDD	2.36	J	0.374	0.236	0.236	0.236
123789-HxCDD	[1.43]	J	0.407	[0.143]	[0.143]	[0.143]
1234678-HpCDD	66.7		0.455	0.667	0.667	0.667
OCDD	1000		1.73	1	0.1	0.3
2378-TCDF	2970	E	0.315	297	297	297
12378-PeCDF	93.1		0.431	4.65	4.65	2.79
23478-PeCDF	76.9		0.421	38.5	38.5	23.1
123478-HxCDF	141		0.593	14.1	14.1	14.1
123678-HxCDF	38		0.551	3.8	3.8	3.8
234678-HxCDF	7.14		0.509	0.714	0.714	0.714
123789-HxCDF	(0.743)		0.743	(0.0743)	(0.0743)	(0.0743)
1234678-HpCDF	48.4		0.257	0.484	0.484	0.484
1234789-HpCDF	17		0.492	0.17	0.17	0.17
OCDF	60.2		1.21	0.0602	0.00602	0.0181

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TEQ Summaries			
EMPC = 0, ND = 0	1440	1450	1430
EMPC = 0, ND = DL / 2	1440	1450	1430
EMPC = 0, ND = DL	1440	1450	1430
EMPC = 0, < J-level = 0	1440	1450	1430
EMPC = EMPC, ND = 0	1440	1450	1430
EMPC = EMPC, ND = DL / 2	1440	1450	1430
EMPC = EMPC, ND = DL	1440	1450	1430
EMPC = EMPC, < J-level = 0	1440	1450	1430

Checkcode: 749-441-BFB

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Sample ID: 11215131-011122-S-BN-NC-S-27 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID	B6169_18833_DF_006	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.1 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:04:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	461				ES 2378-TCDD	89.3	
12378-PeCDD	5.05				ES 12378-PeCDD	106	
123478-HxCDD	1.84			J	ES 123478-HxCDD	89.1	
123678-HxCDD	6.87				ES 123678-HxCDD	88.6	
123789-HxCDD	3.66				ES 123789-HxCDD	87	
1234678-HpCDD	190				ES 1234678-HpCDD	85.4	
OCDD	2,740				ES OCDD	73.5	
2378-TCDF	1,420			E	ES 2378-TCDF	88.3	
12378-PeCDF	52.6				ES 12378-PeCDF	99.4	
23478-PeCDF	40.3			PR	ES 23478-PeCDF	99.3	
123478-HxCDF	78.2				ES 123478-HxCDF	92.7	
123678-HxCDF	23.6				ES 123678-HxCDF	100	
234678-HxCDF	7.16				ES 234678-HxCDF	89	
123789-HxCDF	ND	0.514			ES 123789-HxCDF	93.8	
1234678-HpCDF	70.7				ES 1234678-HpCDF	100	
1234789-HpCDF	12.7				ES 1234789-HpCDF	87	
OCDF	630				ES OCDF	74.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.5	
Total TCDD	521		524		CS 12347-PeCDD	114	
Total PeCDD	12		16.7		CS 12346-PeCDF	102	
Total HxCDD	68.5		68.5		CS 123469-HxCDF	108	
Total HpCDD	432		432		CS 1234689-HpCDF	103	
Total TCDF	2,730		2,730				
Total PeCDF	156		159				
Total HxCDF	164		165				
Total HpCDF	153		153				
Total PCDD/Fs	**7,610**		**7,620**				
WHO-2005 TEQs							
TEQ: ND=0	637		637				
TEQ: ND=DL/2	637	0.508	637				
TEQ: ND=DL	637	1.02	637				

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Sample ID: 11215131-011122-S-BN-NC-S-27 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6169_18833_DF_006	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:04:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.99		12479/12468D	2.81		124679/124689D	29		1234679D	242	
1379D	[0.834]		12469D	[2.42]	J	123468D	3.13		1234678D	190	
1369D	(0.253)		12368D	1.84	J	123679/123689D	21				
1469D	1.95		12478D	1.33	J	123469D	1.93	J			
1247D...[4]	1.29		12379D	0.98	J	123478D	1.84	J			
1378D	[1.55]		12369D...[3]	[1.83]	J	123678D	6.87				
1268D	(0.253)		12346/12347D	(0.305)		123467D	1.12	J			
1478D	1.05		12378D	5.05		123789D	3.66		**Conc.**	432	
1279D	(0.253)		12367D	(0.305)					**EMPC**	432	
1234/1269D	[0.66]		12389D	[0.446]	J						
1236D	(0.253)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	8.39										
1239D	(0.253)								OCDD	2740	
2378D	461										
1278D	45.6										
1267D	(0.253)										
1289D	(0.253)										
Conc.	521		**Conc.**	12		**Conc.**	68.5				
EMPC	524		**EMPC**	16.7		**EMPC**	68.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	637	637
TEQ: ND=DL/2	637	637
TEQ: ND=DL	637	637

	Conc.	EMPC
Total PCDD/Fs	7,610	7,620

Checkcode: 109-561-HBY

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-27 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6169_18833_DF_006	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:04:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.697		13468/12468F	7.35		123468F	5.16		1234678F	70.7	
1468F	2.59		13678F...[3]	1.87	J	124678/134678F	21.6		1234679F	2.15	J
2468F	3.45		12368F...[3]	27		134679F	(0.488)		1234689F	67.7	
1346/1246F	(0.184)		14678F	(0.279)		124679F	[0.744]	J	1234789F	12.7	
1347F...[3]	17.3		13479F	(0.279)		124689F	18.9				
1348F	(0.184)		13469/12479F	(0.279)		123467F	1.53	J			
1248F...[3]	65		12346F	(0.279)		123478F	78.2				
1268F	23.7		23468/12469F	2.65		123678F	23.6				
1467F	3.33		12347F	1.19	J	123479F	(0.488)				
1478F	56.8		12348F	5.45		123469F	(0.488)				
1369/1237F	15.7		12378F	52.6		123679F	(0.488)				
2467F	2.02		12678/12367F	17.2		234678F	7.16		**Conc.**	153	
2368F	42.5		12379F	(0.279)		234678/123689F	0		**EMPC**	153	
1238F...[5]	70.1		12679F	(0.279)		123689F	(0.488)				
1278F	599		23467/12369F	[1.06]	J	123789F	(0.514)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.184)		23478F	40.3	PR	123789/123489F	0				
1267F	36.3		23478/12489F	0		123489F	7.92		OCDF	630	
2346/1249F	3.89		12489F	(0.279)							
2347/1279F	17.5		12349F	(0.279)							
2348F	99		12389F	[2.15]	J						
2378F	1420	E									
2367/3467F	123										
1269F	22.5										
1239F	(0.184)										
1289F	110										
Conc.	2,730		**Conc.**	156		**Conc.**	164				
EMPC	2,730		**EMPC**	159		**EMPC**	165				

Checkcode: 109-561-HBY

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-27 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	QC Batch No.:	18833
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 16:04
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	461		0.253	461	461	461
12378-PeCDD	5.05		0.305	2.53	5.05	5.05
123478-HxCDD	1.84	J	0.466	0.184	0.184	0.184
123678-HxCDD	6.87		0.491	0.687	0.687	0.687
123789-HxCDD	3.66		0.444	0.366	0.366	0.366
1234678-HpCDD	190		0.409	1.9	1.9	1.9
OCDD	2740		1.22	2.74	0.274	0.822
2378-TCDF	1420	E	0.184	142	142	142
12378-PeCDF	52.6		0.28	2.63	2.63	1.58
23478-PeCDF	40.3		0.279	20.1	20.1	12.1
123478-HxCDF	78.2		0.483	7.82	7.82	7.82
123678-HxCDF	23.6		0.431	2.36	2.36	2.36
234678-HxCDF	7.16		0.54	0.716	0.716	0.716
123789-HxCDF	(0.514)		0.514	(0.0514)	(0.0514)	(0.0514)
1234678-HpCDF	70.7		0.249	0.707	0.707	0.707
1234789-HpCDF	12.7		0.448	0.127	0.127	0.127
OCDF	630		0.504	0.63	0.063	0.189

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TEQ Summaries			
EMPC = 0, ND = 0	646	645	637
EMPC = 0, ND = DL / 2	646	645	637
EMPC = 0, ND = DL	646	645	637
EMPC = 0, < J-level = 0	646	645	637
EMPC = EMPC, ND = 0	646	645	637
EMPC = EMPC, ND = DL / 2	646	645	637
EMPC = EMPC, ND = DL	646	645	637
EMPC = EMPC, < J-level = 0	646	645	637

Checkcode: 109-561-HBY

Sample ID: 11215131-011122-S-BN-NC-S-30 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6169_18833_DF_007	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	76.2 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:50:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	242				ES 2378-TCDD	84.7	
12378-PeCDD	3.01				ES 12378-PeCDD	99.7	
123478-HxCDD	2.53				ES 123478-HxCDD	91.8	
123678-HxCDD	4.22				ES 123678-HxCDD	95.9	
123789-HxCDD	3.64				ES 123789-HxCDD	87.1	
1234678-HpCDD	116				ES 1234678-HpCDD	86.8	
OCDD	1,970				ES OCDD	72	
2378-TCDF	647				ES 2378-TCDF	87.9	
12378-PeCDF	31.4				ES 12378-PeCDF	93.6	
23478-PeCDF	24.2			PR	ES 23478-PeCDF	96	
123478-HxCDF	48.9				ES 123478-HxCDF	101	
123678-HxCDF	13				ES 123678-HxCDF	107	
234678-HxCDF	3.52				ES 234678-HxCDF	107	
123789-HxCDF	ND	0.574			ES 123789-HxCDF	95.1	
1234678-HpCDF	45.4				ES 1234678-HpCDF	104	
1234789-HpCDF	7.68				ES 1234789-HpCDF	84.8	
OCDF	329				ES OCDF	72.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.5	
Total TCDD	272		273		CS 12347-PeCDD	105	
Total PeCDD	9.65		13.2		CS 12346-PeCDF	95.9	
Total HxCDD	65.6		66.8		CS 123469-HxCDF	107	
Total HpCDD	305		305		CS 1234689-HpCDF	104	
Total TCDF	1,270		1,270				
Total PeCDF	90.8		92.9				
Total HxCDF	89.8		89.8				
Total HpCDF	82.8		82.8				
Total PCDD/Fs	**4,490**		**4,490**				
WHO-2005 TEQs							
TEQ: ND=0	328		328				
TEQ: ND=DL/2	328	0.564	328				
TEQ: ND=DL	328	1.13	328				

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Sample ID: 11215131-011122-S-BN-NC-S-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6169_18833_DF_007	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	76.2 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:50:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.338)		12479/12468D	[1.99]	J	124679/124689D	32.6		1234679D	189	
1379D	(0.338)		12469D	3.27		123468D	2.66		1234678D	116	
1369D	(0.338)		12368D	1.22	J	123679/123689D	17.7				
1469D	2.41		12478D	[1.03]	J	123469D	2.28	J			
1247D...[4]	(0.338)		12379D	[0.516]	J	123478D	2.53				
1378D	0.639		12369D...[3]	2.15	J	123678D	4.22				
1268D	(0.338)		12346/12347D	(0.33)		123467D	[1.24]	J			
1478D	[0.695]		12378D	3.01		123789D	3.64		**Conc.**	305	
1279D	(0.338)		12367D	(0.33)					**EMPC**	305	
1234/1269D	[0.587]		12389D	(0.33)							
1236D	(0.338)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	4.1										
1239D	(0.338)								OCDD	1970	
2378D	242										
1278D	22.2										
1267D	(0.338)										
1289D	(0.338)										
Conc.	272		**Conc.**	9.65		**Conc.**	65.6				
EMPC	273		**EMPC**	13.2		**EMPC**	66.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	328	328
TEQ: ND=DL/2	328	328
TEQ: ND=DL	328	328

	Conc.	EMPC
Total PCDD/Fs	4,490	4,490

Checkcode: 937-212-HQV

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6169_18833_DF_007	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	76.2 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:50:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.261)		13468/12468F	3.76		123468F	2.82		1234678F	45.4	
1468F	1.37		13678F...[3]	1.16	J	124678/134678F	10.6		1234679F	(0.25)	
2468F	1.65		12368F...[3]	15.8		134679F	(0.491)		1234689F	29.7	
1346/1246F	(0.261)		14678F	(0.279)		124679F	(0.491)		1234789F	7.68	
1347F...[3]	8.21		13479F	(0.279)		124689F	7.48				
1348F	33.1		13469/12479F	(0.279)		123467F	(0.491)				
1248F...[3]	(0.261)		12346F	(0.279)		123478F	48.9				
1268F	11.3		23468/12469F	[0.906]	J	123678F	13				
1467F	1.92		12347F	0.864	J	123479F	(0.491)				
1478F	27.1		12348F	3.34		123469F	(0.491)				
1369/1237F	7.56		12378F	31.4		123679F	(0.491)				
2467F	[0.756]		12678/12367F	10.3		234678F	3.52		**Conc.**	82.8	
2368F	21.1		12379F	(0.279)		234678/123689F	0		**EMPC**	82.8	
1238F...[5]	32.9		12679F	(0.279)		123689F	(0.491)				
1278F	289		23467/12369F	(0.279)		123789F	(0.574)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.261)		23478F	24.2	PR	123789/123489F	0				
1267F	16.2		23478/12489F	0		123489F	3.57		OCDF	329	
2346/1249F	(0.261)		12489F	(0.279)							
2347/1279F	9.08		12349F	(0.279)							
2348F	42.4		12389F	[1.17]	J						
2378F	647										
2367/3467F	57.2										
1269F	9.83										
1239F	(0.261)										
1289F	52.5										
Conc.	1,270		**Conc.**	90.8		**Conc.**	89.8				
EMPC	1,270		**EMPC**	92.9		**EMPC**	89.8				

Checkcode: 937-212-HQV

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-30 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18833
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 16:50
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	242		0.338	242	242	242
12378-PeCDD	3.01		0.33	1.51	3.01	3.01
123478-HxCDD	2.53		0.462	0.253	0.253	0.253
123678-HxCDD	4.22		0.449	0.422	0.422	0.422
123789-HxCDD	3.64		0.437	0.364	0.364	0.364
1234678-HpCDD	116		0.448	1.16	1.16	1.16
OCDD	1970		1.16	1.97	0.197	0.592
2378-TCDF	647		0.261	64.7	64.7	64.7
12378-PeCDF	31.4		0.282	1.57	1.57	0.942
23478-PeCDF	24.2		0.275	12.1	12.1	7.27
123478-HxCDF	48.9		0.482	4.89	4.89	4.89
123678-HxCDF	13		0.462	1.3	1.3	1.3
234678-HxCDF	3.52		0.466	0.352	0.352	0.352
123789-HxCDF	(0.574)		0.574	(0.0574)	(0.0574)	(0.0574)
1234678-HpCDF	45.4		0.199	0.454	0.454	0.454
1234789-HpCDF	7.68		0.323	0.0768	0.0768	0.0768
OCDF	329		1.34	0.329	0.0329	0.0986

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TEQ Summaries			
EMPC = 0, ND = 0	334	333	328
EMPC = 0, ND = DL / 2	334	333	328
EMPC = 0, ND = DL	334	333	328
EMPC = 0, < J-level = 0	334	333	328
EMPC = EMPC, ND = 0	334	333	328
EMPC = EMPC, ND = DL / 2	334	333	328
EMPC = EMPC, ND = DL	334	333	328
EMPC = EMPC, < J-level = 0	334	333	328

Checkcode: 937-212-HQV

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Sample ID: 11215131-011122-S-BN-NC-S-21 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6169_18833_DF_008	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.0 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:36:57

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,600			E	ES 2378-TCDD	82.7	
12378-PeCDD	16.2				ES 12378-PeCDD	93.9	
123478-HxCDD	1.38			J	ES 123478-HxCDD	90.9	
123678-HxCDD	4.09				ES 123678-HxCDD	99	
123789-HxCDD	2.66				ES 123789-HxCDD	87.3	
1234678-HpCDD	109				ES 1234678-HpCDD	88.9	
OCDD	1,680				ES OCDD	75.1	
2378-TCDF	4,830			E	ES 2378-TCDF	88	
12378-PeCDF	209				ES 12378-PeCDF	94.2	
23478-PeCDF	146			PR	ES 23478-PeCDF	97.7	
123478-HxCDF	348				ES 123478-HxCDF	92.6	
123678-HxCDF	88.5				ES 123678-HxCDF	101	
234678-HxCDF	19.8				ES 234678-HxCDF	110	
123789-HxCDF	ND	0.61			ES 123789-HxCDF	90.7	
1234678-HpCDF	96.3				ES 1234678-HpCDF	107	
1234789-HpCDF	37.8				ES 1234789-HpCDF	90.1	
OCDF	99.4				ES OCDF	78.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.1	
Total TCDD	1,760		1,780		CS 12347-PeCDD	103	
Total PeCDD	32.5		35.9		CS 12346-PeCDF	98.1	
Total HxCDD	47.2		48.1		CS 123469-HxCDF	108	
Total HpCDD	231		231		CS 1234689-HpCDF	106	
Total TCDF	9,190		9,190				
Total PeCDF	571		571				
Total HxCDF	543		543				
Total HpCDF	171		173				
Total PCDD/Fs	**14,300**		**14,300**				
WHO-2005 TEQs							
TEQ: ND=0	2190		2190				
TEQ: ND=DL/2	2190	0.501	2190				
TEQ: ND=DL	2190	1	2190				

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Sample ID: 11215131-011122-S-BN-NC-S-21 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6169_18833_DF_008	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.0 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:36:57

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.49		12479/12468D	5.51		124679/124689D	16.5		1234679D	122	
1379D	2.33		12469D	[1.65]	J	123468D	7.84		1234678D	109	
1369D	(0.237)		12368D	4.33		123679/123689D	13.8				
1469D	[1.4]		12478D	1.72	J	123469D	[0.971]	J			
1247D...[4]	3.47		12379D	2.61		123478D	1.38	J			
1378D	[5.37]		12369D...[3]	1.63	J	123678D	4.09				
1268D	(0.237)		12346/12347D	[1.14]	J	123467D	0.829	J			
1478D	[3.98]		12378D	16.2		123789D	2.66		**Conc.**	231	
1279D	(0.237)		12367D	[0.57]	J				**EMPC**	231	
1234/1269D	(0.237)		12389D	0.537	J						
1236D	(0.237)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	25.5										
1239D	(0.237)								OCDD	1680	
2378D	1600	E									
1278D	129										
1267D	[3.92]										
1289D	[1.85]										
Conc.	1,760		**Conc.**	32.5		**Conc.**	47.2				
EMPC	1,780		**EMPC**	35.9		**EMPC**	48.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,190	2,190
TEQ: ND=DL/2	2,190	2,190
TEQ: ND=DL	2,190	2,190

	Conc.	EMPC
Total PCDD/Fs	14,300	14,300

Checkcode: 865-092-JGH

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-21 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received: 12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6169_18833_DF_008	Date Extracted: 13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.0 %	QC Batch No.:	18833	Date Analyzed: 17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 17:36:57

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.59		13468/12468F	5.92		123468F	6.45		1234678F	96.3	
1468F	6.87		13678F...[3]	5.41		124678/134678F	33.7		1234679F	[2.21]	J
2468F	4.96		12368F...[3]	95.9		134679F	(0.523)		1234689F	37	
1346/1246F	(0.18)		14678F	(0.368)		124679F	0.609	J	1234789F	37.8	
1347F...[3]	55.6		13479F	(0.368)		124689F	14.5				
1348F	(0.18)		13469/12479F	(0.368)		123467F	4.59				
1248F...[3]	220		12346F	1.78	J	123478F	348				
1268F	72.3		23468/12469F	5.69		123678F	88.5				
1467F	10.8		12347F	4.18		123479F	(0.523)				
1478F	181		12348F	18.9		123469F	(0.523)				
1369/1237F	50.9		12378F	209		123679F	(0.523)				
2467F	5.39		12678/12367F	64.9		234678F	19.8		**Conc.**	171	
2368F	107		12379F	(0.368)		234678/123689F	0		**EMPC**	173	
1238F...[5]	238		12679F	(0.368)		123689F	(0.523)				
1278F	2120	E	23467/12369F	5.12		123789F	(0.61)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.18)		23478F	146	PR	123789/123489F	0				
1267F	111		23478/12489F	0		123489F	26.5		OCDF	99.4	
2346/1249F	14.5		12489F	(0.368)							
2347/1279F	59.5		12349F	(0.368)							
2348F	289		12389F	7.89							
2378F	4830	E									
2367/3467F	378										
1269F	71.4										
1239F	5.39										
1289F	365										
Conc.	9,190		**Conc.**	571		**Conc.**	543				
EMPC	9,190		**EMPC**	571		**EMPC**	543				

Checkcode: 865-092-JGH

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-21 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18833
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 17:36
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1600	E	0.237	1600	1600	1600
12378-PeCDD	16.2		0.321	8.09	16.2	16.2
123478-HxCDD	1.38	J	0.286	0.138	0.138	0.138
123678-HxCDD	4.09		0.258	0.409	0.409	0.409
123789-HxCDD	2.66		0.257	0.266	0.266	0.266
1234678-HpCDD	109		0.441	1.09	1.09	1.09
OCDD	1680		1.06	1.68	0.168	0.503
2378-TCDF	4830	E	0.18	483	483	483
12378-PeCDF	209		0.361	10.5	10.5	6.28
23478-PeCDF	146		0.375	73.1	73.1	43.8
123478-HxCDF	348		0.526	34.8	34.8	34.8
123678-HxCDF	88.5		0.499	8.85	8.85	8.85
234678-HxCDF	19.8		0.483	1.98	1.98	1.98
123789-HxCDF	(0.61)		0.61	(0.061)	(0.061)	(0.061)
1234678-HpCDF	96.3		0.195	0.963	0.963	0.963
1234789-HpCDF	37.8		0.345	0.378	0.378	0.378
OCDF	99.4		0.709	0.0994	0.00994	0.0298

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TEQ Summaries			
EMPC = 0, ND = 0	2220	2230	2190
EMPC = 0, ND = DL / 2	2220	2230	2190
EMPC = 0, ND = DL	2220	2230	2190
EMPC = 0, < J-level = 0	2220	2230	2190
EMPC = EMPC, ND = 0	2220	2230	2190
EMPC = EMPC, ND = DL / 2	2220	2230	2190
EMPC = EMPC, ND = DL	2220	2230	2190
EMPC = EMPC, < J-level = 0	2220	2230	2190

Checkcode: 865-092-JGH

Sample ID: 11215131-011122-S-BN-NC-S-22 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6169_18833_DF_009	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	67.1 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:23:17

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	6,700			E	ES 2378-TCDD	83.8	
12378-PeCDD	60.6				ES 12378-PeCDD	79.9	
123478-HxCDD	EMPC		3.91		ES 123478-HxCDD	82.2	
123678-HxCDD	20.6				ES 123678-HxCDD	82.3	
123789-HxCDD	8.47				ES 123789-HxCDD	83.6	
1234678-HpCDD	666				ES 1234678-HpCDD	83.3	
OCDD	31,900			E	ES OCDD	83.3	
2378-TCDF	18,700			E	ES 2378-TCDF	84.1	
12378-PeCDF	791				ES 12378-PeCDF	74.5	
23478-PeCDF	577			PR	ES 23478-PeCDF	72.2	
123478-HxCDF	1,470				ES 123478-HxCDF	87.5	
123678-HxCDF	352				ES 123678-HxCDF	87.8	
234678-HxCDF	72.5				ES 234678-HxCDF	80.8	
123789-HxCDF	ND	1.22			ES 123789-HxCDF	89.8	
1234678-HpCDF	499				ES 1234678-HpCDF	86.5	
1234789-HpCDF	174				ES 1234789-HpCDF	84.1	
OCDF	2,550				ES OCDF	80.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	76.9	
Total TCDD	7,380		7,410		CS 12347-PeCDD	84.1	
Total PeCDD	95.5		100		CS 12346-PeCDF	72.3	
Total HxCDD	171		177		CS 123469-HxCDF	92.1	
Total HpCDD	1,580		1,580		CS 1234689-HpCDF	93.6	
Total TCDF	35,700		35,700				
Total PeCDF	2,160		2,160				
Total HxCDF	2,270		2,280				
Total HpCDF	1,000		1,000				
Total PCDD/Fs	**84,900**		**84,900**				
WHO-2005 TEQs							
TEQ: ND=0	9040		9050				
TEQ: ND=DL/2	9040	0.876	9050				
TEQ: ND=DL	9040	1.75	9050				

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Sample ID: 11215131-011122-S-BN-NC-S-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6169_18833_DF_009	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	67.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:23:17

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	9.66		12479/12468D	8.89		124679/124689D	67.8		1234679D	911	
1379D	3.93		12469D	[2.39]	J	123468D	9.52		1234678D	666	
1369D	[0.447]	J	12368D	9.88		123679/123689D	58				
1469D	1.5		12478D	5.4		123469D	6.2				
1247D...[4]	10.9		12379D	3.41		123478D	[3.91]				
1378D	20.1		12369D...[3]	2.91		123678D	20.6				
1268D	1.6		12346/12347D	[2.07]	J	123467D	[2.54]				
1478D	[15.6]		12378D	60.6		123789D	8.47		**Conc.**	1,580	
1279D	0.815		12367D	2.97					**EMPC**	1,580	
1234/1269D	[2.29]		12389D	1.47	J						
1236D	1.18								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	105									**(pg/g)**	
1239D	(0.263)								OCDD	31900	E
2378D	6700	E									
1278D	518										
1267D	[11.2]										
1289D	9.27										
Conc.	7,380		**Conc.**	95.5		**Conc.**	171				
EMPC	7,410		**EMPC**	100		**EMPC**	177				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	9,040	9,050
TEQ: ND=DL/2	9,040	9,050
TEQ: ND=DL	9,040	9,050

	Conc.	EMPC
Total PCDD/Fs	84,900	84,900

Checkcode: 356-271-VFM

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6169_18833_DF_009	Date Extracted:	13-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	67.1 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:23:17

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3.9		13468/12468F	34.5		123468F	18.8		1234678F	499	
1468F	25.3		13678F...[3]	10.5		124678/134678F	139		1234679F	9.53	
2468F	22.2		12368F...[3]	357		134679F	(1.16)		1234689F	321	
1346/1246F	(0.234)		14678F	(0.627)		124679F	2.31	J	1234789F	174	
1347F...[3]	150		13479F	(0.627)		124689F	97.6				
1348F	(0.234)		13469/12479F	3.81		123467F	[7.58]				
1248F...[3]	600		12346F	(0.627)		123478F	1470				
1268F	241		23468/12469F	18.5		123678F	352				
1467F	40.1		12347F	14.6		123479F	(1.16)				
1478F	615		12348F	73.9		123469F	3.85				
1369/1237F	181		12378F	791		123679F	(1.16)				
2467F	17.5		12678/12367F	232		234678F	72.5		**Conc.**	1,000	
2368F	479		12379F	(0.627)		234678/123689F	0		**EMPC**	1,000	
1238F...[5]	906		12679F	2.02	J	123689F	(1.16)				
1278F	8740	E	23467/12369F	9.91		123789F	(1.22)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.234)		23478F	577	PR	123789/123489F	0				
1267F	407		23478/12489F	0		123489F	115		OCDF	2550	
2346/1249F	41.9		12489F	(0.627)							
2347/1279F	211		12349F	(0.627)							
2348F	1340	E	12389F	32.6							
2378F	18700	E									
2367/3467F	1400	E									
1269F	245										
1239F	18.4										
1289F	1340	E									
Conc.	35,700		**Conc.**	2,160		**Conc.**	2,270				
EMPC	35,700		**EMPC**	2,160		**EMPC**	2,280				

Checkcode: 356-271-VFM

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-011122-S-BN-NC-S-22 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18833
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 18:23
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	6700	E	0.263	6700	6700	6700
12378-PeCDD	60.6		0.459	30.3	60.6	60.6
123478-HxCDD	[3.91]		1.05	[0.391]	[0.391]	[0.391]
123678-HxCDD	20.6		1.02	2.06	2.06	2.06
123789-HxCDD	8.47		0.96	0.847	0.847	0.847
1234678-HpCDD	666		0.721	6.66	6.66	6.66
OCDD	31900	E	1.04	31.9	3.19	9.58
2378-TCDF	18700	E	0.234	1870	1870	1870
12378-PeCDF	791		0.585	39.6	39.6	23.7
23478-PeCDF	577		0.671	288	288	173
123478-HxCDF	1470		1.09	147	147	147
123678-HxCDF	352		1.05	35.2	35.2	35.2
234678-HxCDF	72.5		1.3	7.25	7.25	7.25
123789-HxCDF	(1.22)		1.22	(0.122)	(0.122)	(0.122)
1234678-HpCDF	499		0.347	4.99	4.99	4.99
1234789-HpCDF	174		0.543	1.74	1.74	1.74
OCDF	2550		1.12	2.55	0.255	0.765

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TEQ Summaries			
EMPC = 0, ND = 0	9170	9170	9040
EMPC = 0, ND = DL / 2	9170	9170	9040
EMPC = 0, ND = DL	9170	9170	9040
EMPC = 0, < J-level = 0	9170	9170	9040
EMPC = EMPC, ND = 0	9170	9170	9050
EMPC = EMPC, ND = DL / 2	9170	9170	9050
EMPC = EMPC, ND = DL	9170	9170	9050
EMPC = EMPC, < J-level = 0	9170	9170	9050

Sample ID: 11215131-010822-S-BN-NC-S-28 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	Lab Sample ID	B6169_18833_DF_014	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	76.3 %	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:09:43

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	670				ES 2378-TCDD	86.4	
12378-PeCDD	7.5				ES 12378-PeCDD	94.2	
123478-HxCDD	2.91				ES 123478-HxCDD	91.2	
123678-HxCDD	13.4				ES 123678-HxCDD	92.1	
123789-HxCDD	7.39				ES 123789-HxCDD	87.4	
1234678-HpCDD	336				ES 1234678-HpCDD	83.6	
OCDD	4,840				ES OCDD	69.6	
2378-TCDF	1,960			E	ES 2378-TCDF	84.3	
12378-PeCDF	74.6				ES 12378-PeCDF	88.2	
23478-PeCDF	55.9			PR	ES 23478-PeCDF	89.2	
123478-HxCDF	116				ES 123478-HxCDF	101	
123678-HxCDF	33.6				ES 123678-HxCDF	102	
234678-HxCDF	8.88				ES 234678-HxCDF	99.1	
123789-HxCDF	ND	0.823			ES 123789-HxCDF	94.4	
1234678-HpCDF	104				ES 1234678-HpCDF	95	
1234789-HpCDF	19.4				ES 1234789-HpCDF	82.7	
OCDF	953				ES OCDF	72.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.1	
Total TCDD	757		764		CS 12347-PeCDD	100	
Total PeCDD	29.8		31.3		CS 12346-PeCDF	90.6	
Total HxCDD	159		159		CS 123469-HxCDF	107	
Total HpCDD	765		765		CS 1234689-HpCDF	102	
Total TCDF	3,860		3,870				
Total PeCDF	227		230				
Total HxCDF	237		246				
Total HpCDF	236		239				
Total PCDD/Fs	**12,100**		**12,100**				
WHO-2005 TEQs							
TEQ: ND=0	917		917				
TEQ: ND=DL/2	917	0.881	917				
TEQ: ND=DL	917	1.76	917				

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Sample ID: 11215131-010822-S-BN-NC-S-28 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	Lab Sample ID:	B6169_18833_DF_014	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	76.3 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:09:43

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.7		12479/12468D	7.28		124679/124689D	77.1		1234679D	429	
1379D	1.51		12469D	5.73		123468D	5.83		1234678D	336	
1369D	0.78		12368D	3.66		123679/123689D	48.1				
1469D	[4.21]		12478D	2.27	J	123469D	2.49				
1247D...[4]	1.47		12379D	[1.51]	J	123478D	2.91				
1378D	2.76		12369D...[3]	3.37		123678D	13.4				
1268D	(0.38)		12346/12347D	(0.697)		123467D	2.23	J			
1478D	[2.1]		12378D	7.5		123789D	7.39		**Conc.**	765	
1279D	(0.38)		12367D	(0.697)					**EMPC**	765	
1234/1269D	1.88		12389D	(0.697)							
1236D	(0.38)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	10.7										
1239D	(0.38)								OCDD	4840	
2378D	670										
1278D	65.1										
1267D	(0.38)										
1289D	(0.38)										
Conc.	757		**Conc.**	29.8		**Conc.**	159				
EMPC	764		**EMPC**	31.3		**EMPC**	159				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	917	917
TEQ: ND=DL/2	917	917
TEQ: ND=DL	917	917

	Conc.	EMPC
Total PCDD/Fs	12,100	12,100

Checkcode: 541-897-ZDL

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-010822-S-BN-NC-S-28 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	Lab Sample ID:	B6169_18833_DF_014	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	76.3 %	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:09:43

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.44		13468/12468F	11.6		123468F	8.1		1234678F	104	
1468F	4.41		13678F...[3]	3.05		124678/134678F	34.2		1234679F	[2.96]	
2468F	5.29		12368F...[3]	42.1		134679F	(0.689)		1234689F	112	
1346/1246F	(0.448)		14678F	(0.349)		124679F	0.94	J	1234789F	19.4	
1347F...[3]	28.3		13479F	(0.349)		124689F	33.6				
1348F	(0.448)		13469/12479F	(0.349)		123467F	1.71	J			
1248F...[3]	107		12346F	(0.349)		123478F	116				
1268F	38.4		23468/12469F	[3.03]		123678F	33.6				
1467F	5.49		12347F	2.39	J	123479F	(0.689)				
1478F	90.8		12348F	8.04		123469F	(0.689)				
1369/1237F	23.9		12378F	74.6		123679F	(0.689)				
2467F	2.53		12678/12367F	24.3		234678F	8.88		**Conc.**	236	
2368F	61.8		12379F	(0.349)		234678/123689F	0		**EMPC**	239	
1238F...[5]	99		12679F	(0.349)		123689F	(0.689)				
1278F	895		23467/12369F	1.75	J	123789F	(0.823)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.448)		23478F	55.9	PR	123789/123489F	0			**(pg/g)**	
1267F	53.2		23478/12489F	0		123489F	[8.36]		OCDF	953	
2346/1249F	[5.46]		12489F	(0.349)							
2347/1279F	23.5		12349F	(0.349)							
2348F	115		12389F	3.33							
2378F	1960	E									
2367/3467F	161										
1269F	28.5										
1239F	(0.448)										
1289F	151										
Conc.	3,860		**Conc.**	227		**Conc.**	237				
EMPC	3,870		**EMPC**	230		**EMPC**	246				

Checkcode: 541-897-ZDL

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: 11215131-010822-S-BN-NC-S-28 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_014
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.27 g	QC Batch No.:	18833
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	17-Jan-2022 19:09
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	670		0.38	670	670	670
12378-PeCDD	7.5		0.697	3.75	7.5	7.5
123478-HxCDD	2.91		0.772	0.291	0.291	0.291
123678-HxCDD	13.4		0.728	1.34	1.34	1.34
123789-HxCDD	7.39		0.709	0.739	0.739	0.739
1234678-HpCDD	336		0.793	3.36	3.36	3.36
OCDD	4840		2.92	4.84	0.484	1.45
2378-TCDF	1960	E	0.448	196	196	196
12378-PeCDF	74.6		0.345	3.73	3.73	2.24
23478-PeCDF	55.9		0.354	28	28	16.8
123478-HxCDF	116		0.621	11.6	11.6	11.6
123678-HxCDF	33.6		0.637	3.36	3.36	3.36
234678-HxCDF	8.88		0.702	0.888	0.888	0.888
123789-HxCDF	(0.823)		0.823	(0.0823)	(0.0823)	(0.0823)
1234678-HpCDF	104		0.52	1.04	1.04	1.04
1234789-HpCDF	19.4		0.852	0.194	0.194	0.194
OCDF	953		1.25	0.953	0.0953	0.286

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TEQ Summaries			
EMPC = 0, ND = 0	930	929	917
EMPC = 0, ND = DL / 2	930	929	917
EMPC = 0, ND = DL	930	929	917
EMPC = 0, < J-level = 0	930	929	917
EMPC = EMPC, ND = 0	930	929	917
EMPC = EMPC, ND = DL / 2	930	929	917
EMPC = EMPC, ND = DL	930	929	917
EMPC = EMPC, < J-level = 0	930	929	917

Checkcode: 541-897-ZDL

Sample ID: 11215131-010822-S-BN-NC-S-29 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID	B6169_18833_DF_015	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	74.0 %	QC Batch No:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:03:50

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	608				ES 2378-TCDD	78.4	
12378-PeCDD	7.23				ES 12378-PeCDD	92.2	
123478-HxCDD	2.45				ES 123478-HxCDD	79.4	
123678-HxCDD	8.79				ES 123678-HxCDD	80.3	
123789-HxCDD	5.41				ES 123789-HxCDD	76	
1234678-HpCDD	198				ES 1234678-HpCDD	83.7	
OCDD	3,010				ES OCDD	73.5	
2378-TCDF	1,680			E	ES 2378-TCDF	80.3	
12378-PeCDF	71.2				ES 12378-PeCDF	87.2	
23478-PeCDF	51.8			PR	ES 23478-PeCDF	91	
123478-HxCDF	111				ES 123478-HxCDF	87.2	
123678-HxCDF	29.7				ES 123678-HxCDF	89.3	
234678-HxCDF	7.92				ES 234678-HxCDF	84	
123789-HxCDF	ND	0.611			ES 123789-HxCDF	90.4	
1234678-HpCDF	89.1				ES 1234678-HpCDF	91.8	
1234789-HpCDF	16.8				ES 1234789-HpCDF	87.7	
OCDF	1,290				ES OCDF	78.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.4	
Total TCDD	668		682		CS 12347-PeCDD	101	
Total PeCDD	23.3		24.3		CS 12346-PeCDF	91.6	
Total HxCDD	99		100		CS 123469-HxCDF	97.2	
Total HpCDD	464		464		CS 1234689-HpCDF	97.2	
Total TCDF	3,190		3,290				
Total PeCDF	209		214				
Total HxCDF	212		213				
Total HpCDF	176		176				
Total PCDD/Fs	**9,350**		**9,470**				
WHO-2005 TEQs							
TEQ: ND=0	822		822				
TEQ: ND=DL/2	822	0.65	822				
TEQ: ND=DL	822	1.3	822				

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Sample ID: 11215131-010822-S-BN-NC-S-29 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID:	B6169_18833_DF_015	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	74.0 %	QC Batch No.:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:03:50

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.75		12479/12468D	5.04		124679/124689D	46.1		1234679D	266	
1379D	0.991		12469D	3.81		123468D	5.1		1234678D	198	
1369D	(0.303)		12368D	2.84		123679/123689D	29				
1469D	[2.45]		12478D	1.62	J	123469D	2.15	J			
1247D...[4]	1.45		12379D	[0.998]	J	123478D	2.45				
1378D	2.08		12369D...[3]	2.17	J	123678D	8.79				
1268D	(0.303)		12346/12347D	0.638	J	123467D	[1.28]	J			
1478D	[1.45]		12378D	7.23		123789D	5.41		**Conc.**	464	
1279D	(0.303)		12367D	(0.429)					**EMPC**	464	
1234/1269D	(0.303)		12389D	(0.429)							
1236D	(0.303)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[9.73]										
1239D	(0.303)								OCDD	3010	
2378D	608										
1278D	52.5										
1267D	(0.303)										
1289D	(0.303)										
Conc.	668		**Conc.**	23.3		**Conc.**	99				
EMPC	682		**EMPC**	24.3		**EMPC**	100				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	822	822
TEQ: ND=DL/2	822	822
TEQ: ND=DL	822	822

	Conc.	EMPC
Total PCDD/Fs	9,350	9,470

Checkcode: 566-164-PNP

Report Created: 18-Jan-2022 09:11 Analyst: TF

Sample ID: 11215131-010822-S-BN-NC-S-29 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID:	B6169_18833_DF_015	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	74.0 %	QC Batch No.:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:03:50

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.952]		13468/12468F	9.43		123468F	6.08		1234678F	89.1	
1468F	3.53		13678F...[3]	3.21		124678/134678F	24.5		1234679F	3.35	
2468F	4.61		12368F...[3]	37.7		134679F	(0.557)		1234689F	66.8	
1346/1246F	(0.213)		14678F	(0.248)		124679F	1.05	J	1234789F	16.8	
1347F...[3]	20.8		13479F	(0.248)		124689F	19.4				
1348F	(0.213)		13469/12479F	(0.248)		123467F	2.04	J			
1248F...[3]	81.4		12346F	(0.248)		123478F	111				
1268F	29.3		23468/12469F	4.07		123678F	29.7				
1467F	3.82		12347F	2.06	J	123479F	(0.557)				
1478F	69.3		12348F	7.75		123469F	[0.937]	J			
1369/1237F	17.9		12378F	71.2		123679F	(0.557)				
2467F	2.12		12678/12367F	22		234678F	7.92		**Conc.**	176	
2368F	47		12379F	(0.248)		234678/123689F	0		**EMPC**	176	
1238F...[5]	84.8		12679F	(0.248)		123689F	(0.557)				
1278F	781		23467/12369F	[1.71]	J	123789F	(0.611)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.213)		23478F	51.8	PR	123789/123489F	0				
1267F	42.8		23478/12489F	0		123489F	9.93		OCDF	1290	
2346/1249F	4.74		12489F	(0.248)							
2347/1279F	20.5		12349F	(0.248)							
2348F	[92.2]		12389F	[2.67]							
2378F	1680	E									
2367/3467F	139										
1269F	26.4										
1239F	2.07										
1289F	137										
Conc.	3,190		**Conc.**	209		**Conc.**	212				
EMPC	3,290		**EMPC**	214		**EMPC**	213				

Checkcode: 566-164-PNP

Report Created: 18-Jan-2022 09:11 Analyst: TF

Sample ID: 11215131-010822-S-BN-NC-S-29 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_015
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	QC Batch No.:	18833
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	18-Jan-2022 00:03
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	608		0.303	608	608	608
12378-PeCDD	7.23		0.429	3.62	7.23	7.23
123478-HxCDD	2.45		0.783	0.245	0.245	0.245
123678-HxCDD	8.79		0.764	0.879	0.879	0.879
123789-HxCDD	5.41		0.763	0.541	0.541	0.541
1234678-HpCDD	198		0.444	1.98	1.98	1.98
OCDD	3010		1.06	3.01	0.301	0.904
2378-TCDF	1680	E	0.213	168	168	168
12378-PeCDF	71.2		0.248	3.56	3.56	2.14
23478-PeCDF	51.8		0.247	25.9	25.9	15.5
123478-HxCDF	111		0.497	11.1	11.1	11.1
123678-HxCDF	29.7		0.507	2.97	2.97	2.97
234678-HxCDF	7.92		0.629	0.792	0.792	0.792
123789-HxCDF	(0.611)		0.611	(0.0611)	(0.0611)	(0.0611)
1234678-HpCDF	89.1		0.23	0.891	0.891	0.891
1234789-HpCDF	16.8		0.306	0.168	0.168	0.168
OCDF	1290		0.685	1.29	0.129	0.388

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TEQ Summaries			
EMPC = 0, ND = 0	833	833	822
EMPC = 0, ND = DL / 2	833	833	822
EMPC = 0, ND = DL	833	833	822
EMPC = 0, < J-level = 0	833	833	822
EMPC = EMPC, ND = 0	833	833	822
EMPC = EMPC, ND = DL / 2	833	833	822
EMPC = EMPC, ND = DL	833	833	822
EMPC = EMPC, < J-level = 0	833	833	822

Sample ID: 11215131-010822-S-BN-NC-S-26 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6169_18833_DF_016	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	76.4 %	QC Batch No:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:50:10

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	852				ES 2378-TCDD	79.2	
12378-PeCDD	8.94				ES 12378-PeCDD	96.4	
123478-HxCDD	2.06			J	ES 123478-HxCDD	90.8	
123678-HxCDD	9.36				ES 123678-HxCDD	95.2	
123789-HxCDD	5.51				ES 123789-HxCDD	88.3	
1234678-HpCDD	274				ES 1234678-HpCDD	91	
OCDD	4,300				ES OCDD	82.6	
2378-TCDF	2,450			E	ES 2378-TCDF	78	
12378-PeCDF	96.2				ES 12378-PeCDF	88	
23478-PeCDF	72.3			PR	ES 23478-PeCDF	88.5	
123478-HxCDF	155				ES 123478-HxCDF	95.5	
123678-HxCDF	40.5				ES 123678-HxCDF	102	
234678-HxCDF	9.22				ES 234678-HxCDF	108	
123789-HxCDF	ND	0.71			ES 123789-HxCDF	101	
1234678-HpCDF	91.3				ES 1234678-HpCDF	103	
1234789-HpCDF	21.5				ES 1234789-HpCDF	95.6	
OCDF	423				ES OCDF	86.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	952		958		CS 12347-PeCDD	113	
Total PeCDD	18.9		22.6		CS 12346-PeCDF	99.3	
Total HxCDD	94.7		96.1		CS 123469-HxCDF	119	
Total HpCDD	630		630		CS 1234689-HpCDF	115	
Total TCDF	4,690		4,700				
Total PeCDF	279		279				
Total HxCDF	274		274				
Total HpCDF	214		214				
Total PCDD/Fs	**11,900**		**11,900**				
WHO-2005 TEQs							
TEQ: ND=0	1160		1160				
TEQ: ND=DL/2	1160	0.59	1160				
TEQ: ND=DL	1160	1.18	1160				

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Sample ID: 11215131-010822-S-BN-NC-S-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6169_18833_DF_016	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	76.4 %	QC Batch No.:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:50:10

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.57		12479/12468D	4.17		124679/124689D	39.5		1234679D	356	
1379D	[1.01]		12469D	2.86		123468D	4.03		1234678D	274	
1369D	(0.281)		12368D	[1.94]	J	123679/123689D	31.9				
1469D	[2.33]		12478D	1.68	J	123469D	2.33	J			
1247D...[4]	[1.32]		12379D	1.3	J	123478D	2.06	J			
1378D	2.61		12369D...[3]	[1.68]	J	123678D	9.36				
1268D	(0.281)		12346/12347D	(0.45)		123467D	[1.35]	J			
1478D	2.15		12378D	8.94		123789D	5.51		**Conc.**	630	
1279D	(0.281)		12367D	(0.45)					**EMPC**	630	
1234/1269D	[0.902]		12389D	(0.45)							
1236D	(0.281)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	14.3										
1239D	(0.281)								OCDD	4300	
2378D	852										
1278D	78.6										
1267D	(0.281)										
1289D	[0.965]										
Conc.	952		**Conc.**	18.9		**Conc.**	94.7				
EMPC	958		**EMPC**	22.6		**EMPC**	96.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,160	1,160
TEQ: ND=DL/2	1,160	1,160
TEQ: ND=DL	1,160	1,160

	Conc.	EMPC
Total PCDD/Fs	11,900	11,900

Checkcode: 259-031-TTB

Report Created: 18-Jan-2022 09:11 Analyst: TF

Sample ID: 11215131-010822-S-BN-NC-S-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6169_18833_DF_016	Date Extracted:	13-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	76.4 %	QC Batch No.:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:50:10

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.12		13468/12468F	7.42		123468F	5.86		1234678F	91.3	
1468F	4.16		13678F...[3]	3.04		124678/134678F	26.5		1234679F	1.92	J
2468F	4.64		12368F...[3]	48.2		134679F	(0.634)		1234689F	99.7	
1346/1246F	(0.154)		14678F	(0.223)		124679F	(0.634)		1234789F	21.5	
1347F...[3]	30.1		13479F	(0.223)		124689F	22.6				
1348F	(0.154)		13469/12479F	(0.223)		123467F	1.69	J			
1248F...[3]	120		12346F	(0.223)		123478F	155				
1268F	39.7		23468/12469F	3.47		123678F	40.5				
1467F	6.2		12347F	2.65		123479F	(0.634)				
1478F	99.9		12348F	9.69		123469F	(0.634)				
1369/1237F	25.2		12378F	96.2		123679F	(0.634)				
2467F	[2.93]		12678/12367F	29.4		234678F	9.22		**Conc.**	214	
2368F	65.8		12379F	(0.223)		234678/123689F	0		**EMPC**	214	
1238F...[5]	124		12679F	0.353	J	123689F	(0.634)				
1278F	1040	E	23467/12369F	1.91	J	123789F	(0.71)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.154)		23478F	72.3	PR	123789/123489F	0			**(pg/g)**	
1267F	60.4		23478/12489F	0		123489F	12		OCDF	423	
2346/1249F	[7.13]		12489F	(0.223)							
2347/1279F	27.9		12349F	(0.223)							
2348F	168		12389F	4.08							
2378F	2450	E									
2367/3467F	204										
1269F	36.8										
1239F	(0.154)										
1289F	184										
Conc.	4,690		**Conc.**	279		**Conc.**	274				
EMPC	4,700		**EMPC**	279		**EMPC**	274				

Checkcode: 259-031-TTB

Report Created: 18-Jan-2022 09:11 Analyst: TF

Sample ID: 11215131-010822-S-BN-NC-S-26 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_016
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18833
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	18-Jan-2022 00:50
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	852		0.281	852	852	852
12378-PeCDD	8.94		0.45	4.47	8.94	8.94
123478-HxCDD	2.06	J	0.329	0.206	0.206	0.206
123678-HxCDD	9.36		0.32	0.936	0.936	0.936
123789-HxCDD	5.51		0.321	0.551	0.551	0.551
1234678-HpCDD	274		0.362	2.74	2.74	2.74
OCDD	4300		0.897	4.3	0.43	1.29
2378-TCDF	2450	E	0.154	245	245	245
12378-PeCDF	96.2		0.224	4.81	4.81	2.89
23478-PeCDF	72.3		0.221	36.2	36.2	21.7
123478-HxCDF	155		0.593	15.5	15.5	15.5
123678-HxCDF	40.5		0.6	4.05	4.05	4.05
234678-HxCDF	9.22		0.645	0.922	0.922	0.922
123789-HxCDF	(0.71)		0.71	(0.071)	(0.071)	(0.071)
1234678-HpCDF	91.3		0.16	0.913	0.913	0.913
1234789-HpCDF	21.5		0.256	0.215	0.215	0.215
OCDF	423		0.747	0.423	0.0423	0.127

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TEQ Summaries			
EMPC = 0, ND = 0	1170	1170	1160
EMPC = 0, ND = DL / 2	1170	1170	1160
EMPC = 0, ND = DL	1170	1170	1160
EMPC = 0, < J-level = 0	1170	1170	1160
EMPC = EMPC, ND = 0	1170	1170	1160
EMPC = EMPC, ND = DL / 2	1170	1170	1160
EMPC = EMPC, ND = DL	1170	1170	1160
EMPC = EMPC, < J-level = 0	1170	1170	1160

Checkcode: 259-031-TTB

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Sample ID: 11215131-011022-S-BN-NC-S-23 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6169_18833_DF_017	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.2 %	QC Batch No:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:36:30

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,930			E	ES 2378-TCDD	84.6	
12378-PeCDD	19.8				ES 12378-PeCDD	81.7	
123478-HxCDD	1.58			J	ES 123478-HxCDD	89.2	
123678-HxCDD	4.85				ES 123678-HxCDD	96.6	
123789-HxCDD	3.42				ES 123789-HxCDD	81.2	
1234678-HpCDD	169				ES 1234678-HpCDD	86	
OCDD	6,690				ES OCDD	66.7	
2378-TCDF	5,500			E	ES 2378-TCDF	85.2	
12378-PeCDF	390				ES 12378-PeCDF	79.6	
23478-PeCDF	226			PR	ES 23478-PeCDF	78.4	
123478-HxCDF	638				ES 123478-HxCDF	97.2	
123678-HxCDF	158				ES 123678-HxCDF	101	
234678-HxCDF	31.5				ES 234678-HxCDF	105	
123789-HxCDF	ND	1.04			ES 123789-HxCDF	94.3	
1234678-HpCDF	155				ES 1234678-HpCDF	97.2	
1234789-HpCDF	69.3				ES 1234789-HpCDF	87.6	
OCDF	111				ES OCDF	73.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.3	
Total TCDD	2,110		2,110		CS 12347-PeCDD	84.9	
Total PeCDD	32.4		36.2		CS 12346-PeCDF	74.6	
Total HxCDD	69.3		70.3		CS 123469-HxCDF	101	
Total HpCDD	368		368		CS 1234689-HpCDF	93.5	
Total TCDF	10,400		10,400				
Total PeCDF	925		930				
Total HxCDF	965		965				
Total HpCDF	291		291				
Total PCDD/Fs	**22,000**		**22,000**				
WHO-2005 TEQs							
TEQ: ND=0	2670		2670				
TEQ: ND=DL/2	2670	0.742	2670				
TEQ: ND=DL	2670	1.48	2670				

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Sample ID: 11215131-011022-S-BN-NC-S-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6169_18833_DF_017	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.2 %	QC Batch No.:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:36:30

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.4		12479/12468D	[2.91]		124679/124689D	34.9		1234679D	199	
1379D	1.49		12469D	3.73		123468D	4.12		1234678D	169	
1369D	(0.246)		12368D	3.76		123679/123689D	19.2				
1469D	7.96		12478D	1.92	J	123469D	1.24	J			
1247D...[4]	2.6		12379D	1.81	J	123478D	1.58	J			
1378D	5.59		12369D...[3]	1.4	J	123678D	4.85				
1268D	(0.246)		12346/12347D	(0.575)		123467D	[0.986]	J			
1478D	4.69		12378D	19.8		123789D	3.42		**Conc.**	368	
1279D	(0.246)		12367D	[0.848]	J				**EMPC**	368	
1234/1269D	(0.246)		12389D	(0.575)							
1236D	(0.246)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	28.1										
1239D	(0.246)								OCDD	6690	
2378D	1930	E									
1278D	114										
1267D	5.55										
1289D	2.97										
Conc.	2,110		**Conc.**	32.4		**Conc.**	69.3				
EMPC	2,110		**EMPC**	36.2		**EMPC**	70.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,670	2,670
TEQ: ND=DL/2	2,670	2,670
TEQ: ND=DL	2,670	2,670

	Conc.	EMPC
Total PCDD/Fs	22,000	22,000

Checkcode: 572-467-GQG

Report Created: 18-Jan-2022 09:11 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6169_18833_DF_017	Date Extracted:	13-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	79.2 %	QC Batch No.:	18833	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:36:30

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.51		13468/12468F	[5.37]		123468F	5.55		1234678F	155	
1468F	6.84		13678F...[3]	4.33		124678/134678F	52.4		1234679F	2.48	J
2468F	5.36		12368F...[3]	152		134679F	(0.877)		1234689F	63.8	
1346/1246F	(0.206)		14678F	(0.373)		124679F	(0.877)		1234789F	69.3	
1347F...[3]	59.9		13479F	(0.373)		124689F	27.1				
1348F	(0.206)		13469/12479F	(0.373)		123467F	3.45				
1248F...[3]	258		12346F	(0.373)		123478F	638				
1268F	77.2		23468/12469F	5.16		123678F	158				
1467F	12.3		12347F	4.54		123479F	(0.877)				
1478F	205		12348F	25.7		123469F	(0.877)				
1369/1237F	52.9		12378F	390		123679F	(0.877)				
2467F	7.01		12678/12367F	101		234678F	31.5		**Conc.**	291	
2368F	133		12379F	(0.373)		234678/123689F	0		**EMPC**	291	
1238F...[5]	266		12679F	(0.373)		123689F	(0.877)				
1278F	2370	E	23467/12369F	3.81		123789F	(1.04)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.206)		23478F	226	PR	123789/123489F	0				
1267F	124		23478/12489F	0		123489F	48.8		OCDF	111	
2346/1249F	14.6		12489F	(0.373)							
2347/1279F	58.3		12349F	(0.373)							
2348F	345		12389F	11.8							
2378F	5500	E									
2367/3467F	420										
1269F	77.3										
1239F	5.87										
1289F	399										
Conc.	10,400		**Conc.**	925		**Conc.**	965				
EMPC	10,400		**EMPC**	930		**EMPC**	965				

Checkcode: 572-467-GQG

Report Created: 18-Jan-2022 09:11 Analyst: TF

Sample ID: 11215131-011022-S-BN-NC-S-23 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6169_18833_DF_017
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	QC Batch No.:	18833
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	18-Jan-2022 01:36
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1930	E	0.246	1930	1930	1930
12378-PeCDD	19.8		0.575	9.89	19.8	19.8
123478-HxCDD	1.58	J	0.505	0.158	0.158	0.158
123678-HxCDD	4.85		0.461	0.485	0.485	0.485
123789-HxCDD	3.42		0.497	0.342	0.342	0.342
1234678-HpCDD	169		0.503	1.69	1.69	1.69
OCDD	6690		1.61	6.69	0.669	2.01
2378-TCDF	5500	E	0.206	550	550	550
12378-PeCDF	390		0.356	19.5	19.5	11.7
23478-PeCDF	226		0.391	113	113	67.9
123478-HxCDF	638		0.851	63.8	63.8	63.8
123678-HxCDF	158		0.824	15.8	15.8	15.8
234678-HxCDF	31.5		0.823	3.15	3.15	3.15
123789-HxCDF	(1.04)		1.04	(0.104)	(0.104)	(0.104)
1234678-HpCDF	155		0.299	1.55	1.55	1.55
1234789-HpCDF	69.3		0.468	0.693	0.693	0.693
OCDF	111		0.806	0.111	0.0111	0.0332

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TEQ Summaries			
EMPC = 0, ND = 0	2720	2720	2670
EMPC = 0, ND = DL / 2	2720	2720	2670
EMPC = 0, ND = DL	2720	2720	2670
EMPC = 0, < J-level = 0	2720	2720	2670
EMPC = EMPC, ND = 0	2720	2720	2670
EMPC = EMPC, ND = DL / 2	2720	2720	2670
EMPC = EMPC, ND = DL	2720	2720	2670
EMPC = EMPC, < J-level = 0	2720	2720	2670

Checkcode: 572-467-GQG

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Sample ID: Method Blank B6169_18833 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18833_DF_SDS	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:26:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.456			ES 2378-TCDD	98.8	
12378-PeCDD	ND	0.477			ES 12378-PeCDD	117	
123478-HxCDD	ND	0.359			ES 123478-HxCDD	109	
123678-HxCDD	ND	0.34			ES 123678-HxCDD	121	
123789-HxCDD	ND	0.401			ES 123789-HxCDD	98.8	
1234678-HpCDD	ND	0.512			ES 1234678-HpCDD	99	
OCDD	ND	1.25			ES OCDD	71.7	
2378-TCDF	1.17				ES 2378-TCDF	100	
12378-PeCDF	ND	0.296			ES 12378-PeCDF	105	
23478-PeCDF	ND	0.288			ES 23478-PeCDF	109	
123478-HxCDF	ND	0.408			ES 123478-HxCDF	104	
123678-HxCDF	ND	0.354			ES 123678-HxCDF	122	
234678-HxCDF	ND	0.333			ES 234678-HxCDF	146	V
123789-HxCDF	ND	0.51			ES 123789-HxCDF	103	
1234678-HpCDF	EMPC		1.28	J	ES 1234678-HpCDF	126	
1234789-HpCDF	ND	0.82			ES 1234789-HpCDF	98.6	
OCDF	ND	1.25			ES OCDF	75.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.4	
Total TCDD	ND	0.456	ND		CS 12347-PeCDD	121	
Total PeCDD	ND	0.477	ND		CS 12346-PeCDF	102	
Total HxCDD	ND	0.365	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.512	ND		CS 1234689-HpCDF	113	
Total TCDF	1.17		1.17				
Total PeCDF	ND	0.292	ND				
Total HxCDF	ND	0.39	ND				
Total HpCDF	ND		1.28				
Total PCDD/Fs	**1.17**		**2.45**				
WHO-2005 TEQs							
TEQ: ND=0	0.117		0.129				
TEQ: ND=DL/2	0.773	0.673	0.786				
TEQ: ND=DL	1.43	1.35	1.44				

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Sample ID: Method Blank B6169_18833 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18833_DF_SDS	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:26:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.456)		12479/12468D	(0.477)		124679/124689D	(0.365)		1234679D	(0.512)	
1379D	(0.456)		12469D	(0.477)		123468D	(0.365)		1234678D	(0.512)	
1369D	(0.456)		12368D	(0.477)		123679/123689D	(0.365)				
1469D	(0.456)		12478D	(0.477)		123469D	(0.365)				
1247D...[4]	(0.456)		12379D	(0.477)		123478D	(0.359)				
1378D	(0.456)		12369D...[3]	(0.477)		123678D	(0.34)				
1268D	(0.456)		12346/12347D	(0.477)		123467D	(0.365)				
1478D	(0.456)		12378D	(0.477)		123789D	(0.401)		**Conc.**	0	
1279D	(0.456)		12367D	(0.477)					**EMPC**	0	
1234/1269D	(0.456)		12389D	(0.477)							
1236D	(0.456)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.456)										
1239D	(0.456)								OCDD	(1.25)	
2378D	(0.456)										
1278D	(0.456)										
1267D	(0.456)										
1289D	(0.456)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.117	0.129
TEQ: ND=DL/2	0.773	0.786
TEQ: ND=DL	1.43	1.44

	Conc.	EMPC
Total PCDD/Fs	1.17	2.45

Checkcode: 347-021-PJR

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: Method Blank B6169_18833 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18833_DF_SDS	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:26:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.288)		13468/12468F	(0.238)		123468F	(0.39)		1234678F	[1.28]	J
1468F	(0.288)		13678F...[3]	(0.292)		124678/134678F	(0.39)		1234679F	(0.567)	
2468F	(0.288)		12368F...[3]	(0.292)		134679F	(0.39)		1234689F	(0.567)	
1346/1246F	(0.288)		14678F	(0.292)		124679F	(0.39)		1234789F	(0.82)	
1347F...[3]	(0.288)		13479F	(0.292)		124689F	(0.39)				
1348F	(0.288)		13469/12479F	(0.292)		123467F	(0.39)				
1248F...[3]	(0.288)		12346F	(0.292)		123478F	(0.408)				
1268F	(0.288)		23468/12469F	(0.292)		123678F	(0.354)				
1467F	(0.288)		12347F	(0.292)		123479F	(0.39)				
1478F	(0.288)		12348F	(0.292)		123469F	(0.39)				
1369/1237F	(0.288)		12378F	(0.296)		123679F	(0.39)				
2467F	(0.288)		12678/12367F	(0.292)		234678F	(0.333)		**Conc.**	0	
2368F	(0.288)		12379F	(0.292)		234678/123689F	0		**EMPC**	1.28	
1238F...[5]	(0.288)		12679F	(0.292)		123689F	(0.39)				
1278F	(0.288)		23467/12369F	(0.292)		123789F	(0.51)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.288)		23478F	(0.288)		123789/123489F	0			**(pg/g)**	
1267F	(0.288)		23478/12489F	0		123489F	(0.39)		OCDF	(1.25)	
2346/1249F	(0.288)		12489F	(0.292)							
2347/1279F	(0.288)		12349F	(0.292)							
2348F	(0.288)		12389F	(0.292)							
2378F	1.17										
2367/3467F	(0.288)										
1269F	(0.288)										
1239F	(0.288)										
1289F	(0.288)										
Conc.	1.17		**Conc.**	0		**Conc.**	0				
EMPC	1.17		**EMPC**	0		**EMPC**	0				

Checkcode: 347-021-PJR

Report Created: 18-Jan-2022 09:10 Analyst: TF

Sample ID: Method Blank B6169_18833 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	MB1_18833_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18833
Date Collected:	n/a	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	17-Jan-2022 11:26
Lab Project No:	B6169	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.456)		0.456	(0.456)	(0.456)	(0.456)
12378-PeCDD	(0.477)		0.477	(0.238)	(0.477)	(0.477)
123478-HxCDD	(0.359)		0.359	(0.0359)	(0.0359)	(0.0359)
123678-HxCDD	(0.34)		0.34	(0.034)	(0.034)	(0.034)
123789-HxCDD	(0.401)		0.401	(0.0401)	(0.0401)	(0.0401)
1234678-HpCDD	(0.512)		0.512	(0.00512)	(0.00512)	(0.00512)
OCDD	(1.25)		1.25	(0.00125)	(0.000125)	(0.000376)
2378-TCDF	1.17		0.288	0.117	0.117	0.117
12378-PeCDF	(0.296)		0.296	(0.0148)	(0.0148)	(0.00888)
23478-PeCDF	(0.288)		0.288	(0.144)	(0.144)	(0.0863)
123478-HxCDF	(0.408)		0.408	(0.0408)	(0.0408)	(0.0408)
123678-HxCDF	(0.354)		0.354	(0.0354)	(0.0354)	(0.0354)
234678-HxCDF	(0.333)		0.333	(0.0333)	(0.0333)	(0.0333)
123789-HxCDF	(0.51)		0.51	(0.051)	(0.051)	(0.051)
1234678-HpCDF	[1.28]	J	0.397	[0.0128]	[0.0128]	[0.0128]
1234789-HpCDF	(0.82)		0.82	(0.0082)	(0.0082)	(0.0082)
OCDF	(1.25)		1.25	(0.00125)	(0.000125)	(0.000375)

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TEQ Summaries			
EMPC = 0, ND = 0	0.117	0.117	0.117
EMPC = 0, ND = DL / 2	0.686	0.804	0.773
EMPC = 0, ND = DL	1.26	1.49	1.43
EMPC = 0, < J-level = 0	0.117	0.117	0.117
EMPC = EMPC, ND = 0	0.129	0.129	0.129
EMPC = EMPC, ND = DL / 2	0.699	0.817	0.786
EMPC = EMPC, ND = DL	1.27	1.5	1.44
EMPC = EMPC, < J-level = 0	0.117	0.117	0.117

Checkcode: 347-021-PJR

SGS North America - DF v0.99

Sample ID: 0_18833_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18833_DF	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:50:09

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.8				ES 2378-TCDD	95.8	
12378-PeCDD	50.4				ES 12378-PeCDD	114	
123478-HxCDD	56.9				ES 123478-HxCDD	104	
123678-HxCDD	57.5				ES 123678-HxCDD	117	
123789-HxCDD	55.5				ES 123789-HxCDD	94.4	
1234678-HpCDD	54.2				ES 1234678-HpCDD	100	
OCDD	113				ES OCDD	76.3	
2378-TCDF	12.3				ES 2378-TCDF	89.1	
12378-PeCDF	54.6				ES 12378-PeCDF	97.4	
23478-PeCDF	58.9				ES 23478-PeCDF	101	
123478-HxCDF	55.1				ES 123478-HxCDF	100	
123678-HxCDF	55.2				ES 123678-HxCDF	114	
234678-HxCDF	52.3				ES 234678-HxCDF	143	
123789-HxCDF	52				ES 123789-HxCDF	105	
1234678-HpCDF	53.1				ES 1234678-HpCDF	125	
1234789-HpCDF	52.6				ES 1234789-HpCDF	101	
OCDF	105				ES OCDF	82.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.1	
Total TCDD	58.8		58.8		CS 12347-PeCDD	118	
Total PeCDD	74.9		74.9		CS 12346-PeCDF	98.1	
Total HxCDD	183		183		CS 123469-HxCDF	113	
Total HpCDD	66.7		66.7		CS 1234689-HpCDF	112	
Total TCDF	69.7		69.7				
Total PeCDF	198		198				
Total HxCDF	332		332				
Total HpCDF	106		106				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.447	124				
TEQ: ND=DL	124	0.893	124				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18833_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6169	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18833_DF	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18833	Date Analyzed:	17-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:44:50

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	13.3				ES 2378-TCDD	91.6	
12378-PeCDD	50				ES 12378-PeCDD	106	
123478-HxCDD	56.9				ES 123478-HxCDD	106	
123678-HxCDD	55.7				ES 123678-HxCDD	125	
123789-HxCDD	57.2				ES 123789-HxCDD	93.7	
1234678-HpCDD	54.6				ES 1234678-HpCDD	99.8	
OCDD	117				ES OCDD	73.3	
2378-TCDF	14.1				ES 2378-TCDF	91.3	
12378-PeCDF	54				ES 12378-PeCDF	99.9	
23478-PeCDF	57.6				ES 23478-PeCDF	96.9	
123478-HxCDF	56				ES 123478-HxCDF	102	
123678-HxCDF	58.3				ES 123678-HxCDF	113	
234678-HxCDF	51.7				ES 234678-HxCDF	146	
123789-HxCDF	51.3				ES 123789-HxCDF	105	
1234678-HpCDF	54				ES 1234678-HpCDF	126	
1234789-HpCDF	52.3				ES 1234789-HpCDF	96.2	
OCDF	116				ES OCDF	75	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.8	
Total TCDD	60.1		60.1		CS 12347-PeCDD	105	
Total PeCDD	75.1		75.1		CS 12346-PeCDF	96.8	
Total HxCDD	183		183		CS 123469-HxCDF	117	
Total HpCDD	66.7		66.7		CS 1234689-HpCDF	112	
Total TCDF	72.3		72.3				
Total PeCDF	123		123				
Total HxCDF	333		333				
Total HpCDF	106		106				
Total PCDD/Fs	**1,250**		**1,250**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.345	124				
TEQ: ND=DL	124	0.69	124				

SGS
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Wilmington, NC 28405, USA
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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample DUP

Method 1613B

Sample ID: 0_18833_OPR001

Analyte	OPR1_18833_DF pg/uL	OPR2_18833_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.8	13.3	3.5%
1,2,3,7,8-PeCDD	50.4	50	0.7%
1,2,3,4,7,8-HxCDD	56.9	56.9	0.0%
1,2,3,6,7,8-HxCDD	57.5	55.7	3.1%
1,2,3,7,8,9-HxCDD	55.5	57.2	3.1%
1,2,3,4,6,7,8-HpCDD	54.2	54.6	0.7%
OCDD	113	117	3.3%
2,3,7,8-TCDF	12.3	14.1	13.3%
1,2,3,7,8-PeCDF	54.6	54	1.1%
2,3,4,7,8-PeCDF	58.9	57.6	2.3%
1,2,3,4,7,8-HxCDF	55.1	56	1.7%
1,2,3,6,7,8-HxCDF	55.2	58.3	5.5%
2,3,4,6,7,8-HxCDF	52.3	51.7	1.2%
1,2,3,7,8,9-HxCDF	52	51.3	1.5%
1,2,3,4,6,7,8-HpCDF	53.1	54	1.7%
1,2,3,4,7,8,9-HpCDF	52.6	52.3	0.5%
OCDF	105	116	10.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*12-Jan-22 at 11:52*
AP Project name:	*B6169*
Requested TAT:	*3 business days*
Projected due date:	*17-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011022-S-BN-NC-S-20	B6169_001	SO	1	4oz Clear Glass	10-Jan-22	10:30	1.6	2	4905 2704 3918
11215131-011022-S-BN-NC-S-32	B6169_002	SO	1	4oz Clear Glass	10-Jan-22	10:40	1.6	2	4905 2704 3918
11215131-011022-S-BN-NC-S-31	B6169_003	SO	1	4oz Clear Glass	10-Jan-22	13:40	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-S-24	B6169_004	SO	1	4oz Clear Glass	11-Jan-22	09:30	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-S-25	B6169_005	SO	1	4oz Clear Glass	11-Jan-22	09:40	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-S-27	B6169_006	SO	1	4oz Clear Glass	11-Jan-22	09:50	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-S-30	B6169_007	SO	1	4oz Clear Glass	11-Jan-22	10:00	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-S-21	B6169_008	SO	1	4oz Clear Glass	11-Jan-22	11:00	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-S-22	B6169_009	SO	1	4oz Clear Glass	11-Jan-22	11:10	1.6	2	4905 2704 3918
11215131-010822-S-BN-NC-S-28	B6169_014	SO	1	4oz Clear Glass	08-Jan-22	09:20	-0.2	4	4905 2704 3930
11215131-010822-S-BN-NC-S-29	B6169_015	SO	1	4oz Clear Glass	08-Jan-22	09:30	-0.2	4	4905 2704 3930
11215131-010822-S-BN-NC-S-26	B6169_016	SO	1	4oz Clear Glass	08-Jan-22	10:10	-0.2	4	4905 2704 3930
11215131-011022-S-BN-NC-S-23	B6169_017	SO	1	4oz Clear Glass	10-Jan-22	08:50	-0.2	4	4905 2704 3930

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Samples not received frozen.

Moved samples 010 through 013 to project B6170

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 12 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B01169 1/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE	M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	MS	MSD	DUP	QTY	REMARKS
						ANALYSIS & METHOD				B							SEE SSOW
11215131-011022-S-BN-NC-S-20	1-10-22	1030	C	S	4oz	None	X									1	RUSH *
11215131-011022-S-BN-NC-S-32		1040					X									1	RUSH *
11215131-011022-S-BN-NC-0-27		1050					X									1	
11215131-011022-S-BN-NC-S-31		1340					X									1	RUSH *
11215131-011022-S-BN-NC-0-26		1350					X									1	
11215131-011022-S-BN-NC-B-7		1400					X						X	X		1	MS/MSD
11215131-011022-S-BN-DUP-12		[illegible]					X								X	1	
11215131-011122-S-BN-NC-S-24	1-11-22	0930					X									1	RUSH *
11215131-011122-S-BN-NC-S-25		0940					X									1	RUSH *
11215131-011122-S-BN-NC-S-27		0950					X									1	RUSH *

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Brianna Nowak	1-11-22		1-11-22 14:00	Ashley Dixon	1-12-2022	11:52
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT		
	1-11-22	1625		CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx TEMP: °C 1.6		
				TRACKING #: 4705 2704 3918		

* - Samples in this project.

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SGS CHAIN OF CUSTODY

Bu1169 2/4

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	TR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS	SEE SOW
11215131-011122-S-BN-NC-S-30	1-11-22	1000	C	S	4oz		X									1	RUSH	*
11215131-011122-S-BN-NC-0-36		1010					X									1		
11215131-011122-S-BN-NC-0-32		1020					X									1		
11215131-011122-S-BN-NC-B-9		1030					X									1		
11215131-011122-S-BN-NC-S-21		1100					X									1	RUSH	*
11215131-011122-S-BN-NC-S-22		1110					X									1	RUSH	*
11215131-011122-S-BN-NC-0-28	↓	1120	↓	↓	↓		X									1		

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:		RECEIVED BY LABORATORY:	DATE:	TIME:
Breanna Nolk	1-11-22			1-11-22 14:00	Ashley Ortiz	1/12/2022	11:52
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:		COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT		
	1-11-22	15:25		FedEx	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:		CARRIER: FedEx	TEMP: °C 1.1°	
FedEx					TRACKING #: 4615 2704 3918		

*=samples in this project.

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SGS CHAIN OF CUSTODY

B101609 3/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, -
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS
11215131-010722-S-BN-SW-S-36	1-7-22	1330	C	S	4oz		X						X	X		1	RUSH
11215131-010722-S-BN-SW-S-37		1340					X									1	RUSH
11215131-010722-S-BN-SW-S-38		1350					X									1	RUSH
11215131-010722-S-BN-SW-S-39		1400					X									1	RUSH
11215131-010722-S-BN-SW-D-16		1410					X									1	
11215131-010722-S-BN-SW-B-18		1420					X									1	
11215131-010822-S-BN-NC-S-28	1-8-22	0920					X									1	RUSH *
11215131-010822-S-BN-NC-S-29		0930					X									1	RUSH *
11215131-010822-S-BN-NC-D-33		0940					X									1	
11215131-010822-S-BN-NC-D-34		0950					X									1	

SEE SSOW
Samples in B101609 / B101670

COLLECTED/RELINQUISHED BY (1): Breanna Nosek	DATE: 1-10-22	TIME: 1212	RECEIVED BY: Eddie Cantu
RELINQUISHED BY (2): Eddie Cantu	DATE: 1-10-22	TIME: 1700	RECEIVED BY: 1/10/22 1400
RELINQUISHED BY (3):	DATE: 1/10/22	TIME: 1400	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:
1/12/2022 11:52
COOLER SEAL ☐ INTACT ☐ BROKEN ☑ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C - 0.2°
TRACKING #: 4905 2704 3930

* = samples in this project.

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SGS CHAIN OF CUSTODY

B0169 4/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; ~~M8290A~~; ~~M1668A~~; M1668C (2,3,7,8); HR-PAH; ~~M4099~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-010822-S-BN-NC-S-20	1-8-22	1010	C	S	4oz				1	RUSH * SEESSOW
11215131-010822-S-BN-NC-0-31	1-8-22	1020							1	
11215131-010822-S-BN-NC-B-8	1-8-22	1030							1	
11215131-010722-S-BN-DUP-11	1-9-22	—	↓	↓	↓			X	1	
11215131-011022-S-BN-NC-S-23	1-10-22	0950	C	S	4oz				1	RUSH *
11215131-011022-S-BN-NC-B-20	↓	0900	C	S	4oz				1	

(BN)

	DATE:	TIME:			
COLLECTED/RELINQUISHED BY (1): Breanna Nowak	1-10-22	1212	RECEIVED BY:		
RELINQUISHED BY (2):	DATE: 1-10-22	TIME: 1400	RECEIVED BY:	DATE: 1/10/22	TIME: 1400
RELINQUISHED BY (3):	DATE: 1/10/22	TIME: 1400	RECEIVED BY:		

RECEIVED BY LABORATORY: DATE: 1/12/2022 TIME: 11:52
COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C -0.2°
TRACKING #: 4905 2704 3930

*=samples in this project.

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.4° (T.B.)

565C2/01EF/05A2

FedEx Express

1 of 4

TRK# 0201 **4905 2704 3907**
MASTER

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 158148-438 MTW EXP 07/22

B61169 1/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
1.0° (T.B.)

565C2/01EF/05A2

FedEx Express

2 of 4

MPS# 0263 **4905 2704 3918**
Mstr# 4905 2704 3907 0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 158148-438 MTW EXP 07/22

B01169 2/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.9° (T.B.)

FedEx Express

3 of 4
MPS# [0263] 4905 2704 3929
Mstr# 4905 2704 3907

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

0201

NL ILMA

28405
NC-US RDU

Part # 156140-434 NTW EXP 07/22

J191219082001uv

5SSC2/01EF/0582

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.2° (T.B.)

FedEx Express

4 of 4
MPS# [0263] 4905 2704 3930
Mstr# 4905 2704 3907

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

0201

NL ILMA

28405
NC-US RDU

Part # 156140-434 NTW EXP 07/22

J191219082001uv

5SSC2/01EF/0582

SGS

Project Initiation Form

Project Number: B6169

Initiation Date: 12-Jan-22

Client Name: GHD Services Inc.

Sample Matrix: Solid

Analysis Method: 1613 PCDD/F

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR& OPRD

10 g DWE extraction

Read and understood, initial and date:

Prep Lab: KE 1/12/22 JRH 1/13/22 BSS 1/14/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date:

HRMS Lab:

PM Initials: akornegay

Date: 12-Jan-2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE | Solid | Final Volume: 20 mL

Batch# 18833 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 1/13/22 | Clean-up Initial/Date: [illegible] 1/14/22 | Transfer Init/Date: [illegible] 1/14/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6169_18833_001	4	12.41				brown/orange, clay-like
B6169_18833_002	5	12.83				gray/orange, clay-like
B6169_18833_003	6	12.89				gray/brown, clay-like, oil smell
B6169_18833_004	7	12.59				gray/orange, clay-like
B6169_18833_005	8	12.44				gray/orange, clay-like
B6169_18833_006	9	12.87				brown/orange, clay-like
B6169_18833_007	10	13.28				brown-gray, clay-like
B6169_18833_008	11	12.73				gray/brown, clay-like
B6169_18833_009	12	15.11				gray/orange, clay-like, strong oil smell
B6169_18833_014	13	13.47				gray/orange, clay-like
B6169_18833_015	14	13.82				gray/brown, clay-like
B6169_18833_016	15	13.24				brown, clay-like
B6169_18833_017	16	12.71				gray, clay-like
MB1_18833	1	10.00				sodium sulfate
OPR1_18833	2	10.00				sodium sulfate
OPR2_18833	3	10.00				sodium sulfate

Supply IDs

Toluene	STL14-23
MeCHL	STL14.21
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-28C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	1616
	Stop:	0900
HEX	Start:	
	Stop:	
DCM	Start:	
	Stop:	

1/14/22

1/15/22

1/15/22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18833

Inter-Department Communication Sheet

1/18/18

SGS

Wt. Volume Results

Batch#: 18833

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6169_001	0.81	4.36	3.71	81.69%	81.69%			12.24	12.41	10.14
B6169_002	0.8	4.04	3.38	79.63%	79.63%			12.56	12.83	10.22
B6169_003	0.79	5.34	4.39	79.12%	79.12%			12.64	12.89	10.2
B6169_004	0.81	3.68	3.11	80.14%	80.14%			12.48	12.59	10.09
B6169_005	0.8	4.64	3.96	82.29%	82.29%			12.15	12.44	10.24
B6169_006	0.8	5.43	4.46	79.05%	79.05%			12.65	12.87	10.17
B6169_007	0.8	4.79	3.84	76.19%	76.19%			13.13	13.28	10.12
B6169_008	0.79	4.83	3.98	78.96%	78.96%			12.66	12.73	10.05
B6169_009	0.79	4.71	3.42	67.09%	67.09%			14.9	15.11	10.14
B6169_014	0.79	5.13	4.1	76.27%	76.27%			13.11	13.47	10.27
B6169_015	0.8	5.07	3.96	74.00%	74.00%			13.51	13.82	10.23
B6169_016	0.8	3.81	3.1	76.41%	76.41%			13.09	13.24	10.12
B6169_017	0.8	4.94	4.08	79.23%	79.23%			12.62	12.71	10.07

% Solid Determination WorkSheet

SGS

Batch: 18833

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6169_18833_001	0.81	4.36	3.71/3.71	12.24	
B6169_18833_002	0.80	4.04	3.38/3.38	12.56	
B6169_18833_003	0.79	5.34	4.39/4.39	12.64	
B6169_18833_004	0.81	3.68	3.11/3.11	12.48	
B6169_18833_005	0.80	4.64	3.96/3.96	12.15	
B6169_18833_006	0.80	5.43	4.46/4.46	12.65	
B6169_18833_007	0.80	4.79	3.84/3.84	13.13	
B6169_18833_008	0.79	4.83	3.98/3.98	12.66	
B6169_18833_009	0.79	4.71	3.42/3.42	14.90	
B6169_18833_014	0.79	5.13	4.10/4.10	13.11	
B6169_18833_015	0.80	5.07	3.96/3.96	13.51	
B6169_18833_016	0.80	3.81	3.10/3.10	13.09	
B6169_18833_017	0.80	4.94	4.08/4.08	12.62	
Date/Initials: 1/13/22 KE					

SGS

Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18833

Lab Sample ID	Spiker Initials/Date: JRH 1/13/22	JRH 1/13/22	JRH 1/13/22	1/14/22	1/14/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6169_18833_001	—	—	KE	KE	JRH		
B6169_18833_002	—	—	KE	KE	JRH		
B6169_18833_003	—	—	KE	KE	JRH		
B6169_18833_004	—	—	KE	KE	JRH		
B6169_18833_005	—	—	KE	KE	JRH		
B6169_18833_006	—	—	KE	KE	JRH		
B6169_18833_007	—	—	KE	KE	JRH		
B6169_18833_008	—	—	KE	KE	JRH		
B6169_18833_009	—	—	KE	KE	JRH		
B6169_18833_014	—	—	KE	KE	JRH		
B6169_18833_015	—	—	KE	KE	JRH		
B6169_18833_016	—	—	KE	KE	JRH		
B6169_18833_017	—	—	KE	KE	JRH		
MB1_18833	—	—	KE	KE	JRH		
OPR1_18833	KE	KE	KE	KE	JRH		
OPR2_18833	KE	KE	KE	KE	JRH		

JRH 1/14/22

Standard Information

Pipette ID						JRH 1/14/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL#	210-2-8	25-187-2	210-2-9	25-338-1	25-309-1	
Concentration	1000pg/mL	1000pg/mL	1000pg/mL	100 PG/µL	100 PG/µL	
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	10/8/22	

REVIEWED
Tamara Burkamper , 1/18/2022, 11:09:39 AM

SGS Environmental Services — Run Log

Project: B6169_18833_DF

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
28	220116C28	3	CS3_220116_DF_CC	1.00	SIL 25-347-1	DTF	070-025	17-Jan-2022	08:42:42
0	220117C01	33	OPR1_18833_DF	1.00	0_18833_OPR001	DTF	516-206	17-Jan-2022	09:50:09
1	220117C02	2	SBS_220117_DF_CA	1.00	20-61-1	DTF	366-177	17-Jan-2022	10:40:05
2	220117C03	32	MB1_18833_DF_SDS	10.00	Method Blank	DTF	347-021	17-Jan-2022	11:26:20
3	220117C04	35	B6169_18833_DF_001	10.14	11215131-011022-S-BN-NC-S-20	DTF	380-762	17-Jan-2022	12:12:38
4	220117C05	36	B6169_18833_DF_002	10.22	11215131-011022-S-BN-NC-S-32	DTF	316-237	17-Jan-2022	12:58:59
5	220117C06	37	B6169_18833_DF_003	10.20	11215131-011022-S-BN-NC-S-31	DTF	432-718	17-Jan-2022	13:45:20
6	220117C07	38	B6169_18833_DF_004	10.09	11215131-011122-S-BN-NC-S-24	DTF	225-388	17-Jan-2022	14:31:39
7	220117C08	39	B6169_18833_DF_005	10.24	11215131-011122-S-BN-NC-S-25	DTF	749-441	17-Jan-2022	15:17:59
8	220117C09	40	B6169_18833_DF_006	10.17	11215131-011122-S-BN-NC-S-27	DTF	109-561	17-Jan-2022	16:04:19
9	220117C10	41	B6169_18833_DF_007	10.12	11215131-011122-S-BN-NC-S-30	DTF	937-212	17-Jan-2022	16:50:38
10	220117C11	42	B6169_18833_DF_008	10.05	11215131-011122-S-BN-NC-S-21	DTF	865-092	17-Jan-2022	17:36:57
11	220117C12	43	B6169_18833_DF_009	10.14	11215131-011122-S-BN-NC-S-22	DTF	356-271	17-Jan-2022	18:23:17
12	220117C13	44	B6169_18833_DF_014	10.27	11215131-010822-S-BN-NC-S-28	DTF	541-897	17-Jan-2022	19:09:43
15	220117C15	3	CS3_220117_DF_CA	1.00	SIL 25-347-1	DTF	663-820	17-Jan-2022	20:58:31
16	220117C16	34	OPR2_18833_DF	1.00	0_18833_OPR002	DTF	055-395	17-Jan-2022	21:44:50
17	220117C17	79	OPR2_18793_DF-RJ2	1.00	0_18793_OPR002 **CPSM only**	DTF	139-544	17-Jan-2022	22:31:10
18	220117C18	2	SBS_220117_DF_CC	1.00	20-61-1	DTF	112-930	17-Jan-2022	23:17:31
19	220117C19	45	B6169_18833_DF_015	10.23	11215131-010822-S-BN-NC-S-29	DTF	566-164	18-Jan-2022	00:03:50
20	220117C20	46	B6169_18833_DF_016	10.12	11215131-010822-S-BN-NC-S-26	DTF	259-031	18-Jan-2022	00:50:10
21	220117C21	47	B6169_18833_DF_017	10.07	11215131-011022-S-BN-NC-S-23	DTF	572-467	18-Jan-2022	01:36:30

REVIEWED
Tyler_Fritz , 1/18/2022, 9:39:38 AM

Lab ID: MB1_18833_DF_SDS **Acq'd:** 17 Jan 2022 11:26 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6169_18833 **UTP:** 18-Jan-2022 09:06:09 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 347-021-PJR

Datafile: 220117C03 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3101.357	0.456
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3599.766	0.477
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2926.47	0.359
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2926.47	0.34
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2926.47	0.401
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2988.247	0.512
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2726.2	1.25
2378-TCDF	27.32		1.0008	1.0005	-0.5	1.39E+05	0.85	Y	1.08	1.17	2922.668	0.288
12378-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	3281.179	0.296
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	3281.179	0.288
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.27	-	4549.022	0.408
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	4549.022	0.354
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	4549.022	0.333
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4549.022	0.51
1234678-HpCDF	39.87	J EMPC	1.0003	1.0004	+0.2	1.26E+05	1.28	N	1.37	1.28	5047.678	0.397
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	5047.678	0.82
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	3679.869	1.25

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19		1.0231	1.0234	+0.5	1.29E+07	0.88	Y	1.05	98.8
ES 12378-PeCDD	33.63		1.2198	1.2208	+2.0	1.28E+07	1.59	Y	0.88	117
ES 123478-HxCDD	37.60		0.9913	0.9913	0	1.25E+07	1.26	Y	0.97	109
ES 123678-HxCDD	37.72		0.9944	0.9944	0	1.35E+07	1.23	Y	0.94	121
ES 123789-HxCDD	38.03		1.0026	1.0026	0	1.27E+07	1.28	Y	1.09	98.8
ES 1234678-HpCDD	40.82		1.0760	1.0762	+0.5	1.07E+07	1.11	Y	0.91	99
ES OCDD	43.61		1.1489	1.1497	+2.1	1.06E+07	0.91	Y	0.62	71.7
ES 2378-TCDF	27.31		1.0515	1.0520	+0.8	2.22E+07	0.81	Y	1.06	100
ES 12378-PeCDF	32.16		1.2378	1.2390	+2.3	1.99E+07	1.48	Y	0.91	105
ES 23478-PeCDF	33.27		1.2804	1.2818	+2.8	2.01E+07	1.53	Y	0.88	109
ES 123478-HxCDF	36.59		0.9647	0.9647	0	1.48E+07	0.53	Y	1.20	104
ES 123678-HxCDF	36.73		0.9684	0.9684	0	1.95E+07	0.56	Y	1.35	122
ES 234678-HxCDF	37.41	V	0.9861	0.9862	+0.2	2.13E+07	0.53	Y	1.24	146
ES 123789-HxCDF	38.39		1.0120	1.0122	+0.5	1.40E+07	0.51	Y	1.16	103
ES 1234678-HpCDF	39.86		1.0506	1.0508	+0.5	1.44E+07	0.46	Y	0.97	126
ES 1234789-HpCDF	41.28		1.0879	1.0883	+1.0	9.90E+06	0.43	Y	0.85	98.6
ES OCDF	43.77		1.1534	1.1540	+1.6	1.44E+07	0.88	Y	0.81	75.5

Lab ID: MB1_18833_DF_SDS | **Acq'd:** 17 Jan 2022 11:26 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6169_18833 | **UTP:** 18-Jan-2022 09:06:09 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 347-021-PJR

Datafile: 220117C03 | **Report:** 18 Jan 2022 09:10 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	1.24E+07	0.85	Y	-	-
JS 1234-TCDF	25.96		-	-	-	2.09E+07	0.76	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	5.90E+06	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.21		1.0238	1.0242	+0.7	5.59E+06	n/a	-	1.20	93.4
CS 12347-PeCDD	33.13		1.2018	1.2026	+1.6	1.13E+07	1.68	Y	0.75	121
CS 12346-PeCDF	31.64		1.2178	1.2187	+1.7	1.81E+07	1.50	Y	0.85	102
CS 123469-HxCDF	37.05		0.9768	0.9768	0	1.49E+07	0.59	Y	1.12	113
CS 1234689-HpCDF	40.27		1.0615	1.0617	+0.5	1.18E+07	0.44	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0238~~	~~1.0242~~	~~+0.7~~	~~5.59E+06~~	~~n/a~~		~~1.15~~	~~94.7~~
~~SS 12347-PeCDD~~	~~33.13~~		~~1.2018~~	~~1.2026~~	~~+1.6~~	~~1.13E+07~~	~~1.68~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.64~~		~~1.2178~~	~~1.2187~~	~~+1.7~~	~~1.81E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~96.9~~
~~SS 123469-HxCDF~~	~~37.05~~		~~0.9768~~	~~0.9768~~	~~0~~	~~1.49E+07~~	~~0.59~~	~~Y~~	~~0.83~~	~~92.7~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0617~~	~~+0.5~~	~~1.18E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~89.5~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	1.17	1.17
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	1.28
Total Tetra-Octa Furans	1.17	2.45
Total Tetra-Octa Dioxins & Furans	1.17	2.45

Lab ID: MB1_18833_DF_SDS **Acq'd: 17 Jan 2022 11:26 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6169_18833 **UTP: 18-Jan-2022 09:06:09 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 347-021-PJR**

Datafile: 220117C03 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8733						1.18		3101.357	0.456
1379-TCDD	NotFnd		0.8860						1.18		3101.357	0.456
1369-TCDD	NotFnd		0.9009						1.18		3101.357	0.456
1469-TCDD	NotFnd		0.9282						1.18		3101.357	0.456
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3101.357	0.456
1378-TCDD	NotFnd		0.9429						1.18		3101.357	0.456
1268-TCDD	NotFnd		0.9500						1.18		3101.357	0.456
1478-TCDD	NotFnd		0.9584						1.18		3101.357	0.456
1279-TCDD	NotFnd		0.9648						1.18		3101.357	0.456
1234/1269-TCDD	NotFnd		0.9770						1.18		3101.357	0.456
1236-TCDD	NotFnd		0.9821						1.18		3101.357	0.456
1237/1238-TCDD	NotFnd		0.9909						1.18		3101.357	0.456
1239-TCDD	NotFnd		0.9959						1.18		3101.357	0.456
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3101.357**	**0.456**
1278-TCDD	NotFnd		1.0123						1.18		3101.357	0.456
1267-TCDD	NotFnd		1.0172						1.18		3101.357	0.456
1289-TCDD	NotFnd		1.0354						1.18		3101.357	0.456
12479/12468-PeCDD	NotFnd		0.9267						1.04		3599.766	0.477
12469-PeCDD	NotFnd		0.9426						1.04		3599.766	0.477
12368-PeCDD	NotFnd		0.9587						1.04		3599.766	0.477
12478-PeCDD	NotFnd		0.9642						1.04		3599.766	0.477
12379-PeCDD	NotFnd		0.9674						1.04		3599.766	0.477
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3599.766	0.477
12346/12347-PeCDD	NotFnd		0.9861						1.04		3599.766	0.477
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3599.766**	**0.477**
12367-PeCDD	NotFnd		1.0036						1.04		3599.766	0.477
12389-PeCDD	NotFnd		1.0139						1.04		3599.766	0.477
124679/124689-HxCDD	NotFnd		0.9541						1.10		2926.47	0.365
123468-HxCDD	NotFnd		0.9715						1.10		2926.47	0.365
123679/123689-HxCDD	NotFnd		0.9793						1.10		2926.47	0.365
123469-HxCDD	NotFnd		0.9831						1.10		2926.47	0.365
123478-HxCDD	NotFnd		**1.0004**						1.09		**2926.47**	**0.359**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2926.47**	**0.34**
123467-HxCDD	NotFnd		1.0089						1.10		2926.47	0.365
123789-HxCDD	NotFnd		**1.0118**						1.05		**2926.47**	**0.401**

Lab ID: MB1_18833_DF_SDS | **Acq'd:** 17 Jan 2022 11:26 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6169_18833 | **UTP:** 18-Jan-2022 09:06:09 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 347-021-PJR

Datafile: 220117C03 | **Report:** 18 Jan 2022 09:10 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

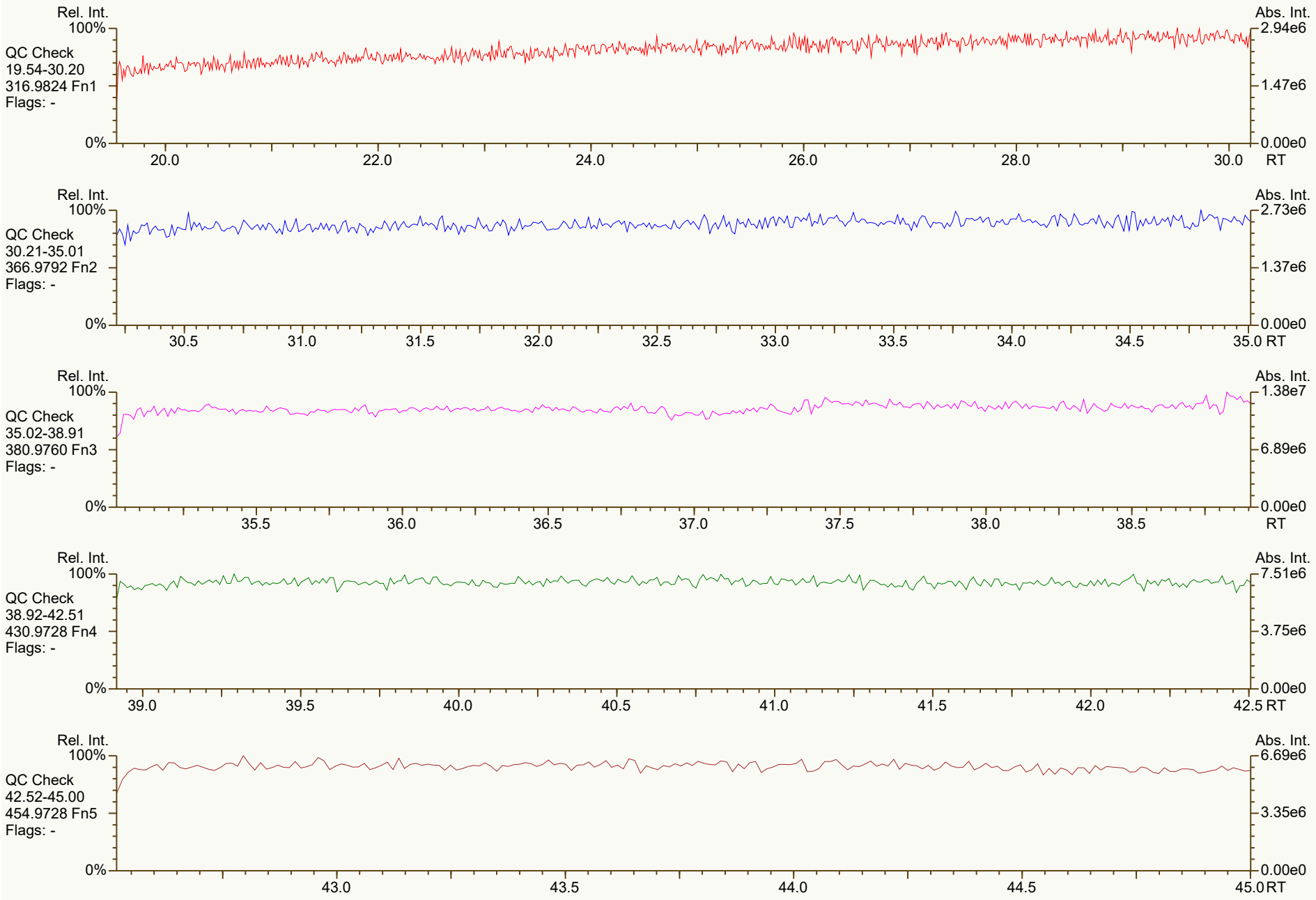
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9835						1.06		2988.247	0.512
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2988.247**	**0.512**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2726.2**	**1.25**
OCDD-a	NotFnd		1.0002						0.07		3006.215	21.6
1368-TCDF	NotFnd		0.8250						1.08		2922.668	0.288
1468-TCDF	NotFnd		0.8494						1.08		2922.668	0.288
2468-TCDF	NotFnd		0.8684						1.08		2922.668	0.288
1346/1246-TCDF	NotFnd		0.8815						1.08		2922.668	0.288
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2922.668	0.288
1348-TCDF	NotFnd		0.8966						1.08		2922.668	0.288
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2922.668	0.288
1268-TCDF	NotFnd		0.9148						1.08		2922.668	0.288
1467-TCDF	NotFnd		0.9197						1.08		2922.668	0.288
1478-TCDF	NotFnd		0.9258						1.08		2922.668	0.288
1369/1237-TCDF	NotFnd		0.9390						1.08		2922.668	0.288
2467-TCDF	NotFnd		0.9435						1.08		2922.668	0.288
2368-TCDF	NotFnd		0.9488						1.08		2922.668	0.288
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		2922.668	0.288
1278-TCDF	NotFnd		0.9689						1.08		2922.668	0.288
1349-TCDF	NotFnd		0.9730						1.08		2922.668	0.288
1267-TCDF	NotFnd		0.9787						1.08		2922.668	0.288
2346/1249-TCDF	NotFnd		0.9856						1.08		2922.668	0.288
2347/1279-TCDF	NotFnd		0.9934						1.08		2922.668	0.288
2348-TCDF	NotFnd		0.9972						1.08		2922.668	0.288
2378-TCDF	**27.32**		**1.0008**	**1.0005**	**-0.5**	**1.39E+05**	**0.85**	**Y**	**1.08**	**1.17**	**2922.668**	**0.288**
2367/3467-TCDF	NotFnd		1.0145						1.08		2922.668	0.288
1269-TCDF	NotFnd		1.0236						1.08		2922.668	0.288
1239-TCDF	NotFnd		1.0333						1.08		2922.668	0.288
1289-TCDF	NotFnd		1.0740						1.08		2922.668	0.288
13468/12468-PeCDF	NotFnd		0.9138						1.02		2672.818	0.238
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		3281.179	0.292
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		3281.179	0.292
14678-PeCDF	NotFnd		0.9693						1.02		3281.179	0.292
13479-PeCDF	NotFnd		0.9722						1.02		3281.179	0.292
13469/12479-PeCDF	NotFnd		0.9800						1.02		3281.179	0.292
12346-PeCDF	NotFnd		0.9844						1.02		3281.179	0.292

Lab ID: MB1_18833_DF_SDS | **Acq'd:** 17 Jan 2022 11:26 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6169_18833 | **UTP:** 18-Jan-2022 09:06:09 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 347-021-PJR

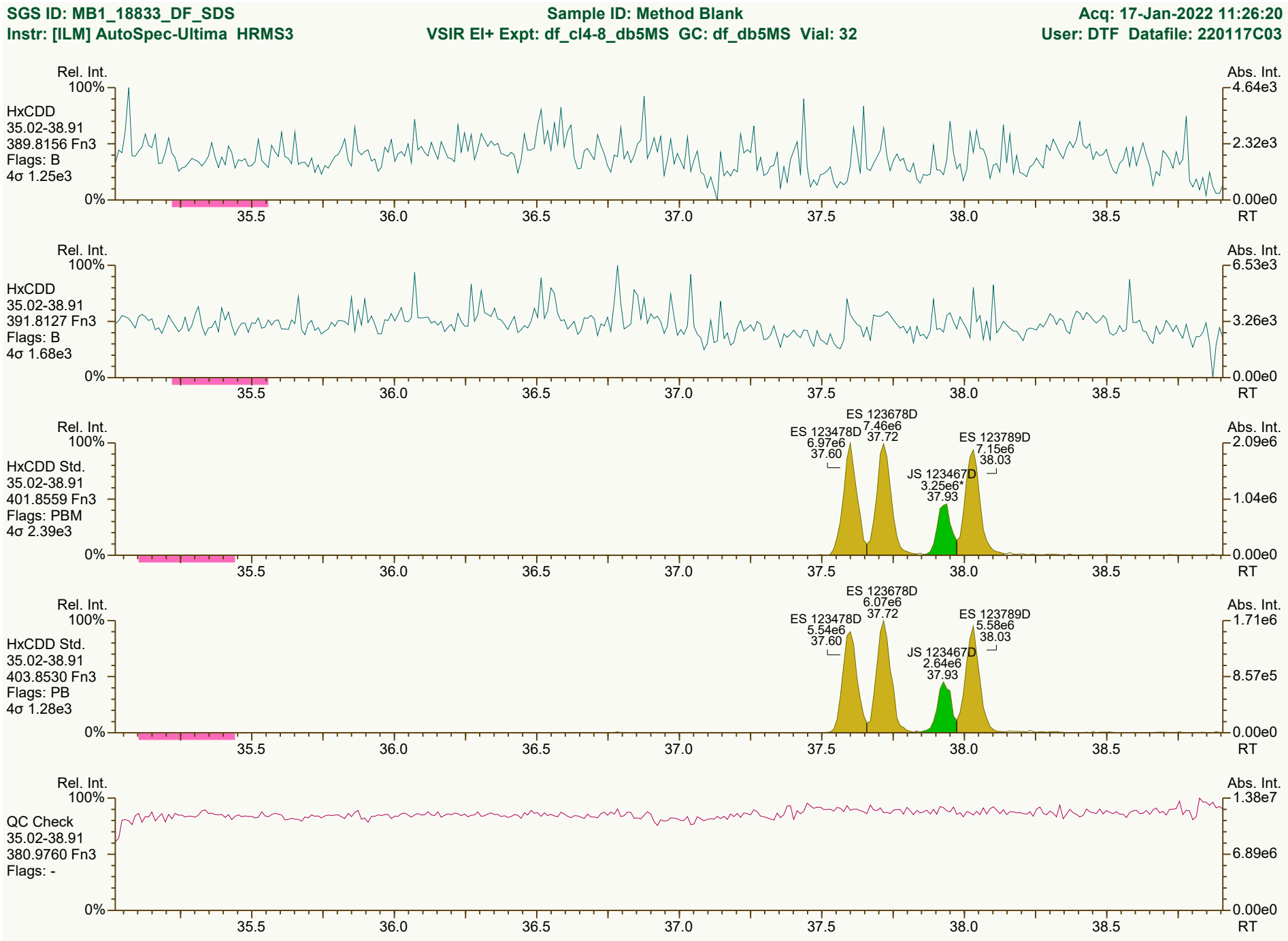
Datafile: 220117C03 | **Report:** 18 Jan 2022 09:10 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		3281.179	0.292
12347-PeCDF	NotFnd		0.9890						1.02		3281.179	0.292
12348-PeCDF	NotFnd		0.9942						1.02		3281.179	0.292
12378-PeCDF	**NotFnd**		**1.0006**						**1.02**		**3281.179**	**0.296**
12678/12367-PeCDF	NotFnd		1.0090						1.02		3281.179	0.292
12379-PeCDF	NotFnd		1.0142						1.02		3281.179	0.292
12679-PeCDF	NotFnd		0.9933						1.02		3281.179	0.292
23467/12369-PeCDF	NotFnd		0.9969						1.02		3281.179	0.292
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**3281.179**	**0.288**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3281.179	0.292
12349-PeCDF	NotFnd		1.0107						1.02		3281.179	0.292
12389-PeCDF	NotFnd		1.0330						1.02		3281.179	0.292
123468-HxCDF	NotFnd		0.9627						1.19		4549.022	0.39
124678/134678-HxCDF	NotFnd		0.9682						1.19		4549.022	0.39
134679-HxCDF	NotFnd		0.9744						1.19		4549.022	0.39
124679-HxCDF	NotFnd		0.9798						1.19		4549.022	0.39
124689-HxCDF	NotFnd		0.9858						1.19		4549.022	0.39
123467-HxCDF	NotFnd		0.9973						1.19		4549.022	0.39
123478-HxCDF	**NotFnd**		**1.0005**						**1.27**		**4549.022**	**0.408**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**4549.022**	**0.354**
123479-HxCDF	NotFnd		1.0051						1.19		4549.022	0.39
123469-HxCDF	NotFnd		1.0093						1.19		4549.022	0.39
123679-HxCDF	NotFnd		0.9944						1.19		4549.022	0.39
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**4549.022**	**0.333**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4549.022	0.39
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4549.022**	**0.51**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		4549.022	0.39
1234678-HpCDF	**39.87**	**J EMPC**	**1.0003**	**1.0004**	**+0.2**	**1.26E+05**	**1.28**	**N**	**1.37**	**1.28**	**5047.678**	**0.397**
1234679-HpCDF	NotFnd		1.0069						1.34		5047.678	0.567
1234689-HpCDF	NotFnd		1.0103						1.34		5047.678	0.567
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**5047.678**	**0.82**
OCDF	**NotFnd**		**1.0003**						**1.07**		**3679.869**	**1.25**
OCDF-a	NotFnd		1.0002						0.07		3018.893	16.6


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.73e6
1.37e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.38e7
6.89e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.51e6
3.75e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.69e6
3.35e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

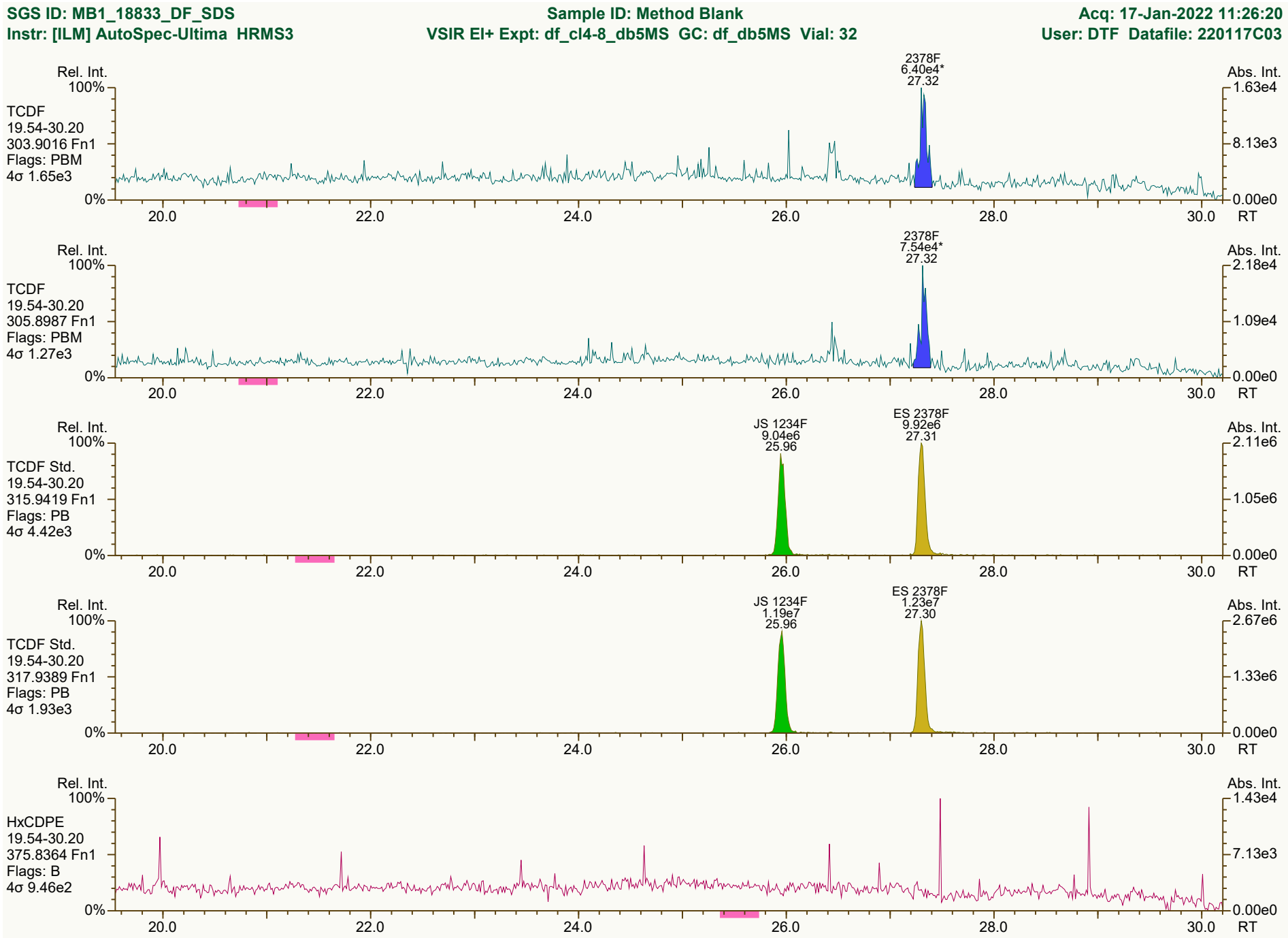

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.00e3
0%
Abs. Int.
9.43e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.10e3
0%
Abs. Int.
7.86e3
3.93e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.11e3
0%
CS 37Cl-2378D
5.59e6
28.21
Abs. Int.
1.33e6
6.66e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.69e3
0%
JS 1234D
5.72e6
27.54
ES 2378D
6.01e6
28.19
Abs. Int.
1.41e6
7.07e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.41e3
0%
JS 1234D
6.73e6
27.54
ES 2378D
6.85e6
28.19
Abs. Int.
1.66e6
8.28e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PB
4σ 2.58e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 1.02e3
0%
Abs. Int.
4.98e3
2.49e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.80e3
0%
CS 12347D
7.10e6
33.13
ES 12378D
7.87e6
33.63
Abs. Int.
2.24e6
1.12e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.65e3
0%
CS 12347D
4.24e6
33.12
ES 12378D
4.95e6
33.63
Abs. Int.
1.40e6
6.98e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.73e6
1.37e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

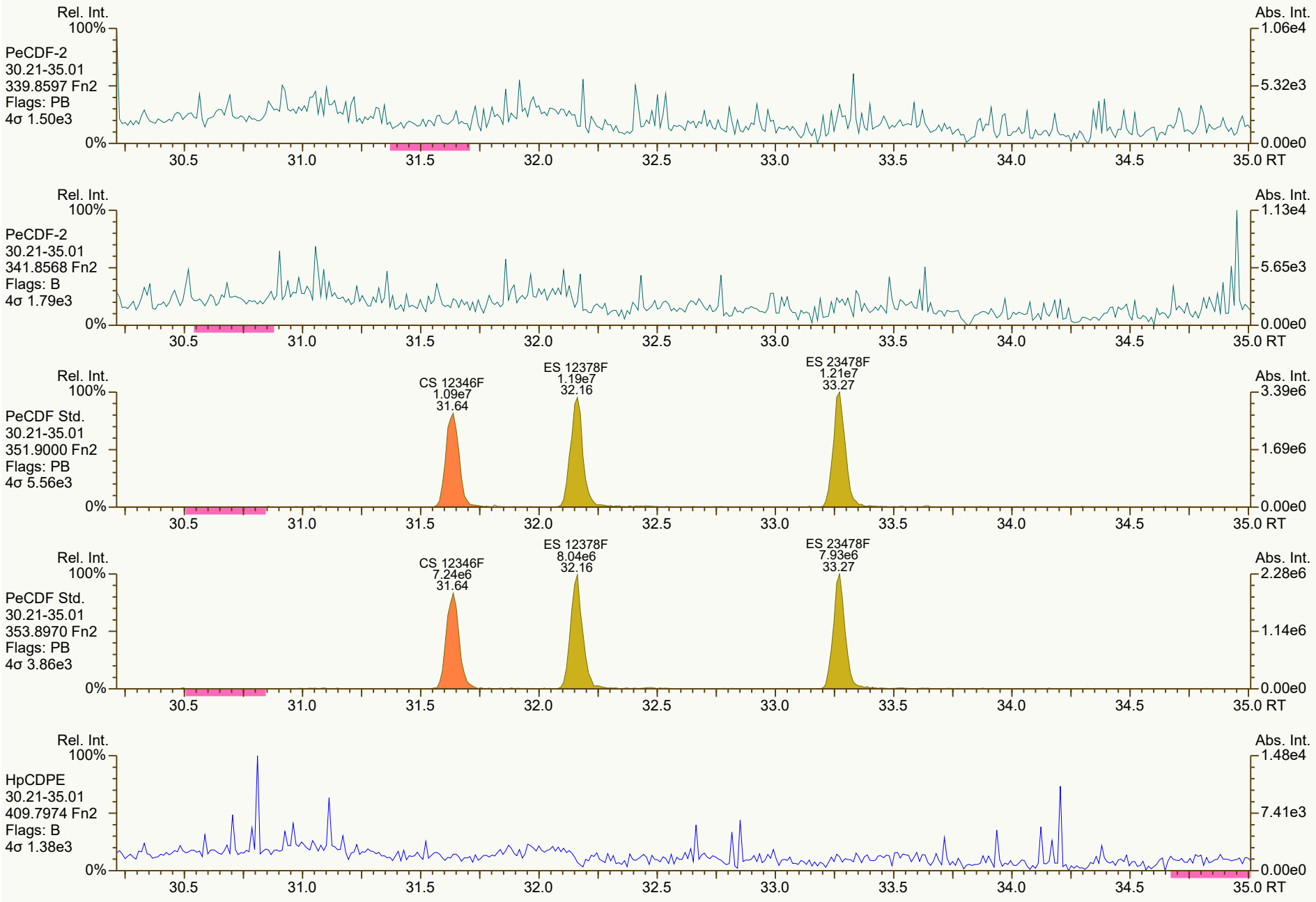

SGS ID: MB1_18833_DF_SDS
Sample ID: Method Blank
Acq: 17-Jan-2022 11:26:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: DTF Datafile: 220117C03
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: B
4σ 1.25e3
4.64e3
2.32e3
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: B
4σ 1.68e3
6.53e3
3.26e3
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 2.39e3
ES 123678D
7.46e6
37.72
ES 123478D
6.97e6
37.60
ES 123789D
7.15e6
38.03
JS 123467D
3.25e6*
37.93
2.09e6
1.04e6
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.28e3
ES 123678D
6.07e6
37.72
ES 123478D
5.54e6
37.60
ES 123789D
5.58e6
38.03
JS 123467D
2.64e6
37.93
1.71e6
8.57e5
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.38e7
6.89e6
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\MB1_18833_DF_SDS.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6629, 3912 scc: 347-021
Revised: 17-Jan-2022 16:18 (DTF) Printed: 18-Jan-2022 09:27 Page 4 of 12

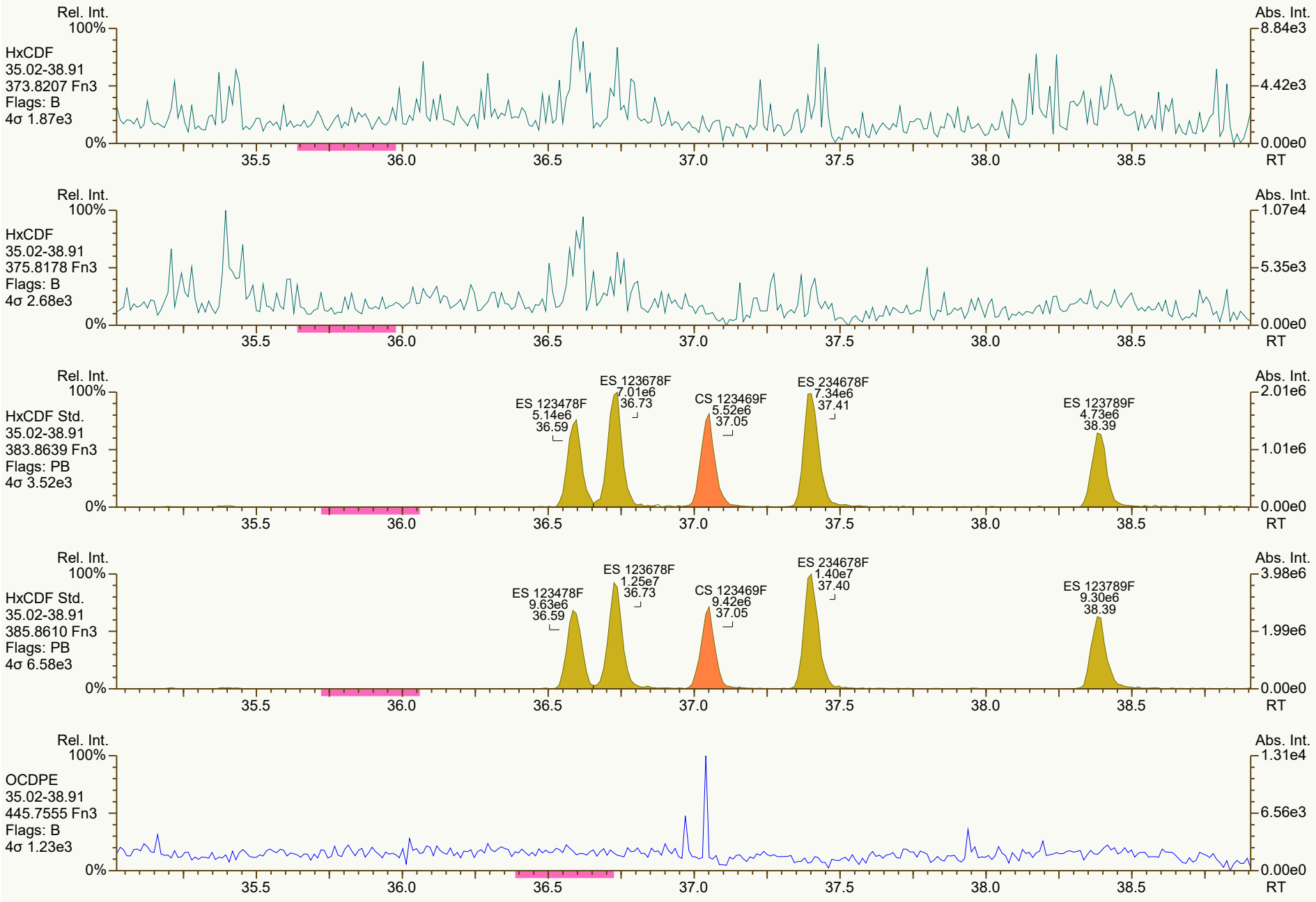

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.75e3
0%
Abs. Int.
7.67e3
3.84e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.23e3
0%
Abs. Int.
4.77e3
2.39e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
ES 1234678D
5.62e6*
40.82
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 2.19e3
0%
Abs. Int.
1.45e6
7.26e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
ES 1234678D
5.05e6*
40.82
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.38e6
6.92e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.51e6
3.75e6
0.00e0
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41.5
42.0
42.5 RT

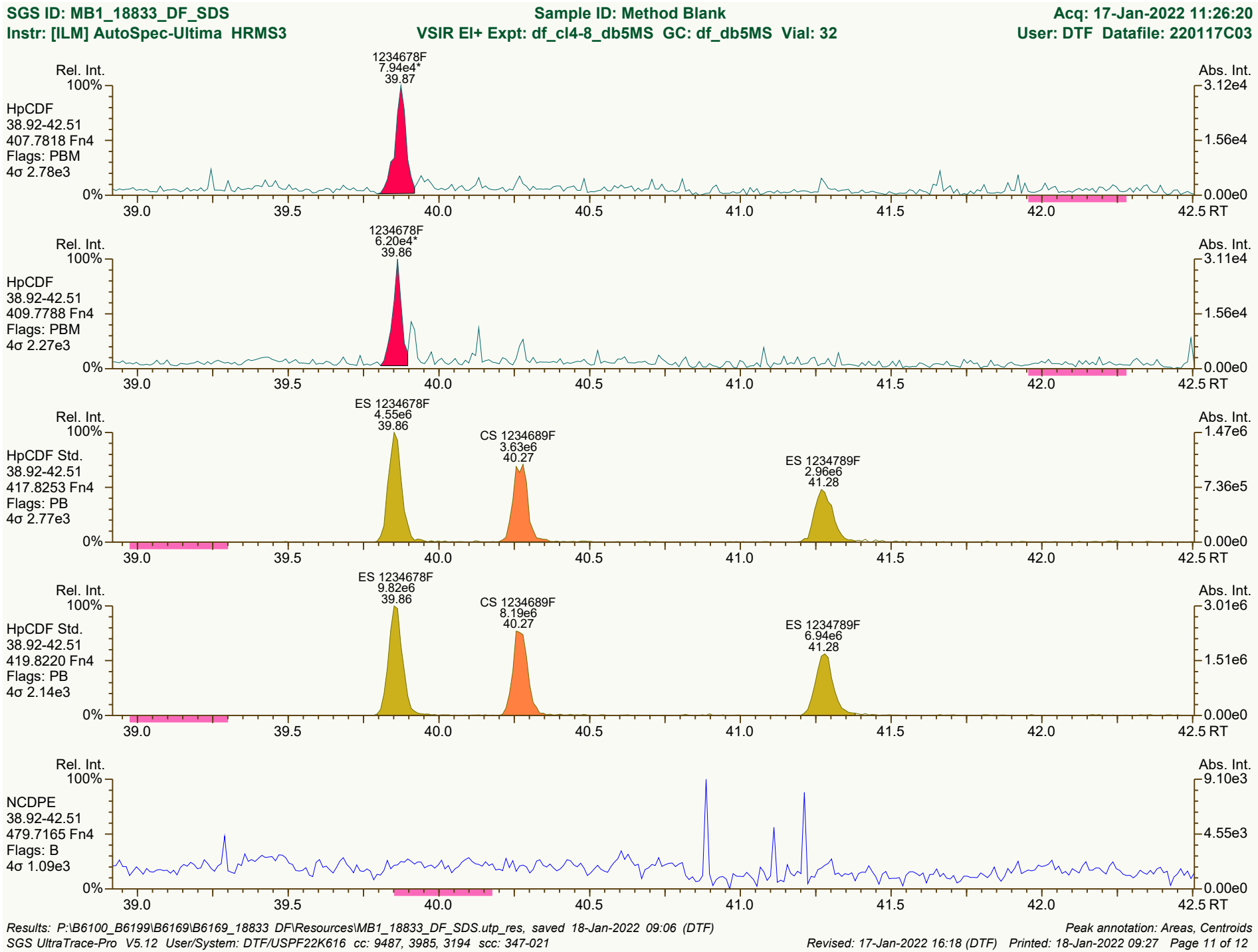

Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.70e3
3.35e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
4.43e3
2.22e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.04e6
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
9.23e5
4.62e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.52e6
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 3.32e3
0%
Abs. Int.
1.10e6
5.50e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.69e6
3.35e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

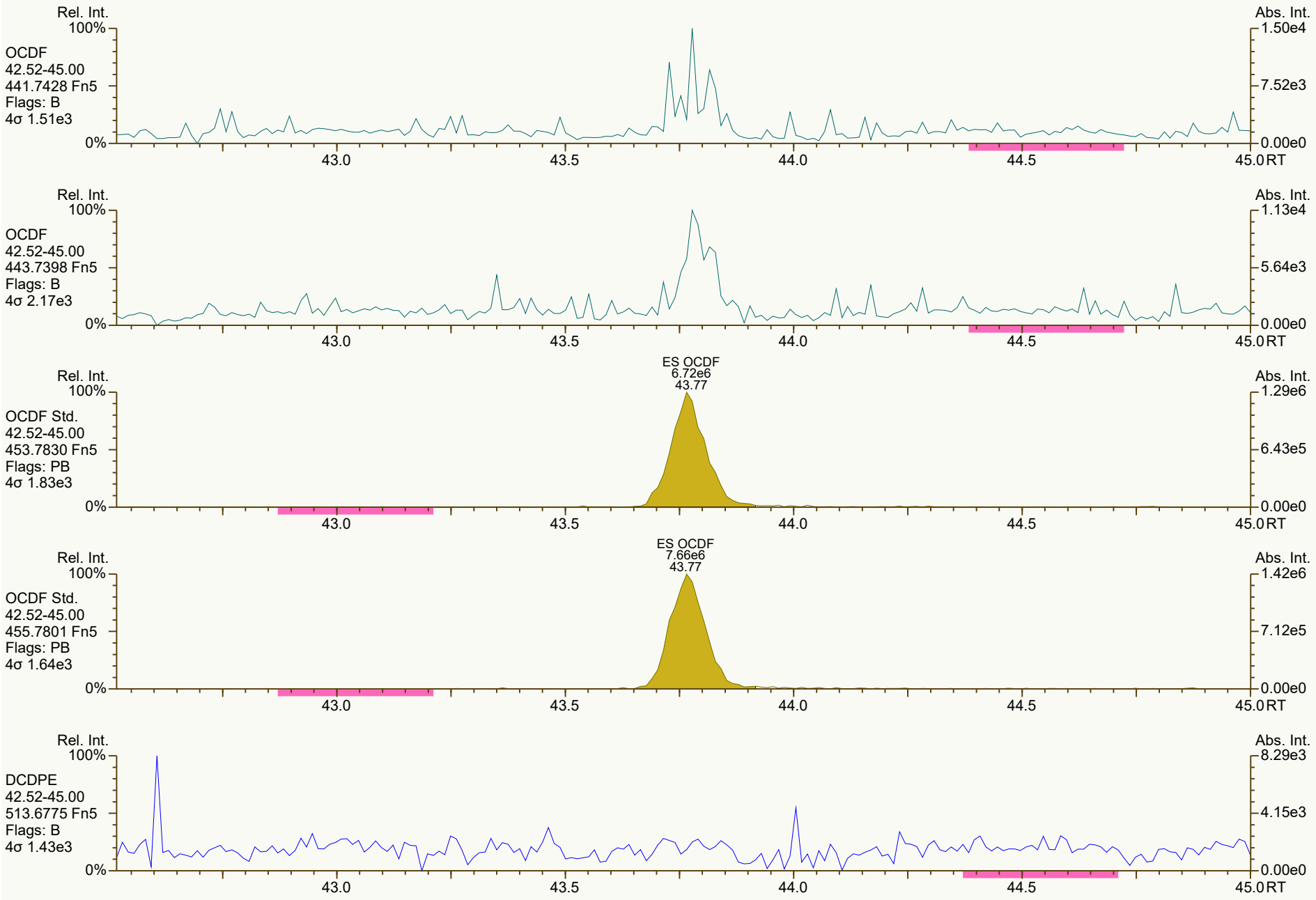

SGS ID: MB1_18833_DF_SDS
Sample ID: Method Blank
Acq: 17-Jan-2022 11:26:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: DTF Datafile: 220117C03
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.65e3
2378F
6.40e4*
27.32
1.63e4
8.13e3
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.27e3
2378F
7.54e4*
27.32
2.18e4
1.09e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.42e3
JS 1234F
9.04e6
25.96
ES 2378F
9.92e6
27.31
2.11e6
1.05e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.93e3
JS 1234F
1.19e7
25.96
ES 2378F
1.23e7
27.30
2.67e6
1.33e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 9.46e2
1.43e4
7.13e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\MB1_18833_DF_SDS.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7664, 2378, 2534 scc: 347-021
Revised: 17-Jan-2022 16:19 (DTF) Printed: 18-Jan-2022 09:27 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.46e4
7.29e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PB
4σ 1.50e3
0%
Abs. Int.
1.06e4
5.32e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.13e4
5.65e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 5.56e3
0%
CS 12346F
1.09e7
31.64
ES 12378F
1.19e7
32.16
ES 23478F
1.21e7
33.27
Abs. Int.
3.39e6
1.69e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 3.86e3
0%
CS 12346F
7.24e6
31.64
ES 12378F
8.04e6
32.16
ES 23478F
7.93e6
33.27
Abs. Int.
2.28e6
1.14e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.48e4
7.41e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: B
4σ 1.87e3
0%
Abs. Int.
8.84e3
4.42e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.07e4
5.35e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 3.52e3
0%
ES 123478F
5.14e6
36.59
ES 123678F
7.01e6
36.73
CS 123469F
5.52e6
37.05
ES 234678F
7.34e6
37.41
ES 123789F
4.73e6
38.39
Abs. Int.
2.01e6
1.01e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 6.58e3
0%
ES 123478F
9.63e6
36.59
ES 123678F
1.25e7
36.73
CS 123469F
9.42e6
37.05
ES 234678F
1.40e7
37.40
ES 123789F
9.30e6
38.39
Abs. Int.
3.98e6
1.99e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
1.31e4
6.56e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: MB1_18833_DF_SDS
Sample ID: Method Blank
Acq: 17-Jan-2022 11:26:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: DTF Datafile: 220117C03
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.78e3
1234678F
7.94e4*
39.87
3.12e4
1.56e4
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.27e3
1234678F
6.20e4*
39.86
3.11e4
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.77e3
ES 1234678F
4.55e6
39.86
CS 1234689F
3.63e6
40.27
ES 1234789F
2.96e6
41.28
1.47e6
7.36e5
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.14e3
ES 1234678F
9.82e6
39.86
CS 1234689F
8.19e6
40.27
ES 1234789F
6.94e6
41.28
3.01e6
1.51e6
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.09e3
9.10e3
4.55e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\MB1_18833_DF_SDS.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9487, 3985, 3194 scc: 347-021
Revised: 17-Jan-2022 16:18 (DTF) Printed: 18-Jan-2022 09:27 Page 11 of 12


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.50e4
7.52e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: B
4σ 2.17e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.72e6
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.83e3
0%
Abs. Int.
1.29e6
6.43e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.66e6
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
1.42e6
7.12e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
8.29e3
4.15e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6169_18833_DF_001 **Acq'd:** 17 Jan 2022 12:12 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-20 **UTP:** 18-Jan-2022 09:06:09 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 380-762-WJY

Datafile: 220117C04 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	4.01E+06	0.79	Y	1.18	33.2	4352.1	0.392
12378-PeCDD	33.64	J EMPC	1.0006	1.0006	0	9.46E+04	1.96	N	1.04	0.907	7027.108	0.588
123478-HxCDD	37.62	J	1.0004	1.0005	+0.2	1.36E+05	1.40	Y	1.09	1.29	4794.09	0.399
123678-HxCDD	37.73		1.0036	1.0036	0	4.25E+05	1.15	Y	1.15	3.62	4794.09	0.375
123789-HxCDD	38.05	J	1.0118	1.0119	+0.2	2.52E+05	1.25	Y	1.05	2.28	4794.09	0.39
1234678-HpCDD	40.84		1.0003	1.0003	0	9.43E+06	1.05	Y	1.06	96.5	3742.317	0.352
OCDD	43.61		1.0003	1.0003	0	6.56E+07	0.91	Y	1.13	1,240	4166.633	1.12
2378-TCDF	27.32		1.0008	1.0008	0	1.58E+07	0.83	Y	1.08	87.7	4035.139	0.25
12378-PeCDF	32.17		1.0006	1.0005	-0.2	1.19E+06	1.48	Y	1.02	7.14	3839.813	0.196
23478-PeCDF	33.29		1.0006	1.0007	+0.2	5.95E+05	1.46	Y	1.02	3.8	3839.813	0.208
123478-HxCDF	36.61		1.0005	1.0005	0	1.76E+06	1.27	Y	1.27	10.8	7651.971	0.397
123678-HxCDF	36.75	J EMPC	1.0004	1.0005	+0.2	4.23E+05	1.46	N	1.15	2.37	7651.971	0.373
234678-HxCDF	37.42	J EMPC	1.0005	1.0005	0	2.62E+05	1.44	N	1.19	1.46	7651.971	0.394
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7651.971	0.44
1234678-HpCDF	39.88		1.0003	1.0003	0	3.33E+06	1.08	Y	1.37	21.2	3854.983	0.197
1234789-HpCDF	41.29		1.0003	1.0003	0	3.23E+05	1.09	Y	1.31	2.74	3854.983	0.309
OCDF	43.78		1.0003	1.0002	-0.3	5.74E+06	0.97	Y	1.07	82.3	2719.861	0.568

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18	1.0231	1.0231	0	2.01E+07	0.81	Y	1.05	86.9
ES 12378-PeCDD	33.62	1.2198	1.2207	+1.8	1.99E+07	1.62	Y	0.88	102
ES 123478-HxCDD	37.60	0.9913	0.9913	0	1.91E+07	1.27	Y	0.97	95
ES 123678-HxCDD	37.72	0.9944	0.9944	0	2.01E+07	1.26	Y	0.94	103
ES 123789-HxCDD	38.03	1.0026	1.0027	+0.2	2.08E+07	1.27	Y	1.09	92.3
ES 1234678-HpCDD	40.82	1.0760	1.0763	+0.7	1.82E+07	1.07	Y	0.91	96.3
ES OCDD	43.60	1.1489	1.1495	+1.6	1.85E+07	0.91	Y	0.62	71.5
ES 2378-TCDF	27.30	1.0515	1.0518	+0.5	3.30E+07	0.78	Y	1.06	88
ES 12378-PeCDF	32.15	1.2378	1.2390	+2.3	3.20E+07	1.52	Y	0.91	99.3
ES 23478-PeCDF	33.27	1.2804	1.2818	+2.8	3.03E+07	1.57	Y	0.88	96.8
ES 123478-HxCDF	36.59	0.9647	0.9646	-0.2	2.53E+07	0.53	Y	1.20	102
ES 123678-HxCDF	36.73	0.9684	0.9683	-0.2	3.06E+07	0.54	Y	1.35	109
ES 234678-HxCDF	37.40	0.9861	0.9861	0	2.98E+07	0.53	Y	1.24	116
ES 123789-HxCDF	38.39	1.0120	1.0121	+0.2	2.45E+07	0.53	Y	1.16	103
ES 1234678-HpCDF	39.87	1.0506	1.0511	+1.2	2.26E+07	0.48	Y	0.97	113
ES 1234789-HpCDF	41.28	1.0879	1.0883	+1.0	1.78E+07	0.46	Y	0.85	101
ES OCDF	43.77	1.1534	1.1539	+1.3	2.57E+07	0.89	Y	0.81	76.9

Lab ID: B6169_18833_DF_001 **Acq'd:** 17 Jan 2022 12:12 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-20 **UTP:** 18-Jan-2022 09:06:09 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 380-762-WJY

Datafile: 220117C04 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.21E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.54E+07	0.79	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	1.03E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0239	+0.2	9.37E+06	n/a	-	1.20	88.1
CS 12347-PeCDD	33.12		1.2018	1.2026	+1.6	1.78E+07	1.62	Y	0.75	107
CS 12346-PeCDF	31.63		1.2178	1.2188	+1.9	3.09E+07	1.50	Y	0.85	102
CS 123469-HxCDF	37.05		0.9768	0.9767	-0.2	2.69E+07	0.55	Y	1.12	116
CS 1234689-HpCDF	40.28		1.0615	1.0619	+1.0	2.07E+07	0.45	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0239~~	~~+0.2~~	~~9.37E+06~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2026~~	~~+1.6~~	~~1.78E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2188~~	~~+1.9~~	~~3.09E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.05~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~2.69E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0615~~	~~1.0619~~	~~+1.0~~	~~2.07E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~99.7~~

Totals	Conc	EMPC
Total TCDD	52.2	52.2
Total PeCDD	7.64	10
Total HxCDD	60.5	60.5
Total HpCDD	254	254
Total Tetra-Octa Dioxins	1620	1620
Total TCDF	152	162
Total PeCDF	17.8	21.5
Total HxCDF	28.9	32.7
Total HpCDF	55.9	55.9
Total Tetra-Octa Furans	337	354
Total Tetra-Octa Dioxins & Furans	1960	1970

Lab ID: B6169_18833_DF_001 **Acq'd: 17 Jan 2022 12:12 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-20 **UTP: 18-Jan-2022 09:06:09 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 380-762-WJY**

Datafile: 220117C04 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8733						1.18		4352.1	0.392
1379-TCDD	NotFnd		0.8860						1.18		4352.1	0.392
1369-TCDD	NotFnd		0.9009						1.18		4352.1	0.392
1469-TCDD	26.11		0.9282	0.9267	-2.4	1.73E+06	0.83	Y	1.18	14.3	4352.1	0.392
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		4352.1	0.392
1378-TCDD	NotFnd		0.9429						1.18		4352.1	0.392
1268-TCDD	NotFnd		0.9500						1.18		4352.1	0.392
1478-TCDD	NotFnd		0.9584						1.18		4352.1	0.392
1279-TCDD	NotFnd		0.9648						1.18		4352.1	0.392
1234/1269-TCDD	NotFnd		0.9770						1.18		4352.1	0.392
1236-TCDD	NotFnd		0.9821						1.18		4352.1	0.392
1237/1238-TCDD	27.93		0.9909	0.9912	+0.5	2.20E+05	0.75	Y	1.18	1.82	4352.1	0.392
1239-TCDD	NotFnd		0.9959						1.18		4352.1	0.392
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	4.01E+06	0.79	Y	**1.18**	**33.2**	**4352.1**	**0.392**
1278-TCDD	28.53		1.0123	1.0124	+0.2	3.47E+05	0.82	Y	1.18	2.88	4352.1	0.392
1267-TCDD	NotFnd		1.0172						1.18		4352.1	0.392
1289-TCDD	NotFnd		1.0354						1.18		4352.1	0.392
12479/12468-PeCDD	31.13	J EMPC	0.9267	0.9259	-1.5	1.56E+05	1.18	N	1.04	1.49	7027.108	0.588
12469-PeCDD	31.66		0.9426	0.9419	-1.3	6.87E+05	1.71	Y	1.04	6.59	7027.108	0.588
12368-PeCDD	NotFnd		0.9587						1.04		7027.108	0.588
12478-PeCDD	NotFnd		0.9642						1.04		7027.108	0.588
12379-PeCDD	NotFnd		0.9674						1.04		7027.108	0.588
12369/12467/12489-PeCDD	32.76	J	0.9752	0.9747	-1.0	1.10E+05	1.48	Y	1.04	1.06	7027.108	0.588
12346/12347-PeCDD	NotFnd		0.9861						1.04		7027.108	0.588
12378-PeCDD	33.64	J EMPC	**1.0006**	**1.0006**	**0**	**9.46E+04**	**1.96**	**N**	**1.04**	**0.907**	**7027.108**	**0.588**
12367-PeCDD	NotFnd		1.0036						1.04		7027.108	0.588
12389-PeCDD	NotFnd		1.0139						1.04		7027.108	0.588
124679/124689-HxCDD	35.88		0.9541	0.9542	+0.2	4.09E+06	1.23	Y	1.10	36.8	4794.09	0.387
123468-HxCDD	36.53	J	0.9715	0.9715	0	1.99E+05	1.13	Y	1.10	1.79	4794.09	0.387
123679/123689-HxCDD	36.83		0.9793	0.9795	+0.4	1.48E+06	1.34	Y	1.10	13.3	4794.09	0.387
123469-HxCDD	36.95	J	0.9831	0.9828	-0.7	1.54E+05	1.15	Y	1.10	1.38	4794.09	0.387
123478-HxCDD	37.62	J	**1.0004**	**1.0005**	**+0.2**	**1.36E+05**	**1.40**	**Y**	1.09	**1.29**	**4794.09**	**0.399**
123678-HxCDD	37.73		**1.0036**	**1.0036**	**0**	**4.25E+05**	**1.15**	**Y**	1.15	**3.62**	**4794.09**	**0.375**
123467-HxCDD	NotFnd		1.0089						1.10		4794.09	0.387
123789-HxCDD	38.05	J	**1.0118**	**1.0119**	**+0.2**	**2.52E+05**	**1.25**	**Y**	1.05	**2.28**	**4794.09**	**0.39**

Lab ID: B6169_18833_DF_001 **Acq'd: 17 Jan 2022 12:12 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-20 **UTP: 18-Jan-2022 09:06:09 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 380-762-WJY**

Datafile: 220117C04 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

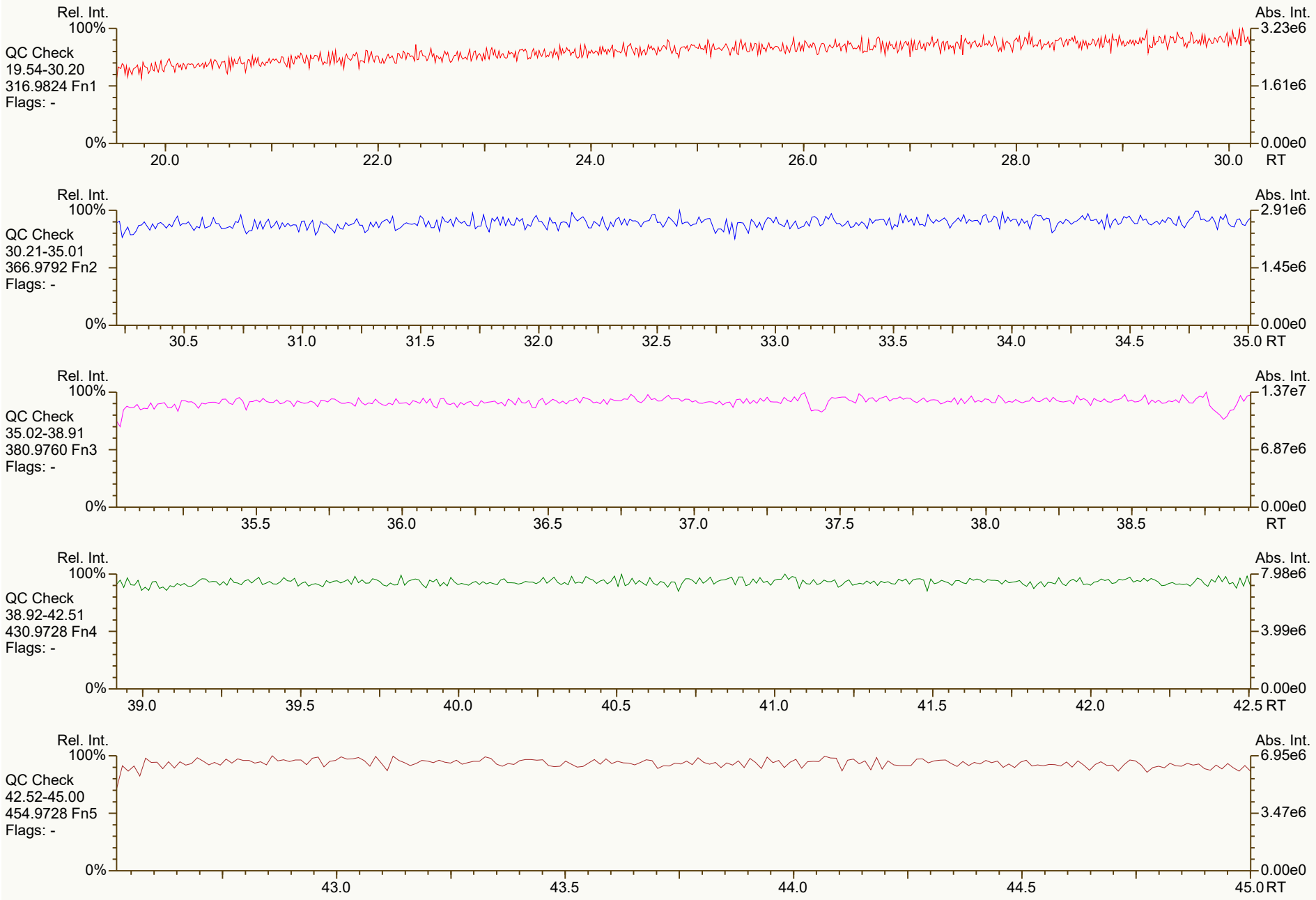
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9836	+0.2	1.54E+07	1.02	Y	1.06	158	3742.317	0.352
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**9.43E+06**	**1.05**	**Y**	**1.06**	**96.5**	**3742.317**	**0.352**
OCDD	**43.61**		**1.0003**	**1.0003**	**0**	**6.56E+07**	**0.91**	**Y**	**1.13**	**1,240**	**4166.633**	**1.12**
OCDD-a	43.61		1.0002	1.0002	0	4.06E+06	2.83	Y	0.07	1,200	4014.219	16.9
1368-TCDF	NotFnd		0.8250						1.08		4035.139	0.25
1468-TCDF	NotFnd		0.8494						1.08		4035.139	0.25
2468-TCDF	23.61		0.8684	0.8650	-4.8	1.89E+05	0.83	Y	1.08	1.05	4035.139	0.25
1346/1246-TCDF	NotFnd		0.8815						1.08		4035.139	0.25
1347/1378/1247-TCDF	24.12		0.8867	0.8837	-4.3	5.80E+05	0.86	Y	1.08	3.21	4035.139	0.25
1348-TCDF	24.50		0.8966	0.8975	+1.3	7.73E+05	0.81	Y	1.08	4.28	4035.139	0.25
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		4035.139	0.25
1268-TCDF	24.92		0.9148	0.9129	-2.8	3.37E+05	0.82	Y	1.08	1.87	4035.139	0.25
1467-TCDF	25.05		0.9197	0.9176	-3.2	1.24E+05	0.73	Y	1.08	0.684	4035.139	0.25
1478-TCDF	25.22	EMPC	0.9258	0.9238	-3.0	6.54E+05	0.94	N	1.08	3.62	4035.139	0.25
1369/1237-TCDF	25.60		0.9390	0.9377	-2.0	2.49E+05	0.80	Y	1.08	1.38	4035.139	0.25
2467-TCDF	NotFnd		0.9435						1.08		4035.139	0.25
2368-TCDF	25.87		0.9488	0.9479	-1.4	6.22E+05	0.79	Y	1.08	3.45	4035.139	0.25
1238/1234/1678/1469/1236-TCDF	25.97		0.9527	0.9513	-2.2	6.27E+05	0.79	Y	1.08	3.47	4035.139	0.25
1278-TCDF	26.43		0.9689	0.9683	-1.0	5.09E+06	0.79	Y	1.08	28.2	4035.139	0.25
1349-TCDF	NotFnd		0.9730						1.08		4035.139	0.25
1267-TCDF	26.70		0.9787	0.9782	-0.8	3.43E+05	0.79	Y	1.08	1.9	4035.139	0.25
2346/1249-TCDF	NotFnd		0.9856						1.08		4035.139	0.25
2347/1279-TCDF	27.11	EMPC	0.9934	0.9931	-0.5	2.16E+05	1.04	N	1.08	1.2	4035.139	0.25
2348-TCDF	27.21	EMPC	0.9972	0.9968	-0.7	8.14E+05	0.62	N	1.08	4.51	4035.139	0.25
2378-TCDF	**27.32**		**1.0008**	**1.0008**	**0**	**1.58E+07**	**0.83**	**Y**	**1.08**	**87.7**	**4035.139**	**0.25**
2367/3467-TCDF	27.68		1.0145	1.0142	-0.5	1.54E+06	0.75	Y	1.08	8.52	4035.139	0.25
1269-TCDF	27.94		1.0236	1.0234	-0.3	2.42E+05	0.77	Y	1.08	1.34	4035.139	0.25
1239-TCDF	NotFnd		1.0333						1.08		4035.139	0.25
1289-TCDF	29.36		1.0740	1.0755	+2.6	9.50E+05	0.83	Y	1.08	5.26	4035.139	0.25
13468/12468-PeCDF	29.36	J EMPC	0.9138	0.9131	-1.2	3.71E+05	2.18	N	1.02	2.3	3179.405	0.167
13678/13467/12467-PeCDF	30.90	J	0.9614	0.9608	-1.1	2.15E+05	1.53	Y	1.02	1.33	3839.813	0.202
12368/13478/12478-PeCDF	31.07		0.9661	0.9663	+0.4	8.90E+05	1.52	Y	1.02	5.51	3839.813	0.202
14678-PeCDF	NotFnd		0.9693						1.02		3839.813	0.202
13479-PeCDF	NotFnd		0.9722						1.02		3839.813	0.202
13469/12479-PeCDF	NotFnd		0.9800						1.02		3839.813	0.202
12346-PeCDF	NotFnd		0.9844						1.02		3839.813	0.202

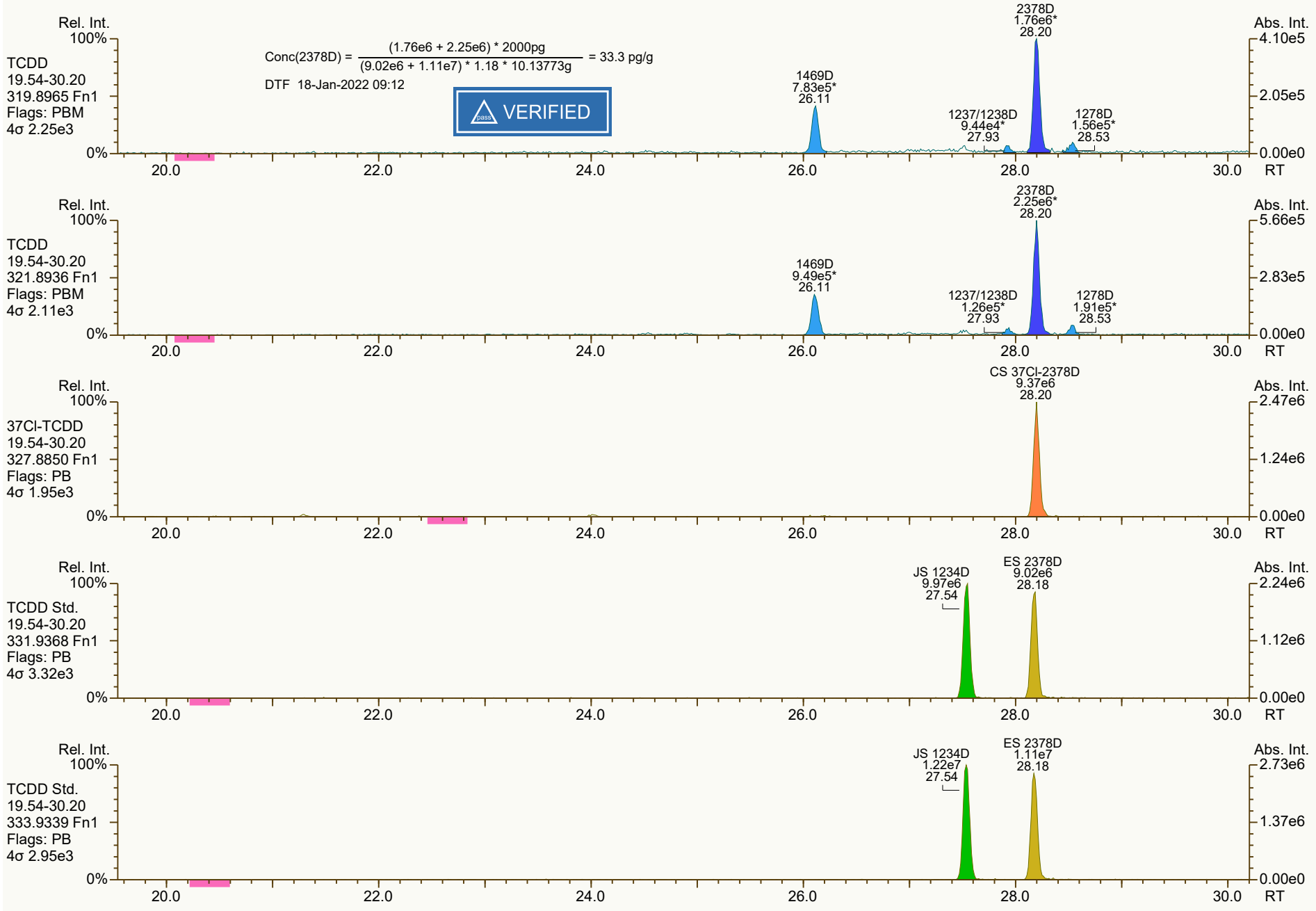
Lab ID: B6169_18833_DF_001 **Acq'd: 17 Jan 2022 12:12 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

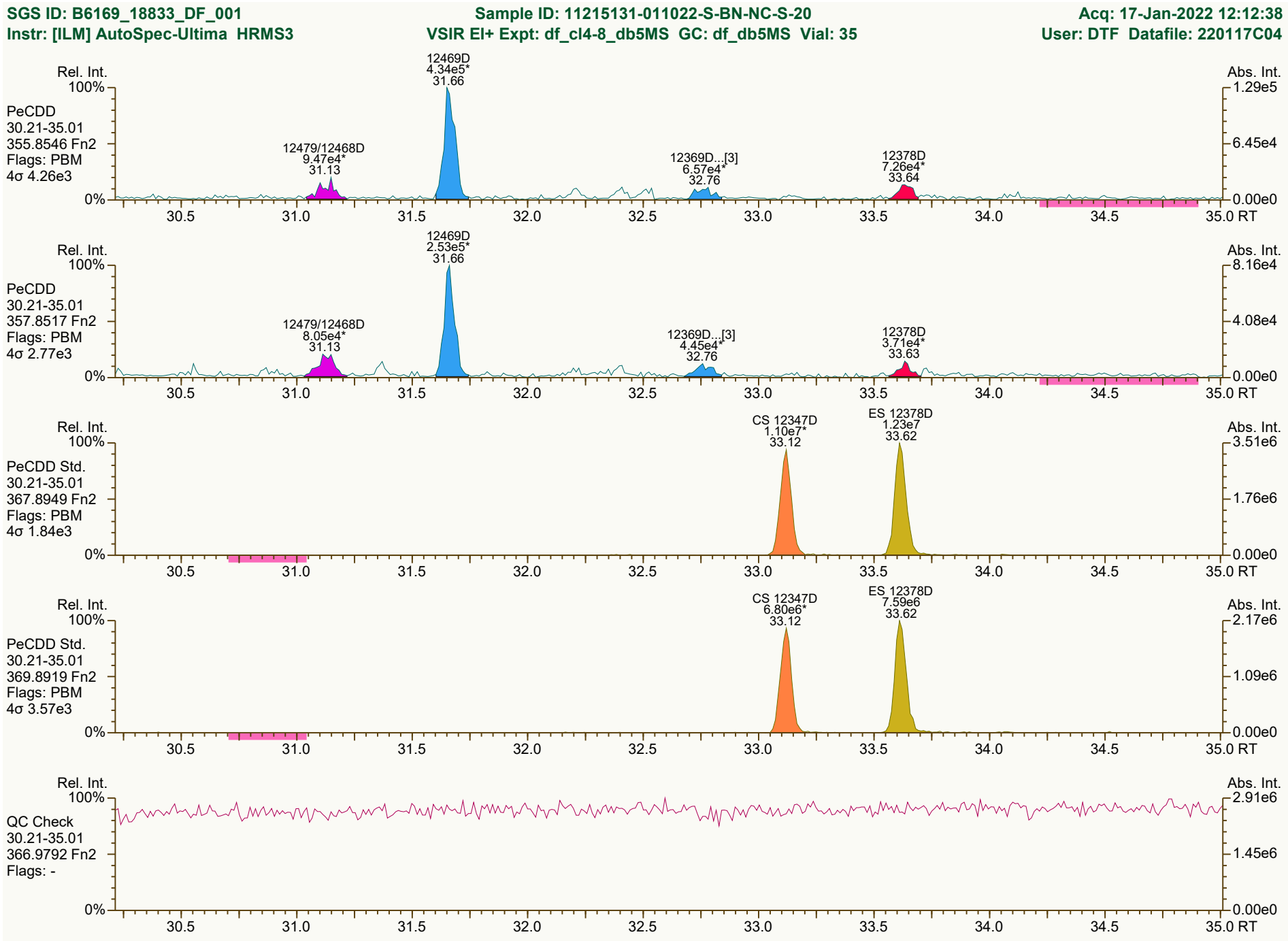
Client ID: 11215131-011022-S-BN-NC-S-20 **UTP: 18-Jan-2022 09:06:09 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 380-762-WJY**

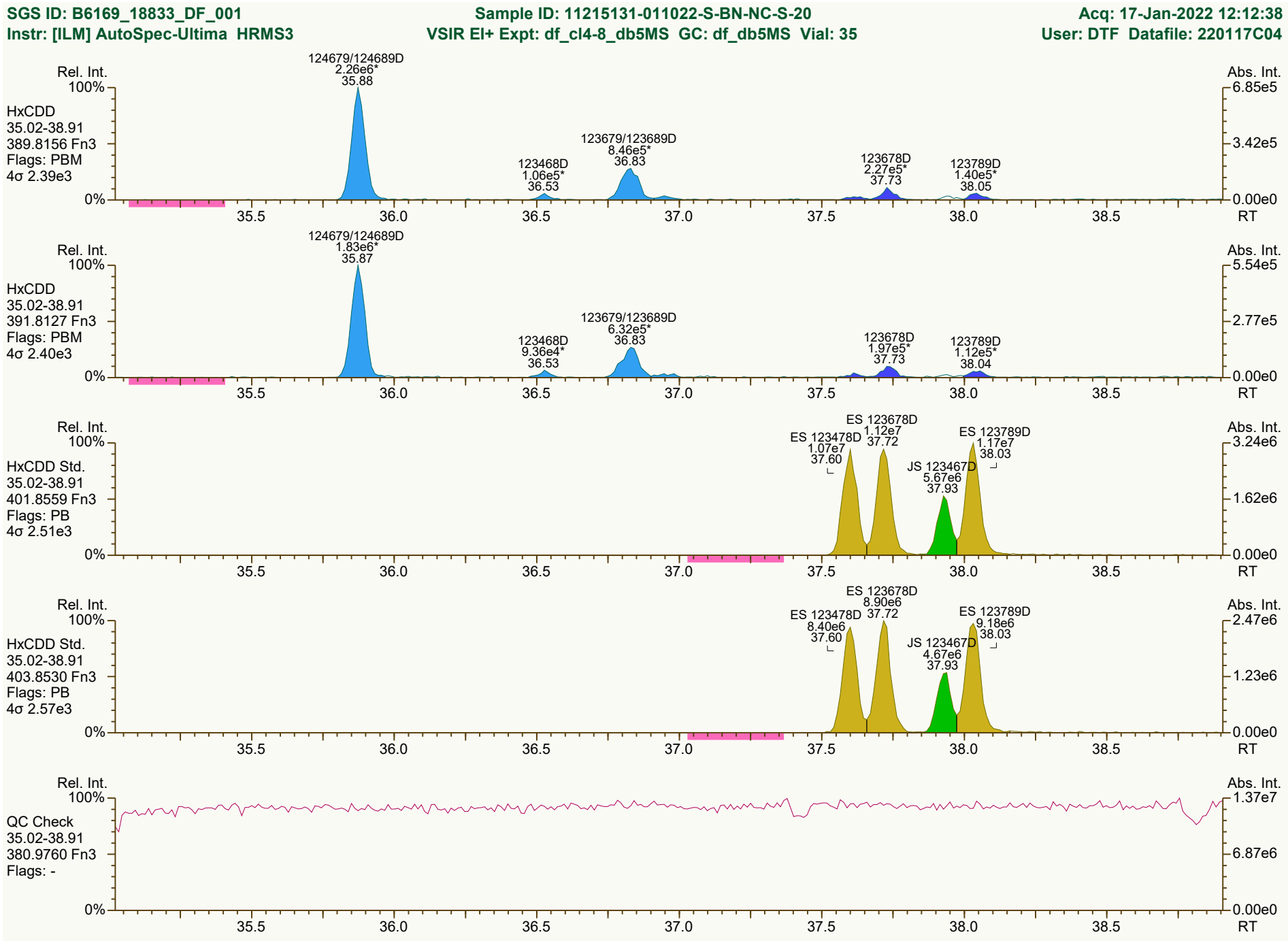
Datafile: 220117C04 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

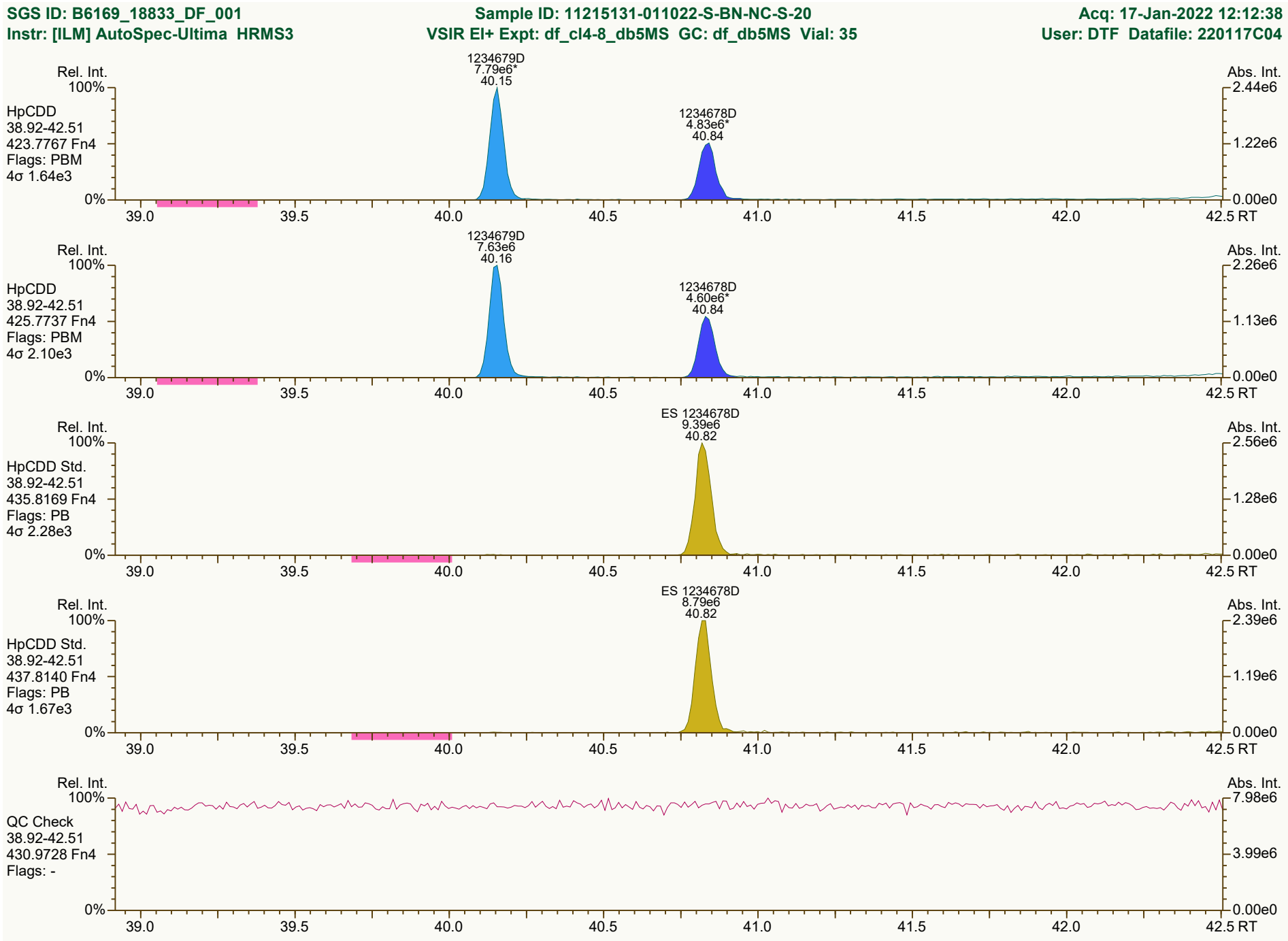
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		3839.813	0.202
12347-PeCDF	NotFnd		0.9890						1.02		3839.813	0.202
12348-PeCDF	NotFnd		0.9942						1.02		3839.813	0.202
12378-PeCDF	**32.17**		**1.0006**	**1.0005**	**-0.2**	**1.19E+06**	**1.48**	**Y**	**1.02**	**7.14**	**3839.813**	**0.196**
12678/12367-PeCDF	32.46	J EMPC	1.0090	1.0096	+1.2	2.27E+05	1.81	N	1.02	1.41	3839.813	0.202
12379-PeCDF	NotFnd		1.0142						1.02		3839.813	0.202
12679-PeCDF	NotFnd		0.9933						1.02		3839.813	0.202
23467/12369-PeCDF	NotFnd		0.9969						1.02		3839.813	0.202
23478-PeCDF	**33.29**		**1.0006**	**1.0007**	**+0.2**	**5.95E+05**	**1.46**	**Y**	**1.02**	**3.8**	**3839.813**	**0.208**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3839.813	0.202
12349-PeCDF	NotFnd		1.0107						1.02		3839.813	0.202
12389-PeCDF	NotFnd		1.0330						1.02		3839.813	0.202
123468-HxCDF	35.22	J	0.9627	0.9625	-0.4	4.02E+05	1.29	Y	1.19	2.41	7651.971	0.398
124678/134678-HxCDF	35.41		0.9682	0.9679	-0.6	1.38E+06	1.31	Y	1.19	8.25	7651.971	0.398
134679-HxCDF	NotFnd		0.9744						1.19		7651.971	0.398
124679-HxCDF	NotFnd		0.9798						1.19		7651.971	0.398
124689-HxCDF	36.07		0.9858	0.9858	0	1.10E+06	1.20	Y	1.19	6.6	7651.971	0.398
123467-HxCDF	NotFnd		0.9973						1.19		7651.971	0.398
123478-HxCDF	**36.61**		**1.0005**	**1.0005**	**0**	**1.76E+06**	**1.27**	**Y**	**1.27**	**10.8**	**7651.971**	**0.397**
123678-HxCDF	**36.75**	J EMPC	**1.0004**	**1.0005**	**+0.2**	**4.23E+05**	**1.46**	**N**	**1.15**	**2.37**	**7651.971**	**0.373**
123479-HxCDF	NotFnd		1.0051						1.19		7651.971	0.398
123469-HxCDF	NotFnd		1.0093						1.19		7651.971	0.398
123679-HxCDF	NotFnd		0.9944						1.19		7651.971	0.398
234678-HxCDF	**37.42**	J EMPC	**1.0005**	**1.0005**	**0**	**2.62E+05**	**1.44**	**N**	**1.19**	**1.46**	**7651.971**	**0.394**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7651.971	0.398
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7651.971**	**0.44**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43	J	1.0008	1.0011	+0.7	1.34E+05	1.10	Y	1.19	0.806	7651.971	0.398
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**3.33E+06**	**1.08**	**Y**	**1.37**	**21.2**	**3854.983**	**0.197**
1234679-HpCDF	40.15	**J**	1.0069	1.0071	+0.5	1.09E+05	0.96	Y	1.34	0.795	3854.983	0.246
1234689-HpCDF	40.29		1.0103	1.0105	+0.5	4.26E+06	1.06	Y	1.34	31.1	3854.983	0.246
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**3.23E+05**	**1.09**	**Y**	**1.31**	**2.74**	**3854.983**	**0.309**
OCDF	**43.78**		**1.0003**	**1.0002**	**-0.3**	**5.74E+06**	**0.97**	**Y**	**1.07**	**82.3**	**2719.861**	**0.568**
OCDF-a	43.78		1.0002	1.0003	+0.3	3.63E+05	2.36	Y	0.07	84.1	3716.829	12.5

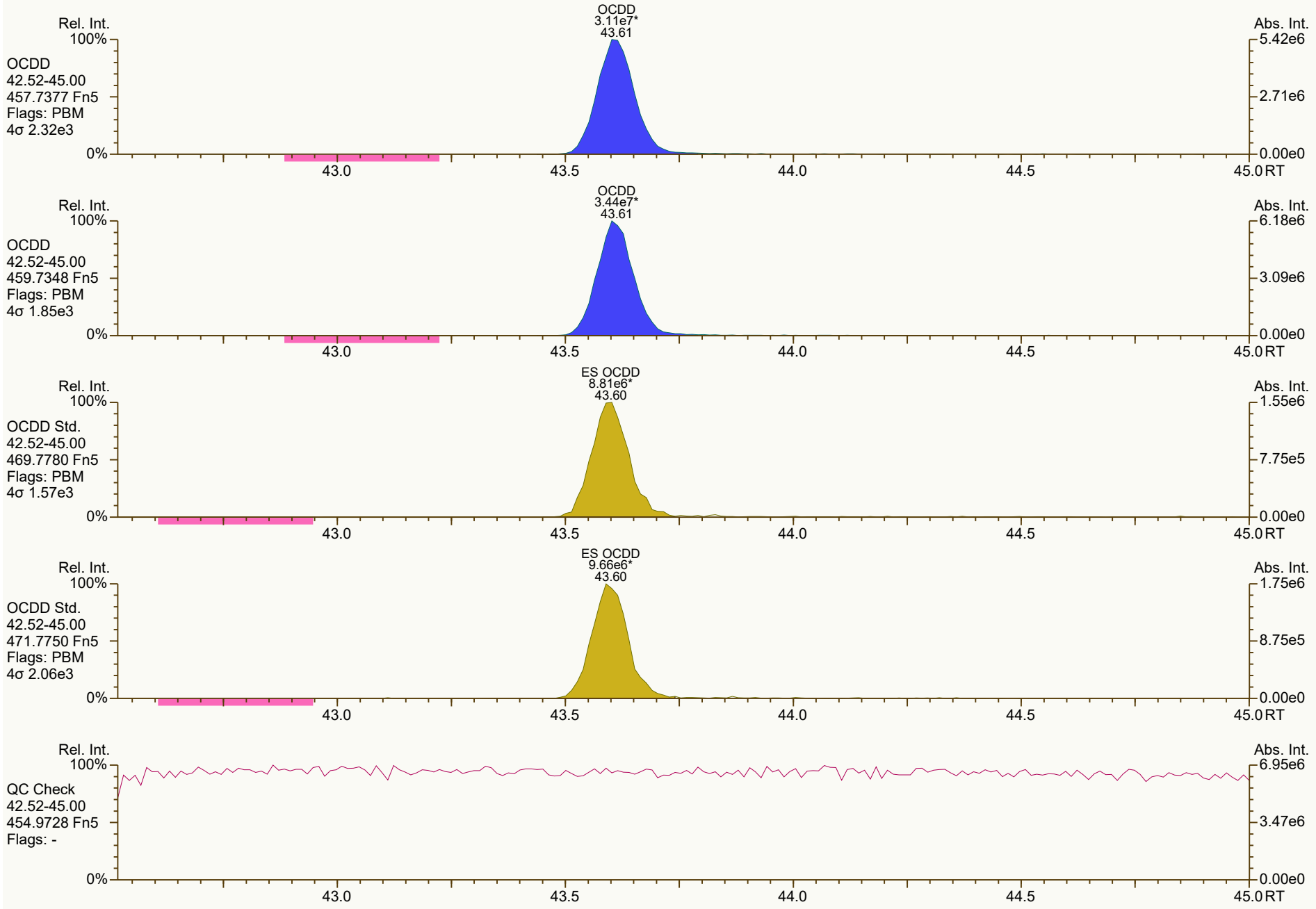

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.23e6
1.61e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
2.91e6
1.45e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.37e7
6.87e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
7.98e6
3.99e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.95e6
3.47e6
0.00e0

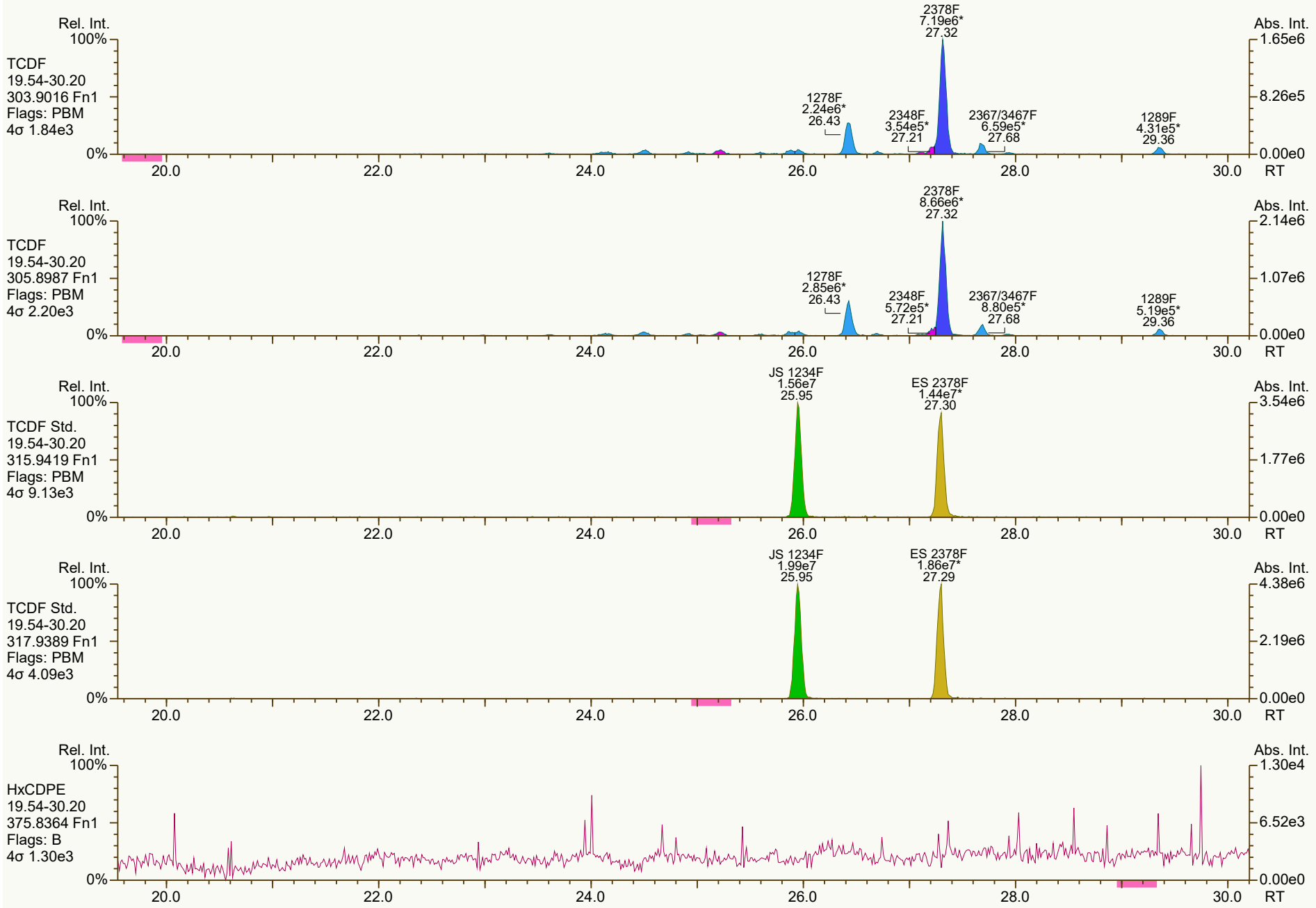

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
Conc(2378D) = (1.76e6 + 2.25e6) * 2000pg / (9.02e6 + 1.11e7) * 1.18 * 10.13773g = 33.3 pg/g
DTF 18-Jan-2022 09:12
VERIFIED
2378D 1.76e6* 28.20
1469D 7.83e5* 26.11
1237/1238D 9.44e4* 27.93
1278D 1.56e5* 28.53
Abs. Int.
4.10e5
2.05e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.11e3
0%
2378D 2.25e6* 28.20
1469D 9.49e5* 26.11
1237/1238D 1.26e5* 27.93
1278D 1.91e5* 28.53
Abs. Int.
5.66e5
2.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.95e3
0%
CS 37Cl-2378D 9.37e6 28.20
Abs. Int.
2.47e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.32e3
0%
JS 1234D 9.97e6 27.54
ES 2378D 9.02e6 28.18
Abs. Int.
2.24e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.95e3
0%
JS 1234D 1.22e7 27.54
ES 2378D 1.11e7 28.18
Abs. Int.
2.73e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_001
Sample ID: 11215131-011022-S-BN-NC-S-20
Acq: 17-Jan-2022 12:12:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220117C04
Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 4.26e3
12469D
4.34e5*
31.66
12479/12468D
9.47e4*
31.13
12369D...[3]
6.57e4*
32.76
12378D
7.26e4*
33.64
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.77e3
12469D
2.53e5*
31.66
12479/12468D
8.05e4*
31.13
12369D...[3]
4.45e4*
32.76
12378D
3.71e4*
33.63
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.84e3
CS 12347D
1.10e7*
33.12
ES 12378D
1.23e7
33.62
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 3.57e3
CS 12347D
6.80e6*
33.12
ES 12378D
7.59e6
33.62
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4810, 8168 scc: 380-762
Revised: 17-Jan-2022 16:23 (DTF) Printed: 18-Jan-2022 09:27 Page 3 of 12


SGS ID: B6169_18833_DF_001
Sample ID: 11215131-011022-S-BN-NC-S-20
Acq: 17-Jan-2022 12:12:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220117C04
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.39e3
124679/124689D
2.26e6*
35.88
123468D
1.06e5*
36.53
123679/123689D
8.46e5*
36.83
123678D
2.27e5*
37.73
123789D
1.40e5*
38.05
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.40e3
124679/124689D
1.83e6*
35.87
123468D
9.36e4*
36.53
123679/123689D
6.32e5*
36.83
123678D
1.97e5*
37.73
123789D
1.12e5*
38.04
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 2.51e3
ES 123478D
1.07e7
37.60
ES 123678D
1.12e7
37.72
JS 123467D
5.67e6
37.93
ES 123789D
1.17e7
38.03
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 2.57e3
ES 123478D
8.40e6
37.60
ES 123678D
8.90e6
37.72
JS 123467D
4.67e6
37.93
ES 123789D
9.18e6
38.03
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1161, 3709 scc: 380-762
Revised: 17-Jan-2022 16:24 (DTF) Printed: 18-Jan-2022 09:27 Page 4 of 12


SGS ID: B6169_18833_DF_001
Sample ID: 11215131-011022-S-BN-NC-S-20
Acq: 17-Jan-2022 12:12:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220117C04
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.64e3
1234679D
7.79e6*
40.15
1234678D
4.83e6*
40.84
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.10e3
1234679D
7.63e6
40.16
1234678D
4.60e6*
40.84
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.28e3
ES 1234678D
9.39e6
40.82
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.67e3
ES 1234678D
8.79e6
40.82
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9517, 7280 scc: 380-762
Revised: 17-Jan-2022 16:24 (DTF) Printed: 18-Jan-2022 09:27 Page 5 of 12


OCDD
3.11e7*
43.61
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.32e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.44e7*
43.61
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 1.85e3
6.18e6
3.09e6
ES OCDD
8.81e6*
43.60
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.57e3
1.55e6
7.75e5
ES OCDD
9.66e6*
43.60
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 2.06e3
1.75e6
8.75e5
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
6.95e6
3.47e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.84e3
0%
2378F
7.19e6*
27.32
1278F
2.24e6*
26.43
2348F
3.54e5*
27.21
2367/3467F
6.59e5*
27.68
1289F
4.31e5*
29.36
Abs. Int.
1.65e6
8.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.20e3
0%
2378F
8.66e6*
27.32
1278F
2.85e6*
26.43
2348F
5.72e5*
27.21
2367/3467F
8.80e5*
27.68
1289F
5.19e5*
29.36
Abs. Int.
2.14e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 9.13e3
0%
JS 1234F
1.56e7
25.95
ES 2378F
1.44e7*
27.30
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 4.09e3
0%
JS 1234F
1.99e7
25.95
ES 2378F
1.86e7*
27.29
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.30e4
6.52e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

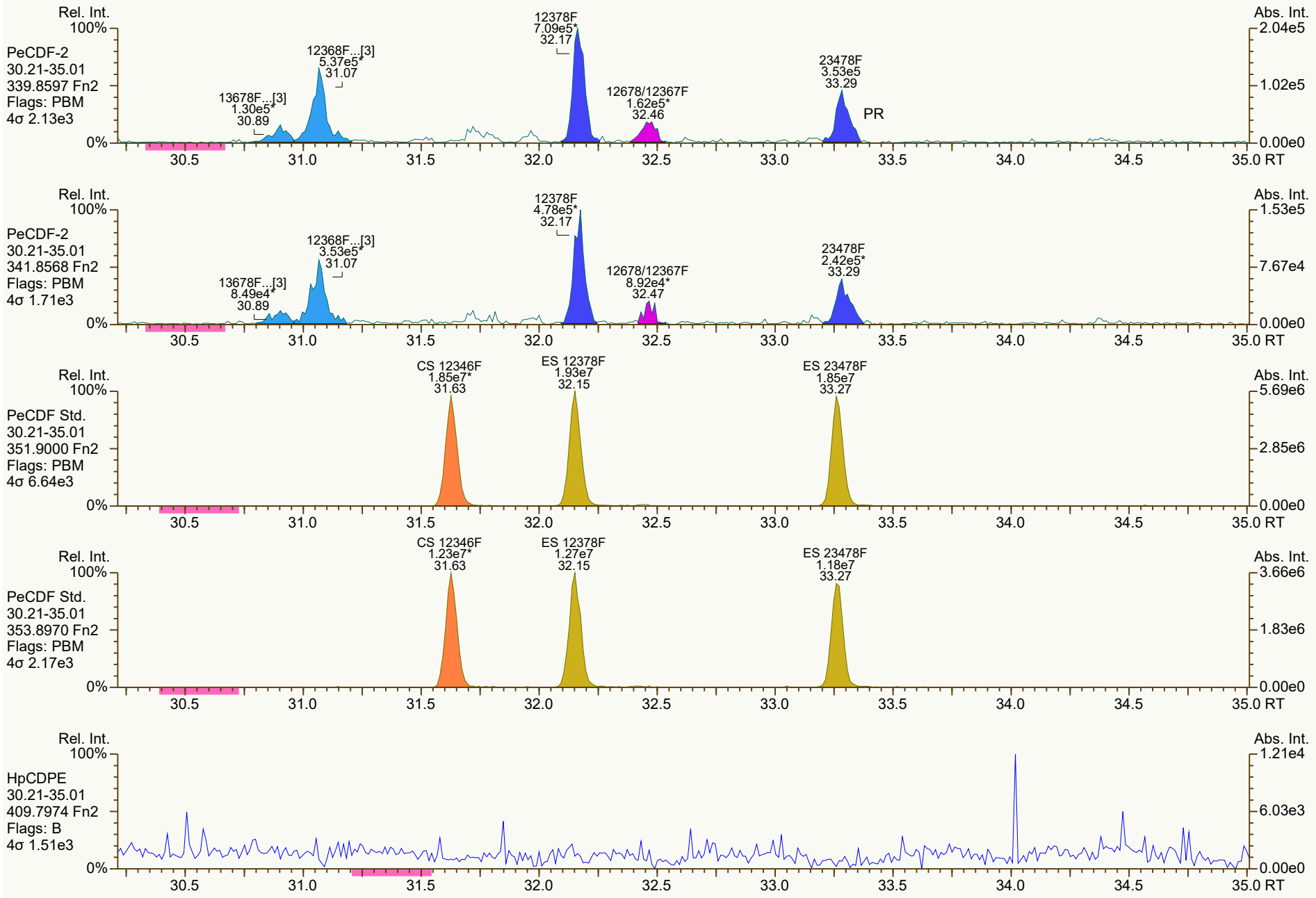
SGS ID: B6169_18833_DF_001 | Sample ID: 11215131-011022-S-BN-NC-S-20 | Acq: 17-Jan-2022 12:12:38

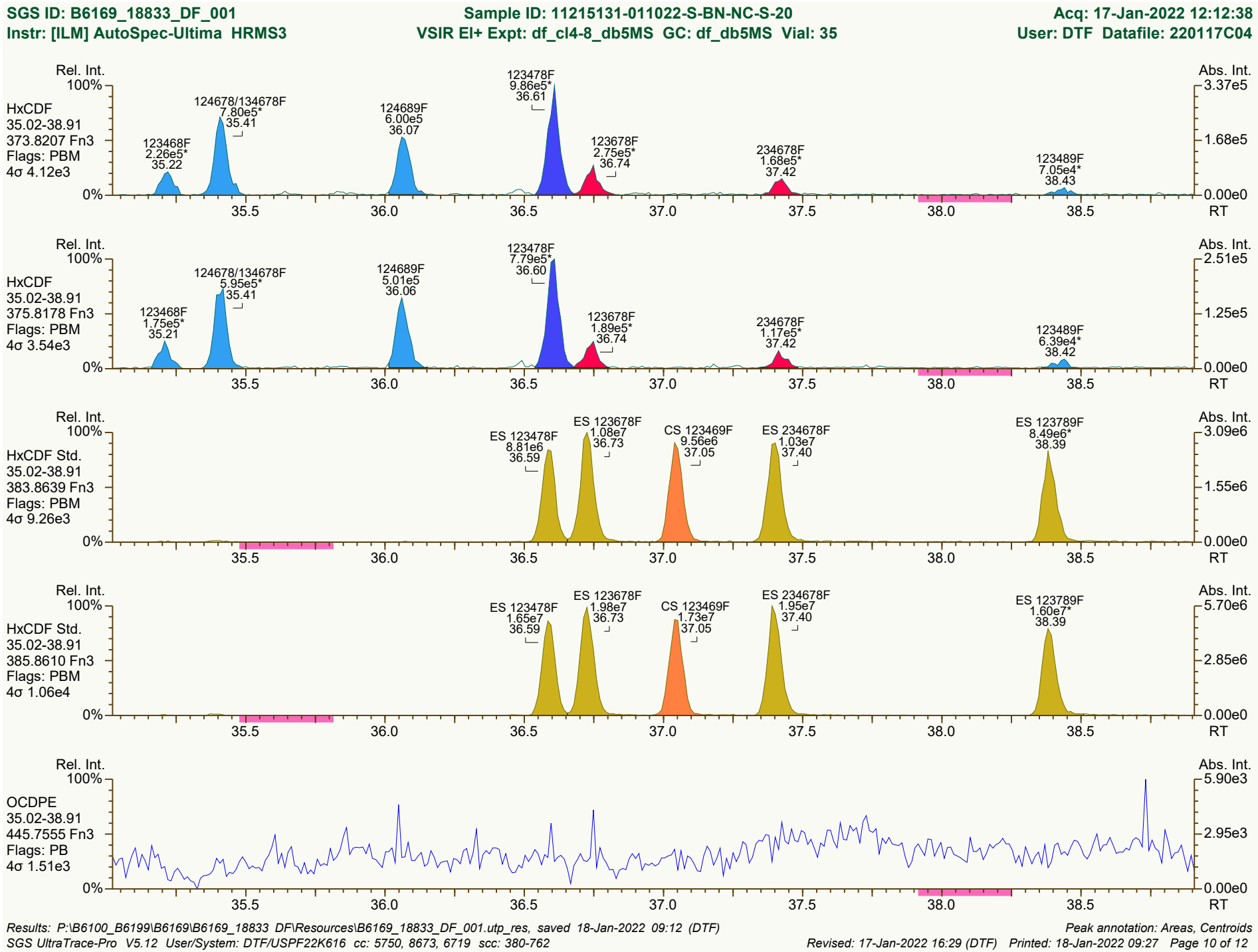
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35 | User: DTF Datafile: 220117C04

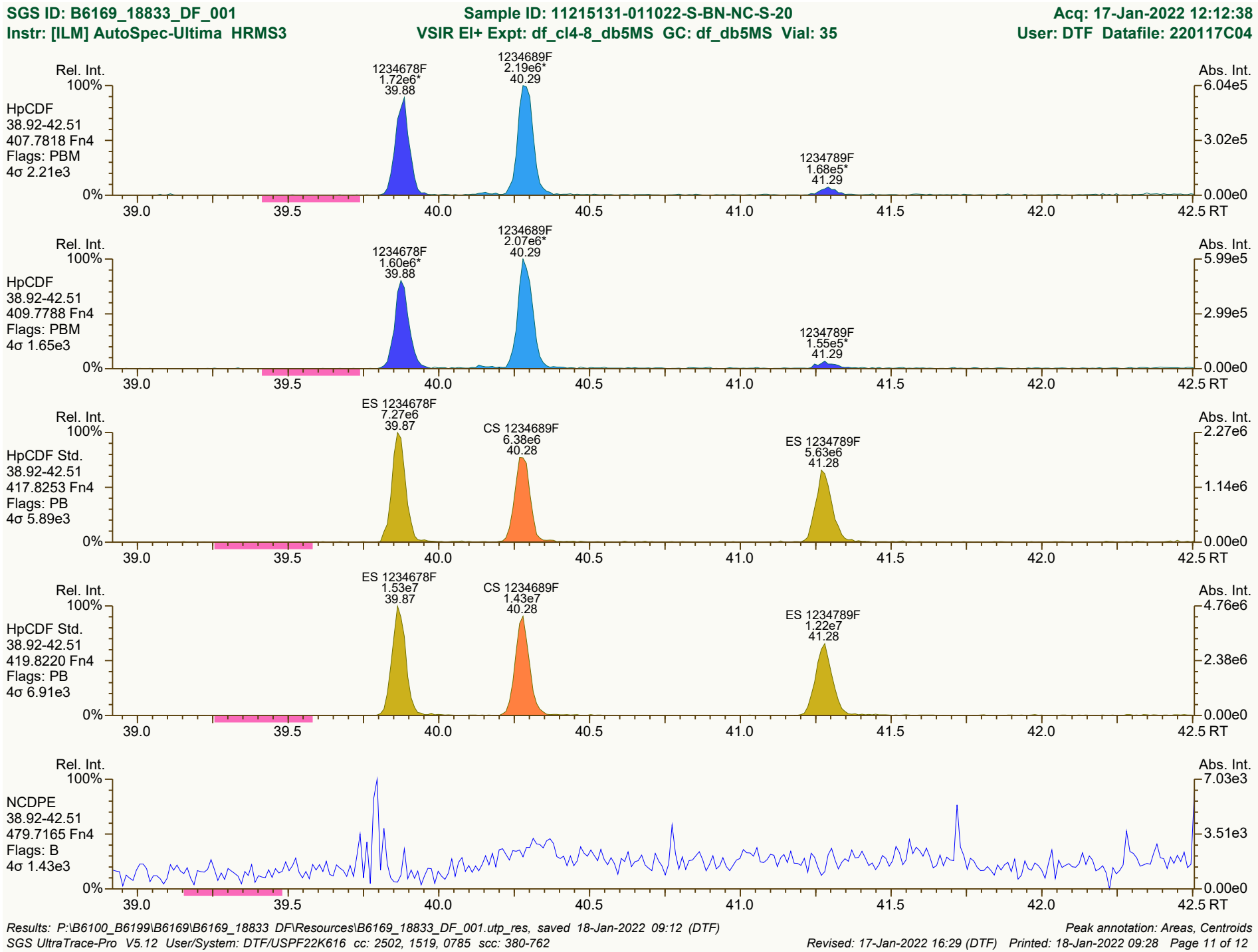


Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1043 scc: 380-762 *Revised: 17-Jan-2022 16:25 (DTF) Printed: 18-Jan-2022 09:27 Page 8 of 12*

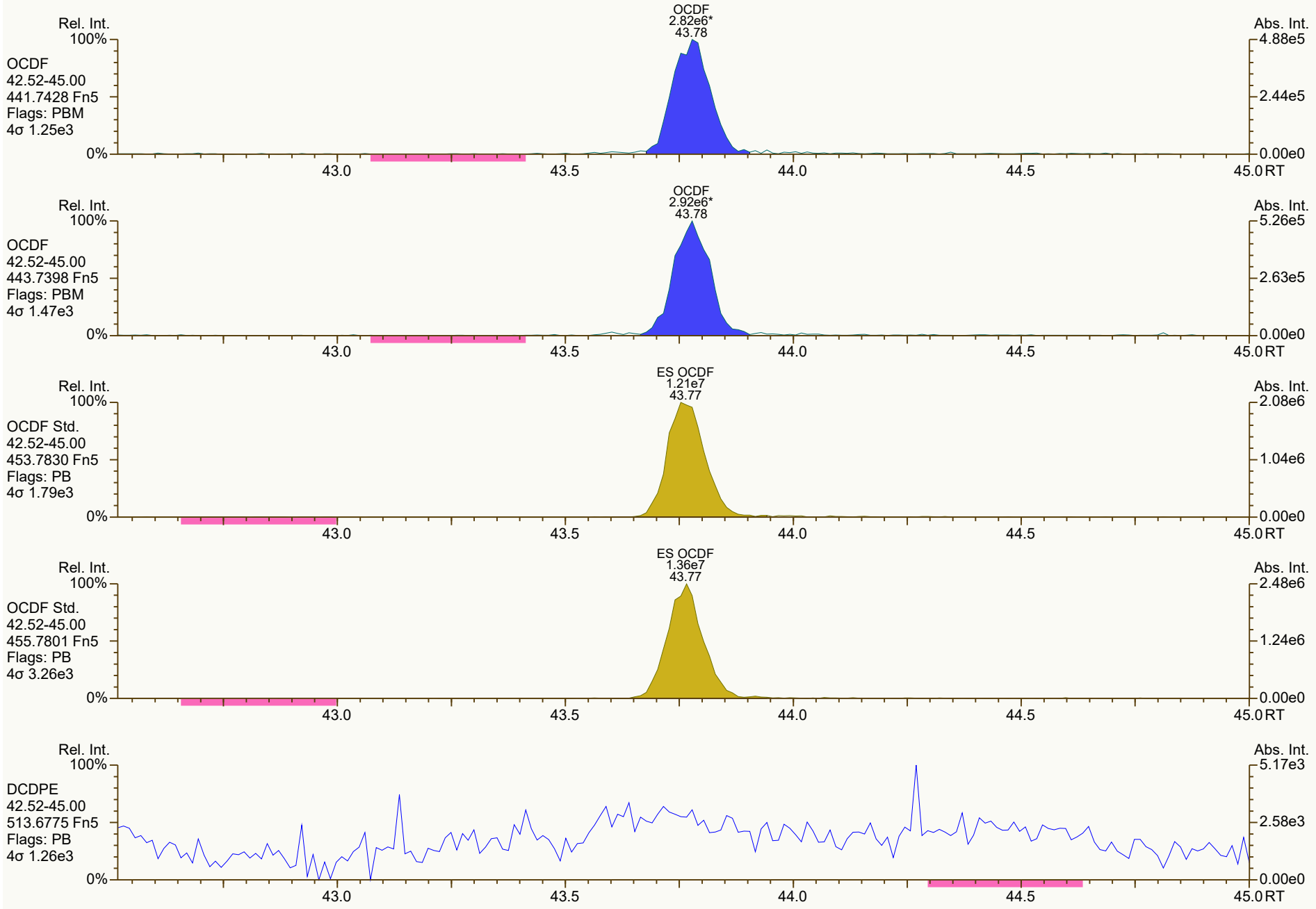

Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.13e3
13678F...[3]
1.30e5*
30.89
12368F...[3]
5.37e5*
31.07
12378F
7.09e5*
32.17
12678/12367F
1.62e5*
32.46
23478F
3.53e5
33.29
PR
0%
Abs. Int.
2.04e5
1.02e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 1.71e3
13678F...[3]
8.49e4*
30.89
12368F...[3]
3.53e5*
31.07
12378F
4.78e5*
32.17
12678/12367F
8.92e4*
32.47
23478F
2.42e5*
33.29
0%
Abs. Int.
1.53e5
7.67e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 6.64e3
CS 12346F
1.85e7*
31.63
ES 12378F
1.93e7
32.15
ES 23478F
1.85e7
33.27
0%
Abs. Int.
5.69e6
2.85e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.17e3
CS 12346F
1.23e7*
31.63
ES 12378F
1.27e7
32.15
ES 23478F
1.18e7
33.27
0%
Abs. Int.
3.66e6
1.83e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.21e4
6.03e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


SGS ID: B6169_18833_DF_001
Sample ID: 11215131-011022-S-BN-NC-S-20
Acq: 17-Jan-2022 12:12:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220117C04
Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 4.12e3
123468F 2.26e5* 35.22
124678/134678F 7.80e5* 35.41
124689F 6.00e5 36.07
123478F 9.86e5* 36.61
123678F 2.75e5* 36.74
234678F 1.68e5* 37.42
123489F 7.05e4* 38.43
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 3.54e3
123468F 1.75e5* 35.21
124678/134678F 5.95e5* 35.41
124689F 5.01e5 36.06
123478F 7.79e5* 36.60
123678F 1.89e5* 36.74
234678F 1.17e5* 37.42
123489F 6.39e4* 38.42
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 9.26e3
ES 123478F 8.81e6 36.59
ES 123678F 1.08e7 36.73
CS 123469F 9.56e6 37.05
ES 234678F 1.03e7 37.40
ES 123789F 8.49e6* 38.39
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 1.06e4
ES 123478F 1.65e7 36.59
ES 123678F 1.98e7 36.73
CS 123469F 1.73e7 37.05
ES 234678F 1.95e7 37.40
ES 123789F 1.60e7* 38.39
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.51e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
3.37e5
1.68e5
0.00e0
2.51e5
1.25e5
3.09e6
1.55e6
5.70e6
2.85e6
5.90e3
2.95e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5750, 8673, 6719 scc: 380-762
Revised: 17-Jan-2022 16:29 (DTF) Printed: 18-Jan-2022 09:27 Page 10 of 12


SGS ID: B6169_18833_DF_001
Sample ID: 11215131-011022-S-BN-NC-S-20
Acq: 17-Jan-2022 12:12:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220117C04
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.21e3
1234678F
1.72e6*
39.88
1234689F
2.19e6*
40.29
1234789F
1.68e5*
41.29
6.04e5
3.02e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.65e3
1234678F
1.60e6*
39.88
1234689F
2.07e6*
40.29
1234789F
1.55e5*
41.29
5.99e5
2.99e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 5.89e3
ES 1234678F
7.27e6
39.87
CS 1234689F
6.38e6
40.28
ES 1234789F
5.63e6
41.28
2.27e6
1.14e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 6.91e3
ES 1234678F
1.53e7
39.87
CS 1234689F
1.43e7
40.28
ES 1234789F
1.22e7
41.28
4.76e6
2.38e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.43e3
7.03e3
3.51e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2502, 1519, 0785 scc: 380-762
Revised: 17-Jan-2022 16:29 (DTF) Printed: 18-Jan-2022 09:28 Page 11 of 12

SGS ID: B6169_18833_DF_001 | Sample ID: 11215131-011022-S-BN-NC-S-20 | Acq: 17-Jan-2022 12:12:38

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35 | User: DTF Datafile: 220117C04



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_001.utp_res, saved 18-Jan-2022 09:12 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8839, 7606, 3729 scc: 380-762 | *Revised: 17-Jan-2022 16:29 (DTF) Printed: 18-Jan-2022 09:28 Page 12 of 12*

Lab ID: B6169_18833_DF_002 **Acq'd:** 17 Jan 2022 12:58 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-32 **UTP:** 18-Jan-2022 09:06:10 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 316-237-SQX

Datafile: 220117C05 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	1.94E+06	0.79	Y	1.18	18.2	7669.981	0.72
12378-PeCDD	33.65	J EMPC	1.0006	1.0006	0	8.28E+04	1.25	N	1.04	0.825	4180.801	0.369
123478-HxCDD	37.61	J EMPC	1.0004	1.0004	0	1.02E+05	1.57	N	1.09	0.983	4395.371	0.371
123678-HxCDD	37.74	EMPC	1.0036	1.0036	0	4.01E+05	1.55	N	1.15	3.58	4395.371	0.343
123789-HxCDD	38.05	J EMPC	1.0118	1.0119	+0.2	2.40E+05	1.71	N	1.05	2.28	4395.371	0.392
1234678-HpCDD	40.84		1.0003	1.0003	0	7.88E+06	1.05	Y	1.06	89.6	3577.407	0.382
OCDD	43.62		1.0003	1.0003	0	5.87E+07	0.91	Y	1.13	1,250	3905.969	1.17
2378-TCDF	27.32		1.0008	1.0007	-0.2	8.24E+06	0.81	Y	1.08	51.2	2736.242	0.191
12378-PeCDF	32.17	EMPC	1.0006	1.0005	-0.2	3.92E+05	1.88	N	1.02	2.57	5463.098	0.334
23478-PeCDF	33.30	EMPC	1.0006	1.0009	+0.6	3.75E+05	1.27	N	1.02	2.54	5463.098	0.33
123478-HxCDF	36.61		1.0005	1.0005	0	7.44E+05	1.26	Y	1.27	5	6859.816	0.385
123678-HxCDF	36.75	J	1.0004	1.0004	0	2.43E+05	1.34	Y	1.15	1.45	6859.816	0.364
234678-HxCDF	37.42	J EMPC	1.0005	1.0004	-0.2	1.90E+05	1.04	N	1.19	1.09	6859.816	0.328
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6859.816	0.482
1234678-HpCDF	39.87		1.0003	1.0002	-0.2	2.36E+06	1.04	Y	1.37	15.5	6487.529	0.324
1234789-HpCDF	41.29	J	1.0003	1.0002	-0.2	1.73E+05	0.96	Y	1.31	1.75	6487.529	0.624
OCDF	43.78		1.0003	1.0002	-0.3	4.39E+06	0.92	Y	1.07	71.6	4101.949	0.92

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18		1.0231	1.0232	+0.2	1.76E+07	0.82	Y	1.05	78.4
ES 12378-PeCDD	33.63		1.2198	1.2211	+2.6	1.90E+07	1.60	Y	0.88	101
ES 123478-HxCDD	37.60		0.9913	0.9913	0	1.86E+07	1.23	Y	0.97	93.1
ES 123678-HxCDD	37.72		0.9944	0.9944	0	1.91E+07	1.30	Y	0.94	98.3
ES 123789-HxCDD	38.03		1.0026	1.0027	+0.2	1.97E+07	1.24	Y	1.09	87.6
ES 1234678-HpCDD	40.83		1.0760	1.0763	+0.7	1.62E+07	1.08	Y	0.91	86.5
ES OCDD	43.61		1.1489	1.1497	+2.1	1.63E+07	0.99	Y	0.62	63.4
ES 2378-TCDF	27.30		1.0515	1.0518	+0.5	2.92E+07	0.80	Y	1.06	78.1
ES 12378-PeCDF	32.15		1.2378	1.2390	+2.3	2.91E+07	1.60	Y	0.91	90.6
ES 23478-PeCDF	33.27		1.2804	1.2818	+2.8	2.84E+07	1.52	Y	0.88	91.1
ES 123478-HxCDF	36.59		0.9647	0.9646	-0.2	2.29E+07	0.52	Y	1.20	93
ES 123678-HxCDF	36.73		0.9684	0.9683	-0.2	2.84E+07	0.53	Y	1.35	102
ES 234678-HxCDF	37.40		0.9861	0.9861	0	2.88E+07	0.53	Y	1.24	113
ES 123789-HxCDF	38.39		1.0120	1.0121	+0.2	2.15E+07	0.55	Y	1.16	90.4
ES 1234678-HpCDF	39.86		1.0506	1.0509	+0.7	2.18E+07	0.44	Y	0.97	109
ES 1234789-HpCDF	41.28		1.0879	1.0884	+1.2	1.48E+07	0.43	Y	0.85	84.7
ES OCDF	43.77		1.1534	1.1540	+1.6	2.24E+07	0.90	Y	0.81	67.4

Lab ID: B6169_18833_DF_002 **Acq'd:** 17 Jan 2022 12:58 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-32 **UTP:** 18-Jan-2022 09:06:10 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 316-237-SQX

Datafile: 220117C05 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.15E+07	0.85	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.53E+07	0.80	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	1.03E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0241	+0.5	9.20E+06	n/a	-	1.20	89.1
CS 12347-PeCDD	33.12		1.2018	1.2028	+2.0	1.94E+07	1.58	Y	0.75	120
CS 12346-PeCDF	31.63		1.2178	1.2188	+1.9	3.10E+07	1.50	Y	0.85	103
CS 123469-HxCDF	37.05		0.9768	0.9767	-0.2	2.68E+07	0.56	Y	1.12	117
CS 1234689-HpCDF	40.27		1.0615	1.0617	+0.5	2.16E+07	0.45	Y	0.89	118
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~9.20E+06~~	~~n/a~~		~~1.15~~	~~114~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2028~~	~~+2.0~~	~~1.94E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2188~~	~~+1.9~~	~~3.10E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~114~~
~~SS 123469-HxCDF~~	~~37.05~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~2.68E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~114~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0617~~	~~+0.5~~	~~2.16E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	21.4	22.8
Total PeCDD	8.11	9.57
Total HxCDD	41.2	50
Total HpCDD	258	258
Total Tetra-Octa Dioxins	1580	1590
Total TCDF	81.7	98.1
Total PeCDF	8.19	14.8
Total HxCDF	21.5	23.3
Total HpCDF	41	41
Total Tetra-Octa Furans	224	249
Total Tetra-Octa Dioxins & Furans	1810	1840

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.787	0.79
Response	1.94E+06	1.94E+06

Lab ID: B6169_18833_DF_002 **Acq'd: 17 Jan 2022 12:58 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-32 **UTP: 18-Jan-2022 09:06:10 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 316-237-SQX**

Datafile: 220117C05 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8733						1.18		7669.981	0.72
1379-TCDD	NotFnd		0.8860						1.18		7669.981	0.72
1369-TCDD	NotFnd		0.9009						1.18		7669.981	0.72
1469-TCDD	26.11		0.9282	0.9267	-2.4	3.47E+05	0.81	Y	1.18	3.25	7669.981	0.72
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		7669.981	0.72
1378-TCDD	NotFnd		0.9429						1.18		7669.981	0.72
1268-TCDD	NotFnd		0.9500						1.18		7669.981	0.72
1478-TCDD	NotFnd		0.9584						1.18		7669.981	0.72
1279-TCDD	NotFnd		0.9648						1.18		7669.981	0.72
1234/1269-TCDD	NotFnd		0.9770						1.18		7669.981	0.72
1236-TCDD	NotFnd		0.9821						1.18		7669.981	0.72
1237/1238-TCDD	NotFnd		0.9909						1.18		7669.981	0.72
1239-TCDD	NotFnd		0.9959						1.18		7669.981	0.72
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	1.94E+06	0.79	Y	**1.18**	**18.2**	**7669.981**	**0.72**
1278-TCDD	28.54	EMPC	1.0123	1.0130	+1.2	1.49E+05	0.59	N	1.18	1.4	7669.981	0.72
1267-TCDD	NotFnd		1.0172						1.18		7669.981	0.72
1289-TCDD	NotFnd		1.0354						1.18		7669.981	0.72
12479/12468-PeCDD	31.13	J	0.9267	0.9257	-1.9	1.96E+05	1.47	Y	1.04	1.95	4180.801	0.369
12469-PeCDD	31.67		0.9426	0.9418	-1.5	2.77E+05	1.59	Y	1.04	2.75	4180.801	0.369
12368-PeCDD	32.21	J EMPC	0.9587	0.9579	-1.5	6.32E+04	2.10	N	1.04	0.629	4180.801	0.369
12478-PeCDD	32.40	J	0.9642	0.9636	-1.2	6.45E+04	1.33	Y	1.04	0.642	4180.801	0.369
12379-PeCDD	32.52	J	0.9674	0.9671	-0.6	1.40E+05	1.51	Y	1.04	1.4	4180.801	0.369
12369/12467/12489-PeCDD	32.78	J	0.9752	0.9749	-0.6	1.38E+05	1.46	Y	1.04	1.37	4180.801	0.369
12346/12347-PeCDD	NotFnd		0.9861						1.04		4180.801	0.369
12378-PeCDD	33.65	J EMPC	**1.0006**	**1.0006**	**0**	**8.28E+04**	**1.25**	**N**	**1.04**	**0.825**	**4180.801**	**0.369**
12367-PeCDD	NotFnd		1.0036						1.04		4180.801	0.369
12389-PeCDD	NotFnd		1.0139						1.04		4180.801	0.369
124679/124689-HxCDD	35.88		0.9541	0.9542	+0.2	2.68E+06	1.22	Y	1.10	25	4395.371	0.368
123468-HxCDD	36.54	J	0.9715	0.9717	+0.4	2.24E+05	1.28	Y	1.10	2.1	4395.371	0.368
123679/123689-HxCDD	36.83		0.9793	0.9795	+0.4	1.37E+06	1.29	Y	1.10	12.8	4395.371	0.368
123469-HxCDD	36.96	J EMPC	0.9831	0.9829	-0.4	2.11E+05	1.62	N	1.10	1.97	4395.371	0.368
123478-HxCDD	37.61	J EMPC	**1.0004**	**1.0004**	**0**	**1.02E+05**	**1.57**	**N**	1.09	**0.983**	**4395.371**	**0.371**
123678-HxCDD	37.74	EMPC	**1.0036**	**1.0036**	**0**	**4.01E+05**	**1.55**	**N**	1.15	**3.58**	**4395.371**	**0.343**
123467-HxCDD	37.95	J	1.0089	1.0092	+0.7	1.35E+05	1.28	Y	1.10	1.26	4395.371	0.368
123789-HxCDD	38.05	J EMPC	**1.0118**	**1.0119**	**+0.2**	**2.40E+05**	**1.71**	**N**	1.05	**2.28**	**4395.371**	**0.392**

Lab ID: B6169_18833_DF_002 **Acq'd: 17 Jan 2022 12:58 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-32 **UTP: 18-Jan-2022 09:06:10 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 316-237-SQX**

Datafile: 220117C05 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

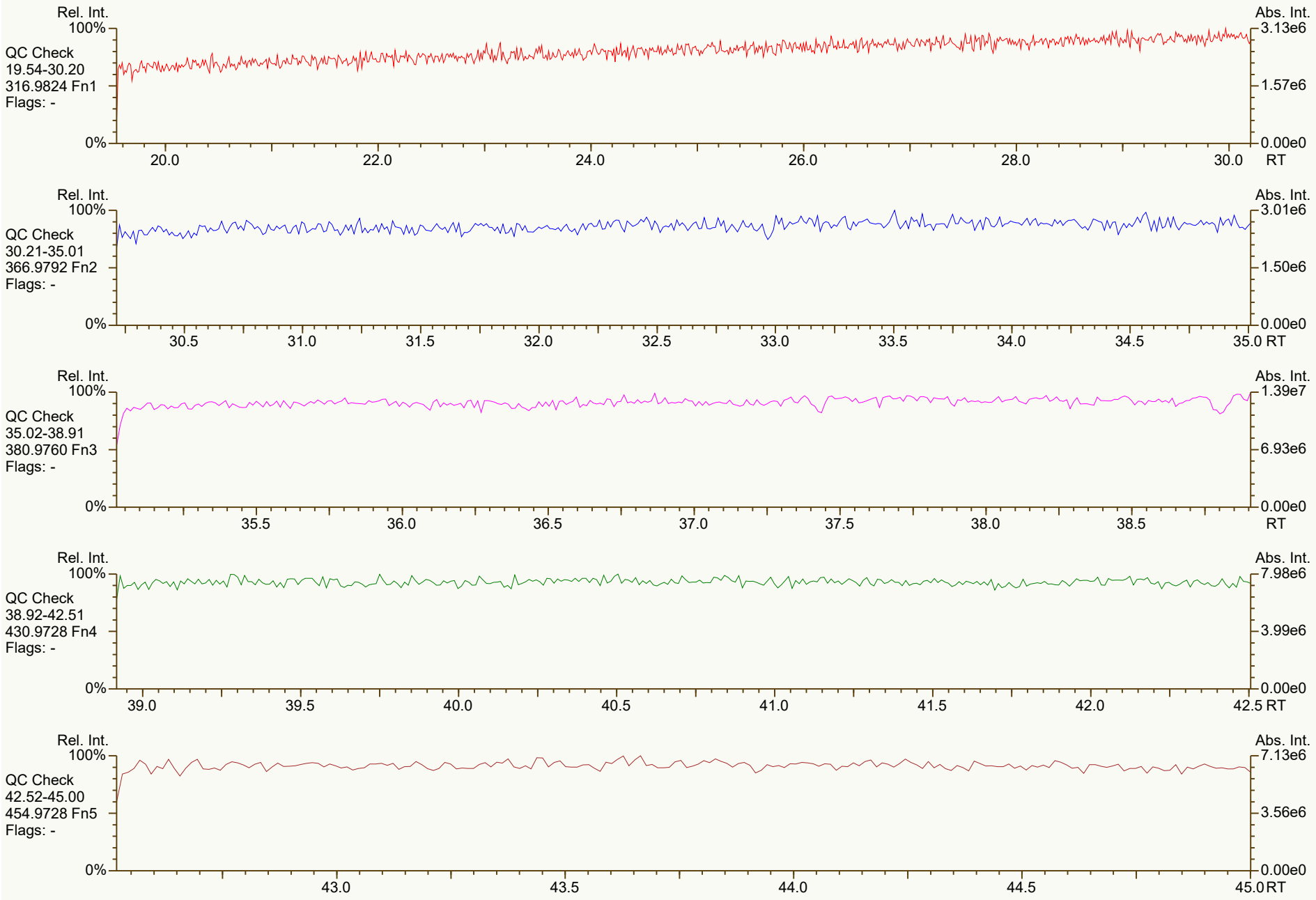
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9834	-0.2	1.48E+07	1.02	Y	1.06	168	3577.407	0.382
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**7.88E+06**	**1.05**	**Y**	**1.06**	**89.6**	**3577.407**	**0.382**
OCDD	**43.62**		**1.0003**	**1.0003**	**0**	**5.87E+07**	**0.91**	**Y**	**1.13**	**1,250**	**3905.969**	**1.17**
OCDD-a	43.62		1.0002	1.0002	0	3.70E+06	2.47	Y	0.07	1,230	3854.923	18.1
1368-TCDF	22.40	J EMPC	0.8250	0.8206	-5.9	7.75E+04	0.94	N	1.08	0.482	2736.242	0.191
1468-TCDF	22.98		0.8494	0.8419	-10.3	1.32E+05	0.86	Y	1.08	0.82	2736.242	0.191
2468-TCDF	23.62	EMPC	0.8684	0.8651	-4.7	2.84E+05	0.95	N	1.08	1.76	2736.242	0.191
1346/1246-TCDF	NotFnd		0.8815						1.08		2736.242	0.191
1347/1378/1247-TCDF	24.13		0.8867	0.8840	-3.9	4.00E+05	0.87	Y	1.08	2.49	2736.242	0.191
1348-TCDF	24.50	EMPC	0.8966	0.8975	+1.3	4.05E+05	0.90	N	1.08	2.52	2736.242	0.191
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2736.242	0.191
1268-TCDF	24.92		0.9148	0.9127	-3.1	1.78E+05	0.72	Y	1.08	1.11	2736.242	0.191
1467-TCDF	25.05	J EMPC	0.9197	0.9178	-2.9	5.92E+04	1.17	N	1.08	0.368	2736.242	0.191
1478-TCDF	25.21	EMPC	0.9258	0.9237	-3.2	3.37E+05	0.91	N	1.08	2.1	2736.242	0.191
1369/1237-TCDF	25.61		0.9390	0.9383	-1.1	1.30E+05	0.68	Y	1.08	0.809	2736.242	0.191
2467-TCDF	25.73		0.9435	0.9424	-1.7	9.34E+04	0.72	Y	1.08	0.581	2736.242	0.191
2368-TCDF	25.87		0.9488	0.9476	-1.9	3.98E+05	0.71	Y	1.08	2.48	2736.242	0.191
1238/1234/1678/1469/1236-TCDF	25.97		0.9527	0.9512	-2.3	3.98E+05	0.81	Y	1.08	2.47	2736.242	0.191
1278-TCDF	26.43		0.9689	0.9684	-0.8	2.47E+06	0.78	Y	1.08	15.4	2736.242	0.191
1349-TCDF	NotFnd		0.9730						1.08		2736.242	0.191
1267-TCDF	26.70		0.9787	0.9782	-0.8	2.48E+05	0.78	Y	1.08	1.54	2736.242	0.191
2346/1249-TCDF	NotFnd		0.9856						1.08		2736.242	0.191
2347/1279-TCDF	27.12	EMPC	0.9934	0.9933	-0.2	1.13E+05	1.06	N	1.08	0.703	2736.242	0.191
2348-TCDF	27.20	EMPC	0.9972	0.9964	-1.3	2.20E+05	0.91	N	1.08	1.37	2736.242	0.191
2378-TCDF	**27.32**		**1.0008**	**1.0007**	**-0.2**	**8.24E+06**	**0.81**	**Y**	**1.08**	**51.2**	**2736.242**	**0.191**
2367/3467-TCDF	27.69	EMPC	1.0145	1.0144	-0.2	1.01E+06	0.89	N	1.08	6.28	2736.242	0.191
1269-TCDF	27.92	EMPC	1.0236	1.0228	-1.3	1.32E+05	0.63	N	1.08	0.818	2736.242	0.191
1239-TCDF	NotFnd		1.0333						1.08		2736.242	0.191
1289-TCDF	29.36		1.0740	1.0757	+3.0	4.55E+05	0.82	Y	1.08	2.83	2736.242	0.191
13468/12468-PeCDF	29.36		0.9138	0.9131	-1.2	4.08E+05	1.47	Y	1.02	2.72	3570.953	0.217
13678/13467/12467-PeCDF	30.93	J EMPC	0.9614	0.9618	+0.7	2.22E+05	1.81	N	1.02	1.48	5463.098	0.332
12368/13478/12478-PeCDF	31.09		0.9661	0.9668	+1.3	6.06E+05	1.49	Y	1.02	4.04	5463.098	0.332
14678-PeCDF	NotFnd		0.9693						1.02		5463.098	0.332
13479-PeCDF	NotFnd		0.9722						1.02		5463.098	0.332
13469/12479-PeCDF	NotFnd		0.9800						1.02		5463.098	0.332
12346-PeCDF	NotFnd		0.9844						1.02		5463.098	0.332

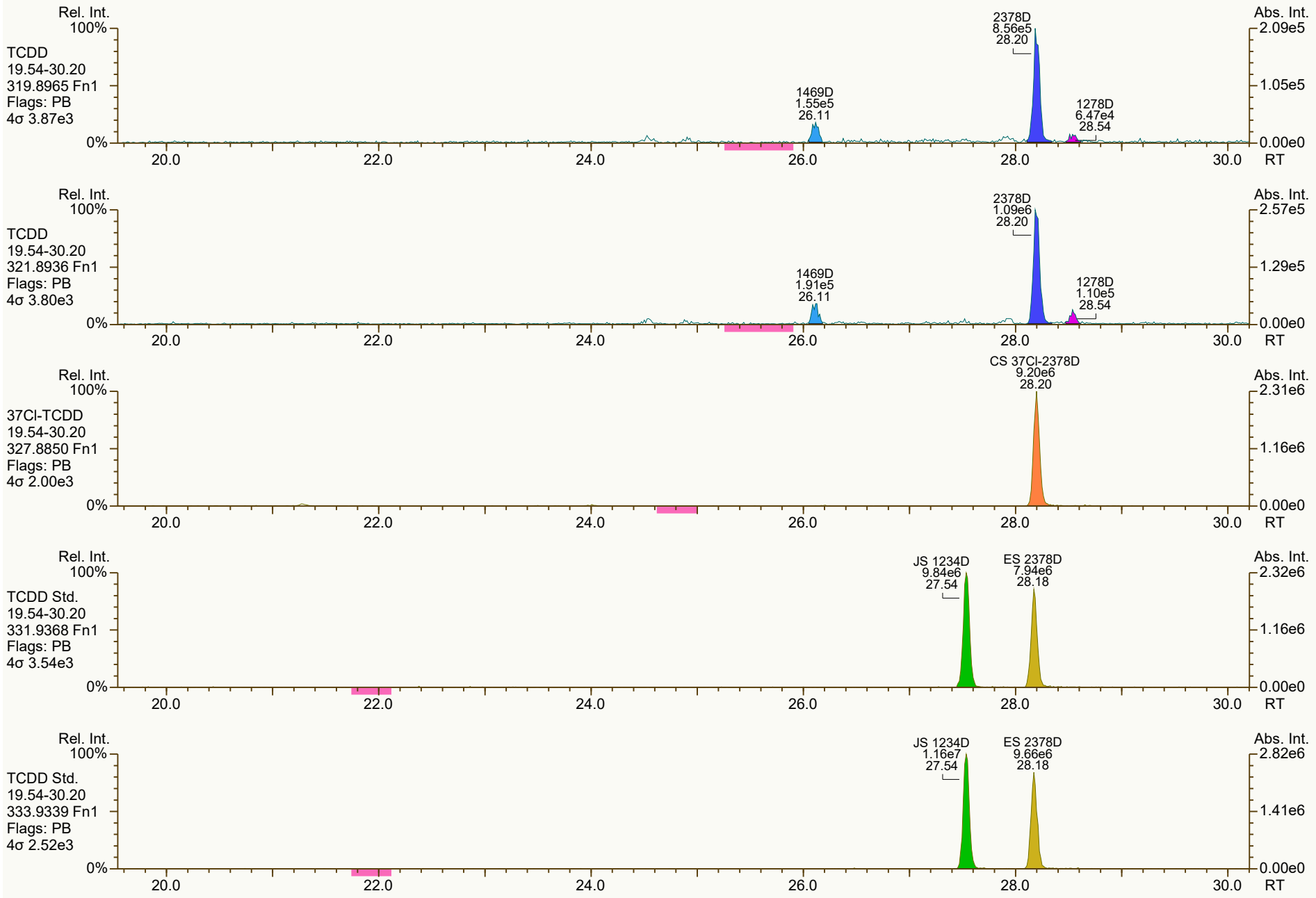
Lab ID: B6169_18833_DF_002 **Acq'd: 17 Jan 2022 12:58 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

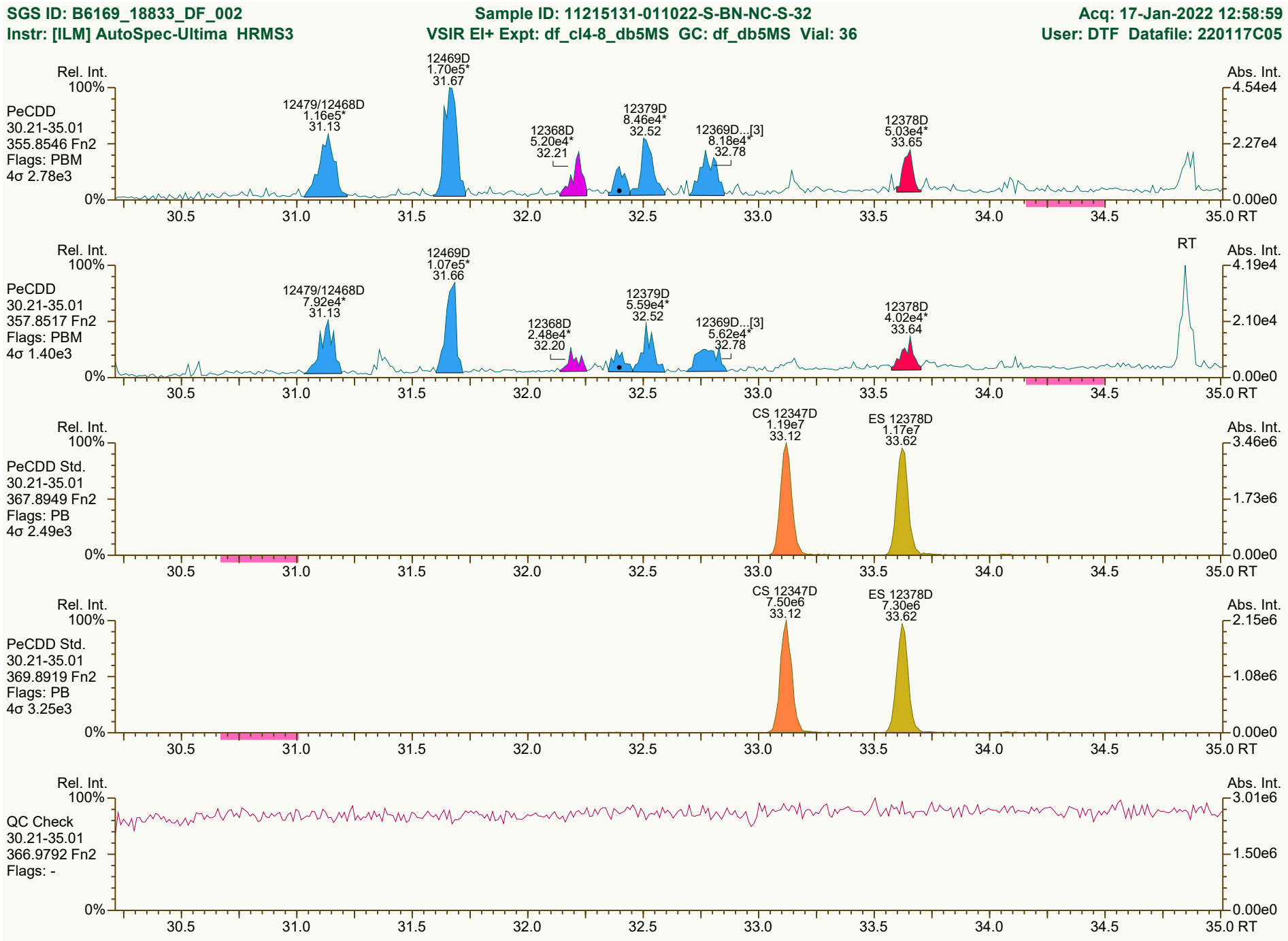
Client ID: 11215131-011022-S-BN-NC-S-32 **UTP: 18-Jan-2022 09:06:10 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 316-237-SQX**

Datafile: 220117C05 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

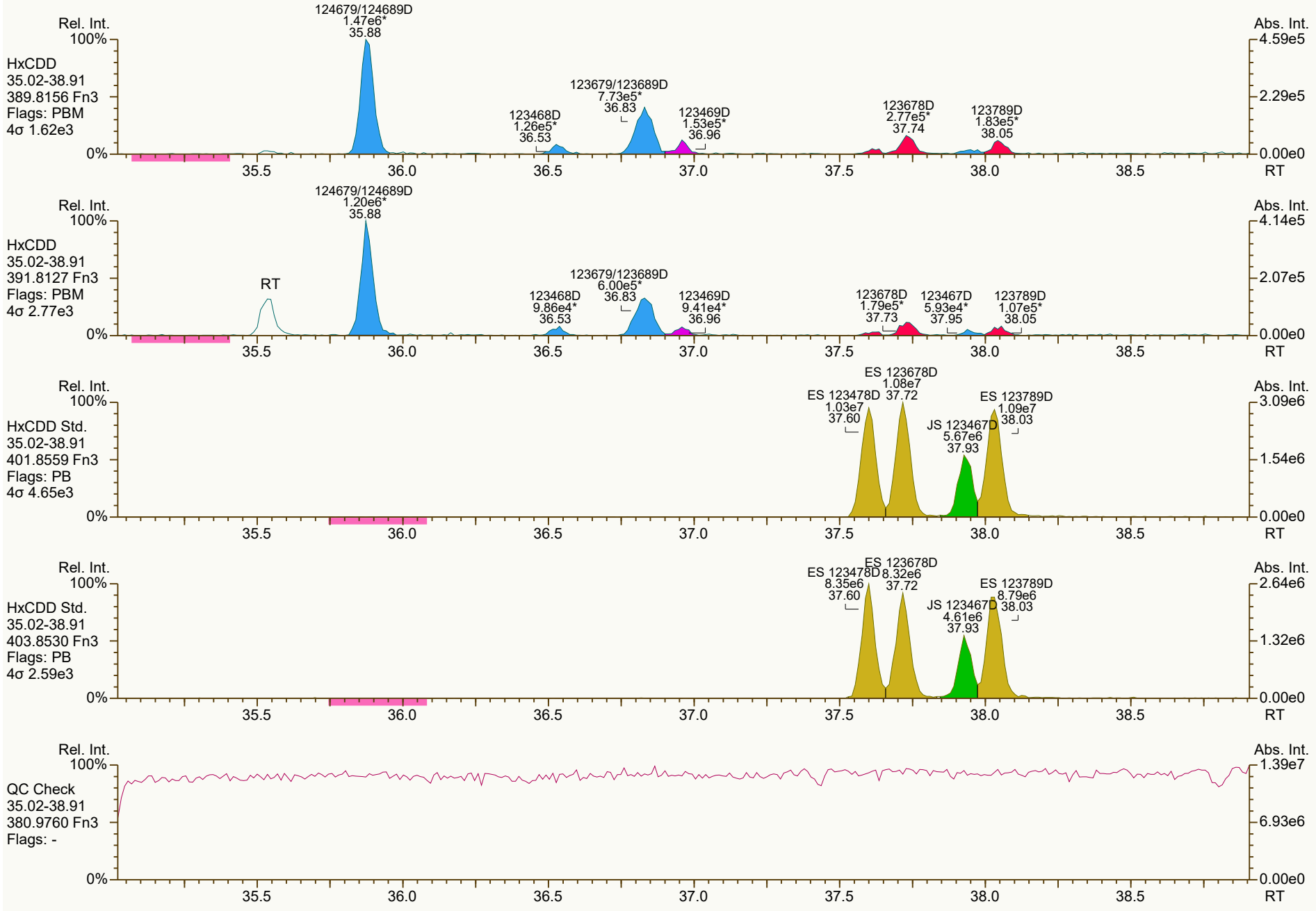
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		5463.098	0.332
12347-PeCDF	NotFnd		0.9890						1.02		5463.098	0.332
12348-PeCDF	NotFnd		0.9942						1.02		5463.098	0.332
12378-PeCDF	**32.17**	EMPC	**1.0006**	**1.0005**	**-0.2**	**3.92E+05**	**1.88**	**N**	**1.02**	**2.57**	**5463.098**	**0.334**
12678/12367-PeCDF	32.47	J	1.0090	1.0098	+1.6	2.16E+05	1.50	Y	1.02	1.44	5463.098	0.332
12379-PeCDF	NotFnd		1.0142						1.02		5463.098	0.332
12679-PeCDF	NotFnd		0.9933						1.02		5463.098	0.332
23467/12369-PeCDF	NotFnd		0.9969						1.02		5463.098	0.332
23478-PeCDF	**33.30**	EMPC	**1.0006**	**1.0009**	**+0.6**	**3.75E+05**	**1.27**	**N**	**1.02**	**2.54**	**5463.098**	**0.33**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5463.098	0.332
12349-PeCDF	NotFnd		1.0107						1.02		5463.098	0.332
12389-PeCDF	NotFnd		1.0330						1.02		5463.098	0.332
123468-HxCDF	35.22	J	0.9627	0.9626	-0.2	3.07E+05	1.42	Y	1.19	1.98	6859.816	0.383
124678/134678-HxCDF	35.41		0.9682	0.9679	-0.6	1.12E+06	1.21	Y	1.19	7.21	6859.816	0.383
134679-HxCDF	NotFnd		0.9744						1.19		6859.816	0.383
124679-HxCDF	NotFnd		0.9798						1.19		6859.816	0.383
124689-HxCDF	36.07		0.9858	0.9858	0	7.83E+05	1.22	Y	1.19	5.05	6859.816	0.383
123467-HxCDF	36.50	J	0.9973	0.9974	+0.2	1.25E+05	1.07	Y	1.19	0.807	6859.816	0.383
123478-HxCDF	**36.61**		**1.0005**	**1.0005**	**0**	**7.44E+05**	**1.26**	**Y**	**1.27**	**5**	**6859.816**	**0.385**
123678-HxCDF	**36.75**	J	**1.0004**	**1.0004**	**0**	**2.43E+05**	**1.34**	**Y**	**1.15**	**1.45**	**6859.816**	**0.364**
123479-HxCDF	NotFnd		1.0051						1.19		6859.816	0.383
123469-HxCDF	NotFnd		1.0093						1.19		6859.816	0.383
123679-HxCDF	NotFnd		0.9944						1.19		6859.816	0.383
234678-HxCDF	**37.42**	J EMPC	**1.0005**	**1.0004**	**-0.2**	**1.90E+05**	**1.04**	**N**	**1.19**	**1.09**	**6859.816**	**0.328**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6859.816	0.383
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6859.816**	**0.482**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.44	J EMPC	1.0008	1.0013	+1.2	1.04E+05	1.01	N	1.19	0.672	6859.816	0.383
1234678-HpCDF	**39.87**		**1.0003**	**1.0002**	**-0.2**	**2.36E+06**	**1.04**	**Y**	**1.37**	**15.5**	**6487.529**	**0.324**
1234679-HpCDF	40.15	**J**	1.0069	1.0072	+0.7	1.30E+05	0.96	Y	1.34	1.04	6487.529	0.444
1234689-HpCDF	40.28		1.0103	1.0106	+0.7	2.83E+06	0.99	Y	1.34	22.6	6487.529	0.444
1234789-HpCDF	**41.29**	**J**	**1.0003**	**1.0002**	**-0.2**	**1.73E+05**	**0.96**	**Y**	**1.31**	**1.75**	**6487.529**	**0.624**
OCDF	**43.78**		**1.0003**	**1.0002**	**-0.3**	**4.39E+06**	**0.92**	**Y**	**1.07**	**71.6**	**4101.949**	**0.92**
OCDF-a	43.79		1.0002	1.0004	+0.5	1.96E+05	2.31	Y	0.07	51.6	3792.046	13.7

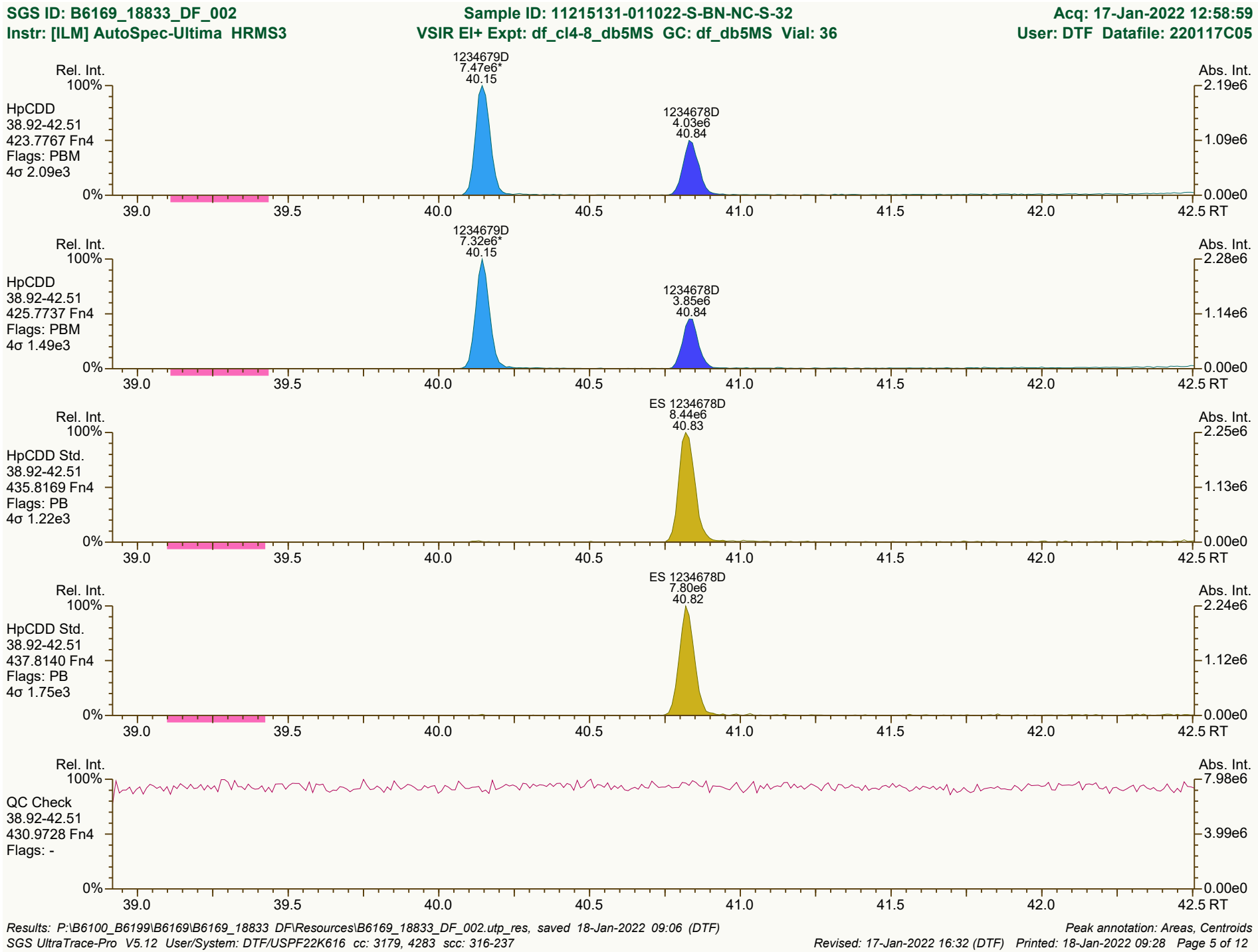

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.13e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.01e6
1.50e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.39e7
6.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.98e6
3.99e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.13e6
3.56e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

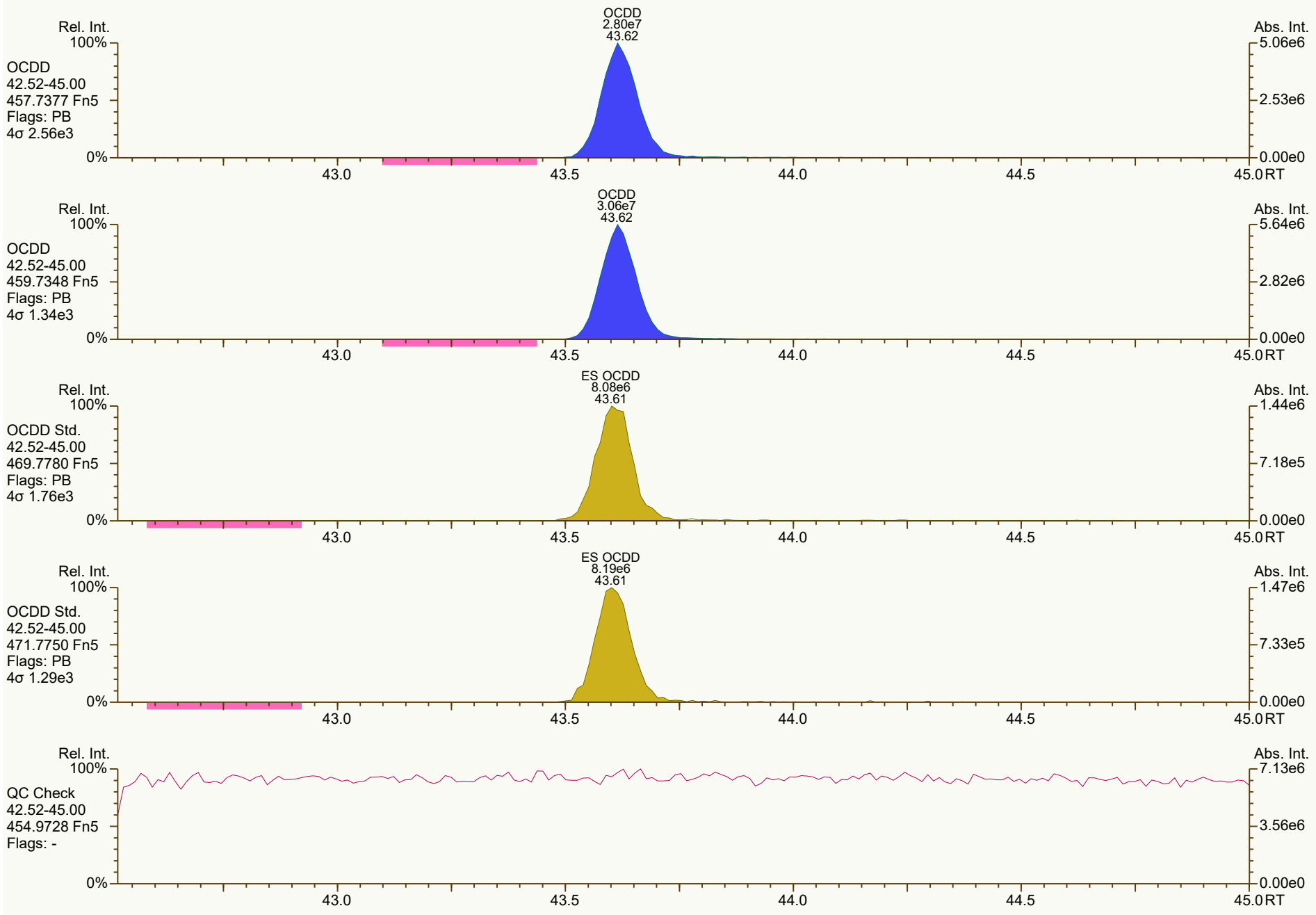

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 3.87e3
0%
2378D
8.56e5
28.20
1469D
1.55e5
26.11
1278D
6.47e4
28.54
Abs. Int.
2.09e5
1.05e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 3.80e3
0%
2378D
1.09e6
28.20
1469D
1.91e5
26.11
1278D
1.10e5
28.54
Abs. Int.
2.57e5
1.29e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.00e3
0%
CS 37Cl-2378D
9.20e6
28.20
Abs. Int.
2.31e6
1.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.54e3
0%
JS 1234D
9.84e6
27.54
ES 2378D
7.94e6
28.18
Abs. Int.
2.32e6
1.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.52e3
0%
JS 1234D
1.16e7
27.54
ES 2378D
9.66e6
28.18
Abs. Int.
2.82e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_002.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5063, 1250 scc: 316-237
PKD: 17-Jan-2022 16:36 Printed: 18-Jan-2022 09:28 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.62e3
124679/124689D
1.47e6*
35.88
123468D
1.26e5*
36.53
123679/123689D
7.73e5*
36.83
123469D
1.53e5*
36.96
123678D
2.77e5*
37.74
123789D
1.83e5*
38.05
Abs. Int.
4.59e5
2.29e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.77e3
RT
124679/124689D
1.20e6*
35.88
123468D
9.86e4*
36.53
123679/123689D
6.00e5*
36.83
123469D
9.41e4*
36.96
123678D
1.79e5*
37.73
123467D
5.93e4*
37.95
123789D
1.07e5*
38.05
Abs. Int.
4.14e5
2.07e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 4.65e3
ES 123678D
1.08e7
37.72
ES 123478D
1.03e7
37.60
ES 123789D
1.09e7
38.03
JS 123467D
5.67e6
37.93
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 2.59e3
ES 123678D
8.32e6
37.72
ES 123478D
8.35e6
37.60
ES 123789D
8.79e6
38.03
JS 123467D
4.61e6
37.93
Abs. Int.
2.64e6
1.32e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.39e7
6.93e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6169_18833_DF_002
Sample ID: 11215131-011022-S-BN-NC-S-32
Acq: 17-Jan-2022 12:58:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220117C05
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.09e3
1234679D
7.47e6*
40.15
1234678D
4.03e6
40.84
2.19e6
1.09e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.49e3
1234679D
7.32e6*
40.15
1234678D
3.85e6
40.84
2.28e6
1.14e6
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.22e3
ES 1234678D
8.44e6
40.83
2.25e6
1.13e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.75e3
ES 1234678D
7.80e6
40.82
2.24e6
1.12e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
7.98e6
3.99e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_002.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3179, 4283 scc: 316-237
Revised: 17-Jan-2022 16:32 (DTF) Printed: 18-Jan-2022 09:28 Page 5 of 12


OCDD
2.80e7
43.62
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.56e3
0%
Abs. Int.
5.06e6
2.53e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.06e7
43.62
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 1.34e3
5.64e6
2.82e6
ES OCDD
8.08e6
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.76e3
1.44e6
7.18e5
ES OCDD
8.19e6
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.29e3
1.47e6
7.33e5
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
7.13e6
3.56e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.36e3
0%
2368F 1.65e5* 25.87
1278F 1.08e6* 26.43
2378F 3.69e6* 27.32
2348F 1.14e5* 27.20
2367/3467F 5.06e5* 27.69
1289F 2.05e5* 29.36
Abs. Int.
7.99e5
4.00e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.37e3
0%
2368F 2.33e5* 25.87
1238F...[5] 2.20e5* 25.96
1278F 1.39e6* 26.43
2378F 4.55e6* 27.32
2348F 1.24e5* 27.20
2367/3467F 5.71e5* 27.69
1289F 2.50e5* 29.36
Abs. Int.
9.93e5
4.96e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.43e3
0%
JS 1234F 1.57e7 25.95
ES 2378F 1.29e7 27.30
Abs. Int.
3.27e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.87e3
0%
JS 1234F 1.96e7 25.95
ES 2378F 1.62e7 27.29
Abs. Int.
4.29e6
2.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
0%
Abs. Int.
2.34e4
1.17e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

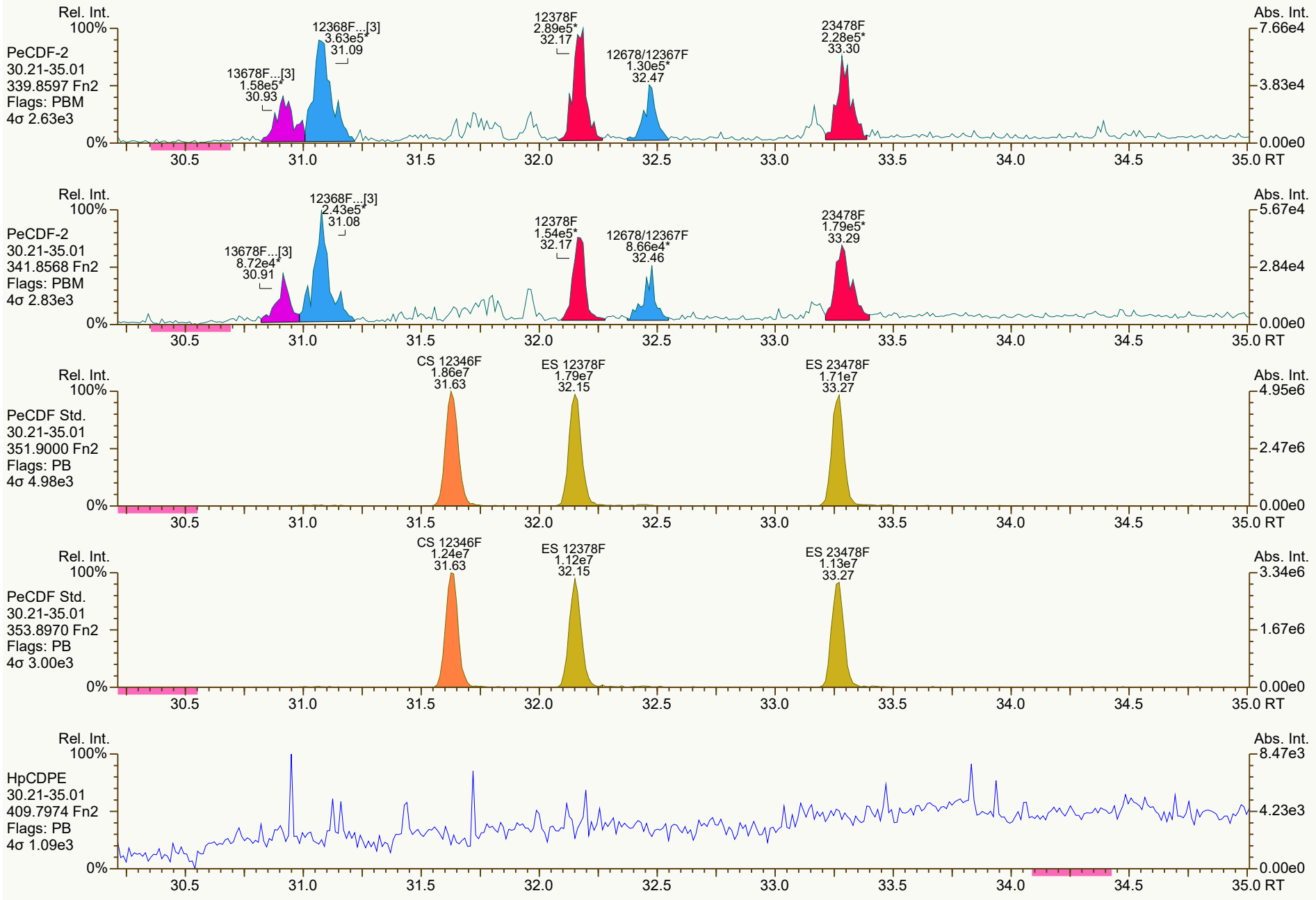
SGS ID: B6169_18833_DF_002 | Sample ID: 11215131-011022-S-BN-NC-S-32 | Acq: 17-Jan-2022 12:58:59

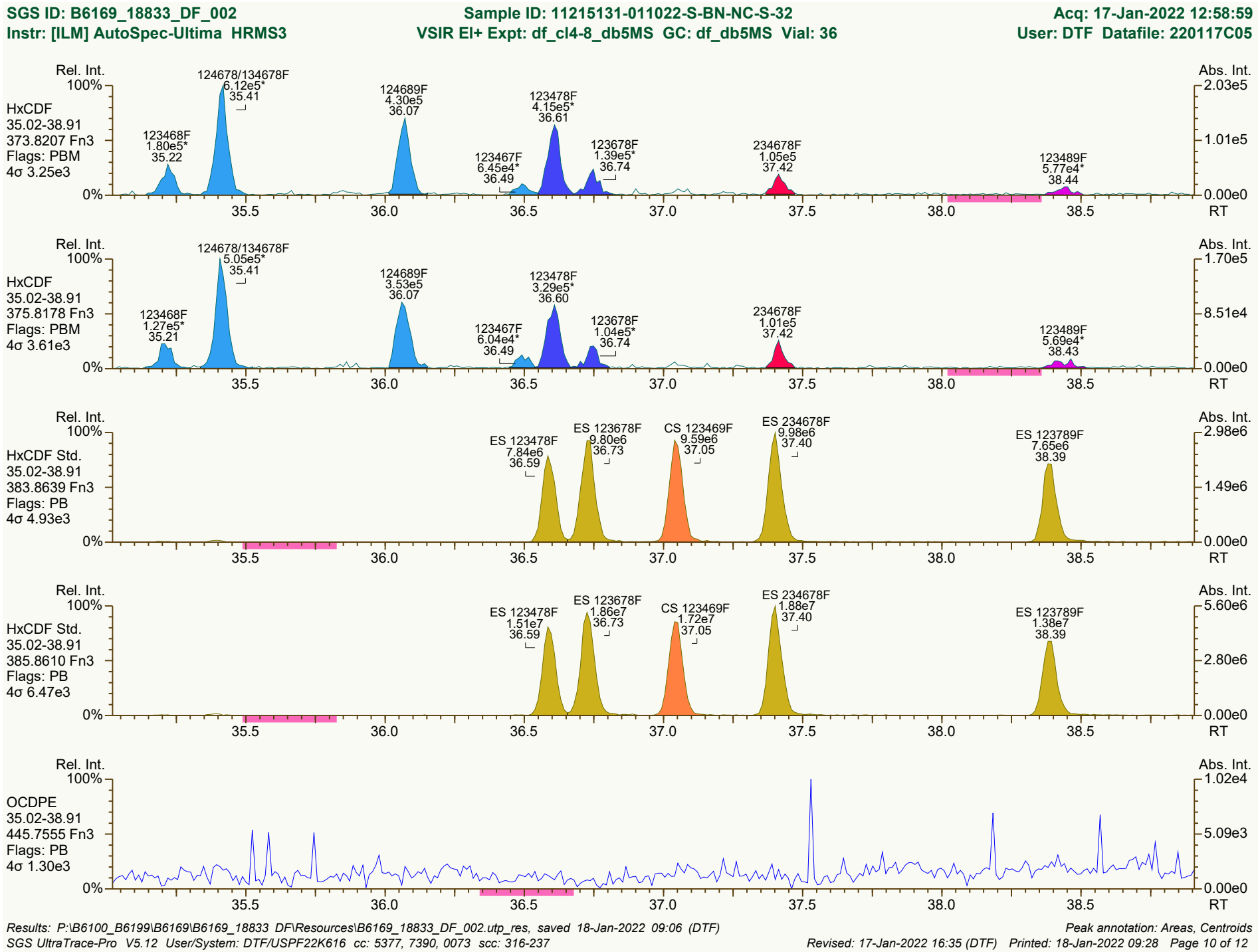
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36 | User: DTF Datafile: 220117C05

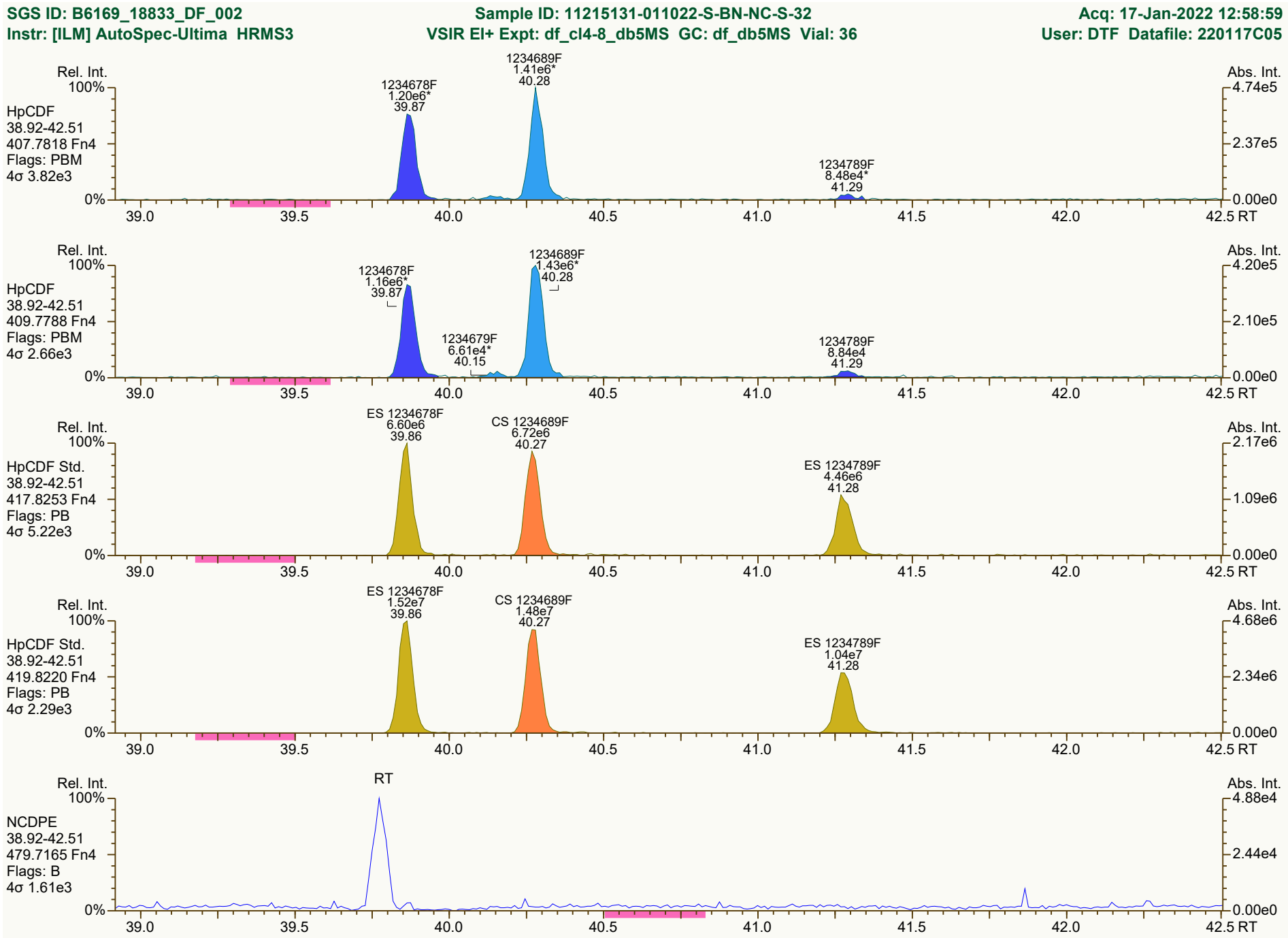


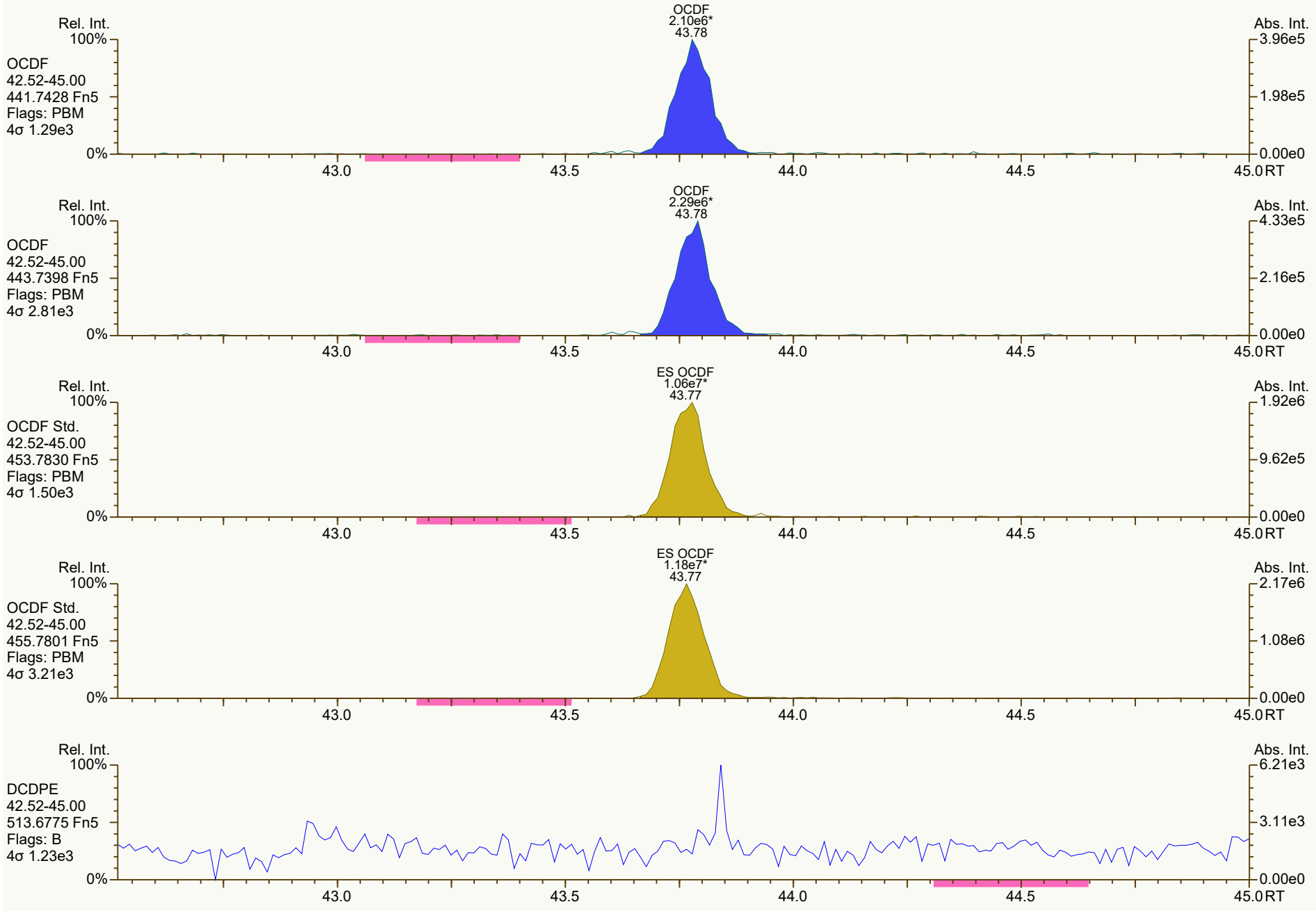
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_002.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4730 scc: 316-237 *Revised: 17-Jan-2022 16:34 (DTF) Printed: 18-Jan-2022 09:28 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.63e3
13678F...[3]
1.58e5*
30.93
12368F...[3]
3.63e5*
31.09
12378F
2.89e5*
32.17
12678/12367F
1.30e5*
32.47
23478F
2.28e5*
33.30
Abs. Int.
7.66e4
3.83e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.83e3
13678F...[3]
8.72e4*
30.91
12368F...[3]
2.43e5*
31.08
12378F
1.54e5*
32.17
12678/12367F
8.66e4*
32.46
23478F
1.79e5*
33.29
Abs. Int.
5.67e4
2.84e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 4.98e3
CS 12346F
1.86e7
31.63
ES 12378F
1.79e7
32.15
ES 23478F
1.71e7
33.27
Abs. Int.
4.95e6
2.47e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 3.00e3
CS 12346F
1.24e7
31.63
ES 12378F
1.12e7
32.15
ES 23478F
1.13e7
33.27
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: PB
4σ 1.09e3
Abs. Int.
8.47e3
4.23e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


SGS ID: B6169_18833_DF_002
Sample ID: 11215131-011022-S-BN-NC-S-32
Acq: 17-Jan-2022 12:58:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220117C05
Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 3.25e3
123468F 1.80e5* 35.22
124678/134678F 6.12e5* 35.41
124689F 4.30e5 36.07
123467F 6.45e4* 36.49
123478F 4.15e5* 36.61
123678F 1.39e5* 36.74
234678F 1.05e5 37.42
123489F 5.77e4* 38.44
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 3.61e3
123468F 1.27e5* 35.21
124678/134678F 5.05e5* 35.41
124689F 3.53e5 36.07
123467F 6.04e4* 36.49
123478F 3.29e5* 36.60
123678F 1.04e5* 36.74
234678F 1.01e5 37.42
123489F 5.69e4* 38.43
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 4.93e3
ES 123478F 7.84e6 36.59
ES 123678F 9.80e6 36.73
CS 123469F 9.59e6 37.05
ES 234678F 9.98e6 37.40
ES 123789F 7.65e6 38.39
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 6.47e3
ES 123478F 1.51e7 36.59
ES 123678F 1.86e7 36.73
CS 123469F 1.72e7 37.05
ES 234678F 1.88e7 37.40
ES 123789F 1.38e7 38.39
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.30e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
2.03e5
1.01e5
0.00e0
1.70e5
8.51e4
2.98e6
1.49e6
5.60e6
2.80e6
1.02e4
5.09e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_002.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5377, 7390, 0073 scc: 316-237
Revised: 17-Jan-2022 16:35 (DTF) Printed: 18-Jan-2022 09:28 Page 10 of 12


SGS ID: B6169_18833_DF_002
Sample ID: 11215131-011022-S-BN-NC-S-32
Acq: 17-Jan-2022 12:58:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220117C05
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 3.82e3
1234678F
1.20e6*
39.87
1234689F
1.41e6*
40.28
1234789F
8.48e4*
41.29
4.74e5
2.37e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
1.16e6*
39.87
1234679F
6.61e4*
40.15
1234689F
1.43e6*
40.28
1234789F
8.84e4
41.29
4.20e5
2.10e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 5.22e3
ES 1234678F
6.60e6
39.86
CS 1234689F
6.72e6
40.27
ES 1234789F
4.46e6
41.28
2.17e6
1.09e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.29e3
ES 1234678F
1.52e7
39.86
CS 1234689F
1.48e7
40.27
ES 1234789F
1.04e7
41.28
4.68e6
2.34e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.61e3
RT
4.88e4
2.44e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_002.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5168, 7459, 4740 scc: 316-237
Revised: 17-Jan-2022 16:36 (DTF) Printed: 18-Jan-2022 09:28 Page 11 of 12


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.29e3
0%
OCDF
2.10e6*
43.78
Abs. Int.
3.96e5
1.98e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.81e3
0%
OCDF
2.29e6*
43.78
Abs. Int.
4.33e5
2.16e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 1.50e3
0%
ES OCDF
1.06e7*
43.77
Abs. Int.
1.92e6
9.62e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 3.21e3
0%
ES OCDF
1.18e7*
43.77
Abs. Int.
2.17e6
1.08e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.23e3
0%
Abs. Int.
6.21e3
3.11e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6169_18833_DF_003 **Acq'd:** 17 Jan 2022 13:45 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-31 **UTP:** 18-Jan-2022 09:06:10 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 432-718-GPY

Datafile: 220117C06 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22	E	1.0008	1.0008	0	2.96E+08	0.81	Y	1.18	2,040	3898.798	0.255
12378-PeCDD	33.65		1.0006	1.0006	0	2.48E+06	1.57	Y	1.04	19.5	5835.692	0.382
123478-HxCDD	37.63		1.0004	1.0004	0	3.84E+05	1.23	Y	1.09	2.95	10700.732	0.704
123678-HxCDD	37.75		1.0036	1.0036	0	2.06E+06	1.26	Y	1.15	14.7	10700.732	0.657
123789-HxCDD	38.06		1.0118	1.0119	+0.2	9.54E+05	1.35	Y	1.05	6.94	10700.732	0.726
1234678-HpCDD	40.86		1.0003	1.0003	0	5.41E+07	1.04	Y	1.06	416	6248.913	0.426
OCDD	43.64		1.0003	1.0003	0	4.98E+08	0.91	Y	1.13	5,950	4391.227	0.737
2378-TCDF	27.34	E	1.0008	1.0008	0	1.24E+09	0.82	Y	1.08	5,650	2817.683	0.137
12378-PeCDF	32.19		1.0006	1.0006	0	4.63E+07	1.59	Y	1.02	241	9253.42	0.447
23478-PeCDF	33.31		1.0006	1.0008	+0.4	3.61E+07	1.60	Y	1.02	190	9253.42	0.431
123478-HxCDF	36.62		1.0005	1.0005	0	6.89E+07	1.28	Y	1.27	344	15705.771	0.617
123678-HxCDF	36.76		1.0004	1.0004	0	1.87E+07	1.27	Y	1.15	87.6	15705.771	0.623
234678-HxCDF	37.43		1.0005	1.0004	-0.2	4.10E+06	1.27	Y	1.19	20.7	15705.771	0.663
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	15705.771	0.714
1234678-HpCDF	39.89		1.0003	1.0003	0	3.42E+07	1.03	Y	1.37	181	5160.794	0.227
1234789-HpCDF	41.31		1.0003	1.0002	-0.2	6.39E+06	1.05	Y	1.31	40.8	5160.794	0.313
OCDF	43.80		1.0003	1.0003	0	1.71E+08	0.90	Y	1.07	1,560	4687.824	0.59

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0231	1.0228	-0.5	2.41E+07	0.81	Y	1.05	81.3
ES 12378-PeCDD	33.63	1.2198	1.2198	0	2.41E+07	1.61	Y	0.88	96.7
ES 123478-HxCDD	37.61	0.9913	0.9913	0	2.35E+07	1.26	Y	0.97	87.6
ES 123678-HxCDD	37.73	0.9944	0.9945	+0.2	2.39E+07	1.23	Y	0.94	91.7
ES 123789-HxCDD	38.04	1.0026	1.0027	+0.2	2.57E+07	1.27	Y	1.09	85.5
ES 1234678-HpCDD	40.84	1.0760	1.0765	+1.2	2.40E+07	1.07	Y	0.91	95.5
ES OCDD	43.63	1.1489	1.1499	+2.6	2.92E+07	0.93	Y	0.62	84.7
ES 2378-TCDF	27.32	1.0515	1.0515	0	3.98E+07	0.82	Y	1.06	83.1
ES 12378-PeCDF	32.17	1.2378	1.2383	+1.0	3.68E+07	1.50	Y	0.91	89.4
ES 23478-PeCDF	33.29	1.2804	1.2811	+1.4	3.65E+07	1.49	Y	0.88	91.5
ES 123478-HxCDF	36.60	0.9647	0.9647	0	3.09E+07	0.55	Y	1.20	93.6
ES 123678-HxCDF	36.74	0.9684	0.9684	0	3.63E+07	0.56	Y	1.35	97.3
ES 234678-HxCDF	37.41	0.9861	0.9861	0	3.27E+07	0.53	Y	1.24	95.4
ES 123789-HxCDF	38.40	1.0120	1.0120	0	3.20E+07	0.53	Y	1.16	100
ES 1234678-HpCDF	39.88	1.0506	1.0510	+1.0	2.71E+07	0.44	Y	0.97	102
ES 1234789-HpCDF	41.30	1.0879	1.0884	+1.2	2.35E+07	0.49	Y	0.85	100
ES OCDF	43.79	1.1534	1.1541	+1.8	4.01E+07	0.93	Y	0.81	90

Lab ID: B6169_18833_DF_003 **Acq'd:** 17 Jan 2022 13:45 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-31 **UTP:** 18-Jan-2022 09:06:10 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 432-718-GPY

Datafile: 220117C06 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.57		-	-	-	2.83E+07	0.84	Y	-	-
JS 1234-TCDF	25.98		-	-	-	4.52E+07	0.78	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.38E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0238	1.0236	-0.3	1.08E+07	n/a	-	1.20	79
CS 12347-PeCDD	33.14		1.2018	1.2019	+0.2	2.12E+07	1.63	Y	0.75	99.3
CS 12346-PeCDF	31.65		1.2178	1.2182	+0.8	3.35E+07	1.47	Y	0.85	87.3
CS 123469-HxCDF	37.06		0.9768	0.9768	0	3.03E+07	0.54	Y	1.12	98.4
CS 1234689-HpCDF	40.29		1.0615	1.0620	+1.2	2.47E+07	0.46	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0238~~	~~1.0236~~	~~-0.3~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~97.4~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2019~~	~~+0.2~~	~~2.12E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2182~~	~~+0.8~~	~~3.35E+07~~	~~1.47~~	~~Y~~	~~0.94~~	~~97.4~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9768~~	~~0~~	~~3.03E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~101~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0615~~	~~1.0620~~	~~+1.2~~	~~2.47E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	2240	2250
Total PeCDD	42.9	43.9
Total HxCDD	126	128
Total HpCDD	880	880
Total Tetra-Octa Dioxins	9240	9250
Total TCDF	11,100	11100
Total PeCDF	707	708
Total HxCDF	590	590
Total HpCDF	372	372
Total Tetra-Octa Furans	14,300	14300
Total Tetra-Octa Dioxins & Furans	23600	23600

Lab ID: B6169_18833_DF_003 **Acq'd: 17 Jan 2022 13:45 DTF** **Wt/Vol: 10.20 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-31 **UTP: 18-Jan-2022 09:06:10 DTF** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 432-718-GPY**

Datafile: 220117C06 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.56		0.8733	0.8710	-3.4	7.73E+05	0.75	Y	1.18	5.31	3898.798	0.255
1379-TCDD	24.93		0.8860	0.8841	-2.8	3.07E+05	0.89	Y	1.18	2.11	3898.798	0.255
1369-TCDD	25.36	EMPC	0.9009	0.8994	-2.3	7.35E+04	0.89	N	1.18	0.505	3898.798	0.255
1469-TCDD	26.14		0.9282	0.9270	-1.9	5.36E+05	0.84	Y	1.18	3.68	3898.798	0.255
1247/1246/1248/1249-TCDD	26.37		0.9365	0.9351	-2.2	5.95E+05	0.87	Y	1.18	4.09	3898.798	0.255
1378-TCDD	26.57		0.9429	0.9421	-1.3	9.86E+05	0.87	Y	1.18	6.78	3898.798	0.255
1268-TCDD	26.77	EMPC	0.9500	0.9494	-1.0	8.89E+04	1.08	N	1.18	0.611	3898.798	0.255
1478-TCDD	27.02		0.9584	0.9580	-0.6	7.99E+05	0.75	Y	1.18	5.49	3898.798	0.255
1279-TCDD	NotFnd		0.9648						1.18		3898.798	0.255
1234/1269-TCDD	27.56	EMPC	0.9770	0.9772	+0.3	2.16E+05	0.92	N	1.18	1.49	3898.798	0.255
1236-TCDD	NotFnd		0.9821						1.18		3898.798	0.255
1237/1238-TCDD	27.94		0.9909	0.9908	-0.2	5.13E+06	0.82	Y	1.18	35.3	3898.798	0.255
1239-TCDD	NotFnd		0.9959						1.18		3898.798	0.255
2378-TCDD	**28.22**	E	**1.0008**	1.0008	**0**	2.96E+08	0.81	Y	**1.18**	**2,040**	**3898.798**	**0.255**
1278-TCDD	28.55		1.0123	1.0124	+0.2	1.98E+07	0.80	Y	1.18	136	3898.798	0.255
1267-TCDD	28.69		1.0172	1.0174	+0.3	7.99E+05	0.85	Y	1.18	5.49	3898.798	0.255
1289-TCDD	29.21	EMPC	1.0354	1.0357	+0.5	4.78E+05	0.92	N	1.18	3.28	3898.798	0.255
12479/12468-PeCDD	31.15		0.9267	0.9262	-0.9	7.82E+05	1.45	Y	1.04	6.14	5835.692	0.382
12469-PeCDD	31.69		0.9426	0.9422	-0.8	4.24E+05	1.51	Y	1.04	3.33	5835.692	0.382
12368-PeCDD	32.23		0.9587	0.9583	-0.8	6.75E+05	1.57	Y	1.04	5.3	5835.692	0.382
12478-PeCDD	32.42	J	0.9642	0.9641	-0.2	2.97E+05	1.38	Y	1.04	2.33	5835.692	0.382
12379-PeCDD	32.53	J	0.9674	0.9672	-0.4	2.40E+05	1.35	Y	1.04	1.89	5835.692	0.382
12369/12467/12489-PeCDD	32.80	J	0.9752	0.9752	0	2.97E+05	1.35	Y	1.04	2.33	5835.692	0.382
12346/12347-PeCDD	33.16	J	0.9861	0.9860	-0.2	1.48E+05	1.64	Y	1.04	1.16	5835.692	0.382
12378-PeCDD	33.65		**1.0006**	**1.0006**	**0**	**2.48E+06**	**1.57**	**Y**	**1.04**	**19.5**	**5835.692**	**0.382**
12367-PeCDD	33.75	J EMPC	1.0036	1.0034	-0.4	1.25E+05	1.12	N	1.04	0.984	5835.692	0.382
12389-PeCDD	34.10	J	1.0139	1.0140	+0.2	1.20E+05	1.44	Y	1.04	0.945	5835.692	0.382
124679/124689-HxCDD	35.89		0.9541	0.9543	+0.4	6.67E+06	1.25	Y	1.10	49	10700.732	0.695
123468-HxCDD	36.55		0.9715	0.9716	+0.2	1.02E+06	1.18	Y	1.10	7.51	10700.732	0.695
123679/123689-HxCDD	36.84		0.9793	0.9795	+0.4	5.71E+06	1.23	Y	1.10	42	10700.732	0.695
123469-HxCDD	36.98	EMPC	0.9831	0.9832	+0.2	3.75E+05	1.44	N	1.10	2.76	10700.732	0.695
123478-HxCDD	37.63		**1.0004**	**1.0004**	**0**	**3.84E+05**	**1.23**	**Y**	1.09	**2.95**	**10700.732**	**0.704**
123678-HxCDD	37.75		**1.0036**	**1.0036**	**0**	**2.06E+06**	**1.26**	**Y**	1.15	**14.7**	**10700.732**	**0.657**
123467-HxCDD	37.95	J	1.0089	1.0090	+0.2	3.26E+05	1.08	Y	1.10	2.4	10700.732	0.695
123789-HxCDD	38.06		**1.0118**	**1.0119**	**+0.2**	**9.54E+05**	**1.35**	**Y**	1.05	**6.94**	**10700.732**	**0.726**

Lab ID: B6169_18833_DF_003 **Acq'd: 17 Jan 2022 13:45 DTF** **Wt/Vol: 10.20 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-31 **UTP: 18-Jan-2022 09:06:10 DTF** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 432-718-GPY**

Datafile: 220117C06 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

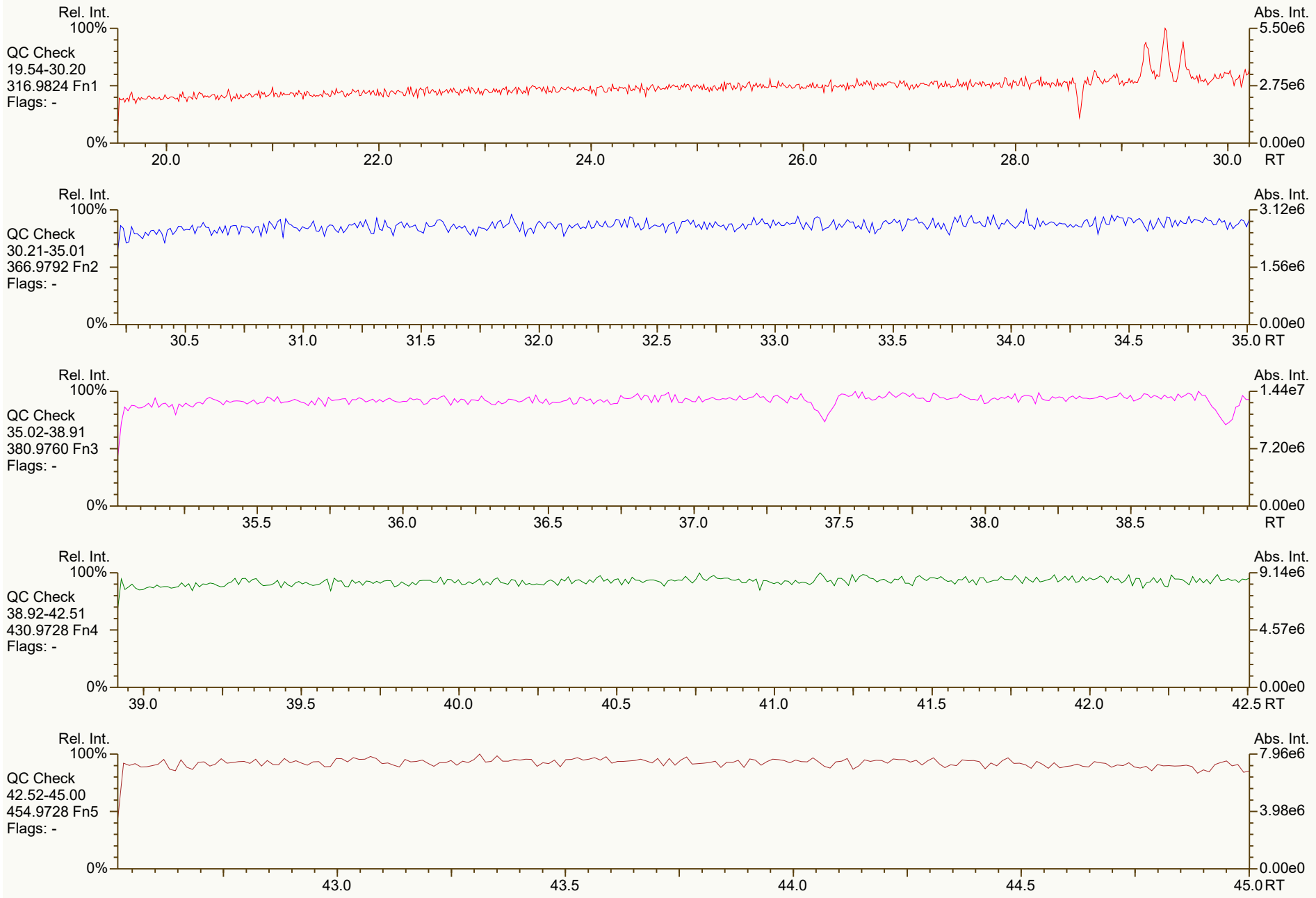
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9835	0	6.03E+07	1.06	Y	1.06	464	6248.913	0.426
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**5.41E+07**	**1.04**	**Y**	**1.06**	**416**	**6248.913**	**0.426**
OCDD	**43.64**		**1.0003**	**1.0003**	**0**	**4.98E+08**	**0.91**	**Y**	**1.13**	**5,950**	**4391.227**	**0.737**
OCDD-a	43.64		1.0002	1.0002	0	3.10E+07	2.47	Y	0.07	5,790	7795.454	20.5
1368-TCDF	22.43		0.8250	0.8208	-5.7	3.82E+05	0.78	Y	1.08	1.75	2817.683	0.137
1468-TCDF	23.03		0.8494	0.8428	-9.1	2.08E+06	0.81	Y	1.08	9.52	2817.683	0.137
2468-TCDF	23.66		0.8684	0.8658	-3.7	2.11E+06	0.82	Y	1.08	9.64	2817.683	0.137
1346/1246-TCDF	NotFnd		0.8815						1.08		2817.683	0.137
1347/1378/1247-TCDF	24.20		0.8867	0.8858	-1.3	1.42E+07	0.79	Y	1.08	65.1	2817.683	0.137
1348-TCDF	24.53		0.8966	0.8980	+2.1	6.14E+07	0.81	Y	1.08	281	2817.683	0.137
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2817.683	0.137
1268-TCDF	24.95		0.9148	0.9131	-2.5	2.03E+07	0.81	Y	1.08	92.6	2817.683	0.137
1467-TCDF	25.08		0.9197	0.9180	-2.6	2.89E+06	0.82	Y	1.08	13.2	2817.683	0.137
1478-TCDF	25.25		0.9258	0.9241	-2.6	5.01E+07	0.79	Y	1.08	229	2817.683	0.137
1369/1237-TCDF	25.63		0.9390	0.9381	-1.4	1.38E+07	0.82	Y	1.08	62.9	2817.683	0.137
2467-TCDF	25.76	EMPC	0.9435	0.9428	-1.1	1.29E+06	0.89	N	1.08	5.9	2817.683	0.137
2368-TCDF	25.89		0.9488	0.9475	-2.0	3.18E+07	0.79	Y	1.08	145	2817.683	0.137
1238/1234/1678/1469/1236-TCDF	25.98		0.9527	0.9509	-2.8	6.57E+07	0.81	Y	1.08	300	2817.683	0.137
1278-TCDF	26.45	E	0.9689	0.9681	-1.3	5.63E+08	0.81	Y	1.08	2,570	2817.683	0.137
1349-TCDF	NotFnd		0.9730						1.08		2817.683	0.137
1267-TCDF	26.73		0.9787	0.9782	-0.8	3.02E+07	0.84	Y	1.08	138	2817.683	0.137
2346/1249-TCDF	26.94		0.9856	0.9860	+0.6	3.47E+06	0.83	Y	1.08	15.9	2817.683	0.137
2347/1279-TCDF	27.13		0.9934	0.9930	-0.7	1.67E+07	0.80	Y	1.08	76.4	2817.683	0.137
2348-TCDF	27.24		0.9972	0.9969	-0.5	1.01E+08	0.80	Y	1.08	463	2817.683	0.137
2378-TCDF	**27.34**	E	**1.0008**	**1.0008**	**0**	**1.24E+09**	**0.82**	**Y**	**1.08**	**5,650**	**2817.683**	**0.137**
2367/3467-TCDF	27.71		1.0145	1.0142	-0.5	9.67E+07	0.81	Y	1.08	442	2817.683	0.137
1269-TCDF	27.97		1.0236	1.0236	0	1.91E+07	0.82	Y	1.08	87.2	2817.683	0.137
1239-TCDF	28.24		1.0333	1.0334	+0.2	1.51E+06	0.85	Y	1.08	6.88	2817.683	0.137
1289-TCDF	29.38		1.0740	1.0755	+2.6	9.48E+07	0.81	Y	1.08	433	2817.683	0.137
13468/12468-PeCDF	29.39		0.9138	0.9135	-0.5	3.02E+06	1.69	Y	1.02	15.8	3432.134	0.163
13678/13467/12467-PeCDF	30.94		0.9614	0.9615	+0.2	1.03E+06	1.54	Y	1.02	5.37	9253.42	0.439
12368/13478/12478-PeCDF	31.10		0.9661	0.9666	+0.9	2.16E+07	1.60	Y	1.02	113	9253.42	0.439
14678-PeCDF	NotFnd		0.9693						1.02		9253.42	0.439
13479-PeCDF	NotFnd		0.9722						1.02		9253.42	0.439
13469/12479-PeCDF	31.48	J	0.9800	0.9783	-3.2	3.34E+05	1.50	Y	1.02	1.75	9253.42	0.439
12346-PeCDF	NotFnd		0.9844						1.02		9253.42	0.439

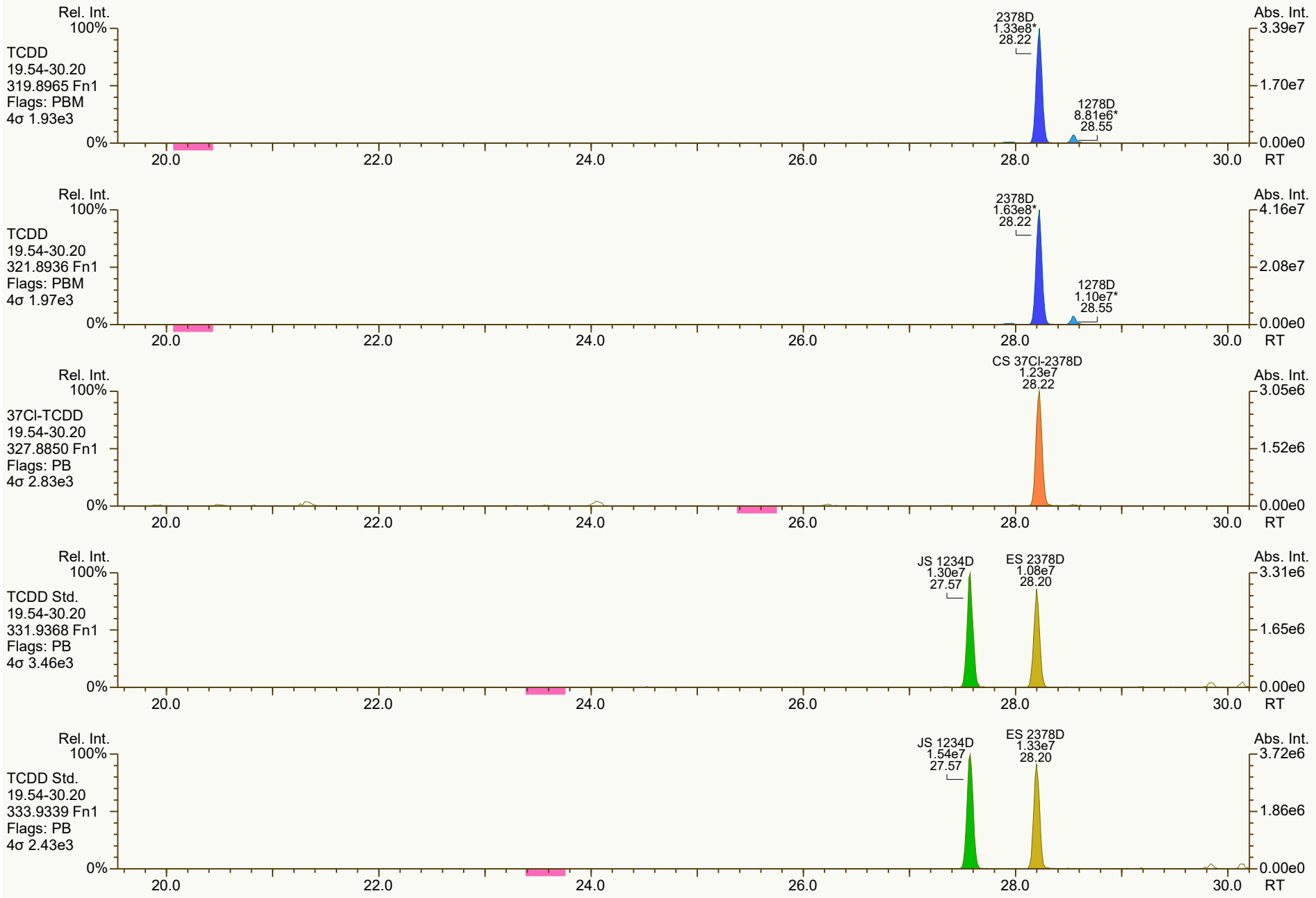
Lab ID: B6169_18833_DF_003 **Acq'd: 17 Jan 2022 13:45 DTF** **Wt/Vol: 10.20 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

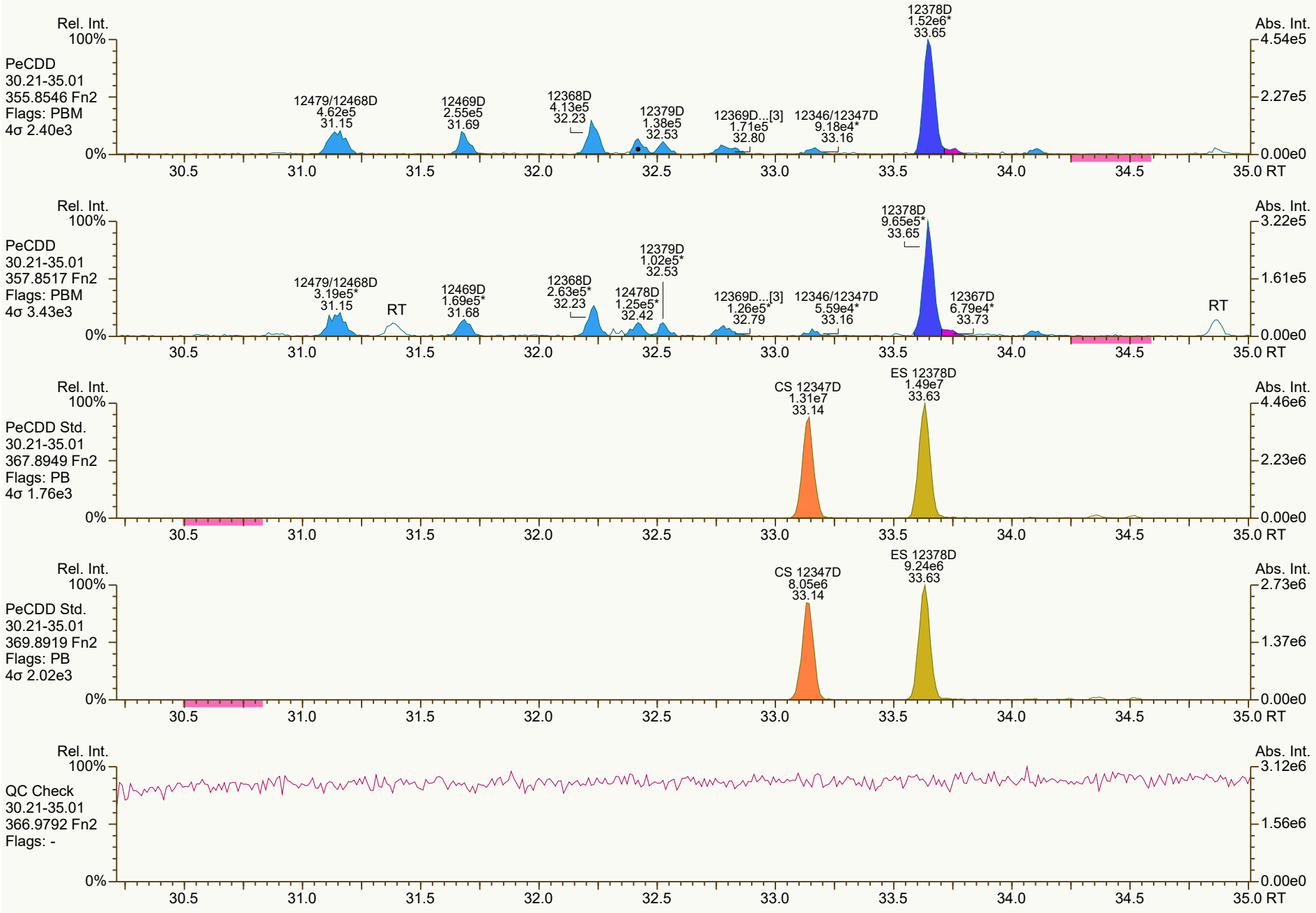
Client ID: 11215131-011022-S-BN-NC-S-31 **UTP: 18-Jan-2022 09:06:10 DTF** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 432-718-GPY**

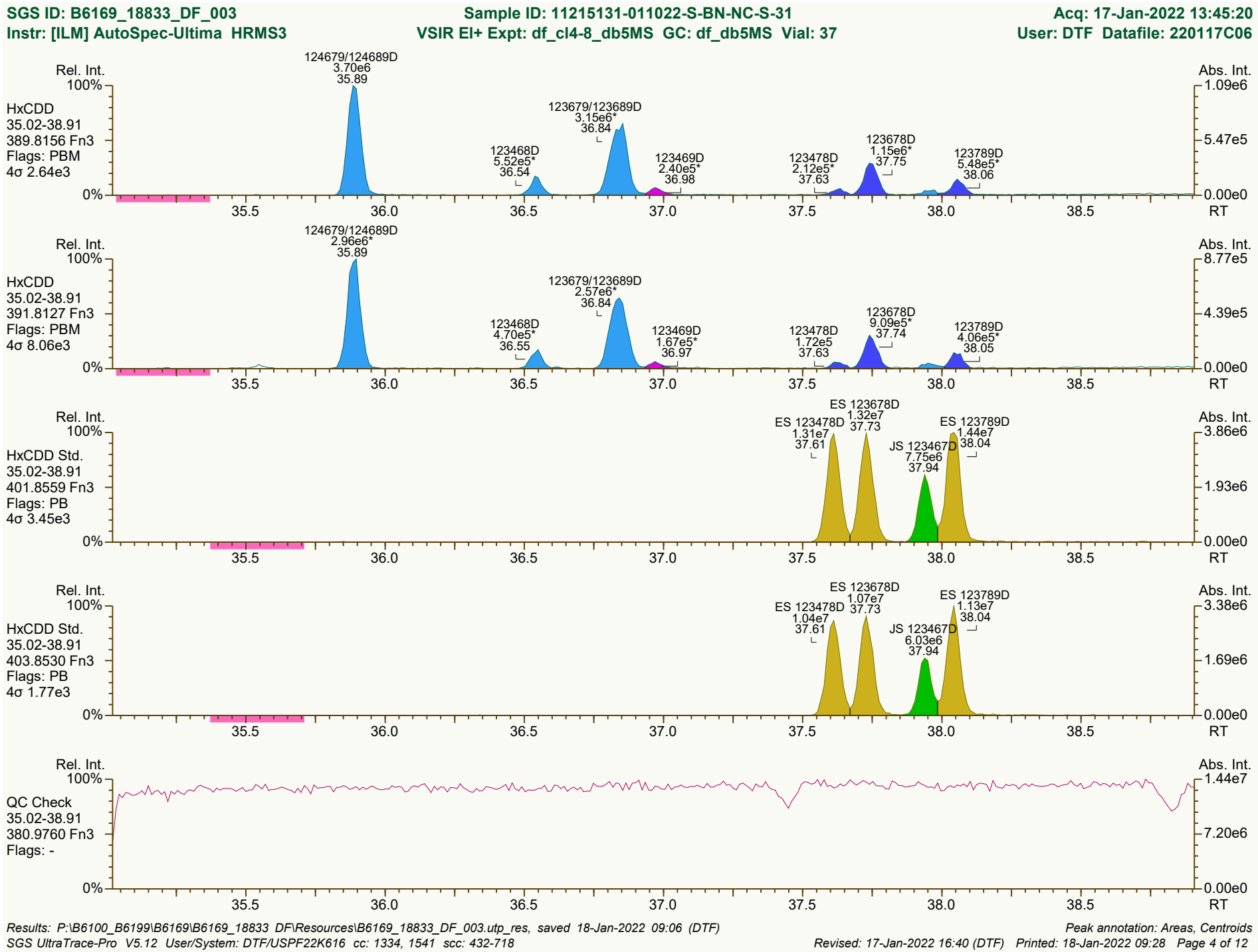
Datafile: 220117C06 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

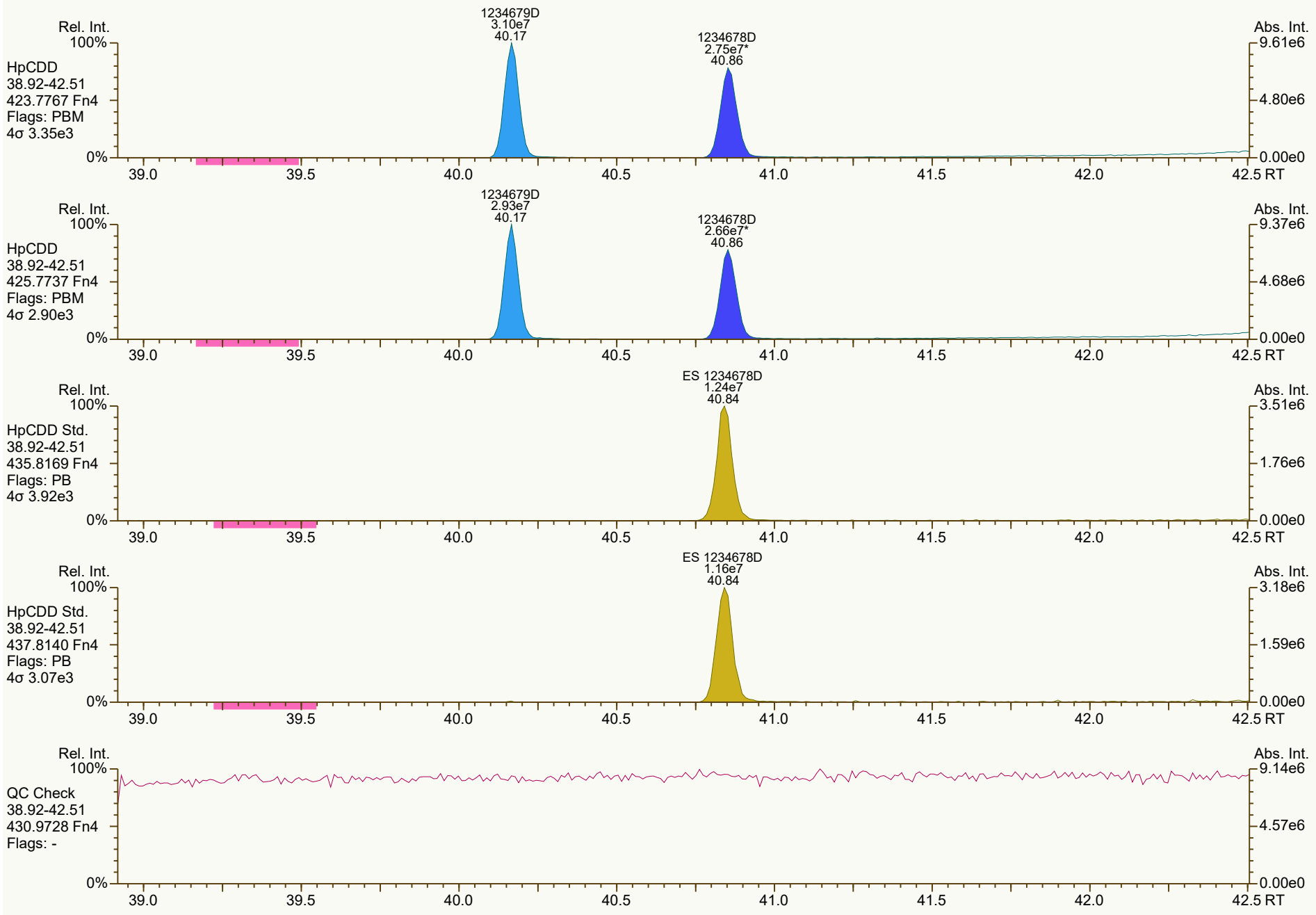
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74		0.9865	0.9864	-0.2	1.52E+06	1.47	Y	1.02	7.94	9253.42	0.439
12347-PeCDF	31.82		0.9890	0.9891	+0.2	1.03E+06	1.75	Y	1.02	5.37	9253.42	0.439
12348-PeCDF	31.99		0.9942	0.9942	0	5.33E+06	1.64	Y	1.02	27.9	9253.42	0.439
12378-PeCDF	**32.19**		**1.0006**	**1.0006**	**0**	**4.63E+07**	**1.59**	**Y**	**1.02**	**241**	**9253.42**	**0.447**
12678/12367-PeCDF	32.49		1.0090	1.0098	+1.6	1.58E+07	1.56	Y	1.02	82.8	9253.42	0.439
12379-PeCDF	NotFnd		1.0142						1.02		9253.42	0.439
12679-PeCDF	33.06	J EMPC	0.9933	0.9931	-0.4	1.36E+05	1.85	N	1.02	0.712	9253.42	0.439
23467/12369-PeCDF	33.18		0.9969	0.9968	-0.2	7.63E+05	1.47	Y	1.02	3.99	9253.42	0.439
23478-PeCDF	**33.31**		**1.0006**	**1.0008**	**+0.4**	**3.61E+07**	**1.60**	**Y**	**1.02**	**190**	**9253.42**	**0.431**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9253.42	0.439
12349-PeCDF	NotFnd		1.0107						1.02		9253.42	0.439
12389-PeCDF	34.39		1.0330	1.0330	0	2.23E+06	1.58	Y	1.02	11.7	9253.42	0.439
123468-HxCDF	35.23		0.9627	0.9625	-0.4	2.01E+06	1.19	Y	1.19	10	15705.771	0.652
124678/134678-HxCDF	35.43		0.9682	0.9679	-0.6	1.00E+07	1.30	Y	1.19	50	15705.771	0.652
134679-HxCDF	NotFnd		0.9744						1.19		15705.771	0.652
124679-HxCDF	35.85	J	0.9798	0.9796	-0.4	2.43E+05	1.12	Y	1.19	1.21	15705.771	0.652
124689-HxCDF	36.08		0.9858	0.9858	0	7.90E+06	1.26	Y	1.19	39.4	15705.771	0.652
123467-HxCDF	36.50		0.9973	0.9972	-0.2	8.21E+05	1.26	Y	1.19	4.09	15705.771	0.652
123478-HxCDF	**36.62**		**1.0005**	**1.0005**	**0**	**6.89E+07**	**1.28**	**Y**	**1.27**	**344**	**15705.771**	**0.617**
123678-HxCDF	**36.76**		**1.0004**	**1.0004**	**0**	**1.87E+07**	**1.27**	**Y**	**1.15**	**87.6**	**15705.771**	**0.623**
123479-HxCDF	NotFnd		1.0051						1.19		15705.771	0.652
123469-HxCDF	37.07	J	1.0093	1.0089	-0.9	4.17E+05	1.10	Y	1.19	2.08	15705.771	0.652
123679-HxCDF	NotFnd		0.9944						1.19		15705.771	0.652
234678-HxCDF	**37.43**		**1.0005**	**1.0004**	**-0.2**	**4.10E+06**	**1.27**	**Y**	**1.19**	**20.7**	**15705.771**	**0.663**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		15705.771	0.652
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**15705.771**	**0.714**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.44		1.0008	1.0012	+0.9	6.37E+06	1.28	Y	1.19	31.7	15705.771	0.652
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**3.42E+07**	**1.03**	**Y**	**1.37**	**181**	**5160.794**	**0.227**
1234679-HpCDF	40.16		1.0069	1.0071	+0.5	8.82E+05	0.98	Y	1.34	5.1	5160.794	0.267
1234689-HpCDF	40.30		1.0103	1.0107	+1.0	2.51E+07	1.05	Y	1.34	145	5160.794	0.267
1234789-HpCDF	**41.31**		**1.0003**	**1.0002**	**-0.2**	**6.39E+06**	**1.05**	**Y**	**1.31**	**40.8**	**5160.794**	**0.313**
OCDF	**43.80**		**1.0003**	**1.0003**	**0**	**1.71E+08**	**0.90**	**Y**	**1.07**	**1,560**	**4687.824**	**0.59**
OCDF-a	43.80		1.0002	1.0002	0	1.11E+07	2.49	Y	0.07	1,630	4270.153	8.67

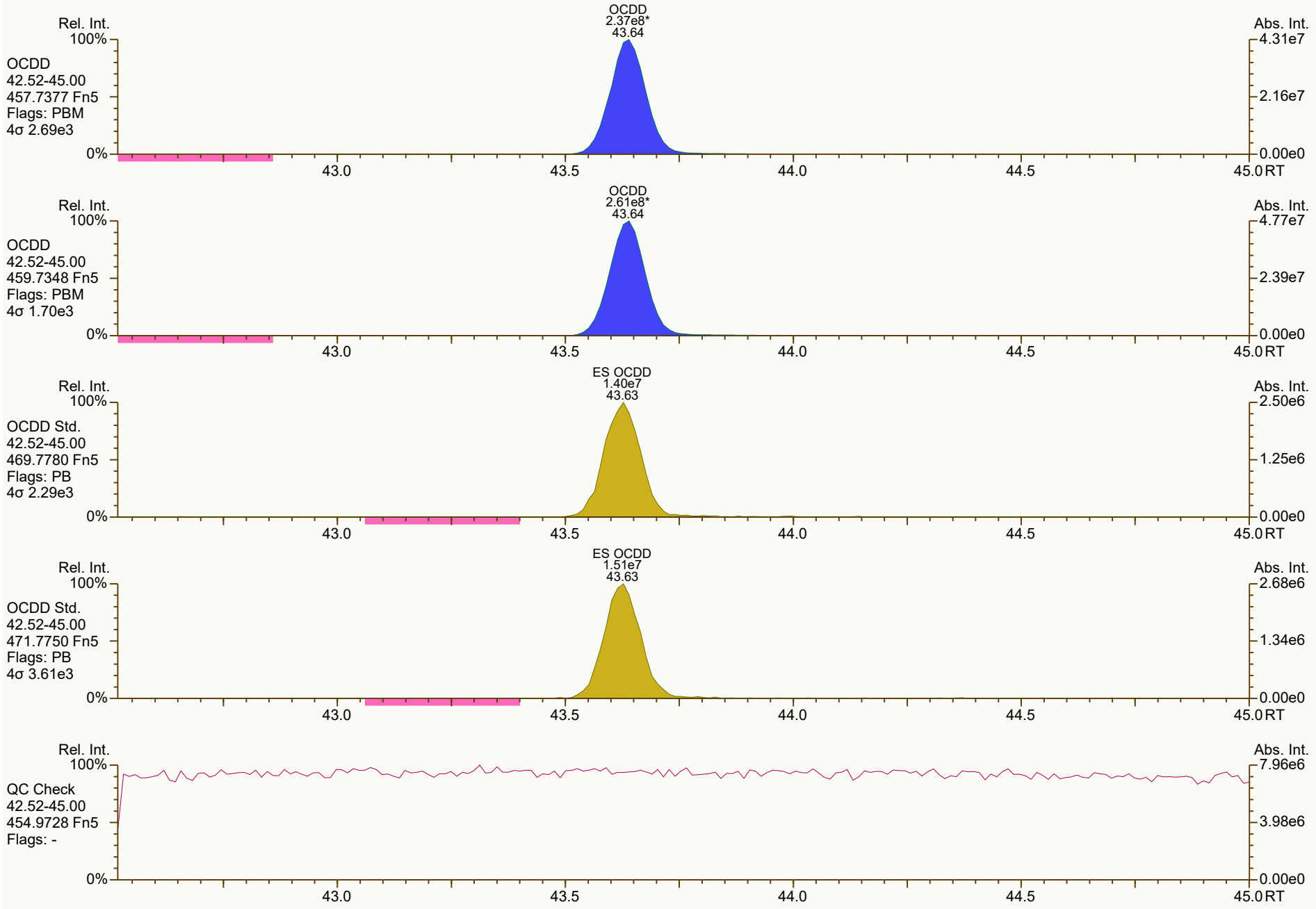

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.50e6
2.75e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
3.12e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
9.14e6
4.57e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
7.96e6
3.98e6
0.00e0

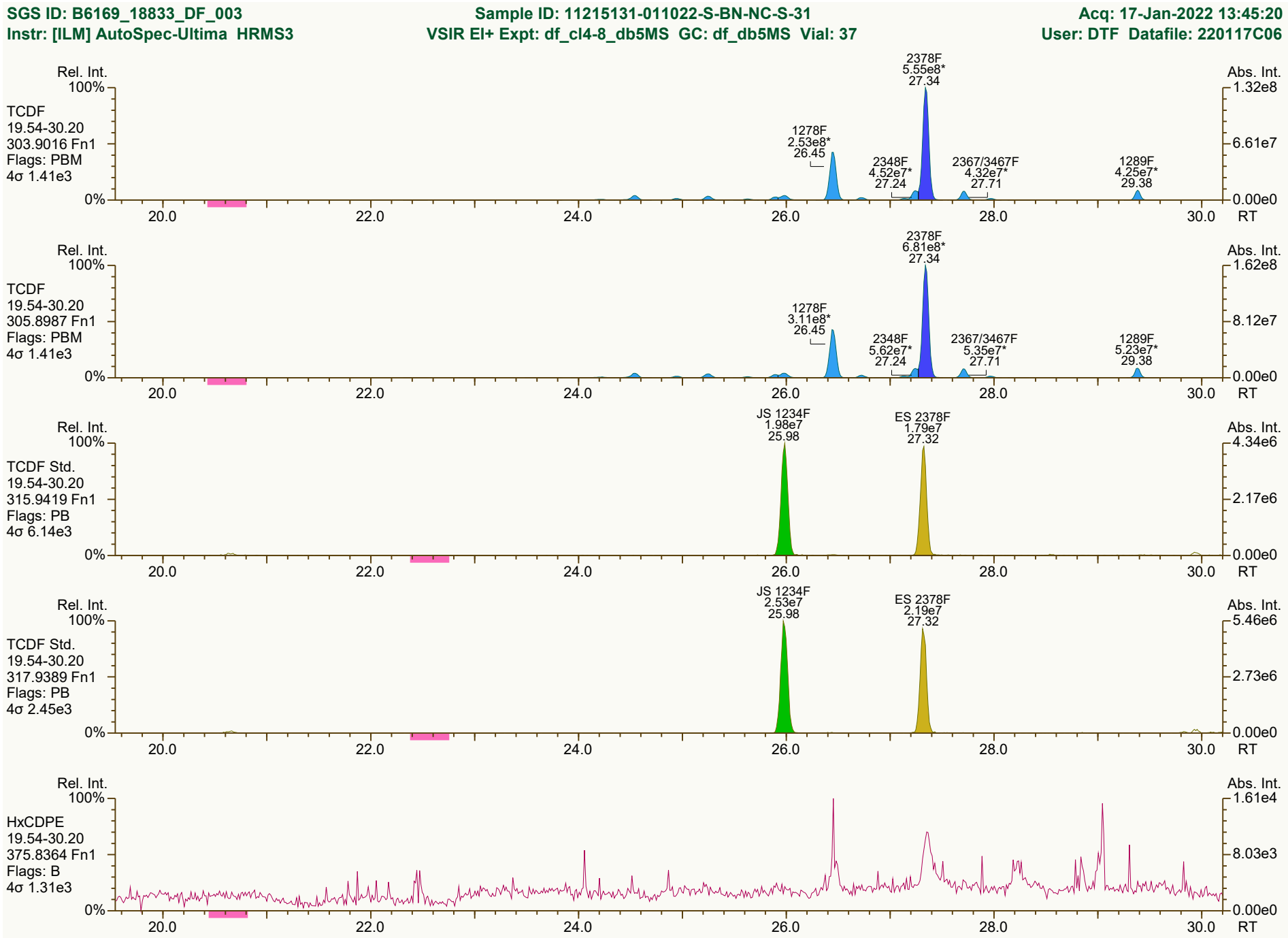

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.93e3
0%
2378D
1.33e8*
28.22
1278D
8.81e6*
28.55
Abs. Int.
3.39e7
1.70e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.97e3
0%
2378D
1.63e8*
28.22
1278D
1.10e7*
28.55
Abs. Int.
4.16e7
2.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.83e3
0%
CS 37Cl-2378D
1.23e7
28.22
Abs. Int.
3.05e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.46e3
0%
JS 1234D
1.30e7
27.57
ES 2378D
1.08e7
28.20
Abs. Int.
3.31e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.43e3
0%
JS 1234D
1.54e7
27.57
ES 2378D
1.33e7
28.20
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.40e3
0%
12479/12468D
4.62e5
31.15
12469D
2.55e5
31.69
12368D
4.13e5
32.23
12379D
1.38e5
32.53
12369D...[3]
1.71e5
32.80
12346/12347D
9.18e4*
33.16
12378D
1.52e6*
33.65
Abs. Int.
4.54e5
2.27e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 3.43e3
0%
12479/12468D
3.19e5*
31.15
RT
12469D
1.69e5*
31.68
12368D
2.63e5*
32.23
12478D
1.25e5*
32.42
12379D
1.02e5*
32.53
12369D...[3]
1.26e5*
32.79
12346/12347D
5.59e4*
33.16
12378D
9.65e5*
33.65
12367D
6.79e4*
33.73
RT
Abs. Int.
3.22e5
1.61e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12347D
1.31e7
33.14
ES 12378D
1.49e7
33.63
Abs. Int.
4.46e6
2.23e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.02e3
0%
CS 12347D
8.05e6
33.14
ES 12378D
9.24e6
33.63
Abs. Int.
2.73e6
1.37e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

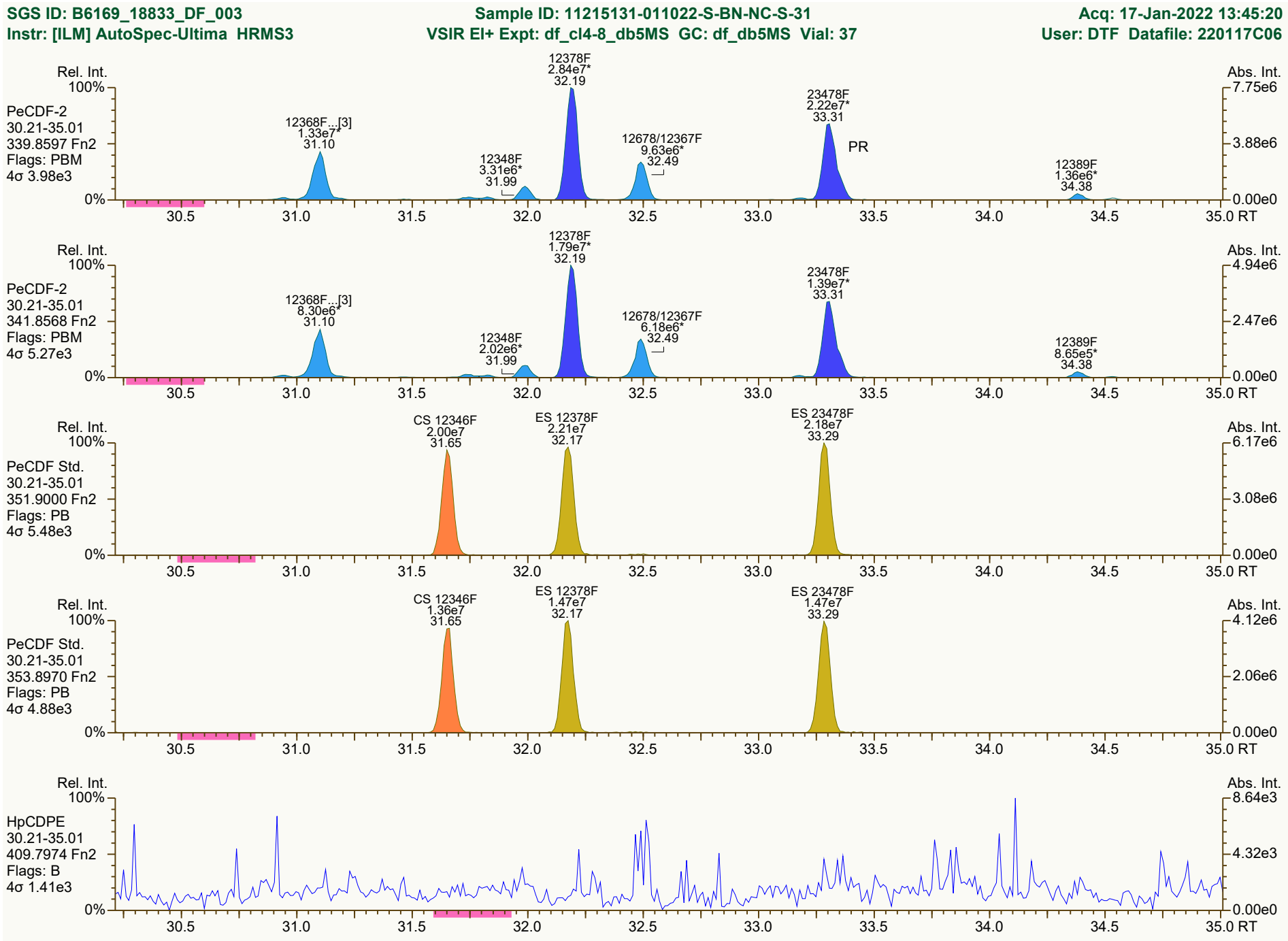

SGS ID: B6169_18833_DF_003
Sample ID: 11215131-011022-S-BN-NC-S-31
Acq: 17-Jan-2022 13:45:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220117C06
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.64e3
124679/124689D
3.70e6
35.89
123679/123689D
3.15e6*
36.84
123468D
5.52e5*
36.54
123469D
2.40e5*
36.98
123478D
2.12e5*
37.63
123678D
1.15e6*
37.75
123789D
5.48e5*
38.06
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 8.06e3
124679/124689D
2.96e6*
35.89
123679/123689D
2.57e6*
36.84
123468D
4.70e5*
36.55
123469D
1.67e5*
36.97
123478D
1.72e5
37.63
123678D
9.09e5*
37.74
123789D
4.06e5*
38.05
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 3.45e3
ES 123678D
1.32e7
37.73
ES 123478D
1.31e7
37.61
JS 123467D
7.75e6
37.94
ES 123789D
1.44e7
38.04
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.77e3
ES 123678D
1.07e7
37.73
ES 123478D
1.04e7
37.61
JS 123467D
6.03e6
37.94
ES 123789D
1.13e7
38.04
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_003.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1334, 1541 scc: 432-718
Revised: 17-Jan-2022 16:40 (DTF) Printed: 18-Jan-2022 09:28 Page 4 of 12

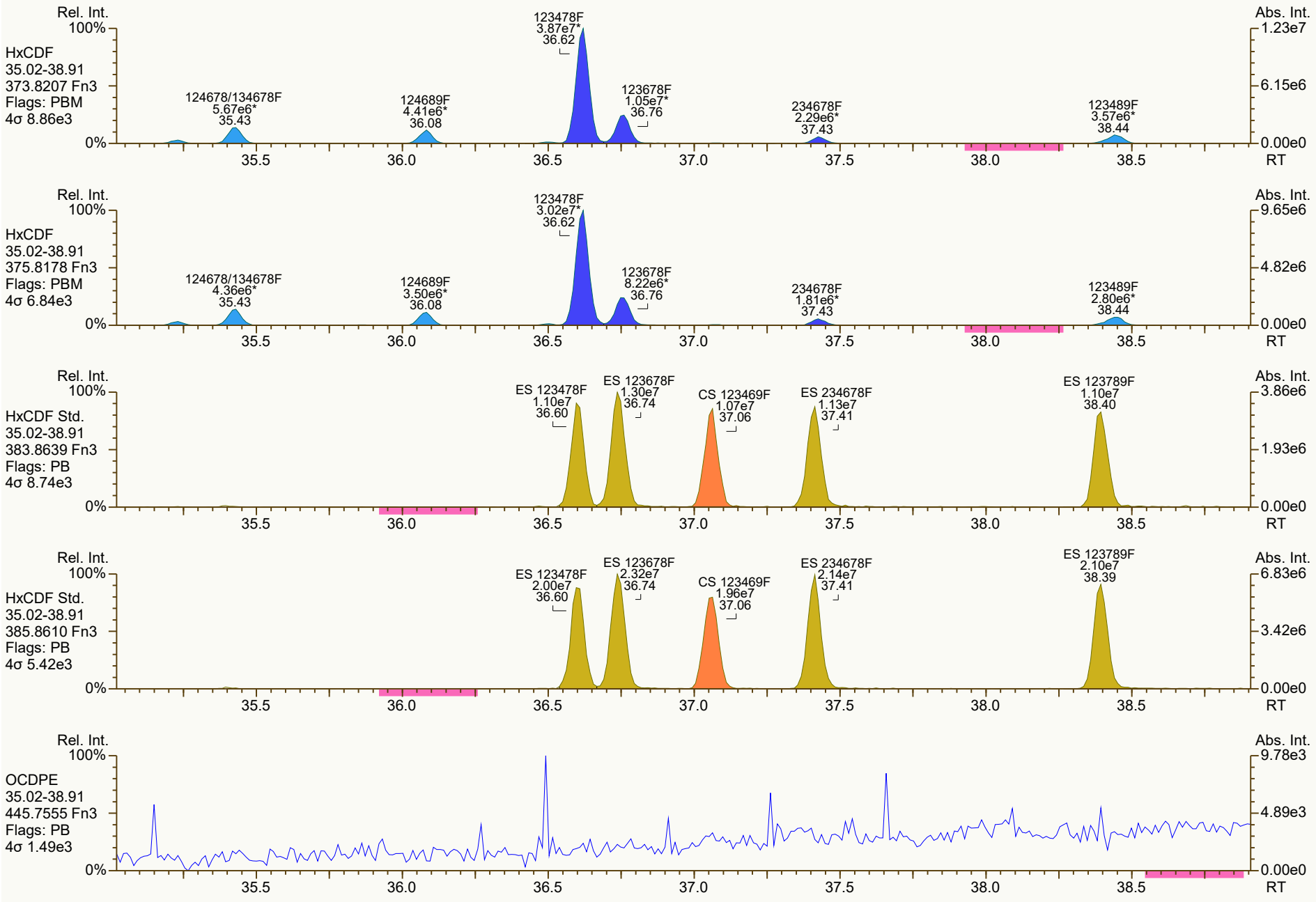

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 3.35e3
1234679D
3.10e7
40.17
1234678D
2.75e7*
40.86
Abs. Int.
9.61e6
4.80e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.90e3
1234679D
2.93e7
40.17
1234678D
2.66e7*
40.86
Abs. Int.
9.37e6
4.68e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 3.92e3
ES 1234678D
1.24e7
40.84
Abs. Int.
3.51e6
1.76e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 3.07e3
ES 1234678D
1.16e7
40.84
Abs. Int.
3.18e6
1.59e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
9.14e6
4.57e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

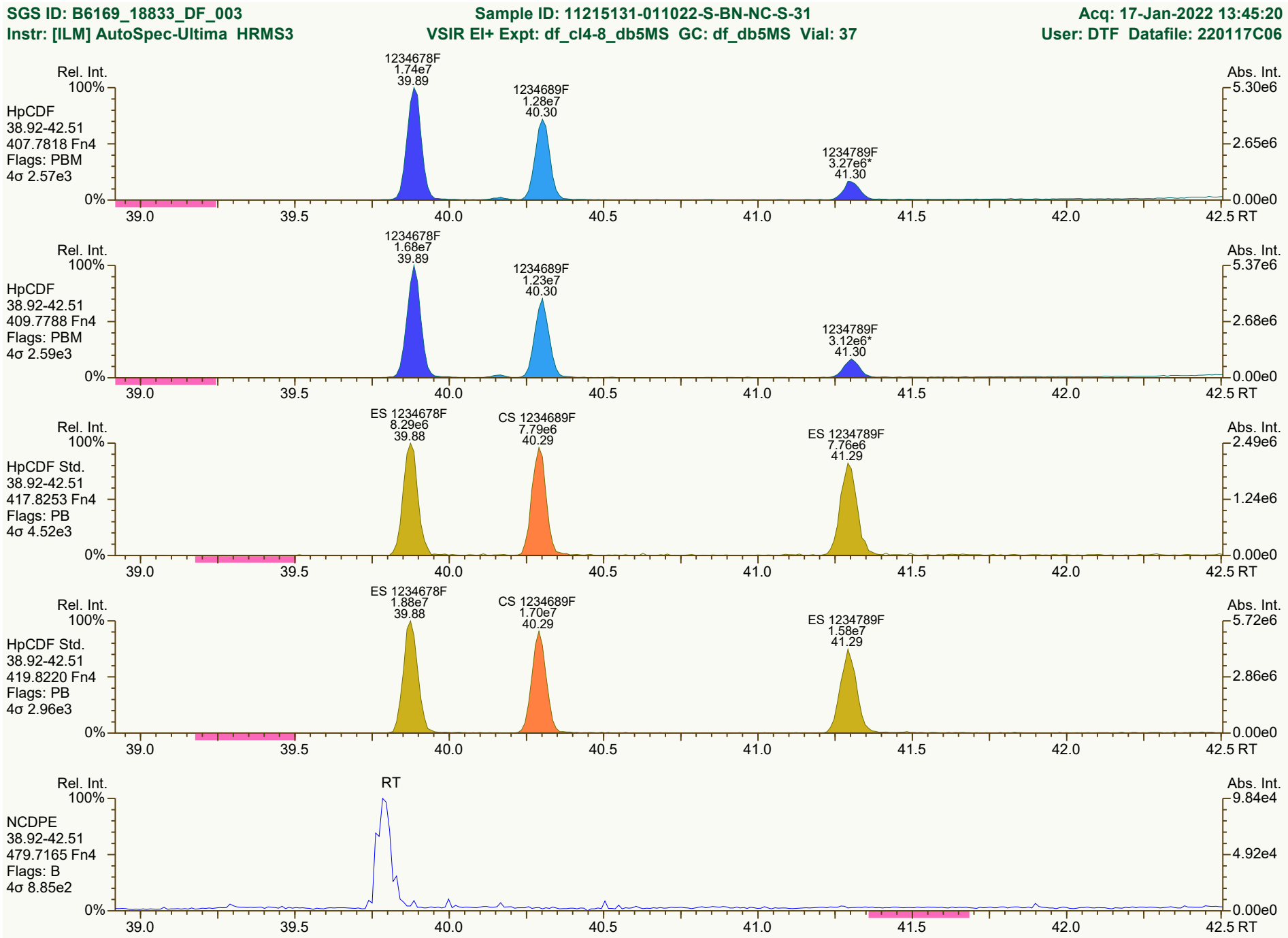

Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.69e3
0%
OCDD
2.37e8*
43.64
Abs. Int.
4.31e7
2.16e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 1.70e3
0%
OCDD
2.61e8*
43.64
Abs. Int.
4.77e7
2.39e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.40e7
43.63
Abs. Int.
2.50e6
1.25e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 3.61e3
0%
ES OCDD
1.51e7
43.63
Abs. Int.
2.68e6
1.34e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.96e6
3.98e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

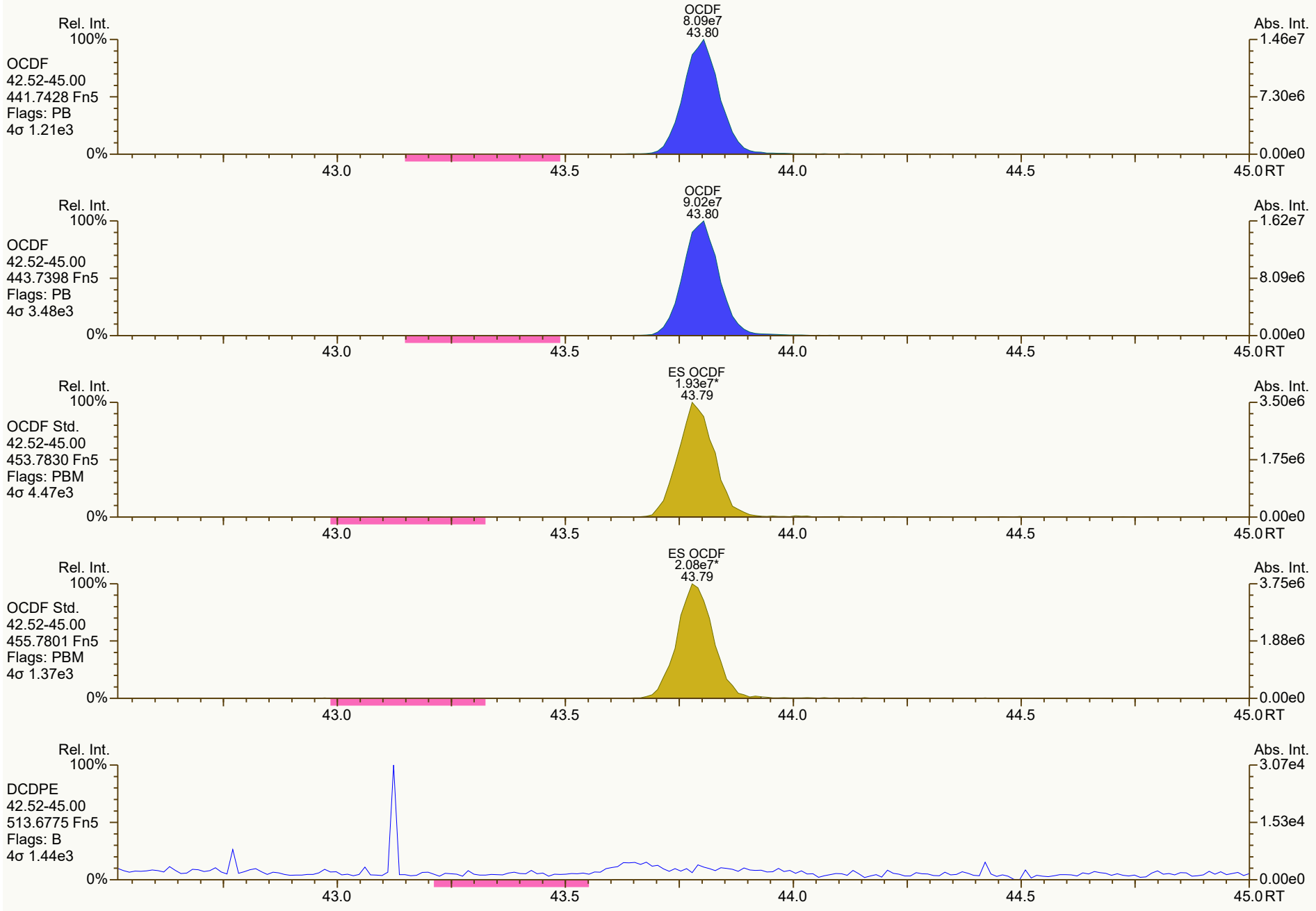

SGS ID: B6169_18833_DF_003
Sample ID: 11215131-011022-S-BN-NC-S-31
Acq: 17-Jan-2022 13:45:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220117C06
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.41e3
2378F
5.55e8*
27.34
1278F
2.53e8*
26.45
2348F
4.52e7*
27.24
2367/3467F
4.32e7*
27.71
1289F
4.25e7*
29.38
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.41e3
2378F
6.81e8*
27.34
1278F
3.11e8*
26.45
2348F
5.62e7*
27.24
2367/3467F
5.35e7*
27.71
1289F
5.23e7*
29.38
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.14e3
JS 1234F
1.98e7
25.98
ES 2378F
1.79e7
27.32
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.45e3
JS 1234F
2.53e7
25.98
ES 2378F
2.19e7
27.32
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_003.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1115, 9441, 0709 scc: 432-718
Revised: 17-Jan-2022 16:42 (DTF) Printed: 18-Jan-2022 09:28 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.74e3
13468/12468F
1.90e6
29.39
Abs. Int.
4.84e5
2.42e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.70e3
13468/12468F
1.12e6
29.39
Abs. Int.
2.83e5
1.41e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.50e6
2.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_003
Sample ID: 11215131-011022-S-BN-NC-S-31
Acq: 17-Jan-2022 13:45:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220117C06
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 3.98e3
12368F...[3]
1.33e7*
31.10
12348F
3.31e6*
31.99
12378F
2.84e7*
32.19
12678/12367F
9.63e6*
32.49
23478F
2.22e7*
33.31
PR
12389F
1.36e6*
34.38
7.75e6
3.88e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 5.27e3
12368F...[3]
8.30e6*
31.10
12348F
2.02e6*
31.99
12378F
1.79e7*
32.19
12678/12367F
6.18e6*
32.49
23478F
1.39e7*
33.31
12389F
8.65e5*
34.38
4.94e6
2.47e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 5.48e3
CS 12346F
2.00e7
31.65
ES 12378F
2.21e7
32.17
ES 23478F
2.18e7
33.29
6.17e6
3.08e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 4.88e3
CS 12346F
1.36e7
31.65
ES 12378F
1.47e7
32.17
ES 23478F
1.47e7
33.29
4.12e6
2.06e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.41e3
8.64e3
4.32e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_003.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9980, 0320, 6263 scc: 432-718
Revised: 17-Jan-2022 16:43 (DTF) Printed: 18-Jan-2022 09:28 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 8.86e3
0%
124678/134678F
5.67e6*
35.43
124689F
4.41e6*
36.08
123478F
3.87e7*
36.62
123678F
1.05e7*
36.76
234678F
2.29e6*
37.43
123489F
3.57e6*
38.44
Abs. Int.
1.23e7
6.15e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 6.84e3
0%
124678/134678F
4.36e6*
35.43
124689F
3.50e6*
36.08
123478F
3.02e7*
36.62
123678F
8.22e6*
36.76
234678F
1.81e6*
37.43
123489F
2.80e6*
38.44
Abs. Int.
9.65e6
4.82e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 8.74e3
0%
ES 123478F
1.10e7
36.60
ES 123678F
1.30e7
36.74
CS 123469F
1.07e7
37.06
ES 234678F
1.13e7
37.41
ES 123789F
1.10e7
38.40
Abs. Int.
3.86e6
1.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 5.42e3
0%
ES 123478F
2.00e7
36.60
ES 123678F
2.32e7
36.74
CS 123469F
1.96e7
37.06
ES 234678F
2.14e7
37.41
ES 123789F
2.10e7
38.39
Abs. Int.
6.83e6
3.42e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.49e3
0%
Abs. Int.
9.78e3
4.89e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6169_18833_DF_003
Sample ID: 11215131-011022-S-BN-NC-S-31
Acq: 17-Jan-2022 13:45:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220117C06
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.57e3
1234678F
1.74e7
39.89
1234689F
1.28e7
40.30
1234789F
3.27e6*
41.30
5.30e6
2.65e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.59e3
1234678F
1.68e7
39.89
1234689F
1.23e7
40.30
1234789F
3.12e6*
41.30
5.37e6
2.68e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 4.52e3
ES 1234678F
8.29e6
39.88
CS 1234689F
7.79e6
40.29
ES 1234789F
7.76e6
41.29
2.49e6
1.24e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.96e3
ES 1234678F
1.88e7
39.88
CS 1234689F
1.70e7
40.29
ES 1234789F
1.58e7
41.29
5.72e6
2.86e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 8.85e2
RT
9.84e4
4.92e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_003.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1946, 1808, 1620 scc: 432-718
Revised: 17-Jan-2022 16:44 (DTF) Printed: 18-Jan-2022 09:28 Page 11 of 12


OCDF
8.09e7
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.21e3
0%
Abs. Int.
1.46e7
7.30e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.02e7
43.80
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 3.48e3
0%
Abs. Int.
1.62e7
8.09e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.93e7*
43.79
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 4.47e3
0%
Abs. Int.
3.50e6
1.75e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
43.79
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 1.37e3
0%
Abs. Int.
3.75e6
1.88e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
3.07e4
1.53e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6169_18833_DF_004 **Acq'd:** 17 Jan 2022 14:31 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-24 **UTP:** 18-Jan-2022 09:06:11 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 225-388-HDH

Datafile: 220117C07 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	8.44E+07	0.81	Y	1.18	654	3668.175	0.283
12378-PeCDD	33.63		1.0006	1.0005	-0.2	7.41E+05	1.72	Y	1.04	6.66	5287.967	0.392
123478-HxCDD	37.61	J	1.0004	1.0003	-0.2	1.93E+05	1.13	Y	1.09	1.84	6770.473	0.574
123678-HxCDD	37.74		1.0036	1.0036	0	7.13E+05	1.30	Y	1.15	6.24	6770.473	0.502
123789-HxCDD	38.04		1.0118	1.0118	0	4.00E+05	1.21	Y	1.05	3.68	6770.473	0.556
1234678-HpCDD	40.84		1.0003	1.0003	0	1.42E+07	1.03	Y	1.06	145	6606.655	0.617
OCDD	43.63		1.0003	1.0003	0	1.14E+08	0.91	Y	1.13	2,000	5293.034	1.25
2378-TCDF	27.31	E	1.0008	1.0008	0	3.55E+08	0.81	Y	1.08	1,760	4136.329	0.208
12378-PeCDF	32.17		1.0006	1.0006	0	1.03E+07	1.55	Y	1.02	58.4	6945.619	0.359
23478-PeCDF	33.29		1.0006	1.0008	+0.4	8.22E+06	1.60	Y	1.02	48.1	6945.619	0.345
123478-HxCDF	36.60		1.0005	1.0005	0	1.44E+07	1.28	Y	1.27	87.6	7952.564	0.408
123678-HxCDF	36.74		1.0004	1.0004	0	4.06E+06	1.31	Y	1.15	22.7	7952.564	0.375
234678-HxCDF	37.42		1.0005	1.0005	0	1.03E+06	1.29	Y	1.19	5.91	7952.564	0.385
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7952.564	0.482
1234678-HpCDF	39.88		1.0003	1.0002	-0.2	9.22E+06	1.03	Y	1.37	58.4	6022.291	0.32
1234789-HpCDF	41.30		1.0003	1.0003	0	1.27E+06	1.08	Y	1.31	11.8	6022.291	0.55
OCDF	43.80		1.0003	1.0003	0	1.96E+07	0.89	Y	1.07	293	4712.443	0.978

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0231	1.0231	0	2.16E+07	0.83	Y	1.05	93.8
ES 12378-PeCDD	33.62	1.2198	1.2208	+2.0	2.13E+07	1.61	Y	0.88	110
ES 123478-HxCDD	37.60	0.9913	0.9914	+0.2	1.91E+07	1.27	Y	0.97	102
ES 123678-HxCDD	37.72	0.9944	0.9945	+0.2	1.98E+07	1.26	Y	0.94	109
ES 123789-HxCDD	38.03	1.0026	1.0027	+0.2	2.06E+07	1.21	Y	1.09	98.2
ES 1234678-HpCDD	40.83	1.0760	1.0765	+1.2	1.84E+07	1.13	Y	0.91	105
ES OCDD	43.62	1.1489	1.1500	+2.9	2.00E+07	0.95	Y	0.62	83.6
ES 2378-TCDF	27.29	1.0515	1.0518	+0.5	3.71E+07	0.81	Y	1.06	100
ES 12378-PeCDF	32.15	1.2378	1.2392	+2.7	3.41E+07	1.55	Y	0.91	107
ES 23478-PeCDF	33.26	1.2804	1.2821	+3.4	3.32E+07	1.59	Y	0.88	108
ES 123478-HxCDF	36.59	0.9647	0.9646	-0.2	2.57E+07	0.53	Y	1.20	111
ES 123678-HxCDF	36.73	0.9684	0.9684	0	3.08E+07	0.53	Y	1.35	118
ES 234678-HxCDF	37.40	0.9861	0.9861	0	2.91E+07	0.53	Y	1.24	122
ES 123789-HxCDF	38.39	1.0120	1.0121	+0.2	2.45E+07	0.52	Y	1.16	111
ES 1234678-HpCDF	39.87	1.0506	1.0512	+1.4	2.28E+07	0.46	Y	0.97	123
ES 1234789-HpCDF	41.28	1.0879	1.0885	+1.5	1.63E+07	0.45	Y	0.85	99.9
ES OCDF	43.79	1.1534	1.1544	+2.6	2.48E+07	0.93	Y	0.81	79.8

Lab ID: B6169_18833_DF_004 **Acq'd:** 17 Jan 2022 14:31 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-24 **UTP:** 18-Jan-2022 09:06:11 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 225-388-HDH

Datafile: 220117C07 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.20E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.50E+07	0.79	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	9.60E+06	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0239	+0.2	1.00E+07	n/a	-	1.20	94.6
CS 12347-PeCDD	33.12		1.2018	1.2027	+1.8	1.87E+07	1.62	Y	0.75	113
CS 12346-PeCDF	31.63		1.2178	1.2190	+2.3	3.01E+07	1.52	Y	0.85	101
CS 123469-HxCDF	37.05		0.9768	0.9767	-0.2	2.62E+07	0.56	Y	1.12	122
CS 1234689-HpCDF	40.28		1.0615	1.0621	+1.5	2.02E+07	0.47	Y	0.89	118
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0239~~	~~+0.2~~	~~1.00E+07~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2027~~	~~+1.8~~	~~1.87E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2190~~	~~+2.3~~	~~3.01E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~94.3~~
~~SS 123469-HxCDF~~	~~37.05~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~2.62E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~103~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0615~~	~~1.0621~~	~~+1.5~~	~~2.02E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~96~~

Totals	Conc	EMPC
Total TCDD	737	739
Total PeCDD	14.1	17
Total HxCDD	69.3	72.9
Total HpCDD	347	347
Total Tetra-Octa Dioxins	3160	3170
Total TCDF	3,400	3400
Total PeCDF	177	178
Total HxCDF	162	163
Total HpCDF	128	128
Total Tetra-Octa Furans	4,160	4160
Total Tetra-Octa Dioxins & Furans	7320	7340

Lab ID: B6169_18833_DF_004 **Acq'd: 17 Jan 2022 14:31 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-24 **UTP: 18-Jan-2022 09:06:11 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 225-388-HDH**

Datafile: 220117C07 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.52		0.8733	0.8704	-4.3	1.88E+05	0.82	Y	1.18	1.45	3668.175	0.283
1379-TCDD	24.89		0.8860	0.8836	-3.6	9.81E+04	0.77	Y	1.18	0.76	3668.175	0.283
1369-TCDD	NotFnd		0.9009						1.18		3668.175	0.283
1469-TCDD	26.10		0.9282	0.9266	-2.5	3.96E+05	0.82	Y	1.18	3.07	3668.175	0.283
1247/1246/1248/1249-TCDD	26.34		0.9365	0.9348	-2.7	1.75E+05	0.88	Y	1.18	1.36	3668.175	0.283
1378-TCDD	26.54	EMPC	0.9429	0.9420	-1.4	3.04E+05	0.92	N	1.18	2.36	3668.175	0.283
1268-TCDD	NotFnd		0.9500						1.18		3668.175	0.283
1478-TCDD	26.99		0.9584	0.9579	-0.8	2.49E+05	0.81	Y	1.18	1.93	3668.175	0.283
1279-TCDD	NotFnd		0.9648						1.18		3668.175	0.283
1234/1269-TCDD	27.50		0.9770	0.9762	-1.3	1.79E+05	0.87	Y	1.18	1.39	3668.175	0.283
1236-TCDD	NotFnd		0.9821						1.18		3668.175	0.283
1237/1238-TCDD	27.91		0.9909	0.9905	-0.7	1.41E+06	0.78	Y	1.18	10.9	3668.175	0.283
1239-TCDD	NotFnd		0.9959						1.18		3668.175	0.283
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	8.44E+07	0.81	Y	**1.18**	**654**	**3668.175**	**0.283**
1278-TCDD	28.53		1.0123	1.0126	+0.5	7.83E+06	0.82	Y	1.18	60.7	3668.175	0.283
1267-TCDD	NotFnd		1.0172						1.18		3668.175	0.283
1289-TCDD	29.19		1.0354	1.0362	+1.4	1.30E+05	0.82	Y	1.18	1.01	3668.175	0.283
12479/12468-PeCDD	31.12		0.9267	0.9257	-1.9	2.86E+05	1.68	Y	1.04	2.57	5287.967	0.392
12469-PeCDD	31.66	EMPC	0.9426	0.9419	-1.3	3.16E+05	1.18	N	1.04	2.84	5287.967	0.392
12368-PeCDD	32.21	J	0.9587	0.9581	-1.2	1.40E+05	1.59	Y	1.04	1.26	5287.967	0.392
12478-PeCDD	32.40	J	0.9642	0.9638	-0.8	1.12E+05	1.77	Y	1.04	1.01	5287.967	0.392
12379-PeCDD	32.51	J	0.9674	0.9670	-0.8	8.61E+04	1.48	Y	1.04	0.774	5287.967	0.392
12369/12467/12489-PeCDD	32.77	J	0.9752	0.9749	-0.6	2.06E+05	1.59	Y	1.04	1.85	5287.967	0.392
12346/12347-PeCDD	NotFnd		0.9861						1.04		5287.967	0.392
12378-PeCDD	33.63		**1.0006**	**1.0005**	**-0.2**	**7.41E+05**	**1.72**	**Y**	**1.04**	**6.66**	**5287.967**	**0.392**
12367-PeCDD	NotFnd		1.0036						1.04		5287.967	0.392
12389-PeCDD	NotFnd		1.0139						1.04		5287.967	0.392
124679/124689-HxCDD	35.88		0.9541	0.9541	0	3.62E+06	1.23	Y	1.10	33.1	6770.473	0.543
123468-HxCDD	36.53	EMPC	0.9715	0.9715	0	2.74E+05	1.04	N	1.10	2.51	6770.473	0.543
123679/123689-HxCDD	36.83		0.9793	0.9794	+0.2	2.45E+06	1.32	Y	1.10	22.4	6770.473	0.543
123469-HxCDD	36.96	J	0.9831	0.9829	-0.4	2.28E+05	1.15	Y	1.10	2.09	6770.473	0.543
123478-HxCDD	37.61	J	**1.0004**	**1.0003**	**-0.2**	**1.93E+05**	**1.13**	**Y**	1.09	**1.84**	**6770.473**	**0.574**
123678-HxCDD	37.74		**1.0036**	**1.0036**	**0**	**7.13E+05**	**1.30**	**Y**	1.15	**6.24**	**6770.473**	**0.502**
123467-HxCDD	37.94	J EMPC	1.0089	1.0090	+0.2	1.20E+05	1.50	N	1.10	1.1	6770.473	0.543
123789-HxCDD	38.04		**1.0118**	**1.0118**	**0**	**4.00E+05**	**1.21**	**Y**	1.05	**3.68**	**6770.473**	**0.556**

Lab ID: B6169_18833_DF_004 **Acq'd: 17 Jan 2022 14:31 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-24 **UTP: 18-Jan-2022 09:06:11 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 225-388-HDH**

Datafile: 220117C07 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

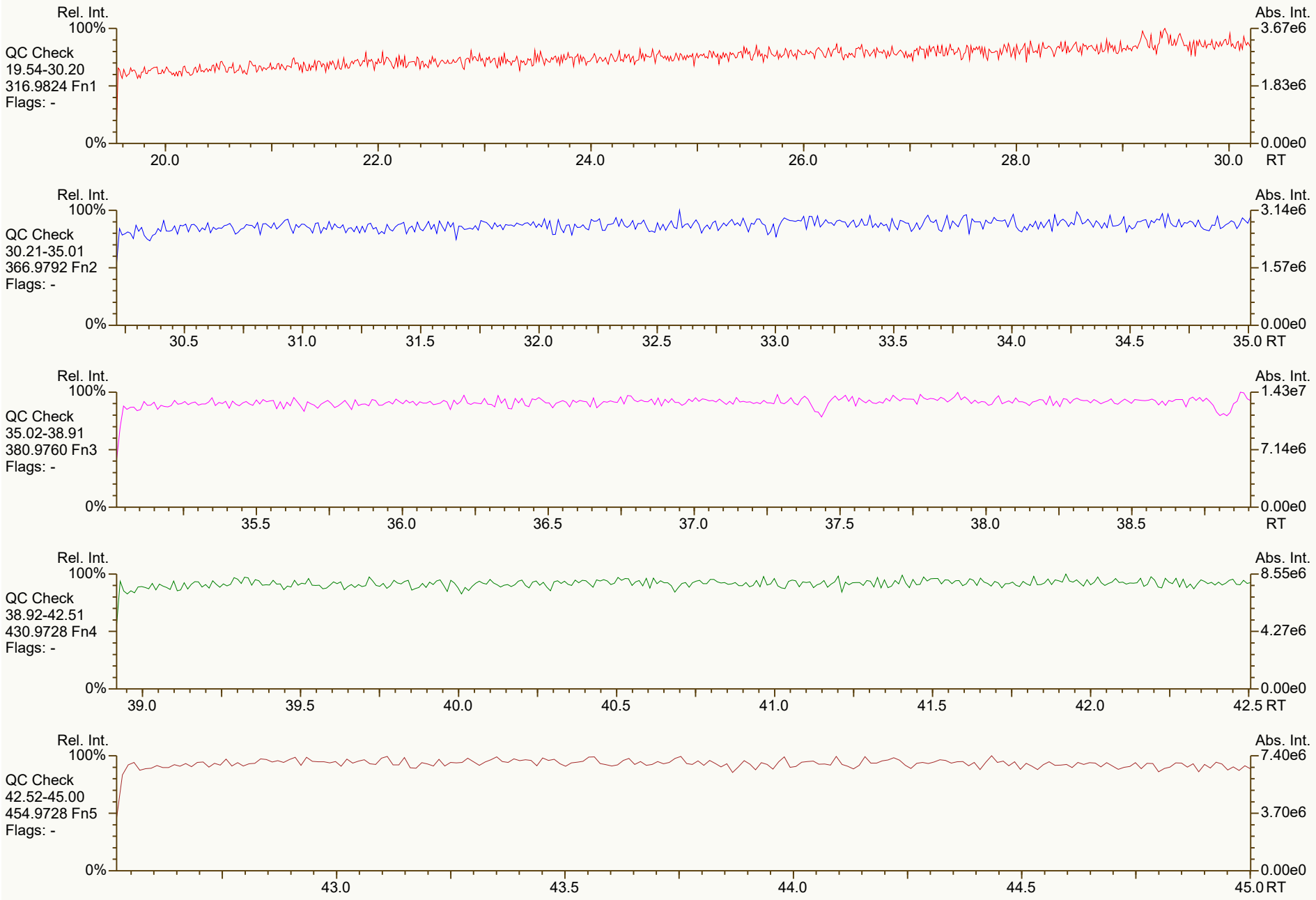
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9836	+0.2	1.98E+07	1.03	Y	1.06	202	6606.655	0.617
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.42E+07**	**1.03**	**Y**	**1.06**	**145**	**6606.655**	**0.617**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**1.14E+08**	**0.91**	**Y**	**1.13**	**2,000**	**5293.034**	**1.25**
OCDD-a	43.63		1.0002	1.0002	0	6.99E+06	2.67	Y	0.07	1,920	6412.846	23.8
1368-TCDF	22.38		0.8250	0.8199	-6.8	1.65E+05	0.82	Y	1.08	0.82	4136.329	0.208
1468-TCDF	22.97		0.8494	0.8416	-10.7	6.18E+05	0.76	Y	1.08	3.07	4136.329	0.208
2468-TCDF	23.60	EMPC	0.8684	0.8648	-5.1	5.96E+05	0.91	N	1.08	2.96	4136.329	0.208
1346/1246-TCDF	NotFnd		0.8815						1.08		4136.329	0.208
1347/1378/1247-TCDF	24.14		0.8867	0.8844	-3.3	4.40E+06	0.76	Y	1.08	21.8	4136.329	0.208
1348-TCDF	NotFnd		0.8966						1.08		4136.329	0.208
1248/1367/1379-TCDF	24.49		0.9012	0.8973	-5.7	1.71E+07	0.81	Y	1.08	84.7	4136.329	0.208
1268-TCDF	24.91		0.9148	0.9127	-3.1	5.79E+06	0.83	Y	1.08	28.7	4136.329	0.208
1467-TCDF	25.05		0.9197	0.9178	-2.9	8.85E+05	0.75	Y	1.08	4.39	4136.329	0.208
1478-TCDF	25.21		0.9258	0.9237	-3.2	1.40E+07	0.82	Y	1.08	69.2	4136.329	0.208
1369/1237-TCDF	25.59		0.9390	0.9378	-1.8	3.98E+06	0.83	Y	1.08	19.7	4136.329	0.208
2467-TCDF	25.72		0.9435	0.9425	-1.5	4.23E+05	0.85	Y	1.08	2.1	4136.329	0.208
2368-TCDF	25.86		0.9488	0.9475	-2.0	1.03E+07	0.84	Y	1.08	51	4136.329	0.208
1238/1234/1678/1469/1236-TCDF	25.95		0.9527	0.9509	-2.8	1.77E+07	0.83	Y	1.08	87.8	4136.329	0.208
1278-TCDF	26.42		0.9689	0.9682	-1.1	1.53E+08	0.81	Y	1.08	756	4136.329	0.208
1349-TCDF	NotFnd		0.9730						1.08		4136.329	0.208
1267-TCDF	26.69		0.9787	0.9781	-1.0	9.14E+06	0.81	Y	1.08	45.3	4136.329	0.208
2346/1249-TCDF	26.90		0.9856	0.9857	+0.2	1.09E+06	0.82	Y	1.08	5.43	4136.329	0.208
2347/1279-TCDF	27.09		0.9934	0.9929	-0.8	4.33E+06	0.76	Y	1.08	21.5	4136.329	0.208
2348-TCDF	27.20		0.9972	0.9968	-0.7	2.52E+07	0.79	Y	1.08	125	4136.329	0.208
2378-TCDF	**27.31**	E	**1.0008**	**1.0008**	**0**	**3.55E+08**	**0.81**	**Y**	**1.08**	**1,760**	**4136.329**	**0.208**
2367/3467-TCDF	27.68		1.0145	1.0142	-0.5	3.02E+07	0.80	Y	1.08	150	4136.329	0.208
1269-TCDF	27.93		1.0236	1.0236	0	5.52E+06	0.78	Y	1.08	27.4	4136.329	0.208
1239-TCDF	NotFnd		1.0333						1.08		4136.329	0.208
1289-TCDF	29.35		1.0740	1.0757	+3.0	2.75E+07	0.83	Y	1.08	137	4136.329	0.208
13468/12468-PeCDF	29.36		0.9138	0.9131	-1.2	9.32E+05	1.57	Y	1.02	5.37	3111.068	0.158
13678/13467/12467-PeCDF	30.91	J	0.9614	0.9614	0	3.80E+05	1.37	Y	1.02	2.19	6945.619	0.352
12368/13478/12478-PeCDF	31.07		0.9661	0.9664	+0.6	5.28E+06	1.56	Y	1.02	30.4	6945.619	0.352
14678-PeCDF	NotFnd		0.9693						1.02		6945.619	0.352
13479-PeCDF	NotFnd		0.9722						1.02		6945.619	0.352
13469/12479-PeCDF	NotFnd		0.9800						1.02		6945.619	0.352
12346-PeCDF	NotFnd		0.9844						1.02		6945.619	0.352

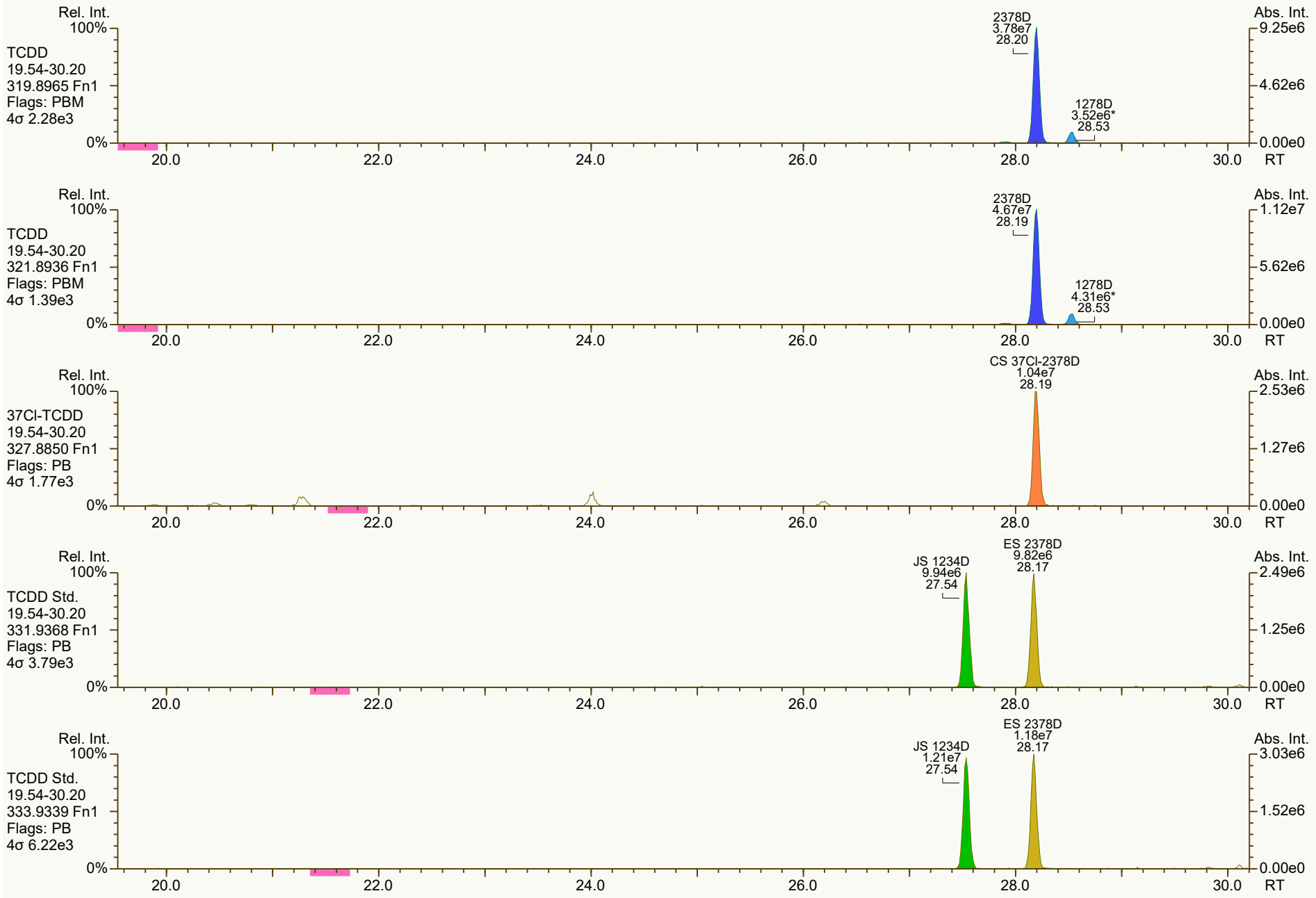
Lab ID: B6169_18833_DF_004 **Acq'd: 17 Jan 2022 14:31 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

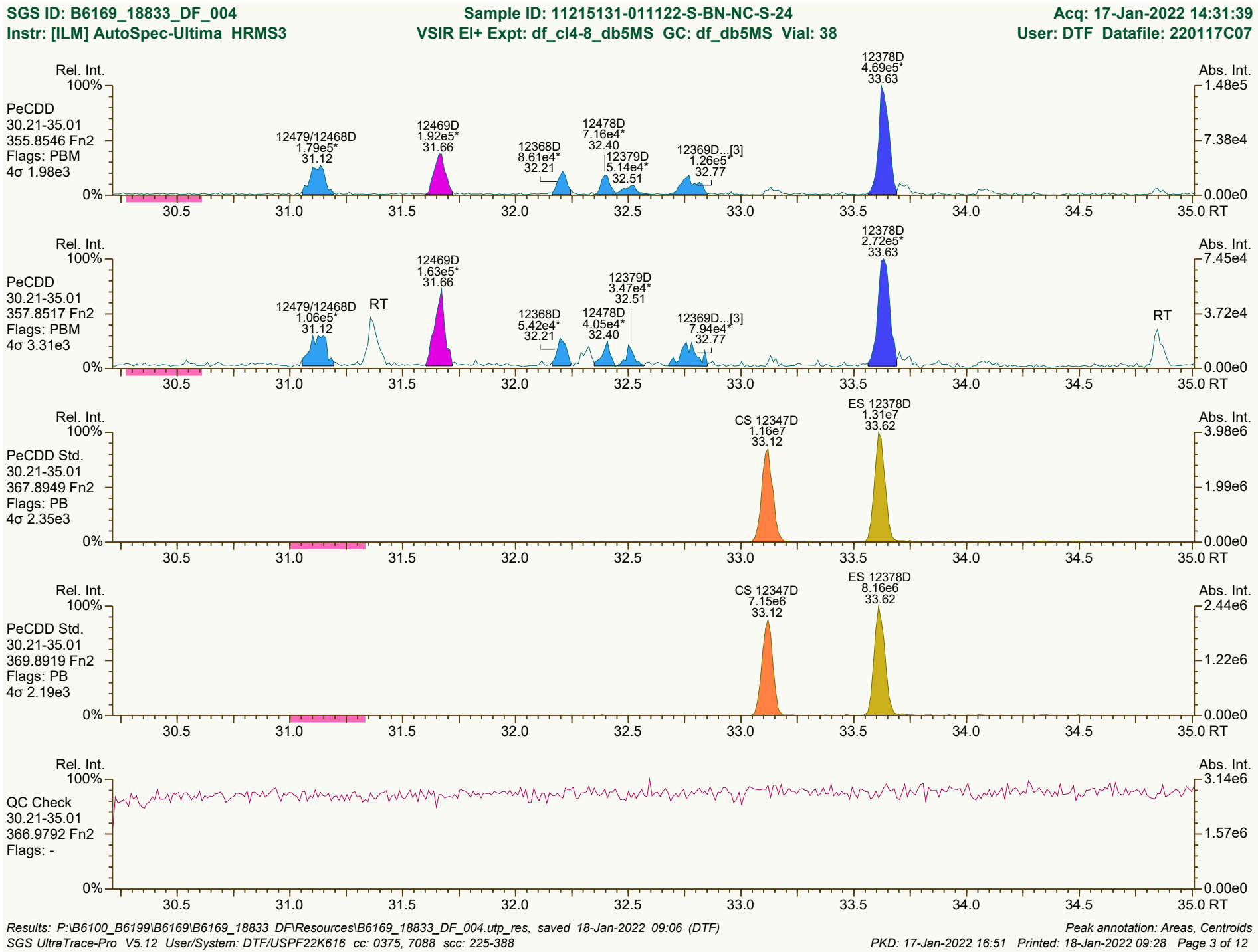
Client ID: 11215131-011122-S-BN-NC-S-24 **UTP: 18-Jan-2022 09:06:11 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 225-388-HDH**

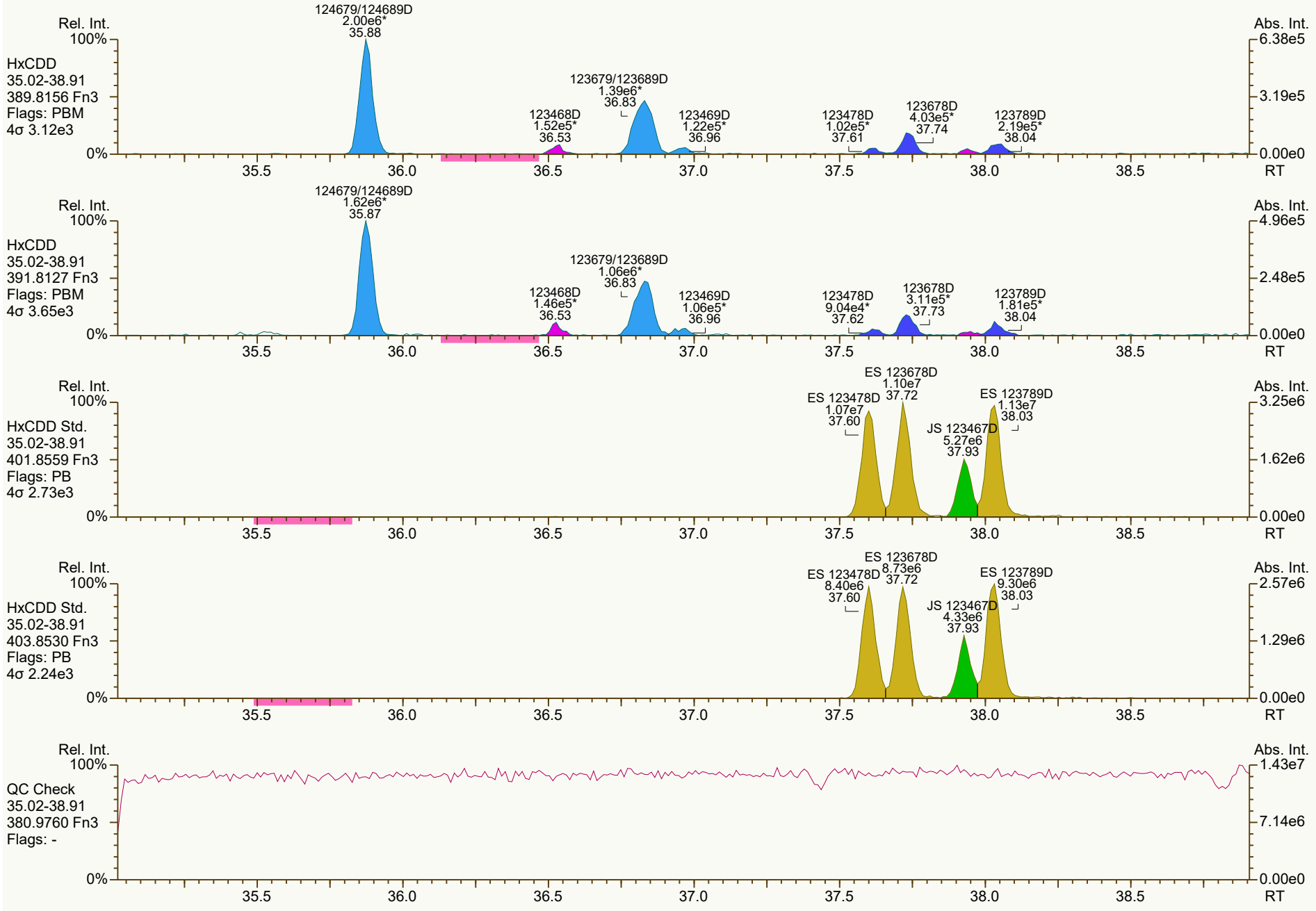
Datafile: 220117C07 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

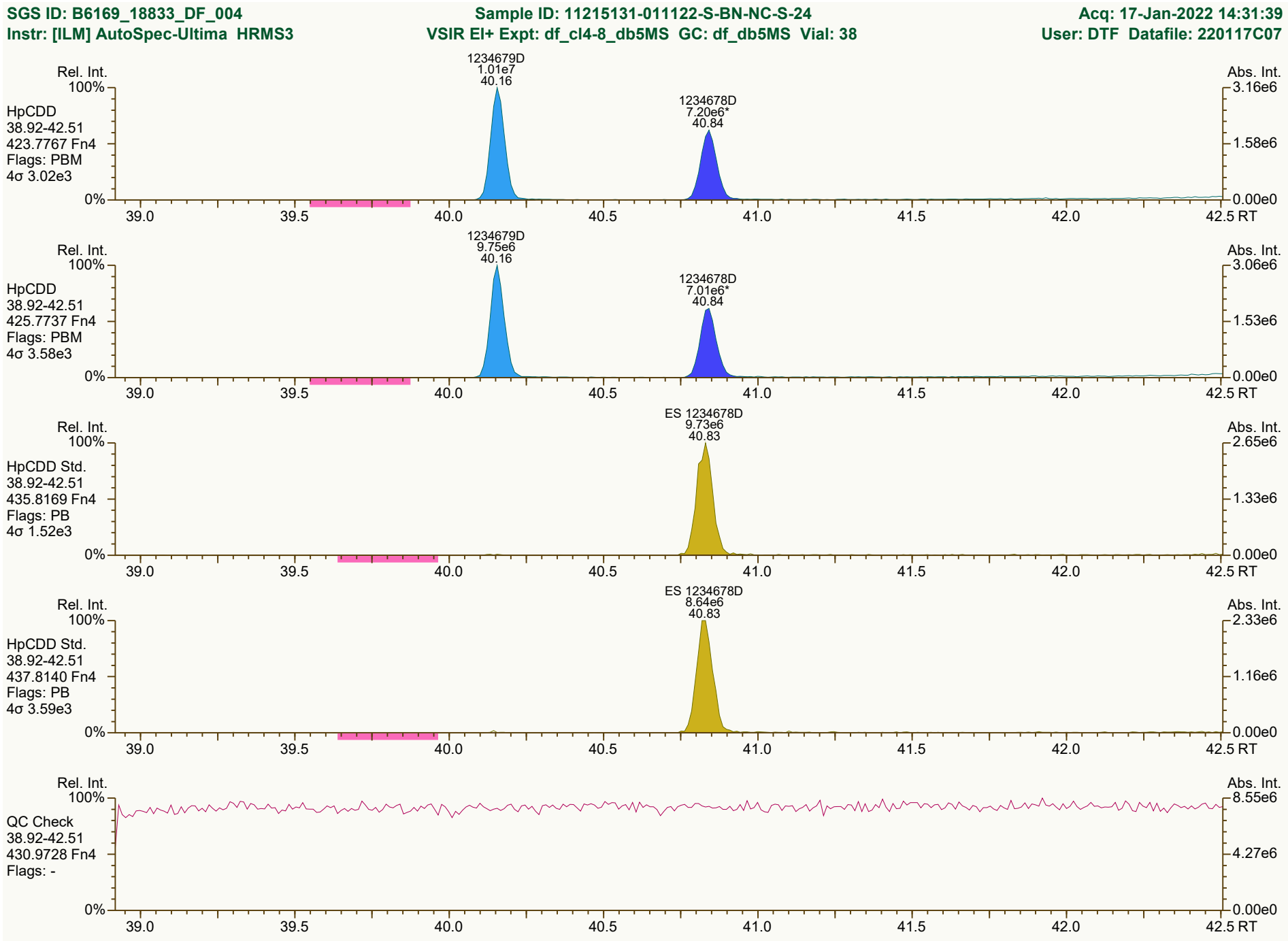
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.72	J	0.9865	0.9866	+0.2	3.60E+05	1.78	Y	1.02	2.08	6945.619	0.352
12347-PeCDF	31.80	J	0.9890	0.9891	+0.2	3.28E+05	1.35	Y	1.02	1.89	6945.619	0.352
12348-PeCDF	31.96		0.9942	0.9942	0	1.16E+06	1.65	Y	1.02	6.69	6945.619	0.352
12378-PeCDF	**32.17**		**1.0006**	**1.0006**	**0**	**1.03E+07**	**1.55**	**Y**	**1.02**	**58.4**	**6945.619**	**0.359**
12678/12367-PeCDF	32.47		1.0090	1.0098	+1.6	3.27E+06	1.53	Y	1.02	18.8	6945.619	0.352
12379-PeCDF	NotFnd		1.0142						1.02		6945.619	0.352
12679-PeCDF	NotFnd		0.9933						1.02		6945.619	0.352
23467/12369-PeCDF	33.16	J EMPC	0.9969	0.9969	0	2.02E+05	1.89	N	1.02	1.16	6945.619	0.352
23478-PeCDF	**33.29**		**1.0006**	**1.0008**	**+0.4**	**8.22E+06**	**1.60**	**Y**	**1.02**	**48.1**	**6945.619**	**0.345**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6945.619	0.352
12349-PeCDF	NotFnd		1.0107						1.02		6945.619	0.352
12389-PeCDF	34.37		1.0330	1.0333	+0.6	4.79E+05	1.43	Y	1.02	2.76	6945.619	0.352
123468-HxCDF	35.21		0.9627	0.9624	-0.6	7.86E+05	1.28	Y	1.19	4.74	7952.564	0.408
124678/134678-HxCDF	35.41		0.9682	0.9678	-0.8	3.09E+06	1.22	Y	1.19	18.6	7952.564	0.408
134679-HxCDF	NotFnd		0.9744						1.19		7952.564	0.408
124679-HxCDF	NotFnd		0.9798						1.19		7952.564	0.408
124689-HxCDF	36.07		0.9858	0.9857	-0.2	2.43E+06	1.22	Y	1.19	14.7	7952.564	0.408
123467-HxCDF	36.49	J EMPC	0.9973	0.9973	0	1.63E+05	1.48	N	1.19	0.983	7952.564	0.408
123478-HxCDF	**36.60**		**1.0005**	**1.0005**	**0**	**1.44E+07**	**1.28**	**Y**	**1.27**	**87.6**	**7952.564**	**0.408**
123678-HxCDF	**36.74**		**1.0004**	**1.0004**	**0**	**4.06E+06**	**1.31**	**Y**	**1.15**	**22.7**	**7952.564**	**0.375**
123479-HxCDF	NotFnd		1.0051						1.19		7952.564	0.408
123469-HxCDF	NotFnd		1.0093						1.19		7952.564	0.408
123679-HxCDF	NotFnd		0.9944						1.19		7952.564	0.408
234678-HxCDF	**37.42**		**1.0005**	**1.0005**	**0**	**1.03E+06**	**1.29**	**Y**	**1.19**	**5.91**	**7952.564**	**0.385**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7952.564	0.408
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7952.564**	**0.482**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43		1.0008	1.0012	+0.9	1.25E+06	1.22	Y	1.19	7.54	7952.564	0.408
1234678-HpCDF	**39.88**		**1.0003**	**1.0002**	**-0.2**	**9.22E+06**	**1.03**	**Y**	**1.37**	**58.4**	**6022.291**	**0.32**
1234679-HpCDF	40.15	**J**	1.0069	1.0070	+0.2	1.95E+05	0.98	Y	1.34	1.47	6022.291	0.415
1234689-HpCDF	40.29		1.0103	1.0106	+0.7	7.40E+06	1.01	Y	1.34	55.9	6022.291	0.415
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**1.27E+06**	**1.08**	**Y**	**1.31**	**11.8**	**6022.291**	**0.55**
OCDF	**43.80**		**1.0003**	**1.0003**	**0**	**1.96E+07**	**0.89**	**Y**	**1.07**	**293**	**4712.443**	**0.978**
OCDF-a	43.79	**EMPC**	1.0002	1.0001	-0.3	1.21E+06	2.10	N	0.07	292	3659.347	12.3

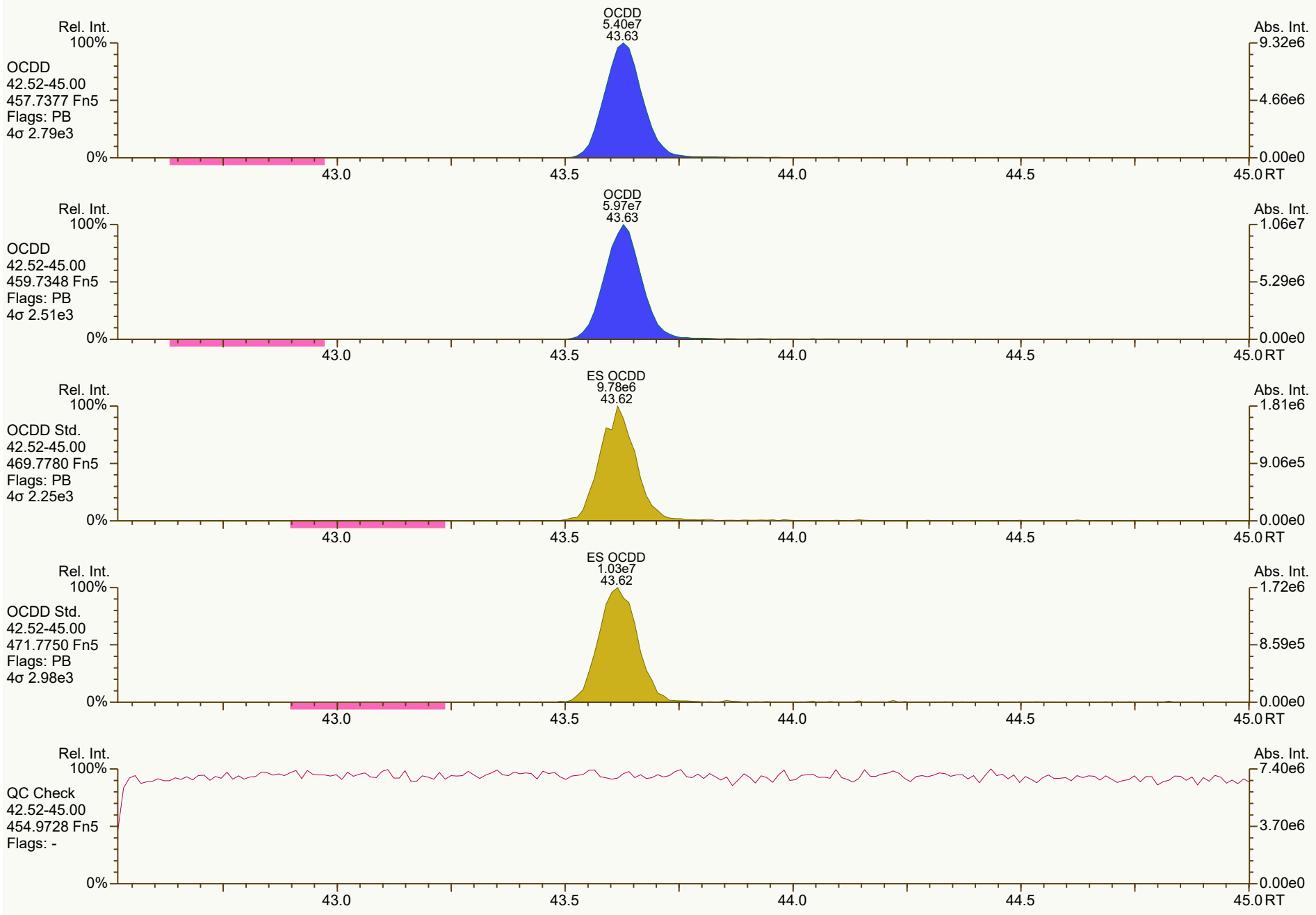

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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.14e6
1.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.43e7
7.14e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.55e6
4.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.28e3
0%
2378D
3.78e7
28.20
1278D
3.52e6*
28.53
Abs. Int.
9.25e6
4.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
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0%
2378D
4.67e7
28.19
1278D
4.31e6*
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Abs. Int.
1.12e7
5.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
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0%
CS 37Cl-2378D
1.04e7
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Abs. Int.
2.53e6
1.27e6
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20.0
22.0
24.0
26.0
28.0
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RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
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JS 1234D
9.94e6
27.54
ES 2378D
9.82e6
28.17
Abs. Int.
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1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
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JS 1234D
1.21e7
27.54
ES 2378D
1.18e7
28.17
Abs. Int.
3.03e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_004
Sample ID: 11215131-011122-S-BN-NC-S-24
Acq: 17-Jan-2022 14:31:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220117C07
Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.98e3
12479/12468D
1.79e5*
31.12
12469D
1.92e5*
31.66
12368D
8.61e4*
32.21
12478D
7.16e4*
32.40
12379D
5.14e4*
32.51
12369D...[3]
1.26e5*
32.77
12378D
4.69e5*
33.63
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 3.31e3
RT
12479/12468D
1.06e5*
31.12
12469D
1.63e5*
31.66
12368D
5.42e4*
32.21
12478D
4.05e4*
32.40
12379D
3.47e4*
32.51
12369D...[3]
7.94e4*
32.77
12378D
2.72e5*
33.63
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.35e3
CS 12347D
1.16e7
33.12
ES 12378D
1.31e7
33.62
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.19e3
CS 12347D
7.15e6
33.12
ES 12378D
8.16e6
33.62
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_004.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0375, 7088 scc: 225-388
PKD: 17-Jan-2022 16:51 Printed: 18-Jan-2022 09:28 Page 3 of 12

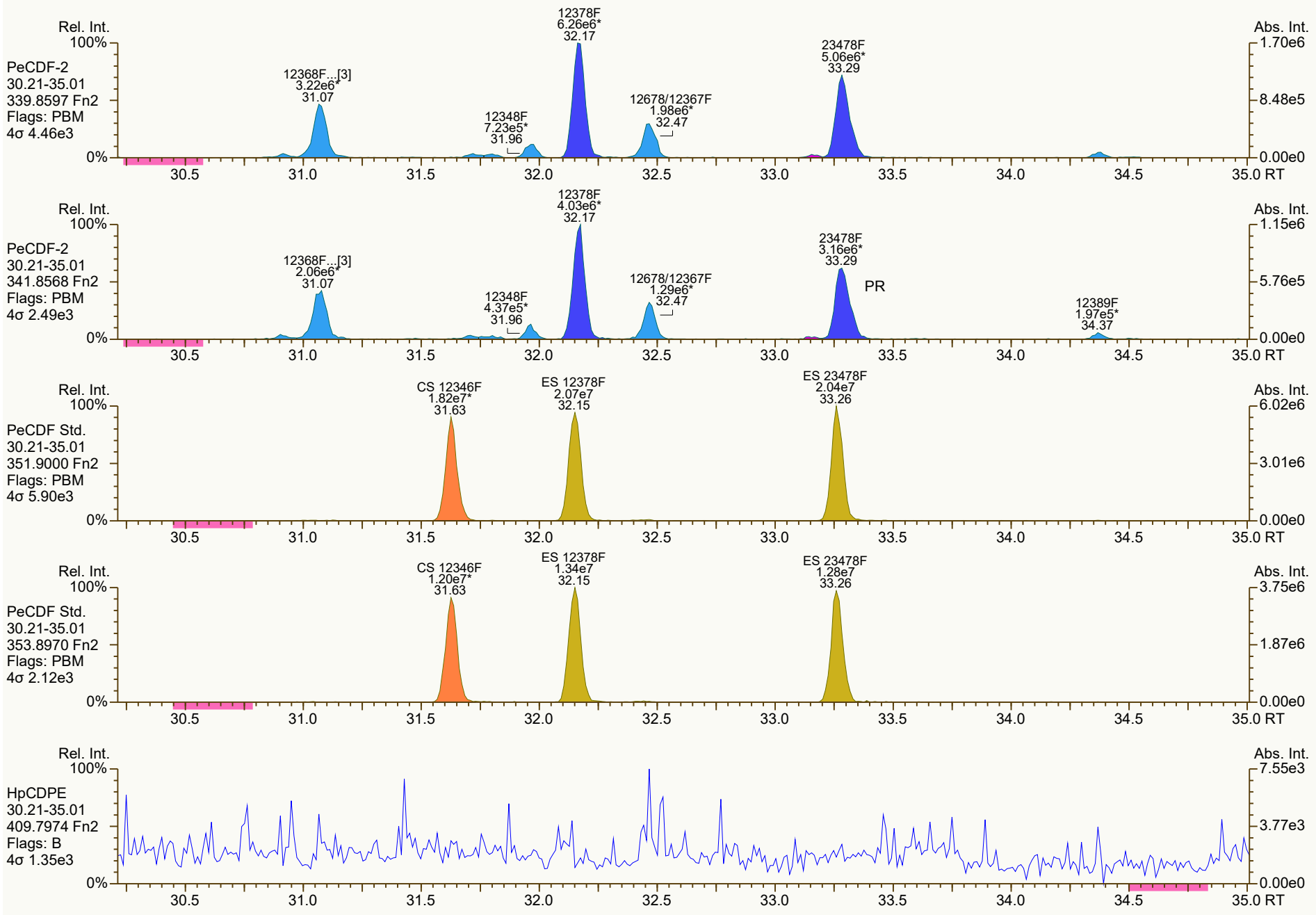

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 3.12e3
124679/124689D
2.00e6*
35.88
123679/123689D
1.39e6*
36.83
123468D
1.52e5*
36.53
123469D
1.22e5*
36.96
123478D
1.02e5*
37.61
123678D
4.03e5*
37.74
123789D
2.19e5*
38.04
Abs. Int.
6.38e5
3.19e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 3.65e3
124679/124689D
1.62e6*
35.87
123679/123689D
1.06e6*
36.83
123468D
1.46e5*
36.53
123469D
1.06e5*
36.96
123478D
9.04e4*
37.62
123678D
3.11e5*
37.73
123789D
1.81e5*
38.04
Abs. Int.
4.96e5
2.48e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 2.73e3
ES 123678D
1.10e7
37.72
ES 123478D
1.07e7
37.60
ES 123789D
1.13e7
38.03
JS 123467D
5.27e6
37.93
Abs. Int.
3.25e6
1.62e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 2.24e3
ES 123678D
8.73e6
37.72
ES 123478D
8.40e6
37.60
ES 123789D
9.30e6
38.03
JS 123467D
4.33e6
37.93
Abs. Int.
2.57e6
1.29e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.43e7
7.14e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

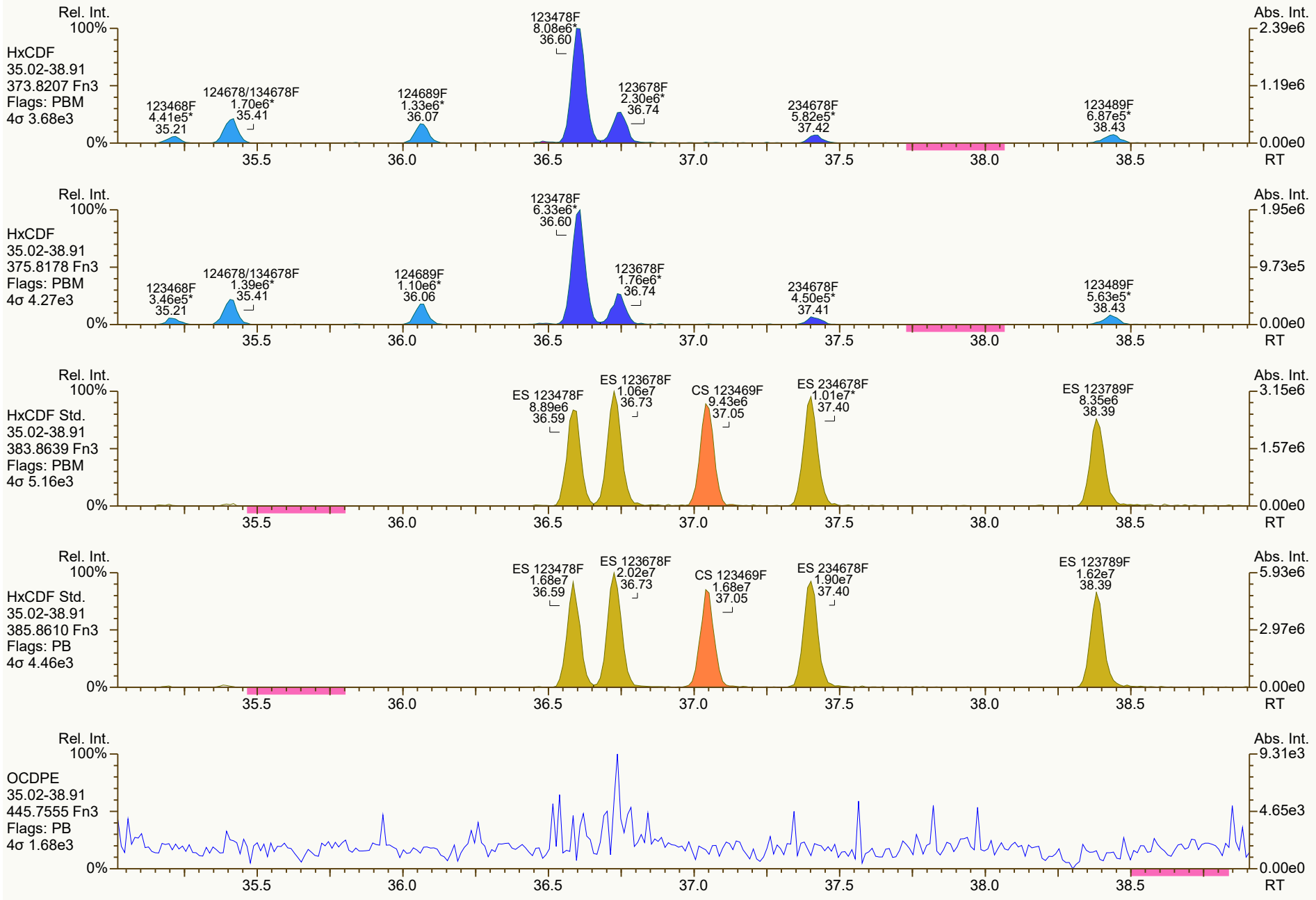

SGS ID: B6169_18833_DF_004
Sample ID: 11215131-011122-S-BN-NC-S-24
Acq: 17-Jan-2022 14:31:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220117C07
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 3.02e3
1234679D
1.01e7
40.16
1234678D
7.20e6*
40.84
3.16e6
1.58e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 3.58e3
1234679D
9.75e6
40.16
1234678D
7.01e6*
40.84
3.06e6
1.53e6
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.52e3
ES 1234678D
9.73e6
40.83
2.65e6
1.33e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 3.59e3
ES 1234678D
8.64e6
40.83
2.33e6
1.16e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
8.55e6
4.27e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_004.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4196, 8331 scc: 225-388
Revised: 17-Jan-2022 16:47 (DTF) Printed: 18-Jan-2022 09:28 Page 5 of 12

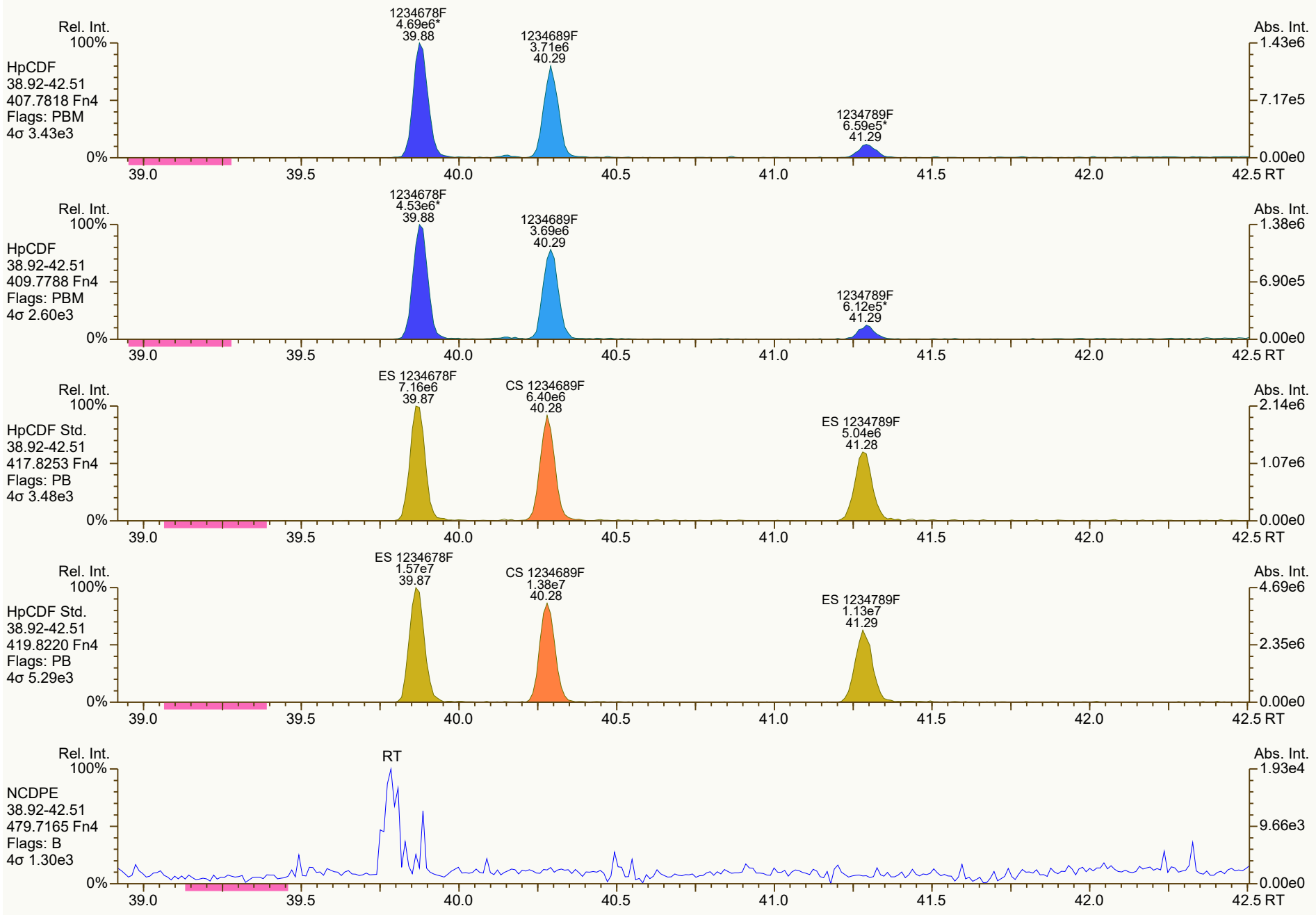

Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.79e3
0%
OCDD
5.40e7
43.63
Abs. Int.
9.32e6
4.66e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.51e3
0%
OCDD
5.97e7
43.63
Abs. Int.
1.06e7
5.29e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 2.25e3
0%
ES OCDD
9.78e6
43.62
Abs. Int.
1.81e6
9.06e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.98e3
0%
ES OCDD
1.03e7
43.62
Abs. Int.
1.72e6
8.59e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

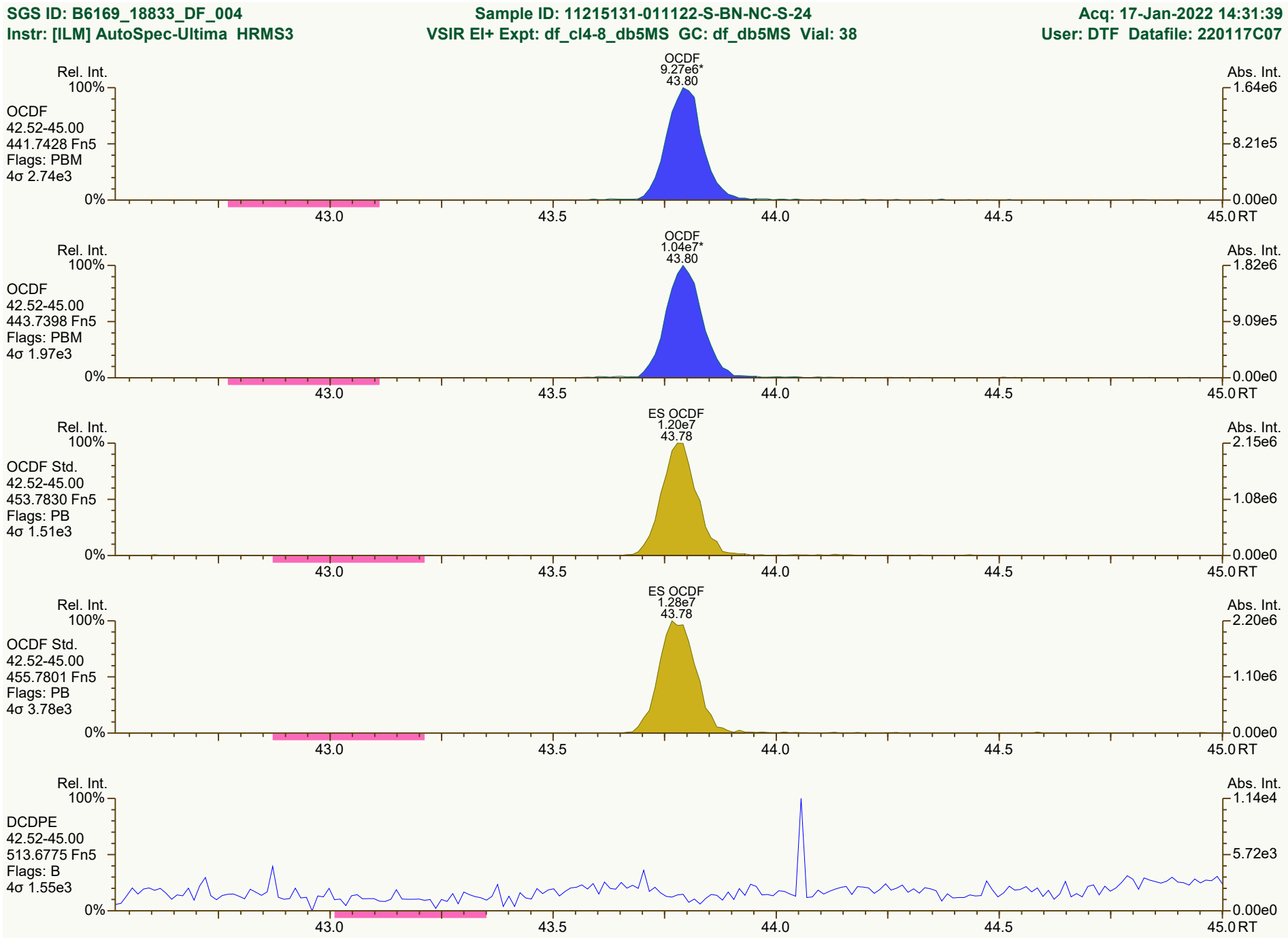

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.19e3
0%
2378F
1.58e8*
27.31
1278F
6.83e7*
26.42
2348F
1.11e7*
27.20
2367/3467F
1.35e7*
27.68
1289F
1.25e7*
29.35
Abs. Int.
3.75e7
1.88e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.95e3
0%
2378F
1.96e8*
27.31
1278F
8.43e7*
26.42
2348F
1.41e7*
27.20
2367/3467F
1.68e7*
27.68
1289F
1.51e7*
29.35
Abs. Int.
4.58e7
2.29e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.93e3
0%
JS 1234F
1.54e7
25.95
ES 2378F
1.66e7
27.29
Abs. Int.
4.09e6
2.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.21e3
0%
JS 1234F
1.96e7
25.94
ES 2378F
2.05e7
27.29
Abs. Int.
5.06e6
2.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.11e4
5.56e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.49e3
13468/12468F
5.70e5*
29.36
Abs. Int.
1.36e5
6.80e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.62e3
13468/12468F
3.62e5*
29.36
Abs. Int.
1.09e5
5.45e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.67e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 4.46e3
0%
12368F...[3]
3.22e6*
31.07
12348F
7.23e5*
31.96
12378F
6.26e6*
32.17
12678/12367F
1.98e6*
32.47
23478F
5.06e6*
33.29
Abs. Int.
1.70e6
8.48e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.49e3
0%
12368F...[3]
2.06e6*
31.07
12348F
4.37e5*
31.96
12378F
4.03e6*
32.17
12678/12367F
1.29e6*
32.47
23478F
3.16e6*
33.29
PR
12389F
1.97e5*
34.37
Abs. Int.
1.15e6
5.76e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 5.90e3
0%
CS 12346F
1.82e7*
31.63
ES 12378F
2.07e7
32.15
ES 23478F
2.04e7
33.26
Abs. Int.
6.02e6
3.01e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.12e3
0%
CS 12346F
1.20e7*
31.63
ES 12378F
1.34e7
32.15
ES 23478F
1.28e7
33.26
Abs. Int.
3.75e6
1.87e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.35e3
0%
Abs. Int.
7.55e3
3.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 3.68e3
123468F 4.41e5* 35.21
124678/134678F 1.70e6* 35.41
124689F 1.33e6* 36.07
123478F 8.08e6* 36.60
123678F 2.30e6* 36.74
234678F 5.82e5* 37.42
123489F 6.87e5* 38.43
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123468F 3.46e5* 35.21
124678/134678F 1.39e6* 35.41
124689F 1.10e6* 36.06
123478F 6.33e6* 36.60
123678F 1.76e6* 36.74
234678F 4.50e5* 37.41
123489F 5.63e5* 38.43
Abs. Int.
1.95e6
9.73e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 5.16e3
ES 123478F 8.89e6 36.59
ES 123678F 1.06e7 36.73
CS 123469F 9.43e6 37.05
ES 234678F 1.01e7* 37.40
ES 123789F 8.35e6 38.39
Abs. Int.
3.15e6
1.57e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 4.46e3
ES 123478F 1.68e7 36.59
ES 123678F 2.02e7 36.73
CS 123469F 1.68e7 37.05
ES 234678F 1.90e7 37.40
ES 123789F 1.62e7 38.39
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.68e3
Abs. Int.
9.31e3
4.65e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 3.43e3
1234678F
4.69e6*
39.88
1234689F
3.71e6
40.29
1234789F
6.59e5*
41.29
Abs. Int.
1.43e6
7.17e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.60e3
1234678F
4.53e6*
39.88
1234689F
3.69e6
40.29
1234789F
6.12e5*
41.29
Abs. Int.
1.38e6
6.90e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 3.48e3
ES 1234678F
7.16e6
39.87
CS 1234689F
6.40e6
40.28
ES 1234789F
5.04e6
41.28
Abs. Int.
2.14e6
1.07e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 5.29e3
ES 1234678F
1.57e7
39.87
CS 1234689F
1.38e7
40.28
ES 1234789F
1.13e7
41.29
Abs. Int.
4.69e6
2.35e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.30e3
RT
Abs. Int.
1.93e4
9.66e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


SGS ID: B6169_18833_DF_004
Sample ID: 11215131-011122-S-BN-NC-S-24
Acq: 17-Jan-2022 14:31:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220117C07
Rel. Int.
Abs. Int.
OCDF
9.27e6*
43.80
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.74e3
1.64e6
8.21e5
0.00e0
OCDF
1.04e7*
43.80
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.97e3
1.82e6
9.09e5
ES OCDF
1.20e7
43.78
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.51e3
2.15e6
1.08e6
ES OCDF
1.28e7
43.78
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 3.78e3
2.20e6
1.10e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.55e3
1.14e4
5.72e3
100%
0%
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_004.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4827, 4872, 8209 scc: 225-388
Revised: 17-Jan-2022 16:51 (DTF) Printed: 18-Jan-2022 09:28 Page 12 of 12

Lab ID: B6169_18833_DF_005 **Acq'd:** 17 Jan 2022 15:17 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-25 **UTP:** 18-Jan-2022 09:06:11 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 749-441-BFB

Datafile: 220117C08 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20	E	1.0008	1.0008	0	1.04E+08	0.82	Y	1.18	1,080	3692.987	0.398
12378-PeCDD	33.64		1.0006	1.0006	0	8.79E+05	1.56	Y	1.04	11	3571.808	0.399
123478-HxCDD	37.61	J	1.0004	1.0003	-0.2	8.49E+04	1.39	Y	1.09	1	4283.397	0.447
123678-HxCDD	37.74	J	1.0036	1.0036	0	2.29E+05	1.35	Y	1.15	2.36	4283.397	0.374
123789-HxCDD	38.04	J EMPC	1.0118	1.0117	-0.2	1.27E+05	0.91	N	1.05	1.43	4283.397	0.407
1234678-HpCDD	40.85		1.0003	1.0003	0	4.94E+06	1.04	Y	1.06	66.7	3767.987	0.455
OCDD	43.63		1.0003	1.0003	0	4.37E+07	0.89	Y	1.13	1,000	5486.097	1.73
2378-TCDF	27.31	E	1.0008	1.0008	0	4.57E+08	0.81	Y	1.08	2,970	4550.678	0.315
12378-PeCDF	32.17		1.0006	1.0005	-0.2	1.20E+07	1.60	Y	1.02	93.1	6199.531	0.431
23478-PeCDF	33.29		1.0006	1.0007	+0.2	9.63E+06	1.63	Y	1.02	76.9	6199.531	0.421
123478-HxCDF	36.60		1.0005	1.0005	0	1.79E+07	1.27	Y	1.27	141	9318.37	0.593
123678-HxCDF	36.74		1.0004	1.0004	0	5.34E+06	1.31	Y	1.15	38	9318.37	0.551
234678-HxCDF	37.42		1.0005	1.0005	0	1.10E+06	1.30	Y	1.19	7.14	9318.37	0.509
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	9318.37	0.743
1234678-HpCDF	39.88		1.0003	1.0003	0	6.27E+06	1.07	Y	1.37	48.4	4519.629	0.257
1234789-HpCDF	41.30		1.0003	1.0003	0	1.50E+06	1.06	Y	1.31	17	4519.629	0.492
OCDF	43.79		1.0003	1.0002	-0.3	3.18E+06	0.90	Y	1.07	60.2	4448.899	1.21

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0231	1.0231	0	1.60E+07	0.79	Y	1.05	81.3
ES 12378-PeCDD	33.62	1.2198	1.2209	+2.2	1.51E+07	1.65	Y	0.88	91.3
ES 123478-HxCDD	37.60	0.9913	0.9913	0	1.52E+07	1.26	Y	0.97	89.3
ES 123678-HxCDD	37.72	0.9944	0.9945	+0.2	1.65E+07	1.24	Y	0.94	100
ES 123789-HxCDD	38.03	1.0026	1.0027	+0.2	1.65E+07	1.24	Y	1.09	86.6
ES 1234678-HpCDD	40.83	1.0760	1.0765	+1.2	1.37E+07	1.01	Y	0.91	85.6
ES OCDD	43.62	1.1489	1.1500	+2.9	1.51E+07	0.90	Y	0.62	69.3
ES 2378-TCDF	27.29	1.0515	1.0518	+0.5	2.79E+07	0.81	Y	1.06	86.8
ES 12378-PeCDF	32.15	1.2378	1.2393	+2.9	2.46E+07	1.50	Y	0.91	89.2
ES 23478-PeCDF	33.26	1.2804	1.2821	+3.4	2.40E+07	1.49	Y	0.88	89.5
ES 123478-HxCDF	36.59	0.9647	0.9646	-0.2	1.95E+07	0.53	Y	1.20	93
ES 123678-HxCDF	36.73	0.9684	0.9683	-0.2	2.38E+07	0.54	Y	1.35	101
ES 234678-HxCDF	37.40	0.9861	0.9861	0	2.52E+07	0.53	Y	1.24	116
ES 123789-HxCDF	38.39	1.0120	1.0120	0	1.80E+07	0.53	Y	1.16	89
ES 1234678-HpCDF	39.86	1.0506	1.0510	+1.0	1.85E+07	0.45	Y	0.97	109
ES 1234789-HpCDF	41.28	1.0879	1.0884	+1.2	1.31E+07	0.45	Y	0.85	88.1
ES OCDF	43.78	1.1534	1.1543	+2.4	1.93E+07	0.93	Y	0.81	68.2

Lab ID: B6169_18833_DF_005 **Acq'd:** 17 Jan 2022 15:17 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-25 **UTP:** 18-Jan-2022 09:06:11 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 749-441-BFB

Datafile: 220117C08 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	1.88E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.04E+07	0.83	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	8.74E+06	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0241	+0.5	7.83E+06	n/a	-	1.20	86.5
CS 12347-PeCDD	33.12		1.2018	1.2028	+2.0	1.44E+07	1.67	Y	0.75	102
CS 12346-PeCDF	31.63		1.2178	1.2191	+2.5	2.46E+07	1.54	Y	0.85	95.4
CS 123469-HxCDF	37.04		0.9768	0.9766	-0.4	2.17E+07	0.53	Y	1.12	111
CS 1234689-HpCDF	40.28		1.0615	1.0620	+1.2	1.64E+07	0.45	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~7.83E+06~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2028~~	~~+2.0~~	~~1.44E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2191~~	~~+2.5~~	~~2.46E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9766~~	~~-0.4~~	~~2.17E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0615~~	~~1.0620~~	~~+1.2~~	~~1.64E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~96.7~~

Totals	Conc	EMPC
Total TCDD	1200	1210
Total PeCDD	14.8	21.6
Total HxCDD	39.3	40.7
Total HpCDD	159	159
Total Tetra-Octa Dioxins	2410	2430
Total TCDF	5,580	5730
Total PeCDF	264	268
Total HxCDF	219	222
Total HpCDF	87.3	88.2
Total Tetra-Octa Furans	6,210	6360
Total Tetra-Octa Dioxins & Furans	8620	8800

Lab ID: B6169_18833_DF_005 **Acq'd: 17 Jan 2022 15:17 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-25 **UTP: 18-Jan-2022 09:06:11 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 749-441-BFB**

Datafile: 220117C08 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.51		0.8733	0.8700	-4.9	1.08E+05	0.79	Y	1.18	1.11	3692.987	0.398
1379-TCDD	24.89		0.8860	0.8835	-3.7	5.88E+04	0.70	Y	1.18	0.606	3692.987	0.398
1369-TCDD	NotFnd		0.9009						1.18		3692.987	0.398
1469-TCDD	26.11	EMPC	0.9282	0.9266	-2.5	4.93E+05	0.89	N	1.18	5.08	3692.987	0.398
1247/1246/1248/1249-TCDD	26.33	EMPC	0.9365	0.9347	-2.8	1.76E+05	0.94	N	1.18	1.81	3692.987	0.398
1378-TCDD	26.53		0.9429	0.9417	-1.9	3.49E+05	0.87	Y	1.18	3.6	3692.987	0.398
1268-TCDD	NotFnd		0.9500						1.18		3692.987	0.398
1478-TCDD	26.98	EMPC	0.9584	0.9577	-1.1	2.73E+05	0.98	N	1.18	2.82	3692.987	0.398
1279-TCDD	NotFnd		0.9648						1.18		3692.987	0.398
1234/1269-TCDD	27.52		0.9770	0.9769	-0.2	1.27E+05	0.75	Y	1.18	1.31	3692.987	0.398
1236-TCDD	NotFnd		0.9821						1.18		3692.987	0.398
1237/1238-TCDD	27.91		0.9909	0.9906	-0.5	1.60E+06	0.79	Y	1.18	16.4	3692.987	0.398
1239-TCDD	NotFnd		0.9959						1.18		3692.987	0.398
2378-TCDD	**28.20**	E	**1.0008**	1.0008	**0**	1.04E+08	0.82	Y	**1.18**	**1,080**	**3692.987**	**0.398**
1278-TCDD	28.53		1.0123	1.0126	+0.5	9.51E+06	0.82	Y	1.18	98	3692.987	0.398
1267-TCDD	28.66	EMPC	1.0172	1.0172	0	2.09E+05	1.28	N	1.18	2.15	3692.987	0.398
1289-TCDD	NotFnd		1.0354						1.18		3692.987	0.398
12479/12468-PeCDD	31.13	J	0.9267	0.9259	-1.5	1.49E+05	1.42	Y	1.04	1.86	3571.808	0.399
12469-PeCDD	31.67	EMPC	0.9426	0.9419	-1.3	3.84E+05	1.15	N	1.04	4.79	3571.808	0.399
12368-PeCDD	32.21	J EMPC	0.9587	0.9580	-1.4	6.57E+04	2.00	N	1.04	0.82	3571.808	0.399
12478-PeCDD	32.40	J	0.9642	0.9638	-0.8	1.00E+05	1.68	Y	1.04	1.25	3571.808	0.399
12379-PeCDD	32.51	J	0.9674	0.9671	-0.6	5.92E+04	1.74	Y	1.04	0.738	3571.808	0.399
12369/12467/12489-PeCDD	32.77	J EMPC	0.9752	0.9749	-0.6	9.09E+04	1.19	N	1.04	1.13	3571.808	0.399
12346/12347-PeCDD	NotFnd		0.9861						1.04		3571.808	0.399
12378-PeCDD	33.64		**1.0006**	**1.0006**	**0**	**8.79E+05**	**1.56**	**Y**	**1.04**	**11**	**3571.808**	**0.399**
12367-PeCDD	NotFnd		1.0036						1.04		3571.808	0.399
12389-PeCDD	NotFnd		1.0139						1.04		3571.808	0.399
124679/124689-HxCDD	35.88		0.9541	0.9541	0	2.33E+06	1.22	Y	1.10	25.9	4283.397	0.408
123468-HxCDD	36.53	J	0.9715	0.9714	-0.2	1.01E+05	1.39	Y	1.10	1.12	4283.397	0.408
123679/123689-HxCDD	36.82		0.9793	0.9793	0	8.04E+05	1.33	Y	1.10	8.92	4283.397	0.408
123469-HxCDD	NotFnd		0.9831						1.10		4283.397	0.408
123478-HxCDD	37.61	J	**1.0004**	**1.0003**	**-0.2**	**8.49E+04**	**1.39**	**Y**	1.09	**1**	**4283.397**	**0.447**
123678-HxCDD	37.74	J	**1.0036**	**1.0036**	**0**	**2.29E+05**	**1.35**	**Y**	1.15	**2.36**	**4283.397**	**0.374**
123467-HxCDD	NotFnd		1.0089						1.10		4283.397	0.408
123789-HxCDD	38.04	J EMPC	**1.0118**	**1.0117**	**-0.2**	**1.27E+05**	**0.91**	**N**	1.05	**1.43**	**4283.397**	**0.407**

Lab ID: B6169_18833_DF_005 **Acq'd:** 17 Jan 2022 15:17 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-25 **UTP:** 18-Jan-2022 09:06:11 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 749-441-BFB

Datafile: 220117C08 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

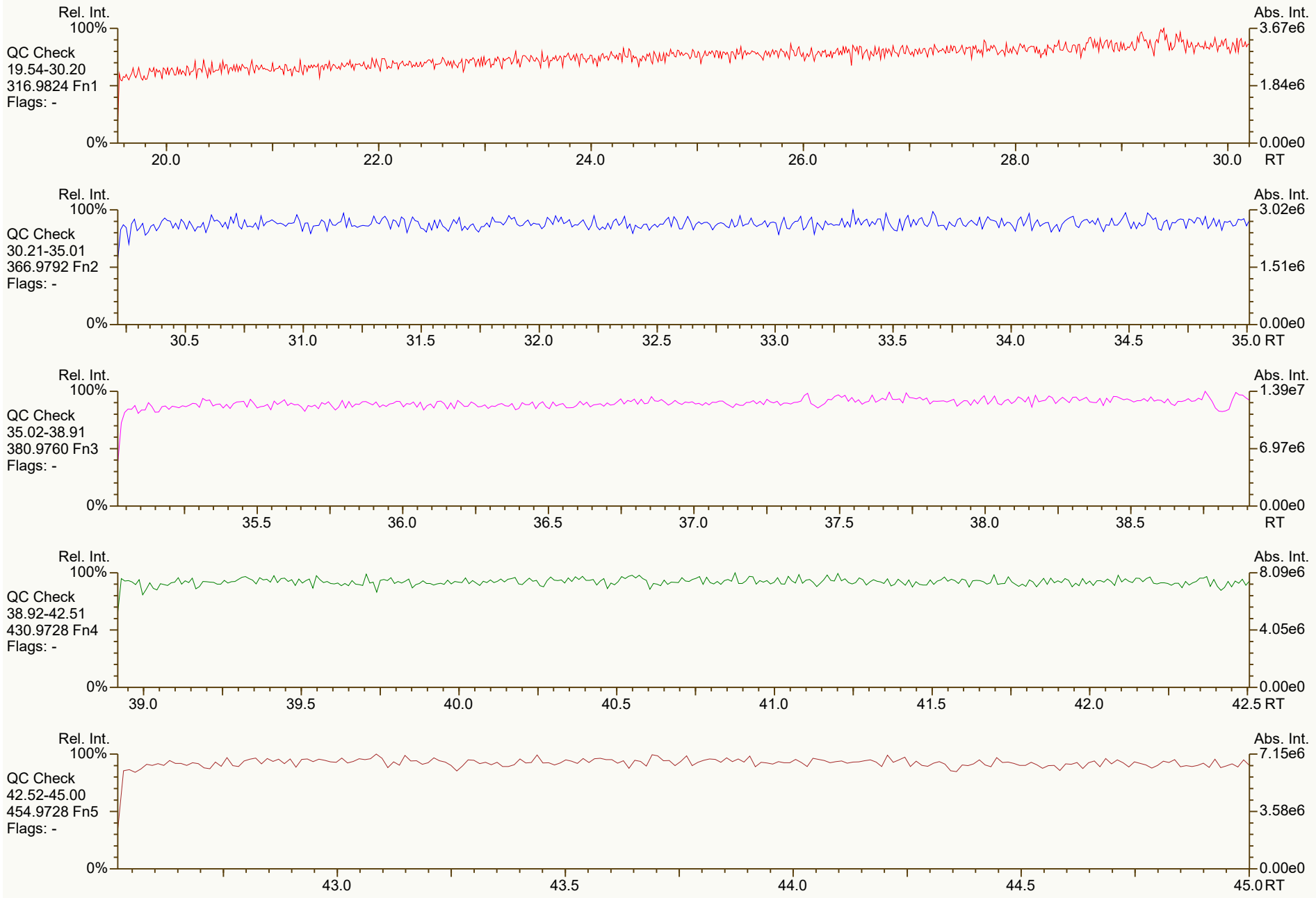
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9835	0	6.82E+06	1.04	Y	1.06	92.1	3767.987	0.455
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**4.94E+06**	**1.04**	**Y**	**1.06**	**66.7**	**3767.987**	**0.455**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**4.37E+07**	**0.89**	**Y**	**1.13**	**1,000**	**5486.097**	**1.73**
OCDD-a	43.63		1.0002	1.0001	-0.3	2.86E+06	2.35	Y	0.07	1,030	5104.951	25.2
1368-TCDF	22.37		0.8250	0.8198	-7.0	1.36E+05	0.87	Y	1.08	0.884	4550.678	0.315
1468-TCDF	22.97		0.8494	0.8417	-10.6	6.58E+05	0.79	Y	1.08	4.27	4550.678	0.315
2468-TCDF	23.60		0.8684	0.8648	-5.1	5.00E+05	0.83	Y	1.08	3.25	4550.678	0.315
1346/1246-TCDF	NotFnd		0.8815						1.08		4550.678	0.315
1347/1378/1247-TCDF	24.13		0.8867	0.8844	-3.3	5.43E+06	0.81	Y	1.08	35.2	4550.678	0.315
1348-TCDF	24.48		0.8966	0.8972	+0.9	2.23E+07	0.82	Y	1.08	145	4550.678	0.315
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		4550.678	0.315
1268-TCDF	24.90		0.9148	0.9126	-3.3	7.11E+06	0.85	Y	1.08	46.2	4550.678	0.315
1467-TCDF	25.04		0.9197	0.9177	-3.0	1.04E+06	0.80	Y	1.08	6.73	4550.678	0.315
1478-TCDF	25.21		0.9258	0.9236	-3.3	1.86E+07	0.81	Y	1.08	121	4550.678	0.315
1369/1237-TCDF	25.59		0.9390	0.9378	-1.8	4.91E+06	0.81	Y	1.08	31.8	4550.678	0.315
2467-TCDF	25.72		0.9435	0.9424	-1.7	4.48E+05	0.83	Y	1.08	2.91	4550.678	0.315
2368-TCDF	25.85		0.9488	0.9473	-2.3	1.13E+07	0.67	Y	1.08	73.6	4550.678	0.315
1238/1234/1678/1469/1236-TCDF	25.94	EMPC	0.9527	0.9507	-3.1	2.20E+07	0.90	N	1.08	143	4550.678	0.315
1278-TCDF	26.42	E	0.9689	0.9681	-1.3	2.02E+08	0.81	Y	1.08	1,310	4550.678	0.315
1349-TCDF	NotFnd		0.9730						1.08		4550.678	0.315
1267-TCDF	26.69		0.9787	0.9781	-1.0	1.10E+07	0.83	Y	1.08	71.1	4550.678	0.315
2346/1249-TCDF	26.90		0.9856	0.9858	+0.3	1.28E+06	0.87	Y	1.08	8.33	4550.678	0.315
2347/1279-TCDF	27.09		0.9934	0.9929	-0.8	5.37E+06	0.81	Y	1.08	34.9	4550.678	0.315
2348-TCDF	27.20		0.9972	0.9967	-0.8	3.25E+07	0.81	Y	1.08	211	4550.678	0.315
2378-TCDF	**27.31**	E	**1.0008**	**1.0008**	**0**	**4.57E+08**	**0.81**	**Y**	**1.08**	**2,970**	**4550.678**	**0.315**
2367/3467-TCDF	27.67		1.0145	1.0141	-0.7	3.71E+07	0.81	Y	1.08	241	4550.678	0.315
1269-TCDF	27.93		1.0236	1.0236	0	6.61E+06	0.84	Y	1.08	42.9	4550.678	0.315
1239-TCDF	28.21	EMPC	1.0333	1.0336	+0.5	4.26E+05	0.95	N	1.08	2.77	4550.678	0.315
1289-TCDF	29.35		1.0740	1.0756	+2.8	3.48E+07	0.82	Y	1.08	226	4550.678	0.315
13468/12468-PeCDF	29.36	EMPC	0.9138	0.9130	-1.4	3.26E+05	1.11	N	1.02	2.56	2930.485	0.201
13678/13467/12467-PeCDF	30.91	J	0.9614	0.9615	+0.2	2.26E+05	1.46	Y	1.02	1.77	6199.531	0.426
12368/13478/12478-PeCDF	31.07		0.9661	0.9664	+0.6	5.56E+06	1.58	Y	1.02	43.7	6199.531	0.426
14678-PeCDF	NotFnd		0.9693						1.02		6199.531	0.426
13479-PeCDF	NotFnd		0.9722						1.02		6199.531	0.426
13469/12479-PeCDF	NotFnd		0.9800						1.02		6199.531	0.426
12346-PeCDF	NotFnd		0.9844						1.02		6199.531	0.426

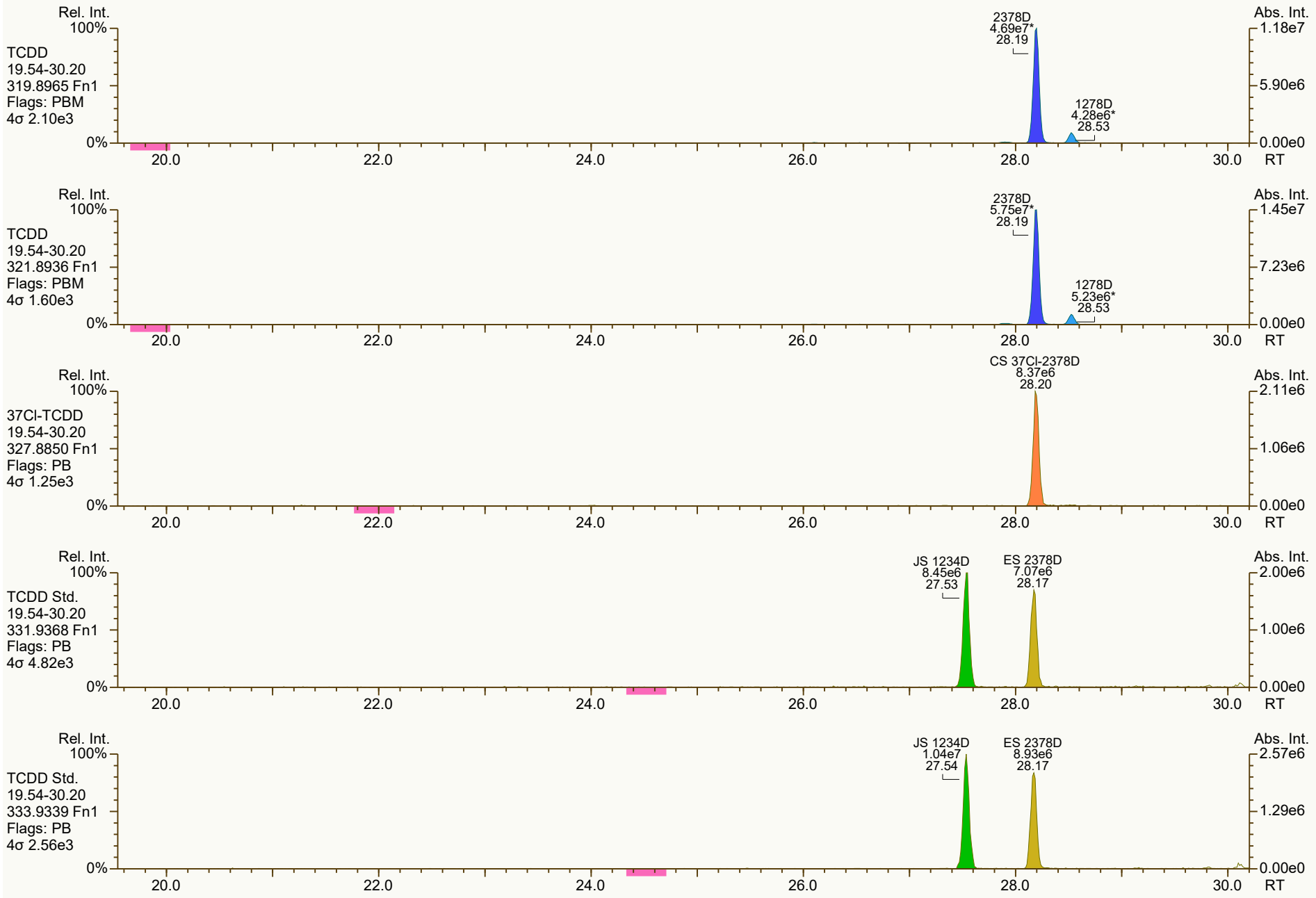
Lab ID: B6169_18833_DF_005 **Acq'd: 17 Jan 2022 15:17 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

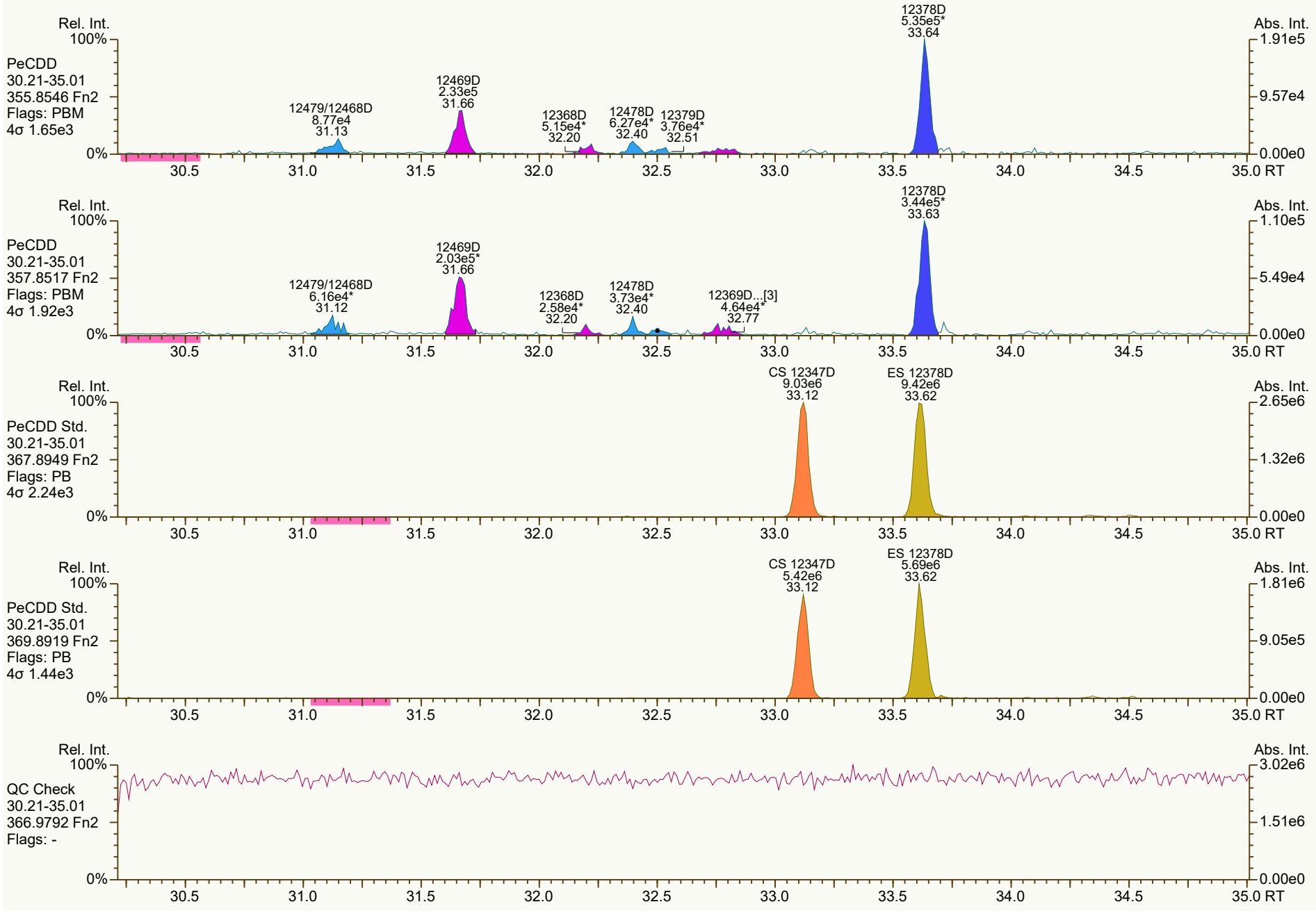
Client ID: 11215131-011122-S-BN-NC-S-25 **UTP: 18-Jan-2022 09:06:11 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 749-441-BFB**

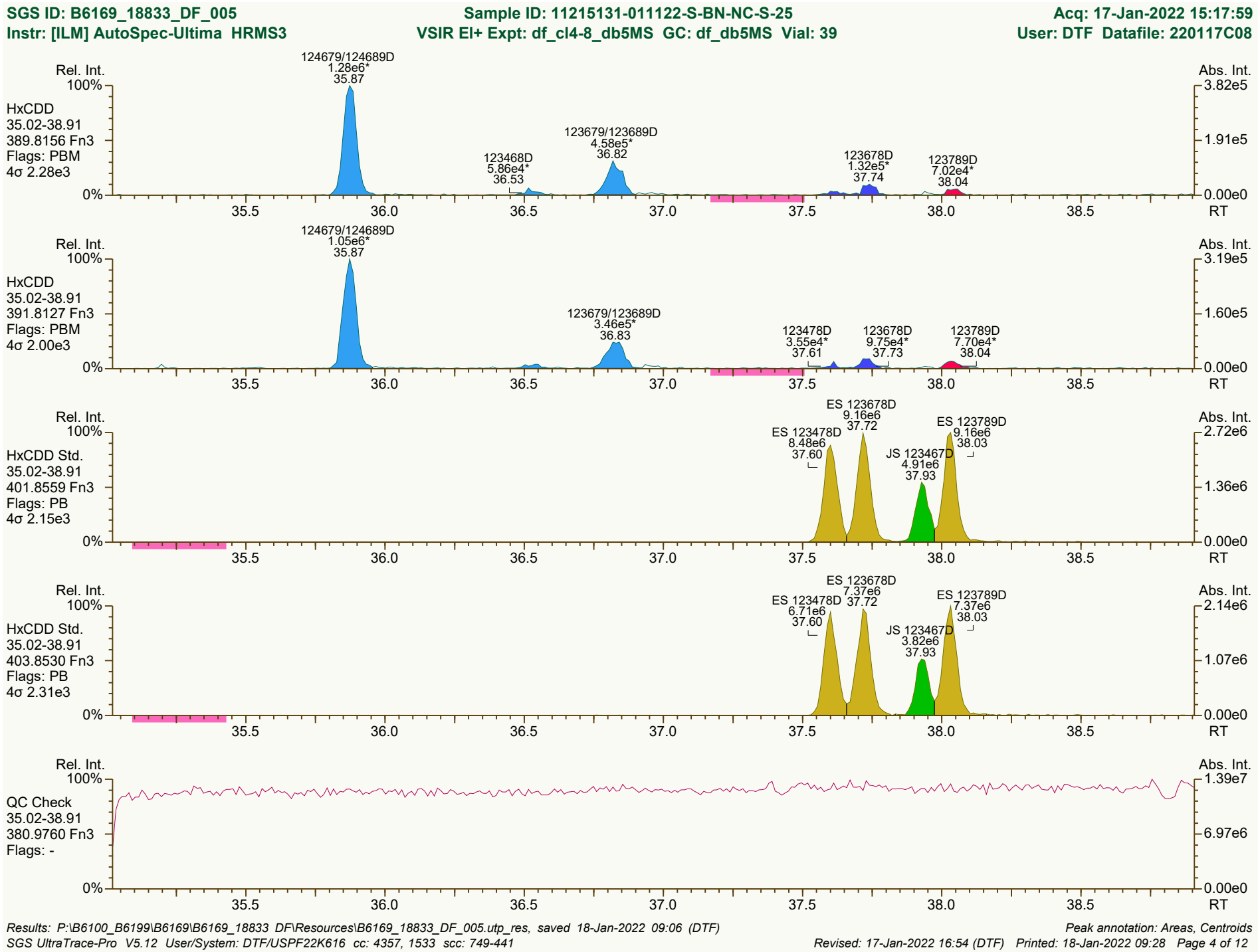
Datafile: 220117C08 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

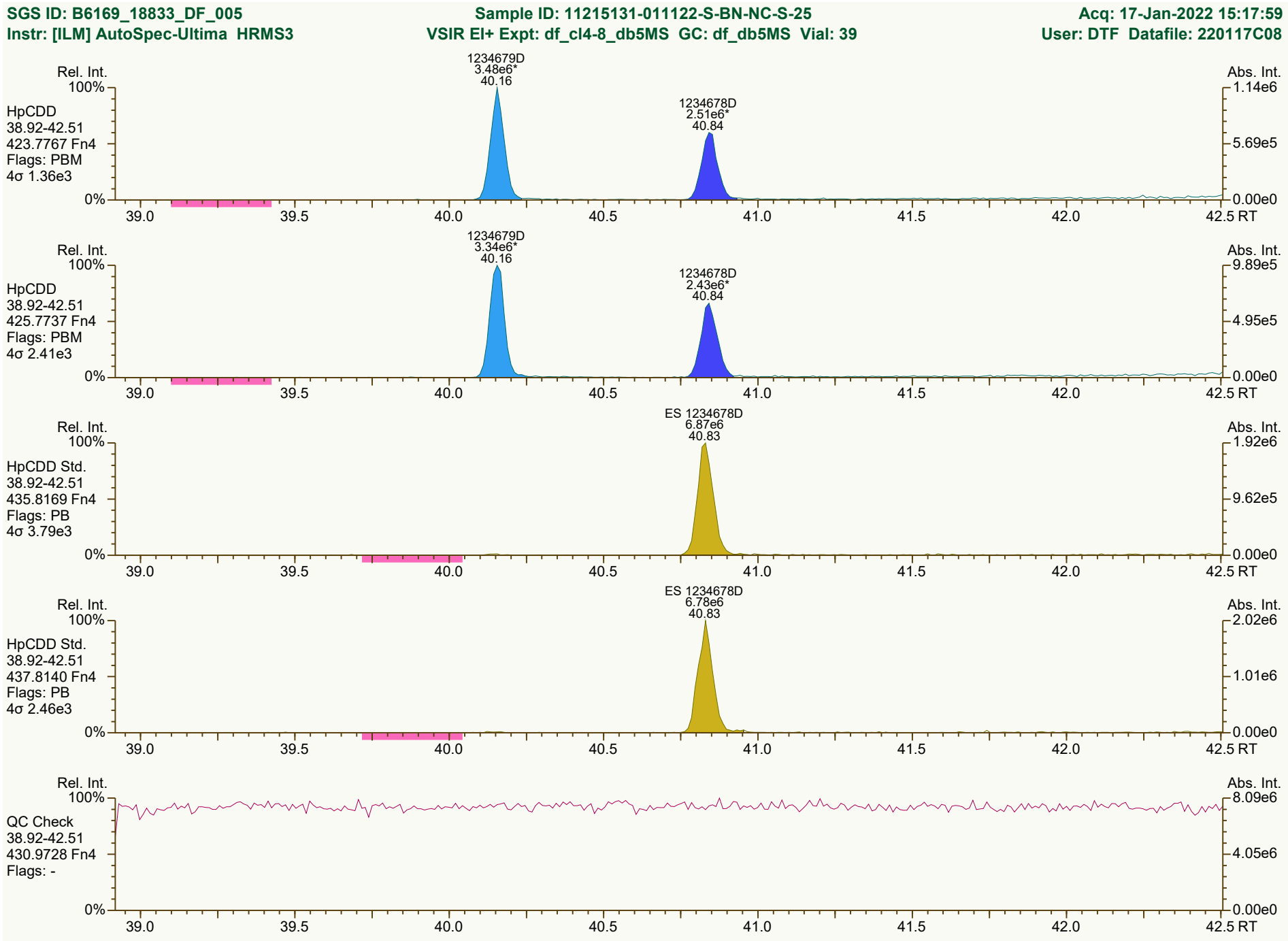
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71	J	0.9865	0.9861	-0.8	3.04E+05	1.50	Y	1.02	2.39	6199.531	0.426
12347-PeCDF	31.80		0.9890	0.9890	0	3.12E+05	1.67	Y	1.02	2.45	6199.531	0.426
12348-PeCDF	31.96		0.9942	0.9942	0	1.23E+06	1.71	Y	1.02	9.64	6199.531	0.426
12378-PeCDF	**32.17**		**1.0006**	**1.0005**	**-0.2**	**1.20E+07**	**1.60**	**Y**	**1.02**	**93.1**	**6199.531**	**0.431**
12678/12367-PeCDF	32.47		1.0090	1.0098	+1.6	3.81E+06	1.61	Y	1.02	30	6199.531	0.426
12379-PeCDF	NotFnd		1.0142						1.02		6199.531	0.426
12679-PeCDF	NotFnd		0.9933						1.02		6199.531	0.426
23467/12369-PeCDF	33.15	J EMPC	0.9969	0.9967	-0.4	1.83E+05	1.29	N	1.02	1.44	6199.531	0.426
23478-PeCDF	**33.29**		**1.0006**	**1.0007**	**+0.2**	**9.63E+06**	**1.63**	**Y**	**1.02**	**76.9**	**6199.531**	**0.421**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6199.531	0.426
12349-PeCDF	NotFnd		1.0107						1.02		6199.531	0.426
12389-PeCDF	34.37		1.0330	1.0333	+0.6	5.16E+05	1.42	Y	1.02	4.05	6199.531	0.426
123468-HxCDF	35.21	J EMPC	0.9627	0.9624	-0.6	3.00E+05	1.46	N	1.19	2.27	9318.37	0.587
124678/134678-HxCDF	35.41		0.9682	0.9677	-1.1	1.99E+06	1.24	Y	1.19	15.1	9318.37	0.587
134679-HxCDF	NotFnd		0.9744						1.19		9318.37	0.587
124679-HxCDF	NotFnd		0.9798						1.19		9318.37	0.587
124689-HxCDF	36.07		0.9858	0.9857	-0.2	8.99E+05	1.18	Y	1.19	6.8	9318.37	0.587
123467-HxCDF	36.49	J	0.9973	0.9972	-0.2	1.41E+05	1.43	Y	1.19	1.06	9318.37	0.587
123478-HxCDF	**36.60**		**1.0005**	**1.0005**	**0**	**1.79E+07**	**1.27**	**Y**	**1.27**	**141**	**9318.37**	**0.593**
123678-HxCDF	**36.74**		**1.0004**	**1.0004**	**0**	**5.34E+06**	**1.31**	**Y**	**1.15**	**38**	**9318.37**	**0.551**
123479-HxCDF	NotFnd		1.0051						1.19		9318.37	0.587
123469-HxCDF	NotFnd		1.0093						1.19		9318.37	0.587
123679-HxCDF	NotFnd		0.9944						1.19		9318.37	0.587
234678-HxCDF	**37.42**		**1.0005**	**1.0005**	**0**	**1.10E+06**	**1.30**	**Y**	**1.19**	**7.14**	**9318.37**	**0.509**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9318.37	0.587
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**9318.37**	**0.743**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43		1.0008	1.0012	+0.9	1.34E+06	1.26	Y	1.19	10.2	9318.37	0.587
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**6.27E+06**	**1.07**	**Y**	**1.37**	**48.4**	**4519.629**	**0.257**
1234679-HpCDF	40.15	**J EMPC**	1.0069	1.0071	+0.5	8.74E+04	0.88	N	1.34	0.807	4519.629	0.353
1234689-HpCDF	40.29		1.0103	1.0107	+1.0	2.37E+06	1.03	Y	1.34	21.9	4519.629	0.353
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**1.50E+06**	**1.06**	**Y**	**1.31**	**17**	**4519.629**	**0.492**
OCDF	**43.79**		**1.0003**	**1.0002**	**-0.3**	**3.18E+06**	**0.90**	**Y**	**1.07**	**60.2**	**4448.899**	**1.21**
OCDF-a	43.81		1.0002	1.0005	+0.8	1.42E+05	2.85	Y	0.07	43.4	3801.199	16.6

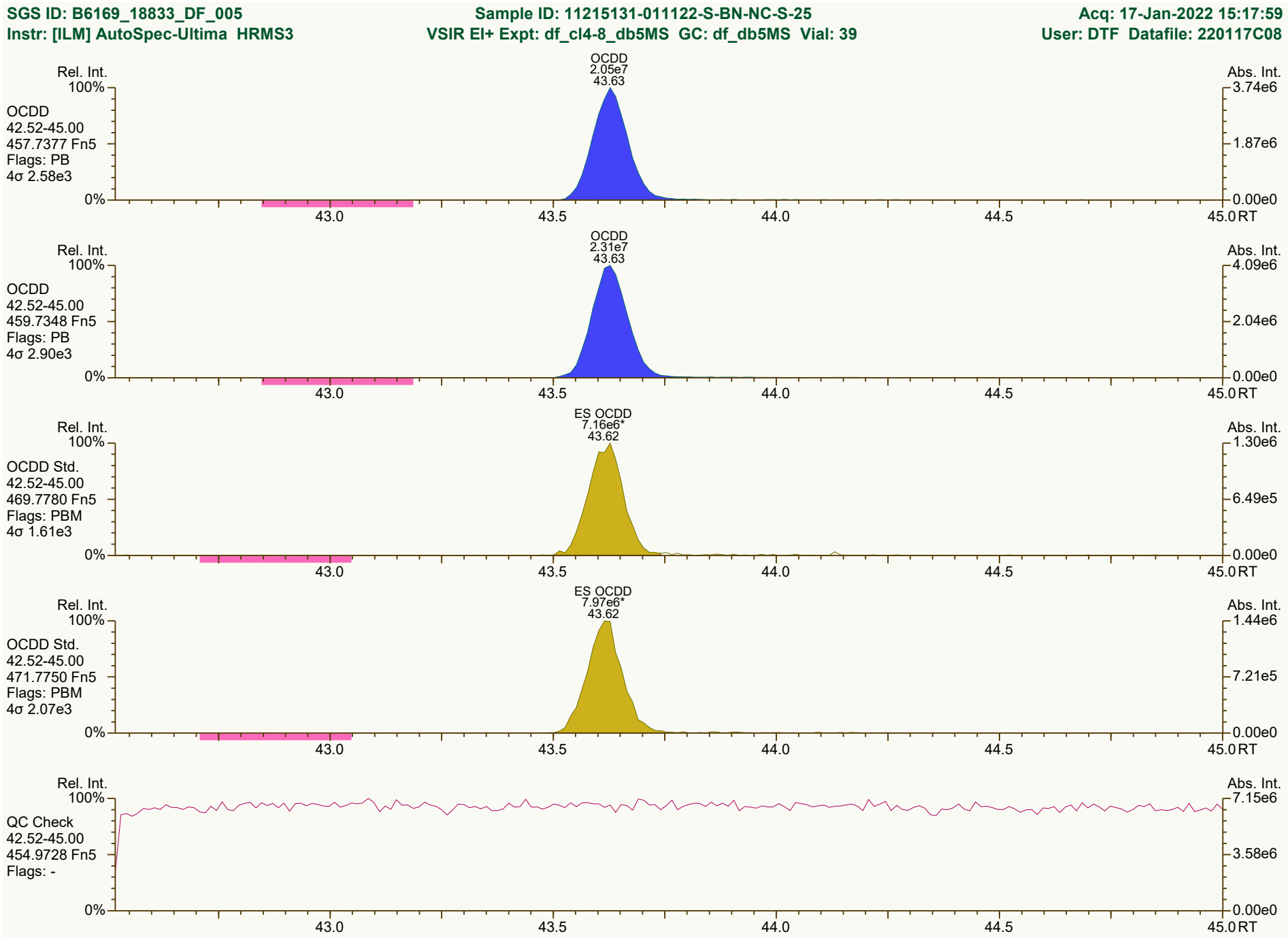

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.67e6
1.84e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
3.02e6
1.51e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.39e7
6.97e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
8.09e6
4.05e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
7.15e6
3.58e6
0.00e0

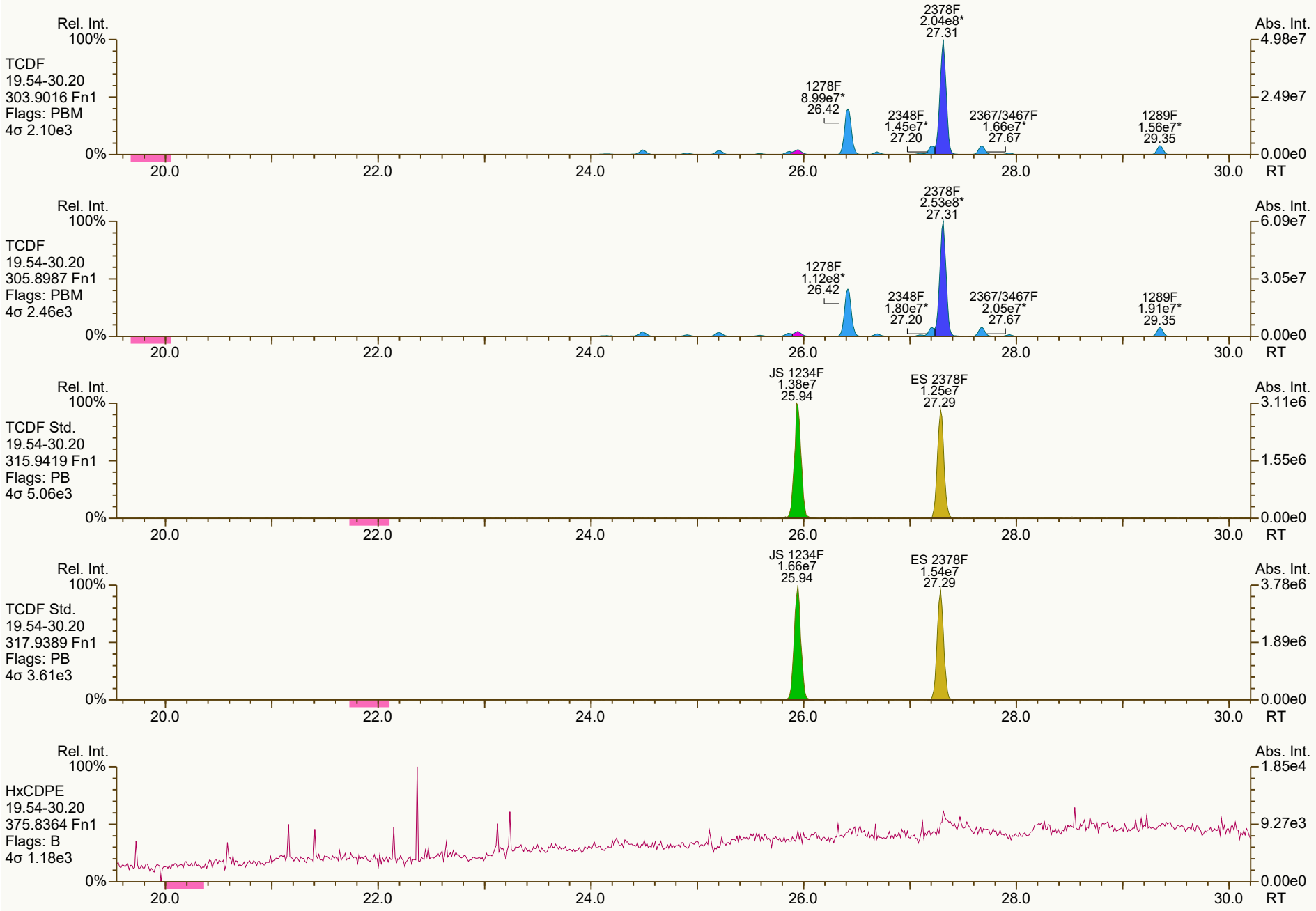

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.10e3
0%
2378D
4.69e7*
28.19
1278D
4.28e6*
28.53
Abs. Int.
1.18e7
5.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.60e3
0%
2378D
5.75e7*
28.19
1278D
5.23e6*
28.53
Abs. Int.
1.45e7
7.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.25e3
0%
CS 37Cl-2378D
8.37e6
28.20
Abs. Int.
2.11e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.82e3
0%
JS 1234D
8.45e6
27.53
ES 2378D
7.07e6
28.17
Abs. Int.
2.00e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.56e3
0%
JS 1234D
1.04e7
27.54
ES 2378D
8.93e6
28.17
Abs. Int.
2.57e6
1.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.65e3
12479/12468D
8.77e4
31.13
12469D
2.33e5
31.66
12368D
5.15e4*
32.20
12478D
6.27e4*
32.40
12379D
3.76e4*
32.51
12378D
5.35e5*
33.64
Abs. Int.
1.91e5
9.57e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.92e3
12479/12468D
6.16e4*
31.12
12469D
2.03e5*
31.66
12368D
2.58e4*
32.20
12478D
3.73e4*
32.40
12369D...[3]
4.64e4*
32.77
12378D
3.44e5*
33.63
Abs. Int.
1.10e5
5.49e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.24e3
CS 12347D
9.03e6
33.12
ES 12378D
9.42e6
33.62
Abs. Int.
2.65e6
1.32e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.44e3
CS 12347D
5.42e6
33.12
ES 12378D
5.69e6
33.62
Abs. Int.
1.81e6
9.05e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
3.02e6
1.51e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

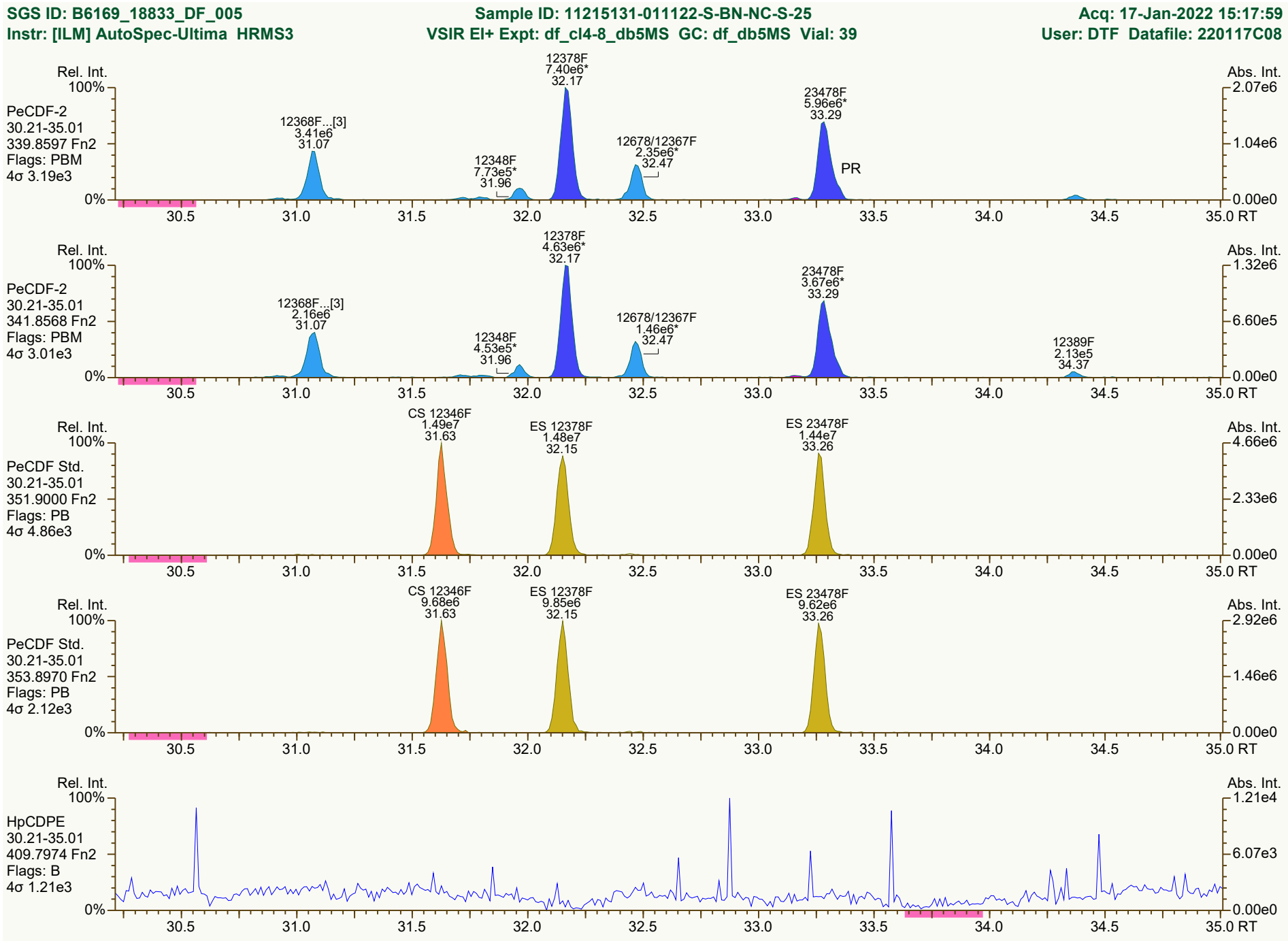

SGS ID: B6169_18833_DF_005
Sample ID: 11215131-011122-S-BN-NC-S-25
Acq: 17-Jan-2022 15:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220117C08
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.28e3
124679/124689D
1.28e6*
35.87
123468D
5.86e4*
36.53
123679/123689D
4.58e5*
36.82
123678D
1.32e5*
37.74
123789D
7.02e4*
38.04
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
1.05e6*
35.87
123679/123689D
3.46e5*
36.83
123478D
3.55e4*
37.61
123678D
9.75e4*
37.73
123789D
7.70e4*
38.04
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 2.15e3
ES 123678D
9.16e6
37.72
ES 123478D
8.48e6
37.60
JS 123467D
4.91e6
37.93
ES 123789D
9.16e6
38.03
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 2.31e3
ES 123678D
7.37e6
37.72
ES 123478D
6.71e6
37.60
JS 123467D
3.82e6
37.93
ES 123789D
7.37e6
38.03
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
RT
35.5
36.0
36.5
37.0
37.5
38.0
38.5
100%
0%
3.82e5
1.91e5
0.00e0
3.19e5
1.60e5
2.72e6
1.36e6
2.14e6
1.07e6
1.39e7
6.97e6
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_005.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4357, 1533 scc: 749-441
Revised: 17-Jan-2022 16:54 (DTF) Printed: 18-Jan-2022 09:28 Page 4 of 12

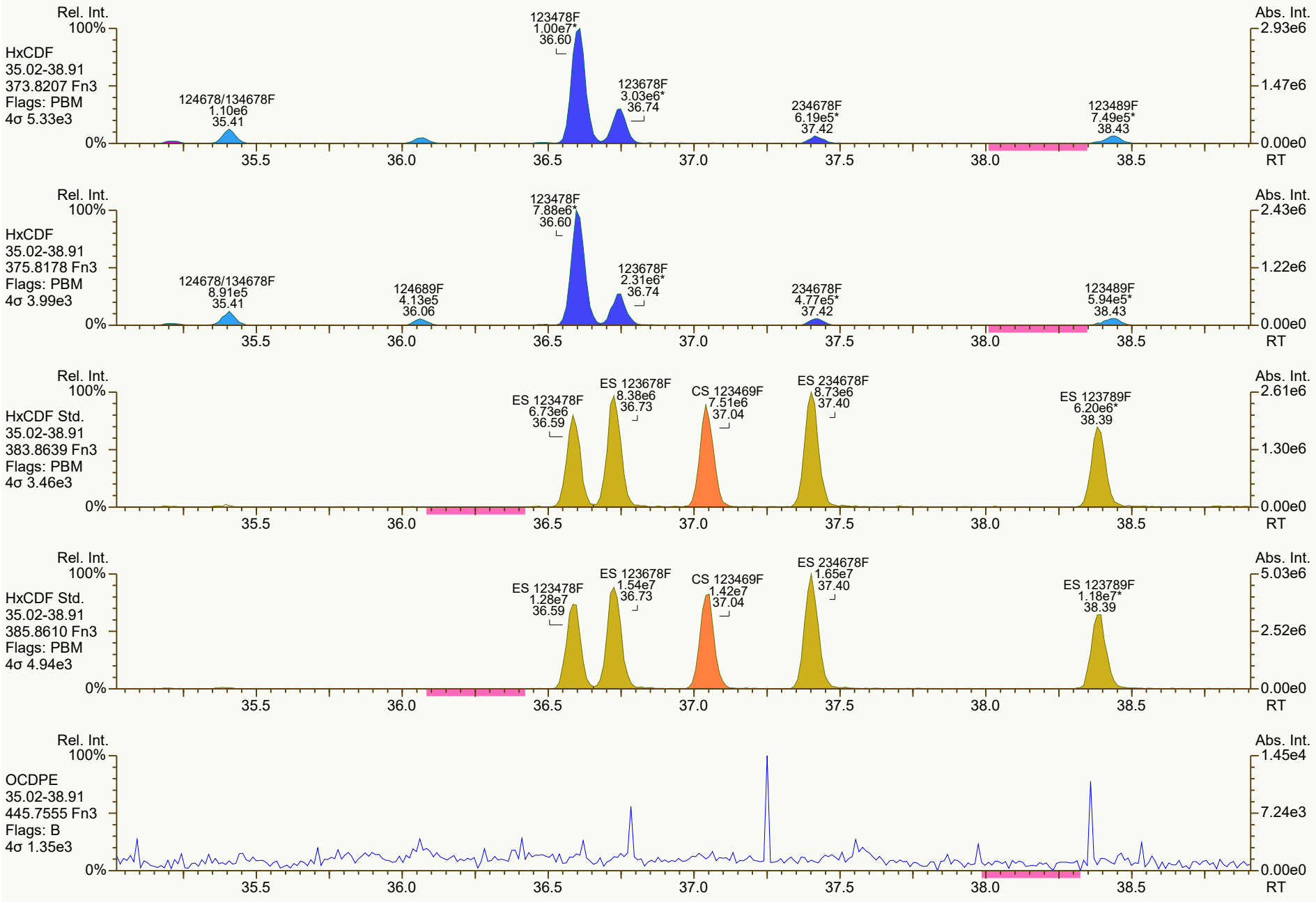

SGS ID: B6169_18833_DF_005
Sample ID: 11215131-011122-S-BN-NC-S-25
Acq: 17-Jan-2022 15:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220117C08
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.36e3
1234679D
3.48e6*
40.16
1234678D
2.51e6*
40.84
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.41e3
1234679D
3.34e6*
40.16
1234678D
2.43e6*
40.84
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 3.79e3
ES 1234678D
6.87e6
40.83
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.46e3
ES 1234678D
6.78e6
40.83
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_005.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4504, 0353 scc: 749-441
Revised: 17-Jan-2022 16:54 (DTF) Printed: 18-Jan-2022 09:28 Page 5 of 12

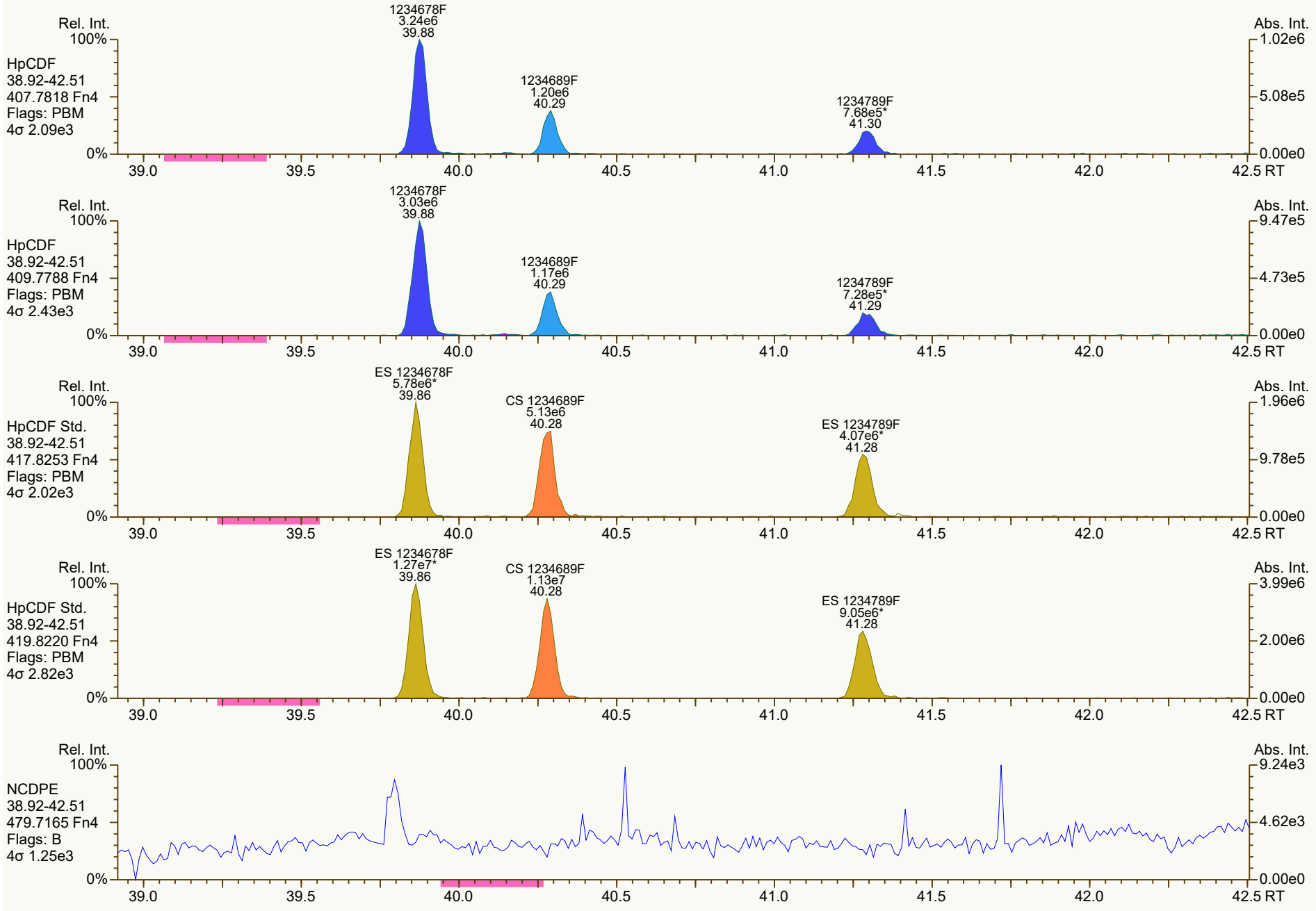

SGS ID: B6169_18833_DF_005
Sample ID: 11215131-011122-S-BN-NC-S-25
Acq: 17-Jan-2022 15:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220117C08
OCDD
2.05e7
43.63
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.58e3
OCDD
2.31e7
43.63
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.90e3
ES OCDD
7.16e6*
43.62
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.61e3
ES OCDD
7.97e6*
43.62
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 2.07e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_005.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4358, 9647 scc: 749-441
Revised: 17-Jan-2022 16:51 (DTF) Printed: 18-Jan-2022 09:28 Page 6 of 12

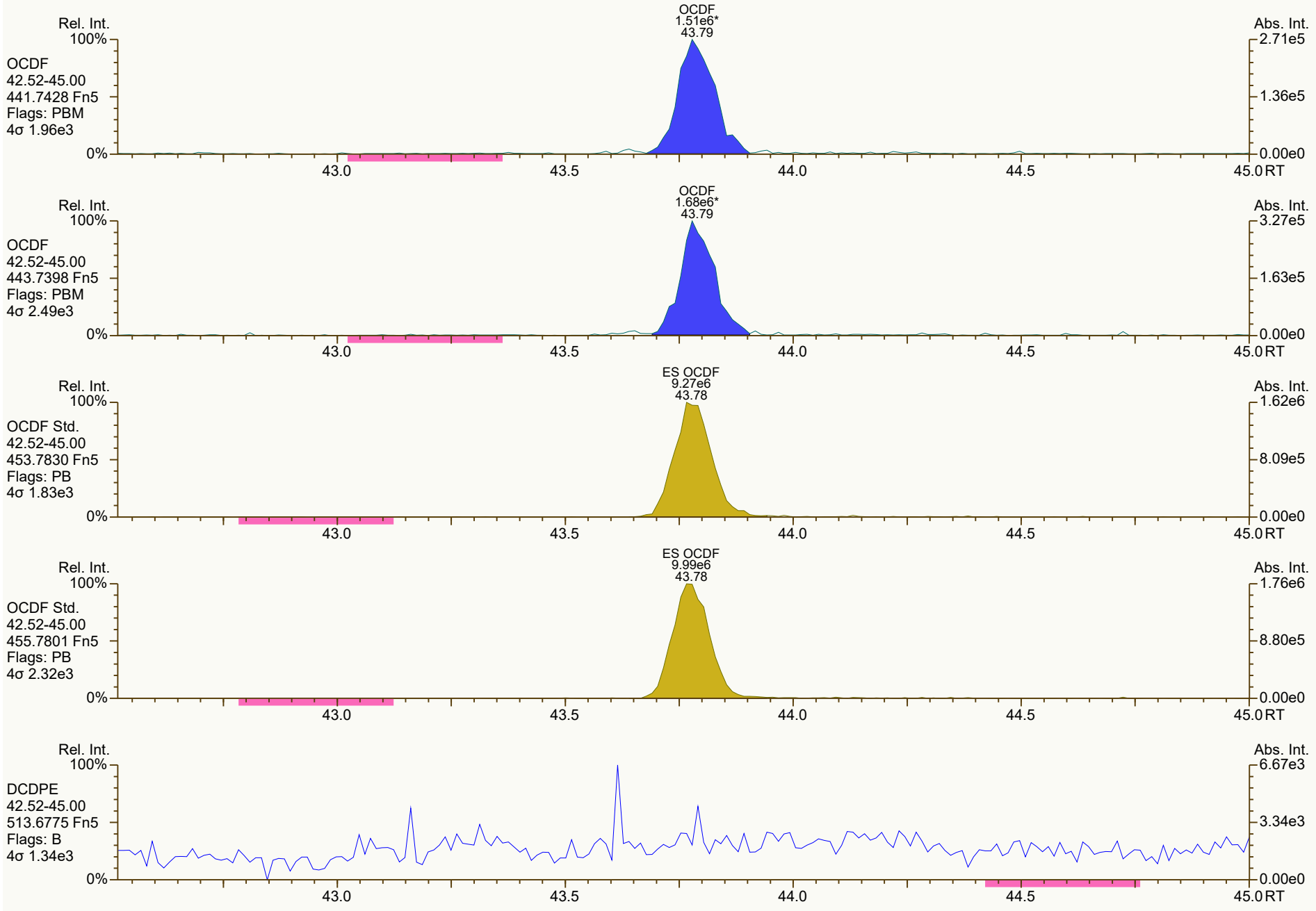

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.10e3
0%
2378F
2.04e8*
27.31
1278F
8.99e7*
26.42
2348F
1.45e7*
27.20
2367/3467F
1.66e7*
27.67
1289F
1.56e7*
29.35
Abs. Int.
4.98e7
2.49e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.46e3
0%
2378F
2.53e8*
27.31
1278F
1.12e8*
26.42
2348F
1.80e7*
27.20
2367/3467F
2.05e7*
27.67
1289F
1.91e7*
29.35
Abs. Int.
6.09e7
3.05e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.06e3
0%
JS 1234F
1.38e7
25.94
ES 2378F
1.25e7
27.29
Abs. Int.
3.11e6
1.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.61e3
0%
JS 1234F
1.66e7
25.94
ES 2378F
1.54e7
27.29
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.18e3
0%
Abs. Int.
1.85e4
9.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
5.62e4
2.81e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.98e5*
29.36
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.25e3
13468/12468F
1.79e5*
29.36
Abs. Int.
5.94e4
2.97e4
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.68e3
Abs. Int.
3.67e6
1.84e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -


SGS ID: B6169_18833_DF_005
Sample ID: 11215131-011122-S-BN-NC-S-25
Acq: 17-Jan-2022 15:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220117C08
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 3.19e3
12368F...[3]
3.41e6
31.07
12348F
7.73e5*
31.96
12378F
7.40e6*
32.17
12678/12367F
2.35e6*
32.47
23478F
5.96e6*
33.29
PR
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 3.01e3
12368F...[3]
2.16e6
31.07
12348F
4.53e5*
31.96
12378F
4.63e6*
32.17
12678/12367F
1.46e6*
32.47
23478F
3.67e6*
33.29
12389F
2.13e5
34.37
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 4.86e3
CS 12346F
1.49e7
31.63
ES 12378F
1.48e7
32.15
ES 23478F
1.44e7
33.26
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 2.12e3
CS 12346F
9.68e6
31.63
ES 12378F
9.85e6
32.15
ES 23478F
9.62e6
33.26
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.21e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
2.07e6
1.04e6
0.00e0
1.32e6
6.60e5
4.66e6
2.33e6
2.92e6
1.46e6
1.21e4
6.07e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_005.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2493, 3461, 0992 scc: 749-441
Revised: 17-Jan-2022 16:58 (DTF) Printed: 18-Jan-2022 09:29 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 5.33e3
0%
123478F
1.00e7*
36.60
123678F
3.03e6*
36.74
124678/134678F
1.10e6
35.41
234678F
6.19e5*
37.42
123489F
7.49e5*
38.43
Abs. Int.
2.93e6
1.47e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 3.99e3
0%
123478F
7.88e6*
36.60
123678F
2.31e6*
36.74
124678/134678F
8.91e5
35.41
124689F
4.13e5
36.06
234678F
4.77e5*
37.42
123489F
5.94e5*
38.43
Abs. Int.
2.43e6
1.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 3.46e3
0%
ES 123478F
6.73e6
36.59
ES 123678F
8.38e6
36.73
CS 123469F
7.51e6
37.04
ES 234678F
8.73e6
37.40
ES 123789F
6.20e6*
38.39
Abs. Int.
2.61e6
1.30e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 4.94e3
0%
ES 123478F
1.28e7
36.59
ES 123678F
1.54e7
36.73
CS 123469F
1.42e7
37.04
ES 234678F
1.65e7
37.40
ES 123789F
1.18e7*
38.39
Abs. Int.
5.03e6
2.52e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.45e4
7.24e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.09e3
0%
1234678F
3.24e6
39.88
1234689F
1.20e6
40.29
1234789F
7.68e5*
41.30
Abs. Int.
1.02e6
5.08e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.43e3
0%
1234678F
3.03e6
39.88
1234689F
1.17e6
40.29
1234789F
7.28e5*
41.29
Abs. Int.
9.47e5
4.73e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 2.02e3
0%
ES 1234678F
5.78e6*
39.86
CS 1234689F
5.13e6
40.28
ES 1234789F
4.07e6*
41.28
Abs. Int.
1.96e6
9.78e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.27e7*
39.86
CS 1234689F
1.13e7
40.28
ES 1234789F
9.05e6*
41.28
Abs. Int.
3.99e6
2.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
9.24e3
4.62e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDF
1.51e6*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.96e3
0%
Abs. Int.
2.71e5
1.36e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.68e6*
43.79
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.49e3
3.27e5
1.63e5
ES OCDF
9.27e6
43.78
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.83e3
1.62e6
8.09e5
ES OCDF
9.99e6
43.78
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.32e3
1.76e6
8.80e5
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.34e3
6.67e3
3.34e3

Lab ID: B6169_18833_DF_006 **Acq'd:** 17 Jan 2022 16:04 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-27 **UTP:** 18-Jan-2022 09:06:12 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 109-561-HBY

Datafile: 220117C09 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0008	0	6.83E+07	0.81	Y	1.18	461	3662.006	0.253
12378-PeCDD	33.66		1.0006	1.0006	0	6.56E+05	1.50	Y	1.04	5.05	4789.348	0.305
123478-HxCDD	37.64	J	1.0004	1.0005	+0.2	2.28E+05	1.30	Y	1.09	1.84	6583.897	0.466
123678-HxCDD	37.76		1.0036	1.0036	0	8.63E+05	1.28	Y	1.15	6.87	6583.897	0.491
123789-HxCDD	38.07		1.0118	1.0118	0	4.77E+05	1.18	Y	1.05	3.66	6583.897	0.444
1234678-HpCDD	40.86		1.0003	1.0003	0	2.05E+07	1.03	Y	1.06	190	4940.602	0.409
OCDD	43.65		1.0003	1.0003	0	1.85E+08	0.90	Y	1.13	2,740	5834.659	1.22
2378-TCDF	27.32	E	1.0008	1.0008	0	3.00E+08	0.81	Y	1.08	1,420	3734.959	0.184
12378-PeCDF	32.19		1.0006	1.0006	0	1.02E+07	1.57	Y	1.02	52.6	5958.045	0.28
23478-PeCDF	33.31		1.0006	1.0008	+0.4	7.56E+06	1.55	Y	1.02	40.3	5958.045	0.279
123478-HxCDF	36.63		1.0005	1.0004	-0.2	1.45E+07	1.23	Y	1.27	78.2	10319.314	0.483
123678-HxCDF	36.76		1.0004	1.0004	0	4.84E+06	1.34	Y	1.15	23.6	10319.314	0.431
234678-HxCDF	37.44		1.0005	1.0005	0	1.23E+06	1.29	Y	1.19	7.16	10319.314	0.54
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	10319.314	0.514
1234678-HpCDF	39.89		1.0003	1.0003	0	1.23E+07	1.01	Y	1.37	70.7	5354.045	0.249
1234789-HpCDF	41.32		1.0003	1.0003	0	1.61E+06	0.97	Y	1.31	12.7	5354.045	0.448
OCDF	43.82		1.0003	1.0003	0	5.31E+07	0.90	Y	1.07	630	3005.326	0.504

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19	1.0231	1.0231	0	2.46E+07	0.84	Y	1.05	89.3
ES 12378-PeCDD	33.64	1.2198	1.2210	+2.4	2.46E+07	1.57	Y	0.88	106
ES 123478-HxCDD	37.62	0.9913	0.9914	+0.2	2.23E+07	1.26	Y	0.97	89.1
ES 123678-HxCDD	37.74	0.9944	0.9945	+0.2	2.15E+07	1.25	Y	0.94	88.6
ES 123789-HxCDD	38.05	1.0026	1.0027	+0.2	2.44E+07	1.25	Y	1.09	87
ES 1234678-HpCDD	40.85	1.0760	1.0765	+1.2	2.00E+07	1.09	Y	0.91	85.4
ES OCDD	43.64	1.1489	1.1501	+3.1	2.36E+07	0.91	Y	0.62	73.5
ES 2378-TCDF	27.30	1.0515	1.0518	+0.5	3.86E+07	0.80	Y	1.06	88.3
ES 12378-PeCDF	32.17	1.2378	1.2394	+3.1	3.73E+07	1.53	Y	0.91	99.4
ES 23478-PeCDF	33.28	1.2804	1.2822	+3.6	3.62E+07	1.66	Y	0.88	99.3
ES 123478-HxCDF	36.61	0.9647	0.9647	0	2.86E+07	0.53	Y	1.20	92.7
ES 123678-HxCDF	36.75	0.9684	0.9684	0	3.49E+07	0.54	Y	1.35	100
ES 234678-HxCDF	37.42	0.9861	0.9861	0	2.84E+07	0.53	Y	1.24	89
ES 123789-HxCDF	38.41	1.0120	1.0120	0	2.79E+07	0.53	Y	1.16	93.8
ES 1234678-HpCDF	39.88	1.0506	1.0509	+0.7	2.49E+07	0.45	Y	0.97	100
ES 1234789-HpCDF	41.30	1.0879	1.0884	+1.2	1.91E+07	0.45	Y	0.85	87
ES OCDF	43.80	1.1534	1.1543	+2.4	3.09E+07	0.91	Y	0.81	74.4

Lab ID: B6169_18833_DF_006 **Acq'd:** 17 Jan 2022 16:04 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-27 **UTP:** 18-Jan-2022 09:06:12 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 109-561-HBY

Datafile: 220117C09 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.63E+07	0.84	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.13E+07	0.80	Y	-	-
JS 123467-HxCDD	37.95		-	-	-	1.29E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.21		1.0238	1.0239	+0.2	1.17E+07	n/a	-	1.20	92.5
CS 12347-PeCDD	33.14		1.2018	1.2028	+2.0	2.27E+07	1.64	Y	0.75	114
CS 12346-PeCDF	31.65		1.2178	1.2192	+2.7	3.58E+07	1.50	Y	0.85	102
CS 123469-HxCDF	37.07		0.9768	0.9768	0	3.10E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.30		1.0615	1.0619	+1.0	2.34E+07	0.45	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0238~~	~~1.0239~~	~~+0.2~~	~~1.17E+07~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.14~~		~~1.2018~~	~~1.2028~~	~~+2.0~~	~~2.27E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.65~~		~~1.2178~~	~~1.2192~~	~~+2.7~~	~~3.58E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~102~~
~~SS 123469-HxCDF~~	~~37.07~~		~~0.9768~~	~~0.9768~~	~~0~~	~~3.10E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0615~~	~~1.0619~~	~~+1.0~~	~~2.34E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~102~~

Totals	Conc	EMPC
Total TCDD	521	524
Total PeCDD	12	16.7
Total HxCDD	68.5	68.5
Total HpCDD	432	432
Total Tetra-Octa Dioxins	3780	3780
Total TCDF	2,730	2730
Total PeCDF	156	159
Total HxCDF	164	165
Total HpCDF	153	153
Total Tetra-Octa Furans	3,830	3840
Total Tetra-Octa Dioxins & Furans	7610	7620

Lab ID: B6169_18833_DF_006 | **Acq'd: 17 Jan 2022 16:04 DTF** | **Wt/Vol: 10.17 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-27 | **UTP: 18-Jan-2022 09:06:12 DTF** | **J-level: 0.491 pg/g** | **Split: 1** | **Checkcode: 109-561-HBY**

Datafile: 220117C09 | **Report: 18 Jan 2022 09:10 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8733	0.8702	-4.6	2.95E+05	0.69	Y	1.18	1.99	3662.006	0.253
1379-TCDD	24.90	EMPC	0.8860	0.8832	-4.2	1.24E+05	1.06	N	1.18	0.834	3662.006	0.253
1369-TCDD	NotFnd		0.9009						1.18		3662.006	0.253
1469-TCDD	26.12		0.9282	0.9267	-2.4	2.89E+05	0.67	Y	1.18	1.95	3662.006	0.253
1247/1246/1248/1249-TCDD	26.37		0.9365	0.9354	-1.7	1.92E+05	0.88	Y	1.18	1.29	3662.006	0.253
1378-TCDD	26.54	EMPC	0.9429	0.9417	-1.9	2.29E+05	0.97	N	1.18	1.55	3662.006	0.253
1268-TCDD	NotFnd		0.9500						1.18		3662.006	0.253
1478-TCDD	26.99		0.9584	0.9575	-1.5	1.56E+05	0.86	Y	1.18	1.05	3662.006	0.253
1279-TCDD	NotFnd		0.9648						1.18		3662.006	0.253
1234/1269-TCDD	27.53	EMPC	0.9770	0.9765	-0.8	9.77E+04	0.95	N	1.18	0.66	3662.006	0.253
1236-TCDD	NotFnd		0.9821						1.18		3662.006	0.253
1237/1238-TCDD	27.92		0.9909	0.9906	-0.5	1.24E+06	0.71	Y	1.18	8.39	3662.006	0.253
1239-TCDD	NotFnd		0.9959						1.18		3662.006	0.253
2378-TCDD	**28.21**		**1.0008**	1.0008	**0**	6.83E+07	0.81	Y	**1.18**	**461**	**3662.006**	**0.253**
1278-TCDD	28.54		1.0123	1.0126	+0.5	6.75E+06	0.81	Y	1.18	45.6	3662.006	0.253
1267-TCDD	NotFnd		1.0172						1.18		3662.006	0.253
1289-TCDD	NotFnd		1.0354						1.18		3662.006	0.253
12479/12468-PeCDD	31.14		0.9267	0.9257	-1.9	3.65E+05	1.57	Y	1.04	2.81	4789.348	0.305
12469-PeCDD	31.68	J EMPC	0.9426	0.9418	-1.5	3.14E+05	1.20	N	1.04	2.42	4789.348	0.305
12368-PeCDD	32.23	J	0.9587	0.9580	-1.4	2.39E+05	1.53	Y	1.04	1.84	4789.348	0.305
12478-PeCDD	32.42	J	0.9642	0.9638	-0.8	1.73E+05	1.76	Y	1.04	1.33	4789.348	0.305
12379-PeCDD	32.53	J	0.9674	0.9669	-1.0	1.27E+05	1.57	Y	1.04	0.98	4789.348	0.305
12369/12467/12489-PeCDD	32.79	J EMPC	0.9752	0.9748	-0.8	2.37E+05	1.30	N	1.04	1.83	4789.348	0.305
12346/12347-PeCDD	NotFnd		0.9861						1.04		4789.348	0.305
12378-PeCDD	33.66		**1.0006**	**1.0006**	**0**	**6.56E+05**	**1.50**	**Y**	**1.04**	**5.05**	**4789.348**	**0.305**
12367-PeCDD	NotFnd		1.0036						1.04		4789.348	0.305
12389-PeCDD	34.11	J EMPC	1.0139	1.0139	0	5.79E+04	1.28	N	1.04	0.446	4789.348	0.305
124679/124689-HxCDD	35.90		0.9541	0.9541	0	3.67E+06	1.21	Y	1.10	29	6583.897	0.466
123468-HxCDD	36.55		0.9715	0.9716	+0.2	3.96E+05	1.17	Y	1.10	3.13	6583.897	0.466
123679/123689-HxCDD	36.85		0.9793	0.9795	+0.4	2.66E+06	1.28	Y	1.10	21	6583.897	0.466
123469-HxCDD	36.98	J	0.9831	0.9830	-0.2	2.44E+05	1.15	Y	1.10	1.93	6583.897	0.466
123478-HxCDD	37.64	J	**1.0004**	**1.0005**	**+0.2**	**2.28E+05**	**1.30**	**Y**	1.09	**1.84**	**6583.897**	**0.466**
123678-HxCDD	37.76		**1.0036**	**1.0036**	**0**	**8.63E+05**	**1.28**	**Y**	1.15	**6.87**	**6583.897**	**0.491**
123467-HxCDD	37.96	J	1.0089	1.0091	+0.5	1.42E+05	1.17	Y	1.10	1.12	6583.897	0.466
123789-HxCDD	38.07		**1.0118**	**1.0118**	**0**	**4.77E+05**	**1.18**	**Y**	1.05	**3.66**	**6583.897**	**0.444**

Lab ID: B6169_18833_DF_006 **Acq'd: 17 Jan 2022 16:04 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-27 **UTP: 18-Jan-2022 09:06:12 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 109-561-HBY**

Datafile: 220117C09 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

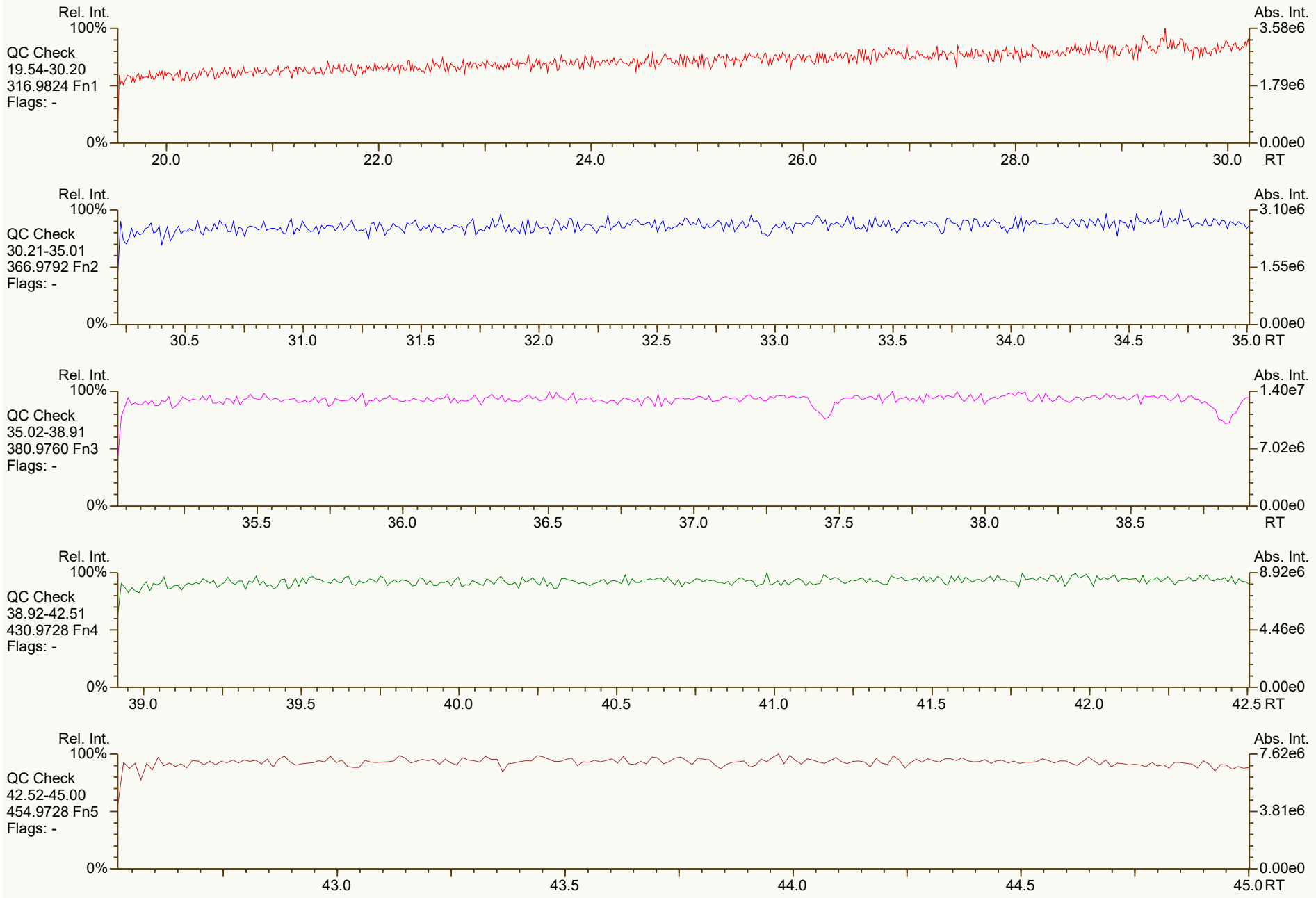
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9834	-0.2	2.62E+07	1.02	Y	1.06	242	4940.602	0.409
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**2.05E+07**	**1.03**	**Y**	**1.06**	**190**	**4940.602**	**0.409**
OCDD	**43.65**		**1.0003**	**1.0003**	**0**	**1.85E+08**	**0.90**	**Y**	**1.13**	**2,740**	**5834.659**	**1.22**
OCDD-a	43.65		1.0002	1.0002	0	1.21E+07	2.44	Y	0.07	2,790	5496.609	17.9
1368-TCDF	22.38		0.8250	0.8198	-7.0	1.48E+05	0.86	Y	1.08	0.697	3734.959	0.184
1468-TCDF	22.98		0.8494	0.8417	-10.6	5.49E+05	0.86	Y	1.08	2.59	3734.959	0.184
2468-TCDF	23.61		0.8684	0.8647	-5.2	7.30E+05	0.84	Y	1.08	3.45	3734.959	0.184
1346/1246-TCDF	NotFnd		0.8815						1.08		3734.959	0.184
1347/1378/1247-TCDF	24.14		0.8867	0.8841	-3.8	3.66E+06	0.81	Y	1.08	17.3	3734.959	0.184
1348-TCDF	NotFnd		0.8966						1.08		3734.959	0.184
1248/1367/1379-TCDF	24.49		0.9012	0.8971	-6.0	1.38E+07	0.81	Y	1.08	65	3734.959	0.184
1268-TCDF	24.92		0.9148	0.9127	-3.1	5.01E+06	0.82	Y	1.08	23.7	3734.959	0.184
1467-TCDF	25.05		0.9197	0.9176	-3.2	7.06E+05	0.81	Y	1.08	3.33	3734.959	0.184
1478-TCDF	25.22		0.9258	0.9237	-3.2	1.20E+07	0.82	Y	1.08	56.8	3734.959	0.184
1369/1237-TCDF	25.60		0.9390	0.9378	-1.8	3.31E+06	0.78	Y	1.08	15.7	3734.959	0.184
2467-TCDF	25.72		0.9435	0.9422	-2.0	4.27E+05	0.79	Y	1.08	2.02	3734.959	0.184
2368-TCDF	25.87		0.9488	0.9475	-2.0	8.99E+06	0.80	Y	1.08	42.5	3734.959	0.184
1238/1234/1678/1469/1236-TCDF	25.96		0.9527	0.9509	-2.8	1.48E+07	0.80	Y	1.08	70.1	3734.959	0.184
1278-TCDF	26.43		0.9689	0.9681	-1.3	1.27E+08	0.82	Y	1.08	599	3734.959	0.184
1349-TCDF	NotFnd		0.9730						1.08		3734.959	0.184
1267-TCDF	26.70		0.9787	0.9781	-1.0	7.68E+06	0.80	Y	1.08	36.3	3734.959	0.184
2346/1249-TCDF	26.91		0.9856	0.9857	+0.2	8.24E+05	0.84	Y	1.08	3.89	3734.959	0.184
2347/1279-TCDF	27.11		0.9934	0.9929	-0.8	3.71E+06	0.76	Y	1.08	17.5	3734.959	0.184
2348-TCDF	27.21		0.9972	0.9968	-0.7	2.10E+07	0.80	Y	1.08	99	3734.959	0.184
2378-TCDF	**27.32**	E	**1.0008**	**1.0008**	**0**	**3.00E+08**	**0.81**	**Y**	**1.08**	**1,420**	**3734.959**	**0.184**
2367/3467-TCDF	27.69		1.0145	1.0143	-0.3	2.60E+07	0.81	Y	1.08	123	3734.959	0.184
1269-TCDF	27.95		1.0236	1.0236	0	4.77E+06	0.82	Y	1.08	22.5	3734.959	0.184
1239-TCDF	NotFnd		1.0333						1.08		3734.959	0.184
1289-TCDF	29.37		1.0740	1.0757	+3.0	2.33E+07	0.83	Y	1.08	110	3734.959	0.184
13468/12468-PeCDF	29.37		0.9138	0.9130	-1.4	1.40E+06	1.51	Y	1.02	7.35	3448.081	0.162
13678/13467/12467-PeCDF	30.93	J	0.9614	0.9613	-0.2	3.57E+05	1.54	Y	1.02	1.87	5958.045	0.279
12368/13478/12478-PeCDF	31.09		0.9661	0.9663	+0.4	5.16E+06	1.52	Y	1.02	27	5958.045	0.279
14678-PeCDF	NotFnd		0.9693						1.02		5958.045	0.279
13479-PeCDF	NotFnd		0.9722						1.02		5958.045	0.279
13469/12479-PeCDF	NotFnd		0.9800						1.02		5958.045	0.279
12346-PeCDF	NotFnd		0.9844						1.02		5958.045	0.279

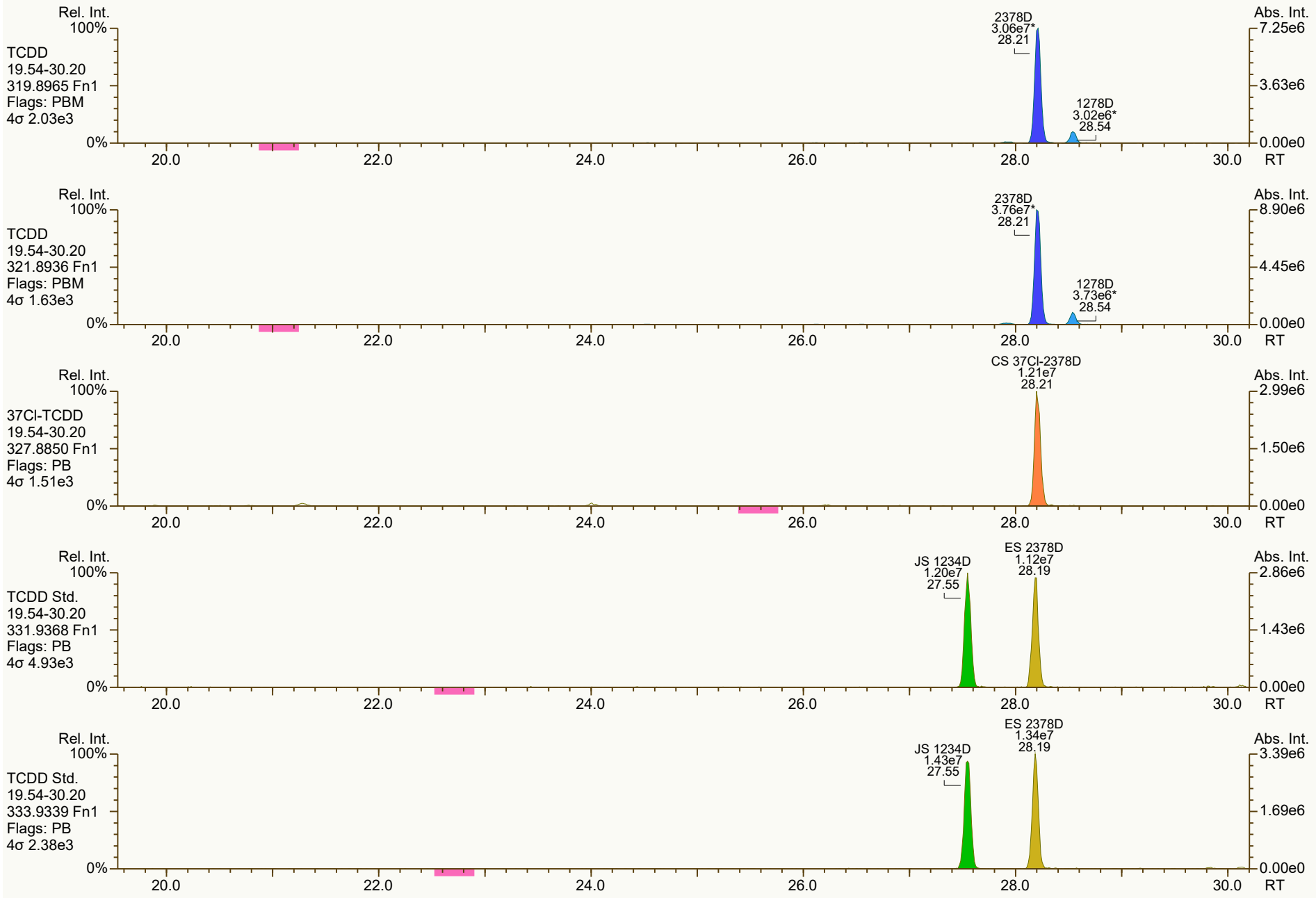
Lab ID: B6169_18833_DF_006 | **Acq'd: 17 Jan 2022 16:04 DTF** | **Wt/Vol: 10.17 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

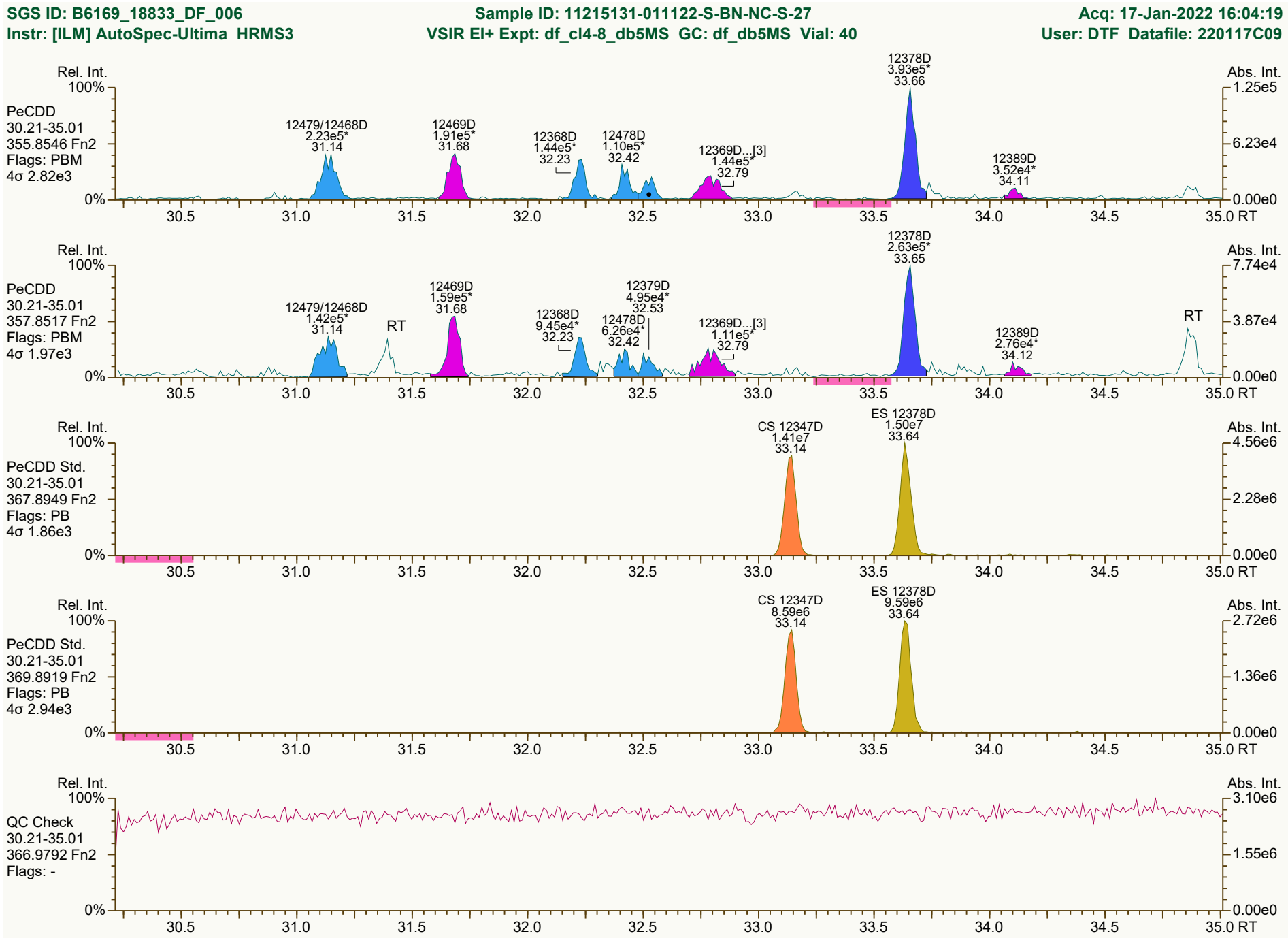
Client ID: 11215131-011122-S-BN-NC-S-27 | **UTP: 18-Jan-2022 09:06:12 DTF** | **J-level: 0.491 pg/g** | **Split: 1** | **Checkcode: 109-561-HBY**

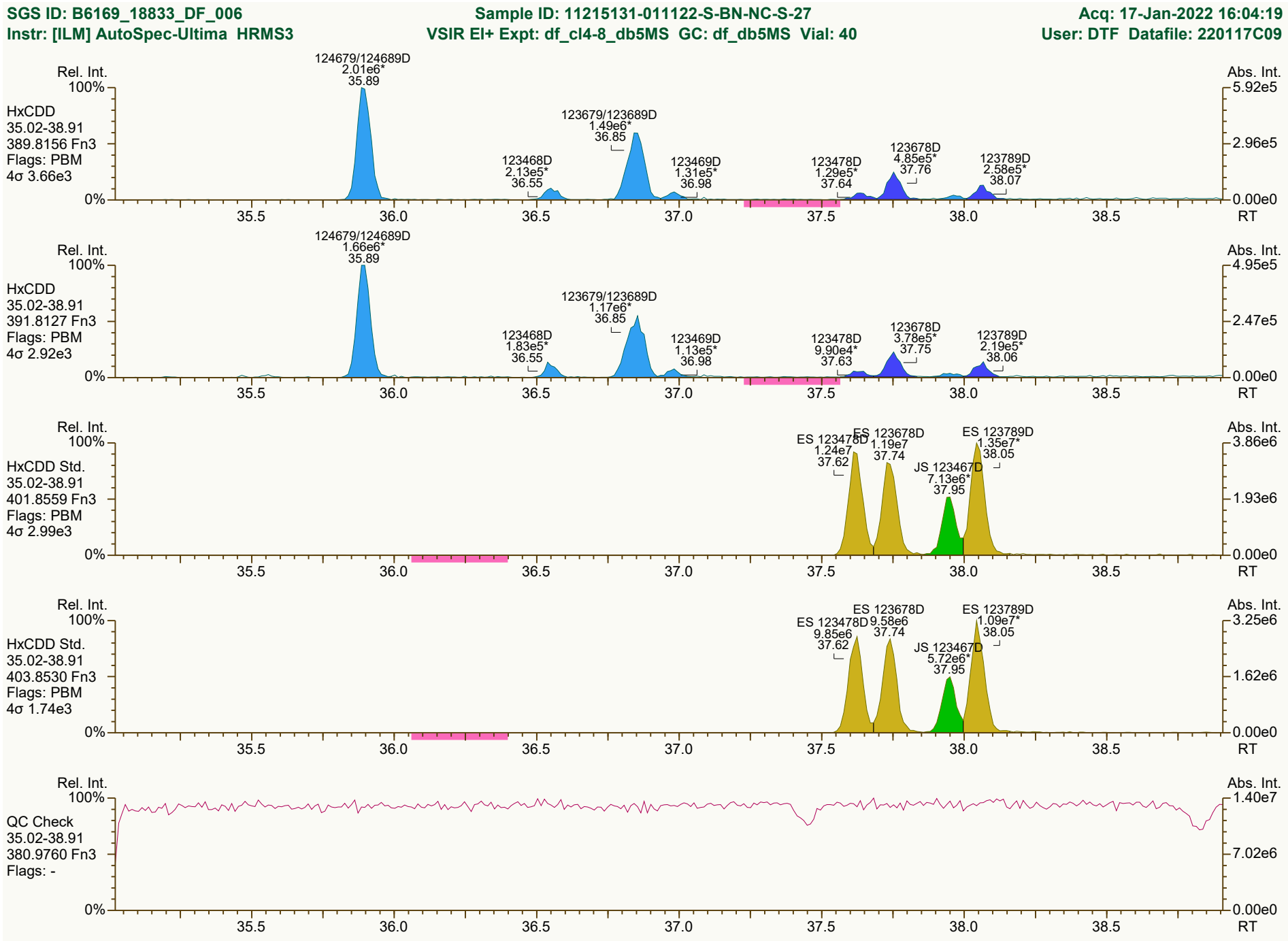
Datafile: 220117C09 | **Report: 18 Jan 2022 09:10 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9865	0.9864	-0.2	5.06E+05	1.71	Y	1.02	2.65	5958.045	0.279
12347-PeCDF	31.82	J	0.9890	0.9892	+0.4	2.27E+05	1.78	Y	1.02	1.19	5958.045	0.279
12348-PeCDF	31.98		0.9942	0.9941	-0.2	1.04E+06	1.61	Y	1.02	5.45	5958.045	0.279
12378-PeCDF	**32.19**		**1.0006**	**1.0006**	**0**	**1.02E+07**	**1.57**	**Y**	**1.02**	**52.6**	**5958.045**	**0.28**
12678/12367-PeCDF	32.48		1.0090	1.0097	+1.4	3.28E+06	1.51	Y	1.02	17.2	5958.045	0.279
12379-PeCDF	NotFnd		1.0142						1.02		5958.045	0.279
12679-PeCDF	NotFnd		0.9933						1.02		5958.045	0.279
23467/12369-PeCDF	33.18	J EMPC	0.9969	0.9970	+0.2	2.02E+05	1.83	N	1.02	1.06	5958.045	0.279
23478-PeCDF	**33.31**		**1.0006**	**1.0008**	**+0.4**	**7.56E+06**	**1.55**	**Y**	**1.02**	**40.3**	**5958.045**	**0.279**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5958.045	0.279
12349-PeCDF	NotFnd		1.0107						1.02		5958.045	0.279
12389-PeCDF	34.39	J EMPC	1.0330	1.0333	+0.6	4.12E+05	1.85	N	1.02	2.15	5958.045	0.279
123468-HxCDF	35.23		0.9627	0.9625	-0.4	9.38E+05	1.22	Y	1.19	5.16	10319.314	0.488
124678/134678-HxCDF	35.43		0.9682	0.9678	-0.9	3.93E+06	1.27	Y	1.19	21.6	10319.314	0.488
134679-HxCDF	NotFnd		0.9744						1.19		10319.314	0.488
124679-HxCDF	35.86	J EMPC	0.9798	0.9796	-0.4	1.35E+05	1.00	N	1.19	0.744	10319.314	0.488
124689-HxCDF	36.09		0.9858	0.9857	-0.2	3.43E+06	1.24	Y	1.19	18.9	10319.314	0.488
123467-HxCDF	36.50	J	0.9973	0.9971	-0.4	2.79E+05	1.36	Y	1.19	1.53	10319.314	0.488
123478-HxCDF	**36.63**		**1.0005**	**1.0004**	**-0.2**	**1.45E+07**	**1.23**	**Y**	**1.27**	**78.2**	**10319.314**	**0.483**
123678-HxCDF	**36.76**		**1.0004**	**1.0004**	**0**	**4.84E+06**	**1.34**	**Y**	**1.15**	**23.6**	**10319.314**	**0.431**
123479-HxCDF	NotFnd		1.0051						1.19		10319.314	0.488
123469-HxCDF	NotFnd		1.0093						1.19		10319.314	0.488
123679-HxCDF	NotFnd		0.9944						1.19		10319.314	0.488
234678-HxCDF	**37.44**		**1.0005**	**1.0005**	**0**	**1.23E+06**	**1.29**	**Y**	**1.19**	**7.16**	**10319.314**	**0.54**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10319.314	0.488
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**10319.314**	**0.514**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.45		1.0008	1.0011	+0.7	1.44E+06	1.29	Y	1.19	7.92	10319.314	0.488
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.23E+07**	**1.01**	**Y**	**1.37**	**70.7**	**5354.045**	**0.249**
1234679-HpCDF	40.17	**J**	1.0069	1.0071	+0.5	3.23E+05	1.00	Y	1.34	2.15	5354.045	0.334
1234689-HpCDF	40.31		1.0103	1.0107	+1.0	1.01E+07	1.01	Y	1.34	67.7	5354.045	0.334
1234789-HpCDF	**41.32**		**1.0003**	**1.0003**	**0**	**1.61E+06**	**0.97**	**Y**	**1.31**	**12.7**	**5354.045**	**0.448**
OCDF	**43.82**		**1.0003**	**1.0003**	**0**	**5.31E+07**	**0.90**	**Y**	**1.07**	**630**	**3005.326**	**0.504**
OCDF-a	43.82		1.0002	1.0002	0	3.57E+06	2.22	Y	0.07	685	3898.063	10.5

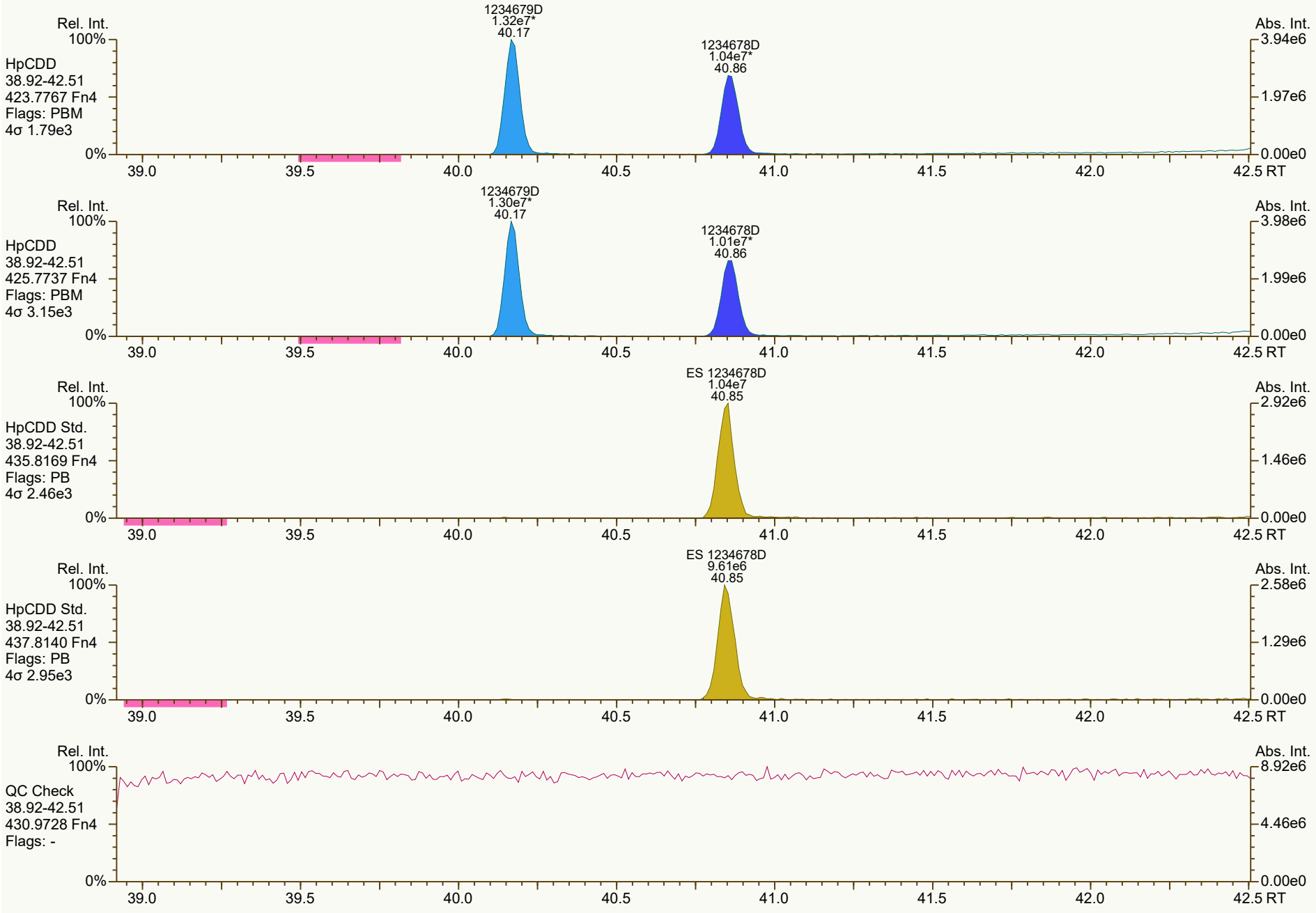

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19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.58e6
1.79e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
3.10e6
1.55e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.40e7
7.02e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
8.92e6
4.46e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
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3.81e6
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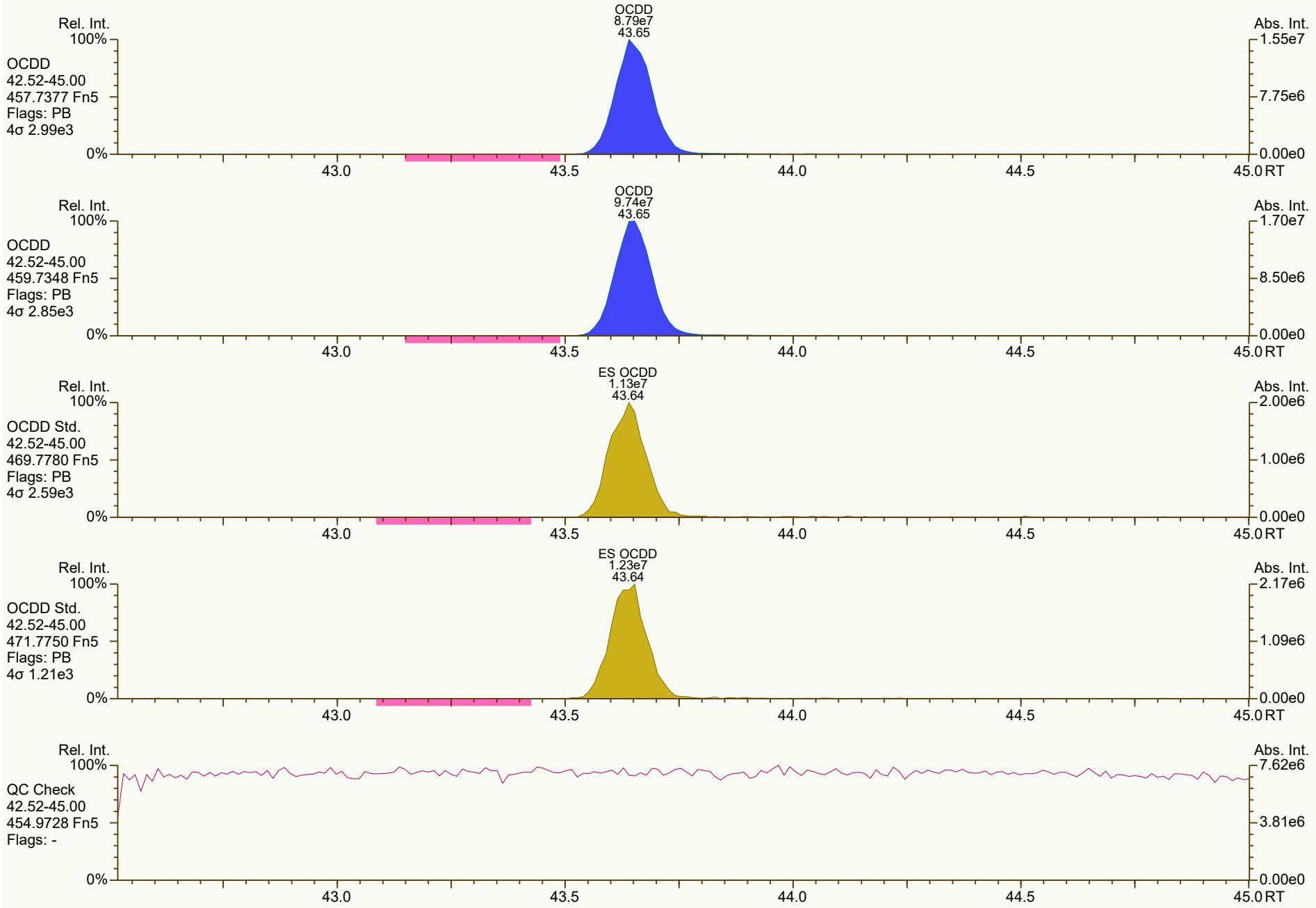

Rel. Int.
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TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.03e3
0%
2378D
3.06e7*
28.21
1278D
3.02e6*
28.54
Abs. Int.
7.25e6
3.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.63e3
0%
2378D
3.76e7*
28.21
1278D
3.73e6*
28.54
Abs. Int.
8.90e6
4.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.51e3
0%
CS 37Cl-2378D
1.21e7
28.21
Abs. Int.
2.99e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.93e3
0%
JS 1234D
1.20e7
27.55
ES 2378D
1.12e7
28.19
Abs. Int.
2.86e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.38e3
0%
JS 1234D
1.43e7
27.55
ES 2378D
1.34e7
28.19
Abs. Int.
3.39e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_006
Sample ID: 11215131-011122-S-BN-NC-S-27
Acq: 17-Jan-2022 16:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220117C09
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.82e3
12479/12468D 2.23e5* 31.14
12469D 1.91e5* 31.68
12368D 1.44e5* 32.23
12478D 1.10e5* 32.42
12369D...[3] 1.44e5* 32.79
12378D 3.93e5* 33.66
12389D 3.52e4* 34.11
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.97e3
12479/12468D 1.42e5* 31.14
RT
12469D 1.59e5* 31.68
12368D 9.45e4* 32.23
12379D 4.95e4* 32.53
12478D 6.26e4* 32.42
12369D...[3] 1.11e5* 32.79
12378D 2.63e5* 33.65
12389D 2.76e4* 34.12
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.86e3
CS 12347D 1.41e7 33.14
ES 12378D 1.50e7 33.64
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.94e3
CS 12347D 8.59e6 33.14
ES 12378D 9.59e6 33.64
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4043, 3437 scc: 109-561
Revised: 17-Jan-2022 17:00 (DTF) Printed: 18-Jan-2022 09:29 Page 3 of 12



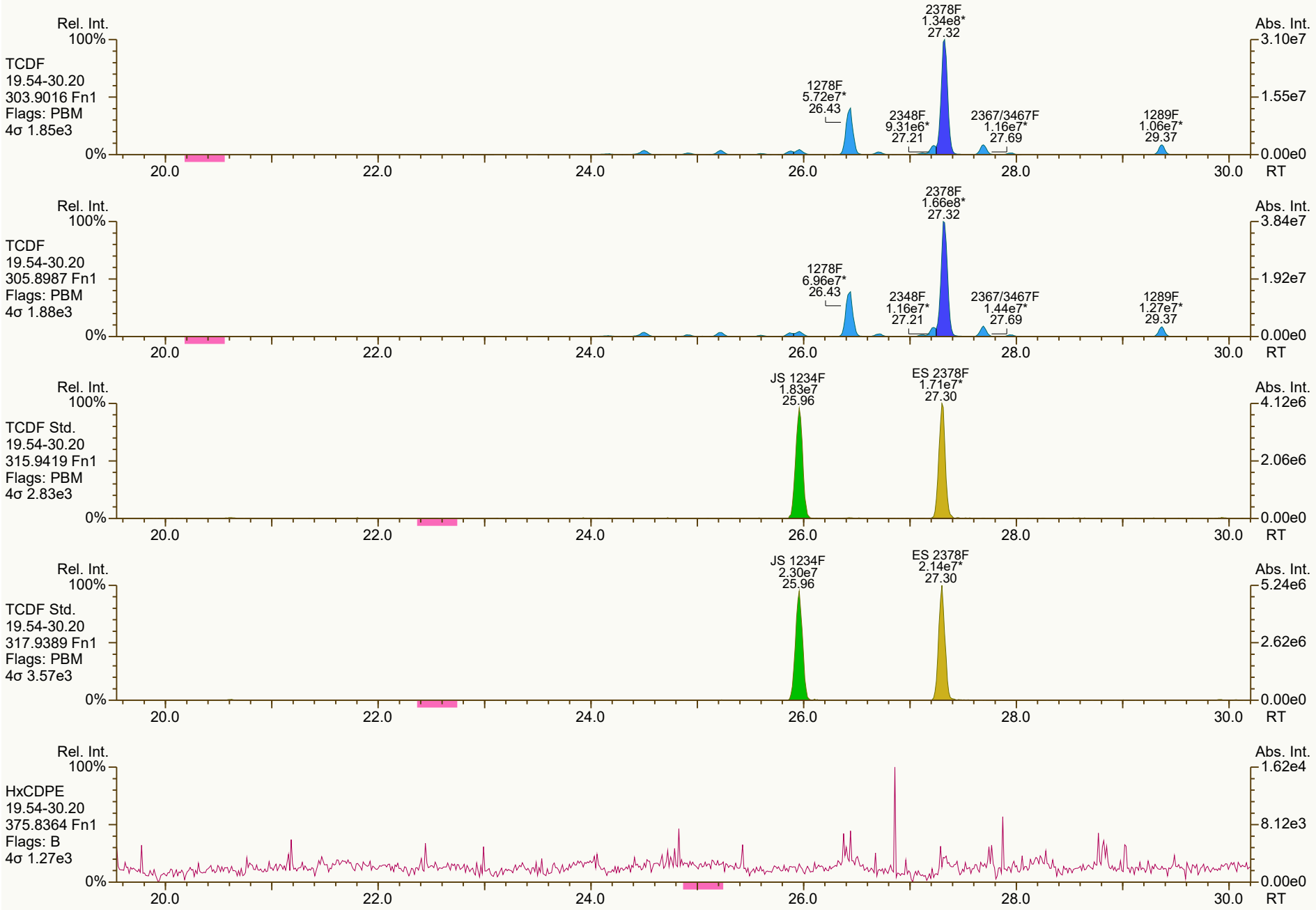
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_006.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2408, 5407 scc: 109-561
Revised: 17-Jan-2022 17:05 (DTF) Printed: 18-Jan-2022 09:29 Page 4 of 12


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.79e3
0%
1234679D
1.32e7*
40.17
1234678D
1.04e7*
40.86
Abs. Int.
3.94e6
1.97e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 3.15e3
0%
1234679D
1.30e7*
40.17
1234678D
1.01e7*
40.86
Abs. Int.
3.98e6
1.99e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.46e3
0%
ES 1234678D
1.04e7
40.85
Abs. Int.
2.92e6
1.46e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.95e3
0%
ES 1234678D
9.61e6
40.85
Abs. Int.
2.58e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.92e6
4.46e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
8.79e7
43.65
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.99e3
OCDD
9.74e7
43.65
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.85e3
ES OCDD
1.13e7
43.64
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 2.59e3
ES OCDD
1.23e7
43.64
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.21e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
100%
0%
43.0
43.5
44.0
44.5
45.0 RT
1.55e7
7.75e6
0.00e0
1.70e7
8.50e6
2.00e6
1.00e6
2.17e6
1.09e6
7.62e6
3.81e6

SGS ID: B6169_18833_DF_006 | Sample ID: 11215131-011122-S-BN-NC-S-27 | Acq: 17-Jan-2022 16:04:19

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40 | User: DTF Datafile: 220117C09



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_006.utp_res, saved 18-Jan-2022 09:06 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1383, 0963, 4773 scc: 109-561 | *Revised: 17-Jan-2022 17:03 (DTF) Printed: 18-Jan-2022 09:29 Page 7 of 12*

SGS ID: B6169_18833_DF_006 | Sample ID: 11215131-011122-S-BN-NC-S-27 | Acq: 17-Jan-2022 16:04:19

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40 | User: DTF Datafile: 220117C09

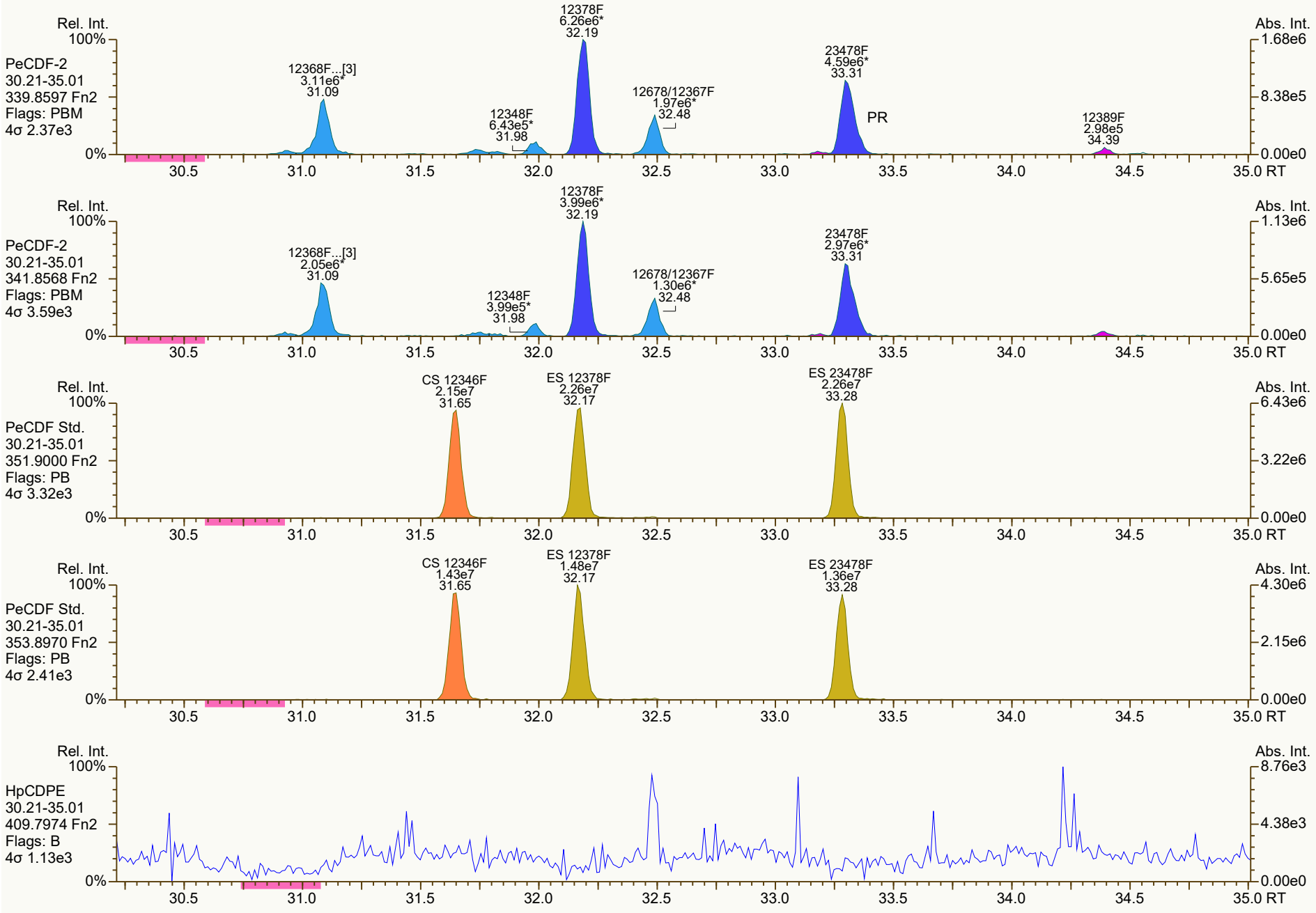


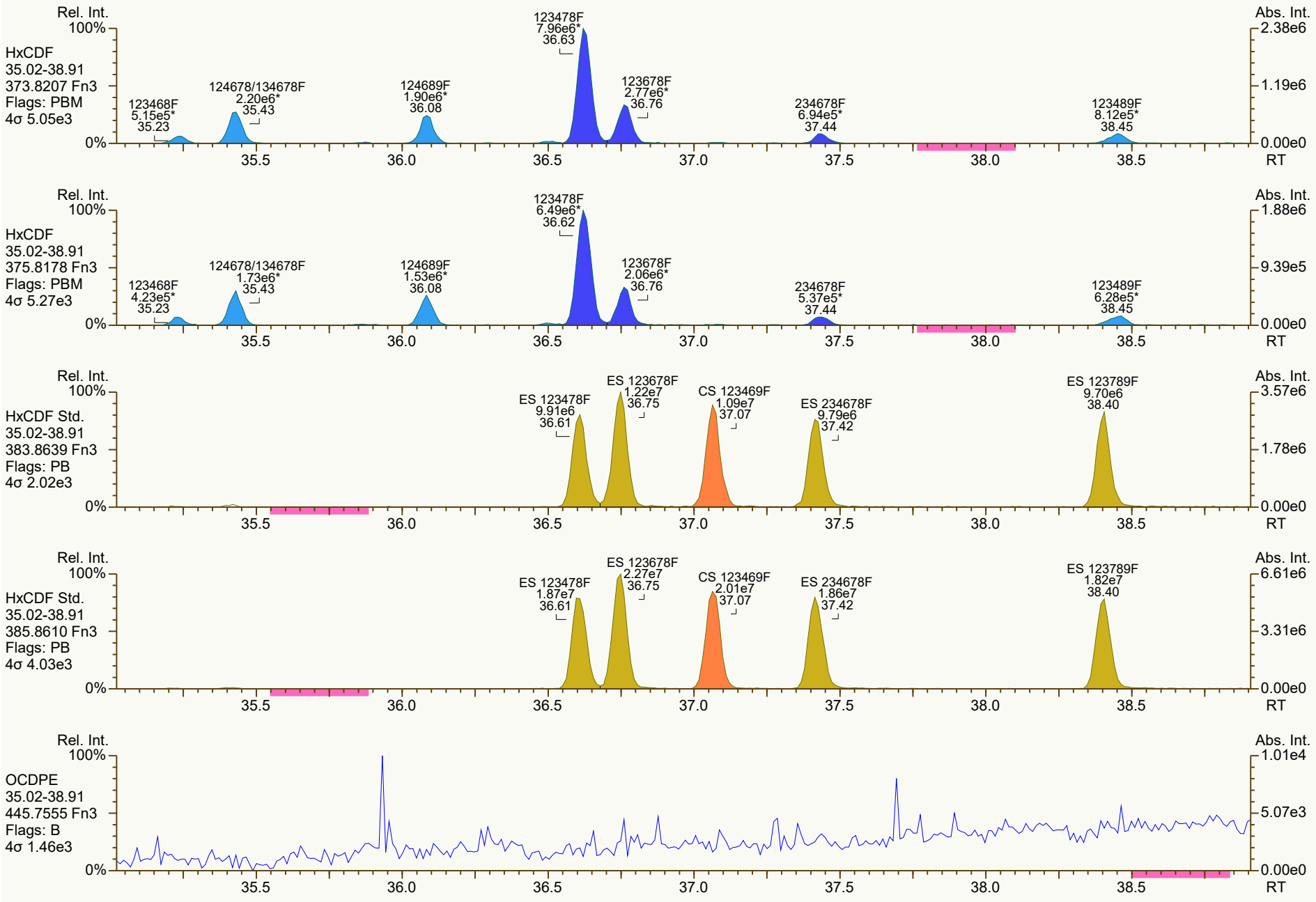
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_006.utp_res, saved 18-Jan-2022 09:06 (DTF)

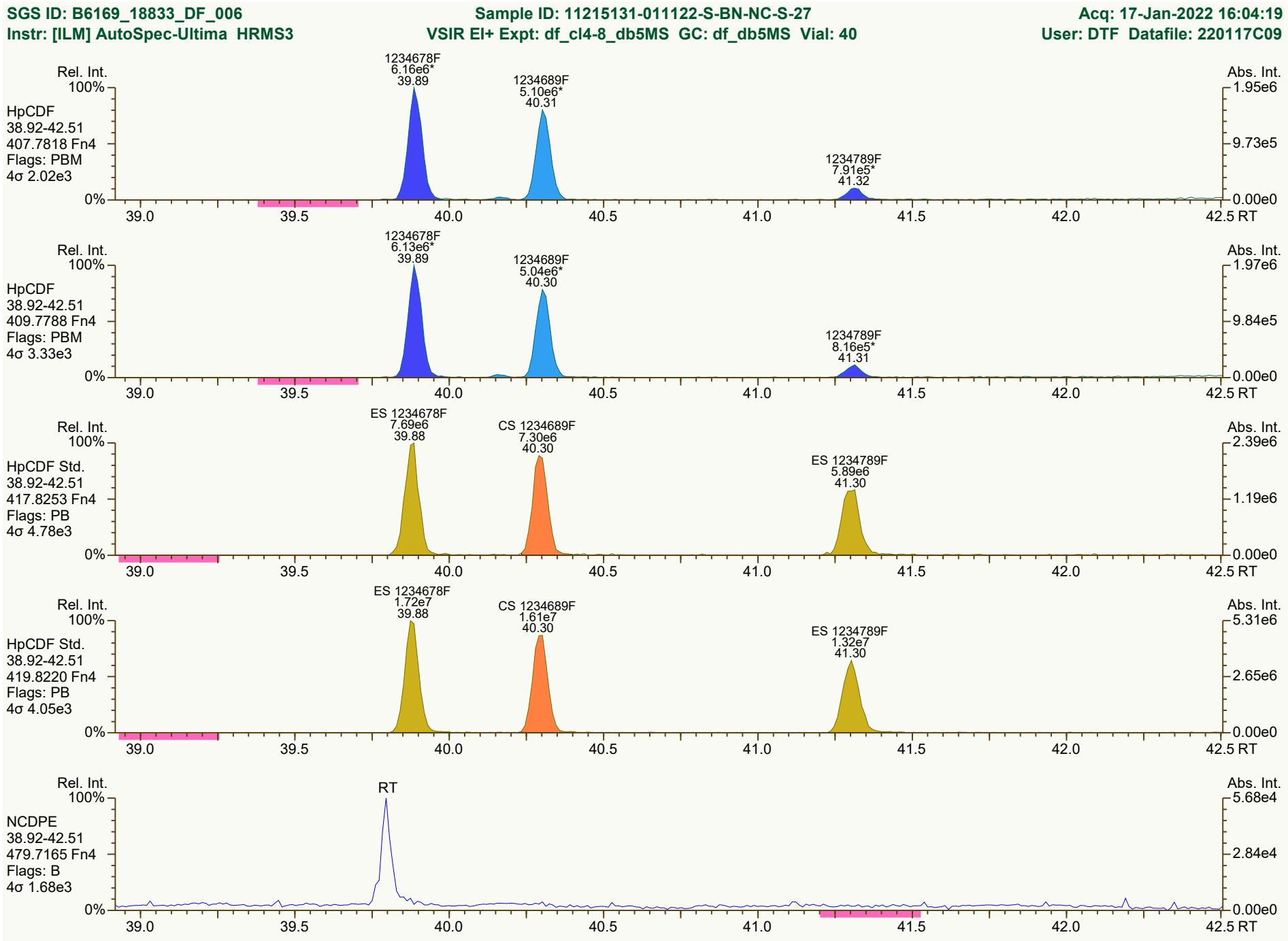
Peak annotation: Areas, Centroids

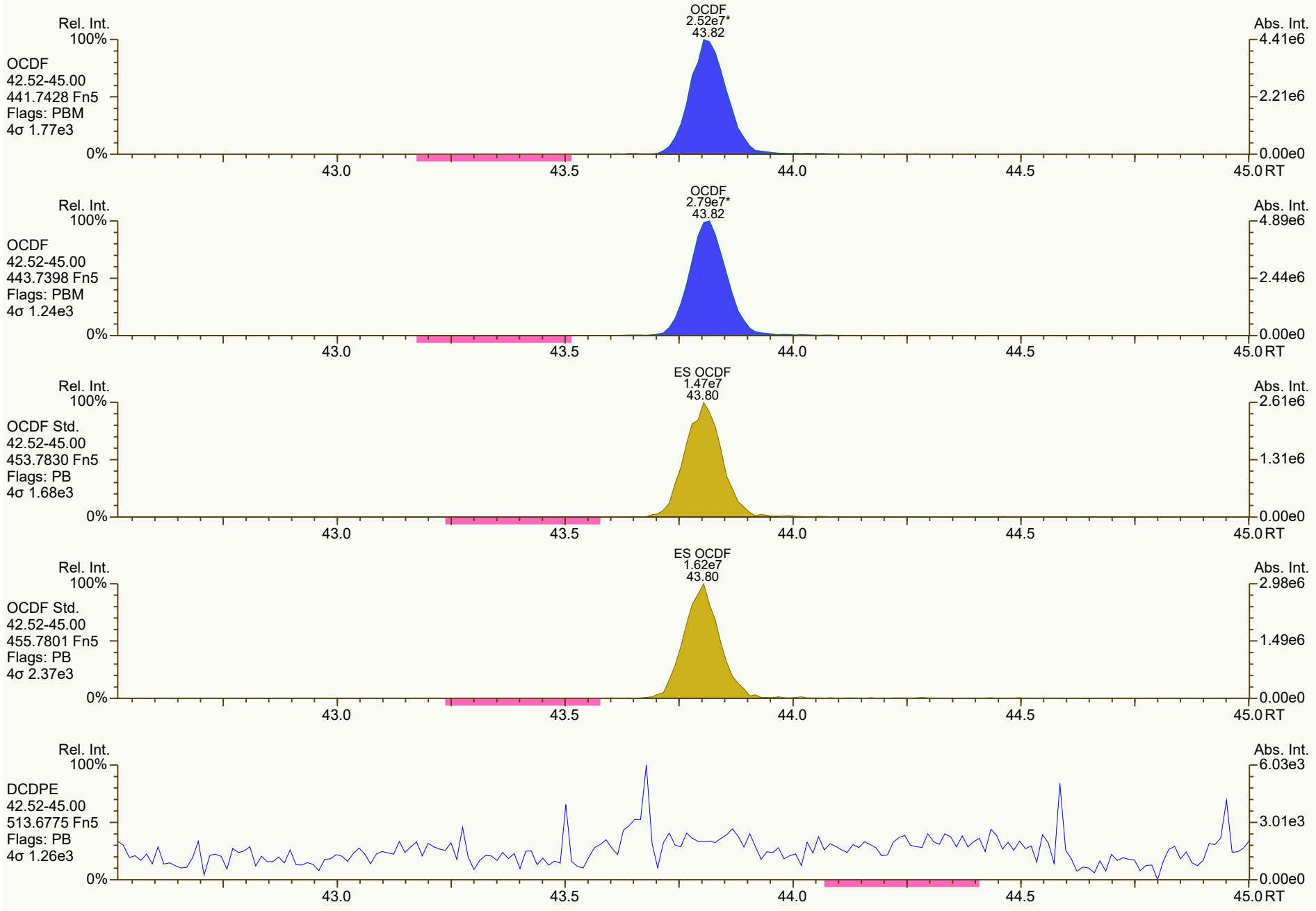
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6195 scc: 109-561

PKD: 17-Jan-2022 16:59 Printed: 18-Jan-2022 09:29 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.37e3
12368F...[3]
3.11e6*
31.09
12348F
6.43e5*
31.98
12378F
6.26e6*
32.19
12678/12367F
1.97e6*
32.48
23478F
4.59e6*
33.31
PR
12389F
2.98e5
34.39
Abs. Int.
1.68e6
8.38e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 3.59e3
12368F...[3]
2.05e6*
31.09
12348F
3.99e5*
31.98
12378F
3.99e6*
32.19
12678/12367F
1.30e6*
32.48
23478F
2.97e6*
33.31
Abs. Int.
1.13e6
5.65e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 3.32e3
CS 12346F
2.15e7
31.65
ES 12378F
2.26e7
32.17
ES 23478F
2.26e7
33.28
Abs. Int.
6.43e6
3.22e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 2.41e3
CS 12346F
1.43e7
31.65
ES 12378F
1.48e7
32.17
ES 23478F
1.36e7
33.28
Abs. Int.
4.30e6
2.15e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.13e3
Abs. Int.
8.76e3
4.38e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 5.05e3
123468F 5.15e5* 35.23
124678/134678F 2.20e6* 35.43
124689F 1.90e6* 36.08
123478F 7.96e6* 36.63
123678F 2.77e6* 36.76
234678F 6.94e5* 37.44
123489F 8.12e5* 38.45
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.38e6
1.19e6
0.00e0
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 5.27e3
123468F 4.23e5* 35.23
124678/134678F 1.73e6* 35.43
124689F 1.53e6* 36.08
123478F 6.49e6* 36.62
123678F 2.06e6* 36.76
234678F 5.37e5* 37.44
123489F 6.28e5* 38.45
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.88e6
9.39e5
0.00e0
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 2.02e3
ES 123478F 9.91e6 36.61
ES 123678F 1.22e7 36.75
CS 123469F 1.09e7 37.07
ES 234678F 9.79e6 37.42
ES 123789F 9.70e6 38.40
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
3.57e6
1.78e6
0.00e0
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 4.03e3
ES 123478F 1.87e7 36.61
ES 123678F 2.27e7 36.75
CS 123469F 2.01e7 37.07
ES 234678F 1.86e7 37.42
ES 123789F 1.82e7 38.40
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.61e6
3.31e6
0.00e0
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.01e4
5.07e3
0.00e0


SGS ID: B6169_18833_DF_006
Sample ID: 11215131-011122-S-BN-NC-S-27
Acq: 17-Jan-2022 16:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220117C09
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.02e3
1234678F
6.16e6*
39.89
1234689F
5.10e6*
40.31
1234789F
7.91e5*
41.32
1.95e6
9.73e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.33e3
1234678F
6.13e6*
39.89
1234689F
5.04e6*
40.30
1234789F
8.16e5*
41.31
1.97e6
9.84e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 4.78e3
ES 1234678F
7.69e6
39.88
CS 1234689F
7.30e6
40.30
ES 1234789F
5.89e6
41.30
2.39e6
1.19e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 4.05e3
ES 1234678F
1.72e7
39.88
CS 1234689F
1.61e7
40.30
ES 1234789F
1.32e7
41.30
5.31e6
2.65e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.68e3
RT
5.68e4
2.84e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_006.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8603, 7957, 9063 scc: 109-561
Revised: 17-Jan-2022 17:04 (DTF) Printed: 18-Jan-2022 09:29 Page 11 of 12


OCDF
2.52e7*
43.82
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.77e3
0%
Abs. Int.
4.41e6
2.21e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.79e7*
43.82
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.24e3
4.89e6
2.44e6
ES OCDF
1.47e7
43.80
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.68e3
2.61e6
1.31e6
ES OCDF
1.62e7
43.80
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.37e3
2.98e6
1.49e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.26e3
6.03e3
3.01e3

Lab ID: B6169_18833_DF_007 **Acq'd:** 17 Jan 2022 16:50 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-30 **UTP:** 18-Jan-2022 09:06:13 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 937-212-HQV

Datafile: 220117C10 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.19		1.0008	1.0008	0	2.56E+07	0.83	Y	1.18	242	3290.39	0.338
12378-PeCDD	33.63		1.0006	1.0006	0	2.76E+05	1.38	Y	1.04	3.01	3384.428	0.33
123478-HxCDD	37.60		1.0004	1.0004	0	2.25E+05	1.26	Y	1.09	2.53	4591.852	0.462
123678-HxCDD	37.72		1.0036	1.0035	-0.2	4.03E+05	1.26	Y	1.15	4.22	4591.852	0.449
123789-HxCDD	38.04		1.0118	1.0118	0	3.33E+05	1.22	Y	1.05	3.64	4591.852	0.437
1234678-HpCDD	40.83		1.0003	1.0004	+0.2	8.96E+06	1.06	Y	1.06	116	3842.931	0.448
OCDD	43.61		1.0003	1.0003	0	9.16E+07	0.90	Y	1.13	1,970	4027.003	1.16
2378-TCDF	27.31		1.0008	1.0008	0	1.03E+08	0.81	Y	1.08	647	3707.107	0.261
12378-PeCDF	32.16		1.0006	1.0005	-0.2	4.34E+06	1.59	Y	1.02	31.4	4239.766	0.282
23478-PeCDF	33.28		1.0006	1.0007	+0.2	3.32E+06	1.64	Y	1.02	24.2	4239.766	0.275
123478-HxCDF	36.60		1.0005	1.0005	0	6.91E+06	1.25	Y	1.27	48.9	7973.764	0.482
123678-HxCDF	36.73		1.0004	1.0005	+0.2	1.99E+06	1.33	Y	1.15	13	7973.764	0.462
234678-HxCDF	37.41		1.0005	1.0005	0	5.11E+05	1.33	Y	1.19	3.52	7973.764	0.466
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7973.764	0.574
1234678-HpCDF	39.86		1.0003	1.0003	0	5.75E+06	1.03	Y	1.37	45.4	3077.557	0.199
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	6.65E+05	1.00	Y	1.31	7.68	3077.557	0.323
OCDF	43.77		1.0003	1.0002	-0.3	1.90E+07	0.91	Y	1.07	329	5668.346	1.34

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0231	1.0233	+0.3	1.76E+07	0.84	Y	1.05	84.7
ES 12378-PeCDD	33.61	1.2198	1.2210	+2.4	1.74E+07	1.65	Y	0.88	99.7
ES 123478-HxCDD	37.59	0.9913	0.9912	-0.2	1.62E+07	1.23	Y	0.97	91.8
ES 123678-HxCDD	37.71	0.9944	0.9944	0	1.64E+07	1.30	Y	0.94	95.9
ES 123789-HxCDD	38.02	1.0026	1.0026	0	1.73E+07	1.23	Y	1.09	87.1
ES 1234678-HpCDD	40.81	1.0760	1.0761	+0.2	1.44E+07	1.04	Y	0.91	86.8
ES OCDD	43.60	1.1489	1.1496	+1.8	1.63E+07	0.90	Y	0.62	72
ES 2378-TCDF	27.28	1.0515	1.0518	+0.5	2.91E+07	0.82	Y	1.06	87.9
ES 12378-PeCDF	32.15	1.2378	1.2392	+2.7	2.67E+07	1.48	Y	0.91	93.6
ES 23478-PeCDF	33.26	1.2804	1.2821	+3.4	2.65E+07	1.54	Y	0.88	96
ES 123478-HxCDF	36.58	0.9647	0.9646	-0.2	2.20E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.72	0.9684	0.9682	-0.4	2.63E+07	0.54	Y	1.35	107
ES 234678-HxCDF	37.39	0.9861	0.9860	-0.2	2.41E+07	0.56	Y	1.24	107
ES 123789-HxCDF	38.38	1.0120	1.0121	+0.2	1.99E+07	0.54	Y	1.16	95.1
ES 1234678-HpCDF	39.85	1.0506	1.0508	+0.5	1.83E+07	0.45	Y	0.97	104
ES 1234789-HpCDF	41.27	1.0879	1.0882	+0.7	1.31E+07	0.43	Y	0.85	84.8
ES OCDF	43.76	1.1534	1.1539	+1.3	2.13E+07	0.91	Y	0.81	72.6

Lab ID: B6169_18833_DF_007 **Acq'd:** 17 Jan 2022 16:50 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-30 **UTP:** 18-Jan-2022 09:06:13 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 937-212-HQV

Datafile: 220117C10 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	1.99E+07	0.80	Y	-	-
JS 1234-TCDF	25.94		-	-	-	3.13E+07	0.81	Y	-	-
JS 123467-HxCDD	37.92		-	-	-	9.07E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.19		1.0238	1.0241	+0.5	8.37E+06	n/a	-	1.20	87.5
CS 12347-PeCDD	33.11		1.2018	1.2028	+2.0	1.57E+07	1.58	Y	0.75	105
CS 12346-PeCDF	31.62		1.2178	1.2190	+2.3	2.55E+07	1.53	Y	0.85	95.9
CS 123469-HxCDF	37.04		0.9768	0.9766	-0.4	2.17E+07	0.58	Y	1.12	107
CS 1234689-HpCDF	40.26		1.0615	1.0616	+0.2	1.67E+07	0.45	Y	0.89	104
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~8.37E+06~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2018~~	~~1.2028~~	~~+2.0~~	~~1.57E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2178~~	~~1.2190~~	~~+2.3~~	~~2.55E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~102~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9766~~	~~-0.4~~	~~2.17E+07~~	~~0.58~~	~~Y~~	~~0.83~~	~~99.6~~
~~SS 1234689-HpCDF~~	~~40.26~~		~~1.0615~~	~~1.0616~~	~~+0.2~~	~~1.67E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	272	273
Total PeCDD	9.65	13.2
Total HxCDD	65.6	66.8
Total HpCDD	305	305
Total Tetra-Octa Dioxins	2620	2630
Total TCDF	1,270	1270
Total PeCDF	90.8	92.9
Total HxCDF	89.8	89.8
Total HpCDF	82.8	82.8
Total Tetra-Octa Furans	1,860	1860
Total Tetra-Octa Dioxins & Furans	4490	4490

Lab ID: B6169_18833_DF_007 **Acq'd: 17 Jan 2022 16:50 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-30 **UTP: 18-Jan-2022 09:06:13 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 937-212-HQV**

Datafile: 220117C10 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8733						1.18		3290.39	0.338
1379-TCDD	NotFnd		0.8860						1.18		3290.39	0.338
1369-TCDD	NotFnd		0.9009						1.18		3290.39	0.338
1469-TCDD	26.11		0.9282	0.9269	-2.0	2.54E+05	0.87	Y	1.18	2.41	3290.39	0.338
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3290.39	0.338
1378-TCDD	26.52		0.9429	0.9416	-2.1	6.75E+04	0.67	Y	1.18	0.639	3290.39	0.338
1268-TCDD	NotFnd		0.9500						1.18		3290.39	0.338
1478-TCDD	26.98	EMPC	0.9584	0.9579	-0.8	7.34E+04	0.93	N	1.18	0.695	3290.39	0.338
1279-TCDD	NotFnd		0.9648						1.18		3290.39	0.338
1234/1269-TCDD	27.51	EMPC	0.9770	0.9767	-0.5	6.20E+04	0.95	N	1.18	0.587	3290.39	0.338
1236-TCDD	NotFnd		0.9821						1.18		3290.39	0.338
1237/1238-TCDD	27.90		0.9909	0.9905	-0.7	4.33E+05	0.83	Y	1.18	4.1	3290.39	0.338
1239-TCDD	NotFnd		0.9959						1.18		3290.39	0.338
2378-TCDD	**28.19**		**1.0008**	1.0008	**0**	2.56E+07	0.83	Y	**1.18**	**242**	**3290.39**	**0.338**
1278-TCDD	28.52		1.0123	1.0126	+0.5	2.35E+06	0.85	Y	1.18	22.2	3290.39	0.338
1267-TCDD	NotFnd		1.0172						1.18		3290.39	0.338
1289-TCDD	NotFnd		1.0354						1.18		3290.39	0.338
12479/12468-PeCDD	31.12	J EMPC	0.9267	0.9257	-1.9	1.82E+05	1.30	N	1.04	1.99	3384.428	0.33
12469-PeCDD	31.65		0.9426	0.9417	-1.7	2.99E+05	1.39	Y	1.04	3.27	3384.428	0.33
12368-PeCDD	32.20	J	0.9587	0.9581	-1.2	1.12E+05	1.50	Y	1.04	1.22	3384.428	0.33
12478-PeCDD	32.40	J EMPC	0.9642	0.9639	-0.6	9.42E+04	1.17	N	1.04	1.03	3384.428	0.33
12379-PeCDD	32.50	J EMPC	0.9674	0.9670	-0.8	4.72E+04	1.12	N	1.04	0.516	3384.428	0.33
12369/12467/12489-PeCDD	32.77	J	0.9752	0.9749	-0.6	1.96E+05	1.71	Y	1.04	2.15	3384.428	0.33
12346/12347-PeCDD	NotFnd		0.9861						1.04		3384.428	0.33
12378-PeCDD	33.63		**1.0006**	**1.0006**	**0**	**2.76E+05**	**1.38**	**Y**	**1.04**	**3.01**	**3384.428**	**0.33**
12367-PeCDD	NotFnd		1.0036						1.04		3384.428	0.33
12389-PeCDD	NotFnd		1.0139						1.04		3384.428	0.33
124679/124689-HxCDD	35.87		0.9541	0.9541	0	3.00E+06	1.25	Y	1.10	32.6	4591.852	0.449
123468-HxCDD	36.53		0.9715	0.9717	+0.4	2.45E+05	1.27	Y	1.10	2.66	4591.852	0.449
123679/123689-HxCDD	36.82		0.9793	0.9794	+0.2	1.63E+06	1.22	Y	1.10	17.7	4591.852	0.449
123469-HxCDD	36.96	J	0.9831	0.9831	0	2.10E+05	1.39	Y	1.10	2.28	4591.852	0.449
123478-HxCDD	37.60		**1.0004**	**1.0004**	**0**	**2.25E+05**	**1.26**	**Y**	1.09	**2.53**	**4591.852**	**0.462**
123678-HxCDD	37.72		**1.0036**	**1.0035**	**-0.2**	**4.03E+05**	**1.26**	**Y**	1.15	**4.22**	**4591.852**	**0.449**
123467-HxCDD	37.93	J EMPC	1.0089	1.0091	+0.5	1.14E+05	1.72	N	1.10	1.24	4591.852	0.449
123789-HxCDD	38.04		**1.0118**	**1.0118**	**0**	**3.33E+05**	**1.22**	**Y**	1.05	**3.64**	**4591.852**	**0.437**

Lab ID: B6169_18833_DF_007 | **Acq'd: 17 Jan 2022 16:50 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-30 | **UTP: 18-Jan-2022 09:06:13 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 937-212-HQV**

Datafile: 220117C10 | **Report: 18 Jan 2022 09:10 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

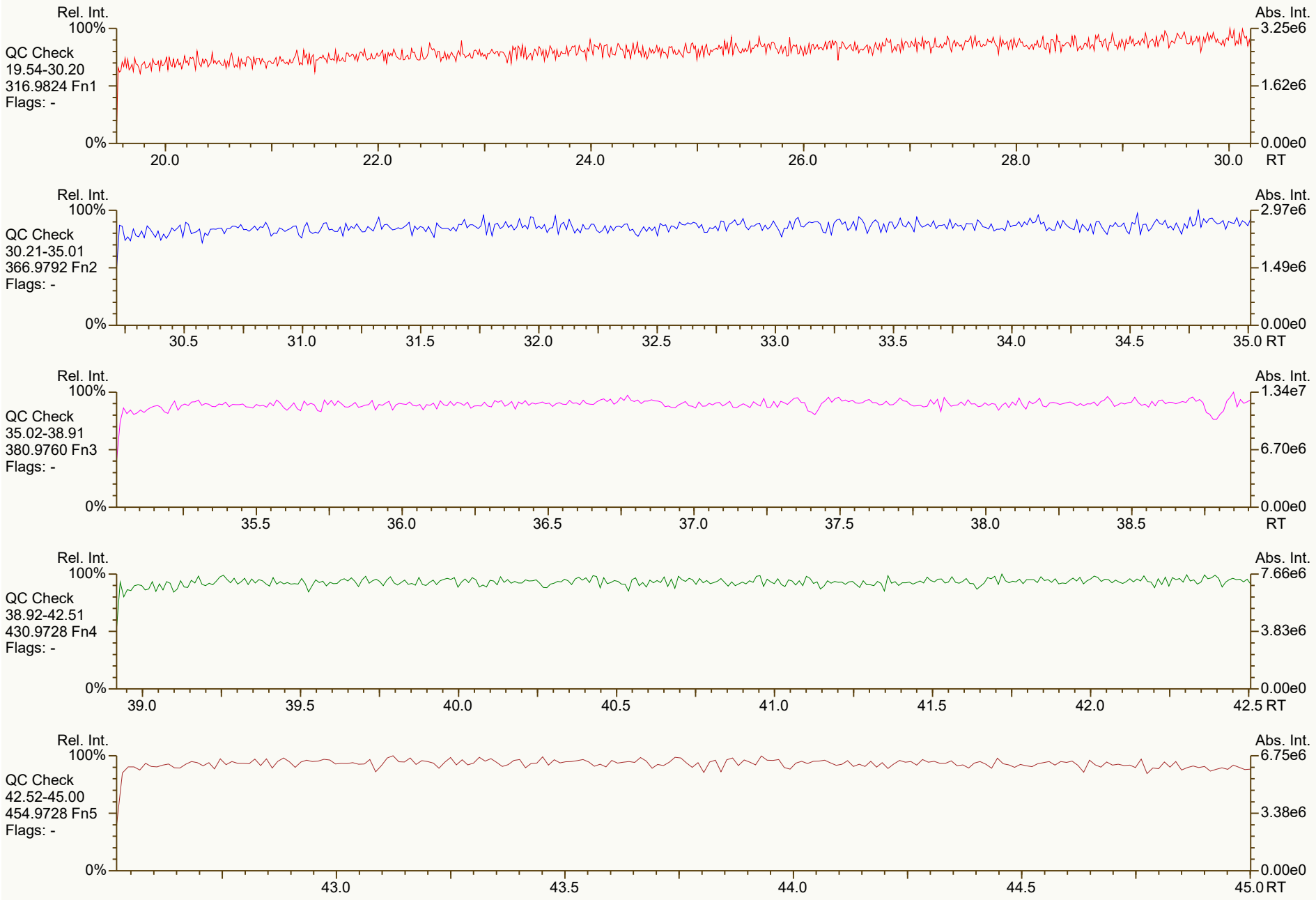
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9835	0.9835	0	1.45E+07	1.04	Y	1.06	189	3842.931	0.448
1234678-HpCDD	**40.83**		**1.0003**	**1.0004**	**+0.2**	**8.96E+06**	**1.06**	**Y**	**1.06**	**116**	**3842.931**	**0.448**
OCDD	**43.61**		**1.0003**	**1.0003**	**0**	**9.16E+07**	**0.90**	**Y**	**1.13**	**1,970**	**4027.003**	**1.16**
OCDD-a	43.61		1.0002	1.0002	0	5.47E+06	2.47	Y	0.07	1,840	3747.636	16.9
1368-TCDF	NotFnd		0.8250						1.08		3707.107	0.261
1468-TCDF	22.97		0.8494	0.8417	-10.6	2.17E+05	0.88	Y	1.08	1.37	3707.107	0.261
2468-TCDF	23.60		0.8684	0.8650	-4.8	2.63E+05	0.73	Y	1.08	1.65	3707.107	0.261
1346/1246-TCDF	NotFnd		0.8815						1.08		3707.107	0.261
1347/1378/1247-TCDF	24.13		0.8867	0.8842	-3.6	1.30E+06	0.81	Y	1.08	8.21	3707.107	0.261
1348-TCDF	24.48		0.8966	0.8972	+0.9	5.26E+06	0.80	Y	1.08	33.1	3707.107	0.261
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3707.107	0.261
1268-TCDF	24.90		0.9148	0.9126	-3.3	1.80E+06	0.83	Y	1.08	11.3	3707.107	0.261
1467-TCDF	25.04		0.9197	0.9177	-3.0	3.05E+05	0.75	Y	1.08	1.92	3707.107	0.261
1478-TCDF	25.20		0.9258	0.9237	-3.2	4.31E+06	0.80	Y	1.08	27.1	3707.107	0.261
1369/1237-TCDF	25.59		0.9390	0.9379	-1.7	1.20E+06	0.74	Y	1.08	7.56	3707.107	0.261
2467-TCDF	25.72	EMPC	0.9435	0.9425	-1.5	1.20E+05	1.03	N	1.08	0.756	3707.107	0.261
2368-TCDF	25.86		0.9488	0.9476	-1.9	3.36E+06	0.82	Y	1.08	21.1	3707.107	0.261
1238/1234/1678/1469/1236-TCDF	25.95		0.9527	0.9509	-2.8	5.23E+06	0.78	Y	1.08	32.9	3707.107	0.261
1278-TCDF	26.42		0.9689	0.9682	-1.1	4.59E+07	0.81	Y	1.08	289	3707.107	0.261
1349-TCDF	NotFnd		0.9730						1.08		3707.107	0.261
1267-TCDF	26.69		0.9787	0.9781	-1.0	2.57E+06	0.80	Y	1.08	16.2	3707.107	0.261
2346/1249-TCDF	NotFnd		0.9856						1.08		3707.107	0.261
2347/1279-TCDF	27.09		0.9934	0.9930	-0.7	1.44E+06	0.75	Y	1.08	9.08	3707.107	0.261
2348-TCDF	27.19		0.9972	0.9966	-1.0	6.74E+06	0.80	Y	1.08	42.4	3707.107	0.261
2378-TCDF	**27.31**		**1.0008**	**1.0008**	**0**	**1.03E+08**	**0.81**	**Y**	**1.08**	**647**	**3707.107**	**0.261**
2367/3467-TCDF	27.67		1.0145	1.0141	-0.7	9.09E+06	0.84	Y	1.08	57.2	3707.107	0.261
1269-TCDF	27.93		1.0236	1.0235	-0.2	1.56E+06	0.82	Y	1.08	9.83	3707.107	0.261
1239-TCDF	NotFnd		1.0333						1.08		3707.107	0.261
1289-TCDF	29.35		1.0740	1.0756	+2.8	8.35E+06	0.81	Y	1.08	52.5	3707.107	0.261
13468/12468-PeCDF	29.35		0.9138	0.9129	-1.6	5.17E+05	1.72	Y	1.02	3.76	2994.317	0.197
13678/13467/12467-PeCDF	30.91	J	0.9614	0.9614	0	1.60E+05	1.48	Y	1.02	1.16	4239.766	0.279
12368/13478/12478-PeCDF	31.07		0.9661	0.9664	+0.6	2.18E+06	1.42	Y	1.02	15.8	4239.766	0.279
14678-PeCDF	NotFnd		0.9693						1.02		4239.766	0.279
13479-PeCDF	NotFnd		0.9722						1.02		4239.766	0.279
13469/12479-PeCDF	NotFnd		0.9800						1.02		4239.766	0.279
12346-PeCDF	NotFnd		0.9844						1.02		4239.766	0.279

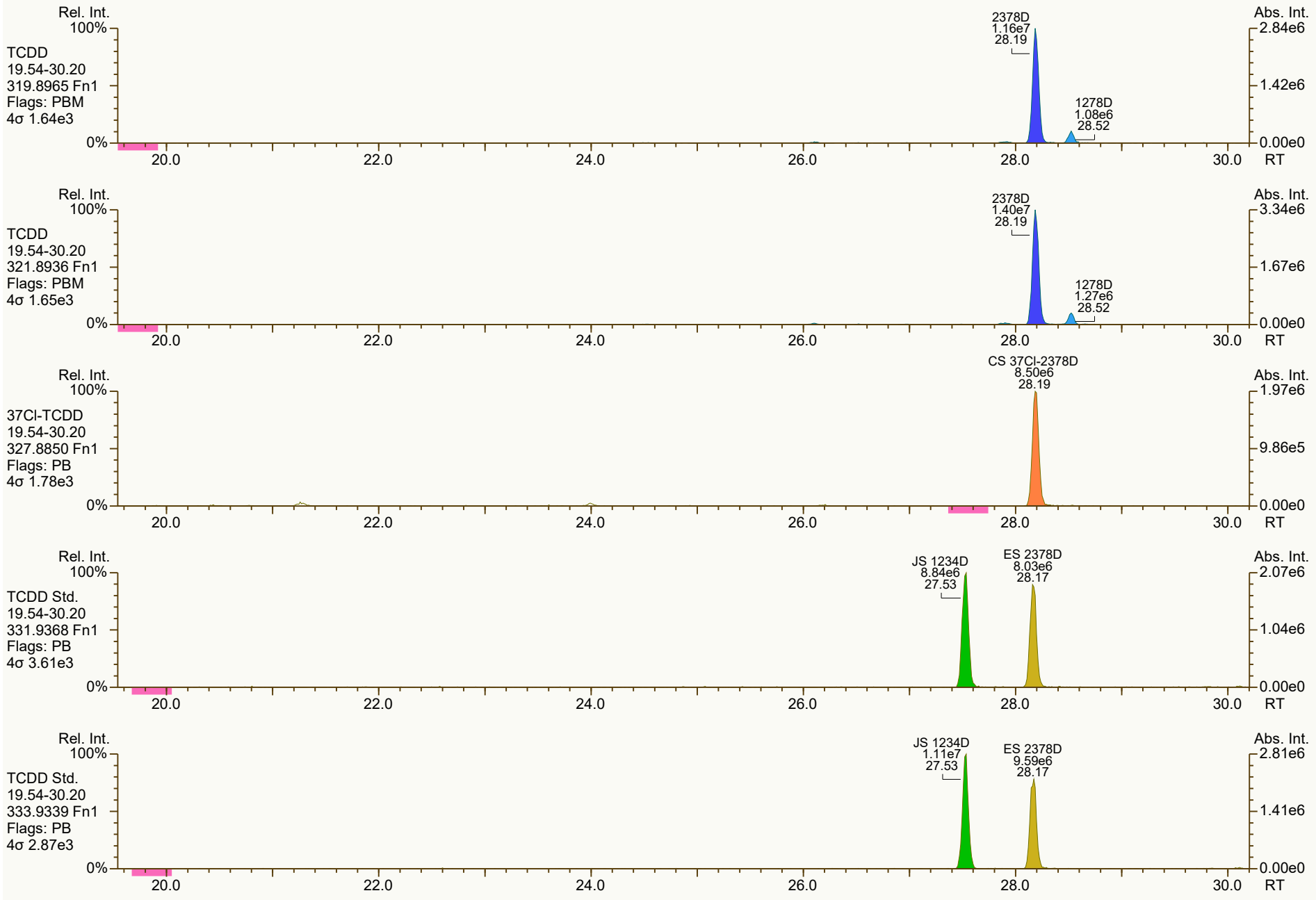
Lab ID: B6169_18833_DF_007 | **Acq'd: 17 Jan 2022 16:50 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

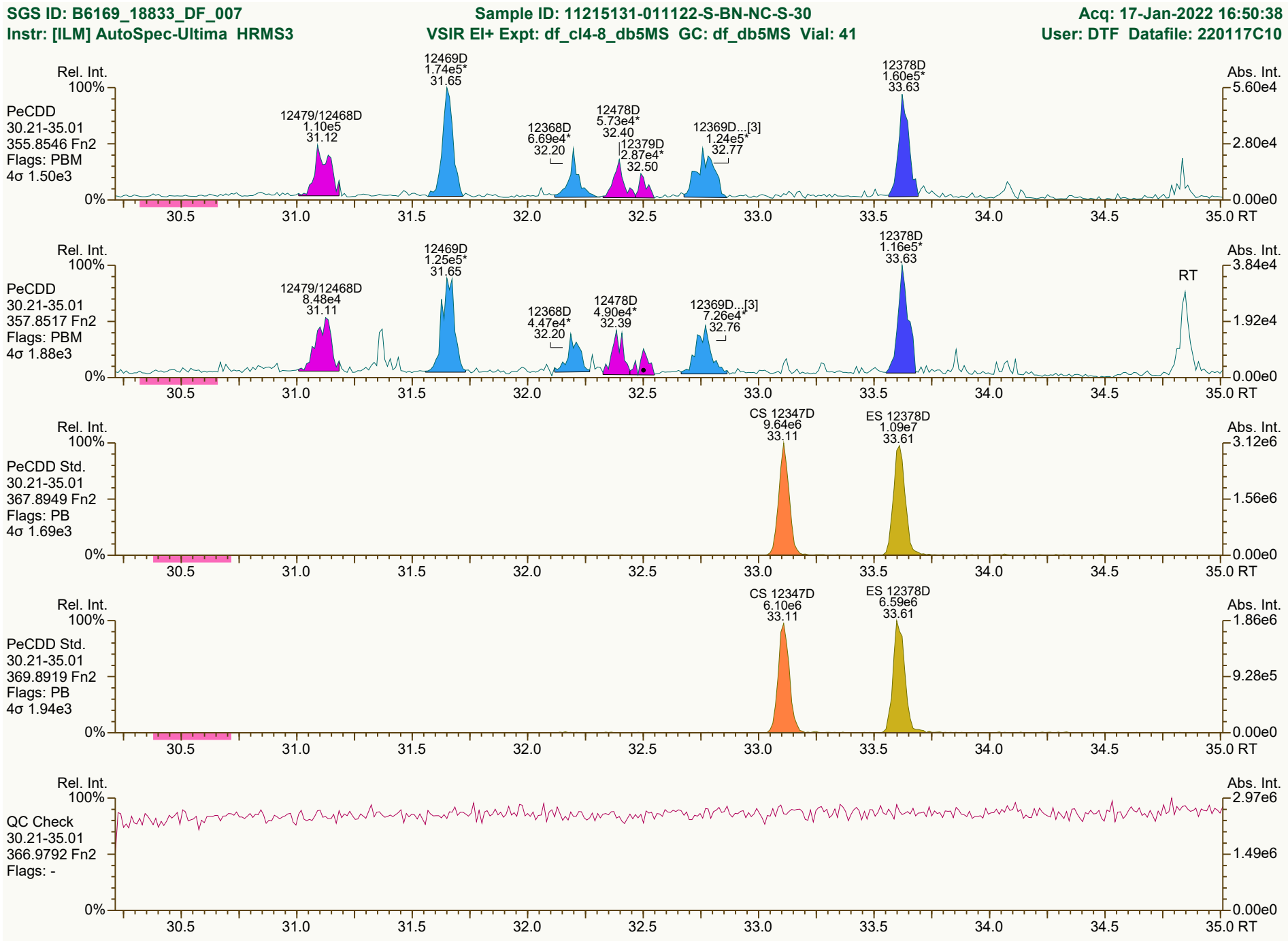
Client ID: 11215131-011122-S-BN-NC-S-30 | **UTP: 18-Jan-2022 09:06:13 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 937-212-HQV**

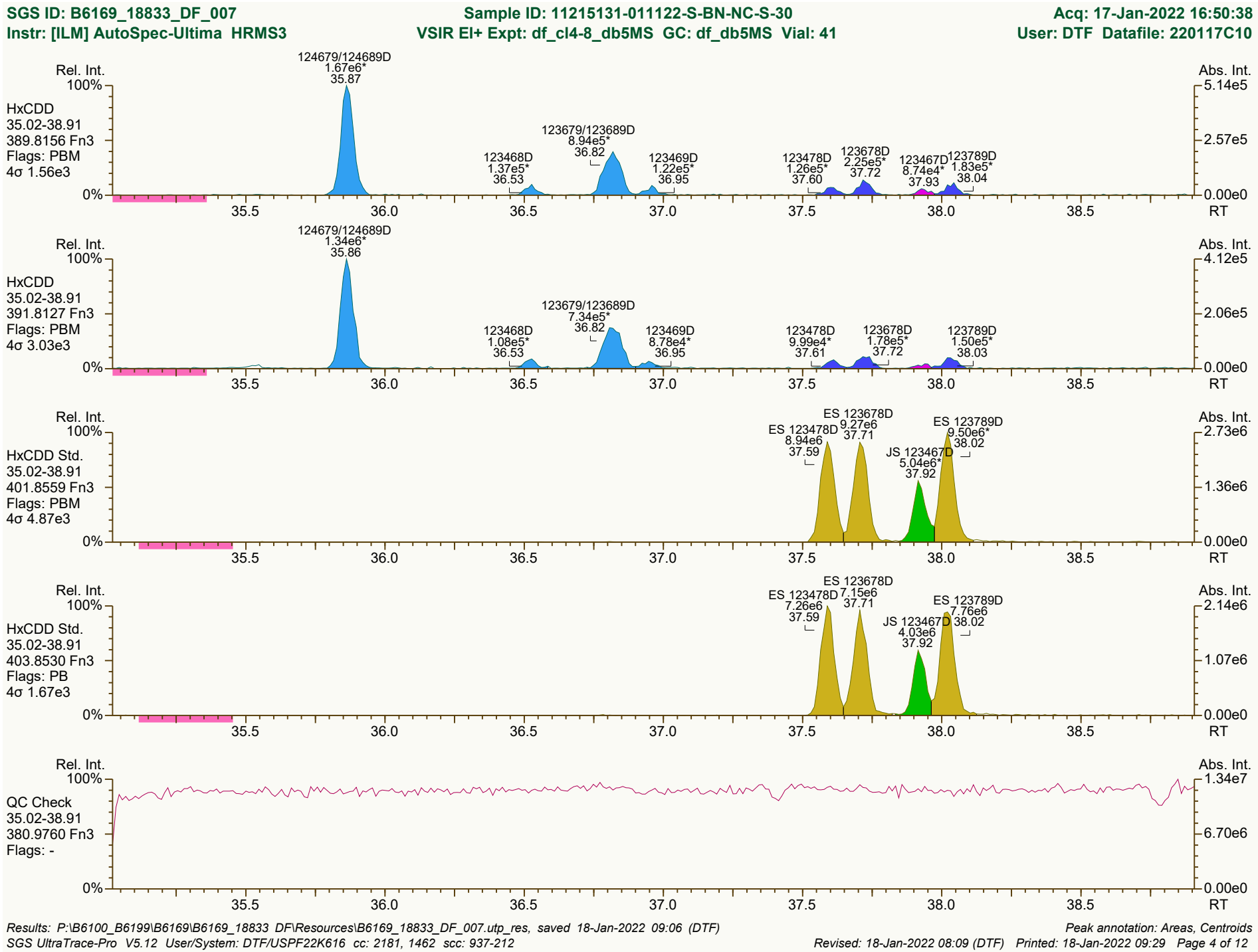
Datafile: 220117C10 | **Report: 18 Jan 2022 09:10 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

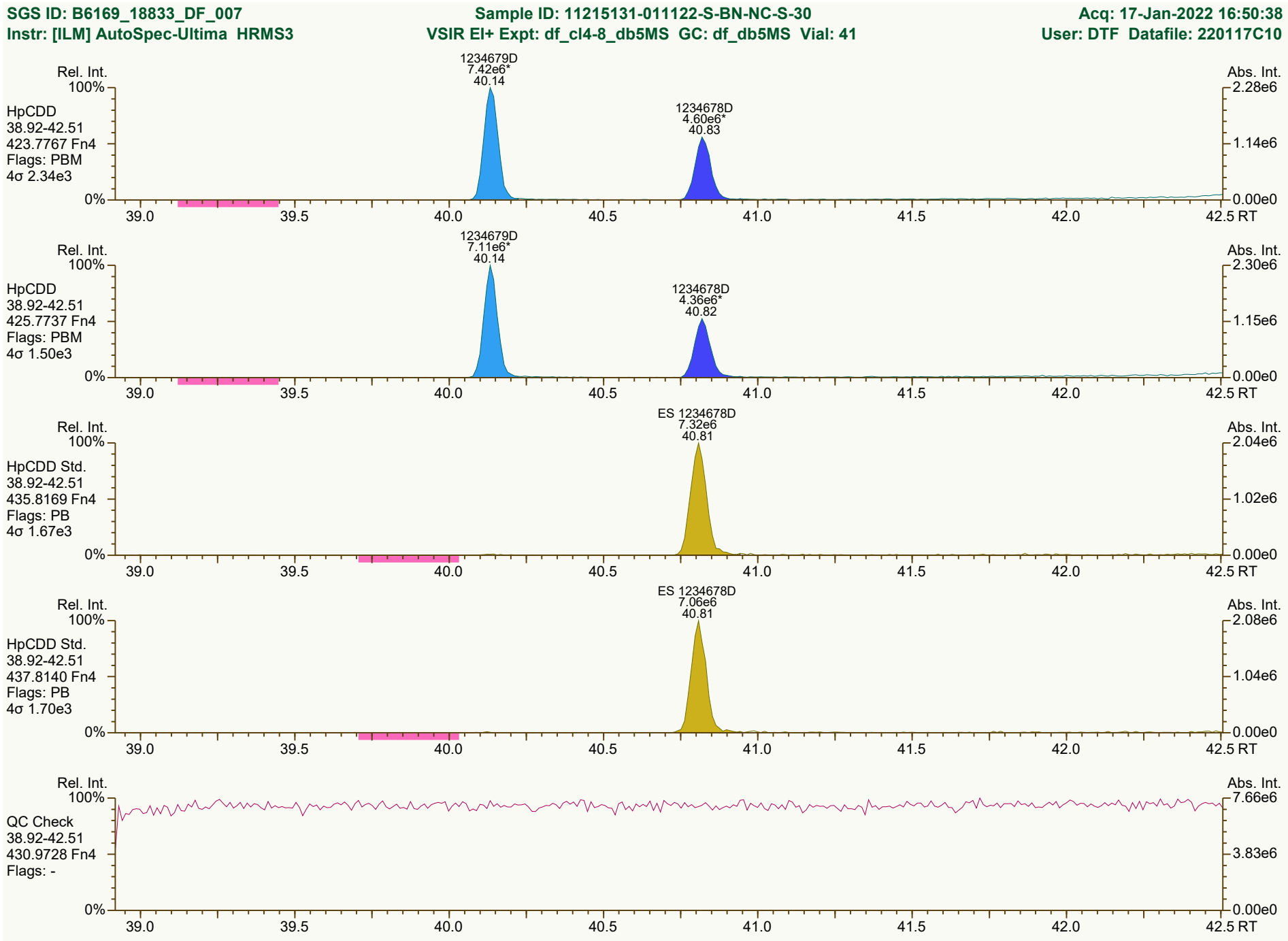
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71	J EMPC	0.9865	0.9865	0	1.25E+05	2.29	N	1.02	0.906	4239.766	0.279
12347-PeCDF	31.80	J	0.9890	0.9891	+0.2	1.19E+05	1.34	Y	1.02	0.864	4239.766	0.279
12348-PeCDF	31.96		0.9942	0.9942	0	4.59E+05	1.56	Y	1.02	3.34	4239.766	0.279
12378-PeCDF	**32.16**		**1.0006**	**1.0005**	**-0.2**	**4.34E+06**	**1.59**	**Y**	**1.02**	**31.4**	**4239.766**	**0.282**
12678/12367-PeCDF	32.46		1.0090	1.0098	+1.6	1.41E+06	1.49	Y	1.02	10.3	4239.766	0.279
12379-PeCDF	NotFnd		1.0142						1.02		4239.766	0.279
12679-PeCDF	NotFnd		0.9933						1.02		4239.766	0.279
23467/12369-PeCDF	NotFnd		0.9969						1.02		4239.766	0.279
23478-PeCDF	**33.28**		**1.0006**	**1.0007**	**+0.2**	**3.32E+06**	**1.64**	**Y**	**1.02**	**24.2**	**4239.766**	**0.275**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4239.766	0.279
12349-PeCDF	NotFnd		1.0107						1.02		4239.766	0.279
12389-PeCDF	34.37	J EMPC	1.0330	1.0334	+0.8	1.61E+05	1.84	N	1.02	1.17	4239.766	0.279
123468-HxCDF	35.21		0.9627	0.9624	-0.6	3.94E+05	1.27	Y	1.19	2.82	7973.764	0.491
124678/134678-HxCDF	35.40		0.9682	0.9677	-1.1	1.48E+06	1.24	Y	1.19	10.6	7973.764	0.491
134679-HxCDF	NotFnd		0.9744						1.19		7973.764	0.491
124679-HxCDF	NotFnd		0.9798						1.19		7973.764	0.491
124689-HxCDF	36.06		0.9858	0.9857	-0.2	1.04E+06	1.33	Y	1.19	7.48	7973.764	0.491
123467-HxCDF	NotFnd		0.9973						1.19		7973.764	0.491
123478-HxCDF	**36.60**		**1.0005**	**1.0005**	**0**	**6.91E+06**	**1.25**	**Y**	**1.27**	**48.9**	**7973.764**	**0.482**
123678-HxCDF	**36.73**		**1.0004**	**1.0005**	**+0.2**	**1.99E+06**	**1.33**	**Y**	**1.15**	**13**	**7973.764**	**0.462**
123479-HxCDF	NotFnd		1.0051						1.19		7973.764	0.491
123469-HxCDF	NotFnd		1.0093						1.19		7973.764	0.491
123679-HxCDF	NotFnd		0.9944						1.19		7973.764	0.491
234678-HxCDF	**37.41**		**1.0005**	**1.0005**	**0**	**5.11E+05**	**1.33**	**Y**	**1.19**	**3.52**	**7973.764**	**0.466**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7973.764	0.491
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7973.764**	**0.574**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43		1.0008	1.0012	+0.9	4.98E+05	1.13	Y	1.19	3.57	7973.764	0.491
1234678-HpCDF	**39.86**		**1.0003**	**1.0003**	**0**	**5.75E+06**	**1.03**	**Y**	**1.37**	**45.4**	**3077.557**	**0.199**
1234679-HpCDF	NotFnd		1.0069						1.34		3077.557	0.25
1234689-HpCDF	40.27		1.0103	1.0106	+0.7	3.15E+06	0.98	Y	1.34	29.7	3077.557	0.25
1234789-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**6.65E+05**	**1.00**	**Y**	**1.31**	**7.68**	**3077.557**	**0.323**
OCDF	**43.77**		**1.0003**	**1.0002**	**-0.3**	**1.90E+07**	**0.91**	**Y**	**1.07**	**329**	**5668.346**	**1.34**
OCDF-a	43.77		1.0002	1.0002	0	1.07E+06	2.42	Y	0.07	298	3168.781	12.1

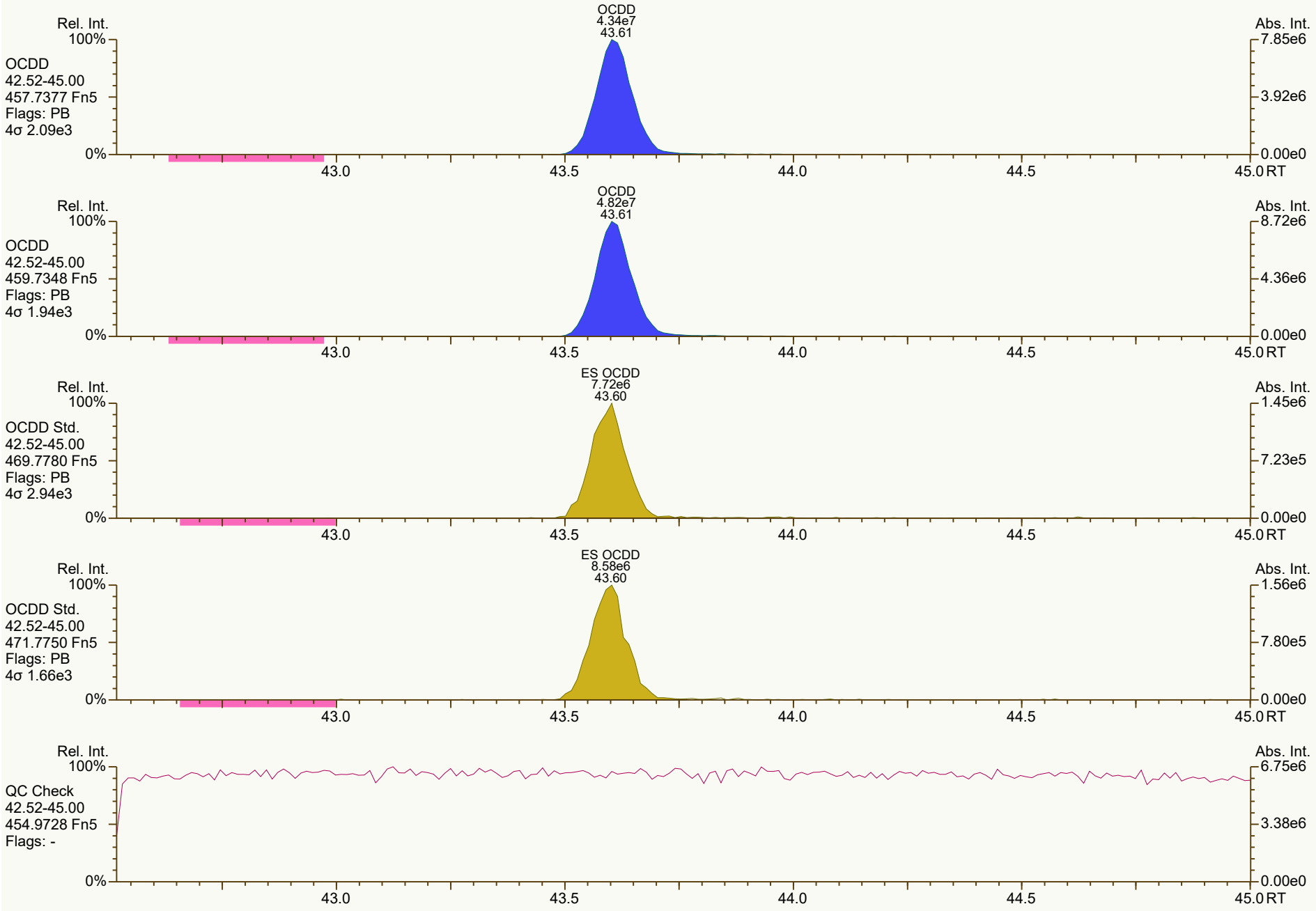

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QC Check
19.54-30.20
316.9824 Fn1
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0%
Abs. Int.
3.25e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.97e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.34e7
6.70e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.66e6
3.83e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
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3.38e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

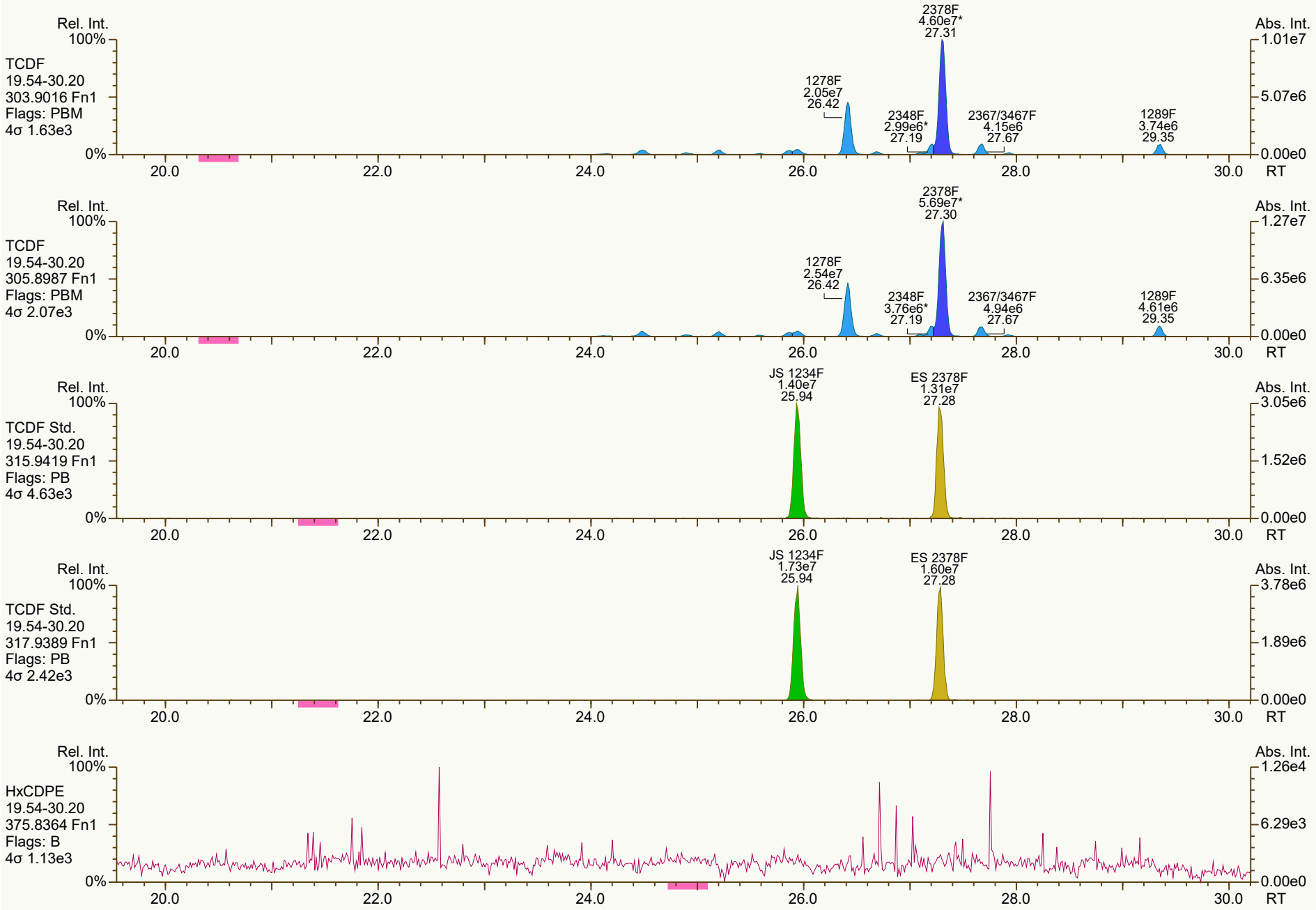

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.64e3
0%
2378D
1.16e7
28.19
1278D
1.08e6
28.52
Abs. Int.
2.84e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.65e3
0%
2378D
1.40e7
28.19
1278D
1.27e6
28.52
Abs. Int.
3.34e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.78e3
0%
CS 37Cl-2378D
8.50e6
28.19
Abs. Int.
1.97e6
9.86e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.61e3
0%
JS 1234D
8.84e6
27.53
ES 2378D
8.03e6
28.17
Abs. Int.
2.07e6
1.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.87e3
0%
JS 1234D
1.11e7
27.53
ES 2378D
9.59e6
28.17
Abs. Int.
2.81e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

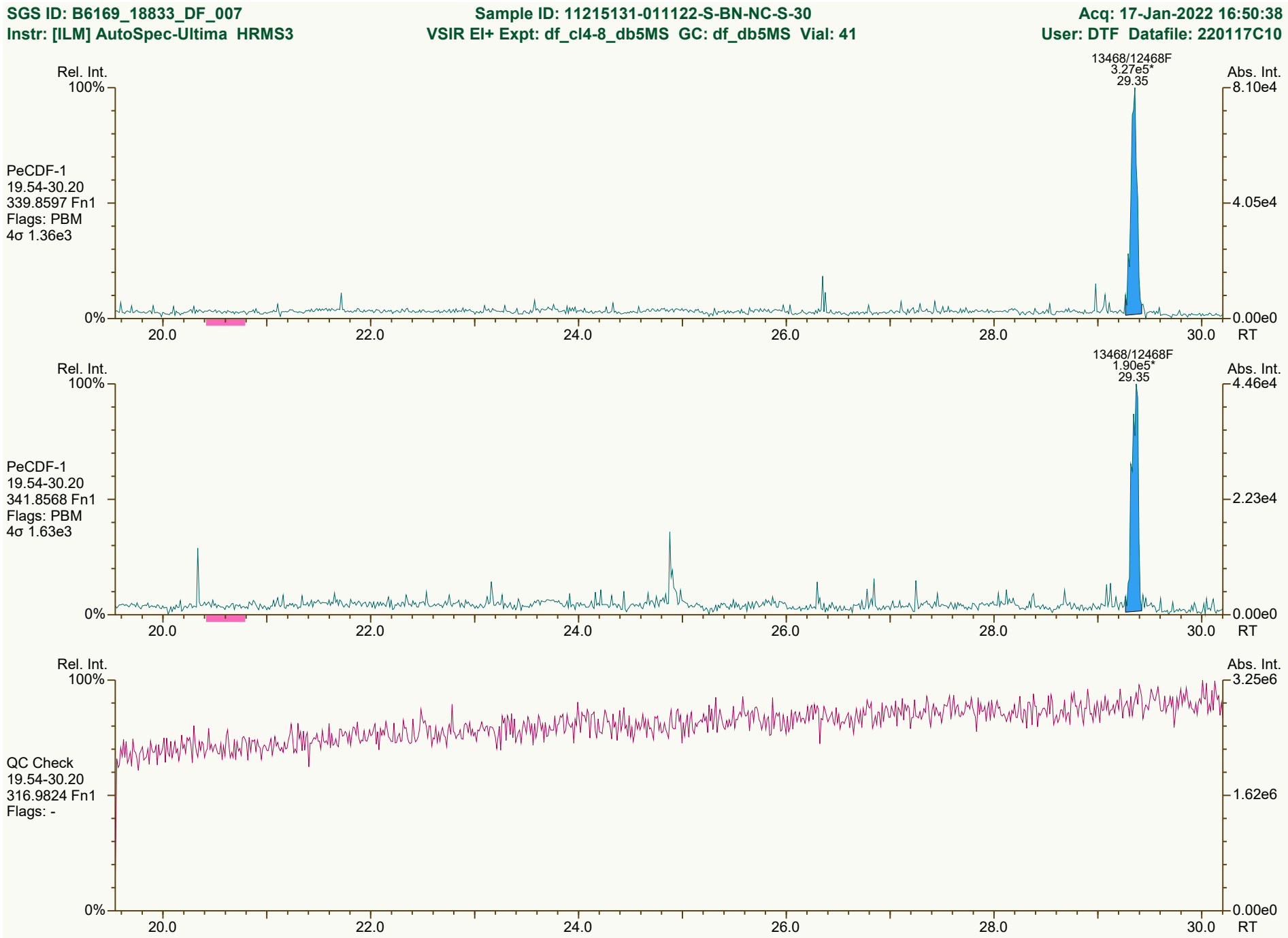

SGS ID: B6169_18833_DF_007
Sample ID: 11215131-011122-S-BN-NC-S-30
Acq: 17-Jan-2022 16:50:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220117C10
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12479/12468D
1.10e5
31.12
12469D
1.74e5*
31.65
12368D
6.69e4*
32.20
12478D
5.73e4*
32.40
12379D
2.87e4*
32.50
12369D...[3]
1.24e5*
32.77
12378D
1.60e5*
33.63
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.88e3
12479/12468D
8.48e4
31.11
12469D
1.25e5*
31.65
12368D
4.47e4*
32.20
12478D
4.90e4*
32.39
12369D...[3]
7.26e4*
32.76
12378D
1.16e5*
33.63
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.69e3
CS 12347D
9.64e6
33.11
ES 12378D
1.09e7
33.61
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.94e3
CS 12347D
6.10e6
33.11
ES 12378D
6.59e6
33.61
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_007.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2604, 4519 scc: 937-212
Revised: 18-Jan-2022 08:09 (DTF) Printed: 18-Jan-2022 09:29 Page 3 of 12

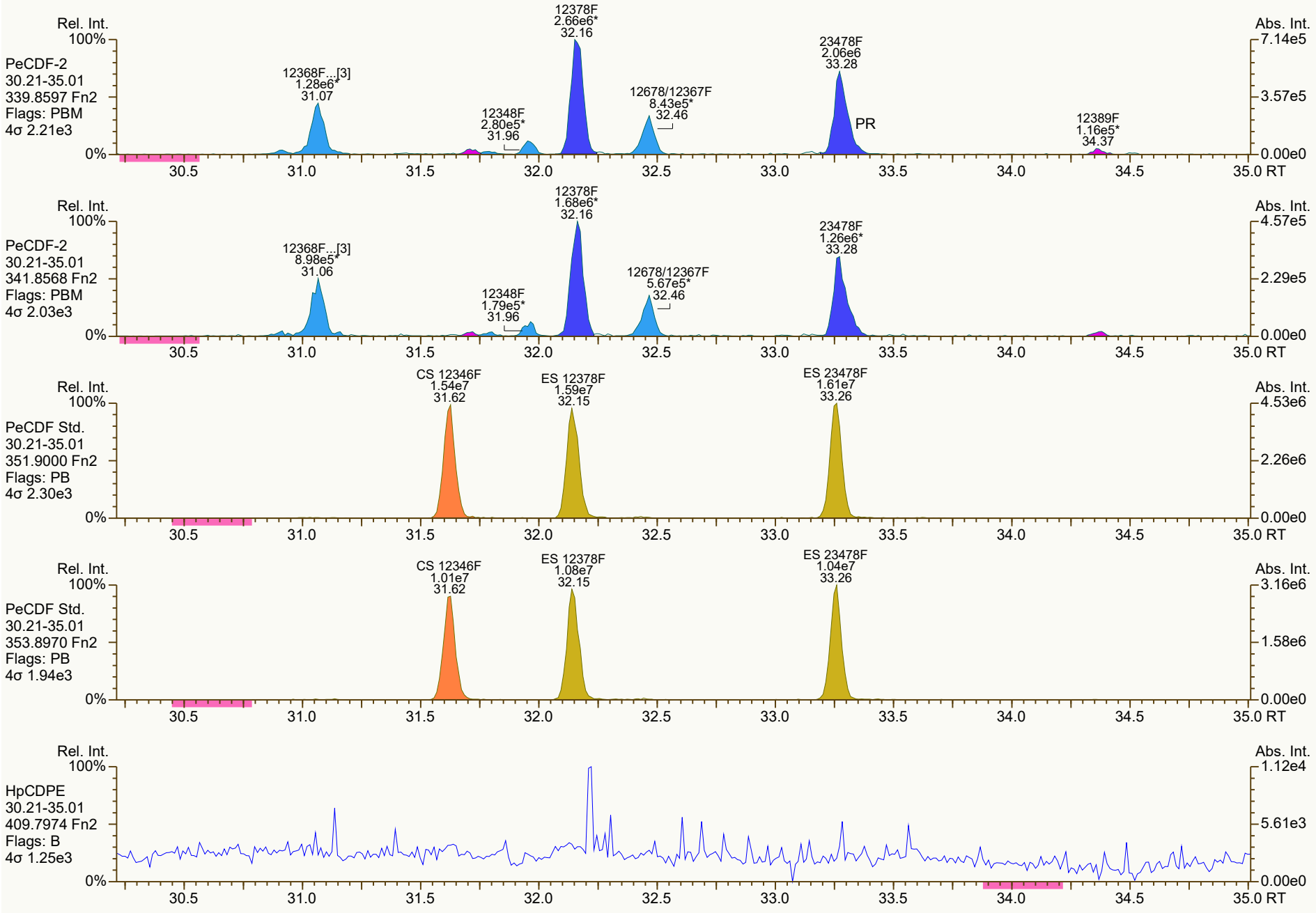

SGS ID: B6169_18833_DF_007
Sample ID: 11215131-011122-S-BN-NC-S-30
Acq: 17-Jan-2022 16:50:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220117C10
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.56e3
124679/124689D
1.67e6*
35.87
123679/123689D
8.94e5*
36.82
123468D
1.37e5*
36.53
123469D
1.22e5*
36.95
123478D
1.26e5*
37.60
123678D
2.25e5*
37.72
123467D
8.74e4*
37.93
123789D
1.83e5*
38.04
5.14e5
2.57e5
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 3.03e3
124679/124689D
1.34e6*
35.86
123679/123689D
7.34e5*
36.82
123468D
1.08e5*
36.53
123469D
8.78e4*
36.95
123478D
9.99e4*
37.61
123678D
1.78e5*
37.72
123789D
1.50e5*
38.03
4.12e5
2.06e5
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 4.87e3
ES 123678D
9.27e6
37.71
ES 123478D
8.94e6
37.59
ES 123789D
9.50e6*
38.02
JS 123467D
5.04e6*
37.92
2.73e6
1.36e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.67e3
ES 123678D
7.15e6
37.71
ES 123478D
7.26e6
37.59
ES 123789D
7.76e6
38.02
JS 123467D
4.03e6
37.92
2.14e6
1.07e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.34e7
6.70e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_007.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2181, 1462 scc: 937-212
Revised: 18-Jan-2022 08:09 (DTF) Printed: 18-Jan-2022 09:29 Page 4 of 12

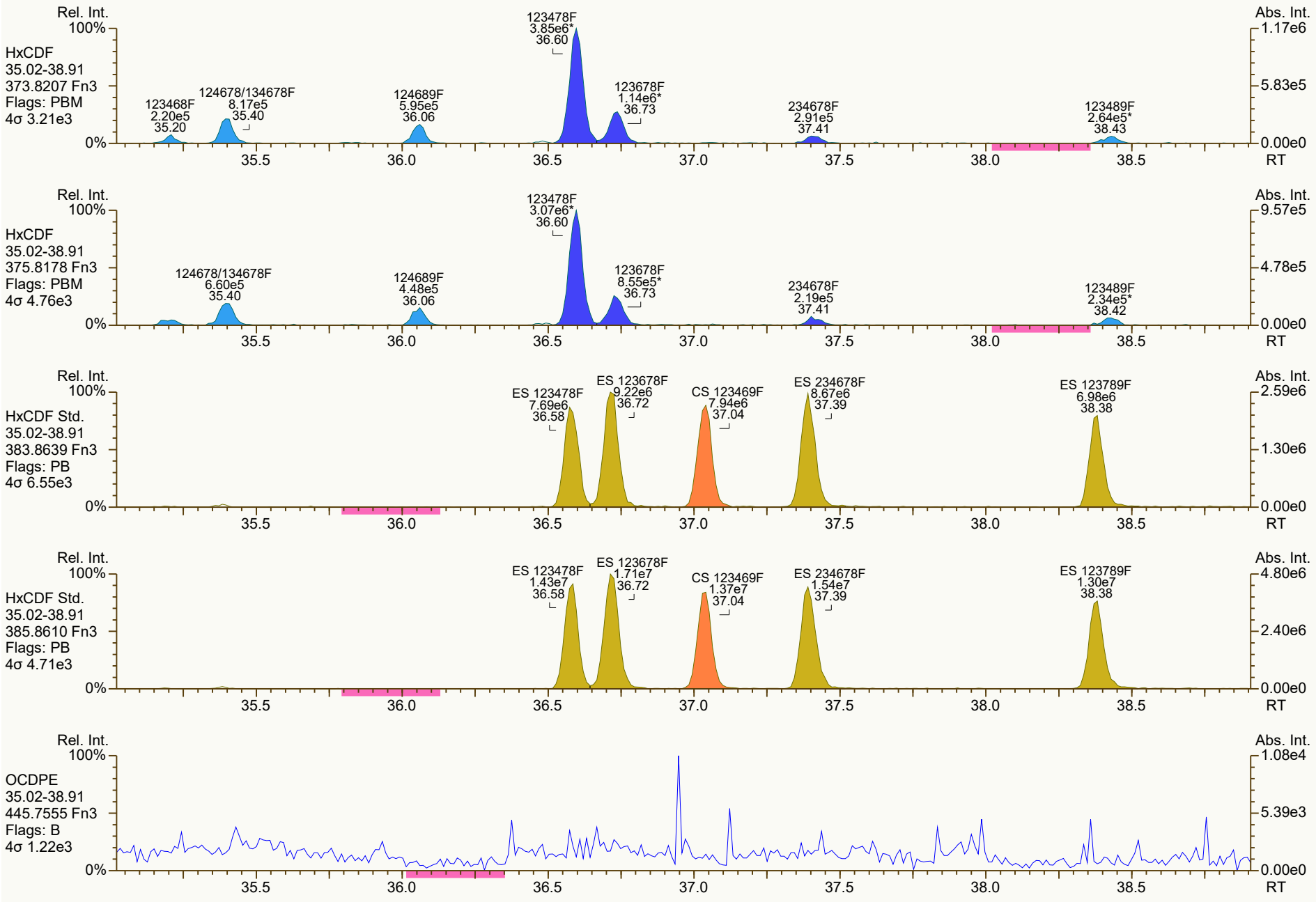

SGS ID: B6169_18833_DF_007
Sample ID: 11215131-011122-S-BN-NC-S-30
Acq: 17-Jan-2022 16:50:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220117C10
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.34e3
1234679D
7.42e6*
40.14
1234678D
4.60e6*
40.83
2.28e6
1.14e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.50e3
1234679D
7.11e6*
40.14
1234678D
4.36e6*
40.82
2.30e6
1.15e6
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.67e3
ES 1234678D
7.32e6
40.81
2.04e6
1.02e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.70e3
ES 1234678D
7.06e6
40.81
2.08e6
1.04e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
7.66e6
3.83e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_007.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7466, 6679 scc: 937-212
Revised: 18-Jan-2022 08:09 (DTF) Printed: 18-Jan-2022 09:29 Page 5 of 12

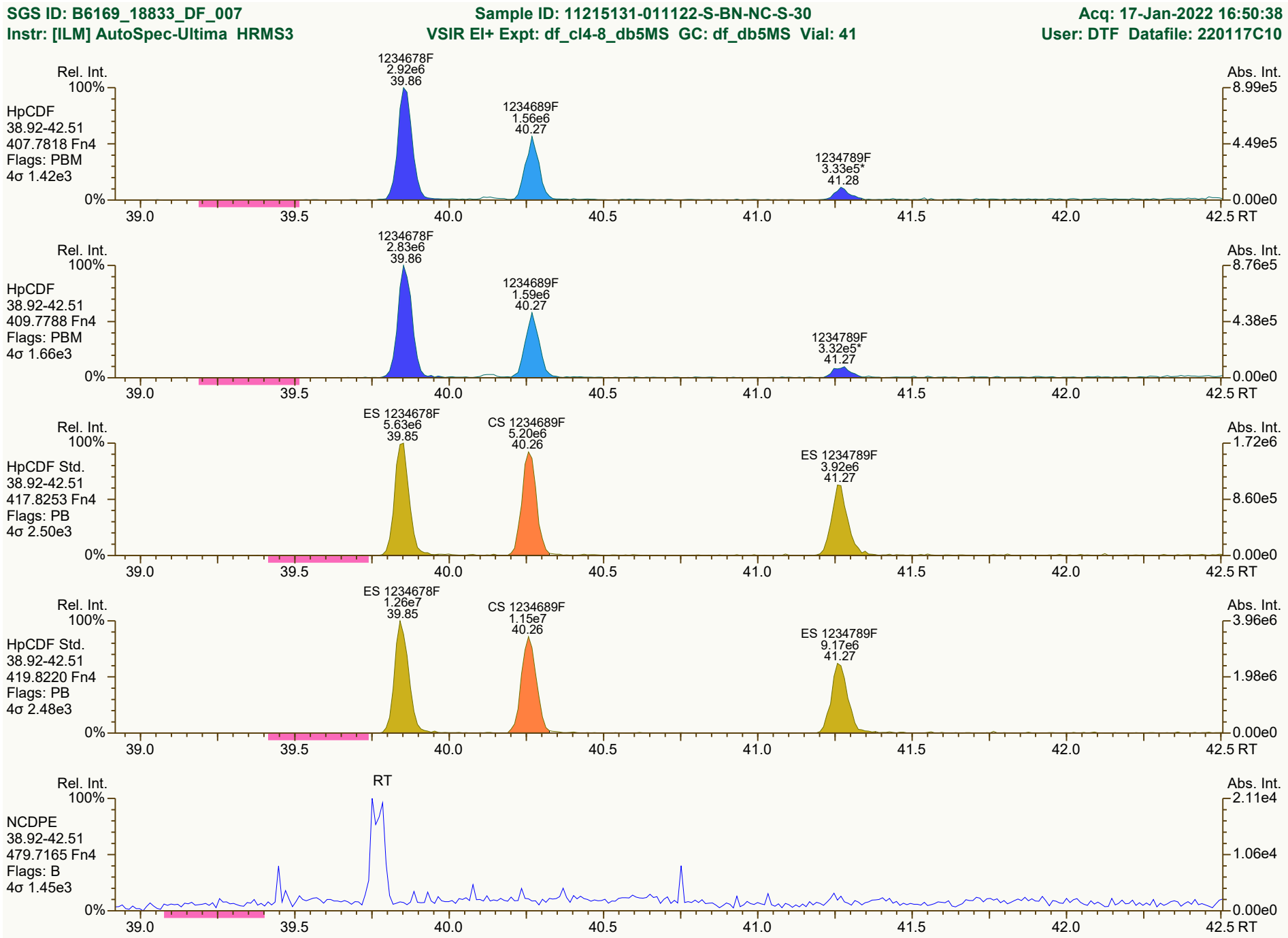

Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.09e3
0%
OCDD
4.34e7
43.61
Abs. Int.
7.85e6
3.92e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 1.94e3
0%
OCDD
4.82e7
43.61
Abs. Int.
8.72e6
4.36e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 2.94e3
0%
ES OCDD
7.72e6
43.60
Abs. Int.
1.45e6
7.23e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.66e3
0%
ES OCDD
8.58e6
43.60
Abs. Int.
1.56e6
7.80e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.75e6
3.38e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

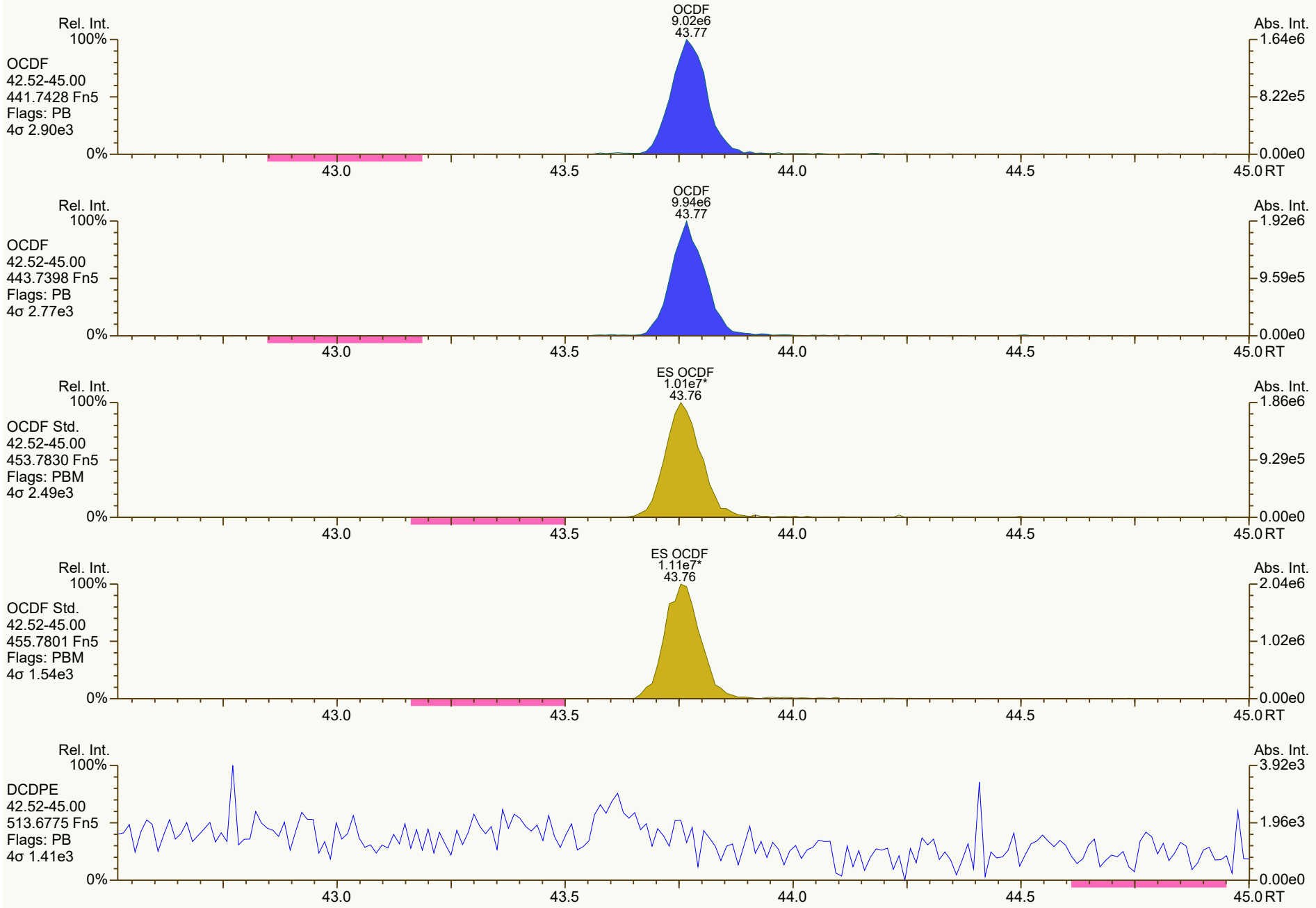

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
4.60e7*
27.31
1278F
2.05e7
26.42
2348F
2.99e6*
27.19
2367/3467F
4.15e6
27.67
1289F
3.74e6
29.35
Abs. Int.
1.01e7
5.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.07e3
0%
2378F
5.69e7*
27.30
1278F
2.54e7
26.42
2348F
3.76e6*
27.19
2367/3467F
4.94e6
27.67
1289F
4.61e6
29.35
Abs. Int.
1.27e7
6.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.63e3
0%
JS 1234F
1.40e7
25.94
ES 2378F
1.31e7
27.28
Abs. Int.
3.05e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.42e3
0%
JS 1234F
1.73e7
25.94
ES 2378F
1.60e7
27.28
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_007
Sample ID: 11215131-011122-S-BN-NC-S-30
Acq: 17-Jan-2022 16:50:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220117C10
Rel. Int.
100%
0%
Abs. Int.
8.10e4
4.05e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
3.27e5*
29.35
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.36e3
13468/12468F
1.90e5*
29.35
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.63e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
3.25e6
1.62e6
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_007.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9438 scc: 937-212
Revised: 18-Jan-2022 08:10 (DTF) Printed: 18-Jan-2022 09:29 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.21e3
12368F...[3]
1.28e6*
31.07
12348F
2.80e5*
31.96
12378F
2.66e6*
32.16
12678/12367F
8.43e5*
32.46
23478F
2.06e6
33.28
PR
12389F
1.16e5*
34.37
Abs. Int.
7.14e5
3.57e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.03e3
12368F...[3]
8.98e5*
31.06
12348F
1.79e5*
31.96
12378F
1.68e6*
32.16
12678/12367F
5.67e5*
32.46
23478F
1.26e6*
33.28
Abs. Int.
4.57e5
2.29e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 2.30e3
CS 12346F
1.54e7
31.62
ES 12378F
1.59e7
32.15
ES 23478F
1.61e7
33.26
Abs. Int.
4.53e6
2.26e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 1.94e3
CS 12346F
1.01e7
31.62
ES 12378F
1.08e7
32.15
ES 23478F
1.04e7
33.26
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.25e3
Abs. Int.
1.12e4
5.61e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 3.21e3
123468F 2.20e5 35.20
124678/134678F 8.17e5 35.40
124689F 5.95e5 36.06
123478F 3.85e6* 36.60
123678F 1.14e6* 36.73
234678F 2.91e5 37.41
123489F 2.64e5* 38.43
Abs. Int.
1.17e6
5.83e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 4.76e3
124678/134678F 6.60e5 35.40
124689F 4.48e5 36.06
123478F 3.07e6* 36.60
123678F 8.55e5* 36.73
234678F 2.19e5 37.41
123489F 2.34e5* 38.42
9.57e5
4.78e5
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.55e3
ES 123478F 7.69e6 36.58
ES 123678F 9.22e6 36.72
CS 123469F 7.94e6 37.04
ES 234678F 8.67e6 37.39
ES 123789F 6.98e6 38.38
2.59e6
1.30e6
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 4.71e3
ES 123478F 1.43e7 36.58
ES 123678F 1.71e7 36.72
CS 123469F 1.37e7 37.04
ES 234678F 1.54e7 37.39
ES 123789F 1.30e7 38.38
4.80e6
2.40e6
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.22e3
1.08e4
5.39e3


SGS ID: B6169_18833_DF_007
Sample ID: 11215131-011122-S-BN-NC-S-30
Acq: 17-Jan-2022 16:50:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220117C10
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 1.42e3
1234678F
2.92e6
39.86
1234689F
1.56e6
40.27
1234789F
3.33e5*
41.28
8.99e5
4.49e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.66e3
1234678F
2.83e6
39.86
1234689F
1.59e6
40.27
1234789F
3.32e5*
41.27
8.76e5
4.38e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.50e3
ES 1234678F
5.63e6
39.85
CS 1234689F
5.20e6
40.26
ES 1234789F
3.92e6
41.27
1.72e6
8.60e5
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.48e3
ES 1234678F
1.26e7
39.85
CS 1234689F
1.15e7
40.26
ES 1234789F
9.17e6
41.27
3.96e6
1.98e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.45e3
RT
2.11e4
1.06e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_007.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9414, 6460, 2863 scc: 937-212
Revised: 18-Jan-2022 08:12 (DTF) Printed: 18-Jan-2022 09:29 Page 11 of 12


OCDF
9.02e6
43.77
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 2.90e3
0%
Abs. Int.
1.64e6
8.22e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.94e6
43.77
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 2.77e3
1.92e6
9.59e5
ES OCDF
1.01e7*
43.76
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.49e3
1.86e6
9.29e5
ES OCDF
1.11e7*
43.76
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 1.54e3
2.04e6
1.02e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.41e3
3.92e3
1.96e3

Lab ID: B6169_18833_DF_008 **Acq'd:** 17 Jan 2022 17:36 DTF **Wt/Vol:** 10.05 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-21 **UTP:** 18-Jan-2022 09:06:14 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 865-092-JGH

Datafile: 220117C11 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20	E	1.0008	1.0008	0	2.08E+08	0.82	Y	1.18	1,600	3024.373	0.237
12378-PeCDD	33.63		1.0006	1.0005	-0.2	1.76E+06	1.49	Y	1.04	16.2	4337.264	0.321
123478-HxCDD	37.61	J	1.0004	1.0003	-0.2	1.58E+05	1.28	Y	1.09	1.38	3821.4175	0.286
123678-HxCDD	37.73		1.0036	1.0035	-0.2	5.25E+05	1.16	Y	1.15	4.09	3821.4175	0.258
123789-HxCDD	38.04		1.0118	1.0117	-0.2	3.17E+05	1.10	Y	1.05	2.66	3821.4175	0.257
1234678-HpCDD	40.83		1.0003	1.0003	0	1.12E+07	1.04	Y	1.06	109	5183.598	0.441
OCDD	43.60		1.0003	1.0003	0	1.06E+08	0.91	Y	1.13	1,680	5099.558	1.06
2378-TCDF	27.32	E	1.0008	1.0008	0	9.64E+08	0.81	Y	1.08	4,830	3360.012	0.18
12378-PeCDF	32.17		1.0006	1.0005	-0.2	3.65E+07	1.59	Y	1.02	209	7345.261	0.361
23478-PeCDF	33.29		1.0006	1.0008	+0.4	2.55E+07	1.58	Y	1.02	146	7345.261	0.375
123478-HxCDF	36.60		1.0005	1.0004	-0.2	5.87E+07	1.32	Y	1.27	348	11090.434	0.526
123678-HxCDF	36.74		1.0004	1.0005	+0.2	1.66E+07	1.30	Y	1.15	88.5	11090.434	0.499
234678-HxCDF	37.41		1.0005	1.0004	-0.2	3.84E+06	1.28	Y	1.19	19.8	11090.434	0.483
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	11090.434	0.61
1234678-HpCDF	39.87		1.0003	1.0003	0	1.63E+07	1.01	Y	1.37	96.3	4396.01	0.195
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	4.54E+06	1.00	Y	1.31	37.8	4396.01	0.345
OCDF	43.77		1.0003	1.0002	-0.3	8.08E+06	0.86	Y	1.07	99.4	4124.632	0.709

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18	1.0231	1.0229	-0.3	2.19E+07	0.83	Y	1.05	82.7
ES 12378-PeCDD	33.61	1.2198	1.2203	+1.0	2.09E+07	1.60	Y	0.88	93.9
ES 123478-HxCDD	37.60	0.9913	0.9913	0	2.10E+07	1.29	Y	0.97	90.9
ES 123678-HxCDD	37.71	0.9944	0.9944	0	2.22E+07	1.25	Y	0.94	99
ES 123789-HxCDD	38.03	1.0026	1.0027	+0.2	2.27E+07	1.29	Y	1.09	87.3
ES 1234678-HpCDD	40.82	1.0760	1.0762	+0.5	1.93E+07	1.11	Y	0.91	88.9
ES OCDD	43.59	1.1489	1.1494	+1.3	2.23E+07	0.90	Y	0.62	75.1
ES 2378-TCDF	27.30	1.0515	1.0516	+0.2	3.68E+07	0.79	Y	1.06	88
ES 12378-PeCDF	32.15	1.2378	1.2388	+1.9	3.39E+07	1.57	Y	0.91	94.2
ES 23478-PeCDF	33.27	1.2804	1.2817	+2.6	3.41E+07	1.57	Y	0.88	97.7
ES 123478-HxCDF	36.58	0.9647	0.9646	-0.2	2.64E+07	0.52	Y	1.20	92.6
ES 123678-HxCDF	36.72	0.9684	0.9683	-0.2	3.23E+07	0.54	Y	1.35	101
ES 234678-HxCDF	37.40	0.9861	0.9861	0	3.25E+07	0.53	Y	1.24	110
ES 123789-HxCDF	38.38	1.0120	1.0121	+0.2	2.49E+07	0.57	Y	1.16	90.7
ES 1234678-HpCDF	39.86	1.0506	1.0509	+0.7	2.46E+07	0.43	Y	0.97	107
ES 1234789-HpCDF	41.27	1.0879	1.0881	+0.5	1.83E+07	0.47	Y	0.85	90.1
ES OCDF	43.76	1.1534	1.1538	+1.1	3.02E+07	0.94	Y	0.81	78.6

Lab ID: B6169_18833_DF_008 **Acq'd:** 17 Jan 2022 17:36 DTF **Wt/Vol:** 10.05 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-21 **UTP:** 18-Jan-2022 09:06:14 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 865-092-JGH

Datafile: 220117C11 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.53E+07	0.84	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.95E+07	0.77	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	1.19E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0237	-0.2	1.02E+07	n/a	-	1.20	84.1
CS 12347-PeCDD	33.12		1.2018	1.2023	+1.0	1.97E+07	1.67	Y	0.75	103
CS 12346-PeCDF	31.63		1.2178	1.2188	+1.9	3.30E+07	1.53	Y	0.85	98.1
CS 123469-HxCDF	37.04		0.9768	0.9767	-0.2	2.87E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.27		1.0615	1.0618	+0.7	2.24E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0237~~	~~-0.2~~	~~1.02E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2023~~	~~+1.0~~	~~1.97E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2188~~	~~+1.9~~	~~3.30E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~2.87E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0618~~	~~+0.7~~	~~2.24E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~98.9~~

Totals	Conc	EMPC
Total TCDD	1760	1780
Total PeCDD	32.5	35.9
Total HxCDD	47.2	48.1
Total HpCDD	231	231
Total Tetra-Octa Dioxins	3750	3770
Total TCDF	9,190	9190
Total PeCDF	571	571
Total HxCDF	543	543
Total HpCDF	171	173
Total Tetra-Octa Furans	10,600	10600
Total Tetra-Octa Dioxins & Furans	14300	14300

Lab ID: B6169_18833_DF_008 **Acq'd: 17 Jan 2022 17:36 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-21 **UTP: 18-Jan-2022 09:06:14 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 865-092-JGH**

Datafile: 220117C11 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8733	0.8707	-3.8	5.85E+05	0.87	Y	1.18	4.49	3024.373	0.237
1379-TCDD	24.90		0.8860	0.8836	-3.6	3.05E+05	0.79	Y	1.18	2.33	3024.373	0.237
1369-TCDD	NotFnd		0.9009						1.18		3024.373	0.237
1469-TCDD	26.12	EMPC	0.9282	0.9269	-2.0	1.82E+05	0.91	N	1.18	1.4	3024.373	0.237
1247/1246/1248/1249-TCDD	26.35		0.9365	0.9351	-2.2	4.53E+05	0.84	Y	1.18	3.47	3024.373	0.237
1378-TCDD	26.54	EMPC	0.9429	0.9419	-1.6	7.00E+05	0.91	N	1.18	5.37	3024.373	0.237
1268-TCDD	NotFnd		0.9500						1.18		3024.373	0.237
1478-TCDD	26.99	EMPC	0.9584	0.9579	-0.8	5.19E+05	0.93	N	1.18	3.98	3024.373	0.237
1279-TCDD	NotFnd		0.9648						1.18		3024.373	0.237
1234/1269-TCDD	NotFnd		0.9770						1.18		3024.373	0.237
1236-TCDD	NotFnd		0.9821						1.18		3024.373	0.237
1237/1238-TCDD	27.91		0.9909	0.9906	-0.5	3.32E+06	0.79	Y	1.18	25.5	3024.373	0.237
1239-TCDD	NotFnd		0.9959						1.18		3024.373	0.237
2378-TCDD	**28.20**	E	**1.0008**	1.0008	**0**	2.08E+08	0.82	Y	**1.18**	**1,600**	**3024.373**	**0.237**
1278-TCDD	28.53		1.0123	1.0125	+0.3	1.68E+07	0.82	Y	1.18	129	3024.373	0.237
1267-TCDD	28.67	EMPC	1.0172	1.0176	+0.7	5.12E+05	0.89	N	1.18	3.92	3024.373	0.237
1289-TCDD	29.19	EMPC	1.0354	1.0357	+0.5	2.41E+05	1.07	N	1.18	1.85	3024.373	0.237
12479/12468-PeCDD	31.12		0.9267	0.9259	-1.5	6.00E+05	1.71	Y	1.04	5.51	4337.264	0.321
12469-PeCDD	31.67	J EMPC	0.9426	0.9421	-1.0	1.80E+05	1.17	N	1.04	1.65	4337.264	0.321
12368-PeCDD	32.21		0.9587	0.9583	-0.8	4.72E+05	1.71	Y	1.04	4.33	4337.264	0.321
12478-PeCDD	32.40	J	0.9642	0.9639	-0.6	1.87E+05	1.51	Y	1.04	1.72	4337.264	0.321
12379-PeCDD	32.51		0.9674	0.9671	-0.6	2.85E+05	1.48	Y	1.04	2.61	4337.264	0.321
12369/12467/12489-PeCDD	32.78	J	0.9752	0.9751	-0.2	1.78E+05	1.64	Y	1.04	1.63	4337.264	0.321
12346/12347-PeCDD	33.14	J EMPC	0.9861	0.9860	-0.2	1.24E+05	2.15	N	1.04	1.14	4337.264	0.321
12378-PeCDD	33.63		**1.0006**	**1.0005**	**-0.2**	**1.76E+06**	**1.49**	**Y**	**1.04**	**16.2**	**4337.264**	**0.321**
12367-PeCDD	33.73	J EMPC	1.0036	1.0035	-0.2	6.21E+04	2.25	N	1.04	0.57	4337.264	0.321
12389-PeCDD	34.08	J	1.0139	1.0139	0	5.85E+04	1.75	Y	1.04	0.537	4337.264	0.321
124679/124689-HxCDD	35.87		0.9541	0.9541	0	2.00E+06	1.22	Y	1.10	16.5	3821.4175	0.267
123468-HxCDD	36.53		0.9715	0.9716	+0.2	9.48E+05	1.39	Y	1.10	7.84	3821.4175	0.267
123679/123689-HxCDD	36.82		0.9793	0.9794	+0.2	1.67E+06	1.21	Y	1.10	13.8	3821.4175	0.267
123469-HxCDD	36.95	J EMPC	0.9831	0.9829	-0.4	1.17E+05	1.55	N	1.10	0.971	3821.4175	0.267
123478-HxCDD	37.61	J	**1.0004**	**1.0003**	**-0.2**	**1.58E+05**	**1.28**	**Y**	1.09	**1.38**	**3821.4175**	**0.286**
123678-HxCDD	37.73		**1.0036**	**1.0035**	**-0.2**	**5.25E+05**	**1.16**	**Y**	1.15	**4.09**	**3821.4175**	**0.258**
123467-HxCDD	37.94	J	1.0089	1.0090	+0.2	1.00E+05	1.22	Y	1.10	0.829	3821.4175	0.267
123789-HxCDD	38.04		**1.0118**	**1.0117**	**-0.2**	**3.17E+05**	**1.10**	**Y**	1.05	**2.66**	**3821.4175**	**0.257**

Lab ID: B6169_18833_DF_008 | Acq'd: 17 Jan 2022 17:36 DTF | Wt/Vol: 10.05 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-21 | UTP: 18-Jan-2022 09:06:14 DTF | J-level: 0.497 pg/g | Split: 1 | Checkcode: 865-092-JGH

Datafile: 220117C11 | Report: 18 Jan 2022 09:10 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

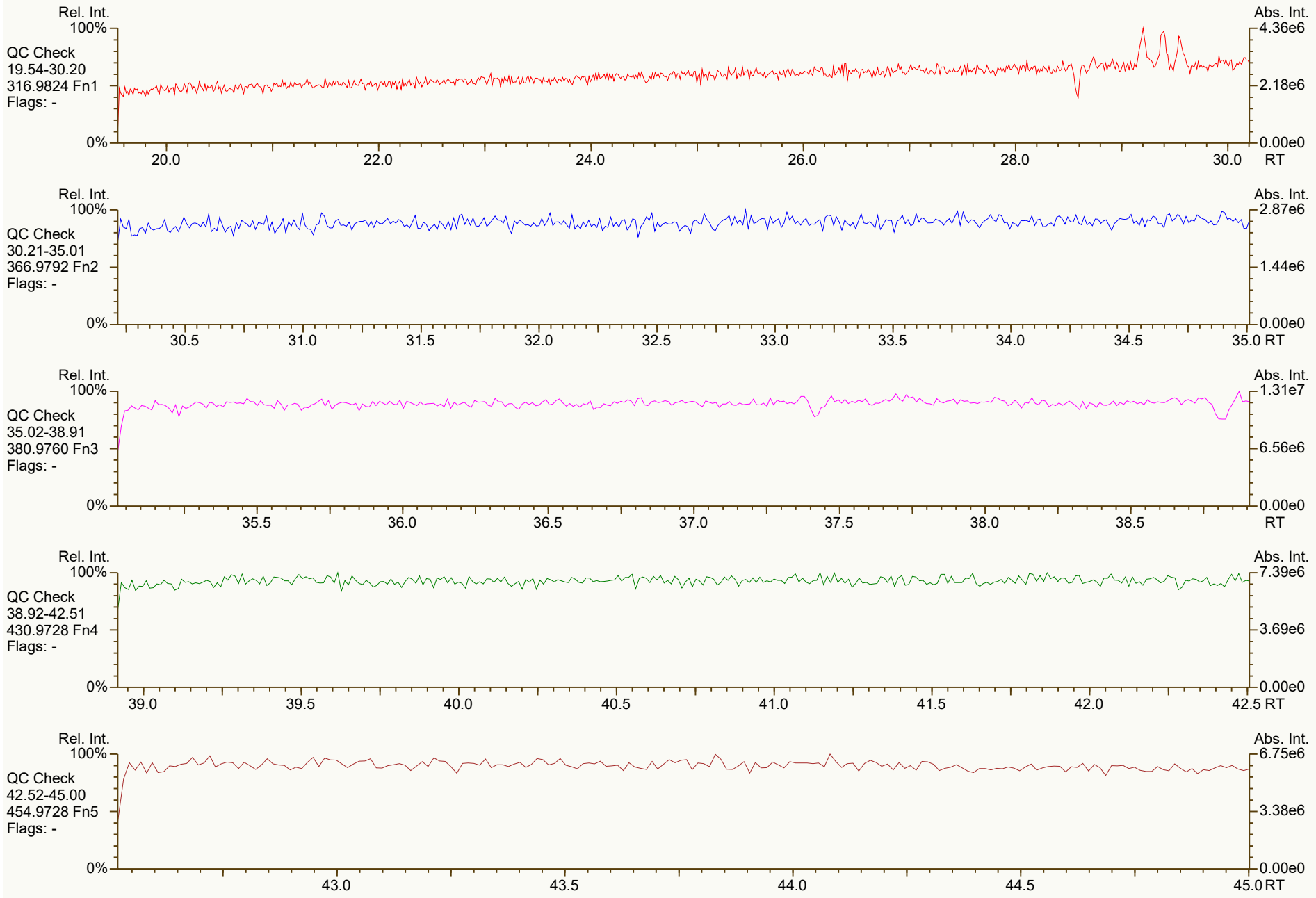
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9836	+0.2	1.25E+07	1.05	Y	1.06	122	5183.598	0.441
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.12E+07**	**1.04**	**Y**	**1.06**	**109**	**5183.598**	**0.441**
OCDD	**43.60**		**1.0003**	**1.0003**	**0**	**1.06E+08**	**0.91**	**Y**	**1.13**	**1,680**	**5099.558**	**1.06**
OCDD-a	43.60		1.0002	1.0002	0	6.53E+06	2.55	Y	0.07	1,620	4730.892	15.4
1368-TCDF	22.40		0.8250	0.8205	-6.0	3.18E+05	0.77	Y	1.08	1.59	3360.012	0.18
1468-TCDF	22.99		0.8494	0.8423	-9.8	1.37E+06	0.87	Y	1.08	6.87	3360.012	0.18
2468-TCDF	23.62		0.8684	0.8653	-4.4	9.90E+05	0.82	Y	1.08	4.96	3360.012	0.18
1346/1246-TCDF	NotFnd		0.8815						1.08		3360.012	0.18
1347/1378/1247-TCDF	24.16		0.8867	0.8850	-2.5	1.11E+07	0.79	Y	1.08	55.6	3360.012	0.18
1348-TCDF	NotFnd		0.8966						1.08		3360.012	0.18
1248/1367/1379-TCDF	24.50		0.9012	0.8976	-5.3	4.38E+07	0.81	Y	1.08	220	3360.012	0.18
1268-TCDF	24.92		0.9148	0.9129	-2.8	1.44E+07	0.83	Y	1.08	72.3	3360.012	0.18
1467-TCDF	25.07		0.9197	0.9185	-1.8	2.15E+06	0.80	Y	1.08	10.8	3360.012	0.18
1478-TCDF	25.22		0.9258	0.9239	-2.9	3.62E+07	0.82	Y	1.08	181	3360.012	0.18
1369/1237-TCDF	25.60		0.9390	0.9379	-1.7	1.02E+07	0.82	Y	1.08	50.9	3360.012	0.18
2467-TCDF	25.73		0.9435	0.9427	-1.2	1.08E+06	0.87	Y	1.08	5.39	3360.012	0.18
2368-TCDF	25.86		0.9488	0.9474	-2.2	2.13E+07	0.82	Y	1.08	107	3360.012	0.18
1238/1234/1678/1469/1236-TCDF	25.95		0.9527	0.9508	-3.0	4.75E+07	0.82	Y	1.08	238	3360.012	0.18
1278-TCDF	26.43	E	0.9689	0.9681	-1.3	4.22E+08	0.80	Y	1.08	2,120	3360.012	0.18
1349-TCDF	NotFnd		0.9730						1.08		3360.012	0.18
1267-TCDF	26.70		0.9787	0.9782	-0.8	2.21E+07	0.81	Y	1.08	111	3360.012	0.18
2346/1249-TCDF	26.91		0.9856	0.9858	+0.3	2.89E+06	0.84	Y	1.08	14.5	3360.012	0.18
2347/1279-TCDF	27.11		0.9934	0.9930	-0.7	1.19E+07	0.83	Y	1.08	59.5	3360.012	0.18
2348-TCDF	27.21		0.9972	0.9966	-1.0	5.77E+07	0.81	Y	1.08	289	3360.012	0.18
2378-TCDF	**27.32**	E	**1.0008**	**1.0008**	**0**	**9.64E+08**	**0.81**	**Y**	**1.08**	**4,830**	**3360.012**	**0.18**
2367/3467-TCDF	27.68		1.0145	1.0142	-0.5	7.54E+07	0.81	Y	1.08	378	3360.012	0.18
1269-TCDF	27.94		1.0236	1.0236	0	1.43E+07	0.82	Y	1.08	71.4	3360.012	0.18
1239-TCDF	28.21		1.0333	1.0334	+0.2	1.07E+06	0.86	Y	1.08	5.39	3360.012	0.18
1289-TCDF	29.36		1.0740	1.0757	+3.0	7.28E+07	0.81	Y	1.08	365	3360.012	0.18
13468/12468-PeCDF	29.36		0.9138	0.9132	-1.1	1.03E+06	1.56	Y	1.02	5.92	2979.903	0.149
13678/13467/12467-PeCDF	30.91		0.9614	0.9614	0	9.45E+05	1.56	Y	1.02	5.41	7345.261	0.368
12368/13478/12478-PeCDF	31.08		0.9661	0.9665	+0.7	1.67E+07	1.62	Y	1.02	95.9	7345.261	0.368
14678-PeCDF	NotFnd		0.9693						1.02		7345.261	0.368
13479-PeCDF	NotFnd		0.9722						1.02		7345.261	0.368
13469/12479-PeCDF	NotFnd		0.9800						1.02		7345.261	0.368
12346-PeCDF	31.65	J	0.9844	0.9842	-0.4	3.10E+05	1.74	Y	1.02	1.78	7345.261	0.368

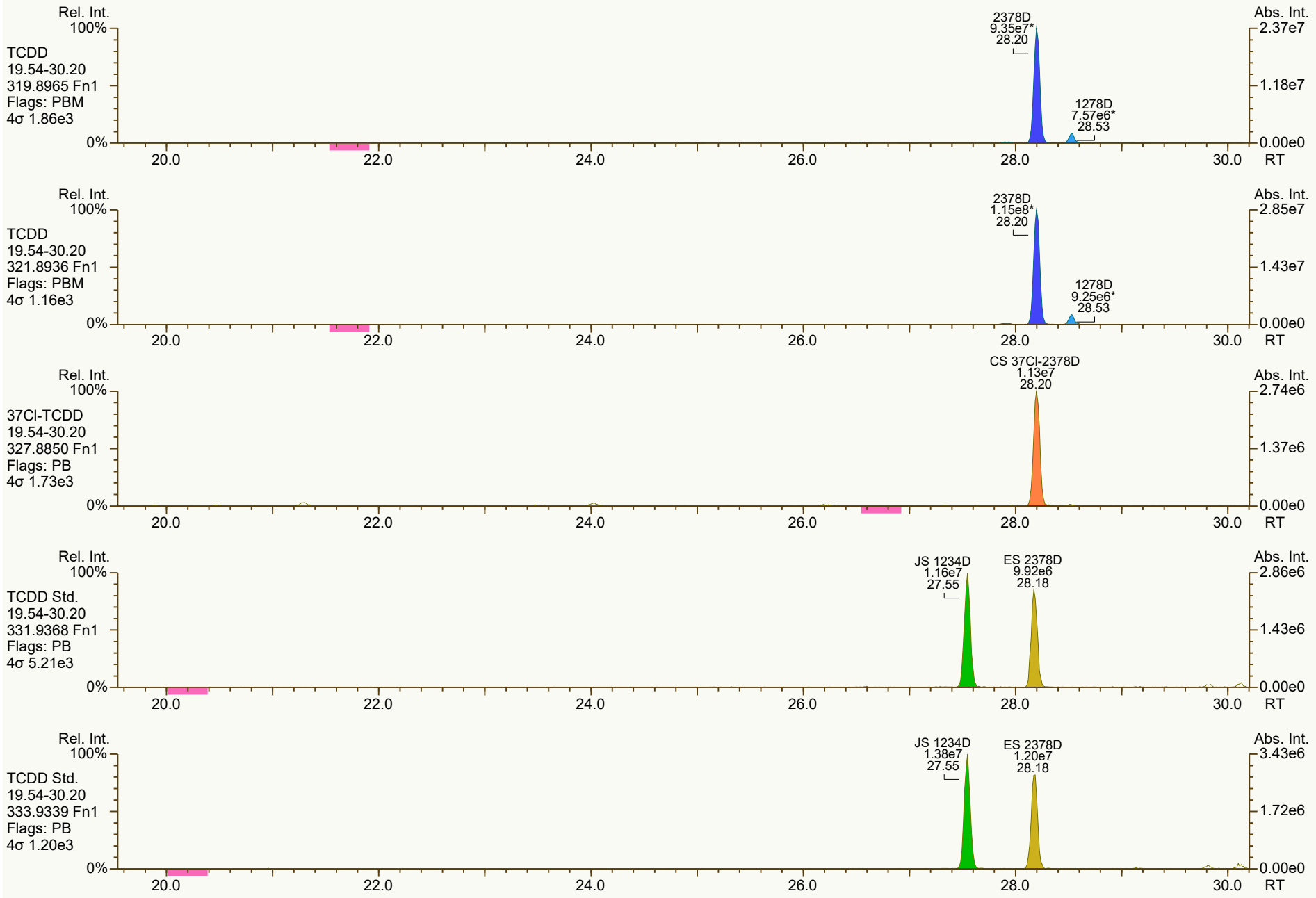
Lab ID: B6169_18833_DF_008 **Acq'd: 17 Jan 2022 17:36 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

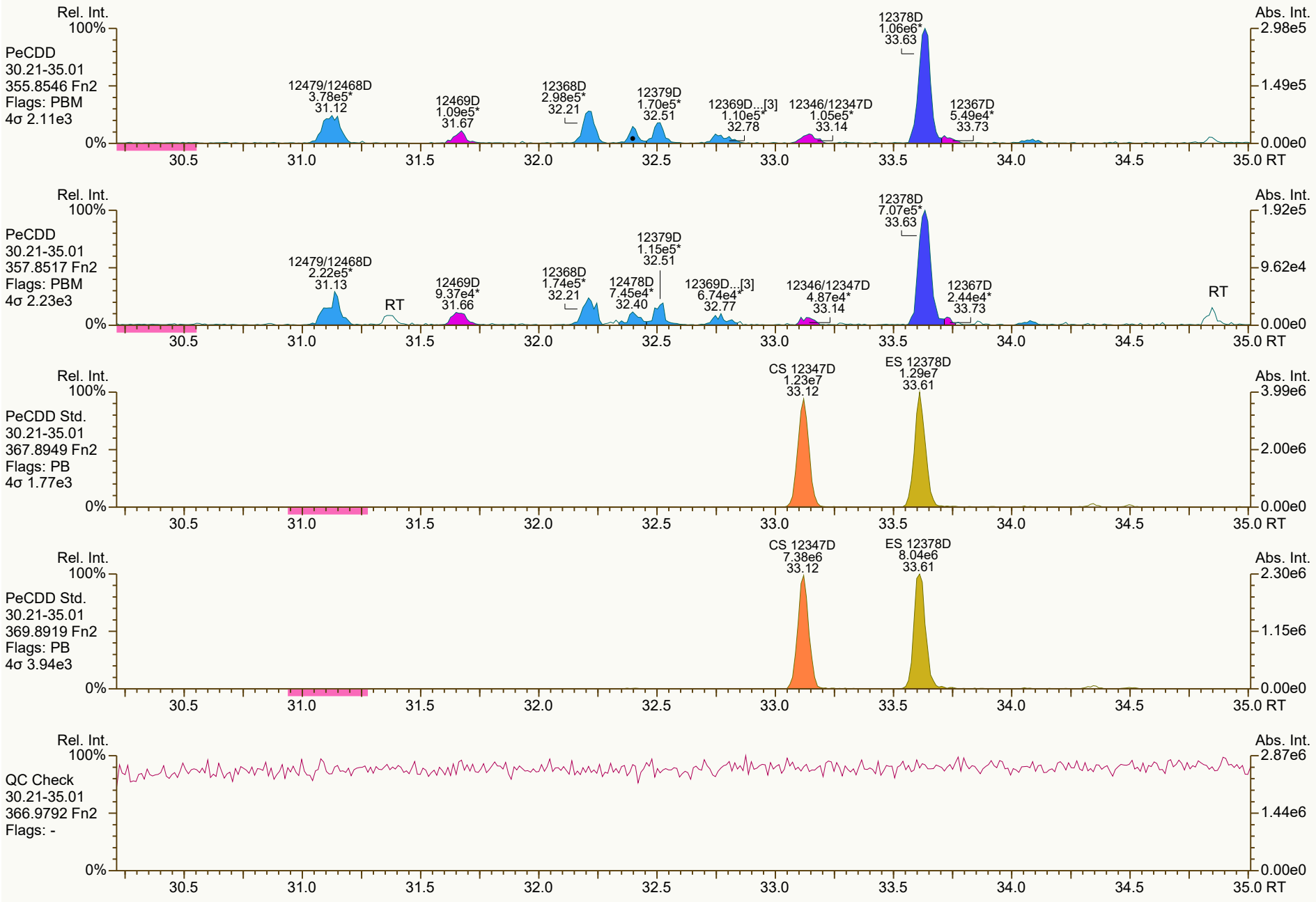
Client ID: 11215131-011122-S-BN-NC-S-21 **UTP: 18-Jan-2022 09:06:14 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 865-092-JGH**

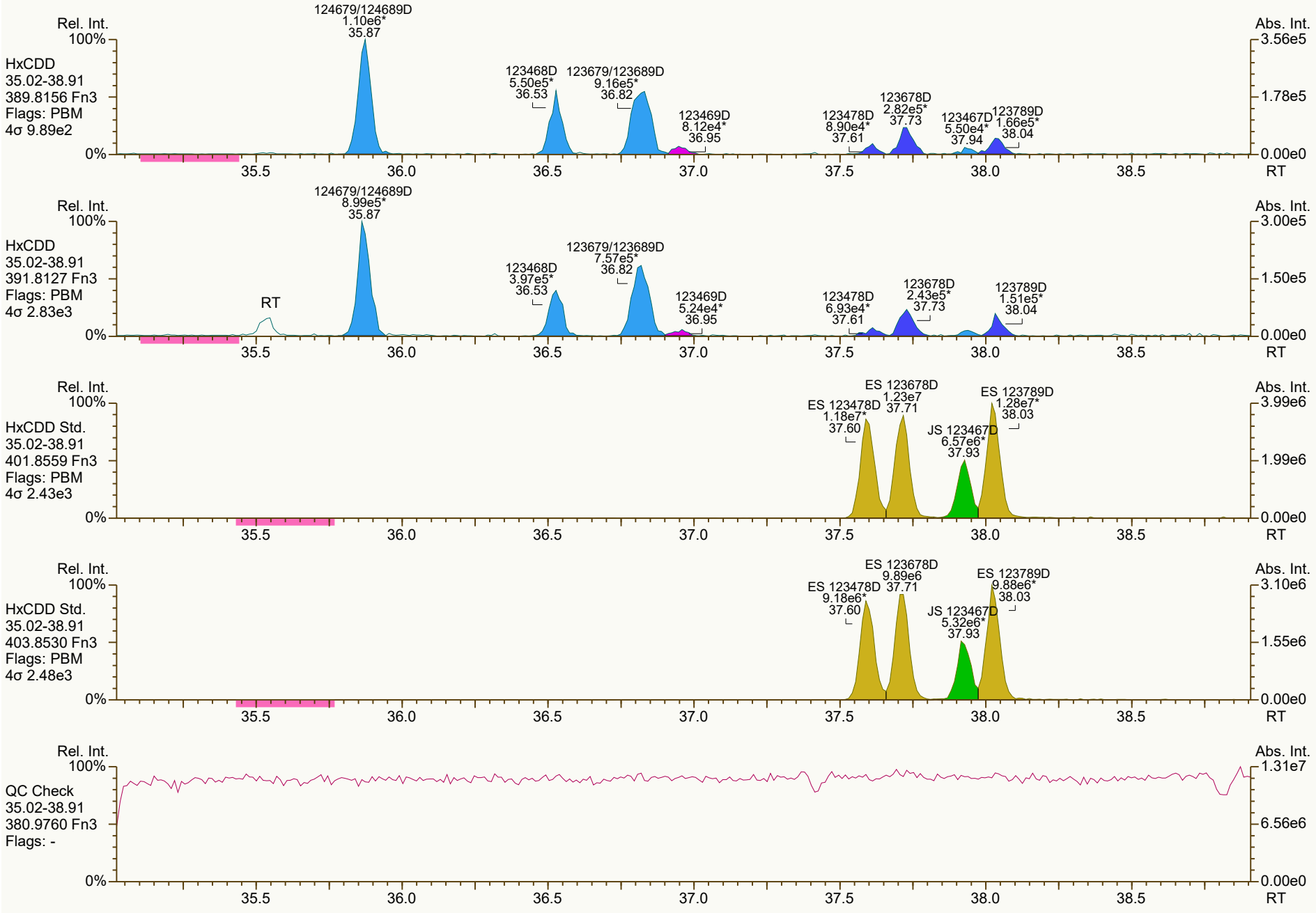
Datafile: 220117C11 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

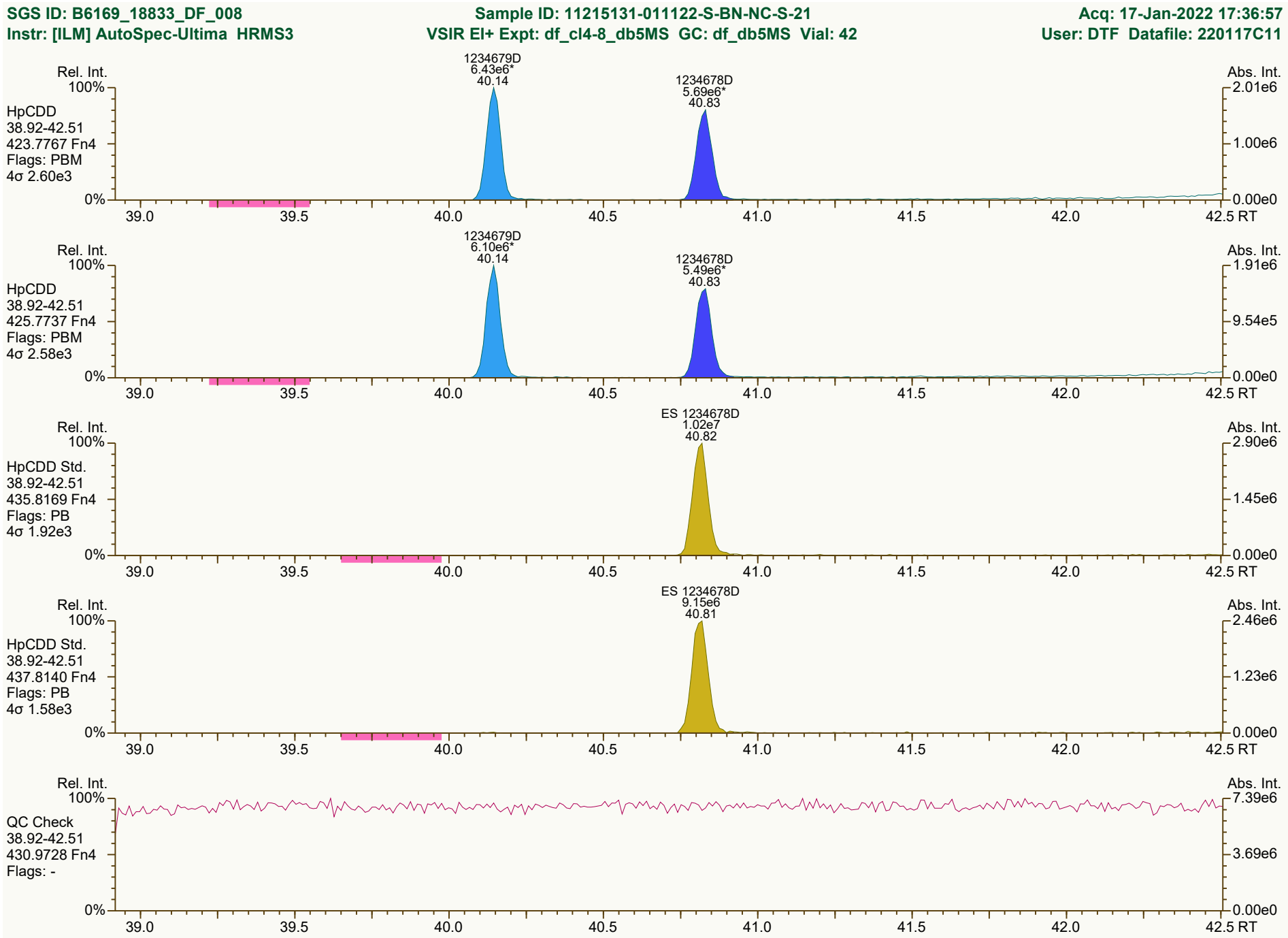
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.72		0.9865	0.9866	+0.2	9.94E+05	1.45	Y	1.02	5.69	7345.261	0.368
12347-PeCDF	31.80		0.9890	0.9891	+0.2	7.29E+05	1.76	Y	1.02	4.18	7345.261	0.368
12348-PeCDF	31.97		0.9942	0.9941	-0.2	3.30E+06	1.51	Y	1.02	18.9	7345.261	0.368
12378-PeCDF	**32.17**		**1.0006**	**1.0005**	**-0.2**	**3.65E+07**	**1.59**	**Y**	**1.02**	**209**	**7345.261**	**0.361**
12678/12367-PeCDF	32.47		1.0090	1.0098	+1.6	1.13E+07	1.62	Y	1.02	64.9	7345.261	0.368
12379-PeCDF	NotFnd		1.0142						1.02		7345.261	0.368
12679-PeCDF	NotFnd		0.9933						1.02		7345.261	0.368
23467/12369-PeCDF	33.16		0.9969	0.9968	-0.2	8.94E+05	1.52	Y	1.02	5.12	7345.261	0.368
23478-PeCDF	**33.29**		**1.0006**	**1.0008**	**+0.4**	**2.55E+07**	**1.58**	**Y**	**1.02**	**146**	**7345.261**	**0.375**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7345.261	0.368
12349-PeCDF	NotFnd		1.0107						1.02		7345.261	0.368
12389-PeCDF	34.37		1.0330	1.0332	+0.4	1.38E+06	1.55	Y	1.02	7.89	7345.261	0.368
123468-HxCDF	35.21		0.9627	0.9624	-0.6	1.12E+06	1.17	Y	1.19	6.45	11090.434	0.523
124678/134678-HxCDF	35.41		0.9682	0.9678	-0.8	5.87E+06	1.26	Y	1.19	33.7	11090.434	0.523
134679-HxCDF	NotFnd		0.9744						1.19		11090.434	0.523
124679-HxCDF	35.84	J	0.9798	0.9795	-0.6	1.06E+05	1.34	Y	1.19	0.609	11090.434	0.523
124689-HxCDF	36.06		0.9858	0.9857	-0.2	2.54E+06	1.26	Y	1.19	14.5	11090.434	0.523
123467-HxCDF	36.48		0.9973	0.9972	-0.2	7.99E+05	1.12	Y	1.19	4.59	11090.434	0.523
123478-HxCDF	**36.60**		**1.0005**	**1.0004**	**-0.2**	**5.87E+07**	**1.32**	**Y**	**1.27**	**348**	**11090.434**	**0.526**
123678-HxCDF	**36.74**		**1.0004**	**1.0005**	**+0.2**	**1.66E+07**	**1.30**	**Y**	**1.15**	**88.5**	**11090.434**	**0.499**
123479-HxCDF	NotFnd		1.0051						1.19		11090.434	0.523
123469-HxCDF	NotFnd		1.0093						1.19		11090.434	0.523
123679-HxCDF	NotFnd		0.9944						1.19		11090.434	0.523
234678-HxCDF	**37.41**		**1.0005**	**1.0004**	**-0.2**	**3.84E+06**	**1.28**	**Y**	**1.19**	**19.8**	**11090.434**	**0.483**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11090.434	0.523
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**11090.434**	**0.61**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43		1.0008	1.0012	+0.9	4.62E+06	1.24	Y	1.19	26.5	11090.434	0.523
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.63E+07**	**1.01**	**Y**	**1.37**	**96.3**	**4396.01**	**0.195**
1234679-HpCDF	40.14	**J EMPC**	1.0069	1.0070	+0.2	3.18E+05	0.88	N	1.34	2.21	4396.01	0.258
1234689-HpCDF	40.28		1.0103	1.0106	+0.7	5.33E+06	1.03	Y	1.34	37	4396.01	0.258
1234789-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**4.54E+06**	**1.00**	**Y**	**1.31**	**37.8**	**4396.01**	**0.345**
OCDF	**43.77**		**1.0003**	**1.0002**	**-0.3**	**8.08E+06**	**0.86**	**Y**	**1.07**	**99.4**	**4124.632**	**0.709**
OCDF-a	43.74	**EMPC**	1.0002	0.9996	-1.6	2.34E+05	2.02	N	0.07	46.6	4108.1	11.4

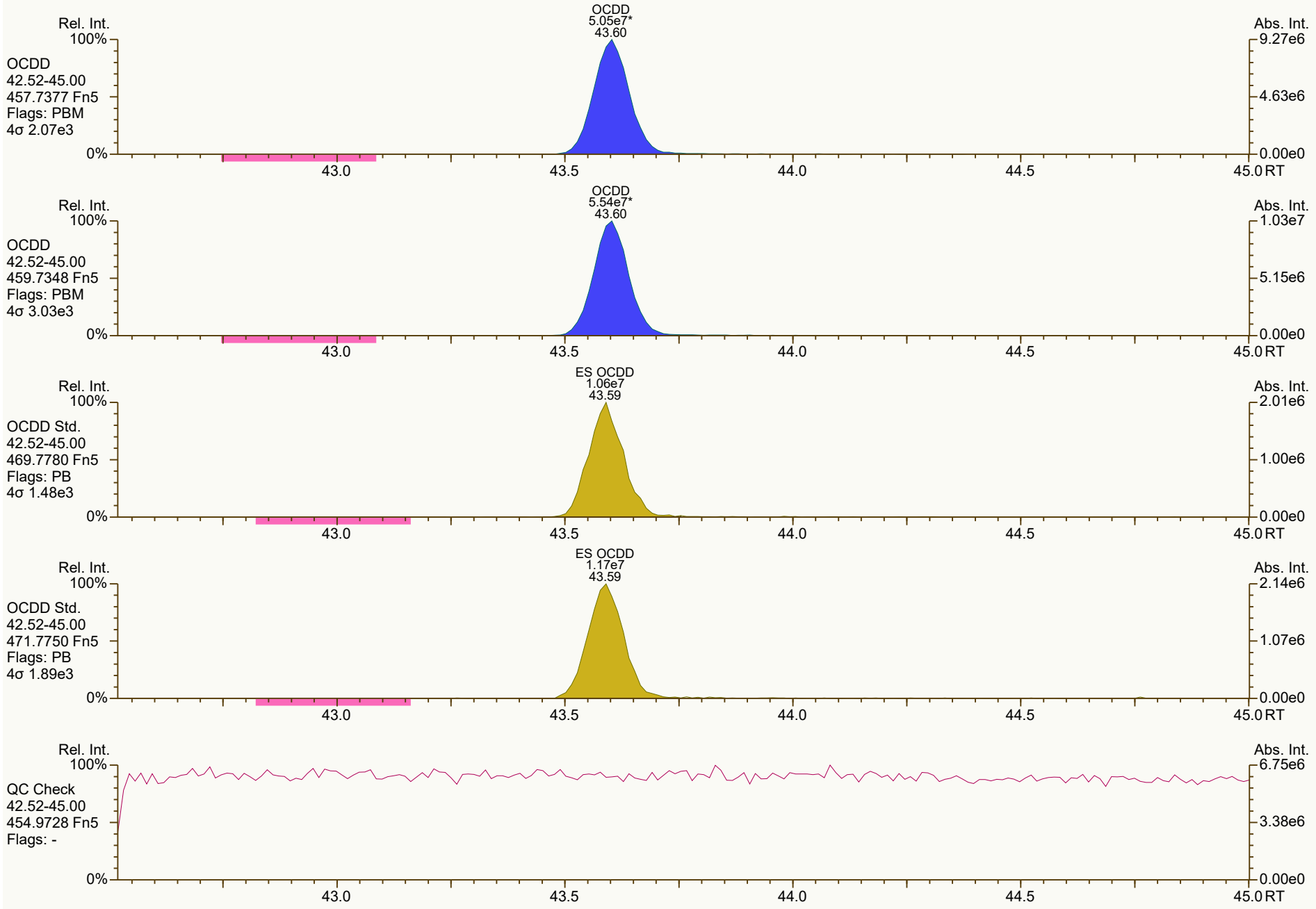

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.36e6
2.18e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
2.87e6
1.44e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.31e7
6.56e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
7.39e6
3.69e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
6.75e6
3.38e6
0.00e0

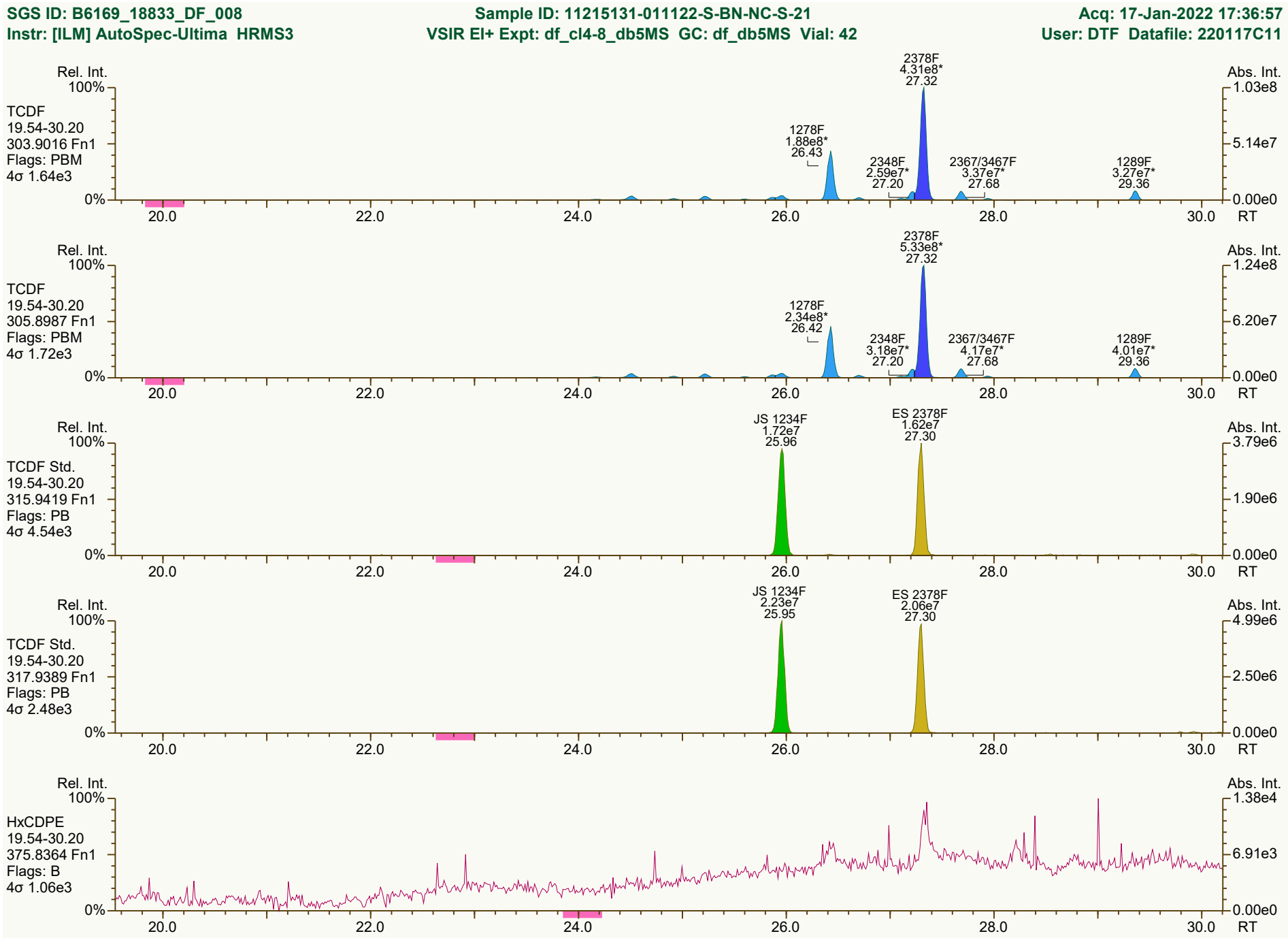

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.86e3
2378D
9.35e7*
28.20
1278D
7.57e6*
28.53
Abs. Int.
2.37e7
1.18e7
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.16e3
2378D
1.15e8*
28.20
1278D
9.25e6*
28.53
Abs. Int.
2.85e7
1.43e7
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.73e3
CS 37Cl-2378D
1.13e7
28.20
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.21e3
JS 1234D
1.16e7
27.55
ES 2378D
9.92e6
28.18
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.20e3
JS 1234D
1.38e7
27.55
ES 2378D
1.20e7
28.18
Abs. Int.
3.43e6
1.72e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

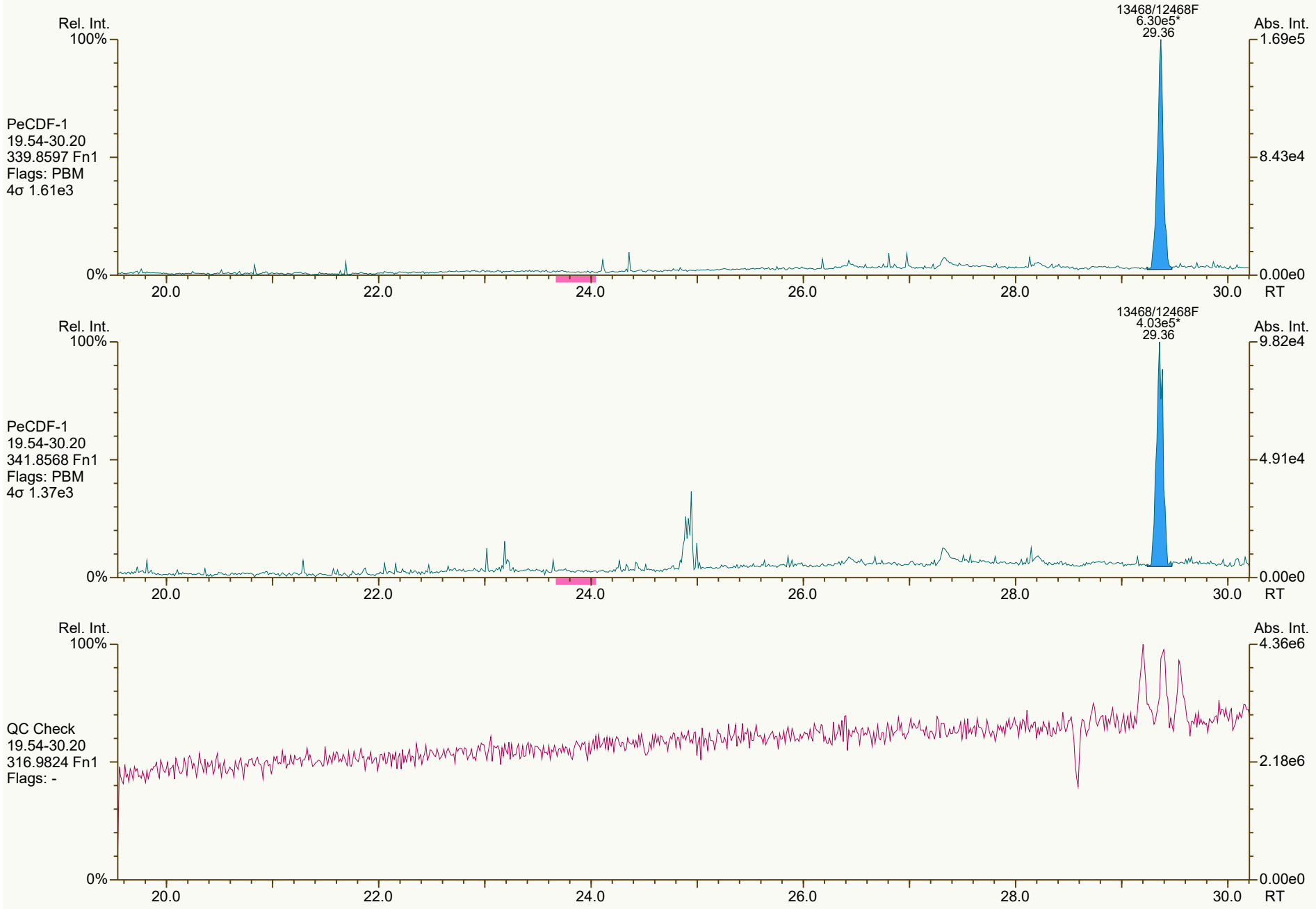

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.11e3
0%
12479/12468D
3.78e5*
31.12
12469D
1.09e5*
31.67
12368D
2.98e5*
32.21
12379D
1.70e5*
32.51
12369D...[3]
1.10e5*
32.78
12346/12347D
1.05e5*
33.14
12378D
1.06e6*
33.63
12367D
5.49e4*
33.73
Abs. Int.
2.98e5
1.49e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.23e3
0%
12479/12468D
2.22e5*
31.13
RT
12469D
9.37e4*
31.66
12368D
1.74e5*
32.21
12478D
7.45e4*
32.40
12379D
1.15e5*
32.51
12369D...[3]
6.74e4*
32.77
12346/12347D
4.87e4*
33.14
12378D
7.07e5*
33.63
12367D
2.44e4*
33.73
RT
Abs. Int.
1.92e5
9.62e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.77e3
0%
CS 12347D
1.23e7
33.12
ES 12378D
1.29e7
33.61
Abs. Int.
3.99e6
2.00e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 3.94e3
0%
CS 12347D
7.38e6
33.12
ES 12378D
8.04e6
33.61
Abs. Int.
2.30e6
1.15e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.87e6
1.44e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

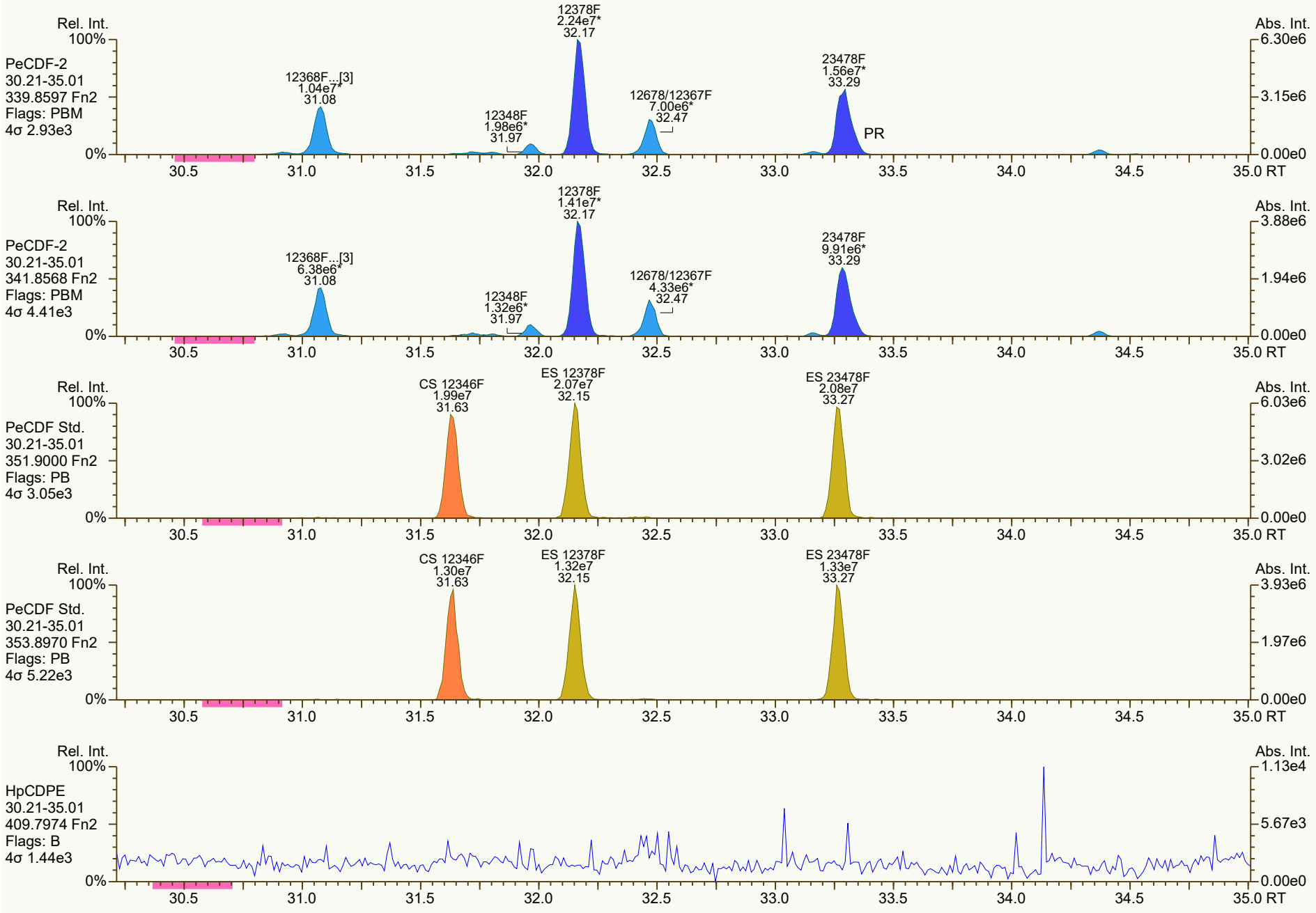

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 9.89e2
124679/124689D
1.10e6*
35.87
123468D
5.50e5*
36.53
123679/123689D
9.16e5*
36.82
123469D
8.12e4*
36.95
123478D
8.90e4*
37.61
123678D
2.82e5*
37.73
123467D
5.50e4*
37.94
123789D
1.66e5*
38.04
Abs. Int.
3.56e5
1.78e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.83e3
RT
124679/124689D
8.99e5*
35.87
123468D
3.97e5*
36.53
123679/123689D
7.57e5*
36.82
123469D
5.24e4*
36.95
123478D
6.93e4*
37.61
123678D
2.43e5*
37.73
123789D
1.51e5*
38.04
Abs. Int.
3.00e5
1.50e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 2.43e3
ES 123678D
1.23e7
37.71
ES 123478D
1.18e7*
37.60
ES 123789D
1.28e7*
38.03
JS 123467D
6.57e6*
37.93
Abs. Int.
3.99e6
1.99e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 2.48e3
ES 123678D
9.89e6
37.71
ES 123478D
9.18e6*
37.60
ES 123789D
9.88e6*
38.03
JS 123467D
5.32e6*
37.93
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.31e7
6.56e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

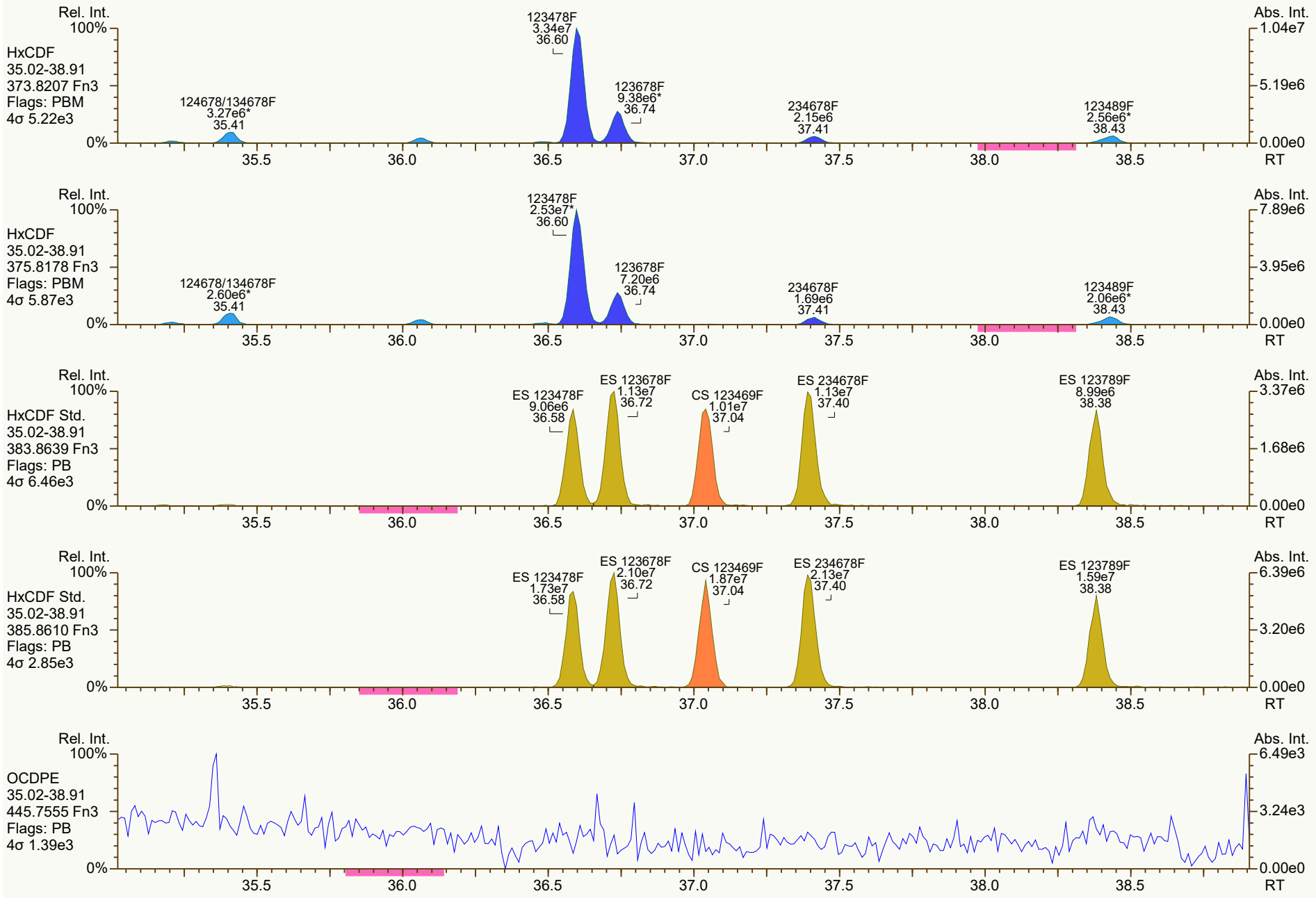

SGS ID: B6169_18833_DF_008
Sample ID: 11215131-011122-S-BN-NC-S-21
Acq: 17-Jan-2022 17:36:57
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220117C11
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.60e3
1234679D
6.43e6*
40.14
1234678D
5.69e6*
40.83
2.01e6
1.00e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.58e3
1234679D
6.10e6*
40.14
1234678D
5.49e6*
40.83
1.91e6
9.54e5
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.92e3
ES 1234678D
1.02e7
40.82
2.90e6
1.45e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.58e3
ES 1234678D
9.15e6
40.81
2.46e6
1.23e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
7.39e6
3.69e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_008.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3598, 6815 scc: 865-092
Revised: 18-Jan-2022 08:21 (DTF) Printed: 18-Jan-2022 09:29 Page 5 of 12

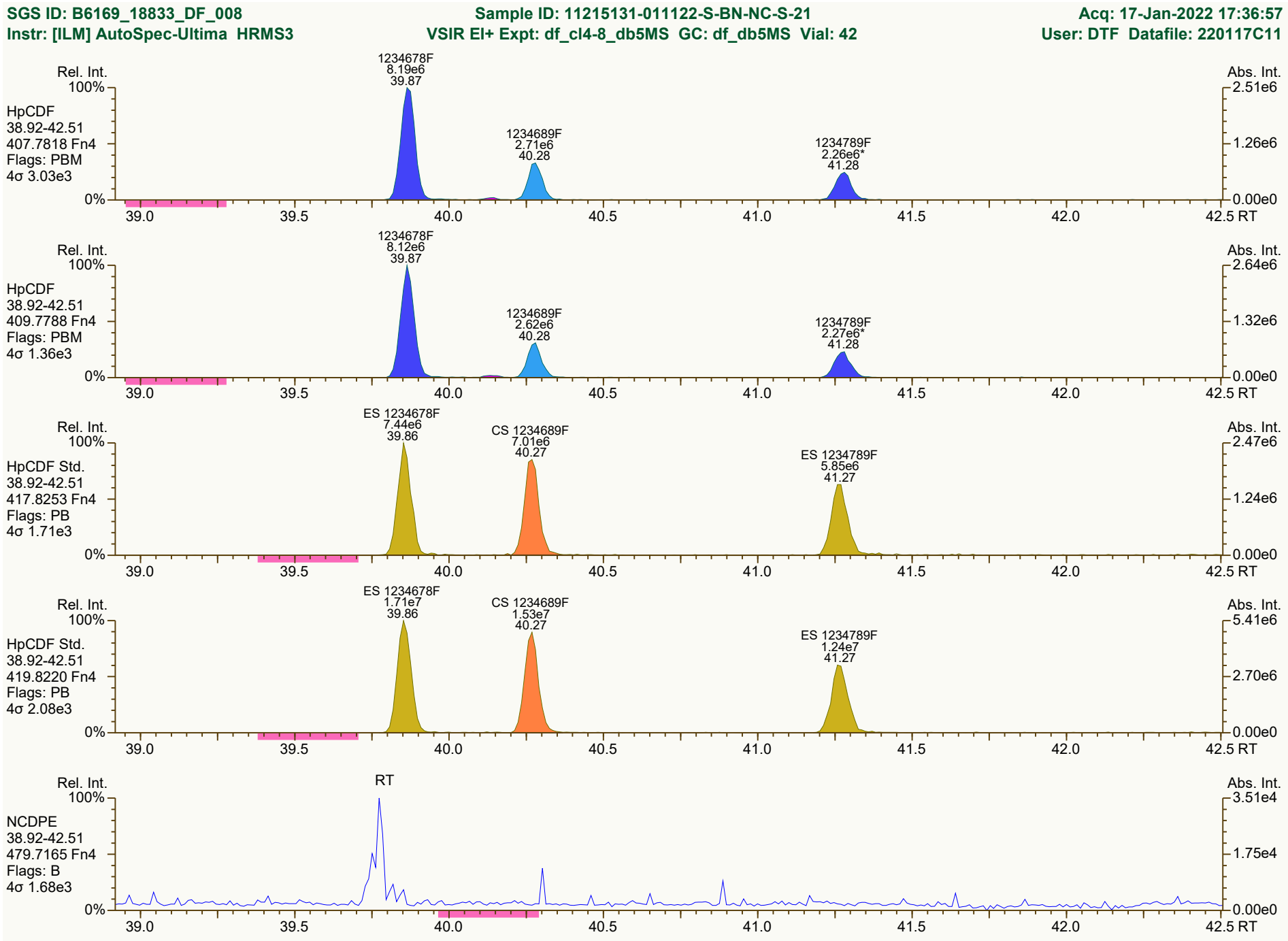

OCDD
5.05e7*
43.60
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.07e3
OCDD
5.54e7*
43.60
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 3.03e3
ES OCDD
1.06e7
43.59
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.48e3
ES OCDD
1.17e7
43.59
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.89e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
100%
0%
43.0
43.5
44.0
44.5
45.0 RT
9.27e6
4.63e6
0.00e0
1.03e7
5.15e6
2.01e6
1.00e6
2.14e6
1.07e6
6.75e6
3.38e6

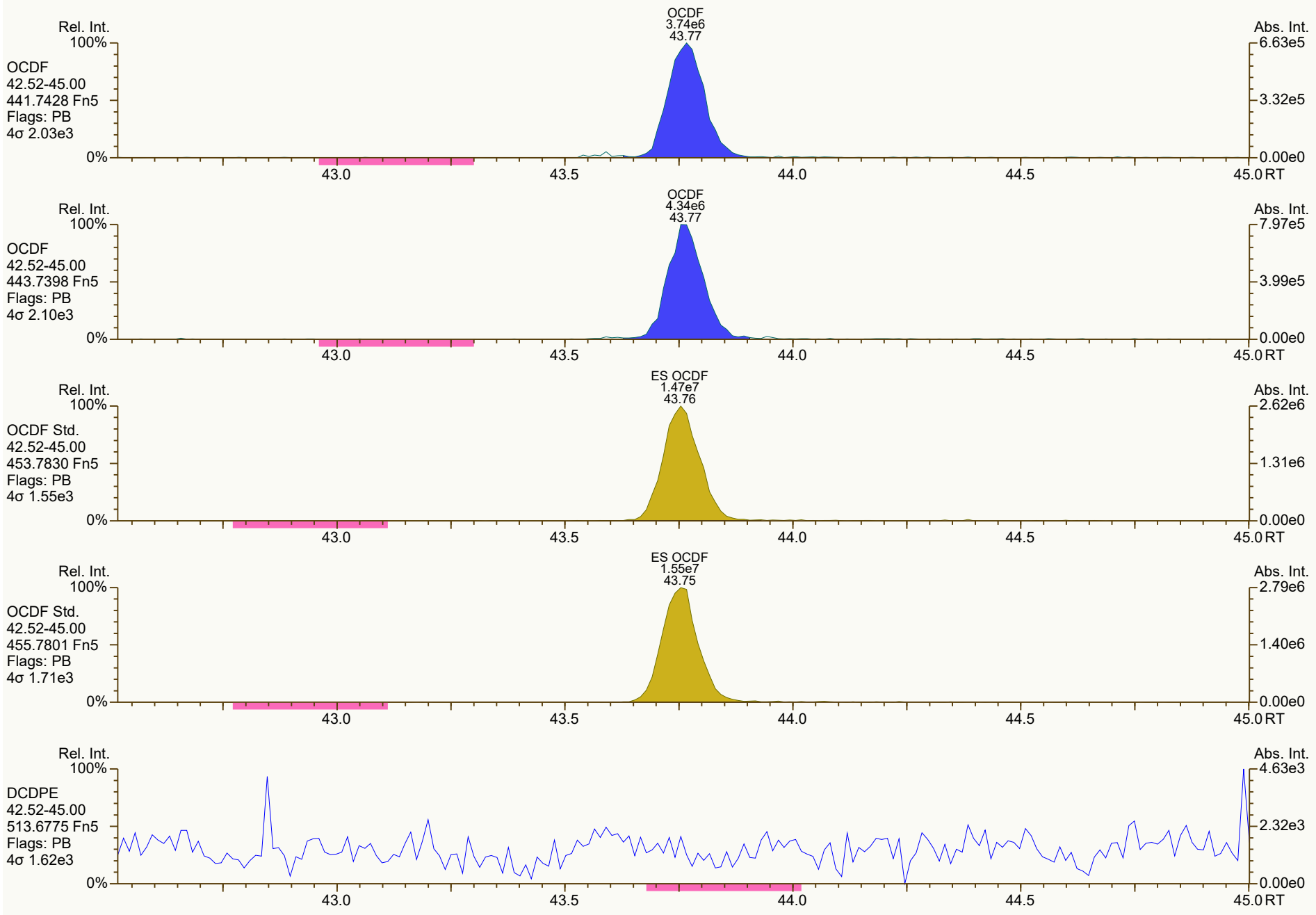

SGS ID: B6169_18833_DF_008
Sample ID: 11215131-011122-S-BN-NC-S-21
Acq: 17-Jan-2022 17:36:57
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220117C11
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.64e3
2378F
4.31e8*
27.32
1278F
1.88e8*
26.43
2348F
2.59e7*
27.20
2367/3467F
3.37e7*
27.68
1289F
3.27e7*
29.36
1.03e8
5.14e7
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.72e3
2378F
5.33e8*
27.32
1278F
2.34e8*
26.42
2348F
3.18e7*
27.20
2367/3467F
4.17e7*
27.68
1289F
4.01e7*
29.36
1.24e8
6.20e7
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.54e3
JS 1234F
1.72e7
25.96
ES 2378F
1.62e7
27.30
3.79e6
1.90e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.48e3
JS 1234F
2.23e7
25.95
ES 2378F
2.06e7
27.30
4.99e6
2.50e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.06e3
1.38e4
6.91e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_008.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9200, 7602, 4529 scc: 865-092
Revised: 18-Jan-2022 08:22 (DTF) Printed: 18-Jan-2022 09:29 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.61e3
13468/12468F
6.30e5*
29.36
Abs. Int.
1.69e5
8.43e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.37e3
13468/12468F
4.03e5*
29.36
Abs. Int.
9.82e4
4.91e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.36e6
2.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.93e3
12368F...[3]
1.04e7*
31.08
12348F
1.98e6*
31.97
12378F
2.24e7*
32.17
12678/12367F
7.00e6*
32.47
23478F
1.56e7*
33.29
PR
Abs. Int.
6.30e6
3.15e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 4.41e3
12368F...[3]
6.38e6*
31.08
12348F
1.32e6*
31.97
12378F
1.41e7*
32.17
12678/12367F
4.33e6*
32.47
23478F
9.91e6*
33.29
Abs. Int.
3.88e6
1.94e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 3.05e3
CS 12346F
1.99e7
31.63
ES 12378F
2.07e7
32.15
ES 23478F
2.08e7
33.27
Abs. Int.
6.03e6
3.02e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 5.22e3
CS 12346F
1.30e7
31.63
ES 12378F
1.32e7
32.15
ES 23478F
1.33e7
33.27
Abs. Int.
3.93e6
1.97e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.44e3
Abs. Int.
1.13e4
5.67e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 5.22e3
0%
123478F
3.34e7
36.60
123678F
9.38e6*
36.74
124678/134678F
3.27e6*
35.41
234678F
2.15e6
37.41
123489F
2.56e6*
38.43
Abs. Int.
1.04e7
5.19e6
0.00e0
RT
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 5.87e3
123478F
2.53e7*
36.60
123678F
7.20e6
36.74
124678/134678F
2.60e6*
35.41
234678F
1.69e6
37.41
123489F
2.06e6*
38.43
7.89e6
3.95e6
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.46e3
ES 123478F
9.06e6
36.58
ES 123678F
1.13e7
36.72
CS 123469F
1.01e7
37.04
ES 234678F
1.13e7
37.40
ES 123789F
8.99e6
38.38
3.37e6
1.68e6
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 2.85e3
ES 123478F
1.73e7
36.58
ES 123678F
2.10e7
36.72
CS 123469F
1.87e7
37.04
ES 234678F
2.13e7
37.40
ES 123789F
1.59e7
38.38
6.39e6
3.20e6
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.39e3
6.49e3
3.24e3


SGS ID: B6169_18833_DF_008
Sample ID: 11215131-011122-S-BN-NC-S-21
Acq: 17-Jan-2022 17:36:57
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220117C11
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 3.03e3
1234678F
8.19e6
39.87
1234689F
2.71e6
40.28
1234789F
2.26e6*
41.28
2.51e6
1.26e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.36e3
1234678F
8.12e6
39.87
1234689F
2.62e6
40.28
1234789F
2.27e6*
41.28
2.64e6
1.32e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.71e3
ES 1234678F
7.44e6
39.86
CS 1234689F
7.01e6
40.27
ES 1234789F
5.85e6
41.27
2.47e6
1.24e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.08e3
ES 1234678F
1.71e7
39.86
CS 1234689F
1.53e7
40.27
ES 1234789F
1.24e7
41.27
5.41e6
2.70e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.68e3
RT
3.51e4
1.75e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_008.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6393, 5078, 4528 scc: 865-092
Revised: 18-Jan-2022 08:23 (DTF) Printed: 18-Jan-2022 09:29 Page 11 of 12


OCDF
3.74e6
43.77
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 2.03e3
0%
Abs. Int.
6.63e5
3.32e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.34e6
43.77
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 2.10e3
0%
Abs. Int.
7.97e5
3.99e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.47e7
43.76
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.55e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.55e7
43.75
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.71e3
0%
Abs. Int.
2.79e6
1.40e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.62e3
0%
Abs. Int.
4.63e3
2.32e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6169_18833_DF_009 **Acq'd:** 17 Jan 2022 18:23 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-22 **UTP:** 18-Jan-2022 09:06:14 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 356-271-VFM

Datafile: 220117C12 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23	E	1.0008	1.0008	0	1.05E+09	0.81	Y	1.18	6,700	4185.077	0.263
12378-PeCDD	33.66		1.0006	1.0006	0	6.66E+06	1.54	Y	1.04	60.6	6113.451	0.459
123478-HxCDD	37.62	EMPC	1.0004	1.0004	0	4.09E+05	1.44	N	1.09	3.91	12304.381	1.05
123678-HxCDD	37.74		1.0036	1.0035	-0.2	2.21E+06	1.18	Y	1.15	20.6	12304.381	1.02
123789-HxCDD	38.05		1.0118	1.0118	0	9.75E+05	1.40	Y	1.05	8.47	12304.381	0.96
1234678-HpCDD	40.85		1.0003	1.0003	0	6.46E+07	1.04	Y	1.06	666	7637.704	0.721
OCDD	43.66	E	1.0003	1.0003	0	2.25E+09	0.90	Y	1.13	31,900	4719.81	1.04
2378-TCDF	27.35	E	1.0008	1.0008	0	4.34E+09	0.81	Y	1.08	18,700	5094.267	0.234
12378-PeCDF	32.20		1.0006	1.0006	0	1.33E+08	1.56	Y	1.02	791	11668.838	0.585
23478-PeCDF	33.32		1.0006	1.0008	+0.4	9.06E+07	1.56	Y	1.02	577	11668.838	0.671
123478-HxCDF	36.62		1.0005	1.0005	0	2.36E+08	1.27	Y	1.27	1,470	22239.05	1.09
123678-HxCDF	36.75		1.0004	1.0005	+0.2	5.79E+07	1.26	Y	1.15	352	22239.05	1.05
234678-HxCDF	37.43		1.0005	1.0005	0	1.04E+07	1.23	Y	1.19	72.5	22239.05	1.3
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	22239.05	1.22
1234678-HpCDF	39.88		1.0003	1.0003	0	6.89E+07	1.02	Y	1.37	499	6260.277	0.347
1234789-HpCDF	41.30		1.0003	1.0002	-0.2	1.96E+07	1.05	Y	1.31	174	6260.277	0.543
OCDF	43.81		1.0003	1.0003	0	2.14E+08	0.90	Y	1.07	2,550	6342.401	1.12

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0231	1.0226	-0.8	2.61E+07	0.79	Y	1.05	83.8
ES 12378-PeCDD	33.64	1.2198	1.2194	-0.8	2.09E+07	1.60	Y	0.88	79.9
ES 123478-HxCDD	37.61	0.9913	0.9913	0	1.90E+07	1.25	Y	0.97	82.2
ES 123678-HxCDD	37.73	0.9944	0.9944	0	1.84E+07	1.31	Y	0.94	82.3
ES 123789-HxCDD	38.04	1.0026	1.0027	+0.2	2.17E+07	1.23	Y	1.09	83.6
ES 1234678-HpCDD	40.83	1.0760	1.0763	+0.7	1.80E+07	1.06	Y	0.91	83.3
ES OCDD	43.65	1.1489	1.1505	+4.2	2.47E+07	0.91	Y	0.62	83.3
ES 2378-TCDF	27.33	1.0515	1.0514	-0.2	4.24E+07	0.82	Y	1.06	84.1
ES 12378-PeCDF	32.18	1.2378	1.2382	+0.8	3.23E+07	1.61	Y	0.91	74.5
ES 23478-PeCDF	33.29	1.2804	1.2808	+0.8	3.04E+07	1.51	Y	0.88	72.2
ES 123478-HxCDF	36.60	0.9647	0.9647	0	2.49E+07	0.55	Y	1.20	87.5
ES 123678-HxCDF	36.74	0.9684	0.9683	-0.2	2.82E+07	0.55	Y	1.35	87.8
ES 234678-HxCDF	37.41	0.9861	0.9861	0	2.38E+07	0.54	Y	1.24	80.8
ES 123789-HxCDF	38.39	1.0120	1.0119	-0.2	2.46E+07	0.52	Y	1.16	89.8
ES 1234678-HpCDF	39.87	1.0506	1.0509	+0.7	1.99E+07	0.45	Y	0.97	86.5
ES 1234789-HpCDF	41.29	1.0879	1.0883	+1.0	1.70E+07	0.47	Y	0.85	84.1
ES OCDF	43.79	1.1534	1.1544	+2.6	3.09E+07	0.88	Y	0.81	80.5

Lab ID: B6169_18833_DF_009 **Acq'd:** 17 Jan 2022 18:23 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-22 **UTP:** 18-Jan-2022 09:06:14 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 356-271-VFM

Datafile: 220117C12 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.59		-	-	-	2.98E+07	0.82	Y	-	-
JS 1234-TCDF	25.99		-	-	-	4.77E+07	0.79	Y	-	-
JS 123467-HxCDD	37.94		-	-	-	1.19E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0238	1.0234	-0.7	1.10E+07	n/a	-	1.20	76.9
CS 12347-PeCDD	33.15		1.2018	1.2017	-0.2	1.89E+07	1.58	Y	0.75	84.1
CS 12346-PeCDF	31.67		1.2178	1.2184	+1.1	2.93E+07	1.60	Y	0.85	72.3
CS 123469-HxCDF	37.06		0.9768	0.9768	0	2.44E+07	0.54	Y	1.12	92.1
CS 1234689-HpCDF	40.29		1.0615	1.0618	+0.7	1.97E+07	0.47	Y	0.89	93.6
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0238~~	~~1.0234~~	~~-0.7~~	~~1.10E+07~~	~~n/a~~		~~1.15~~	~~92~~
~~SS 12347-PeCDD~~	~~33.15~~		~~1.2018~~	~~1.2017~~	~~-0.2~~	~~1.89E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~31.67~~		~~1.2178~~	~~1.2184~~	~~+1.1~~	~~2.93E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~96.0~~
~~SS 123469-HxCDF~~	~~37.06~~		~~0.9768~~	~~0.9768~~	~~0~~	~~2.44E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0615~~	~~1.0618~~	~~+0.7~~	~~1.97E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	7380	7410
Total PeCDD	95.5	100
Total HxCDD	171	177
Total HpCDD	1580	1580
Total Tetra-Octa Dioxins	41200	41200
Total TCDF	35,700	35700
Total PeCDF	2,160	2160
Total HxCDF	2,270	2280
Total HpCDF	1,000	1000
Total Tetra-Octa Furans	43,700	43700
Total Tetra-Octa Dioxins & Furans	84900	84900

Lab ID: B6169_18833_DF_009 **Acq'd: 17 Jan 2022 18:23 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011122-S-BN-NC-S-22 **UTP: 18-Jan-2022 09:06:14 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 356-271-VFM**

Datafile: 220117C12 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.58		0.8733	0.8714	-2.8	1.51E+06	0.83	Y	1.18	9.66	4185.077	0.263
1379-TCDD	24.94		0.8860	0.8842	-2.7	6.16E+05	0.83	Y	1.18	3.93	4185.077	0.263
1369-TCDD	25.38	J EMPC	0.9009	0.8998	-1.7	7.01E+04	0.92	N	1.18	0.447	4185.077	0.263
1469-TCDD	26.15		0.9282	0.9271	-1.7	2.35E+05	0.85	Y	1.18	1.5	4185.077	0.263
1247/1246/1248/1249-TCDD	26.38		0.9365	0.9351	-2.2	1.71E+06	0.85	Y	1.18	10.9	4185.077	0.263
1378-TCDD	26.57		0.9429	0.9418	-1.8	3.15E+06	0.79	Y	1.18	20.1	4185.077	0.263
1268-TCDD	26.77		0.9500	0.9491	-1.4	2.51E+05	0.77	Y	1.18	1.6	4185.077	0.263
1478-TCDD	27.03	EMPC	0.9584	0.9581	-0.5	2.45E+06	0.89	N	1.18	15.6	4185.077	0.263
1279-TCDD	27.20		0.9648	0.9644	-0.7	1.28E+05	0.86	Y	1.18	0.815	4185.077	0.263
1234/1269-TCDD	27.57	EMPC	0.9770	0.9773	+0.5	3.59E+05	1.02	N	1.18	2.29	4185.077	0.263
1236-TCDD	27.71		0.9821	0.9824	+0.5	1.86E+05	0.81	Y	1.18	1.18	4185.077	0.263
1237/1238-TCDD	27.95		0.9909	0.9909	0	1.64E+07	0.82	Y	1.18	105	4185.077	0.263
1239-TCDD	NotFnd		0.9959						1.18		4185.077	0.263
2378-TCDD	**28.23**	E	**1.0008**	1.0008	**0**	1.05E+09	0.81	Y	**1.18**	**6,700**	**4185.077**	**0.263**
1278-TCDD	28.56		1.0123	1.0126	+0.5	8.11E+07	0.80	Y	1.18	518	4185.077	0.263
1267-TCDD	28.71	EMPC	1.0172	1.0177	+0.9	1.76E+06	1.04	N	1.18	11.2	4185.077	0.263
1289-TCDD	29.24		1.0354	1.0365	+1.9	1.45E+06	0.84	Y	1.18	9.27	4185.077	0.263
12479/12468-PeCDD	31.16		0.9267	0.9265	-0.4	9.77E+05	1.53	Y	1.04	8.89	6113.451	0.459
12469-PeCDD	31.71	J EMPC	0.9426	0.9426	0	2.63E+05	1.17	N	1.04	2.39	6113.451	0.459
12368-PeCDD	32.24		0.9587	0.9585	-0.4	1.09E+06	1.36	Y	1.04	9.88	6113.451	0.459
12478-PeCDD	32.43		0.9642	0.9643	+0.2	5.93E+05	1.59	Y	1.04	5.4	6113.451	0.459
12379-PeCDD	32.54		0.9674	0.9675	+0.2	3.75E+05	1.37	Y	1.04	3.41	6113.451	0.459
12369/12467/12489-PeCDD	32.80		0.9752	0.9751	-0.2	3.20E+05	1.57	Y	1.04	2.91	6113.451	0.459
12346/12347-PeCDD	33.17	J EMPC	0.9861	0.9862	+0.2	2.27E+05	1.31	N	1.04	2.07	6113.451	0.459
12378-PeCDD	33.66		**1.0006**	**1.0006**	**0**	**6.66E+06**	**1.54**	**Y**	**1.04**	**60.6**	**6113.451**	**0.459**
12367-PeCDD	33.75		1.0036	1.0033	-0.6	3.26E+05	1.50	Y	1.04	2.97	6113.451	0.459
12389-PeCDD	34.11	J	1.0139	1.0139	0	1.61E+05	1.64	Y	1.04	1.47	6113.451	0.459
124679/124689-HxCDD	35.89		0.9541	0.9543	+0.4	7.41E+06	1.27	Y	1.10	67.8	12304.381	1.01
123468-HxCDD	36.54		0.9715	0.9717	+0.4	1.04E+06	1.32	Y	1.10	9.52	12304.381	1.01
123679/123689-HxCDD	36.83		0.9793	0.9794	+0.2	6.35E+06	1.31	Y	1.10	58	12304.381	1.01
123469-HxCDD	36.97		0.9831	0.9829	-0.4	6.78E+05	1.22	Y	1.10	6.2	12304.381	1.01
123478-HxCDD	37.62	EMPC	**1.0004**	**1.0004**	**0**	**4.09E+05**	**1.44**	**N**	1.09	**3.91**	**12304.381**	**1.05**
123678-HxCDD	37.74		**1.0036**	**1.0035**	**-0.2**	**2.21E+06**	**1.18**	**Y**	1.15	**20.6**	**12304.381**	**1.02**
123467-HxCDD	37.95	EMPC	1.0089	1.0091	+0.5	2.78E+05	1.43	N	1.10	2.54	12304.381	1.01
123789-HxCDD	38.05		**1.0118**	**1.0118**	**0**	**9.75E+05**	**1.40**	**Y**	1.05	**8.47**	**12304.381**	**0.96**

Lab ID: B6169_18833_DF_009 **Acq'd:** 17 Jan 2022 18:23 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011122-S-BN-NC-S-22 **UTP:** 18-Jan-2022 09:06:14 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 356-271-VFM

Datafile: 220117C12 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

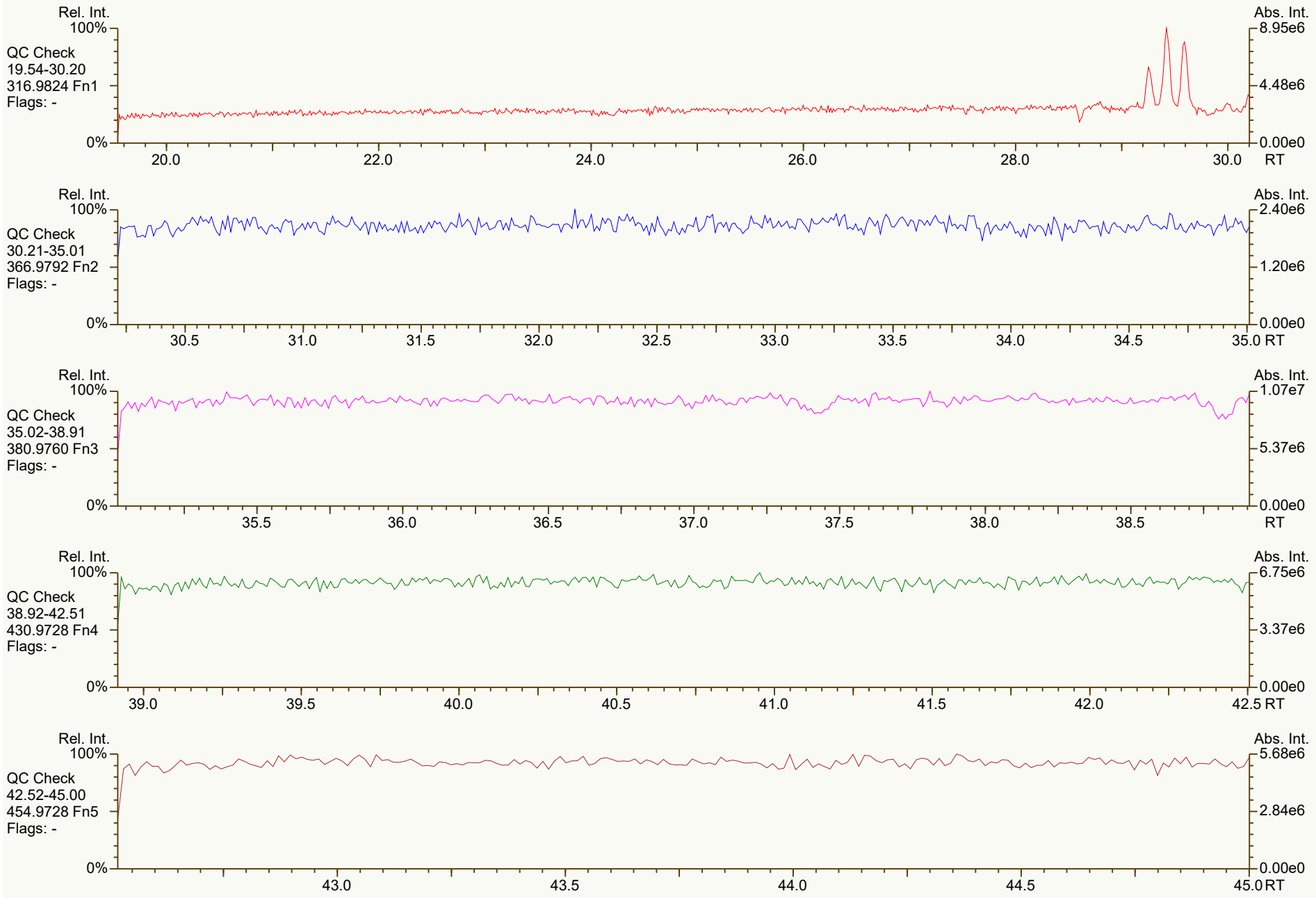
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9835	0	8.83E+07	1.02	Y	1.06	911	7637.704	0.721
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**6.46E+07**	**1.04**	**Y**	**1.06**	**666**	**7637.704**	**0.721**
OCDD	**43.66**	**E**	**1.0003**	**1.0003**	**0**	**2.25E+09**	**0.90**	**Y**	**1.13**	**31,900**	**4719.81**	**1.04**
OCDD-a	43.66	E	1.0002	1.0003	+0.3	1.34E+08	2.53	Y	0.07	29,800	6083.101	21
1368-TCDF	22.44		0.8250	0.8211	-5.3	9.06E+05	0.87	Y	1.08	3.9	5094.267	0.234
1468-TCDF	23.04		0.8494	0.8432	-8.6	5.86E+06	0.81	Y	1.08	25.3	5094.267	0.234
2468-TCDF	23.67		0.8684	0.8662	-3.1	5.16E+06	0.83	Y	1.08	22.2	5094.267	0.234
1346/1246-TCDF	NotFnd		0.8815						1.08		5094.267	0.234
1347/1378/1247-TCDF	24.22		0.8867	0.8863	-0.6	3.49E+07	0.82	Y	1.08	150	5094.267	0.234
1348-TCDF	NotFnd		0.8966						1.08		5094.267	0.234
1248/1367/1379-TCDF	24.56		0.9012	0.8986	-3.8	1.39E+08	0.81	Y	1.08	600	5094.267	0.234
1268-TCDF	24.96		0.9148	0.9134	-2.1	5.59E+07	0.82	Y	1.08	241	5094.267	0.234
1467-TCDF	25.10		0.9197	0.9183	-2.1	9.31E+06	0.78	Y	1.08	40.1	5094.267	0.234
1478-TCDF	25.27		0.9258	0.9244	-2.1	1.43E+08	0.81	Y	1.08	615	5094.267	0.234
1369/1237-TCDF	25.65		0.9390	0.9385	-0.8	4.21E+07	0.83	Y	1.08	181	5094.267	0.234
2467-TCDF	25.76		0.9435	0.9424	-1.7	4.06E+06	0.85	Y	1.08	17.5	5094.267	0.234
2368-TCDF	25.90		0.9488	0.9476	-1.9	1.11E+08	0.80	Y	1.08	479	5094.267	0.234
1238/1234/1678/1469/1236-TCDF	25.99		0.9527	0.9510	-2.7	2.10E+08	0.81	Y	1.08	906	5094.267	0.234
1278-TCDF	26.46	E	0.9689	0.9681	-1.3	2.03E+09	0.80	Y	1.08	8,740	5094.267	0.234
1349-TCDF	NotFnd		0.9730						1.08		5094.267	0.234
1267-TCDF	26.73		0.9787	0.9781	-1.0	9.45E+07	0.81	Y	1.08	407	5094.267	0.234
2346/1249-TCDF	26.94		0.9856	0.9857	+0.2	9.72E+06	0.81	Y	1.08	41.9	5094.267	0.234
2347/1279-TCDF	27.14		0.9934	0.9929	-0.8	4.89E+07	0.78	Y	1.08	211	5094.267	0.234
2348-TCDF	27.24	E	0.9972	0.9967	-0.8	3.11E+08	0.80	Y	1.08	1,340	5094.267	0.234
2378-TCDF	**27.35**	E	**1.0008**	**1.0008**	**0**	**4.34E+09**	**0.81**	**Y**	**1.08**	**18,700**	**5094.267**	**0.234**
2367/3467-TCDF	27.72	E	1.0145	1.0143	-0.3	3.24E+08	0.81	Y	1.08	1,400	5094.267	0.234
1269-TCDF	27.98		1.0236	1.0237	+0.2	5.68E+07	0.80	Y	1.08	245	5094.267	0.234
1239-TCDF	28.24		1.0333	1.0334	+0.2	4.28E+06	0.79	Y	1.08	18.4	5094.267	0.234
1289-TCDF	29.41	E	1.0740	1.0760	+3.5	3.11E+08	0.81	Y	1.08	1,340	5094.267	0.234
13468/12468-PeCDF	29.41		0.9138	0.9139	+0.2	5.61E+06	1.75	Y	1.02	34.5	2953.047	0.159
13678/13467/12467-PeCDF	30.96		0.9614	0.9619	+0.9	1.71E+06	1.76	Y	1.02	10.5	11668.838	0.627
12368/13478/12478-PeCDF	31.12		0.9661	0.9668	+1.3	5.80E+07	1.55	Y	1.02	357	11668.838	0.627
14678-PeCDF	NotFnd		0.9693						1.02		11668.838	0.627
13479-PeCDF	NotFnd		0.9722						1.02		11668.838	0.627
13469/12479-PeCDF	31.48		0.9800	0.9782	-3.4	6.20E+05	1.62	Y	1.02	3.81	11668.838	0.627
12346-PeCDF	NotFnd		0.9844						1.02		11668.838	0.627

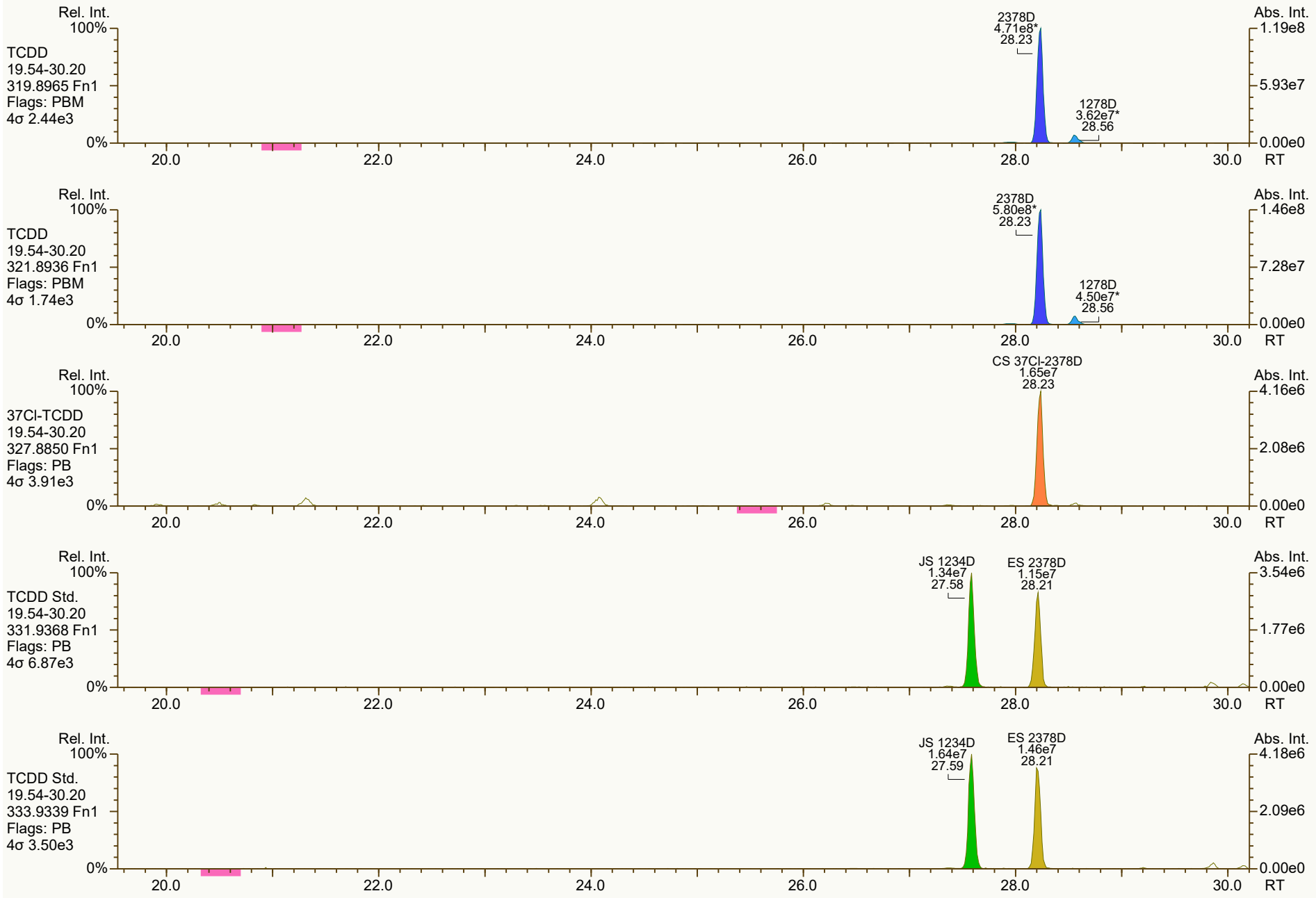
Lab ID: B6169_18833_DF_009 **Acq'd: 17 Jan 2022 18:23 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

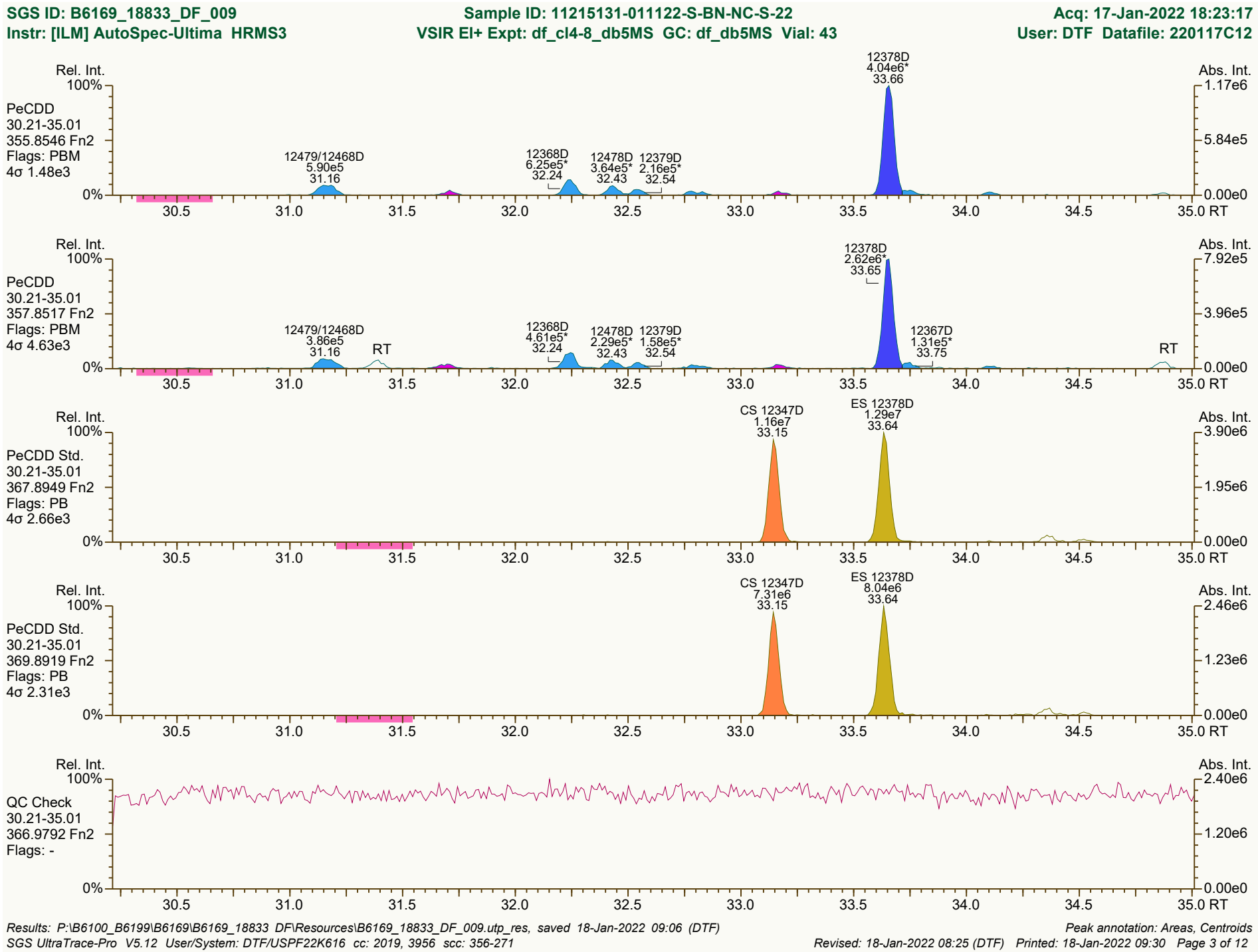
Client ID: 11215131-011122-S-BN-NC-S-22 **UTP: 18-Jan-2022 09:06:14 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 356-271-VFM**

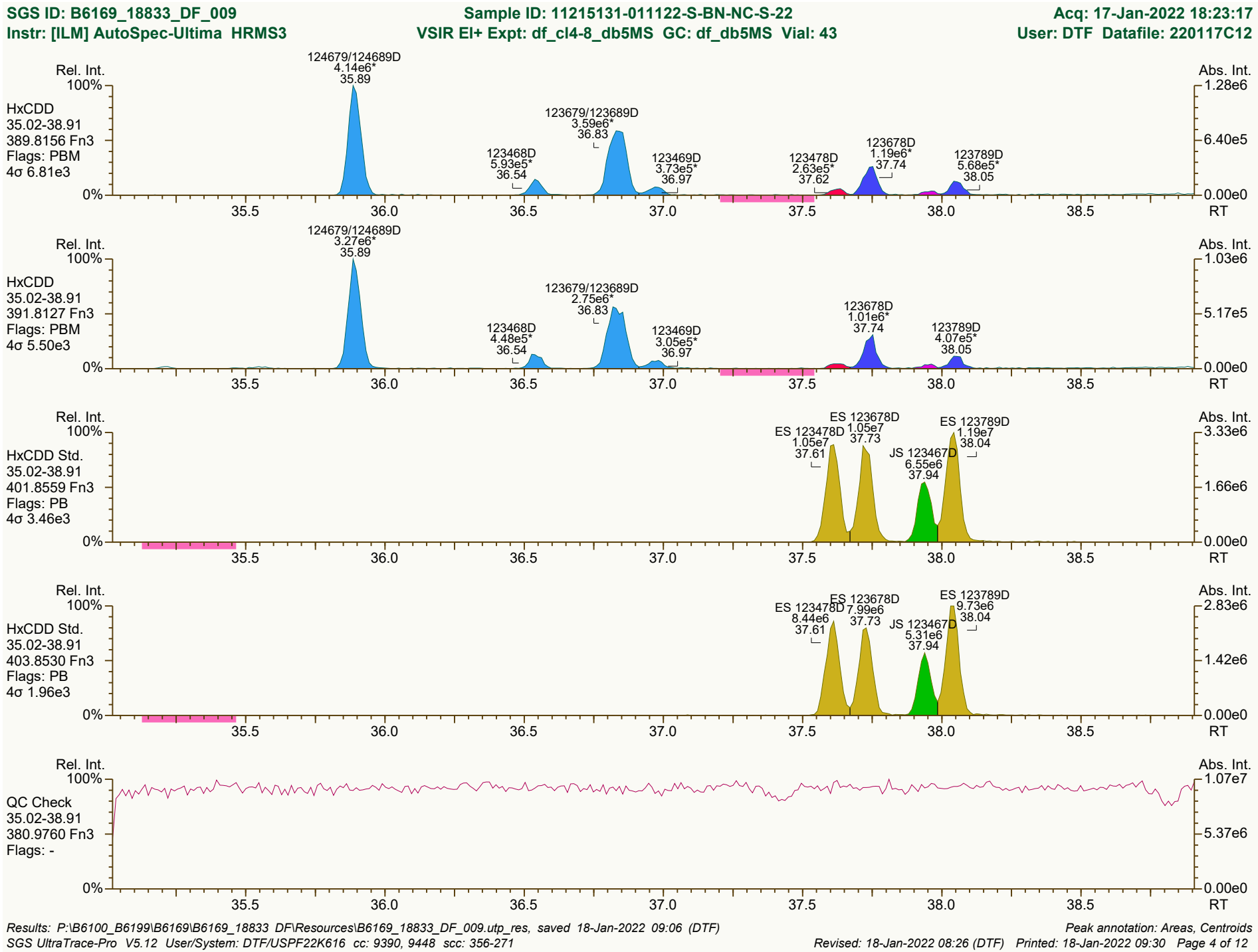
Datafile: 220117C12 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

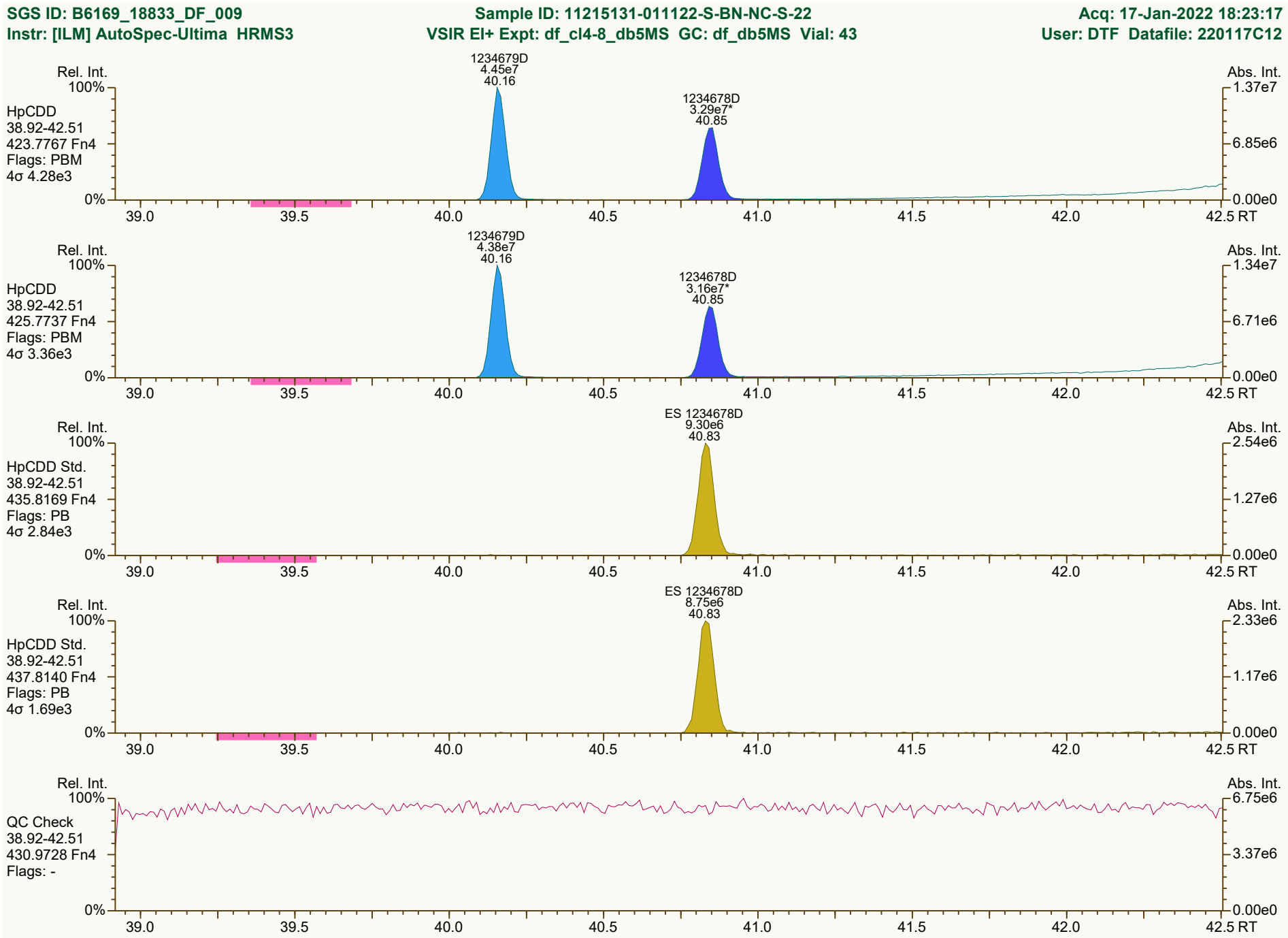
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9865	0.9865	0	3.00E+06	1.68	Y	1.02	18.5	11668.838	0.627
12347-PeCDF	31.84		0.9890	0.9893	+0.6	2.38E+06	1.57	Y	1.02	14.6	11668.838	0.627
12348-PeCDF	32.00		0.9942	0.9944	+0.4	1.20E+07	1.58	Y	1.02	73.9	11668.838	0.627
12378-PeCDF	**32.20**		**1.0006**	**1.0006**	**0**	**1.33E+08**	**1.56**	**Y**	**1.02**	**791**	**11668.838**	**0.585**
12678/12367-PeCDF	32.50		1.0090	1.0099	+1.8	3.77E+07	1.57	Y	1.02	232	11668.838	0.627
12379-PeCDF	NotFnd		1.0142						1.02		11668.838	0.627
12679-PeCDF	33.06	J	0.9933	0.9931	-0.4	3.28E+05	1.59	Y	1.02	2.02	11668.838	0.627
23467/12369-PeCDF	33.19		0.9969	0.9969	0	1.61E+06	1.78	Y	1.02	9.91	11668.838	0.627
23478-PeCDF	**33.32**		**1.0006**	**1.0008**	**+0.4**	**9.06E+07**	**1.56**	**Y**	**1.02**	**577**	**11668.838**	**0.671**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		11668.838	0.627
12349-PeCDF	NotFnd		1.0107						1.02		11668.838	0.627
12389-PeCDF	34.39		1.0330	1.0329	-0.2	5.30E+06	1.51	Y	1.02	32.6	11668.838	0.627
123468-HxCDF	35.24		0.9627	0.9628	+0.2	2.89E+06	1.19	Y	1.19	18.8	22239.05	1.16
124678/134678-HxCDF	35.43		0.9682	0.9681	-0.2	2.13E+07	1.27	Y	1.19	139	22239.05	1.16
134679-HxCDF	NotFnd		0.9744						1.19		22239.05	1.16
124679-HxCDF	35.86	J	0.9798	0.9797	-0.2	3.55E+05	1.21	Y	1.19	2.31	22239.05	1.16
124689-HxCDF	36.08		0.9858	0.9859	+0.2	1.50E+07	1.28	Y	1.19	97.6	22239.05	1.16
123467-HxCDF	36.50	EMPC	0.9973	0.9972	-0.2	1.16E+06	1.43	N	1.19	7.58	22239.05	1.16
123478-HxCDF	**36.62**		**1.0005**	**1.0005**	**0**	**2.36E+08**	**1.27**	**Y**	**1.27**	**1,470**	**22239.05**	**1.09**
123678-HxCDF	**36.75**		**1.0004**	**1.0005**	**+0.2**	**5.79E+07**	**1.26**	**Y**	**1.15**	**352**	**22239.05**	**1.05**
123479-HxCDF	NotFnd		1.0051						1.19		22239.05	1.16
123469-HxCDF	37.07		1.0093	1.0090	-0.7	5.91E+05	1.34	Y	1.19	3.85	22239.05	1.16
123679-HxCDF	NotFnd		0.9944						1.19		22239.05	1.16
234678-HxCDF	**37.43**		**1.0005**	**1.0005**	**0**	**1.04E+07**	**1.23**	**Y**	**1.19**	**72.5**	**22239.05**	**1.3**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		22239.05	1.16
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**22239.05**	**1.22**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.44		1.0008	1.0012	+0.9	1.77E+07	1.24	Y	1.19	115	22239.05	1.16
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**6.89E+07**	**1.02**	**Y**	**1.37**	**499**	**6260.277**	**0.347**
1234679-HpCDF	40.15		1.0069	1.0070	+0.2	1.19E+06	1.04	Y	1.34	9.53	6260.277	0.436
1234689-HpCDF	40.30		1.0103	1.0107	+1.0	4.02E+07	1.03	Y	1.34	321	6260.277	0.436
1234789-HpCDF	**41.30**		**1.0003**	**1.0002**	**-0.2**	**1.96E+07**	**1.05**	**Y**	**1.31**	**174**	**6260.277**	**0.543**
OCDF	**43.81**		**1.0003**	**1.0003**	**0**	**2.14E+08**	**0.90**	**Y**	**1.07**	**2,550**	**6342.401**	**1.12**
OCDF-a	43.80		1.0002	1.0002	0	1.44E+07	2.44	Y	0.07	2,760	5614.791	16

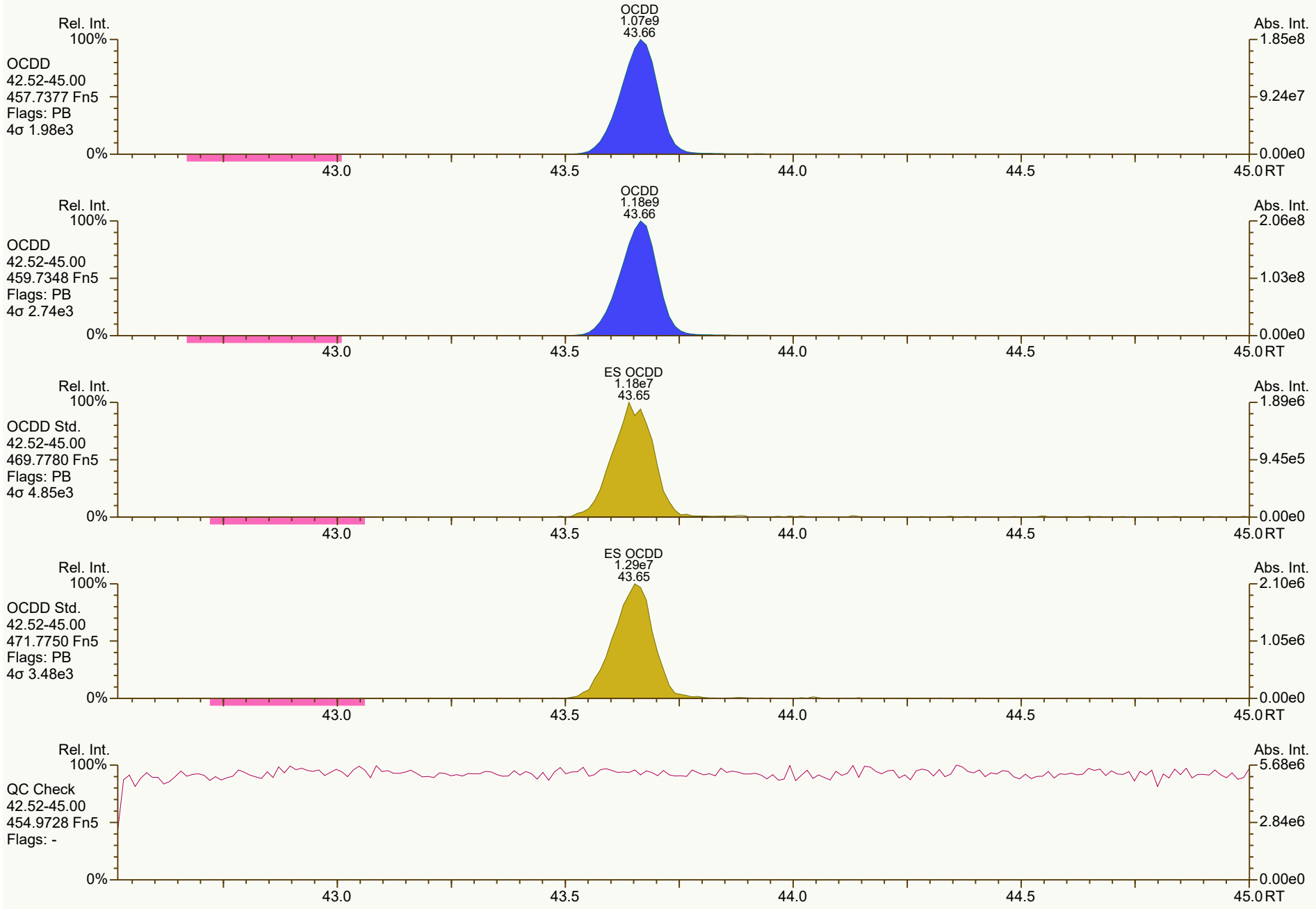

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QC Check
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316.9824 Fn1
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Abs. Int.
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4.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.07e7
5.37e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.75e6
3.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.68e6
2.84e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

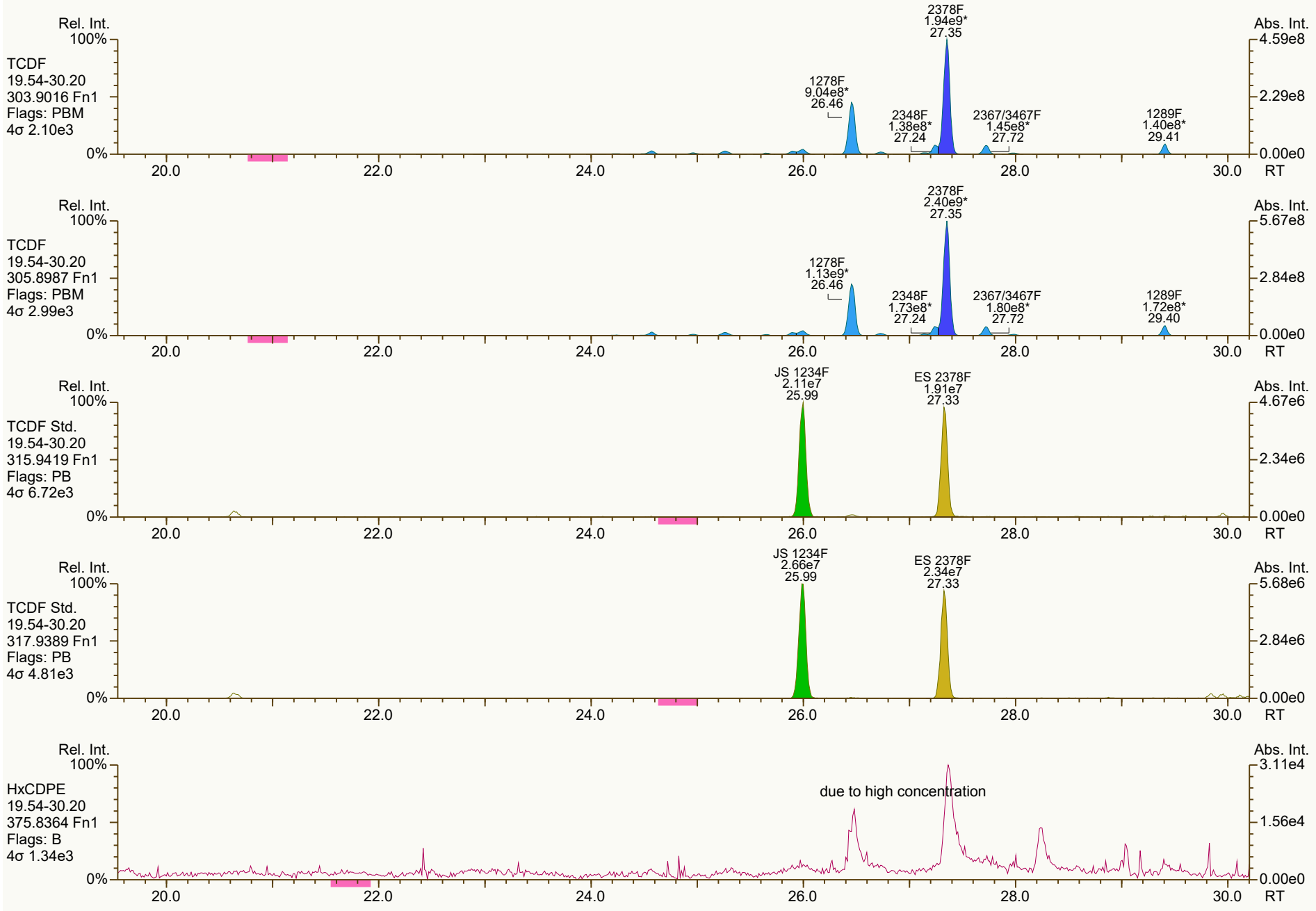

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.44e3
0%
2378D
4.71e8*
28.23
1278D
3.62e7*
28.56
Abs. Int.
1.19e8
5.93e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.74e3
0%
2378D
5.80e8*
28.23
1278D
4.50e7*
28.56
Abs. Int.
1.46e8
7.28e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 3.91e3
0%
CS 37Cl-2378D
1.65e7
28.23
Abs. Int.
4.16e6
2.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.87e3
0%
JS 1234D
1.34e7
27.58
ES 2378D
1.15e7
28.21
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.50e3
0%
JS 1234D
1.64e7
27.59
ES 2378D
1.46e7
28.21
Abs. Int.
4.18e6
2.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_009
Sample ID: 11215131-011122-S-BN-NC-S-22
Acq: 17-Jan-2022 18:23:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220117C12
Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.48e3
12479/12468D
5.90e5
31.16
12368D
6.25e5*
32.24
12478D
3.64e5*
32.43
12379D
2.16e5*
32.54
12378D
4.04e6*
33.66
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 4.63e3
12479/12468D
3.86e5
31.16
RT
12368D
4.61e5*
32.24
12478D
2.29e5*
32.43
12379D
1.58e5*
32.54
12378D
2.62e6*
33.65
12367D
1.31e5*
33.75
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.66e3
CS 12347D
1.16e7
33.15
ES 12378D
1.29e7
33.64
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.31e3
CS 12347D
7.31e6
33.15
ES 12378D
8.04e6
33.64
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_009.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2019, 3956 scc: 356-271
Revised: 18-Jan-2022 08:25 (DTF) Printed: 18-Jan-2022 09:30 Page 3 of 12

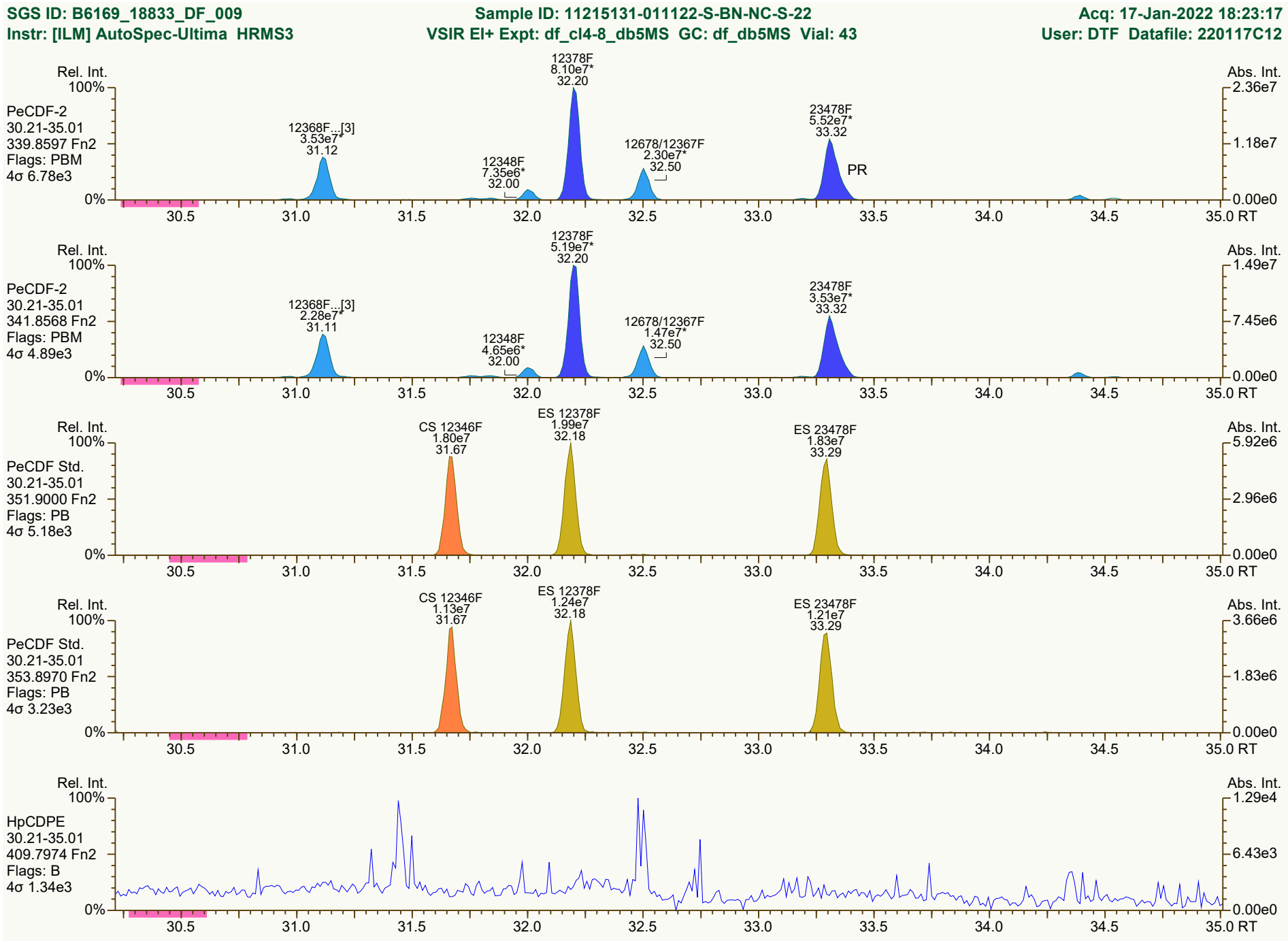

SGS ID: B6169_18833_DF_009
Sample ID: 11215131-011122-S-BN-NC-S-22
Acq: 17-Jan-2022 18:23:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220117C12
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 6.81e3
124679/124689D
4.14e6*
35.89
123468D
5.93e5*
36.54
123679/123689D
3.59e6*
36.83
123469D
3.73e5*
36.97
123478D
2.63e5*
37.62
123678D
1.19e6*
37.74
123789D
5.68e5*
38.05
1.28e6
6.40e5
0.00e0
RT
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 5.50e3
124679/124689D
3.27e6*
35.89
123468D
4.48e5*
36.54
123679/123689D
2.75e6*
36.83
123469D
3.05e5*
36.97
123678D
1.01e6*
37.74
123789D
4.07e5*
38.05
1.03e6
5.17e5
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 3.46e3
ES 123478D
1.05e7
37.61
ES 123678D
1.05e7
37.73
JS 123467D
6.55e6
37.94
ES 123789D
1.19e7
38.04
3.33e6
1.66e6
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.96e3
ES 123478D
8.44e6
37.61
ES 123678D
7.99e6
37.73
JS 123467D
5.31e6
37.94
ES 123789D
9.73e6
38.04
2.83e6
1.42e6
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.07e7
5.37e6
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_009.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9390, 9448 scc: 356-271
Revised: 18-Jan-2022 08:26 (DTF) Printed: 18-Jan-2022 09:30 Page 4 of 12


SGS ID: B6169_18833_DF_009
Sample ID: 11215131-011122-S-BN-NC-S-22
Acq: 17-Jan-2022 18:23:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220117C12
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 4.28e3
1234679D
4.45e7
40.16
1234678D
3.29e7*
40.85
1.37e7
6.85e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 3.36e3
1234679D
4.38e7
40.16
1234678D
3.16e7*
40.85
1.34e7
6.71e6
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.84e3
ES 1234678D
9.30e6
40.83
2.54e6
1.27e6
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.69e3
ES 1234678D
8.75e6
40.83
2.33e6
1.17e6
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
6.75e6
3.37e6
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_009.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1755, 2508 scc: 356-271
Revised: 18-Jan-2022 08:27 (DTF) Printed: 18-Jan-2022 09:30 Page 5 of 12

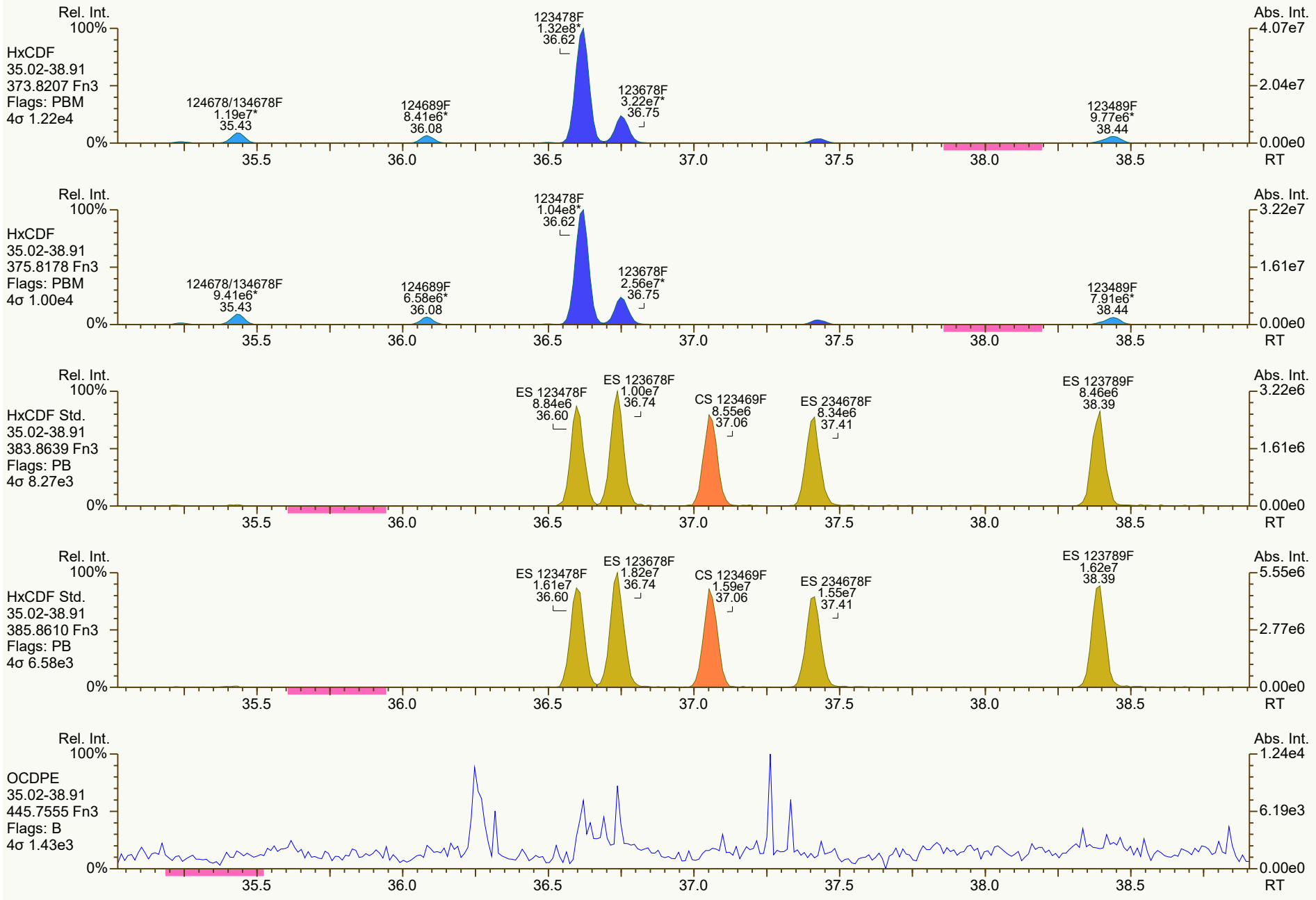

OCDD
1.07e9
43.66
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 1.98e3
0%
Abs. Int.
1.85e8
9.24e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.18e9
43.66
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.74e3
2.06e8
1.03e8
ES OCDD
1.18e7
43.65
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 4.85e3
1.89e6
9.45e5
ES OCDD
1.29e7
43.65
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 3.48e3
2.10e6
1.05e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
5.68e6
2.84e6

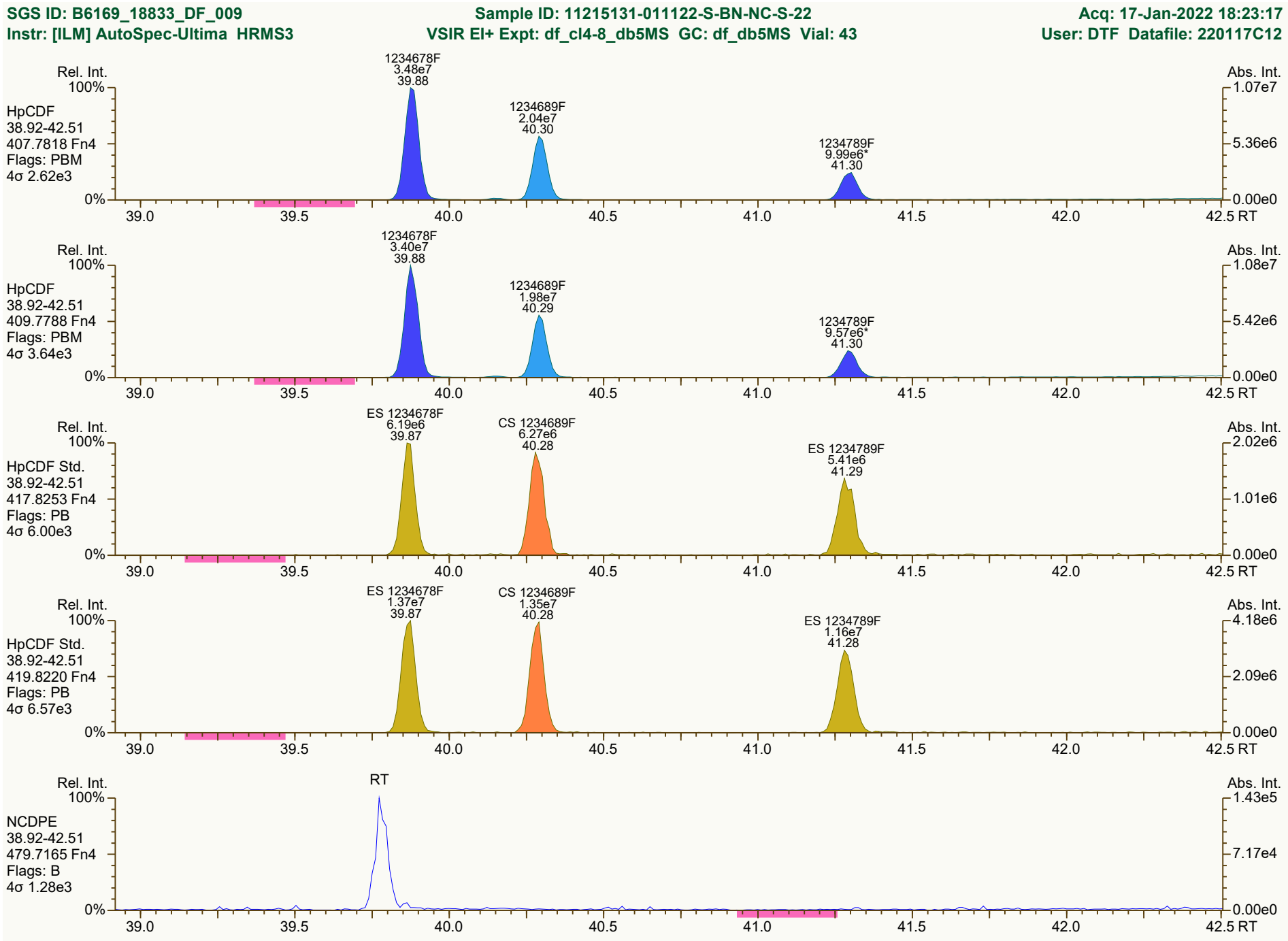

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.10e3
0%
2378F
1.94e9*
27.35
1278F
9.04e8*
26.46
2348F
1.38e8*
27.24
2367/3467F
1.45e8*
27.72
1289F
1.40e8*
29.41
Abs. Int.
4.59e8
2.29e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.99e3
0%
2378F
2.40e9*
27.35
1278F
1.13e9*
26.46
2348F
1.73e8*
27.24
2367/3467F
1.80e8*
27.72
1289F
1.72e8*
29.40
Abs. Int.
5.67e8
2.84e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.72e3
0%
JS 1234F
2.11e7
25.99
ES 2378F
1.91e7
27.33
Abs. Int.
4.67e6
2.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.81e3
0%
JS 1234F
2.66e7
25.99
ES 2378F
2.34e7
27.33
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.34e3
0%
due to high concentration
Abs. Int.
3.11e4
1.56e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

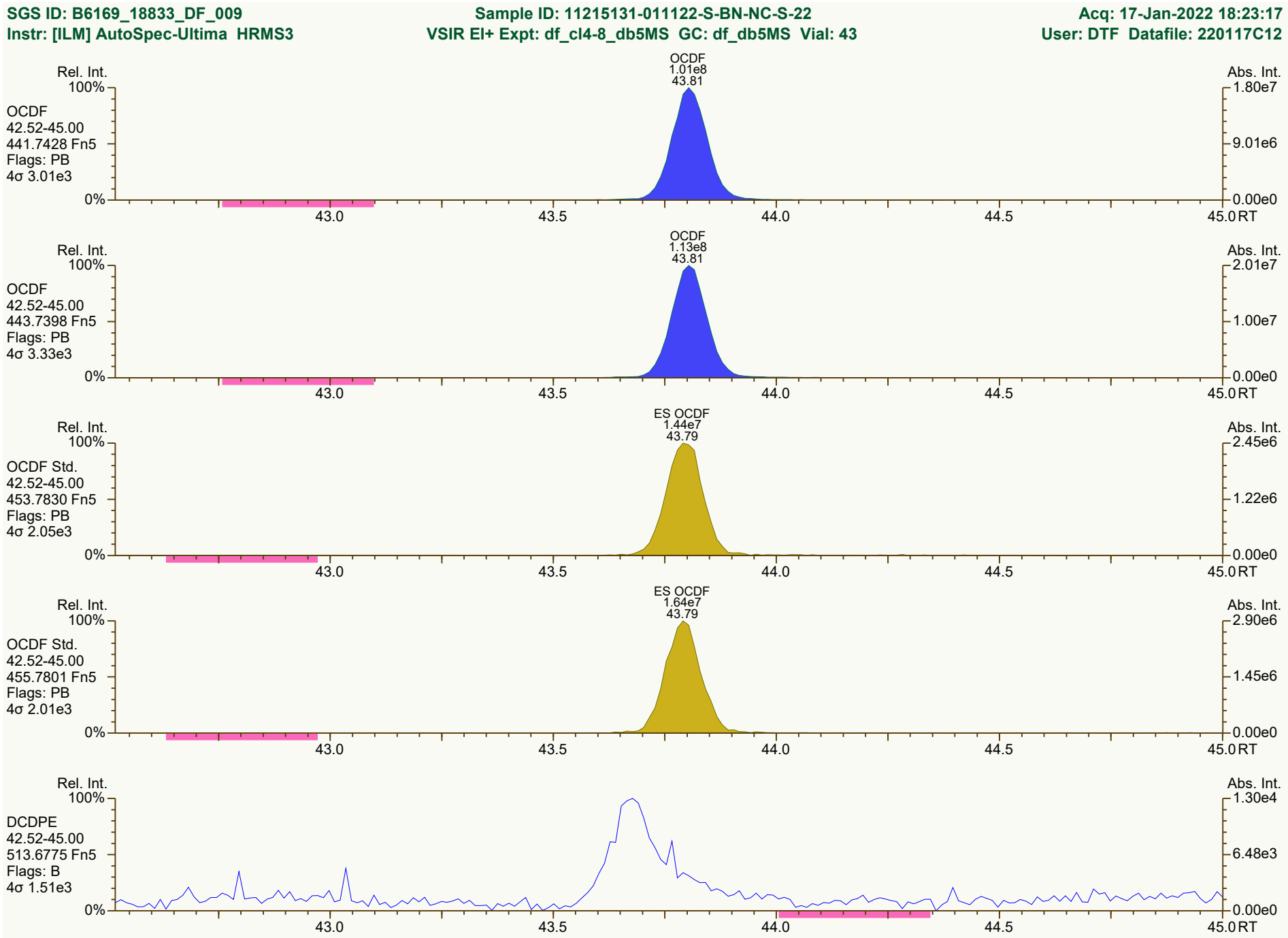

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.60e3
13468/12468F
3.56e6
29.41
Abs. Int.
8.97e5
4.48e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.35e3
13468/12468F
2.04e6
29.41
Abs. Int.
5.06e5
2.53e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
8.95e6
4.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_009.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6357, 8909, 2761 scc: 356-271
Revised: 18-Jan-2022 08:29 (DTF) Printed: 18-Jan-2022 09:30 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 1.22e4
124678/134678F
1.19e7*
35.43
124689F
8.41e6*
36.08
123478F
1.32e8*
36.62
123678F
3.22e7*
36.75
123489F
9.77e6*
38.44
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
4.07e7
2.04e7
0.00e0
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 1.00e4
124678/134678F
9.41e6*
35.43
124689F
6.58e6*
36.08
123478F
1.04e8*
36.62
123678F
2.56e7*
36.75
123489F
7.91e6*
38.44
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
3.22e7
1.61e7
0.00e0
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 8.27e3
ES 123478F
8.84e6
36.60
ES 123678F
1.00e7
36.74
CS 123469F
8.55e6
37.06
ES 234678F
8.34e6
37.41
ES 123789F
8.46e6
38.39
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
3.22e6
1.61e6
0.00e0
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 6.58e3
ES 123478F
1.61e7
36.60
ES 123678F
1.82e7
36.74
CS 123469F
1.59e7
37.06
ES 234678F
1.55e7
37.41
ES 123789F
1.62e7
38.39
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
5.55e6
2.77e6
0.00e0
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.43e3
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.24e4
6.19e3
0.00e0


SGS ID: B6169_18833_DF_009
Sample ID: 11215131-011122-S-BN-NC-S-22
Acq: 17-Jan-2022 18:23:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220117C12
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.62e3
1234678F
3.48e7
39.88
1234689F
2.04e7
40.30
1234789F
9.99e6*
41.30
1.07e7
5.36e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.64e3
1234678F
3.40e7
39.88
1234689F
1.98e7
40.29
1234789F
9.57e6*
41.30
1.08e7
5.42e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 6.00e3
ES 1234678F
6.19e6
39.87
CS 1234689F
6.27e6
40.28
ES 1234789F
5.41e6
41.29
2.02e6
1.01e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 6.57e3
ES 1234678F
1.37e7
39.87
CS 1234689F
1.35e7
40.28
ES 1234789F
1.16e7
41.28
4.18e6
2.09e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.28e3
RT
1.43e5
7.17e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_009.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2381, 0850, 0991 scc: 356-271
Revised: 18-Jan-2022 08:30 (DTF) Printed: 18-Jan-2022 09:30 Page 11 of 12


SGS ID: B6169_18833_DF_009
Sample ID: 11215131-011122-S-BN-NC-S-22
Acq: 17-Jan-2022 18:23:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220117C12
Rel. Int.
Abs. Int.
OCDF
1.01e8
43.81
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 3.01e3
1.80e7
9.01e6
0.00e0
OCDF
1.13e8
43.81
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 3.33e3
2.01e7
1.00e7
ES OCDF
1.44e7
43.79
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 2.05e3
2.45e6
1.22e6
ES OCDF
1.64e7
43.79
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.01e3
2.90e6
1.45e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.51e3
1.30e4
6.48e3
100%
0%
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_009.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3409, 3361, 4519 scc: 356-271
PKD: 18-Jan-2022 08:24 Printed: 18-Jan-2022 09:30 Page 12 of 12

Lab ID: B6169_18833_DF_014 **Acq'd:** 17 Jan 2022 19:09 DTF **Wt/Vol:** 10.27 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-28 **UTP:** 18-Jan-2022 09:06:15 DTF **J-level:** 0.487 pg/g **Split:** 1 **Checkcode:** 541-897-ZDL

Datafile: 220117C13 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.19		1.0008	1.0008	0	7.16E+07	0.82	Y	1.18	670	4127.664	0.38
12378-PeCDD	33.63		1.0006	1.0005	-0.2	6.43E+05	1.78	Y	1.04	7.5	6741.162	0.697
123478-HxCDD	37.61		1.0004	1.0004	0	2.39E+05	1.30	Y	1.09	2.91	7094.064	0.772
123678-HxCDD	37.73		1.0036	1.0035	-0.2	1.14E+06	1.24	Y	1.15	13.4	7094.064	0.728
123789-HxCDD	38.04		1.0118	1.0118	0	6.29E+05	1.22	Y	1.05	7.39	7094.064	0.709
1234678-HpCDD	40.83		1.0003	1.0003	0	2.31E+07	1.06	Y	1.06	336	6295.594	0.793
OCDD	43.62		1.0003	1.0003	0	2.02E+08	0.90	Y	1.13	4,840	8734.325	2.92
2378-TCDF	27.31	E	1.0008	1.0008	0	3.07E+08	0.80	Y	1.08	1,960	6689.289	0.448
12378-PeCDF	32.17		1.0006	1.0006	0	9.96E+06	1.51	Y	1.02	74.6	5073.134	0.345
23478-PeCDF	33.29		1.0006	1.0008	+0.4	7.29E+06	1.53	Y	1.02	55.9	5073.134	0.354
123478-HxCDF	36.60		1.0005	1.0005	0	1.52E+07	1.27	Y	1.27	116	10527.829	0.621
123678-HxCDF	36.74		1.0004	1.0004	0	4.54E+06	1.24	Y	1.15	33.6	10527.829	0.637
234678-HxCDF	37.41		1.0005	1.0005	0	1.11E+06	1.25	Y	1.19	8.88	10527.829	0.702
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	10527.829	0.823
1234678-HpCDF	39.87		1.0003	1.0003	0	1.12E+07	1.01	Y	1.37	104	6611.335	0.52
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	1.52E+06	1.01	Y	1.31	19.4	6611.335	0.852
OCDF	43.78		1.0003	1.0003	0	5.08E+07	0.88	Y	1.07	953	4422.053	1.25

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0231	1.0232	+0.2	1.76E+07	0.82	Y	1.05	86.4
ES 12378-PeCDD	33.62	1.2198	1.2208	+2.0	1.61E+07	1.66	Y	0.88	94.2
ES 123478-HxCDD	37.60	0.9913	0.9914	+0.2	1.47E+07	1.27	Y	0.97	91.2
ES 123678-HxCDD	37.71	0.9944	0.9945	+0.2	1.44E+07	1.30	Y	0.94	92.1
ES 123789-HxCDD	38.02	1.0026	1.0027	+0.2	1.58E+07	1.28	Y	1.09	87.4
ES 1234678-HpCDD	40.82	1.0760	1.0763	+0.7	1.27E+07	1.12	Y	0.91	83.6
ES OCDD	43.60	1.1489	1.1498	+2.4	1.44E+07	0.93	Y	0.62	69.6
ES 2378-TCDF	27.29	1.0515	1.0516	+0.2	2.82E+07	0.82	Y	1.06	84.3
ES 12378-PeCDF	32.15	1.2378	1.2391	+2.5	2.54E+07	1.61	Y	0.91	88.2
ES 23478-PeCDF	33.26	1.2804	1.2819	+3.0	2.49E+07	1.55	Y	0.88	89.2
ES 123478-HxCDF	36.58	0.9647	0.9646	-0.2	2.00E+07	0.55	Y	1.20	101
ES 123678-HxCDF	36.72	0.9684	0.9683	-0.2	2.28E+07	0.53	Y	1.35	102
ES 234678-HxCDF	37.40	0.9861	0.9861	0	2.04E+07	0.52	Y	1.24	99.1
ES 123789-HxCDF	38.38	1.0120	1.0121	+0.2	1.81E+07	0.54	Y	1.16	94.4
ES 1234678-HpCDF	39.86	1.0506	1.0509	+0.7	1.52E+07	0.46	Y	0.97	95
ES 1234789-HpCDF	41.28	1.0879	1.0884	+1.2	1.17E+07	0.44	Y	0.85	82.7
ES OCDF	43.77	1.1534	1.1541	+1.8	1.94E+07	0.89	Y	0.81	72.4

Lab ID: B6169_18833_DF_014 **Acq'd:** 17 Jan 2022 19:09 DTF **Wt/Vol:** 10.27 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-28 **UTP:** 18-Jan-2022 09:06:15 DTF **J-level:** 0.487 pg/g **Split:** 1 **Checkcode:** 541-897-ZDL

Datafile: 220117C13 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	1.95E+07	0.81	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.16E+07	0.81	Y	-	-
JS 123467-HxCDD	37.92		-	-	-	8.28E+06	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.19		1.0238	1.0239	+0.2	8.15E+06	n/a	-	1.20	87.1
CS 12347-PeCDD	33.12		1.2018	1.2027	+1.8	1.47E+07	1.61	Y	0.75	100
CS 12346-PeCDF	31.63		1.2178	1.2189	+2.1	2.44E+07	1.59	Y	0.85	90.6
CS 123469-HxCDF	37.04		0.9768	0.9767	-0.2	1.98E+07	0.55	Y	1.12	107
CS 1234689-HpCDF	40.27		1.0615	1.0618	+0.7	1.49E+07	0.48	Y	0.89	102
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0238~~	~~1.0239~~	~~+0.2~~	~~8.15E+06~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2027~~	~~+1.8~~	~~1.47E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2189~~	~~+2.1~~	~~2.44E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~1.98E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0618~~	~~+0.7~~	~~1.49E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	757	764
Total PeCDD	29.8	31.3
Total HxCDD	159	159
Total HpCDD	765	765
Total Tetra-Octa Dioxins	6550	6560
Total TCDF	3,860	3870
Total PeCDF	227	230
Total HxCDF	237	246
Total HpCDF	236	239
Total Tetra-Octa Furans	5,510	5530
Total Tetra-Octa Dioxins & Furans	12100	12100

Lab ID: B6169_18833_DF_014 **Acq'd: 17 Jan 2022 19:09 DTF** **Wt/Vol: 10.27 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010822-S-BN-NC-S-28 **UTP: 18-Jan-2022 09:06:15 DTF** **J-level: 0.487 pg/g** **Split: 1** **Checkcode: 541-897-ZDL**

Datafile: 220117C13 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8733	0.8706	-4.0	3.95E+05	0.75	Y	1.18	3.7	4127.664	0.38
1379-TCDD	24.89		0.8860	0.8834	-3.9	1.61E+05	0.71	Y	1.18	1.51	4127.664	0.38
1369-TCDD	25.32		0.9009	0.8987	-3.3	8.34E+04	0.81	Y	1.18	0.78	4127.664	0.38
1469-TCDD	26.11	EMPC	0.9282	0.9268	-2.2	4.50E+05	0.97	N	1.18	4.21	4127.664	0.38
1247/1246/1248/1249-TCDD	26.33		0.9365	0.9347	-2.8	1.57E+05	0.69	Y	1.18	1.47	4127.664	0.38
1378-TCDD	26.53		0.9429	0.9419	-1.6	2.96E+05	0.88	Y	1.18	2.76	4127.664	0.38
1268-TCDD	NotFnd		0.9500						1.18		4127.664	0.38
1478-TCDD	26.98	EMPC	0.9584	0.9578	-1.0	2.24E+05	0.89	N	1.18	2.1	4127.664	0.38
1279-TCDD	NotFnd		0.9648						1.18		4127.664	0.38
1234/1269-TCDD	27.51		0.9770	0.9766	-0.7	2.01E+05	0.87	Y	1.18	1.88	4127.664	0.38
1236-TCDD	NotFnd		0.9821						1.18		4127.664	0.38
1237/1238-TCDD	27.91		0.9909	0.9905	-0.7	1.14E+06	0.87	Y	1.18	10.7	4127.664	0.38
1239-TCDD	NotFnd		0.9959						1.18		4127.664	0.38
2378-TCDD	**28.19**		**1.0008**	1.0008	**0**	7.16E+07	0.82	Y	**1.18**	**670**	**4127.664**	**0.38**
1278-TCDD	28.53		1.0123	1.0126	+0.5	6.96E+06	0.81	Y	1.18	65.1	4127.664	0.38
1267-TCDD	NotFnd		1.0172						1.18		4127.664	0.38
1289-TCDD	NotFnd		1.0354						1.18		4127.664	0.38
12479/12468-PeCDD	31.12		0.9267	0.9258	-1.7	6.25E+05	1.56	Y	1.04	7.28	6741.162	0.697
12469-PeCDD	31.66		0.9426	0.9419	-1.3	4.92E+05	1.44	Y	1.04	5.73	6741.162	0.697
12368-PeCDD	32.21		0.9587	0.9581	-1.2	3.14E+05	1.60	Y	1.04	3.66	6741.162	0.697
12478-PeCDD	32.40	J	0.9642	0.9639	-0.6	1.95E+05	1.48	Y	1.04	2.27	6741.162	0.697
12379-PeCDD	32.51	J EMPC	0.9674	0.9670	-0.8	1.30E+05	1.30	N	1.04	1.51	6741.162	0.697
12369/12467/12489-PeCDD	32.77		0.9752	0.9749	-0.6	2.89E+05	1.73	Y	1.04	3.37	6741.162	0.697
12346/12347-PeCDD	NotFnd		0.9861						1.04		6741.162	0.697
12378-PeCDD	33.63		**1.0006**	**1.0005**	**-0.2**	**6.43E+05**	**1.78**	**Y**	**1.04**	**7.5**	**6741.162**	**0.697**
12367-PeCDD	NotFnd		1.0036						1.04		6741.162	0.697
12389-PeCDD	NotFnd		1.0139						1.04		6741.162	0.697
124679/124689-HxCDD	35.87		0.9541	0.9541	0	6.49E+06	1.27	Y	1.10	77.1	7094.064	0.735
123468-HxCDD	36.53		0.9715	0.9716	+0.2	4.91E+05	1.40	Y	1.10	5.83	7094.064	0.735
123679/123689-HxCDD	36.82		0.9793	0.9794	+0.2	4.05E+06	1.27	Y	1.10	48.1	7094.064	0.735
123469-HxCDD	36.95		0.9831	0.9829	-0.4	2.09E+05	1.28	Y	1.10	2.49	7094.064	0.735
123478-HxCDD	37.61		**1.0004**	**1.0004**	**0**	**2.39E+05**	**1.30**	**Y**	1.09	**2.91**	**7094.064**	**0.772**
123678-HxCDD	37.73		**1.0036**	**1.0035**	**-0.2**	**1.14E+06**	**1.24**	**Y**	1.15	**13.4**	**7094.064**	**0.728**
123467-HxCDD	37.93	J	1.0089	1.0090	+0.2	1.88E+05	1.27	Y	1.10	2.23	7094.064	0.735
123789-HxCDD	38.04		**1.0118**	**1.0118**	**0**	**6.29E+05**	**1.22**	**Y**	1.05	**7.39**	**7094.064**	**0.709**

Lab ID: B6169_18833_DF_014 **Acq'd:** 17 Jan 2022 19:09 DTF **Wt/Vol:** 10.27 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-28 **UTP:** 18-Jan-2022 09:06:15 DTF **J-level:** 0.487 pg/g **Split:** 1 **Checkcode:** 541-897-ZDL

Datafile: 220117C13 **Report:** 18 Jan 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

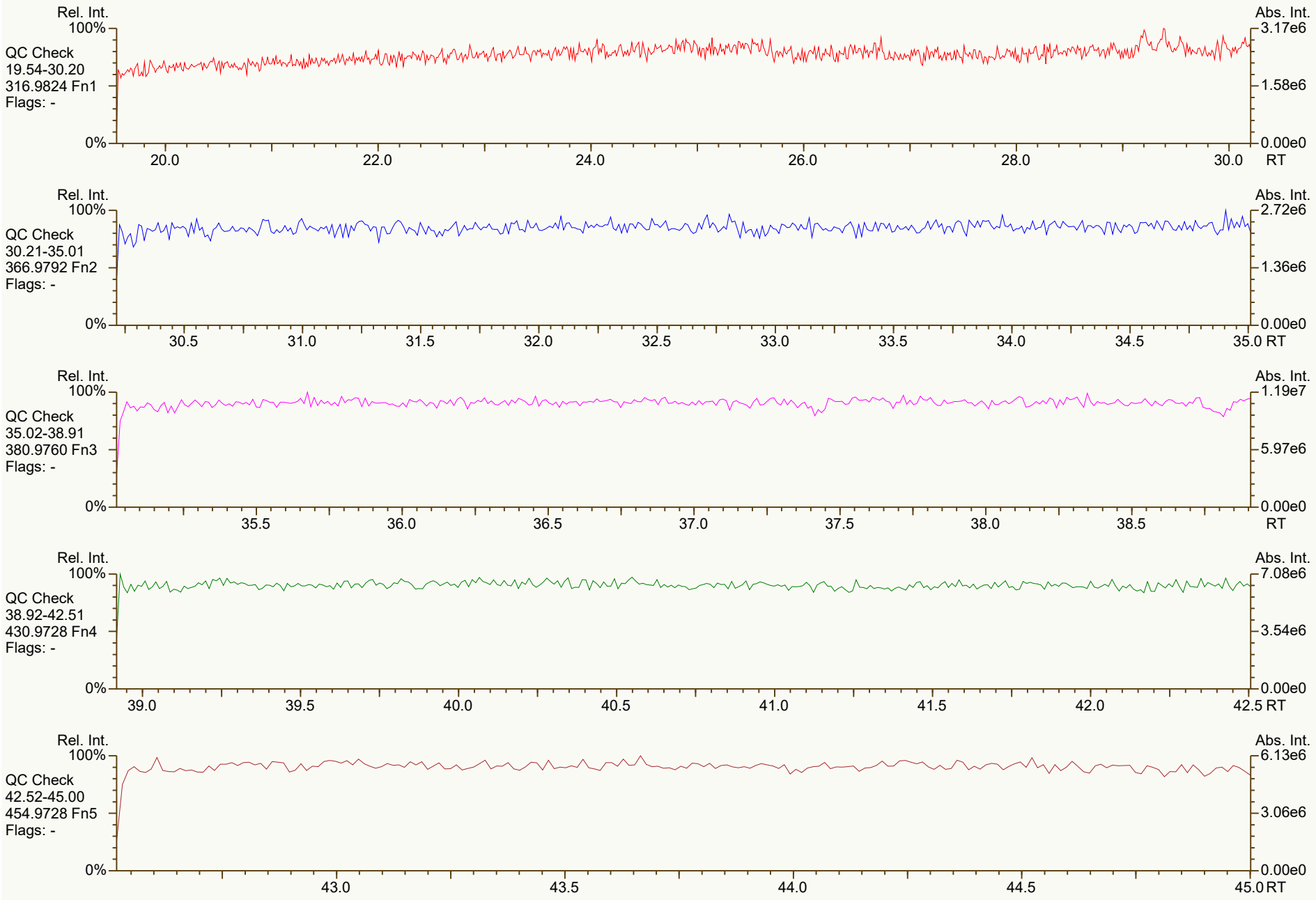
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9835	0.9835	0	2.95E+07	1.04	Y	1.06	429	6295.594	0.793
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**2.31E+07**	**1.06**	**Y**	**1.06**	**336**	**6295.594**	**0.793**
OCDD	**43.62**		**1.0003**	**1.0003**	**0**	**2.02E+08**	**0.90**	**Y**	**1.13**	**4,840**	**8734.325**	**2.92**
OCDD-a	43.62		1.0002	1.0003	+0.3	1.30E+07	2.42	Y	0.07	4,870	3981.573	20.8
1368-TCDF	22.40		0.8250	0.8208	-5.6	2.25E+05	0.76	Y	1.08	1.44	6689.289	0.448
1468-TCDF	22.97		0.8494	0.8419	-10.3	6.89E+05	0.87	Y	1.08	4.41	6689.289	0.448
2468-TCDF	23.61		0.8684	0.8651	-4.7	8.28E+05	0.83	Y	1.08	5.29	6689.289	0.448
1346/1246-TCDF	NotFnd		0.8815						1.08		6689.289	0.448
1347/1378/1247-TCDF	24.13		0.8867	0.8844	-3.3	4.43E+06	0.85	Y	1.08	28.3	6689.289	0.448
1348-TCDF	NotFnd		0.8966						1.08		6689.289	0.448
1248/1367/1379-TCDF	24.49		0.9012	0.8974	-5.6	1.67E+07	0.81	Y	1.08	107	6689.289	0.448
1268-TCDF	24.91		0.9148	0.9128	-3.0	6.01E+06	0.81	Y	1.08	38.4	6689.289	0.448
1467-TCDF	25.05		0.9197	0.9179	-2.7	8.58E+05	0.79	Y	1.08	5.49	6689.289	0.448
1478-TCDF	25.21		0.9258	0.9239	-2.9	1.42E+07	0.85	Y	1.08	90.8	6689.289	0.448
1369/1237-TCDF	25.59		0.9390	0.9379	-1.7	3.74E+06	0.84	Y	1.08	23.9	6689.289	0.448
2467-TCDF	25.72		0.9435	0.9425	-1.5	3.96E+05	0.78	Y	1.08	2.53	6689.289	0.448
2368-TCDF	25.86		0.9488	0.9476	-1.9	9.66E+06	0.80	Y	1.08	61.8	6689.289	0.448
1238/1234/1678/1469/1236-TCDF	25.95		0.9527	0.9510	-2.6	1.55E+07	0.85	Y	1.08	99	6689.289	0.448
1278-TCDF	26.42		0.9689	0.9682	-1.1	1.40E+08	0.81	Y	1.08	895	6689.289	0.448
1349-TCDF	NotFnd		0.9730						1.08		6689.289	0.448
1267-TCDF	26.69		0.9787	0.9782	-0.8	8.31E+06	0.81	Y	1.08	53.2	6689.289	0.448
2346/1249-TCDF	26.90	EMPC	0.9856	0.9860	+0.6	8.54E+05	0.93	N	1.08	5.46	6689.289	0.448
2347/1279-TCDF	27.10		0.9934	0.9930	-0.7	3.68E+06	0.77	Y	1.08	23.5	6689.289	0.448
2348-TCDF	27.19		0.9972	0.9966	-1.0	1.80E+07	0.81	Y	1.08	115	6689.289	0.448
2378-TCDF	**27.31**	E	**1.0008**	**1.0008**	**0**	**3.07E+08**	**0.80**	**Y**	**1.08**	**1,960**	**6689.289**	**0.448**
2367/3467-TCDF	27.68		1.0145	1.0142	-0.5	2.52E+07	0.82	Y	1.08	161	6689.289	0.448
1269-TCDF	27.93		1.0236	1.0236	0	4.45E+06	0.79	Y	1.08	28.5	6689.289	0.448
1239-TCDF	NotFnd		1.0333						1.08		6689.289	0.448
1289-TCDF	29.35		1.0740	1.0757	+3.0	2.36E+07	0.81	Y	1.08	151	6689.289	0.448
13468/12468-PeCDF	29.36		0.9138	0.9132	-1.1	1.53E+06	1.49	Y	1.02	11.6	2990.721	0.206
13678/13467/12467-PeCDF	30.91		0.9614	0.9614	0	4.02E+05	1.42	Y	1.02	3.05	5073.134	0.349
12368/13478/12478-PeCDF	31.07		0.9661	0.9664	+0.6	5.56E+06	1.60	Y	1.02	42.1	5073.134	0.349
14678-PeCDF	NotFnd		0.9693						1.02		5073.134	0.349
13479-PeCDF	NotFnd		0.9722						1.02		5073.134	0.349
13469/12479-PeCDF	NotFnd		0.9800						1.02		5073.134	0.349
12346-PeCDF	NotFnd		0.9844						1.02		5073.134	0.349

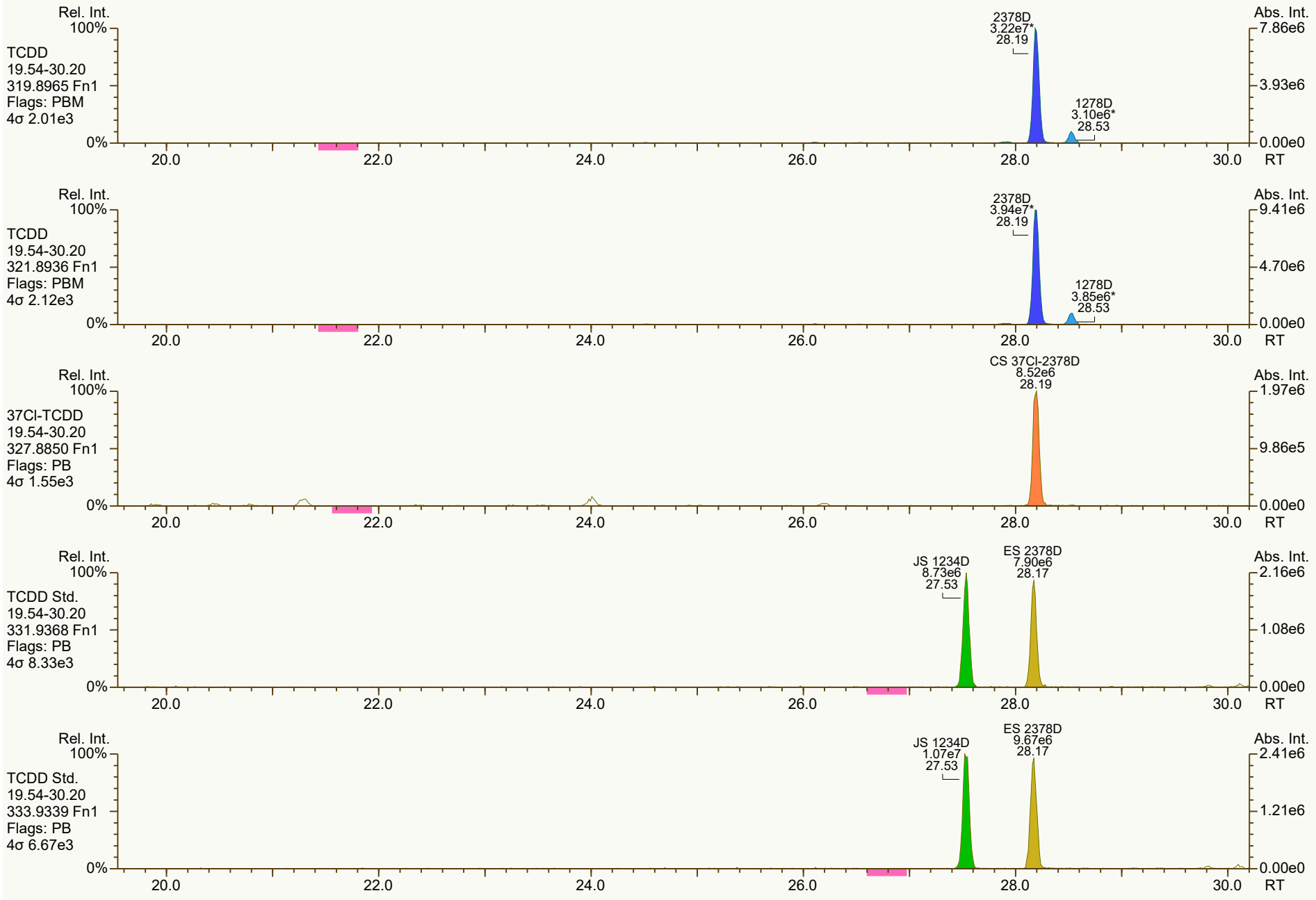
Lab ID: B6169_18833_DF_014 **Acq'd: 17 Jan 2022 19:09 DTF** **Wt/Vol: 10.27 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

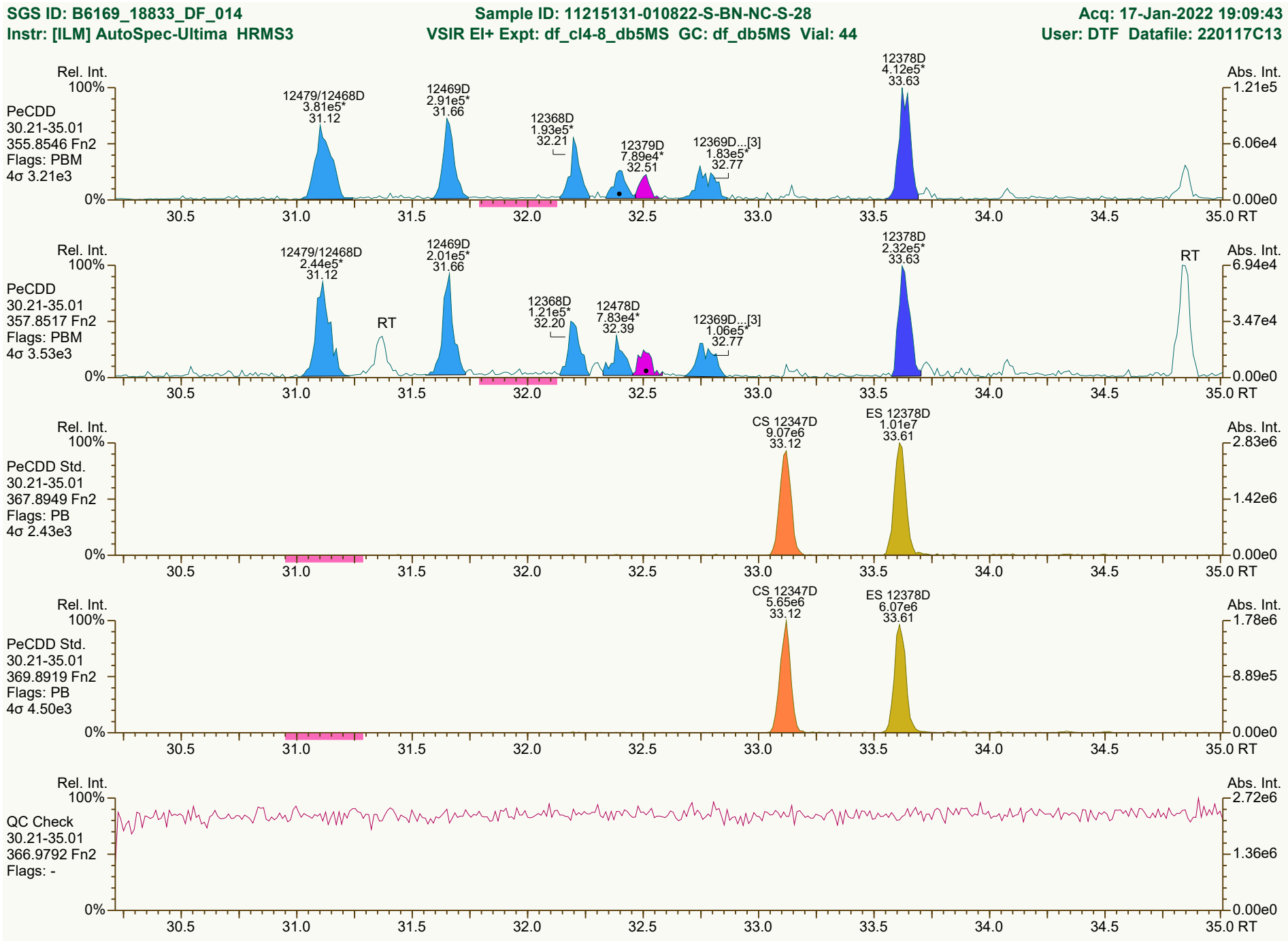
Client ID: 11215131-010822-S-BN-NC-S-28 **UTP: 18-Jan-2022 09:06:15 DTF** **J-level: 0.487 pg/g** **Split: 1** **Checkcode: 541-897-ZDL**

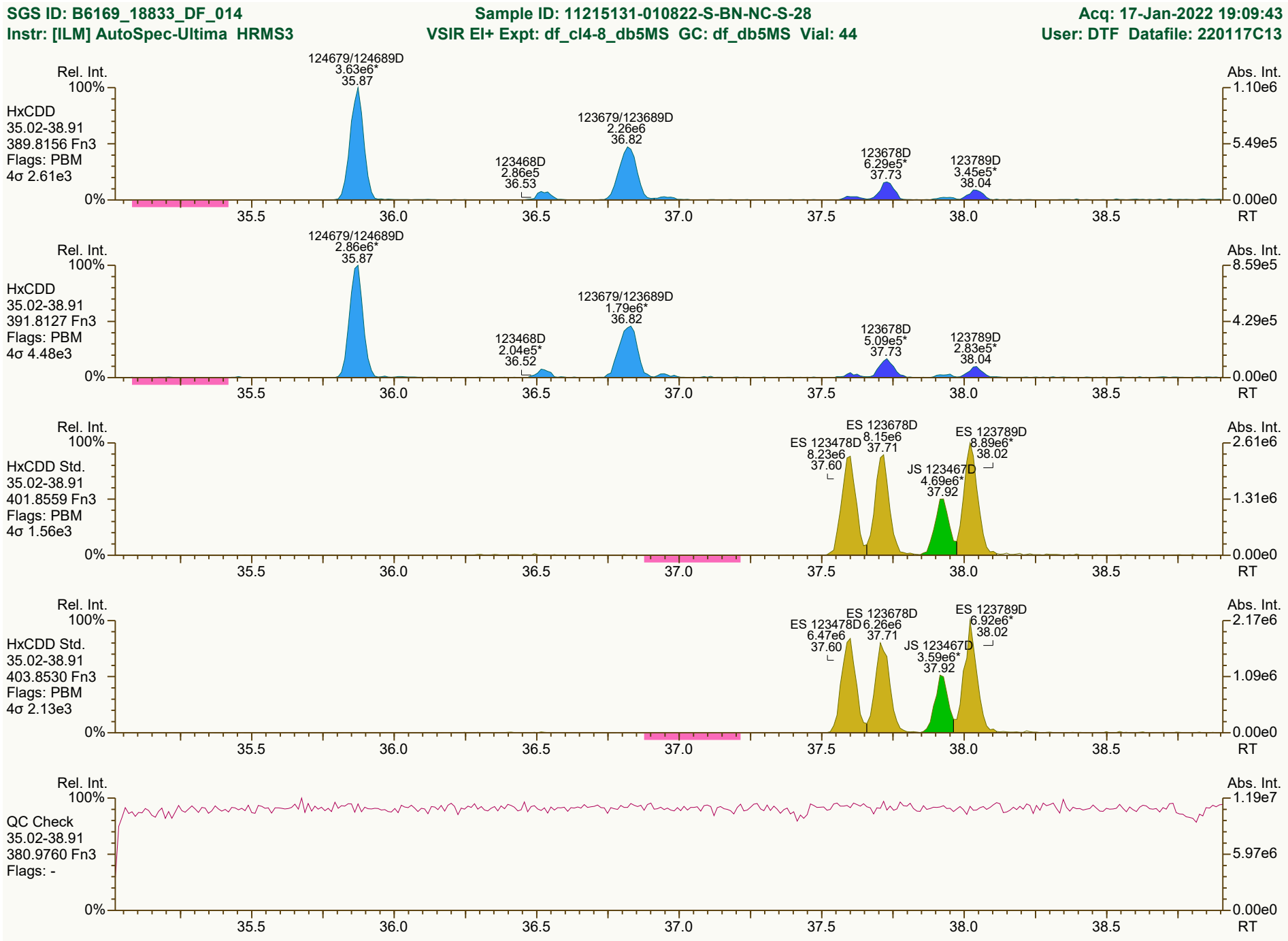
Datafile: 220117C13 **Report: 18 Jan 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

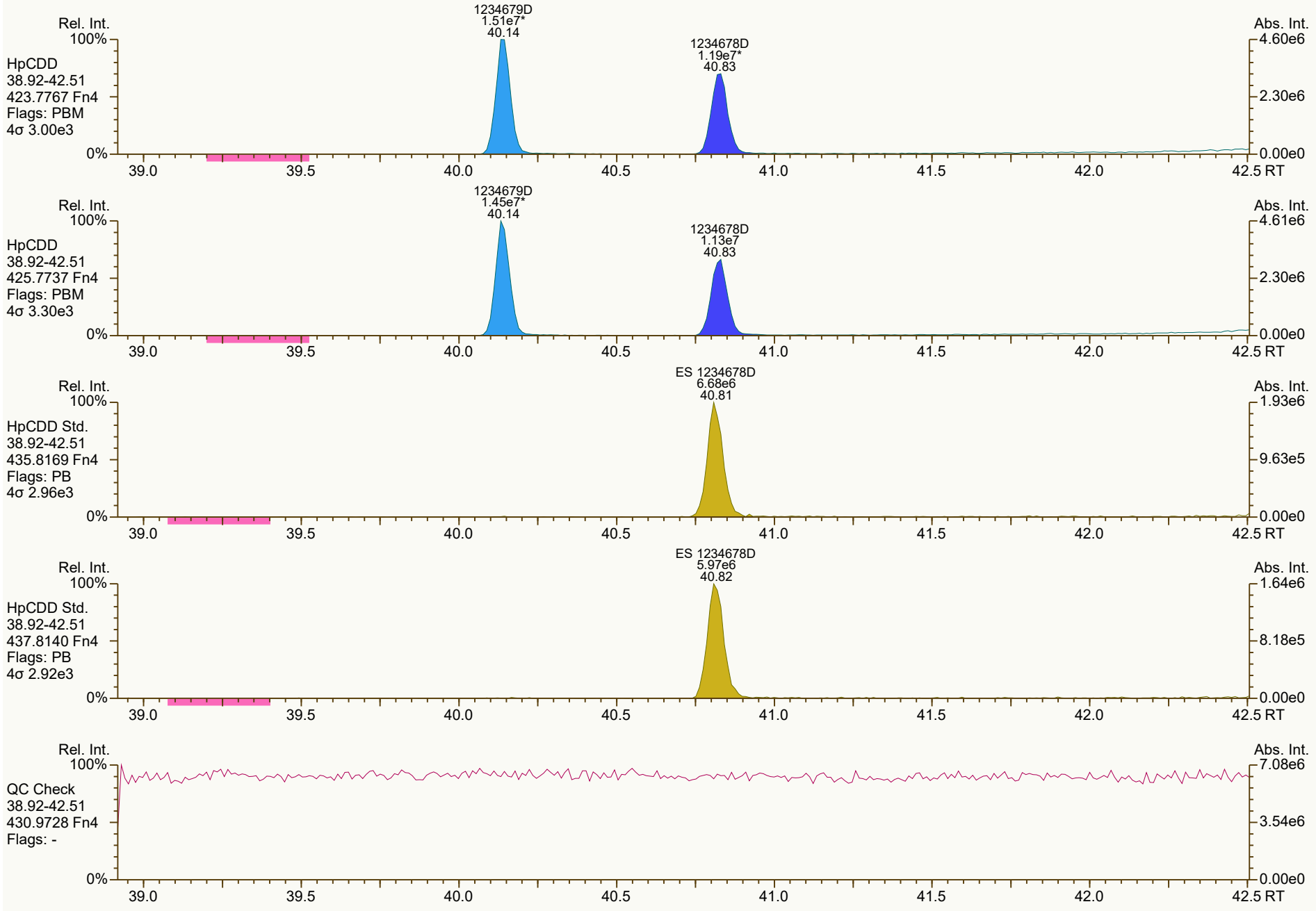
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71	EMPC	0.9865	0.9863	-0.4	4.00E+05	1.88	N	1.02	3.03	5073.134	0.349
12347-PeCDF	31.79	J	0.9890	0.9888	-0.4	3.16E+05	1.42	Y	1.02	2.39	5073.134	0.349
12348-PeCDF	31.96		0.9942	0.9941	-0.2	1.06E+06	1.56	Y	1.02	8.04	5073.134	0.349
12378-PeCDF	**32.17**		**1.0006**	**1.0006**	**0**	**9.96E+06**	**1.51**	**Y**	**1.02**	**74.6**	**5073.134**	**0.345**
12678/12367-PeCDF	32.46		1.0090	1.0098	+1.6	3.21E+06	1.57	Y	1.02	24.3	5073.134	0.349
12379-PeCDF	NotFnd		1.0142						1.02		5073.134	0.349
12679-PeCDF	NotFnd		0.9933						1.02		5073.134	0.349
23467/12369-PeCDF	33.16	J	0.9969	0.9969	0	2.31E+05	1.77	Y	1.02	1.75	5073.134	0.349
23478-PeCDF	**33.29**		**1.0006**	**1.0008**	**+0.4**	**7.29E+06**	**1.53**	**Y**	**1.02**	**55.9**	**5073.134**	**0.354**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5073.134	0.349
12349-PeCDF	NotFnd		1.0107						1.02		5073.134	0.349
12389-PeCDF	34.37		1.0330	1.0333	+0.6	4.40E+05	1.47	Y	1.02	3.33	5073.134	0.349
123468-HxCDF	35.21		0.9627	0.9624	-0.6	1.01E+06	1.24	Y	1.19	8.1	10527.829	0.689
124678/134678-HxCDF	35.40		0.9682	0.9678	-0.8	4.27E+06	1.21	Y	1.19	34.2	10527.829	0.689
134679-HxCDF	NotFnd		0.9744						1.19		10527.829	0.689
124679-HxCDF	35.83	J	0.9798	0.9795	-0.6	1.17E+05	1.29	Y	1.19	0.94	10527.829	0.689
124689-HxCDF	36.06		0.9858	0.9857	-0.2	4.18E+06	1.34	Y	1.19	33.6	10527.829	0.689
123467-HxCDF	36.49	J	0.9973	0.9973	0	2.13E+05	1.33	Y	1.19	1.71	10527.829	0.689
123478-HxCDF	**36.60**		**1.0005**	**1.0005**	**0**	**1.52E+07**	**1.27**	**Y**	**1.27**	**116**	**10527.829**	**0.621**
123678-HxCDF	**36.74**		**1.0004**	**1.0004**	**0**	**4.54E+06**	**1.24**	**Y**	**1.15**	**33.6**	**10527.829**	**0.637**
123479-HxCDF	NotFnd		1.0051						1.19		10527.829	0.689
123469-HxCDF	NotFnd		1.0093						1.19		10527.829	0.689
123679-HxCDF	NotFnd		0.9944						1.19		10527.829	0.689
234678-HxCDF	**37.41**		**1.0005**	**1.0005**	**0**	**1.11E+06**	**1.25**	**Y**	**1.19**	**8.88**	**10527.829**	**0.702**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10527.829	0.689
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**10527.829**	**0.823**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.42	EMPC	1.0008	1.0011	+0.7	1.04E+06	1.05	N	1.19	8.36	10527.829	0.689
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.12E+07**	**1.01**	**Y**	**1.37**	**104**	**6611.335**	**0.52**
1234679-HpCDF	40.14	**EMPC**	1.0069	1.0070	+0.2	2.74E+05	0.87	N	1.34	2.96	6611.335	0.662
1234689-HpCDF	40.28		1.0103	1.0106	+0.7	1.04E+07	1.04	Y	1.34	112	6611.335	0.662
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**1.52E+06**	**1.01**	**Y**	**1.31**	**19.4**	**6611.335**	**0.852**
OCDF	**43.78**		**1.0003**	**1.0003**	**0**	**5.08E+07**	**0.88**	**Y**	**1.07**	**953**	**4422.053**	**1.25**
OCDF-a	43.78	**EMPC**	1.0002	1.0002	0	2.80E+06	2.99	N	0.07	846	4838.056	22.1

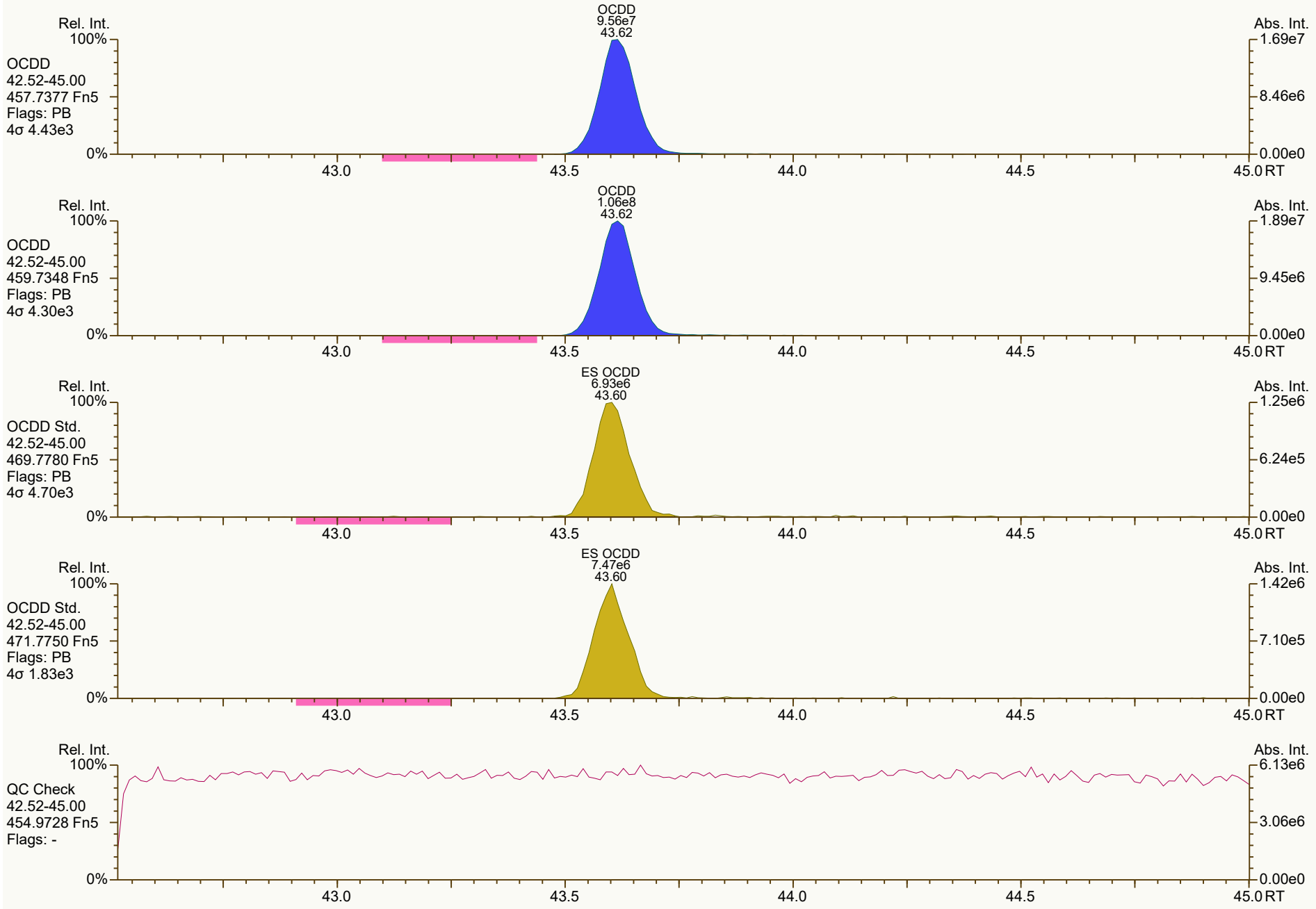

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.17e6
1.58e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
2.72e6
1.36e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.19e7
5.97e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
7.08e6
3.54e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.13e6
3.06e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.01e3
0%
2378D
3.22e7*
28.19
1278D
3.10e6*
28.53
Abs. Int.
7.86e6
3.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
3.94e7*
28.19
1278D
3.85e6*
28.53
Abs. Int.
9.41e6
4.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
8.52e6
28.19
Abs. Int.
1.97e6
9.86e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.33e3
0%
JS 1234D
8.73e6
27.53
ES 2378D
7.90e6
28.17
Abs. Int.
2.16e6
1.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.67e3
0%
JS 1234D
1.07e7
27.53
ES 2378D
9.67e6
28.17
Abs. Int.
2.41e6
1.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_014
Sample ID: 11215131-010822-S-BN-NC-S-28
Acq: 17-Jan-2022 19:09:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220117C13
Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 3.21e3
12479/12468D 3.81e5* 31.12
12469D 2.91e5* 31.66
12368D 1.93e5* 32.21
12379D 7.89e4* 32.51
12369D...[3] 1.83e5* 32.77
12378D 4.12e5* 33.63
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 3.53e3
12479/12468D 2.44e5* 31.12
RT
12469D 2.01e5* 31.66
12368D 1.21e5* 32.20
12478D 7.83e4* 32.39
12369D...[3] 1.06e5* 32.77
12378D 2.32e5* 33.63
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.43e3
CS 12347D 9.07e6 33.12
ES 12378D 1.01e7 33.61
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 4.50e3
CS 12347D 5.65e6 33.12
ES 12378D 6.07e6 33.61
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_014.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0896, 3051 scc: 541-897
Revised: 18-Jan-2022 08:33 (DTF) Printed: 18-Jan-2022 09:30 Page 3 of 12

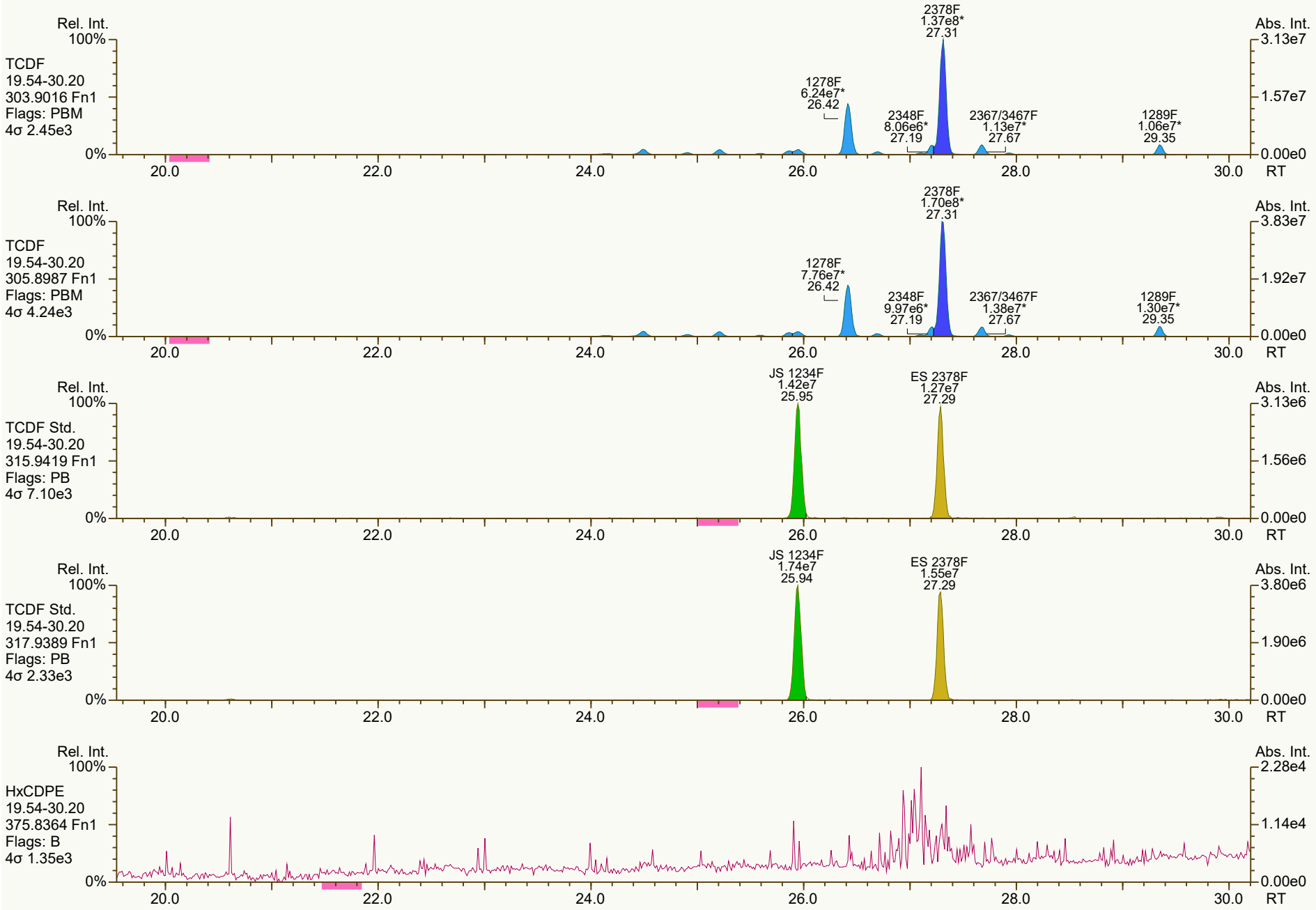

SGS ID: B6169_18833_DF_014
Sample ID: 11215131-010822-S-BN-NC-S-28
Acq: 17-Jan-2022 19:09:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220117C13
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.61e3
124679/124689D
3.63e6*
35.87
123679/123689D
2.26e6
36.82
123468D
2.86e5
36.53
123678D
6.29e5*
37.73
123789D
3.45e5*
38.04
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 4.48e3
124679/124689D
2.86e6*
35.87
123679/123689D
1.79e6*
36.82
123468D
2.04e5*
36.52
123678D
5.09e5*
37.73
123789D
2.83e5*
38.04
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 1.56e3
ES 123678D
8.15e6
37.71
ES 123478D
8.23e6
37.60
ES 123789D
8.89e6*
38.02
JS 123467D
4.69e6*
37.92
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 2.13e3
ES 123678D
6.26e6
37.71
ES 123478D
6.47e6
37.60
ES 123789D
6.92e6*
38.02
JS 123467D
3.59e6*
37.92
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
1.10e6
5.49e5
0.00e0
8.59e5
4.29e5
2.61e6
1.31e6
2.17e6
1.09e6
1.19e7
5.97e6
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_014.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8383, 7782 scc: 541-897
Revised: 18-Jan-2022 08:34 (DTF) Printed: 18-Jan-2022 09:30 Page 4 of 12


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 3.00e3
1234679D
1.51e7*
40.14
1234678D
1.19e7*
40.83
Abs. Int.
4.60e6
2.30e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 3.30e3
1234679D
1.45e7*
40.14
1234678D
1.13e7
40.83
Abs. Int.
4.61e6
2.30e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.96e3
ES 1234678D
6.68e6
40.81
Abs. Int.
1.93e6
9.63e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.92e3
ES 1234678D
5.97e6
40.82
Abs. Int.
1.64e6
8.18e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
7.08e6
3.54e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
9.56e7
43.62
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 4.43e3
0%
Abs. Int.
1.69e7
8.46e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.06e8
43.62
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 4.30e3
1.89e7
9.45e6
ES OCDD
6.93e6
43.60
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 4.70e3
1.25e6
6.24e5
ES OCDD
7.47e6
43.60
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.83e3
1.42e6
7.10e5
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
6.13e6
3.06e6

SGS ID: B6169_18833_DF_014 | Sample ID: 11215131-010822-S-BN-NC-S-28 | Acq: 17-Jan-2022 19:09:43

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44 | User: DTF Datafile: 220117C13



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_014.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8796, 9913, 0896 scc: 541-897 *Revised: 18-Jan-2022 08:35 (DTF) Printed: 18-Jan-2022 09:30 Page 7 of 12*

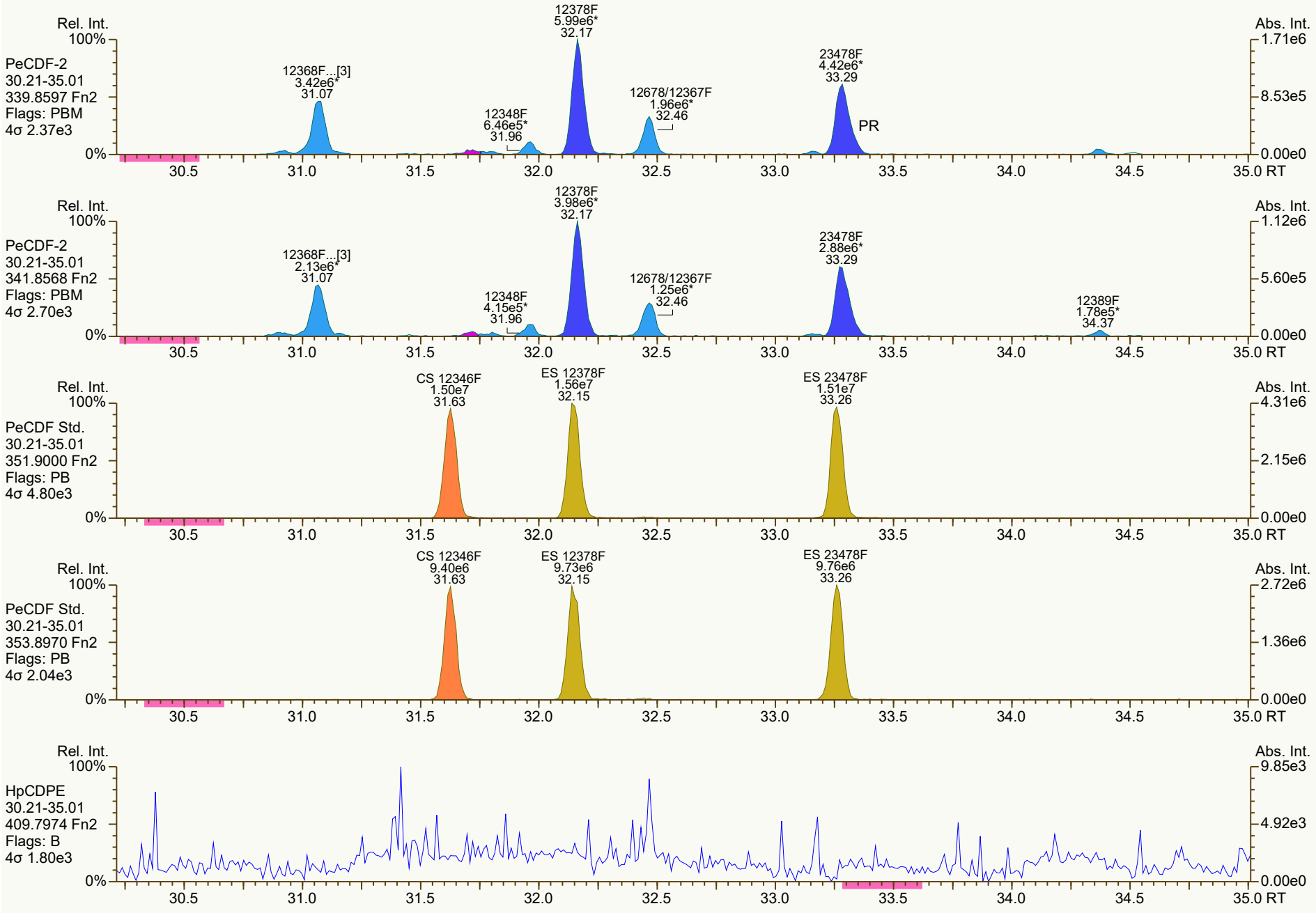
SGS ID: B6169_18833_DF_014 | Sample ID: 11215131-010822-S-BN-NC-S-28 | Acq: 17-Jan-2022 19:09:43

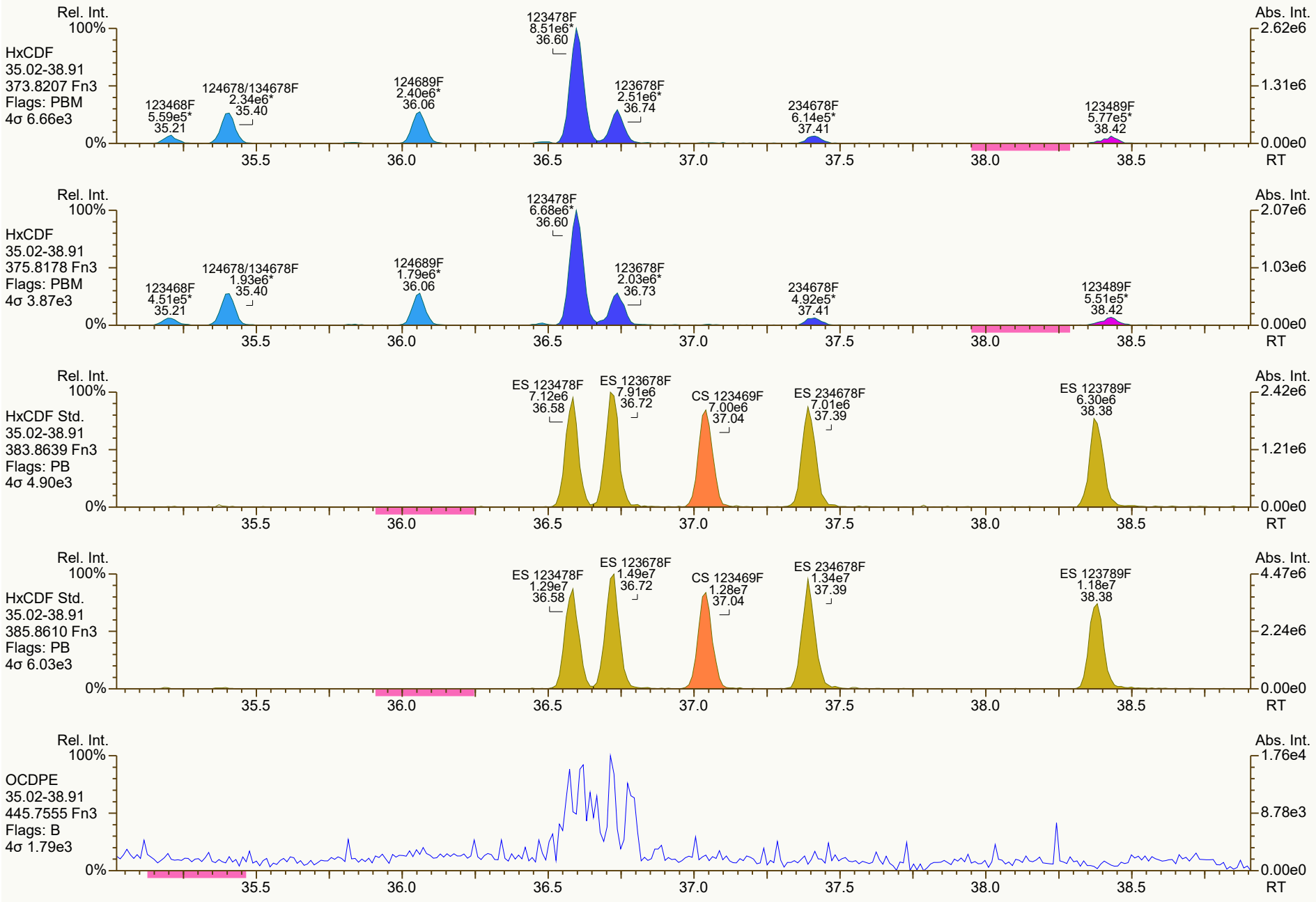
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44 | User: DTF Datafile: 220117C13

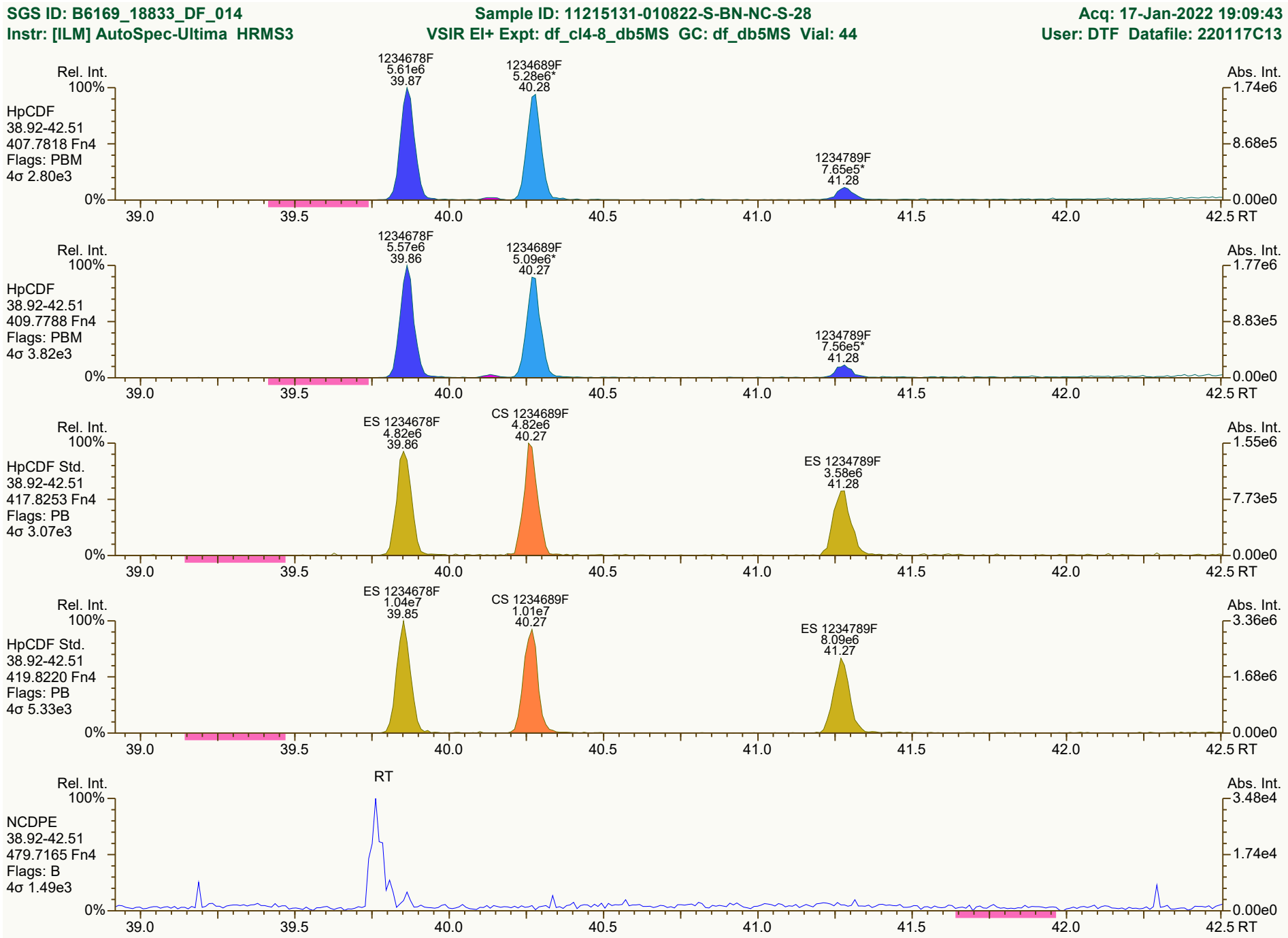


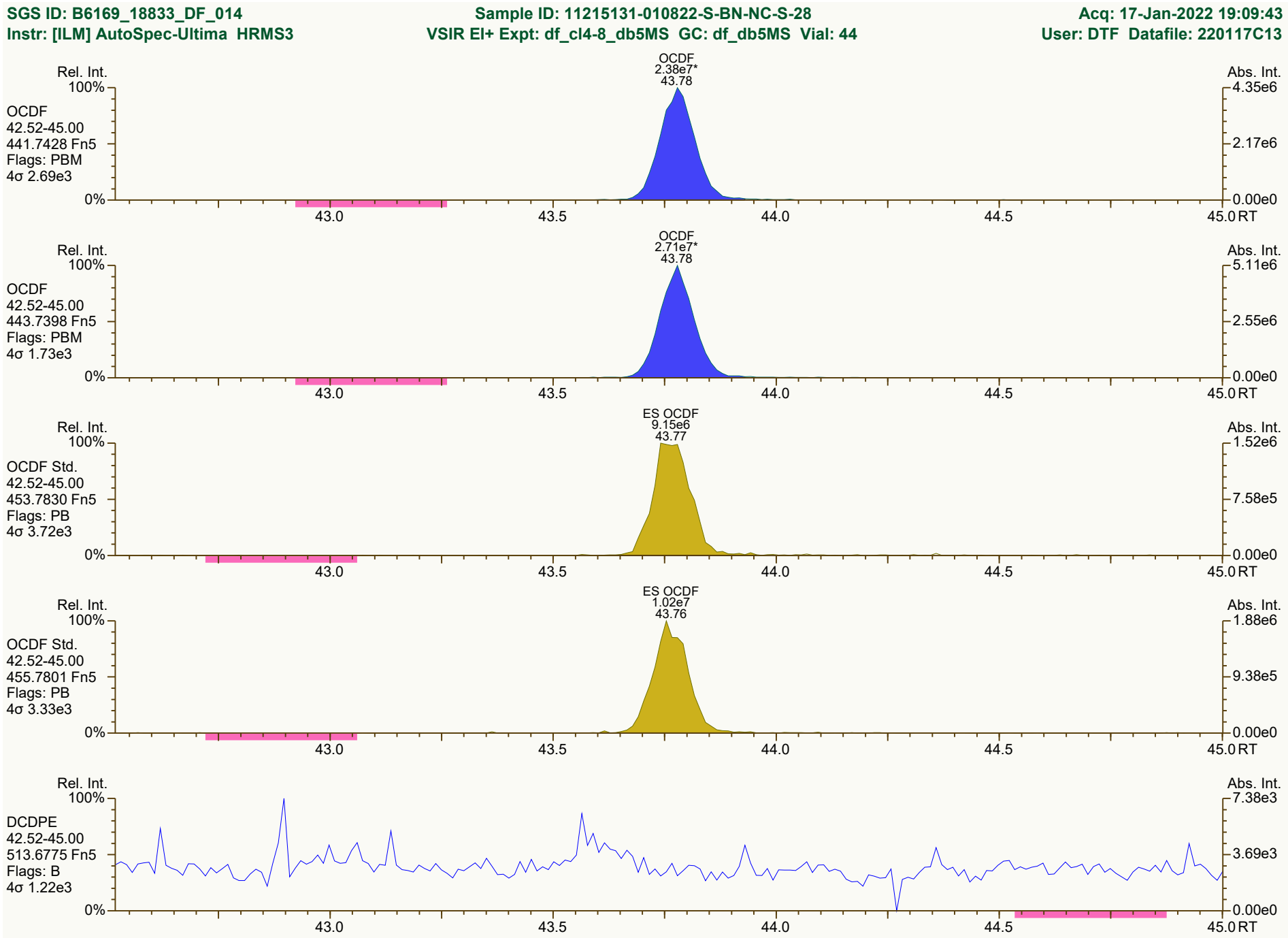
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_014.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0512 scc: 541-897 *Revised: 18-Jan-2022 08:35 (DTF) Printed: 18-Jan-2022 09:30 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.37e3
0%
12368F...[3]
3.42e6*
31.07
12348F
6.46e5*
31.96
12378F
5.99e6*
32.17
12678/12367F
1.96e6*
32.46
23478F
4.42e6*
33.29
PR
Abs. Int.
1.71e6
8.53e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.70e3
0%
12368F...[3]
2.13e6*
31.07
12348F
4.15e5*
31.96
12378F
3.98e6*
32.17
12678/12367F
1.25e6*
32.46
23478F
2.88e6*
33.29
12389F
1.78e5*
34.37
Abs. Int.
1.12e6
5.60e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 4.80e3
0%
CS 12346F
1.50e7
31.63
ES 12378F
1.56e7
32.15
ES 23478F
1.51e7
33.26
Abs. Int.
4.31e6
2.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 2.04e3
0%
CS 12346F
9.40e6
31.63
ES 12378F
9.73e6
32.15
ES 23478F
9.76e6
33.26
Abs. Int.
2.72e6
1.36e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.80e3
0%
Abs. Int.
9.85e3
4.92e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 6.66e3
123468F 5.59e5* 35.21
124678/134678F 2.34e6* 35.40
124689F 2.40e6* 36.06
123478F 8.51e6* 36.60
123678F 2.51e6* 36.74
234678F 6.14e5* 37.41
123489F 5.77e5* 38.42
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5
RT
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 3.87e3
123468F 4.51e5* 35.21
124678/134678F 1.93e6* 35.40
124689F 1.79e6* 36.06
123478F 6.68e6* 36.60
123678F 2.03e6* 36.73
234678F 4.92e5* 37.41
123489F 5.51e5* 38.42
2.07e6
1.03e6
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 4.90e3
ES 123478F 7.12e6 36.58
ES 123678F 7.91e6 36.72
CS 123469F 7.00e6 37.04
ES 234678F 7.01e6 37.39
ES 123789F 6.30e6 38.38
2.42e6
1.21e6
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 6.03e3
ES 123478F 1.29e7 36.58
ES 123678F 1.49e7 36.72
CS 123469F 1.28e7 37.04
ES 234678F 1.34e7 37.39
ES 123789F 1.18e7 38.38
4.47e6
2.24e6
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.79e3
1.76e4
8.78e3


SGS ID: B6169_18833_DF_014
Sample ID: 11215131-010822-S-BN-NC-S-28
Acq: 17-Jan-2022 19:09:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220117C13
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.80e3
1234678F
5.61e6
39.87
1234689F
5.28e6*
40.28
1234789F
7.65e5*
41.28
1.74e6
8.68e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.82e3
1234678F
5.57e6
39.86
1234689F
5.09e6*
40.27
1234789F
7.56e5*
41.28
1.77e6
8.83e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 3.07e3
ES 1234678F
4.82e6
39.86
CS 1234689F
4.82e6
40.27
ES 1234789F
3.58e6
41.28
1.55e6
7.73e5
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 5.33e3
ES 1234678F
1.04e7
39.85
CS 1234689F
1.01e7
40.27
ES 1234789F
8.09e6
41.27
3.36e6
1.68e6
0.00e0
RT
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.49e3
3.48e4
1.74e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_014.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9635, 7706, 9020 scc: 541-897
Revised: 18-Jan-2022 08:37 (DTF) Printed: 18-Jan-2022 09:30 Page 11 of 12


SGS ID: B6169_18833_DF_014
Sample ID: 11215131-010822-S-BN-NC-S-28
Acq: 17-Jan-2022 19:09:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220117C13
OCDF
2.38e7*
43.78
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.69e3
0%
Abs. Int.
4.35e6
2.17e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.71e7*
43.78
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.73e3
5.11e6
2.55e6
ES OCDF
9.15e6
43.77
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 3.72e3
1.52e6
7.58e5
ES OCDF
1.02e7
43.76
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 3.33e3
1.88e6
9.38e5
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.22e3
7.38e3
3.69e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_014.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5085, 2498, 9266 scc: 541-897
Revised: 18-Jan-2022 08:37 (DTF) Printed: 18-Jan-2022 09:30 Page 12 of 12

Lab ID: B6169_18833_DF_015 **Acq'd:** 18 Jan 2022 00:03 DTF **Wt/Vol:** 10.23 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-29 **UTP:** 18-Jan-2022 09:06:17 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 566-164-PNP

Datafile: 220117C19 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	7.50E+07	0.82	Y	1.18	608	3719.219	0.303
12378-PeCDD	33.63		1.0006	1.0005	-0.2	7.70E+05	1.78	Y	1.04	7.23	5293.739	0.429
123478-HxCDD	37.61		1.0004	1.0004	0	2.69E+05	1.33	Y	1.09	2.45	9832.144	0.783
123678-HxCDD	37.73		1.0036	1.0036	0	9.99E+05	1.21	Y	1.15	8.79	9832.144	0.764
123789-HxCDD	38.04		1.0118	1.0118	0	6.13E+05	1.24	Y	1.05	5.41	9832.144	0.763
1234678-HpCDD	40.84		1.0003	1.0003	0	2.09E+07	1.05	Y	1.06	198	4885.999	0.444
OCDD	43.63		1.0003	1.0003	0	2.03E+08	0.91	Y	1.13	3,010	4972.516	1.06
2378-TCDF	27.32	E	1.0008	1.0008	0	3.08E+08	0.80	Y	1.08	1,680	3737.639	0.213
12378-PeCDF	32.17		1.0006	1.0006	0	1.16E+07	1.48	Y	1.02	71.2	4788.035	0.248
23478-PeCDF	33.29		1.0006	1.0008	+0.4	8.50E+06	1.63	Y	1.02	51.8	4788.035	0.247
123478-HxCDF	36.60		1.0005	1.0004	-0.2	1.93E+07	1.26	Y	1.27	111	11112.955	0.497
123678-HxCDF	36.74		1.0004	1.0004	0	5.40E+06	1.23	Y	1.15	29.7	11112.955	0.507
234678-HxCDF	37.42		1.0005	1.0005	0	1.28E+06	1.24	Y	1.19	7.92	11112.955	0.629
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	11112.955	0.611
1234678-HpCDF	39.87		1.0003	1.0003	0	1.42E+07	1.00	Y	1.37	89.1	4459.605	0.23
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	2.14E+06	0.99	Y	1.31	16.8	4459.605	0.306
OCDF	43.80		1.0003	1.0003	0	1.14E+08	0.89	Y	1.07	1,290	4340.744	0.685

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18	1.0231	1.0230	-0.2	2.03E+07	0.81	Y	1.05	78.4
ES 12378-PeCDD	33.62	1.2198	1.2203	+1.0	2.01E+07	1.66	Y	0.88	92.2
ES 123478-HxCDD	37.60	0.9913	0.9914	+0.2	1.97E+07	1.27	Y	0.97	79.4
ES 123678-HxCDD	37.72	0.9944	0.9945	+0.2	1.94E+07	1.21	Y	0.94	80.3
ES 123789-HxCDD	38.03	1.0026	1.0027	+0.2	2.12E+07	1.21	Y	1.09	76
ES 1234678-HpCDD	40.82	1.0760	1.0765	+1.2	1.95E+07	1.07	Y	0.91	83.7
ES OCDD	43.62	1.1489	1.1502	+3.4	2.34E+07	0.91	Y	0.62	73.5
ES 2378-TCDF	27.30	1.0515	1.0515	0	3.33E+07	0.80	Y	1.06	80.3
ES 12378-PeCDF	32.15	1.2378	1.2385	+1.4	3.11E+07	1.58	Y	0.91	87.2
ES 23478-PeCDF	33.26	1.2804	1.2812	+1.6	3.15E+07	1.55	Y	0.88	91
ES 123478-HxCDF	36.59	0.9647	0.9647	0	2.67E+07	0.54	Y	1.20	87.2
ES 123678-HxCDF	36.72	0.9684	0.9683	-0.2	3.08E+07	0.53	Y	1.35	89.3
ES 234678-HxCDF	37.40	0.9861	0.9861	0	2.66E+07	0.54	Y	1.24	84
ES 123789-HxCDF	38.38	1.0120	1.0121	+0.2	2.67E+07	0.53	Y	1.16	90.4
ES 1234678-HpCDF	39.86	1.0506	1.0510	+1.0	2.27E+07	0.45	Y	0.97	91.8
ES 1234789-HpCDF	41.28	1.0879	1.0884	+1.2	1.91E+07	0.45	Y	0.85	87.7
ES OCDF	43.78	1.1534	1.1545	+2.9	3.22E+07	0.90	Y	0.81	78.1

Lab ID: B6169_18833_DF_015 **Acq'd:** 18 Jan 2022 00:03 DTF **Wt/Vol:** 10.23 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-29 **UTP:** 18-Jan-2022 09:06:17 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 566-164-PNP

Datafile: 220117C19 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.48E+07	0.85	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.92E+07	0.79	Y	-	-
JS 123467-HxCDD	37.92		-	-	-	1.28E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0238	0	9.59E+06	n/a	-	1.20	80.4
CS 12347-PeCDD	33.12		1.2018	1.2022	+0.8	1.88E+07	1.58	Y	0.75	101
CS 12346-PeCDF	31.63		1.2178	1.2184	+1.1	3.05E+07	1.57	Y	0.85	91.6
CS 123469-HxCDF	37.04		0.9768	0.9768	0	2.77E+07	0.54	Y	1.12	97.2
CS 1234689-HpCDF	40.27		1.0615	1.0620	+1.2	2.20E+07	0.46	Y	0.89	97.2
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0238~~	~~0~~	~~9.59E+06~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2022~~	~~+0.8~~	~~1.88E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2184~~	~~+1.1~~	~~3.05E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9768~~	~~0~~	~~2.77E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0620~~	~~+1.2~~	~~2.20E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	668	682
Total PeCDD	23.3	24.3
Total HxCDD	99	100
Total HpCDD	464	464
Total Tetra-Octa Dioxins	4270	4280
Total TCDF	3,190	3290
Total PeCDF	209	214
Total HxCDF	212	213
Total HpCDF	176	176
Total Tetra-Octa Furans	5,090	5180
Total Tetra-Octa Dioxins & Furans	9350	9470

Lab ID: B6169_18833_DF_015 **Acq'd: 18 Jan 2022 00:03 DTF** **Wt/Vol: 10.23 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010822-S-BN-NC-S-29 **UTP: 18-Jan-2022 09:06:17 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 566-164-PNP**

Datafile: 220117C19 **Report: 18 Jan 2022 09:11 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8733	0.8707	-3.8	3.39E+05	0.81	Y	1.18	2.75	3719.219	0.303
1379-TCDD	24.90		0.8860	0.8836	-3.6	1.22E+05	0.81	Y	1.18	0.991	3719.219	0.303
1369-TCDD	NotFnd		0.9009						1.18		3719.219	0.303
1469-TCDD	26.12	EMPC	0.9282	0.9268	-2.2	3.02E+05	0.90	N	1.18	2.45	3719.219	0.303
1247/1246/1248/1249-TCDD	26.35		0.9365	0.9350	-2.4	1.78E+05	0.84	Y	1.18	1.45	3719.219	0.303
1378-TCDD	26.55		0.9429	0.9420	-1.4	2.56E+05	0.84	Y	1.18	2.08	3719.219	0.303
1268-TCDD	NotFnd		0.9500						1.18		3719.219	0.303
1478-TCDD	26.99	EMPC	0.9584	0.9577	-1.1	1.78E+05	1.00	N	1.18	1.45	3719.219	0.303
1279-TCDD	NotFnd		0.9648						1.18		3719.219	0.303
1234/1269-TCDD	NotFnd		0.9770						1.18		3719.219	0.303
1236-TCDD	NotFnd		0.9821						1.18		3719.219	0.303
1237/1238-TCDD	27.92	EMPC	0.9909	0.9907	-0.3	1.20E+06	0.89	N	1.18	9.73	3719.219	0.303
1239-TCDD	NotFnd		0.9959						1.18		3719.219	0.303
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	7.50E+07	0.82	Y	**1.18**	**608**	**3719.219**	**0.303**
1278-TCDD	28.53		1.0123	1.0125	+0.3	6.47E+06	0.84	Y	1.18	52.5	3719.219	0.303
1267-TCDD	NotFnd		1.0172						1.18		3719.219	0.303
1289-TCDD	NotFnd		1.0354						1.18		3719.219	0.303
12479/12468-PeCDD	31.12		0.9267	0.9258	-1.7	5.37E+05	1.57	Y	1.04	5.04	5293.739	0.429
12469-PeCDD	31.66		0.9426	0.9419	-1.3	4.06E+05	1.55	Y	1.04	3.81	5293.739	0.429
12368-PeCDD	32.21		0.9587	0.9582	-1.0	3.02E+05	1.70	Y	1.04	2.84	5293.739	0.429
12478-PeCDD	32.40	J	0.9642	0.9639	-0.6	1.72E+05	1.52	Y	1.04	1.62	5293.739	0.429
12379-PeCDD	32.51	J EMPC	0.9674	0.9671	-0.6	1.06E+05	1.99	N	1.04	0.998	5293.739	0.429
12369/12467/12489-PeCDD	32.77	J	0.9752	0.9749	-0.6	2.31E+05	1.63	Y	1.04	2.17	5293.739	0.429
12346/12347-PeCDD	33.14	J	0.9861	0.9859	-0.4	6.80E+04	1.51	Y	1.04	0.638	5293.739	0.429
12378-PeCDD	33.63		**1.0006**	**1.0005**	**-0.2**	**7.70E+05**	**1.78**	**Y**	**1.04**	**7.23**	**5293.739**	**0.429**
12367-PeCDD	NotFnd		1.0036						1.04		5293.739	0.429
12389-PeCDD	NotFnd		1.0139						1.04		5293.739	0.429
124679/124689-HxCDD	35.87		0.9541	0.9541	0	5.18E+06	1.27	Y	1.10	46.1	9832.144	0.769
123468-HxCDD	36.53		0.9715	0.9717	+0.4	5.74E+05	1.29	Y	1.10	5.1	9832.144	0.769
123679/123689-HxCDD	36.82		0.9793	0.9794	+0.2	3.26E+06	1.28	Y	1.10	29	9832.144	0.769
123469-HxCDD	36.96	J	0.9831	0.9830	-0.2	2.42E+05	1.39	Y	1.10	2.15	9832.144	0.769
123478-HxCDD	37.61		**1.0004**	**1.0004**	**0**	**2.69E+05**	**1.33**	**Y**	1.09	**2.45**	**9832.144**	**0.783**
123678-HxCDD	37.73		**1.0036**	**1.0036**	**0**	**9.99E+05**	**1.21**	**Y**	1.15	**8.79**	**9832.144**	**0.764**
123467-HxCDD	37.94	J EMPC	1.0089	1.0092	+0.7	1.43E+05	1.49	N	1.10	1.28	9832.144	0.769
123789-HxCDD	38.04		**1.0118**	**1.0118**	**0**	**6.13E+05**	**1.24**	**Y**	1.05	**5.41**	**9832.144**	**0.763**

Lab ID: B6169_18833_DF_015 **Acq'd:** 18 Jan 2022 00:03 DTF **Wt/Vol:** 10.23 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-29 **UTP:** 18-Jan-2022 09:06:17 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 566-164-PNP

Datafile: 220117C19 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

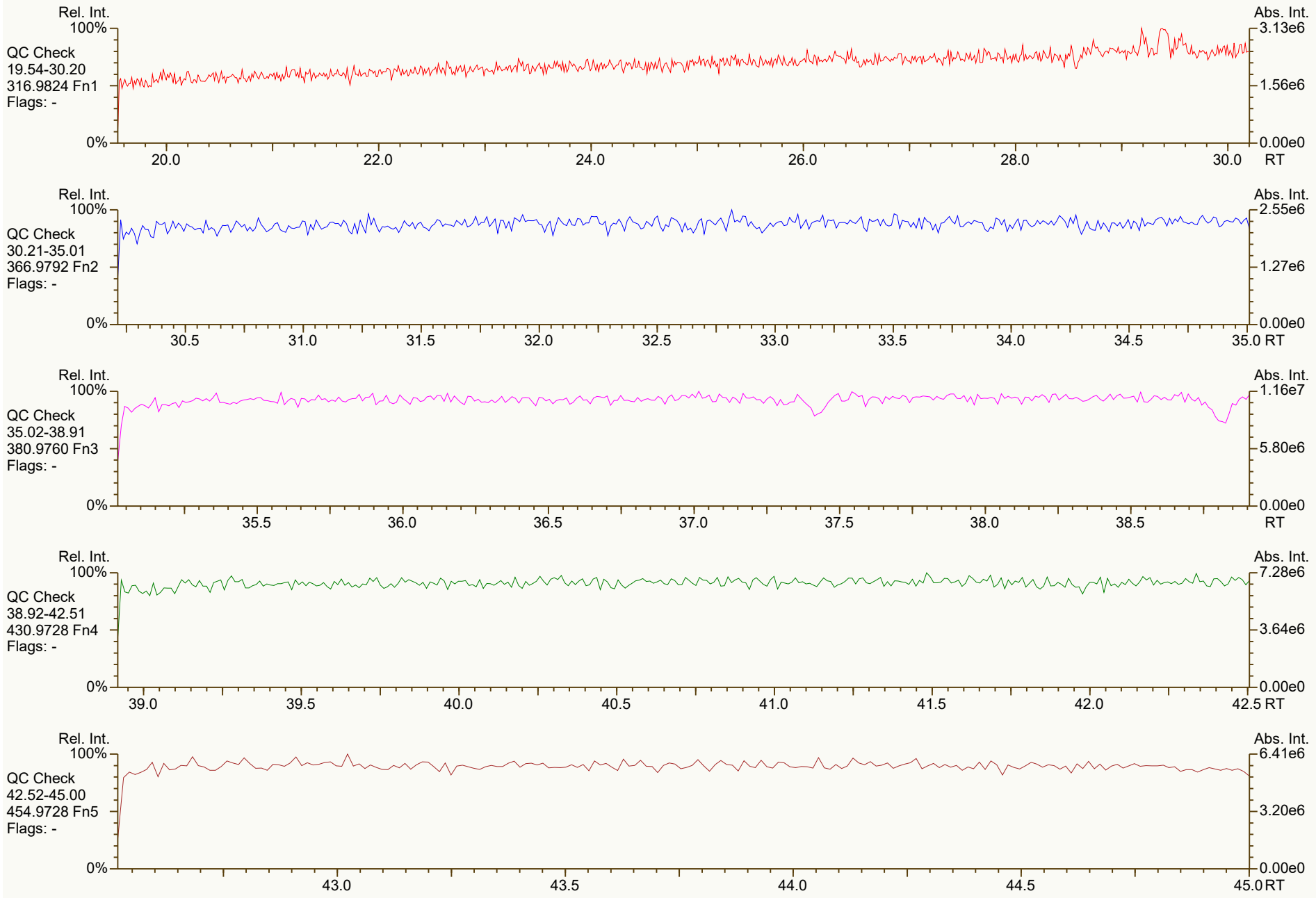
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9835	0	2.82E+07	1.03	Y	1.06	266	4885.999	0.444
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**2.09E+07**	**1.05**	**Y**	**1.06**	**198**	**4885.999**	**0.444**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**2.03E+08**	**0.91**	**Y**	**1.13**	**3,010**	**4972.516**	**1.06**
OCDD-a	43.63		1.0002	1.0002	0	1.29E+07	2.44	Y	0.07	3,000	4577.054	15.2
1368-TCDF	22.41	EMPC	0.8250	0.8208	-5.6	1.75E+05	0.90	N	1.08	0.952	3737.639	0.213
1468-TCDF	22.99		0.8494	0.8423	-9.8	6.49E+05	0.79	Y	1.08	3.53	3737.639	0.213
2468-TCDF	23.62		0.8684	0.8653	-4.4	8.47E+05	0.84	Y	1.08	4.61	3737.639	0.213
1346/1246-TCDF	NotFnd		0.8815						1.08		3737.639	0.213
1347/1378/1247-TCDF	24.16		0.8867	0.8848	-2.8	3.82E+06	0.84	Y	1.08	20.8	3737.639	0.213
1348-TCDF	NotFnd		0.8966						1.08		3737.639	0.213
1248/1367/1379-TCDF	24.51		0.9012	0.8976	-5.3	1.50E+07	0.83	Y	1.08	81.4	3737.639	0.213
1268-TCDF	24.93		0.9148	0.9130	-2.7	5.38E+06	0.81	Y	1.08	29.3	3737.639	0.213
1467-TCDF	25.06		0.9197	0.9180	-2.6	7.02E+05	0.75	Y	1.08	3.82	3737.639	0.213
1478-TCDF	25.23		0.9258	0.9240	-2.7	1.27E+07	0.83	Y	1.08	69.3	3737.639	0.213
1369/1237-TCDF	25.61		0.9390	0.9380	-1.5	3.30E+06	0.82	Y	1.08	17.9	3737.639	0.213
2467-TCDF	25.74		0.9435	0.9427	-1.2	3.90E+05	0.84	Y	1.08	2.12	3737.639	0.213
2368-TCDF	25.87		0.9488	0.9477	-1.7	8.64E+06	0.79	Y	1.08	47	3737.639	0.213
1238/1234/1678/1469/1236-TCDF	25.96		0.9527	0.9510	-2.6	1.56E+07	0.82	Y	1.08	84.8	3737.639	0.213
1278-TCDF	26.43		0.9689	0.9682	-1.1	1.44E+08	0.82	Y	1.08	781	3737.639	0.213
1349-TCDF	NotFnd		0.9730						1.08		3737.639	0.213
1267-TCDF	26.71		0.9787	0.9782	-0.8	7.86E+06	0.82	Y	1.08	42.8	3737.639	0.213
2346/1249-TCDF	26.91		0.9856	0.9857	+0.2	8.71E+05	0.76	Y	1.08	4.74	3737.639	0.213
2347/1279-TCDF	27.11		0.9934	0.9929	-0.8	3.77E+06	0.83	Y	1.08	20.5	3737.639	0.213
2348-TCDF	27.21	EMPC	0.9972	0.9968	-0.7	1.70E+07	1.01	N	1.08	92.2	3737.639	0.213
2378-TCDF	**27.32**	E	**1.0008**	**1.0008**	**0**	**3.08E+08**	**0.80**	**Y**	**1.08**	**1,680**	**3737.639**	**0.213**
2367/3467-TCDF	27.69		1.0145	1.0142	-0.5	2.55E+07	0.81	Y	1.08	139	3737.639	0.213
1269-TCDF	27.95		1.0236	1.0236	0	4.86E+06	0.77	Y	1.08	26.4	3737.639	0.213
1239-TCDF	28.21		1.0333	1.0335	+0.3	3.80E+05	0.74	Y	1.08	2.07	3737.639	0.213
1289-TCDF	29.36		1.0740	1.0755	+2.6	2.51E+07	0.82	Y	1.08	137	3737.639	0.213
13468/12468-PeCDF	29.37		0.9138	0.9133	-0.9	1.54E+06	1.61	Y	1.02	9.43	3519.975	0.182
13678/13467/12467-PeCDF	30.91		0.9614	0.9613	-0.2	5.25E+05	1.75	Y	1.02	3.21	4788.035	0.248
12368/13478/12478-PeCDF	31.08		0.9661	0.9665	+0.7	6.16E+06	1.61	Y	1.02	37.7	4788.035	0.248
14678-PeCDF	NotFnd		0.9693						1.02		4788.035	0.248
13479-PeCDF	NotFnd		0.9722						1.02		4788.035	0.248
13469/12479-PeCDF	NotFnd		0.9800						1.02		4788.035	0.248
12346-PeCDF	NotFnd		0.9844						1.02		4788.035	0.248

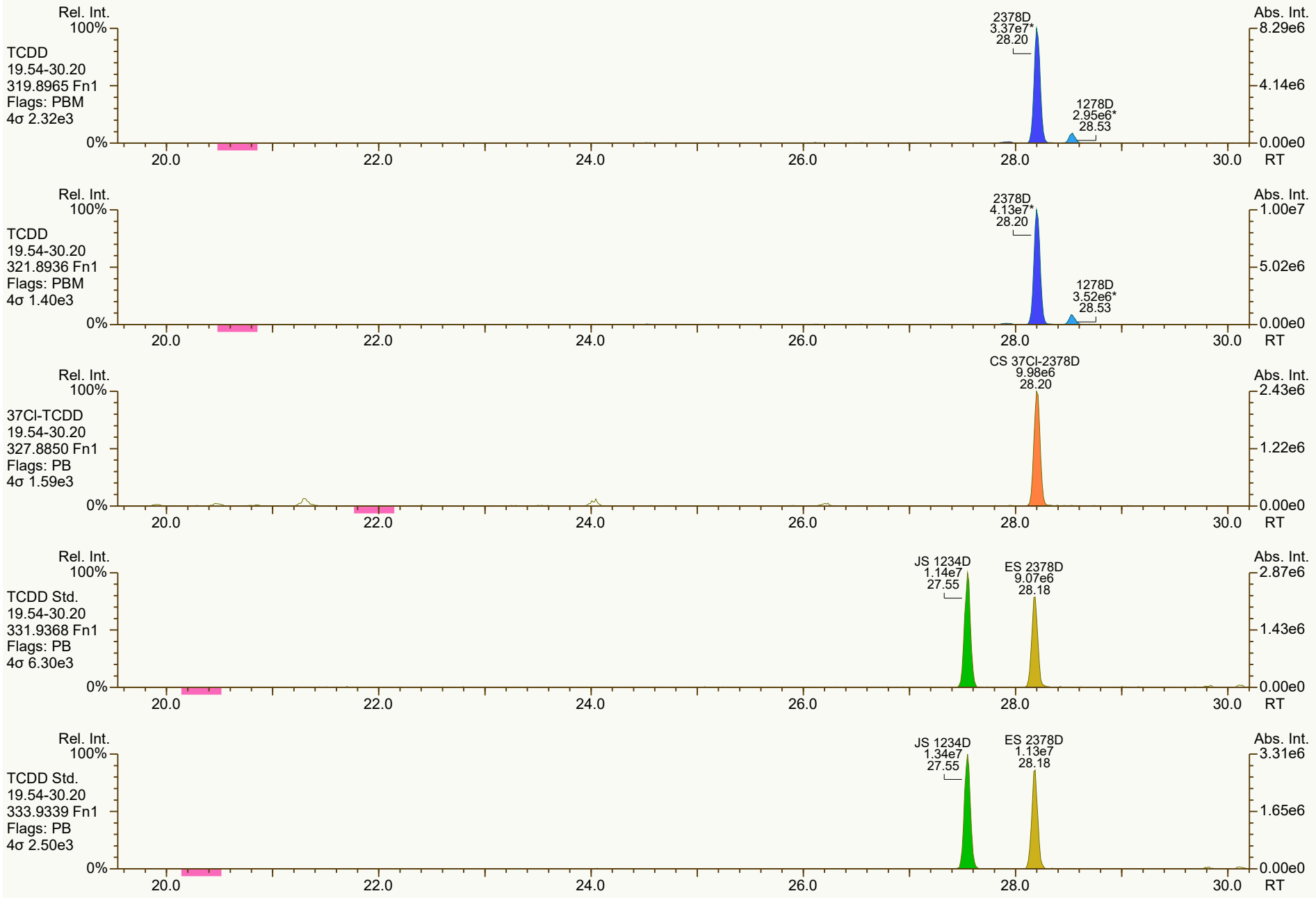
Lab ID: B6169_18833_DF_015 **Acq'd: 18 Jan 2022 00:03 DTF** **Wt/Vol: 10.23 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

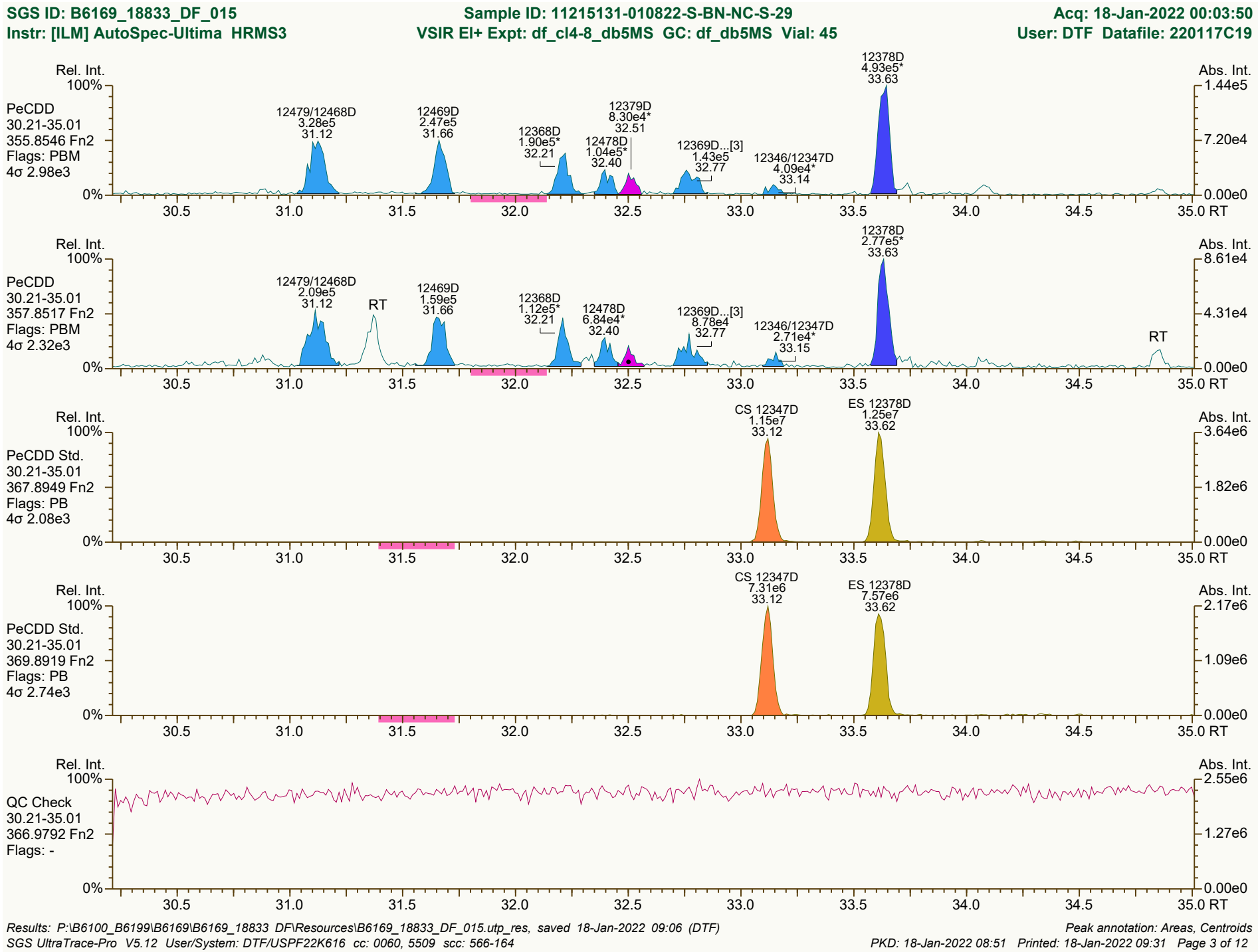
Client ID: 11215131-010822-S-BN-NC-S-29 **UTP: 18-Jan-2022 09:06:17 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 566-164-PNP**

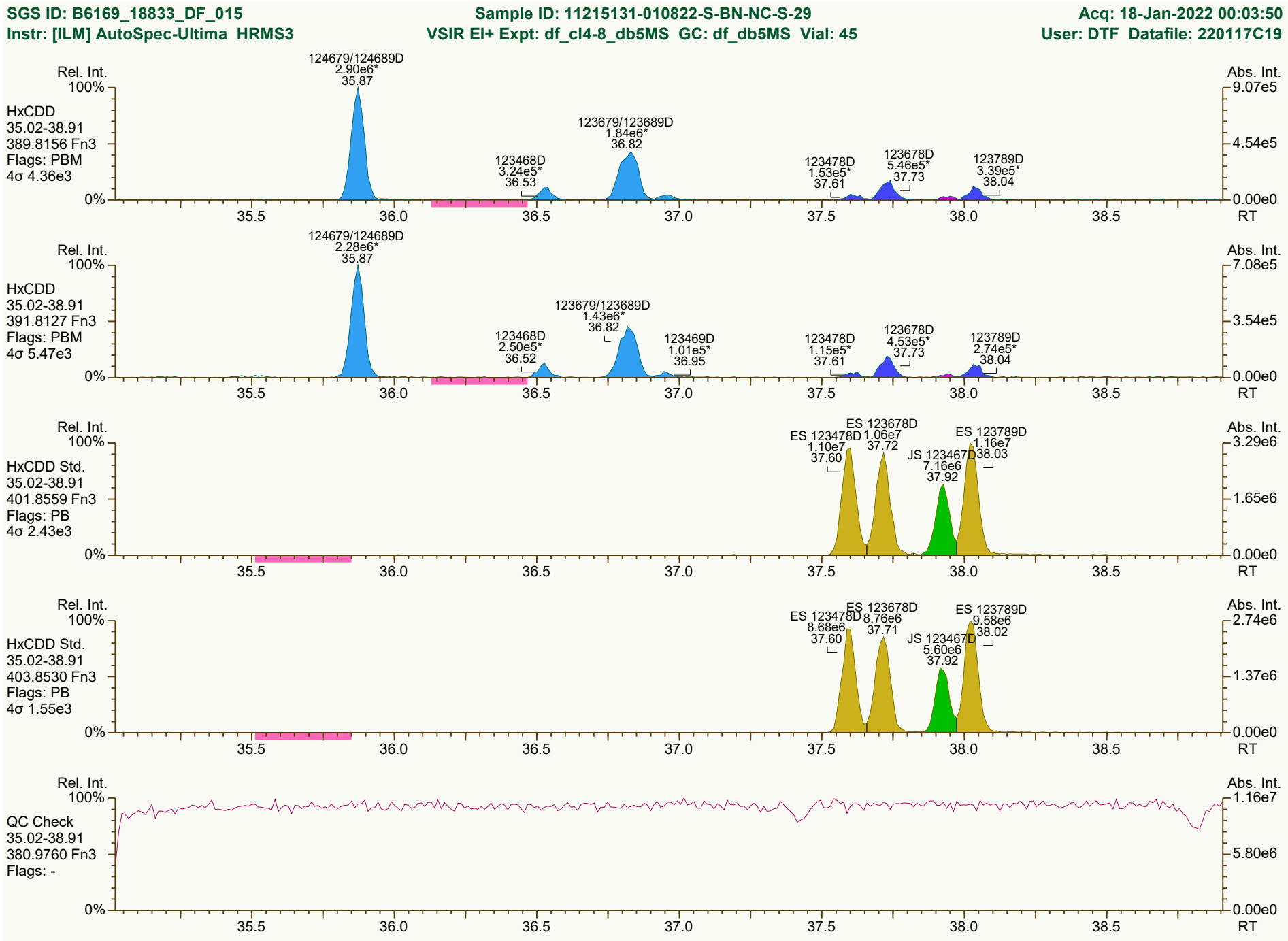
Datafile: 220117C19 **Report: 18 Jan 2022 09:11 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

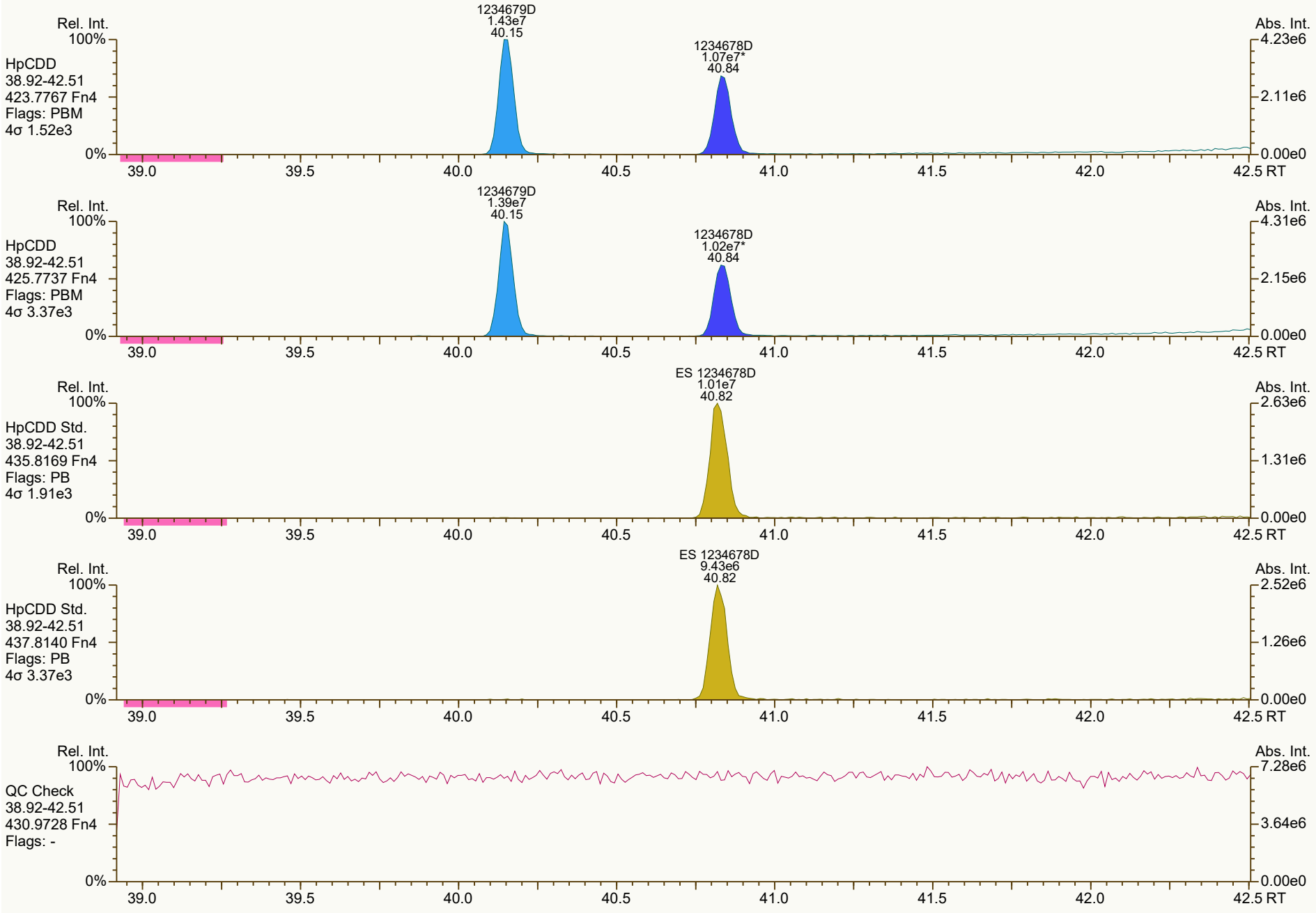
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71		0.9865	0.9863	-0.4	6.65E+05	1.45	Y	1.02	4.07	4788.035	0.248
12347-PeCDF	31.80	J	0.9890	0.9890	0	3.37E+05	1.57	Y	1.02	2.06	4788.035	0.248
12348-PeCDF	31.97		0.9942	0.9942	0	1.27E+06	1.50	Y	1.02	7.75	4788.035	0.248
12378-PeCDF	**32.17**		**1.0006**	**1.0006**	**0**	**1.16E+07**	**1.48**	**Y**	**1.02**	**71.2**	**4788.035**	**0.248**
12678/12367-PeCDF	32.47		1.0090	1.0098	+1.6	3.60E+06	1.59	Y	1.02	22	4788.035	0.248
12379-PeCDF	NotFnd		1.0142						1.02		4788.035	0.248
12679-PeCDF	NotFnd		0.9933						1.02		4788.035	0.248
23467/12369-PeCDF	33.16	J EMPC	0.9969	0.9969	0	2.80E+05	1.25	N	1.02	1.71	4788.035	0.248
23478-PeCDF	**33.29**		**1.0006**	**1.0008**	**+0.4**	**8.50E+06**	**1.63**	**Y**	**1.02**	**51.8**	**4788.035**	**0.247**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4788.035	0.248
12349-PeCDF	NotFnd		1.0107						1.02		4788.035	0.248
12389-PeCDF	34.37	EMPC	1.0330	1.0332	+0.4	4.37E+05	1.92	N	1.02	2.67	4788.035	0.248
123468-HxCDF	35.21		0.9627	0.9625	-0.4	1.03E+06	1.36	Y	1.19	6.08	11112.955	0.557
124678/134678-HxCDF	35.41		0.9682	0.9678	-0.8	4.15E+06	1.31	Y	1.19	24.5	11112.955	0.557
134679-HxCDF	NotFnd		0.9744						1.19		11112.955	0.557
124679-HxCDF	35.84	J	0.9798	0.9795	-0.6	1.77E+05	1.16	Y	1.19	1.05	11112.955	0.557
124689-HxCDF	36.06		0.9858	0.9857	-0.2	3.27E+06	1.34	Y	1.19	19.4	11112.955	0.557
123467-HxCDF	36.48	J	0.9973	0.9972	-0.2	3.45E+05	1.11	Y	1.19	2.04	11112.955	0.557
123478-HxCDF	**36.60**		**1.0005**	**1.0004**	**-0.2**	**1.93E+07**	**1.26**	**Y**	**1.27**	**111**	**11112.955**	**0.497**
123678-HxCDF	**36.74**		**1.0004**	**1.0004**	**0**	**5.40E+06**	**1.23**	**Y**	**1.15**	**29.7**	**11112.955**	**0.507**
123479-HxCDF	NotFnd		1.0051						1.19		11112.955	0.557
123469-HxCDF	37.06	J EMPC	1.0093	1.0091	-0.4	1.58E+05	1.60	N	1.19	0.937	11112.955	0.557
123679-HxCDF	NotFnd		0.9944						1.19		11112.955	0.557
234678-HxCDF	**37.42**		**1.0005**	**1.0005**	**0**	**1.28E+06**	**1.24**	**Y**	**1.19**	**7.92**	**11112.955**	**0.629**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11112.955	0.557
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**11112.955**	**0.611**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.43		1.0008	1.0012	+0.9	1.68E+06	1.24	Y	1.19	9.93	11112.955	0.557
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.42E+07**	**1.00**	**Y**	**1.37**	**89.1**	**4459.605**	**0.23**
1234679-HpCDF	40.14		1.0069	1.0071	+0.5	4.78E+05	1.11	Y	1.34	3.35	4459.605	0.264
1234689-HpCDF	40.29		1.0103	1.0107	+1.0	9.54E+06	1.06	Y	1.34	66.8	4459.605	0.264
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**2.14E+06**	**0.99**	**Y**	**1.31**	**16.8**	**4459.605**	**0.306**
OCDF	**43.80**		**1.0003**	**1.0003**	**0**	**1.14E+08**	**0.89**	**Y**	**1.07**	**1,290**	**4340.744**	**0.685**
OCDF-a	43.79		1.0002	1.0002	0	7.30E+06	2.52	Y	0.07	1,330	3399.331	8.66

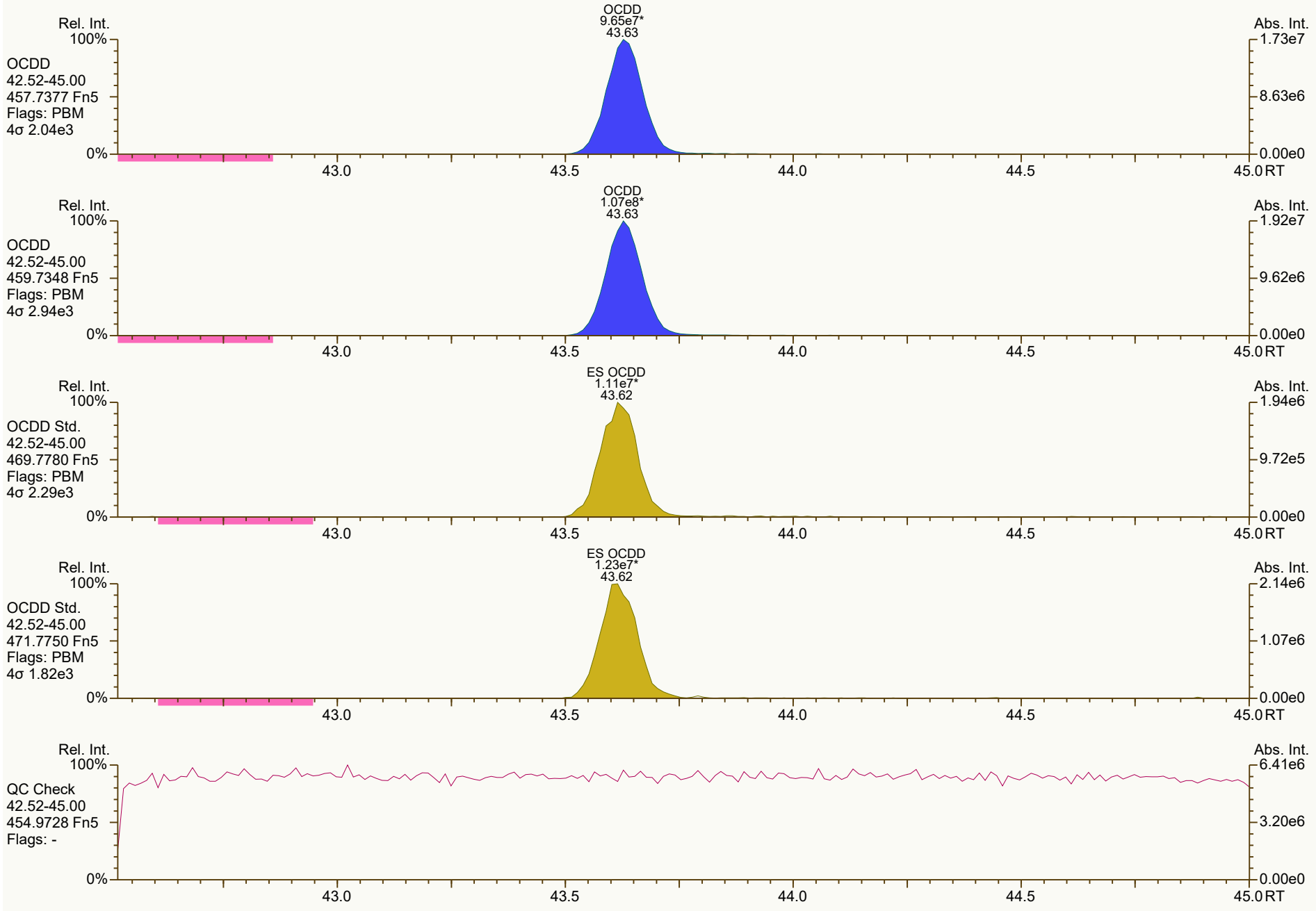

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.13e6
1.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.55e6
1.27e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.16e7
5.80e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.28e6
3.64e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

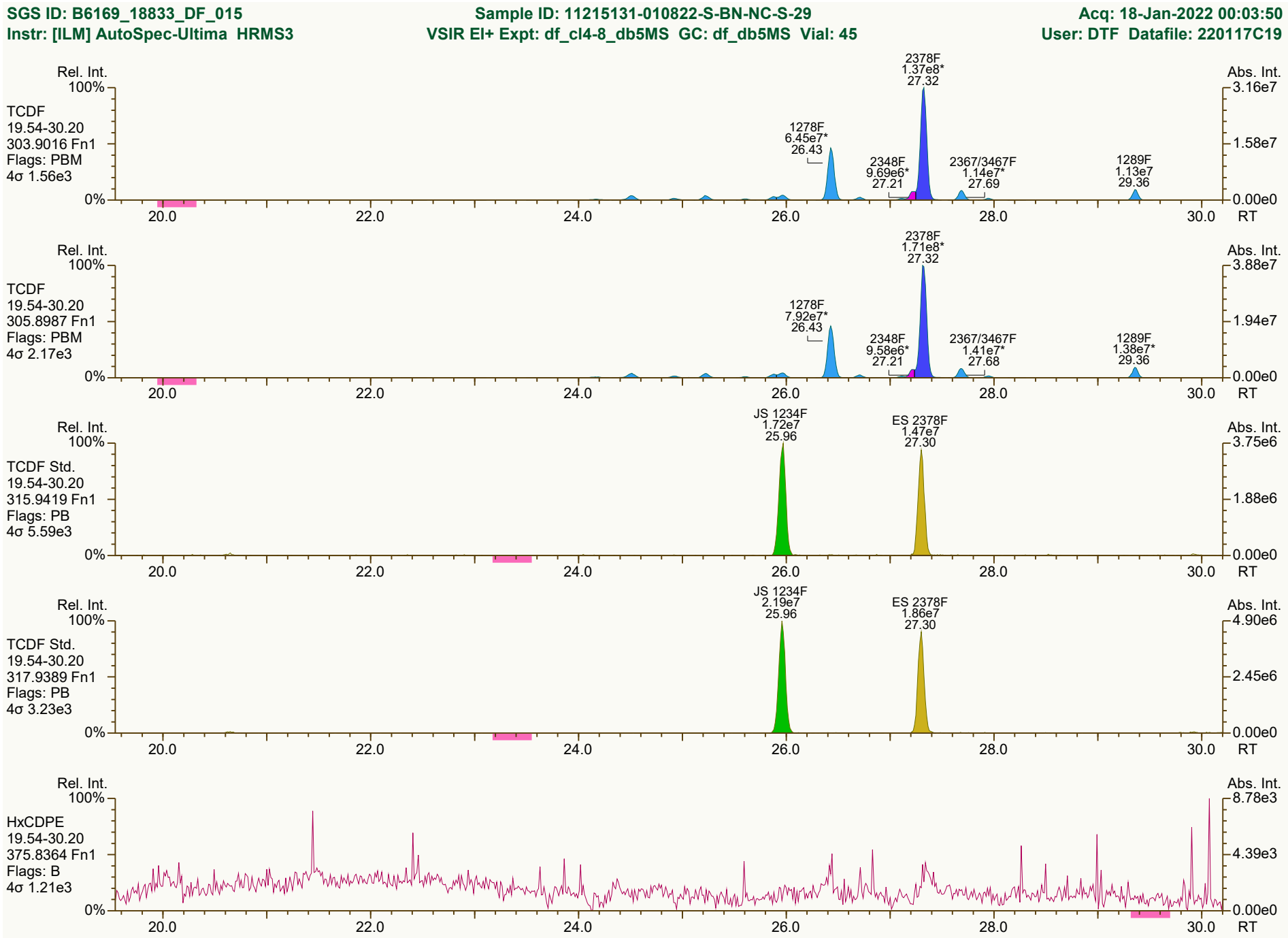

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.32e3
0%
2378D
3.37e7*
28.20
1278D
2.95e6*
28.53
Abs. Int.
8.29e6
4.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.40e3
0%
2378D
4.13e7*
28.20
1278D
3.52e6*
28.53
Abs. Int.
1.00e7
5.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.59e3
0%
CS 37Cl-2378D
9.98e6
28.20
Abs. Int.
2.43e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.30e3
0%
JS 1234D
1.14e7
27.55
ES 2378D
9.07e6
28.18
Abs. Int.
2.87e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.50e3
0%
JS 1234D
1.34e7
27.55
ES 2378D
1.13e7
28.18
Abs. Int.
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1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

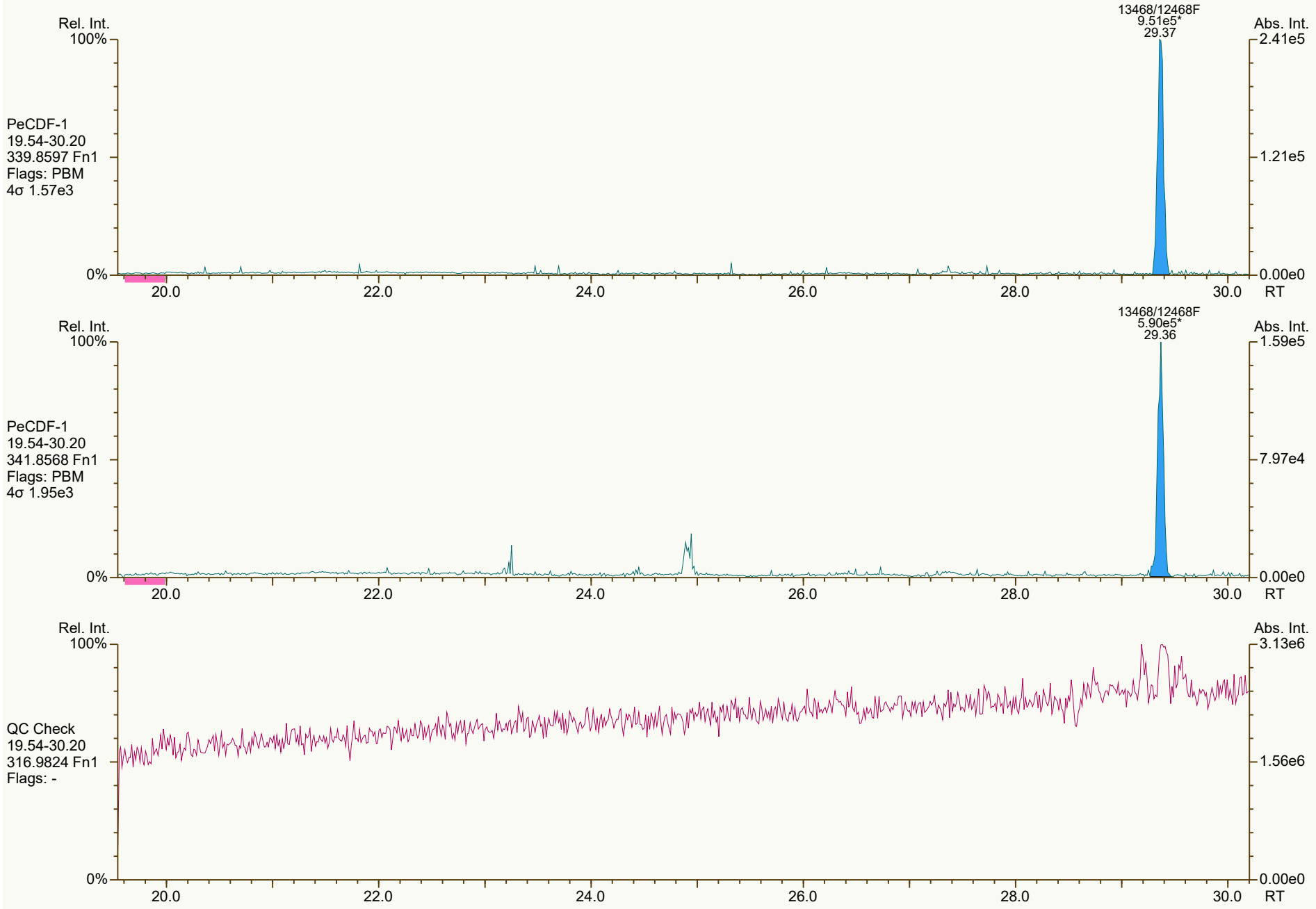

SGS ID: B6169_18833_DF_015
Sample ID: 11215131-010822-S-BN-NC-S-29
Acq: 18-Jan-2022 00:03:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220117C19
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.98e3
12479/12468D 3.28e5 31.12
12469D 2.47e5 31.66
12368D 1.90e5* 32.21
12379D 8.30e4* 32.51
12478D 1.04e5* 32.40
12369D...[3] 1.43e5 32.77
12346/12347D 4.09e4* 33.14
12378D 4.93e5* 33.63
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.32e3
12479/12468D 2.09e5 31.12
RT
12469D 1.59e5 31.66
12368D 1.12e5* 32.21
12478D 6.84e4* 32.40
12369D...[3] 8.78e4 32.77
12346/12347D 2.71e4* 33.15
12378D 2.77e5* 33.63
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.08e3
CS 12347D 1.15e7 33.12
ES 12378D 1.25e7 33.62
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.74e3
CS 12347D 7.31e6 33.12
ES 12378D 7.57e6 33.62
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
1.44e5
7.20e4
0.00e0
8.61e4
4.31e4
3.64e6
1.82e6
2.17e6
1.09e6
2.55e6
1.27e6
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_015.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0060, 5509 scc: 566-164
PKD: 18-Jan-2022 08:51 Printed: 18-Jan-2022 09:31 Page 3 of 12

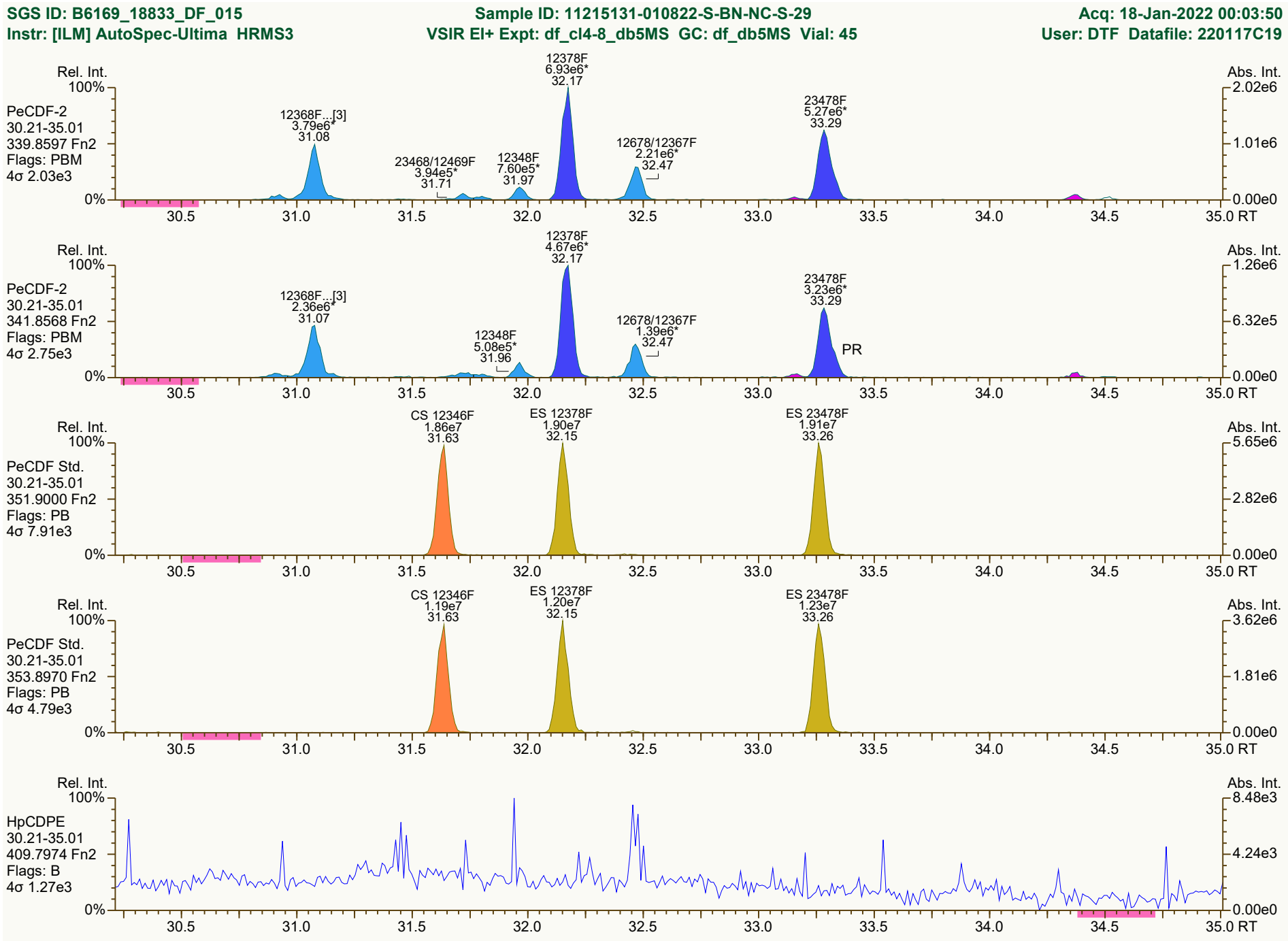

SGS ID: B6169_18833_DF_015
Sample ID: 11215131-010822-S-BN-NC-S-29
Acq: 18-Jan-2022 00:03:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220117C19
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 4.36e3
124679/124689D
2.90e6*
35.87
123679/123689D
1.84e6*
36.82
123468D
3.24e5*
36.53
123478D
1.53e5*
37.61
123678D
5.46e5*
37.73
123789D
3.39e5*
38.04
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 5.47e3
124679/124689D
2.28e6*
35.87
123679/123689D
1.43e6*
36.82
123468D
2.50e5*
36.52
123469D
1.01e5*
36.95
123478D
1.15e5*
37.61
123678D
4.53e5*
37.73
123789D
2.74e5*
38.04
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 2.43e3
ES 123478D
1.10e7
37.60
ES 123678D
1.06e7
37.72
JS 123467D
7.16e6
37.92
ES 123789D
1.16e7
38.03
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.55e3
ES 123478D
8.68e6
37.60
ES 123678D
8.76e6
37.71
JS 123467D
5.60e6
37.92
ES 123789D
9.58e6
38.02
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
RT
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_015.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4871, 3463 scc: 566-164
Revised: 18-Jan-2022 08:48 (DTF) Printed: 18-Jan-2022 09:31 Page 4 of 12

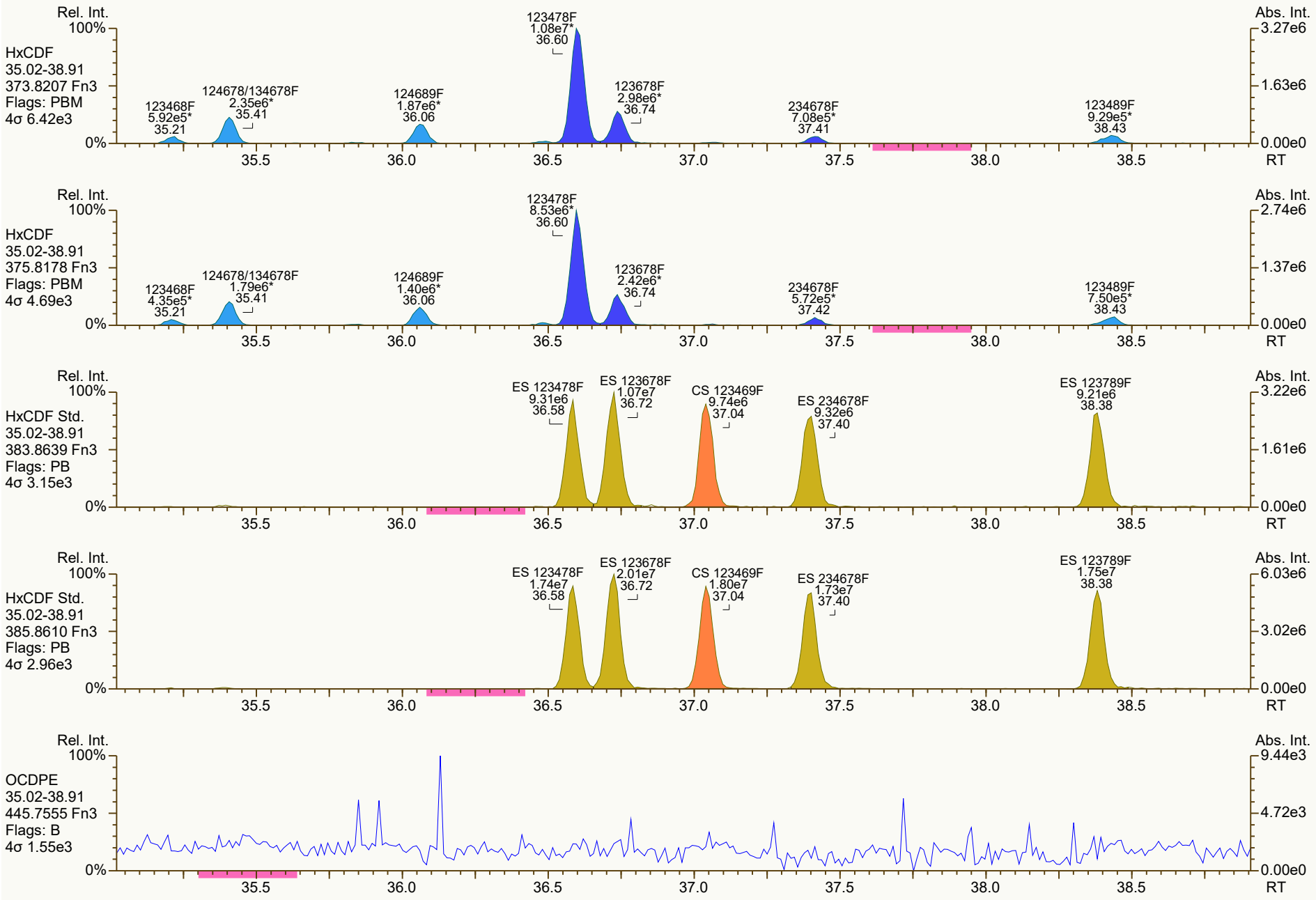

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234679D
1.43e7
40.15
1234678D
1.07e7*
40.84
Abs. Int.
4.23e6
2.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 3.37e3
1234679D
1.39e7
40.15
1234678D
1.02e7*
40.84
Abs. Int.
4.31e6
2.15e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.91e3
ES 1234678D
1.01e7
40.82
Abs. Int.
2.63e6
1.31e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 3.37e3
ES 1234678D
9.43e6
40.82
Abs. Int.
2.52e6
1.26e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
7.28e6
3.64e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

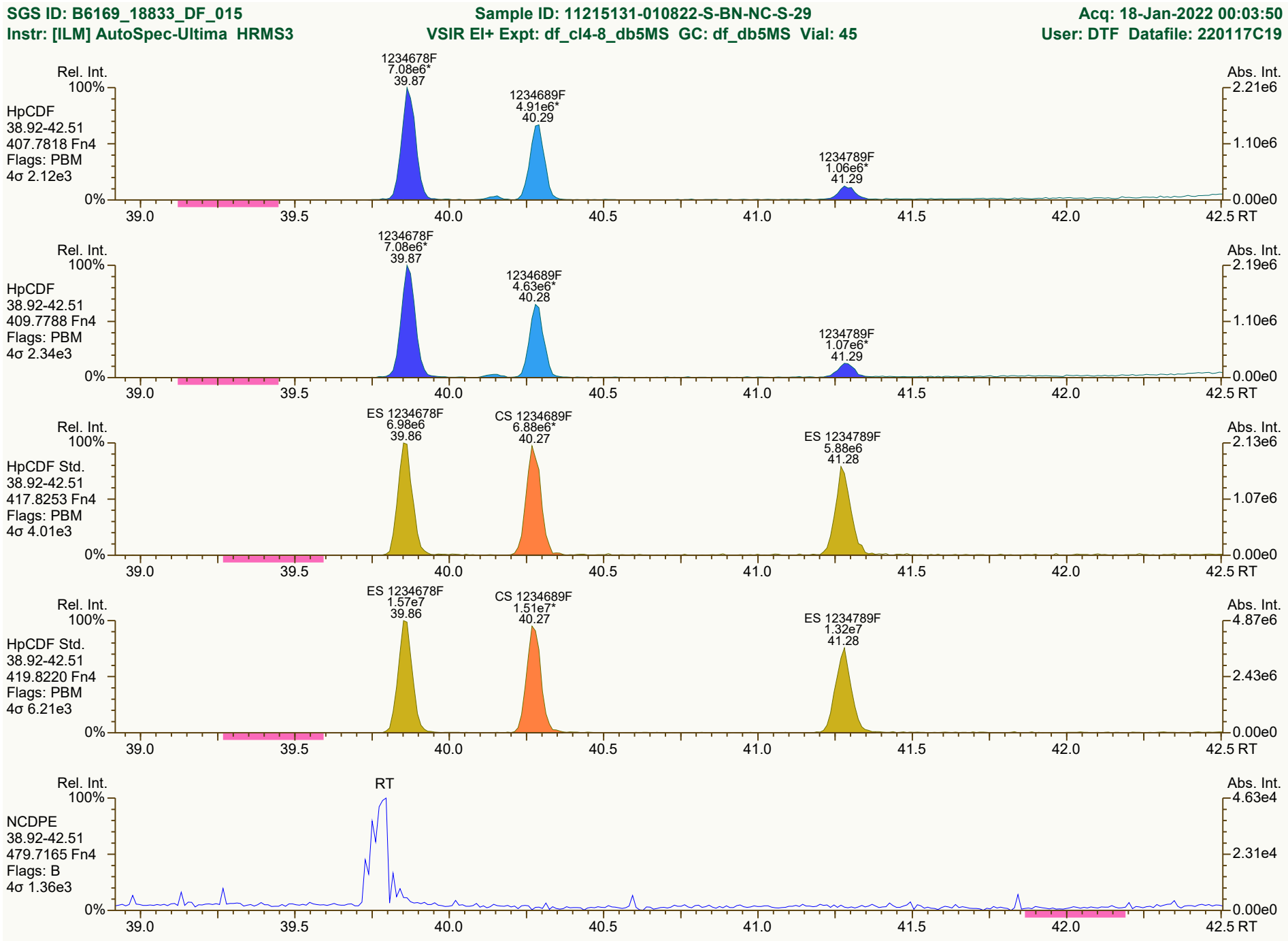

OCDD
9.65e7*
43.63
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.04e3
0%
Abs. Int.
1.73e7
8.63e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.07e8*
43.63
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.94e3
1.92e7
9.62e6
ES OCDD
1.11e7*
43.62
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 2.29e3
1.94e6
9.72e5
ES OCDD
1.23e7*
43.62
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 1.82e3
2.14e6
1.07e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
6.41e6
3.20e6

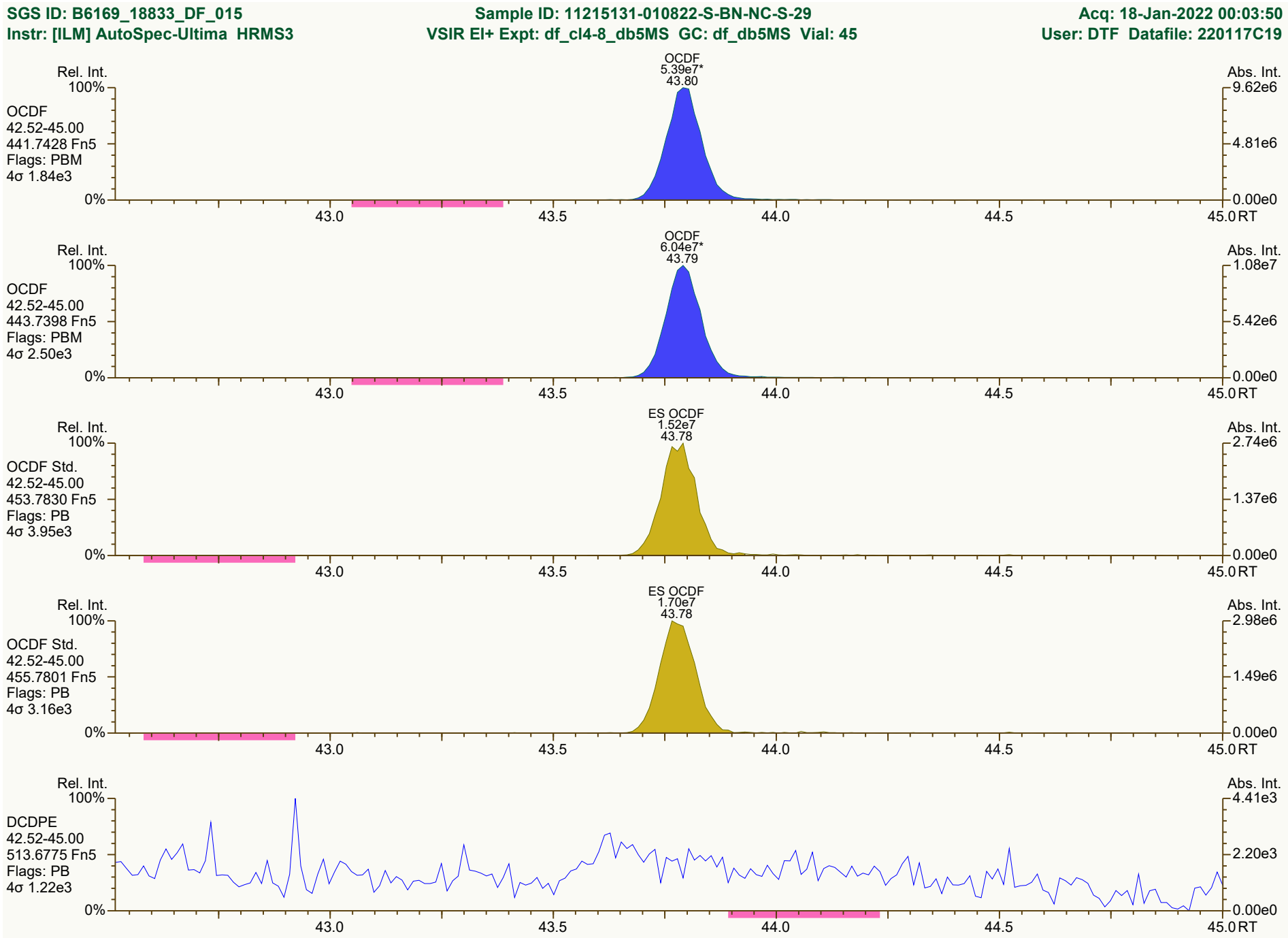

SGS ID: B6169_18833_DF_015
Sample ID: 11215131-010822-S-BN-NC-S-29
Acq: 18-Jan-2022 00:03:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220117C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.56e3
2378F
1.37e8*
27.32
1278F
6.45e7*
26.43
2348F
9.69e6*
27.21
2367/3467F
1.14e7*
27.69
1289F
1.13e7
29.36
3.16e7
1.58e7
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.17e3
2378F
1.71e8*
27.32
1278F
7.92e7*
26.43
2348F
9.58e6*
27.21
2367/3467F
1.41e7*
27.68
1289F
1.38e7*
29.36
3.88e7
1.94e7
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.59e3
JS 1234F
1.72e7
25.96
ES 2378F
1.47e7
27.30
3.75e6
1.88e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.23e3
JS 1234F
2.19e7
25.96
ES 2378F
1.86e7
27.30
4.90e6
2.45e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
8.78e3
4.39e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_015.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5226, 5042, 5224 scc: 566-164
Revised: 18-Jan-2022 08:49 (DTF) Printed: 18-Jan-2022 09:31 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.57e3
13468/12468F
9.51e5*
29.37
Abs. Int.
2.41e5
1.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.95e3
13468/12468F
5.90e5*
29.36
Abs. Int.
1.59e5
7.97e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.13e6
1.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_015
Sample ID: 11215131-010822-S-BN-NC-S-29
Acq: 18-Jan-2022 00:03:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220117C19
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 2.03e3
12368F...[3] 3.79e6* 31.08
23468/12469F 3.94e5* 31.71
12348F 7.60e5* 31.97
12378F 6.93e6* 32.17
12678/12367F 2.21e6* 32.47
23478F 5.27e6* 33.29
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.75e3
12368F...[3] 2.36e6* 31.07
12348F 5.08e5* 31.96
12378F 4.67e6* 32.17
12678/12367F 1.39e6* 32.47
23478F 3.23e6* 33.29
PR
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 7.91e3
CS 12346F 1.86e7 31.63
ES 12378F 1.90e7 32.15
ES 23478F 1.91e7 33.26
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 4.79e3
CS 12346F 1.19e7 31.63
ES 12378F 1.20e7 32.15
ES 23478F 1.23e7 33.26
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.27e3
Rel. Int.
Abs. Int.
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_015.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0979, 0442, 3787 scc: 566-164
Revised: 18-Jan-2022 08:49 (DTF) Printed: 18-Jan-2022 09:31 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 6.42e3
123468F 5.92e5* 35.21
124678/134678F 2.35e6* 35.41
124689F 1.87e6* 36.06
123478F 1.08e7* 36.60
123678F 2.98e6* 36.74
234678F 7.08e5* 37.41
123489F 9.29e5* 38.43
Abs. Int.
3.27e6
1.63e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 4.69e3
123468F 4.35e5* 35.21
124678/134678F 1.79e6* 35.41
124689F 1.40e6* 36.06
123478F 8.53e6* 36.60
123678F 2.42e6* 36.74
234678F 5.72e5* 37.42
123489F 7.50e5* 38.43
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 3.15e3
ES 123478F 9.31e6 36.58
ES 123678F 1.07e7 36.72
CS 123469F 9.74e6 37.04
ES 234678F 9.32e6 37.40
ES 123789F 9.21e6 38.38
Abs. Int.
3.22e6
1.61e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 2.96e3
ES 123478F 1.74e7 36.58
ES 123678F 2.01e7 36.72
CS 123469F 1.80e7 37.04
ES 234678F 1.73e7 37.40
ES 123789F 1.75e7 38.38
Abs. Int.
6.03e6
3.02e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.44e3
4.72e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6169_18833_DF_015
Sample ID: 11215131-010822-S-BN-NC-S-29
Acq: 18-Jan-2022 00:03:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220117C19
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.12e3
1234678F
7.08e6*
39.87
1234689F
4.91e6*
40.29
1234789F
1.06e6*
41.29
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.34e3
1234678F
7.08e6*
39.87
1234689F
4.63e6*
40.28
1234789F
1.07e6*
41.29
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 4.01e3
ES 1234678F
6.98e6
39.86
CS 1234689F
6.88e6*
40.27
ES 1234789F
5.88e6
41.28
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 6.21e3
ES 1234678F
1.57e7
39.86
CS 1234689F
1.51e7*
40.27
ES 1234789F
1.32e7
41.28
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.36e3
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


SGS ID: B6169_18833_DF_015
Sample ID: 11215131-010822-S-BN-NC-S-29
Acq: 18-Jan-2022 00:03:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220117C19
OCDF
5.39e7*
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
9.62e6
4.81e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.04e7*
43.79
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.50e3
1.08e7
5.42e6
ES OCDF
1.52e7
43.78
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 3.95e3
2.74e6
1.37e6
ES OCDF
1.70e7
43.78
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 3.16e3
2.98e6
1.49e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.22e3
4.41e3
2.20e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_015.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0964, 1396, 4717 scc: 566-164
Revised: 18-Jan-2022 08:51 (DTF) Printed: 18-Jan-2022 09:31 Page 12 of 12

Lab ID: B6169_18833_DF_016 **Acq'd:** 18 Jan 2022 00:50 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-26 **UTP:** 18-Jan-2022 09:06:18 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 259-031-TTB

Datafile: 220117C20 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0009	+0.2	1.08E+08	0.81	Y	1.18	852	3485.5411	0.281
12378-PeCDD	33.63		1.0006	1.0005	-0.2	1.02E+06	1.55	Y	1.04	8.94	5983.929	0.45
123478-HxCDD	37.61	J	1.0004	1.0004	0	2.49E+05	1.38	Y	1.09	2.06	4530.239	0.329
123678-HxCDD	37.73		1.0036	1.0036	0	1.21E+06	1.26	Y	1.15	9.36	4530.239	0.32
123789-HxCDD	38.04		1.0118	1.0118	0	6.98E+05	1.21	Y	1.05	5.51	4530.239	0.321
1234678-HpCDD	40.84		1.0003	1.0003	0	3.03E+07	1.06	Y	1.06	274	4564.397	0.362
OCDD	43.63		1.0003	1.0003	0	3.13E+08	0.91	Y	1.13	4,300	4980.261	0.897
2378-TCDF	27.31	E	1.0008	1.0008	0	4.70E+08	0.81	Y	1.08	2,450	2731.57	0.154
12378-PeCDF	32.17		1.0006	1.0005	-0.2	1.70E+07	1.59	Y	1.02	96.2	4450.794	0.224
23478-PeCDF	33.29		1.0006	1.0008	+0.4	1.24E+07	1.57	Y	1.02	72.3	4450.794	0.221
123478-HxCDF	36.60		1.0005	1.0004	-0.2	2.84E+07	1.26	Y	1.27	155	14296.731	0.593
123678-HxCDF	36.74		1.0004	1.0005	+0.2	8.09E+06	1.20	Y	1.15	40.5	14296.731	0.6
234678-HxCDF	37.41		1.0005	1.0004	-0.2	1.84E+06	1.19	Y	1.19	9.22	14296.731	0.645
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	14296.731	0.71
1234678-HpCDF	39.87		1.0003	1.0003	0	1.57E+07	1.03	Y	1.37	91.3	3645.129	0.16
1234789-HpCDF	41.29		1.0003	1.0003	0	2.88E+06	1.03	Y	1.31	21.5	3645.129	0.256
OCDF	43.79		1.0003	1.0003	0	4.00E+07	0.92	Y	1.07	423	5327.316	0.747

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0231	1.0230	-0.2	2.12E+07	0.85	Y	1.05	79.2
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	2.17E+07	1.56	Y	0.88	96.4
ES 123478-HxCDD	37.59	0.9913	0.9914	+0.2	2.19E+07	1.37	Y	0.97	90.8
ES 123678-HxCDD	37.71	0.9944	0.9945	+0.2	2.23E+07	1.27	Y	0.94	95.2
ES 123789-HxCDD	38.02	1.0026	1.0027	+0.2	2.39E+07	1.27	Y	1.09	88.3
ES 1234678-HpCDD	40.82	1.0760	1.0766	+1.5	2.06E+07	1.07	Y	0.91	91
ES OCDD	43.61	1.1489	1.1501	+3.1	2.56E+07	0.88	Y	0.62	82.6
ES 2378-TCDF	27.29	1.0515	1.0516	+0.2	3.51E+07	0.84	Y	1.06	78
ES 12378-PeCDF	32.15	1.2378	1.2389	+2.1	3.41E+07	1.54	Y	0.91	88
ES 23478-PeCDF	33.26	1.2804	1.2817	+2.6	3.32E+07	1.60	Y	0.88	88.5
ES 123478-HxCDF	36.58	0.9647	0.9648	+0.2	2.84E+07	0.55	Y	1.20	95.5
ES 123678-HxCDF	36.72	0.9684	0.9684	0	3.42E+07	0.54	Y	1.35	102
ES 234678-HxCDF	37.39	0.9861	0.9862	+0.2	3.33E+07	0.52	Y	1.24	108
ES 123789-HxCDF	38.38	1.0120	1.0121	+0.2	2.89E+07	0.54	Y	1.16	101
ES 1234678-HpCDF	39.86	1.0506	1.0511	+1.2	2.48E+07	0.48	Y	0.97	103
ES 1234789-HpCDF	41.28	1.0879	1.0886	+1.7	2.02E+07	0.45	Y	0.85	95.6
ES OCDF	43.78	1.1534	1.1545	+2.9	3.48E+07	0.94	Y	0.81	86.9

Lab ID: B6169_18833_DF_016 **Acq'd:** 18 Jan 2022 00:50 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010822-S-BN-NC-S-26 **UTP:** 18-Jan-2022 09:06:18 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 259-031-TTB

Datafile: 220117C20 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.56E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.25E+07	0.79	Y	-	-
JS 123467-HxCDD	37.92		-	-	-	1.24E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.19		1.0238	1.0238	0	1.13E+07	n/a	-	1.20	92.1
CS 12347-PeCDD	33.11		1.2018	1.2025	+1.4	2.18E+07	1.67	Y	0.75	113
CS 12346-PeCDF	31.63		1.2178	1.2188	+1.9	3.59E+07	1.50	Y	0.85	99.3
CS 123469-HxCDF	37.04		0.9768	0.9768	0	3.31E+07	0.52	Y	1.12	119
CS 1234689-HpCDF	40.27		1.0615	1.0620	+1.2	2.53E+07	0.45	Y	0.89	115
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0238~~	~~1.0238~~	~~0~~	~~1.13E+07~~	~~n/a~~		~~1.15~~	~~117~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2018~~	~~1.2025~~	~~+1.4~~	~~2.18E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2188~~	~~+1.9~~	~~3.59E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9768~~	~~0~~	~~3.31E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~117~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0620~~	~~+1.2~~	~~2.53E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~111~~

Totals	Conc	EMPC
Total TCDD	952	958
Total PeCDD	18.9	22.6
Total HxCDD	94.7	96.1
Total HpCDD	630	630
Total Tetra-Octa Dioxins	6000	6010
Total TCDF	4,690	4700
Total PeCDF	279	279
Total HxCDF	274	274
Total HpCDF	214	214
Total Tetra-Octa Furans	5,880	5890
Total Tetra-Octa Dioxins & Furans	11900	11900

Lab ID: B6169_18833_DF_016 **Acq'd: 18 Jan 2022 00:50 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010822-S-BN-NC-S-26 **UTP: 18-Jan-2022 09:06:18 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 259-031-TTB**

Datafile: 220117C20 **Report: 18 Jan 2022 09:11 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.52		0.8733	0.8705	-4.1	3.26E+05	0.80	Y	1.18	2.57	3485.5411	0.281
1379-TCDD	24.89	EMPC	0.8860	0.8835	-3.7	1.28E+05	0.95	N	1.18	1.01	3485.5411	0.281
1369-TCDD	NotFnd		0.9009						1.18		3485.5411	0.281
1469-TCDD	26.11	EMPC	0.9282	0.9269	-2.0	2.96E+05	0.93	N	1.18	2.33	3485.5411	0.281
1247/1246/1248/1249-TCDD	26.34	EMPC	0.9365	0.9348	-2.7	1.68E+05	0.60	N	1.18	1.32	3485.5411	0.281
1378-TCDD	26.54		0.9429	0.9421	-1.3	3.31E+05	0.80	Y	1.18	2.61	3485.5411	0.281
1268-TCDD	NotFnd		0.9500						1.18		3485.5411	0.281
1478-TCDD	26.98		0.9584	0.9578	-1.0	2.74E+05	0.75	Y	1.18	2.15	3485.5411	0.281
1279-TCDD	NotFnd		0.9648						1.18		3485.5411	0.281
1234/1269-TCDD	27.52	EMPC	0.9770	0.9767	-0.5	1.15E+05	0.59	N	1.18	0.902	3485.5411	0.281
1236-TCDD	NotFnd		0.9821						1.18		3485.5411	0.281
1237/1238-TCDD	27.91		0.9909	0.9908	-0.2	1.81E+06	0.79	Y	1.18	14.3	3485.5411	0.281
1239-TCDD	NotFnd		0.9959						1.18		3485.5411	0.281
2378-TCDD	**28.20**		**1.0008**	1.0009	**+0.2**	1.08E+08	0.81	Y	**1.18**	**852**	**3485.5411**	**0.281**
1278-TCDD	28.53		1.0123	1.0127	+0.7	9.99E+06	0.81	Y	1.18	78.6	3485.5411	0.281
1267-TCDD	NotFnd		1.0172						1.18		3485.5411	0.281
1289-TCDD	29.19	EMPC	1.0354	1.0363	+1.6	1.23E+05	1.07	N	1.18	0.965	3485.5411	0.281
12479/12468-PeCDD	31.12		0.9267	0.9259	-1.5	4.74E+05	1.60	Y	1.04	4.17	5983.929	0.45
12469-PeCDD	31.66		0.9426	0.9420	-1.1	3.25E+05	1.34	Y	1.04	2.86	5983.929	0.45
12368-PeCDD	32.21	J EMPC	0.9587	0.9581	-1.2	2.20E+05	1.99	N	1.04	1.94	5983.929	0.45
12478-PeCDD	32.40	J	0.9642	0.9638	-0.8	1.91E+05	1.44	Y	1.04	1.68	5983.929	0.45
12379-PeCDD	32.50	J	0.9674	0.9670	-0.8	1.48E+05	1.57	Y	1.04	1.3	5983.929	0.45
12369/12467/12489-PeCDD	32.76	J EMPC	0.9752	0.9747	-1.0	1.91E+05	1.12	N	1.04	1.68	5983.929	0.45
12346/12347-PeCDD	NotFnd		0.9861						1.04		5983.929	0.45
12378-PeCDD	33.63		**1.0006**	**1.0005**	**-0.2**	**1.02E+06**	**1.55**	**Y**	**1.04**	**8.94**	**5983.929**	**0.45**
12367-PeCDD	NotFnd		1.0036						1.04		5983.929	0.45
12389-PeCDD	NotFnd		1.0139						1.04		5983.929	0.45
124679/124689-HxCDD	35.87		0.9541	0.9542	+0.2	4.96E+06	1.23	Y	1.10	39.5	4530.239	0.323
123468-HxCDD	36.52		0.9715	0.9716	+0.2	5.06E+05	1.32	Y	1.10	4.03	4530.239	0.323
123679/123689-HxCDD	36.82		0.9793	0.9795	+0.4	4.02E+06	1.19	Y	1.10	31.9	4530.239	0.323
123469-HxCDD	36.96	J	0.9831	0.9831	0	2.92E+05	1.35	Y	1.10	2.33	4530.239	0.323
123478-HxCDD	37.61	J	**1.0004**	**1.0004**	**0**	**2.49E+05**	**1.38**	**Y**	1.09	**2.06**	**4530.239**	**0.329**
123678-HxCDD	37.73		**1.0036**	**1.0036**	**0**	**1.21E+06**	**1.26**	**Y**	1.15	**9.36**	**4530.239**	**0.32**
123467-HxCDD	37.93	J EMPC	1.0089	1.0090	+0.2	1.70E+05	1.44	N	1.10	1.35	4530.239	0.323
123789-HxCDD	38.04		**1.0118**	**1.0118**	**0**	**6.98E+05**	**1.21**	**Y**	1.05	**5.51**	**4530.239**	**0.321**

Lab ID: B6169_18833_DF_016 | **Acq'd: 18 Jan 2022 00:50 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010822-S-BN-NC-S-26 | **UTP: 18-Jan-2022 09:06:18 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 259-031-TTB**

Datafile: 220117C20 | **Report: 18 Jan 2022 09:11 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

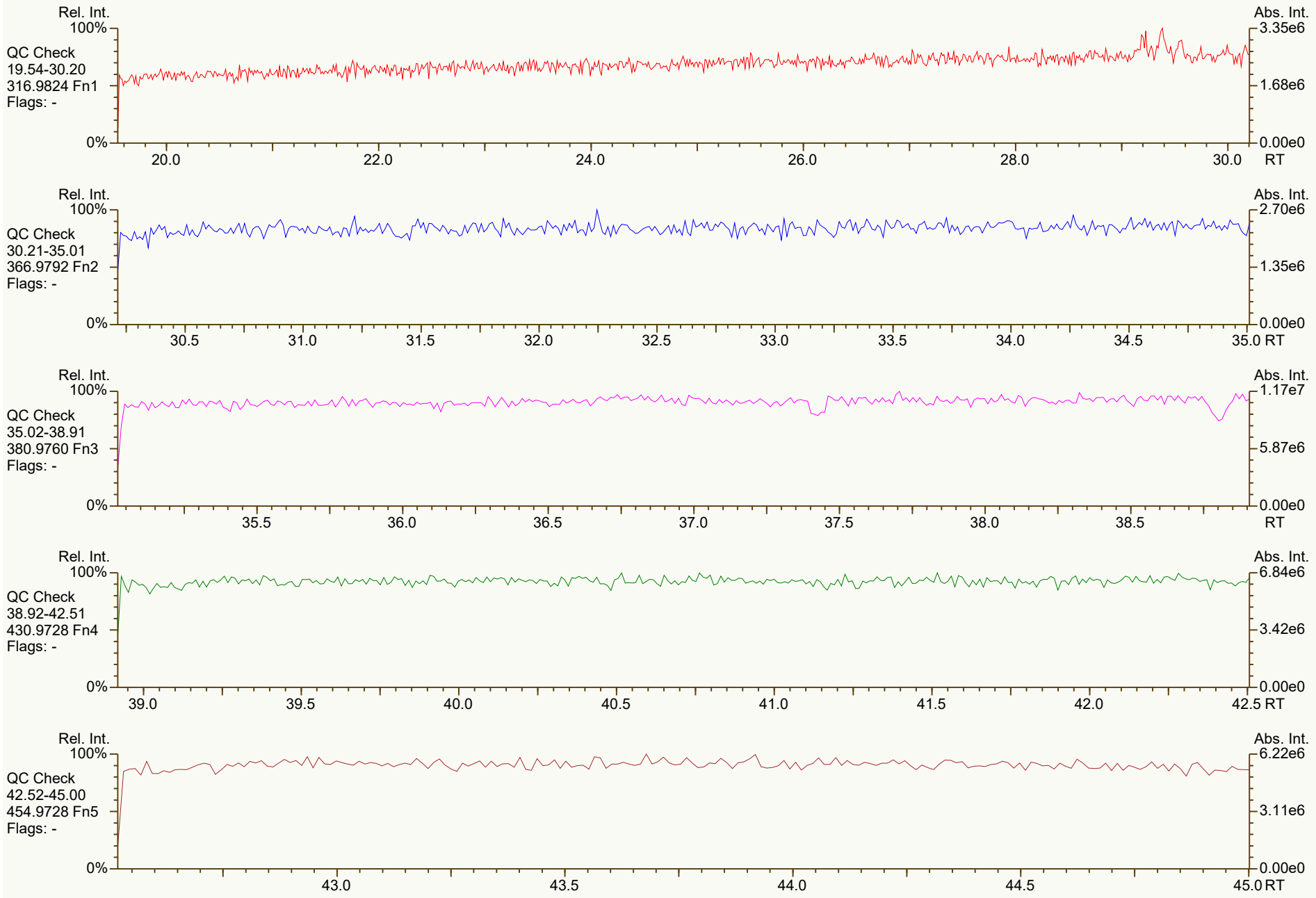
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9835	0	3.93E+07	1.06	Y	1.06	356	4564.397	0.362
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**3.03E+07**	**1.06**	**Y**	**1.06**	**274**	**4564.397**	**0.362**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**3.13E+08**	**0.91**	**Y**	**1.13**	**4,300**	**4980.261**	**0.897**
OCDD-a	43.62		1.0002	1.0002	0	1.91E+07	2.51	Y	0.07	4,100	5552.457	15.6
1368-TCDF	22.40		0.8250	0.8207	-5.8	2.15E+05	0.76	Y	1.08	1.12	2731.57	0.154
1468-TCDF	22.97		0.8494	0.8418	-10.5	7.97E+05	0.82	Y	1.08	4.16	2731.57	0.154
2468-TCDF	23.60		0.8684	0.8649	-5.0	8.89E+05	0.78	Y	1.08	4.64	2731.57	0.154
1346/1246-TCDF	NotFnd		0.8815						1.08		2731.57	0.154
1347/1378/1247-TCDF	24.14		0.8867	0.8845	-3.2	5.78E+06	0.79	Y	1.08	30.1	2731.57	0.154
1348-TCDF	NotFnd		0.8966						1.08		2731.57	0.154
1248/1367/1379-TCDF	24.49		0.9012	0.8973	-5.7	2.31E+07	0.84	Y	1.08	120	2731.57	0.154
1268-TCDF	24.91		0.9148	0.9128	-3.0	7.61E+06	0.83	Y	1.08	39.7	2731.57	0.154
1467-TCDF	25.05		0.9197	0.9177	-3.0	1.19E+06	0.75	Y	1.08	6.2	2731.57	0.154
1478-TCDF	25.21		0.9258	0.9238	-3.0	1.92E+07	0.84	Y	1.08	99.9	2731.57	0.154
1369/1237-TCDF	25.60		0.9390	0.9379	-1.7	4.84E+06	0.82	Y	1.08	25.2	2731.57	0.154
2467-TCDF	25.72	EMPC	0.9435	0.9425	-1.5	5.62E+05	0.90	N	1.08	2.93	2731.57	0.154
2368-TCDF	25.86		0.9488	0.9475	-2.0	1.26E+07	0.80	Y	1.08	65.8	2731.57	0.154
1238/1234/1678/1469/1236-TCDF	25.95		0.9527	0.9509	-2.8	2.37E+07	0.82	Y	1.08	124	2731.57	0.154
1278-TCDF	26.42	E	0.9689	0.9682	-1.1	1.99E+08	0.81	Y	1.08	1,040	2731.57	0.154
1349-TCDF	NotFnd		0.9730						1.08		2731.57	0.154
1267-TCDF	26.69		0.9787	0.9781	-1.0	1.16E+07	0.83	Y	1.08	60.4	2731.57	0.154
2346/1249-TCDF	26.90	EMPC	0.9856	0.9857	+0.2	1.37E+06	0.93	N	1.08	7.13	2731.57	0.154
2347/1279-TCDF	27.10		0.9934	0.9929	-0.8	5.35E+06	0.85	Y	1.08	27.9	2731.57	0.154
2348-TCDF	27.20		0.9972	0.9967	-0.8	3.23E+07	0.80	Y	1.08	168	2731.57	0.154
2378-TCDF	**27.31**	E	**1.0008**	**1.0008**	**0**	**4.70E+08**	**0.81**	**Y**	**1.08**	**2,450**	**2731.57**	**0.154**
2367/3467-TCDF	27.68		1.0145	1.0142	-0.5	3.91E+07	0.81	Y	1.08	204	2731.57	0.154
1269-TCDF	27.94		1.0236	1.0237	+0.2	7.05E+06	0.83	Y	1.08	36.8	2731.57	0.154
1239-TCDF	NotFnd		1.0333						1.08		2731.57	0.154
1289-TCDF	29.35		1.0740	1.0756	+2.8	3.53E+07	0.80	Y	1.08	184	2731.57	0.154
13468/12468-PeCDF	29.36		0.9138	0.9132	-1.1	1.29E+06	1.49	Y	1.02	7.42	2778.246	0.139
13678/13467/12467-PeCDF	30.91		0.9614	0.9613	-0.2	5.30E+05	1.64	Y	1.02	3.04	4450.794	0.223
12368/13478/12478-PeCDF	31.07		0.9661	0.9664	+0.6	8.39E+06	1.61	Y	1.02	48.2	4450.794	0.223
14678-PeCDF	NotFnd		0.9693						1.02		4450.794	0.223
13479-PeCDF	NotFnd		0.9722						1.02		4450.794	0.223
13469/12479-PeCDF	NotFnd		0.9800						1.02		4450.794	0.223
12346-PeCDF	NotFnd		0.9844						1.02		4450.794	0.223

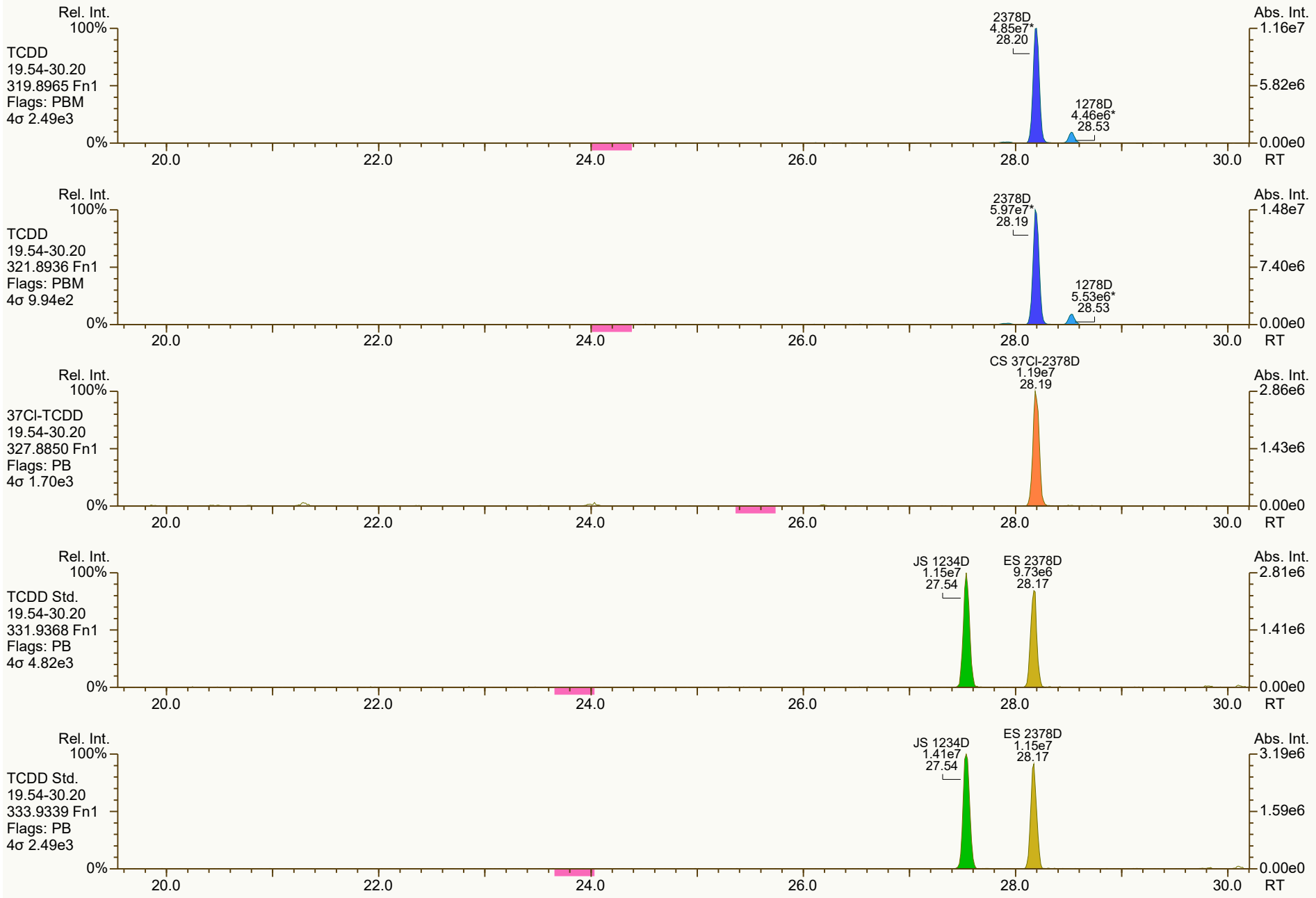
Lab ID: B6169_18833_DF_016 **Acq'd: 18 Jan 2022 00:50 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

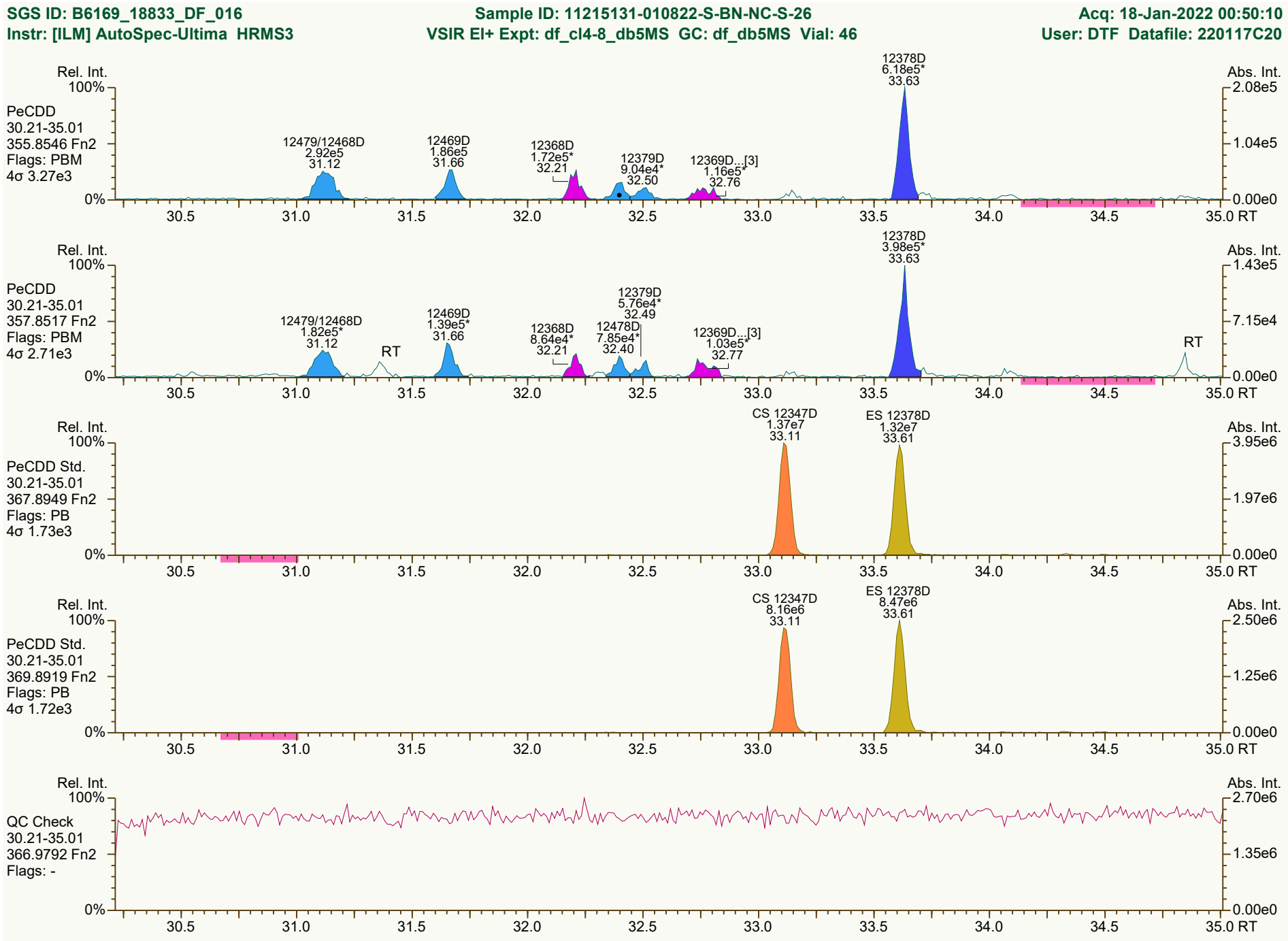
Client ID: 11215131-010822-S-BN-NC-S-26 **UTP: 18-Jan-2022 09:06:18 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 259-031-TTB**

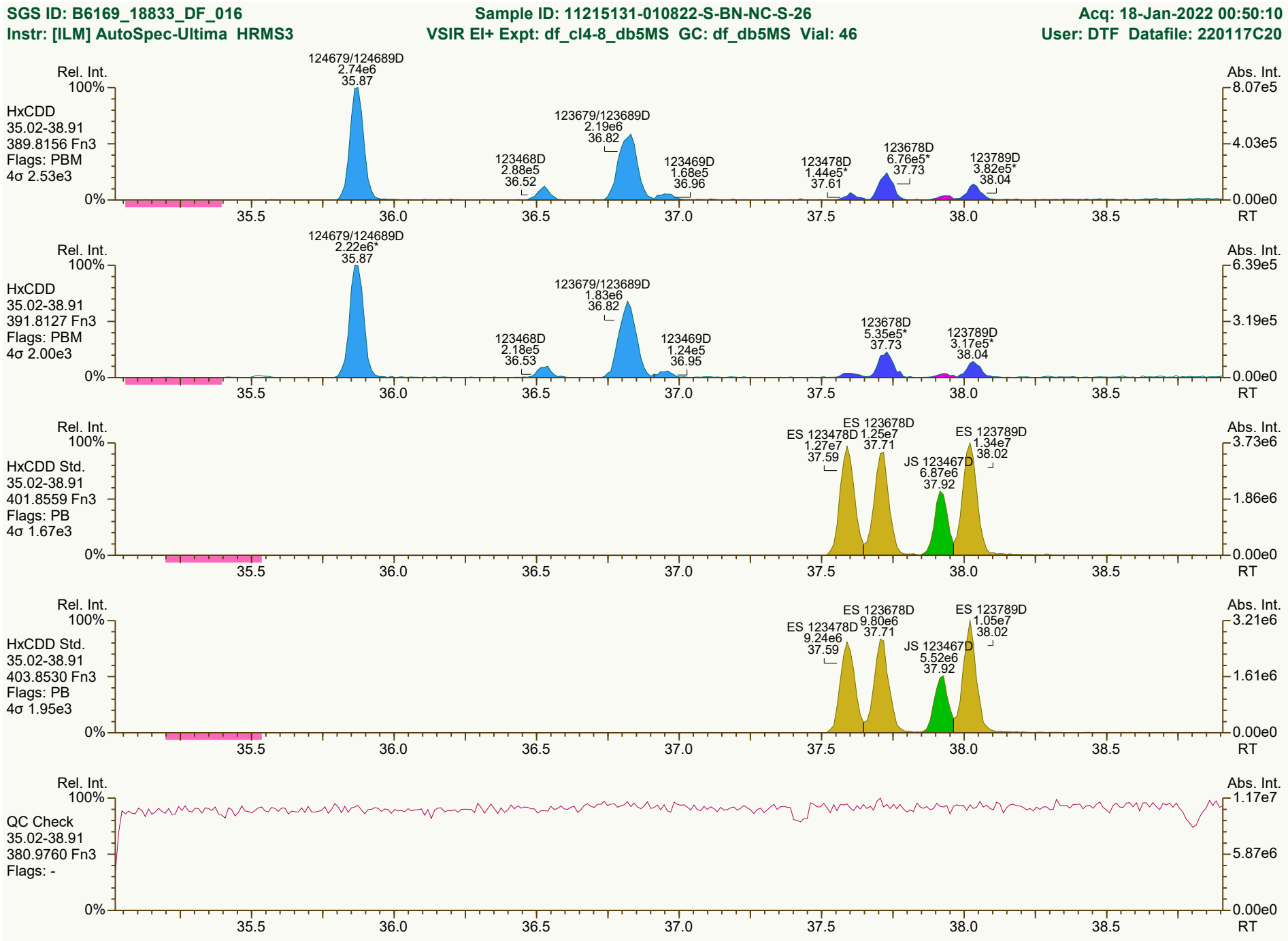
Datafile: 220117C20 **Report: 18 Jan 2022 09:11 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

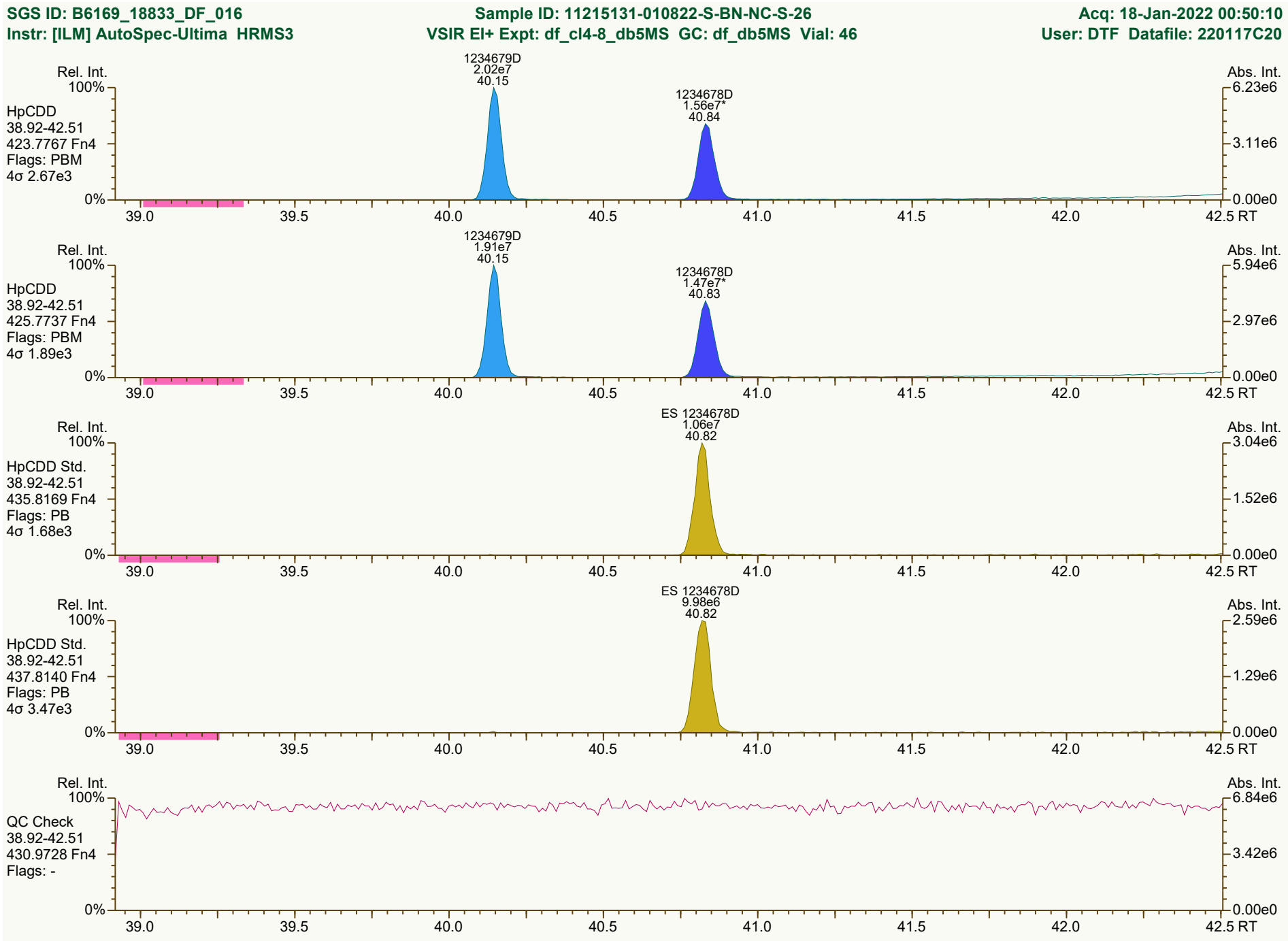
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71		0.9865	0.9862	-0.6	6.04E+05	1.36	Y	1.02	3.47	4450.794	0.223
12347-PeCDF	31.80		0.9890	0.9890	0	4.61E+05	1.54	Y	1.02	2.65	4450.794	0.223
12348-PeCDF	31.96		0.9942	0.9942	0	1.68E+06	1.60	Y	1.02	9.69	4450.794	0.223
12378-PeCDF	**32.17**		**1.0006**	**1.0005**	**-0.2**	**1.70E+07**	**1.59**	**Y**	**1.02**	**96.2**	**4450.794**	**0.224**
12678/12367-PeCDF	32.46		1.0090	1.0098	+1.6	5.10E+06	1.63	Y	1.02	29.4	4450.794	0.223
12379-PeCDF	NotFnd		1.0142						1.02		4450.794	0.223
12679-PeCDF	33.03	J	0.9933	0.9930	-0.6	6.14E+04	1.74	Y	1.02	0.353	4450.794	0.223
23467/12369-PeCDF	33.16	J	0.9969	0.9969	0	3.32E+05	1.68	Y	1.02	1.91	4450.794	0.223
23478-PeCDF	**33.29**		**1.0006**	**1.0008**	**+0.4**	**1.24E+07**	**1.57**	**Y**	**1.02**	**72.3**	**4450.794**	**0.221**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4450.794	0.223
12349-PeCDF	NotFnd		1.0107						1.02		4450.794	0.223
12389-PeCDF	34.37		1.0330	1.0333	+0.6	7.10E+05	1.33	Y	1.02	4.08	4450.794	0.223
123468-HxCDF	35.21		0.9627	0.9624	-0.6	1.10E+06	1.39	Y	1.19	5.86	14296.731	0.634
124678/134678-HxCDF	35.40		0.9682	0.9678	-0.8	4.99E+06	1.29	Y	1.19	26.5	14296.731	0.634
134679-HxCDF	NotFnd		0.9744						1.19		14296.731	0.634
124679-HxCDF	NotFnd		0.9798						1.19		14296.731	0.634
124689-HxCDF	36.06		0.9858	0.9857	-0.2	4.26E+06	1.27	Y	1.19	22.6	14296.731	0.634
123467-HxCDF	36.48	J	0.9973	0.9972	-0.2	3.18E+05	1.26	Y	1.19	1.69	14296.731	0.634
123478-HxCDF	**36.60**		**1.0005**	**1.0004**	**-0.2**	**2.84E+07**	**1.26**	**Y**	**1.27**	**155**	**14296.731**	**0.593**
123678-HxCDF	**36.74**		**1.0004**	**1.0005**	**+0.2**	**8.09E+06**	**1.20**	**Y**	**1.15**	**40.5**	**14296.731**	**0.6**
123479-HxCDF	NotFnd		1.0051						1.19		14296.731	0.634
123469-HxCDF	NotFnd		1.0093						1.19		14296.731	0.634
123679-HxCDF	NotFnd		0.9944						1.19		14296.731	0.634
234678-HxCDF	**37.41**		**1.0005**	**1.0004**	**-0.2**	**1.84E+06**	**1.19**	**Y**	**1.19**	**9.22**	**14296.731**	**0.645**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		14296.731	0.634
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**14296.731**	**0.71**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.42		1.0008	1.0012	+0.9	2.26E+06	1.34	Y	1.19	12	14296.731	0.634
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.57E+07**	**1.03**	**Y**	**1.37**	**91.3**	**3645.129**	**0.16**
1234679-HpCDF	40.14	**J**	1.0069	1.0072	+0.7	2.92E+05	1.06	Y	1.34	1.92	3645.129	0.202
1234689-HpCDF	40.28		1.0103	1.0106	+0.7	1.52E+07	1.02	Y	1.34	99.7	3645.129	0.202
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**2.88E+06**	**1.03**	**Y**	**1.31**	**21.5**	**3645.129**	**0.256**
OCDF	**43.79**		**1.0003**	**1.0003**	**0**	**4.00E+07**	**0.92**	**Y**	**1.07**	**423**	**5327.316**	**0.747**
OCDF-a	43.79	**EMPC**	1.0002	1.0002	0	2.35E+06	2.98	N	0.07	401	3862.243	8.74

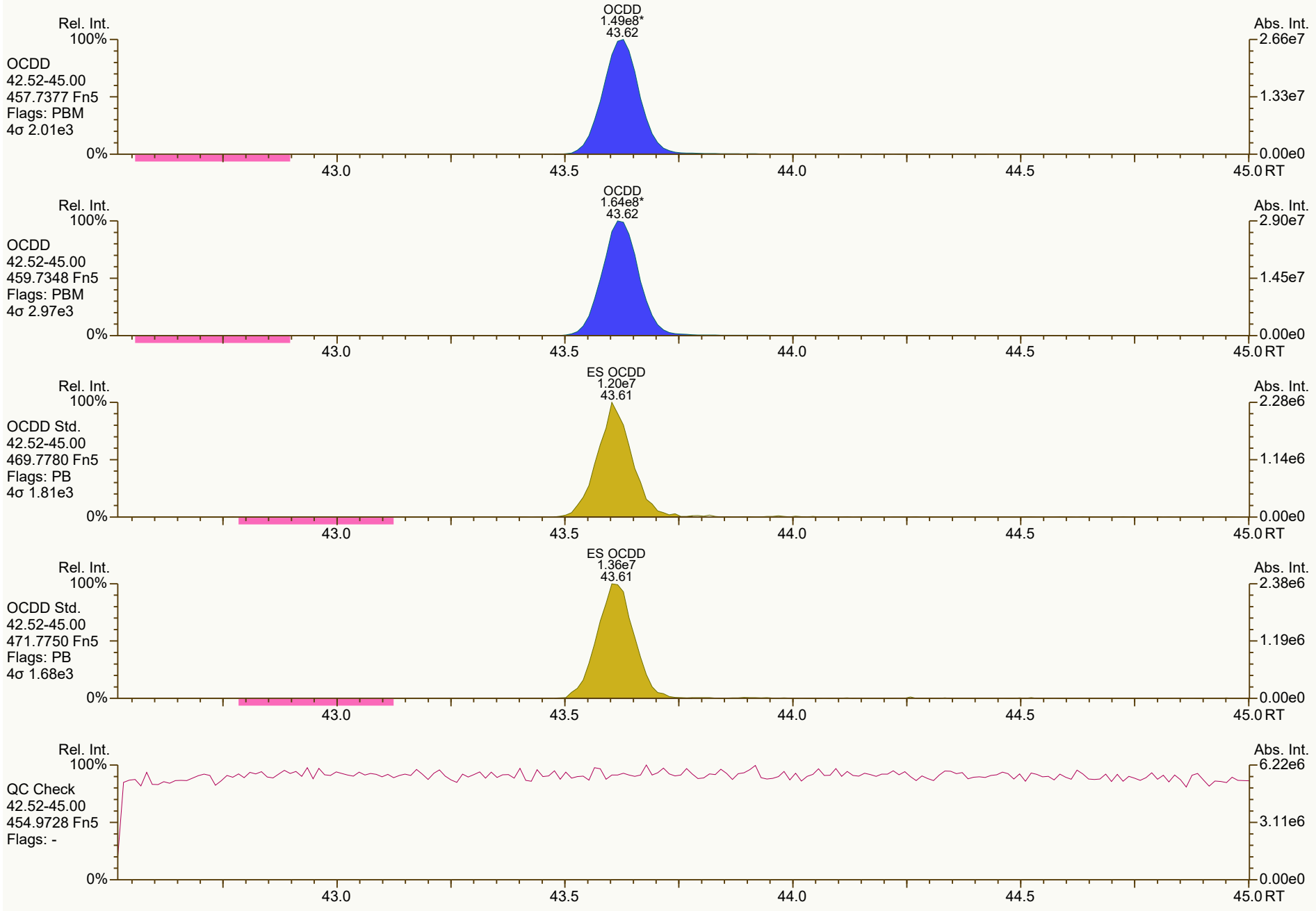

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316.9824 Fn1
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.35e6
1.68e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
2.70e6
1.35e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.17e7
5.87e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
6.84e6
3.42e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
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3.11e6
0.00e0

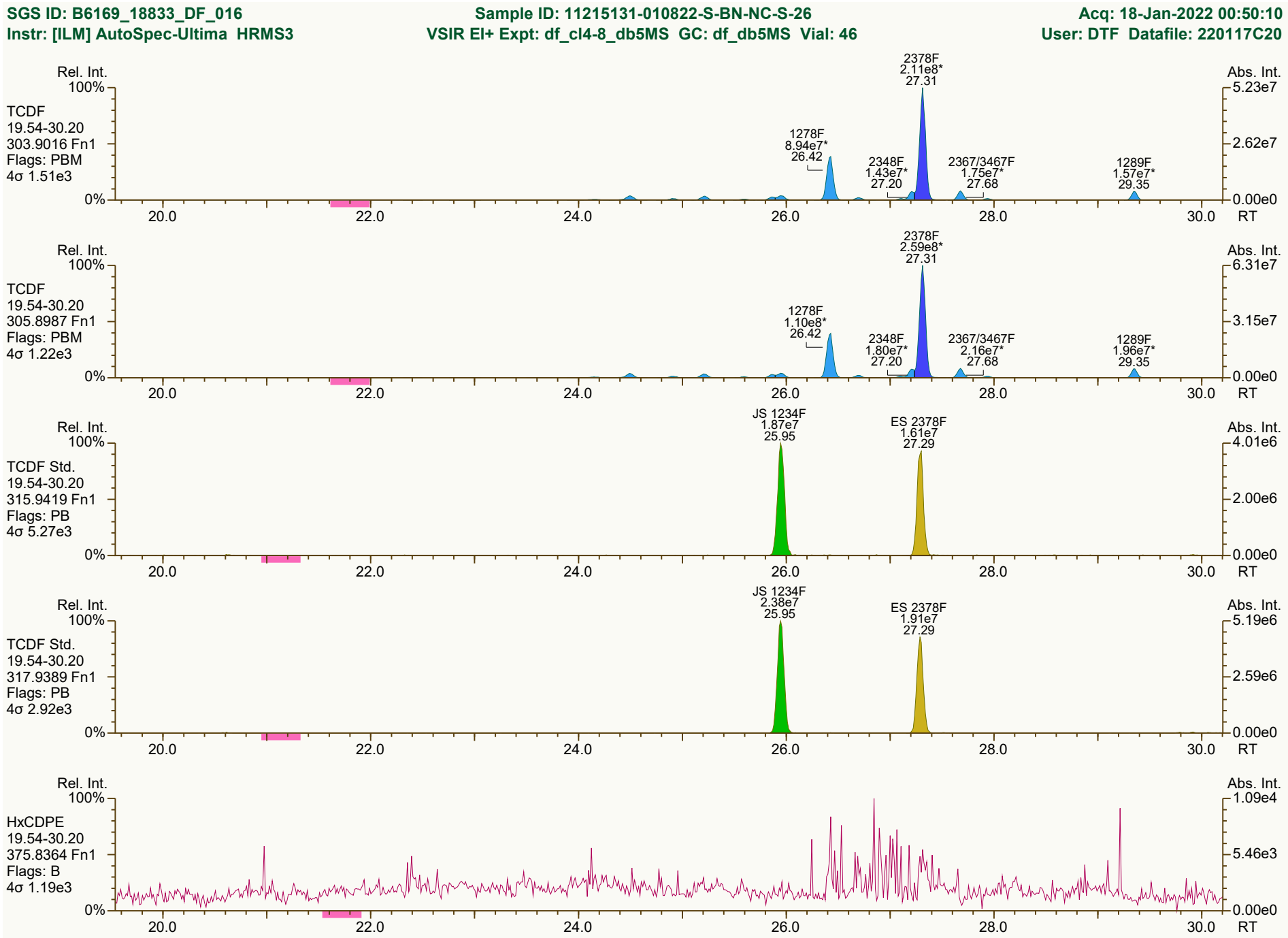

Rel. Int.
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TCDD
19.54-30.20
319.8965 Fn1
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4σ 2.49e3
0%
2378D
4.85e7*
28.20
1278D
4.46e6*
28.53
Abs. Int.
1.16e7
5.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 9.94e2
0%
2378D
5.97e7*
28.19
1278D
5.53e6*
28.53
Abs. Int.
1.48e7
7.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.70e3
0%
CS 37Cl-2378D
1.19e7
28.19
Abs. Int.
2.86e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.82e3
0%
JS 1234D
1.15e7
27.54
ES 2378D
9.73e6
28.17
Abs. Int.
2.81e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.49e3
0%
JS 1234D
1.41e7
27.54
ES 2378D
1.15e7
28.17
Abs. Int.
3.19e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6169_18833_DF_016
Sample ID: 11215131-010822-S-BN-NC-S-26
Acq: 18-Jan-2022 00:50:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220117C20
Rel. Int.
Abs. Int.
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 3.27e3
12479/12468D
2.92e5
31.12
12469D
1.86e5
31.66
12368D
1.72e5*
32.21
12379D
9.04e4*
32.50
12369D...[3]
1.16e5*
32.76
12378D
6.18e5*
33.63
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.71e3
12479/12468D
1.82e5*
31.12
RT
12469D
1.39e5*
31.66
12368D
8.64e4*
32.21
12379D
5.76e4*
32.49
12478D
7.85e4*
32.40
12369D...[3]
1.03e5*
32.77
12378D
3.98e5*
33.63
RT
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.73e3
CS 12347D
1.37e7
33.11
ES 12378D
1.32e7
33.61
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.72e3
CS 12347D
8.16e6
33.11
ES 12378D
8.47e6
33.61
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2585, 5928 scc: 259-031
Revised: 18-Jan-2022 08:54 (DTF) Printed: 18-Jan-2022 09:32 Page 3 of 12


SGS ID: B6169_18833_DF_016
Sample ID: 11215131-010822-S-BN-NC-S-26
Acq: 18-Jan-2022 00:50:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220117C20
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.53e3
124679/124689D
2.74e6
35.87
123679/123689D
2.19e6
36.82
123468D
2.88e5
36.52
123469D
1.68e5
36.96
123478D
1.44e5*
37.61
123678D
6.76e5*
37.73
123789D
3.82e5*
38.04
8.07e5
4.03e5
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
2.22e6*
35.87
123679/123689D
1.83e6
36.82
123468D
2.18e5
36.53
123469D
1.24e5
36.95
123678D
5.35e5*
37.73
123789D
3.17e5*
38.04
6.39e5
3.19e5
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 1.67e3
ES 123478D
1.27e7
37.59
ES 123678D
1.25e7
37.71
JS 123467D
6.87e6
37.92
ES 123789D
1.34e7
38.02
3.73e6
1.86e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.95e3
ES 123478D
9.24e6
37.59
ES 123678D
9.80e6
37.71
JS 123467D
5.52e6
37.92
ES 123789D
1.05e7
38.02
3.21e6
1.61e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.17e7
5.87e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1748, 5255 scc: 259-031
Revised: 18-Jan-2022 08:54 (DTF) Printed: 18-Jan-2022 09:32 Page 4 of 12

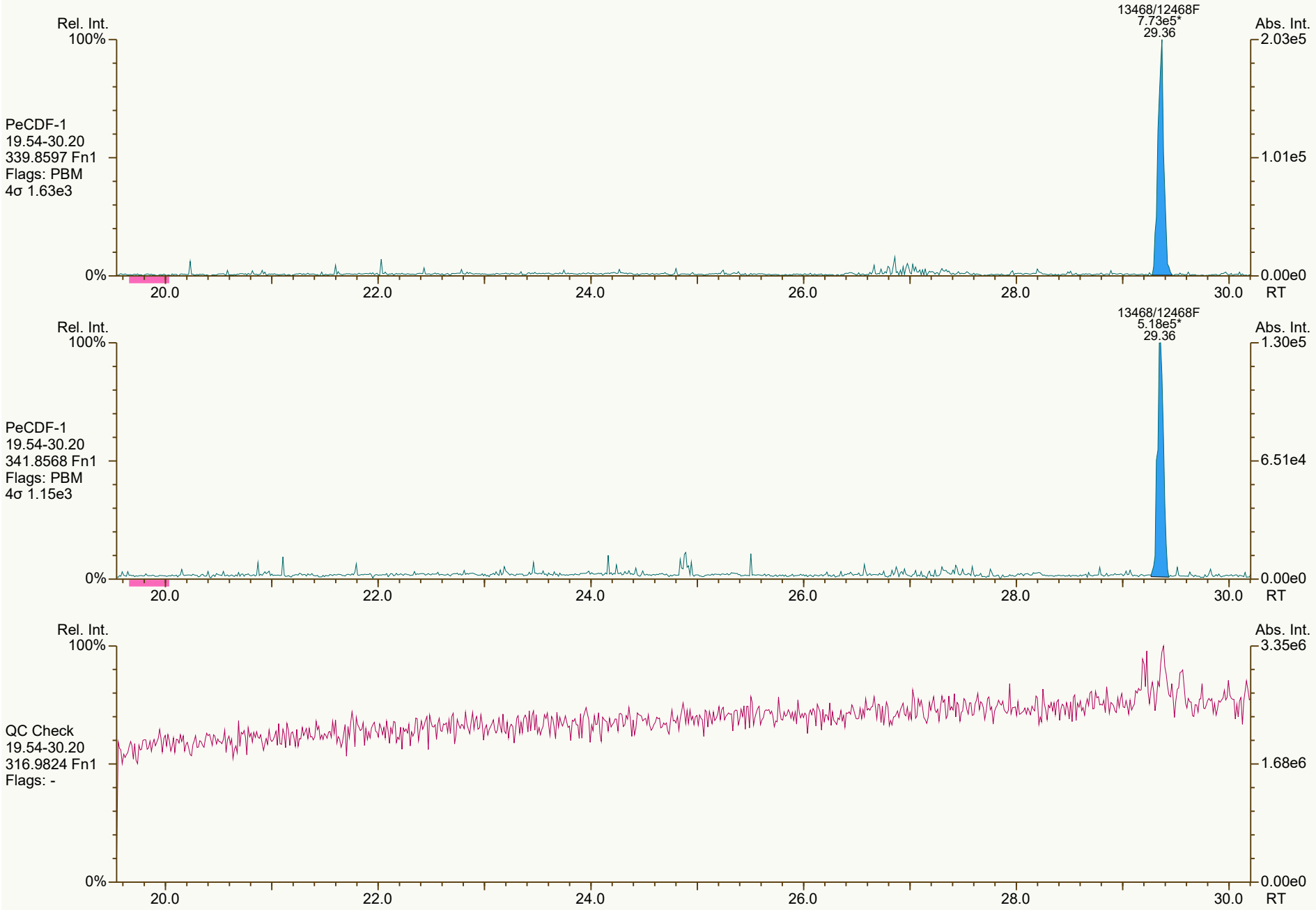

SGS ID: B6169_18833_DF_016
Sample ID: 11215131-010822-S-BN-NC-S-26
Acq: 18-Jan-2022 00:50:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220117C20
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.67e3
1234679D
2.02e7
40.15
1234678D
1.56e7*
40.84
6.23e6
3.11e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.89e3
1234679D
1.91e7
40.15
1234678D
1.47e7*
40.83
5.94e6
2.97e6
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.68e3
ES 1234678D
1.06e7
40.82
3.04e6
1.52e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 3.47e3
ES 1234678D
9.98e6
40.82
2.59e6
1.29e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
6.84e6
3.42e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8590, 1182 scc: 259-031
Revised: 18-Jan-2022 08:54 (DTF) Printed: 18-Jan-2022 09:32 Page 5 of 12


OCDD
1.49e8*
43.62
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
2.66e7
1.33e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.64e8*
43.62
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.97e3
2.90e7
1.45e7
ES OCDD
1.20e7
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.81e3
2.28e6
1.14e6
ES OCDD
1.36e7
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.68e3
2.38e6
1.19e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
6.22e6
3.11e6


SGS ID: B6169_18833_DF_016
Sample ID: 11215131-010822-S-BN-NC-S-26
Acq: 18-Jan-2022 00:50:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220117C20
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.51e3
2378F
2.11e8*
27.31
1278F
8.94e7*
26.42
2348F
1.43e7*
27.20
2367/3467F
1.75e7*
27.68
1289F
1.57e7*
29.35
5.23e7
2.62e7
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.22e3
2378F
2.59e8*
27.31
1278F
1.10e8*
26.42
2348F
1.80e7*
27.20
2367/3467F
2.16e7*
27.68
1289F
1.96e7*
29.35
6.31e7
3.15e7
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.27e3
JS 1234F
1.87e7
25.95
ES 2378F
1.61e7
27.29
4.01e6
2.00e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.92e3
JS 1234F
2.38e7
25.95
ES 2378F
1.91e7
27.29
5.19e6
2.59e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.19e3
1.09e4
5.46e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8670, 4674, 2429 scc: 259-031
Revised: 18-Jan-2022 08:55 (DTF) Printed: 18-Jan-2022 09:32 Page 7 of 12

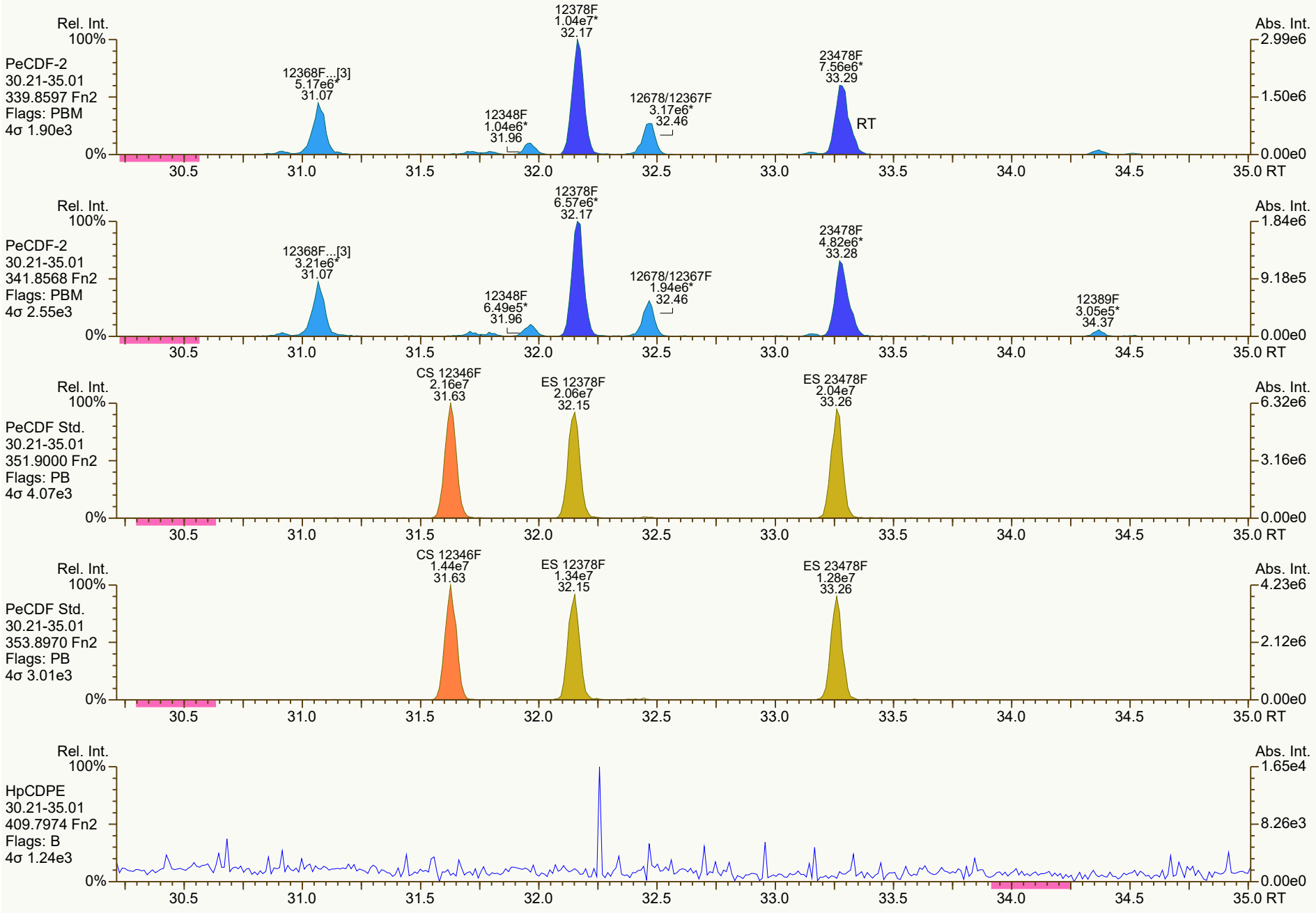
SGS ID: B6169_18833_DF_016 | Sample ID: 11215131-010822-S-BN-NC-S-26 | Acq: 18-Jan-2022 00:50:10

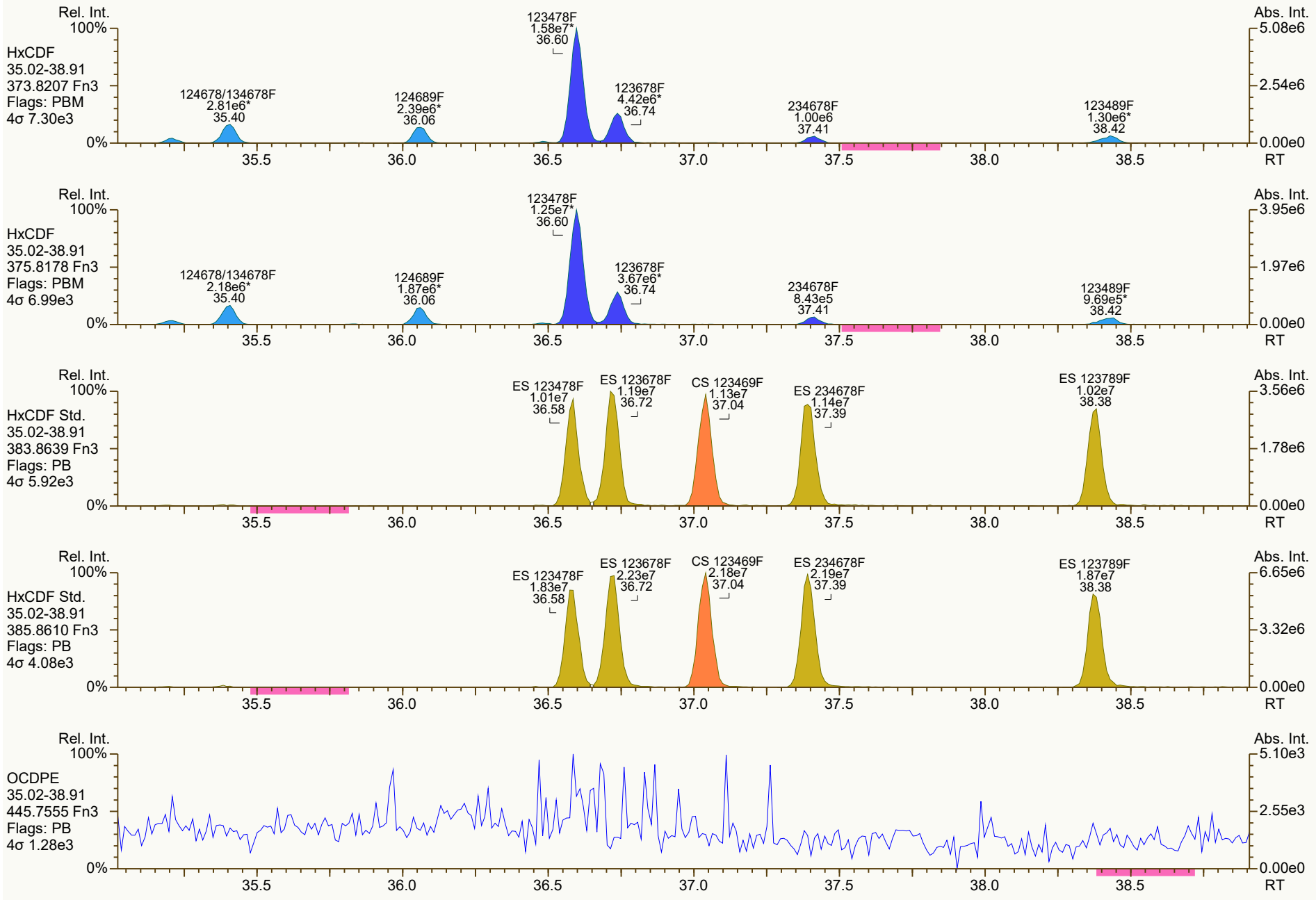
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46 | User: DTF Datafile: 220117C20

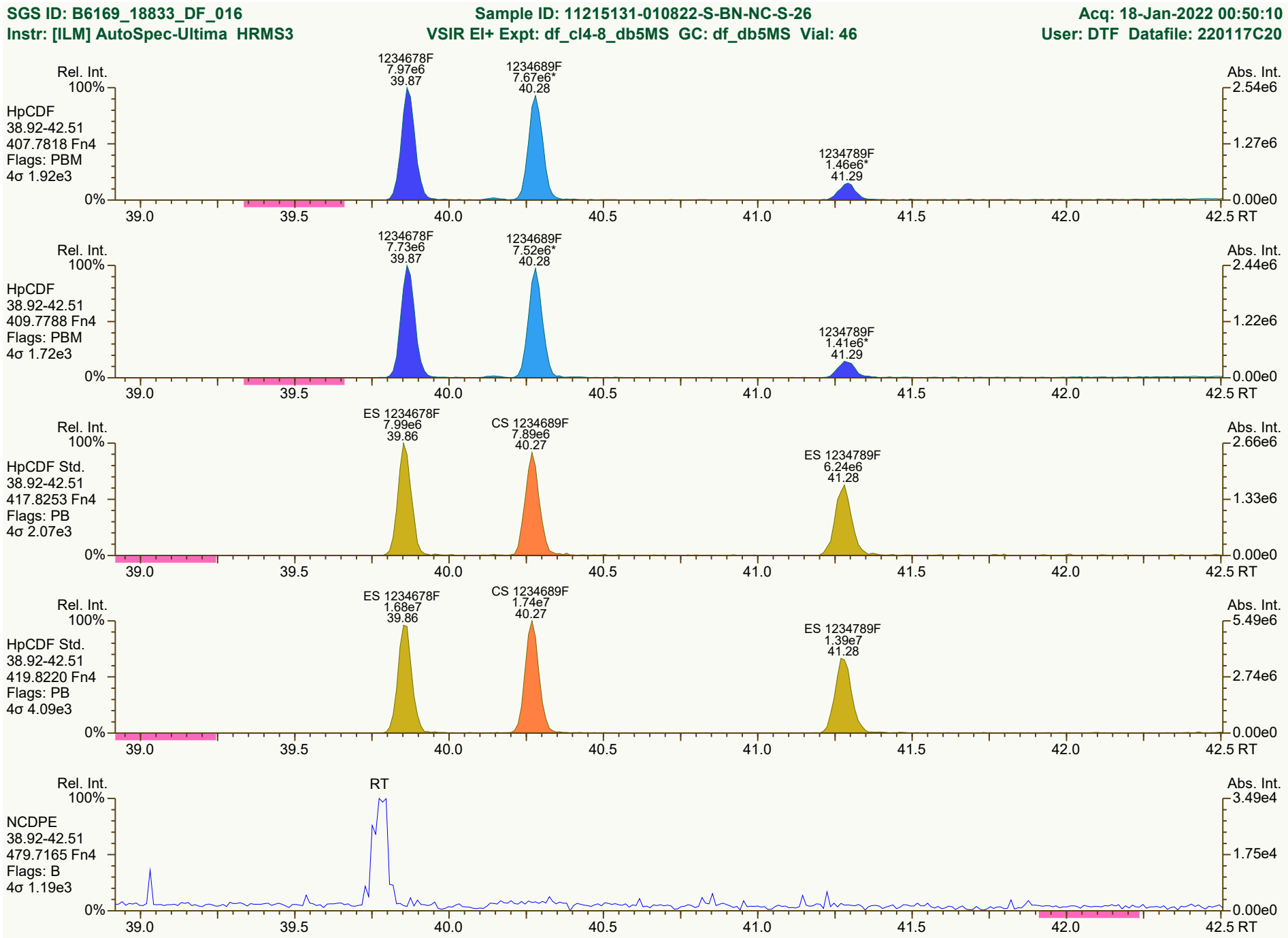


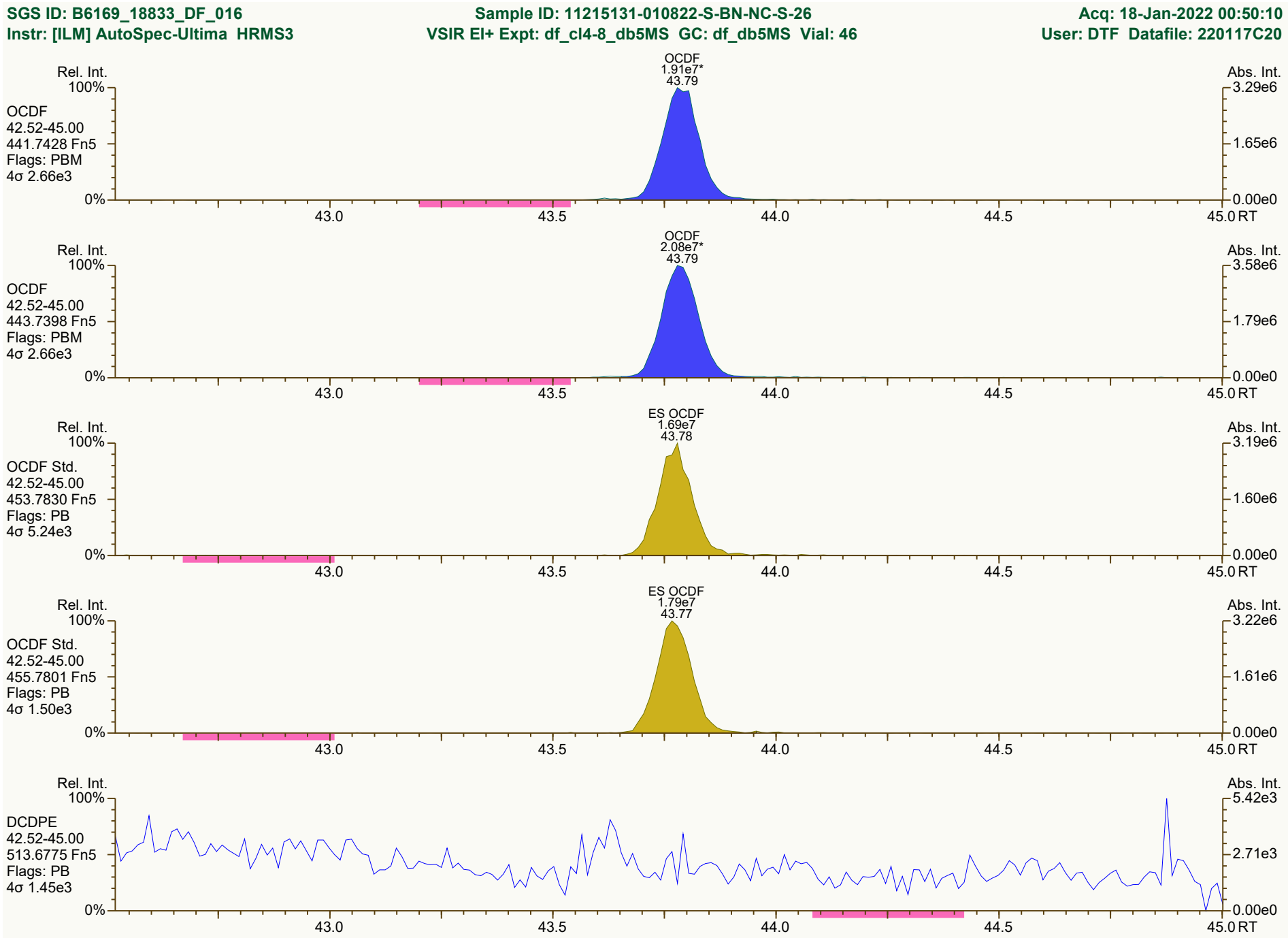
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1512 scc: 259-031 *Revised: 18-Jan-2022 08:55 (DTF) Printed: 18-Jan-2022 09:32 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 1.90e3
12368F...[3]
5.17e6*
31.07
12348F
1.04e6*
31.96
12378F
1.04e7*
32.17
12678/12367F
3.17e6*
32.46
23478F
7.56e6*
33.29
RT
Abs. Int.
2.99e6
1.50e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.55e3
12368F...[3]
3.21e6*
31.07
12348F
6.49e5*
31.96
12378F
6.57e6*
32.17
12678/12367F
1.94e6*
32.46
23478F
4.82e6*
33.28
12389F
3.05e5*
34.37
Abs. Int.
1.84e6
9.18e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 4.07e3
CS 12346F
2.16e7
31.63
ES 12378F
2.06e7
32.15
ES 23478F
2.04e7
33.26
Abs. Int.
6.32e6
3.16e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 3.01e3
CS 12346F
1.44e7
31.63
ES 12378F
1.34e7
32.15
ES 23478F
1.28e7
33.26
Abs. Int.
4.23e6
2.12e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.24e3
Abs. Int.
1.65e4
8.26e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 7.30e3
124678/134678F
2.81e6*
35.40
124689F
2.39e6*
36.06
123478F
1.58e7*
36.60
123678F
4.42e6*
36.74
234678F
1.00e6
37.41
123489F
1.30e6*
38.42
Abs. Int.
5.08e6
2.54e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 6.99e3
124678/134678F
2.18e6*
35.40
124689F
1.87e6*
36.06
123478F
1.25e7*
36.60
123678F
3.67e6*
36.74
234678F
8.43e5
37.41
123489F
9.69e5*
38.42
Abs. Int.
3.95e6
1.97e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 5.92e3
ES 123478F
1.01e7
36.58
ES 123678F
1.19e7
36.72
CS 123469F
1.13e7
37.04
ES 234678F
1.14e7
37.39
ES 123789F
1.02e7
38.38
Abs. Int.
3.56e6
1.78e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 4.08e3
ES 123478F
1.83e7
36.58
ES 123678F
2.23e7
36.72
CS 123469F
2.18e7
37.04
ES 234678F
2.19e7
37.39
ES 123789F
1.87e7
38.38
Abs. Int.
6.65e6
3.32e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.28e3
Abs. Int.
5.10e3
2.55e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6169_18833_DF_016
Sample ID: 11215131-010822-S-BN-NC-S-26
Acq: 18-Jan-2022 00:50:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220117C20
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 1.92e3
1234678F
7.97e6
39.87
1234689F
7.67e6*
40.28
1234789F
1.46e6*
41.29
2.54e6
1.27e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.72e3
1234678F
7.73e6
39.87
1234689F
7.52e6*
40.28
1234789F
1.41e6*
41.29
2.44e6
1.22e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.07e3
ES 1234678F
7.99e6
39.86
CS 1234689F
7.89e6
40.27
ES 1234789F
6.24e6
41.28
2.66e6
1.33e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 4.09e3
ES 1234678F
1.68e7
39.86
CS 1234689F
1.74e7
40.27
ES 1234789F
1.39e7
41.28
5.49e6
2.74e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.19e3
RT
3.49e4
1.75e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4862, 2609, 3156 scc: 259-031
Revised: 18-Jan-2022 08:58 (DTF) Printed: 18-Jan-2022 09:32 Page 11 of 12


SGS ID: B6169_18833_DF_016
Sample ID: 11215131-010822-S-BN-NC-S-26
Acq: 18-Jan-2022 00:50:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220117C20
OCDF
1.91e7*
43.79
Rel. Int.
100%
Abs. Int.
3.29e6
1.65e6
0.00e0
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.66e3
0%
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.08e7*
43.79
Rel. Int.
100%
Abs. Int.
3.58e6
1.79e6
0.00e0
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.66e3
0%
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.69e7
43.78
Rel. Int.
100%
Abs. Int.
3.19e6
1.60e6
0.00e0
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 5.24e3
0%
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.79e7
43.77
Rel. Int.
100%
Abs. Int.
3.22e6
1.61e6
0.00e0
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.50e3
0%
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
5.42e3
2.71e3
0.00e0
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.45e3
0%
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_016.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6205, 7332, 1412 scc: 259-031
Revised: 18-Jan-2022 08:58 (DTF) Printed: 18-Jan-2022 09:32 Page 12 of 12

Lab ID: B6169_18833_DF_017 **Acq'd:** 18 Jan 2022 01:36 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-23 **UTP:** 18-Jan-2022 09:06:18 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 572-467-GQG

Datafile: 220117C21 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.18	E	1.0008	1.0008	0	2.31E+08	0.82	Y	1.18	1,930	2980.667	0.246
12378-PeCDD	33.62		1.0006	1.0006	0	1.68E+06	1.51	Y	1.04	19.8	6374.434	0.575
123478-HxCDD	37.60	J	1.0004	1.0004	0	1.35E+05	1.26	Y	1.09	1.58	4863.823	0.505
123678-HxCDD	37.72		1.0036	1.0036	0	4.59E+05	1.33	Y	1.15	4.85	4863.823	0.461
123789-HxCDD	38.03		1.0118	1.0119	+0.2	2.88E+05	1.09	Y	1.05	3.42	4863.823	0.497
1234678-HpCDD	40.82		1.0003	1.0003	0	1.28E+07	1.03	Y	1.06	169	4541.102	0.503
OCDD	43.60		1.0003	1.0003	0	2.84E+08	0.90	Y	1.13	6,690	4680.12	1.61
2378-TCDF	27.30	E	1.0008	1.0008	0	1.01E+09	0.81	Y	1.08	5,500	3556.748	0.206
12378-PeCDF	32.16		1.0006	1.0005	-0.2	5.46E+07	1.59	Y	1.02	390	5981.841	0.356
23478-PeCDF	33.28		1.0006	1.0008	+0.4	3.01E+07	1.56	Y	1.02	226	5981.841	0.391
123478-HxCDF	36.59		1.0005	1.0005	0	8.56E+07	1.28	Y	1.27	638	14032.582	0.851
123678-HxCDF	36.73		1.0004	1.0005	+0.2	2.25E+07	1.26	Y	1.15	158	14032.582	0.824
234678-HxCDF	37.40		1.0005	1.0004	-0.2	4.41E+06	1.29	Y	1.19	31.5	14032.582	0.823
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	14032.582	1.04
1234678-HpCDF	39.86		1.0003	1.0003	0	1.81E+07	1.05	Y	1.37	155	4203.656	0.299
1234789-HpCDF	41.27		1.0003	1.0003	0	6.12E+06	1.08	Y	1.31	69.3	4203.656	0.468
OCDF	43.76		1.0003	1.0003	0	6.39E+06	0.93	Y	1.07	111	3314.885	0.806

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.16	1.0231	1.0229	-0.3	2.00E+07	0.82	Y	1.05	84.6
ES 12378-PeCDD	33.60	1.2198	1.2206	+1.6	1.63E+07	1.61	Y	0.88	81.7
ES 123478-HxCDD	37.58	0.9913	0.9913	0	1.56E+07	1.31	Y	0.97	89.2
ES 123678-HxCDD	37.70	0.9944	0.9944	0	1.64E+07	1.24	Y	0.94	96.6
ES 123789-HxCDD	38.01	1.0026	1.0026	0	1.59E+07	1.27	Y	1.09	81.2
ES 1234678-HpCDD	40.81	1.0760	1.0764	+1.0	1.41E+07	1.00	Y	0.91	86
ES OCDD	43.59	1.1489	1.1498	+2.4	1.50E+07	0.95	Y	0.62	66.7
ES 2378-TCDF	27.28	1.0515	1.0518	+0.5	3.38E+07	0.83	Y	1.06	85.2
ES 12378-PeCDF	32.14	1.2378	1.2392	+2.7	2.71E+07	1.47	Y	0.91	79.6
ES 23478-PeCDF	33.25	1.2804	1.2820	+3.2	2.59E+07	1.53	Y	0.88	78.4
ES 123478-HxCDF	36.57	0.9647	0.9646	-0.2	2.10E+07	0.55	Y	1.20	97.2
ES 123678-HxCDF	36.71	0.9684	0.9683	-0.2	2.45E+07	0.54	Y	1.35	101
ES 234678-HxCDF	37.38	0.9861	0.9860	-0.2	2.34E+07	0.55	Y	1.24	105
ES 123789-HxCDF	38.37	1.0120	1.0120	0	1.96E+07	0.51	Y	1.16	94.3
ES 1234678-HpCDF	39.84	1.0506	1.0510	+1.0	1.69E+07	0.45	Y	0.97	97.2
ES 1234789-HpCDF	41.26	1.0879	1.0883	+1.0	1.34E+07	0.47	Y	0.85	87.6
ES OCDF	43.75	1.1534	1.1541	+1.8	2.14E+07	0.89	Y	0.81	73.7

Lab ID: B6169_18833_DF_017 **Acq'd:** 18 Jan 2022 01:36 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-NC-S-23 **UTP:** 18-Jan-2022 09:06:18 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 572-467-GQG

Datafile: 220117C21 **Report:** 18 Jan 2022 09:11 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.26E+07	0.84	Y	-	-
JS 1234-TCDF	25.94		-	-	-	3.74E+07	0.77	Y	-	-
JS 123467-HxCDD	37.91		-	-	-	8.99E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.18		1.0238	1.0237	-0.2	8.74E+06	n/a	-	1.20	80.3
CS 12347-PeCDD	33.11		1.2018	1.2026	+1.6	1.45E+07	1.65	Y	0.75	84.9
CS 12346-PeCDF	31.62		1.2178	1.2191	+2.5	2.38E+07	1.59	Y	0.85	74.6
CS 123469-HxCDF	37.03		0.9768	0.9767	-0.2	2.03E+07	0.56	Y	1.12	101
CS 1234689-HpCDF	40.26		1.0615	1.0619	+1.0	1.49E+07	0.43	Y	0.89	93.5
~~SS 37Cl-2378-TCDD~~	~~28.18~~		~~1.0238~~	~~1.0237~~	~~-0.2~~	~~8.74E+06~~	~~n/a~~		~~1.15~~	~~95.2~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2018~~	~~1.2026~~	~~+1.6~~	~~1.45E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2178~~	~~1.2191~~	~~+2.5~~	~~2.38E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~93.5~~
~~SS 123469-HxCDF~~	~~37.03~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~2.03E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~99.9~~
~~SS 1234689-HpCDF~~	~~40.26~~		~~1.0615~~	~~1.0619~~	~~+1.0~~	~~1.49E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~96~~

Totals	Conc	EMPC
Total TCDD	2110	2110
Total PeCDD	32.4	36.2
Total HxCDD	69.3	70.3
Total HpCDD	368	368
Total Tetra-Octa Dioxins	9270	9270
Total TCDF	10,400	10400
Total PeCDF	925	930
Total HxCDF	965	965
Total HpCDF	291	291
Total Tetra-Octa Furans	12,700	12700
Total Tetra-Octa Dioxins & Furans	22000	22000

Lab ID: B6169_18833_DF_017 | **Acq'd: 18 Jan 2022 01:36 DTF** | **Wt/Vol: 10.07 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-23 | **UTP: 18-Jan-2022 09:06:18 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 572-467-GQG**

Datafile: 220117C21 | **Report: 18 Jan 2022 09:11 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.52		0.8733	0.8706	-4.0	4.06E+05	0.85	Y	1.18	3.4	2980.667	0.246
1379-TCDD	24.87		0.8860	0.8832	-4.2	1.78E+05	0.79	Y	1.18	1.49	2980.667	0.246
1369-TCDD	NotFnd		0.9009						1.18		2980.667	0.246
1469-TCDD	26.10		0.9282	0.9268	-2.2	9.50E+05	0.77	Y	1.18	7.96	2980.667	0.246
1247/1246/1248/1249-TCDD	26.32		0.9365	0.9347	-2.8	3.10E+05	0.87	Y	1.18	2.6	2980.667	0.246
1378-TCDD	26.52		0.9429	0.9418	-1.8	6.67E+05	0.87	Y	1.18	5.59	2980.667	0.246
1268-TCDD	NotFnd		0.9500						1.18		2980.667	0.246
1478-TCDD	26.98		0.9584	0.9580	-0.6	5.60E+05	0.72	Y	1.18	4.69	2980.667	0.246
1279-TCDD	NotFnd		0.9648						1.18		2980.667	0.246
1234/1269-TCDD	NotFnd		0.9770						1.18		2980.667	0.246
1236-TCDD	NotFnd		0.9821						1.18		2980.667	0.246
1237/1238-TCDD	27.90		0.9909	0.9906	-0.5	3.35E+06	0.83	Y	1.18	28.1	2980.667	0.246
1239-TCDD	NotFnd		0.9959						1.18		2980.667	0.246
2378-TCDD	**28.18**	E	**1.0008**	1.0008	**0**	2.31E+08	0.82	Y	**1.18**	**1,930**	**2980.667**	**0.246**
1278-TCDD	28.51		1.0123	1.0124	+0.2	1.36E+07	0.80	Y	1.18	114	2980.667	0.246
1267-TCDD	28.64		1.0172	1.0170	-0.3	6.63E+05	0.84	Y	1.18	5.55	2980.667	0.246
1289-TCDD	29.18		1.0354	1.0361	+1.2	3.54E+05	0.85	Y	1.18	2.97	2980.667	0.246
12479/12468-PeCDD	31.12	EMPC	0.9267	0.9260	-1.3	2.46E+05	1.26	N	1.04	2.91	6374.434	0.575
12469-PeCDD	31.65		0.9426	0.9420	-1.1	3.17E+05	1.49	Y	1.04	3.73	6374.434	0.575
12368-PeCDD	32.19		0.9587	0.9581	-1.2	3.18E+05	1.53	Y	1.04	3.76	6374.434	0.575
12478-PeCDD	32.39	J	0.9642	0.9639	-0.6	1.63E+05	1.45	Y	1.04	1.92	6374.434	0.575
12379-PeCDD	32.49	J	0.9674	0.9670	-0.8	1.53E+05	1.76	Y	1.04	1.81	6374.434	0.575
12369/12467/12489-PeCDD	32.76	J	0.9752	0.9750	-0.4	1.19E+05	1.73	Y	1.04	1.4	6374.434	0.575
12346/12347-PeCDD	NotFnd		0.9861						1.04		6374.434	0.575
12378-PeCDD	33.62		**1.0006**	**1.0006**	**0**	**1.68E+06**	**1.51**	**Y**	**1.04**	**19.8**	**6374.434**	**0.575**
12367-PeCDD	33.71	J EMPC	1.0036	1.0034	-0.4	7.19E+04	1.16	N	1.04	0.848	6374.434	0.575
12389-PeCDD	NotFnd		1.0139						1.04		6374.434	0.575
124679/124689-HxCDD	35.86		0.9541	0.9542	+0.2	3.07E+06	1.22	Y	1.10	34.9	4863.823	0.487
123468-HxCDD	36.52		0.9715	0.9717	+0.4	3.63E+05	1.09	Y	1.10	4.12	4863.823	0.487
123679/123689-HxCDD	36.81		0.9793	0.9795	+0.4	1.69E+06	1.25	Y	1.10	19.2	4863.823	0.487
123469-HxCDD	36.94	J	0.9831	0.9829	-0.4	1.09E+05	1.13	Y	1.10	1.24	4863.823	0.487
123478-HxCDD	37.60	J	**1.0004**	**1.0004**	**0**	**1.35E+05**	**1.26**	**Y**	1.09	**1.58**	**4863.823**	**0.505**
123678-HxCDD	37.72		**1.0036**	**1.0036**	**0**	**4.59E+05**	**1.33**	**Y**	1.15	**4.85**	**4863.823**	**0.461**
123467-HxCDD	37.92	J EMPC	1.0089	1.0091	+0.5	8.69E+04	0.92	N	1.10	0.986	4863.823	0.487
123789-HxCDD	38.03		**1.0118**	**1.0119**	**+0.2**	**2.88E+05**	**1.09**	**Y**	1.05	**3.42**	**4863.823**	**0.497**

Lab ID: B6169_18833_DF_017 | **Acq'd: 18 Jan 2022 01:36 DTF** | **Wt/Vol: 10.07 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011022-S-BN-NC-S-23 | **UTP: 18-Jan-2022 09:06:18 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 572-467-GQG**

Datafile: 220117C21 | **Report: 18 Jan 2022 09:11 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

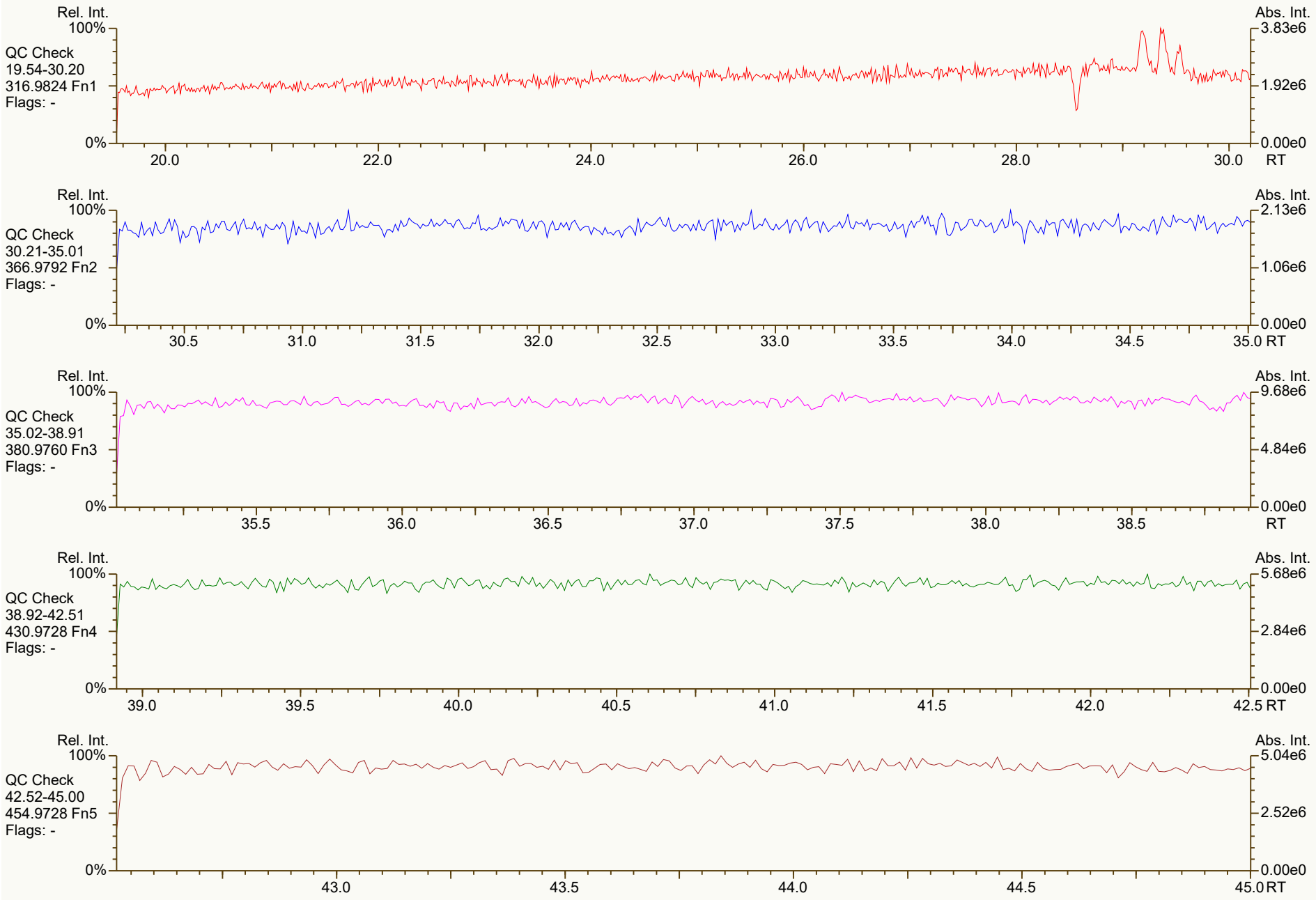
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.13		0.9835	0.9835	0	1.50E+07	1.04	Y	1.06	199	4541.102	0.503
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.28E+07**	**1.03**	**Y**	**1.06**	**169**	**4541.102**	**0.503**
OCDD	**43.60**		**1.0003**	**1.0003**	**0**	**2.84E+08**	**0.90**	**Y**	**1.13**	**6,690**	**4680.12**	**1.61**
OCDD-a	43.60		1.0002	1.0002	0	1.69E+07	2.44	Y	0.07	6,230	3307.87	17.8
1368-TCDF	22.37		0.8250	0.8199	-6.8	2.76E+05	0.79	Y	1.08	1.51	3556.748	0.206
1468-TCDF	22.97		0.8494	0.8419	-10.3	1.25E+06	0.83	Y	1.08	6.84	3556.748	0.206
2468-TCDF	23.60		0.8684	0.8651	-4.7	9.83E+05	0.83	Y	1.08	5.36	3556.748	0.206
1346/1246-TCDF	NotFnd		0.8815						1.08		3556.748	0.206
1347/1378/1247-TCDF	24.14		0.8867	0.8849	-2.6	1.10E+07	0.84	Y	1.08	59.9	3556.748	0.206
1348-TCDF	NotFnd		0.8966						1.08		3556.748	0.206
1248/1367/1379-TCDF	24.48		0.9012	0.8974	-5.6	4.73E+07	0.80	Y	1.08	258	3556.748	0.206
1268-TCDF	24.90		0.9148	0.9126	-3.3	1.42E+07	0.80	Y	1.08	77.2	3556.748	0.206
1467-TCDF	25.03		0.9197	0.9174	-3.5	2.26E+06	0.81	Y	1.08	12.3	3556.748	0.206
1478-TCDF	25.20		0.9258	0.9237	-3.2	3.77E+07	0.83	Y	1.08	205	3556.748	0.206
1369/1237-TCDF	25.58		0.9390	0.9376	-2.1	9.70E+06	0.82	Y	1.08	52.9	3556.748	0.206
2467-TCDF	25.70		0.9435	0.9419	-2.5	1.29E+06	0.74	Y	1.08	7.01	3556.748	0.206
2368-TCDF	25.85		0.9488	0.9474	-2.2	2.44E+07	0.80	Y	1.08	133	3556.748	0.206
1238/1234/1678/1469/1236-TCDF	25.94		0.9527	0.9508	-3.0	4.89E+07	0.82	Y	1.08	266	3556.748	0.206
1278-TCDF	26.41	E	0.9689	0.9680	-1.4	4.34E+08	0.82	Y	1.08	2,370	3556.748	0.206
1349-TCDF	NotFnd		0.9730						1.08		3556.748	0.206
1267-TCDF	26.68		0.9787	0.9781	-1.0	2.28E+07	0.82	Y	1.08	124	3556.748	0.206
2346/1249-TCDF	26.90		0.9856	0.9859	+0.5	2.68E+06	0.82	Y	1.08	14.6	3556.748	0.206
2347/1279-TCDF	27.08		0.9934	0.9929	-0.8	1.07E+07	0.80	Y	1.08	58.3	3556.748	0.206
2348-TCDF	27.19		0.9972	0.9967	-0.8	6.34E+07	0.81	Y	1.08	345	3556.748	0.206
2378-TCDF	**27.30**	E	**1.0008**	**1.0008**	**0**	**1.01E+09**	**0.81**	**Y**	**1.08**	**5,500**	**3556.748**	**0.206**
2367/3467-TCDF	27.67		1.0145	1.0142	-0.5	7.70E+07	0.83	Y	1.08	420	3556.748	0.206
1269-TCDF	27.92		1.0236	1.0236	0	1.42E+07	0.82	Y	1.08	77.3	3556.748	0.206
1239-TCDF	28.19		1.0333	1.0334	+0.2	1.08E+06	0.85	Y	1.08	5.87	3556.748	0.206
1289-TCDF	29.34		1.0740	1.0756	+2.8	7.31E+07	0.84	Y	1.08	399	3556.748	0.206
13468/12468-PeCDF	29.35	EMPC	0.9138	0.9131	-1.2	7.32E+05	1.78	N	1.02	5.37	2876.69	0.18
13678/13467/12467-PeCDF	30.90		0.9614	0.9614	0	5.91E+05	1.46	Y	1.02	4.33	5981.841	0.373
12368/13478/12478-PeCDF	31.06		0.9661	0.9664	+0.6	2.07E+07	1.56	Y	1.02	152	5981.841	0.373
14678-PeCDF	NotFnd		0.9693						1.02		5981.841	0.373
13479-PeCDF	NotFnd		0.9722						1.02		5981.841	0.373
13469/12479-PeCDF	NotFnd		0.9800						1.02		5981.841	0.373
12346-PeCDF	NotFnd		0.9844						1.02		5981.841	0.373

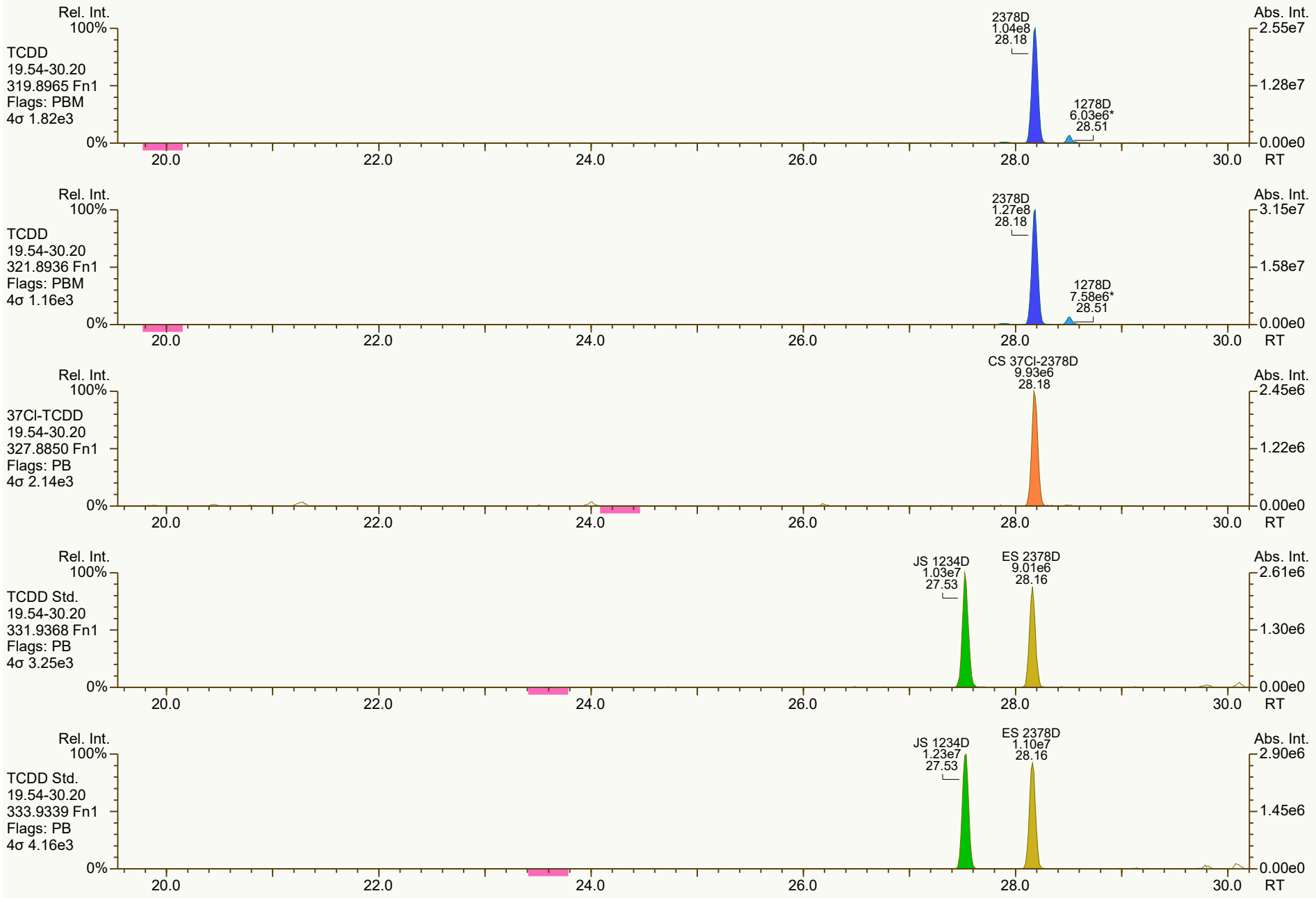
Lab ID: B6169_18833_DF_017 **Acq'd: 18 Jan 2022 01:36 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

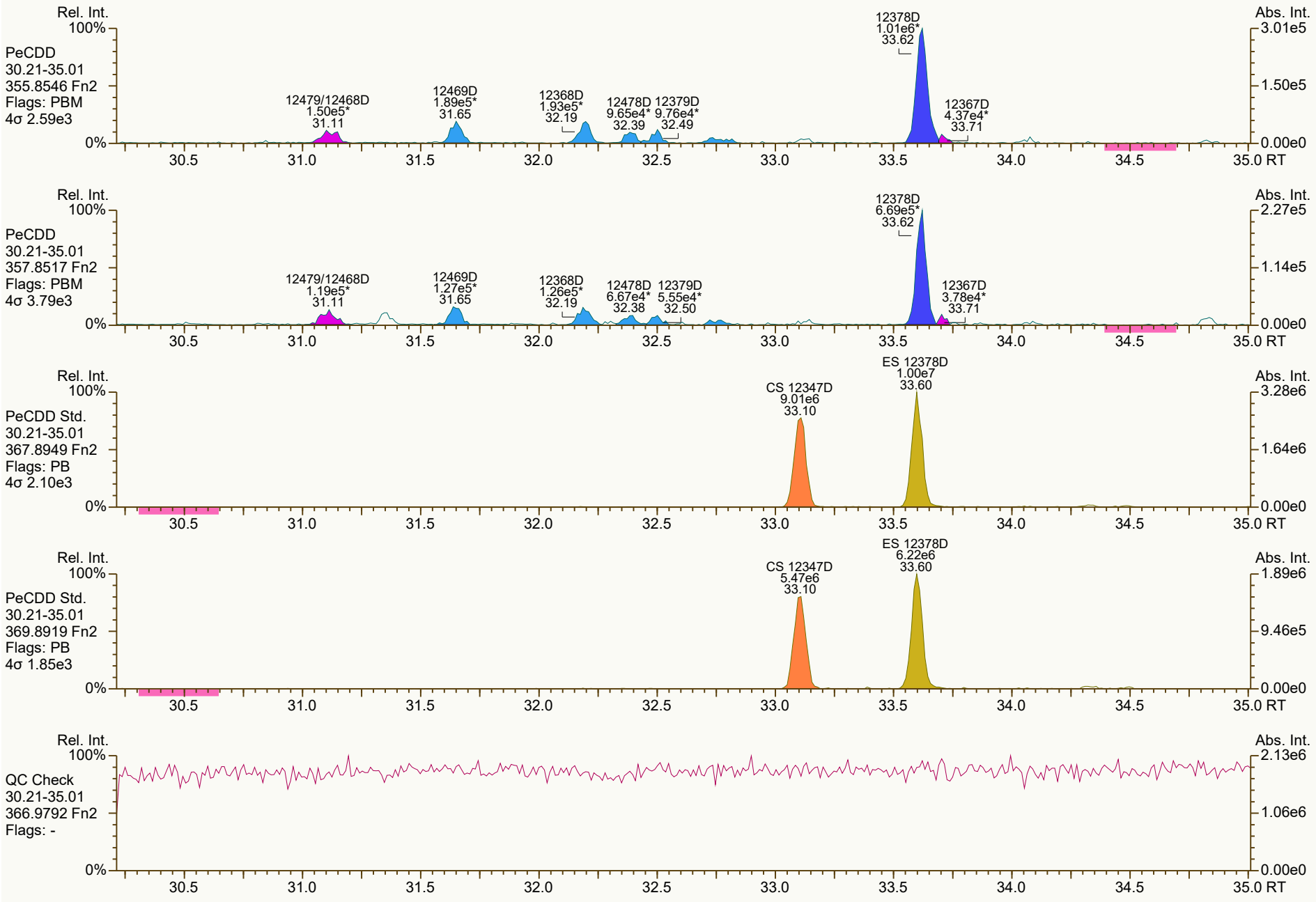
Client ID: 11215131-011022-S-BN-NC-S-23 **UTP: 18-Jan-2022 09:06:18 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 572-467-GQG**

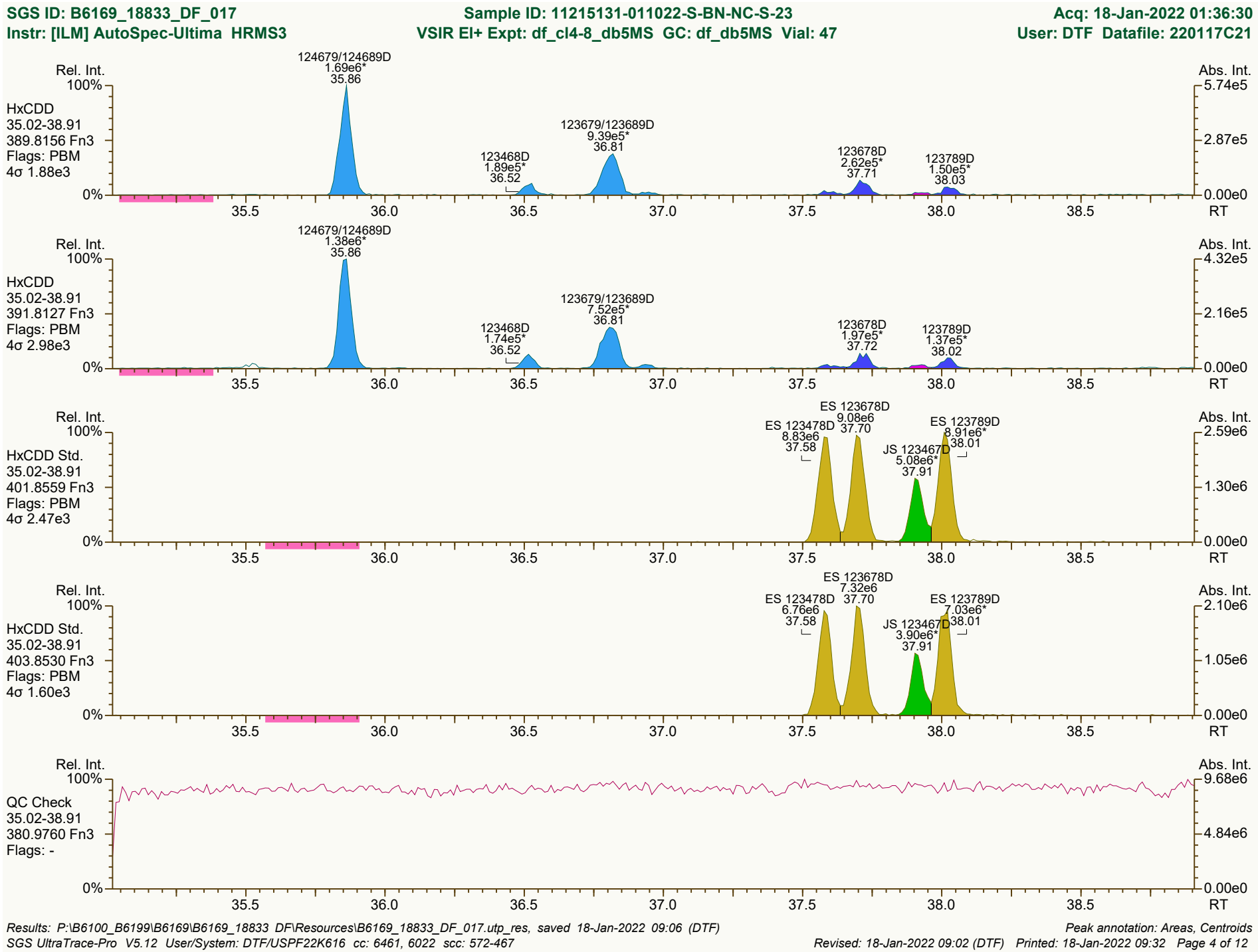
Datafile: 220117C21 **Report: 18 Jan 2022 09:11 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

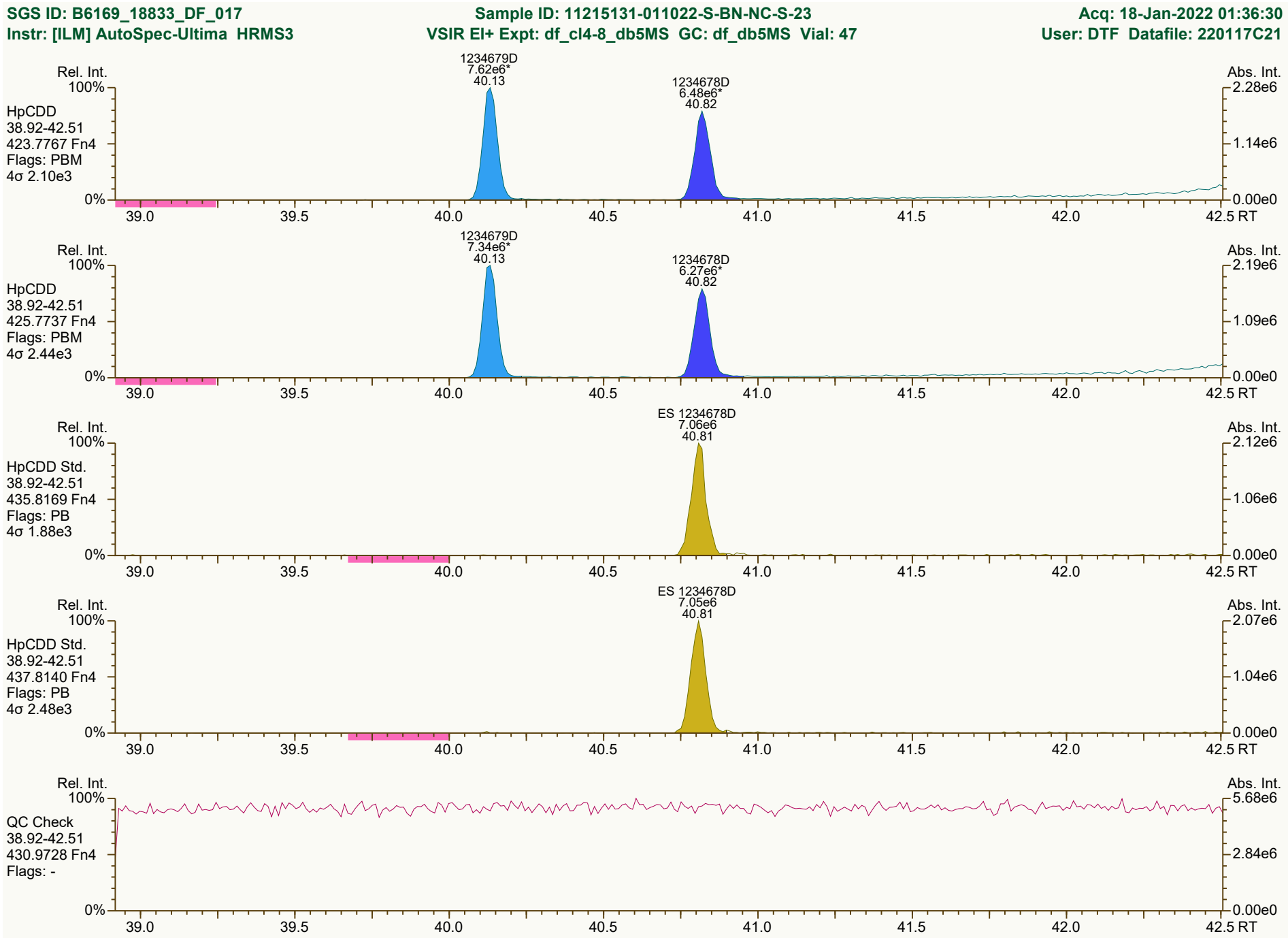
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.69		0.9865	0.9861	-0.8	7.05E+05	1.47	Y	1.02	5.16	5981.841	0.373
12347-PeCDF	31.79		0.9890	0.9890	0	6.20E+05	1.76	Y	1.02	4.54	5981.841	0.373
12348-PeCDF	31.95		0.9942	0.9941	-0.2	3.51E+06	1.64	Y	1.02	25.7	5981.841	0.373
12378-PeCDF	**32.16**		**1.0006**	**1.0005**	**-0.2**	**5.46E+07**	**1.59**	**Y**	**1.02**	**390**	**5981.841**	**0.356**
12678/12367-PeCDF	32.46		1.0090	1.0098	+1.6	1.38E+07	1.56	Y	1.02	101	5981.841	0.373
12379-PeCDF	NotFnd		1.0142						1.02		5981.841	0.373
12679-PeCDF	NotFnd		0.9933						1.02		5981.841	0.373
23467/12369-PeCDF	33.15		0.9969	0.9969	0	5.20E+05	1.67	Y	1.02	3.81	5981.841	0.373
23478-PeCDF	**33.28**		**1.0006**	**1.0008**	**+0.4**	**3.01E+07**	**1.56**	**Y**	**1.02**	**226**	**5981.841**	**0.391**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5981.841	0.373
12349-PeCDF	NotFnd		1.0107						1.02		5981.841	0.373
12389-PeCDF	34.36		1.0330	1.0332	+0.4	1.61E+06	1.52	Y	1.02	11.8	5981.841	0.373
123468-HxCDF	35.20		0.9627	0.9625	-0.4	7.38E+05	1.33	Y	1.19	5.55	14032.582	0.877
124678/134678-HxCDF	35.39		0.9682	0.9679	-0.6	6.97E+06	1.29	Y	1.19	52.4	14032.582	0.877
134679-HxCDF	NotFnd		0.9744						1.19		14032.582	0.877
124679-HxCDF	NotFnd		0.9798						1.19		14032.582	0.877
124689-HxCDF	36.05		0.9858	0.9858	0	3.60E+06	1.28	Y	1.19	27.1	14032.582	0.877
123467-HxCDF	36.47		0.9973	0.9972	-0.2	4.59E+05	1.27	Y	1.19	3.45	14032.582	0.877
123478-HxCDF	**36.59**		**1.0005**	**1.0005**	**0**	**8.56E+07**	**1.28**	**Y**	**1.27**	**638**	**14032.582**	**0.851**
123678-HxCDF	**36.73**		**1.0004**	**1.0005**	**+0.2**	**2.25E+07**	**1.26**	**Y**	**1.15**	**158**	**14032.582**	**0.824**
123479-HxCDF	NotFnd		1.0051						1.19		14032.582	0.877
123469-HxCDF	NotFnd		1.0093						1.19		14032.582	0.877
123679-HxCDF	NotFnd		0.9944						1.19		14032.582	0.877
234678-HxCDF	**37.40**		**1.0005**	**1.0004**	**-0.2**	**4.41E+06**	**1.29**	**Y**	**1.19**	**31.5**	**14032.582**	**0.823**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		14032.582	0.877
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**14032.582**	**1.04**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.41		1.0008	1.0012	+0.9	6.49E+06	1.29	Y	1.19	48.8	14032.582	0.877
1234678-HpCDF	**39.86**		**1.0003**	**1.0003**	**0**	**1.81E+07**	**1.05**	**Y**	**1.37**	**155**	**4203.656**	**0.299**
1234679-HpCDF	40.12	**J**	1.0069	1.0069	0	2.53E+05	1.07	Y	1.34	2.48	4203.656	0.373
1234689-HpCDF	40.27		1.0103	1.0107	+1.0	6.52E+06	1.04	Y	1.34	63.8	4203.656	0.373
1234789-HpCDF	**41.27**		**1.0003**	**1.0003**	**0**	**6.12E+06**	**1.08**	**Y**	**1.31**	**69.3**	**4203.656**	**0.468**
OCDF	**43.76**		**1.0003**	**1.0003**	**0**	**6.39E+06**	**0.93**	**Y**	**1.07**	**111**	**3314.885**	**0.806**
OCDF-a	43.74		1.0002	0.9997	-1.3	2.00E+05	2.66	Y	0.07	56	3049.664	12

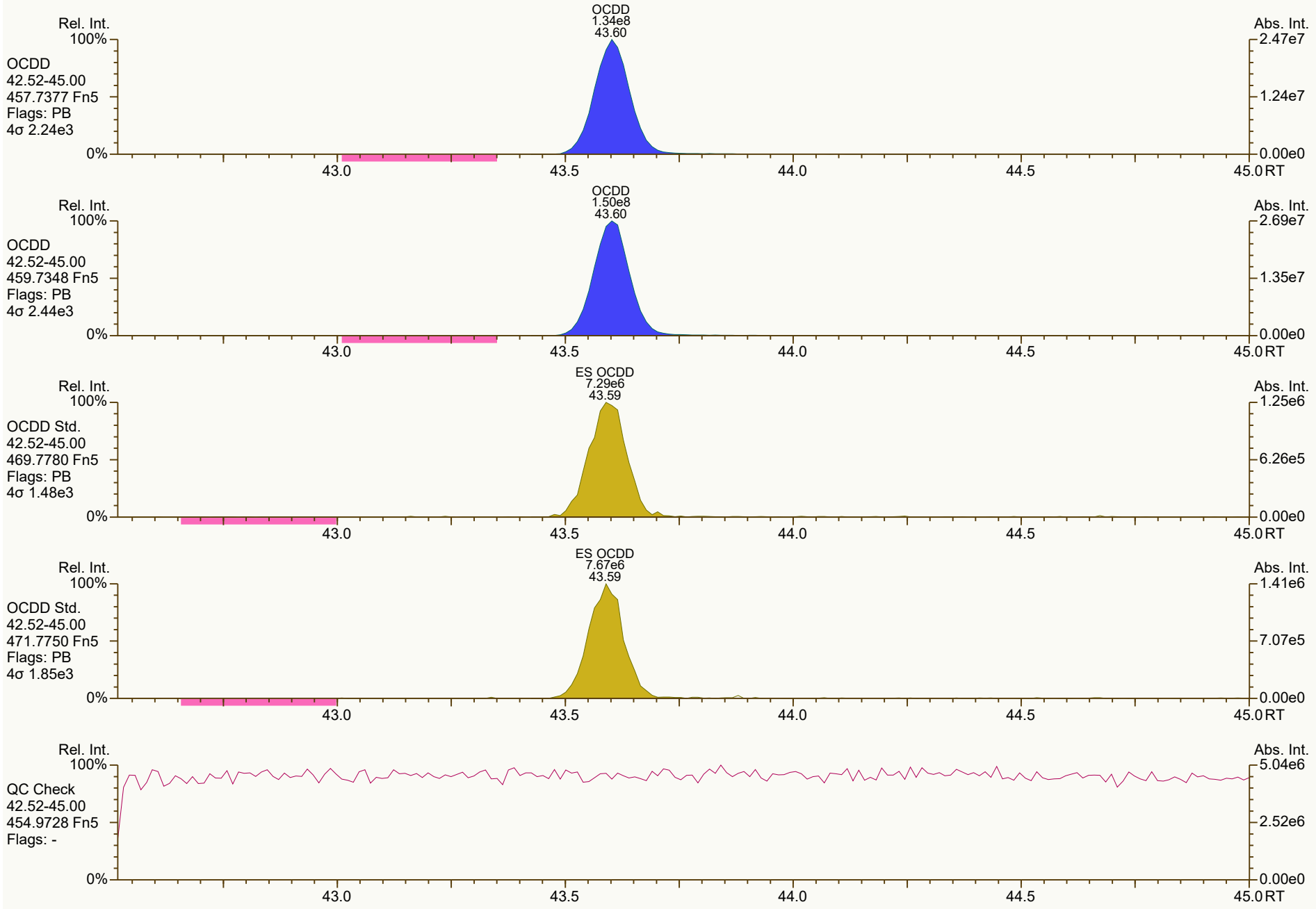

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.83e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.13e6
1.06e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.68e6
4.84e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.68e6
2.84e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.04e6
2.52e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.82e3
0%
2378D
1.04e8
28.18
1278D
6.03e6*
28.51
Abs. Int.
2.55e7
1.28e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.16e3
0%
2378D
1.27e8
28.18
1278D
7.58e6*
28.51
Abs. Int.
3.15e7
1.58e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.14e3
0%
CS 37Cl-2378D
9.93e6
28.18
Abs. Int.
2.45e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.25e3
0%
JS 1234D
1.03e7
27.53
ES 2378D
9.01e6
28.16
Abs. Int.
2.61e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.16e3
0%
JS 1234D
1.23e7
27.53
ES 2378D
1.10e7
28.16
Abs. Int.
2.90e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.59e3
12479/12468D
1.50e5*
31.11
12469D
1.89e5*
31.65
12368D
1.93e5*
32.19
12478D
9.65e4*
32.39
12379D
9.76e4*
32.49
12378D
1.01e6*
33.62
12367D
4.37e4*
33.71
Abs. Int.
3.01e5
1.50e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 3.79e3
12479/12468D
1.19e5*
31.11
12469D
1.27e5*
31.65
12368D
1.26e5*
32.19
12478D
6.67e4*
32.38
12379D
5.55e4*
32.50
12378D
6.69e5*
33.62
12367D
3.78e4*
33.71
Abs. Int.
2.27e5
1.14e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.10e3
CS 12347D
9.01e6
33.10
ES 12378D
1.00e7
33.60
Abs. Int.
3.28e6
1.64e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.85e3
CS 12347D
5.47e6
33.10
ES 12378D
6.22e6
33.60
Abs. Int.
1.89e6
9.46e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
2.13e6
1.06e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

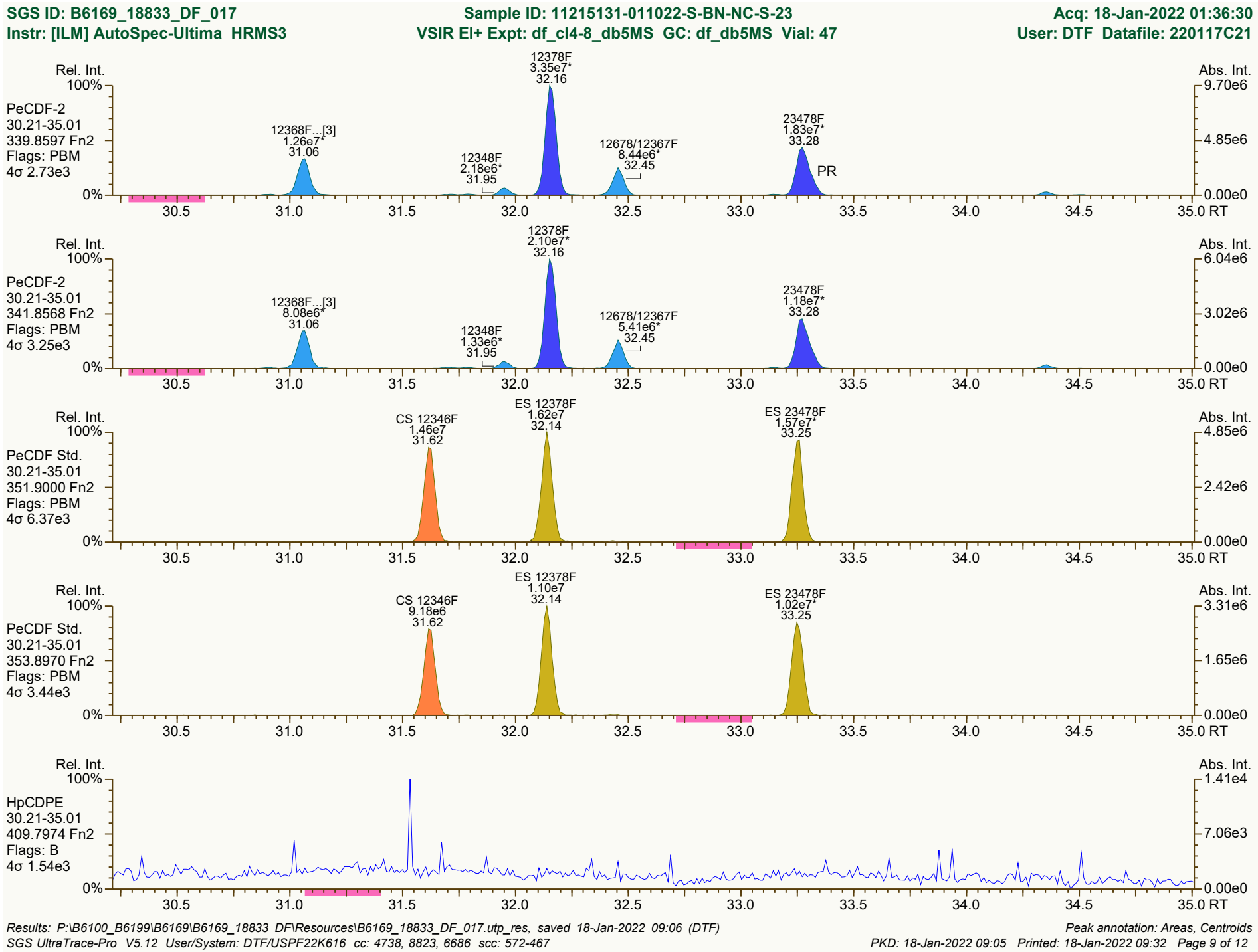

SGS ID: B6169_18833_DF_017
Sample ID: 11215131-011022-S-BN-NC-S-23
Acq: 18-Jan-2022 01:36:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220117C21
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.88e3
124679/124689D
1.69e6*
35.86
123679/123689D
9.39e5*
36.81
123468D
1.89e5*
36.52
123678D
2.62e5*
37.71
123789D
1.50e5*
38.03
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.98e3
124679/124689D
1.38e6*
35.86
123679/123689D
7.52e5*
36.81
123468D
1.74e5*
36.52
123678D
1.97e5*
37.72
123789D
1.37e5*
38.02
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 2.47e3
ES 123678D
9.08e6
37.70
ES 123478D
8.83e6
37.58
ES 123789D
8.91e6*
38.01
JS 123467D
5.08e6*
37.91
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.60e3
ES 123678D
7.32e6
37.70
ES 123478D
6.76e6
37.58
ES 123789D
7.03e6*
38.01
JS 123467D
3.90e6*
37.91
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_017.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6461, 6022 scc: 572-467
Revised: 18-Jan-2022 09:02 (DTF) Printed: 18-Jan-2022 09:32 Page 4 of 12


SGS ID: B6169_18833_DF_017
Sample ID: 11215131-011022-S-BN-NC-S-23
Acq: 18-Jan-2022 01:36:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220117C21
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.10e3
1234679D
7.62e6*
40.13
1234678D
6.48e6*
40.82
2.28e6
1.14e6
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.44e3
1234679D
7.34e6*
40.13
1234678D
6.27e6*
40.82
2.19e6
1.09e6
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.88e3
ES 1234678D
7.06e6
40.81
2.12e6
1.06e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.48e3
ES 1234678D
7.05e6
40.81
2.07e6
1.04e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
5.68e6
2.84e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_017.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7817, 5104 scc: 572-467
Revised: 18-Jan-2022 09:02 (DTF) Printed: 18-Jan-2022 09:32 Page 5 of 12

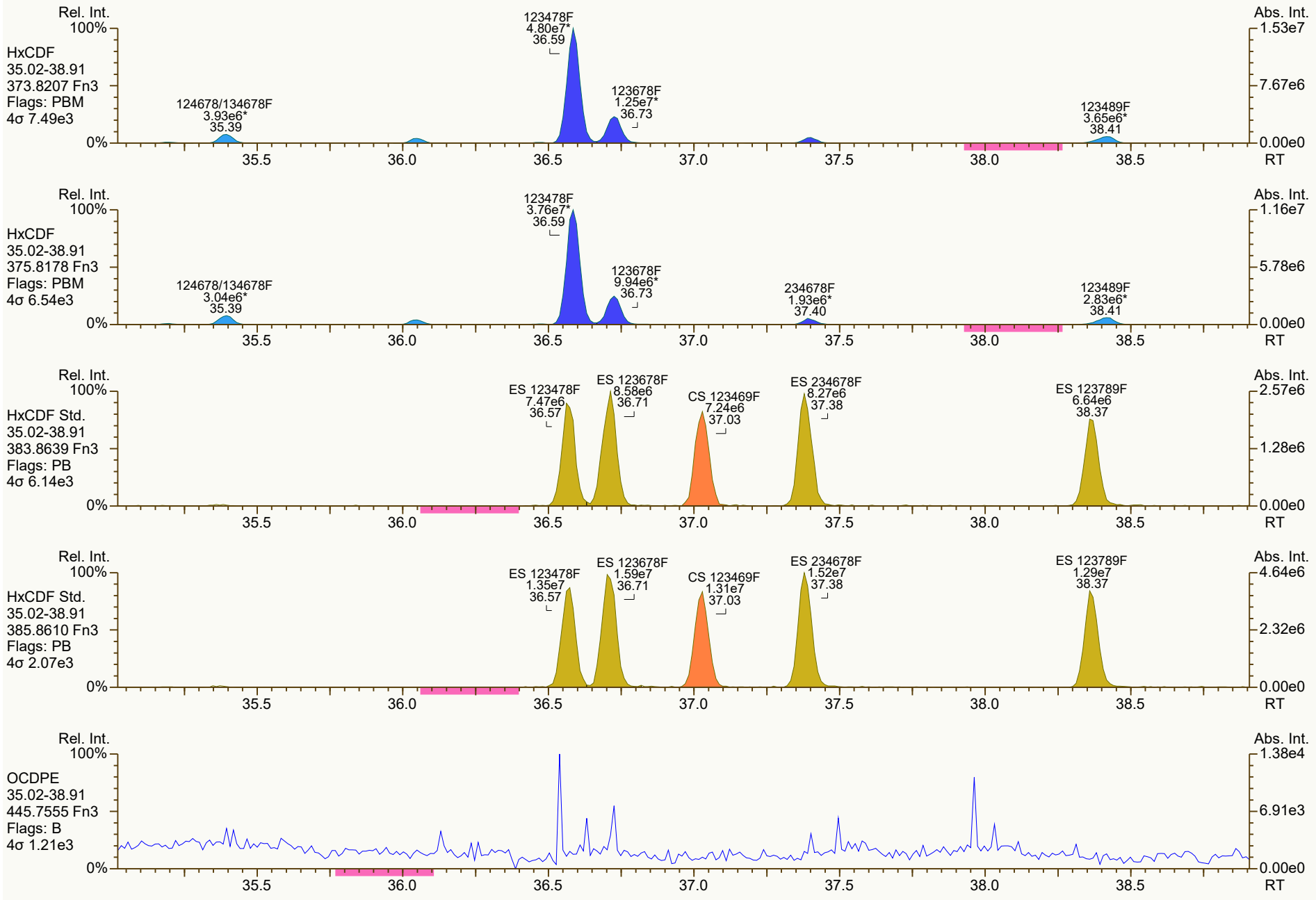

OCDD
1.34e8
43.60
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
2.47e7
1.24e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.50e8
43.60
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.44e3
2.69e7
1.35e7
ES OCDD
7.29e6
43.59
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.48e3
1.25e6
6.26e5
ES OCDD
7.67e6
43.59
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.85e3
1.41e6
7.07e5
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
5.04e6
2.52e6

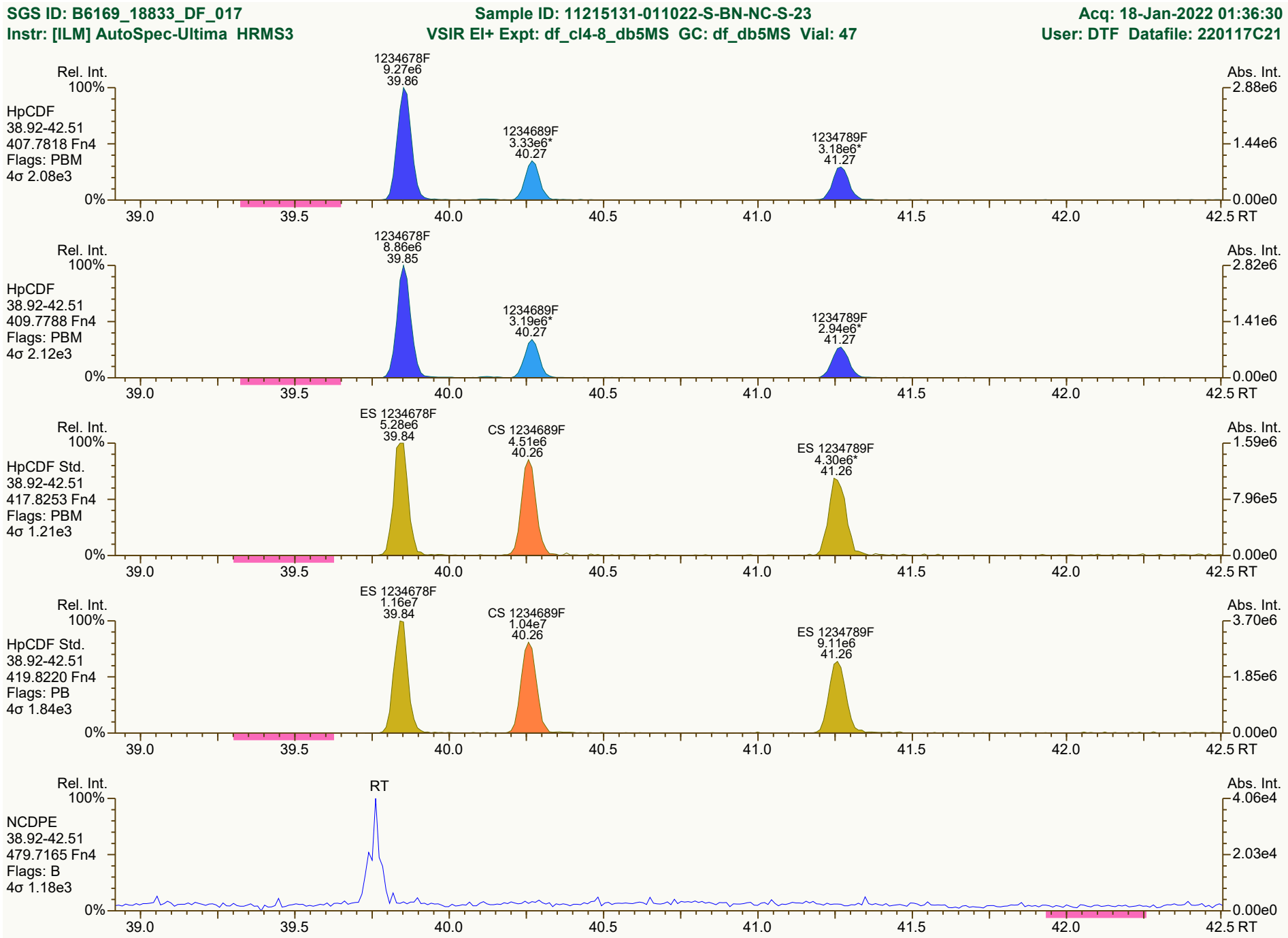

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.94e3
0%
2378F
4.52e8*
27.30
1278F
1.96e8*
26.41
2348F
2.84e7*
27.19
2367/3467F
3.48e7*
27.67
1289F
3.34e7*
29.34
Abs. Int.
1.07e8
5.33e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.62e3
0%
2378F
5.57e8*
27.30
1278F
2.39e8*
26.41
2348F
3.50e7*
27.19
2367/3467F
4.22e7*
27.67
1289F
3.98e7*
29.34
Abs. Int.
1.32e8
6.61e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.35e3
0%
JS 1234F
1.63e7
25.94
ES 2378F
1.53e7
27.28
Abs. Int.
3.75e6
1.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.93e3
0%
JS 1234F
2.11e7
25.93
ES 2378F
1.85e7
27.28
Abs. Int.
4.74e6
2.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.33e3
0%
Abs. Int.
9.13e3
4.56e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

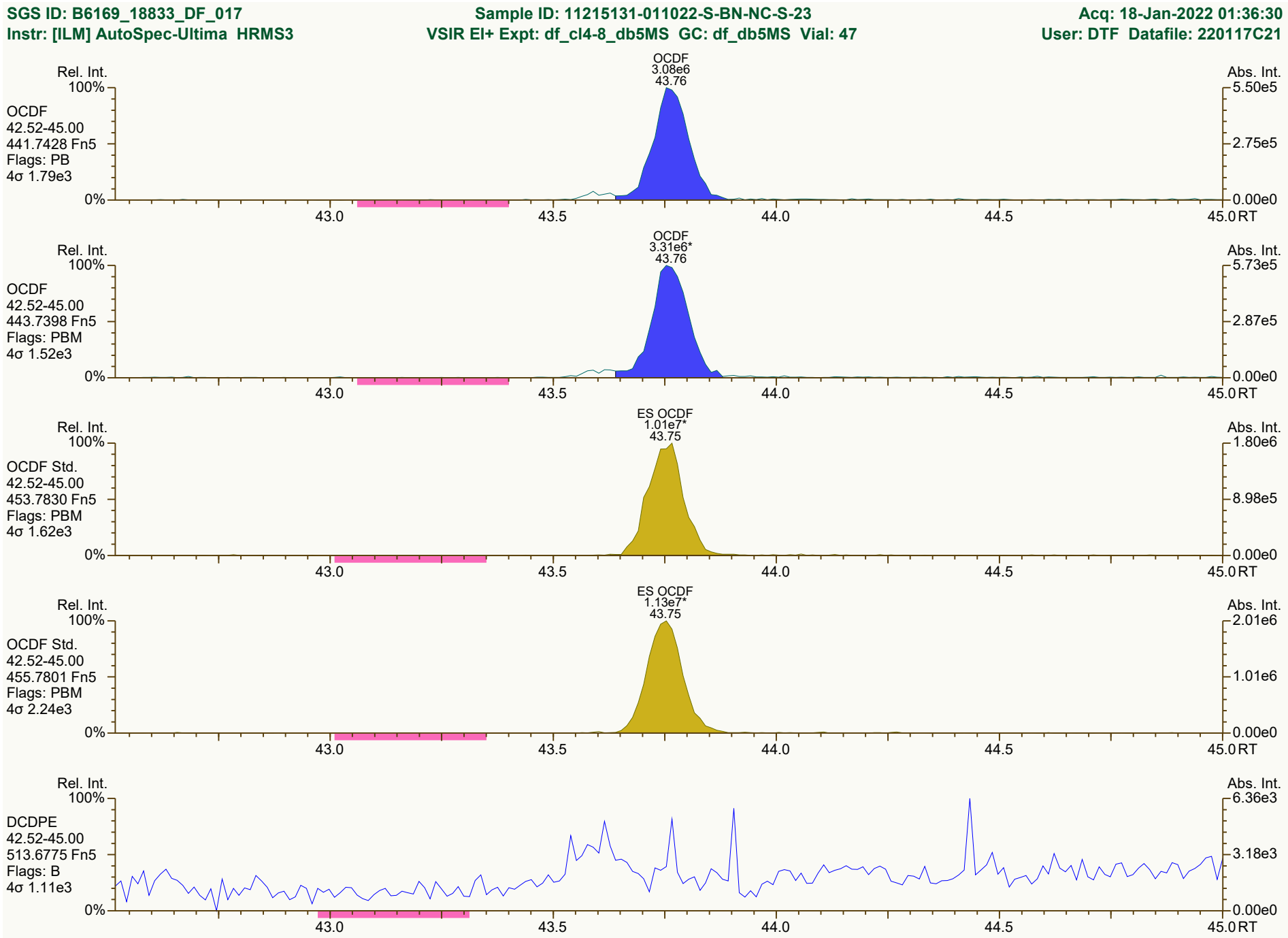

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.56e3
13468/12468F
5.12e5
29.35
Abs. Int.
1.50e5
7.50e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.31e3
13468/12468F
2.87e5
29.35
Abs. Int.
8.52e4
4.26e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.83e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_017.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4738, 8823, 6686 scc: 572-467
PKD: 18-Jan-2022 09:05 Printed: 18-Jan-2022 09:32 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 7.49e3
123478F
4.80e7*
36.59
123678F
1.25e7*
36.73
124678/134678F
3.93e6*
35.39
123489F
3.65e6*
38.41
0%
Abs. Int.
1.53e7
7.67e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 6.54e3
123478F
3.76e7*
36.59
123678F
9.94e6*
36.73
124678/134678F
3.04e6*
35.39
234678F
1.93e6*
37.40
123489F
2.83e6*
38.41
0%
Abs. Int.
1.16e7
5.78e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.14e3
ES 123478F
7.47e6
36.57
ES 123678F
8.58e6
36.71
CS 123469F
7.24e6
37.03
ES 234678F
8.27e6
37.38
ES 123789F
6.64e6
38.37
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 2.07e3
ES 123478F
1.35e7
36.57
ES 123678F
1.59e7
36.71
CS 123469F
1.31e7
37.03
ES 234678F
1.52e7
37.38
ES 123789F
1.29e7
38.37
0%
Abs. Int.
4.64e6
2.32e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.38e4
6.91e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6169_18833_DF_017
Sample ID: 11215131-011022-S-BN-NC-S-23
Acq: 18-Jan-2022 01:36:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220117C21
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.08e3
1234678F
9.27e6
39.86
1234689F
3.33e6*
40.27
1234789F
3.18e6*
41.27
2.88e6
1.44e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 2.12e3
1234678F
8.86e6
39.85
1234689F
3.19e6*
40.27
1234789F
2.94e6*
41.27
2.82e6
1.41e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 1.21e3
ES 1234678F
5.28e6
39.84
CS 1234689F
4.51e6
40.26
ES 1234789F
4.30e6*
41.26
1.59e6
7.96e5
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.84e3
ES 1234678F
1.16e7
39.84
CS 1234689F
1.04e7
40.26
ES 1234789F
9.11e6
41.26
3.70e6
1.85e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.18e3
RT
4.06e4
2.03e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_017.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7130, 8246, 9542 scc: 572-467
Revised: 18-Jan-2022 09:05 (DTF) Printed: 18-Jan-2022 09:32 Page 11 of 12


SGS ID: B6169_18833_DF_017
Sample ID: 11215131-011022-S-BN-NC-S-23
Acq: 18-Jan-2022 01:36:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220117C21
OCDF
3.08e6
43.76
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.79e3
0%
Abs. Int.
5.50e5
2.75e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.31e6*
43.76
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.52e3
5.73e5
2.87e5
ES OCDF
1.01e7*
43.75
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 1.62e3
1.80e6
8.98e5
ES OCDF
1.13e7*
43.75
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 2.24e3
2.01e6
1.01e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.11e3
6.36e3
3.18e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\B6169_18833_DF_017.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6592, 1056, 0184 scc: 572-467
Revised: 18-Jan-2022 09:05 (DTF) Printed: 18-Jan-2022 09:32 Page 12 of 12

REVIEWED
Tamara Burkamper , 1/18/2022, 10:30:59 AM

SGS Environmental Services — Run Log

Project: B6169_18833_DF

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
28	220116C28	3	CS3_220116_DF_CC	1.00	SIL 25-347-1	DTF	070-025	17-Jan-2022	08:42:42
0	220117C01	33	OPR1_18833_DF	1.00	0_18833_OPR001	DTF	516-206	17-Jan-2022	09:50:09
1	220117C02	2	SBS_220117_DF_CA	1.00	20-61-1	DTF	366-177	17-Jan-2022	10:40:05
2	220117C03	32	MB1_18833_DF_SDS	10.00	Method Blank	DTF	347-021	17-Jan-2022	11:26:20
3	220117C04	35	B6169_18833_DF_001	10.14	11215131-011022-S-BN-NC-S-20	DTF	380-762	17-Jan-2022	12:12:38
4	220117C05	36	B6169_18833_DF_002	10.22	11215131-011022-S-BN-NC-S-32	DTF	316-237	17-Jan-2022	12:58:59
5	220117C06	37	B6169_18833_DF_003	10.20	11215131-011022-S-BN-NC-S-31	DTF	432-718	17-Jan-2022	13:45:20
6	220117C07	38	B6169_18833_DF_004	10.09	11215131-011122-S-BN-NC-S-24	DTF	225-388	17-Jan-2022	14:31:39
7	220117C08	39	B6169_18833_DF_005	10.24	11215131-011122-S-BN-NC-S-25	DTF	749-441	17-Jan-2022	15:17:59
8	220117C09	40	B6169_18833_DF_006	10.17	11215131-011122-S-BN-NC-S-27	DTF	109-561	17-Jan-2022	16:04:19
9	220117C10	41	B6169_18833_DF_007	10.12	11215131-011122-S-BN-NC-S-30	DTF	937-212	17-Jan-2022	16:50:38
10	220117C11	42	B6169_18833_DF_008	10.05	11215131-011122-S-BN-NC-S-21	DTF	865-092	17-Jan-2022	17:36:57
11	220117C12	43	B6169_18833_DF_009	10.14	11215131-011122-S-BN-NC-S-22	DTF	356-271	17-Jan-2022	18:23:17
12	220117C13	44	B6169_18833_DF_014	10.27	11215131-010822-S-BN-NC-S-28	DTF	541-897	17-Jan-2022	19:09:43
15	220117C15	3	CS3_220117_DF_CA	1.00	SIL 25-347-1	DTF	663-820	17-Jan-2022	20:58:31
16	220117C16	34	OPR2_18833_DF	1.00	0_18833_OPR002	DTF	055-395	17-Jan-2022	21:44:50
17	220117C17	79	OPR2_18793_DF-RJ2	1.00	0_18793_OPR002 **CPSM only**	DTF	139-544	17-Jan-2022	22:31:10
18	220117C18	2	SBS_220117_DF_CC	1.00	20-61-1	DTF	112-930	17-Jan-2022	23:17:31
19	220117C19	45	B6169_18833_DF_015	10.23	11215131-010822-S-BN-NC-S-29	DTF	566-164	18-Jan-2022	00:03:50
20	220117C20	46	B6169_18833_DF_016	10.12	11215131-010822-S-BN-NC-S-26	DTF	259-031	18-Jan-2022	00:50:10
21	220117C21	47	B6169_18833_DF_017	10.07	11215131-011022-S-BN-NC-S-23	DTF	572-467	18-Jan-2022	01:36:30

REVIEWED
Tyler_Fritz , 1/18/2022, 9:39:38 AM

Dioxin/Furan QC Summary	Acq'd: 17 Jan 2022 08:42 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220116_DF_CC	UTP: 18-Jan-2022 09:06:08 DTF	Checkcode: 070-025-YRM
Sample ID: SIL 25-347-1	Report: 18 Jan 2022 09:08 TF	Datafile: 220116C28

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.21	2.53E+06	0.83	Y	1.18	1.35	14%
12378-PeCDD	33.64	9.88E+06	1.53	Y	1.04	1.08	5%
123478-HxCDD	37.61	9.58E+06	1.31	Y	1.09	1.18	9%
123678-HxCDD	37.73	1.01E+07	1.32	Y	1.15	1.29	13%
123789-HxCDD	38.04	9.60E+06	1.29	Y	1.05	1.14	9%
1234678-HpCDD	40.84	7.72E+06	1.05	Y	1.06	1.10	4%
OCDD	43.63	9.90E+06	0.96	Y	1.13	1.22	8%
2378-TCDF	27.33	4.24E+06	0.80	Y	1.08	1.28	19%
12378-PeCDF	32.18	1.69E+07	1.56	Y	1.02	1.14	11%
23478-PeCDF	33.29	1.65E+07	1.63	Y	1.02	1.12	10%
123478-HxCDF	36.60	1.59E+07	1.31	Y	1.27	1.33	5%
123678-HxCDF	36.74	1.69E+07	1.24	Y	1.15	1.22	6%
234678-HxCDF	37.42	1.55E+07	1.24	Y	1.19	1.26	6%
123789-HxCDF	38.40	1.27E+07	1.28	Y	1.16	1.25	8%
1234678-HpCDF	39.87	1.25E+07	1.03	Y	1.37	1.48	8%
1234789-HpCDF	41.30	9.74E+06	1.03	Y	1.31	1.36	4%
OCDF	43.79	1.38E+07	0.90	Y	1.07	1.19	11%
ES 2378-TCDD	28.18	1.87E+07	0.81	Y	1.05	0.98	-7%
ES 12378-PeCDD	33.62	1.82E+07	1.63	Y	0.88	0.95	8%
ES 123478-HxCDD	37.597	1.62E+07	1.28	Y	0.97	1.05	8%
ES 123678-HxCDD	37.715	1.55E+07	1.22	Y	0.94	1.01	7%
ES 123789-HxCDD	38.025	1.68E+07	1.20	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.828	1.40E+07	1.09	Y	0.91	0.91	0%
ES OCDD	43.612	1.62E+07	0.92	Y	0.62	0.53	-16%
ES 2378-TCDF	27.302	3.31E+07	0.78	Y	1.06	1.02	-3%
ES 12378-PeCDF	32.157	2.96E+07	1.53	Y	0.91	0.92	1%
ES 23478-PeCDF	33.268	2.94E+07	1.53	Y	0.88	0.91	3%
ES 123478-HxCDF	36.586	2.39E+07	0.54	Y	1.20	1.55	29%
ES 123678-HxCDF	36.723	2.76E+07	0.54	Y	1.35	1.79	33%*
ES 234678-HxCDF	37.401	2.45E+07	0.54	Y	1.24	1.59	28%
ES 123789-HxCDF	38.386	2.02E+07	0.54	Y	1.16	1.31	13%
ES 1234678-HpCDF	39.859	1.69E+07	0.46	Y	0.97	1.10	14%
ES 1234789-HpCDF	41.288	1.43E+07	0.45	Y	0.85	0.93	9%
ES OCDF	43.778	2.32E+07	0.92	Y	0.81	0.75	-7%

*meets M1613B criteria
TB 01/18/2022

Dioxin/Furan QC Summary	Acq'd: 17 Jan 2022 08:42 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220116_DF_CC	UTP: 18-Jan-2022 09:06:08 DTF	Checkcode: 070-025-YRM
Sample ID: SIL 25-347-1	Report: 18 Jan 2022 09:08 TF	Datafile: 220116C28

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.54	1.91E+07	0.86	Y	-	-	-
JS 1234-TCDF	25.96	3.24E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.93	7.70E+06	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.21	2.79E+06	n/a	-	1.20	1.46	21%
CS 12347-PeCDD	33.12	1.60E+07	1.60	Y	0.75	0.83	11%
CS 12346-PeCDF	31.64	2.88E+07	1.58	Y	0.85	0.89	4%
CS 123469-HxCDF	37.05	2.48E+07	0.55	Y	1.12	1.61	44%
CS 1234689-HpCDF	40.28	1.74E+07	0.45	Y	0.89	1.13	28%
~~SS 37Cl-2378-TCDD~~	~~28.21~~	~~2.79E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.49~~	~~30%~~
~~SS 12347-PeCDD~~	~~33.12~~	~~1.60E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~0.87~~	~~2%~~
~~SS 12346-PeCDF~~	~~31.64~~	~~2.88E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~0.97~~	~~4%~~
~~SS 123469-HxCDF~~	~~37.05~~	~~2.48E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~1.74E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.03~~	~~12%~~
~~OCDD-a~~	~~43.62~~	~~6.06E+05~~	~~2.80~~	~~Y~~	~~0.07~~	~~0.07~~	~~4%~~
~~OCDF-a~~	~~43.76~~	~~3.99E+05~~	~~3.18~~	~~N~~	~~0.07~~	~~0.03~~	~~-48%~~

no method specified criteria for this compound
TB 01/18/2022

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220116C28 Analysis Date: 17-JAN-2022 08:42:42

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.83	0.65 - 0.89	Y	11.4	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32 - 1.78	Y	52.3	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	54.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	56.3	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	54.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	51.9	43 - 58	Y
OCDD	M+2/M+4	0.96	0.76 - 1.02	Y	108	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	11.9	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	55.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32 - 1.78	Y	55.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.31	1.05 - 1.43	Y	52.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	53.1	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	53.2	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.05 - 1.43	Y	53.9	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	54	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	51.9	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	111	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 18 Jan 2022 09:08 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

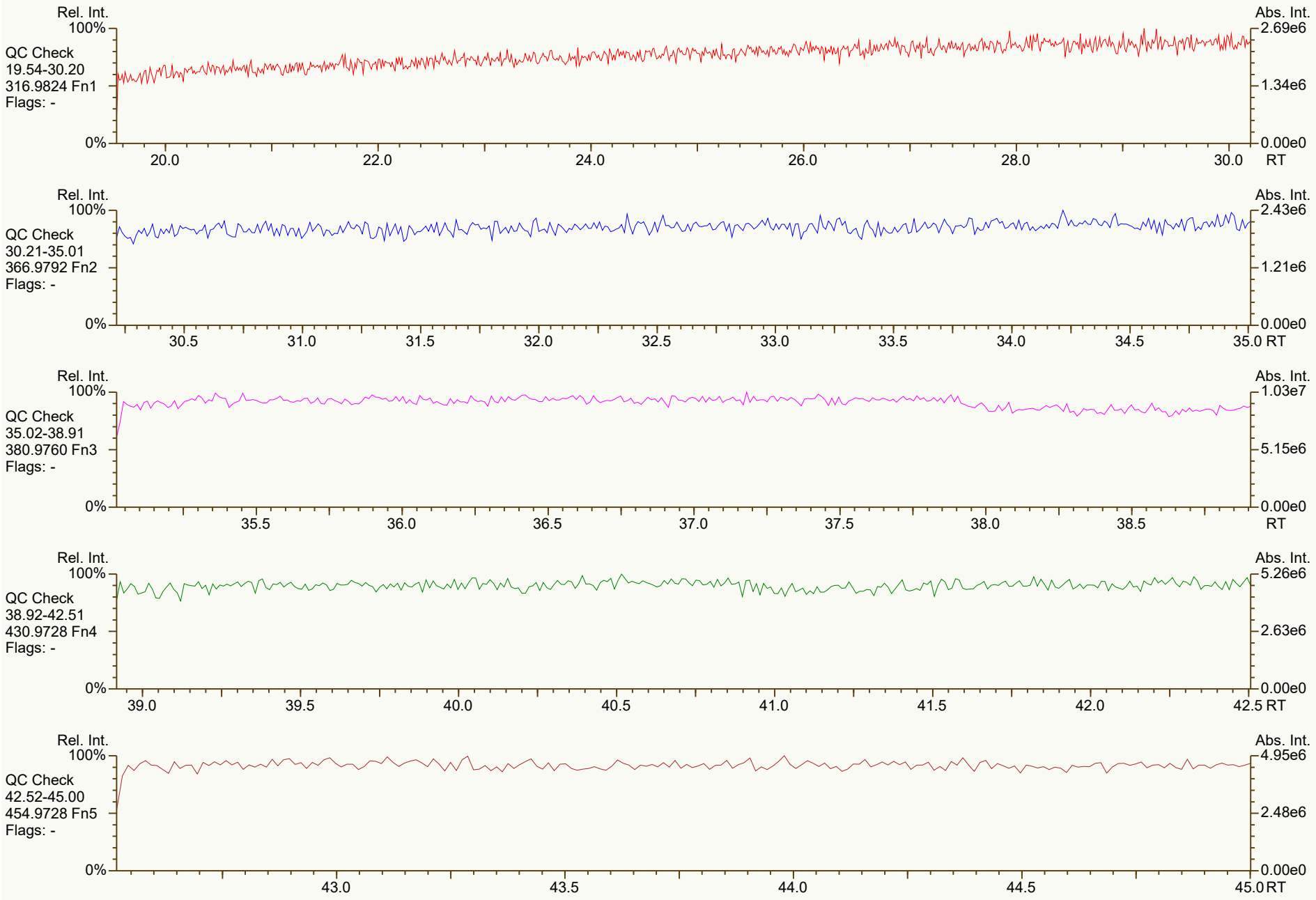
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

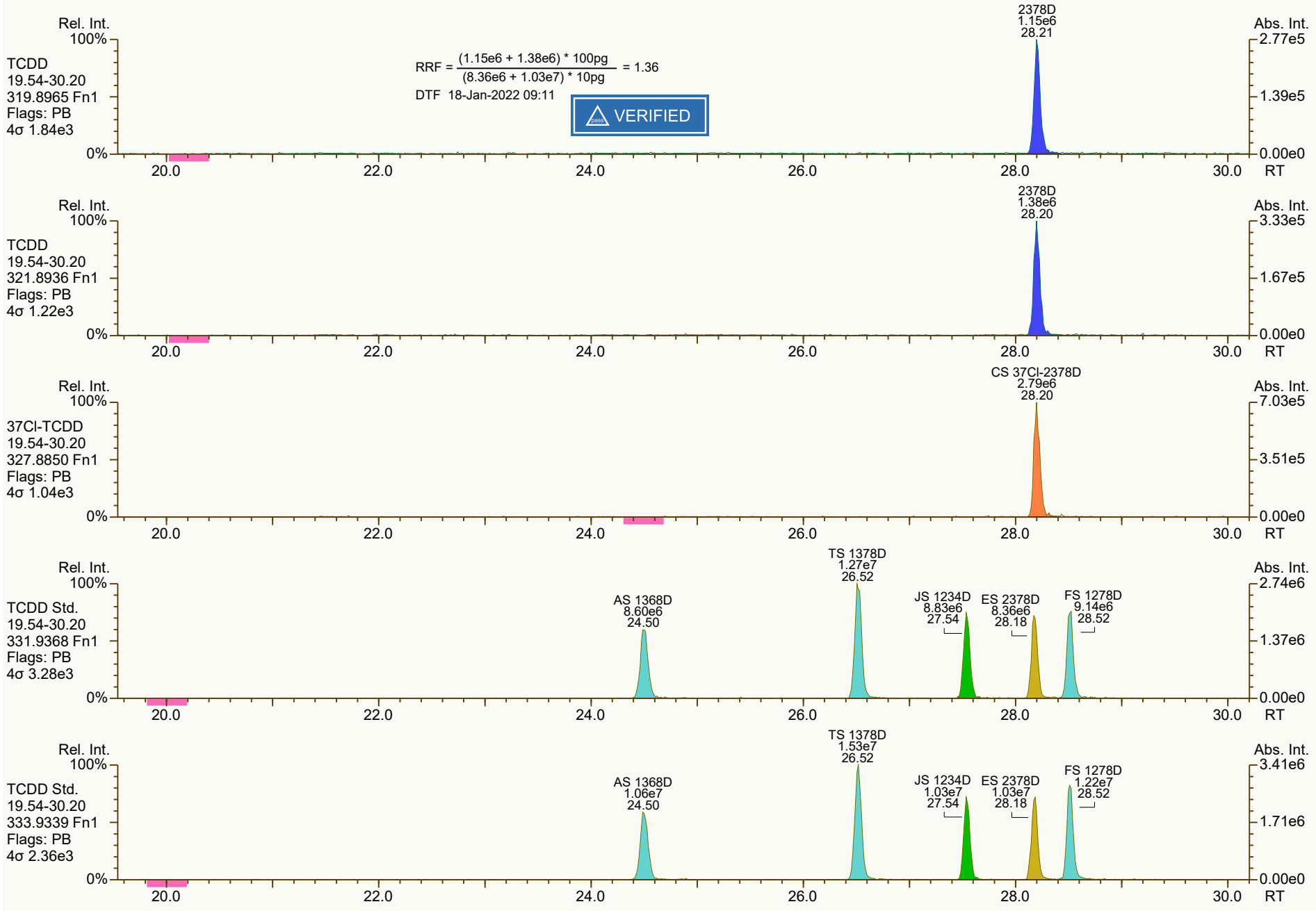
Instrument ID: HRMS3 GC Column ID: ZB-5ms

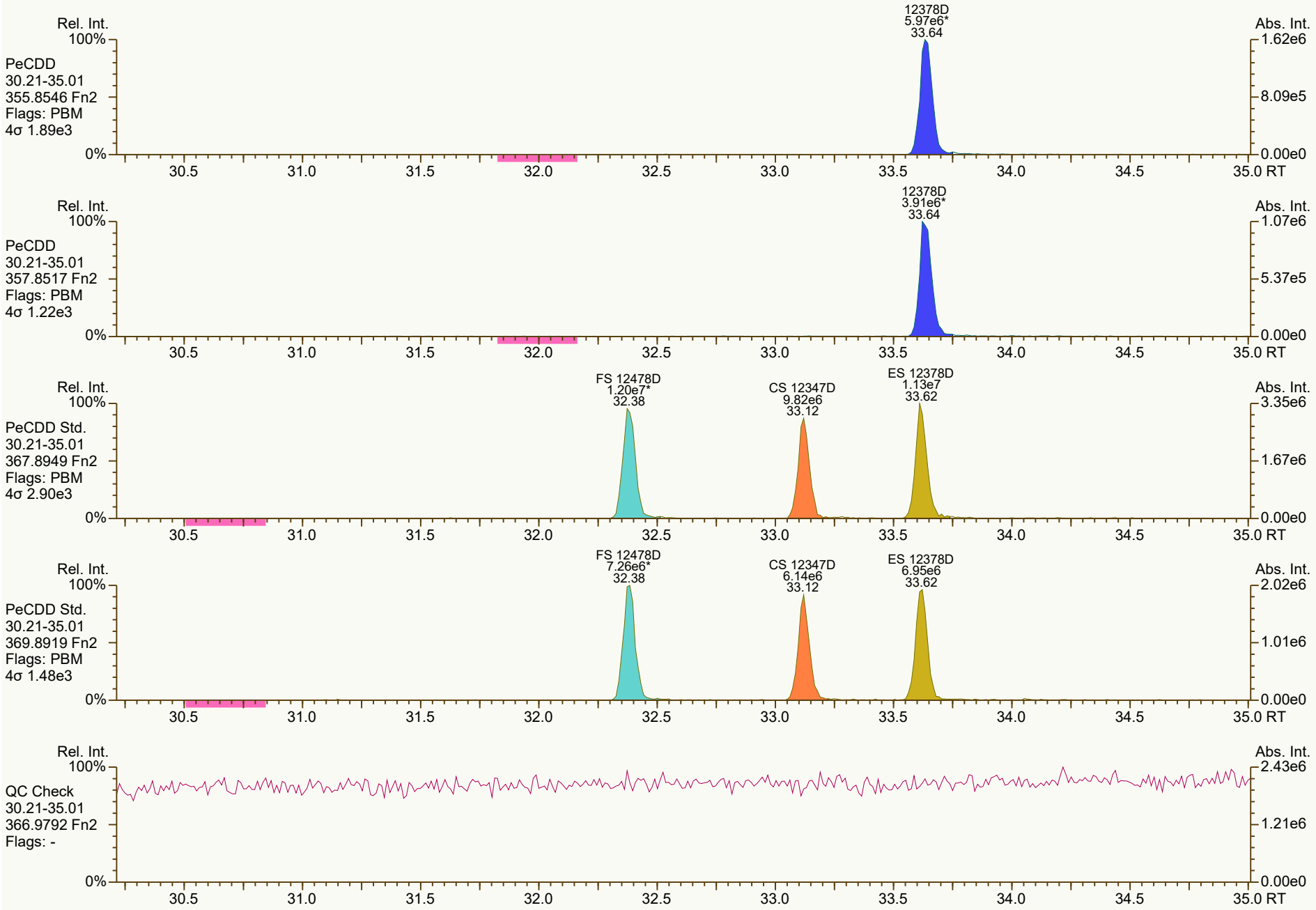
VER Data Filename: 220116C28 Analysis Date: 17-JAN-2022 08:42:42

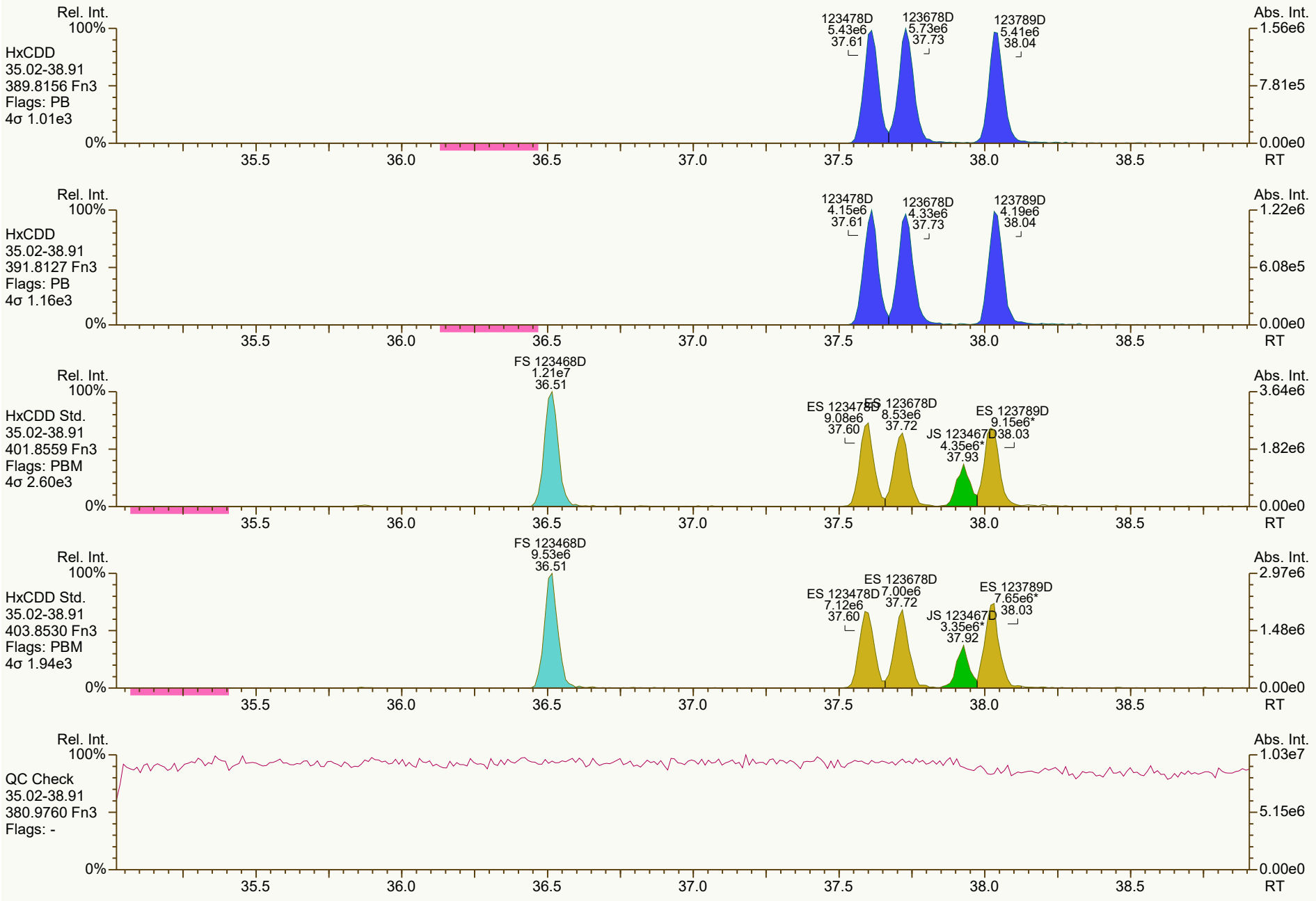
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	93.4	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.63	1.32	-	1.78	Y	108	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	108	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05	-	1.43	Y	107	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88	-	1.20	Y	99.8	72	-	138	Y
13C-OCDD	M+2/M+4	0.92	0.76	-	1.02	Y	169	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	96.5	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32	-	1.78	Y	101	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32	-	1.78	Y	103	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	129	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	133	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	128	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	113	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	114	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	109	77	-	129	Y
13C-OCDF	M+2/M+4	0.92	0.76	-	1.02	Y	187	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						12.1	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.60	1.32	-	1.78	Y	111	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	104	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	144	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	128	70	-	130	Y

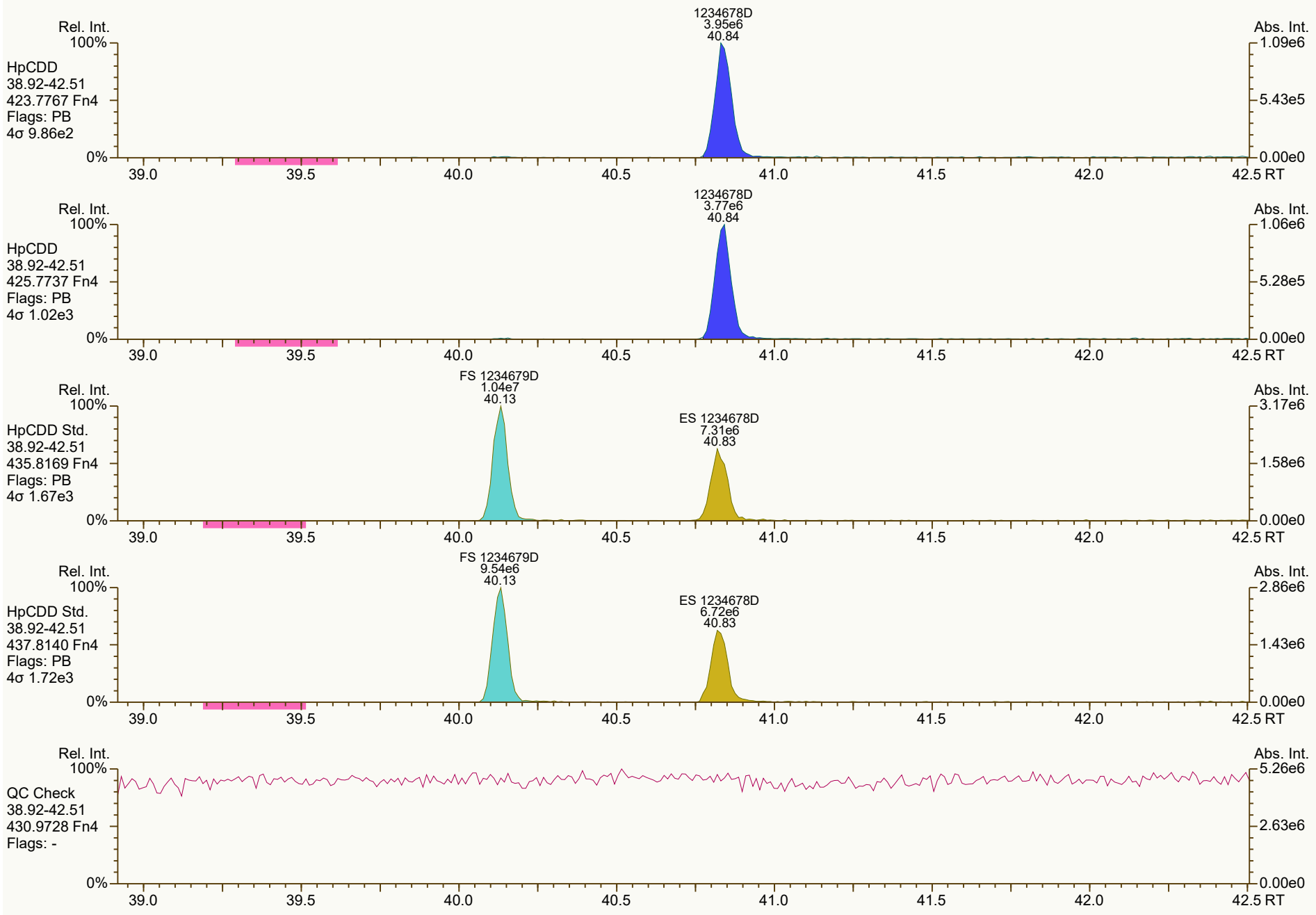
Processed: 18 Jan 2022 09:08 Analyst: TF

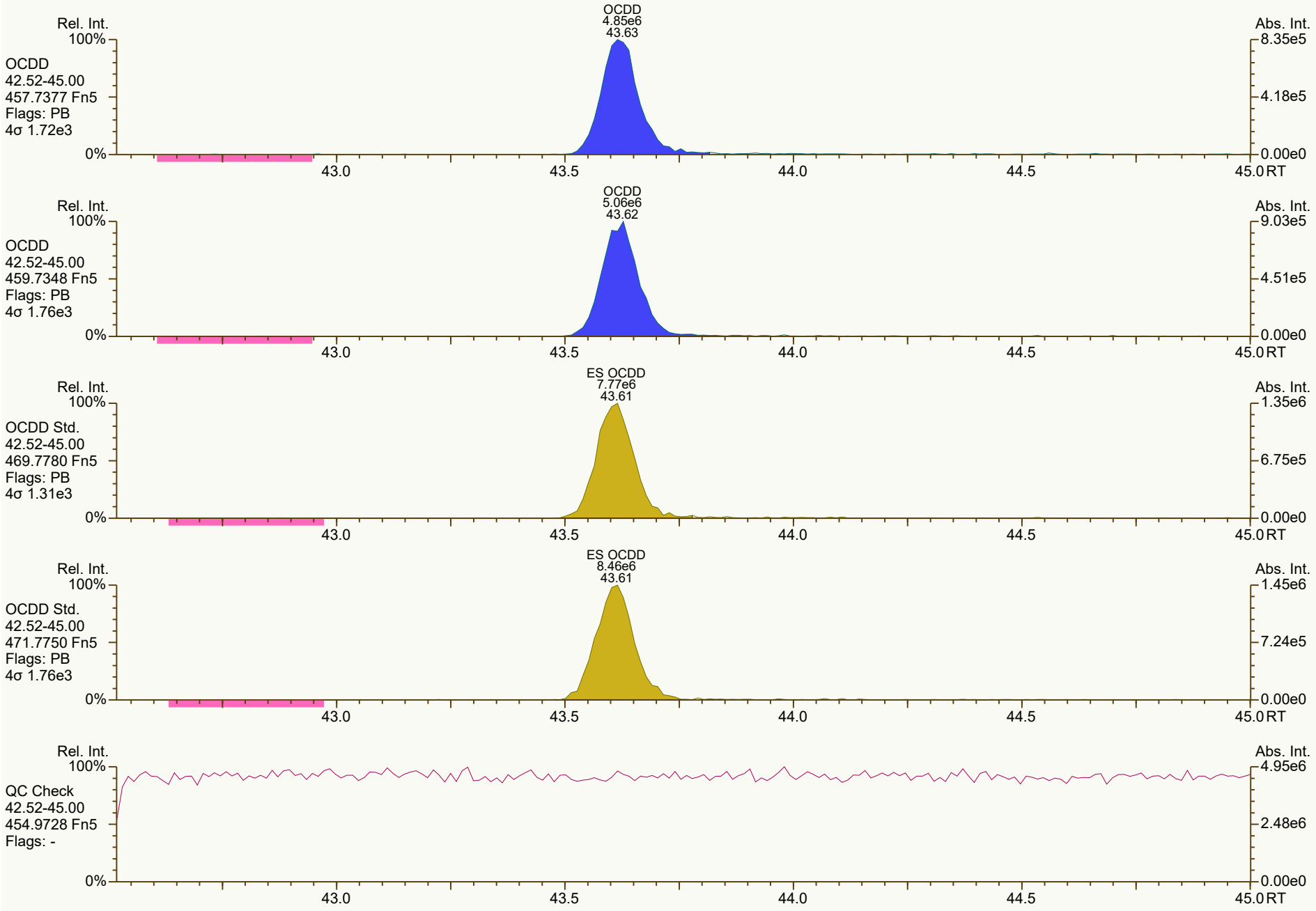

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.69e6
1.34e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
2.43e6
1.21e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.03e7
5.15e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
5.26e6
2.63e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
4.95e6
2.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.84e3
0%
RRF = (1.15e6 + 1.38e6) * 100pg / (8.36e6 + 1.03e7) * 10pg = 1.36
DTF 18-Jan-2022 09:11
VERIFIED
2378D
1.15e6
28.21
Abs. Int.
2.77e5
1.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.22e3
0%
2378D
1.38e6
28.20
Abs. Int.
3.33e5
1.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.04e3
0%
CS 37Cl-2378D
2.79e6
28.20
Abs. Int.
7.03e5
3.51e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.28e3
0%
AS 1368D
8.60e6
24.50
TS 1378D
1.27e7
26.52
JS 1234D
8.83e6
27.54
ES 2378D
8.36e6
28.18
FS 1278D
9.14e6
28.52
Abs. Int.
2.74e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.36e3
0%
AS 1368D
1.06e7
24.50
TS 1378D
1.53e7
26.52
JS 1234D
1.03e7
27.54
ES 2378D
1.03e7
28.18
FS 1278D
1.22e7
28.52
Abs. Int.
3.41e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.89e3
0%
12378D
5.97e6*
33.64
Abs. Int.
1.62e6
8.09e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.22e3
0%
12378D
3.91e6*
33.64
Abs. Int.
1.07e6
5.37e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 2.90e3
0%
FS 12478D
1.20e7*
32.38
CS 12347D
9.82e6
33.12
ES 12378D
1.13e7
33.62
Abs. Int.
3.35e6
1.67e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 1.48e3
0%
FS 12478D
7.26e6*
32.38
CS 12347D
6.14e6
33.12
ES 12378D
6.95e6
33.62
Abs. Int.
2.02e6
1.01e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.43e6
1.21e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

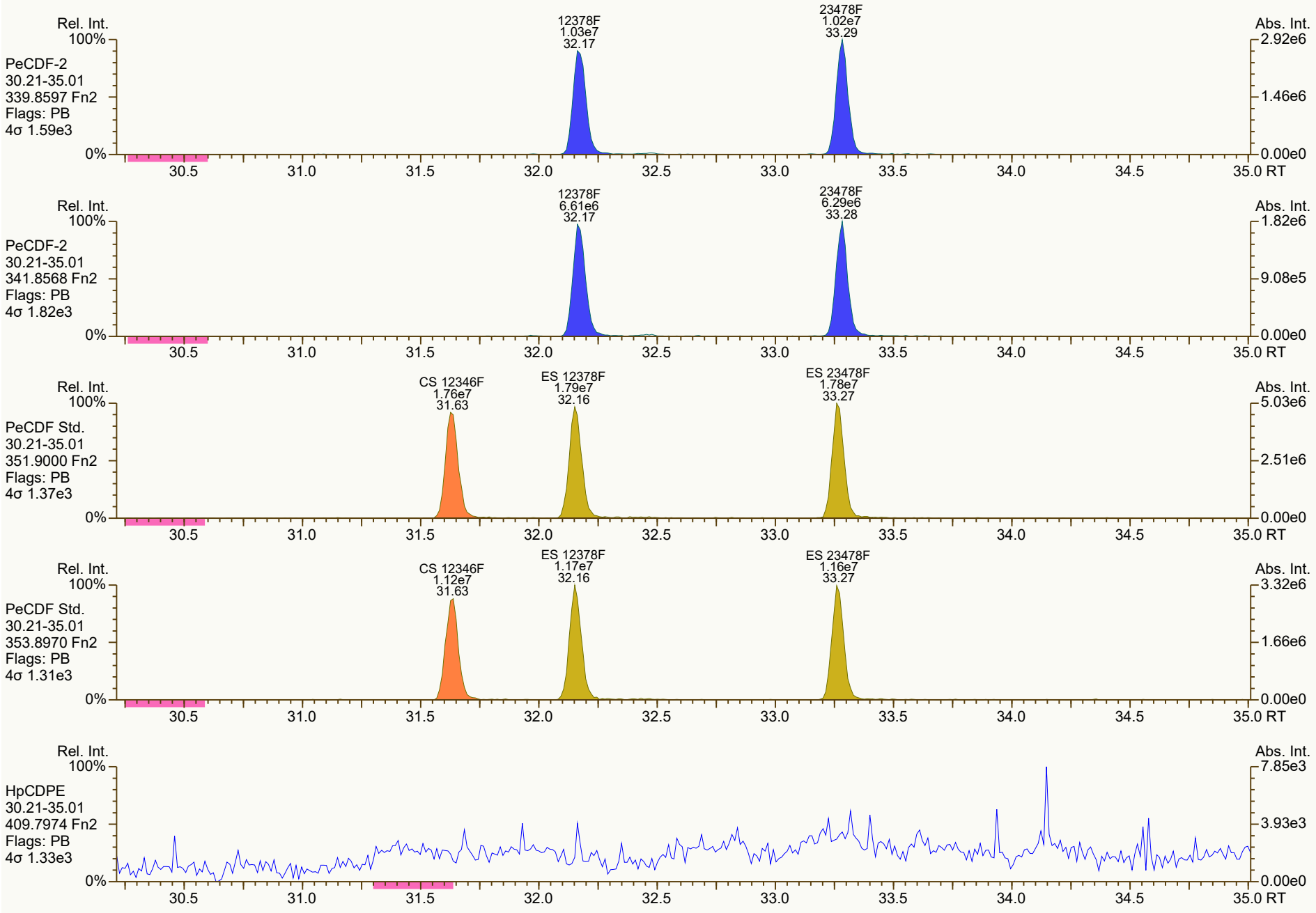

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 1.01e3
0%
123478D
5.43e6
37.61
123678D
5.73e6
37.73
123789D
5.41e6
38.04
Abs. Int.
1.56e6
7.81e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.16e3
0%
123478D
4.15e6
37.61
123678D
4.33e6
37.73
123789D
4.19e6
38.04
Abs. Int.
1.22e6
6.08e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 2.60e3
0%
FS 123468D
1.21e7
36.51
ES 123478D
9.08e6
37.60
ES 123678D
8.53e6
37.72
JS 123467D
4.35e6*
37.93
ES 123789D
9.15e6*
38.03
Abs. Int.
3.64e6
1.82e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.94e3
0%
FS 123468D
9.53e6
36.51
ES 123478D
7.12e6
37.60
ES 123678D
7.00e6
37.72
JS 123467D
3.35e6*
37.92
ES 123789D
7.65e6*
38.03
Abs. Int.
2.97e6
1.48e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.03e7
5.15e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

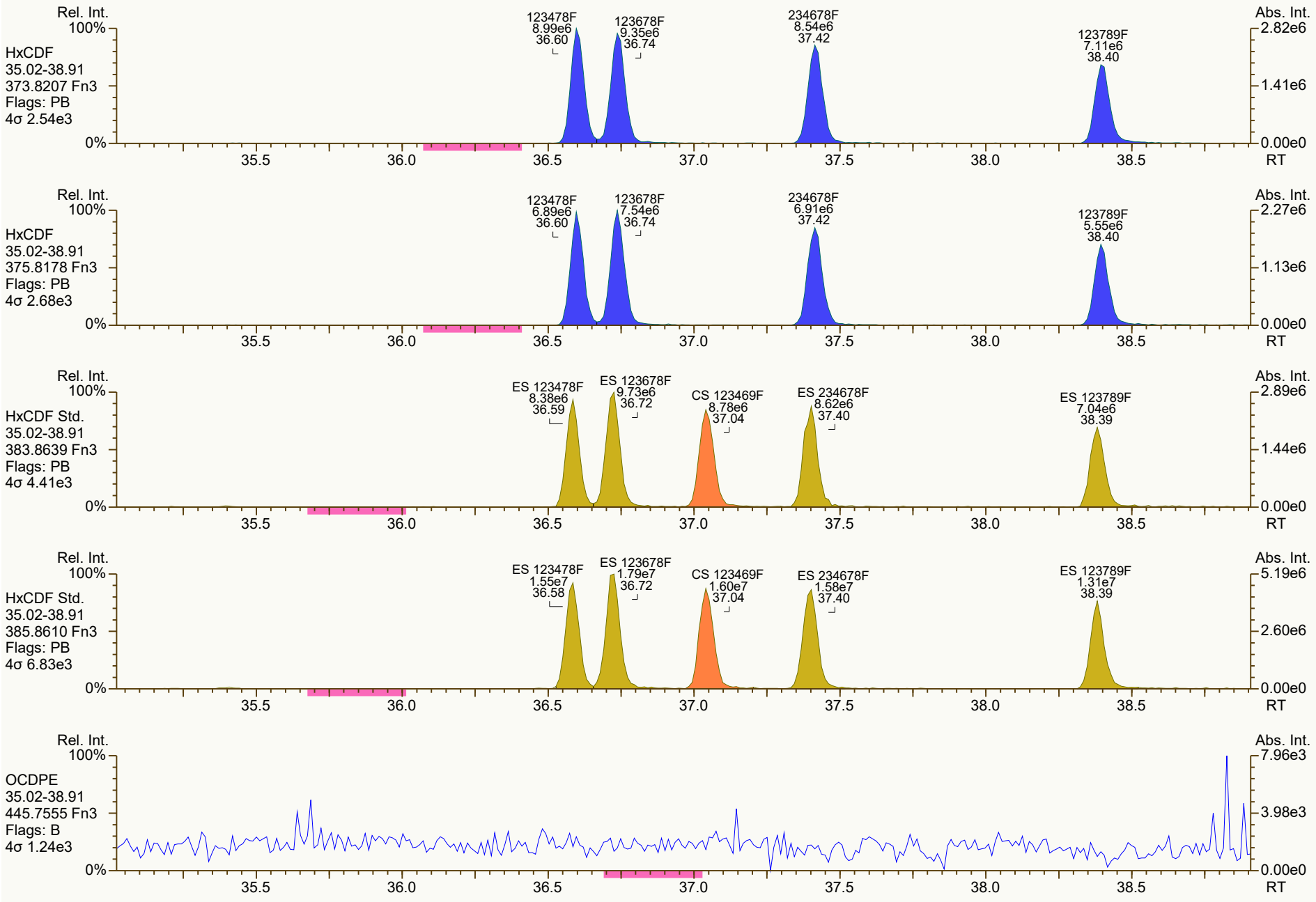

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 9.86e2
0%
1234678D
3.95e6
40.84
Abs. Int.
1.09e6
5.43e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.02e3
0%
1234678D
3.77e6
40.84
Abs. Int.
1.06e6
5.28e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.67e3
0%
FS 1234679D
1.04e7
40.13
ES 1234678D
7.31e6
40.83
Abs. Int.
3.17e6
1.58e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.72e3
0%
FS 1234679D
9.54e6
40.13
ES 1234678D
6.72e6
40.83
Abs. Int.
2.86e6
1.43e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.26e6
2.63e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
4.85e6
43.63
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 1.72e3
0%
Abs. Int.
8.35e5
4.18e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.06e6
43.62
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 1.76e3
0%
Abs. Int.
9.03e5
4.51e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.77e6
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
1.35e6
6.75e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.46e6
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.76e3
0%
Abs. Int.
1.45e6
7.24e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.95e6
2.48e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

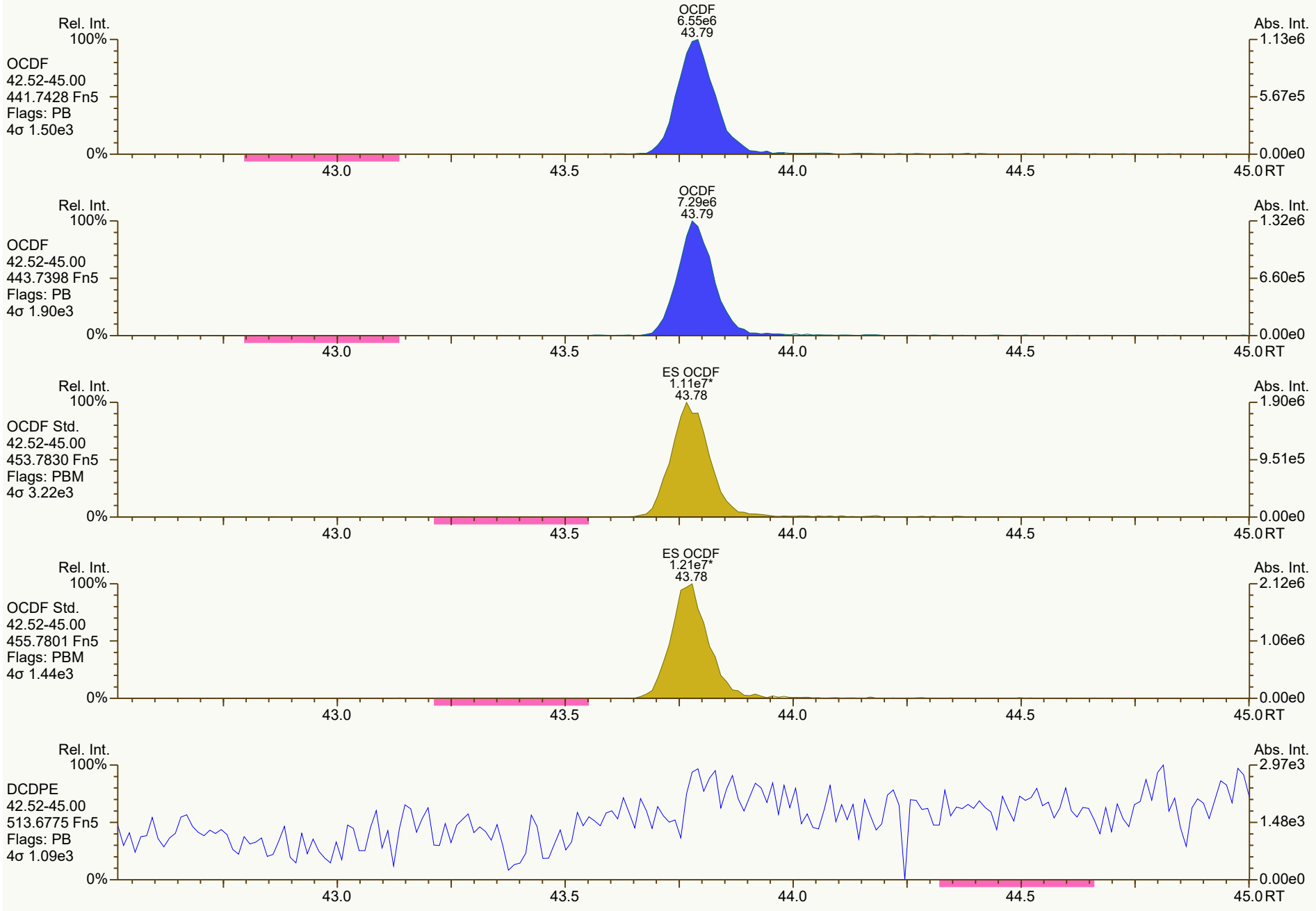

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.53e3
0%
2378F
1.89e6
27.32
Abs. Int.
4.55e5
2.27e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.25e3
0%
2378F
2.35e6
27.32
Abs. Int.
5.10e5
2.55e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.55e3
0%
AS 1368F
1.45e7
22.37
JS 1234F
1.43e7
25.96
ES 2378F
1.45e7
27.30
Abs. Int.
3.18e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.68e3
0%
AS 1368F
1.81e7
22.36
JS 1234F
1.81e7
25.96
ES 2378F
1.86e7
27.30
Abs. Int.
4.05e6
2.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.16e3
0%
Abs. Int.
9.75e3
4.88e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.08e4
5.40e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.27e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.01e3
4.50e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.45e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.69e6
1.34e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PB
4σ 1.59e3
0%
12378F
1.03e7
32.17
23478F
1.02e7
33.29
Abs. Int.
2.92e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PB
4σ 1.82e3
0%
12378F
6.61e6
32.17
23478F
6.29e6
33.28
Abs. Int.
1.82e6
9.08e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 1.37e3
0%
CS 12346F
1.76e7
31.63
ES 12378F
1.79e7
32.16
ES 23478F
1.78e7
33.27
Abs. Int.
5.03e6
2.51e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 1.31e3
0%
CS 12346F
1.12e7
31.63
ES 12378F
1.17e7
32.16
ES 23478F
1.16e7
33.27
Abs. Int.
3.32e6
1.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: PB
4σ 1.33e3
0%
Abs. Int.
7.85e3
3.93e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PB
4σ 2.54e3
123478F
8.99e6
36.60
123678F
9.35e6
36.74
234678F
8.54e6
37.42
123789F
7.11e6
38.40
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PB
4σ 2.68e3
123478F
6.89e6
36.60
123678F
7.54e6
36.74
234678F
6.91e6
37.42
123789F
5.55e6
38.40
Abs. Int.
2.27e6
1.13e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 4.41e3
ES 123478F
8.38e6
36.59
ES 123678F
9.73e6
36.72
CS 123469F
8.78e6
37.04
ES 234678F
8.62e6
37.40
ES 123789F
7.04e6
38.39
Abs. Int.
2.89e6
1.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 6.83e3
ES 123478F
1.55e7
36.58
ES 123678F
1.79e7
36.72
CS 123469F
1.60e7
37.04
ES 234678F
1.58e7
37.40
ES 123789F
1.31e7
38.39
Abs. Int.
5.19e6
2.60e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.24e3
Abs. Int.
7.96e3
3.98e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.84e3
0%
1234678F
6.33e6*
39.87
1234789F
4.94e6
41.30
Abs. Int.
1.95e6
9.73e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.71e3
0%
1234678F
6.17e6*
39.87
1234789F
4.80e6
41.30
Abs. Int.
1.95e6
9.76e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.63e3
0%
ES 1234678F
5.29e6
39.86
CS 1234689F
5.41e6
40.27
ES 1234789F
4.46e6
41.29
Abs. Int.
1.67e6
8.36e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.75e3
0%
ES 1234678F
1.16e7
39.86
CS 1234689F
1.20e7
40.27
ES 1234789F
9.88e6
41.29
Abs. Int.
3.70e6
1.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.27e3
0%
Abs. Int.
6.01e3
3.01e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.50e3
0%
OCDF
6.55e6
43.79
Abs. Int.
1.13e6
5.67e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.90e3
0%
OCDF
7.29e6
43.79
Abs. Int.
1.32e6
6.60e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 3.22e3
0%
ES OCDF
1.11e7*
43.78
Abs. Int.
1.90e6
9.51e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 1.44e3
0%
ES OCDF
1.21e7*
43.78
Abs. Int.
2.12e6
1.06e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.09e3
0%
Abs. Int.
2.97e3
1.48e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 17 Jan 2022 20:58 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220117_DF_CA	UTP: 18-Jan-2022 09:06:15 DTF	Checkcode: 663-820-CPY
Sample ID: SIL 25-347-1	Report: 18 Jan 2022 09:08 TF	Datafile: 220117C15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.19	2.37E+06	0.81	Y	1.18	1.33	12%
12378-PeCDD	33.63	8.78E+06	1.61	Y	1.04	1.13	9%
123478-HxCDD	37.60	8.59E+06	1.27	Y	1.09	1.21	11%
123678-HxCDD	37.72	8.92E+06	1.24	Y	1.15	1.26	9%
123789-HxCDD	38.03	8.90E+06	1.28	Y	1.05	1.15	10%
1234678-HpCDD	40.84	7.43E+06	1.02	Y	1.06	1.08	2%
OCDD	43.63	1.03E+07	0.89	Y	1.13	1.21	7%
2378-TCDF	27.31	3.95E+06	0.84	Y	1.08	1.28	18%
12378-PeCDF	32.16	1.50E+07	1.62	Y	1.02	1.14	12%
23478-PeCDF	33.27	1.45E+07	1.57	Y	1.02	1.12	10%
123478-HxCDF	36.59	1.38E+07	1.30	Y	1.27	1.31	3%
123678-HxCDF	36.73	1.48E+07	1.27	Y	1.15	1.25	8%
234678-HxCDF	37.41	1.38E+07	1.26	Y	1.19	1.26	6%
123789-HxCDF	38.40	1.20E+07	1.24	Y	1.16	1.23	6%
1234678-HpCDF	39.86	1.23E+07	1.07	Y	1.37	1.40	2%
1234789-HpCDF	41.28	9.80E+06	1.04	Y	1.31	1.40	7%
OCDF	43.79	1.40E+07	0.93	Y	1.07	1.13	5%
ES 2378-TCDD	28.17	1.78E+07	0.78	Y	1.05	0.98	-6%
ES 12378-PeCDD	33.608	1.56E+07	1.66	Y	0.88	0.86	-2%
ES 123478-HxCDD	37.587	1.42E+07	1.23	Y	0.97	1.00	2%
ES 123678-HxCDD	37.705	1.42E+07	1.21	Y	0.94	1.00	5%
ES 123789-HxCDD	38.018	1.55E+07	1.22	Y	1.09	1.08	-1%
ES 1234678-HpCDD	40.823	1.37E+07	1.07	Y	0.91	0.96	5%
ES OCDD	43.613	1.70E+07	0.96	Y	0.62	0.59	-5%
ES 2378-TCDF	27.288	3.10E+07	0.81	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.144	2.62E+07	1.53	Y	0.91	0.86	-5%
ES 23478-PeCDF	33.255	2.59E+07	1.56	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.574	2.10E+07	0.54	Y	1.20	1.47	22%
ES 123678-HxCDF	36.712	2.37E+07	0.53	Y	1.35	1.66	23%
ES 234678-HxCDF	37.388	2.18E+07	0.53	Y	1.24	1.53	23%
ES 123789-HxCDF	38.379	1.94E+07	0.56	Y	1.16	1.36	18%
ES 1234678-HpCDF	39.854	1.76E+07	0.48	Y	0.97	1.23	27%
ES 1234789-HpCDF	41.271	1.40E+07	0.47	Y	0.85	0.98	15%
ES OCDF	43.777	2.47E+07	0.91	Y	0.81	0.87	7%

Dioxin/Furan QC Summary	Acq'd: 17 Jan 2022 20:58 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220117_DF_CA	UTP: 18-Jan-2022 09:06:15 DTF	Checkcode: 663-820-CPY
Sample ID: SIL 25-347-1	Report: 18 Jan 2022 09:08 TF	Datafile: 220117C15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.53	1.81E+07	0.84	Y	-	-	-
JS 1234-TCDF	25.95	3.05E+07	0.77	Y	-	-	-
JS 123467-HxCDD	37.92	7.14E+06	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.19	2.44E+06	n/a	-	1.20	1.34	12%
CS 12347-PeCDD	33.11	1.41E+07	1.65	Y	0.75	0.78	3%
CS 12346-PeCDF	31.62	2.56E+07	1.52	Y	0.85	0.84	-1%
CS 123469-HxCDF	37.03	2.10E+07	0.52	Y	1.12	1.47	32%
CS 1234689-HpCDF	40.27	1.74E+07	0.45	Y	0.89	1.22	37%
~~SS 37Cl-2378-TCDD~~	~~28.19~~	~~2.44E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.37~~	~~19%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~1.41E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.62~~	~~2.56E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~0.98~~	~~4%~~
~~SS 123469-HxCDF~~	~~37.03~~	~~2.10E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~0.89~~	~~7%~~
~~SS 1234689-HpCDF~~	~~40.27~~	~~1.74E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~0.99~~	~~8%~~
~~OCDD-a~~	~~43.62~~	~~5.15E+05~~	~~2.34~~	~~Y~~	~~0.07~~	~~0.06~~	~~-16%~~
~~OCDF-a~~	~~43.79~~	~~7.80E+05~~	~~2.52~~	~~Y~~	~~0.07~~	~~0.06~~	~~-5%~~

no method specified criteria for these compounds
TB 01/18/2022

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220117C15 Analysis Date: 17-JAN-2022 20:58:31

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	11.2	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	54.3	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	55.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	54.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	54.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	51	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	107	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.84	0.65 - 0.89	Y	11.8	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	55.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	54.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.30	1.05 - 1.43	Y	51.7	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	54.1	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	53.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	53	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88 - 1.20	Y	51	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	53.4	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	105	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 18 Jan 2022 09:08 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

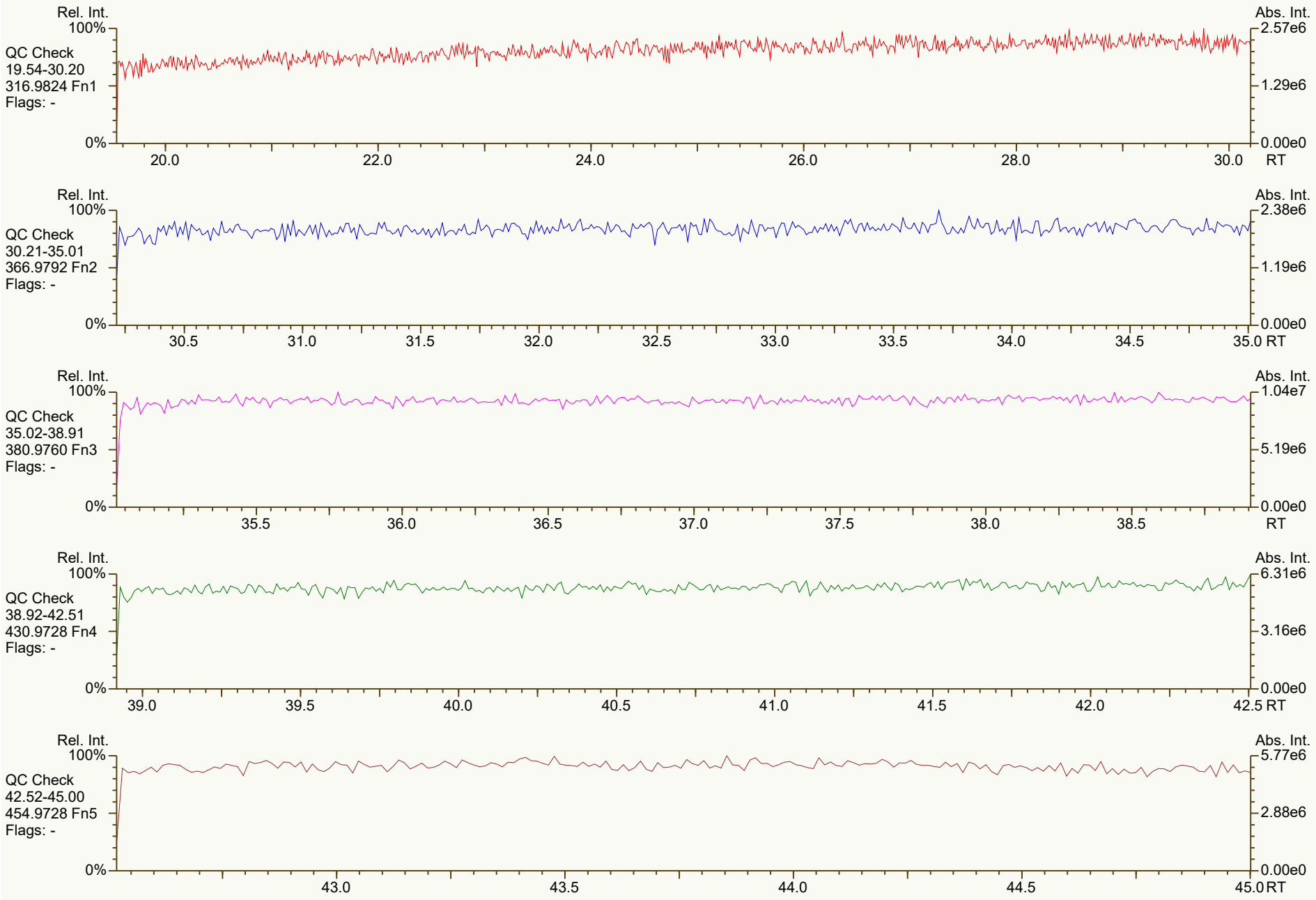
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

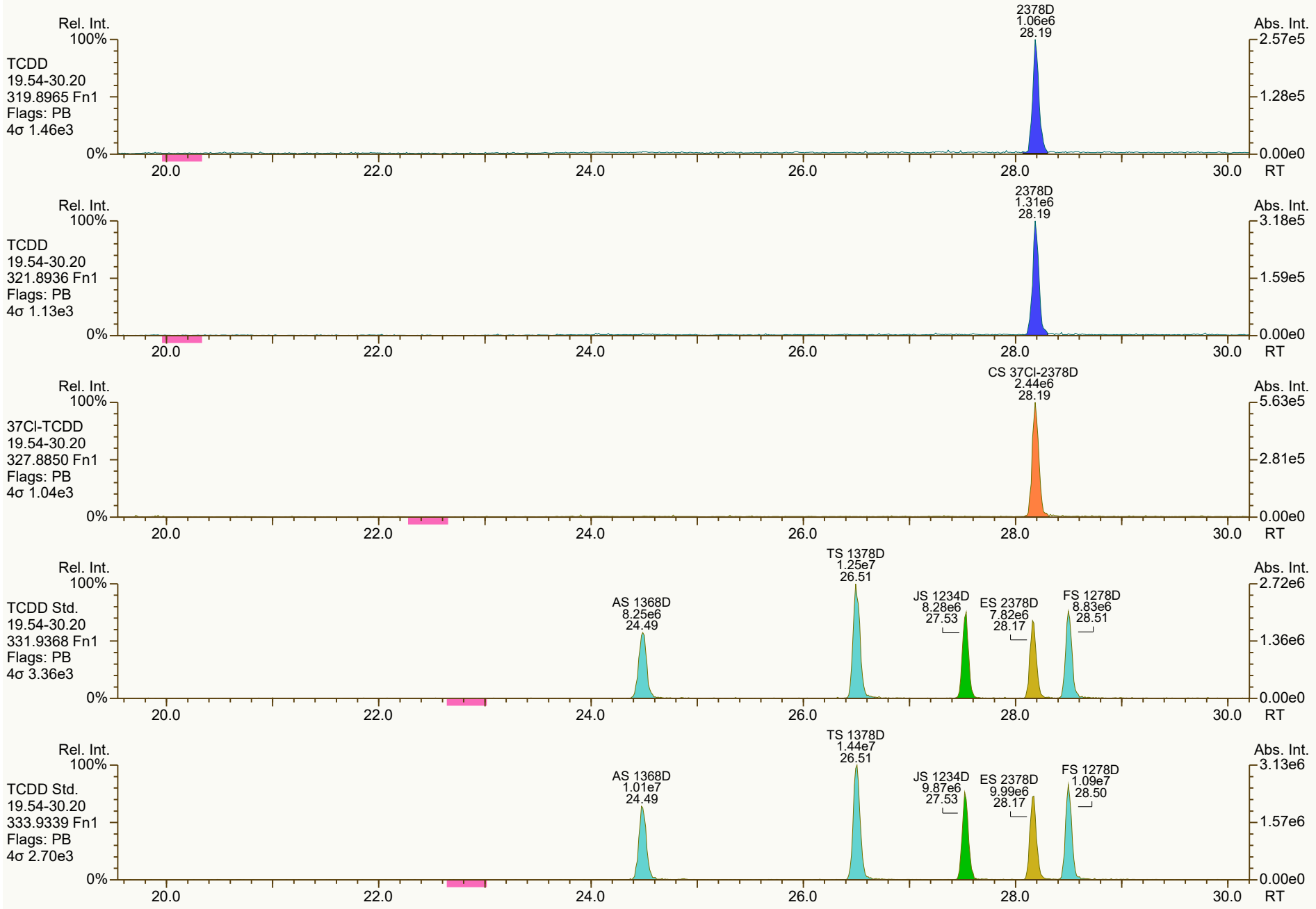
Instrument ID: HRMS3 GC Column ID: ZB-5ms

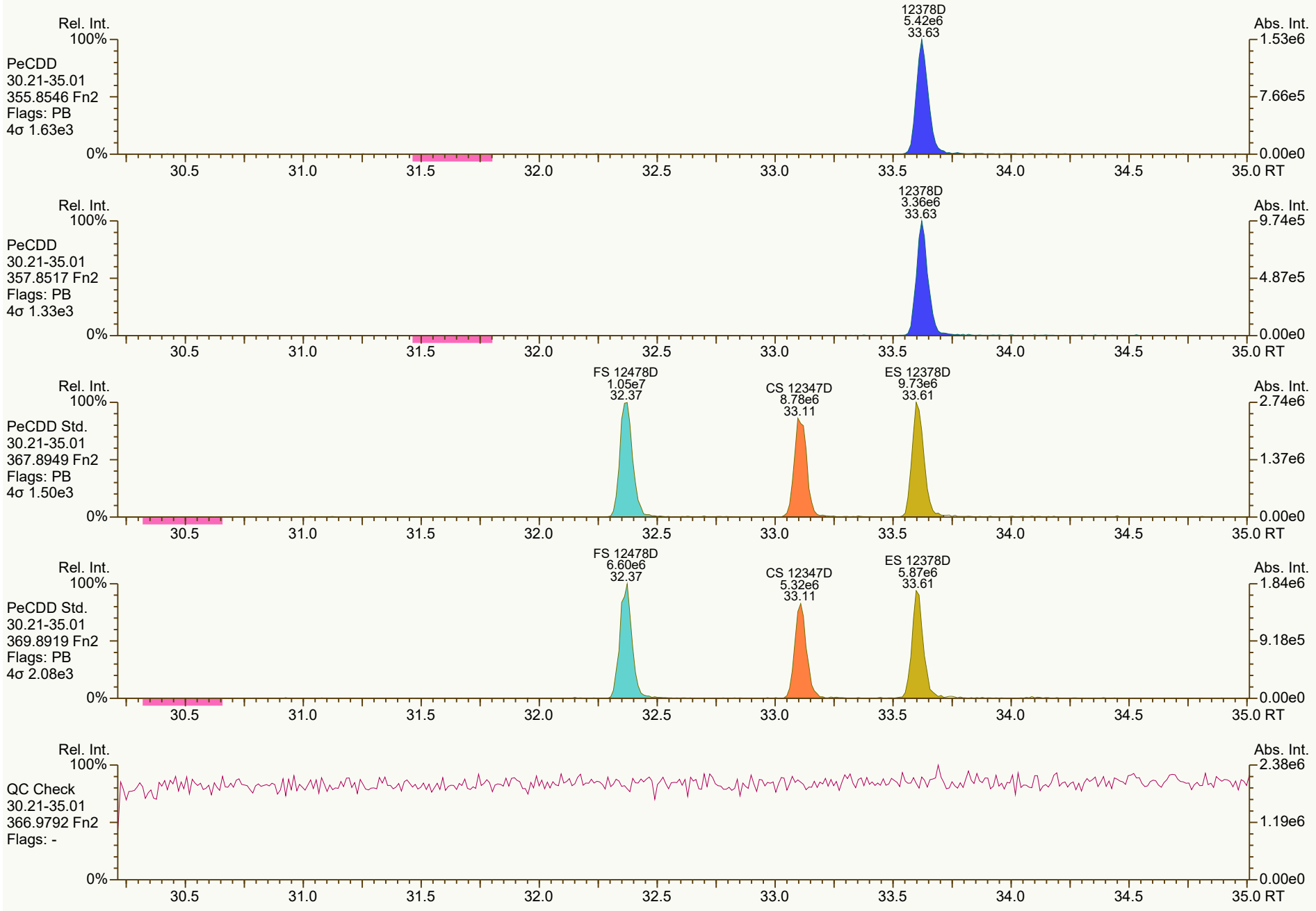
VER Data Filename: 220117C15 Analysis Date: 17-JAN-2022 20:58:31

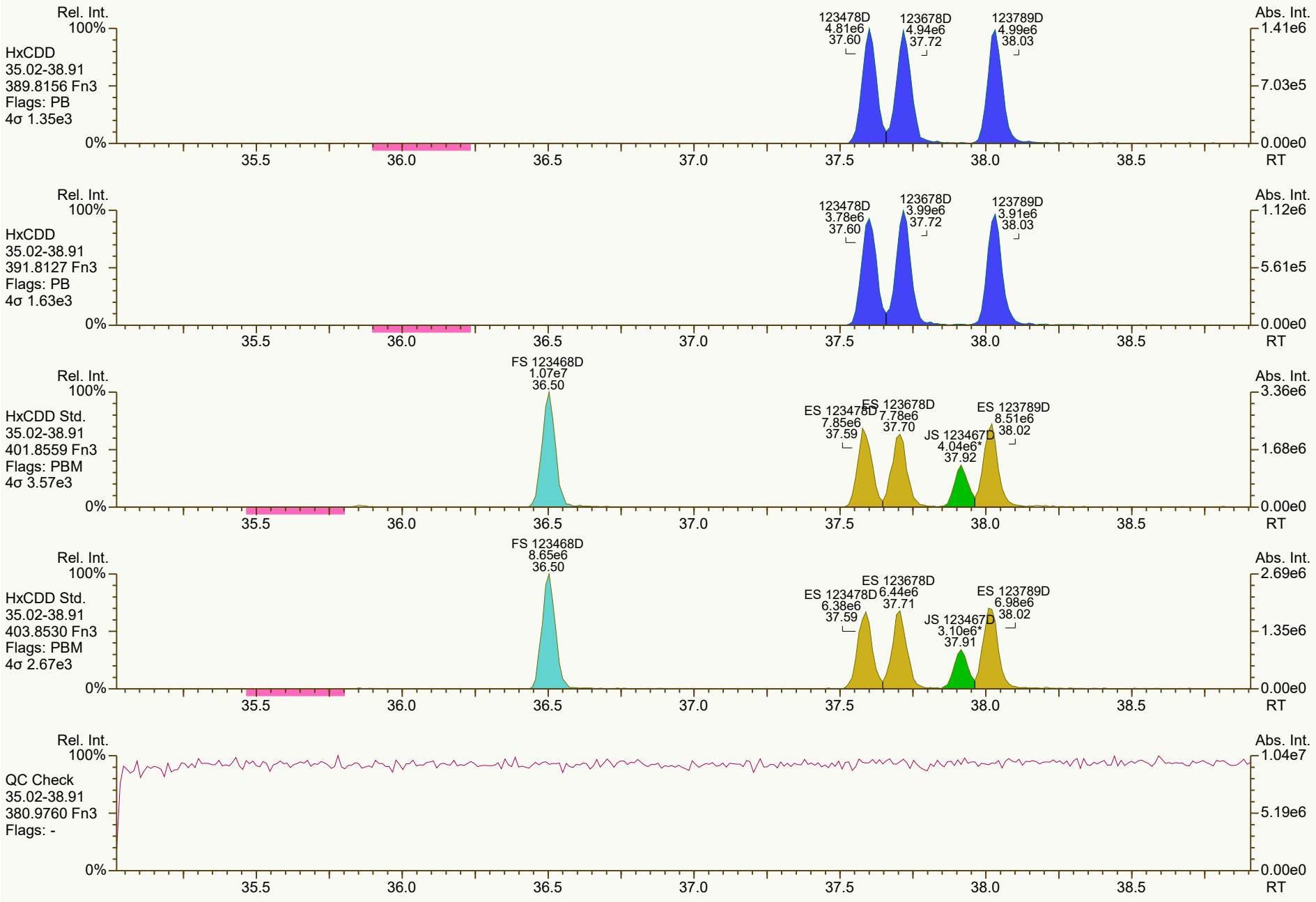
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65	-	0.89	Y	93.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97.7	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	102	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.21	1.05	-	1.43	Y	105	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05	-	1.43	Y	99.3	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	105	72	-	138	Y
13C-OCDD	M+2/M+4	0.96	0.76	-	1.02	Y	191	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65	-	0.89	Y	96.1	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32	-	1.78	Y	94.6	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	96.2	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	122	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	123	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	123	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.56	0.43	-	0.59	Y	118	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	127	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	115	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	214	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.2	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	103	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	98.9	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	132	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	137	70	-	130	N

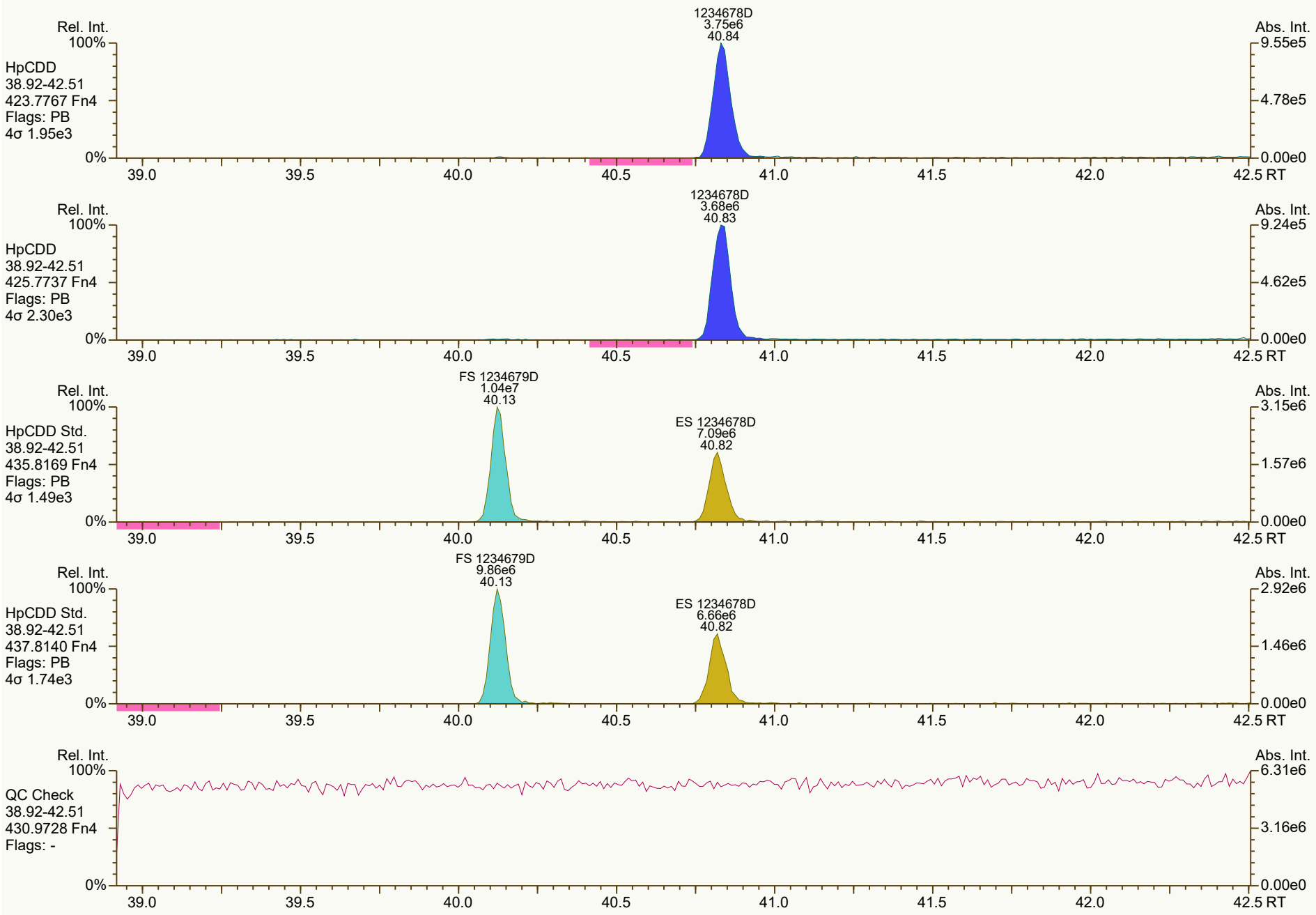
Processed: 18 Jan 2022 09:08 Analyst: TF

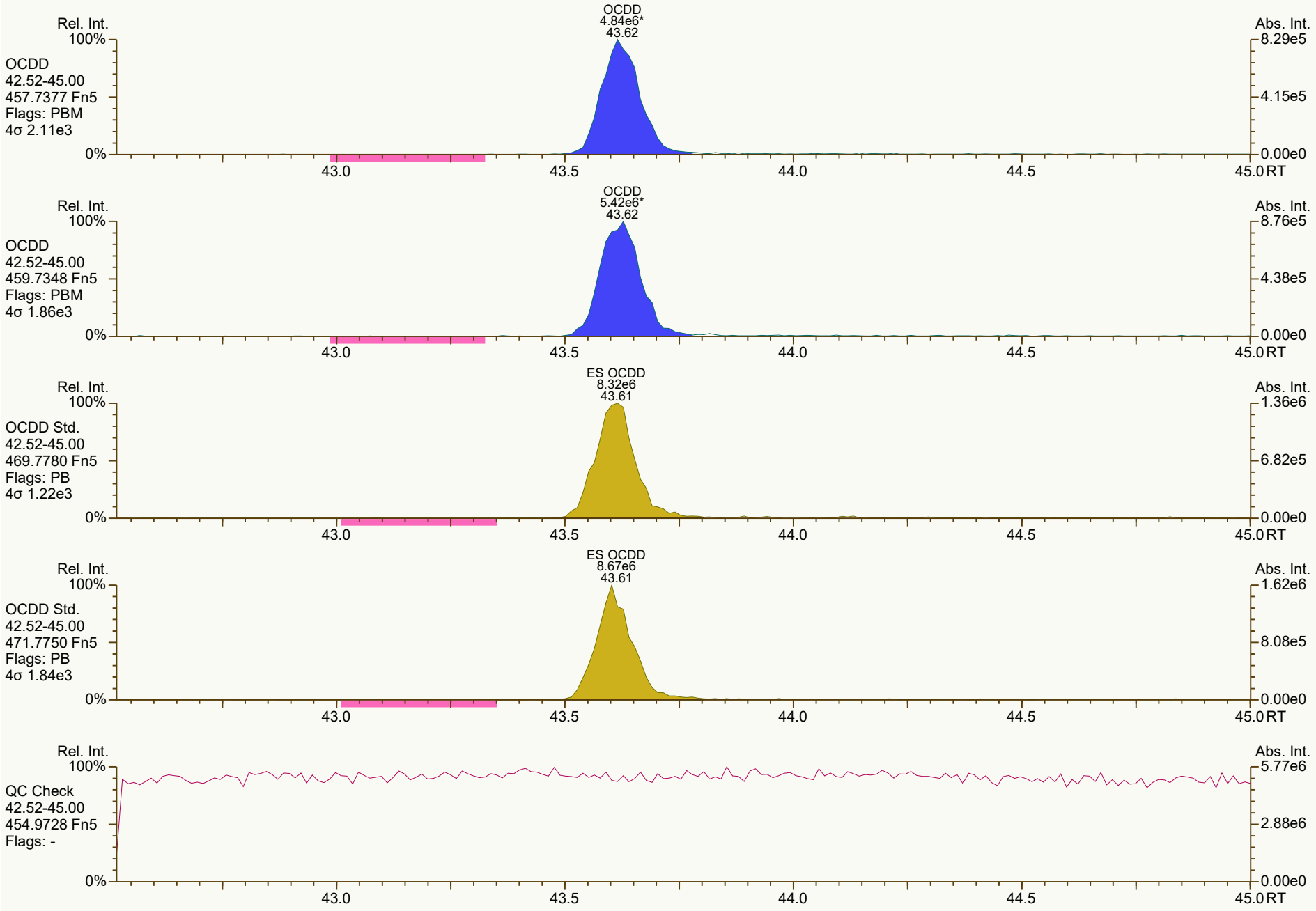

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.57e6
1.29e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
2.38e6
1.19e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.04e7
5.19e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
5.77e6
2.88e6
0.00e0

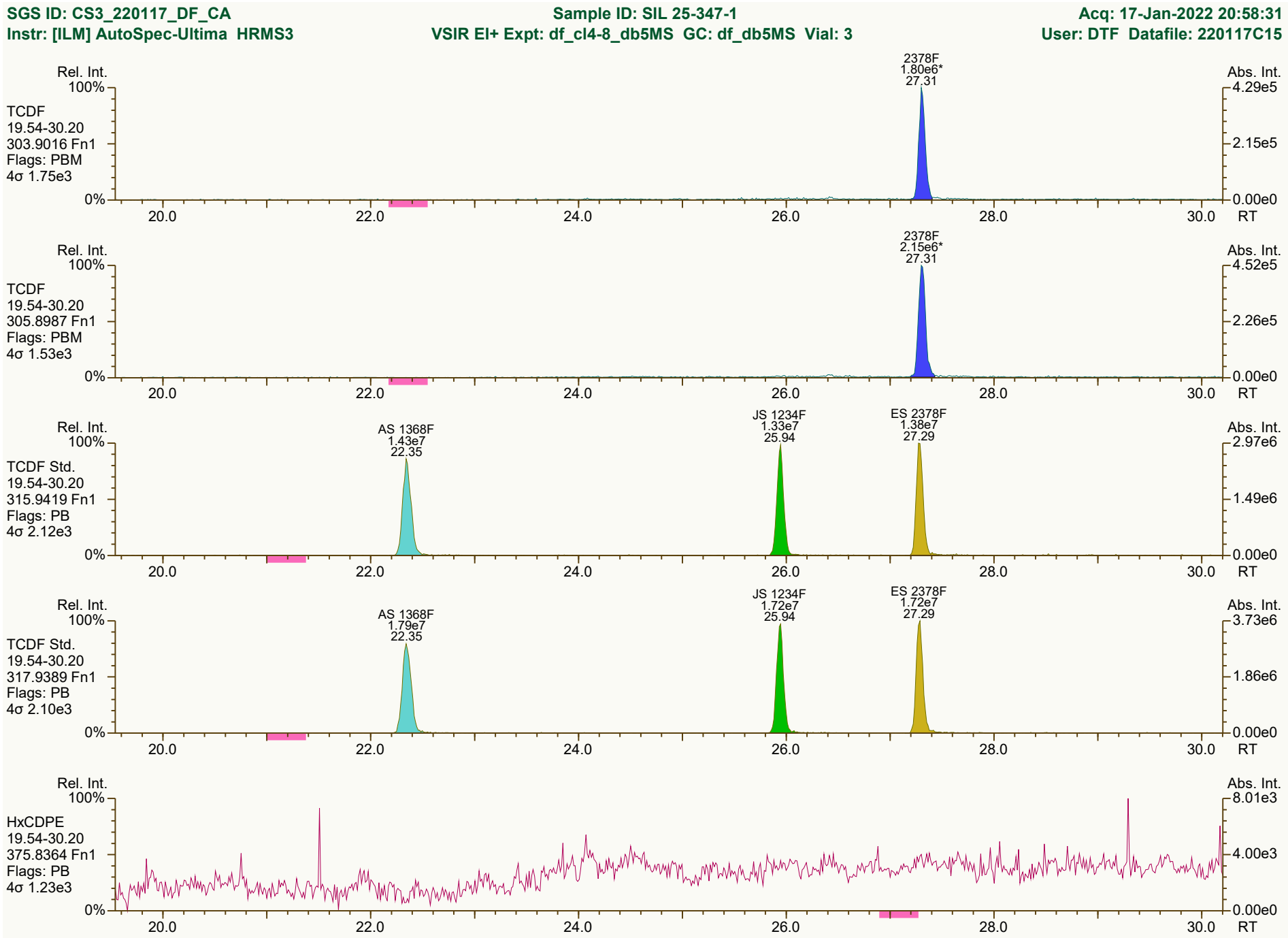

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.46e3
0%
2378D
1.06e6
28.19
Abs. Int.
2.57e5
1.28e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.13e3
0%
2378D
1.31e6
28.19
Abs. Int.
3.18e5
1.59e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.04e3
0%
CS 37Cl-2378D
2.44e6
28.19
Abs. Int.
5.63e5
2.81e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.36e3
0%
AS 1368D
8.25e6
24.49
TS 1378D
1.25e7
26.51
JS 1234D
8.28e6
27.53
ES 2378D
7.82e6
28.17
FS 1278D
8.83e6
28.51
Abs. Int.
2.72e6
1.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.70e3
0%
AS 1368D
1.01e7
24.49
TS 1378D
1.44e7
26.51
JS 1234D
9.87e6
27.53
ES 2378D
9.99e6
28.17
FS 1278D
1.09e7
28.50
Abs. Int.
3.13e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PB
4σ 1.63e3
12378D
5.42e6
33.63
Abs. Int.
1.53e6
7.66e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 1.33e3
12378D
3.36e6
33.63
Abs. Int.
9.74e5
4.87e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.50e3
FS 12478D
1.05e7
32.37
CS 12347D
8.78e6
33.11
ES 12378D
9.73e6
33.61
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 2.08e3
FS 12478D
6.60e6
32.37
CS 12347D
5.32e6
33.11
ES 12378D
5.87e6
33.61
Abs. Int.
1.84e6
9.18e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

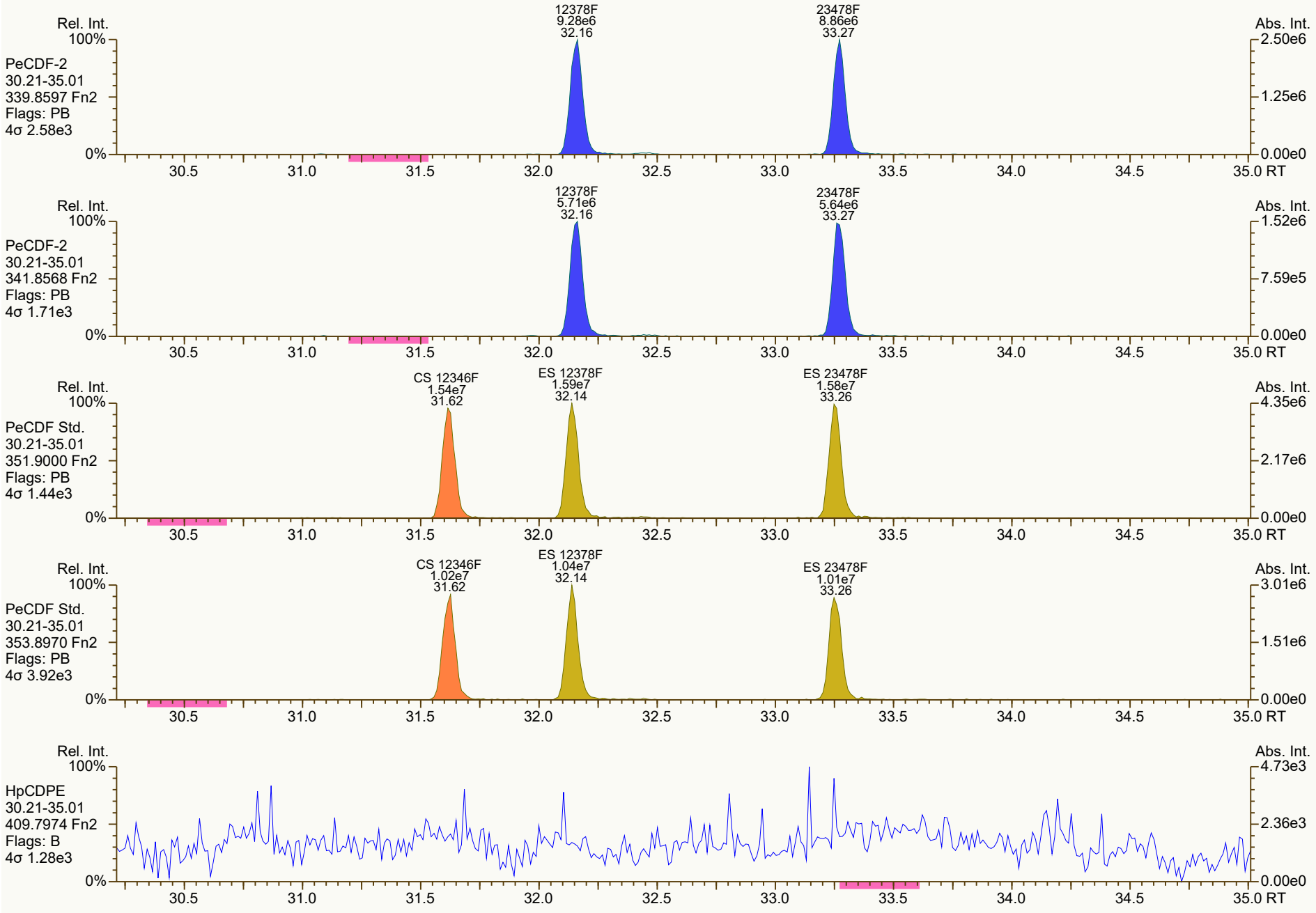

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 1.35e3
123478D
4.81e6
37.60
123678D
4.94e6
37.72
123789D
4.99e6
38.03
Abs. Int.
1.41e6
7.03e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.63e3
123478D
3.78e6
37.60
123678D
3.99e6
37.72
123789D
3.91e6
38.03
Abs. Int.
1.12e6
5.61e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.07e7
36.50
ES 123478D
7.85e6
37.59
ES 123678D
7.78e6
37.70
JS 123467D
4.04e6*
37.92
ES 123789D
8.51e6
38.02
Abs. Int.
3.36e6
1.68e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 2.67e3
FS 123468D
8.65e6
36.50
ES 123478D
6.38e6
37.59
ES 123678D
6.44e6
37.71
JS 123467D
3.10e6*
37.91
ES 123789D
6.98e6
38.02
Abs. Int.
2.69e6
1.35e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.04e7
5.19e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

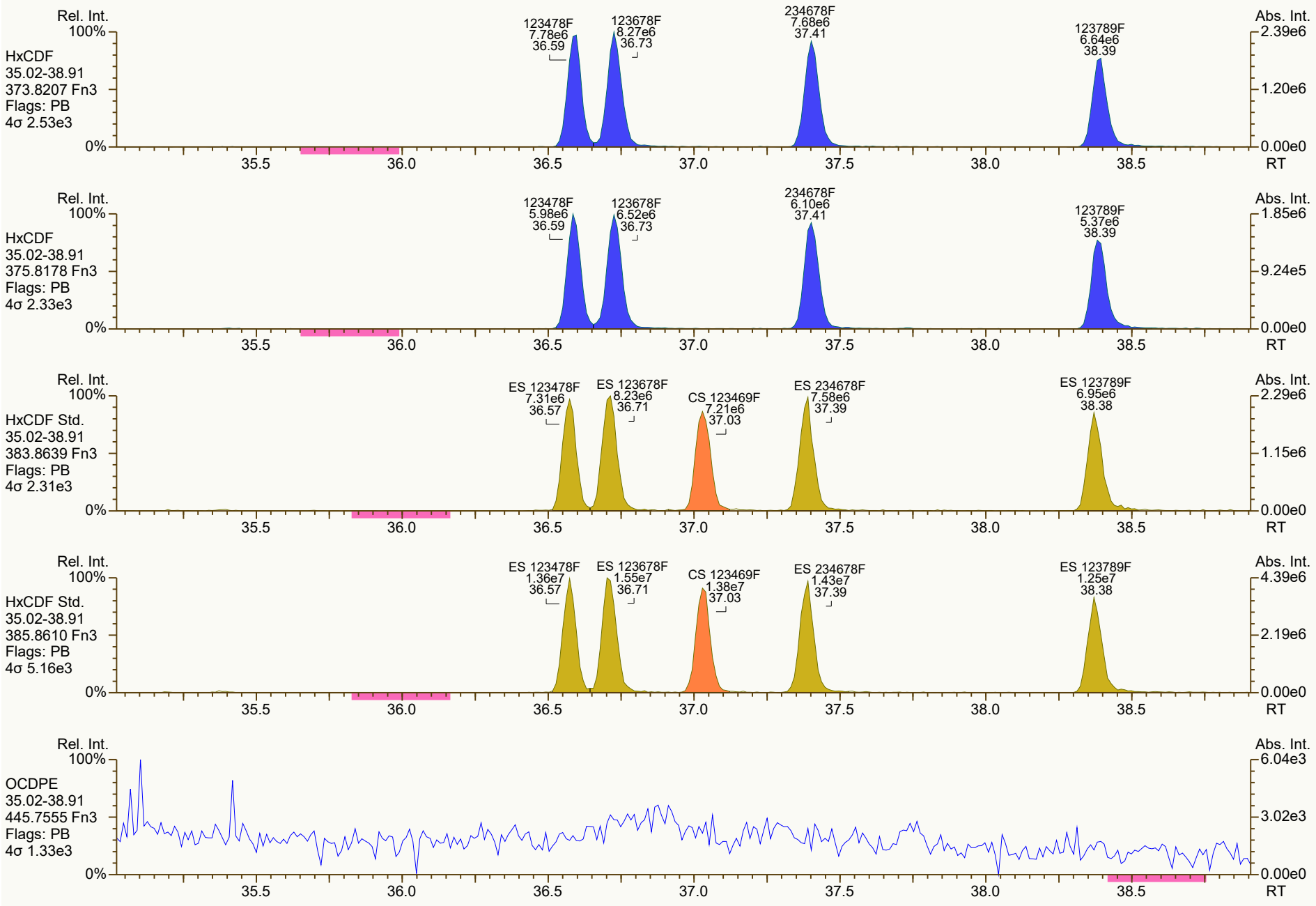

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.95e3
1234678D
3.75e6
40.84
Abs. Int.
9.55e5
4.78e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 2.30e3
1234678D
3.68e6
40.83
Abs. Int.
9.24e5
4.62e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.49e3
FS 1234679D
1.04e7
40.13
ES 1234678D
7.09e6
40.82
Abs. Int.
3.15e6
1.57e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.74e3
FS 1234679D
9.86e6
40.13
ES 1234678D
6.66e6
40.82
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

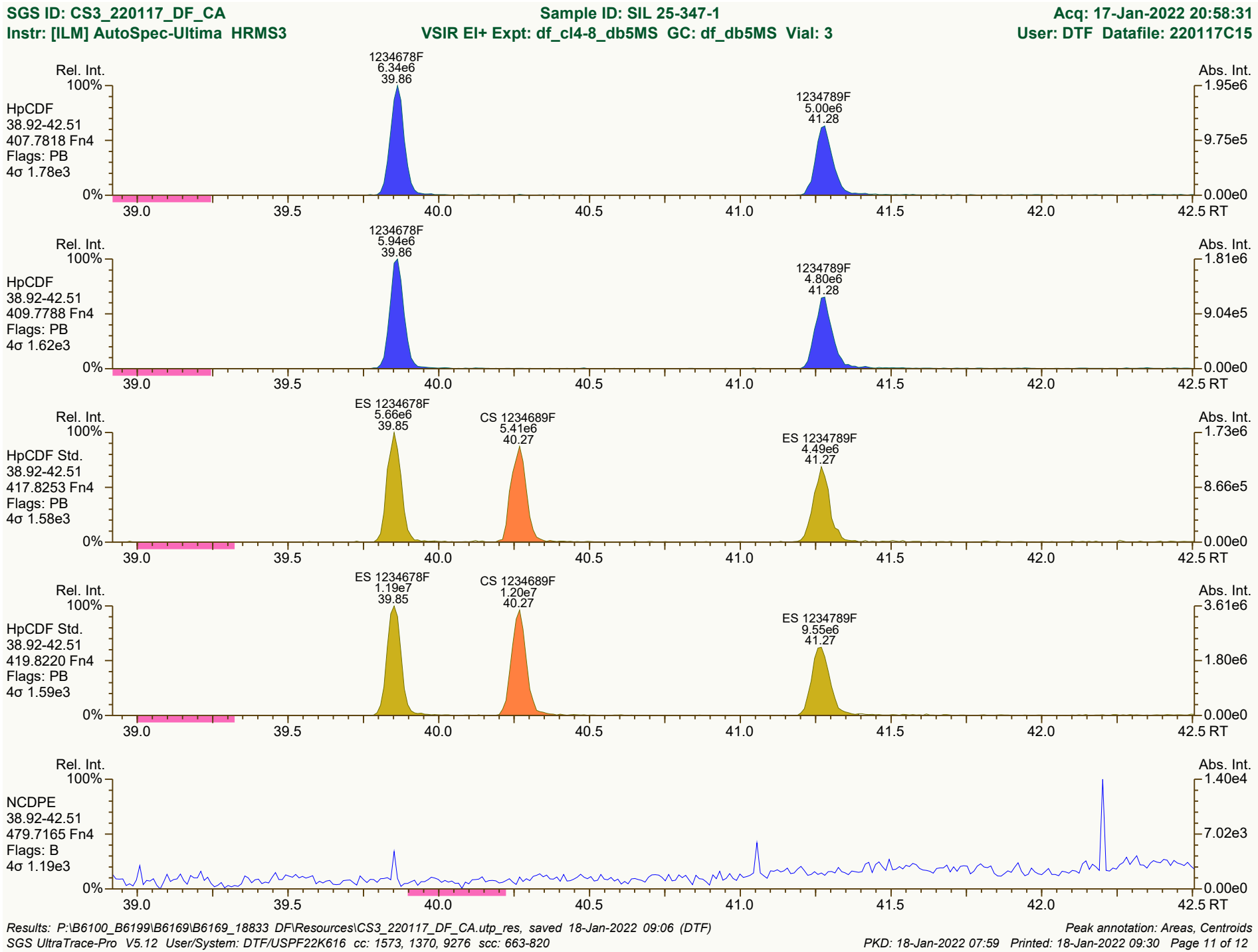

OCDD
4.84e6*
43.62
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.11e3
0%
Abs. Int.
8.29e5
4.15e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e6*
43.62
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 1.86e3
8.76e5
4.38e5
ES OCDD
8.32e6
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.22e3
1.36e6
6.82e5
ES OCDD
8.67e6
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.84e3
1.62e6
8.08e5
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
5.77e6
2.88e6

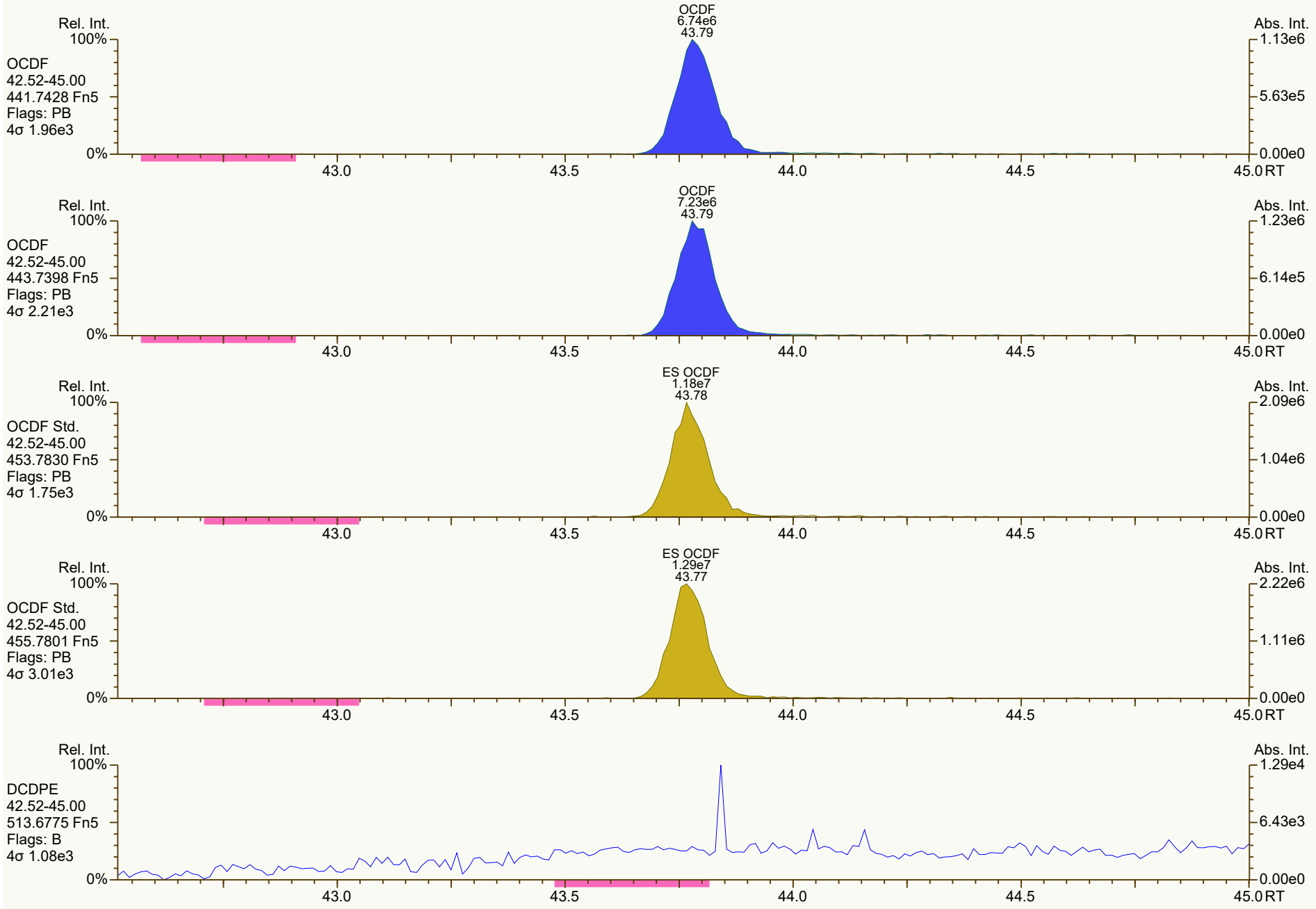

SGS ID: CS3_220117_DF_CA
Sample ID: SIL 25-347-1
Acq: 17-Jan-2022 20:58:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220117C15
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.75e3
2378F
1.80e6*
27.31
4.29e5
2.15e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.53e3
2378F
2.15e6*
27.31
4.52e5
2.26e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.12e3
AS 1368F
1.43e7
22.35
JS 1234F
1.33e7
25.94
ES 2378F
1.38e7
27.29
2.97e6
1.49e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.10e3
AS 1368F
1.79e7
22.35
JS 1234F
1.72e7
25.94
ES 2378F
1.72e7
27.29
3.73e6
1.86e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.23e3
8.01e3
4.00e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\CS3_220117_DF_CA.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7422, 1002, 1620 scc: 663-820
Revised: 18-Jan-2022 08:00 (DTF) Printed: 18-Jan-2022 09:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.79e3
4.89e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.23e3
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.26e3
1.11e4
5.53e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
2.57e6
1.29e6


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PB
4σ 2.58e3
12378F
9.28e6
32.16
23478F
8.86e6
33.27
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PB
4σ 1.71e3
12378F
5.71e6
32.16
23478F
5.64e6
33.27
Abs. Int.
1.52e6
7.59e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 1.44e3
CS 12346F
1.54e7
31.62
ES 12378F
1.59e7
32.14
ES 23478F
1.58e7
33.26
Abs. Int.
4.35e6
2.17e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 3.92e3
CS 12346F
1.02e7
31.62
ES 12378F
1.04e7
32.14
ES 23478F
1.01e7
33.26
Abs. Int.
3.01e6
1.51e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.28e3
Abs. Int.
4.73e3
2.36e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

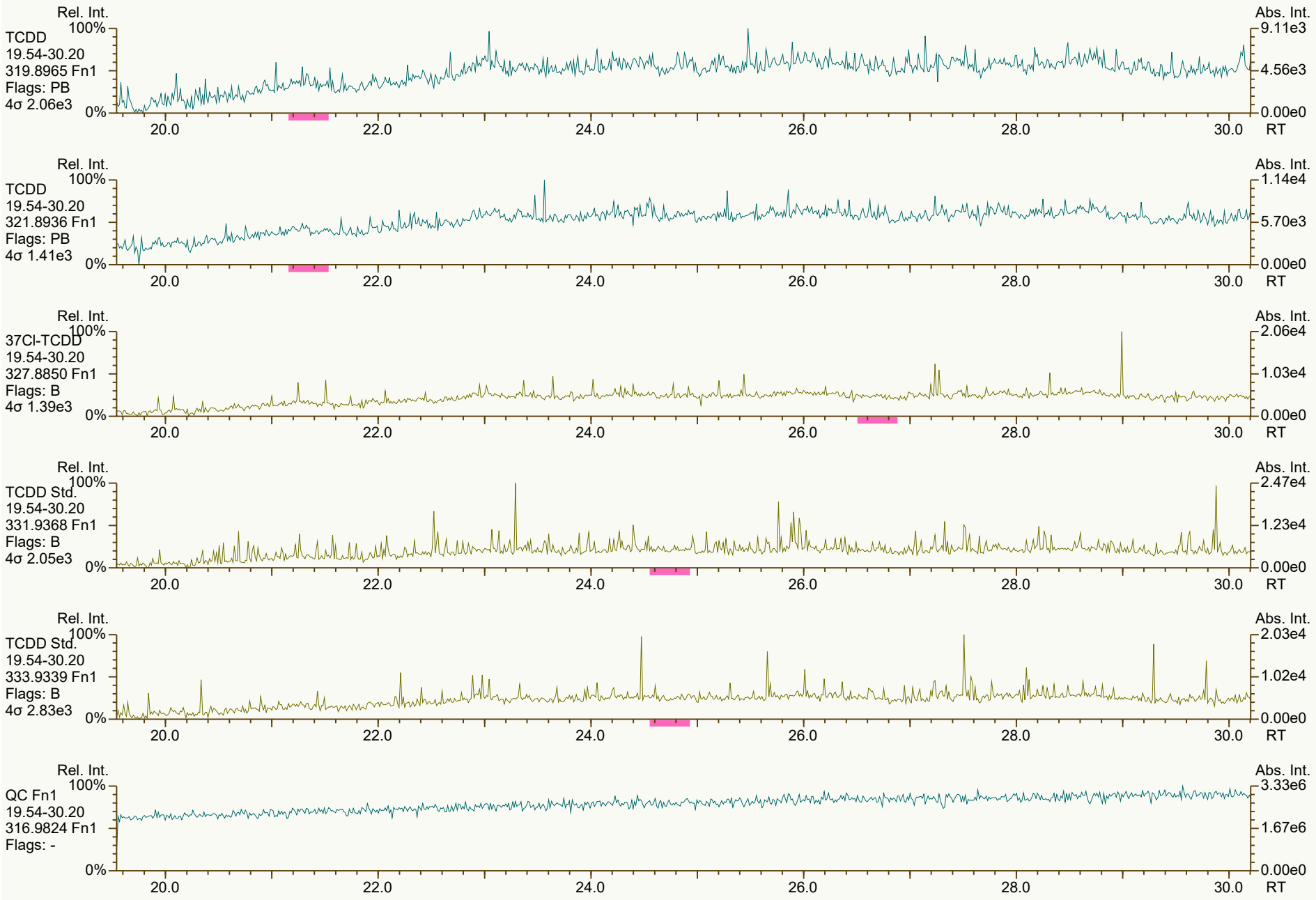

Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PB
4σ 2.53e3
0%
123478F
7.78e6
36.59
123678F
8.27e6
36.73
234678F
7.68e6
37.41
123789F
6.64e6
38.39
Abs. Int.
2.39e6
1.20e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PB
4σ 2.33e3
0%
123478F
5.98e6
36.59
123678F
6.52e6
36.73
234678F
6.10e6
37.41
123789F
5.37e6
38.39
Abs. Int.
1.85e6
9.24e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 2.31e3
0%
ES 123478F
7.31e6
36.57
ES 123678F
8.23e6
36.71
CS 123469F
7.21e6
37.03
ES 234678F
7.58e6
37.39
ES 123789F
6.95e6
38.38
Abs. Int.
2.29e6
1.15e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 5.16e3
0%
ES 123478F
1.36e7
36.57
ES 123678F
1.55e7
36.71
CS 123469F
1.38e7
37.03
ES 234678F
1.43e7
37.39
ES 123789F
1.25e7
38.38
Abs. Int.
4.39e6
2.19e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.33e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: CS3_220117_DF_CA
Sample ID: SIL 25-347-1
Acq: 17-Jan-2022 20:58:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220117C15
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 1.78e3
1234678F
6.34e6
39.86
1234789F
5.00e6
41.28
1.95e6
9.75e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 1.62e3
1234678F
5.94e6
39.86
1234789F
4.80e6
41.28
1.81e6
9.04e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.58e3
ES 1234678F
5.66e6
39.85
CS 1234689F
5.41e6
40.27
ES 1234789F
4.49e6
41.27
1.73e6
8.66e5
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.59e3
ES 1234678F
1.19e7
39.85
CS 1234689F
1.20e7
40.27
ES 1234789F
9.55e6
41.27
3.61e6
1.80e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.19e3
1.40e4
7.02e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\CS3_220117_DF_CA.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1573, 1370, 9276 scc: 663-820
PKD: 18-Jan-2022 07:59 Printed: 18-Jan-2022 09:30 Page 11 of 12


Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.96e3
0%
OCDF
6.74e6
43.79
Abs. Int.
1.13e6
5.63e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 2.21e3
0%
OCDF
7.23e6
43.79
Abs. Int.
1.23e6
6.14e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.75e3
0%
ES OCDF
1.18e7
43.78
Abs. Int.
2.09e6
1.04e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 3.01e3
0%
ES OCDF
1.29e7
43.77
Abs. Int.
2.22e6
1.11e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
1.29e4
6.43e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

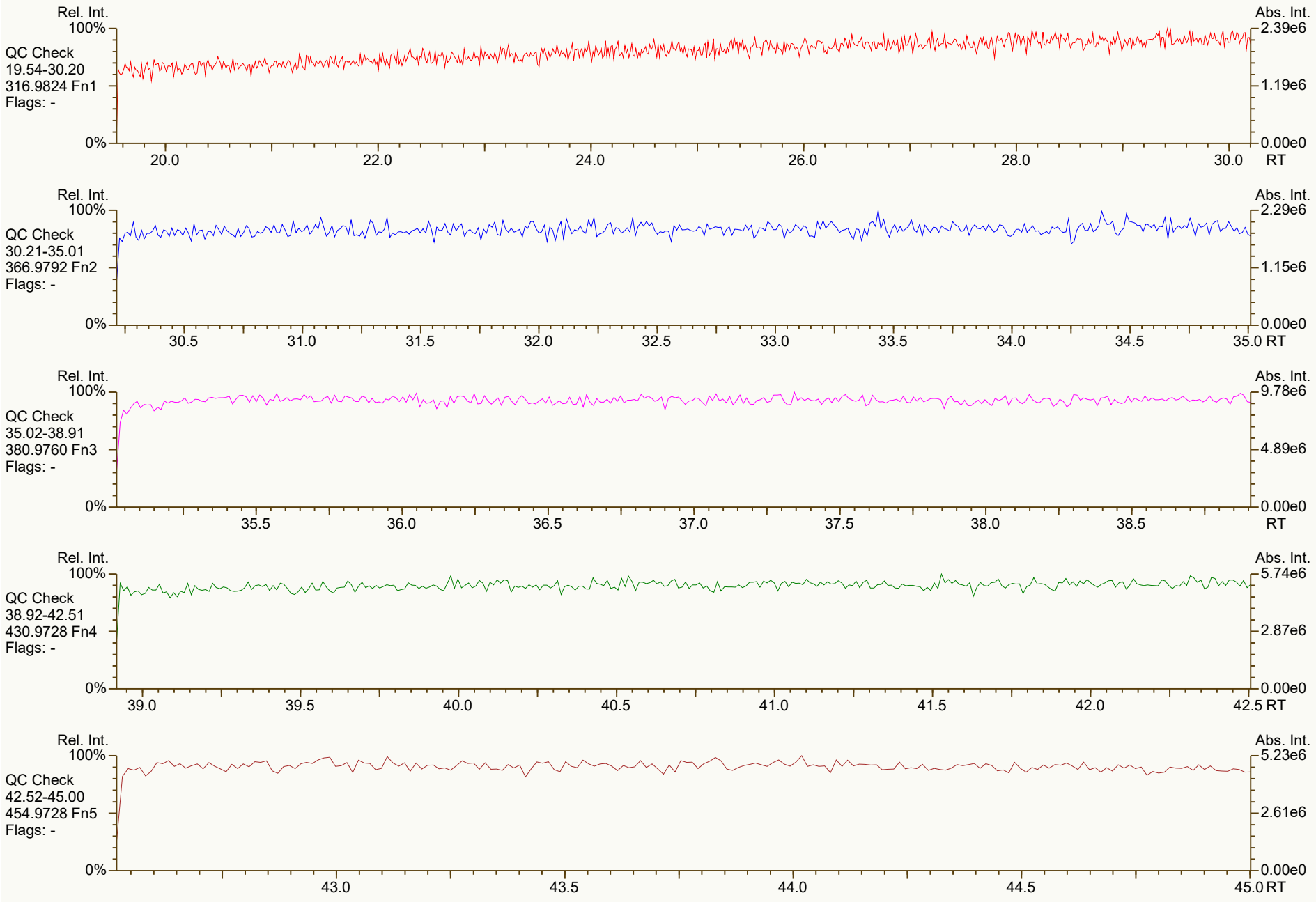
SGS ID: SBS_220117_DF_CA | Sample ID: 20-61-1 | Acq: 17-Jan-2022 10:40:05

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 220117C02



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\SBS_220117_DF_CA.utp_res, saved 17-Jan-2022 16:15 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9824, 8842, 0913 scc: 366-177 | *PKD: 17-Jan-2022 15:57 Printed: 18-Jan-2022 09:27 Page 1 of 1*


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.39e6
1.19e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
2.29e6
1.15e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
9.78e6
4.89e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
5.74e6
2.87e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.23e6
2.61e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.04e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
7.73e3
3.87e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.33e3
0%
Abs. Int.
1.23e4
6.15e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 3.38e3
0%
Abs. Int.
1.41e4
7.06e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.71e3
0%
Abs. Int.
1.80e4
8.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PB
4σ 1.50e3
0%
Abs. Int.
5.21e3
2.60e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 1.05e3
0%
Abs. Int.
5.67e3
2.83e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.42e3
4.71e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.97e4
9.86e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.29e6
1.15e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

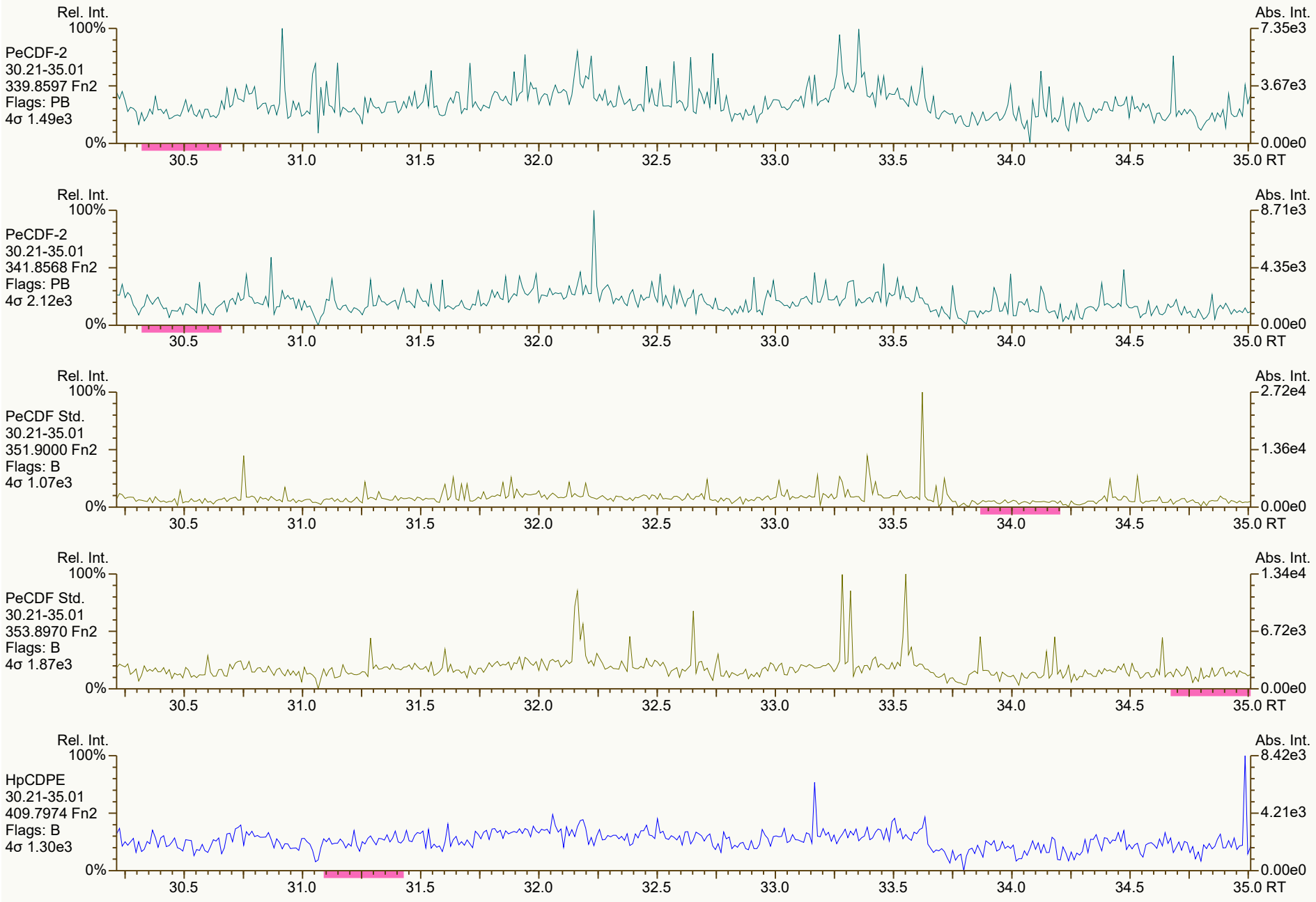

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 1.19e3
0%
Abs. Int.
5.52e3
2.76e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.07e3
0%
Abs. Int.
6.78e3
3.39e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: B
4σ 2.99e3
0%
Abs. Int.
1.17e4
5.83e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.29e4
6.44e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.78e6
4.89e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.23e3
0%
Abs. Int.
7.88e3
3.94e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
6.57e3
3.29e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: B
4σ 1.15e3
0%
Abs. Int.
1.21e4
6.07e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.54e3
0%
Abs. Int.
1.09e4
5.45e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.74e6
2.87e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: B
4σ 9.86e2
0%
Abs. Int.
8.00e3
4.00e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
6.27e3
3.14e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.88e4
9.38e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: B
4σ 1.26e3
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.23e6
2.61e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

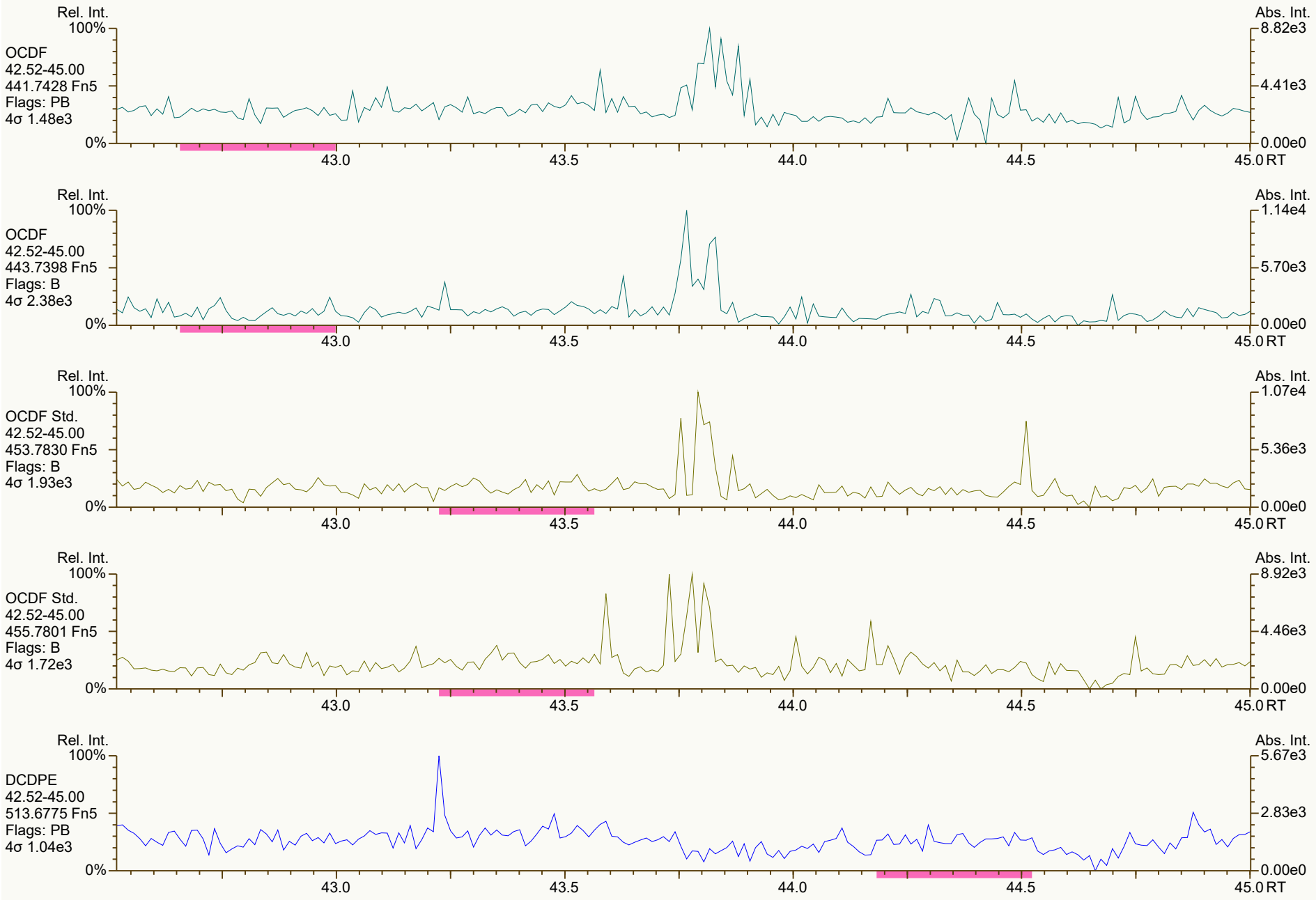

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.60e3
2468F
2.13e5*
23.62
Abs. Int.
4.66e4
2.33e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.29e3
2468F
2.57e5*
23.62
Abs. Int.
5.07e4
2.54e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 3.56e3
Abs. Int.
2.21e4
1.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 1.86e3
Abs. Int.
2.10e4
1.05e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.08e3
Abs. Int.
1.32e4
6.59e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.47e4
7.35e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.48e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.56e3
3.78e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.67e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.39e6
1.19e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PB
4σ 1.49e3
0%
Abs. Int.
7.35e3
3.67e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PB
4σ 2.12e3
0%
Abs. Int.
8.71e3
4.35e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: B
4σ 1.07e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.34e4
6.72e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.30e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

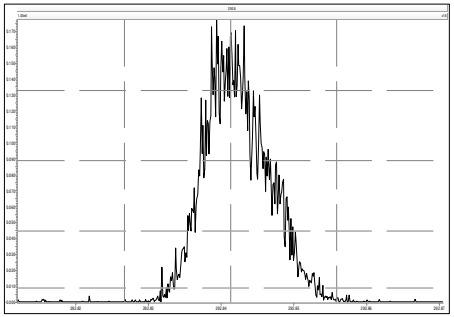

Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: B
4σ 2.05e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: B
4σ 1.95e3
0%
Abs. Int.
7.13e3
3.56e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: B
4σ 2.54e3
0%
Abs. Int.
1.69e4
8.46e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: B
4σ 2.39e3
0%
Abs. Int.
1.07e4
5.34e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.18e4
5.90e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.62e4
8.08e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
1.99e4
9.94e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: B
4σ 2.62e3
0%
Abs. Int.
1.67e4
8.33e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
1.62e4
8.10e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.24e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

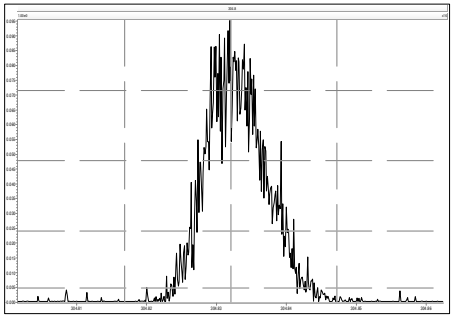

Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.48e3
0%
Abs. Int.
8.82e3
4.41e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: B
4σ 2.38e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: B
4σ 1.72e3
0%
Abs. Int.
8.92e3
4.46e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.04e3
0%
Abs. Int.
5.67e3
2.83e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Printed: Sunday, January 16, 2022 21:07:37 Eastern Standard Time

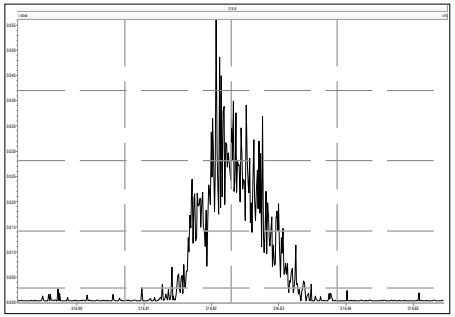
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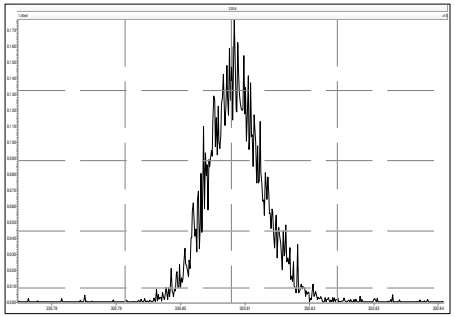
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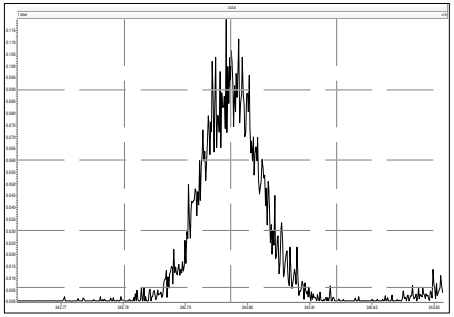
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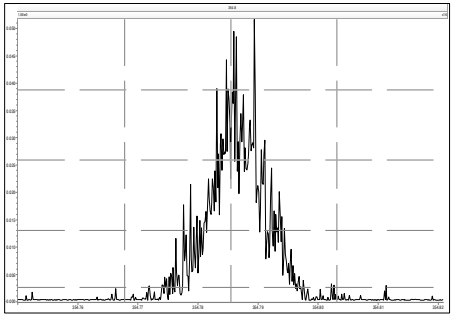
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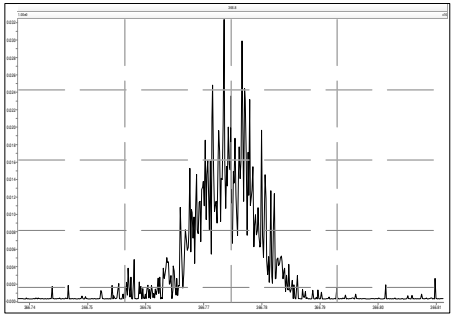
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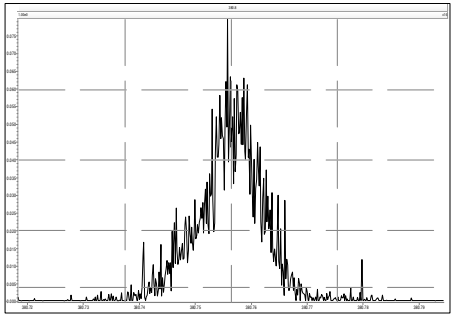
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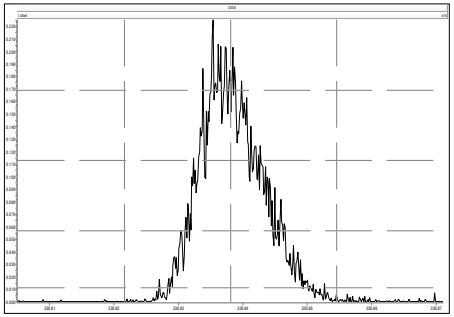
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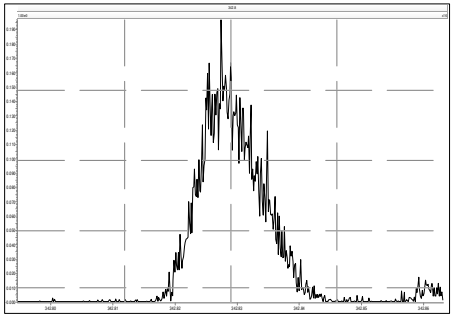
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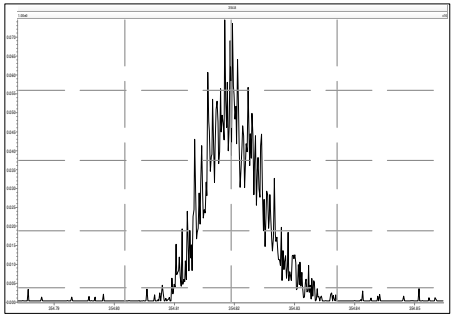
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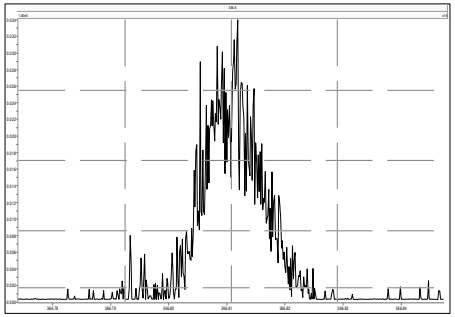
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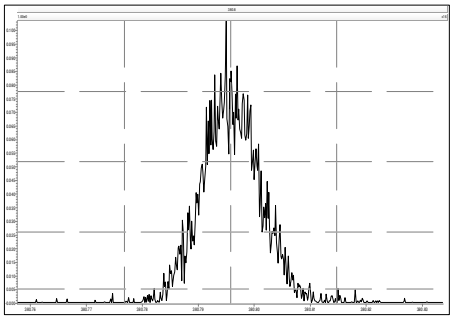
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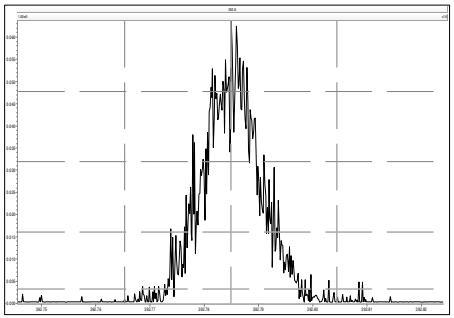
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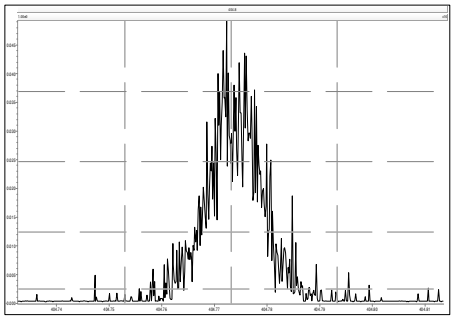
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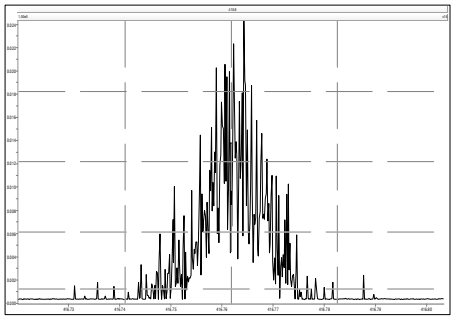
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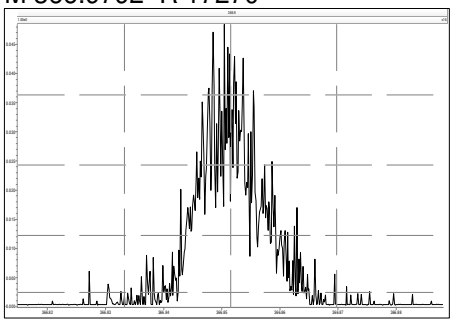
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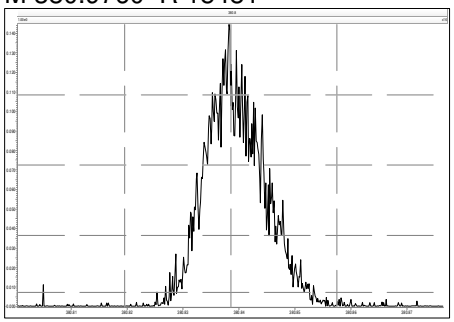
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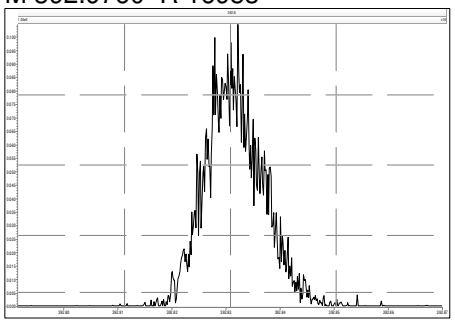
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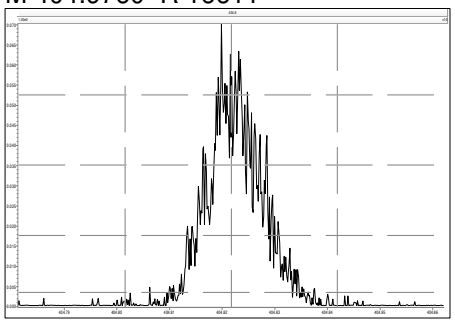
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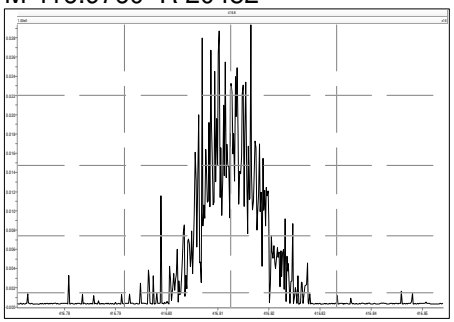
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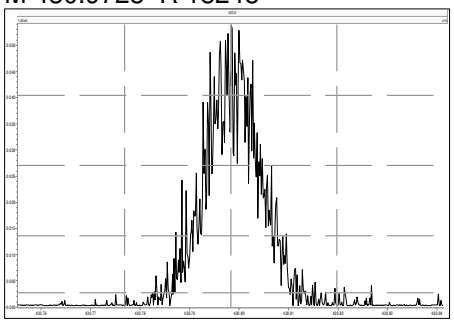
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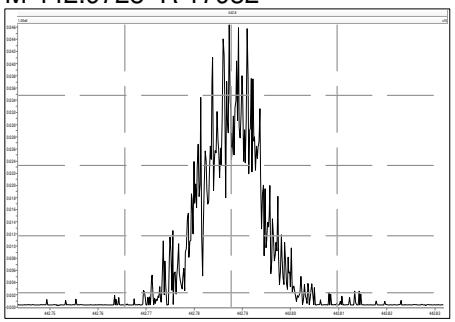
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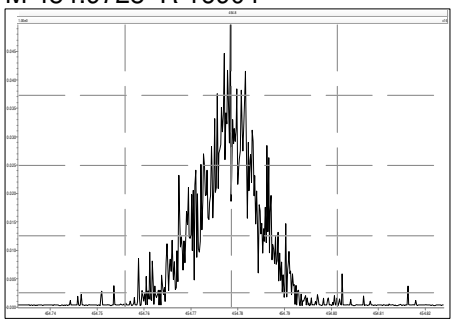
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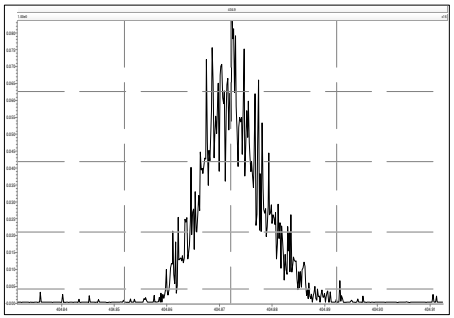
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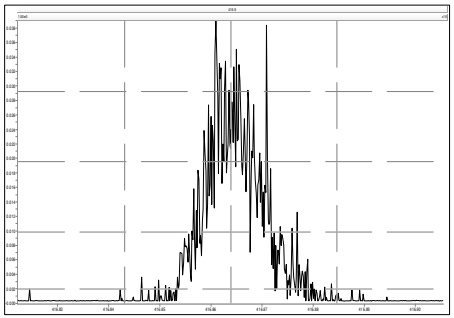
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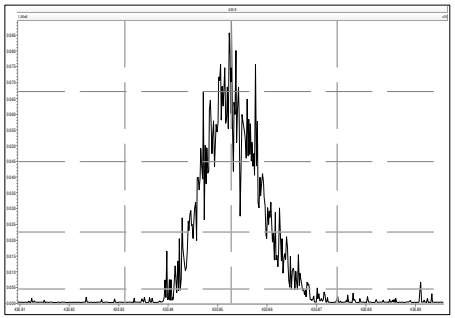
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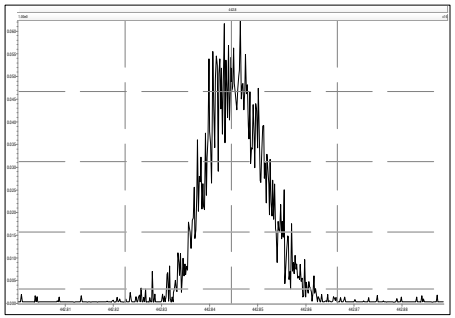
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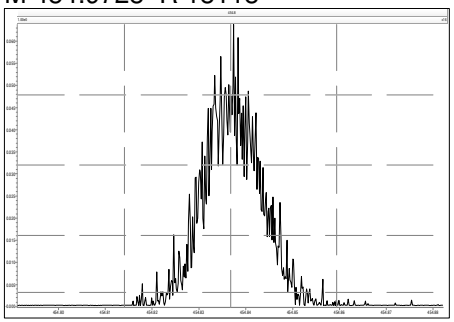
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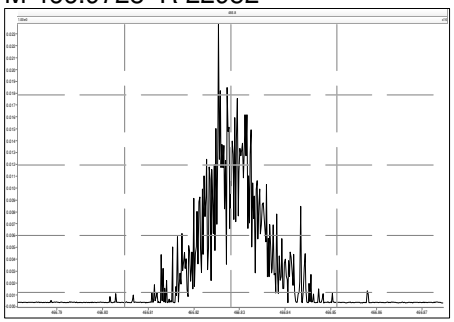
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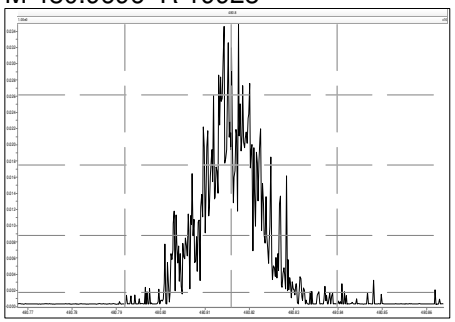
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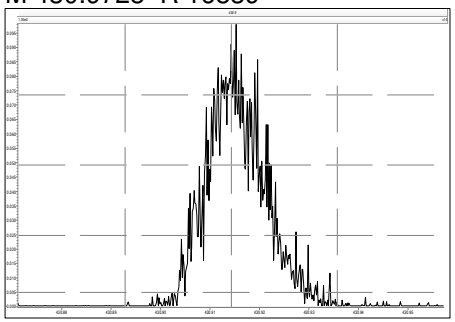
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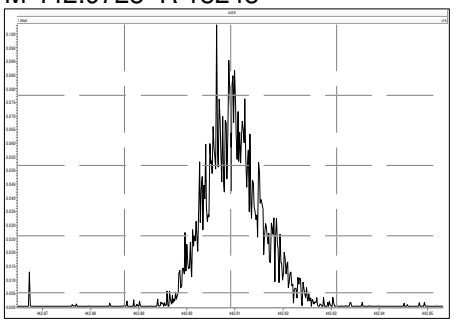
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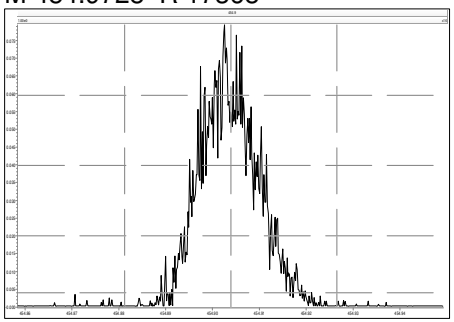
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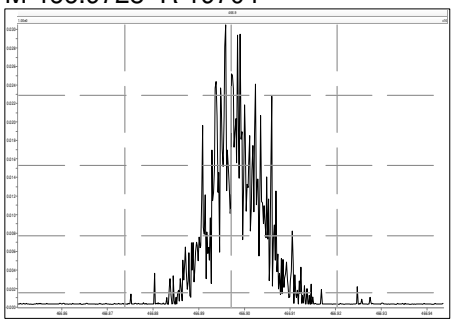
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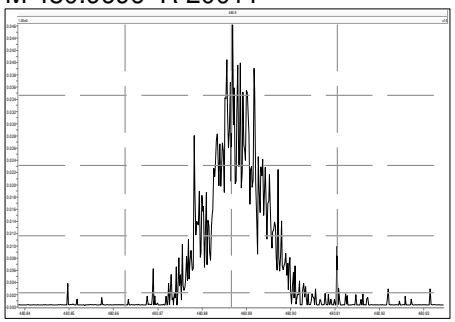
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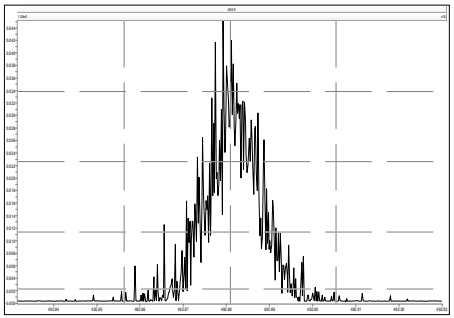
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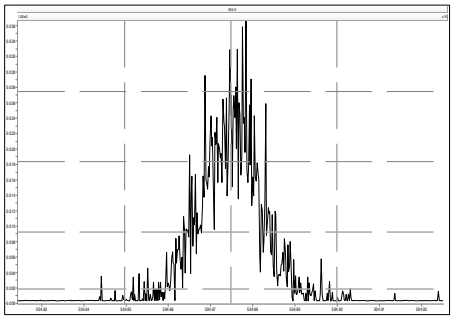
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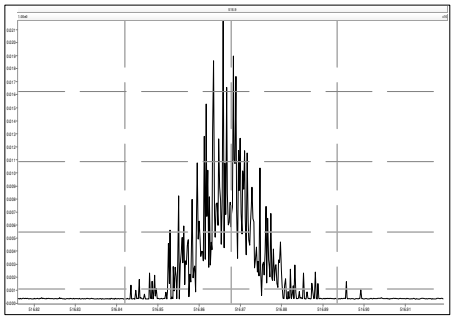
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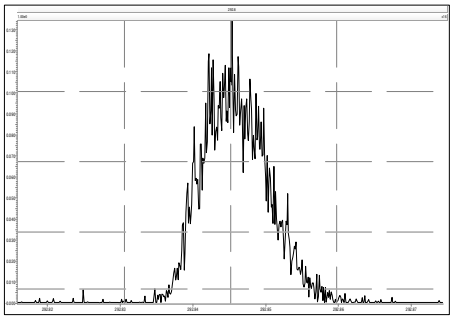


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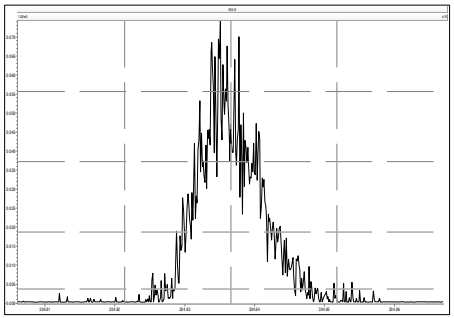


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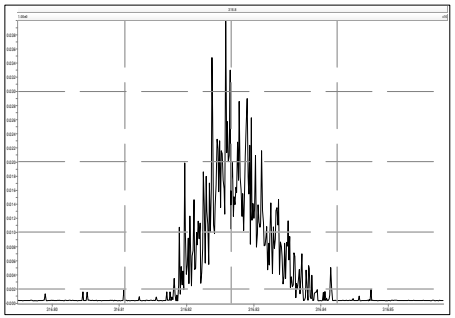
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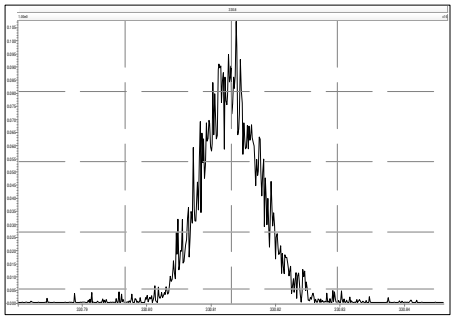
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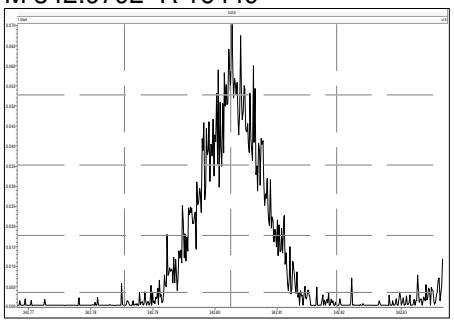
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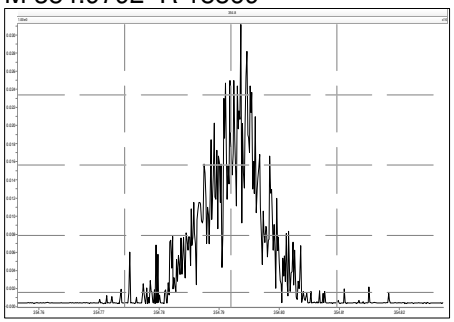
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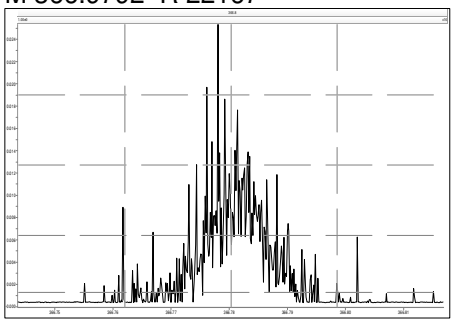
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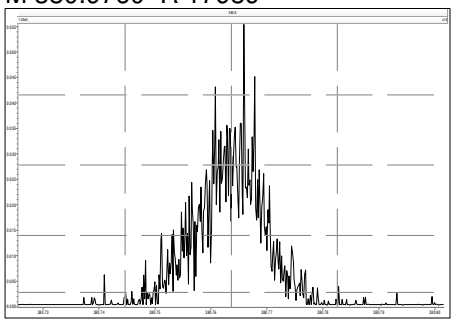
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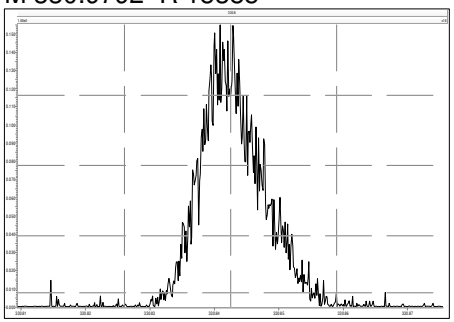
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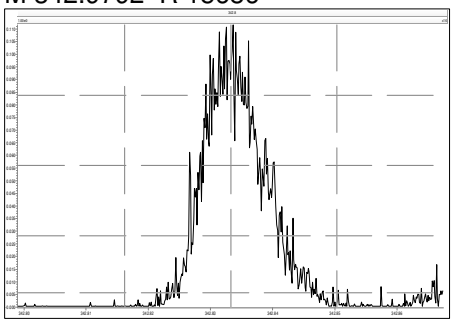
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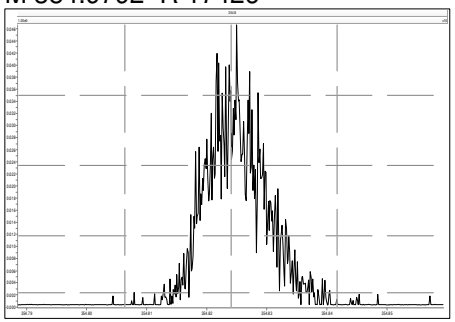
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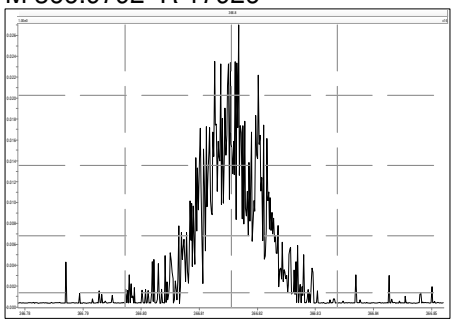
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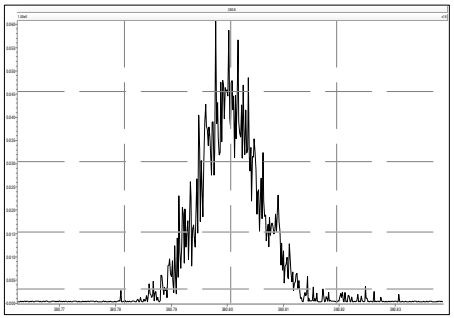
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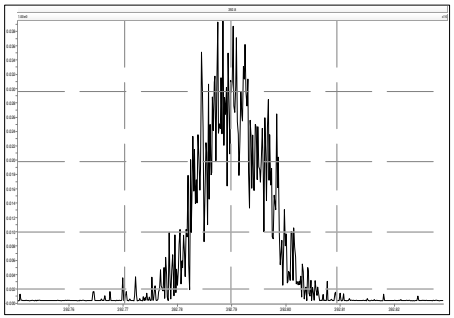
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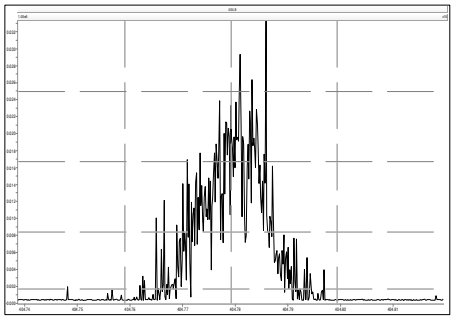
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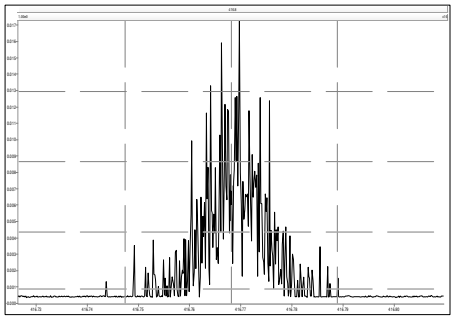
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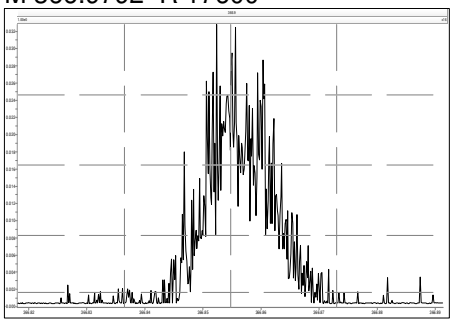
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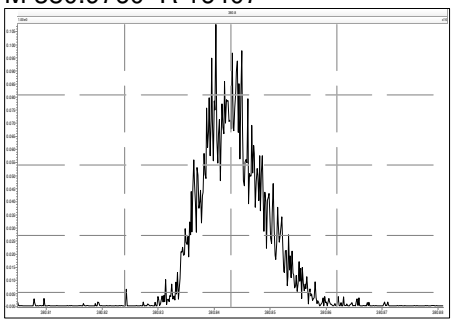
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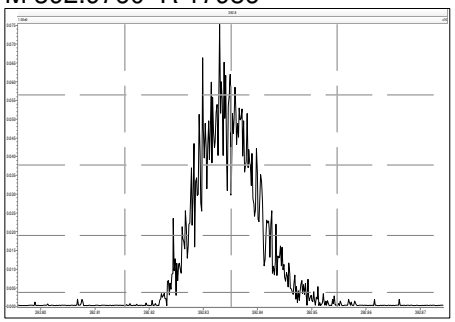
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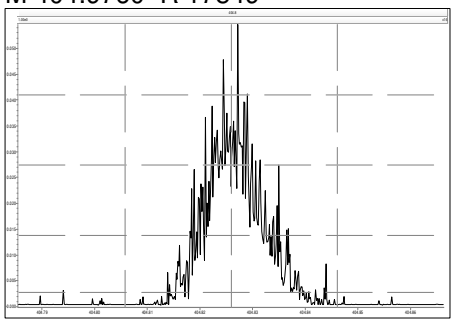
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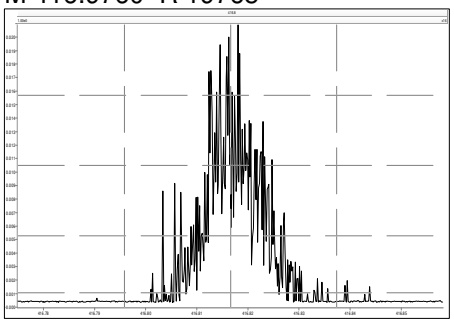
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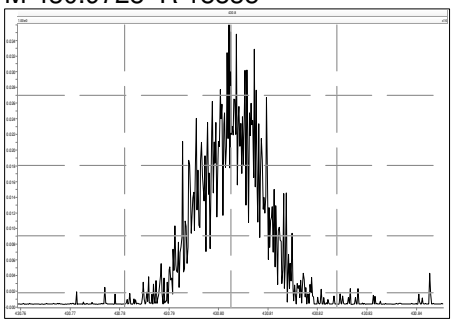
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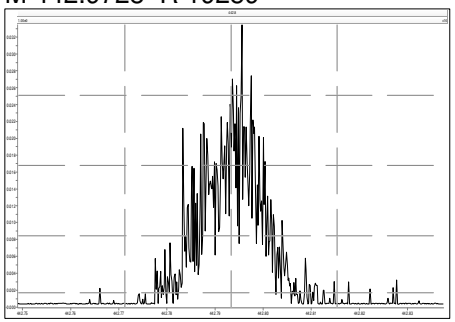
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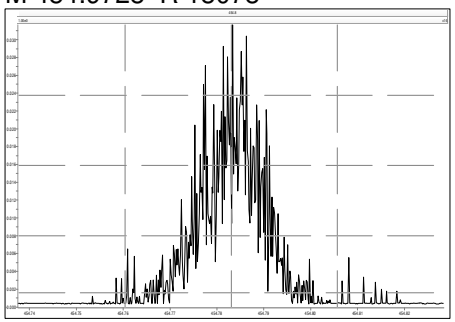
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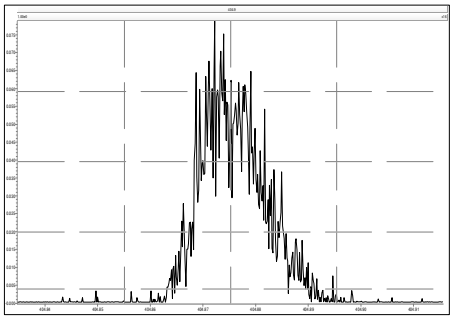
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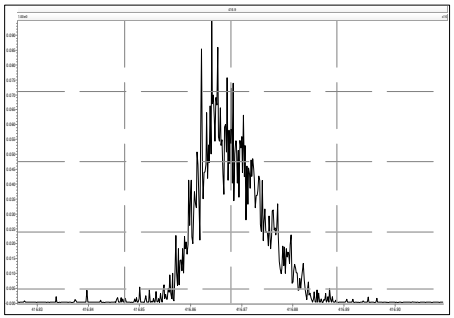
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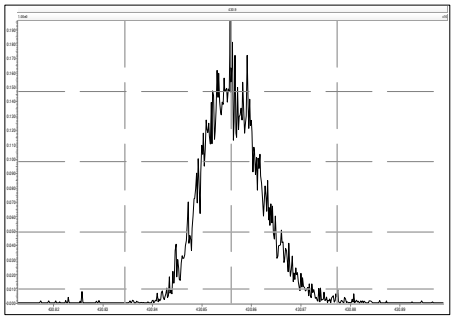
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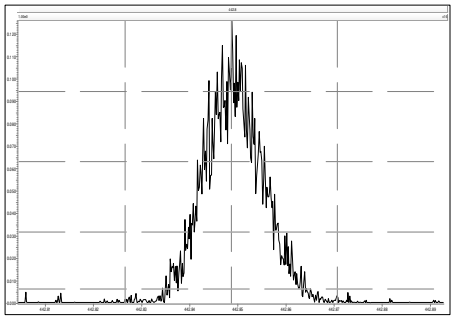
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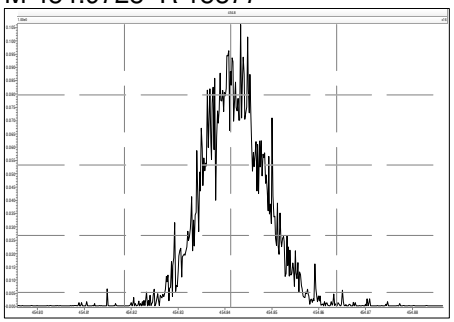
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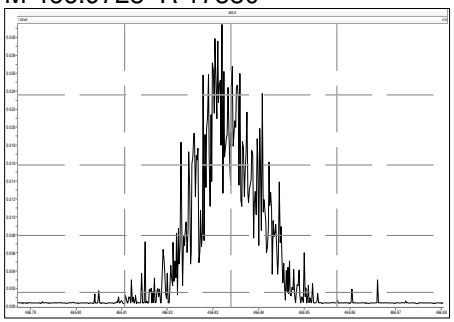
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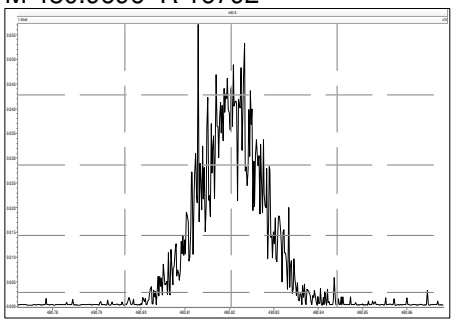
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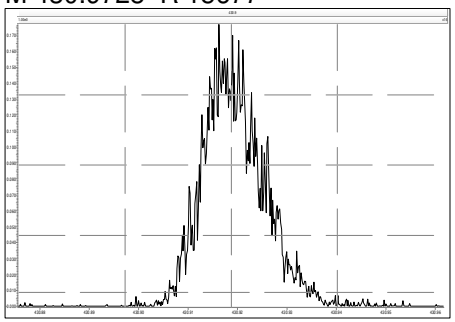
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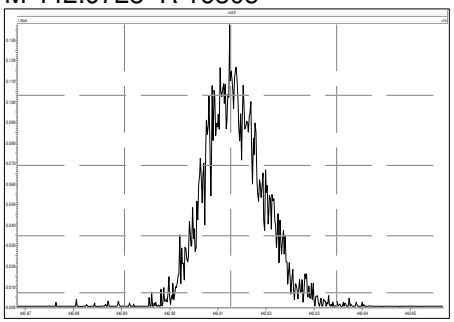
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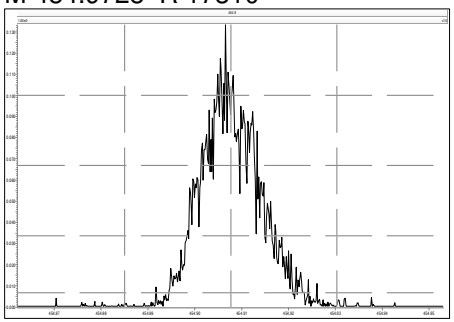
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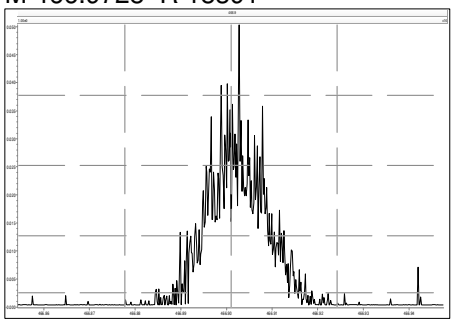
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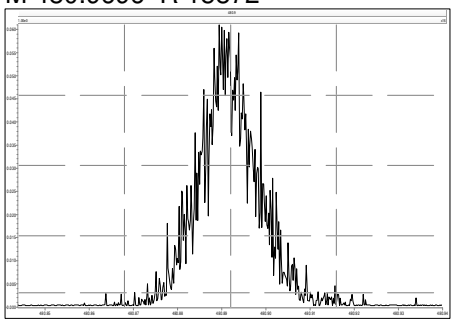
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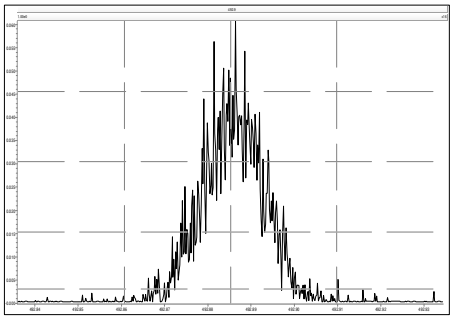
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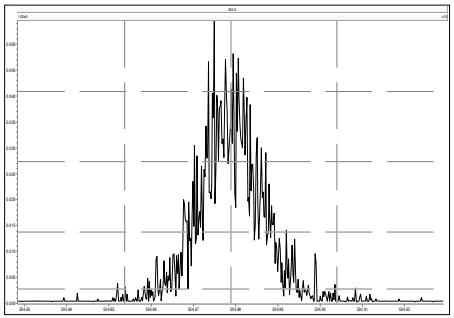
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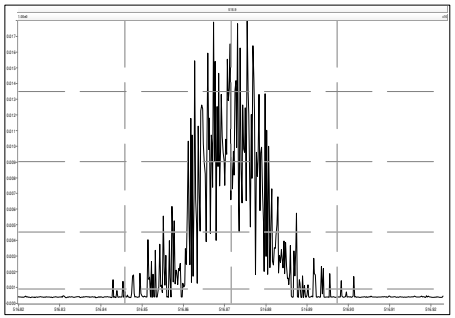
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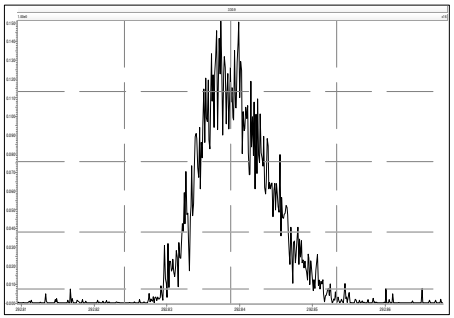


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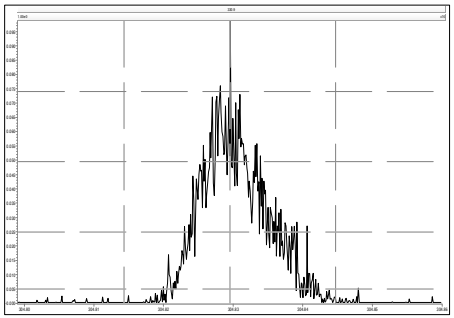


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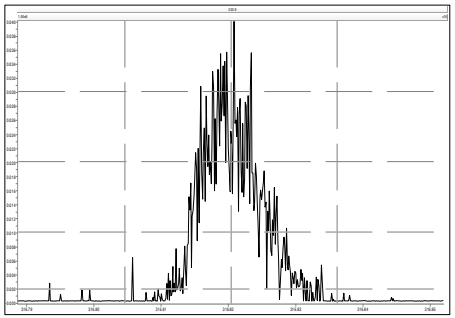
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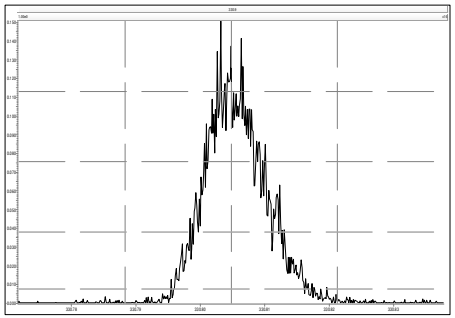
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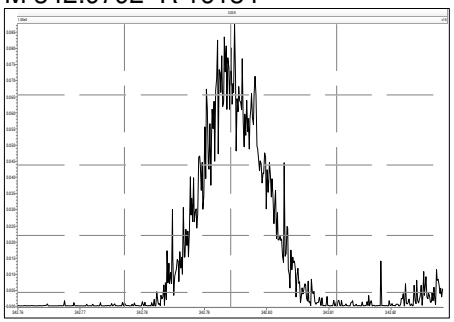
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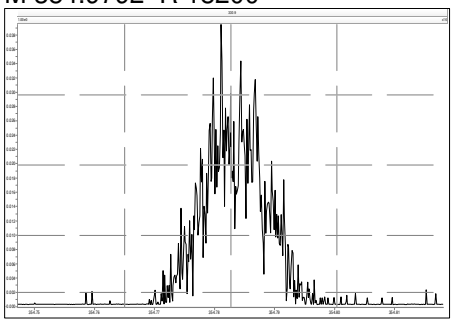
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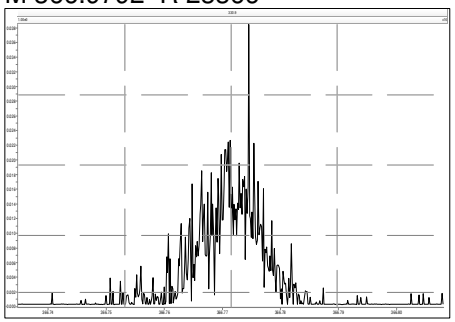
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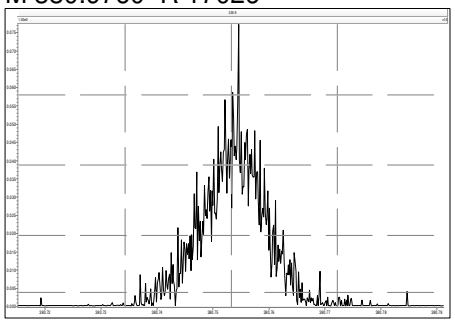
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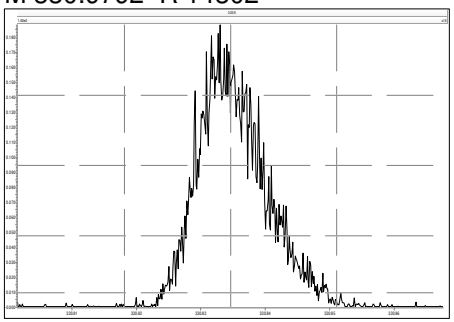
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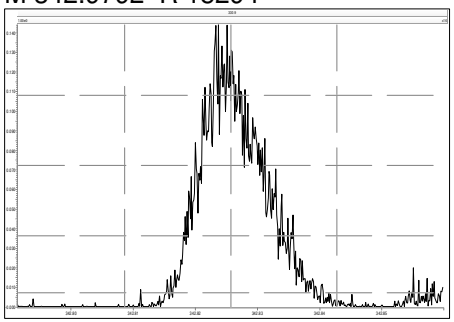
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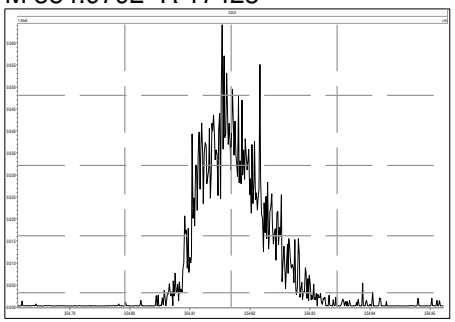
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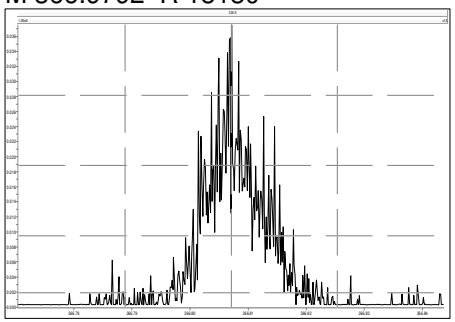
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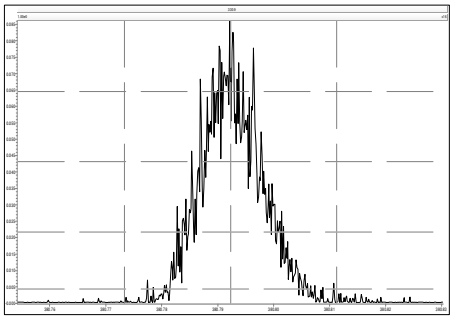
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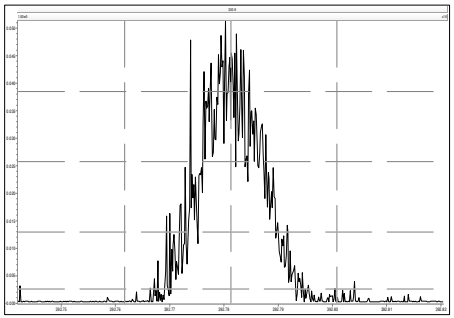
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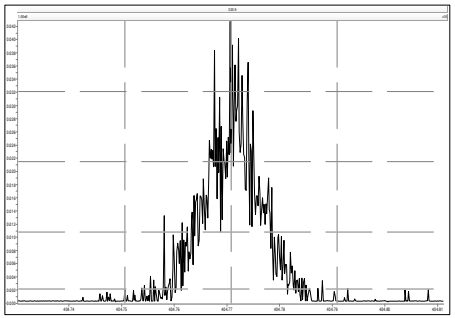
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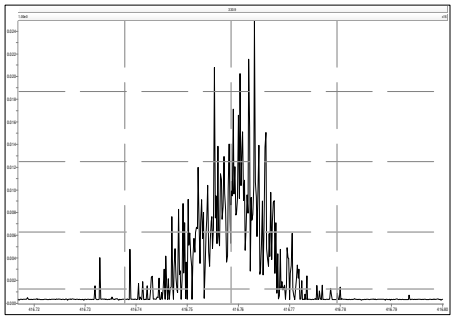
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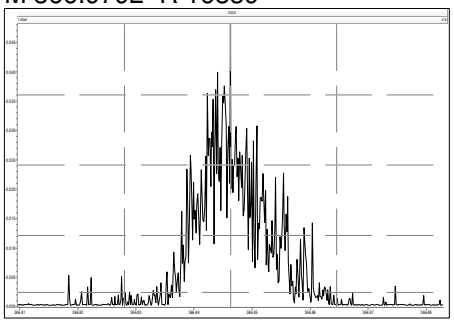
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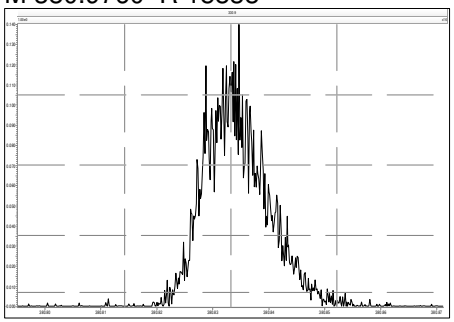
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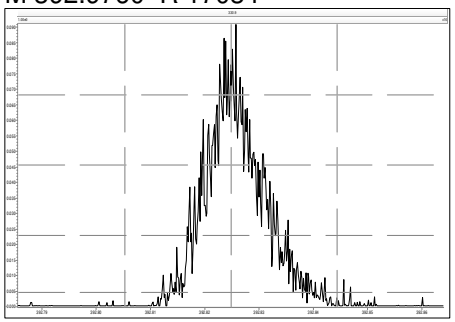
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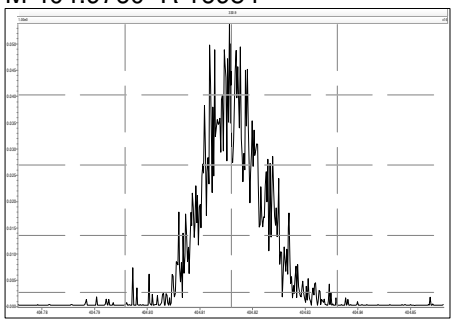
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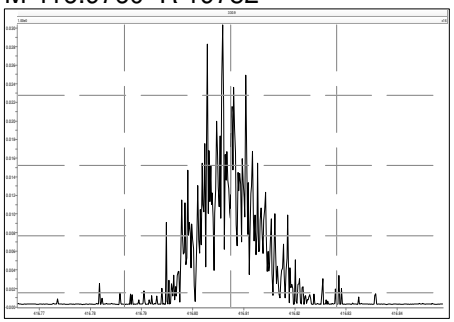
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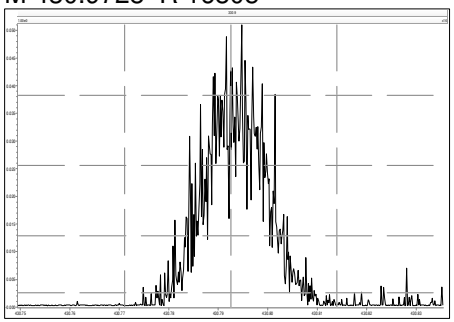
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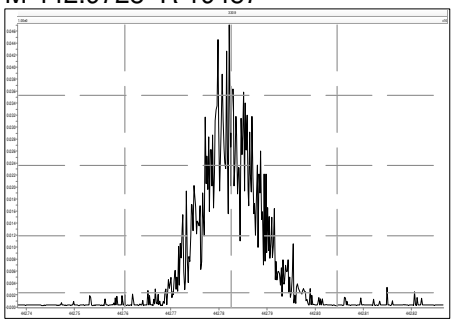
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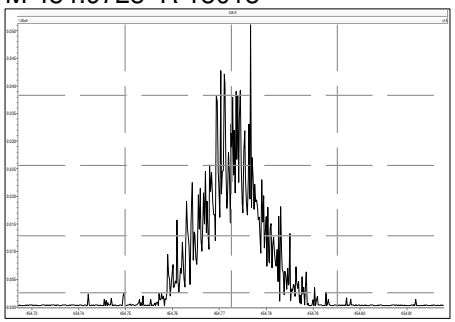
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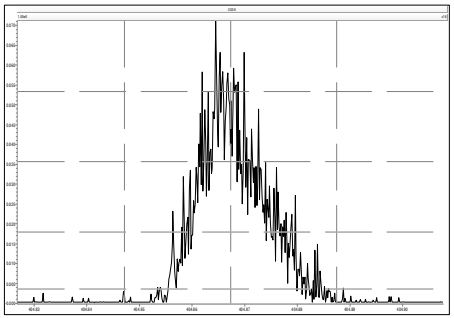
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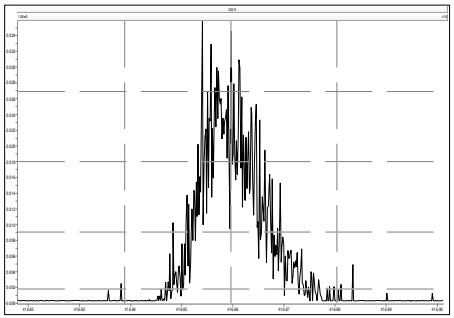
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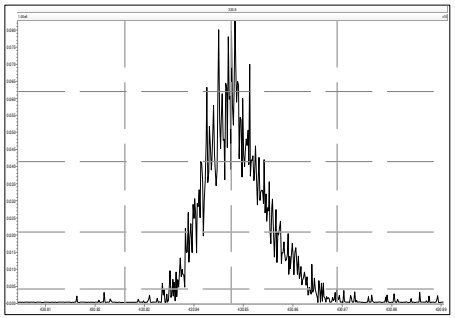
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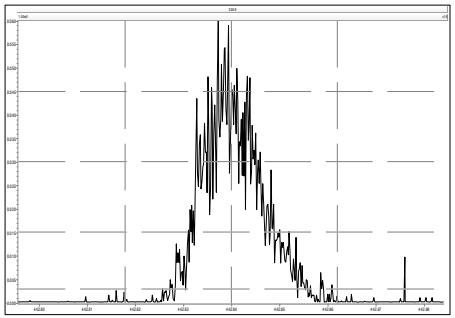
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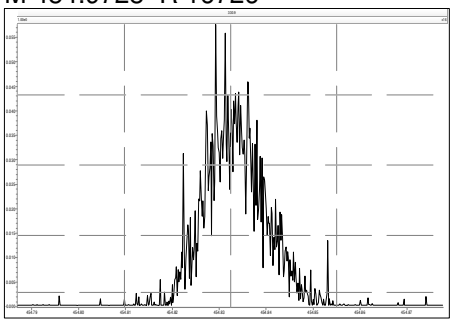
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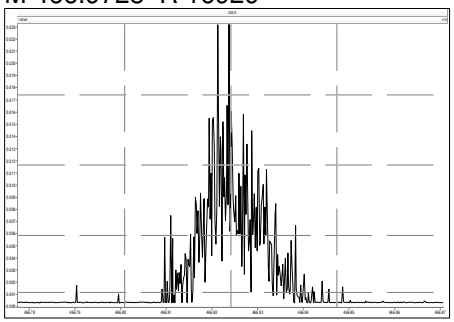
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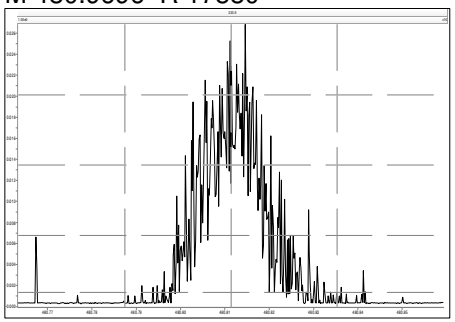
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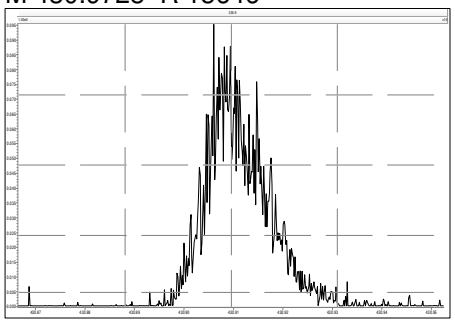
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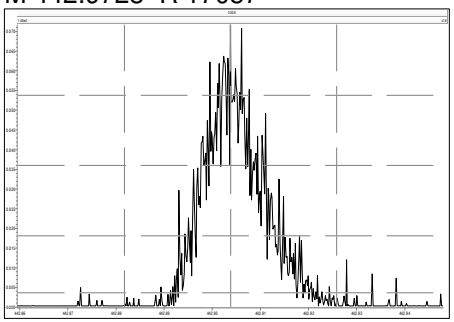
M 480.9696 R 17580



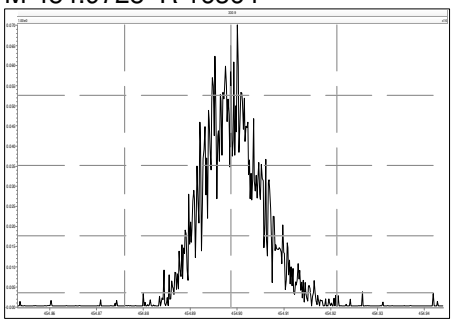
M 430.9728 R 15646



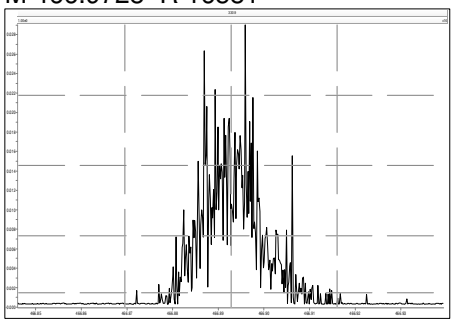
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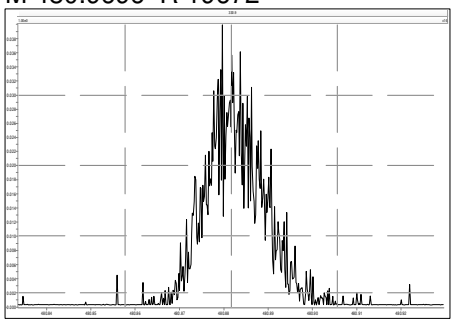
M 454.9728 R 16364



M 466.9728 R 16581

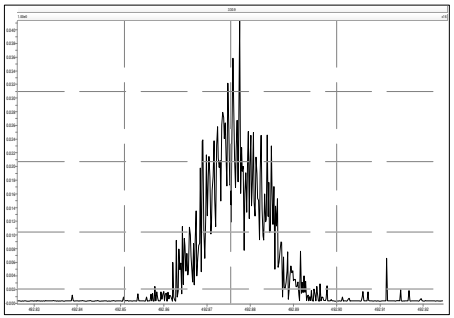


M 480.9696 R 19672

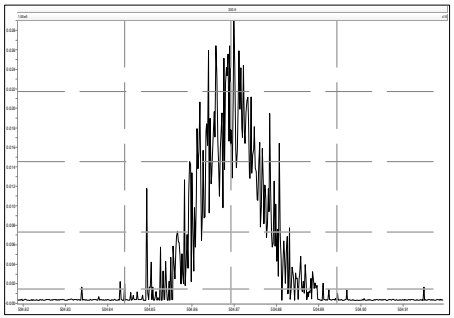


Printed: Monday, January 17, 2022 20:58:29 Eastern Standard Time

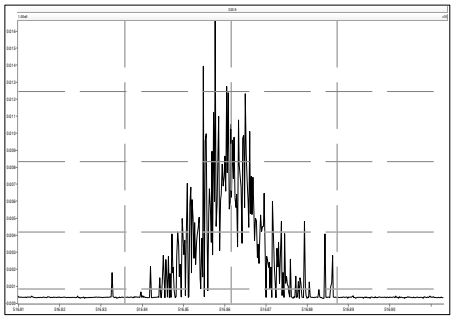
M 492.9696 R 19561



M 504.9696 R 20269



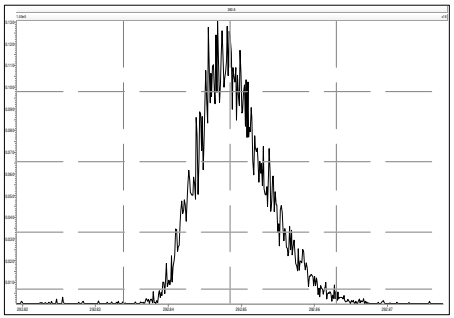
M 516.9697 R 38736



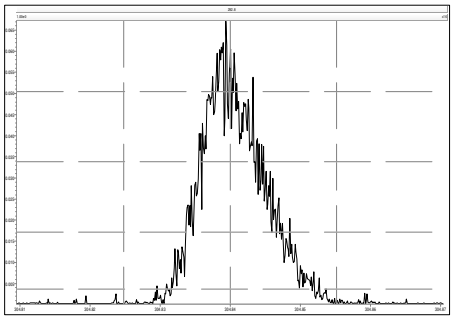
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, January 18, 2022 09:42:20 Eastern Standard Time

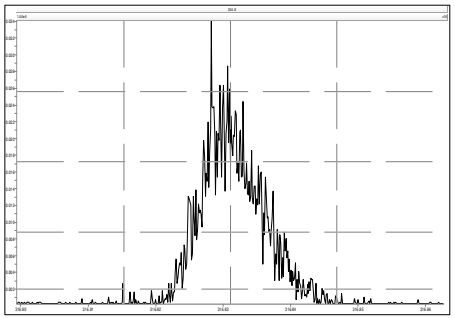
M 292.9824 R 13968



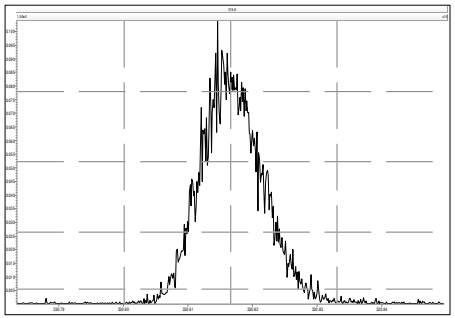
M 304.9824 R 14886



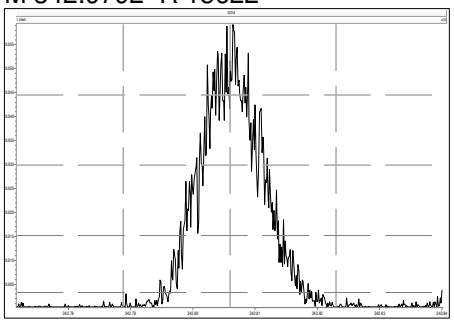
M 316.9824 R 17364



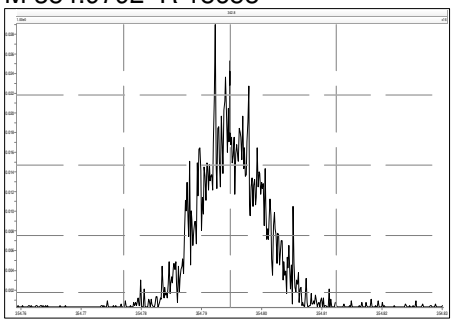
M 330.9792 R 14881



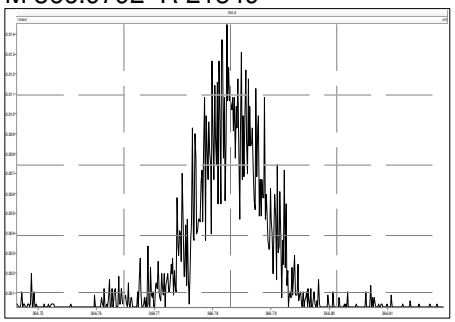
M 342.9792 R 15622



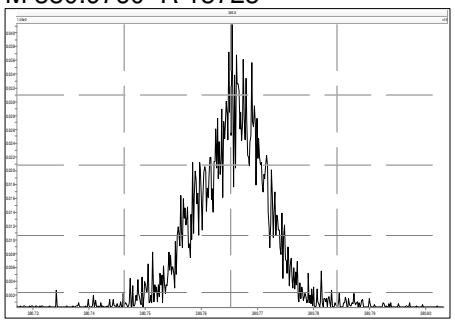
M 354.9792 R 18658



M 366.9792 R 21549



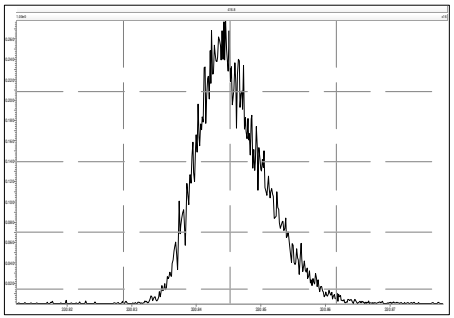
M 380.9760 R 15725



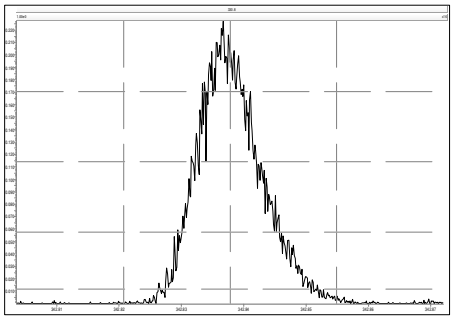
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, January 18, 2022 09:42:37 Eastern Standard Time

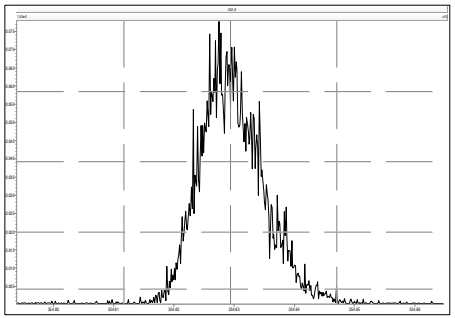
M 330.9792 R 13084



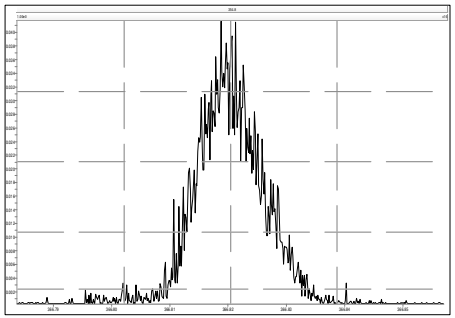
M 342.9792 R 14618



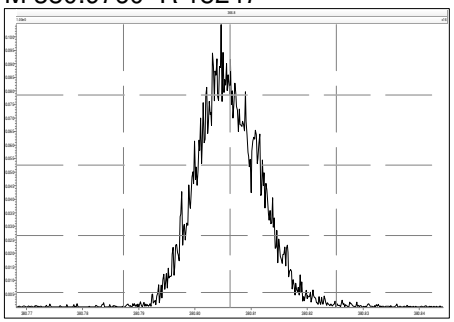
M 354.9792 R 15627



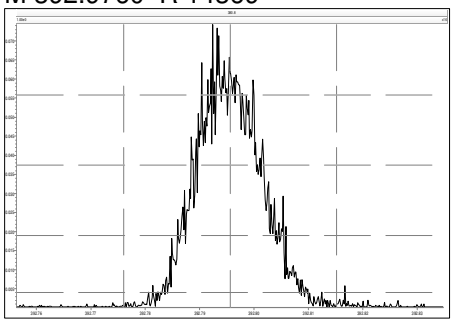
M 366.9792 R 15923



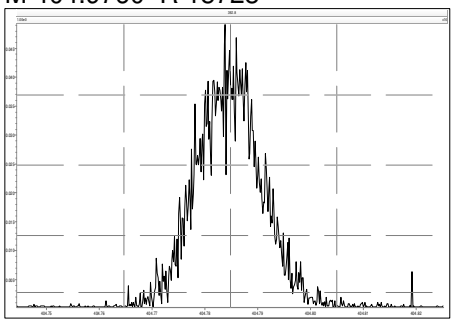
M 380.9760 R 15247



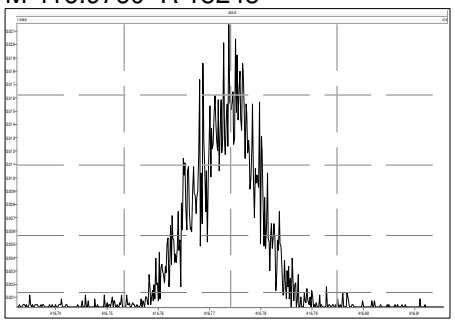
M 392.9760 R 14369



M 404.9760 R 15728



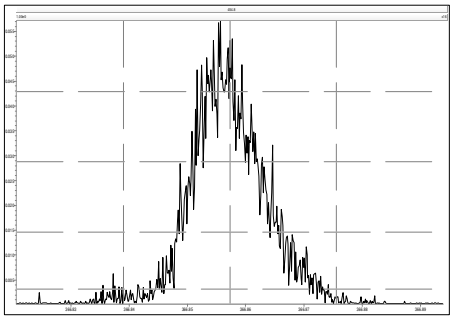
M 416.9760 R 15245



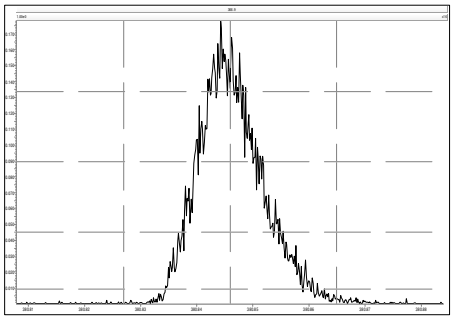
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, January 18, 2022 09:42:54 Eastern Standard Time

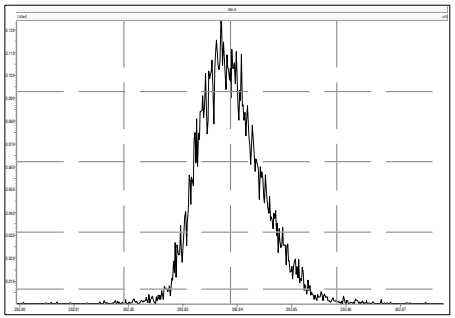
M 366.9792 R 13737



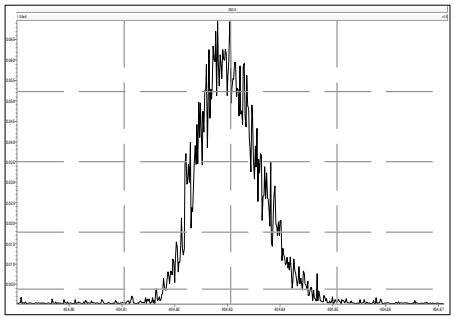
M 380.9760 R 14209



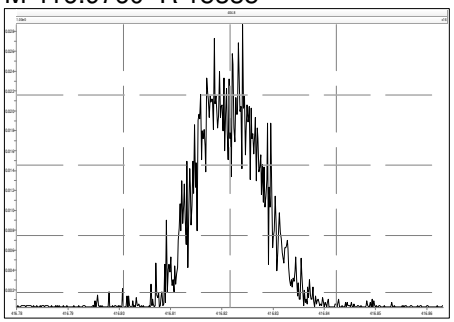
M 392.9760 R 15720



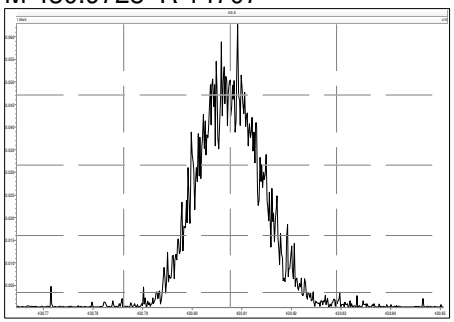
M 404.9760 R 14535



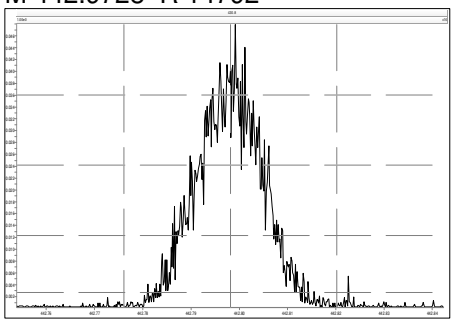
M 416.9760 R 15335



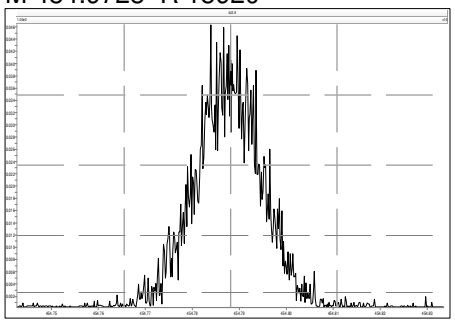
M 430.9728 R 14707



M 442.9728 R 14792



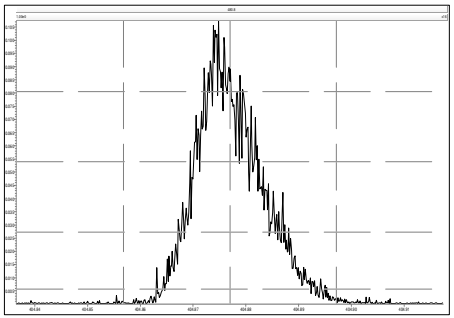
M 454.9728 R 15920



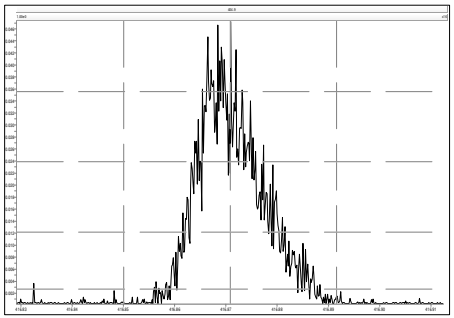
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, January 18, 2022 09:43:09 Eastern Standard Time

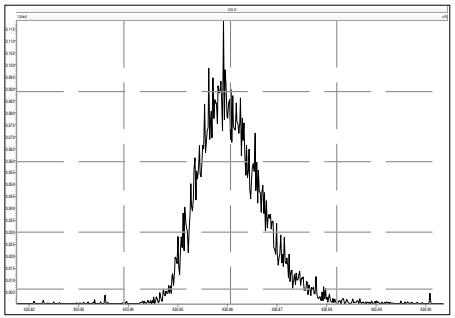
M 404.9760 R 13814



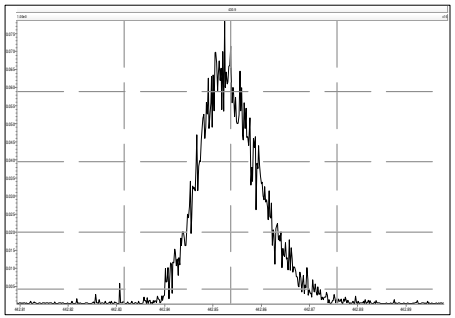
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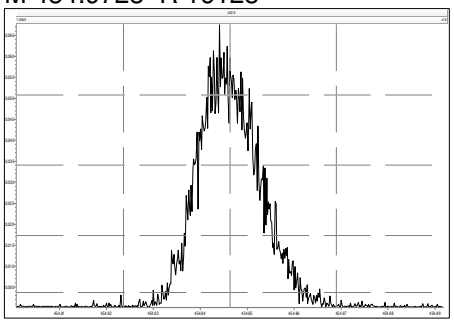
M 430.9728 R 14968



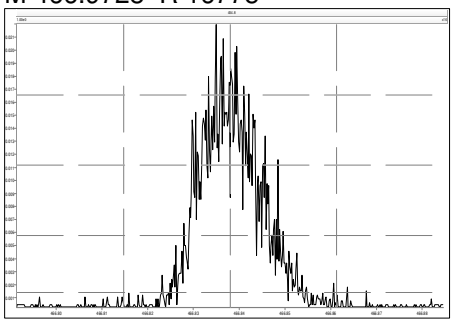
M 442.9728 R 15338



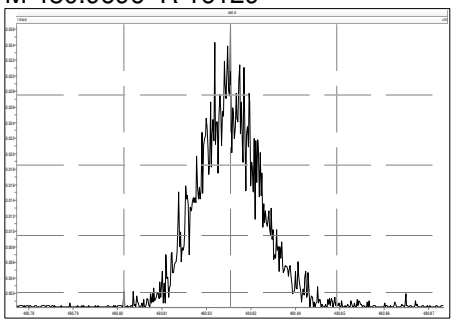
M 454.9728 R 16128



M 466.9728 R 16775



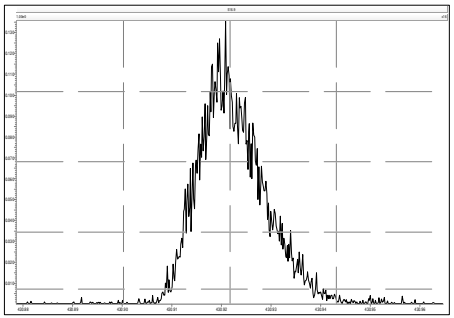
M 480.9696 R 16129



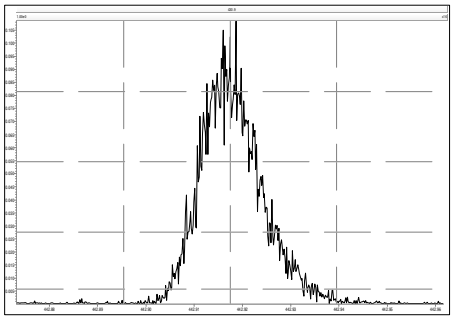
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, January 18, 2022 09:43:25 Eastern Standard Time

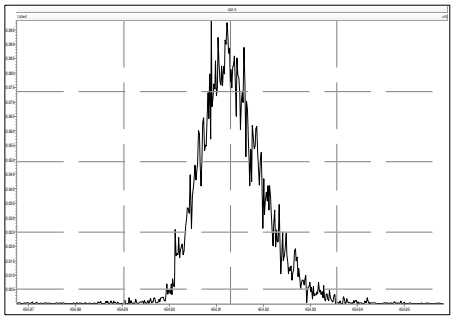
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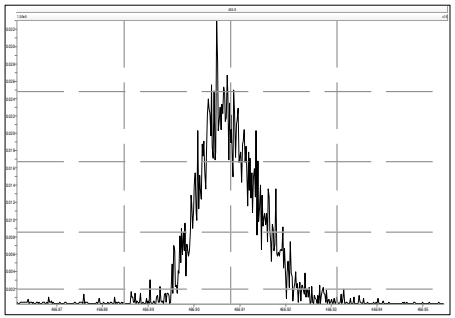
M 442.9728 R 15628



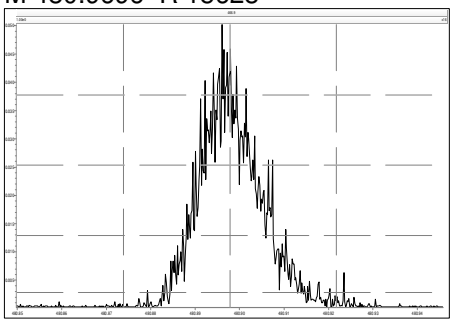
M 454.9728 R 15925



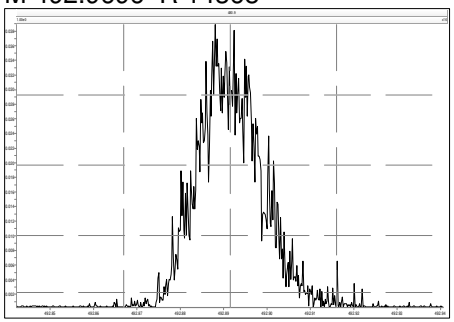
M 466.9728 R 18518



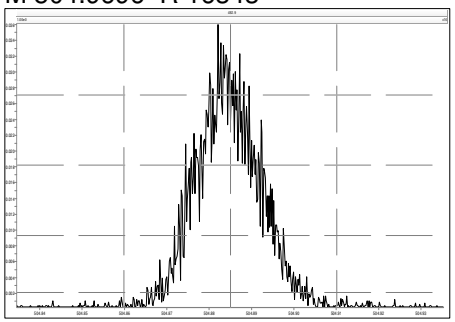
M 480.9696 R 15628



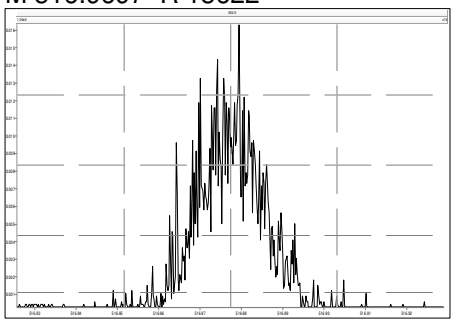
M 492.9696 R 14368



M 504.9696 R 16343



M 516.9697 R 15622



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
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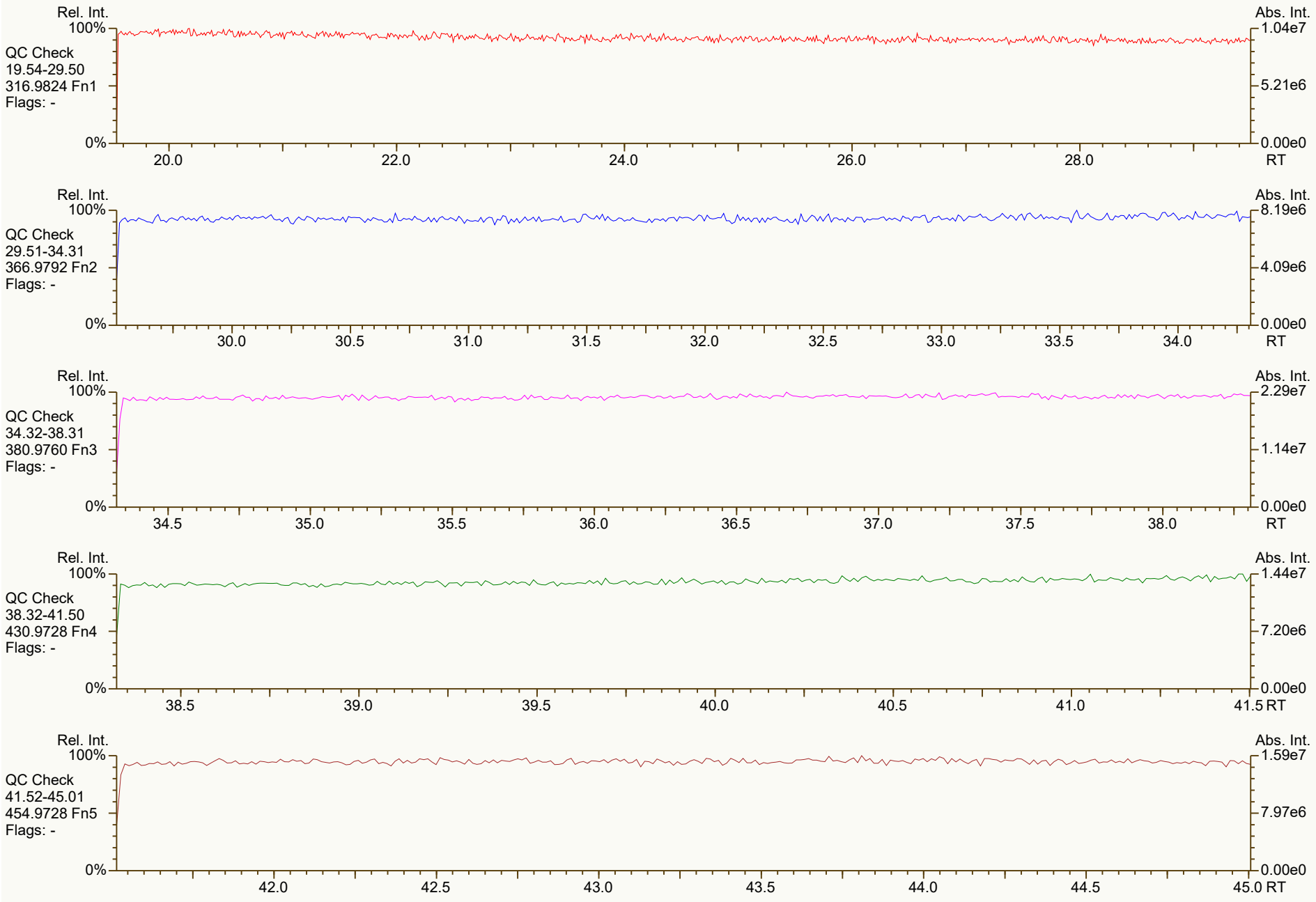
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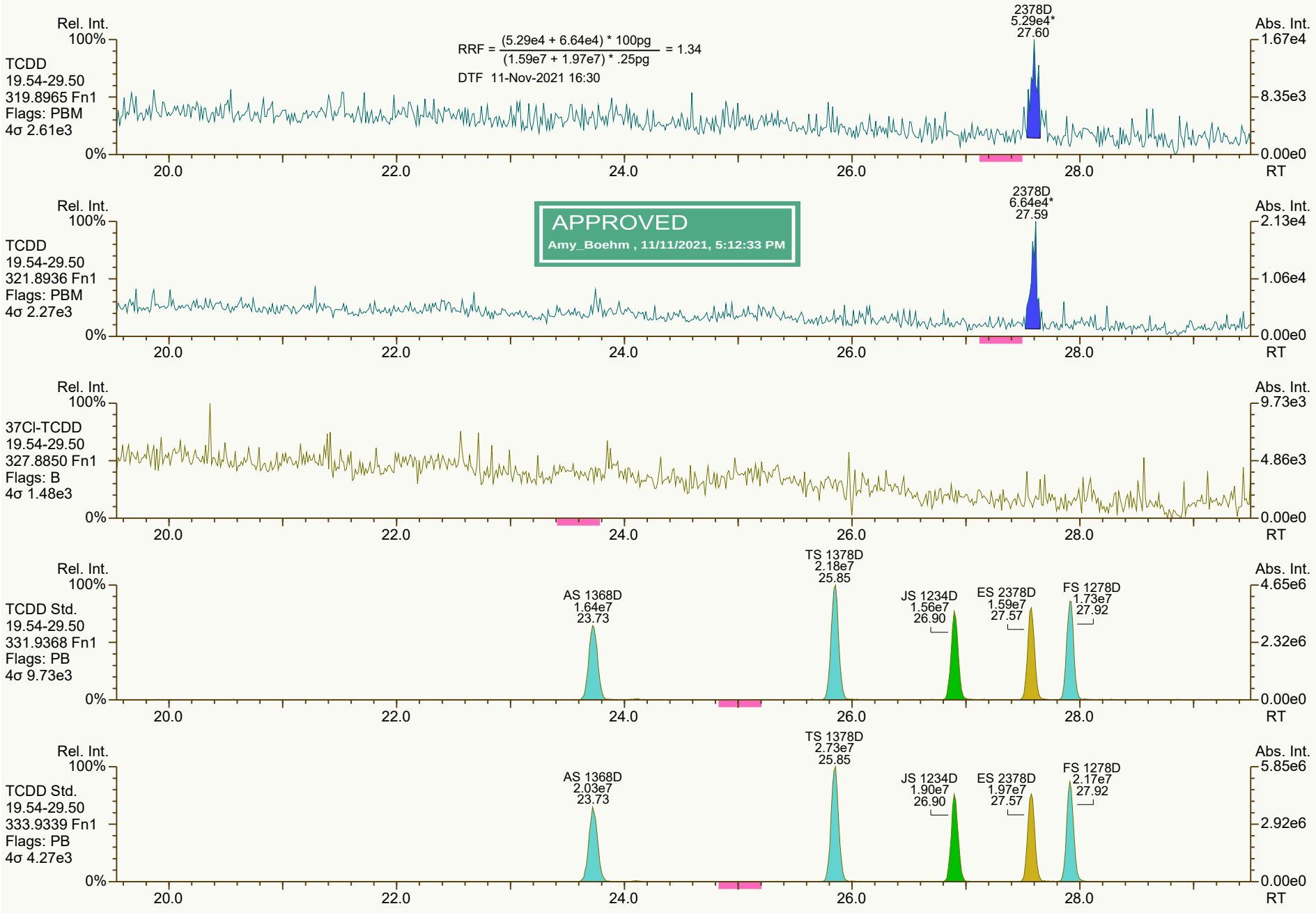
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

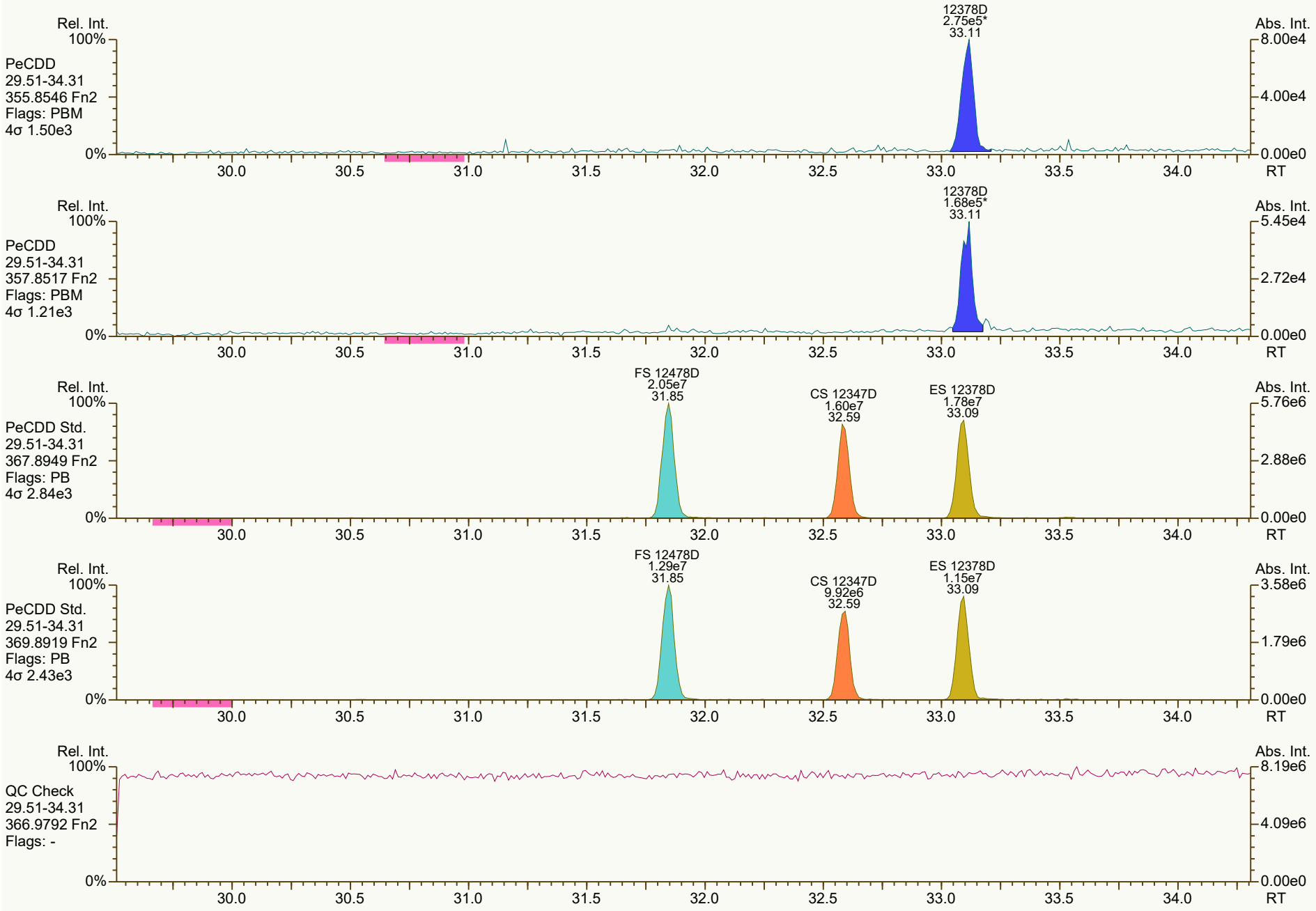
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

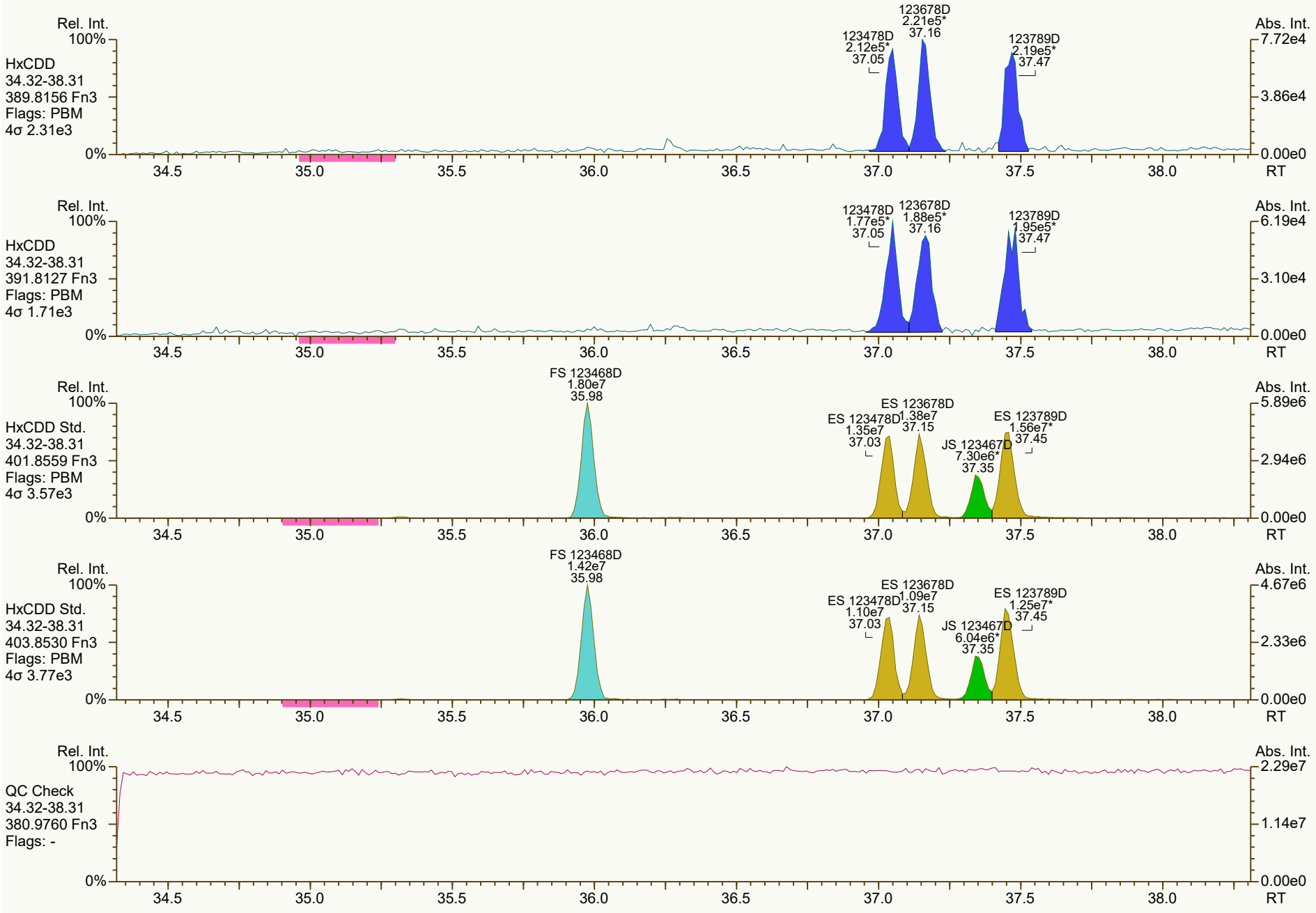
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

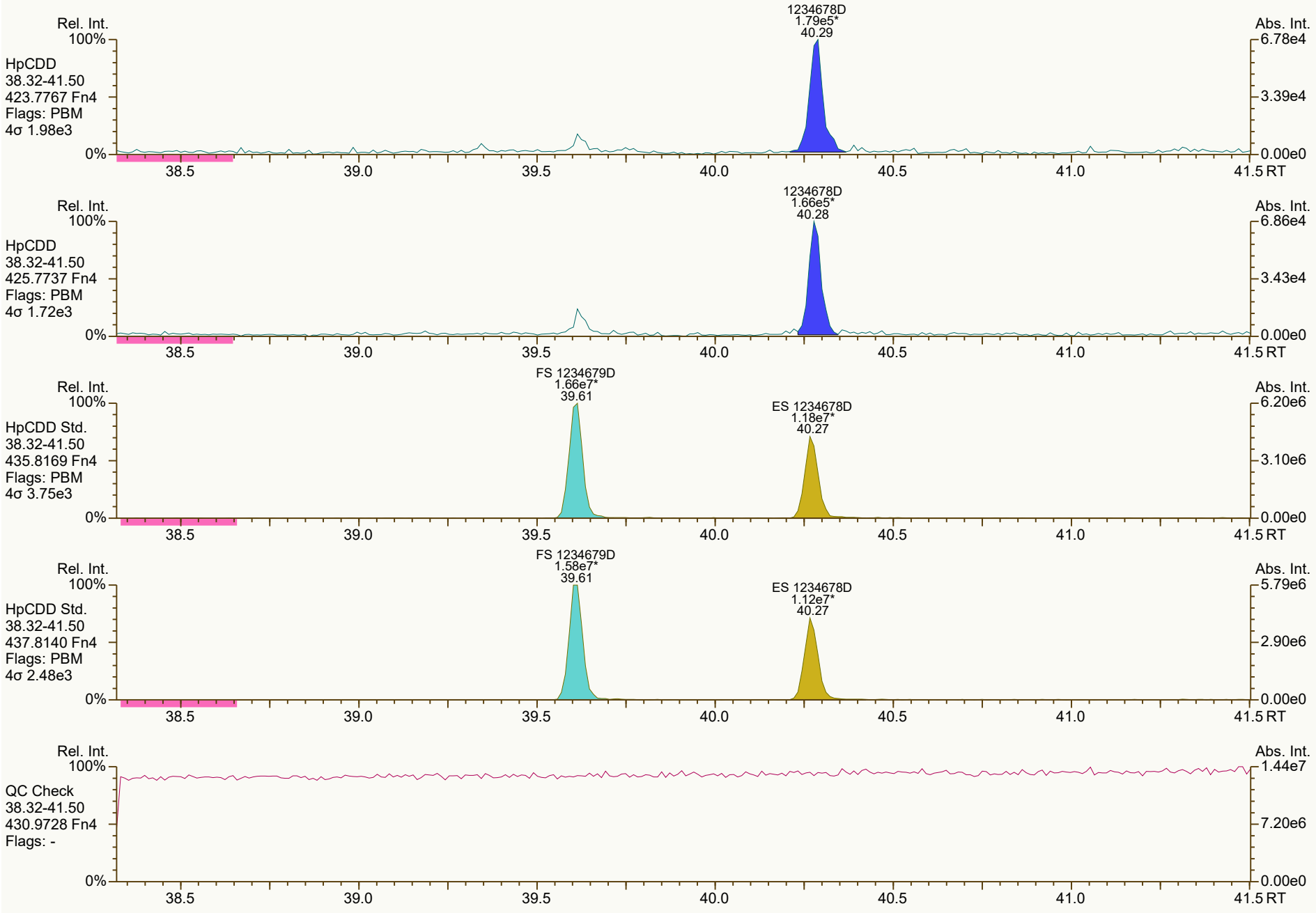
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

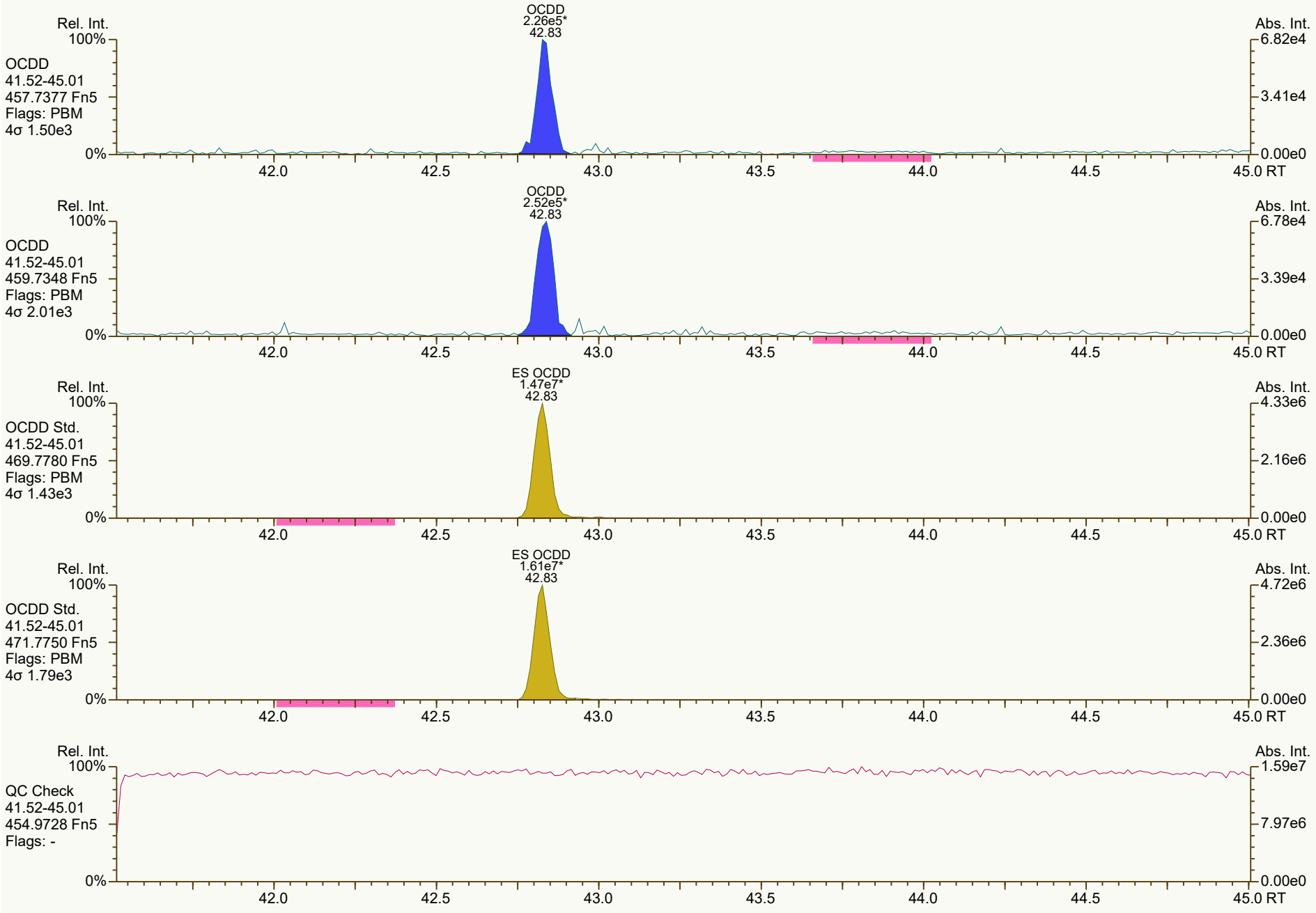

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
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44.5
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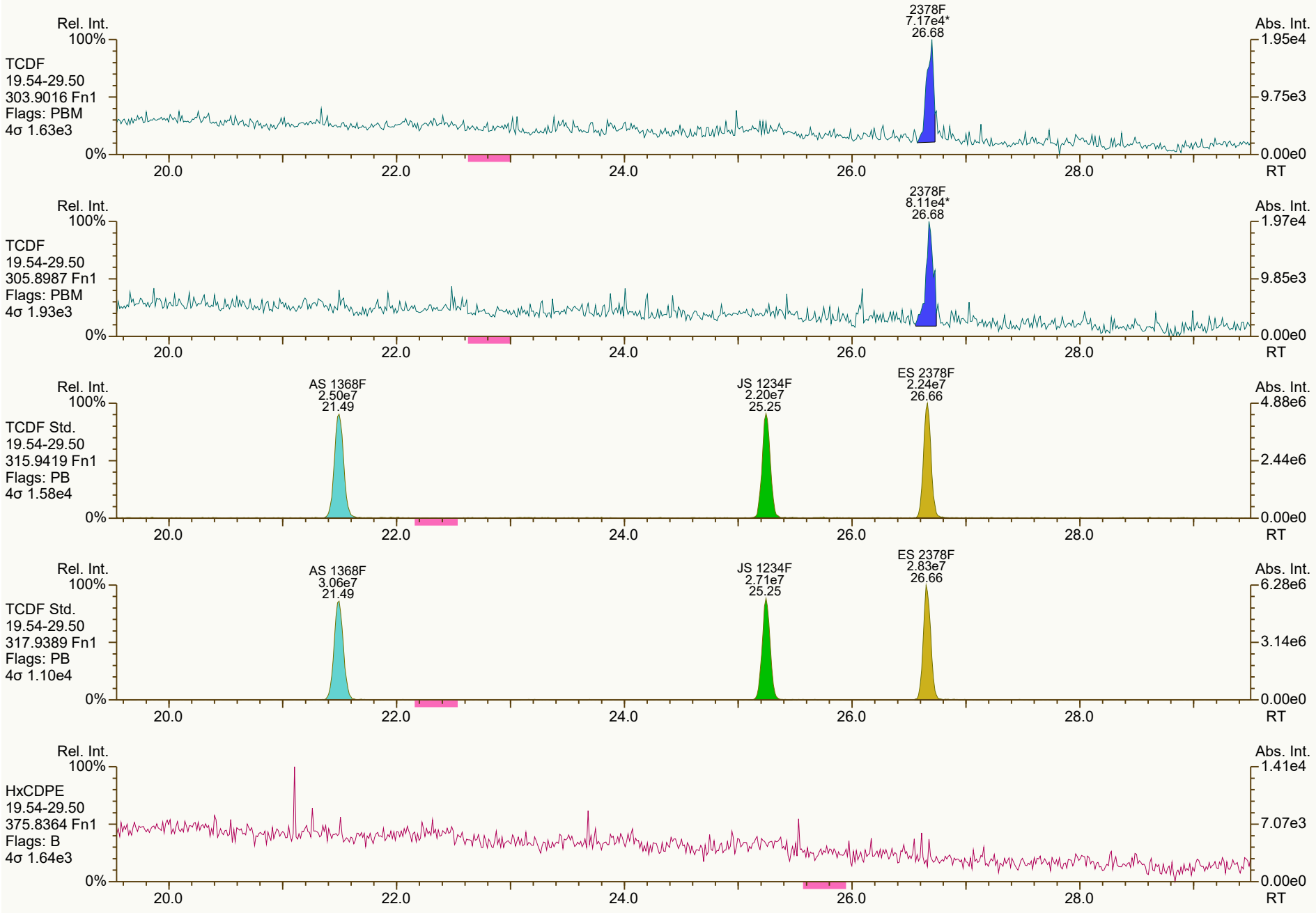

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

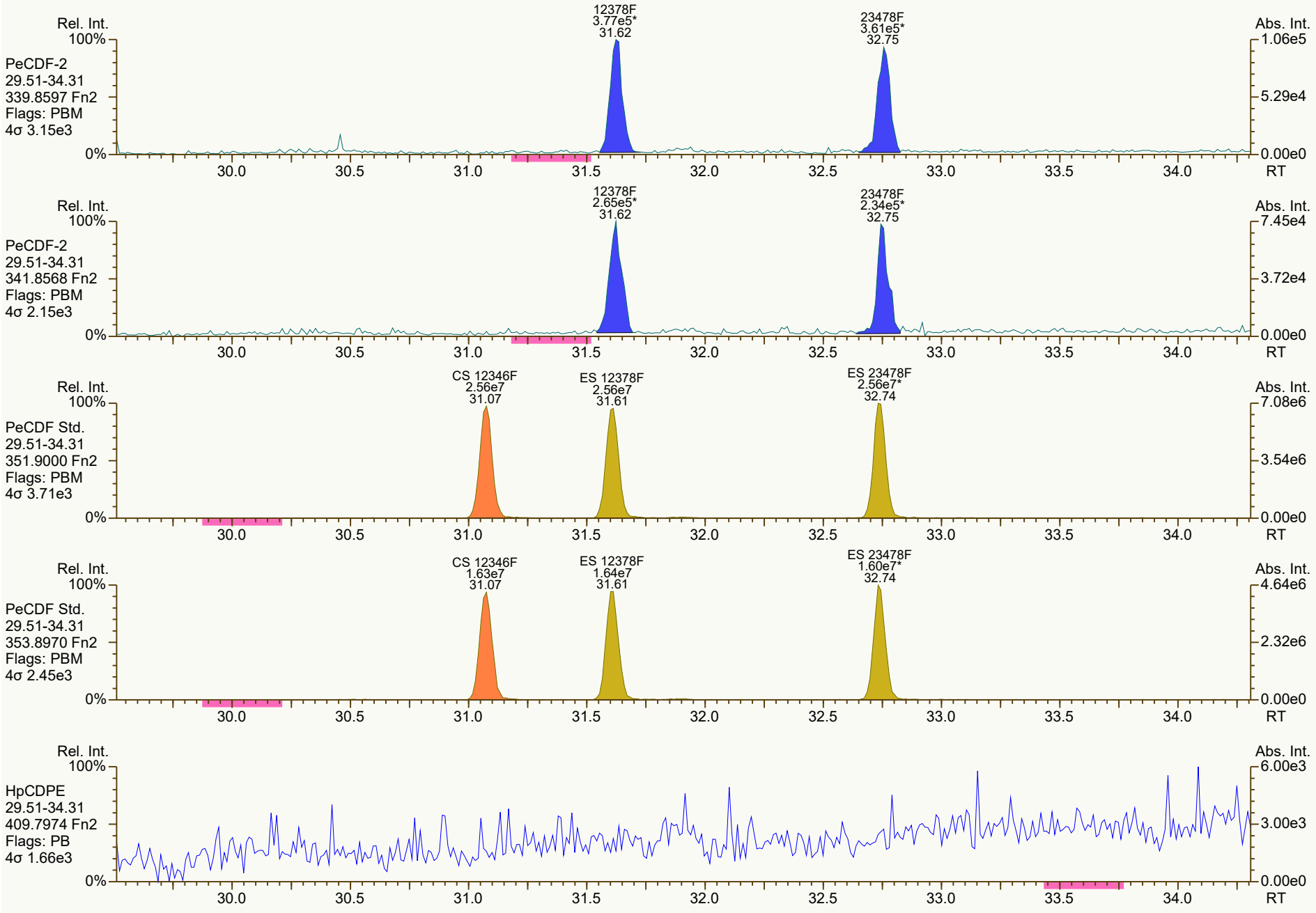
SGS ID: CS0_211110_DF_CA | Sample ID: 25-6-3 | Acq: 10-Nov-2021 11:02:13

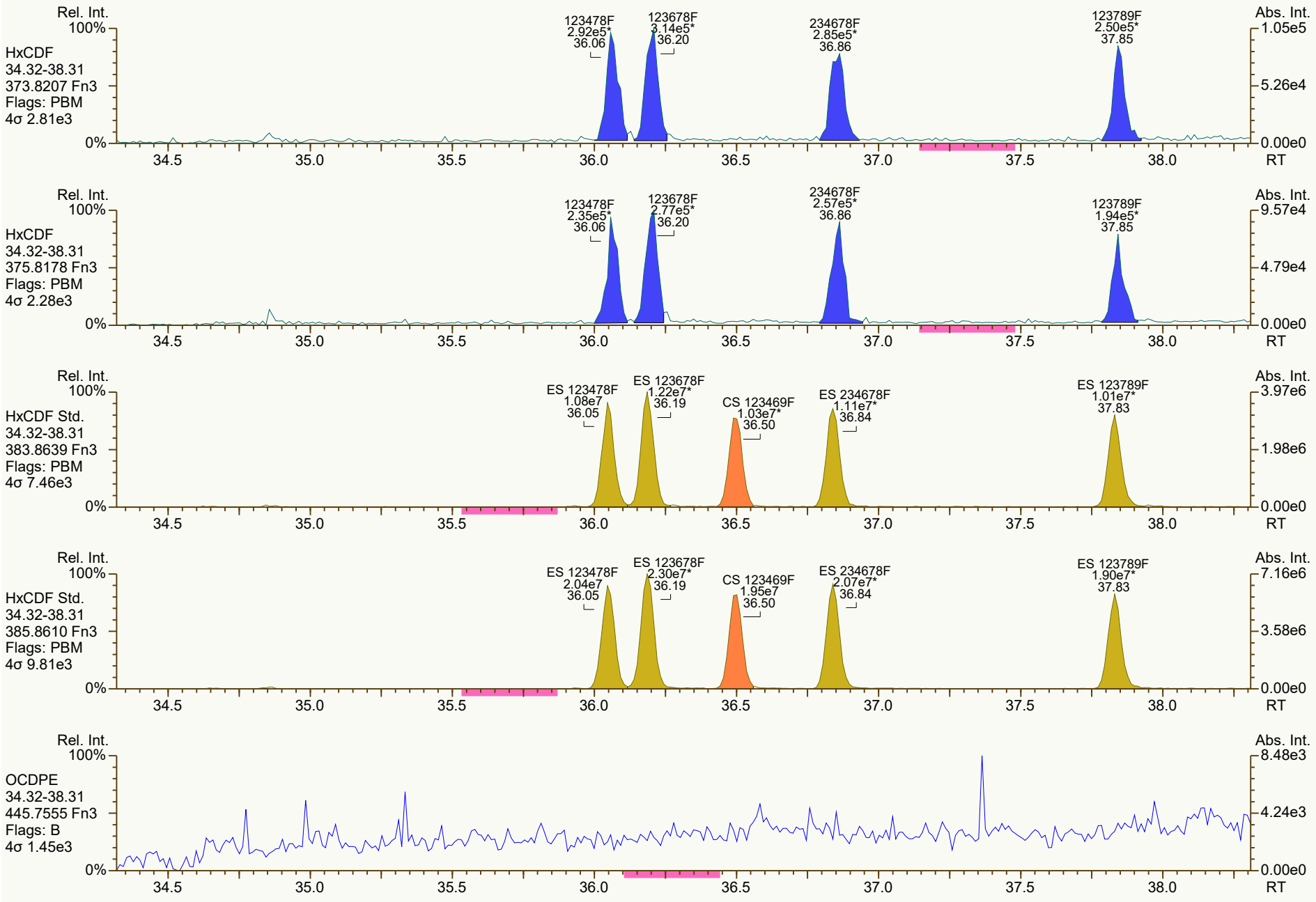
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65 | User: DTF Datafile: 211110C04

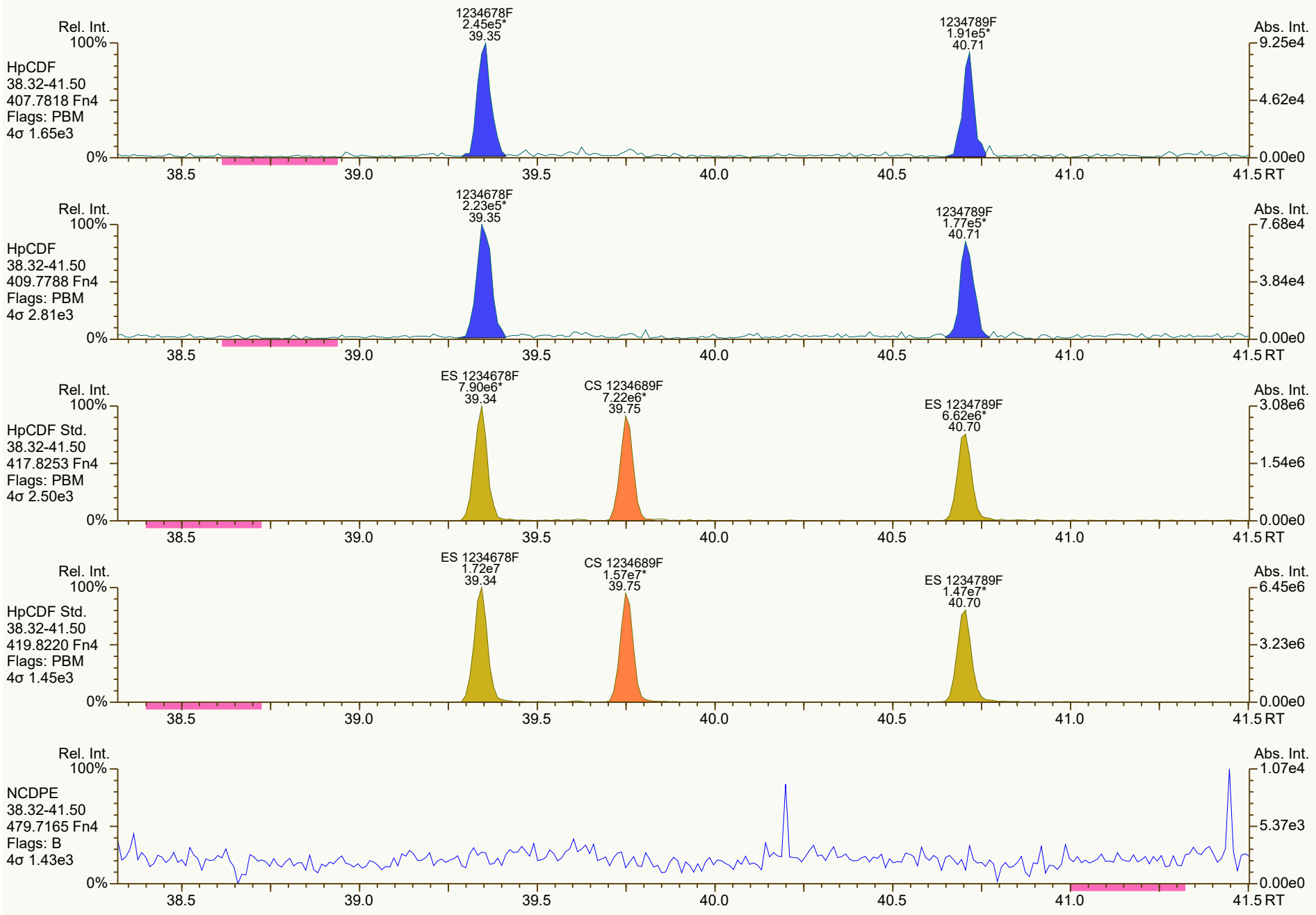


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007 *PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

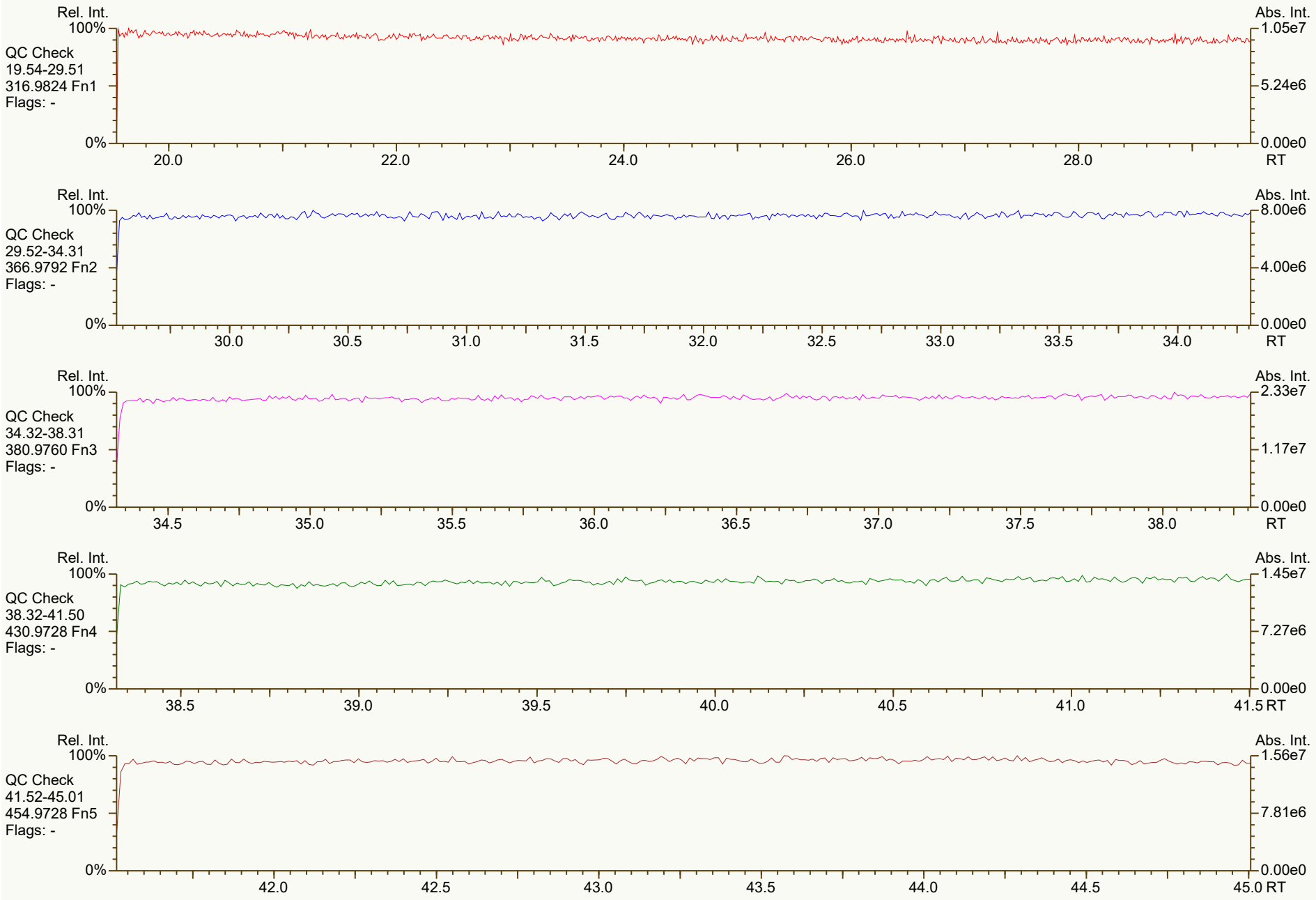

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

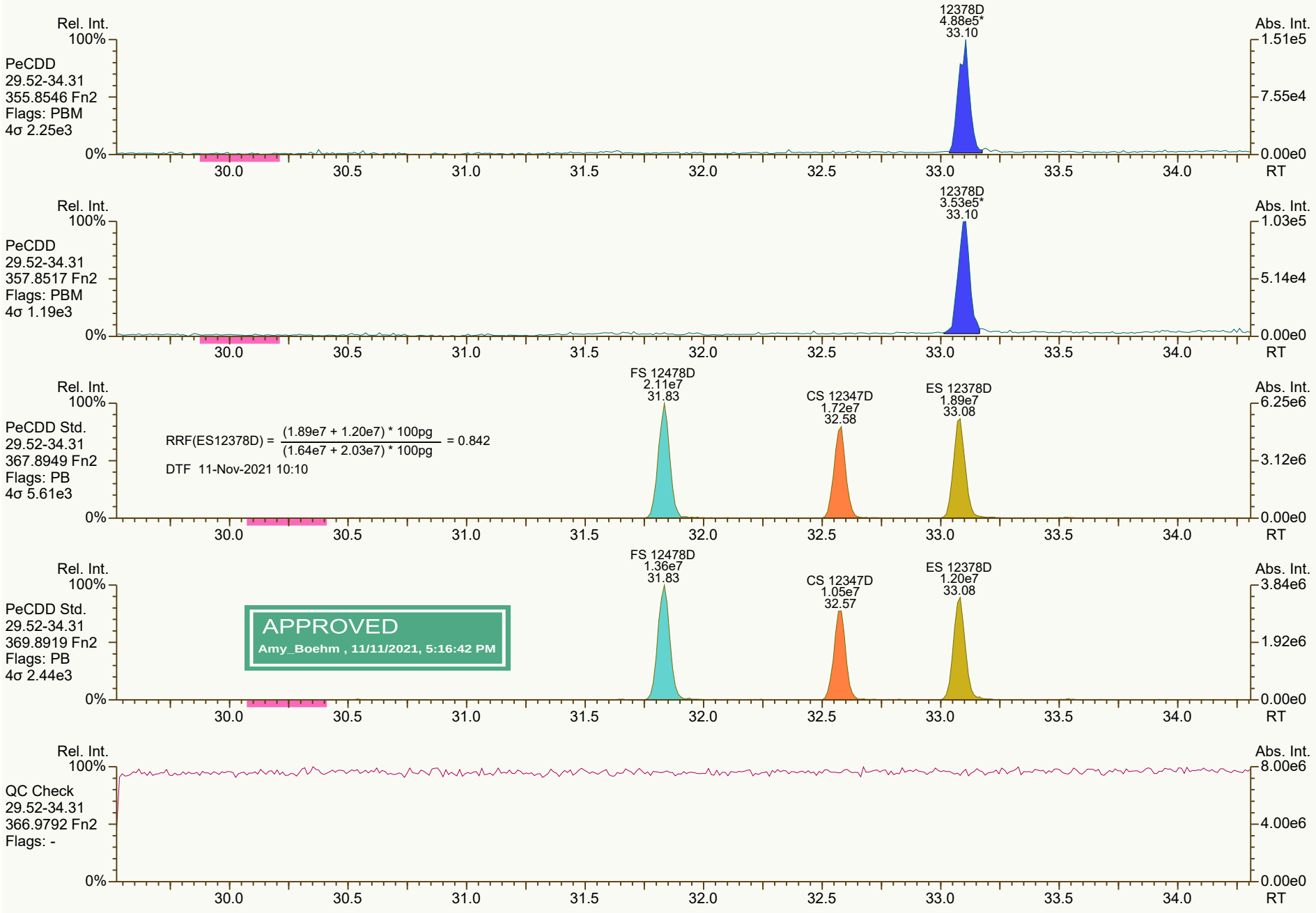
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

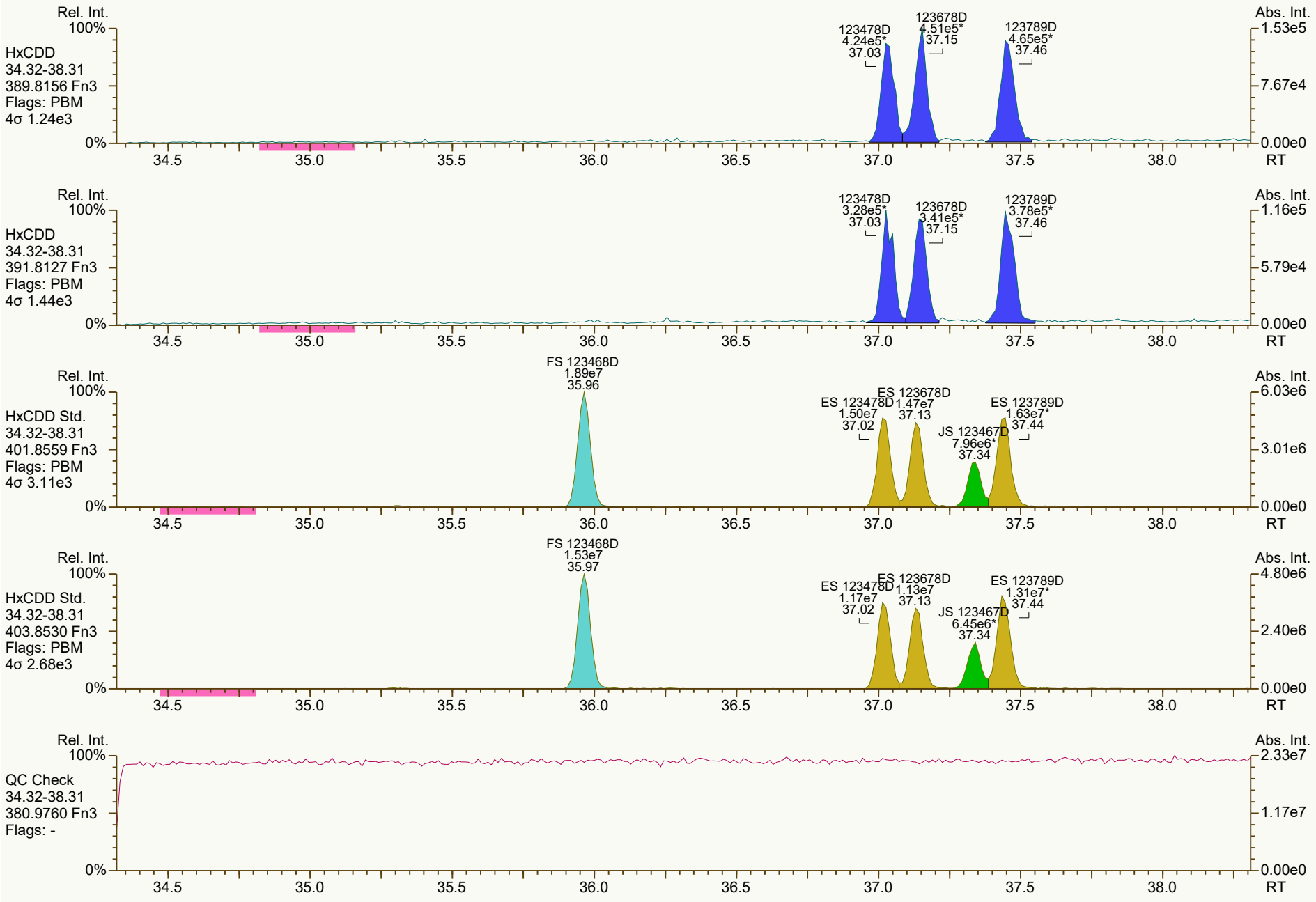
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

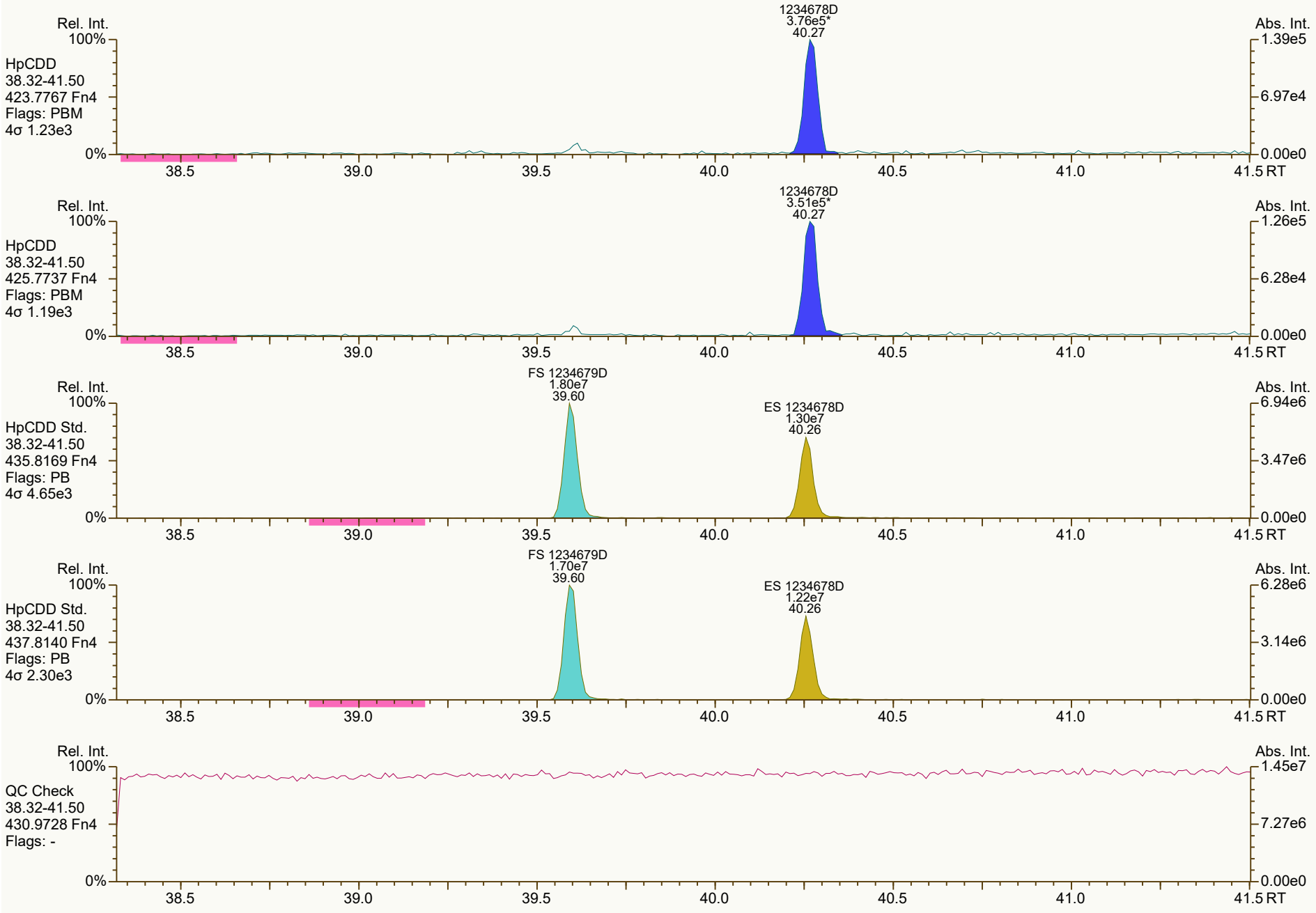


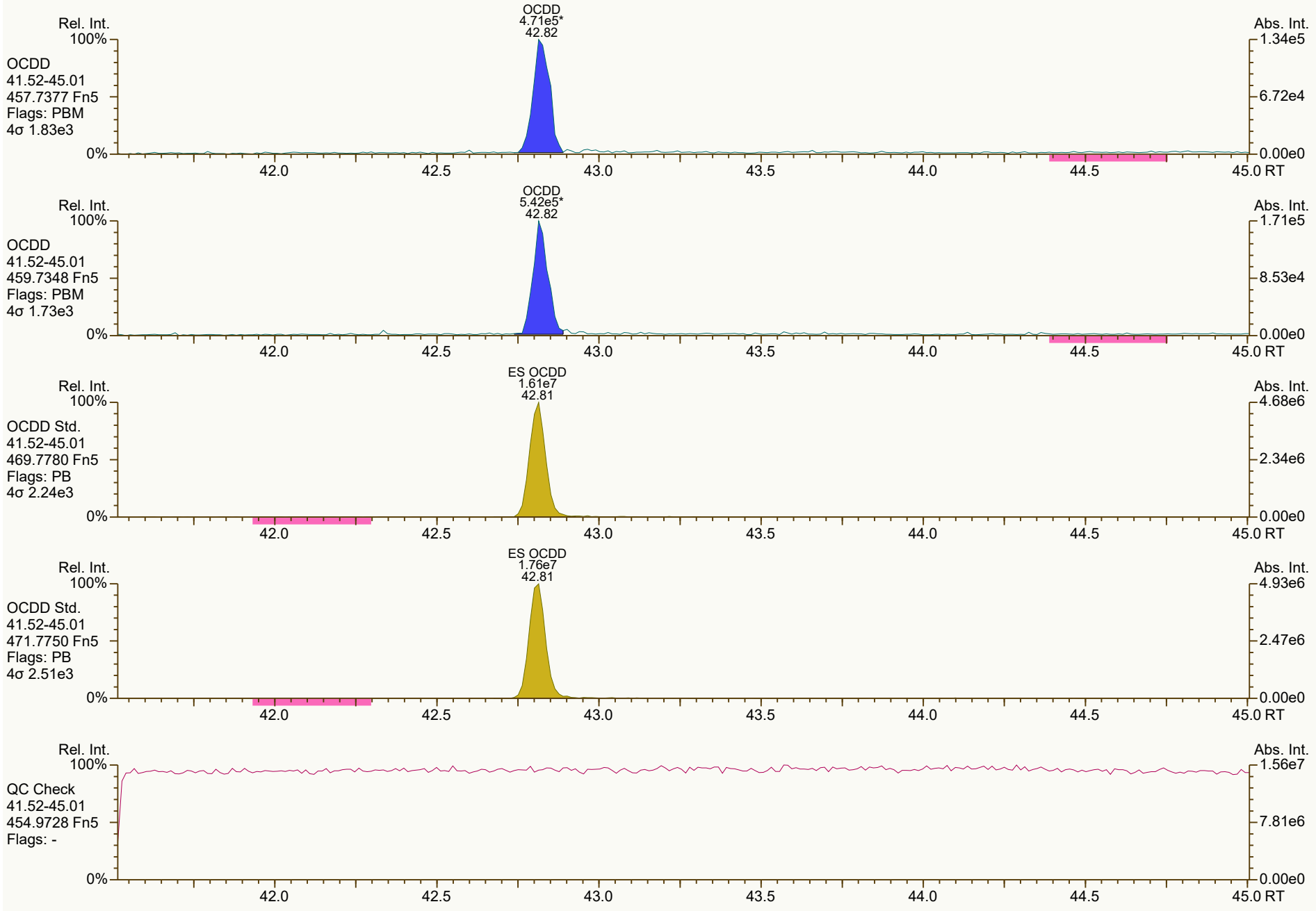
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

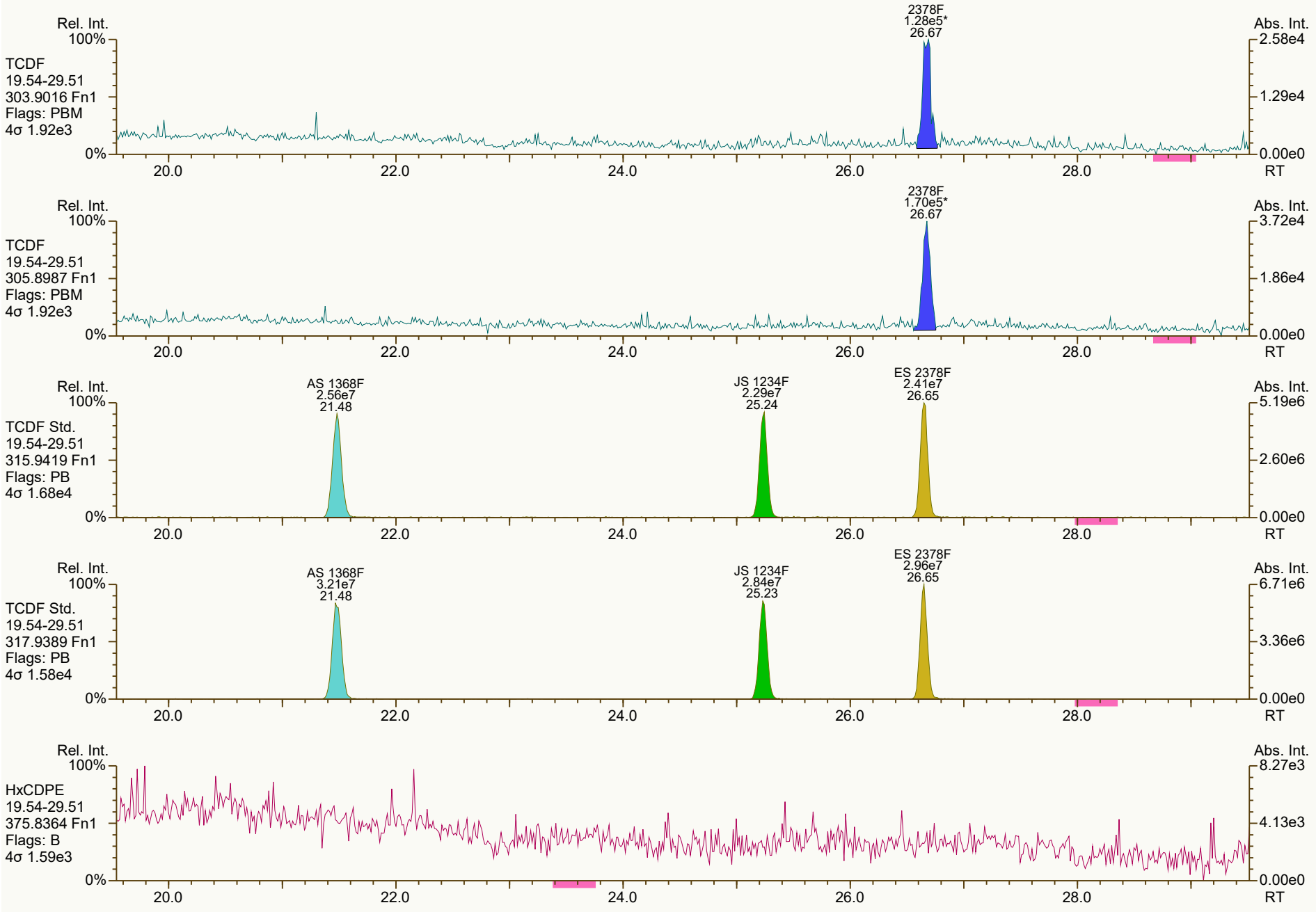

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

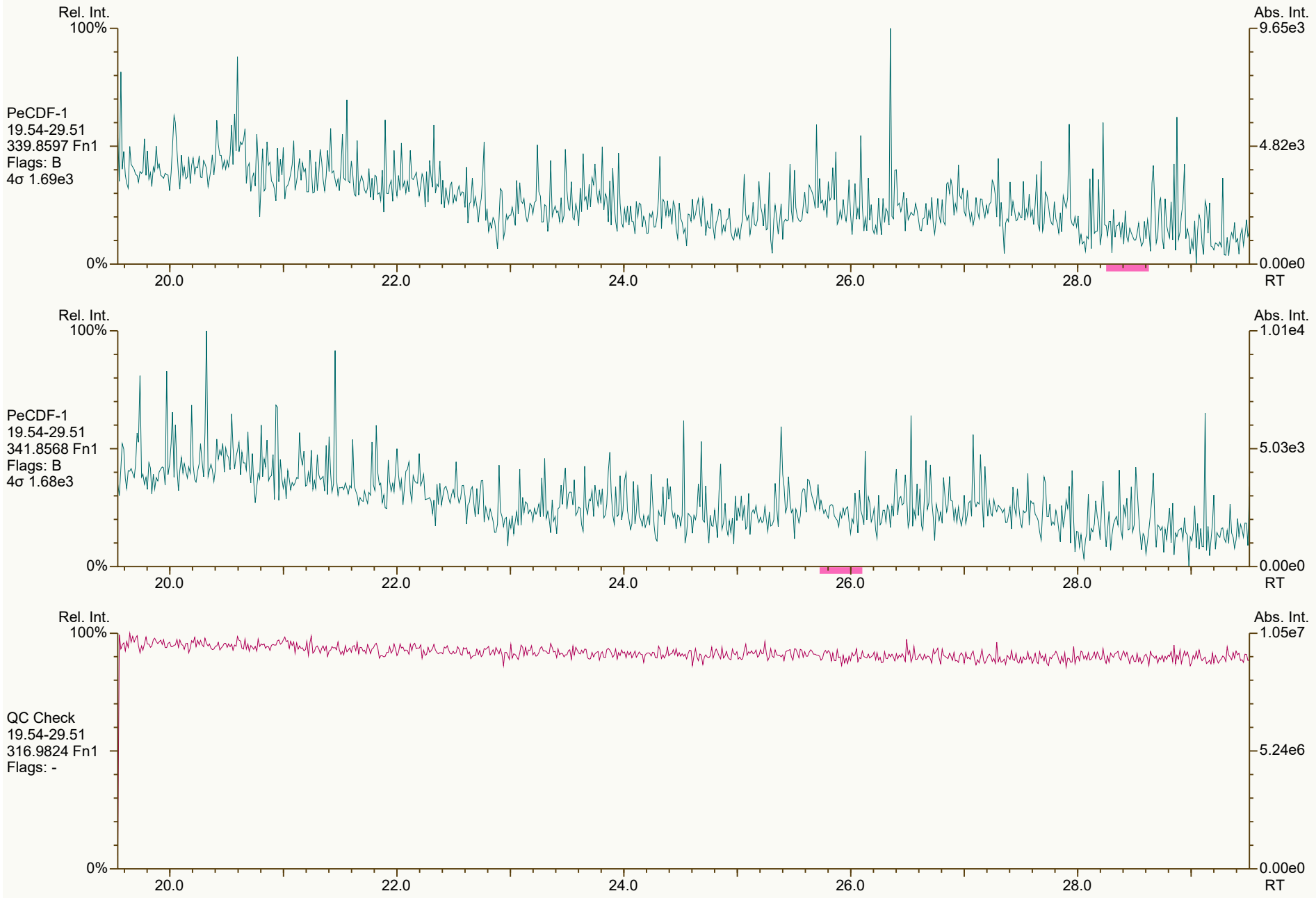

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

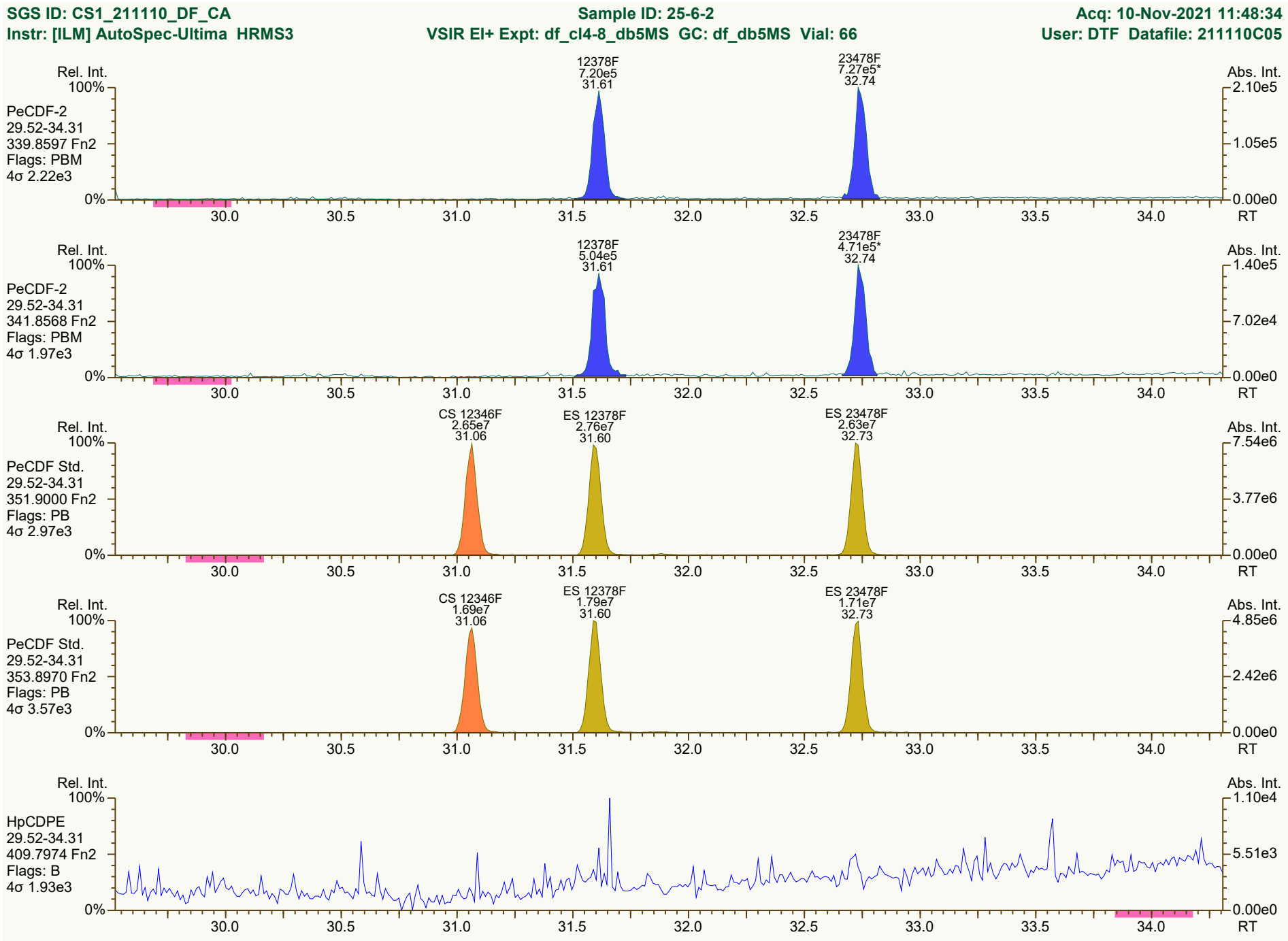

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

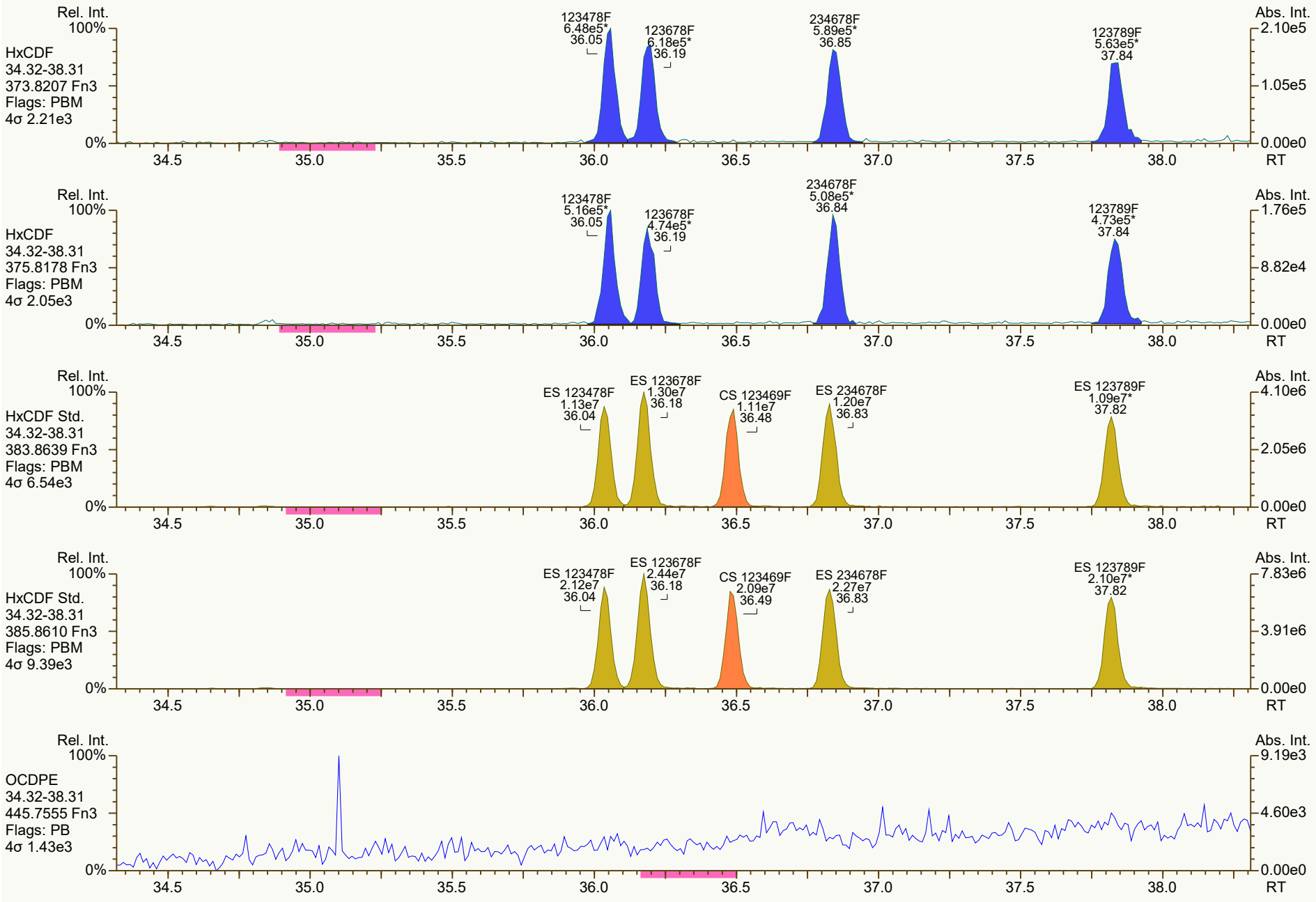

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

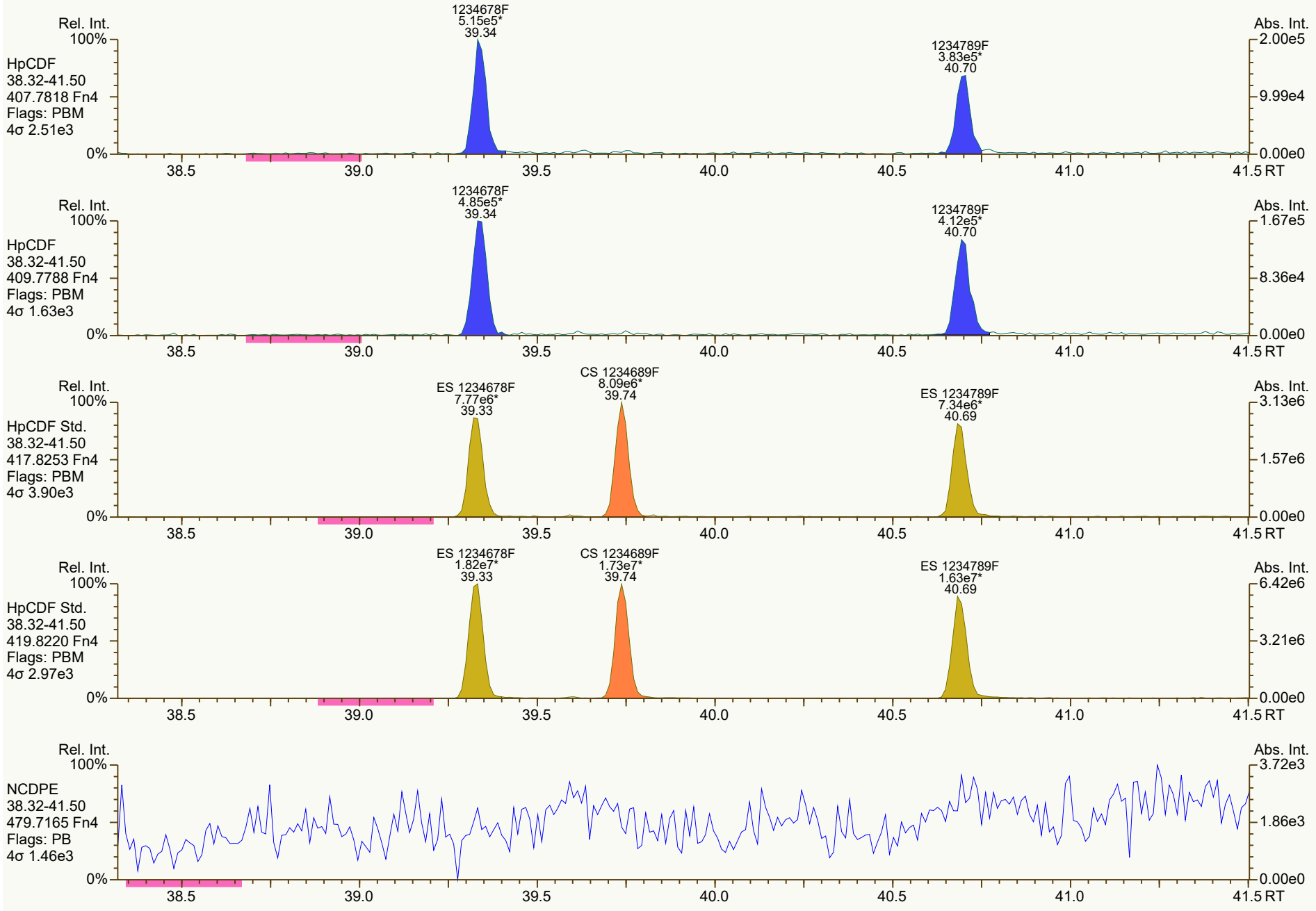

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

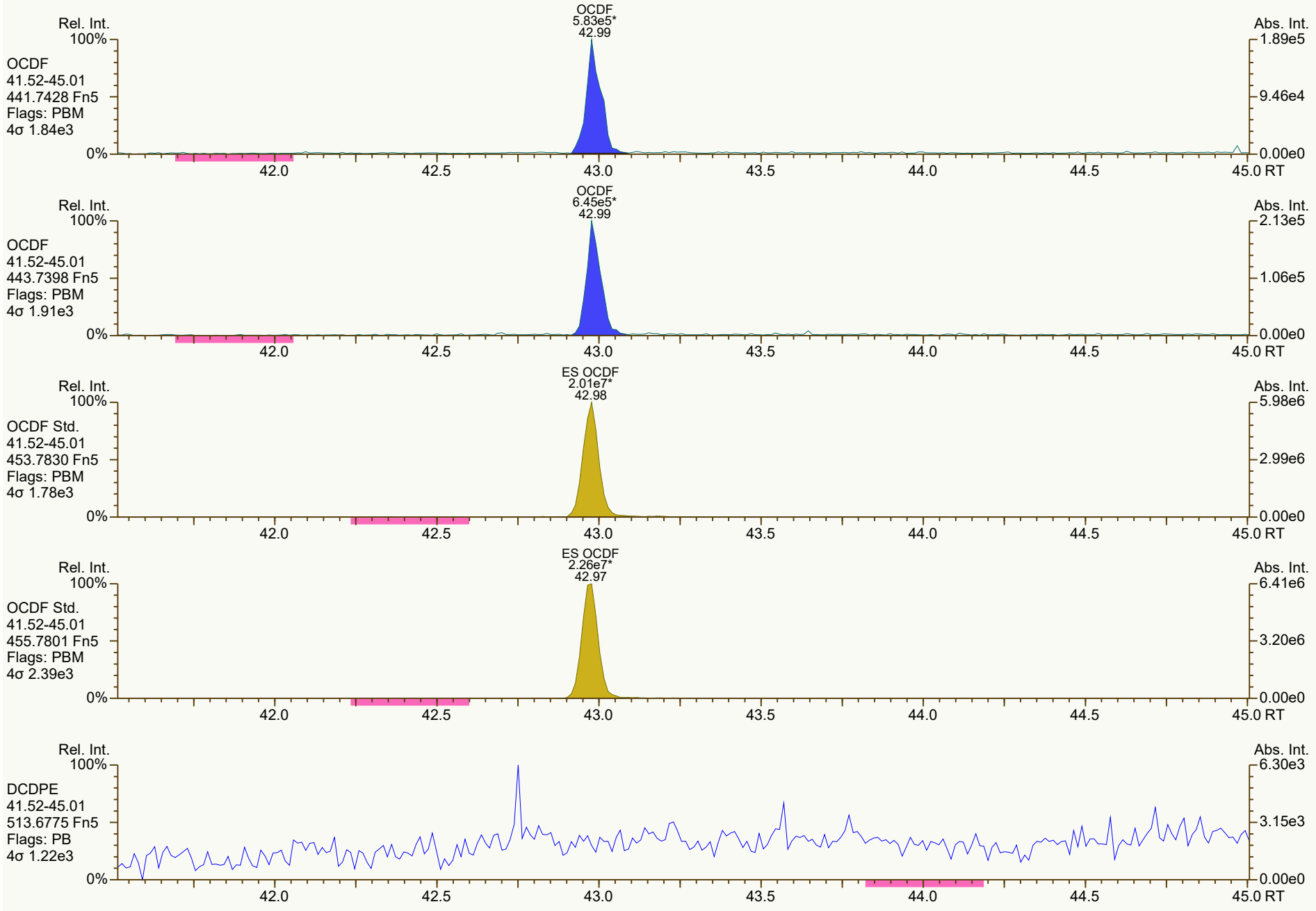

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

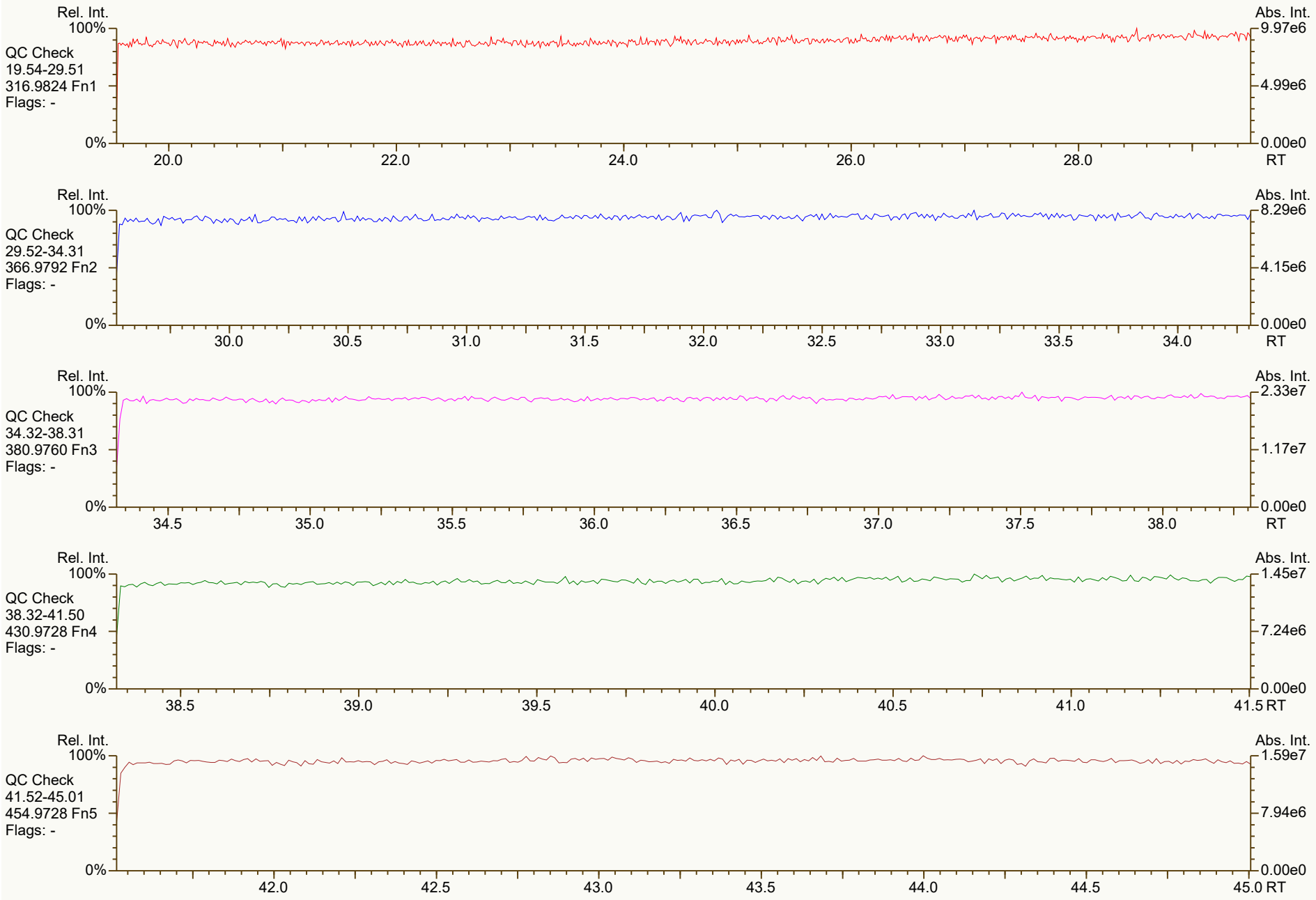

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

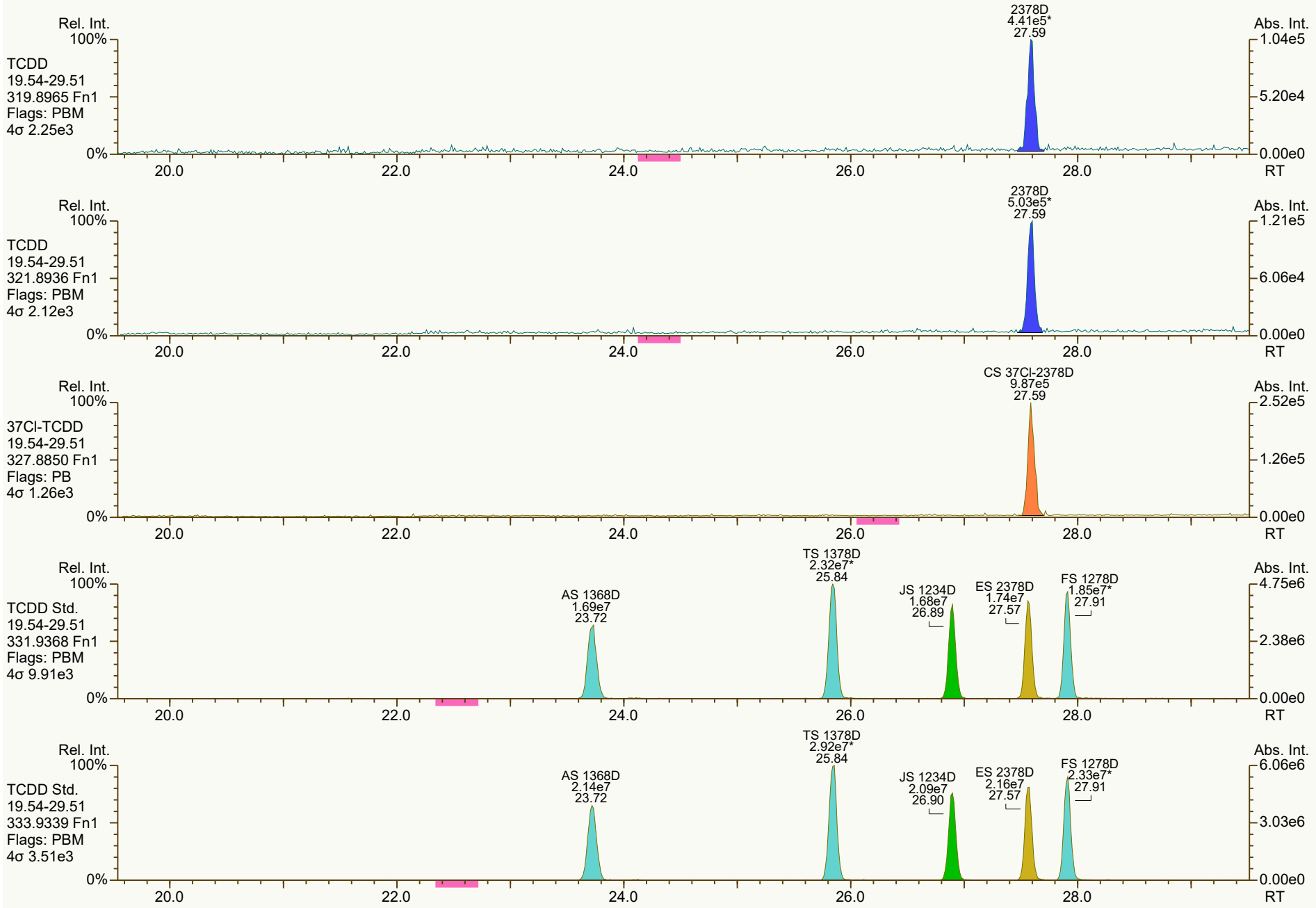
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

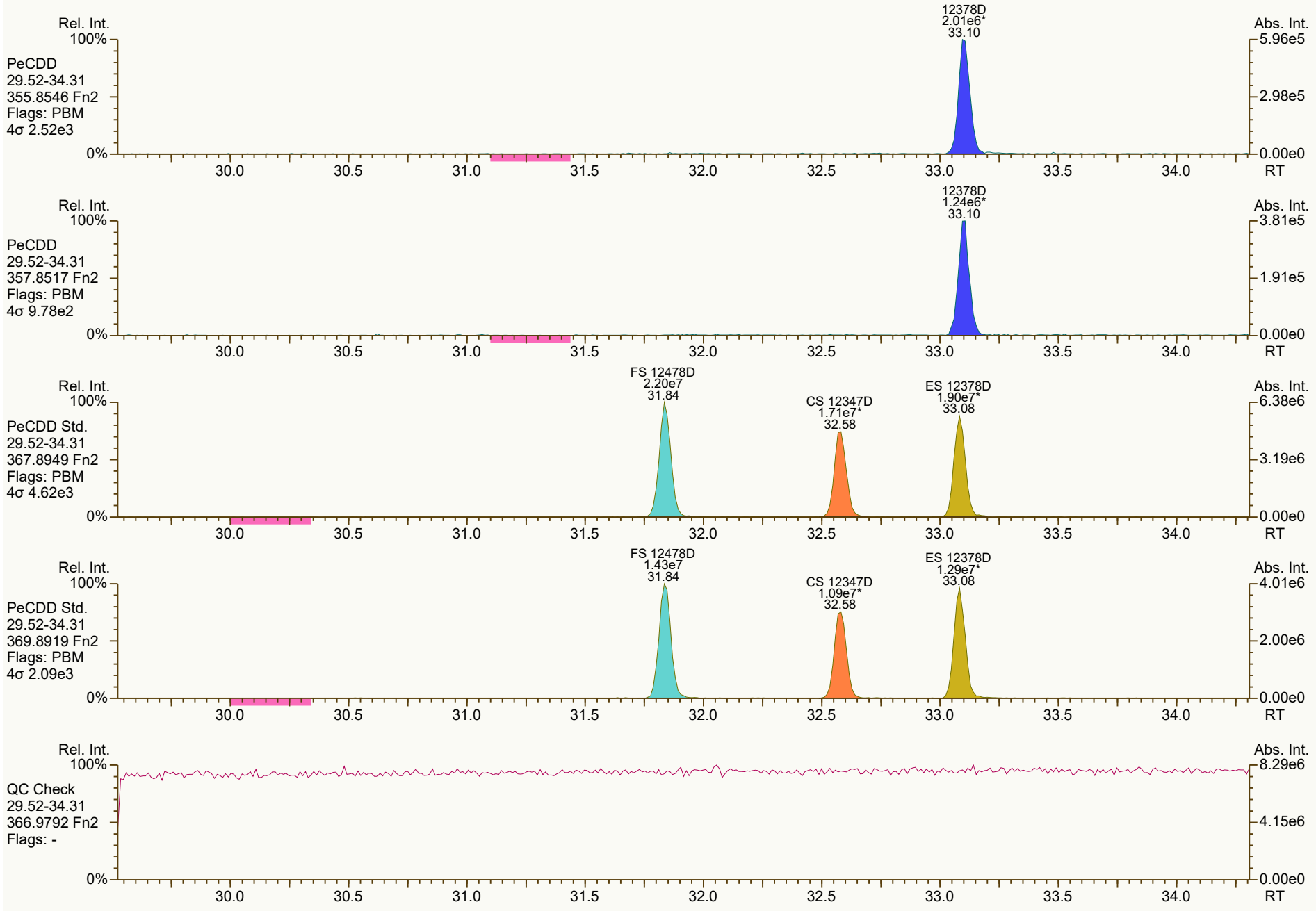
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

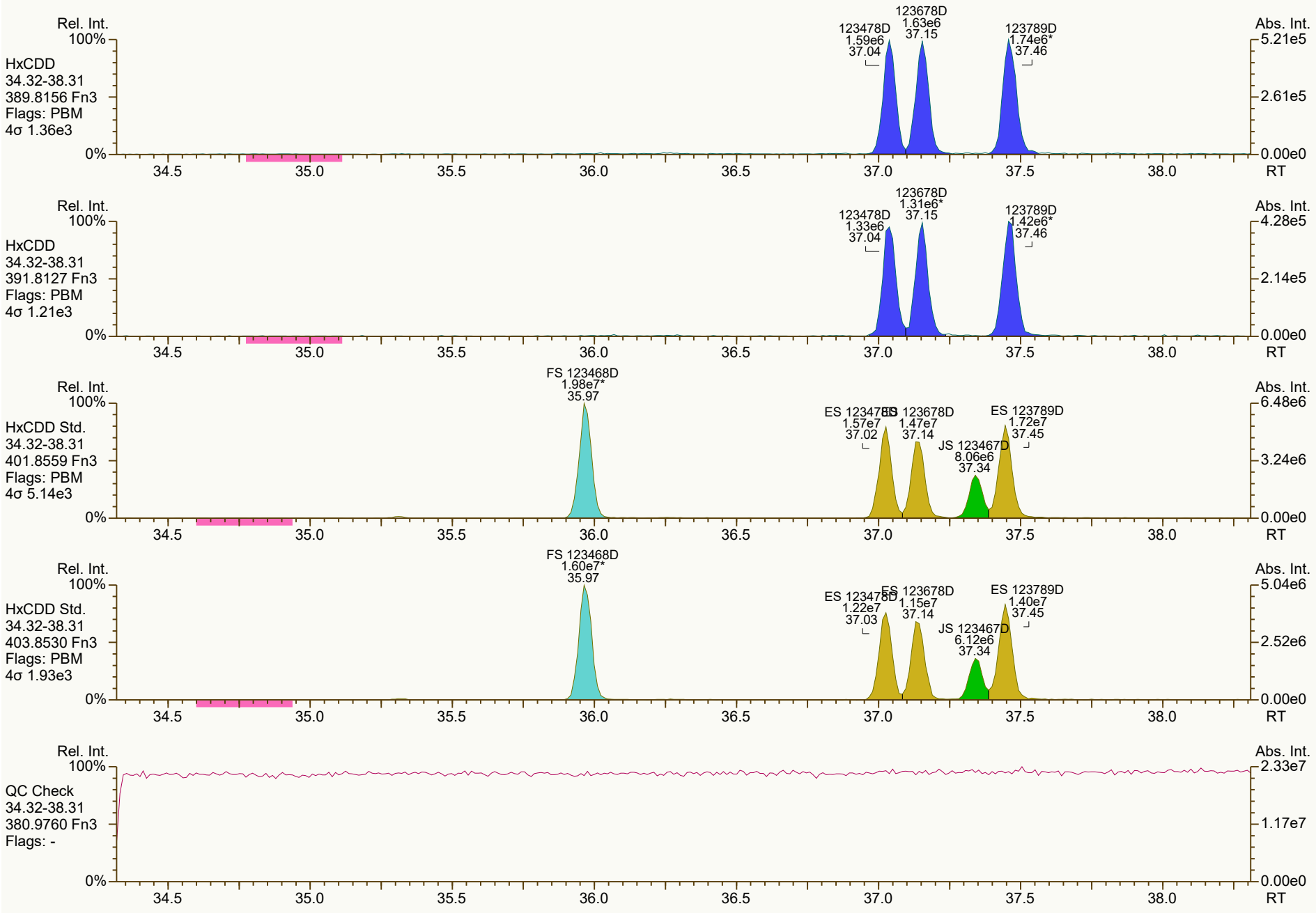
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

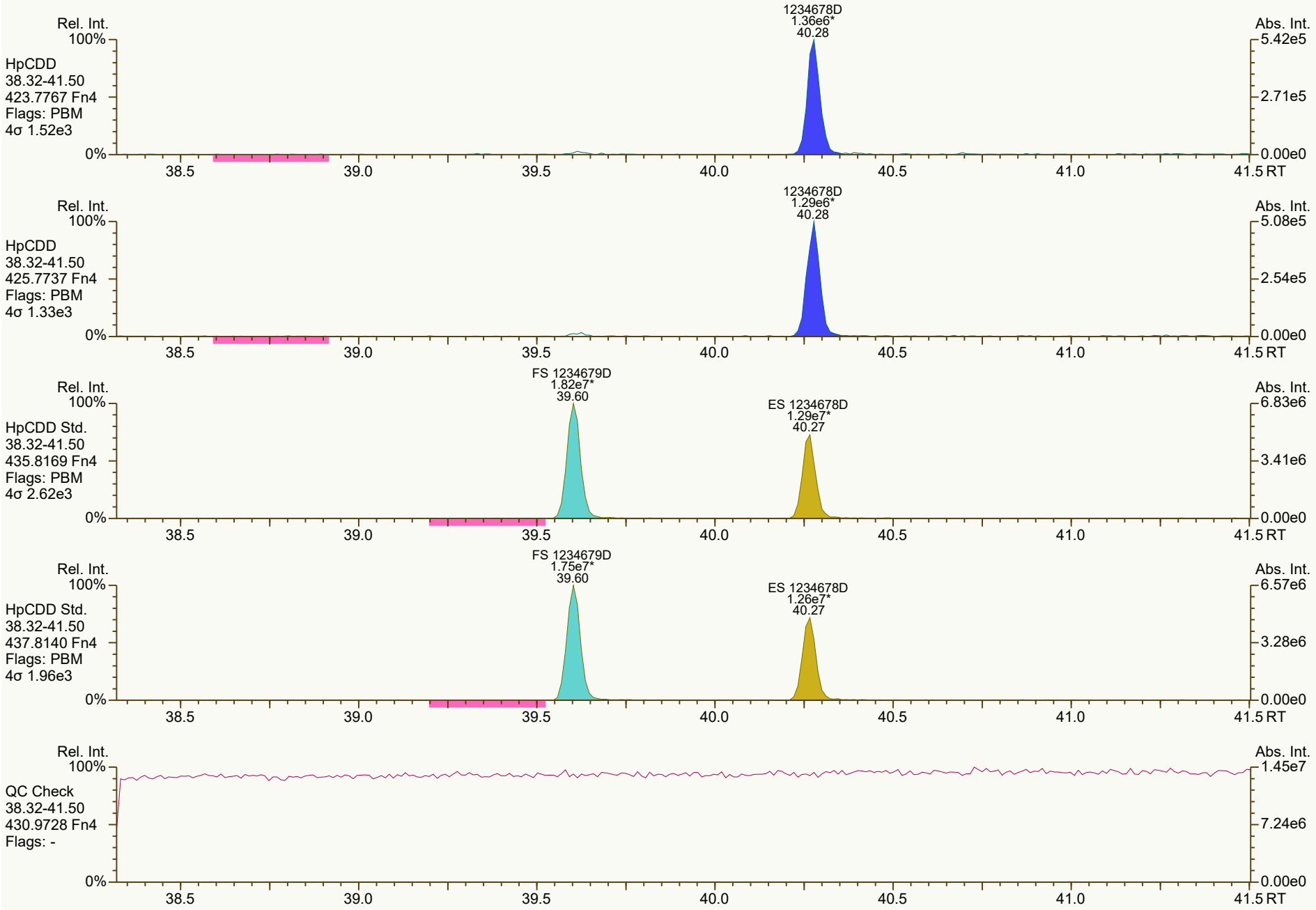
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

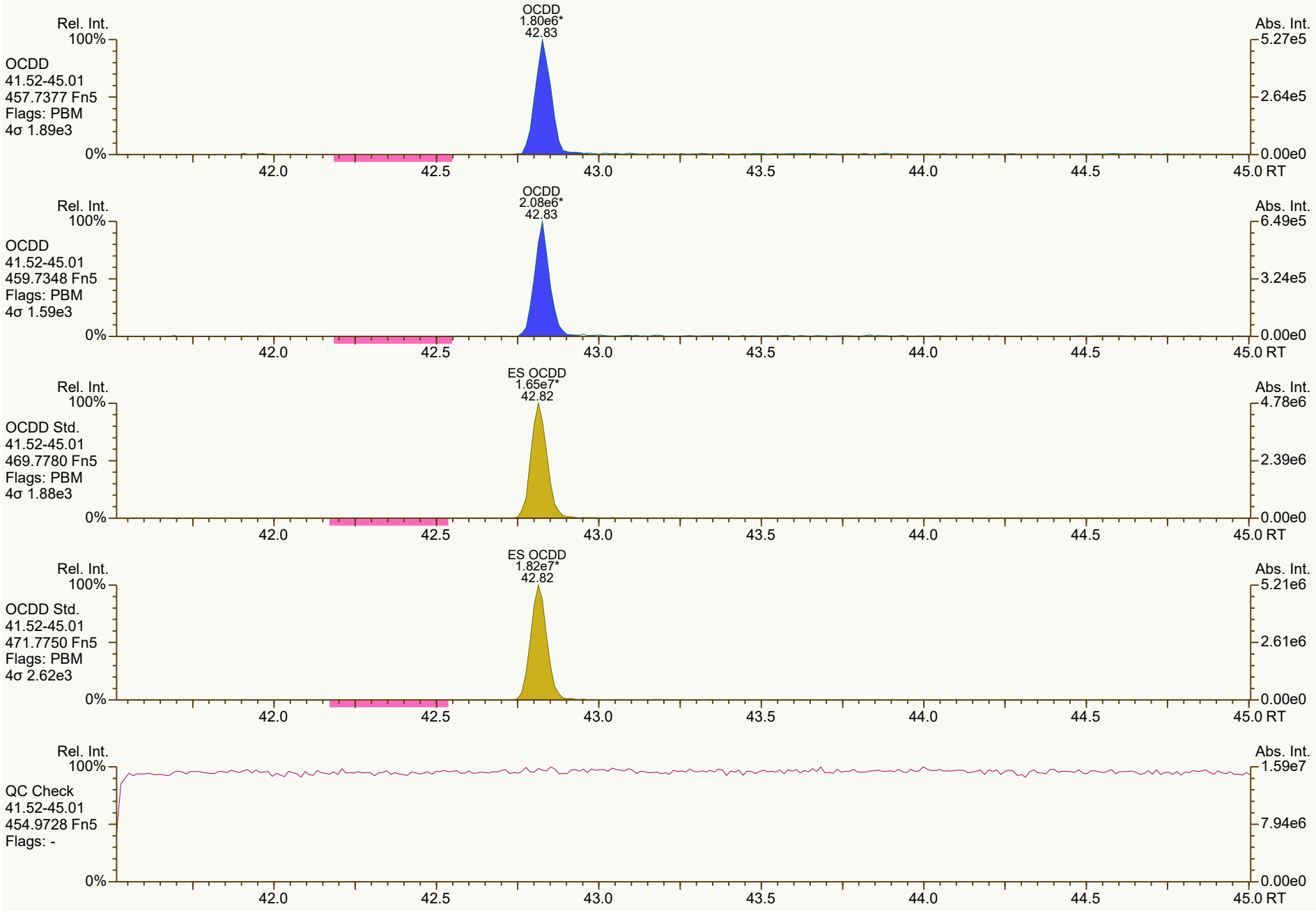

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

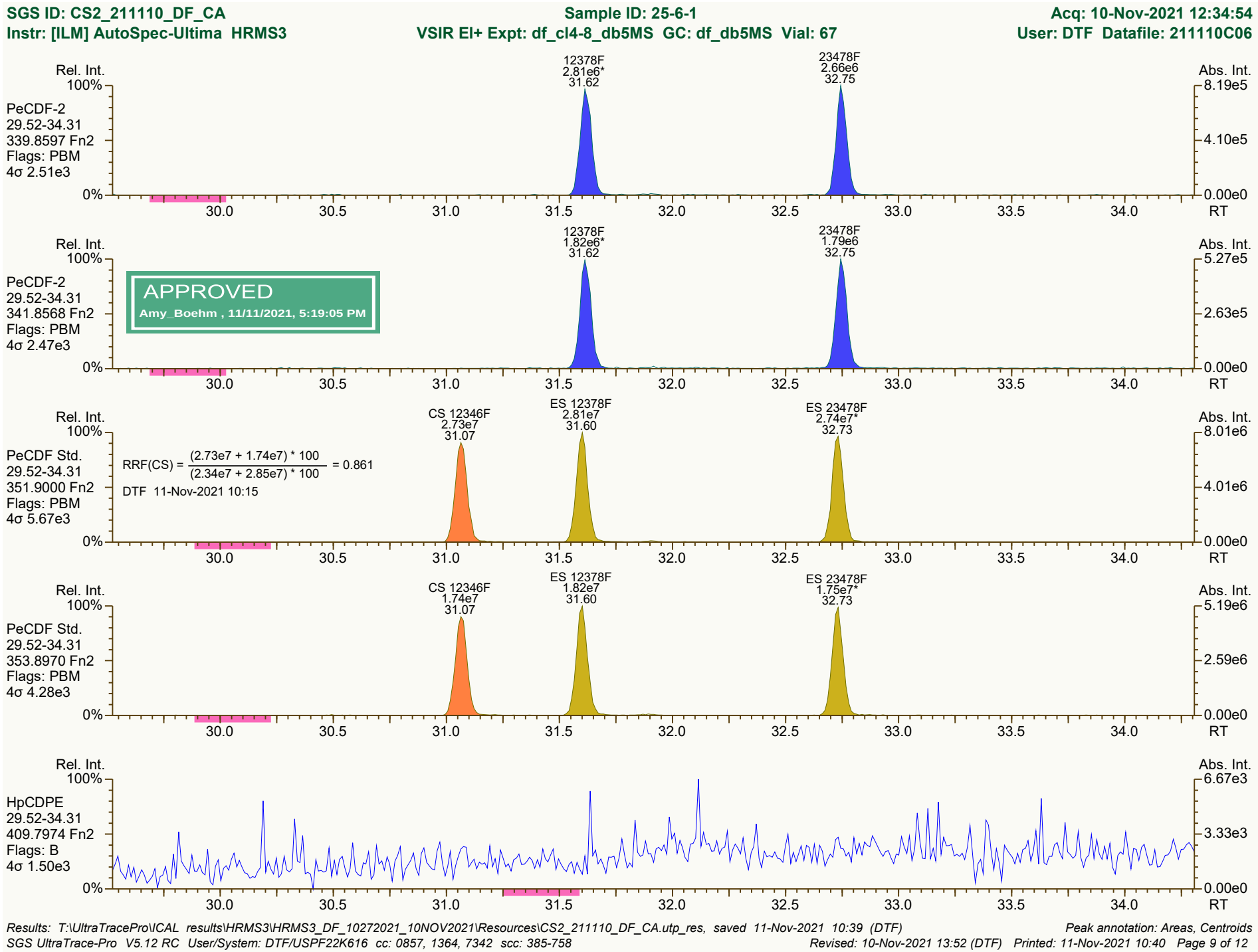

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

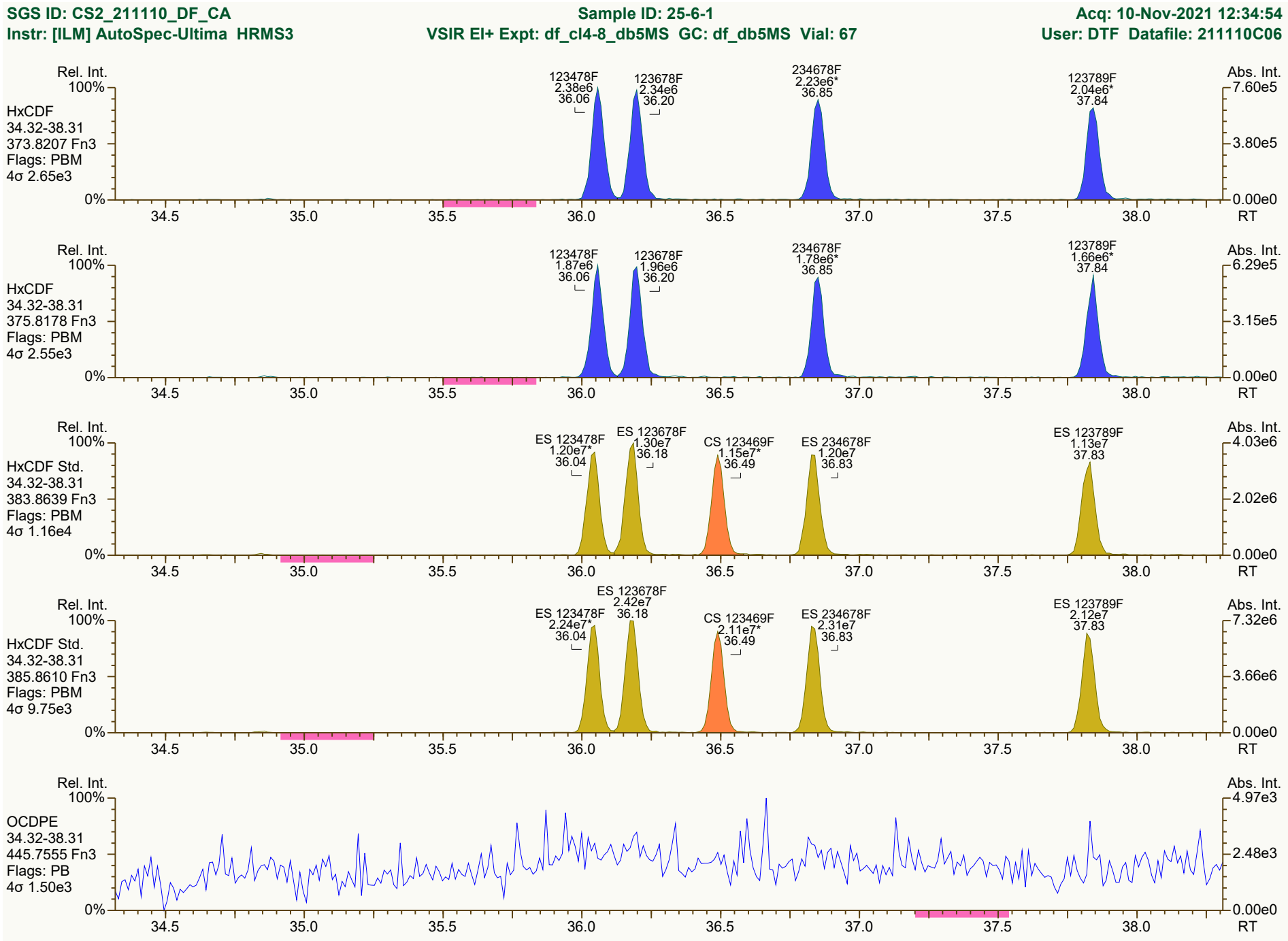

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

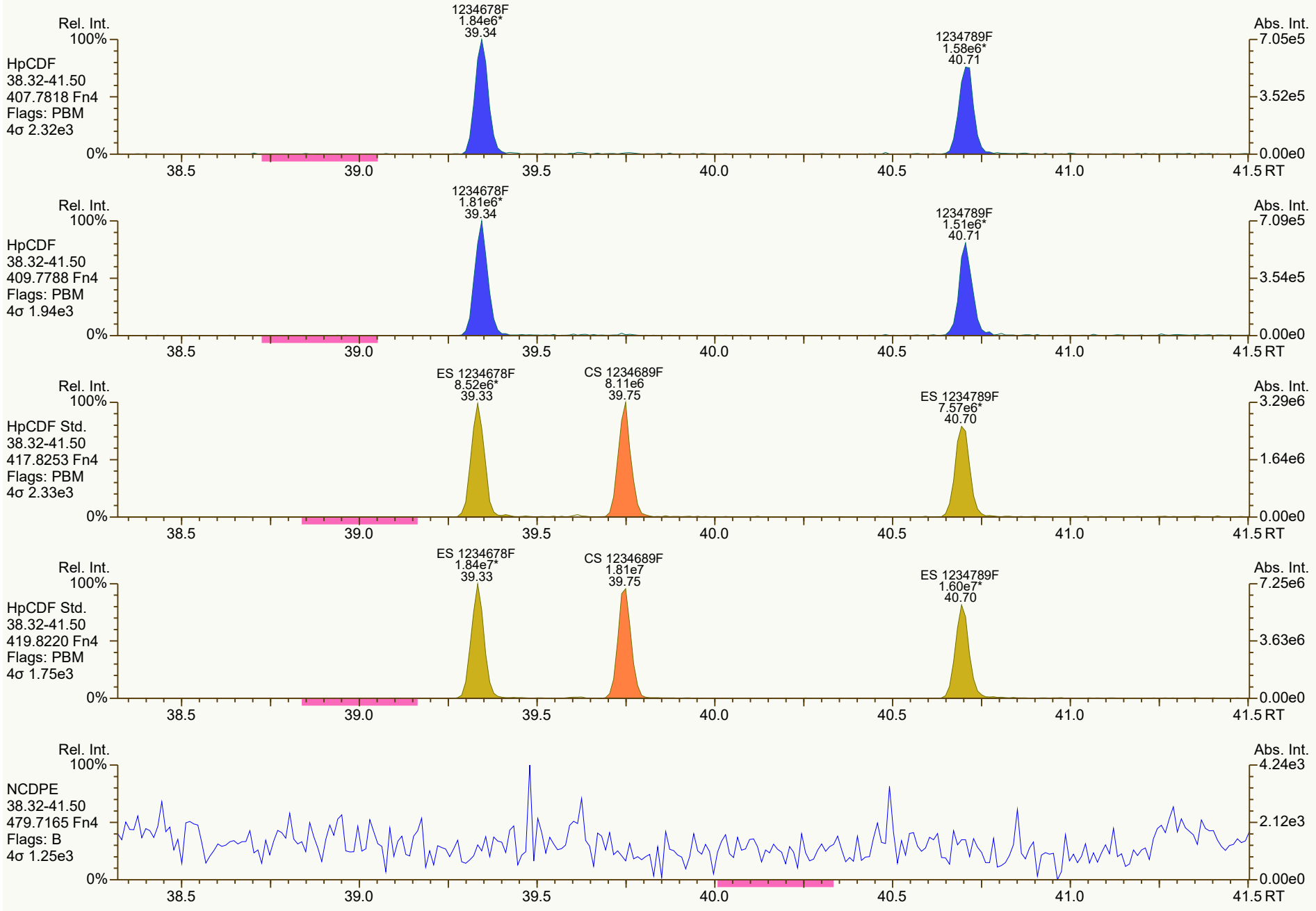

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

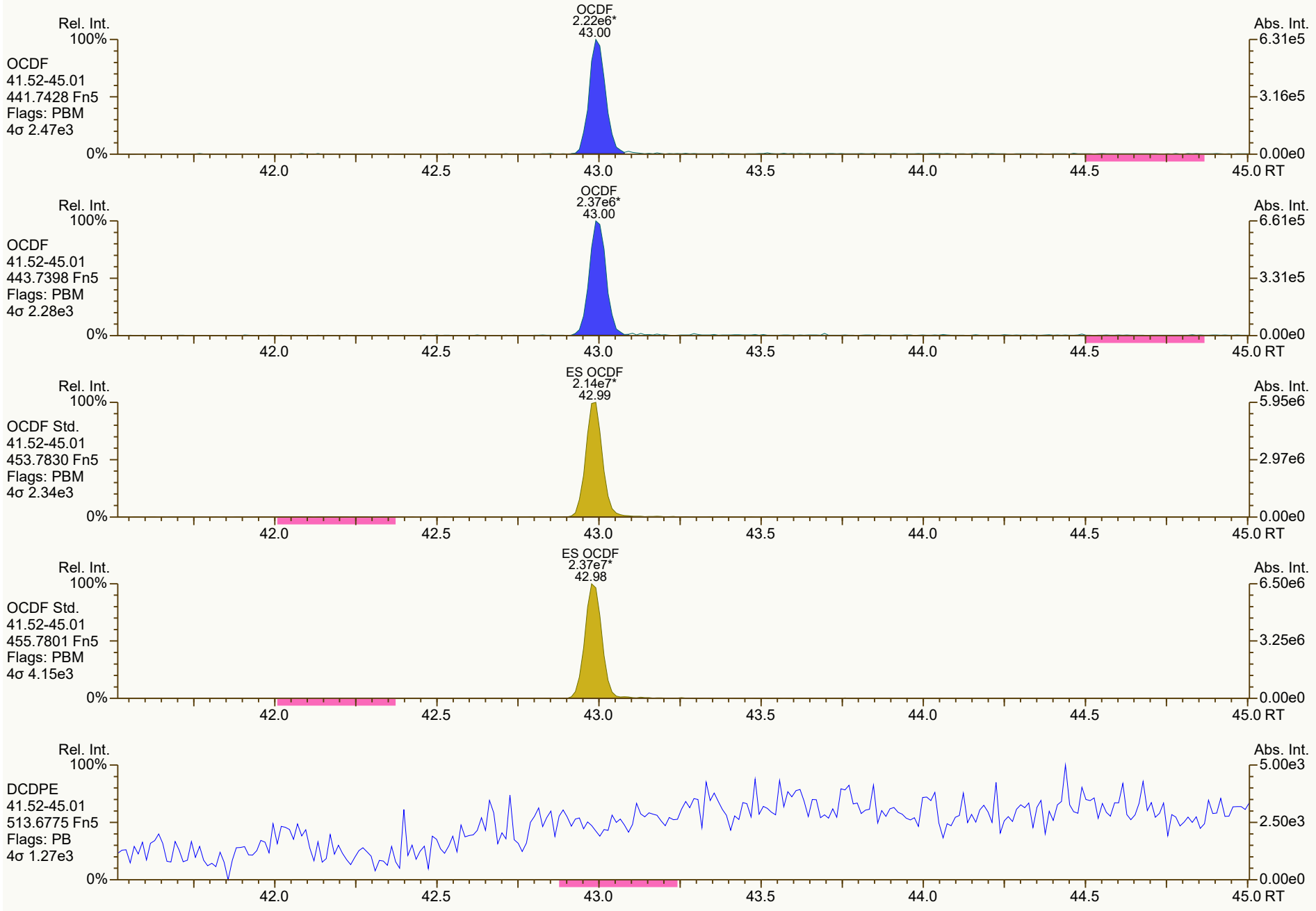

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
123478F 2.38e6 36.06
123678F 2.34e6 36.20
234678F 2.23e6* 36.85
123789F 2.04e6* 37.84
7.60e5
3.80e5
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F 1.87e6 36.06
123678F 1.96e6 36.20
234678F 1.78e6* 36.85
123789F 1.66e6* 37.84
6.29e5
3.15e5
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F 1.20e7* 36.04
ES 123678F 1.30e7 36.18
CS 123469F 1.15e7* 36.49
ES 234678F 1.20e7 36.83
ES 123789F 1.13e7 37.83
4.03e6
2.02e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F 2.24e7* 36.04
ES 123678F 2.42e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.31e7 36.83
ES 123789F 2.12e7 37.83
7.32e6
3.66e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12

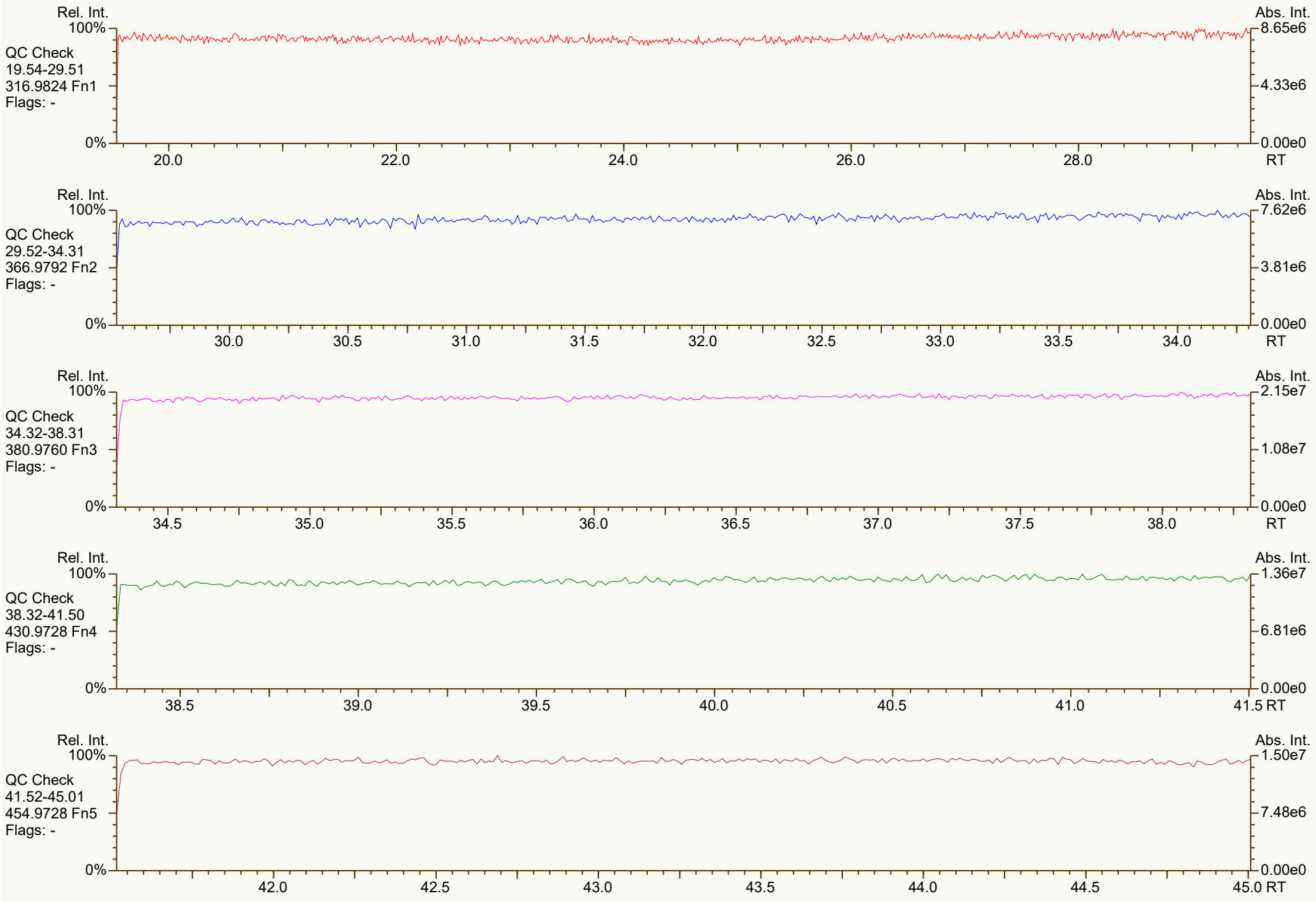

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

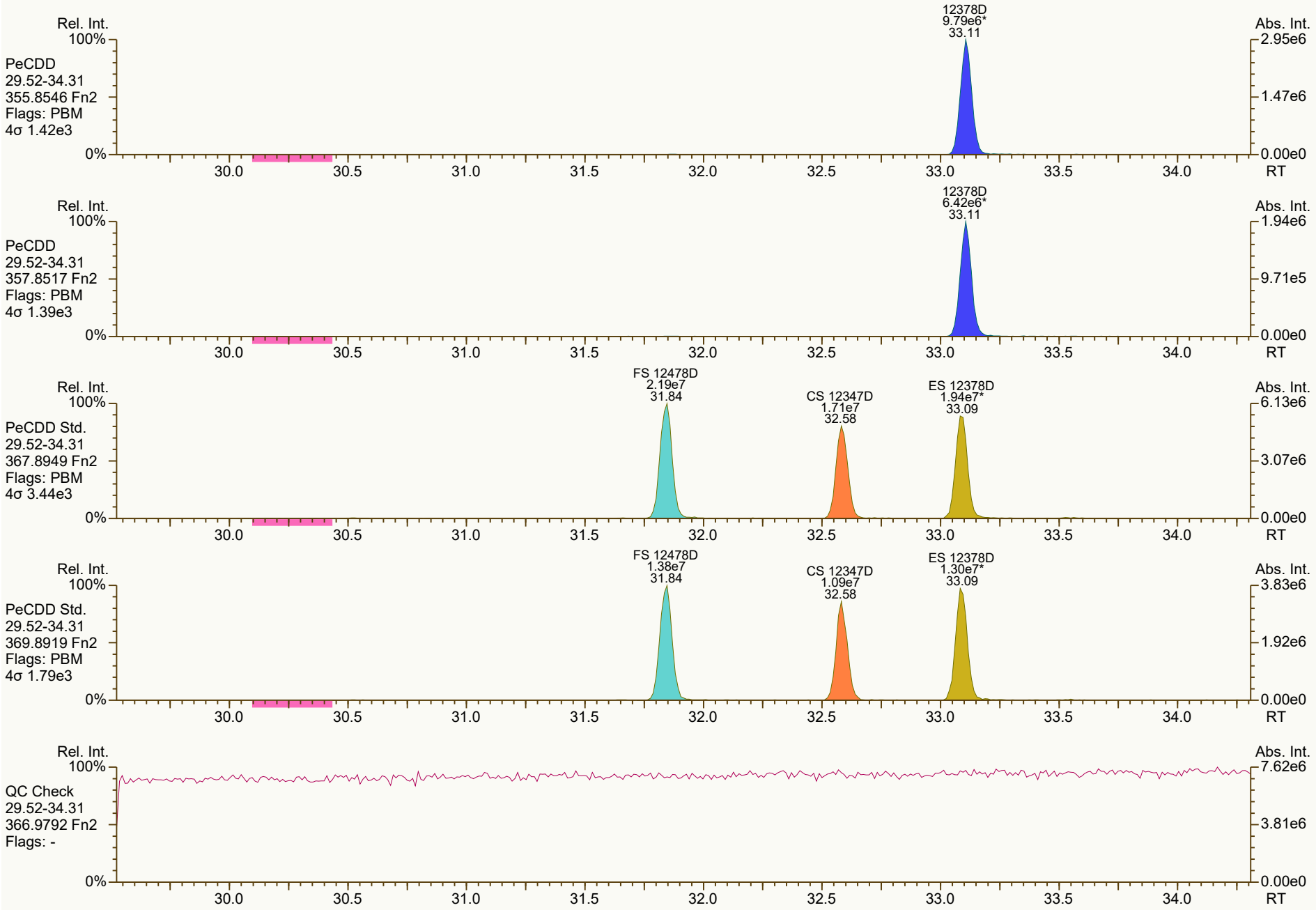
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

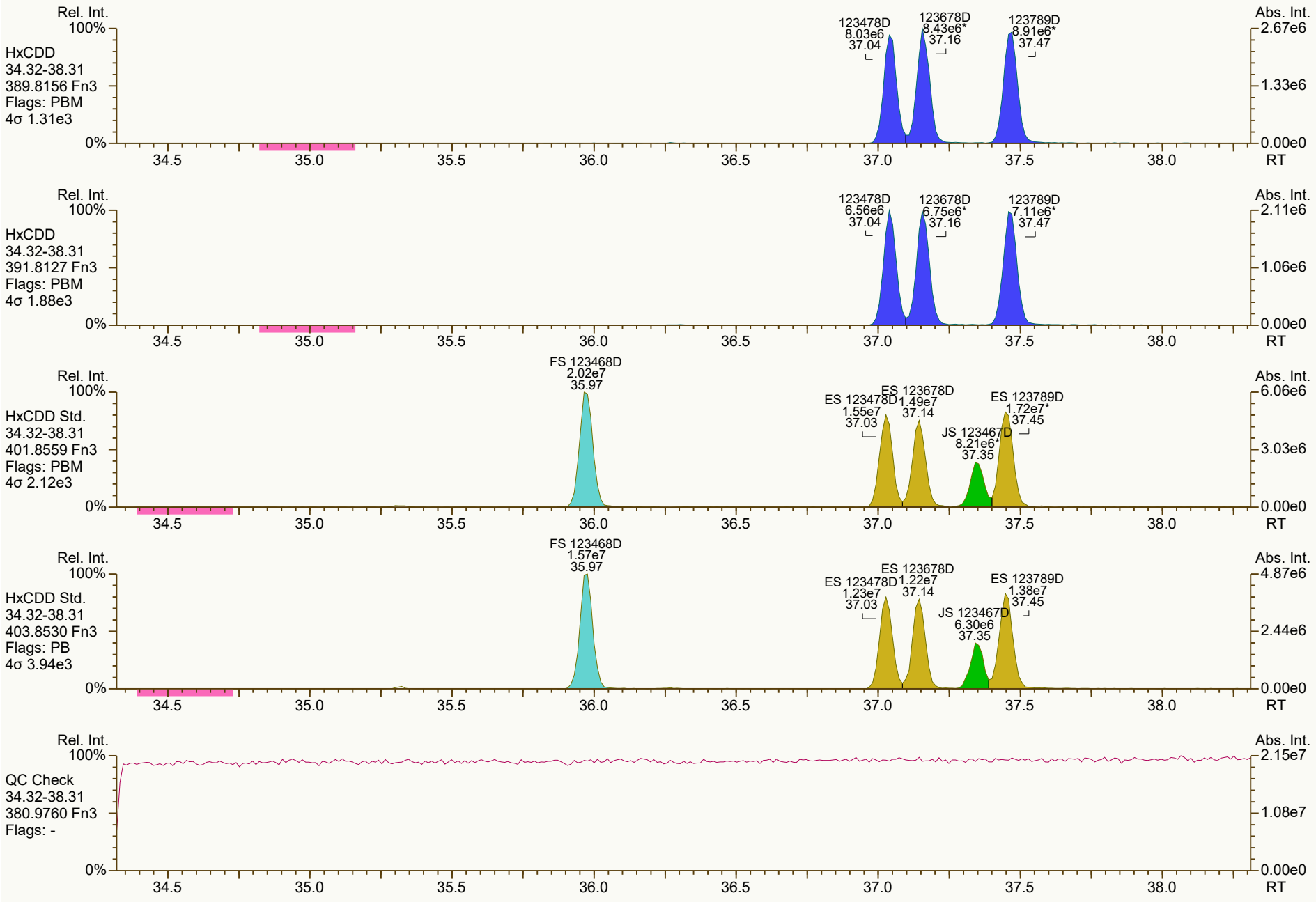
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

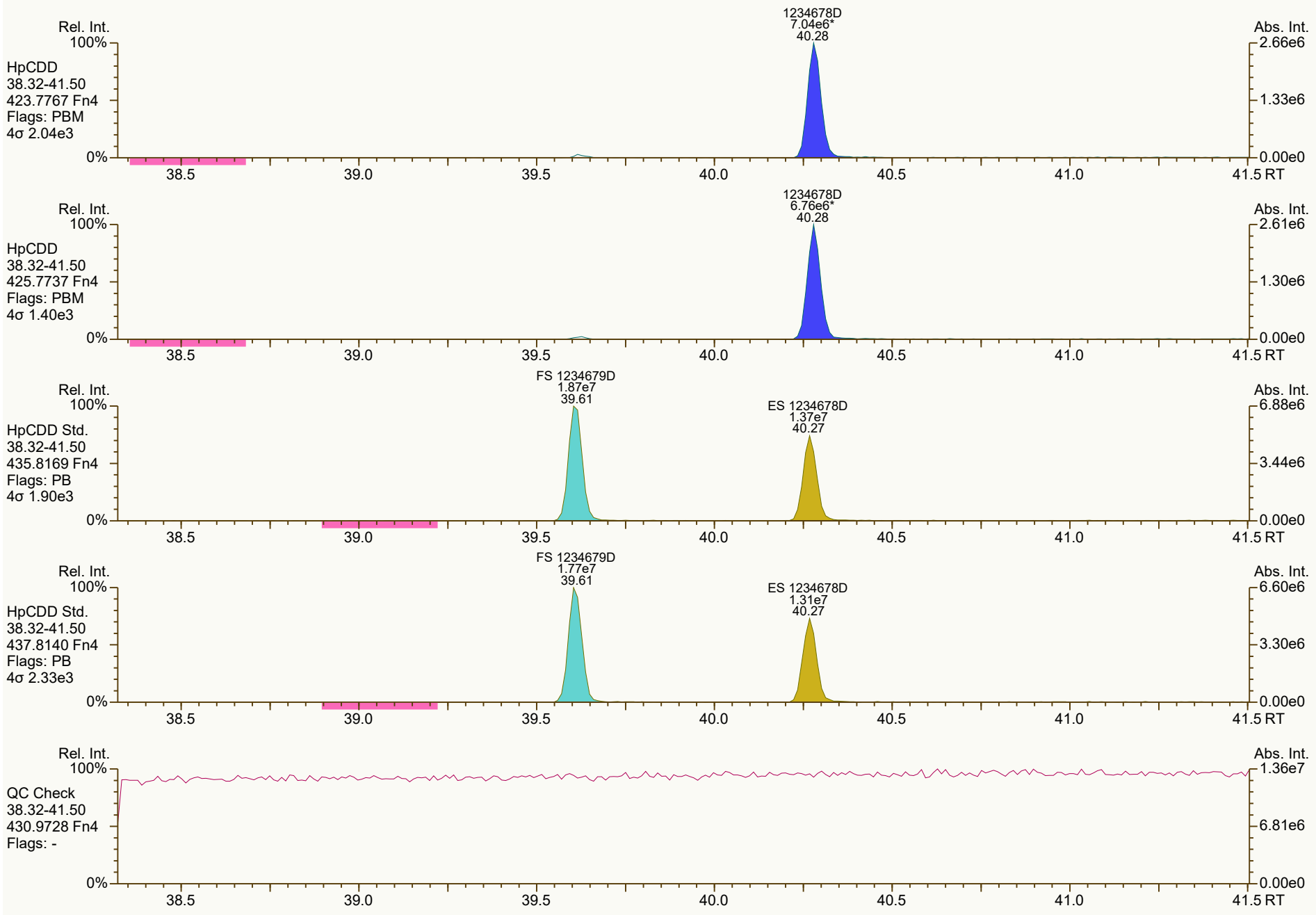
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

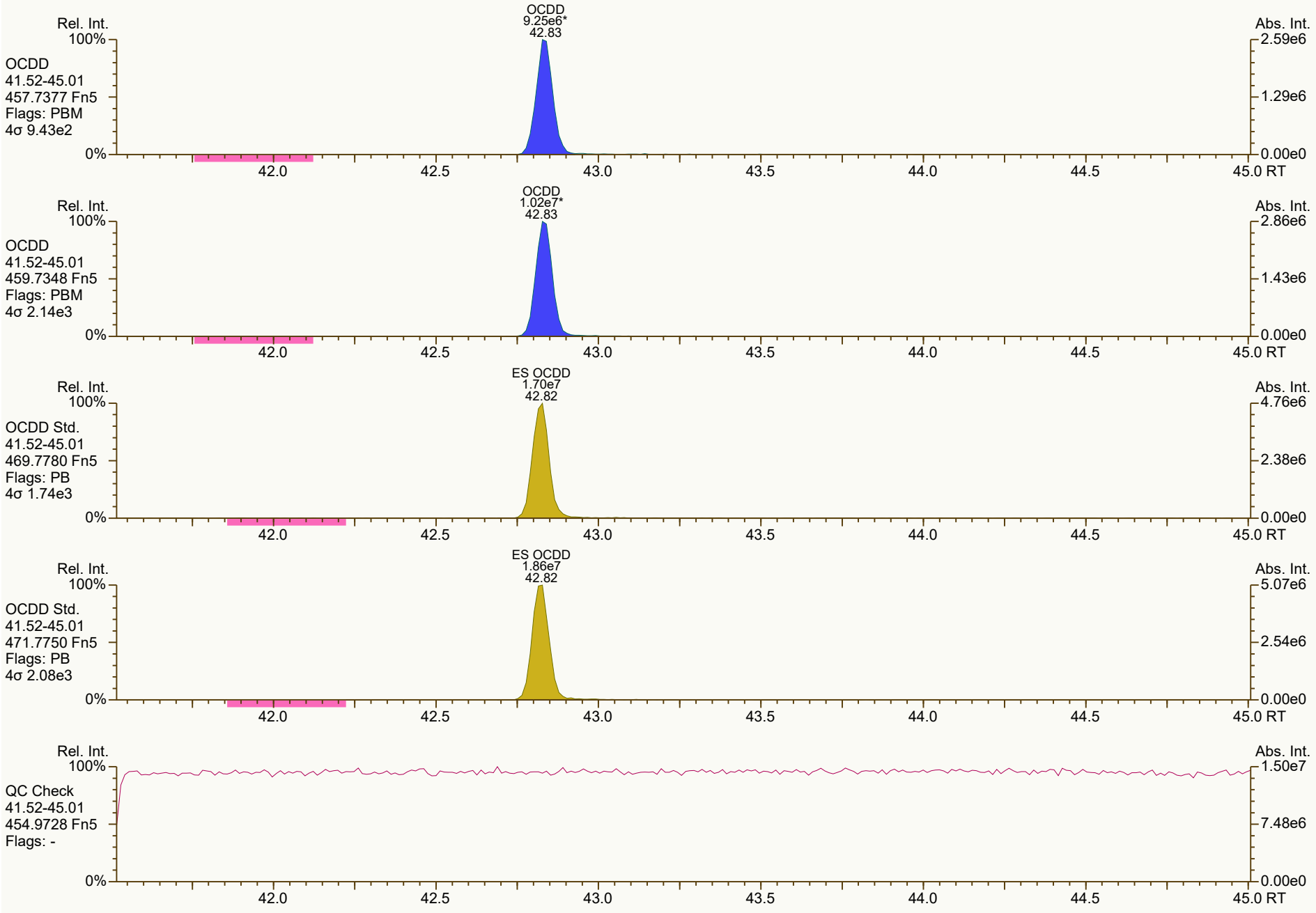

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

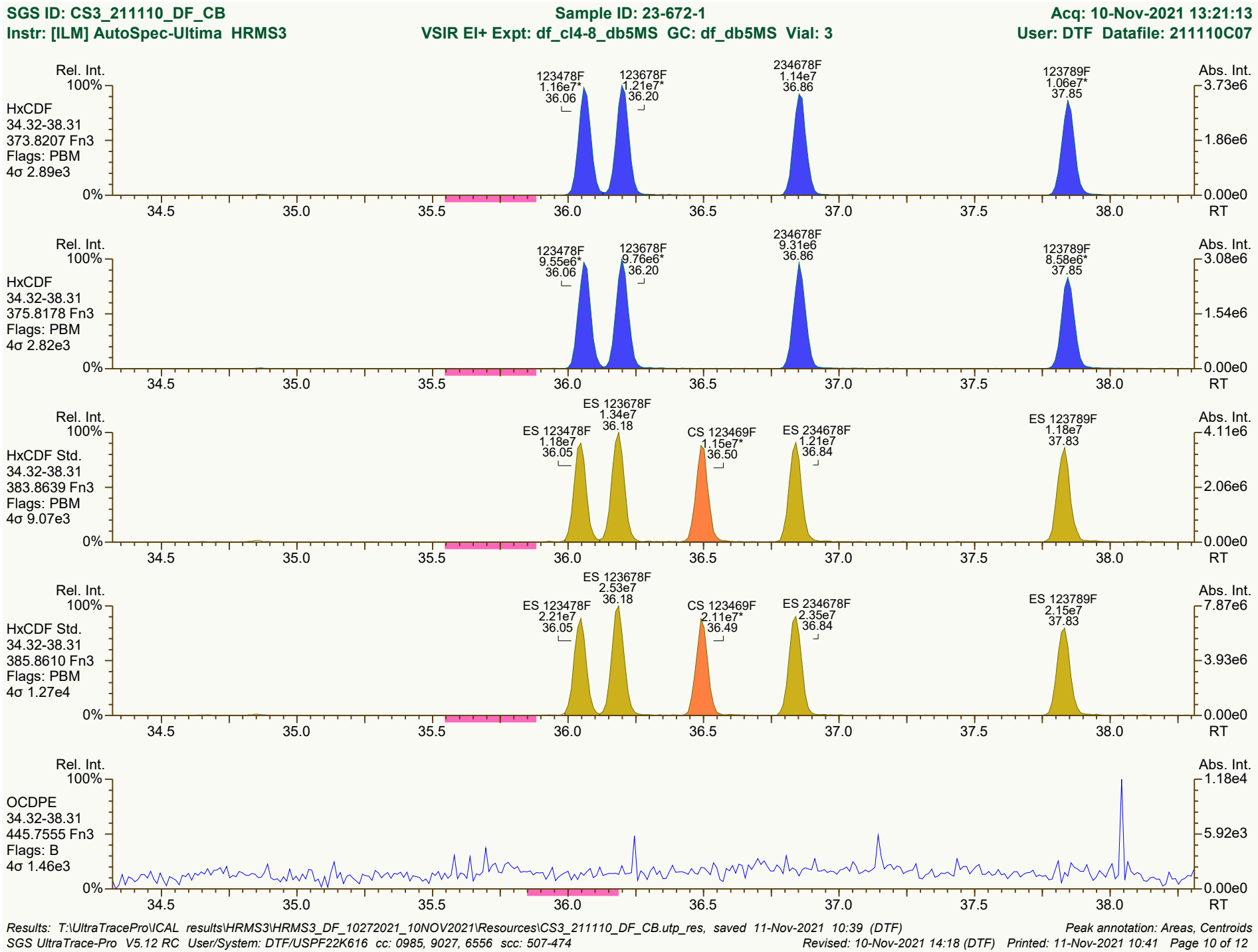

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

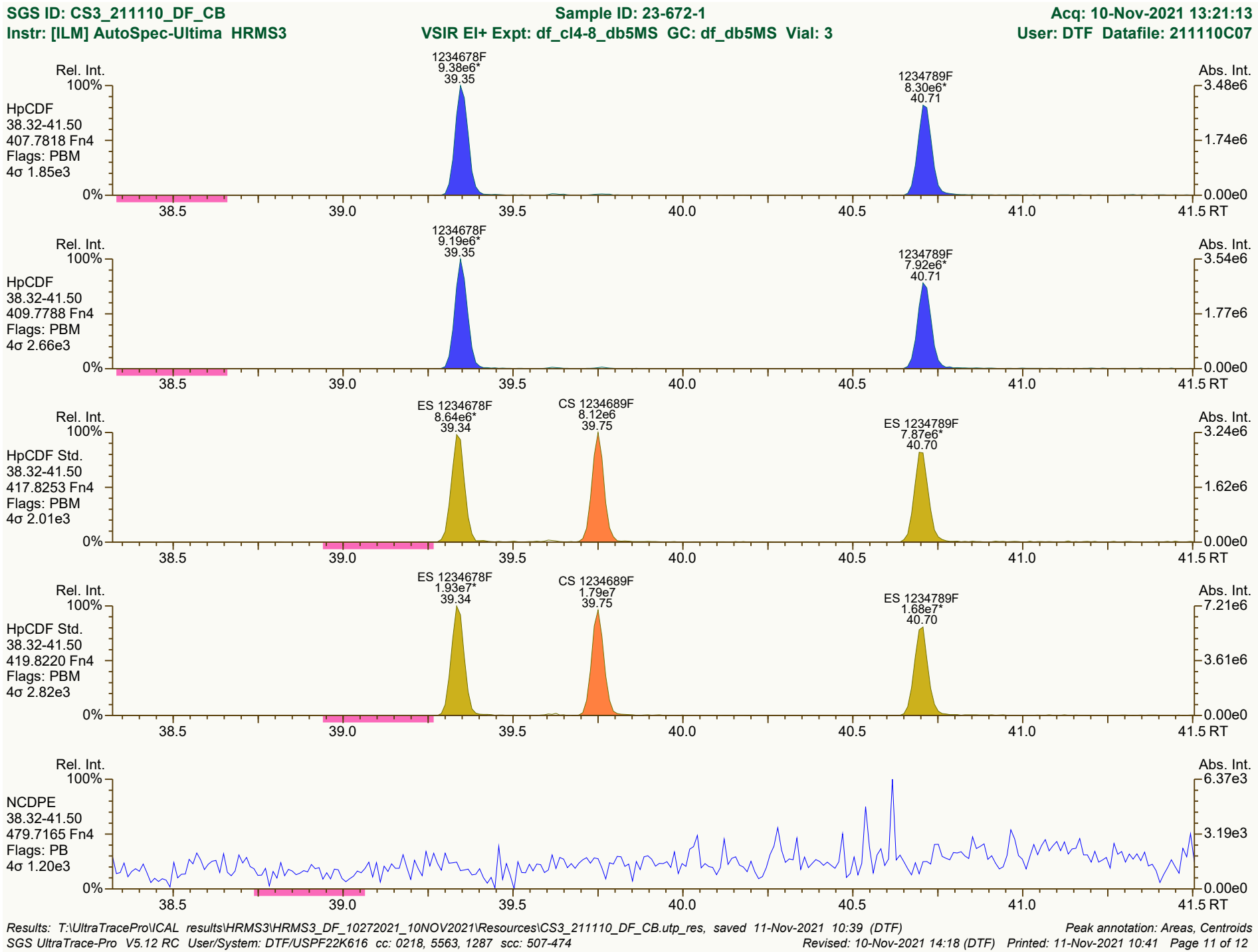

OCDD
9.25e6*
42.83
Rel. Int.
100%
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

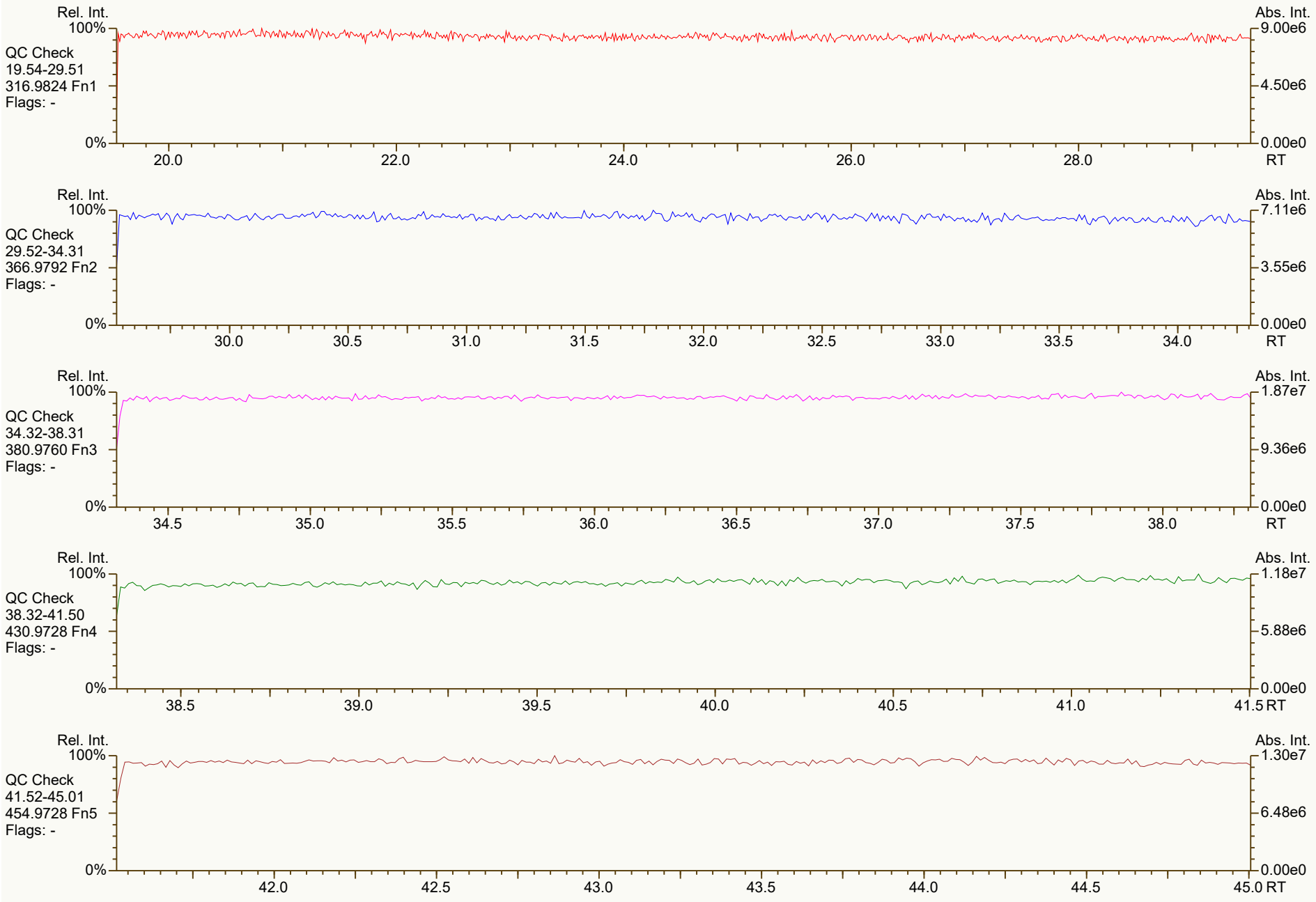

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

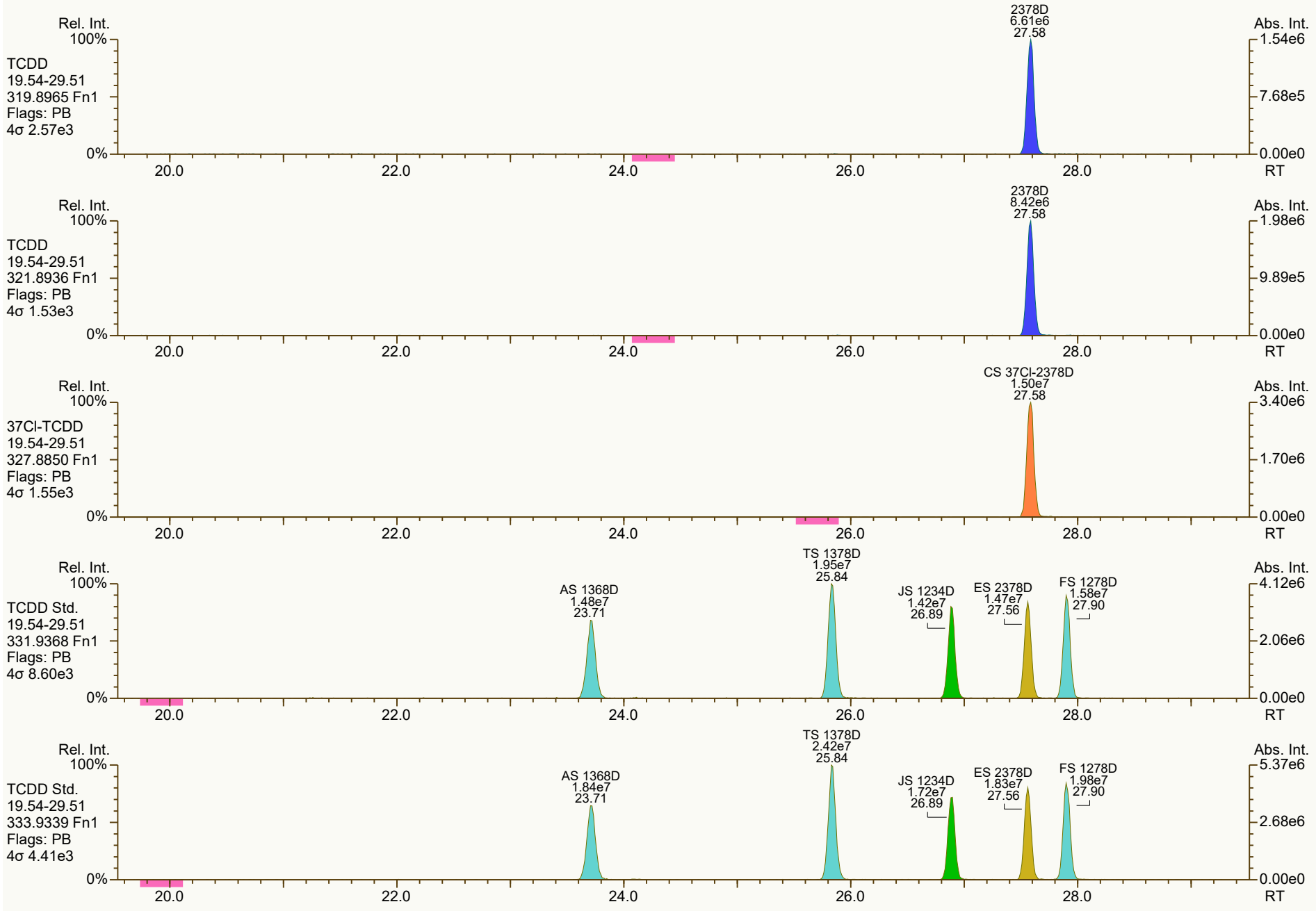

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

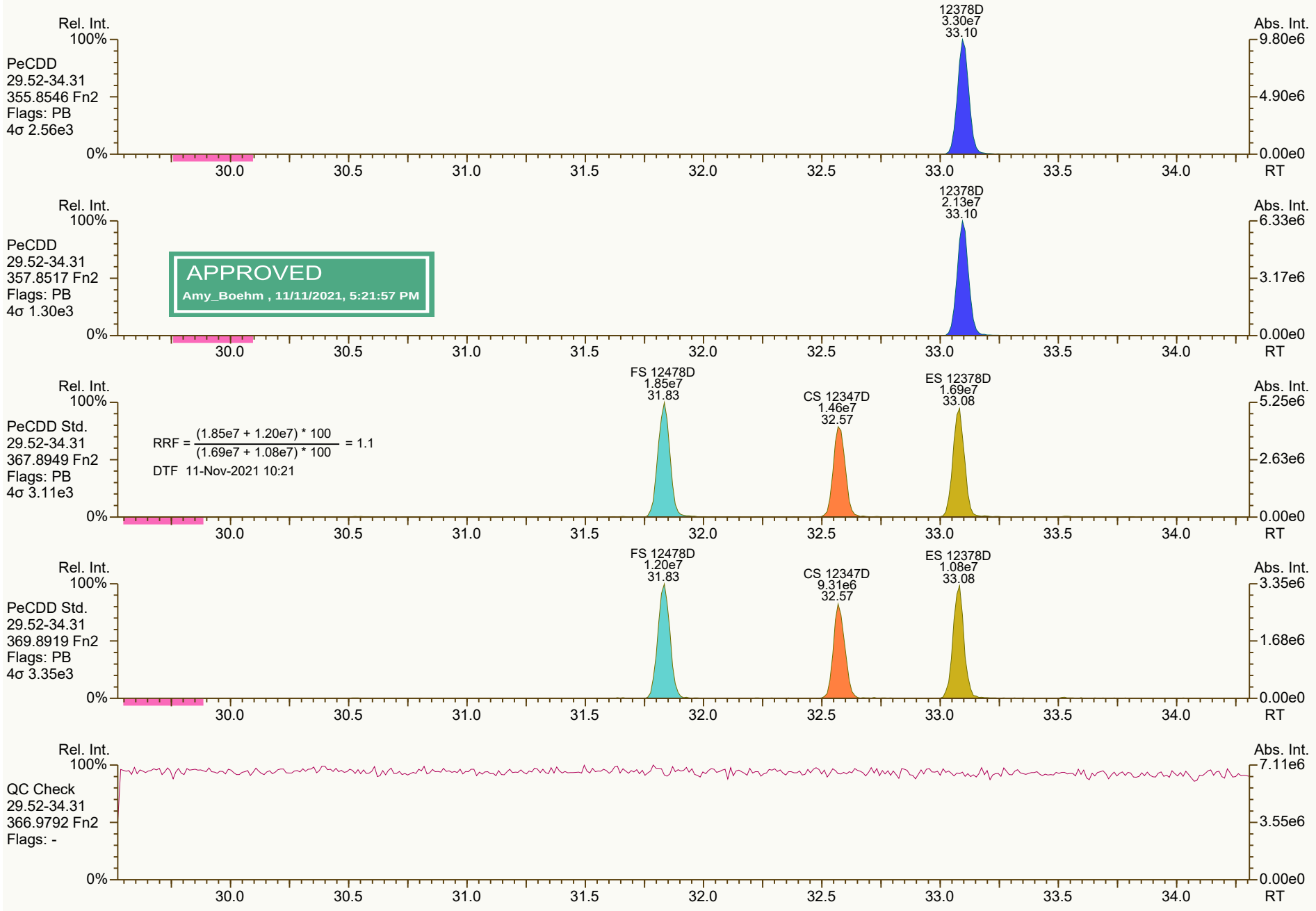

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

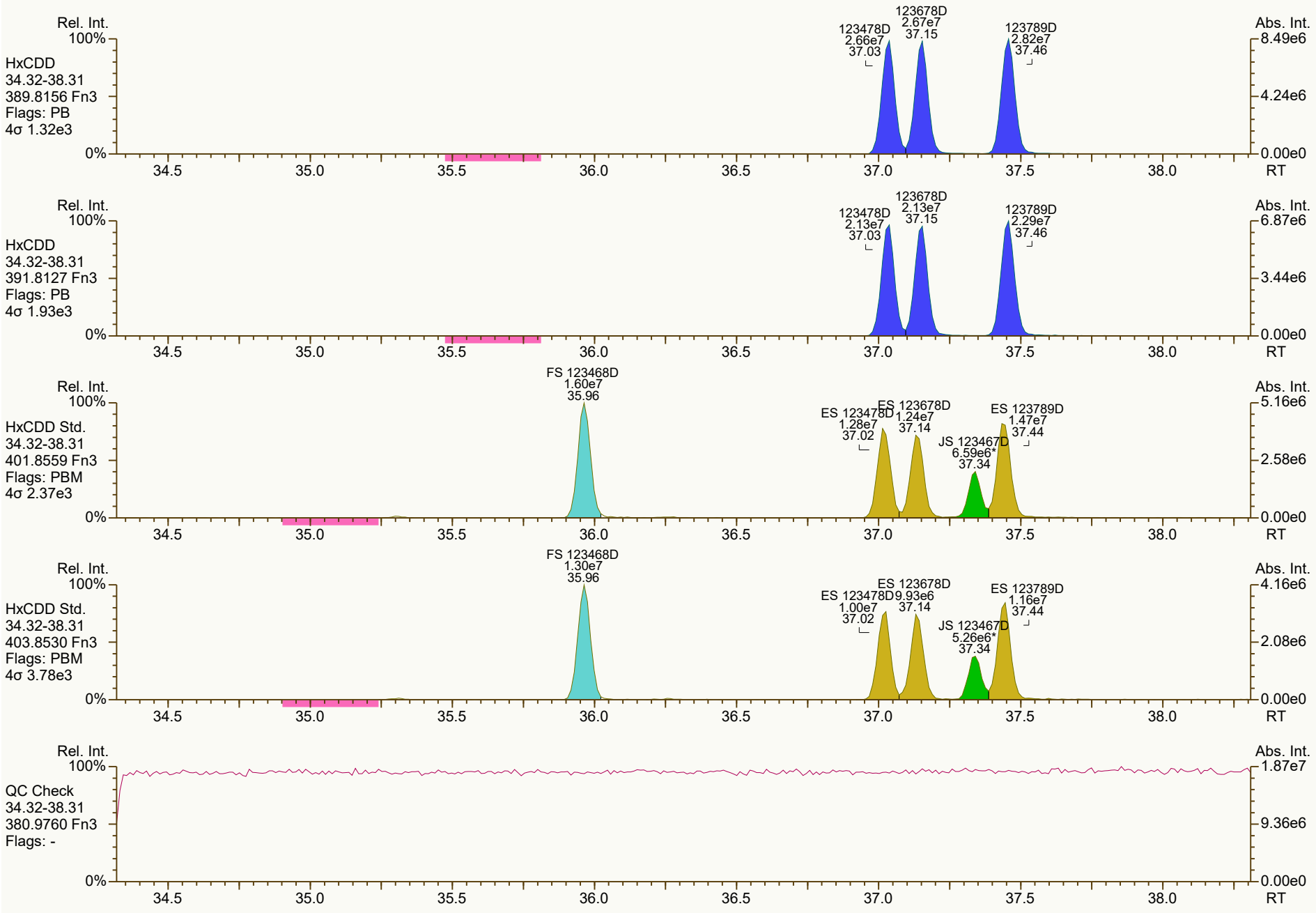
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

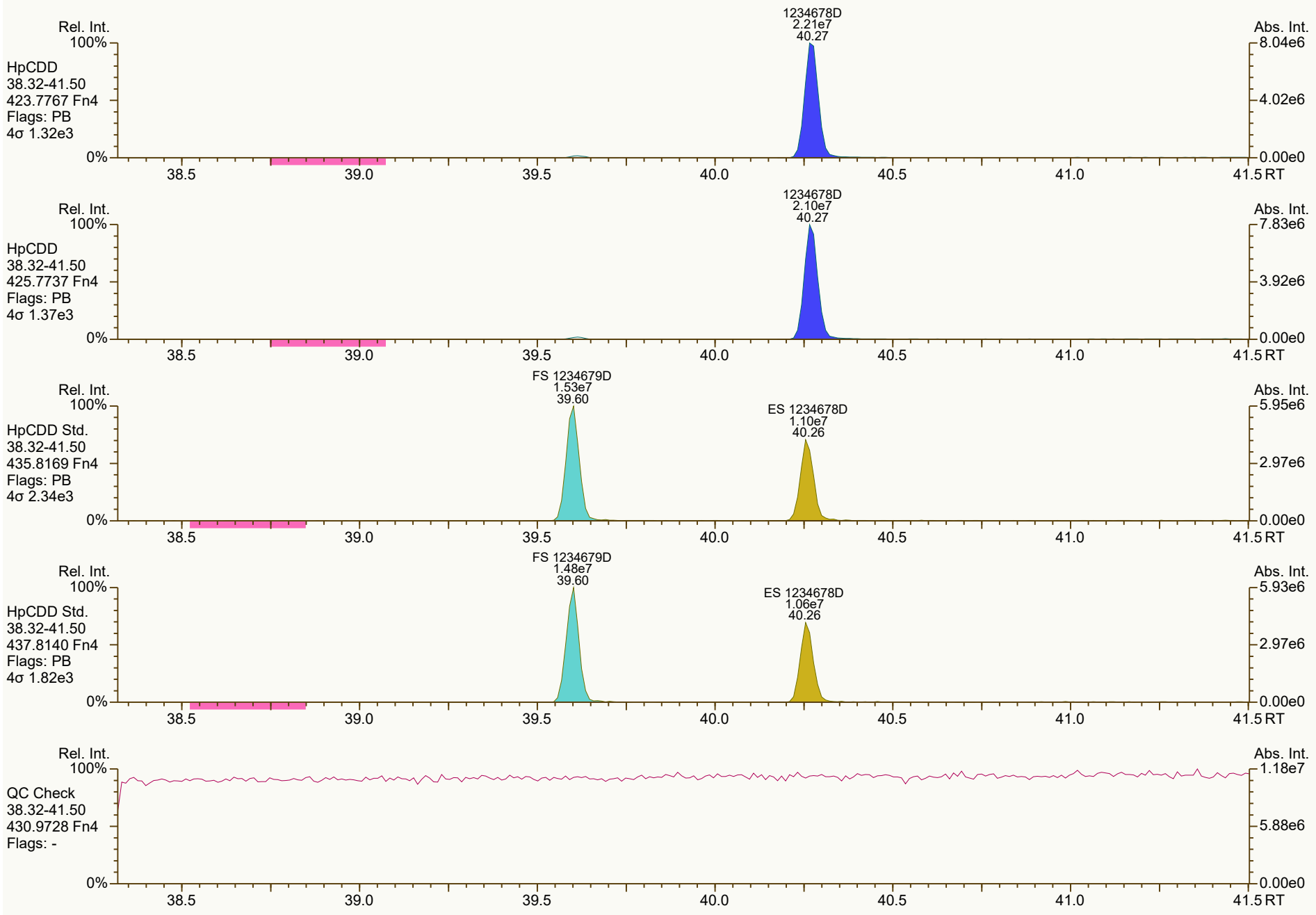
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

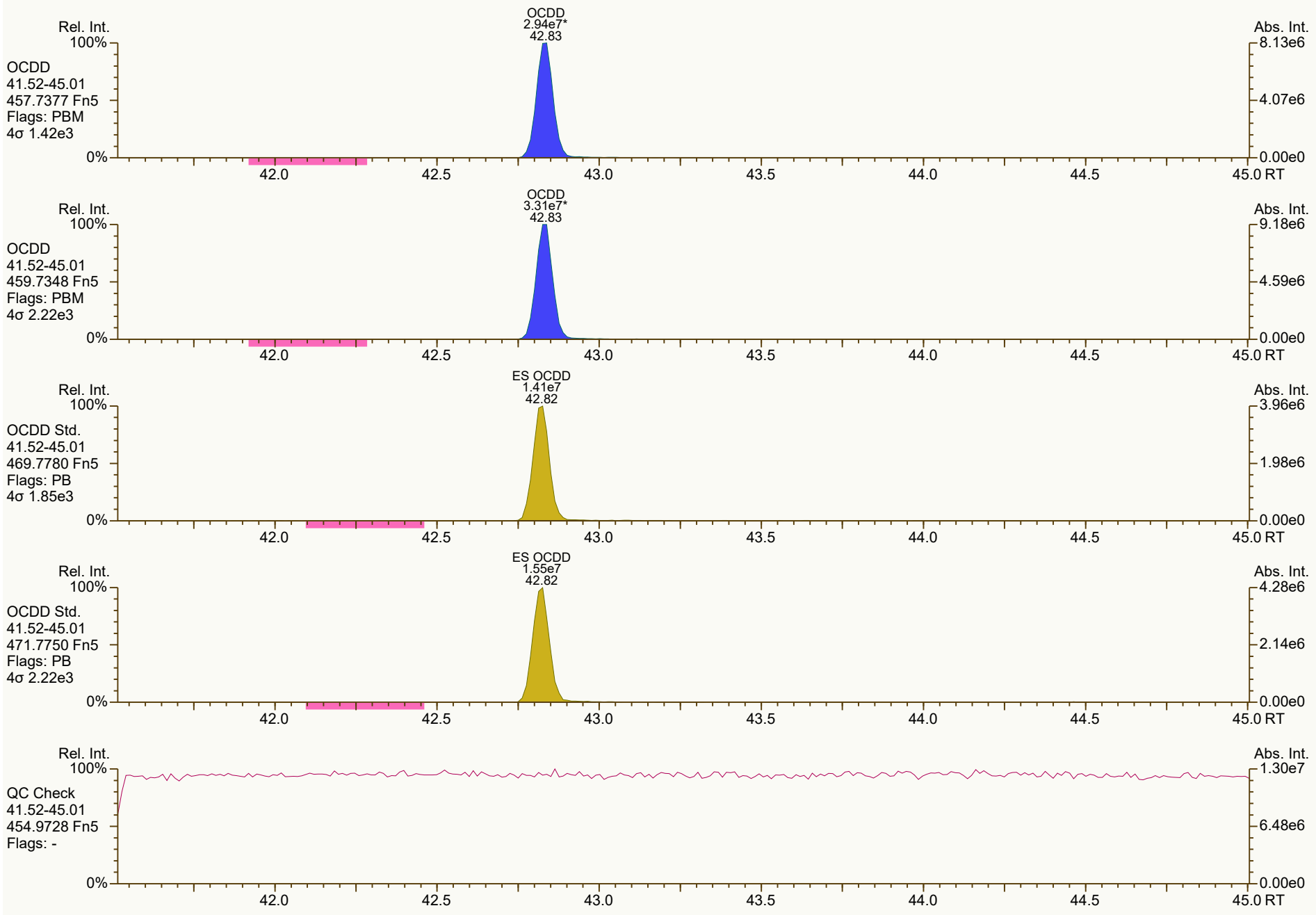

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

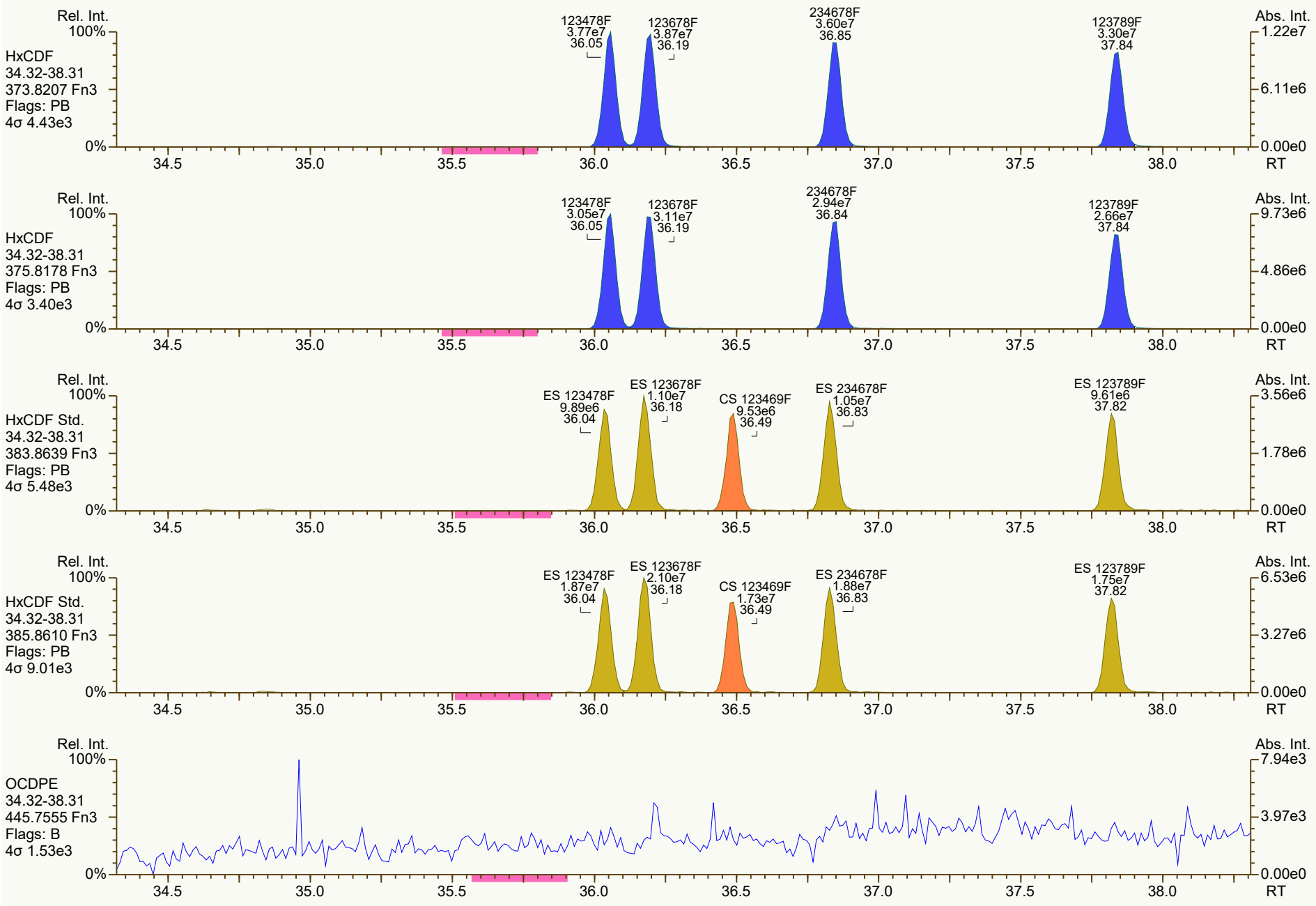

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

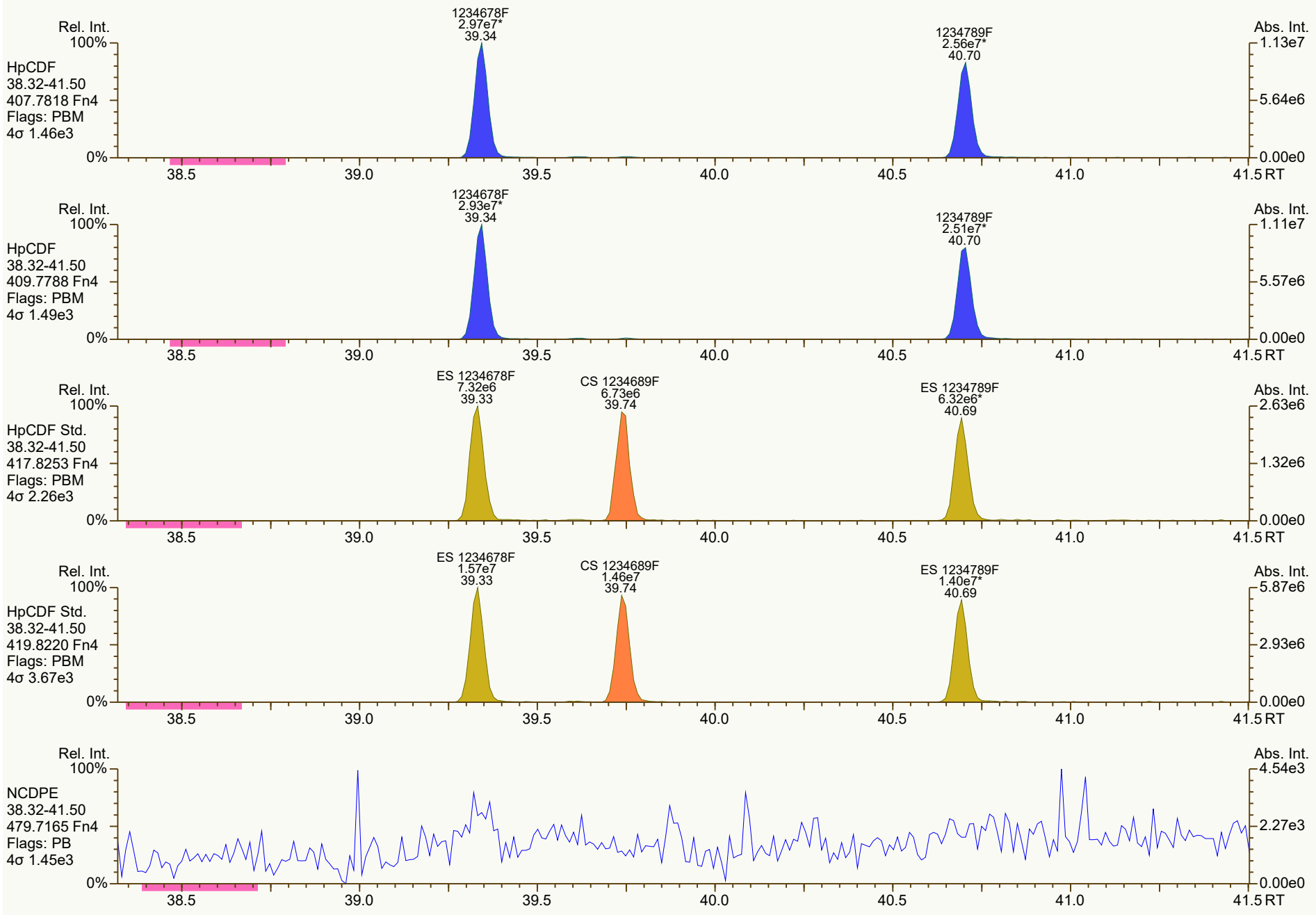

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

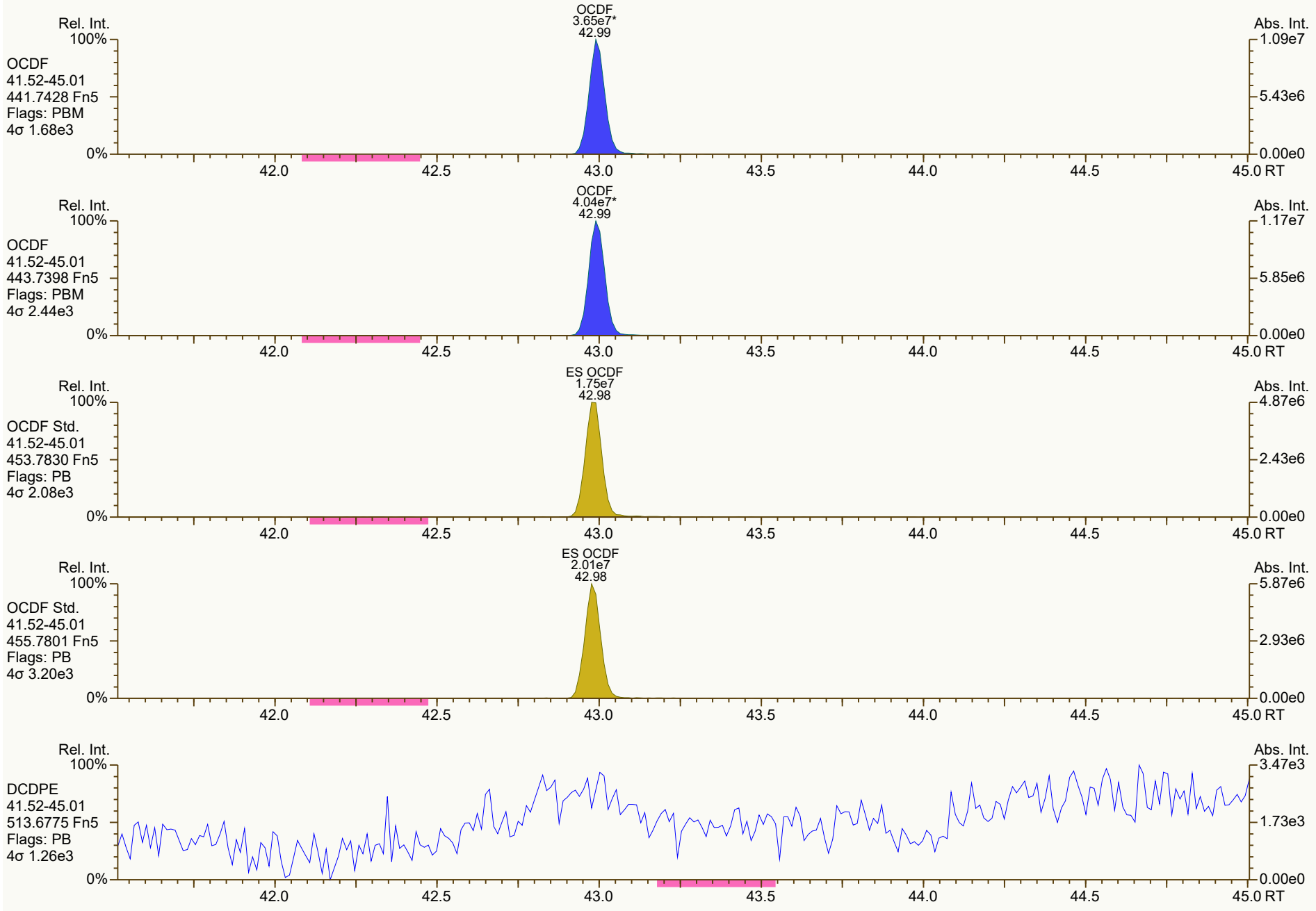

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

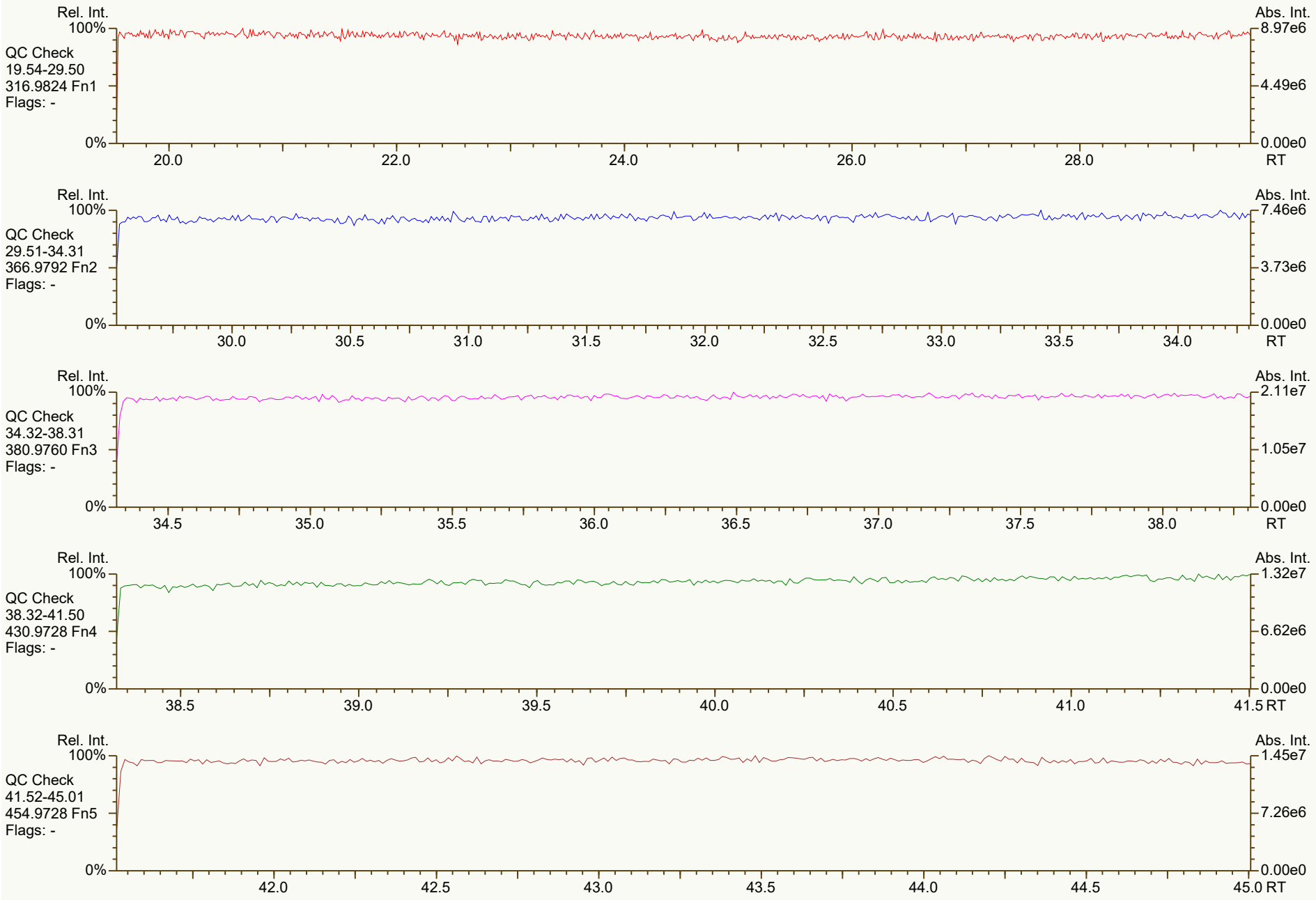
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

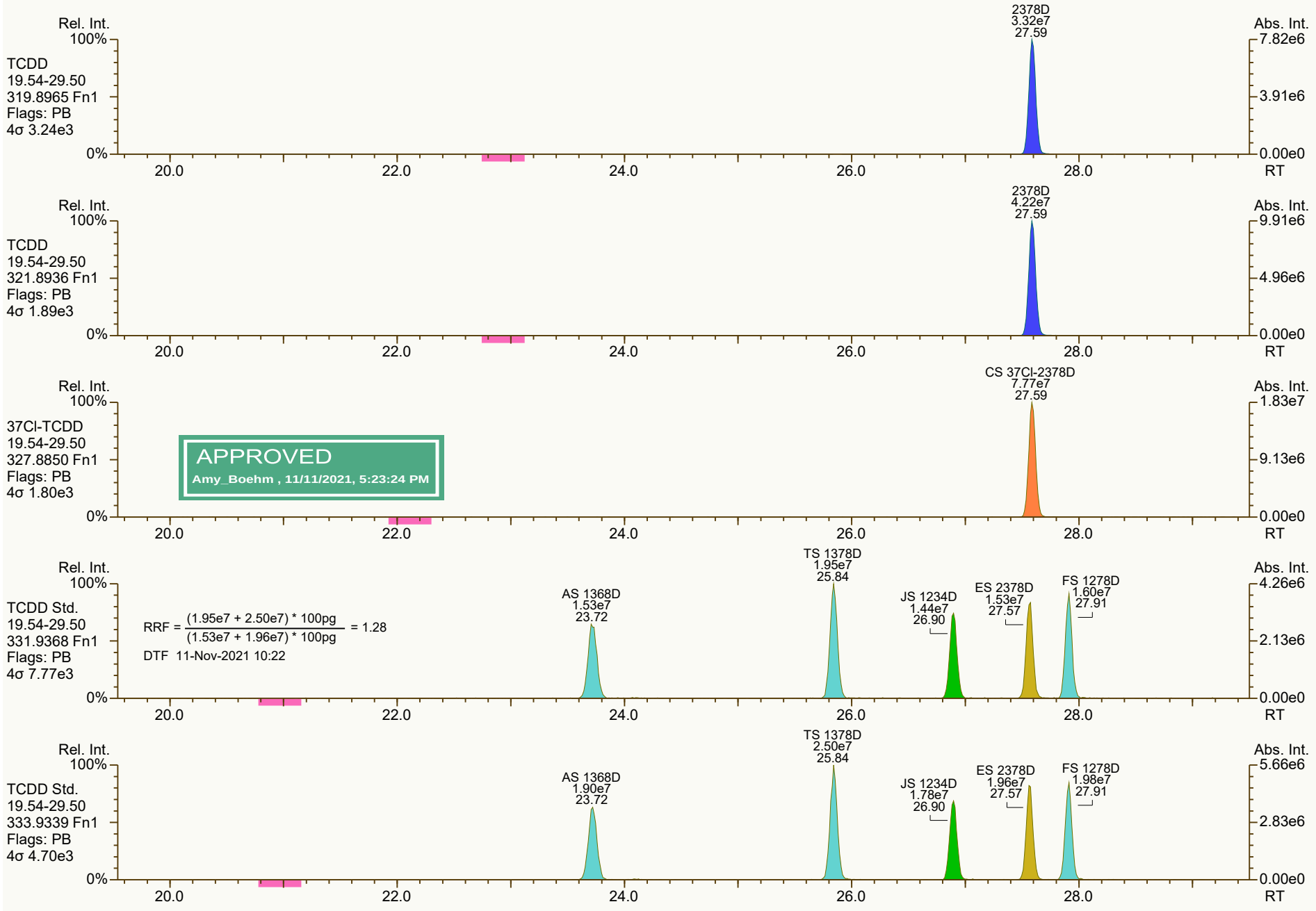
SGS ID: CS5_211110_DF_CA | **Sample ID: 25-5-3** | **Acq: 10-Nov-2021 14:53:51**

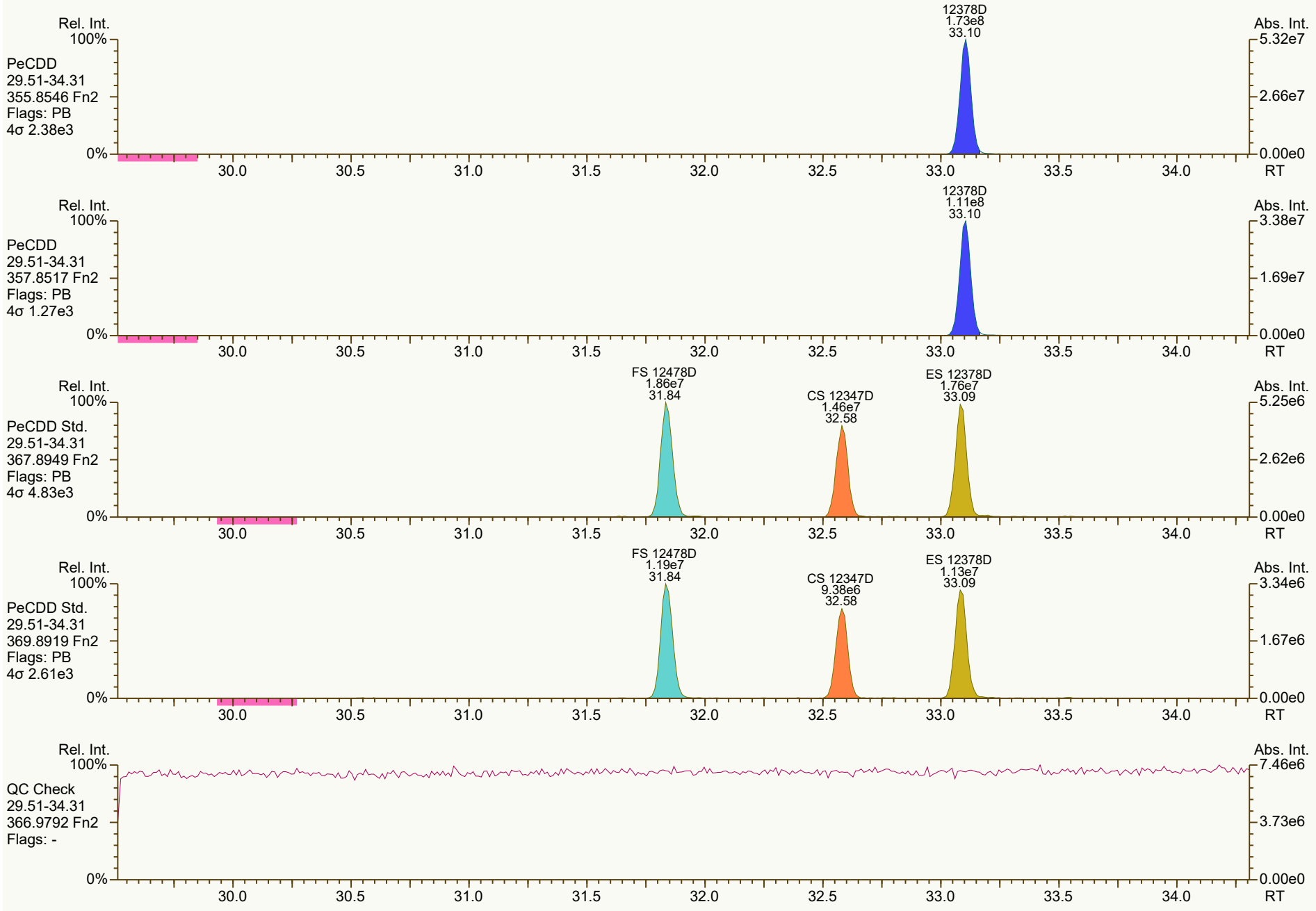
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70** | **User: DTF Datafile: 211110C09**

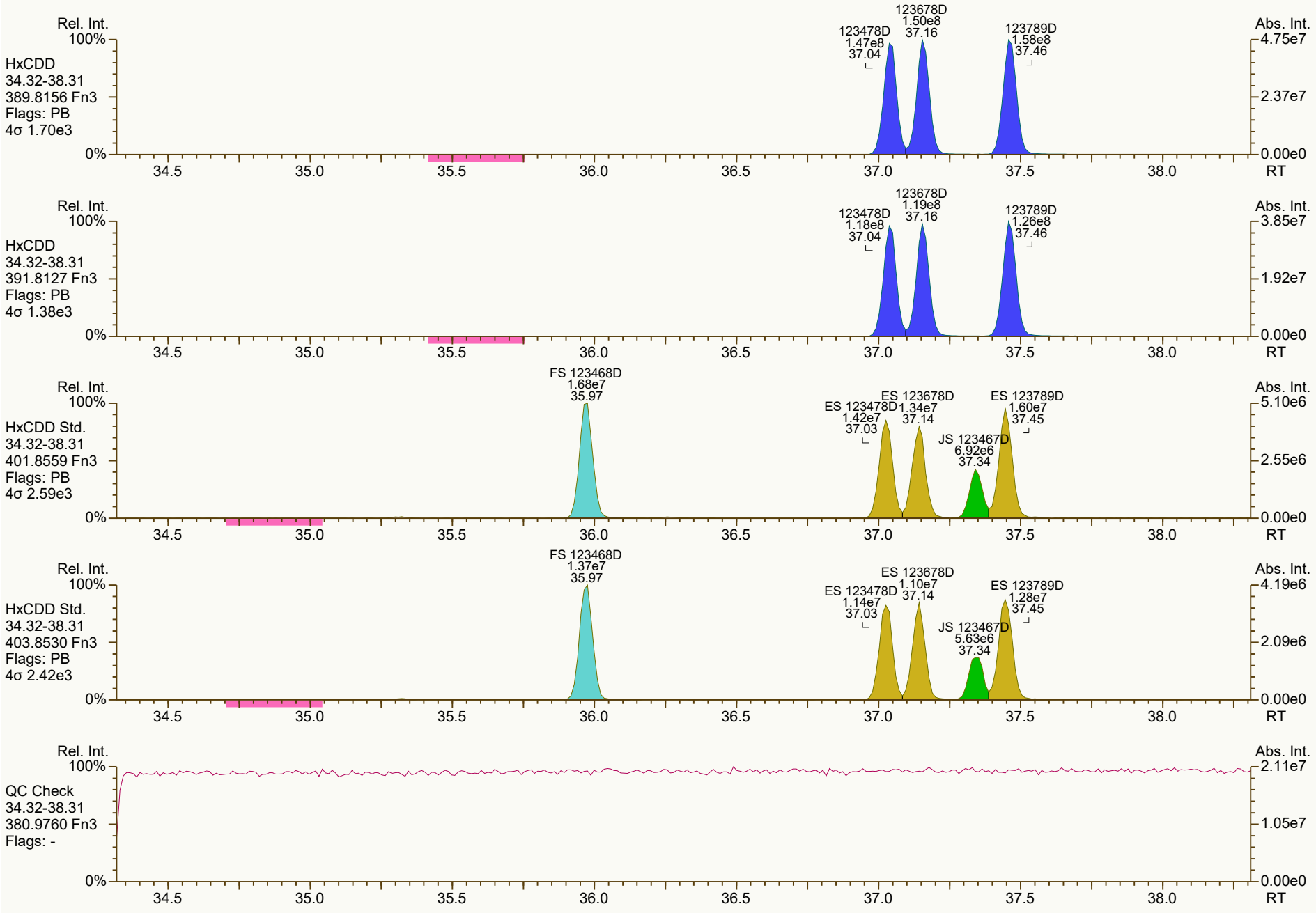


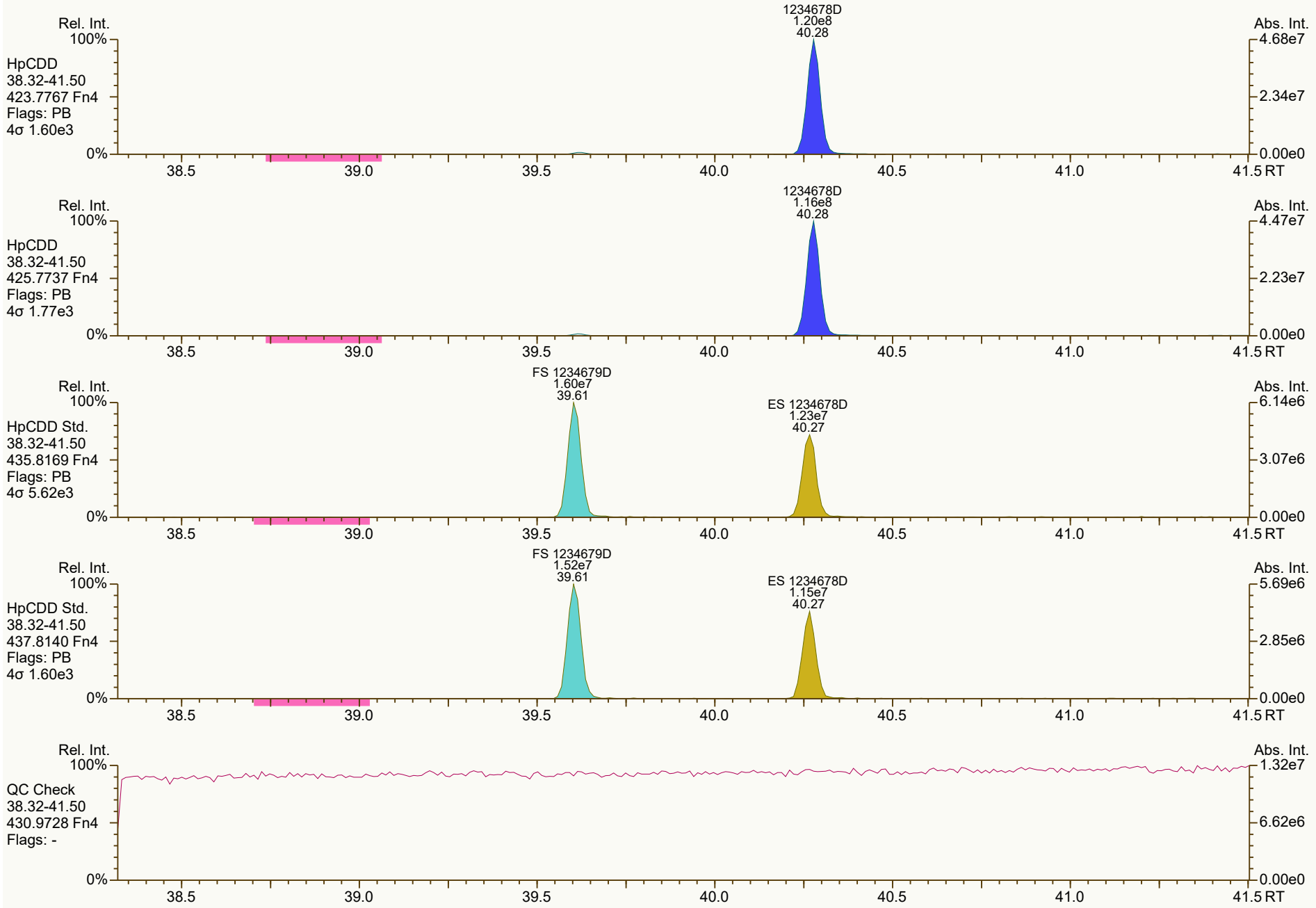
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

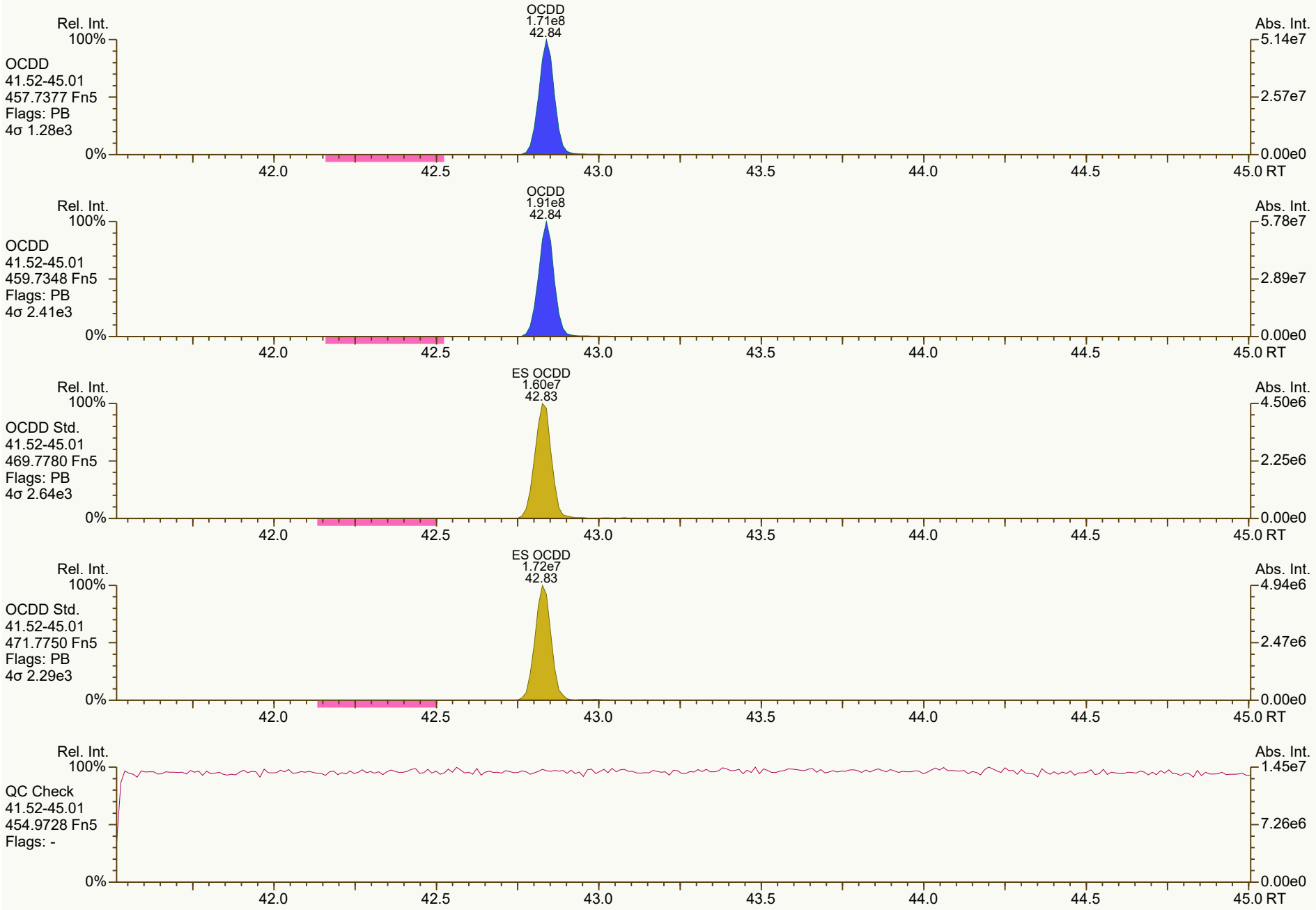
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 573-489 *PKD: n/a Printed: 11-Nov-2021 10:41 Page 1 of 12*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

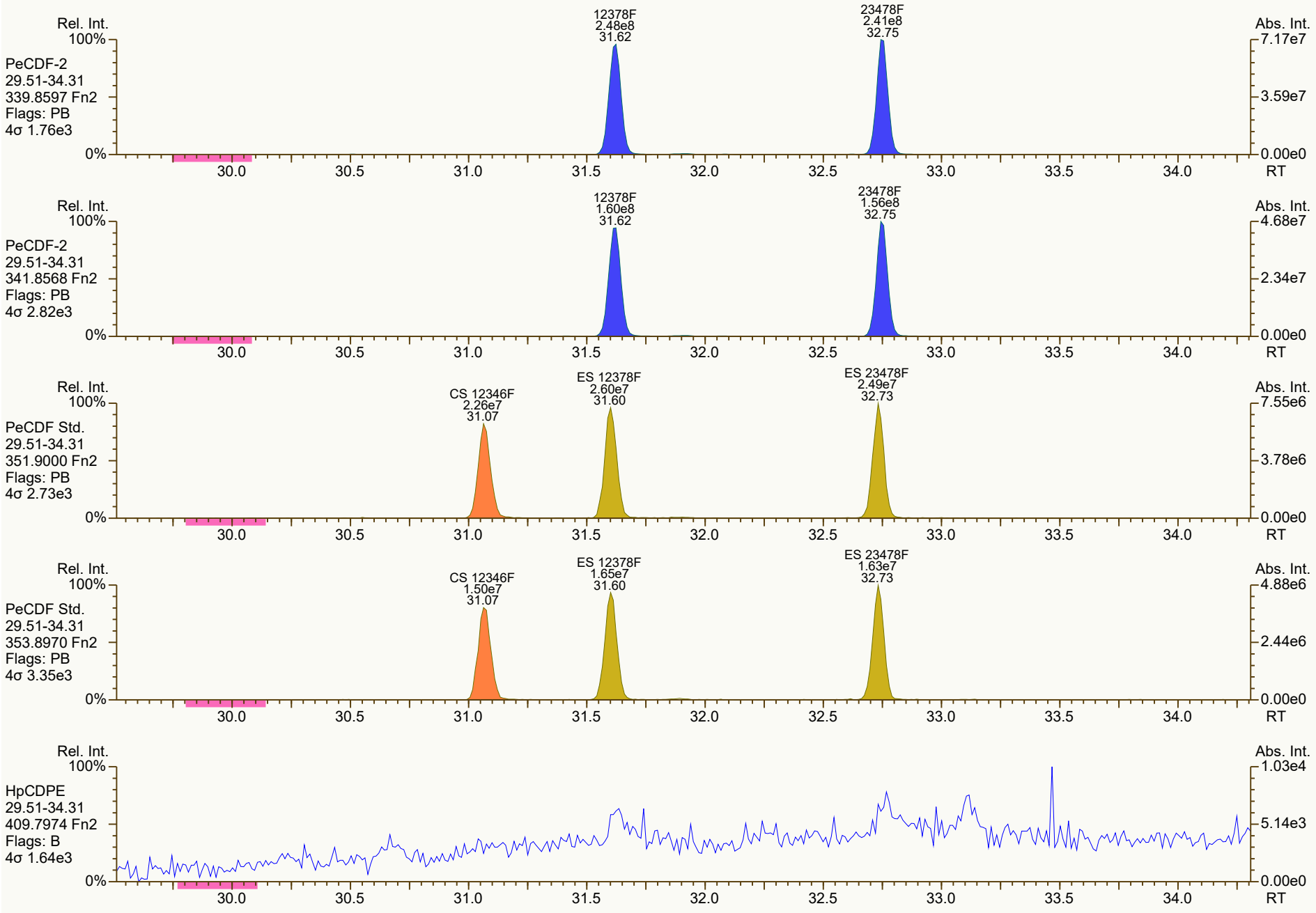

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

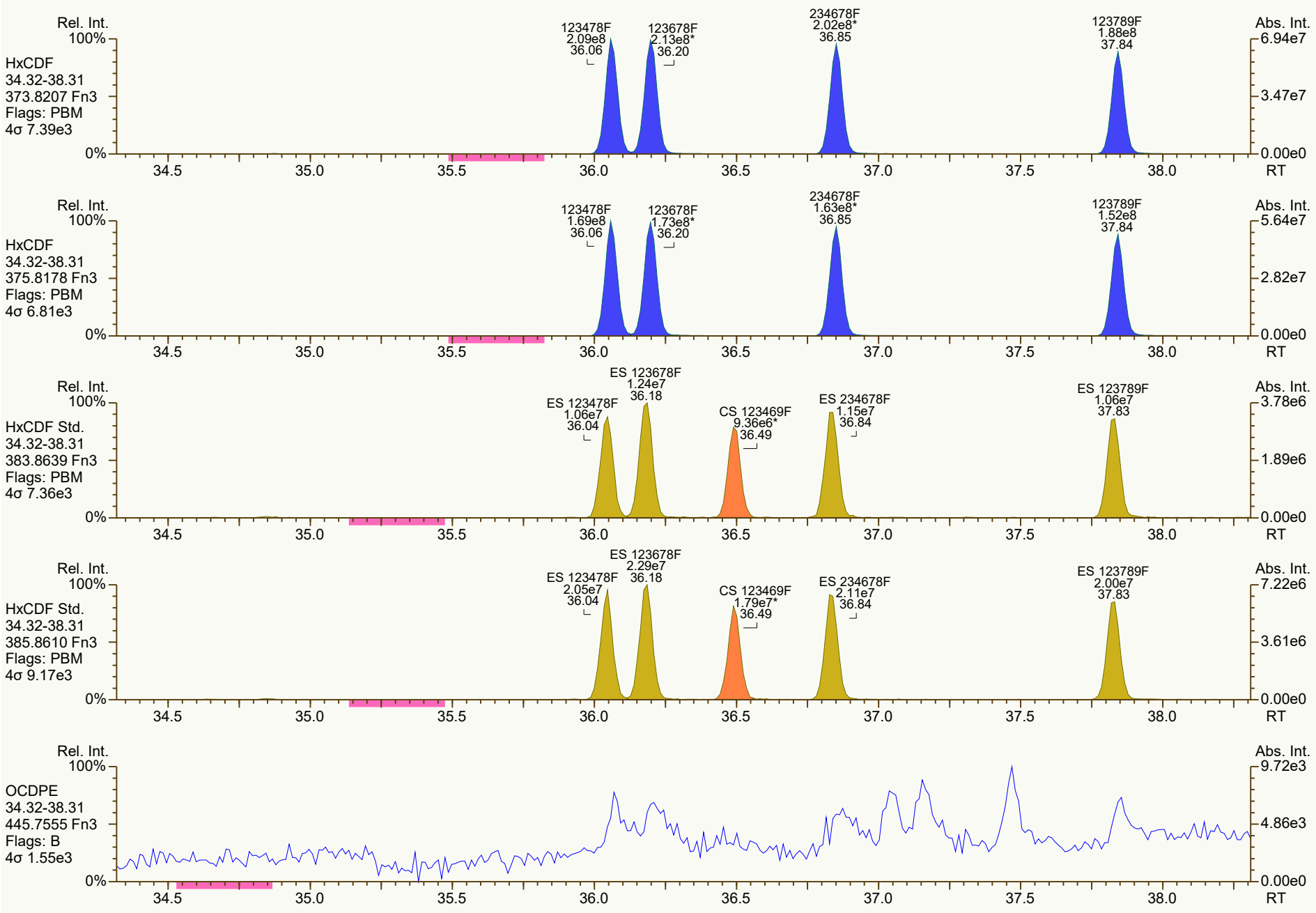

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

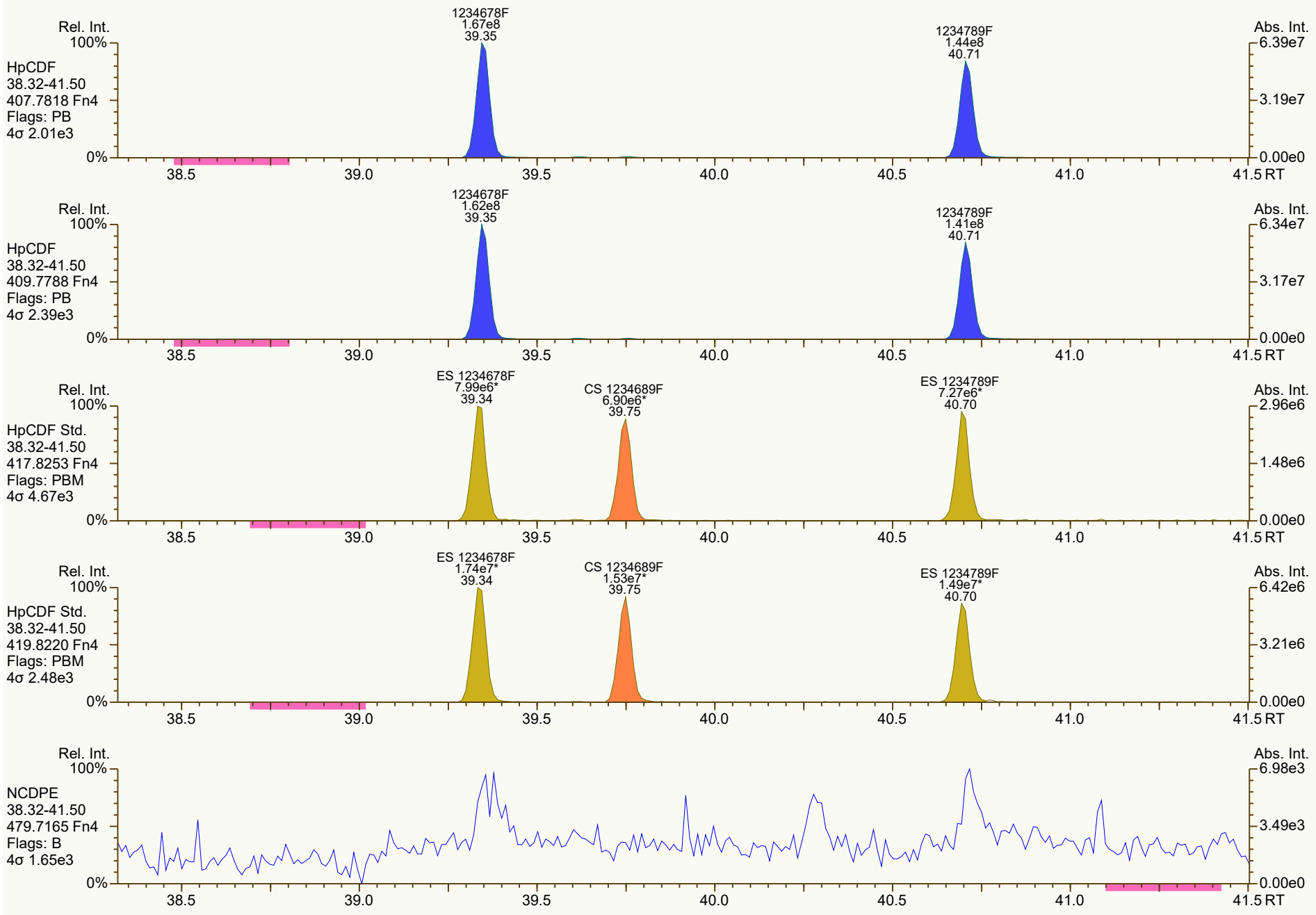

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

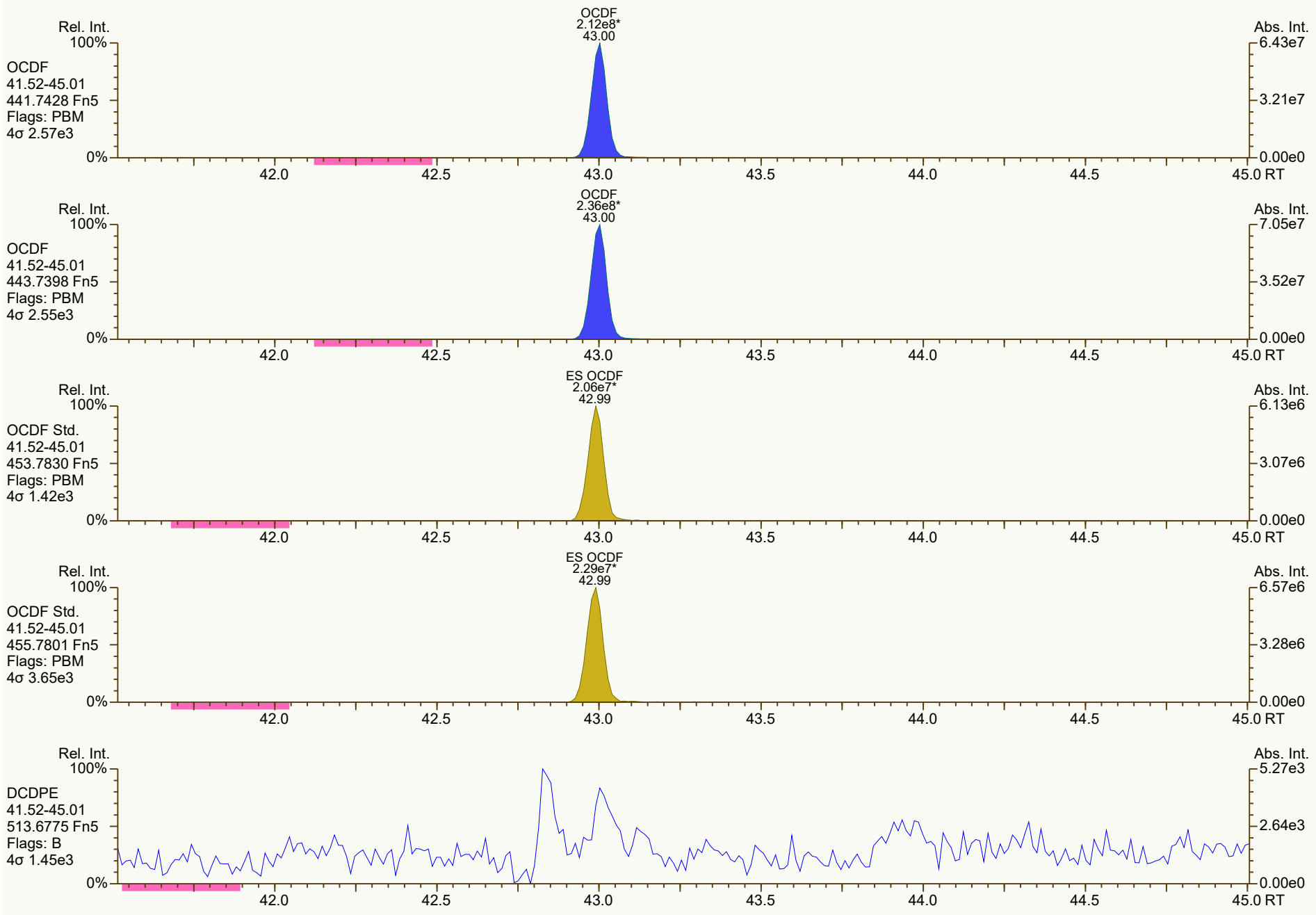

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

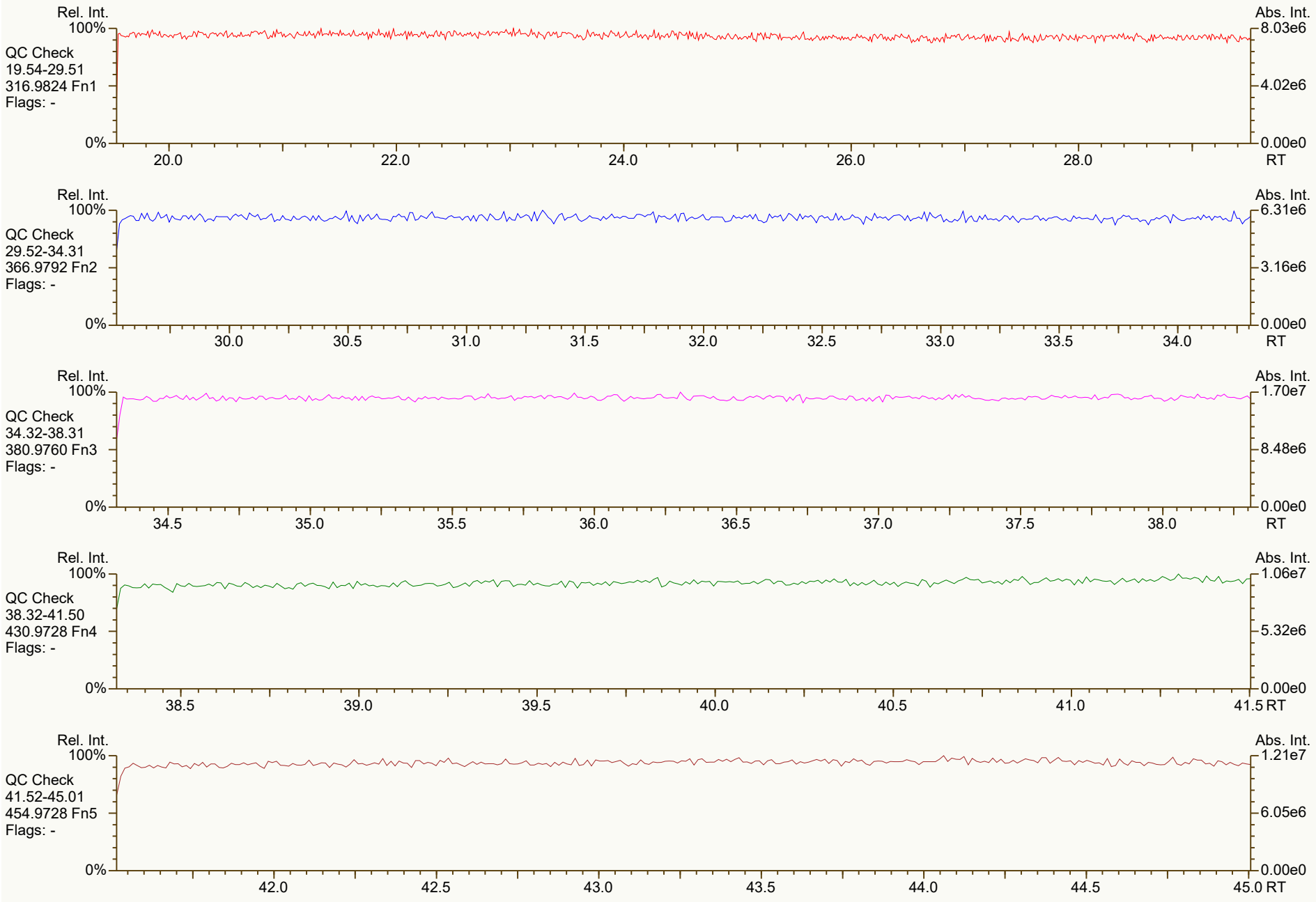

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

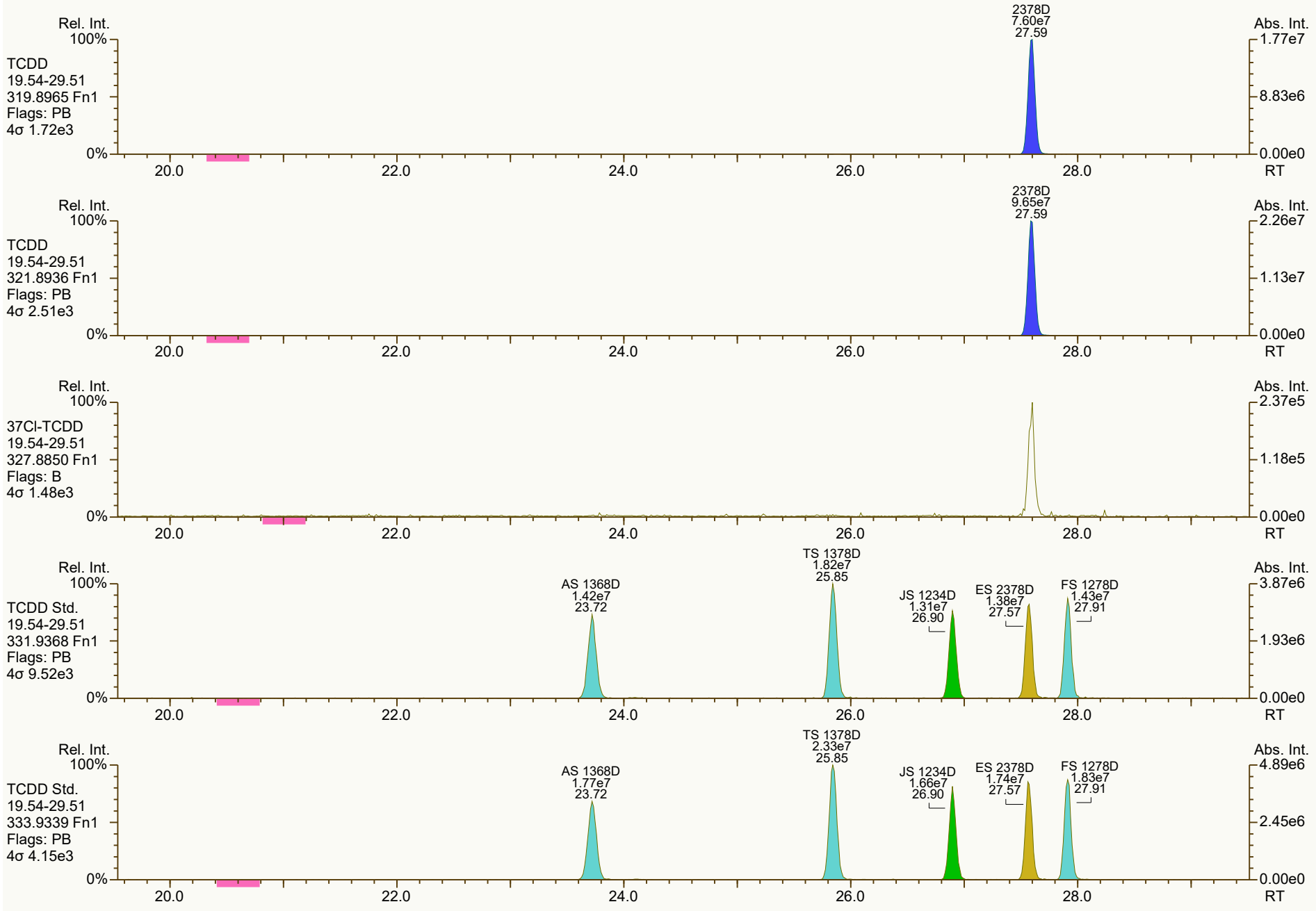

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

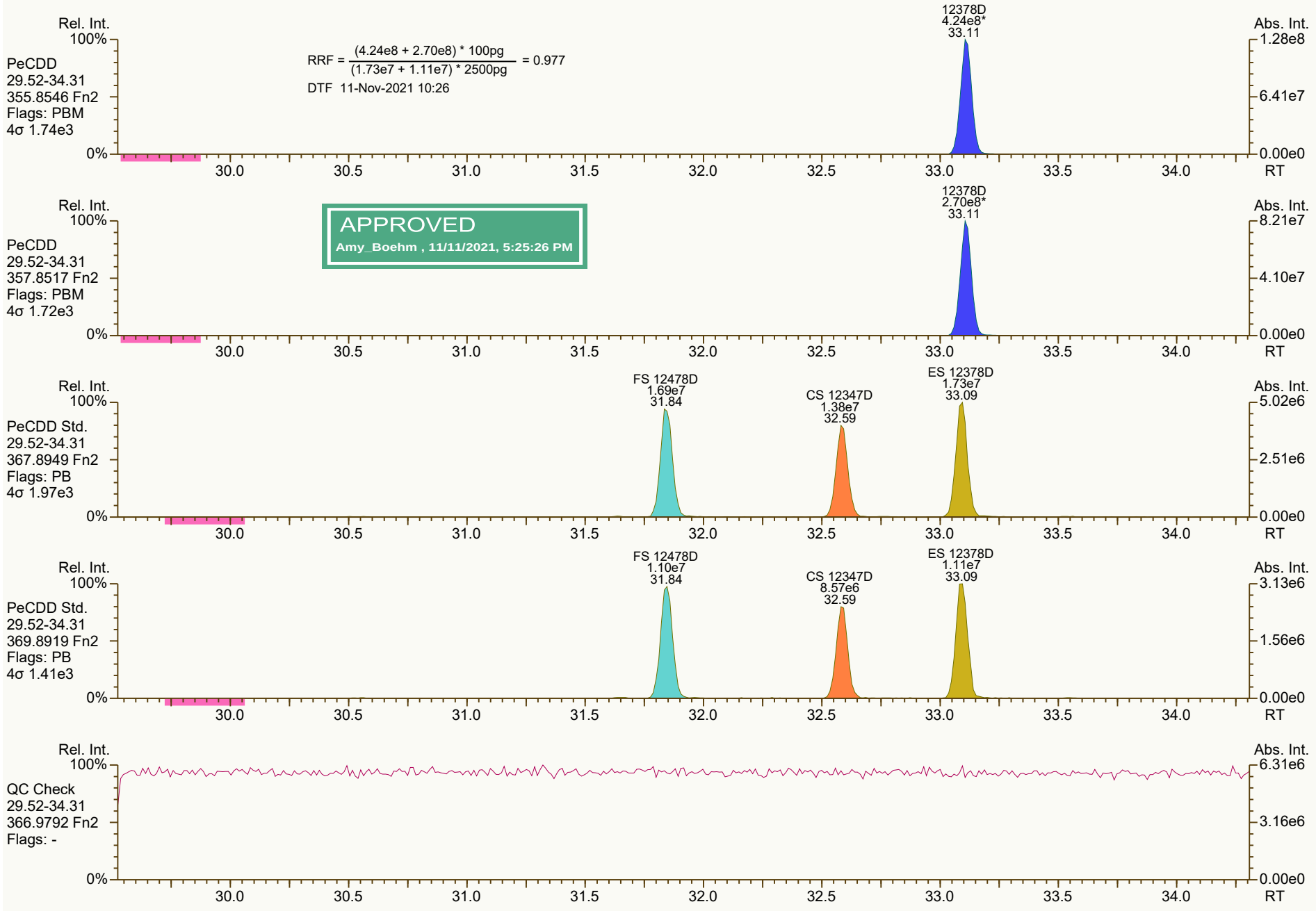
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

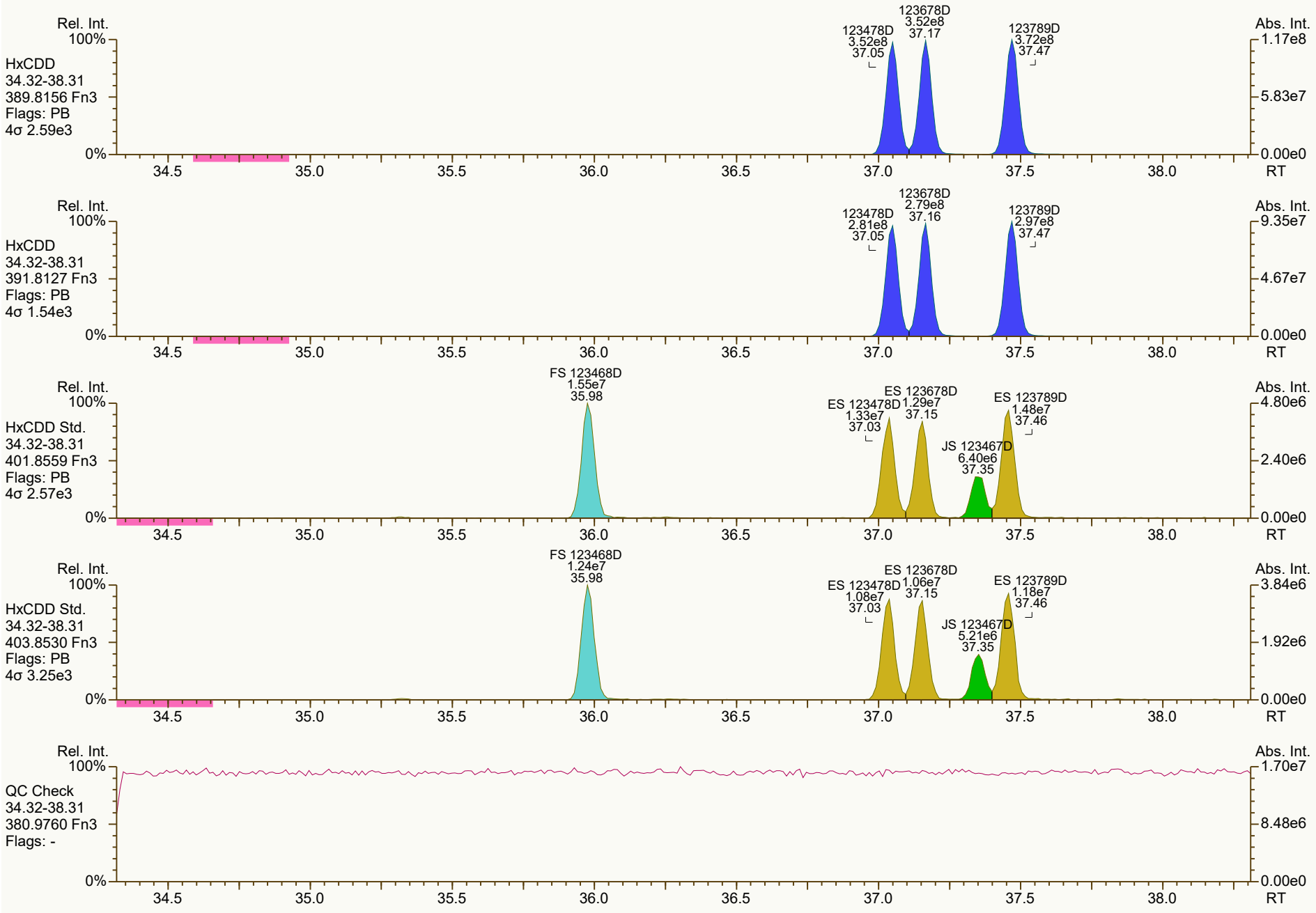
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

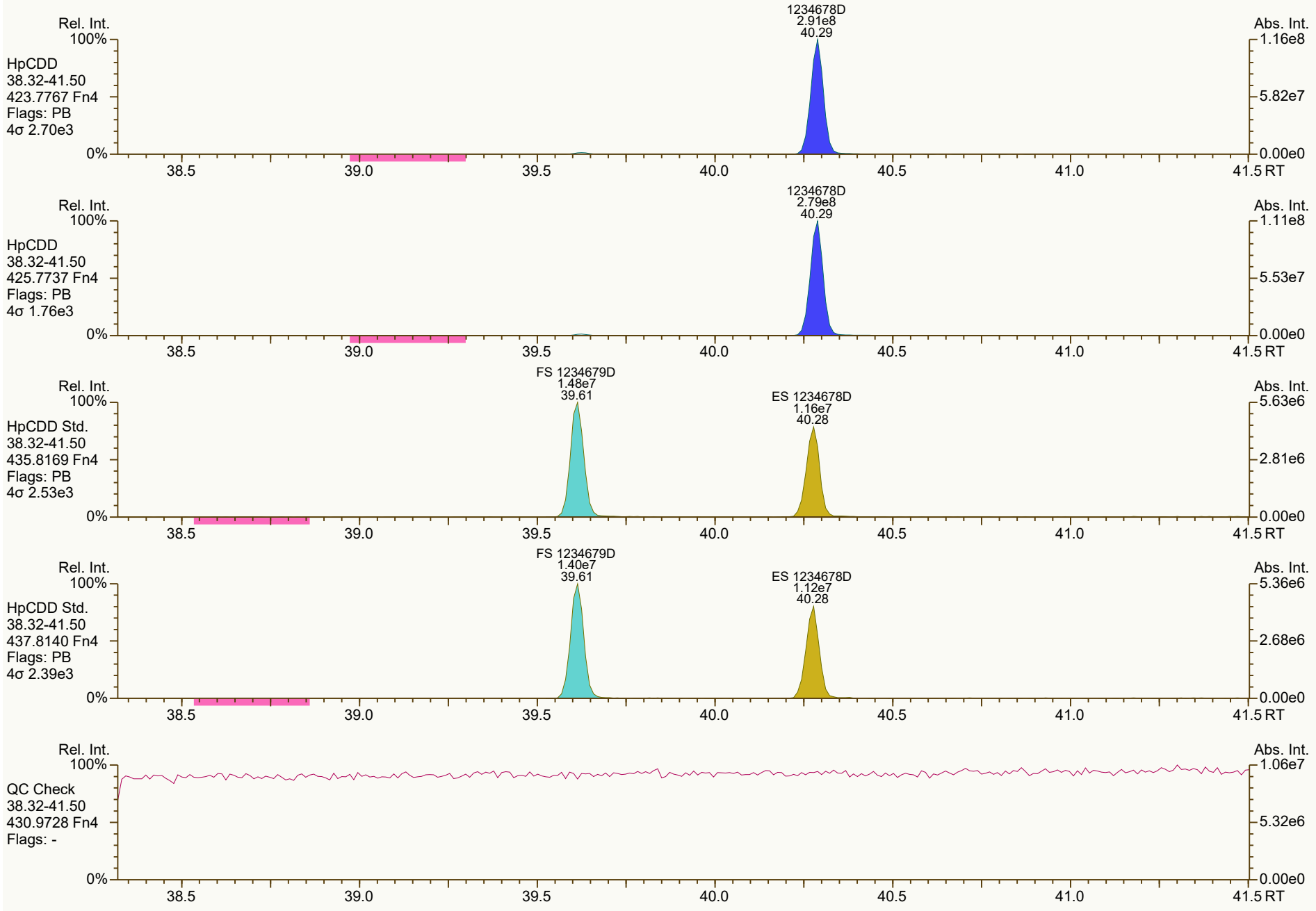
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

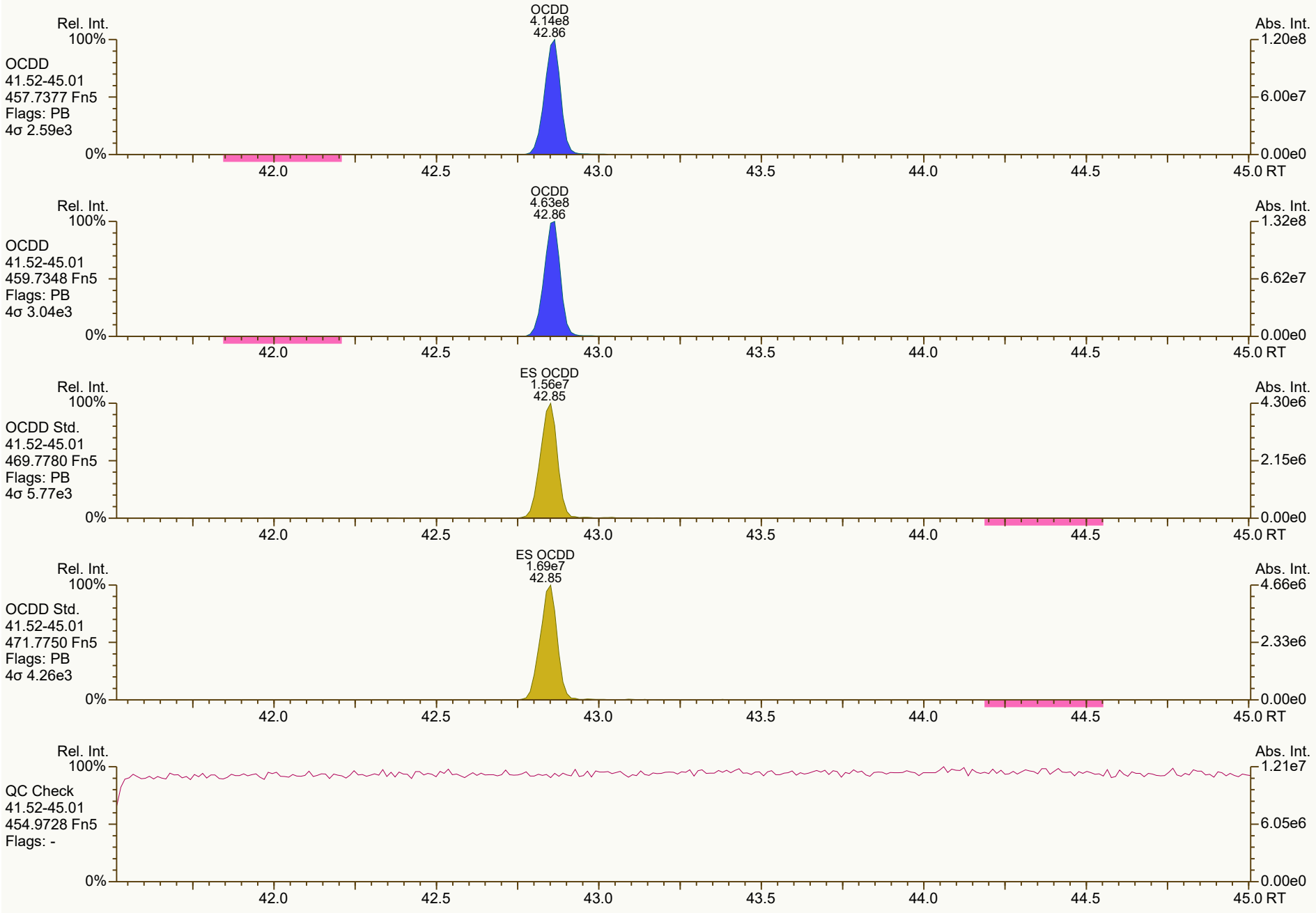

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

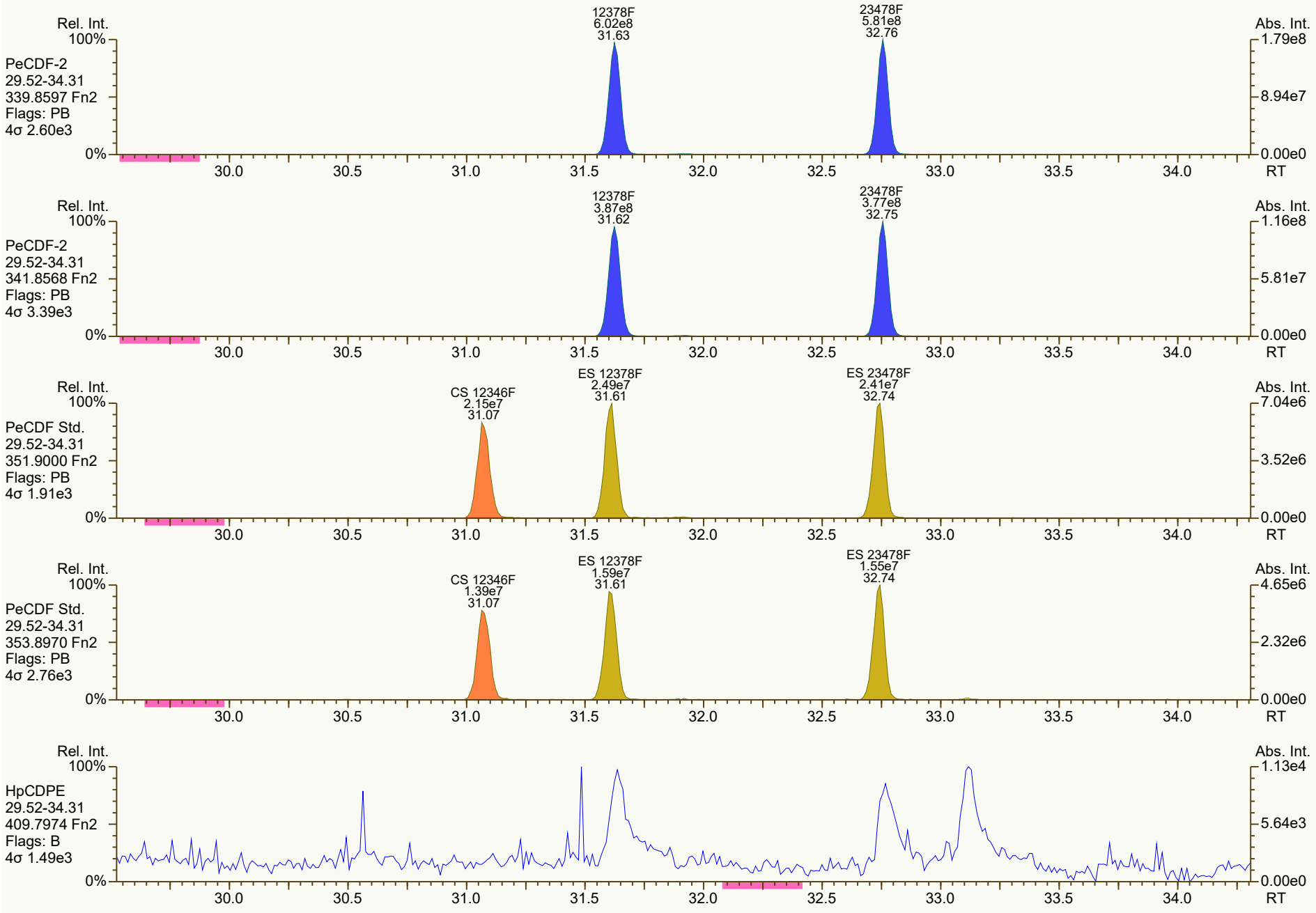

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

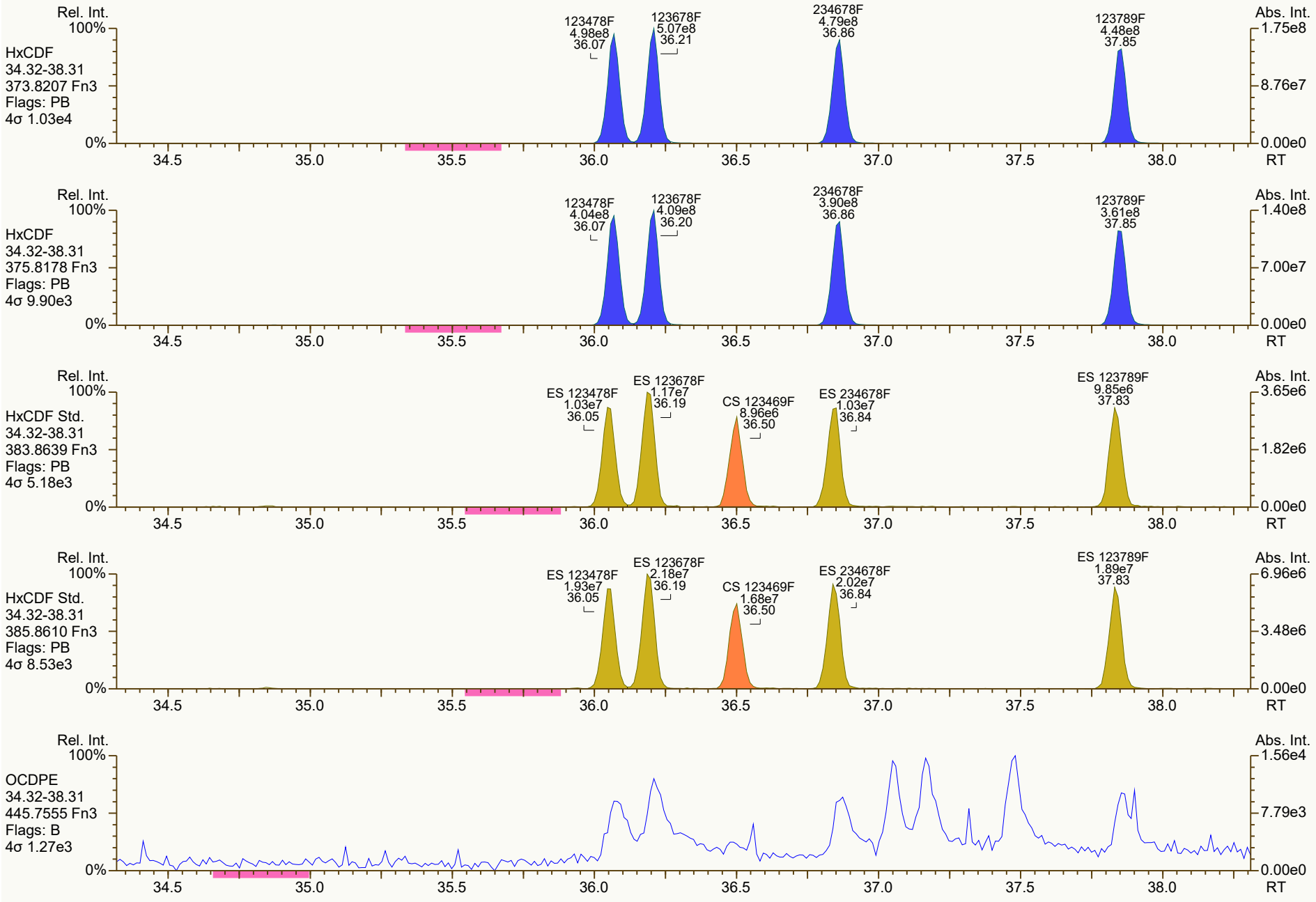

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

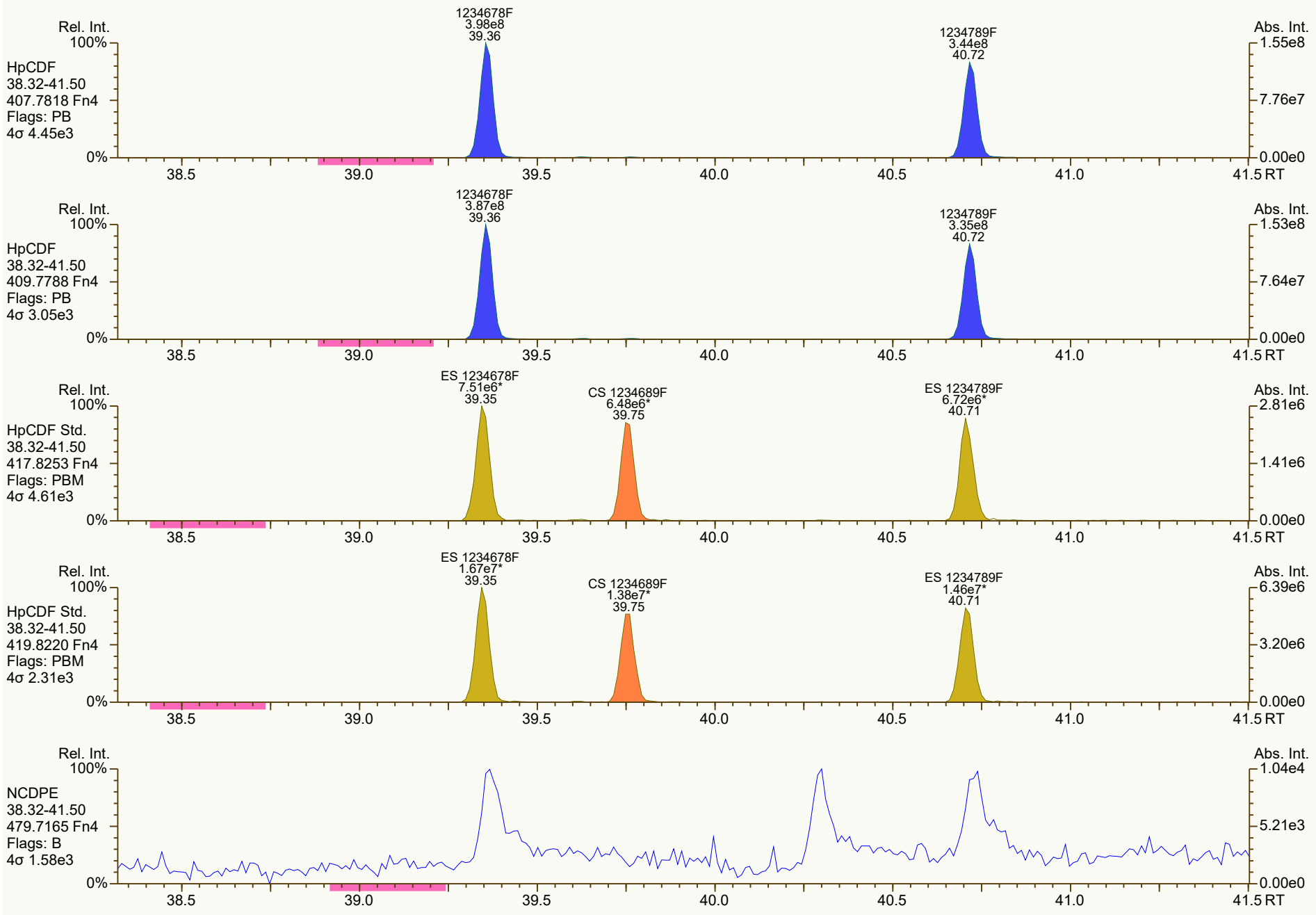

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

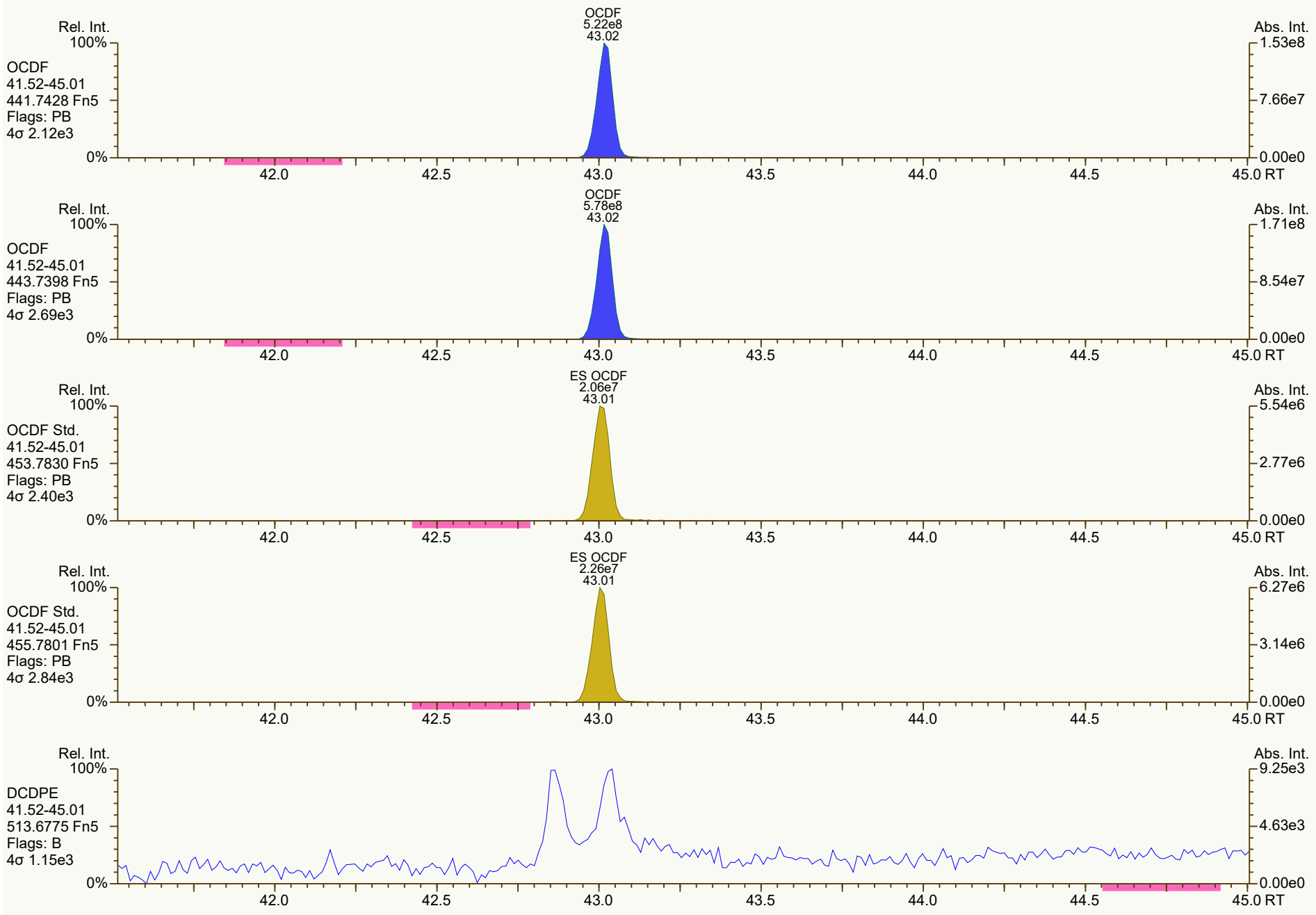

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

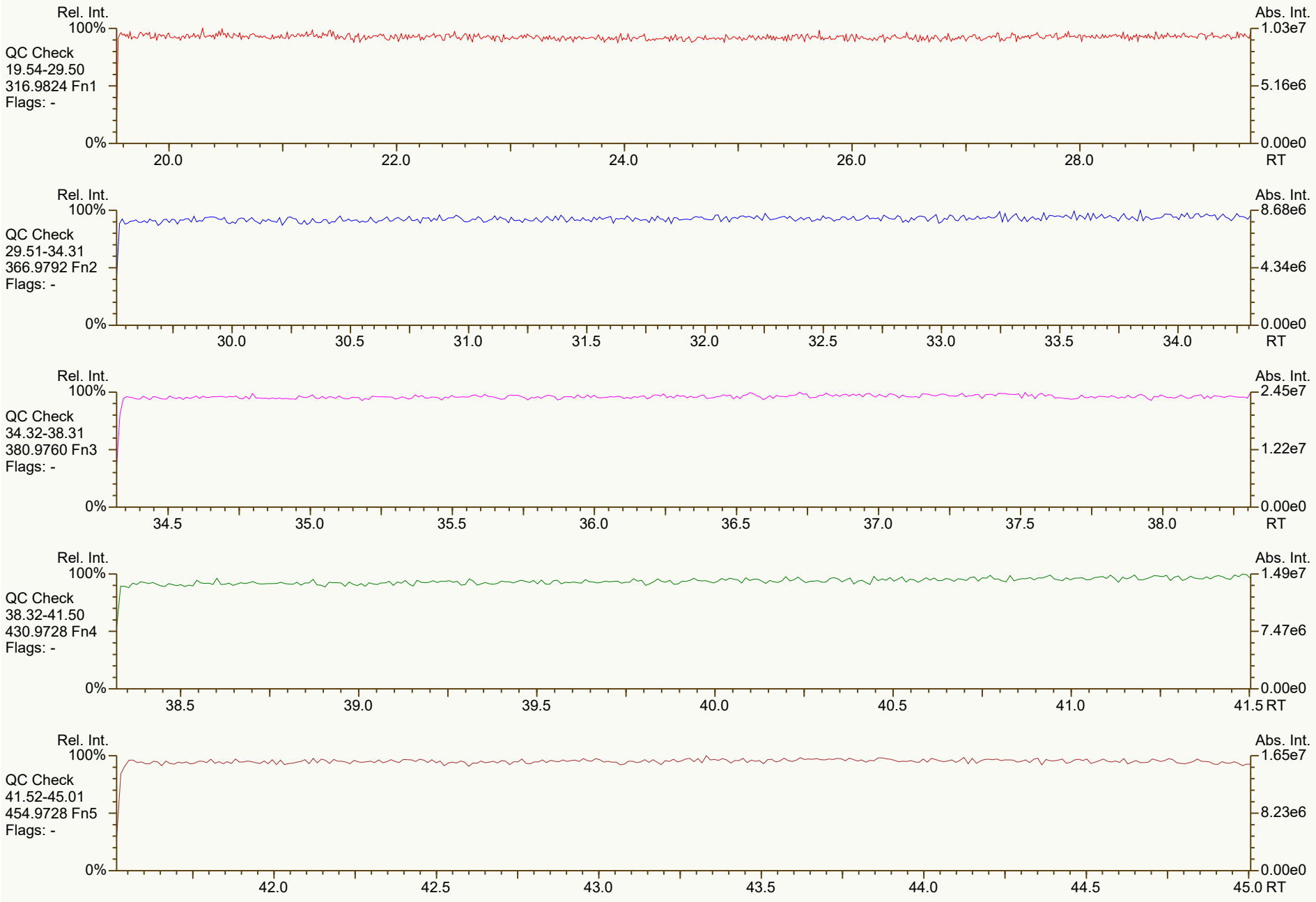

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

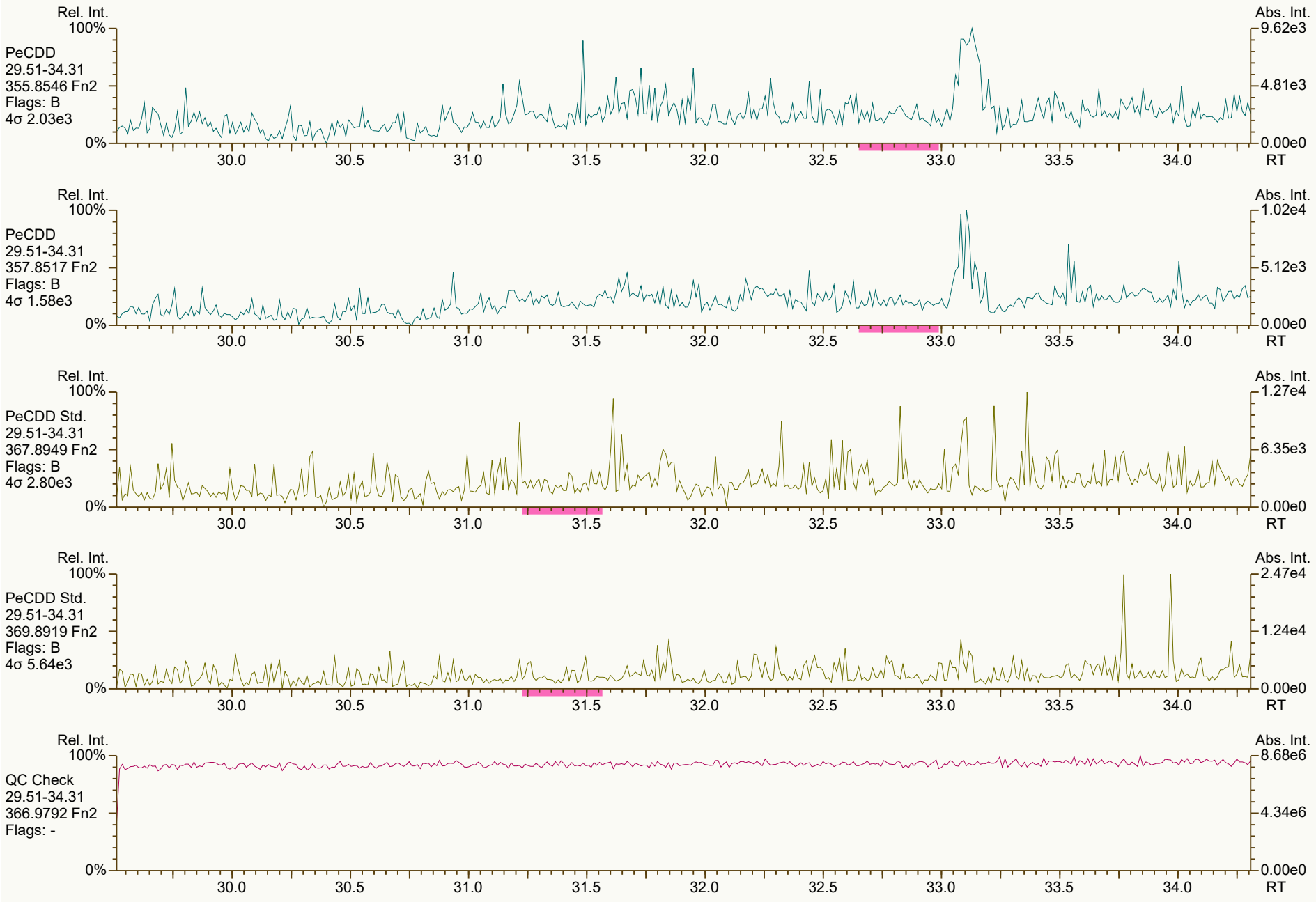
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

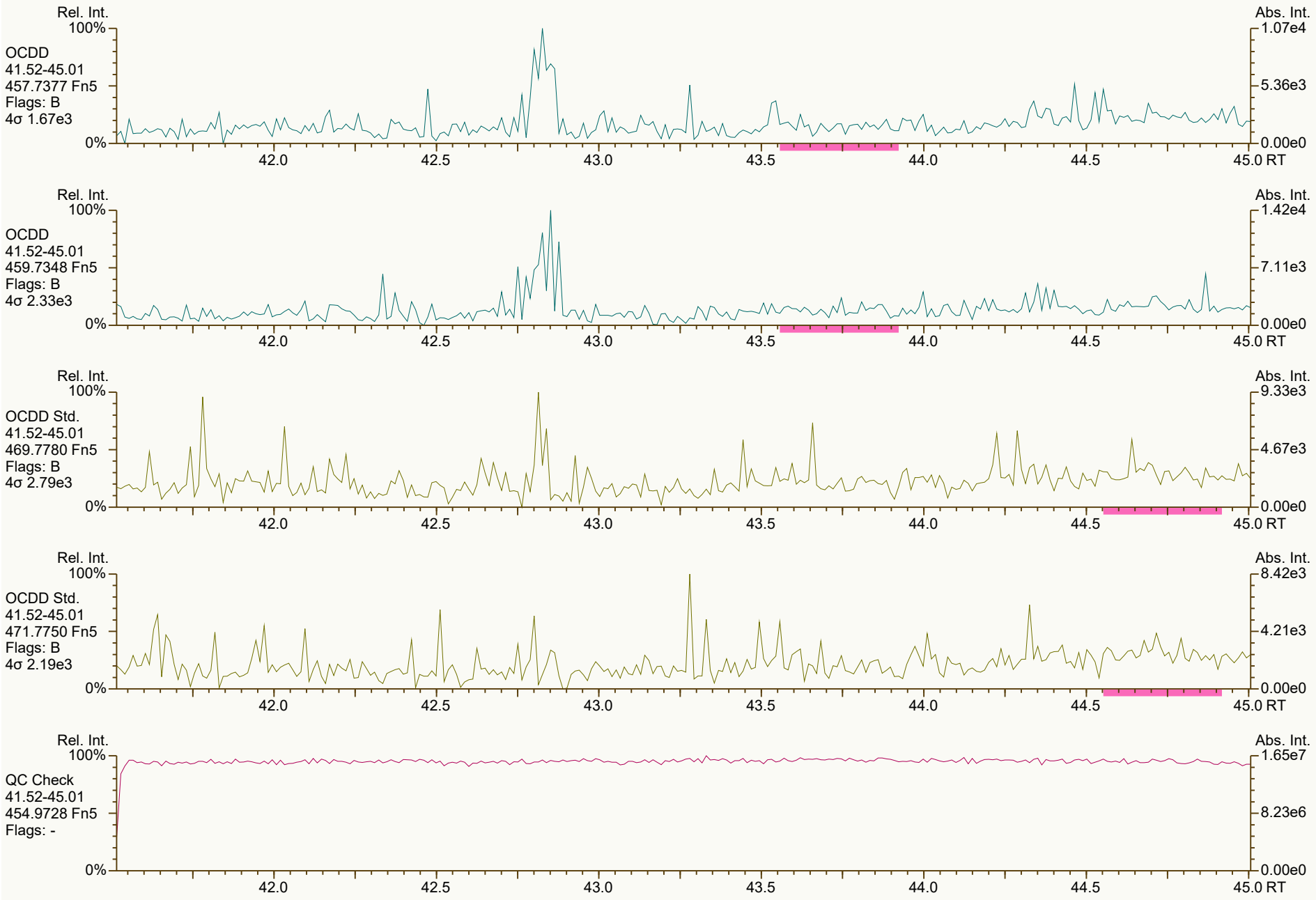
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*

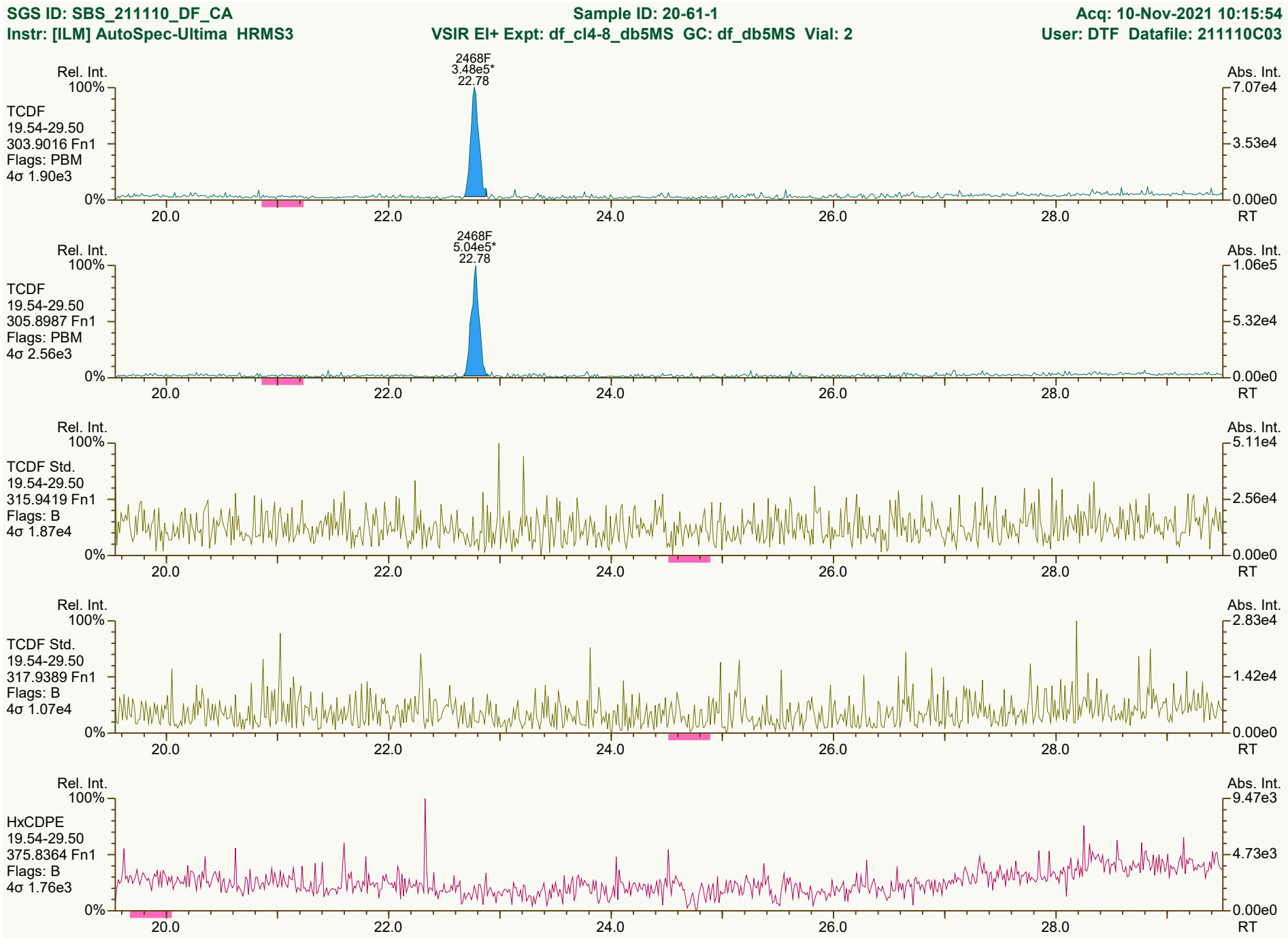

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

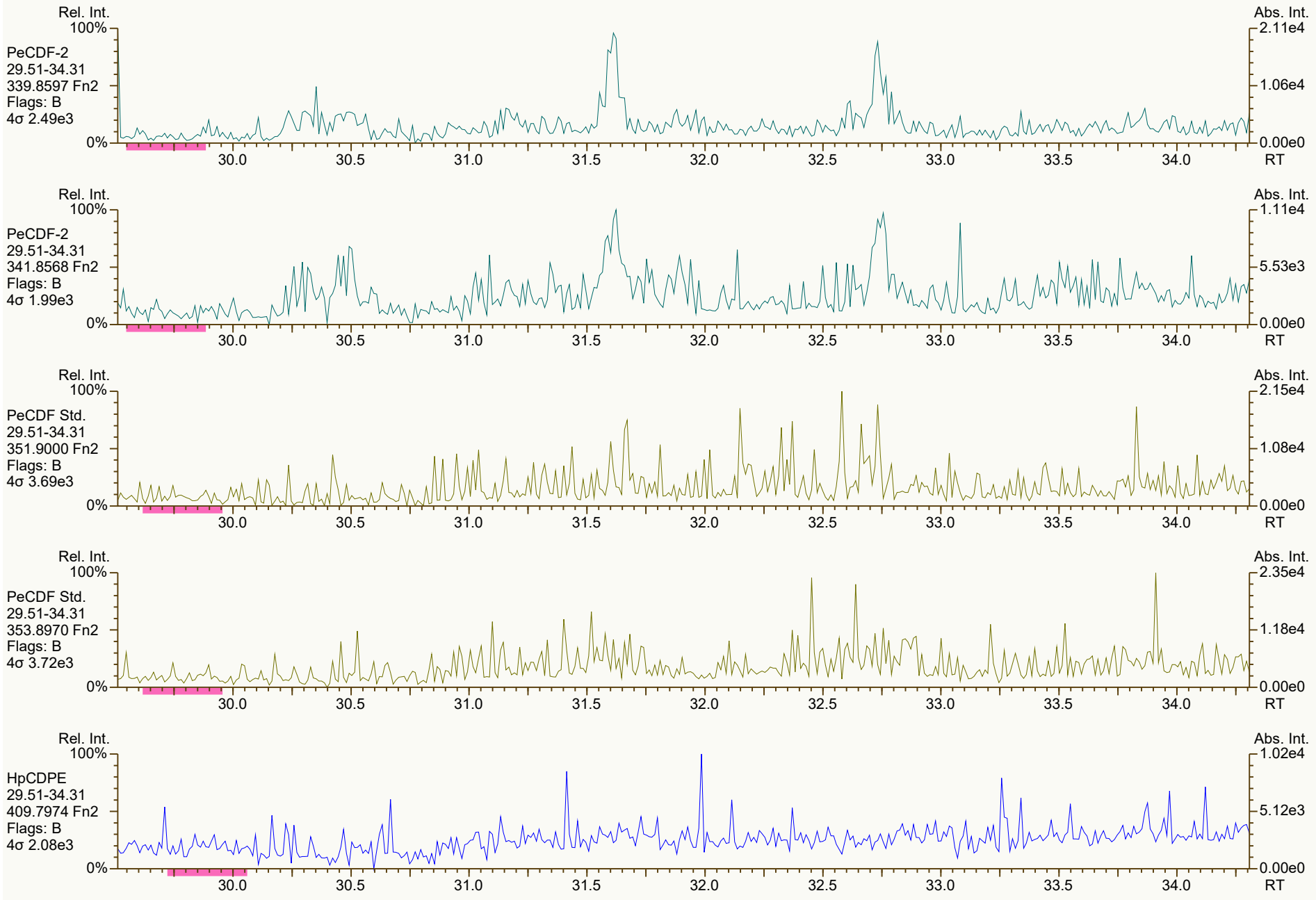

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

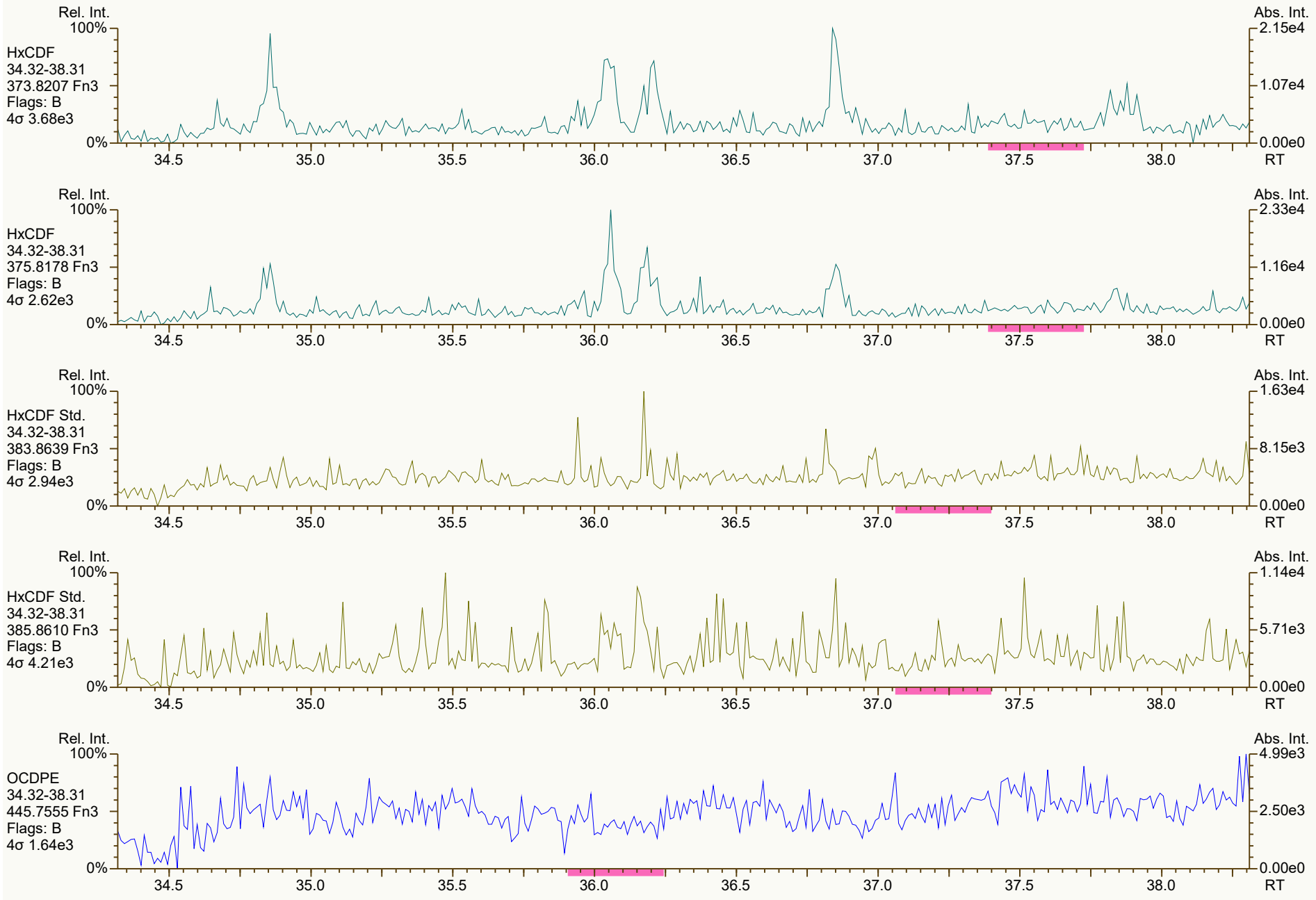

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
7.07e4
3.53e4
0.00e0
RT
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

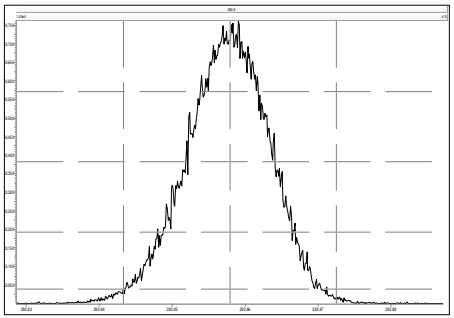

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

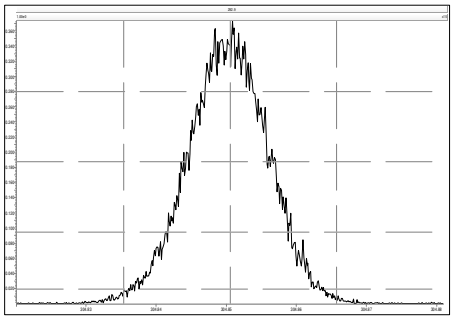
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

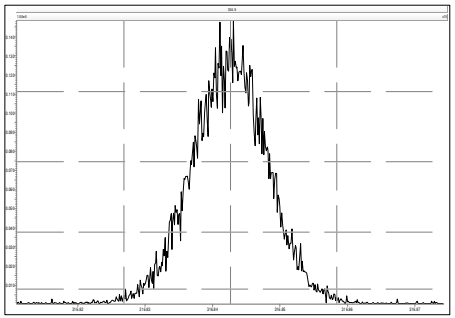
M 292.9824 R 10731



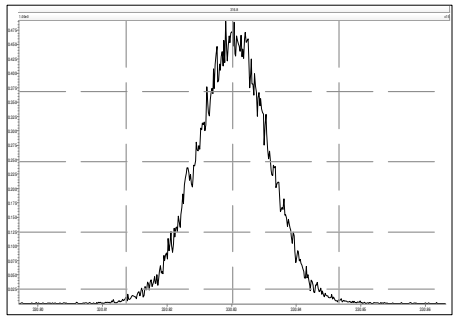
M 304.9824 R 11311



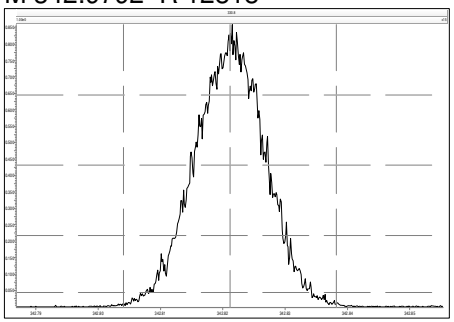
M 316.9824 R 12373



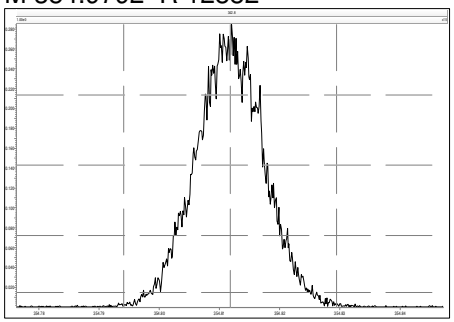
M 330.9792 R 12887



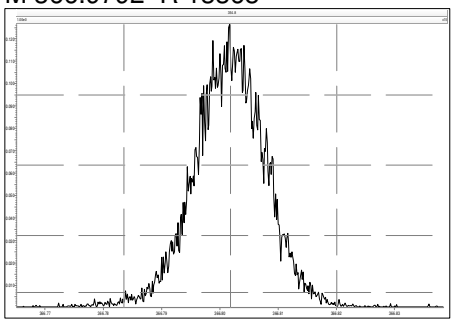
M 342.9792 R 12818



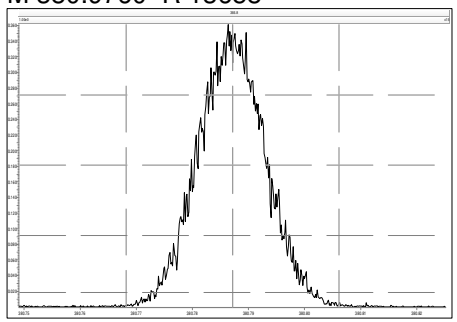
M 354.9792 R 12882



M 366.9792 R 13368



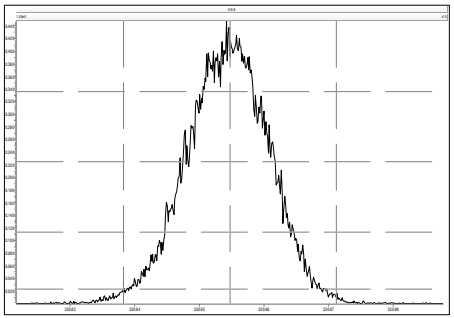
M 380.9760 R 13658



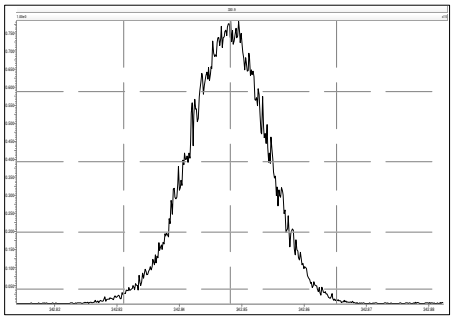
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

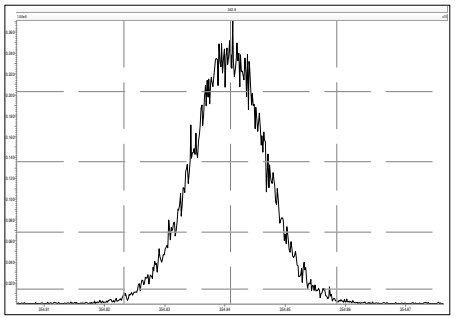
M 330.9792 R 11112



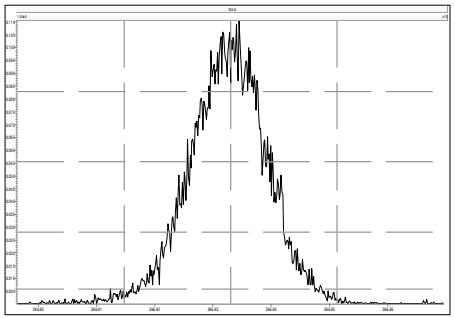
M 342.9792 R 11909



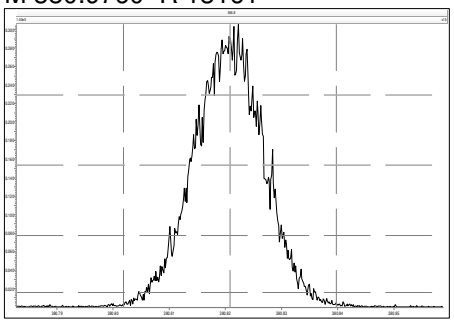
M 354.9792 R 11684



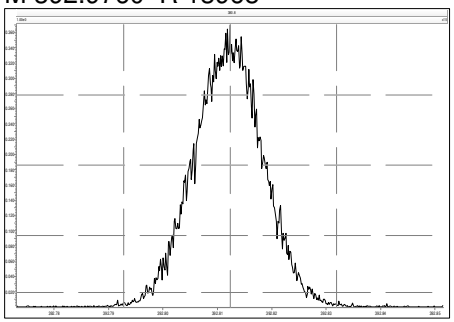
M 366.9792 R 11962



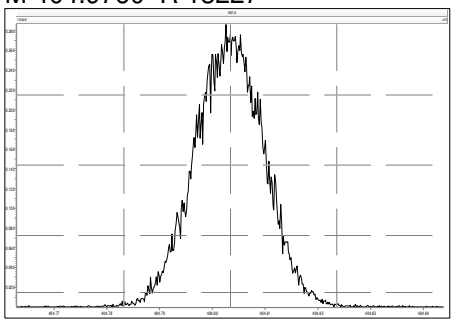
M 380.9760 R 13161



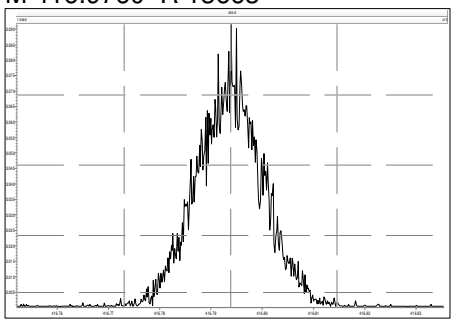
M 392.9760 R 13968



M 404.9760 R 13227



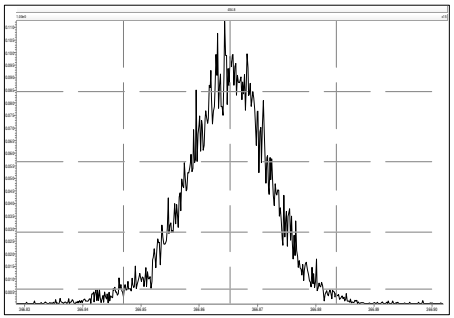
M 416.9760 R 13663



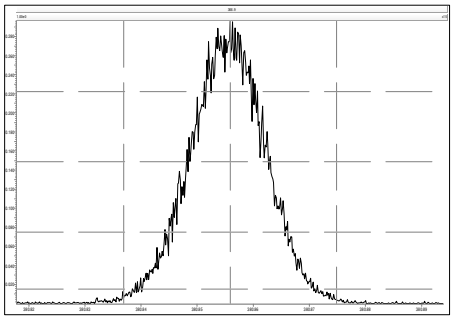
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

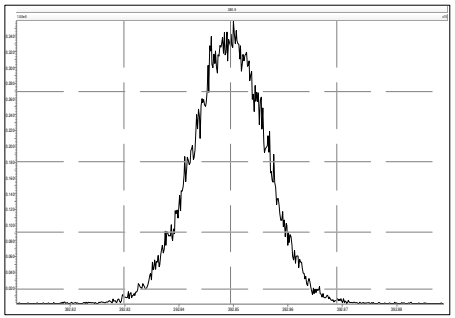
M 366.9792 R 10680



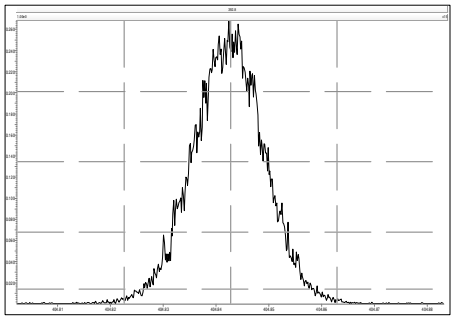
M 380.9760 R 12315



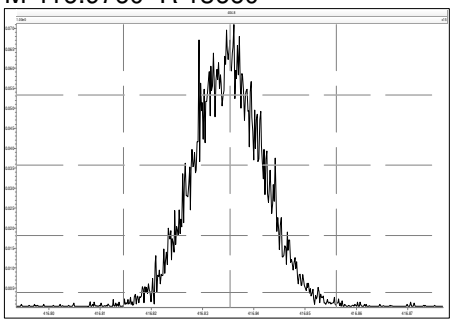
M 392.9760 R 12197



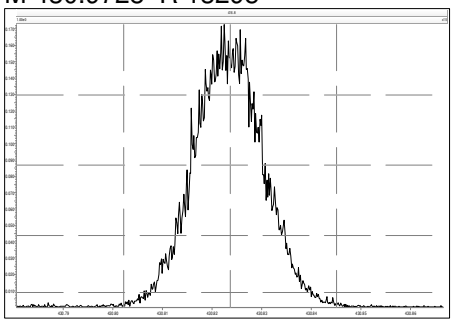
M 404.9760 R 12433



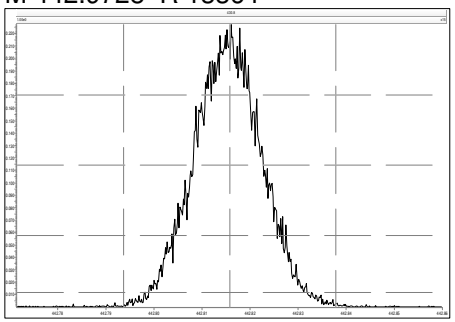
M 416.9760 R 13660



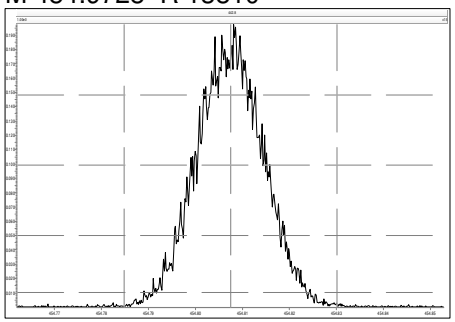
M 430.9728 R 13295



M 442.9728 R 13364



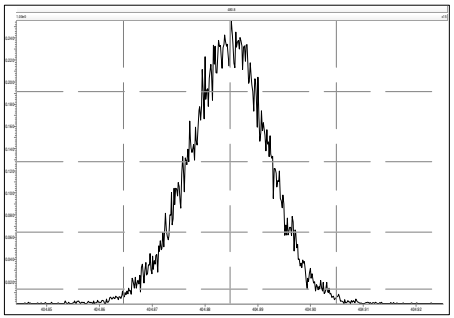
M 454.9728 R 13810



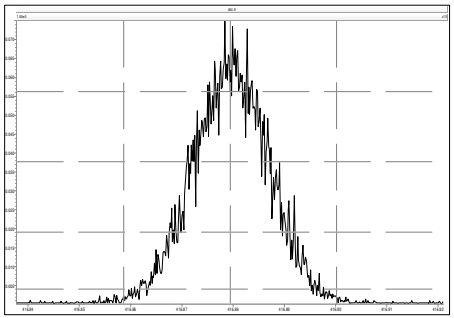
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

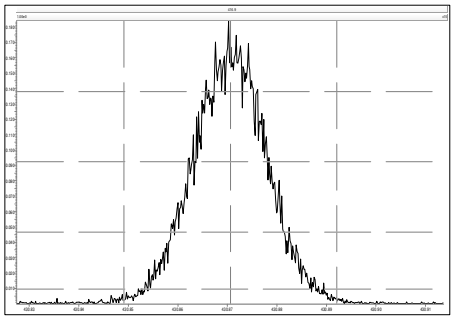
M 404.9760 R 11679



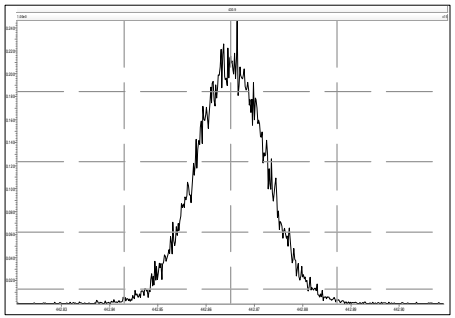
M 416.9760 R 12886



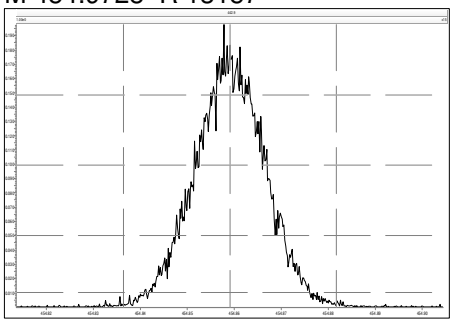
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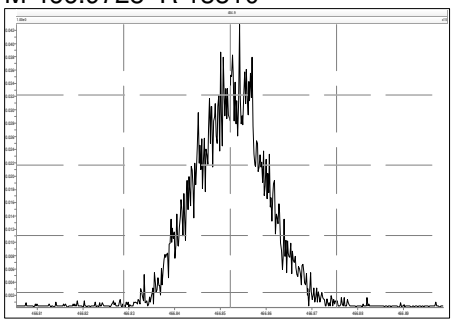
M 442.9728 R 12756



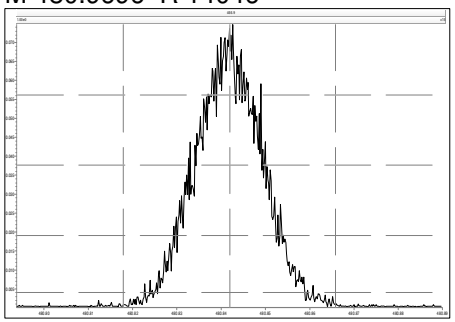
M 454.9728 R 13157



M 466.9728 R 13810



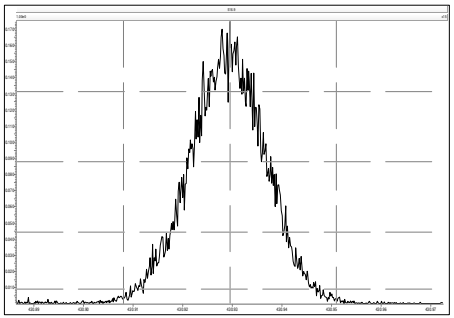
M 480.9696 R 14046



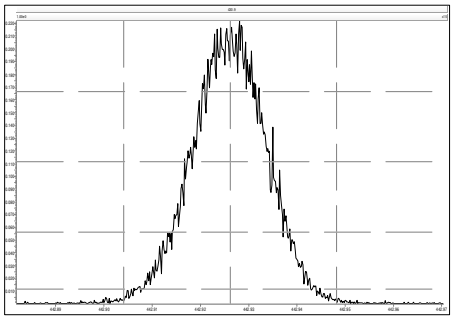
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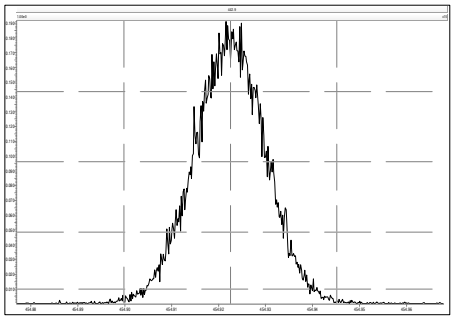
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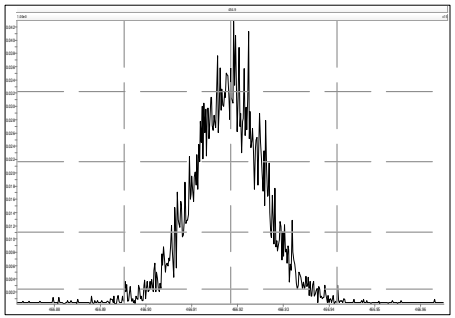
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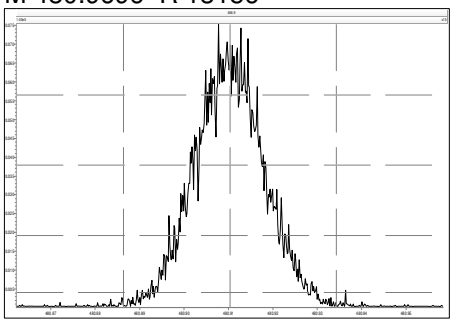
M 454.9728 R 12950



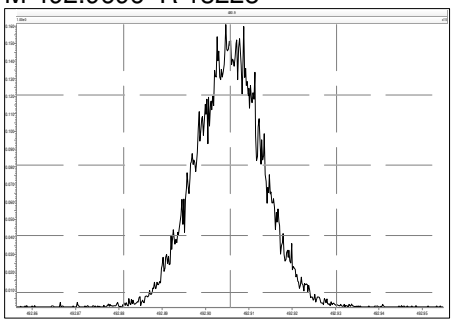
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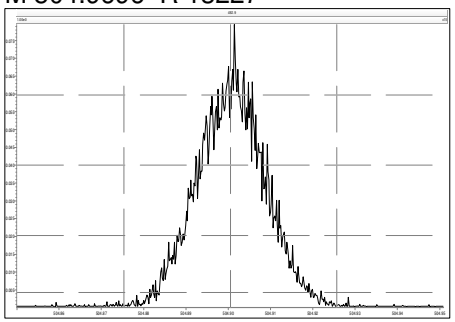
M 480.9696 R 13156



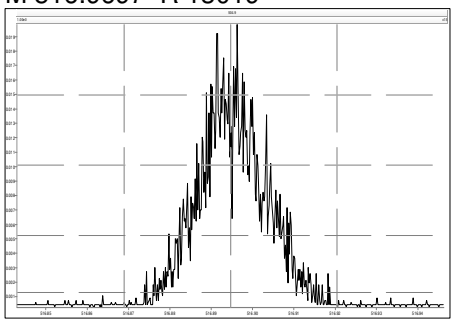
M 492.9696 R 13228



M 504.9696 R 13227



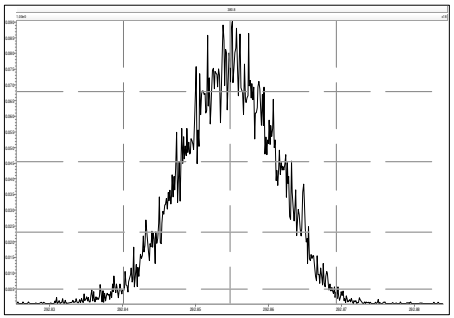
M 516.9697 R 13019



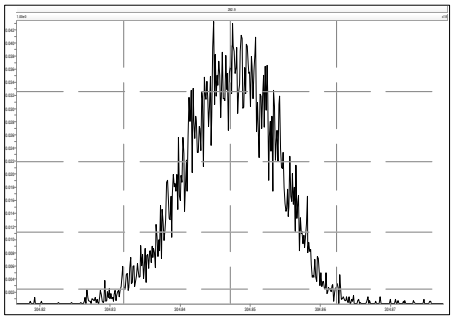
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Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

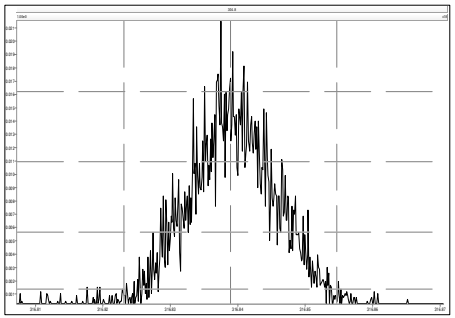
M 292.9824 R 10122



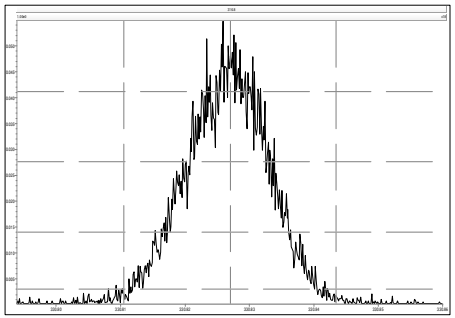
M 304.9824 R 10329



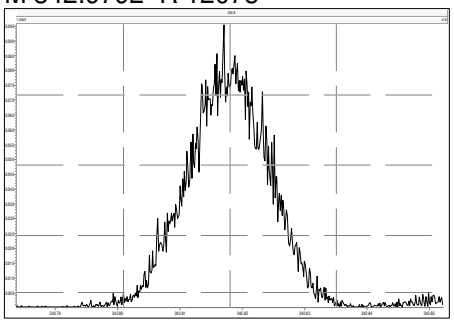
M 316.9824 R 11964



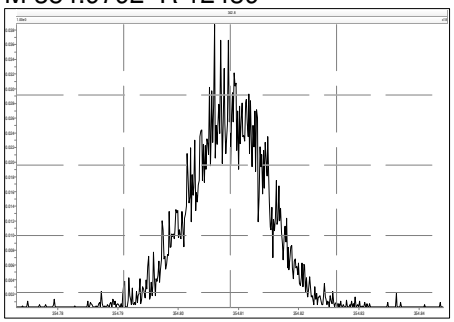
M 330.9792 R 11062



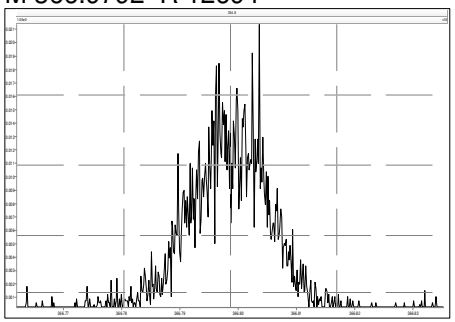
M 342.9792 R 12075



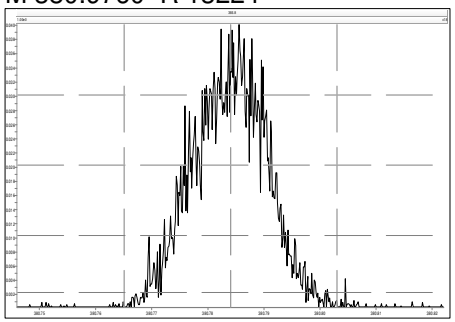
M 354.9792 R 12439



M 366.9792 R 12694



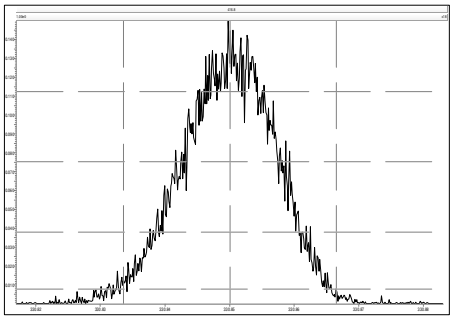
M 380.9760 R 13224



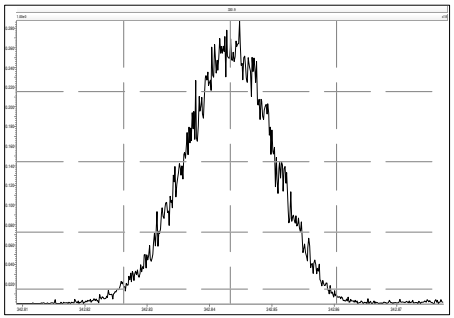
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Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

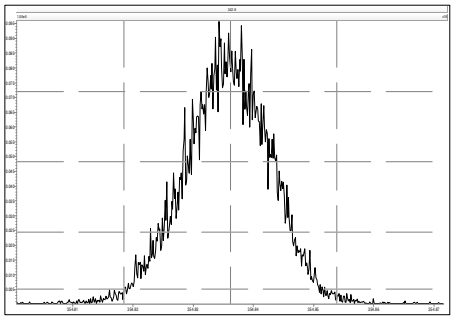
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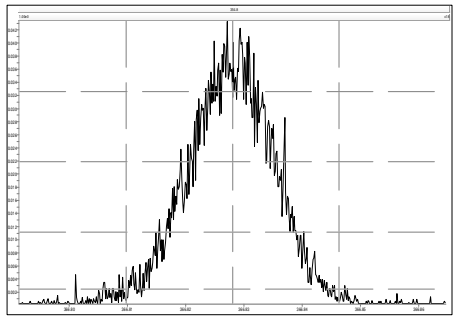
M 342.9792 R 10039



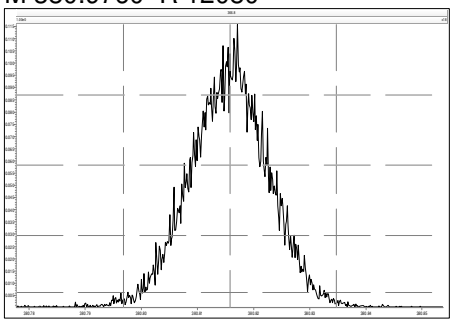
M 354.9792 R 11108



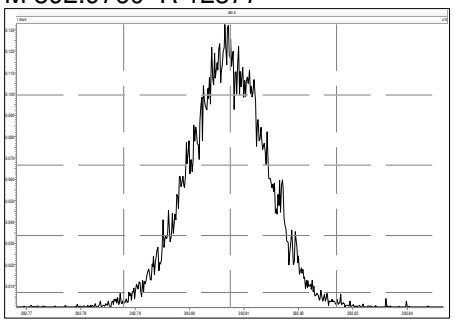
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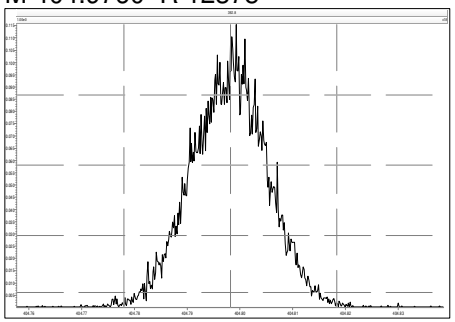
M 380.9760 R 12080



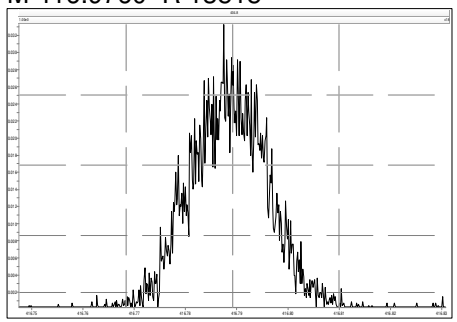
M 392.9760 R 12377



M 404.9760 R 12375



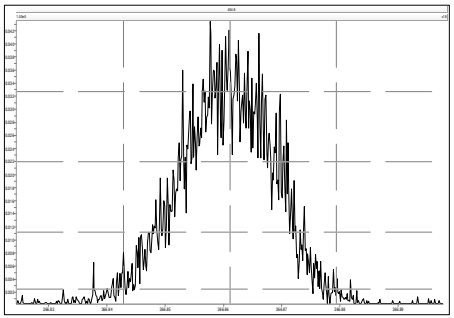
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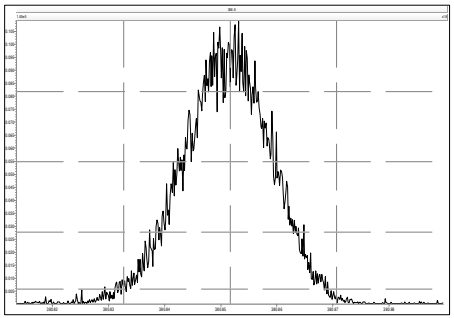
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Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

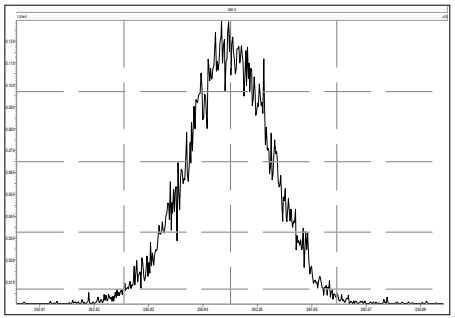
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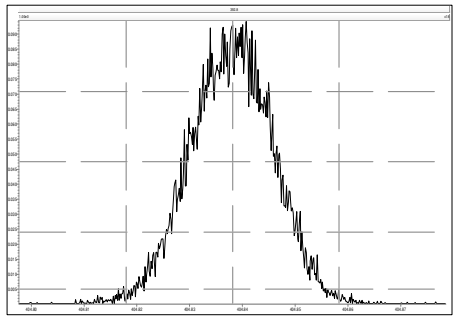
M 380.9760 R 10416



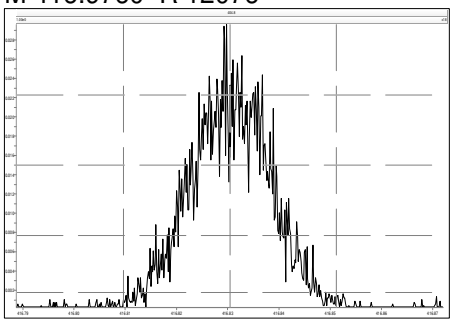
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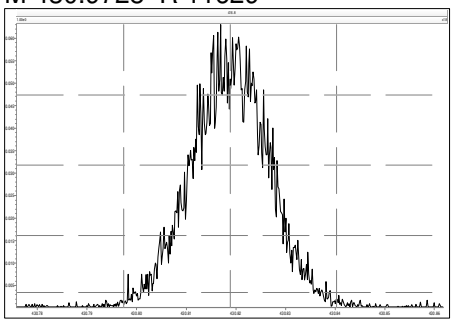
M 404.9760 R 11957



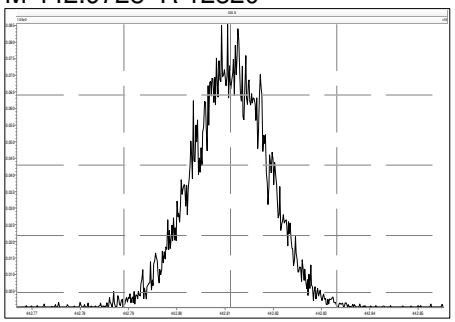
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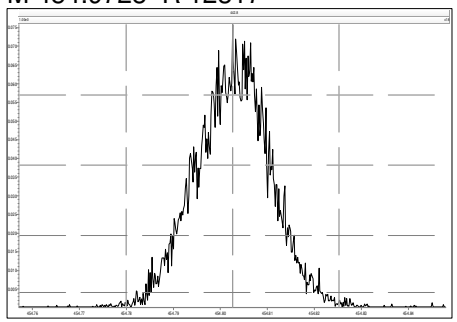
M 430.9728 R 11629



M 442.9728 R 12820



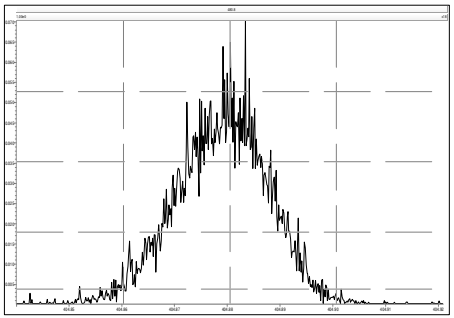
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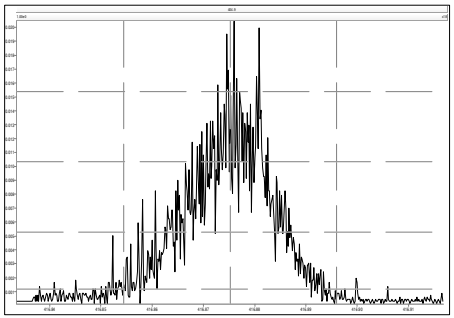
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

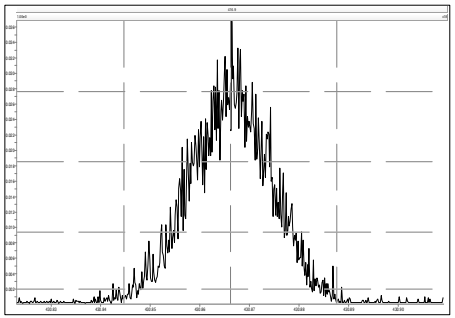
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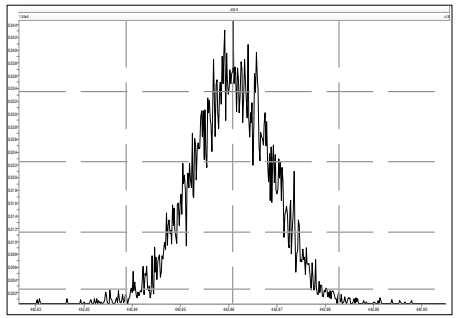
M 416.9760 R 12500



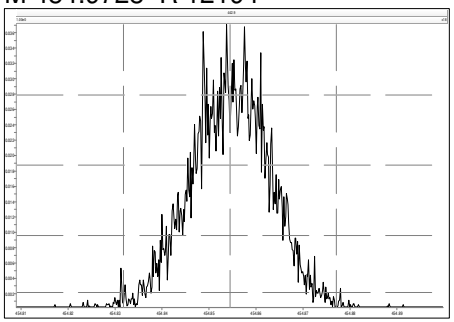
M 430.9728 R 11362



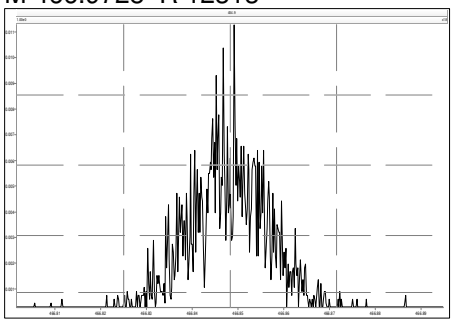
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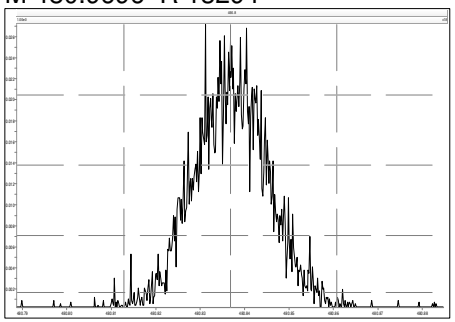
M 454.9728 R 12194



M 466.9728 R 12313



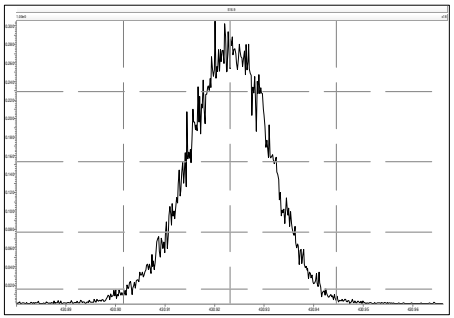
M 480.9696 R 13294



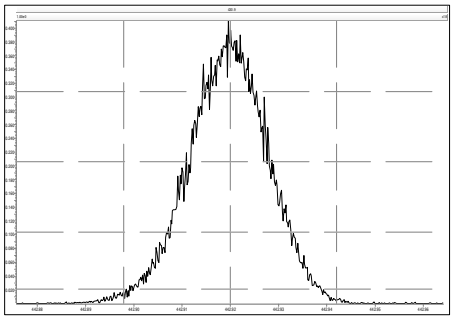
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

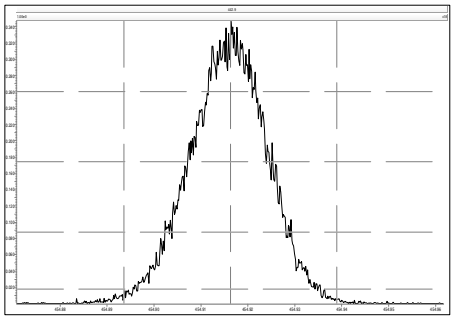
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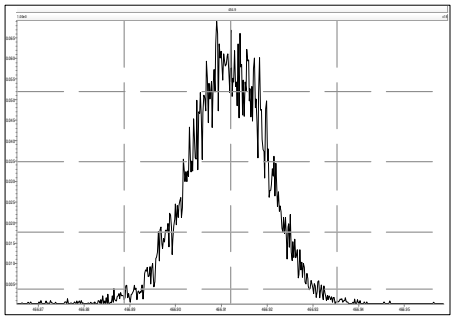
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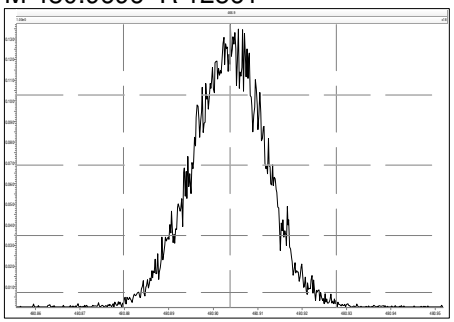
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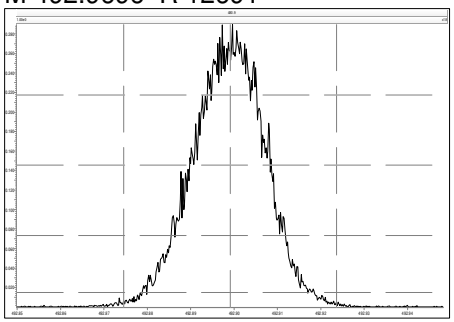
M 466.9728 R 12562



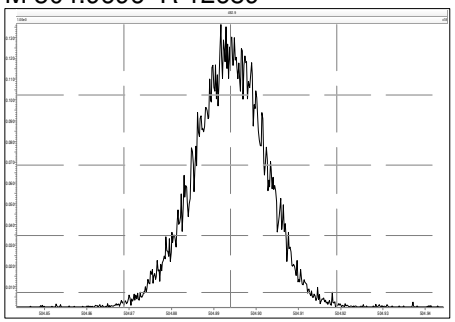
M 480.9696 R 12561



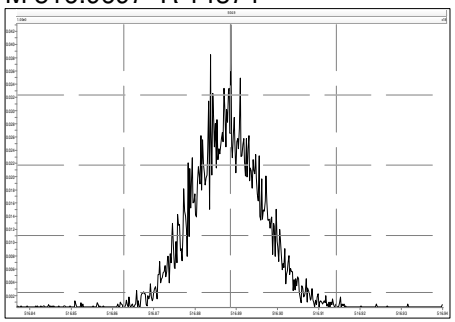
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18833_DF

REVIEWED
Tamara Burkamper , 1/18/2022, 10:37:46 AM

Acq'd: 17 Jan 2022 09:50 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18833_OPR001

UTP: 18-Jan-2022 09:06:08 DTF

J-level: 0.25 pg/uL Split: 1

Checkcode: 516-206-DWS

Datafile: 220117C01

Report: 18 Jan 2022 09:08 TF

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	1.92E+06	0.74	Y	1.18	12.8	3216.28	0.248
12378-PeCDD	33.63		1.0006	1.0005	-0.2	6.62E+06	1.58	Y	1.04	50.4	3690.684	0.251
123478-HxCDD	37.61		1.0004	1.0004	0	8.38E+06	1.26	Y	1.09	56.9	2892.485	0.178
123678-HxCDD	37.72		1.0036	1.0035	-0.2	9.78E+06	1.28	Y	1.15	57.5	2892.485	0.138
123789-HxCDD	38.03		1.0118	1.0117	-0.2	8.05E+06	1.29	Y	1.05	55.5	2892.485	0.173
1234678-HpCDD	40.83		1.0003	1.0003	0	7.08E+06	1.04	Y	1.06	54.2	3172.862	0.215
OCDD	43.61		1.0003	1.0003	0	8.18E+06	0.88	Y	1.13	113	4796.702	0.902
2378-TCDF	27.32		1.0008	1.0009	+0.2	2.82E+06	0.79	Y	1.08	12.3	3259.509	0.153
12378-PeCDF	32.17		1.0006	1.0005	-0.2	1.12E+07	1.62	Y	1.02	54.6	7879.714	0.362
23478-PeCDF	33.28		1.0006	1.0005	-0.2	1.21E+07	1.61	Y	1.02	58.9	7879.714	0.344
123478-HxCDF	36.60		1.0005	1.0004	-0.2	1.13E+07	1.21	Y	1.27	55.1	13487.778	0.55
123678-HxCDF	36.74		1.0004	1.0005	+0.2	1.32E+07	1.29	Y	1.15	55.2	13487.778	0.469
234678-HxCDF	37.41		1.0005	1.0004	-0.2	1.48E+07	1.24	Y	1.19	52.3	13487.778	0.406
123789-HxCDF	38.40		1.0004	1.0004	0	9.83E+06	1.29	Y	1.16	52	13487.778	0.644
1234678-HpCDF	39.86		1.0003	1.0003	0	1.18E+07	1.08	Y	1.37	53.1	6027.153	0.211
1234789-HpCDF	41.28		1.0003	1.0003	0	7.97E+06	1.02	Y	1.31	52.6	6027.153	0.42
OCDF	43.77		1.0003	1.0003	0	1.01E+07	0.89	Y	1.07	105	5660.723	0.814

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18	1.0231	1.0233	+0.3	1.27E+07	0.86	Y	1.05	95.8
ES 12378-PeCDD	33.61	1.2198	1.2209	+2.2	1.27E+07	1.60	Y	0.88	114
ES 123478-HxCDD	37.59	0.9913	0.9914	+0.2	1.35E+07	1.23	Y	0.97	104
ES 123678-HxCDD	37.71	0.9944	0.9945	+0.2	1.48E+07	1.29	Y	0.94	117
ES 123789-HxCDD	38.01	1.0026	1.0026	0	1.38E+07	1.30	Y	1.09	94.4
ES 1234678-HpCDD	40.81	1.0760	1.0764	+1.0	1.23E+07	1.09	Y	0.91	100
ES OCDD	43.59	1.1489	1.1497	+2.1	1.28E+07	0.86	Y	0.62	76.3
ES 2378-TCDF	27.30	1.0515	1.0519	+0.7	2.12E+07	0.76	Y	1.06	89.1
ES 12378-PeCDF	32.15	1.2378	1.2390	+2.3	1.99E+07	1.53	Y	0.91	97.4
ES 23478-PeCDF	33.26	1.2804	1.2817	+2.6	2.01E+07	1.54	Y	0.88	101
ES 123478-HxCDF	36.58	0.9647	0.9648	+0.2	1.62E+07	0.54	Y	1.20	100
ES 123678-HxCDF	36.72	0.9684	0.9684	0	2.07E+07	0.55	Y	1.35	114
ES 234678-HxCDF	37.39	0.9861	0.9862	+0.2	2.38E+07	0.53	Y	1.24	143
ES 123789-HxCDF	38.38	1.0120	1.0122	+0.5	1.62E+07	0.57	Y	1.16	105
ES 1234678-HpCDF	39.85	1.0506	1.0510	+1.0	1.62E+07	0.44	Y	0.97	125
ES 1234789-HpCDF	41.27	1.0879	1.0885	+1.5	1.16E+07	0.45	Y	0.85	101
ES OCDF	43.76	1.1534	1.1541	+1.8	1.79E+07	0.91	Y	0.81	82.4

Lab ID: OPR1_18833_DF | **Acq'd:** 17 Jan 2022 09:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18833_OPR001 | **UTP:** 18-Jan-2022 09:06:08 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 516-206-DWS

Datafile: 220117C01 | **Report:** 18 Jan 2022 09:08 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	1.26E+07	0.80	Y	-	-
JS 1234-TCDF	25.95		-	-	-	2.25E+07	0.78	Y	-	-
JS 123467-HxCDD	37.92		-	-	-	6.72E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0241	+0.5	5.84E+06	n/a	-	1.20	96.1
CS 12347-PeCDD	33.12		1.2018	1.2028	+2.0	1.12E+07	1.61	Y	0.75	118
CS 12346-PeCDF	31.63		1.2178	1.2188	+1.9	1.88E+07	1.51	Y	0.85	98.1
CS 123469-HxCDF	37.04		0.9768	0.9769	+0.2	1.69E+07	0.56	Y	1.12	113
CS 1234689-HpCDF	40.26		1.0615	1.0619	+1.0	1.33E+07	0.47	Y	0.89	112
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~5.84E+06~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2018~~	~~1.2028~~	~~+2.0~~	~~1.12E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2178~~	~~1.2188~~	~~+1.9~~	~~1.88E+07~~	~~1.51~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9769~~	~~+0.2~~	~~1.69E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~98.6~~
~~SS 1234689-HpCDF~~	~~40.26~~		~~1.0615~~	~~1.0619~~	~~+1.0~~	~~1.33E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~89.6~~

Totals	Conc	EMPC
Total TCDD	58.8	58.8
Total PeCDD	74.9	74.9
Total HxCDD	183	183
Total HpCDD	66.7	66.7
Total Tetra-Octa Dioxins	497	497
Total TCDF	69.7	69.7
Total PeCDF	198	198
Total HxCDF	332	332
Total HpCDF	106	106
Total Tetra-Octa Furans	811	811
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.735	0.74
Response	1.92E+06	1.92E+06

Lab ID: OPR1_18833_DF | **Acq'd: 17 Jan 2022 09:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18833_OPR001 | **UTP: 18-Jan-2022 09:06:08 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 516-206-DWS**

Datafile: 220117C01 | **Report: 18 Jan 2022 09:08 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8733	0.8705	-4.1	2.51E+06	0.79	Y	1.18	16.7	3216.28	0.248
1379-TCDD	NotFnd		0.8860						1.18		3216.28	0.248
1369-TCDD	NotFnd		0.9009						1.18		3216.28	0.248
1469-TCDD	NotFnd		0.9282						1.18		3216.28	0.248
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		3216.28	0.248
1378-TCDD	NotFnd		0.9429						1.18		3216.28	0.248
1268-TCDD	NotFnd		0.9500						1.18		3216.28	0.248
1478-TCDD	NotFnd		0.9584						1.18		3216.28	0.248
1279-TCDD	NotFnd		0.9648						1.18		3216.28	0.248
1234/1269-TCDD	NotFnd		0.9770						1.18		3216.28	0.248
1236-TCDD	NotFnd		0.9821						1.18		3216.28	0.248
1237/1238-TCDD	NotFnd		0.9909						1.18		3216.28	0.248
1239-TCDD	28.06		0.9959	0.9960	+0.2	1.75E+06	0.86	Y	1.18	11.7	3216.28	0.248
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	1.92E+06	0.74	Y	**1.18**	**12.8**	**3216.28**	**0.248**
1278-TCDD	NotFnd		1.0123						1.18		3216.28	0.248
1267-TCDD	NotFnd		1.0172						1.18		3216.28	0.248
1289-TCDD	29.20		1.0354	1.0363	+1.6	2.64E+06	0.82	Y	1.18	17.6	3216.28	0.248
12479/12468-PeCDD	31.13		0.9267	0.9260	-1.3	1.56E+06	1.70	Y	1.04	11.8	3690.684	0.251
12469-PeCDD	NotFnd		0.9426						1.04		3690.684	0.251
12368-PeCDD	NotFnd		0.9587						1.04		3690.684	0.251
12478-PeCDD	NotFnd		0.9642						1.04		3690.684	0.251
12379-PeCDD	NotFnd		0.9674						1.04		3690.684	0.251
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3690.684	0.251
12346/12347-PeCDD	NotFnd		0.9861						1.04		3690.684	0.251
12378-PeCDD	33.63		**1.0006**	**1.0005**	**-0.2**	**6.62E+06**	**1.58**	**Y**	**1.04**	**50.4**	**3690.684**	**0.251**
12367-PeCDD	NotFnd		1.0036						1.04		3690.684	0.251
12389-PeCDD	34.09		1.0139	1.0141	+0.4	1.67E+06	1.53	Y	1.04	12.7	3690.684	0.251
124679/124689-HxCDD	35.87		0.9541	0.9543	+0.4	1.98E+06	1.32	Y	1.10	12.9	2892.485	0.162
123468-HxCDD	NotFnd		0.9715						1.10		2892.485	0.162
123679/123689-HxCDD	NotFnd		0.9793						1.10		2892.485	0.162
123469-HxCDD	NotFnd		0.9831						1.10		2892.485	0.162
123478-HxCDD	37.61		**1.0004**	**1.0004**	**0**	**8.38E+06**	**1.26**	**Y**	1.09	**56.9**	**2892.485**	**0.178**
123678-HxCDD	37.72		**1.0036**	**1.0035**	**-0.2**	**9.78E+06**	**1.28**	**Y**	1.15	**57.5**	**2892.485**	**0.138**
123467-HxCDD	NotFnd		1.0089						1.10		2892.485	0.162
123789-HxCDD	38.03		**1.0118**	**1.0117**	**-0.2**	**8.05E+06**	**1.29**	**Y**	1.05	**55.5**	**2892.485**	**0.173**

Lab ID: OPR1_18833_DF **Acq'd: 17 Jan 2022 09:50 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18833_OPR001 **UTP: 18-Jan-2022 09:06:08 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 516-206-DWS**

Datafile: 220117C01 **Report: 18 Jan 2022 09:08 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9835	0.9835	0	1.62E+06	1.08	Y	1.06	12.4	3172.862	0.215
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**7.08E+06**	**1.04**	**Y**	**1.06**	**54.2**	**3172.862**	**0.215**
OCDD	**43.61**		**1.0003**	**1.0003**	**0**	**8.18E+06**	**0.88**	**Y**	**1.13**	**113**	**4796.702**	**0.902**
OCDD-a	43.60		1.0002	1.0002	0	4.20E+05	2.39	Y	0.07	91.1	4635.557	13.6
1368-TCDF	22.39		0.8250	0.8204	-6.2	3.75E+06	0.80	Y	1.08	16.4	3259.509	0.153
1468-TCDF	NotFnd		0.8494						1.08		3259.509	0.153
2468-TCDF	23.62		0.8684	0.8653	-4.4	9.50E+05	0.87	Y	1.08	4.15	3259.509	0.153
1346/1246-TCDF	NotFnd		0.8815						1.08		3259.509	0.153
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3259.509	0.153
1348-TCDF	NotFnd		0.8966						1.08		3259.509	0.153
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3259.509	0.153
1268-TCDF	NotFnd		0.9148						1.08		3259.509	0.153
1467-TCDF	NotFnd		0.9197						1.08		3259.509	0.153
1478-TCDF	NotFnd		0.9258						1.08		3259.509	0.153
1369/1237-TCDF	NotFnd		0.9390						1.08		3259.509	0.153
2467-TCDF	NotFnd		0.9435						1.08		3259.509	0.153
2368-TCDF	NotFnd		0.9488						1.08		3259.509	0.153
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		3259.509	0.153
1278-TCDF	NotFnd		0.9689						1.08		3259.509	0.153
1349-TCDF	NotFnd		0.9730						1.08		3259.509	0.153
1267-TCDF	NotFnd		0.9787						1.08		3259.509	0.153
2346/1249-TCDF	NotFnd		0.9856						1.08		3259.509	0.153
2347/1279-TCDF	NotFnd		0.9934						1.08		3259.509	0.153
2348-TCDF	27.22		0.9972	0.9971	-0.2	3.96E+06	0.83	Y	1.08	17.3	3259.509	0.153
2378-TCDF	**27.32**		**1.0008**	**1.0009**	**+0.2**	**2.82E+06**	**0.79**	**Y**	**1.08**	**12.3**	**3259.509**	**0.153**
2367/3467-TCDF	NotFnd		1.0145						1.08		3259.509	0.153
1269-TCDF	NotFnd		1.0236						1.08		3259.509	0.153
1239-TCDF	NotFnd		1.0333						1.08		3259.509	0.153
1289-TCDF	29.36		1.0740	1.0757	+3.0	4.50E+06	0.79	Y	1.08	19.6	3259.509	0.153
13468/12468-PeCDF	29.33		0.9138	0.9121	-3.0	1.51E+07	1.57	Y	1.02	73.6	2691.854	0.121
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		7879.714	0.353
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		7879.714	0.353
14678-PeCDF	NotFnd		0.9693						1.02		7879.714	0.353
13479-PeCDF	NotFnd		0.9722						1.02		7879.714	0.353
13469/12479-PeCDF	NotFnd		0.9800						1.02		7879.714	0.353
12346-PeCDF	NotFnd		0.9844						1.02		7879.714	0.353

Lab ID: OPR1_18833_DF | **Acq'd: 17 Jan 2022 09:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18833_OPR001 | **UTP: 18-Jan-2022 09:06:08 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 516-206-DWS**

Datafile: 220117C01 | **Report: 18 Jan 2022 09:08 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		7879.714	0.353
12347-PeCDF	NotFnd		0.9890						1.02		7879.714	0.353
12348-PeCDF	NotFnd		0.9942						1.02		7879.714	0.353
12378-PeCDF	**32.17**		**1.0006**	**1.0005**	**-0.2**	**1.12E+07**	**1.62**	**Y**	**1.02**	**54.6**	**7879.714**	**0.362**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7879.714	0.353
12379-PeCDF	NotFnd		1.0142						1.02		7879.714	0.353
12679-PeCDF	NotFnd		0.9933						1.02		7879.714	0.353
23467/12369-PeCDF	NotFnd		0.9969						1.02		7879.714	0.353
23478-PeCDF	**33.28**		**1.0006**	**1.0005**	**-0.2**	**1.21E+07**	**1.61**	**Y**	**1.02**	**58.9**	**7879.714**	**0.344**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7879.714	0.353
12349-PeCDF	NotFnd		1.0107						1.02		7879.714	0.353
12389-PeCDF	34.38		1.0330	1.0337	+1.4	2.30E+06	1.66	Y	1.02	11.2	7879.714	0.353
123468-HxCDF	35.21		0.9627	0.9625	-0.4	2.70E+07	1.28	Y	1.19	118	13487.778	0.503
124678/134678-HxCDF	NotFnd		0.9682						1.19		13487.778	0.503
134679-HxCDF	NotFnd		0.9744						1.19		13487.778	0.503
124679-HxCDF	NotFnd		0.9798						1.19		13487.778	0.503
124689-HxCDF	NotFnd		0.9858						1.19		13487.778	0.503
123467-HxCDF	NotFnd		0.9973						1.19		13487.778	0.503
123478-HxCDF	**36.60**		**1.0005**	**1.0004**	**-0.2**	**1.13E+07**	**1.21**	**Y**	**1.27**	**55.1**	**13487.778**	**0.55**
123678-HxCDF	**36.74**		**1.0004**	**1.0005**	**+0.2**	**1.32E+07**	**1.29**	**Y**	**1.15**	**55.2**	**13487.778**	**0.469**
123479-HxCDF	NotFnd		1.0051						1.19		13487.778	0.503
123469-HxCDF	NotFnd		1.0093						1.19		13487.778	0.503
123679-HxCDF	NotFnd		0.9944						1.19		13487.778	0.503
234678-HxCDF	**37.41**		**1.0005**	**1.0004**	**-0.2**	**1.48E+07**	**1.24**	**Y**	**1.19**	**52.3**	**13487.778**	**0.406**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		13487.778	0.503
123789-HxCDF	**38.40**		**1.0004**	**1.0004**	**0**	**9.83E+06**	**1.29**	**Y**	**1.16**	**52**	**13487.778**	**0.644**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		13487.778	0.503
1234678-HpCDF	**39.86**		**1.0003**	**1.0003**	**0**	**1.18E+07**	**1.08**	**Y**	**1.37**	**53.1**	**6027.153**	**0.211**
1234679-HpCDF	NotFnd		1.0069						1.34		6027.153	0.297
1234689-HpCDF	NotFnd		1.0103						1.34		6027.153	0.297
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**7.97E+06**	**1.02**	**Y**	**1.31**	**52.6**	**6027.153**	**0.42**
OCDF	**43.77**		**1.0003**	**1.0003**	**0**	**1.01E+07**	**0.89**	**Y**	**1.07**	**105**	**5660.723**	**0.814**
OCDF-a	43.76	**EMPC**	1.0002	1.0001	-0.3	4.03E+05	2.91	N	0.07	67.7	3886.591	9.03

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220117C01	Analysis Date:	17-JAN-2022 09:50:09
Lab ID:	OPR1_18833_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	55.5	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.2	35	-	70	Y
OCDD	100	113	78	-	144	Y
2,3,7,8-TCDF	10	12.3	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	58.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55.1	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	52	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	53.1	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.6	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 18 Jan 2022 09:08 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220117C01 Analysis Date: 17-JAN-2022 09:50:09
Lab ID: OPR1_18833_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	95.8	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	114	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	104	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	117	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.4	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	100	26	-	166	Y
13C-OCDD	200	153	26	-	397	Y
13C-2,3,7,8-TCDF	100	89.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	97.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	101	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	100	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	114	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	143	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	105	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	125	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	101	20	-	186	Y
13C-OCDF	200	165	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.5	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 18 Jan 2022 09:08 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220117C01	Analysis Date:	17-JAN-2022 09:50:09
Lab ID:	OPR1_18833_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.53	1289-TCDD	29.20
12479/12468-PeCDD	31.13	12389-PeCDD	34.09
124679/124689-HxCDD	35.87	123789-HxCDD	38.03
1234679-HpCDD	40.14	1234678-HpCDD	40.83
1368-TCDF	22.39	1289-TCDF	29.36
13468/12468-PeCDF	29.33	12389-PeCDF	34.38
123468-HxCDF	35.21	123789-HxCDF	38.40
1234678-HpCDF	39.86	1234789-HpCDF	41.28

Isomer Specificity Test Standard Results

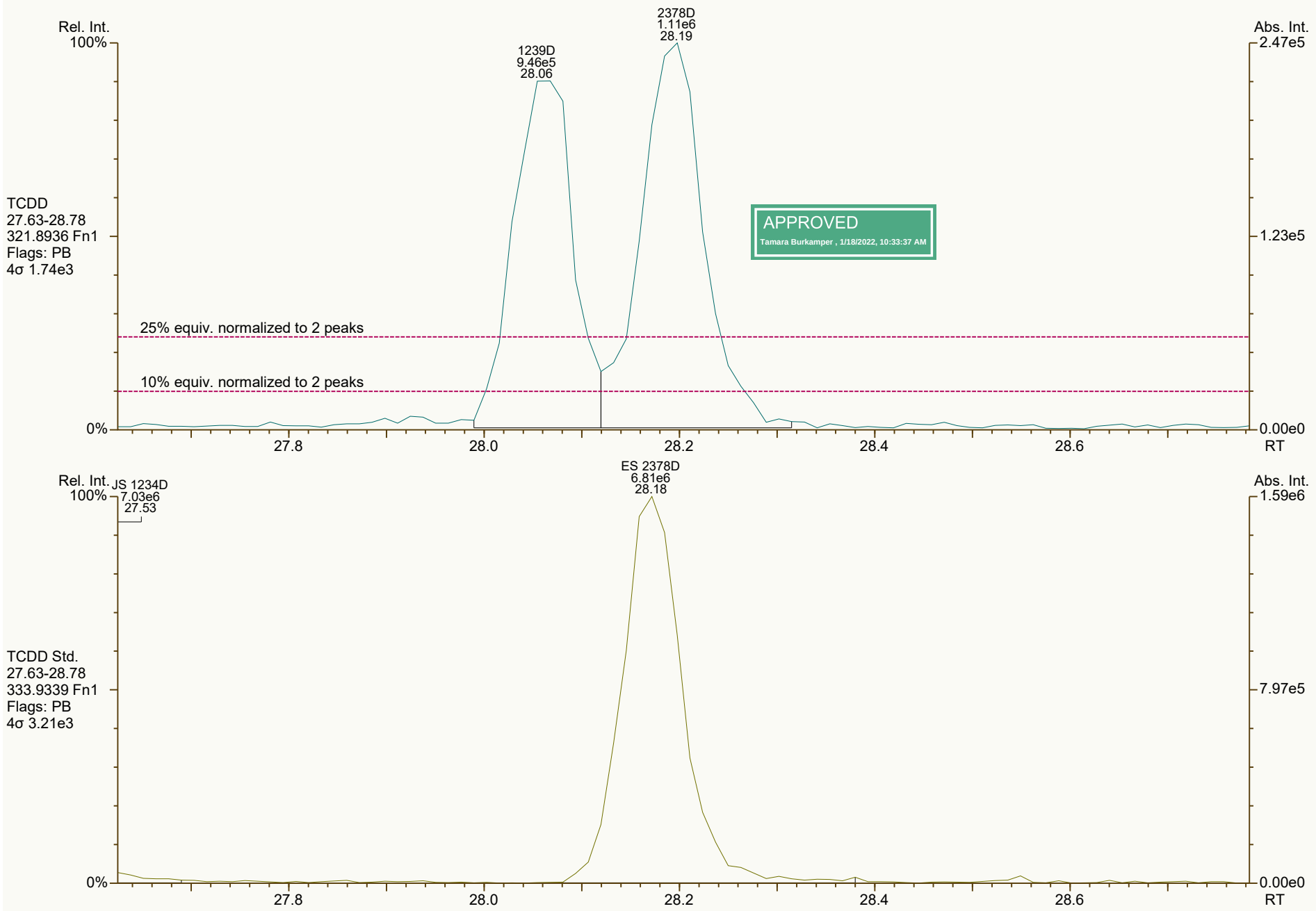
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.06	2378-TCDD	28.20
2348-TCDF	27.22	2378-TCDF	27.32

Processed: 18 Jan 2022 09:08 Analyst: TF

SGS ID: OPR1_18833_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18833_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33

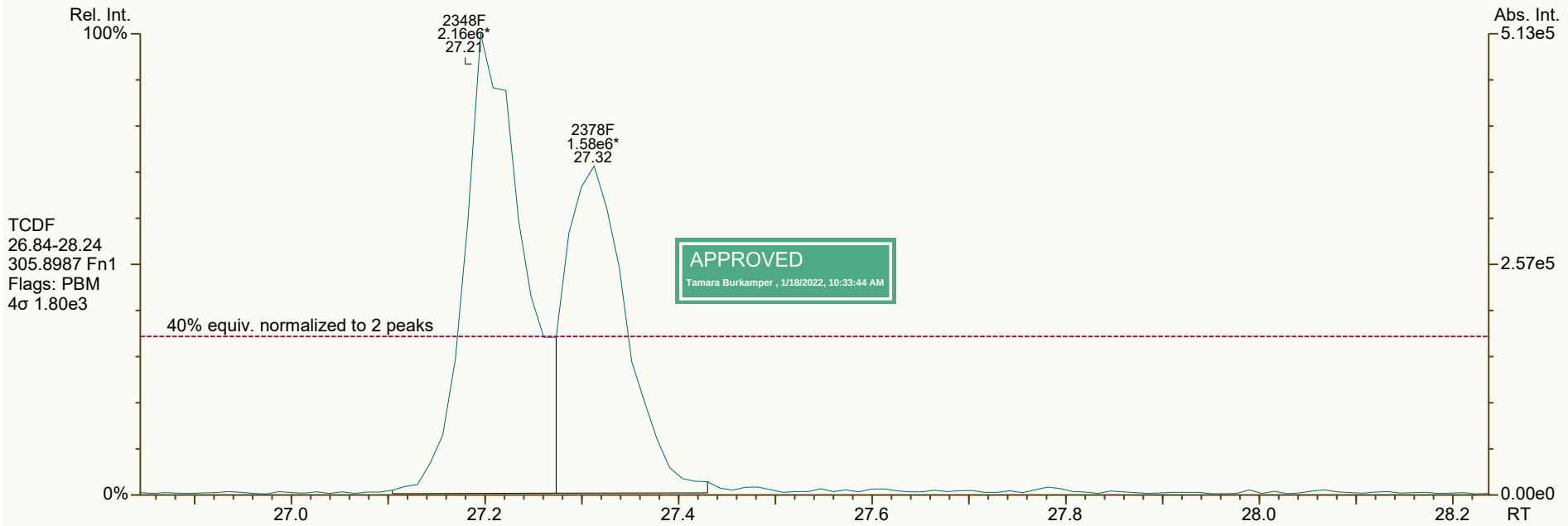
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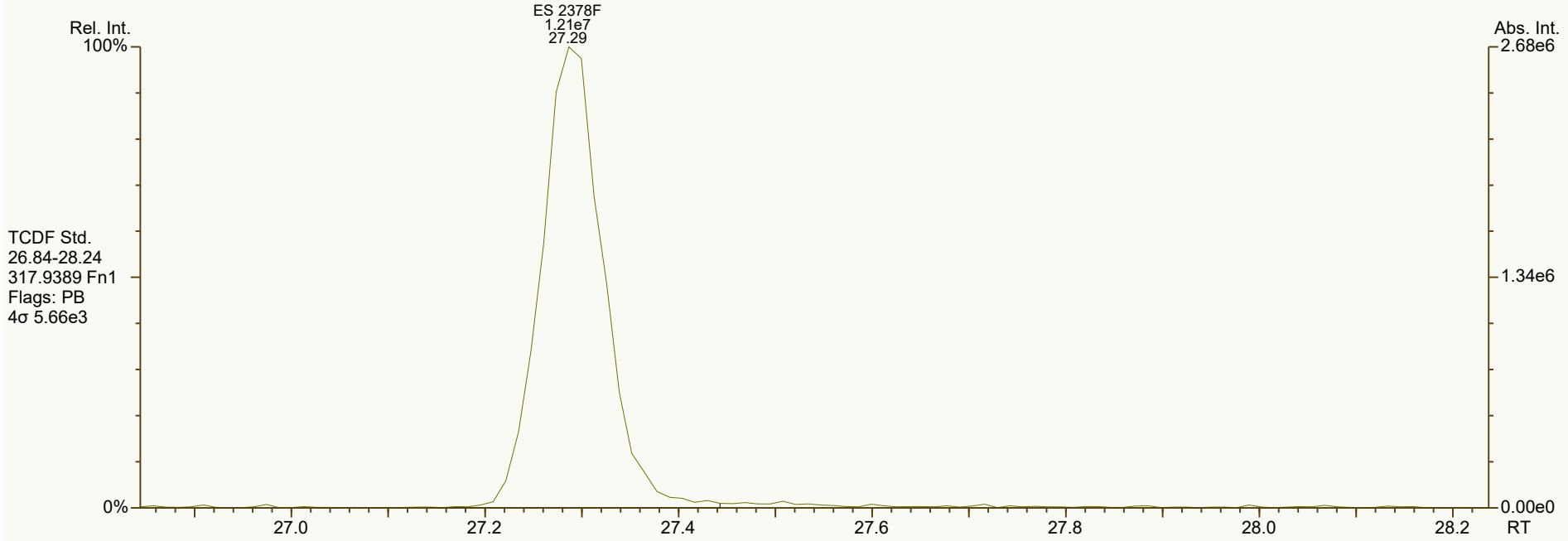


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SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

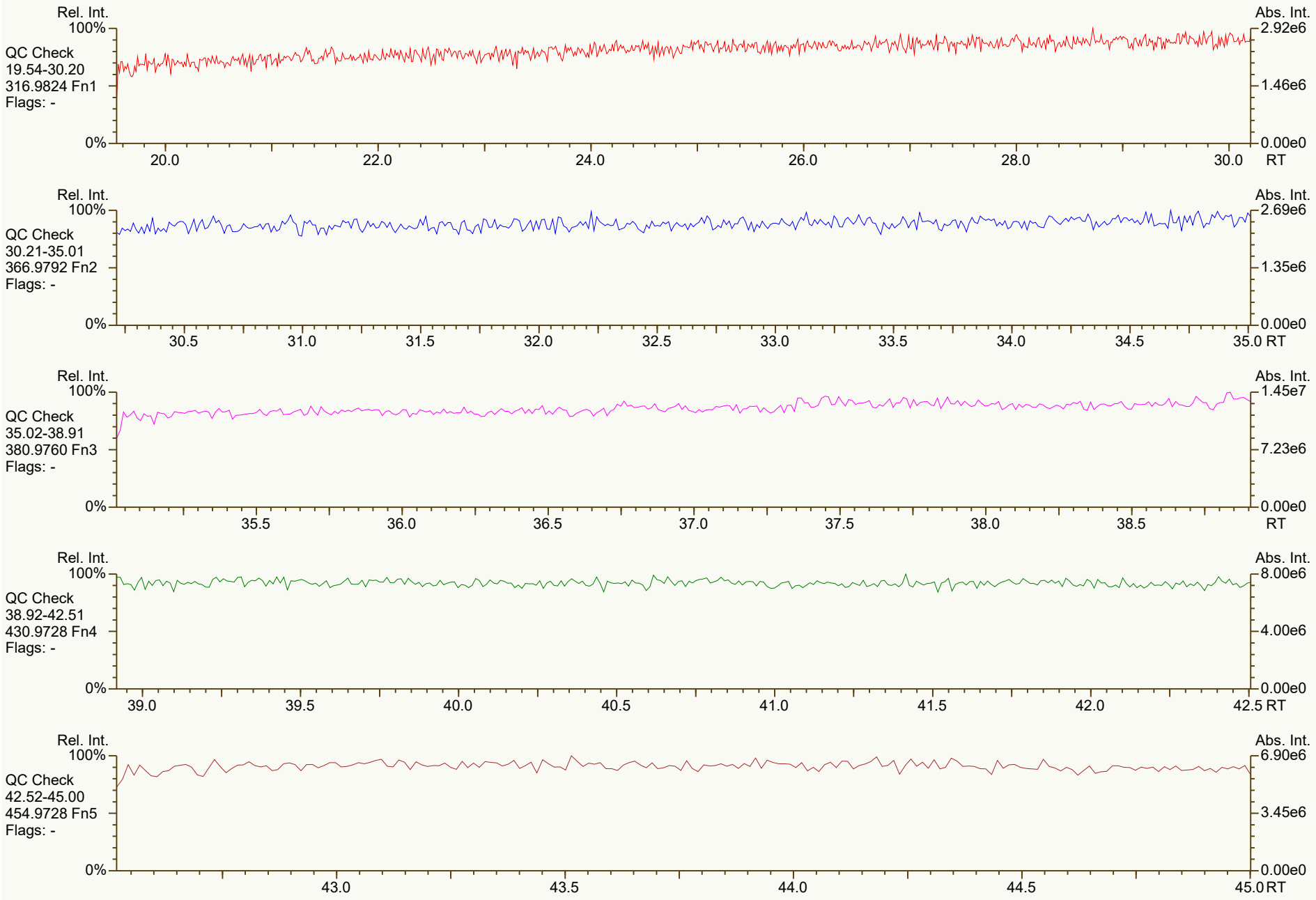
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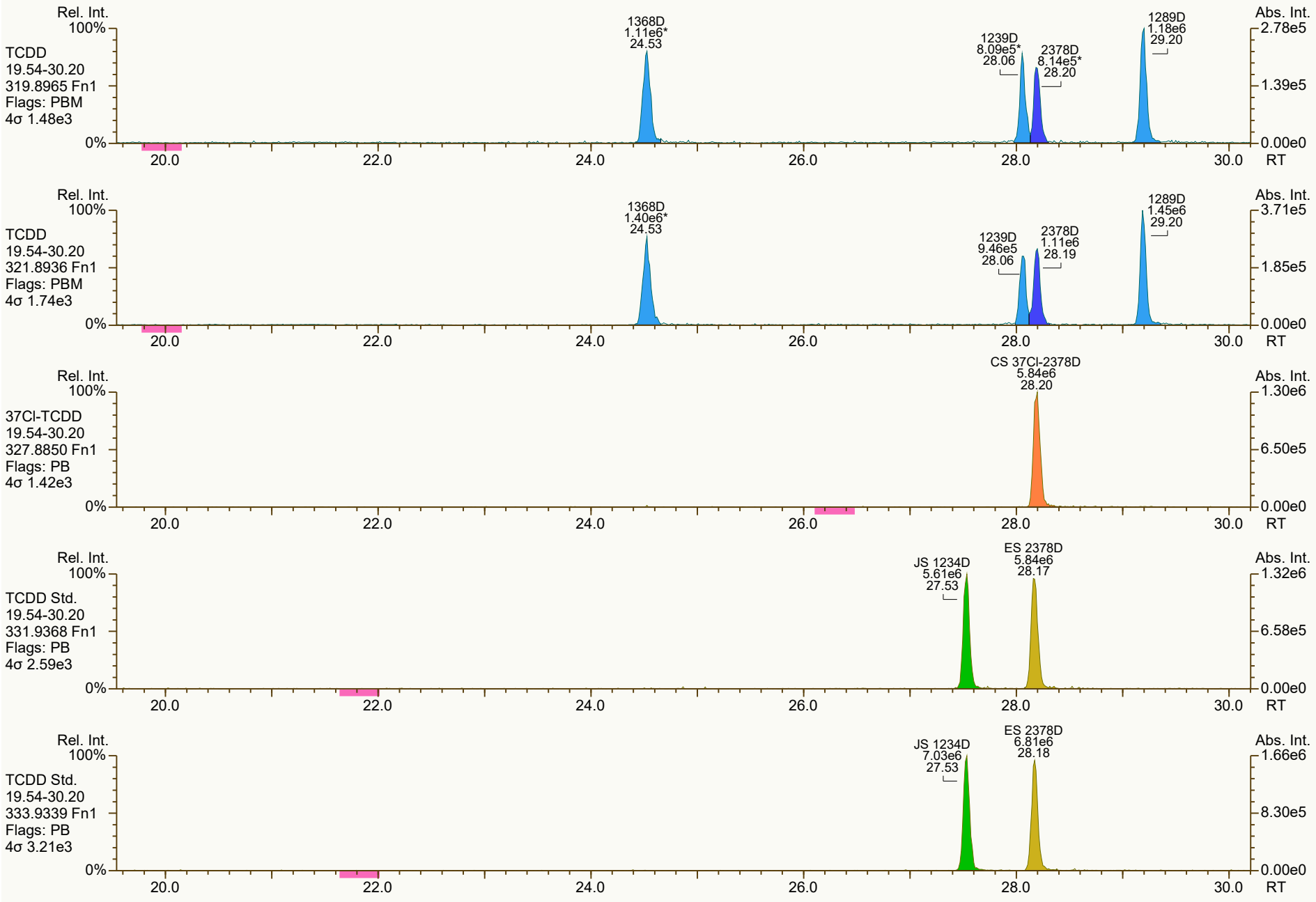
SGS ID: OPR1_18833_DF | Sample ID: 0_18833_OPR001 | Acq: 17-Jan-2022 09:50:09
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33 | User: DTF Datafile: 220117C01

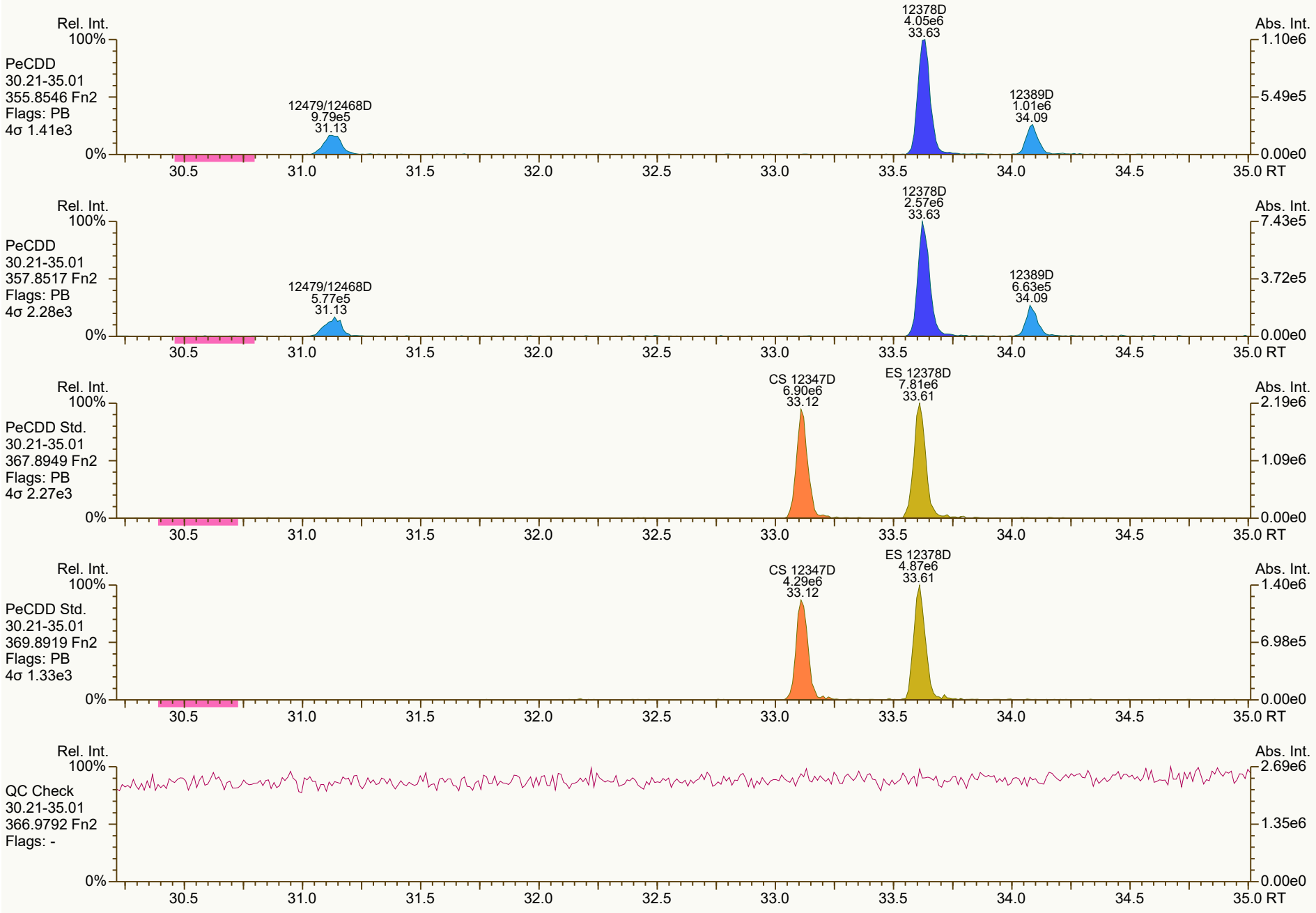


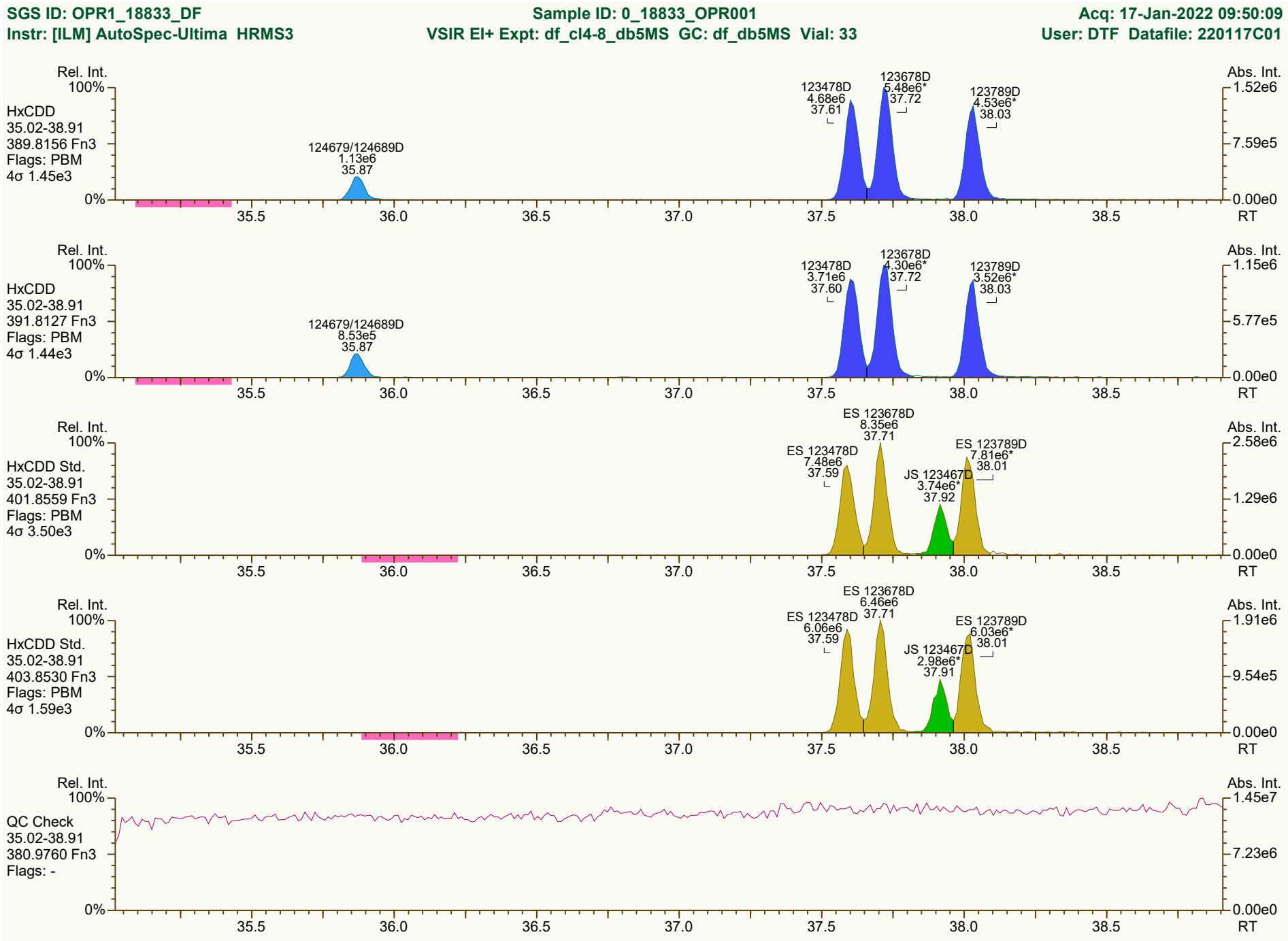


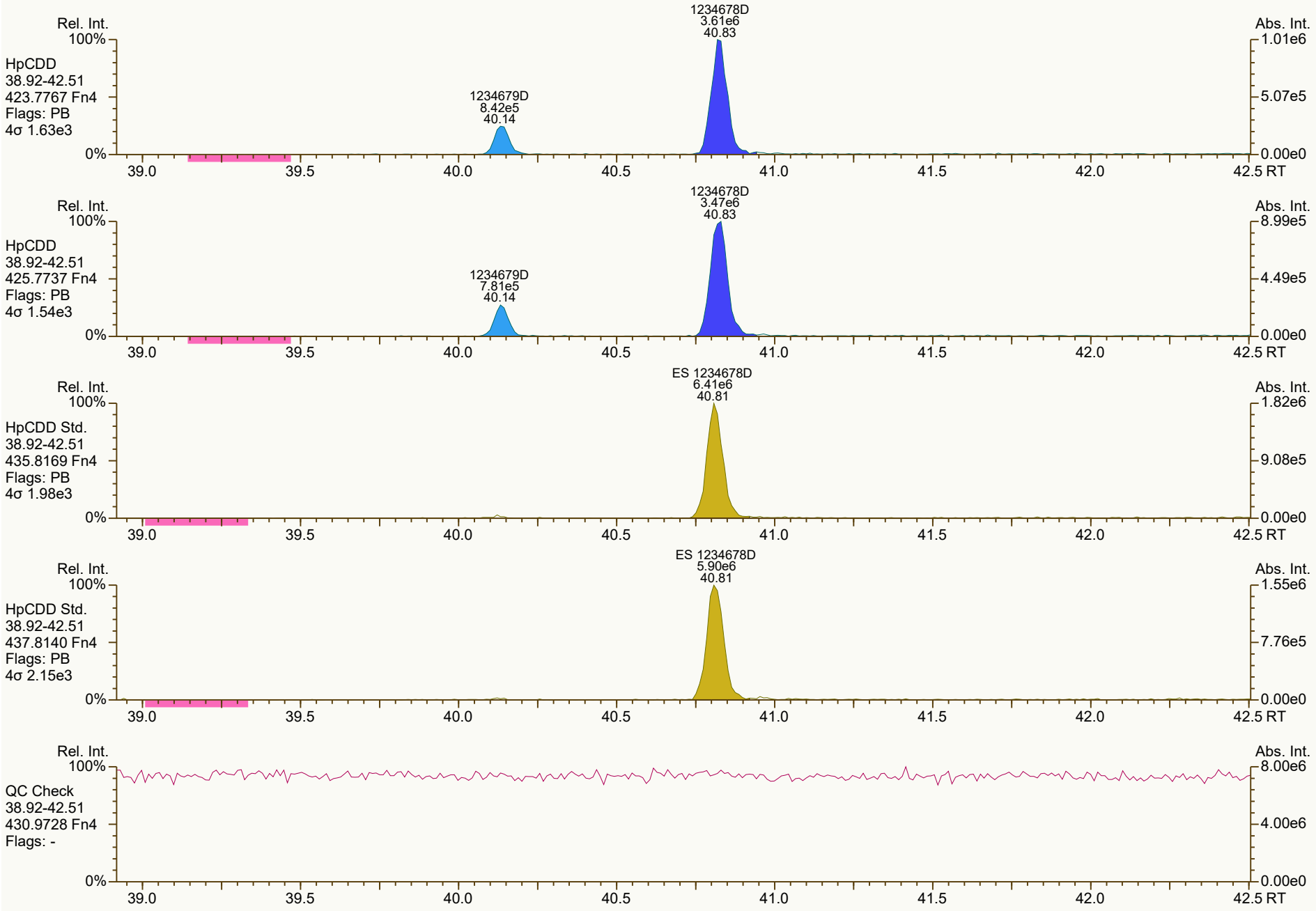
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR1_18833_DF.utp_res, saved 18-Jan-2022 09:15 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 | *Revised: 17-Jan-2022 15:53 (DTF) Printed: 18-Jan-2022 09:16*

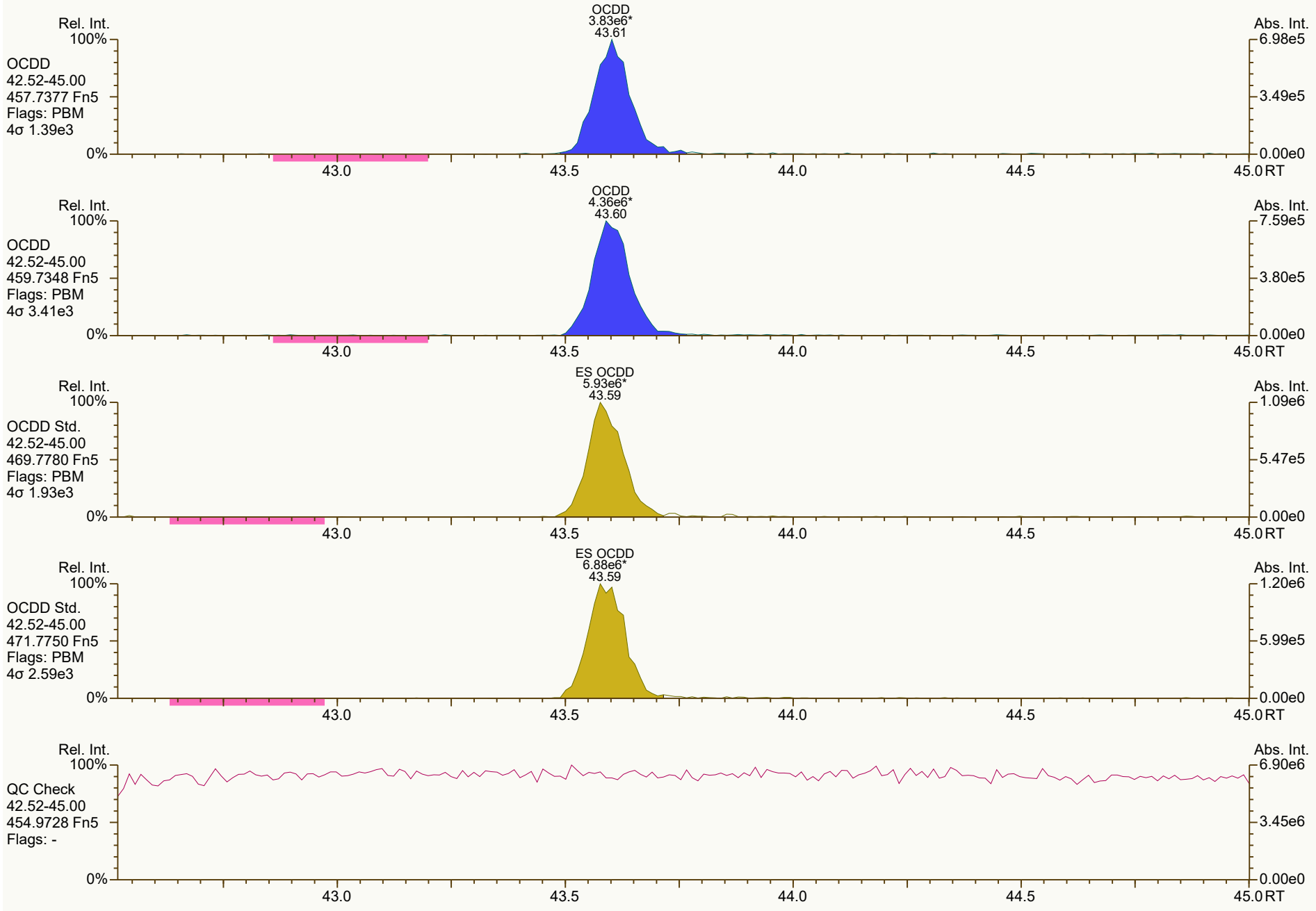

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316.9824 Fn1
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.92e6
1.46e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
2.69e6
1.35e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.45e7
7.23e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
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44.0
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RT
Abs. Int.
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0.00e0

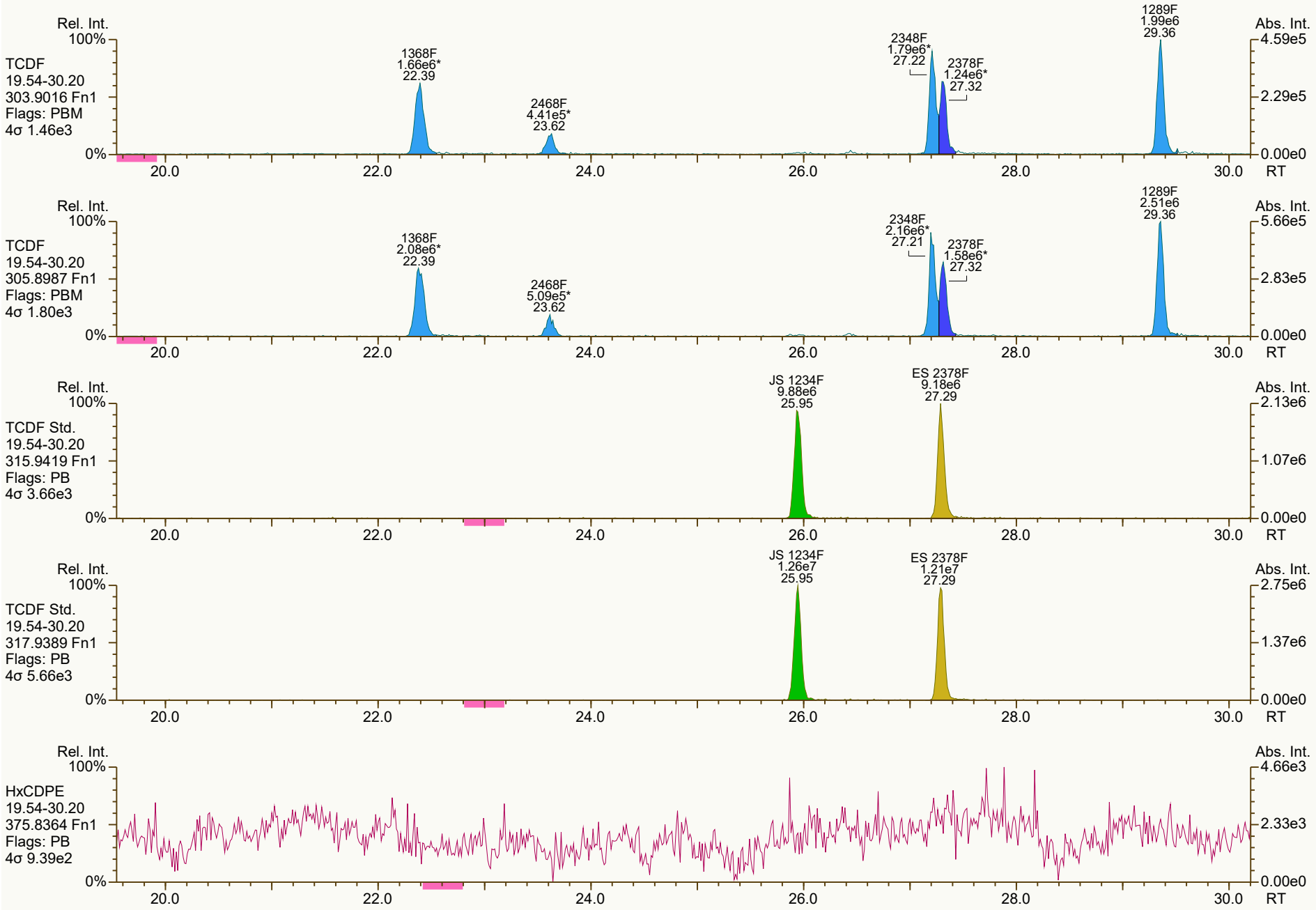

Rel. Int.
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TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.48e3
0%
1368D
1.11e6*
24.53
1239D
8.09e5*
28.06
2378D
8.14e5*
28.20
1289D
1.18e6
29.20
Abs. Int.
2.78e5
1.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.74e3
0%
1368D
1.40e6*
24.53
1239D
9.46e5
28.06
2378D
1.11e6
28.19
1289D
1.45e6
29.20
Abs. Int.
3.71e5
1.85e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.42e3
0%
CS 37Cl-2378D
5.84e6
28.20
Abs. Int.
1.30e6
6.50e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.59e3
0%
JS 1234D
5.61e6
27.53
ES 2378D
5.84e6
28.17
Abs. Int.
1.32e6
6.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.21e3
0%
JS 1234D
7.03e6
27.53
ES 2378D
6.81e6
28.18
Abs. Int.
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20.0
22.0
24.0
26.0
28.0
30.0
RT

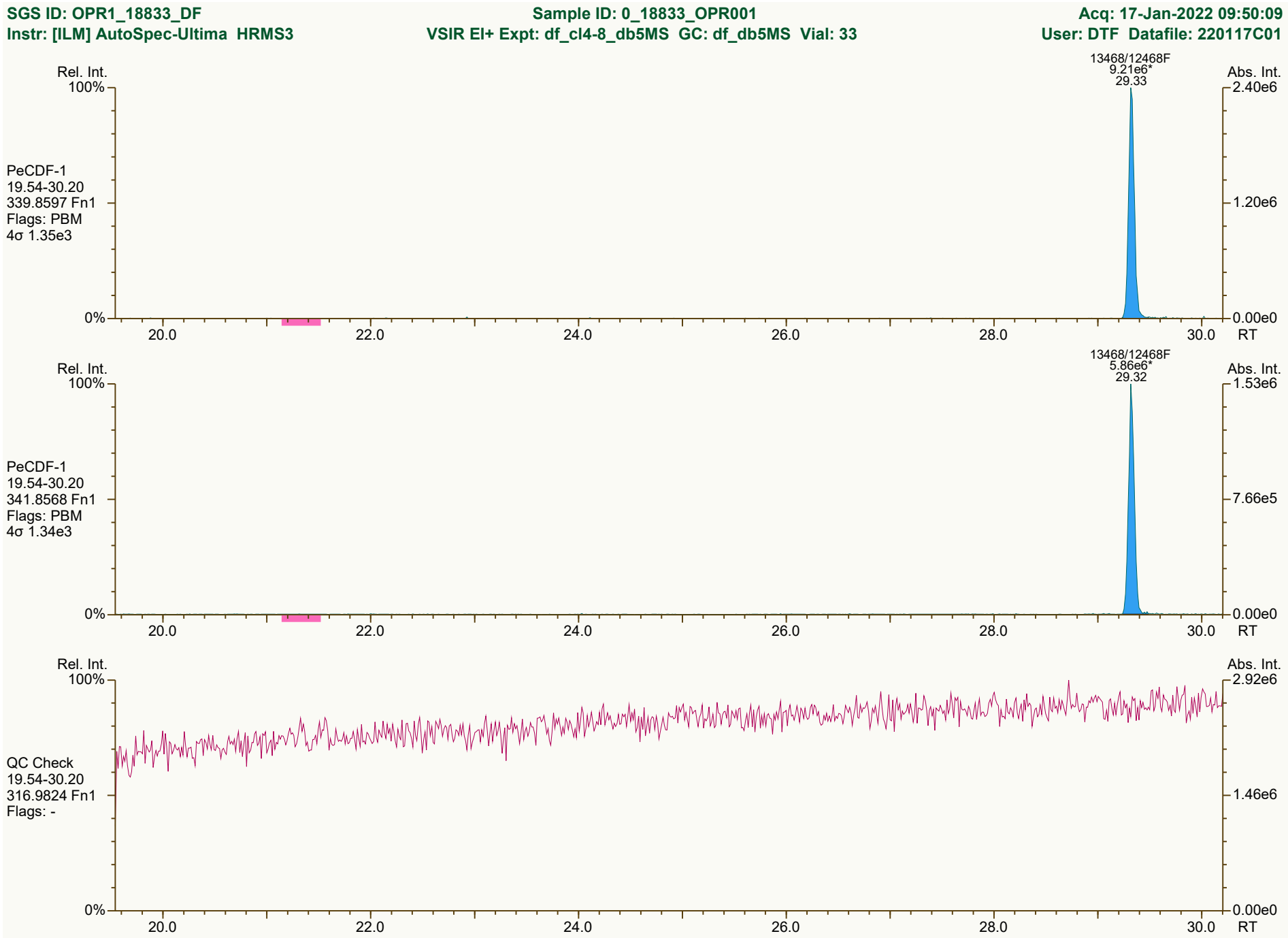

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PB
4σ 1.41e3
12479/12468D
9.79e5
31.13
12378D
4.05e6
33.63
12389D
1.01e6
34.09
Abs. Int.
1.10e6
5.49e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 2.28e3
12479/12468D
5.77e5
31.13
12378D
2.57e6
33.63
12389D
6.63e5
34.09
Abs. Int.
7.43e5
3.72e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.27e3
CS 12347D
6.90e6
33.12
ES 12378D
7.81e6
33.61
Abs. Int.
2.19e6
1.09e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.33e3
CS 12347D
4.29e6
33.12
ES 12378D
4.87e6
33.61
Abs. Int.
1.40e6
6.98e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
2.69e6
1.35e6
0.00e0
0%
30.5
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32.5
33.0
33.5
34.0
34.5
35.0 RT

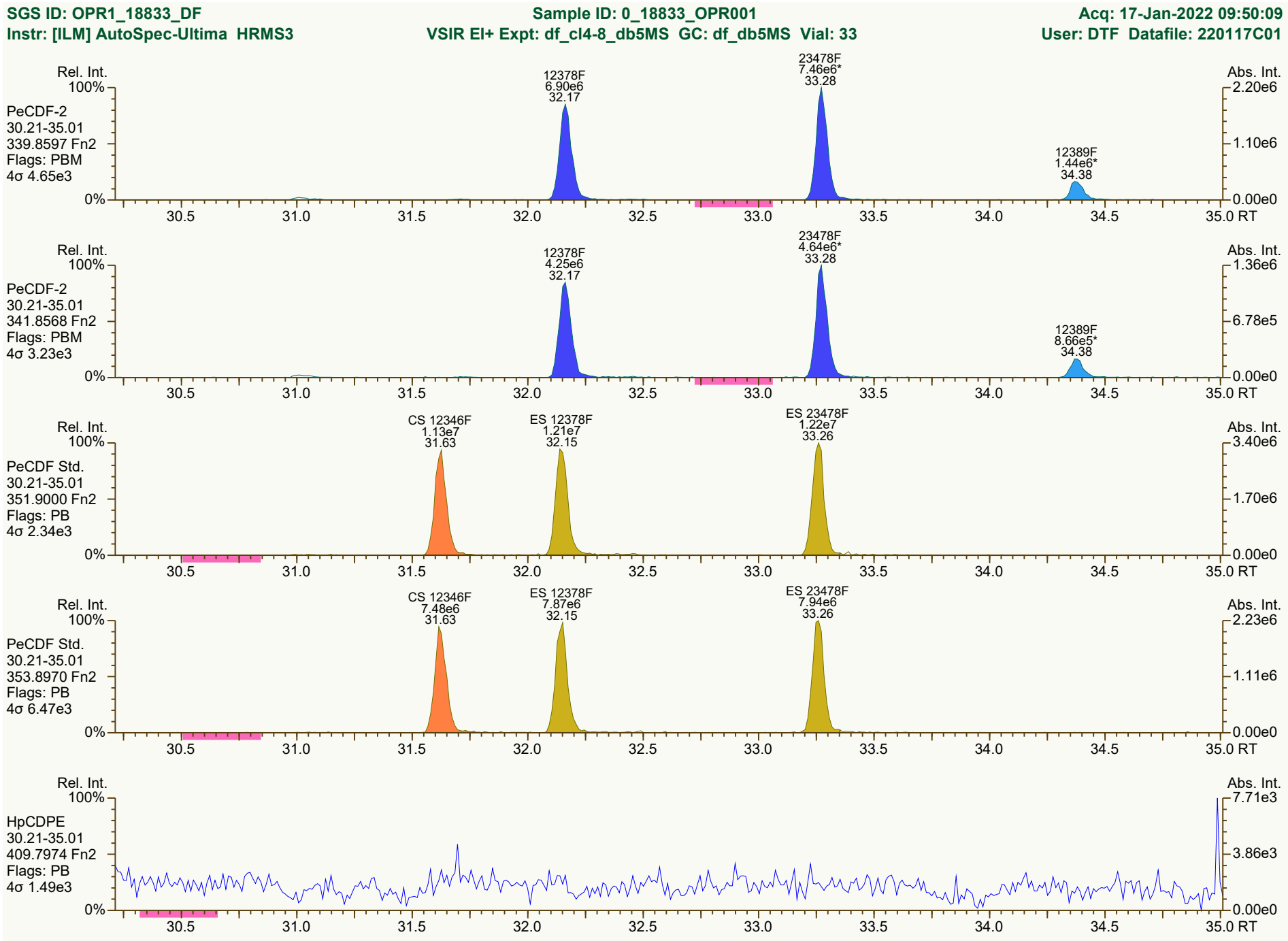

SGS ID: OPR1_18833_DF
Sample ID: 0_18833_OPR001
Acq: 17-Jan-2022 09:50:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: DTF Datafile: 220117C01
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.45e3
124679/124689D
1.13e6
35.87
123478D
4.68e6
37.61
123678D
5.48e6*
37.72
123789D
4.53e6*
38.03
1.52e6
7.59e5
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 1.44e3
124679/124689D
8.53e5
35.87
123478D
3.71e6
37.60
123678D
4.30e6*
37.72
123789D
3.52e6*
38.03
1.15e6
5.77e5
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 3.50e3
ES 123678D
8.35e6
37.71
ES 123478D
7.48e6
37.59
ES 123789D
7.81e6*
38.01
JS 123467D
3.74e6*
37.92
2.58e6
1.29e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 1.59e3
ES 123678D
6.46e6
37.71
ES 123478D
6.06e6
37.59
ES 123789D
6.03e6*
38.01
JS 123467D
2.98e6*
37.91
1.91e6
9.54e5
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.45e7
7.23e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR1_18833_DF.utp_res, saved 18-Jan-2022 09:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9931, 8174 scc: 516-206
PKD: 17-Jan-2022 15:55 Printed: 18-Jan-2022 09:27 Page 4 of 12

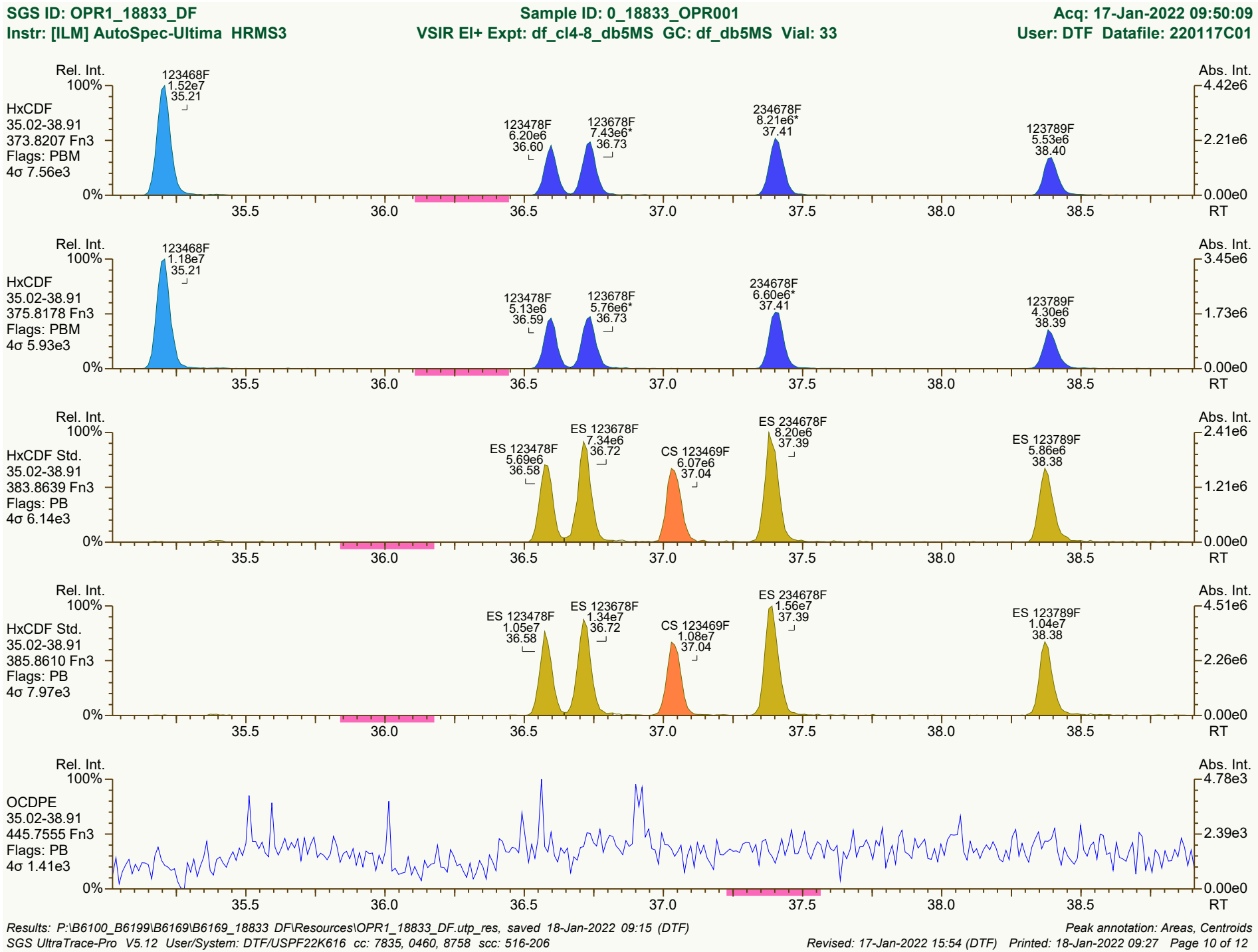

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.63e3
1234678D
3.61e6
40.83
1234679D
8.42e5
40.14
Abs. Int.
1.01e6
5.07e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.54e3
1234678D
3.47e6
40.83
1234679D
7.81e5
40.14
Abs. Int.
8.99e5
4.49e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.98e3
ES 1234678D
6.41e6
40.81
Abs. Int.
1.82e6
9.08e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.15e3
ES 1234678D
5.90e6
40.81
Abs. Int.
1.55e6
7.76e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

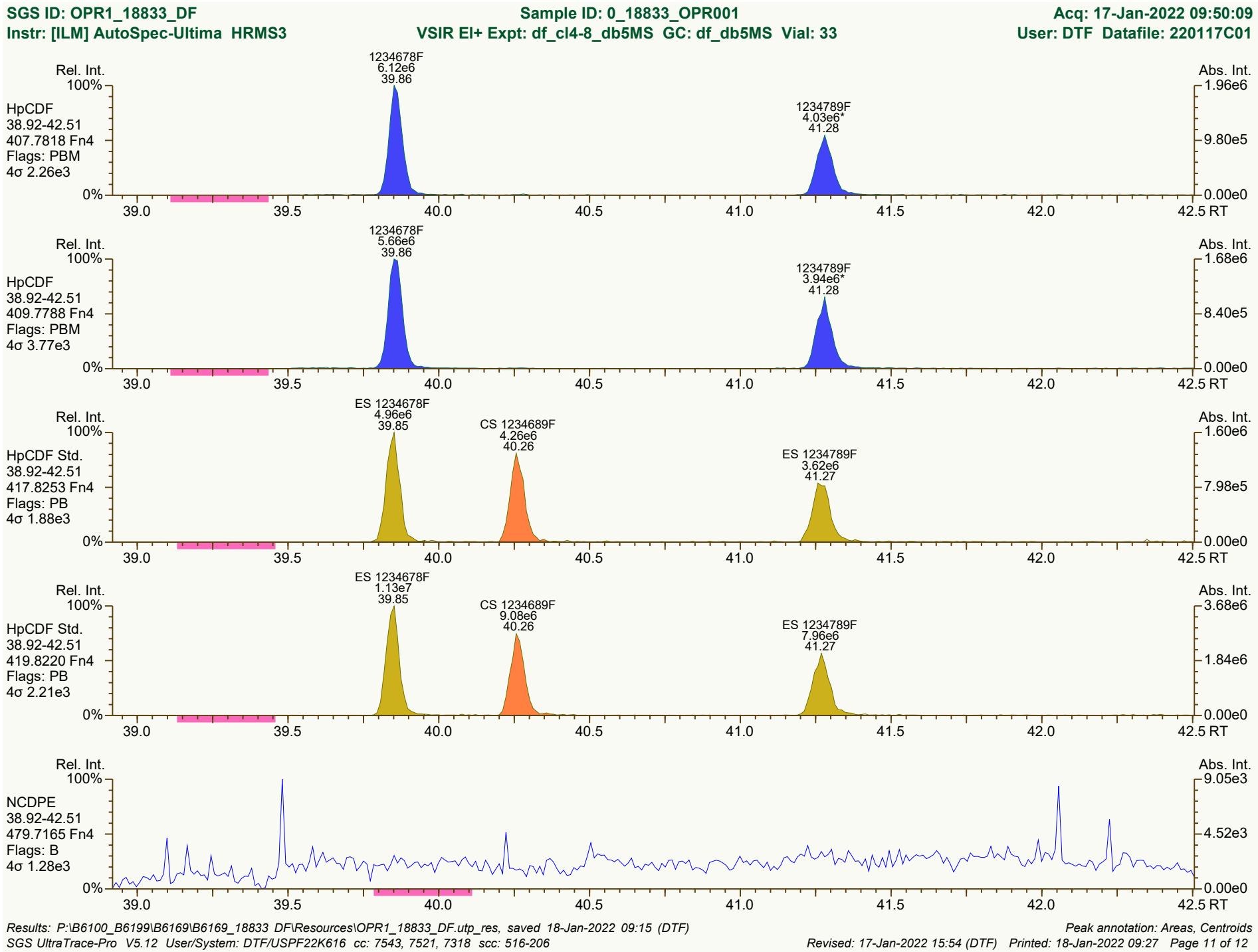

OCDD
3.83e6*
43.61
Rel. Int.
100%
Abs. Int.
6.98e5
3.49e5
0.00e0
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.39e3
0%
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.36e6*
43.60
Rel. Int.
100%
Abs. Int.
7.59e5
3.80e5
0.00e0
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 3.41e3
0%
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.93e6*
43.59
Rel. Int.
100%
Abs. Int.
1.09e6
5.47e5
0.00e0
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PBM
4σ 1.93e3
0%
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.88e6*
43.59
Rel. Int.
100%
Abs. Int.
1.20e6
5.99e5
0.00e0
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PBM
4σ 2.59e3
0%
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
6.90e6
3.45e6
0.00e0
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.46e3
1368F
1.66e6*
22.39
2468F
4.41e5*
23.62
2348F
1.79e6*
27.22
2378F
1.24e6*
27.32
1289F
1.99e6
29.36
Abs. Int.
4.59e5
2.29e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.80e3
1368F
2.08e6*
22.39
2468F
5.09e5*
23.62
2348F
2.16e6*
27.21
2378F
1.58e6*
27.32
1289F
2.51e6
29.36
Abs. Int.
5.66e5
2.83e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 3.66e3
JS 1234F
9.88e6
25.95
ES 2378F
9.18e6
27.29
Abs. Int.
2.13e6
1.07e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.66e3
JS 1234F
1.26e7
25.95
ES 2378F
1.21e7
27.29
Abs. Int.
2.75e6
1.37e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 9.39e2
Abs. Int.
4.66e3
2.33e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR1_18833_DF
Sample ID: 0_18833_OPR001
Acq: 17-Jan-2022 09:50:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: DTF Datafile: 220117C01
Rel. Int.
100%
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.35e3
13468/12468F
9.21e6*
29.33
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.34e3
13468/12468F
5.86e6*
29.32
1.53e6
7.66e5
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
2.92e6
1.46e6
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR1_18833_DF.utp_res, saved 18-Jan-2022 09:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9078 scc: 516-206
Revised: 17-Jan-2022 15:54 (DTF) Printed: 18-Jan-2022 09:27 Page 8 of 12


SGS ID: OPR1_18833_DF
Sample ID: 0_18833_OPR001
Acq: 17-Jan-2022 09:50:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: DTF Datafile: 220117C01
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 4.65e3
12378F
6.90e6
32.17
23478F
7.46e6*
33.28
12389F
1.44e6*
34.38
2.20e6
1.10e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 3.23e3
12378F
4.25e6
32.17
23478F
4.64e6*
33.28
12389F
8.66e5*
34.38
1.36e6
6.78e5
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 2.34e3
CS 12346F
1.13e7
31.63
ES 12378F
1.21e7
32.15
ES 23478F
1.22e7
33.26
3.40e6
1.70e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 6.47e3
CS 12346F
7.48e6
31.63
ES 12378F
7.87e6
32.15
ES 23478F
7.94e6
33.26
2.23e6
1.11e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: PB
4σ 1.49e3
7.71e3
3.86e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR1_18833_DF.utp_res, saved 18-Jan-2022 09:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9220, 9135, 3305 scc: 516-206
Revised: 17-Jan-2022 15:54 (DTF) Printed: 18-Jan-2022 09:27 Page 9 of 12


SGS ID: OPR1_18833_DF
Sample ID: 0_18833_OPR001
Acq: 17-Jan-2022 09:50:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: DTF Datafile: 220117C01
Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 7.56e3
123468F 1.52e7 35.21
123478F 6.20e6 36.60
123678F 7.43e6* 36.73
234678F 8.21e6* 37.41
123789F 5.53e6 38.40
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 5.93e3
123468F 1.18e7 35.21
123478F 5.13e6 36.59
123678F 5.76e6* 36.73
234678F 6.60e6* 37.41
123789F 4.30e6 38.39
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.14e3
ES 123478F 5.69e6 36.58
ES 123678F 7.34e6 36.72
CS 123469F 6.07e6 37.04
ES 234678F 8.20e6 37.39
ES 123789F 5.86e6 38.38
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 7.97e3
ES 123478F 1.05e7 36.58
ES 123678F 1.34e7 36.72
CS 123469F 1.08e7 37.04
ES 234678F 1.56e7 37.39
ES 123789F 1.04e7 38.38
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.41e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
4.42e6
2.21e6
0.00e0
3.45e6
1.73e6
2.41e6
1.21e6
4.51e6
2.26e6
4.78e3
2.39e3
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR1_18833_DF.utp_res, saved 18-Jan-2022 09:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7835, 0460, 8758 scc: 516-206
Revised: 17-Jan-2022 15:54 (DTF) Printed: 18-Jan-2022 09:27 Page 10 of 12


SGS ID: OPR1_18833_DF
Sample ID: 0_18833_OPR001
Acq: 17-Jan-2022 09:50:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: DTF Datafile: 220117C01
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.26e3
1234678F
6.12e6
39.86
1234789F
4.03e6*
41.28
1.96e6
9.80e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.77e3
1234678F
5.66e6
39.86
1234789F
3.94e6*
41.28
1.68e6
8.40e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.88e3
ES 1234678F
4.96e6
39.85
CS 1234689F
4.26e6
40.26
ES 1234789F
3.62e6
41.27
1.60e6
7.98e5
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.21e3
ES 1234678F
1.13e7
39.85
CS 1234689F
9.08e6
40.26
ES 1234789F
7.96e6
41.27
3.68e6
1.84e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.28e3
9.05e3
4.52e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR1_18833_DF.utp_res, saved 18-Jan-2022 09:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7543, 7521, 7318 scc: 516-206
Revised: 17-Jan-2022 15:54 (DTF) Printed: 18-Jan-2022 09:27 Page 11 of 12


OCDF
4.74e6*
43.77
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.95e3
0%
Abs. Int.
8.49e5
4.25e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.35e6*
43.77
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.71e3
9.64e5
4.82e5
ES OCDF
8.55e6
43.76
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.79e3
1.55e6
7.75e5
ES OCDF
9.35e6
43.76
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.01e3
1.68e6
8.42e5
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.11e3
5.79e3
2.90e3

Lab ID: OPR2_18833_DF **Acq'd: 17 Jan 2022 21:44 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18833_OPR002 **UTP: 18-Jan-2022 09:06:16 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 055-395-KYJ**

Datafile: 220117C16 **Report: 18 Jan 2022 09:08 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.19		1.0008	1.0008	0	2.15E+06	0.81	Y	1.18	13.3	2803.77	0.188
12378-PeCDD	33.63		1.0006	1.0006	0	6.87E+06	1.53	Y	1.04	50	3617.293	0.24
123478-HxCDD	37.61		1.0004	1.0004	0	8.69E+06	1.33	Y	1.09	56.9	2794.212	0.159
123678-HxCDD	37.73		1.0036	1.0036	0	1.03E+07	1.21	Y	1.15	55.7	2794.212	0.141
123789-HxCDD	38.04		1.0118	1.0120	+0.5	8.35E+06	1.29	Y	1.05	57.2	2794.212	0.177
1234678-HpCDD	40.84		1.0003	1.0003	0	7.18E+06	1.02	Y	1.06	54.6	3593.443	0.24
OCDD	43.63		1.0003	1.0003	0	8.23E+06	0.85	Y	1.13	117	3077.504	0.69
2378-TCDF	27.31		1.0008	1.0007	-0.2	3.59E+06	0.81	Y	1.08	14.1	3101.457	0.141
12378-PeCDF	32.17		1.0006	1.0005	-0.2	1.23E+07	1.54	Y	1.02	54	5579.386	0.239
23478-PeCDF	33.28		1.0006	1.0005	-0.2	1.23E+07	1.55	Y	1.02	57.6	5579.386	0.24
123478-HxCDF	36.60		1.0005	1.0005	0	1.19E+07	1.29	Y	1.27	56	7504.349	0.278
123678-HxCDF	36.74		1.0004	1.0004	0	1.40E+07	1.28	Y	1.15	58.3	7504.349	0.287
234678-HxCDF	37.41		1.0005	1.0004	-0.2	1.52E+07	1.29	Y	1.19	51.7	7504.349	0.227
123789-HxCDF	38.40		1.0004	1.0004	0	9.89E+06	1.29	Y	1.16	51.3	7504.349	0.357
1234678-HpCDF	39.87		1.0003	1.0003	0	1.23E+07	1.05	Y	1.37	54	3853.216	0.147
1234789-HpCDF	41.30		1.0003	1.0003	0	7.64E+06	1.04	Y	1.31	52.3	3853.216	0.258
OCDF	43.79		1.0003	1.0003	0	1.03E+07	0.90	Y	1.07	116	3120.485	0.51

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0231	1.0232	+0.2	1.37E+07	0.82	Y	1.05	91.6
ES 12378-PeCDD	33.61	1.2198	1.2209	+2.2	1.33E+07	1.67	Y	0.88	106
ES 123478-HxCDD	37.59	0.9913	0.9912	-0.2	1.40E+07	1.25	Y	0.97	106
ES 123678-HxCDD	37.71	0.9944	0.9943	-0.2	1.60E+07	1.24	Y	0.94	125
ES 123789-HxCDD	38.03	1.0026	1.0027	+0.2	1.39E+07	1.20	Y	1.09	93.7
ES 1234678-HpCDD	40.83	1.0760	1.0765	+1.2	1.24E+07	1.07	Y	0.91	99.8
ES OCDD	43.61	1.1489	1.1499	+2.6	1.25E+07	0.96	Y	0.62	73.3
ES 2378-TCDF	27.29	1.0515	1.0520	+0.8	2.36E+07	0.80	Y	1.06	91.3
ES 12378-PeCDF	32.15	1.2378	1.2391	+2.5	2.22E+07	1.55	Y	0.91	99.9
ES 23478-PeCDF	33.26	1.2804	1.2820	+3.2	2.09E+07	1.60	Y	0.88	96.9
ES 123478-HxCDF	36.58	0.9647	0.9646	-0.2	1.67E+07	0.53	Y	1.20	102
ES 123678-HxCDF	36.72	0.9684	0.9683	-0.2	2.08E+07	0.54	Y	1.35	113
ES 234678-HxCDF	37.40	0.9861	0.9861	0	2.47E+07	0.54	Y	1.24	146
ES 123789-HxCDF	38.39	1.0120	1.0122	+0.5	1.66E+07	0.55	Y	1.16	105
ES 1234678-HpCDF	39.86	1.0506	1.0510	+1.0	1.66E+07	0.44	Y	0.97	126
ES 1234789-HpCDF	41.28	1.0879	1.0886	+1.7	1.12E+07	0.45	Y	0.85	96.2
ES OCDF	43.78	1.1534	1.1543	+2.4	1.65E+07	0.92	Y	0.81	75

Lab ID: OPR2_18833_DF | **Acq'd:** 17 Jan 2022 21:44 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18833_OPR002 | **UTP:** 18-Jan-2022 09:06:16 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 055-395-KYJ

Datafile: 220117C16 | **Report:** 18 Jan 2022 09:08 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	1.43E+07	0.78	Y	-	-
JS 1234-TCDF	25.94		-	-	-	2.44E+07	0.79	Y	-	-
JS 123467-HxCDD	37.93		-	-	-	6.81E+06	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0238	1.0241	+0.5	6.44E+06	n/a	-	1.20	93.8
CS 12347-PeCDD	33.11		1.2018	1.2028	+2.0	1.13E+07	1.61	Y	0.75	105
CS 12346-PeCDF	31.62		1.2178	1.2189	+2.1	2.01E+07	1.56	Y	0.85	96.8
CS 123469-HxCDF	37.04		0.9768	0.9767	-0.2	1.79E+07	0.56	Y	1.12	117
CS 1234689-HpCDF	40.27		1.0615	1.0619	+1.0	1.35E+07	0.47	Y	0.89	112
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0238~~	~~1.0241~~	~~+0.5~~	~~6.44E+06~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2018~~	~~1.2028~~	~~+2.0~~	~~1.13E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~99.6~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2178~~	~~1.2189~~	~~+2.1~~	~~2.01E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~96.7~~
~~SS 123469-HxCDF~~	~~37.04~~		~~0.9768~~	~~0.9767~~	~~-0.2~~	~~1.79E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0615~~	~~1.0619~~	~~+1.0~~	~~1.35E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~88.5~~

Totals	Conc	EMPC
Total TCDD	60.1	60.1
Total PeCDD	75.1	75.1
Total HxCDD	183	183
Total HpCDD	66.7	66.7
Total Tetra-Octa Dioxins	503	503
Total TCDF	72.3	72.3
Total PeCDF	123	123
Total HxCDF	333	333
Total HpCDF	106	106
Total Tetra-Octa Furans	751	751
Total Tetra-Octa Dioxins & Furans	1250	1250

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.804	0.81
Response	2.15E+06	2.15E+06

Lab ID: OPR2_18833_DF | **Acq'd: 17 Jan 2022 21:44 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18833_OPR002 | **UTP: 18-Jan-2022 09:06:16 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 055-395-KYJ**

Datafile: 220117C16 | **Report: 18 Jan 2022 09:08 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.52		0.8733	0.8705	-4.1	2.73E+06	0.80	Y	1.18	16.8	2803.77	0.188
1379-TCDD	NotFnd		0.8860						1.18		2803.77	0.188
1369-TCDD	NotFnd		0.9009						1.18		2803.77	0.188
1469-TCDD	NotFnd		0.9282						1.18		2803.77	0.188
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		2803.77	0.188
1378-TCDD	NotFnd		0.9429						1.18		2803.77	0.188
1268-TCDD	NotFnd		0.9500						1.18		2803.77	0.188
1478-TCDD	NotFnd		0.9584						1.18		2803.77	0.188
1279-TCDD	NotFnd		0.9648						1.18		2803.77	0.188
1234/1269-TCDD	NotFnd		0.9770						1.18		2803.77	0.188
1236-TCDD	NotFnd		0.9821						1.18		2803.77	0.188
1237/1238-TCDD	NotFnd		0.9909						1.18		2803.77	0.188
1239-TCDD	28.06		0.9959	0.9961	+0.3	1.89E+06	0.87	Y	1.18	11.6	2803.77	0.188
2378-TCDD	**28.19**		**1.0008**	1.0008	**0**	2.15E+06	0.81	Y	**1.18**	**13.3**	**2803.77**	**0.188**
1278-TCDD	NotFnd		1.0123						1.18		2803.77	0.188
1267-TCDD	NotFnd		1.0172						1.18		2803.77	0.188
1289-TCDD	29.19		1.0354	1.0363	+1.6	2.99E+06	0.80	Y	1.18	18.4	2803.77	0.188
12479/12468-PeCDD	31.13		0.9267	0.9260	-1.3	1.66E+06	1.56	Y	1.04	12.1	3617.293	0.24
12469-PeCDD	NotFnd		0.9426						1.04		3617.293	0.24
12368-PeCDD	NotFnd		0.9587						1.04		3617.293	0.24
12478-PeCDD	NotFnd		0.9642						1.04		3617.293	0.24
12379-PeCDD	NotFnd		0.9674						1.04		3617.293	0.24
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3617.293	0.24
12346/12347-PeCDD	NotFnd		0.9861						1.04		3617.293	0.24
12378-PeCDD	33.63		**1.0006**	**1.0006**	**0**	**6.87E+06**	**1.53**	**Y**	**1.04**	**50**	**3617.293**	**0.24**
12367-PeCDD	NotFnd		1.0036						1.04		3617.293	0.24
12389-PeCDD	34.09		1.0139	1.0142	+0.6	1.79E+06	1.59	Y	1.04	13	3617.293	0.24
124679/124689-HxCDD	35.87		0.9541	0.9543	+0.4	2.18E+06	1.19	Y	1.10	13.6	2794.212	0.158
123468-HxCDD	NotFnd		0.9715						1.10		2794.212	0.158
123679/123689-HxCDD	NotFnd		0.9793						1.10		2794.212	0.158
123469-HxCDD	NotFnd		0.9831						1.10		2794.212	0.158
123478-HxCDD	37.61		**1.0004**	**1.0004**	**0**	**8.69E+06**	**1.33**	**Y**	1.09	**56.9**	**2794.212**	**0.159**
123678-HxCDD	37.73		**1.0036**	**1.0036**	**0**	**1.03E+07**	**1.21**	**Y**	1.15	**55.7**	**2794.212**	**0.141**
123467-HxCDD	NotFnd		1.0089						1.10		2794.212	0.158
123789-HxCDD	38.04		**1.0118**	**1.0120**	**+0.5**	**8.35E+06**	**1.29**	**Y**	1.05	**57.2**	**2794.212**	**0.177**

Lab ID: OPR2_18833_DF | **Acq'd:** 17 Jan 2022 21:44 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18833_OPR002 | **UTP:** 18-Jan-2022 09:06:16 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 055-395-KYJ

Datafile: 220117C16 | **Report:** 18 Jan 2022 09:08 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9835	0.9834	-0.2	1.59E+06	0.98	Y	1.06	12.1	3593.443	0.24
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**7.18E+06**	**1.02**	**Y**	**1.06**	**54.6**	**3593.443**	**0.24**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**8.23E+06**	**0.85**	**Y**	**1.13**	**117**	**3077.504**	**0.69**
OCDD-a	43.62		1.0002	1.0001	-0.3	3.65E+05	2.25	Y	0.07	81.3	3802.88	13.3
1368-TCDF	22.39		0.8250	0.8204	-6.2	4.16E+06	0.79	Y	1.08	16.3	3101.457	0.141
1468-TCDF	NotFnd		0.8494						1.08		3101.457	0.141
2468-TCDF	23.62		0.8684	0.8654	-4.3	1.04E+06	0.82	Y	1.08	4.08	3101.457	0.141
1346/1246-TCDF	NotFnd		0.8815						1.08		3101.457	0.141
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3101.457	0.141
1348-TCDF	NotFnd		0.8966						1.08		3101.457	0.141
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3101.457	0.141
1268-TCDF	NotFnd		0.9148						1.08		3101.457	0.141
1467-TCDF	NotFnd		0.9197						1.08		3101.457	0.141
1478-TCDF	NotFnd		0.9258						1.08		3101.457	0.141
1369/1237-TCDF	NotFnd		0.9390						1.08		3101.457	0.141
2467-TCDF	NotFnd		0.9435						1.08		3101.457	0.141
2368-TCDF	NotFnd		0.9488						1.08		3101.457	0.141
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		3101.457	0.141
1278-TCDF	NotFnd		0.9689						1.08		3101.457	0.141
1349-TCDF	NotFnd		0.9730						1.08		3101.457	0.141
1267-TCDF	NotFnd		0.9787						1.08		3101.457	0.141
2346/1249-TCDF	NotFnd		0.9856						1.08		3101.457	0.141
2347/1279-TCDF	NotFnd		0.9934						1.08		3101.457	0.141
2348-TCDF	27.21		0.9972	0.9969	-0.5	4.47E+06	0.82	Y	1.08	17.5	3101.457	0.141
2378-TCDF	**27.31**		**1.0008**	**1.0007**	**-0.2**	**3.59E+06**	**0.81**	**Y**	**1.08**	**14.1**	**3101.457**	**0.141**
2367/3467-TCDF	NotFnd		1.0145						1.08		3101.457	0.141
1269-TCDF	NotFnd		1.0236						1.08		3101.457	0.141
1239-TCDF	NotFnd		1.0333						1.08		3101.457	0.141
1289-TCDF	29.36		1.0740	1.0757	+3.0	5.19E+06	0.83	Y	1.08	20.3	3101.457	0.141
13468/12468-PeCDF	NotFnd		0.9138						1.02		3016.555	0.13
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		5579.386	0.24
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		5579.386	0.24
14678-PeCDF	NotFnd		0.9693						1.02		5579.386	0.24
13479-PeCDF	NotFnd		0.9722						1.02		5579.386	0.24
13469/12479-PeCDF	NotFnd		0.9800						1.02		5579.386	0.24
12346-PeCDF	NotFnd		0.9844						1.02		5579.386	0.24

Lab ID: OPR2_18833_DF | **Acq'd: 17 Jan 2022 21:44 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18833_OPR002 | **UTP: 18-Jan-2022 09:06:16 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 055-395-KYJ**

Datafile: 220117C16 | **Report: 18 Jan 2022 09:08 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		5579.386	0.24
12347-PeCDF	NotFnd		0.9890						1.02		5579.386	0.24
12348-PeCDF	NotFnd		0.9942						1.02		5579.386	0.24
12378-PeCDF	**32.17**		**1.0006**	**1.0005**	**-0.2**	**1.23E+07**	**1.54**	**Y**	**1.02**	**54**	**5579.386**	**0.239**
12678/12367-PeCDF	NotFnd		1.0090						1.02		5579.386	0.24
12379-PeCDF	NotFnd		1.0142						1.02		5579.386	0.24
12679-PeCDF	NotFnd		0.9933						1.02		5579.386	0.24
23467/12369-PeCDF	NotFnd		0.9969						1.02		5579.386	0.24
23478-PeCDF	**33.28**		**1.0006**	**1.0005**	**-0.2**	**1.23E+07**	**1.55**	**Y**	**1.02**	**57.6**	**5579.386**	**0.24**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5579.386	0.24
12349-PeCDF	NotFnd		1.0107						1.02		5579.386	0.24
12389-PeCDF	34.39		1.0330	1.0339	+1.9	2.48E+06	1.61	Y	1.02	11.3	5579.386	0.24
123468-HxCDF	35.21		0.9627	0.9625	-0.4	2.72E+07	1.30	Y	1.19	116	7504.349	0.28
124678/134678-HxCDF	NotFnd		0.9682						1.19		7504.349	0.28
134679-HxCDF	NotFnd		0.9744						1.19		7504.349	0.28
124679-HxCDF	NotFnd		0.9798						1.19		7504.349	0.28
124689-HxCDF	NotFnd		0.9858						1.19		7504.349	0.28
123467-HxCDF	NotFnd		0.9973						1.19		7504.349	0.28
123478-HxCDF	**36.60**		**1.0005**	**1.0005**	**0**	**1.19E+07**	**1.29**	**Y**	**1.27**	**56**	**7504.349**	**0.278**
123678-HxCDF	**36.74**		**1.0004**	**1.0004**	**0**	**1.40E+07**	**1.28**	**Y**	**1.15**	**58.3**	**7504.349**	**0.287**
123479-HxCDF	NotFnd		1.0051						1.19		7504.349	0.28
123469-HxCDF	NotFnd		1.0093						1.19		7504.349	0.28
123679-HxCDF	NotFnd		0.9944						1.19		7504.349	0.28
234678-HxCDF	**37.41**		**1.0005**	**1.0004**	**-0.2**	**1.52E+07**	**1.29**	**Y**	**1.19**	**51.7**	**7504.349**	**0.227**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7504.349	0.28
123789-HxCDF	**38.40**		**1.0004**	**1.0004**	**0**	**9.89E+06**	**1.29**	**Y**	**1.16**	**51.3**	**7504.349**	**0.357**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		7504.349	0.28
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.23E+07**	**1.05**	**Y**	**1.37**	**54**	**3853.216**	**0.147**
1234679-HpCDF	NotFnd		1.0069						1.34		3853.216	0.191
1234689-HpCDF	NotFnd		1.0103						1.34		3853.216	0.191
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**7.64E+06**	**1.04**	**Y**	**1.31**	**52.3**	**3853.216**	**0.258**
OCDF	**43.79**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**0.90**	**Y**	**1.07**	**116**	**3120.485**	**0.51**
OCDF-a	43.79	**EMPC**	1.0002	1.0004	+0.5	3.49E+05	3.30	N	0.07	63.6	4116.072	10.9

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220117C16	Analysis Date:	17-JAN-2022 21:44:50
Lab ID:	OPR2_18833_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	13.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.7	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	57.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.6	35	-	70	Y
OCDD	100	117	78	-	144	Y
2,3,7,8-TCDF	10	14.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	58.3	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	51.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.3	39	-	69	Y
OCDF	100	116	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 18 Jan 2022 09:08 Analyst: TF

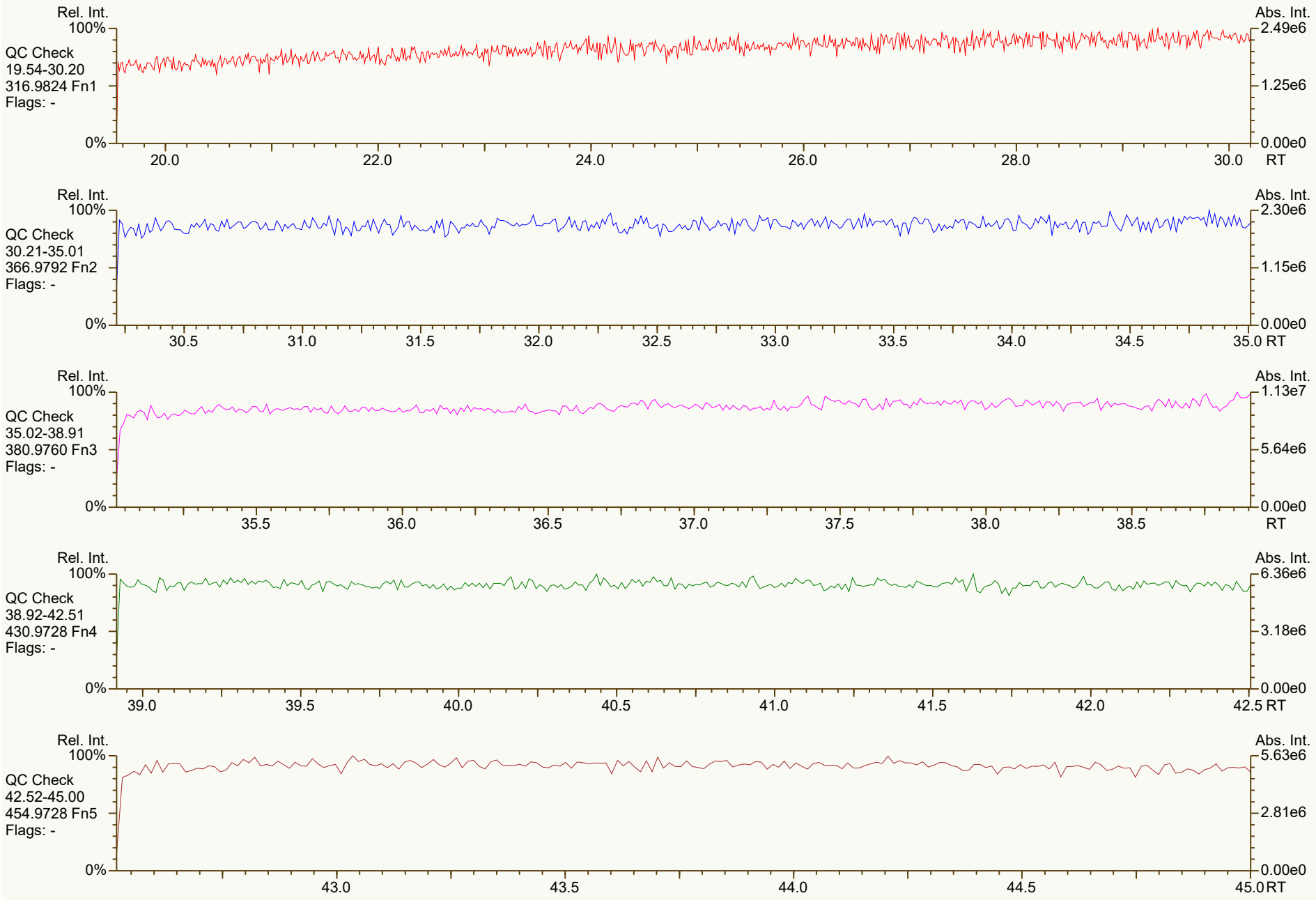
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

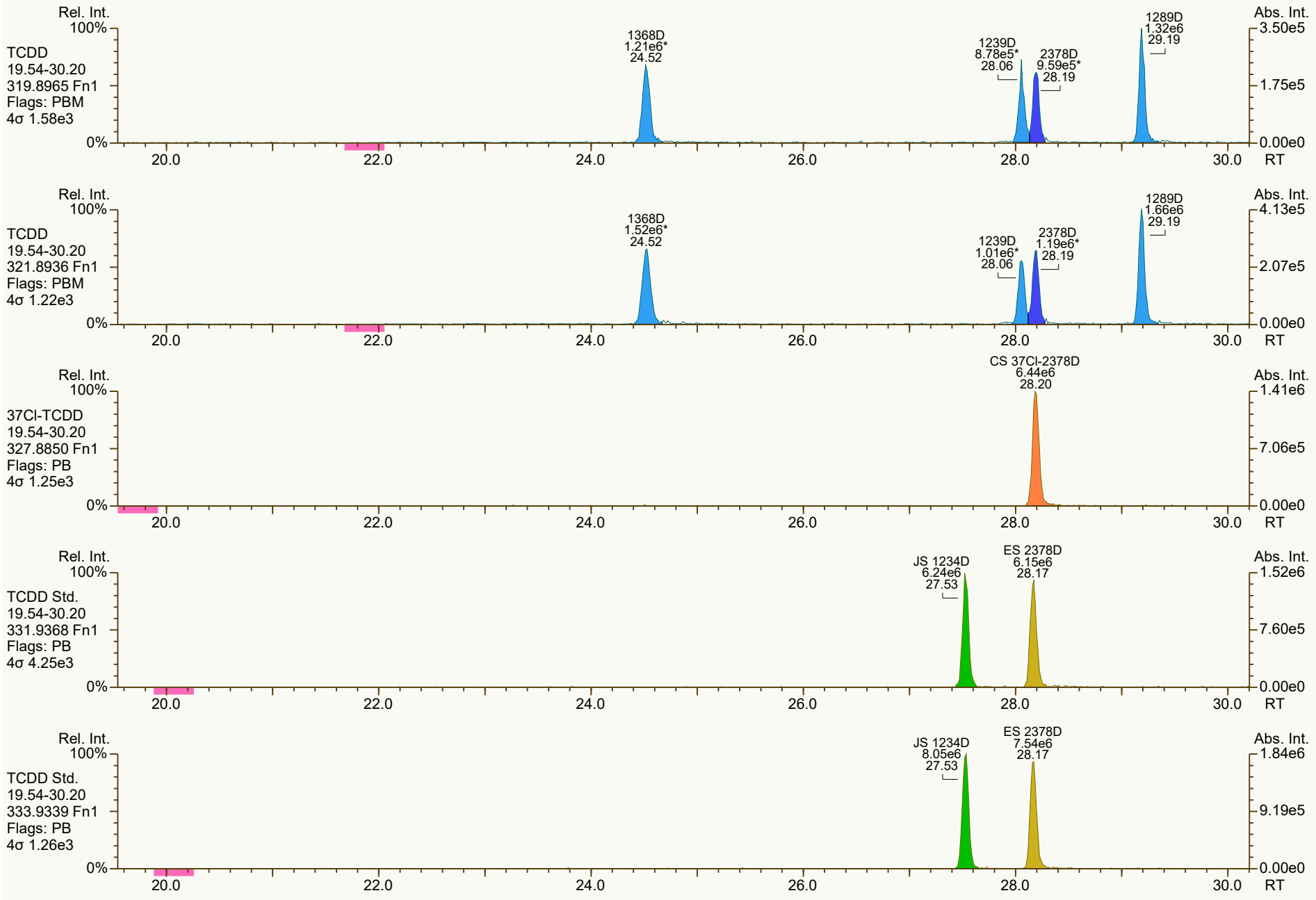
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220117C16	Analysis Date:	17-JAN-2022 21:44:50
Lab ID:	OPR2_18833_DF		

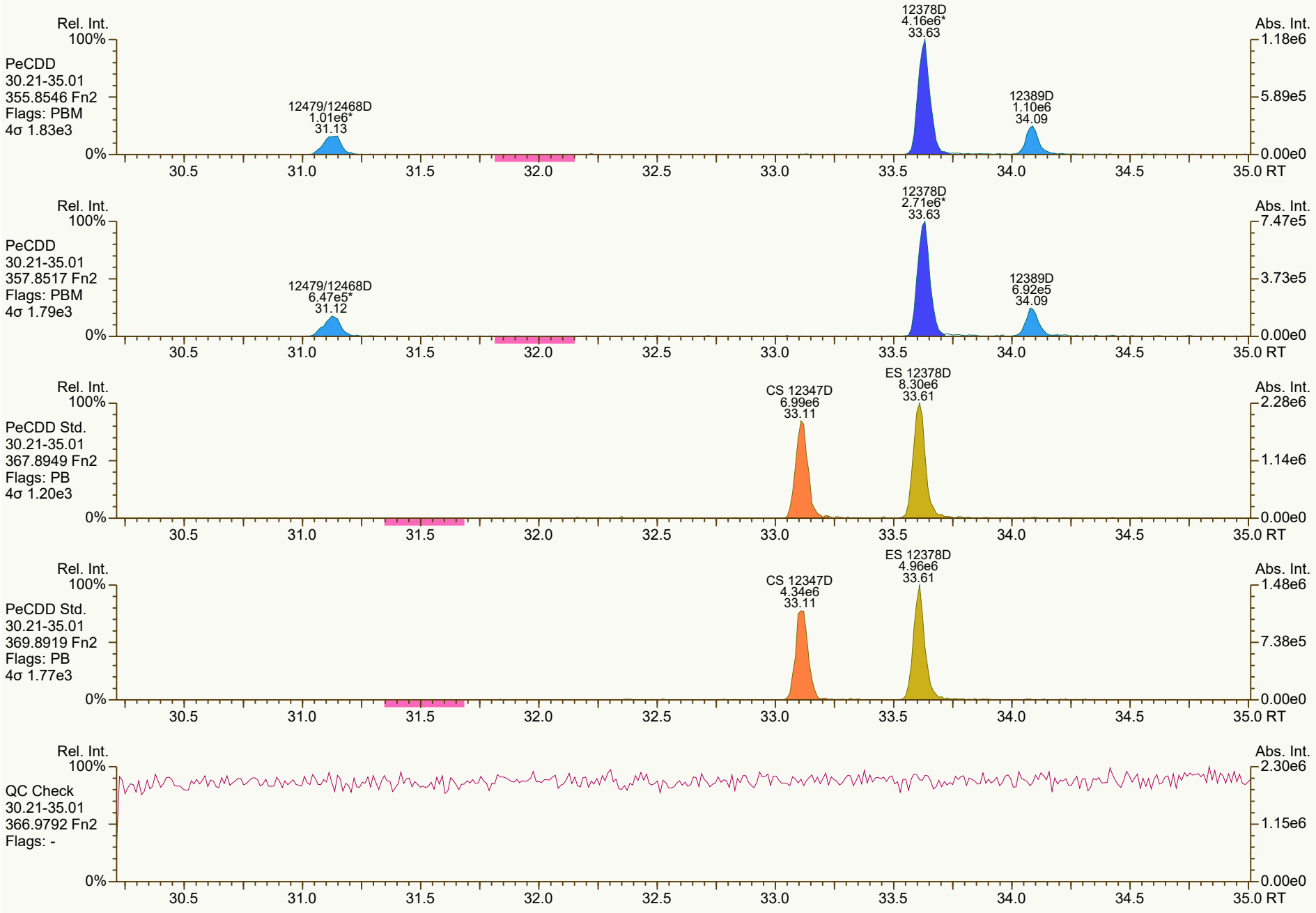
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	106	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	106	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	125	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.7	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	99.8	26	-	166	Y
13C-OCDD	200	147	26	-	397	Y
13C-2,3,7,8-TCDF	100	91.3	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	99.9	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	96.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	102	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	146	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	105	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	126	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	96.2	20	-	186	Y
13C-OCDF	200	150	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.5	12.4	-	76.4	Y

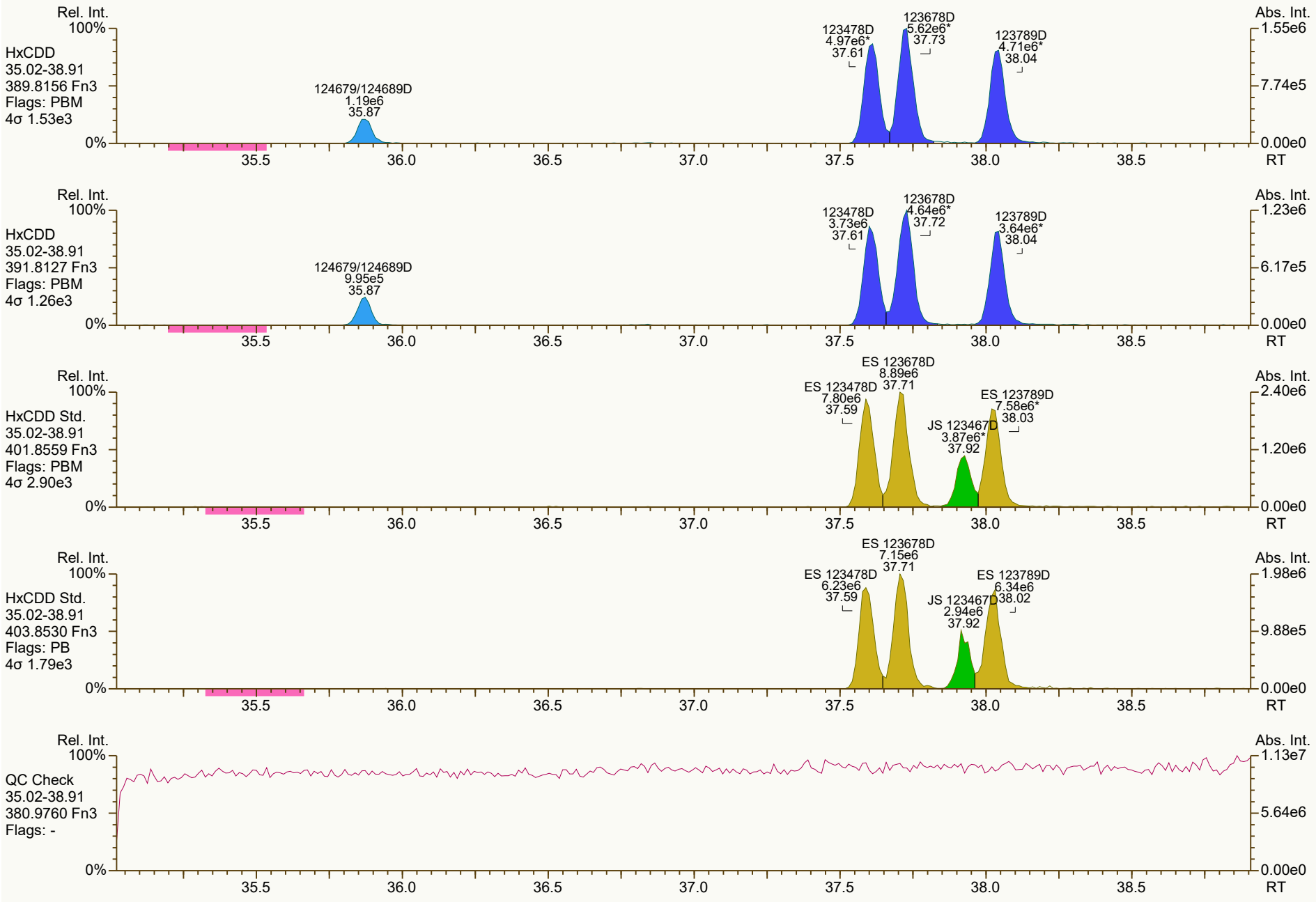
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

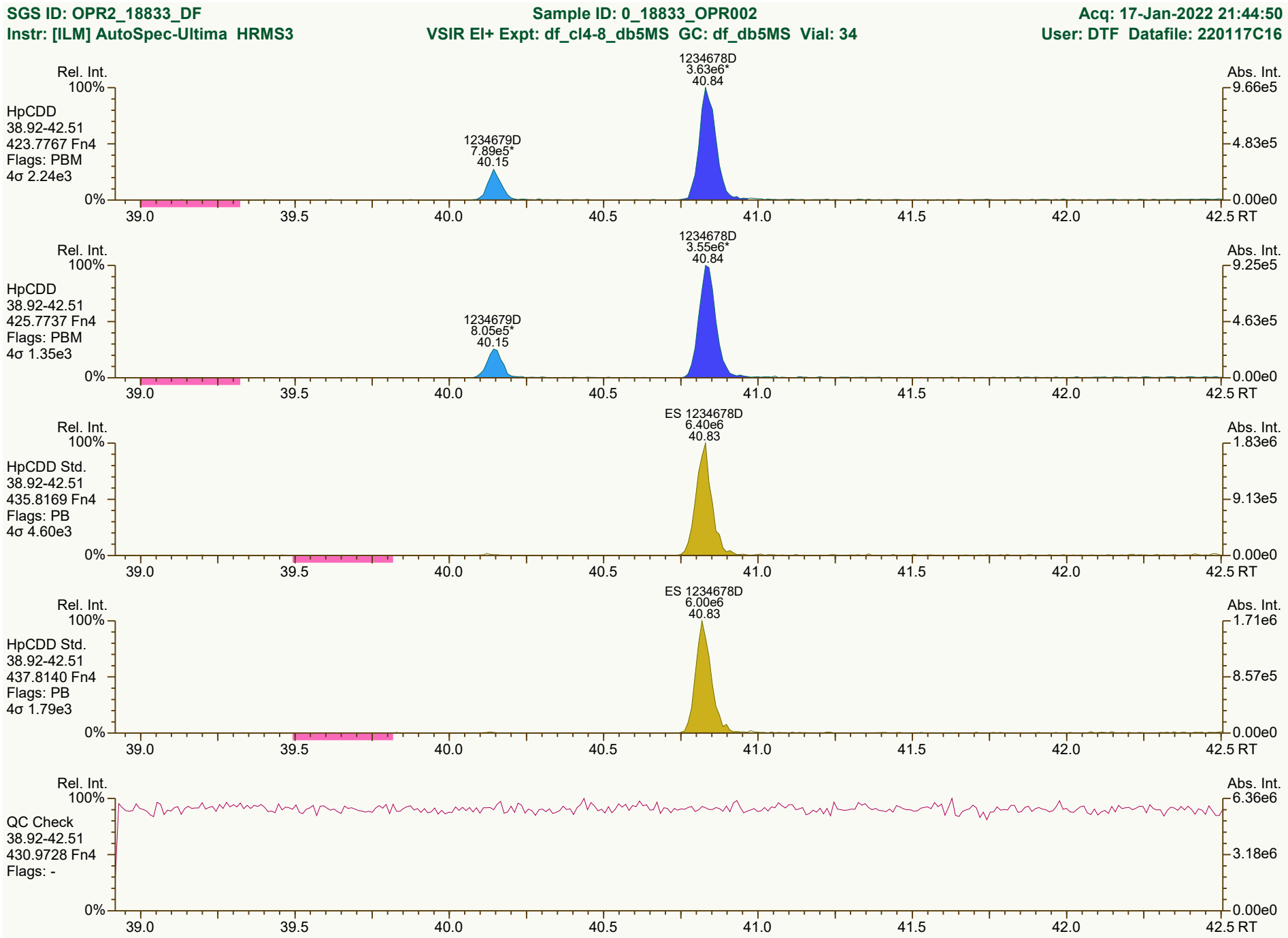
Processed: 18 Jan 2022 09:08 Analyst: TF

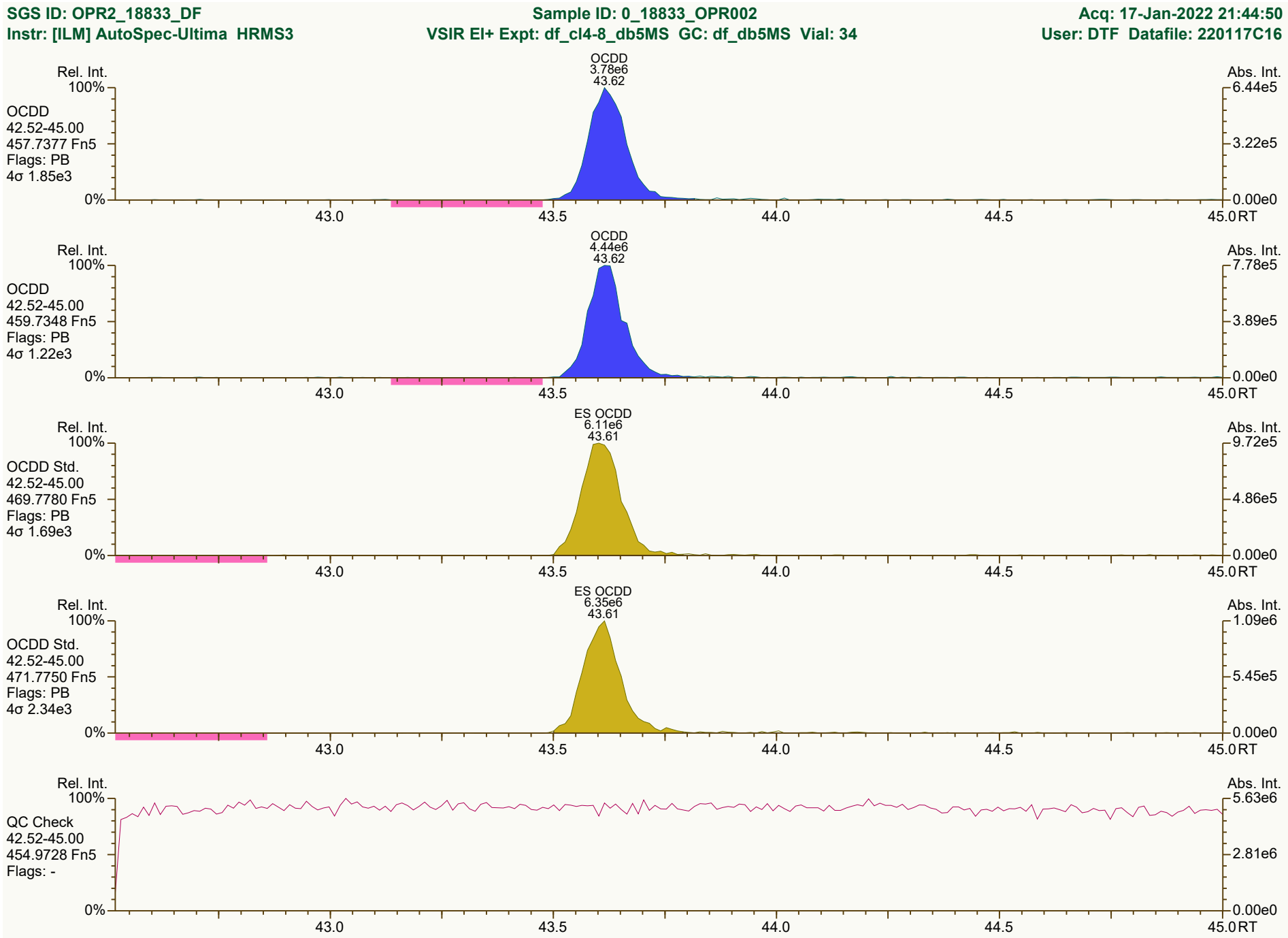

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100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.49e6
1.25e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
2.30e6
1.15e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.13e7
5.64e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
6.36e6
3.18e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.63e6
2.81e6
0.00e0

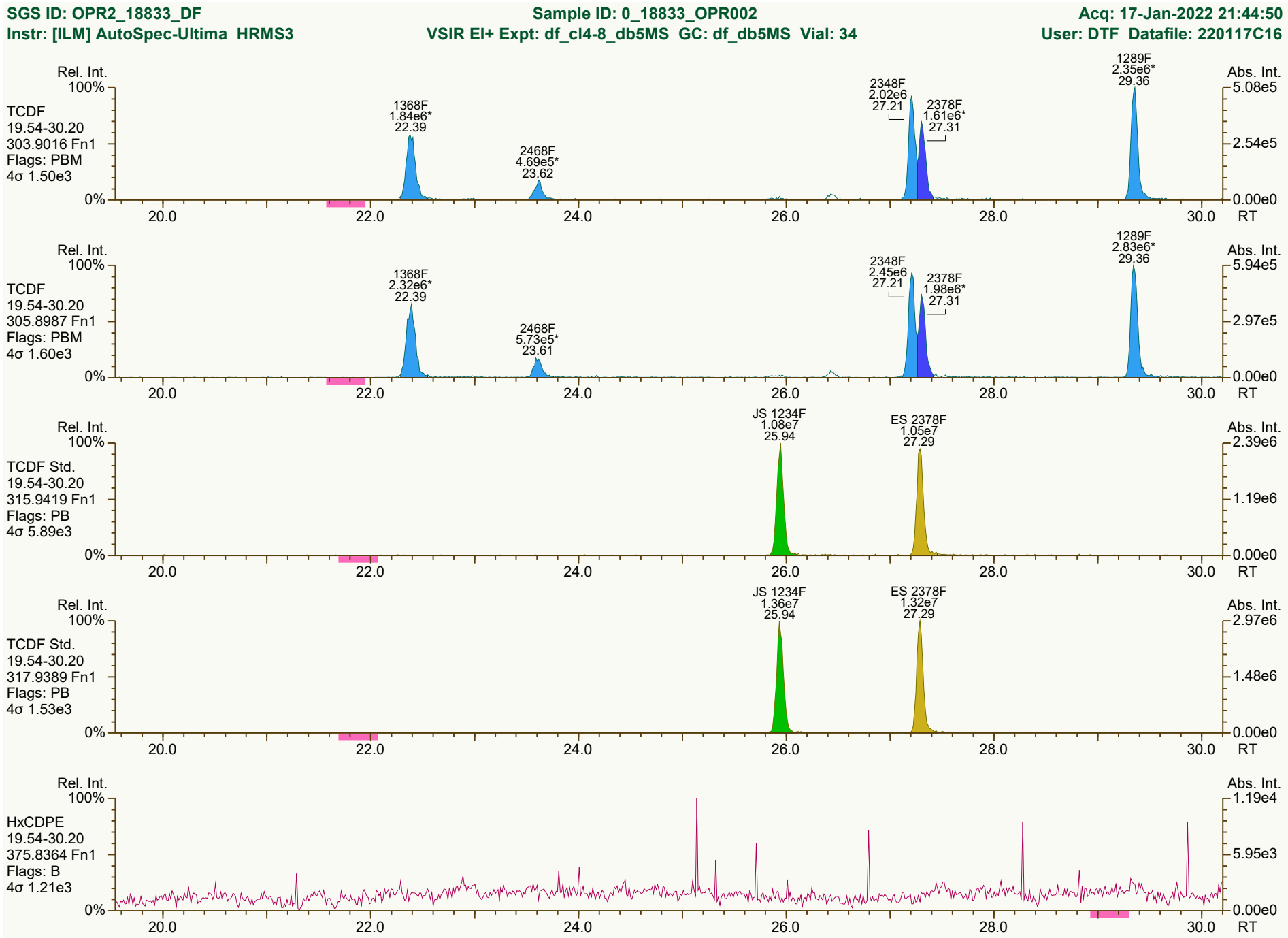

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.58e3
1368D
1.21e6*
24.52
1239D
8.78e5*
28.06
2378D
9.59e5*
28.19
1289D
1.32e6
29.19
Abs. Int.
3.50e5
1.75e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.22e3
1368D
1.52e6*
24.52
1239D
1.01e6*
28.06
2378D
1.19e6*
28.19
1289D
1.66e6
29.19
Abs. Int.
4.13e5
2.07e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.25e3
CS 37Cl-2378D
6.44e6
28.20
Abs. Int.
1.41e6
7.06e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.25e3
JS 1234D
6.24e6
27.53
ES 2378D
6.15e6
28.17
Abs. Int.
1.52e6
7.60e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.26e3
JS 1234D
8.05e6
27.53
ES 2378D
7.54e6
28.17
Abs. Int.
1.84e6
9.19e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

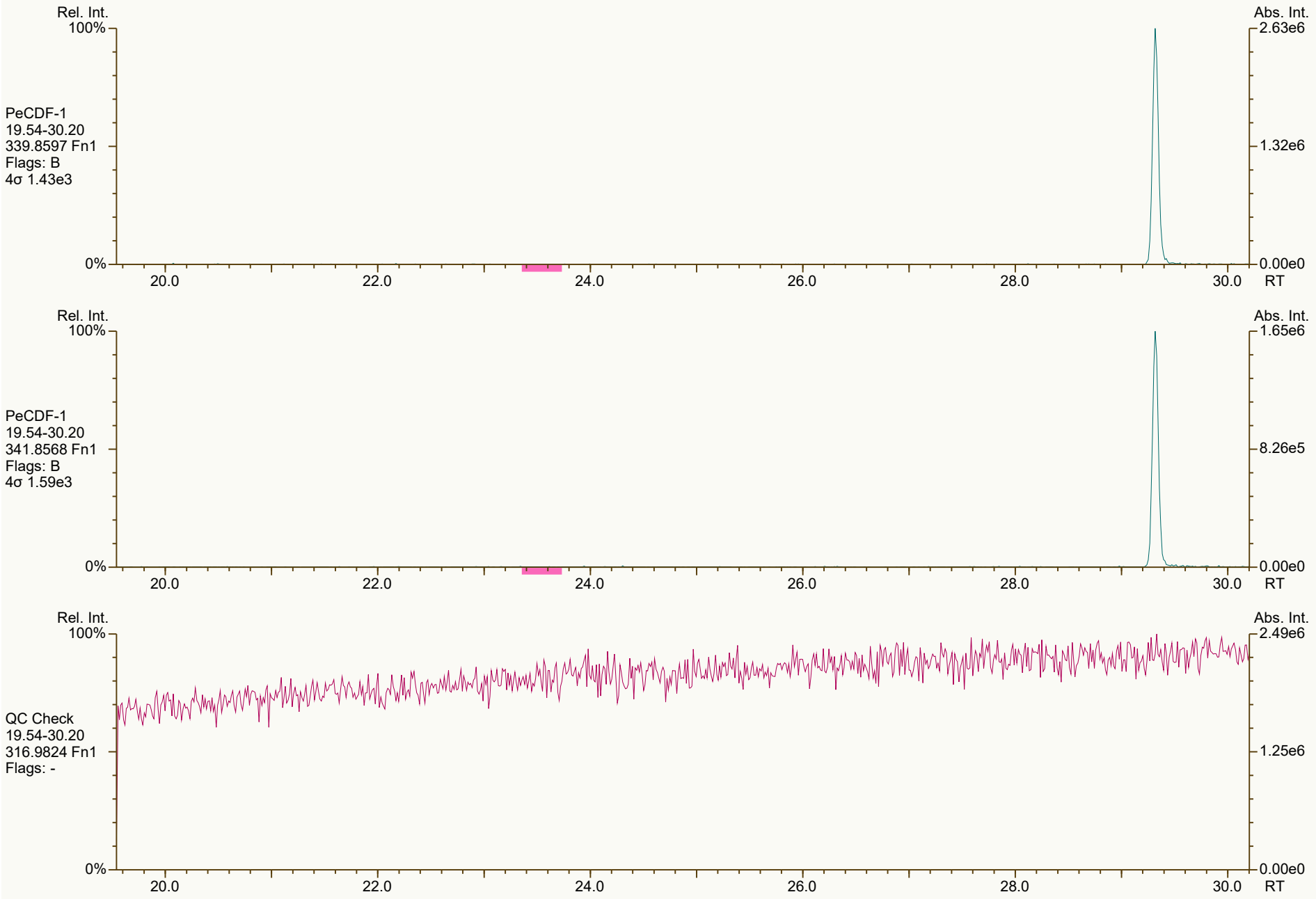

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 1.83e3
12479/12468D
1.01e6*
31.13
12378D
4.16e6*
33.63
12389D
1.10e6
34.09
Abs. Int.
1.18e6
5.89e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 1.79e3
12479/12468D
6.47e5*
31.12
12378D
2.71e6*
33.63
12389D
6.92e5
34.09
Abs. Int.
7.47e5
3.73e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 1.20e3
CS 12347D
6.99e6
33.11
ES 12378D
8.30e6
33.61
Abs. Int.
2.28e6
1.14e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 1.77e3
CS 12347D
4.34e6
33.11
ES 12378D
4.96e6
33.61
Abs. Int.
1.48e6
7.38e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 1.53e3
124679/124689D
1.19e6
35.87
123478D
4.97e6*
37.61
123678D
5.62e6*
37.73
123789D
4.71e6*
38.04
Abs. Int.
1.55e6
7.74e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 1.26e3
124679/124689D
9.95e5
35.87
123478D
3.73e6
37.61
123678D
4.64e6*
37.72
123789D
3.64e6*
38.04
Abs. Int.
1.23e6
6.17e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 2.90e3
ES 123678D
8.89e6
37.71
ES 123478D
7.80e6
37.59
ES 123789D
7.58e6*
38.03
JS 123467D
3.87e6*
37.92
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.79e3
ES 123678D
7.15e6
37.71
ES 123478D
6.23e6
37.59
ES 123789D
6.34e6
38.02
JS 123467D
2.94e6
37.92
Abs. Int.
1.98e6
9.88e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.13e7
5.64e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR2_18833_DF
Sample ID: 0_18833_OPR002
Acq: 17-Jan-2022 21:44:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220117C16
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.24e3
1234678D
3.63e6*
40.84
1234679D
7.89e5*
40.15
9.66e5
4.83e5
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.35e3
1234678D
3.55e6*
40.84
1234679D
8.05e5*
40.15
9.25e5
4.63e5
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 4.60e3
ES 1234678D
6.40e6
40.83
1.83e6
9.13e5
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.79e3
ES 1234678D
6.00e6
40.83
1.71e6
8.57e5
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
6.36e6
3.18e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18833_DF.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4737, 9060 scc: 055-395
Revised: 18-Jan-2022 08:42 (DTF) Printed: 18-Jan-2022 09:30 Page 5 of 12


SGS ID: OPR2_18833_DF
Sample ID: 0_18833_OPR002
Acq: 17-Jan-2022 21:44:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220117C16
OCDD
3.78e6
43.62
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 1.85e3
OCDD
4.44e6
43.62
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 1.22e3
ES OCDD
6.11e6
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.69e3
ES OCDD
6.35e6
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.34e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18833_DF.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6329, 5375 scc: 055-395
PKD: 18-Jan-2022 08:39 Printed: 18-Jan-2022 09:30 Page 6 of 12


SGS ID: OPR2_18833_DF
Sample ID: 0_18833_OPR002
Acq: 17-Jan-2022 21:44:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220117C16
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.50e3
1368F 1.84e6* 22.39
2468F 4.69e5* 23.62
2348F 2.02e6 27.21
2378F 1.61e6* 27.31
1289F 2.35e6* 29.36
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.60e3
1368F 2.32e6* 22.39
2468F 5.73e5* 23.61
2348F 2.45e6 27.21
2378F 1.98e6* 27.31
1289F 2.83e6* 29.36
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.89e3
JS 1234F 1.08e7 25.94
ES 2378F 1.05e7 27.29
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.53e3
JS 1234F 1.36e7 25.94
ES 2378F 1.32e7 27.29
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18833_DF.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5775, 7122, 3579 scc: 055-395
PKD: 18-Jan-2022 08:43 Printed: 18-Jan-2022 09:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.32e6
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.43e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.65e6
8.26e5
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.59e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.49e6
1.25e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

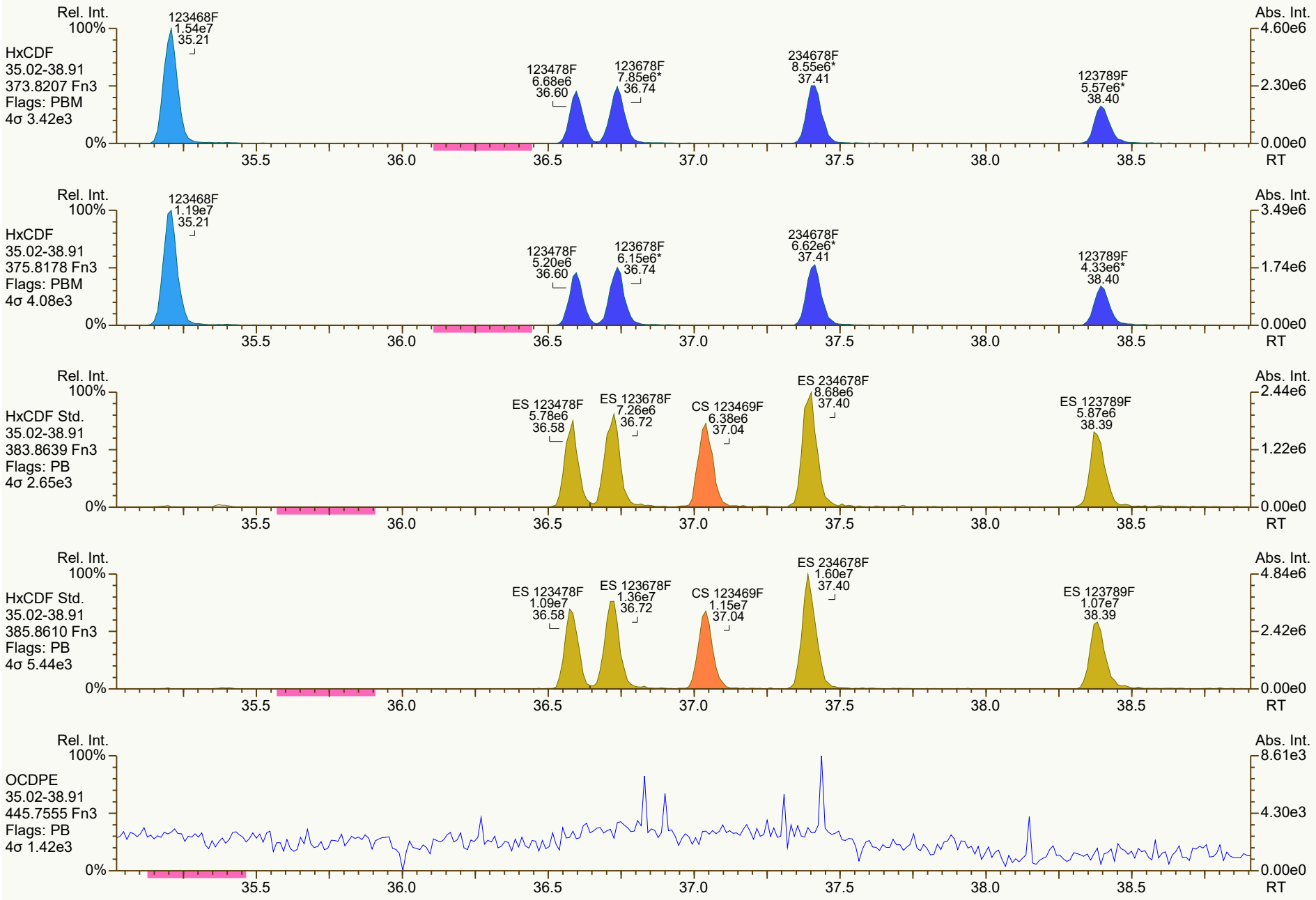
SGS ID: OPR2_18833_DF | Sample ID: 0_18833_OPR002 | Acq: 17-Jan-2022 21:44:50

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34 | User: DTF Datafile: 220117C16

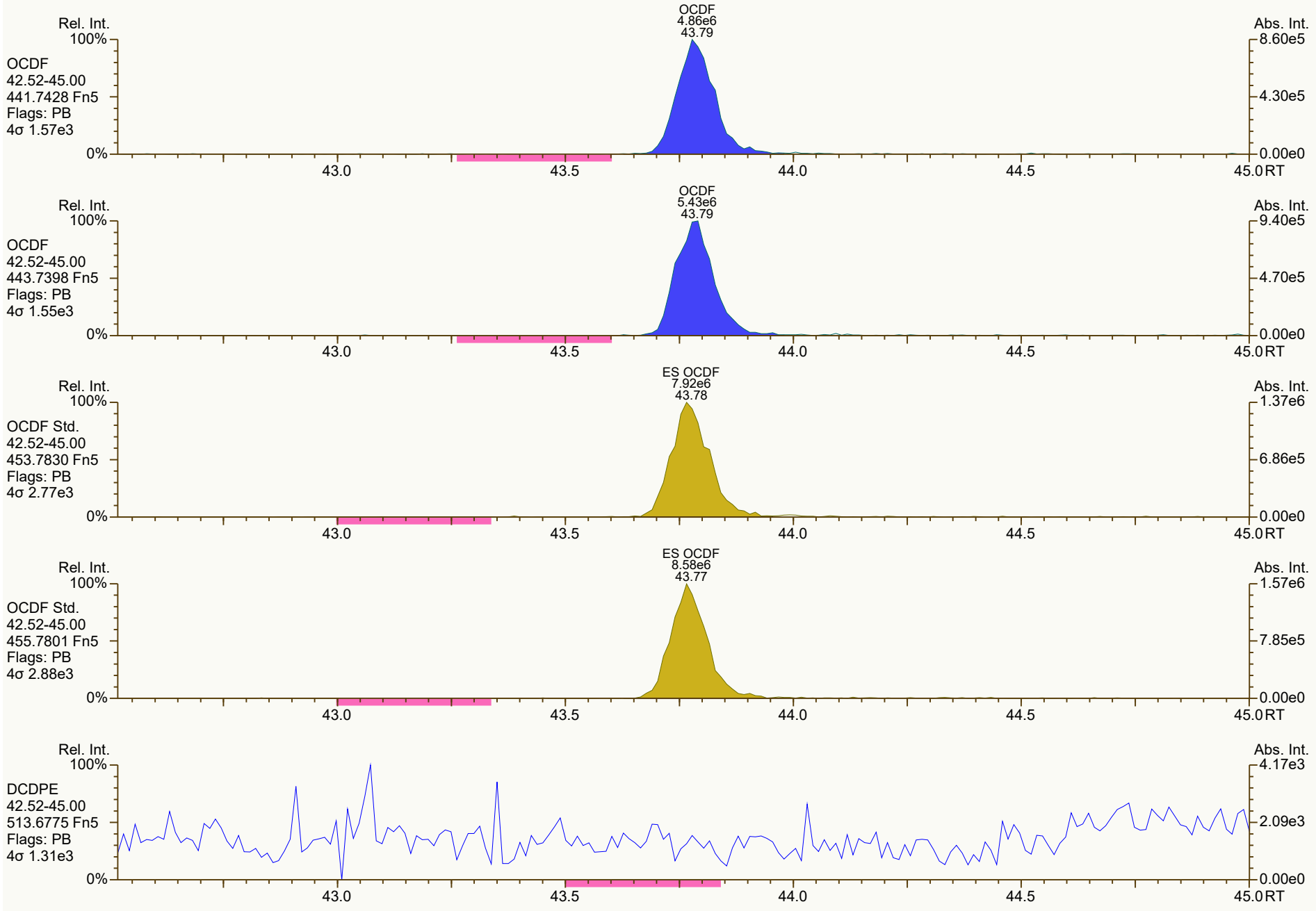


Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18833_DF.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3938, 1048, 9874 scc: 055-395 *Revised: 18-Jan-2022 08:43 (DTF) Printed: 18-Jan-2022 09:30 Page 9 of 12*


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 3.42e3
123468F
1.54e7
35.21
123478F
6.68e6
36.60
123678F
7.85e6*
36.74
234678F
8.55e6*
37.41
123789F
5.57e6*
38.40
Abs. Int.
4.60e6
2.30e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 4.08e3
123468F
1.19e7
35.21
123478F
5.20e6
36.60
123678F
6.15e6*
36.74
234678F
6.62e6*
37.41
123789F
4.33e6*
38.40
Abs. Int.
3.49e6
1.74e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 2.65e3
ES 123478F
5.78e6
36.58
ES 123678F
7.26e6
36.72
CS 123469F
6.38e6
37.04
ES 234678F
8.68e6
37.40
ES 123789F
5.87e6
38.39
Abs. Int.
2.44e6
1.22e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 5.44e3
ES 123478F
1.09e7
36.58
ES 123678F
1.36e7
36.72
CS 123469F
1.15e7
37.04
ES 234678F
1.60e7
37.40
ES 123789F
1.07e7
38.39
Abs. Int.
4.84e6
2.42e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.42e3
Abs. Int.
8.61e3
4.30e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR2_18833_DF
Sample ID: 0_18833_OPR002
Acq: 17-Jan-2022 21:44:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220117C16
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.14e3
1234678F
6.30e6
39.87
1234789F
3.89e6*
41.29
1.90e6
9.52e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.71e3
1234678F
6.01e6
39.87
1234789F
3.75e6*
41.29
1.75e6
8.74e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.94e3
ES 1234678F
5.05e6
39.86
CS 1234689F
4.32e6
40.27
ES 1234789F
3.45e6
41.28
1.45e6
7.26e5
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.90e3
ES 1234678F
1.16e7
39.86
CS 1234689F
9.22e6
40.27
ES 1234789F
7.70e6
41.28
3.64e6
1.82e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.35e3
4.94e3
2.47e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18833_DF.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5093, 4950, 2044 scc: 055-395
Revised: 18-Jan-2022 08:43 (DTF) Printed: 18-Jan-2022 09:30 Page 11 of 12


OCDF
4.86e6
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.57e3
0%
Abs. Int.
8.60e5
4.30e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.43e6
43.79
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.55e3
0%
Abs. Int.
9.40e5
4.70e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.92e6
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 2.77e3
0%
Abs. Int.
1.37e6
6.86e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.58e6
43.77
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.88e3
0%
Abs. Int.
1.57e6
7.85e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
4.17e3
2.09e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

CPSM only

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220117C17	Analysis Date:	17-JAN-2022 22:31:10
Lab ID:	OPR2_18793_DF-RJ2		

Window Defining Standards Results

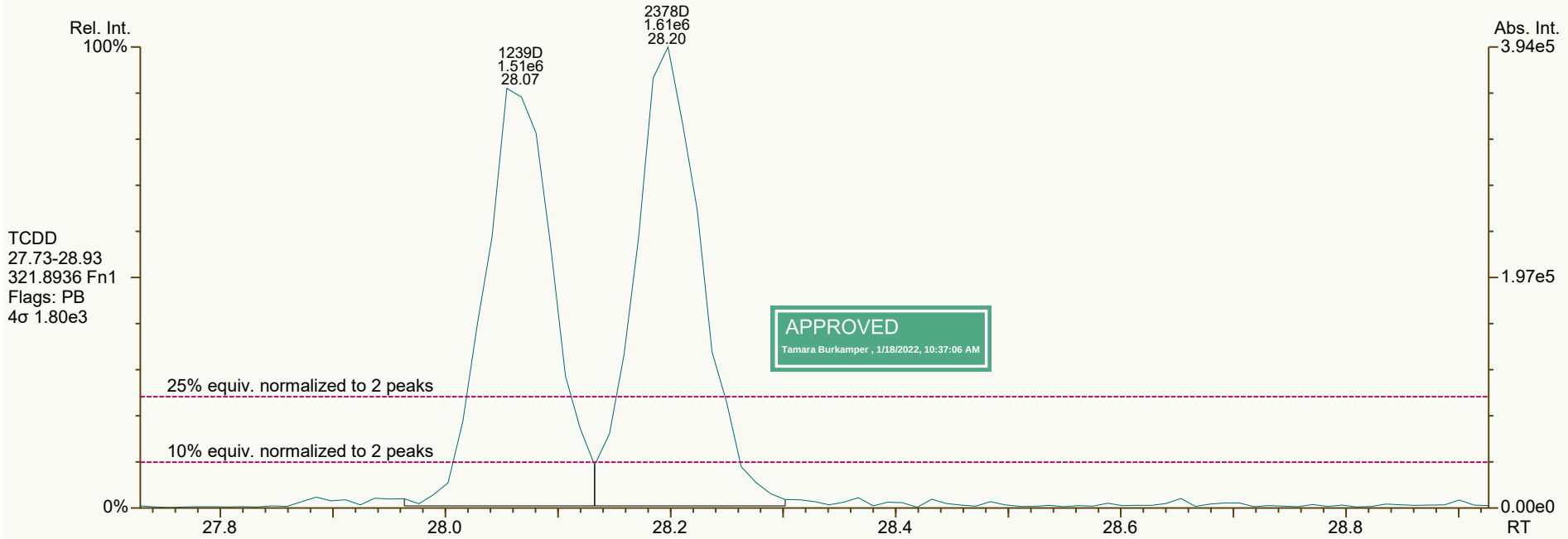
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.54	1289-TCDD	29.20
12479/12468-PeCDD	31.13	12389-PeCDD	34.09
124679/124689-HxCDD	35.88	123789-HxCDD	38.04
1234679-HpCDD	40.14	1234678-HpCDD	40.82
1368-TCDF	22.41	1289-TCDF	29.36
13468/12468-PeCDF	29.33	12389-PeCDF	34.38
123468-HxCDF	35.21	123789-HxCDF	38.40
1234678-HpCDF	39.87	1234789-HpCDF	41.28

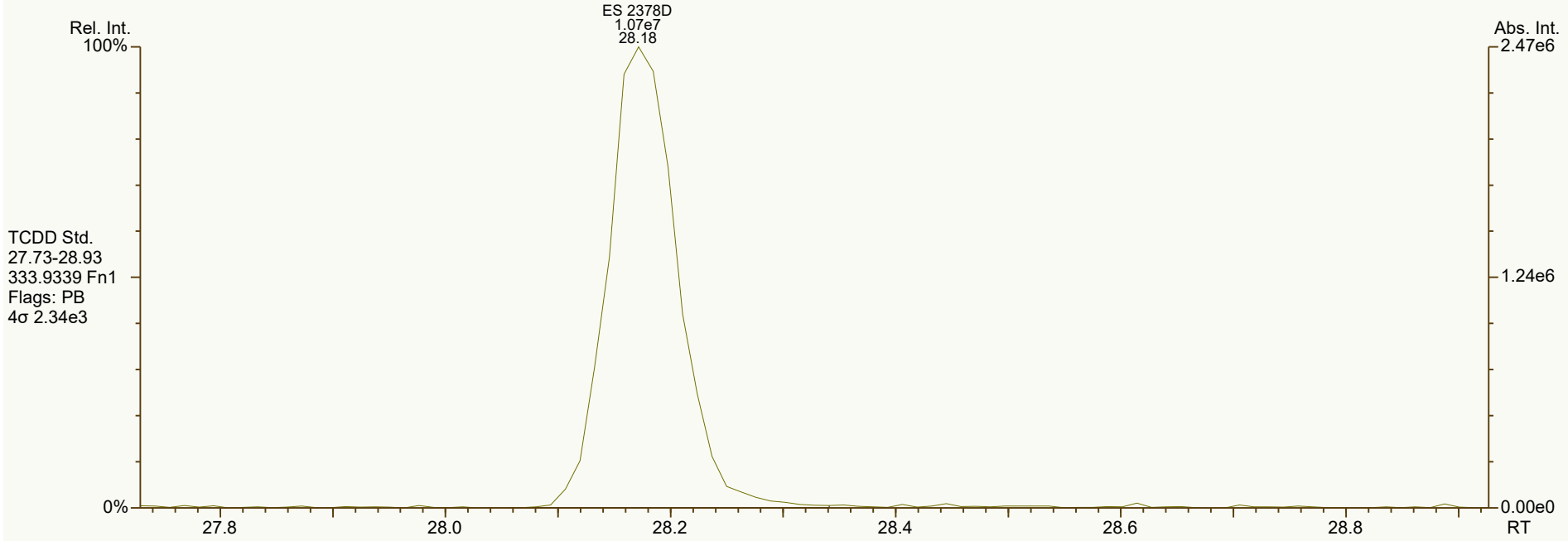
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.07	2378-TCDD	28.20
2348-TCDF	27.22	2378-TCDF	27.32

Processed: 18 Jan 2022 09:09 Analyst: TF

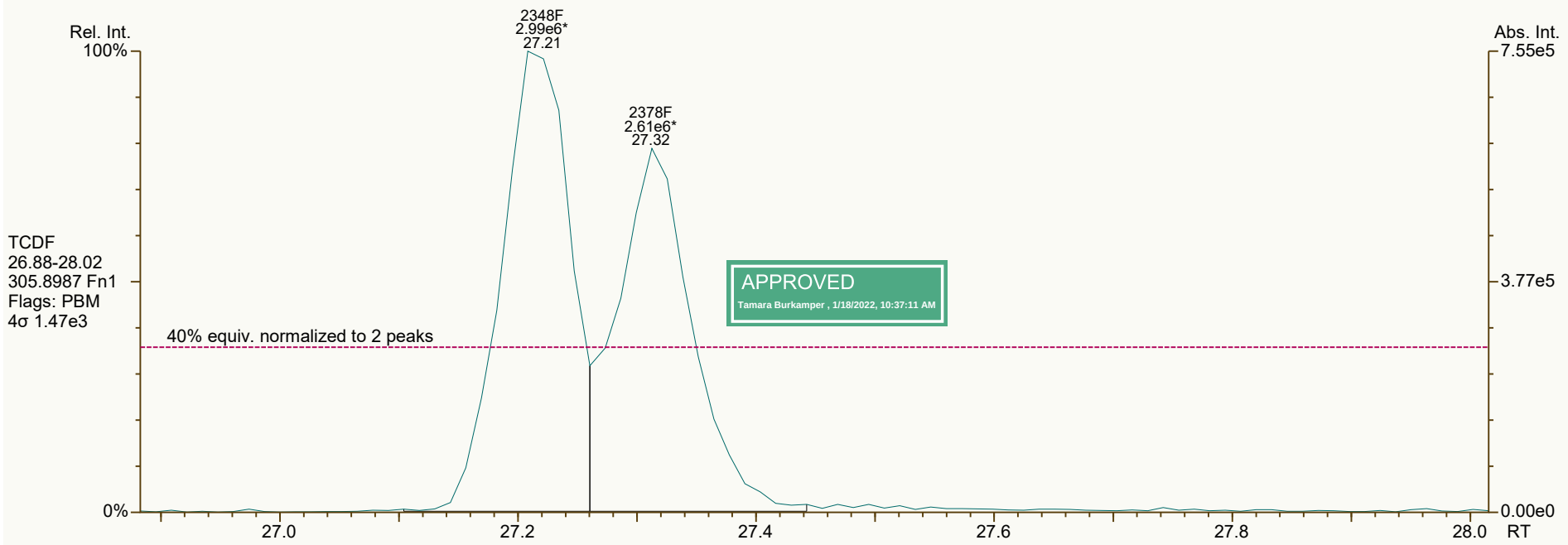
SGS ID: OPR2_18793_DF-RJ2 Sample ID: 0_18793_OPR002 Acq: 17-Jan-2022 22:31:10
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79 User: DTF Datafile: 220117C17

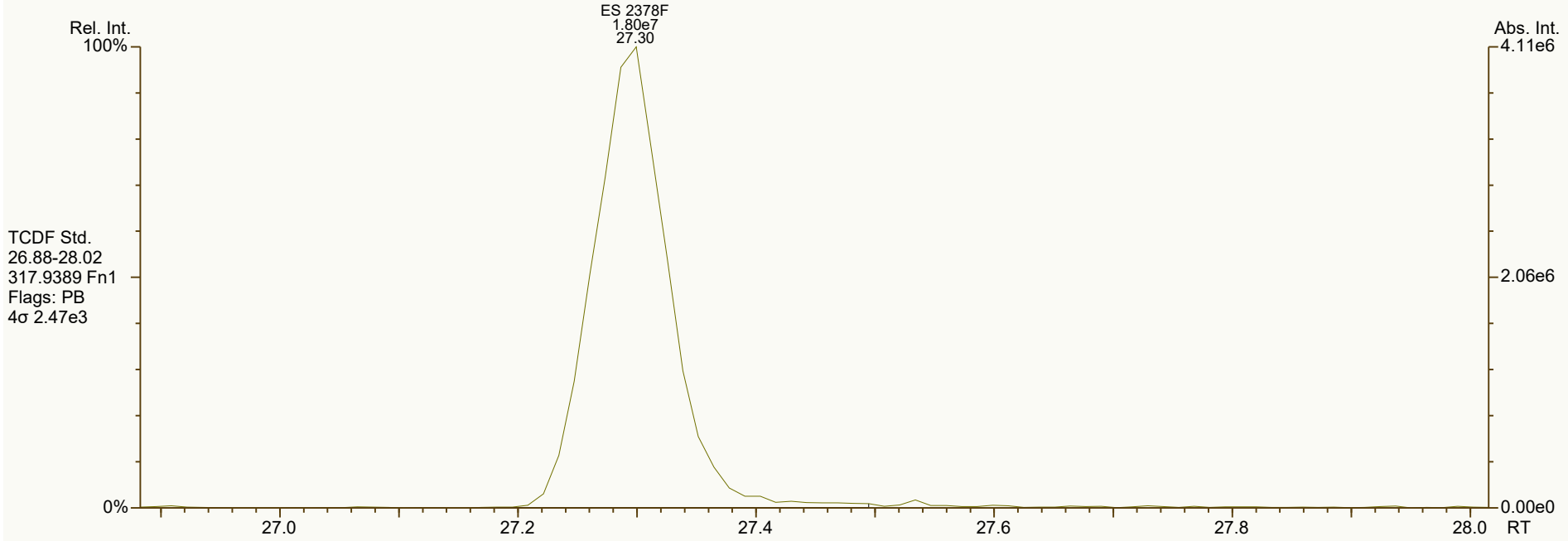




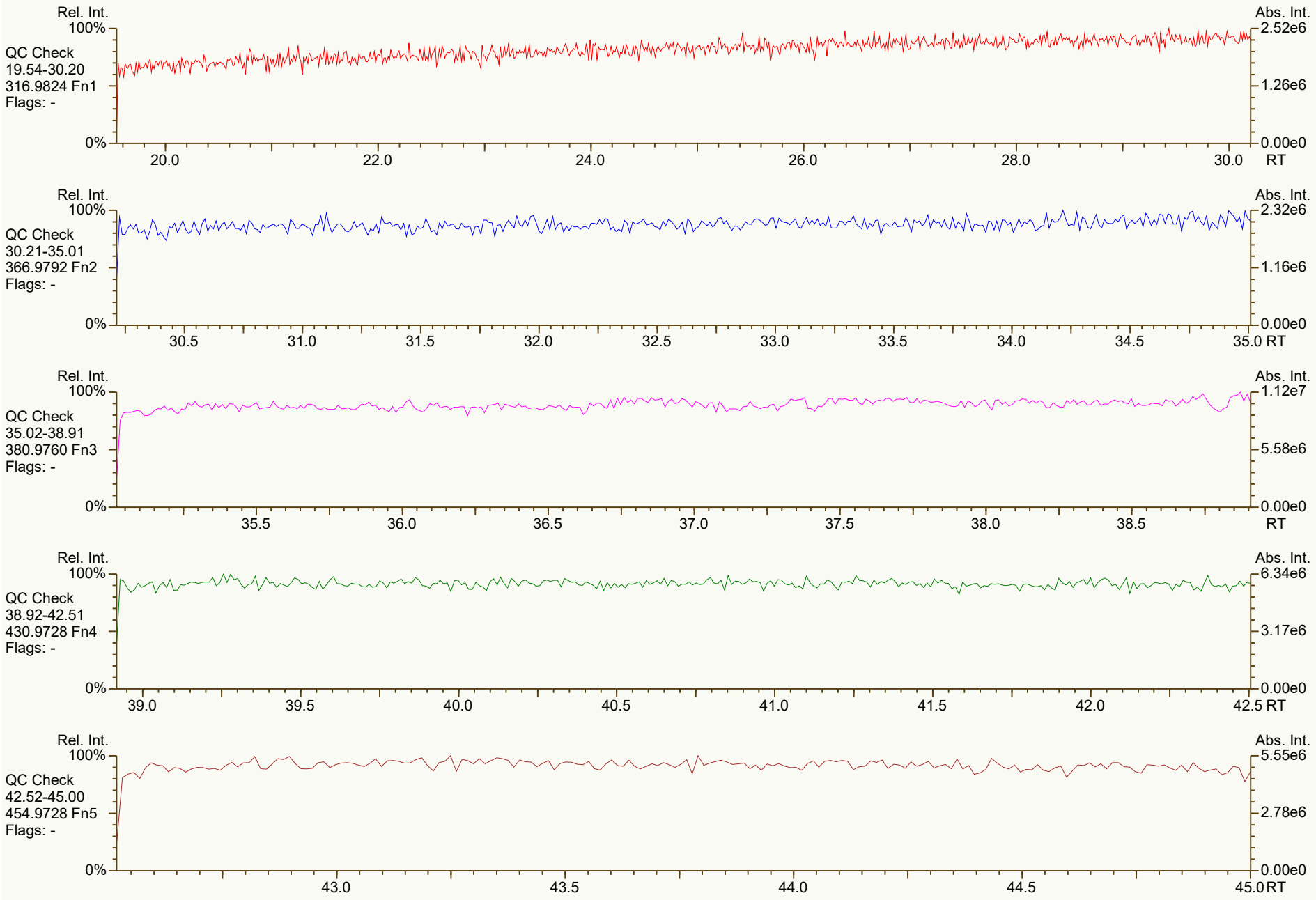
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 18-Jan-2022 08:44 (DTF) Printed: 18-Jan-2022 09:16

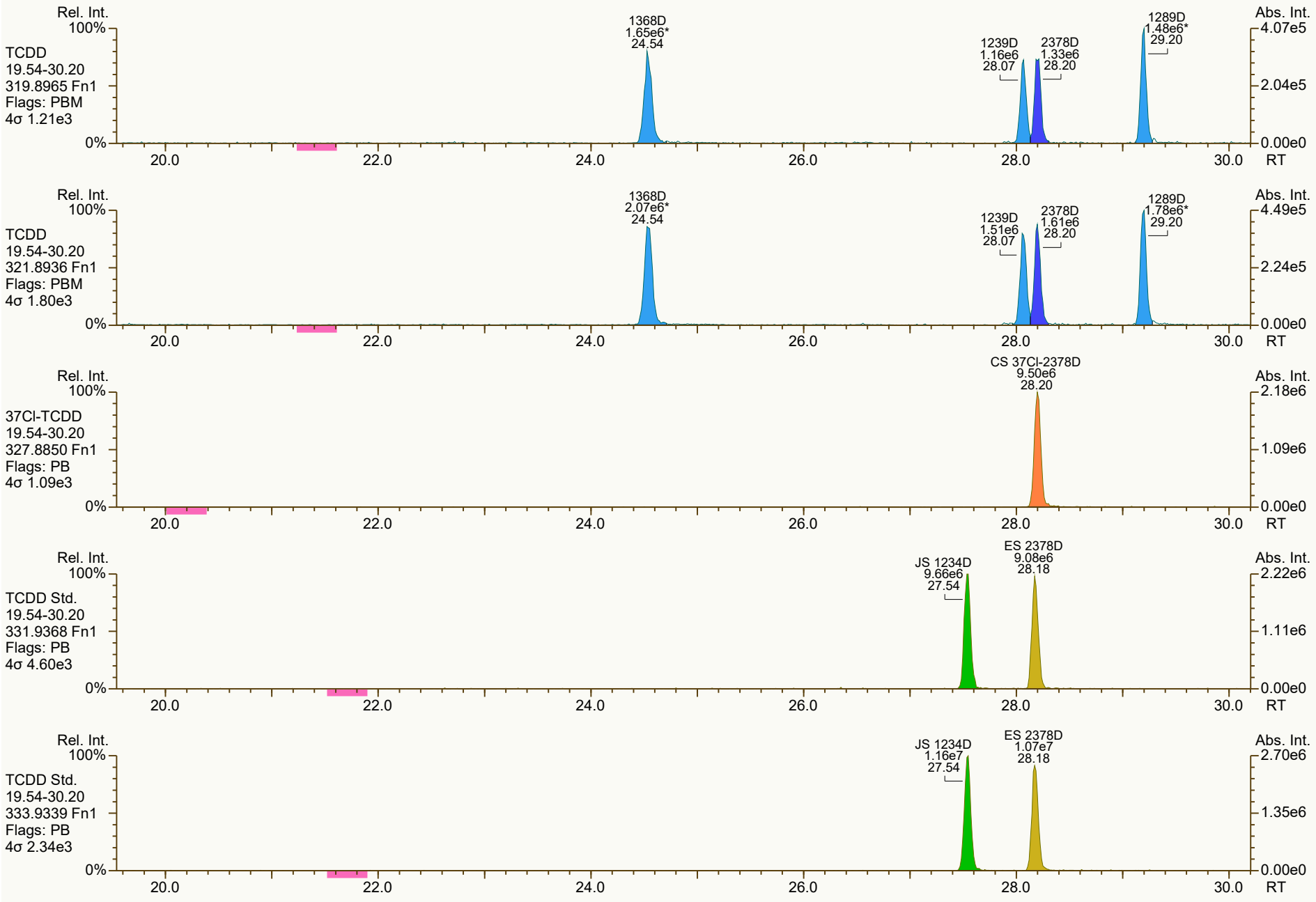
SGS ID: OPR2_18793_DF-RJ2 Sample ID: 0_18793_OPR002 Acq: 17-Jan-2022 22:31:10
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79 User: DTF Datafile: 220117C17

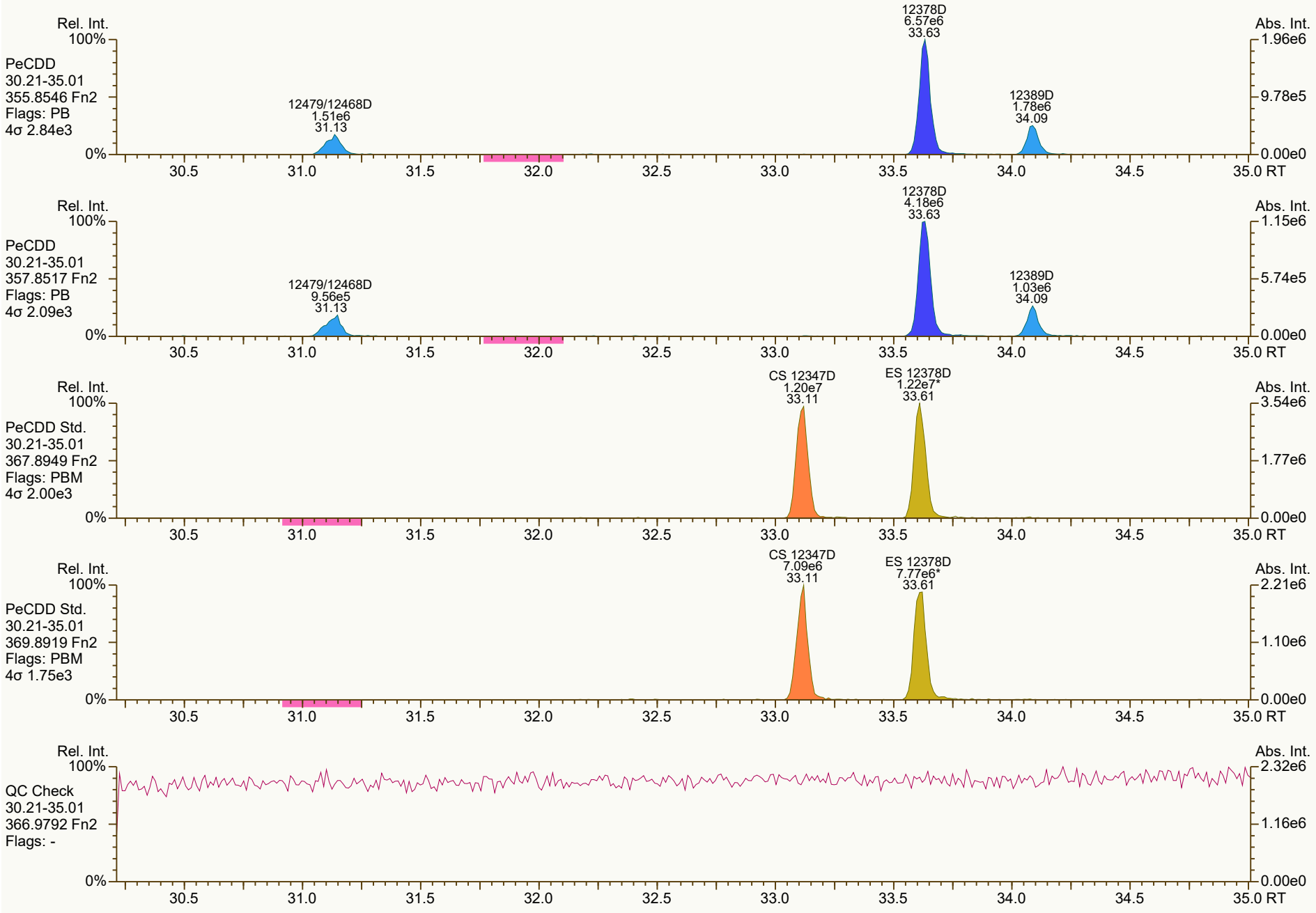


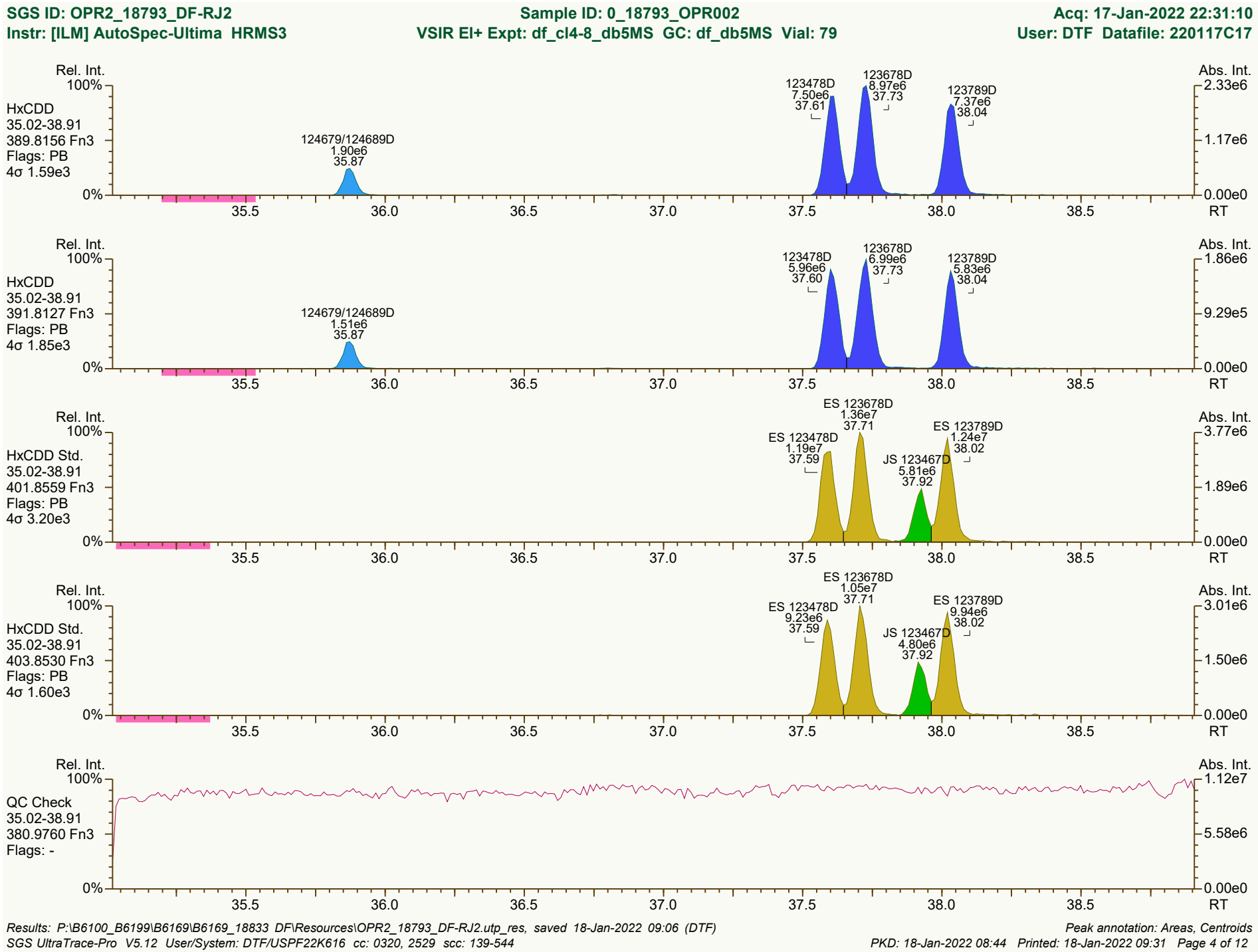


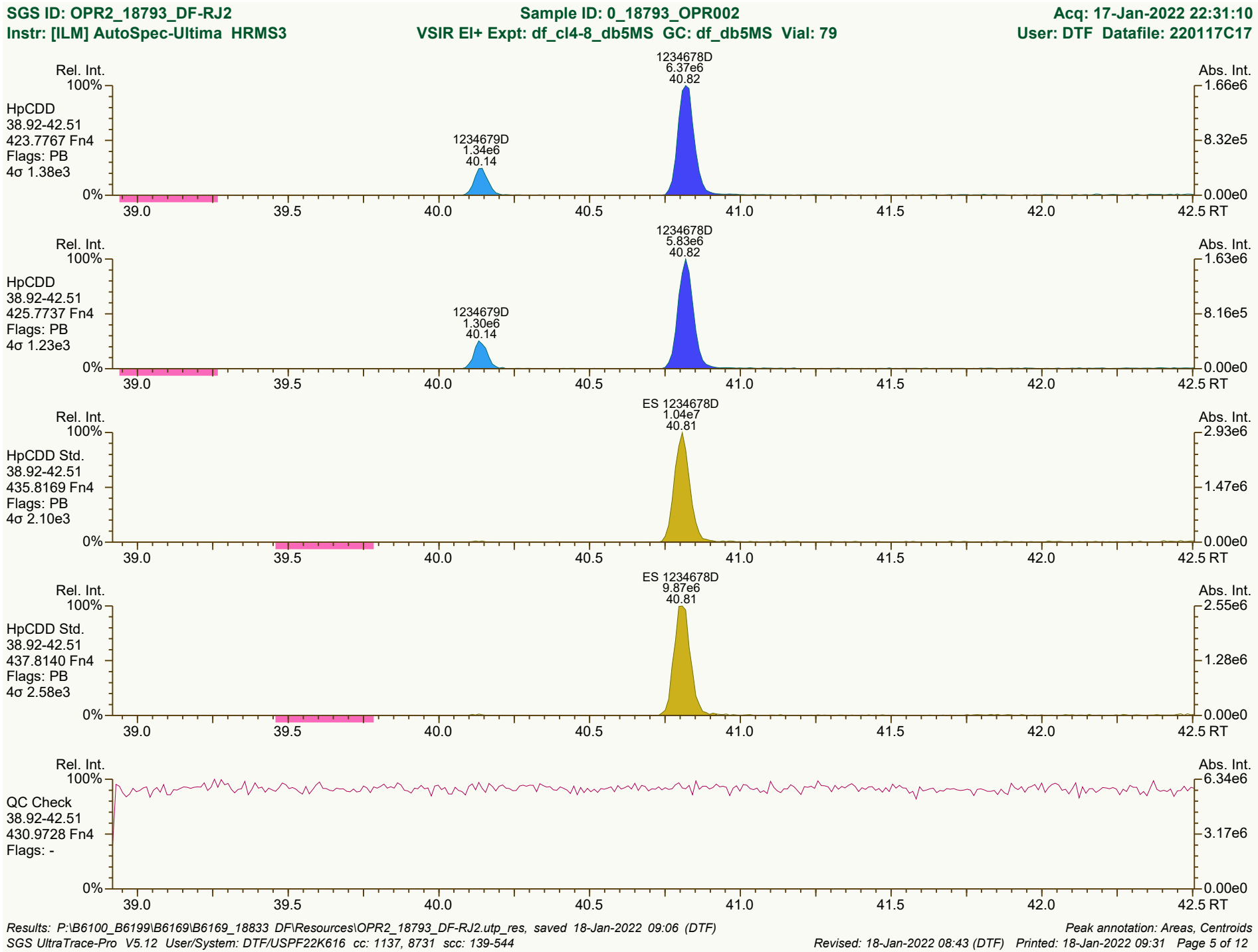
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 *PKD: 18-Jan-2022 08:44 Printed: 18-Jan-2022 09:16*

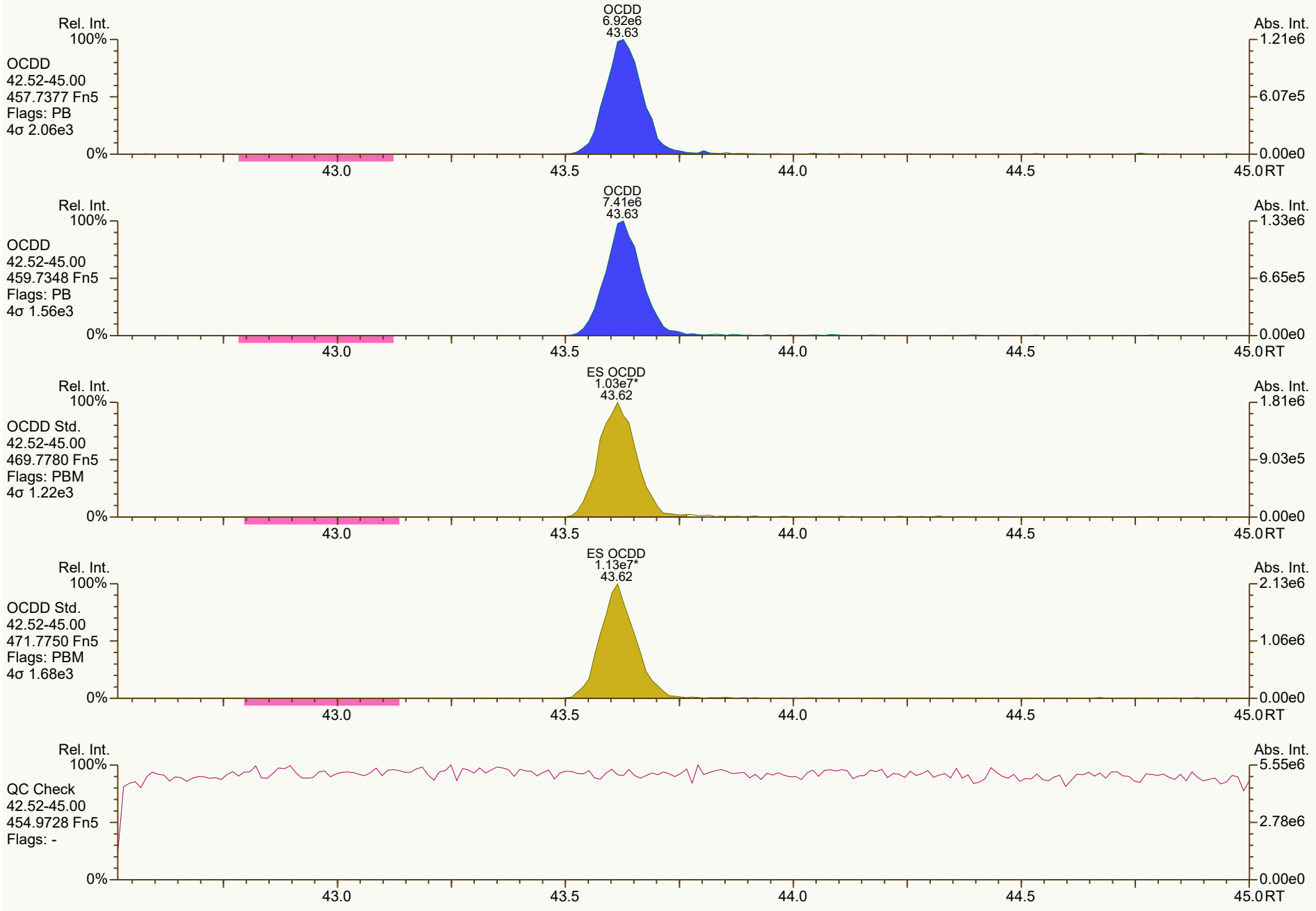

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.52e6
1.26e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
2.32e6
1.16e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.12e7
5.58e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
6.34e6
3.17e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.55e6
2.78e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.21e3
0%
1368D
1.65e6*
24.54
1239D
1.16e6
28.07
2378D
1.33e6
28.20
1289D
1.48e6*
29.20
Abs. Int.
4.07e5
2.04e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.80e3
0%
1368D
2.07e6*
24.54
1239D
1.51e6
28.07
2378D
1.61e6
28.20
1289D
1.78e6*
29.20
Abs. Int.
4.49e5
2.24e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.09e3
0%
CS 37Cl-2378D
9.50e6
28.20
Abs. Int.
2.18e6
1.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.60e3
0%
JS 1234D
9.66e6
27.54
ES 2378D
9.08e6
28.18
Abs. Int.
2.22e6
1.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.34e3
0%
JS 1234D
1.16e7
27.54
ES 2378D
1.07e7
28.18
Abs. Int.
2.70e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

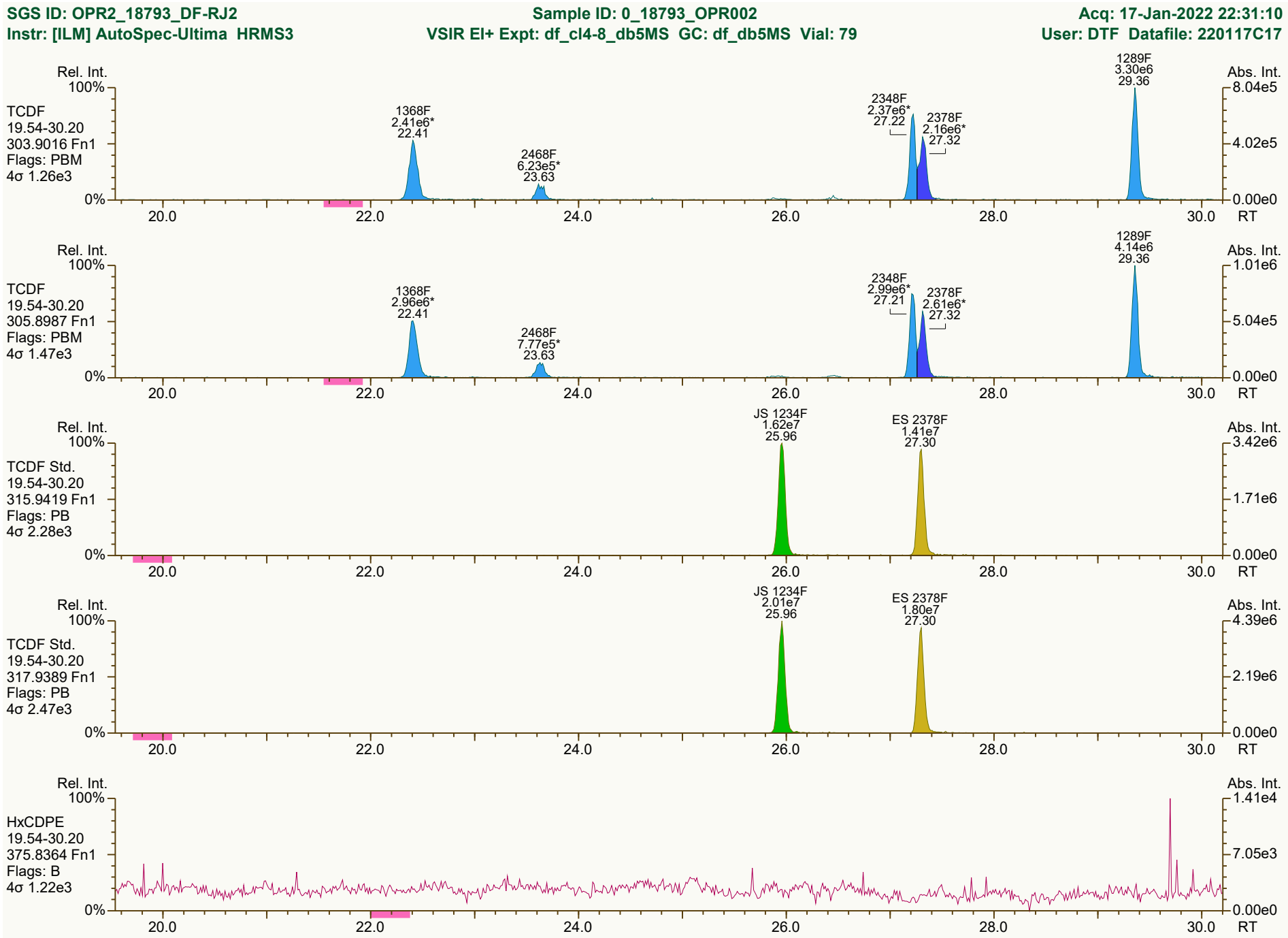

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PB
4σ 2.84e3
12479/12468D
1.51e6
31.13
12378D
6.57e6
33.63
12389D
1.78e6
34.09
Abs. Int.
1.96e6
9.78e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 2.09e3
12479/12468D
9.56e5
31.13
12378D
4.18e6
33.63
12389D
1.03e6
34.09
Abs. Int.
1.15e6
5.74e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 2.00e3
CS 12347D
1.20e7
33.11
ES 12378D
1.22e7*
33.61
Abs. Int.
3.54e6
1.77e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 1.75e3
CS 12347D
7.09e6
33.11
ES 12378D
7.77e6*
33.61
Abs. Int.
2.21e6
1.10e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
2.32e6
1.16e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


SGS ID: OPR2_18793_DF-RJ2
Sample ID: 0_18793_OPR002
Acq: 17-Jan-2022 22:31:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220117C17
Rel. Int.
Abs. Int.
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 1.59e3
124679/124689D
1.90e6
35.87
123478D
7.50e6
37.61
123678D
8.97e6
37.73
123789D
7.37e6
38.04
2.33e6
1.17e6
0.00e0
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.85e3
124679/124689D
1.51e6
35.87
123478D
5.96e6
37.60
123678D
6.99e6
37.73
123789D
5.83e6
38.04
1.86e6
9.29e5
0.00e0
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 3.20e3
ES 123678D
1.36e7
37.71
ES 123478D
1.19e7
37.59
ES 123789D
1.24e7
38.02
JS 123467D
5.81e6
37.92
3.77e6
1.89e6
0.00e0
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.60e3
ES 123678D
1.05e7
37.71
ES 123478D
9.23e6
37.59
ES 123789D
9.94e6
38.02
JS 123467D
4.80e6
37.92
3.01e6
1.50e6
0.00e0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.12e7
5.58e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0320, 2529 scc: 139-544
PKD: 18-Jan-2022 08:44 Printed: 18-Jan-2022 09:31 Page 4 of 12


SGS ID: OPR2_18793_DF-RJ2
Sample ID: 0_18793_OPR002
Acq: 17-Jan-2022 22:31:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220117C17
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.38e3
1234678D
6.37e6
40.82
1234679D
1.34e6
40.14
1.66e6
8.32e5
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.23e3
1234678D
5.83e6
40.82
1234679D
1.30e6
40.14
1.63e6
8.16e5
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.10e3
ES 1234678D
1.04e7
40.81
2.93e6
1.47e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.58e3
ES 1234678D
9.87e6
40.81
2.55e6
1.28e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
6.34e6
3.17e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1137, 8731 scc: 139-544
Revised: 18-Jan-2022 08:43 (DTF) Printed: 18-Jan-2022 09:31 Page 5 of 12



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7624, 7599 scc: 139-544 *Revised: 18-Jan-2022 08:44 (DTF) Printed: 18-Jan-2022 09:31 Page 6 of 12*



Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8186, 7031, 4371 scc: 139-544
PKD: 18-Jan-2022 08:44 Printed: 18-Jan-2022 09:31 Page 7 of 12

SGS ID: OPR2_18793_DF-RJ2 | Sample ID: 0_18793_OPR002 | Acq: 17-Jan-2022 22:31:10

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79 | User: DTF Datafile: 220117C17

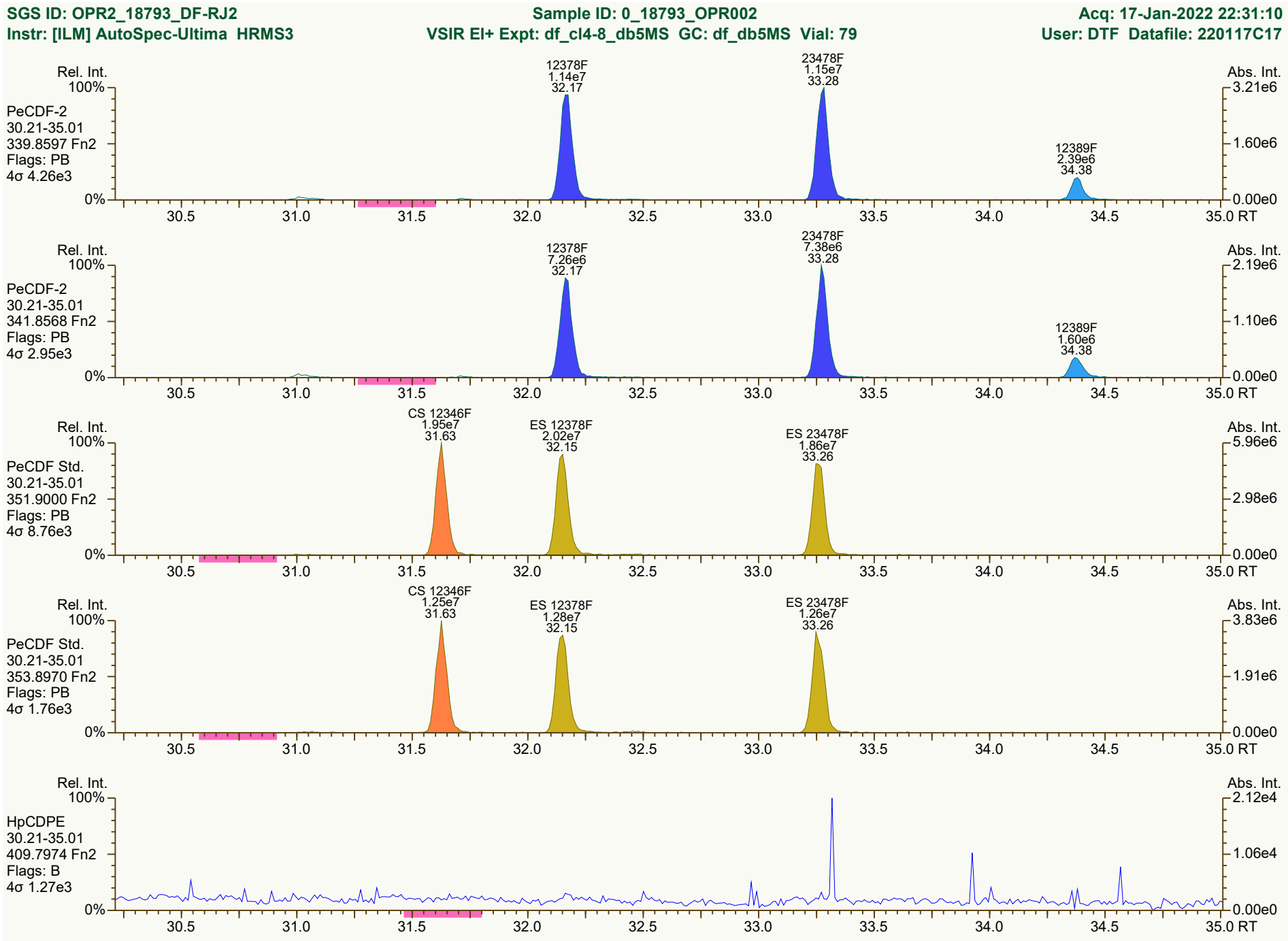


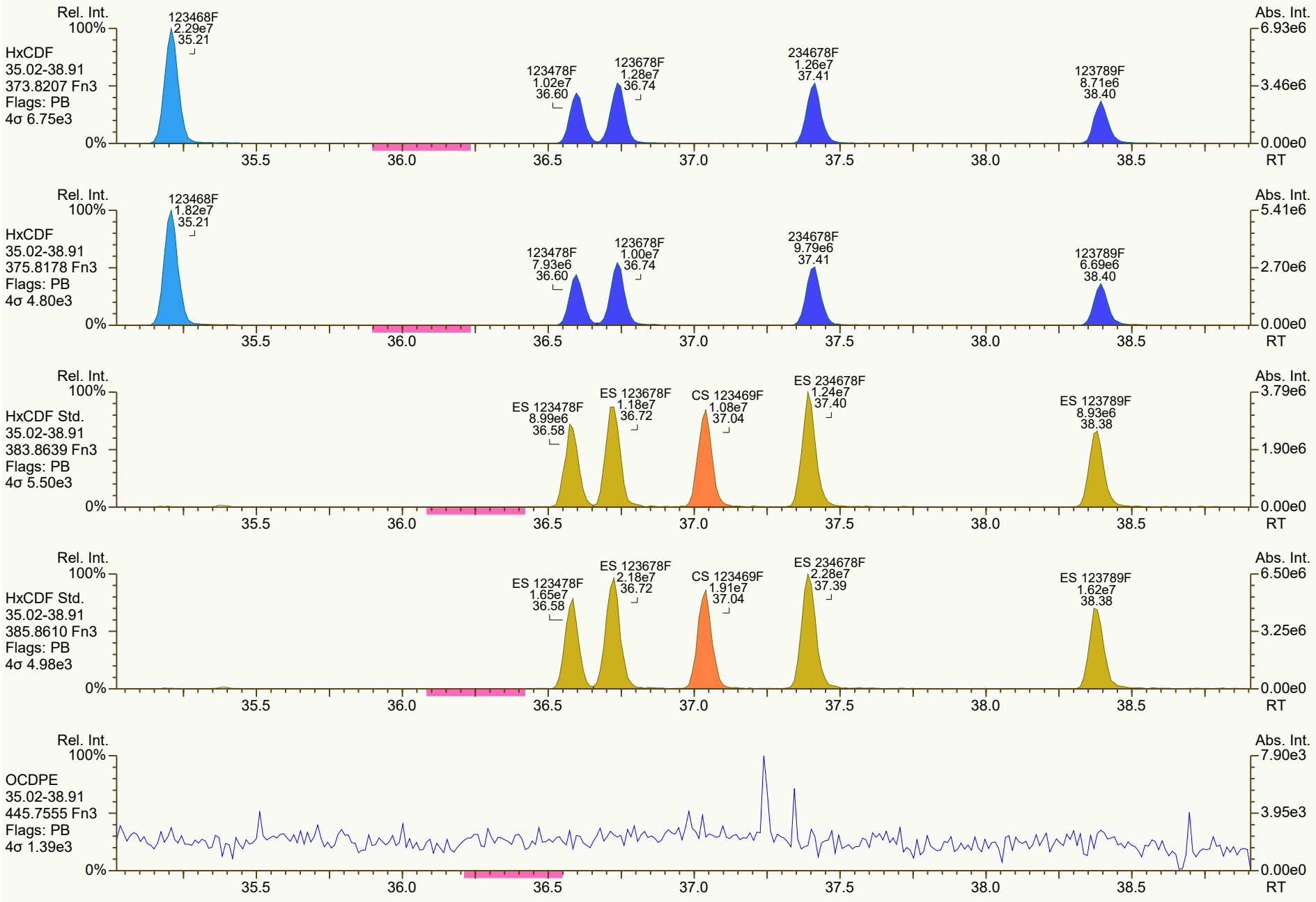
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)

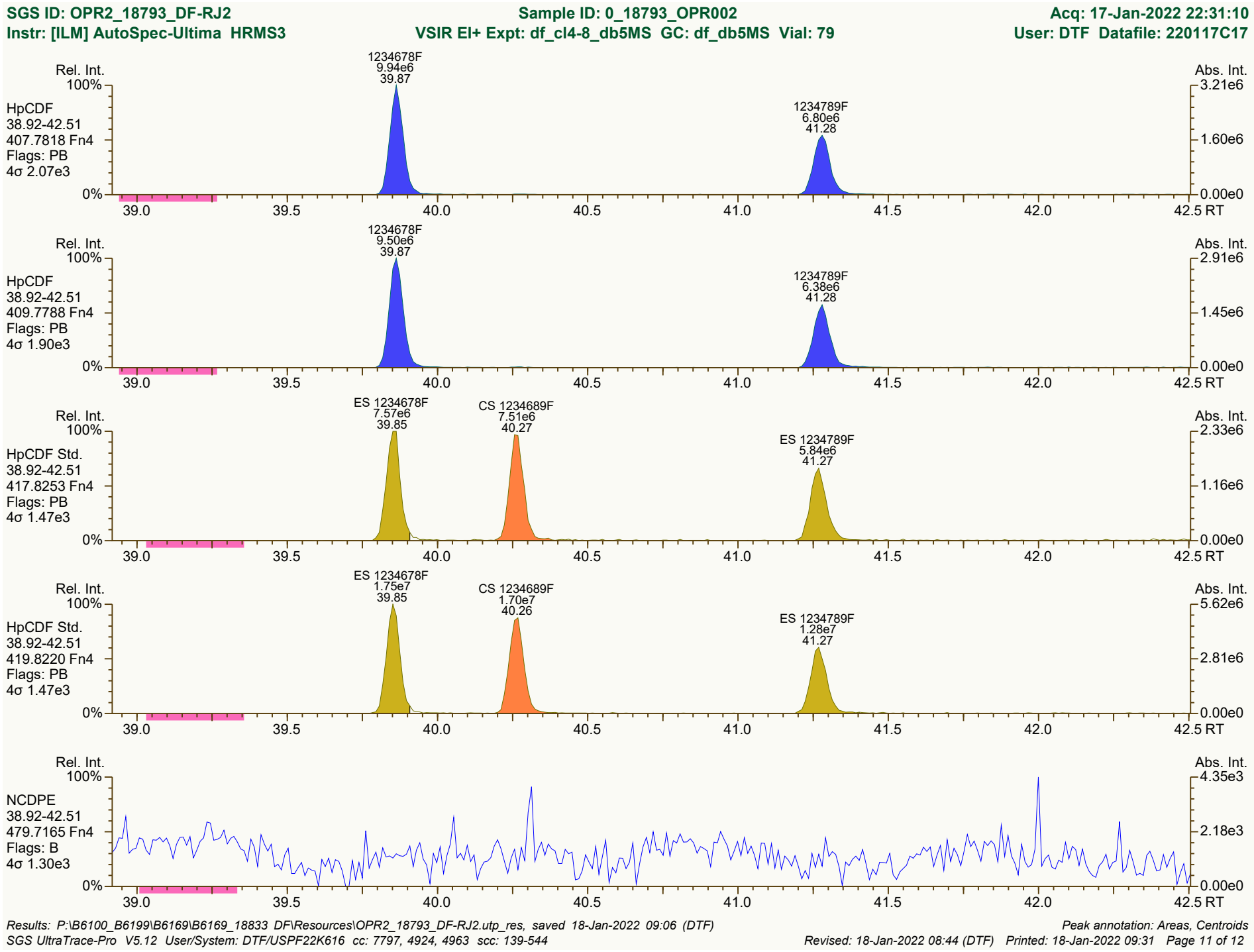
Peak annotation: Areas, Centroids

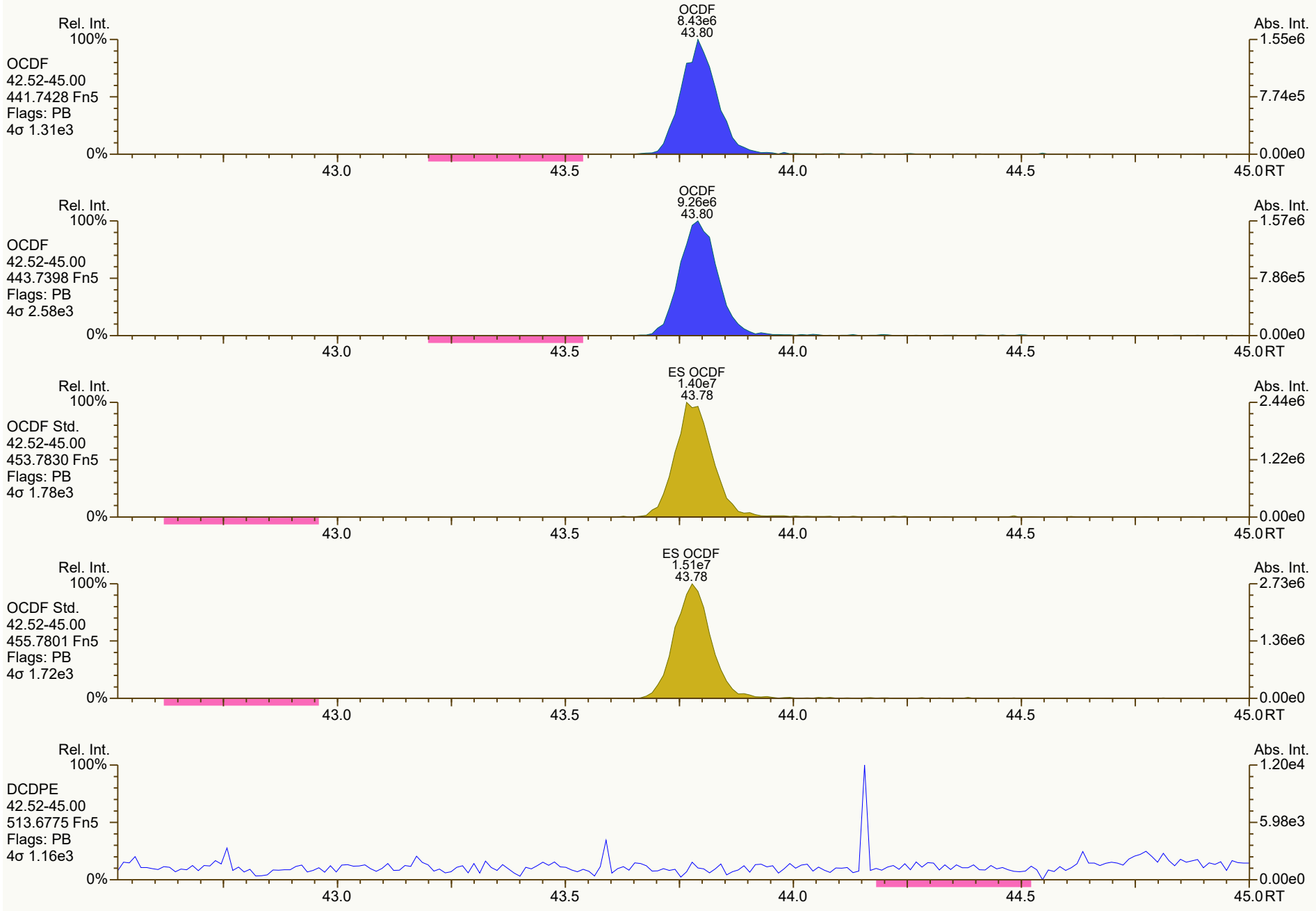
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7603 scc: 139-544

PKD: 18-Jan-2022 08:43 Printed: 18-Jan-2022 09:31 Page 8 of 12


SGS ID: OPR2_18793_DF-RJ2
Sample ID: 0_18793_OPR002
Acq: 17-Jan-2022 22:31:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220117C17
Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PB
4σ 4.26e3
12378F
1.14e7
32.17
23478F
1.15e7
33.28
12389F
2.39e6
34.38
3.21e6
1.60e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PB
4σ 2.95e3
12378F
7.26e6
32.17
23478F
7.38e6
33.28
12389F
1.60e6
34.38
2.19e6
1.10e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 8.76e3
CS 12346F
1.95e7
31.63
ES 12378F
2.02e7
32.15
ES 23478F
1.86e7
33.26
5.96e6
2.98e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 1.76e3
CS 12346F
1.25e7
31.63
ES 12378F
1.28e7
32.15
ES 23478F
1.26e7
33.26
3.83e6
1.91e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.27e3
2.12e4
1.06e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1510, 9635, 2063 scc: 139-544
Revised: 18-Jan-2022 08:44 (DTF) Printed: 18-Jan-2022 09:31 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PB
4σ 6.75e3
123468F
2.29e7
35.21
123478F
1.02e7
36.60
123678F
1.28e7
36.74
234678F
1.26e7
37.41
123789F
8.71e6
38.40
Abs. Int.
6.93e6
3.46e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PB
4σ 4.80e3
123468F
1.82e7
35.21
123478F
7.93e6
36.60
123678F
1.00e7
36.74
234678F
9.79e6
37.41
123789F
6.69e6
38.40
Abs. Int.
5.41e6
2.70e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 5.50e3
ES 123478F
8.99e6
36.58
ES 123678F
1.18e7
36.72
CS 123469F
1.08e7
37.04
ES 234678F
1.24e7
37.40
ES 123789F
8.93e6
38.38
Abs. Int.
3.79e6
1.90e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 4.98e3
ES 123478F
1.65e7
36.58
ES 123678F
2.18e7
36.72
CS 123469F
1.91e7
37.04
ES 234678F
2.28e7
37.39
ES 123789F
1.62e7
38.38
Abs. Int.
6.50e6
3.25e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.39e3
Abs. Int.
7.90e3
3.95e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR2_18793_DF-RJ2
Sample ID: 0_18793_OPR002
Acq: 17-Jan-2022 22:31:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220117C17
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 2.07e3
1234678F
9.94e6
39.87
1234789F
6.80e6
41.28
3.21e6
1.60e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 1.90e3
1234678F
9.50e6
39.87
1234789F
6.38e6
41.28
2.91e6
1.45e6
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.47e3
ES 1234678F
7.57e6
39.85
CS 1234689F
7.51e6
40.27
ES 1234789F
5.84e6
41.27
2.33e6
1.16e6
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.47e3
ES 1234678F
1.75e7
39.85
CS 1234689F
1.70e7
40.26
ES 1234789F
1.28e7
41.27
5.62e6
2.81e6
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.30e3
4.35e3
2.18e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6169\B6169_18833 DF\Resources\OPR2_18793_DF-RJ2.utp_res, saved 18-Jan-2022 09:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7797, 4924, 4963 scc: 139-544
Revised: 18-Jan-2022 08:44 (DTF) Printed: 18-Jan-2022 09:31 Page 11 of 12


OCDF
8.43e6
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
1.55e6
7.74e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.26e6
43.80
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 2.58e3
0%
Abs. Int.
1.57e6
7.86e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.40e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.78e3
0%
Abs. Int.
2.44e6
1.22e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.51e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.72e3
0%
Abs. Int.
2.73e6
1.36e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
1.20e4
5.98e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-010722-S-BN-SW-S-34 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.77 g	Lab Sample ID	B6170_18832_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.9 %	QC Batch No:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:40:43

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	60.1				ES 2378-TCDD	97.6	
12378-PeCDD	0.968			J	ES 12378-PeCDD	100	
123478-HxCDD	1.1			J	ES 123478-HxCDD	106	
123678-HxCDD	4.42				ES 123678-HxCDD	118	
123789-HxCDD	2.43				ES 123789-HxCDD	100	
1234678-HpCDD	340				ES 1234678-HpCDD	93.6	
OCDD	2,750				ES OCDD	68	
2378-TCDF	165				ES 2378-TCDF	96.6	
12378-PeCDF	5.93				ES 12378-PeCDF	91.3	
23478-PeCDF	4.93			PR	ES 23478-PeCDF	89.9	
123478-HxCDF	11.7			B	ES 123478-HxCDF	101	
123678-HxCDF	2.94			B	ES 123678-HxCDF	106	
234678-HxCDF	0.87			J	ES 234678-HxCDF	114	
123789-HxCDF	ND	0.197			ES 123789-HxCDF	102	
1234678-HpCDF	19.7			B	ES 1234678-HpCDF	94	
1234789-HpCDF	1.79			J	ES 1234789-HpCDF	92.1	
OCDF	64.1			B	ES OCDF	69.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.4	
Total TCDD	76.7		77.5		CS 12347-PeCDD	105	
Total PeCDD	9.02		9.21		CS 12346-PeCDF	93.1	
Total HxCDD	112		112		CS 123469-HxCDF	111	
Total HpCDD	1,020		1,020		CS 1234689-HpCDF	101	
Total TCDF	334		335				
Total PeCDF	18.3		19.5				
Total HxCDF	26.7		26.7				
Total HpCDF	55.8		57				
Total PCDD/Fs	**4,460**		**4,470**				
WHO-2005 TEQs							
TEQ: ND=0	86		86				
TEQ: ND=DL/2	86	0.184	86				
TEQ: ND=DL	86	0.368	86				

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Sample ID: 11215131-010722-S-BN-SW-S-34 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.77 g	Lab Sample ID:	B6170_18832_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.9 %	QC Batch No.:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:40:43

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.542		12479/12468D	1.34	J	124679/124689D	62.5		1234679D	675	
1379D	0.433		12469D	4.06		123468D	4.08		1234678D	340	
1369D	0.284	J	12368D	0.434	J	123679/123689D	32.5				
1469D	6.64		12478D	0.433	J	123469D	3.59				
1247D...[4]	[0.277]	J	12379D	0.484	J	123478D	1.1	J			
1378D	0.367		12369D...[3]	1.31	J	123678D	4.42				
1268D	(0.0898)		12346/12347D	(0.129)		123467D	1.75	J			
1478D	0.19	J	12378D	0.968	J	123789D	2.43		**Conc.**	1,020	
1279D	[0.218]	J	12367D	(0.129)					**EMPC**	1,020	
1234/1269D	0.77		12389D	[0.186]	J						
1236D	(0.0898)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.26										
1239D	(0.0898)								OCDD	2750	
2378D	60.1										
1278D	6.12										
1267D	(0.0898)										
1289D	[0.318]	J									
Conc.	76.7		**Conc.**	9.02		**Conc.**	112				
EMPC	77.5		**EMPC**	9.21		**EMPC**	112				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	86	86
TEQ: ND=DL/2	86	86
TEQ: ND=DL	86	86

	Conc.	EMPC
Total PCDD/Fs	4,460	4,470

Checkcode: 617-780-YFZ

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-34 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.77 g	Lab Sample ID:	B6170_18832_DF_001	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.9 %	QC Batch No.:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:40:43

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.434		13468/12468F	[0.847]	J	123468F	0.912	J	1234678F	19.7	B
1468F	0.488		13678F...[3]	0.408	J	124678/134678F	3.67	B	1234679F	[1.23]	J
2468F	0.928		12368F...[3]	3.38		134679F	(0.168)		1234689F	34.3	
1346/1246F	(0.0462)		14678F	(0.121)		124679F	(0.168)		1234789F	1.79	J
1347F...[3]	3.12		13479F	(0.121)		124689F	5.22				
1348F	0.992		13469/12479F	(0.121)		123467F	0.411	J			
1248F...[3]	8.54		12346F	(0.121)		123478F	11.7	B			
1268F	3.19		23468/12469F	0.404	J	123678F	2.94	B			
1467F	0.51		12347F	[0.307]	J	123479F	(0.168)				
1478F	7.65		12348F	0.727	J	123469F	(0.168)				
1369/1237F	2.07		12378F	5.93		123679F	(0.168)				
2467F	[0.349]	J	12678/12367F	2.07		234678F	0.87	J	**Conc.**	55.8	
2368F	4.9		12379F	(0.121)		234678/123689F	0		**EMPC**	57	
1238F...[5]	9.55		12679F	(0.121)		123689F	(0.168)				
1278F	76.7		23467/12369F	0.255	J	123789F	(0.197)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.0462)		23478F	4.93	PR	123789/123489F	0				
1267F	4.62		23478/12489F	0		123489F	0.968	J	OCDF	64.1	B
2346/1249F	0.663		12489F	(0.121)							
2347/1279F	2.36		12349F	(0.121)							
2348F	11.2		12389F	0.259	J						
2378F	165										
2367/3467F	14.1										
1269F	3.04										
1239F	(0.0462)										
1289F	14.7										
Conc.	334		**Conc.**	18.3		**Conc.**	26.7				
EMPC	335		**EMPC**	19.5		**EMPC**	26.7				

Checkcode: 617-780-YFZ

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-34 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6170_18832_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.77 g	QC Batch No.:	18832
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	13-Jan-2022 23:40
Lab Project No:	B6170	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	60.1		0.0898	60.1	60.1	60.1
12378-PeCDD	0.968	J	0.129	0.484	0.968	0.968
123478-HxCDD	1.1	J	0.108	0.11	0.11	0.11
123678-HxCDD	4.42		0.0938	0.442	0.442	0.442
123789-HxCDD	2.43		0.102	0.243	0.243	0.243
1234678-HpCDD	340		0.136	3.4	3.4	3.4
OCDD	2750		0.459	2.75	0.275	0.825
2378-TCDF	165		0.0462	16.5	16.5	16.5
12378-PeCDF	5.93		0.118	0.296	0.296	0.178
23478-PeCDF	4.93	PR	0.125	2.46	2.46	1.48
123478-HxCDF	11.7	B	0.161	1.17	1.17	1.17
123678-HxCDF	2.94	B	0.161	0.294	0.294	0.294
234678-HxCDF	0.87	J	0.159	0.087	0.087	0.087
123789-HxCDF	(0.197)		0.197	(0.0197)	(0.0197)	(0.0197)
1234678-HpCDF	19.7	B	0.114	0.197	0.197	0.197
1234789-HpCDF	1.79	J	0.16	0.0179	0.0179	0.0179
OCDF	64.1	B	0.336	0.0641	0.00641	0.0192

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TEQ Summaries			
EMPC = 0, ND = 0	88.6	86.6	86
EMPC = 0, ND = DL / 2	88.6	86.6	86
EMPC = 0, ND = DL	88.6	86.6	86
EMPC = 0, < J-level = 0	87.9	85.4	84.8
EMPC = EMPC, ND = 0	88.6	86.6	86
EMPC = EMPC, ND = DL / 2	88.6	86.6	86
EMPC = EMPC, ND = DL	88.6	86.6	86
EMPC = EMPC, < J-level = 0	87.9	85.4	84.8

Checkcode: 617-780-YFZ

Sample ID: 11215131-010722-S-BN-SW-S-34-MS

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.28 g	Lab Sample ID	B6170_18832_DF_001MS	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.9 %	QC Batch No:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:27:02

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	75.5				ES 2378-TCDD	94.2	
12378-PeCDD	70.5				ES 12378-PeCDD	100	
123478-HxCDD	80.5				ES 123478-HxCDD	101	
123678-HxCDD	84.1				ES 123678-HxCDD	109	
123789-HxCDD	81.4				ES 123789-HxCDD	98.9	
1234678-HpCDD	356				ES 1234678-HpCDD	92.1	
OCDD	2,400				ES OCDD	60.5	
2378-TCDF	182				ES 2378-TCDF	90.4	
12378-PeCDF	74.4				ES 12378-PeCDF	92.4	
23478-PeCDF	76.8				ES 23478-PeCDF	90.7	
123478-HxCDF	83.3				ES 123478-HxCDF	95	
123678-HxCDF	76.5				ES 123678-HxCDF	104	
234678-HxCDF	72.5				ES 234678-HxCDF	102	
123789-HxCDF	71.7				ES 123789-HxCDF	91.9	
1234678-HpCDF	80.2				ES 1234678-HpCDF	94.6	
1234789-HpCDF	73.4				ES 1234789-HpCDF	82.9	
OCDF	188				ES OCDF	57.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96	
Total TCDD	148		150		CS 12347-PeCDD	106	
Total PeCDD	112		113		CS 12346-PeCDF	94.2	
Total HxCDD	365		368		CS 123469-HxCDF	104	
Total HpCDD	983		983		CS 1234689-HpCDF	97.5	
Total TCDF	427		427				
Total PeCDF	323		323				
Total HxCDF	502		502				
Total HpCDF	186		186				
Total PCDD/Fs	**5,640**		**5,640**				
WHO-2005 TEQs							
TEQ: ND=0	250		250				
TEQ: ND=DL/2	250	0.371	250				
TEQ: ND=DL	250	0.742	250				

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Sample ID: 11215131-010722-S-BN-SW-S-34-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.82 g	Lab Sample ID	B6170_18832_DF_001MSD	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	81.9 %	QC Batch No:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:13:21

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	79.2				ES 2378-TCDD	89.7	
12378-PeCDD	68.9				ES 12378-PeCDD	97	
123478-HxCDD	78				ES 123478-HxCDD	96.5	
123678-HxCDD	82.4				ES 123678-HxCDD	107	
123789-HxCDD	77.4				ES 123789-HxCDD	93.1	
1234678-HpCDD	398				ES 1234678-HpCDD	95.3	
OCDD	2,800				ES OCDD	79.9	
2378-TCDF	189				ES 2378-TCDF	84.5	
12378-PeCDF	73.9				ES 12378-PeCDF	81.8	
23478-PeCDF	76.5				ES 23478-PeCDF	92.8	
123478-HxCDF	81.4				ES 123478-HxCDF	89.7	
123678-HxCDF	77				ES 123678-HxCDF	96.1	
234678-HxCDF	72.3				ES 234678-HxCDF	98.7	
123789-HxCDF	72.5				ES 123789-HxCDF	93.8	
1234678-HpCDF	83.6				ES 1234678-HpCDF	92.5	
1234789-HpCDF	74.1				ES 1234789-HpCDF	92.9	
OCDF	194				ES OCDF	77.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.4	
Total TCDD	153		154		CS 12347-PeCDD	119	
Total PeCDD	108		109		CS 12346-PeCDF	86.5	
Total HxCDD	351		353		CS 123469-HxCDF	104	
Total HpCDD	1,040		1,040		CS 1234689-HpCDF	101	
Total TCDF	444		444				
Total PeCDF	312		312				
Total HxCDF	480		480				
Total HpCDF	191		191				
Total PCDD/Fs	**6,070**		**6,080**				
WHO-2005 TEQs							
TEQ: ND=0	253		253				
TEQ: ND=DL/2	253	0.234	253				
TEQ: ND=DL	253	0.467	253				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-010722-S-BN-SW-S-34

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	60.1	15.1	75.5	102	14.5	79.2	132	26%
1,2,3,7,8-PeCDD	0.968	75.3	70.5	92.3	72.4	68.9	93.9	2%
1,2,3,4,7,8-HxCDD	1.1	75.3	80.5	105	72.4	78	106	1%
1,2,3,6,7,8-HxCDD	4.42	75.3	84.1	106	72.4	82.4	108	2%
1,2,3,7,8,9-HxCDD	2.43	75.3	81.4	105	72.4	77.4	104	1%
1,2,3,4,6,7,8-HpCDD	340	75.3	356	21.5	72.4	398	80.3	116%
OCDD	2750	151	2400	-228	145	2800	32.8	*
2,3,7,8-TCDF	165	15.1	182	115	14.5	189	169	38%
1,2,3,7,8-PeCDF	5.93	75.3	74.4	90.9	72.4	73.9	93.9	3%
2,3,4,7,8-PeCDF	4.93	75.3	76.8	95.5	72.4	76.5	98.9	3%
1,2,3,4,7,8-HxCDF	11.7	75.3	83.3	95.1	72.4	81.4	96.4	1%
1,2,3,6,7,8-HxCDF	2.94	75.3	76.5	97.7	72.4	77	102	4%
2,3,4,6,7,8-HxCDF	0.87	75.3	72.5	95.1	72.4	72.3	98.7	4%
1,2,3,7,8,9-HxCDF	0	75.3	71.7	95.2	72.4	72.5	100	5%
1,2,3,4,6,7,8-HpCDF	19.7	75.3	80.2	80.4	72.4	83.6	88.3	9%
1,2,3,4,7,8,9-HpCDF	1.79	75.3	73.4	95	72.4	74.1	99.9	5%
OCDF	64.1	151	188	82	145	194	89.5	9%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-010722-S-BN-SW-S-37 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.55 g	Lab Sample ID	B6170_18832_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	83.4 %	QC Batch No:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:59:42

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,270			E	ES 2378-TCDD	91.1	
12378-PeCDD	12.7				ES 12378-PeCDD	90.3	
123478-HxCDD	0.764			J	ES 123478-HxCDD	99.5	
123678-HxCDD	3.19				ES 123678-HxCDD	109	
123789-HxCDD	1.73			J	ES 123789-HxCDD	97.4	
1234678-HpCDD	116				ES 1234678-HpCDD	91.5	
OCDD	1,570				ES OCDD	71	
2378-TCDF	3,740			E	ES 2378-TCDF	94.3	
12378-PeCDF	143				ES 12378-PeCDF	94	
23478-PeCDF	115			PR	ES 23478-PeCDF	91.9	
123478-HxCDF	259				ES 123478-HxCDF	92.3	
123678-HxCDF	63.5				ES 123678-HxCDF	101	
234678-HxCDF	13.5				ES 234678-HxCDF	105	
123789-HxCDF	ND	0.427			ES 123789-HxCDF	90.6	
1234678-HpCDF	82.8				ES 1234678-HpCDF	94.1	
1234789-HpCDF	29.6				ES 1234789-HpCDF	87.5	
OCDF	57.9			B	ES OCDF	68.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.6	
Total TCDD	1,380		1,390	E	CS 12347-PeCDD	101	
Total PeCDD	20.2		22.8		CS 12346-PeCDF	96	
Total HxCDD	33.6		34.1		CS 123469-HxCDF	107	
Total HpCDD	223		223		CS 1234689-HpCDF	97.1	
Total TCDF	7,210		7,210	E			
Total PeCDF	406		406				
Total HxCDF	397		397				
Total HpCDF	147		147				
Total PCDD/Fs	**11,500**		**11,500**	E			
WHO-2005 TEQs							
TEQ: ND=0	1730		1730				
TEQ: ND=DL/2	1730	0.295	1730				
TEQ: ND=DL	1730	0.59	1730				

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Sample ID: 11215131-010722-S-BN-SW-S-37 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.55 g	Lab Sample ID:	B6170_18832_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	83.4 %	QC Batch No.:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:59:42

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.36		12479/12468D	[1.5]	J	124679/124689D	16.1		1234679D	106	
1379D	1.16		12469D	1.93		123468D	1.69	J	1234678D	116	
1369D	(0.159)		12368D	2.6		123679/123689D	9.65				
1469D	2.99		12478D	0.914	J	123469D	[0.555]	J			
1247D...[4]	[1.92]		12379D	1.05	J	123478D	0.764	J			
1378D	4.15		12369D...[3]	[0.79]	J	123678D	3.19				
1268D	(0.159)		12346/12347D	0.463	J	123467D	0.449	J			
1478D	3.65		12378D	12.7		123789D	1.73	J	**Conc.**	223	
1279D	(0.159)		12367D	0.605	J				**EMPC**	223	
1234/1269D	0.752		12389D	[0.31]	J						
1236D	(0.159)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	19.8										
1239D	(0.159)								OCDD	1570	
2378D	1270	E									
1278D	77.2										
1267D	(0.159)										
1289D	[1.8]										
Conc.	1,380		**Conc.**	20.2		**Conc.**	33.6				
EMPC	1,390		**EMPC**	22.8		**EMPC**	34.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,730	1,730
TEQ: ND=DL/2	1,730	1,730
TEQ: ND=DL	1,730	1,730

	Conc.	EMPC
Total PCDD/Fs	11,500	11,500

Checkcode: 807-420-YYP

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-37 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.55 g	Lab Sample ID:	B6170_18832_DF_002	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	83.4 %	QC Batch No.:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:59:42

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.987		13468/12468F	4.89		123468F	3.51		1234678F	82.8	
1468F	5.67		13678F...[3]	1.85		124678/134678F	24		1234679F	1.43	J
2468F	4.32		12368F...[3]	68.1		134679F	(0.367)		1234689F	32.7	
1346/1246F	(0.0625)		14678F	(0.174)		124679F	(0.367)		1234789F	29.6	
1347F...[3]	42.5		13479F	(0.174)		124689F	11.6				
1348F	186		13469/12479F	(0.174)		123467F	1.83	J			
1248F...[3]	(0.0625)		12346F	[0.288]	J	123478F	259				
1268F	59.5		23468/12469F	3.08		123678F	63.5				
1467F	8.07		12347F	2.43		123479F	(0.367)				
1478F	149		12348F	14.3		123469F	(0.367)				
1369/1237F	39.7		12378F	143		123679F	(0.367)				
2467F	3.25		12678/12367F	45.2		234678F	13.5		**Conc.**	147	
2368F	110		12379F	(0.174)		234678/123689F	0		**EMPC**	147	
1238F...[5]	175		12679F	0.374	J	123689F	(0.367)				
1278F	1700	E	23467/12369F	1.97		123789F	(0.427)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.0625)		23478F	115	PR	123789/123489F	0				
1267F	88.2		23478/12489F	0		123489F	19.9		OCDF	57.9	B
2346/1249F	11.1		12489F	(0.174)							
2347/1279F	45.1		12349F	(0.174)							
2348F	222		12389F	5.85							
2378F	3740	E									
2367/3467F	287										
1269F	53.1										
1239F	4.14										
1289F	277										
Conc.	7,210		**Conc.**	406		**Conc.**	397				
EMPC	7,210		**EMPC**	406		**EMPC**	397				

Checkcode: 807-420-YYP

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-37 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6170_18832_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.55 g	QC Batch No.:	18832
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	14-Jan-2022 01:59
Lab Project No:	B6170	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1270	E	0.159	1270	1270	1270
12378-PeCDD	12.7		0.158	6.34	12.7	12.7
123478-HxCDD	0.764	J	0.19	0.0764	0.0764	0.0764
123678-HxCDD	3.19		0.173	0.319	0.319	0.319
123789-HxCDD	1.73	J	0.18	0.173	0.173	0.173
1234678-HpCDD	116		0.287	1.16	1.16	1.16
OCDD	1570		0.717	1.57	0.157	0.472
2378-TCDF	3740	E	0.0625	374	374	374
12378-PeCDF	143		0.174	7.14	7.14	4.28
23478-PeCDF	115	PR	0.174	57.6	57.6	34.5
123478-HxCDF	259		0.358	25.9	25.9	25.9
123678-HxCDF	63.5		0.348	6.35	6.35	6.35
234678-HxCDF	13.5		0.35	1.35	1.35	1.35
123789-HxCDF	(0.427)		0.427	(0.0427)	(0.0427)	(0.0427)
1234678-HpCDF	82.8		0.131	0.828	0.828	0.828
1234789-HpCDF	29.6		0.207	0.296	0.296	0.296
OCDF	57.9	B	0.354	0.0579	0.00579	0.0174

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TEQ Summaries			
EMPC = 0, ND = 0	1750	1760	1730
EMPC = 0, ND = DL / 2	1750	1760	1730
EMPC = 0, ND = DL	1750	1760	1730
EMPC = 0, < J-level = 0	1750	1760	1730
EMPC = EMPC, ND = 0	1750	1760	1730
EMPC = EMPC, ND = DL / 2	1750	1760	1730
EMPC = EMPC, ND = DL	1750	1760	1730
EMPC = EMPC, < J-level = 0	1750	1760	1730

Sample ID: 11215131-010722-S-BN-SW-S-38 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.14 g	Lab Sample ID	B6170_18832_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	82.0 %	QC Batch No:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:46:02

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	970			E	ES 2378-TCDD	87.4	
12378-PeCDD	9.88				ES 12378-PeCDD	89.4	
123478-HxCDD	0.853			J	ES 123478-HxCDD	97.9	
123678-HxCDD	2.93				ES 123678-HxCDD	109	
123789-HxCDD	2.35				ES 123789-HxCDD	95.5	
1234678-HpCDD	107				ES 1234678-HpCDD	89.7	
OCDD	1,540				ES OCDD	70.2	
2378-TCDF	2,760			E	ES 2378-TCDF	88.8	
12378-PeCDF	90.9				ES 12378-PeCDF	86.6	
23478-PeCDF	81.2			PR	ES 23478-PeCDF	86	
123478-HxCDF	153				ES 123478-HxCDF	90.7	
123678-HxCDF	39.3				ES 123678-HxCDF	98.7	
234678-HxCDF	8.63				ES 234678-HxCDF	101	
123789-HxCDF	ND	0.355			ES 123789-HxCDF	89.8	
1234678-HpCDF	61.2			B	ES 1234678-HpCDF	96.9	
1234789-HpCDF	18.4				ES 1234789-HpCDF	83.1	
OCDF	58.8			B	ES OCDF	67.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.8	
Total TCDD	1,080		1,080	E	CS 12347-PeCDD	102	
Total PeCDD	23.1		23.1		CS 12346-PeCDF	93.2	
Total HxCDD	54.1		55.4		CS 123469-HxCDF	110	
Total HpCDD	223		223		CS 1234689-HpCDF	101	
Total TCDF	5,380		5,380	E			
Total PeCDF	279		279				
Total HxCDF	245		245				
Total HpCDF	107		107				
Total PCDD/Fs	**8,990**		**8,990**	E			
WHO-2005 TEQs							
TEQ: ND=0	1310		1310				
TEQ: ND=DL/2	1310	0.231	1310				
TEQ: ND=DL	1310	0.462	1310				

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Sample ID: 11215131-010722-S-BN-SW-S-38 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.14 g	Lab Sample ID:	B6170_18832_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	82.0 %	QC Batch No.:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:46:02

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.9		12479/12468D	1.93		124679/124689D	34.5		1234679D	117	
1379D	1.05		12469D	4.27		123468D	1.51	J	1234678D	107	
1369D	0.314	J	12368D	2		123679/123689D	11.9				
1469D	4.74		12478D	0.917	J	123469D	[0.778]	J			
1247D...[4]	1.7		12379D	0.896	J	123478D	0.853	J			
1378D	3.31		12369D...[3]	2		123678D	2.93				
1268D	0.28	J	12346/12347D	0.458	J	123467D	[0.569]	J			
1478D	2.61		12378D	9.88		123789D	2.35		**Conc.**	223	
1279D	0.226	J	12367D	0.47	J				**EMPC**	223	
1234/1269D	1.08		12389D	0.34	J						
1236D	(0.117)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	15.5										
1239D	(0.117)								OCDD	1540	
2378D	970	E									
1278D	68										
1267D	2.8										
1289D	1.79										
Conc.	1,080		**Conc.**	23.1		**Conc.**	54.1				
EMPC	1,080		**EMPC**	23.1		**EMPC**	55.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,310	1,310
TEQ: ND=DL/2	1,310	1,310
TEQ: ND=DL	1,310	1,310

	Conc.	EMPC
Total PCDD/Fs	8,990	8,990

Checkcode: 317-273-RJJ

Report Created: 14-Jan-2022 13:25 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-38 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.14 g	Lab Sample ID:	B6170_18832_DF_003	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	82.0 %	QC Batch No.:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:46:02

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.714]		13468/12468F	7.77		123468F	3.05		1234678F	61.2	B
1468F	4.37		13678F...[3]	(0.144)		124678/134678F	18.9		1234679F	1.09	J
2468F	3.76		12368F...[3]	46.5		134679F	(0.314)		1234689F	26	
1346/1246F	(0.0889)		14678F	(0.144)		124679F	(0.314)		1234789F	18.4	
1347F...[3]	30		13479F	(0.144)		124689F	9.35				
1348F	131		13469/12479F	(0.144)		123467F	1.35	J			
1248F...[3]	(0.0889)		12346F	(0.144)		123478F	153				
1268F	43		23468/12469F	2.53		123678F	39.3				
1467F	5.85		12347F	2.3		123479F	(0.314)				
1478F	104		12348F	10.6		123469F	(0.314)				
1369/1237F	29.3		12378F	90.9		123679F	(0.314)				
2467F	2.85		12678/12367F	31.1		234678F	8.63		**Conc.**	107	
2368F	76.1		12379F	(0.144)		234678/123689F	0		**EMPC**	107	
1238F...[5]	137		12679F	(0.144)		123689F	(0.314)				
1278F	1270	E	23467/12369F	1.56	J	123789F	(0.355)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.0889)		23478F	81.2	PR	123789/123489F	0			**(pg/g)**	
1267F	65		23478/12489F	0		123489F	11.7		OCDF	58.8	B
2346/1249F	8.04		12489F	(0.144)							
2347/1279F	33.6		12349F	(0.144)							
2348F	200		12389F	4.35							
2378F	2760	E									
2367/3467F	219										
1269F	37										
1239F	2.99										
1289F	217										
Conc.	5,380		**Conc.**	279		**Conc.**	245				
EMPC	5,380		**EMPC**	279		**EMPC**	245				

Checkcode: 317-273-RJJ

Report Created: 14-Jan-2022 13:25 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-38 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6170_18832_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.14 g	QC Batch No.:	18832
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	14-Jan-2022 02:46
Lab Project No:	B6170	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	970	E	0.117	970	970	970
12378-PeCDD	9.88		0.123	4.94	9.88	9.88
123478-HxCDD	0.853	J	0.118	0.0853	0.0853	0.0853
123678-HxCDD	2.93		0.101	0.293	0.293	0.293
123789-HxCDD	2.35		0.108	0.235	0.235	0.235
1234678-HpCDD	107		0.192	1.07	1.07	1.07
OCDD	1540		0.54	1.54	0.154	0.463
2378-TCDF	2760	E	0.0889	276	276	276
12378-PeCDF	90.9		0.138	4.55	4.55	2.73
23478-PeCDF	81.2	PR	0.15	40.6	40.6	24.4
123478-HxCDF	153		0.3	15.3	15.3	15.3
123678-HxCDF	39.3		0.299	3.93	3.93	3.93
234678-HxCDF	8.63		0.313	0.863	0.863	0.863
123789-HxCDF	(0.355)		0.355	(0.0355)	(0.0355)	(0.0355)
1234678-HpCDF	61.2	B	0.0871	0.612	0.612	0.612
1234789-HpCDF	18.4		0.145	0.184	0.184	0.184
OCDF	58.8	B	0.282	0.0588	0.00588	0.0176

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TEQ Summaries			
EMPC = 0, ND = 0	1320	1320	1310
EMPC = 0, ND = DL / 2	1320	1320	1310
EMPC = 0, ND = DL	1320	1320	1310
EMPC = 0, < J-level = 0	1320	1320	1310
EMPC = EMPC, ND = 0	1320	1320	1310
EMPC = EMPC, ND = DL / 2	1320	1320	1310
EMPC = EMPC, ND = DL	1320	1320	1310
EMPC = EMPC, < J-level = 0	1320	1320	1310

Checkcode: 317-273-RJJ

Sample ID: 11215131-010722-S-BN-SW-S-39 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.28 g	Lab Sample ID	B6170_18832_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	79.1 %	QC Batch No:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:32:22

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,280			E	ES 2378-TCDD	91.3	
12378-PeCDD	21.2				ES 12378-PeCDD	94.6	
123478-HxCDD	EMPC		0.953	J	ES 123478-HxCDD	99.9	
123678-HxCDD	5.19				ES 123678-HxCDD	108	
123789-HxCDD	2.76				ES 123789-HxCDD	101	
1234678-HpCDD	179				ES 1234678-HpCDD	91.8	
OCDD	2,400				ES OCDD	75.9	
2378-TCDF	6,060			E	ES 2378-TCDF	91.7	
12378-PeCDF	202				ES 12378-PeCDF	94.1	
23478-PeCDF	174			PR	ES 23478-PeCDF	91.7	
123478-HxCDF	330				ES 123478-HxCDF	91.9	
123678-HxCDF	80.8				ES 123678-HxCDF	102	
234678-HxCDF	17.8				ES 234678-HxCDF	101	
123789-HxCDF	ND	0.394			ES 123789-HxCDF	89.8	
1234678-HpCDF	100				ES 1234678-HpCDF	98.2	
1234789-HpCDF	36.6				ES 1234789-HpCDF	82.6	
OCDF	77.4			B	ES OCDF	69.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.5	
Total TCDD	2,470		2,470	E	CS 12347-PeCDD	100	
Total PeCDD	38.3		40		CS 12346-PeCDF	94	
Total HxCDD	68.3		70		CS 123469-HxCDF	105	
Total HpCDD	353		353		CS 1234689-HpCDF	96.9	
Total TCDF	11,700		11,700	E			
Total PeCDF	593		593				
Total HxCDF	514		514				
Total HpCDF	187		187				
Total PCDD/Fs	**18,400**		**18,400**	E			
WHO-2005 TEQs							
TEQ: ND=0	3020		3020				
TEQ: ND=DL/2	3020	0.258	3020				
TEQ: ND=DL	3020	0.516	3020				

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Sample ID: 11215131-010722-S-BN-SW-S-39 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.28 g	Lab Sample ID:	B6170_18832_DF_004	Date Extracted:	12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18832	Date Analyzed:	14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:32:22

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.51		12479/12468D	2.61		124679/124689D	41.5		1234679D	174	
1379D	1.81		12469D	5.68		123468D	1.74	J	1234678D	179	
1369D	0.317	J	12368D	3.72		123679/123689D	16.2				
1469D	7.11		12478D	1.63	J	123469D	0.91	J			
1247D...[4]	3.27		12379D	1.58	J	123478D	[0.953]	J			
1378D	6.53		12369D...[3]	1.85		123678D	5.19				
1268D	0.512		12346/12347D	[0.556]	J	123467D	[0.672]	J			
1478D	4.56		12378D	21.2		123789D	2.76		**Conc.**	353	
1279D	0.399		12367D	[0.703]	J				**EMPC**	353	
1234/1269D	1.67		12389D	[0.508]	J						
1236D	0.348	J							**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	34.1										
1239D	(0.113)								OCDD	2400	
2378D	2280	E									
1278D	118										
1267D	5.97										
1289D	3.19										
Conc.	2,470		**Conc.**	38.3		**Conc.**	68.3				
EMPC	2,470		**EMPC**	40		**EMPC**	70				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,020	3,020
TEQ: ND=DL/2	3,020	3,020
TEQ: ND=DL	3,020	3,020

	Conc.	EMPC
Total PCDD/Fs	18,400	18,400

Checkcode: 902-135-RQW

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-39 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received: 12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.28 g	Lab Sample ID:	B6170_18832_DF_004	Date Extracted: 12-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18832	Date Analyzed: 14-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 3:32:22

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.37		13468/12468F	10.9		123468F	5.58		1234678F	100	
1468F	10.2		13678F...[3]	2.66		124678/134678F	34.3		1234679F	1.48	J
2468F	6.8		12368F...[3]	93.4		134679F	(0.348)		1234689F	48.8	
1346/1246F	(0.103)		14678F	(0.208)		124679F	(0.348)		1234789F	36.6	
1347F...[3]	64.7		13479F	(0.208)		124689F	17.9				
1348F	268		13469/12479F	(0.208)		123467F	2.17				
1248F...[3]	(0.103)		12346F	(0.208)		123478F	330				
1268F	89.2		23468/12469F	5.5		123678F	80.8				
1467F	12.4		12347F	4.55		123479F	(0.348)				
1478F	218		12348F	22.6		123469F	(0.348)				
1369/1237F	63.2		12378F	202		123679F	(0.348)				
2467F	6.11		12678/12367F	65.4		234678F	17.8		**Conc.**	187	
2368F	159		12379F	(0.208)		234678/123689F	0		**EMPC**	187	
1238F...[5]	292		12679F	0.6	J	123689F	(0.348)				
1278F	2830	E	23467/12369F	3.4		123789F	(0.394)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.103)		23478F	174	PR	123789/123489F	0				
1267F	134		23478/12489F	0		123489F	24.8		OCDF	77.4	B
2346/1249F	16.7		12489F	(0.208)							
2347/1279F	64		12349F	(0.208)							
2348F	419		12389F	9.04							
2378F	6060	E									
2367/3467F	483										
1269F	67.9										
1239F	6.41										
1289F	454										
Conc.	11,700		**Conc.**	593		**Conc.**	514				
EMPC	11,700		**EMPC**	593		**EMPC**	514				

Checkcode: 902-135-RQW

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: 11215131-010722-S-BN-SW-S-39 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6170_18832_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.28 g	QC Batch No.:	18832
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	14-Jan-2022 03:32
Lab Project No:	B6170	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2280	E	0.113	2280	2280	2280
12378-PeCDD	21.2		0.141	10.6	21.2	21.2
123478-HxCDD	[0.953]	J	0.129	[0.0953]	[0.0953]	[0.0953]
123678-HxCDD	5.19		0.117	0.519	0.519	0.519
123789-HxCDD	2.76		0.113	0.276	0.276	0.276
1234678-HpCDD	179		0.176	1.79	1.79	1.79
OCDD	2400		0.373	2.4	0.24	0.72
2378-TCDF	6060	E	0.103	606	606	606
12378-PeCDF	202		0.201	10.1	10.1	6.05
23478-PeCDF	174	PR	0.215	86.8	86.8	52.1
123478-HxCDF	330		0.345	33	33	33
123678-HxCDF	80.8		0.325	8.08	8.08	8.08
234678-HxCDF	17.8		0.339	1.78	1.78	1.78
123789-HxCDF	(0.394)		0.394	(0.0394)	(0.0394)	(0.0394)
1234678-HpCDF	100		0.103	1	1	1
1234789-HpCDF	36.6		0.179	0.366	0.366	0.366
OCDF	77.4	B	0.286	0.0774	0.00774	0.0232

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TEQ Summaries			
EMPC = 0, ND = 0	3050	3050	3020
EMPC = 0, ND = DL / 2	3050	3050	3020
EMPC = 0, ND = DL	3050	3050	3020
EMPC = 0, < J-level = 0	3050	3050	3020
EMPC = EMPC, ND = 0	3050	3050	3020
EMPC = EMPC, ND = DL / 2	3050	3050	3020
EMPC = EMPC, ND = DL	3050	3050	3020
EMPC = EMPC, < J-level = 0	3050	3050	3020

Sample ID: Method Blank B6170_18832 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18832_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:54:22

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.19			ES 2378-TCDD	91.3	
12378-PeCDD	ND	0.155			ES 12378-PeCDD	97.4	
123478-HxCDD	ND	0.226			ES 123478-HxCDD	97.8	
123678-HxCDD	ND	0.231			ES 123678-HxCDD	101	
123789-HxCDD	ND	0.207			ES 123789-HxCDD	99.2	
1234678-HpCDD	EMPC		0.447	J	ES 1234678-HpCDD	88.8	
OCDD	EMPC		1.94	J	ES OCDD	47.2	
2378-TCDF	ND	0.0842			ES 2378-TCDF	88.1	
12378-PeCDF	ND	0.105			ES 12378-PeCDF	90.3	
23478-PeCDF	ND	0.109			ES 23478-PeCDF	86.6	
123478-HxCDF	1.58			J	ES 123478-HxCDF	89.7	
123678-HxCDF	0.466			J	ES 123678-HxCDF	96.5	
234678-HxCDF	ND	0.177			ES 234678-HxCDF	89.7	
123789-HxCDF	ND	0.184			ES 123789-HxCDF	92.7	
1234678-HpCDF	6.95				ES 1234678-HpCDF	97.1	
1234789-HpCDF	ND	0.311			ES 1234789-HpCDF	77.3	
OCDF	9.58				ES OCDF	47.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.8	
Total TCDD	ND	0.19	ND		CS 12347-PeCDD	106	
Total PeCDD	ND	0.155	ND		CS 12346-PeCDF	97	
Total HxCDD	ND	0.221	ND		CS 123469-HxCDF	102	
Total HpCDD	ND		0.96		CS 1234689-HpCDF	96.8	
Total TCDF	ND	0.0842	ND				
Total PeCDF	ND	0.107	ND				
Total HxCDF	2.04		3.02				
Total HpCDF	6.95		6.95				
Total PCDD/Fs	**18.6**		**22.4**				
WHO-2005 TEQs							
TEQ: ND=0	0.277		0.282				
TEQ: ND=DL/2	0.524	0.265	0.529				
TEQ: ND=DL	0.771	0.531	0.776				

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Sample ID: Method Blank B6170_18832 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18832_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:54:22

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.19)		12479/12468D	(0.155)		124679/124689D	(0.221)		1234679D	[0.514]	J
1379D	(0.19)		12469D	(0.155)		123468D	(0.221)		1234678D	[0.447]	J
1369D	(0.19)		12368D	(0.155)		123679/123689D	(0.221)				
1469D	(0.19)		12478D	(0.155)		123469D	(0.221)				
1247D...[4]	(0.19)		12379D	(0.155)		123478D	(0.226)				
1378D	(0.19)		12369D...[3]	(0.155)		123678D	(0.231)				
1268D	(0.19)		12346/12347D	(0.155)		123467D	(0.221)				
1478D	(0.19)		12378D	(0.155)		123789D	(0.207)		**Conc.**	0	
1279D	(0.19)		12367D	(0.155)					**EMPC**	0.96	
1234/1269D	(0.19)		12389D	(0.155)							
1236D	(0.19)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.19)										
1239D	(0.19)								OCDD	[1.94]	J
2378D	(0.19)										
1278D	(0.19)										
1267D	(0.19)										
1289D	(0.19)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.277	0.282
TEQ: ND=DL/2	0.524	0.529
TEQ: ND=DL	0.771	0.776

	Conc.	EMPC
Total PCDD/Fs	18.6	22.4

Checkcode: 789-291-DNR

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: Method Blank B6170_18832 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18832_DF_SDS	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:54:22

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.0842)		13468/12468F	(0.0821)		123468F	(0.172)		1234678F	6.95	
1468F	(0.0842)		13678F...[3]	(0.107)		124678/134678F	[0.981]	J	1234679F	(0.236)	
2468F	(0.0842)		12368F...[3]	(0.107)		134679F	(0.172)		1234689F	(0.236)	
1346/1246F	(0.0842)		14678F	(0.107)		124679F	(0.172)		1234789F	(0.311)	
1347F...[3]	(0.0842)		13479F	(0.107)		124689F	(0.172)				
1348F	(0.0842)		13469/12479F	(0.107)		123467F	(0.172)				
1248F...[3]	(0.0842)		12346F	(0.107)		123478F	1.58	J			
1268F	(0.0842)		23468/12469F	(0.107)		123678F	0.466	J			
1467F	(0.0842)		12347F	(0.107)		123479F	(0.172)				
1478F	(0.0842)		12348F	(0.107)		123469F	(0.172)				
1369/1237F	(0.0842)		12378F	(0.105)		123679F	(0.172)				
2467F	(0.0842)		12678/12367F	(0.107)		234678F	(0.177)		**Conc.**	6.95	
2368F	(0.0842)		12379F	(0.107)		234678/123689F	0		**EMPC**	6.95	
1238F...[5]	(0.0842)		12679F	(0.107)		123689F	(0.172)				
1278F	(0.0842)		23467/12369F	(0.107)		123789F	(0.184)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.0842)		23478F	(0.109)		123789/123489F	0				
1267F	(0.0842)		23478/12489F	0		123489F	(0.172)		OCDF	9.58	
2346/1249F	(0.0842)		12489F	(0.107)							
2347/1279F	(0.0842)		12349F	(0.107)							
2348F	(0.0842)		12389F	(0.107)							
2378F	(0.0842)										
2367/3467F	(0.0842)										
1269F	(0.0842)										
1239F	(0.0842)										
1289F	(0.0842)										
Conc.	0		**Conc.**	0		**Conc.**	2.04				
EMPC	0		**EMPC**	0		**EMPC**	3.02				

Checkcode: 789-291-DNR

Report Created: 14-Jan-2022 10:04 Analyst: TF

Sample ID: Method Blank B6170_18832 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18832_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18832
Date Collected:	n/a	Split:	-	Date Extracted:	12-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	13-Jan-2022 22:54
Lab Project No:	B6170	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.19)		0.19	(0.19)	(0.19)	(0.19)
12378-PeCDD	(0.155)		0.155	(0.0773)	(0.155)	(0.155)
123478-HxCDD	(0.226)		0.226	(0.0226)	(0.0226)	(0.0226)
123678-HxCDD	(0.231)		0.231	(0.0231)	(0.0231)	(0.0231)
123789-HxCDD	(0.207)		0.207	(0.0207)	(0.0207)	(0.0207)
1234678-HpCDD	[0.447]	J	0.145	[0.00447]	[0.00447]	[0.00447]
OCDD	[1.94]	J	0.845	[0.00194]	[0.000194]	[0.000582]
2378-TCDF	(0.0842)		0.0842	(0.00842)	(0.00842)	(0.00842)
12378-PeCDF	(0.105)		0.105	(0.00526)	(0.00526)	(0.00315)
23478-PeCDF	(0.109)		0.109	(0.0546)	(0.0546)	(0.0327)
123478-HxCDF	1.58	J	0.17	0.158	0.158	0.158
123678-HxCDF	0.466	J	0.161	0.0466	0.0466	0.0466
234678-HxCDF	(0.177)		0.177	(0.0177)	(0.0177)	(0.0177)
123789-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
1234678-HpCDF	6.95		0.184	0.0695	0.0695	0.0695
1234789-HpCDF	(0.311)		0.311	(0.00311)	(0.00311)	(0.00311)
OCDF	9.58		0.601	0.00958	0.000958	0.00287

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TEQ Summaries			
EMPC = 0, ND = 0	0.283	0.275	0.277
EMPC = 0, ND = DL / 2	0.504	0.534	0.524
EMPC = 0, ND = DL	0.724	0.793	0.771
EMPC = 0, < J-level = 0	0.079	0.0704	0.0723
EMPC = EMPC, ND = 0	0.29	0.279	0.282
EMPC = EMPC, ND = DL / 2	0.51	0.538	0.529
EMPC = EMPC, ND = DL	0.731	0.797	0.776
EMPC = EMPC, < J-level = 0	0.079	0.0704	0.0723

Checkcode: 789-291-DNR

SGS North America - DF v0.99

Sample ID: 0_18832_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6170	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18832_DF	Date Extracted:	12-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18832	Date Analyzed:	13-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:35:25

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.2				ES 2378-TCDD	98.6	
12378-PeCDD	46.2				ES 12378-PeCDD	99.2	
123478-HxCDD	51.1				ES 123478-HxCDD	107	
123678-HxCDD	52.5				ES 123678-HxCDD	117	
123789-HxCDD	51.1				ES 123789-HxCDD	97.7	
1234678-HpCDD	49.2				ES 1234678-HpCDD	96.8	
OCDD	105				ES OCDD	73.2	
2378-TCDF	10.5				ES 2378-TCDF	89.2	
12378-PeCDF	45.3				ES 12378-PeCDF	89.1	
23478-PeCDF	48.6				ES 23478-PeCDF	88	
123478-HxCDF	50.8				ES 123478-HxCDF	92.9	
123678-HxCDF	50.4				ES 123678-HxCDF	104	
234678-HxCDF	47.8				ES 234678-HxCDF	114	
123789-HxCDF	46.6				ES 123789-HxCDF	92.9	
1234678-HpCDF	56.3				ES 1234678-HpCDF	100	
1234789-HpCDF	47.7				ES 1234789-HpCDF	87.2	
OCDF	107				ES OCDF	73.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.7	
Total TCDD	51.6		51.6		CS 12347-PeCDD	103	
Total PeCDD	69.7		69.7		CS 12346-PeCDF	88.7	
Total HxCDD	167		167		CS 123469-HxCDF	109	
Total HpCDD	60.4		60.4		CS 1234689-HpCDF	99.8	
Total TCDF	58.7		58.7				
Total PeCDF	199		199				
Total HxCDF	308		308				
Total HpCDF	104		104				
Total PCDD/Fs	**1,230**		**1,230**				
WHO-2005 TEQs							
TEQ: ND=0	111		111				
TEQ: ND=DL/2	111	0.154	111				
TEQ: ND=DL	111	0.308	111				

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Sample Receipt Notification

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Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*12-Jan-22 at 11:52*
AP Project name:	*B6170*
Requested TAT:	*3 business days*
Projected due date:	*14-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-010722-S-BN-SW-S-34	B6170_001	SO - MS/MSD	1	4oz Clear Glass	07-Jan-22	13:30	-0.2	4	4905 2704 3930
11215131-010722-S-BN-SW-S-37	B6170_002	SO	1	4oz Clear Glass	07-Jan-22	13:40	-0.2	4	4905 2704 3930
11215131-010722-S-BN-SW-S-38	B6170_003	SO	1	4oz Clear Glass	07-Jan-22	13:50	-0.2	4	4905 2704 3930
11215131-010722-S-BN-SW-S-39	B6170_004	SO	1	4oz Clear Glass	07-Jan-22	14:00	-0.2	4	4905 2704 3930

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Samples not received frozen.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 12 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BU170

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURNAROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C (B)	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS
11215131-010722-S-BN-SW-S-36	1-7-22	1330	C	S	402		X						X	X		1	RUSH * SEE SSOW
11215131-010722-S-BN-SW-S-37		1340					X									1	RUSH *
11215131-010722-S-BN-SW-S-38		1350					X									1	RUSH *
11215131-010722-S-BN-SW-S-39		1400					X									1	RUSH *
11215131-010722-S-BN-SW-D-16		1410					X									1	
11215131-010722-S-BN-SW-B-12	↓	1420					X									1	
11215131-010822-S-BN-NC-S-28	1-8-22	0920					X									1	RUSH
11215131-010822-S-BN-NC-S-29		0930					X									1	RUSH
11215131-010822-S-BN-NC-D-33		0940					X									1	
11215131-010822-S-BN-NC-D-34	↓	0950	↓	↓	↓		X									1	

COLLECTED/RELINQUISHED BY (1): Breanna Nordh	DATE: 1-8-22	TIME: 1212	RECEIVED BY:
RELINQUISHED BY (2):	DATE: 1-10-22	TIME: 1400	RECEIVED BY: 1/10/22 1400
RELINQUISHED BY (3):	DATE: 1/10/22	TIME: 1402	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME: 1/12/2022 11:52
COOLER SEAL: ☐ INTACT ☐ BROKEN ☑ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C - 0.2°
TRACKING #: 4905 2704 3930

* = Samples in this project.

BU170
BU169
CC AO
1/12/2022

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.9° (T.B.)

55SC2/01EF/05A2

FedEx Express

J191219082001uv

3 of 4
MPS# [0263] 4905 2704 3929
Mstr# 4905 2704 3907

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

[0201]

NL ILMA

28405
NC-US RDU

Part # 156140-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.2° (T.B.)

55SC2/01EF/05A2

FedEx Express

J191219082001uv

4 of 4
MPS# [0263] 4905 2704 3930
Mstr# 4905 2704 3907

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

[0201]

NL ILMA

28405
NC-US RDU

Part # 156140-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6170

Initiation Date: 12-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR ~~& OPRD~~ AK 1/12/22

10 g DWE extraction

sample 001 = MS/MSD
AK 1/12/22

Read and understood, initial and date: Prep Lab: KE 1/12/22 ~~RAD~~ 1/12/22 JRH 1/13/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

~~OPR/OPRD Summary~~ AK 1/12/22

WHO2005 TEQ

GHD EQuIS 4-file EDD

MS/MSD summary sample 001

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 12-Jan-2022

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Methods: PCB / PAH | (PCDD/F) WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: (SDS) CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18832 | Split: 1@ 1/4 | Extract Initial/Date: LE 1/12/22 | Clean-up Initial/Date: ~~RBB~~ JRH 1/13/22 | Transfer Init/Date: TRH 1/13/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6170_18832_001	38	16.82				gray, clay-like, oil smell
B6170_18832_001MS	41	16.22				see 001
B6170_18832_001MSD	34	16.88				see 001
B6170_18832_002	37	16.25				gray, clay-like
B6170_18832_003	36	17.24				gray, clay-like
B6170_18832_004	35	18.04				gray, clay-like
MB1_18832	39	10.00				sodium sulfate
OPR1_18832	40	10.00				sodium sulfate
~~OPR2_18832~~ JRH 1/12/22						

Cl 14 Jan 22

RBB 1/13/22

Supply IDs

Toluene	STL14-23
MeCHL	STL14-21
Florisil	~~SPLS-76~~ SPLS-77 RBB 1/13/22
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-71
Sodium Sulfate	SPLS-23C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	Cl 14 Jan 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1630 / Stop: 0930
HEX	Start: / Stop:
DCM	Start: / Stop:

Cl 14 Jan 22

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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18832

Inter-Department Communication Sheet

14 Jan 27

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Wt. Volume Results

Batch #: 18832 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt	Final Wt.
B6170_001	0.8	4.5	3.83	81.89%	81.89%			12.21	16.82	13.77
B6170_001MS	0.8	4.5	3.83	81.89%	81.89%			12.21	16.22	13.28
B6170_001MSD	0.8	4.5	3.83	81.89%	81.89%			12.21	16.88	13.82
B6170_002	0.8	4.96	4.27	83.41%	83.41%			11.99	16.25	13.55
B6170_003	0.81	4.53	3.86	81.99%	81.99%			12.2	17.24	14.14
B6170_004	0.8	4.3	3.57	79.14%	79.14%			12.64	18.04	14.28

Ce 14Jan22

reviewed

Ce 14Jan22

% Solid Determination WorkSheet

SGS

Batch: 18832

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	Comments
B6170_18832_001	0.80	4.50	3.84/3.83	
B6170_18832_001MS	–	–	–	
B6170_18832_001MSD	–	–	–	
B6170_18832_002	0.80	4.96	4.27/4.27	
B6170_18832_003	0.81	4.53	3.87/3.86	
B6170_18832_004	0.80	4.30	3.58/3.57	

Date/Initials: KE 1/13/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18832

Lab Sample ID	Spiker Initials/Date: JRH 1/12/22	JRH 1/12/22	JRH 1/12/22	JRH 1/13/22	JRH 1/13/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6170_18832_001	—	—	KE	RAB	RAB		
B6170_18832_001MS	KE	KE	KE	RAB	RAB		
B6170_18832_001MSD	KE	KE	KE	RAB	RAB		
B6170_18832_002	—	—	KE	RAB	RAB		
B6170_18832_003	—	—	KE	RAB	RAB		
B6170_18832_004	—	—	KE	RAB	RAB		
MB1_18832	—	—	KE	RAB	RAB		
OPR1_18832	KE	KE	KE	RAB	RAB		
OPR2_18832							

JRH 1/12/22

RAB 1/13/22

Standard Information					
Pipette ID	—				
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS
SIL #	26-2-8	25-187-2	26-2-9	25-338-1	25-309-1
Concentration	10 pg/mL	10 pg/mL	100 pg/mL	100 pg/µL	100 pg/µL
Expiration Date	7/9/28	6/22/22	8/2028	11/16/2032	10/8/27

RAB 1/13/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
12	220113C12	3	CS3_220113_DF_CB	1.00	SIL 25-347-1	DTF	009-705	13-Jan-2022	19:40:59
13	220113C13	48	OPR1_18832_DF	1.00	0_18832_OPR001	DTF	987-773	13-Jan-2022	20:35:25
15	220113C15	2	SBS_220113_DF_CC	1.00	30-61-1	DTF	281-221	13-Jan-2022	22:08:04
16	220113C16	47	MB1_18832_DF_SDS	10.00	Method Blank	DTF	789-291	13-Jan-2022	22:54:22
17	220113C17	49	B6170_18832_DF_001	13.77	11215131-010722-S-BN-SW-S-34	DTF	617-780	13-Jan-2022	23:40:43
18	220113C18	50	B6170_18832_DF_001MS	13.28	11215131-010722-S-BN-SW-S-34-MS	DTF	821-135	14-Jan-2022	00:27:02
19	220113C19	51	B6170_18832_DF_001MSD	13.82	11215131-010722-S-BN-SW-S-34-MSD	DTF	263-562	14-Jan-2022	01:13:21
20	220113C20	52	B6170_18832_DF_002	13.55	11215131-010722-S-BN-SW-S-37	DTF	807-420	14-Jan-2022	01:59:42
21	220113C21	53	B6170_18832_DF_003	14.14	11215131-010722-S-BN-SW-S-38	DTF	317-273	14-Jan-2022	02:46:02
22	220113C22	54	B6170_18832_DF_004	14.28	11215131-010722-S-BN-SW-S-39	DTF	902-135	14-Jan-2022	03:32:22

REVIEWED
Tyler_Fritz , 1/14/2022, 1:35:12 PM

APPROVED
Carla_Lyon , 1/14/2022, 2:11:36 PM

Lab ID: MB1_18832_DF_SDS **Acq'd:** 13 Jan 2022 22:54 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6170_18832 **UTP:** 14-Jan-2022 09:29:31 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 789-291-DNR

Datafile: 220113C16 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	6044.544	0.19
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	4551.397	0.155
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	6252.86	0.226
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	6252.86	0.231
123789-HxCDD	NotFnd		1.0114	-		-	-	-	1.05	-	6252.86	0.207
1234678-HpCDD	40.86	J EMPC	1.0003	1.0003	0	8.93E+04	0.78	N	1.06	0.447	3231.183	0.145
OCDD	43.65	J EMPC	1.0003	1.0003	0	1.50E+05	0.66	N	1.13	1.94	4524.819	0.845
2378-TCDF	NotFnd		1.0007	-		-	-	-	1.08	-	3089.764	0.0842
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3975.026	0.105
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	3975.026	0.109
123478-HxCDF	36.64	J	1.0004	1.0005	+0.2	5.01E+05	1.23	Y	1.27	1.58	6366.807	0.17
123678-HxCDF	36.78	J	1.0004	1.0004	0	1.63E+05	1.36	Y	1.15	0.466	6366.807	0.161
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	6366.807	0.177
123789-HxCDF	NotFnd		1.0003	-		-	-	-	1.16	-	6366.807	0.184
1234678-HpCDF	39.90		1.0003	1.0002	-0.2	2.08E+06	0.95	Y	1.37	6.95	6982.208	0.184
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	6982.208	0.311
OCDF	43.81		1.0002	1.0003	+0.3	9.16E+05	0.93	Y	1.07	9.58	4129.549	0.601

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0228	1.0231	+0.5	5.24E+07	0.80	Y	1.05	91.3
ES 12378-PeCDD	33.66	1.2165	1.2201	+7.3	4.70E+07	1.57	Y	0.88	97.4
ES 123478-HxCDD	37.64	0.9916	0.9914	-0.5	4.42E+07	1.27	Y	0.97	97.8
ES 123678-HxCDD	37.76	0.9947	0.9946	-0.2	4.43E+07	1.26	Y	0.94	101
ES 123789-HxCDD	38.07	1.0025	1.0027	+0.5	5.04E+07	1.24	Y	1.09	99.2
ES 1234678-HpCDD	40.85	1.0747	1.0760	+3.2	3.77E+07	1.05	Y	0.91	88.8
ES OCDD	43.64	1.1475	1.1494	+5.0	2.74E+07	0.94	Y	0.62	47.2
ES 2378-TCDF	27.35	1.0505	1.0517	+2.0	7.58E+07	0.79	Y	1.06	88.1
ES 12378-PeCDF	32.20	1.2337	1.2382	+8.7	6.67E+07	1.53	Y	0.91	90.3
ES 23478-PeCDF	33.31	1.2758	1.2809	+10.2	6.21E+07	1.52	Y	0.88	86.6
ES 123478-HxCDF	36.63	0.9648	0.9647	-0.2	5.00E+07	0.53	Y	1.20	89.7
ES 123678-HxCDF	36.77	0.9685	0.9685	0	6.07E+07	0.54	Y	1.35	96.5
ES 234678-HxCDF	37.44	0.9863	0.9862	-0.2	5.19E+07	0.53	Y	1.24	89.7
ES 123789-HxCDF	38.42	1.0118	1.0120	+0.5	4.98E+07	0.53	Y	1.16	92.7
ES 1234678-HpCDF	39.89	1.0495	1.0507	+2.9	4.37E+07	0.43	Y	0.97	97.1
ES 1234789-HpCDF	41.31	1.0868	1.0880	+3.0	3.06E+07	0.44	Y	0.85	77.3
ES OCDF	43.80	1.1520	1.1537	+4.5	3.57E+07	0.87	Y	0.81	47.5

Lab ID: MB1_18832_DF_SDS | **Acq'd:** 13 Jan 2022 22:54 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6170_18832 | **UTP:** 14-Jan-2022 09:29:31 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 789-291-DNR

Datafile: 220113C16 | **Report:** 14 Jan 2022 10:04 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.59		-	-	-	5.49E+07	0.81	Y	-	-	
JS 1234-TCDF	26.01		-	-	-	8.12E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.96		-	-	-	2.32E+07	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.25		1.0235	1.0240	+0.8	2.42E+07	n/a	-	1.20	91.8	
CS 12347-PeCDD	33.16		1.1987	1.2020	+6.6	4.38E+07	1.61	Y	0.75	106	
CS 12346-PeCDF	31.68		1.2139	1.2181	+8.0	6.70E+07	1.51	Y	0.85	97	
CS 123469-HxCDF	37.09		0.9771	0.9768	-0.7	5.32E+07	0.51	Y	1.12	102	
CS 1234689-HpCDF	40.30		1.0601	1.0616	+3.6	4.00E+07	0.44	Y	0.89	96.8	
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0235~~	~~1.0240~~	~~+0.8~~	~~2.42E+07~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.16~~		~~1.1987~~	~~1.2020~~	~~+6.6~~	~~4.38E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~109~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.68~~		~~1.2139~~	~~1.2181~~	~~+8.0~~	~~6.70E+07~~	~~1.51~~	~~Y~~	~~0.94~~	~~107~~	
~~SS 123469-HxCDF~~	~~37.09~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~5.32E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0601~~	~~1.0616~~	~~+3.6~~	~~4.00E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~99.6~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0.96
Total Tetra-Octa Dioxins	0	2.9
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	2.04	3.02
Total HpCDF	6.95	6.95
Total Tetra-Octa Furans	18.6	19.5
Total Tetra-Octa Dioxins & Furans	18.6	22.4

Lab ID: MB1_18832_DF_SDS **Acq'd: 13 Jan 2022 22:54 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6170_18832 **UTP: 14-Jan-2022 09:29:31 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 789-291-DNR**

Datafile: 220113C16 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8733						1.18		6044.544	0.19
1379-TCDD	NotFnd		0.8860						1.18		6044.544	0.19
1369-TCDD	NotFnd		0.9009						1.18		6044.544	0.19
1469-TCDD	NotFnd		0.9282						1.18		6044.544	0.19
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		6044.544	0.19
1378-TCDD	NotFnd		0.9429						1.18		6044.544	0.19
1268-TCDD	NotFnd		0.9500						1.18		6044.544	0.19
1478-TCDD	NotFnd		0.9584						1.18		6044.544	0.19
1279-TCDD	NotFnd		0.9648						1.18		6044.544	0.19
1234/1269-TCDD	NotFnd		0.9770						1.18		6044.544	0.19
1236-TCDD	NotFnd		0.9821						1.18		6044.544	0.19
1237/1238-TCDD	NotFnd		0.9909						1.18		6044.544	0.19
1239-TCDD	NotFnd		0.9959						1.18		6044.544	0.19
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**6044.544**	**0.19**
1278-TCDD	NotFnd		1.0123						1.18		6044.544	0.19
1267-TCDD	NotFnd		1.0172						1.18		6044.544	0.19
1289-TCDD	NotFnd		1.0354						1.18		6044.544	0.19
12479/12468-PeCDD	NotFnd		0.9267						1.04		4551.397	0.155
12469-PeCDD	NotFnd		0.9426						1.04		4551.397	0.155
12368-PeCDD	NotFnd		0.9587						1.04		4551.397	0.155
12478-PeCDD	NotFnd		0.9642						1.04		4551.397	0.155
12379-PeCDD	NotFnd		0.9674						1.04		4551.397	0.155
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		4551.397	0.155
12346/12347-PeCDD	NotFnd		0.9861						1.04		4551.397	0.155
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**4551.397**	**0.155**
12367-PeCDD	NotFnd		1.0036						1.04		4551.397	0.155
12389-PeCDD	NotFnd		1.0139						1.04		4551.397	0.155
124679/124689-HxCDD	NotFnd		0.9541						1.10		6252.86	0.221
123468-HxCDD	NotFnd		0.9715						1.10		6252.86	0.221
123679/123689-HxCDD	NotFnd		0.9793						1.10		6252.86	0.221
123469-HxCDD	NotFnd		0.9831						1.10		6252.86	0.221
123478-HxCDD	NotFnd		**1.0004**						1.09		**6252.86**	**0.226**
123678-HxCDD	NotFnd		**1.0036**						1.15		**6252.86**	**0.231**
123467-HxCDD	NotFnd		1.0089						1.10		6252.86	0.221
123789-HxCDD	NotFnd		**1.0114**						1.05		**6252.86**	**0.207**

Lab ID: MB1_18832_DF_SDS | **Acq'd: 13 Jan 2022 22:54 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6170_18832 | **UTP: 14-Jan-2022 09:29:31 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 789-291-DNR**

Datafile: 220113C16 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

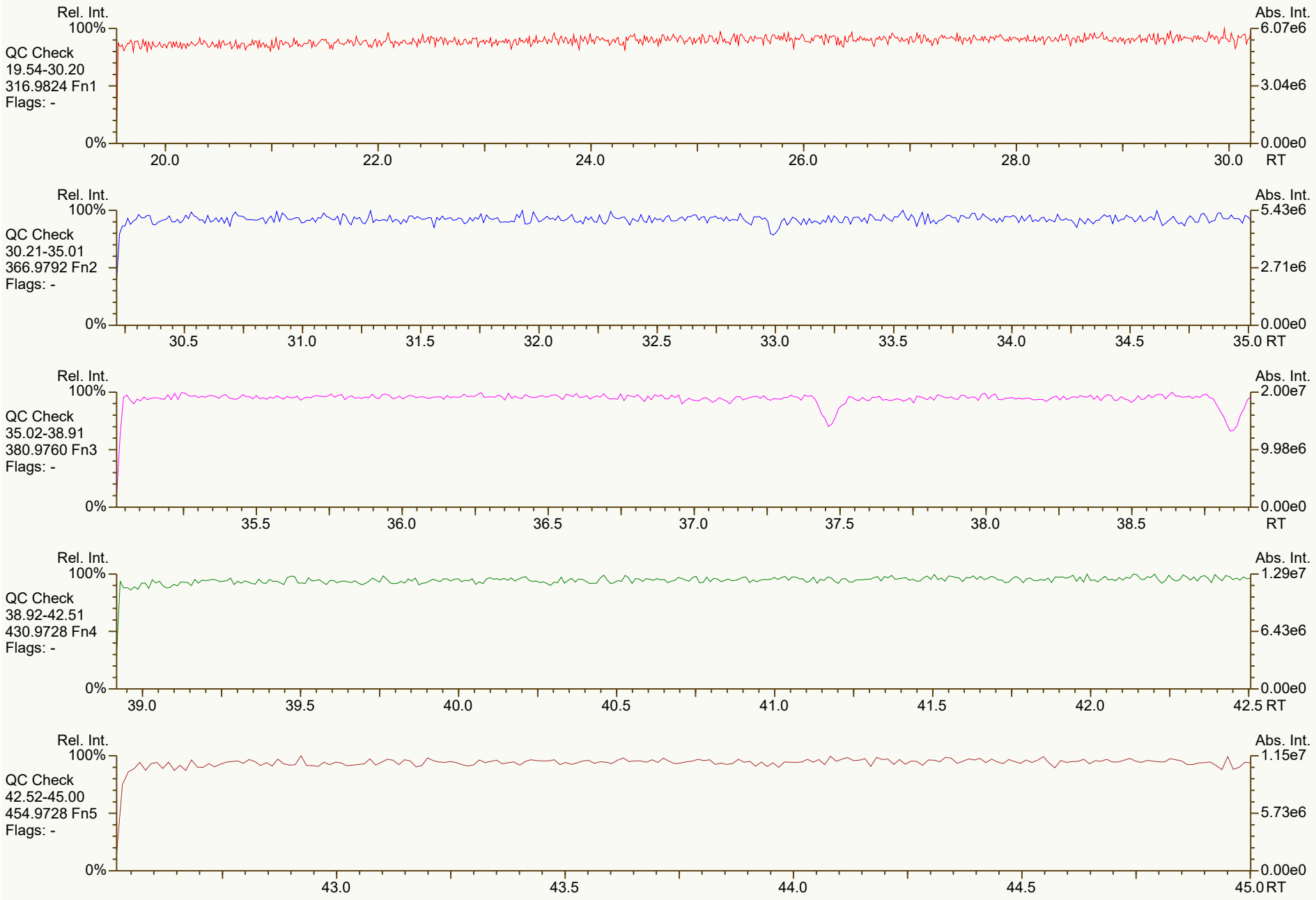
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.18	J EMPC	0.9835	0.9836	+0.2	1.03E+05	0.86	N	1.06	0.514	3231.183	0.145
1234678-HpCDD	**40.86**	J EMPC	**1.0003**	**1.0003**	**0**	**8.93E+04**	**0.78**	**N**	**1.06**	**0.447**	**3231.183**	**0.145**
OCDD	**43.65**	**J EMPC**	**1.0003**	**1.0003**	**0**	**1.50E+05**	**0.66**	**N**	**1.13**	**1.94**	**4524.819**	**0.845**
OCDD-a	NotFnd		1.0002						0.07		3914.446	11.4
1368-TCDF	NotFnd		0.8250						1.08		3089.764	0.0842
1468-TCDF	NotFnd		0.8494						1.08		3089.764	0.0842
2468-TCDF	NotFnd		0.8684						1.08		3089.764	0.0842
1346/1246-TCDF	NotFnd		0.8815						1.08		3089.764	0.0842
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3089.764	0.0842
1348-TCDF	NotFnd		0.8966						1.08		3089.764	0.0842
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3089.764	0.0842
1268-TCDF	NotFnd		0.9148						1.08		3089.764	0.0842
1467-TCDF	NotFnd		0.9197						1.08		3089.764	0.0842
1478-TCDF	NotFnd		0.9258						1.08		3089.764	0.0842
1369/1237-TCDF	NotFnd		0.9390						1.08		3089.764	0.0842
2467-TCDF	NotFnd		0.9435						1.08		3089.764	0.0842
2368-TCDF	NotFnd		0.9488						1.08		3089.764	0.0842
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		3089.764	0.0842
1278-TCDF	NotFnd		0.9689						1.08		3089.764	0.0842
1349-TCDF	NotFnd		0.9730						1.08		3089.764	0.0842
1267-TCDF	NotFnd		0.9787						1.08		3089.764	0.0842
2346/1249-TCDF	NotFnd		0.9856						1.08		3089.764	0.0842
2347/1279-TCDF	NotFnd		0.9934						1.08		3089.764	0.0842
2348-TCDF	NotFnd		0.9972						1.08		3089.764	0.0842
2378-TCDF	**NotFnd**		**1.0007**						**1.08**		**3089.764**	**0.0842**
2367/3467-TCDF	NotFnd		1.0145						1.08		3089.764	0.0842
1269-TCDF	NotFnd		1.0236						1.08		3089.764	0.0842
1239-TCDF	NotFnd		1.0333						1.08		3089.764	0.0842
1289-TCDF	NotFnd		1.0740						1.08		3089.764	0.0842
13468/12468-PeCDF	NotFnd		0.9138						1.02		3048.274	0.0821
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		3975.026	0.107
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		3975.026	0.107
14678-PeCDF	NotFnd		0.9693						1.02		3975.026	0.107
13479-PeCDF	NotFnd		0.9722						1.02		3975.026	0.107
13469/12479-PeCDF	NotFnd		0.9800						1.02		3975.026	0.107
12346-PeCDF	NotFnd		0.9844						1.02		3975.026	0.107

Lab ID: MB1_18832_DF_SDS | **Acq'd: 13 Jan 2022 22:54 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6170_18832 | **UTP: 14-Jan-2022 09:29:31 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 789-291-DNR**

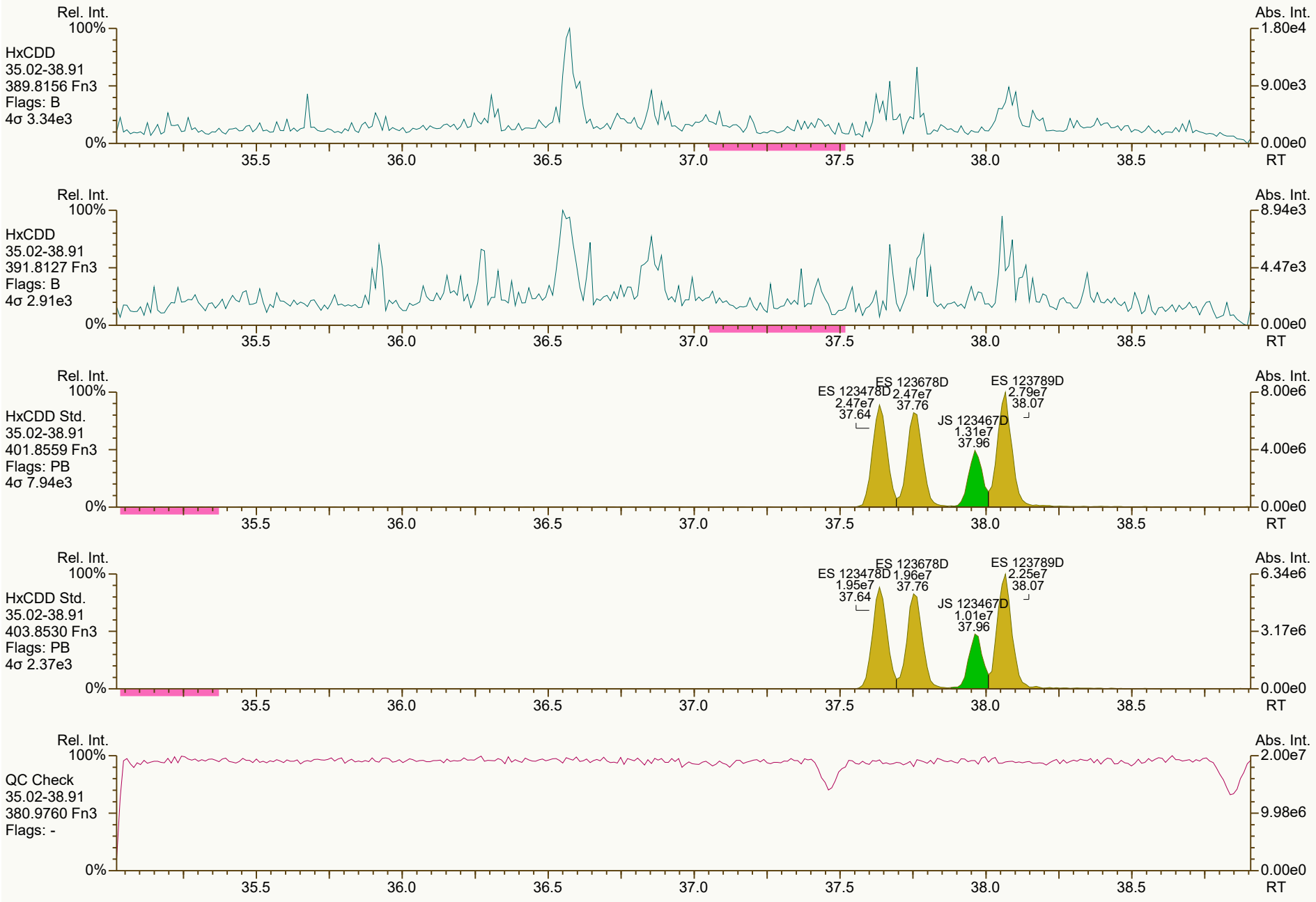
Datafile: 220113C16 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

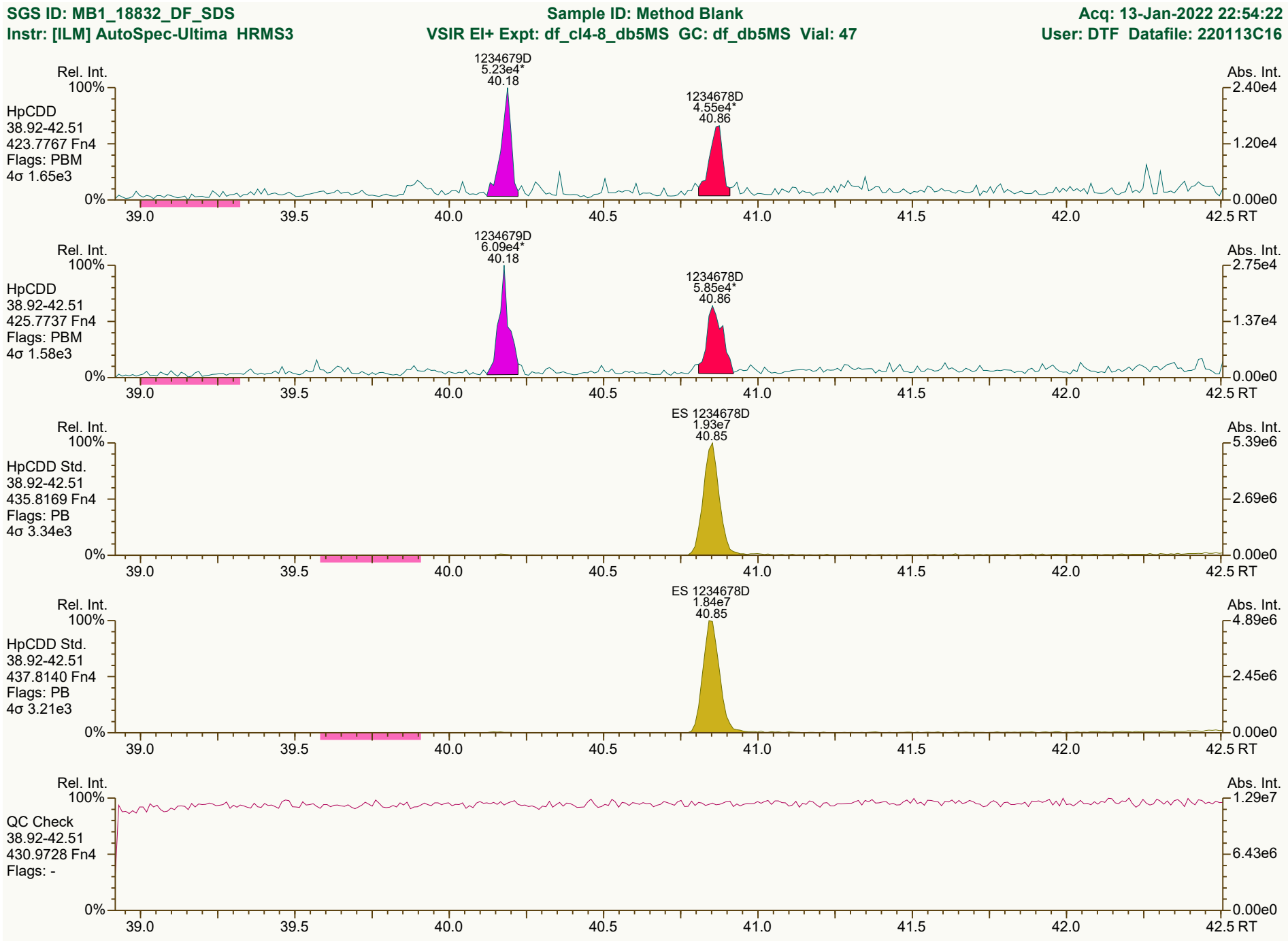
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		3975.026	0.107
12347-PeCDF	NotFnd		0.9890						1.02		3975.026	0.107
12348-PeCDF	NotFnd		0.9942						1.02		3975.026	0.107
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3975.026**	**0.105**
12678/12367-PeCDF	NotFnd		1.0090						1.02		3975.026	0.107
12379-PeCDF	NotFnd		1.0142						1.02		3975.026	0.107
12679-PeCDF	NotFnd		0.9933						1.02		3975.026	0.107
23467/12369-PeCDF	NotFnd		0.9969						1.02		3975.026	0.107
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**3975.026**	**0.109**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3975.026	0.107
12349-PeCDF	NotFnd		1.0107						1.02		3975.026	0.107
12389-PeCDF	NotFnd		1.0330						1.02		3975.026	0.107
123468-HxCDF	NotFnd		0.9627						1.19		6366.807	0.172
124678/134678-HxCDF	35.46	J EMPC	0.9682	0.9680	-0.4	3.11E+05	1.02	N	1.19	0.981	6366.807	0.172
134679-HxCDF	NotFnd		0.9744						1.19		6366.807	0.172
124679-HxCDF	NotFnd		0.9798						1.19		6366.807	0.172
124689-HxCDF	NotFnd		0.9858						1.19		6366.807	0.172
123467-HxCDF	NotFnd		0.9973						1.19		6366.807	0.172
123478-HxCDF	**36.64**	J	**1.0004**	**1.0005**	**+0.2**	**5.01E+05**	**1.23**	**Y**	**1.27**	**1.58**	**6366.807**	**0.17**
123678-HxCDF	**36.78**	J	**1.0004**	**1.0004**	**0**	**1.63E+05**	**1.36**	**Y**	**1.15**	**0.466**	**6366.807**	**0.161**
123479-HxCDF	NotFnd		1.0051						1.19		6366.807	0.172
123469-HxCDF	NotFnd		1.0093						1.19		6366.807	0.172
123679-HxCDF	NotFnd		0.9944						1.19		6366.807	0.172
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**6366.807**	**0.177**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6366.807	0.172
123789-HxCDF	**NotFnd**		**1.0003**						**1.16**		**6366.807**	**0.184**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		6366.807	0.172
1234678-HpCDF	**39.90**		**1.0003**	**1.0002**	**-0.2**	**2.08E+06**	**0.95**	**Y**	**1.37**	**6.95**	**6982.208**	**0.184**
1234679-HpCDF	NotFnd		1.0069						1.34		6982.208	0.236
1234689-HpCDF	NotFnd		1.0103						1.34		6982.208	0.236
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**6982.208**	**0.311**
OCDF	**43.81**		**1.0002**	**1.0003**	**+0.3**	**9.16E+05**	**0.93**	**Y**	**1.07**	**9.58**	**4129.549**	**0.601**
OCDF-a	NotFnd		1.0002						0.07		4409.876	10.4

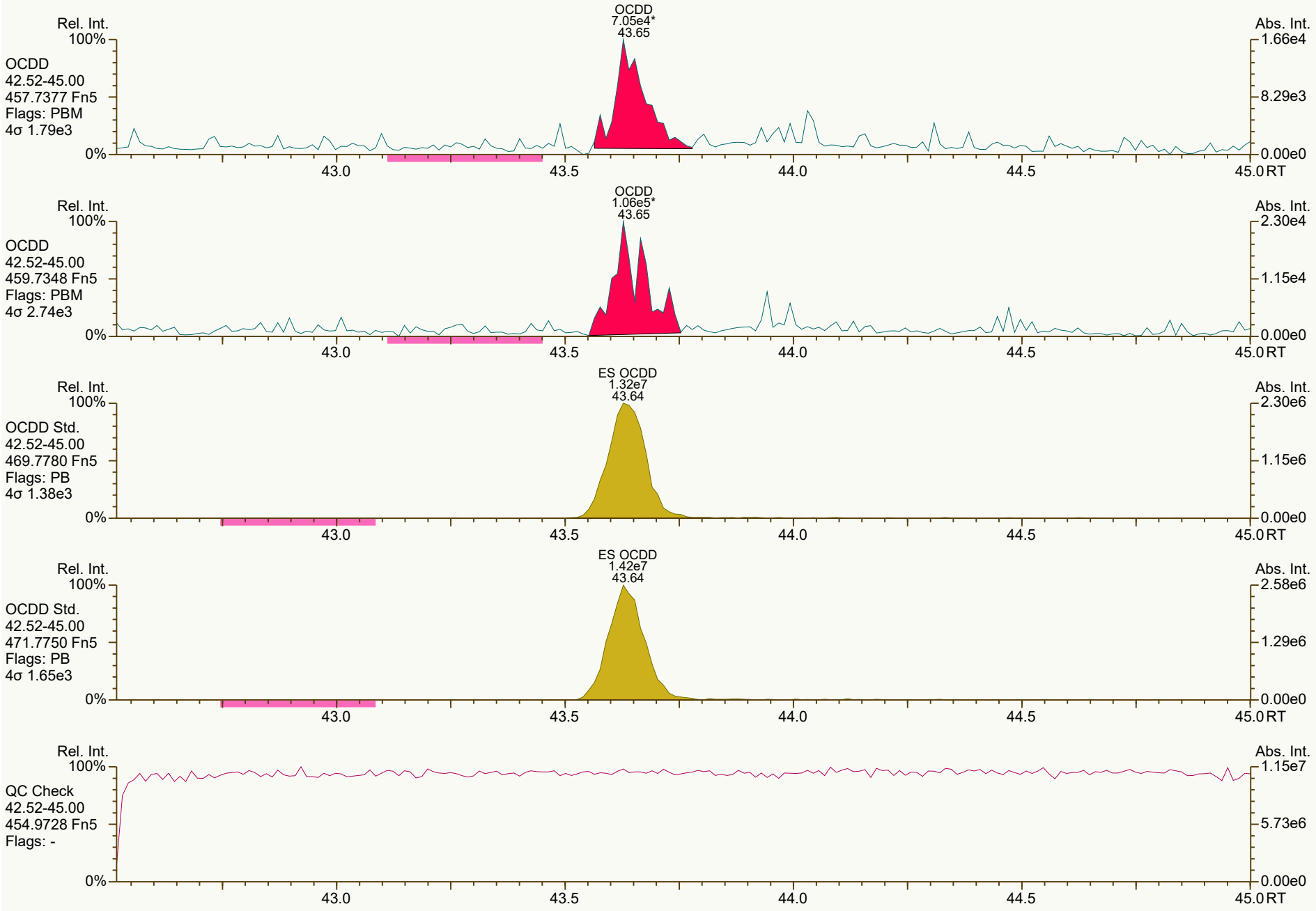

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.07e6
3.04e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
5.43e6
2.71e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.00e7
9.98e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
1.29e7
6.43e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.15e7
5.73e6
0.00e0

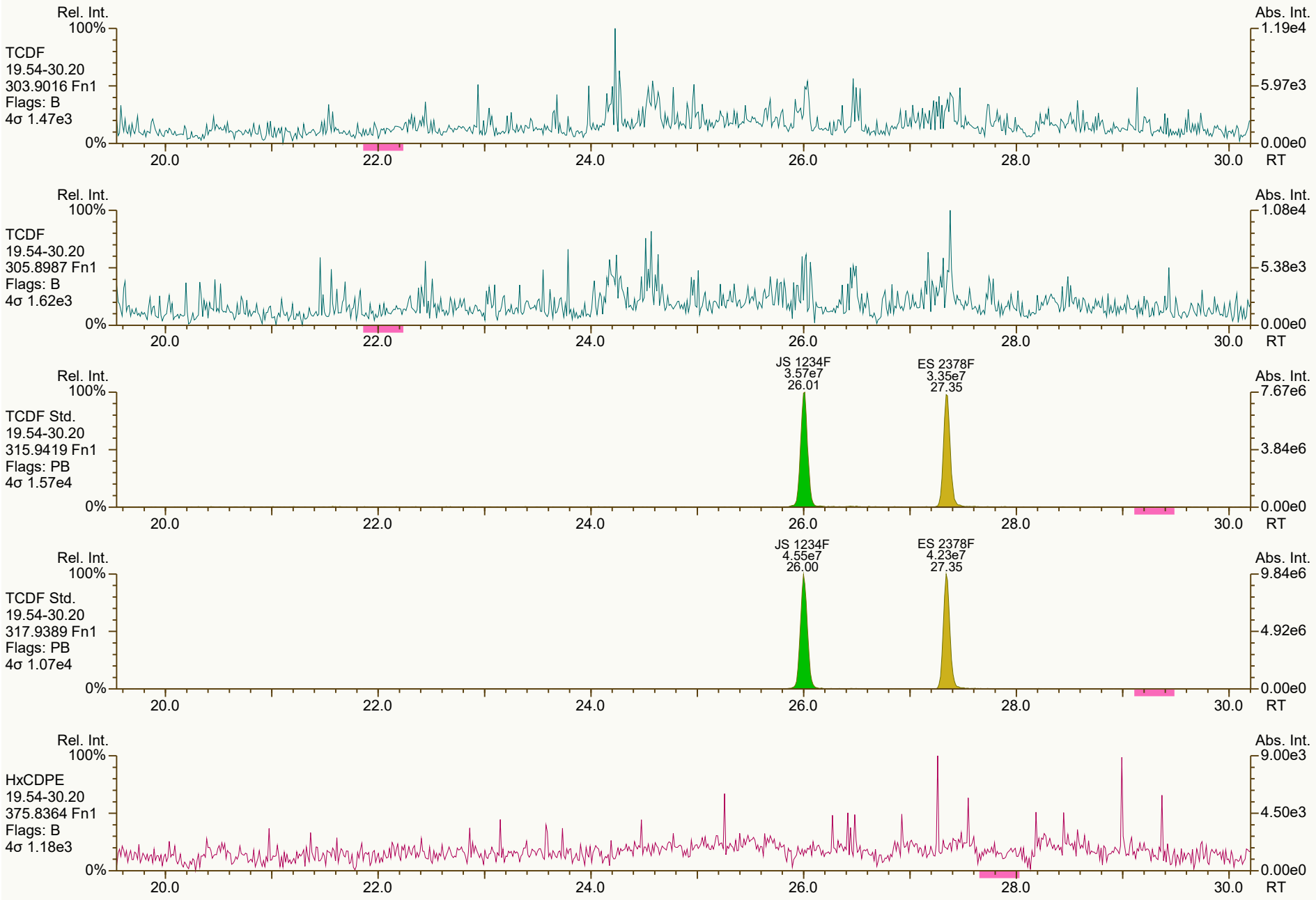

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.53e3
0%
Abs. Int.
1.27e4
6.37e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 2.51e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.11e3
0%
CS 37Cl-2378D
2.42e7
28.25
Abs. Int.
5.76e6
2.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.87e3
0%
JS 1234D
2.46e7
27.59
ES 2378D
2.32e7
28.23
Abs. Int.
5.97e6
2.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.66e3
0%
JS 1234D
3.03e7
27.59
ES 2378D
2.92e7
28.22
Abs. Int.
7.28e6
3.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: B
4σ 2.57e3
0%
Abs. Int.
7.79e3
3.90e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: B
4σ 1.98e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12347D
2.70e7
33.16
ES 12378D
2.87e7
33.66
Abs. Int.
8.68e6
4.34e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 4.28e3
0%
CS 12347D
1.68e7
33.16
ES 12378D
1.83e7
33.66
Abs. Int.
5.42e6
2.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.43e6
2.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

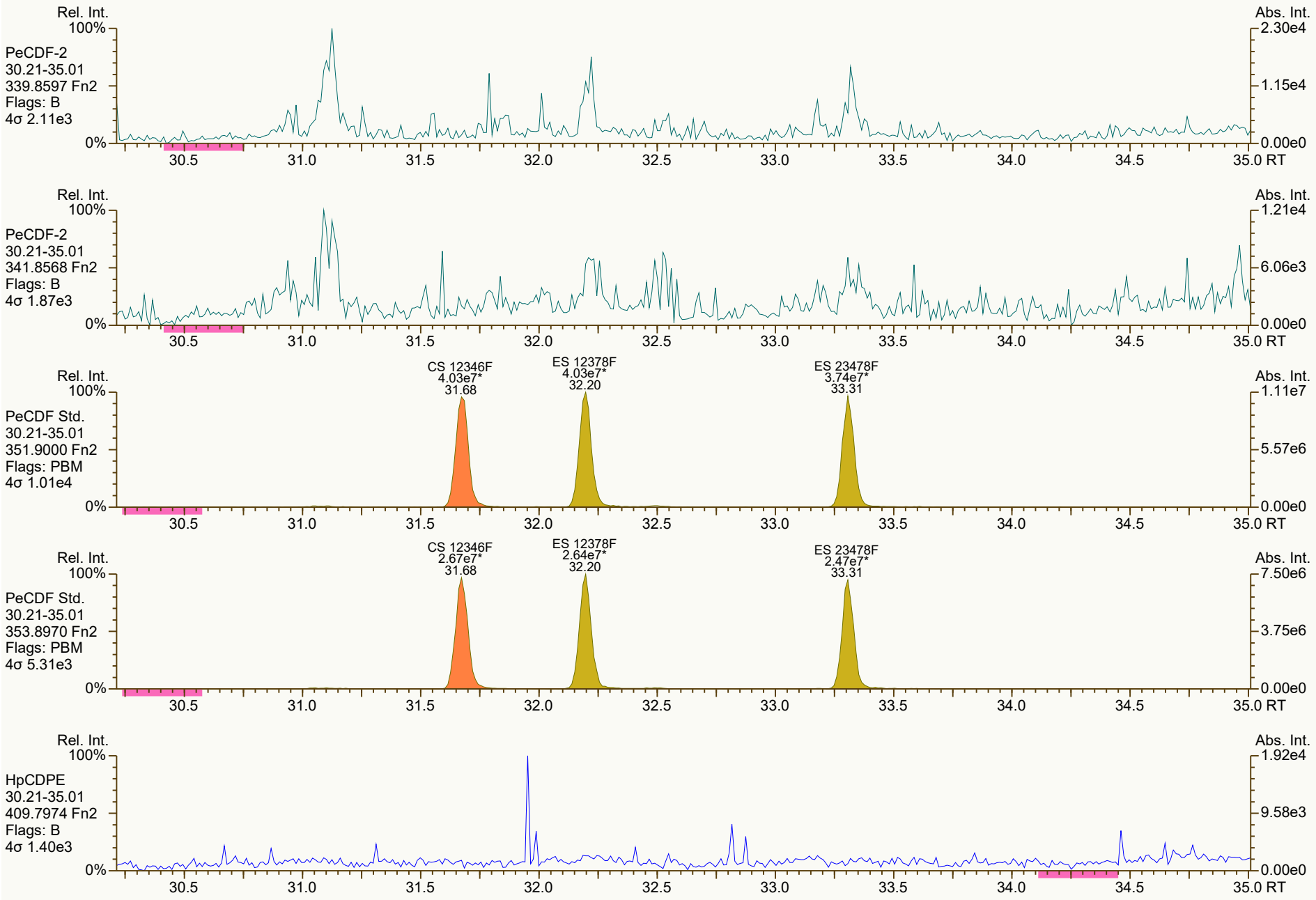

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: B
4σ 3.34e3
0%
Abs. Int.
1.80e4
9.00e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: B
4σ 2.91e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 7.94e3
0%
ES 123478D
2.47e7
37.64
ES 123678D
2.47e7
37.76
JS 123467D
1.31e7
37.96
ES 123789D
2.79e7
38.07
Abs. Int.
8.00e6
4.00e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 2.37e3
0%
ES 123478D
1.95e7
37.64
ES 123678D
1.96e7
37.76
JS 123467D
1.01e7
37.96
ES 123789D
2.25e7
38.07
Abs. Int.
6.34e6
3.17e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.00e7
9.98e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

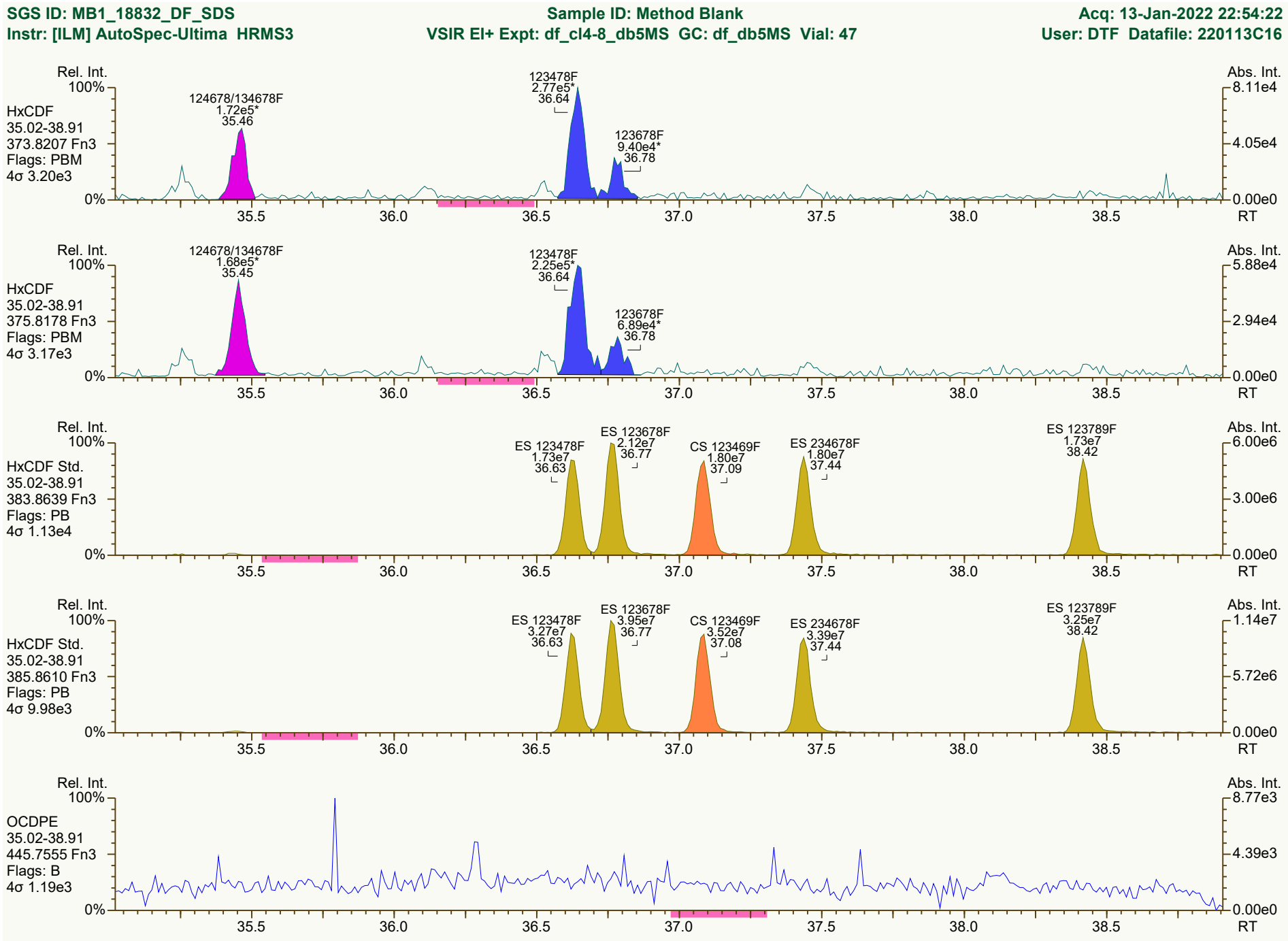

SGS ID: MB1_18832_DF_SDS
Sample ID: Method Blank
Acq: 13-Jan-2022 22:54:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220113C16
Rel. Int.
Abs. Int.
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 1.65e3
1234679D
5.23e4*
40.18
1234678D
4.55e4*
40.86
2.40e4
1.20e4
0.00e0
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.58e3
1234679D
6.09e4*
40.18
1234678D
5.85e4*
40.86
2.75e4
1.37e4
0.00e0
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 3.34e3
ES 1234678D
1.93e7
40.85
5.39e6
2.69e6
0.00e0
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 3.21e3
ES 1234678D
1.84e7
40.85
4.89e6
2.45e6
0.00e0
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
1.29e7
6.43e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\MB1_18832_DF_SDS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3475, 2312 scc: 789-291
Revised: 14-Jan-2022 08:24 (DTF) Printed: 14-Jan-2022 10:10 Page 5 of 12

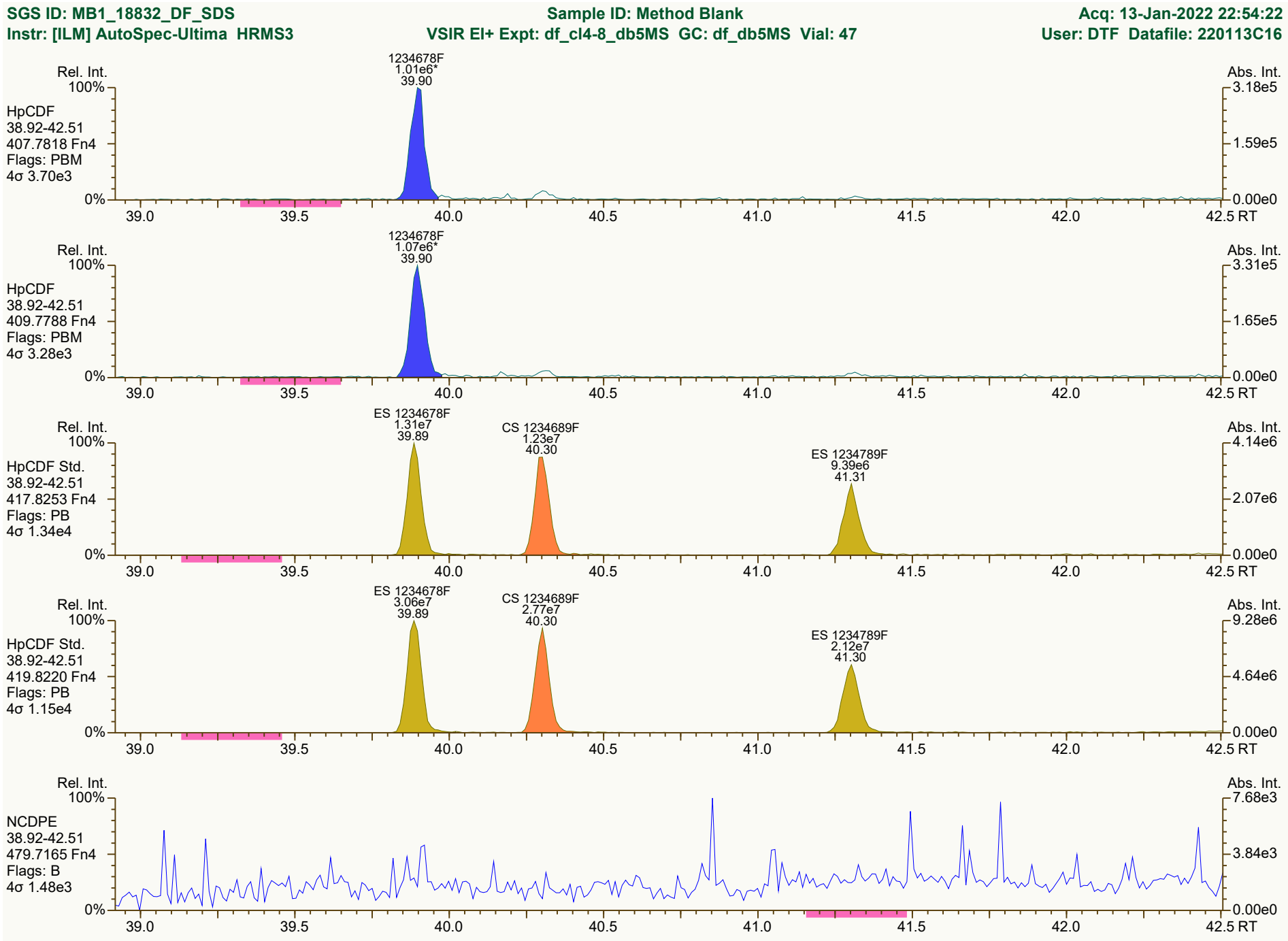

OCDD
7.05e4*
43.65
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
1.66e4
8.29e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.06e5*
43.65
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.74e3
2.30e4
1.15e4
ES OCDD
1.32e7
43.64
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.38e3
2.30e6
1.15e6
ES OCDD
1.42e7
43.64
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.65e3
2.58e6
1.29e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
1.15e7
5.73e6

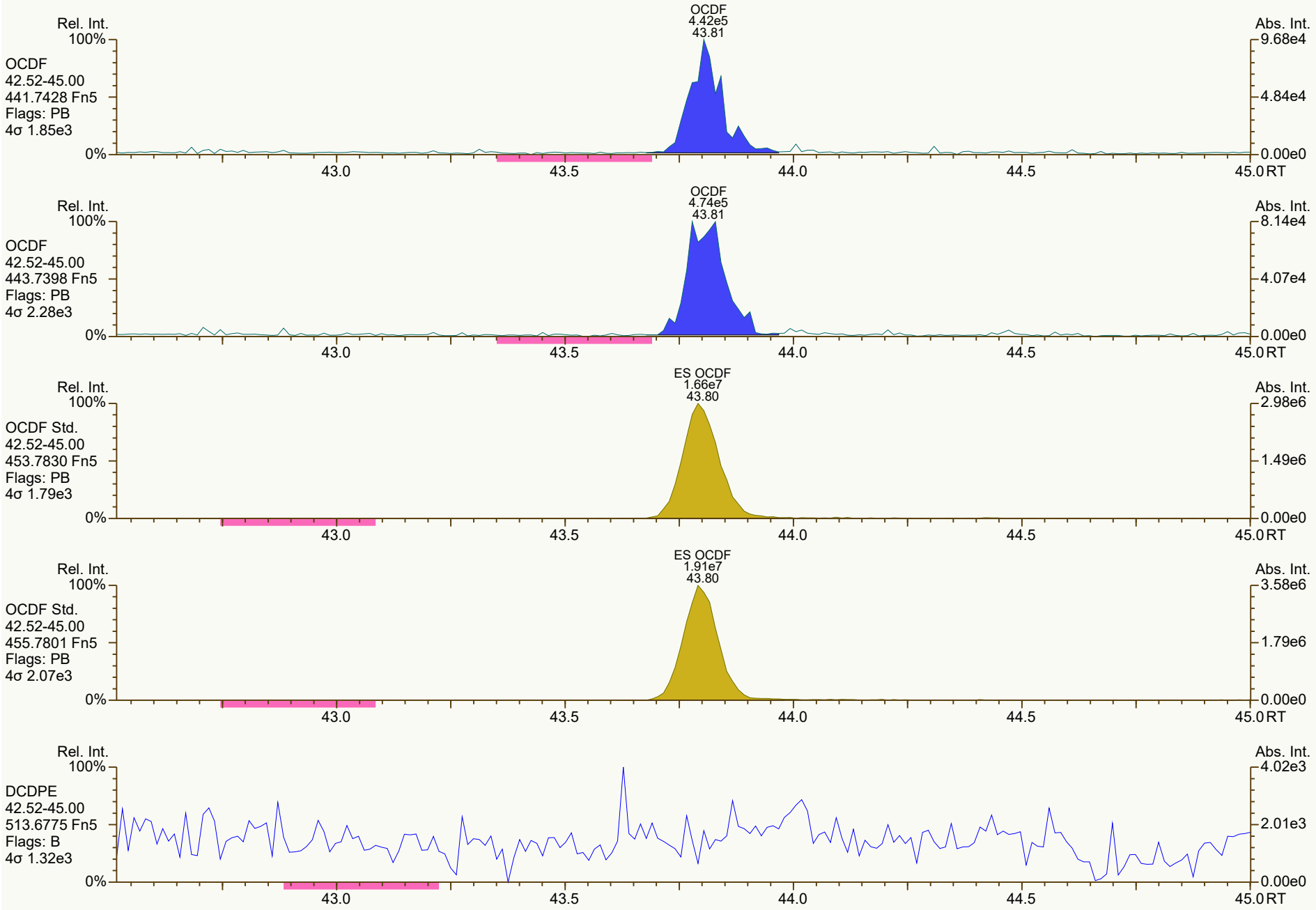

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.19e4
5.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.57e4
0%
JS 1234F
3.57e7
26.01
ES 2378F
3.35e7
27.35
Abs. Int.
7.67e6
3.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.07e4
0%
JS 1234F
4.55e7
26.00
ES 2378F
4.23e7
27.35
Abs. Int.
9.84e6
4.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.18e3
0%
Abs. Int.
9.00e3
4.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.37e4
6.87e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.95e4
9.74e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.51e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.07e6
3.04e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: B
4σ 2.11e3
0%
Abs. Int.
2.30e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.21e4
6.06e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 1.01e4
0%
CS 12346F
4.03e7*
31.68
ES 12378F
4.03e7*
32.20
ES 23478F
3.74e7*
33.31
Abs. Int.
1.11e7
5.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 5.31e3
0%
CS 12346F
2.67e7*
31.68
ES 12378F
2.64e7*
32.20
ES 23478F
2.47e7*
33.31
Abs. Int.
7.50e6
3.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.92e4
9.58e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: MB1_18832_DF_SDS
Sample ID: Method Blank
Acq: 13-Jan-2022 22:54:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220113C16
Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 3.20e3
124678/134678F
1.72e5*
35.46
123478F
2.77e5*
36.64
123678F
9.40e4*
36.78
8.11e4
4.05e4
0.00e0
RT
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 3.17e3
124678/134678F
1.68e5*
35.45
123478F
2.25e5*
36.64
123678F
6.89e4*
36.78
5.88e4
2.94e4
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 1.13e4
ES 123478F
1.73e7
36.63
ES 123678F
2.12e7
36.77
CS 123469F
1.80e7
37.09
ES 234678F
1.80e7
37.44
ES 123789F
1.73e7
38.42
6.00e6
3.00e6
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 9.98e3
ES 123478F
3.27e7
36.63
ES 123678F
3.95e7
36.77
CS 123469F
3.52e7
37.08
ES 234678F
3.39e7
37.44
ES 123789F
3.25e7
38.42
1.14e7
5.72e6
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.19e3
8.77e3
4.39e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\MB1_18832_DF_SDS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4707, 9237, 6103 scc: 789-291
Revised: 14-Jan-2022 08:24 (DTF) Printed: 14-Jan-2022 10:11 Page 10 of 12


SGS ID: MB1_18832_DF_SDS
Sample ID: Method Blank
Acq: 13-Jan-2022 22:54:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220113C16
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 3.70e3
1234678F
1.01e6*
39.90
3.18e5
1.59e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.28e3
1234678F
1.07e6*
39.90
3.31e5
1.65e5
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.34e4
ES 1234678F
1.31e7
39.89
CS 1234689F
1.23e7
40.30
ES 1234789F
9.39e6
41.31
4.14e6
2.07e6
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.15e4
ES 1234678F
3.06e7
39.89
CS 1234689F
2.77e7
40.30
ES 1234789F
2.12e7
41.30
9.28e6
4.64e6
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.48e3
7.68e3
3.84e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\MB1_18832_DF_SDS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4851, 7469, 0910 scc: 789-291
Revised: 14-Jan-2022 08:25 (DTF) Printed: 14-Jan-2022 10:11 Page 11 of 12


OCDF
4.42e5
43.81
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.74e5
43.81
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 2.28e3
8.14e4
4.07e4
ES OCDF
1.66e7
43.80
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.79e3
2.98e6
1.49e6
ES OCDF
1.91e7
43.80
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.07e3
3.58e6
1.79e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.32e3
4.02e3
2.01e3

Lab ID: B6170_18832_DF_001 **Acq'd:** 13 Jan 2022 23:40 DTF **Wt/Vol:** 13.77 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34 **UTP:** 14-Jan-2022 09:29:31 DTF **J-level:** 0.363 pg/g **Split:** 1 **Checkcode:** 617-780-YFZ

Datafile: 220113C17 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0009	+0.2	2.78E+07	0.80	Y	1.18	60.1	3877.671	0.0898
12378-PeCDD	33.67	J	1.0006	1.0005	-0.2	3.38E+05	1.67	Y	1.04	0.968	5245.613	0.129
123478-HxCDD	37.65	J	1.0004	1.0004	0	3.71E+05	1.20	Y	1.09	1.1	4073.598	0.108
123678-HxCDD	37.76		1.0036	1.0035	-0.2	1.68E+06	1.23	Y	1.15	4.42	4073.598	0.0938
123789-HxCDD	38.08		1.0114	1.0118	+0.9	8.33E+05	1.19	Y	1.05	2.43	4073.598	0.102
1234678-HpCDD	40.86		1.0003	1.0003	0	9.19E+07	1.03	Y	1.06	340	4027.724	0.136
OCDD	43.64		1.0003	1.0003	0	3.92E+08	0.90	Y	1.13	2,750	4654.03	0.459
2378-TCDF	27.36		1.0007	1.0008	+0.2	1.06E+08	0.79	Y	1.08	165	2930.369	0.0462
12378-PeCDF	32.21		1.0005	1.0005	0	2.94E+06	1.44	Y	1.02	5.93	6637.547	0.118
23478-PeCDF	33.33	PR	1.0006	1.0007	+0.2	2.32E+06	1.53	Y	1.02	4.93	6637.547	0.125
123478-HxCDF	36.64	B	1.0004	1.0005	+0.2	5.34E+06	1.28	Y	1.27	11.7	9020.539	0.161
123678-HxCDF	36.78	B	1.0004	1.0004	0	1.45E+06	1.19	Y	1.15	2.94	9020.539	0.161
234678-HxCDF	37.45	J	1.0005	1.0004	-0.2	4.37E+05	1.17	Y	1.19	0.87	9020.539	0.159
123789-HxCDF	NotFnd		1.0003	-		-	-	-	1.16	-	9020.539	0.197
1234678-HpCDF	39.90	B	1.0003	1.0003	0	7.31E+06	1.01	Y	1.37	19.7	5199.686	0.114
1234789-HpCDF	41.31	J	1.0003	1.0002	-0.2	5.48E+05	0.99	Y	1.31	1.79	5199.686	0.16
OCDF	43.81	B	1.0002	1.0003	+0.3	1.15E+07	0.84	Y	1.07	64.1	4136.431	0.336

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0228	1.0230	+0.3	5.67E+07	0.82	Y	1.05	97.6
ES 12378-PeCDD	33.65		1.2165	1.2200	+7.1	4.89E+07	1.56	Y	0.88	100
ES 123478-HxCDD	37.63		0.9916	0.9913	-0.7	4.48E+07	1.24	Y	0.97	106
ES 123678-HxCDD	37.75		0.9947	0.9944	-0.7	4.82E+07	1.26	Y	0.94	118
ES 123789-HxCDD	38.06		1.0025	1.0027	+0.5	4.75E+07	1.25	Y	1.09	100
ES 1234678-HpCDD	40.85		1.0747	1.0761	+3.4	3.70E+07	1.06	Y	0.91	93.6
ES OCDD	43.63		1.1475	1.1493	+4.7	3.67E+07	0.92	Y	0.62	68
ES 2378-TCDF	27.34		1.0505	1.0515	+1.6	8.64E+07	0.77	Y	1.06	96.6
ES 12378-PeCDF	32.19		1.2337	1.2381	+8.5	7.02E+07	1.54	Y	0.91	91.3
ES 23478-PeCDF	33.31		1.2758	1.2808	+10.0	6.70E+07	1.52	Y	0.88	89.9
ES 123478-HxCDF	36.62		0.9648	0.9646	-0.4	5.22E+07	0.52	Y	1.20	101
ES 123678-HxCDF	36.76		0.9685	0.9684	-0.2	6.21E+07	0.53	Y	1.35	106
ES 234678-HxCDF	37.44		0.9863	0.9862	-0.2	6.15E+07	0.54	Y	1.24	114
ES 123789-HxCDF	38.41		1.0118	1.0120	+0.5	5.08E+07	0.52	Y	1.16	102
ES 1234678-HpCDF	39.89		1.0495	1.0507	+2.9	3.94E+07	0.45	Y	0.97	94
ES 1234789-HpCDF	41.30		1.0868	1.0880	+3.0	3.40E+07	0.46	Y	0.85	92.1
ES OCDF	43.80		1.1520	1.1538	+4.7	4.86E+07	0.90	Y	0.81	69.6

Lab ID: B6170_18832_DF_001 **Acq'd:** 13 Jan 2022 23:40 DTF **Wt/Vol:** 13.77 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34 **UTP:** 14-Jan-2022 09:29:31 DTF **J-level:** 0.363 pg/g **Split:** 1 **Checkcode:** 617-780-YFZ

Datafile: 220113C17 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.59		-	-	-	5.55E+07	0.82	Y	-	-	
JS 1234-TCDF	26.00		-	-	-	8.44E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.96		-	-	-	2.16E+07	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.24		1.0235	1.0239	+0.7	2.60E+07	n/a	-	1.20	97.4	
CS 12347-PeCDD	33.16		1.1987	1.2019	+6.4	4.41E+07	1.61	Y	0.75	105	
CS 12346-PeCDF	31.67		1.2139	1.2180	+7.8	6.69E+07	1.54	Y	0.85	93.1	
CS 123469-HxCDF	37.08		0.9771	0.9767	-0.9	5.37E+07	0.53	Y	1.12	111	
CS 1234689-HpCDF	40.30		1.0601	1.0616	+3.6	3.86E+07	0.44	Y	0.89	101	
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0235~~	~~1.0239~~	~~+0.7~~	~~2.60E+07~~	~~n/a~~		~~1.15~~	~~100~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.16~~		~~1.1987~~	~~1.2019~~	~~+6.4~~	~~4.41E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~105~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.67~~		~~1.2139~~	~~1.2180~~	~~+7.8~~	~~6.69E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~37.08~~		~~0.9771~~	~~0.9767~~	~~-0.9~~	~~5.37E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0601~~	~~1.0616~~	~~+3.6~~	~~3.86E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~107~~	

Totals	Conc	EMPC
Total TCDD	76.7	77.5
Total PeCDD	9.02	9.21
Total HxCDD	112	112
Total HpCDD	1020	1020
Total Tetra-Octa Dioxins	3960	3960
Total TCDF	334	335
Total PeCDF	18.3	19.5
Total HxCDF	26.7	26.7
Total HpCDF	55.8	57
Total Tetra-Octa Furans	499	502
Total Tetra-Octa Dioxins & Furans	4460	4470

Lab ID: B6170_18832_DF_001 **Acq'd: 13 Jan 2022 23:40 DTF** **Wt/Vol: 13.77 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-34 **UTP: 14-Jan-2022 09:29:31 DTF** **J-level: 0.363 pg/g** **Split: 1** **Checkcode: 617-780-YFZ**

Datafile: 220113C17 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.58		0.8733	0.8709	-3.5	2.50E+05	0.82	Y	1.18	0.542	3877.671	0.0898
1379-TCDD	24.94		0.8860	0.8839	-3.1	2.00E+05	0.87	Y	1.18	0.433	3877.671	0.0898
1369-TCDD	25.37	J	0.9009	0.8991	-2.7	1.31E+05	0.75	Y	1.18	0.284	3877.671	0.0898
1469-TCDD	26.16		0.9282	0.9271	-1.7	3.07E+06	0.76	Y	1.18	6.64	3877.671	0.0898
1247/1246/1248/1249-TCDD	26.39	J EMPC	0.9365	0.9350	-2.4	1.28E+05	0.93	N	1.18	0.277	3877.671	0.0898
1378-TCDD	26.60		0.9429	0.9424	-0.8	1.69E+05	0.85	Y	1.18	0.367	3877.671	0.0898
1268-TCDD	NotFnd		0.9500						1.18		3877.671	0.0898
1478-TCDD	27.03	J	0.9584	0.9578	-1.0	8.78E+04	0.84	Y	1.18	0.19	3877.671	0.0898
1279-TCDD	27.22	J EMPC	0.9648	0.9643	-0.8	1.01E+05	0.93	N	1.18	0.218	3877.671	0.0898
1234/1269-TCDD	27.56		0.9770	0.9765	-0.8	3.56E+05	0.68	Y	1.18	0.77	3877.671	0.0898
1236-TCDD	NotFnd		0.9821						1.18		3877.671	0.0898
1237/1238-TCDD	27.95		0.9909	0.9905	-0.7	5.83E+05	0.84	Y	1.18	1.26	3877.671	0.0898
1239-TCDD	NotFnd		0.9959						1.18		3877.671	0.0898
2378-TCDD	**28.25**		**1.0008**	1.0009	**+0.2**	2.78E+07	0.80	Y	**1.18**	**60.1**	**3877.671**	**0.0898**
1278-TCDD	28.58		1.0123	1.0127	+0.7	2.83E+06	0.78	Y	1.18	6.12	3877.671	0.0898
1267-TCDD	NotFnd		1.0172						1.18		3877.671	0.0898
1289-TCDD	29.22	J EMPC	1.0354	1.0356	+0.4	1.47E+05	0.89	N	1.18	0.318	3877.671	0.0898
12479/12468-PeCDD	31.17	J	0.9267	0.9261	-1.1	4.66E+05	1.73	Y	1.04	1.34	5245.613	0.129
12469-PeCDD	31.71		0.9426	0.9421	-1.0	1.41E+06	1.55	Y	1.04	4.06	5245.613	0.129
12368-PeCDD	32.25	J	0.9587	0.9582	-1.0	1.51E+05	1.44	Y	1.04	0.434	5245.613	0.129
12478-PeCDD	32.44	J	0.9642	0.9639	-0.6	1.51E+05	1.45	Y	1.04	0.433	5245.613	0.129
12379-PeCDD	32.55	J	0.9674	0.9671	-0.6	1.69E+05	1.54	Y	1.04	0.484	5245.613	0.129
12369/12467/12489-PeCDD	32.82	J	0.9752	0.9751	-0.2	4.57E+05	1.52	Y	1.04	1.31	5245.613	0.129
12346/12347-PeCDD	NotFnd		0.9861						1.04		5245.613	0.129
12378-PeCDD	33.67	J	**1.0006**	**1.0005**	**-0.2**	**3.38E+05**	**1.67**	**Y**	**1.04**	**0.968**	**5245.613**	**0.129**
12367-PeCDD	NotFnd		1.0036						1.04		5245.613	0.129
12389-PeCDD	34.12	J EMPC	1.0139	1.0139	0	6.47E+04	1.95	N	1.04	0.186	5245.613	0.129
124679/124689-HxCDD	35.91		0.9541	0.9542	+0.2	2.21E+07	1.26	Y	1.10	62.5	4073.598	0.101
123468-HxCDD	36.56		0.9715	0.9716	+0.2	1.44E+06	1.29	Y	1.10	4.08	4073.598	0.101
123679/123689-HxCDD	36.86		0.9793	0.9794	+0.2	1.15E+07	1.28	Y	1.10	32.5	4073.598	0.101
123469-HxCDD	36.99		0.9831	0.9831	0	1.27E+06	1.31	Y	1.10	3.59	4073.598	0.101
123478-HxCDD	37.65	J	**1.0004**	**1.0004**	**0**	**3.71E+05**	**1.20**	**Y**	1.09	**1.1**	**4073.598**	**0.108**
123678-HxCDD	37.76		**1.0036**	**1.0035**	**-0.2**	**1.68E+06**	**1.23**	**Y**	1.15	**4.42**	**4073.598**	**0.0938**
123467-HxCDD	37.98	J	1.0089	1.0091	+0.5	6.17E+05	1.29	Y	1.10	1.75	4073.598	0.101
123789-HxCDD	38.08		**1.0114**	**1.0118**	**+0.9**	**8.33E+05**	**1.19**	**Y**	1.05	**2.43**	**4073.598**	**0.102**

Lab ID: B6170_18832_DF_001 **Acq'd:** 13 Jan 2022 23:40 DTF **Wt/Vol:** 13.77 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34 **UTP:** 14-Jan-2022 09:29:31 DTF **J-level:** 0.363 pg/g **Split:** 1 **Checkcode:** 617-780-YFZ

Datafile: 220113C17 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

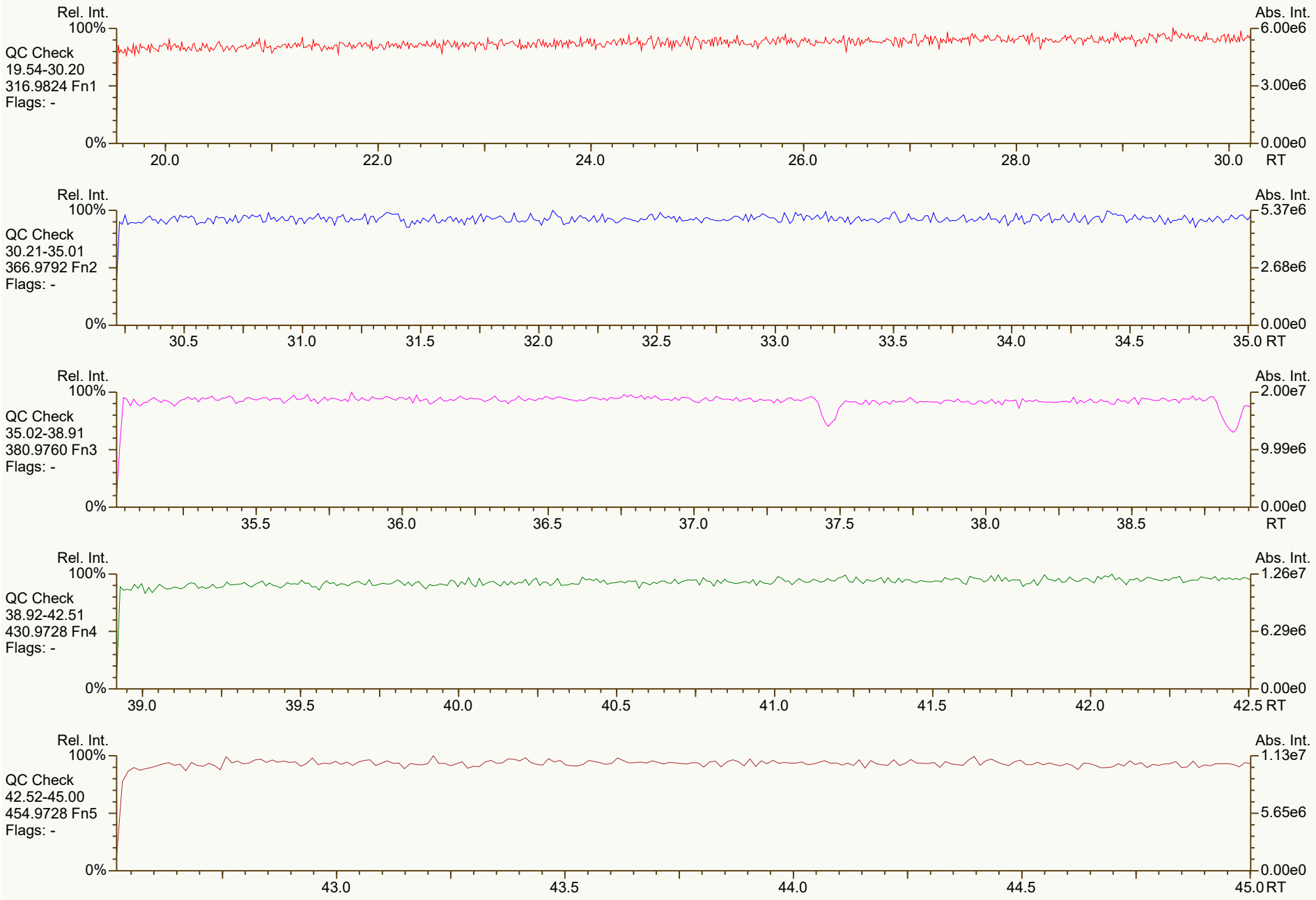
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9834	-0.2	1.82E+08	1.03	Y	1.06	675	4027.724	0.136
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**9.19E+07**	**1.03**	**Y**	**1.06**	**340**	**4027.724**	**0.136**
OCDD	**43.64**		**1.0003**	**1.0003**	**0**	**3.92E+08**	**0.90**	**Y**	**1.13**	**2,750**	**4654.03**	**0.459**
OCDD-a	43.64		1.0002	1.0002	0	2.47E+07	2.48	Y	0.07	2,720	7200.188	11.1
1368-TCDF	22.45		0.8250	0.8211	-5.3	2.78E+05	0.75	Y	1.08	0.434	2930.369	0.0462
1468-TCDF	23.03		0.8494	0.8424	-9.7	3.13E+05	0.77	Y	1.08	0.488	2930.369	0.0462
2468-TCDF	23.67		0.8684	0.8655	-4.1	5.95E+05	0.78	Y	1.08	0.928	2930.369	0.0462
1346/1246-TCDF	NotFnd		0.8815						1.08		2930.369	0.0462
1347/1378/1247-TCDF	24.18		0.8867	0.8845	-3.2	2.00E+06	0.77	Y	1.08	3.12	2930.369	0.0462
1348-TCDF	24.45		0.8966	0.8943	-3.4	6.37E+05	0.73	Y	1.08	0.992	2930.369	0.0462
1248/1367/1379-TCDF	24.56		0.9012	0.8981	-4.6	5.48E+06	0.80	Y	1.08	8.54	2930.369	0.0462
1268-TCDF	24.97		0.9148	0.9131	-2.5	2.05E+06	0.77	Y	1.08	3.19	2930.369	0.0462
1467-TCDF	25.10		0.9197	0.9179	-2.7	3.27E+05	0.83	Y	1.08	0.51	2930.369	0.0462
1478-TCDF	25.27		0.9258	0.9241	-2.6	4.91E+06	0.75	Y	1.08	7.65	2930.369	0.0462
1369/1237-TCDF	25.65		0.9390	0.9380	-1.5	1.33E+06	0.82	Y	1.08	2.07	2930.369	0.0462
2467-TCDF	25.77	J EMPC	0.9435	0.9426	-1.4	2.24E+05	0.92	N	1.08	0.349	2930.369	0.0462
2368-TCDF	25.91		0.9488	0.9477	-1.7	3.15E+06	0.77	Y	1.08	4.9	2930.369	0.0462
1238/1234/1678/1469/1236-TCDF	26.01		0.9527	0.9511	-2.5	6.12E+06	0.79	Y	1.08	9.55	2930.369	0.0462
1278-TCDF	26.48		0.9689	0.9683	-1.0	4.92E+07	0.78	Y	1.08	76.7	2930.369	0.0462
1349-TCDF	NotFnd		0.9730						1.08		2930.369	0.0462
1267-TCDF	26.75		0.9787	0.9782	-0.8	2.96E+06	0.78	Y	1.08	4.62	2930.369	0.0462
2346/1249-TCDF	26.95		0.9856	0.9856	0	4.25E+05	0.87	Y	1.08	0.663	2930.369	0.0462
2347/1279-TCDF	27.15		0.9934	0.9931	-0.5	1.51E+06	0.80	Y	1.08	2.36	2930.369	0.0462
2348-TCDF	27.26		0.9972	0.9968	-0.7	7.21E+06	0.79	Y	1.08	11.2	2930.369	0.0462
2378-TCDF	**27.36**		**1.0007**	**1.0008**	**+0.2**	**1.06E+08**	**0.79**	**Y**	**1.08**	**165**	**2930.369**	**0.0462**
2367/3467-TCDF	27.73		1.0145	1.0141	-0.7	9.03E+06	0.80	Y	1.08	14.1	2930.369	0.0462
1269-TCDF	27.98		1.0236	1.0234	-0.3	1.95E+06	0.76	Y	1.08	3.04	2930.369	0.0462
1239-TCDF	NotFnd		1.0333						1.08		2930.369	0.0462
1289-TCDF	29.40		1.0740	1.0753	+2.3	9.42E+06	0.79	Y	1.08	14.7	2930.369	0.0462
13468/12468-PeCDF	29.40	J EMPC	0.9138	0.9131	-1.2	4.09E+05	1.79	N	1.02	0.847	3294.113	0.0602
13678/13467/12467-PeCDF	30.94	J	0.9614	0.9610	-0.7	1.97E+05	1.56	Y	1.02	0.408	6637.547	0.121
12368/13478/12478-PeCDF	31.11		0.9661	0.9664	+0.6	1.63E+06	1.42	Y	1.02	3.38	6637.547	0.121
14678-PeCDF	NotFnd		0.9693						1.02		6637.547	0.121
13479-PeCDF	NotFnd		0.9722						1.02		6637.547	0.121
13469/12479-PeCDF	NotFnd		0.9800						1.02		6637.547	0.121
12346-PeCDF	NotFnd		0.9844						1.02		6637.547	0.121

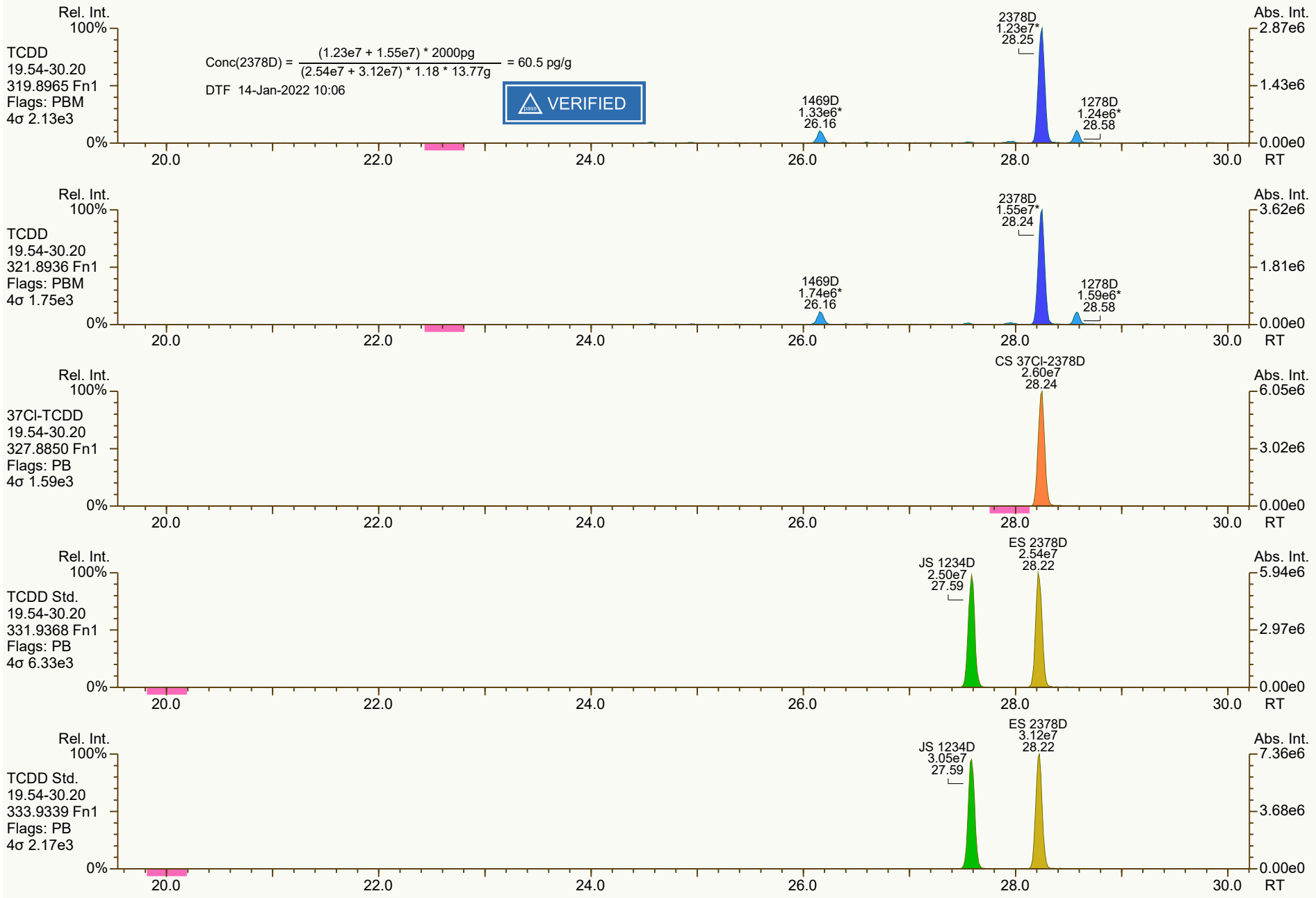
Lab ID: B6170_18832_DF_001 **Acq'd: 13 Jan 2022 23:40 DTF** **Wt/Vol: 13.77 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

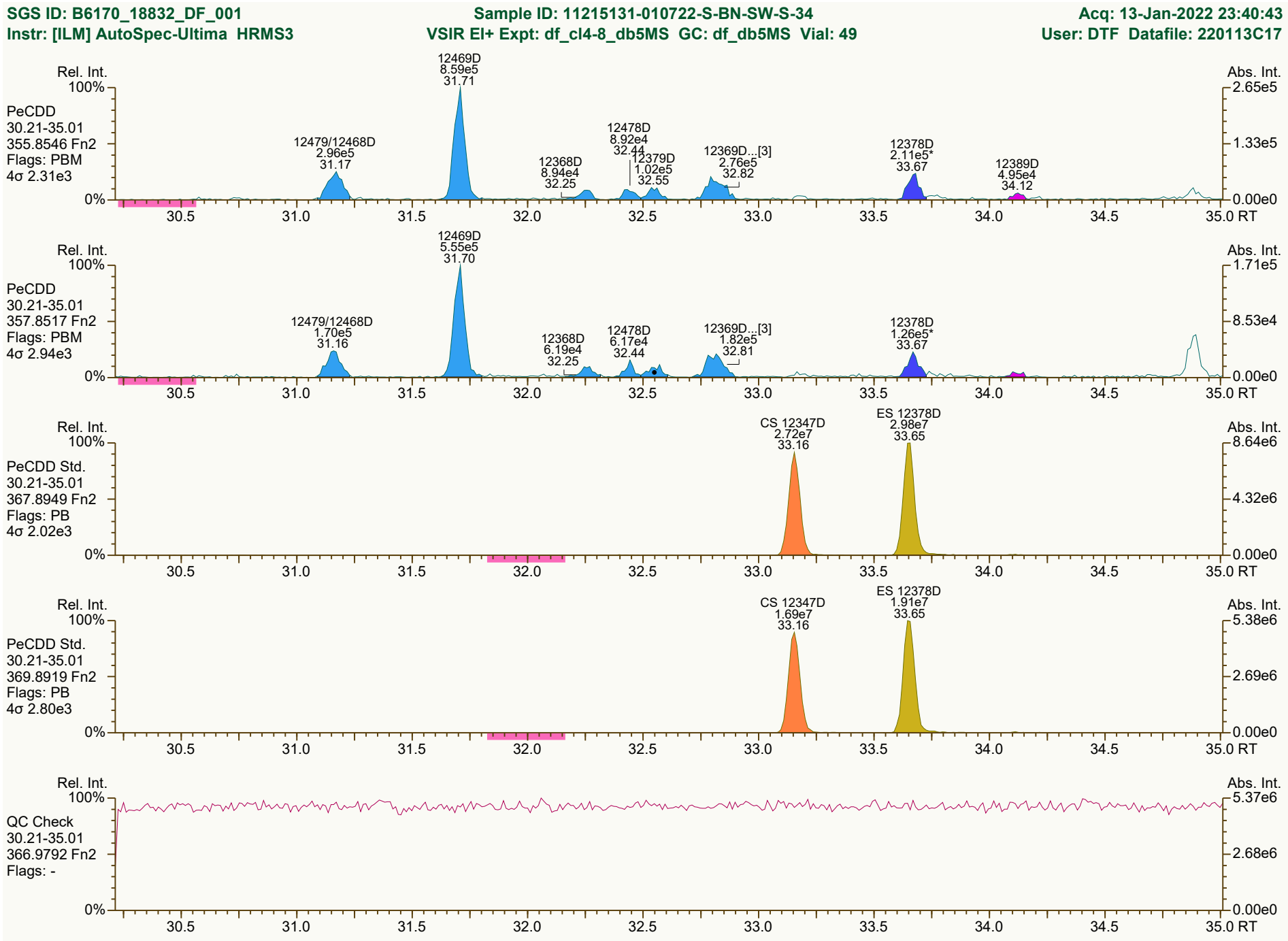
Client ID: 11215131-010722-S-BN-SW-S-34 **UTP: 14-Jan-2022 09:29:31 DTF** **J-level: 0.363 pg/g** **Split: 1** **Checkcode: 617-780-YFZ**

Datafile: 220113C17 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

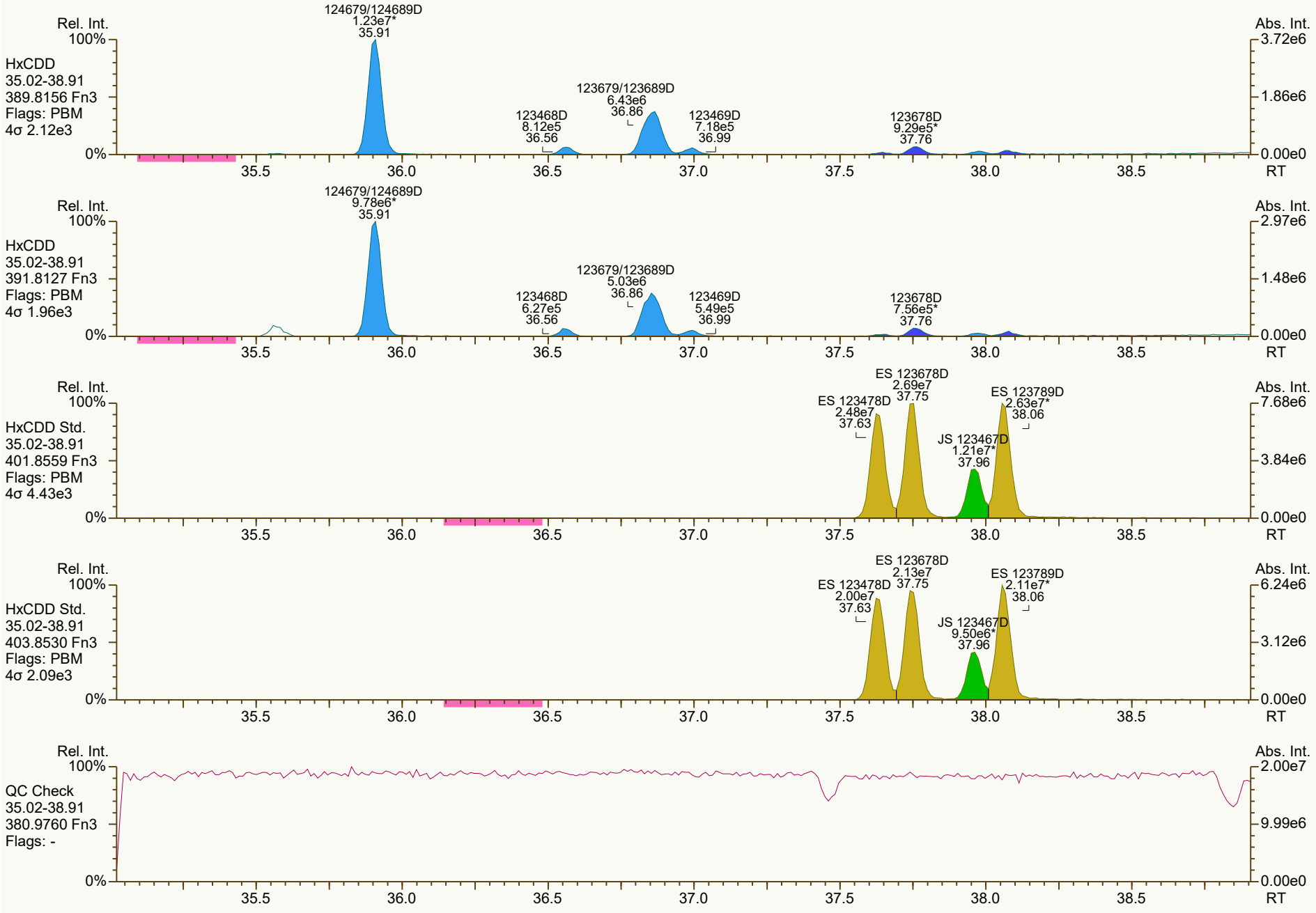
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75	J	0.9865	0.9862	-0.6	1.95E+05	1.34	Y	1.02	0.404	6637.547	0.121
12347-PeCDF	31.84	J EMPC	0.9890	0.9892	+0.4	1.48E+05	1.31	N	1.02	0.307	6637.547	0.121
12348-PeCDF	32.00	J	0.9942	0.9940	-0.4	3.51E+05	1.57	Y	1.02	0.727	6637.547	0.121
12378-PeCDF	**32.21**		**1.0005**	**1.0005**	**0**	**2.94E+06**	**1.44**	**Y**	**1.02**	**5.93**	**6637.547**	**0.118**
12678/12367-PeCDF	32.50		1.0090	1.0097	+1.4	9.97E+05	1.50	Y	1.02	2.07	6637.547	0.121
12379-PeCDF	NotFnd		1.0142						1.02		6637.547	0.121
12679-PeCDF	NotFnd		0.9933						1.02		6637.547	0.121
23467/12369-PeCDF	33.20	J	0.9969	0.9969	0	1.23E+05	1.42	Y	1.02	0.255	6637.547	0.121
23478-PeCDF	**33.33**	PR	**1.0006**	**1.0007**	**+0.2**	**2.32E+06**	**1.53**	**Y**	**1.02**	**4.93**	**6637.547**	**0.125**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6637.547	0.121
12349-PeCDF	NotFnd		1.0107						1.02		6637.547	0.121
12389-PeCDF	34.41	J	1.0330	1.0331	+0.2	1.25E+05	1.74	Y	1.02	0.259	6637.547	0.121
123468-HxCDF	35.25	J	0.9627	0.9625	-0.4	4.25E+05	1.14	Y	1.19	0.912	9020.539	0.168
124678/134678-HxCDF	35.44	B	0.9682	0.9679	-0.6	1.71E+06	1.23	Y	1.19	3.67	9020.539	0.168
134679-HxCDF	NotFnd		0.9744						1.19		9020.539	0.168
124679-HxCDF	NotFnd		0.9798						1.19		9020.539	0.168
124689-HxCDF	36.10		0.9858	0.9858	0	2.43E+06	1.28	Y	1.19	5.22	9020.539	0.168
123467-HxCDF	36.52	J	0.9973	0.9973	0	1.91E+05	1.14	Y	1.19	0.411	9020.539	0.168
123478-HxCDF	**36.64**	B	**1.0004**	**1.0005**	**+0.2**	**5.34E+06**	**1.28**	**Y**	**1.27**	**11.7**	**9020.539**	**0.161**
123678-HxCDF	**36.78**	B	**1.0004**	**1.0004**	**0**	**1.45E+06**	**1.19**	**Y**	**1.15**	**2.94**	**9020.539**	**0.161**
123479-HxCDF	NotFnd		1.0051						1.19		9020.539	0.168
123469-HxCDF	NotFnd		1.0093						1.19		9020.539	0.168
123679-HxCDF	NotFnd		0.9944						1.19		9020.539	0.168
234678-HxCDF	**37.45**	J	**1.0005**	**1.0004**	**-0.2**	**4.37E+05**	**1.17**	**Y**	**1.19**	**0.87**	**9020.539**	**0.159**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9020.539	0.168
123789-HxCDF	**NotFnd**		**1.0003**						**1.16**		**9020.539**	**0.197**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.46	J	1.0008	1.0011	+0.7	4.50E+05	1.18	Y	1.19	0.968	9020.539	0.168
1234678-HpCDF	**39.90**	**B**	**1.0003**	**1.0003**	**0**	**7.31E+06**	**1.01**	**Y**	**1.37**	**19.7**	**5199.686**	**0.114**
1234679-HpCDF	40.17	**J EMPC**	1.0069	1.0071	+0.5	4.17E+05	0.87	N	1.34	1.23	5199.686	0.135
1234689-HpCDF	40.31		1.0103	1.0106	+0.7	1.16E+07	1.04	Y	1.34	34.3	5199.686	0.135
1234789-HpCDF	**41.31**	**J**	**1.0003**	**1.0002**	**-0.2**	**5.48E+05**	**0.99**	**Y**	**1.31**	**1.79**	**5199.686**	**0.16**
OCDF	**43.81**	**B**	**1.0002**	**1.0003**	**+0.3**	**1.15E+07**	**0.84**	**Y**	**1.07**	**64.1**	**4136.431**	**0.336**
OCDF-a	43.82	**EMPC**	1.0002	1.0005	+0.8	4.37E+05	3.07	N	0.07	39.3	3332.76	4.37

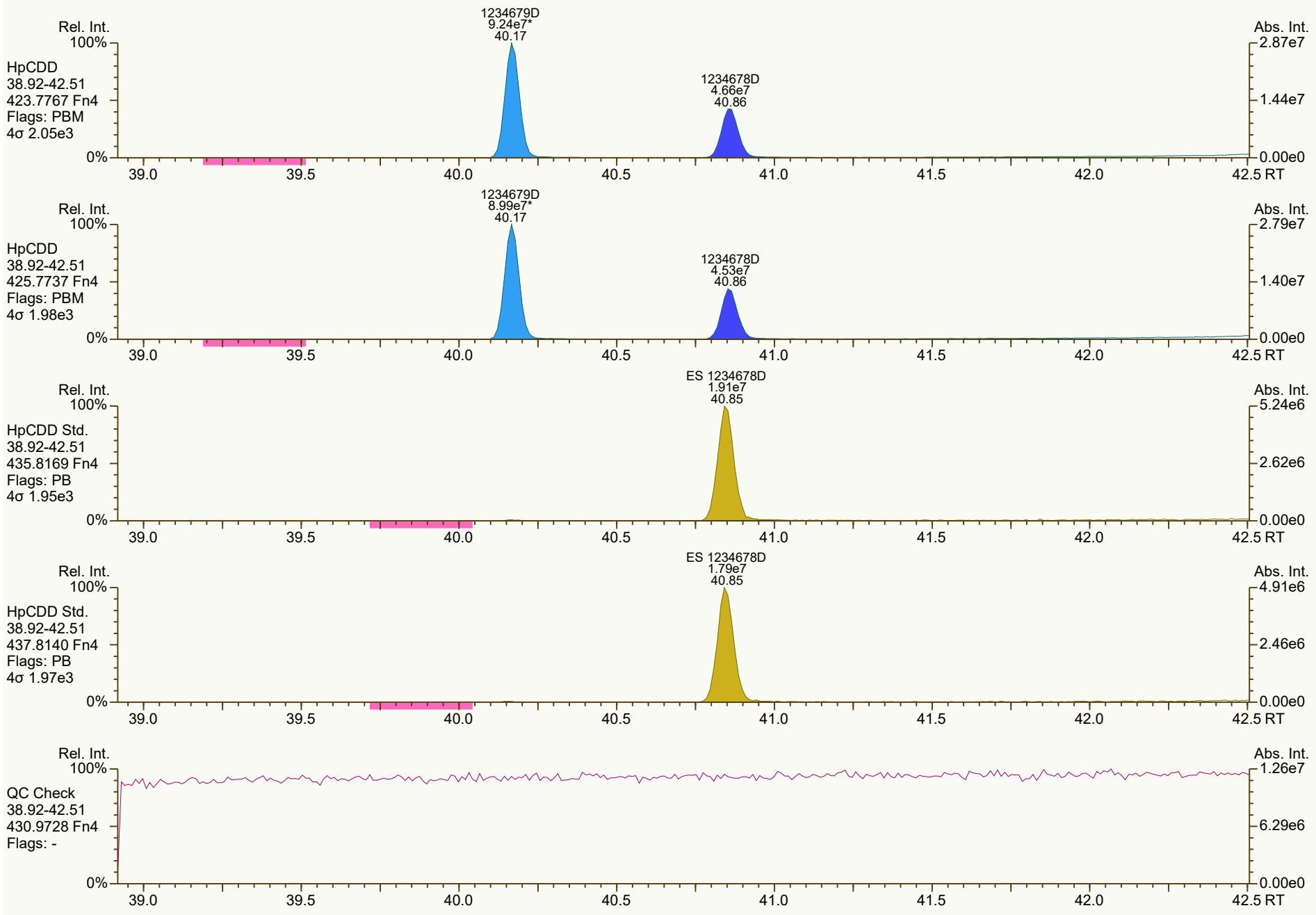

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.00e6
3.00e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.37e6
2.68e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.00e7
9.99e6
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
1.26e7
6.29e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.13e7
5.65e6
0.00e0

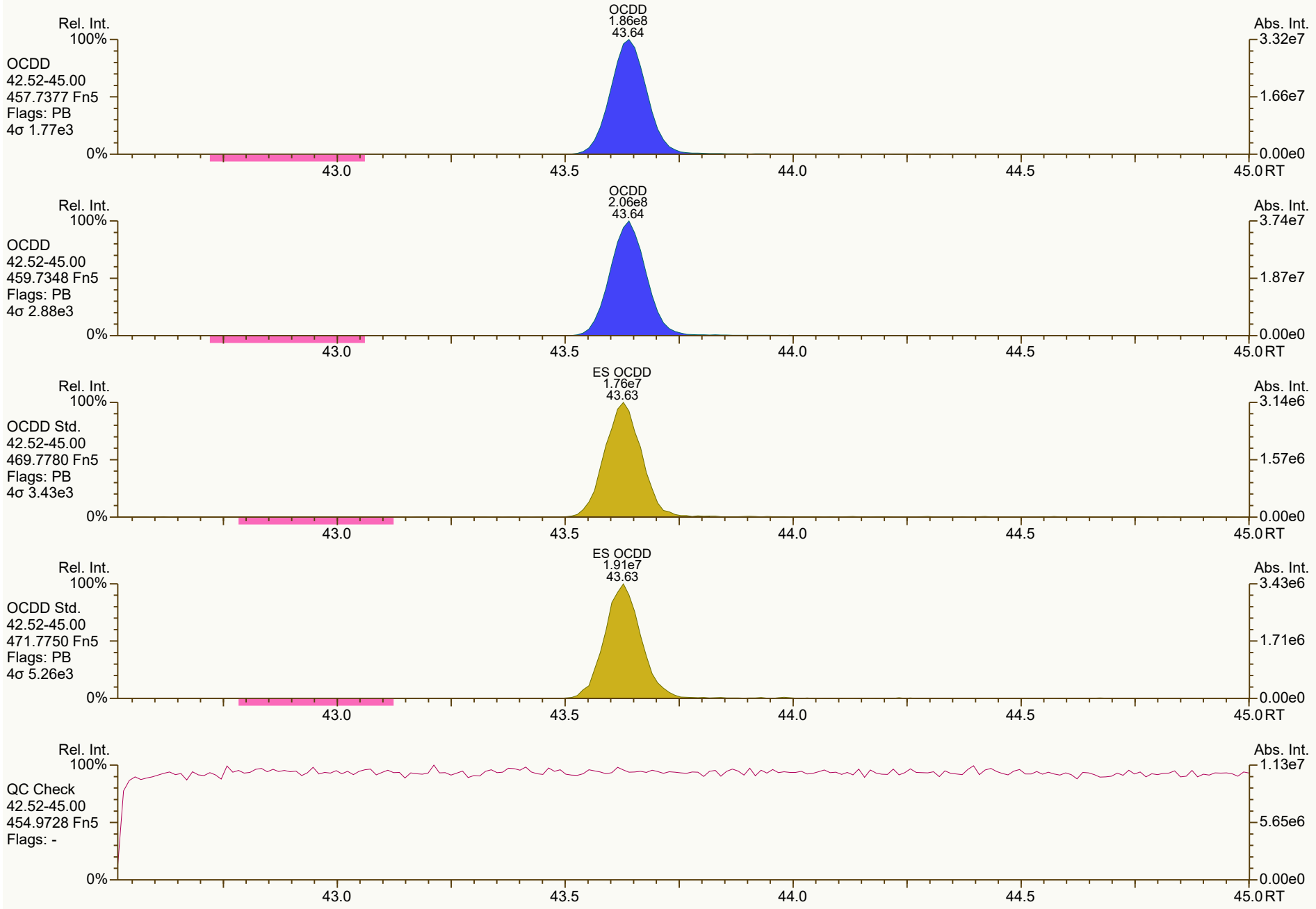

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.13e3
0%
Conc(2378D) = (1.23e7 + 1.55e7) * 2000pg / (2.54e7 + 3.12e7) * 1.18 * 13.77g = 60.5 pg/g
DTF 14-Jan-2022 10:06
VERIFIED
1469D
1.33e6*
26.16
2378D
1.23e7*
28.25
1278D
1.24e6*
28.58
Abs. Int.
2.87e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.75e3
0%
1469D
1.74e6*
26.16
2378D
1.55e7*
28.24
1278D
1.59e6*
28.58
Abs. Int.
3.62e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.59e3
0%
CS 37Cl-2378D
2.60e7
28.24
Abs. Int.
6.05e6
3.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.33e3
0%
JS 1234D
2.50e7
27.59
ES 2378D
2.54e7
28.22
Abs. Int.
5.94e6
2.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.17e3
0%
JS 1234D
3.05e7
27.59
ES 2378D
3.12e7
28.22
Abs. Int.
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3.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

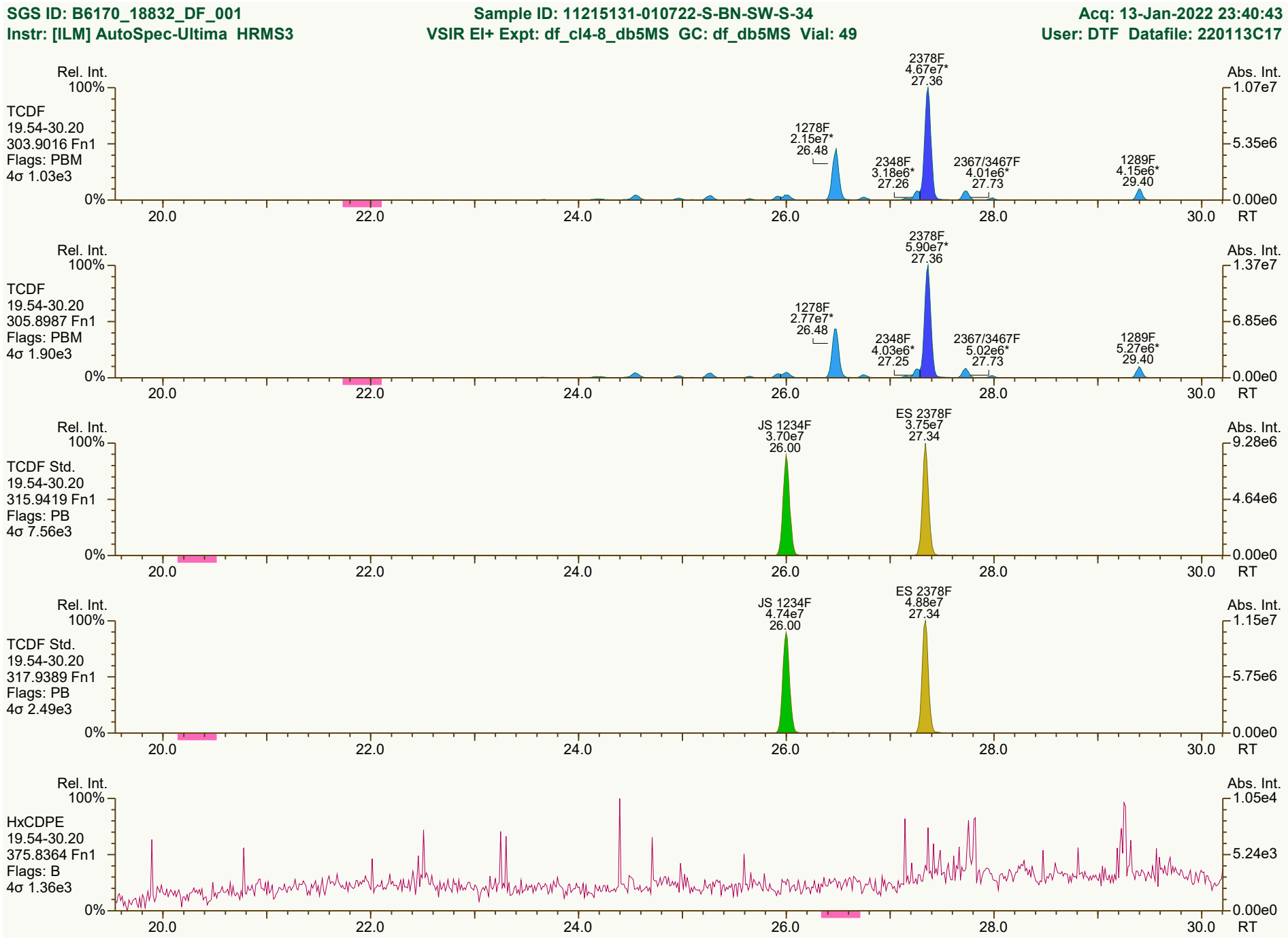


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2856, 4404 scc: 617-780
Revised: 14-Jan-2022 08:27 (DTF) Printed: 14-Jan-2022 10:11 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.12e3
124679/124689D
1.23e7*
35.91
123468D
8.12e5
36.56
123679/123689D
6.43e6
36.86
123469D
7.18e5
36.99
123678D
9.29e5*
37.76
Abs. Int.
3.72e6
1.86e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 1.96e3
124679/124689D
9.78e6*
35.91
123468D
6.27e5
36.56
123679/123689D
5.03e6
36.86
123469D
5.49e5
36.99
123678D
7.56e5*
37.76
Abs. Int.
2.97e6
1.48e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 4.43e3
ES 123678D
2.69e7
37.75
ES 123478D
2.48e7
37.63
ES 123789D
2.63e7*
38.06
JS 123467D
1.21e7*
37.96
Abs. Int.
7.68e6
3.84e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 2.09e3
ES 123678D
2.13e7
37.75
ES 123478D
2.00e7
37.63
ES 123789D
2.11e7*
38.06
JS 123467D
9.50e6*
37.96
Abs. Int.
6.24e6
3.12e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
2.00e7
9.99e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.05e3
1234679D
9.24e7*
40.17
1234678D
4.66e7
40.86
Abs. Int.
2.87e7
1.44e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 1.98e3
1234679D
8.99e7*
40.17
1234678D
4.53e7
40.86
Abs. Int.
2.79e7
1.40e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.95e3
ES 1234678D
1.91e7
40.85
Abs. Int.
5.24e6
2.62e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 1.97e3
ES 1234678D
1.79e7
40.85
Abs. Int.
4.91e6
2.46e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
1.26e7
6.29e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
1.86e8
43.64
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
3.32e7
1.66e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.06e8
43.64
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.88e3
3.74e7
1.87e7
ES OCDD
1.76e7
43.63
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 3.43e3
3.14e6
1.57e6
ES OCDD
1.91e7
43.63
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 5.26e3
3.43e6
1.71e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
1.13e7
5.65e6


SGS ID: B6170_18832_DF_001
Sample ID: 11215131-010722-S-BN-SW-S-34
Acq: 13-Jan-2022 23:40:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220113C17
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.03e3
2378F
4.67e7*
27.36
1278F
2.15e7*
26.48
2348F
3.18e6*
27.26
2367/3467F
4.01e6*
27.73
1289F
4.15e6*
29.40
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.90e3
2378F
5.90e7*
27.36
1278F
2.77e7*
26.48
2348F
4.03e6*
27.25
2367/3467F
5.02e6*
27.73
1289F
5.27e6*
29.40
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.56e3
JS 1234F
3.70e7
26.00
ES 2378F
3.75e7
27.34
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.49e3
JS 1234F
4.74e7
26.00
ES 2378F
4.88e7
27.34
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.36e3
RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001.utp_res, saved 14-Jan-2022 10:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5108, 2803, 4662 scc: 617-780
Revised: 14-Jan-2022 08:28 (DTF) Printed: 14-Jan-2022 10:11 Page 7 of 12

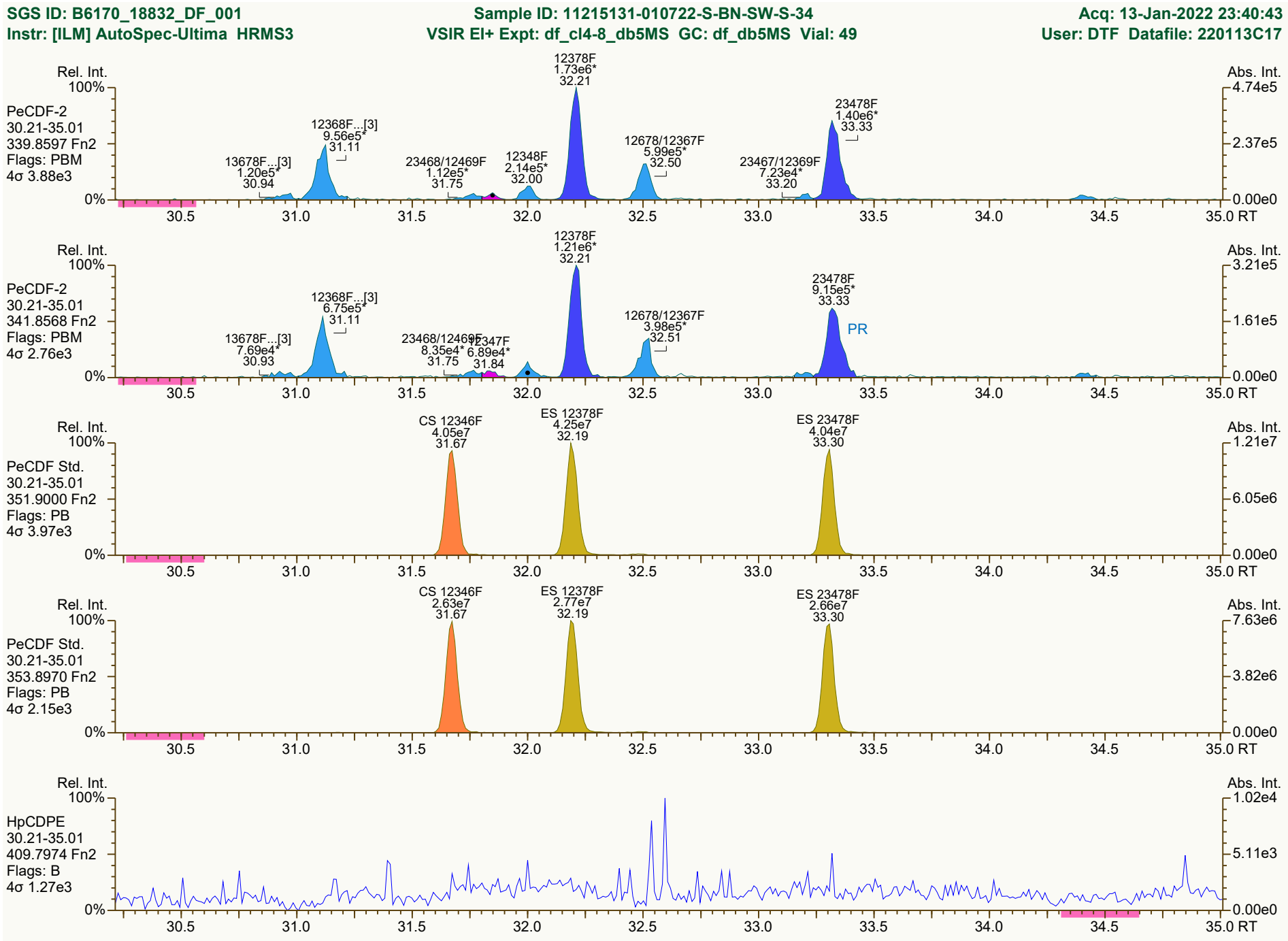
SGS ID: B6170_18832_DF_001 | Sample ID: 11215131-010722-S-BN-SW-S-34 | Acq: 13-Jan-2022 23:40:43

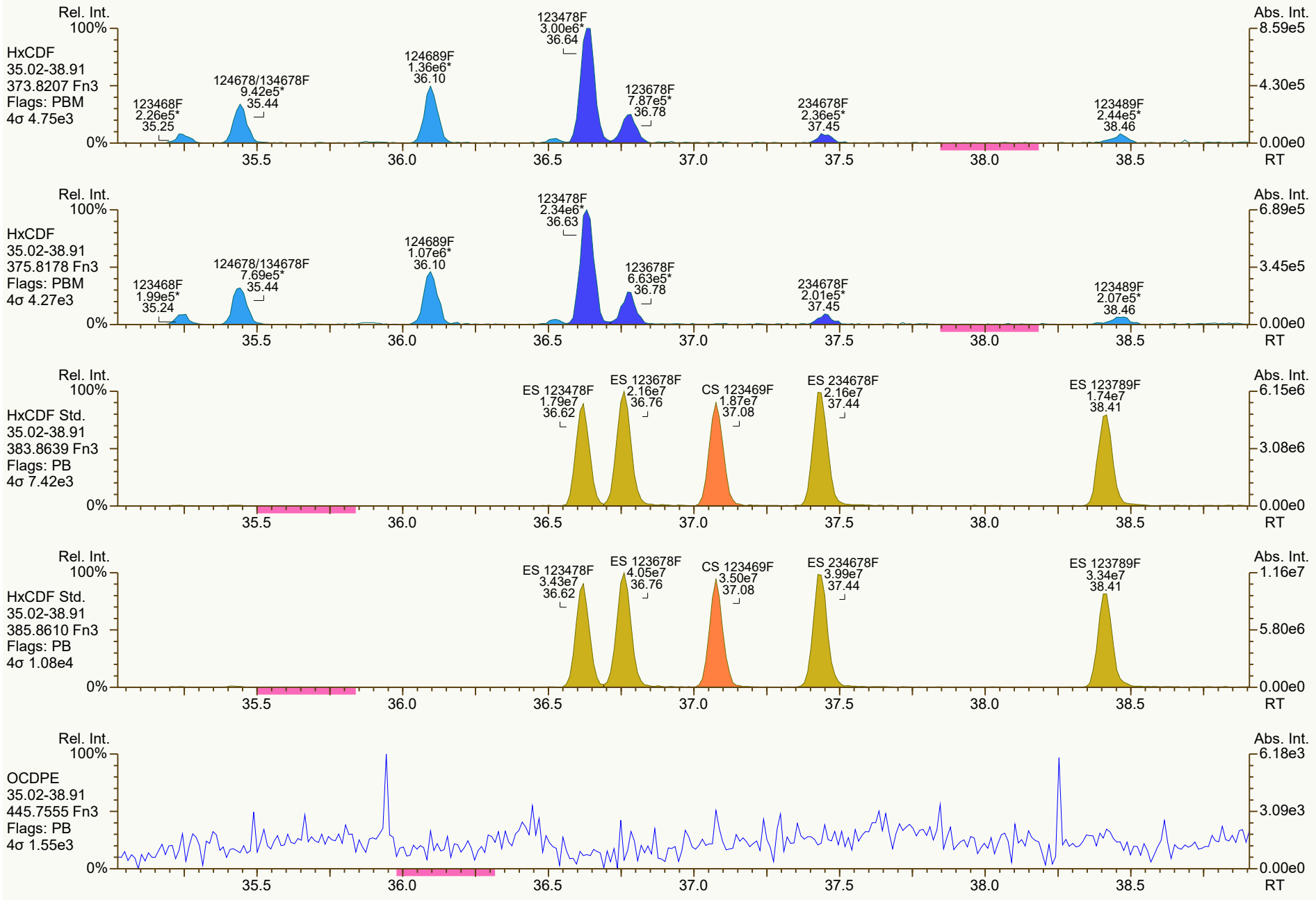
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220113C17

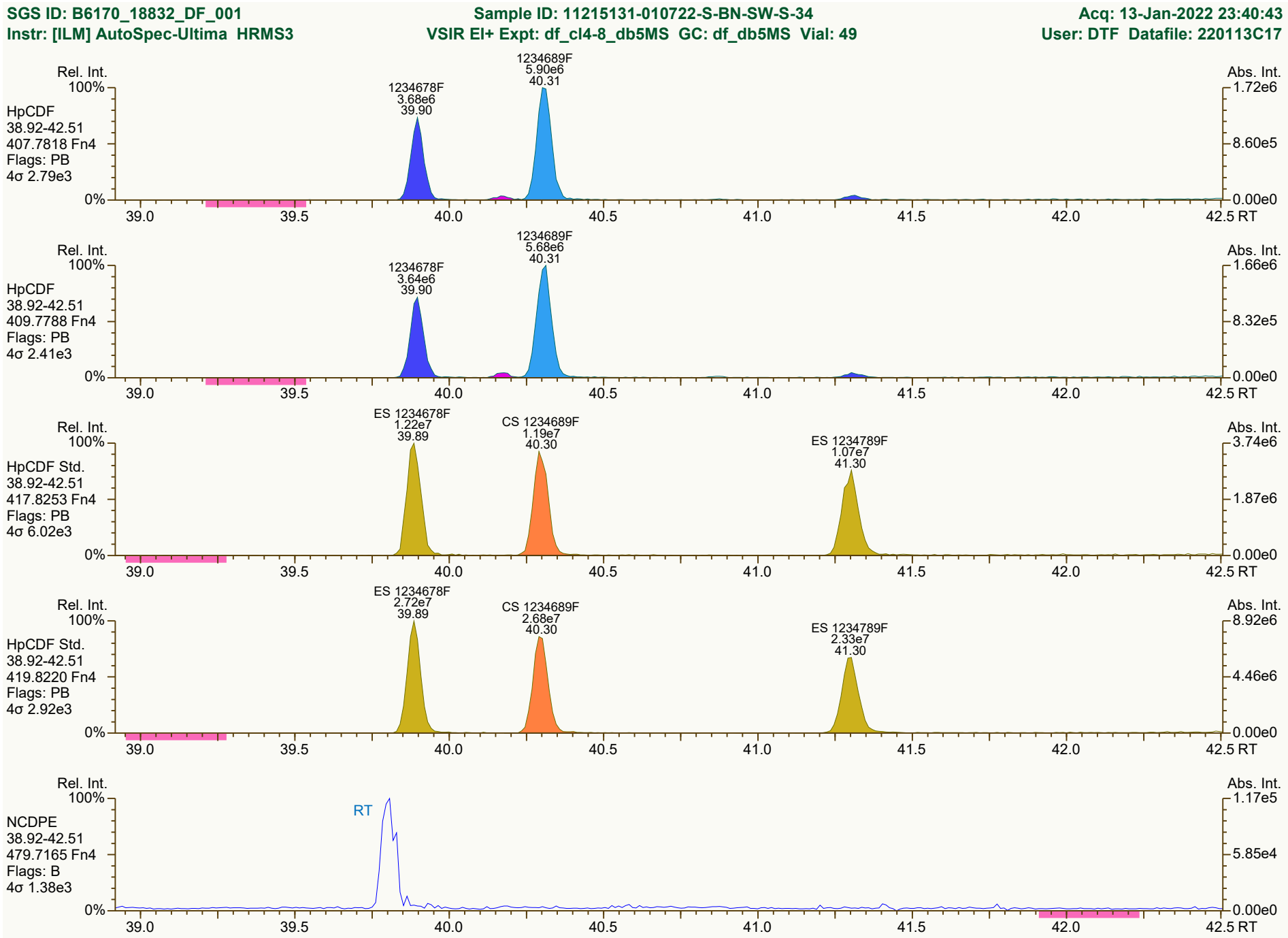


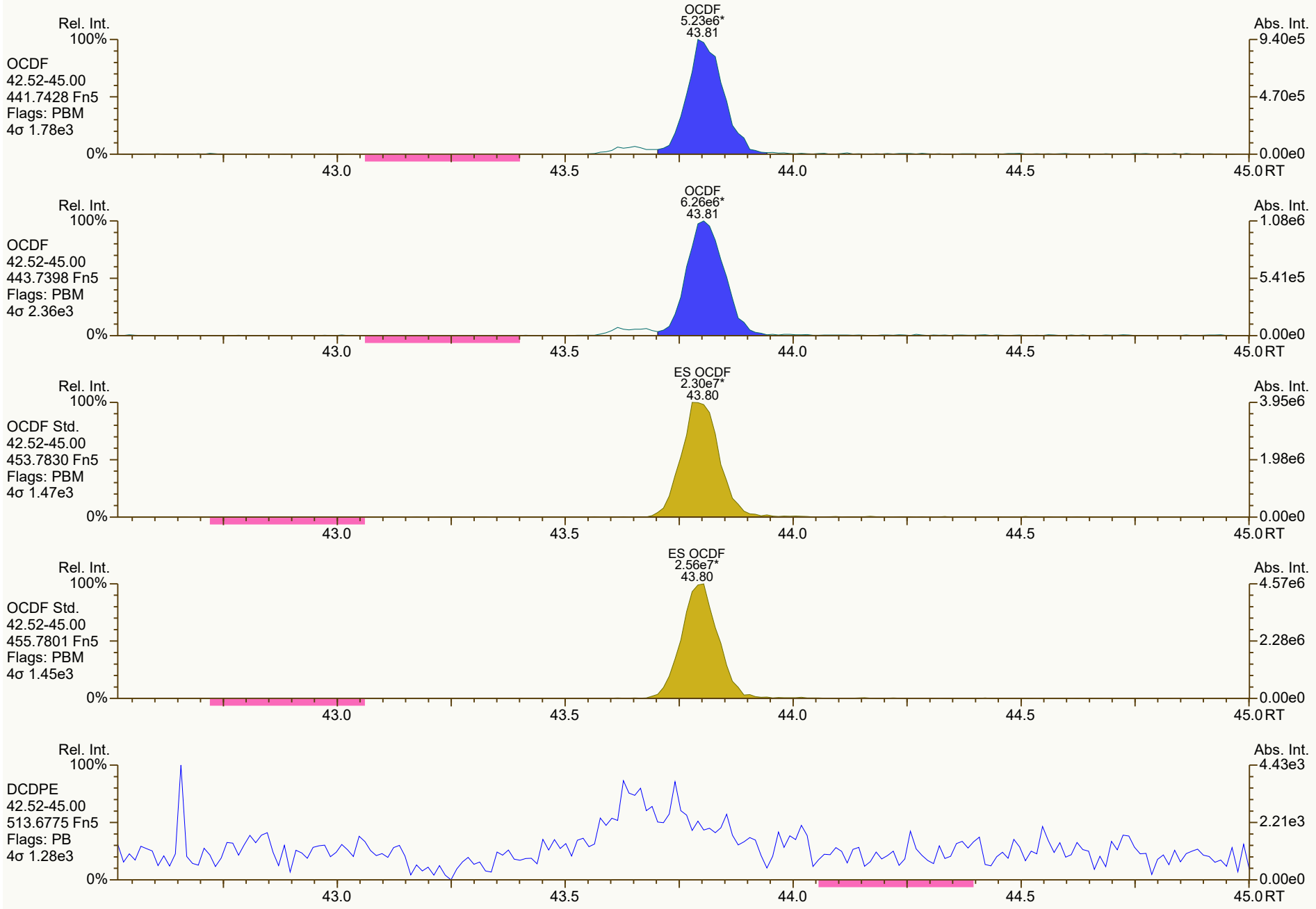
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001.utp_res, saved 14-Jan-2022 10:07 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4165 scc: 617-780 *Revised: 14-Jan-2022 08:28 (DTF) Printed: 14-Jan-2022 10:11 Page 8 of 12*


SGS ID: B6170_18832_DF_001
Sample ID: 11215131-010722-S-BN-SW-S-34
Acq: 13-Jan-2022 23:40:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220113C17
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 3.88e3
12378F 1.73e6* 32.21
12368F...[3] 9.56e5* 31.11
13678F...[3] 1.20e5* 30.94
23468/12469F 1.12e5* 31.75
12348F 2.14e5* 32.00
12678/12367F 5.99e5* 32.50
23467/12369F 7.23e4* 33.20
23478F 1.40e6* 33.33
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.76e3
12378F 1.21e6* 32.21
12368F...[3] 6.75e5* 31.11
13678F...[3] 7.69e4* 30.93
23468/12469F 8.35e4* 31.75
12347F 6.89e4* 31.84
12678/12367F 3.98e5* 32.51
23478F 9.15e5* 33.33
PR
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 3.97e3
CS 12346F 4.05e7 31.67
ES 12378F 4.25e7 32.19
ES 23478F 4.04e7 33.30
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 2.15e3
CS 12346F 2.63e7 31.67
ES 12378F 2.77e7 32.19
ES 23478F 2.66e7 33.30
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.27e3
Rel. Int.
Abs. Int.
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001.utp_res, saved 14-Jan-2022 10:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2375, 6073, 7991 scc: 617-780
Revised: 14-Jan-2022 08:29 (DTF) Printed: 14-Jan-2022 10:11 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 4.75e3
123468F 2.26e5* 35.25
124678/134678F 9.42e5* 35.44
124689F 1.36e6* 36.10
123478F 3.00e6* 36.64
123678F 7.87e5* 36.78
234678F 2.36e5* 37.45
123489F 2.44e5* 38.46
Abs. Int.
8.59e5
4.30e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123468F 1.99e5* 35.24
124678/134678F 7.69e5* 35.44
124689F 1.07e6* 36.10
123478F 2.34e6* 36.63
123678F 6.63e5* 36.78
234678F 2.01e5* 37.45
123489F 2.07e5* 38.46
Abs. Int.
6.89e5
3.45e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 7.42e3
ES 123478F 1.79e7 36.62
ES 123678F 2.16e7 36.76
CS 123469F 1.87e7 37.08
ES 234678F 2.16e7 37.44
ES 123789F 1.74e7 38.41
Abs. Int.
6.15e6
3.08e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 1.08e4
ES 123478F 3.43e7 36.62
ES 123678F 4.05e7 36.76
CS 123469F 3.50e7 37.08
ES 234678F 3.99e7 37.44
ES 123789F 3.34e7 38.41
Abs. Int.
1.16e7
5.80e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: PB
4σ 1.55e3
Abs. Int.
6.18e3
3.09e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6170_18832_DF_001
Sample ID: 11215131-010722-S-BN-SW-S-34
Acq: 13-Jan-2022 23:40:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220113C17
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 2.79e3
1234678F
3.68e6
39.90
1234689F
5.90e6
40.31
1.72e6
8.60e5
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 2.41e3
1234678F
3.64e6
39.90
1234689F
5.68e6
40.31
1.66e6
8.32e5
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 6.02e3
ES 1234678F
1.22e7
39.89
CS 1234689F
1.19e7
40.30
ES 1234789F
1.07e7
41.30
3.74e6
1.87e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.92e3
ES 1234678F
2.72e7
39.89
CS 1234689F
2.68e7
40.30
ES 1234789F
2.33e7
41.30
8.92e6
4.46e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.38e3
RT
1.17e5
5.85e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001.utp_res, saved 14-Jan-2022 10:07 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4248, 0167, 4734 scc: 617-780
PKD: 14-Jan-2022 08:25 Printed: 14-Jan-2022 10:11 Page 11 of 12


OCDF
5.23e6*
43.81
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
9.40e5
4.70e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.26e6*
43.81
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.36e3
1.08e6
5.41e5
ES OCDF
2.30e7*
43.80
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 1.47e3
3.95e6
1.98e6
ES OCDF
2.56e7*
43.80
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 1.45e3
4.57e6
2.28e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.28e3
4.43e3
2.21e3

Lab ID: B6170_18832_DF_001MS **Acq'd:** 14 Jan 2022 00:27 DTF **Wt/Vol:** 13.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34-MS **UTP:** 14-Jan-2022 09:29:32 DTF **J-level:** 0.377 pg/g **Split:** 1 **Checkcode:** 821-135-GXM

Datafile: 220113C18 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	2.69E+07	0.80	Y	1.18	75.5	5322.764	0.146
12378-PeCDD	33.68		1.0006	1.0006	0	1.96E+07	1.56	Y	1.04	70.5	5616.604	0.189
123478-HxCDD	37.64		1.0004	1.0004	0	1.95E+07	1.22	Y	1.09	80.5	7723.531	0.263
123678-HxCDD	37.76		1.0036	1.0035	-0.2	2.25E+07	1.23	Y	1.15	84.1	7723.531	0.25
123789-HxCDD	38.07		1.0114	1.0118	+0.9	2.08E+07	1.25	Y	1.05	81.4	7723.531	0.265
1234678-HpCDD	40.85		1.0003	1.0003	0	7.18E+07	1.04	Y	1.06	356	5418.064	0.245
OCDD	43.63		1.0003	1.0003	0	2.31E+08	0.90	Y	1.13	2,400	6868.661	1.01
2378-TCDF	27.36		1.0007	1.0008	+0.2	8.44E+07	0.79	Y	1.08	182	3222.799	0.0753
12378-PeCDF	32.21		1.0005	1.0005	0	2.88E+07	1.49	Y	1.02	74.4	10688.469	0.246
23478-PeCDF	33.32		1.0006	1.0005	-0.2	2.82E+07	1.52	Y	1.02	76.8	10688.469	0.264
123478-HxCDF	36.63		1.0004	1.0005	+0.2	2.72E+07	1.23	Y	1.27	83.3	21709.4	0.532
123678-HxCDF	36.77		1.0004	1.0005	+0.2	2.79E+07	1.23	Y	1.15	76.5	21709.4	0.514
234678-HxCDF	37.45		1.0005	1.0005	0	2.47E+07	1.25	Y	1.19	72.5	21709.4	0.563
123789-HxCDF	38.42		1.0003	1.0004	+0.2	2.00E+07	1.24	Y	1.16	71.7	21709.4	0.689
1234678-HpCDF	39.89		1.0003	1.0003	0	2.27E+07	1.04	Y	1.37	80.2	3588.583	0.1
1234789-HpCDF	41.30		1.0003	1.0003	0	1.53E+07	1.02	Y	1.31	73.4	3588.583	0.17
OCDF	43.79		1.0002	1.0003	+0.3	2.10E+07	0.90	Y	1.07	188	3804.248	0.449

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0228	1.0231	+0.5	4.52E+07	0.81	Y	1.05	94.2
ES 12378-PeCDD	33.66	1.2165	1.2206	+8.3	4.04E+07	1.59	Y	0.88	100
ES 123478-HxCDD	37.63	0.9916	0.9914	-0.5	3.35E+07	1.27	Y	0.97	101
ES 123678-HxCDD	37.74	0.9947	0.9944	-0.7	3.51E+07	1.26	Y	0.94	109
ES 123789-HxCDD	38.05	1.0025	1.0027	+0.5	3.67E+07	1.27	Y	1.09	98.9
ES 1234678-HpCDD	40.84	1.0747	1.0760	+3.2	2.86E+07	1.07	Y	0.91	92.1
ES OCDD	43.62	1.1475	1.1492	+4.4	2.57E+07	0.91	Y	0.62	60.5
ES 2378-TCDF	27.34	1.0505	1.0514	+1.5	6.47E+07	0.81	Y	1.06	90.4
ES 12378-PeCDF	32.19	1.2337	1.2381	+8.5	5.68E+07	1.54	Y	0.91	92.4
ES 23478-PeCDF	33.30	1.2758	1.2809	+10.2	5.41E+07	1.53	Y	0.88	90.7
ES 123478-HxCDF	36.61	0.9648	0.9647	-0.2	3.88E+07	0.54	Y	1.20	95
ES 123678-HxCDF	36.75	0.9685	0.9684	-0.2	4.77E+07	0.53	Y	1.35	104
ES 234678-HxCDF	37.43	0.9863	0.9862	-0.2	4.32E+07	0.53	Y	1.24	102
ES 123789-HxCDF	38.41	1.0118	1.0119	+0.2	3.61E+07	0.53	Y	1.16	91.9
ES 1234678-HpCDF	39.88	1.0495	1.0507	+2.9	3.12E+07	0.47	Y	0.97	94.6
ES 1234789-HpCDF	41.29	1.0868	1.0879	+2.7	2.40E+07	0.44	Y	0.85	82.9
ES OCDF	43.78	1.1520	1.1535	+3.9	3.15E+07	0.90	Y	0.81	57.4

Lab ID: B6170_18832_DF_001MS | Acq'd: 14 Jan 2022 00:27 DTF | Wt/Vol: 13.28 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34-MS | UTP: 14-Jan-2022 09:29:32 DTF | J-level: 0.377 pg/g | Split: 1 | Checkcode: 821-135-GXM

Datafile: 220113C18 | Report: 14 Jan 2022 10:04 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.58		-	-	-	4.59E+07	0.83	Y	-	-	
JS 1234-TCDF	26.00		-	-	-	6.76E+07	0.80	Y	-	-	
JS 123467-HxCDD	37.95		-	-	-	1.70E+07	1.24	Y	-	-	
CS 37Cl-2378-TCDD	28.24		1.0235	1.0240	+0.8	2.12E+07	n/a	-	1.20	96	
CS 12347-PeCDD	33.16		1.1987	1.2021	+6.8	3.68E+07	1.60	Y	0.75	106	
CS 12346-PeCDF	31.67		1.2139	1.2180	+7.8	5.42E+07	1.52	Y	0.85	94.2	
CS 123469-HxCDF	37.07		0.9771	0.9768	-0.7	3.94E+07	0.52	Y	1.12	104	
CS 1234689-HpCDF	40.29		1.0601	1.0615	+3.4	2.94E+07	0.43	Y	0.89	97.5	
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0235~~	~~1.0240~~	~~+0.8~~	~~2.12E+07~~	~~n/a~~		~~1.15~~	~~102~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.16~~		~~1.1987~~	~~1.2021~~	~~+6.8~~	~~3.68E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~106~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.67~~		~~1.2139~~	~~1.2180~~	~~+7.8~~	~~5.42E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~37.07~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~3.94E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~99.8~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0601~~	~~1.0615~~	~~+3.4~~	~~2.94E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~103~~	

Totals	Conc	EMPC
Total TCDD	148	150
Total PeCDD	112	113
Total HxCDD	365	368
Total HpCDD	983	983
Total Tetra-Octa Dioxins	4010	4020
Total TCDF	427	427
Total PeCDF	323	323
Total HxCDF	502	502
Total HpCDF	186	186
Total Tetra-Octa Furans	1,620	1620
Total Tetra-Octa Dioxins & Furans	5640	5640

Lab ID: B6170_18832_DF_001MS **Acq'd: 14 Jan 2022 00:27 DTF** **Wt/Vol: 13.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-34-MS **UTP: 14-Jan-2022 09:29:32 DTF** **J-level: 0.377 pg/g** **Split: 1** **Checkcode: 821-135-GXM**

Datafile: 220113C18 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.58		0.8733	0.8710	-3.4	7.62E+06	0.77	Y	1.18	21.4	5322.764	0.146
1379-TCDD	NotFnd		0.8860						1.18		5322.764	0.146
1369-TCDD	NotFnd		0.9009						1.18		5322.764	0.146
1469-TCDD	26.16		0.9282	0.9270	-1.9	2.23E+06	0.81	Y	1.18	6.26	5322.764	0.146
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		5322.764	0.146
1378-TCDD	26.58	J EMPC	0.9429	0.9419	-1.6	1.17E+05	0.96	N	1.18	0.33	5322.764	0.146
1268-TCDD	NotFnd		0.9500						1.18		5322.764	0.146
1478-TCDD	NotFnd		0.9584						1.18		5322.764	0.146
1279-TCDD	NotFnd		0.9648						1.18		5322.764	0.146
1234/1269-TCDD	27.56	EMPC	0.9770	0.9765	-0.8	2.59E+05	1.07	N	1.18	0.728	5322.764	0.146
1236-TCDD	NotFnd		0.9821						1.18		5322.764	0.146
1237/1238-TCDD	27.94	EMPC	0.9909	0.9903	-1.0	5.17E+05	0.90	N	1.18	1.45	5322.764	0.146
1239-TCDD	28.10		0.9959	0.9958	-0.2	5.63E+06	0.78	Y	1.18	15.8	5322.764	0.146
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	2.69E+07	0.80	Y	**1.18**	**75.5**	**5322.764**	**0.146**
1278-TCDD	28.58		1.0123	1.0127	+0.7	2.06E+06	0.79	Y	1.18	5.78	5322.764	0.146
1267-TCDD	NotFnd		1.0172						1.18		5322.764	0.146
1289-TCDD	29.23		1.0354	1.0360	+1.1	8.20E+06	0.79	Y	1.18	23	5322.764	0.146
12479/12468-PeCDD	31.16		0.9267	0.9257	-1.9	4.55E+06	1.47	Y	1.04	16.4	5616.604	0.189
12469-PeCDD	31.70		0.9426	0.9416	-1.9	1.02E+06	1.51	Y	1.04	3.66	5616.604	0.189
12368-PeCDD	32.24	J	0.9587	0.9578	-1.7	1.25E+05	1.47	Y	1.04	0.45	5616.604	0.189
12478-PeCDD	32.43	J EMPC	0.9642	0.9634	-1.6	1.26E+05	1.26	N	1.04	0.455	5616.604	0.189
12379-PeCDD	32.54	J EMPC	0.9674	0.9667	-1.4	1.25E+05	1.21	N	1.04	0.449	5616.604	0.189
12369/12467/12489-PeCDD	32.81	J	0.9752	0.9746	-1.2	3.81E+05	1.51	Y	1.04	1.37	5616.604	0.189
12346/12347-PeCDD	NotFnd		0.9861						1.04		5616.604	0.189
12378-PeCDD	33.68		**1.0006**	**1.0006**	**0**	**1.96E+07**	**1.56**	**Y**	**1.04**	**70.5**	**5616.604**	**0.189**
12367-PeCDD	NotFnd		1.0036						1.04		5616.604	0.189
12389-PeCDD	34.13		1.0139	1.0139	0	5.43E+06	1.57	Y	1.04	19.5	5616.604	0.189
124679/124689-HxCDD	35.90		0.9541	0.9542	+0.2	2.09E+07	1.25	Y	1.10	81.8	7723.531	0.259
123468-HxCDD	36.56		0.9715	0.9716	+0.2	8.04E+05	1.22	Y	1.10	3.15	7723.531	0.259
123679/123689-HxCDD	36.85		0.9793	0.9794	+0.2	7.87E+06	1.25	Y	1.10	30.8	7723.531	0.259
123469-HxCDD	36.99		0.9831	0.9830	-0.2	8.68E+05	1.35	Y	1.10	3.4	7723.531	0.259
123478-HxCDD	37.64		**1.0004**	**1.0004**	**0**	**1.95E+07**	**1.22**	**Y**	1.09	**80.5**	**7723.531**	**0.263**
123678-HxCDD	37.76		**1.0036**	**1.0035**	**-0.2**	**2.25E+07**	**1.23**	**Y**	1.15	**84.1**	**7723.531**	**0.25**
123467-HxCDD	37.95	EMPC	1.0089	1.0085	-0.9	6.65E+05	1.44	N	1.10	2.6	7723.531	0.259
123789-HxCDD	38.07		**1.0114**	**1.0118**	**+0.9**	**2.08E+07**	**1.25**	**Y**	1.05	**81.4**	**7723.531**	**0.265**

Lab ID: B6170_18832_DF_001MS **Acq'd: 14 Jan 2022 00:27 DTF** **Wt/Vol: 13.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-34-MS **UTP: 14-Jan-2022 09:29:32 DTF** **J-level: 0.377 pg/g** **Split: 1** **Checkcode: 821-135-GXM**

Datafile: 220113C18 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

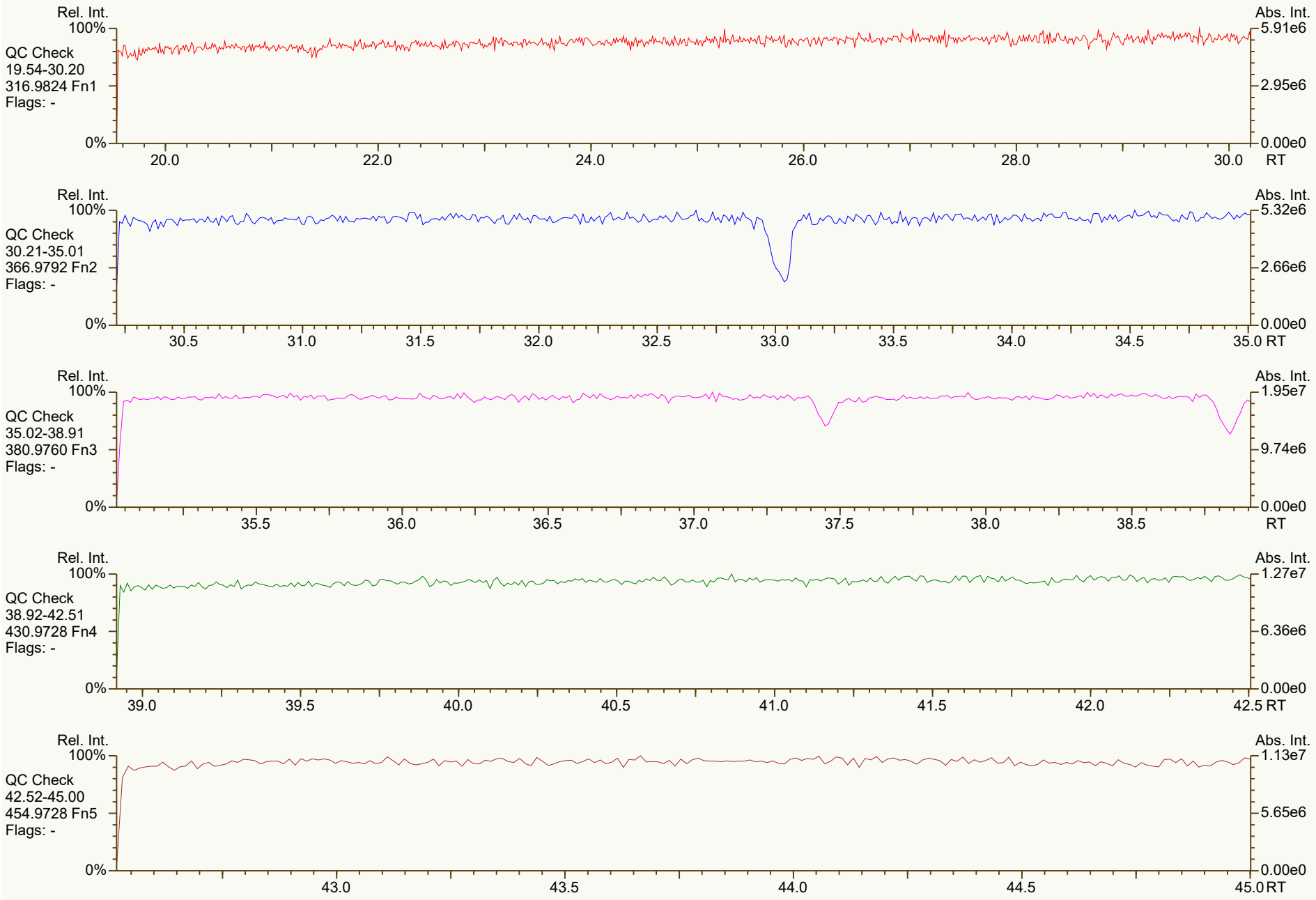
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9835	0	1.26E+08	1.03	Y	1.06	626	5418.064	0.245
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**7.18E+07**	**1.04**	**Y**	**1.06**	**356**	**5418.064**	**0.245**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**2.31E+08**	**0.90**	**Y**	**1.13**	**2,400**	**6868.661**	**1.01**
OCDD-a	43.62		1.0002	1.0002	0	1.47E+07	2.54	Y	0.07	2,400	8390.224	19.4
1368-TCDF	22.44		0.8250	0.8211	-5.3	9.57E+06	0.76	Y	1.08	20.6	3222.799	0.0753
1468-TCDF	23.03		0.8494	0.8426	-9.4	2.82E+05	0.68	Y	1.08	0.608	3222.799	0.0753
2468-TCDF	23.66		0.8684	0.8656	-4.0	3.03E+06	0.81	Y	1.08	6.54	3222.799	0.0753
1346/1246-TCDF	NotFnd		0.8815						1.08		3222.799	0.0753
1347/1378/1247-TCDF	24.18		0.8867	0.8846	-3.0	1.53E+06	0.79	Y	1.08	3.31	3222.799	0.0753
1348-TCDF	NotFnd		0.8966						1.08		3222.799	0.0753
1248/1367/1379-TCDF	24.54		0.9012	0.8977	-5.2	4.57E+06	0.77	Y	1.08	9.86	3222.799	0.0753
1268-TCDF	24.96		0.9148	0.9132	-2.4	1.44E+06	0.79	Y	1.08	3.11	3222.799	0.0753
1467-TCDF	25.09		0.9197	0.9179	-2.7	2.51E+05	0.71	Y	1.08	0.542	3222.799	0.0753
1478-TCDF	25.26		0.9258	0.9241	-2.6	3.53E+06	0.83	Y	1.08	7.62	3222.799	0.0753
1369/1237-TCDF	25.65		0.9390	0.9383	-1.1	1.09E+06	0.84	Y	1.08	2.34	3222.799	0.0753
2467-TCDF	25.77		0.9435	0.9426	-1.4	2.21E+05	0.78	Y	1.08	0.477	3222.799	0.0753
2368-TCDF	25.91		0.9488	0.9478	-1.6	2.50E+06	0.75	Y	1.08	5.39	3222.799	0.0753
1238/1234/1678/1469/1236-TCDF	26.00		0.9527	0.9512	-2.3	4.53E+06	0.79	Y	1.08	9.77	3222.799	0.0753
1278-TCDF	26.47		0.9689	0.9684	-0.8	3.69E+07	0.78	Y	1.08	79.5	3222.799	0.0753
1349-TCDF	NotFnd		0.9730						1.08		3222.799	0.0753
1267-TCDF	26.74		0.9787	0.9782	-0.8	2.15E+06	0.84	Y	1.08	4.64	3222.799	0.0753
2346/1249-TCDF	NotFnd		0.9856						1.08		3222.799	0.0753
2347/1279-TCDF	27.15		0.9934	0.9931	-0.5	1.14E+06	0.79	Y	1.08	2.46	3222.799	0.0753
2348-TCDF	27.25		0.9972	0.9969	-0.5	1.42E+07	0.77	Y	1.08	30.7	3222.799	0.0753
2378-TCDF	**27.36**		**1.0007**	**1.0008**	**+0.2**	**8.44E+07**	**0.79**	**Y**	**1.08**	**182**	**3222.799**	**0.0753**
2367/3467-TCDF	27.73		1.0145	1.0142	-0.5	7.13E+06	0.76	Y	1.08	15.4	3222.799	0.0753
1269-TCDF	27.98		1.0236	1.0235	-0.2	1.54E+06	0.84	Y	1.08	3.31	3222.799	0.0753
1239-TCDF	NotFnd		1.0333						1.08		3222.799	0.0753
1289-TCDF	29.40		1.0740	1.0754	+2.5	1.80E+07	0.78	Y	1.08	38.8	3222.799	0.0753
13468/12468-PeCDF	29.37		0.9138	0.9124	-2.5	5.55E+07	1.54	Y	1.02	147	3131.838	0.0746
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		10688.469	0.255
12368/13478/12478-PeCDF	31.09		0.9661	0.9658	-0.6	1.83E+06	1.69	Y	1.02	4.87	10688.469	0.255
14678-PeCDF	NotFnd		0.9693						1.02		10688.469	0.255
13479-PeCDF	NotFnd		0.9722						1.02		10688.469	0.255
13469/12479-PeCDF	NotFnd		0.9800						1.02		10688.469	0.255
12346-PeCDF	NotFnd		0.9844						1.02		10688.469	0.255

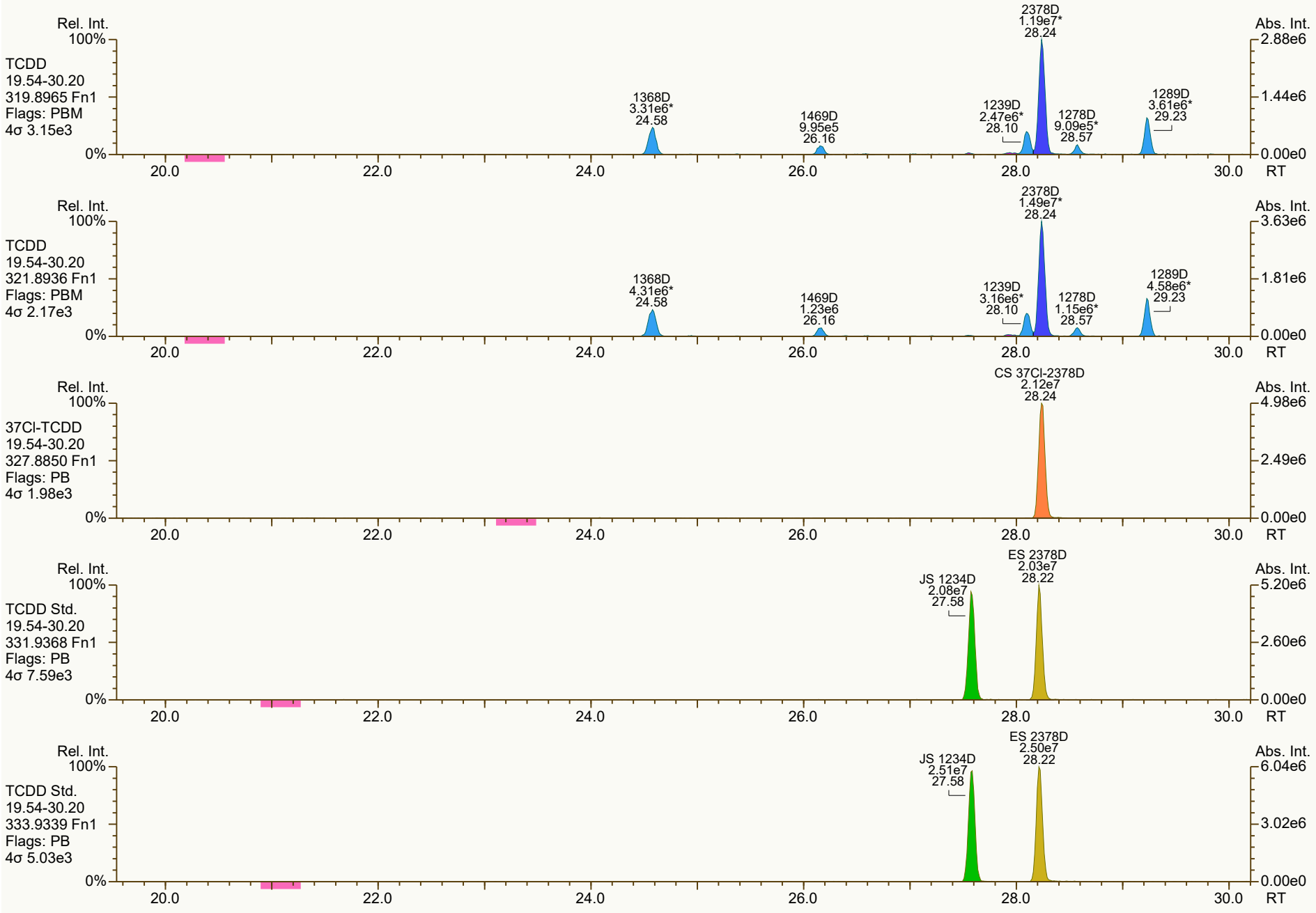
Lab ID: B6170_18832_DF_001MS **Acq'd: 14 Jan 2022 00:27 DTF** **Wt/Vol: 13.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

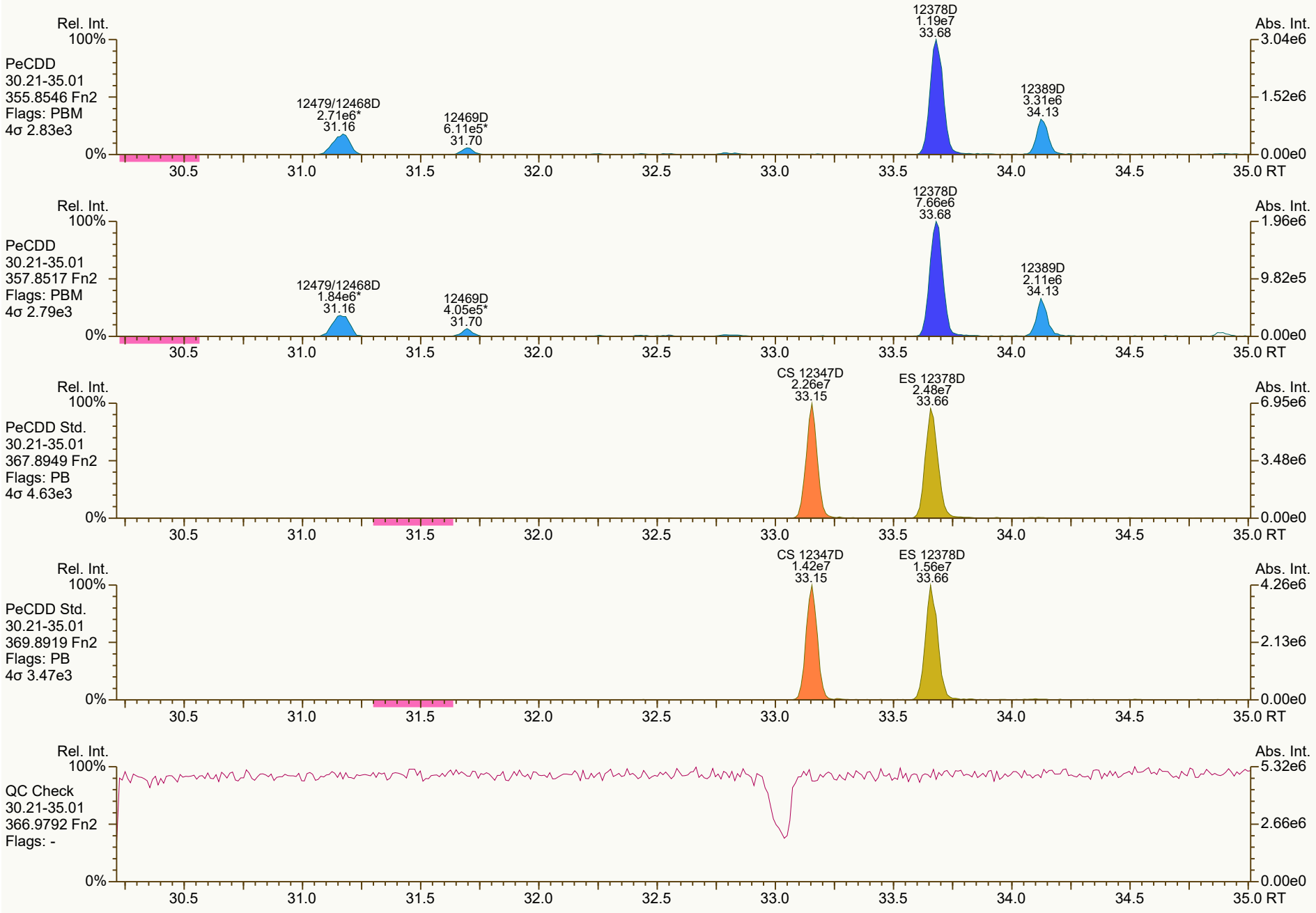
Client ID: 11215131-010722-S-BN-SW-S-34-MS **UTP: 14-Jan-2022 09:29:32 DTF** **J-level: 0.377 pg/g** **Split: 1** **Checkcode: 821-135-GXM**

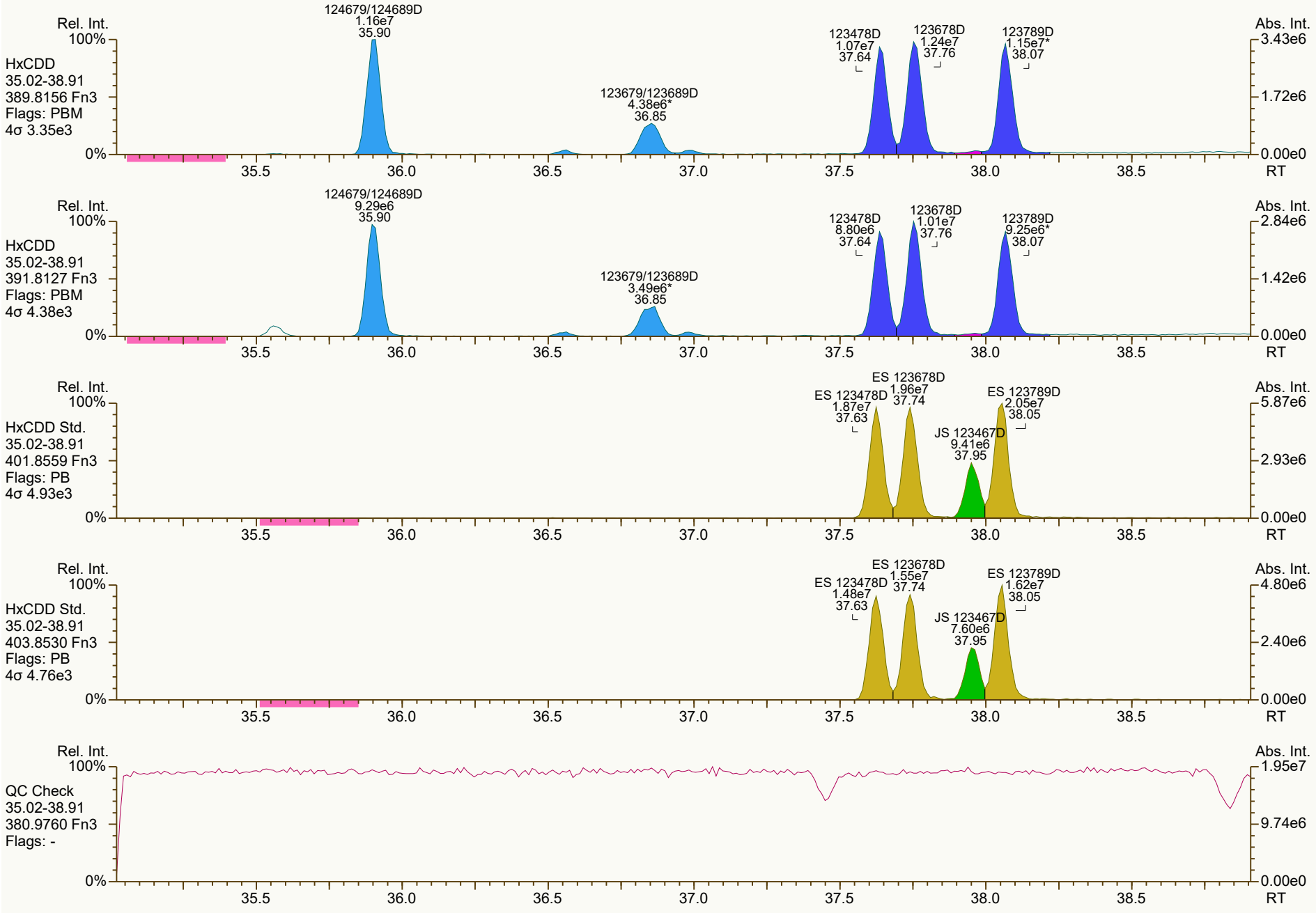
Datafile: 220113C18 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

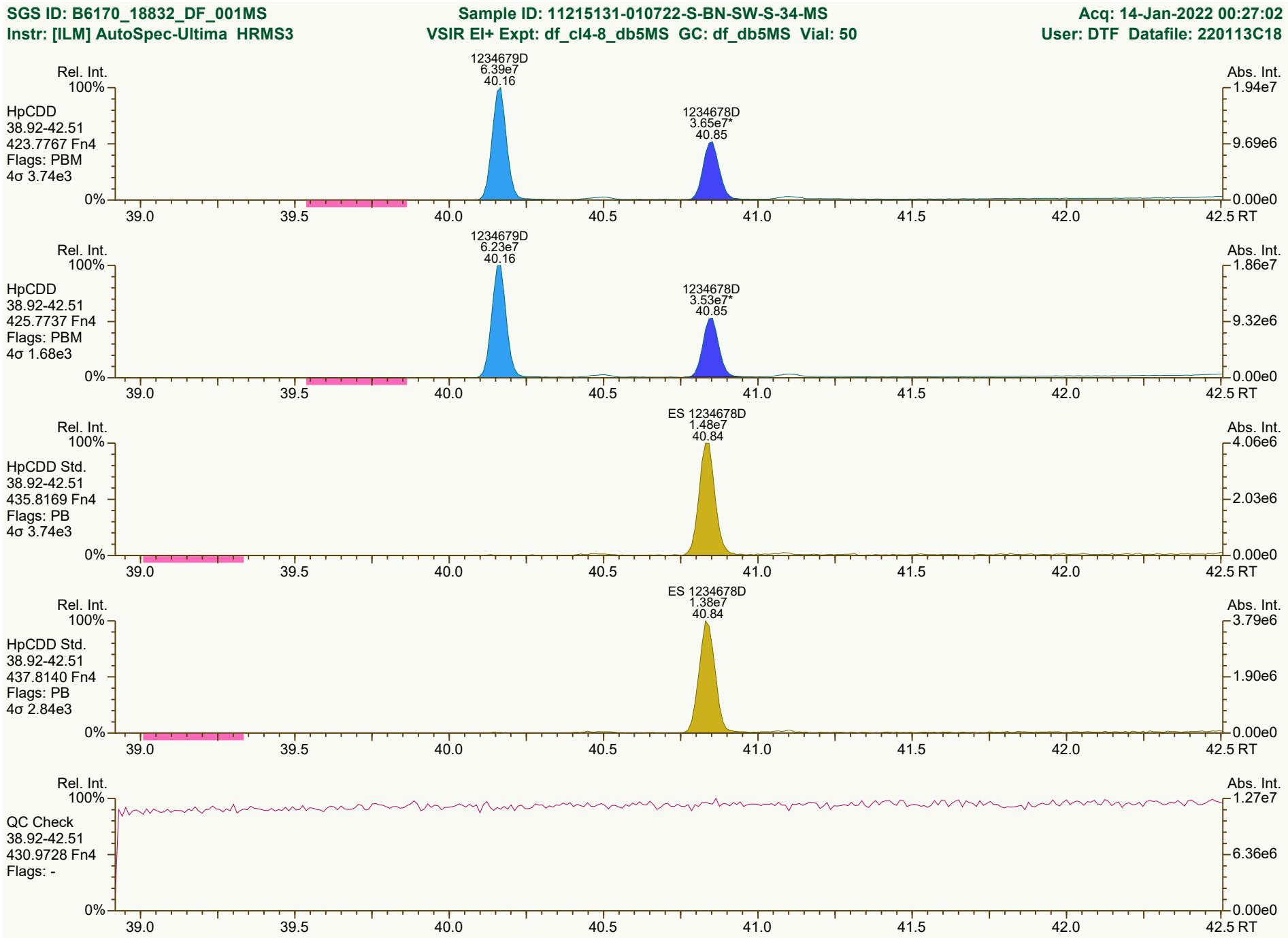
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		10688.469	0.255
12347-PeCDF	NotFnd		0.9890						1.02		10688.469	0.255
12348-PeCDF	32.00	J	0.9942	0.9942	0	2.89E+05	1.69	Y	1.02	0.768	10688.469	0.255
12378-PeCDF	**32.21**		**1.0005**	**1.0005**	**0**	**2.88E+07**	**1.49**	**Y**	**1.02**	**74.4**	**10688.469**	**0.246**
12678/12367-PeCDF	32.49		1.0090	1.0094	+0.8	9.76E+05	1.72	Y	1.02	2.59	10688.469	0.255
12379-PeCDF	NotFnd		1.0142						1.02		10688.469	0.255
12679-PeCDF	NotFnd		0.9933						1.02		10688.469	0.255
23467/12369-PeCDF	NotFnd		0.9969						1.02		10688.469	0.255
23478-PeCDF	**33.32**		**1.0006**	**1.0005**	**-0.2**	**2.82E+07**	**1.52**	**Y**	**1.02**	**76.8**	**10688.469**	**0.264**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10688.469	0.255
12349-PeCDF	NotFnd		1.0107						1.02		10688.469	0.255
12389-PeCDF	34.42		1.0330	1.0335	+1.0	6.02E+06	1.57	Y	1.02	16	10688.469	0.255
123468-HxCDF	35.25		0.9627	0.9627	0	6.28E+07	1.24	Y	1.19	191	21709.4	0.567
124678/134678-HxCDF	35.43	B	0.9682	0.9678	-0.9	7.61E+05	1.21	Y	1.19	2.32	21709.4	0.567
134679-HxCDF	NotFnd		0.9744						1.19		21709.4	0.567
124679-HxCDF	NotFnd		0.9798						1.19		21709.4	0.567
124689-HxCDF	36.09		0.9858	0.9858	0	1.46E+06	1.33	Y	1.19	4.45	21709.4	0.567
123467-HxCDF	NotFnd		0.9973						1.19		21709.4	0.567
123478-HxCDF	**36.63**		**1.0004**	**1.0005**	**+0.2**	**2.72E+07**	**1.23**	**Y**	**1.27**	**83.3**	**21709.4**	**0.532**
123678-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**2.79E+07**	**1.23**	**Y**	**1.15**	**76.5**	**21709.4**	**0.514**
123479-HxCDF	NotFnd		1.0051						1.19		21709.4	0.567
123469-HxCDF	NotFnd		1.0093						1.19		21709.4	0.567
123679-HxCDF	NotFnd		0.9944						1.19		21709.4	0.567
234678-HxCDF	**37.45**		**1.0005**	**1.0005**	**0**	**2.47E+07**	**1.25**	**Y**	**1.19**	**72.5**	**21709.4**	**0.563**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		21709.4	0.567
123789-HxCDF	**38.42**		**1.0003**	**1.0004**	**+0.2**	**2.00E+07**	**1.24**	**Y**	**1.16**	**71.7**	**21709.4**	**0.689**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		21709.4	0.567
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**2.27E+07**	**1.04**	**Y**	**1.37**	**80.2**	**3588.583**	**0.1**
1234679-HpCDF	NotFnd		1.0069						1.34		3588.583	0.13
1234689-HpCDF	40.30		1.0103	1.0106	+0.7	7.83E+06	1.01	Y	1.34	31.9	3588.583	0.13
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**1.53E+07**	**1.02**	**Y**	**1.31**	**73.4**	**3588.583**	**0.17**
OCDF	**43.79**		**1.0002**	**1.0003**	**+0.3**	**2.10E+07**	**0.90**	**Y**	**1.07**	**188**	**3804.248**	**0.449**
OCDF-a	43.78		1.0002	1.0000	-0.5	1.39E+06	2.83	Y	0.07	200	4156.14	7.91


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.91e6
2.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.32e6
2.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.95e7
9.74e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.27e7
6.36e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.13e7
5.65e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.15e3
0%
1368D
3.31e6*
24.58
1469D
9.95e5
26.16
1239D
2.47e6*
28.10
2378D
1.19e7*
28.24
1278D
9.09e5*
28.57
1289D
3.61e6*
29.23
Abs. Int.
2.88e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.17e3
0%
1368D
4.31e6*
24.58
1469D
1.23e6
26.16
1239D
3.16e6*
28.10
2378D
1.49e7*
28.24
1278D
1.15e6*
28.57
1289D
4.58e6*
29.23
Abs. Int.
3.63e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.98e3
0%
CS 37Cl-2378D
2.12e7
28.24
Abs. Int.
4.98e6
2.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.59e3
0%
JS 1234D
2.08e7
27.58
ES 2378D
2.03e7
28.22
Abs. Int.
5.20e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.03e3
0%
JS 1234D
2.51e7
27.58
ES 2378D
2.50e7
28.22
Abs. Int.
6.04e6
3.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

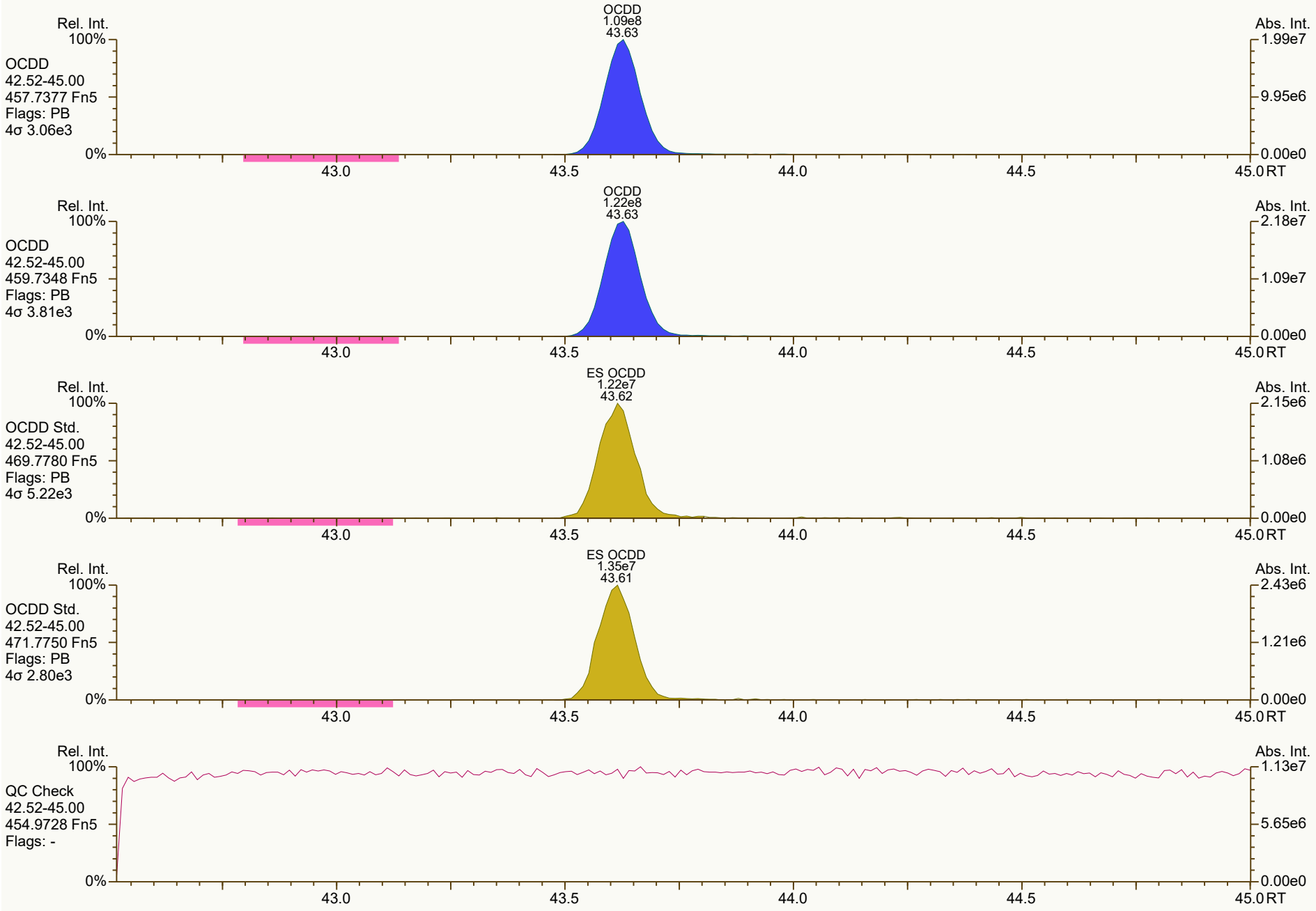

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.83e3
0%
12479/12468D
2.71e6*
31.16
12469D
6.11e5*
31.70
12378D
1.19e7
33.68
12389D
3.31e6
34.13
Abs. Int.
3.04e6
1.52e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.79e3
0%
12479/12468D
1.84e6*
31.16
12469D
4.05e5*
31.70
12378D
7.66e6
33.68
12389D
2.11e6
34.13
Abs. Int.
1.96e6
9.82e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 4.63e3
0%
CS 12347D
2.26e7
33.15
ES 12378D
2.48e7
33.66
Abs. Int.
6.95e6
3.48e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 3.47e3
0%
CS 12347D
1.42e7
33.15
ES 12378D
1.56e7
33.66
Abs. Int.
4.26e6
2.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.32e6
2.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

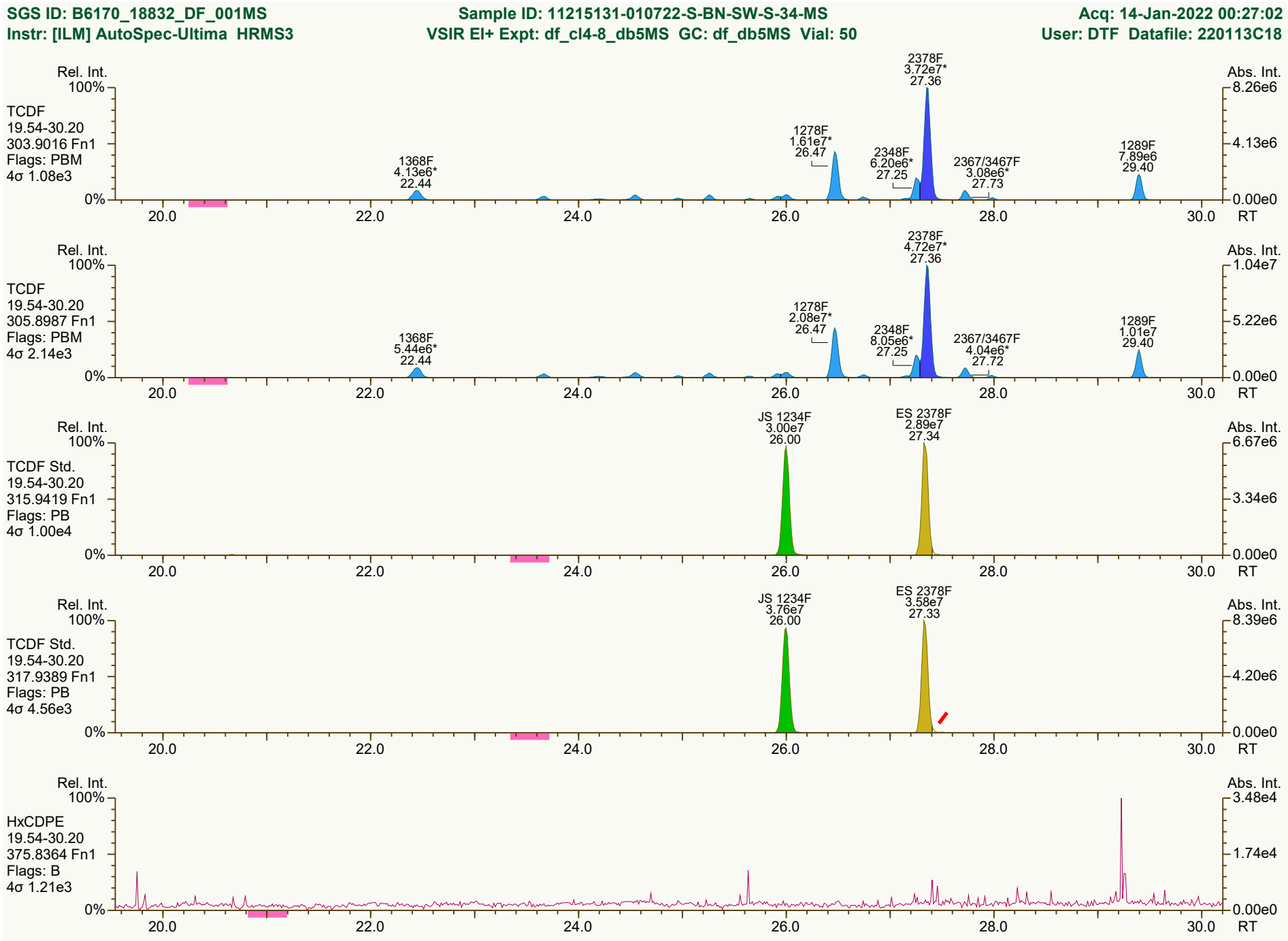

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 3.35e3
0%
124679/124689D
1.16e7
35.90
123679/123689D
4.38e6*
36.85
123478D
1.07e7
37.64
123678D
1.24e7
37.76
123789D
1.15e7*
38.07
Abs. Int.
3.43e6
1.72e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 4.38e3
0%
124679/124689D
9.29e6
35.90
123679/123689D
3.49e6*
36.85
123478D
8.80e6
37.64
123678D
1.01e7
37.76
123789D
9.25e6*
38.07
Abs. Int.
2.84e6
1.42e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 4.93e3
0%
ES 123678D
1.96e7
37.74
ES 123478D
1.87e7
37.63
ES 123789D
2.05e7
38.05
JS 123467D
9.41e6
37.95
Abs. Int.
5.87e6
2.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 4.76e3
0%
ES 123678D
1.55e7
37.74
ES 123478D
1.48e7
37.63
ES 123789D
1.62e7
38.05
JS 123467D
7.60e6
37.95
Abs. Int.
4.80e6
2.40e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.95e7
9.74e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MS.utp_res, saved 14-Jan-2022 09:29 (DTF) *Peak annotation: Areas, Centroids*

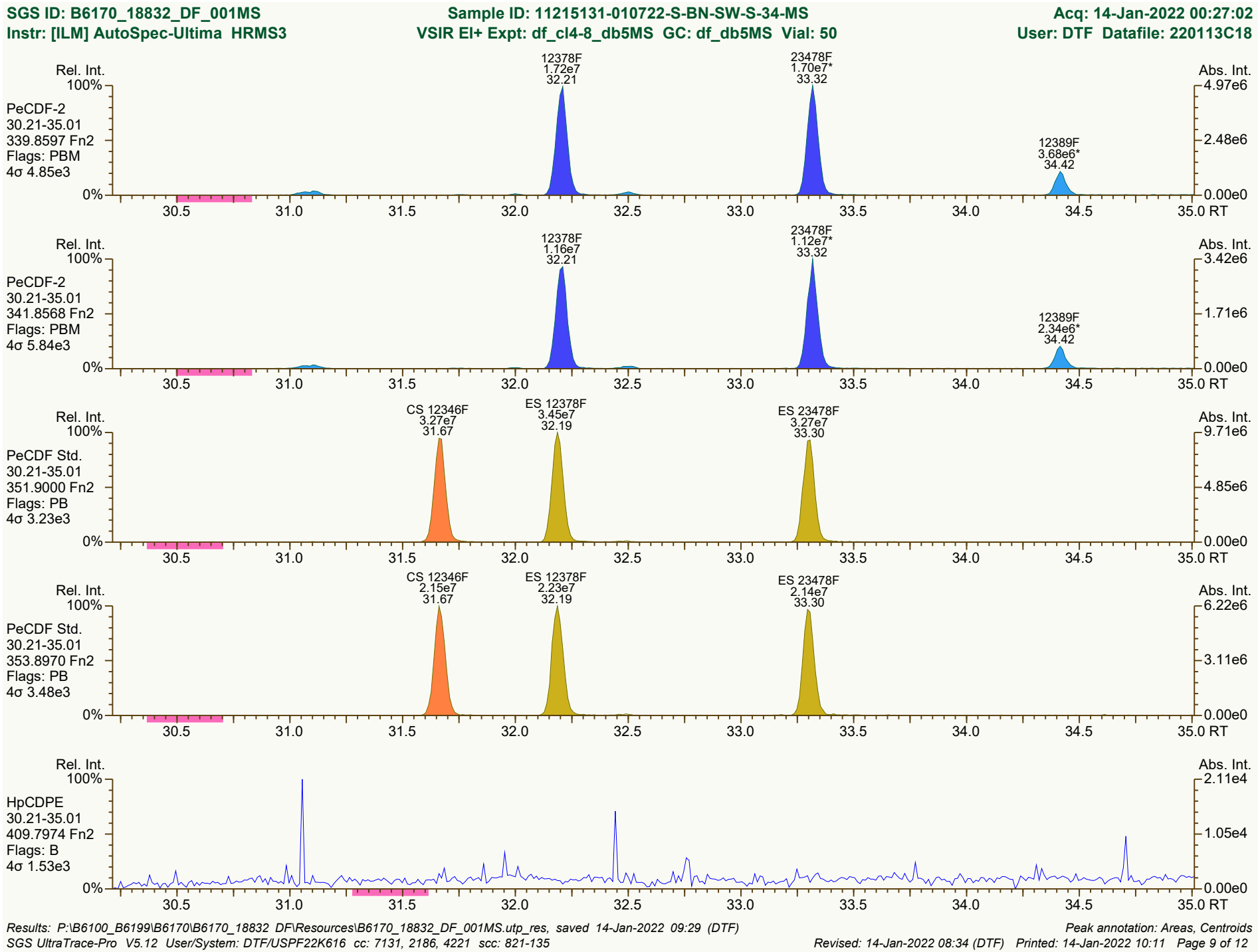
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7795, 2310 scc: 821-135 *Revised: 14-Jan-2022 08:32 (DTF) Printed: 14-Jan-2022 10:11 Page 5 of 12*

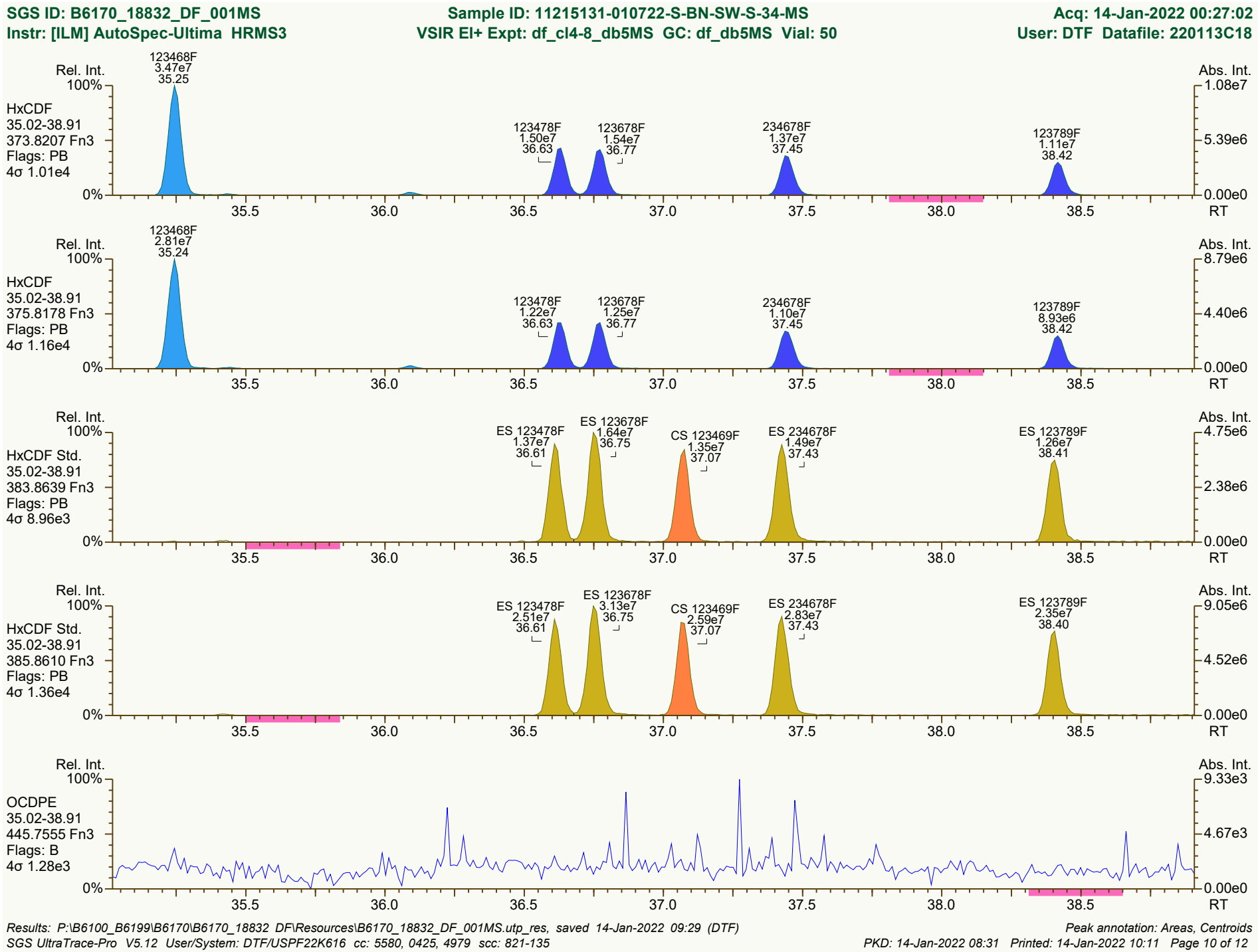

OCDD
1.09e8
43.63
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 3.06e3
0%
Abs. Int.
1.99e7
9.95e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.22e8
43.63
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 3.81e3
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.22e7
43.62
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 5.22e3
0%
Abs. Int.
2.15e6
1.08e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.35e7
43.61
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
2.43e6
1.21e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.13e7
5.65e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

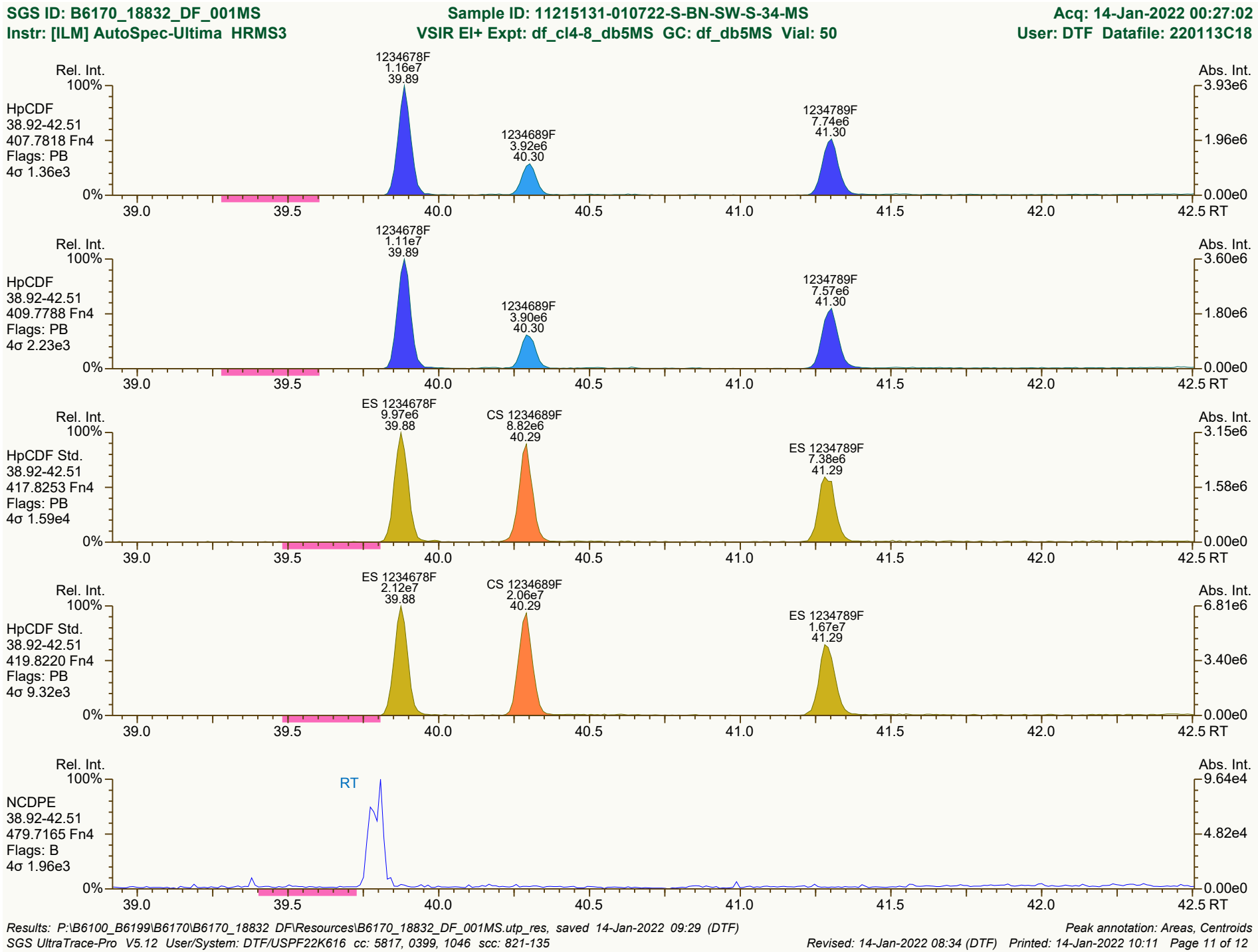


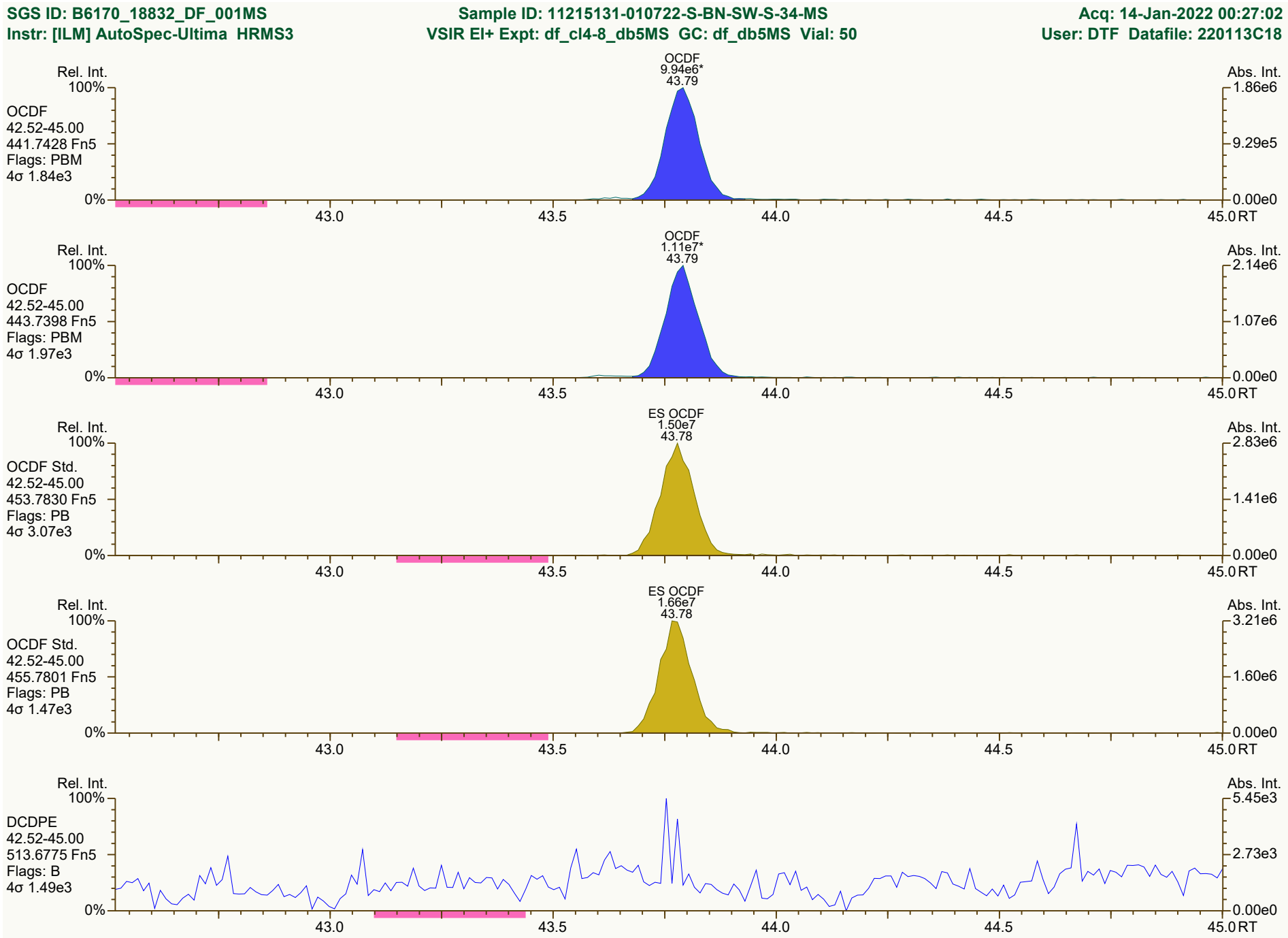
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3139, 5241, 9653 scc: 821-135
Revised: 14-Jan-2022 08:33 (DTF) Printed: 14-Jan-2022 10:11 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.26e3
13468/12468F
3.37e7
29.37
Abs. Int.
8.90e6
4.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.87e3
13468/12468F
2.18e7
29.37
Abs. Int.
5.54e6
2.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.91e6
2.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6170_18832_DF_001MS
Sample ID: 11215131-010722-S-BN-SW-S-34-MS
Acq: 14-Jan-2022 00:27:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220113C18
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 4.85e3
12378F
1.72e7
32.21
23478F
1.70e7*
33.32
12389F
3.68e6*
34.42
4.97e6
2.48e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 5.84e3
12378F
1.16e7
32.21
23478F
1.12e7*
33.32
12389F
2.34e6*
34.42
3.42e6
1.71e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 3.23e3
CS 12346F
3.27e7
31.67
ES 12378F
3.45e7
32.19
ES 23478F
3.27e7
33.30
9.71e6
4.85e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 3.48e3
CS 12346F
2.15e7
31.67
ES 12378F
2.23e7
32.19
ES 23478F
2.14e7
33.30
6.22e6
3.11e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.53e3
2.11e4
1.05e4
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7131, 2186, 4221 scc: 821-135
Revised: 14-Jan-2022 08:34 (DTF) Printed: 14-Jan-2022 10:11 Page 9 of 12


SGS ID: B6170_18832_DF_001MS
Sample ID: 11215131-010722-S-BN-SW-S-34-MS
Acq: 14-Jan-2022 00:27:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220113C18
Rel. Int.
Abs. Int.
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PB
4σ 1.01e4
123468F
3.47e7
35.25
123478F
1.50e7
36.63
123678F
1.54e7
36.77
234678F
1.37e7
37.45
123789F
1.11e7
38.42
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PB
4σ 1.16e4
123468F
2.81e7
35.24
123478F
1.22e7
36.63
123678F
1.25e7
36.77
234678F
1.10e7
37.45
123789F
8.93e6
38.42
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 8.96e3
ES 123478F
1.37e7
36.61
ES 123678F
1.64e7
36.75
CS 123469F
1.35e7
37.07
ES 234678F
1.49e7
37.43
ES 123789F
1.26e7
38.41
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 1.36e4
ES 123478F
2.51e7
36.61
ES 123678F
3.13e7
36.75
CS 123469F
2.59e7
37.07
ES 234678F
2.83e7
37.43
ES 123789F
2.35e7
38.40
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.28e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
1.08e7
5.39e6
0.00e0
8.79e6
4.40e6
4.75e6
2.38e6
9.05e6
4.52e6
9.33e3
4.67e3
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5580, 0425, 4979 scc: 821-135
PKD: 14-Jan-2022 08:31 Printed: 14-Jan-2022 10:11 Page 10 of 12


SGS ID: B6170_18832_DF_001MS
Sample ID: 11215131-010722-S-BN-SW-S-34-MS
Acq: 14-Jan-2022 00:27:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220113C18
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 1.36e3
1234678F
1.16e7
39.89
1234689F
3.92e6
40.30
1234789F
7.74e6
41.30
3.93e6
1.96e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 2.23e3
1234678F
1.11e7
39.89
1234689F
3.90e6
40.30
1234789F
7.57e6
41.30
3.60e6
1.80e6
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.59e4
ES 1234678F
9.97e6
39.88
CS 1234689F
8.82e6
40.29
ES 1234789F
7.38e6
41.29
3.15e6
1.58e6
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 9.32e3
ES 1234678F
2.12e7
39.88
CS 1234689F
2.06e7
40.29
ES 1234789F
1.67e7
41.29
6.81e6
3.40e6
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.96e3
RT
9.64e4
4.82e4
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5817, 0399, 1046 scc: 821-135
Revised: 14-Jan-2022 08:34 (DTF) Printed: 14-Jan-2022 10:11 Page 11 of 12


SGS ID: B6170_18832_DF_001MS
Sample ID: 11215131-010722-S-BN-SW-S-34-MS
Acq: 14-Jan-2022 00:27:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220113C18
OCDF
9.94e6*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.86e6
9.29e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.11e7*
43.79
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.97e3
2.14e6
1.07e6
ES OCDF
1.50e7
43.78
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 3.07e3
2.83e6
1.41e6
ES OCDF
1.66e7
43.78
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.47e3
3.21e6
1.60e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.49e3
5.45e3
2.73e3
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MS.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7722, 7288, 6580 scc: 821-135
Revised: 14-Jan-2022 08:34 (DTF) Printed: 14-Jan-2022 10:11 Page 12 of 12

Lab ID: B6170_18832_DF_001MSD **Acq'd:** 14 Jan 2022 01:13 DTF **Wt/Vol:** 13.82 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34-MSD **UTP:** 14-Jan-2022 09:29:32 DTF **J-level:** 0.362 pg/g **Split:** 1 **Checkcode:** 263-562-DMK

Datafile: 220113C19 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	3.54E+07	0.79	Y	1.18	79.2	4245.694	0.094
12378-PeCDD	33.67		1.0006	1.0006	0	2.45E+07	1.56	Y	1.04	68.9	5314.42	0.128
123478-HxCDD	37.64		1.0004	1.0004	0	2.57E+07	1.22	Y	1.09	78	4777.971	0.129
123678-HxCDD	37.76		1.0036	1.0036	0	3.08E+07	1.25	Y	1.15	82.4	4777.971	0.114
123789-HxCDD	38.07		1.0114	1.0117	+0.7	2.66E+07	1.23	Y	1.05	77.4	4777.971	0.12
1234678-HpCDD	40.86		1.0003	1.0003	0	1.19E+08	1.03	Y	1.06	398	6313.429	0.186
OCDD	43.63		1.0003	1.0003	0	5.07E+08	0.90	Y	1.13	2,800	6099.589	0.441
2378-TCDF	27.37		1.0007	1.0008	+0.2	1.13E+08	0.78	Y	1.08	189	3686.345	0.0658
12378-PeCDF	32.21		1.0005	1.0006	+0.2	3.48E+07	1.51	Y	1.02	73.9	9599.219	0.177
23478-PeCDF	33.32		1.0006	1.0005	-0.2	3.95E+07	1.52	Y	1.02	76.5	9599.219	0.159
123478-HxCDF	36.63		1.0004	1.0005	+0.2	3.59E+07	1.25	Y	1.27	81.4	19598.311	0.369
123678-HxCDF	36.77		1.0004	1.0005	+0.2	3.72E+07	1.25	Y	1.15	77	19598.311	0.347
234678-HxCDF	37.44		1.0005	1.0005	0	3.40E+07	1.23	Y	1.19	72.3	19598.311	0.351
123789-HxCDF	38.42		1.0003	1.0004	+0.2	2.95E+07	1.23	Y	1.16	72.5	19598.311	0.388
1234678-HpCDF	39.89		1.0003	1.0003	0	3.31E+07	1.01	Y	1.37	83.6	3081.414	0.0618
1234789-HpCDF	41.31		1.0003	1.0003	0	2.47E+07	1.03	Y	1.31	74.1	3081.414	0.0894
OCDF	43.80		1.0002	1.0002	0	4.21E+07	0.89	Y	1.07	194	4033.887	0.247

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0228	1.0230	+0.3	5.47E+07	0.81	Y	1.05	89.7
ES 12378-PeCDD	33.65	1.2165	1.2197	+6.5	4.97E+07	1.58	Y	0.88	97
ES 123478-HxCDD	37.63	0.9916	0.9914	-0.5	4.38E+07	1.31	Y	0.97	96.5
ES 123678-HxCDD	37.75	0.9947	0.9945	-0.5	4.71E+07	1.25	Y	0.94	107
ES 123789-HxCDD	38.05	1.0025	1.0026	+0.2	4.75E+07	1.24	Y	1.09	93.1
ES 1234678-HpCDD	40.84	1.0747	1.0761	+3.4	4.06E+07	1.07	Y	0.91	95.3
ES OCDD	43.62	1.1475	1.1492	+4.4	4.66E+07	0.90	Y	0.62	79.9
ES 2378-TCDF	27.35	1.0505	1.0514	+1.5	8.00E+07	0.79	Y	1.06	84.5
ES 12378-PeCDF	32.19	1.2337	1.2376	+7.5	6.66E+07	1.53	Y	0.91	81.8
ES 23478-PeCDF	33.30	1.2758	1.2803	+9.0	7.33E+07	1.58	Y	0.88	92.8
ES 123478-HxCDF	36.62	0.9648	0.9648	0	5.02E+07	0.52	Y	1.20	89.7
ES 123678-HxCDF	36.75	0.9685	0.9684	-0.2	6.07E+07	0.52	Y	1.35	96.1
ES 234678-HxCDF	37.43	0.9863	0.9861	-0.4	5.73E+07	0.53	Y	1.24	98.7
ES 123789-HxCDF	38.41	1.0118	1.0120	+0.5	5.06E+07	0.52	Y	1.16	93.8
ES 1234678-HpCDF	39.88	1.0495	1.0508	+3.1	4.18E+07	0.44	Y	0.97	92.5
ES 1234789-HpCDF	41.30	1.0868	1.0882	+3.5	3.69E+07	0.45	Y	0.85	92.9
ES OCDF	43.79	1.1520	1.1537	+4.5	5.87E+07	0.88	Y	0.81	77.8

Lab ID: B6170_18832_DF_001MSD | **Acq'd:** 14 Jan 2022 01:13 DTF | **Wt/Vol:** 13.82 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-34-MSD | **UTP:** 14-Jan-2022 09:29:32 DTF | **J-level:** 0.362 pg/g | **Split:** 1 | **Checkcode:** 263-562-DMK

Datafile: 220113C19 | **Report:** 14 Jan 2022 10:04 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.59		-	-	-	5.83E+07	0.79	Y	-	-	
JS 1234-TCDF	26.01		-	-	-	8.94E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.95		-	-	-	2.33E+07	1.21	Y	-	-	
CS 37Cl-2378-TCDD	28.25		1.0235	1.0238	+0.5	2.53E+07	n/a	-	1.20	90.4	
CS 12347-PeCDD	33.15		1.1987	1.2017	+6.0	5.21E+07	1.62	Y	0.75	119	
CS 12346-PeCDF	31.67		1.2139	1.2177	+7.2	6.58E+07	1.59	Y	0.85	86.5	
CS 123469-HxCDF	37.07		0.9771	0.9769	-0.4	5.45E+07	0.53	Y	1.12	104	
CS 1234689-HpCDF	40.29		1.0601	1.0616	+3.6	4.18E+07	0.46	Y	0.89	101	
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0235~~	~~1.0238~~	~~+0.5~~	~~2.53E+07~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.15~~		~~1.1987~~	~~1.2017~~	~~+6.0~~	~~5.21E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~122~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.67~~		~~1.2139~~	~~1.2177~~	~~+7.2~~	~~6.58E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.07~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~5.45E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~108~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0601~~	~~1.0616~~	~~+3.6~~	~~4.18E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~109~~	

Totals	Conc	EMPC
Total TCDD	153	154
Total PeCDD	108	109
Total HxCDD	351	353
Total HpCDD	1040	1040
Total Tetra-Octa Dioxins	4450	4450
Total TCDF	444	444
Total PeCDF	312	312
Total HxCDF	480	480
Total HpCDF	191	191
Total Tetra-Octa Furans	1,620	1620
Total Tetra-Octa Dioxins & Furans	6070	6080

Lab ID: B6170_18832_DF_001MSD | **Acq'd: 14 Jan 2022 01:13 DTF** | **Wt/Vol: 13.82 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-34-MSD | **UTP: 14-Jan-2022 09:29:32 DTF** | **J-level: 0.362 pg/g** | **Split: 1** | **Checkcode: 263-562-DMK**

Datafile: 220113C19 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.59		0.8733	0.8712	-3.1	9.65E+06	0.82	Y	1.18	21.6	4245.694	0.094
1379-TCDD	24.95	J	0.8860	0.8841	-2.8	1.54E+05	0.87	Y	1.18	0.345	4245.694	0.094
1369-TCDD	25.38	J EMPC	0.9009	0.8992	-2.6	8.70E+04	0.92	N	1.18	0.194	4245.694	0.094
1469-TCDD	26.17		0.9282	0.9273	-1.4	2.93E+06	0.79	Y	1.18	6.55	4245.694	0.094
1247/1246/1248/1249-TCDD	26.40	J	0.9365	0.9352	-2.1	1.49E+05	0.81	Y	1.18	0.333	4245.694	0.094
1378-TCDD	26.59	J EMPC	0.9429	0.9422	-1.1	1.54E+05	0.91	N	1.18	0.343	4245.694	0.094
1268-TCDD	NotFnd		0.9500						1.18		4245.694	0.094
1478-TCDD	27.04	J EMPC	0.9584	0.9581	-0.5	1.16E+05	0.96	N	1.18	0.26	4245.694	0.094
1279-TCDD	27.21	J	0.9648	0.9641	-1.1	1.13E+05	0.82	Y	1.18	0.253	4245.694	0.094
1234/1269-TCDD	27.56		0.9770	0.9766	-0.7	3.00E+05	0.75	Y	1.18	0.67	4245.694	0.094
1236-TCDD	NotFnd		0.9821						1.18		4245.694	0.094
1237/1238-TCDD	27.96		0.9909	0.9906	-0.5	6.99E+05	0.88	Y	1.18	1.56	4245.694	0.094
1239-TCDD	28.11		0.9959	0.9959	0	6.56E+06	0.80	Y	1.18	14.7	4245.694	0.094
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	3.54E+07	0.79	Y	**1.18**	**79.2**	**4245.694**	**0.094**
1278-TCDD	28.58		1.0123	1.0126	+0.5	2.71E+06	0.79	Y	1.18	6.05	4245.694	0.094
1267-TCDD	NotFnd		1.0172						1.18		4245.694	0.094
1289-TCDD	29.24		1.0354	1.0359	+0.9	9.78E+06	0.79	Y	1.18	21.9	4245.694	0.094
12479/12468-PeCDD	31.17		0.9267	0.9264	-0.6	5.71E+06	1.50	Y	1.04	16	5314.42	0.128
12469-PeCDD	31.70		0.9426	0.9421	-1.0	1.29E+06	1.50	Y	1.04	3.61	5314.42	0.128
12368-PeCDD	32.25	J	0.9587	0.9583	-0.8	1.45E+05	1.52	Y	1.04	0.407	5314.42	0.128
12478-PeCDD	32.44	J	0.9642	0.9640	-0.4	1.72E+05	1.45	Y	1.04	0.483	5314.42	0.128
12379-PeCDD	32.54	J	0.9674	0.9671	-0.6	1.70E+05	1.32	Y	1.04	0.479	5314.42	0.128
12369/12467/12489-PeCDD	32.81	J	0.9752	0.9751	-0.2	4.39E+05	1.67	Y	1.04	1.23	5314.42	0.128
12346/12347-PeCDD	33.18	J EMPC	0.9861	0.9860	-0.2	8.30E+04	2.32	N	1.04	0.233	5314.42	0.128
12378-PeCDD	33.67		**1.0006**	**1.0006**	**0**	**2.45E+07**	**1.56**	**Y**	**1.04**	**68.9**	**5314.42**	**0.128**
12367-PeCDD	NotFnd		1.0036						1.04		5314.42	0.128
12389-PeCDD	34.12		1.0139	1.0139	0	6.14E+06	1.59	Y	1.04	17.3	5314.42	0.128
124679/124689-HxCDD	35.90		0.9541	0.9542	+0.2	2.65E+07	1.25	Y	1.10	76	4777.971	0.121
123468-HxCDD	36.56		0.9715	0.9717	+0.4	1.08E+06	1.36	Y	1.10	3.11	4777.971	0.121
123679/123689-HxCDD	36.85		0.9793	0.9794	+0.2	1.07E+07	1.24	Y	1.10	30.6	4777.971	0.121
123469-HxCDD	36.99		0.9831	0.9831	0	1.22E+06	1.34	Y	1.10	3.48	4777.971	0.121
123478-HxCDD	37.64		**1.0004**	**1.0004**	**0**	**2.57E+07**	**1.22**	**Y**	1.09	**78**	**4777.971**	**0.129**
123678-HxCDD	37.76		**1.0036**	**1.0036**	**0**	**3.08E+07**	**1.25**	**Y**	1.15	**82.4**	**4777.971**	**0.114**
123467-HxCDD	37.96	EMPC	1.0089	1.0089	0	7.18E+05	1.50	N	1.10	2.06	4777.971	0.121
123789-HxCDD	38.07		**1.0114**	**1.0117**	**+0.7**	**2.66E+07**	**1.23**	**Y**	1.05	**77.4**	**4777.971**	**0.12**

Lab ID: B6170_18832_DF_001MSD | **Acq'd: 14 Jan 2022 01:13 DTF** | **Wt/Vol: 13.82 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-34-MSD | **UTP: 14-Jan-2022 09:29:32 DTF** | **J-level: 0.362 pg/g** | **Split: 1** | **Checkcode: 263-562-DMK**

Datafile: 220113C19 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

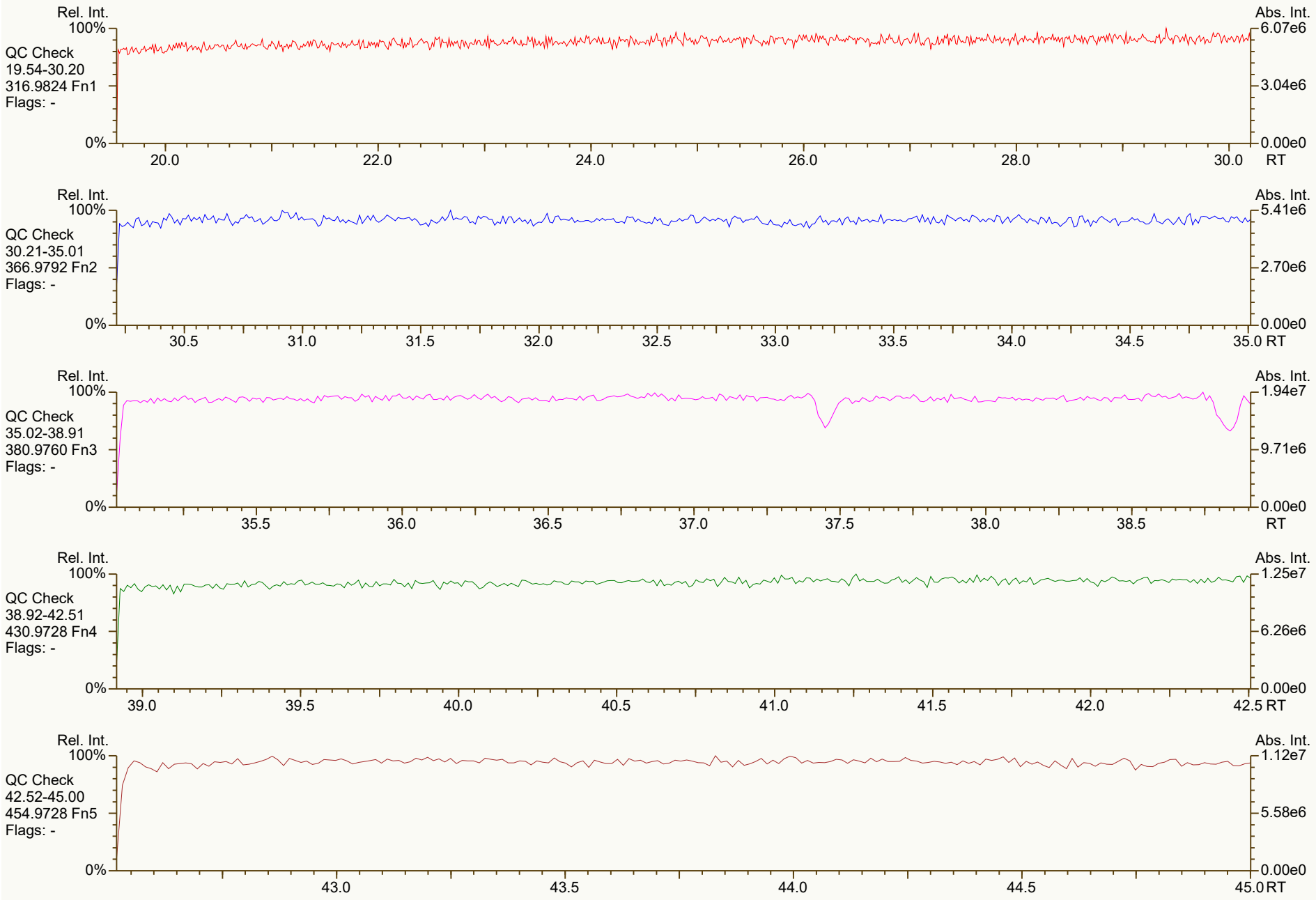
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9835	0	1.92E+08	1.04	Y	1.06	645	6313.429	0.186
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**1.19E+08**	**1.03**	**Y**	**1.06**	**398**	**6313.429**	**0.186**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**5.07E+08**	**0.90**	**Y**	**1.13**	**2,800**	**6099.589**	**0.441**
OCDD-a	43.62		1.0002	1.0002	0	3.26E+07	2.48	Y	0.07	2,810	3773.683	4.26
1368-TCDF	22.46		0.8250	0.8214	-4.9	1.24E+07	0.80	Y	1.08	20.7	3686.345	0.0658
1468-TCDF	23.05		0.8494	0.8430	-8.9	3.87E+05	0.86	Y	1.08	0.648	3686.345	0.0658
2468-TCDF	23.68		0.8684	0.8658	-3.7	3.75E+06	0.79	Y	1.08	6.28	3686.345	0.0658
1346/1246-TCDF	NotFnd		0.8815						1.08		3686.345	0.0658
1347/1378/1247-TCDF	24.20		0.8867	0.8849	-2.6	2.11E+06	0.76	Y	1.08	3.53	3686.345	0.0658
1348-TCDF	24.55		0.8966	0.8979	+1.9	6.27E+06	0.78	Y	1.08	10.5	3686.345	0.0658
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		3686.345	0.0658
1268-TCDF	24.98		0.9148	0.9134	-2.1	2.04E+06	0.76	Y	1.08	3.42	3686.345	0.0658
1467-TCDF	25.11		0.9197	0.9184	-2.0	3.18E+05	0.82	Y	1.08	0.534	3686.345	0.0658
1478-TCDF	25.27		0.9258	0.9242	-2.4	4.89E+06	0.78	Y	1.08	8.2	3686.345	0.0658
1369/1237-TCDF	25.66		0.9390	0.9383	-1.1	1.39E+06	0.79	Y	1.08	2.33	3686.345	0.0658
2467-TCDF	25.78		0.9435	0.9428	-1.1	2.66E+05	0.78	Y	1.08	0.445	3686.345	0.0658
2368-TCDF	25.92		0.9488	0.9479	-1.4	3.55E+06	0.80	Y	1.08	5.95	3686.345	0.0658
1238/1234/1678/1469/1236-TCDF	26.01		0.9527	0.9513	-2.2	6.10E+06	0.77	Y	1.08	10.2	3686.345	0.0658
1278-TCDF	26.48		0.9689	0.9684	-0.8	5.01E+07	0.79	Y	1.08	84.1	3686.345	0.0658
1349-TCDF	NotFnd		0.9730						1.08		3686.345	0.0658
1267-TCDF	26.75		0.9787	0.9782	-0.8	2.97E+06	0.83	Y	1.08	4.97	3686.345	0.0658
2346/1249-TCDF	26.96		0.9856	0.9858	+0.3	3.83E+05	0.86	Y	1.08	0.643	3686.345	0.0658
2347/1279-TCDF	27.16		0.9934	0.9932	-0.3	1.63E+06	0.73	Y	1.08	2.73	3686.345	0.0658
2348-TCDF	27.26		0.9972	0.9969	-0.5	1.88E+07	0.78	Y	1.08	31.6	3686.345	0.0658
2378-TCDF	**27.37**		**1.0007**	**1.0008**	**+0.2**	**1.13E+08**	**0.78**	**Y**	**1.08**	**189**	**3686.345**	**0.0658**
2367/3467-TCDF	27.73		1.0145	1.0141	-0.7	9.17E+06	0.75	Y	1.08	15.4	3686.345	0.0658
1269-TCDF	27.99		1.0236	1.0234	-0.3	1.93E+06	0.87	Y	1.08	3.24	3686.345	0.0658
1239-TCDF	NotFnd		1.0333						1.08		3686.345	0.0658
1289-TCDF	29.40		1.0740	1.0751	+1.9	2.33E+07	0.80	Y	1.08	39	3686.345	0.0658
13468/12468-PeCDF	29.37		0.9138	0.9126	-2.1	6.67E+07	1.57	Y	1.02	135	2949.59	0.0515
13678/13467/12467-PeCDF	30.94	J	0.9614	0.9613	-0.2	2.43E+05	1.37	Y	1.02	0.491	9599.219	0.168
12368/13478/12478-PeCDF	31.10		0.9661	0.9661	0	2.45E+06	1.49	Y	1.02	4.96	9599.219	0.168
14678-PeCDF	NotFnd		0.9693						1.02		9599.219	0.168
13479-PeCDF	NotFnd		0.9722						1.02		9599.219	0.168
13469/12479-PeCDF	NotFnd		0.9800						1.02		9599.219	0.168
12346-PeCDF	NotFnd		0.9844						1.02		9599.219	0.168

Lab ID: B6170_18832_DF_001MSD | **Acq'd: 14 Jan 2022 01:13 DTF** | **Wt/Vol: 13.82 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

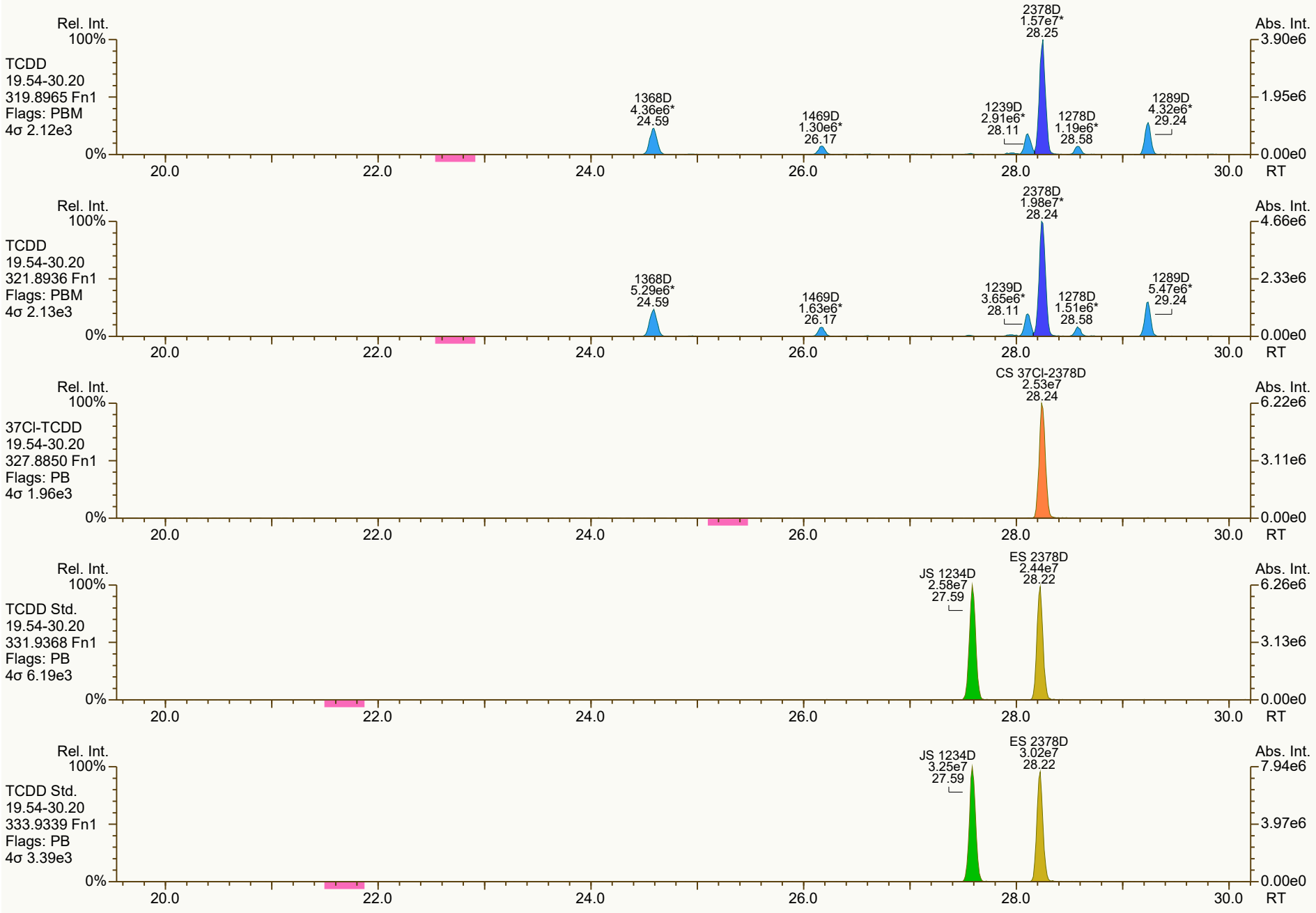
Client ID: 11215131-010722-S-BN-SW-S-34-MSD | **UTP: 14-Jan-2022 09:29:32 DTF** | **J-level: 0.362 pg/g** | **Split: 1** | **Checkcode: 263-562-DMK**

Datafile: 220113C19 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

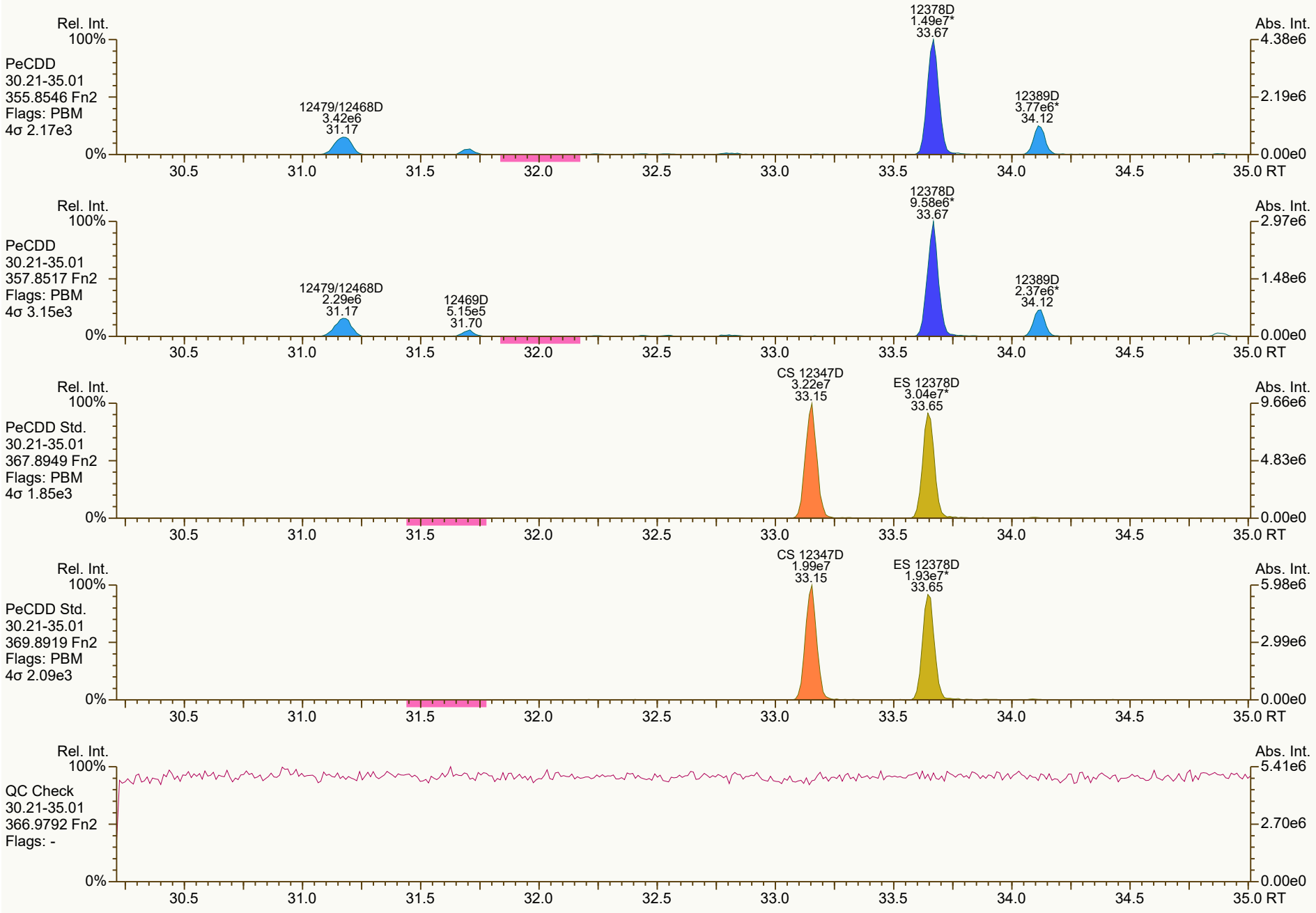
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74	J	0.9865	0.9861	-0.8	3.09E+05	1.38	Y	1.02	0.625	9599.219	0.168
12347-PeCDF	NotFnd		0.9890						1.02		9599.219	0.168
12348-PeCDF	32.00	J	0.9942	0.9943	+0.2	3.54E+05	1.67	Y	1.02	0.717	9599.219	0.168
12378-PeCDF	**32.21**		**1.0005**	**1.0006**	**+0.2**	**3.48E+07**	**1.51**	**Y**	**1.02**	**73.9**	**9599.219**	**0.177**
12678/12367-PeCDF	32.50		1.0090	1.0096	+1.2	1.26E+06	1.59	Y	1.02	2.55	9599.219	0.168
12379-PeCDF	NotFnd		1.0142						1.02		9599.219	0.168
12679-PeCDF	NotFnd		0.9933						1.02		9599.219	0.168
23467/12369-PeCDF	33.19	J	0.9969	0.9968	-0.2	1.68E+05	1.48	Y	1.02	0.341	9599.219	0.168
23478-PeCDF	**33.32**		**1.0006**	**1.0005**	**-0.2**	**3.95E+07**	**1.52**	**Y**	**1.02**	**76.5**	**9599.219**	**0.159**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9599.219	0.168
12349-PeCDF	NotFnd		1.0107						1.02		9599.219	0.168
12389-PeCDF	34.41		1.0330	1.0333	+0.6	8.44E+06	1.55	Y	1.02	17.1	9599.219	0.168
123468-HxCDF	35.24		0.9627	0.9625	-0.4	7.63E+07	1.24	Y	1.19	169	19598.311	0.362
124678/134678-HxCDF	35.44	B	0.9682	0.9678	-0.9	1.28E+06	1.18	Y	1.19	2.85	19598.311	0.362
134679-HxCDF	NotFnd		0.9744						1.19		19598.311	0.362
124679-HxCDF	NotFnd		0.9798						1.19		19598.311	0.362
124689-HxCDF	36.09		0.9858	0.9858	0	2.19E+06	1.28	Y	1.19	4.84	19598.311	0.362
123467-HxCDF	NotFnd		0.9973						1.19		19598.311	0.362
123478-HxCDF	**36.63**		**1.0004**	**1.0005**	**+0.2**	**3.59E+07**	**1.25**	**Y**	**1.27**	**81.4**	**19598.311**	**0.369**
123678-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**3.72E+07**	**1.25**	**Y**	**1.15**	**77**	**19598.311**	**0.347**
123479-HxCDF	NotFnd		1.0051						1.19		19598.311	0.362
123469-HxCDF	NotFnd		1.0093						1.19		19598.311	0.362
123679-HxCDF	NotFnd		0.9944						1.19		19598.311	0.362
234678-HxCDF	**37.44**		**1.0005**	**1.0005**	**0**	**3.40E+07**	**1.23**	**Y**	**1.19**	**72.3**	**19598.311**	**0.351**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		19598.311	0.362
123789-HxCDF	**38.42**		**1.0003**	**1.0004**	**+0.2**	**2.95E+07**	**1.23**	**Y**	**1.16**	**72.5**	**19598.311**	**0.388**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		19598.311	0.362
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**3.31E+07**	**1.01**	**Y**	**1.37**	**83.6**	**3081.414**	**0.0618**
1234679-HpCDF	40.16	**J**	1.0069	1.0071	+0.5	5.33E+05	1.12	Y	1.34	1.46	3081.414	0.0745
1234689-HpCDF	40.30		1.0103	1.0106	+0.7	1.18E+07	1.00	Y	1.34	32.3	3081.414	0.0745
1234789-HpCDF	**41.31**		**1.0003**	**1.0003**	**0**	**2.47E+07**	**1.03**	**Y**	**1.31**	**74.1**	**3081.414**	**0.0894**
OCDF	**43.80**		**1.0002**	**1.0002**	**0**	**4.21E+07**	**0.89**	**Y**	**1.07**	**194**	**4033.887**	**0.247**
OCDF-a	43.79		1.0002	1.0002	0	2.68E+06	2.45	Y	0.07	199	3542.43	3.51

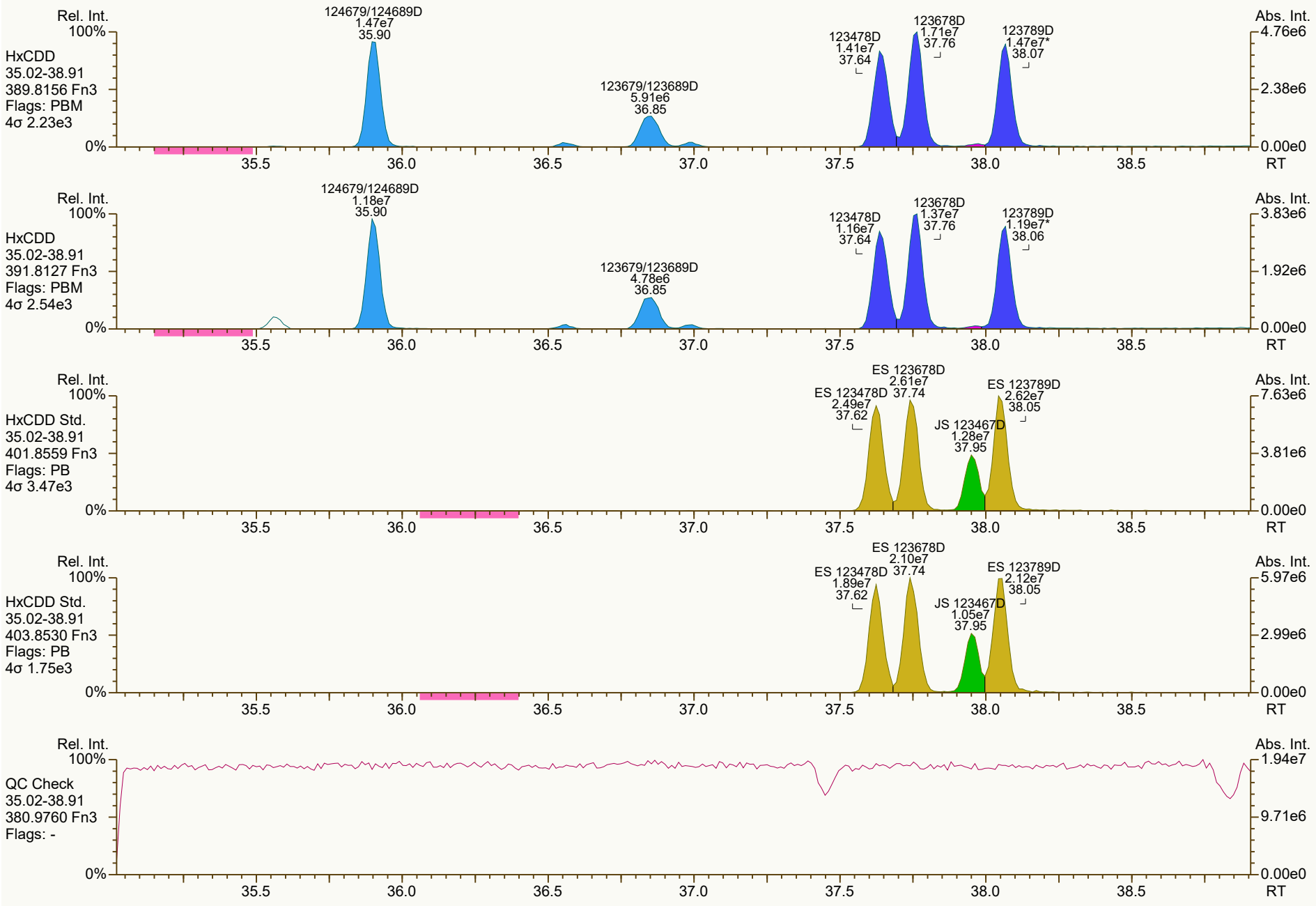

Rel. Int.
100%
0%
Abs. Int.
6.07e6
3.04e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
5.41e6
2.70e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
1.94e7
9.71e6
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
1.25e7
6.26e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
1.12e7
5.58e6
43.0
43.5
44.0
44.5
45.0

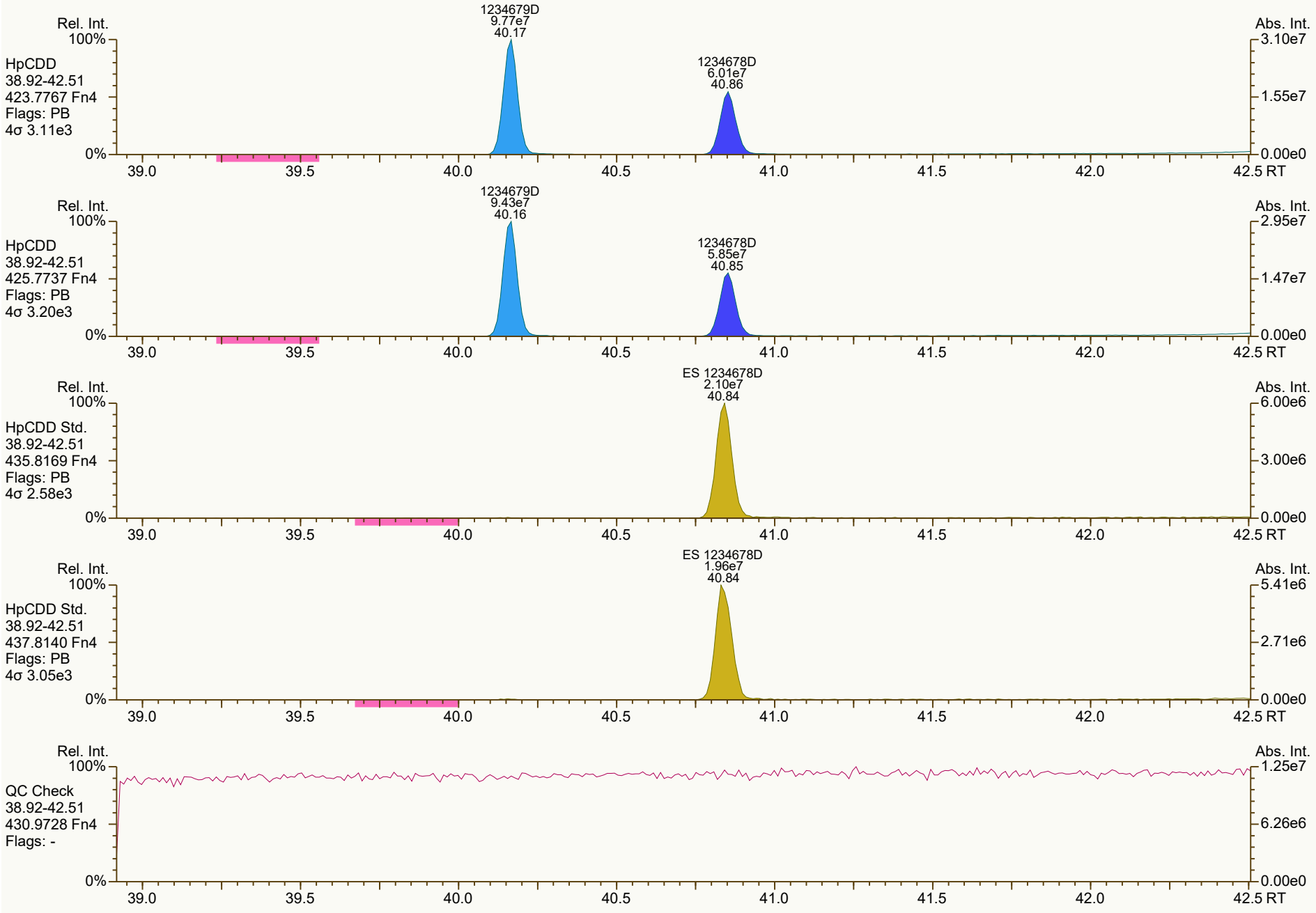
SGS ID: B6170_18832_DF_001MSD
Sample ID: 11215131-010722-S-BN-SW-S-34-MSD
Acq: 14-Jan-2022 01:13:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220113C19

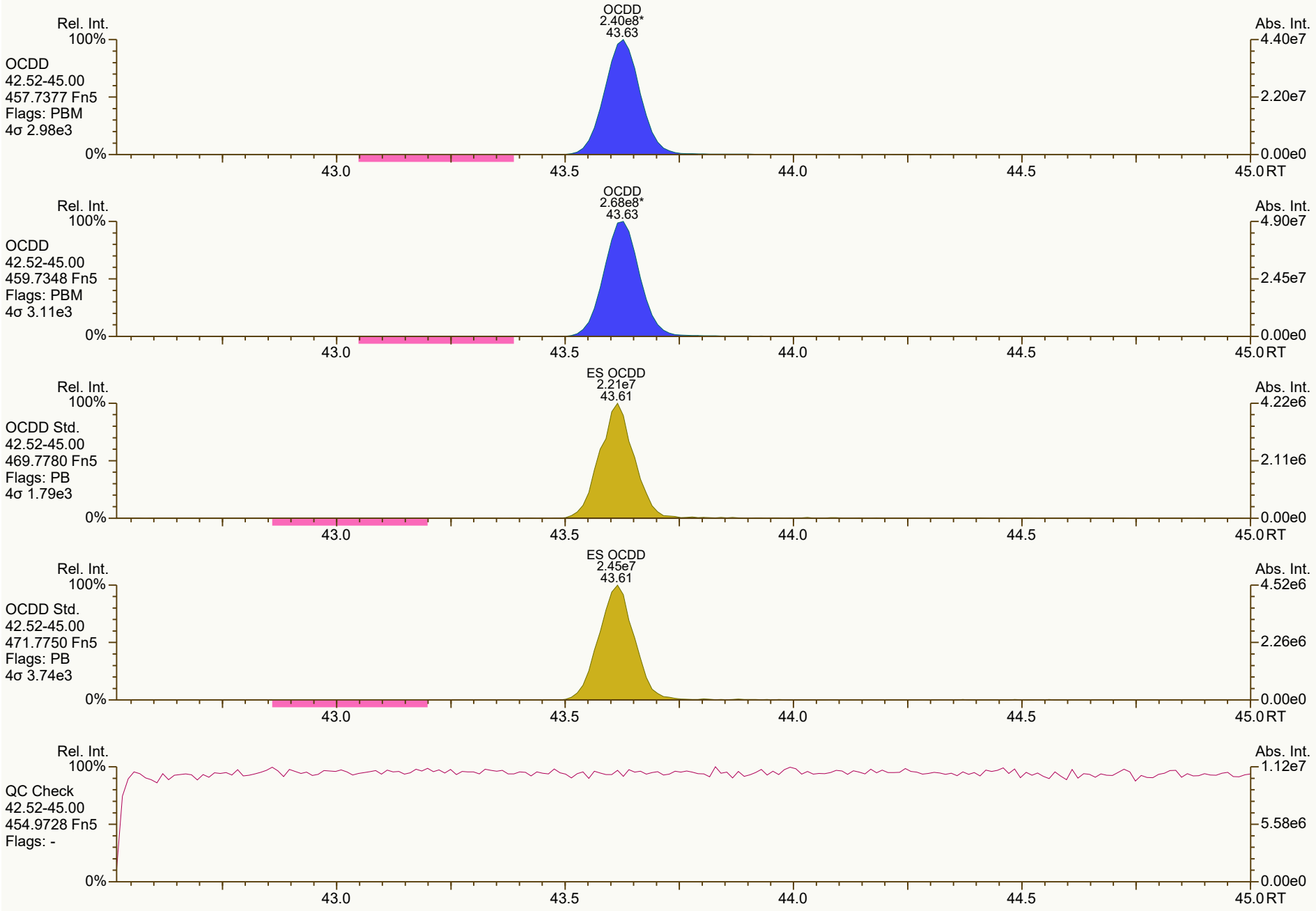


Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MSD.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2400, 8432, 8320 scc: 263-562
Revised: 14-Jan-2022 08:36 (DTF) Printed: 14-Jan-2022 10:11 Page 2 of 12

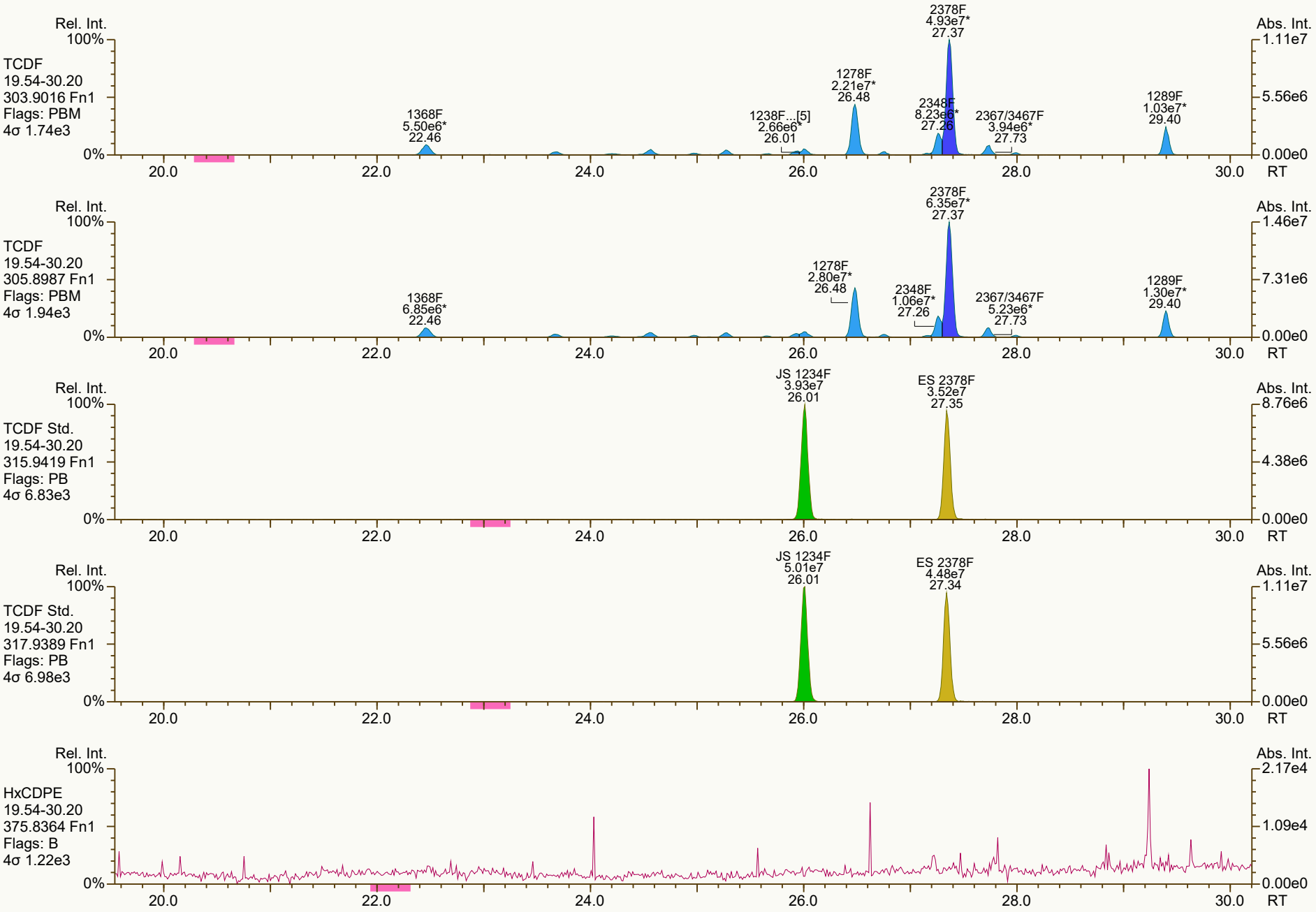

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.17e3
12479/12468D
3.42e6
31.17
12378D
1.49e7*
33.67
12389D
3.77e6*
34.12
Abs. Int.
4.38e6
2.19e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
2.29e6
31.17
12469D
5.15e5
31.70
12378D
9.58e6*
33.67
12389D
2.37e6*
34.12
Abs. Int.
2.97e6
1.48e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 1.85e3
CS 12347D
3.22e7
33.15
ES 12378D
3.04e7*
33.65
Abs. Int.
9.66e6
4.83e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 2.09e3
CS 12347D
1.99e7
33.15
ES 12378D
1.93e7*
33.65
Abs. Int.
5.98e6
2.99e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
5.41e6
2.70e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.23e3
124679/124689D
1.47e7
35.90
123679/123689D
5.91e6
36.85
123478D
1.41e7
37.64
123678D
1.71e7
37.76
123789D
1.47e7*
38.07
Abs. Int.
4.76e6
2.38e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.54e3
124679/124689D
1.18e7
35.90
123679/123689D
4.78e6
36.85
123478D
1.16e7
37.64
123678D
1.37e7
37.76
123789D
1.19e7*
38.06
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PB
4σ 3.47e3
ES 123678D
2.61e7
37.74
ES 123478D
2.49e7
37.62
ES 123789D
2.62e7
38.05
JS 123467D
1.28e7
37.95
Abs. Int.
7.63e6
3.81e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PB
4σ 1.75e3
ES 123678D
2.10e7
37.74
ES 123478D
1.89e7
37.62
ES 123789D
2.12e7
38.05
JS 123467D
1.05e7
37.95
Abs. Int.
5.97e6
2.99e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.94e7
9.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 3.11e3
1234679D
9.77e7
40.17
1234678D
6.01e7
40.86
Abs. Int.
3.10e7
1.55e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 3.20e3
1234679D
9.43e7
40.16
1234678D
5.85e7
40.85
Abs. Int.
2.95e7
1.47e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.58e3
ES 1234678D
2.10e7
40.84
Abs. Int.
6.00e6
3.00e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 3.05e3
ES 1234678D
1.96e7
40.84
Abs. Int.
5.41e6
2.71e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
1.25e7
6.26e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

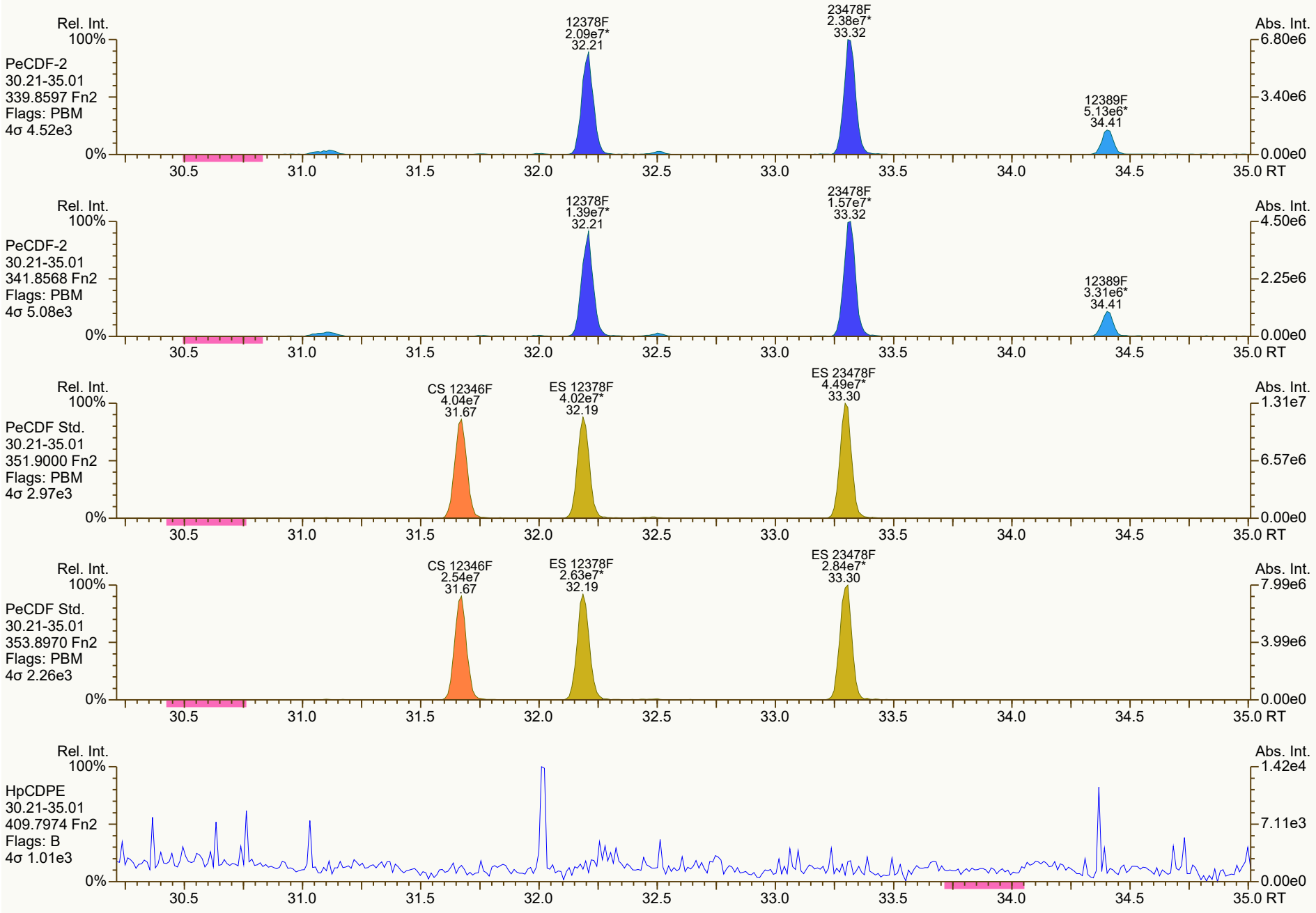

OCDD
2.40e8*
43.63
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.98e3
0%
Abs. Int.
4.40e7
2.20e7
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.68e8*
43.63
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 3.11e3
4.90e7
2.45e7
ES OCDD
2.21e7
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.79e3
4.22e6
2.11e6
ES OCDD
2.45e7
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 3.74e3
4.52e6
2.26e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
1.12e7
5.58e6

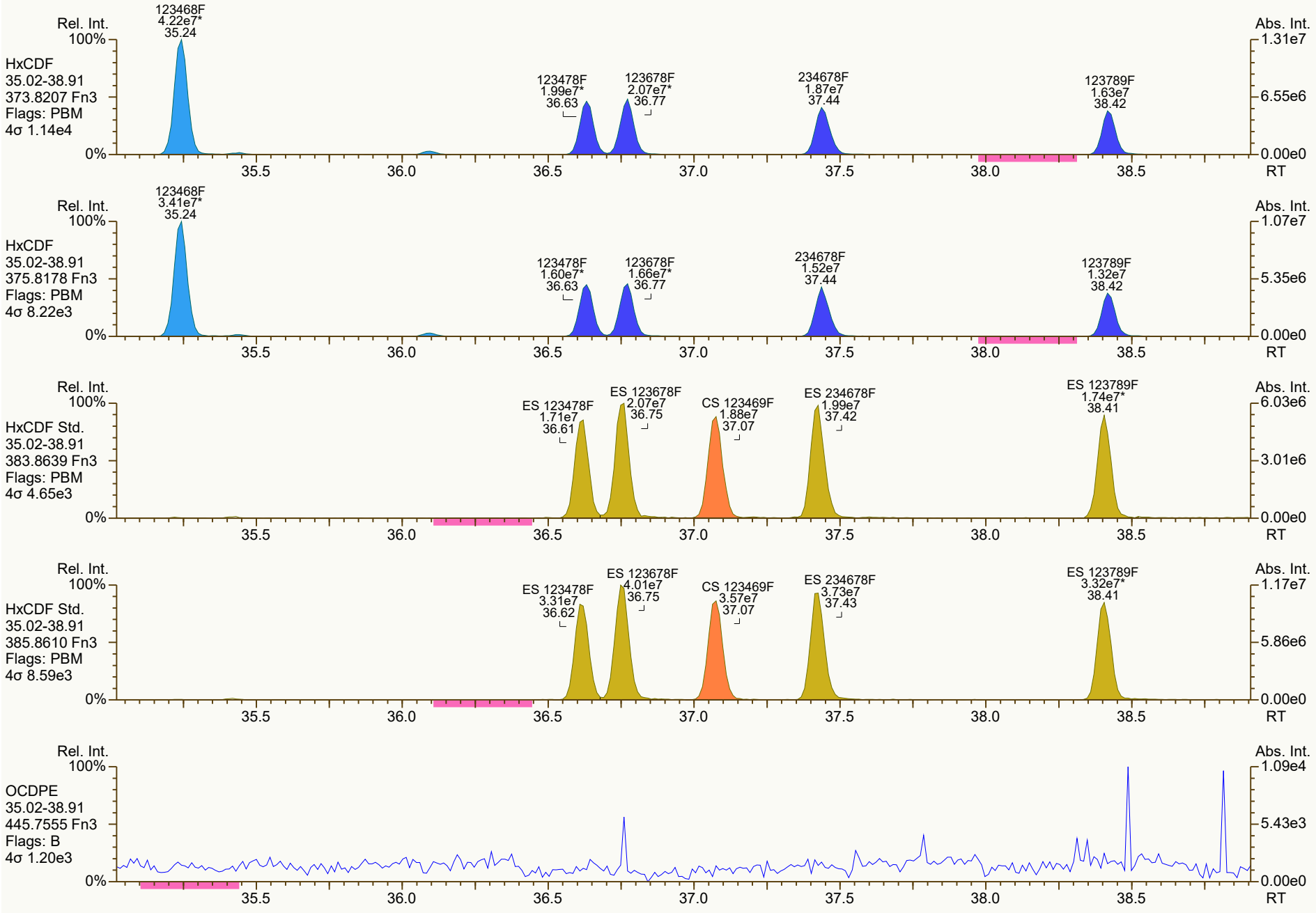
SGS ID: B6170_18832_DF_001MSD
Sample ID: 11215131-010722-S-BN-SW-S-34-MSD
Acq: 14-Jan-2022 01:13:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220113C19

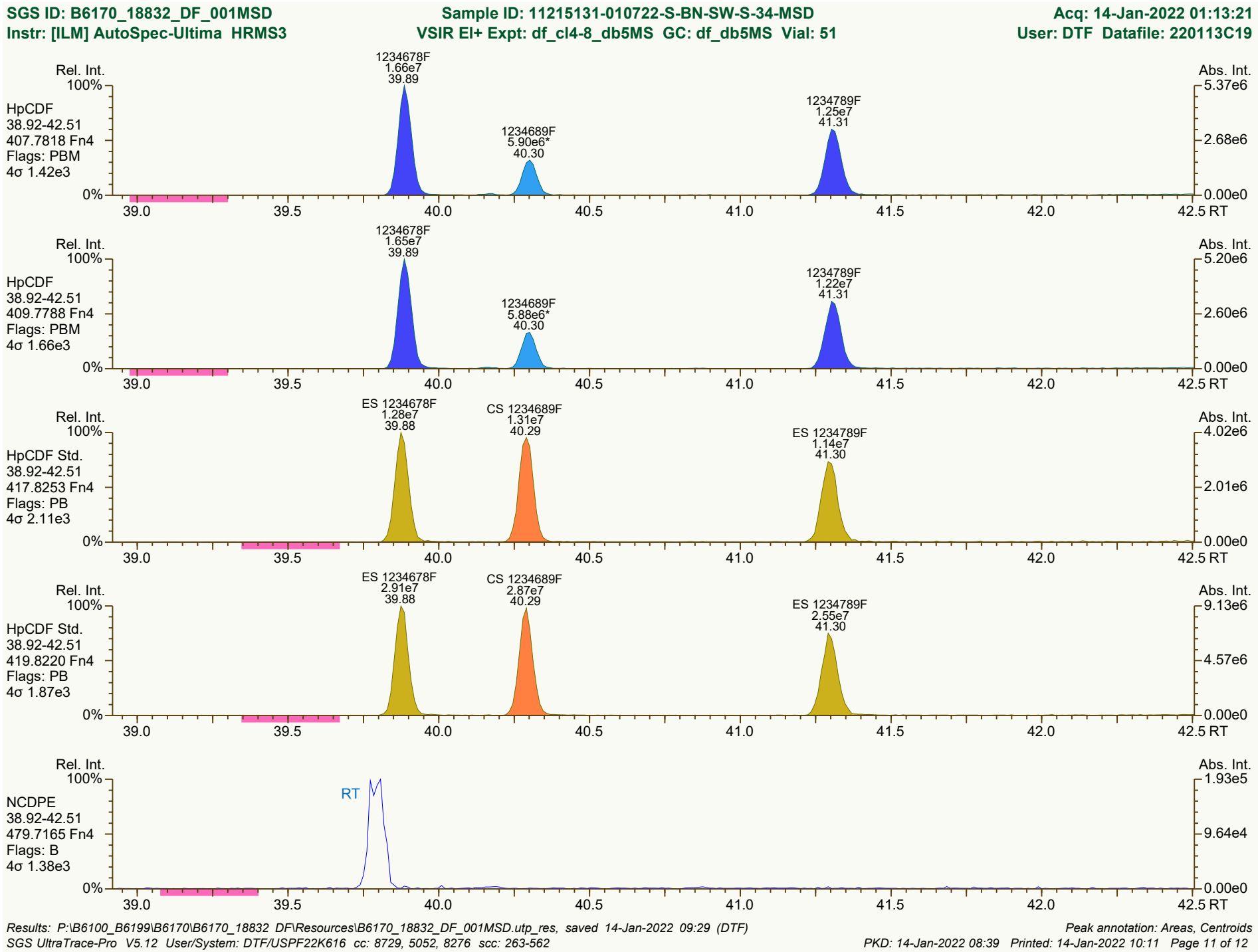


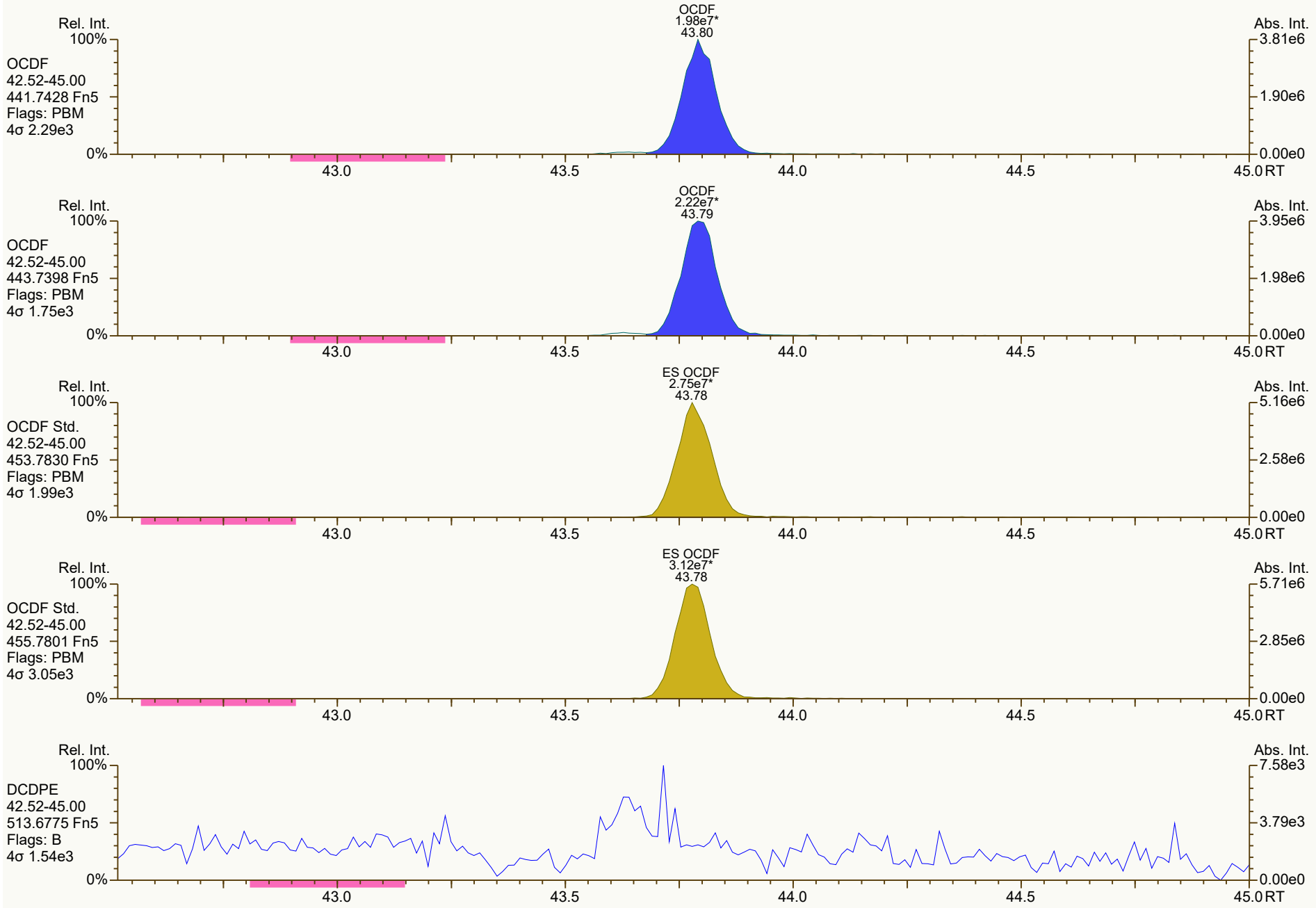
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MSD.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7708, 5128, 3179 scc: 263-562
Revised: 14-Jan-2022 08:38 (DTF) Printed: 14-Jan-2022 10:11 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.35e3
13468/12468F
4.07e7*
29.37
Abs. Int.
1.05e7
5.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.60e3
13468/12468F
2.60e7*
29.37
Abs. Int.
6.95e6
3.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
6.07e6
3.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 4.52e3
0%
12378F
2.09e7*
32.21
23478F
2.38e7*
33.32
12389F
5.13e6*
34.41
Abs. Int.
6.80e6
3.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 5.08e3
0%
12378F
1.39e7*
32.21
23478F
1.57e7*
33.32
12389F
3.31e6*
34.41
Abs. Int.
4.50e6
2.25e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 2.97e3
0%
CS 12346F
4.04e7
31.67
ES 12378F
4.02e7*
32.19
ES 23478F
4.49e7*
33.30
Abs. Int.
1.31e7
6.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.26e3
0%
CS 12346F
2.54e7
31.67
ES 12378F
2.63e7*
32.19
ES 23478F
2.84e7*
33.30
Abs. Int.
7.99e6
3.99e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.01e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 1.14e4
123468F
4.22e7*
35.24
123478F
1.99e7*
36.63
123678F
2.07e7*
36.77
234678F
1.87e7
37.44
123789F
1.63e7
38.42
Abs. Int.
1.31e7
6.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 8.22e3
123468F
3.41e7*
35.24
123478F
1.60e7*
36.63
123678F
1.66e7*
36.77
234678F
1.52e7
37.44
123789F
1.32e7
38.42
Abs. Int.
1.07e7
5.35e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 4.65e3
ES 123478F
1.71e7
36.61
ES 123678F
2.07e7
36.75
CS 123469F
1.88e7
37.07
ES 234678F
1.99e7
37.42
ES 123789F
1.74e7*
38.41
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 8.59e3
ES 123478F
3.31e7
36.62
ES 123678F
4.01e7
36.75
CS 123469F
3.57e7
37.07
ES 234678F
3.73e7
37.43
ES 123789F
3.32e7*
38.41
Abs. Int.
1.17e7
5.86e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.20e3
Abs. Int.
1.09e4
5.43e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6170_18832_DF_001MSD
Sample ID: 11215131-010722-S-BN-SW-S-34-MSD
Acq: 14-Jan-2022 01:13:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220113C19
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 1.42e3
1234678F
1.66e7
39.89
1234689F
5.90e6*
40.30
1234789F
1.25e7
41.31
5.37e6
2.68e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.66e3
1234678F
1.65e7
39.89
1234689F
5.88e6*
40.30
1234789F
1.22e7
41.31
5.20e6
2.60e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.11e3
ES 1234678F
1.28e7
39.88
CS 1234689F
1.31e7
40.29
ES 1234789F
1.14e7
41.30
4.02e6
2.01e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.87e3
ES 1234678F
2.91e7
39.88
CS 1234689F
2.87e7
40.29
ES 1234789F
2.55e7
41.30
9.13e6
4.57e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.38e3
RT
1.93e5
9.64e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_001MSD.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8729, 5052, 8276 scc: 263-562
PKD: 14-Jan-2022 08:39 Printed: 14-Jan-2022 10:11 Page 11 of 12


OCDF
1.98e7*
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 2.29e3
0%
Abs. Int.
3.81e6
1.90e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.22e7*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.75e3
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.75e7*
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 1.99e3
0%
Abs. Int.
5.16e6
2.58e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.12e7*
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 3.05e3
0%
Abs. Int.
5.71e6
2.85e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.54e3
0%
Abs. Int.
7.58e3
3.79e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6170_18832_DF_002 **Acq'd:** 14 Jan 2022 01:59 DTF **Wt/Vol:** 13.55 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-37 **UTP:** 14-Jan-2022 09:29:33 DTF **J-level:** 0.369 pg/g **Split:** 1 **Checkcode:** 807-420-YYP

Datafile: 220113C20 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25	E	1.0008	1.0008	0	4.66E+08	0.80	Y	1.18	1,270	5542.144	0.159
12378-PeCDD	33.68		1.0006	1.0005	-0.2	3.39E+06	1.55	Y	1.04	12.7	5023.713	0.158
123478-HxCDD	37.65	J	1.0004	1.0004	0	1.98E+05	1.34	Y	1.09	0.764	5839.446	0.19
123678-HxCDD	37.77		1.0036	1.0035	-0.2	9.26E+05	1.30	Y	1.15	3.19	5839.446	0.173
123789-HxCDD	38.07	J	1.0114	1.0117	+0.7	4.75E+05	1.29	Y	1.05	1.73	5839.446	0.18
1234678-HpCDD	40.85		1.0003	1.0003	0	2.54E+07	1.03	Y	1.06	116	7002.363	0.287
OCDD	43.63		1.0003	1.0003	0	1.93E+08	0.89	Y	1.13	1,570	6513.575	0.717
2378-TCDF	27.37	E	1.0007	1.0008	+0.2	1.86E+09	0.78	Y	1.08	3,740	2831.157	0.0625
12378-PeCDF	32.22		1.0005	1.0005	0	5.78E+07	1.55	Y	1.02	143	8245.963	0.174
23478-PeCDF	33.33	PR	1.0006	1.0008	+0.4	4.40E+07	1.54	Y	1.02	115	8245.963	0.174
123478-HxCDF	36.64		1.0004	1.0005	+0.2	8.99E+07	1.24	Y	1.27	259	15785.39	0.358
123678-HxCDF	36.78		1.0004	1.0005	+0.2	2.45E+07	1.23	Y	1.15	63.5	15785.39	0.348
234678-HxCDF	37.45		1.0005	1.0004	-0.2	5.15E+06	1.25	Y	1.19	13.5	15785.39	0.35
123789-HxCDF	NotFnd		1.0003	-		-	-	-	1.16	-	15785.39	0.427
1234678-HpCDF	39.89		1.0003	1.0003	0	2.55E+07	1.01	Y	1.37	82.8	5194.605	0.131
1234789-HpCDF	41.31		1.0003	1.0003	0	7.10E+06	1.00	Y	1.31	29.6	5194.605	0.207
OCDF	43.80	B	1.0002	1.0002	0	8.46E+06	0.89	Y	1.07	57.9	3805.22	0.354

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0228	1.0229	+0.2	4.57E+07	0.83	Y	1.05	91.1
ES 12378-PeCDD	33.66	1.2165	1.2197	+6.5	3.81E+07	1.52	Y	0.88	90.3
ES 123478-HxCDD	37.63	0.9916	0.9914	-0.5	3.52E+07	1.24	Y	0.97	99.5
ES 123678-HxCDD	37.75	0.9947	0.9945	-0.5	3.73E+07	1.27	Y	0.94	109
ES 123789-HxCDD	38.06	1.0025	1.0026	+0.2	3.87E+07	1.24	Y	1.09	97.4
ES 1234678-HpCDD	40.84	1.0747	1.0759	+2.9	3.04E+07	1.09	Y	0.91	91.5
ES OCDD	43.62	1.1475	1.1492	+4.4	3.22E+07	0.90	Y	0.62	71
ES 2378-TCDF	27.35	1.0505	1.0516	+1.8	6.81E+07	0.80	Y	1.06	94.3
ES 12378-PeCDF	32.20	1.2337	1.2381	+8.5	5.84E+07	1.52	Y	0.91	94
ES 23478-PeCDF	33.31	1.2758	1.2808	+10.0	5.53E+07	1.50	Y	0.88	91.9
ES 123478-HxCDF	36.62	0.9648	0.9647	-0.2	4.03E+07	0.54	Y	1.20	92.3
ES 123678-HxCDF	36.76	0.9685	0.9684	-0.2	4.95E+07	0.53	Y	1.35	101
ES 234678-HxCDF	37.44	0.9863	0.9862	-0.2	4.73E+07	0.53	Y	1.24	105
ES 123789-HxCDF	38.41	1.0118	1.0119	+0.2	3.81E+07	0.53	Y	1.16	90.6
ES 1234678-HpCDF	39.88	1.0495	1.0505	+2.4	3.31E+07	0.45	Y	0.97	94.1
ES 1234789-HpCDF	41.29	1.0868	1.0878	+2.5	2.71E+07	0.46	Y	0.85	87.5
ES OCDF	43.79	1.1520	1.1535	+3.9	4.02E+07	0.90	Y	0.81	68.5

Lab ID: B6170_18832_DF_002 **Acq'd:** 14 Jan 2022 01:59 DTF **Wt/Vol:** 13.55 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-37 **UTP:** 14-Jan-2022 09:29:33 DTF **J-level:** 0.369 pg/g **Split:** 1 **Checkcode:** 807-420-YYP

Datafile: 220113C20 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.59		-	-	-	4.80E+07	0.80	Y	-	-	
JS 1234-TCDF	26.01		-	-	-	6.82E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.96		-	-	-	1.82E+07	1.26	Y	-	-	
CS 37Cl-2378-TCDD	28.25		1.0235	1.0237	+0.3	2.11E+07	n/a	-	1.20	91.6	
CS 12347-PeCDD	33.16		1.1987	1.2018	+6.2	3.66E+07	1.56	Y	0.75	101	
CS 12346-PeCDF	31.68		1.2139	1.2181	+8.0	5.57E+07	1.53	Y	0.85	96	
CS 123469-HxCDF	37.08		0.9771	0.9768	-0.7	4.36E+07	0.53	Y	1.12	107	
CS 1234689-HpCDF	40.29		1.0601	1.0615	+3.4	3.13E+07	0.45	Y	0.89	97.1	
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0235~~	~~1.0237~~	~~+0.3~~	~~2.11E+07~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.16~~		~~1.1987~~	~~1.2018~~	~~+6.2~~	~~3.66E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~112~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.68~~		~~1.2139~~	~~1.2181~~	~~+8.0~~	~~5.57E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~37.08~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~4.36E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0601~~	~~1.0615~~	~~+3.4~~	~~3.13E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~103~~	

Totals	Conc	EMPC
Total TCDD	1380	1390
Total PeCDD	20.2	22.8
Total HxCDD	33.6	34.1
Total HpCDD	223	223
Total Tetra-Octa Dioxins	3230	3240
Total TCDF	7,210	7210
Total PeCDF	406	406
Total HxCDF	397	397
Total HpCDF	147	147
Total Tetra-Octa Furans	8,220	8220
Total Tetra-Octa Dioxins & Furans	11500	11500

Lab ID: B6170_18832_DF_002 **Acq'd: 14 Jan 2022 01:59 DTF** **Wt/Vol: 13.55 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-37 **UTP: 14-Jan-2022 09:29:33 DTF** **J-level: 0.369 pg/g** **Split: 1** **Checkcode: 807-420-YYP**

Datafile: 220113C20 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.59		0.8733	0.8710	-3.4	8.66E+05	0.86	Y	1.18	2.36	5542.144	0.159
1379-TCDD	24.95		0.8860	0.8838	-3.3	4.26E+05	0.78	Y	1.18	1.16	5542.144	0.159
1369-TCDD	NotFnd		0.9009						1.18		5542.144	0.159
1469-TCDD	26.17		0.9282	0.9270	-1.9	1.10E+06	0.78	Y	1.18	2.99	5542.144	0.159
1247/1246/1248/1249-TCDD	26.40	EMPC	0.9365	0.9352	-2.1	7.06E+05	0.93	N	1.18	1.92	5542.144	0.159
1378-TCDD	26.59		0.9429	0.9419	-1.6	1.52E+06	0.84	Y	1.18	4.15	5542.144	0.159
1268-TCDD	NotFnd		0.9500						1.18		5542.144	0.159
1478-TCDD	27.04		0.9584	0.9580	-0.6	1.34E+06	0.78	Y	1.18	3.65	5542.144	0.159
1279-TCDD	NotFnd		0.9648						1.18		5542.144	0.159
1234/1269-TCDD	27.58		0.9770	0.9771	+0.2	2.76E+05	0.73	Y	1.18	0.752	5542.144	0.159
1236-TCDD	NotFnd		0.9821						1.18		5542.144	0.159
1237/1238-TCDD	27.96		0.9909	0.9906	-0.5	7.25E+06	0.80	Y	1.18	19.8	5542.144	0.159
1239-TCDD	NotFnd		0.9959						1.18		5542.144	0.159
2378-TCDD	**28.25**	E	**1.0008**	1.0008	**0**	4.66E+08	0.80	Y	**1.18**	**1,270**	**5542.144**	**0.159**
1278-TCDD	28.57		1.0123	1.0123	0	2.83E+07	0.80	Y	1.18	77.2	5542.144	0.159
1267-TCDD	NotFnd		1.0172						1.18		5542.144	0.159
1289-TCDD	29.23	EMPC	1.0354	1.0356	+0.4	6.59E+05	0.94	N	1.18	1.8	5542.144	0.159
12479/12468-PeCDD	31.17	J EMPC	0.9267	0.9262	-0.9	4.00E+05	1.30	N	1.04	1.5	5023.713	0.158
12469-PeCDD	31.71		0.9426	0.9422	-0.8	5.16E+05	1.69	Y	1.04	1.93	5023.713	0.158
12368-PeCDD	32.26		0.9587	0.9583	-0.8	6.94E+05	1.60	Y	1.04	2.6	5023.713	0.158
12478-PeCDD	32.44	J	0.9642	0.9639	-0.6	2.44E+05	1.43	Y	1.04	0.914	5023.713	0.158
12379-PeCDD	32.55	J	0.9674	0.9671	-0.6	2.82E+05	1.58	Y	1.04	1.05	5023.713	0.158
12369/12467/12489-PeCDD	32.82	J EMPC	0.9752	0.9751	-0.2	2.11E+05	1.16	N	1.04	0.79	5023.713	0.158
12346/12347-PeCDD	33.18	J	0.9861	0.9859	-0.4	1.24E+05	1.52	Y	1.04	0.463	5023.713	0.158
12378-PeCDD	33.68		**1.0006**	**1.0005**	**-0.2**	**3.39E+06**	**1.55**	**Y**	**1.04**	**12.7**	**5023.713**	**0.158**
12367-PeCDD	33.77	J	1.0036	1.0035	-0.2	1.62E+05	1.77	Y	1.04	0.605	5023.713	0.158
12389-PeCDD	34.12	J EMPC	1.0139	1.0138	-0.2	8.30E+04	1.98	N	1.04	0.31	5023.713	0.158
124679/124689-HxCDD	35.91		0.9541	0.9542	+0.2	4.43E+06	1.25	Y	1.10	16.1	5839.446	0.181
123468-HxCDD	36.57	J	0.9715	0.9716	+0.2	4.66E+05	1.21	Y	1.10	1.69	5839.446	0.181
123679/123689-HxCDD	36.86		0.9793	0.9794	+0.2	2.65E+06	1.26	Y	1.10	9.65	5839.446	0.181
123469-HxCDD	36.99	J EMPC	0.9831	0.9829	-0.4	1.52E+05	1.03	N	1.10	0.555	5839.446	0.181
123478-HxCDD	37.65	J	**1.0004**	**1.0004**	**0**	**1.98E+05**	**1.34**	**Y**	1.09	**0.764**	**5839.446**	**0.19**
123678-HxCDD	37.77		**1.0036**	**1.0035**	**-0.2**	**9.26E+05**	**1.30**	**Y**	1.15	**3.19**	**5839.446**	**0.173**
123467-HxCDD	37.97	J	1.0089	1.0089	0	1.24E+05	1.19	Y	1.10	0.449	5839.446	0.181
123789-HxCDD	38.07	J	**1.0114**	**1.0117**	**+0.7**	**4.75E+05**	**1.29**	**Y**	1.05	**1.73**	**5839.446**	**0.18**

Lab ID: B6170_18832_DF_002 **Acq'd: 14 Jan 2022 01:59 DTF** **Wt/Vol: 13.55 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-37 **UTP: 14-Jan-2022 09:29:33 DTF** **J-level: 0.369 pg/g** **Split: 1** **Checkcode: 807-420-YYP**

Datafile: 220113C20 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9835	0	2.32E+07	1.02	Y	1.06	106	7002.363	0.287
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**2.54E+07**	**1.03**	**Y**	**1.06**	**116**	**7002.363**	**0.287**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**1.93E+08**	**0.89**	**Y**	**1.13**	**1,570**	**6513.575**	**0.717**
OCDD-a	43.63		1.0002	1.0002	0	1.27E+07	2.53	Y	0.07	1,610	5261.091	9.05
1368-TCDF	22.45		0.8250	0.8210	-5.4	4.91E+05	0.84	Y	1.08	0.987	2831.157	0.0625
1468-TCDF	23.04		0.8494	0.8426	-9.4	2.82E+06	0.80	Y	1.08	5.67	2831.157	0.0625
2468-TCDF	23.68		0.8684	0.8657	-3.8	2.15E+06	0.74	Y	1.08	4.32	2831.157	0.0625
1346/1246-TCDF	NotFnd		0.8815						1.08		2831.157	0.0625
1347/1378/1247-TCDF	24.21		0.8867	0.8854	-1.9	2.11E+07	0.77	Y	1.08	42.5	2831.157	0.0625
1348-TCDF	24.55		0.8966	0.8978	+1.8	9.25E+07	0.78	Y	1.08	186	2831.157	0.0625
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2831.157	0.0625
1268-TCDF	24.97		0.9148	0.9130	-2.7	2.96E+07	0.80	Y	1.08	59.5	2831.157	0.0625
1467-TCDF	25.10		0.9197	0.9179	-2.7	4.02E+06	0.81	Y	1.08	8.07	2831.157	0.0625
1478-TCDF	25.27		0.9258	0.9240	-2.7	7.41E+07	0.78	Y	1.08	149	2831.157	0.0625
1369/1237-TCDF	25.65		0.9390	0.9380	-1.5	1.98E+07	0.80	Y	1.08	39.7	2831.157	0.0625
2467-TCDF	25.78		0.9435	0.9426	-1.4	1.62E+06	0.83	Y	1.08	3.25	2831.157	0.0625
2368-TCDF	25.92		0.9488	0.9477	-1.7	5.48E+07	0.77	Y	1.08	110	2831.157	0.0625
1238/1234/1678/1469/1236-TCDF	26.01		0.9527	0.9511	-2.5	8.73E+07	0.79	Y	1.08	175	2831.157	0.0625
1278-TCDF	26.48	E	0.9689	0.9681	-1.3	8.47E+08	0.78	Y	1.08	1,700	2831.157	0.0625
1349-TCDF	NotFnd		0.9730						1.08		2831.157	0.0625
1267-TCDF	26.75		0.9787	0.9782	-0.8	4.39E+07	0.79	Y	1.08	88.2	2831.157	0.0625
2346/1249-TCDF	26.95		0.9856	0.9856	0	5.54E+06	0.80	Y	1.08	11.1	2831.157	0.0625
2347/1279-TCDF	27.16		0.9934	0.9930	-0.7	2.24E+07	0.78	Y	1.08	45.1	2831.157	0.0625
2348-TCDF	27.26		0.9972	0.9967	-0.8	1.11E+08	0.77	Y	1.08	222	2831.157	0.0625
2378-TCDF	**27.37**	E	**1.0007**	**1.0008**	**+0.2**	**1.86E+09**	**0.78**	**Y**	**1.08**	**3,740**	**2831.157**	**0.0625**
2367/3467-TCDF	27.73		1.0145	1.0141	-0.7	1.43E+08	0.79	Y	1.08	287	2831.157	0.0625
1269-TCDF	27.99		1.0236	1.0234	-0.3	2.64E+07	0.80	Y	1.08	53.1	2831.157	0.0625
1239-TCDF	28.25		1.0333	1.0331	-0.3	2.06E+06	0.80	Y	1.08	4.14	2831.157	0.0625
1289-TCDF	29.41		1.0740	1.0753	+2.3	1.38E+08	0.78	Y	1.08	277	2831.157	0.0625
13468/12468-PeCDF	29.41		0.9138	0.9135	-0.5	1.93E+06	1.64	Y	1.02	4.89	3480.744	0.0734
13678/13467/12467-PeCDF	30.96		0.9614	0.9615	+0.2	7.27E+05	1.64	Y	1.02	1.85	8245.963	0.174
12368/13478/12478-PeCDF	31.12		0.9661	0.9666	+0.9	2.68E+07	1.54	Y	1.02	68.1	8245.963	0.174
14678-PeCDF	NotFnd		0.9693						1.02		8245.963	0.174
13479-PeCDF	NotFnd		0.9722						1.02		8245.963	0.174
13469/12479-PeCDF	NotFnd		0.9800						1.02		8245.963	0.174
12346-PeCDF	31.69	J EMPC	0.9844	0.9843	-0.2	1.13E+05	2.05	N	1.02	0.288	8245.963	0.174

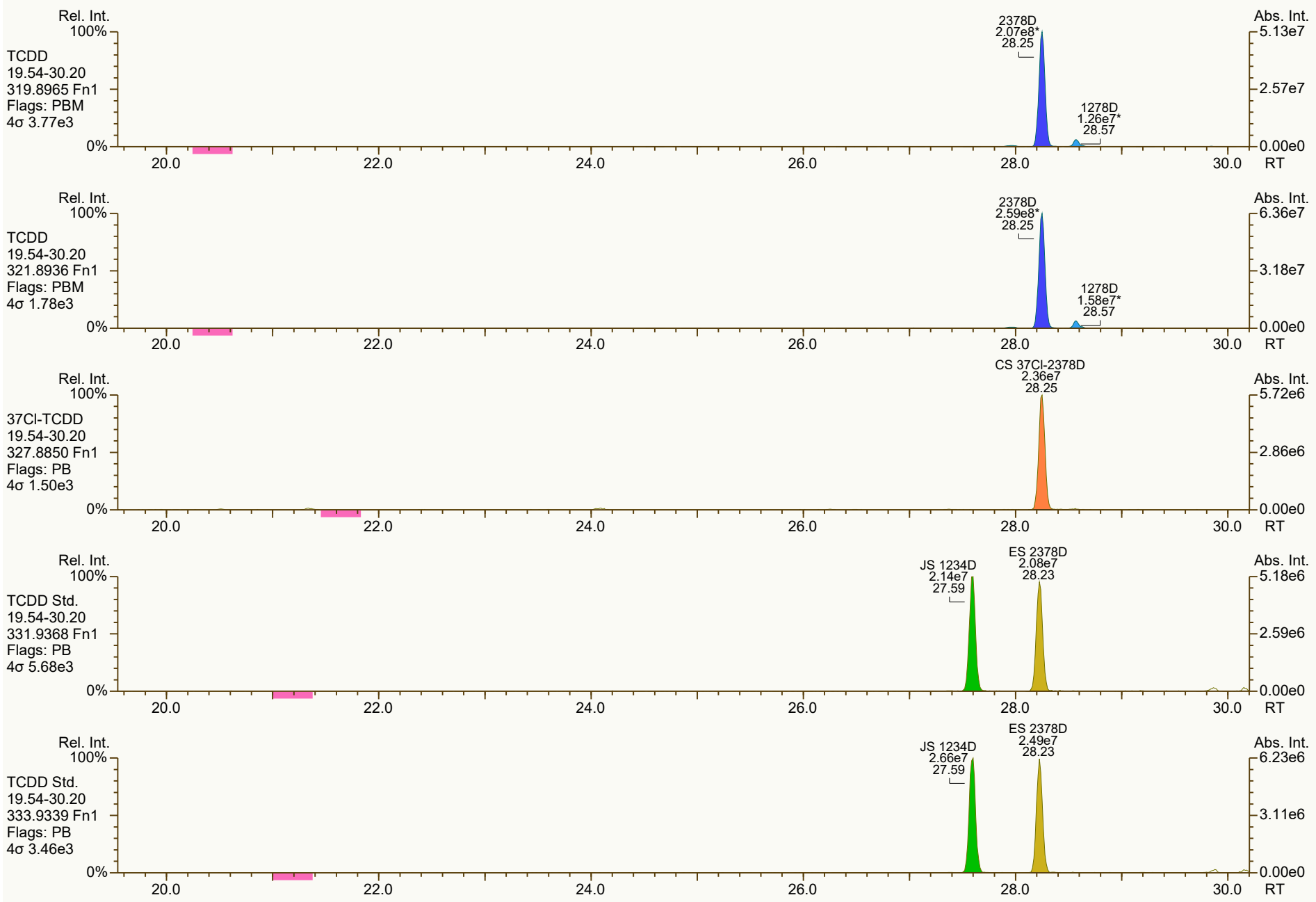
Lab ID: B6170_18832_DF_002 **Acq'd: 14 Jan 2022 01:59 DTF** **Wt/Vol: 13.55 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

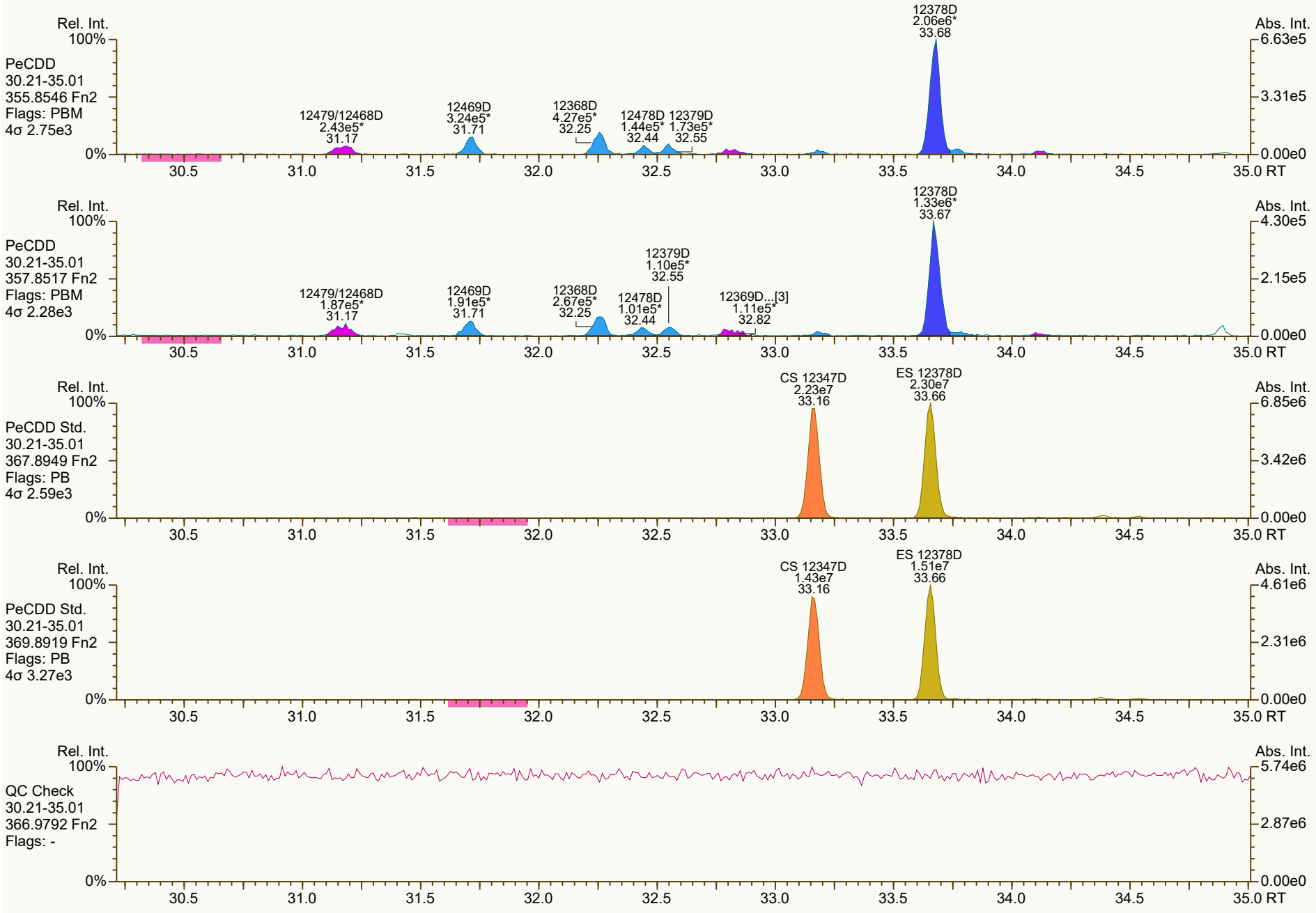
Client ID: 11215131-010722-S-BN-SW-S-37 **UTP: 14-Jan-2022 09:29:33 DTF** **J-level: 0.369 pg/g** **Split: 1** **Checkcode: 807-420-YYP**

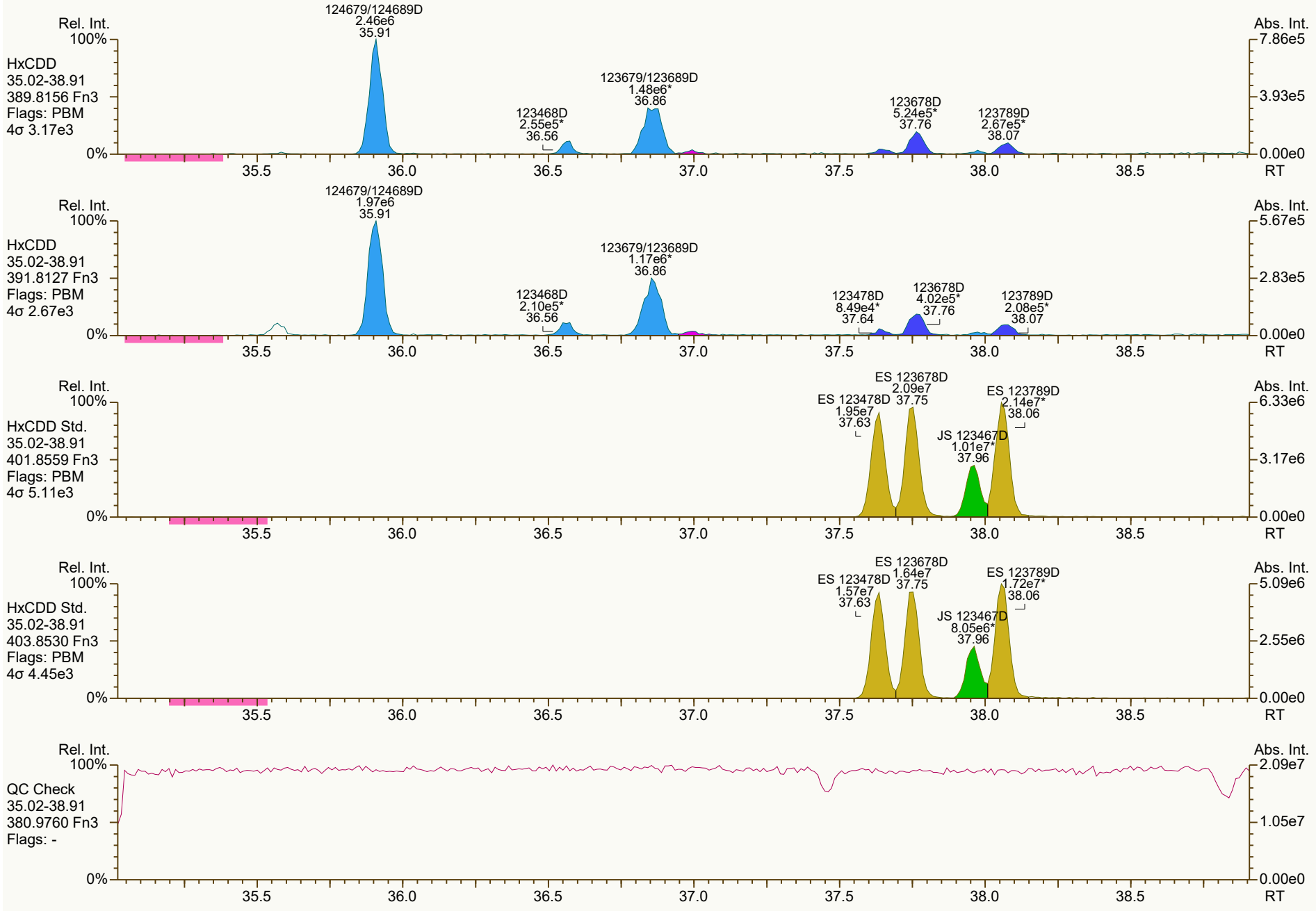
Datafile: 220113C20 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

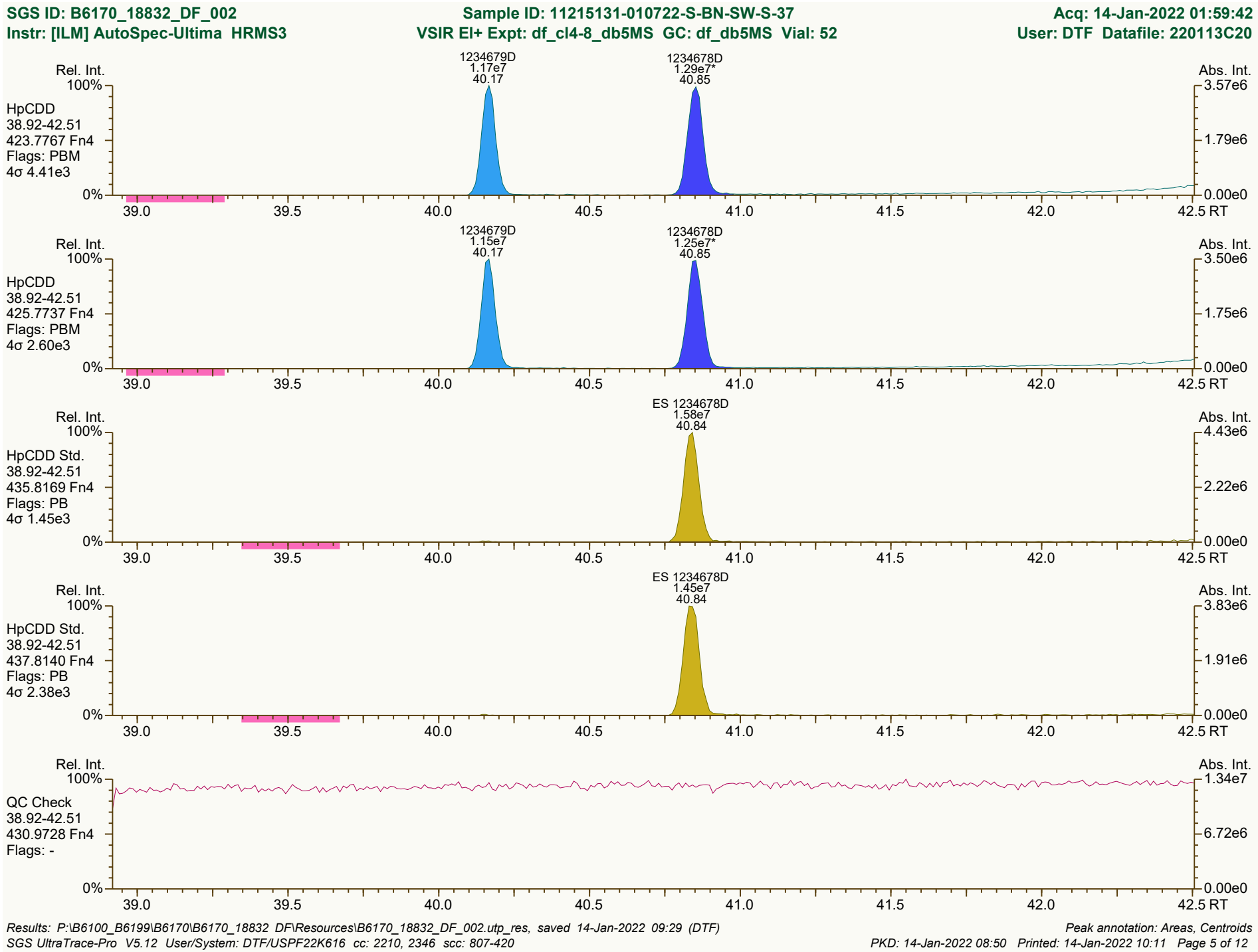
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.78		0.9865	0.9868	+0.6	1.21E+06	1.53	Y	1.02	3.08	8245.963	0.174
12347-PeCDF	31.85		0.9890	0.9892	+0.4	9.56E+05	1.51	Y	1.02	2.43	8245.963	0.174
12348-PeCDF	32.01		0.9942	0.9942	0	5.61E+06	1.52	Y	1.02	14.3	8245.963	0.174
12378-PeCDF	**32.22**		**1.0005**	**1.0005**	**0**	**5.78E+07**	**1.55**	**Y**	**1.02**	**143**	**8245.963**	**0.174**
12678/12367-PeCDF	32.51		1.0090	1.0098	+1.6	1.78E+07	1.50	Y	1.02	45.2	8245.963	0.174
12379-PeCDF	NotFnd		1.0142						1.02		8245.963	0.174
12679-PeCDF	33.08	J	0.9933	0.9932	-0.2	1.47E+05	1.59	Y	1.02	0.374	8245.963	0.174
23467/12369-PeCDF	33.20		0.9969	0.9968	-0.2	7.76E+05	1.66	Y	1.02	1.97	8245.963	0.174
23478-PeCDF	**33.33**	PR	**1.0006**	**1.0008**	**+0.4**	**4.40E+07**	**1.54**	**Y**	**1.02**	**115**	**8245.963**	**0.174**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8245.963	0.174
12349-PeCDF	NotFnd		1.0107						1.02		8245.963	0.174
12389-PeCDF	34.41		1.0330	1.0331	+0.2	2.30E+06	1.62	Y	1.02	5.85	8245.963	0.174
123468-HxCDF	35.25		0.9627	0.9626	-0.2	1.24E+06	1.18	Y	1.19	3.51	15785.39	0.367
124678/134678-HxCDF	35.45		0.9682	0.9680	-0.4	8.49E+06	1.23	Y	1.19	24	15785.39	0.367
134679-HxCDF	NotFnd		0.9744						1.19		15785.39	0.367
124679-HxCDF	NotFnd		0.9798						1.19		15785.39	0.367
124689-HxCDF	36.10		0.9858	0.9858	0	4.11E+06	1.23	Y	1.19	11.6	15785.39	0.367
123467-HxCDF	36.52	J	0.9973	0.9972	-0.2	6.49E+05	1.18	Y	1.19	1.83	15785.39	0.367
123478-HxCDF	**36.64**		**1.0004**	**1.0005**	**+0.2**	**8.99E+07**	**1.24**	**Y**	**1.27**	**259**	**15785.39**	**0.358**
123678-HxCDF	**36.78**		**1.0004**	**1.0005**	**+0.2**	**2.45E+07**	**1.23**	**Y**	**1.15**	**63.5**	**15785.39**	**0.348**
123479-HxCDF	NotFnd		1.0051						1.19		15785.39	0.367
123469-HxCDF	NotFnd		1.0093						1.19		15785.39	0.367
123679-HxCDF	NotFnd		0.9944						1.19		15785.39	0.367
234678-HxCDF	**37.45**		**1.0005**	**1.0004**	**-0.2**	**5.15E+06**	**1.25**	**Y**	**1.19**	**13.5**	**15785.39**	**0.35**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		15785.39	0.367
123789-HxCDF	**NotFnd**		**1.0003**						**1.16**		**15785.39**	**0.427**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.46		1.0008	1.0012	+0.9	7.05E+06	1.20	Y	1.19	19.9	15785.39	0.367
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**2.55E+07**	**1.01**	**Y**	**1.37**	**82.8**	**5194.605**	**0.131**
1234679-HpCDF	40.16	**J**	1.0069	1.0071	+0.5	3.91E+05	0.96	Y	1.34	1.43	5194.605	0.165
1234689-HpCDF	40.30		1.0103	1.0107	+1.0	8.93E+06	0.99	Y	1.34	32.7	5194.605	0.165
1234789-HpCDF	**41.31**		**1.0003**	**1.0003**	**0**	**7.10E+06**	**1.00**	**Y**	**1.31**	**29.6**	**5194.605**	**0.207**
OCDF	**43.80**	**B**	**1.0002**	**1.0002**	**0**	**8.46E+06**	**0.89**	**Y**	**1.07**	**57.9**	**3805.22**	**0.354**
OCDF-a	43.79		1.0002	1.0001	-0.3	5.29E+05	2.26	Y	0.07	58.4	4221.222	6.34


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.29e6
4.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.74e6
2.87e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.09e7
1.05e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.34e7
6.72e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.22e7
6.09e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

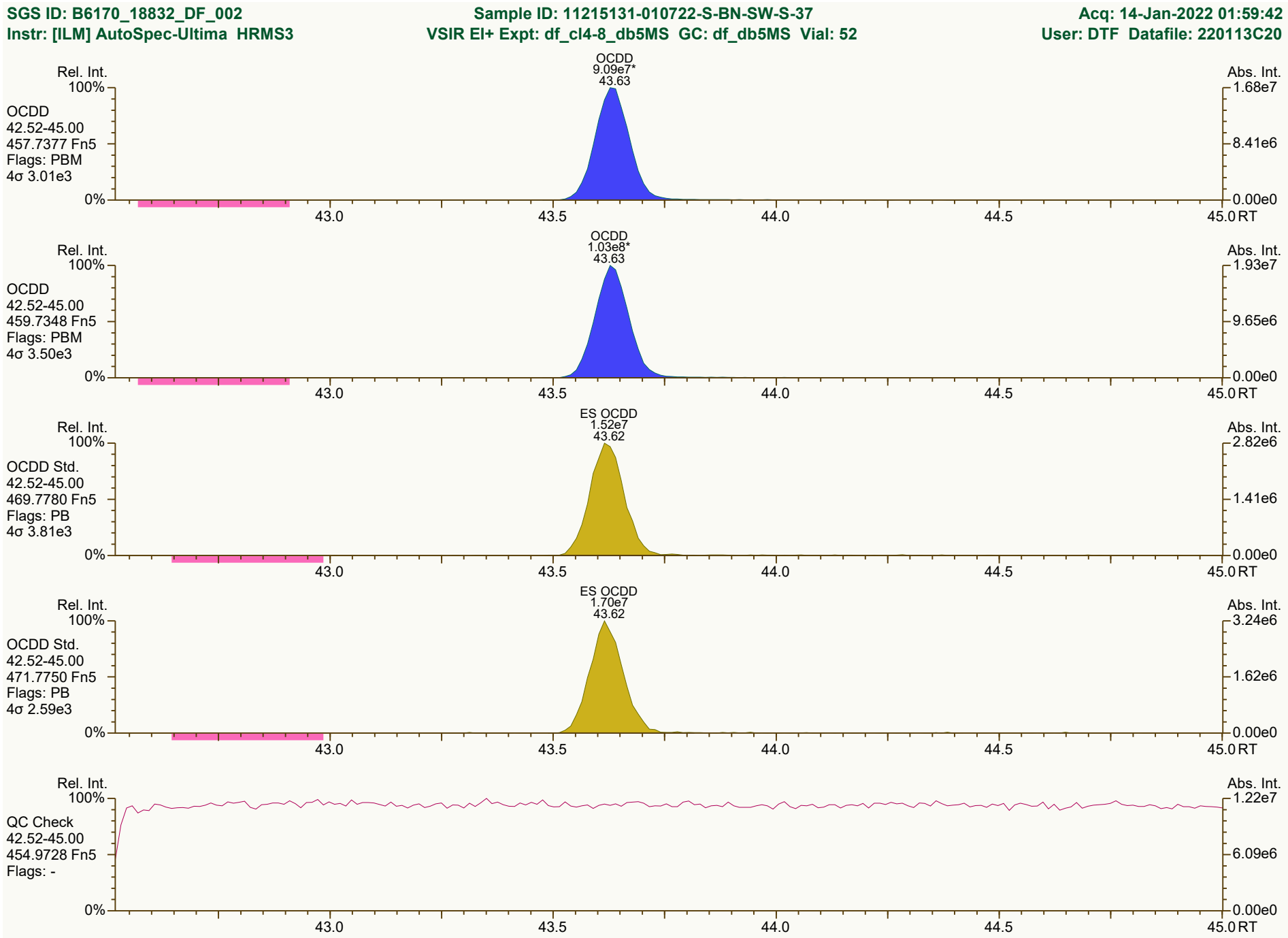

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.77e3
0%
2378D
2.07e8*
28.25
1278D
1.26e7*
28.57
Abs. Int.
5.13e7
2.57e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.78e3
0%
2378D
2.59e8*
28.25
1278D
1.58e7*
28.57
Abs. Int.
6.36e7
3.18e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.50e3
0%
CS 37Cl-2378D
2.36e7
28.25
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.68e3
0%
JS 1234D
2.14e7
27.59
ES 2378D
2.08e7
28.23
Abs. Int.
5.18e6
2.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.46e3
0%
JS 1234D
2.66e7
27.59
ES 2378D
2.49e7
28.23
Abs. Int.
6.23e6
3.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.75e3
12479/12468D
2.43e5*
31.17
12469D
3.24e5*
31.71
12368D
4.27e5*
32.25
12478D
1.44e5*
32.44
12379D
1.73e5*
32.55
12378D
2.06e6*
33.68
Abs. Int.
6.63e5
3.31e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.28e3
12479/12468D
1.87e5*
31.17
12469D
1.91e5*
31.71
12368D
2.67e5*
32.25
12379D
1.10e5*
32.55
12478D
1.01e5*
32.44
12369D...[3]
1.11e5*
32.82
12378D
1.33e6*
33.67
Abs. Int.
4.30e5
2.15e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.59e3
CS 12347D
2.23e7
33.16
ES 12378D
2.30e7
33.66
Abs. Int.
6.85e6
3.42e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 3.27e3
CS 12347D
1.43e7
33.16
ES 12378D
1.51e7
33.66
Abs. Int.
4.61e6
2.31e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
5.74e6
2.87e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 3.17e3
124679/124689D
2.46e6
35.91
123468D
2.55e5*
36.56
123679/123689D
1.48e6*
36.86
123678D
5.24e5*
37.76
123789D
2.67e5*
38.07
Abs. Int.
7.86e5
3.93e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.67e3
124679/124689D
1.97e6
35.91
123468D
2.10e5*
36.56
123679/123689D
1.17e6*
36.86
123478D
8.49e4*
37.64
123678D
4.02e5*
37.76
123789D
2.08e5*
38.07
Abs. Int.
5.67e5
2.83e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 5.11e3
ES 123678D
2.09e7
37.75
ES 123478D
1.95e7
37.63
ES 123789D
2.14e7*
38.06
JS 123467D
1.01e7*
37.96
Abs. Int.
6.33e6
3.17e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 4.45e3
ES 123678D
1.64e7
37.75
ES 123478D
1.57e7
37.63
ES 123789D
1.72e7*
38.06
JS 123467D
8.05e6*
37.96
Abs. Int.
5.09e6
2.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
2.09e7
1.05e7
0.00e0
0%
35.5
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36.5
37.0
37.5
38.0
38.5
RT

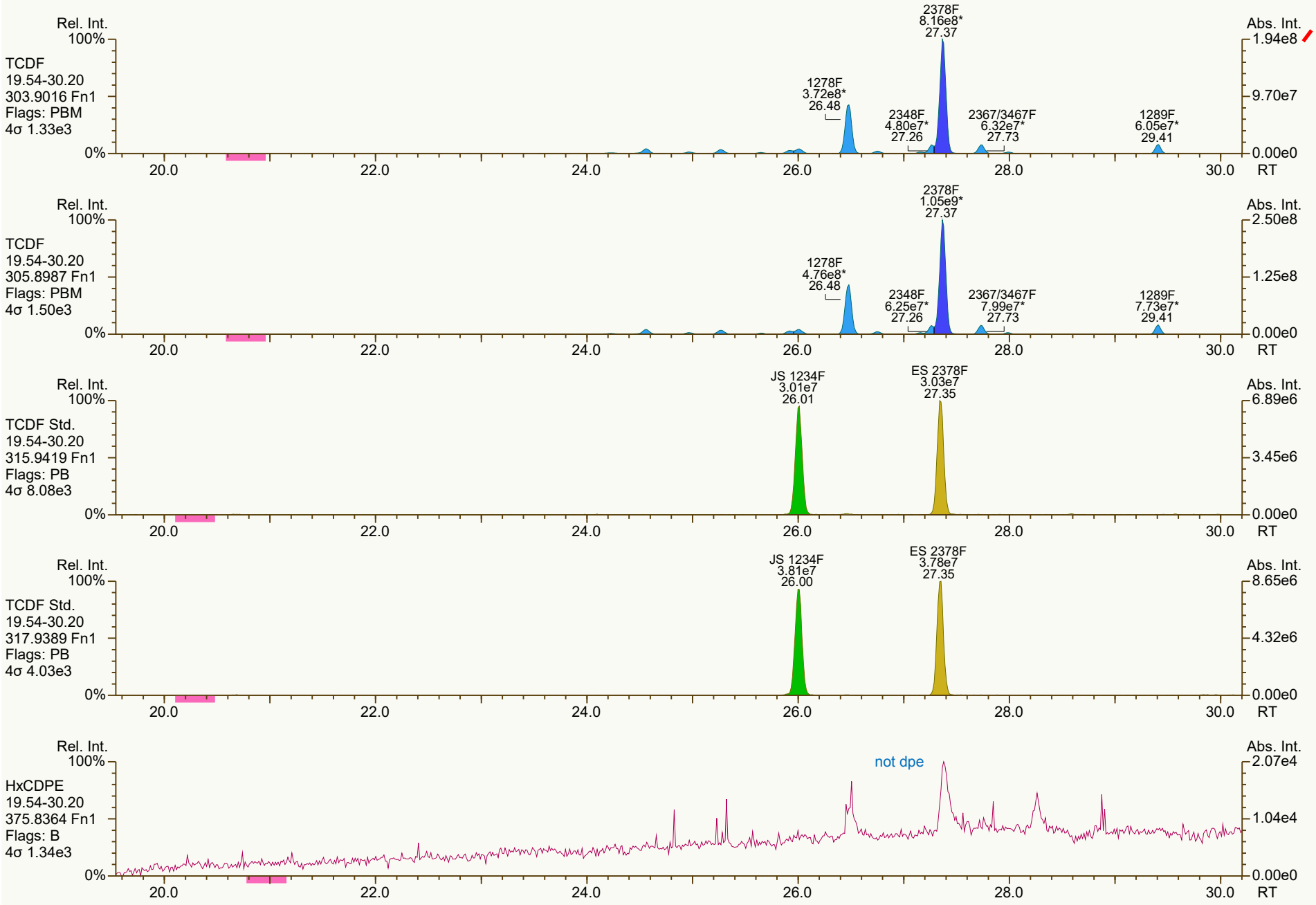


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2210, 2346 scc: 807-420
PKD: 14-Jan-2022 08:50 Printed: 14-Jan-2022 10:11 Page 5 of 12


SGS ID: B6170_18832_DF_002
Sample ID: 11215131-010722-S-BN-SW-S-37
Acq: 14-Jan-2022 01:59:42
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
User: DTF Datafile: 220113C20
OCDD
9.09e7*
43.63
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 3.01e3
OCDD
1.03e8*
43.63
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 3.50e3
ES OCDD
1.52e7
43.62
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 3.81e3
ES OCDD
1.70e7
43.62
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.59e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_002.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8655, 7804 scc: 807-420
Revised: 14-Jan-2022 08:48 (DTF) Printed: 14-Jan-2022 10:12 Page 6 of 12

SGS ID: B6170_18832_DF_002 | Sample ID: 11215131-010722-S-BN-SW-S-37 | Acq: 14-Jan-2022 01:59:42

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220113C20



Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_002.utp_res, saved 14-Jan-2022 09:29 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1082, 1992, 9938 scc: 807-420 | *Revised: 14-Jan-2022 08:48 (DTF) Printed: 14-Jan-2022 10:12 Page 7 of 12*

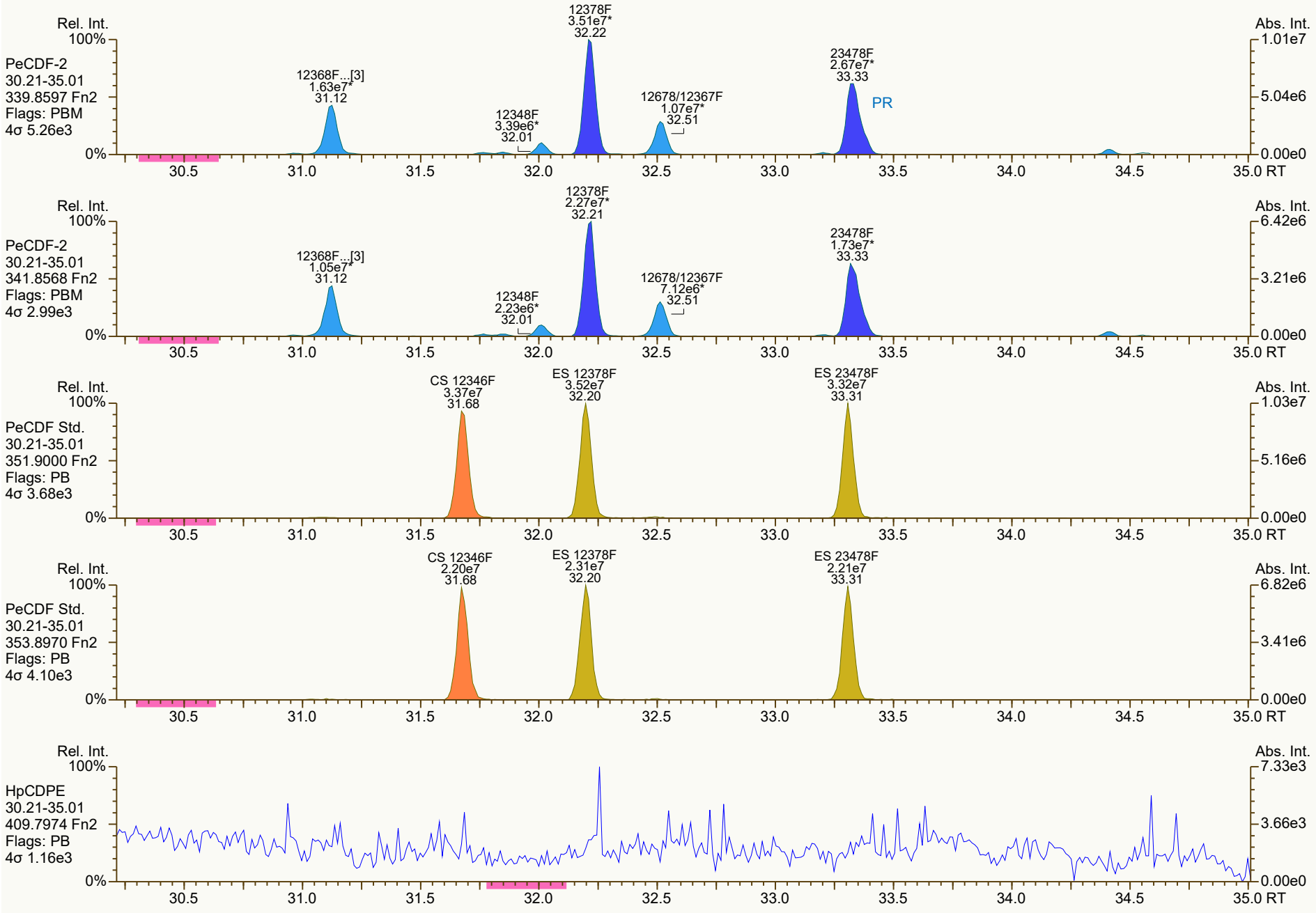
SGS ID: B6170_18832_DF_002 | Sample ID: 11215131-010722-S-BN-SW-S-37 | Acq: 14-Jan-2022 01:59:42

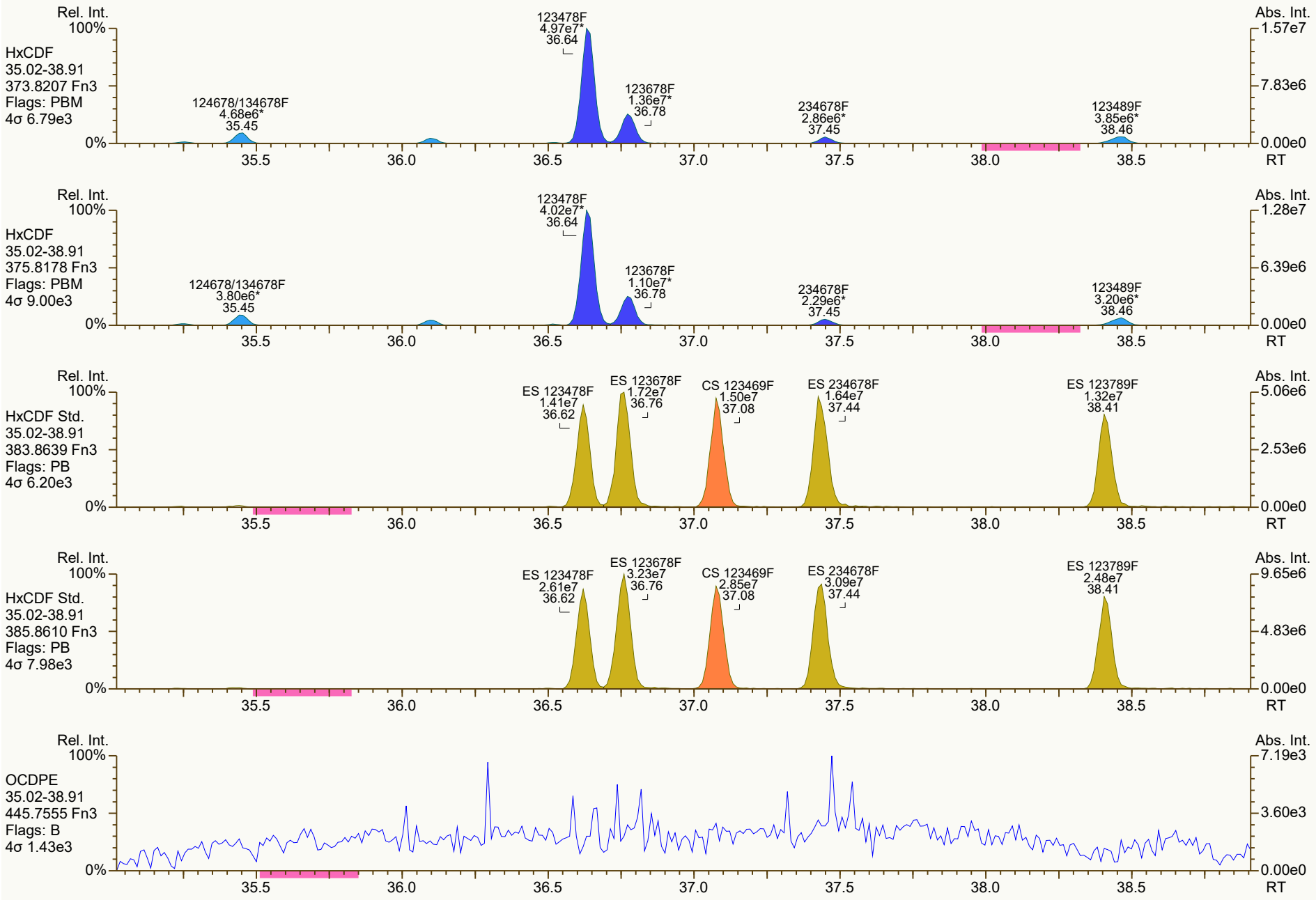
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220113C20

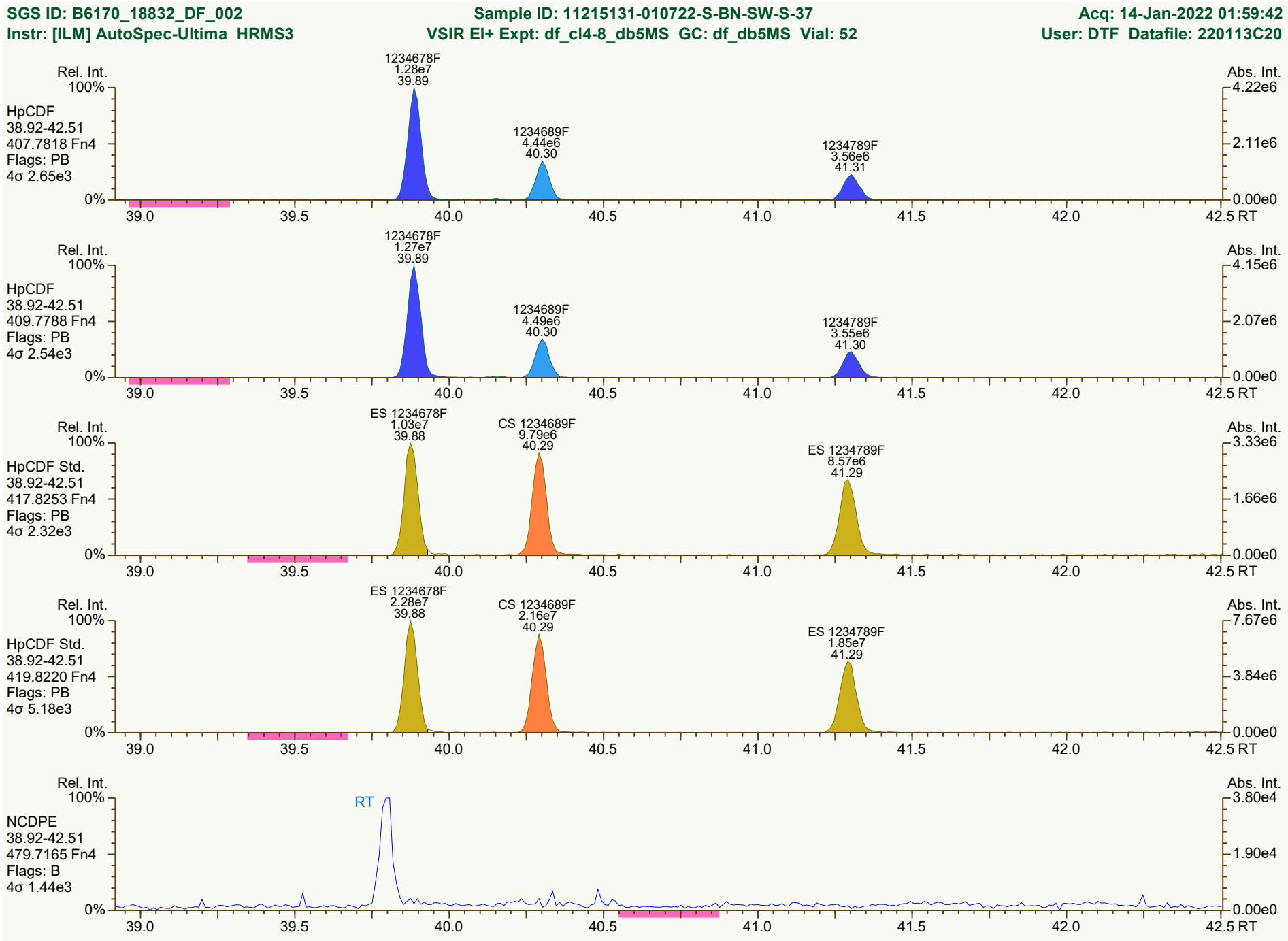


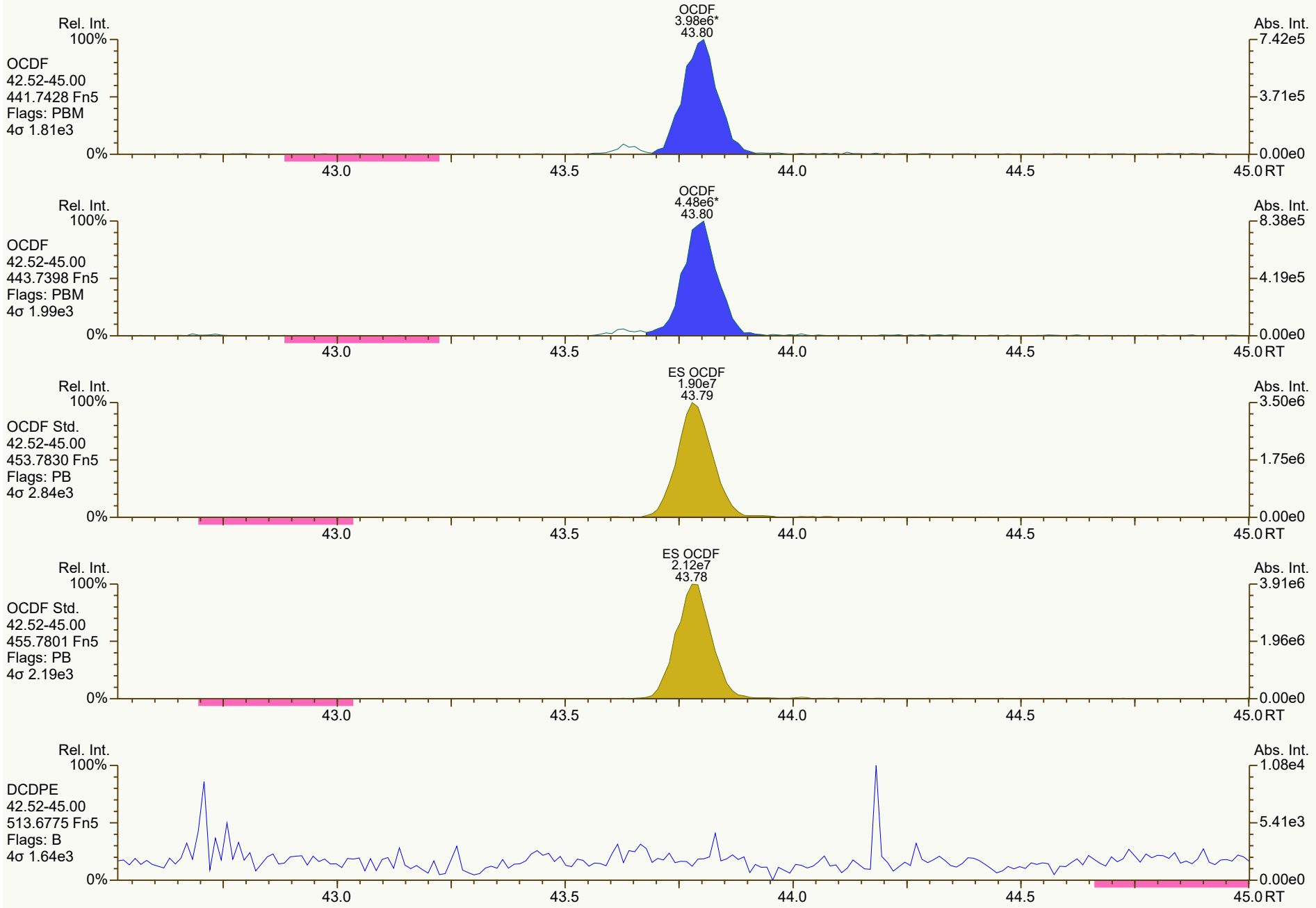
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_002.utp_res, saved 14-Jan-2022 09:29 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7041 scc: 807-420 *Revised: 14-Jan-2022 08:48 (DTF) Printed: 14-Jan-2022 10:12 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 5.26e3
0%
12368F...[3]
1.63e7*
31.12
12348F
3.39e6*
32.01
12378F
3.51e7*
32.22
12678/12367F
1.07e7*
32.51
23478F
2.67e7*
33.33
PR
Abs. Int.
1.01e7
5.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.99e3
0%
12368F...[3]
1.05e7*
31.12
12348F
2.23e6*
32.01
12378F
2.27e7*
32.21
12678/12367F
7.12e6*
32.51
23478F
1.73e7*
33.33
Abs. Int.
6.42e6
3.21e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PB
4σ 3.68e3
0%
CS 12346F
3.37e7
31.68
ES 12378F
3.52e7
32.20
ES 23478F
3.32e7
33.31
Abs. Int.
1.03e7
5.16e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PB
4σ 4.10e3
0%
CS 12346F
2.20e7
31.68
ES 12378F
2.31e7
32.20
ES 23478F
2.21e7
33.31
Abs. Int.
6.82e6
3.41e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: PB
4σ 1.16e3
0%
Abs. Int.
7.33e3
3.66e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 6.79e3
123478F
4.97e7*
36.64
123678F
1.36e7*
36.78
124678/134678F
4.68e6*
35.45
234678F
2.86e6*
37.45
123489F
3.85e6*
38.46
Abs. Int.
1.57e7
7.83e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 9.00e3
123478F
4.02e7*
36.64
123678F
1.10e7*
36.78
124678/134678F
3.80e6*
35.45
234678F
2.29e6*
37.45
123489F
3.20e6*
38.46
Abs. Int.
1.28e7
6.39e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.20e3
ES 123478F
1.41e7
36.62
ES 123678F
1.72e7
36.76
CS 123469F
1.50e7
37.08
ES 234678F
1.64e7
37.44
ES 123789F
1.32e7
38.41
Abs. Int.
5.06e6
2.53e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 7.98e3
ES 123478F
2.61e7
36.62
ES 123678F
3.23e7
36.76
CS 123469F
2.85e7
37.08
ES 234678F
3.09e7
37.44
ES 123789F
2.48e7
38.41
Abs. Int.
9.65e6
4.83e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.43e3
Abs. Int.
7.19e3
3.60e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6170_18832_DF_002
Sample ID: 11215131-010722-S-BN-SW-S-37
Acq: 14-Jan-2022 01:59:42
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
User: DTF Datafile: 220113C20
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 2.65e3
1234678F
1.28e7
39.89
1234689F
4.44e6
40.30
1234789F
3.56e6
41.31
4.22e6
2.11e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 2.54e3
1234678F
1.27e7
39.89
1234689F
4.49e6
40.30
1234789F
3.55e6
41.30
4.15e6
2.07e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.32e3
ES 1234678F
1.03e7
39.88
CS 1234689F
9.79e6
40.29
ES 1234789F
8.57e6
41.29
3.33e6
1.66e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 5.18e3
ES 1234678F
2.28e7
39.88
CS 1234689F
2.16e7
40.29
ES 1234789F
1.85e7
41.29
7.67e6
3.84e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.44e3
RT
3.80e4
1.90e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_002.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2935, 6441, 8057 scc: 807-420
PKD: 14-Jan-2022 08:45 Printed: 14-Jan-2022 10:12 Page 11 of 12


OCDF
3.98e6*
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.81e3
0%
Abs. Int.
7.42e5
3.71e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.48e6*
43.80
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.99e3
8.38e5
4.19e5
ES OCDF
1.90e7
43.79
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 2.84e3
3.50e6
1.75e6
ES OCDF
2.12e7
43.78
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.19e3
3.91e6
1.96e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.64e3
1.08e4
5.41e3

Lab ID: B6170_18832_DF_003 **Acq'd:** 14 Jan 2022 02:46 DTF **Wt/Vol:** 14.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-38 **UTP:** 14-Jan-2022 13:24:01 DTF **J-level:** 0.354 pg/g **Split:** 1 **Checkcode:** 317-273-RJJ

Datafile: 220113C21 **Report:** 14 Jan 2022 13:26 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24	E	1.0008	1.0008	0	4.22E+08	0.80	Y	1.18	970	5018.045	0.117
12378-PeCDD	33.67		1.0006	1.0006	0	3.23E+06	1.50	Y	1.04	9.88	4884.958	0.123
123478-HxCDD	37.64	J	1.0004	1.0004	0	2.70E+05	1.39	Y	1.09	0.853	4254.527	0.118
123678-HxCDD	37.76		1.0036	1.0036	0	1.06E+06	1.22	Y	1.15	2.93	4254.527	0.101
123789-HxCDD	38.06		1.0114	1.0115	+0.2	7.84E+05	1.34	Y	1.05	2.35	4254.527	0.108
1234678-HpCDD	40.86		1.0003	1.0003	0	2.83E+07	1.05	Y	1.06	107	5529.736	0.192
OCDD	43.65		1.0003	1.0003	0	2.33E+08	0.89	Y	1.13	1,540	5673.452	0.54
2378-TCDF	27.36	E	1.0007	1.0008	+0.2	1.66E+09	0.78	Y	1.08	2,760	4992.687	0.0889
12378-PeCDF	32.20		1.0005	1.0005	0	4.36E+07	1.52	Y	1.02	90.9	7773.675	0.138
23478-PeCDF	33.32	PR	1.0006	1.0008	+0.4	3.73E+07	1.53	Y	1.02	81.2	7773.675	0.15
123478-HxCDF	36.63		1.0004	1.0004	0	6.47E+07	1.23	Y	1.27	153	16547.07	0.3
123678-HxCDF	36.77		1.0004	1.0005	+0.2	1.85E+07	1.23	Y	1.15	39.3	16547.07	0.299
234678-HxCDF	37.44		1.0005	1.0005	0	3.93E+06	1.25	Y	1.19	8.63	16547.07	0.313
123789-HxCDF	NotFnd		1.0003	-		-	-	-	1.16	-	16547.07	0.355
1234678-HpCDF	39.89	B	1.0003	1.0003	0	2.40E+07	1.00	Y	1.37	61.2	4190.506	0.0871
1234789-HpCDF	41.31		1.0003	1.0002	-0.2	5.21E+06	1.03	Y	1.31	18.4	4190.506	0.145
OCDF	43.81	B	1.0002	1.0002	0	1.05E+07	0.92	Y	1.07	58.8	3739.525	0.282

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0228	1.0229	+0.2	5.20E+07	0.81	Y	1.05	87.4
ES 12378-PeCDD	33.65	1.2165	1.2197	+6.5	4.47E+07	1.62	Y	0.88	89.4
ES 123478-HxCDD	37.63	0.9916	0.9916	0	4.11E+07	1.31	Y	0.97	97.9
ES 123678-HxCDD	37.75	0.9947	0.9947	0	4.43E+07	1.29	Y	0.94	109
ES 123789-HxCDD	38.04	1.0025	1.0026	+0.2	4.51E+07	1.25	Y	1.09	95.5
ES 1234678-HpCDD	40.85	1.0747	1.0764	+4.2	3.54E+07	1.04	Y	0.91	89.7
ES OCDD	43.64	1.1475	1.1499	+6.3	3.79E+07	0.98	Y	0.62	70.2
ES 2378-TCDF	27.34	1.0505	1.0516	+1.8	7.89E+07	0.80	Y	1.06	88.8
ES 12378-PeCDF	32.19	1.2337	1.2381	+8.5	6.62E+07	1.50	Y	0.91	86.6
ES 23478-PeCDF	33.30	1.2758	1.2808	+10.0	6.38E+07	1.57	Y	0.88	86
ES 123478-HxCDF	36.61	0.9648	0.9648	0	4.70E+07	0.53	Y	1.20	90.7
ES 123678-HxCDF	36.75	0.9685	0.9685	0	5.77E+07	0.52	Y	1.35	98.7
ES 234678-HxCDF	37.42	0.9863	0.9862	-0.2	5.42E+07	0.54	Y	1.24	101
ES 123789-HxCDF	38.41	1.0118	1.0122	+0.9	4.48E+07	0.53	Y	1.16	89.8
ES 1234678-HpCDF	39.88	1.0495	1.0510	+3.6	4.05E+07	0.44	Y	0.97	96.9
ES 1234789-HpCDF	41.30	1.0868	1.0883	+3.7	3.06E+07	0.44	Y	0.85	83.1
ES OCDF	43.80	1.1520	1.1542	+5.8	4.72E+07	0.92	Y	0.81	67.6

Lab ID: B6170_18832_DF_003 **Acq'd:** 14 Jan 2022 02:46 DTF **Wt/Vol:** 14.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-38 **UTP:** 14-Jan-2022 13:24:01 DTF **J-level:** 0.354 pg/g **Split:** 1 **Checkcode:** 317-273-RJJ

Datafile: 220113C21 **Report:** 14 Jan 2022 13:26 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.59		-	-	-	5.68E+07	0.82	Y	-	-	
JS 1234-TCDF	26.00		-	-	-	8.40E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.95		-	-	-	2.16E+07	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.24		1.0235	1.0237	+0.3	2.43E+07	n/a	-	1.20	88.8	
CS 12347-PeCDD	33.15		1.1987	1.2018	+6.2	4.36E+07	1.56	Y	0.75	102	
CS 12346-PeCDF	31.67		1.2139	1.2181	+8.0	6.66E+07	1.53	Y	0.85	93.2	
CS 123469-HxCDF	37.07		0.9771	0.9769	-0.4	5.34E+07	0.53	Y	1.12	110	
CS 1234689-HpCDF	40.30		1.0601	1.0619	+4.4	3.87E+07	0.45	Y	0.89	101	
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0235~~	~~1.0237~~	~~+0.3~~	~~2.43E+07~~	~~n/a~~		~~1.15~~	~~102~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.15~~		~~1.1987~~	~~1.2018~~	~~+6.2~~	~~4.36E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~114~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.67~~		~~1.2139~~	~~1.2181~~	~~+8.0~~	~~6.66E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~107~~	
~~SS 123469-HxCDF~~	~~37.07~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~5.34E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~112~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0601~~	~~1.0619~~	~~+4.4~~	~~3.87E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~104~~	

Totals	Conc	EMPC
Total TCDD	1080	1080
Total PeCDD	23.1	23.1
Total HxCDD	54.1	55.4
Total HpCDD	223	223
Total Tetra-Octa Dioxins	2920	2920
Total TCDF	5,380	5380
Total PeCDF	279	279
Total HxCDF	245	245
Total HpCDF	107	107
Total Tetra-Octa Furans	6,070	6070
Total Tetra-Octa Dioxins & Furans	8990	8990

Lab ID: B6170_18832_DF_003 **Acq'd: 14 Jan 2022 02:46 DTF** **Wt/Vol: 14.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-38 **UTP: 14-Jan-2022 13:24:01 DTF** **J-level: 0.354 pg/g** **Split: 1** **Checkcode: 317-273-RJJ**

Datafile: 220113C21 **Report: 14 Jan 2022 13:26 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.57		0.8733	0.8709	-3.5	8.28E+05	0.83	Y	1.18	1.9	5018.045	0.117
1379-TCDD	24.94		0.8860	0.8837	-3.4	4.57E+05	0.75	Y	1.18	1.05	5018.045	0.117
1369-TCDD	25.36	J	0.9009	0.8988	-3.2	1.37E+05	0.80	Y	1.18	0.314	5018.045	0.117
1469-TCDD	26.16		0.9282	0.9270	-1.9	2.06E+06	0.80	Y	1.18	4.74	5018.045	0.117
1247/1246/1248/1249-TCDD	26.39		0.9365	0.9351	-2.2	7.41E+05	0.69	Y	1.18	1.7	5018.045	0.117
1378-TCDD	26.58		0.9429	0.9419	-1.6	1.44E+06	0.87	Y	1.18	3.31	5018.045	0.117
1268-TCDD	26.79	J	0.9500	0.9494	-1.0	1.22E+05	0.77	Y	1.18	0.28	5018.045	0.117
1478-TCDD	27.03		0.9584	0.9579	-0.8	1.13E+06	0.75	Y	1.18	2.61	5018.045	0.117
1279-TCDD	27.21	J	0.9648	0.9641	-1.1	9.83E+04	0.84	Y	1.18	0.226	5018.045	0.117
1234/1269-TCDD	27.56		0.9770	0.9766	-0.7	4.69E+05	0.79	Y	1.18	1.08	5018.045	0.117
1236-TCDD	NotFnd		0.9821						1.18		5018.045	0.117
1237/1238-TCDD	27.95		0.9909	0.9905	-0.7	6.74E+06	0.82	Y	1.18	15.5	5018.045	0.117
1239-TCDD	NotFnd		0.9959						1.18		5018.045	0.117
2378-TCDD	**28.24**	E	**1.0008**	1.0008	**0**	4.22E+08	0.80	Y	**1.18**	**970**	**5018.045**	**0.117**
1278-TCDD	28.57		1.0123	1.0124	+0.2	2.96E+07	0.81	Y	1.18	68	5018.045	0.117
1267-TCDD	28.72		1.0172	1.0176	+0.7	1.22E+06	0.82	Y	1.18	2.8	5018.045	0.117
1289-TCDD	29.23		1.0354	1.0359	+0.9	7.80E+05	0.76	Y	1.18	1.79	5018.045	0.117
12479/12468-PeCDD	31.16		0.9267	0.9260	-1.3	6.30E+05	1.45	Y	1.04	1.93	4884.958	0.123
12469-PeCDD	31.70		0.9426	0.9422	-0.8	1.40E+06	1.40	Y	1.04	4.27	4884.958	0.123
12368-PeCDD	32.24		0.9587	0.9583	-0.8	6.54E+05	1.67	Y	1.04	2	4884.958	0.123
12478-PeCDD	32.44	J	0.9642	0.9640	-0.4	3.00E+05	1.37	Y	1.04	0.917	4884.958	0.123
12379-PeCDD	32.54	J	0.9674	0.9672	-0.4	2.93E+05	1.45	Y	1.04	0.896	4884.958	0.123
12369/12467/12489-PeCDD	32.81		0.9752	0.9751	-0.2	6.53E+05	1.49	Y	1.04	2	4884.958	0.123
12346/12347-PeCDD	33.18	J	0.9861	0.9862	+0.2	1.50E+05	1.55	Y	1.04	0.458	4884.958	0.123
12378-PeCDD	33.67		**1.0006**	**1.0006**	**0**	**3.23E+06**	**1.50**	**Y**	**1.04**	**9.88**	**4884.958**	**0.123**
12367-PeCDD	33.75	J	1.0036	1.0031	-1.0	1.54E+05	1.41	Y	1.04	0.47	4884.958	0.123
12389-PeCDD	34.12	J	1.0139	1.0140	+0.2	1.11E+05	1.56	Y	1.04	0.34	4884.958	0.123
124679/124689-HxCDD	35.90		0.9541	0.9542	+0.2	1.16E+07	1.25	Y	1.10	34.5	4254.527	0.109
123468-HxCDD	36.56	J	0.9715	0.9716	+0.2	5.09E+05	1.28	Y	1.10	1.51	4254.527	0.109
123679/123689-HxCDD	36.85		0.9793	0.9793	0	4.00E+06	1.20	Y	1.10	11.9	4254.527	0.109
123469-HxCDD	36.98	J EMPC	0.9831	0.9829	-0.4	2.62E+05	1.46	N	1.10	0.778	4254.527	0.109
123478-HxCDD	37.64	J	**1.0004**	**1.0004**	**0**	**2.70E+05**	**1.39**	**Y**	1.09	**0.853**	**4254.527**	**0.118**
123678-HxCDD	37.76		**1.0036**	**1.0036**	**0**	**1.06E+06**	**1.22**	**Y**	1.15	**2.93**	**4254.527**	**0.101**
123467-HxCDD	37.96	J EMPC	1.0089	1.0089	0	1.92E+05	1.59	N	1.10	0.569	4254.527	0.109
123789-HxCDD	38.06		**1.0114**	**1.0115**	**+0.2**	**7.84E+05**	**1.34**	**Y**	1.05	**2.35**	**4254.527**	**0.108**

Lab ID: B6170_18832_DF_003 **Acq'd: 14 Jan 2022 02:46 DTF** **Wt/Vol: 14.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-38 **UTP: 14-Jan-2022 13:24:01 DTF** **J-level: 0.354 pg/g** **Split: 1** **Checkcode: 317-273-RJJ**

Datafile: 220113C21 **Report: 14 Jan 2022 13:26 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

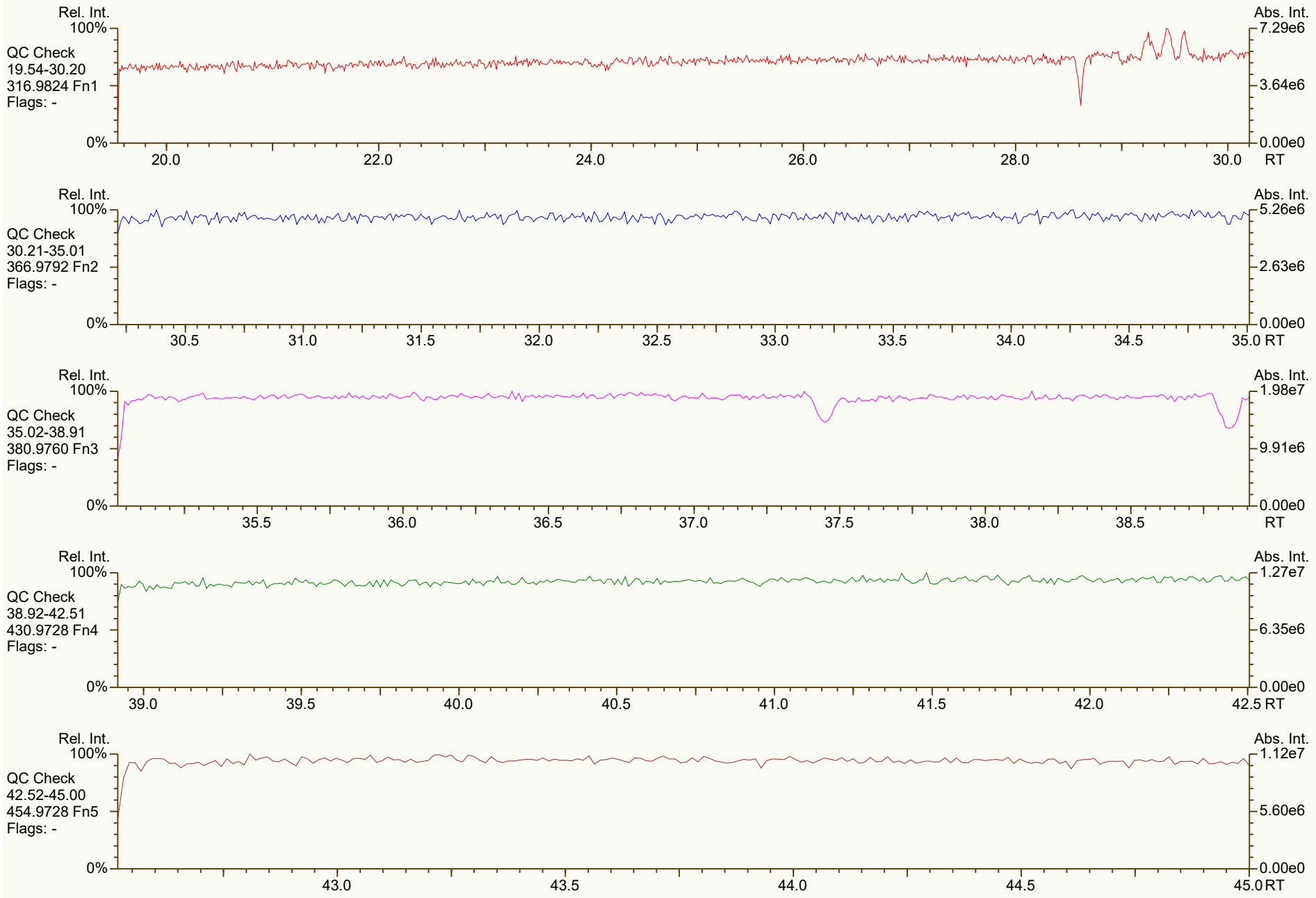
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9835	0	3.09E+07	1.04	Y	1.06	117	5529.736	0.192
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**2.83E+07**	**1.05**	**Y**	**1.06**	**107**	**5529.736**	**0.192**
OCDD	**43.65**		**1.0003**	**1.0003**	**0**	**2.33E+08**	**0.89**	**Y**	**1.13**	**1,540**	**5673.452**	**0.54**
OCDD-a	43.64		1.0002	1.0002	0	1.50E+07	2.37	Y	0.07	1,560	5441.369	8.09
1368-TCDF	22.45	EMPC	0.8250	0.8211	-5.3	4.30E+05	0.91	N	1.08	0.714	4992.687	0.0889
1468-TCDF	23.04		0.8494	0.8427	-9.3	2.63E+06	0.78	Y	1.08	4.37	4992.687	0.0889
2468-TCDF	23.67		0.8684	0.8657	-3.8	2.27E+06	0.77	Y	1.08	3.76	4992.687	0.0889
1346/1246-TCDF	NotFnd		0.8815						1.08		4992.687	0.0889
1347/1378/1247-TCDF	24.20		0.8867	0.8853	-2.0	1.80E+07	0.80	Y	1.08	30	4992.687	0.0889
1348-TCDF	24.55		0.8966	0.8978	+1.8	7.88E+07	0.80	Y	1.08	131	4992.687	0.0889
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		4992.687	0.0889
1268-TCDF	24.96		0.9148	0.9131	-2.5	2.59E+07	0.78	Y	1.08	43	4992.687	0.0889
1467-TCDF	25.10		0.9197	0.9182	-2.3	3.52E+06	0.79	Y	1.08	5.85	4992.687	0.0889
1478-TCDF	25.26		0.9258	0.9240	-2.7	6.28E+07	0.78	Y	1.08	104	4992.687	0.0889
1369/1237-TCDF	25.64		0.9390	0.9380	-1.5	1.76E+07	0.78	Y	1.08	29.3	4992.687	0.0889
2467-TCDF	25.77		0.9435	0.9427	-1.2	1.71E+06	0.78	Y	1.08	2.85	4992.687	0.0889
2368-TCDF	25.91		0.9488	0.9477	-1.7	4.58E+07	0.77	Y	1.08	76.1	4992.687	0.0889
1238/1234/1678/1469/1236-TCDF	26.00		0.9527	0.9510	-2.7	8.26E+07	0.79	Y	1.08	137	4992.687	0.0889
1278-TCDF	26.47	E	0.9689	0.9681	-1.3	7.65E+08	0.79	Y	1.08	1,270	4992.687	0.0889
1349-TCDF	NotFnd		0.9730						1.08		4992.687	0.0889
1267-TCDF	26.74		0.9787	0.9782	-0.8	3.91E+07	0.79	Y	1.08	65	4992.687	0.0889
2346/1249-TCDF	26.96		0.9856	0.9860	+0.6	4.84E+06	0.80	Y	1.08	8.04	4992.687	0.0889
2347/1279-TCDF	27.15		0.9934	0.9930	-0.7	2.02E+07	0.77	Y	1.08	33.6	4992.687	0.0889
2348-TCDF	27.25		0.9972	0.9968	-0.7	1.20E+08	0.77	Y	1.08	200	4992.687	0.0889
2378-TCDF	**27.36**	E	**1.0007**	**1.0008**	**+0.2**	**1.66E+09**	**0.78**	**Y**	**1.08**	**2,760**	**4992.687**	**0.0889**
2367/3467-TCDF	27.73		1.0145	1.0141	-0.7	1.32E+08	0.79	Y	1.08	219	4992.687	0.0889
1269-TCDF	27.98		1.0236	1.0234	-0.3	2.23E+07	0.79	Y	1.08	37	4992.687	0.0889
1239-TCDF	28.25		1.0333	1.0334	+0.2	1.80E+06	0.77	Y	1.08	2.99	4992.687	0.0889
1289-TCDF	29.40		1.0740	1.0754	+2.5	1.31E+08	0.78	Y	1.08	217	4992.687	0.0889
13468/12468-PeCDF	29.40		0.9138	0.9136	-0.4	3.65E+06	1.42	Y	1.02	7.77	3680.911	0.0681
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		7773.675	0.144
12368/13478/12478-PeCDF	31.11		0.9661	0.9664	+0.6	2.18E+07	1.58	Y	1.02	46.5	7773.675	0.144
14678-PeCDF	NotFnd		0.9693						1.02		7773.675	0.144
13479-PeCDF	NotFnd		0.9722						1.02		7773.675	0.144
13469/12479-PeCDF	NotFnd		0.9800						1.02		7773.675	0.144
12346-PeCDF	NotFnd		0.9844						1.02		7773.675	0.144

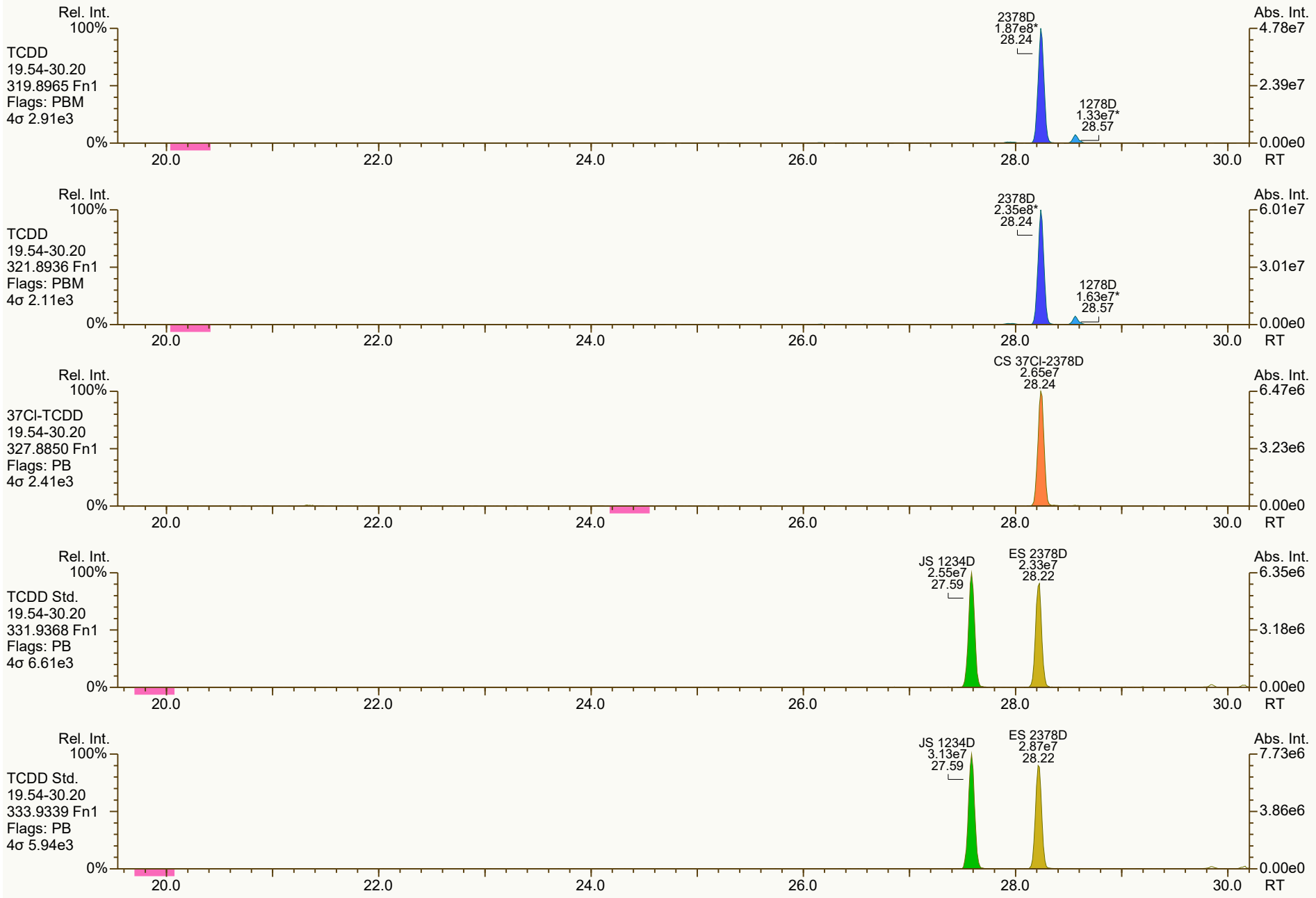
Lab ID: B6170_18832_DF_003 **Acq'd: 14 Jan 2022 02:46 DTF** **Wt/Vol: 14.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

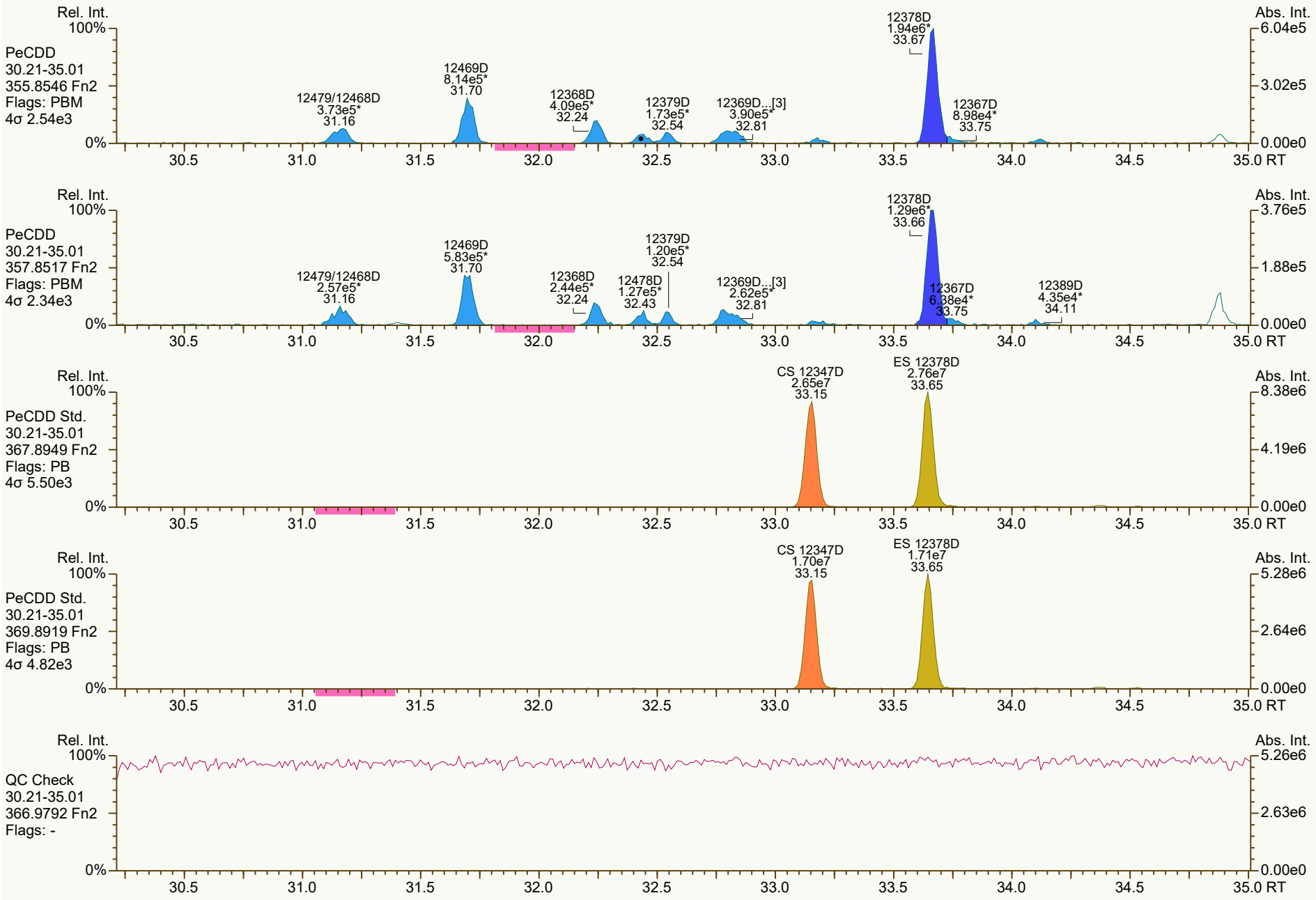
Client ID: 11215131-010722-S-BN-SW-S-38 **UTP: 14-Jan-2022 13:24:01 DTF** **J-level: 0.354 pg/g** **Split: 1** **Checkcode: 317-273-RJJ**

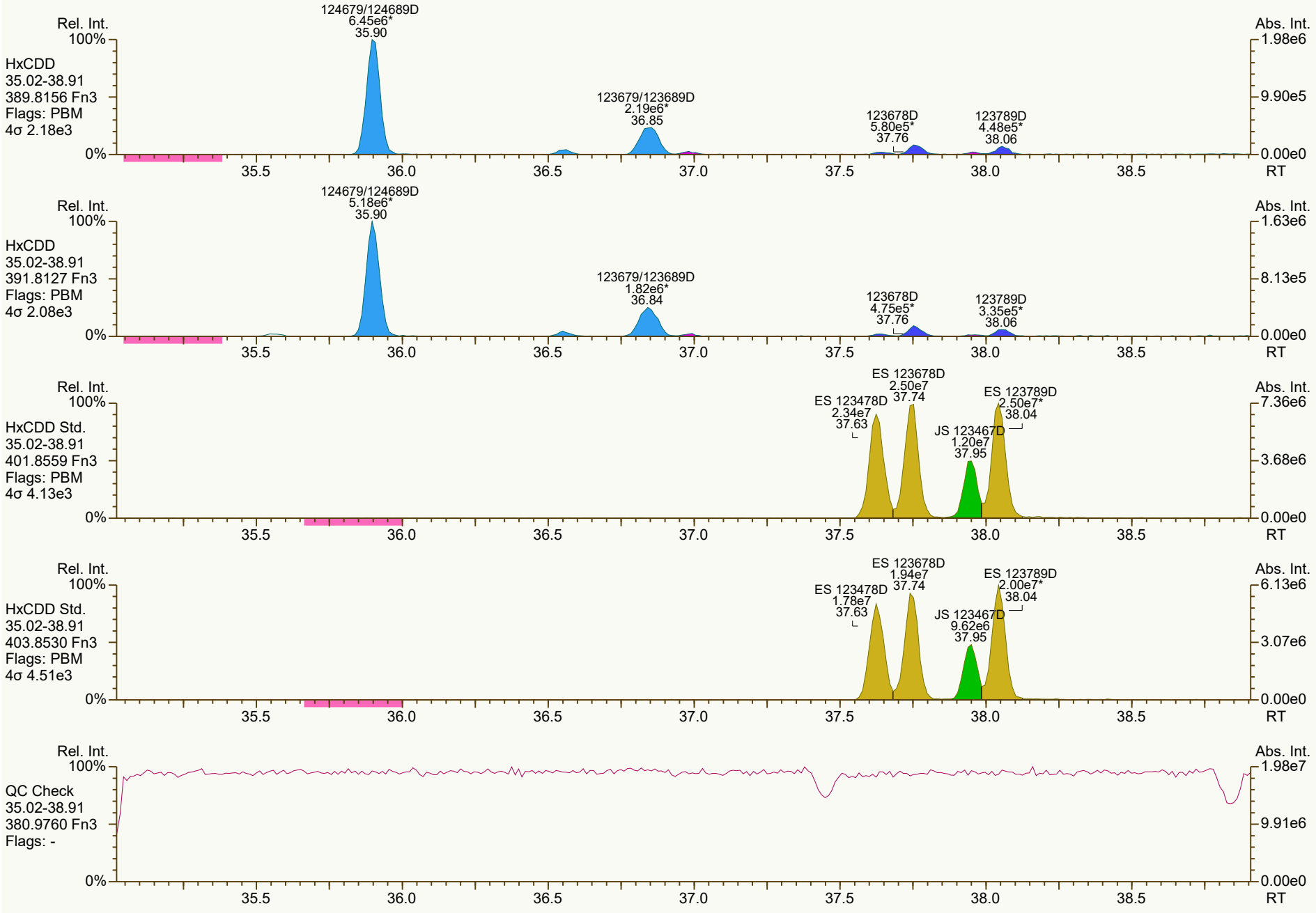
Datafile: 220113C21 **Report: 14 Jan 2022 13:26 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

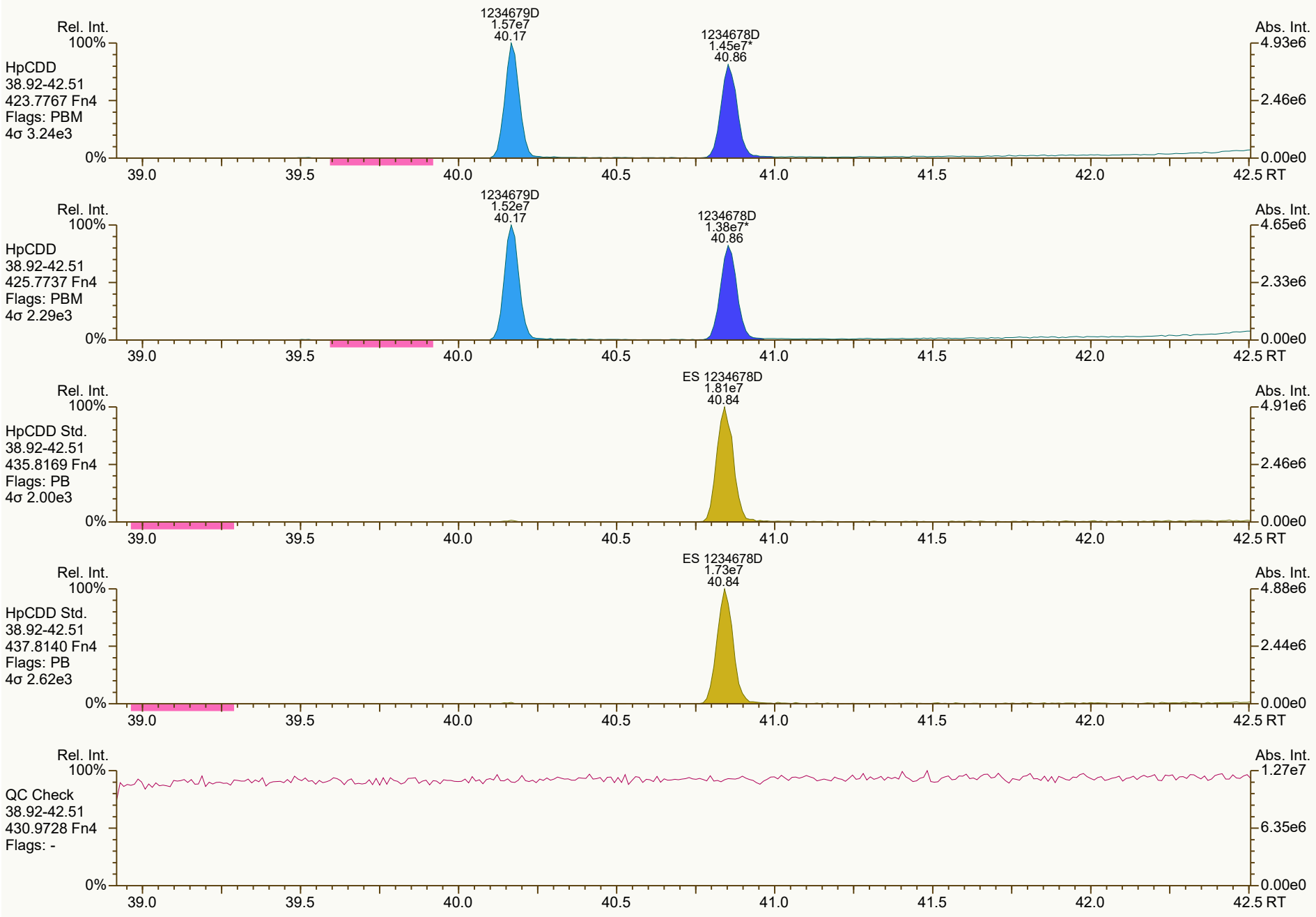
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9865	0.9863	-0.4	1.19E+06	1.61	Y	1.02	2.53	7773.675	0.144
12347-PeCDF	31.83		0.9890	0.9890	0	1.08E+06	1.51	Y	1.02	2.3	7773.675	0.144
12348-PeCDF	32.00		0.9942	0.9942	0	4.96E+06	1.58	Y	1.02	10.6	7773.675	0.144
12378-PeCDF	**32.20**		**1.0005**	**1.0005**	**0**	**4.36E+07**	**1.52**	**Y**	**1.02**	**90.9**	**7773.675**	**0.138**
12678/12367-PeCDF	32.50		1.0090	1.0098	+1.6	1.46E+07	1.54	Y	1.02	31.1	7773.675	0.144
12379-PeCDF	NotFnd		1.0142						1.02		7773.675	0.144
12679-PeCDF	NotFnd		0.9933						1.02		7773.675	0.144
23467/12369-PeCDF	33.19	J	0.9969	0.9968	-0.2	7.33E+05	1.57	Y	1.02	1.56	7773.675	0.144
23478-PeCDF	**33.32**	PR	**1.0006**	**1.0008**	**+0.4**	**3.73E+07**	**1.53**	**Y**	**1.02**	**81.2**	**7773.675**	**0.15**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7773.675	0.144
12349-PeCDF	NotFnd		1.0107						1.02		7773.675	0.144
12389-PeCDF	34.40		1.0330	1.0331	+0.2	2.04E+06	1.74	Y	1.02	4.35	7773.675	0.144
123468-HxCDF	35.24		0.9627	0.9626	-0.2	1.31E+06	1.17	Y	1.19	3.05	16547.07	0.314
124678/134678-HxCDF	35.44		0.9682	0.9680	-0.4	8.13E+06	1.24	Y	1.19	18.9	16547.07	0.314
134679-HxCDF	NotFnd		0.9744						1.19		16547.07	0.314
124679-HxCDF	NotFnd		0.9798						1.19		16547.07	0.314
124689-HxCDF	36.09		0.9858	0.9858	0	4.02E+06	1.28	Y	1.19	9.35	16547.07	0.314
123467-HxCDF	36.51	J	0.9973	0.9972	-0.2	5.80E+05	1.13	Y	1.19	1.35	16547.07	0.314
123478-HxCDF	**36.63**		**1.0004**	**1.0004**	**0**	**6.47E+07**	**1.23**	**Y**	**1.27**	**153**	**16547.07**	**0.3**
123678-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**1.85E+07**	**1.23**	**Y**	**1.15**	**39.3**	**16547.07**	**0.299**
123479-HxCDF	NotFnd		1.0051						1.19		16547.07	0.314
123469-HxCDF	NotFnd		1.0093						1.19		16547.07	0.314
123679-HxCDF	NotFnd		0.9944						1.19		16547.07	0.314
234678-HxCDF	**37.44**		**1.0005**	**1.0005**	**0**	**3.93E+06**	**1.25**	**Y**	**1.19**	**8.63**	**16547.07**	**0.313**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		16547.07	0.314
123789-HxCDF	**NotFnd**		**1.0003**						**1.16**		**16547.07**	**0.355**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.45		1.0008	1.0012	+0.9	5.03E+06	1.24	Y	1.19	11.7	16547.07	0.314
1234678-HpCDF	**39.89**	B	**1.0003**	**1.0003**	**0**	**2.40E+07**	**1.00**	**Y**	**1.37**	**61.2**	**4190.506**	**0.0871**
1234679-HpCDF	40.16	**J**	1.0069	1.0070	+0.2	3.66E+05	1.06	Y	1.34	1.09	4190.506	0.112
1234689-HpCDF	40.31		1.0103	1.0106	+0.7	8.76E+06	0.99	Y	1.34	26	4190.506	0.112
1234789-HpCDF	**41.31**		**1.0003**	**1.0002**	**-0.2**	**5.21E+06**	**1.03**	**Y**	**1.31**	**18.4**	**4190.506**	**0.145**
OCDF	**43.81**	B	**1.0002**	**1.0002**	**0**	**1.05E+07**	**0.92**	**Y**	**1.07**	**58.8**	**3739.525**	**0.282**
OCDF-a	NotFnd		1.0002						0.07		4440.987	5.4

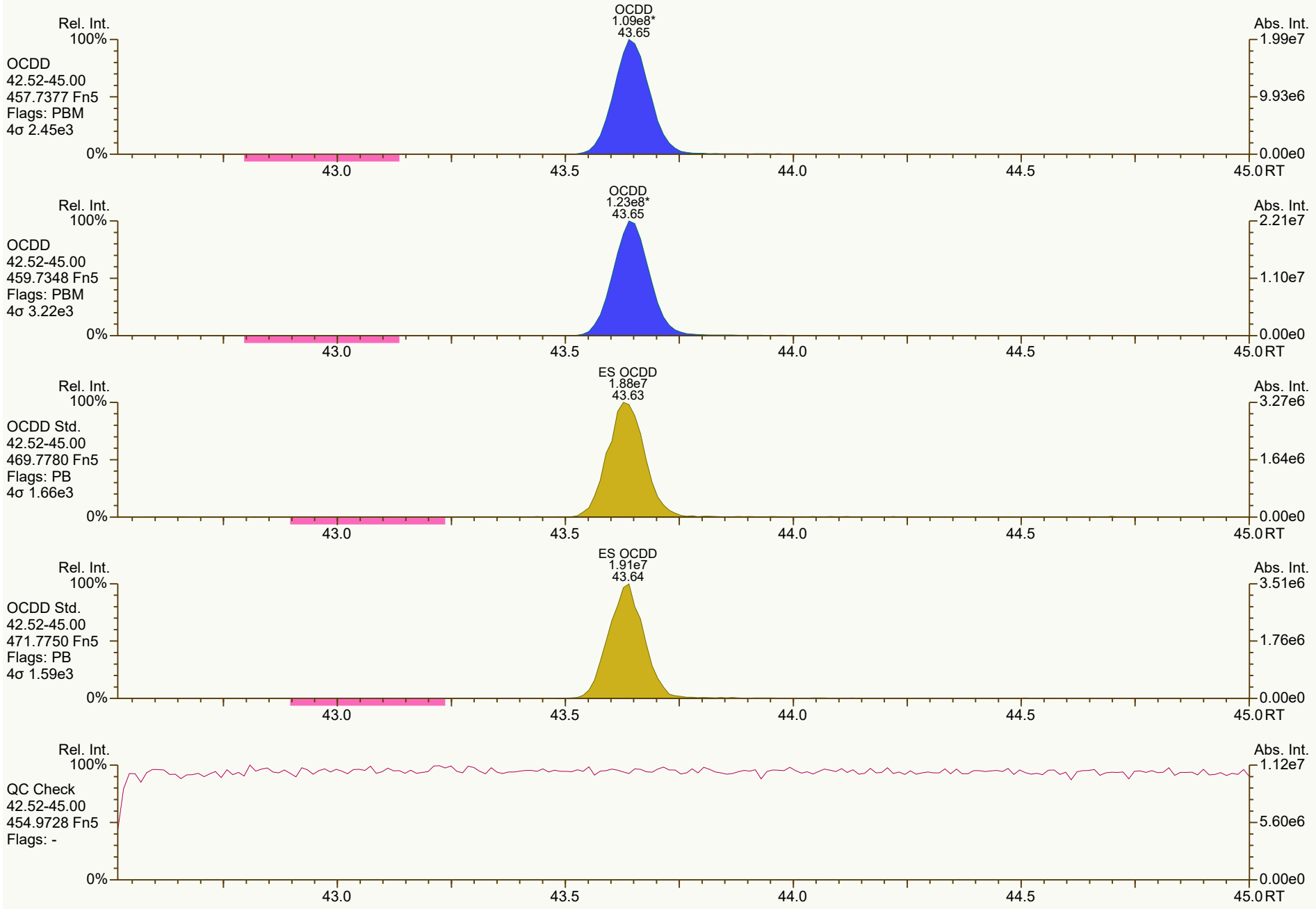

Rel. Int.
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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.29e6
3.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.26e6
2.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.98e7
9.91e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.27e7
6.35e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
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5.60e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

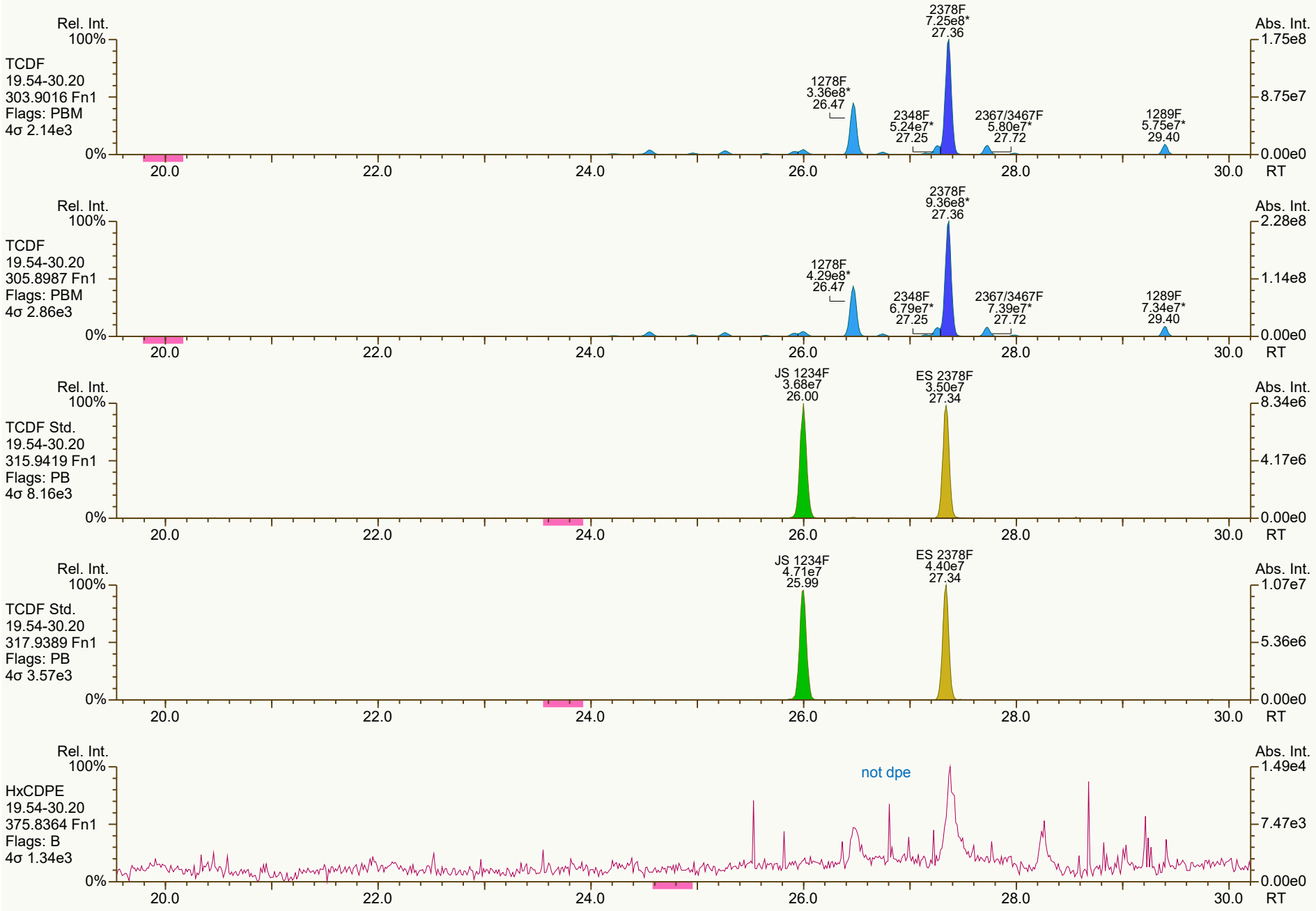

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.91e3
0%
2378D
1.87e8*
28.24
1278D
1.33e7*
28.57
Abs. Int.
4.78e7
2.39e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.11e3
0%
2378D
2.35e8*
28.24
1278D
1.63e7*
28.57
Abs. Int.
6.01e7
3.01e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.41e3
0%
CS 37Cl-2378D
2.65e7
28.24
Abs. Int.
6.47e6
3.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.61e3
0%
JS 1234D
2.55e7
27.59
ES 2378D
2.33e7
28.22
Abs. Int.
6.35e6
3.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.94e3
0%
JS 1234D
3.13e7
27.59
ES 2378D
2.87e7
28.22
Abs. Int.
7.73e6
3.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 2.54e3
12479/12468D
3.73e5*
31.16
12469D
8.14e5*
31.70
12368D
4.09e5*
32.24
12379D
1.73e5*
32.54
12369D...[3]
3.90e5*
32.81
12378D
1.94e6*
33.67
12367D
8.98e4*
33.75
Abs. Int.
6.04e5
3.02e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.34e3
12479/12468D
2.57e5*
31.16
12469D
5.83e5*
31.70
12368D
2.44e5*
32.24
12478D
1.27e5*
32.43
12379D
1.20e5*
32.54
12369D...[3]
2.62e5*
32.81
12378D
1.29e6*
33.66
12367D
6.38e4*
33.75
12389D
4.35e4*
34.11
Abs. Int.
3.76e5
1.88e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 5.50e3
CS 12347D
2.65e7
33.15
ES 12378D
2.76e7
33.65
Abs. Int.
8.38e6
4.19e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 4.82e3
CS 12347D
1.70e7
33.15
ES 12378D
1.71e7
33.65
Abs. Int.
5.28e6
2.64e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
Abs. Int.
5.26e6
2.63e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PBM
4σ 2.18e3
124679/124689D
6.45e6*
35.90
123679/123689D
2.19e6*
36.85
123678D
5.80e5*
37.76
123789D
4.48e5*
38.06
Abs. Int.
1.98e6
9.90e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PBM
4σ 2.08e3
124679/124689D
5.18e6*
35.90
123679/123689D
1.82e6*
36.84
123678D
4.75e5*
37.76
123789D
3.35e5*
38.06
Abs. Int.
1.63e6
8.13e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 4.13e3
ES 123678D
2.50e7
37.74
ES 123478D
2.34e7
37.63
ES 123789D
2.50e7*
38.04
JS 123467D
1.20e7
37.95
Abs. Int.
7.36e6
3.68e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 4.51e3
ES 123678D
1.94e7
37.74
ES 123478D
1.78e7
37.63
ES 123789D
2.00e7*
38.04
JS 123467D
9.62e6
37.95
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
1.98e7
9.91e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 3.24e3
0%
1234679D
1.57e7
40.17
1234678D
1.45e7*
40.86
Abs. Int.
4.93e6
2.46e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.29e3
0%
1234679D
1.52e7
40.17
1234678D
1.38e7*
40.86
Abs. Int.
4.65e6
2.33e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 2.00e3
0%
ES 1234678D
1.81e7
40.84
Abs. Int.
4.91e6
2.46e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.62e3
0%
ES 1234678D
1.73e7
40.84
Abs. Int.
4.88e6
2.44e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.27e7
6.35e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
1.09e8*
43.65
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 2.45e3
OCDD
1.23e8*
43.65
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 3.22e3
ES OCDD
1.88e7
43.63
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.66e3
ES OCDD
1.91e7
43.64
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.59e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
100%
0%
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
7.25e8*
27.36
1278F
3.36e8*
26.47
2348F
5.24e7*
27.25
2367/3467F
5.80e7*
27.72
1289F
5.75e7*
29.40
Abs. Int.
1.75e8
8.75e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.86e3
0%
2378F
9.36e8*
27.36
1278F
4.29e8*
26.47
2348F
6.79e7*
27.25
2367/3467F
7.39e7*
27.72
1289F
7.34e7*
29.40
Abs. Int.
2.28e8
1.14e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.16e3
0%
JS 1234F
3.68e7
26.00
ES 2378F
3.50e7
27.34
Abs. Int.
8.34e6
4.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.57e3
0%
JS 1234F
4.71e7
25.99
ES 2378F
4.40e7
27.34
Abs. Int.
1.07e7
5.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.34e3
0%
not dpe
Abs. Int.
1.49e4
7.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

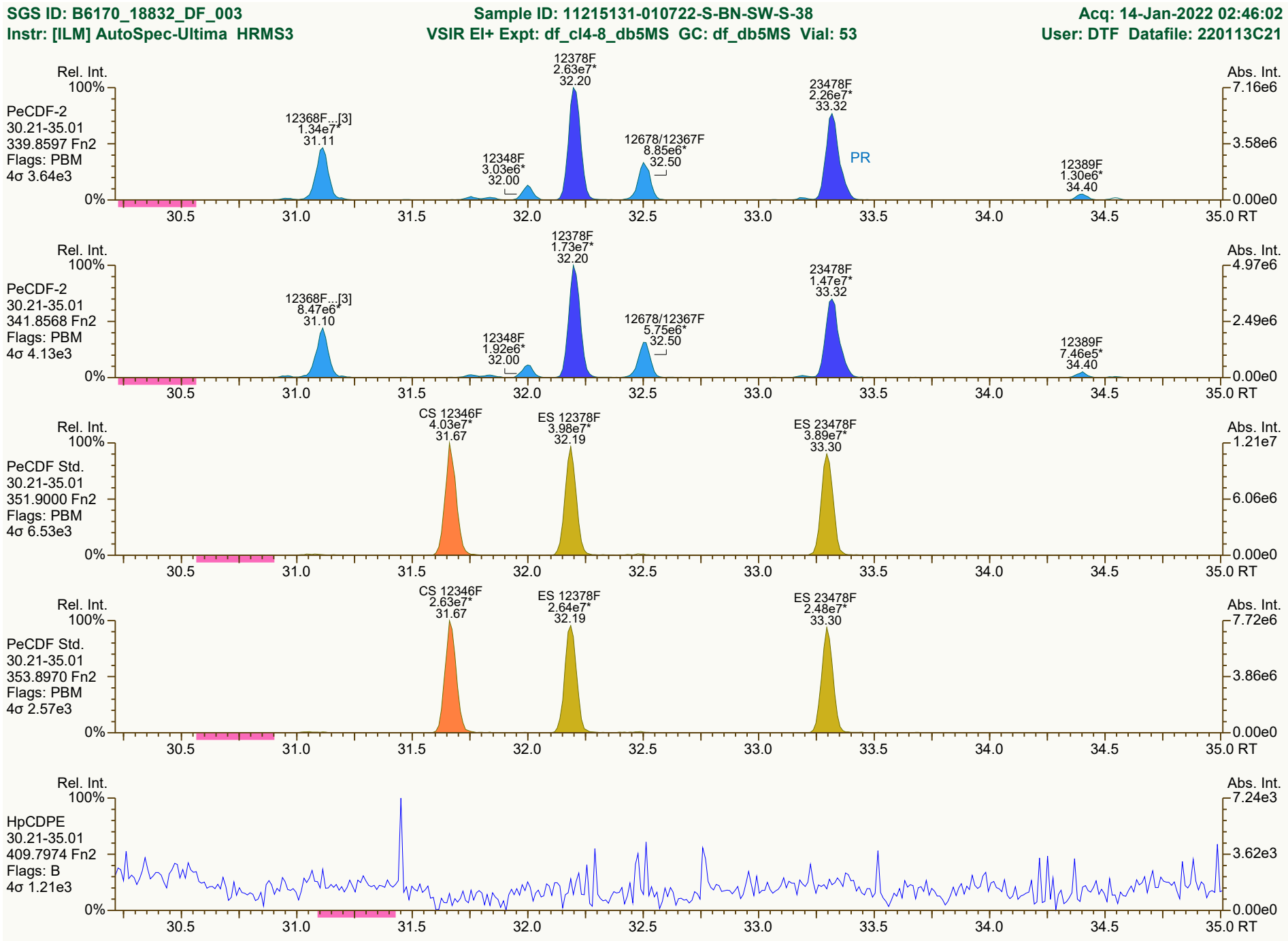
SGS ID: B6170_18832_DF_003 | Sample ID: 11215131-010722-S-BN-SW-S-38 | Acq: 14-Jan-2022 02:46:02

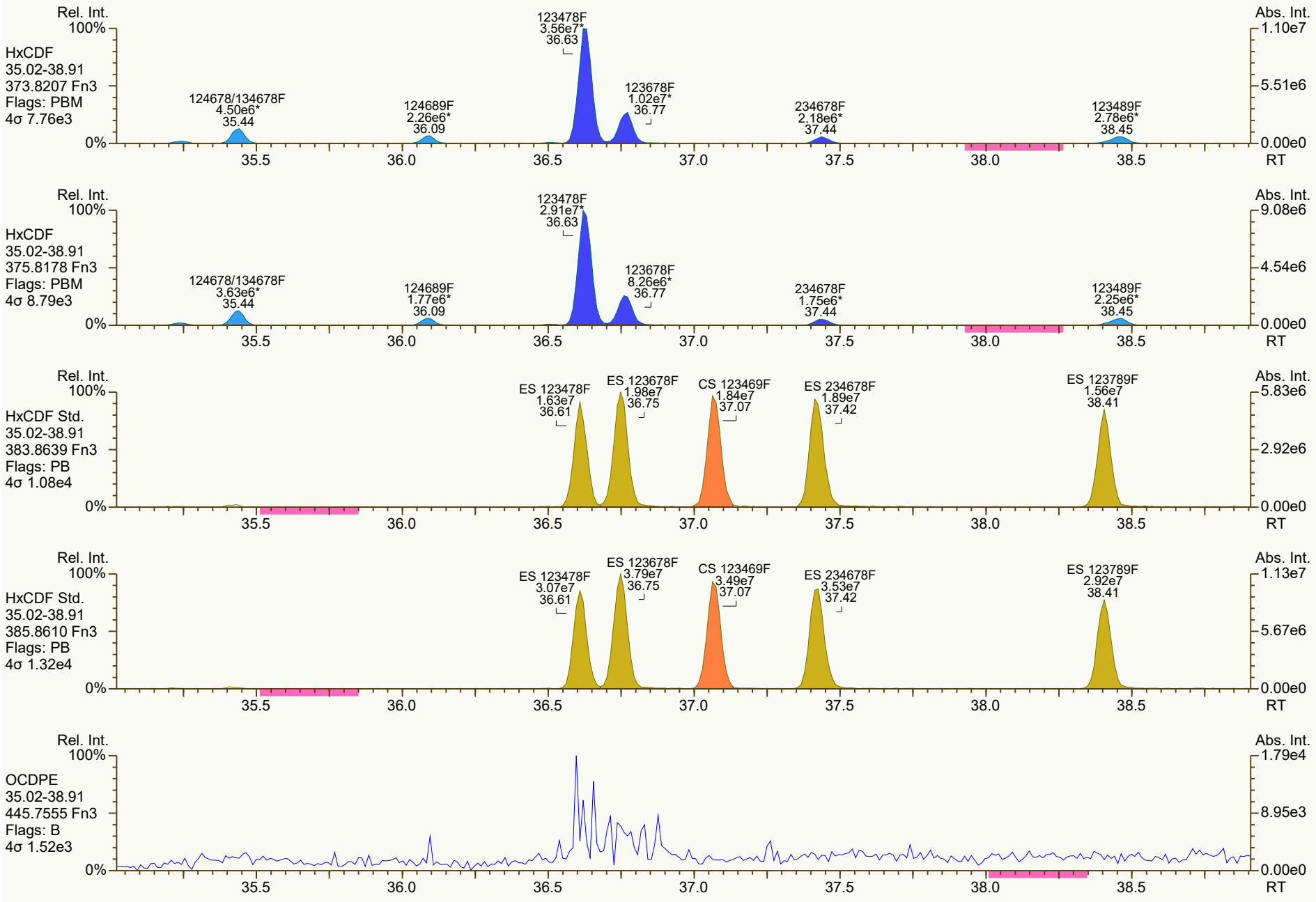
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53 | User: DTF Datafile: 220113C21

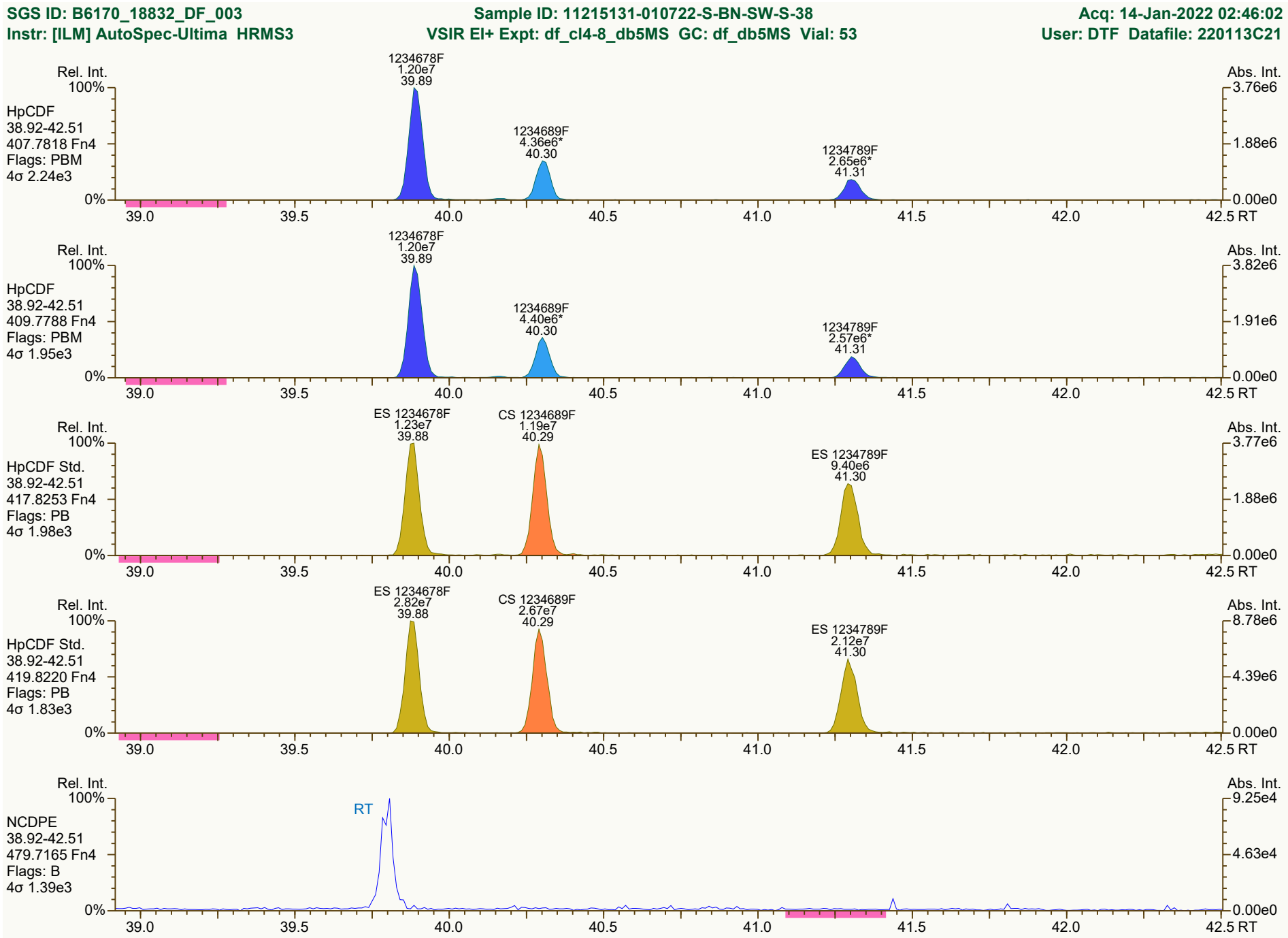


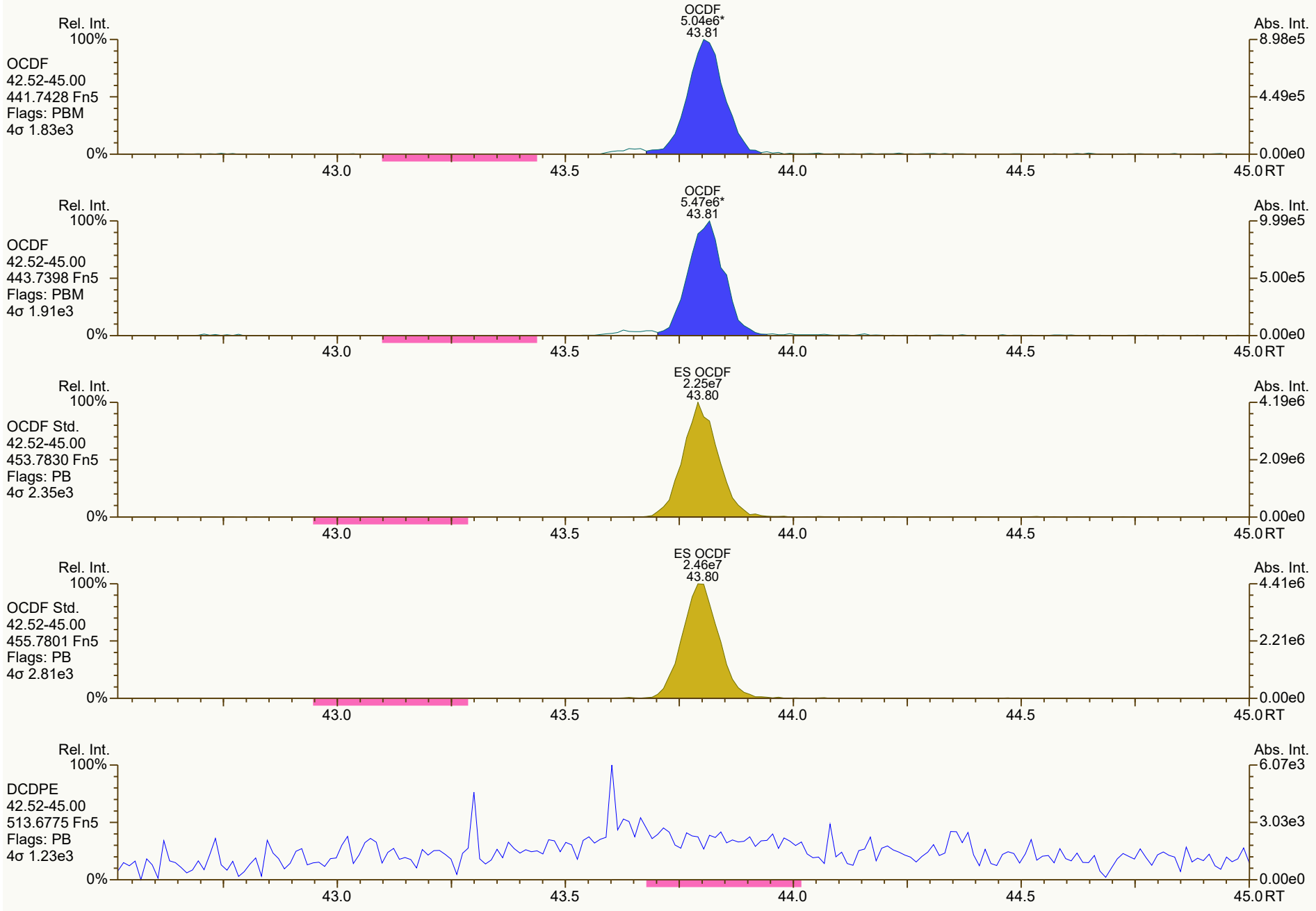
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_003.utp_res, saved 14-Jan-2022 13:23 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4268 scc: 317-273 *Revised: 14-Jan-2022 08:54 (DTF) Printed: 14-Jan-2022 13:27 Page 8 of 12*


SGS ID: B6170_18832_DF_003
Sample ID: 11215131-010722-S-BN-SW-S-38
Acq: 14-Jan-2022 02:46:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220113C21
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 3.64e3
12368F...[3]
1.34e7*
31.11
12348F
3.03e6*
32.00
12378F
2.63e7*
32.20
12678/12367F
8.85e6*
32.50
23478F
2.26e7*
33.32
PR
12389F
1.30e6*
34.40
7.16e6
3.58e6
0.00e0
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 4.13e3
12368F...[3]
8.47e6*
31.10
12348F
1.92e6*
32.00
12378F
1.73e7*
32.20
12678/12367F
5.75e6*
32.50
23478F
1.47e7*
33.32
12389F
7.46e5*
34.40
4.97e6
2.49e6
0.00e0
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 6.53e3
CS 12346F
4.03e7*
31.67
ES 12378F
3.98e7*
32.19
ES 23478F
3.89e7*
33.30
1.21e7
6.06e6
0.00e0
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.57e3
CS 12346F
2.63e7*
31.67
ES 12378F
2.64e7*
32.19
ES 23478F
2.48e7*
33.30
7.72e6
3.86e6
0.00e0
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.21e3
7.24e3
3.62e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_003.utp_res, saved 14-Jan-2022 13:23 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2476, 5329, 5758 scc: 317-273
Revised: 14-Jan-2022 09:00 (DTF) Printed: 14-Jan-2022 13:27 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 7.76e3
0%
124678/134678F
4.50e6*
35.44
124689F
2.26e6*
36.09
123478F
3.56e7*
36.63
123678F
1.02e7*
36.77
234678F
2.18e6*
37.44
123489F
2.78e6*
38.45
Abs. Int.
1.10e7
5.51e6
0.00e0
RT
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 8.79e3
124678/134678F
3.63e6*
35.44
124689F
1.77e6*
36.09
123478F
2.91e7*
36.63
123678F
8.26e6*
36.77
234678F
1.75e6*
37.44
123489F
2.25e6*
38.45
9.08e6
4.54e6
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 1.08e4
ES 123478F
1.63e7
36.61
ES 123678F
1.98e7
36.75
CS 123469F
1.84e7
37.07
ES 234678F
1.89e7
37.42
ES 123789F
1.56e7
38.41
5.83e6
2.92e6
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F
3.07e7
36.61
ES 123678F
3.79e7
36.75
CS 123469F
3.49e7
37.07
ES 234678F
3.53e7
37.42
ES 123789F
2.92e7
38.41
1.13e7
5.67e6
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.52e3
1.79e4
8.95e3


SGS ID: B6170_18832_DF_003
Sample ID: 11215131-010722-S-BN-SW-S-38
Acq: 14-Jan-2022 02:46:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220113C21
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.24e3
1234678F
1.20e7
39.89
1234689F
4.36e6*
40.30
1234789F
2.65e6*
41.31
3.76e6
1.88e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 1.95e3
1234678F
1.20e7
39.89
1234689F
4.40e6*
40.30
1234789F
2.57e6*
41.31
3.82e6
1.91e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 1.98e3
ES 1234678F
1.23e7
39.88
CS 1234689F
1.19e7
40.29
ES 1234789F
9.40e6
41.30
3.77e6
1.88e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 1.83e3
ES 1234678F
2.82e7
39.88
CS 1234689F
2.67e7
40.29
ES 1234789F
2.12e7
41.30
8.78e6
4.39e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.39e3
RT
9.25e4
4.63e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_003.utp_res, saved 14-Jan-2022 13:23 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0995, 8968, 2289 scc: 317-273
Revised: 14-Jan-2022 09:00 (DTF) Printed: 14-Jan-2022 13:27 Page 11 of 12


OCDF
5.04e6*
43.81
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
8.98e5
4.49e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.47e6*
43.81
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 1.91e3
9.99e5
5.00e5
ES OCDF
2.25e7
43.80
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 2.35e3
4.19e6
2.09e6
ES OCDF
2.46e7
43.80
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.81e3
4.41e6
2.21e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.23e3
6.07e3
3.03e3

Lab ID: B6170_18832_DF_004 **Acq'd:** 14 Jan 2022 03:32 DTF **Wt/Vol:** 14.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-39 **UTP:** 14-Jan-2022 09:29:34 DTF **J-level:** 0.35 pg/g **Split:** 1 **Checkcode:** 902-135-RQW

Datafile: 220113C22 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25	E	1.0008	1.0008	0	1.09E+09	0.80	Y	1.18	2,280	5419.15	0.113
12378-PeCDD	33.68		1.0006	1.0006	0	7.68E+06	1.57	Y	1.04	21.2	6567.12	0.141
123478-HxCDD	37.64	J EMPC	1.0004	1.0003	-0.2	3.26E+05	1.52	N	1.09	0.953	4964.487	0.129
123678-HxCDD	37.76		1.0036	1.0036	0	1.97E+06	1.26	Y	1.15	5.19	4964.487	0.117
123789-HxCDD	38.07		1.0114	1.0118	+0.9	1.03E+06	1.23	Y	1.05	2.76	4964.487	0.113
1234678-HpCDD	40.85		1.0003	1.0003	0	5.13E+07	1.02	Y	1.06	179	5567.092	0.176
OCDD	43.63		1.0003	1.0003	0	4.14E+08	0.90	Y	1.13	2,400	4489.339	0.373
2378-TCDF	27.37	E	1.0007	1.0008	+0.2	3.82E+09	0.78	Y	1.08	6,060	5971.185	0.103
12378-PeCDF	32.22		1.0005	1.0005	0	1.07E+08	1.57	Y	1.02	202	12485.467	0.201
23478-PeCDF	33.34	PR	1.0006	1.0008	+0.4	8.63E+07	1.54	Y	1.02	174	12485.467	0.215
123478-HxCDF	36.63		1.0004	1.0005	+0.2	1.50E+08	1.24	Y	1.27	330	19623.82	0.345
123678-HxCDF	36.77		1.0004	1.0005	+0.2	4.17E+07	1.20	Y	1.15	80.8	19623.82	0.325
234678-HxCDF	37.45		1.0005	1.0004	-0.2	8.57E+06	1.24	Y	1.19	17.8	19623.82	0.339
123789-HxCDF	NotFnd		1.0003	-		-	-	-	1.16	-	19623.82	0.394
1234678-HpCDF	39.89		1.0003	1.0003	0	4.22E+07	1.02	Y	1.37	100	5648.364	0.103
1234789-HpCDF	41.30		1.0003	1.0003	0	1.09E+07	1.01	Y	1.31	36.6	5648.364	0.179
OCDF	43.79	B	1.0002	1.0002	0	1.51E+07	0.85	Y	1.07	77.4	4058.26	0.286

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0228	1.0227	-0.2	5.62E+07	0.81	Y	1.05	91.3
ES 12378-PeCDD	33.66	1.2165	1.2193	+5.7	4.90E+07	1.54	Y	0.88	94.6
ES 123478-HxCDD	37.62	0.9916	0.9913	-0.7	4.40E+07	1.27	Y	0.97	99.9
ES 123678-HxCDD	37.74	0.9947	0.9945	-0.5	4.63E+07	1.27	Y	0.94	108
ES 123789-HxCDD	38.05	1.0025	1.0026	+0.2	4.99E+07	1.24	Y	1.09	101
ES 1234678-HpCDD	40.84	1.0747	1.0760	+3.2	3.80E+07	1.04	Y	0.91	91.8
ES OCDD	43.62	1.1475	1.1492	+4.4	4.29E+07	0.92	Y	0.62	75.9
ES 2378-TCDF	27.35	1.0505	1.0517	+2.0	8.19E+07	0.80	Y	1.06	91.7
ES 12378-PeCDF	32.20	1.2337	1.2380	+8.3	7.22E+07	1.55	Y	0.91	94.1
ES 23478-PeCDF	33.31	1.2758	1.2808	+10.0	6.82E+07	1.57	Y	0.88	91.7
ES 123478-HxCDF	36.62	0.9648	0.9647	-0.2	5.00E+07	0.53	Y	1.20	91.9
ES 123678-HxCDF	36.76	0.9685	0.9685	0	6.26E+07	0.54	Y	1.35	102
ES 234678-HxCDF	37.43	0.9863	0.9862	-0.2	5.67E+07	0.53	Y	1.24	101
ES 123789-HxCDF	38.41	1.0118	1.0120	+0.5	4.70E+07	0.52	Y	1.16	89.8
ES 1234678-HpCDF	39.88	1.0495	1.0507	+2.9	4.31E+07	0.46	Y	0.97	98.2
ES 1234789-HpCDF	41.29	1.0868	1.0878	+2.5	3.19E+07	0.44	Y	0.85	82.6
ES OCDF	43.78	1.1520	1.1536	+4.2	5.11E+07	0.91	Y	0.81	69.8

Lab ID: B6170_18832_DF_004 **Acq'd:** 14 Jan 2022 03:32 DTF **Wt/Vol:** 14.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-39 **UTP:** 14-Jan-2022 09:29:34 DTF **J-level:** 0.35 pg/g **Split:** 1 **Checkcode:** 902-135-RQW

Datafile: 220113C22 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.60		-	-	-	5.89E+07	0.80	Y	-	-	
JS 1234-TCDF	26.01		-	-	-	8.43E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.95		-	-	-	2.27E+07	1.26	Y	-	-	
CS 37Cl-2378-TCDD	28.25		1.0235	1.0234	-0.2	2.51E+07	n/a	-	1.20	88.5	
CS 12347-PeCDD	33.16		1.1987	1.2015	+5.6	4.44E+07	1.56	Y	0.75	100	
CS 12346-PeCDF	31.68		1.2139	1.2182	+8.2	6.74E+07	1.53	Y	0.85	94	
CS 123469-HxCDF	37.07		0.9771	0.9768	-0.7	5.32E+07	0.54	Y	1.12	105	
CS 1234689-HpCDF	40.29		1.0601	1.0616	+3.6	3.90E+07	0.45	Y	0.89	96.9	
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0235~~	~~1.0234~~	~~-0.2~~	~~2.51E+07~~	~~n/a~~		~~1.15~~	~~97.2~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.16~~		~~1.1987~~	~~1.2015~~	~~+5.6~~	~~4.44E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~106~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.68~~		~~1.2139~~	~~1.2182~~	~~+8.2~~	~~6.74E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~99.7~~	
~~SS 123469-HxCDF~~	~~37.07~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~5.32E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~103~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0601~~	~~1.0616~~	~~+3.6~~	~~3.90E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~98.5~~	

Totals	Conc	EMPC
Total TCDD	2470	2470
Total PeCDD	38.3	40
Total HxCDD	68.3	70
Total HpCDD	353	353
Total Tetra-Octa Dioxins	5330	5340
Total TCDF	11,700	11700
Total PeCDF	593	593
Total HxCDF	514	514
Total HpCDF	187	187
Total Tetra-Octa Furans	13,100	13100
Total Tetra-Octa Dioxins & Furans	18400	18400

Lab ID: B6170_18832_DF_004 **Acq'd: 14 Jan 2022 03:32 DTF** **Wt/Vol: 14.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-010722-S-BN-SW-S-39 **UTP: 14-Jan-2022 09:29:34 DTF** **J-level: 0.35 pg/g** **Split: 1** **Checkcode: 902-135-RQW**

Datafile: 220113C22 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.59		0.8733	0.8712	-3.1	1.67E+06	0.85	Y	1.18	3.51	5419.15	0.113
1379-TCDD	24.95		0.8860	0.8839	-3.1	8.63E+05	0.83	Y	1.18	1.81	5419.15	0.113
1369-TCDD	25.39	J	0.9009	0.8993	-2.4	1.51E+05	0.87	Y	1.18	0.317	5419.15	0.113
1469-TCDD	26.17		0.9282	0.9271	-1.7	3.38E+06	0.84	Y	1.18	7.11	5419.15	0.113
1247/1246/1248/1249-TCDD	26.40		0.9365	0.9354	-1.7	1.55E+06	0.77	Y	1.18	3.27	5419.15	0.113
1378-TCDD	26.59		0.9429	0.9419	-1.6	3.11E+06	0.85	Y	1.18	6.53	5419.15	0.113
1268-TCDD	26.80		0.9500	0.9494	-1.0	2.43E+05	0.74	Y	1.18	0.512	5419.15	0.113
1478-TCDD	27.05		0.9584	0.9581	-0.5	2.17E+06	0.80	Y	1.18	4.56	5419.15	0.113
1279-TCDD	27.23		0.9648	0.9645	-0.5	1.90E+05	0.75	Y	1.18	0.399	5419.15	0.113
1234/1269-TCDD	27.58		0.9770	0.9771	+0.2	7.96E+05	0.88	Y	1.18	1.67	5419.15	0.113
1236-TCDD	27.73	J	0.9821	0.9822	+0.2	1.65E+05	0.79	Y	1.18	0.348	5419.15	0.113
1237/1238-TCDD	27.96		0.9909	0.9907	-0.3	1.62E+07	0.79	Y	1.18	34.1	5419.15	0.113
1239-TCDD	NotFnd		0.9959						1.18		5419.15	0.113
2378-TCDD	**28.25**	E	**1.0008**	1.0008	**0**	1.09E+09	0.80	Y	**1.18**	**2,280**	**5419.15**	**0.113**
1278-TCDD	28.58		1.0123	1.0123	0	5.60E+07	0.80	Y	1.18	118	5419.15	0.113
1267-TCDD	28.73		1.0172	1.0180	+1.4	2.84E+06	0.86	Y	1.18	5.97	5419.15	0.113
1289-TCDD	29.25		1.0354	1.0361	+1.2	1.52E+06	0.83	Y	1.18	3.19	5419.15	0.113
12479/12468-PeCDD	31.18		0.9267	0.9263	-0.7	9.47E+05	1.56	Y	1.04	2.61	6567.12	0.141
12469-PeCDD	31.71		0.9426	0.9423	-0.6	2.06E+06	1.51	Y	1.04	5.68	6567.12	0.141
12368-PeCDD	32.25		0.9587	0.9583	-0.8	1.35E+06	1.57	Y	1.04	3.72	6567.12	0.141
12478-PeCDD	32.45	J	0.9642	0.9641	-0.2	5.89E+05	1.37	Y	1.04	1.63	6567.12	0.141
12379-PeCDD	32.55	J	0.9674	0.9673	-0.2	5.74E+05	1.56	Y	1.04	1.58	6567.12	0.141
12369/12467/12489-PeCDD	32.82		0.9752	0.9752	0	6.71E+05	1.50	Y	1.04	1.85	6567.12	0.141
12346/12347-PeCDD	33.18	J EMPC	0.9861	0.9860	-0.2	2.02E+05	1.85	N	1.04	0.556	6567.12	0.141
12378-PeCDD	33.68		**1.0006**	**1.0006**	**0**	**7.68E+06**	**1.57**	**Y**	**1.04**	**21.2**	**6567.12**	**0.141**
12367-PeCDD	33.77	J EMPC	1.0036	1.0035	-0.2	2.55E+05	1.22	N	1.04	0.703	6567.12	0.141
12389-PeCDD	34.12	J EMPC	1.0139	1.0139	0	1.84E+05	1.81	N	1.04	0.508	6567.12	0.141
124679/124689-HxCDD	35.91		0.9541	0.9544	+0.6	1.52E+07	1.22	Y	1.10	41.5	4964.487	0.119
123468-HxCDD	36.56	J	0.9715	0.9717	+0.4	6.36E+05	1.15	Y	1.10	1.74	4964.487	0.119
123679/123689-HxCDD	36.85		0.9793	0.9796	+0.7	5.92E+06	1.29	Y	1.10	16.2	4964.487	0.119
123469-HxCDD	36.99	J	0.9831	0.9831	0	3.33E+05	1.30	Y	1.10	0.91	4964.487	0.119
123478-HxCDD	37.64	J EMPC	**1.0004**	**1.0003**	**-0.2**	**3.26E+05**	**1.52**	**N**	1.09	**0.953**	**4964.487**	**0.129**
123678-HxCDD	37.76		**1.0036**	**1.0036**	**0**	**1.97E+06**	**1.26**	**Y**	1.15	**5.19**	**4964.487**	**0.117**
123467-HxCDD	37.97	J EMPC	1.0089	1.0091	+0.5	2.46E+05	1.48	N	1.10	0.672	4964.487	0.119
123789-HxCDD	38.07		**1.0114**	**1.0118**	**+0.9**	**1.03E+06**	**1.23**	**Y**	1.05	**2.76**	**4964.487**	**0.113**

Lab ID: B6170_18832_DF_004 | Acq'd: 14 Jan 2022 03:32 DTF | Wt/Vol: 14.28 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-SW-S-39 | UTP: 14-Jan-2022 09:29:34 DTF | J-level: 0.35 pg/g | Split: 1 | Checkcode: 902-135-RQW

Datafile: 220113C22 | Report: 14 Jan 2022 10:04 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

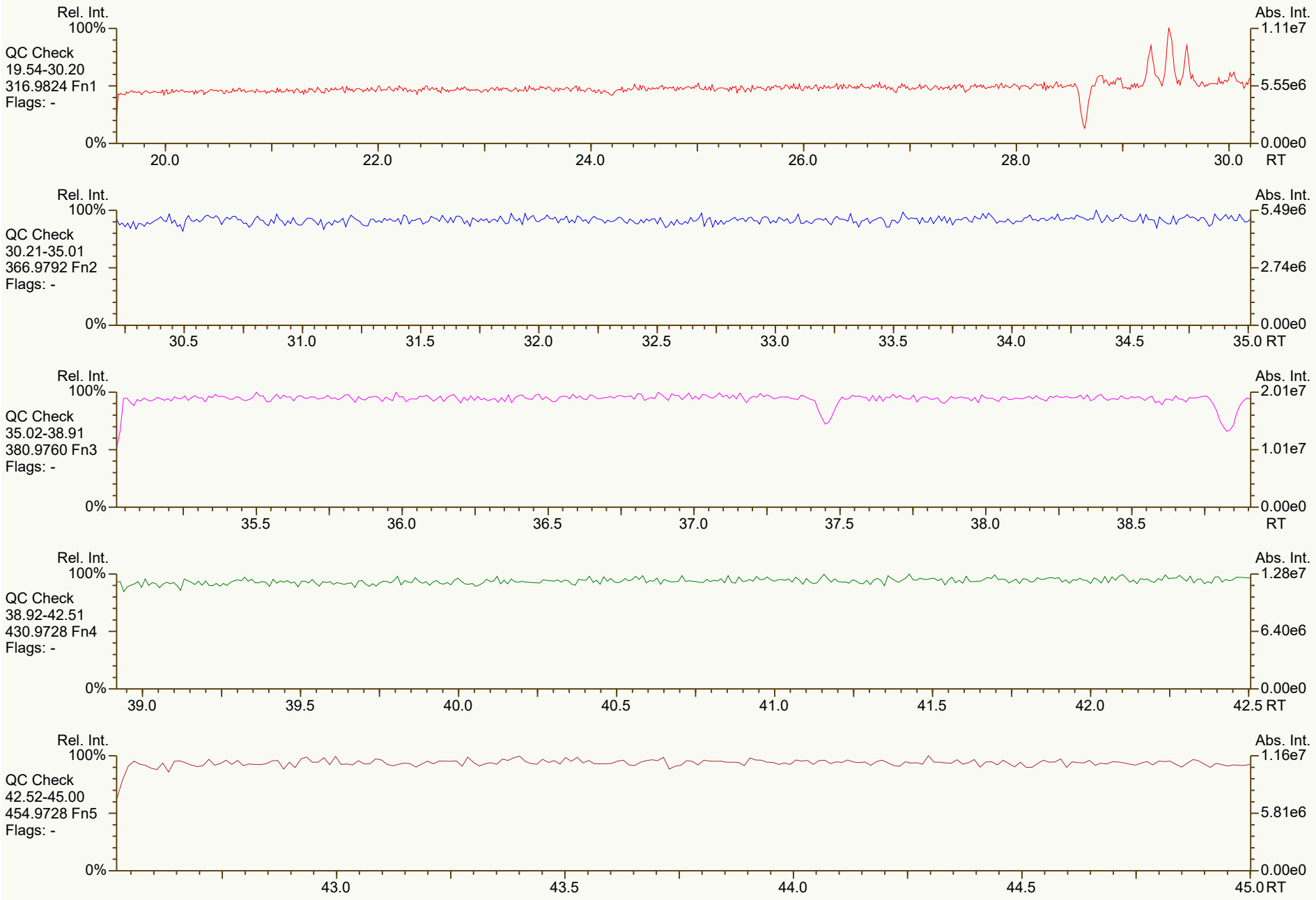
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9835	0.9835	0	5.02E+07	1.05	Y	1.06	174	5567.092	0.176
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**5.13E+07**	**1.02**	**Y**	**1.06**	**179**	**5567.092**	**0.176**
OCDD	**43.63**		**1.0003**	**1.0003**	**0**	**4.14E+08**	**0.90**	**Y**	**1.13**	**2,400**	**4489.339**	**0.373**
OCDD-a	43.62		1.0002	1.0002	0	2.63E+07	2.50	Y	0.07	2,380	6370.556	8.28
1368-TCDF	22.46		0.8250	0.8211	-5.3	8.64E+05	0.73	Y	1.08	1.37	5971.185	0.103
1468-TCDF	23.06		0.8494	0.8429	-9.0	6.45E+06	0.77	Y	1.08	10.2	5971.185	0.103
2468-TCDF	23.69		0.8684	0.8659	-3.6	4.29E+06	0.79	Y	1.08	6.8	5971.185	0.103
1346/1246-TCDF	NotFnd		0.8815						1.08		5971.185	0.103
1347/1378/1247-TCDF	24.23		0.8867	0.8858	-1.3	4.08E+07	0.80	Y	1.08	64.7	5971.185	0.103
1348-TCDF	24.57		0.8966	0.8981	+2.2	1.69E+08	0.79	Y	1.08	268	5971.185	0.103
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		5971.185	0.103
1268-TCDF	24.98		0.9148	0.9131	-2.5	5.62E+07	0.79	Y	1.08	89.2	5971.185	0.103
1467-TCDF	25.11		0.9197	0.9181	-2.4	7.84E+06	0.79	Y	1.08	12.4	5971.185	0.103
1478-TCDF	25.28		0.9258	0.9240	-2.7	1.38E+08	0.79	Y	1.08	218	5971.185	0.103
1369/1237-TCDF	25.66		0.9390	0.9380	-1.5	3.99E+07	0.78	Y	1.08	63.2	5971.185	0.103
2467-TCDF	25.78		0.9435	0.9426	-1.4	3.85E+06	0.79	Y	1.08	6.11	5971.185	0.103
2368-TCDF	25.92		0.9488	0.9476	-1.9	1.00E+08	0.78	Y	1.08	159	5971.185	0.103
1238/1234/1678/1469/1236-TCDF	26.01		0.9527	0.9509	-2.8	1.84E+08	0.80	Y	1.08	292	5971.185	0.103
1278-TCDF	26.48	E	0.9689	0.9680	-1.4	1.79E+09	0.79	Y	1.08	2,830	5971.185	0.103
1349-TCDF	NotFnd		0.9730						1.08		5971.185	0.103
1267-TCDF	26.75		0.9787	0.9781	-1.0	8.46E+07	0.78	Y	1.08	134	5971.185	0.103
2346/1249-TCDF	26.96		0.9856	0.9857	+0.2	1.05E+07	0.78	Y	1.08	16.7	5971.185	0.103
2347/1279-TCDF	27.15		0.9934	0.9927	-1.1	4.04E+07	0.76	Y	1.08	64	5971.185	0.103
2348-TCDF	27.26		0.9972	0.9967	-0.8	2.64E+08	0.78	Y	1.08	419	5971.185	0.103
2378-TCDF	**27.37**	E	**1.0007**	**1.0008**	**+0.2**	**3.82E+09**	**0.78**	**Y**	**1.08**	**6,060**	**5971.185**	**0.103**
2367/3467-TCDF	27.74		1.0145	1.0141	-0.7	3.04E+08	0.78	Y	1.08	483	5971.185	0.103
1269-TCDF	27.99		1.0236	1.0234	-0.3	4.29E+07	0.79	Y	1.08	67.9	5971.185	0.103
1239-TCDF	28.26		1.0333	1.0330	-0.5	4.04E+06	0.81	Y	1.08	6.41	5971.185	0.103
1289-TCDF	29.42		1.0740	1.0754	+2.5	2.86E+08	0.78	Y	1.08	454	5971.185	0.103
13468/12468-PeCDF	29.42		0.9138	0.9137	-0.2	5.59E+06	1.52	Y	1.02	10.9	3920.486	0.0653
13678/13467/12467-PeCDF	30.96		0.9614	0.9616	+0.4	1.36E+06	1.53	Y	1.02	2.66	12485.467	0.208
12368/13478/12478-PeCDF	31.13		0.9661	0.9667	+1.1	4.79E+07	1.55	Y	1.02	93.4	12485.467	0.208
14678-PeCDF	NotFnd		0.9693						1.02		12485.467	0.208
13479-PeCDF	NotFnd		0.9722						1.02		12485.467	0.208
13469/12479-PeCDF	NotFnd		0.9800						1.02		12485.467	0.208
12346-PeCDF	NotFnd		0.9844						1.02		12485.467	0.208

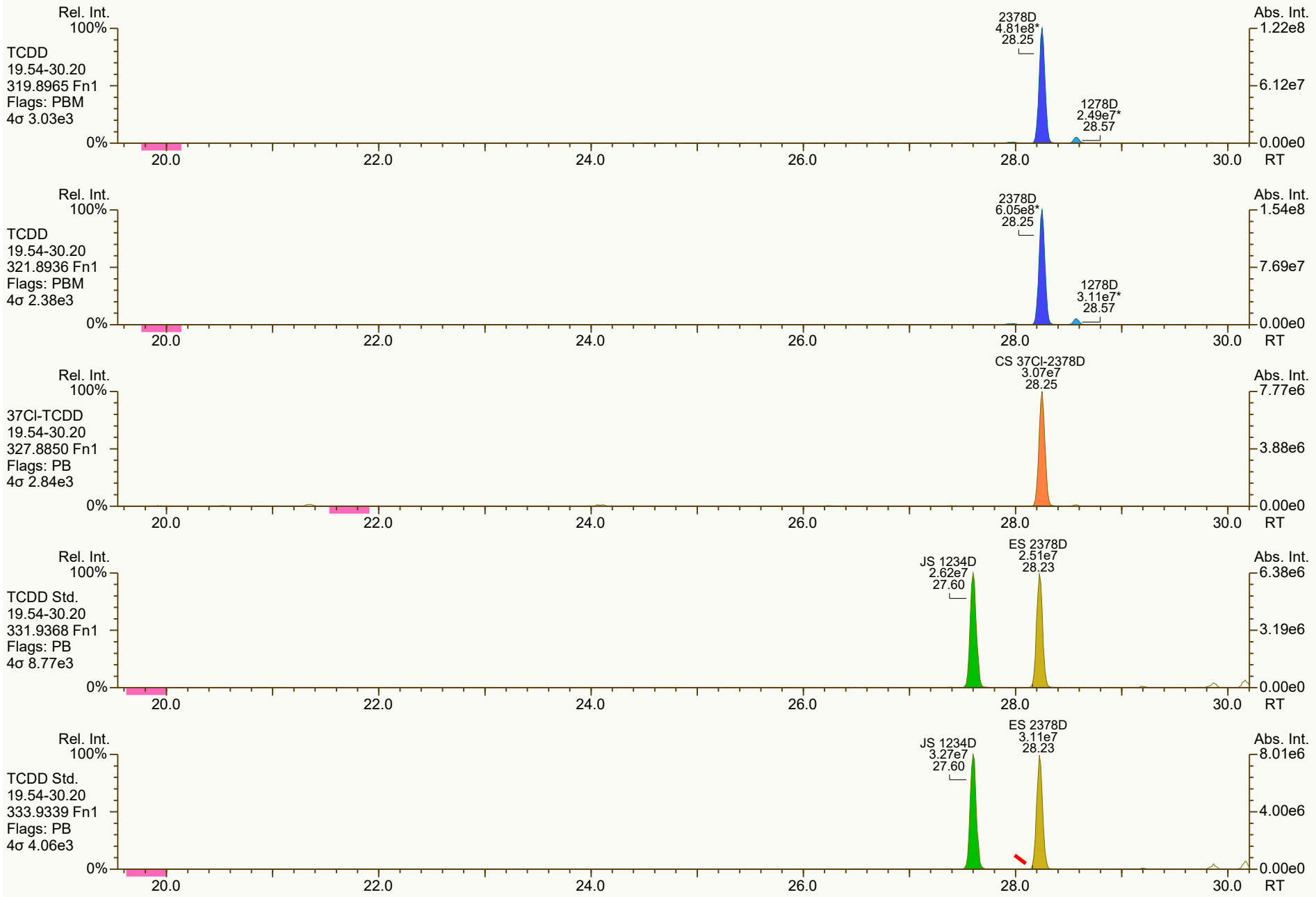
Lab ID: B6170_18832_DF_004 **Acq'd: 14 Jan 2022 03:32 DTF** **Wt/Vol: 14.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

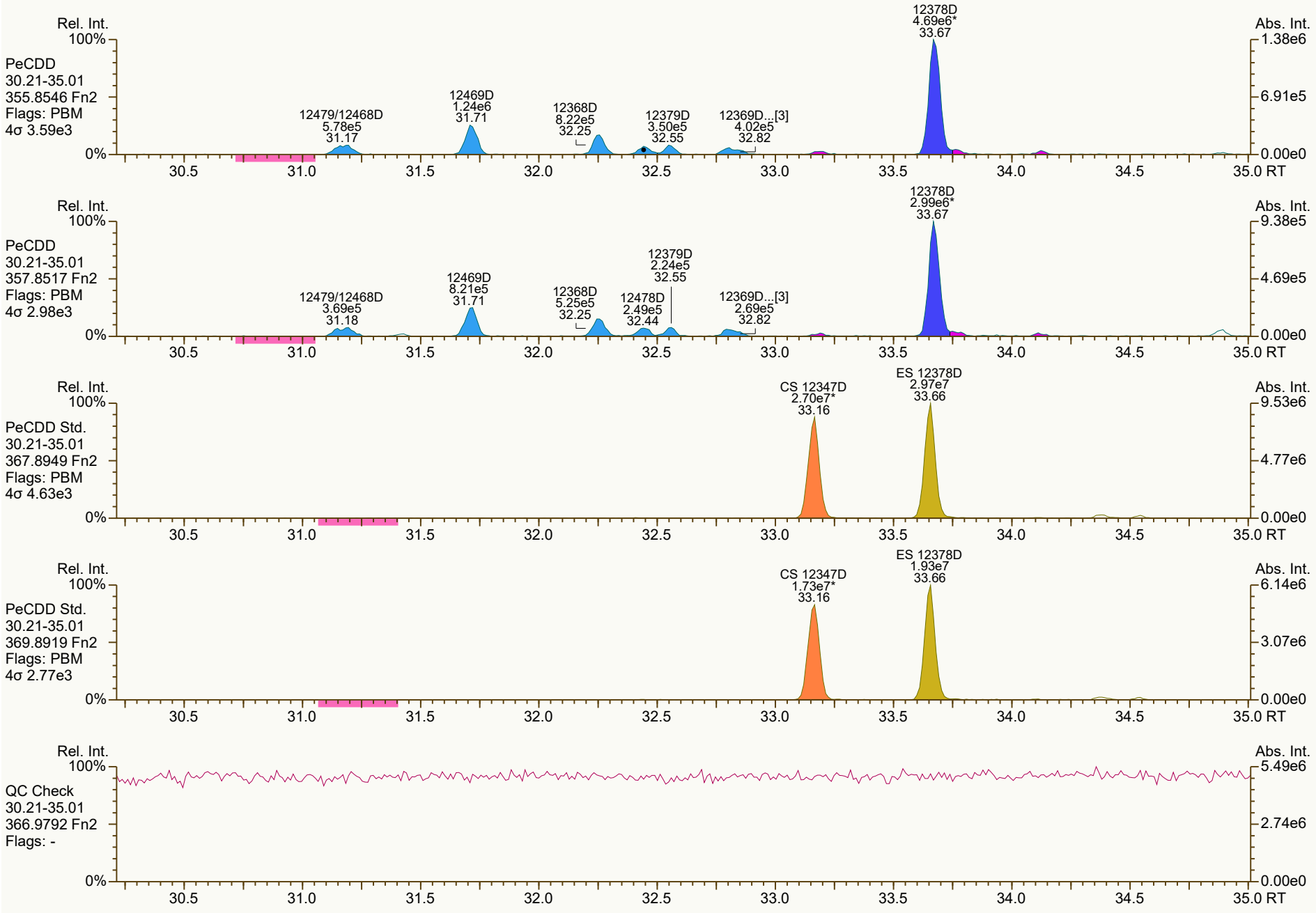
Client ID: 11215131-010722-S-BN-SW-S-39 **UTP: 14-Jan-2022 09:29:34 DTF** **J-level: 0.35 pg/g** **Split: 1** **Checkcode: 902-135-RQW**

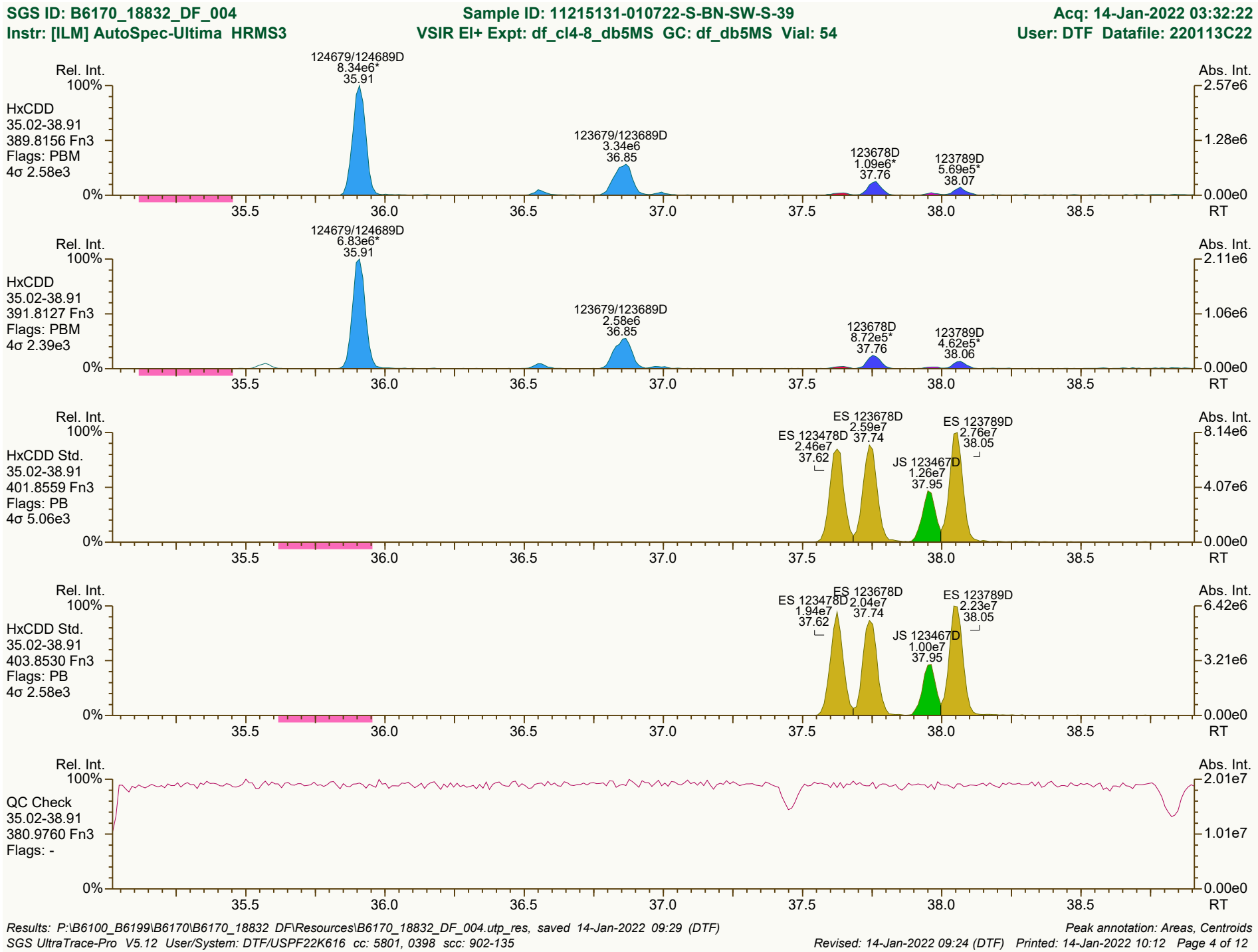
Datafile: 220113C22 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.76		0.9865	0.9864	-0.2	2.82E+06	1.56	Y	1.02	5.5	12485.467	0.208
12347-PeCDF	31.85		0.9890	0.9891	+0.2	2.33E+06	1.48	Y	1.02	4.55	12485.467	0.208
12348-PeCDF	32.01		0.9942	0.9942	0	1.16E+07	1.55	Y	1.02	22.6	12485.467	0.208
12378-PeCDF	**32.22**		**1.0005**	**1.0005**	**0**	**1.07E+08**	**1.57**	**Y**	**1.02**	**202**	**12485.467**	**0.201**
12678/12367-PeCDF	32.52		1.0090	1.0098	+1.6	3.35E+07	1.51	Y	1.02	65.4	12485.467	0.208
12379-PeCDF	NotFnd		1.0142						1.02		12485.467	0.208
12679-PeCDF	33.08	J	0.9933	0.9931	-0.4	3.07E+05	1.65	Y	1.02	0.6	12485.467	0.208
23467/12369-PeCDF	33.21		0.9969	0.9968	-0.2	1.74E+06	1.56	Y	1.02	3.4	12485.467	0.208
23478-PeCDF	**33.34**	PR	**1.0006**	**1.0008**	**+0.4**	**8.63E+07**	**1.54**	**Y**	**1.02**	**174**	**12485.467**	**0.215**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		12485.467	0.208
12349-PeCDF	NotFnd		1.0107						1.02		12485.467	0.208
12389-PeCDF	34.41		1.0330	1.0330	0	4.63E+06	1.53	Y	1.02	9.04	12485.467	0.208
123468-HxCDF	35.25		0.9627	0.9627	0	2.57E+06	1.39	Y	1.19	5.58	19623.82	0.348
124678/134678-HxCDF	35.45		0.9682	0.9680	-0.4	1.58E+07	1.23	Y	1.19	34.3	19623.82	0.348
134679-HxCDF	NotFnd		0.9744						1.19		19623.82	0.348
124679-HxCDF	NotFnd		0.9798						1.19		19623.82	0.348
124689-HxCDF	36.10		0.9858	0.9858	0	8.25E+06	1.28	Y	1.19	17.9	19623.82	0.348
123467-HxCDF	36.52		0.9973	0.9973	0	1.00E+06	1.24	Y	1.19	2.17	19623.82	0.348
123478-HxCDF	**36.63**		**1.0004**	**1.0005**	**+0.2**	**1.50E+08**	**1.24**	**Y**	**1.27**	**330**	**19623.82**	**0.345**
123678-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**4.17E+07**	**1.20**	**Y**	**1.15**	**80.8**	**19623.82**	**0.325**
123479-HxCDF	NotFnd		1.0051						1.19		19623.82	0.348
123469-HxCDF	NotFnd		1.0093						1.19		19623.82	0.348
123679-HxCDF	NotFnd		0.9944						1.19		19623.82	0.348
234678-HxCDF	**37.45**		**1.0005**	**1.0004**	**-0.2**	**8.57E+06**	**1.24**	**Y**	**1.19**	**17.8**	**19623.82**	**0.339**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		19623.82	0.348
123789-HxCDF	**NotFnd**		**1.0003**						**1.16**		**19623.82**	**0.394**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.45		1.0008	1.0012	+0.9	1.14E+07	1.27	Y	1.19	24.8	19623.82	0.348
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**4.22E+07**	**1.02**	**Y**	**1.37**	**100**	**5648.364**	**0.103**
1234679-HpCDF	40.16	**J**	1.0069	1.0069	0	5.31E+05	0.90	Y	1.34	1.48	5648.364	0.135
1234689-HpCDF	40.30		1.0103	1.0106	+0.7	1.75E+07	1.01	Y	1.34	48.8	5648.364	0.135
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**1.09E+07**	**1.01**	**Y**	**1.31**	**36.6**	**5648.364**	**0.179**
OCDF	**43.79**	**B**	**1.0002**	**1.0002**	**0**	**1.51E+07**	**0.85**	**Y**	**1.07**	**77.4**	**4058.26**	**0.286**
OCDF-a	43.82		1.0002	1.0008	+1.6	4.83E+05	2.64	Y	0.07	39.9	5504.449	6.27

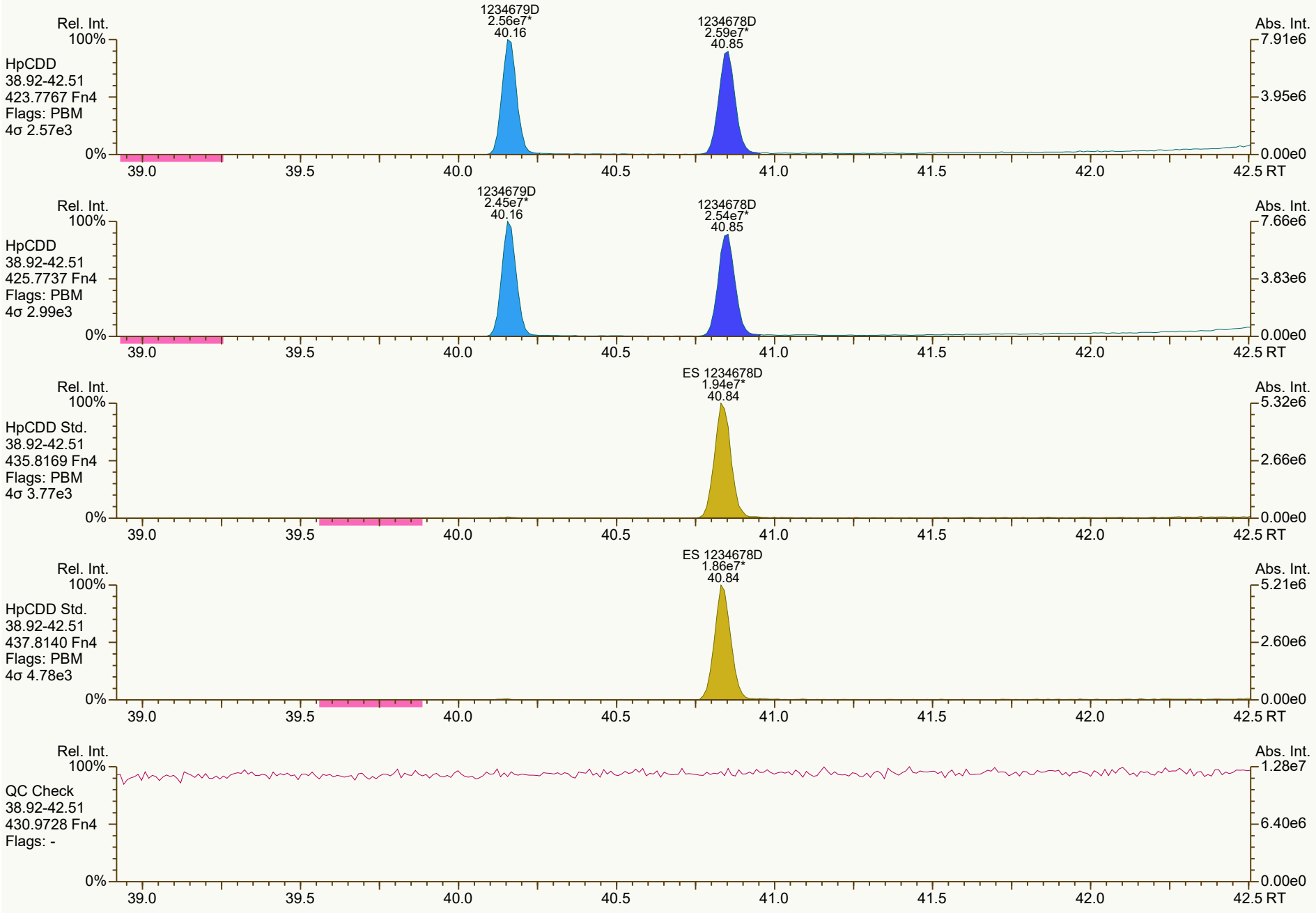

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.11e7
5.55e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.49e6
2.74e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.01e7
1.01e7
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
1.28e7
6.40e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.16e7
5.81e6
0.00e0

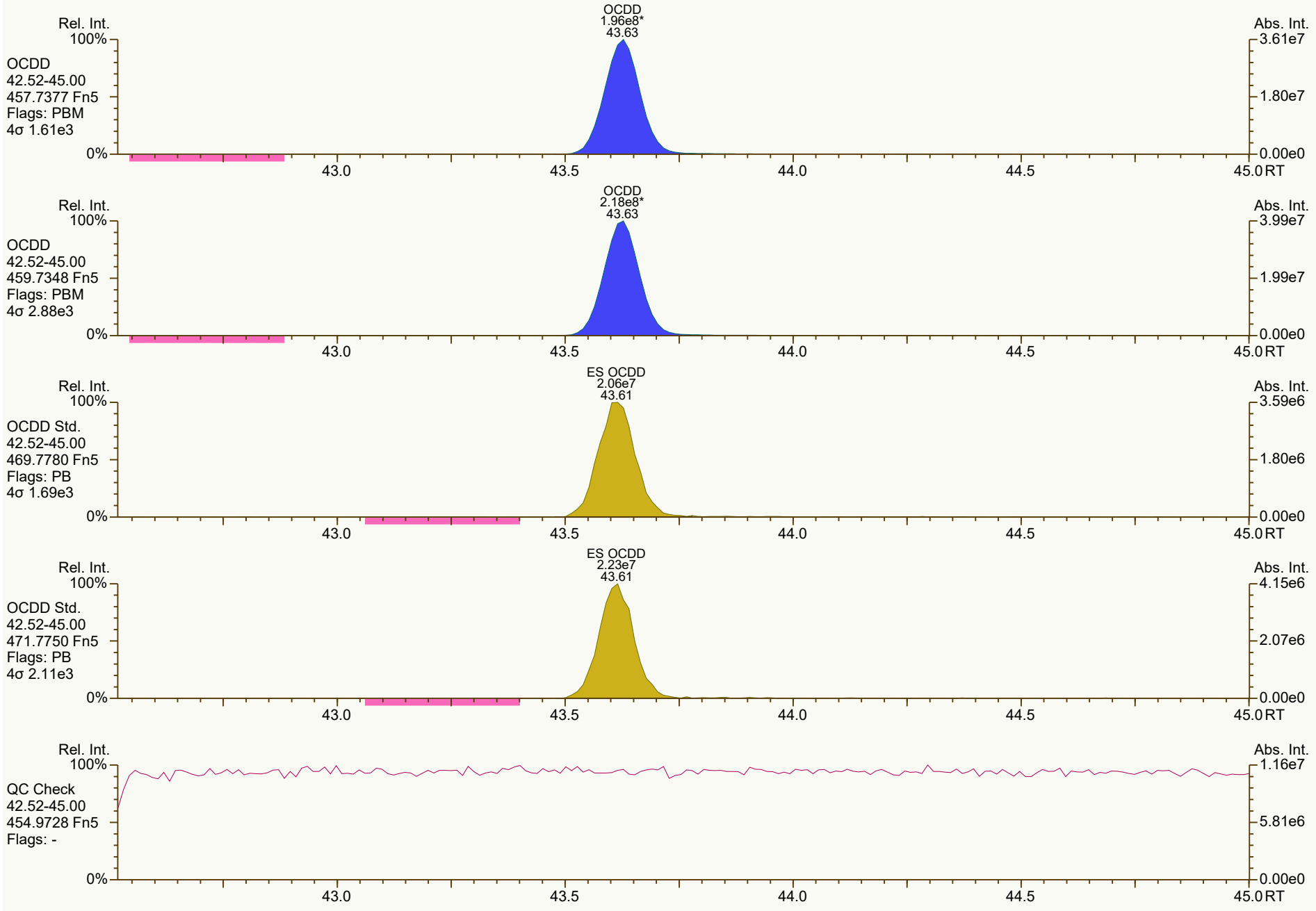

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.03e3
0%
2378D
4.81e8*
28.25
1278D
2.49e7*
28.57
Abs. Int.
1.22e8
6.12e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.38e3
0%
2378D
6.05e8*
28.25
1278D
3.11e7*
28.57
Abs. Int.
1.54e8
7.69e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.84e3
0%
CS 37Cl-2378D
3.07e7
28.25
Abs. Int.
7.77e6
3.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.77e3
0%
JS 1234D
2.62e7
27.60
ES 2378D
2.51e7
28.23
Abs. Int.
6.38e6
3.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.06e3
0%
JS 1234D
3.27e7
27.60
ES 2378D
3.11e7
28.23
Abs. Int.
8.01e6
4.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

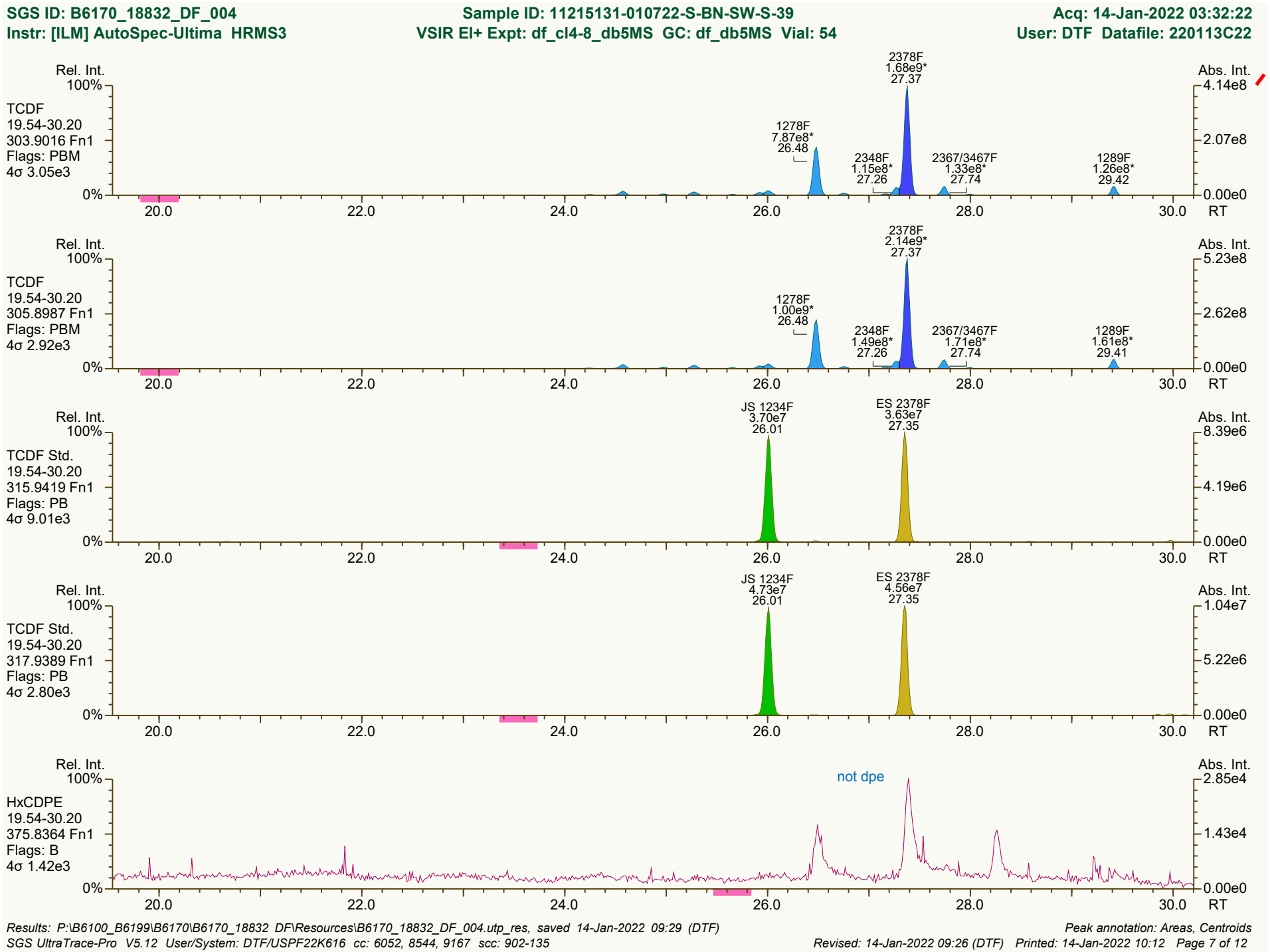

Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PBM
4σ 3.59e3
0%
12479/12468D
5.78e5
31.17
12469D
1.24e6
31.71
12368D
8.22e5
32.25
12379D
3.50e5
32.55
12369D...[3]
4.02e5
32.82
12378D
4.69e6*
33.67
Abs. Int.
1.38e6
6.91e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PBM
4σ 2.98e3
0%
12479/12468D
3.69e5
31.18
12469D
8.21e5
31.71
12368D
5.25e5
32.25
12478D
2.49e5
32.44
12379D
2.24e5
32.55
12369D...[3]
2.69e5
32.82
12378D
2.99e6*
33.67
Abs. Int.
9.38e5
4.69e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PBM
4σ 4.63e3
0%
CS 12347D
2.70e7*
33.16
ES 12378D
2.97e7
33.66
Abs. Int.
9.53e6
4.77e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PBM
4σ 2.77e3
0%
CS 12347D
1.73e7*
33.16
ES 12378D
1.93e7
33.66
Abs. Int.
6.14e6
3.07e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.49e6
2.74e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT



Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_004.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5801, 0398 scc: 902-135
Revised: 14-Jan-2022 09:24 (DTF) Printed: 14-Jan-2022 10:12 Page 4 of 12


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PBM
4σ 2.57e3
0%
1234679D
2.56e7*
40.16
1234678D
2.59e7*
40.85
Abs. Int.
7.91e6
3.95e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PBM
4σ 2.99e3
0%
1234679D
2.45e7*
40.16
1234678D
2.54e7*
40.85
Abs. Int.
7.66e6
3.83e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PBM
4σ 3.77e3
0%
ES 1234678D
1.94e7*
40.84
Abs. Int.
5.32e6
2.66e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PBM
4σ 4.78e3
0%
ES 1234678D
1.86e7*
40.84
Abs. Int.
5.21e6
2.60e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.28e7
6.40e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
1.96e8*
43.63
Rel. Int.
Abs. Int.
OCDD
42.52-45.00
457.7377 Fn5
Flags: PBM
4σ 1.61e3
OCDD
2.18e8*
43.63
OCDD
42.52-45.00
459.7348 Fn5
Flags: PBM
4σ 2.88e3
ES OCDD
2.06e7
43.61
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.69e3
ES OCDD
2.23e7
43.61
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.11e3
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
100%
0%
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6170_18832_DF_004
Sample ID: 11215131-010722-S-BN-SW-S-39
Acq: 14-Jan-2022 03:32:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220113C22
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 3.05e3
2378F
1.68e9*
27.37
1278F
7.87e8*
26.48
2348F
1.15e8*
27.26
2367/3467F
1.33e8*
27.74
1289F
1.26e8*
29.42
4.14e8
2.07e8
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.92e3
2378F
2.14e9*
27.37
1278F
1.00e9*
26.48
2348F
1.49e8*
27.26
2367/3467F
1.71e8*
27.74
1289F
1.61e8*
29.41
5.23e8
2.62e8
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.01e3
JS 1234F
3.70e7
26.01
ES 2378F
3.63e7
27.35
8.39e6
4.19e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.80e3
JS 1234F
4.73e7
26.01
ES 2378F
4.56e7
27.35
1.04e7
5.22e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.42e3
not dpe
2.85e4
1.43e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_004.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6052, 8544, 9167 scc: 902-135
Revised: 14-Jan-2022 09:26 (DTF) Printed: 14-Jan-2022 10:12 Page 7 of 12

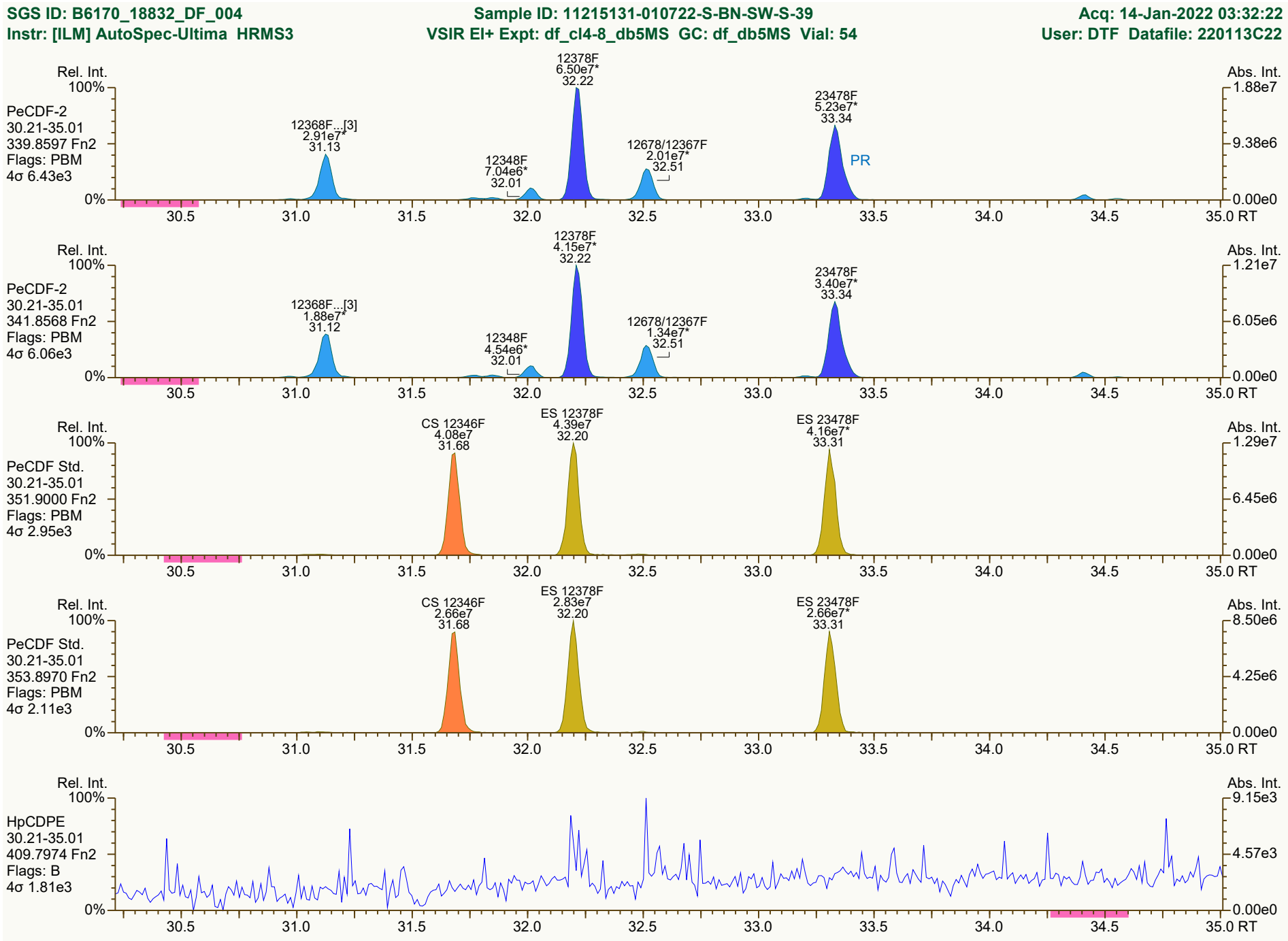
SGS ID: B6170_18832_DF_004 | Sample ID: 11215131-010722-S-BN-SW-S-39 | Acq: 14-Jan-2022 03:32:22

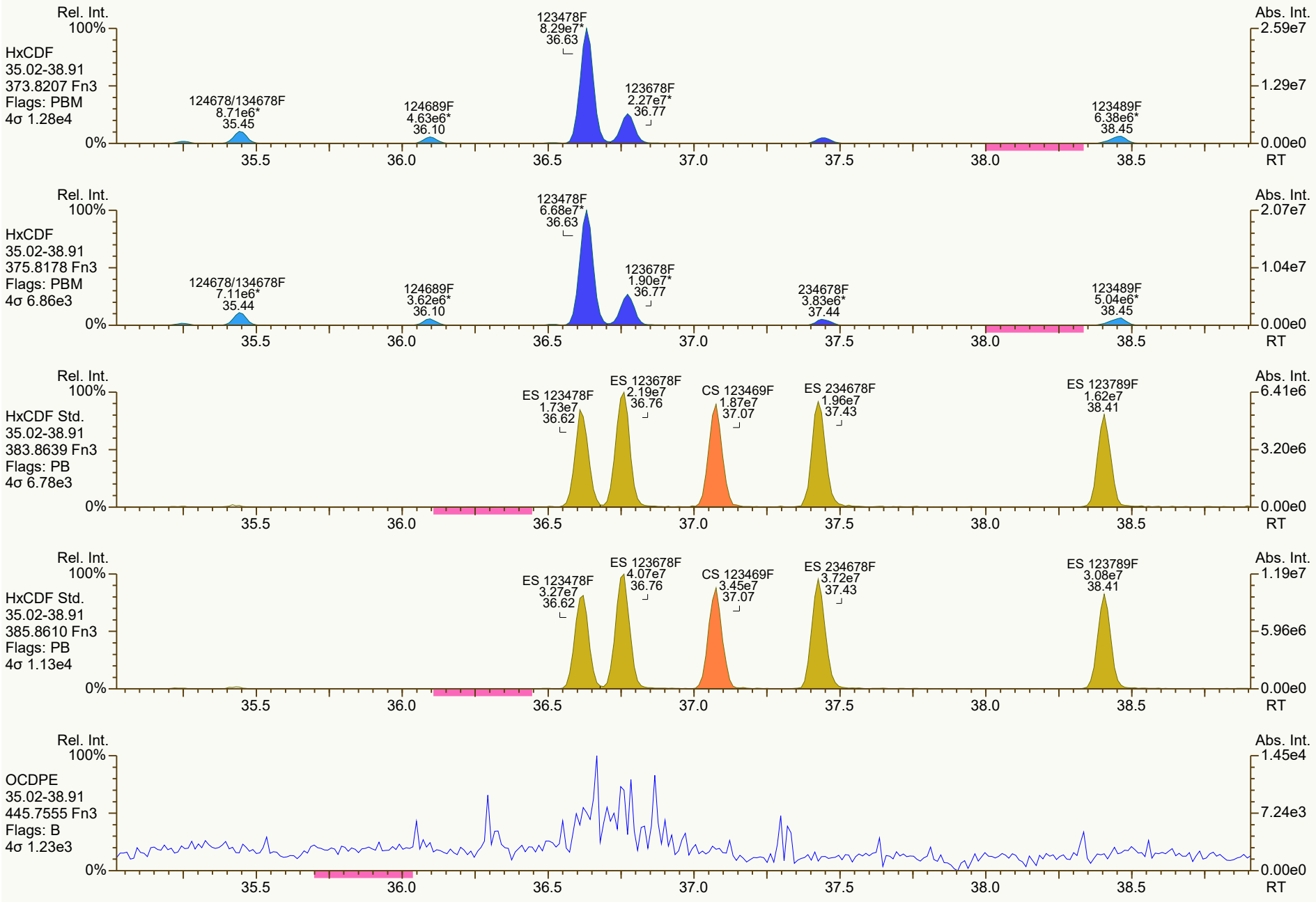
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220113C22

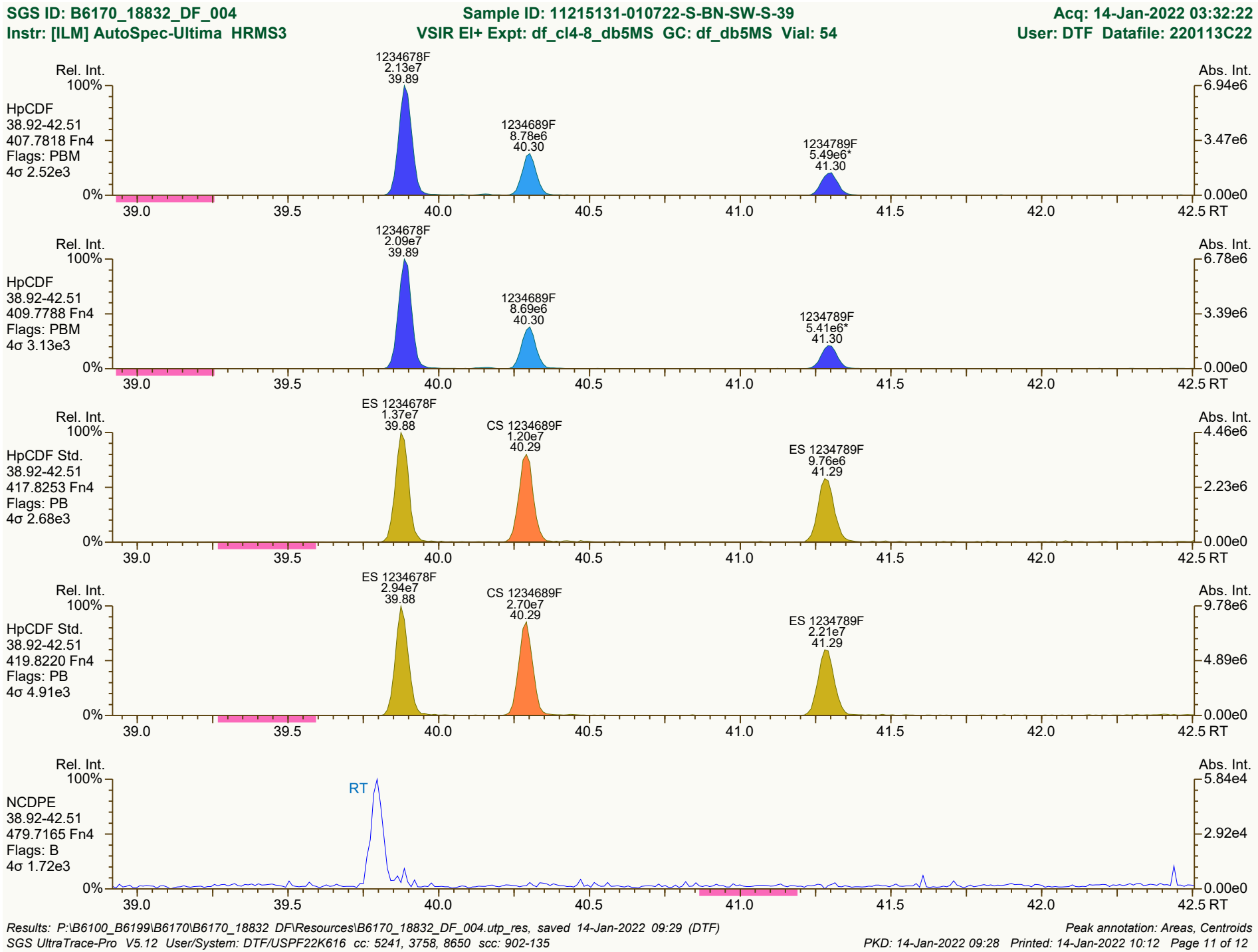


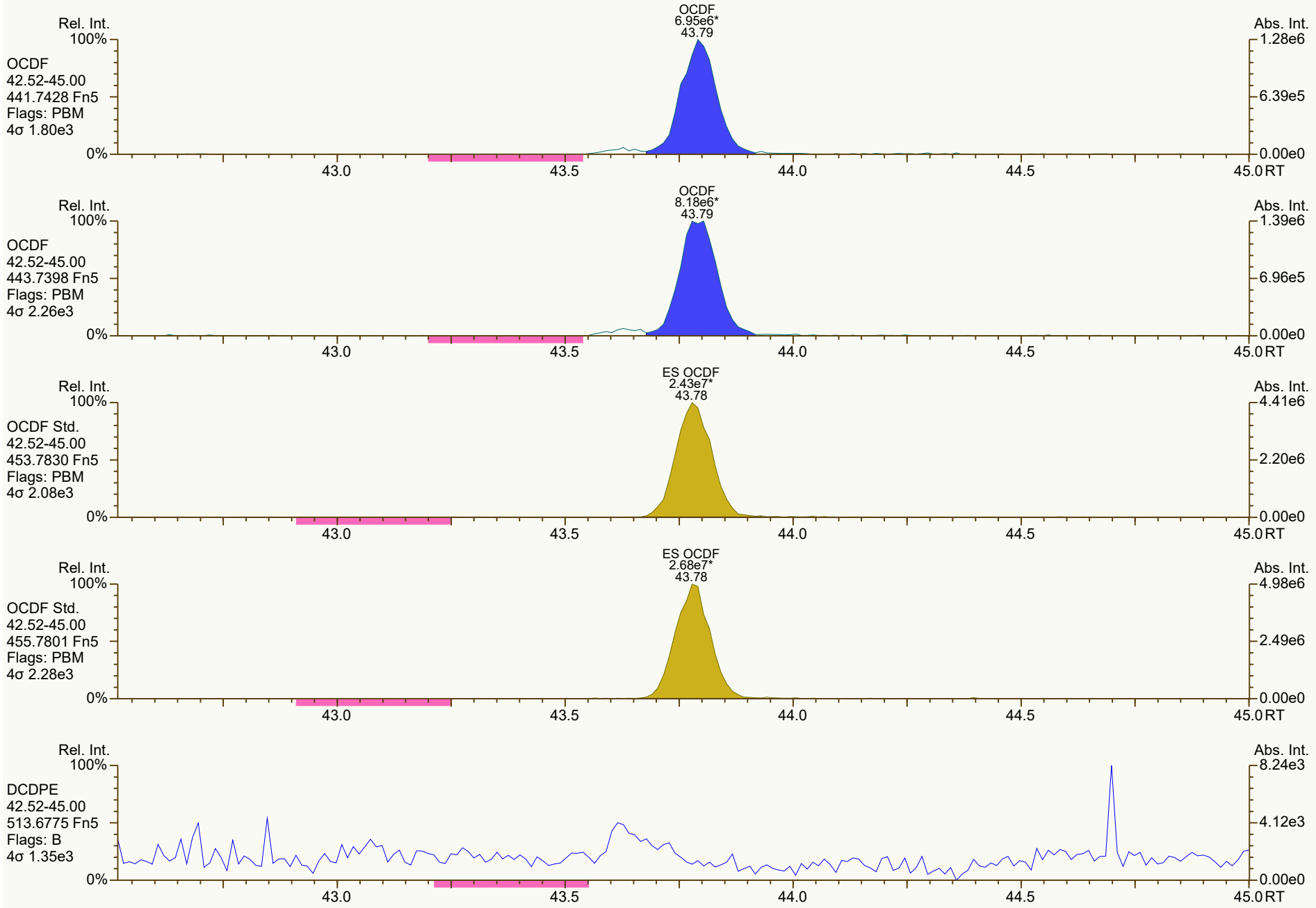
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_004.utp_res, saved 14-Jan-2022 09:29 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3708 scc: 902-135 *Revised: 14-Jan-2022 09:26 (DTF) Printed: 14-Jan-2022 10:12 Page 8 of 12*


SGS ID: B6170_18832_DF_004
Sample ID: 11215131-010722-S-BN-SW-S-39
Acq: 14-Jan-2022 03:32:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220113C22
Rel. Int.
Abs. Int.
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 6.43e3
12368F...[3]
2.91e7*
31.13
12348F
7.04e6*
32.01
12378F
6.50e7*
32.22
12678/12367F
2.01e7*
32.51
23478F
5.23e7*
33.34
PR
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 6.06e3
12368F...[3]
1.88e7*
31.12
12348F
4.54e6*
32.01
12378F
4.15e7*
32.22
12678/12367F
1.34e7*
32.51
23478F
3.40e7*
33.34
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 2.95e3
CS 12346F
4.08e7
31.68
ES 12378F
4.39e7
32.20
ES 23478F
4.16e7*
33.31
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 2.11e3
CS 12346F
2.66e7
31.68
ES 12378F
2.83e7
32.20
ES 23478F
2.66e7*
33.31
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.81e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
1.88e7
9.38e6
0.00e0
1.21e7
6.05e6
1.29e7
6.45e6
8.50e6
4.25e6
9.15e3
4.57e3
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_004.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6479, 8162, 9796 scc: 902-135
Revised: 14-Jan-2022 09:27 (DTF) Printed: 14-Jan-2022 10:12 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 1.28e4
124678/134678F
8.71e6*
35.45
124689F
4.63e6*
36.10
123478F
8.29e7*
36.63
123678F
2.27e7*
36.77
123489F
6.38e6*
38.45
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.59e7
1.29e7
0.00e0
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 6.86e3
124678/134678F
7.11e6*
35.44
124689F
3.62e6*
36.10
123478F
6.68e7*
36.63
123678F
1.90e7*
36.77
234678F
3.83e6*
37.44
123489F
5.04e6*
38.45
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.07e7
1.04e7
0.00e0
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 6.78e3
ES 123478F
1.73e7
36.62
ES 123678F
2.19e7
36.76
CS 123469F
1.87e7
37.07
ES 234678F
1.96e7
37.43
ES 123789F
1.62e7
38.41
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.41e6
3.20e6
0.00e0
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 1.13e4
ES 123478F
3.27e7
36.62
ES 123678F
4.07e7
36.76
CS 123469F
3.45e7
37.07
ES 234678F
3.72e7
37.43
ES 123789F
3.08e7
38.41
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.19e7
5.96e6
0.00e0
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.23e3
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.45e4
7.24e3
0.00e0


SGS ID: B6170_18832_DF_004
Sample ID: 11215131-010722-S-BN-SW-S-39
Acq: 14-Jan-2022 03:32:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220113C22
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PBM
4σ 2.52e3
1234678F
2.13e7
39.89
1234689F
8.78e6
40.30
1234789F
5.49e6*
41.30
6.94e6
3.47e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PBM
4σ 3.13e3
1234678F
2.09e7
39.89
1234689F
8.69e6
40.30
1234789F
5.41e6*
41.30
6.78e6
3.39e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.68e3
ES 1234678F
1.37e7
39.88
CS 1234689F
1.20e7
40.29
ES 1234789F
9.76e6
41.29
4.46e6
2.23e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 4.91e3
ES 1234678F
2.94e7
39.88
CS 1234689F
2.70e7
40.29
ES 1234789F
2.21e7
41.29
9.78e6
4.89e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.72e3
RT
5.84e4
2.92e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\B6170_18832_DF_004.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5241, 3758, 8650 scc: 902-135
PKD: 14-Jan-2022 09:28 Printed: 14-Jan-2022 10:12 Page 11 of 12


OCDF
6.95e6*
43.79
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
1.28e6
6.39e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.18e6*
43.79
OCDF
42.52-45.00
443.7398 Fn5
Flags: PBM
4σ 2.26e3
1.39e6
6.96e5
ES OCDF
2.43e7*
43.78
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.08e3
4.41e6
2.20e6
ES OCDF
2.68e7*
43.78
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 2.28e3
4.98e6
2.49e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.35e3
8.24e3
4.12e3

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
12	220113C12	3	CS3_220113_DF_CB	1.00	SIL 25-347-1	DTF	009-705	13-Jan-2022	19:40:59
13	220113C13	48	OPR1_18832_DF	1.00	0_18832_OPR001	DTF	987-773	13-Jan-2022	20:35:25
15	220113C15	2	SBS_220113_DF_CC	1.00	30-61-1	DTF	281-221	13-Jan-2022	22:08:04
16	220113C16	47	MB1_18832_DF_SDS	10.00	Method Blank	DTF	789-291	13-Jan-2022	22:54:22
17	220113C17	49	B6170_18832_DF_001	13.77	11215131-010722-S-BN-SW-S-34	DTF	617-780	13-Jan-2022	23:40:43
18	220113C18	50	B6170_18832_DF_001MS	13.28	11215131-010722-S-BN-SW-S-34-MS	DTF	821-135	14-Jan-2022	00:27:02
19	220113C19	51	B6170_18832_DF_001MSD	13.82	11215131-010722-S-BN-SW-S-34-MSD	DTF	263-562	14-Jan-2022	01:13:21
20	220113C20	52	B6170_18832_DF_002	13.55	11215131-010722-S-BN-SW-S-37	DTF	807-420	14-Jan-2022	01:59:42
21	220113C21	53	B6170_18832_DF_003	14.14	11215131-010722-S-BN-SW-S-38	DTF	317-273	14-Jan-2022	02:46:02
22	220113C22	54	B6170_18832_DF_004	14.28	11215131-010722-S-BN-SW-S-39	DTF	902-135	14-Jan-2022	03:32:22

REVIEWED
Tyler_Fritz , 1/14/2022, 1:35:12 PM

APPROVED
Carla_Lyon , 1/14/2022, 2:12:35 PM

Dioxin/Furan QC Summary	Acq'd: 13 Jan 2022 19:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220113_DF_CB	UTP: 14-Jan-2022 09:29:30 DTF	Checkcode: 009-705-HYF
Sample ID: SIL 25-347-1	Report: 14 Jan 2022 10:10 TF	Datafile: 220113C12

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.24	6.78E+06	0.78	Y	1.18	1.19	1%
12378-PeCDD	33.67	2.27E+07	1.56	Y	1.04	0.99	-4%
123478-HxCDD	37.64	1.98E+07	1.23	Y	1.09	1.10	1%
123678-HxCDD	37.76	2.07E+07	1.26	Y	1.15	1.14	0%
123789-HxCDD	38.07	2.14E+07	1.26	Y	1.05	1.04	-1%
1234678-HpCDD	40.85	1.62E+07	1.04	Y	1.06	0.98	-7%
OCDD	43.63	2.16E+07	0.90	Y	1.13	1.12	-1%
2378-TCDF	27.37	8.80E+06	0.81	Y	1.08	1.03	-5%
12378-PeCDF	32.21	3.10E+07	1.56	Y	1.02	0.94	-8%
23478-PeCDF	33.32	2.95E+07	1.53	Y	1.02	0.94	-8%
123478-HxCDF	36.63	2.87E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.77	2.97E+07	1.24	Y	1.15	1.10	-5%
234678-HxCDF	37.44	2.75E+07	1.24	Y	1.19	1.10	-7%
123789-HxCDF	38.43	2.48E+07	1.26	Y	1.16	1.10	-6%
1234678-HpCDF	39.89	2.29E+07	0.99	Y	1.37	1.26	-8%
1234789-HpCDF	41.31	1.92E+07	1.00	Y	1.31	1.24	-5%
OCDF	43.80	2.61E+07	0.91	Y	1.07	1.00	-6%
ES 2378-TCDD	28.22	5.69E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.648	4.58E+07	1.58	Y	0.88	0.83	-6%
ES 123478-HxCDD	37.623	3.59E+07	1.27	Y	0.97	0.97	0%
ES 123678-HxCDD	37.744	3.63E+07	1.22	Y	0.94	0.98	4%
ES 123789-HxCDD	38.05	4.12E+07	1.23	Y	1.09	1.11	2%
ES 1234678-HpCDD	40.838	3.31E+07	1.05	Y	0.91	0.90	-2%
ES OCDD	43.619	3.86E+07	0.90	Y	0.62	0.52	-16%
ES 2378-TCDF	27.342	8.58E+07	0.79	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.187	6.57E+07	1.54	Y	0.91	0.78	-14%
ES 23478-PeCDF	33.297	6.31E+07	1.55	Y	0.88	0.75	-15%
ES 123478-HxCDF	36.611	4.80E+07	0.54	Y	1.20	1.30	8%
ES 123678-HxCDF	36.75	5.41E+07	0.54	Y	1.35	1.46	8%
ES 234678-HxCDF	37.424	4.99E+07	0.51	Y	1.24	1.35	9%
ES 123789-HxCDF	38.409	4.53E+07	0.52	Y	1.16	1.23	6%
ES 1234678-HpCDF	39.875	3.62E+07	0.44	Y	0.97	0.98	1%
ES 1234789-HpCDF	41.299	3.10E+07	0.44	Y	0.85	0.84	-1%
ES OCDF	43.784	5.20E+07	0.91	Y	0.81	0.70	-13%

Dioxin/Furan QC Summary	Acq'd: 13 Jan 2022 19:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220113_DF_CB	UTP: 14-Jan-2022 09:29:30 DTF	Checkcode: 009-705-HYF
Sample ID: SIL 25-347-1	Report: 14 Jan 2022 10:10 TF	Datafile: 220113C12

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.58	5.55E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.00	8.45E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.95	1.85E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	28.24	7.41E+06	n/a	-	1.20	1.34	11%
CS 12347-PeCDD	33.15	4.13E+07	1.58	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.67	6.29E+07	1.58	Y	0.85	0.74	-12%
CS 123469-HxCDF	37.07	4.86E+07	0.53	Y	1.12	1.31	18%
CS 1234689-HpCDF	40.28	3.59E+07	0.46	Y	0.89	0.97	9%
~~SS 37Cl-2378-TCDD~~	~~28.24~~	~~7.41E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.30~~	~~14%~~
~~SS 12347-PeCDD~~	~~33.15~~	~~4.13E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.67~~	~~6.29E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~0.96~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.07~~	~~4.86E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~3.59E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~0.99~~	~~8%~~
Not used in this project.							
CL 14Jan22							
~~OCDD-a~~	~~43.63~~	~~1.27E+06~~	~~2.66~~	~~Y~~	~~0.07~~	~~0.07~~	~~-9%~~
~~OCDF-a~~	~~43.79~~	~~1.53E+06~~	~~2.34~~	~~Y~~	~~0.07~~	~~0.06~~	~~-11%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220113C12 Analysis Date: 13-JAN-2022 19:40:59

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.78	0.65 - 0.89	Y	10.1	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32 - 1.78	Y	47.8	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	50.7	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	49.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	46.3	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	99.1	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	9.51	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	46	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	45.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	47	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	47.7	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	46.4	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.99	0.88 - 1.20	Y	46.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88 - 1.20	Y	47.4	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	93.7	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 14 Jan 2022 10:03 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

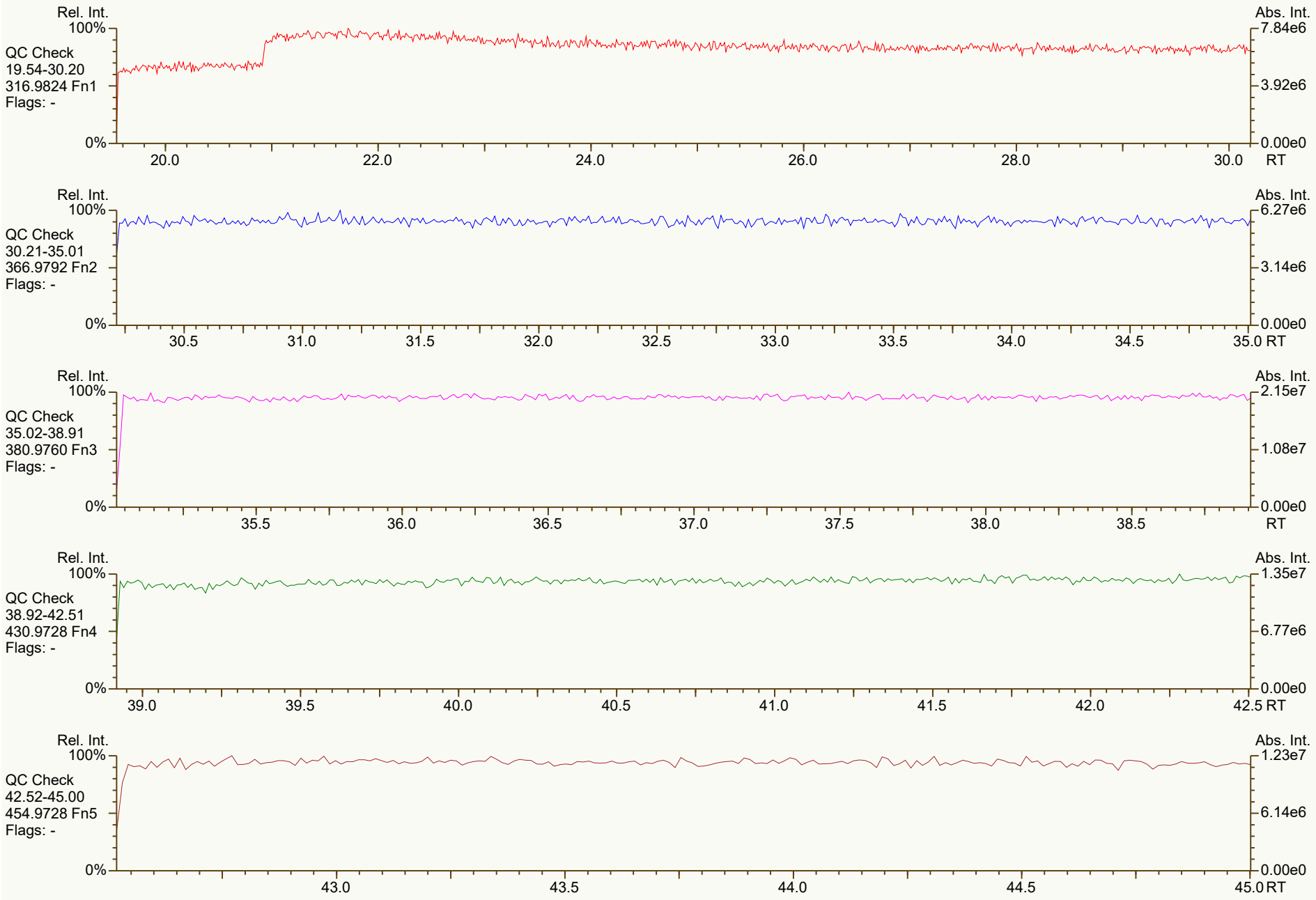
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

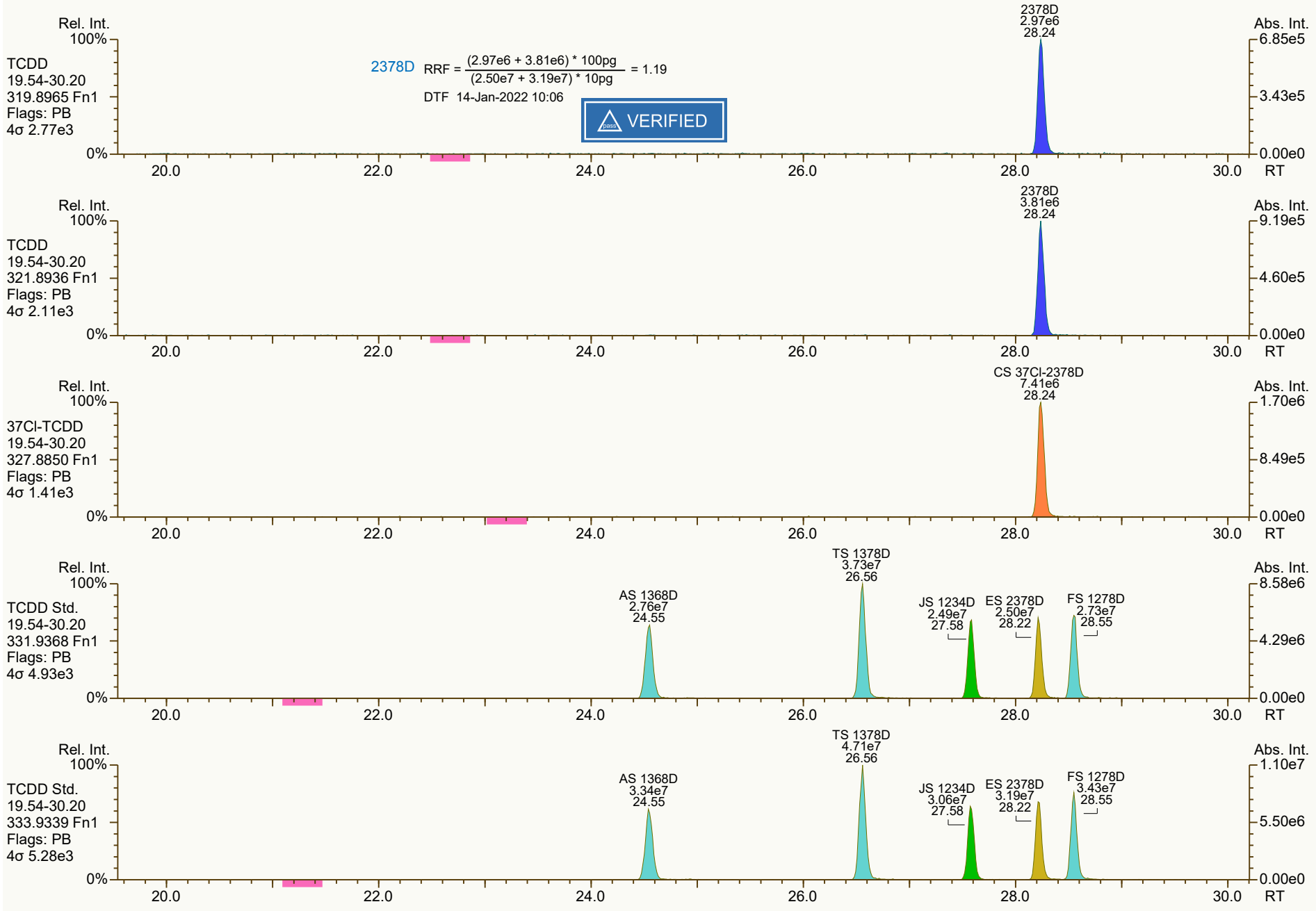
Instrument ID: HRMS3 GC Column ID: ZB-5ms

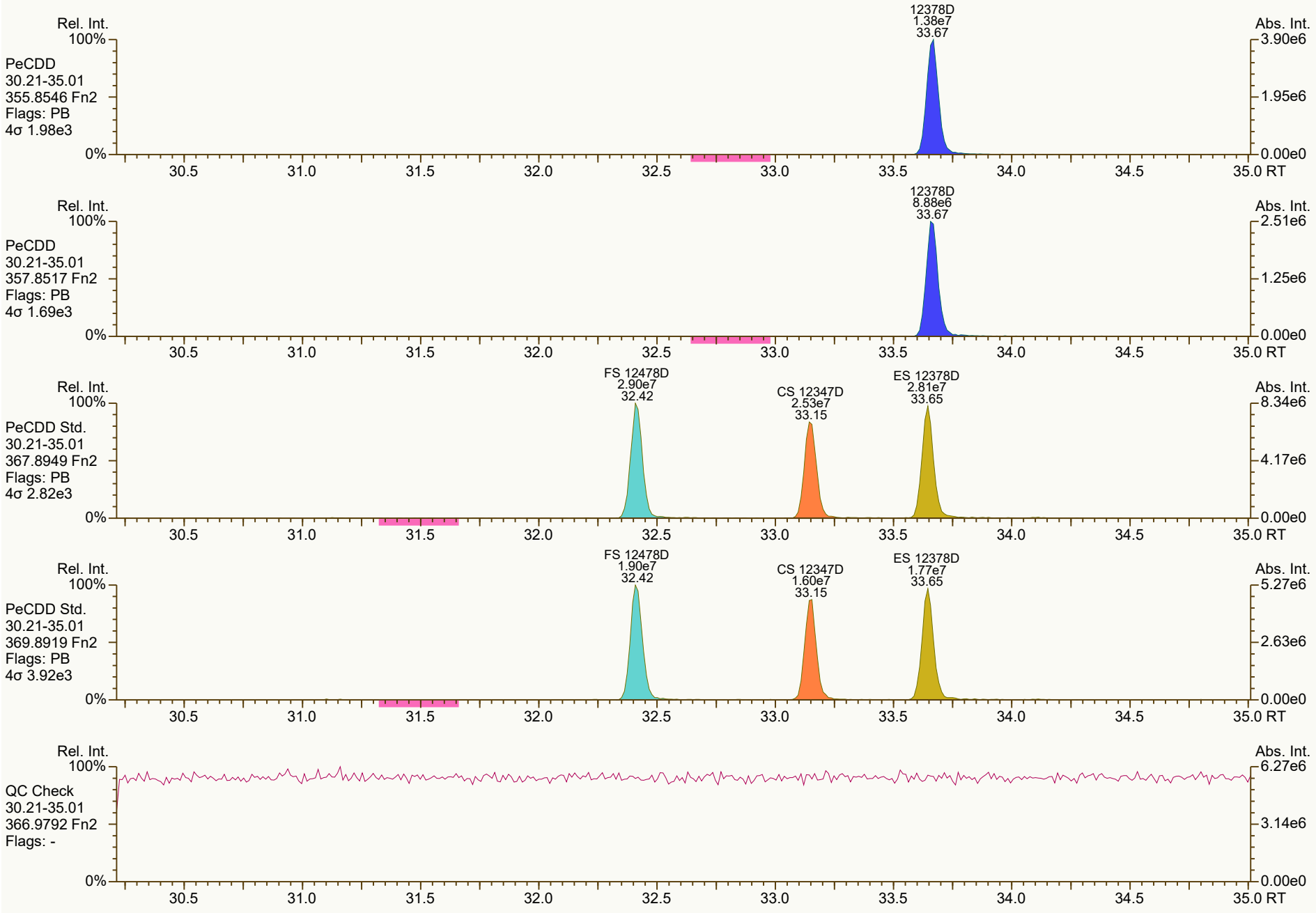
VER Data Filename: 220113C12 Analysis Date: 13-JAN-2022 19:40:59

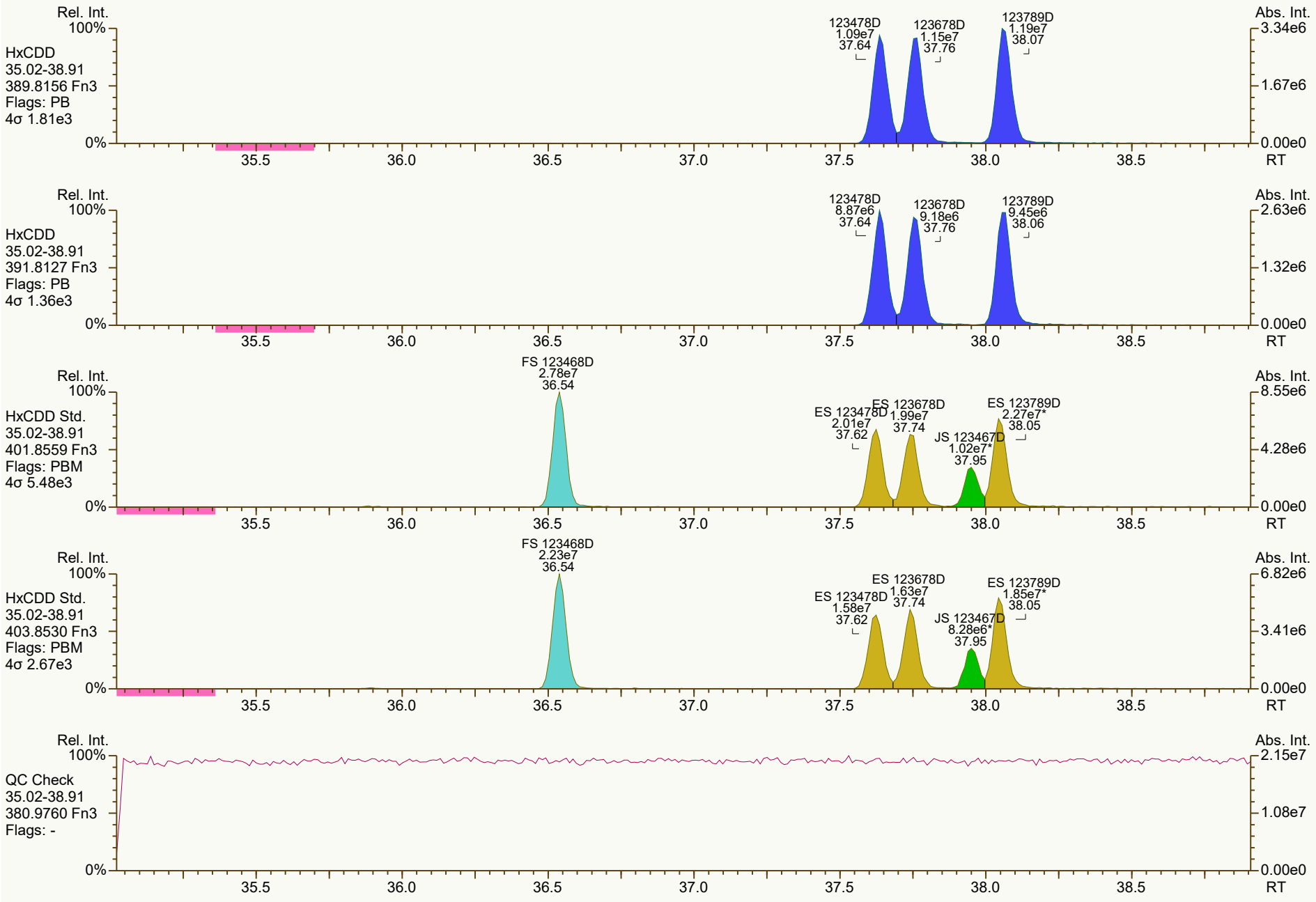
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	98.1	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	93.8	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	99.8	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05 - 1.43	Y	104	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	98.1	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	167	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	95.9	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	85.5	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	84.6	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	108	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	108	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43 - 0.59	Y	109	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	106	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	101	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	98.5	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	174	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.1	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	99	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	87.6	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	118	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	109	70 - 130	Y

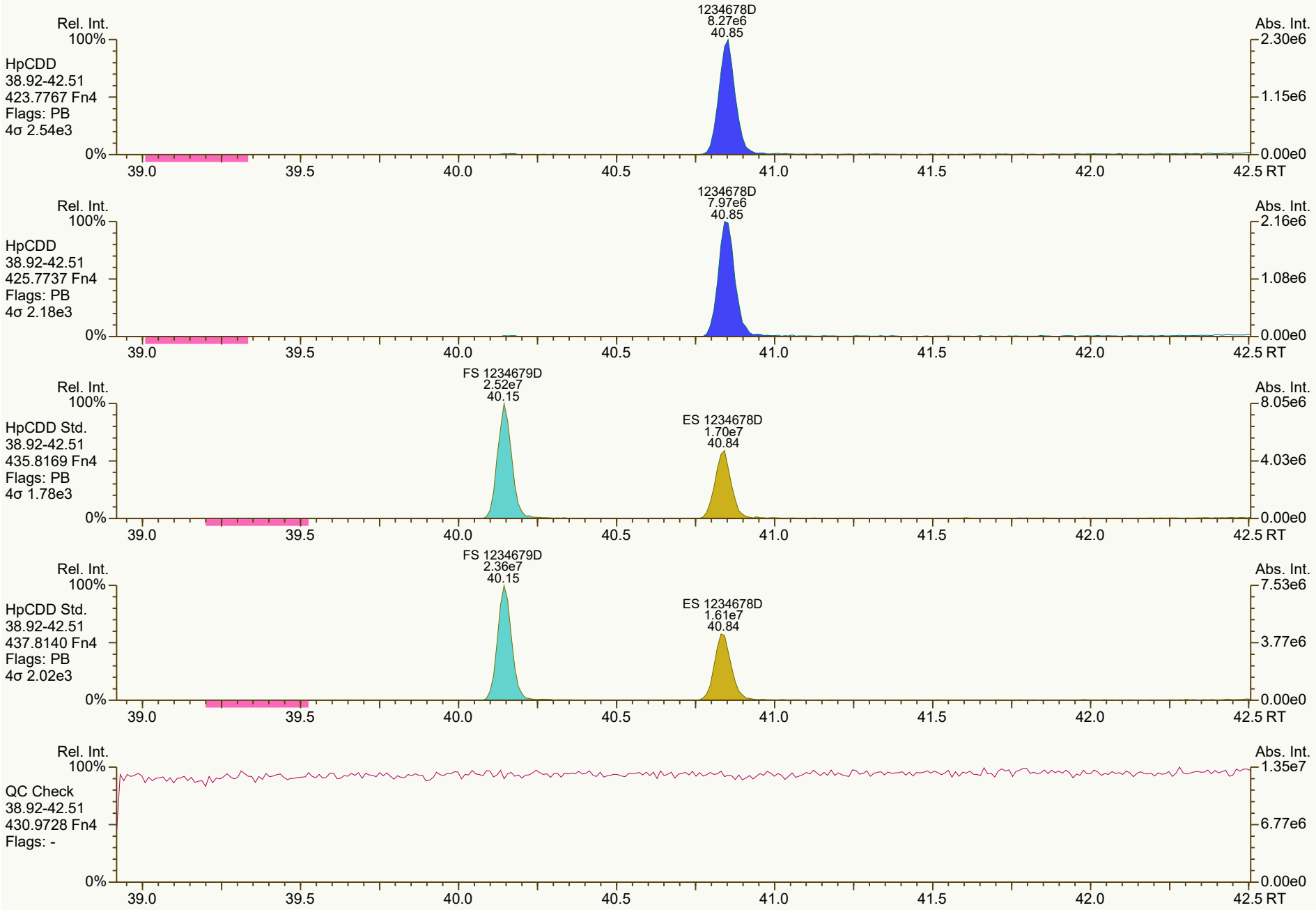
Processed: 14 Jan 2022 10:03 Analyst: TF

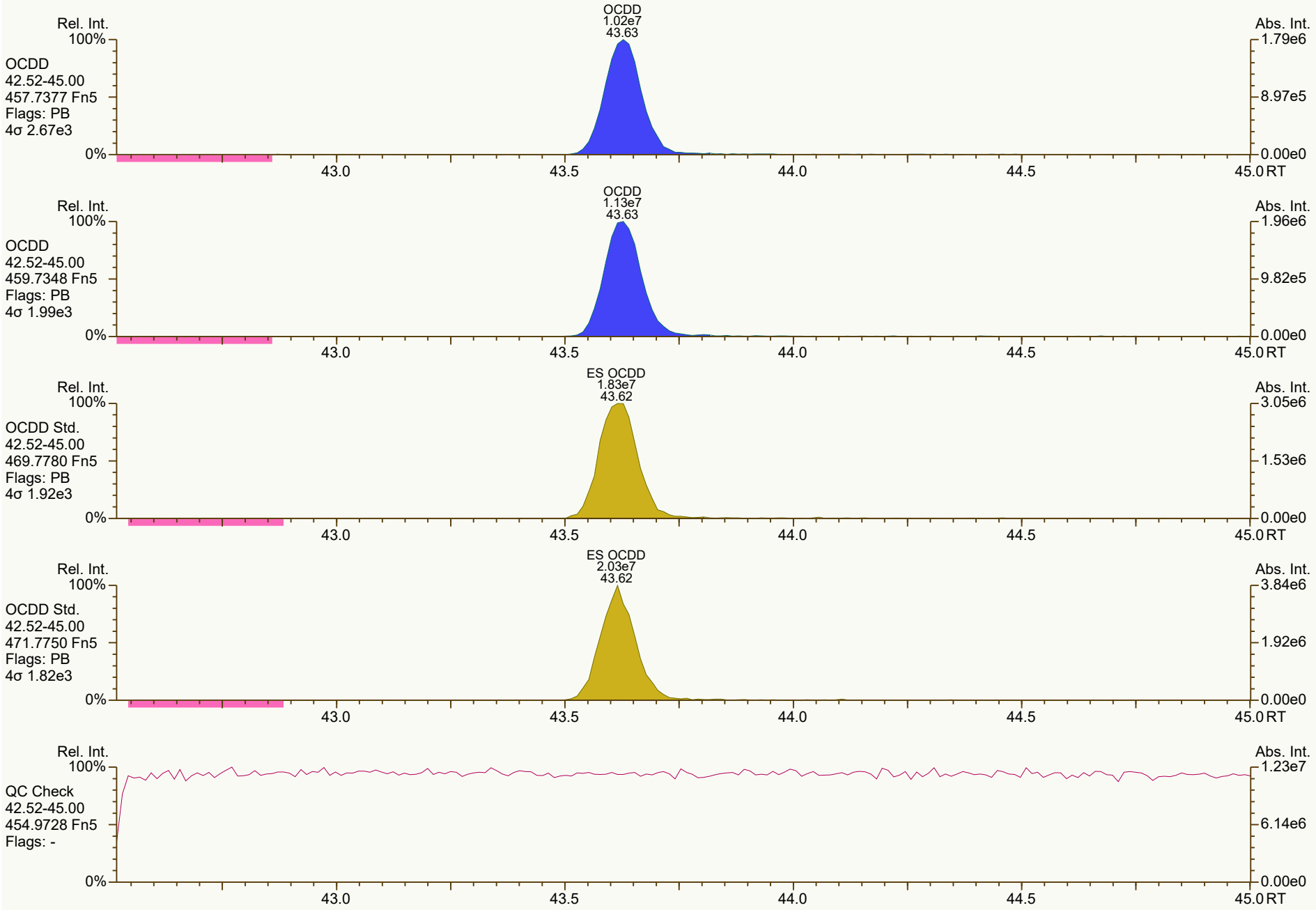

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.84e6
3.92e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.27e6
3.14e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Abs. Int.
1.35e7
6.77e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.23e7
6.14e6
0.00e0

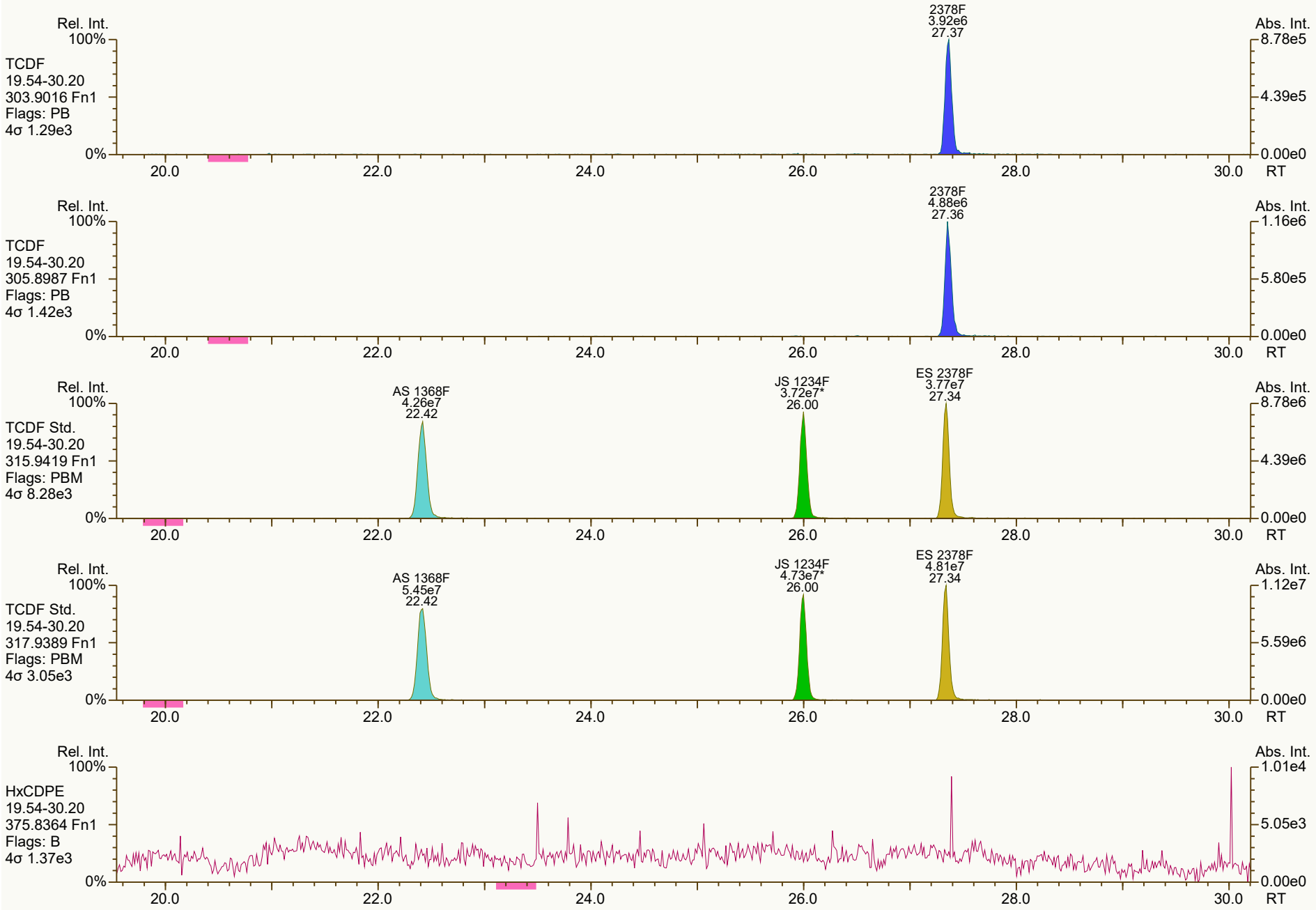

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.77e3
0%
2378D RRF = (2.97e6 + 3.81e6) * 100pg / (2.50e7 + 3.19e7) * 10pg = 1.19
DTF 14-Jan-2022 10:06
VERIFIED
2378D
2.97e6
28.24
Abs. Int.
6.85e5
3.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.11e3
0%
2378D
3.81e6
28.24
Abs. Int.
9.19e5
4.60e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.41e3
0%
CS 37Cl-2378D
7.41e6
28.24
Abs. Int.
1.70e6
8.49e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.93e3
0%
AS 1368D
2.76e7
24.55
TS 1378D
3.73e7
26.56
JS 1234D
2.49e7
27.58
ES 2378D
2.50e7
28.22
FS 1278D
2.73e7
28.55
Abs. Int.
8.58e6
4.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.28e3
0%
AS 1368D
3.34e7
24.55
TS 1378D
4.71e7
26.56
JS 1234D
3.06e7
27.58
ES 2378D
3.19e7
28.22
FS 1278D
3.43e7
28.55
Abs. Int.
1.10e7
5.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: PB
4σ 1.98e3
0%
12378D
1.38e7
33.67
Abs. Int.
3.90e6
1.95e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: PB
4σ 1.69e3
0%
12378D
8.88e6
33.67
Abs. Int.
2.51e6
1.25e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: PB
4σ 2.82e3
0%
FS 12478D
2.90e7
32.42
CS 12347D
2.53e7
33.15
ES 12378D
2.81e7
33.65
Abs. Int.
8.34e6
4.17e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: PB
4σ 3.92e3
0%
FS 12478D
1.90e7
32.42
CS 12347D
1.60e7
33.15
ES 12378D
1.77e7
33.65
Abs. Int.
5.27e6
2.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.27e6
3.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

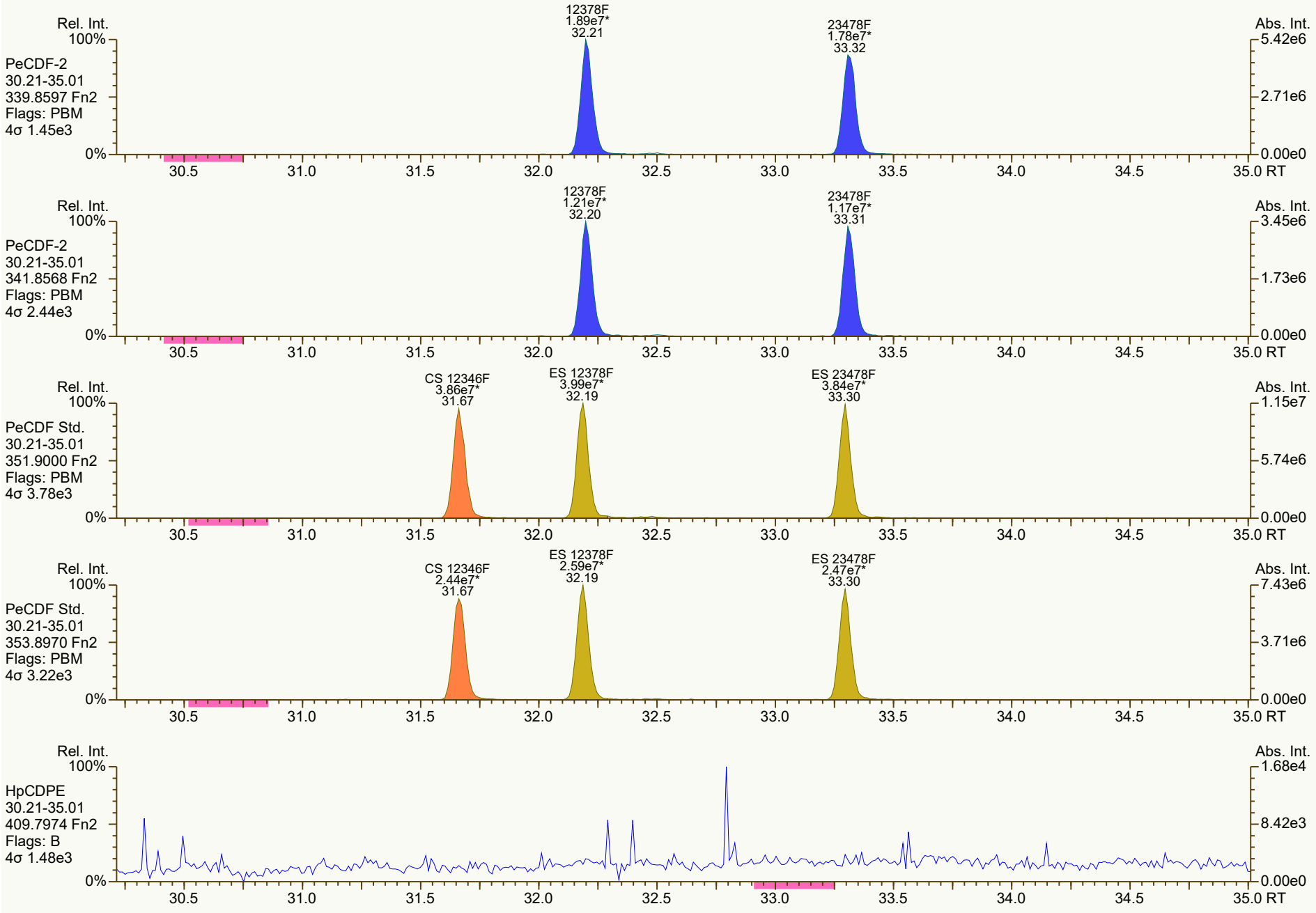

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 1.81e3
123478D
1.09e7
37.64
123678D
1.15e7
37.76
123789D
1.19e7
38.07
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.36e3
123478D
8.87e6
37.64
123678D
9.18e6
37.76
123789D
9.45e6
38.06
Abs. Int.
2.63e6
1.32e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 5.48e3
FS 123468D
2.78e7
36.54
ES 123478D
2.01e7
37.62
ES 123678D
1.99e7
37.74
JS 123467D
1.02e7*
37.95
ES 123789D
2.27e7*
38.05
Abs. Int.
8.55e6
4.28e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 2.67e3
FS 123468D
2.23e7
36.54
ES 123478D
1.58e7
37.62
ES 123678D
1.63e7
37.74
JS 123467D
8.28e6*
37.95
ES 123789D
1.85e7*
38.05
Abs. Int.
6.82e6
3.41e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

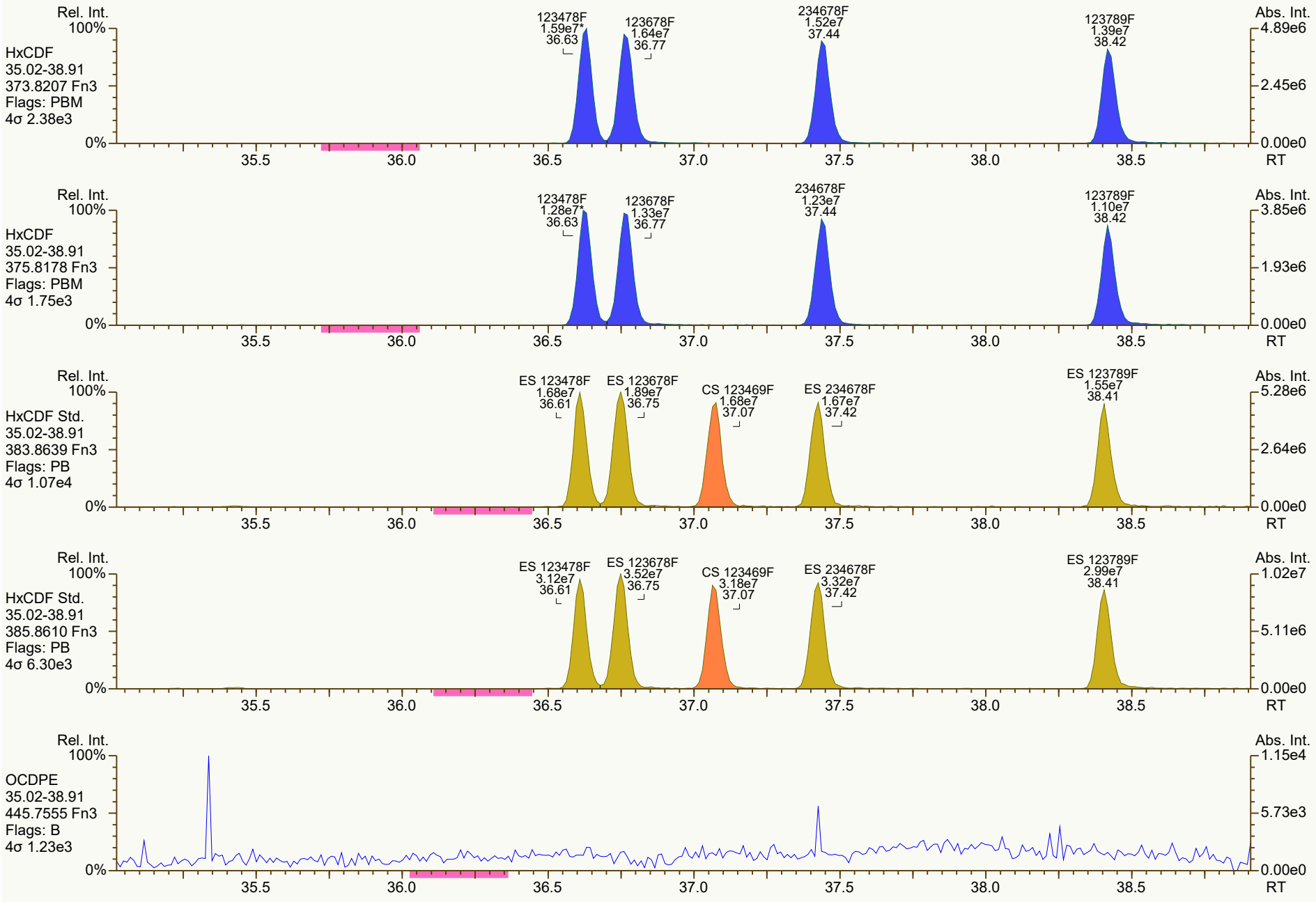

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 2.54e3
0%
1234678D
8.27e6
40.85
Abs. Int.
2.30e6
1.15e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 2.18e3
0%
1234678D
7.97e6
40.85
Abs. Int.
2.16e6
1.08e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 1.78e3
0%
FS 1234679D
2.52e7
40.15
ES 1234678D
1.70e7
40.84
Abs. Int.
8.05e6
4.03e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.02e3
0%
FS 1234679D
2.36e7
40.15
ES 1234678D
1.61e7
40.84
Abs. Int.
7.53e6
3.77e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.35e7
6.77e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

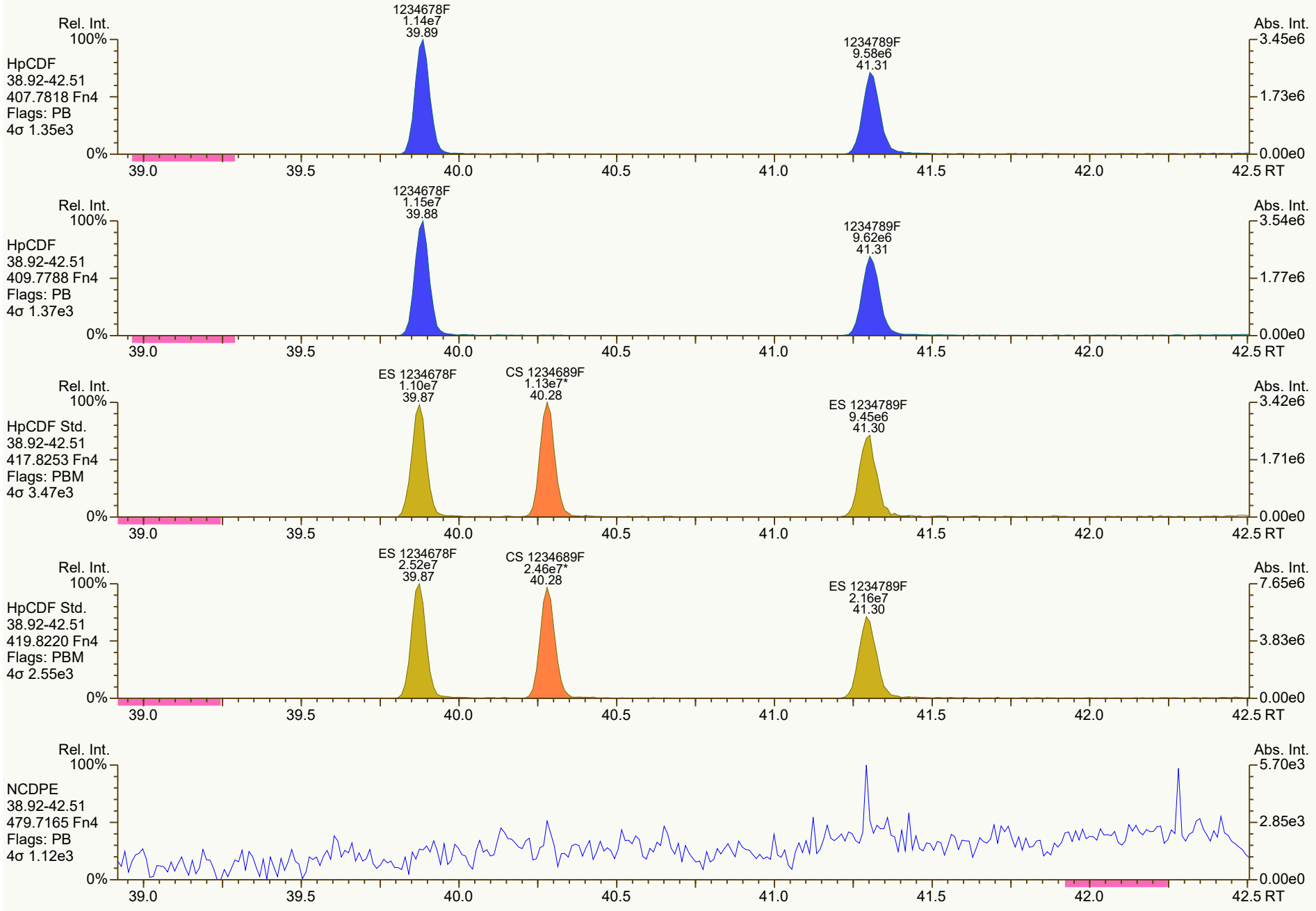

OCDD
1.02e7
43.63
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 2.67e3
0%
Abs. Int.
1.79e6
8.97e5
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.13e7
43.63
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 1.99e3
1.96e6
9.82e5
ES OCDD
1.83e7
43.62
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.92e3
3.05e6
1.53e6
ES OCDD
2.03e7
43.62
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 1.82e3
3.84e6
1.92e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
1.23e7
6.14e6

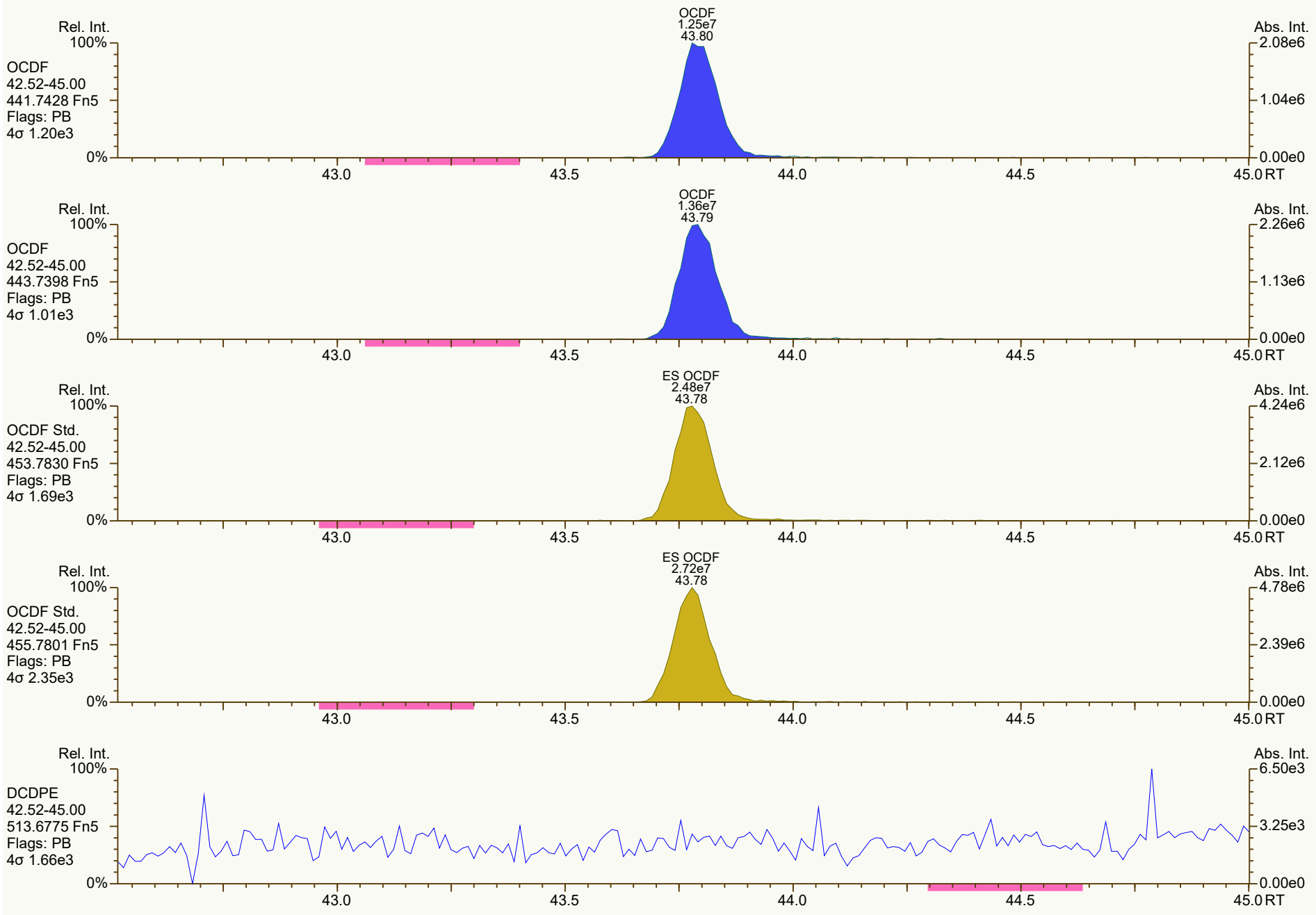

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.29e3
0%
2378F
3.92e6
27.37
Abs. Int.
8.78e5
4.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.42e3
0%
2378F
4.88e6
27.36
Abs. Int.
1.16e6
5.80e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 8.28e3
0%
AS 1368F
4.26e7
22.42
JS 1234F
3.72e7*
26.00
ES 2378F
3.77e7
27.34
Abs. Int.
8.78e6
4.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 3.05e3
0%
AS 1368F
5.45e7
22.42
JS 1234F
4.73e7*
26.00
ES 2378F
4.81e7
27.34
Abs. Int.
1.12e7
5.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
1.01e4
5.05e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

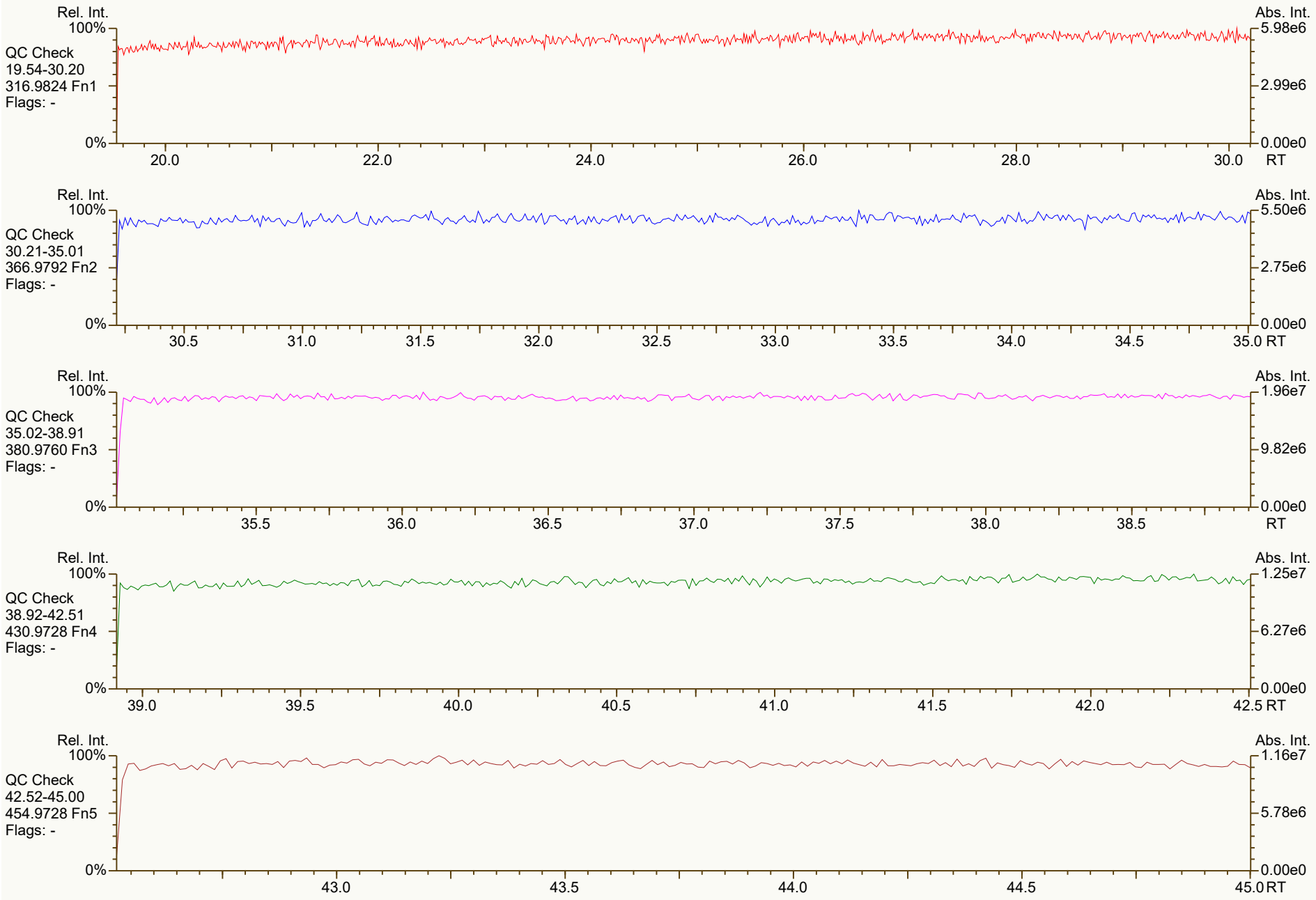

Rel. Int.
100%
0%
Abs. Int.
1.06e4
5.28e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.45e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.93e3
4.46e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.78e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.84e6
3.92e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: PBM
4σ 1.45e3
0%
12378F
1.89e7*
32.21
23478F
1.78e7*
33.32
Abs. Int.
5.42e6
2.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: PBM
4σ 2.44e3
0%
12378F
1.21e7*
32.20
23478F
1.17e7*
33.31
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: PBM
4σ 3.78e3
0%
CS 12346F
3.86e7*
31.67
ES 12378F
3.99e7*
32.19
ES 23478F
3.84e7*
33.30
Abs. Int.
1.15e7
5.74e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: PBM
4σ 3.22e3
0%
CS 12346F
2.44e7*
31.67
ES 12378F
2.59e7*
32.19
ES 23478F
2.47e7*
33.30
Abs. Int.
7.43e6
3.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.68e4
8.42e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PBM
4σ 2.38e3
123478F
1.59e7*
36.63
123678F
1.64e7
36.77
234678F
1.52e7
37.44
123789F
1.39e7
38.42
Abs. Int.
4.89e6
2.45e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PBM
4σ 1.75e3
123478F
1.28e7*
36.63
123678F
1.33e7
36.77
234678F
1.23e7
37.44
123789F
1.10e7
38.42
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PB
4σ 1.07e4
ES 123478F
1.68e7
36.61
ES 123678F
1.89e7
36.75
CS 123469F
1.68e7
37.07
ES 234678F
1.67e7
37.42
ES 123789F
1.55e7
38.41
Abs. Int.
5.28e6
2.64e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PB
4σ 6.30e3
ES 123478F
3.12e7
36.61
ES 123678F
3.52e7
36.75
CS 123469F
3.18e7
37.07
ES 234678F
3.32e7
37.42
ES 123789F
2.99e7
38.41
Abs. Int.
1.02e7
5.11e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.23e3
Abs. Int.
1.15e4
5.73e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 1.35e3
1234678F
1.14e7
39.89
1234789F
9.58e6
41.31
Abs. Int.
3.45e6
1.73e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 1.37e3
1234678F
1.15e7
39.88
1234789F
9.62e6
41.31
Abs. Int.
3.54e6
1.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PBM
4σ 3.47e3
ES 1234678F
1.10e7
39.87
CS 1234689F
1.13e7*
40.28
ES 1234789F
9.45e6
41.30
Abs. Int.
3.42e6
1.71e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PBM
4σ 2.55e3
ES 1234678F
2.52e7
39.87
CS 1234689F
2.46e7*
40.28
ES 1234789F
2.16e7
41.30
Abs. Int.
7.65e6
3.83e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.12e3
Abs. Int.
5.70e3
2.85e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDF
1.25e7
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.20e3
0%
Abs. Int.
2.08e6
1.04e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.36e7
43.79
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.01e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.48e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PB
4σ 1.69e3
0%
Abs. Int.
4.24e6
2.12e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.72e7
43.78
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 2.35e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.50e3
3.25e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.96e7
9.82e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.25e7
6.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.16e7
5.78e6
0.00e0
43.0
43.5
44.0
44.5
45.0
RT

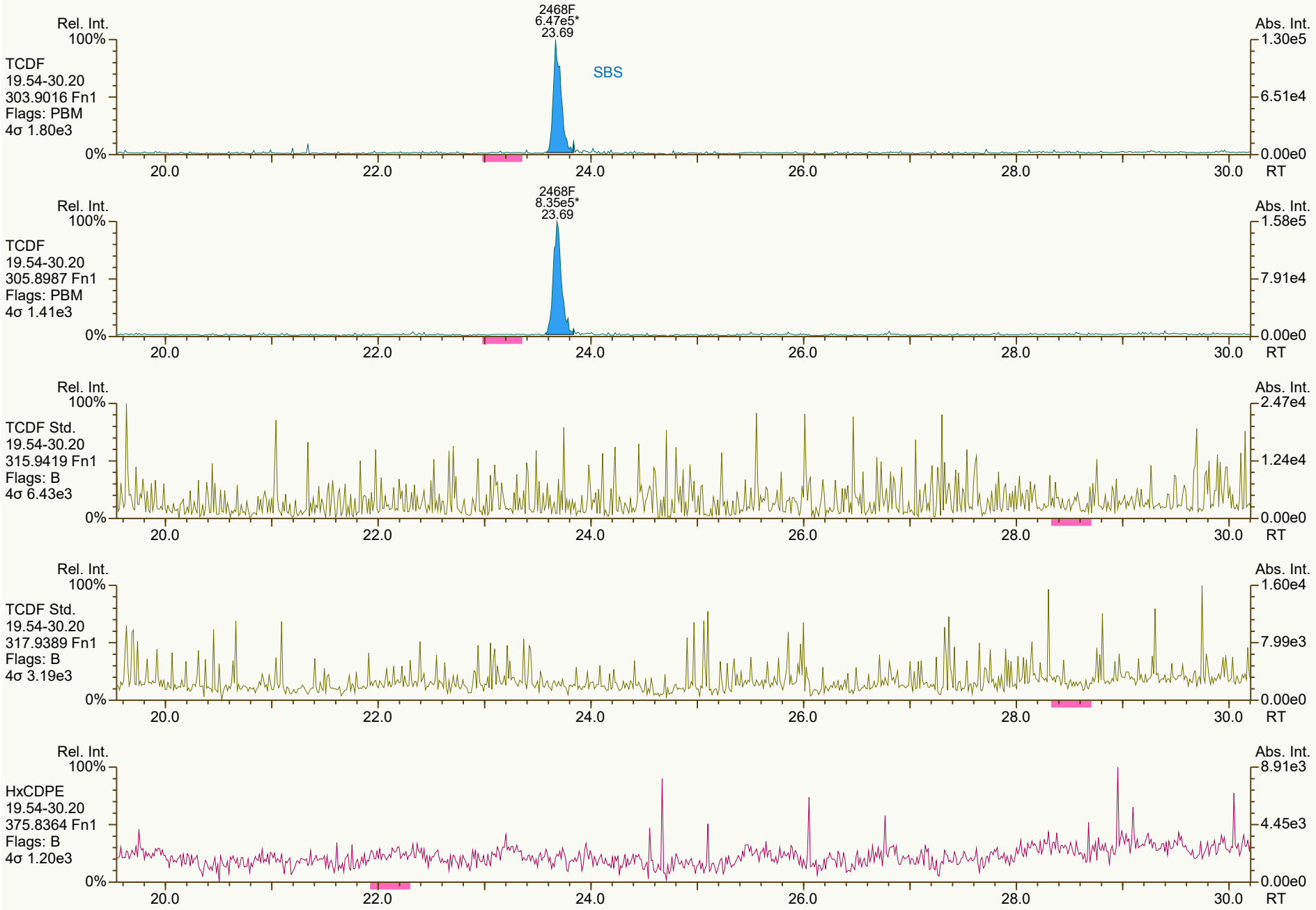

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.94e3
0%
Abs. Int.
6.31e3
3.15e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.39e3
0%
Abs. Int.
1.73e4
8.66e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.65e3
0%
Abs. Int.
3.53e4
1.76e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 1.70e3
0%
Abs. Int.
2.28e4
1.14e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-35.01
355.8546 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
6.38e3
3.19e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD
30.21-35.01
357.8517 Fn2
Flags: B
4σ 1.94e3
0%
Abs. Int.
8.40e3
4.20e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
367.8949 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
1.26e4
6.28e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDD Std.
30.21-35.01
369.8919 Fn2
Flags: B
4σ 1.97e3
0%
Abs. Int.
1.18e4
5.88e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

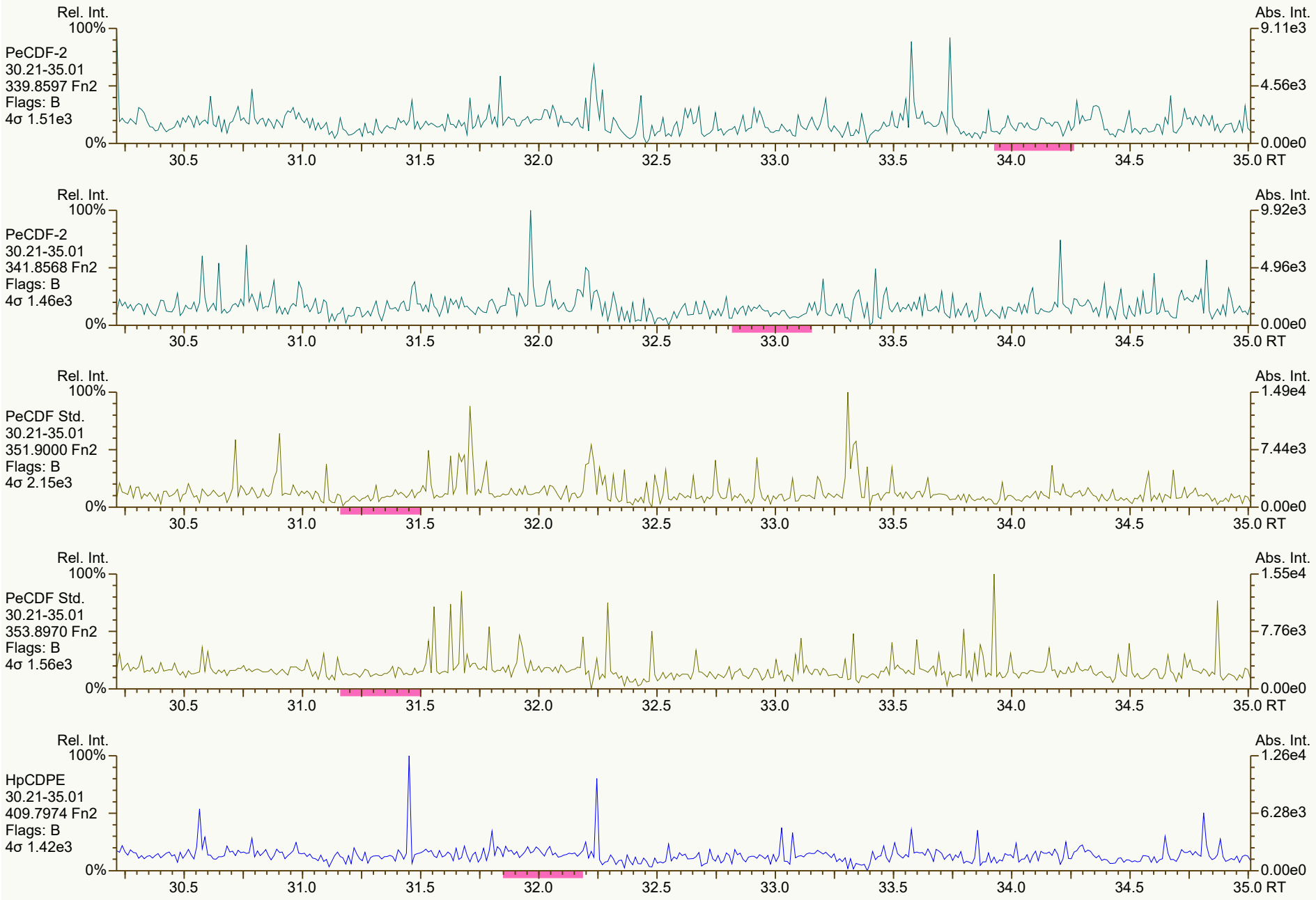

Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 1.20e3
0%
Abs. Int.
8.31e3
4.15e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 1.48e3
0%
Abs. Int.
4.31e3
2.15e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: B
4σ 6.12e3
0%
Abs. Int.
2.43e4
1.21e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: B
4σ 2.48e3
0%
Abs. Int.
1.47e4
7.34e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.96e7
9.82e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.60e3
0%
Abs. Int.
6.23e3
3.12e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.36e3
3.18e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.96e4
9.80e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: B
4σ 2.63e3
0%
Abs. Int.
1.23e4
6.13e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.25e7
6.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: B
4σ 2.25e3
0%
Abs. Int.
1.10e4
5.52e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.52-45.00
459.7348 Fn5
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.16e4
5.81e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: B
4σ 1.37e3
0%
Abs. Int.
1.83e4
9.17e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.16e7
5.78e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.80e3
2468F
6.47e5*
23.69
SBS
Abs. Int.
1.30e5
6.51e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.41e3
2468F
8.35e5*
23.69
Abs. Int.
1.58e5
7.91e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 6.43e3
Abs. Int.
2.47e4
1.24e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 3.19e3
Abs. Int.
1.60e4
7.99e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
Abs. Int.
8.91e3
4.45e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.21e4
6.06e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.53e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.93e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-35.01
339.8597 Fn2
Flags: B
4σ 1.51e3
0%
Abs. Int.
9.11e3
4.56e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF-2
30.21-35.01
341.8568 Fn2
Flags: B
4σ 1.46e3
0%
Abs. Int.
9.92e3
4.96e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
351.9000 Fn2
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.49e4
7.44e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
PeCDF Std.
30.21-35.01
353.8970 Fn2
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.55e4
7.76e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT
Rel. Int.
100%
HpCDPE
30.21-35.01
409.7974 Fn2
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.26e4
6.28e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 RT

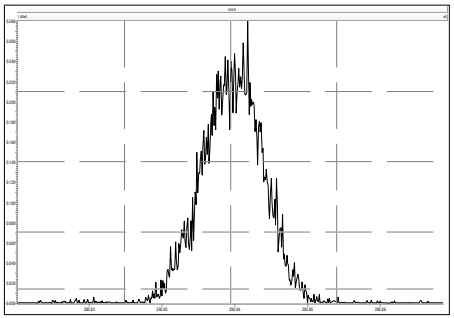

Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: B
4σ 1.78e3
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: B
4σ 2.95e3
0%
Abs. Int.
1.22e4
6.11e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: B
4σ 4.08e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.00e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.92-42.51
407.7818 Fn4
Flags: B
4σ 1.15e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF
38.92-42.51
409.7788 Fn4
Flags: B
4σ 1.12e3
0%
Abs. Int.
6.74e3
3.37e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: B
4σ 3.09e3
0%
Abs. Int.
1.80e4
8.98e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: B
4σ 3.37e3
0%
Abs. Int.
1.51e4
7.56e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
NCDPE
38.92-42.51
479.7165 Fn4
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT

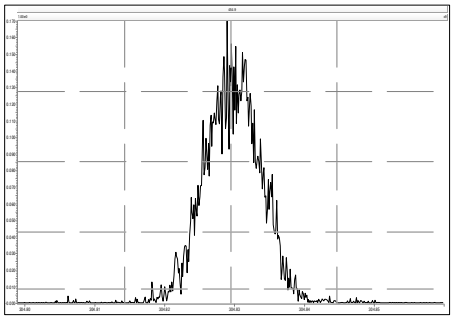

Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
5.60e3
2.80e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.52-45.00
443.7398 Fn5
Flags: B
4σ 1.73e3
0%
Abs. Int.
8.28e3
4.14e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
2.04e4
1.02e4
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
1.21e4
6.05e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.52-45.00
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
5.68e3
2.84e3
0.00e0
43.0
43.5
44.0
44.5
45.0 RT

Printed: Thursday, January 13, 2022 11:07:10 Eastern Standard Time

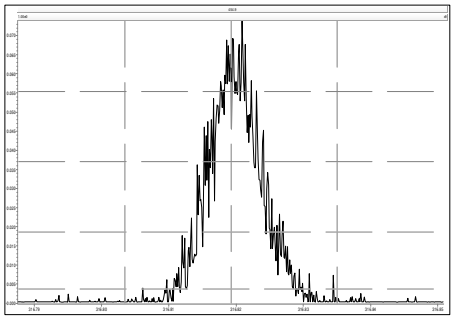
M 292.9824 R 15293



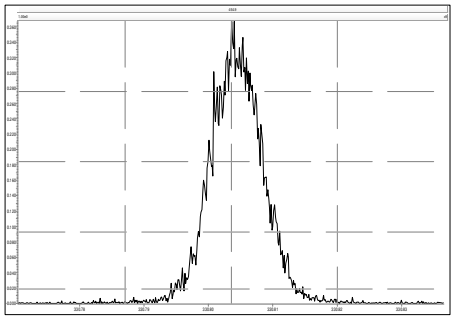
M 304.9824 R 17534



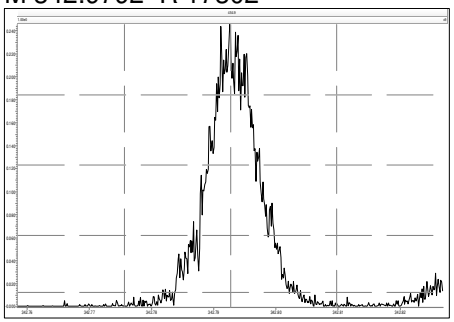
M 316.9824 R 19259



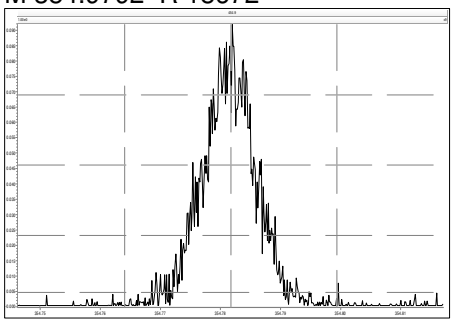
M 330.9792 R 17605



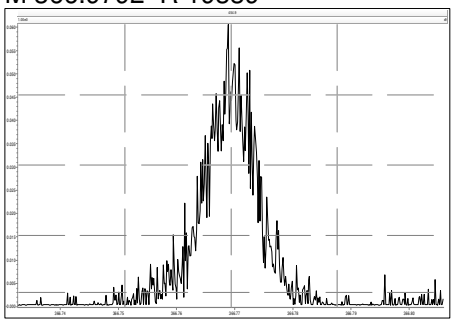
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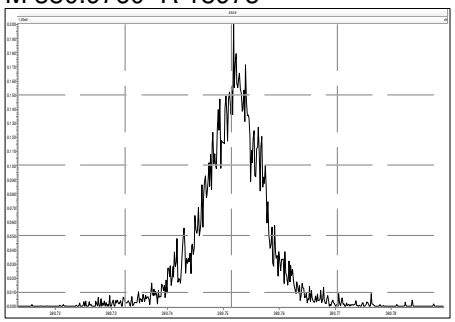
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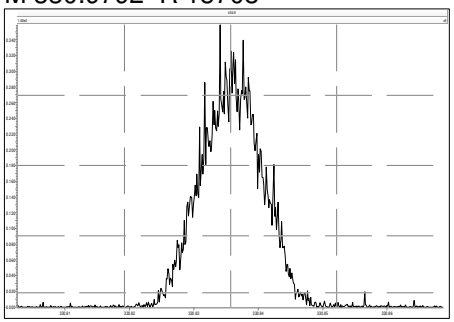
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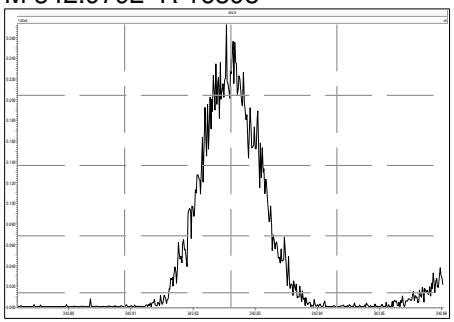
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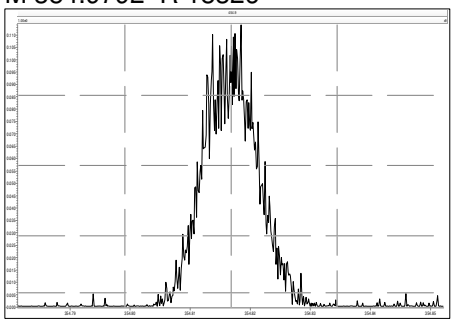
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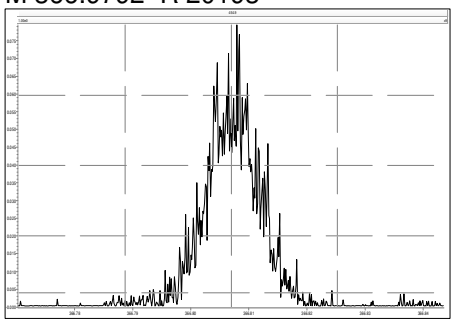
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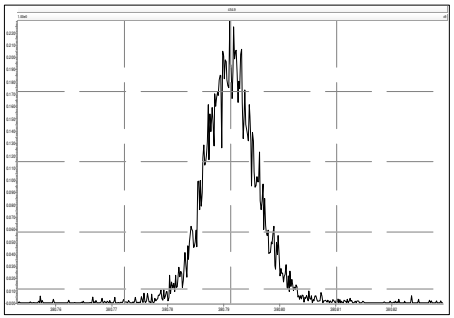
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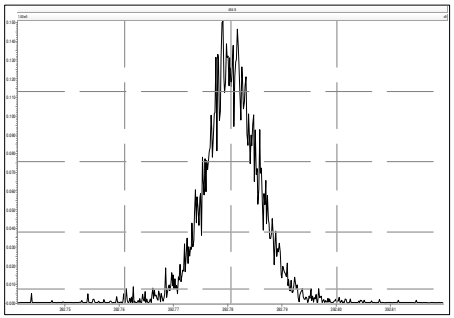
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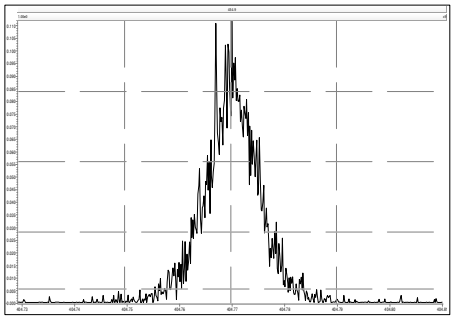
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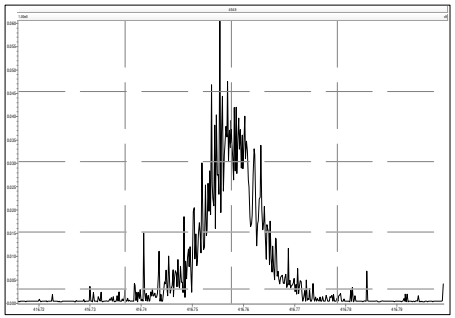
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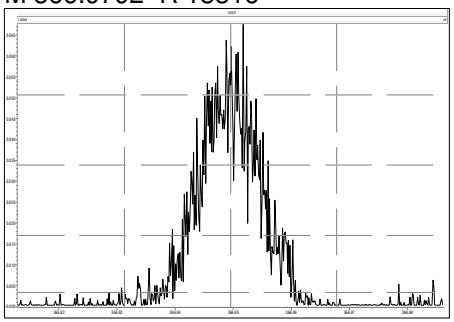
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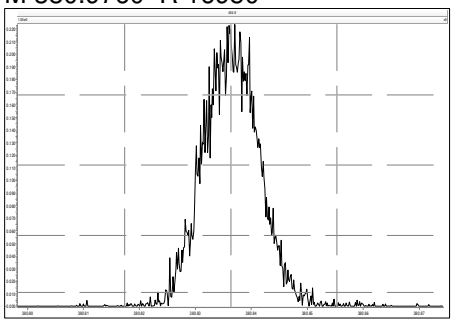
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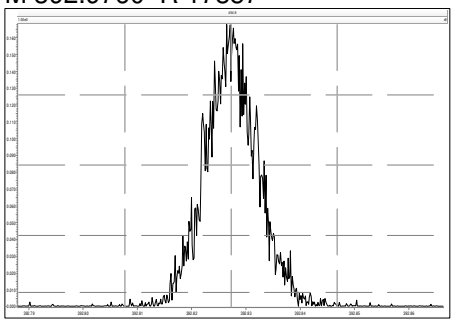
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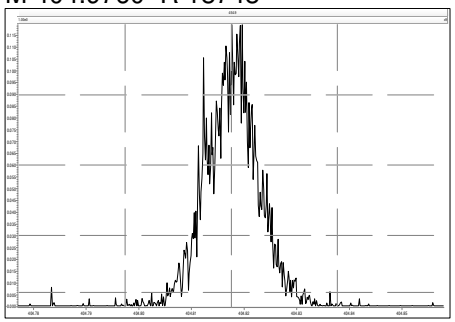
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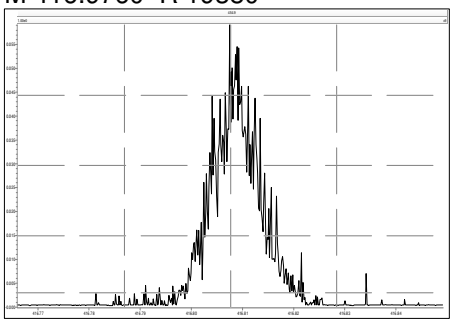
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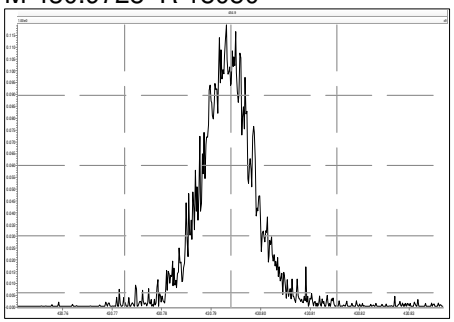
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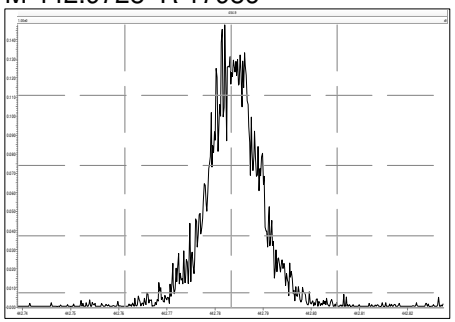
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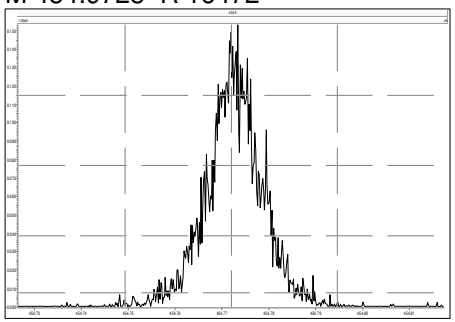
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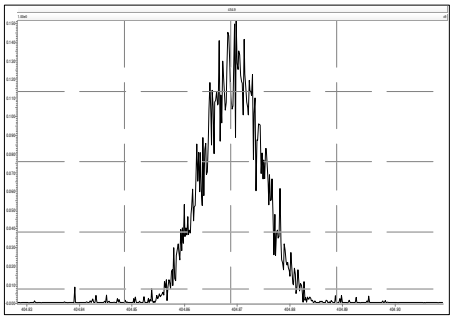
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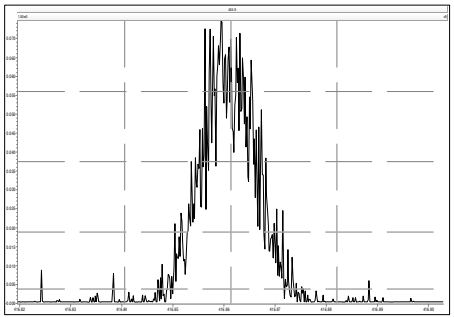
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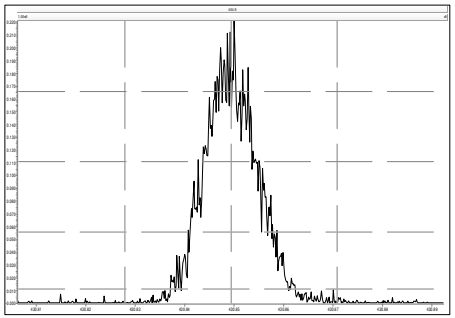
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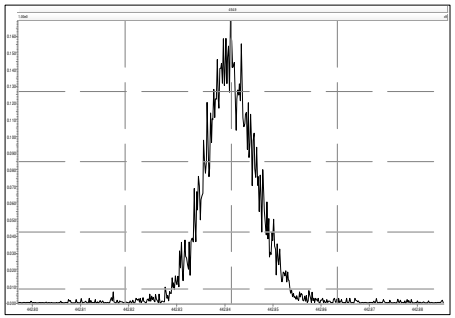
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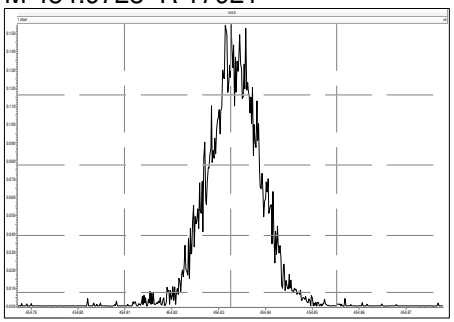
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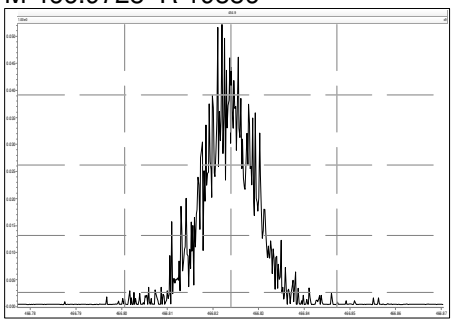
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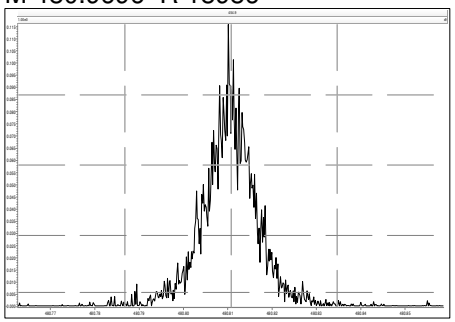
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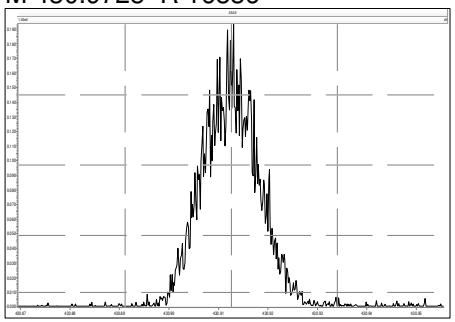
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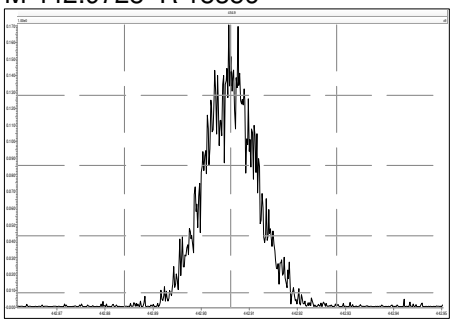
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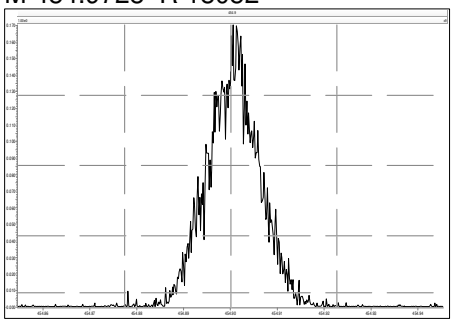
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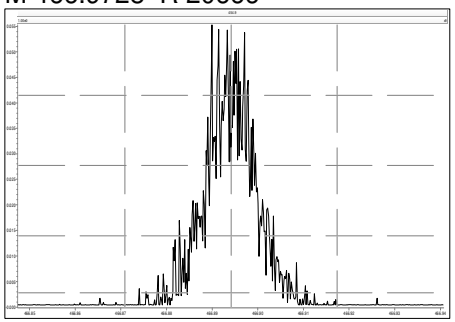
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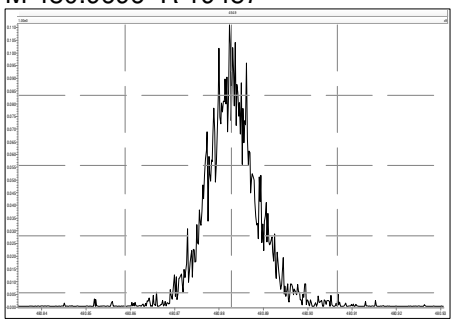
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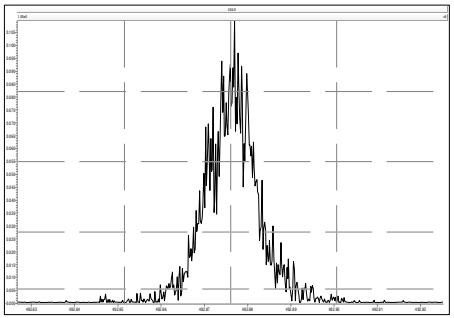
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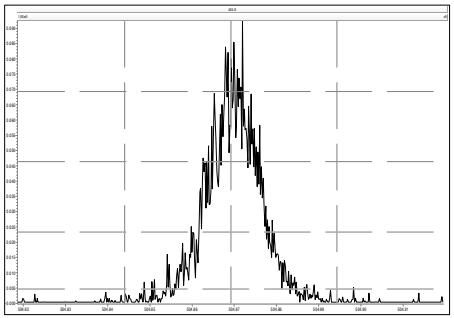
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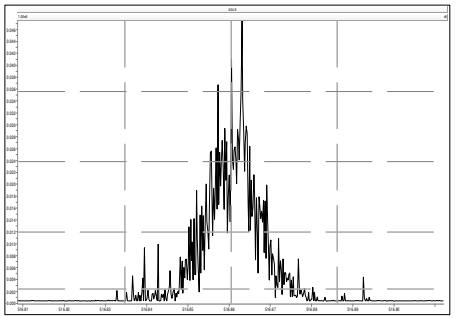
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M 504.9696 R 18382

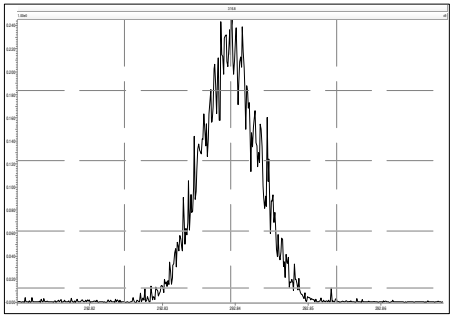


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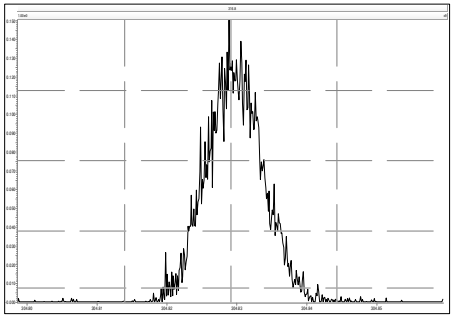


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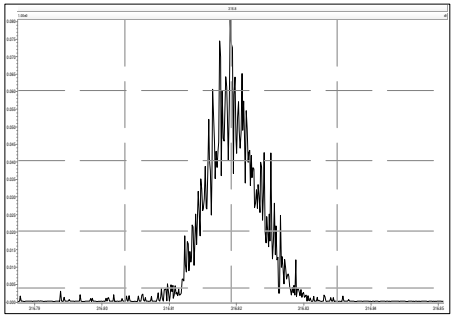
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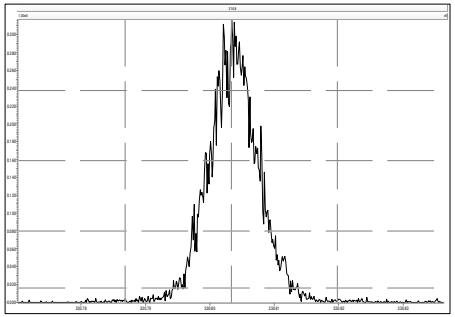
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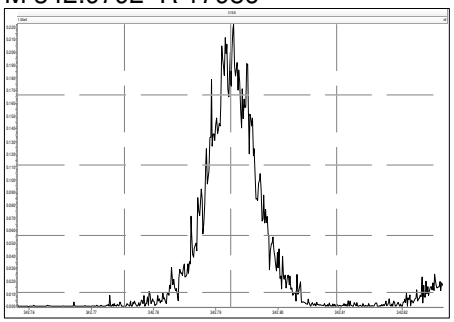
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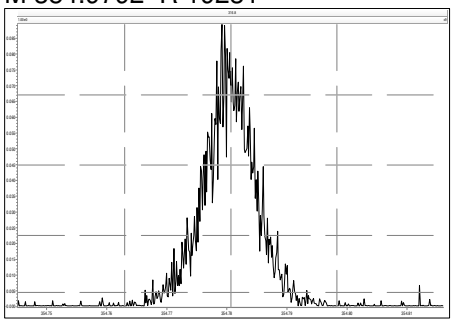
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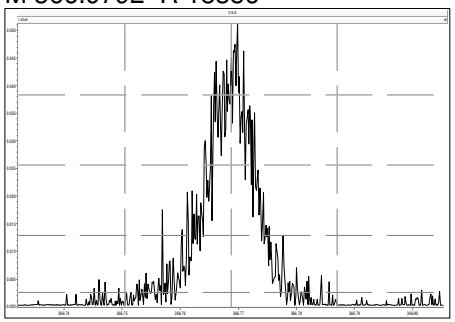
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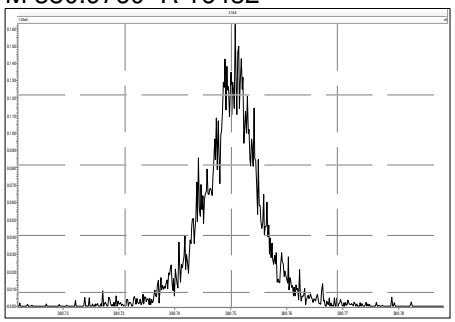
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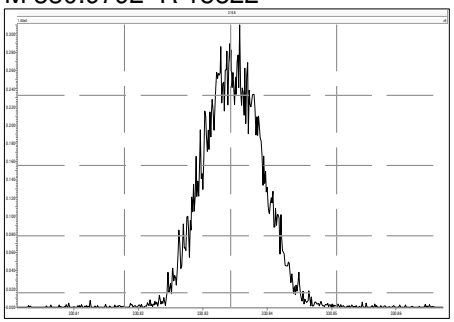
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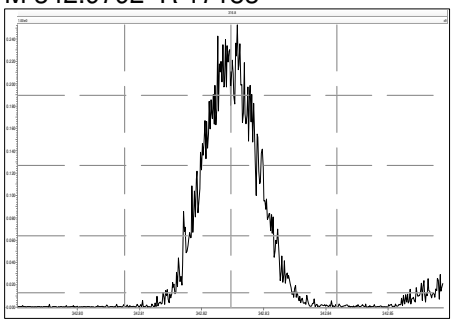
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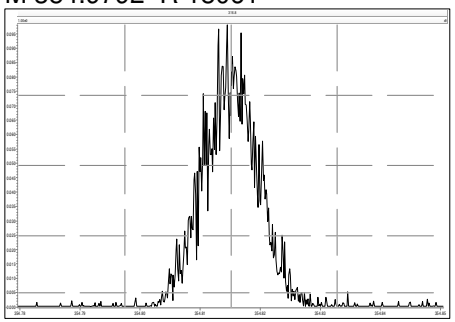
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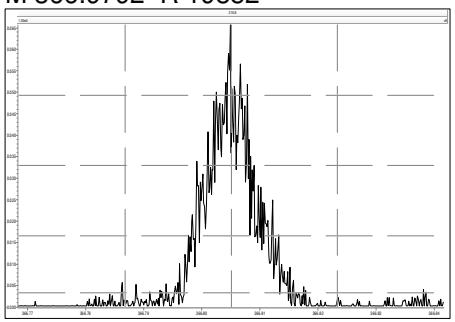
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M 354.9792 R 18061

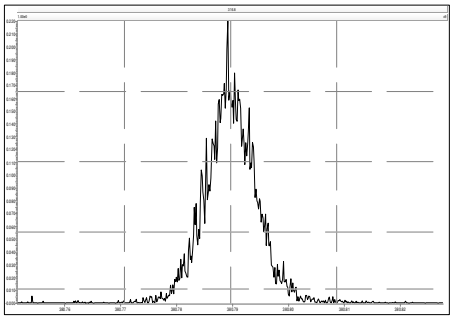


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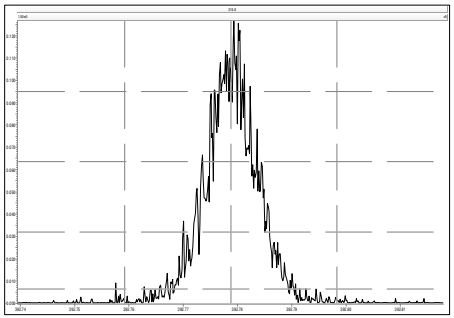


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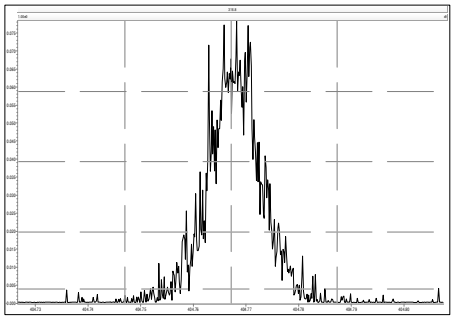
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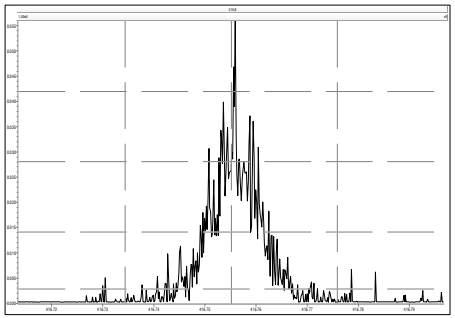
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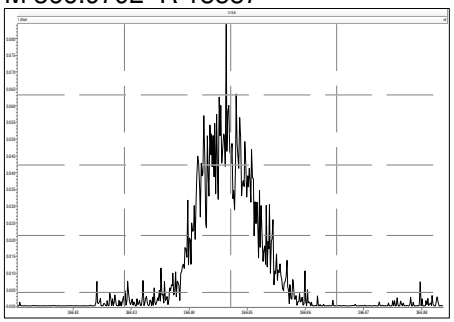
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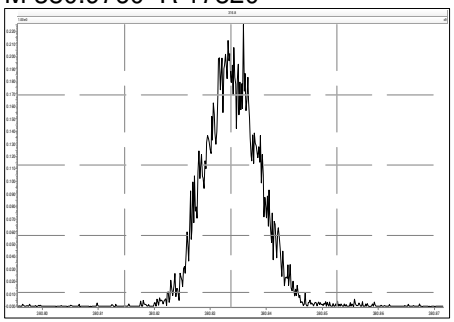
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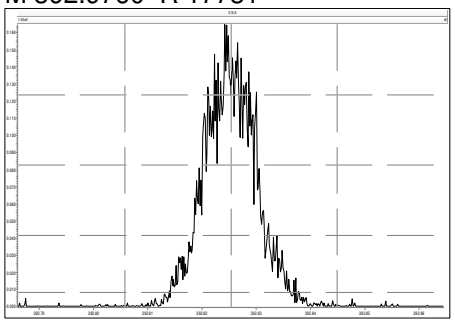
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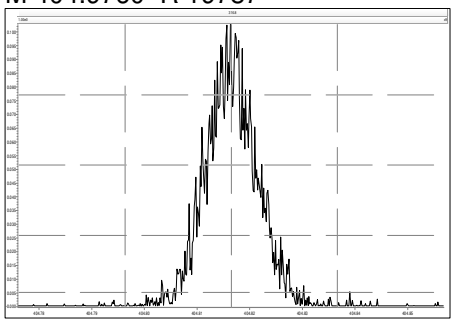
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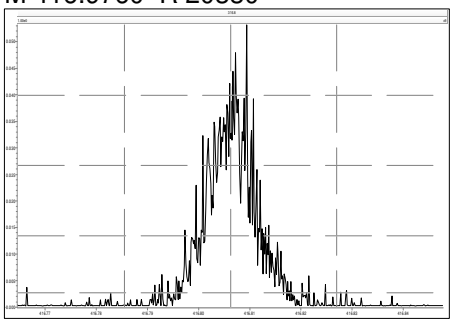
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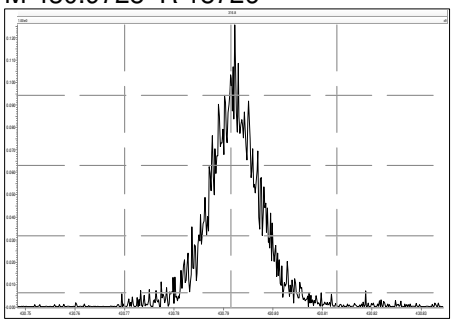
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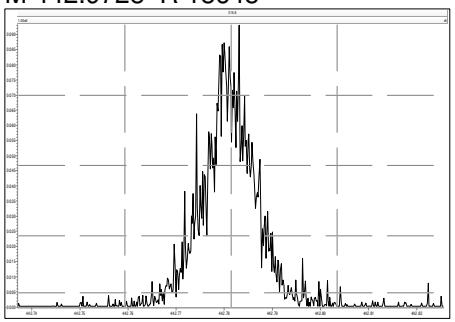
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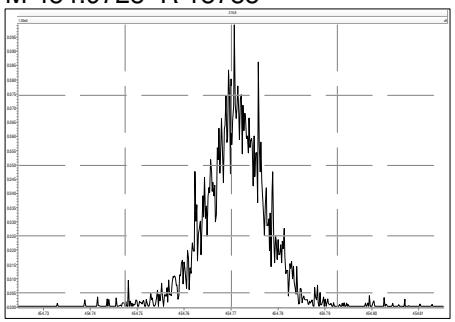
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M 442.9728 R 18645

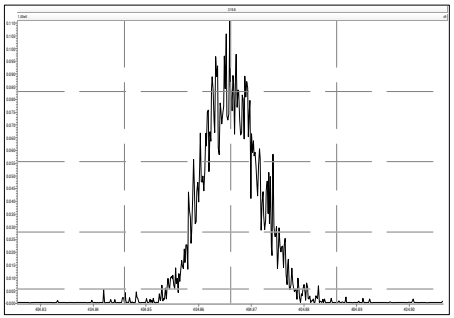


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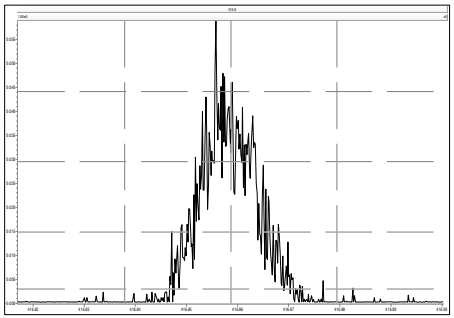


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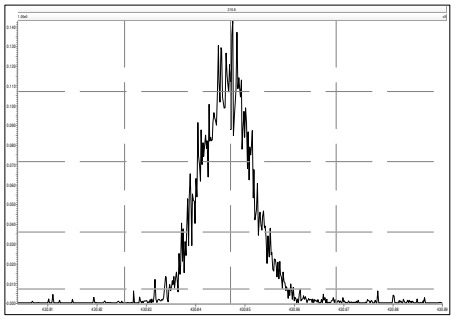
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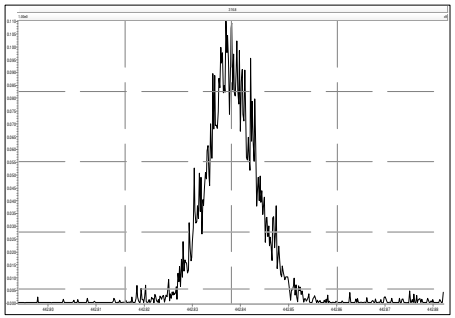
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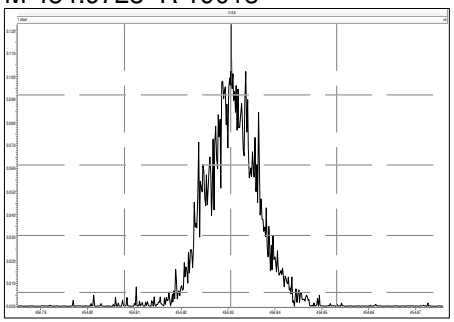
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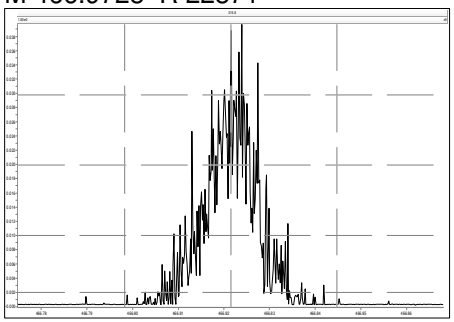
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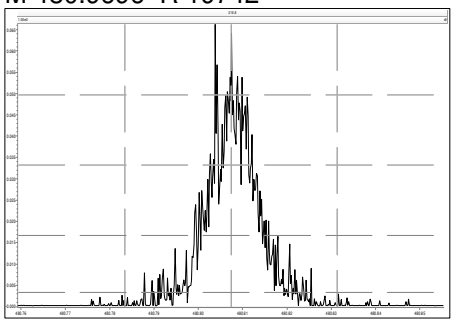
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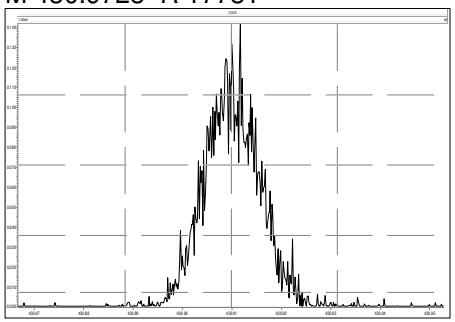
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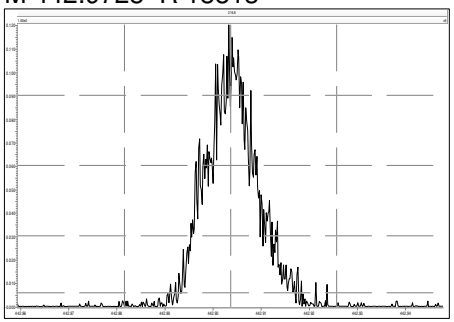
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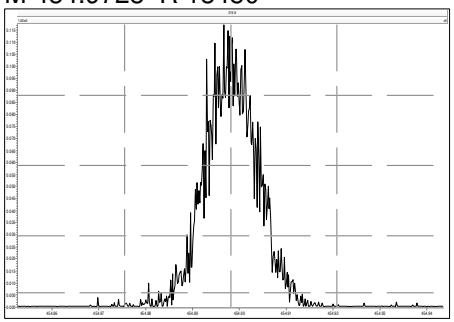
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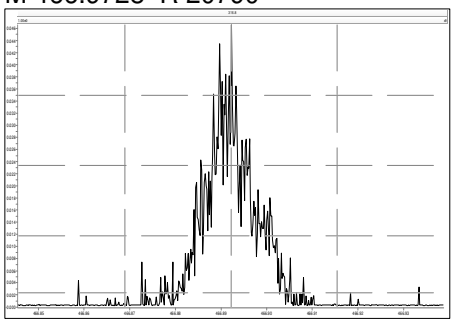
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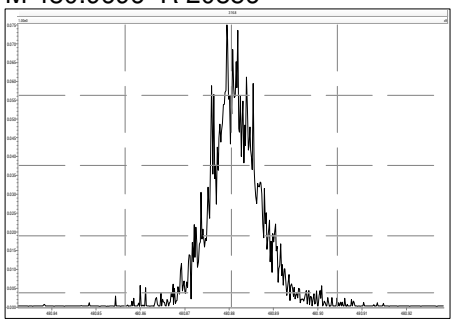
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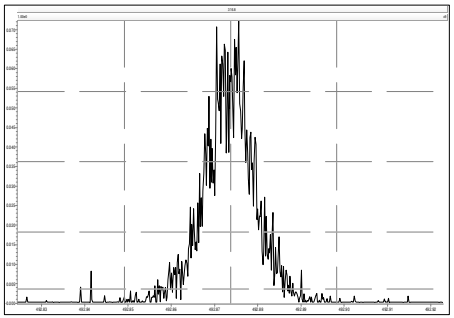


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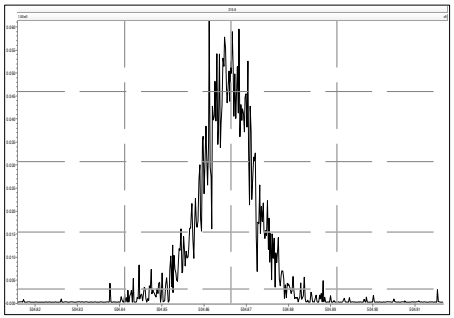


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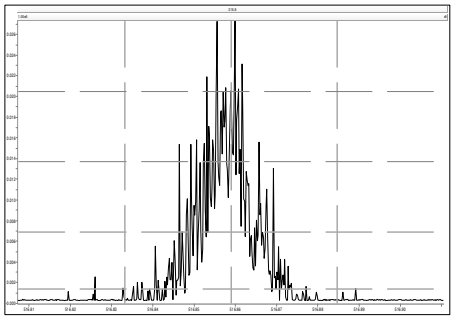
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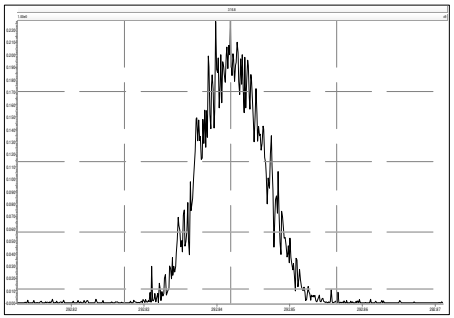


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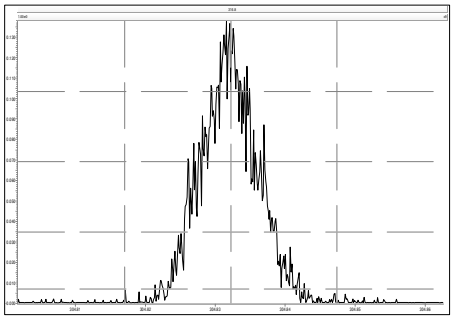


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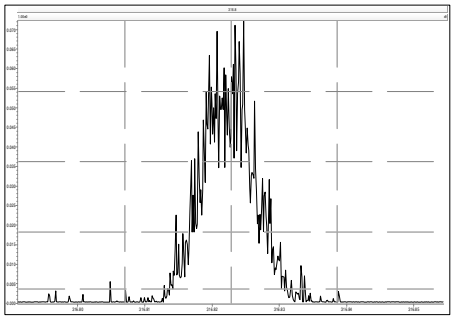
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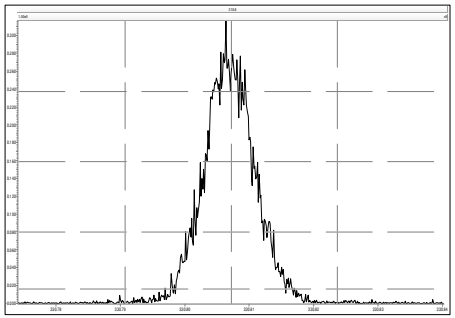
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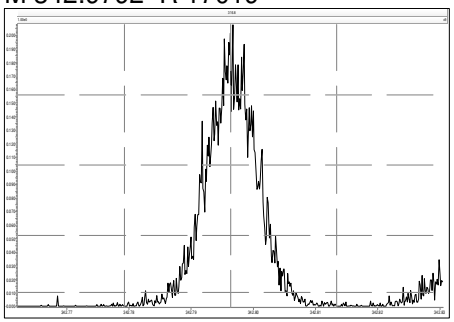
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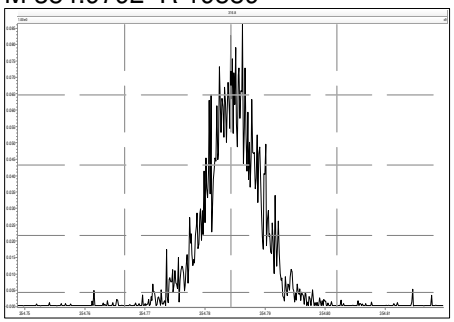
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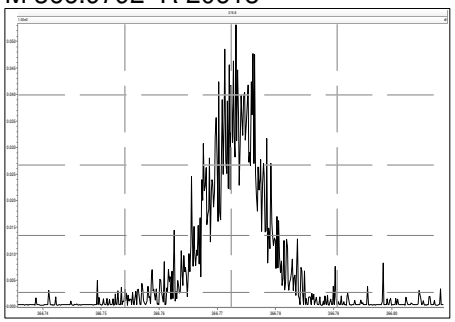
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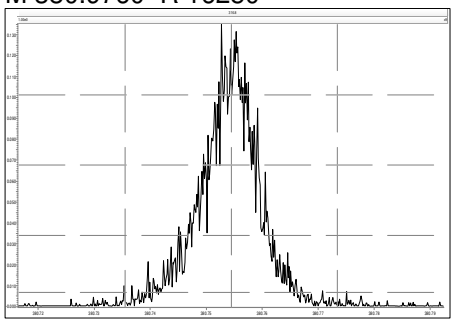
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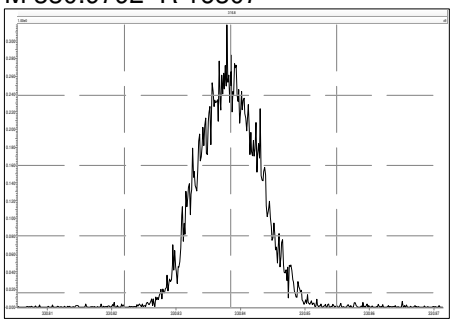
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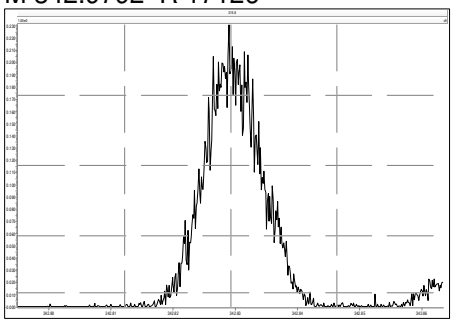
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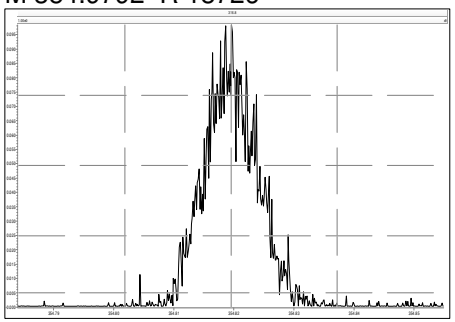
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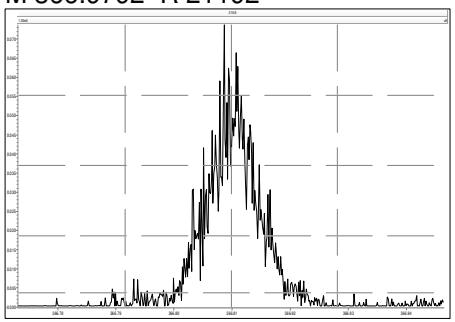
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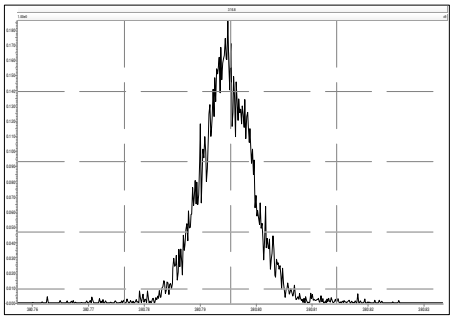
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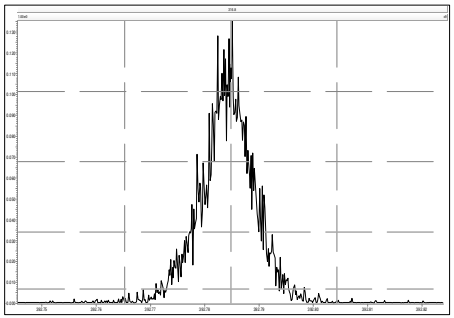
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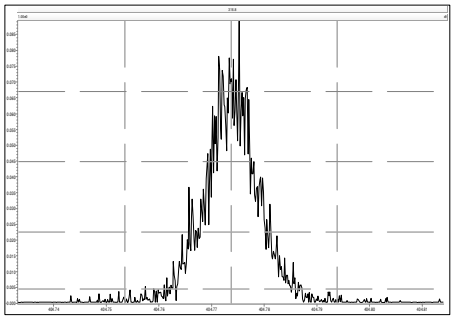
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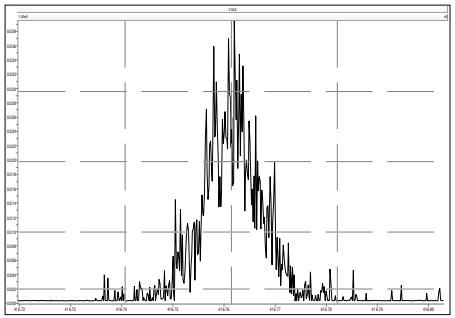
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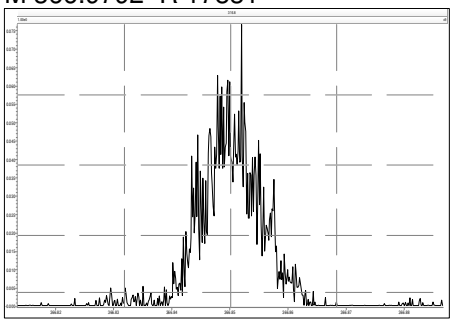
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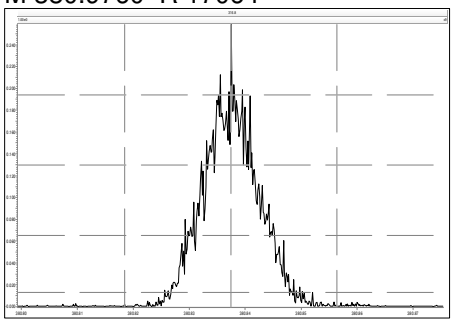
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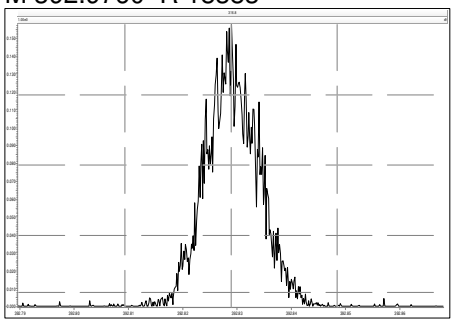
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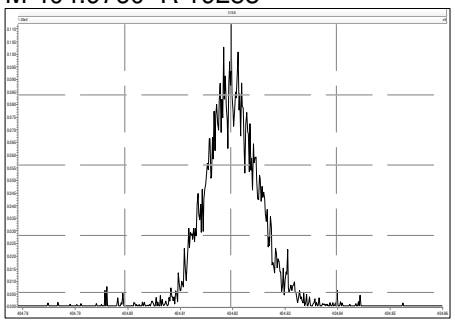
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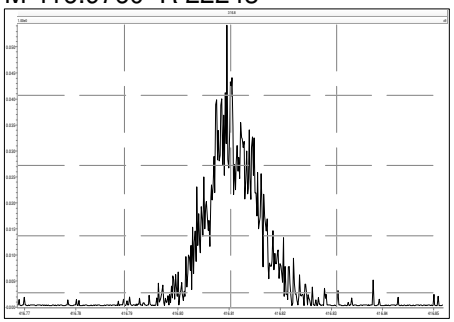
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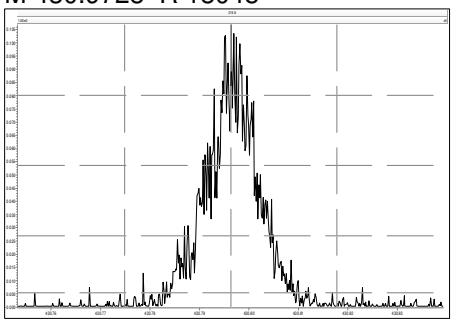
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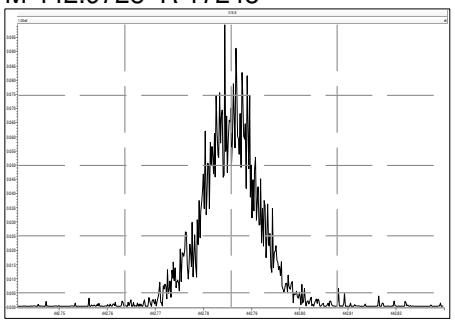
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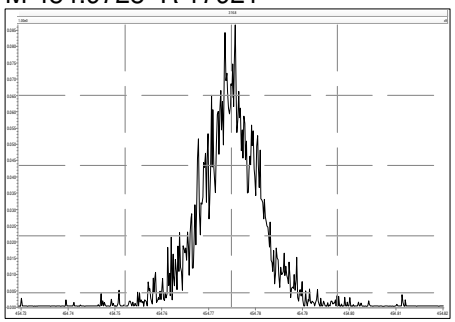
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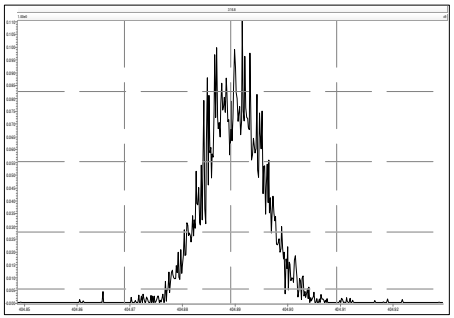
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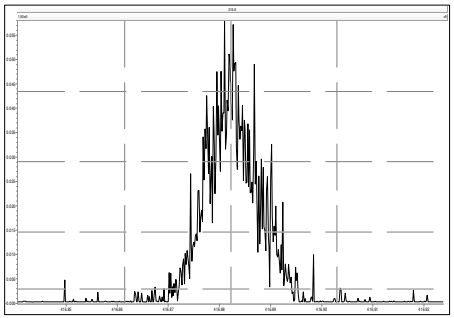
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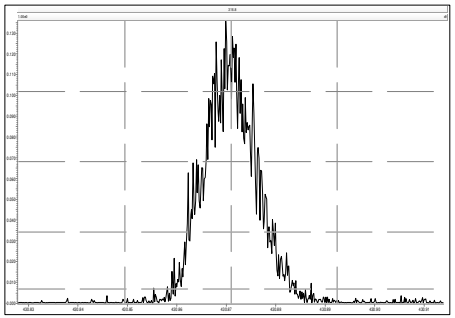
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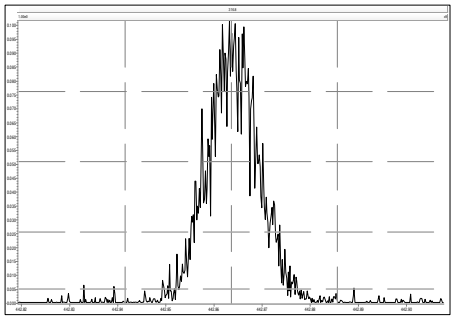
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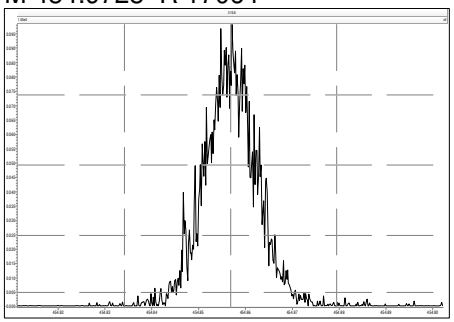
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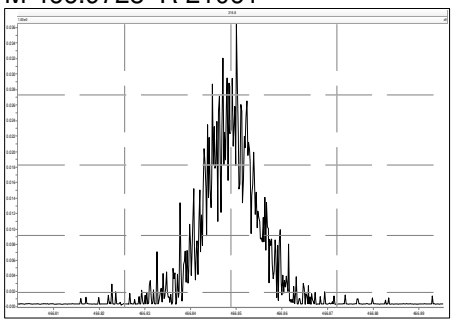
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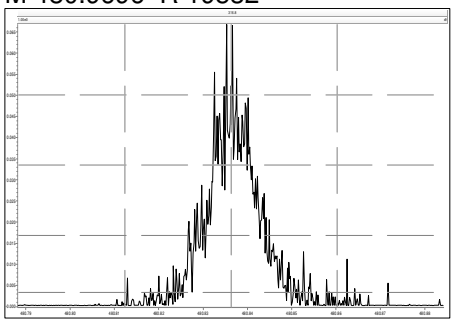
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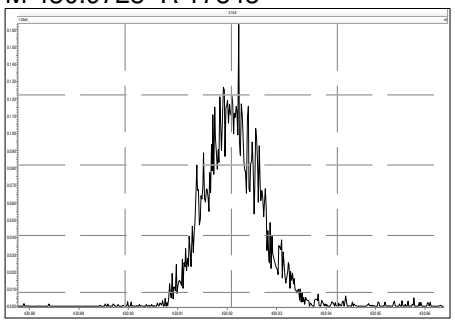
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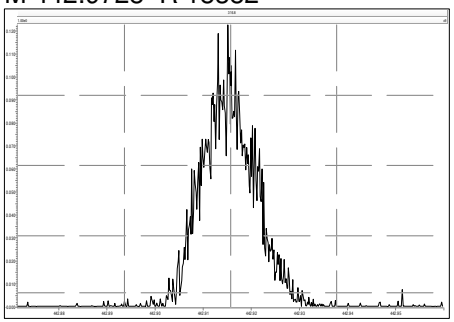
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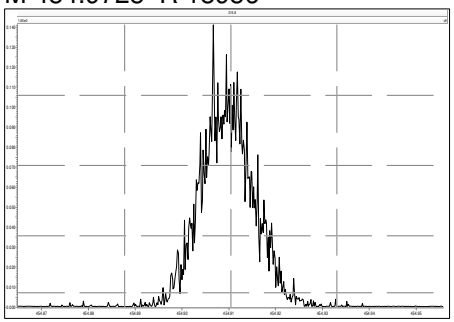
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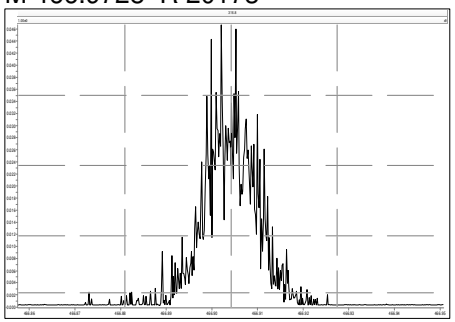
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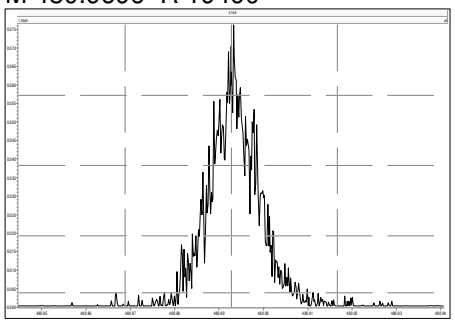
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M 466.9728 R 20173

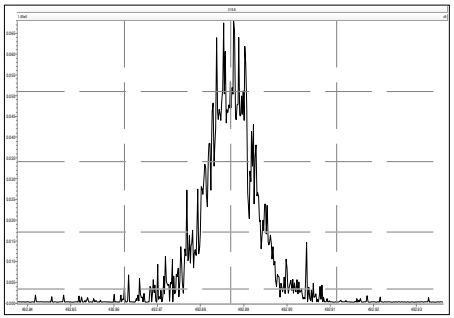


M 480.9696 R 19490

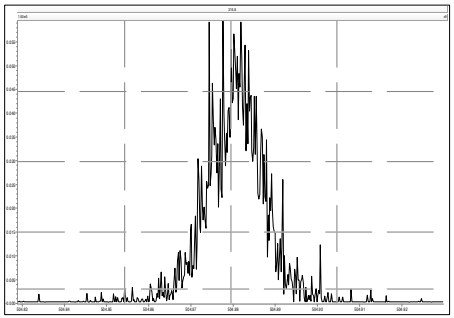


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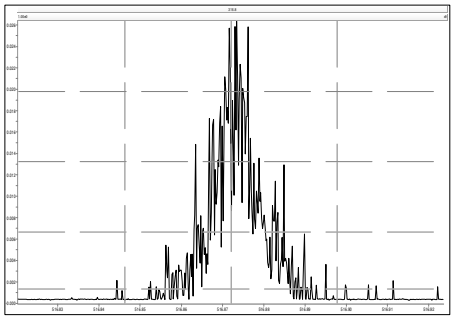
M 492.9696 R 21224



M 504.9696 R 17554



M 516.9697 R 23464



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

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4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

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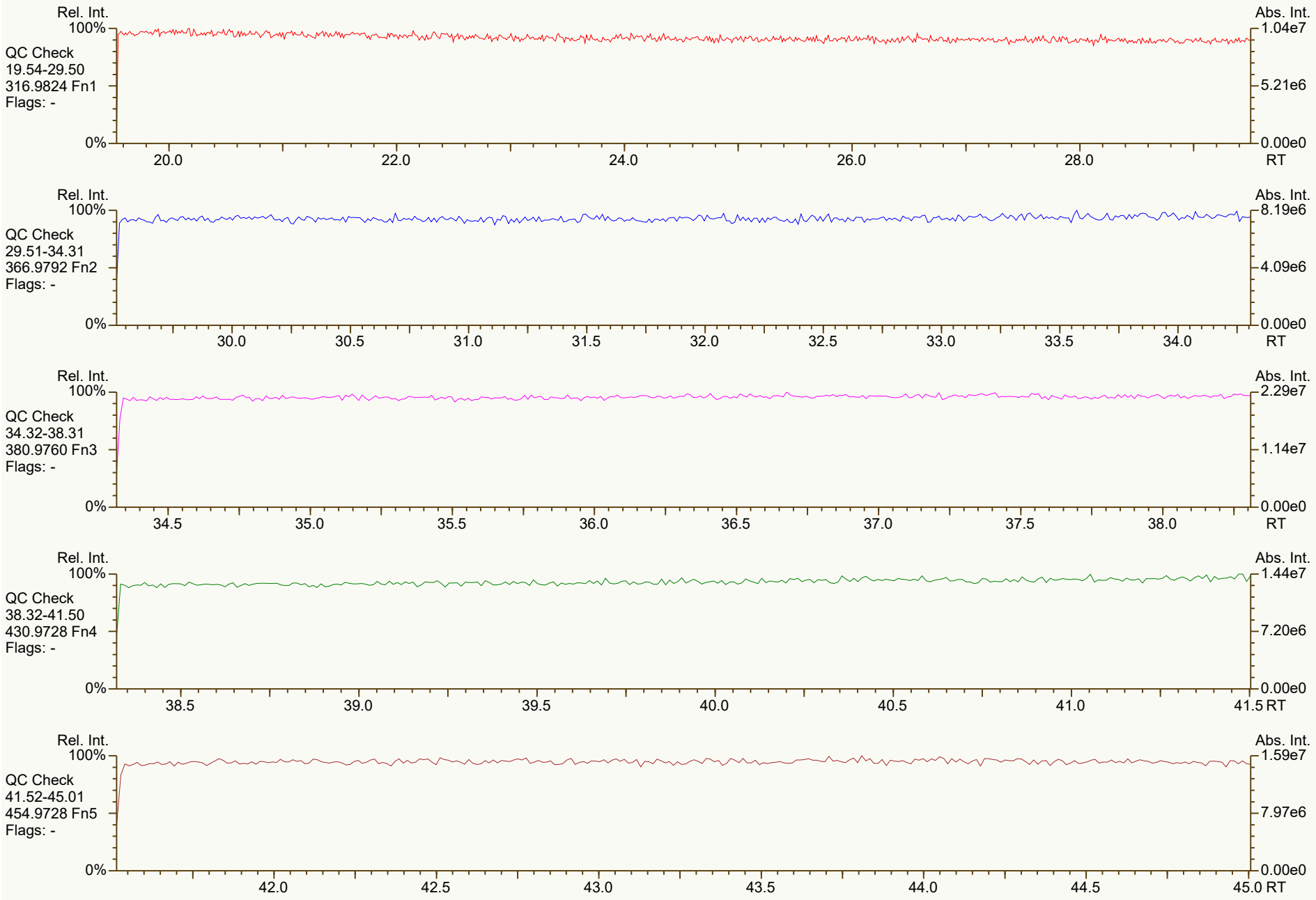
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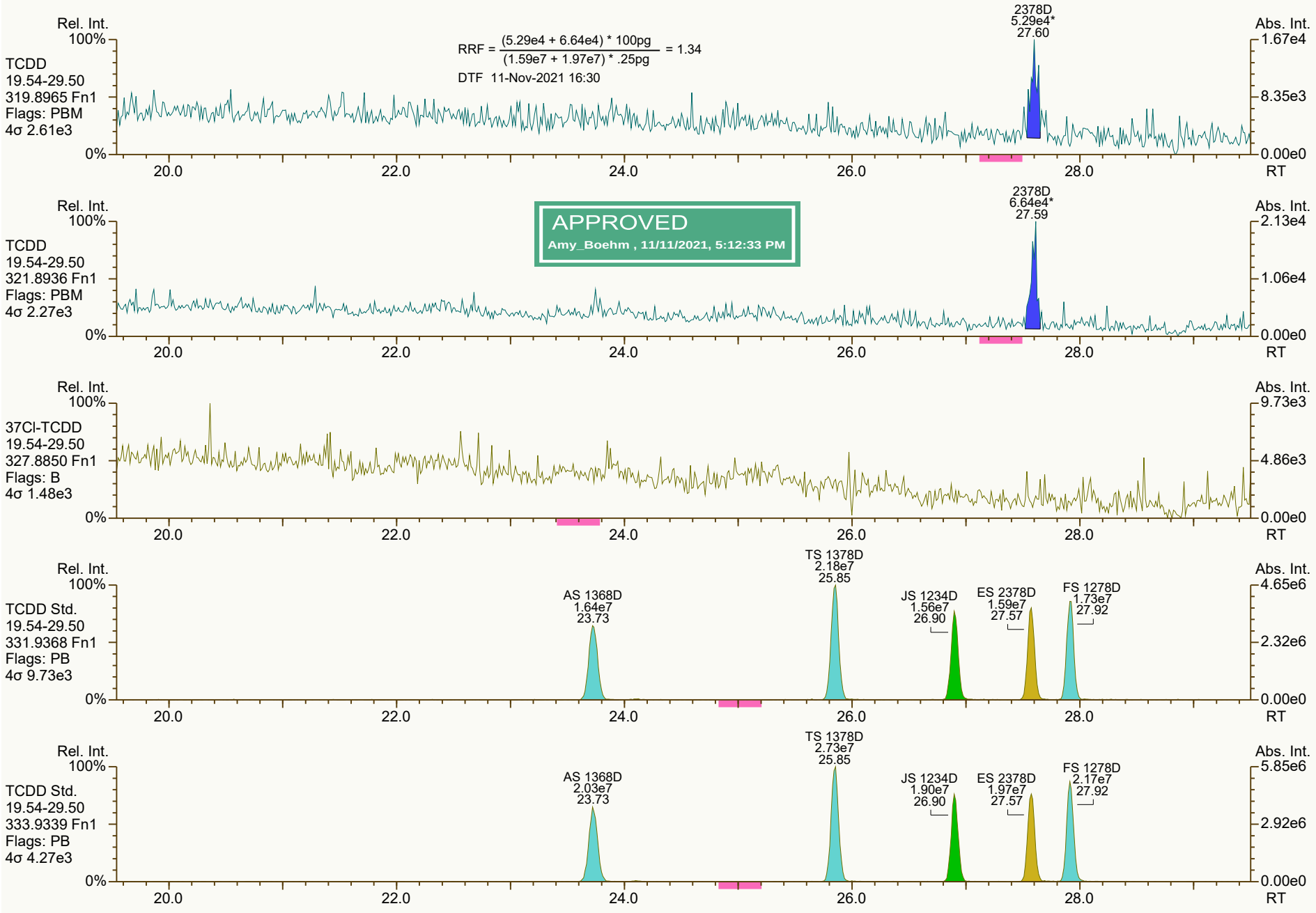
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

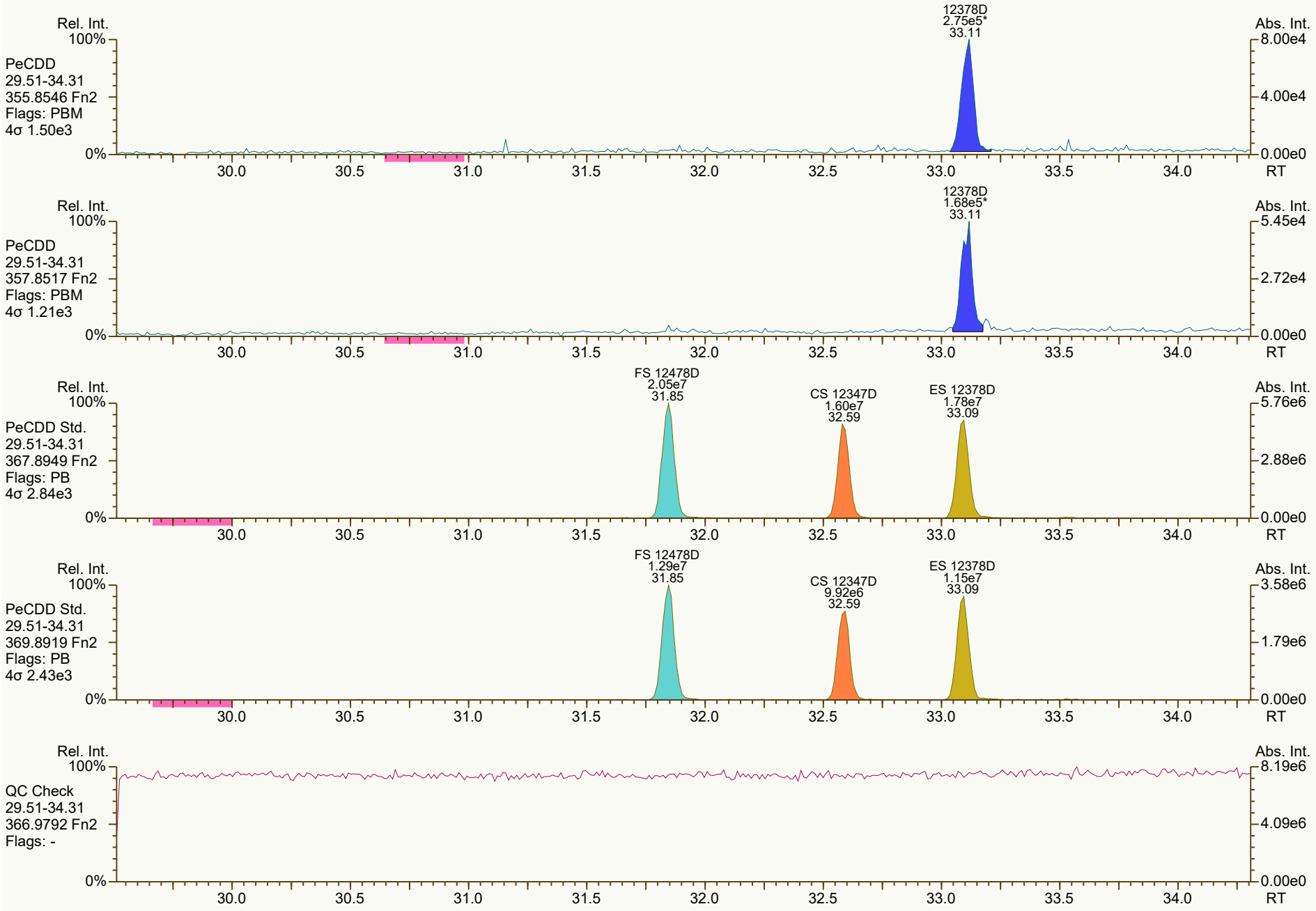
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

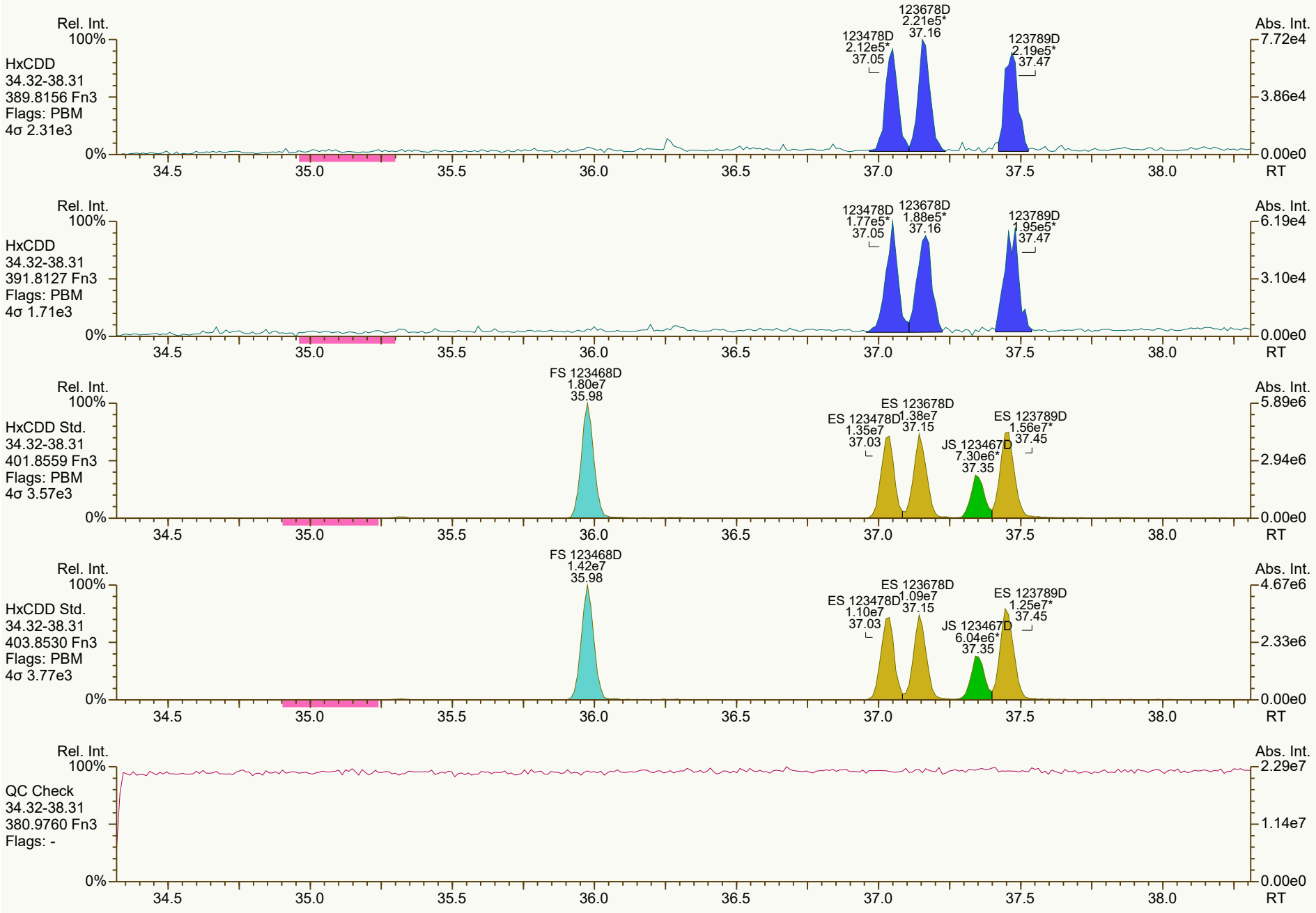
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

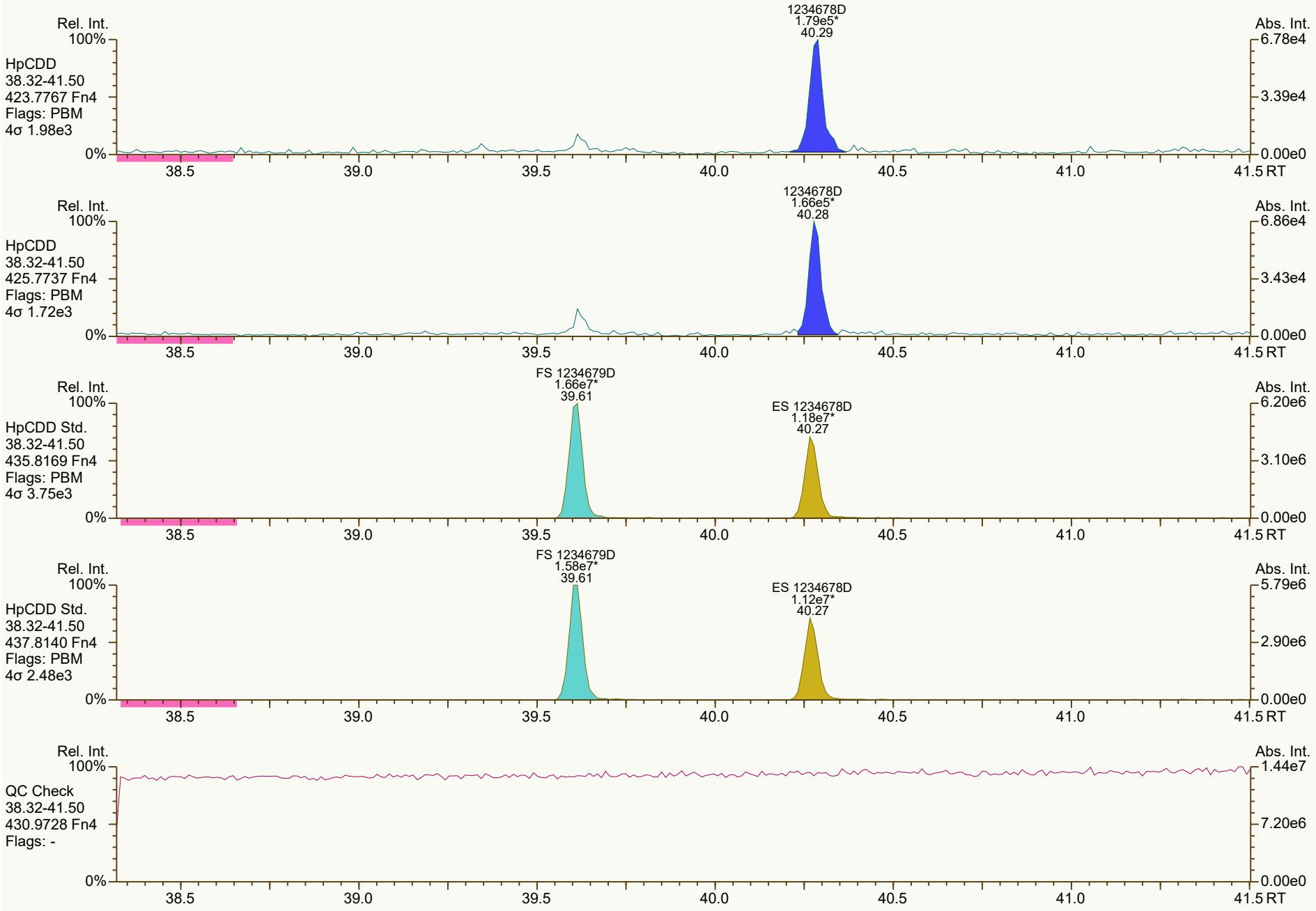
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%


Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
8.19e6
4.09e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.44e7
7.20e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0

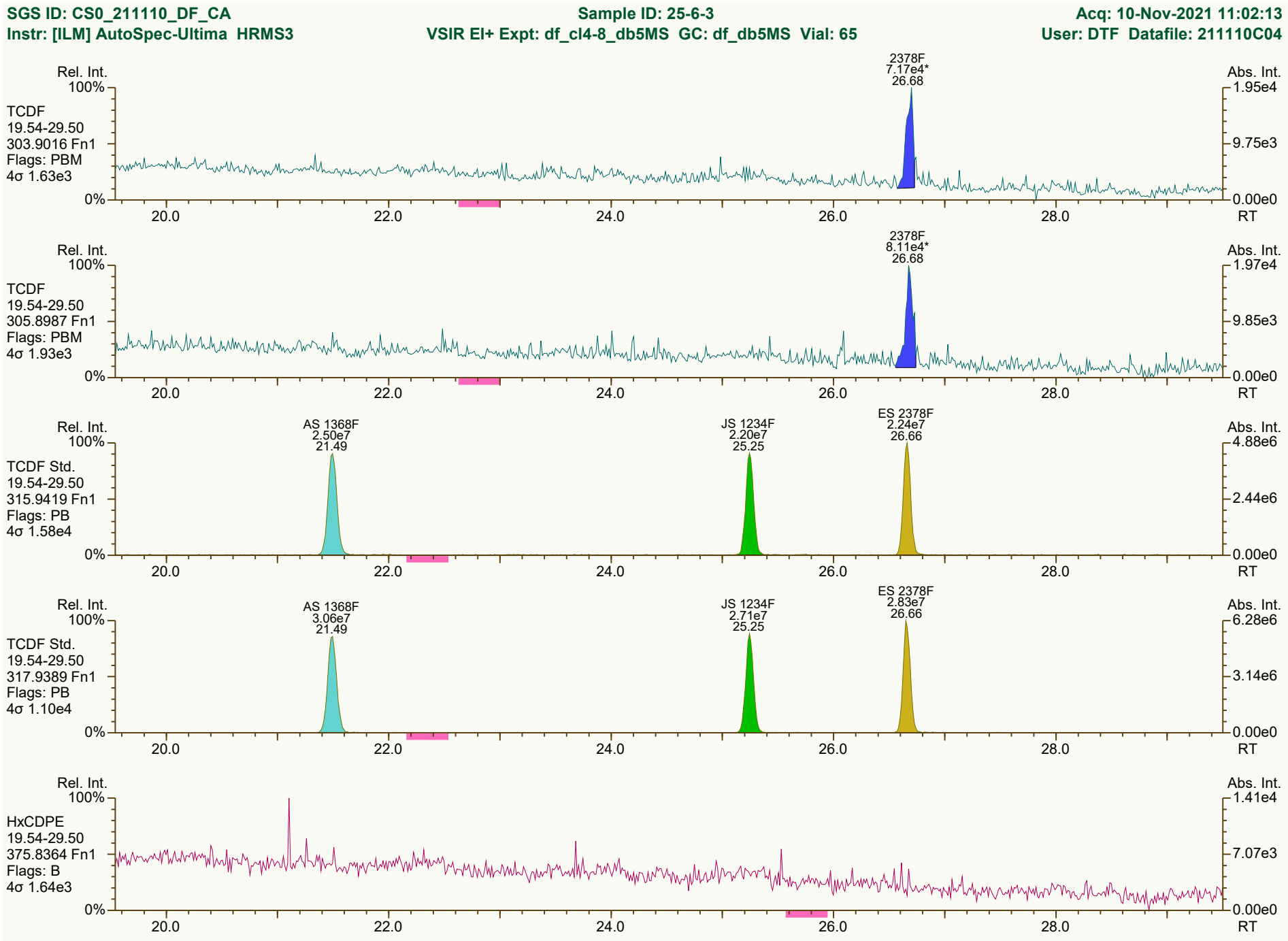

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

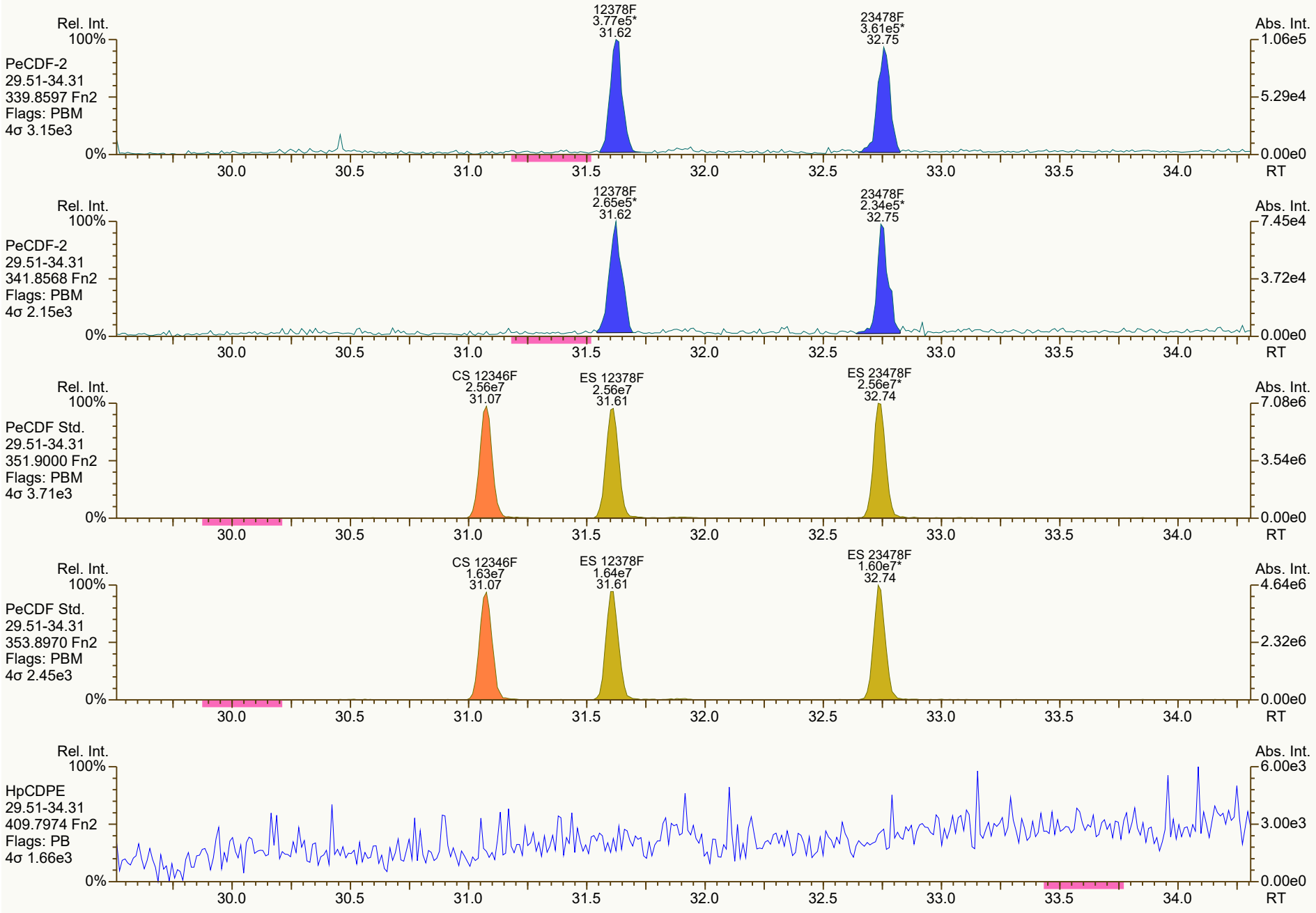

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

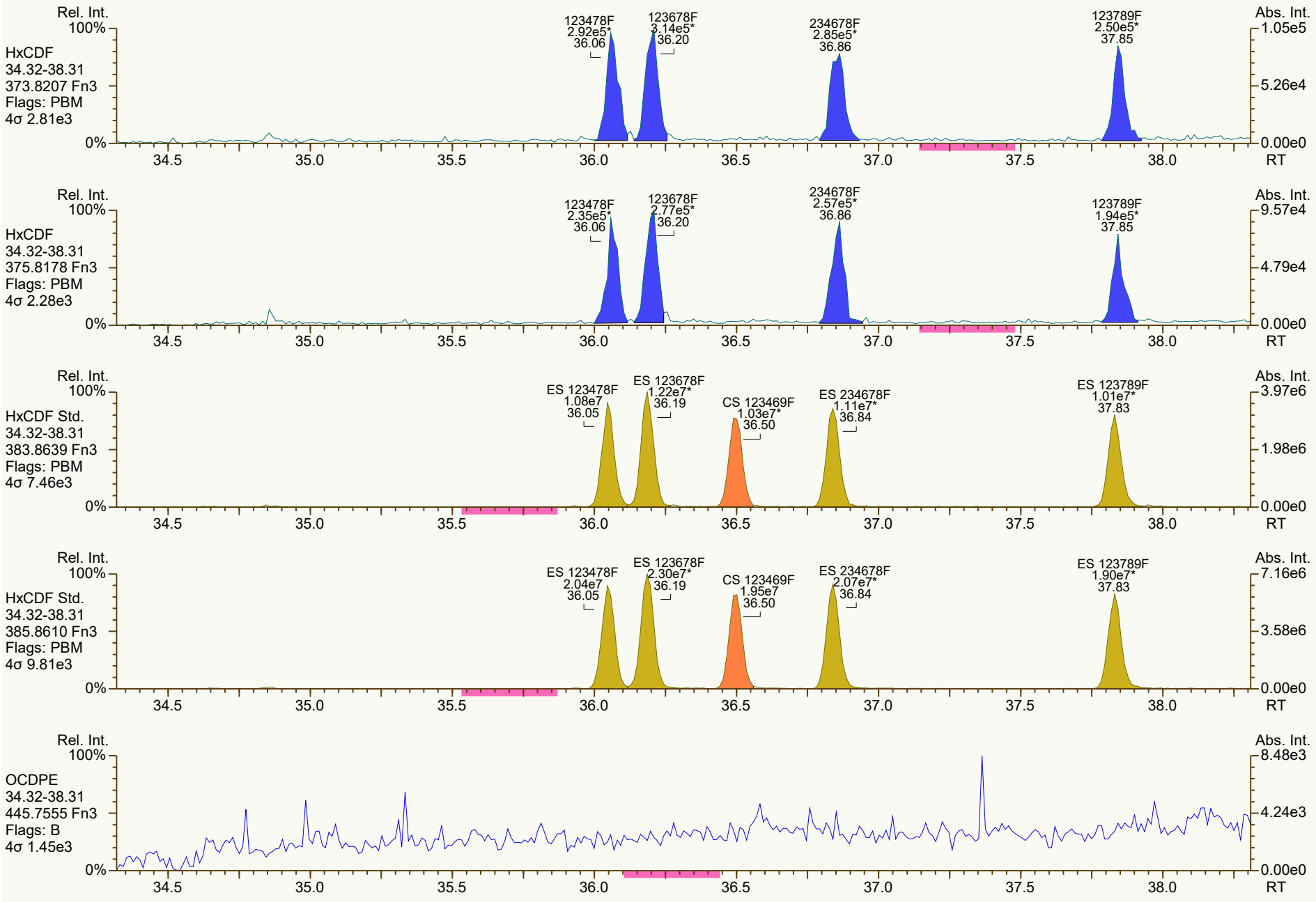

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
1.95e4
9.75e3
0.00e0
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
1.97e4
9.85e3
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
4.88e6
2.44e6
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
6.28e6
3.14e6
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
1.41e4
7.07e3
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5762, 7924, 6610 scc: 245-007
Revised: 10-Nov-2021 13:35 (DTF) Printed: 11-Nov-2021 16:32 Page 7 of 12

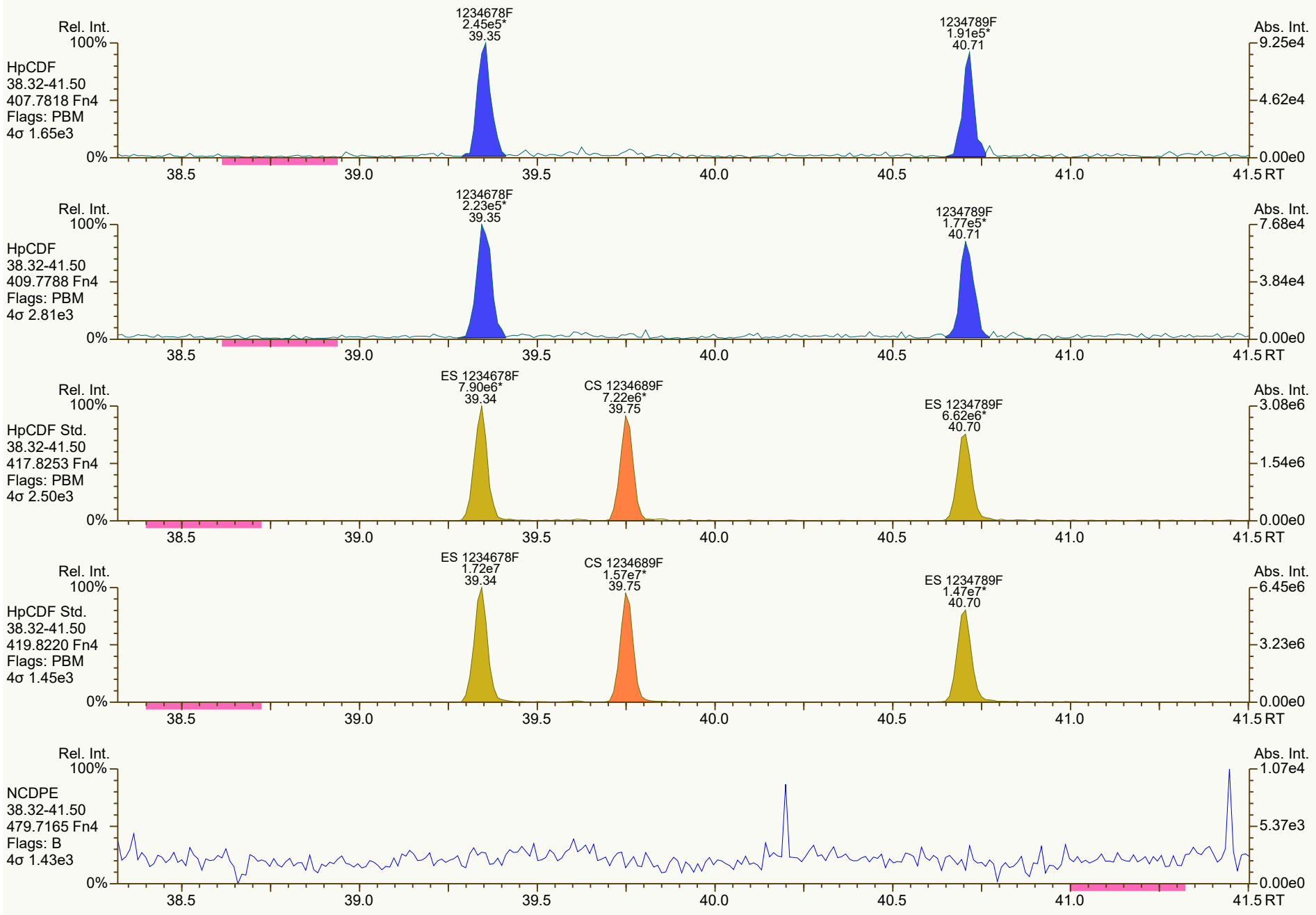
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04

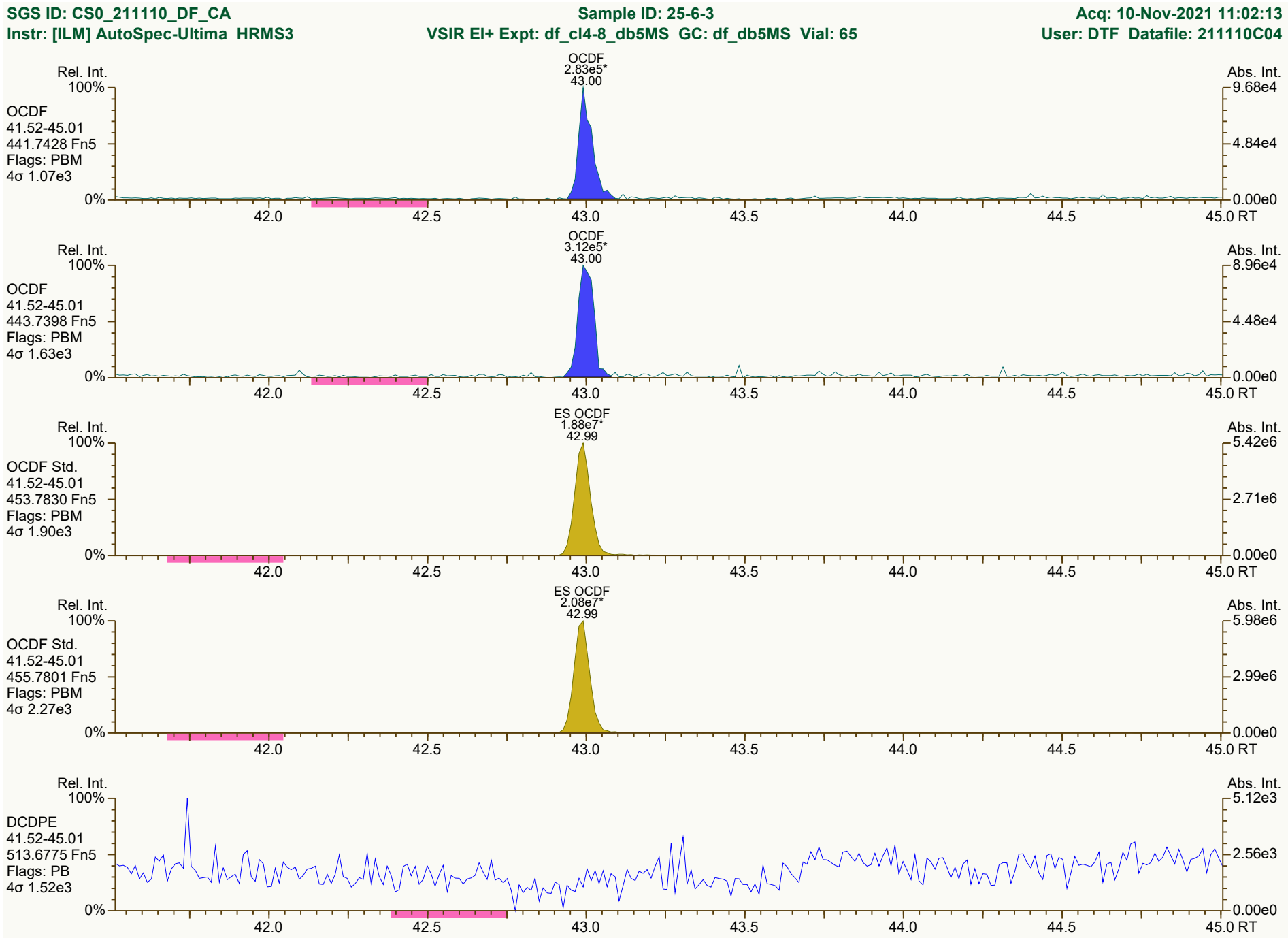


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

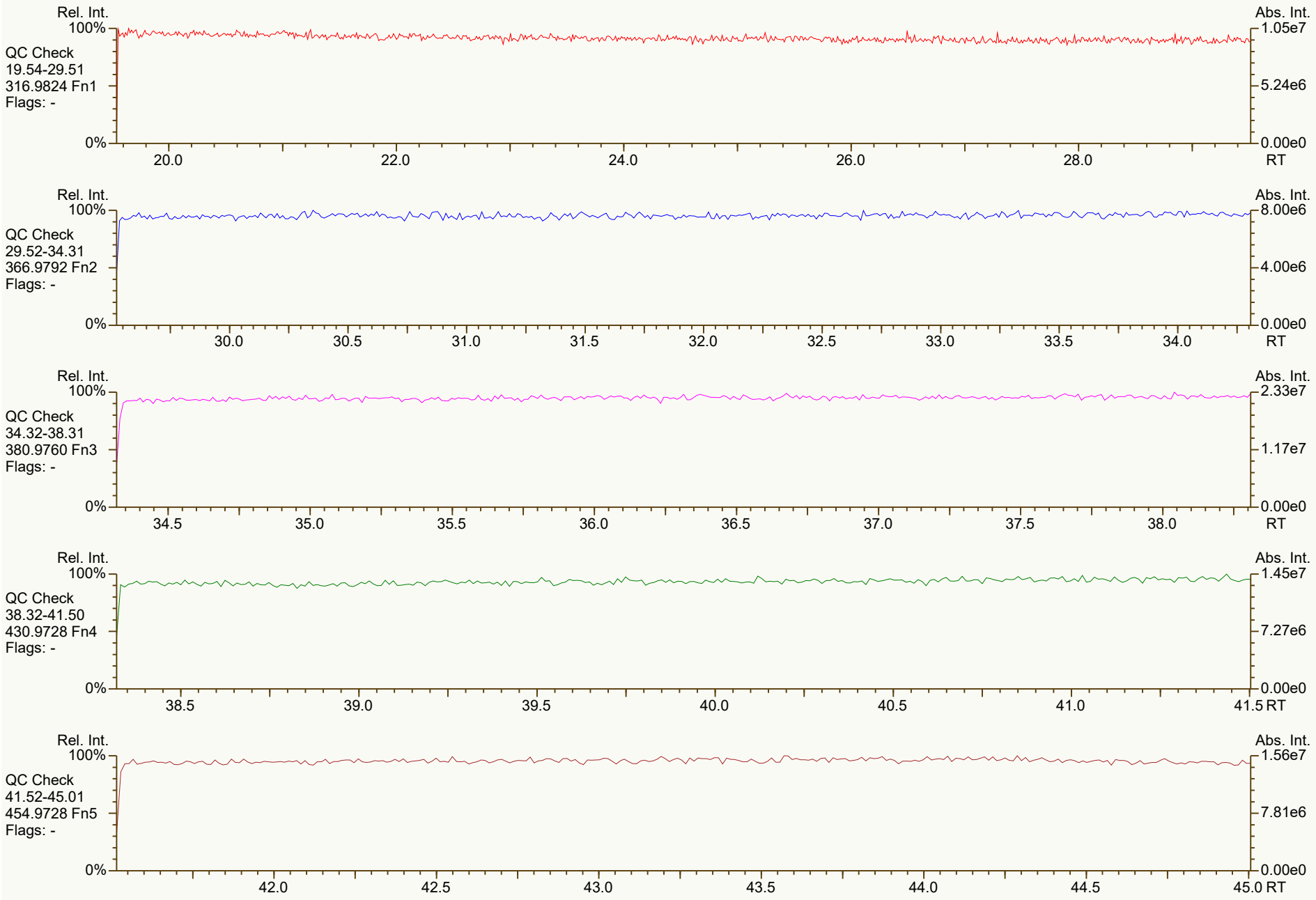

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
OCDF
2.83e5*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
9.68e4
4.84e4
0.00e0
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
8.96e4
4.48e4
0.00e0
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
5.42e6
2.71e6
0.00e0
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
5.98e6
2.99e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
5.12e3
2.56e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

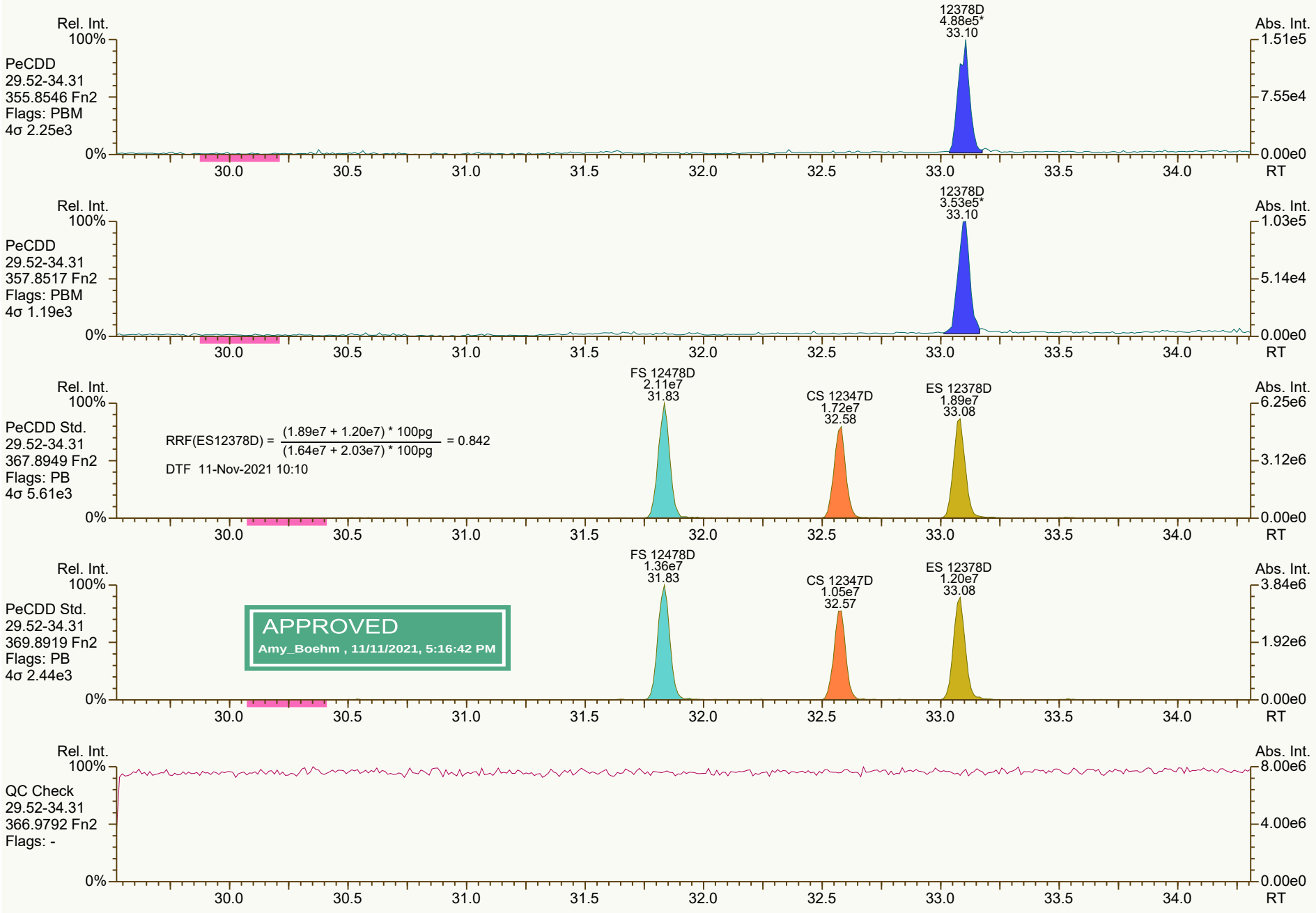
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

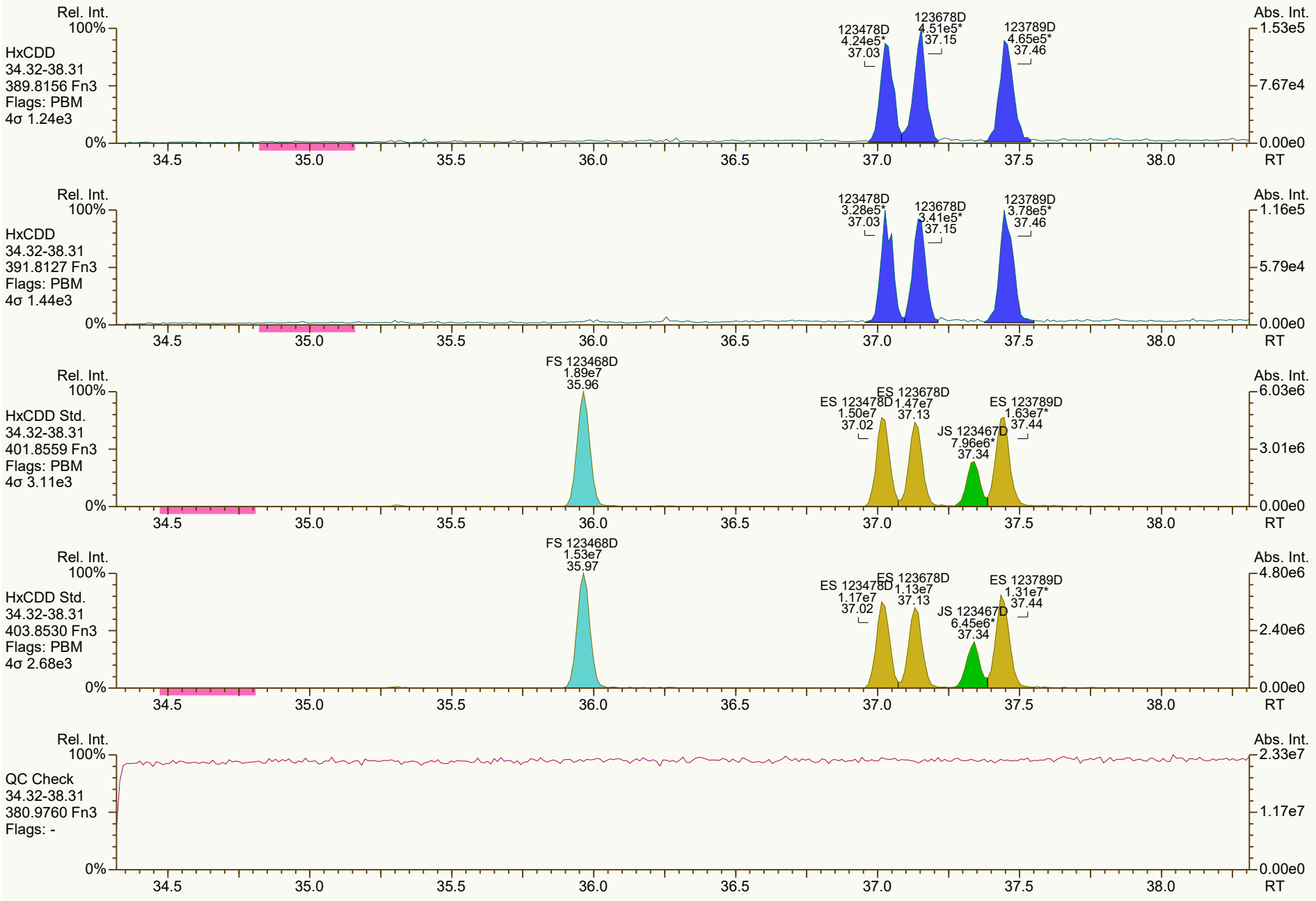
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

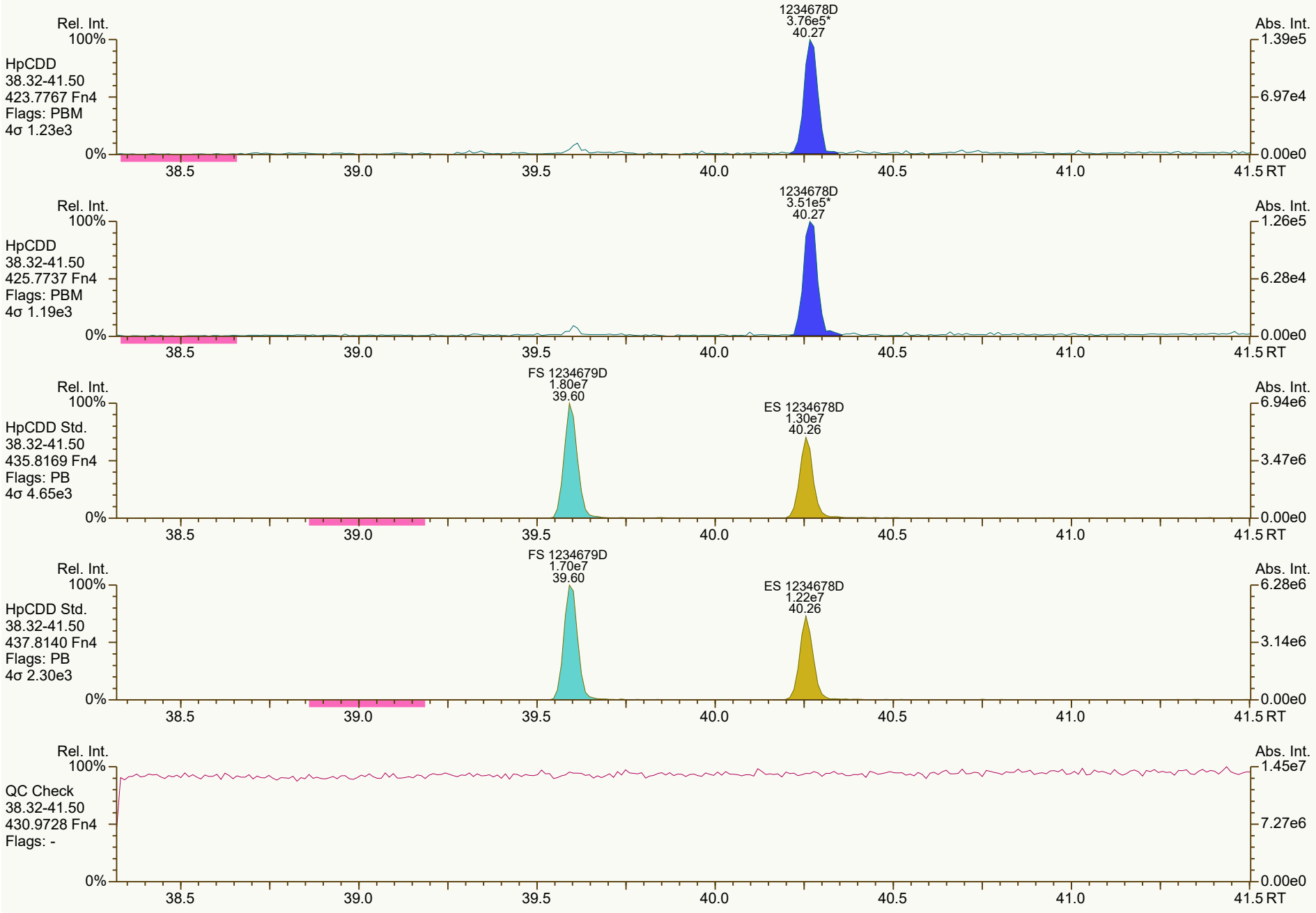


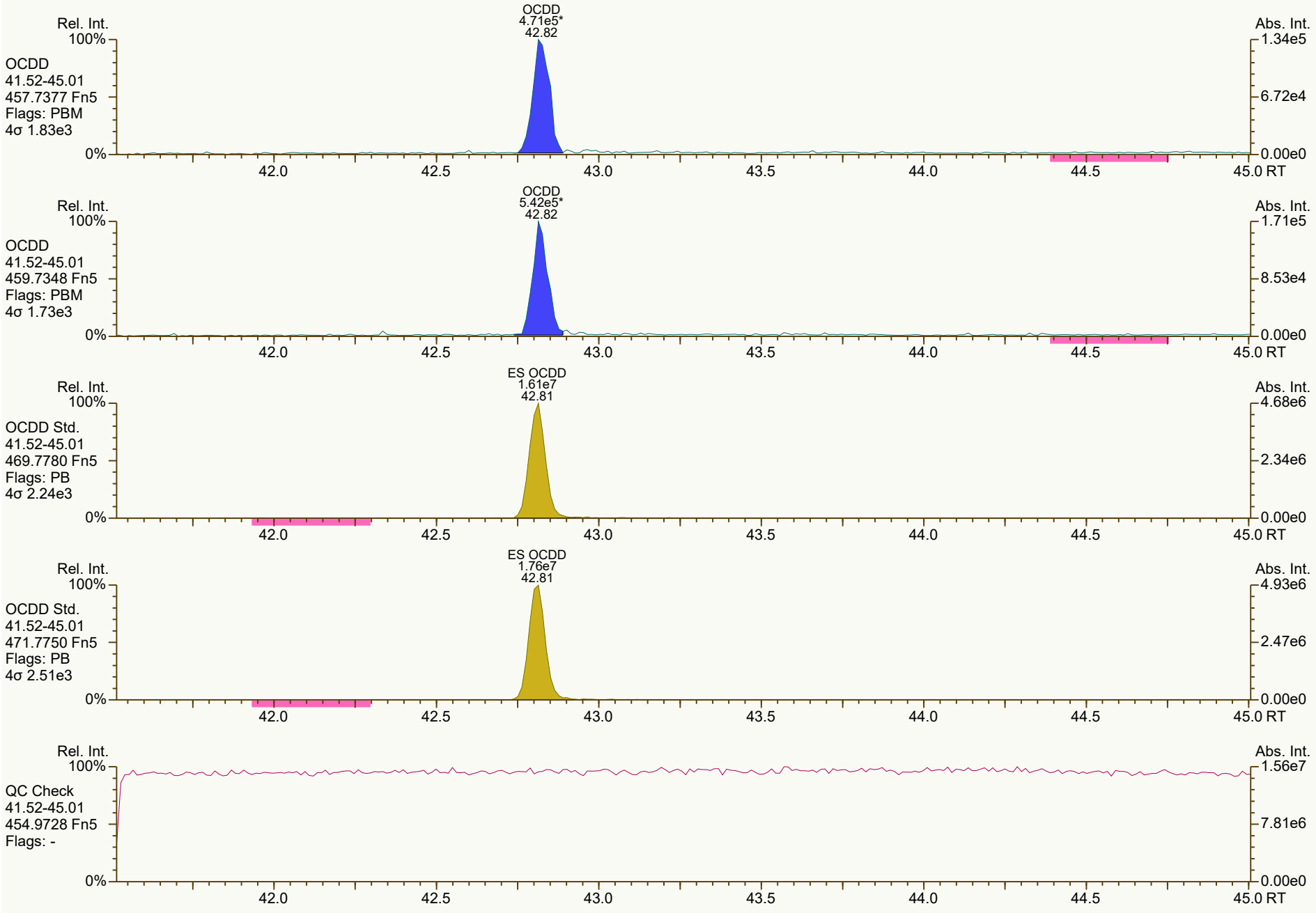
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

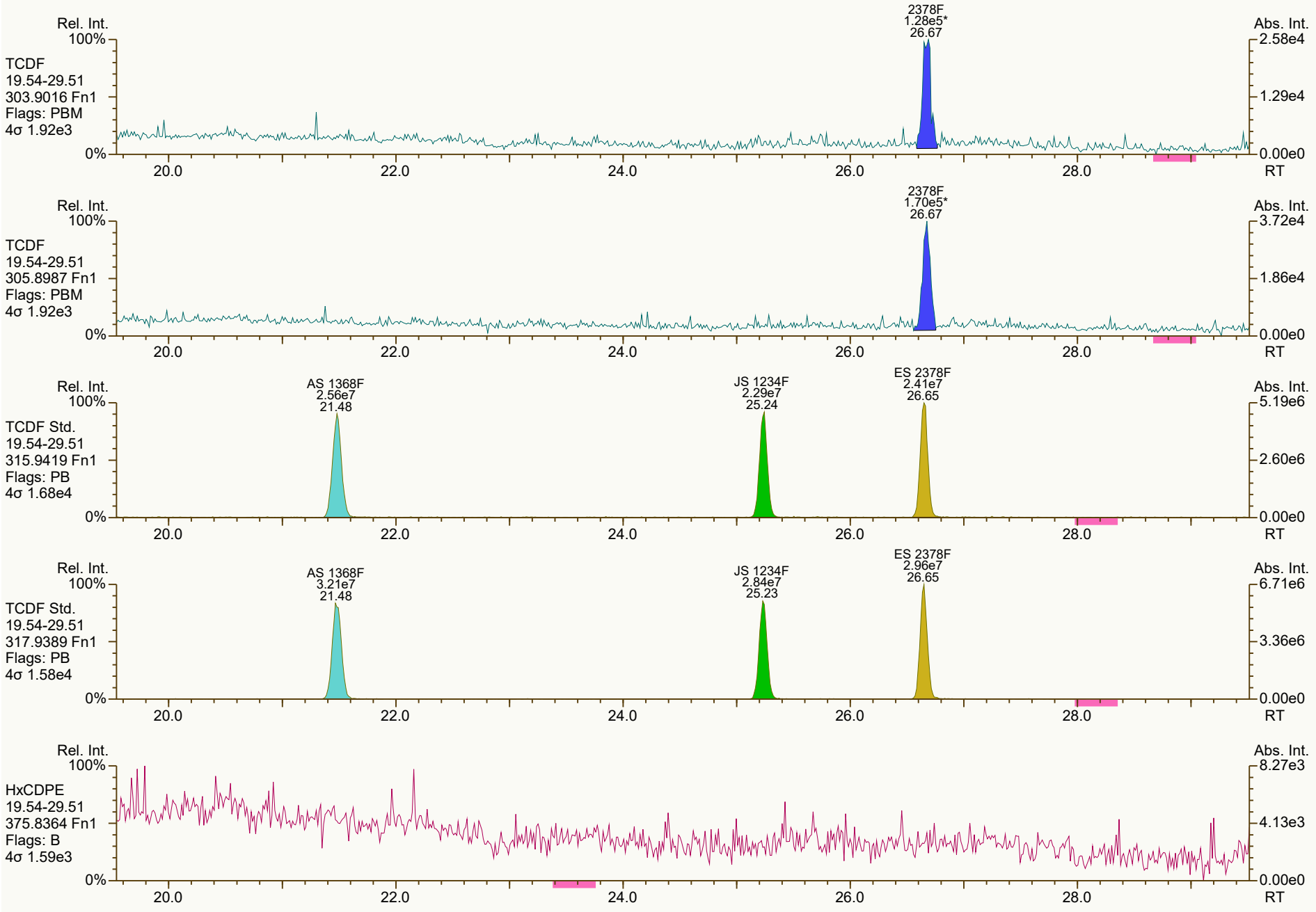

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

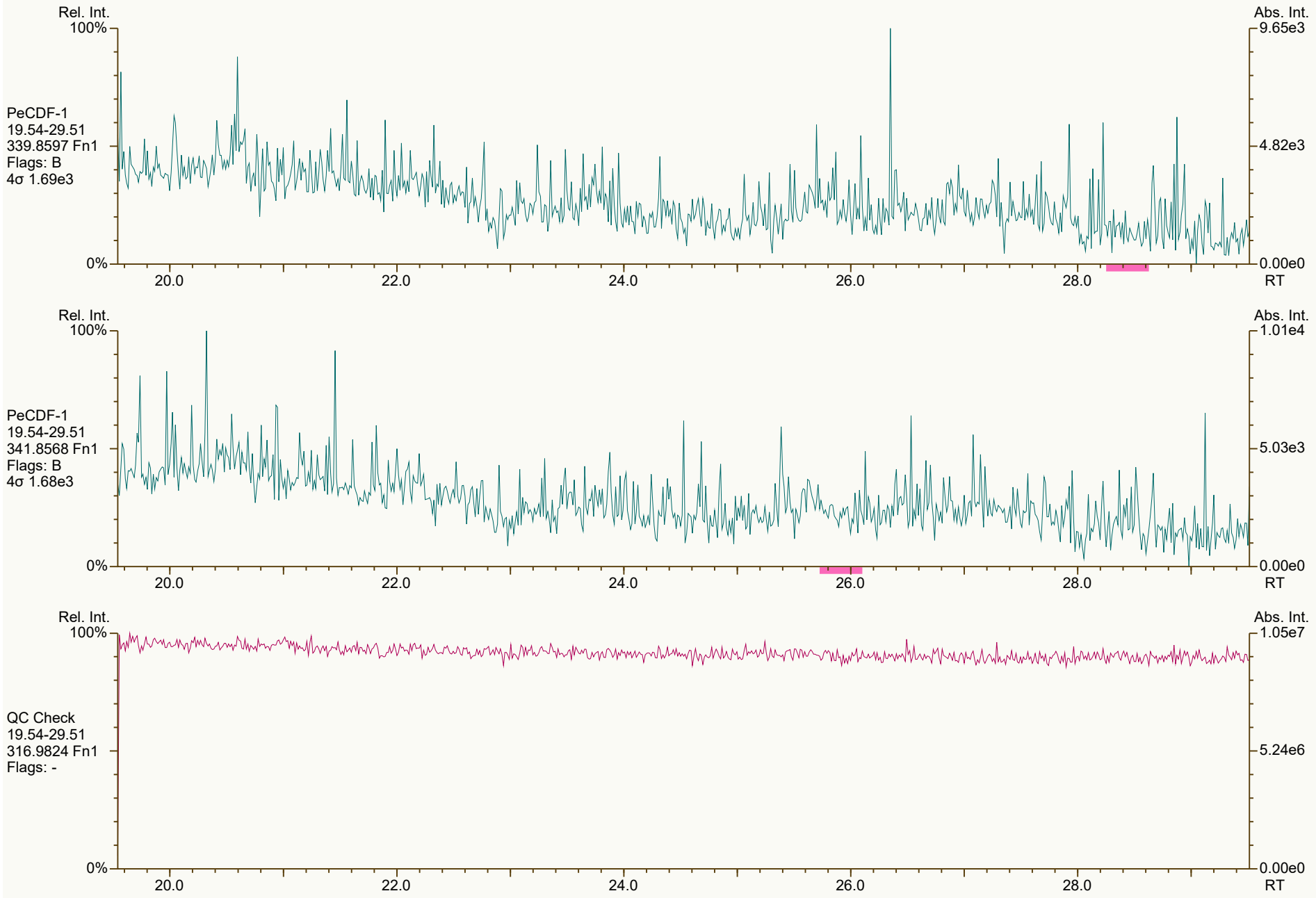

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

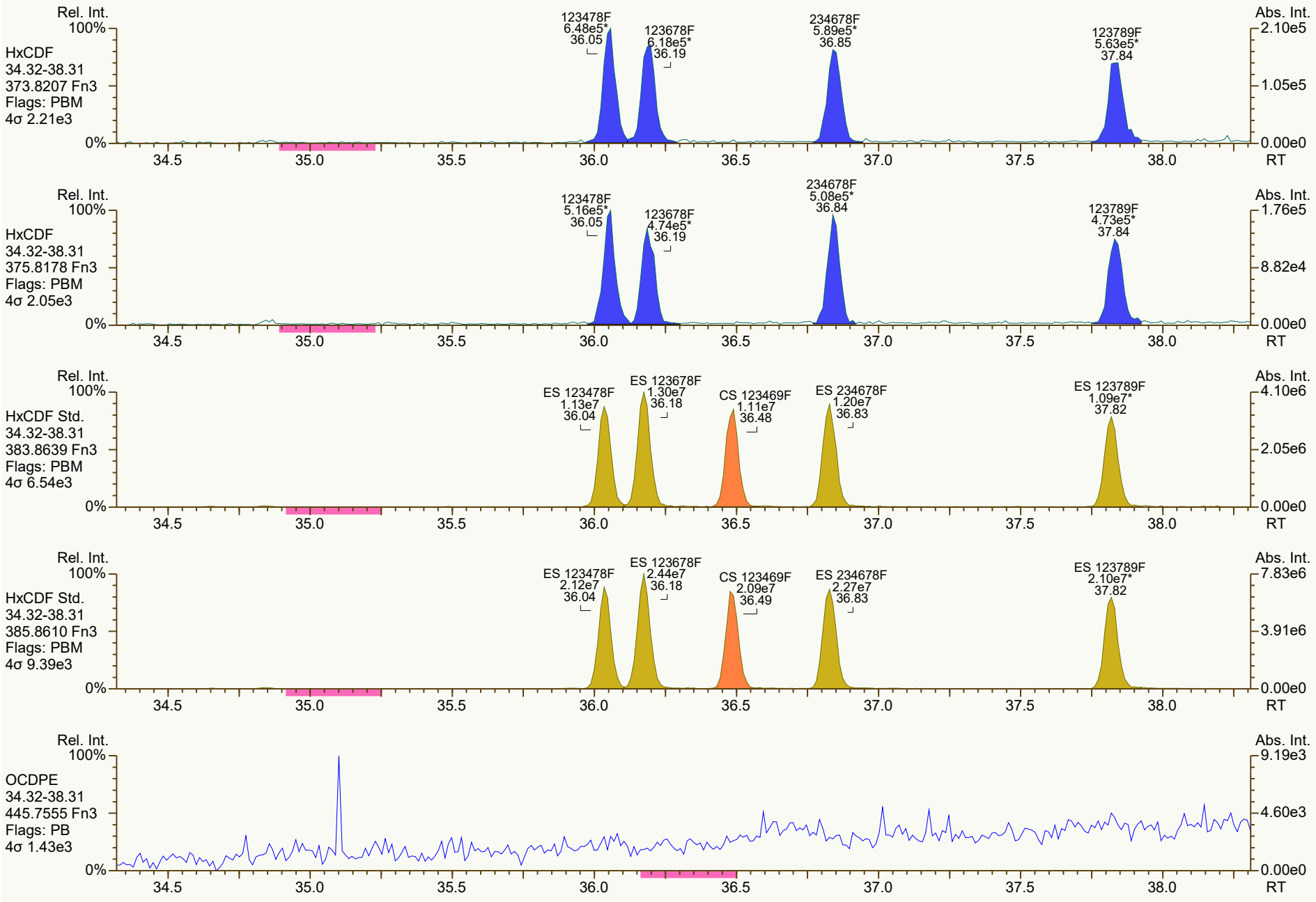

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.27e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

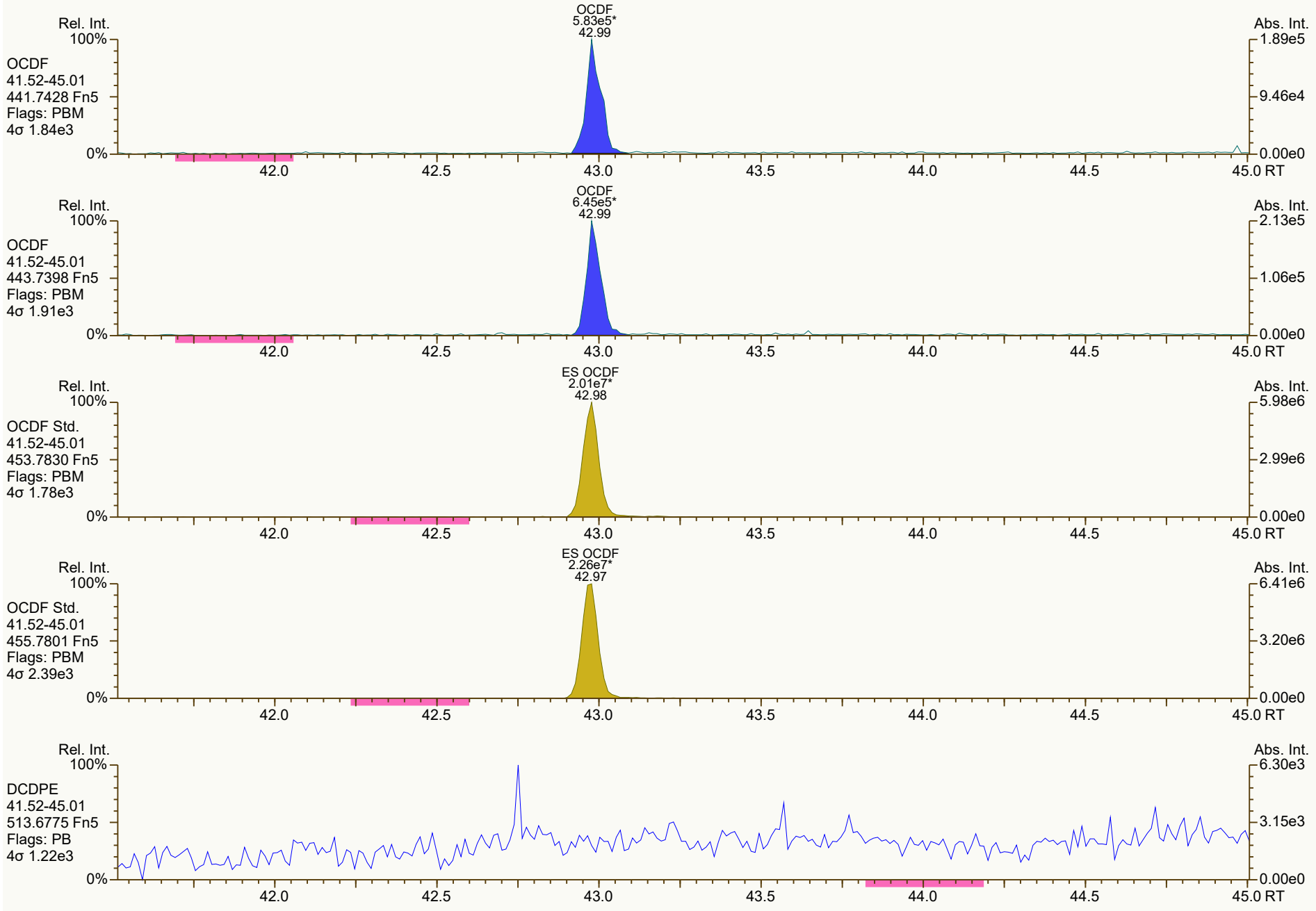

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
Abs. Int.
3.72e3
1.86e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

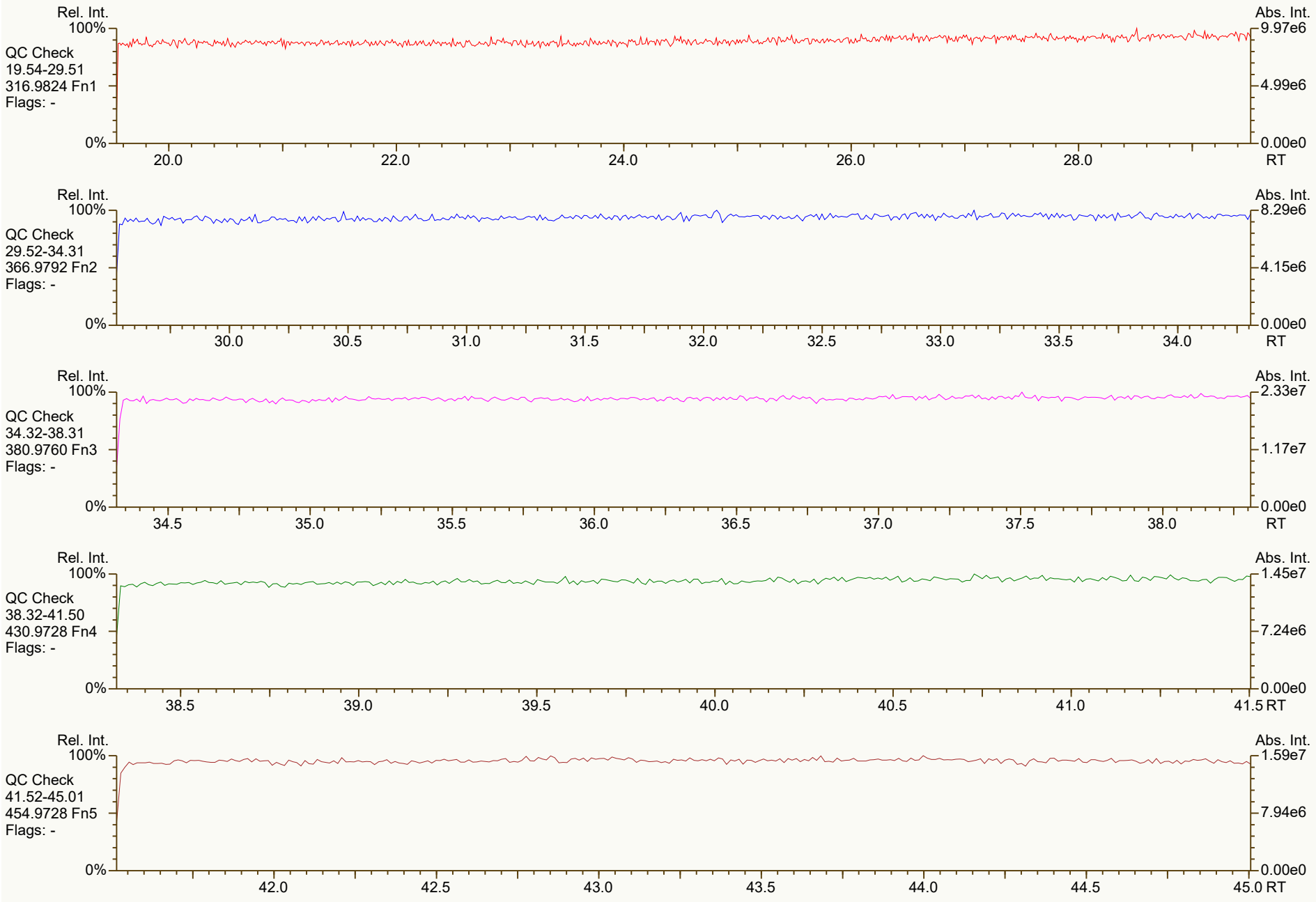

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

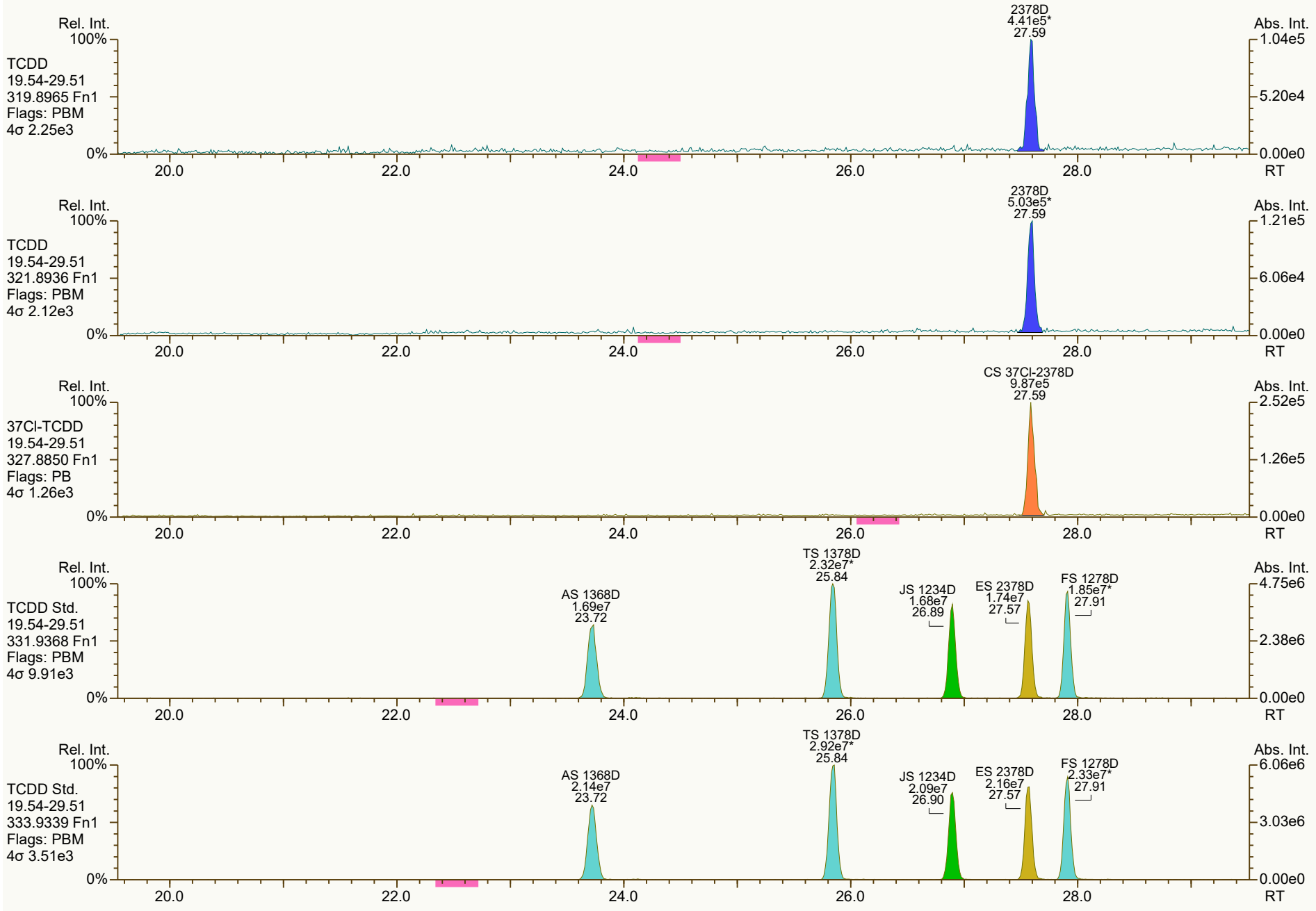
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

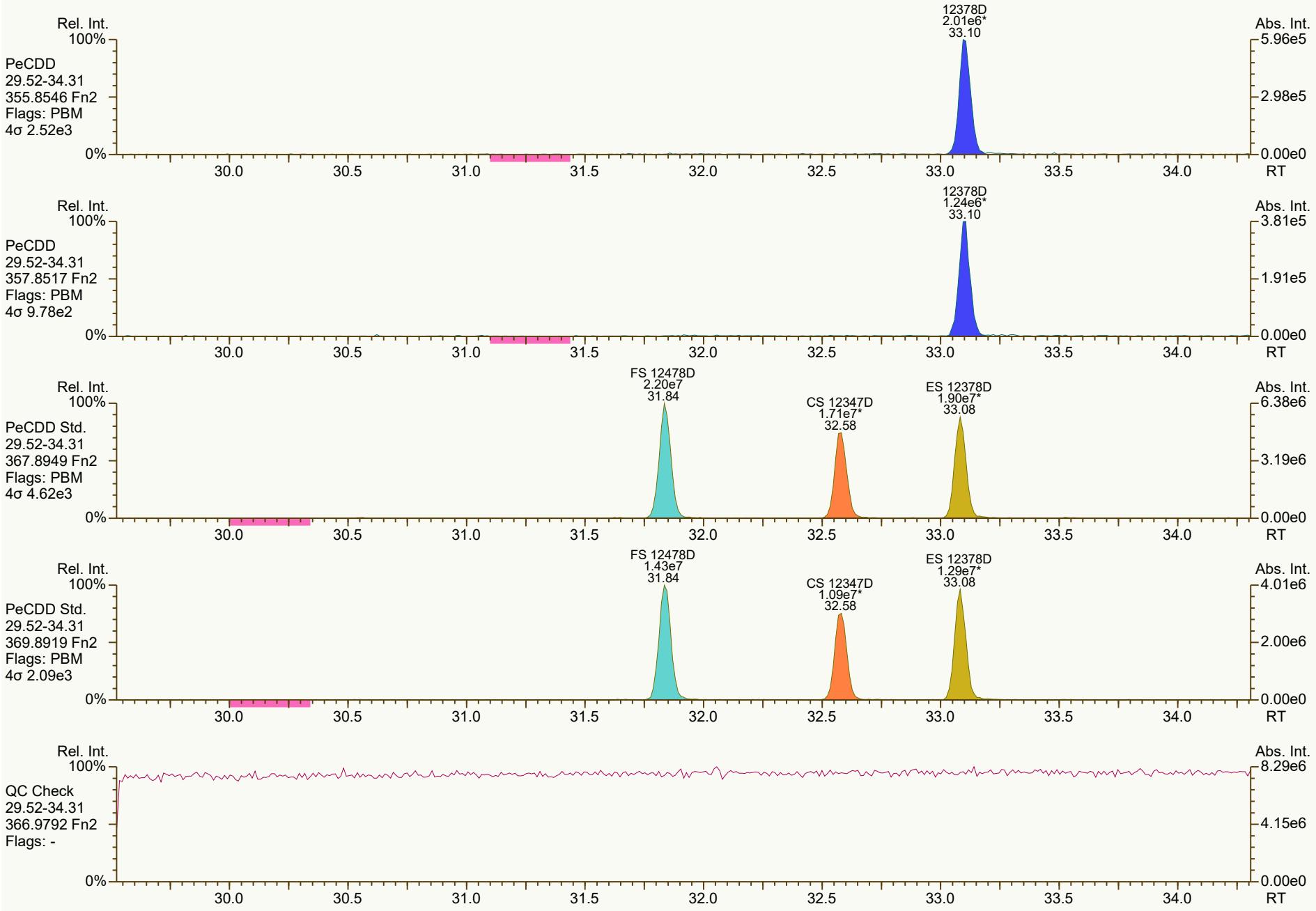
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

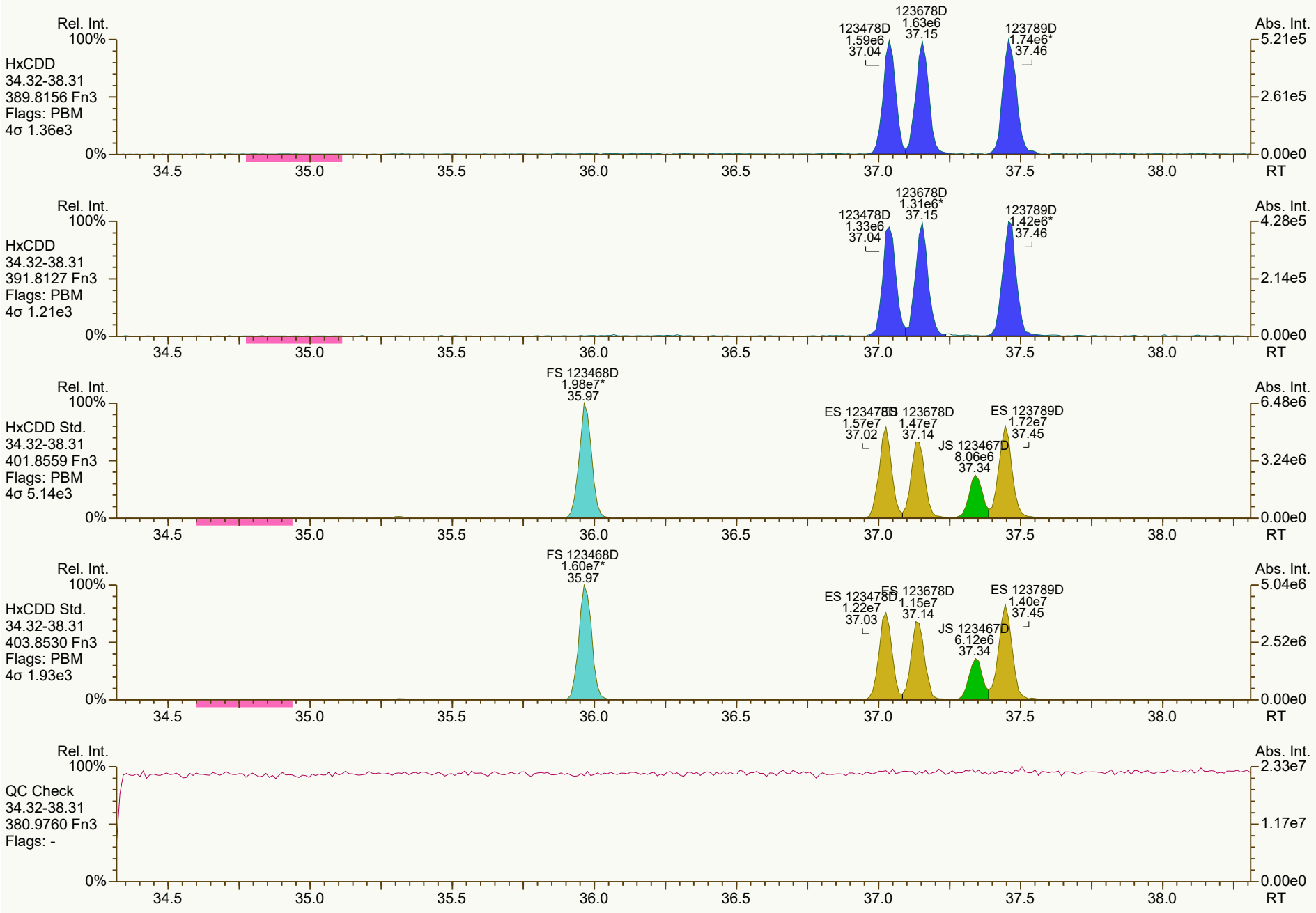
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

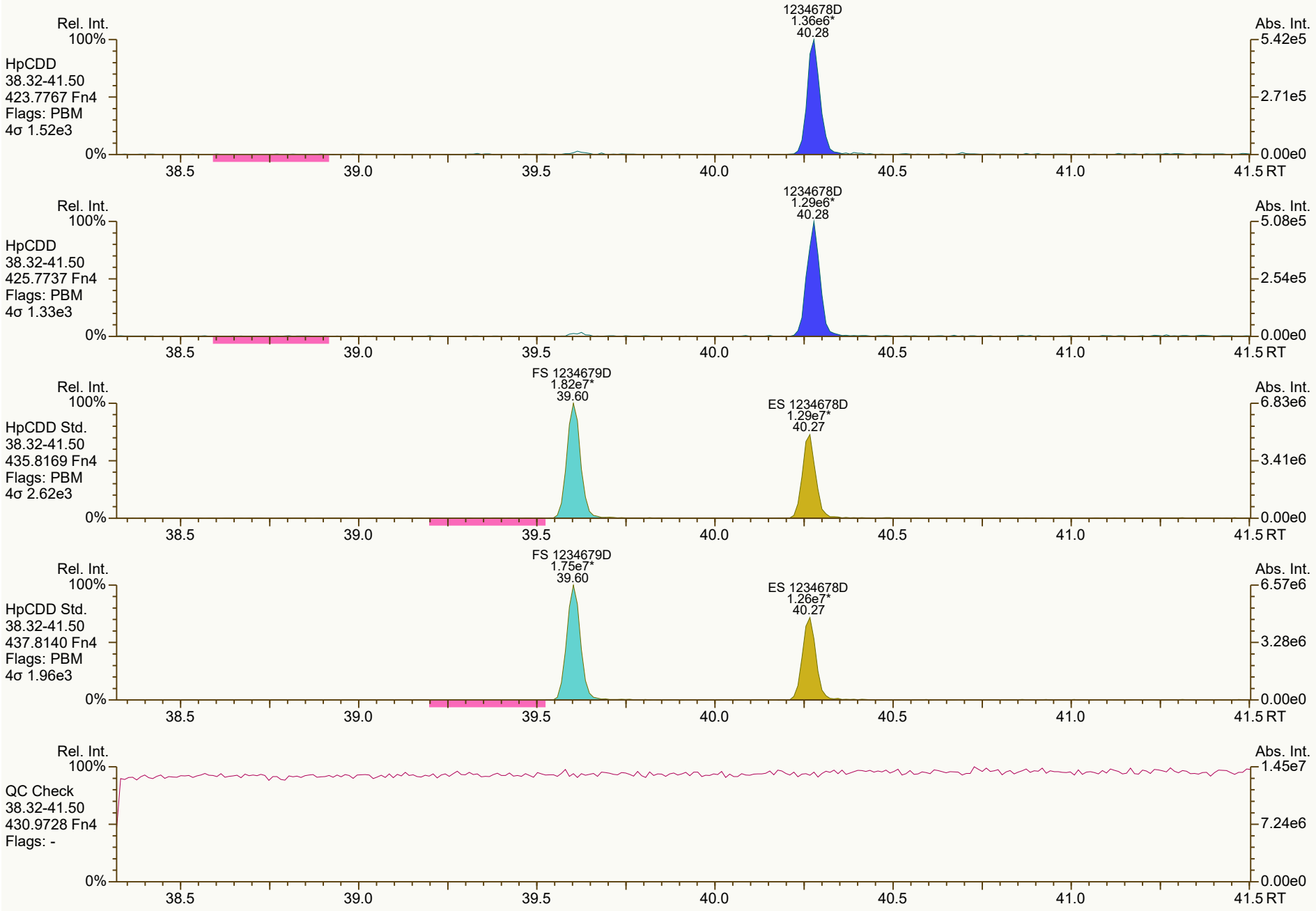
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

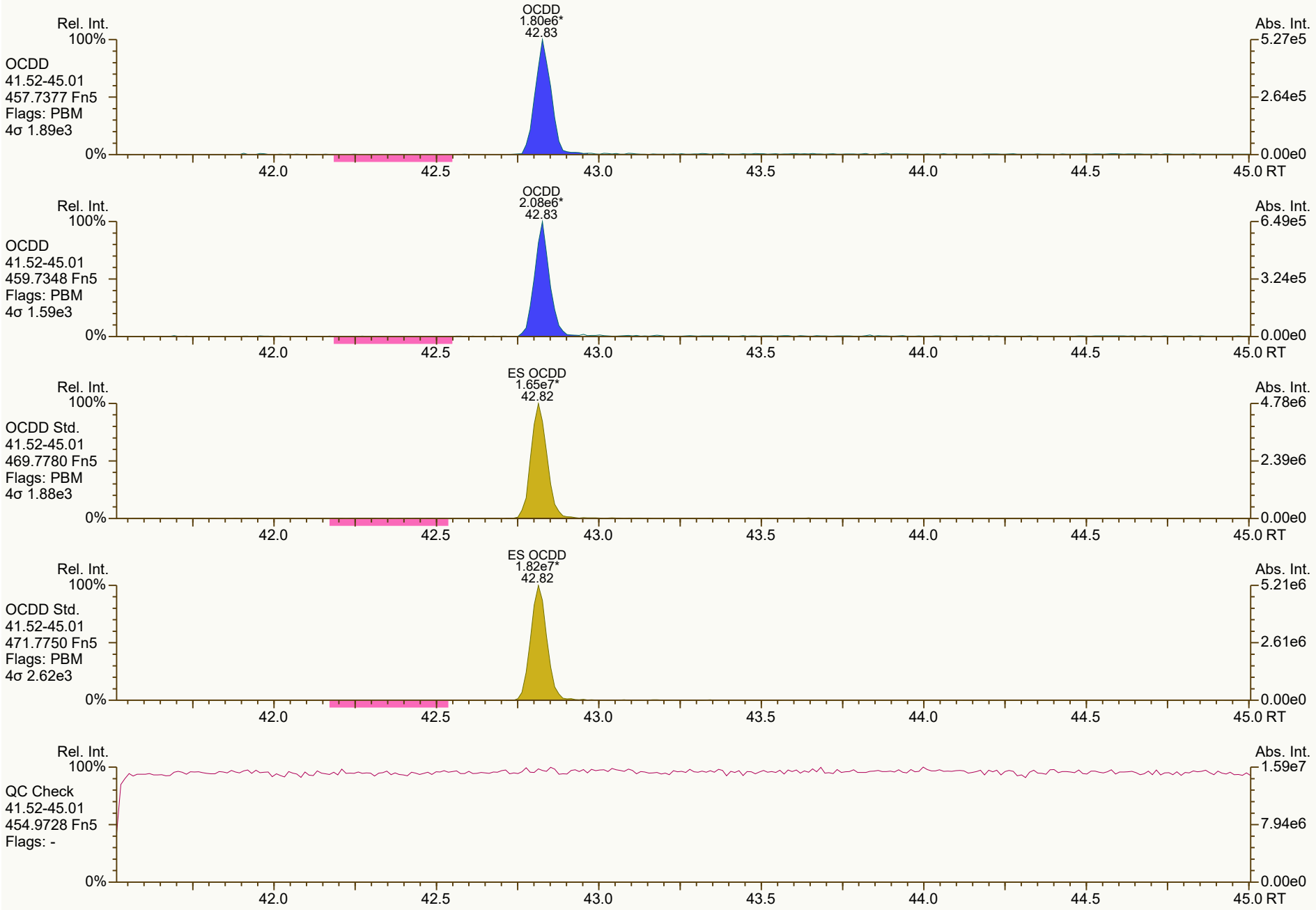

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

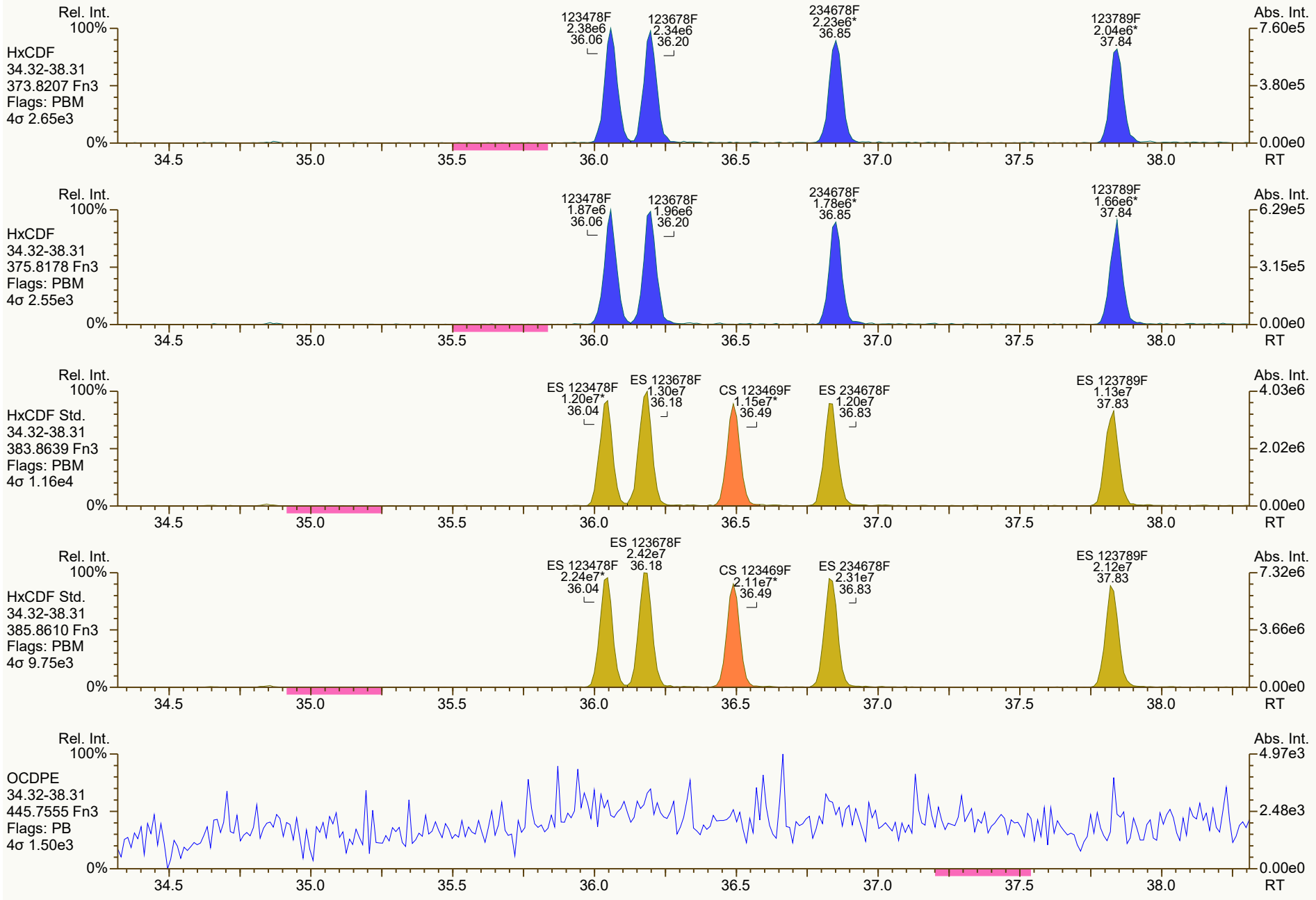

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

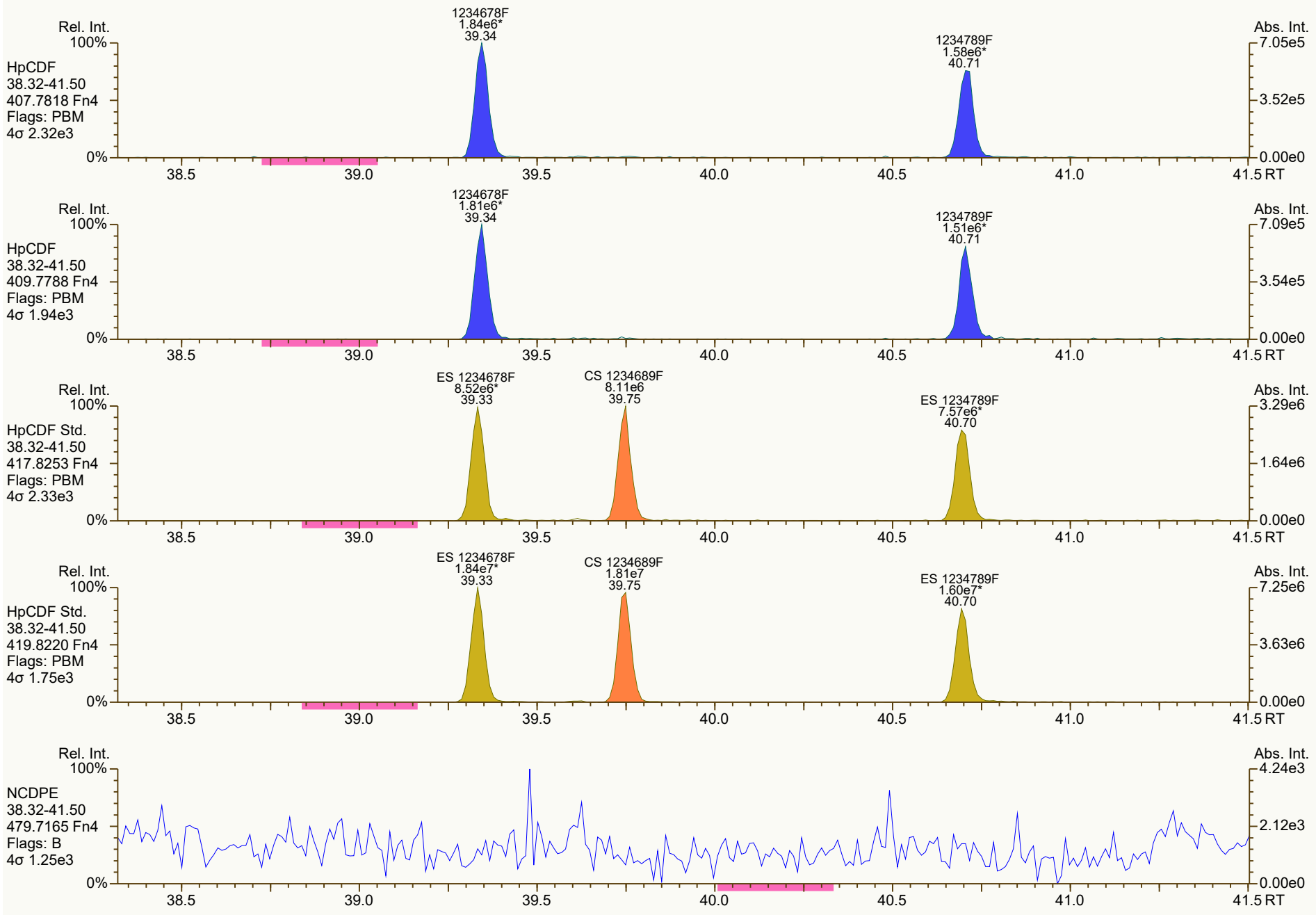

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
6.49e5
3.24e5
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
4.78e6
2.39e6
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
5.21e6
2.61e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.94e6

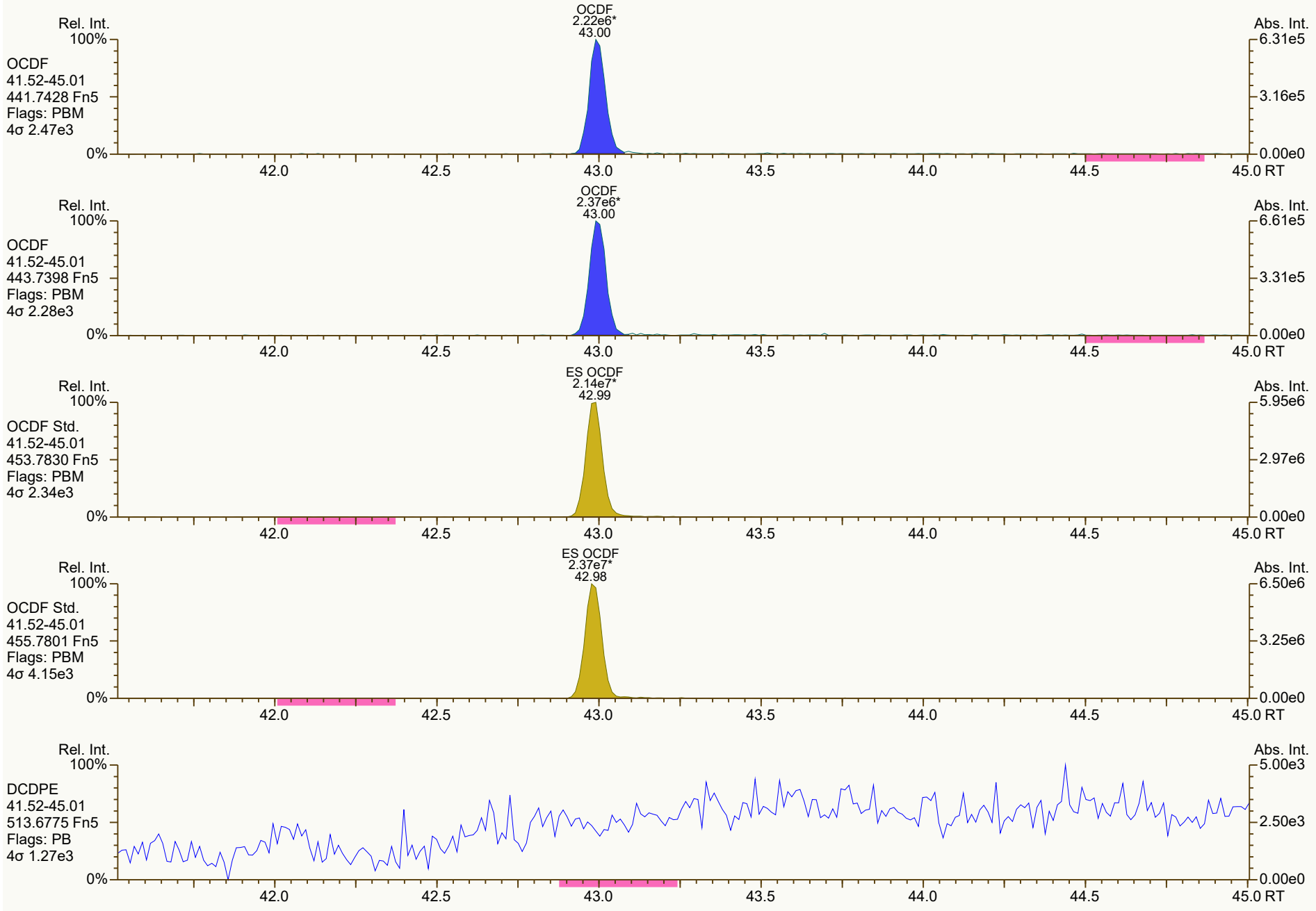

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

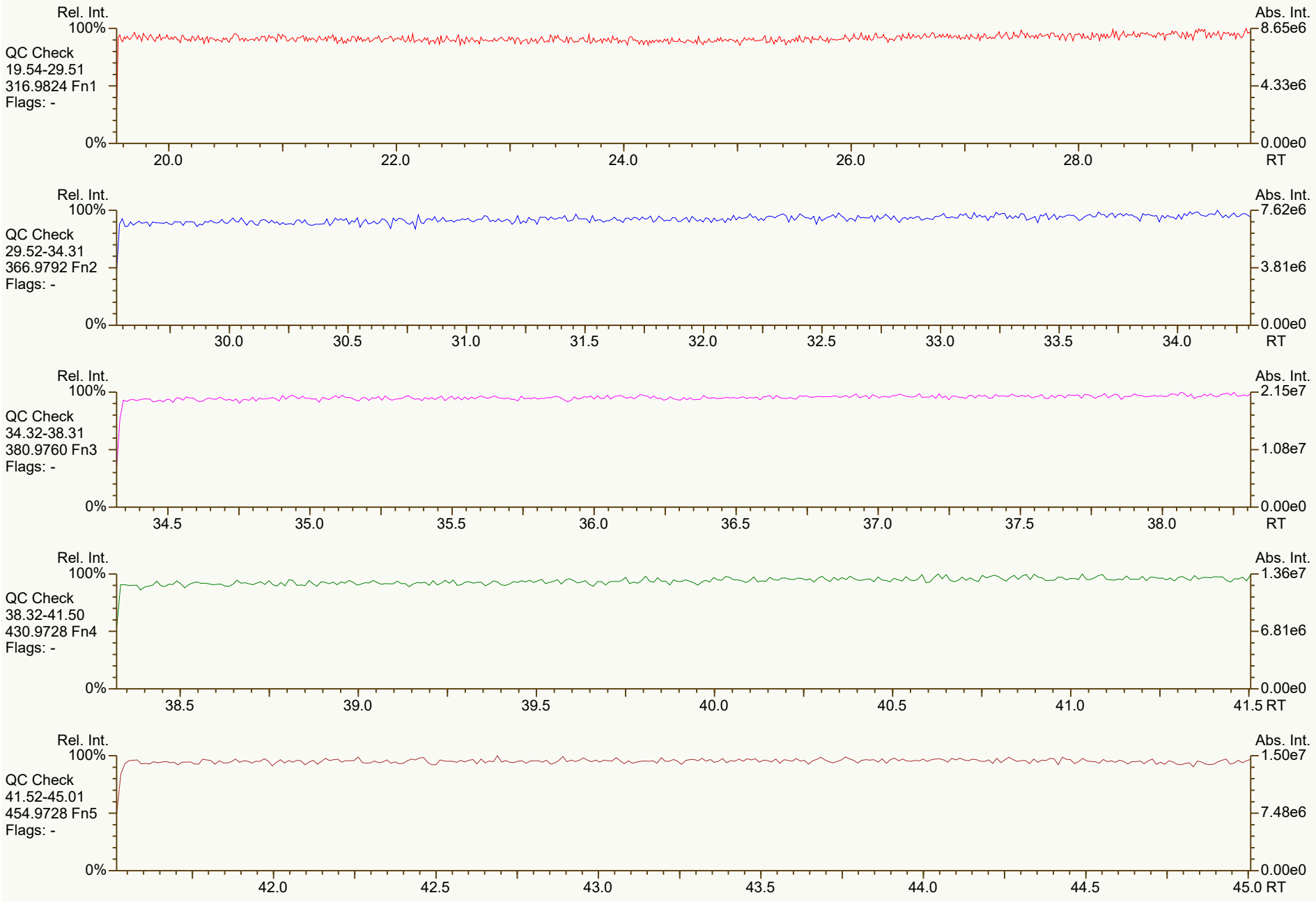

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

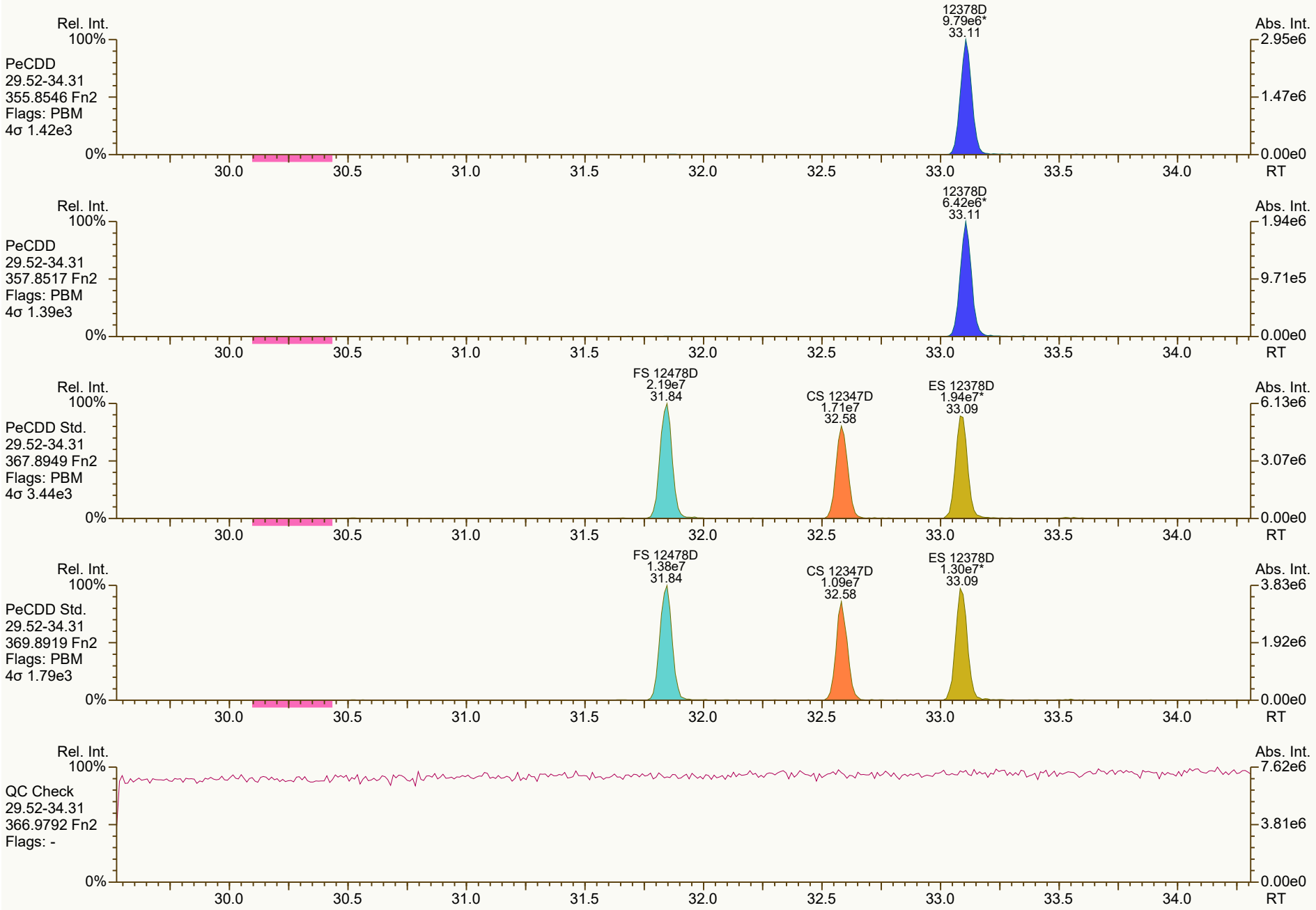
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

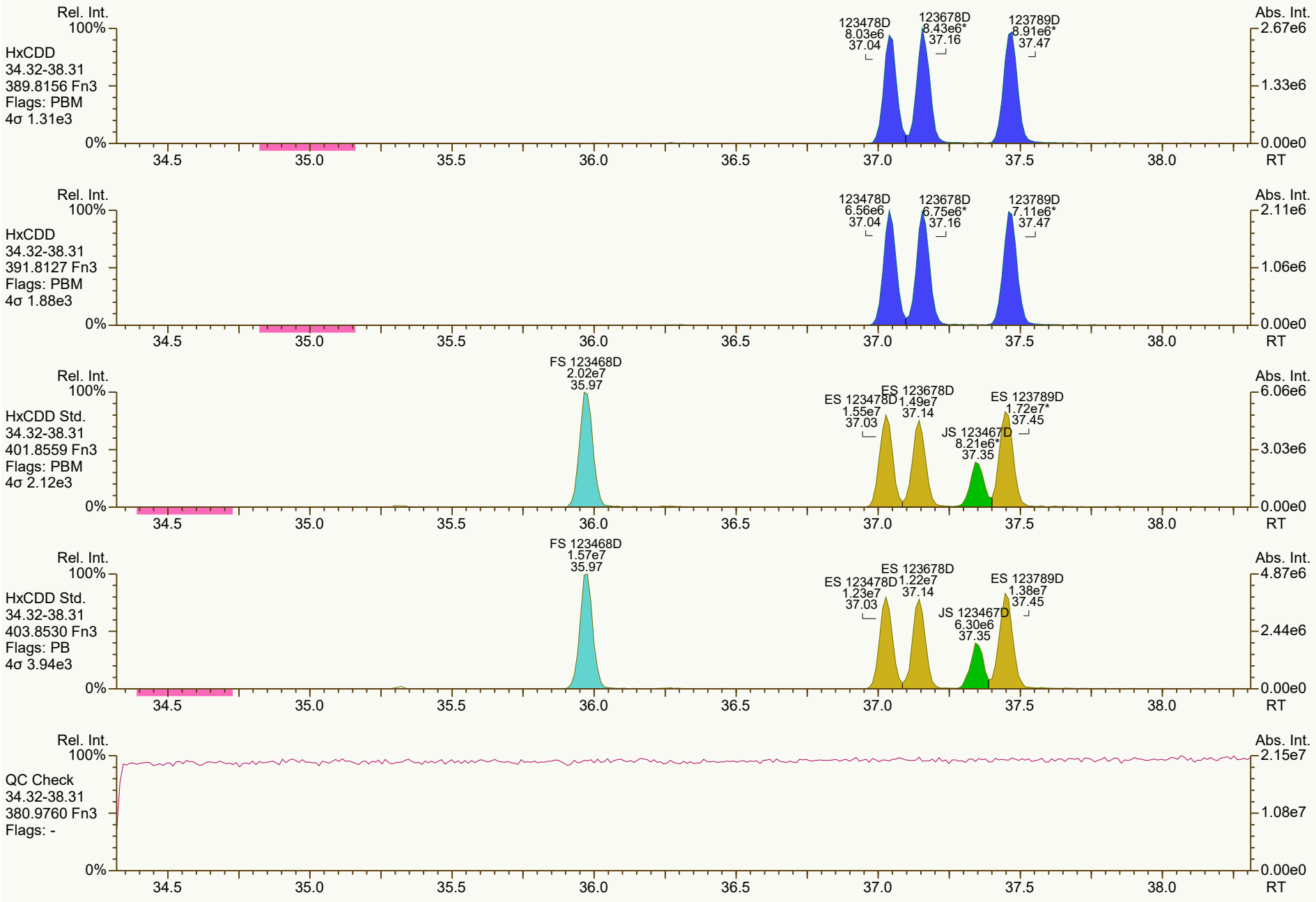
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

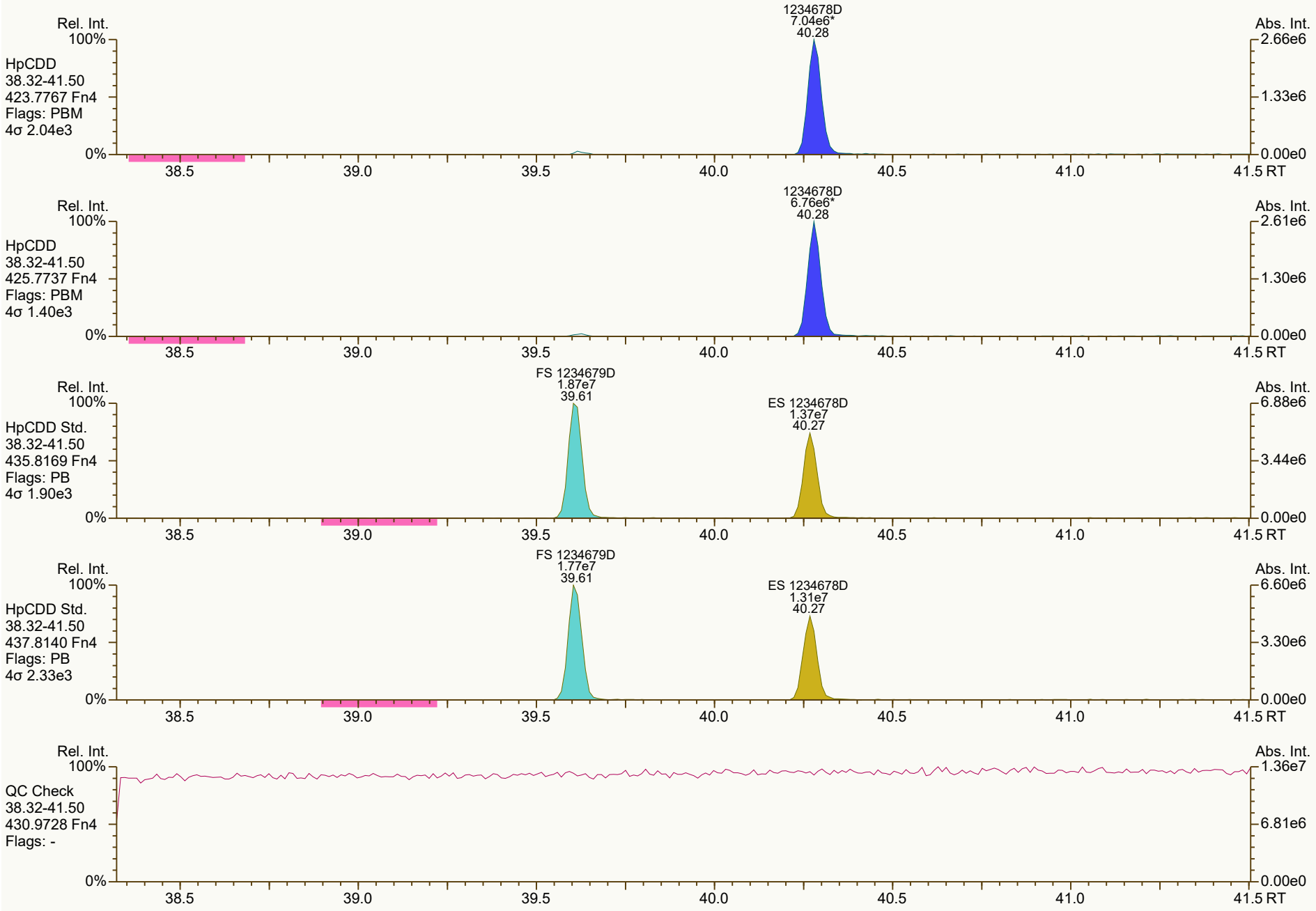
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

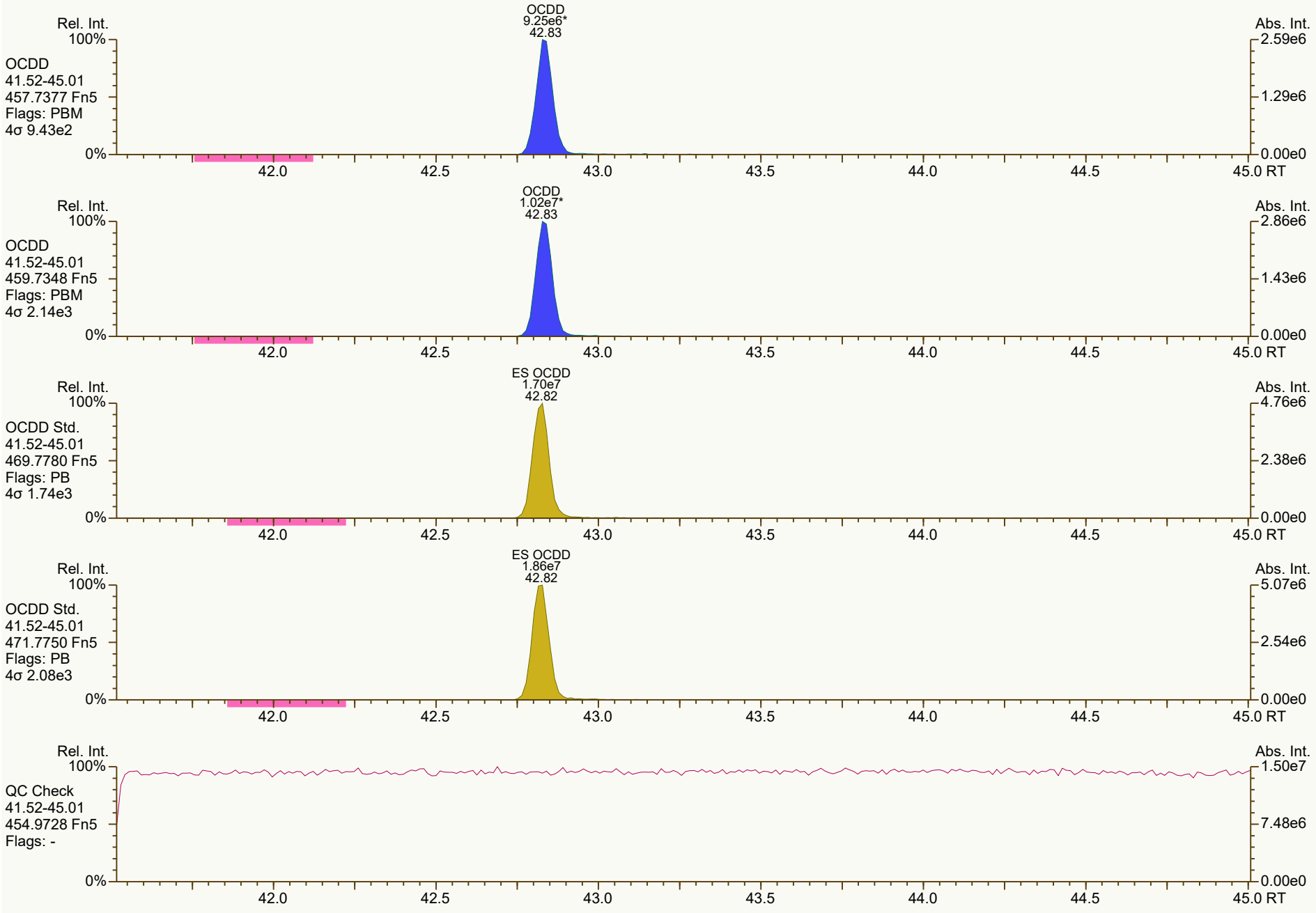

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

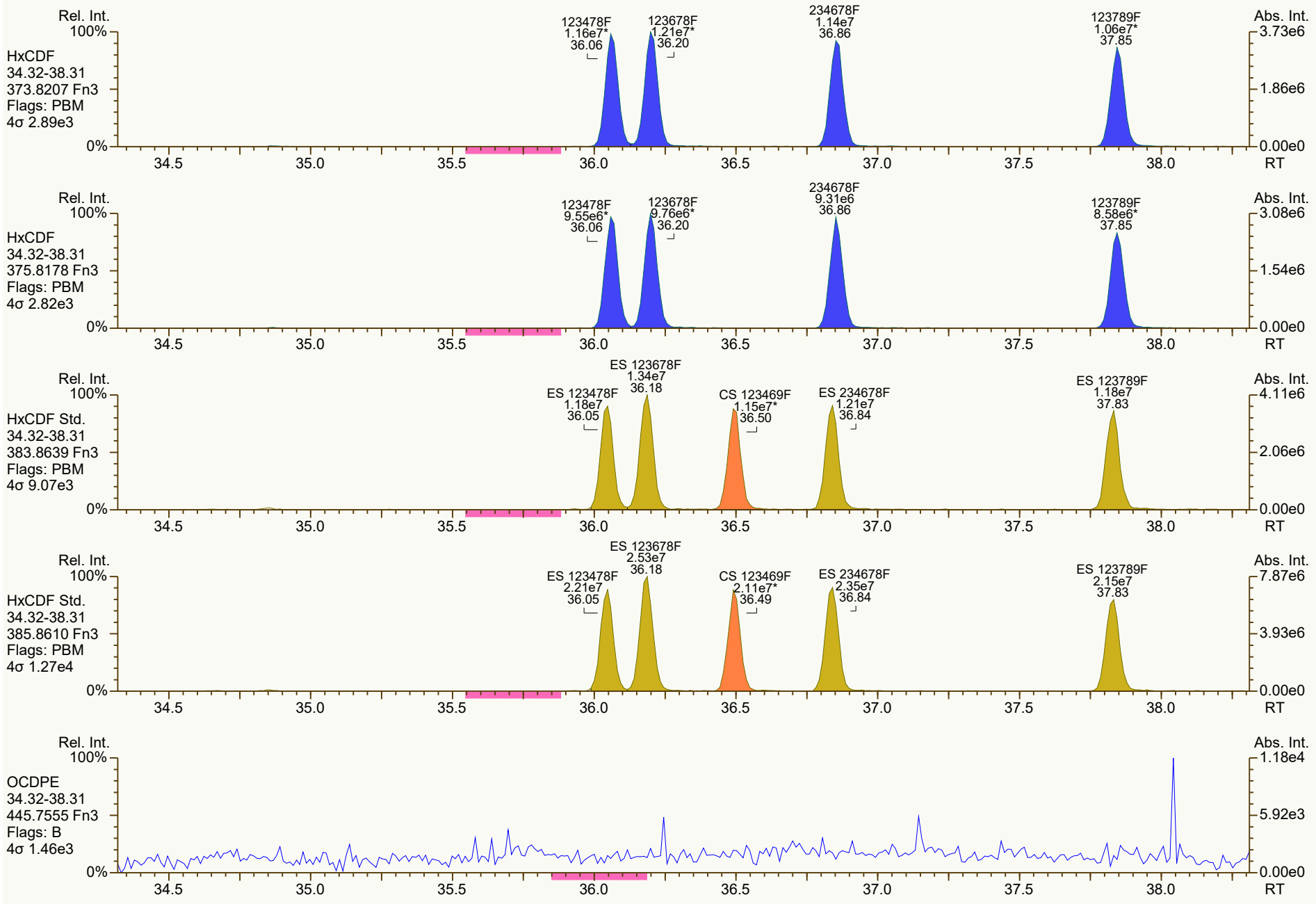

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

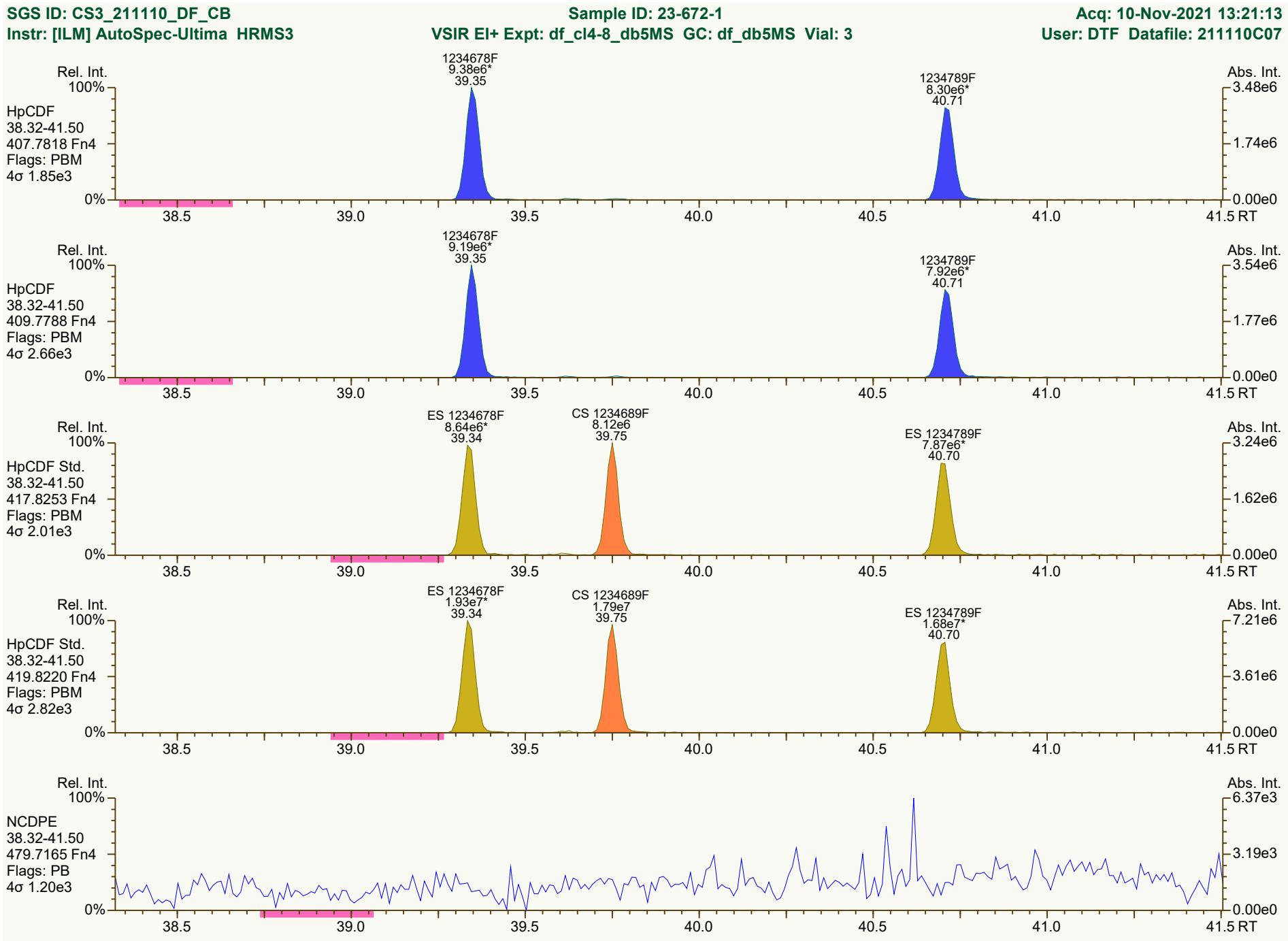

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

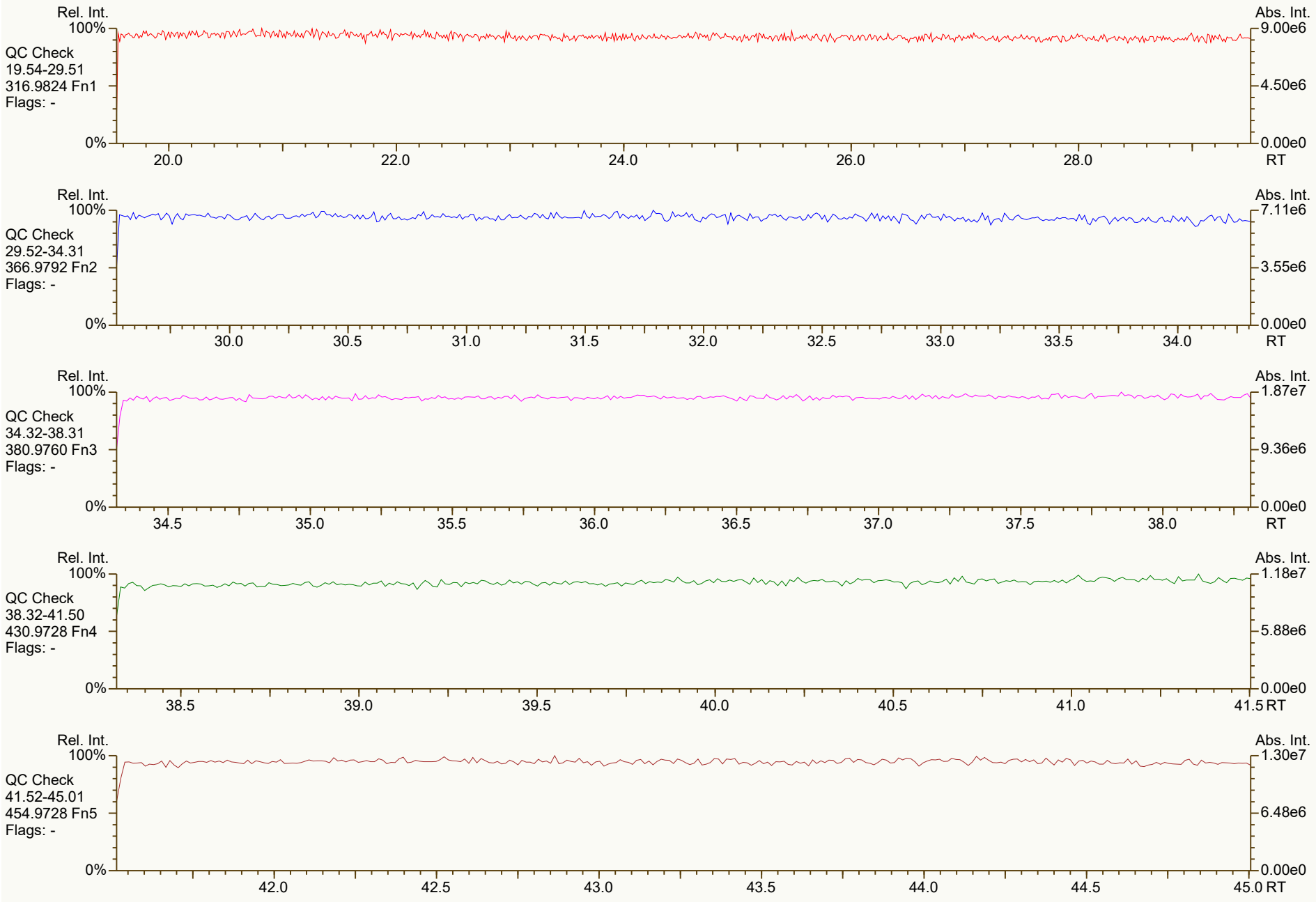

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
0%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
3.53e6
1.76e6
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
6.08e6
3.04e6
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
6.65e6
3.32e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
4.82e3
2.41e3

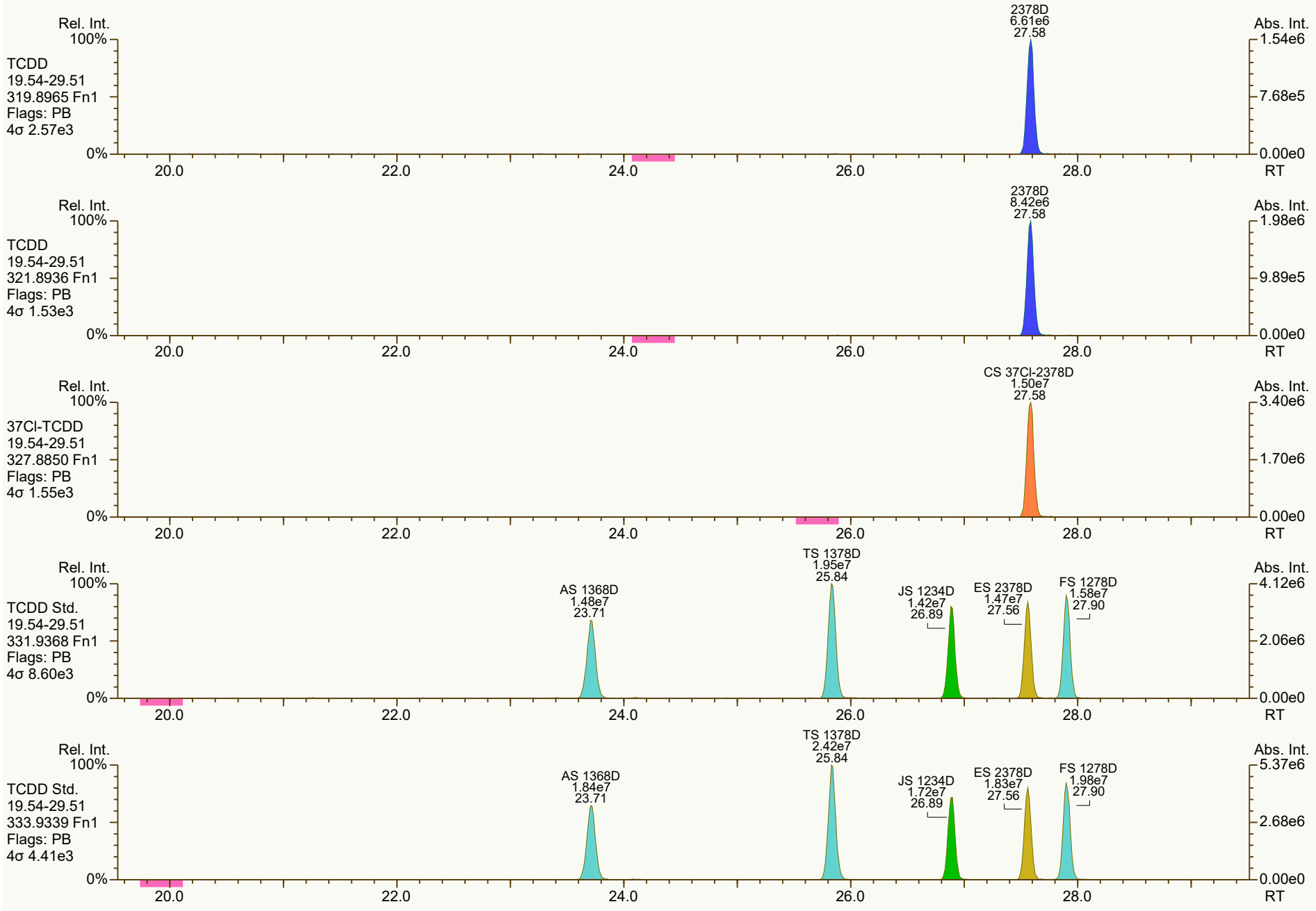
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

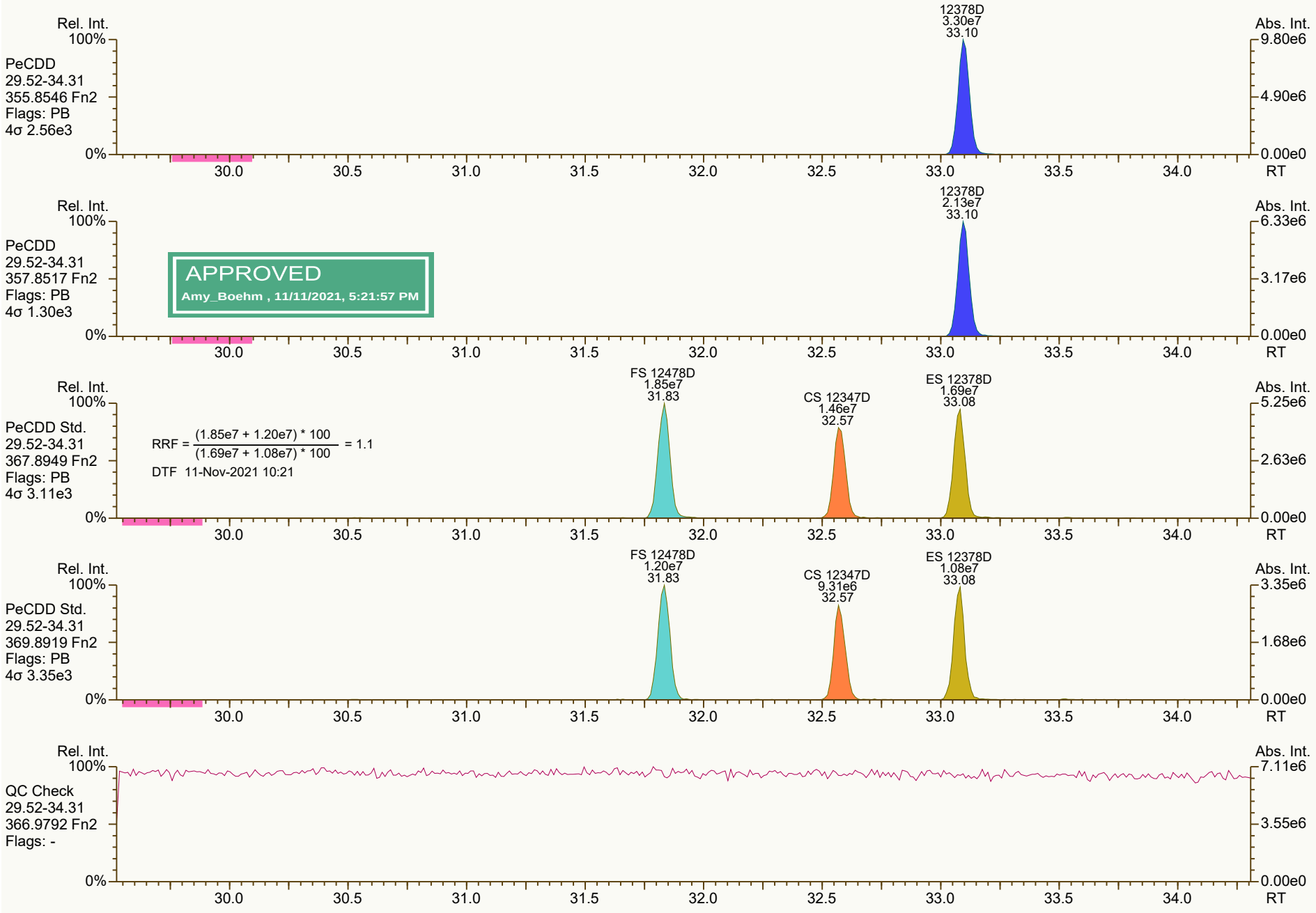
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

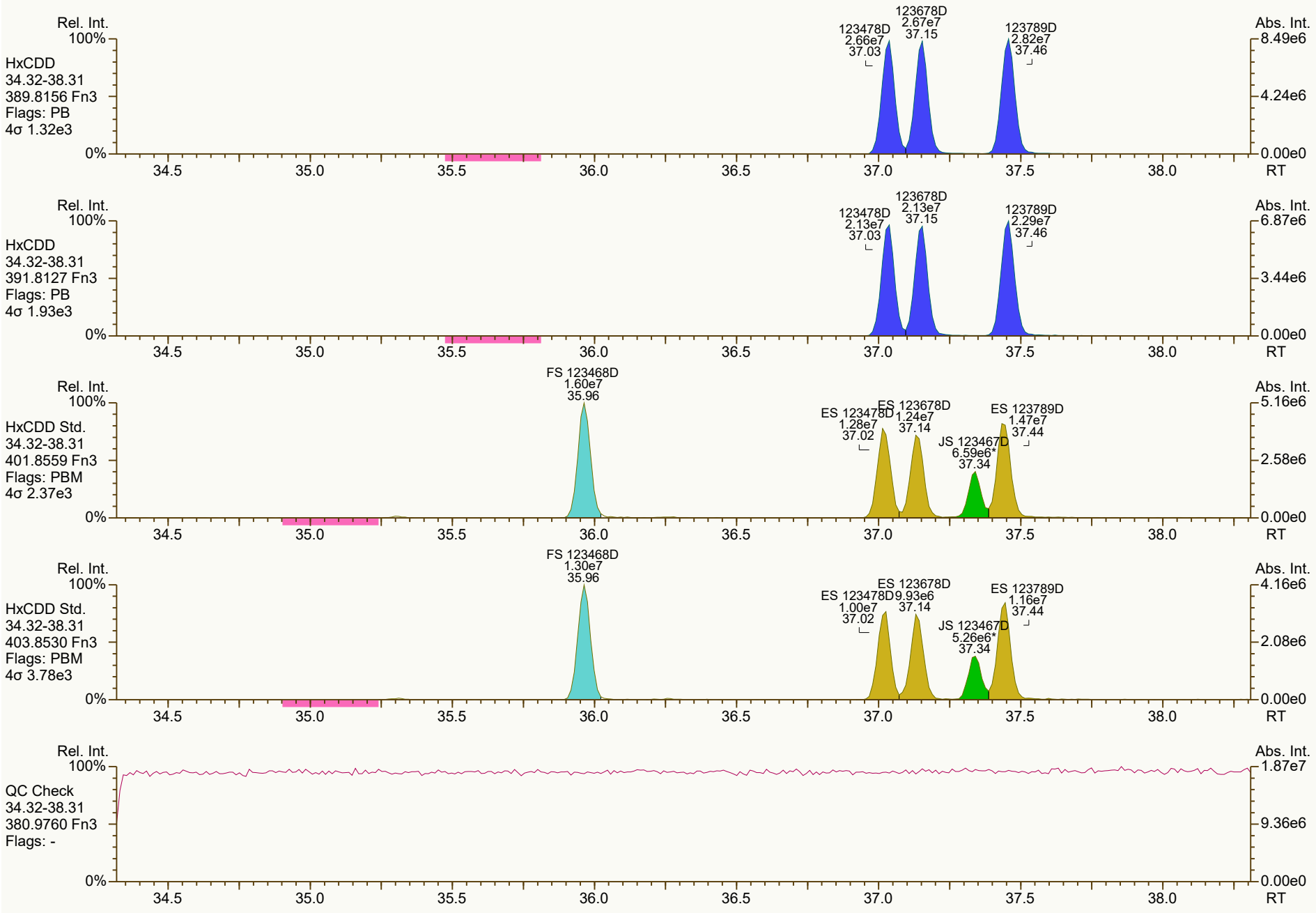
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

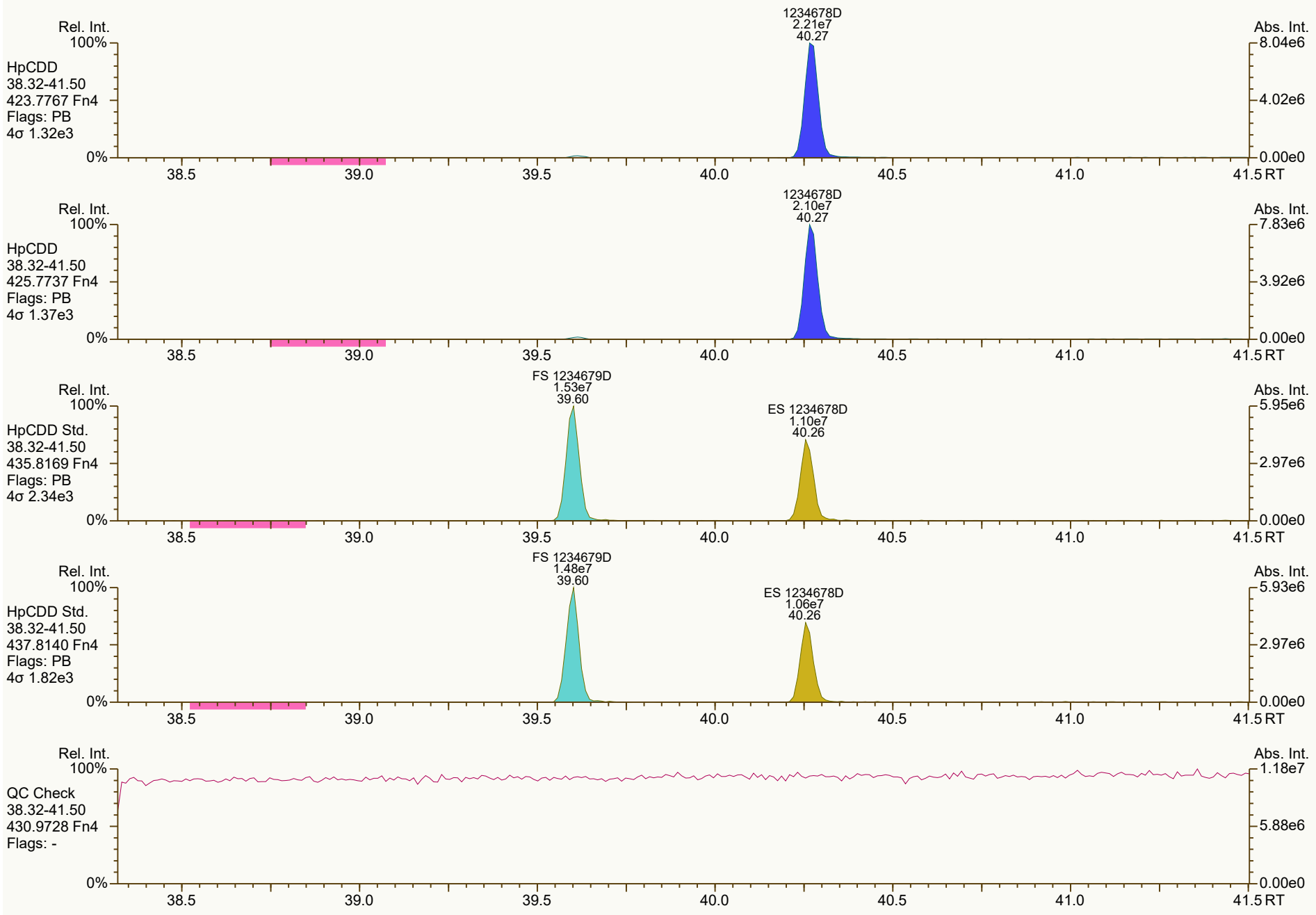
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

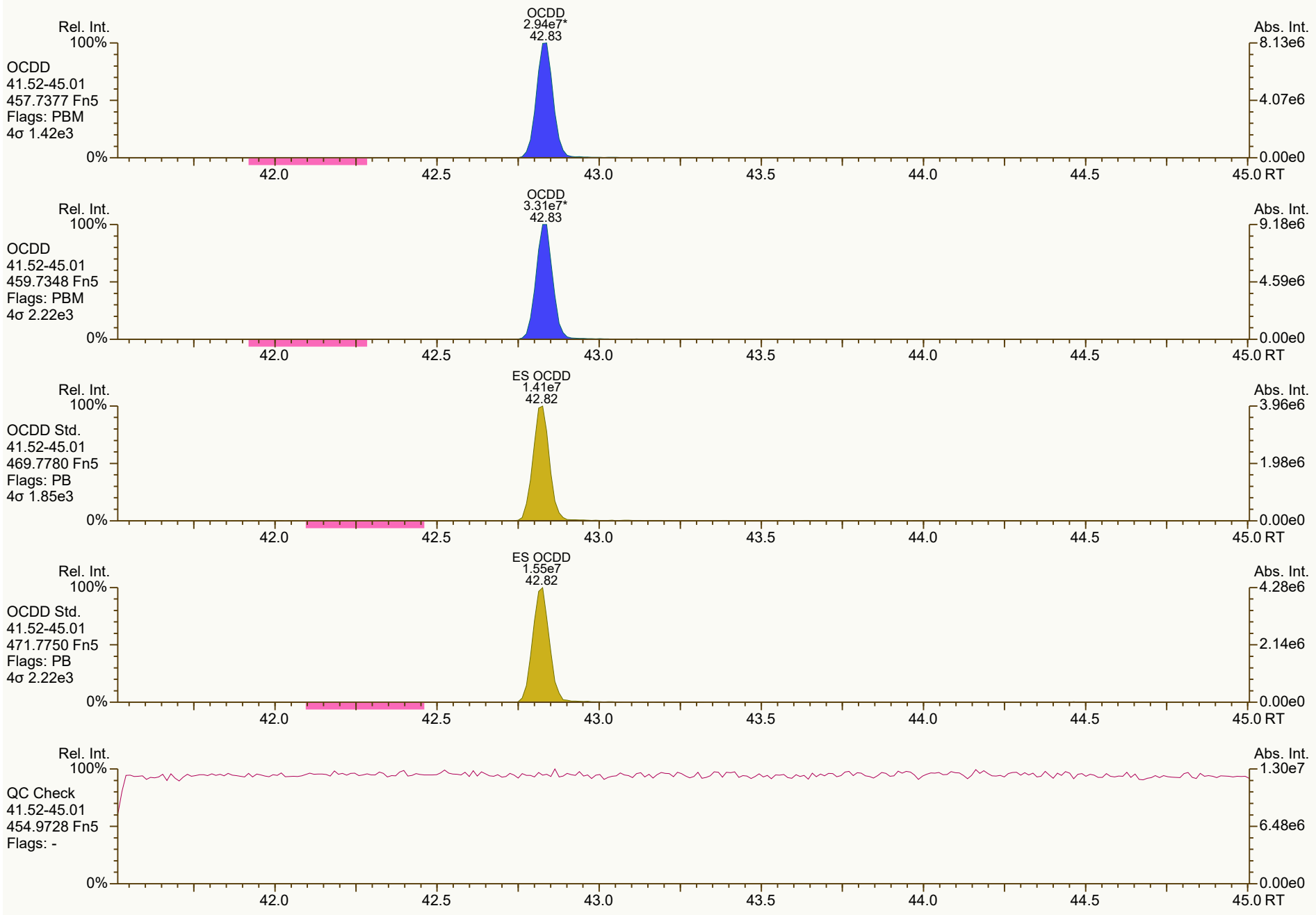

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
RT
20.0
22.0
24.0
26.0
28.0
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
2378D
6.61e6
27.58
1.54e6
7.68e5
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
2378D
8.42e6
27.58
1.98e6
9.89e5
0.00e0
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
CS 37Cl-2378D
1.50e7
27.58
3.40e6
1.70e6
0.00e0
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
4.12e6
2.06e6
0.00e0
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
5.37e6
2.68e6
0.00e0


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

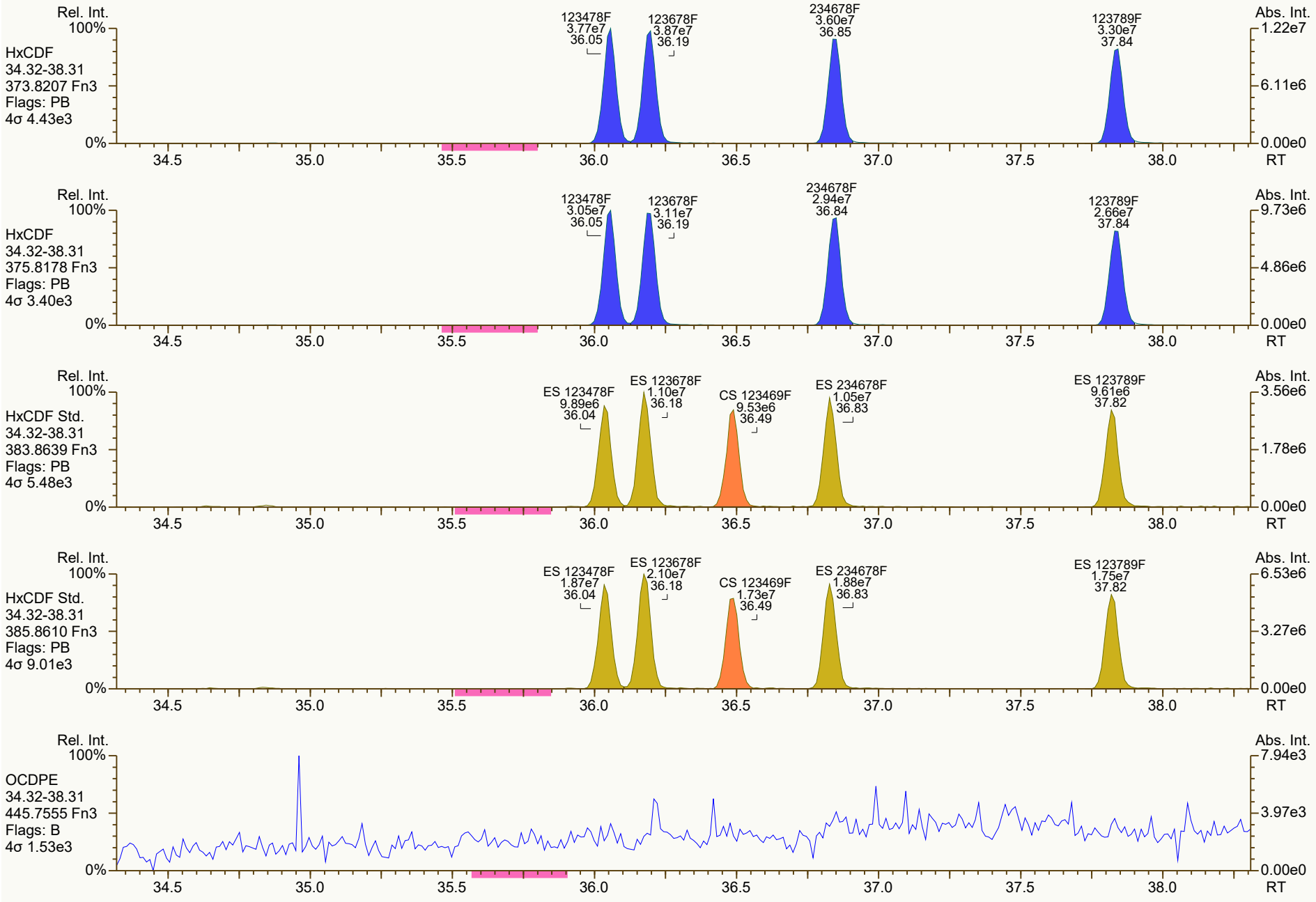

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

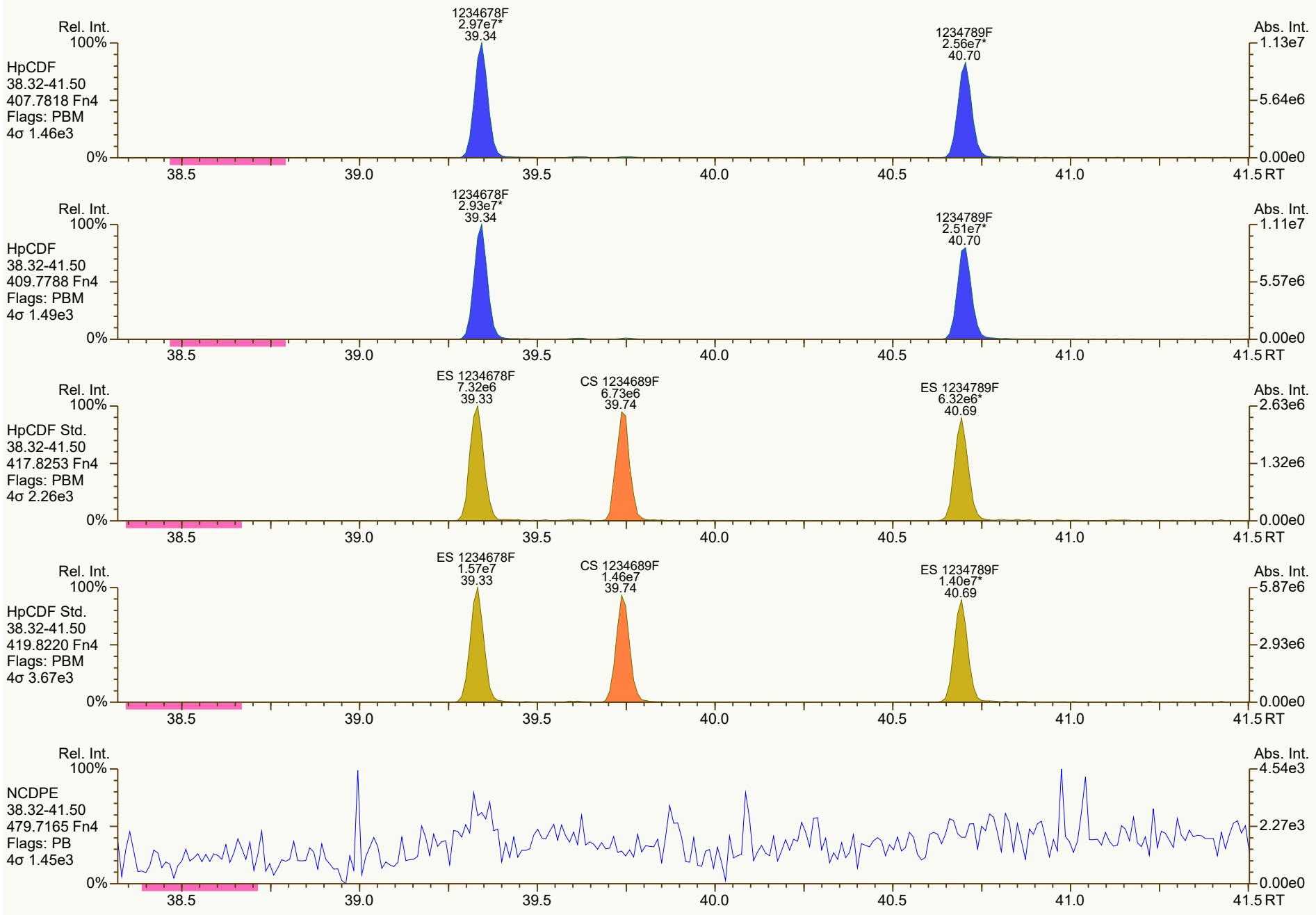

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

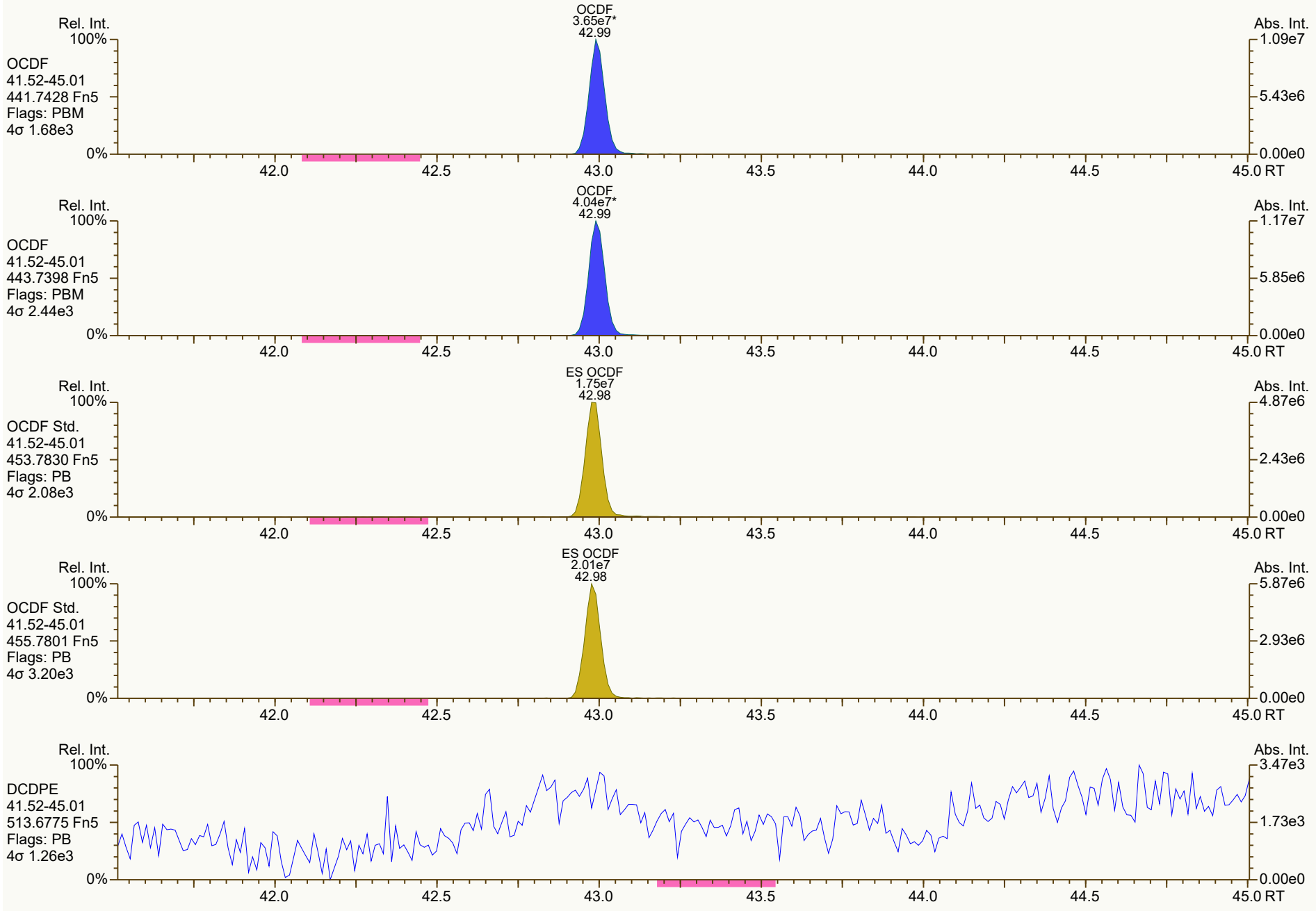

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
123478F 3.77e7 36.05
123678F 3.87e7 36.19
234678F 3.60e7 36.85
123789F 3.30e7 37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F 3.05e7 36.05
123678F 3.11e7 36.19
234678F 2.94e7 36.84
123789F 2.66e7 37.84
Abs. Int.
9.73e6
4.86e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F 9.89e6 36.04
ES 123678F 1.10e7 36.18
CS 123469F 9.53e6 36.49
ES 234678F 1.05e7 36.83
ES 123789F 9.61e6 37.82
Abs. Int.
3.56e6
1.78e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F 1.87e7 36.04
ES 123678F 2.10e7 36.18
CS 123469F 1.73e7 36.49
ES 234678F 1.88e7 36.83
ES 123789F 1.75e7 37.82
Abs. Int.
6.53e6
3.27e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
Abs. Int.
7.94e3
3.97e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

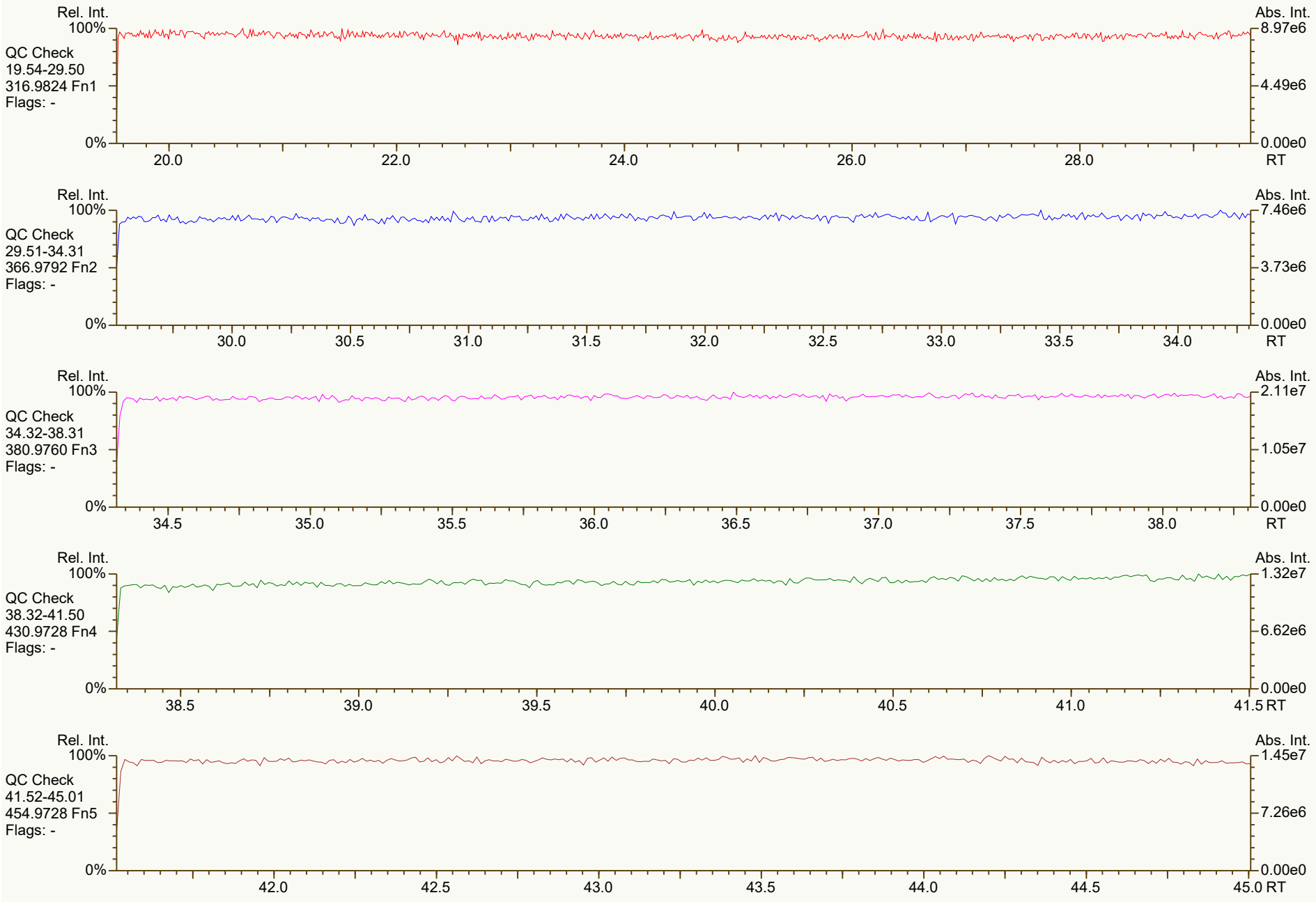

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

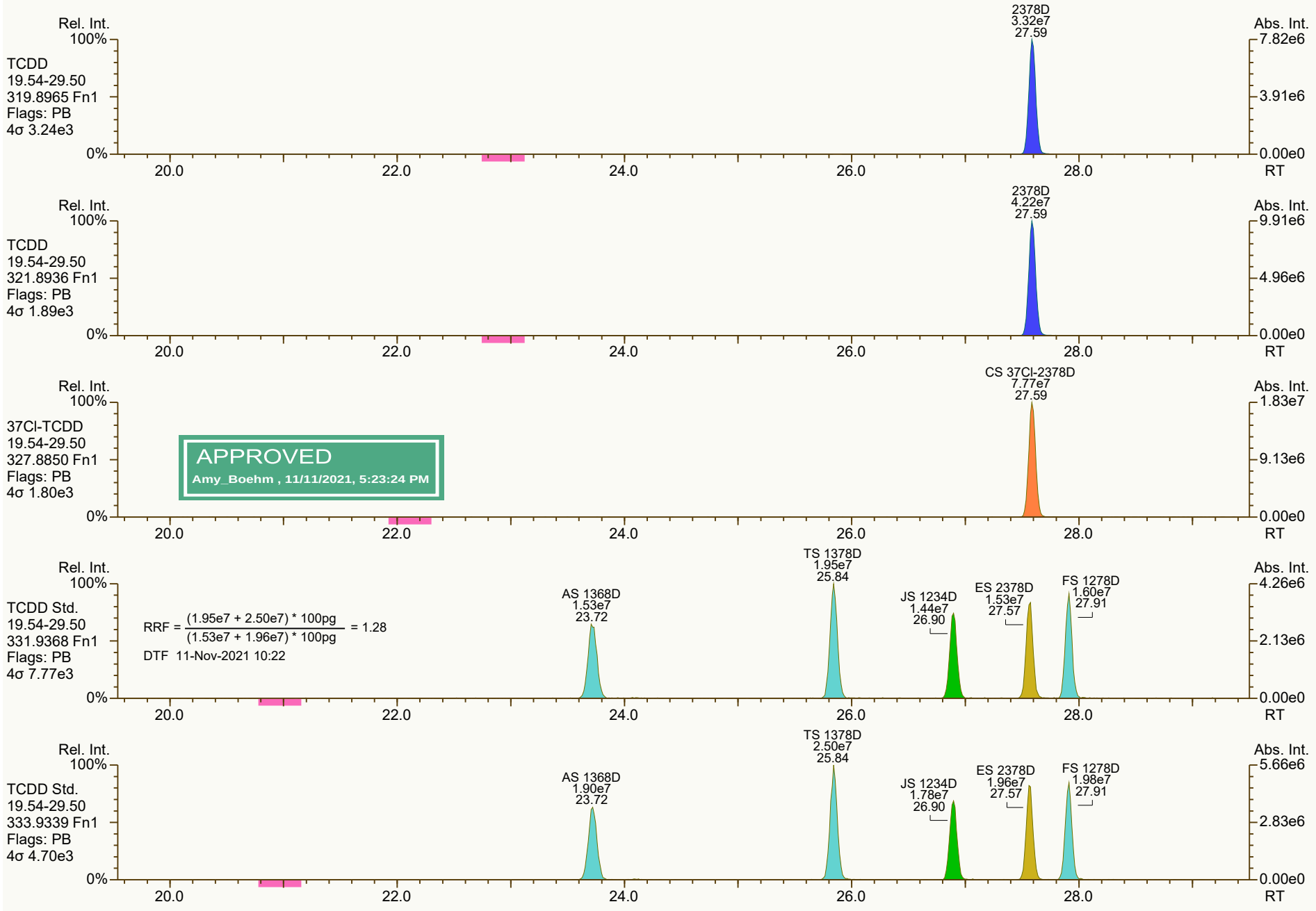
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

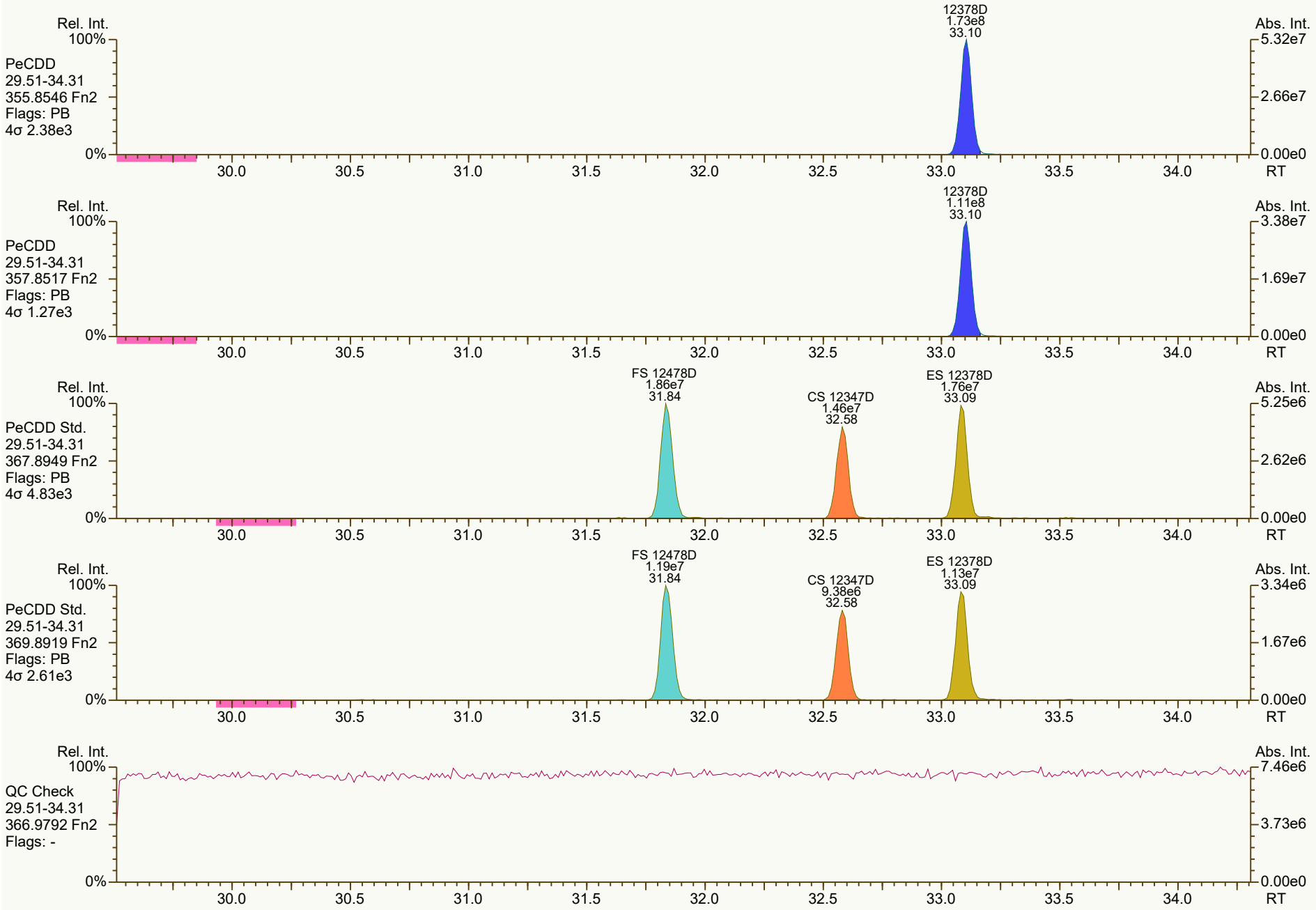
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

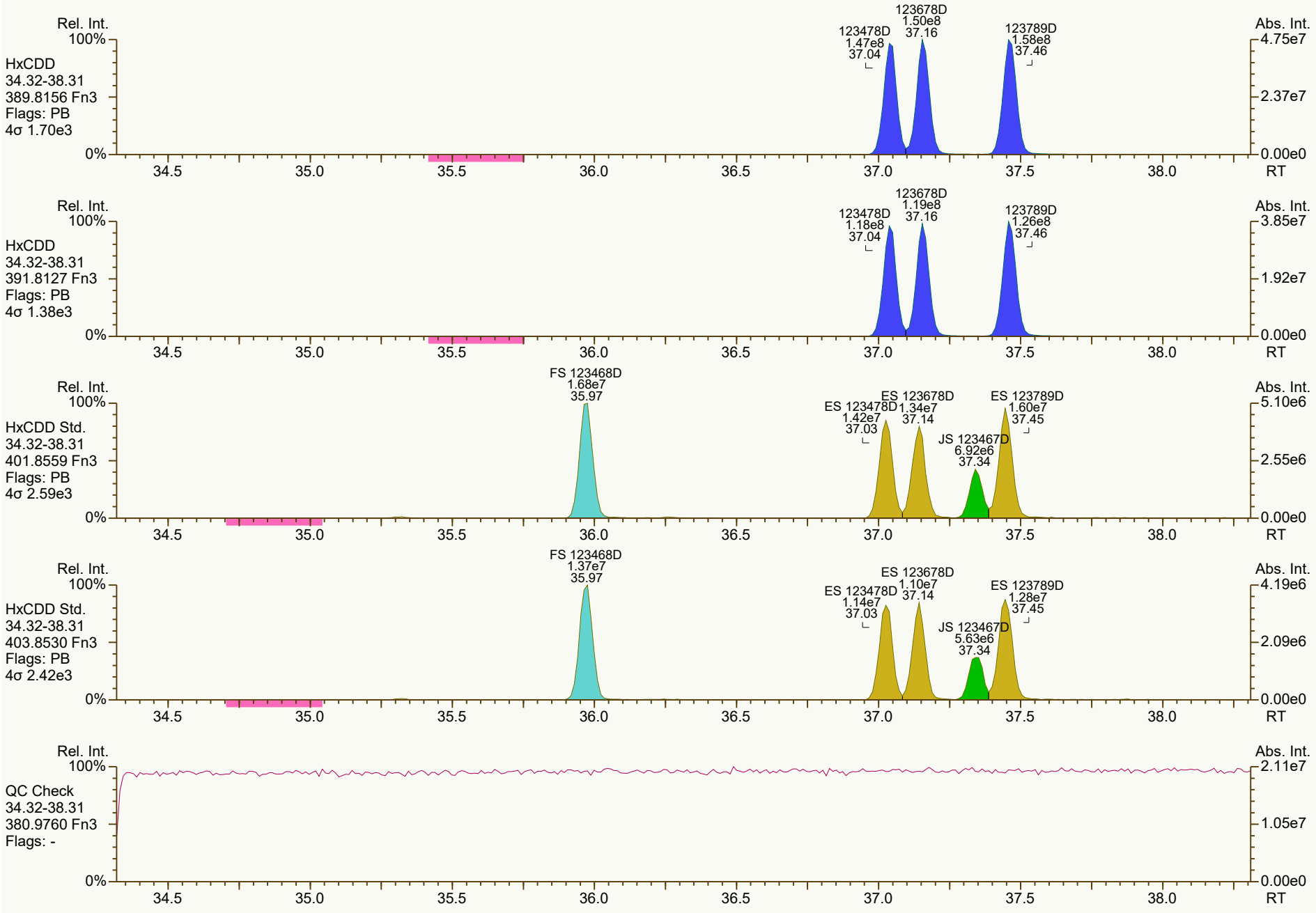
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

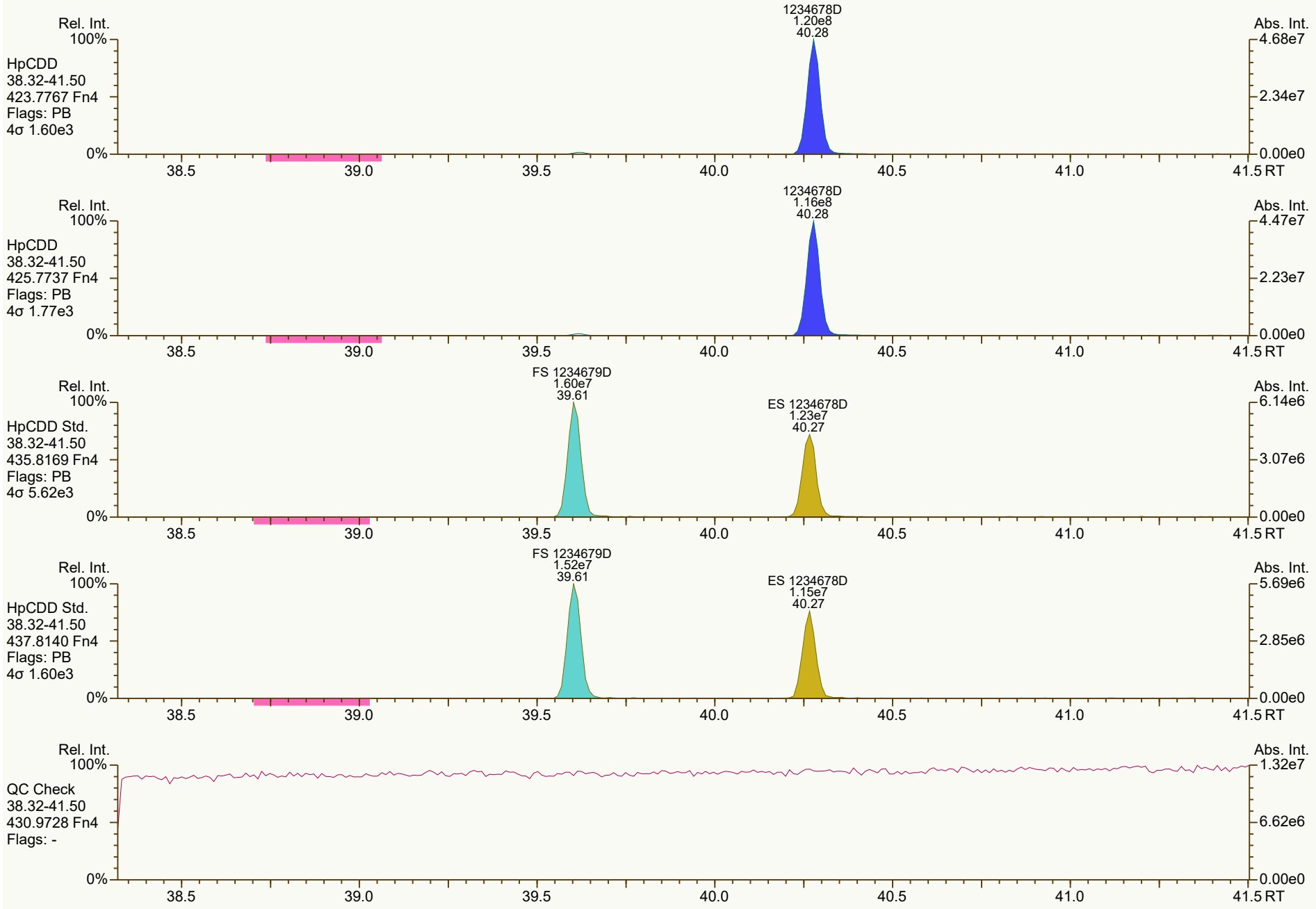
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

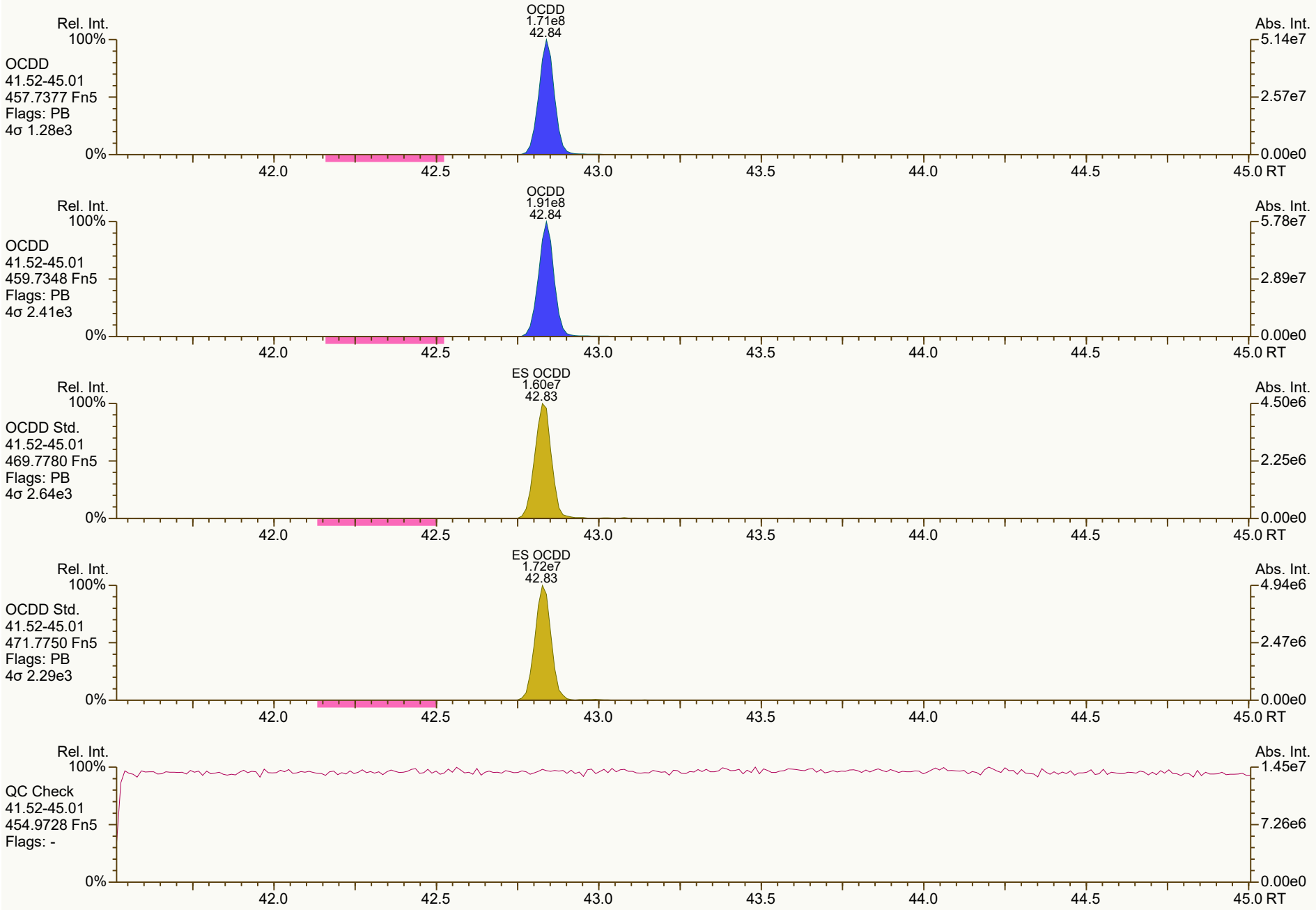

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

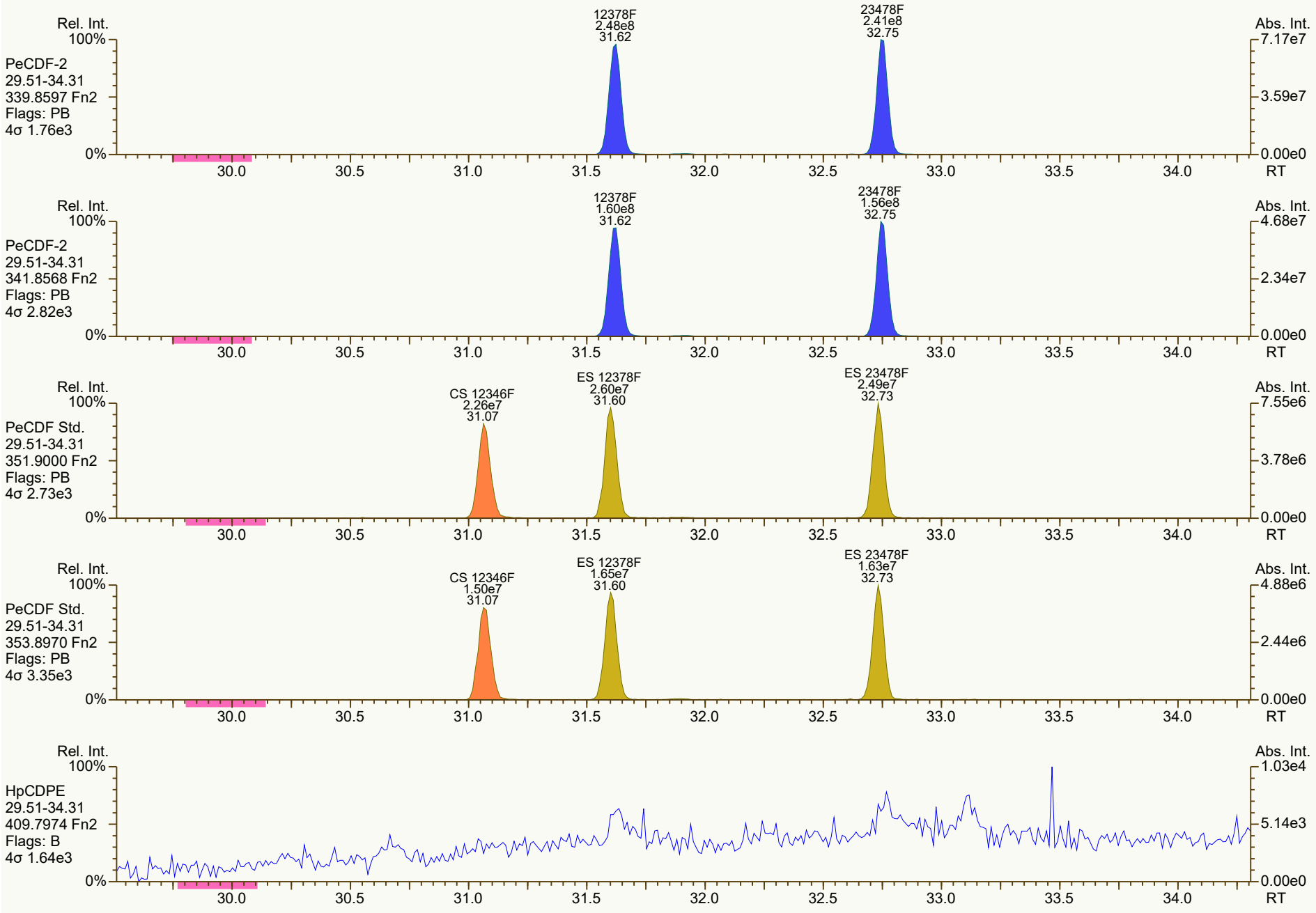

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

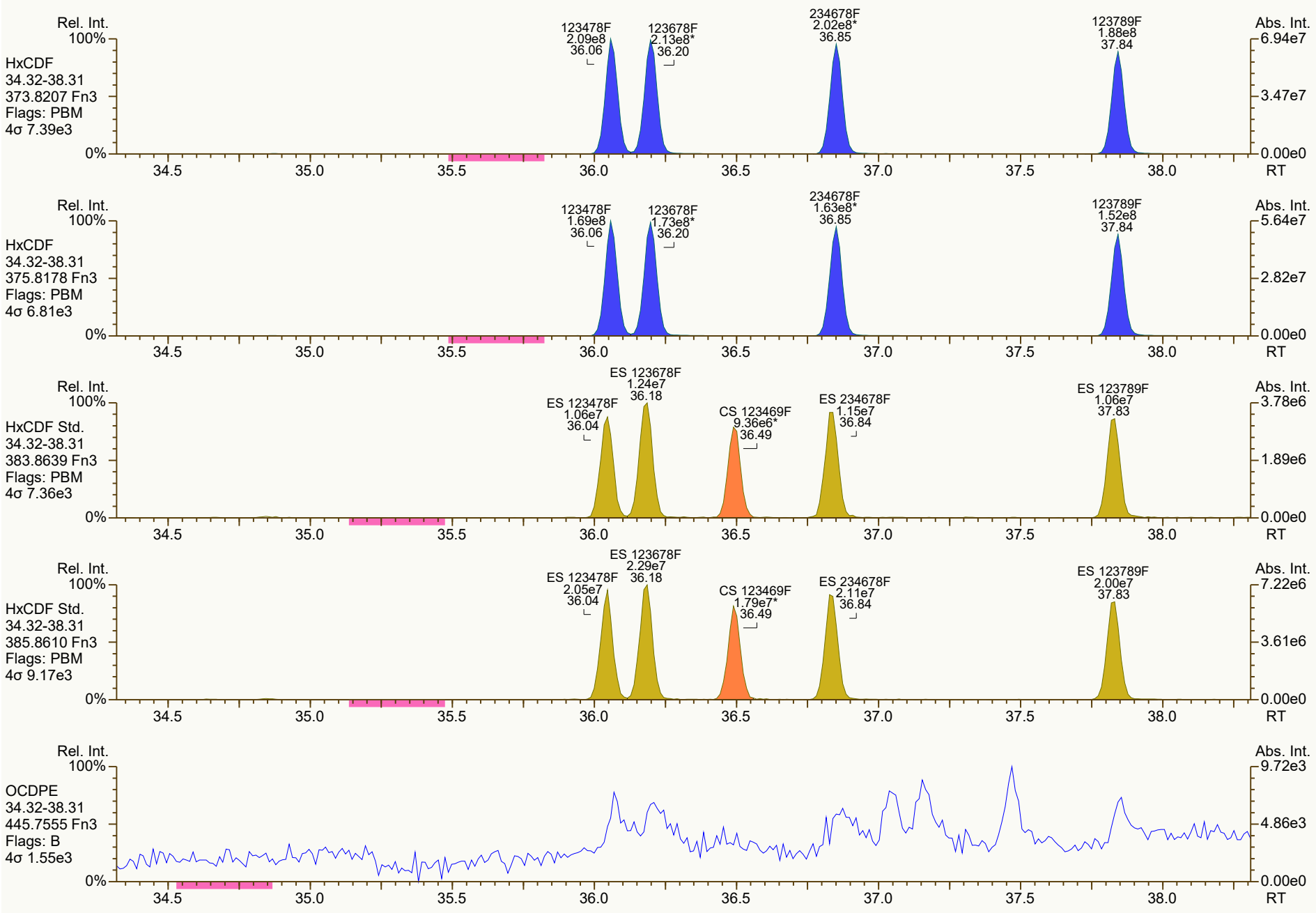

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

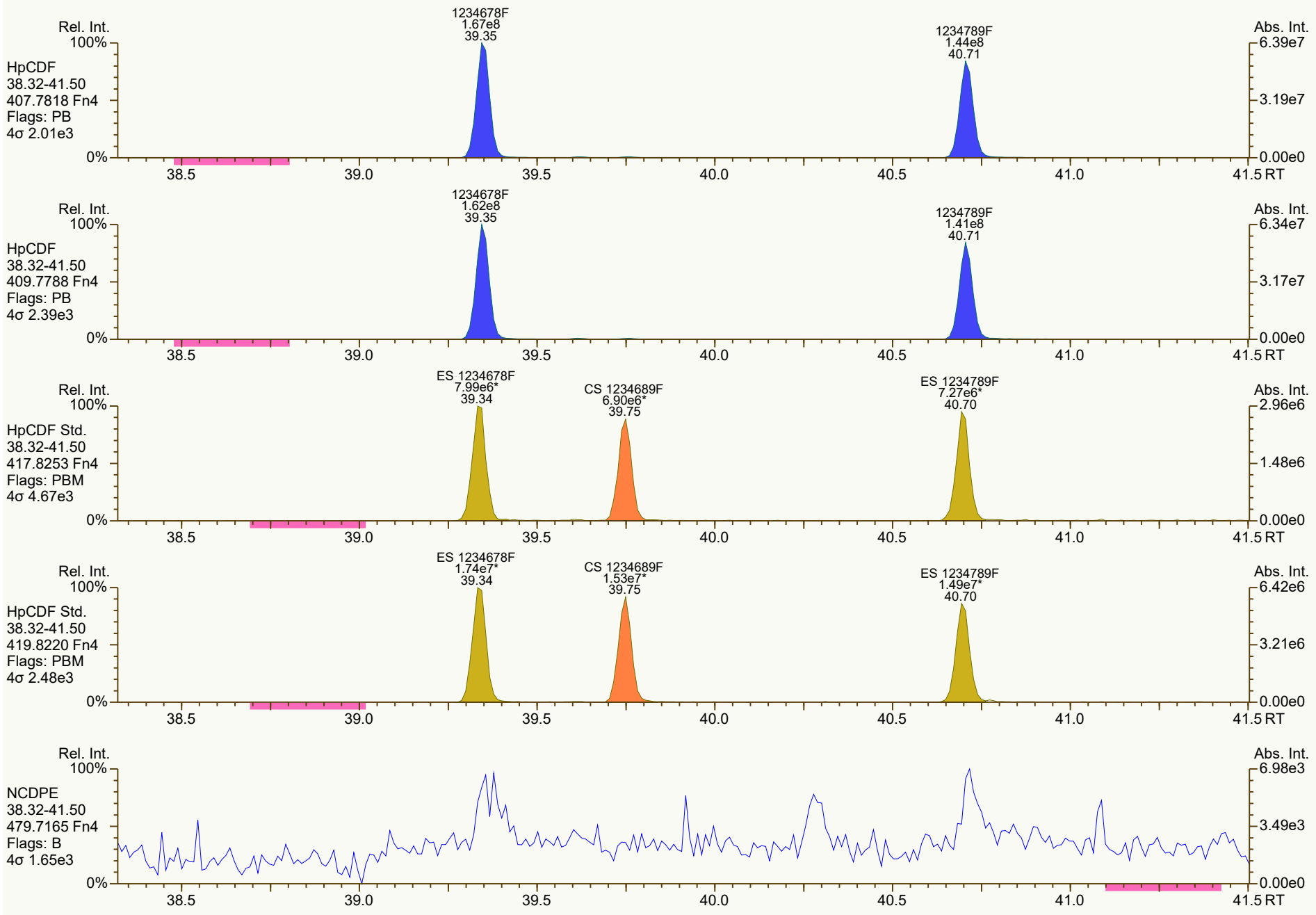

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

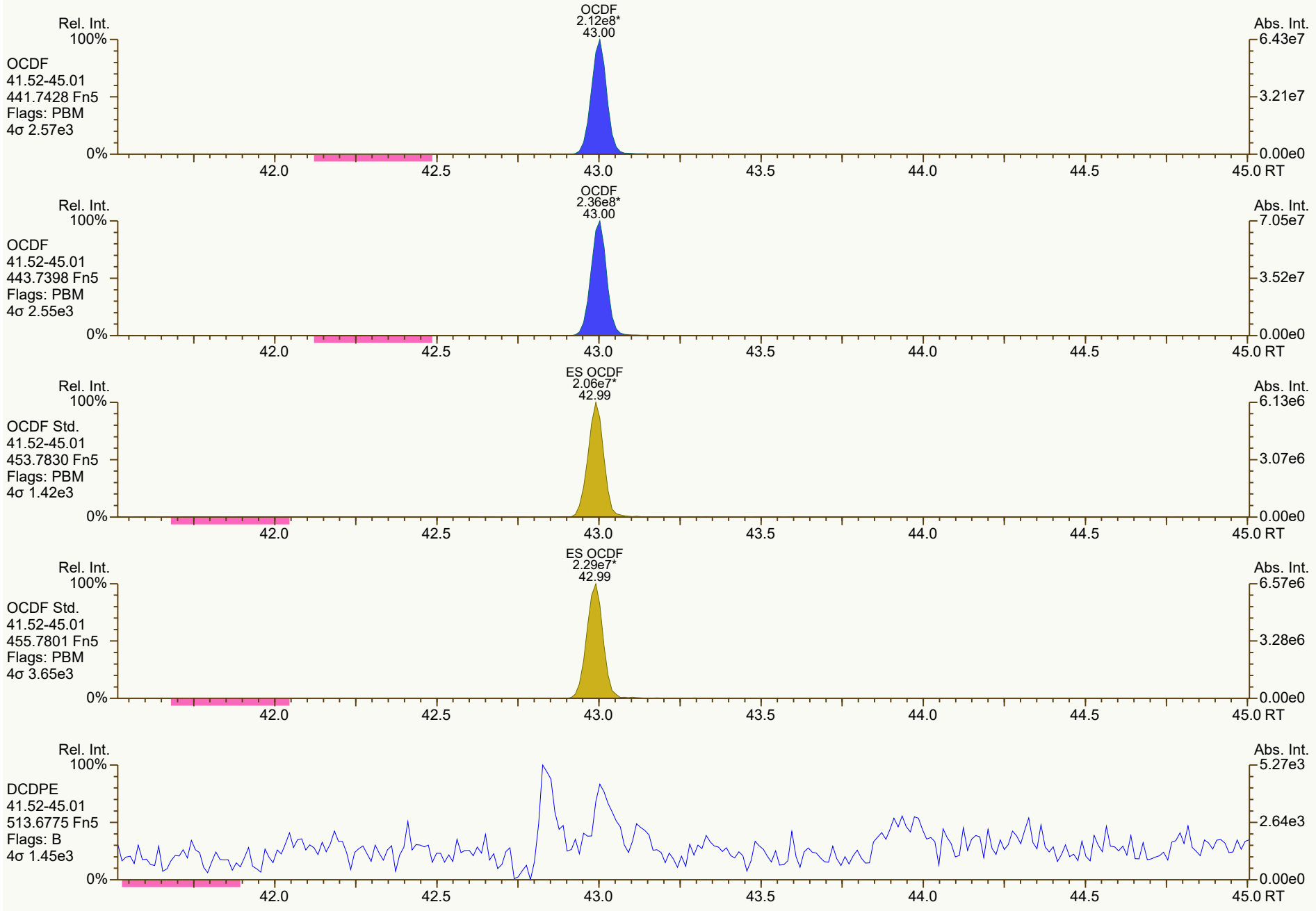

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F 2.09e8 36.06
123678F 2.13e8* 36.20
234678F 2.02e8* 36.85
123789F 1.88e8 37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F 1.69e8 36.06
123678F 1.73e8* 36.20
234678F 1.63e8* 36.85
123789F 1.52e8 37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123478F 1.06e7 36.04
ES 123678F 1.24e7 36.18
CS 123469F 9.36e6* 36.49
ES 234678F 1.15e7 36.84
ES 123789F 1.06e7 37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123478F 2.05e7 36.04
ES 123678F 2.29e7 36.18
CS 123469F 1.79e7* 36.49
ES 234678F 2.11e7 36.84
ES 123789F 2.00e7 37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT

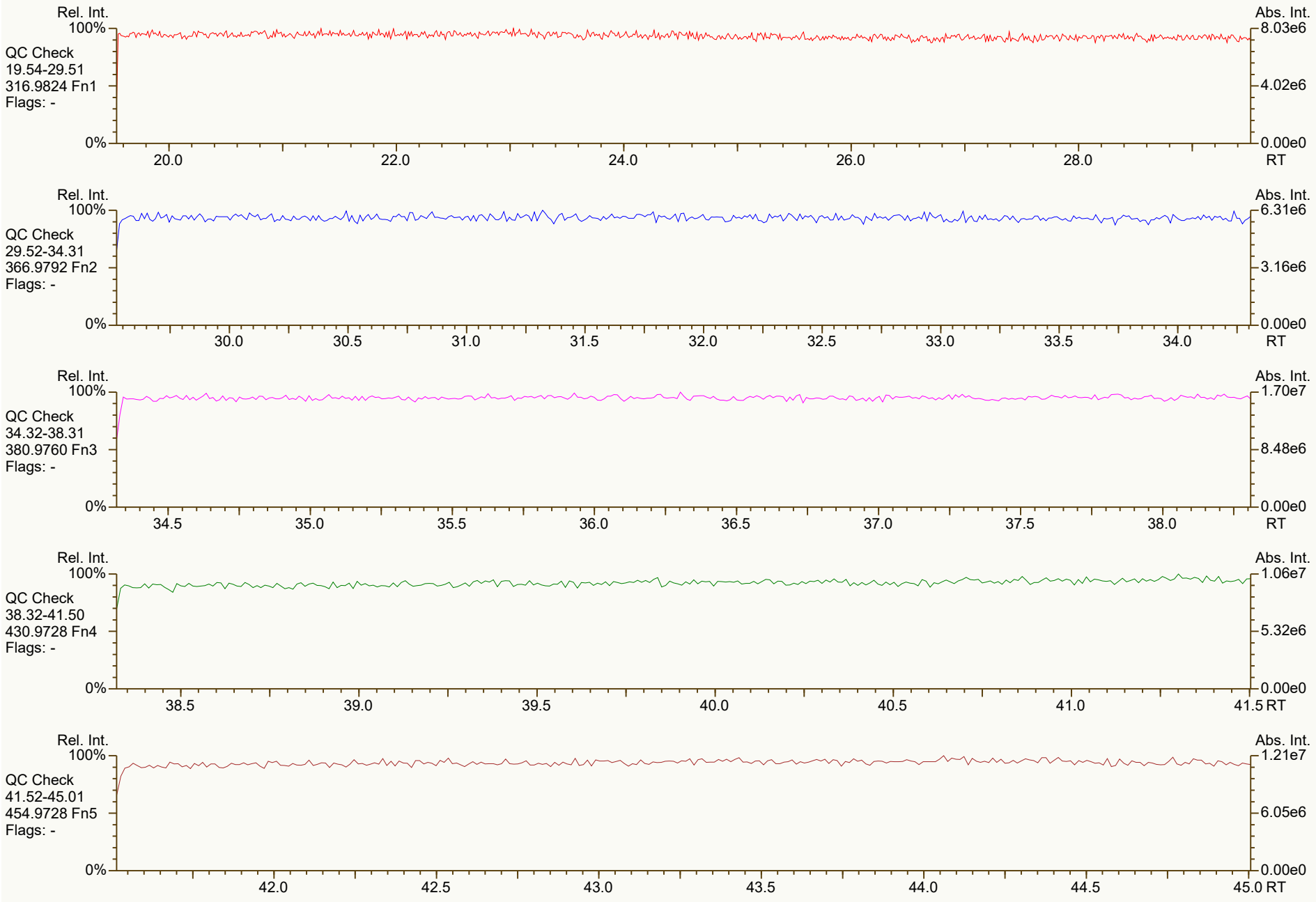

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

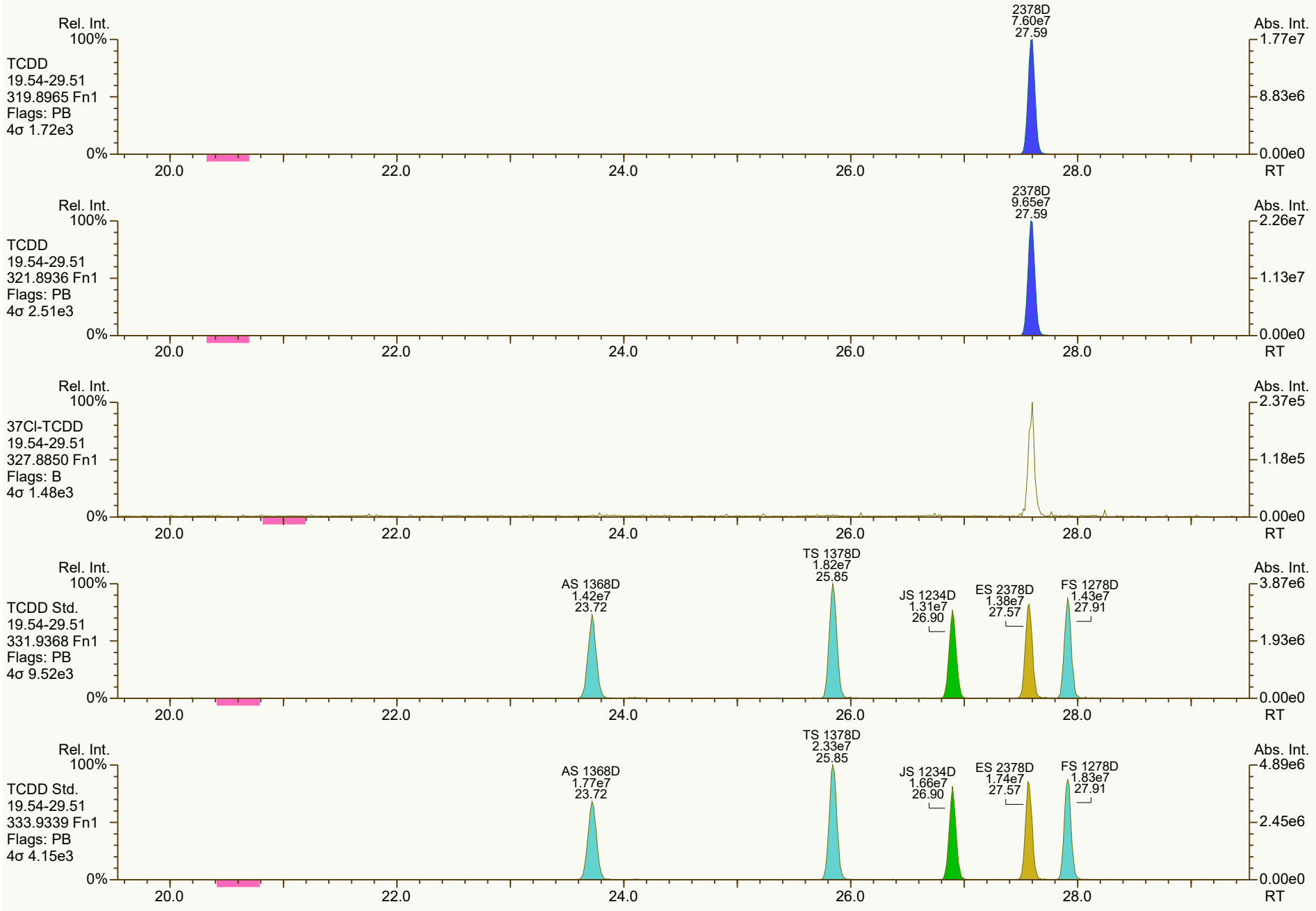

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

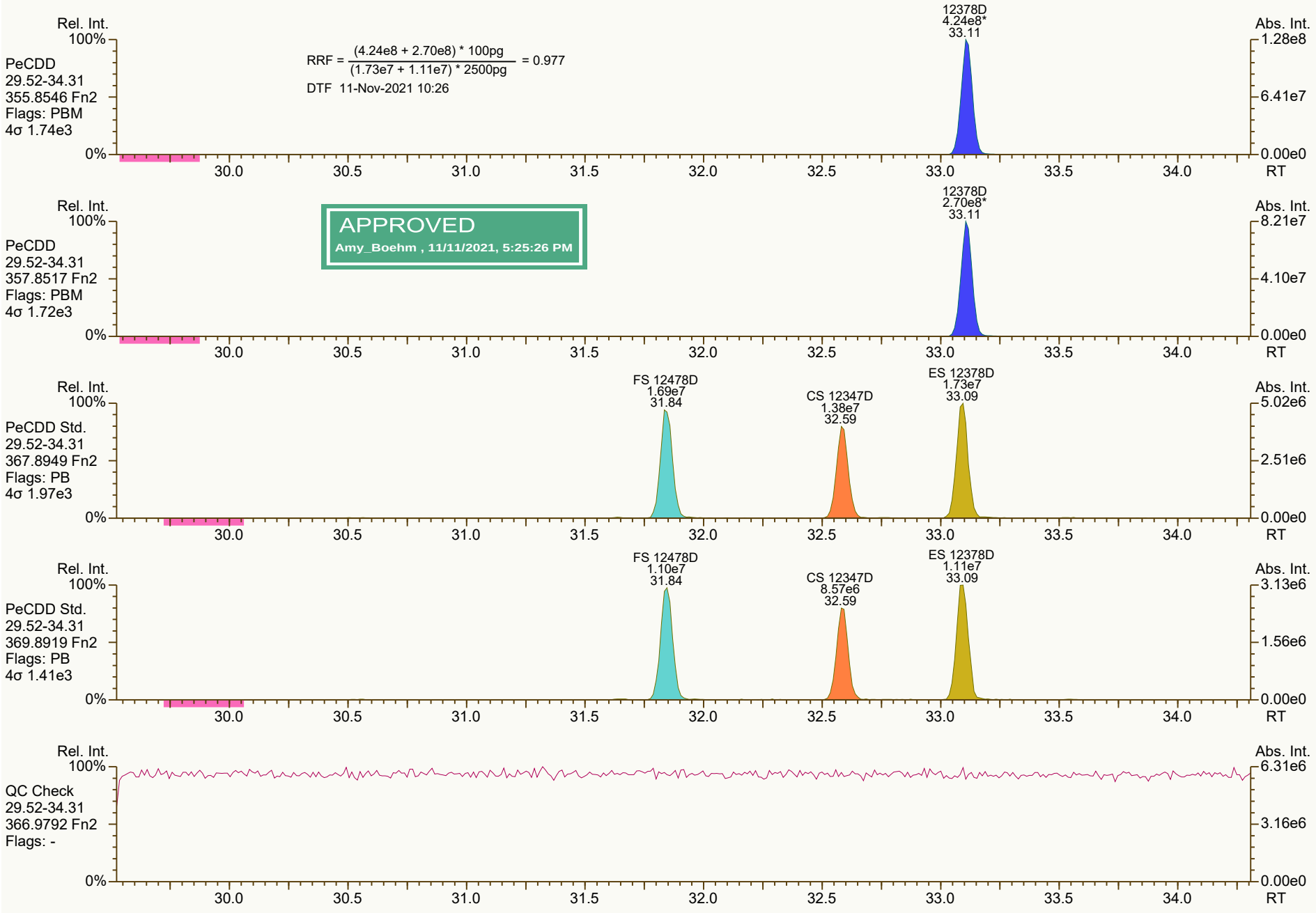
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

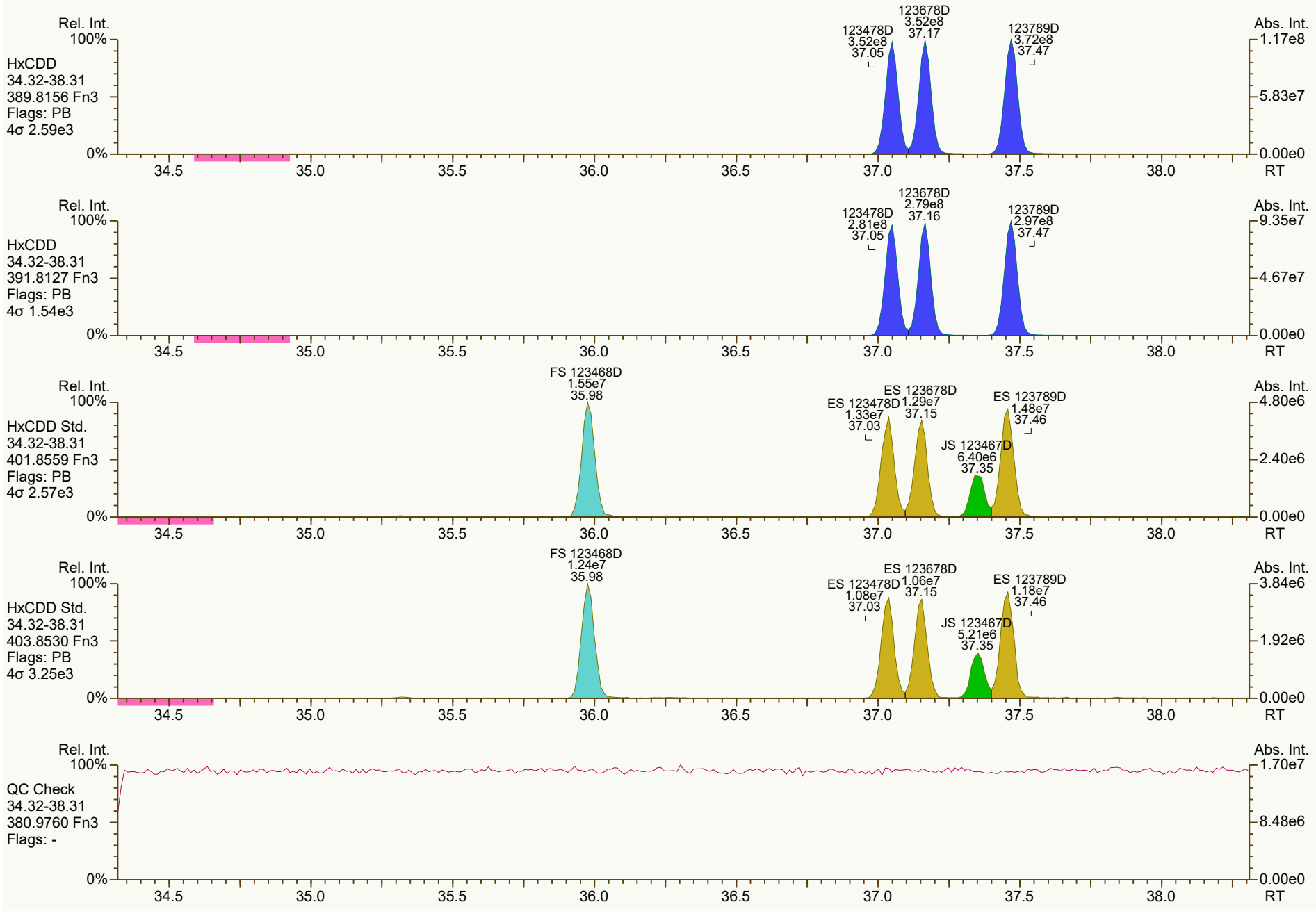
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

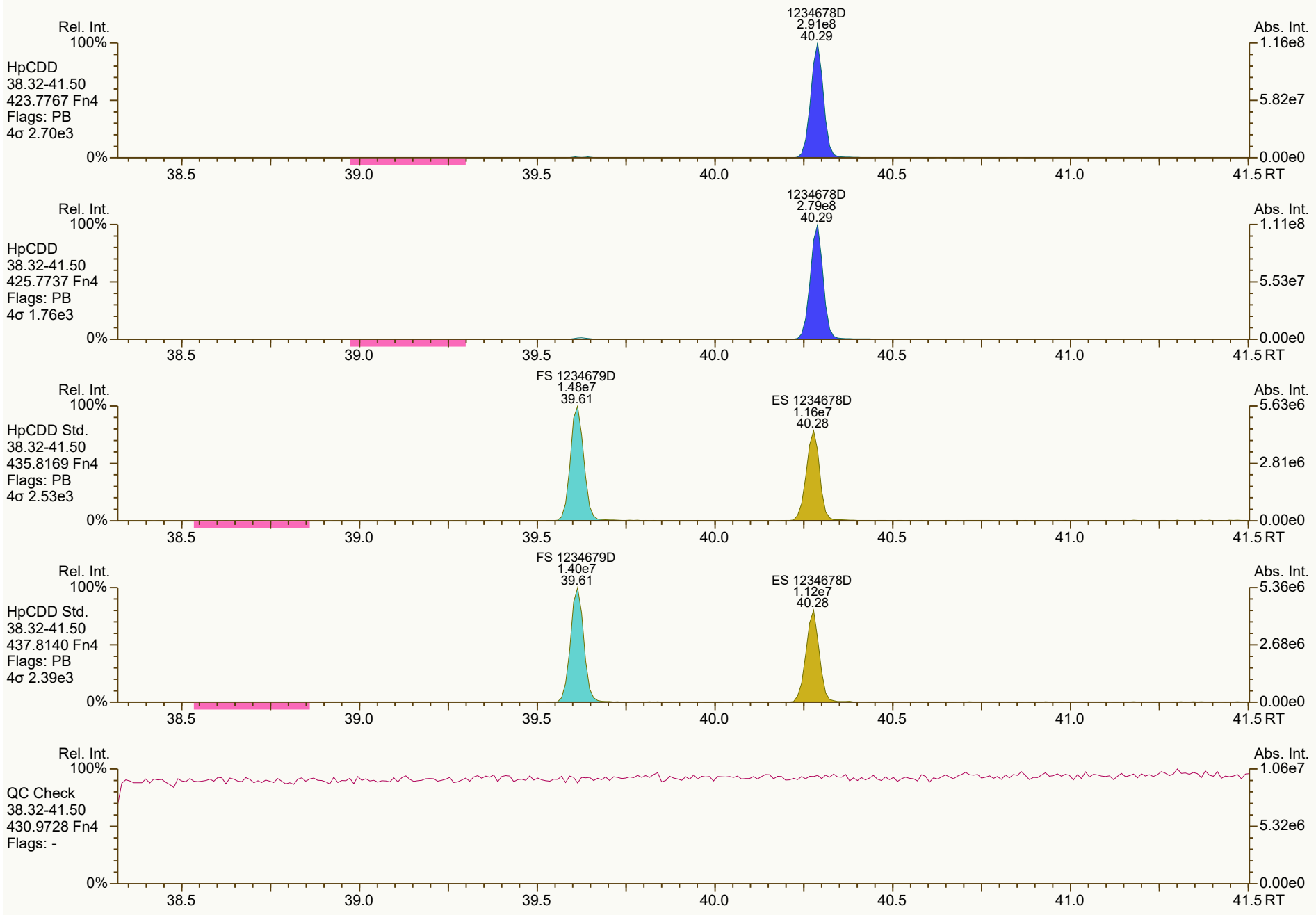
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

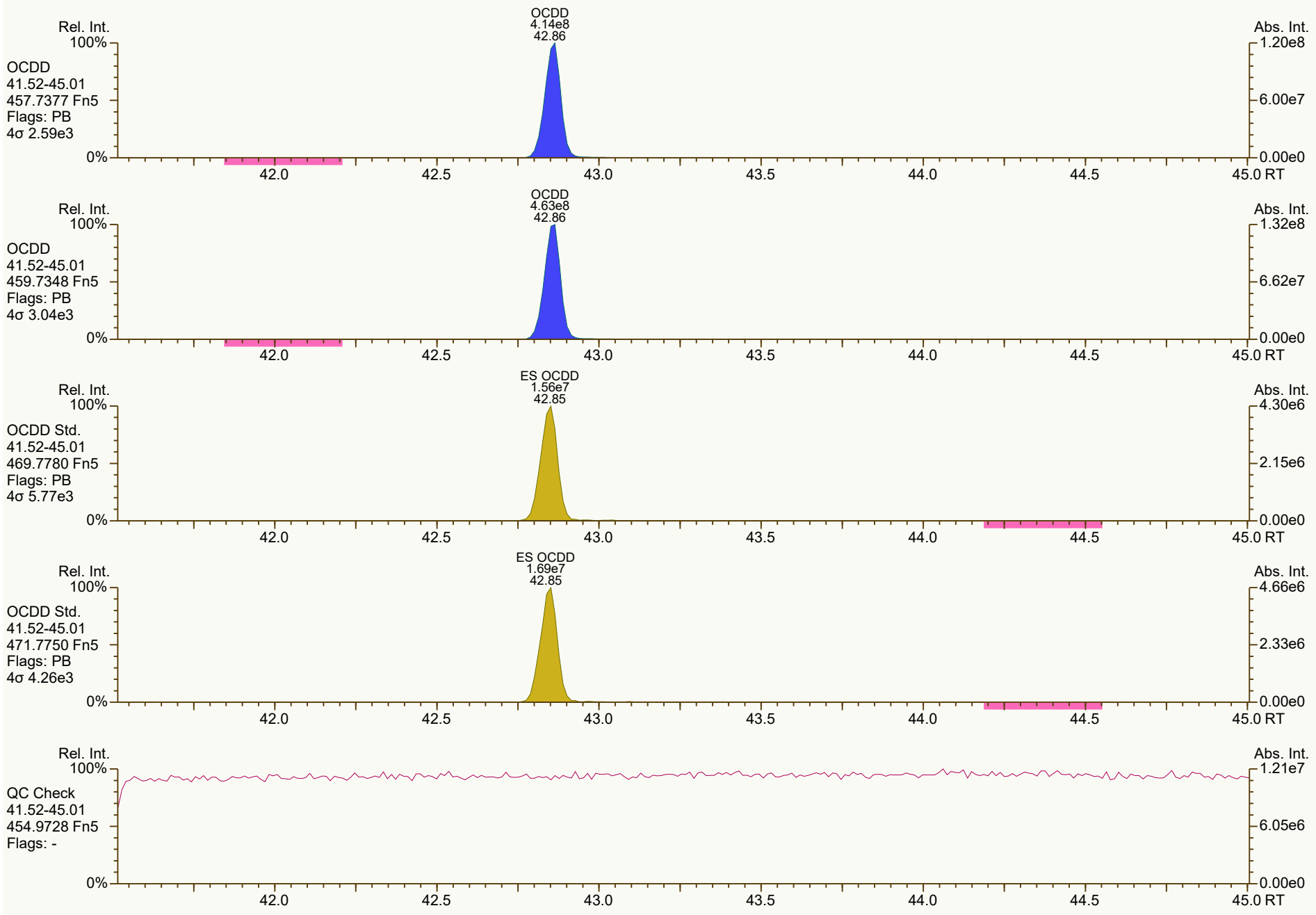

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

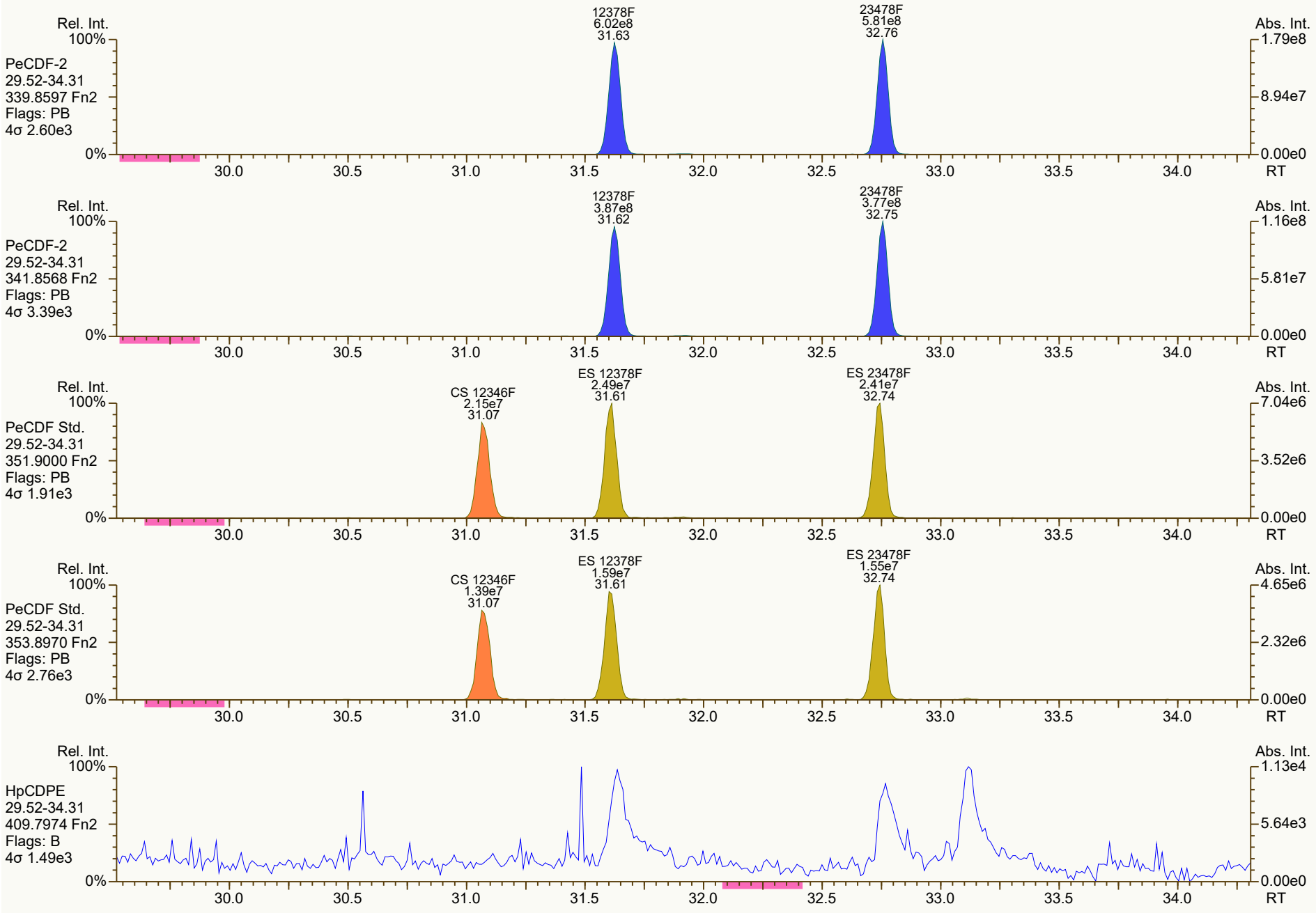

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

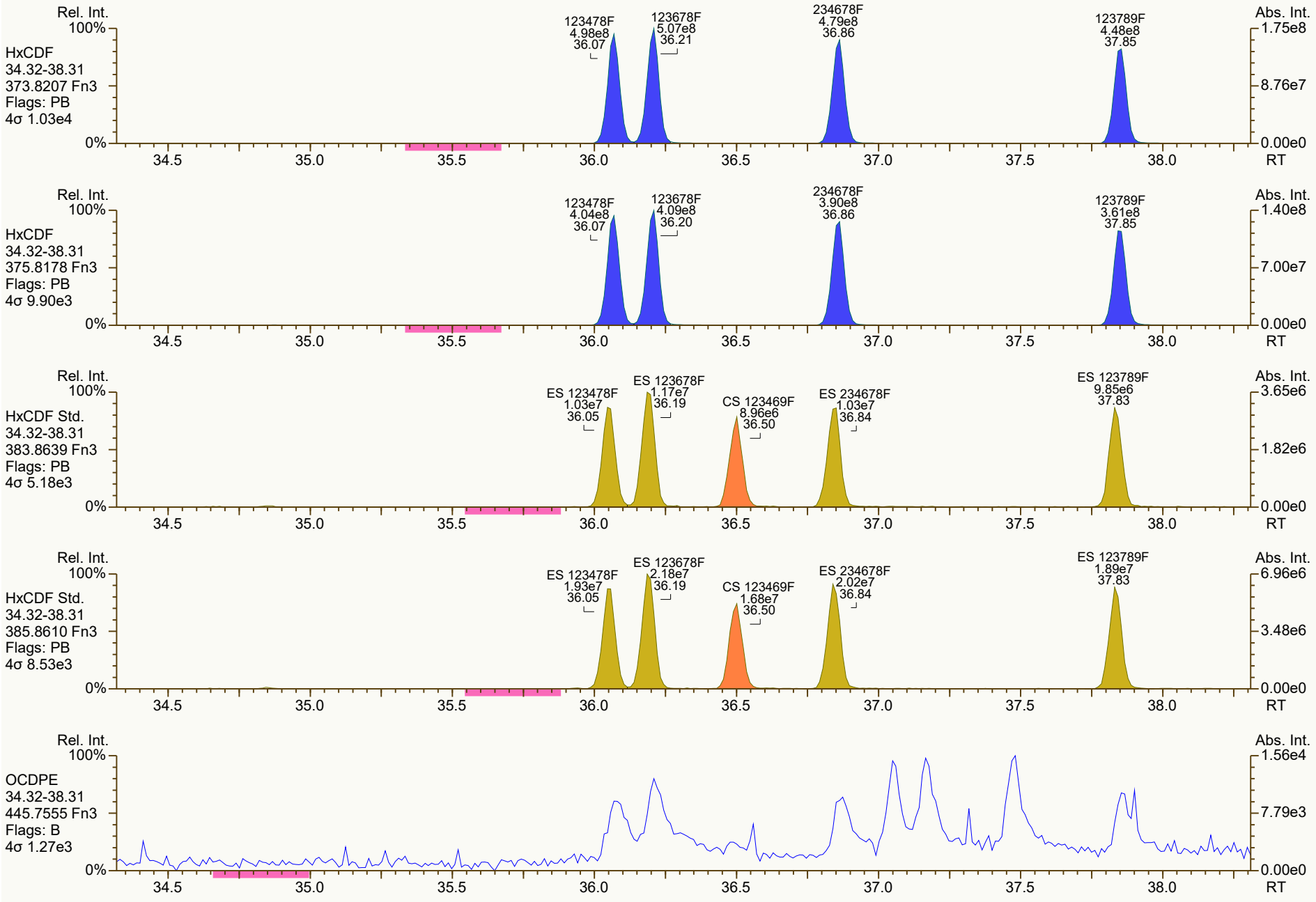

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

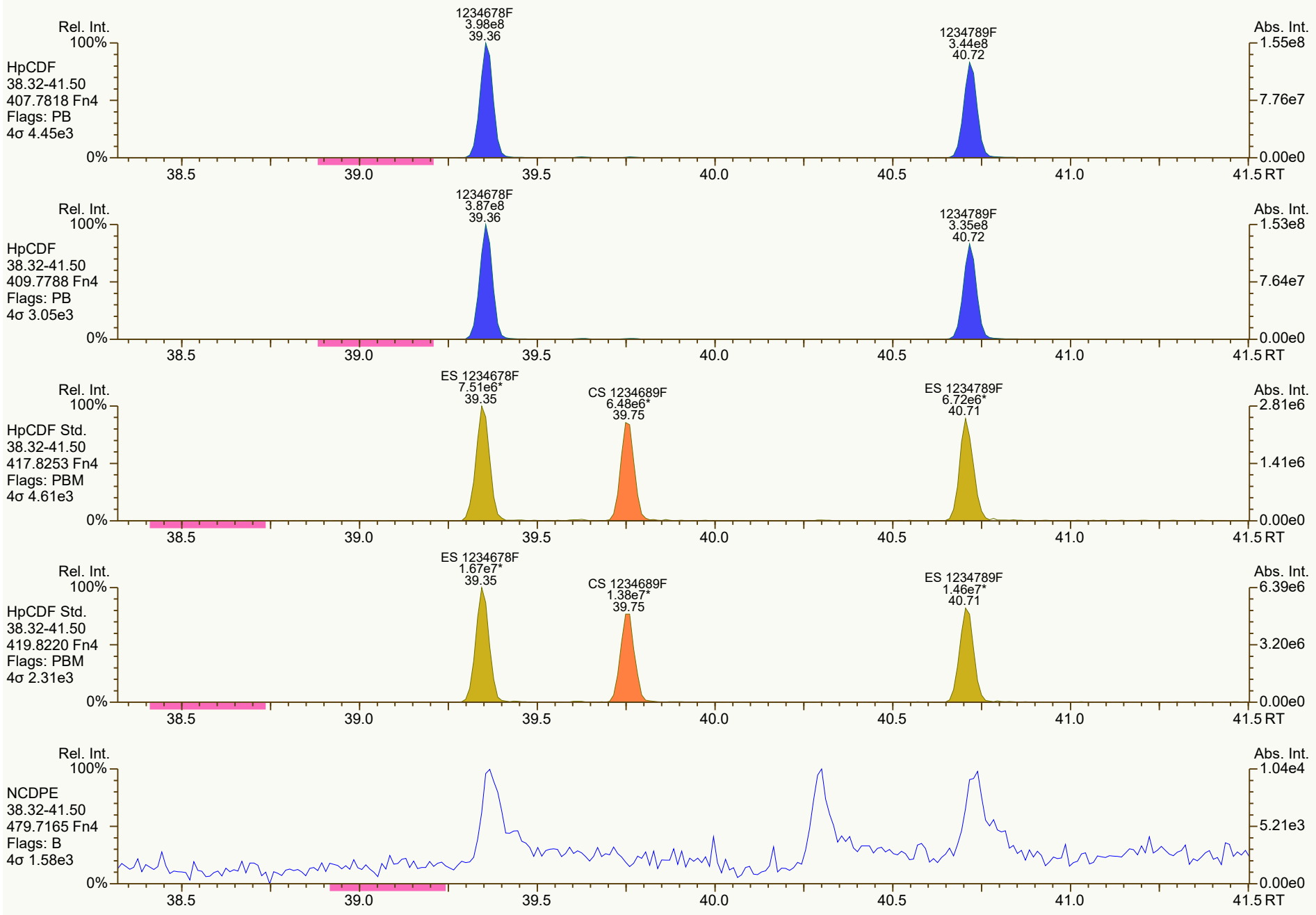
SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10

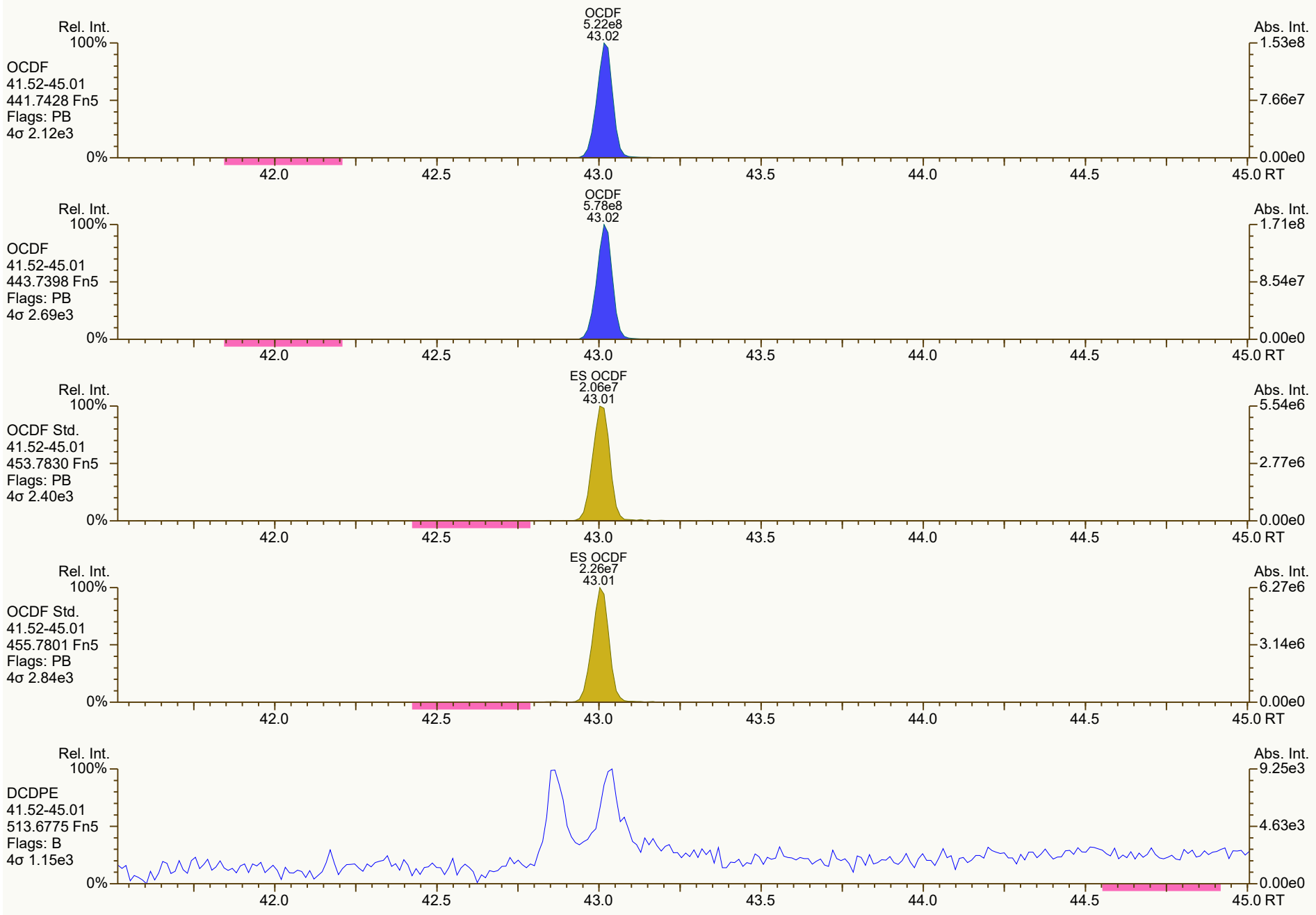


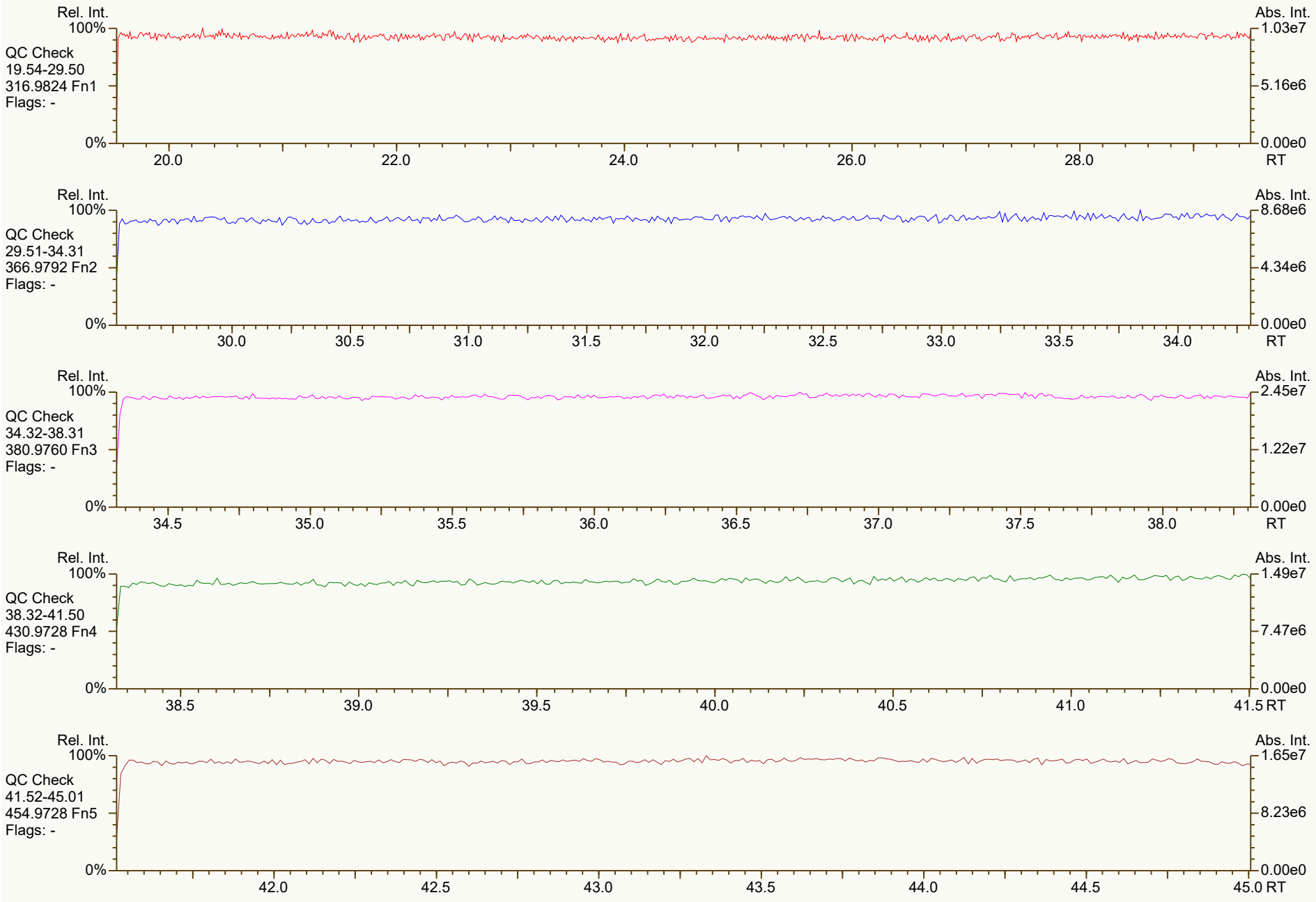
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

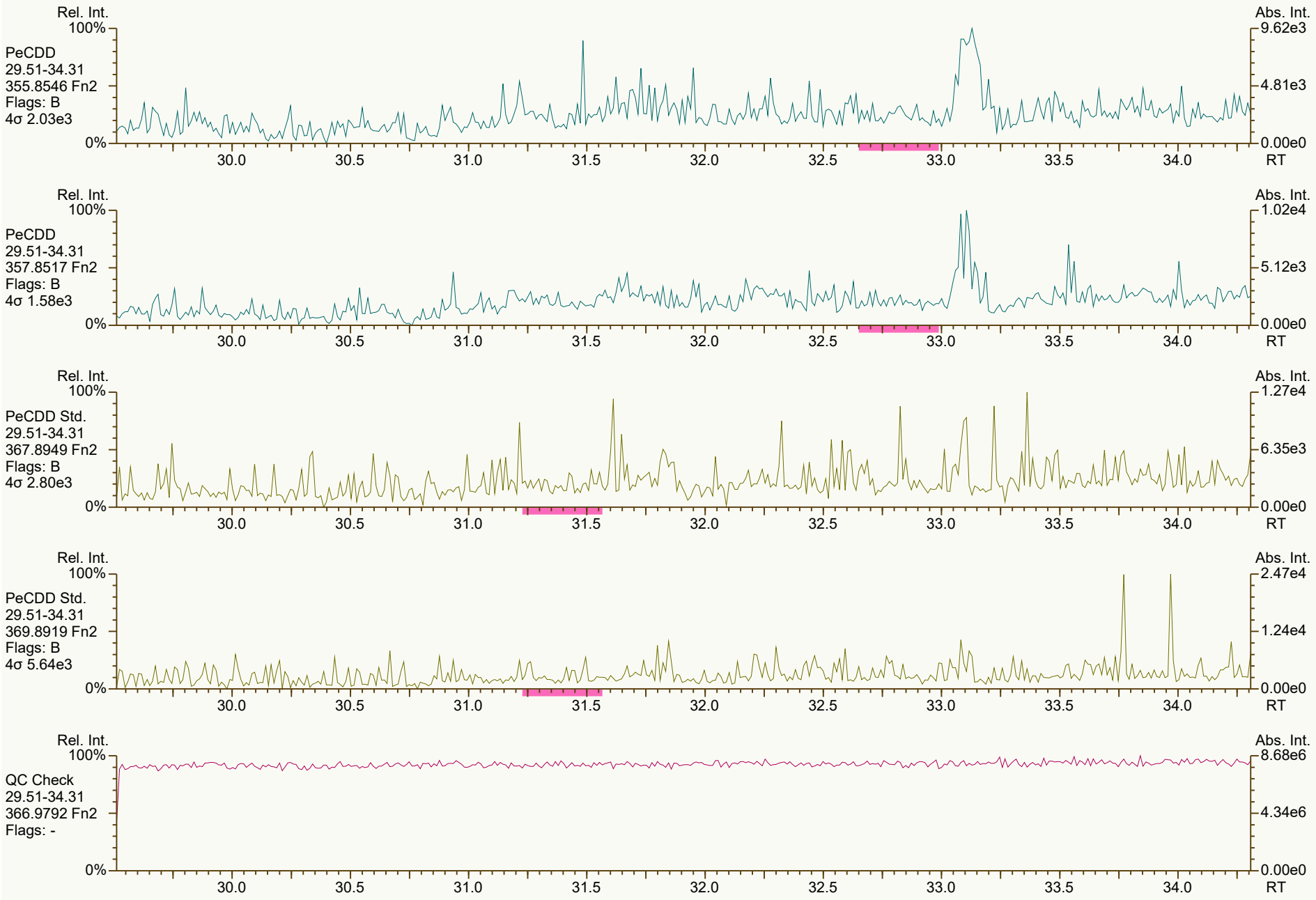
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

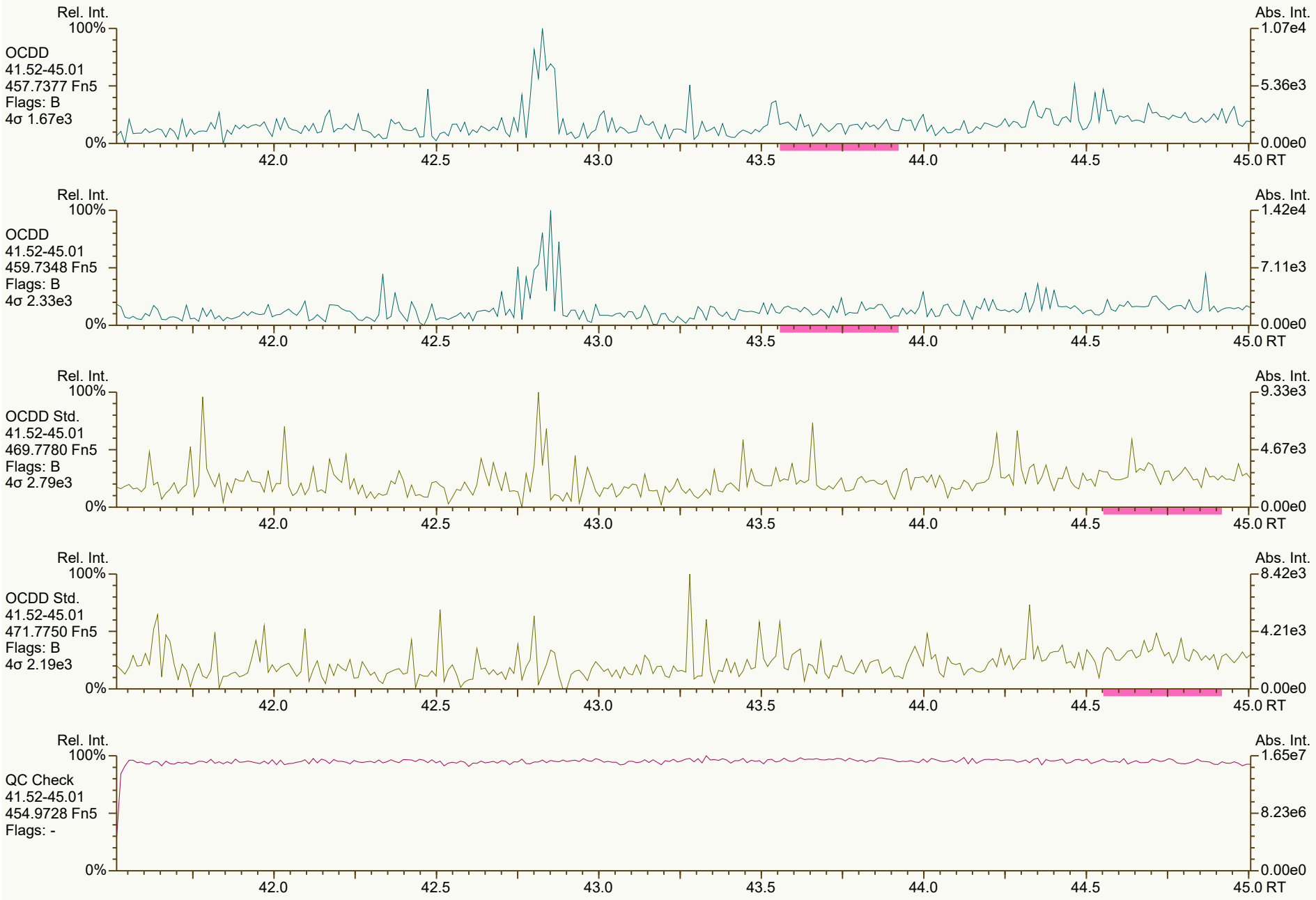
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

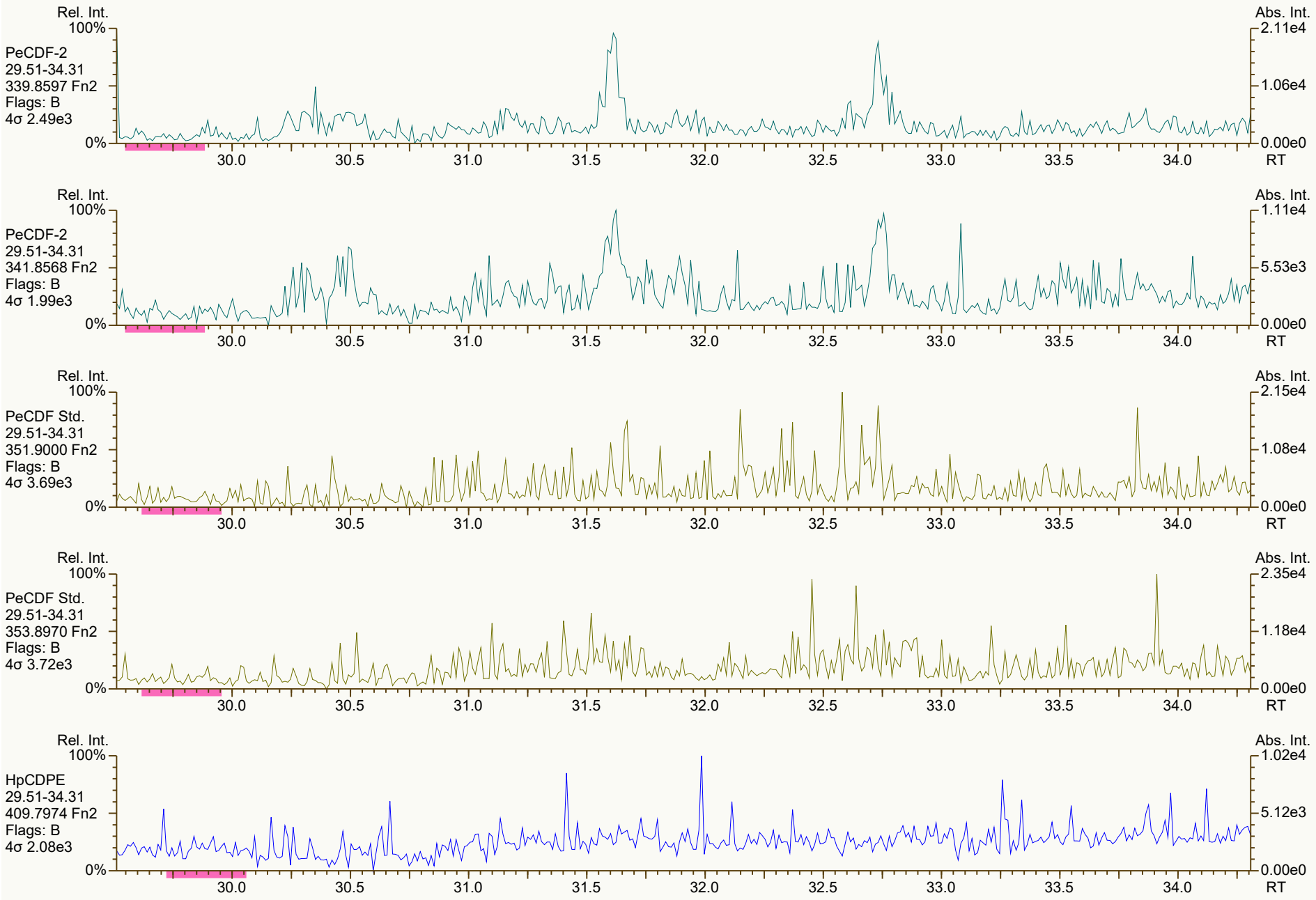

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

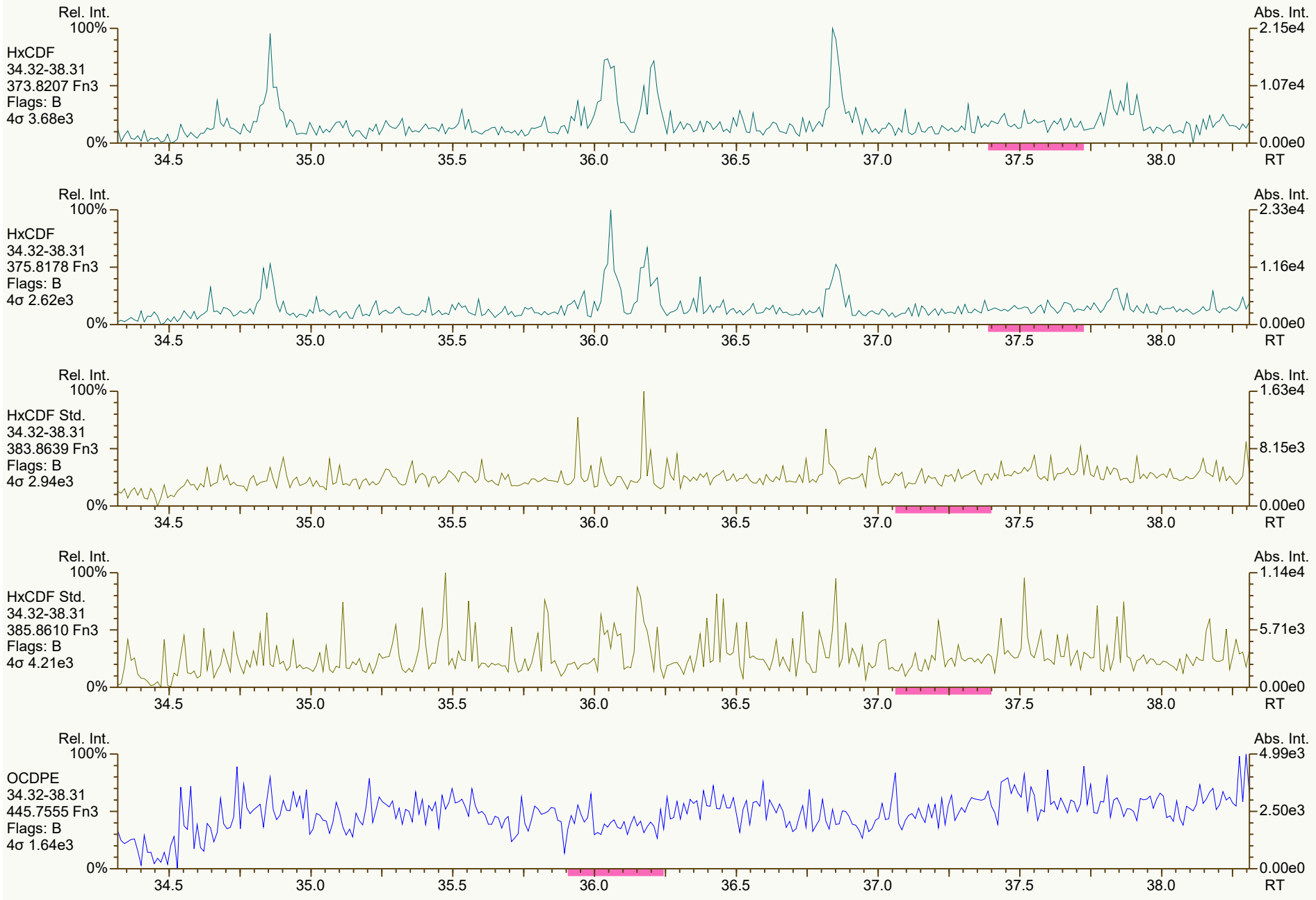

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

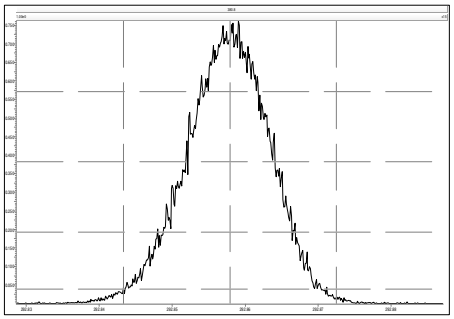

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

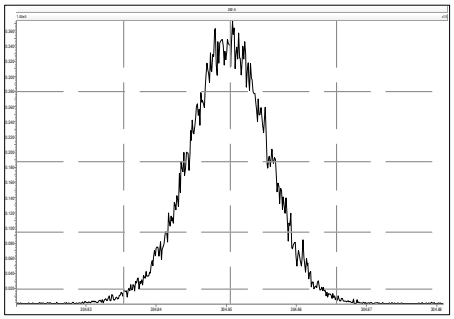
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

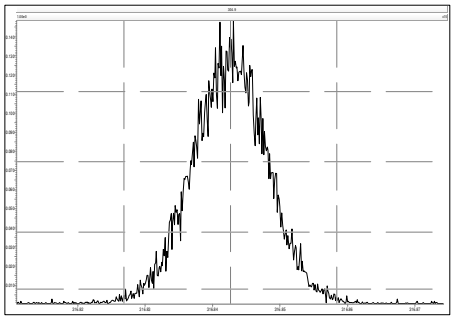
M 292.9824 R 10731



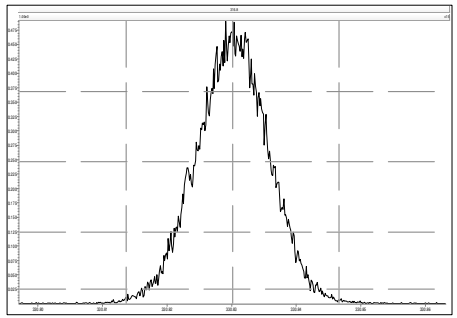
M 304.9824 R 11311



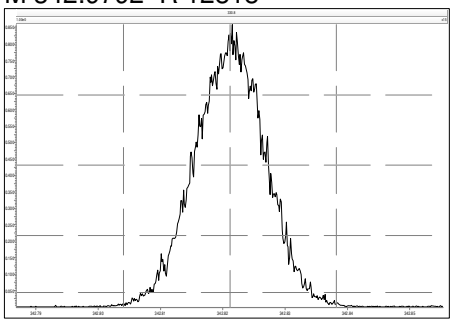
M 316.9824 R 12373



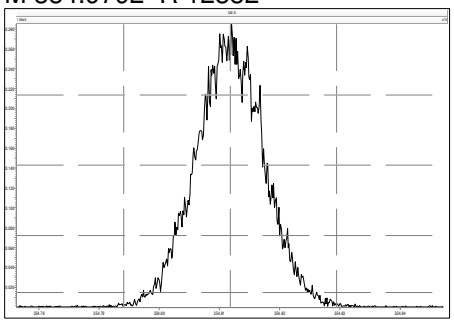
M 330.9792 R 12887



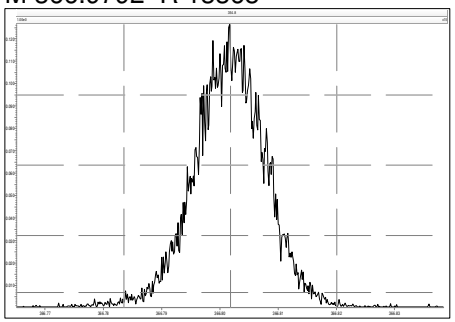
M 342.9792 R 12818



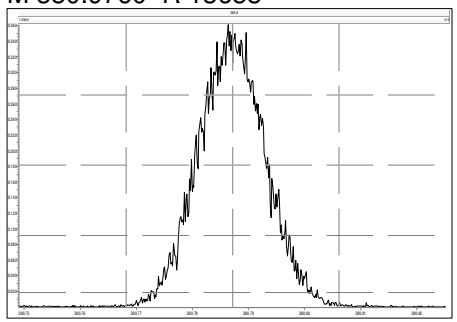
M 354.9792 R 12882



M 366.9792 R 13368



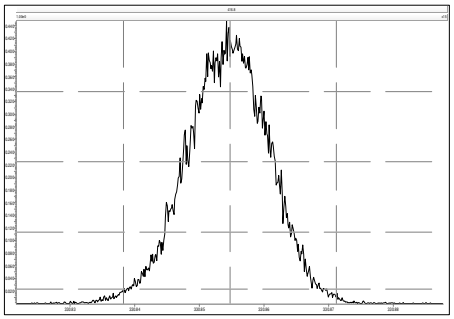
M 380.9760 R 13658



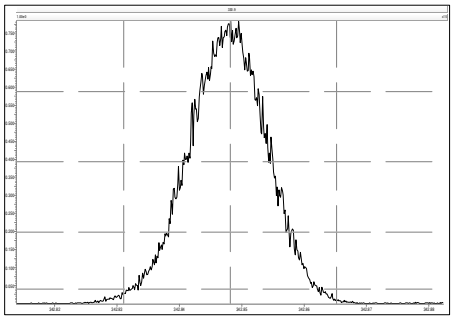
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

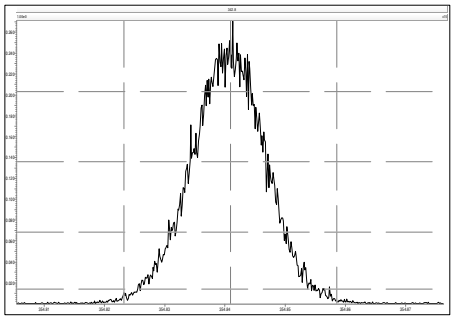
M 330.9792 R 11112



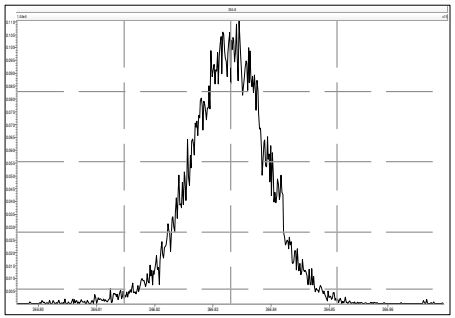
M 342.9792 R 11909



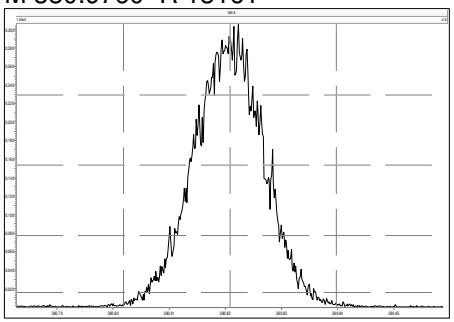
M 354.9792 R 11684



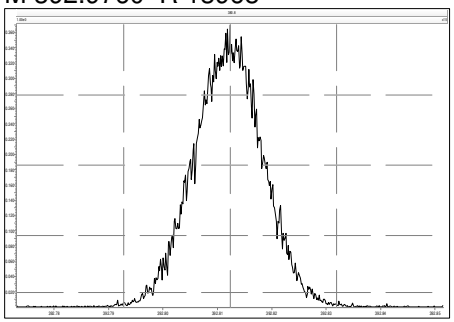
M 366.9792 R 11962



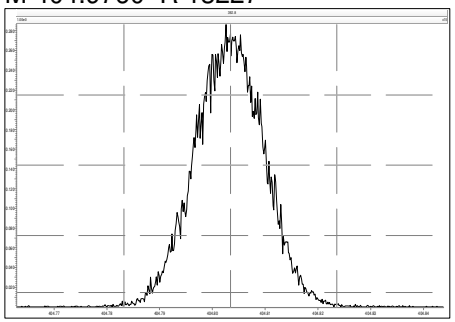
M 380.9760 R 13161



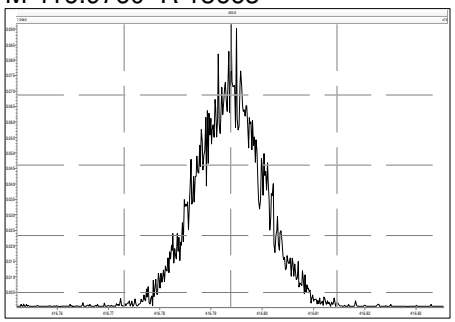
M 392.9760 R 13968



M 404.9760 R 13227



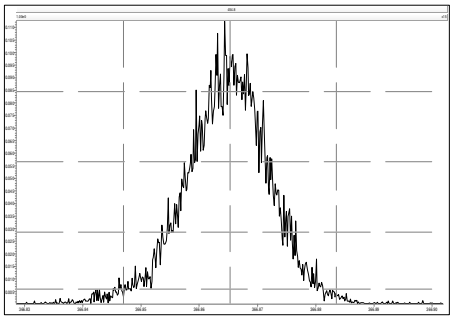
M 416.9760 R 13663



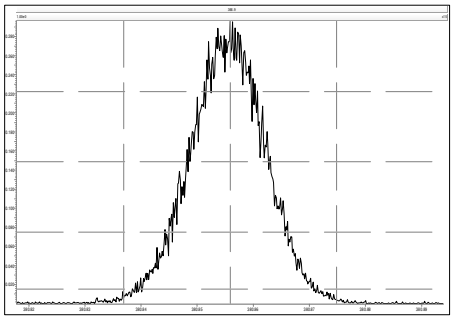
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

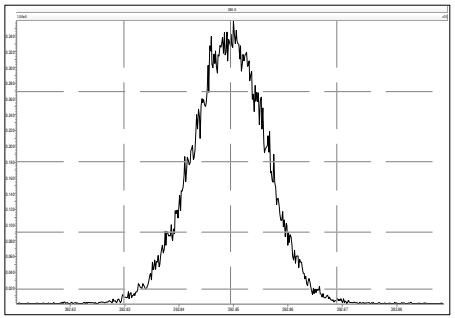
M 366.9792 R 10680



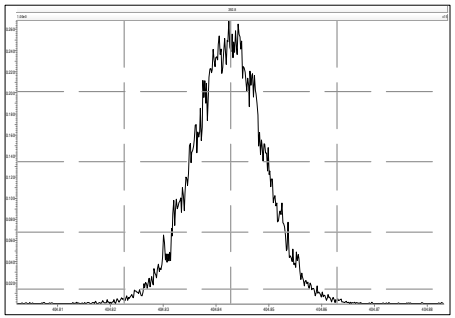
M 380.9760 R 12315



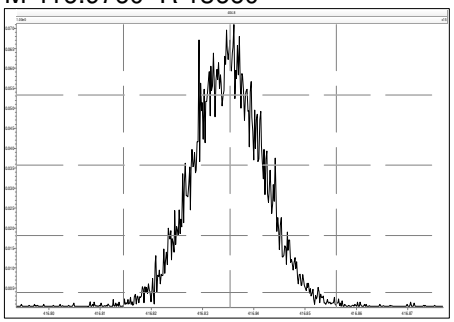
M 392.9760 R 12197



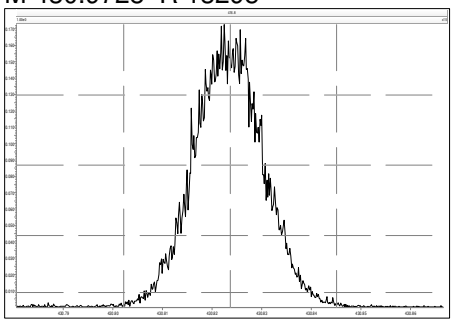
M 404.9760 R 12433



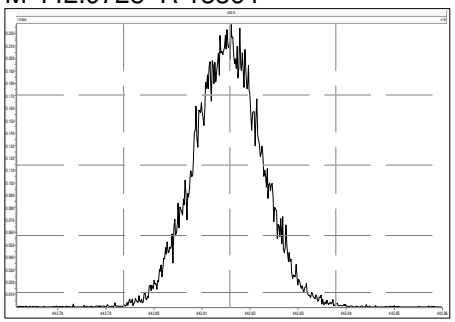
M 416.9760 R 13660



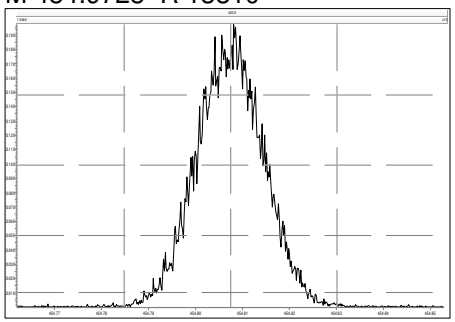
M 430.9728 R 13295



M 442.9728 R 13364



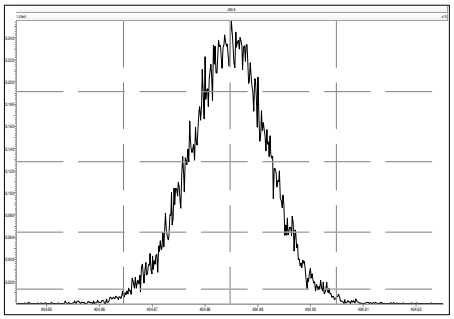
M 454.9728 R 13810



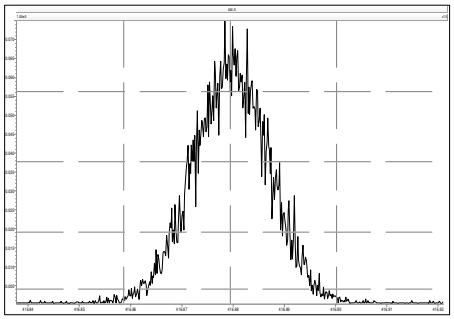
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

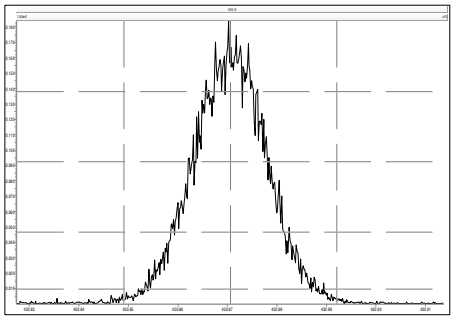
M 404.9760 R 11679



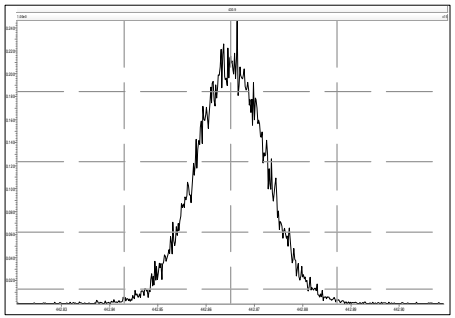
M 416.9760 R 12886



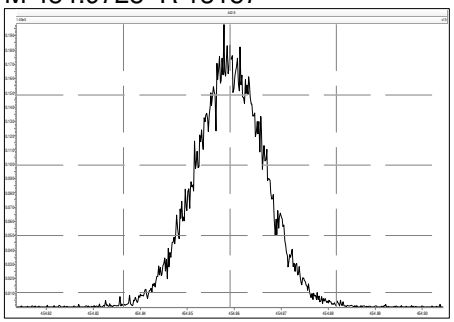
M 430.9728 R 12253



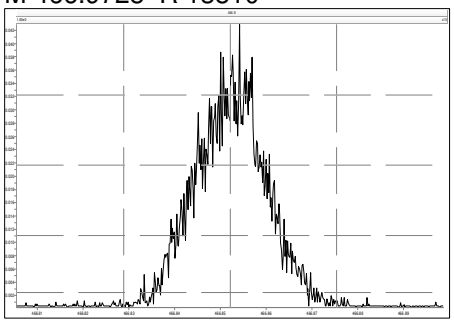
M 442.9728 R 12756



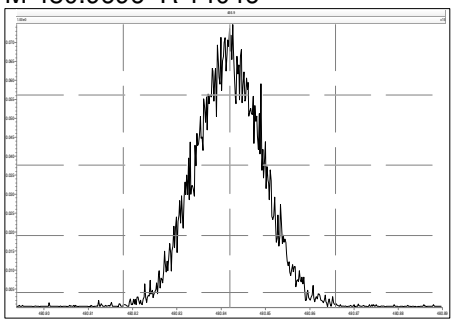
M 454.9728 R 13157



M 466.9728 R 13810



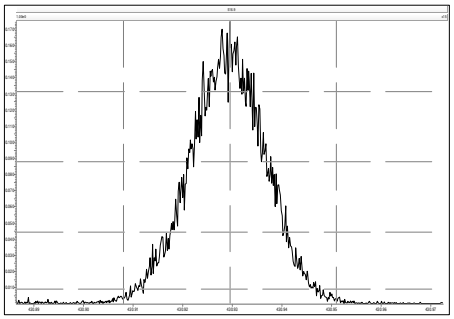
M 480.9696 R 14046



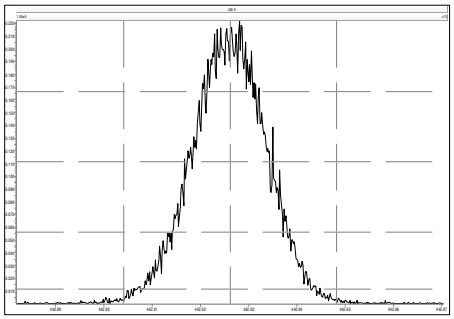
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

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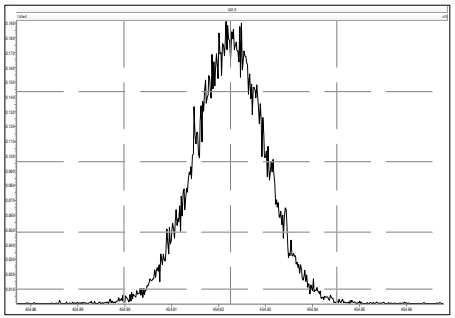
M 430.9728 R 11574



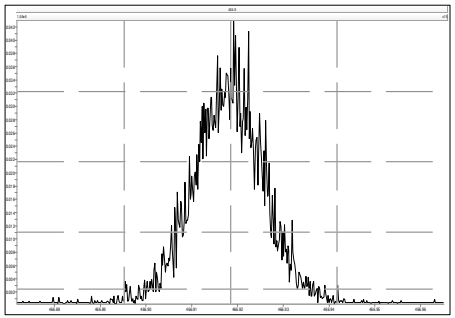
M 442.9728 R 12198



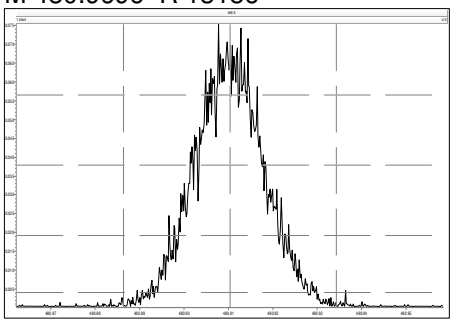
M 454.9728 R 12950



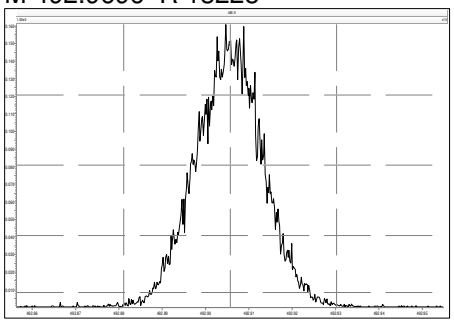
M 466.9728 R 13088



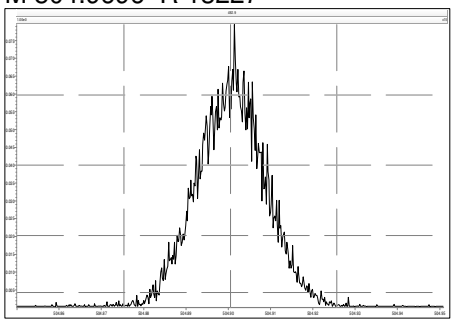
M 480.9696 R 13156



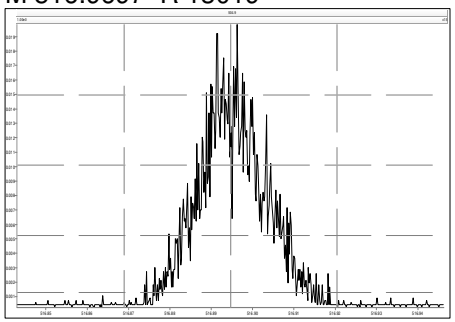
M 492.9696 R 13228



M 504.9696 R 13227



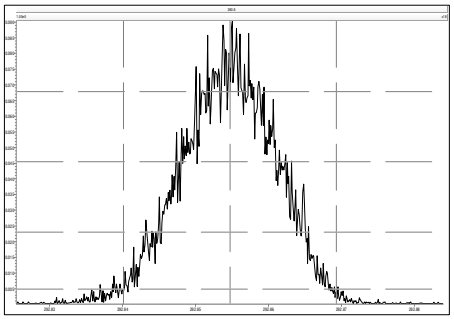
M 516.9697 R 13019



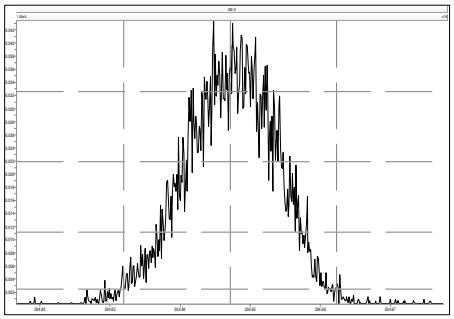
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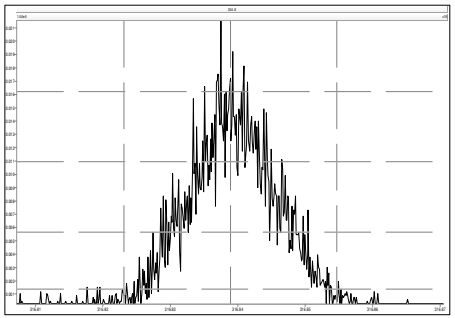
M 292.9824 R 10122



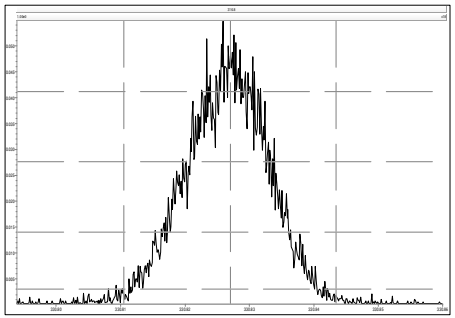
M 304.9824 R 10329



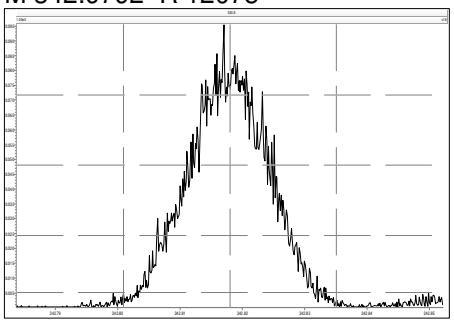
M 316.9824 R 11964



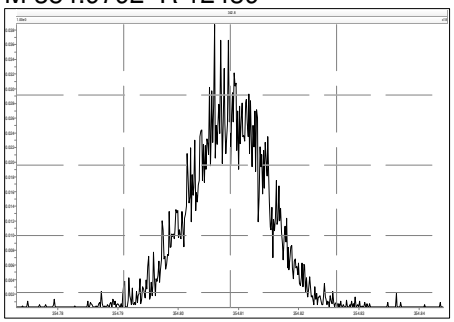
M 330.9792 R 11062



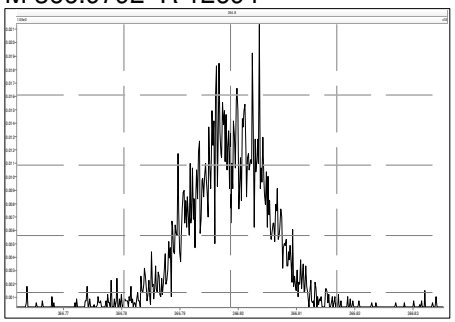
M 342.9792 R 12075



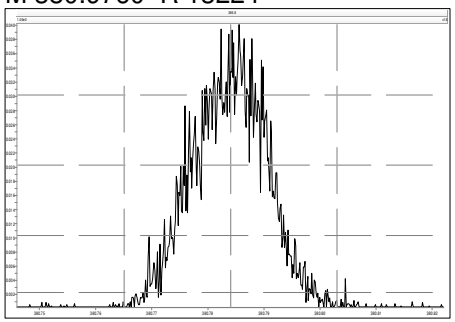
M 354.9792 R 12439



M 366.9792 R 12694



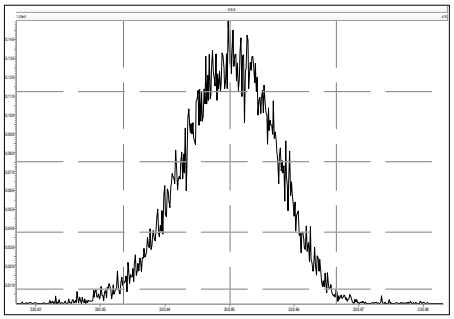
M 380.9760 R 13224



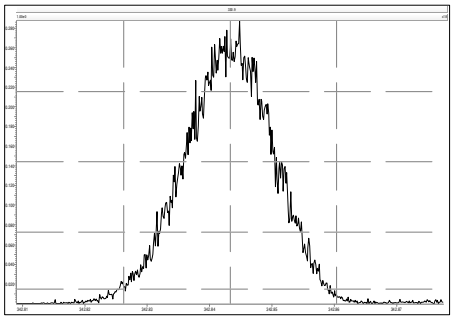
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

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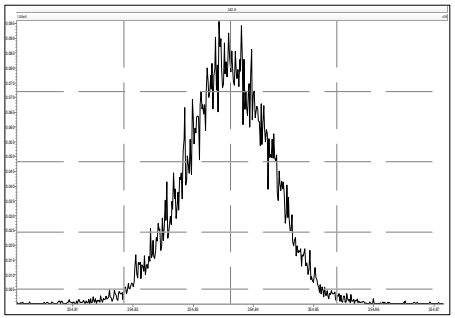
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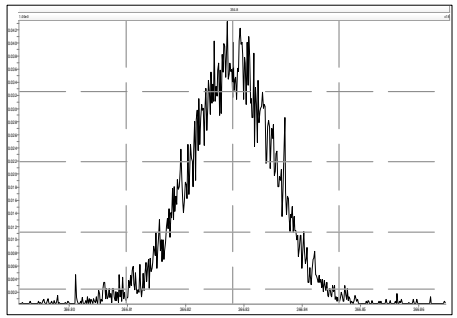
M 342.9792 R 10039



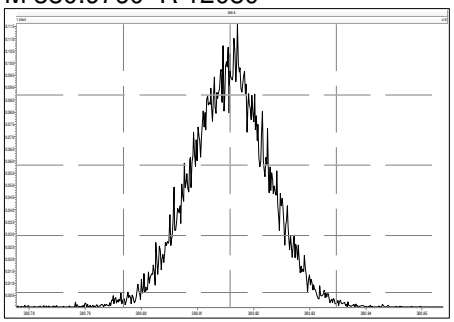
M 354.9792 R 11108



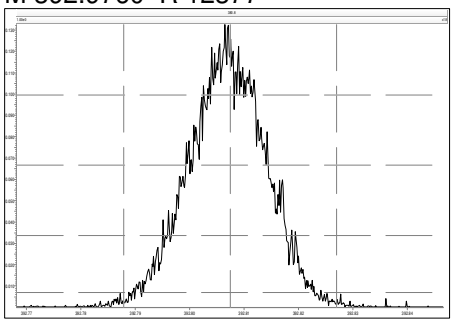
M 366.9792 R 11520



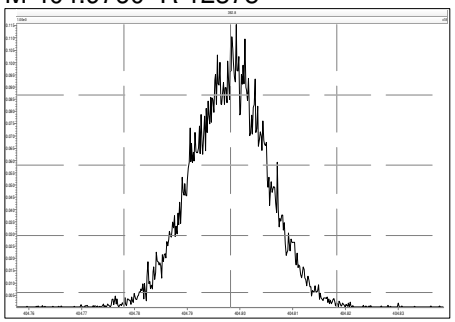
M 380.9760 R 12080



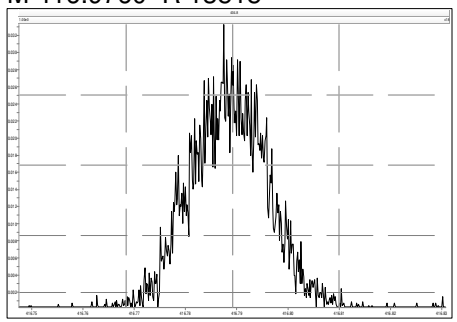
M 392.9760 R 12377



M 404.9760 R 12375



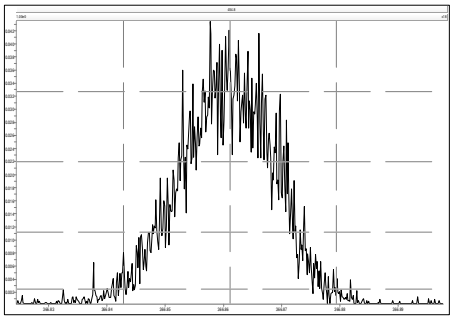
M 416.9760 R 13515



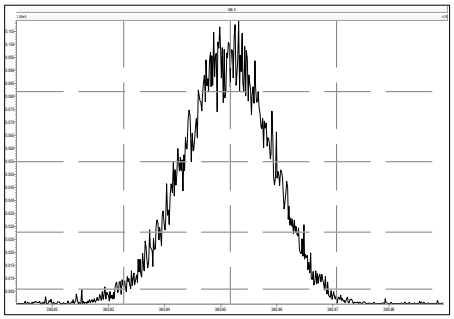
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

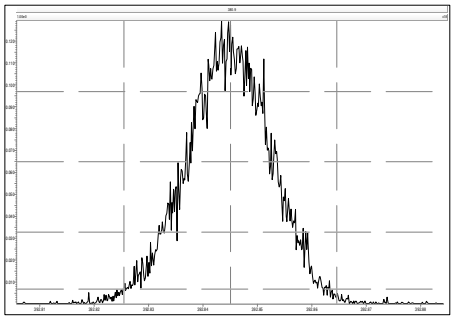
M 366.9792 R 10866



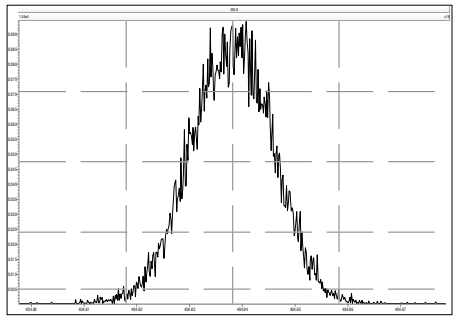
M 380.9760 R 10416



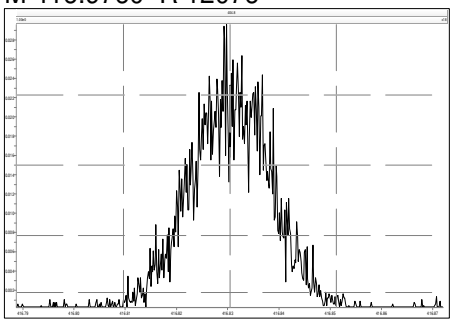
M 392.9760 R 10640



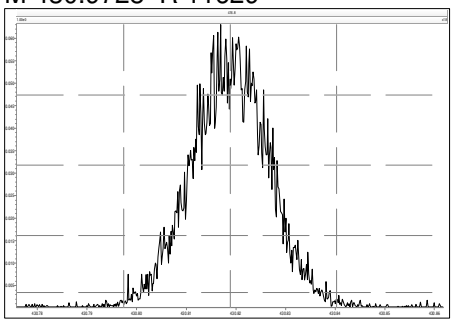
M 404.9760 R 11957



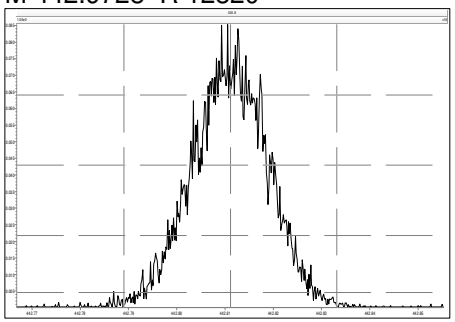
M 416.9760 R 12076



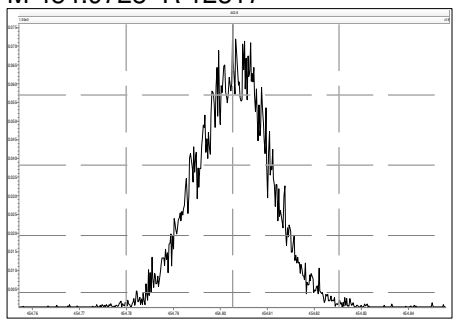
M 430.9728 R 11629



M 442.9728 R 12820



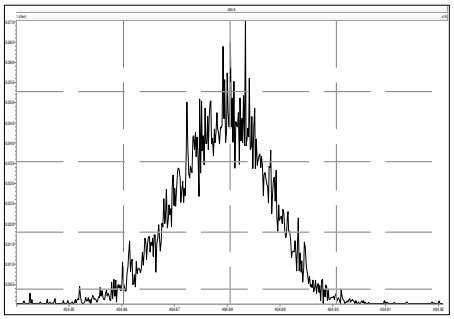
M 454.9728 R 12317



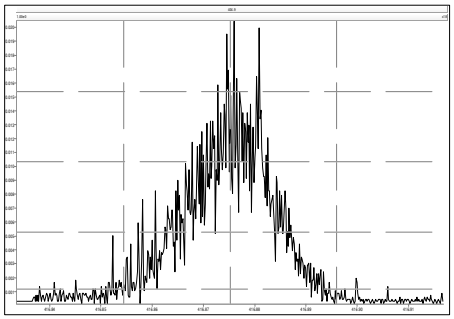
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

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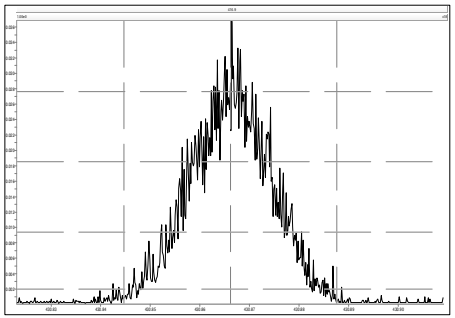
M 404.9760 R 10505



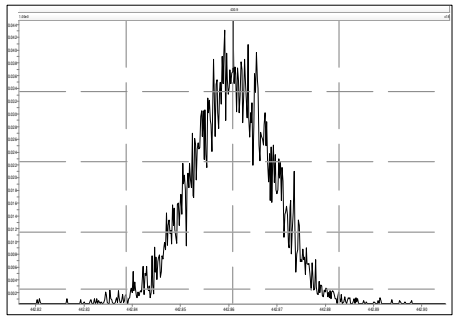
M 416.9760 R 12500



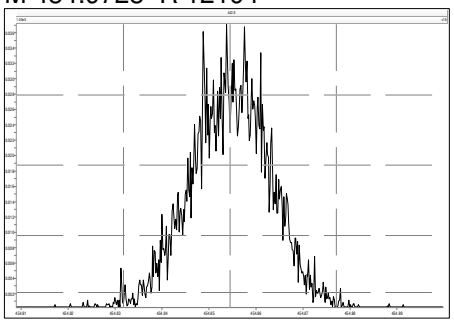
M 430.9728 R 11362



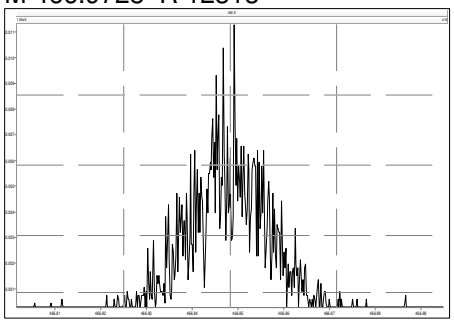
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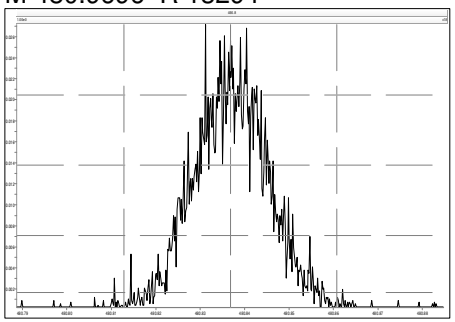
M 454.9728 R 12194



M 466.9728 R 12313



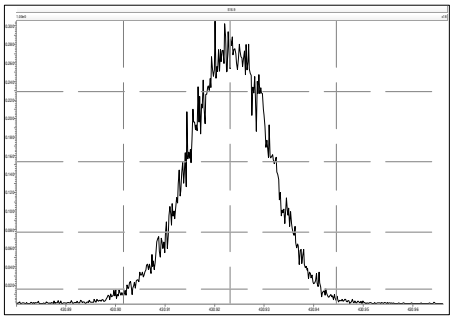
M 480.9696 R 13294



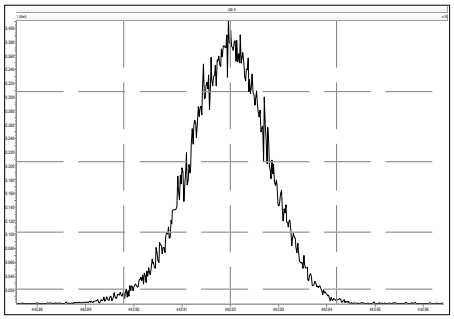
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

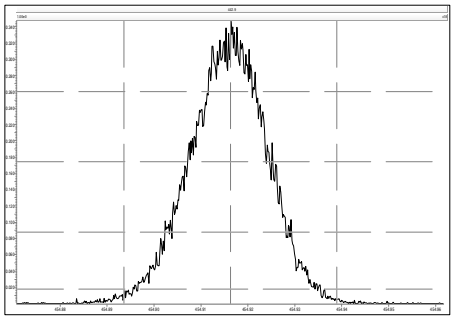
M 430.9728 R 11312



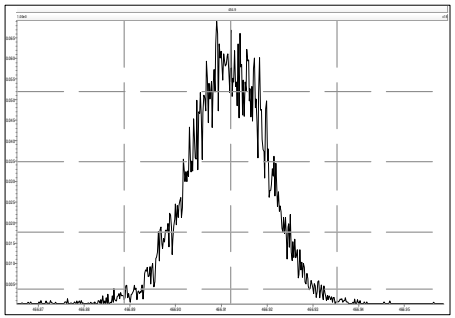
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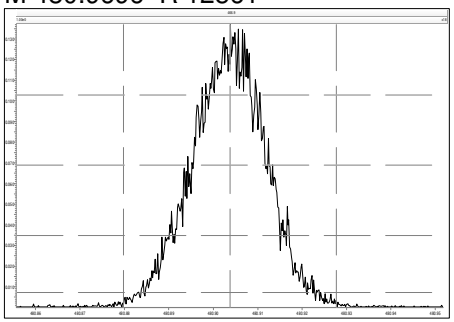
M 454.9728 R 11906



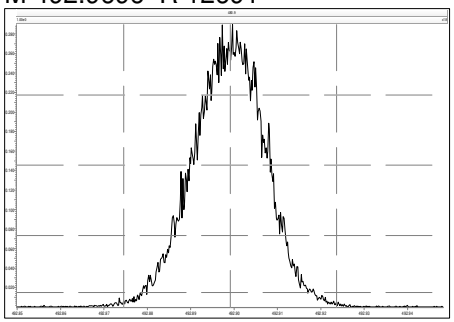
M 466.9728 R 12562



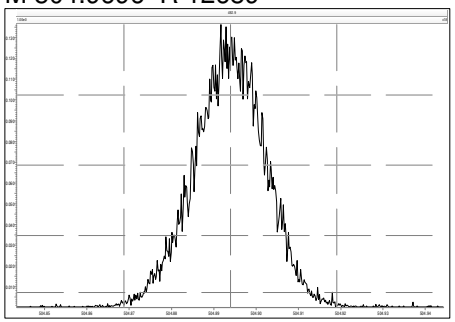
M 480.9696 R 12561



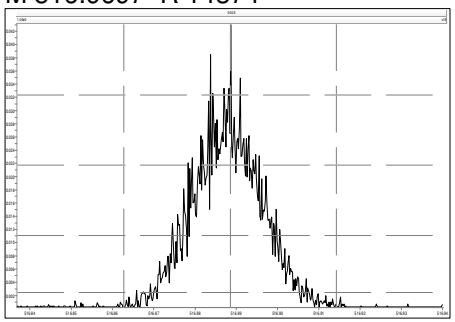
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



APPROVED
Carla_Lyon , 1/14/2022, 11:58:55 AM

Lab ID: OPR1_18832_DF **Acq'd:** 13 Jan 2022 20:35 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18832_OPR001 **UTP:** 14-Jan-2022 09:29:30 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 987-773-YGK

Datafile: 220113C13 **Report:** 14 Jan 2022 10:04 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.26		1.0008	1.0008	0	7.13E+06	0.78	Y	1.18	11.2	4158.657	0.0686
12378-PeCDD	33.68		1.0006	1.0006	0	2.18E+07	1.52	Y	1.04	46.2	5106.861	0.0998
123478-HxCDD	37.65		1.0004	1.0004	0	2.41E+07	1.23	Y	1.09	51.1	4180.207	0.0784
123678-HxCDD	37.77		1.0036	1.0036	0	2.77E+07	1.23	Y	1.15	52.5	4180.207	0.0694
123789-HxCDD	38.08		1.0114	1.0118	+0.9	2.37E+07	1.24	Y	1.05	51.1	4180.207	0.0771
1234678-HpCDD	40.86		1.0003	1.0003	0	1.91E+07	1.03	Y	1.06	49.2	3669.589	0.0855
OCDD	43.64		1.0003	1.0003	0	2.24E+07	0.91	Y	1.13	105	4106.569	0.28
2378-TCDF	27.38		1.0007	1.0008	+0.2	8.76E+06	0.79	Y	1.08	10.5	2736.861	0.0374
12378-PeCDF	32.22		1.0005	1.0006	+0.2	3.08E+07	1.54	Y	1.02	45.3	10583.507	0.136
23478-PeCDF	33.33		1.0006	1.0005	-0.2	3.15E+07	1.51	Y	1.02	48.6	10583.507	0.144
123478-HxCDF	36.64		1.0004	1.0004	0	2.99E+07	1.24	Y	1.27	50.8	11758.751	0.161
123678-HxCDF	36.78		1.0004	1.0004	0	3.39E+07	1.23	Y	1.15	50.4	11758.751	0.147
234678-HxCDF	37.45		1.0005	1.0005	0	3.34E+07	1.24	Y	1.19	47.8	11758.751	0.142
123789-HxCDF	38.43		1.0003	1.0004	+0.2	2.42E+07	1.25	Y	1.16	46.6	11758.751	0.194
1234678-HpCDF	39.89		1.0003	1.0003	0	3.11E+07	1.03	Y	1.37	56.3	3165.284	0.0464
1234789-HpCDF	41.32		1.0003	1.0003	0	1.92E+07	0.99	Y	1.31	47.7	3165.284	0.0756
OCDF	43.80		1.0002	1.0003	+0.3	2.83E+07	0.91	Y	1.07	107	2443.88	0.13

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0228	1.0231	+0.5	5.38E+07	0.81	Y	1.05	98.6
ES 12378-PeCDD	33.66	1.2165	1.2197	+6.5	4.55E+07	1.55	Y	0.88	99.2
ES 123478-HxCDD	37.63	0.9916	0.9913	-0.7	4.33E+07	1.24	Y	0.97	107
ES 123678-HxCDD	37.75	0.9947	0.9945	-0.5	4.59E+07	1.26	Y	0.94	117
ES 123789-HxCDD	38.06	1.0025	1.0026	+0.2	4.43E+07	1.24	Y	1.09	97.7
ES 1234678-HpCDD	40.85	1.0747	1.0760	+3.2	3.67E+07	1.04	Y	0.91	96.8
ES OCDD	43.63	1.1475	1.1493	+4.7	3.79E+07	0.92	Y	0.62	73.2
ES 2378-TCDF	27.36	1.0505	1.0517	+2.0	7.73E+07	0.79	Y	1.06	89.2
ES 12378-PeCDF	32.20	1.2337	1.2378	+7.9	6.64E+07	1.55	Y	0.91	89.1
ES 23478-PeCDF	33.31	1.2758	1.2805	+9.4	6.36E+07	1.52	Y	0.88	88
ES 123478-HxCDF	36.62	0.9648	0.9647	-0.2	4.63E+07	0.53	Y	1.20	92.9
ES 123678-HxCDF	36.76	0.9685	0.9684	-0.2	5.83E+07	0.53	Y	1.35	104
ES 234678-HxCDF	37.44	0.9863	0.9861	-0.4	5.87E+07	0.54	Y	1.24	114
ES 123789-HxCDF	38.42	1.0118	1.0120	+0.5	4.46E+07	0.53	Y	1.16	92.9
ES 1234678-HpCDF	39.88	1.0495	1.0506	+2.6	4.03E+07	0.45	Y	0.97	100
ES 1234789-HpCDF	41.30	1.0868	1.0880	+3.0	3.08E+07	0.45	Y	0.85	87.2
ES OCDF	43.79	1.1520	1.1536	+4.2	4.92E+07	0.88	Y	0.81	73.3

Lab ID: OPR1_18832_DF | **Acq'd:** 13 Jan 2022 20:35 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18832_OPR001 | **UTP:** 14-Jan-2022 09:29:30 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 987-773-YGK

Datafile: 220113C13 | **Report:** 14 Jan 2022 10:04 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.59		-	-	-	5.22E+07	0.80	Y	-	-	
JS 1234-TCDF	26.01		-	-	-	8.18E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.96		-	-	-	2.07E+07	1.19	Y	-	-	
CS 37Cl-2378-TCDD	28.26		1.0235	1.0239	+0.7	2.35E+07	n/a	-	1.20	93.7	
CS 12347-PeCDD	33.16		1.1987	1.2017	+6.0	4.03E+07	1.60	Y	0.75	103	
CS 12346-PeCDF	31.68		1.2139	1.2179	+7.6	6.18E+07	1.52	Y	0.85	88.7	
CS 123469-HxCDF	37.08		0.9771	0.9768	-0.7	5.06E+07	0.52	Y	1.12	109	
CS 1234689-HpCDF	40.30		1.0601	1.0615	+3.4	3.68E+07	0.43	Y	0.89	99.8	
~~SS 37Cl-2378-TCDD~~	~~28.26~~		~~1.0235~~	~~1.0239~~	~~+0.7~~	~~2.35E+07~~	~~n/a~~		~~1.15~~	~~95.2~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.16~~		~~1.1987~~	~~1.2017~~	~~+6.0~~	~~4.03E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~103~~	CL 14Jan22
~~SS 12346-PeCDF~~	~~31.68~~		~~1.2139~~	~~1.2179~~	~~+7.6~~	~~6.18E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~99.4~~	
~~SS 123469-HxCDF~~	~~37.08~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~5.06E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0601~~	~~1.0615~~	~~+3.4~~	~~3.68E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~99.4~~	

Totals	Conc	EMPC
Total TCDD	51.6	51.6
Total PeCDD	69.7	69.7
Total HxCDD	167	167
Total HpCDD	60.4	60.4
Total Tetra-Octa Dioxins	454	454
Total TCDF	58.7	58.7
Total PeCDF	199	199
Total HxCDF	308	308
Total HpCDF	104	104
Total Tetra-Octa Furans	778	778
Total Tetra-Octa Dioxins & Furans	1230	1230

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.78	0.78
Response	7.14E+06	7.13E+06

Lab ID: OPR1_18832_DF **Acq'd: 13 Jan 2022 20:35 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18832_OPR001 **UTP: 14-Jan-2022 09:29:30 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 987-773-YGK**

Datafile: 220113C13 **Report: 14 Jan 2022 10:04 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.60		0.8733	0.8712	-3.1	9.40E+06	0.79	Y	1.18	14.8	4158.657	0.0686
1379-TCDD	NotFnd		0.8860						1.18		4158.657	0.0686
1369-TCDD	NotFnd		0.9009						1.18		4158.657	0.0686
1469-TCDD	NotFnd		0.9282						1.18		4158.657	0.0686
1247/1246/1248/1249-TCDD	NotFnd		0.9365						1.18		4158.657	0.0686
1378-TCDD	NotFnd		0.9429						1.18		4158.657	0.0686
1268-TCDD	NotFnd		0.9500						1.18		4158.657	0.0686
1478-TCDD	NotFnd		0.9584						1.18		4158.657	0.0686
1279-TCDD	NotFnd		0.9648						1.18		4158.657	0.0686
1234/1269-TCDD	NotFnd		0.9770						1.18		4158.657	0.0686
1236-TCDD	NotFnd		0.9821						1.18		4158.657	0.0686
1237/1238-TCDD	NotFnd		0.9909						1.18		4158.657	0.0686
1239-TCDD	28.12		0.9959	0.9959	0	6.54E+06	0.79	Y	1.18	10.3	4158.657	0.0686
2378-TCDD	**28.26**		**1.0008**	1.0008	**0**	7.13E+06	0.78	Y	**1.18**	**11.2**	**4158.657**	**0.0686**
1278-TCDD	NotFnd		1.0123						1.18		4158.657	0.0686
1267-TCDD	NotFnd		1.0172						1.18		4158.657	0.0686
1289-TCDD	29.25		1.0354	1.0360	+1.1	9.79E+06	0.82	Y	1.18	15.4	4158.657	0.0686
12479/12468-PeCDD	31.18		0.9267	0.9263	-0.7	5.20E+06	1.51	Y	1.04	11	5106.861	0.0998
12469-PeCDD	NotFnd		0.9426						1.04		5106.861	0.0998
12368-PeCDD	NotFnd		0.9587						1.04		5106.861	0.0998
12478-PeCDD	NotFnd		0.9642						1.04		5106.861	0.0998
12379-PeCDD	NotFnd		0.9674						1.04		5106.861	0.0998
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		5106.861	0.0998
12346/12347-PeCDD	NotFnd		0.9861						1.04		5106.861	0.0998
12378-PeCDD	33.68		**1.0006**	**1.0006**	**0**	**2.18E+07**	**1.52**	**Y**	**1.04**	**46.2**	**5106.861**	**0.0998**
12367-PeCDD	NotFnd		1.0036						1.04		5106.861	0.0998
12389-PeCDD	34.13		1.0139	1.0141	+0.4	5.90E+06	1.58	Y	1.04	12.5	5106.861	0.0998
124679/124689-HxCDD	35.92		0.9541	0.9544	+0.6	6.20E+06	1.26	Y	1.10	12.7	4180.207	0.0748
123468-HxCDD	NotFnd		0.9715						1.10		4180.207	0.0748
123679/123689-HxCDD	NotFnd		0.9793						1.10		4180.207	0.0748
123469-HxCDD	NotFnd		0.9831						1.10		4180.207	0.0748
123478-HxCDD	37.65		**1.0004**	**1.0004**	**0**	**2.41E+07**	**1.23**	**Y**	1.09	**51.1**	**4180.207**	**0.0784**
123678-HxCDD	37.77		**1.0036**	**1.0036**	**0**	**2.77E+07**	**1.23**	**Y**	1.15	**52.5**	**4180.207**	**0.0694**
123467-HxCDD	NotFnd		1.0089						1.10		4180.207	0.0748
123789-HxCDD	38.08		**1.0114**	**1.0118**	**+0.9**	**2.37E+07**	**1.24**	**Y**	1.05	**51.1**	**4180.207**	**0.0771**

Lab ID: OPR1_18832_DF | **Acq'd: 13 Jan 2022 20:35 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18832_OPR001 | **UTP: 14-Jan-2022 09:29:30 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 987-773-YGK**

Datafile: 220113C13 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9835	0.9835	0	4.36E+06	1.03	Y	1.06	11.2	3669.589	0.0855
1234678-HpCDD	**40.86**		**1.0003**	**1.0003**	**0**	**1.91E+07**	**1.03**	**Y**	**1.06**	**49.2**	**3669.589**	**0.0855**
OCDD	**43.64**		**1.0003**	**1.0003**	**0**	**2.24E+07**	**0.91**	**Y**	**1.13**	**105**	**4106.569**	**0.28**
OCDD-a	43.64		1.0002	1.0002	0	1.41E+06	2.66	Y	0.07	103	5298.414	5.64
1368-TCDF	22.47		0.8250	0.8213	-5.0	1.16E+07	0.77	Y	1.08	13.9	2736.861	0.0374
1468-TCDF	NotFnd		0.8494						1.08		2736.861	0.0374
2468-TCDF	23.69		0.8684	0.8660	-3.4	3.14E+06	0.76	Y	1.08	3.76	2736.861	0.0374
1346/1246-TCDF	NotFnd		0.8815						1.08		2736.861	0.0374
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2736.861	0.0374
1348-TCDF	NotFnd		0.8966						1.08		2736.861	0.0374
1248/1367/1379-TCDF	NotFnd		0.9012						1.08		2736.861	0.0374
1268-TCDF	NotFnd		0.9148						1.08		2736.861	0.0374
1467-TCDF	NotFnd		0.9197						1.08		2736.861	0.0374
1478-TCDF	NotFnd		0.9258						1.08		2736.861	0.0374
1369/1237-TCDF	NotFnd		0.9390						1.08		2736.861	0.0374
2467-TCDF	NotFnd		0.9435						1.08		2736.861	0.0374
2368-TCDF	NotFnd		0.9488						1.08		2736.861	0.0374
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9527						1.08		2736.861	0.0374
1278-TCDF	NotFnd		0.9689						1.08		2736.861	0.0374
1349-TCDF	NotFnd		0.9730						1.08		2736.861	0.0374
1267-TCDF	NotFnd		0.9787						1.08		2736.861	0.0374
2346/1249-TCDF	NotFnd		0.9856						1.08		2736.861	0.0374
2347/1279-TCDF	NotFnd		0.9934						1.08		2736.861	0.0374
2348-TCDF	27.27		0.9972	0.9970	-0.3	1.15E+07	0.79	Y	1.08	13.8	2736.861	0.0374
2378-TCDF	**27.38**		**1.0007**	**1.0008**	**+0.2**	**8.76E+06**	**0.79**	**Y**	**1.08**	**10.5**	**2736.861**	**0.0374**
2367/3467-TCDF	NotFnd		1.0145						1.08		2736.861	0.0374
1269-TCDF	NotFnd		1.0236						1.08		2736.861	0.0374
1239-TCDF	NotFnd		1.0333						1.08		2736.861	0.0374
1289-TCDF	29.41		1.0740	1.0752	+2.1	1.40E+07	0.79	Y	1.08	16.8	2736.861	0.0374
13468/12468-PeCDF	29.38		0.9138	0.9125	-2.3	6.34E+07	1.57	Y	1.02	95.5	3090.194	0.0408
13678/13467/12467-PeCDF	NotFnd		0.9614						1.02		10583.507	0.14
12368/13478/12478-PeCDF	NotFnd		0.9661						1.02		10583.507	0.14
14678-PeCDF	NotFnd		0.9693						1.02		10583.507	0.14
13479-PeCDF	NotFnd		0.9722						1.02		10583.507	0.14
13469/12479-PeCDF	NotFnd		0.9800						1.02		10583.507	0.14
12346-PeCDF	NotFnd		0.9844						1.02		10583.507	0.14

Lab ID: OPR1_18832_DF | **Acq'd: 13 Jan 2022 20:35 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18832_OPR001 | **UTP: 14-Jan-2022 09:29:30 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 987-773-YGK**

Datafile: 220113C13 | **Report: 14 Jan 2022 10:04 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						1.02		10583.507	0.14
12347-PeCDF	NotFnd		0.9890						1.02		10583.507	0.14
12348-PeCDF	NotFnd		0.9942						1.02		10583.507	0.14
12378-PeCDF	**32.22**		**1.0005**	**1.0006**	**+0.2**	**3.08E+07**	**1.54**	**Y**	**1.02**	**45.3**	**10583.507**	**0.136**
12678/12367-PeCDF	NotFnd		1.0090						1.02		10583.507	0.14
12379-PeCDF	NotFnd		1.0142						1.02		10583.507	0.14
12679-PeCDF	NotFnd		0.9933						1.02		10583.507	0.14
23467/12369-PeCDF	NotFnd		0.9969						1.02		10583.507	0.14
23478-PeCDF	**33.33**		**1.0006**	**1.0005**	**-0.2**	**3.15E+07**	**1.51**	**Y**	**1.02**	**48.6**	**10583.507**	**0.144**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10583.507	0.14
12349-PeCDF	NotFnd		1.0107						1.02		10583.507	0.14
12389-PeCDF	34.42		1.0330	1.0335	+1.0	6.64E+06	1.49	Y	1.02	10	10583.507	0.14
123468-HxCDF	35.25		0.9627	0.9626	-0.2	6.97E+07	1.23	Y	1.19	112	11758.751	0.158
124678/134678-HxCDF	NotFnd		0.9682						1.19		11758.751	0.158
134679-HxCDF	NotFnd		0.9744						1.19		11758.751	0.158
124679-HxCDF	NotFnd		0.9798						1.19		11758.751	0.158
124689-HxCDF	NotFnd		0.9858						1.19		11758.751	0.158
123467-HxCDF	NotFnd		0.9973						1.19		11758.751	0.158
123478-HxCDF	**36.64**		**1.0004**	**1.0004**	**0**	**2.99E+07**	**1.24**	**Y**	**1.27**	**50.8**	**11758.751**	**0.161**
123678-HxCDF	**36.78**		**1.0004**	**1.0004**	**0**	**3.39E+07**	**1.23**	**Y**	**1.15**	**50.4**	**11758.751**	**0.147**
123479-HxCDF	NotFnd		1.0051						1.19		11758.751	0.158
123469-HxCDF	NotFnd		1.0093						1.19		11758.751	0.158
123679-HxCDF	NotFnd		0.9944						1.19		11758.751	0.158
234678-HxCDF	**37.45**		**1.0005**	**1.0005**	**0**	**3.34E+07**	**1.24**	**Y**	**1.19**	**47.8**	**11758.751**	**0.142**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11758.751	0.158
123789-HxCDF	**38.43**		**1.0003**	**1.0004**	**+0.2**	**2.42E+07**	**1.25**	**Y**	**1.16**	**46.6**	**11758.751**	**0.194**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0008						1.19		11758.751	0.158
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**3.11E+07**	**1.03**	**Y**	**1.37**	**56.3**	**3165.284**	**0.0464**
1234679-HpCDF	NotFnd		1.0069						1.34		3165.284	0.0589
1234689-HpCDF	NotFnd		1.0103						1.34		3165.284	0.0589
1234789-HpCDF	**41.32**		**1.0003**	**1.0003**	**0**	**1.92E+07**	**0.99**	**Y**	**1.31**	**47.7**	**3165.284**	**0.0756**
OCDF	**43.80**		**1.0002**	**1.0003**	**+0.3**	**2.83E+07**	**0.91**	**Y**	**1.07**	**107**	**2443.88**	**0.13**
OCDF-a	43.80		1.0002	1.0002	0	1.88E+06	2.22	Y	0.07	115	4114.811	3.53

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220113C13	Analysis Date:	13-JAN-2022 20:35:25
Lab ID:	OPR1_18832_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.2	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	52.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	49.2	35	-	70	Y
OCDD	100	105	78	-	144	Y
2,3,7,8-TCDF	10	10.5	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	45.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	48.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.8	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.4	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	47.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	46.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	56.3	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	47.7	39	-	69	Y
OCDF	100	107	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 14 Jan 2022 10:04 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220113C13	Analysis Date:	13-JAN-2022 20:35:25
Lab ID:	OPR1_18832_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	98.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	99.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	107	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	117	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	97.7	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	96.8	26	-	166	Y
13C-OCDD	200	146	26	-	397	Y
13C-2,3,7,8-TCDF	100	89.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	88	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	92.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	104	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	114	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	92.9	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	100	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	87.2	20	-	186	Y
13C-OCDF	200	147	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.5	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 14 Jan 2022 10:04 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220113C13	Analysis Date:	13-JAN-2022 20:35:25
Lab ID:	OPR1_18832_DF		

Window Defining Standards Results

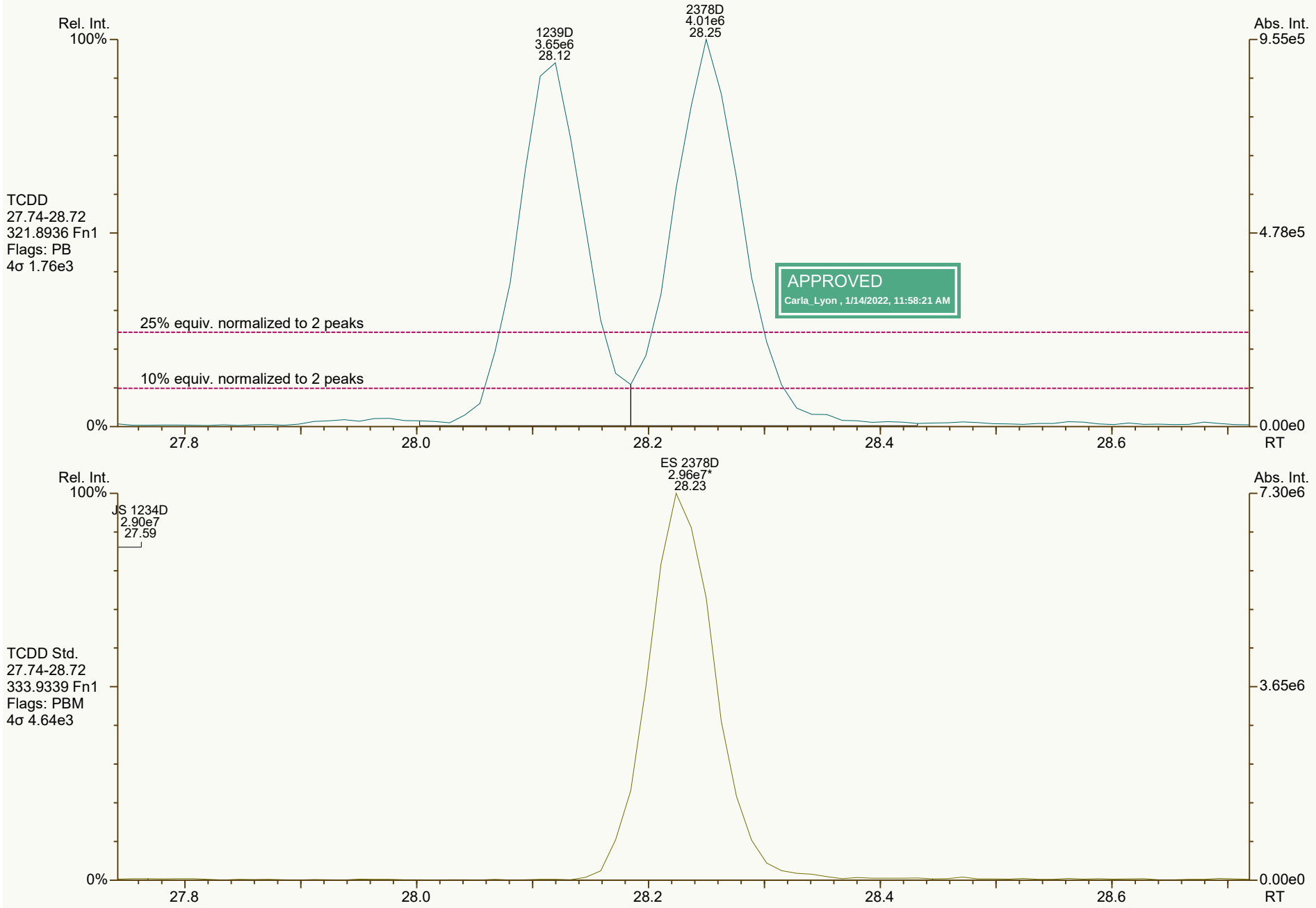
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.60	1289-TCDD	29.25
12479/12468-PeCDD	31.18	12389-PeCDD	34.13
124679/124689-HxCDD	35.92	123789-HxCDD	38.08
1234679-HpCDD	40.17	1234678-HpCDD	40.86
1368-TCDF	22.47	1289-TCDF	29.41
13468/12468-PeCDF	29.38	12389-PeCDF	34.42
123468-HxCDF	35.25	123789-HxCDF	38.43
1234678-HpCDF	39.89	1234789-HpCDF	41.32

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.12	2378-TCDD	28.26
2348-TCDF	27.27	2378-TCDF	27.38

Processed: 14 Jan 2022 10:04 Analyst: TF

SGS ID: OPR1_18832_DF
Sample ID: 0_18832_OPR001
Acq: 13-Jan-2022 20:35:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
User: DTF Datafile: 220113C13

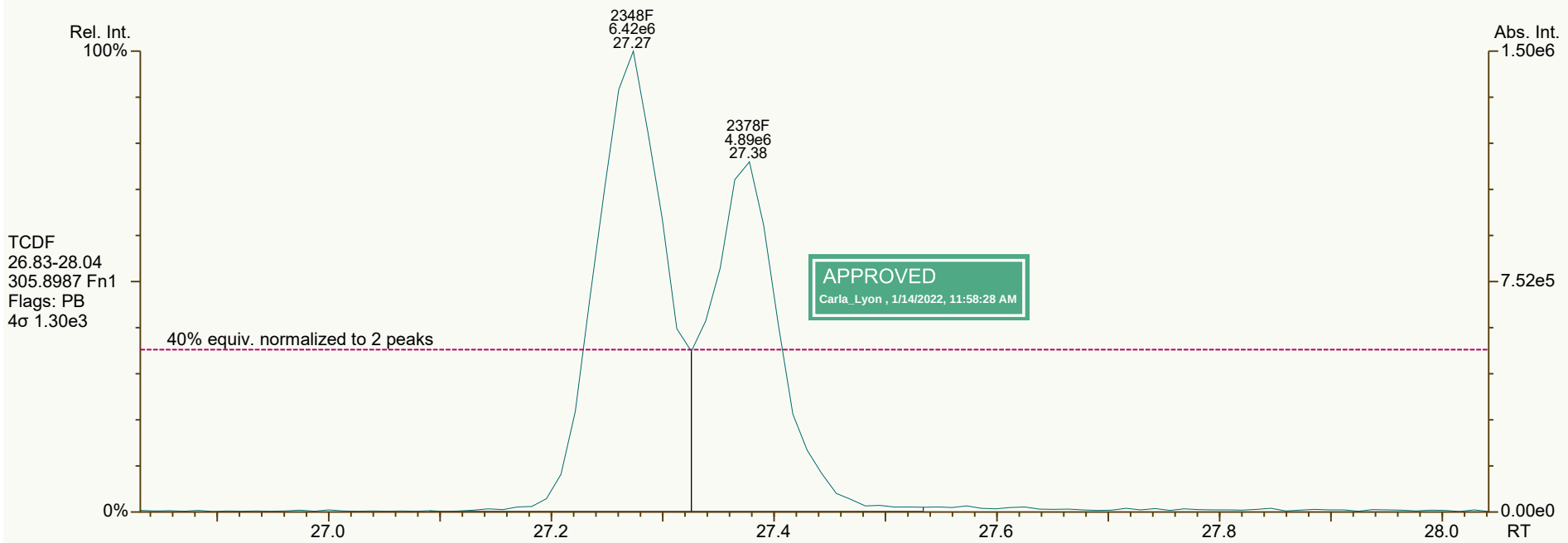


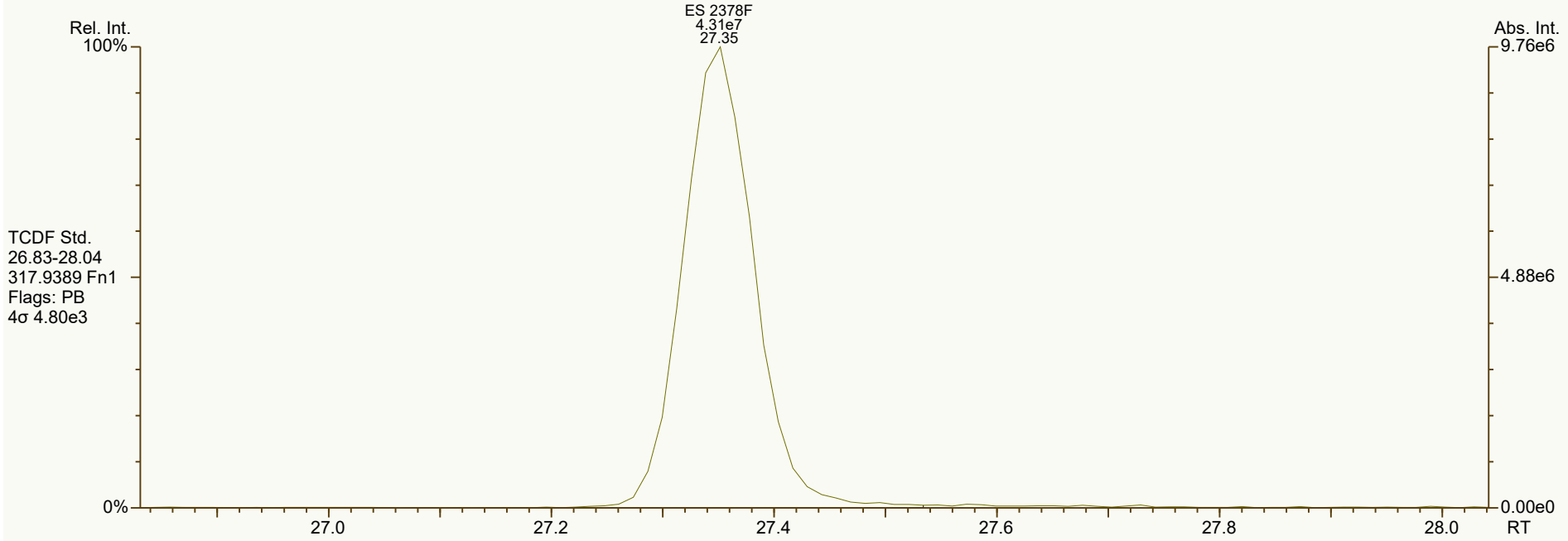
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 14-Jan-2022 08:22 Printed: 14-Jan-2022 10:07

SGS ID: OPR1_18832_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18832_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48

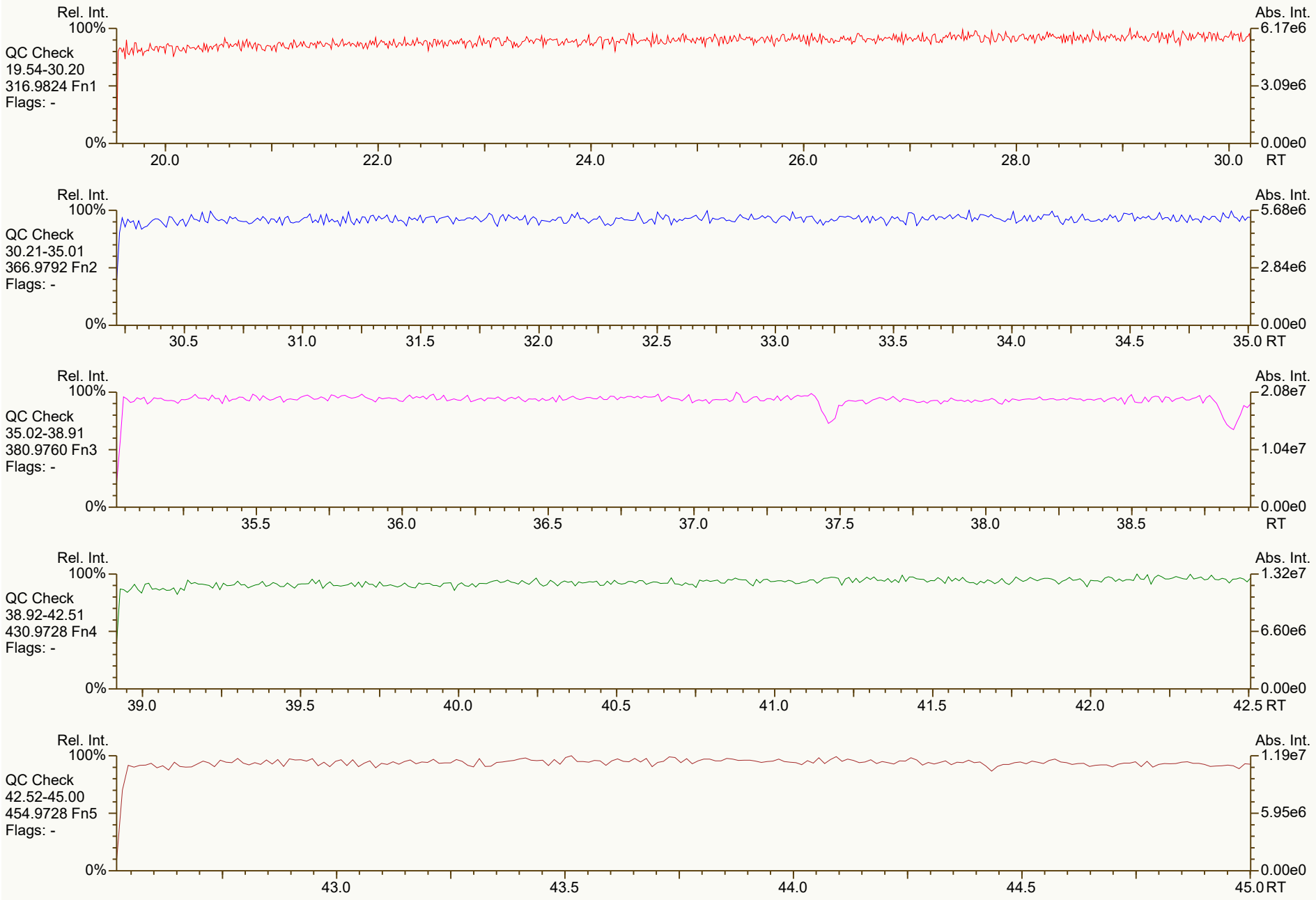
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User: DTF Datafile: 220113C13

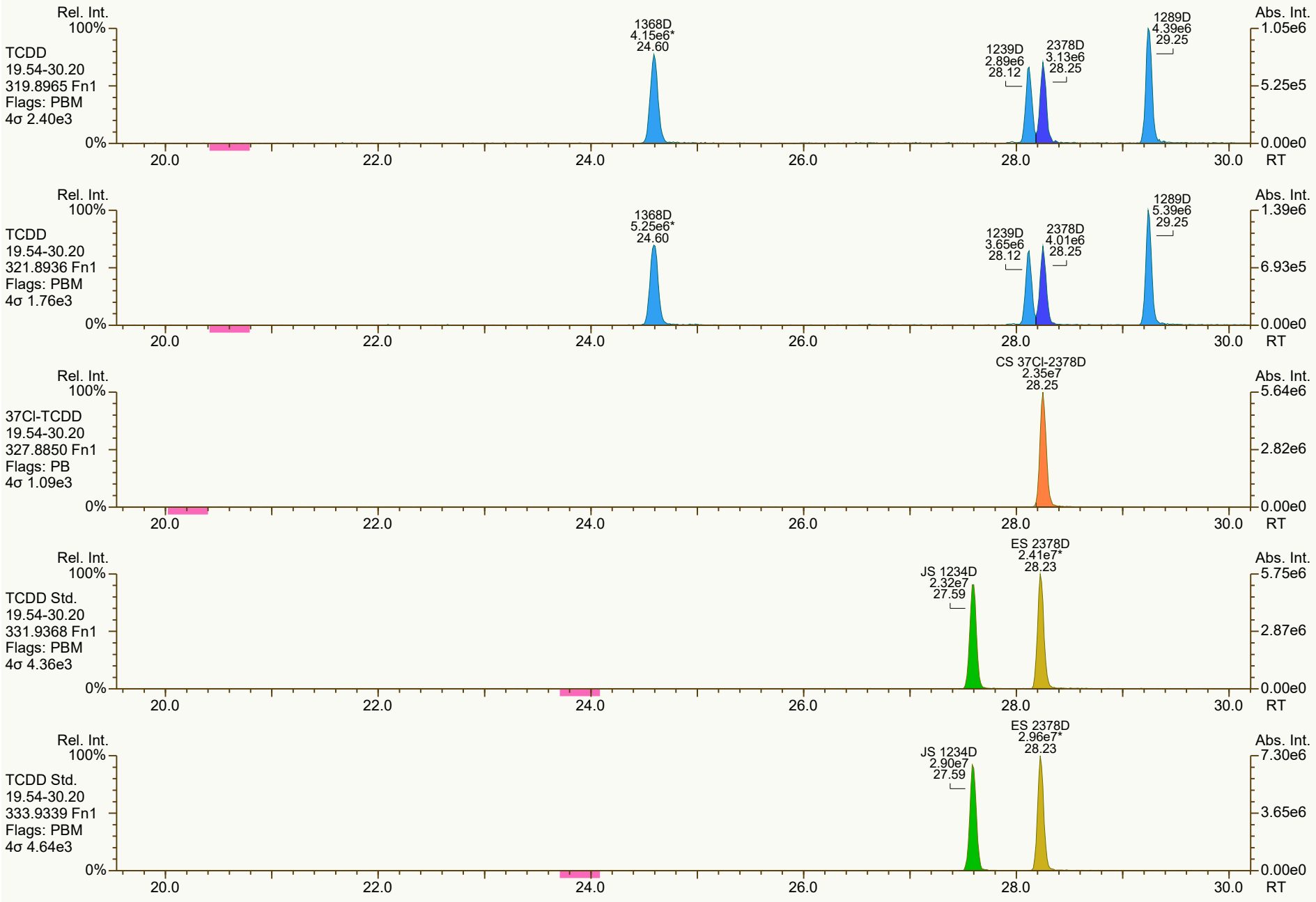


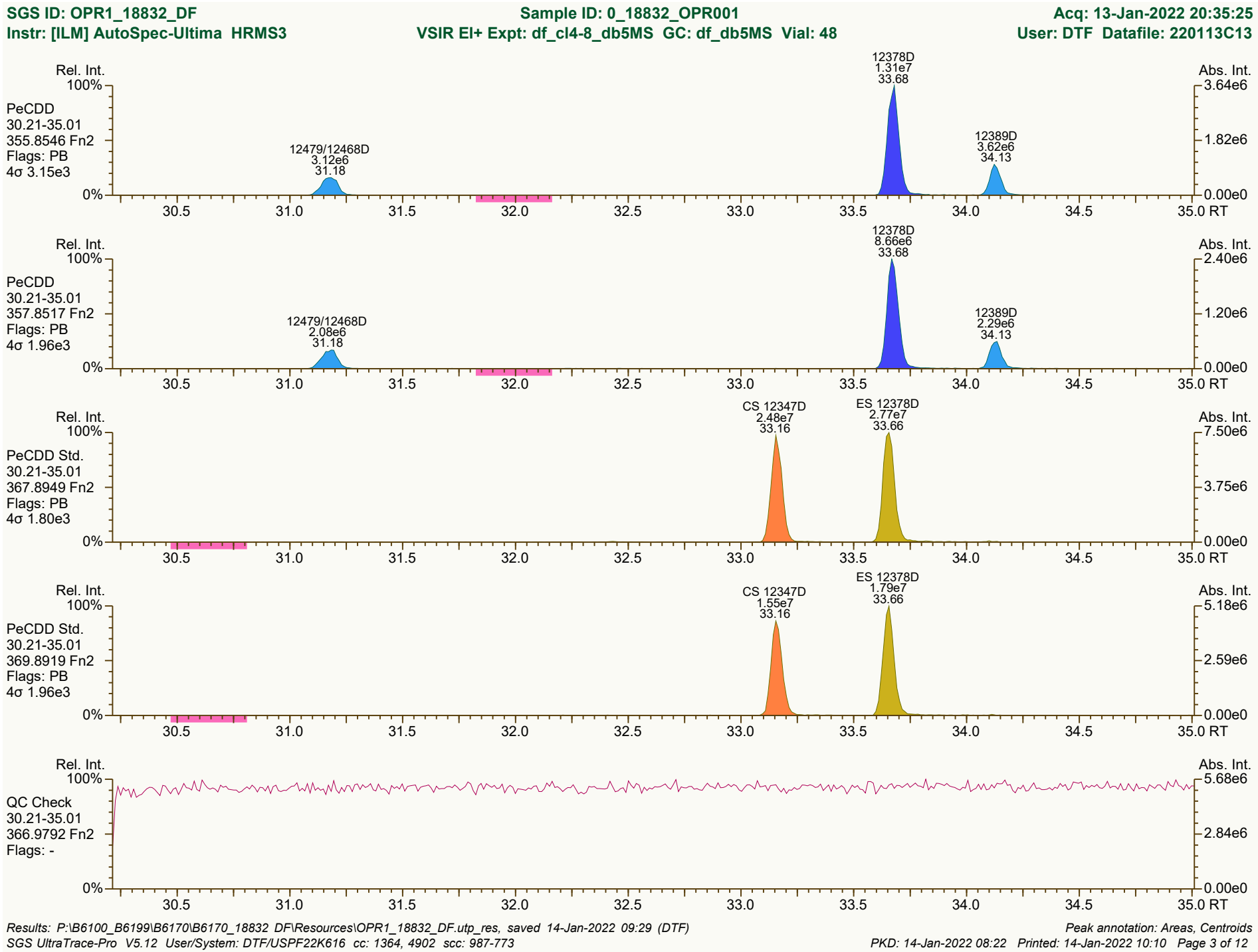


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SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

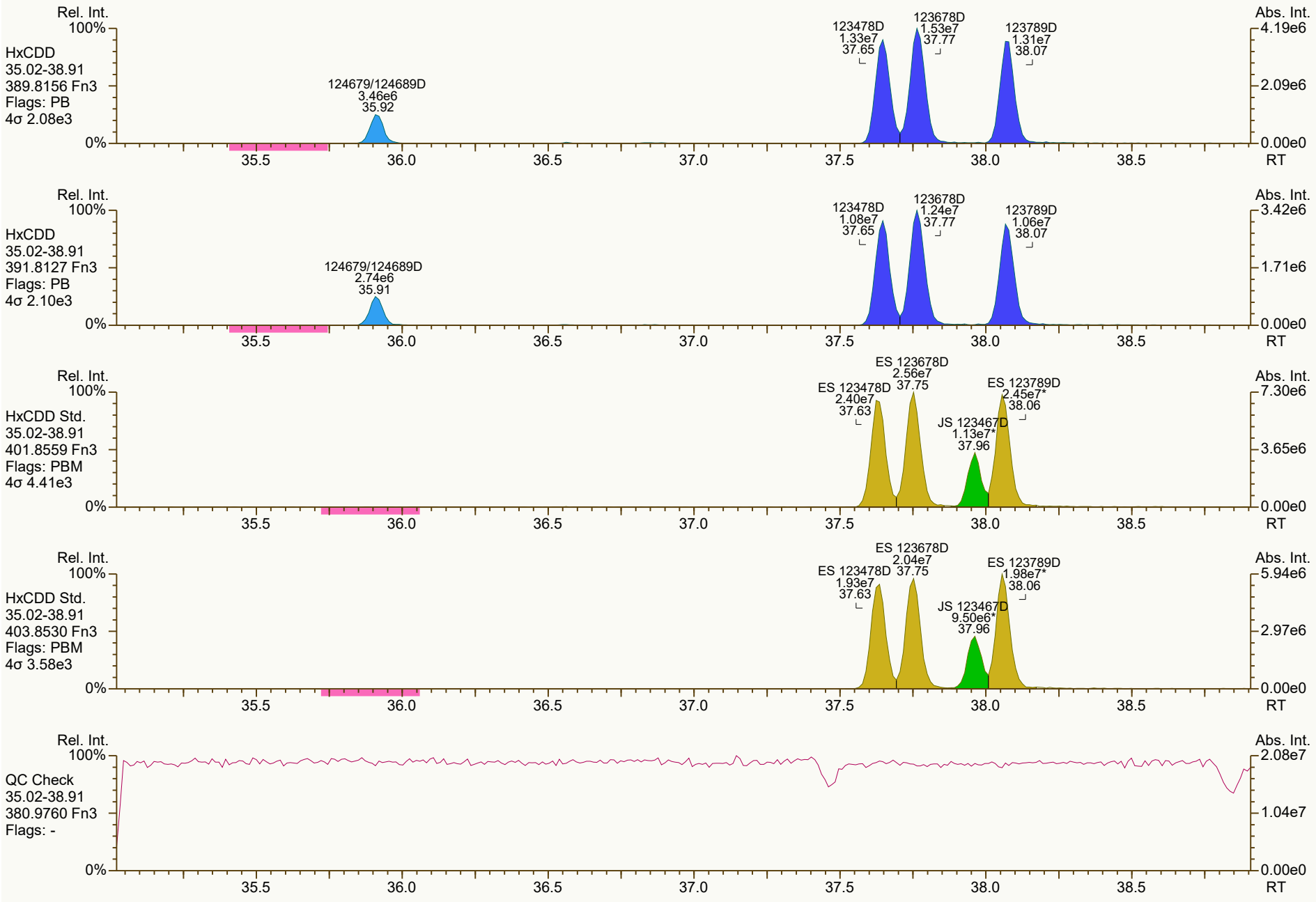
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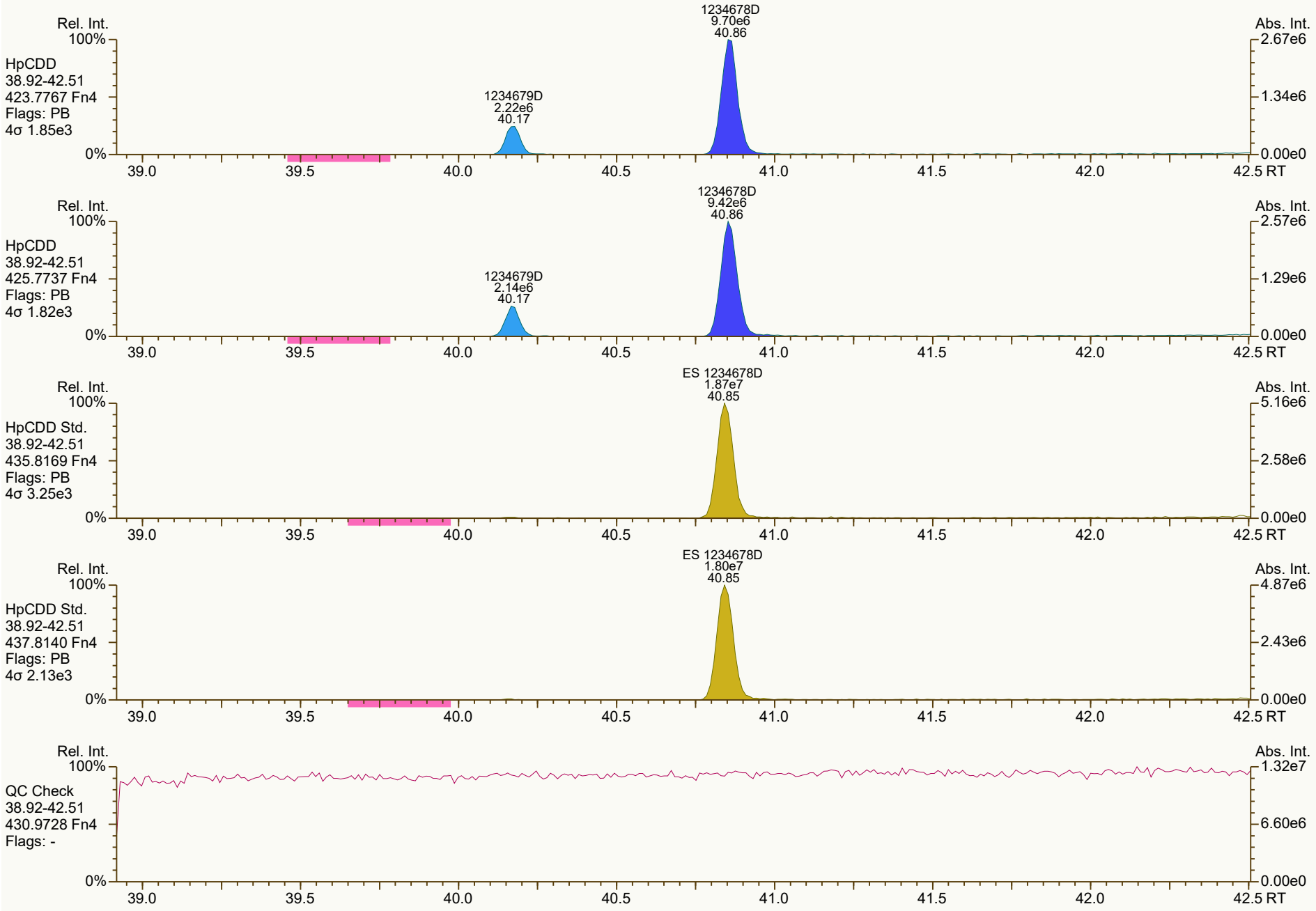

Rel. Int.
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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.17e6
3.09e6
0.00e0
Rel. Int.
100%
QC Check
30.21-35.01
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
RT
Abs. Int.
5.68e6
2.84e6
0.00e0
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.08e7
1.04e7
0.00e0
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
RT
Abs. Int.
1.32e7
6.60e6
0.00e0
Rel. Int.
100%
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
0%
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44.0
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45.0
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0.00e0

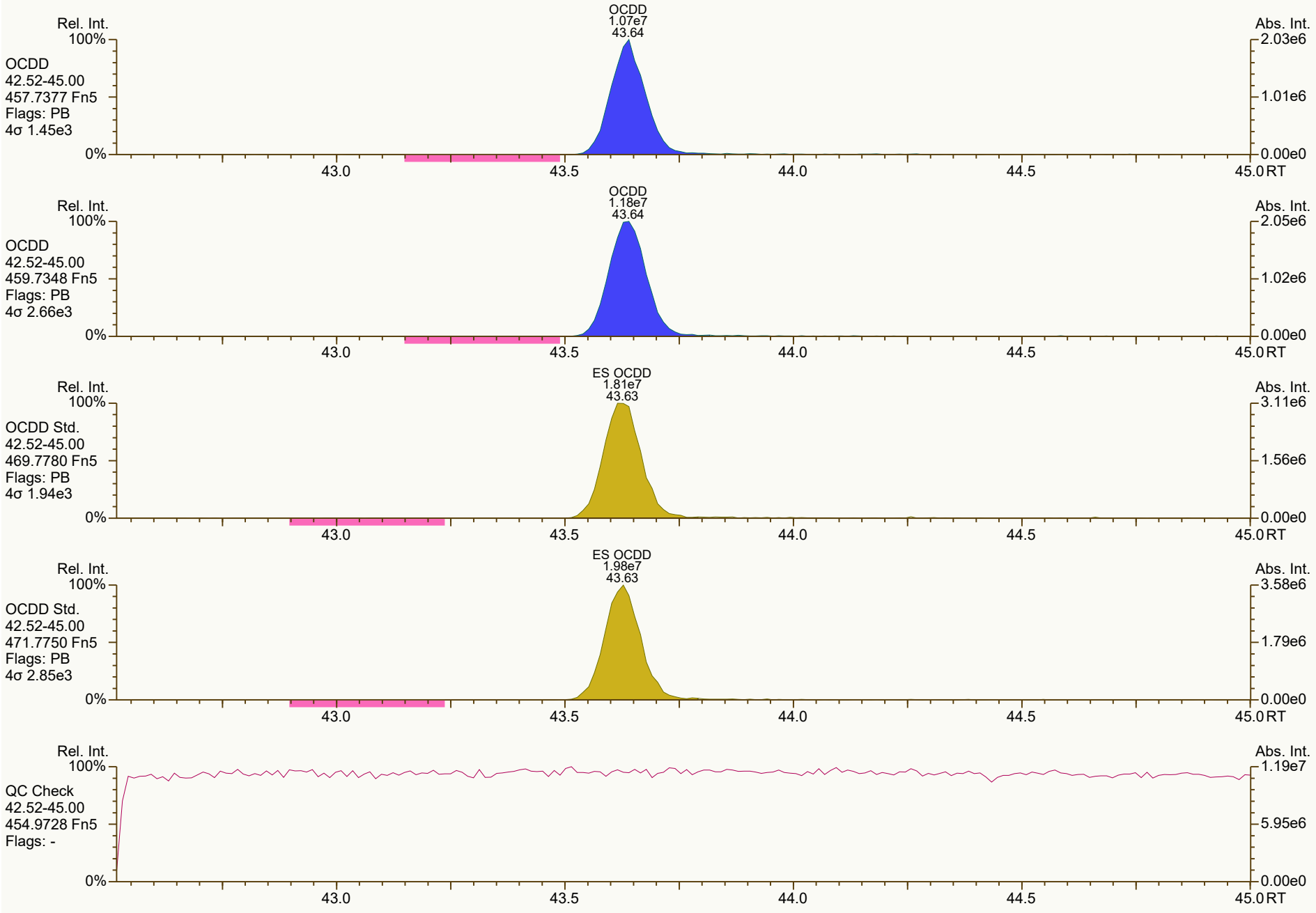

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319.8965 Fn1
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0%
1368D
4.15e6*
24.60
1239D
2.89e6
28.12
2378D
3.13e6
28.25
1289D
4.39e6
29.25
Abs. Int.
1.05e6
5.25e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.76e3
0%
1368D
5.25e6*
24.60
1239D
3.65e6
28.12
2378D
4.01e6
28.25
1289D
5.39e6
29.25
Abs. Int.
1.39e6
6.93e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.09e3
0%
CS 37Cl-2378D
2.35e7
28.25
Abs. Int.
5.64e6
2.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 4.36e3
0%
JS 1234D
2.32e7
27.59
ES 2378D
2.41e7*
28.23
Abs. Int.
5.75e6
2.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 4.64e3
0%
JS 1234D
2.90e7
27.59
ES 2378D
2.96e7*
28.23
Abs. Int.
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22.0
24.0
26.0
28.0
30.0
RT

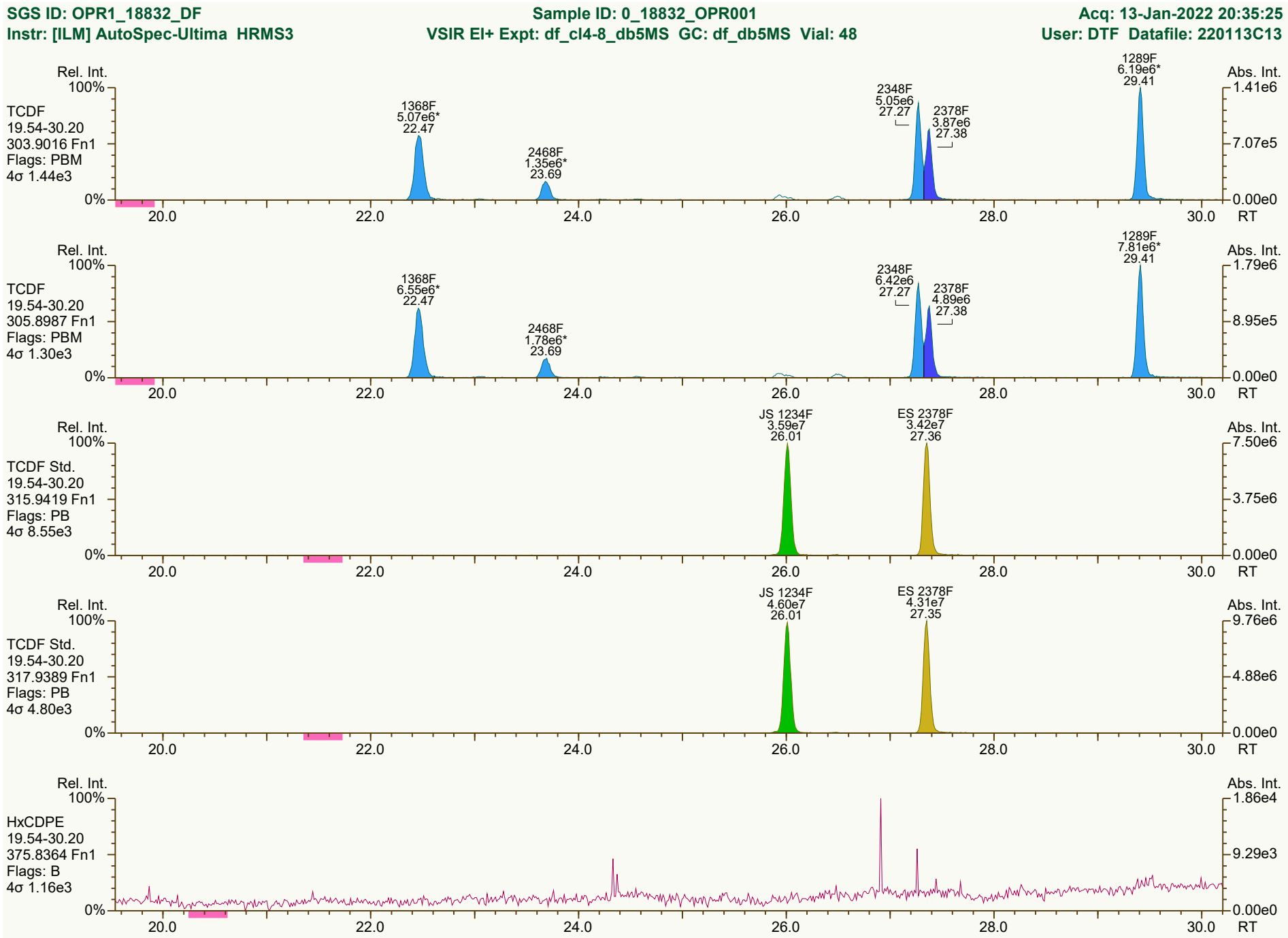


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PKD: 14-Jan-2022 08:22 Printed: 14-Jan-2022 10:10 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-38.91
389.8156 Fn3
Flags: PB
4σ 2.08e3
0%
124679/124689D
3.46e6
35.92
123478D
1.33e7
37.65
123678D
1.53e7
37.77
123789D
1.31e7
38.07
Abs. Int.
4.19e6
2.09e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
35.02-38.91
391.8127 Fn3
Flags: PB
4σ 2.10e3
0%
124679/124689D
2.74e6
35.91
123478D
1.08e7
37.65
123678D
1.24e7
37.77
123789D
1.06e7
38.07
Abs. Int.
3.42e6
1.71e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
401.8559 Fn3
Flags: PBM
4σ 4.41e3
0%
ES 123678D
2.56e7
37.75
ES 123478D
2.40e7
37.63
ES 123789D
2.45e7*
38.06
JS 123467D
1.13e7*
37.96
Abs. Int.
7.30e6
3.65e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
35.02-38.91
403.8530 Fn3
Flags: PBM
4σ 3.58e3
0%
ES 123678D
2.04e7
37.75
ES 123478D
1.93e7
37.63
ES 123789D
1.98e7*
38.06
JS 123467D
9.50e6*
37.96
Abs. Int.
5.94e6
2.97e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
35.02-38.91
380.9760 Fn3
Flags: -
0%
Abs. Int.
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1.04e7
0.00e0
35.5
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37.5
38.0
38.5
RT

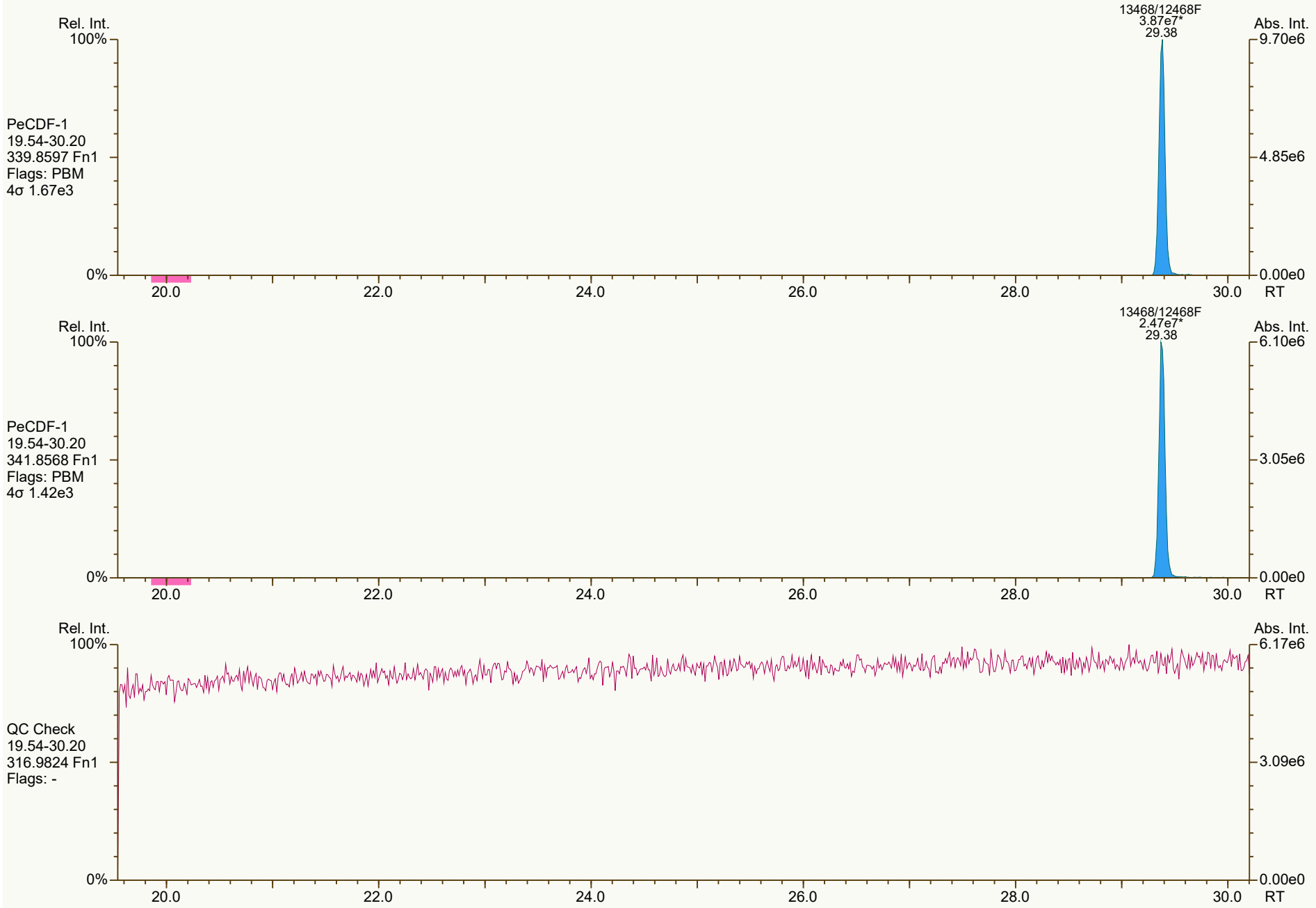

Rel. Int.
100%
HpCDD
38.92-42.51
423.7767 Fn4
Flags: PB
4σ 1.85e3
1234678D
9.70e6
40.86
1234679D
2.22e6
40.17
Abs. Int.
2.67e6
1.34e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD
38.92-42.51
425.7737 Fn4
Flags: PB
4σ 1.82e3
1234678D
9.42e6
40.86
1234679D
2.14e6
40.17
Abs. Int.
2.57e6
1.29e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
435.8169 Fn4
Flags: PB
4σ 3.25e3
ES 1234678D
1.87e7
40.85
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
HpCDD Std.
38.92-42.51
437.8140 Fn4
Flags: PB
4σ 2.13e3
ES 1234678D
1.80e7
40.85
Abs. Int.
4.87e6
2.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT
Rel. Int.
100%
QC Check
38.92-42.51
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.60e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDD
1.07e7
43.64
Rel. Int.
100%
OCDD
42.52-45.00
457.7377 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
2.03e6
1.01e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.18e7
43.64
OCDD
42.52-45.00
459.7348 Fn5
Flags: PB
4σ 2.66e3
2.05e6
1.02e6
ES OCDD
1.81e7
43.63
OCDD Std.
42.52-45.00
469.7780 Fn5
Flags: PB
4σ 1.94e3
3.11e6
1.56e6
ES OCDD
1.98e7
43.63
OCDD Std.
42.52-45.00
471.7750 Fn5
Flags: PB
4σ 2.85e3
3.58e6
1.79e6
QC Check
42.52-45.00
454.9728 Fn5
Flags: -
1.19e7
5.95e6

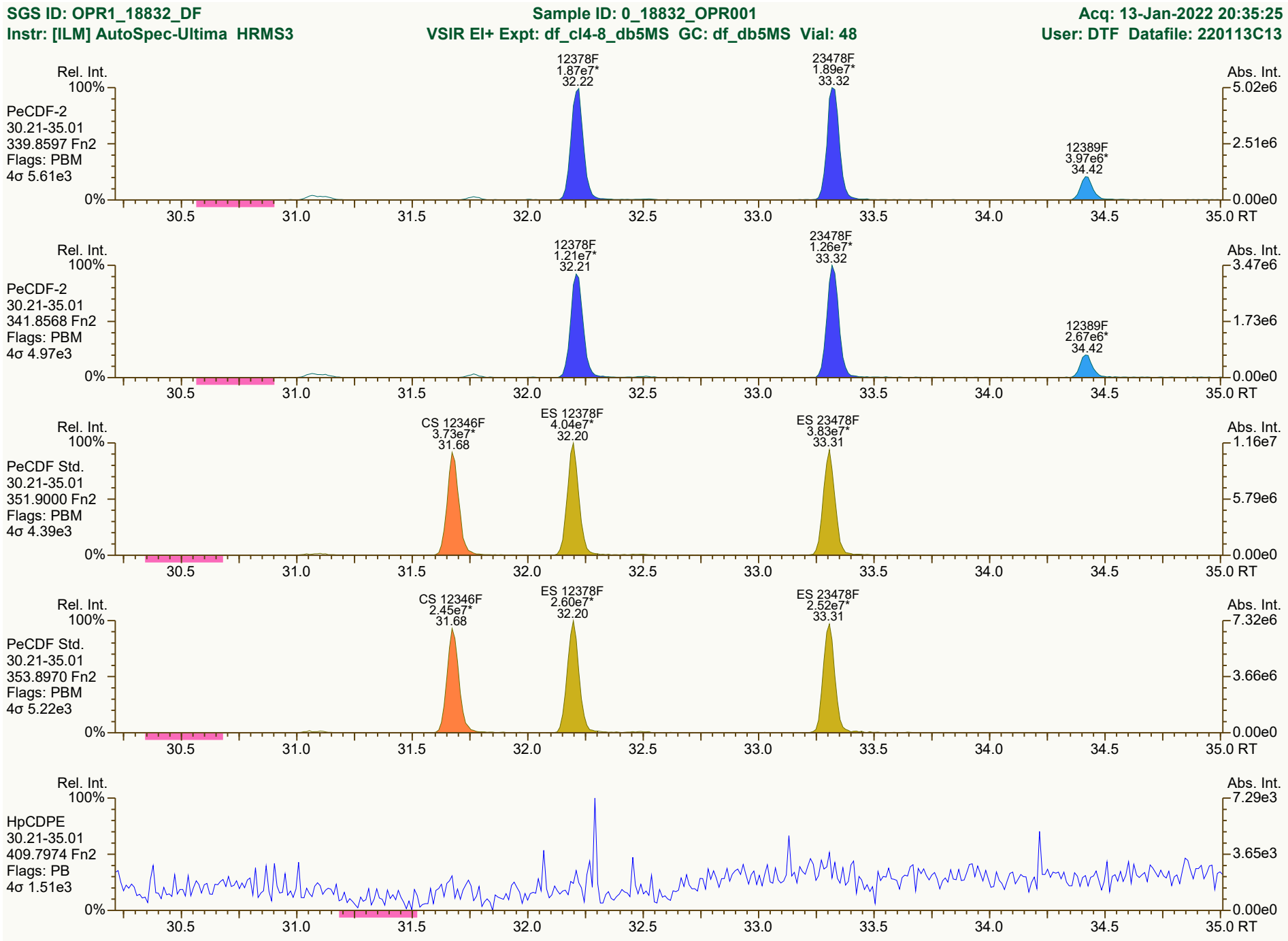


Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\OPR1_18832_DF.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2447, 4084, 2304 scc: 987-773
PKD: 14-Jan-2022 08:22 Printed: 14-Jan-2022 10:10 Page 7 of 12

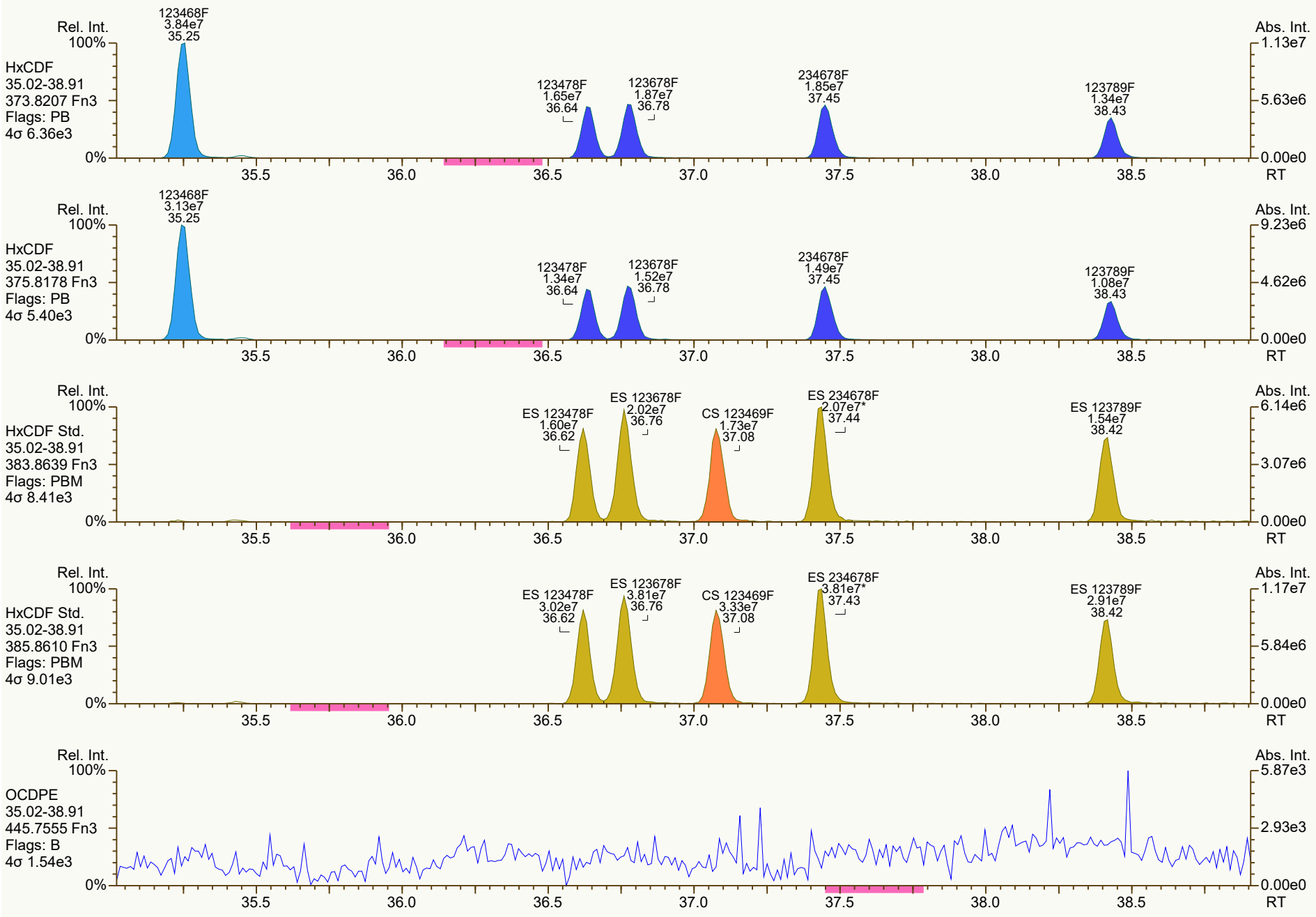
SGS ID: OPR1_18832_DF
Sample ID: 0_18832_OPR001
Acq: 13-Jan-2022 20:35:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
User: DTF Datafile: 220113C13



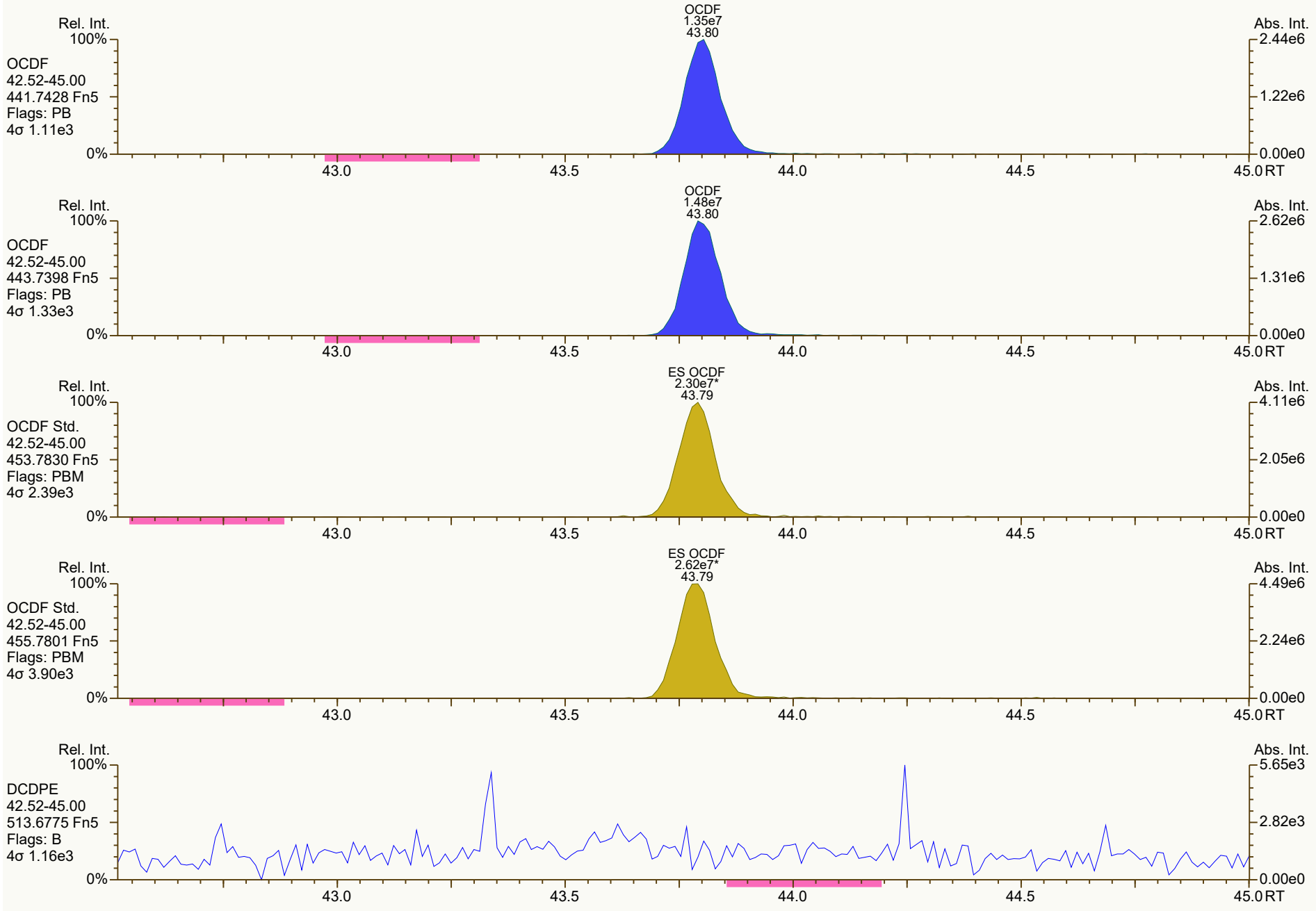
Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\OPR1_18832_DF.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9022 scc: 987-773
Revised: 14-Jan-2022 08:21 (DTF) Printed: 14-Jan-2022 10:10 Page 8 of 12



Results: P:\B6100_B6199\B6170\B6170_18832 DF\Resources\OPR1_18832_DF.utp_res, saved 14-Jan-2022 09:29 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0977, 8534, 6281 scc: 987-773
Revised: 14-Jan-2022 08:22 (DTF) Printed: 14-Jan-2022 10:10 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-38.91
373.8207 Fn3
Flags: PB
4σ 6.36e3
123468F
3.84e7
35.25
123478F
1.65e7
36.64
123678F
1.87e7
36.78
234678F
1.85e7
37.45
123789F
1.34e7
38.43
Abs. Int.
1.13e7
5.63e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
35.02-38.91
375.8178 Fn3
Flags: PB
4σ 5.40e3
123468F
3.13e7
35.25
123478F
1.34e7
36.64
123678F
1.52e7
36.78
234678F
1.49e7
37.45
123789F
1.08e7
38.43
Abs. Int.
9.23e6
4.62e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
383.8639 Fn3
Flags: PBM
4σ 8.41e3
ES 123478F
1.60e7
36.62
ES 123678F
2.02e7
36.76
CS 123469F
1.73e7
37.08
ES 234678F
2.07e7*
37.44
ES 123789F
1.54e7
38.42
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
35.02-38.91
385.8610 Fn3
Flags: PBM
4σ 9.01e3
ES 123478F
3.02e7
36.62
ES 123678F
3.81e7
36.76
CS 123469F
3.33e7
37.08
ES 234678F
3.81e7*
37.43
ES 123789F
2.91e7
38.42
Abs. Int.
1.17e7
5.84e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
35.02-38.91
445.7555 Fn3
Flags: B
4σ 1.54e3
Abs. Int.
5.87e3
2.93e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR1_18832_DF
Sample ID: 0_18832_OPR001
Acq: 13-Jan-2022 20:35:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
User: DTF Datafile: 220113C13
Rel. Int.
Abs. Int.
HpCDF
38.92-42.51
407.7818 Fn4
Flags: PB
4σ 1.90e3
1234678F
1.57e7
39.89
1234789F
9.56e6
41.31
4.84e6
2.42e6
0.00e0
HpCDF
38.92-42.51
409.7788 Fn4
Flags: PB
4σ 1.26e3
1234678F
1.53e7
39.89
1234789F
9.68e6
41.31
4.78e6
2.39e6
0.00e0
HpCDF Std.
38.92-42.51
417.8253 Fn4
Flags: PB
4σ 2.54e3
ES 1234678F
1.24e7
39.88
CS 1234689F
1.11e7
40.30
ES 1234789F
9.61e6
41.30
3.84e6
1.92e6
0.00e0
HpCDF Std.
38.92-42.51
419.8220 Fn4
Flags: PB
4σ 2.28e3
ES 1234678F
2.79e7
39.88
CS 1234689F
2.57e7
40.30
ES 1234789F
2.12e7
41.30
8.82e6
4.41e6
0.00e0
NCDPE
38.92-42.51
479.7165 Fn4
Flags: PB
4σ 1.52e3
6.53e3
3.27e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5 RT


OCDF
1.35e7
43.80
Rel. Int.
100%
OCDF
42.52-45.00
441.7428 Fn5
Flags: PB
4σ 1.11e3
0%
Abs. Int.
2.44e6
1.22e6
0.00e0
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.48e7
43.80
OCDF
42.52-45.00
443.7398 Fn5
Flags: PB
4σ 1.33e3
2.62e6
1.31e6
ES OCDF
2.30e7*
43.79
OCDF Std.
42.52-45.00
453.7830 Fn5
Flags: PBM
4σ 2.39e3
4.11e6
2.05e6
ES OCDF
2.62e7*
43.79
OCDF Std.
42.52-45.00
455.7801 Fn5
Flags: PBM
4σ 3.90e3
4.49e6
2.24e6
DCDPE
42.52-45.00
513.6775 Fn5
Flags: B
4σ 1.16e3
5.65e3
2.82e3



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6171

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

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This report is approved by

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I have reviewed this document
2022-01-28 13:26:47

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6171
Analytical Protocol(s)	1613B
No. Samples Submitted	16
Additional QC Sample(s)	MS/MSD
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
Date Received	12-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.6, -0.2
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was a client designated MS/MSD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibrations meet requirements.

No re-extractions or dilutions were required.

Sample extracts re-analyzed on the instrument are indicated with suffix “-RJ”.

MB1_18853: the reported detection limit of 2,3,7,8-TCDD and 2,3,7,8-TCDF is above SOP criteria, however, meets Method criteria.

OPR1_18853 meets accuracy criteria.

OPR1_18859 and OPR1_18853-RJ used as CPSM/RT Window & Isomer Specificity analysis only.

MS/MSD does not meet criteria for several compounds due to the high concentrations in the parent sample.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011022-S-BN-NC-O-27 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6171_18853_DF_001	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	82.1 %	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:59:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	54.2				ES 2378-TCDD	84.1	
12378-PeCDD	1.89			J	ES 12378-PeCDD	69.3	
123478-HxCDD	ND	1.09			ES 123478-HxCDD	91.9	
123678-HxCDD	8.04				ES 123678-HxCDD	85.6	
123789-HxCDD	3.82				ES 123789-HxCDD	87.6	
1234678-HpCDD	213				ES 1234678-HpCDD	69.2	
OCDD	2,780				ES OCDD	61.1	
2378-TCDF	191				ES 2378-TCDF	85.8	
12378-PeCDF	13.2				ES 12378-PeCDF	82	
23478-PeCDF	9.33				ES 23478-PeCDF	77.9	
123478-HxCDF	20.8				ES 123478-HxCDF	103	
123678-HxCDF	6				ES 123678-HxCDF	101	
234678-HxCDF	3.02				ES 234678-HxCDF	58	
123789-HxCDF	ND	0.89			ES 123789-HxCDF	93.5	
1234678-HpCDF	48.3				ES 1234678-HpCDF	95.3	
1234789-HpCDF	6.61				ES 1234789-HpCDF	79.4	
OCDF	195				ES OCDF	63.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.1	
Total TCDD	55.3		60.4		CS 12347-PeCDD	75.5	
Total PeCDD	1.89		5.85		CS 12346-PeCDF	89.6	
Total HxCDD	55.1		60.4		CS 123469-HxCDF	116	
Total HpCDD	517		517		CS 1234689-HpCDF	100	
Total TCDF	337		340				
Total PeCDF	55.6		57.7				
Total HxCDF	79.3		81.3				
Total HpCDF	137		137				
Total PCDD/Fs	**4,210**		**4,230**				
WHO-2005 TEQs							
TEQ: ND=0	86.1		86.1				
TEQ: ND=DL/2	86.2	1.5	86.2				
TEQ: ND=DL	86.3	2.99	86.3				

SGS
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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-011022-S-BN-NC-O-27 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6171_18853_DF_001	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	82.1 %	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:59:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.12		12479/12468D	[2.66]		124679/124689D	24.1		1234679D	304	
1379D	(0.702)		12469D	[1.3]	J	123468D	[3.72]		1234678D	213	
1369D	(0.702)		12368D	(1.28)		123679/123689D	19.1				
1469D	(0.702)		12478D	(1.28)		123469D	[1.62]	J			
1247D...[4]	(0.702)		12379D	(1.28)		123478D	(1.09)				
1378D	(0.702)		12369D...[3]	(1.28)		123678D	8.04				
1268D	(0.702)		12346/12347D	(1.28)		123467D	(1.11)				
1478D	(0.702)		12378D	1.89	J	123789D	3.82		**Conc.**	517	
1279D	(0.702)		12367D	(1.28)					**EMPC**	517	
1234/1269D	(0.702)		12389D	(1.28)							
1236D	(0.702)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.702)										
1239D	(0.702)								OCDD	2780	
2378D	54.2										
1278D	[5.08]										
1267D	(0.702)										
1289D	(0.702)										
Conc.	55.3		**Conc.**	1.89		**Conc.**	55.1				
EMPC	60.4		**EMPC**	5.85		**EMPC**	60.4				

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Wilmington, NC 28405, USA
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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	86.1	86.1
TEQ: ND=DL/2	86.2	86.2
TEQ: ND=DL	86.3	86.3

	Conc.	EMPC
Total PCDD/Fs	4,210	4,230

Checkcode: 483-564-WTK

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-O-27 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6171_18853_DF_001	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	82.1 %	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:59:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.669)		13468/12468F	8.19		123468F	5.76		1234678F	48.3	
1468F	[1.2]		13678F...[3]	3.06		124678/134678F	21.6		1234679F	2.01	J
2468F	2.74		12368F...[3]	10.9		134679F	(0.88)		1234689F	79.7	
1346/1246F	(0.669)		14678F	2.3	J	124679F	(0.88)		1234789F	6.61	
1347F...[3]	6.03		13479F	(0.631)		124689F	19.9				
1348F	[0.873]		13469/12479F	(0.631)		123467F	2.22	J			
1248F...[3]	9		12346F	(0.631)		123478F	20.8				
1268F	3.53		23468/12469F	1.94	J	123678F	6				
1467F	[1.26]		12347F	[0.908]	J	123479F	(0.88)				
1478F	8.05		12348F	1.62	J	123469F	(0.88)				
1369/1237F	2.66		12378F	13.2		123679F	(0.88)				
2467F	0.868		12678/12367F	5.16		234678F	3.02		**Conc.**	137	
2368F	8.85		12379F	(0.631)		234678/123689F	0		**EMPC**	137	
1238F...[5]	5.11		12679F	(0.631)		123689F	(0.88)				
1278F	49.2		23467/12369F	[1.17]	J	123789F	(0.89)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.669)		23478F	9.33		123789/123489F	0				
1267F	5		23478/12489F	0		123489F	[2.01]	J	OCDF	195	
2346/1249F	(0.669)		12489F	(0.631)							
2347/1279F	2.45		12349F	(0.631)							
2348F	9		12389F	(0.631)							
2378F	191										
2367/3467F	20.9										
1269F	2.17										
1239F	(0.669)										
1289F	10.5										
Conc.	337		**Conc.**	55.6		**Conc.**	79.3				
EMPC	340		**EMPC**	57.7		**EMPC**	81.3				

Checkcode: 483-564-WTK

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-O-27 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18853
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 17:59
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	54.2		0.702	54.2	54.2	54.2
12378-PeCDD	1.89	J	1.28	0.947	1.89	1.89
123478-HxCDD	(1.09)		1.09	(0.109)	(0.109)	(0.109)
123678-HxCDD	8.04		1.23	0.804	0.804	0.804
123789-HxCDD	3.82		1.03	0.382	0.382	0.382
1234678-HpCDD	213		1.09	2.13	2.13	2.13
OCDD	2780		2.13	2.78	0.278	0.833
2378-TCDF	191		0.669	19.1	19.1	19.1
12378-PeCDF	13.2		0.634	0.658	0.658	0.395
23478-PeCDF	9.33		0.628	4.66	4.66	2.8
123478-HxCDF	20.8		0.71	2.08	2.08	2.08
123678-HxCDF	6		0.703	0.6	0.6	0.6
234678-HxCDF	3.02		1.5	0.302	0.302	0.302
123789-HxCDF	(0.89)		0.89	(0.089)	(0.089)	(0.089)
1234678-HpCDF	48.3		0.527	0.483	0.483	0.483
1234789-HpCDF	6.61		0.65	0.0661	0.0661	0.0661
OCDF	195		1.54	0.195	0.0195	0.0586

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TEQ Summaries			
EMPC = 0, ND = 0	89.3	87.6	86.1
EMPC = 0, ND = DL / 2	89.4	87.7	86.2
EMPC = 0, ND = DL	89.5	87.8	86.3
EMPC = 0, < J-level = 0	88.4	85.7	84.2
EMPC = EMPC, ND = 0	89.3	87.6	86.1
EMPC = EMPC, ND = DL / 2	89.4	87.7	86.2
EMPC = EMPC, ND = DL	89.5	87.8	86.3
EMPC = EMPC, < J-level = 0	88.4	85.7	84.2

Checkcode: 483-564-WTK

SGS North America - DF v0.99

Sample ID: 11215131-011022-S-BN-NC-O-26 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID	B6171_18853_DF_002	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	81.4 %	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:17:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	46.3				ES 2378-TCDD	88.1	
12378-PeCDD	1.71			J	ES 12378-PeCDD	82.2	
123478-HxCDD	1.77			J	ES 123478-HxCDD	89.8	
123678-HxCDD	7.76				ES 123678-HxCDD	92.8	
123789-HxCDD	4.01				ES 123789-HxCDD	90.1	
1234678-HpCDD	228				ES 1234678-HpCDD	82.8	
OCDD	3,020				ES OCDD	64	
2378-TCDF	154				ES 2378-TCDF	83.7	
12378-PeCDF	7.86				ES 12378-PeCDF	86.5	
23478-PeCDF	6.05				ES 23478-PeCDF	86.7	
123478-HxCDF	14.1				ES 123478-HxCDF	105	
123678-HxCDF	4.03				ES 123678-HxCDF	105	
234678-HxCDF	2.93				ES 234678-HxCDF	62.3	
123789-HxCDF	ND	0.651			ES 123789-HxCDF	95.1	
1234678-HpCDF	48.6				ES 1234678-HpCDF	107	
1234789-HpCDF	5.69				ES 1234789-HpCDF	92	
OCDF	209				ES OCDF	69.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.5	
Total TCDD	53.7		53.7		CS 12347-PeCDD	89.5	
Total PeCDD	8.35		9.13		CS 12346-PeCDF	96.2	
Total HxCDD	69.1		69.1		CS 123469-HxCDF	119	
Total HpCDD	555		555		CS 1234689-HpCDF	115	
Total TCDF	264		278				
Total PeCDF	33.1		38.7				
Total HxCDF	73.3		74.3				
Total HpCDF	148		149				
Total PCDD/Fs	**4,440**		**4,460**				
WHO-2005 TEQs							
TEQ: ND=0	72.7		72.7				
TEQ: ND=DL/2	72.7	1.14	72.7				
TEQ: ND=DL	72.8	2.28	72.8				

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Sample ID: 11215131-011022-S-BN-NC-O-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6171_18853_DF_002	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	81.4 %	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:17:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.847)		12479/12468D	2.39	J	124679/124689D	27.3		1234679D	327	
1379D	(0.847)		12469D	2.2	J	123468D	2.95		1234678D	228	
1369D	(0.847)		12368D	[0.773]	J	123679/123689D	21.9				
1469D	1.66		12478D	1.01	J	123469D	2.13	J			
1247D...[4]	(0.847)		12379D	(0.651)		123478D	1.77	J			
1378D	(0.847)		12369D...[3]	1.05	J	123678D	7.76				
1268D	(0.847)		12346/12347D	(0.651)		123467D	1.27	J			
1478D	(0.847)		12378D	1.71	J	123789D	4.01		**Conc.**	555	
1279D	(0.847)		12367D	(0.651)					**EMPC**	555	
1234/1269D	(0.847)		12389D	(0.651)							
1236D	(0.847)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.77										
1239D	(0.847)								OCDD	3020	
2378D	46.3										
1278D	3.97										
1267D	(0.847)										
1289D	(0.847)										
Conc.	53.7		**Conc.**	8.35		**Conc.**	69.1				
EMPC	53.7		**EMPC**	9.13		**EMPC**	69.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	72.7	72.7
TEQ: ND=DL/2	72.7	72.7
TEQ: ND=DL	72.8	72.8

	Conc.	EMPC
Total PCDD/Fs	4,440	4,460

Checkcode: 520-616-LCY

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-O-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6171_18853_DF_002	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	81.4 %	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:17:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.711)		13468/12468F	7.72		123468F	5.68		1234678F	48.6	
1468F	[0.929]		13678F...[3]	2.32	J	124678/134678F	21.8		1234679F	[1.53]	J
2468F	2.49		12368F...[3]	8.3		134679F	(0.64)		1234689F	93.6	
1346/1246F	0.495		14678F	[0.712]	J	124679F	0.901	J	1234789F	5.69	
1347F...[3]	3.94		13479F	(0.629)		124689F	22.4				
1348F	0.948		13469/12479F	(0.629)		123467F	[0.993]	J			
1248F...[3]	6.37		12346F	(0.629)		123478F	14.1				
1268F	3.35		23468/12469F	[1.29]	J	123678F	4.03				
1467F	[0.845]		12347F	[0.502]	J	123479F	(0.64)				
1478F	6.4		12348F	0.868	J	123469F	(0.64)				
1369/1237F	2.08		12378F	7.86		123679F	(0.64)				
2467F	(0.711)		12678/12367F	[2.5]		234678F	2.93		**Conc.**	148	
2368F	7.2		12379F	(0.629)		234678/123689F	0		**EMPC**	149	
1238F...[5]	[3.84]		12679F	(0.629)		123689F	(0.64)				
1278F	44.6		23467/12369F	[0.607]	J	123789F	(0.651)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.711)		23478F	6.05		123789/123489F	0				
1267F	3.66		23478/12489F	0		123489F	1.53	J	OCDF	209	
2346/1249F	(0.711)		12489F	(0.629)							
2347/1279F	2.33		12349F	(0.629)							
2348F	7.93		12389F	(0.629)							
2378F	154										
2367/3467F	16.9										
1269F	1.62										
1239F	(0.711)										
1289F	[8.01]										
Conc.	264		**Conc.**	33.1		**Conc.**	73.3				
EMPC	278		**EMPC**	38.7		**EMPC**	74.3				

Checkcode: 520-616-LCY

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-O-26 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	QC Batch No.:	18853
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 21:17
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	46.3		0.847	46.3	46.3	46.3
12378-PeCDD	1.71	J	0.651	0.854	1.71	1.71
123478-HxCDD	1.77	J	0.72	0.177	0.177	0.177
123678-HxCDD	7.76		0.675	0.776	0.776	0.776
123789-HxCDD	4.01		0.73	0.401	0.401	0.401
1234678-HpCDD	228		0.546	2.28	2.28	2.28
OCDD	3020		1.05	3.02	0.302	0.907
2378-TCDF	154		0.711	15.4	15.4	15.4
12378-PeCDF	7.86		0.625	0.393	0.393	0.236
23478-PeCDF	6.05		0.633	3.03	3.03	1.82
123478-HxCDF	14.1		0.534	1.41	1.41	1.41
123678-HxCDF	4.03		0.485	0.403	0.403	0.403
234678-HxCDF	2.93		1.08	0.293	0.293	0.293
123789-HxCDF	(0.651)		0.651	(0.0651)	(0.0651)	(0.0651)
1234678-HpCDF	48.6		0.354	0.486	0.486	0.486
1234789-HpCDF	5.69		0.462	0.0569	0.0569	0.0569
OCDF	209		0.777	0.209	0.0209	0.0626

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TEQ Summaries			
EMPC = 0, ND = 0	75.5	73.4	72.7
EMPC = 0, ND = DL / 2	75.5	73.5	72.7
EMPC = 0, ND = DL	75.6	73.5	72.8
EMPC = 0, < J-level = 0	74.5	71.6	70.8
EMPC = EMPC, ND = 0	75.5	73.4	72.7
EMPC = EMPC, ND = DL / 2	75.5	73.5	72.7
EMPC = EMPC, ND = DL	75.6	73.5	72.8
EMPC = EMPC, < J-level = 0	74.5	71.6	70.8

Checkcode: 520-616-LCY

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Sample ID: 11215131-011022-S-BN-NC-B-7 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6171_18853_DF_003	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	71.3 %	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:04:39

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	3,310			E	ES 2378-TCDD	86.8	
12378-PeCDD	36.5				ES 12378-PeCDD	80.4	
123478-HxCDD	EMPC		2.14	J	ES 123478-HxCDD	93.5	
123678-HxCDD	14.5				ES 123678-HxCDD	84.4	
123789-HxCDD	6.15				ES 123789-HxCDD	86.3	
1234678-HpCDD	482				ES 1234678-HpCDD	81.2	
OCDD	6,330				ES OCDD	69.6	
2378-TCDF	12,800			E	ES 2378-TCDF	80.7	
12378-PeCDF	433				ES 12378-PeCDF	83	
23478-PeCDF	352				ES 23478-PeCDF	69.5	
123478-HxCDF	593				ES 123478-HxCDF	104	
123678-HxCDF	144				ES 123678-HxCDF	101	
234678-HxCDF	34.2				ES 234678-HxCDF	55.6	
123789-HxCDF	ND	0.682			ES 123789-HxCDF	103	
1234678-HpCDF	276				ES 1234678-HpCDF	105	
1234789-HpCDF	73.7				ES 1234789-HpCDF	94.2	
OCDF	3,660				ES OCDF	75.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.8	
Total TCDD	3,640		3,680		CS 12347-PeCDD	84	
Total PeCDD	63		65.1		CS 12346-PeCDF	87.5	
Total HxCDD	130		134		CS 123469-HxCDF	118	
Total HpCDD	1,020		1,020		CS 1234689-HpCDF	114	
Total TCDF	25,800		25,800				
Total PeCDF	1,280		1,280				
Total HxCDF	987		987				
Total HpCDF	546		546				
Total PCDD/Fs	**43,500**		**43,500**				
WHO-2005 TEQs							
TEQ: ND=0	4830		4830				
TEQ: ND=DL/2	4830	1.14	4830				
TEQ: ND=DL	4830	2.28	4830				

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Sample ID: 11215131-011022-S-BN-NC-B-7 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6171_18853_DF_003	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	71.3 %	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:04:39

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[5.25]		12479/12468D	6.3		124679/124689D	59.9		1234679D	540	
1379D	1.94		12469D	3.78		123468D	6.47		1234678D	482	
1369D	(0.668)		12368D	6.56		123679/123689D	41.2				
1469D	5.15		12478D	2.93		123469D	[2.22]	J			
1247D...[4]	[6.85]		12379D	1.73	J	123478D	[2.14]	J			
1378D	9.49		12369D...[3]	2.99		123678D	14.5				
1268D	(0.668)		12346/12347D	1.08	J	123467D	1.74	J			
1478D	7.51		12378D	36.5		123789D	6.15		**Conc.**	1,020	
1279D	(0.668)		12367D	[2.09]	J				**EMPC**	1,020	
1234/1269D	1.72		12389D	1.18	J						
1236D	[0.738]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	51										
1239D	(0.668)								OCDD	6330	
2378D	3310	E									
1278D	256										
1267D	[16.9]										
1289D	[9.38]										
Conc.	3,640		**Conc.**	63		**Conc.**	130				
EMPC	3,680		**EMPC**	65.1		**EMPC**	134				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	4,830	4,830
TEQ: ND=DL/2	4,830	4,830
TEQ: ND=DL	4,830	4,830

	Conc.	EMPC
Total PCDD/Fs	43,500	43,500

Checkcode: 857-991-FLL

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-B-7 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6171_18853_DF_003	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	71.3 %	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:04:39

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.27		13468/12468F	31.9		123468F	14		1234678F	276	
1468F	17.7		13678F...[3]	8.13		124678/134678F	74.6		1234679F	9.76	
2468F	17.9		12368F...[3]	208		134679F	(0.742)		1234689F	186	
1346/1246F	28		14678F	6.62		124679F	2.02	J	1234789F	73.7	
1347F...[3]	75.5		13479F	(0.913)		124689F	60.7				
1348F	38.3		13469/12479F	2.48		123467F	5.52				
1248F...[3]	497		12346F	[1.16]	J	123478F	593				
1268F	206		23468/12469F	13.9		123678F	144				
1467F	29.9		12347F	10		123479F	(0.742)				
1478F	530		12348F	53.4		123469F	4.74				
1369/1237F	134		12378F	433		123679F	(0.742)				
2467F	15.9		12678/12367F	131		234678F	34.2		**Conc.**	546	
2368F	310		12379F	(0.913)		234678/123689F	0		**EMPC**	546	
1238F...[5]	765		12679F	1.17	J	123689F	(0.742)				
1278F	6320	E	23467/12369F	7.89		123789F	(0.682)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.755)		23478F	352		123789/123489F	0				
1267F	323		23478/12489F	0		123489F	53.8		OCDF	3660	
2346/1249F	41.3		12489F	(0.913)							
2347/1279F	154		12349F	(0.913)							
2348F	1220	E	12389F	20.2							
2378F	12800	E									
2367/3467F	1060	E									
1269F	184										
1239F	18.3										
1289F	1070	E									
Conc.	25,800		**Conc.**	1,280		**Conc.**	987				
EMPC	25,800		**EMPC**	1,280		**EMPC**	987				

Checkcode: 857-991-FLL

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-B-7 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	QC Batch No.:	18853
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 22:04
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	3310	E	0.668	3310	3310	3310
12378-PeCDD	36.5		0.541	18.2	36.5	36.5
123478-HxCDD	[2.14]	J	0.997	[0.214]	[0.214]	[0.214]
123678-HxCDD	14.5		1.12	1.45	1.45	1.45
123789-HxCDD	6.15		1.03	0.615	0.615	0.615
1234678-HpCDD	482		0.772	4.82	4.82	4.82
OCDD	6330		1.3	6.33	0.633	1.9
2378-TCDF	12800	E	0.755	1280	1280	1280
12378-PeCDF	433		0.811	21.7	21.7	13
23478-PeCDF	352		1.04	176	176	105
123478-HxCDF	593		0.617	59.3	59.3	59.3
123678-HxCDF	144		0.59	14.4	14.4	14.4
234678-HxCDF	34.2		1.37	3.42	3.42	3.42
123789-HxCDF	(0.682)		0.682	(0.0682)	(0.0682)	(0.0682)
1234678-HpCDF	276		0.496	2.76	2.76	2.76
1234789-HpCDF	73.7		0.577	0.737	0.737	0.737
OCDF	3660		1.13	3.66	0.366	1.1

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TEQ Summaries			
EMPC = 0, ND = 0	4900	4910	4830
EMPC = 0, ND = DL / 2	4900	4910	4830
EMPC = 0, ND = DL	4900	4910	4830
EMPC = 0, < J-level = 0	4900	4910	4830
EMPC = EMPC, ND = 0	4900	4910	4830
EMPC = EMPC, ND = DL / 2	4900	4910	4830
EMPC = EMPC, ND = DL	4900	4910	4830
EMPC = EMPC, < J-level = 0	4900	4910	4830

Checkcode: 857-991-FLL

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Sample ID: 11215131-011022-S-BN-NC-B-7-MS — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6171_18853_DF_003MS	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	71.3 %	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:52:07

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	4,040			E	ES 2378-TCDD	91.1	
12378-PeCDD	142				ES 12378-PeCDD	84.5	
123478-HxCDD	112				ES 123478-HxCDD	88	
123678-HxCDD	131				ES 123678-HxCDD	83.4	
123789-HxCDD	114				ES 123789-HxCDD	82	
1234678-HpCDD	640				ES 1234678-HpCDD	84.7	
OCDD	7,450				ES OCDD	69.2	
2378-TCDF	15,400			E	ES 2378-TCDF	81.5	
12378-PeCDF	720				ES 12378-PeCDF	85.1	
23478-PeCDF	568				ES 23478-PeCDF	67.1	
123478-HxCDF	1,020				ES 123478-HxCDF	97.5	
123678-HxCDF	330				ES 123678-HxCDF	96	
234678-HxCDF	169				ES 234678-HxCDF	52	
123789-HxCDF	81.2				ES 123789-HxCDF	103	
1234678-HpCDF	436				ES 1234678-HpCDF	103	
1234789-HpCDF	203				ES 1234789-HpCDF	99.7	
OCDF	3,830				ES OCDF	80.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.7	
Total TCDD	4,510		4,570		CS 12347-PeCDD	91.4	
Total PeCDD	206		214		CS 12346-PeCDF	90.4	
Total HxCDD	507		507		CS 123469-HxCDF	112	
Total HpCDD	1,230		1,230		CS 1234689-HpCDF	117	
Total TCDF	30,800		30,800				
Total PeCDF	2,150		2,150				
Total HxCDF	2,210		2,210				
Total HpCDF	848		848				
Total PCDD/Fs	**53,700**		**53,800**				
WHO-2005 TEQs							
TEQ: ND=0	6120		6120				
TEQ: ND=DL/2	6120	1.83	6120				
TEQ: ND=DL	6120	3.66	6120				

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Sample ID: 11215131-011022-S-BN-NC-B-7-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6171_18853_DF_003MSD	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	71.3 %	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:39:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	4,800			E	ES 2378-TCDD	89	
12378-PeCDD	145				ES 12378-PeCDD	80.9	
123478-HxCDD	110				ES 123478-HxCDD	92.1	
123678-HxCDD	127				ES 123678-HxCDD	88.1	
123789-HxCDD	113				ES 123789-HxCDD	84.4	
1234678-HpCDD	751				ES 1234678-HpCDD	80	
OCDD	8,660				ES OCDD	69	
2378-TCDF	17,300			E	ES 2378-TCDF	82.3	
12378-PeCDF	719				ES 12378-PeCDF	81.9	
23478-PeCDF	591				ES 23478-PeCDF	64.4	
123478-HxCDF	983				ES 123478-HxCDF	98.8	
123678-HxCDF	309				ES 123678-HxCDF	100	
234678-HxCDF	169				ES 234678-HxCDF	54.2	
123789-HxCDF	99				ES 123789-HxCDF	101	
1234678-HpCDF	489				ES 1234678-HpCDF	103	
1234789-HpCDF	208				ES 1234789-HpCDF	96.5	
OCDF	4,730				ES OCDF	78.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.5	
Total TCDD	5,300		5,370		CS 12347-PeCDD	83.3	
Total PeCDD	223		227		CS 12346-PeCDF	84.3	
Total HxCDD	516		516		CS 123469-HxCDF	117	
Total HpCDD	1,460		1,460		CS 1234689-HpCDF	116	
Total TCDF	35,200		35,200				
Total PeCDF	2,210		2,210				
Total HxCDF	2,160		2,160				
Total HpCDF	942		942				
Total PCDD/Fs	**61,400**		**61,500**				
WHO-2005 TEQs							
TEQ: ND=0	7080		7080				
TEQ: ND=DL/2	7080	1.35	7080				
TEQ: ND=DL	7080	2.7	7080				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-011022-S-BN-NC-B-7

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	3310	19.6	4040	3700	19.9	4800	7490	68%
1,2,3,7,8-PeCDD	36.5	98.1	142	108	99.3	145	110	2%
1,2,3,4,7,8-HxCDD	2.14	98.1	112	112	99.3	110	108	4%
1,2,3,6,7,8-HxCDD	14.5	98.1	131	118	99.3	127	113	4%
1,2,3,7,8,9-HxCDD	6.15	98.1	114	110	99.3	113	108	2%
1,2,3,4,6,7,8-HpCDD	482	98.1	640	161	99.3	751	271	51%
OCDD	6330	196	7450	574	199	8660	1170	68%
2,3,7,8-TCDF	12800	19.6	15400	13500	19.9	17300	22800	51%
1,2,3,7,8-PeCDF	433	98.1	720	293	99.3	719	287	2%
2,3,4,7,8-PeCDF	352	98.1	568	221	99.3	591	241	9%
1,2,3,4,7,8-HxCDF	593	98.1	1020	433	99.3	983	393	10%
1,2,3,6,7,8-HxCDF	144	98.1	330	190	99.3	309	165	14%
2,3,4,6,7,8-HxCDF	34.2	98.1	169	138	99.3	169	136	1%
1,2,3,7,8,9-HxCDF	ND	98.1	81.2	82.7	99.3	99	99.7	19%
1,2,3,4,6,7,8-HpCDF	276	98.1	436	163	99.3	489	214	27%
1,2,3,4,7,8,9-HpCDF	73.7	98.1	203	132	99.3	208	136	3%
OCDF	3660	196	3830	88.4	199	4730	538	144%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-011022-S-BN-DUP-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6171_18853_DF_004	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	67.9 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:27:11

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	5,010			E	ES 2378-TCDD	94.8	
12378-PeCDD	55.9				ES 12378-PeCDD	83.7	
123478-HxCDD	3.89				ES 123478-HxCDD	97.5	
123678-HxCDD	19.8				ES 123678-HxCDD	98.1	
123789-HxCDD	8.48				ES 123789-HxCDD	88.6	
1234678-HpCDD	825				ES 1234678-HpCDD	85.6	
OCDD	10,000			E	ES OCDD	72.5	
2378-TCDF	19,500			E	ES 2378-TCDF	82.6	
12378-PeCDF	630				ES 12378-PeCDF	85	
23478-PeCDF	501				ES 23478-PeCDF	66.5	
123478-HxCDF	924				ES 123478-HxCDF	105	
123678-HxCDF	215				ES 123678-HxCDF	106	
234678-HxCDF	50.3				ES 234678-HxCDF	56.5	
123789-HxCDF	ND	0.713			ES 123789-HxCDF	108	
1234678-HpCDF	411				ES 1234678-HpCDF	108	
1234789-HpCDF	115				ES 1234789-HpCDF	99.9	
OCDF	4,680				ES OCDF	82.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.7	
Total TCDD	5,530		5,580		CS 12347-PeCDD	87	
Total PeCDD	88.6		96		CS 12346-PeCDF	88.6	
Total HxCDD	224		224		CS 123469-HxCDF	122	
Total HpCDD	2,080		2,080		CS 1234689-HpCDF	121	
Total TCDF	39,100		39,100				
Total PeCDF	1,840		1,840				
Total HxCDF	1,510		1,510				
Total HpCDF	821		821				
Total PCDD/Fs	**65,900**		**66,000**				
WHO-2005 TEQs							
TEQ: ND=0	7320		7320				
TEQ: ND=DL/2	7320	1.34	7320				
TEQ: ND=DL	7320	2.67	7320				

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Sample ID: 11215131-011022-S-BN-DUP-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6171_18853_DF_004	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	67.9 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:27:11

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	6.85		12479/12468D	8.4		124679/124689D	99.6		1234679D	1260	
1379D	3.2		12469D	5.27		123468D	11.8		1234678D	825	
1369D	(0.658)		12368D	9.26		123679/123689D	67.3				
1469D	5.06		12478D	4.19		123469D	9.17				
1247D...[4]	[9.35]		12379D	[2.17]	J	123478D	3.89				
1378D	14.9		12369D...[3]	3.92		123678D	19.8				
1268D	(0.658)		12346/12347D	1.68	J	123467D	3.89				
1478D	11.5		12378D	55.9		123789D	8.48		**Conc.**	2,080	
1279D	[0.706]		12367D	[4.13]					**EMPC**	2,080	
1234/1269D	[2.19]		12389D	[1.08]	J						
1236D	[1.27]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	78.9										
1239D	(0.658)								OCDD	10000	E
2378D	5010	E									
1278D	403										
1267D	[22.6]										
1289D	[13.3]										
Conc.	5,530		**Conc.**	88.6		**Conc.**	224				
EMPC	5,580		**EMPC**	96		**EMPC**	224				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	7,320	7,320
TEQ: ND=DL/2	7,320	7,320
TEQ: ND=DL	7,320	7,320

	Conc.	EMPC
Total PCDD/Fs	65,900	66,000

Checkcode: 560-090-SLJ

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-DUP-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6171_18853_DF_004	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	67.9 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:27:11

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	4.38		13468/12468F	41.8		123468F	19.1		1234678F	411	
1468F	25.4		13678F...[3]	10.8		124678/134678F	107		1234679F	12	
2468F	25.3		12368F...[3]	300		134679F	[0.669]	J	1234689F	283	
1346/1246F	21.8		14678F	11.6		124679F	2.62		1234789F	115	
1347F...[3]	106		13479F	(1.12)		124689F	88				
1348F	99.3		13469/12479F	[3.87]		123467F	6.58				
1248F...[3]	443		12346F	1.83	J	123478F	924				
1268F	261		23468/12469F	18.6		123678F	215				
1467F	49.4		12347F	15.7		123479F	7.47				
1478F	688		12348F	74.7		123469F	6.11				
1369/1237F	197		12378F	630		123679F	2.81				
2467F	22.6		12678/12367F	190		234678F	50.3		**Conc.**	821	
2368F	558		12379F	(1.12)		234678/123689F	0		**EMPC**	821	
1238F...[5]	1100	E	12679F	(1.12)		123689F	(0.787)				
1278F	9880	E	23467/12369F	11.1		123789F	(0.713)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(1.24)		23478F	501		123789/123489F	0				
1267F	471		23478/12489F	0		123489F	80.6		OCDF	4680	
2346/1249F	53		12489F	(1.12)							
2347/1279F	236		12349F	(1.12)							
2348F	1840	E	12389F	31.4							
2378F	19500	E									
2367/3467F	1640	E									
1269F	256										
1239F	37.4										
1289F	1630	E									
Conc.	39,100		**Conc.**	1,840		**Conc.**	1,510				
EMPC	39,100		**EMPC**	1,840		**EMPC**	1,510				

Checkcode: 560-090-SLJ

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011022-S-BN-DUP-12 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18853
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 00:27
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	5010	E	0.658	5010	5010	5010
12378-PeCDD	55.9		0.774	28	55.9	55.9
123478-HxCDD	3.89		0.984	0.389	0.389	0.389
123678-HxCDD	19.8		0.968	1.98	1.98	1.98
123789-HxCDD	8.48		1.1	0.848	0.848	0.848
1234678-HpCDD	825		0.746	8.25	8.25	8.25
OCDD	10000	E	1.16	10	1	3
2378-TCDF	19500	E	1.24	1950	1950	1950
12378-PeCDF	630		0.908	31.5	31.5	18.9
23478-PeCDF	501		1.38	250	250	150
123478-HxCDF	924		0.638	92.4	92.4	92.4
123678-HxCDF	215		0.587	21.5	21.5	21.5
234678-HxCDF	50.3		1.6	5.03	5.03	5.03
123789-HxCDF	(0.713)		0.713	(0.0713)	(0.0713)	(0.0713)
1234678-HpCDF	411		0.34	4.11	4.11	4.11
1234789-HpCDF	115		0.399	1.15	1.15	1.15
OCDF	4680		0.774	4.68	0.468	1.41

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TEQ Summaries			
EMPC = 0, ND = 0	7420	7430	7320
EMPC = 0, ND = DL / 2	7420	7430	7320
EMPC = 0, ND = DL	7420	7430	7320
EMPC = 0, < J-level = 0	7420	7430	7320
EMPC = EMPC, ND = 0	7420	7430	7320
EMPC = EMPC, ND = DL / 2	7420	7430	7320
EMPC = EMPC, ND = DL	7420	7430	7320
EMPC = EMPC, < J-level = 0	7420	7430	7320

Checkcode: 560-090-SLJ

Sample ID: 11215131-011122-S-BN-NC-O-30 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID	B6171_18853_DF_005	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	81.3 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:14:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	43.5				ES 2378-TCDD	86.1	
12378-PeCDD	EMPC		1.09	J	ES 12378-PeCDD	81	
123478-HxCDD	EMPC		1.33	J	ES 123478-HxCDD	85.6	
123678-HxCDD	3.9				ES 123678-HxCDD	83.2	
123789-HxCDD	2.53				ES 123789-HxCDD	81.7	
1234678-HpCDD	118				ES 1234678-HpCDD	75.1	
OCDD	1,590				ES OCDD	52.8	
2378-TCDF	164				ES 2378-TCDF	85.5	
12378-PeCDF	7.38				ES 12378-PeCDF	89.7	
23478-PeCDF	5.08				ES 23478-PeCDF	87.5	
123478-HxCDF	12.2				ES 123478-HxCDF	97.7	
123678-HxCDF	3.15				ES 123678-HxCDF	101	
234678-HxCDF	EMPC		1.28	J	ES 234678-HxCDF	55	
123789-HxCDF	ND	0.776			ES 123789-HxCDF	85.9	
1234678-HpCDF	22.7				ES 1234678-HpCDF	103	
1234789-HpCDF	2.92				ES 1234789-HpCDF	72.7	
OCDF	98.6				ES OCDF	53.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.5	
Total TCDD	43.5		48.5		CS 12347-PeCDD	93.5	
Total PeCDD	ND		3.4		CS 12346-PeCDF	100	
Total HxCDD	44.5		48.5		CS 123469-HxCDF	117	
Total HpCDD	353		353		CS 1234689-HpCDF	110	
Total TCDF	257		275				
Total PeCDF	22.7		23.3				
Total HxCDF	35.4		39				
Total HpCDF	65.6		65.6				
Total PCDD/Fs	**2,510**		**2,540**				
WHO-2005 TEQs							
TEQ: ND=0	65.8		67.2				
TEQ: ND=DL/2	65.9	1.33	67.2				
TEQ: ND=DL	65.9	2.66	67.3				

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Sample ID: 11215131-011122-S-BN-NC-O-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6171_18853_DF_005	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	81.3 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:14:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.921)		12479/12468D	(0.81)		124679/124689D	22.6		1234679D	236	
1379D	(0.921)		12469D	[2.31]	J	123468D	1.82	J	1234678D	118	
1369D	(0.921)		12368D	(0.81)		123679/123689D	13.6				
1469D	[1.31]		12478D	(0.81)		123469D	[1.64]	J			
1247D...[4]	(0.921)		12379D	(0.81)		123478D	[1.33]	J			
1378D	(0.921)		12369D...[3]	(0.81)		123678D	3.9				
1268D	(0.921)		12346/12347D	(0.81)		123467D	[1.06]	J			
1478D	(0.921)		12378D	[1.09]	J	123789D	2.53		**Conc.**	353	
1279D	(0.921)		12367D	(0.81)					**EMPC**	353	
1234/1269D	(0.921)		12389D	(0.81)							
1236D	(0.921)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.921)										
1239D	(0.921)								OCDD	1590	
2378D	43.5										
1278D	[3.61]										
1267D	(0.921)										
1289D	(0.921)										
Conc.	43.5		**Conc.**	0		**Conc.**	44.5				
EMPC	48.5		**EMPC**	3.4		**EMPC**	48.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	65.8	67.2
TEQ: ND=DL/2	65.9	67.2
TEQ: ND=DL	65.9	67.3

	Conc.	EMPC
Total PCDD/Fs	2,510	2,540

Checkcode: 289-914-XMH

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-O-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6171_18853_DF_005	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	81.3 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:14:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(1.12)		13468/12468F	2.9		123468F	[2.31]	J	1234678F	22.7	
1468F	(1.12)		13678F...[3]	(0.55)		124678/134678F	9.3		1234679F	(0.745)	
2468F	(1.12)		12368F...[3]	5		134679F	(0.733)		1234689F	39.9	
1346/1246F	(1.12)		14678F	(0.55)		124679F	(0.733)		1234789F	2.92	
1347F...[3]	2.26		13479F	(0.55)		124689F	9.63				
1348F	(1.12)		13469/12479F	(0.55)		123467F	(0.733)				
1248F...[3]	4.01		12346F	(0.55)		123478F	12.2				
1268F	2.21		23468/12469F	[0.625]	J	123678F	3.15				
1467F	(1.12)		12347F	(0.55)		123479F	(0.733)				
1478F	[3.28]		12348F	(0.55)		123469F	(0.733)				
1369/1237F	2.35		12378F	7.38		123679F	(0.733)				
2467F	(1.12)		12678/12367F	2.36	J	234678F	[1.28]	J	**Conc.**	65.6	
2368F	[6.84]		12379F	(0.55)		234678/123689F	0		**EMPC**	65.6	
1238F...[5]	3.72		12679F	(0.55)		123689F	(0.733)				
1278F	42.6		23467/12369F	(0.55)		123789F	(0.776)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(1.12)		23478F	5.08		123789/123489F	0				
1267F	3.94		23478/12489F	0		123489F	1.07	J	OCDF	98.6	
2346/1249F	(1.12)		12489F	(0.55)							
2347/1279F	2.22		12349F	(0.55)							
2348F	[5.62]		12389F	(0.55)							
2378F	164										
2367/3467F	21										
1269F	[1.63]										
1239F	(1.12)										
1289F	8.89										
Conc.	257		**Conc.**	22.7		**Conc.**	35.4				
EMPC	275		**EMPC**	23.3		**EMPC**	39				

Checkcode: 289-914-XMH

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-O-30 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	QC Batch No.:	18853
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 01:14
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	43.5		0.921	43.5	43.5	43.5
12378-PeCDD	[1.09]	J	0.81	[0.547]	[1.09]	[1.09]
123478-HxCDD	[1.33]	J	0.887	[0.133]	[0.133]	[0.133]
123678-HxCDD	3.9		0.956	0.39	0.39	0.39
123789-HxCDD	2.53		0.981	0.253	0.253	0.253
1234678-HpCDD	118		0.898	1.18	1.18	1.18
OCDD	1590		1.94	1.59	0.159	0.476
2378-TCDF	164		1.12	16.4	16.4	16.4
12378-PeCDF	7.38		0.531	0.369	0.369	0.221
23478-PeCDF	5.08		0.57	2.54	2.54	1.53
123478-HxCDF	12.2		0.591	1.22	1.22	1.22
123678-HxCDF	3.15		0.558	0.315	0.315	0.315
234678-HxCDF	[1.28]	J	1.27	[0.128]	[0.128]	[0.128]
123789-HxCDF	(0.776)		0.776	(0.0776)	(0.0776)	(0.0776)
1234678-HpCDF	22.7		0.604	0.227	0.227	0.227
1234789-HpCDF	2.92		0.97	0.0292	0.0292	0.0292
OCDF	98.6		1.63	0.0986	0.00986	0.0296

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TEQ Summaries			
EMPC = 0, ND = 0	68.2	66.7	65.8
EMPC = 0, ND = DL / 2	68.2	66.7	65.9
EMPC = 0, ND = DL	68.3	66.7	65.9
EMPC = 0, < J-level = 0	68.2	66.7	65.8
EMPC = EMPC, ND = 0	69	68	67.2
EMPC = EMPC, ND = DL / 2	69	68	67.2
EMPC = EMPC, ND = DL	69.1	68.1	67.3
EMPC = EMPC, < J-level = 0	68.2	66.7	65.8

Checkcode: 289-914-XMH

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Sample ID: 11215131-011122-S-BN-NC-O-32 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6171_18853_DF_006	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.3 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:02:11

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	100				ES 2378-TCDD	83.8	
12378-PeCDD	EMPC		1.82	J	ES 12378-PeCDD	82.8	
123478-HxCDD	EMPC		1.36	J	ES 123478-HxCDD	94	
123678-HxCDD	5.88				ES 123678-HxCDD	94.5	
123789-HxCDD	3.75				ES 123789-HxCDD	93.7	
1234678-HpCDD	178				ES 1234678-HpCDD	84.2	
OCDD	2,800				ES OCDD	65.5	
2378-TCDF	340				ES 2378-TCDF	86.4	
12378-PeCDF	17.2				ES 12378-PeCDF	89.6	
23478-PeCDF	13.3				ES 23478-PeCDF	89.5	
123478-HxCDF	26.9				ES 123478-HxCDF	107	
123678-HxCDF	6.74				ES 123678-HxCDF	111	
234678-HxCDF	2.98				ES 234678-HxCDF	58.6	
123789-HxCDF	ND	0.738			ES 123789-HxCDF	98.6	
1234678-HpCDF	41.5				ES 1234678-HpCDF	110	
1234789-HpCDF	5.23				ES 1234789-HpCDF	85.7	
OCDF	230				ES OCDF	66.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.1	
Total TCDD	113		115		CS 12347-PeCDD	88.7	
Total PeCDD	ND		7.97		CS 12346-PeCDF	95	
Total HxCDD	64.2		67.5		CS 123469-HxCDF	127	
Total HpCDD	481		481		CS 1234689-HpCDF	119	
Total TCDF	600		635				
Total PeCDF	57.6		60.1				
Total HxCDF	75.7		75.7				
Total HpCDF	102		104				
Total PCDD/Fs	**4,520**		**4,570**				
WHO-2005 TEQs							
TEQ: ND=0	147		149				
TEQ: ND=DL/2	147	1.12	149				
TEQ: ND=DL	147	2.23	149				

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Sample ID: 11215131-011122-S-BN-NC-O-32 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6171_18853_DF_006	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.3 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:02:11

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.938		12479/12468D	[2.55]		124679/124689D	30.1		1234679D	303	
1379D	(0.561)		12469D	[2.42]	J	123468D	3.13		1234678D	178	
1369D	(0.561)		12368D	(0.789)		123679/123689D	19.9				
1469D	[1.38]		12478D	(0.789)		123469D	[1.96]	J			
1247D...[4]	(0.561)		12379D	(0.789)		123478D	[1.36]	J			
1378D	(0.561)		12369D...[3]	[1.18]	J	123678D	5.88				
1268D	(0.561)		12346/12347D	(0.789)		123467D	1.43	J			
1478D	(0.561)		12378D	[1.82]	J	123789D	3.75		**Conc.**	481	
1279D	(0.561)		12367D	(0.789)					**EMPC**	481	
1234/1269D	(0.561)		12389D	(0.789)							
1236D	(0.561)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.88										
1239D	(0.561)								OCDD	2800	
2378D	100										
1278D	10.2										
1267D	(0.561)										
1289D	(0.561)										
Conc.	113		**Conc.**	0		**Conc.**	64.2				
EMPC	115		**EMPC**	7.97		**EMPC**	67.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	147	149
TEQ: ND=DL/2	147	149
TEQ: ND=DL	147	149

	Conc.	EMPC
Total PCDD/Fs	4,520	4,570

Checkcode: 541-632-LFW

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-O-32 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6171_18853_DF_006	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	79.3 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:02:11

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.797)		13468/12468F	6.02		123468F	4.51		1234678F	41.5	
1468F	(0.797)		13678F...[3]	1.87	J	124678/134678F	16.4		1234679F	[1.35]	J
2468F	[1.63]		12368F...[3]	10.2		134679F	(0.744)		1234689F	55.7	
1346/1246F	[1.15]		14678F	[0.77]	J	124679F	(0.744)		1234789F	5.23	
1347F...[3]	[3.45]		13479F	(0.643)		124689F	14.1				
1348F	0.977		13469/12479F	(0.643)		123467F	1.25	J			
1248F...[3]	14		12346F	(0.643)		123478F	26.9				
1268F	5.75		23468/12469F	[1.75]	J	123678F	6.74				
1467F	[1.27]		12347F	(0.643)		123479F	(0.744)				
1478F	13.3		12348F	1.87	J	123469F	(0.744)				
1369/1237F	[3.71]		12378F	17.2		123679F	(0.744)				
2467F	0.953		12678/12367F	6.5		234678F	2.98		**Conc.**	102	
2368F	[9.79]		12379F	(0.643)		234678/123689F	0		**EMPC**	104	
1238F...[5]	[13.4]		12679F	(0.643)		123689F	(0.744)				
1278F	130		23467/12369F	0.756	J	123789F	(0.738)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.797)		23478F	13.3		123789/123489F	0				
1267F	8.37		23478/12489F	0		123489F	2.72		OCDF	230	
2346/1249F	(0.797)		12489F	(0.643)							
2347/1279F	4.61		12349F	(0.643)							
2348F	20.1		12389F	(0.643)							
2378F	340										
2367/3467F	32.4										
1269F	4.58										
1239F	(0.797)										
1289F	24.7										
Conc.	600		**Conc.**	57.6		**Conc.**	75.7				
EMPC	635		**EMPC**	60.1		**EMPC**	75.7				

Checkcode: 541-632-LFW

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-O-32 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18853
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 02:02
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	100		0.561	100	100	100
12378-PeCDD	[1.82]	J	0.789	[0.912]	[1.82]	[1.82]
123478-HxCDD	[1.36]	J	0.806	[0.136]	[0.136]	[0.136]
123678-HxCDD	5.88		0.833	0.588	0.588	0.588
123789-HxCDD	3.75		0.782	0.375	0.375	0.375
1234678-HpCDD	178		0.797	1.78	1.78	1.78
OCDD	2800		1.48	2.8	0.28	0.839
2378-TCDF	340		0.797	34	34	34
12378-PeCDF	17.2		0.651	0.859	0.859	0.515
23478-PeCDF	13.3		0.634	6.63	6.63	3.98
123478-HxCDF	26.9		0.598	2.69	2.69	2.69
123678-HxCDF	6.74		0.565	0.674	0.674	0.674
234678-HxCDF	2.98		1.38	0.298	0.298	0.298
123789-HxCDF	(0.738)		0.738	(0.0738)	(0.0738)	(0.0738)
1234678-HpCDF	41.5		0.607	0.415	0.415	0.415
1234789-HpCDF	5.23		0.848	0.0523	0.0523	0.0523
OCDF	230		1.38	0.23	0.023	0.069

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TEQ Summaries			
EMPC = 0, ND = 0	152	149	147
EMPC = 0, ND = DL / 2	152	149	147
EMPC = 0, ND = DL	152	149	147
EMPC = 0, < J-level = 0	152	149	147
EMPC = EMPC, ND = 0	153	151	149
EMPC = EMPC, ND = DL / 2	153	151	149
EMPC = EMPC, ND = DL	153	151	149
EMPC = EMPC, < J-level = 0	152	149	147

Checkcode: 541-632-LFW

SGS North America - DF v0.99

Sample ID: 11215131-011122-S-BN-NC-B-9 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6171_18853_DF_007	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	71.3 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:49:40

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,630			E	ES 2378-TCDD	82.8	
12378-PeCDD	18.4				ES 12378-PeCDD	70.8	
123478-HxCDD	2.85				ES 123478-HxCDD	90	
123678-HxCDD	16				ES 123678-HxCDD	82.2	
123789-HxCDD	7.63				ES 123789-HxCDD	83.4	
1234678-HpCDD	536				ES 1234678-HpCDD	68.7	
OCDD	7,480				ES OCDD	64.1	
2378-TCDF	5,690			E	ES 2378-TCDF	82.7	
12378-PeCDF	202				ES 12378-PeCDF	76.6	
23478-PeCDF	167				ES 23478-PeCDF	70.2	
123478-HxCDF	310				ES 123478-HxCDF	93.7	
123678-HxCDF	79				ES 123678-HxCDF	94.9	
234678-HxCDF	21.4				ES 234678-HxCDF	57.3	
123789-HxCDF	ND	1.07			ES 123789-HxCDF	91.4	
1234678-HpCDF	275				ES 1234678-HpCDF	93.4	
1234789-HpCDF	48.7				ES 1234789-HpCDF	82.1	
OCDF	4,470				ES OCDF	66.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.1	
Total TCDD	1,810		1,820		CS 12347-PeCDD	78.9	
Total PeCDD	41.8		49.3		CS 12346-PeCDF	87.6	
Total HxCDD	161		163		CS 123469-HxCDF	111	
Total HpCDD	1,240		1,240		CS 1234689-HpCDF	106	
Total TCDF	11,100		11,100				
Total PeCDF	658		662				
Total HxCDF	602		604				
Total HpCDF	573		573				
Total PCDD/Fs	**28,100**		**28,200**				
WHO-2005 TEQs							
TEQ: ND=0	2330		2330				
TEQ: ND=DL/2	2330	1.34	2330				
TEQ: ND=DL	2330	2.68	2330				

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Sample ID: 11215131-011122-S-BN-NC-B-9 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6171_18853_DF_007	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	71.3 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:49:40

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	5.67		12479/12468D	7.51		124679/124689D	75.8		1234679D	703	
1379D	1.82		12469D	6.18		123468D	7.18		1234678D	536	
1369D	(0.588)		12368D	[4.55]		123679/123689D	48.8				
1469D	7.88		12478D	2.97		123469D	2.54				
1247D...[4]	[3.19]		12379D	2.03	J	123478D	2.85				
1378D	4.9		12369D...[3]	3.63		123678D	16				
1268D	(0.588)		12346/12347D	1.08	J	123467D	[1.96]	J			
1478D	3.82		12378D	18.4		123789D	7.63		**Conc.**	1,240	
1279D	(0.588)		12367D	[1.95]	J				**EMPC**	1,240	
1234/1269D	1.38		12389D	[0.974]	J						
1236D	(0.588)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	24.2										
1239D	(0.588)								OCDD	7480	
2378D	1630	E									
1278D	135										
1267D	(0.588)										
1289D	[4.81]										
Conc.	1,810		**Conc.**	41.8		**Conc.**	161				
EMPC	1,820		**EMPC**	49.3		**EMPC**	163				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,330	2,330
TEQ: ND=DL/2	2,330	2,330
TEQ: ND=DL	2,330	2,330

	Conc.	EMPC
Total PCDD/Fs	28,100	28,200

Checkcode: 250-190-WNN

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-B-9 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6171_18853_DF_007	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	71.3 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:49:40

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.57		13468/12468F	47.8		123468F	17.3		1234678F	275	
1468F	10.9		13678F...[3]	6.33		124678/134678F	72.6		1234679F	11.5	
2468F	15.8		12368F...[3]	113		134679F	(1.08)		1234689F	237	
1346/1246F	13.5		14678F	4.92		124679F	[1.94]	J	1234789F	48.7	
1347F...[3]	44.3		13479F	(1.09)		124689F	66.1				
1348F	15.9		13469/12479F	2.16	J	123467F	4.44				
1248F...[3]	255		12346F	1.24	J	123478F	310				
1268F	95.2		23468/12469F	12.4		123678F	79				
1467F	12.6		12347F	[4.51]		123479F	(1.08)				
1478F	240		12348F	22.4		123469F	3.96				
1369/1237F	59.4		12378F	202		123679F	(1.08)				
2467F	7.53		12678/12367F	65		234678F	21.4		**Conc.**	573	
2368F	236		12379F	(1.09)		234678/123689F	0		**EMPC**	573	
1238F...[5]	231		12679F	(1.09)		123689F	(1.08)				
1278F	2520	E	23467/12369F	4.07		123789F	(1.07)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.961)		23478F	167		123789/123489F	0				
1267F	137		23478/12489F	0		123489F	27.1		OCDF	4470	
2346/1249F	16.4		12489F	(1.09)							
2347/1279F	63.6		12349F	(1.09)							
2348F	457		12389F	9.01							
2378F	5690	E									
2367/3467F	475										
1269F	77.1										
1239F	10.1										
1289F	419										
Conc.	11,100		**Conc.**	658		**Conc.**	602				
EMPC	11,100		**EMPC**	662		**EMPC**	604				

Checkcode: 250-190-WNN

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-B-9 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18853
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 02:49
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1630	E	0.588	1630	1630	1630
12378-PeCDD	18.4		0.731	9.22	18.4	18.4
123478-HxCDD	2.85		1.36	0.285	0.285	0.285
123678-HxCDD	16		1.48	1.6	1.6	1.6
123789-HxCDD	7.63		1.36	0.763	0.763	0.763
1234678-HpCDD	536		0.908	5.36	5.36	5.36
OCDD	7480		1.8	7.48	0.748	2.24
2378-TCDF	5690	E	0.961	569	569	569
12378-PeCDF	202		1.06	10.1	10.1	6.07
23478-PeCDF	167		1.11	83.7	83.7	50.2
123478-HxCDF	310		0.877	31	31	31
123678-HxCDF	79		0.932	7.9	7.9	7.9
234678-HxCDF	21.4		1.68	2.14	2.14	2.14
123789-HxCDF	(1.07)		1.07	(0.107)	(0.107)	(0.107)
1234678-HpCDF	275		0.51	2.75	2.75	2.75
1234789-HpCDF	48.7		0.627	0.487	0.487	0.487
OCDF	4470		1.3	4.47	0.447	1.34

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TEQ Summaries			
EMPC = 0, ND = 0	2360	2360	2330
EMPC = 0, ND = DL / 2	2360	2360	2330
EMPC = 0, ND = DL	2360	2360	2330
EMPC = 0, < J-level = 0	2360	2360	2330
EMPC = EMPC, ND = 0	2360	2360	2330
EMPC = EMPC, ND = DL / 2	2360	2360	2330
EMPC = EMPC, ND = DL	2360	2360	2330
EMPC = EMPC, < J-level = 0	2360	2360	2330

Checkcode: 250-190-WNN

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Sample ID: 11215131-011122-S-BN-NC-O-28 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID	B6171_18853_DF_008	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	73.6 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:37:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,710			E	ES 2378-TCDD	94.7	
12378-PeCDD	17.8				ES 12378-PeCDD	82.9	
123478-HxCDD	1.44			J	ES 123478-HxCDD	96.6	
123678-HxCDD	7.16				ES 123678-HxCDD	93.7	
123789-HxCDD	3.47				ES 123789-HxCDD	96	
1234678-HpCDD	250				ES 1234678-HpCDD	87.1	
OCDD	11,700			E	ES OCDD	64.5	
2378-TCDF	6,260			E	ES 2378-TCDF	93.8	
12378-PeCDF	245				ES 12378-PeCDF	98.2	
23478-PeCDF	179				ES 23478-PeCDF	89.5	
123478-HxCDF	423				ES 123478-HxCDF	113	
123678-HxCDF	105				ES 123678-HxCDF	113	
234678-HxCDF	23				ES 234678-HxCDF	63.8	
123789-HxCDF	ND	0.871			ES 123789-HxCDF	109	
1234678-HpCDF	139				ES 1234678-HpCDF	112	
1234789-HpCDF	47.3				ES 1234789-HpCDF	91.2	
OCDF	540				ES OCDF	73.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.3	
Total TCDD	1,900		1,920		CS 12347-PeCDD	86.2	
Total PeCDD	30.5		32.8		CS 12346-PeCDF	96.3	
Total HxCDD	64.1		64.1		CS 123469-HxCDF	120	
Total HpCDD	584		584		CS 1234689-HpCDF	110	
Total TCDF	12,300		12,300				
Total PeCDF	673		677				
Total HxCDF	685		688				
Total HpCDF	287		290				
Total PCDD/Fs	**28,800**		**28,900**				
WHO-2005 TEQs							
TEQ: ND=0	2480		2480				
TEQ: ND=DL/2	2480	1.52	2480				
TEQ: ND=DL	2480	3.03	2480				

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Sample ID: 11215131-011122-S-BN-NC-O-28 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6171_18853_DF_008	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	73.6 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:37:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.08		12479/12468D	4.11		124679/124689D	24.6		1234679D	335	
1379D	1.24		12469D	[1.15]	J	123468D	5.62		1234678D	250	
1369D	(0.916)		12368D	3.25		123679/123689D	20.5				
1469D	(0.916)		12478D	2.07	J	123469D	(1.04)				
1247D...[4]	2.78		12379D	1.6	J	123478D	1.44	J			
1378D	4.93		12369D...[3]	1.65	J	123678D	7.16				
1268D	(0.916)		12346/12347D	(0.967)		123467D	1.33	J			
1478D	4.14		12378D	17.8		123789D	3.47		**Conc.**	584	
1279D	(0.916)		12367D	[1.17]	J				**EMPC**	584	
1234/1269D	(0.916)		12389D	(0.967)							
1236D	(0.916)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	26.3										
1239D	(0.916)								OCDD	11700	E
2378D	1710	E									
1278D	142										
1267D	[11.5]										
1289D	[5.63]										
Conc.	1,900		**Conc.**	30.5		**Conc.**	64.1				
EMPC	1,920		**EMPC**	32.8		**EMPC**	64.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,480	2,480
TEQ: ND=DL/2	2,480	2,480
TEQ: ND=DL	2,480	2,480

	Conc.	EMPC
Total PCDD/Fs	28,800	28,900

Checkcode: 822-366-VQR

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-O-28 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6171_18853_DF_008	Date Extracted:	19-Jan-2022
Date Collected:	11-Jan-2022	% Solid:	73.6 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:37:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(1.22)		13468/12468F	14.1		123468F	8.35		1234678F	139	
1468F	8.17		13678F...[3]	5.13		124678/134678F	49		1234679F	[2.9]	
2468F	8.04		12368F...[3]	108		134679F	(0.919)		1234689F	101	
1346/1246F	12.5		14678F	[4]		124679F	0.703	J	1234789F	47.3	
1347F...[3]	47.5		13479F	(0.856)		124689F	32.1				
1348F	10.4		13469/12479F	(0.856)		123467F	4.46				
1248F...[3]	274		12346F	1.42	J	123478F	423				
1268F	92.6		23468/12469F	6		123678F	105				
1467F	15		12347F	5.34		123479F	3.61				
1478F	251		12348F	22.7		123469F	[2.09]	J			
1369/1237F	60.6		12378F	245		123679F	[1.35]	J			
2467F	8.05		12678/12367F	71.3		234678F	23		**Conc.**	287	
2368F	183		12379F	(0.856)		234678/123689F	0		**EMPC**	290	
1238F...[5]	305		12679F	(0.856)		123689F	(0.919)				
1278F	2940	E	23467/12369F	4.4		123789F	(0.871)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(1.22)		23478F	179		123789/123489F	0				
1267F	150		23478/12489F	0		123489F	35.7		OCDF	540	
2346/1249F	19.1		12489F	(0.856)							
2347/1279F	68.1		12349F	(0.856)							
2348F	536		12389F	10.1							
2378F	6260	E									
2367/3467F	499										
1269F	92.2										
1239F	8.38										
1289F	503										
Conc.	12,300		**Conc.**	673		**Conc.**	685				
EMPC	12,300		**EMPC**	677		**EMPC**	688				

Checkcode: 822-366-VQR

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-011122-S-BN-NC-O-28 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	QC Batch No.:	18853
Date Collected:	11-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 03:37
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1710	E	0.916	1710	1710	1710
12378-PeCDD	17.8		0.967	8.91	17.8	17.8
123478-HxCDD	1.44	J	1.01	0.144	0.144	0.144
123678-HxCDD	7.16		1.16	0.716	0.716	0.716
123789-HxCDD	3.47		0.953	0.347	0.347	0.347
1234678-HpCDD	250		0.884	2.5	2.5	2.5
OCDD	11700	E	2.05	11.7	1.17	3.52
2378-TCDF	6260	E	1.22	626	626	626
12378-PeCDF	245		0.818	12.3	12.3	7.35
23478-PeCDF	179		0.899	89.4	89.4	53.6
123478-HxCDF	423		0.773	42.3	42.3	42.3
123678-HxCDF	105		0.715	10.5	10.5	10.5
234678-HxCDF	23		1.64	2.3	2.3	2.3
123789-HxCDF	(0.871)		0.871	(0.0871)	(0.0871)	(0.0871)
1234678-HpCDF	139		0.53	1.39	1.39	1.39
1234789-HpCDF	47.3		0.712	0.473	0.473	0.473
OCDF	540		1.25	0.54	0.054	0.162

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TEQ Summaries			
EMPC = 0, ND = 0	2520	2520	2480
EMPC = 0, ND = DL / 2	2520	2520	2480
EMPC = 0, ND = DL	2520	2520	2480
EMPC = 0, < J-level = 0	2520	2520	2480
EMPC = EMPC, ND = 0	2520	2520	2480
EMPC = EMPC, ND = DL / 2	2520	2520	2480
EMPC = EMPC, ND = DL	2520	2520	2480
EMPC = EMPC, < J-level = 0	2520	2520	2480

Checkcode: 822-366-VQR

SGS North America - DF v0.99

Sample ID: 11215131-010722-S-BN-SW-O-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6171_18853_DF_009	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	87.0 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:24:40

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	22.4				ES 2378-TCDD	90.5	
12378-PeCDD	ND	0.84			ES 12378-PeCDD	82.1	
123478-HxCDD	ND	0.723			ES 123478-HxCDD	95.4	
123678-HxCDD	EMPC		1.03	J	ES 123678-HxCDD	98.9	
123789-HxCDD	0.941			J	ES 123789-HxCDD	90.7	
1234678-HpCDD	26.4				ES 1234678-HpCDD	80.5	
OCDD	337				ES OCDD	50.6	
2378-TCDF	76.7				ES 2378-TCDF	82.2	
12378-PeCDF	2.58				ES 12378-PeCDF	87.9	
23478-PeCDF	2.81				ES 23478-PeCDF	84.9	
123478-HxCDF	3.64				ES 123478-HxCDF	109	
123678-HxCDF	1.45			J	ES 123678-HxCDF	116	
234678-HxCDF	ND	1.19			ES 234678-HxCDF	56.7	
123789-HxCDF	ND	0.809			ES 123789-HxCDF	86.5	
1234678-HpCDF	4.3				ES 1234678-HpCDF	121	
1234789-HpCDF	ND	0.929			ES 1234789-HpCDF	76	
OCDF	13.6				ES OCDF	46.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.4	
Total TCDD	23.9		23.9		CS 12347-PeCDD	90.4	
Total PeCDD	ND	0.84	ND		CS 12346-PeCDF	94.7	
Total HxCDD	4.78		9.2		CS 123469-HxCDF	125	
Total HpCDD	83.7		83.7		CS 1234689-HpCDF	109	
Total TCDF	140		150				
Total PeCDF	13.7		14.7				
Total HxCDF	17		17				
Total HpCDF	10.5		10.5				
Total PCDD/Fs	**644**		**660**				
WHO-2005 TEQs							
TEQ: ND=0	32		32.1				
TEQ: ND=DL/2	32.5	1.34	32.6				
TEQ: ND=DL	33.1	2.67	33.2				

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Sample ID: 11215131-010722-S-BN-SW-O-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6171_18853_DF_009	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	87.0 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:24:40

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.945)		12479/12468D	(0.84)		124679/124689D	3.84		1234679D	57.3	
1379D	(0.945)		12469D	(0.84)		123468D	(0.771)		1234678D	26.4	
1369D	(0.945)		12368D	(0.84)		123679/123689D	[3.39]				
1469D	(0.945)		12478D	(0.84)		123469D	(0.771)				
1247D...[4]	(0.945)		12379D	(0.84)		123478D	(0.723)				
1378D	(0.945)		12369D...[3]	(0.84)		123678D	[1.03]	J			
1268D	(0.945)		12346/12347D	(0.84)		123467D	(0.771)				
1478D	(0.945)		12378D	(0.84)		123789D	0.941	J	**Conc.**	83.7	
1279D	(0.945)		12367D	(0.84)					**EMPC**	83.7	
1234/1269D	(0.945)		12389D	(0.84)							
1236D	(0.945)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.945)										
1239D	(0.945)								OCDD	337	
2378D	22.4										
1278D	1.53										
1267D	(0.945)										
1289D	(0.945)										
Conc.	23.9		**Conc.**	0		**Conc.**	4.78				
EMPC	23.9		**EMPC**	0		**EMPC**	9.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	32	32.1
TEQ: ND=DL/2	32.5	32.6
TEQ: ND=DL	33.1	33.2

	Conc.	EMPC
Total PCDD/Fs	644	660

Checkcode: 863-295-DGX

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-O-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6171_18853_DF_009	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	87.0 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:24:40

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.738)		13468/12468F	5.17		123468F	1.32	J	1234678F	4.3	
1468F	(0.738)		13678F...[3]	(0.734)		124678/134678F	6.18		1234679F	(0.67)	
2468F	1.41		12368F...[3]	3.13		134679F	(0.7)		1234689F	6.23	
1346/1246F	(0.738)		14678F	(0.734)		124679F	(0.7)		1234789F	(0.929)	
1347F...[3]	(0.738)		13479F	(0.734)		124689F	4.39				
1348F	[0.377]	J	13469/12479F	(0.734)		123467F	(0.7)				
1248F...[3]	[2.66]		12346F	(0.734)		123478F	3.64				
1268F	1.32		23468/12469F	(0.734)		123678F	1.45	J			
1467F	(0.738)		12347F	(0.734)		123479F	(0.7)				
1478F	2.94		12348F	(0.734)		123469F	(0.7)				
1369/1237F	(0.738)		12378F	2.58		123679F	(0.7)				
2467F	(0.738)		12678/12367F	[1.01]	J	234678F	(1.19)		**Conc.**	10.5	
2368F	2.47		12379F	(0.734)		234678/123689F	0		**EMPC**	10.5	
1238F...[5]	4.44		12679F	(0.734)		123689F	(0.7)				
1278F	35.4		23467/12369F	(0.734)		123789F	(0.809)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.738)		23478F	2.81		123789/123489F	0				
1267F	2.25		23478/12489F	0		123489F	(0.7)		OCDF	13.6	
2346/1249F	(0.738)		12489F	(0.734)							
2347/1279F	[1.02]		12349F	(0.734)							
2348F	5.15		12389F	(0.734)							
2378F	76.7										
2367/3467F	6.47										
1269F	1.66										
1239F	(0.738)										
1289F	[6.17]										
Conc.	140		**Conc.**	13.7		**Conc.**	17				
EMPC	150		**EMPC**	14.7		**EMPC**	17				

Checkcode: 863-295-DGX

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-O-16 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18853
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 04:24
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	22.4		0.945	22.4	22.4	22.4
12378-PeCDD	(0.84)		0.84	(0.42)	(0.84)	(0.84)
123478-HxCDD	(0.723)		0.723	(0.0723)	(0.0723)	(0.0723)
123678-HxCDD	[1.03]	J	0.76	[0.103]	[0.103]	[0.103]
123789-HxCDD	0.941	J	0.831	0.0941	0.0941	0.0941
1234678-HpCDD	26.4		0.838	0.264	0.264	0.264
OCDD	337		2.42	0.337	0.0337	0.101
2378-TCDF	76.7		0.738	7.67	7.67	7.67
12378-PeCDF	2.58		0.706	0.129	0.129	0.0775
23478-PeCDF	2.81		0.764	1.4	1.4	0.842
123478-HxCDF	3.64		0.563	0.364	0.364	0.364
123678-HxCDF	1.45	J	0.525	0.145	0.145	0.145
234678-HxCDF	(1.19)		1.19	(0.119)	(0.119)	(0.119)
123789-HxCDF	(0.809)		0.809	(0.0809)	(0.0809)	(0.0809)
1234678-HpCDF	4.3		0.526	0.043	0.043	0.043
1234789-HpCDF	(0.929)		0.929	(0.00929)	(0.00929)	(0.00929)
OCDF	13.6		2.12	0.0136	0.00136	0.00408

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TEQ Summaries			
EMPC = 0, ND = 0	32.8	32.5	32
EMPC = 0, ND = DL / 2	33.2	33.1	32.5
EMPC = 0, ND = DL	33.5	33.6	33.1
EMPC = 0, < J-level = 0	32.6	32.3	31.7
EMPC = EMPC, ND = 0	32.9	32.6	32.1
EMPC = EMPC, ND = DL / 2	33.3	33.2	32.6
EMPC = EMPC, ND = DL	33.6	33.7	33.2
EMPC = EMPC, < J-level = 0	32.6	32.3	31.7

Checkcode: 863-295-DGX

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Sample ID: 11215131-010722-S-BN-SW-B-18 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID	B6171_18853_DF_010	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	80.9 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:41:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	3.44				ES 2378-TCDD	80.6	
12378-PeCDD	ND	0.6			ES 12378-PeCDD	71.6	
123478-HxCDD	ND	0.71			ES 123478-HxCDD	94.8	
123678-HxCDD	EMPC		0.808	J	ES 123678-HxCDD	103	
123789-HxCDD	EMPC		1.05	J	ES 123789-HxCDD	88.2	
1234678-HpCDD	21.6				ES 1234678-HpCDD	84	
OCDD	477				ES OCDD	59.2	
2378-TCDF	12.7				ES 2378-TCDF	80.1	
12378-PeCDF	EMPC		0.882	J	ES 12378-PeCDF	85.6	
23478-PeCDF	ND	0.54			ES 23478-PeCDF	80.8	
123478-HxCDF	ND	0.526			ES 123478-HxCDF	98.7	
123678-HxCDF	ND	0.482			ES 123678-HxCDF	109	
234678-HxCDF	ND	0.959			ES 234678-HxCDF	64.3	
123789-HxCDF	ND	0.679			ES 123789-HxCDF	82.3	
1234678-HpCDF	ND	0.325			ES 1234678-HpCDF	124	
1234789-HpCDF	ND	0.531			ES 1234789-HpCDF	79	
OCDF	ND	1.36			ES OCDF	55.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	77.8	
Total TCDD	9.85		9.85		CS 12347-PeCDD	85	
Total PeCDD	5.39		6.43		CS 12346-PeCDF	93.8	
Total HxCDD	28.2		30.1		CS 123469-HxCDF	129	
Total HpCDD	85.5		85.5		CS 1234689-HpCDF	118	
Total TCDF	21.8		24.4				
Total PeCDF	ND		0.882				
Total HxCDF	ND	0.622	ND				
Total HpCDF	ND	0.4	ND				
Total PCDD/Fs	**628**		**635**				
WHO-2005 TEQs							
TEQ: ND=0	5.07		5.28				
TEQ: ND=DL/2	5.62	0.986	5.84				
TEQ: ND=DL	6.18	1.97	6.39				

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Sample ID: 11215131-010722-S-BN-SW-B-18 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6171_18853_DF_010	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	80.9 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:41:59

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.64)		12479/12468D	[1.04]	J	124679/124689D	23.1		1234679D	63.9	
1379D	(0.64)		12469D	3.91		123468D	(0.685)		1234678D	21.6	
1369D	(0.64)		12368D	(0.6)		123679/123689D	5.12				
1469D	6.41		12478D	(0.6)		123469D	(0.685)				
1247D...[4]	(0.64)		12379D	(0.6)		123478D	(0.71)				
1378D	(0.64)		12369D...[3]	1.48	J	123678D	[0.808]	J			
1268D	(0.64)		12346/12347D	(0.6)		123467D	(0.685)				
1478D	(0.64)		12378D	(0.6)		123789D	[1.05]	J	**Conc.**	85.5	
1279D	(0.64)		12367D	(0.6)					**EMPC**	85.5	
1234/1269D	(0.64)		12389D	(0.6)							
1236D	(0.64)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.64)										
1239D	(0.64)								OCDD	477	
2378D	3.44										
1278D	(0.64)										
1267D	(0.64)										
1289D	(0.64)										
Conc.	9.85		**Conc.**	5.39		**Conc.**	28.2				
EMPC	9.85		**EMPC**	6.43		**EMPC**	30.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	5.07	5.28
TEQ: ND=DL/2	5.62	5.84
TEQ: ND=DL	6.18	6.39

	Conc.	EMPC
Total PCDD/Fs	628	635

Checkcode: 290-389-PPM

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-B-18 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6171_18853_DF_010	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	80.9 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:41:59

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.679)		13468/12468F	(0.625)		123468F	(0.622)		1234678F	(0.325)	
1468F	(0.679)		13678F...[3]	(0.528)		124678/134678F	(0.622)		1234679F	(0.4)	
2468F	(0.679)		12368F...[3]	(0.528)		134679F	(0.622)		1234689F	(0.4)	
1346/1246F	(0.679)		14678F	(0.528)		124679F	(0.622)		1234789F	(0.531)	
1347F...[3]	(0.679)		13479F	(0.528)		124689F	(0.622)				
1348F	(0.679)		13469/12479F	(0.528)		123467F	(0.622)				
1248F...[3]	(0.679)		12346F	(0.528)		123478F	(0.526)				
1268F	(0.679)		23468/12469F	(0.528)		123678F	(0.482)				
1467F	(0.679)		12347F	(0.528)		123479F	(0.622)				
1478F	(0.679)		12348F	(0.528)		123469F	(0.622)				
1369/1237F	(0.679)		12378F	[0.882]	J	123679F	(0.622)				
2467F	(0.679)		12678/12367F	(0.528)		234678F	(0.959)		**Conc.**	0	
2368F	[0.728]		12379F	(0.528)		234678/123689F	0		**EMPC**	0	
1238F...[5]	[0.839]		12679F	(0.528)		123689F	(0.622)				
1278F	6.3		23467/12369F	(0.528)		123789F	(0.679)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.679)		23478F	(0.54)		123789/123489F	0				
1267F	(0.679)		23478/12489F	0		123489F	(0.622)		OCDF	(1.36)	
2346/1249F	(0.679)		12489F	(0.528)							
2347/1279F	(0.679)		12349F	(0.528)							
2348F	1.35		12389F	(0.528)							
2378F	12.7										
2367/3467F	1.38										
1269F	(0.679)										
1239F	(0.679)										
1289F	[1.04]										
Conc.	21.8		**Conc.**	0		**Conc.**	0				
EMPC	24.4		**EMPC**	0.882		**EMPC**	0				

Checkcode: 290-389-PPM

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010722-S-BN-SW-B-18 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_010
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	QC Batch No.:	18853
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 07:41
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	3.44		0.64	3.44	3.44	3.44
12378-PeCDD	(0.6)		0.6	(0.3)	(0.6)	(0.6)
123478-HxCDD	(0.71)		0.71	(0.071)	(0.071)	(0.071)
123678-HxCDD	[0.808]	J	0.611	[0.0808]	[0.0808]	[0.0808]
123789-HxCDD	[1.05]	J	0.742	[0.105]	[0.105]	[0.105]
1234678-HpCDD	21.6		0.709	0.216	0.216	0.216
OCDD	477		1.45	0.477	0.0477	0.143
2378-TCDF	12.7		0.679	1.27	1.27	1.27
12378-PeCDF	[0.882]	J	0.518	[0.0441]	[0.0441]	[0.0265]
23478-PeCDF	(0.54)		0.54	(0.27)	(0.27)	(0.162)
123478-HxCDF	(0.526)		0.526	(0.0526)	(0.0526)	(0.0526)
123678-HxCDF	(0.482)		0.482	(0.0482)	(0.0482)	(0.0482)
234678-HxCDF	(0.959)		0.959	(0.0959)	(0.0959)	(0.0959)
123789-HxCDF	(0.679)		0.679	(0.0679)	(0.0679)	(0.0679)
1234678-HpCDF	(0.325)		0.325	(0.00325)	(0.00325)	(0.00325)
1234789-HpCDF	(0.531)		0.531	(0.00531)	(0.00531)	(0.00531)
OCDF	(1.36)		1.36	(0.00136)	(0.000136)	(0.000407)

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TEQ Summaries			
EMPC = 0, ND = 0	5.4	4.98	5.07
EMPC = 0, ND = DL / 2	5.86	5.58	5.62
EMPC = 0, ND = DL	6.32	6.19	6.18
EMPC = 0, < J-level = 0	5.4	4.98	5.07
EMPC = EMPC, ND = 0	5.63	5.21	5.28
EMPC = EMPC, ND = DL / 2	6.09	5.81	5.84
EMPC = EMPC, ND = DL	6.55	6.42	6.39
EMPC = EMPC, < J-level = 0	5.4	4.98	5.07

Checkcode: 290-389-PPM

SGS North America - DF v0.99

Sample ID: 11215131-010822-S-BN-NC-O-33 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID	B6171_18853_DF_011	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	77.6 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:29:31

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	42.7				ES 2378-TCDD	86.5	
12378-PeCDD	1.39			J	ES 12378-PeCDD	77.6	
123478-HxCDD	EMPC		1.84	J	ES 123478-HxCDD	96.9	
123678-HxCDD	7.6				ES 123678-HxCDD	99.3	
123789-HxCDD	4.03				ES 123789-HxCDD	90.9	
1234678-HpCDD	249				ES 1234678-HpCDD	88.8	
OCDD	3,110				ES OCDD	70.8	
2378-TCDF	155				ES 2378-TCDF	81.4	
12378-PeCDF	7.56				ES 12378-PeCDF	85.1	
23478-PeCDF	6.07				ES 23478-PeCDF	81.4	
123478-HxCDF	13.4				ES 123478-HxCDF	102	
123678-HxCDF	3.99				ES 123678-HxCDF	108	
234678-HxCDF	EMPC		2.18	J	ES 234678-HxCDF	63.3	
123789-HxCDF	ND	0.794			ES 123789-HxCDF	92.6	
1234678-HpCDF	43				ES 1234678-HpCDF	122	
1234789-HpCDF	4.12				ES 1234789-HpCDF	91.5	
OCDF	226				ES OCDF	69.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84	
Total TCDD	49.3		52		CS 12347-PeCDD	84.6	
Total PeCDD	6.51		9.98		CS 12346-PeCDF	91.5	
Total HxCDD	110		112		CS 123469-HxCDF	124	
Total HpCDD	799		799		CS 1234689-HpCDF	125	
Total TCDF	274		281				
Total PeCDF	26.7		35.5				
Total HxCDF	62.6		67.1				
Total HpCDF	113		114				
Total PCDD/Fs	**4,780**		**4,810**				
WHO-2005 TEQs							
TEQ: ND=0	68.5		68.9				
TEQ: ND=DL/2	68.5	1.23	68.9				
TEQ: ND=DL	68.6	2.46	69				

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Sample ID: 11215131-010822-S-BN-NC-O-33 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID:	B6171_18853_DF_011	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	77.6 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:29:31

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.4		12479/12468D	[3.47]		124679/124689D	55.7		1234679D	550	
1379D	(0.686)		12469D	3.36		123468D	6.53		1234678D	249	
1369D	(0.686)		12368D	(0.874)		123679/123689D	26.4				
1469D	[2.66]		12478D	(0.874)		123469D	7.48				
1247D...[4]	(0.686)		12379D	(0.874)		123478D	[1.84]	J			
1378D	(0.686)		12369D...[3]	1.76	J	123678D	7.6				
1268D	(0.686)		12346/12347D	(0.874)		123467D	2.29	J			
1478D	(0.686)		12378D	1.39	J	123789D	4.03		**Conc.**	799	
1279D	(0.686)		12367D	(0.874)					**EMPC**	799	
1234/1269D	(0.686)		12389D	(0.874)							
1236D	(0.686)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.22										
1239D	(0.686)								OCDD	3110	
2378D	42.7										
1278D	4.03										
1267D	(0.686)										
1289D	(0.686)										
Conc.	49.3		**Conc.**	6.51		**Conc.**	110				
EMPC	52		**EMPC**	9.98		**EMPC**	112				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	68.5	68.9
TEQ: ND=DL/2	68.5	68.9
TEQ: ND=DL	68.6	69

	Conc.	EMPC
Total PCDD/Fs	4,780	4,810

Checkcode: 908-477-WSH

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-O-33 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID:	B6171_18853_DF_011	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	77.6 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:29:31

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.792)		13468/12468F	[7.21]		123468F	5.7		1234678F	43	
1468F	(0.792)		13678F...[3]	1.63	J	124678/134678F	18.8		1234679F	[1.37]	J
2468F	1.61		12368F...[3]	6.41		134679F	(0.818)		1234689F	65.4	
1346/1246F	(0.792)		14678F	0.64	J	124679F	(0.818)		1234789F	4.12	
1347F...[3]	2.08		13479F	(0.638)		124689F	20.6				
1348F	[0.652]		13469/12479F	(0.638)		123467F	[1.12]	J			
1248F...[3]	6.09		12346F	(0.638)		123478F	13.4				
1268F	3.18		23468/12469F	1.41	J	123678F	3.99				
1467F	0.97		12347F	(0.638)		123479F	(0.818)				
1478F	5.9		12348F	[1.02]	J	123469F	(0.818)				
1369/1237F	1.78		12378F	7.56		123679F	(0.818)				
2467F	(0.792)		12678/12367F	2.94		234678F	[2.18]	J	**Conc.**	113	
2368F	8.32		12379F	(0.638)		234678/123689F	0		**EMPC**	114	
1238F...[5]	[3.7]		12679F	(0.638)		123689F	(0.818)				
1278F	48.5		23467/12369F	[0.642]	J	123789F	(0.794)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.792)		23478F	6.07		123789/123489F	0				
1267F	4.31		23478/12489F	0		123489F	[1.28]	J	OCDF	226	
2346/1249F	(0.792)		12489F	(0.638)							
2347/1279F	2		12349F	(0.638)							
2348F	6.77		12389F	(0.638)							
2378F	155										
2367/3467F	18										
1269F	[2.14]										
1239F	(0.792)										
1289F	9.39										
Conc.	274		**Conc.**	26.7		**Conc.**	62.6				
EMPC	281		**EMPC**	35.5		**EMPC**	67.1				

Checkcode: 908-477-WSH

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-O-33 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_011
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	QC Batch No.:	18853
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 08:29
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	42.7		0.686	42.7	42.7	42.7
12378-PeCDD	1.39	J	0.874	0.694	1.39	1.39
123478-HxCDD	[1.84]	J	0.797	[0.184]	[0.184]	[0.184]
123678-HxCDD	7.6		0.808	0.76	0.76	0.76
123789-HxCDD	4.03		0.818	0.403	0.403	0.403
1234678-HpCDD	249		0.676	2.49	2.49	2.49
OCDD	3110		1.26	3.11	0.311	0.934
2378-TCDF	155		0.792	15.5	15.5	15.5
12378-PeCDF	7.56		0.65	0.378	0.378	0.227
23478-PeCDF	6.07		0.624	3.04	3.04	1.82
123478-HxCDF	13.4		0.666	1.34	1.34	1.34
123678-HxCDF	3.99		0.622	0.399	0.399	0.399
234678-HxCDF	[2.18]	J	1.45	[0.218]	[0.218]	[0.218]
123789-HxCDF	(0.794)		0.794	(0.0794)	(0.0794)	(0.0794)
1234678-HpCDF	43		0.404	0.43	0.43	0.43
1234789-HpCDF	4.12		0.608	0.0412	0.0412	0.0412
OCDF	226		1.22	0.226	0.0226	0.0679

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TEQ Summaries			
EMPC = 0, ND = 0	71.5	69.2	68.5
EMPC = 0, ND = DL / 2	71.5	69.2	68.5
EMPC = 0, ND = DL	71.6	69.3	68.6
EMPC = 0, < J-level = 0	70.8	67.8	67.1
EMPC = EMPC, ND = 0	71.9	69.6	68.9
EMPC = EMPC, ND = DL / 2	71.9	69.6	68.9
EMPC = EMPC, ND = DL	72	69.7	69
EMPC = EMPC, < J-level = 0	70.8	67.8	67.1

Checkcode: 908-477-WSH

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Sample ID: 11215131-010822-S-BN-NC-O-34 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID	B6171_18853_DF_012	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	65.8 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:16:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	932				ES 2378-TCDD	90	
12378-PeCDD	11.5				ES 12378-PeCDD	84.4	
123478-HxCDD	2.63				ES 123478-HxCDD	101	
123678-HxCDD	12.6				ES 123678-HxCDD	92.8	
123789-HxCDD	EMPC		5.8		ES 123789-HxCDD	94.3	
1234678-HpCDD	455				ES 1234678-HpCDD	89.1	
OCDD	5,810				ES OCDD	69.8	
2378-TCDF	3,240			E	ES 2378-TCDF	89.7	
12378-PeCDF	114				ES 12378-PeCDF	95.2	
23478-PeCDF	90				ES 23478-PeCDF	92.2	
123478-HxCDF	179				ES 123478-HxCDF	110	
123678-HxCDF	45.2				ES 123678-HxCDF	112	
234678-HxCDF	14.3				ES 234678-HxCDF	60.5	
123789-HxCDF	ND	1.11			ES 123789-HxCDF	105	
1234678-HpCDF	272				ES 1234678-HpCDF	111	
1234789-HpCDF	24.8				ES 1234789-HpCDF	102	
OCDF	1,260				ES OCDF	76.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.4	
Total TCDD	1,040		1,050		CS 12347-PeCDD	92	
Total PeCDD	21		29.7		CS 12346-PeCDF	101	
Total HxCDD	140		145		CS 123469-HxCDF	128	
Total HpCDD	1,030		1,030		CS 1234689-HpCDF	121	
Total TCDF	6,430		6,430				
Total PeCDF	351		351				
Total HxCDF	409		412				
Total HpCDF	620		620				
Total PCDD/Fs	**17,100**		**17,100**				
WHO-2005 TEQs							
TEQ: ND=0	1330		1330				
TEQ: ND=DL/2	1330	1.59	1330				
TEQ: ND=DL	1330	3.18	1330				

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Sample ID: 11215131-010822-S-BN-NC-O-34 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6171_18853_DF_012	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	65.8 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:16:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.88		12479/12468D	7.19		124679/124689D	67.9		1234679D	572	
1379D	(0.738)		12469D	[4.48]		123468D	6.74		1234678D	455	
1369D	(0.738)		12368D	2.34	J	123679/123689D	44.7				
1469D	2.57		12478D	[1.86]	J	123469D	3.08				
1247D...[4]	[2.42]		12379D	(1.21)		123478D	2.63				
1378D	2.64		12369D...[3]	[2.39]	J	123678D	12.6				
1268D	(0.738)		12346/12347D	(1.21)		123467D	2	J			
1478D	2.34		12378D	11.5		123789D	[5.8]		**Conc.**	1,030	
1279D	(0.738)		12367D	(1.21)					**EMPC**	1,030	
1234/1269D	(0.738)		12389D	(1.21)							
1236D	(0.738)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	13.9										
1239D	(0.738)								OCDD	5810	
2378D	932										
1278D	81.8										
1267D	(0.738)										
1289D	[4.49]										
Conc.	1,040		**Conc.**	21		**Conc.**	140				
EMPC	1,050		**EMPC**	29.7		**EMPC**	145				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,330	1,330
TEQ: ND=DL/2	1,330	1,330
TEQ: ND=DL	1,330	1,330

	Conc.	EMPC
Total PCDD/Fs	17,100	17,100

Checkcode: 704-926-WTZ

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-O-34 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6171_18853_DF_012	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	65.8 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:16:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[1.11]		13468/12468F	16.5		123468F	13.7		1234678F	272	
1468F	6.25		13678F...[3]	4.64		124678/134678F	62.2		1234679F	5	
2468F	6.33		12368F...[3]	57.1		134679F	(1.11)		1234689F	319	
1346/1246F	6		14678F	4.45		124679F	[1.26]	J	1234789F	24.8	
1347F...[3]	30.7		13479F	(0.927)		124689F	75.7				
1348F	12.4		13469/12479F	(0.927)		123467F	3.52				
1248F...[3]	148		12346F	(0.927)		123478F	179				
1268F	53.9		23468/12469F	5.09		123678F	45.2				
1467F	9.6		12347F	2.91		123479F	(1.11)				
1478F	136		12348F	12.2		123469F	[1.67]	J			
1369/1237F	33.4		12378F	114		123679F	(1.11)				
2467F	4.85		12678/12367F	37		234678F	14.3		**Conc.**	620	
2368F	66.6		12379F	(0.927)		234678/123689F	0		**EMPC**	620	
1238F...[5]	183		12679F	(0.927)		123689F	(1.11)				
1278F	1510	E	23467/12369F	3.3		123789F	(1.11)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.983)		23478F	90		123789/123489F	0				
1267F	78.3		23478/12489F	0		123489F	15.7		OCDF	1260	
2346/1249F	9.26		12489F	(0.927)							
2347/1279F	37.5		12349F	(0.927)							
2348F	291		12389F	4.47							
2378F	3240	E									
2367/3467F	260										
1269F	46.2										
1239F	(0.983)										
1289F	258										
Conc.	6,430		**Conc.**	351		**Conc.**	409				
EMPC	6,430		**EMPC**	351		**EMPC**	412				

Checkcode: 704-926-WTZ

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-O-34 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_012
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	QC Batch No.:	18853
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 09:16
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	932		0.738	932	932	932
12378-PeCDD	11.5		1.21	5.73	11.5	11.5
123478-HxCDD	2.63		0.955	0.263	0.263	0.263
123678-HxCDD	12.6		1.15	1.26	1.26	1.26
123789-HxCDD	[5.8]		1.04	[0.58]	[0.58]	[0.58]
1234678-HpCDD	455		1.04	4.55	4.55	4.55
OCDD	5810		1.37	5.81	0.581	1.74
2378-TCDF	3240	E	0.983	324	324	324
12378-PeCDF	114		0.912	5.69	5.69	3.41
23478-PeCDF	90		0.943	45	45	27
123478-HxCDF	179		0.925	17.9	17.9	17.9
123678-HxCDF	45.2		0.878	4.52	4.52	4.52
234678-HxCDF	14.3		1.89	1.43	1.43	1.43
123789-HxCDF	(1.11)		1.11	(0.111)	(0.111)	(0.111)
1234678-HpCDF	272		0.608	2.72	2.72	2.72
1234789-HpCDF	24.8		0.682	0.248	0.248	0.248
OCDF	1260		1.12	1.26	0.126	0.379

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TEQ Summaries			
EMPC = 0, ND = 0	1350	1350	1330
EMPC = 0, ND = DL / 2	1350	1350	1330
EMPC = 0, ND = DL	1350	1350	1330
EMPC = 0, < J-level = 0	1350	1350	1330
EMPC = EMPC, ND = 0	1350	1350	1330
EMPC = EMPC, ND = DL / 2	1350	1350	1330
EMPC = EMPC, ND = DL	1350	1350	1330
EMPC = EMPC, < J-level = 0	1350	1350	1330

Checkcode: 704-926-WTZ

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Sample ID: 11215131-010822-S-BN-NC-O-31 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID	B6171_18853_DF_013	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	79.4 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:04:31

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	31				ES 2378-TCDD	89.8	
12378-PeCDD	1.15			J	ES 12378-PeCDD	82.2	
123478-HxCDD	1.34			J	ES 123478-HxCDD	95.6	
123678-HxCDD	5.21				ES 123678-HxCDD	95.2	
123789-HxCDD	3.24				ES 123789-HxCDD	91.6	
1234678-HpCDD	151				ES 1234678-HpCDD	81.6	
OCDD	2,070				ES OCDD	60.2	
2378-TCDF	104				ES 2378-TCDF	87	
12378-PeCDF	6.33				ES 12378-PeCDF	87.9	
23478-PeCDF	4.59				ES 23478-PeCDF	87.1	
123478-HxCDF	9.93				ES 123478-HxCDF	108	
123678-HxCDF	2.84				ES 123678-HxCDF	111	
234678-HxCDF	EMPC		1.85	J	ES 234678-HxCDF	60.9	
123789-HxCDF	ND	0.713			ES 123789-HxCDF	93.1	
1234678-HpCDF	28.9				ES 1234678-HpCDF	113	
1234789-HpCDF	3.54				ES 1234789-HpCDF	87.2	
OCDF	132				ES OCDF	62.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.1	
Total TCDD	36.3		36.3		CS 12347-PeCDD	91.4	
Total PeCDD	1.15		4.48		CS 12346-PeCDF	96.5	
Total HxCDD	48.9		48.9		CS 123469-HxCDF	127	
Total HpCDD	366		366		CS 1234689-HpCDF	119	
Total TCDF	167		180				
Total PeCDF	24		27.8				
Total HxCDF	46.8		48.7				
Total HpCDF	86.6		87.5				
Total PCDD/Fs	**2,980**		**3,010**				
WHO-2005 TEQs							
TEQ: ND=0	48.9		49.1				
TEQ: ND=DL/2	48.9	1.11	49.1				
TEQ: ND=DL	48.9	2.21	49.1				

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Sample ID: 11215131-010822-S-BN-NC-O-31 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID:	B6171_18853_DF_013	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	79.4 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:04:31

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.746)		12479/12468D	[1.69]	J	124679/124689D	19.4		1234679D	215	
1379D	(0.746)		12469D	[1.65]	J	123468D	2.81		1234678D	151	
1369D	(0.746)		12368D	(0.703)		123679/123689D	15.5				
1469D	1.28		12478D	(0.703)		123469D	1.36	J			
1247D...[4]	(0.746)		12379D	(0.703)		123478D	1.34	J			
1378D	(0.746)		12369D...[3]	(0.703)		123678D	5.21				
1268D	(0.746)		12346/12347D	(0.703)		123467D	(0.758)				
1478D	(0.746)		12378D	1.15	J	123789D	3.24		**Conc.**	366	
1279D	(0.746)		12367D	(0.703)					**EMPC**	366	
1234/1269D	(0.746)		12389D	(0.703)							
1236D	(0.746)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.26										
1239D	(0.746)								OCDD	2070	
2378D	31										
1278D	2.78										
1267D	(0.746)										
1289D	(0.746)										
Conc.	36.3		**Conc.**	1.15		**Conc.**	48.9				
EMPC	36.3		**EMPC**	4.48		**EMPC**	48.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	48.9	49.1
TEQ: ND=DL/2	48.9	49.1
TEQ: ND=DL	48.9	49.1

	Conc.	EMPC
Total PCDD/Fs	2,980	3,010

Checkcode: 347-530-FBB

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-O-31 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	Lab Sample ID:	B6171_18853_DF_013	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	79.4 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:04:31

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.663)		13468/12468F	5.34		123468F	3.8		1234678F	28.9	
1468F	(0.663)		13678F...[3]	[1.27]	J	124678/134678F	14		1234679F	[0.939]	J
2468F	1.35		12368F...[3]	5.53		134679F	(0.661)		1234689F	54.1	
1346/1246F	(0.663)		14678F	[0.495]	J	124679F	(0.661)		1234789F	3.54	
1347F...[3]	2.71		13479F	(0.486)		124689F	14.2				
1348F	(0.663)		13469/12479F	(0.486)		123467F	1.03	J			
1248F...[3]	4.1		12346F	(0.486)		123478F	9.93				
1268F	1.92		23468/12469F	[1.4]	J	123678F	2.84				
1467F	(0.663)		12347F	(0.486)		123479F	(0.661)				
1478F	[4.14]		12348F	[0.587]	J	123469F	(0.661)				
1369/1237F	1.44		12378F	6.33		123679F	(0.661)				
2467F	(0.663)		12678/12367F	2.22	J	234678F	[1.85]	J	**Conc.**	86.6	
2368F	[5.17]		12379F	(0.486)		234678/123689F	0		**EMPC**	87.5	
1238F...[5]	[2.25]		12679F	(0.486)		123689F	(0.661)				
1278F	25.4		23467/12369F	(0.486)		123789F	(0.713)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.663)		23478F	4.59		123789/123489F	0			**(pg/g)**	
1267F	2.54		23478/12489F	0		123489F	1.03	J	OCDF	132	
2346/1249F	(0.663)		12489F	(0.486)							
2347/1279F	[1.29]		12349F	(0.486)							
2348F	4.51		12389F	(0.486)							
2378F	104										
2367/3467F	13.3										
1269F	[0.93]										
1239F	(0.663)										
1289F	5.04										
Conc.	167		**Conc.**	24		**Conc.**	46.8				
EMPC	180		**EMPC**	27.8		**EMPC**	48.7				

Checkcode: 347-530-FBB

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-O-31 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_013
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.23 g	QC Batch No.:	18853
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 10:04
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	31		0.746	31	31	31
12378-PeCDD	1.15	J	0.703	0.576	1.15	1.15
123478-HxCDD	1.34	J	0.747	0.134	0.134	0.134
123678-HxCDD	5.21		0.734	0.521	0.521	0.521
123789-HxCDD	3.24		0.794	0.324	0.324	0.324
1234678-HpCDD	151		0.766	1.51	1.51	1.51
OCDD	2070		1.66	2.07	0.207	0.622
2378-TCDF	104		0.663	10.4	10.4	10.4
12378-PeCDF	6.33		0.469	0.317	0.317	0.19
23478-PeCDF	4.59		0.502	2.3	2.3	1.38
123478-HxCDF	9.93		0.517	0.993	0.993	0.993
123678-HxCDF	2.84		0.511	0.284	0.284	0.284
234678-HxCDF	[1.85]	J	1.13	[0.185]	[0.185]	[0.185]
123789-HxCDF	(0.713)		0.713	(0.0713)	(0.0713)	(0.0713)
1234678-HpCDF	28.9		0.453	0.289	0.289	0.289
1234789-HpCDF	3.54		0.627	0.0354	0.0354	0.0354
OCDF	132		0.87	0.132	0.0132	0.0396

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TEQ Summaries			
EMPC = 0, ND = 0	50.9	49.5	48.9
EMPC = 0, ND = DL / 2	50.9	49.5	48.9
EMPC = 0, ND = DL	51	49.6	48.9
EMPC = 0, < J-level = 0	50.2	48.2	47.6
EMPC = EMPC, ND = 0	51.1	49.7	49.1
EMPC = EMPC, ND = DL / 2	51.1	49.7	49.1
EMPC = EMPC, ND = DL	51.1	49.7	49.1
EMPC = EMPC, < J-level = 0	50.2	48.2	47.6

Checkcode: 347-530-FBB

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Sample ID: 11215131-010822-S-BN-NC-B-8 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID	B6171_18853_DF_014	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	80.5 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:52:05

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	512				ES 2378-TCDD	88.1	
12378-PeCDD	5.96				ES 12378-PeCDD	74.7	
123478-HxCDD	1.04			J	ES 123478-HxCDD	93	
123678-HxCDD	3.49				ES 123678-HxCDD	99.9	
123789-HxCDD	2.63				ES 123789-HxCDD	90.2	
1234678-HpCDD	120				ES 1234678-HpCDD	85.2	
OCDD	1,680				ES OCDD	59.3	
2378-TCDF	1,940			E	ES 2378-TCDF	86.3	
12378-PeCDF	71.8				ES 12378-PeCDF	86.6	
23478-PeCDF	55.2				ES 23478-PeCDF	90.1	
123478-HxCDF	111				ES 123478-HxCDF	102	
123678-HxCDF	28				ES 123678-HxCDF	105	
234678-HxCDF	6.19				ES 234678-HxCDF	64.3	
123789-HxCDF	ND	0.894			ES 123789-HxCDF	92.8	
1234678-HpCDF	68.1				ES 1234678-HpCDF	113	
1234789-HpCDF	14				ES 1234789-HpCDF	94.2	
OCDF	462				ES OCDF	63.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.3	
Total TCDD	576		579		CS 12347-PeCDD	86.1	
Total PeCDD	9.52		9.52		CS 12346-PeCDF	91.7	
Total HxCDD	47.9		49.6		CS 123469-HxCDF	117	
Total HpCDD	306		306		CS 1234689-HpCDF	115	
Total TCDF	3,670		3,680				
Total PeCDF	205		205				
Total HxCDF	187		187				
Total HpCDF	123		123				
Total PCDD/Fs	**7,270**		**7,280**				
WHO-2005 TEQs							
TEQ: ND=0	749		749				
TEQ: ND=DL/2	750	1.22	750				
TEQ: ND=DL	750	2.43	750				

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Sample ID: 11215131-010822-S-BN-NC-B-8 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6171_18853_DF_014	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	80.5 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:52:05

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.08]		12479/12468D	1.64	J	124679/124689D	26.8		1234679D	186	
1379D	(0.686)		12469D	1.92	J	123468D	[1.66]	J	1234678D	120	
1369D	(0.686)		12368D	(0.842)		123679/123689D	13.9				
1469D	5.58		12478D	(0.842)		123469D	(0.755)				
1247D...[4]	(0.686)		12379D	(0.842)		123478D	1.04	J			
1378D	1.51		12369D...[3]	(0.842)		123678D	3.49				
1268D	(0.686)		12346/12347D	(0.842)		123467D	(0.755)				
1478D	1.49		12378D	5.96		123789D	2.63		**Conc.**	306	
1279D	(0.686)		12367D	(0.842)					**EMPC**	306	
1234/1269D	(0.686)		12389D	(0.842)							
1236D	(0.686)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	7.96										
1239D	(0.686)								OCDD	1680	
2378D	512										
1278D	44.8										
1267D	2.61										
1289D	[1.98]										
Conc.	576		**Conc.**	9.52		**Conc.**	47.9				
EMPC	579		**EMPC**	9.52		**EMPC**	49.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	749	749
TEQ: ND=DL/2	750	750
TEQ: ND=DL	750	750

	Conc.	EMPC
Total PCDD/Fs	7,270	7,280

Checkcode: 264-662-ZKS

Report Created: 26-Jan-2022 11:56 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-B-8 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6171_18853_DF_014	Date Extracted:	19-Jan-2022
Date Collected:	08-Jan-2022	% Solid:	80.5 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:52:05

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.715)		13468/12468F	5.58		123468F	3.56		1234678F	68.1	
1468F	2.86		13678F...[3]	1.05	J	124678/134678F	16.9		1234679F	1.55	J
2468F	2.91		12368F...[3]	33		134679F	(0.891)		1234689F	39.6	
1346/1246F	3.11		14678F	1.3	J	124679F	(0.891)		1234789F	14	
1347F...[3]	18.2		13479F	(0.634)		124689F	10.8				
1348F	[4.72]		13469/12479F	(0.634)		123467F	0.989	J			
1248F...[3]	86.4		12346F	(0.634)		123478F	111				
1268F	29.3		23468/12469F	1.65	J	123678F	28				
1467F	4.42		12347F	1.78	J	123479F	(0.891)				
1478F	75.3		12348F	7.01		123469F	(0.891)				
1369/1237F	17.7		12378F	71.8		123679F	(0.891)				
2467F	[2.39]		12678/12367F	22.6		234678F	6.19		**Conc.**	123	
2368F	62		12379F	(0.634)		234678/123689F	0		**EMPC**	123	
1238F...[5]	77.7		12679F	(0.634)		123689F	(0.891)				
1278F	837		23467/12369F	1.15	J	123789F	(0.894)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.715)		23478F	55.2		123789/123489F	0				
1267F	44.5		23478/12489F	0		123489F	9.16		OCDF	462	
2346/1249F	5.69		12489F	(0.634)							
2347/1279F	20.3		12349F	(0.634)							
2348F	121		12389F	2.98							
2378F	1940	E									
2367/3467F	154										
1269F	27.1										
1239F	0.716										
1289F	140										
Conc.	3,670		**Conc.**	205		**Conc.**	187				
EMPC	3,680		**EMPC**	205		**EMPC**	187				

Checkcode: 264-662-ZKS

Report Created: 26-Jan-2022 11:56 Analyst: pw

Sample ID: 11215131-010822-S-BN-NC-B-8 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_014
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	QC Batch No.:	18853
Date Collected:	08-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 10:52
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	512		0.686	512	512	512
12378-PeCDD	5.96		0.842	2.98	5.96	5.96
123478-HxCDD	1.04	J	0.761	0.104	0.104	0.104
123678-HxCDD	3.49		0.713	0.349	0.349	0.349
123789-HxCDD	2.63		0.794	0.263	0.263	0.263
1234678-HpCDD	120		0.61	1.2	1.2	1.2
OCDD	1680		1.41	1.68	0.168	0.503
2378-TCDF	1940	E	0.715	194	194	194
12378-PeCDF	71.8		0.659	3.59	3.59	2.15
23478-PeCDF	55.2		0.61	27.6	27.6	16.6
123478-HxCDF	111		0.688	11.1	11.1	11.1
123678-HxCDF	28		0.695	2.8	2.8	2.8
234678-HxCDF	6.19		1.55	0.619	0.619	0.619
123789-HxCDF	(0.894)		0.894	(0.0894)	(0.0894)	(0.0894)
1234678-HpCDF	68.1		0.486	0.681	0.681	0.681
1234789-HpCDF	14		0.569	0.14	0.14	0.14
OCDF	462		1.36	0.462	0.0462	0.139

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TEQ Summaries			
EMPC = 0, ND = 0	760	762	749
EMPC = 0, ND = DL / 2	761	762	750
EMPC = 0, ND = DL	761	762	750
EMPC = 0, < J-level = 0	760	761	749
EMPC = EMPC, ND = 0	760	762	749
EMPC = EMPC, ND = DL / 2	761	762	750
EMPC = EMPC, ND = DL	761	762	750
EMPC = EMPC, < J-level = 0	760	761	749

Checkcode: 264-662-ZKS

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Sample ID: 11215131-010722-S-BN-DUP-11 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6171_18853_DF_015	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	79.6 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:39:34

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	37.6				ES 2378-TCDD	92.4	
12378-PeCDD	ND	0.704			ES 12378-PeCDD	80.8	
123478-HxCDD	EMPC		0.625	J	ES 123478-HxCDD	100	
123678-HxCDD	2.76				ES 123678-HxCDD	103	
123789-HxCDD	2.06			J	ES 123789-HxCDD	92.9	
1234678-HpCDD	225				ES 1234678-HpCDD	88.9	
OCDD	1,890				ES OCDD	64.1	
2378-TCDF	159				ES 2378-TCDF	83.7	
12378-PeCDF	4.88				ES 12378-PeCDF	86.9	
23478-PeCDF	3.99				ES 23478-PeCDF	88.5	
123478-HxCDF	6.68				ES 123478-HxCDF	103	
123678-HxCDF	EMPC		1.36	J	ES 123678-HxCDF	107	
234678-HxCDF	ND	0.99			ES 234678-HxCDF	67.2	
123789-HxCDF	ND	0.586			ES 123789-HxCDF	97.2	
1234678-HpCDF	6.43				ES 1234678-HpCDF	109	
1234789-HpCDF	EMPC		0.752	J	ES 1234789-HpCDF	98.5	
OCDF	35.8				ES OCDF	70.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.6	
Total TCDD	57.2		58.4		CS 12347-PeCDD	91.1	
Total PeCDD	11.9		11.9		CS 12346-PeCDF	102	
Total HxCDD	94.1		97		CS 123469-HxCDF	125	
Total HpCDD	721		721		CS 1234689-HpCDF	122	
Total TCDF	312		312				
Total PeCDF	11.3		12.8				
Total HxCDF	10.2		13.3				
Total HpCDF	27.4		28.2				
Total PCDD/Fs	**3,170**		**3,180**				
WHO-2005 TEQs							
TEQ: ND=0	58.9		59.1				
TEQ: ND=DL/2	59.3	1.02	59.5				
TEQ: ND=DL	59.7	2.04	59.9				

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Sample ID: 11215131-010722-S-BN-DUP-11 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6171_18853_DF_015	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	79.6 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:39:34

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.607)		12479/12468D	1.71	J	124679/124689D	65.5		1234679D	496	
1379D	(0.607)		12469D	8.36		123468D	2	J	1234678D	225	
1369D	(0.607)		12368D	(0.704)		123679/123689D	20.7				
1469D	16.5		12478D	(0.704)		123469D	[2.29]	J			
1247D...[4]	(0.607)		12379D	(0.704)		123478D	[0.625]	J			
1378D	(0.607)		12369D...[3]	1.86	J	123678D	2.76				
1268D	(0.607)		12346/12347D	(0.704)		123467D	1.14	J			
1478D	(0.607)		12378D	(0.704)		123789D	2.06	J	**Conc.**	721	
1279D	(0.607)		12367D	(0.704)					**EMPC**	721	
1234/1269D	[1.11]		12389D	(0.704)							
1236D	(0.607)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.607)										
1239D	(0.607)								OCDD	1890	
2378D	37.6										
1278D	3.17										
1267D	(0.607)										
1289D	(0.607)										
Conc.	57.2		**Conc.**	11.9		**Conc.**	94.1				
EMPC	58.4		**EMPC**	11.9		**EMPC**	97				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	58.9	59.1
TEQ: ND=DL/2	59.3	59.5
TEQ: ND=DL	59.7	59.9

	Conc.	EMPC
Total PCDD/Fs	3,170	3,180

Checkcode: 050-766-HHT

Report Created: 26-Jan-2022 13:29 Analyst: pw

Sample ID: 11215131-010722-S-BN-DUP-11 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6171_18853_DF_015	Date Extracted:	19-Jan-2022
Date Collected:	07-Jan-2022	% Solid:	79.6 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:39:34

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.724)		13468/12468F	(0.575)		123468F	(0.608)		1234678F	6.43	
1468F	(0.724)		13678F...[3]	(0.531)		124678/134678F	[1.15]	J	1234679F	(0.492)	
2468F	(0.724)		12368F...[3]	2.41	J	134679F	(0.608)		1234689F	21	
1346/1246F	(0.724)		14678F	(0.531)		124679F	(0.608)		1234789F	[0.752]	J
1347F...[3]	1.82		13479F	(0.531)		124689F	3.51				
1348F	0.961		13469/12479F	(0.531)		123467F	(0.608)				
1248F...[3]	7.74		12346F	(0.531)		123478F	6.68				
1268F	2.62		23468/12469F	(0.531)		123678F	[1.36]	J			
1467F	(0.724)		12347F	(0.531)		123479F	(0.608)				
1478F	7.52		12348F	(0.531)		123469F	(0.608)				
1369/1237F	1.68		12378F	4.88		123679F	(0.608)				
2467F	(0.724)		12678/12367F	[1.5]	J	234678F	(0.99)		**Conc.**	27.4	
2368F	4.38		12379F	(0.531)		234678/123689F	0		**EMPC**	28.2	
1238F...[5]	8.75		12679F	(0.531)		123689F	(0.608)				
1278F	72.8		23467/12369F	(0.531)		123789F	(0.586)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	1.18		23478F	3.99		123789/123489F	0				
1267F	3.96		23478/12489F	0		123489F	[0.573]	J	OCDF	35.8	
2346/1249F	(0.724)		12489F	(0.531)							
2347/1279F	1.98		12349F	(0.531)							
2348F	9.45		12389F	(0.531)							
2378F	159										
2367/3467F	13.1										
1269F	2.46										
1239F	(0.724)										
1289F	13.2										
Conc.	312		**Conc.**	11.3		**Conc.**	10.2				
EMPC	312		**EMPC**	12.8		**EMPC**	13.3				

Checkcode: 050-766-HHT

Report Created: 26-Jan-2022 13:29 Analyst: pw

Sample ID: 11215131-010722-S-BN-DUP-11 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_015
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18853
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 11:39
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	37.6		0.607	37.6	37.6	37.6
12378-PeCDD	(0.704)		0.704	(0.352)	(0.704)	(0.704)
123478-HxCDD	[0.625]	J	0.691	[0.0625]	[0.0625]	[0.0625]
123678-HxCDD	2.76		0.695	0.276	0.276	0.276
123789-HxCDD	2.06	J	0.759	0.206	0.206	0.206
1234678-HpCDD	225		0.537	2.25	2.25	2.25
OCDD	1890		1.34	1.89	0.189	0.567
2378-TCDF	159		0.724	15.9	15.9	15.9
12378-PeCDF	4.88		0.565	0.244	0.244	0.146
23478-PeCDF	3.99		0.497	1.99	1.99	1.2
123478-HxCDF	6.68		0.497	0.668	0.668	0.668
123678-HxCDF	[1.36]	J	0.503	[0.136]	[0.136]	[0.136]
234678-HxCDF	(0.99)		0.99	(0.099)	(0.099)	(0.099)
123789-HxCDF	(0.586)		0.586	(0.0586)	(0.0586)	(0.0586)
1234678-HpCDF	6.43		0.428	0.0643	0.0643	0.0643
1234789-HpCDF	[0.752]	J	0.574	[0.00752]	[0.00752]	[0.00752]
OCDF	35.8		0.938	0.0358	0.00358	0.0107

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TEQ Summaries			
EMPC = 0, ND = 0	61.1	59.4	58.9
EMPC = 0, ND = DL / 2	61.4	59.8	59.3
EMPC = 0, ND = DL	61.6	60.2	59.7
EMPC = 0, < J-level = 0	60.9	59.2	58.7
EMPC = EMPC, ND = 0	61.3	59.6	59.1
EMPC = EMPC, ND = DL / 2	61.6	60	59.5
EMPC = EMPC, ND = DL	61.8	60.5	59.9
EMPC = EMPC, < J-level = 0	60.9	59.2	58.7

Checkcode: 050-766-HHT

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Sample ID: 11215131-011022-S-BN-NC-O-29 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID	B6171_18853_DF_016	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	78.7 %	QC Batch No:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:27:08

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,550			E	ES 2378-TCDD	103	
12378-PeCDD	16.6				ES 12378-PeCDD	94.9	
123478-HxCDD	1.33			J	ES 123478-HxCDD	105	
123678-HxCDD	5.33				ES 123678-HxCDD	100	
123789-HxCDD	EMPC		2.6		ES 123789-HxCDD	99.5	
1234678-HpCDD	270				ES 1234678-HpCDD	92.5	
OCDD	18,400			E	ES OCDD	72.3	
2378-TCDF	5,340			E	ES 2378-TCDF	99.8	
12378-PeCDF	227				ES 12378-PeCDF	104	
23478-PeCDF	167				ES 23478-PeCDF	98.3	
123478-HxCDF	382				ES 123478-HxCDF	116	
123678-HxCDF	89.2				ES 123678-HxCDF	118	
234678-HxCDF	17.9				ES 234678-HxCDF	64	
123789-HxCDF	ND	0.747			ES 123789-HxCDF	109	
1234678-HpCDF	123				ES 1234678-HpCDF	115	
1234789-HpCDF	42.9				ES 1234789-HpCDF	104	
OCDF	93.2				ES OCDF	81.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.4	
Total TCDD	1,730		1,750		CS 12347-PeCDD	94.9	
Total PeCDD	29.4		30.4		CS 12346-PeCDF	97.5	
Total HxCDD	81.3		88.7		CS 123469-HxCDF	122	
Total HpCDD	621		621		CS 1234689-HpCDF	115	
Total TCDF	10,800		10,800				
Total PeCDF	608		612				
Total HxCDF	591		591				
Total HpCDF	233		233				
Total PCDD/Fs	**33,100**		**33,200**				
WHO-2005 TEQs							
TEQ: ND=0	2220		2220				
TEQ: ND=DL/2	2220	1.16	2220				
TEQ: ND=DL	2220	2.33	2220				

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Sample ID: 11215131-011022-S-BN-NC-O-29 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6171_18853_DF_016	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	78.7 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:27:08

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.38		12479/12468D	3.11		124679/124689D	55.2		1234679D	351	
1379D	[1.02]		12469D	4.21		123468D	[2.56]		1234678D	270	
1369D	(0.622)		12368D	2.88		123679/123689D	19.5				
1469D	16.4		12478D	1.23	J	123469D	[1.48]	J			
1247D...[4]	[2.63]		12379D	(0.781)		123478D	1.33	J			
1378D	4.05		12369D...[3]	1.42	J	123678D	5.33				
1268D	(0.622)		12346/12347D	(0.781)		123467D	[0.763]	J			
1478D	3.36		12378D	16.6		123789D	[2.6]		**Conc.**	621	
1279D	(0.622)		12367D	[1.02]	J				**EMPC**	621	
1234/1269D	[0.873]		12389D	(0.781)							
1236D	(0.622)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	24.7										
1239D	(0.622)								OCDD	18400	E
2378D	1550	E									
1278D	122										
1267D	[8.44]										
1289D	[4.22]										
Conc.	1,730		**Conc.**	29.4		**Conc.**	81.3				
EMPC	1,750		**EMPC**	30.4		**EMPC**	88.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,220	2,220
TEQ: ND=DL/2	2,220	2,220
TEQ: ND=DL	2,220	2,220

	Conc.	EMPC
Total PCDD/Fs	33,100	33,200

Checkcode: 025-300-MFV

Report Created: 26-Jan-2022 13:29 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-O-29 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6171_18853_DF_016	Date Extracted:	19-Jan-2022
Date Collected:	10-Jan-2022	% Solid:	78.7 %	QC Batch No.:	18853	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:27:08

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.904]		13468/12468F	4.91		123468F	4.96		1234678F	123	
1468F	7.46		13678F...[3]	2.8		124678/134678F	37.6		1234679F	2.11	J
2468F	6.31		12368F...[3]	96.6		134679F	(0.71)		1234689F	65	
1346/1246F	8.78		14678F	[3.23]		124679F	(0.71)		1234789F	42.9	
1347F...[3]	44.1		13479F	(0.8)		124689F	23.1				
1348F	16.9		13469/12479F	(0.8)		123467F	2.89				
1248F...[3]	241		12346F	(0.8)		123478F	382				
1268F	89		23468/12469F	4.24		123678F	89.2				
1467F	11.5		12347F	4.7		123479F	(0.71)				
1478F	223		12348F	21.9		123469F	1.13	J			
1369/1237F	56.1		12378F	227		123679F	(0.71)				
2467F	6.06		12678/12367F	66.7		234678F	17.9		**Conc.**	233	
2368F	161		12379F	(0.8)		234678/123689F	0		**EMPC**	233	
1238F...[5]	284		12679F	(0.8)		123689F	(0.71)				
1278F	2640	E	23467/12369F	3.57		123789F	(0.747)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.827)		23478F	167		123789/123489F	0				
1267F	134		23478/12489F	0		123489F	32.3		OCDF	93.2	
2346/1249F	16.2		12489F	(0.8)							
2347/1279F	64.3		12349F	(0.8)							
2348F	419		12389F	9							
2378F	5340	E									
2367/3467F	445										
1269F	82.9										
1239F	6.89										
1289F	457										
Conc.	10,800		**Conc.**	608		**Conc.**	591				
EMPC	10,800		**EMPC**	612		**EMPC**	591				

Checkcode: 025-300-MFV

Report Created: 26-Jan-2022 13:29 Analyst: pw

Sample ID: 11215131-011022-S-BN-NC-O-29 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6171_18853_DF_016
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	QC Batch No.:	18853
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 12:27
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1550	E	0.622	1550	1550	1550
12378-PeCDD	16.6		0.781	8.29	16.6	16.6
123478-HxCDD	1.33	J	0.745	0.133	0.133	0.133
123678-HxCDD	5.33		0.846	0.533	0.533	0.533
123789-HxCDD	[2.6]		0.786	[0.26]	[0.26]	[0.26]
1234678-HpCDD	270		0.618	2.7	2.7	2.7
OCDD	18400	E	1.16	18.4	1.84	5.51
2378-TCDF	5340	E	0.827	534	534	534
12378-PeCDF	227		0.768	11.4	11.4	6.82
23478-PeCDF	167		0.835	83.4	83.4	50
123478-HxCDF	382		0.583	38.2	38.2	38.2
123678-HxCDF	89.2		0.505	8.92	8.92	8.92
234678-HxCDF	17.9		1.28	1.79	1.79	1.79
123789-HxCDF	(0.747)		0.747	(0.0747)	(0.0747)	(0.0747)
1234678-HpCDF	123		0.453	1.23	1.23	1.23
1234789-HpCDF	42.9		0.517	0.429	0.429	0.429
OCDF	93.2		0.907	0.0932	0.00932	0.028

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TEQ Summaries			
EMPC = 0, ND = 0	2260	2260	2220
EMPC = 0, ND = DL / 2	2260	2260	2220
EMPC = 0, ND = DL	2260	2260	2220
EMPC = 0, < J-level = 0	2260	2260	2220
EMPC = EMPC, ND = 0	2260	2260	2220
EMPC = EMPC, ND = DL / 2	2260	2260	2220
EMPC = EMPC, ND = DL	2260	2260	2220
EMPC = EMPC, < J-level = 0	2260	2260	2220

Checkcode: 025-300-MFV

SGS North America - DF v0.99

Sample ID: Method Blank B6171_18853 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18853_DF_SDS	Date Extracted:	19-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:15:24

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.669			ES 2378-TCDD	82.4	
12378-PeCDD	ND	0.687			ES 12378-PeCDD	75.5	
123478-HxCDD	ND	0.604			ES 123478-HxCDD	91.7	
123678-HxCDD	ND	0.629			ES 123678-HxCDD	91.9	
123789-HxCDD	ND	0.628			ES 123789-HxCDD	87.8	
1234678-HpCDD	ND	0.657			ES 1234678-HpCDD	81.5	
OCDD	ND	1.37			ES OCDD	62.4	
2378-TCDF	ND	0.694			ES 2378-TCDF	74.9	
12378-PeCDF	ND	0.597			ES 12378-PeCDF	80.2	
23478-PeCDF	ND	0.592			ES 23478-PeCDF	77.9	
123478-HxCDF	ND	0.381			ES 123478-HxCDF	94.1	
123678-HxCDF	ND	0.36			ES 123678-HxCDF	98	
234678-HxCDF	ND	0.738			ES 234678-HxCDF	57.8	
123789-HxCDF	ND	0.495			ES 123789-HxCDF	84	
1234678-HpCDF	ND	0.433			ES 1234678-HpCDF	103	
1234789-HpCDF	ND	0.541			ES 1234789-HpCDF	82.2	
OCDF	ND	0.992			ES OCDF	61.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	83.1	
Total TCDD	ND	0.669	ND		CS 12347-PeCDD	89.1	
Total PeCDD	ND	0.687	ND		CS 12346-PeCDF	93.2	
Total HxCDD	ND	0.62	ND		CS 123469-HxCDF	119	
Total HpCDD	ND	0.657	ND		CS 1234689-HpCDF	114	
Total TCDF	ND	0.694	ND				
Total PeCDF	ND	0.595	ND				
Total HxCDF	ND	0.463	ND				
Total HpCDF	ND	0.478	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	1.01	1.01	1.01				
TEQ: ND=DL	2.02	2.02	2.02				

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Sample ID: Method Blank B6171_18853 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18853_DF_SDS	Date Extracted:	19-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:15:24

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.669)		12479/12468D	(0.687)		124679/124689D	(0.62)		1234679D	(0.657)	
1379D	(0.669)		12469D	(0.687)		123468D	(0.62)		1234678D	(0.657)	
1369D	(0.669)		12368D	(0.687)		123679/123689D	(0.62)				
1469D	(0.669)		12478D	(0.687)		123469D	(0.62)				
1247D...[4]	(0.669)		12379D	(0.687)		123478D	(0.604)				
1378D	(0.669)		12369D...[3]	(0.687)		123678D	(0.629)				
1268D	(0.669)		12346/12347D	(0.687)		123467D	(0.62)				
1478D	(0.669)		12378D	(0.687)		123789D	(0.628)		**Conc.**	0	
1279D	(0.669)		12367D	(0.687)					**EMPC**	0	
1234/1269D	(0.669)		12389D	(0.687)							
1236D	(0.669)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.669)										
1239D	(0.669)								OCDD	(1.37)	
2378D	(0.669)										
1278D	(0.669)										
1267D	(0.669)										
1289D	(0.669)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	1.01	1.01
TEQ: ND=DL	2.02	2.02

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 853-216-QRF

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: Method Blank B6171_18853 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18853_DF_SDS	Date Extracted:	19-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:15:24

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.694)		13468/12468F	(0.724)		123468F	(0.463)		1234678F	(0.433)	
1468F	(0.694)		13678F...[3]	(0.595)		124678/134678F	(0.463)		1234679F	(0.478)	
2468F	(0.694)		12368F...[3]	(0.595)		134679F	(0.463)		1234689F	(0.478)	
1346/1246F	(0.694)		14678F	(0.595)		124679F	(0.463)		1234789F	(0.541)	
1347F...[3]	(0.694)		13479F	(0.595)		124689F	(0.463)				
1348F	(0.694)		13469/12479F	(0.595)		123467F	(0.463)				
1248F...[3]	(0.694)		12346F	(0.595)		123478F	(0.381)				
1268F	(0.694)		23468/12469F	(0.595)		123678F	(0.36)				
1467F	(0.694)		12347F	(0.595)		123479F	(0.463)				
1478F	(0.694)		12348F	(0.595)		123469F	(0.463)				
1369/1237F	(0.694)		12378F	(0.597)		123679F	(0.463)				
2467F	(0.694)		12678/12367F	(0.595)		234678F	(0.738)		**Conc.**	0	
2368F	(0.694)		12379F	(0.595)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.694)		12679F	(0.595)		123689F	(0.463)				
1278F	(0.694)		23467/12369F	(0.595)		123789F	(0.495)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.694)		23478F	(0.592)		123789/123489F	0			**(pg/g)**	
1267F	(0.694)		23478/12489F	0		123489F	(0.463)		OCDF	(0.992)	
2346/1249F	(0.694)		12489F	(0.595)							
2347/1279F	(0.694)		12349F	(0.595)							
2348F	(0.694)		12389F	(0.595)							
2378F	(0.694)										
2367/3467F	(0.694)										
1269F	(0.694)										
1239F	(0.694)										
1289F	(0.694)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 853-216-QRF

Report Created: 26-Jan-2022 11:12 Analyst: pw

Sample ID: Method Blank B6171_18853 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18853_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18853
Date Collected:	n/a	Split:	-	Date Extracted:	19-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	25-Jan-2022 13:15
Lab Project No:	B6171	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.669)		0.669	(0.669)	(0.669)	(0.669)
12378-PeCDD	(0.687)		0.687	(0.343)	(0.687)	(0.687)
123478-HxCDD	(0.604)		0.604	(0.0604)	(0.0604)	(0.0604)
123678-HxCDD	(0.629)		0.629	(0.0629)	(0.0629)	(0.0629)
123789-HxCDD	(0.628)		0.628	(0.0628)	(0.0628)	(0.0628)
1234678-HpCDD	(0.657)		0.657	(0.00657)	(0.00657)	(0.00657)
OCDD	(1.37)		1.37	(0.00137)	(0.000137)	(0.00041)
2378-TCDF	(0.694)		0.694	(0.0694)	(0.0694)	(0.0694)
12378-PeCDF	(0.597)		0.597	(0.0299)	(0.0299)	(0.0179)
23478-PeCDF	(0.592)		0.592	(0.296)	(0.296)	(0.178)
123478-HxCDF	(0.381)		0.381	(0.0381)	(0.0381)	(0.0381)
123678-HxCDF	(0.36)		0.36	(0.036)	(0.036)	(0.036)
234678-HxCDF	(0.738)		0.738	(0.0738)	(0.0738)	(0.0738)
123789-HxCDF	(0.495)		0.495	(0.0495)	(0.0495)	(0.0495)
1234678-HpCDF	(0.433)		0.433	(0.00433)	(0.00433)	(0.00433)
1234789-HpCDF	(0.541)		0.541	(0.00541)	(0.00541)	(0.00541)
OCDF	(0.992)		0.992	(0.000992)	(0.0000992)	(0.000298)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.905	1.08	1.01
EMPC = 0, ND = DL	1.81	2.15	2.02
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.905	1.08	1.01
EMPC = EMPC, ND = DL	1.81	2.15	2.02
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 853-216-QRF

SGS North America - DF v0.99

Sample ID: 0_18853_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6171	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18853_DF	Date Extracted:	19-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18853	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:42:55

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.44				ES 2378-TCDD	96.3	
12378-PeCDD	44.6				ES 12378-PeCDD	86.3	
123478-HxCDD	52.2				ES 123478-HxCDD	105	
123678-HxCDD	53.4				ES 123678-HxCDD	108	
123789-HxCDD	48.3				ES 123789-HxCDD	102	
1234678-HpCDD	52.1				ES 1234678-HpCDD	96.5	
OCDD	107				ES OCDD	71.9	
2378-TCDF	10.9				ES 2378-TCDF	84.4	
12378-PeCDF	51.9				ES 12378-PeCDF	90.8	
23478-PeCDF	54.5				ES 23478-PeCDF	92.4	
123478-HxCDF	53.5				ES 123478-HxCDF	109	
123678-HxCDF	49.9				ES 123678-HxCDF	117	
234678-HxCDF	50.5				ES 234678-HxCDF	66.8	
123789-HxCDF	47.9				ES 123789-HxCDF	104	
1234678-HpCDF	51.7				ES 1234678-HpCDF	123	
1234789-HpCDF	51				ES 1234789-HpCDF	101	
OCDF	105				ES OCDF	74.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.7	
Total TCDD	39.1		39.1		CS 12347-PeCDD	86.6	
Total PeCDD	65.1		65.1		CS 12346-PeCDF	90.1	
Total HxCDD	166		166		CS 123469-HxCDF	121	
Total HpCDD	63.8		63.8		CS 1234689-HpCDF	120	
Total TCDF	62.7		62.7				
Total PeCDF	204		204				
Total HxCDF	341		341				
Total HpCDF	103		103				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	109		109				
TEQ: ND=DL/2	109	0.481	109				
TEQ: ND=DL	109	0.962	109				

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Sample Receipt Notification

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Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*12-Jan-22 at 11:52*
AP Project name:	*B6171*
Requested TAT:	*10 business days*
Projected due date:	*26-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011022-S-BN-NC-O-27	B6171_001	SO	1	4oz Clear Glass	10-Jan-22	10:50	1.6	2	4905 2704 3918
11215131-011022-S-BN-NC-O-26	B6171_002	SO	1	4oz Clear Glass	10-Jan-22	13:50	1.6	2	4905 2704 3918
11215131-011022-S-BN-NC-B-7	B6171_003	SO - MS/MSD	1	4oz Clear Glass	10-Jan-22	14:00	1.6	2	4905 2704 3918
11215131-011022-S-BN-DUP-12	B6171_004	SO - DUP	1	4oz Clear Glass	10-Jan-22	n/a	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-O-30	B6171_005	SO	1	4oz Clear Glass	11-Jan-22	10:10	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-O-32	B6171_006	SO	1	4oz Clear Glass	11-Jan-22	10:20	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-B-9	B6171_007	SO	1	4oz Clear Glass	11-Jan-22	10:30	1.6	2	4905 2704 3918
11215131-011122-S-BN-NC-O-28	B6171_008	SO	1	4oz Clear Glass	11-Jan-22	11:20	1.6	2	4905 2704 3918
11215131-010722-S-BN-SW-O-16	B6171_009	SO	1	4oz Clear Glass	07-Jan-22	14:10	-0.2	4	4905 2704 3930
11215131-010722-S-BN-SW-B-18	B6171_010	SO	1	4oz Clear Glass	07-Jan-22	14:20	-0.2	4	4905 2704 3930
11215131-010822-S-BN-NC-O-33	B6171_011	SO	1	4oz Clear Glass	08-Jan-22	09:40	-0.2	4	4905 2704 3930
11215131-010822-S-BN-NC-O-34	B6171_012	SO	1	4oz Clear Glass	08-Jan-22	09:50	-0.2	4	4905 2704 3930
11215131-010822-S-BN-NC-O-31	B6171_013	SO	1	4oz Clear Glass	08-Jan-22	10:20	-0.2	4	4905 2704 3930
11215131-010822-S-BN-NC-B-8	B6171_014	SO	1	4oz Clear Glass	08-Jan-22	10:30	-0.2	4	4905 2704 3930
11215131-010722-S-BN-DUP-11	B6171_015	SO - DUP	1	4oz Clear Glass	07-Jan-22	n/a	-0.2	4	4905 2704 3930
11215131-011022-S-BN-NC-O-29	B6171_016	SO	1	4oz Clear Glass	10-Jan-22	09:00	-0.2	4	4905 2704 3930

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Sample 015-Logged sample date per sample label.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 13 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BU171 1/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C (BN)	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS (SEE SSOW)
11215131-011022-S-BN-NC-S-20	1-10-22	1030	C	S	4oz		X									1	RUSH
11215131-011022-S-BN-NC-S-32		1040					X									1	RUSH
11215131-011022-S-BN-NC-D-27		1050					X									1	*
11215131-011022-S-BN-NC-S-31		1340					X									1	RUSH
11215131-011022-S-BN-NC-D-26		1350					X									1	*
11215131-011022-S-BN-NC-B-7		1400					X						X	X		1	MS/MSD *
11215131-011022-S-BN-DUP-12		[redacted] (BN)					X								X	1	*
11215131-011122-S-BN-NC-S-24	1-11-22	0930					X									1	RUSH
11215131-011122-S-BN-NC-S-25		0940					X									1	RUSH
11215131-011122-S-BN-NC-S-27		0950					X									1	RUSH

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Breanna Nordt	1-11-22		[redacted]	[redacted]	1-12-2022	@ 11:52
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT		
[redacted]	1-11-22	1525	[redacted]	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx	TEMP: °C 1.1°	
[redacted]				TRACKING #: 4905 2704 3918		

*=samples in this project.

SGS CHAIN OF CUSTODY

BU171 2/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☑ Level II ☑ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☑ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☑ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS
11215131-011122-S-BN-NC-S-30	1-11-22	1000	C	S	4oz	X										1	RUSH
11215131-011122-S-BN-NC-D-36		1010				X										1	*
11215131-011122-S-BN-NC-D-32		1020				X										1	*
11215131-011122-S-BN-NC-B-9		1030				X										1	*
11215131-011122-S-BN-NC-S-21		1100				X										1	RUSH
11215131-011122-S-BN-NC-S-22		1110				X										1	RUSH
11215131-011122-S-BN-NC-D-28	↓	1120	↓	↓	↓	X										1	*

SEE SOW

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Breanna Nolte	1-11-22		[illegible] 1-11-22 14:00	[illegible]	1/12/2022	11:52
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL ☑ INTACT ☐ BROKEN ☐ ABSENT		
[illegible]	1-11-22	15:25	FedEx	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx	TEMP: °C 1.1°	
FedEx				TRACKING #: 4905 2704 3918		

*=samples in this project.

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Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

BU171 3/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-010722-S-BN-SW-S-34	1-7-22	1330	C	S	4oz		X						X	X		1	RUSH
11215131-010722-S-BN-SW-S-37		1340					X									1	RUSH
11215131-010722-S-BN-SW-S-38		1350					X									1	RUSH
11215131-010722-S-BN-SW-S-39		1400					X									1	RUSH
11215131-010722-S-BN-SW-D-16		1410					X									1	*
11215131-010722-S-BN-SW-B-18		1420					X									1	*
11215131-010822-S-BN-NC-S-28	1-8-22	0920					X									1	RUSH
11215131-010822-S-BN-NC-S-29		0930					X									1	RUSH
11215131-010822-S-BN-NC-D-33		0940					X									1	*
11215131-010822-S-BN-NC-D-34		0950					X									1	*

COLLECTED/RELINQUISHED BY (1): Breanna Nordh	DATE: 1-10-22	TIME: 1212	RECEIVED BY: Eddie Castro	RECEIVED BY LABORATORY: DATE: TIME: ashley ONTARIO 1/12/2022 11:52
RELINQUISHED BY (2): Eddie Castro	DATE: 1-10-22	TIME: 1400	RECEIVED BY: [signature] 1/10/22 1400	COOLER SEAL ☐ INTACT ☐ BROKEN ☒ ABSENT
RELINQUISHED BY (3): [signature]	DATE: 1/10/22	TIME: 1400	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
				CARRIER: FedEx TEMP: °C -0.2°
				TRACKING #: 4905 2704 3930

*=samples in this project.

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Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

BU171 4/4

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

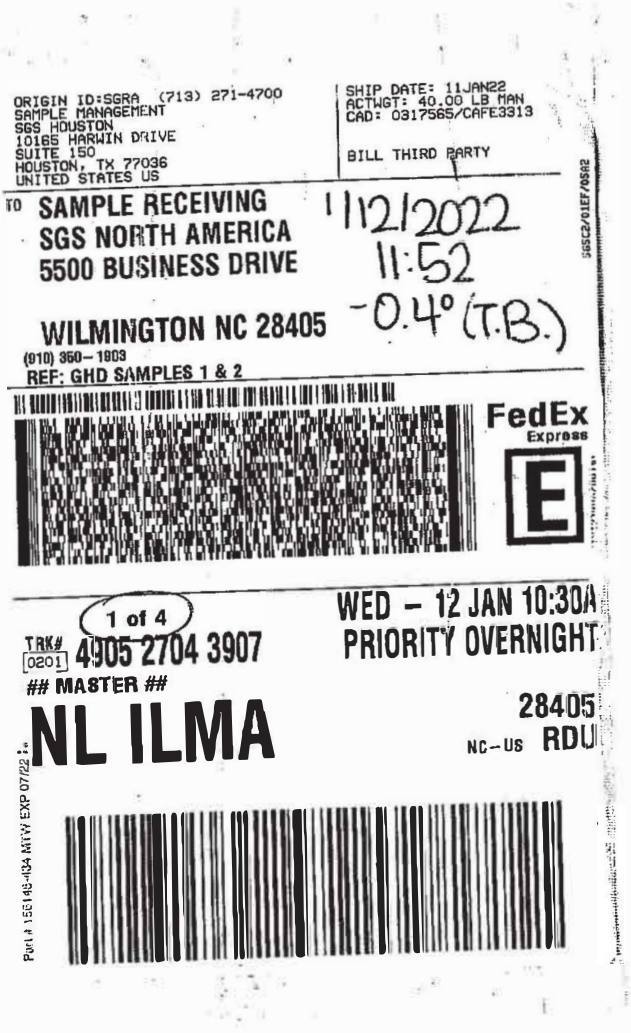
SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	~~M8200A~~	M4168A	M1668C (BN)	HR-PAH	~~M4699~~	QC: MS	MSD	DUP	QTY	REMARKS: SEESSOW
11215131-010822-S-BN-NC-S-26	1-8-22	1010	C	S	4oz		X									1	RUSH
11215131-010822-S-BN-NC-0-31	1-8-22	1020	↓	↓	↓		X									1	*
11215131-010822-S-BN-NC-B-8	1-8-22	1030					X									1	*
11215131-010722-S-BN-DUP-11	1-9-22	—					X								X	1	*
11215131-011022-S-BN-NC-S-23	1-10-22	0850	C	S	4oz		X									1	RUSH
11215131-011022-S-BN-NC-0-29 (BN)	↓	0900	C	S	4oz		X									1	*

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna Nosek	1-10-22	1212	Eddie Castro
RELINQUISHED BY (2): Eddie Castro	DATE: 1-10-22	TIME: 1400	RECEIVED BY: 1/10/22 1400
RELINQUISHED BY (3):	DATE: 1/10/22	TIME: 1400	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:
ASHLEY BROWN 1/12/2022 11:52
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: FedEx TEMP: °C -0.2°
TRACKING #: 4905 2704 3930

*=samples in this project.

SGS NORTH AMERICA INC. ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs
Member of the SGS Group (SGS SA)



ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.4° (T.B.)

565C2/01EF/0582

FedEx Express

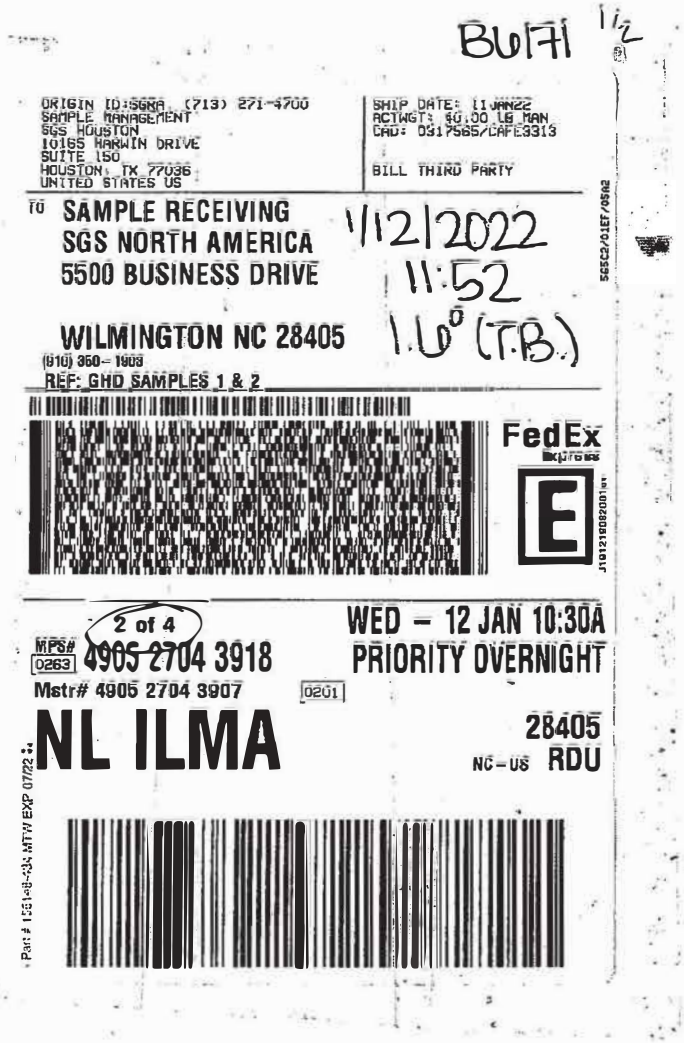
1 of 4
TRK# 0201 4905 2704 3907
MASTER

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

28405
NC-US RDU

NL ILMA

Part # 156146-434 MTW EXP 07/22



BU171 1/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
1.0° (T.B.)

565C2/01EF/0582

FedEx Express

2 of 4
MPS# 0263 4905 2704 3918
Mstr# 4905 2704 3907 0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

28405
NC-US RDU

NL ILMA

Part # 156146-434 MTW EXP 07/22

B0171 2/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317585/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.9°(T.B.)

565C2/01EF/0582

FedEx Express

J191219082001uv

3 of 4
MPS# 0263 4905 2704 3929
Mstr# 4905 2704 3907
0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317585/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.2°(T.B.)

565C2/01EF/0582

FedEx Express

J191219082001uv

4 of 4
MPS# 0263 4905 2704 3930
Mstr# 4905 2704 3907
0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6171

Initiation Date: 13-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

10 g DWE extraction

Sample 003 is MS/MSD

Read and understood, initial and date: Prep Lab: JRH 1/20/22 RAB 1/24/22 HRMS Lab:

Reporting Instructions

M1613B

Full Report

Sample 003 is MS/MSD summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 13-Jan-2022

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18853

Inter-Department Communication Sheet

Large A/B column used at clean up — [redacted] 1/24/22

REVIEWED
Tamara Burkamper , 1/28/2022, 11:00:15 AM

SGS

Wt. Volume Results

Batch#: 18853

Comments:

AK 1/27/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6171_001	0.8	4.37	3.73	82.07%	82.07%			12.18	12.42	10.19
B6171_002	0.78	3.95	3.36	81.39%	81.39%			12.29	12.5	10.17
B6171_003	0.82	3.89	3.01	71.34%	71.34%			14.02	14.16	10.1
B6171_003MS	0.82	3.89	3.01	71.34%	71.34%			14.02	14.28	10.19
B6171_003MSD	0.82	3.89	3.01	71.34%	71.34%			14.02	14.11	10.07
B6171_004	0.8	4.2	3.11	67.94%	67.94%			14.72	14.89	10.12
B6171_005	0.82	4.67	3.95	81.30%	81.30%			12.3	12.49	10.15
B6171_006	0.81	3.61	3.03	79.29%	79.29%			12.61	12.68	10.05
B6171_007	0.8	4.56	3.48	71.28%	71.28%			14.03	14.18	10.11
B6171_008	0.8	4.36	3.42	73.60%	73.60%			13.59	13.89	10.22
B6171_009	0.81	4.26	3.81	86.96%	86.96%			11.5	11.64	10.12
B6171_010	0.81	4.27	3.61	80.92%	80.92%			12.36	12.4	10.03
B6171_011	0.81	4.6	3.75	77.57%	77.57%			12.89	12.94	10.04
B6171_012	0.8	4.31	3.11	65.81%	65.81%			15.19	15.22	10.02
B6171_013	0.8	4.25	3.54	79.42%	79.42%			12.59	12.88	10.23
B6171_014	1.25	5.76	4.88	80.49%	80.49%			12.42	12.46	10.03
B6171_015	1.51	5.29	4.52	79.63%	79.63%			12.56	12.69	10.11
B6171_016	1.99	5.65	4.87	78.69%	78.69%			12.71	12.92	10.17

REVIEWED
Tamara Burkamper , 1/28/2022, 11:00:20 AM

% Solid Determination WorkSheet

SGS

Batch: 18853

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	100 DWF	Comments
B6171_18853_001	0.81	4.37	3.73 / 3.73	~~12.29~~ KE 1/19/22 12.18	
B6171_18853_002	0.78	3.95	3.36 / 3.36	~~14.02~~ KE 1/19/22 12.29	
B6171_18853_003	0.80	3.89	3.01 / 3.01	14.02	
B6171_18853_003MS JRH 1/19/22	~~0.82~~	—	—		
B6171_18853_003MSD	—	—	—		
B6171_18853_004	0.80	4.20	3.11 / 3.11	14.72	
B6171_18853_005	0.82	4.67	3.95 / 3.95	12.30	
B6171_18853_006	0.81	3.61	3.03 / 3.03	12.61	
B6171_18853_007	0.80	4.56	3.48 / 3.48	14.03	
B6171_18853_008	0.80	4.36	3.42 / 3.42	13.59	
B6171_18853_009	0.81	4.26	3.81 / 3.81	11.50	
B6171_18853_010	0.81	4.27	3.61 / 3.61	12.36	
B6171_18853_011	0.81	4.60	3.75 / 3.75	12.89	
B6171_18853_012	0.80	4.31	3.11 / 3.11	15.19	
B6171_18853_013	0.80	4.25	3.54 / 3.54	12.59	
B6171_18853_014	1.25	5.76	4.88 / 4.88	12.42	
B6171_18853_015	1.51	5.29	4.52 / 4.52	12.56	
B6171_18853_016	1.99	5.65	4.87 / 4.87	12.71	
		~~RDB~~ 1/24/22			

Date/Initials: 1/19/22 KE

SGS

Methods: PCB, PAH, PCDD/F, WHO-2, QUANTICS, USV, DoD PCDD/F, PEST — Solid

Batch # 18853

Lab Sample ID	Spiker Initials/Date: JRH 1/19/22	JRH 1/19/22	JRH 1/19/22	RPS 1/24/22	RPS 1/24/22		
	D/F A1-A Amount: 20µL	D/F A1-B Amount: 20µL	D/F ES Amount: 20µL	D/F CS Amount: 20µL	D/F JS Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6171_18853_001	—	—	KE	JRH	JRH		
B6171_18853_002	—	—	KE	JRH	JRH		
B6171_18853_003	—	—	KE	JRH	JRH		
B6171_18853_003MS	KE	KE	KE	JRH	JRH		
B6171_18853_003MSD	KE	KE	KE	JRH	JRH		
B6171_18853_004	—	—	KE	JRH	JRH		
B6171_18853_005	—	—	KE	JRH	JRH		
B6171_18853_006	—	—	KE	JRH	JRH		
B6171_18853_007	—	—	KE	JRH	JRH		
B6171_18853_008	—	—	KE	JRH	JRH		
B6171_18853_009	—	—	KE	JRH	JRH		
B6171_18853_010	—	—	KE	JRH	JRH		
B6171_18853_011	—	—	KE	JRH	JRH		
B6171_18853_012	—	—	KE	JRH	JRH		
B6171_18853_013	—	—	KE	JRH	JRH		
B6171_18853_014	—	—	KE	JRH	JRH		
B6171_18853_015	—	—	KE	JRH	JRH		
B6171_18853_016	—	—	KE	JRH	JRH		
MB1_18853	—	—	KE	JRH	JRH		
OPR1_18853	KE	KE	KE	JRH	JRH		

RPS 1/24/22

Standard Information

Pipette ID							
Spike ID	D/F A1-A	D/F A1-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-F	25-187-2	26-2-G	25.338.1	25.309.1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	10/5/22		

RPS 1/24/22

SGS Environmental Services — Run Log **Project: B6171_18853_DF**

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220125R01	3	CS3_220125_DF_RA ✓	1.00	SIL 25-347-1	PSW	082-235	25-Jan-2022	09:53:35
2	220125R02	7	OPR1_18859_DF	1.00	0_18859_OPR001 CPSM only	PSW	110-319	25-Jan-2022	10:50:07
3	220125R03	2	SBS_220125_DF_RA	1.00	SIL 20-61-1	PSW	155-316	25-Jan-2022	11:40:29
5	220125R05	14	MB1_18853_DF_SDS	10.00	Method Blank	PSW	853-216	25-Jan-2022	13:15:24
11	220125R11	16	B6171_18853_DF_001	10.19	11215131-011022-S-BN-NC-O-27	PSW	483-564	25-Jan-2022	17:59:45
12	220125R12	3	CS3_220125_DF_RB	1.00	SIL 25-347-1	PSW	296-169	25-Jan-2022	18:47:18
13	220125R13	15	OPR1_18853_DF	1.00	0_18853_OPR001	PSW	403-513	25-Jan-2022	19:42:55
14	220125R14	2	SBS_220125_DF_RB	1.00	SIL 20-61-1	PSW	031-706	25-Jan-2022	20:29:34
15	220125R15	17	B6171_18853_DF_002	10.17	11215131-011022-S-BN-NC-O-26	PSW	520-616	25-Jan-2022	21:17:06
16	220125R16	18	B6171_18853_DF_003	10.10	11215131-011022-S-BN-NC-B-7	PSW	857-991	25-Jan-2022	22:04:39
17	220125R17	19	B6171_18853_DF_003MS	10.19	11215131-011022-S-BN-NC-B-7-MS	PSW	~~731-233~~ 924-148-VMF	25-Jan-2022	22:52:07
18	220125R18	20	B6171_18853_DF_003MSD	10.07	11215131-011022-S-BN-NC-B-7-MSD	PSW	~~670-188~~ 912-757-QDR	25-Jan-2022	23:39:38
19	220125R19	21	B6171_18853_DF_004	10.12	11215131-011022-S-BN-DUP-12	PSW	560-090	26-Jan-2022	00:27:11
20	220125R20	22	B6171_18853_DF_005	10.15	11215131-011122-S-BN-NC-O-30	PSW	289-914	26-Jan-2022	01:14:38
21	220125R21	23	B6171_18853_DF_006	10.05	11215131-011122-S-BN-NC-O-32	PSW	541-632	26-Jan-2022	02:02:11
22	220125R22	24	B6171_18853_DF_007	10.11	11215131-011122-S-BN-NC-B-9	PSW	250-190	26-Jan-2022	02:49:40
23	220125R23	25	B6171_18853_DF_008	10.22	11215131-011122-S-BN-NC-O-28	PSW	822-366	26-Jan-2022	03:37:06
24	220125R24	26	B6171_18853_DF_009 ✓	10.12	11215131-010722-S-BN-SW-O-16	PSW	863-295	26-Jan-2022	04:24:40
25	220125R25	3	CS3_220125_DF_RC	1.00	SIL 25-347-1	PSW	957-248	26-Jan-2022	05:20:10
26	220125R26	15	OPR1_18853_DF-RJ	1.00	0_18853_OPR001 CPSM only	PSW	759-601	26-Jan-2022	06:06:51
27	220125R27	2	SBS_220125_DF_RC	1.00	SIL 20-61-1	PSW	633-961	26-Jan-2022	06:54:26
28	220125R28	27	B6171_18853_DF_010	10.03	11215131-010722-S-BN-SW-B-18	PSW	290-389	26-Jan-2022	07:41:59
29	220125R29	28	B6171_18853_DF_011	10.04	11215131-010822-S-BN-NC-O-33	PSW	908-477	26-Jan-2022	08:29:31
30	220125R30	29	B6171_18853_DF_012	10.02	11215131-010822-S-BN-NC-O-34	PSW	704-926	26-Jan-2022	09:16:58
31	220125R31	30	B6171_18853_DF_013	10.23	11215131-010822-S-BN-NC-O-31	PSW	347-530	26-Jan-2022	10:04:31
32	220125R32	31	B6171_18853_DF_014	10.03	11215131-010822-S-BN-NC-B-8	PSW	264-662	26-Jan-2022	10:52:05
33	220125R33	32	B6171_18853_DF_015	10.11	11215131-010722-S-BN-DUP-11	PSW	050-766	26-Jan-2022	11:39:34
34	220125R34	33	B6171_18853_DF_016 ✓	10.17	11215131-011022-S-BN-NC-O-29	PSW	025-300	26-Jan-2022	12:27:08

REVIEWED
paul_walton , 1/26/2022, 1:35:09 PM

APPROVED
Amy_Boehm , 1/28/2022, 9:38:21 AM

Project file: not saved
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Printed: 26-Jan-2022 13:34

Lab ID: MB1_18853_DF_SDS | **Acq'd:** 25 Jan 2022 13:16 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6171_18853 | **UTP:** 26-Jan-2022 09:28:47 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 853-216-QRF

Datafile: 220125R05 | **Report:** 26 Jan 2022 11:12 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	8011.66	0.669
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.06	-	7369.971	0.687
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	6574.707	0.604
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.08	-	6574.707	0.629
123789-HxCDD	NotFnd		1.0116	-		-	-	-	1.02	-	6574.707	0.628
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	7455.881	0.657
OCDD	NotFnd		1.0003	-		-	-	-	1.07	-	7987.036	1.37
2378-TCDF	NotFnd		1.0008	-		-	-	-	0.96	-	7782.266	0.694
12378-PeCDF	NotFnd		1.0006	-		-	-	-	0.95	-	7346.349	0.597
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	7346.349	0.592
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.23	-	5439.363	0.381
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	5439.363	0.36
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	5439.363	0.738
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	5439.363	0.495
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	6688.003	0.433
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	6688.003	0.541
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	7050.064	0.992

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.73	1.0273	1.0275	+0.3	2.02E+07	0.81	Y	1.03	82.4
ES 12378-PeCDD	32.42	1.2455	1.2461	+1.2	1.85E+07	1.65	Y	1.03	75.5
ES 123478-HxCDD	36.40	0.9917	0.9918	+0.2	1.73E+07	1.23	Y	0.99	91.7
ES 123678-HxCDD	36.51	0.9948	0.9949	+0.2	1.69E+07	1.23	Y	0.97	91.9
ES 123789-HxCDD	36.81	1.0028	1.0028	0	1.87E+07	1.36	Y	1.12	87.8
ES 1234678-HpCDD	39.76	1.0830	1.0832	+0.5	1.53E+07	1.12	Y	0.99	81.5
ES OCDD	42.18	1.1489	1.1493	+1.0	1.83E+07	0.89	Y	0.78	62.4
ES 2378-TCDF	25.78	1.0623	1.0626	+0.5	3.02E+07	0.78	Y	1.08	74.9
ES 12378-PeCDF	30.90	1.2724	1.2733	+1.7	2.79E+07	1.60	Y	0.93	80.2
ES 23478-PeCDF	32.06	1.3205	1.3214	+1.7	2.67E+07	1.55	Y	0.92	77.9
ES 123478-HxCDF	35.41	0.9649	0.9649	0	2.03E+07	0.53	Y	1.14	94.1
ES 123678-HxCDF	35.56	0.9688	0.9688	0	2.41E+07	0.52	Y	1.30	98
ES 234678-HxCDF	36.22	0.9868	0.9869	+0.2	1.31E+07	0.54	Y	1.20	57.8
ES 123789-HxCDF	37.18	1.0129	1.0130	+0.2	1.80E+07	0.54	Y	1.14	84
ES 1234678-HpCDF	38.80	1.0569	1.0571	+0.5	1.86E+07	0.46	Y	0.95	103
ES 1234789-HpCDF	40.18	1.0944	1.0946	+0.5	1.32E+07	0.44	Y	0.85	82.2
ES OCDF	42.34	1.1533	1.1537	+1.0	2.16E+07	0.89	Y	0.93	61.8

Lab ID: MB1_18853_DF_SDS | Acq'd: 25 Jan 2022 13:16 PSW | Wt/Vol: 10.00 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6171_18853 | UTP: 26-Jan-2022 09:28:47 PSW | J-level: 0.5 pg/g | Split: 1 | Checkcode: 853-216-QRF

Datafile: 220125R05 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.01		-	-	-	2.36E+07	0.81	Y	-	-
JS 1234-TCDF	24.27		-	-	-	3.72E+07	0.80	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	9.46E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0284	+0.3	1.03E+07	n/a	-	1.31	83.1
CS 12347-PeCDD	31.90		1.2257	1.2262	+1.0	1.88E+07	1.59	Y	0.89	89.1
CS 12346-PeCDF	30.34		1.2496	1.2505	+1.6	3.01E+07	1.62	Y	0.87	93.2
CS 123469-HxCDF	35.87		0.9773	0.9773	0	2.45E+07	0.53	Y	1.09	119
CS 1234689-HpCDF	39.24		1.0687	1.0690	+0.7	1.86E+07	0.47	Y	0.86	114
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0284~~	~~+0.3~~	~~1.03E+07~~	~~n/a~~		~~1.26~~	~~101~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2262~~	~~+1.0~~	~~1.00E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~30.34~~		~~1.2496~~	~~1.2505~~	~~+1.6~~	~~3.01E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~116~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.45E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~121~~
~~SS 1234689-HpCDF~~	~~39.24~~		~~1.0687~~	~~1.0690~~	~~+0.7~~	~~1.86E+07~~	~~0.47~~	~~Y~~	~~0.91~~	~~110~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18853_DF_SDS | Acq'd: 25 Jan 2022 13:16 PSW | Wt/Vol: 10.00 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6171_18853 | UTP: 26-Jan-2022 09:28:47 PSW | J-level: 0.5 pg/g | Split: 1 | Checkcode: 853-216-QRF

Datafile: 220125R05 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		8011.66	0.669
1379-TCDD	NotFnd		0.8642						1.34		8011.66	0.669
1369-TCDD	NotFnd		0.8825						1.34		8011.66	0.669
1469-TCDD	NotFnd		0.9154						1.34		8011.66	0.669
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		8011.66	0.669
1378-TCDD	NotFnd		0.9332						1.34		8011.66	0.669
1268-TCDD	NotFnd		0.9415						1.34		8011.66	0.669
1478-TCDD	NotFnd		0.9518						1.34		8011.66	0.669
1279-TCDD	NotFnd		0.9586						1.34		8011.66	0.669
1234/1269-TCDD	NotFnd		0.9734						1.34		8011.66	0.669
1236-TCDD	NotFnd		0.9788						1.34		8011.66	0.669
1237/1238-TCDD	NotFnd		0.9892						1.34		8011.66	0.669
1239-TCDD	NotFnd		0.9944						1.34		8011.66	0.669
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**8011.66**	**0.669**
1278-TCDD	NotFnd		1.0142						1.34		8011.66	0.669
1267-TCDD	NotFnd		1.0197						1.34		8011.66	0.669
1289-TCDD	NotFnd		1.0401						1.34		8011.66	0.669
12479/12468-PeCDD	NotFnd		0.9202						1.06		7369.971	0.687
12469-PeCDD	NotFnd		0.9375						1.06		7369.971	0.687
12368-PeCDD	NotFnd		0.9553						1.06		7369.971	0.687
12478-PeCDD	NotFnd		0.9613						1.06		7369.971	0.687
12379-PeCDD	NotFnd		0.9644						1.06		7369.971	0.687
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		7369.971	0.687
12346/12347-PeCDD	NotFnd		0.9848						1.06		7369.971	0.687
12378-PeCDD	NotFnd		**1.0005**						**1.06**		**7369.971**	**0.687**
12367-PeCDD	NotFnd		1.0035						1.06		7369.971	0.687
12389-PeCDD	NotFnd		1.0146						1.06		7369.971	0.687
124679/124689-HxCDD	NotFnd		0.9532						1.05		6574.707	0.62
123468-HxCDD	NotFnd		0.9715						1.05		6574.707	0.62
123679/123689-HxCDD	NotFnd		0.9795						1.05		6574.707	0.62
123469-HxCDD	NotFnd		0.9832						1.05		6574.707	0.62
123478-HxCDD	NotFnd		**1.0004**						1.06		**6574.707**	**0.604**
123678-HxCDD	NotFnd		**1.0035**						1.08		**6574.707**	**0.629**
123467-HxCDD	NotFnd		1.0087						1.05		6574.707	0.62
123789-HxCDD	NotFnd		**1.0116**						1.02		**6574.707**	**0.628**

Lab ID: MB1_18853_DF_SDS | Acq'd: 25 Jan 2022 13:16 PSW | Wt/Vol: 10.00 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6171_18853 | UTP: 26-Jan-2022 09:28:47 PSW | J-level: 0.5 pg/g | Split: 1 | Checkcode: 853-216-QRF

Datafile: 220125R05 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9834						0.97		7455.881	0.657
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**7455.881**	**0.657**
OCDD	**NotFnd**		**1.0003**						**1.07**		**7987.036**	**1.37**
OCDD-a	NotFnd		1.0001						0.07		11013.625	30.5
1368-TCDF	NotFnd		0.7942						0.96		7782.266	0.694
1468-TCDF	NotFnd		0.8155						0.96		7782.266	0.694
2468-TCDF	NotFnd		0.8407						0.96		7782.266	0.694
1346/1246-TCDF	NotFnd		0.8553						0.96		7782.266	0.694
1347/1378/1247-TCDF	NotFnd		0.8617						0.96		7782.266	0.694
1348-TCDF	NotFnd		0.8740						0.96		7782.266	0.694
1248/1367/1379-TCDF	NotFnd		0.8798						0.96		7782.266	0.694
1268-TCDF	NotFnd		0.8967						0.96		7782.266	0.694
1467-TCDF	NotFnd		0.9025						0.96		7782.266	0.694
1478-TCDF	NotFnd		0.9101						0.96		7782.266	0.694
1369/1237-TCDF	NotFnd		0.9263						0.96		7782.266	0.694
2467-TCDF	NotFnd		0.9322						0.96		7782.266	0.694
2368-TCDF	NotFnd		0.9389						0.96		7782.266	0.694
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9427						0.96		7782.266	0.694
1278-TCDF	NotFnd		0.9623						0.96		7782.266	0.694
1349-TCDF	NotFnd		0.9678						0.96		7782.266	0.694
1267-TCDF	NotFnd		0.9740						0.96		7782.266	0.694
2346/1249-TCDF	NotFnd		0.9820						0.96		7782.266	0.694
2347/1279-TCDF	NotFnd		0.9915						0.96		7782.266	0.694
2348-TCDF	NotFnd		0.9964						0.96		7782.266	0.694
2378-TCDF	**NotFnd**		**1.0008**						**0.96**		**7782.266**	**0.694**
2367/3467-TCDF	NotFnd		1.0163						0.96		7782.266	0.694
1269-TCDF	NotFnd		1.0265						0.96		7782.266	0.694
1239-TCDF	NotFnd		1.0373						0.96		7782.266	0.694
1289-TCDF	NotFnd		1.0847						0.96		7782.266	0.694
13468/12468-PeCDF	NotFnd		0.9045						0.94		8941.945	0.724
13678/13467/12467-PeCDF	NotFnd		0.9574						0.94		7346.349	0.595
12368/13478/12478-PeCDF	NotFnd		0.9628						0.94		7346.349	0.595
14678-PeCDF	NotFnd		0.9661						0.94		7346.349	0.595
13479-PeCDF	NotFnd		0.9695						0.94		7346.349	0.595
13469/12479-PeCDF	NotFnd		0.9779						0.94		7346.349	0.595
12346-PeCDF	NotFnd		0.9824						0.94		7346.349	0.595

Lab ID: MB1_18853_DF_SDS | Acq'd: 25 Jan 2022 13:16 PSW | Wt/Vol: 10.00 g | ICAL: MM3_DF_10272021_27JUL2021

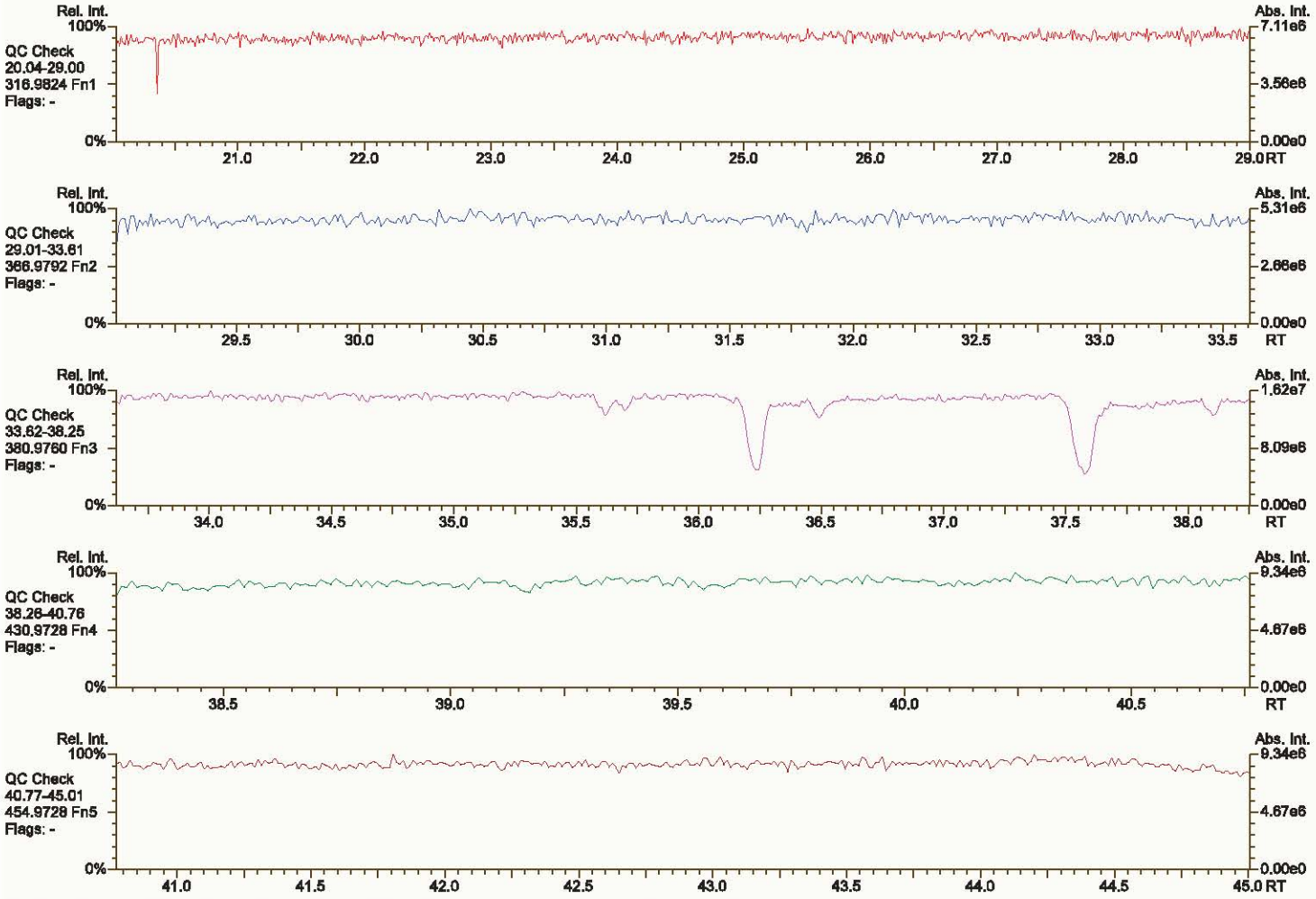
Client ID: Method Blank B6171_18853 | UTP: 26-Jan-2022 09:28:47 PSW | J-level: 0.5 pg/g | Split: 1 | Checkcode: 853-216-QRF

Datafile: 220125R05 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9857						0.94		7346.349	0.595
12347-PeCDF	NotFnd		0.9882						0.94		7346.349	0.595
12348-PeCDF	NotFnd		0.9935						0.94		7346.349	0.595
12378-PeCDF	**NotFnd**		**1.0006**						**0.95**		**7346.349**	**0.597**
12678/12367-PeCDF	NotFnd		1.0099						0.94		7346.349	0.595
12379-PeCDF	NotFnd		1.0155						0.94		7346.349	0.595
12679-PeCDF	NotFnd		0.9921						0.94		7346.349	0.595
23467/12369-PeCDF	NotFnd		0.9962						0.94		7346.349	0.595
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**7346.349**	**0.592**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7346.349	0.595
12349-PeCDF	NotFnd		1.0106						0.94		7346.349	0.595
12389-PeCDF	NotFnd		1.0349						0.94		7346.349	0.595
123468-HxCDF	NotFnd		0.9606						1.16		5439.363	0.463
124678/134678-HxCDF	NotFnd		0.9663						1.16		5439.363	0.463
134679-HxCDF	NotFnd		0.9729						1.16		5439.363	0.463
124679-HxCDF	NotFnd		0.9786						1.16		5439.363	0.463
124689-HxCDF	NotFnd		0.9851						1.16		5439.363	0.463
123467-HxCDF	NotFnd		0.9970						1.16		5439.363	0.463
123478-HxCDF	**NotFnd**		**1.0004**						**1.23**		**5439.363**	**0.381**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**5439.363**	**0.36**
123479-HxCDF	NotFnd		1.0050						1.16		5439.363	0.463
123469-HxCDF	NotFnd		1.0091						1.16		5439.363	0.463
123679-HxCDF	NotFnd		0.9942						1.16		5439.363	0.463
234678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**5439.363**	**0.738**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		5439.363	0.463
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**5439.363**	**0.495**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		5439.363	0.463
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**6688.003**	**0.433**
1234679-HpCDF	NotFnd		1.0076						1.33		6688.003	0.478
1234689-HpCDF	NotFnd		1.0114						1.33		6688.003	0.478
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**6688.003**	**0.541**
OCDF	**NotFnd**		**1.0003**						**1.03**		**7050.064**	**0.992**
OCDF-a	NotFnd		1.0001						0.06		11018.259	26.8

SGS ID: MB1_18853_DF_SDS | Sample ID: Method Blank | Acq: 25-Jan-2022 13:15:24

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: PSW Datafile: 220125R05



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)

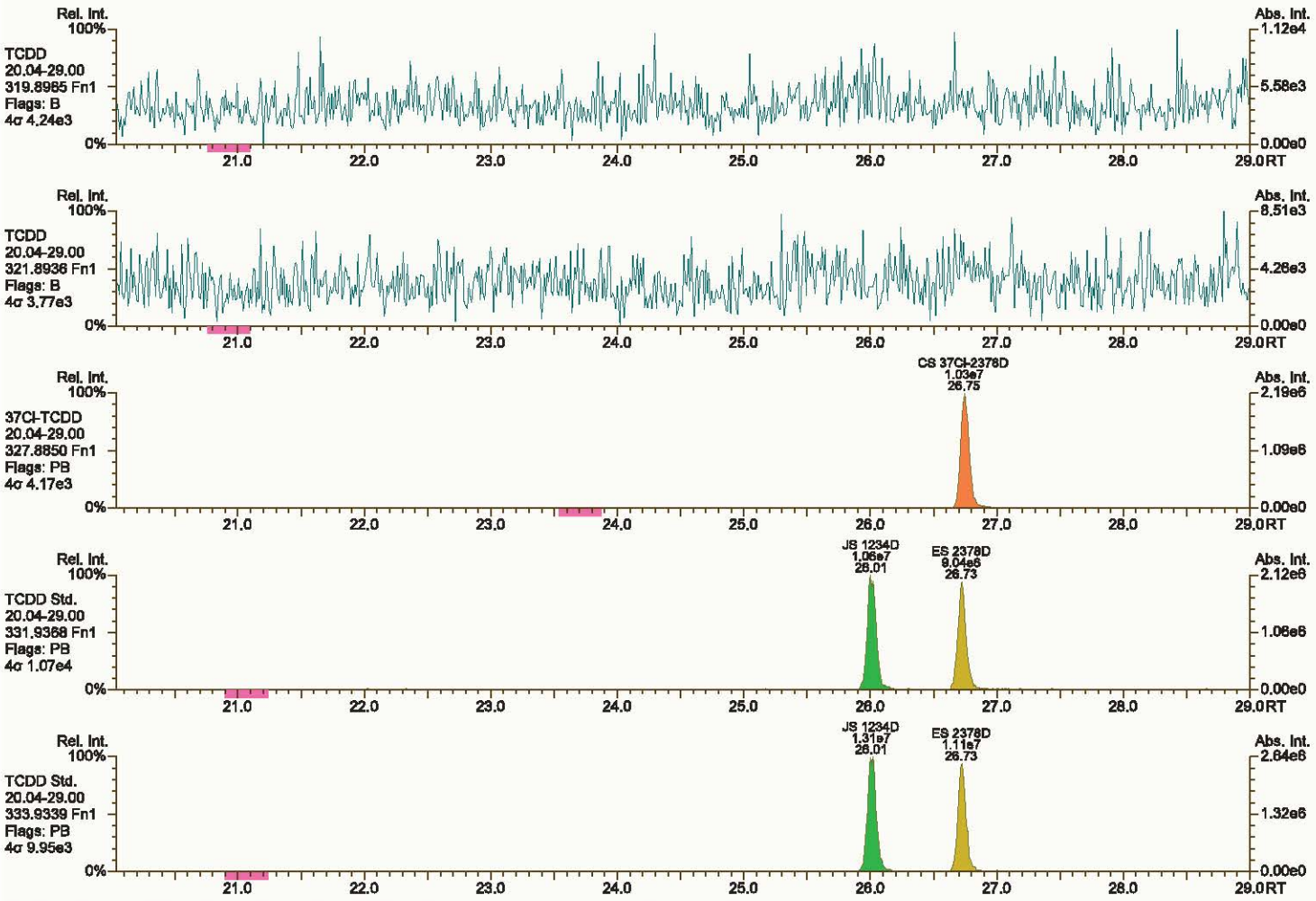
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 853-216

PKD: n/a Printed: 26-Jan-2022 11:17 Page 1 of 12

SGS ID: MB1_18853_DF_SDS | Sample ID: Method Blank | Acq: 25-Jan-2022 13:15:24

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: PSW Datafile: 220125R05

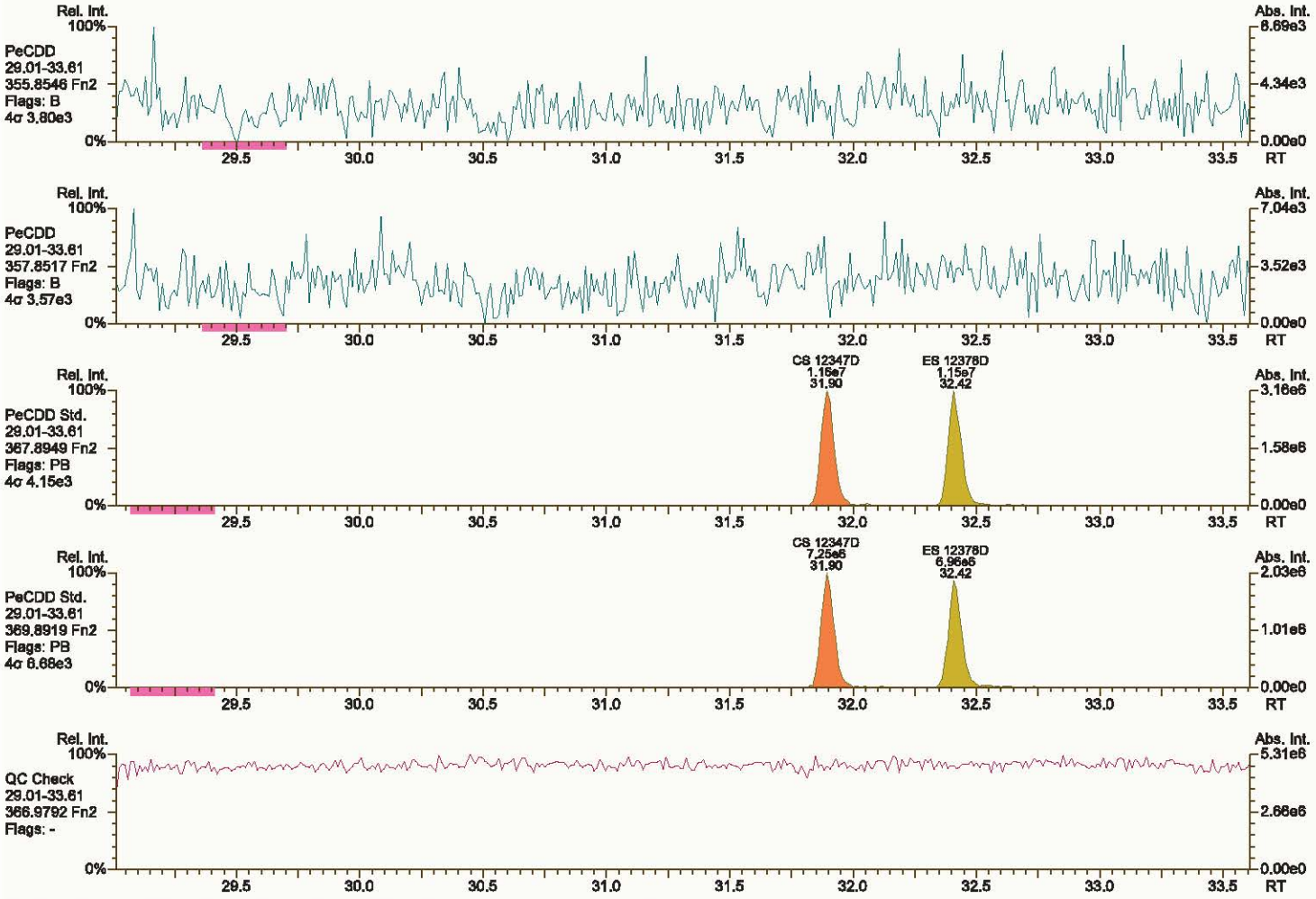


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4613, 2728, 7308 scc: 853-216 *PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 2 of 12*

SGS ID: MB1_18853_DF_SDS | Sample ID: Method Blank | Acq: 25-Jan-2022 13:15:24

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: PSW Datafile: 220125R05



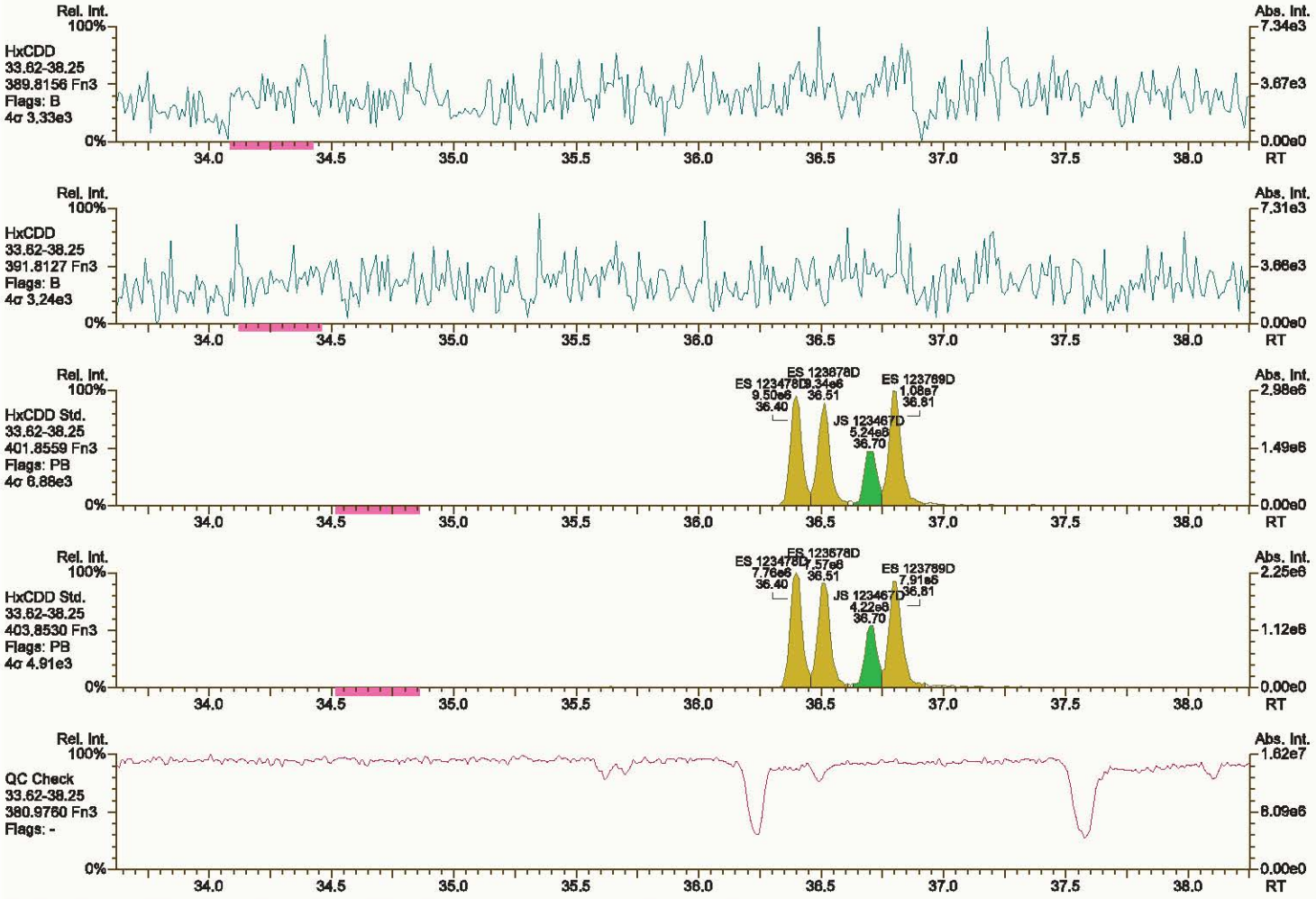
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6066, 6199 scc: 853-216 | *PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 3 of 12*

SGS ID: MB1_18853_DF_SDS
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14

Acq: 25-Jan-2022 13:15:24
User: PSW Datafile: 220125R05



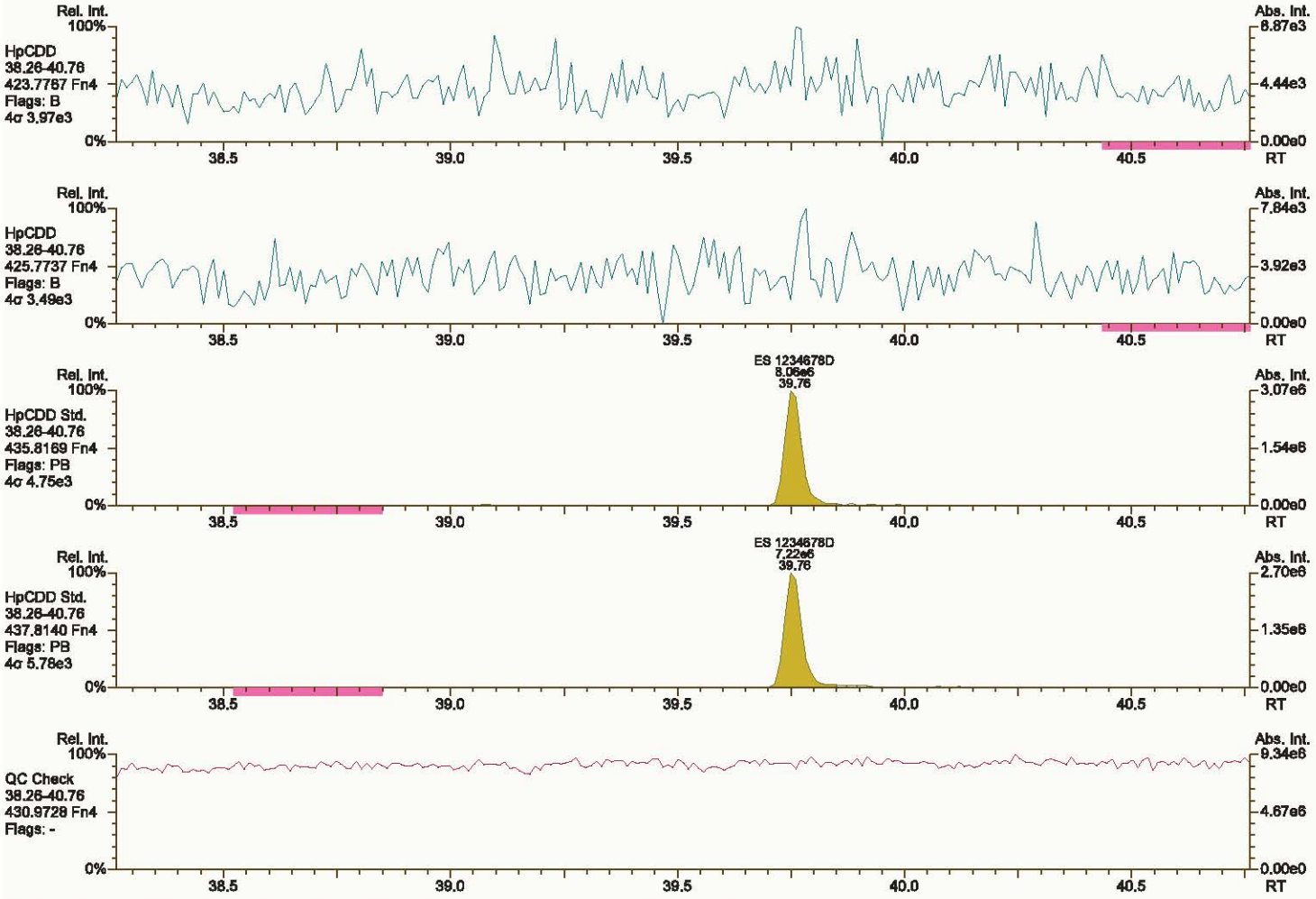
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3532, 9155 scc: 853-216

Peak annotation: Areas, Centroids
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 4 of 12

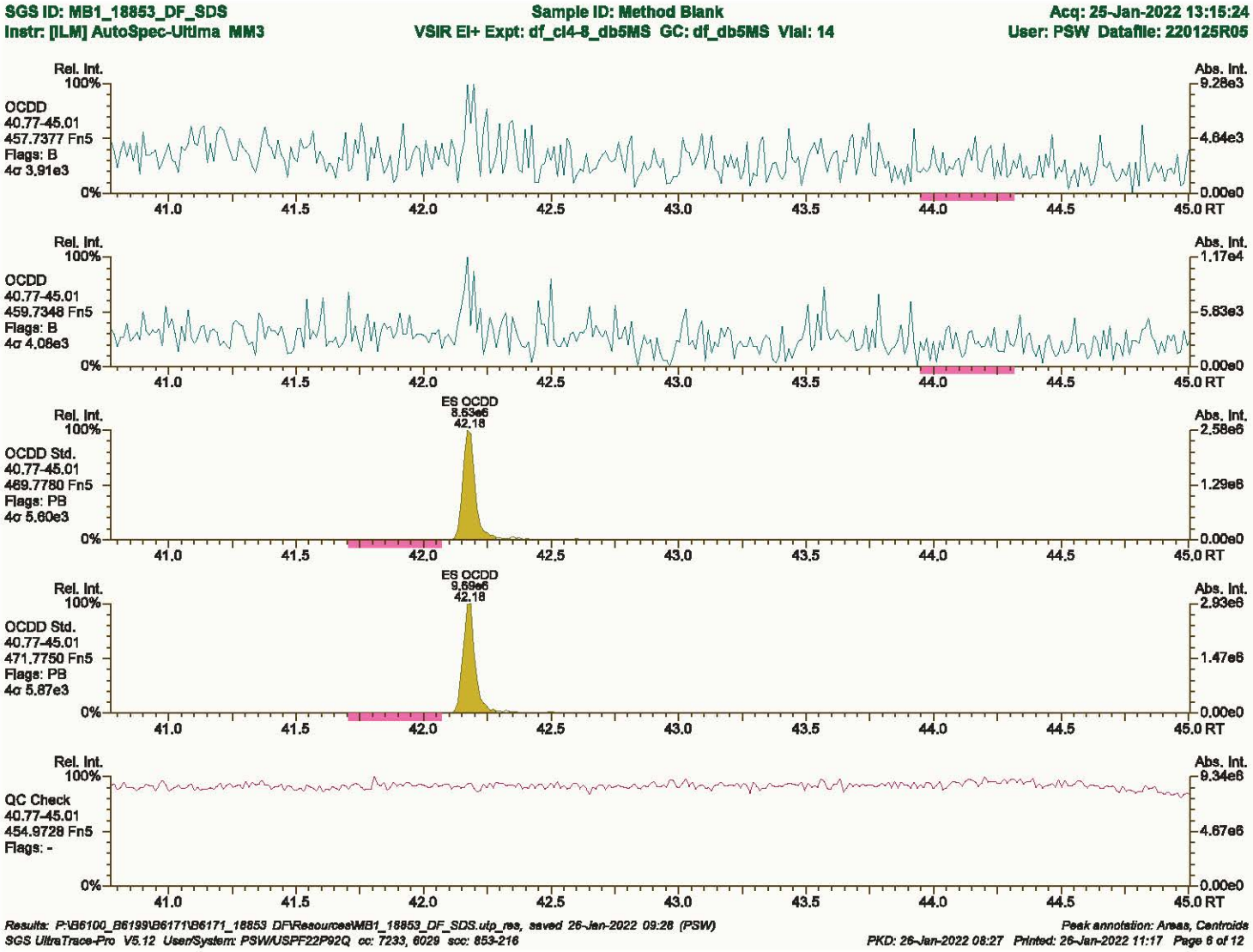
SGS ID: MB1_18853_DF_SDS
Instr: [ILM] AutoSpec-Ultima MM3

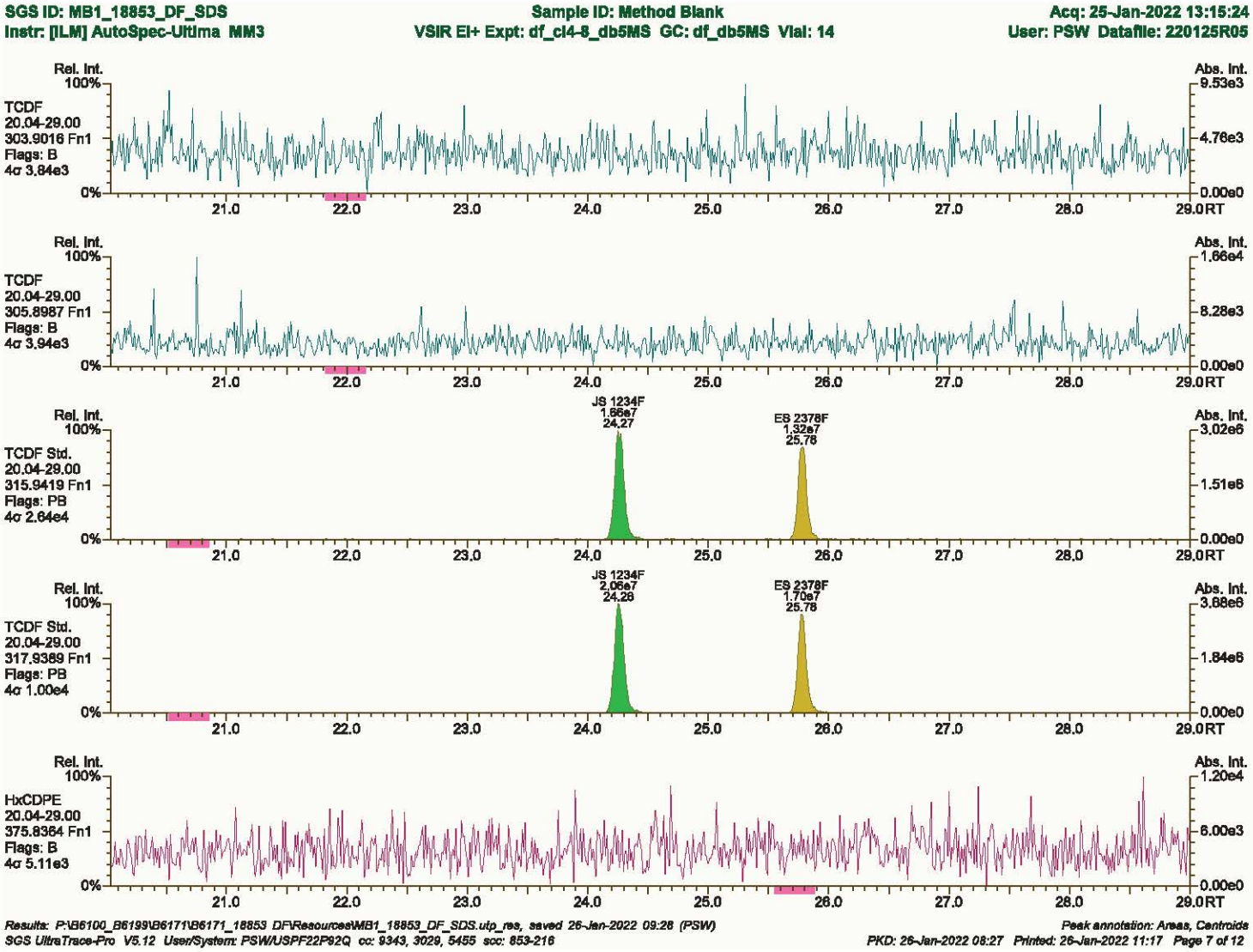
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14

Acq: 25-Jan-2022 13:15:24
User: PSW Datafile: 220125R05



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5254, 1016 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 5 of 12

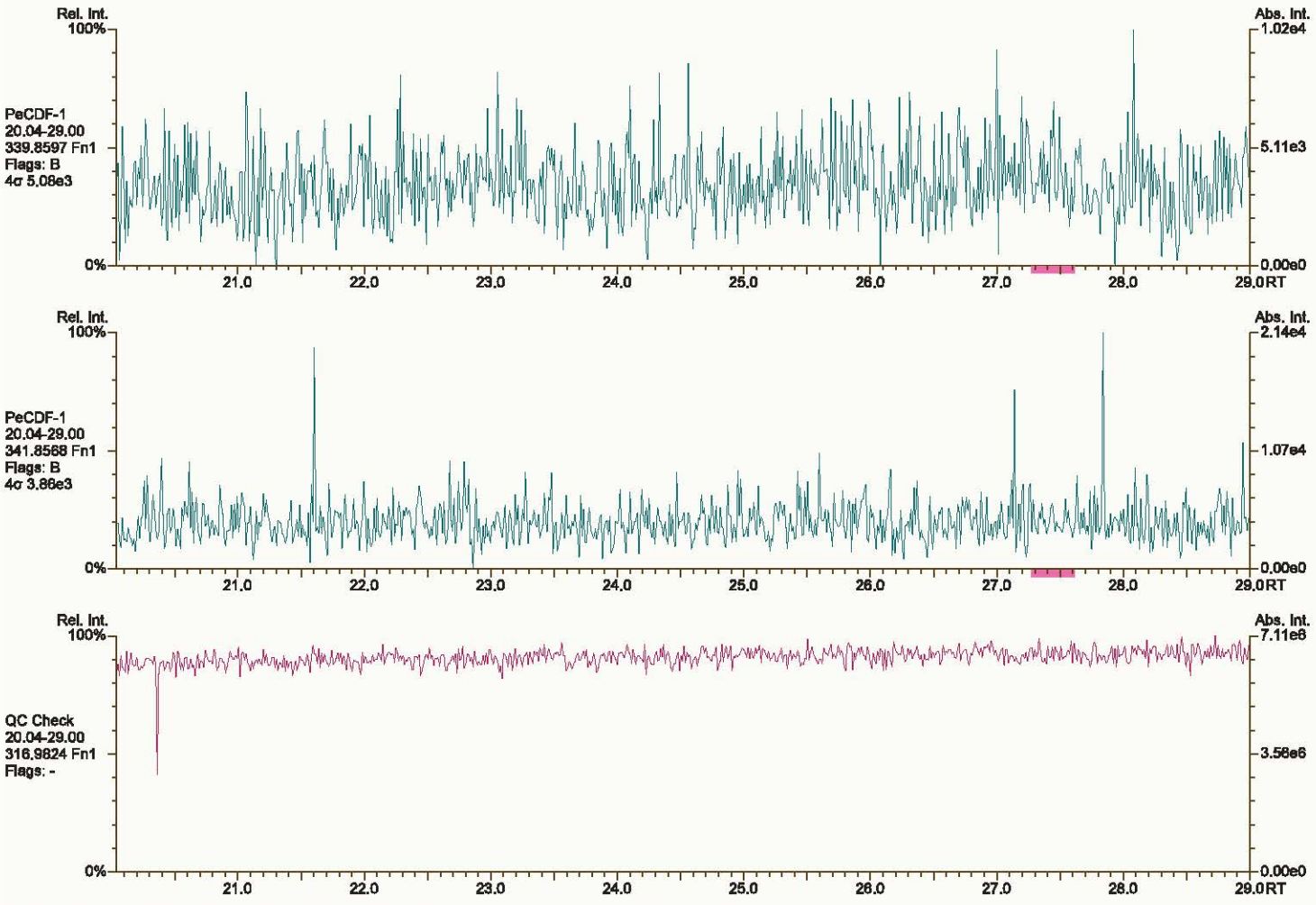

SGS ID: MB1_18853_DF_SDS
Sample ID: Method Blank
Acq: 25-Jan-2022 13:15:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: PSW Datafile: 220125R05
Rel. Int.
Abs. Int.
OCDD
40.77-45.01
457.7377 Fn5
Flags: B
4σ 3.91e3
9.28e3
4.64e3
0.00e0
OCDD
40.77-45.01
459.7348 Fn5
Flags: B
4σ 4.08e3
1.17e4
5.83e3
ES OCDD
8.63e6
42.18
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 5.60e3
2.58e6
1.29e6
ES OCDD
9.59e6
42.18
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 5.87e3
2.93e6
1.47e6
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
9.34e6
4.67e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7233, 6029 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 6 of 12


SGS ID: MB1_18853_DF_SDS
Sample ID: Method Blank
Acq: 25-Jan-2022 13:15:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: PSW Datafile: 220125R05
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: B
4σ 3.84e3
9.53e3
4.76e3
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: B
4σ 3.94e3
1.66e4
8.28e3
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 2.64e4
JS 1234F
1.66e7
24.27
ES 2378F
1.32e7
25.76
3.02e6
1.51e6
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.00e4
JS 1234F
2.06e7
24.28
ES 2378F
1.70e7
25.78
3.68e6
1.84e6
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 5.11e3
1.20e4
6.00e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9343, 3029, 5455 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 7 of 12

SGS ID: MB1_18853_DF_SDS
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14

Acq: 25-Jan-2022 13:15:24
User: PSW Datafile: 220125R05

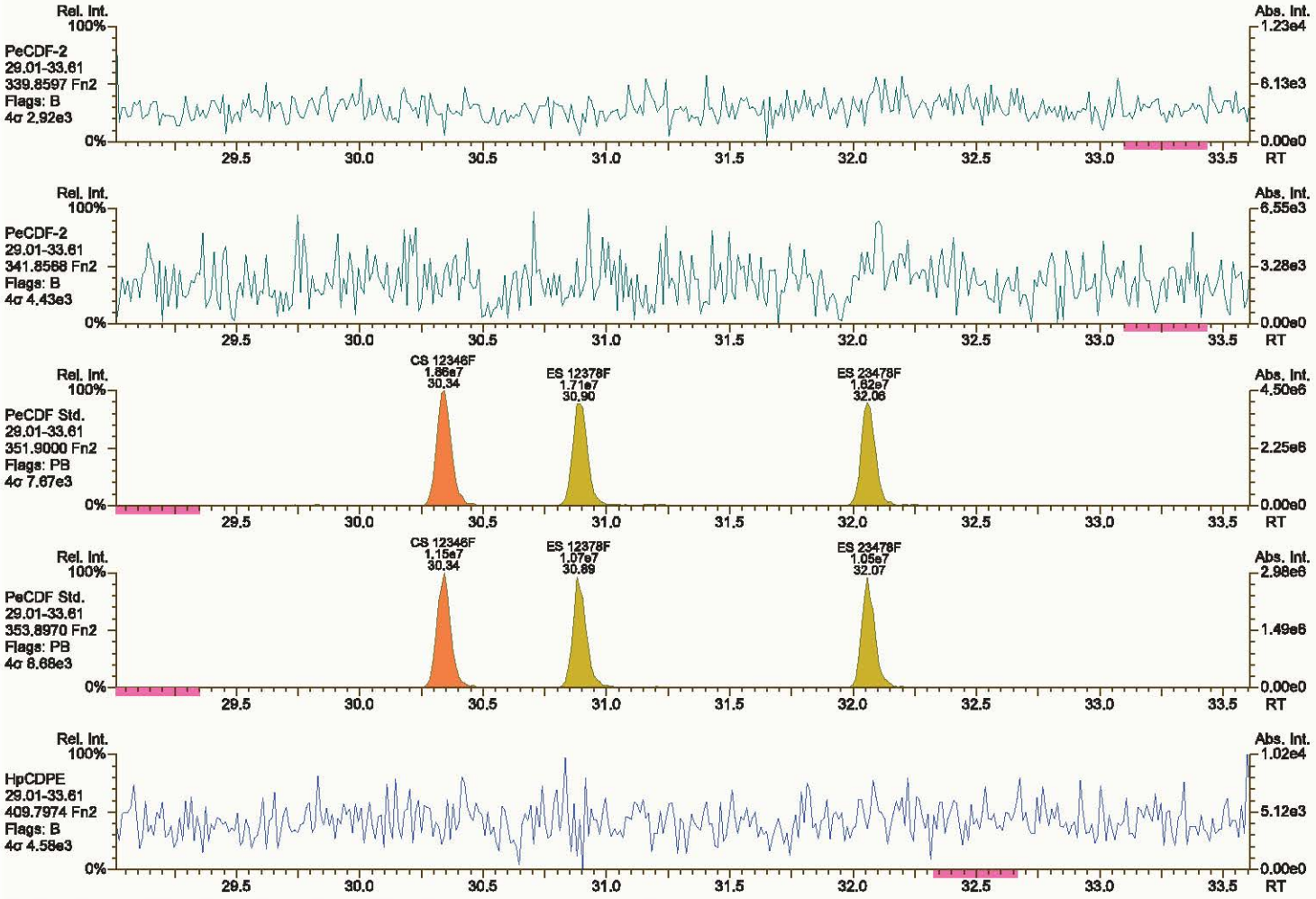


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7364 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 8 of 12

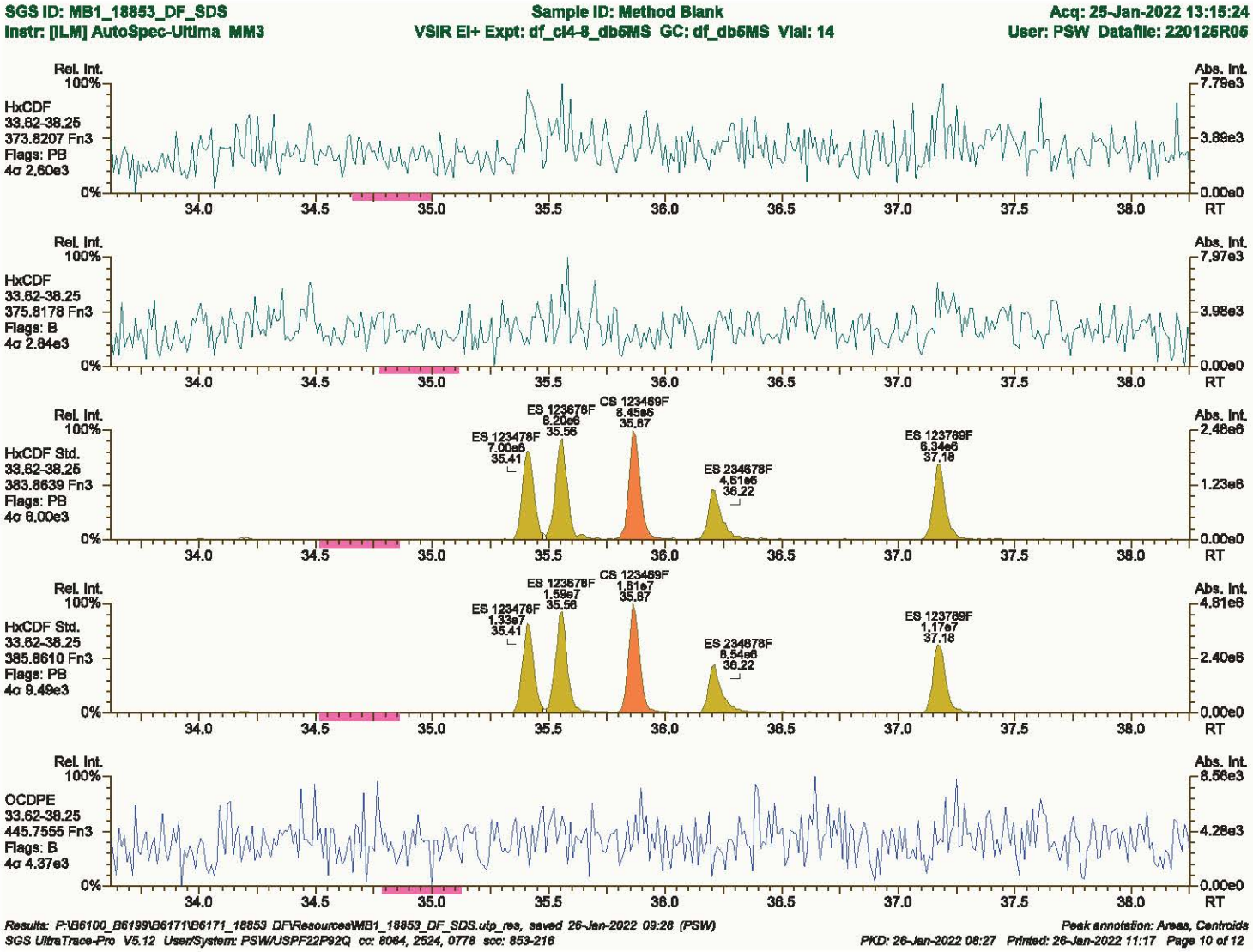
SGS ID: MB1_18853_DF_SDS
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14

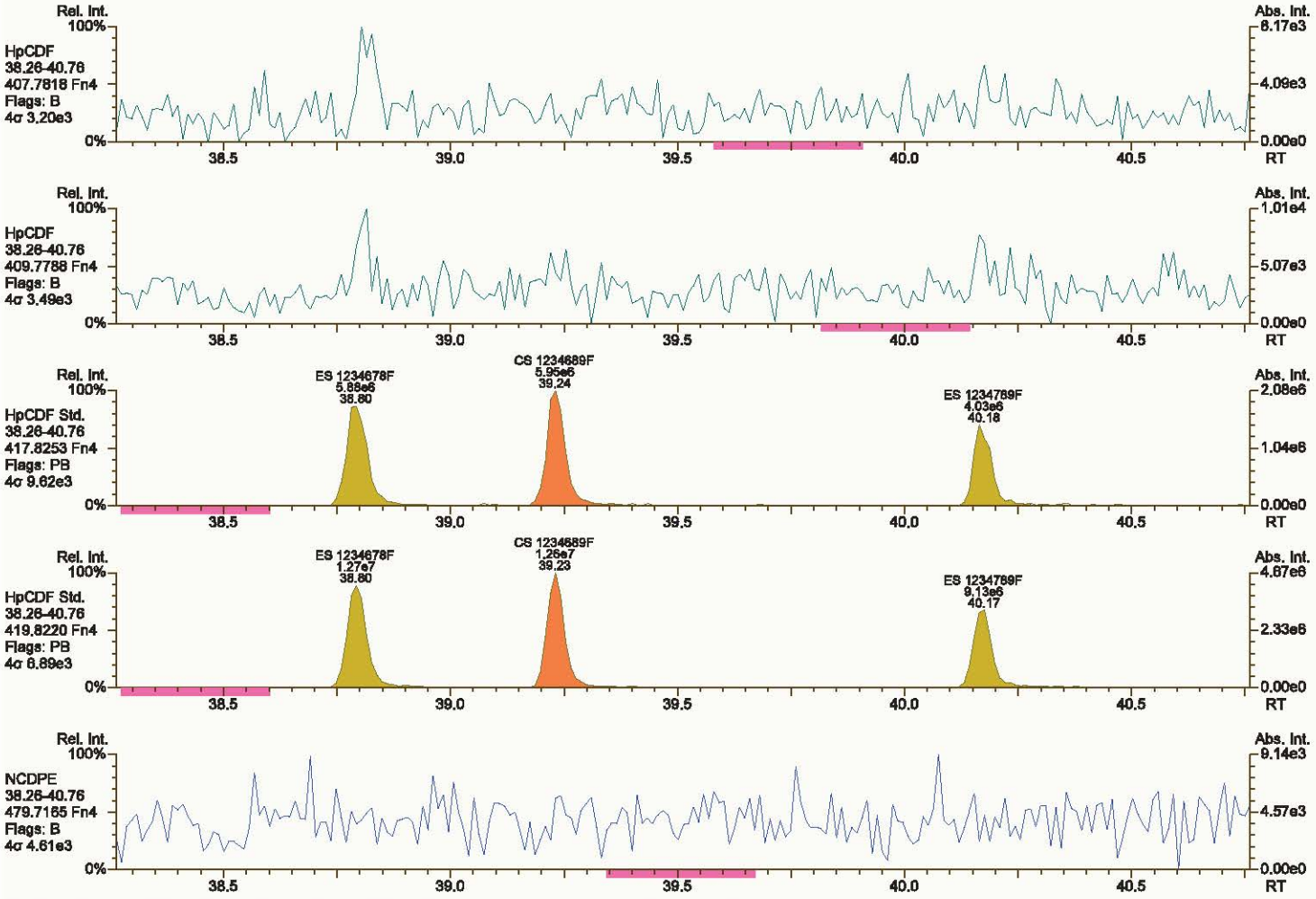
Acq: 25-Jan-2022 13:15:24
User: PSW Datafile: 220125R05



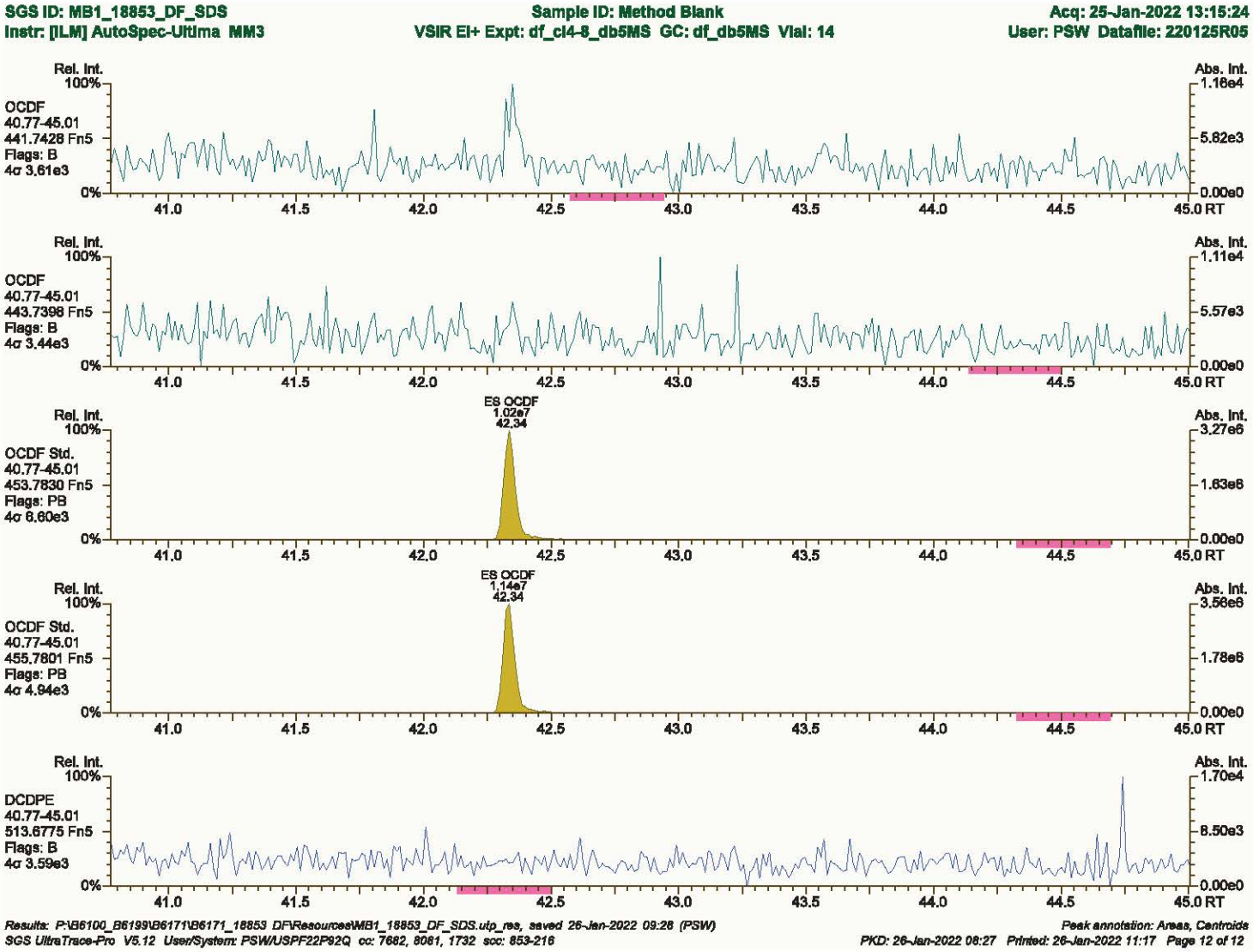
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0725, 3724, 9461 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 9 of 12


SGS ID: MB1_18853_DF_SDS
Sample ID: Method Blank
Acq: 25-Jan-2022 13:15:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: PSW Datafile: 220125R05
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PB
4σ 2.60e3
7.79e3
3.89e3
0.00e0
HxCDF
33.62-38.25
375.8178 Fn3
Flags: B
4σ 2.84e3
7.97e3
3.98e3
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 6.00e3
ES 123478F
7.00e6
35.41
ES 123678F
8.20e6
35.56
CS 123469F
8.45e6
35.87
ES 234678F
4.61e6
36.22
ES 123789F
6.34e6
37.18
2.46e6
1.23e6
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 9.49e3
ES 123478F
1.33e7
35.41
ES 123678F
1.59e7
35.56
CS 123469F
1.61e7
35.87
ES 234678F
8.54e6
36.22
ES 123789F
1.17e7
37.18
4.81e6
2.40e6
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.37e3
8.56e3
4.28e3
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8064, 2524, 0778 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 10 of 12

SGS ID: MB1_18853_DF_SDS | Sample ID: Method Blank | Acq: 25-Jan-2022 13:15:24
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: PSW Datafile: 220125R05



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6600, 3334, 2637 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 11 of 12


SGS ID: MB1_18853_DF_SDS
Sample ID: Method Blank
Acq: 25-Jan-2022 13:15:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: PSW Datafile: 220125R05
Rel. Int.
Abs. Int.
OCDF
40.77-45.01
441.7428 Fn5
Flags: B
4σ 3.61e3
1.16e4
5.82e3
0.00e0
OCDF
40.77-45.01
443.7398 Fn5
Flags: B
4σ 3.44e3
1.11e4
5.57e3
ES OCDF
1.02e7
42.34
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 6.60e3
3.27e6
1.63e6
ES OCDF
1.14e7
42.34
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 4.94e3
3.56e6
1.78e6
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 3.59e3
1.70e4
8.50e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\MB1_18853_DF_SDS.utp_res, saved 26-Jan-2022 09:26 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7662, 8061, 1732 scc: 853-216
PKD: 26-Jan-2022 08:27 Printed: 26-Jan-2022 11:17 Page 12 of 12

Lab ID: B6171_18863_DF_001 | Acq'd: 25 Jan 2022 17:59 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-27 | UTP: 26-Jan-2022 09:28:48 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 483-564-WTK

Datafile: 220125R11 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.76		1.0008	1.0009	+0.2	6.76E+06	0.82	Y	1.34	54.2	7711.883	0.702
12378-PeCDD	32.44	J	1.0005	1.0005	0	1.54E+05	1.50	Y	1.06	1.89	10347.046	1.28
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	9256.739	1.09
123678-HxCDD	36.54		1.0035	1.0035	0	5.27E+05	1.26	Y	1.08	8.04	9256.739	1.23
123789-HxCDD	36.83		1.0116	1.0117	+0.2	2.78E+05	1.25	Y	1.02	3.82	9256.739	1.03
1234678-HpCDD	39.78		1.0003	1.0003	0	1.03E+07	1.01	Y	0.97	213	8580.859	1.09
OCDD	42.20		1.0003	1.0003	0	1.02E+08	0.90	Y	1.07	2,780	10413.346	2.13
2378-TCDF	25.82		1.0008	1.0009	+0.2	2.73E+07	0.81	Y	0.96	191	7832.078	0.669
12378-PeCDF	30.93		1.0006	1.0006	0	1.53E+06	1.69	Y	0.95	13.2	7445.064	0.634
23478-PeCDF	32.10		1.0006	1.0009	+0.6	1.01E+06	1.62	Y	0.94	9.33	7445.064	0.628
123478-HxCDF	35.44		1.0004	1.0005	+0.2	2.19E+06	1.26	Y	1.23	20.8	8870.646	0.71
123678-HxCDF	35.58		1.0004	1.0005	+0.2	6.49E+05	1.31	Y	1.13	6	8870.646	0.703
234678-HxCDF	36.25		1.0005	1.0006	+0.2	1.76E+05	1.22	Y	1.15	3.02	8870.646	1.5
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8870.646	0.89
1234678-HpCDF	38.82		1.0003	1.0003	0	4.32E+06	1.07	Y	1.36	48.3	6902.253	0.527
1234789-HpCDF	40.19		1.0002	1.0002	0	4.21E+05	1.05	Y	1.30	6.61	6902.253	0.65
OCDF	42.36		1.0003	1.0003	0	8.57E+06	0.90	Y	1.03	195	8446.717	1.54

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.74	1.0273	1.0274	+0.2	1.82E+07	0.81	Y	1.03	84.1
ES 12378-PeCDD	32.43	1.2455	1.2460	+1.0	1.50E+07	1.56	Y	1.03	69.3
ES 123478-HxCDD	36.41	0.9917	0.9918	+0.2	1.30E+07	1.32	Y	0.99	91.9
ES 123678-HxCDD	36.52	0.9948	0.9949	+0.2	1.19E+07	1.29	Y	0.97	85.6
ES 123789-HxCDD	36.82	1.0028	1.0029	+0.2	1.40E+07	1.21	Y	1.12	87.6
ES 1234678-HpCDD	39.76	1.0830	1.0831	+0.2	9.79E+06	1.10	Y	0.99	69.2
ES OCDD	42.19	1.1489	1.1492	+0.8	1.35E+07	0.90	Y	0.78	61.1
ES 2378-TCDF	25.79	1.0623	1.0624	+0.2	2.93E+07	0.80	Y	1.08	85.8
ES 12378-PeCDF	30.91	1.2724	1.2730	+1.1	2.41E+07	1.65	Y	0.93	82
ES 23478-PeCDF	32.07	1.3205	1.3211	+1.2	2.26E+07	1.58	Y	0.92	77.9
ES 123478-HxCDF	35.42	0.9649	0.9649	0	1.68E+07	0.55	Y	1.14	103
ES 123678-HxCDF	35.56	0.9688	0.9687	-0.2	1.88E+07	0.51	Y	1.30	101
ES 234678-HxCDF	36.23	0.9868	0.9869	+0.2	9.96E+06	0.54	Y	1.20	58
ES 123789-HxCDF	37.19	1.0129	1.0130	+0.2	1.52E+07	0.53	Y	1.14	93.5
ES 1234678-HpCDF	38.81	1.0569	1.0570	+0.2	1.29E+07	0.44	Y	0.95	95.3
ES 1234789-HpCDF	40.18	1.0944	1.0945	+0.2	9.60E+06	0.48	Y	0.85	79.4
ES OCDF	42.35	1.1533	1.1536	+0.8	1.68E+07	0.89	Y	0.93	63.5

Lab ID: B6171_18863_DF_001 | Acq'd: 25 Jan 2022 17:59 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-27 | UTP: 26-Jan-2022 09:28:48 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 483-564-WTK

Datafile: 220125R11 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.03		-	-	-	2.09E+07	0.77	Y	-	-
JS 1234-TCDF	24.28		-	-	-	3.15E+07	0.80	Y	-	-
JS 123467-HxCDD	36.71		-	-	-	7.14E+06	1.21	Y	-	-
CS 37Cl-2378-TCDD	26.76		1.0282	1.0283	+0.2	8.68E+06	n/a	-	1.31	79.1
CS 12347-PeCDD	31.91		1.2257	1.2262	+1.0	1.41E+07	1.57	Y	0.89	75.5
CS 12346-PeCDF	30.35		1.2496	1.2502	+1.1	2.45E+07	1.62	Y	0.87	89.6
CS 123469-HxCDF	35.88		0.9773	0.9773	0	1.81E+07	0.53	Y	1.09	116
CS 1234689-HpCDF	39.24		1.0687	1.0689	+0.5	1.24E+07	0.46	Y	0.86	100
~~SS 37Cl-2378-TCDD~~	~~26.76~~		~~1.0282~~	~~1.0283~~	~~+0.2~~	~~8.60E+06~~	~~n/a~~		~~1.26~~	~~94.6~~
~~SS 12347-PeCDD~~	~~31.91~~		~~1.2257~~	~~1.2262~~	~~+1.0~~	~~1.41E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2502~~	~~+1.1~~	~~2.45E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~109~~
~~SS 123469-HxCDF~~	~~35.88~~		~~0.9773~~	~~0.9773~~	~~0~~	~~1.81E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~115~~
~~SS 1234689-HpCDF~~	~~39.24~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.24E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~105~~

Totals	Conc	EMPC
Total TCDD	55.3	60.4
Total PeCDD	1.89	5.85
Total HxCDD	55.1	60.4
Total HpCDD	517	517
Total Tetra-Octa Dioxins	3400	3420
Total TCDF	337	340
Total PeCDF	55.6	57.7
Total HxCDF	79.3	81.3
Total HpCDF	137	137
Total Tetra-Octa Furans	804	811
Total Tetra-Octa Dioxins & Furans	4210	4230

Lab ID: B6171_18863_DF_001 | Acq'd: 25 Jan 2022 17:59 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-27 | UTP: 26-Jan-2022 09:28:48 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 483-564-WTK

Datafile: 220125R11 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.67		0.8486	0.8477	-1.2	1.40E+05	0.82	Y	1.34	1.12	7711.883	0.702
1379-TCDD	NotFnd		0.8642						1.34		7711.883	0.702
1369-TCDD	NotFnd		0.8825						1.34		7711.883	0.702
1469-TCDD	NotFnd		0.9154						1.34		7711.883	0.702
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		7711.883	0.702
1378-TCDD	NotFnd		0.9332						1.34		7711.883	0.702
1268-TCDD	NotFnd		0.9415						1.34		7711.883	0.702
1478-TCDD	NotFnd		0.9518						1.34		7711.883	0.702
1279-TCDD	NotFnd		0.9586						1.34		7711.883	0.702
1234/1269-TCDD	NotFnd		0.9734						1.34		7711.883	0.702
1236-TCDD	NotFnd		0.9788						1.34		7711.883	0.702
1237/1238-TCDD	NotFnd		0.9892						1.34		7711.883	0.702
1239-TCDD	NotFnd		0.9944						1.34		7711.883	0.702
2378-TCDD	**26.76**		**1.0008**	1.0009	**+0.2**	6.76E+06	0.82	Y	**1.34**	**54.2**	**7711.883**	**0.702**
1278-TCDD	27.13	EMPC	1.0142	1.0147	+0.8	6.34E+05	0.89	N	1.34	5.08	7711.883	0.702
1267-TCDD	NotFnd		1.0197						1.34		7711.883	0.702
1289-TCDD	NotFnd		1.0401						1.34		7711.883	0.702
12479/12468-PeCDD	29.84	EMPC	0.9202	0.9202	0	2.16E+05	1.82	N	1.06	2.66	10347.046	1.28
12469-PeCDD	30.40	J EMPC	0.9375	0.9374	-0.2	1.05E+05	0.19	N	1.06	1.3	10347.046	1.28
12368-PeCDD	NotFnd		0.9553						1.06		10347.046	1.28
12478-PeCDD	NotFnd		0.9613						1.06		10347.046	1.28
12379-PeCDD	NotFnd		0.9644						1.06		10347.046	1.28
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		10347.046	1.28
12346/12347-PeCDD	NotFnd		0.9848						1.06		10347.046	1.28
12378-PeCDD	32.44	J	**1.0005**	**1.0005**	**0**	**1.54E+05**	**1.50**	Y	**1.06**	**1.89**	**10347.046**	**1.28**
12367-PeCDD	NotFnd		1.0035						1.06		10347.046	1.28
12389-PeCDD	NotFnd		1.0146						1.06		10347.046	1.28
124679/124689-HxCDD	34.70		0.9532	0.9532	0	1.68E+06	1.28	Y	1.05	24.1	9256.739	1.11
123468-HxCDD	35.37	EMPC	0.9715	0.9714	-0.2	2.59E+05	1.51	N	1.05	3.72	9256.739	1.11
123679/123689-HxCDD	35.67		0.9795	0.9797	+0.4	1.33E+06	1.32	Y	1.05	19.1	9256.739	1.11
123469-HxCDD	35.80	J EMPC	0.9832	0.9831	-0.2	1.13E+05	1.48	N	1.05	1.62	9256.739	1.11
123478-HxCDD	NotFnd		**1.0004**						1.06		**9256.739**	**1.09**
123678-HxCDD	36.54		**1.0035**	**1.0035**	**0**	**5.27E+05**	**1.26**	Y	1.08	**8.04**	**9256.739**	**1.23**
123467-HxCDD	NotFnd		1.0087						1.05		9256.739	1.11
123789-HxCDD	36.83		**1.0116**	**1.0117**	**+0.2**	**2.78E+05**	**1.25**	Y	1.02	**3.82**	**9256.739**	**1.03**

Lab ID: B6171_18863_DF_001 | Acq'd: 25 Jan 2022 17:59 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-27 | UTP: 26-Jan-2022 09:28:48 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 483-564-WTK

Datafile: 220125R11 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9835	+0.2	1.48E+07	1.05	Y	0.97	304	8580.859	1.09
1234678-HpCDD	**39.78**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.01**	**Y**	**0.97**	**213**	**8580.859**	**1.09**
OCDD	**42.20**		**1.0003**	**1.0003**	**0**	**1.02E+08**	**0.90**	**Y**	**1.07**	**2,780**	**10413.346**	**2.13**
OCDD-a	42.20		1.0001	1.0002	+0.3	6.24E+06	2.41	Y	0.07	2,740	10048.595	33.3
1368-TCDF	NotFnd		0.7942						0.96		7832.078	0.669
1468-TCDF	21.01	EMPC	0.8155	0.8147	-1.0	1.71E+05	0.97	N	0.96	1.2	7832.078	0.669
2468-TCDF	21.67		0.8407	0.8399	-1.0	3.92E+05	0.88	Y	0.96	2.74	7832.078	0.669
1346/1246-TCDF	NotFnd		0.8553						0.96		7832.078	0.669
1347/1378/1247-TCDF	22.24		0.8617	0.8620	+0.4	8.62E+05	0.67	Y	0.96	6.03	7832.078	0.669
1348-TCDF	22.54	EMPC	0.8740	0.8739	-0.1	1.25E+05	0.54	N	0.96	0.873	7832.078	0.669
1248/1367/1379-TCDF	22.65		0.8798	0.8781	-2.3	1.29E+06	0.85	Y	0.96	9	7832.078	0.669
1268-TCDF	23.13		0.8967	0.8966	-0.1	5.05E+05	0.88	Y	0.96	3.53	7832.078	0.669
1467-TCDF	23.27	EMPC	0.9025	0.9022	-0.4	1.80E+05	0.98	N	0.96	1.26	7832.078	0.669
1478-TCDF	23.47		0.9101	0.9098	-0.4	1.15E+06	0.81	Y	0.96	8.05	7832.078	0.669
1369/1237-TCDF	23.89		0.9263	0.9261	-0.3	3.81E+05	0.87	Y	0.96	2.66	7832.078	0.669
2467-TCDF	24.05		0.9322	0.9324	+0.3	1.24E+05	0.76	Y	0.96	0.868	7832.078	0.669
2368-TCDF	24.22		0.9389	0.9391	+0.3	1.27E+06	0.76	Y	0.96	8.85	7832.078	0.669
1238/1234/1678/1469/1236-TCDF	24.32		0.9427	0.9429	+0.3	7.32E+05	0.87	Y	0.96	5.11	7832.078	0.669
1278-TCDF	24.82		0.9623	0.9623	0	7.04E+06	0.86	Y	0.96	49.2	7832.078	0.669
1349-TCDF	NotFnd		0.9678						0.96		7832.078	0.669
1267-TCDF	25.13		0.9740	0.9743	+0.5	7.15E+05	0.87	Y	0.96	5	7832.078	0.669
2346/1249-TCDF	NotFnd		0.9820						0.96		7832.078	0.669
2347/1279-TCDF	25.56		0.9915	0.9910	-0.8	3.51E+05	0.82	Y	0.96	2.45	7832.078	0.669
2348-TCDF	25.69		0.9964	0.9958	-0.9	1.29E+06	0.76	Y	0.96	9	7832.078	0.669
2378-TCDF	**25.82**		**1.0008**	**1.0009**	**+0.2**	**2.73E+07**	**0.81**	**Y**	**0.96**	**191**	**7832.078**	**0.669**
2367/3467-TCDF	26.21		1.0163	1.0161	-0.3	2.98E+06	0.79	Y	0.96	20.9	7832.078	0.669
1269-TCDF	26.48		1.0265	1.0266	+0.2	3.11E+05	0.76	Y	0.96	2.17	7832.078	0.669
1239-TCDF	NotFnd		1.0373						0.96		7832.078	0.669
1289-TCDF	27.99		1.0847	1.0851	+0.7	1.51E+06	0.82	Y	0.96	10.5	7832.078	0.669
13468/12468-PeCDF	27.97		0.9045	0.9049	+0.7	9.19E+05	1.62	Y	0.94	8.19	9398.406	0.797
13678/13467/12467-PeCDF	29.60		0.9574	0.9578	+0.7	3.43E+05	1.69	Y	0.94	3.06	7445.064	0.631
12368/13478/12478-PeCDF	29.77		0.9628	0.9631	+0.5	1.22E+06	1.59	Y	0.94	10.9	7445.064	0.631
14678-PeCDF	29.85	J	0.9661	0.9658	-0.5	2.58E+05	1.62	Y	0.94	2.3	7445.064	0.631
13479-PeCDF	NotFnd		0.9695						0.94		7445.064	0.631
13469/12479-PeCDF	NotFnd		0.9779						0.94		7445.064	0.631
12346-PeCDF	NotFnd		0.9824						0.94		7445.064	0.631

Lab ID: B6171_18863_DF_001 | Acq'd: 25 Jan 2022 17:59 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

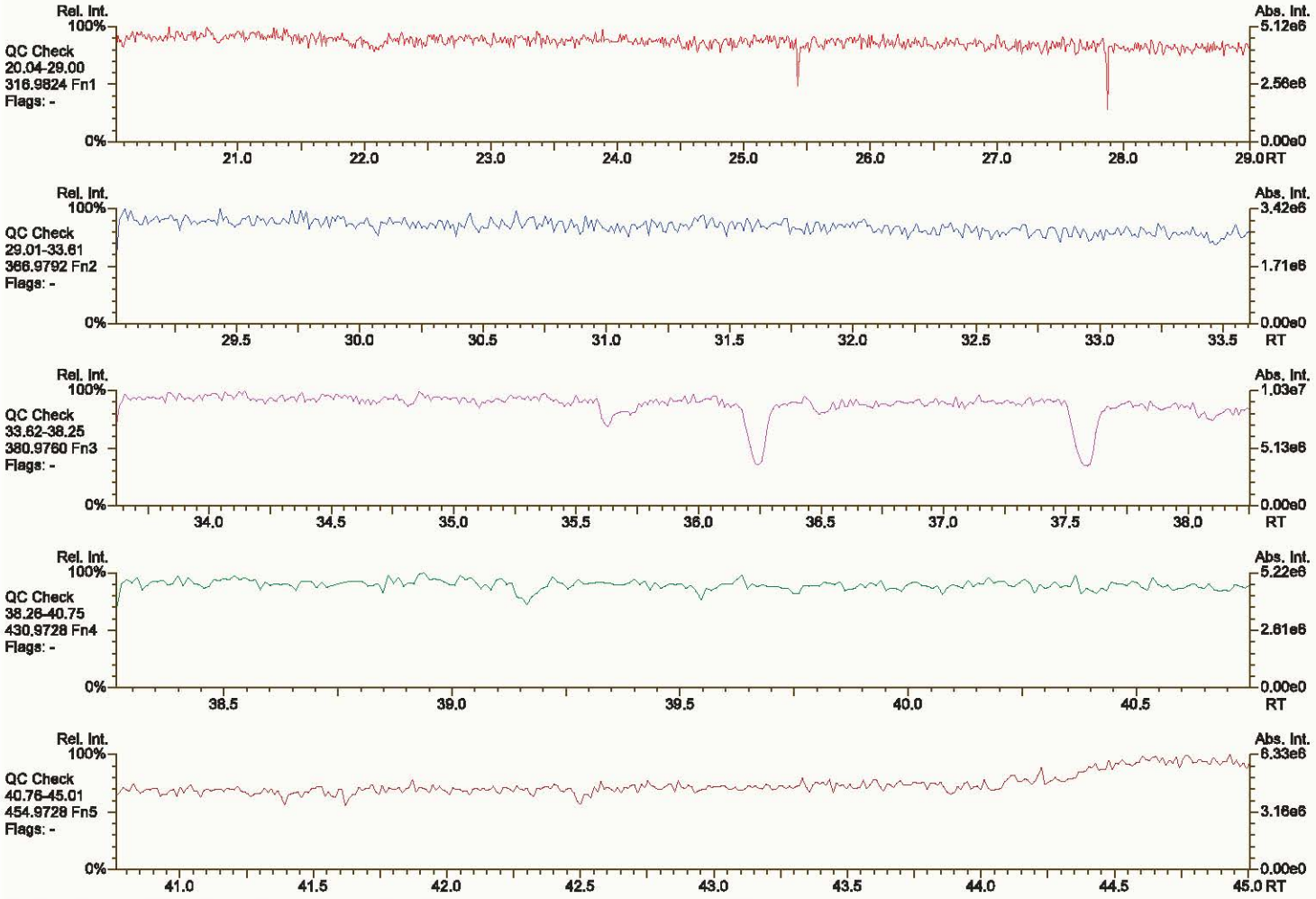
Client ID: 11215131-011022-S-BN-NC-O-27 | UTP: 26-Jan-2022 09:28:48 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 483-564-WTK

Datafile: 220125R11 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.47	J	0.9857	0.9857	0	2.18E+05	1.56	Y	0.94	1.94	7445.064	0.631
12347-PeCDF	30.54	J EMPC	0.9882	0.9882	0	1.02E+05	1.94	N	0.94	0.908	7445.064	0.631
12348-PeCDF	30.70	J	0.9935	0.9934	-0.2	1.82E+05	1.45	Y	0.94	1.62	7445.064	0.631
12378-PeCDF	**30.93**		**1.0006**	**1.0006**	**0**	**1.53E+06**	**1.69**	**Y**	**0.95**	**13.2**	**7445.064**	**0.634**
12678/12367-PeCDF	31.24		1.0099	1.0106	+1.3	5.79E+05	1.64	Y	0.94	5.16	7445.064	0.631
12379-PeCDF	NotFnd		1.0155						0.94		7445.064	0.631
12679-PeCDF	NotFnd		0.9921						0.94		7445.064	0.631
23467/12369-PeCDF	31.96	J EMPC	0.9962	0.9964	+0.4	1.31E+05	2.07	N	0.94	1.17	7445.064	0.631
23478-PeCDF	**32.10**		**1.0006**	**1.0009**	**+0.6**	**1.01E+06**	**1.62**	**Y**	**0.94**	**9.33**	**7445.064**	**0.628**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7445.064	0.631
12349-PeCDF	NotFnd		1.0106						0.94		7445.064	0.631
12389-PeCDF	NotFnd		1.0349						0.94		7445.064	0.631
123468-HxCDF	34.03		0.9606	0.9606	0	5.18E+05	1.29	Y	1.16	5.76	8870.646	0.88
124678/134678-HxCDF	34.23		0.9663	0.9663	0	1.94E+06	1.25	Y	1.16	21.6	8870.646	0.88
134679-HxCDF	NotFnd		0.9729						1.16		8870.646	0.88
124679-HxCDF	NotFnd		0.9786						1.16		8870.646	0.88
124689-HxCDF	34.90		0.9851	0.9852	+0.2	1.79E+06	1.24	Y	1.16	19.9	8870.646	0.88
123467-HxCDF	35.32	J	0.9970	0.9970	0	2.00E+05	1.39	Y	1.16	2.22	8870.646	0.88
123478-HxCDF	**35.44**		**1.0004**	**1.0005**	**+0.2**	**2.19E+06**	**1.26**	**Y**	**1.23**	**20.8**	**8870.646**	**0.71**
123678-HxCDF	**35.58**		**1.0004**	**1.0005**	**+0.2**	**6.49E+05**	**1.31**	**Y**	**1.13**	**6**	**8870.646**	**0.703**
123479-HxCDF	NotFnd		1.0050						1.16		8870.646	0.88
123469-HxCDF	NotFnd		1.0091						1.16		8870.646	0.88
123679-HxCDF	NotFnd		0.9942						1.16		8870.646	0.88
234678-HxCDF	**36.25**		**1.0005**	**1.0006**	**+0.2**	**1.76E+05**	**1.22**	**Y**	**1.15**	**3.02**	**8870.646**	**1.5**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8870.646	0.88
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8870.646**	**0.89**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.23	J EMPC	1.0008	1.0012	+0.9	1.81E+05	1.46	N	1.16	2.01	8870.646	0.88
1234678-HpCDF	**38.82**		**1.0003**	**1.0003**	**0**	**4.32E+06**	**1.07**	**Y**	**1.36**	**48.3**	**6902.253**	**0.527**
1234679-HpCDF	39.10	J	1.0076	1.0077	+0.2	1.54E+05	1.05	Y	1.33	2.01	6902.253	0.58
1234689-HpCDF	39.25		1.0114	1.0115	+0.2	6.08E+06	1.00	Y	1.33	79.7	6902.253	0.58
1234789-HpCDF	**40.19**		**1.0002**	**1.0002**	**0**	**4.21E+05**	**1.05**	**Y**	**1.30**	**5.61**	**6902.253**	**0.65**
OCDF	**42.36**		**1.0003**	**1.0003**	**0**	**8.57E+06**	**0.90**	**Y**	**1.03**	**195**	**8446.717**	**1.54**
OCDF-a	42.35	EMPC	1.0001	1.0001	0	3.28E+05	4.02	N	0.06	129	10170.899	32.1

SGS ID: B6171_18853_DF_001 | Sample ID: 11215131-011022-S-BN-NC-O-27 | Acq: 25-Jan-2022 17:59:45

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16 | User: PSW Datafile: 220125R11



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)

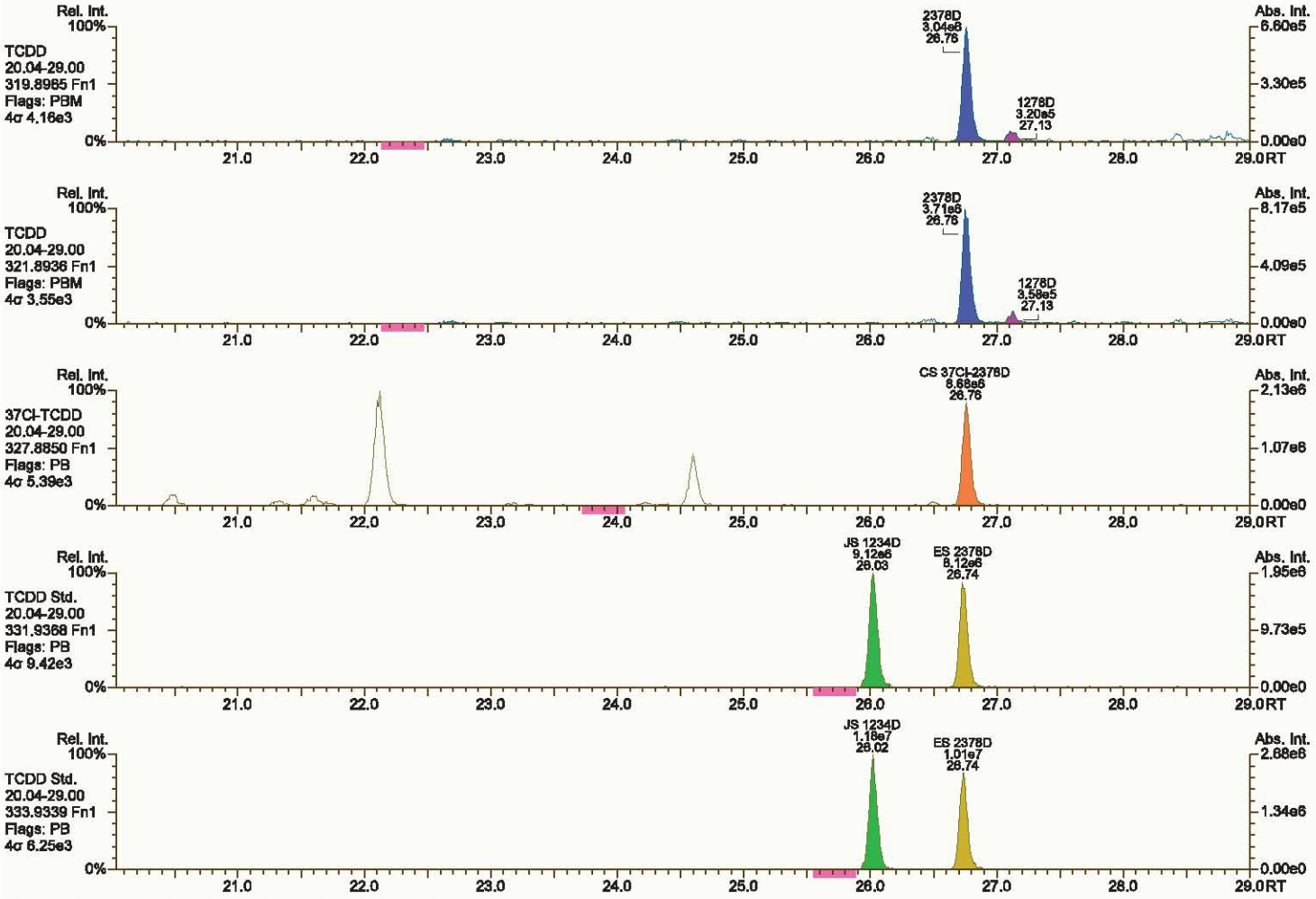
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 483-564

PKD: n/a Printed: 26-Jan-2022 11:17 Page 1 of 12

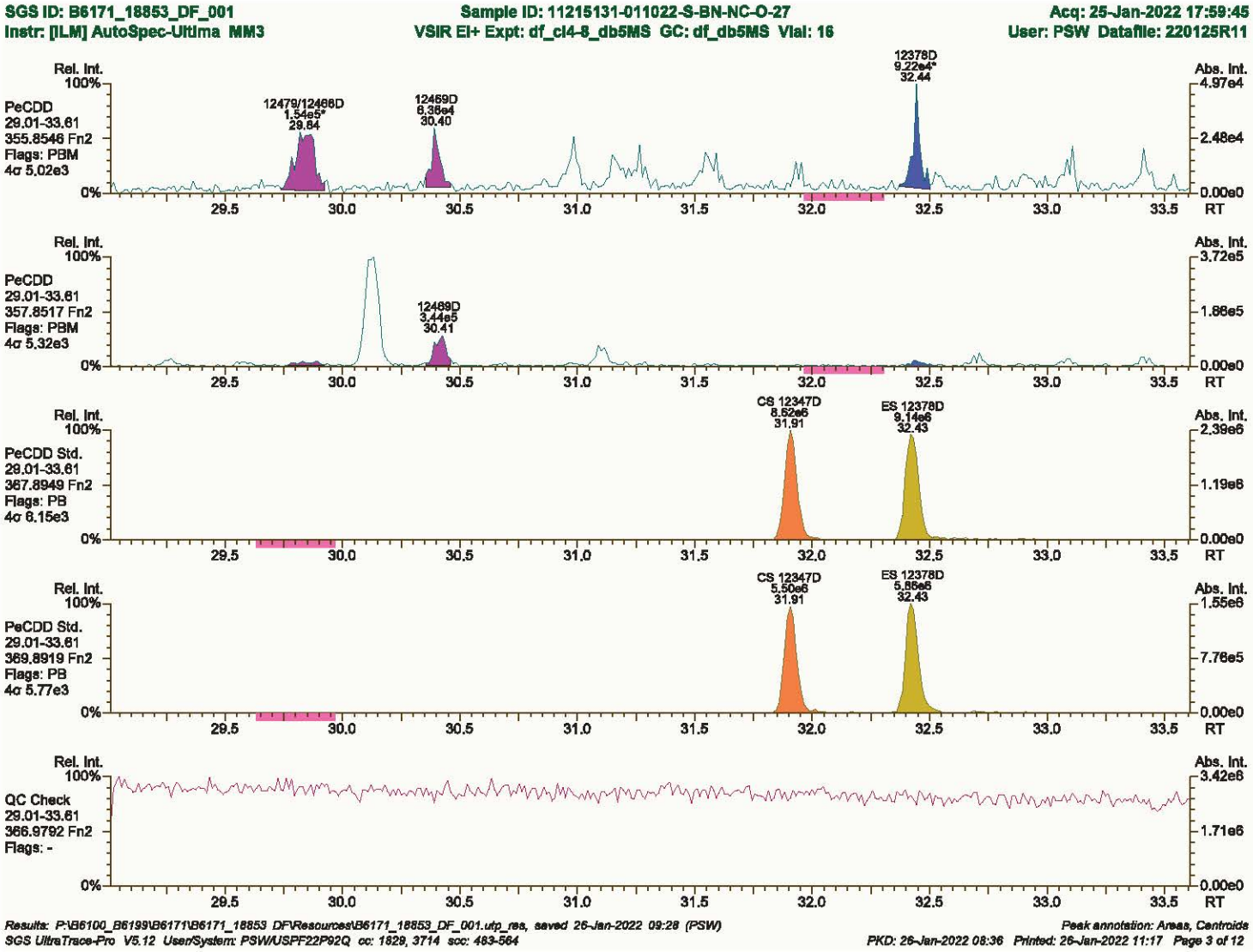
SGS ID: B6171_18853_DF_001 | Sample ID: 11215131-011022-S-BN-NC-O-27 | Acq: 25-Jan-2022 17:59:45

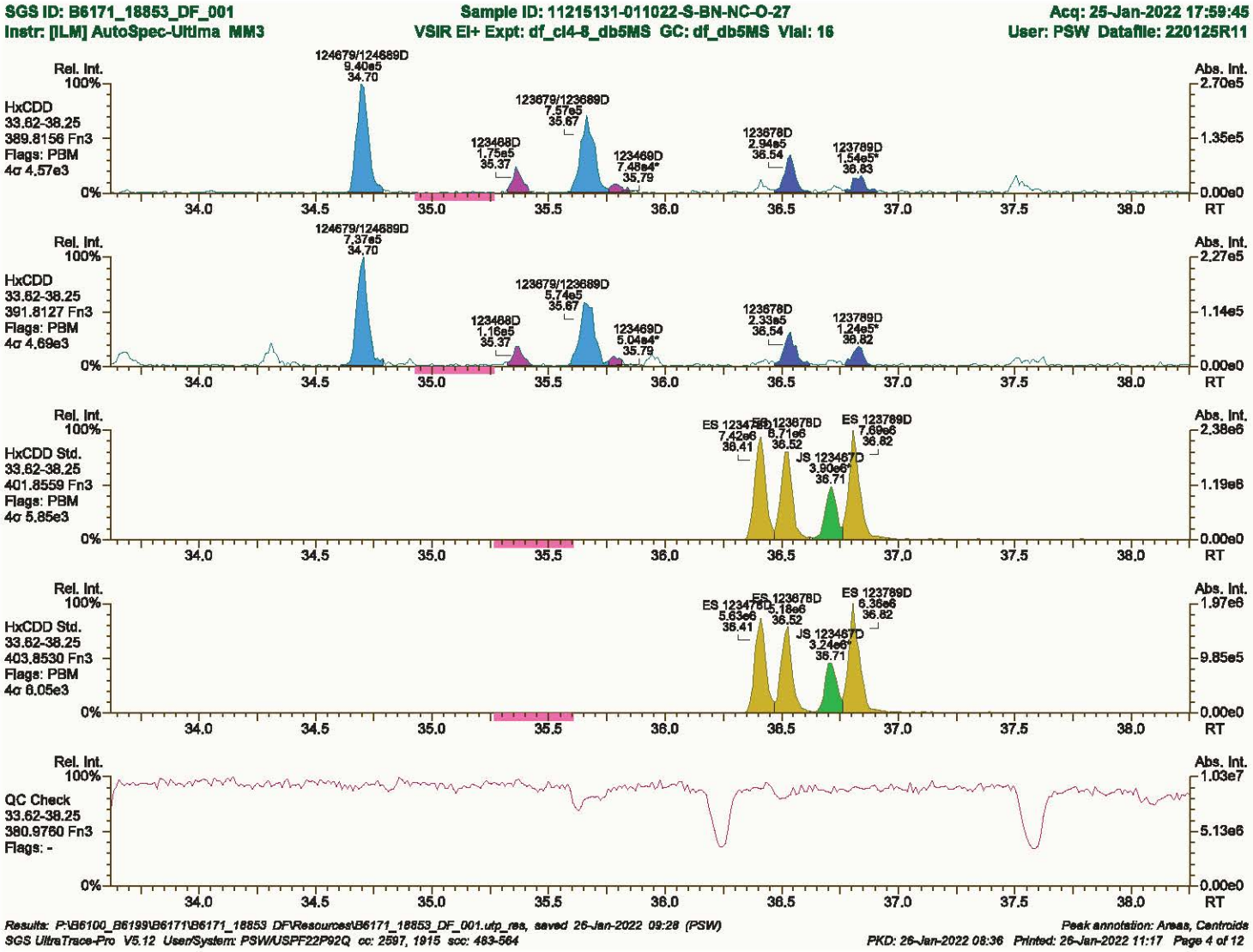
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16 | User: PSW Datafile: 220125R11

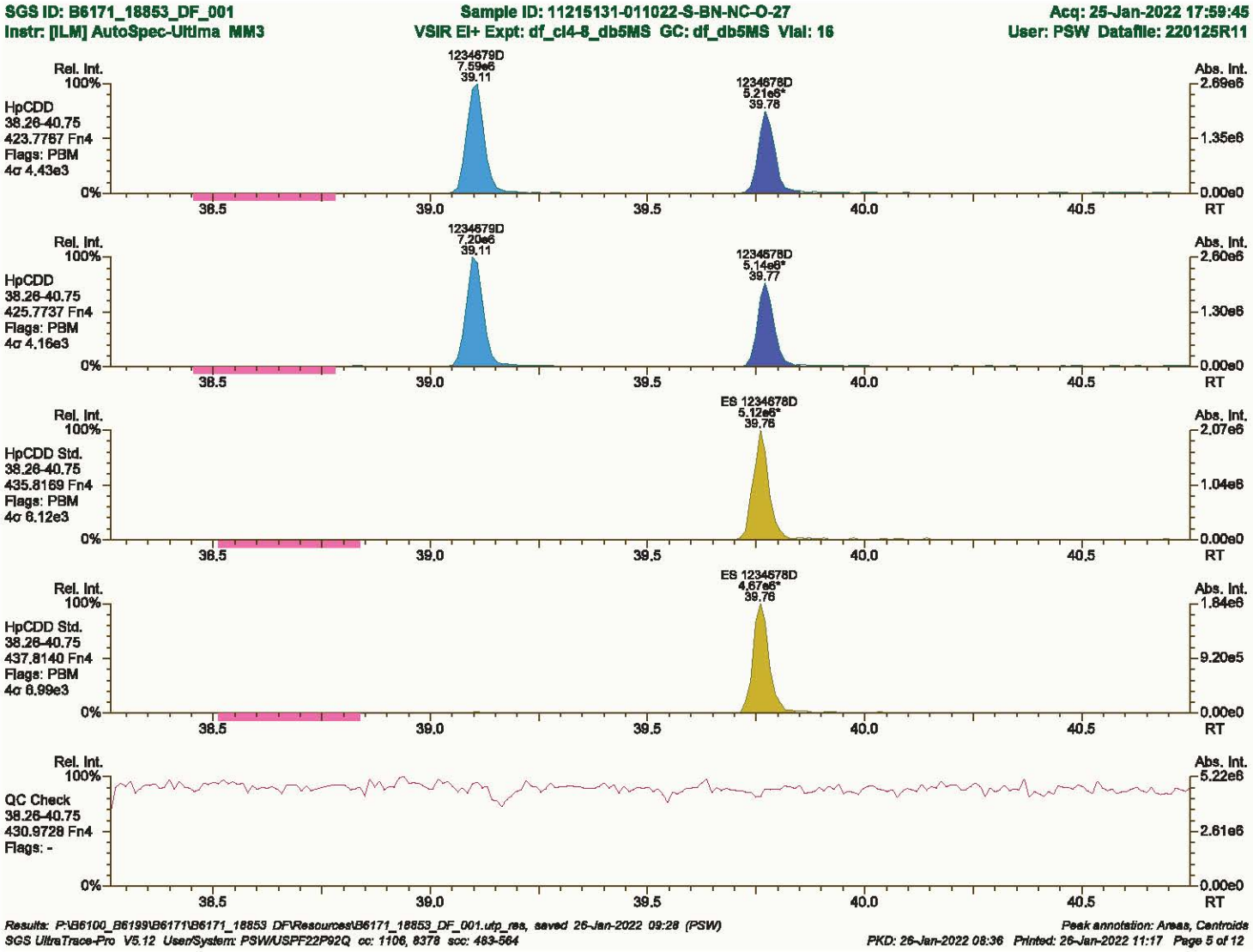


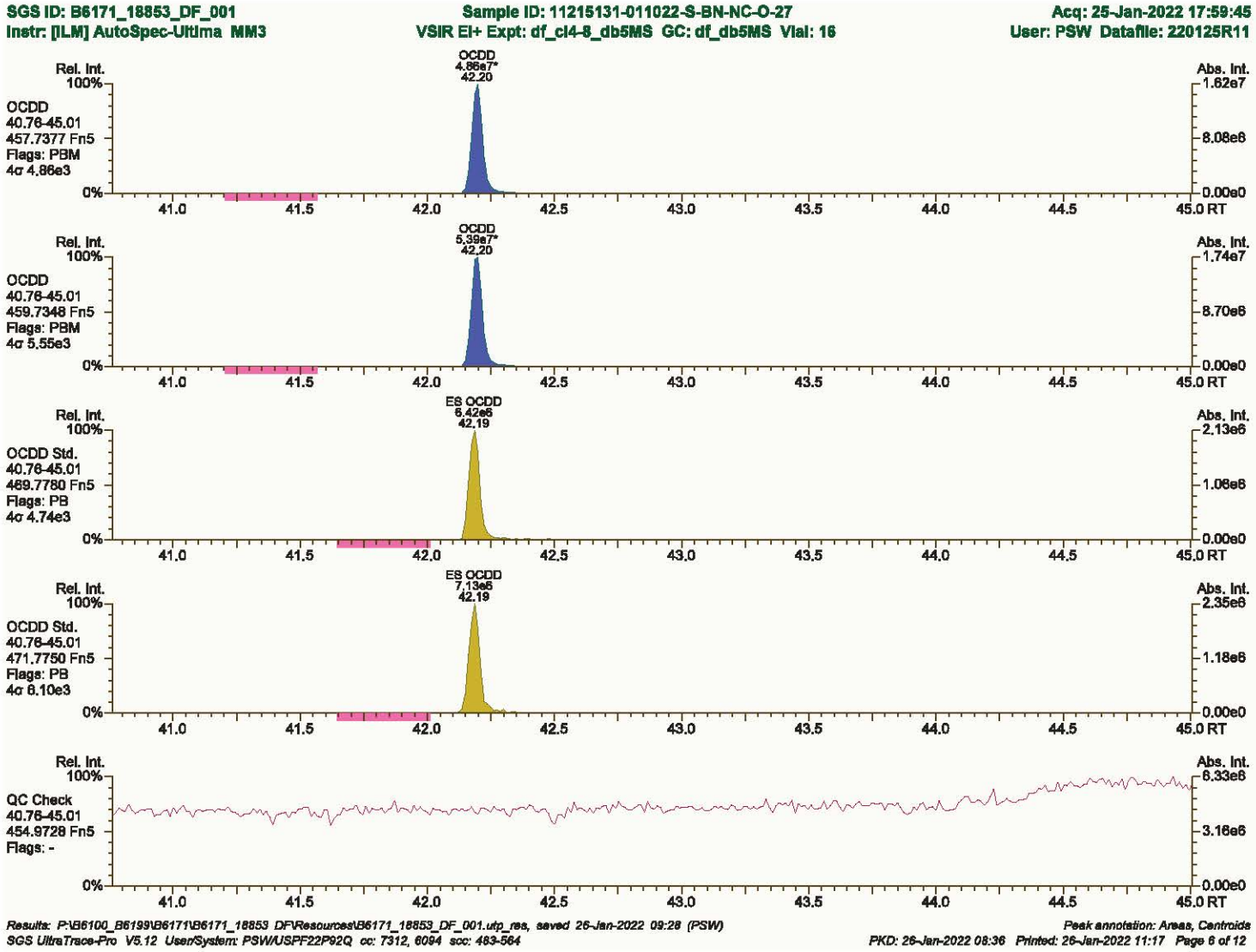
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

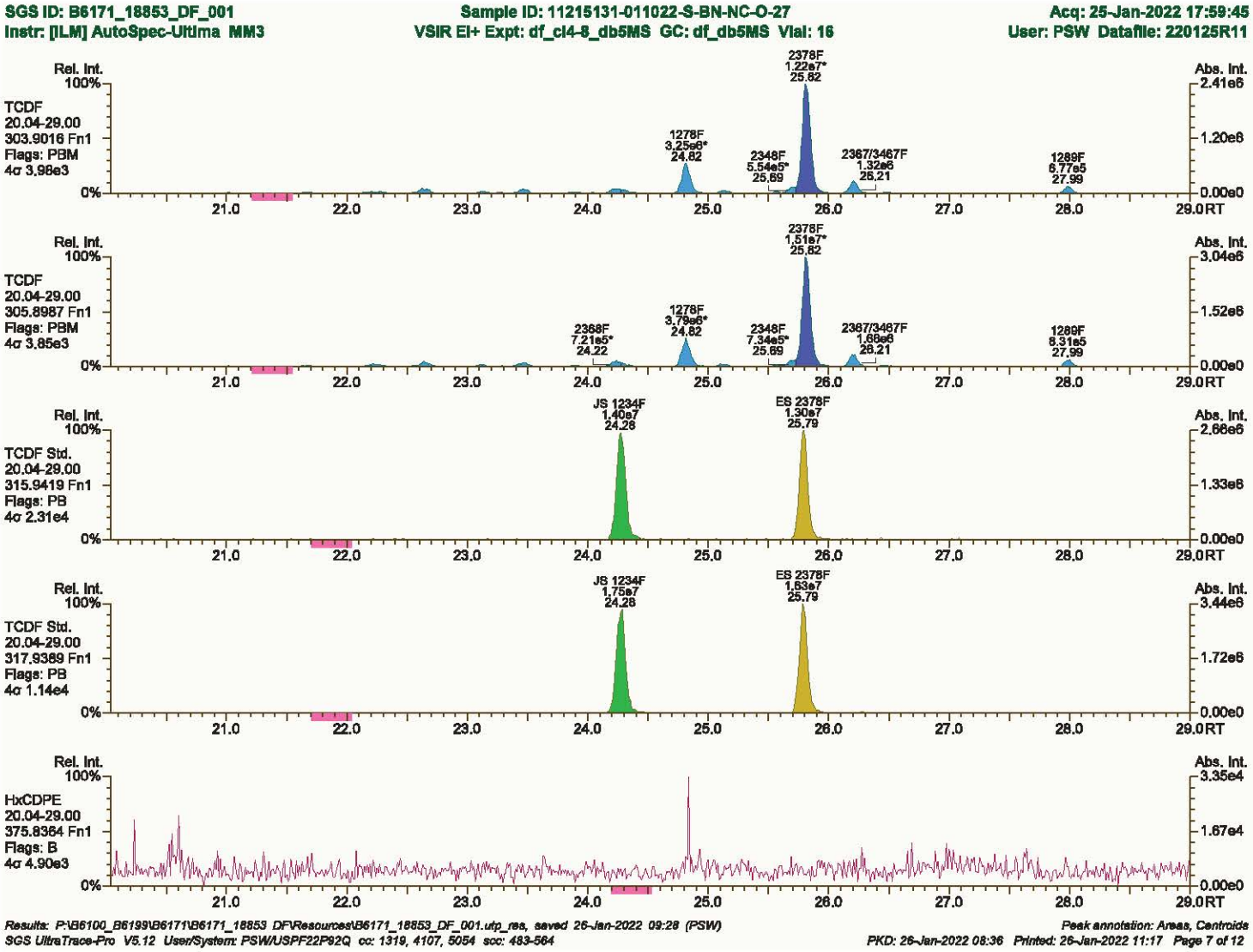
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3972, 9661, 6308 scc: 483-564 | *PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 2 of 12*

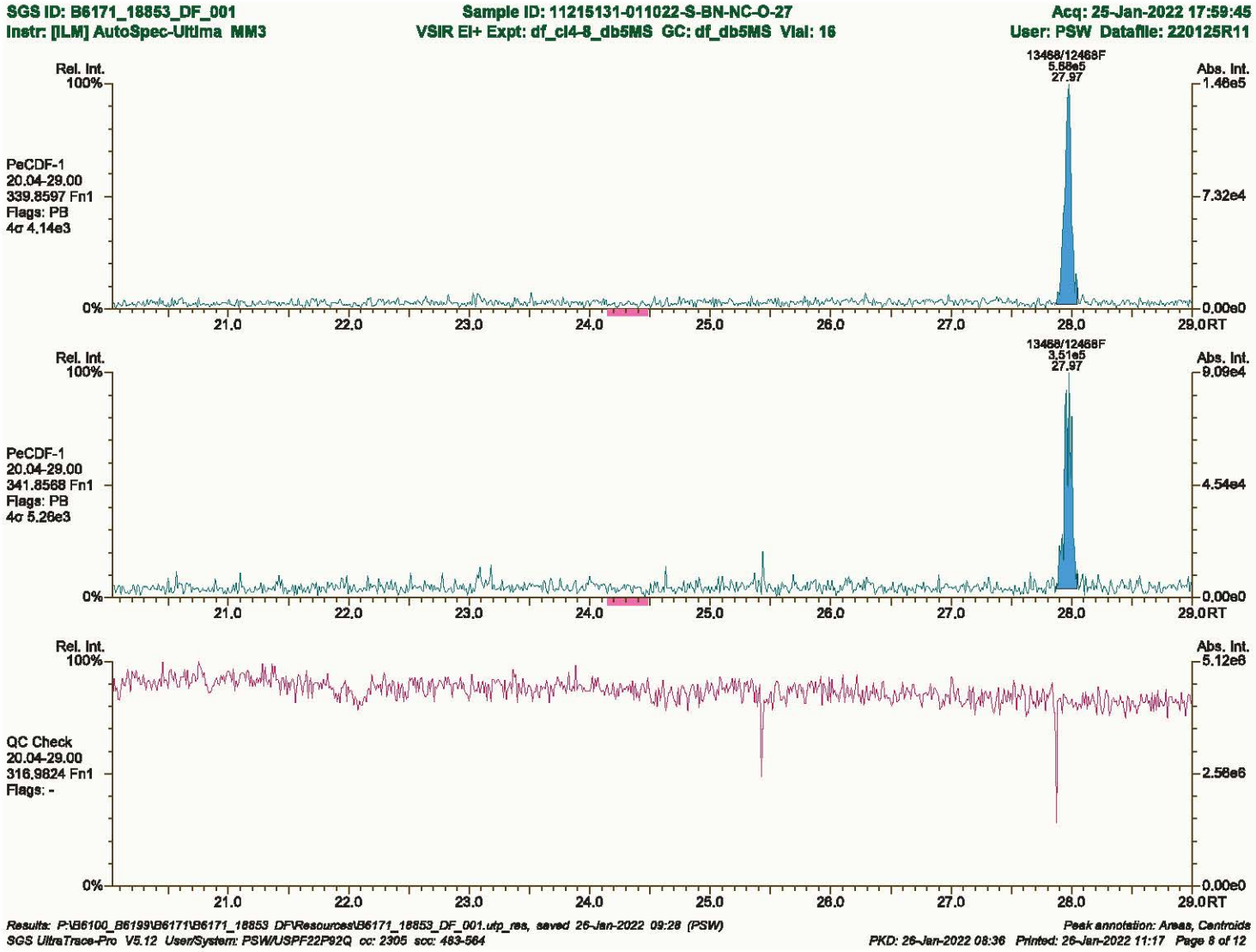

SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 5.02e3
12479/12468D
1.54e5*
29.84
12469D
6.36e4
30.40
12378D
9.22e4*
32.44
4.97e4
2.48e4
0.00e0
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 5.32e3
12469D
3.44e5
30.41
3.72e5
1.86e5
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 6.15e3
CS 12347D
8.52e6
31.91
ES 12378D
9.14e6
32.43
2.39e6
1.19e6
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 5.77e3
CS 12347D
5.50e6
31.91
ES 12378D
5.86e6
32.43
1.55e6
7.76e5
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
3.42e6
1.71e6
0%
100%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1828, 3714 scc: 483-564
PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 3 of 12

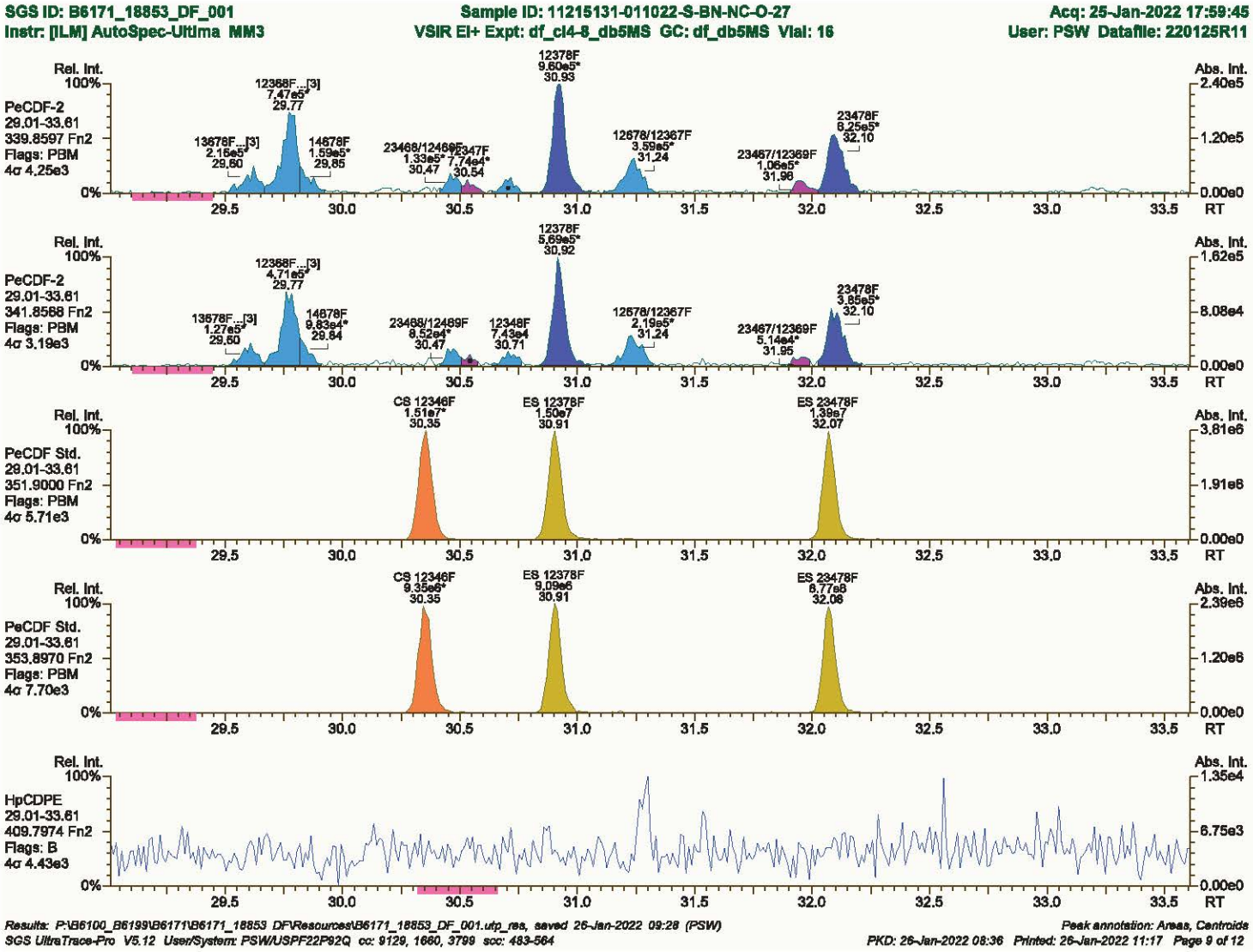

SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.57e3
124679/124689D
9.40e5
34.70
123679/123689D
7.57e5
35.67
123688D
1.75e5
35.37
123689D
7.48e4*
35.79
123678D
2.94e5
36.54
123789D
1.54e5*
36.83
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.69e3
124679/124689D
7.37e5
34.70
123679/123689D
5.74e5
35.67
123688D
1.16e5
35.37
123689D
5.04e4*
35.79
123678D
2.33e5
36.54
123789D
1.24e5*
36.82
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 5.85e3
ES 123678D
6.71e6
36.52
ES 123789D
7.69e6
36.82
JS 123467D
3.90e6*
36.71
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 6.05e3
ES 123678D
5.18e6
36.52
ES 123789D
6.35e6
36.82
JS 123467D
3.24e6*
36.71
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
RT

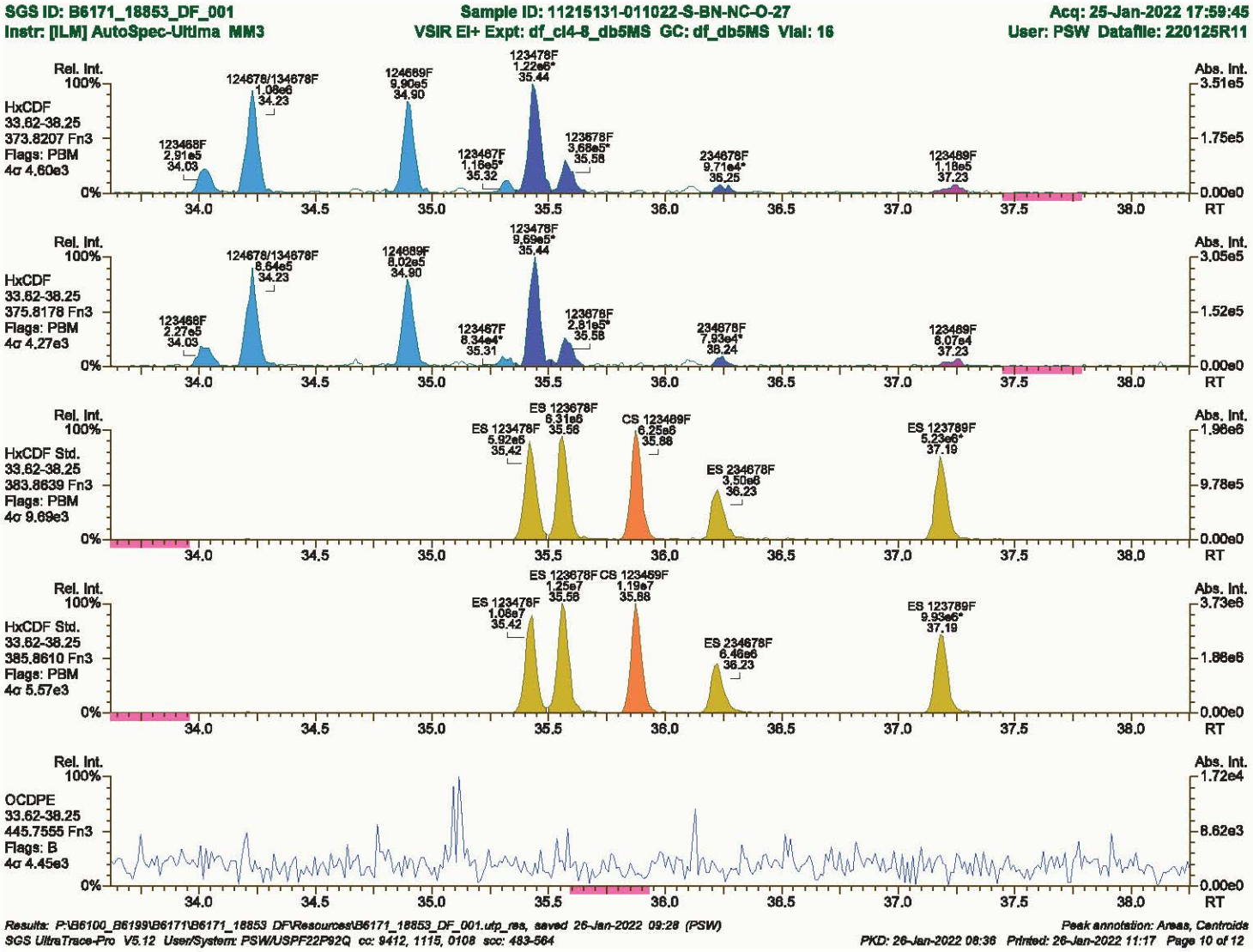

SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
HpCDD
38.26-40.75
423.7767 Fn4
Flags: PBM
4σ 4.43e3
1234679D
7.59e6
39.11
1234678D
5.21e6*
39.76
2.69e6
1.35e6
0.00e0
RT
HpCDD
38.26-40.75
425.7737 Fn4
Flags: PBM
4σ 4.16e3
1234679D
7.20e6
39.11
1234678D
5.14e6*
39.77
2.60e6
1.30e6
HpCDD Std.
38.26-40.75
435.8169 Fn4
Flags: PBM
4σ 6.12e3
ES 1234678D
5.12e6*
39.76
2.07e6
1.04e6
HpCDD Std.
38.26-40.75
437.8140 Fn4
Flags: PBM
4σ 6.99e3
ES 1234678D
4.67e6*
39.76
1.84e6
9.20e5
QC Check
38.26-40.75
430.9728 Fn4
Flags: -
5.22e6
2.61e6
38.5
39.0
39.5
40.0
40.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1106, 8378 scc: 483-564
PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 5 of 12

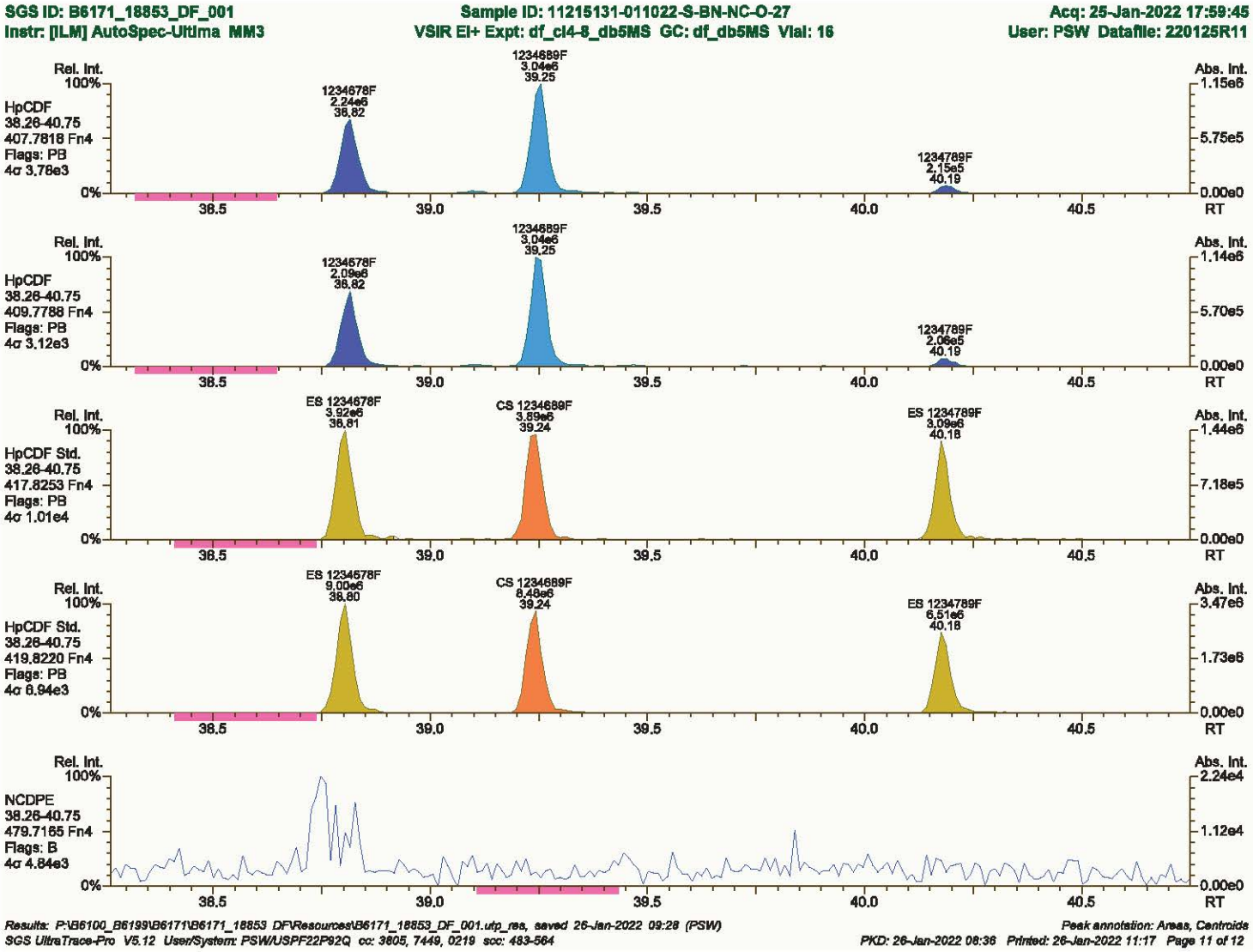

SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
OCDD
4.86e7*
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PBM
4σ 4.86e3
1.62e7
8.08e6
0.00e0
OCDD
5.39e7*
42.20
OCDD
40.76-45.01
459.7348 Fn5
Flags: PBM
4σ 5.55e3
1.74e7
8.70e6
0.00e0
ES OCDD
6.42e6
42.19
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 4.74e3
2.13e6
1.06e6
0.00e0
ES OCDD
7.13e6
42.19
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 6.10e3
2.35e6
1.18e6
0.00e0
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
6.33e6
3.16e6
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7312, 6094 scc: 483-564
PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 6 of 12


SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 3.98e3
2378F 1.22e7* 25.82
1278F 3.25e6* 24.82
2348F 5.54e5* 25.69
2367/3467F 1.32e6 26.21
1289F 6.77e5 27.99
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 3.85e3
2378F 1.51e7* 25.82
2368F 7.21e5* 24.22
1278F 3.79e6* 24.82
2348F 7.34e5* 25.69
2367/3467F 1.66e6 26.21
1289F 8.31e5 27.99
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 2.31e4
JS 1234F 1.40e7 24.28
ES 2378F 1.30e7 25.79
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.14e4
JS 1234F 1.75e7 24.28
ES 2378F 1.63e7 25.79
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.90e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1319, 4107, 5054 scc: 483-564
PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 7 of 12


SGS ID: B6171_18853_DF_001
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-O-27
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
Acq: 25-Jan-2022 17:59:45
User: PSW Datafile: 220125R11
Rel. Int.
100%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 4.14e3
13468/12468F
5.68e5
27.97
Abs. Int.
1.46e5
7.32e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.26e3
13468/12468F
3.51e5
27.97
Abs. Int.
9.09e4
4.54e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
5.12e6
2.56e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2305 scc: 483-564
PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 8 of 12

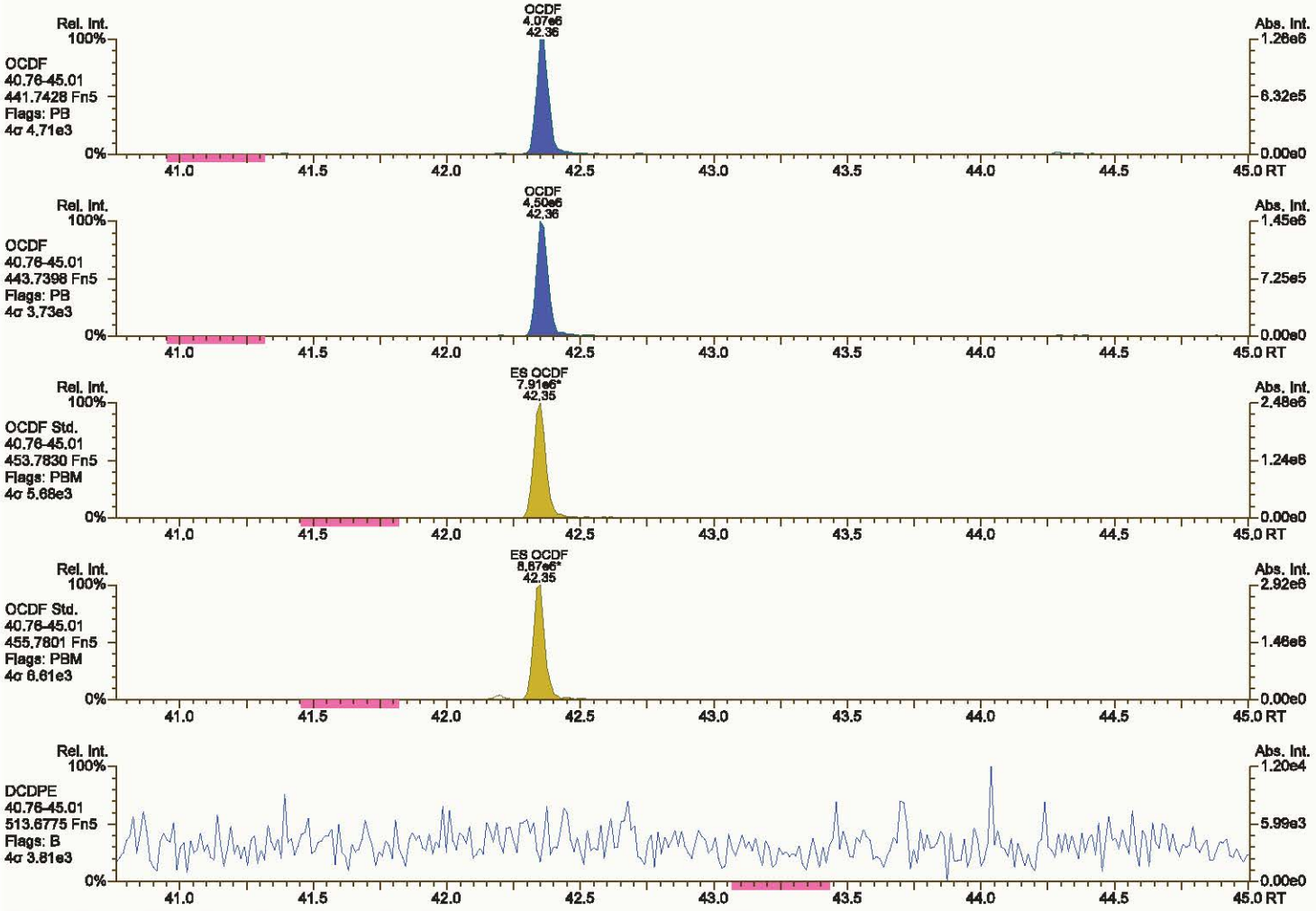

SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 4.25e3
12368F...[3] 7.47e5* 29.77
13678F...[3] 2.16e5* 29.60
14678F 1.59e5* 29.85
23468/12469F 1.33e5* 30.47
12347F 7.74e4* 30.54
12378F 9.60e5* 30.93
12678/12367F 3.59e5* 31.24
23467/12369F 1.06e5* 31.96
23478F 6.25e5* 32.10
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 3.19e3
12368F...[3] 4.71e5* 29.77
13678F...[3] 1.27e5* 29.60
14678F 9.83e4* 29.84
23468/12469F 8.52e4* 30.47
12348F 7.43e4 30.71
12378F 5.69e5* 30.92
12678/12367F 2.19e5* 31.24
23467/12369F 5.14e4* 31.95
23478F 3.85e5* 32.10
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PBM
4σ 5.71e3
CS 12346F 1.51e7* 30.35
ES 12378F 1.50e7 30.91
ES 23478F 1.39e7 32.07
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PBM
4σ 7.70e3
CS 12346F 9.35e6* 30.35
ES 12378F 9.09e6 30.91
ES 23478F 8.77e6 32.06
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.43e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
2.40e5
1.20e5
0.00e0
1.62e5
8.08e4
3.81e6
1.91e6
2.39e6
1.20e6
1.35e4
6.75e3


SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 4.60e3
123468F 2.91e5 34.03
124678/134678F 1.08e6 34.23
124689F 9.90e5 34.90
123467F 1.16e5* 35.32
123478F 1.22e6* 35.44
123678F 3.68e5* 35.58
234678F 9.71e4* 36.25
123489F 1.18e5 37.23
3.51e5
1.75e5
0.00e0
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123468F 2.27e5 34.03
124678/134678F 8.64e5 34.23
124689F 8.02e5 34.90
123467F 8.34e4* 35.31
123478F 9.89e5* 35.44
123678F 2.81e5* 35.58
234678F 7.93e4* 36.24
123489F 8.07e4 37.23
3.05e5
1.52e5
0.00e0
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PBM
4σ 9.69e3
ES 123478F 5.92e5 35.42
ES 123678F 6.31e6 35.56
CS 123489F 6.25e6 35.88
ES 234678F 3.50e6 36.23
ES 123789F 5.23e6* 37.19
1.96e6
9.78e5
0.00e0
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PBM
4σ 5.57e3
ES 123478F 1.08e7 35.42
ES 123678F 1.25e7 35.56
CS 123469F 1.19e7 35.88
ES 234678F 6.46e6 36.23
ES 123789F 9.93e6* 37.19
3.73e6
1.86e6
0.00e0
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.45e3
1.72e4
8.62e3
0.00e0
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: B6171_18853_DF_001
Sample ID: 11215131-011022-S-BN-NC-O-27
Acq: 25-Jan-2022 17:59:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: PSW Datafile: 220125R11
Rel. Int.
Abs. Int.
HpCDF
38.26-40.75
407.7818 Fn4
Flags: PB
4σ 3.78e3
1234678F
2.24e6
38.82
1234689F
3.04e6
39.25
1234789F
2.15e5
40.19
1.15e6
5.75e5
0.00e0
RT
HpCDF
38.26-40.75
409.7788 Fn4
Flags: PB
4σ 3.12e3
1234678F
2.09e6
38.82
1234689F
3.04e6
39.25
1234789F
2.06e5
40.19
1.14e6
5.70e5
HpCDF Std.
38.26-40.75
417.8253 Fn4
Flags: PB
4σ 1.01e4
ES 1234678F
3.92e6
38.81
CS 1234689F
3.89e6
39.24
ES 1234789F
3.09e6
40.18
1.44e6
7.18e5
HpCDF Std.
38.26-40.75
419.8220 Fn4
Flags: PB
4σ 6.94e3
ES 1234678F
9.00e6
38.80
CS 1234689F
8.46e6
39.24
ES 1234789F
6.51e6
40.18
3.47e6
1.73e6
NCDPE
38.26-40.75
479.7165 Fn4
Flags: B
4σ 4.84e3
2.24e4
1.12e4
100%
0%
38.5
39.0
39.5
40.0
40.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3805, 7449, 0219 scc: 483-564
PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 11 of 12

SGS ID: B6171_18853_DF_001 | Sample ID: 11215131-011022-S-BN-NC-O-27 | Acq: 25-Jan-2022 17:59:45

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16 | User: PSW Datafile: 220125R11



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_001.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1618, 0301, 7183 scc: 483-564 | *PKD: 26-Jan-2022 08:36 Printed: 26-Jan-2022 11:17 Page 12 of 12*

Lab ID: B6171_18863_DF_002 | Acq'd: 25 Jan 2022 21:17 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-26 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 520-616-LCY

Datafile: 220125R15 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.77		1.0008	1.0009	+0.2	6.77E+06	0.78	Y	1.34	46.3	9841.716	0.847
12378-PeCDD	32.45	J	1.0005	1.0007	+0.4	1.83E+05	1.42	Y	1.06	1.71	7245.469	0.651
123478-HxCDD	36.43	J	1.0004	1.0005	+0.2	1.64E+05	1.32	Y	1.06	1.77	8160.945	0.72
123678-HxCDD	36.54		1.0035	1.0035	0	7.46E+05	1.19	Y	1.08	7.76	8160.945	0.675
123789-HxCDD	36.83		1.0116	1.0115	-0.2	4.06E+05	1.11	Y	1.02	4.01	8160.945	0.73
1234678-HpCDD	39.78		1.0003	1.0003	0	1.80E+07	1.05	Y	0.97	228	6924.224	0.546
OCDD	42.20		1.0003	1.0003	0	1.58E+08	0.90	Y	1.07	3,020	7748.107	1.05
2378-TCDF	25.82		1.0008	1.0010	+0.3	2.58E+07	0.79	Y	0.96	154	9813.841	0.711
12378-PeCDF	30.93		1.0006	1.0006	0	1.16E+06	1.68	Y	0.95	7.86	9288.677	0.625
23478-PeCDF	32.10		1.0006	1.0008	+0.4	8.76E+05	1.77	Y	0.94	6.05	9288.677	0.633
123478-HxCDF	35.45		1.0004	1.0005	+0.2	2.06E+06	1.25	Y	1.23	14.1	8912.565	0.534
123678-HxCDF	35.58		1.0004	1.0005	+0.2	6.13E+05	1.36	Y	1.13	4.03	8912.565	0.485
234678-HxCDF	36.25		1.0005	1.0004	-0.2	2.49E+05	1.20	Y	1.15	2.93	8912.565	1.08
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8912.565	0.651
1234678-HpCDF	38.82		1.0003	1.0004	+0.2	6.63E+06	1.01	Y	1.36	48.6	7141.772	0.354
1234789-HpCDF	40.20		1.0002	1.0003	+0.2	5.68E+05	1.03	Y	1.30	5.69	7141.772	0.462
OCDF	42.37		1.0003	1.0002	-0.3	1.36E+07	0.86	Y	1.03	209	6888.236	0.777

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.74	1.0273	1.0274	+0.2	2.14E+07	0.81	Y	1.03	88.1
ES 12378-PeCDD	32.43	1.2455	1.2461	+1.2	1.99E+07	1.58	Y	1.03	82.2
ES 123478-HxCDD	36.41	0.9917	0.9918	+0.2	1.73E+07	1.27	Y	0.99	89.8
ES 123678-HxCDD	36.53	0.9948	0.9949	+0.2	1.75E+07	1.33	Y	0.97	92.8
ES 123789-HxCDD	36.82	1.0028	1.0028	0	1.96E+07	1.30	Y	1.12	90.1
ES 1234678-HpCDD	39.77	1.0830	1.0832	+0.5	1.59E+07	1.06	Y	0.99	82.8
ES OCDD	42.19	1.1489	1.1492	+0.8	1.92E+07	0.90	Y	0.78	64
ES 2378-TCDF	25.79	1.0623	1.0625	+0.3	3.44E+07	0.82	Y	1.08	83.7
ES 12378-PeCDF	30.91	1.2724	1.2732	+1.5	3.06E+07	1.57	Y	0.93	86.5
ES 23478-PeCDF	32.08	1.3205	1.3214	+1.7	3.03E+07	1.58	Y	0.92	86.7
ES 123478-HxCDF	35.43	0.9649	0.9649	0	2.32E+07	0.55	Y	1.14	105
ES 123678-HxCDF	35.57	0.9688	0.9687	-0.2	2.65E+07	0.51	Y	1.30	105
ES 234678-HxCDF	36.24	0.9868	0.9870	+0.4	1.45E+07	0.52	Y	1.20	62.3
ES 123789-HxCDF	37.19	1.0129	1.0130	+0.2	2.09E+07	0.53	Y	1.14	95.1
ES 1234678-HpCDF	38.81	1.0569	1.0570	+0.2	1.97E+07	0.45	Y	0.95	107
ES 1234789-HpCDF	40.18	1.0944	1.0945	+0.2	1.51E+07	0.46	Y	0.85	92
ES OCDF	42.36	1.1533	1.1536	+0.8	2.50E+07	0.88	Y	0.93	69.9

Lab ID: B6171_18863_DF_002 | Acq'd: 25 Jan 2022 21:17 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-26 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 520-616-LCY

Datafile: 220125R15 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.03		-	-	-	2.35E+07	0.77	Y	-	-
JS 1234-TCDF	24.28		-	-	-	3.79E+07	0.80	Y	-	-
JS 123467-HxCDD	36.72		-	-	-	9.67E+06	1.21	Y	-	-
CS 37Cl-2378-TCDD	26.76		1.0282	1.0283	+0.2	1.04E+07	n/a	-	1.31	84.5
CS 12347-PeCDD	31.91		1.2257	1.2262	+1.0	1.87E+07	1.73	Y	0.89	89.5
CS 12346-PeCDF	30.36		1.2496	1.2505	+1.6	3.17E+07	1.59	Y	0.87	96.2
CS 123469-HxCDF	35.88		0.9773	0.9774	+0.2	2.50E+07	0.57	Y	1.09	119
CS 1234689-HpCDF	39.25		1.0687	1.0689	+0.5	1.92E+07	0.47	Y	0.86	115
~~SS 37Cl-2378-TCDD~~	~~26.76~~		~~1.0282~~	~~1.0283~~	~~+0.2~~	~~1.04E+07~~	~~n/a~~		~~1.26~~	~~96.4~~
~~SS 12347-PeCDD~~	~~31.91~~		~~1.2257~~	~~1.2262~~	~~+1.0~~	~~1.87E+07~~	~~1.73~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~30.36~~		~~1.2496~~	~~1.2505~~	~~+1.6~~	~~3.17E+07~~	~~1.59~~	~~Y~~	~~0.93~~	~~111~~
~~SS 123469-HxCDF~~	~~35.88~~		~~0.9773~~	~~0.9774~~	~~+0.2~~	~~2.50E+07~~	~~0.57~~	~~Y~~	~~0.94~~	~~112~~
~~SS 1234689-HpCDF~~	~~39.25~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.92E+07~~	~~0.47~~	~~Y~~	~~0.91~~	~~107~~

Totals	Conc	EMPC
Total TCDD	53.7	53.7
Total PeCDD	8.35	9.13
Total HxCDD	69.1	69.1
Total HpCDD	555	555
Total Tetra-Octa Dioxins	3710	3710
Total TCDF	264	278
Total PeCDF	33.1	38.7
Total HxCDF	73.3	74.3
Total HpCDF	148	149
Total Tetra-Octa Furans	727	749
Total Tetra-Octa Dioxins & Furans	4440	4460

Lab ID: B6171_18863_DF_002 | Acq'd: 25 Jan 2022 21:17 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-26 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 520-616-LCY

Datafile: 220125R15 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		9841.716	0.847
1379-TCDD	NotFnd		0.8642						1.34		9841.716	0.847
1369-TCDD	NotFnd		0.8825						1.34		9841.716	0.847
1469-TCDD	24.48		0.9154	0.9153	-0.1	2.42E+05	0.80	Y	1.34	1.66	9841.716	0.847
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		9841.716	0.847
1378-TCDD	NotFnd		0.9332						1.34		9841.716	0.847
1268-TCDD	NotFnd		0.9415						1.34		9841.716	0.847
1478-TCDD	NotFnd		0.9518						1.34		9841.716	0.847
1279-TCDD	NotFnd		0.9586						1.34		9841.716	0.847
1234/1269-TCDD	NotFnd		0.9734						1.34		9841.716	0.847
1236-TCDD	NotFnd		0.9788						1.34		9841.716	0.847
1237/1238-TCDD	26.46		0.9892	0.9896	+0.6	2.59E+05	0.81	Y	1.34	1.77	9841.716	0.847
1239-TCDD	NotFnd		0.9944						1.34		9841.716	0.847
2378-TCDD	**26.77**		**1.0008**	1.0009	**+0.2**	6.77E+06	0.78	Y	**1.34**	**46.3**	**9841.716**	**0.847**
1278-TCDD	27.12		1.0142	1.0141	-0.2	5.81E+05	0.74	Y	1.34	3.97	9841.716	0.847
1267-TCDD	NotFnd		1.0197						1.34		9841.716	0.847
1289-TCDD	NotFnd		1.0401						1.34		9841.716	0.847
12479/12468-PeCDD	29.84	J	0.9202	0.9201	-0.2	2.56E+05	1.54	Y	1.06	2.39	7245.469	0.651
12469-PeCDD	30.40	J	0.9375	0.9374	-0.2	2.37E+05	1.46	Y	1.06	2.2	7245.469	0.651
12368-PeCDD	30.98	J EMPC	0.9553	0.9552	-0.2	8.31E+04	1.30	N	1.06	0.773	7245.469	0.651
12478-PeCDD	31.18	J	0.9613	0.9613	0	1.08E+05	1.76	Y	1.06	1.01	7245.469	0.651
12379-PeCDD	NotFnd		0.9644						1.06		7245.469	0.651
12369/12467/12489-PeCDD	31.55	J	0.9730	0.9727	-0.6	1.13E+05	1.69	Y	1.06	1.05	7245.469	0.651
12346/12347-PeCDD	NotFnd		0.9848						1.06		7245.469	0.651
12378-PeCDD	32.45	J	**1.0005**	**1.0007**	**+0.4**	**1.83E+05**	**1.42**	**Y**	**1.06**	**1.71**	**7245.469**	**0.651**
12367-PeCDD	NotFnd		1.0035						1.06		7245.469	0.651
12389-PeCDD	NotFnd		1.0146						1.06		7245.469	0.651
124679/124689-HxCDD	34.71		0.9532	0.9531	-0.2	2.64E+06	1.23	Y	1.05	27.3	8160.945	0.708
123468-HxCDD	35.37		0.9715	0.9713	-0.4	2.86E+05	1.22	Y	1.05	2.95	8160.945	0.708
123679/123689-HxCDD	35.67		0.9795	0.9796	+0.2	2.12E+06	1.24	Y	1.05	21.9	8160.945	0.708
123469-HxCDD	35.79	J	0.9832	0.9830	-0.4	2.06E+05	1.41	Y	1.05	2.13	8160.945	0.708
123478-HxCDD	36.43	J	**1.0004**	**1.0005**	**+0.2**	**1.64E+05**	**1.32**	**Y**	1.06	**1.77**	**8160.945**	**0.72**
123678-HxCDD	36.54		**1.0035**	**1.0035**	**0**	**7.46E+05**	**1.19**	**Y**	1.08	**7.76**	**8160.945**	**0.675**
123467-HxCDD	36.73	J	1.0087	1.0087	0	1.23E+05	1.34	Y	1.05	1.27	8160.945	0.708
123789-HxCDD	36.83		**1.0116**	**1.0115**	**-0.2**	**4.06E+05**	**1.11**	**Y**	1.02	**4.01**	**8160.945**	**0.73**

Lab ID: B6171_18863_DF_002 | Acq'd: 25 Jan 2022 21:17 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-26 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 520-616-LCY

Datafile: 220125R15 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9835	+0.2	2.57E+07	1.05	Y	0.97	327	6924.224	0.546
1234678-HpCDD	**39.78**		**1.0003**	**1.0003**	**0**	**1.80E+07**	**1.05**	**Y**	**0.97**	**228**	**6924.224**	**0.546**
OCDD	**42.20**		**1.0003**	**1.0003**	**0**	**1.58E+08**	**0.90**	**Y**	**1.07**	**3,020**	**7748.107**	**1.05**
OCDD-a	42.20		1.0001	1.0001	0	9.05E+06	2.61	Y	0.07	2,800	11214.482	24.7
1368-TCDF	NotFnd		0.7942						0.96		9813.841	0.711
1468-TCDF	21.01	EMPC	0.8155	0.8144	-1.4	1.56E+05	0.89	N	0.96	0.929	9813.841	0.711
2468-TCDF	21.66		0.8407	0.8397	-1.3	4.19E+05	0.81	Y	0.96	2.49	9813.841	0.711
1346/1246-TCDF	22.11		0.8553	0.8570	+2.3	8.31E+04	0.69	Y	0.96	0.495	9813.841	0.711
1347/1378/1247-TCDF	22.23		0.8617	0.8619	+0.3	6.61E+05	0.73	Y	0.96	3.94	9813.841	0.711
1348-TCDF	22.54		0.8740	0.8739	-0.1	1.59E+05	0.66	Y	0.96	0.948	9813.841	0.711
1248/1367/1379-TCDF	22.65		0.8798	0.8780	-2.4	1.07E+06	0.85	Y	0.96	6.37	9813.841	0.711
1268-TCDF	23.12		0.8967	0.8964	-0.4	5.63E+05	0.84	Y	0.96	3.35	9813.841	0.711
1467-TCDF	23.27	EMPC	0.9025	0.9022	-0.4	1.42E+05	1.02	N	0.96	0.845	9813.841	0.711
1478-TCDF	23.46		0.9101	0.9097	-0.6	1.08E+06	0.72	Y	0.96	6.4	9813.841	0.711
1369/1237-TCDF	23.90		0.9263	0.9265	+0.3	3.49E+05	0.87	Y	0.96	2.08	9813.841	0.711
2467-TCDF	NotFnd		0.9322						0.96		9813.841	0.711
2368-TCDF	24.22		0.9389	0.9389	0	1.21E+06	0.70	Y	0.96	7.2	9813.841	0.711
1238/1234/1678/1469/1236-TCDF	24.30	EMPC	0.9427	0.9421	-0.9	6.44E+05	1.02	N	0.96	3.84	9813.841	0.711
1278-TCDF	24.82		0.9623	0.9621	-0.3	7.49E+06	0.82	Y	0.96	44.6	9813.841	0.711
1349-TCDF	NotFnd		0.9678						0.96		9813.841	0.711
1267-TCDF	25.12		0.9740	0.9737	-0.5	6.15E+05	0.80	Y	0.96	3.66	9813.841	0.711
2346/1249-TCDF	NotFnd		0.9820						0.96		9813.841	0.711
2347/1279-TCDF	25.58		0.9915	0.9918	+0.5	3.92E+05	0.75	Y	0.96	2.33	9813.841	0.711
2348-TCDF	25.70		0.9964	0.9962	-0.3	1.33E+06	0.83	Y	0.96	7.93	9813.841	0.711
2378-TCDF	**25.82**		**1.0008**	**1.0010**	**+0.3**	**2.58E+07**	**0.79**	**Y**	**0.96**	**154**	**9813.841**	**0.711**
2367/3467-TCDF	26.21		1.0163	1.0161	-0.3	2.85E+06	0.80	Y	0.96	16.9	9813.841	0.711
1269-TCDF	26.47		1.0265	1.0264	-0.2	2.73E+05	0.83	Y	0.96	1.62	9813.841	0.711
1239-TCDF	NotFnd		1.0373						0.96		9813.841	0.711
1289-TCDF	27.99	EMPC	1.0847	1.0852	+0.8	1.35E+06	0.89	N	0.96	8.01	9813.841	0.711
13468/12468-PeCDF	27.97		0.9045	0.9048	+0.5	1.13E+06	1.37	Y	0.94	7.72	10704.8	0.725
13678/13467/12467-PeCDF	29.61	J	0.9574	0.9578	+0.7	3.39E+05	1.37	Y	0.94	2.32	9288.677	0.629
12368/13478/12478-PeCDF	29.78		0.9628	0.9633	+0.9	1.21E+06	1.51	Y	0.94	8.3	9288.677	0.629
14678-PeCDF	29.87	J EMPC	0.9661	0.9662	+0.2	1.04E+05	2.16	N	0.94	0.712	9288.677	0.629
13479-PeCDF	NotFnd		0.9695						0.94		9288.677	0.629
13469/12479-PeCDF	NotFnd		0.9779						0.94		9288.677	0.629
12346-PeCDF	NotFnd		0.9824						0.94		9288.677	0.629

Lab ID: B6171_18863_DF_002 | Acq'd: 25 Jan 2022 21:17 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

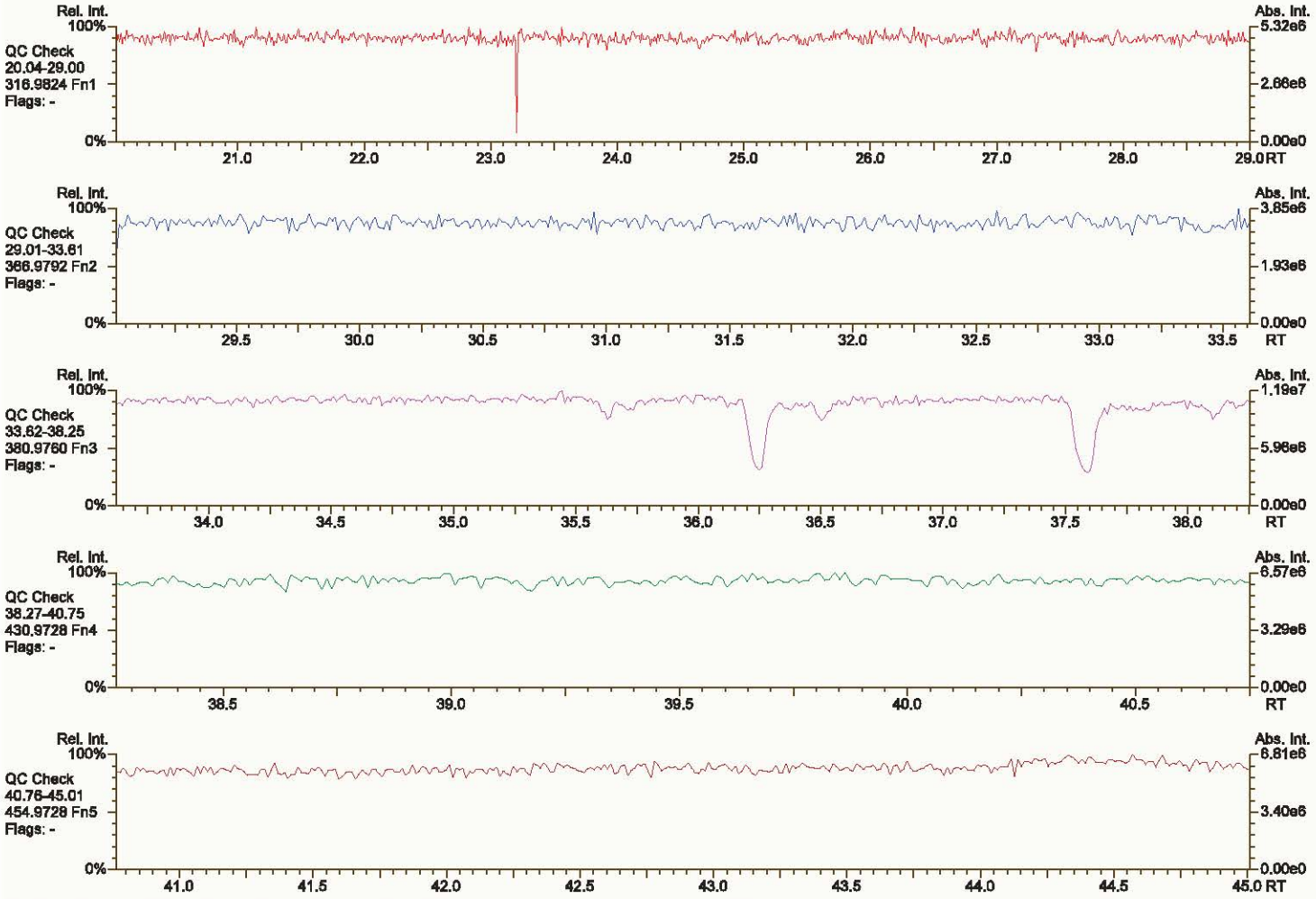
Client ID: 11215131-011022-S-BN-NC-O-26 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 520-616-LCY

Datafile: 220125R15 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.47	J EMPC	0.9857	0.9859	+0.4	1.89E+05	2.02	N	0.94	1.29	9288.677	0.629
12347-PeCDF	30.55	J EMPC	0.9882	0.9884	+0.4	7.33E+04	2.21	N	0.94	0.502	9288.677	0.629
12348-PeCDF	30.72	J	0.9935	0.9938	+0.6	1.27E+05	1.76	Y	0.94	0.868	9288.677	0.629
12378-PeCDF	**30.93**		**1.0006**	**1.0006**	**0**	**1.16E+06**	**1.68**	**Y**	**0.95**	**7.86**	**9288.677**	**0.625**
12678/12367-PeCDF	31.24	EMPC	1.0099	1.0105	+1.1	3.65E+05	1.79	N	0.94	2.5	9288.677	0.629
12379-PeCDF	NotFnd		1.0155						0.94		9288.677	0.629
12679-PeCDF	NotFnd		0.9921						0.94		9288.677	0.629
23467/12369-PeCDF	31.96	J EMPC	0.9962	0.9963	+0.2	8.87E+04	2.02	N	0.94	0.607	9288.677	0.629
23478-PeCDF	**32.10**		**1.0006**	**1.0008**	**+0.4**	**8.76E+05**	**1.77**	**Y**	**0.94**	**6.05**	**9288.677**	**0.633**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		9288.677	0.629
12349-PeCDF	NotFnd		1.0106						0.94		9288.677	0.629
12389-PeCDF	NotFnd		1.0349						0.94		9288.677	0.629
123468-HxCDF	34.03		0.9606	0.9606	0	7.15E+05	1.25	Y	1.16	5.68	8912.565	0.64
124678/134678-HxCDF	34.23		0.9663	0.9663	0	2.74E+06	1.17	Y	1.16	21.8	8912.565	0.64
134679-HxCDF	NotFnd		0.9729						1.16		8912.565	0.64
124679-HxCDF	34.67	J	0.9786	0.9787	+0.2	1.13E+05	1.36	Y	1.16	0.901	8912.565	0.64
124689-HxCDF	34.90		0.9851	0.9852	+0.2	2.82E+06	1.20	Y	1.16	22.4	8912.565	0.64
123467-HxCDF	35.32	J EMPC	0.9970	0.9970	0	1.25E+05	1.63	N	1.16	0.993	8912.565	0.64
123478-HxCDF	**35.45**		**1.0004**	**1.0005**	**+0.2**	**2.06E+06**	**1.25**	**Y**	**1.23**	**14.1**	**8912.565**	**0.534**
123678-HxCDF	**35.58**		**1.0004**	**1.0005**	**+0.2**	**6.13E+05**	**1.36**	**Y**	**1.13**	**4.03**	**8912.565**	**0.485**
123479-HxCDF	NotFnd		1.0050						1.16		8912.565	0.64
123469-HxCDF	NotFnd		1.0091						1.16		8912.565	0.64
123679-HxCDF	NotFnd		0.9942						1.16		8912.565	0.64
234678-HxCDF	**36.25**		**1.0005**	**1.0004**	**-0.2**	**2.49E+05**	**1.20**	**Y**	**1.15**	**2.93**	**8912.565**	**1.08**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8912.565	0.64
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8912.565**	**0.651**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.24	J	1.0008	1.0011	+0.7	1.92E+05	1.31	Y	1.16	1.53	8912.565	0.64
1234678-HpCDF	**38.82**		**1.0003**	**1.0004**	**+0.2**	**6.63E+06**	**1.01**	**Y**	**1.36**	**48.6**	**7141.772**	**0.354**
1234679-HpCDF	39.11	**J EMPC**	1.0076	1.0078	+0.5	1.80E+05	0.83	N	1.33	1.53	7141.772	0.4
1234689-HpCDF	39.26		1.0114	1.0116	+0.5	1.10E+07	1.06	Y	1.33	93.6	7141.772	0.4
1234789-HpCDF	**40.20**		**1.0002**	**1.0003**	**+0.2**	**5.68E+05**	**1.03**	**Y**	**1.30**	**5.69**	**7141.772**	**0.462**
OCDF	**42.37**		**1.0003**	**1.0002**	**-0.3**	**1.36E+07**	**0.86**	**Y**	**1.03**	**209**	**6888.236**	**0.777**
OCDF-a	42.36	**EMPC**	1.0001	1.0001	0	6.33E+05	4.05	N	0.06	168	10155.622	19.8

SGS ID: B6171_18853_DF_002 | Sample ID: 11215131-011022-S-BN-NC-O-26 | Acq: 25-Jan-2022 21:17:06

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17 | User: PSW Datafile: 220125R15

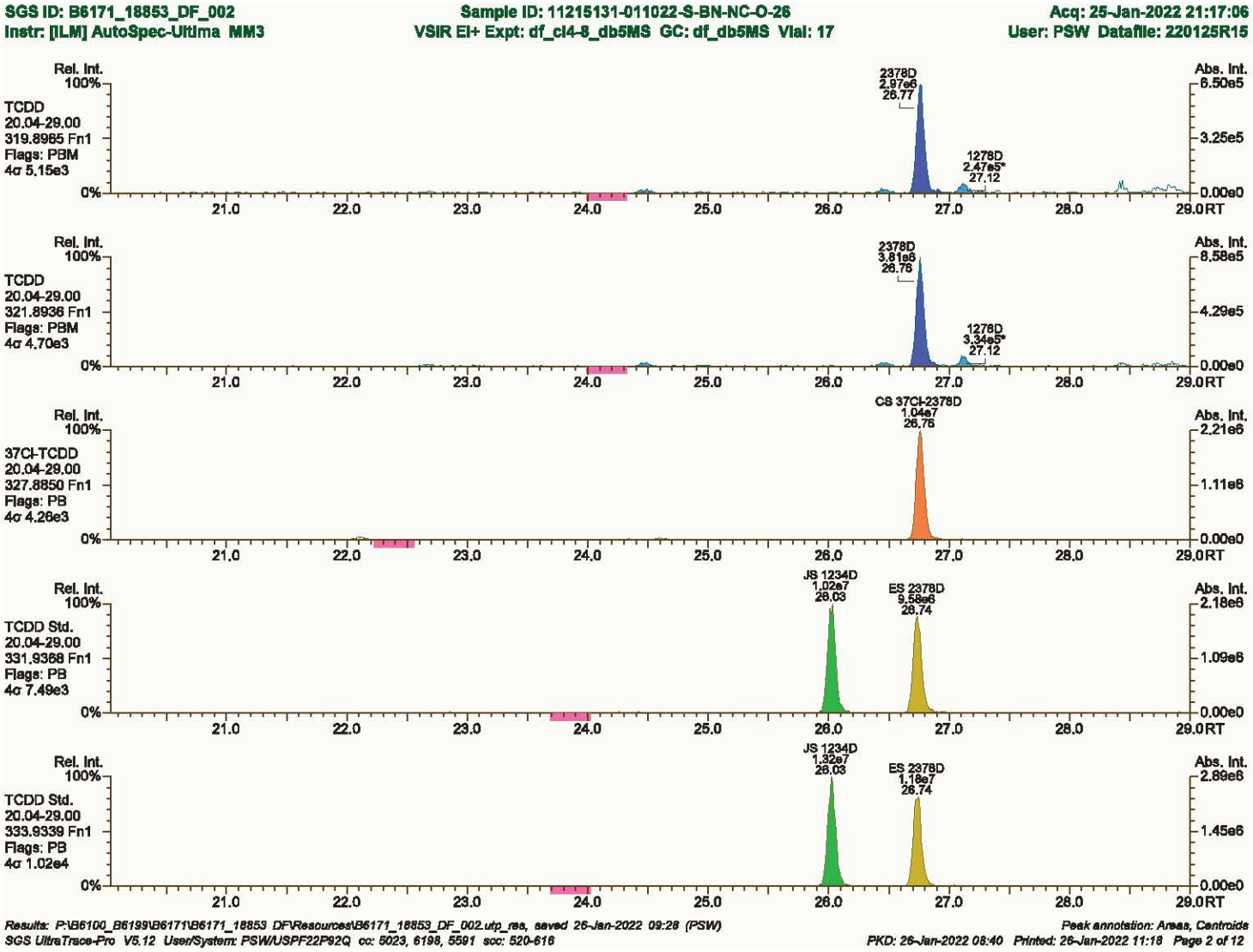


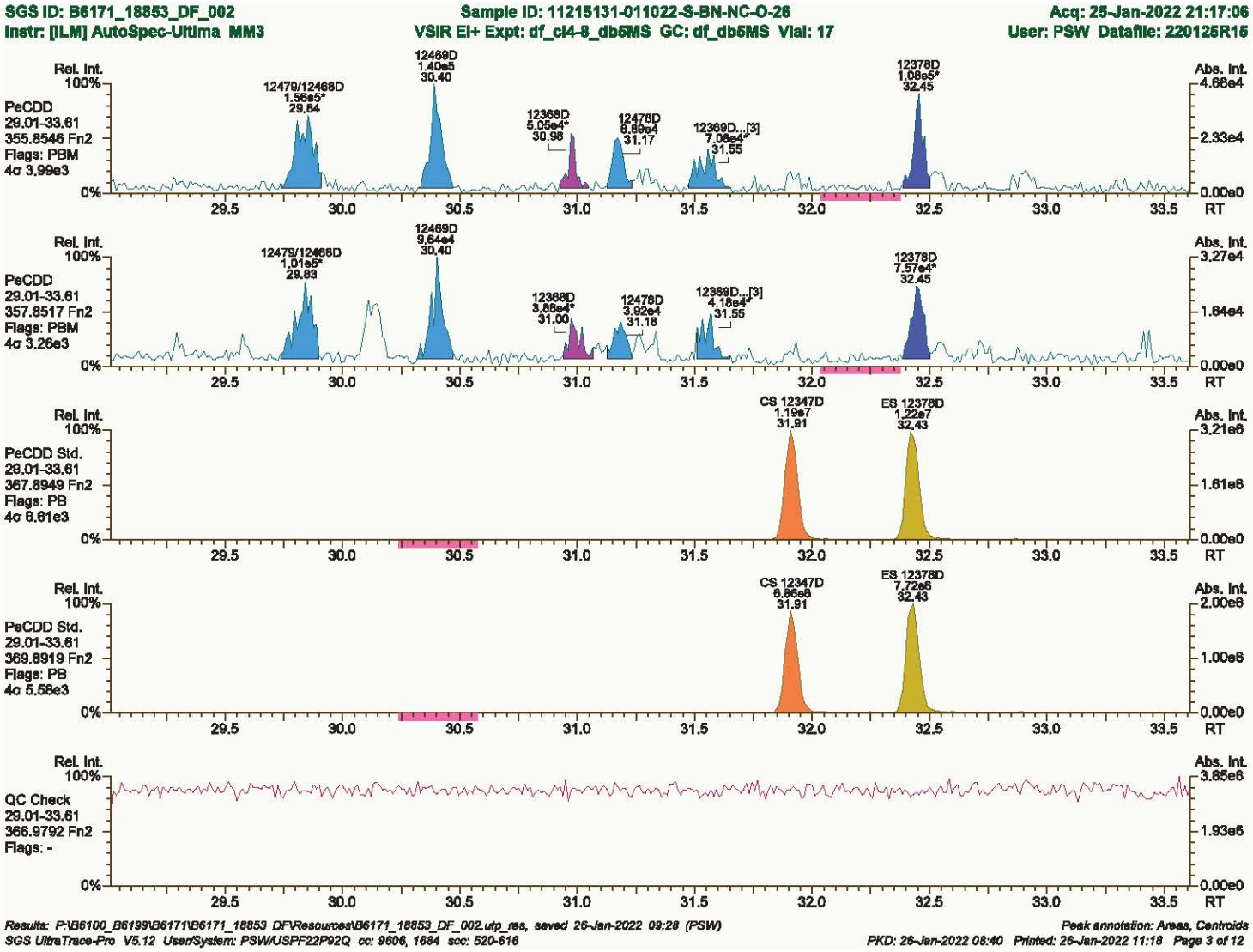
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)

Peak annotation: Areas, Centroids

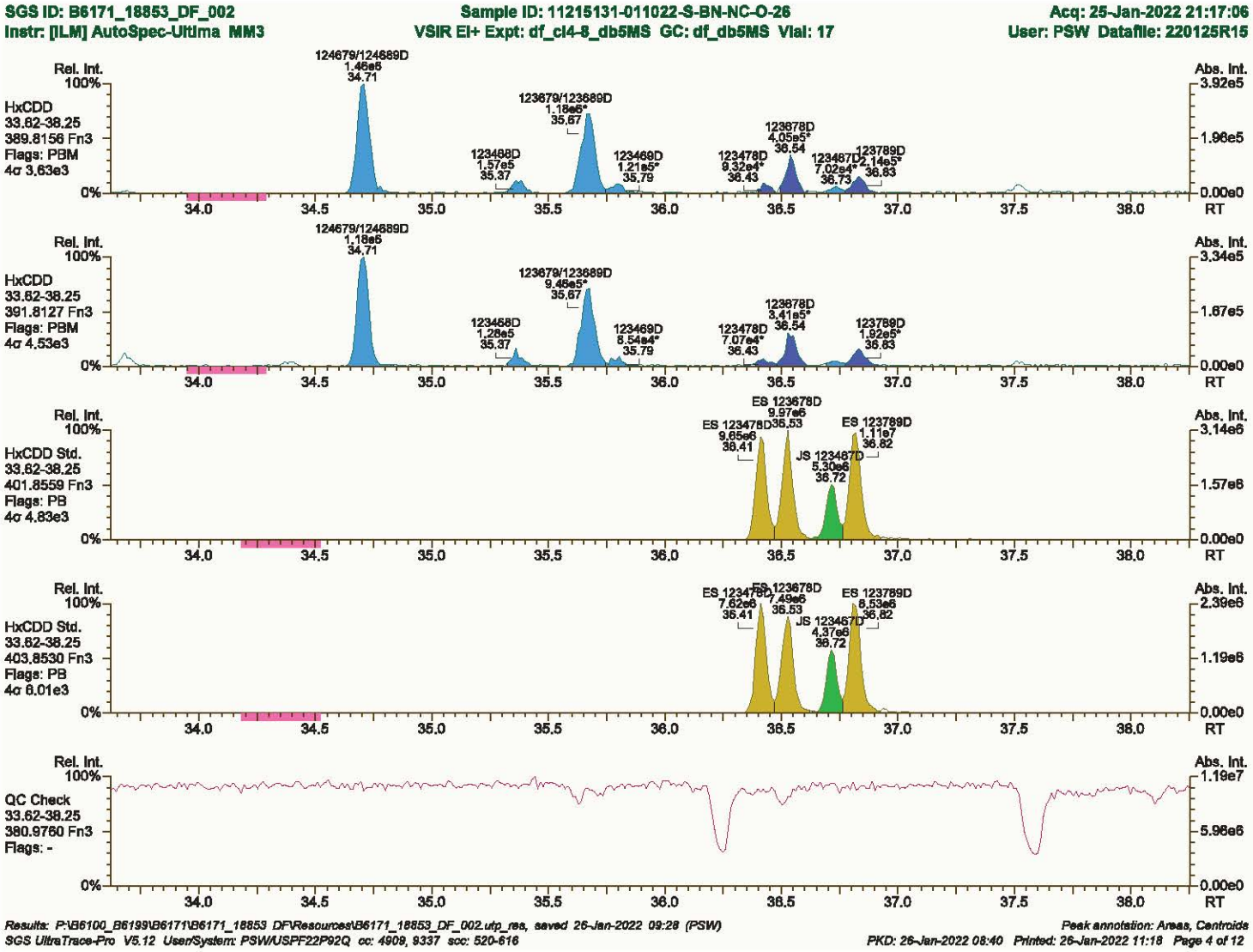
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 520-616

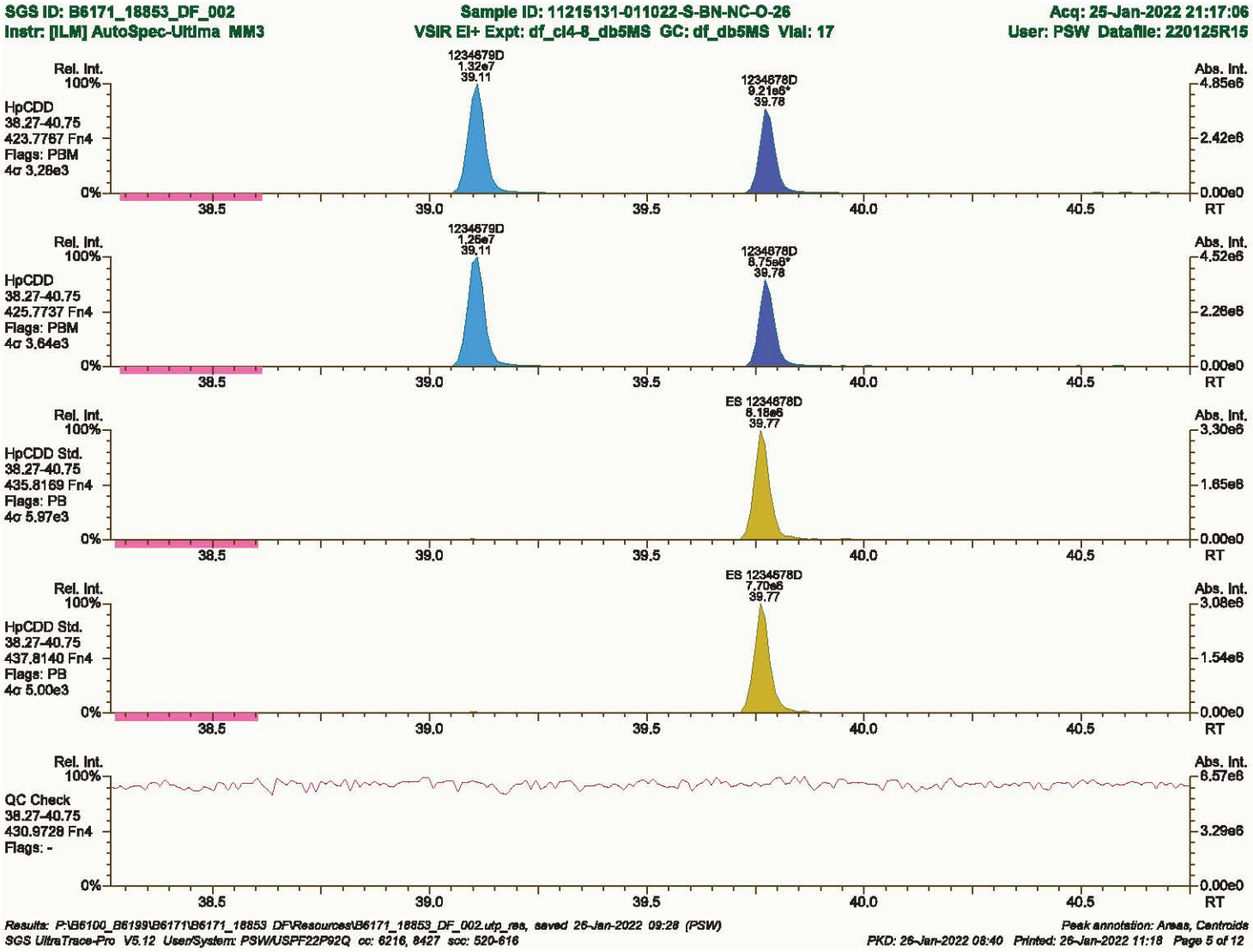
PKD: n/a Printed: 26-Jan-2022 11:18 Page 1 of 12

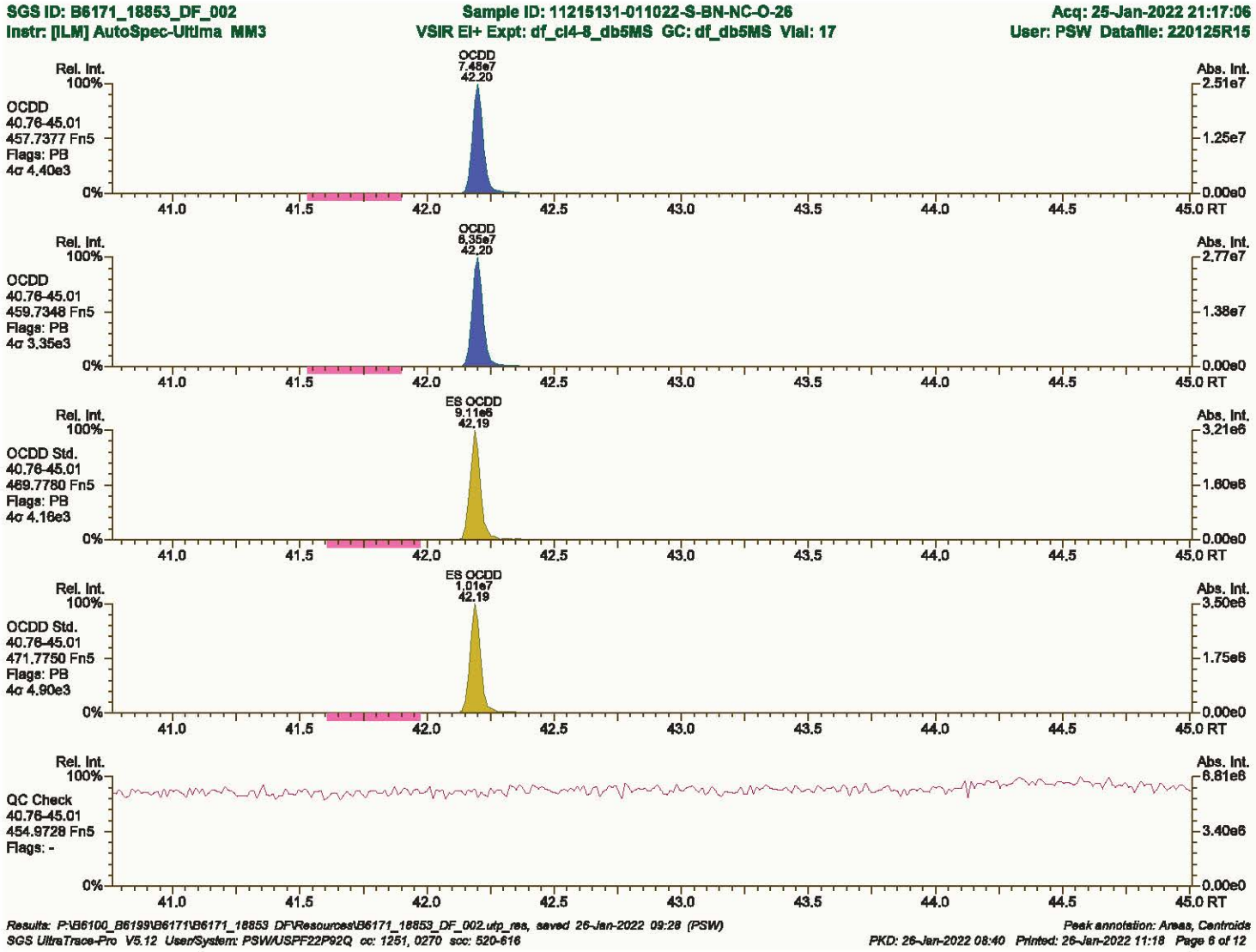

SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 5.15e3
2378D
2.97e6
26.77
1278D
2.47e5*
27.12
6.50e5
3.25e5
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 4.70e3
2378D
3.81e6
26.76
1278D
3.34e5*
27.12
8.58e5
4.29e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 4.26e3
CS 37Cl-2378D
1.04e7
26.76
2.21e6
1.11e6
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 7.49e3
JS 1234D
1.02e7
26.03
ES 2378D
9.58e6
26.74
2.18e6
1.09e6
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 1.02e4
JS 1234D
1.32e7
26.03
ES 2378D
1.18e7
26.74
2.89e6
1.45e6
0.00e0
0%
100%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5023, 6198, 5591 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 2 of 12

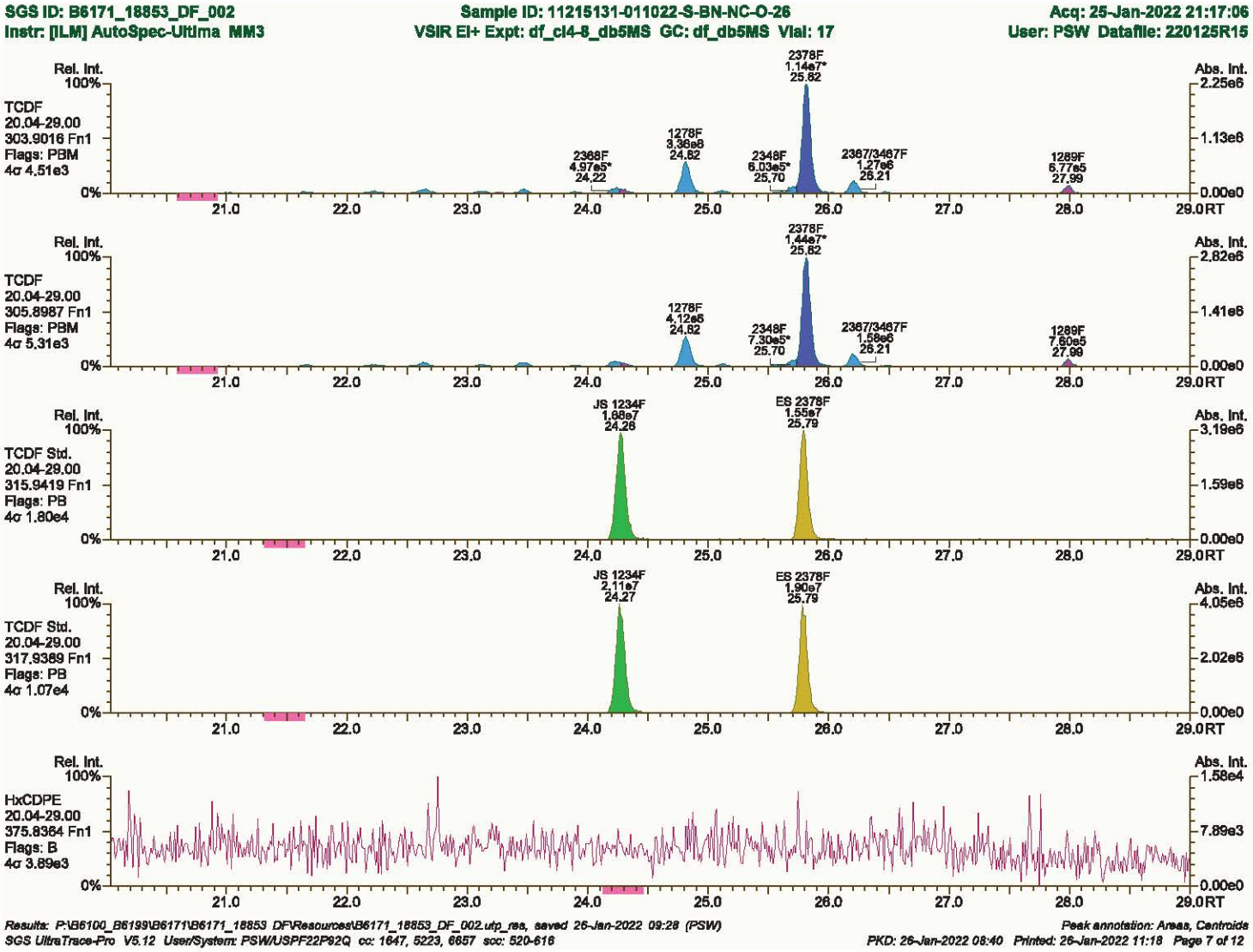


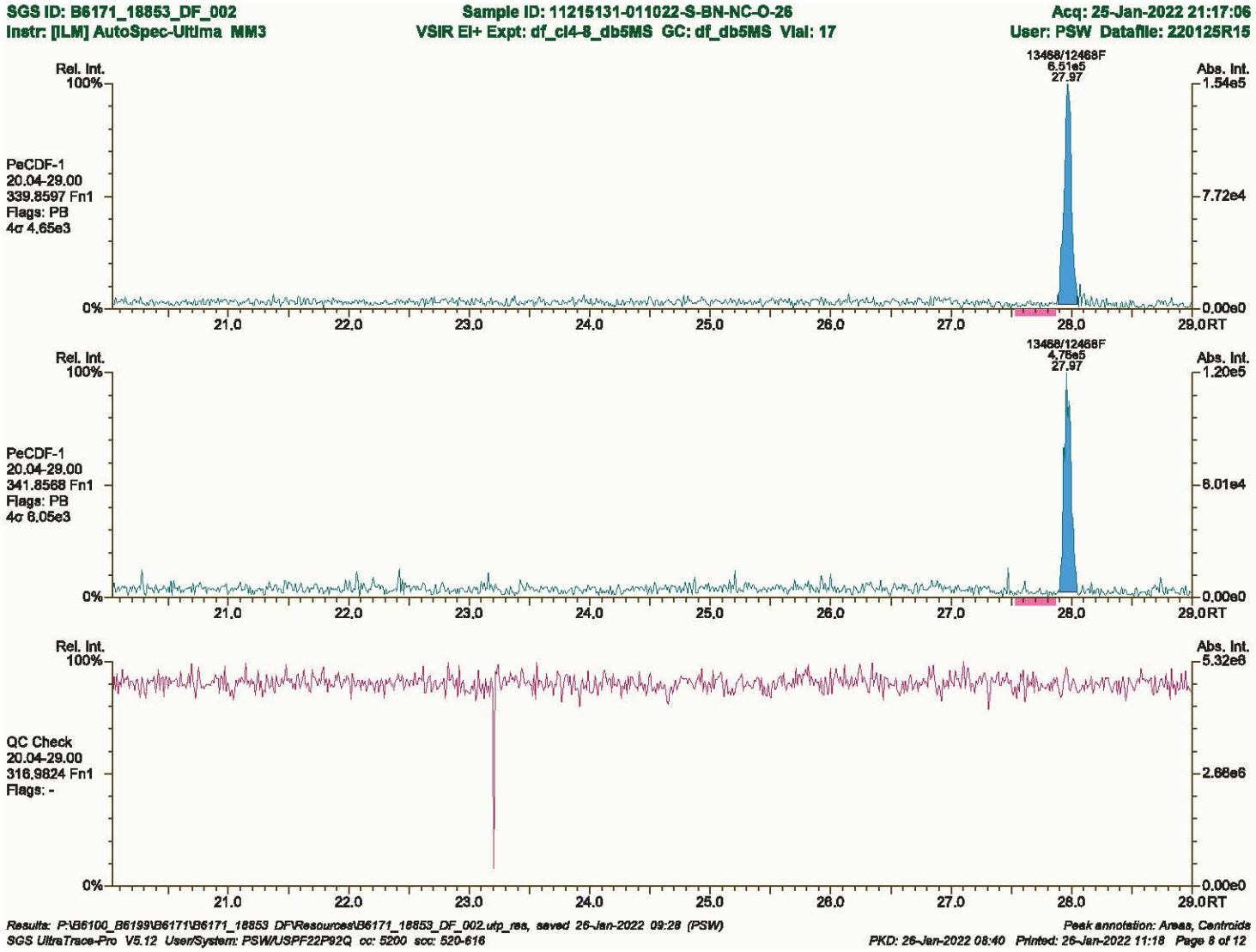
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9606, 1684 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 3 of 12

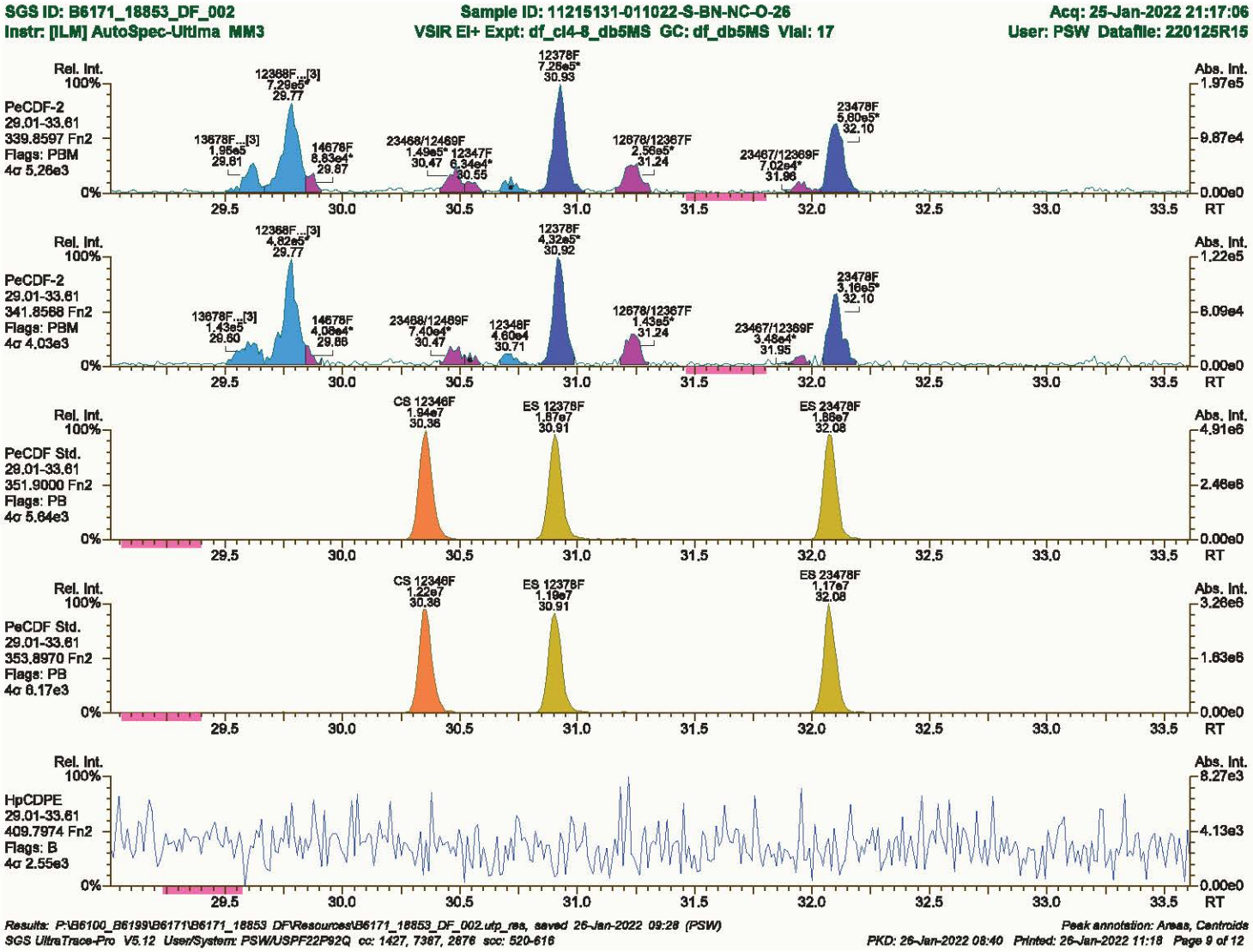

SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 3.63e3
124679/124689D
1.46e6
34.71
123679/123689D
1.18e6*
35.67
123468D
1.57e5
35.37
123469D
1.21e5*
35.79
123678D
4.05e5*
36.54
123478D
9.32e4*
36.43
123467D
7.02e4*
36.73
123789D
2.14e5*
36.83
3.92e5
1.96e5
0.00e0
RT
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.53e3
124679/124689D
1.18e5
34.71
123679/123689D
9.46e5*
35.67
123468D
1.28e5
35.37
123469D
8.54e4*
35.79
123678D
3.41e5*
36.54
123478D
7.07e4*
36.43
123789D
1.92e5*
36.83
3.34e5
1.67e5
0.00e0
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 4.83e3
ES 123678D
9.97e6
36.53
ES 123478D
9.65e6
36.41
ES 123789D
1.11e7
36.82
JS 123467D
5.30e6
36.72
3.14e6
1.57e6
0.00e0
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 6.01e3
ES 123678D
7.49e6
36.53
ES 123478D
7.62e6
36.41
ES 123789D
8.53e6
36.82
JS 123467D
4.37e6
36.72
2.39e6
1.19e6
0.00e0
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
1.19e7
5.98e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4909, 9337 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 4 of 12

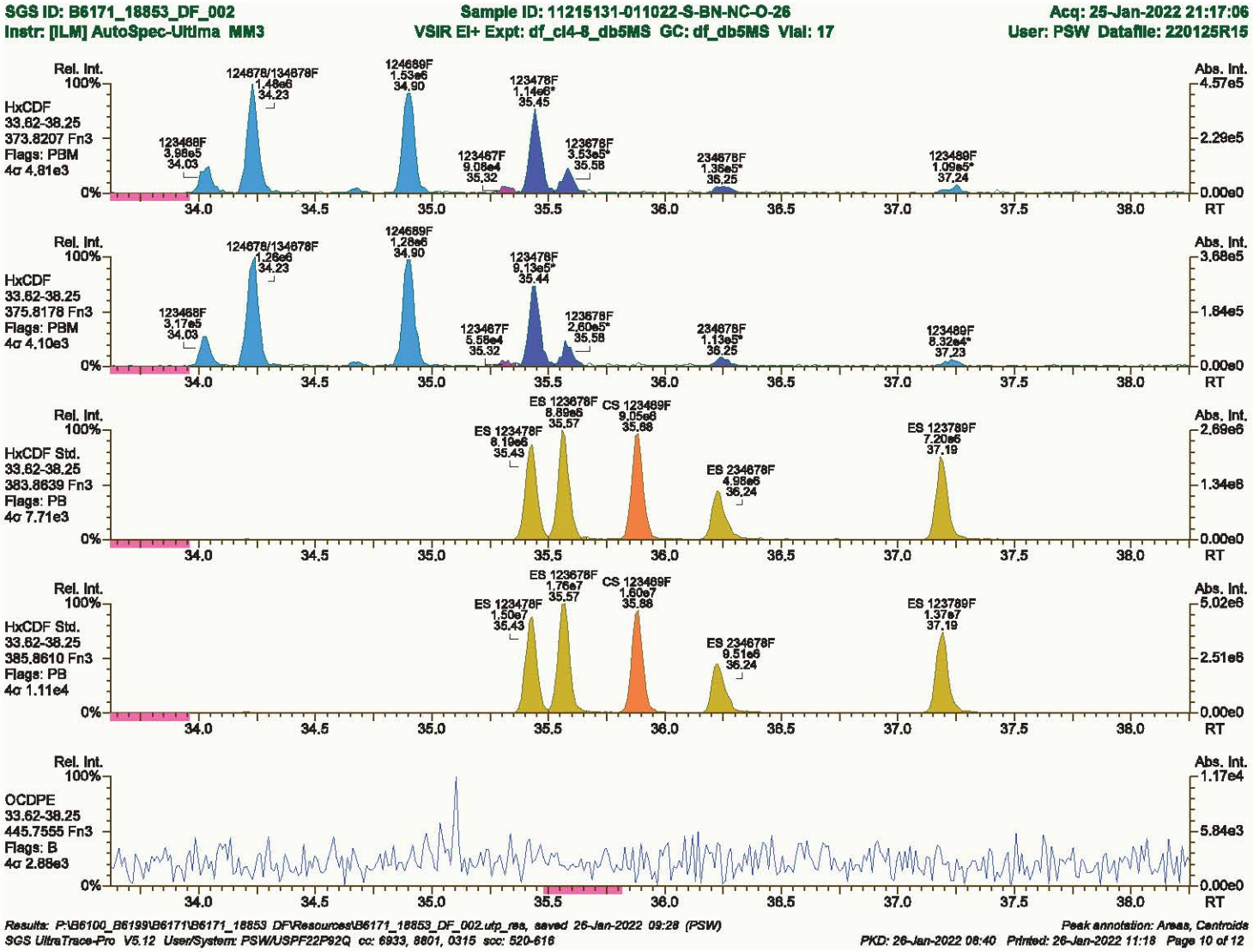

SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PBM
4σ 3.28e3
1234679D
1.32e7
39.11
1234678D
9.21e6*
39.78
4.85e6
2.42e6
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PBM
4σ 3.64e3
1234679D
1.26e7
39.11
1234678D
8.75e6*
39.78
4.52e6
2.26e6
0.00e0
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 5.97e3
ES 1234678D
8.18e5
39.77
3.30e6
1.65e6
0.00e0
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 5.00e3
ES 1234678D
7.70e5
39.77
3.08e6
1.54e6
0.00e0
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
6.57e6
3.29e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6216, 8427 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 5 of 12


SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
OCDD
7.48e7
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 4.40e3
2.51e7
1.25e7
0.00e0
OCDD
6.35e7
42.20
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 3.35e3
2.77e7
1.38e7
ES OCDD
9.11e6
42.19
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 4.16e3
3.21e6
1.60e6
ES OCDD
1.01e7
42.19
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 4.90e3
3.50e6
1.75e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
6.81e6
3.40e6
0%
100%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1251, 0270 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 6 of 12


SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 4.51e3
2378F
1.14e7*
25.82
1278F
3.36e6
24.82
2368F
4.97e5*
24.22
2348F
6.03e5*
25.70
2367/3467F
1.27e6
26.21
1289F
6.77e5
27.99
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 5.31e3
2378F
1.44e7*
25.82
1278F
4.12e6
24.82
2348F
7.30e5*
25.70
2367/3467F
1.58e6
26.21
1289F
7.60e5
27.99
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.80e4
JS 1234F
1.68e7
24.26
ES 2378F
1.55e7
25.79
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.07e4
JS 1234F
2.11e7
24.27
ES 2378F
1.90e7
25.79
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 3.89e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
2.25e6
1.13e6
0.00e0
2.82e6
1.41e6
3.19e6
1.59e6
4.05e6
2.02e6
1.58e4
7.89e3

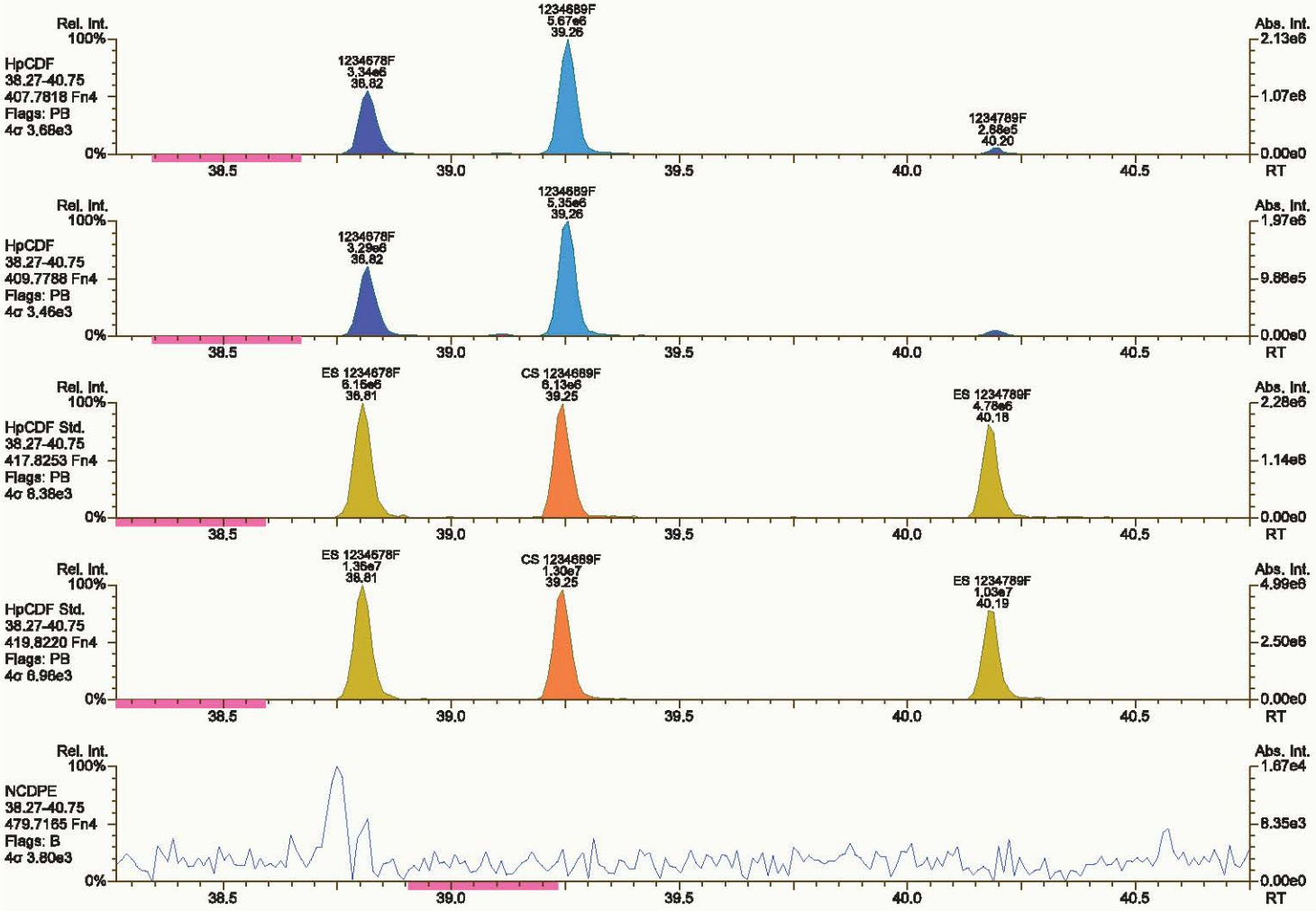

SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
100%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 4.65e3
13468/12468F
6.51e5
27.97
Abs. Int.
1.54e5
7.72e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 6.05e3
13468/12468F
4.76e5
27.97
Abs. Int.
1.20e5
6.01e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
5.32e6
2.66e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5200 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 8 of 12


SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 5.26e3
12368F...[3] 7.29e5* 29.77
13678F...[3] 1.95e5 29.61
14678F 8.83e4* 29.87
23468/12469F 1.49e5* 30.47
12347F 6.34e4* 30.55
12378F 7.26e5* 30.93
12678/12367F 2.56e5* 31.24
23467/12369F 7.02e4* 31.96
23478F 5.80e5* 32.10
1.97e5
9.87e4
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.03e3
12368F...[3] 4.82e5* 29.77
13678F...[3] 1.43e5 29.60
14678F 4.08e4* 29.86
23468/12469F 7.40e4* 30.47
12348F 4.60e4 30.71
12378F 4.32e5* 30.92
12678/12367F 1.43e5* 31.24
23467/12369F 3.48e4* 31.95
23478F 3.16e5* 32.10
1.22e5
6.09e4
0.00e0
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 5.64e3
CS 12346F 1.94e7 30.36
ES 12378F 1.87e7 30.91
ES 23478F 1.86e7 32.08
4.91e6
2.46e6
0.00e0
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 6.17e3
CS 12346F 1.22e7 30.36
ES 12378F 1.19e7 30.91
ES 23478F 1.17e7 32.08
3.26e6
1.63e6
0.00e0
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 2.55e3
8.27e3
4.13e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 4.81e3
123468F 3.98e5 34.03
124678/134678F 1.48e6 34.23
124689F 1.53e6 34.90
123467F 9.08e4 35.32
123478F 1.14e6* 35.45
123678F 3.53e5* 35.58
234678F 1.38e5* 36.25
123489F 1.09e5* 37.24
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 4.10e3
123468F 3.17e5 34.03
124678/134678F 1.26e6 34.23
124689F 1.28e6 34.90
123467F 5.56e4 35.32
123478F 9.13e5* 35.44
123678F 2.60e5* 35.58
234678F 1.13e5* 36.25
123489F 8.32e4* 37.23
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 7.71e3
ES 123478F 8.19e6 35.43
ES 123678F 8.89e6 35.57
CS 123489F 9.05e6 35.68
ES 234678F 4.95e6 36.24
ES 123789F 7.20e6 37.19
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 1.11e4
ES 123478F 1.50e7 35.43
ES 123678F 1.76e7 35.57
CS 123489F 1.60e7 35.68
ES 234678F 9.51e6 36.24
ES 123789F 1.37e7 37.19
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 2.88e3
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
4.57e5
2.29e5
0.00e0
3.68e5
1.84e5
2.69e6
1.34e6
5.02e6
2.51e6
1.17e4
5.84e3
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6933, 8601, 0315 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 10 of 12

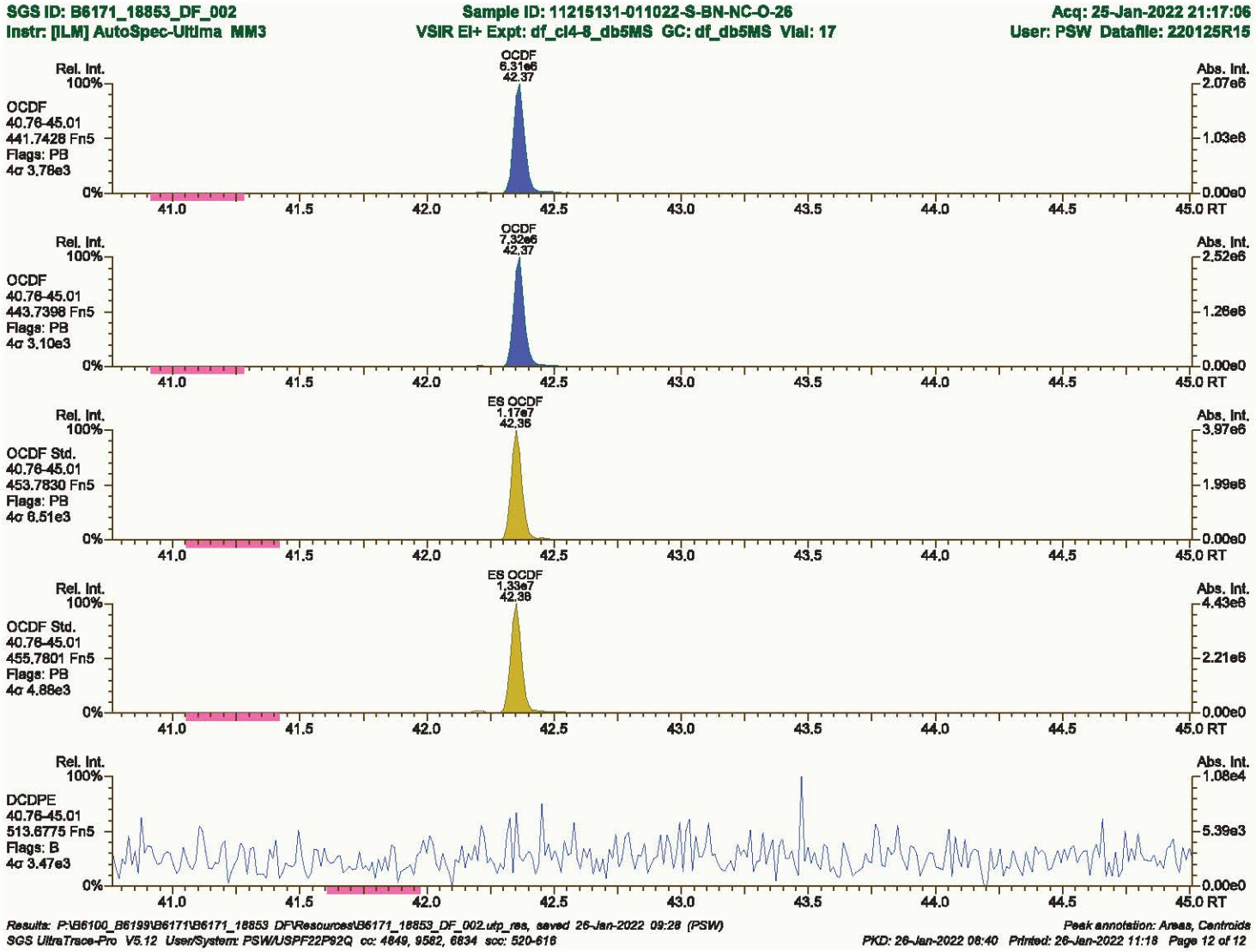
SGS ID: B6171_18853_DF_002 | Sample ID: 11215131-011022-S-BN-NC-O-26 | Acq: 25-Jan-2022 21:17:06

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17 | User: PSW Datafile: 220125R15



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4008, 2098, 1067 scc: 520-616 *PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 11 of 12*


SGS ID: B6171_18853_DF_002
Sample ID: 11215131-011022-S-BN-NC-O-26
Acq: 25-Jan-2022 21:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: PSW Datafile: 220125R15
Rel. Int.
Abs. Int.
OCDF
6.31e6
42.37
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 3.78e3
2.07e6
1.03e6
0.00e0
OCDF
7.32e6
42.37
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 3.10e3
2.52e6
1.26e6
ES OCDF
1.17e7
42.36
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 6.51e3
3.97e6
1.99e6
ES OCDF
1.33e7
42.36
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 4.88e3
4.43e6
2.21e6
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 3.47e3
1.08e4
5.39e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_002.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4849, 9562, 6834 scc: 520-616
PKD: 26-Jan-2022 08:40 Printed: 26-Jan-2022 11:18 Page 12 of 12

Lab ID: B6171_18863_DF_003 | Acq'd: 25 Jan 2022 22:04 PSW | Wt/Vol: 10.10 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 857-991-FLL

Datafile: 220125R16 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.78	E	1.0008	1.0010	+0.3	5.68E+08	0.79	Y	1.34	3,310	10130.31	0.668
12378-PeCDD	32.46		1.0005	1.0007	+0.4	4.57E+06	1.68	Y	1.06	36.5	7786.481	0.541
123478-HxCDD	36.42	J EMPC	1.0004	1.0003	-0.2	2.45E+05	1.73	N	1.06	2.14	14159.458	0.997
123678-HxCDD	36.54		1.0035	1.0035	0	1.50E+06	1.17	Y	1.08	14.5	14159.458	1.12
123789-HxCDD	36.83		1.0116	1.0115	-0.2	7.07E+05	1.16	Y	1.02	6.15	14159.458	1.03
1234678-HpCDD	39.77		1.0003	1.0003	0	4.41E+07	1.05	Y	0.97	482	10894.047	0.772
OCDD	42.20		1.0003	1.0002	-0.3	4.27E+08	0.90	Y	1.07	6,330	11081.875	1.3
2378-TCDF	25.85	E	1.0008	1.0010	+0.3	2.42E+09	0.80	Y	0.96	12,800	11466.22	0.755
12378-PeCDF	30.94		1.0006	1.0006	0	7.17E+07	1.58	Y	0.95	433	13927.862	0.811
23478-PeCDF	32.12		1.0006	1.0008	+0.4	4.78E+07	1.58	Y	0.94	352	13927.862	1.04
123478-HxCDF	35.45		1.0004	1.0005	+0.2	1.01E+08	1.24	Y	1.23	593	12606.082	0.617
123678-HxCDF	35.58		1.0004	1.0004	0	2.48E+07	1.28	Y	1.13	144	12606.082	0.59
234678-HxCDF	36.24		1.0005	1.0004	-0.2	3.07E+06	1.32	Y	1.15	34.2	12606.082	1.37
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	12606.082	0.682
1234678-HpCDF	38.81		1.0003	1.0003	0	4.36E+07	1.05	Y	1.36	276	10748.18	0.496
1234789-HpCDF	40.19		1.0002	1.0003	+0.2	8.91E+06	1.07	Y	1.30	73.7	10748.18	0.577
OCDF	42.36		1.0003	1.0002	-0.3	3.05E+08	0.90	Y	1.03	3,660	12148.227	1.13

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.76	1.0273	1.0267	-1.0	2.53E+07	0.77	Y	1.03	86.8
ES 12378-PeCDD	32.44	1.2455	1.2447	-1.6	2.34E+07	1.57	Y	1.03	80.4
ES 123478-HxCDD	36.41	0.9917	0.9917	0	2.15E+07	1.29	Y	0.99	93.5
ES 123678-HxCDD	36.52	0.9948	0.9948	0	1.90E+07	1.24	Y	0.97	84.4
ES 123789-HxCDD	36.82	1.0028	1.0028	0	2.24E+07	1.26	Y	1.12	86.3
ES 1234678-HpCDD	39.76	1.0830	1.0830	0	1.86E+07	1.05	Y	0.99	81.2
ES OCDD	42.19	1.1489	1.1490	+0.3	2.50E+07	0.95	Y	0.78	69.6
ES 2378-TCDF	25.82	1.0623	1.0622	-0.2	3.91E+07	0.83	Y	1.08	80.7
ES 12378-PeCDF	30.92	1.2724	1.2722	-0.4	3.46E+07	1.60	Y	0.93	83
ES 23478-PeCDF	32.09	1.3205	1.3203	-0.4	2.87E+07	1.63	Y	0.92	69.5
ES 123478-HxCDF	35.43	0.9649	0.9650	+0.2	2.74E+07	0.54	Y	1.14	104
ES 123678-HxCDF	35.57	0.9688	0.9687	-0.2	3.01E+07	0.55	Y	1.30	101
ES 234678-HxCDF	36.23	0.9868	0.9868	0	1.54E+07	0.58	Y	1.20	55.6
ES 123789-HxCDF	37.19	1.0129	1.0129	0	2.71E+07	0.53	Y	1.14	103
ES 1234678-HpCDF	38.80	1.0569	1.0569	0	2.30E+07	0.45	Y	0.95	105
ES 1234789-HpCDF	40.18	1.0944	1.0943	-0.2	1.84E+07	0.44	Y	0.85	94.2
ES OCDF	42.35	1.1533	1.1534	+0.3	3.22E+07	0.90	Y	0.93	75.2

Lab ID: B6171_18863_DF_003 | Acq'd: 25 Jan 2022 22:04 PSW | Wt/Vol: 10.10 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 857-991-FLL

Datafile: 220125R16 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.06		-	-	-	2.81E+07	0.81	Y	-	-
JS 1234-TCDF	24.31		-	-	-	4.47E+07	0.84	Y	-	-
JS 123467-HxCDD	36.71		-	-	-	1.15E+07	1.31	Y	-	-
CS 37Cl-2378-TCDD	26.78		1.0282	1.0277	-0.8	1.22E+07	n/a	-	1.31	82.8
CS 12347-PeCDD	31.93		1.2257	1.2250	-1.3	2.11E+07	1.59	Y	0.89	84
CS 12346-PeCDF	30.38		1.2496	1.2497	+0.2	3.39E+07	1.54	Y	0.87	87.5
CS 123469-HxCDF	35.88		0.9773	0.9773	0	2.97E+07	0.53	Y	1.09	118
CS 1234689-HpCDF	39.24		1.0687	1.0688	+0.2	2.27E+07	0.46	Y	0.86	114
SS 37Cl-2378-TCDD	26.78		1.0282	1.0277	-0.8	1.22E+07	n/a	-	1.26	96
SS 12347-PeCDD	31.93		1.2257	1.2250	-1.3	2.11E+07	1.59	Y	0.86	104
SS 12346-PeCDF	30.38		1.2496	1.2497	+0.2	3.39E+07	1.54	Y	0.93	105
SS 123469-HxCDF	35.88		0.9773	0.9773	0	2.97E+07	0.53	Y	0.84	117
SS 1234689-HpCDF	39.24		1.0687	1.0688	+0.2	2.27E+07	0.46	Y	0.91	108

Totals	Conc	EMPC
Total TCDD	3640	3680
Total PeCDD	63	65.1
Total HxCDD	130	134
Total HpCDD	1020	1020
Total Tetra-Octa Dioxins	11200	11200
Total TCDF	25,800	25800
Total PeCDF	1,280	1280
Total HxCDF	987	987
Total HpCDF	546	546
Total Tetra-Octa Furans	32,300	32300
Total Tetra-Octa Dioxins & Furans	43500	43500

Lab ID: B6171_18863_DF_003 | Acq'd: 25 Jan 2022 22:04 PSW | Wt/Vol: 10.10 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 857-991-FLL

Datafile: 220125R16 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.73	EMPC	0.8486	0.8495	+1.2	9.00E+05	0.89	N	1.34	5.25	10130.31	0.668
1379-TCDD	23.14		0.8642	0.8646	+0.6	3.32E+05	0.86	Y	1.34	1.94	10130.31	0.668
1369-TCDD	NotFnd		0.8825						1.34		10130.31	0.668
1469-TCDD	24.51		0.9154	0.9158	+0.6	8.83E+05	0.75	Y	1.34	5.15	10130.31	0.668
1247/1246/1248/1249-TCDD	24.77	EMPC	0.9256	0.9257	+0.1	1.17E+06	0.89	N	1.34	6.85	10130.31	0.668
1378-TCDD	24.98		0.9332	0.9333	+0.1	1.63E+06	0.83	Y	1.34	9.49	10130.31	0.668
1268-TCDD	NotFnd		0.9415						1.34		10130.31	0.668
1478-TCDD	25.48		0.9518	0.9523	+0.8	1.29E+06	0.80	Y	1.34	7.51	10130.31	0.668
1279-TCDD	NotFnd		0.9586						1.34		10130.31	0.668
1234/1269-TCDD	26.06		0.9734	0.9739	+0.8	2.94E+05	0.78	Y	1.34	1.72	10130.31	0.668
1236-TCDD	26.22	EMPC	0.9788	0.9799	+1.7	1.27E+05	1.28	N	1.34	0.738	10130.31	0.668
1237/1238-TCDD	26.47		0.9892	0.9891	-0.2	8.74E+06	0.86	Y	1.34	51	10130.31	0.668
1239-TCDD	NotFnd		0.9944						1.34		10130.31	0.668
2378-TCDD	**26.78**	E	**1.0008**	1.0010	**+0.3**	5.68E+08	0.79	Y	**1.34**	**3,310**	**10130.31**	**0.668**
1278-TCDD	27.14		1.0142	1.0143	+0.2	4.40E+07	0.78	Y	1.34	256	10130.31	0.668
1267-TCDD	27.28	EMPC	1.0197	1.0193	-0.7	2.89E+06	1.16	N	1.34	16.9	10130.31	0.668
1289-TCDD	27.82	EMPC	1.0401	1.0398	-0.5	1.61E+06	1.53	N	1.34	9.38	10130.31	0.668
12479/12468-PeCDD	29.86		0.9202	0.9206	+0.7	7.88E+05	1.49	Y	1.06	6.3	7786.481	0.541
12469-PeCDD	30.42		0.9375	0.9378	+0.5	4.74E+05	1.69	Y	1.06	3.78	7786.481	0.541
12368-PeCDD	30.99		0.9553	0.9555	+0.4	8.21E+05	1.60	Y	1.06	6.56	7786.481	0.541
12478-PeCDD	31.19		0.9613	0.9616	+0.6	3.67E+05	1.58	Y	1.06	2.93	7786.481	0.541
12379-PeCDD	31.30	J	0.9644	0.9649	+0.9	2.17E+05	1.55	Y	1.06	1.73	7786.481	0.541
12369/12467/12489-PeCDD	31.57		0.9730	0.9732	+0.4	3.74E+05	1.61	Y	1.06	2.99	7786.481	0.541
12346/12347-PeCDD	31.95	J	0.9848	0.9849	+0.2	1.35E+05	1.34	Y	1.06	1.08	7786.481	0.541
12378-PeCDD	32.46		**1.0005**	**1.0007**	**+0.4**	**4.57E+06**	**1.68**	**Y**	**1.06**	**36.5**	**7786.481**	**0.541**
12367-PeCDD	32.58	J EMPC	1.0035	1.0044	+1.8	2.61E+05	2.44	N	1.06	2.09	7786.481	0.541
12389-PeCDD	32.92	J	1.0146	1.0147	+0.2	1.47E+05	1.58	Y	1.06	1.18	7786.481	0.541
124679/124689-HxCDD	34.71		0.9532	0.9534	+0.4	6.66E+06	1.26	Y	1.05	59.9	14159.458	1.04
123468-HxCDD	35.37		0.9715	0.9714	-0.2	7.20E+05	1.24	Y	1.05	6.47	14159.458	1.04
123679/123689-HxCDD	35.67		0.9795	0.9796	+0.2	4.58E+06	1.25	Y	1.05	41.2	14159.458	1.04
123469-HxCDD	35.79	J EMPC	0.9832	0.9830	-0.4	2.47E+05	1.52	N	1.05	2.22	14159.458	1.04
123478-HxCDD	36.42	J EMPC	**1.0004**	**1.0003**	**-0.2**	**2.45E+05**	**1.73**	**N**	1.06	**2.14**	**14159.458**	**0.997**
123678-HxCDD	36.54		**1.0035**	**1.0035**	**0**	**1.50E+06**	**1.17**	**Y**	1.08	**14.5**	**14159.458**	**1.12**
123467-HxCDD	36.73	J	1.0087	1.0087	0	1.94E+05	1.10	Y	1.05	1.74	14159.458	1.04
123789-HxCDD	36.83		**1.0116**	**1.0115**	**-0.2**	**7.07E+05**	**1.16**	**Y**	1.02	**6.15**	**14159.458**	**1.03**

Lab ID: B6171_18863_DF_003 | Acq'd: 25 Jan 2022 22:04 PSW | Wt/Vol: 10.10 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7 | UTP: 26-Jan-2022 09:28:50 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 857-991-FLL

Datafile: 220125R16 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9835	+0.2	4.94E+07	1.06	Y	0.97	540	10894.047	0.772
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**4.41E+07**	**1.05**	**Y**	**0.97**	**482**	**10894.047**	**0.772**
OCDD	**42.20**		**1.0003**	**1.0002**	**-0.3**	**4.27E+08**	**0.90**	**Y**	**1.07**	**6,330**	**11081.875**	**1.3**
OCDD-a	42.19		1.0001	1.0002	+0.3	2.53E+07	2.51	Y	0.07	6,080	15671.182	29.8
1368-TCDF	20.48		0.7942	0.7931	-1.4	2.40E+05	0.85	Y	0.96	1.27	11466.22	0.755
1468-TCDF	21.07		0.8155	0.8162	+0.9	3.36E+06	0.80	Y	0.96	17.7	11466.22	0.755
2468-TCDF	21.72		0.8407	0.8413	+0.8	3.40E+06	0.83	Y	0.96	17.9	11466.22	0.755
1346/1246-TCDF	22.24		0.8553	0.8615	+8.3	5.31E+06	0.80	Y	0.96	28	11466.22	0.755
1347/1378/1247-TCDF	22.36		0.8617	0.8660	+5.8	1.43E+07	0.80	Y	0.96	75.5	11466.22	0.755
1348-TCDF	22.59		0.8740	0.8748	+1.1	7.26E+06	0.83	Y	0.96	38.3	11466.22	0.755
1248/1367/1379-TCDF	22.71		0.8798	0.8797	-0.1	9.42E+07	0.78	Y	0.96	497	11466.22	0.755
1268-TCDF	23.17		0.8967	0.8973	+0.8	3.91E+07	0.79	Y	0.96	206	11466.22	0.755
1467-TCDF	23.32		0.9025	0.9031	+0.8	5.68E+06	0.77	Y	0.96	29.9	11466.22	0.755
1478-TCDF	23.51		0.9101	0.9107	+0.8	1.01E+08	0.80	Y	0.96	530	11466.22	0.755
1369/1237-TCDF	23.94		0.9263	0.9271	+1.1	2.54E+07	0.78	Y	0.96	134	11466.22	0.755
2467-TCDF	24.07		0.9322	0.9323	+0.1	3.01E+06	0.82	Y	0.96	15.9	11466.22	0.755
2368-TCDF	24.23		0.9389	0.9385	-0.6	5.88E+07	0.78	Y	0.96	310	11466.22	0.755
1238/1234/1678/1469/1236-TCDF	24.32		0.9427	0.9419	-1.2	1.45E+08	0.80	Y	0.96	765	11466.22	0.755
1278-TCDF	24.84	E	0.9623	0.9621	-0.3	1.20E+09	0.79	Y	0.96	6,320	11466.22	0.755
1349-TCDF	NotFnd		0.9678						0.96		11466.22	0.755
1267-TCDF	25.15		0.9740	0.9740	0	6.12E+07	0.80	Y	0.96	323	11466.22	0.755
2346/1249-TCDF	25.37		0.9820	0.9825	+0.8	7.83E+06	0.79	Y	0.96	41.3	11466.22	0.755
2347/1279-TCDF	25.59		0.9915	0.9912	-0.5	2.92E+07	0.80	Y	0.96	154	11466.22	0.755
2348-TCDF	25.73	E	0.9964	0.9964	0	2.32E+08	0.80	Y	0.96	1,220	11466.22	0.755
2378-TCDF	**25.85**	**E**	**1.0008**	**1.0010**	**+0.3**	**2.42E+09**	**0.80**	**Y**	**0.96**	**12,800**	**11466.22**	**0.755**
2367/3467-TCDF	26.24	E	1.0163	1.0162	-0.2	2.02E+08	0.79	Y	0.96	1,060	11466.22	0.755
1269-TCDF	26.51		1.0265	1.0266	+0.2	3.49E+07	0.78	Y	0.96	184	11466.22	0.755
1239-TCDF	26.79		1.0373	1.0375	+0.3	3.47E+06	0.78	Y	0.96	18.3	11466.22	0.755
1289-TCDF	28.03	E	1.0847	1.0855	+1.3	2.03E+08	0.79	Y	0.96	1,070	11466.22	0.755
13468/12468-PeCDF	28.01		0.9045	0.9056	+1.8	4.80E+06	1.62	Y	0.94	31.9	9849.36	0.646
13678/13467/12467-PeCDF	29.64		0.9574	0.9584	+1.8	1.22E+06	1.66	Y	0.94	8.13	13927.862	0.913
12368/13478/12478-PeCDF	29.81		0.9628	0.9638	+1.8	3.13E+07	1.59	Y	0.94	208	13927.862	0.913
14678-PeCDF	29.90		0.9661	0.9667	+1.1	9.97E+05	1.77	Y	0.94	6.62	13927.862	0.913
13479-PeCDF	NotFnd		0.9695						0.94		13927.862	0.913
13469/12479-PeCDF	30.20		0.9779	0.9767	-2.2	3.73E+05	1.66	Y	0.94	2.48	13927.862	0.913
12346-PeCDF	30.38	J EMPC	0.9824	0.9824	0	1.75E+05	2.10	N	0.94	1.16	13927.862	0.913

Lab ID: B6171_18863_DF_003 | Acq'd: 25 Jan 2022 22:04 PSW | Wt/Vol: 10.10 g | ICAL: MM3_DF_10272021_27JUL2021

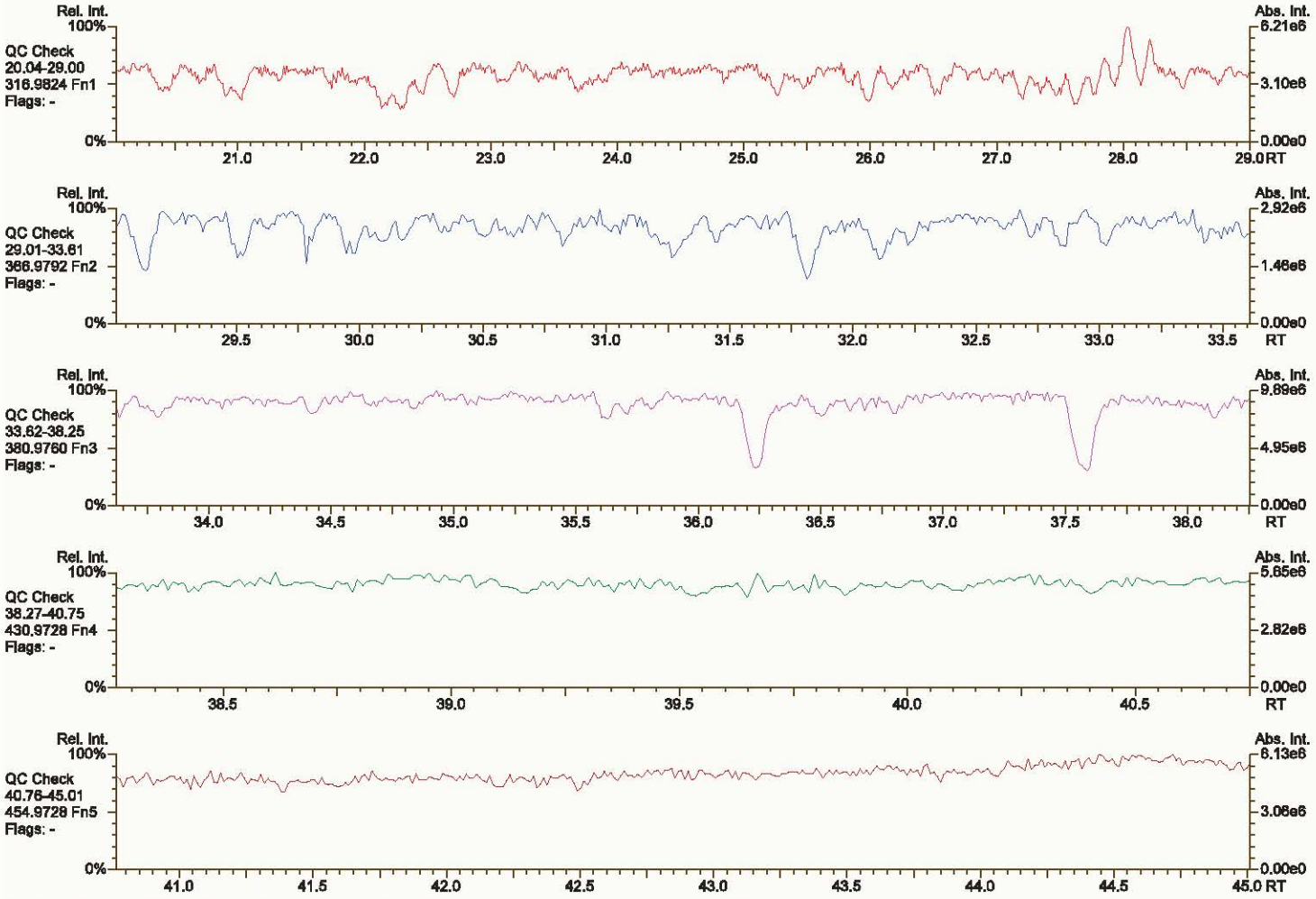
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Datafile: 220125R16 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.49		0.9857	0.9859	+0.4	2.09E+06	1.60	Y	0.94	13.9	13927.862	0.913
12347-PeCDF	30.56		0.9882	0.9883	+0.2	1.51E+06	1.59	Y	0.94	10	13927.862	0.913
12348-PeCDF	30.73		0.9935	0.9937	+0.4	8.05E+06	1.55	Y	0.94	53.4	13927.862	0.913
12378-PeCDF	**30.94**		**1.0006**	**1.0006**	**0**	**7.17E+07**	**1.58**	**Y**	**0.95**	**433**	**13927.862**	**0.811**
12678/12367-PeCDF	31.25		1.0099	1.0106	+1.3	1.98E+07	1.62	Y	0.94	131	13927.862	0.913
12379-PeCDF	NotFnd		1.0155						0.94		13927.862	0.913
12679-PeCDF	31.85	J	0.9921	0.9923	+0.4	1.76E+05	1.63	Y	0.94	1.17	13927.862	0.913
23467/12369-PeCDF	31.97		0.9962	0.9961	-0.2	1.19E+06	1.60	Y	0.94	7.89	13927.862	0.913
23478-PeCDF	**32.12**		**1.0006**	**1.0008**	**+0.4**	**4.78E+07**	**1.58**	**Y**	**0.94**	**352**	**13927.862**	**1.04**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		13927.862	0.913
12349-PeCDF	NotFnd		1.0106						0.94		13927.862	0.913
12389-PeCDF	33.20		1.0349	1.0345	-0.8	3.05E+06	1.62	Y	0.94	20.2	13927.862	0.913
123468-HxCDF	34.04		0.9606	0.9609	+0.6	2.06E+06	1.29	Y	1.16	14	12606.082	0.742
124678/134678-HxCDF	34.24		0.9663	0.9666	+0.6	1.10E+07	1.27	Y	1.16	74.6	12606.082	0.742
134679-HxCDF	NotFnd		0.9729						1.16		12606.082	0.742
124679-HxCDF	34.68	J	0.9786	0.9788	+0.4	2.96E+05	1.26	Y	1.16	2.02	12606.082	0.742
124689-HxCDF	34.91		0.9851	0.9853	+0.4	8.91E+06	1.26	Y	1.16	60.7	12606.082	0.742
123467-HxCDF	35.32		0.9970	0.9969	-0.2	8.12E+05	1.18	Y	1.16	5.52	12606.082	0.742
123478-HxCDF	**35.45**		**1.0004**	**1.0005**	**+0.2**	**1.01E+08**	**1.24**	**Y**	**1.23**	**593**	**12606.082**	**0.617**
123678-HxCDF	**35.58**		**1.0004**	**1.0004**	**0**	**2.48E+07**	**1.28**	**Y**	**1.13**	**144**	**12606.082**	**0.59**
123479-HxCDF	NotFnd		1.0050						1.16		12606.082	0.742
123469-HxCDF	35.90		1.0091	1.0092	+0.2	6.97E+05	1.28	Y	1.16	4.74	12606.082	0.742
123679-HxCDF	NotFnd		0.9942						1.16		12606.082	0.742
234678-HxCDF	**36.24**		**1.0005**	**1.0004**	**-0.2**	**3.07E+06**	**1.32**	**Y**	**1.15**	**34.2**	**12606.082**	**1.37**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12606.082	0.742
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**12606.082**	**0.682**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.24		1.0008	1.0014	+1.3	7.90E+06	1.29	Y	1.16	53.8	12606.082	0.742
1234678-HpCDF	**38.81**		**1.0003**	**1.0003**	**0**	**4.36E+07**	**1.05**	**Y**	**1.36**	**276**	**10748.18**	**0.496**
1234679-HpCDF	39.10		1.0076	1.0076	0	1.36E+06	1.01	Y	1.33	9.76	10748.18	0.533
1234689-HpCDF	39.25		1.0114	1.0115	+0.2	2.58E+07	1.05	Y	1.33	186	10748.18	0.533
1234789-HpCDF	**40.19**		**1.0002**	**1.0003**	**+0.2**	**8.91E+06**	**1.07**	**Y**	**1.30**	**73.7**	**10748.18**	**0.577**
OCDF	**42.36**		**1.0003**	**1.0002**	**-0.3**	**3.05E+08**	**0.90**	**Y**	**1.03**	**3,660**	**12148.227**	**1.13**
OCDF-a	42.35		1.0001	1.0002	+0.3	1.76E+07	2.51	Y	0.06	3,660	13115.843	21.1

SGS ID: B6171_18853_DF_003 | Sample ID: 11215131-011022-S-BN-NC-B-7 | Acq: 25-Jan-2022 22:04:39

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: PSW Datafile: 220125R16

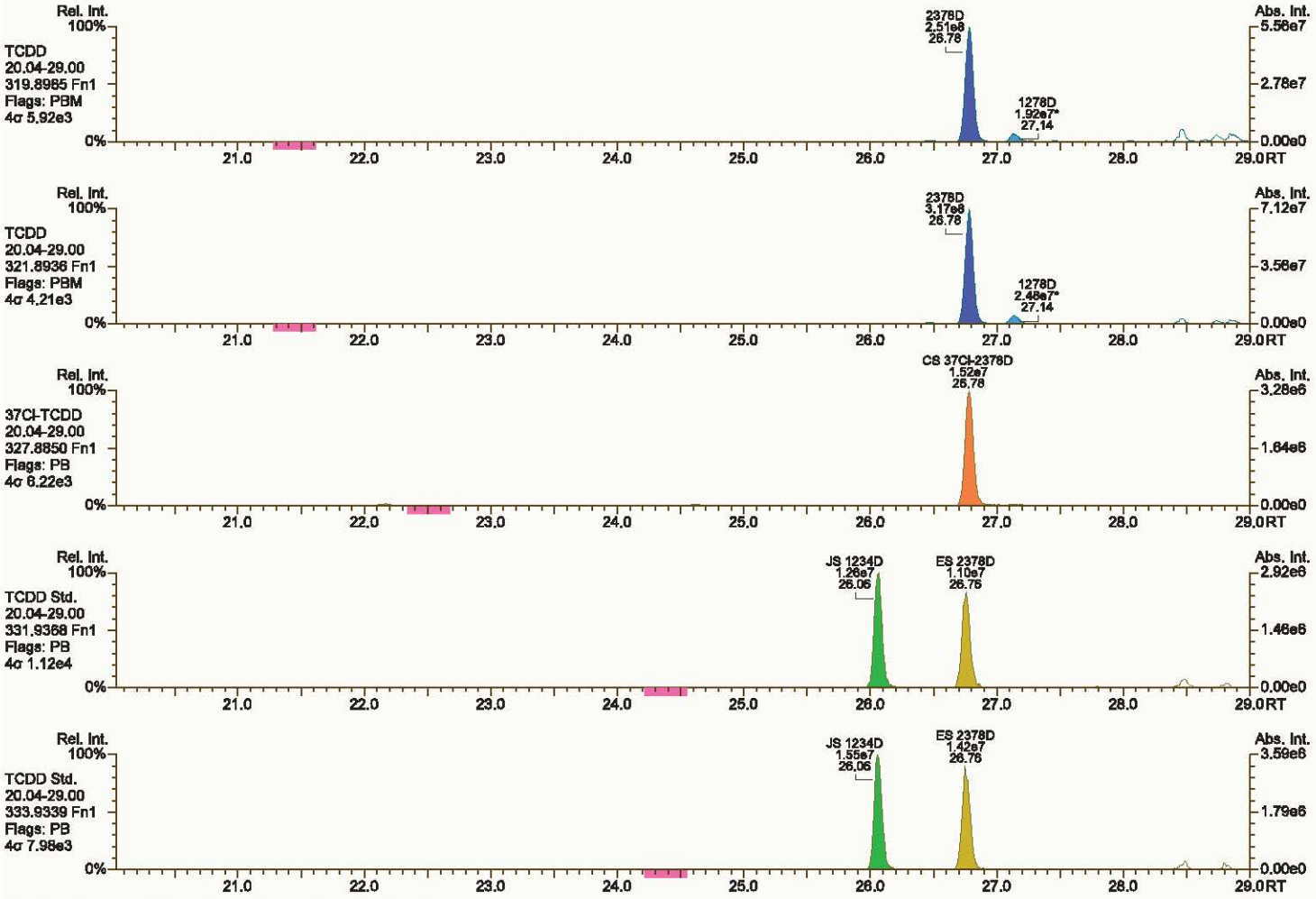


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 857-991 | *PKD: n/a Printed: 26-Jan-2022 11:18 Page 1 of 12*

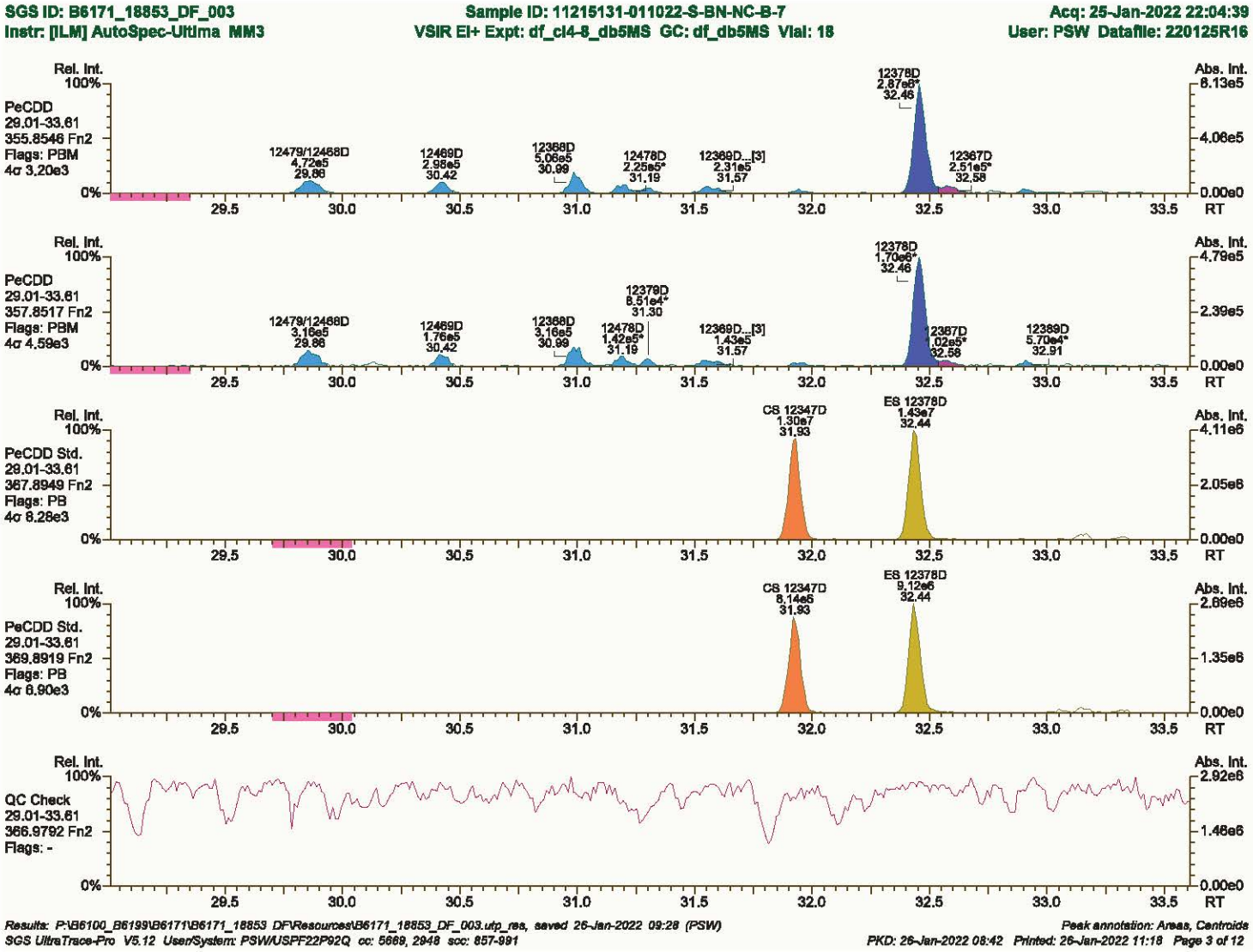
SGS ID: B6171_18853_DF_003 | Sample ID: 11215131-011022-S-BN-NC-B-7 | Acq: 25-Jan-2022 22:04:39

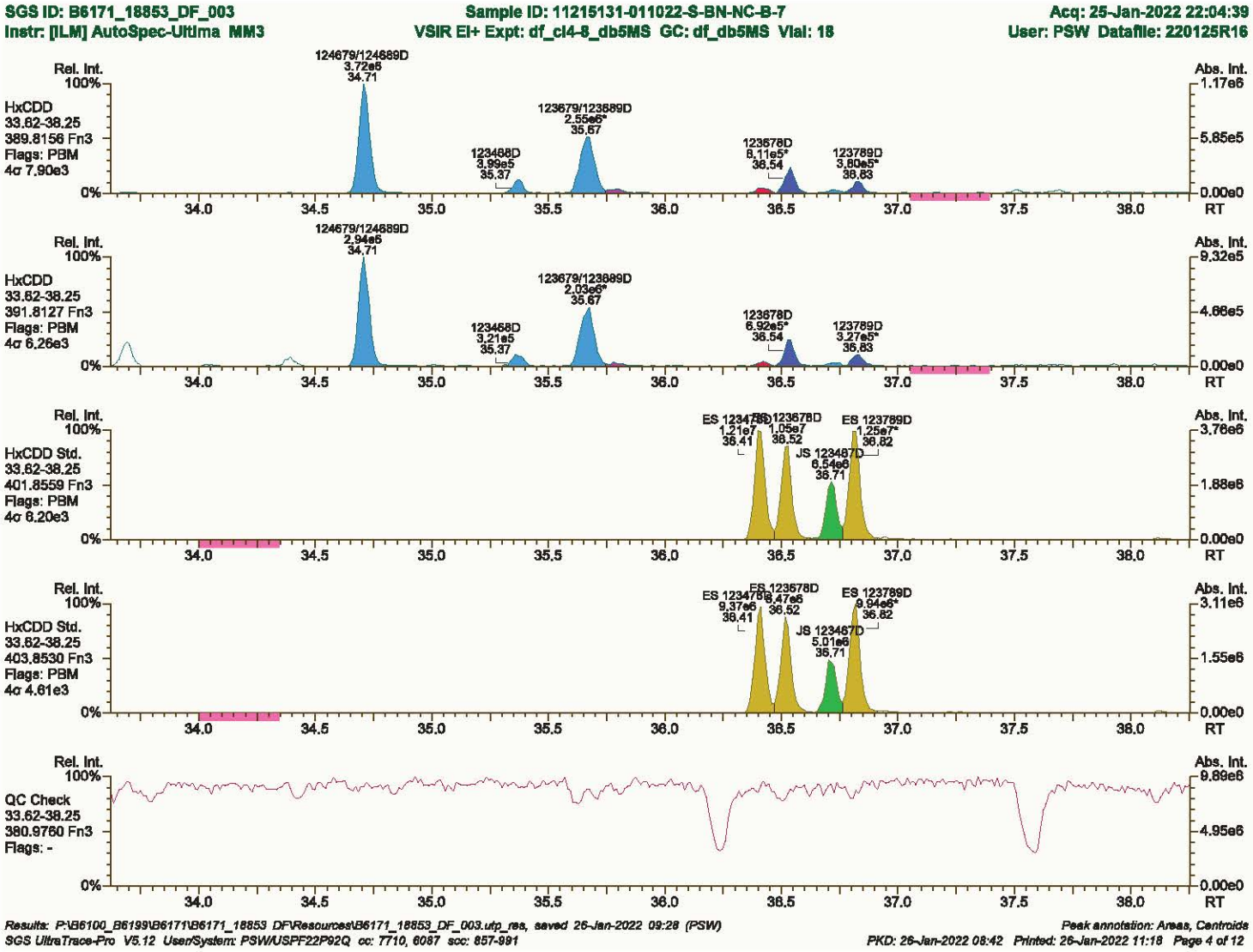
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: PSW Datafile: 220125R16

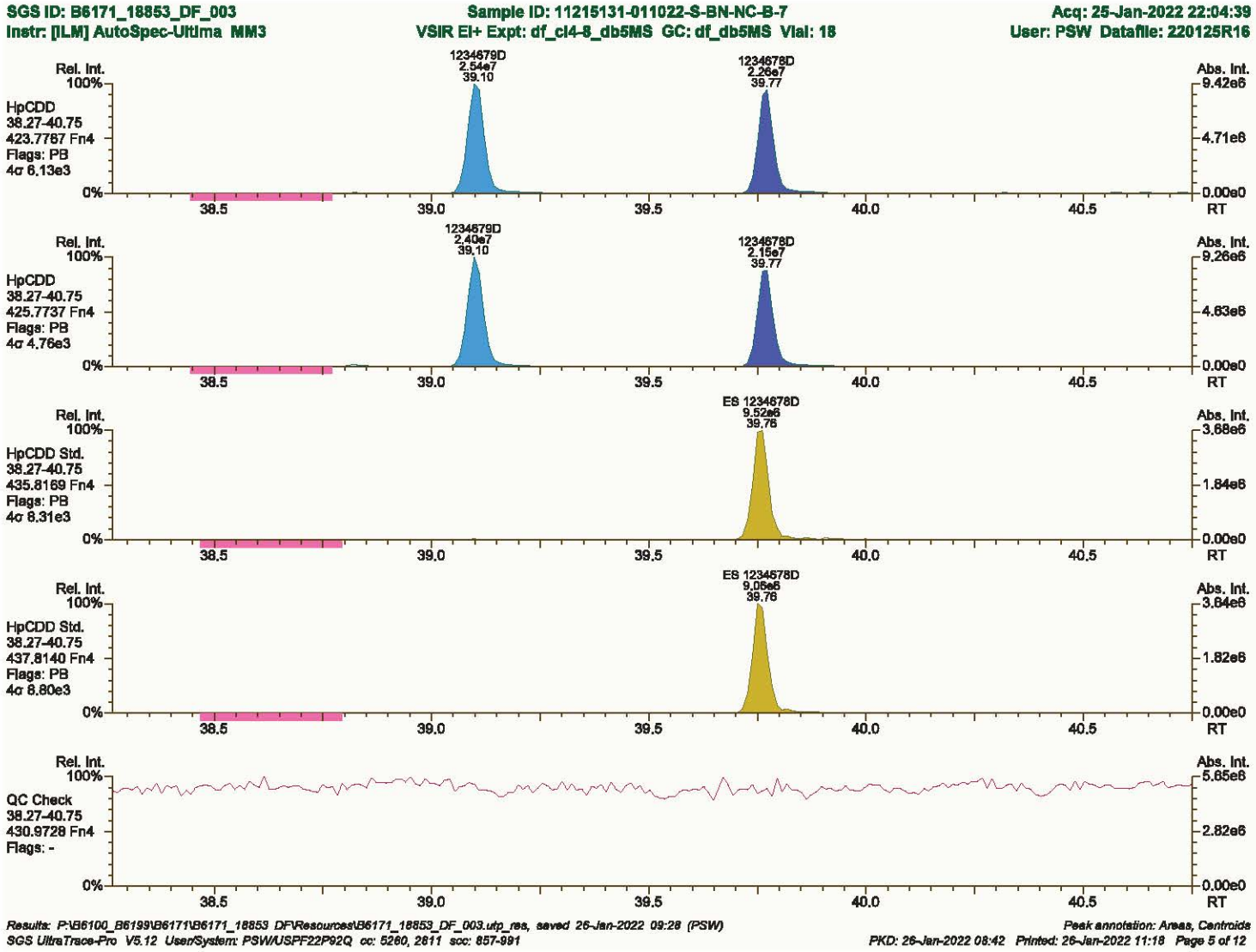


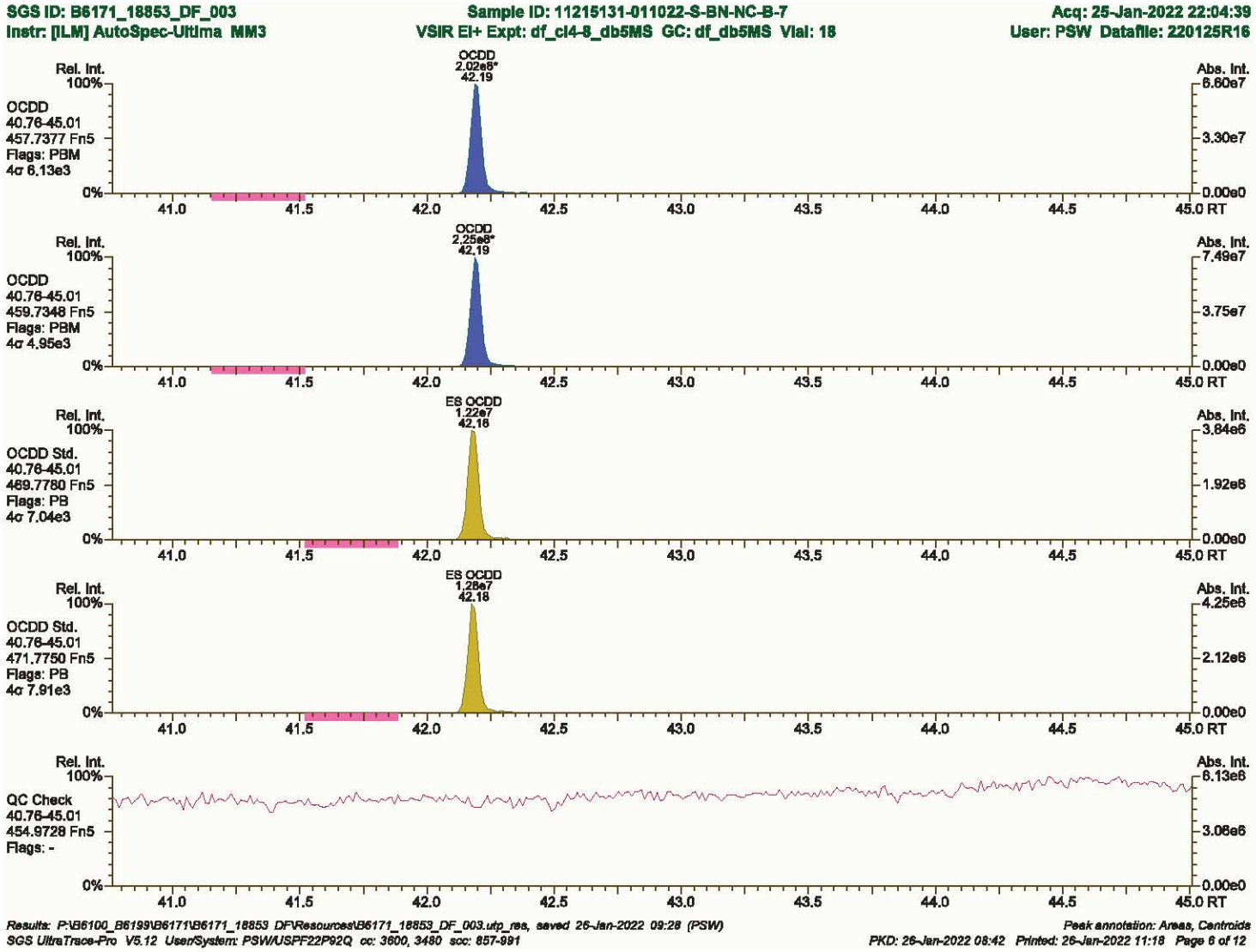
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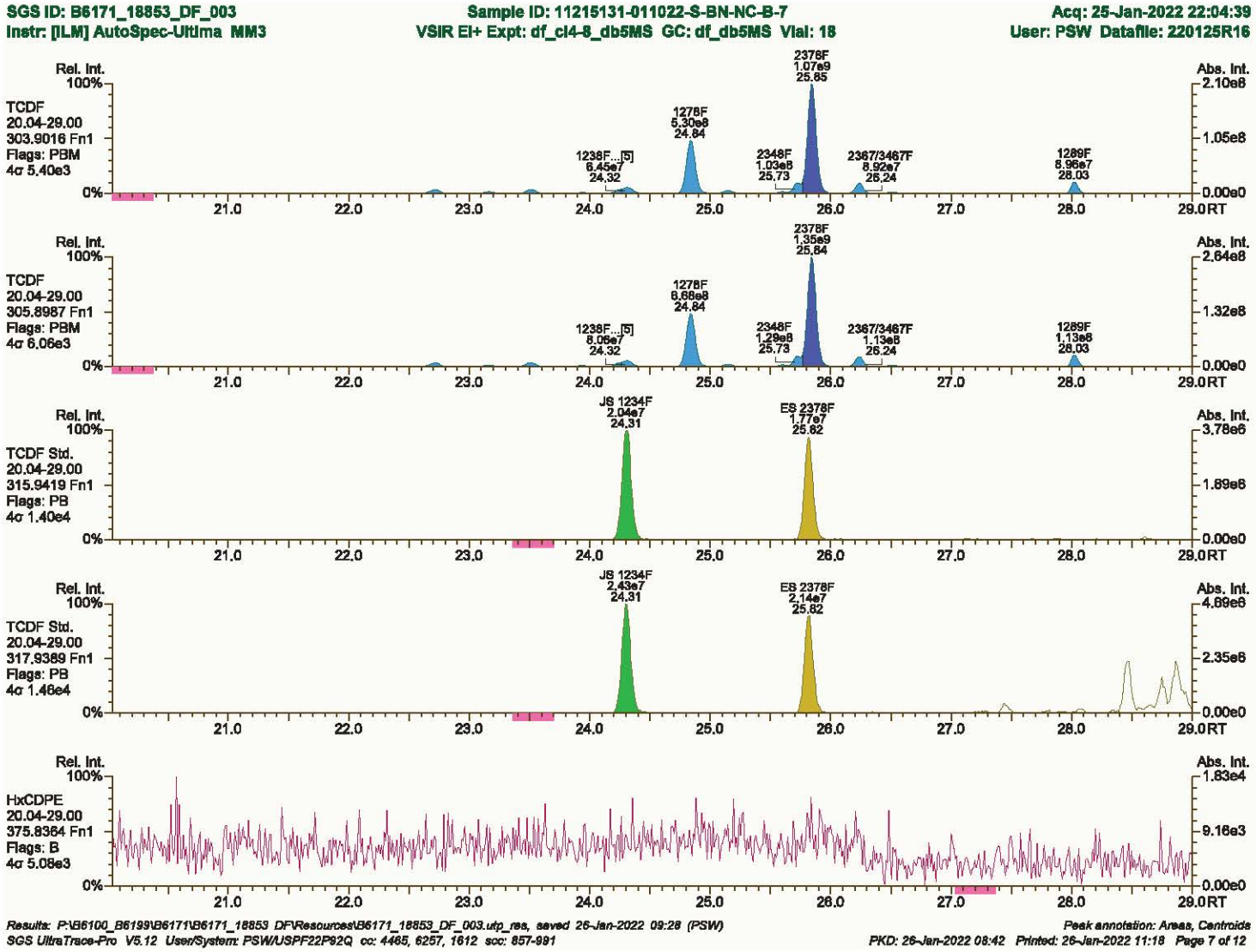
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0228, 9007, 1738 scc: 857-991 | *PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 2 of 12*

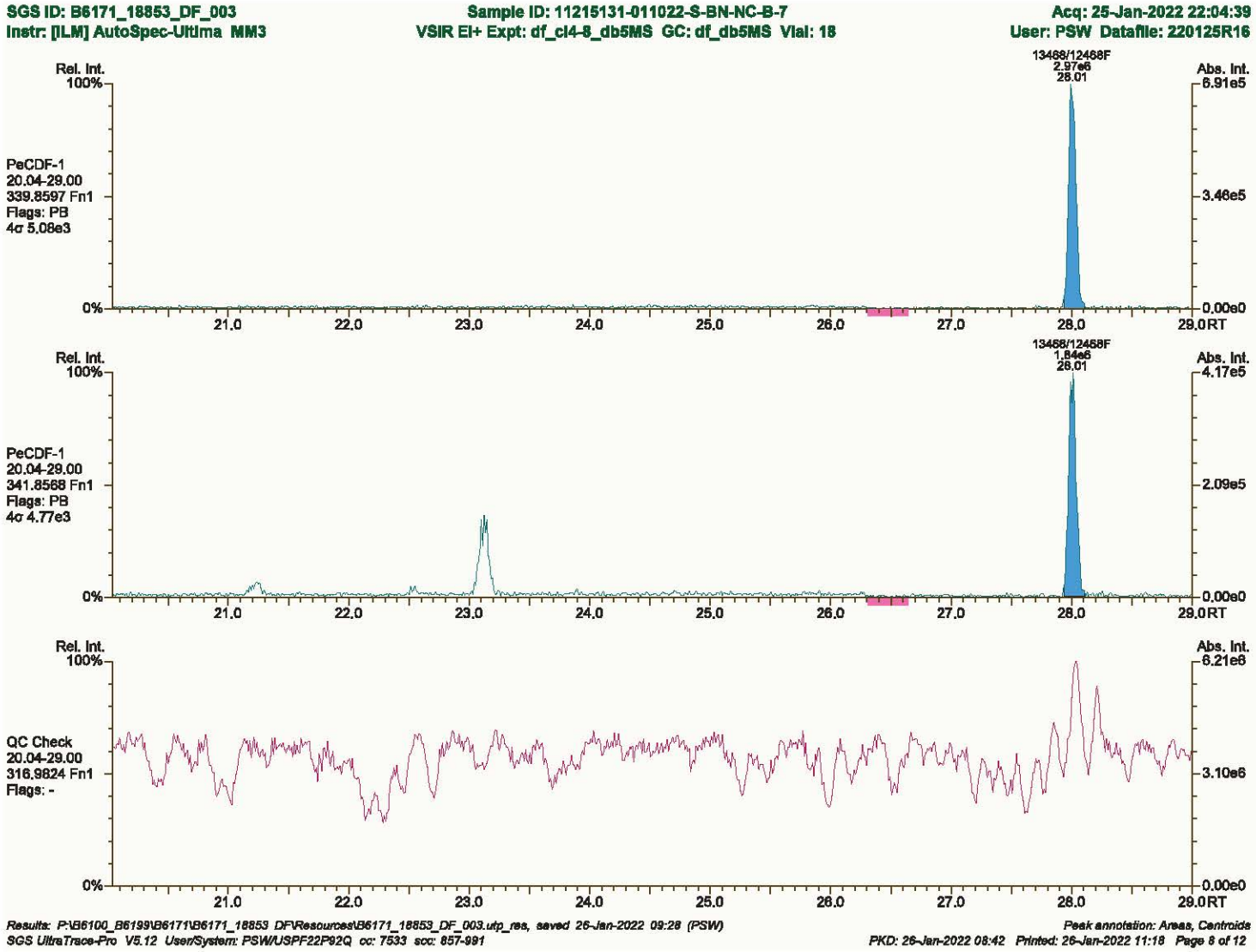

SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 3.20e3
12479/12468D 4.72e5 29.86
12469D 2.98e5 30.42
12368D 5.06e5 30.99
12478D 2.25e5* 31.19
12369D...[3] 2.31e5 31.57
12378D 2.87e6* 32.46
12367D 2.51e5* 32.58
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 4.59e3
12479/12468D 3.16e5 29.86
12469D 1.76e5 30.42
12368D 3.16e5 30.99
12379D 8.51e4* 31.30
12478D 1.42e5* 31.19
12369D...[3] 1.43e5 31.57
12378D 1.70e6* 32.46
12367D 1.02e5* 32.58
12389D 5.70e4* 32.91
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 8.28e3
CS 12347D 1.30e7 31.93
ES 12378D 1.43e7 32.44
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 6.90e3
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ES 12378D 9.12e6 32.44
QC Check
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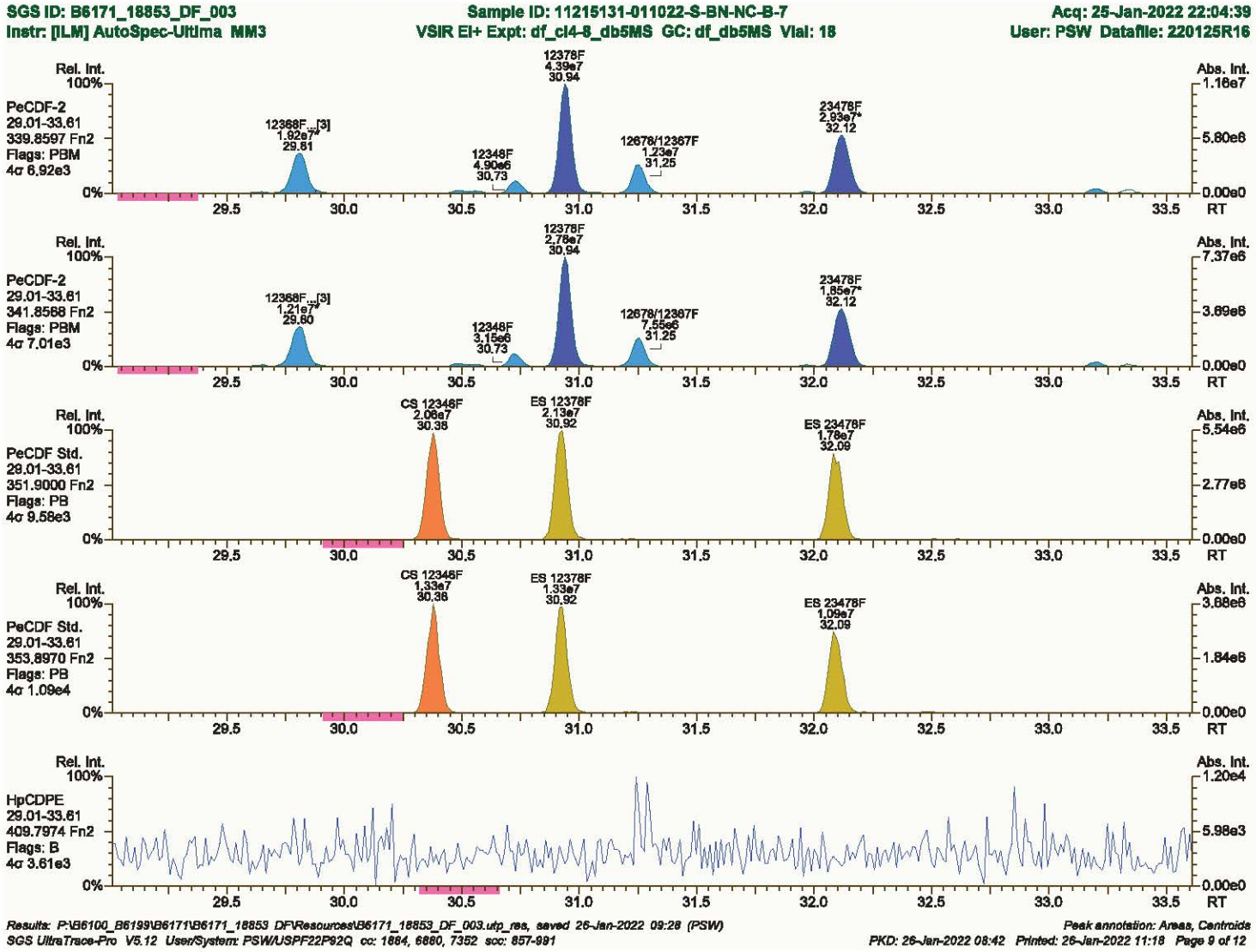

SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 7.90e3
124679/124689D
3.72e6
34.71
123679/123689D
2.55e6*
35.67
123468D
3.99e5
35.37
123678D
8.11e5*
36.54
123789D
3.80e5*
36.83
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 6.26e3
124679/124689D
2.94e5
34.71
123679/123689D
2.03e6*
35.67
123468D
3.21e5
35.37
123678D
6.92e5*
36.54
123789D
3.27e5*
36.83
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 6.20e3
ES 123678D
1.21e7
36.41
123678D
1.05e7
36.52
ES 123789D
1.25e7*
36.82
JS 123467D
6.54e6
36.71
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 4.61e3
ES 123678D
9.37e6
36.41
ES 123678D
8.47e5
36.52
ES 123789D
9.94e6*
36.82
JS 123467D
5.01e6
36.71
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7710, 6057 scc: 857-991
PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 4 of 12


SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 6.13e3
1234679D
2.54e7
39.10
1234678D
2.26e7
39.77
9.42e6
4.71e6
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 4.76e3
2.40e7
2.15e7
9.26e6
4.63e6
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 8.31e3
ES 1234678D
9.52e6
39.76
3.68e6
1.84e6
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 8.80e3
9.05e6
3.64e6
1.82e6
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
5.65e6
2.82e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5260, 2811 scc: 857-991
PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 5 of 12


SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
Rel. Int.
Abs. Int.
OCDD
2.02e6*
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PBM
4σ 6.13e3
6.60e7
3.30e7
0.00e0
OCDD
2.25e6*
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PBM
4σ 4.95e3
7.49e7
3.75e7
ES OCDD
1.22e7
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 7.04e3
3.84e6
1.92e6
ES OCDD
1.28e7
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 7.91e3
4.25e6
2.12e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
6.13e6
3.06e6
0%
100%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3600, 3480 scc: 857-991
PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 6 of 12

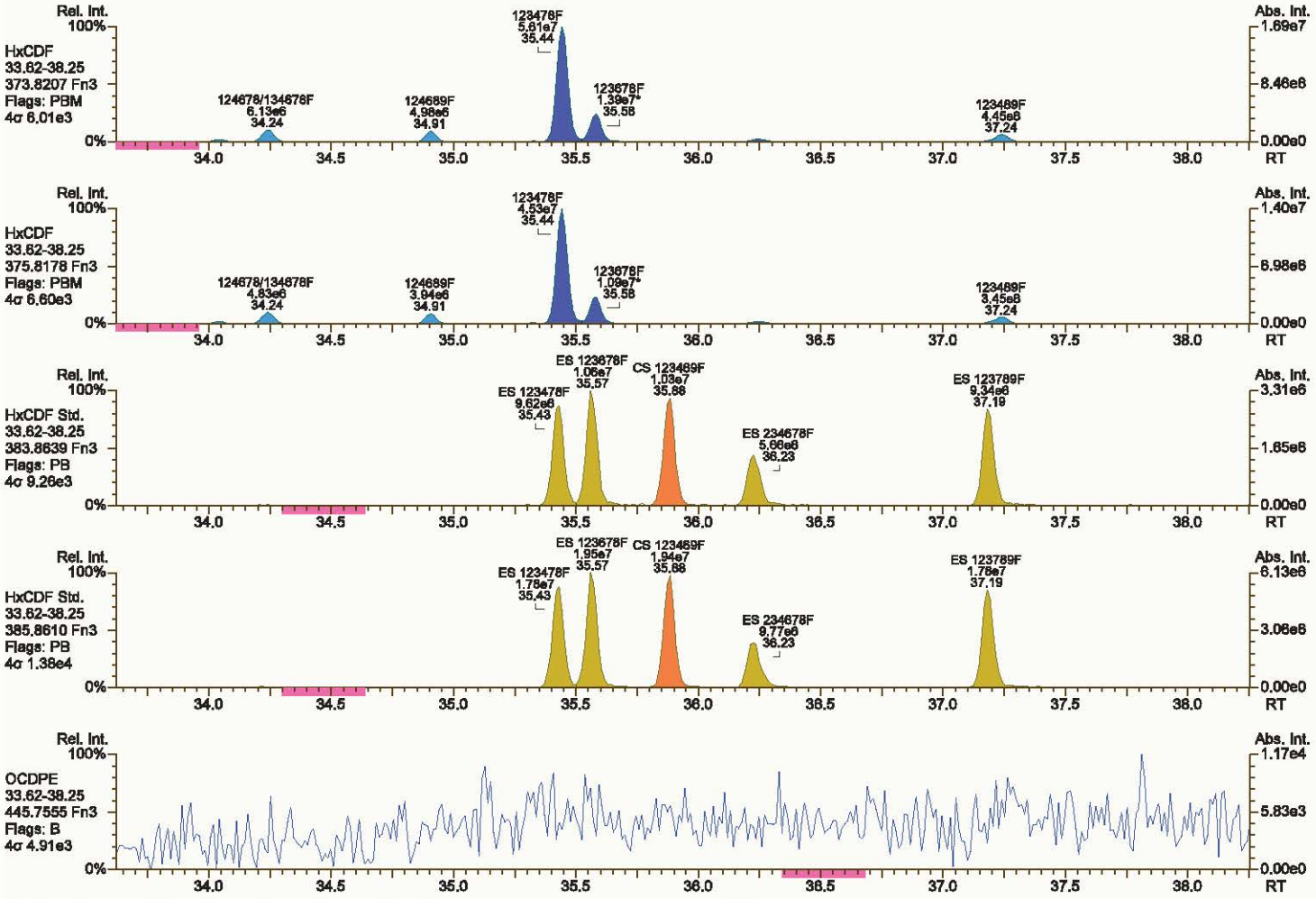

SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 5.40e3
2378F 1.07e9 25.85
1278F 5.30e8 24.84
1238F...[5] 6.45e7 24.32
2348F 1.03e8 25.73
2367/3467F 8.92e7 25.24
1289F 8.96e7 28.03
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 6.06e3
2378F 1.35e9 25.84
1278F 6.68e8 24.84
1238F...[5] 8.06e7 24.32
2348F 1.29e8 25.73
2367/3467F 1.13e8 25.24
1289F 1.13e8 28.03
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.40e4
JS 1234F 2.04e7 24.31
ES 2378F 1.77e7 25.82
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.46e4
JS 1234F 2.43e7 24.31
ES 2378F 2.14e7 25.82
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 5.08e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 5.08e3
13468/12468F
2.97e6
28.01
Abs. Int.
6.91e5
3.46e5
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.77e3
13468/12468F
1.84e6
28.01
4.17e5
2.09e5
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
6.21e6
3.10e6
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7533 scc: 857-991
PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 8 of 12


SGS ID: B6171_18853_DF_003
Sample ID: 11215131-011022-S-BN-NC-B-7
Acq: 25-Jan-2022 22:04:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: PSW Datafile: 220125R16
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 6.92e3
12368F...[3]
1.92e7*
29.61
12348F
4.90e6
30.73
12378F
4.39e7
30.94
12678/12367F
1.23e7
31.25
23478F
2.93e7*
32.12
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 7.01e3
12368F...[3]
1.21e7*
29.60
12348F
3.15e6
30.73
12378F
2.78e7
30.94
12678/12367F
7.56e6
31.25
23478F
1.85e7*
32.12
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 9.58e3
CS 12348F
2.06e7
30.38
ES 12378F
2.13e7
30.92
ES 23478F
1.78e7
32.09
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 1.09e4
CS 12348F
1.33e7
30.38
ES 12378F
1.33e7
30.92
ES 23478F
1.09e7
32.09
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.61e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1664, 6660, 7352 scc: 857-991
PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 9 of 12

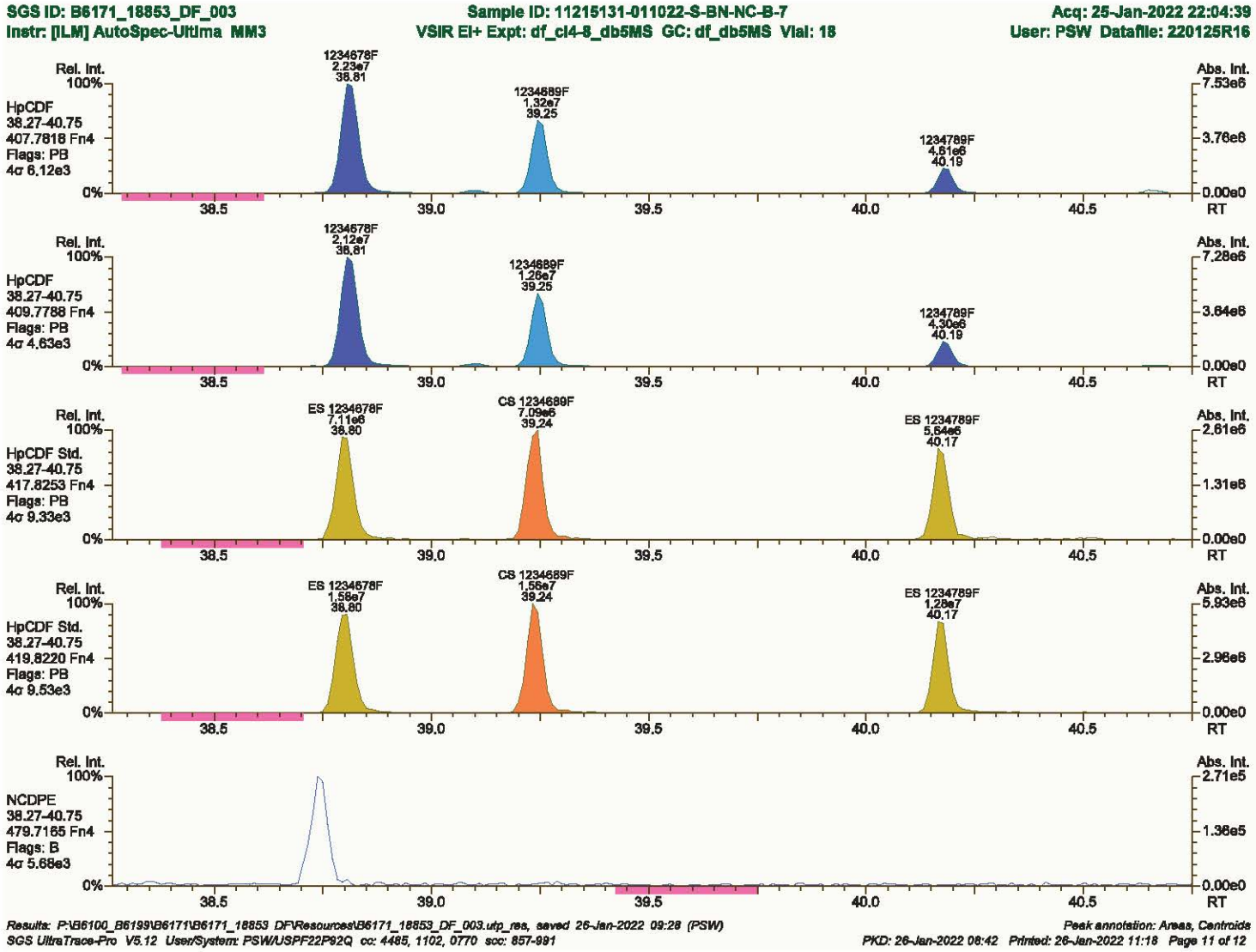
SGS ID: B6171_18853_DF_003 | Sample ID: 11215131-011022-S-BN-NC-B-7 | Acq: 25-Jan-2022 22:04:39

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: PSW Datafile: 220125R16



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

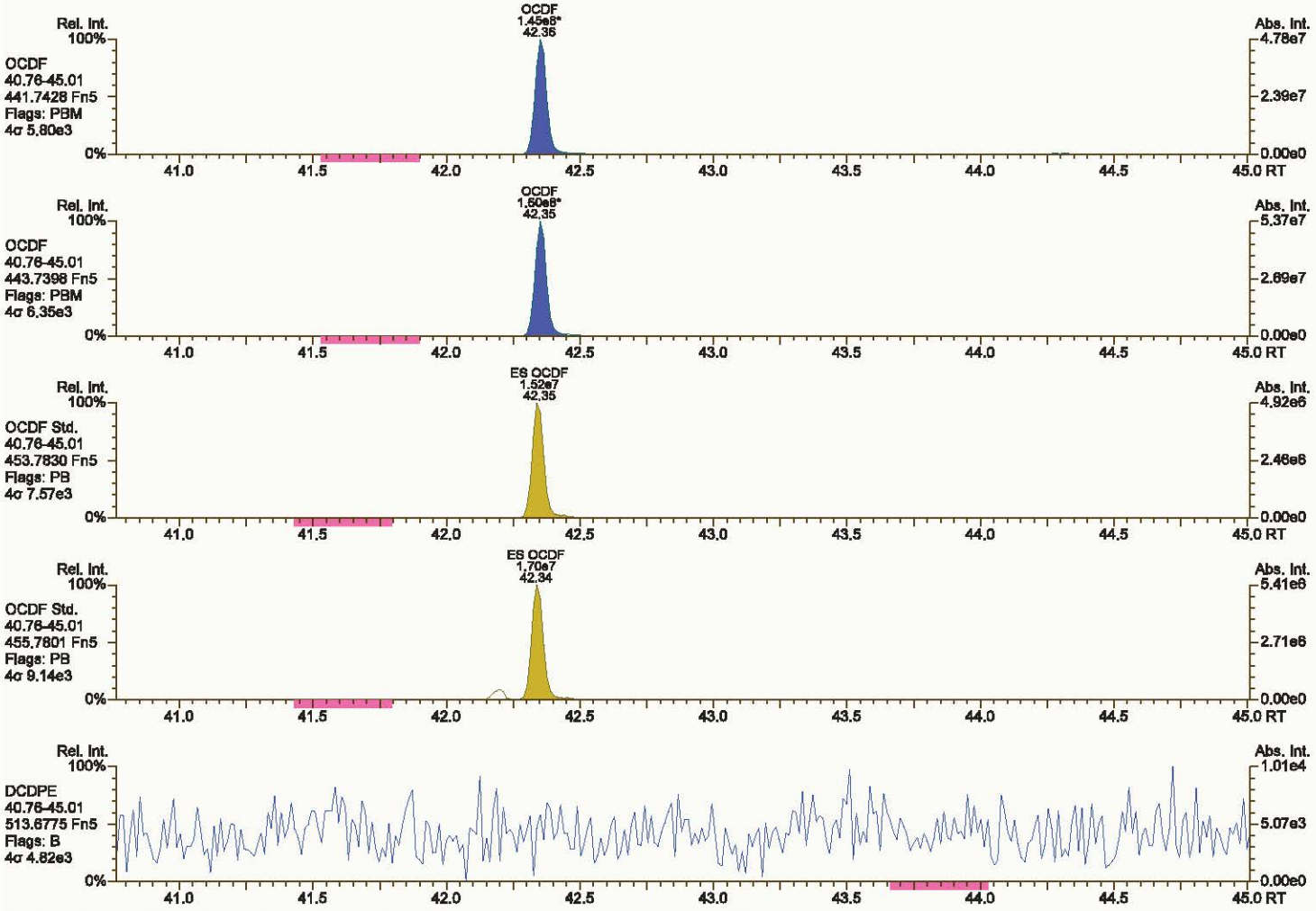
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5020, 5933, 9204 scc: 857-991 | *PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 10 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4485, 1102, 0770 scc: 857-991
PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 11 of 12

SGS ID: B6171_18853_DF_003 | Sample ID: 11215131-011022-S-BN-NC-B-7 | Acq: 25-Jan-2022 22:04:39

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: PSW Datafile: 220125R16



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8068, 4144, 3080 scc: 857-991 | *PKD: 26-Jan-2022 08:42 Printed: 26-Jan-2022 11:18 Page 12 of 12*

Lab ID: B6171_18863_DF_003MS | Acq'd: 25 Jan 2022 22:52 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MS | UTP: 27-Jan-2022 16:44:23 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 924-148-VMR

Datafile: 220125R17 | Report: 27 Jan 2022 16:46 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.79	E	1.0008	1.0009	+0.2	7.04E+08	0.80	Y	1.34	4,040	16495.328	1.14
12378-PeCDD	32.46		1.0005	1.0006	+0.2	1.81E+07	1.60	Y	1.06	142	18596.197	1.21
123478-HxCDD	36.43		1.0004	1.0004	0	1.31E+07	1.24	Y	1.06	112	17191.426	1.16
123678-HxCDD	36.54		1.0035	1.0035	0	1.46E+07	1.28	Y	1.08	131	17191.426	1.3
123789-HxCDD	36.84		1.0116	1.0117	+0.2	1.36E+07	1.23	Y	1.02	114	17191.426	1.21
1234678-HpCDD	39.78		1.0003	1.0003	0	6.65E+07	1.06	Y	0.97	640	11136.651	0.634
OCDD	42.20		1.0003	1.0003	0	5.45E+08	0.90	Y	1.07	7,450	10730.293	1.11
2378-TCDF	25.85	E	1.0008	1.0009	+0.2	2.96E+09	0.80	Y	0.96	15,400	14290.492	0.976
12378-PeCDF	30.95		1.0006	1.0006	0	1.23E+08	1.57	Y	0.95	720	17447.839	0.906
23478-PeCDF	32.13		1.0006	1.0008	+0.4	7.48E+07	1.59	Y	0.94	568	17447.839	1.44
123478-HxCDF	35.45		1.0004	1.0005	+0.2	1.78E+08	1.27	Y	1.23	1,020	15056.468	0.634
123678-HxCDF	35.59		1.0004	1.0005	+0.2	5.91E+07	1.27	Y	1.13	330	15056.468	0.729
234678-HxCDF	36.26		1.0005	1.0006	+0.2	1.55E+07	1.28	Y	1.15	169	15056.468	1.63
123789-HxCDF	37.20		1.0005	1.0001	-0.9	1.37E+07	1.21	Y	1.14	81.2	15056.468	0.747
1234678-HpCDF	38.82		1.0003	1.0003	0	7.38E+07	1.05	Y	1.36	436	11063.581	0.459
1234789-HpCDF	40.19		1.0002	1.0003	+0.2	2.84E+07	1.04	Y	1.30	203	11063.581	0.484
OCDF	42.36		1.0003	1.0003	0	3.71E+08	0.90	Y	1.03	3,830	11320.693	0.85

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.76	1.0273	1.0267	-1.0	2.55E+07	0.83	Y	1.03	91.1
ES 12378-PeCDD	32.44	1.2455	1.2446	-1.8	2.36E+07	1.63	Y	1.03	84.5
ES 123478-HxCDD	36.42	0.9917	0.9916	-0.2	2.18E+07	1.27	Y	0.99	88
ES 123678-HxCDD	36.53	0.9948	0.9947	-0.2	2.02E+07	1.24	Y	0.97	83.4
ES 123789-HxCDD	36.82	1.0028	1.0027	-0.2	2.30E+07	1.31	Y	1.12	82
ES 1234678-HpCDD	39.77	1.0830	1.0829	-0.2	2.09E+07	1.08	Y	0.99	84.7
ES OCDD	42.19	1.1489	1.1489	0	2.68E+07	0.86	Y	0.78	69.2
ES 2378-TCDF	25.82	1.0623	1.0623	0	3.92E+07	0.81	Y	1.08	81.5
ES 12378-PeCDF	30.93	1.2724	1.2725	+0.2	3.53E+07	1.60	Y	0.93	85.1
ES 23478-PeCDF	32.10	1.3205	1.3205	0	2.75E+07	1.63	Y	0.92	67.1
ES 123478-HxCDF	35.43	0.9649	0.9649	0	2.78E+07	0.53	Y	1.14	97.5
ES 123678-HxCDF	35.57	0.9688	0.9687	-0.2	3.10E+07	0.52	Y	1.30	96
ES 234678-HxCDF	36.24	0.9868	0.9868	0	1.56E+07	0.53	Y	1.20	52
ES 123789-HxCDF	37.19	1.0129	1.0128	-0.2	2.91E+07	0.52	Y	1.14	103
ES 1234678-HpCDF	38.81	1.0569	1.0568	-0.2	2.44E+07	0.45	Y	0.95	103
ES 1234789-HpCDF	40.18	1.0944	1.0942	-0.5	2.10E+07	0.45	Y	0.85	99.7
ES OCDF	42.35	1.1533	1.1533	0	3.70E+07	0.90	Y	0.93	80.3

Lab ID: B6171_18863_DF_003MS | Acq'd: 25 Jan 2022 22:52 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MS | UTP: 27-Jan-2022 16:44:23 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 924-148-VMR

Datafile: 220125R17 | Report: 27 Jan 2022 16:46 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.07		-	-	-	2.70E+07	0.80	Y	-	-
JS 1234-TCDF	24.31		-	-	-	4.44E+07	0.78	Y	-	-
JS 123467-HxCDD	36.72		-	-	-	1.25E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	26.79		1.0282	1.0276	-1.0	1.21E+07	n/a	-	1.31	85.7
CS 12347-PeCDD	31.93		1.2257	1.2250	-1.3	2.21E+07	1.62	Y	0.89	91.4
CS 12346-PeCDF	30.38		1.2496	1.2500	+0.7	3.49E+07	1.56	Y	0.87	90.4
CS 123469-HxCDF	35.89		0.9773	0.9773	0	3.03E+07	0.54	Y	1.09	112
CS 1234689-HpCDF	39.24		1.0687	1.0686	-0.2	2.52E+07	0.46	Y	0.86	117
~~SS 37Cl-2378-TCDD~~	~~26.79~~		~~1.0282~~	~~1.0276~~	~~-1.0~~	~~1.21E+07~~	~~n/a~~		~~1.26~~	~~94.5~~
~~SS 12347-PeCDD~~	~~31.93~~		~~1.2257~~	~~1.2250~~	~~-1.3~~	~~2.21E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~100~~
~~SS 12346-PeCDF~~	~~30.38~~		~~1.2496~~	~~1.2500~~	~~+0.7~~	~~3.49E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~35.89~~		~~0.9773~~	~~0.9773~~	~~0~~	~~3.03E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~116~~
~~SS 1234689-HpCDF~~	~~39.24~~		~~1.0687~~	~~1.0686~~	~~-0.2~~	~~2.52E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~113~~

Totals	Conc	EMPC
Total TCDD	4510	4570
Total PeCDD	206	214
Total HxCDD	507	507
Total HpCDD	1230	1230
Total Tetra-Octa Dioxins	13900	14000
Total TCDF	30,800	30800
Total PeCDF	2,150	2150
Total HxCDF	2,210	2210
Total HpCDF	848	848
Total Tetra-Octa Furans	39,800	39800
Total Tetra-Octa Dioxins & Furans	53700	53800

Lab ID: B6171_18863_DF_003MS | Acq'd: 25 Jan 2022 22:52 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MS | UTP: 27-Jan-2022 16:44:23 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 924-148-VMR

Datafile: 220125R17 | Report: 27 Jan 2022 16:46 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.74		0.8486	0.8495	+1.2	4.88E+06	0.76	Y	1.34	28	16495.328	1.14
1379-TCDD	23.14		0.8642	0.8645	+0.4	4.39E+05	0.80	Y	1.34	2.52	16495.328	1.14
1369-TCDD	NotFnd		0.8825						1.34		16495.328	1.14
1469-TCDD	24.51		0.9154	0.9157	+0.4	9.46E+05	0.80	Y	1.34	5.42	16495.328	1.14
1247/1246/1248/1249-TCDD	24.77	EMPC	0.9256	0.9254	-0.3	1.33E+06	0.93	N	1.34	7.65	16495.328	1.14
1378-TCDD	24.97		0.9332	0.9330	-0.3	2.19E+06	0.79	Y	1.34	12.5	16495.328	1.14
1268-TCDD	NotFnd		0.9415						1.34		16495.328	1.14
1478-TCDD	25.48	EMPC	0.9518	0.9520	+0.3	1.66E+06	0.92	N	1.34	9.53	16495.328	1.14
1279-TCDD	NotFnd		0.9586						1.34		16495.328	1.14
1234/1269-TCDD	26.06	EMPC	0.9734	0.9738	+0.6	3.35E+05	1.18	N	1.34	1.92	16495.328	1.14
1236-TCDD	26.21	EMPC	0.9788	0.9792	+0.6	2.33E+05	1.25	N	1.34	1.34	16495.328	1.14
1237/1238-TCDD	26.46		0.9892	0.9888	-0.6	1.08E+07	0.86	Y	1.34	62.1	16495.328	1.14
1239-TCDD	26.62		0.9944	0.9947	+0.5	3.66E+06	0.85	Y	1.34	21	16495.328	1.14
2378-TCDD	**26.79**	E	**1.0008**	1.0009	**+0.2**	7.04E+08	0.80	Y	**1.34**	**4,040**	**16495.328**	**1.14**
1278-TCDD	27.16		1.0142	1.0147	+0.8	5.99E+07	0.81	Y	1.34	343	16495.328	1.14
1267-TCDD	NotFnd		1.0197						1.34		16495.328	1.14
1289-TCDD	27.85	EMPC	1.0401	1.0406	+0.8	6.04E+06	1.01	N	1.34	34.6	16495.328	1.14
12479/12468-PeCDD	29.87		0.9202	0.9208	+1.1	3.52E+06	1.59	Y	1.06	27.6	18596.197	1.21
12469-PeCDD	30.43	EMPC	0.9375	0.9379	+0.7	5.76E+05	1.31	N	1.06	4.52	18596.197	1.21
12368-PeCDD	31.00		0.9553	0.9554	+0.2	8.96E+05	1.65	Y	1.06	7.03	18596.197	1.21
12478-PeCDD	31.20		0.9613	0.9618	+0.9	4.20E+05	1.47	Y	1.06	3.3	18596.197	1.21
12379-PeCDD	31.31	J EMPC	0.9644	0.9650	+1.1	2.24E+05	1.27	N	1.06	1.76	18596.197	1.21
12369/12467/12489-PeCDD	31.58	J EMPC	0.9730	0.9734	+0.8	3.03E+05	1.93	N	1.06	2.38	18596.197	1.21
12346/12347-PeCDD	NotFnd		0.9848						1.06		18596.197	1.21
12378-PeCDD	32.46		**1.0005**	**1.0006**	**+0.2**	**1.81E+07**	**1.60**	**Y**	**1.06**	**142**	**18596.197**	**1.21**
12367-PeCDD	NotFnd		1.0035						1.06		18596.197	1.21
12389-PeCDD	32.92		1.0146	1.0147	+0.2	3.26E+06	1.60	Y	1.06	25.6	18596.197	1.21
124679/124689-HxCDD	34.72		0.9532	0.9534	+0.4	1.10E+07	1.28	Y	1.05	95	17191.426	1.22
123468-HxCDD	35.38		0.9715	0.9715	0	7.76E+05	1.38	Y	1.05	6.69	17191.426	1.22
123679/123689-HxCDD	35.67		0.9795	0.9796	+0.2	4.99E+06	1.24	Y	1.05	43	17191.426	1.22
123469-HxCDD	35.80		0.9832	0.9831	-0.2	3.44E+05	1.22	Y	1.05	2.96	17191.426	1.22
123478-HxCDD	36.43		**1.0004**	**1.0004**	**0**	**1.31E+07**	**1.24**	**Y**	1.06	**112**	**17191.426**	**1.16**
123678-HxCDD	36.54		**1.0035**	**1.0035**	**0**	**1.46E+07**	**1.28**	**Y**	1.08	**131**	**17191.426**	**1.3**
123467-HxCDD	36.73		1.0087	1.0086	-0.2	3.72E+05	1.32	Y	1.05	3.2	17191.426	1.22
123789-HxCDD	36.84		**1.0116**	**1.0117**	**+0.2**	**1.36E+07**	**1.23**	**Y**	1.02	**114**	**17191.426**	**1.21**

Lab ID: B6171_18863_DF_003MS | Acq'd: 25 Jan 2022 22:52 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MS | UTP: 27-Jan-2022 16:44:23 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 924-148-VMR

Datafile: 220125R17 | Report: 27 Jan 2022 16:46 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9835	+0.2	6.11E+07	1.03	Y	0.97	588	11136.651	0.634
1234678-HpCDD	**39.78**		**1.0003**	**1.0003**	**0**	**6.65E+07**	**1.06**	**Y**	**0.97**	**640**	**11136.651**	**0.634**
OCDD	**42.20**		**1.0003**	**1.0003**	**0**	**5.45E+08**	**0.90**	**Y**	**1.07**	**7,450**	**10730.293**	**1.11**
OCDD-a	42.20		1.0001	1.0002	+0.3	3.23E+07	2.50	Y	0.07	7,170	16579.967	27.7
1368-TCDF	20.50		0.7942	0.7939	-0.4	6.67E+06	0.79	Y	0.96	34.8	14290.492	0.976
1468-TCDF	21.07		0.8155	0.8160	+0.6	4.08E+06	0.79	Y	0.96	21.2	14290.492	0.976
2468-TCDF	21.72		0.8407	0.8412	+0.7	5.23E+06	0.82	Y	0.96	27.2	14290.492	0.976
1346/1246-TCDF	22.23		0.8553	0.8610	+7.6	5.37E+06	0.83	Y	0.96	28	14290.492	0.976
1347/1378/1247-TCDF	22.35		0.8617	0.8655	+5.1	1.58E+07	0.79	Y	0.96	82.3	14290.492	0.976
1348-TCDF	22.59		0.8740	0.8749	+1.2	1.04E+07	0.81	Y	0.96	54.4	14290.492	0.976
1248/1367/1379-TCDF	22.71		0.8798	0.8796	-0.3	9.45E+07	0.81	Y	0.96	492	14290.492	0.976
1268-TCDF	23.17		0.8967	0.8971	+0.6	4.31E+07	0.80	Y	0.96	225	14290.492	0.976
1467-TCDF	23.31		0.9025	0.9028	+0.4	7.60E+06	0.81	Y	0.96	39.6	14290.492	0.976
1478-TCDF	23.51		0.9101	0.9105	+0.6	1.14E+08	0.80	Y	0.96	595	14290.492	0.976
1369/1237-TCDF	23.94		0.9263	0.9269	+0.9	3.04E+07	0.78	Y	0.96	158	14290.492	0.976
2467-TCDF	24.07		0.9322	0.9322	0	3.55E+06	0.83	Y	0.96	18.5	14290.492	0.976
2368-TCDF	24.25		0.9389	0.9390	+0.1	1.06E+08	0.79	Y	0.96	554	14290.492	0.976
1238/1234/1678/1469/1236-TCDF	24.33		0.9427	0.9421	-0.9	1.39E+08	0.80	Y	0.96	721	14290.492	0.976
1278-TCDF	24.84	E	0.9623	0.9620	-0.4	1.47E+09	0.80	Y	0.96	7,630	14290.492	0.976
1349-TCDF	NotFnd		0.9678						0.96		14290.492	0.976
1267-TCDF	25.15		0.9740	0.9738	-0.3	7.25E+07	0.79	Y	0.96	378	14290.492	0.976
2346/1249-TCDF	25.37		0.9820	0.9824	+0.6	8.75E+06	0.86	Y	0.96	45.6	14290.492	0.976
2347/1279-TCDF	25.59		0.9915	0.9911	-0.6	3.48E+07	0.78	Y	0.96	181	14290.492	0.976
2348-TCDF	25.72	E	0.9964	0.9960	-0.6	2.30E+08	0.82	Y	0.96	1,240	14290.492	0.976
2378-TCDF	**25.85**	E	**1.0008**	**1.0009**	**+0.2**	**2.96E+09**	**0.80**	**Y**	**0.96**	**15,400**	**14290.492**	**0.976**
2367/3467-TCDF	26.24	E	1.0163	1.0162	-0.2	2.46E+08	0.80	Y	0.96	1,280	14290.492	0.976
1269-TCDF	26.51		1.0265	1.0266	+0.2	4.06E+07	0.80	Y	0.96	211	14290.492	0.976
1239-TCDF	26.78		1.0373	1.0372	-0.2	4.64E+06	0.79	Y	0.96	24.1	14290.492	0.976
1289-TCDF	28.03	E	1.0847	1.0856	+1.5	2.54E+08	0.79	Y	0.96	1,320	14290.492	0.976
13468/12468-PeCDF	27.99		0.9045	0.9048	+0.5	3.59E+07	1.61	Y	0.94	238	11766.148	0.77
13678/13467/12467-PeCDF	29.65		0.9574	0.9584	+1.8	1.27E+06	1.51	Y	0.94	8.43	17447.839	1.14
12368/13478/12478-PeCDF	29.81		0.9628	0.9638	+1.8	4.13E+07	1.60	Y	0.94	274	17447.839	1.14
14678-PeCDF	29.90		0.9661	0.9665	+0.7	1.64E+06	1.65	Y	0.94	10.8	17447.839	1.14
13479-PeCDF	NotFnd		0.9695						0.94		17447.839	1.14
13469/12479-PeCDF	30.20		0.9779	0.9764	-2.7	4.56E+05	1.62	Y	0.94	3.03	17447.839	1.14
12346-PeCDF	30.40	J EMPC	0.9824	0.9829	+0.9	2.36E+05	1.82	N	0.94	1.56	17447.839	1.14

Lab ID: B6171_18863_DF_003MS | Acq'd: 26 Jan 2022 22:52 PSW | Wt/Vol: 10.19 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MS | UTP: 27-Jan-2022 16:44:23 PSW | J-level: 0.491 pg/g | Split: 1 | Checkcode: 924-148-VMR

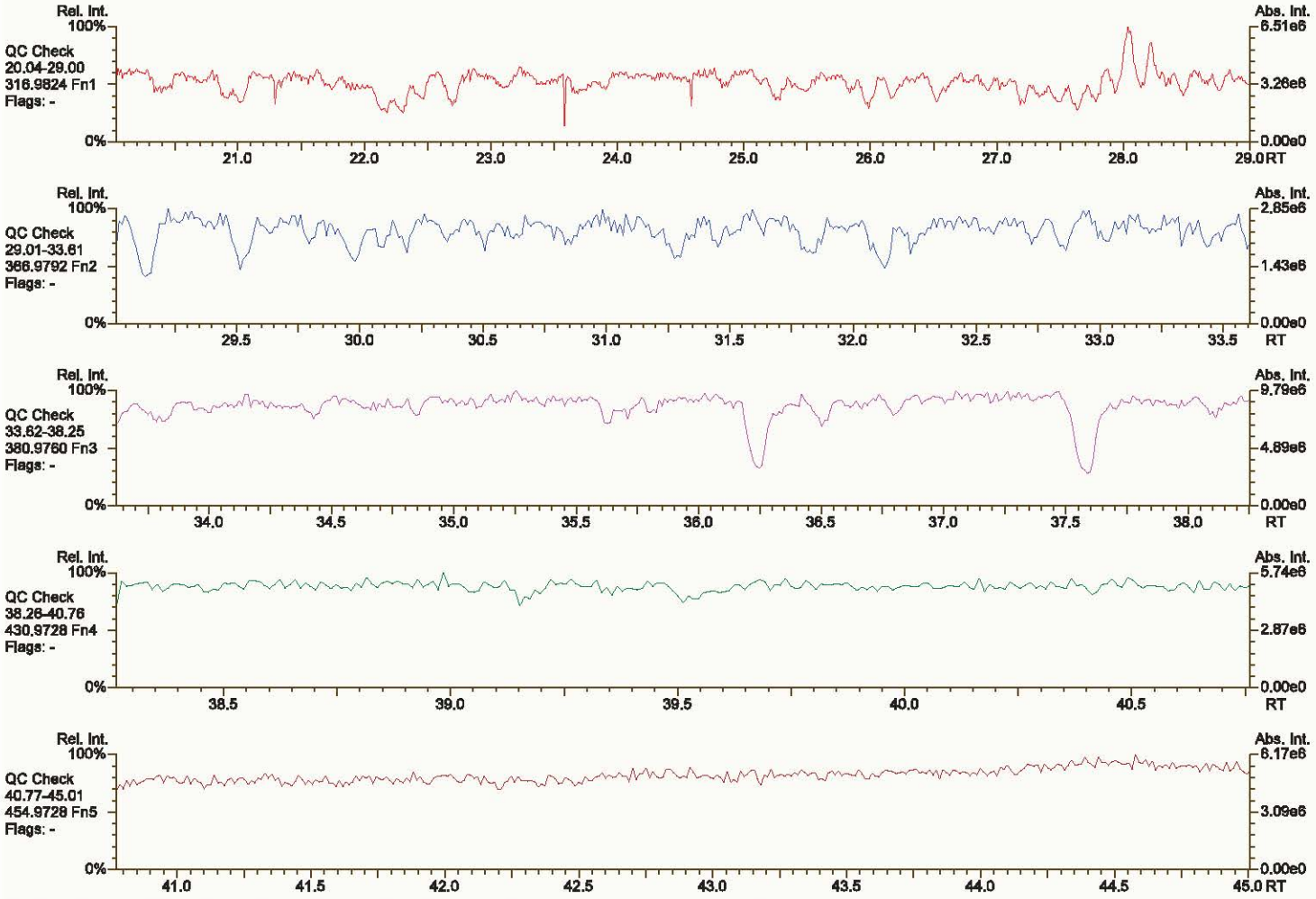
Datafile: 220125R17 | Report: 27 Jan 2022 16:46 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.50		0.9857	0.9859	+0.4	2.08E+06	1.57	Y	0.94	13.8	17447.839	1.14
12347-PeCDF	30.57		0.9882	0.9882	0	1.91E+06	1.56	Y	0.94	12.7	17447.839	1.14
12348-PeCDF	30.74		0.9935	0.9937	+0.4	9.05E+06	1.61	Y	0.94	60	17447.839	1.14
12378-PeCDF	**30.95**		**1.0006**	**1.0006**	**0**	**1.23E+08**	**1.57**	**Y**	**0.95**	**720**	**17447.839**	**0.906**
12678/12367-PeCDF	31.26		1.0099	1.0106	+1.3	2.61E+07	1.59	Y	0.94	173	17447.839	1.14
12379-PeCDF	NotFnd		1.0155						0.94		17447.839	1.14
12679-PeCDF	31.85	J	0.9921	0.9921	0	1.85E+05	1.43	Y	0.94	1.23	17447.839	1.14
23467/12369-PeCDF	31.97		0.9962	0.9960	-0.4	1.46E+06	1.52	Y	0.94	9.65	17447.839	1.14
23478-PeCDF	**32.13**		**1.0006**	**1.0008**	**+0.4**	**7.48E+07**	**1.59**	**Y**	**0.94**	**568**	**17447.839**	**1.44**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		17447.839	1.14
12349-PeCDF	NotFnd		1.0106						0.94		17447.839	1.14
12389-PeCDF	33.21		1.0349	1.0345	-0.8	8.31E+06	1.59	Y	0.94	55.1	17447.839	1.14
123468-HxCDF	34.05		0.9606	0.9609	+0.6	4.79E+07	1.28	Y	1.16	313	15056.468	0.842
124678/134678-HxCDF	34.25		0.9663	0.9665	+0.4	1.52E+07	1.29	Y	1.16	99	15056.468	0.842
134679-HxCDF	NotFnd		0.9729						1.16		15056.468	0.842
124679-HxCDF	34.68	J	0.9786	0.9787	+0.2	3.70E+05	1.27	Y	1.16	2.42	15056.468	0.842
124689-HxCDF	34.91		0.9851	0.9853	+0.4	1.06E+07	1.28	Y	1.16	69.3	15056.468	0.842
123467-HxCDF	35.32		0.9970	0.9968	-0.4	9.25E+05	1.19	Y	1.16	6.04	15056.468	0.842
123478-HxCDF	**35.45**		**1.0004**	**1.0005**	**+0.2**	**1.78E+08**	**1.27**	**Y**	**1.23**	**1,020**	**15056.468**	**0.634**
123678-HxCDF	**35.59**		**1.0004**	**1.0005**	**+0.2**	**5.91E+07**	**1.27**	**Y**	**1.13**	**330**	**15056.468**	**0.729**
123479-HxCDF	NotFnd		1.0050						1.16		15056.468	0.842
123469-HxCDF	35.90		1.0091	1.0091	0	1.09E+06	1.30	Y	1.16	7.1	15056.468	0.842
123679-HxCDF	36.03		0.9942	0.9943	+0.2	4.80E+05	1.24	Y	1.16	3.13	15056.468	0.842
234678-HxCDF	**36.26**		**1.0005**	**1.0006**	**+0.2**	**1.55E+07**	**1.28**	**Y**	**1.15**	**169**	**15056.468**	**1.63**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		15056.468	0.842
123789-HxCDF	**37.20**		**1.0005**	**1.0001**	**-0.9**	**1.37E+07**	**1.21**	**Y**	**1.14**	**81.2**	**15056.468**	**0.747**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.24		1.0008	1.0014	+1.3	1.73E+07	1.28	Y	1.16	113	15056.468	0.842
1234678-HpCDF	**38.82**		**1.0003**	**1.0003**	**0**	**7.38E+07**	**1.05**	**Y**	**1.36**	**436**	**11063.581**	**0.459**
1234679-HpCDF	39.10		1.0076	1.0076	0	1.70E+06	1.06	Y	1.33	11	11063.581	0.471
1234689-HpCDF	39.26		1.0114	1.0116	+0.5	3.04E+07	1.07	Y	1.33	197	11063.581	0.471
1234789-HpCDF	**40.19**		**1.0002**	**1.0003**	**+0.2**	**2.84E+07**	**1.04**	**Y**	**1.30**	**203**	**11063.581**	**0.484**
OCDF	**42.36**		**1.0003**	**1.0003**	**0**	**3.71E+08**	**0.90**	**Y**	**1.03**	**3,830**	**11320.693**	**0.85**
OCDF-a	42.36		1.0001	1.0002	+0.3	2.18E+07	2.38	Y	0.06	3,900	15804.212	20.5

SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19

Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17



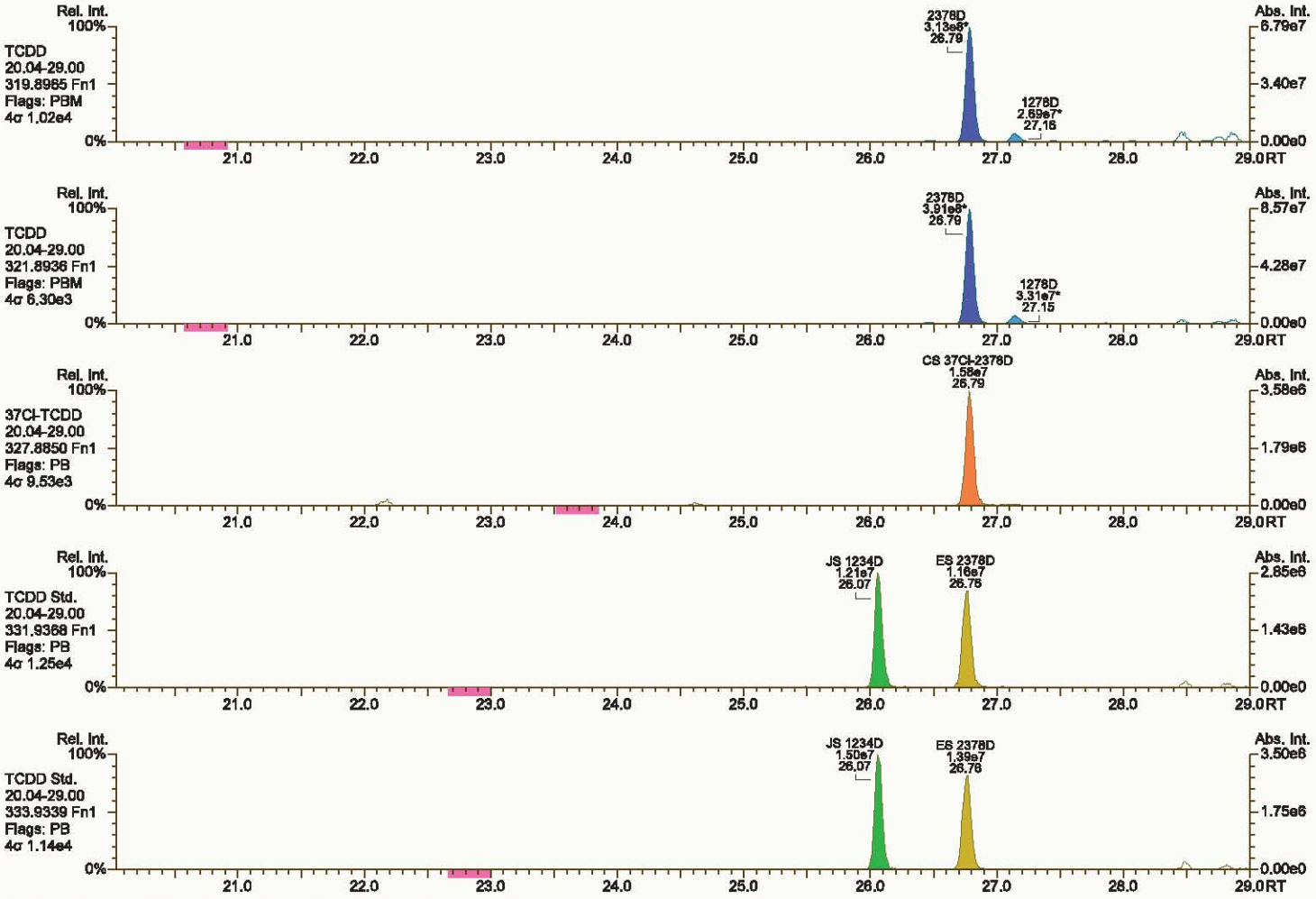
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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 924-148

Peak annotation: Areas, Centroids
PKD: n/a Printed: 27-Jan-2022 16:47 Page 1 of 12

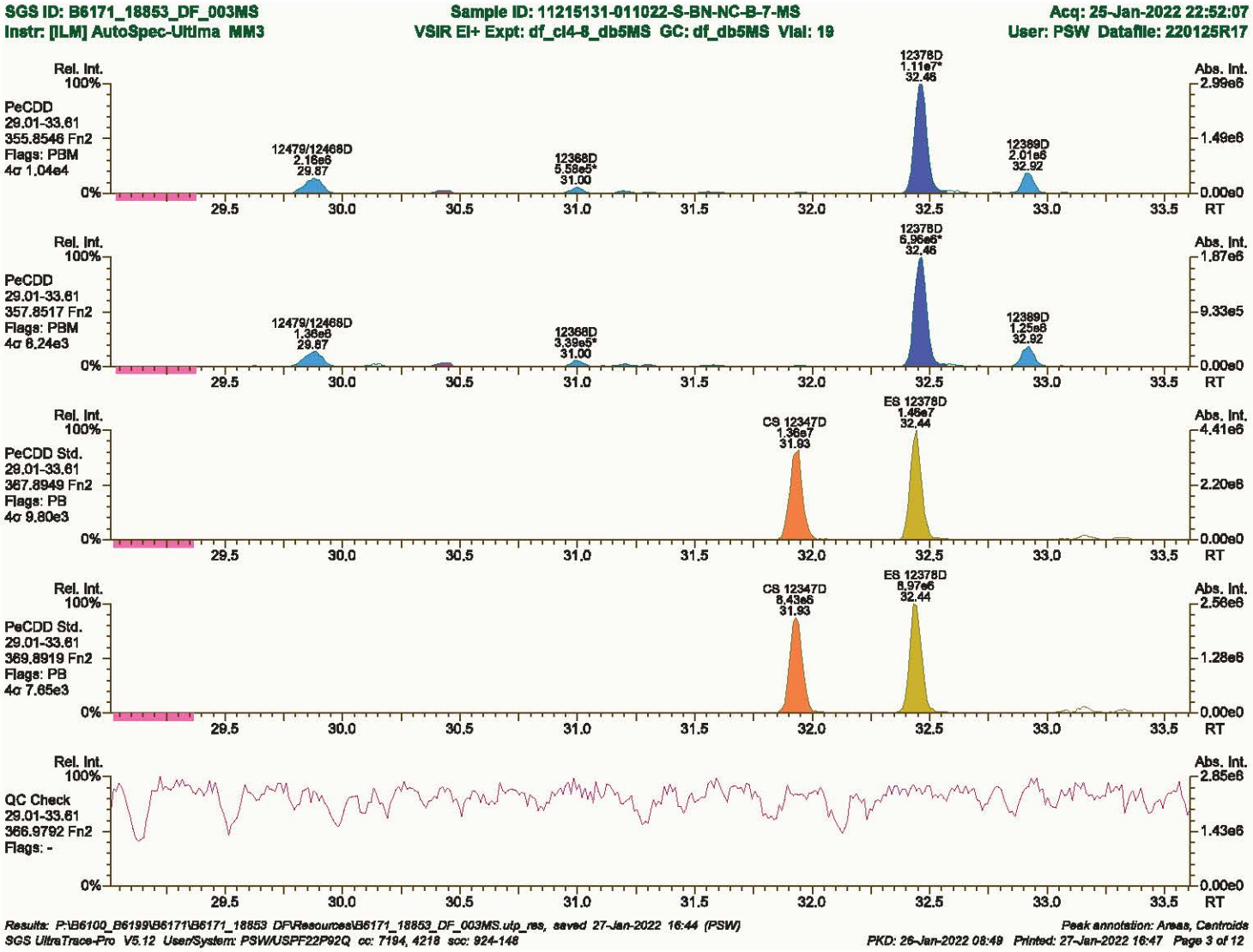
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Instr: [ILM] AutoSpec-Ultima MM3

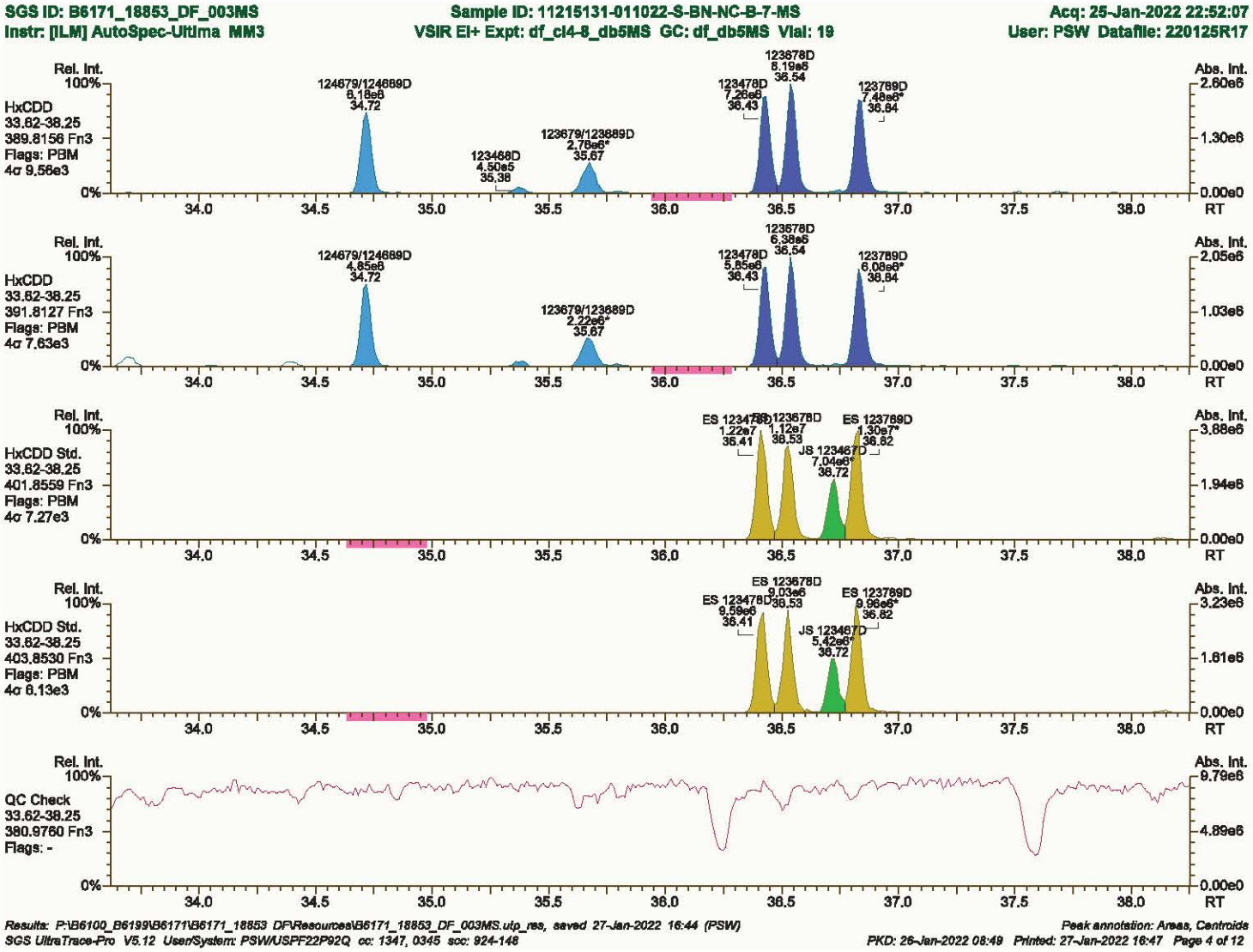
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VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19

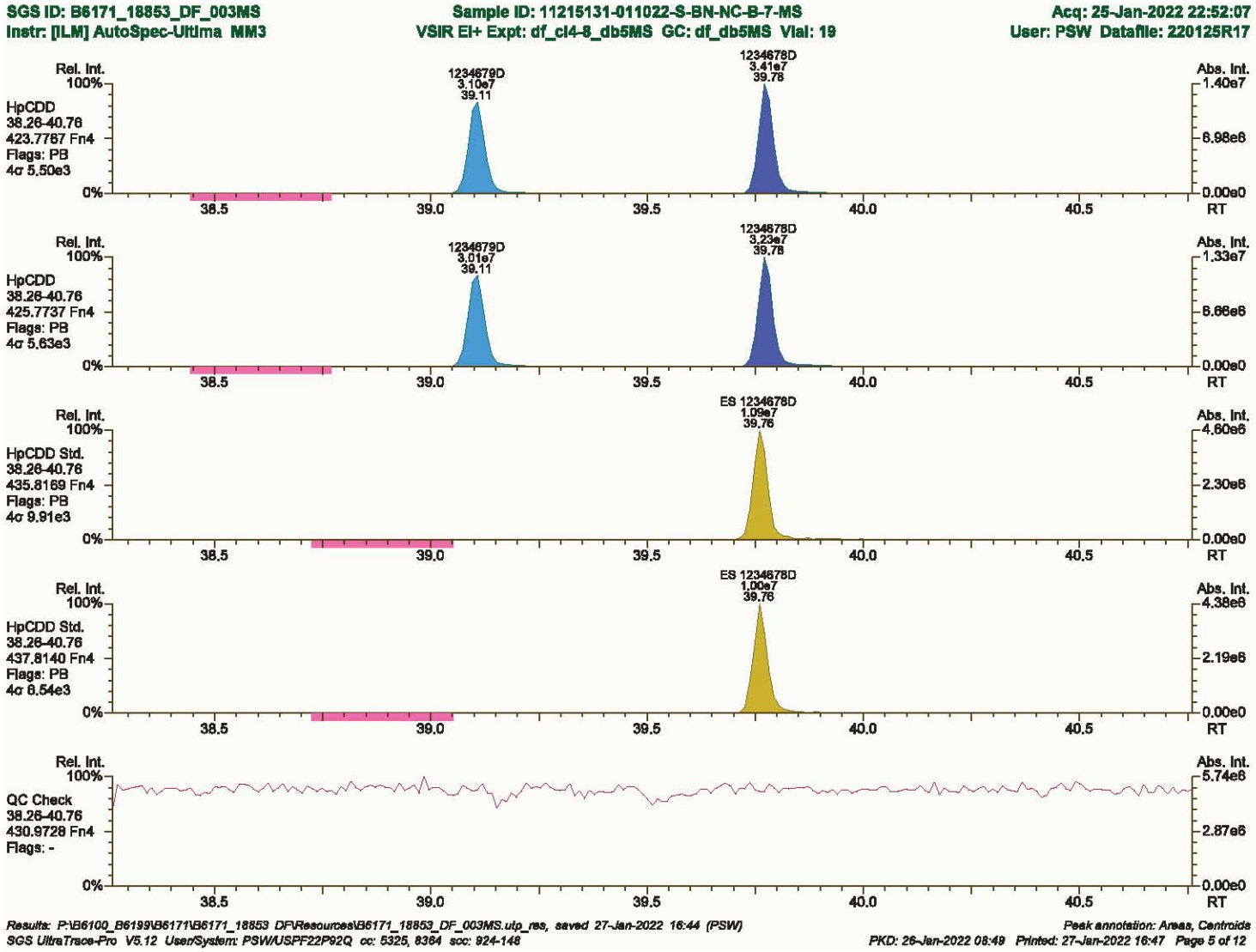
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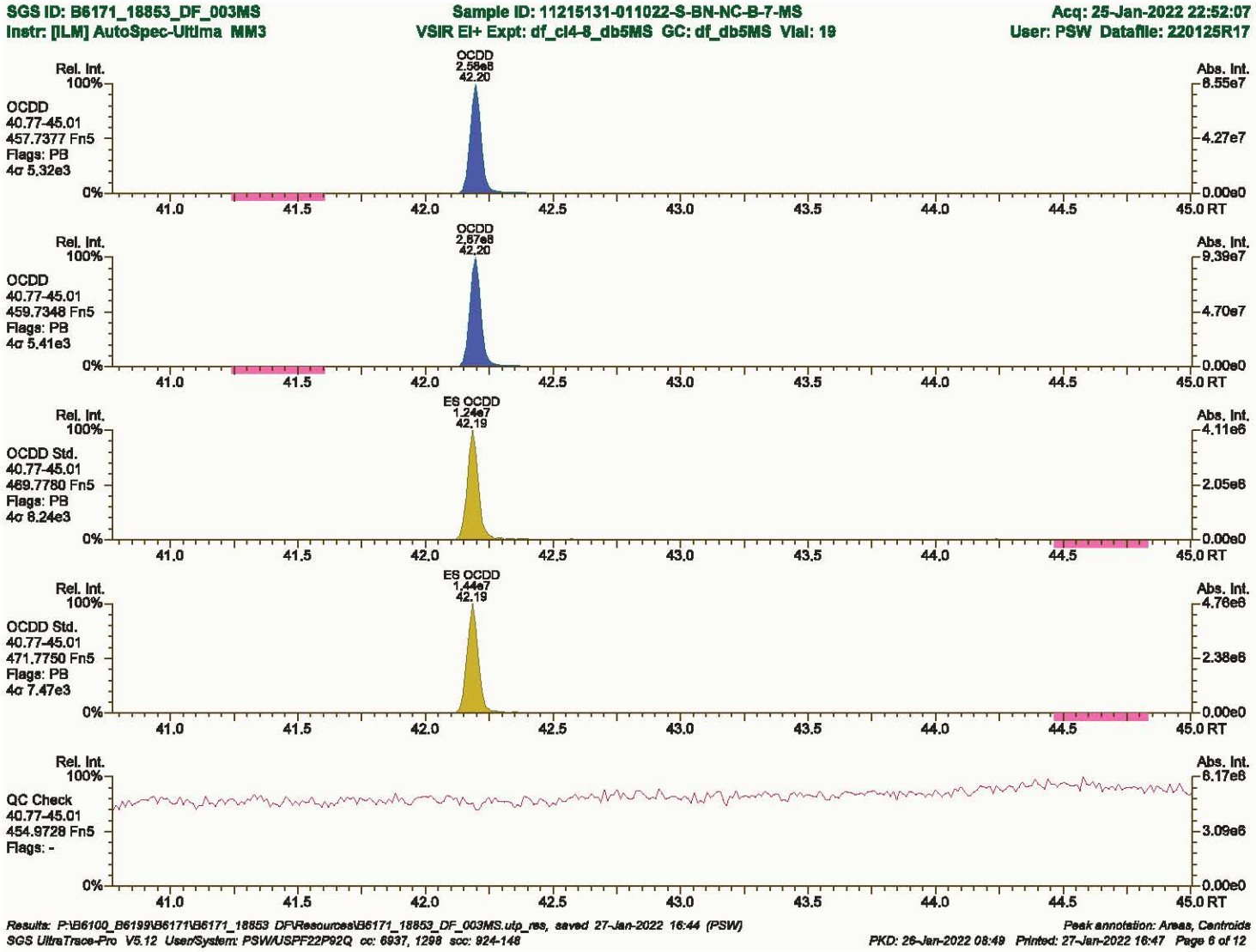


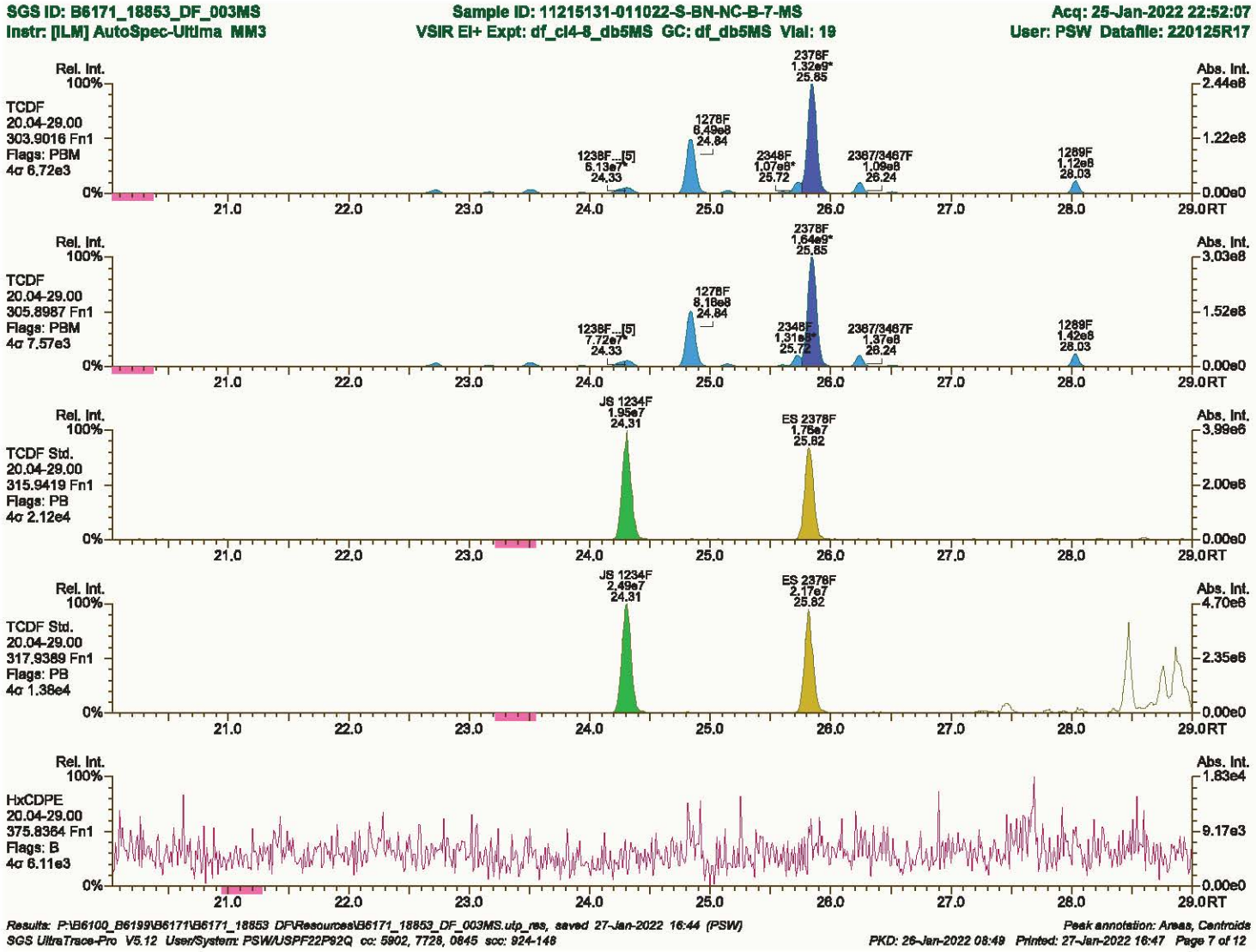
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5380, 9677, 4222 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 2 of 12

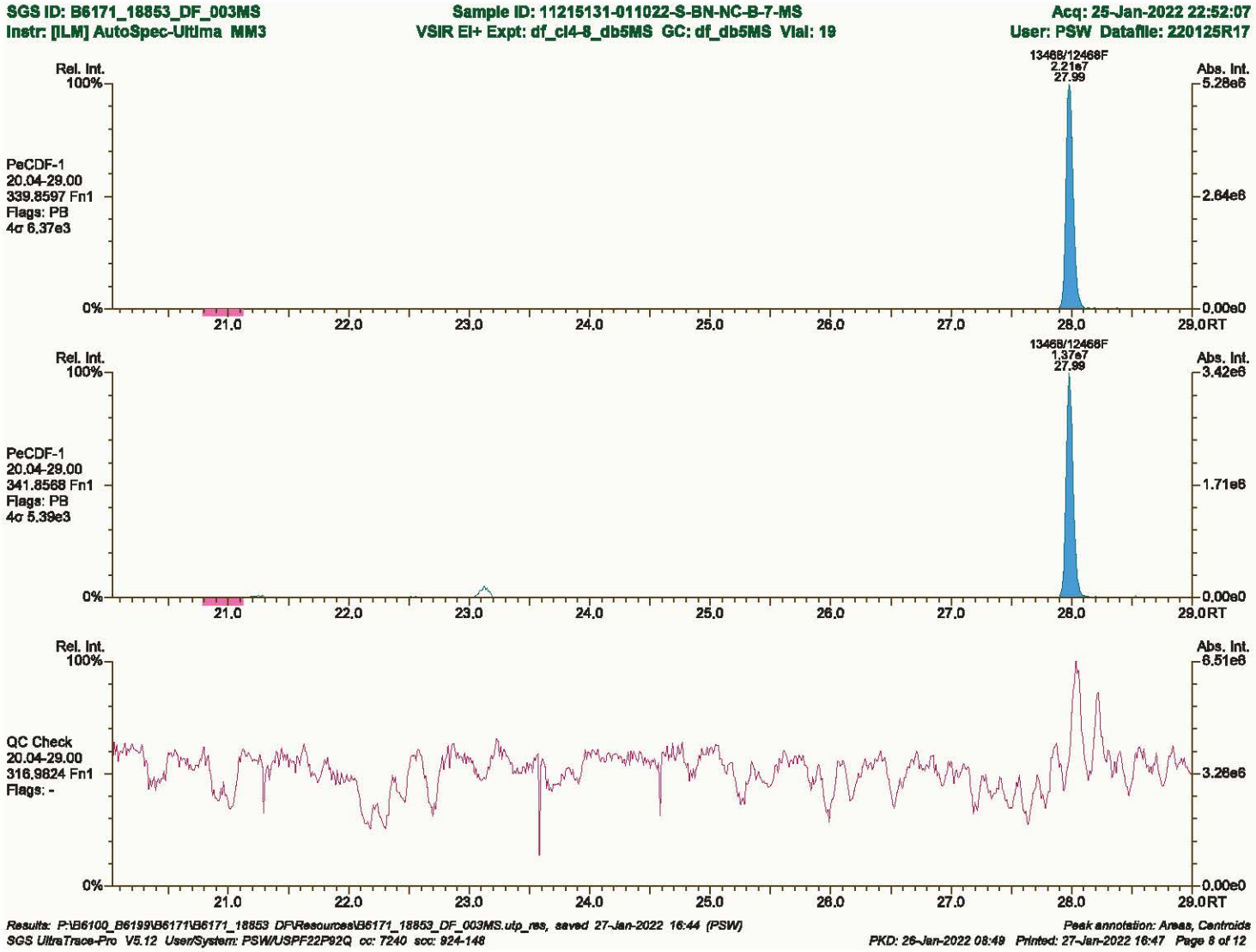

SGS ID: B6171_18853_DF_003MS
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
Acq: 25-Jan-2022 22:52:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 1.04e4
12479/12468D
2.16e6
29.87
12368D
5.58e5*
31.00
12378D
1.11e7*
32.46
12389D
2.01e6
32.92
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 8.24e3
12479/12468D
1.36e6
29.87
12368D
3.39e5*
31.00
12378D
6.96e6*
32.46
12389D
1.25e6
32.92
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 9.80e3
CS 12347D
1.36e7
31.93
ES 12378D
1.46e7
32.44
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 7.65e3
CS 12347D
8.43e6
31.93
ES 12378D
8.97e6
32.44
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7194, 4218 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 3 of 12

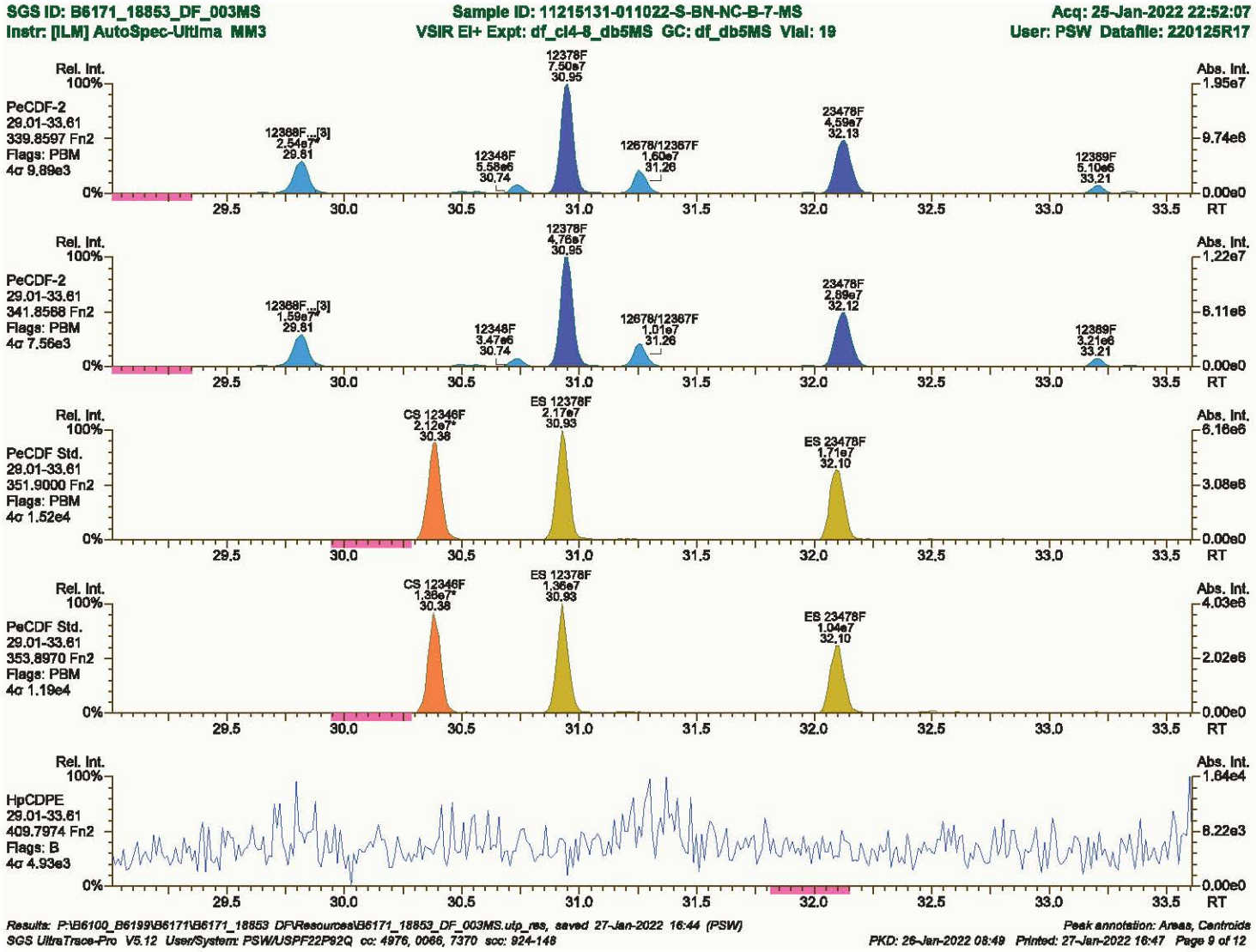

SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 9.56e3
124679/124689D
6.18e6
34.72
123468D
4.50e5
35.38
123679/123689D
2.78e6*
35.67
123678D
8.19e6
36.54
123478D
7.26e6
36.43
123789D
7.48e6*
36.84
2.60e6
1.30e6
0.00e0
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 7.63e3
124679/124689D
4.85e6
34.72
123679/123689D
2.22e6*
35.67
123678D
6.38e6
36.54
123478D
5.85e6
36.43
123789D
6.08e6*
36.84
2.05e6
1.03e6
0.00e0
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 7.27e3
ES 123478D
1.22e7
36.41
ES 123678D
1.12e7
36.53
ES 123789D
1.30e7*
36.82
JS 123467D
7.04e6*
36.72
3.88e6
1.94e6
0.00e0
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 6.13e3
ES 123678D
9.03e6
36.53
ES 123478D
9.59e6
36.41
ES 123789D
9.96e6*
36.82
JS 123467D
5.42e6*
36.72
3.23e6
1.61e6
0.00e0
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
9.79e6
4.89e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1347, 0345 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 4 of 12

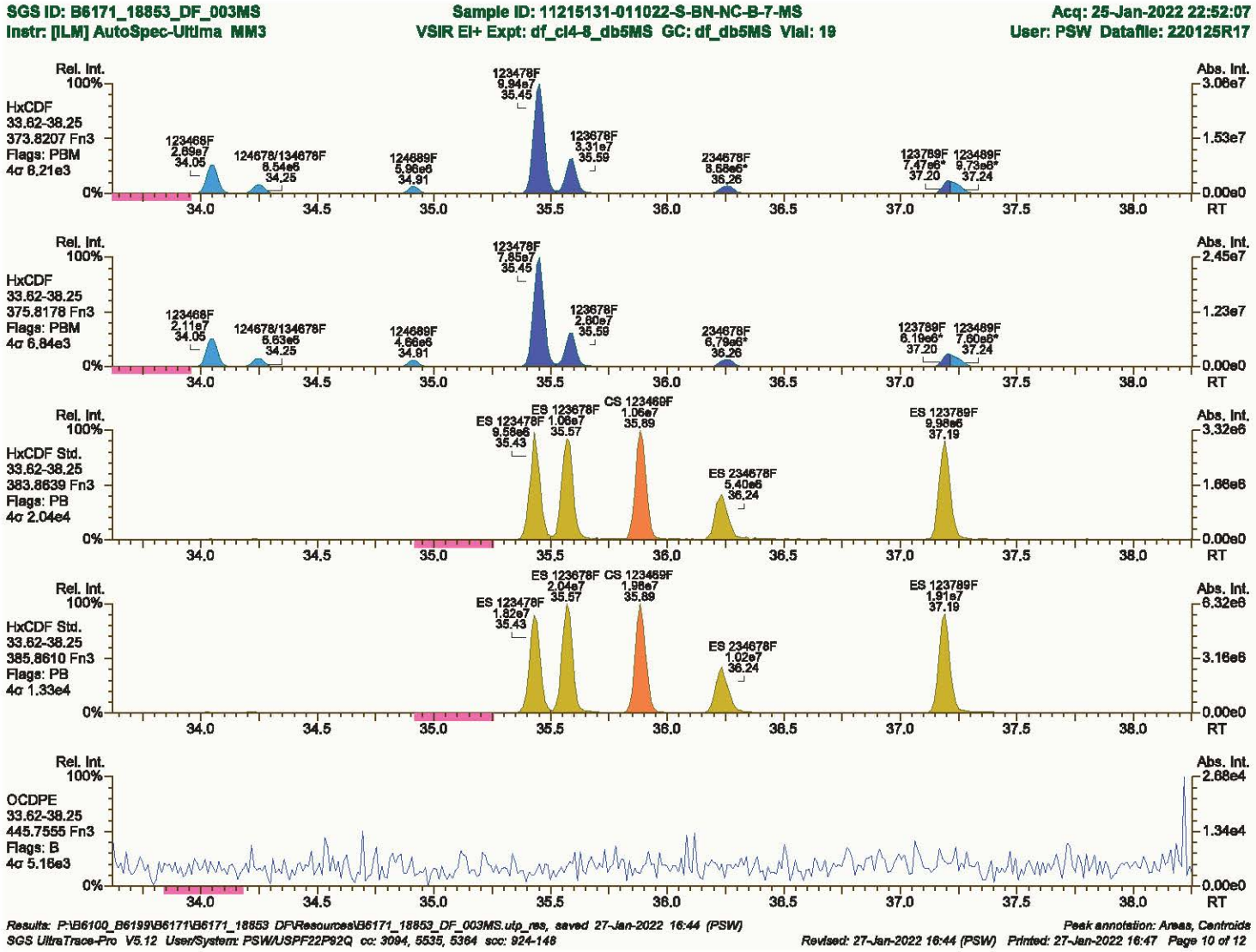

SGS ID: B6171_18853_DF_003MS
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
Acq: 25-Jan-2022 22:52:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
HpCDD
38.26-40.76
423.7767 Fn4
Flags: PB
4σ 5.50e3
1234679D
3.10e7
39.11
1234678D
3.41e7
39.78
1.40e7
6.98e6
0.00e0
HpCDD
38.26-40.76
425.7737 Fn4
Flags: PB
4σ 5.63e3
1234679D
3.01e7
39.11
1234678D
3.23e7
39.78
1.33e7
6.66e6
HpCDD Std.
38.26-40.76
435.8169 Fn4
Flags: PB
4σ 9.91e3
ES 1234678D
1.09e7
39.76
4.60e6
2.30e6
HpCDD Std.
38.26-40.76
437.8140 Fn4
Flags: PB
4σ 6.54e3
ES 1234678D
1.00e7
39.76
4.38e6
2.19e6
QC Check
38.26-40.76
430.9728 Fn4
Flags: -
5.74e6
2.87e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5325, 8364 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 5 of 12

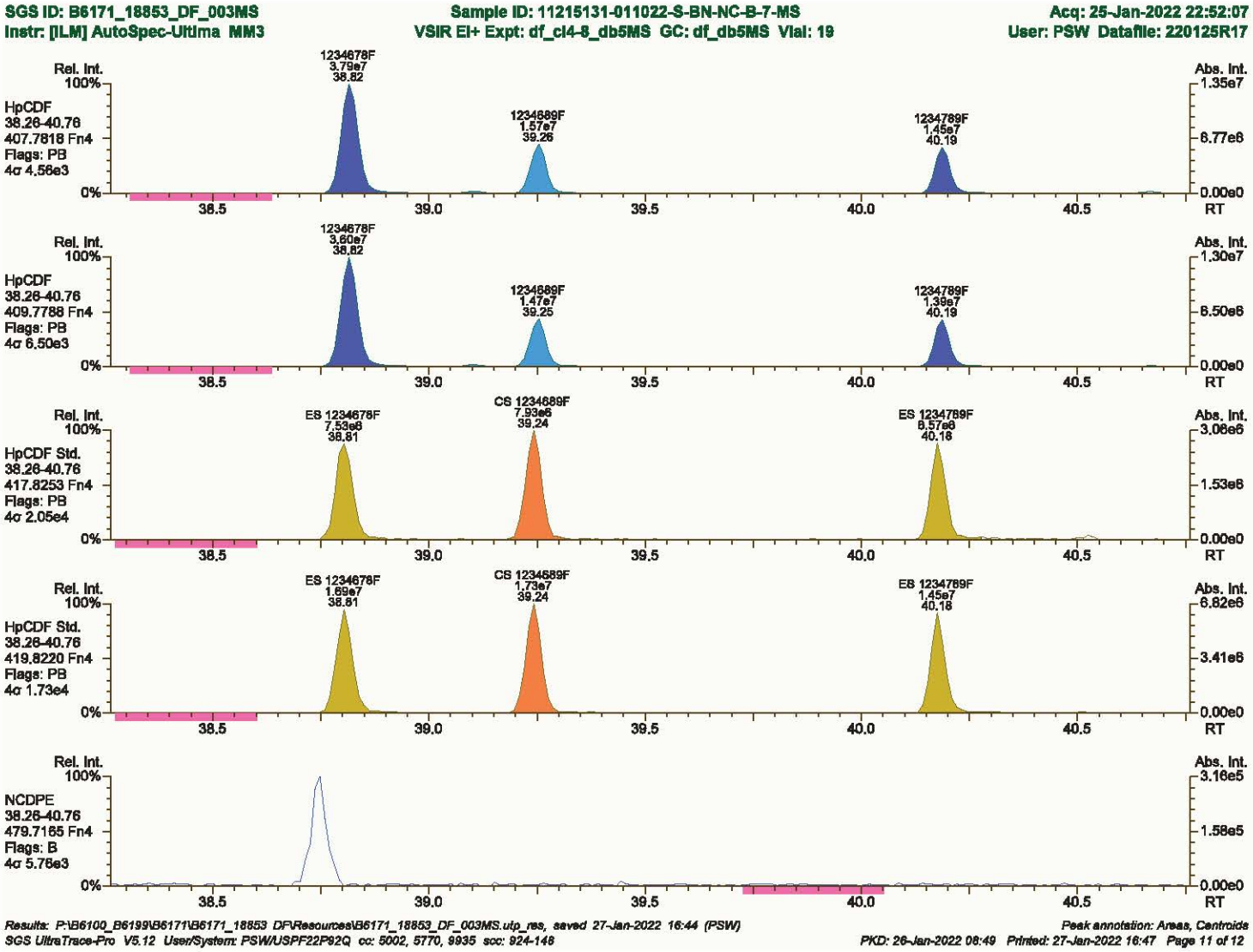

SGS ID: B6171_18853_DF_003MS
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
Acq: 25-Jan-2022 22:52:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
OCDD
2.58e8
42.20
OCDD
40.77-45.01
457.7377 Fn5
Flags: PB
4σ 5.32e3
8.55e7
4.27e7
0.00e0
OCDD
2.87e8
42.20
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 5.41e3
9.39e7
4.70e7
0.00e0
ES OCDD
1.24e7
42.19
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 8.24e3
4.11e6
2.05e6
0.00e0
ES OCDD
1.44e7
42.19
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 7.47e3
4.76e6
2.38e6
0.00e0
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
6.17e6
3.09e6
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6937, 1298 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 6 of 12

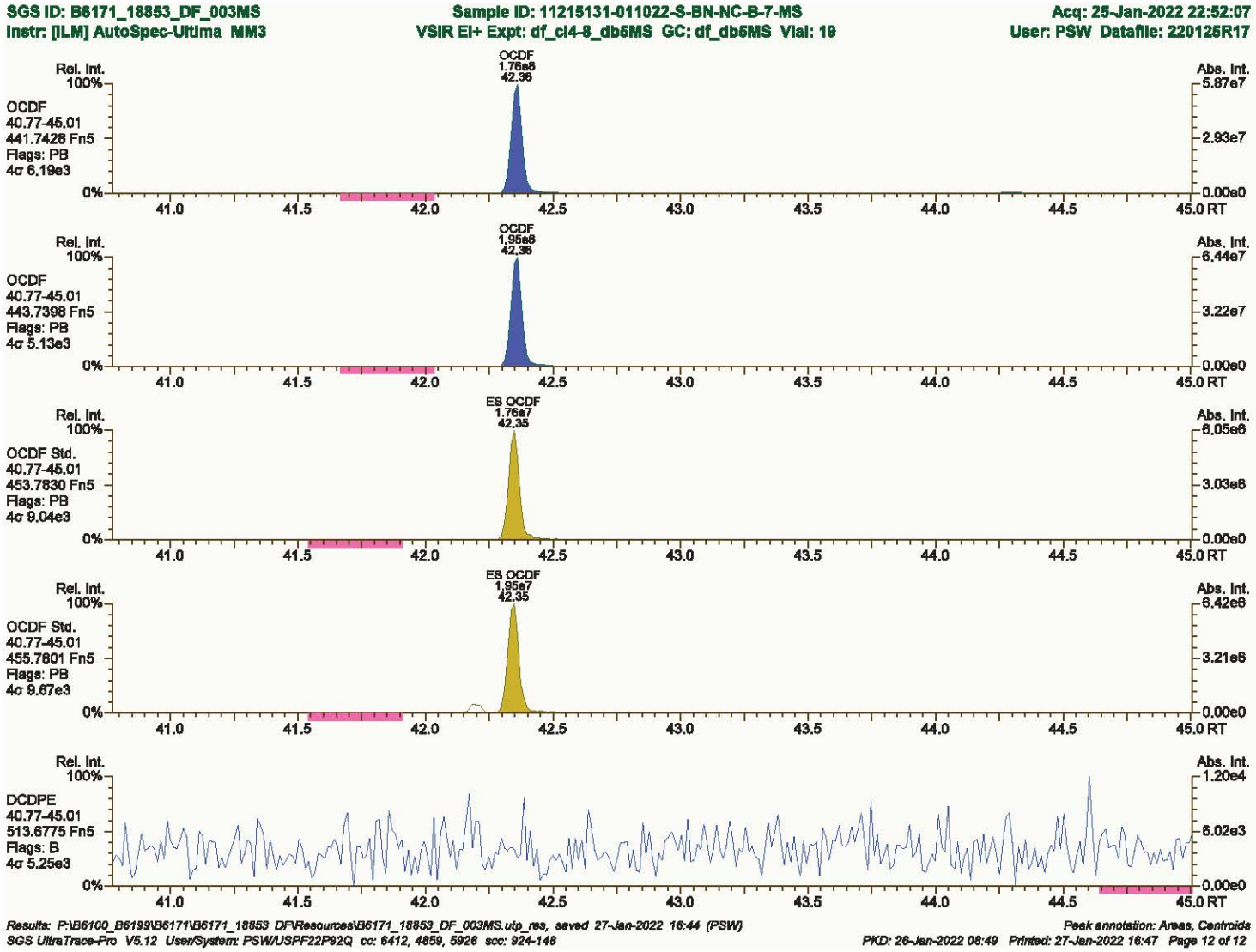

SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 6.72e3
2378F
1.32e9*
25.85
1278F
6.49e8
24.84
1238F...[5]
6.13e7*
24.33
2348F
1.07e8*
25.72
2367/3467F
1.09e8
26.24
1289F
1.12e8
28.03
2.44e8
1.22e8
0.00e0
RT
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 7.57e3
2378F
1.64e9*
25.85
1278F
8.16e8
24.84
1238F...[5]
7.72e7*
24.33
2348F
1.31e8*
25.72
2367/3467F
1.37e8
26.24
1289F
1.42e8
28.03
3.03e8
1.52e8
0.00e0
RT
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 2.12e4
JS 1234F
1.95e7
24.31
ES 2378F
1.75e7
25.82
3.99e6
2.00e6
0.00e0
RT
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.38e4
JS 1234F
2.49e7
24.31
ES 2378F
2.17e7
25.82
4.70e6
2.35e6
0.00e0
RT
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 6.11e3
1.83e4
9.17e3
0.00e0
RT
0%
100%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5902, 7728, 0845 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 7 of 12


SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17
Rel. Int.
100%
0%
Abs. Int.
13468/12468F
2.21e7
27.99
5.28e6
2.64e6
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 6.37e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
13468/12468F
1.37e7
27.99
3.42e6
1.71e6
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.39e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.51e6
3.26e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7240 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 8 of 12


SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 9.89e3
12368F...[3]
2.54e7*
29.81
12348F
5.58e6
30.74
12378F
7.50e7
30.95
12678/12367F
1.60e7
31.26
23478F
4.59e7
32.13
12389F
5.10e6
33.21
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 7.56e3
12368F...[3]
1.59e7*
29.81
12348F
3.47e6
30.74
12378F
4.76e7
30.95
12678/12367F
1.01e7
31.26
23478F
2.89e7
32.12
12389F
3.21e6
33.21
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PBM
4σ 1.52e4
CS 12346F
2.12e7*
30.38
ES 12378F
2.17e7
30.93
ES 23478F
1.71e7
32.10
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PBM
4σ 1.19e4
CS 12346F
1.38e7*
30.38
ES 12378F
1.36e7
30.93
ES 23478F
1.04e7
32.10
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.93e3
Rel. Int.
100%
0%
Abs. Int.
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4976, 0066, 7370 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 9 of 12


SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 6.21e3
123468F 2.89e7 34.05
124678/134678F 6.54e6 34.25
124689F 5.96e6 34.91
123478F 9.94e7 35.45
123678F 3.31e7 35.59
234678F 8.58e6* 36.26
123789F 7.47e6* 37.20
123489F 9.73e6* 37.24
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 6.84e3
123468F 2.11e7 34.05
124678/134678F 6.63e6 34.25
124689F 4.66e6 34.91
123478F 7.85e7 35.45
123678F 2.80e7 35.59
234678F 6.79e6* 36.26
123789F 6.19e6* 37.20
123489F 7.60e6* 37.24
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 2.04e4
ES 123478F 9.58e6 35.43
ES 123678F 1.06e7 35.57
CS 123469F 1.06e7 35.89
ES 234678F 5.40e6 36.24
ES 123789F 9.98e6 37.19
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 1.33e4
ES 123478F 1.82e7 35.43
ES 123678F 2.04e7 35.57
CS 123469F 1.98e7 35.89
ES 234678F 1.02e7 36.24
ES 123789F 1.91e7 37.19
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 5.16e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3094, 5535, 5364 scc: 924-148
Revised: 27-Jan-2022 16:44 (PSW) Printed: 27-Jan-2022 16:47 Page 10 of 12


SGS ID: B6171_18853_DF_003MS
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
Acq: 25-Jan-2022 22:52:07
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
HpCDF
38.26-40.76
407.7818 Fn4
Flags: PB
4σ 4.56e3
1234678F
3.79e7
38.82
1234689F
1.57e7
39.26
1234789F
1.45e7
40.19
HpCDF
38.26-40.76
409.7788 Fn4
Flags: PB
4σ 6.50e3
1234678F
3.60e7
38.82
1234689F
1.47e7
39.25
1234789F
1.39e7
40.19
HpCDF Std.
38.26-40.76
417.8253 Fn4
Flags: PB
4σ 2.05e4
ES 1234678F
7.53e6
38.81
CS 1234689F
7.93e6
39.24
ES 1234789F
8.57e6
40.18
HpCDF Std.
38.26-40.76
419.8220 Fn4
Flags: PB
4σ 1.73e4
ES 1234678F
1.69e7
38.81
CS 1234689F
1.73e7
39.24
ES 1234789F
1.45e7
40.18
NCDPE
38.26-40.76
479.7165 Fn4
Flags: B
4σ 5.76e3
RT


SGS ID: B6171_18853_DF_003MS
Sample ID: 11215131-011022-S-BN-NC-B-7-MS
Acq: 25-Jan-2022 22:52:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: PSW Datafile: 220125R17
Rel. Int.
Abs. Int.
OCDF
1.76e8
42.36
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 6.19e3
5.87e7
2.93e7
0.00e0
OCDF
1.95e8
42.36
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 5.13e3
6.44e7
3.22e7
ES OCDF
1.76e7
42.35
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 9.04e3
6.05e6
3.03e6
ES OCDF
1.95e7
42.35
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 9.67e3
6.42e6
3.21e6
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 5.25e3
1.20e4
6.02e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MS.utp_res, saved 27-Jan-2022 16:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6412, 4859, 5926 scc: 924-148
PKD: 26-Jan-2022 08:49 Printed: 27-Jan-2022 16:47 Page 12 of 12

Lab ID: B6171_18863_DF_003MSD | Acq'd: 25 Jan 2022 23:39 PSW | Wt/Vol: 10.07 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MSD | UTP: 27-Jan-2022 16:44:53 PSW | J-level: 0.497 pg/g | Split: 1 | Checkcode: 912-757-QDR

Datafile: 220125R18 | Report: 27 Jan 2022 16:45 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.79	E	1.0008	1.0009	+0.2	8.60E+08	0.79	Y	1.34	4,800	10737.236	0.701
12378-PeCDD	32.46		1.0005	1.0006	+0.2	1.86E+07	1.57	Y	1.06	145	9222.552	0.604
123478-HxCDD	36.42		1.0004	1.0004	0	1.30E+07	1.26	Y	1.06	110	18728.322	1.28
123678-HxCDD	36.54		1.0035	1.0035	0	1.44E+07	1.24	Y	1.08	127	18728.322	1.29
123789-HxCDD	36.83		1.0116	1.0116	0	1.33E+07	1.27	Y	1.02	113	18728.322	1.3
1234678-HpCDD	39.77		1.0003	1.0003	0	7.08E+07	1.04	Y	0.97	751	10513.047	0.651
OCDD	42.19		1.0003	1.0003	0	6.06E+08	0.90	Y	1.07	8,660	11792.9	1.31
2378-TCDF	25.85	E	1.0008	1.0010	+0.3	3.47E+09	0.80	Y	0.96	17,300	18135.087	1.22
12378-PeCDF	30.95		1.0006	1.0006	0	1.22E+08	1.57	Y	0.95	719	17281.478	0.92
23478-PeCDF	32.13		1.0006	1.0009	+0.6	7.72E+07	1.58	Y	0.94	591	17281.478	1.35
123478-HxCDF	35.45		1.0004	1.0005	+0.2	1.67E+08	1.26	Y	1.23	983	17272.698	0.809
123678-HxCDF	35.58		1.0004	1.0005	+0.2	5.55E+07	1.25	Y	1.13	309	17272.698	0.794
234678-HxCDF	36.25		1.0005	1.0005	0	1.55E+07	1.28	Y	1.15	169	17272.698	1.81
123789-HxCDF	37.19		1.0005	1.0003	-0.4	1.58E+07	1.24	Y	1.14	99	17272.698	0.906
1234678-HpCDF	38.81		1.0003	1.0003	0	7.96E+07	1.05	Y	1.36	489	8975.138	0.397
1234789-HpCDF	40.18		1.0002	1.0003	+0.2	2.70E+07	1.08	Y	1.30	208	8975.138	0.411
OCDF	42.35		1.0003	1.0003	0	4.28E+08	0.89	Y	1.03	4,730	9703.924	0.814

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.76	1.0273	1.0267	-1.0	2.65E+07	0.79	Y	1.03	89
ES 12378-PeCDD	32.44	1.2455	1.2446	-1.8	2.40E+07	1.61	Y	1.03	80.9
ES 123478-HxCDD	36.41	0.9917	0.9917	0	2.22E+07	1.28	Y	0.99	92.1
ES 123678-HxCDD	36.52	0.9948	0.9947	-0.2	2.08E+07	1.31	Y	0.97	88.1
ES 123789-HxCDD	36.82	1.0028	1.0028	0	2.30E+07	1.28	Y	1.12	84.4
ES 1234678-HpCDD	39.76	1.0830	1.0829	-0.2	1.92E+07	1.08	Y	0.99	80
ES OCDD	42.18	1.1489	1.1489	0	2.60E+07	0.91	Y	0.78	69
ES 2378-TCDF	25.82	1.0623	1.0624	+0.2	4.15E+07	0.80	Y	1.08	82.3
ES 12378-PeCDF	30.93	1.2724	1.2727	+0.6	3.56E+07	1.50	Y	0.93	81.9
ES 23478-PeCDF	32.10	1.3205	1.3207	+0.4	2.76E+07	1.59	Y	0.92	64.4
ES 123478-HxCDF	35.43	0.9649	0.9650	+0.2	2.74E+07	0.52	Y	1.14	98.8
ES 123678-HxCDF	35.57	0.9688	0.9688	0	3.16E+07	0.53	Y	1.30	100
ES 234678-HxCDF	36.23	0.9868	0.9869	+0.2	1.58E+07	0.56	Y	1.20	54.2
ES 123789-HxCDF	37.18	1.0129	1.0128	-0.2	2.79E+07	0.52	Y	1.14	101
ES 1234678-HpCDF	38.80	1.0569	1.0568	-0.2	2.38E+07	0.45	Y	0.95	103
ES 1234789-HpCDF	40.17	1.0944	1.0941	-0.7	1.98E+07	0.43	Y	0.85	96.5
ES OCDF	42.34	1.1533	1.1532	-0.3	3.50E+07	0.94	Y	0.93	78.1

Lab ID: B6171_18863_DF_003MSD | Acq'd: 25 Jan 2022 23:39 PSW | Wt/Vol: 10.07 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MSD | UTP: 27-Jan-2022 16:44:53 PSW | J-level: 0.497 pg/g | Split: 1 | Checkcode: 912-757-QDR

Datafile: 220125R18 | Report: 27 Jan 2022 16:45 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.07		-	-	-	2.87E+07	0.80	Y	-	-
JS 1234-TCDF	24.30		-	-	-	4.65E+07	0.78	Y	-	-
JS 123467-HxCDD	36.71		-	-	-	1.21E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	26.79		1.0282	1.0277	-0.8	1.24E+07	n/a	-	1.31	82.5
CS 12347-PeCDD	31.93		1.2257	1.2251	-1.1	2.14E+07	1.59	Y	0.89	83.3
CS 12346-PeCDF	30.39		1.2496	1.2502	+1.1	3.40E+07	1.56	Y	0.87	84.3
CS 123469-HxCDF	35.88		0.9773	0.9774	+0.2	3.09E+07	0.53	Y	1.09	117
CS 1234689-HpCDF	39.23		1.0687	1.0687	0	2.43E+07	0.45	Y	0.86	116
~~SS 37Cl-2378-TCDD~~	~~26.79~~		~~1.0282~~	~~1.0277~~	~~-0.8~~	~~1.24E+07~~	~~n/a~~		~~1.26~~	~~93.1~~
~~SS 12347-PeCDD~~	~~31.93~~		~~1.2257~~	~~1.2251~~	~~-1.1~~	~~2.14E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~30.39~~		~~1.2496~~	~~1.2502~~	~~+1.1~~	~~3.40E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~103~~
~~SS 123469-HxCDF~~	~~35.88~~		~~0.9773~~	~~0.9774~~	~~+0.2~~	~~3.09E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~116~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0687~~	~~0~~	~~2.43E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~113~~

Totals	Conc	EMPC
Total TCDD	5300	5370
Total PeCDD	223	227
Total HxCDD	516	516
Total HpCDD	1460	1460
Total Tetra-Octa Dioxins	16200	16200
Total TCDF	35,200	35200
Total PeCDF	2,210	2210
Total HxCDF	2,160	2160
Total HpCDF	942	942
Total Tetra-Octa Furans	45,200	45200
Total Tetra-Octa Dioxins & Furans	61400	61500

Lab ID: B6171_18863_DF_003MSD | Acq'd: 25 Jan 2022 23:39 PSW | Wt/Vol: 10.07 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MSD | UTP: 27-Jan-2022 16:44:53 PSW | J-level: 0.497 pg/g | Split: 1 | Checkcode: 912-757-QDR

Datafile: 220125R18 | Report: 27 Jan 2022 16:45 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.74		0.8486	0.8496	+1.4	4.50E+06	0.75	Y	1.34	25.1	10737.236	0.701
1379-TCDD	23.13		0.8642	0.8645	+0.4	4.95E+05	0.66	Y	1.34	2.76	10737.236	0.701
1369-TCDD	NotFnd		0.8825						1.34		10737.236	0.701
1469-TCDD	24.50		0.9154	0.9155	+0.1	1.09E+06	0.76	Y	1.34	6.09	10737.236	0.701
1247/1246/1248/1249-TCDD	24.77	EMPC	0.9256	0.9257	+0.1	1.66E+06	0.95	N	1.34	9.25	10737.236	0.701
1378-TCDD	24.97		0.9332	0.9330	-0.3	2.52E+06	0.81	Y	1.34	14	10737.236	0.701
1268-TCDD	25.18		0.9415	0.9411	-0.6	1.86E+05	0.89	Y	1.34	1.04	10737.236	0.701
1478-TCDD	25.49		0.9518	0.9527	+1.4	2.05E+06	0.83	Y	1.34	11.4	10737.236	0.701
1279-TCDD	NotFnd		0.9586						1.34		10737.236	0.701
1234/1269-TCDD	26.07	EMPC	0.9734	0.9740	+0.9	2.95E+05	0.65	N	1.34	1.65	10737.236	0.701
1236-TCDD	26.21	EMPC	0.9788	0.9795	+1.1	2.00E+05	1.36	N	1.34	1.11	10737.236	0.701
1237/1238-TCDD	26.46		0.9892	0.9890	-0.3	1.34E+07	0.86	Y	1.34	74.9	10737.236	0.701
1239-TCDD	26.62		0.9944	0.9947	+0.5	2.83E+06	0.86	Y	1.34	15.8	10737.236	0.701
2378-TCDD	**26.79**	E	**1.0008**	1.0009	**+0.2**	8.60E+08	0.79	Y	**1.34**	**4,800**	**10737.236**	**0.701**
1278-TCDD	27.14		1.0142	1.0144	+0.3	6.30E+07	0.80	Y	1.34	352	10737.236	0.701
1267-TCDD	27.29	EMPC	1.0197	1.0197	0	3.93E+06	1.14	N	1.34	21.9	10737.236	0.701
1289-TCDD	27.85	EMPC	1.0401	1.0406	+0.8	5.75E+06	0.99	N	1.34	32.1	10737.236	0.701
12479/12468-PeCDD	29.88		0.9202	0.9210	+1.4	3.52E+06	1.51	Y	1.06	27.4	9222.552	0.604
12469-PeCDD	30.43		0.9375	0.9381	+1.1	6.15E+05	1.41	Y	1.06	4.8	9222.552	0.604
12368-PeCDD	31.00		0.9553	0.9555	+0.4	1.05E+06	1.40	Y	1.06	8.21	9222.552	0.604
12478-PeCDD	31.21		0.9613	0.9619	+1.1	4.88E+05	1.71	Y	1.06	3.8	9222.552	0.604
12379-PeCDD	31.31	J	0.9644	0.9651	+1.3	3.02E+05	1.52	Y	1.06	2.35	9222.552	0.604
12369/12467/12489-PeCDD	31.58		0.9730	0.9733	+0.6	5.24E+05	1.43	Y	1.06	4.08	9222.552	0.604
12346/12347-PeCDD	31.96	J	0.9848	0.9851	+0.6	2.34E+05	1.77	Y	1.06	1.82	9222.552	0.604
12378-PeCDD	32.46		**1.0005**	**1.0006**	**+0.2**	**1.86E+07**	**1.57**	**Y**	**1.06**	**145**	**9222.552**	**0.604**
12367-PeCDD	32.58	EMPC	1.0035	1.0044	+1.8	5.30E+05	2.24	N	1.06	4.13	9222.552	0.604
12389-PeCDD	32.92		1.0146	1.0148	+0.4	3.20E+06	1.61	Y	1.06	25	9222.552	0.604
124679/124689-HxCDD	34.71		0.9532	0.9534	+0.4	1.17E+07	1.29	Y	1.05	100	18728.322	1.29
123468-HxCDD	35.37		0.9715	0.9715	0	8.95E+05	1.36	Y	1.05	7.69	18728.322	1.29
123679/123689-HxCDD	35.67		0.9795	0.9796	+0.2	6.04E+06	1.24	Y	1.05	51.9	18728.322	1.29
123469-HxCDD	35.80		0.9832	0.9832	0	2.98E+05	1.14	Y	1.05	2.56	18728.322	1.29
123478-HxCDD	36.42		**1.0004**	**1.0004**	**0**	**1.30E+07**	**1.26**	**Y**	1.06	**110**	**18728.322**	**1.28**
123678-HxCDD	36.54		**1.0035**	**1.0035**	**0**	**1.44E+07**	**1.24**	**Y**	1.08	**127**	**18728.322**	**1.29**
123467-HxCDD	36.73		1.0087	1.0088	+0.2	3.65E+05	1.25	Y	1.05	3.13	18728.322	1.29
123789-HxCDD	36.83		**1.0116**	**1.0116**	**0**	**1.33E+07**	**1.27**	**Y**	1.02	**113**	**18728.322**	**1.3**

Lab ID: B6171_18863_DF_003MSD | Acq'd: 25 Jan 2022 23:39 PSW | Wt/Vol: 10.07 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MSD | UTP: 27-Jan-2022 16:44:53 PSW | J-level: 0.497 pg/g | Split: 1 | Checkcode: 912-757-QDR

Datafile: 220125R18 | Report: 27 Jan 2022 16:45 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9835	+0.2	6.71E+07	1.05	Y	0.97	712	10513.047	0.651
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**7.08E+07**	**1.04**	**Y**	**0.97**	**751**	**10513.047**	**0.651**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**6.06E+08**	**0.90**	**Y**	**1.07**	**8,660**	**11792.9**	**1.31**
OCDD-a	42.19		1.0001	1.0002	+0.3	3.61E+07	2.55	Y	0.07	8,360	12451.211	22.4
1368-TCDF	20.50		0.7942	0.7938	-0.5	6.49E+06	0.73	Y	0.96	32.3	18135.087	1.22
1468-TCDF	21.07		0.8155	0.8160	+0.6	4.86E+06	0.81	Y	0.96	24.3	18135.087	1.22
2468-TCDF	21.72		0.8407	0.8412	+0.7	6.01E+06	0.82	Y	0.96	30	18135.087	1.22
1346/1246-TCDF	22.24		0.8553	0.8612	+7.9	5.48E+06	0.76	Y	0.96	27.3	18135.087	1.22
1347/1378/1247-TCDF	22.35		0.8617	0.8657	+5.4	1.81E+07	0.76	Y	0.96	90.1	18135.087	1.22
1348-TCDF	22.58		0.8740	0.8747	+0.9	9.58E+06	0.78	Y	0.96	47.8	18135.087	1.22
1248/1367/1379-TCDF	22.72		0.8798	0.8798	0	1.05E+08	0.80	Y	0.96	524	18135.087	1.22
1268-TCDF	23.17		0.8967	0.8972	+0.7	5.03E+07	0.79	Y	0.96	251	18135.087	1.22
1467-TCDF	23.31		0.9025	0.9028	+0.4	8.80E+06	0.79	Y	0.96	43.9	18135.087	1.22
1478-TCDF	23.51		0.9101	0.9105	+0.6	1.32E+08	0.80	Y	0.96	657	18135.087	1.22
1369/1237-TCDF	23.94		0.9263	0.9270	+1.0	3.59E+07	0.81	Y	0.96	179	18135.087	1.22
2467-TCDF	24.07		0.9322	0.9323	+0.1	4.41E+06	0.82	Y	0.96	22	18135.087	1.22
2368-TCDF	24.22		0.9389	0.9381	-1.2	7.44E+07	0.79	Y	0.96	371	18135.087	1.22
1238/1234/1678/1469/1236-TCDF	24.31	E	0.9427	0.9416	-1.6	2.23E+08	0.81	Y	0.96	1,110	18135.087	1.22
1278-TCDF	24.84	E	0.9623	0.9619	-0.6	1.77E+09	0.79	Y	0.96	8,840	18135.087	1.22
1349-TCDF	NotFnd		0.9678						0.96		18135.087	1.22
1267-TCDF	25.14		0.9740	0.9738	-0.3	8.33E+07	0.79	Y	0.96	415	18135.087	1.22
2346/1249-TCDF	25.36		0.9820	0.9823	+0.5	1.09E+07	0.79	Y	0.96	54.5	18135.087	1.22
2347/1279-TCDF	25.59		0.9915	0.9911	-0.6	4.41E+07	0.78	Y	0.96	220	18135.087	1.22
2348-TCDF	25.73	E	0.9964	0.9964	0	3.50E+08	0.79	Y	0.96	1,750	18135.087	1.22
2378-TCDF	**25.85**	E	**1.0008**	**1.0010**	**+0.3**	**3.47E+09**	**0.80**	**Y**	**0.96**	**17,300**	**18135.087**	**1.22**
2367/3467-TCDF	26.24	E	1.0163	1.0162	-0.2	2.92E+08	0.80	Y	0.96	1,460	18135.087	1.22
1269-TCDF	26.51		1.0265	1.0265	0	4.61E+07	0.78	Y	0.96	230	18135.087	1.22
1239-TCDF	26.79		1.0373	1.0374	+0.2	5.28E+06	0.81	Y	0.96	26.3	18135.087	1.22
1289-TCDF	28.04	E	1.0847	1.0858	+1.9	3.00E+08	0.80	Y	0.96	1,490	18135.087	1.22
13468/12468-PeCDF	27.99		0.9045	0.9050	+0.8	3.47E+07	1.60	Y	0.94	232	10483.875	0.673
13678/13467/12467-PeCDF	29.65		0.9574	0.9585	+2.0	1.60E+06	1.60	Y	0.94	10.7	17281.478	1.11
12368/13478/12478-PeCDF	29.81		0.9628	0.9638	+1.8	4.24E+07	1.60	Y	0.94	282	17281.478	1.11
14678-PeCDF	29.89		0.9661	0.9662	+0.2	3.07E+06	1.66	Y	0.94	20.5	17281.478	1.11
13479-PeCDF	NotFnd		0.9695						0.94		17281.478	1.11
13469/12479-PeCDF	30.21		0.9779	0.9768	-2.0	4.90E+05	1.67	Y	0.94	3.27	17281.478	1.11
12346-PeCDF	30.40	J EMPC	0.9824	0.9830	+1.1	2.87E+05	1.25	N	0.94	1.91	17281.478	1.11

Lab ID: B6171_18863_DF_003MSD | Acq'd: 26 Jan 2022 23:39 PSW | Wt/Vol: 10.07 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-B-7-MSD | UTP: 27-Jan-2022 16:44:53 PSW | J-level: 0.497 pg/g | Split: 1 | Checkcode: 912-757-QDR

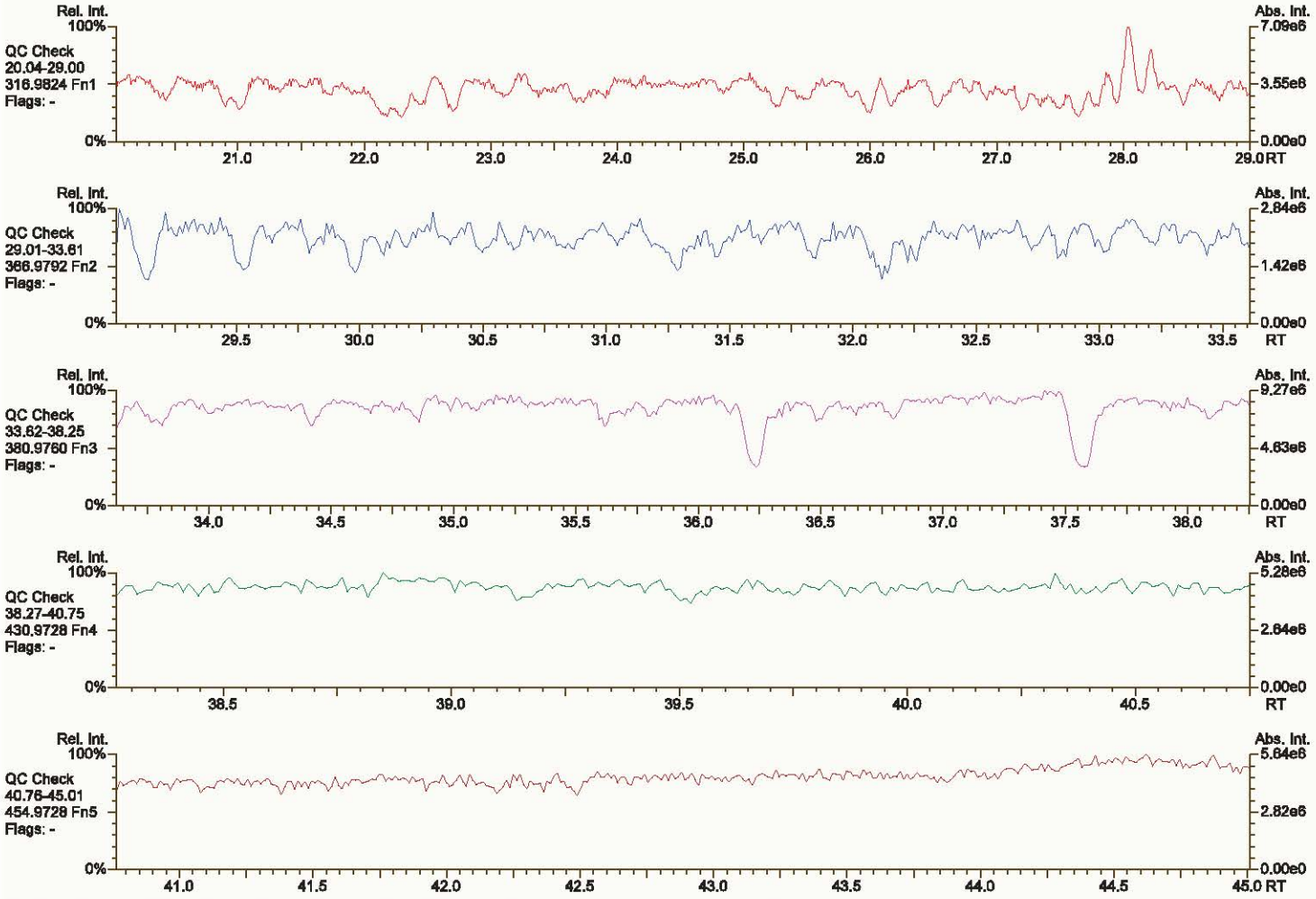
Datafile: 220125R18 | Report: 27 Jan 2022 16:45 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.49		0.9857	0.9859	+0.4	2.41E+06	1.61	Y	0.94	16.1	17281.478	1.11
12347-PeCDF	30.57		0.9882	0.9882	0	2.29E+06	1.64	Y	0.94	15.2	17281.478	1.11
12348-PeCDF	30.74		0.9935	0.9937	+0.4	1.05E+07	1.59	Y	0.94	70.2	17281.478	1.11
12378-PeCDF	**30.95**		**1.0006**	**1.0006**	**0**	**1.22E+08**	**1.57**	**Y**	**0.95**	**719**	**17281.478**	**0.92**
12678/12367-PeCDF	31.26		1.0099	1.0106	+1.3	2.69E+07	1.60	Y	0.94	179	17281.478	1.11
12379-PeCDF	NotFnd		1.0155						0.94		17281.478	1.11
12679-PeCDF	31.84	J EMPC	0.9921	0.9920	-0.2	2.33E+05	1.87	N	0.94	1.55	17281.478	1.11
23467/12369-PeCDF	31.97		0.9962	0.9961	-0.2	1.61E+06	1.59	Y	0.94	10.7	17281.478	1.11
23478-PeCDF	**32.13**		**1.0006**	**1.0009**	**+0.6**	**7.72E+07**	**1.58**	**Y**	**0.94**	**591**	**17281.478**	**1.35**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		17281.478	1.11
12349-PeCDF	NotFnd		1.0106						0.94		17281.478	1.11
12389-PeCDF	33.20		1.0349	1.0345	-0.8	8.44E+06	1.62	Y	0.94	56.3	17281.478	1.11
123468-HxCDF	34.05		0.9606	0.9610	+0.8	4.55E+07	1.26	Y	1.16	303	17272.698	0.983
124678/134678-HxCDF	34.25		0.9663	0.9666	+0.6	1.58E+07	1.30	Y	1.16	105	17272.698	0.983
134679-HxCDF	34.47	J	0.9729	0.9729	0	2.07E+05	1.27	Y	1.16	1.38	17272.698	0.983
124679-HxCDF	34.68		0.9786	0.9788	+0.4	4.29E+05	1.19	Y	1.16	2.85	17272.698	0.983
124689-HxCDF	34.91		0.9851	0.9854	+0.6	1.18E+07	1.33	Y	1.16	78.4	17272.698	0.983
123467-HxCDF	35.32		0.9970	0.9969	-0.2	1.02E+06	1.22	Y	1.16	6.76	17272.698	0.983
123478-HxCDF	**35.45**		**1.0004**	**1.0005**	**+0.2**	**1.67E+08**	**1.26**	**Y**	**1.23**	**983**	**17272.698**	**0.809**
123678-HxCDF	**35.58**		**1.0004**	**1.0005**	**+0.2**	**5.55E+07**	**1.25**	**Y**	**1.13**	**309**	**17272.698**	**0.794**
123479-HxCDF	35.77		1.0050	1.0056	+1.3	1.09E+06	1.23	Y	1.16	7.28	17272.698	0.983
123469-HxCDF	35.90		1.0091	1.0093	+0.4	1.01E+06	1.17	Y	1.16	6.71	17272.698	0.983
123679-HxCDF	36.02		0.9942	0.9942	0	5.28E+05	1.17	Y	1.16	3.52	17272.698	0.983
234678-HxCDF	**36.25**		**1.0005**	**1.0005**	**0**	**1.55E+07**	**1.28**	**Y**	**1.15**	**169**	**17272.698**	**1.81**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		17272.698	0.983
123789-HxCDF	**37.19**		**1.0005**	**1.0003**	**-0.4**	**1.58E+07**	**1.24**	**Y**	**1.14**	**99**	**17272.698**	**0.906**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.24		1.0008	1.0016	+1.8	1.24E+07	1.30	Y	1.16	82.7	17272.698	0.983
1234678-HpCDF	**36.81**		**1.0003**	**1.0003**	**0**	**7.96E+07**	**1.05**	**Y**	**1.36**	**489**	**8975.138**	**0.397**
1234679-HpCDF	39.09		1.0076	1.0076	0	1.87E+06	0.96	Y	1.33	12.8	8975.138	0.404
1234689-HpCDF	39.24		1.0114	1.0115	+0.2	3.39E+07	1.04	Y	1.33	232	8975.138	0.404
1234789-HpCDF	**40.18**		**1.0002**	**1.0003**	**+0.2**	**2.70E+07**	**1.08**	**Y**	**1.30**	**208**	**8975.138**	**0.411**
OCDF	**42.35**		**1.0003**	**1.0003**	**0**	**4.28E+08**	**0.89**	**Y**	**1.03**	**4,730**	**9703.924**	**0.814**
OCDF-a	42.35		1.0001	1.0002	+0.3	2.51E+07	2.57	Y	0.06	4,800	12725.929	18.5

SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18



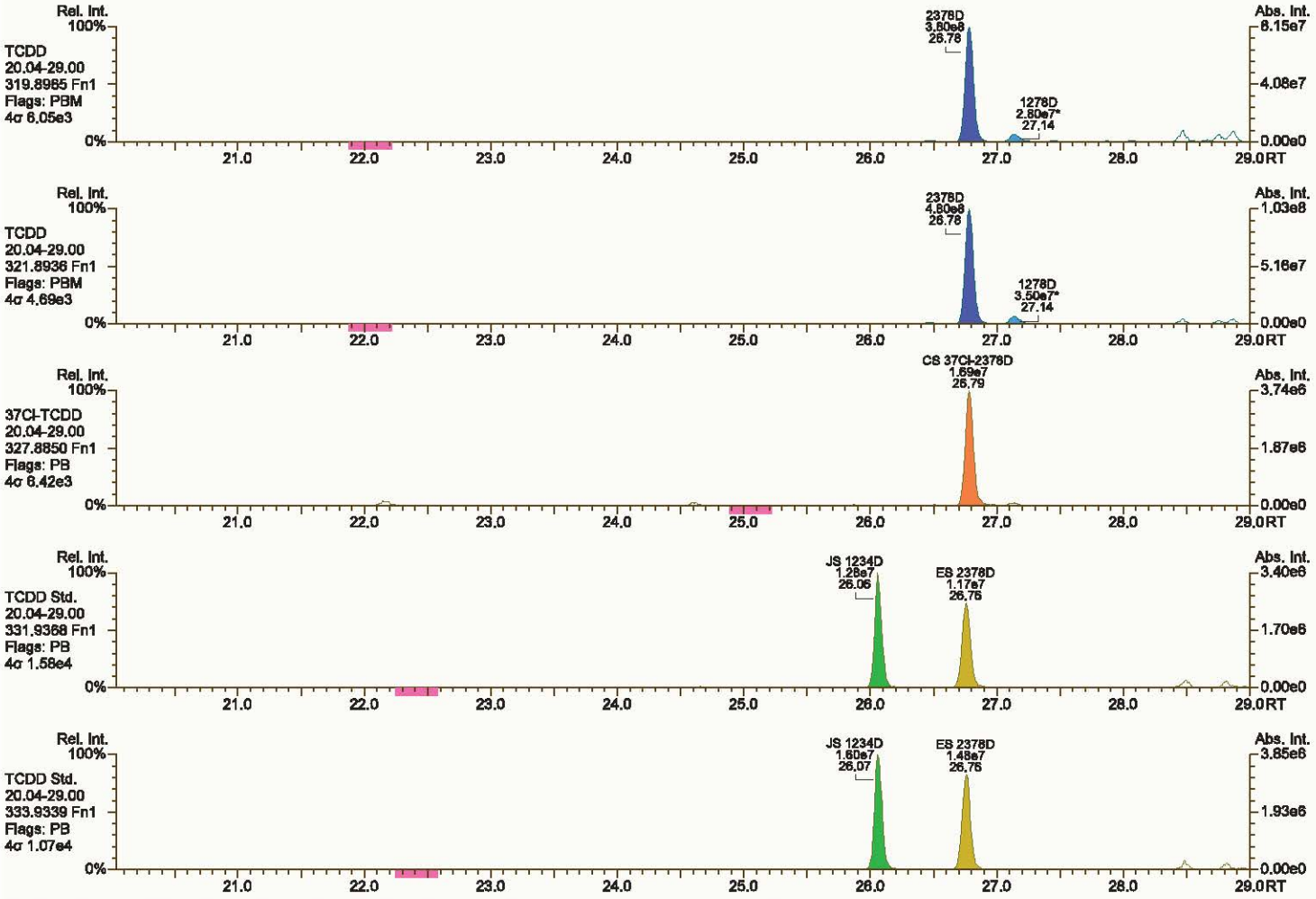
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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 912-757

Peak annotation: Areas, Centroids
PKD: n/a Printed: 27-Jan-2022 16:47 Page 1 of 12

SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3

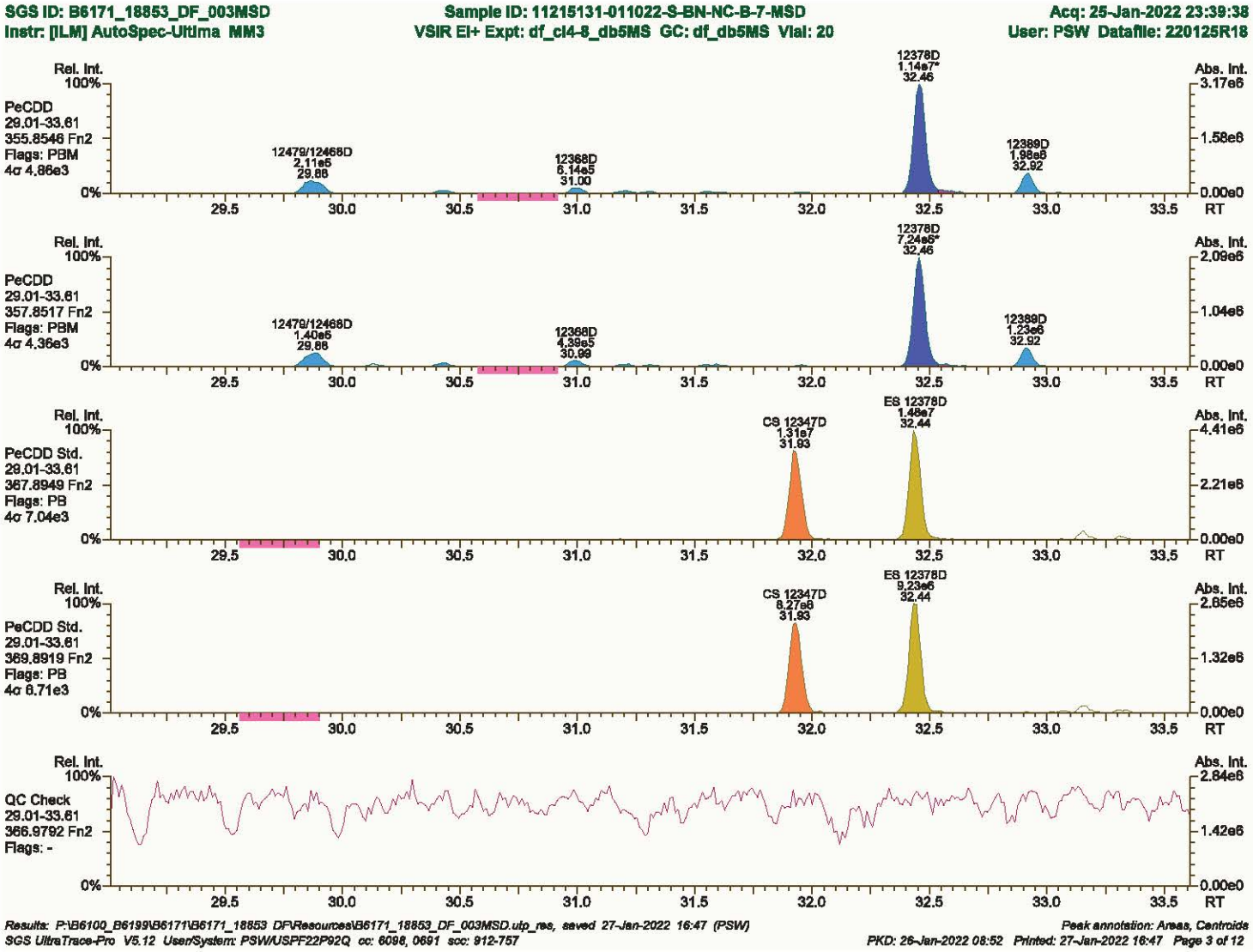
Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

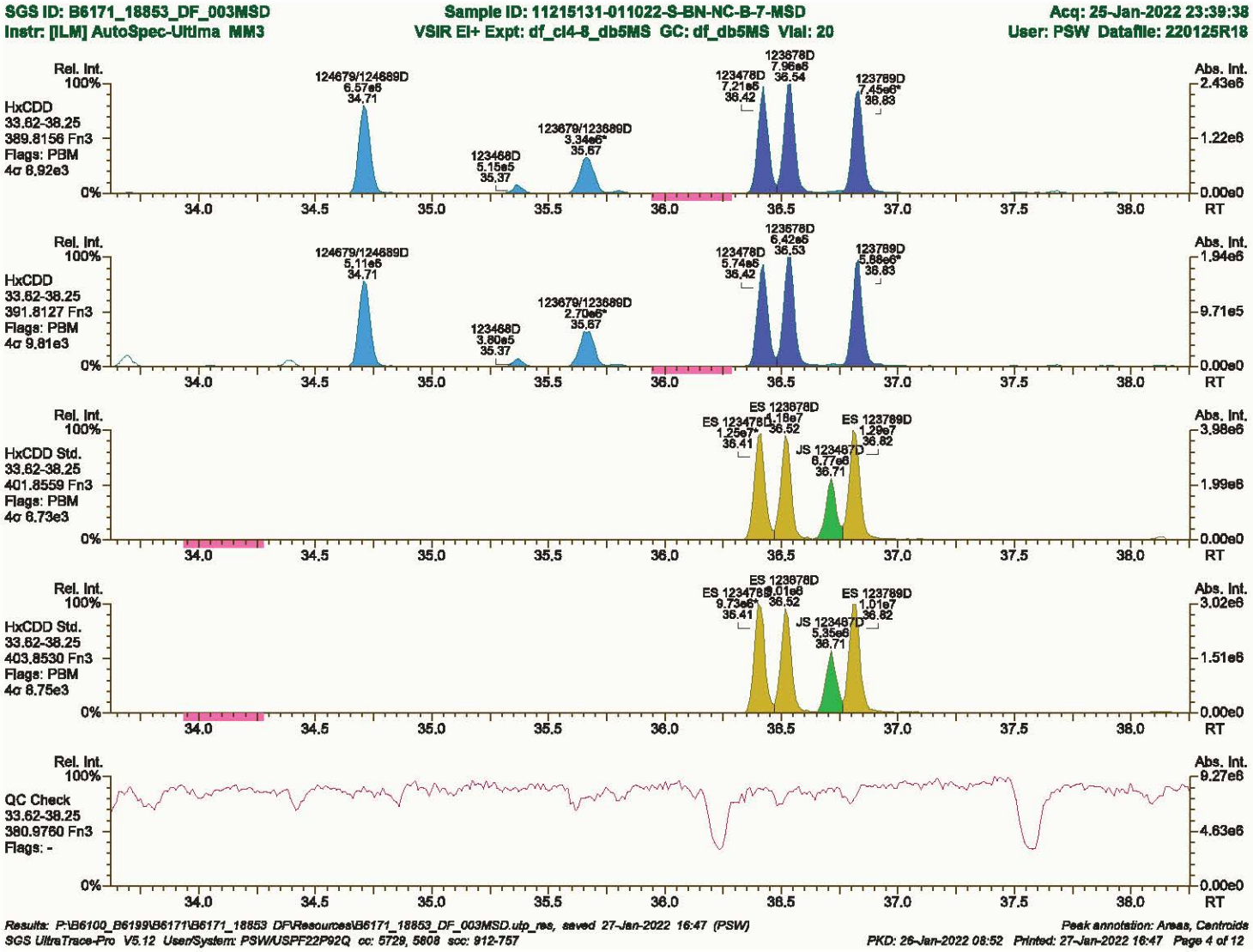
Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18



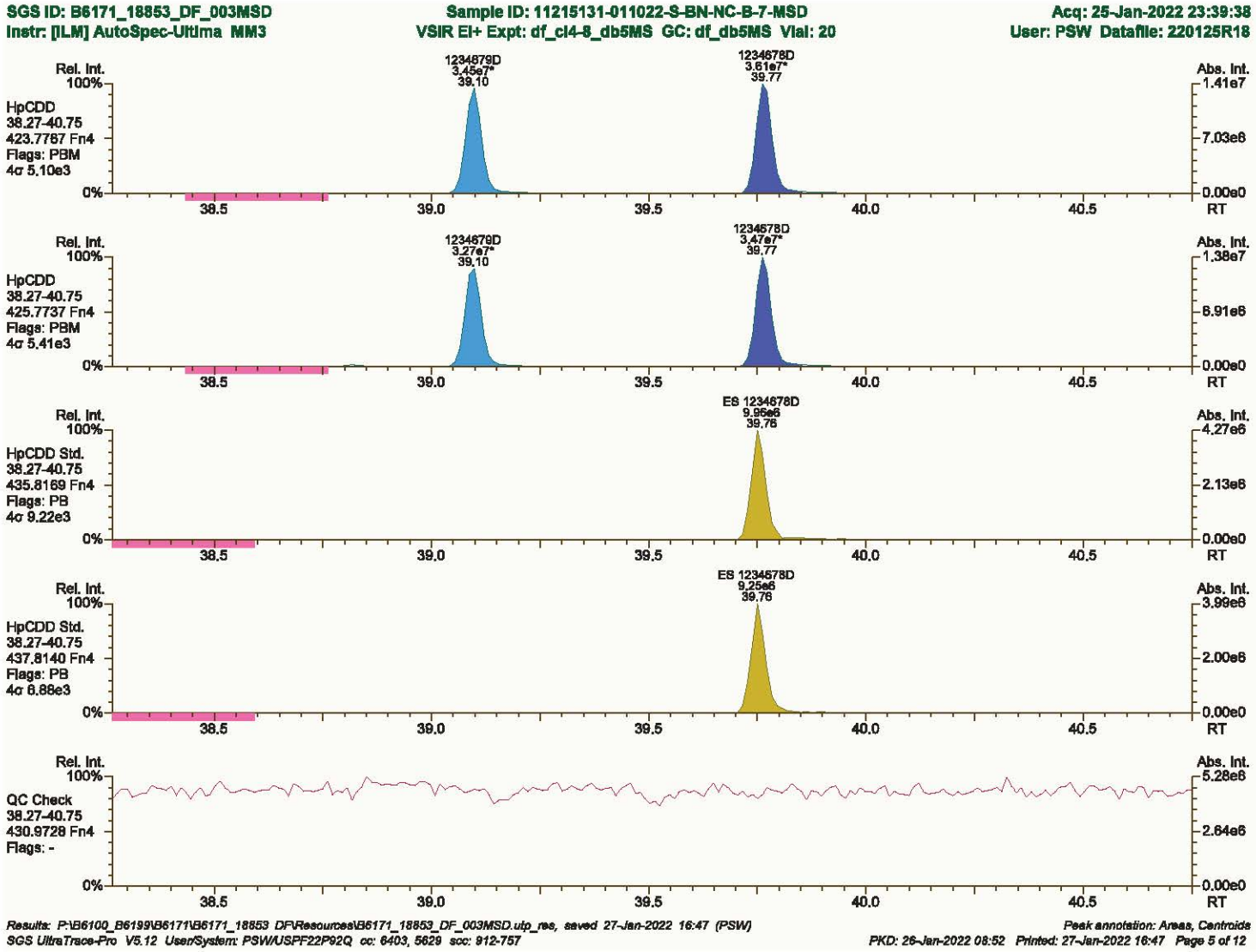
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Peak annotation: Areas, Centroids

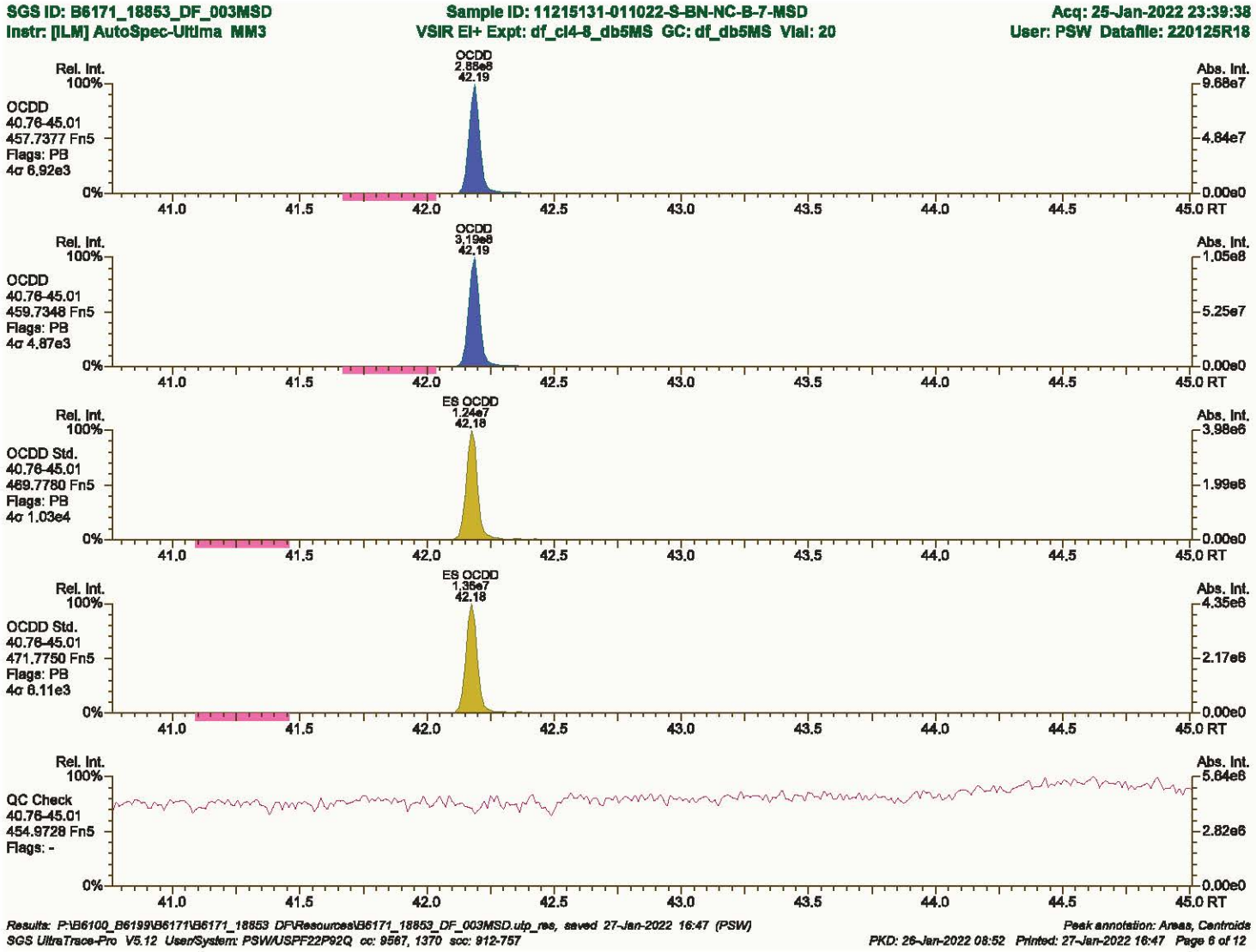
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7774, 7329, 8215 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 2 of 12


SGS ID: B6171_18853_DF_003MSD
Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
Acq: 25-Jan-2022 23:39:38
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: PSW Datafile: 220125R18
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 4.86e3
12479/12468D
2.11e6
29.88
12368D
6.14e5
31.00
12378D
1.14e7*
32.46
12389D
1.98e6
32.92
3.17e6
1.58e6
0.00e0
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 4.36e3
12479/12468D
1.40e6
29.88
12368D
4.39e5
30.99
12378D
7.24e5*
32.46
12389D
1.23e6
32.92
2.09e6
1.04e6
0.00e0
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 7.04e3
CS 12347D
1.31e7
31.93
ES 12378D
1.48e7
32.44
4.41e6
2.21e6
0.00e0
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 6.71e3
CS 12347D
8.27e6
31.93
ES 12378D
9.23e6
32.44
2.65e6
1.32e6
0.00e0
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
2.84e6
1.42e6
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6096, 0691 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 3 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5729, 5808 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 4 of 12

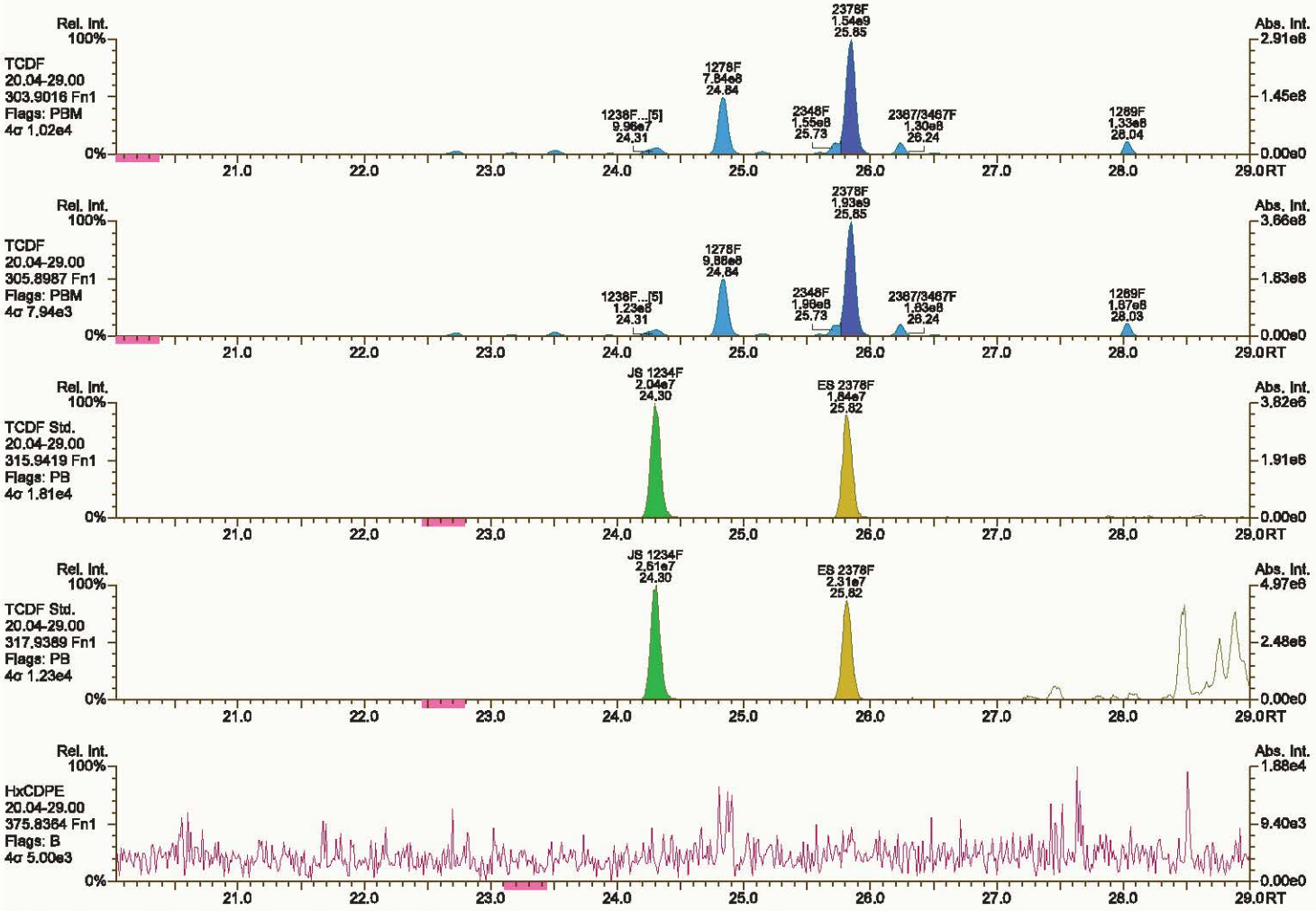

SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18
Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PBM
4σ 5.10e3
1234679D
3.45e7*
39.10
1234678D
3.61e7*
39.77
Abs. Int.
1.41e7
7.03e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PBM
4σ 5.41e3
1234679D
3.27e7*
39.10
1234678D
3.47e7*
39.77
Abs. Int.
1.38e7
6.91e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 9.22e3
ES 1234678D
9.95e6
39.76
Abs. Int.
4.27e6
2.13e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 6.88e3
ES 1234678D
9.25e6
39.76
Abs. Int.
3.99e6
2.00e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
Abs. Int.
5.28e6
2.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6403, 5629 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 5 of 12


SGS ID: B6171_18853_DF_003MSD
Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
Acq: 25-Jan-2022 23:39:38
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: PSW Datafile: 220125R18
Rel. Int.
Abs. Int.
OCDD
2.85e8
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 6.92e3
9.68e7
4.84e7
0.00e0
OCDD
3.19e8
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.87e3
1.05e8
5.25e7
ES OCDD
1.24e7
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 1.03e4
3.98e6
1.99e6
ES OCDD
1.35e7
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 6.11e3
4.35e6
2.17e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.64e6
2.82e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9567, 1370 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 6 of 12

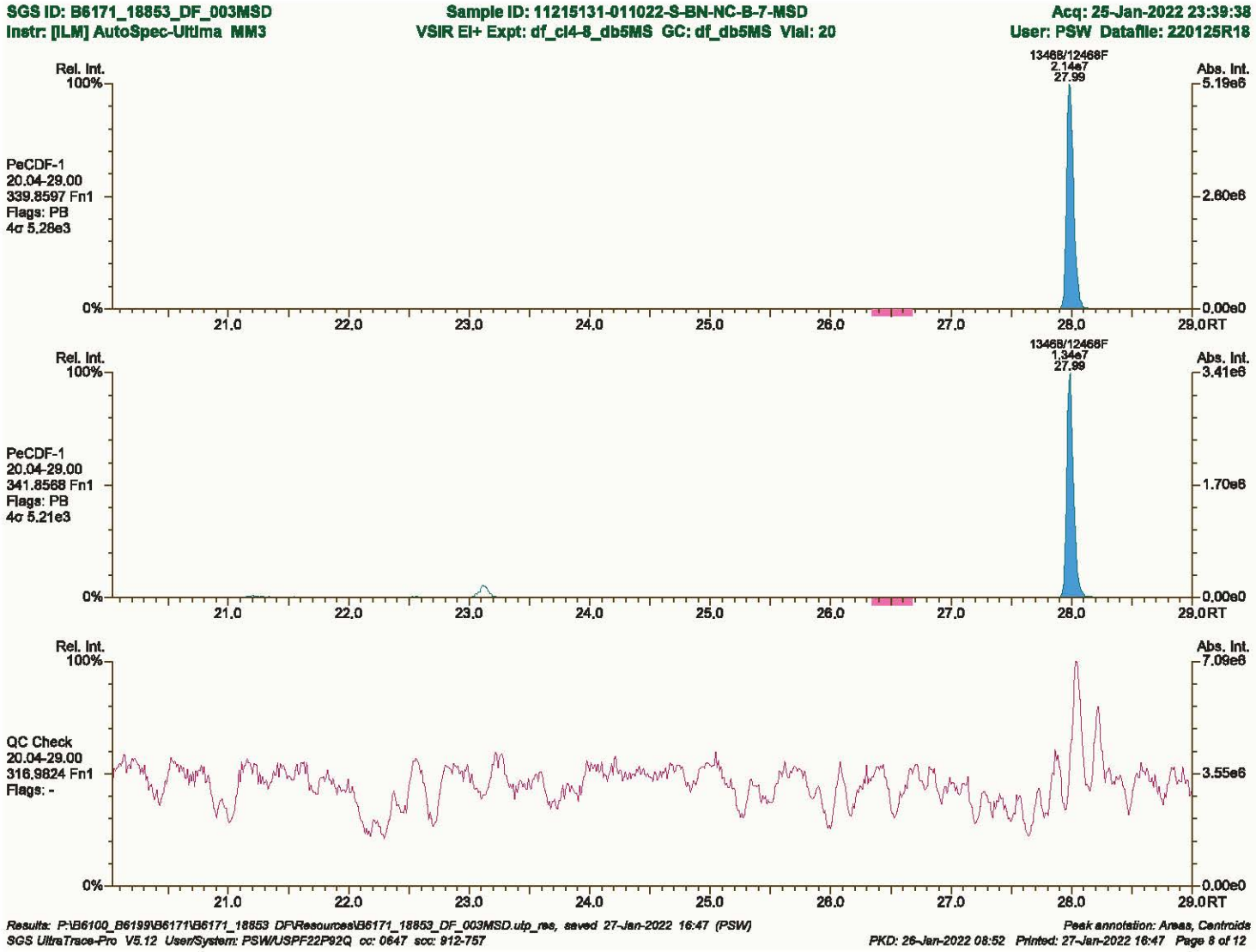
SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3

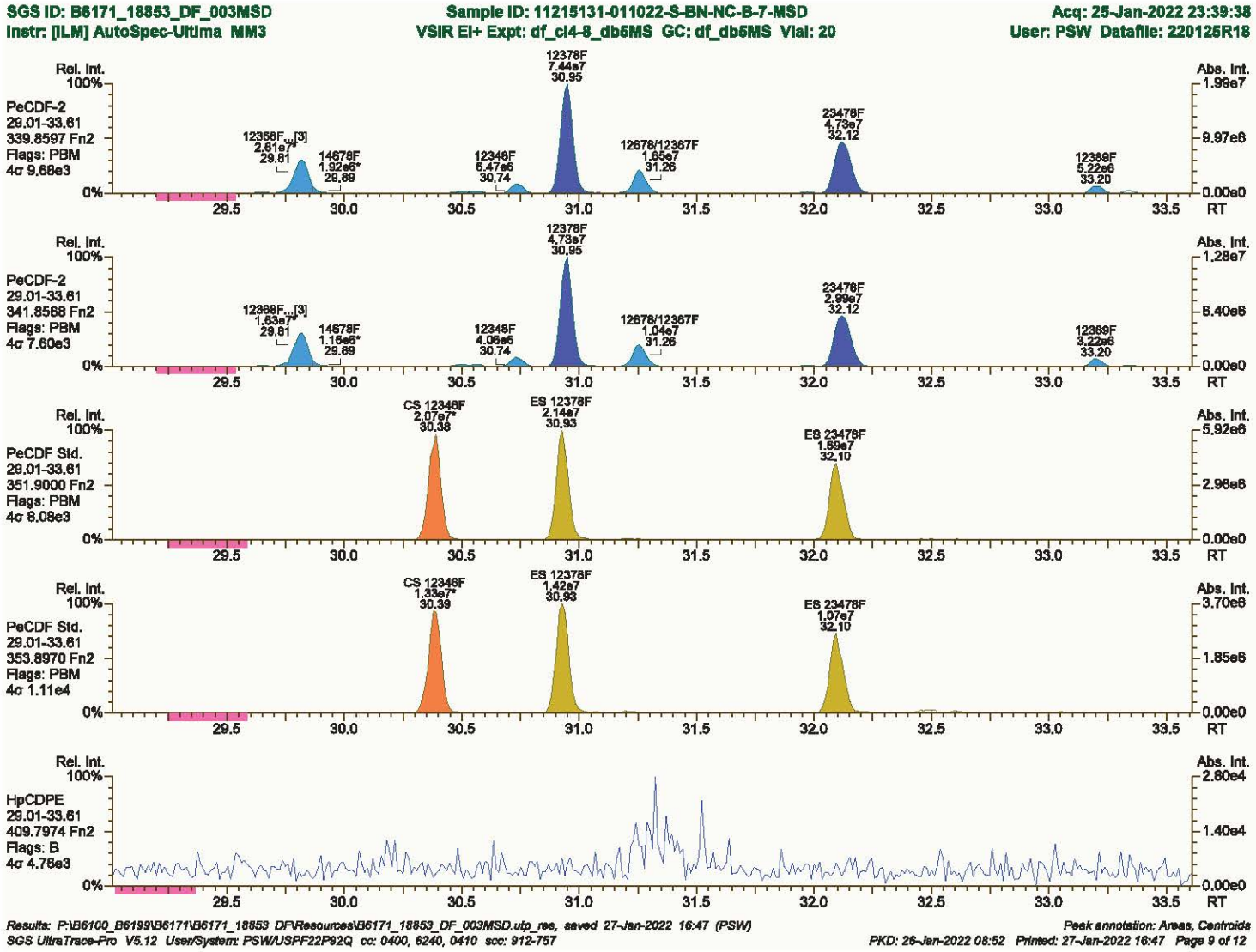
Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7003, 3391, 8977 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 7 of 12


SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 5.28e3
13468/12468F
2.14e7
27.99
Abs. Int.
5.19e6
2.60e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.21e3
13468/12468F
1.34e7
27.99
Abs. Int.
3.41e6
1.70e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
7.09e6
3.55e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0647 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 8 of 12

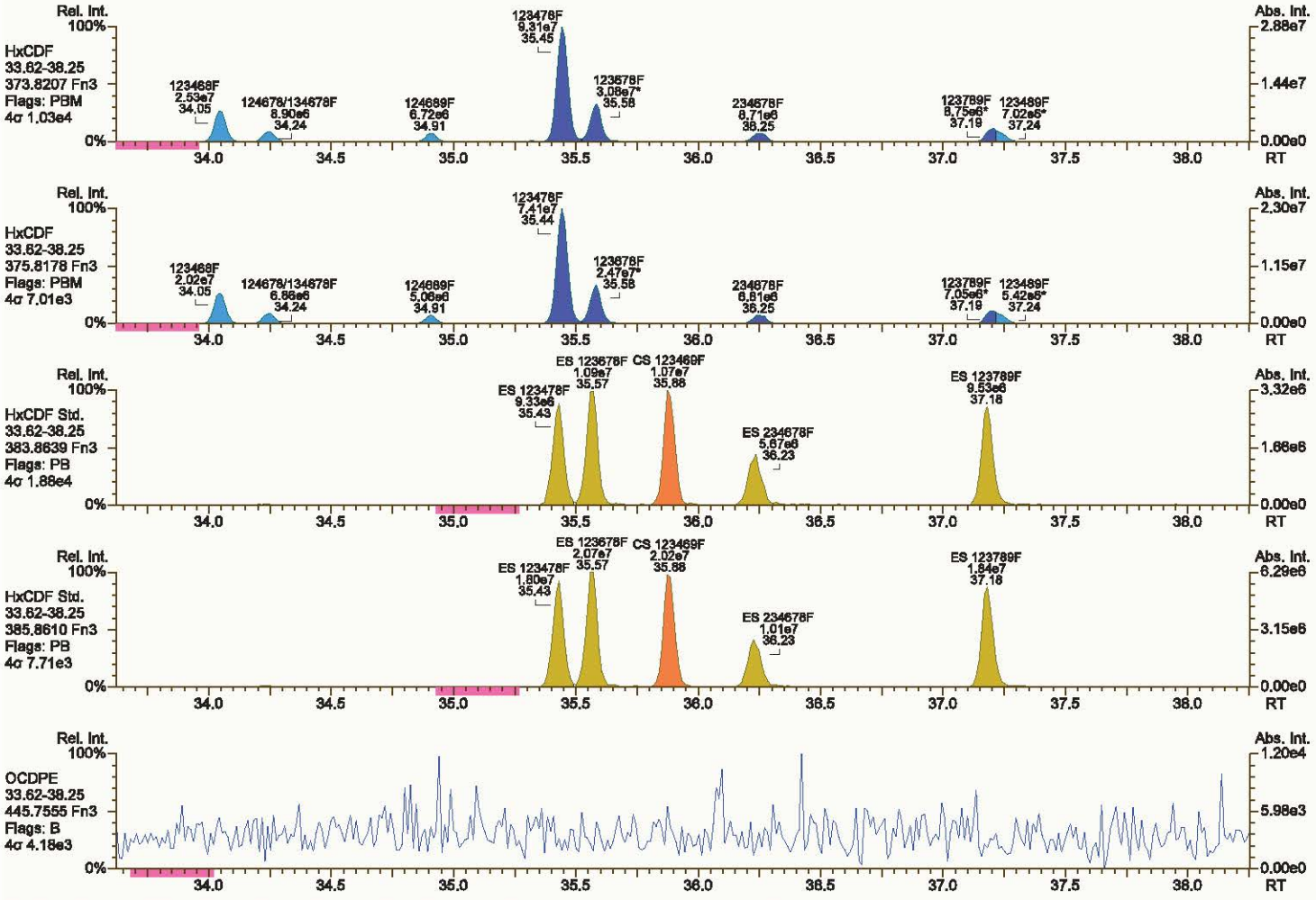


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0400, 6240, 0410 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 9 of 12

SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18

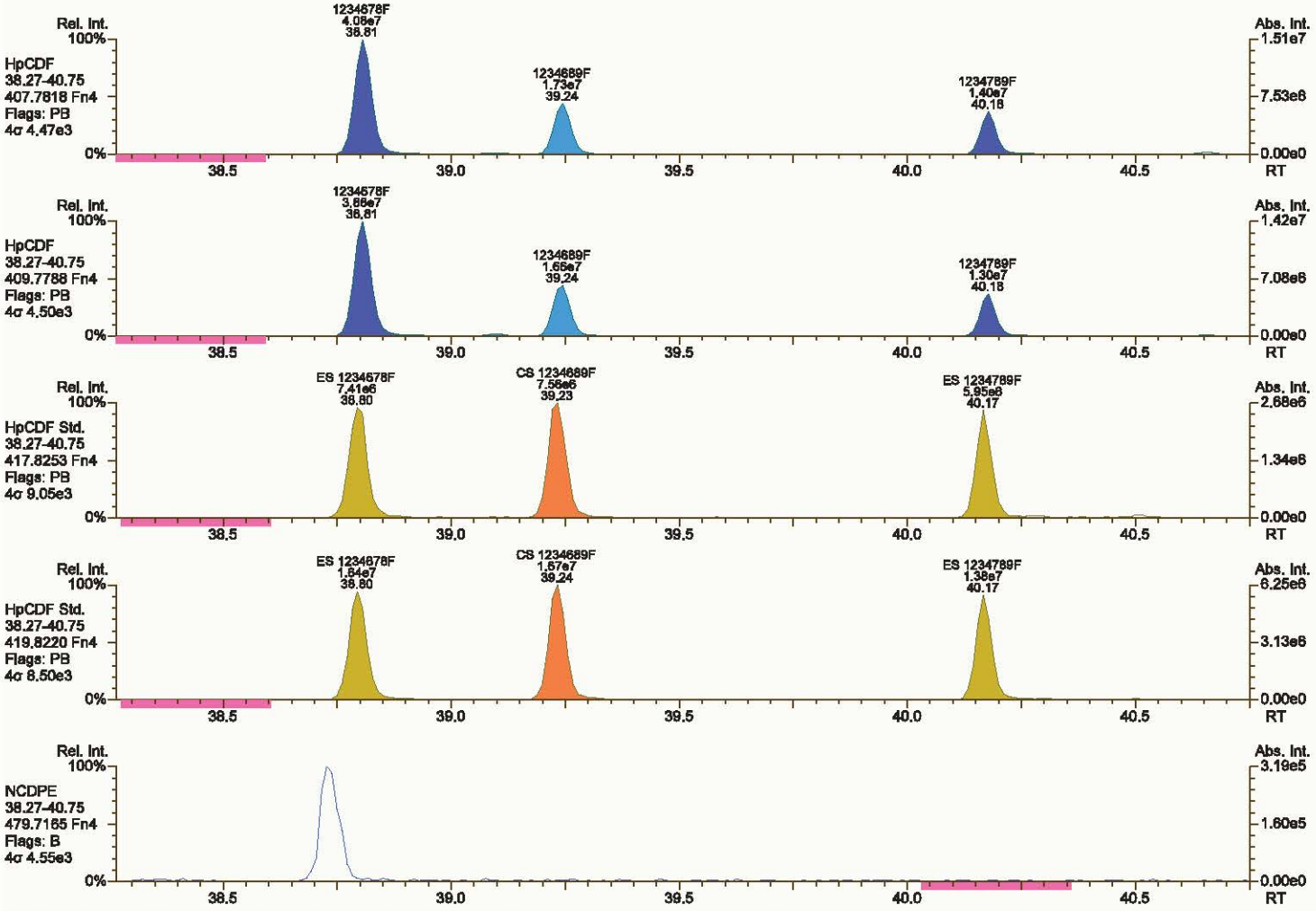


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4560, 6607, 1995 scc: 912-757
Revised: 27-Jan-2022 16:44 (PSW) Printed: 27-Jan-2022 16:47 Page 10 of 12

SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18



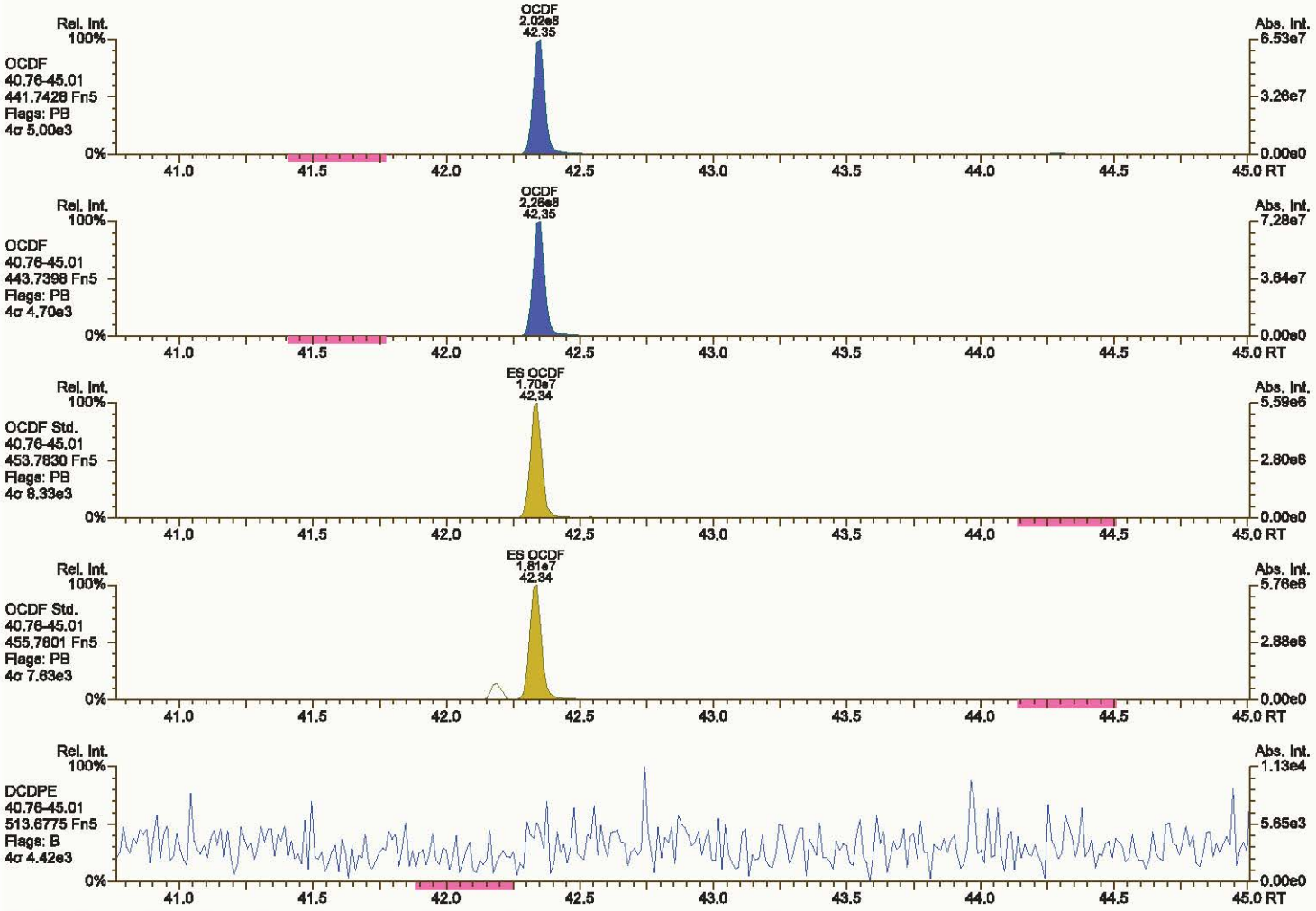
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0373, 4705, 5936 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 11 of 12

SGS ID: B6171_18853_DF_003MSD
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 11215131-011022-S-BN-NC-B-7-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

Acq: 25-Jan-2022 23:39:38
User: PSW Datafile: 220125R18



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_003MSD.utp_res, saved 27-Jan-2022 16:47 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2313, 5402, 0001 scc: 912-757
PKD: 26-Jan-2022 08:52 Printed: 27-Jan-2022 16:47 Page 12 of 12

Lab ID: B6171_18863_DF_004 | Acq'd: 26 Jan 2022 00:27 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-DUP-12 | UTP: 26-Jan-2022 09:28:52 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 560-090-SLJ

Datafile: 220125R19 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.79	E	1.0008	1.0009	+0.2	8.88E+08	0.80	Y	1.34	5,010	10405.374	0.658
12378-PeCDD	32.47		1.0005	1.0006	+0.2	6.89E+06	1.68	Y	1.06	55.9	10837.801	0.774
123478-HxCDD	36.43		1.0004	1.0004	0	4.35E+05	1.13	Y	1.06	3.89	14517.532	0.984
123678-HxCDD	36.54		1.0035	1.0034	-0.2	2.23E+06	1.27	Y	1.08	19.8	14517.532	0.968
123789-HxCDD	36.84		1.0116	1.0116	0	9.36E+05	1.27	Y	1.02	8.48	14517.532	1.1
1234678-HpCDD	39.78		1.0003	1.0003	0	7.45E+07	1.06	Y	0.97	825	10567.868	0.746
OCDD	42.20	E	1.0003	1.0003	0	6.58E+08	0.90	Y	1.07	10,000	10278.661	1.16
2378-TCDF	25.85	E	1.0008	1.0010	+0.3	3.61E+09	0.80	Y	0.96	19,500	17197.235	1.24
12378-PeCDF	30.96		1.0006	1.0006	0	1.02E+08	1.58	Y	0.95	630	15775.139	0.908
23478-PeCDF	32.13		1.0006	1.0009	+0.6	6.23E+07	1.58	Y	0.94	501	15775.139	1.38
123478-HxCDF	35.45		1.0004	1.0005	+0.2	1.49E+08	1.25	Y	1.23	924	13032.676	0.638
123678-HxCDF	35.59		1.0004	1.0005	+0.2	3.64E+07	1.27	Y	1.13	215	13032.676	0.587
234678-HxCDF	36.26		1.0005	1.0003	-0.4	4.29E+06	1.24	Y	1.15	50.3	13032.676	1.6
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	13032.676	0.713
1234678-HpCDF	38.82		1.0003	1.0003	0	6.24E+07	1.05	Y	1.36	411	7564.472	0.34
1234789-HpCDF	40.19		1.0002	1.0003	+0.2	1.38E+07	1.05	Y	1.30	115	7564.472	0.399
OCDF	42.36		1.0003	1.0003	0	4.00E+08	0.90	Y	1.03	4,680	9234.445	0.774

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.77	1.0273	1.0267	-1.0	2.61E+07	0.78	Y	1.03	94.8
ES 12378-PeCDD	32.45	1.2455	1.2447	-1.6	2.30E+07	1.65	Y	1.03	83.7
ES 123478-HxCDD	36.42	0.9917	0.9916	-0.2	2.09E+07	1.27	Y	0.99	97.5
ES 123678-HxCDD	36.53	0.9948	0.9947	-0.2	2.06E+07	1.28	Y	0.97	98.1
ES 123789-HxCDD	36.83	1.0028	1.0027	-0.2	2.15E+07	1.31	Y	1.12	88.6
ES 1234678-HpCDD	39.77	1.0830	1.0828	-0.5	1.83E+07	1.06	Y	0.99	85.6
ES OCDD	42.19	1.1489	1.1488	-0.3	2.43E+07	0.88	Y	0.78	72.5
ES 2378-TCDF	25.82	1.0623	1.0622	-0.2	3.82E+07	0.86	Y	1.08	82.6
ES 12378-PeCDF	30.94	1.2724	1.2725	+0.2	3.39E+07	1.62	Y	0.93	85
ES 23478-PeCDF	32.11	1.3205	1.3205	0	2.62E+07	1.57	Y	0.92	66.5
ES 123478-HxCDF	35.44	0.9649	0.9649	0	2.58E+07	0.52	Y	1.14	105
ES 123678-HxCDF	35.58	0.9688	0.9687	-0.2	2.97E+07	0.53	Y	1.30	106
ES 234678-HxCDF	36.24	0.9868	0.9869	+0.2	1.46E+07	0.56	Y	1.20	56.5
ES 123789-HxCDF	37.19	1.0129	1.0127	-0.4	2.64E+07	0.51	Y	1.14	108
ES 1234678-HpCDF	38.81	1.0569	1.0567	-0.5	2.21E+07	0.46	Y	0.95	108
ES 1234789-HpCDF	40.18	1.0944	1.0940	-1.0	1.82E+07	0.46	Y	0.85	99.9
ES OCDF	42.35	1.1533	1.1532	-0.3	3.29E+07	0.94	Y	0.93	82.5

Lab ID: B6171_18863_DF_004 | Acq'd: 26 Jan 2022 00:27 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-DUP-12 | UTP: 26-Jan-2022 09:28:52 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 560-090-SLJ

Datafile: 220125R19 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.07		-	-	-	2.66E+07	0.79	Y	-	-
JS 1234-TCDF	24.31		-	-	-	4.27E+07	0.80	Y	-	-
JS 123467-HxCDD	36.72		-	-	-	1.08E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	26.79		1.0282	1.0277	-0.8	1.18E+07	n/a	-	1.31	84.7
CS 12347-PeCDD	31.94		1.2257	1.2251	-1.1	2.06E+07	1.64	Y	0.89	87
CS 12346-PeCDF	30.39		1.2496	1.2501	+0.9	3.28E+07	1.59	Y	0.87	88.6
CS 123469-HxCDF	35.89		0.9773	0.9773	0	2.88E+07	0.51	Y	1.09	122
CS 1234689-HpCDF	39.24		1.0687	1.0686	-0.2	2.26E+07	0.46	Y	0.86	121
SS 37Cl-2378-TCDD	26.79		1.0282	1.0277	-0.8	1.18E+07	n/a	-	1.26	89.8
SS 12347-PeCDD	31.94		1.2257	1.2251	-1.1	2.06E+07	1.64	Y	0.86	104
SS 12346-PeCDF	30.39		1.2496	1.2501	+0.9	3.28E+07	1.59	Y	0.93	104
SS 123469-HxCDF	35.89		0.9773	0.9773	0	2.88E+07	0.51	Y	0.84	115
SS 1234689-HpCDF	39.24		1.0687	1.0686	-0.2	2.26E+07	0.46	Y	0.91	112

Totals	Conc	EMPC
Total TCDD	5530	5580
Total PeCDD	88.6	96
Total HxCDD	224	224
Total HpCDD	2080	2080
Total Tetra-Octa Dioxins	17900	18000
Total TCDF	39,100	39100
Total PeCDF	1,840	1840
Total HxCDF	1,510	1510
Total HpCDF	821	821
Total Tetra-Octa Furans	48,000	48000
Total Tetra-Octa Dioxins & Furans	65900	66000

Lab ID: B6171_18863_DF_004 | Acq'd: 26 Jan 2022 00:27 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-DUP-12 | UTP: 26-Jan-2022 09:28:52 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 560-090-SLJ

Datafile: 220125R19 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.74		0.8486	0.8495	+1.2	1.21E+06	0.78	Y	1.34	6.85	10405.374	0.658
1379-TCDD	23.15		0.8642	0.8647	+0.7	5.67E+05	0.87	Y	1.34	3.2	10405.374	0.658
1369-TCDD	NotFnd		0.8825						1.34		10405.374	0.658
1469-TCDD	24.51		0.9154	0.9158	+0.6	8.97E+05	0.72	Y	1.34	5.06	10405.374	0.658
1247/1246/1248/1249-TCDD	24.77	EMPC	0.9256	0.9256	0	1.66E+06	0.95	N	1.34	9.35	10405.374	0.658
1378-TCDD	24.98		0.9332	0.9331	-0.1	2.64E+06	0.80	Y	1.34	14.9	10405.374	0.658
1268-TCDD	NotFnd		0.9415						1.34		10405.374	0.658
1478-TCDD	25.48		0.9518	0.9520	+0.3	2.03E+06	0.76	Y	1.34	11.5	10405.374	0.658
1279-TCDD	25.66	EMPC	0.9586	0.9588	+0.3	1.25E+05	1.01	N	1.34	0.706	10405.374	0.658
1234/1269-TCDD	26.07	EMPC	0.9734	0.9740	+0.9	3.88E+05	0.62	N	1.34	2.19	10405.374	0.658
1236-TCDD	26.22	EMPC	0.9788	0.9795	+1.1	2.25E+05	1.02	N	1.34	1.27	10405.374	0.658
1237/1238-TCDD	26.47		0.9892	0.9890	-0.3	1.40E+07	0.87	Y	1.34	78.9	10405.374	0.658
1239-TCDD	NotFnd		0.9944						1.34		10405.374	0.658
2378-TCDD	**26.79**	E	**1.0008**	1.0009	**+0.2**	8.88E+08	0.80	Y	**1.34**	**5,010**	**10405.374**	**0.658**
1278-TCDD	27.15		1.0142	1.0144	+0.3	7.14E+07	0.80	Y	1.34	403	10405.374	0.658
1267-TCDD	27.30	EMPC	1.0197	1.0201	+0.7	4.00E+06	1.17	N	1.34	22.6	10405.374	0.658
1289-TCDD	27.83	EMPC	1.0401	1.0397	-0.7	2.35E+06	1.28	N	1.34	13.3	10405.374	0.658
12479/12468-PeCDD	29.88		0.9202	0.9209	+1.3	1.04E+06	1.56	Y	1.06	8.4	10837.801	0.774
12469-PeCDD	30.44		0.9375	0.9381	+1.1	6.50E+05	1.41	Y	1.06	5.27	10837.801	0.774
12368-PeCDD	31.00		0.9553	0.9555	+0.4	1.14E+06	1.56	Y	1.06	9.26	10837.801	0.774
12478-PeCDD	31.21		0.9613	0.9618	+0.9	5.17E+05	1.70	Y	1.06	4.19	10837.801	0.774
12379-PeCDD	31.31	J EMPC	0.9644	0.9650	+1.1	2.67E+05	2.03	N	1.06	2.17	10837.801	0.774
12369/12467/12489-PeCDD	31.58		0.9730	0.9733	+0.6	4.83E+05	1.72	Y	1.06	3.92	10837.801	0.774
12346/12347-PeCDD	31.96	J	0.9848	0.9850	+0.4	2.08E+05	1.50	Y	1.06	1.68	10837.801	0.774
12378-PeCDD	32.47		**1.0005**	**1.0006**	**+0.2**	**6.89E+06**	**1.68**	**Y**	**1.06**	**55.9**	**10837.801**	**0.774**
12367-PeCDD	32.59	EMPC	1.0035	1.0045	+2.0	5.09E+05	2.07	N	1.06	4.13	10837.801	0.774
12389-PeCDD	32.93	J EMPC	1.0146	1.0149	+0.6	1.33E+05	2.39	N	1.06	1.08	10837.801	0.774
124679/124689-HxCDD	34.72		0.9532	0.9535	+0.6	1.11E+07	1.26	Y	1.05	99.6	14517.532	1.01
123468-HxCDD	35.38		0.9715	0.9715	0	1.32E+06	1.30	Y	1.05	11.8	14517.532	1.01
123679/123689-HxCDD	35.68		0.9795	0.9796	+0.2	7.52E+06	1.26	Y	1.05	67.3	14517.532	1.01
123469-HxCDD	35.81		0.9832	0.9832	0	1.02E+06	1.23	Y	1.05	9.17	14517.532	1.01
123478-HxCDD	36.43		**1.0004**	**1.0004**	**0**	**4.35E+05**	**1.13**	**Y**	1.06	**3.89**	**14517.532**	**0.984**
123678-HxCDD	36.54		**1.0035**	**1.0034**	**-0.2**	**2.23E+06**	**1.27**	**Y**	1.08	**19.8**	**14517.532**	**0.968**
123467-HxCDD	36.74		1.0087	1.0088	+0.2	4.34E+05	1.24	Y	1.05	3.89	14517.532	1.01
123789-HxCDD	36.84		**1.0116**	**1.0116**	**0**	**9.36E+05**	**1.27**	**Y**	1.02	**8.48**	**14517.532**	**1.1**

Lab ID: B6171_18863_DF_004 | Acq'd: 26 Jan 2022 00:27 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-DUP-12 | UTP: 26-Jan-2022 09:28:52 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 560-090-SLJ

Datafile: 220125R19 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9835	+0.2	1.13E+08	1.04	Y	0.97	1,260	10567.868	0.746
1234678-HpCDD	**39.78**		**1.0003**	**1.0003**	**0**	**7.45E+07**	**1.06**	**Y**	**0.97**	**825**	**10567.868**	**0.746**
OCDD	**42.20**	**E**	**1.0003**	**1.0003**	**0**	**6.58E+08**	**0.90**	**Y**	**1.07**	**10,000**	**10278.661**	**1.16**
OCDD-a	42.20		1.0001	1.0002	+0.3	3.90E+07	2.46	Y	0.07	9,610	11690.48	21.4
1368-TCDF	20.49		0.7942	0.7935	-0.9	8.13E+05	0.81	Y	0.96	4.38	17197.235	1.24
1468-TCDF	21.08		0.8155	0.8161	+0.8	4.72E+06	0.79	Y	0.96	25.4	17197.235	1.24
2468-TCDF	21.72		0.8407	0.8412	+0.7	4.69E+06	0.76	Y	0.96	25.3	17197.235	1.24
1346/1246-TCDF	22.22		0.8553	0.8606	+7.1	4.04E+06	0.82	Y	0.96	21.8	17197.235	1.24
1347/1378/1247-TCDF	22.34		0.8617	0.8652	+4.7	1.98E+07	0.78	Y	0.96	106	17197.235	1.24
1348-TCDF	22.62		0.8740	0.8758	+2.4	1.84E+07	0.80	Y	0.96	99.3	17197.235	1.24
1248/1367/1379-TCDF	22.73		0.8798	0.8802	+0.5	8.23E+07	0.80	Y	0.96	443	17197.235	1.24
1268-TCDF	23.17		0.8967	0.8973	+0.8	4.85E+07	0.79	Y	0.96	261	17197.235	1.24
1467-TCDF	23.32		0.9025	0.9030	+0.7	9.17E+06	0.78	Y	0.96	49.4	17197.235	1.24
1478-TCDF	23.52		0.9101	0.9106	+0.7	1.28E+08	0.79	Y	0.96	688	17197.235	1.24
1369/1237-TCDF	23.94		0.9263	0.9271	+1.1	3.67E+07	0.79	Y	0.96	197	17197.235	1.24
2467-TCDF	24.08		0.9322	0.9324	+0.3	4.19E+06	0.87	Y	0.96	22.6	17197.235	1.24
2368-TCDF	24.24		0.9389	0.9387	-0.3	1.04E+08	0.78	Y	0.96	558	17197.235	1.24
1238/1234/1678/1469/1236-TCDF	24.33	E	0.9427	0.9420	-1.0	2.04E+08	0.79	Y	0.96	1,100	17197.235	1.24
1278-TCDF	24.84	E	0.9623	0.9620	-0.4	1.83E+09	0.80	Y	0.96	9,880	17197.235	1.24
1349-TCDF	NotFnd		0.9678						0.96		17197.235	1.24
1267-TCDF	25.15		0.9740	0.9738	-0.3	8.75E+07	0.80	Y	0.96	471	17197.235	1.24
2346/1249-TCDF	25.37		0.9820	0.9824	+0.6	9.84E+06	0.81	Y	0.96	53	17197.235	1.24
2347/1279-TCDF	25.60		0.9915	0.9911	-0.6	4.38E+07	0.79	Y	0.96	236	17197.235	1.24
2348-TCDF	25.73	E	0.9964	0.9962	-0.3	3.43E+08	0.79	Y	0.96	1,840	17197.235	1.24
2378-TCDF	**25.85**	**E**	**1.0008**	**1.0010**	**+0.3**	**3.61E+09**	**0.80**	**Y**	**0.96**	**19,500**	**17197.235**	**1.24**
2367/3467-TCDF	26.25	E	1.0163	1.0163	0	3.05E+08	0.79	Y	0.96	1,640	17197.235	1.24
1269-TCDF	26.51		1.0265	1.0265	0	4.76E+07	0.78	Y	0.96	256	17197.235	1.24
1239-TCDF	26.82		1.0373	1.0384	+1.8	6.94E+06	0.80	Y	0.96	37.4	17197.235	1.24
1289-TCDF	28.04	E	1.0847	1.0859	+2.0	3.04E+08	0.79	Y	0.96	1,630	17197.235	1.24
13468/12468-PeCDF	28.03		0.9045	0.9059	+2.4	5.99E+06	1.58	Y	0.94	41.8	10650.133	0.753
13678/13467/12467-PeCDF	29.65		0.9574	0.9585	+2.0	1.55E+06	1.65	Y	0.94	10.8	15775.139	1.12
12368/13478/12478-PeCDF	29.82		0.9628	0.9639	+2.0	4.30E+07	1.56	Y	0.94	300	15775.139	1.12
14678-PeCDF	29.91		0.9661	0.9669	+1.4	1.67E+06	1.52	Y	0.94	11.6	15775.139	1.12
13479-PeCDF	NotFnd		0.9695						0.94		15775.139	1.12
13469/12479-PeCDF	30.21	EMPC	0.9779	0.9764	-2.7	5.55E+05	1.30	N	0.94	3.87	15775.139	1.12
12346-PeCDF	30.41	J	0.9824	0.9828	+0.7	2.62E+05	1.55	Y	0.94	1.83	15775.139	1.12

Lab ID: B6171_18863_DF_004 | Acq'd: 26 Jan 2022 00:27 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

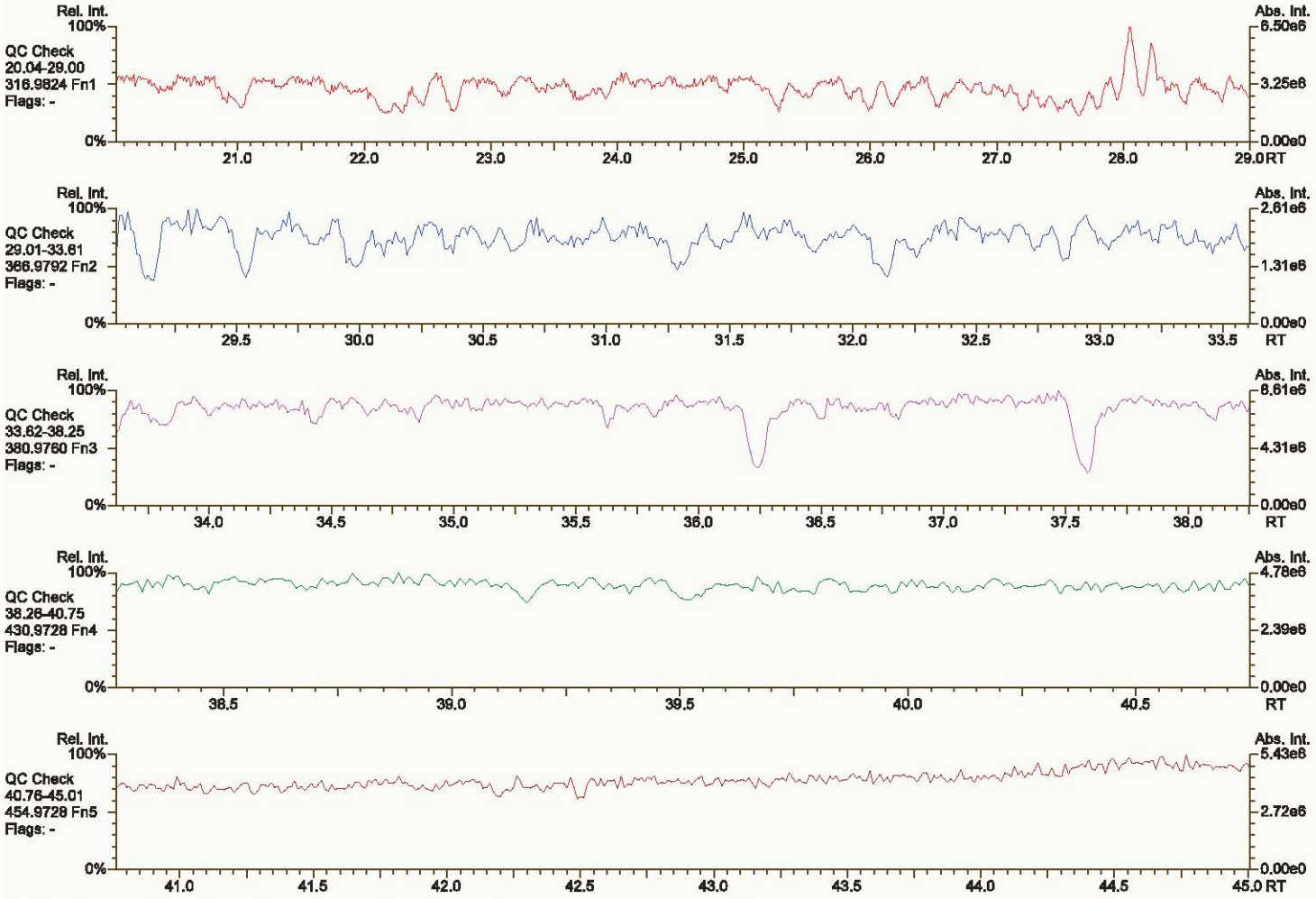
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Datafile: 220125R19 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.50		0.9857	0.9859	+0.4	2.66E+06	1.71	Y	0.94	18.6	15775.139	1.12
12347-PeCDF	30.58		0.9882	0.9883	+0.2	2.25E+06	1.67	Y	0.94	15.7	15775.139	1.12
12348-PeCDF	30.74		0.9935	0.9937	+0.4	1.07E+07	1.59	Y	0.94	74.7	15775.139	1.12
12378-PeCDF	**30.96**		**1.0006**	**1.0006**	**0**	**1.02E+08**	**1.58**	**Y**	**0.95**	**630**	**15775.139**	**0.908**
12678/12367-PeCDF	31.26		1.0099	1.0105	+1.1	2.72E+07	1.57	Y	0.94	190	15775.139	1.12
12379-PeCDF	NotFnd		1.0155						0.94		15775.139	1.12
12679-PeCDF	NotFnd		0.9921						0.94		15775.139	1.12
23467/12369-PeCDF	31.98		0.9962	0.9961	-0.2	1.60E+06	1.68	Y	0.94	11.1	15775.139	1.12
23478-PeCDF	**32.13**		**1.0006**	**1.0009**	**+0.6**	**6.23E+07**	**1.58**	**Y**	**0.94**	**501**	**15775.139**	**1.38**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		15775.139	1.12
12349-PeCDF	NotFnd		1.0106						0.94		15775.139	1.12
12389-PeCDF	33.21		1.0349	1.0345	-0.8	4.50E+06	1.60	Y	0.94	31.4	15775.139	1.12
123468-HxCDF	34.05		0.9606	0.9610	+0.8	2.71E+06	1.29	Y	1.16	19.1	13032.676	0.787
124678/134678-HxCDF	34.26		0.9663	0.9667	+0.8	1.53E+07	1.26	Y	1.16	107	13032.676	0.787
134679-HxCDF	34.50	J EMPC	0.9729	0.9736	+1.4	9.49E+04	1.69	N	1.16	0.669	13032.676	0.787
124679-HxCDF	34.69		0.9786	0.9790	+0.8	3.71E+05	1.20	Y	1.16	2.62	13032.676	0.787
124689-HxCDF	34.92		0.9851	0.9854	+0.6	1.25E+07	1.28	Y	1.16	88	13032.676	0.787
123467-HxCDF	35.33		0.9970	0.9969	-0.2	9.34E+05	1.31	Y	1.16	6.58	13032.676	0.787
123478-HxCDF	**35.45**		**1.0004**	**1.0005**	**+0.2**	**1.49E+08**	**1.25**	**Y**	**1.23**	**924**	**13032.676**	**0.638**
123678-HxCDF	**35.59**		**1.0004**	**1.0005**	**+0.2**	**3.64E+07**	**1.27**	**Y**	**1.13**	**215**	**13032.676**	**0.587**
123479-HxCDF	35.76		1.0050	1.0051	+0.2	1.06E+06	1.18	Y	1.16	7.47	13032.676	0.787
123469-HxCDF	35.90		1.0091	1.0092	+0.2	8.67E+05	1.19	Y	1.16	6.11	13032.676	0.787
123679-HxCDF	36.02		0.9942	0.9938	-0.9	3.99E+05	1.23	Y	1.16	2.81	13032.676	0.787
234678-HxCDF	**36.26**		**1.0005**	**1.0003**	**-0.4**	**4.29E+06**	**1.24**	**Y**	**1.15**	**50.3**	**13032.676**	**1.6**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		13032.676	0.787
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**13032.676**	**0.713**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.24		1.0008	1.0014	+1.3	1.14E+07	1.27	Y	1.16	80.6	13032.676	0.787
1234678-HpCDF	**38.82**		**1.0003**	**1.0003**	**0**	**6.24E+07**	**1.05**	**Y**	**1.36**	**411**	**7564.472**	**0.34**
1234679-HpCDF	39.10		1.0076	1.0077	+0.2	1.62E+06	1.03	Y	1.33	12	7564.472	0.366
1234689-HpCDF	39.26		1.0114	1.0116	+0.5	3.84E+07	1.07	Y	1.33	283	7564.472	0.366
1234789-HpCDF	**40.19**		**1.0002**	**1.0003**	**+0.2**	**1.38E+07**	**1.05**	**Y**	**1.30**	**115**	**7564.472**	**0.399**
OCDF	**42.36**		**1.0003**	**1.0003**	**0**	**4.00E+08**	**0.90**	**Y**	**1.03**	**4,680**	**9234.445**	**0.774**
OCDF-a	42.36		1.0001	1.0002	+0.3	2.36E+07	2.45	Y	0.06	4,780	10014.042	14.5

SGS ID: B6171_18853_DF_004 | Sample ID: 11215131-011022-S-BN-DUP-12 | Acq: 26-Jan-2022 00:27:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: PSW Datafile: 220125R19



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW)

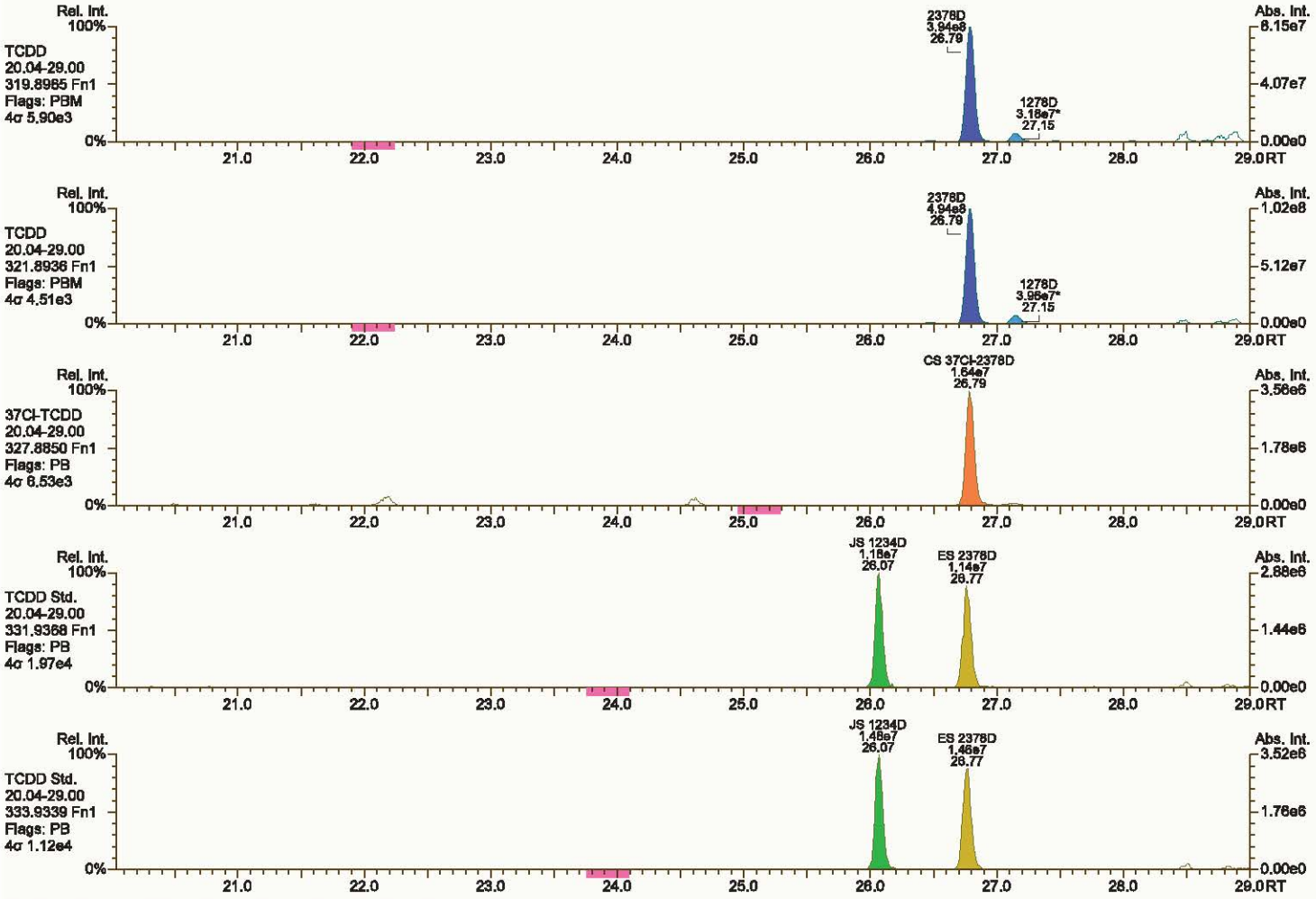
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 560-090

PKD: n/a Printed: 26-Jan-2022 11:19 Page 1 of 12

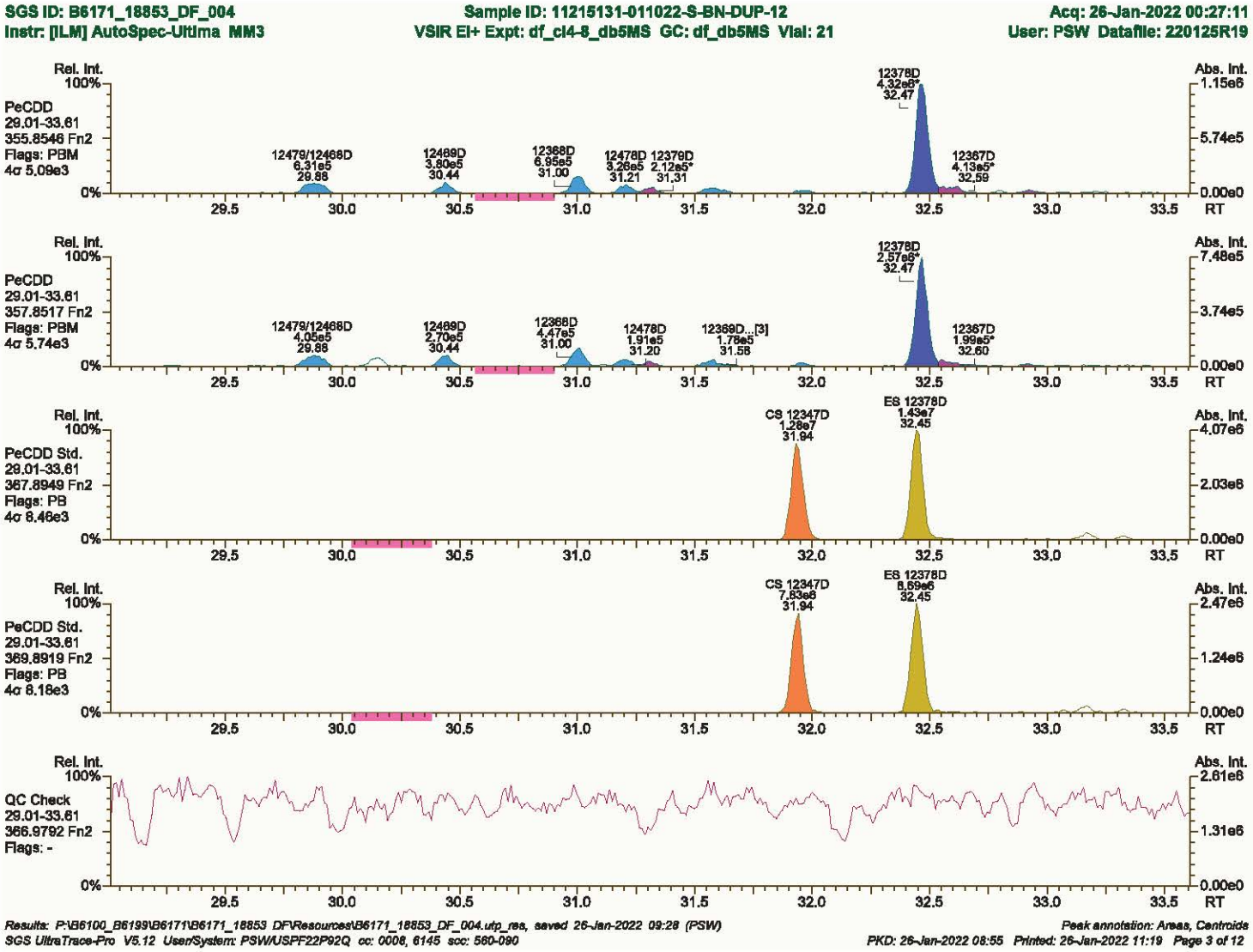
SGS ID: B6171_18853_DF_004 | Sample ID: 11215131-011022-S-BN-DUP-12 | Acq: 26-Jan-2022 00:27:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: PSW Datafile: 220125R19



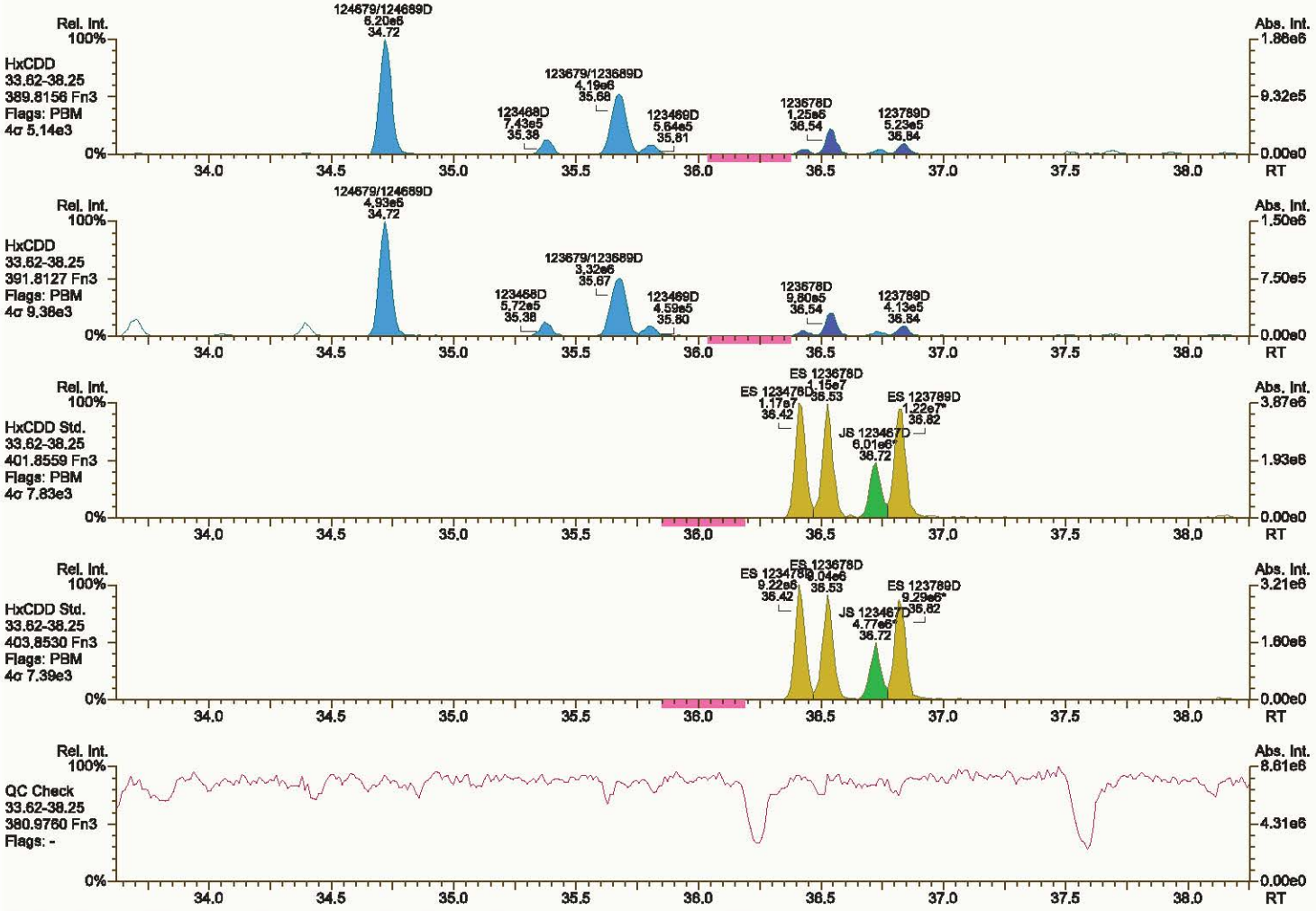
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

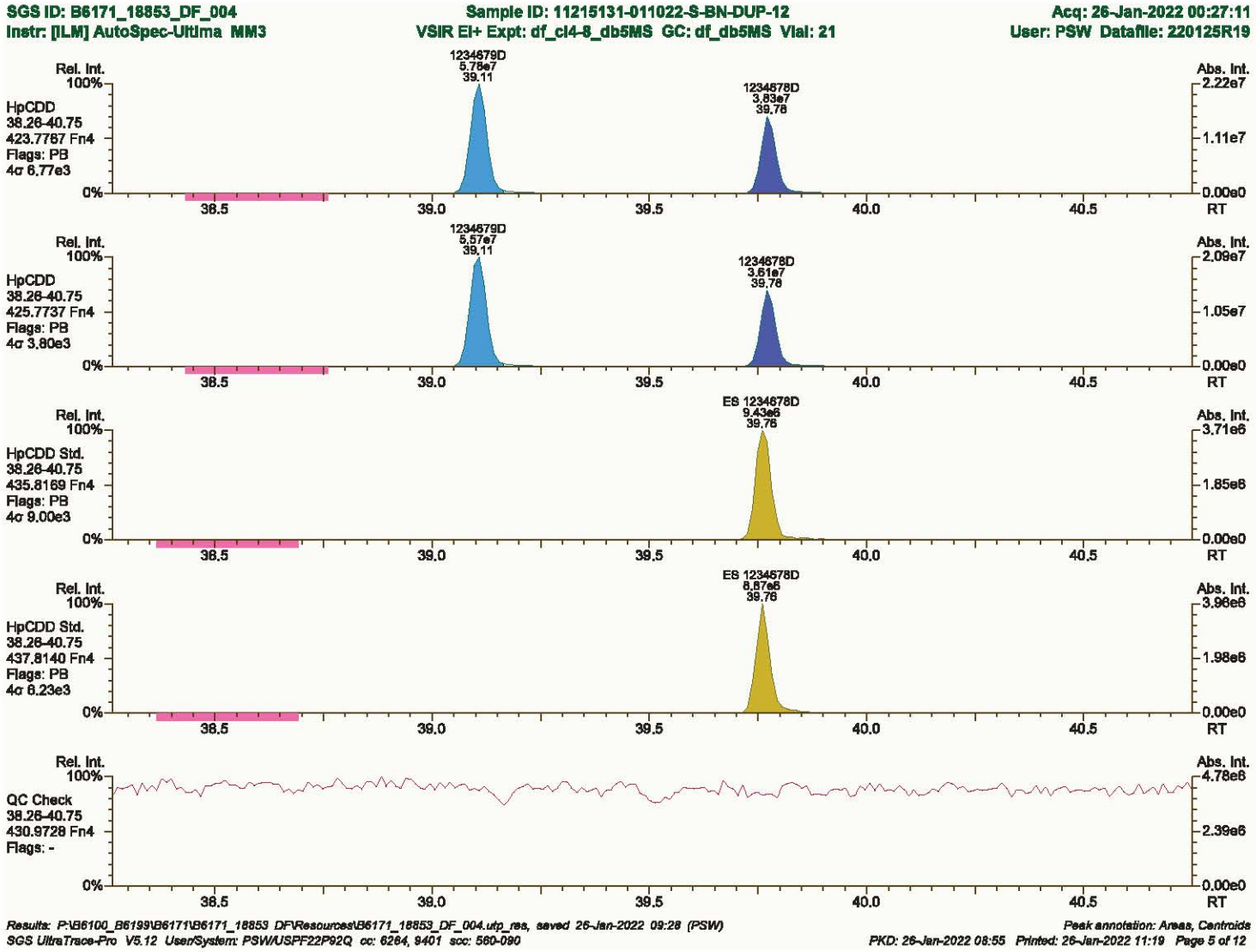
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2118, 1373, 1984 scc: 560-090 | *PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 2 of 12*

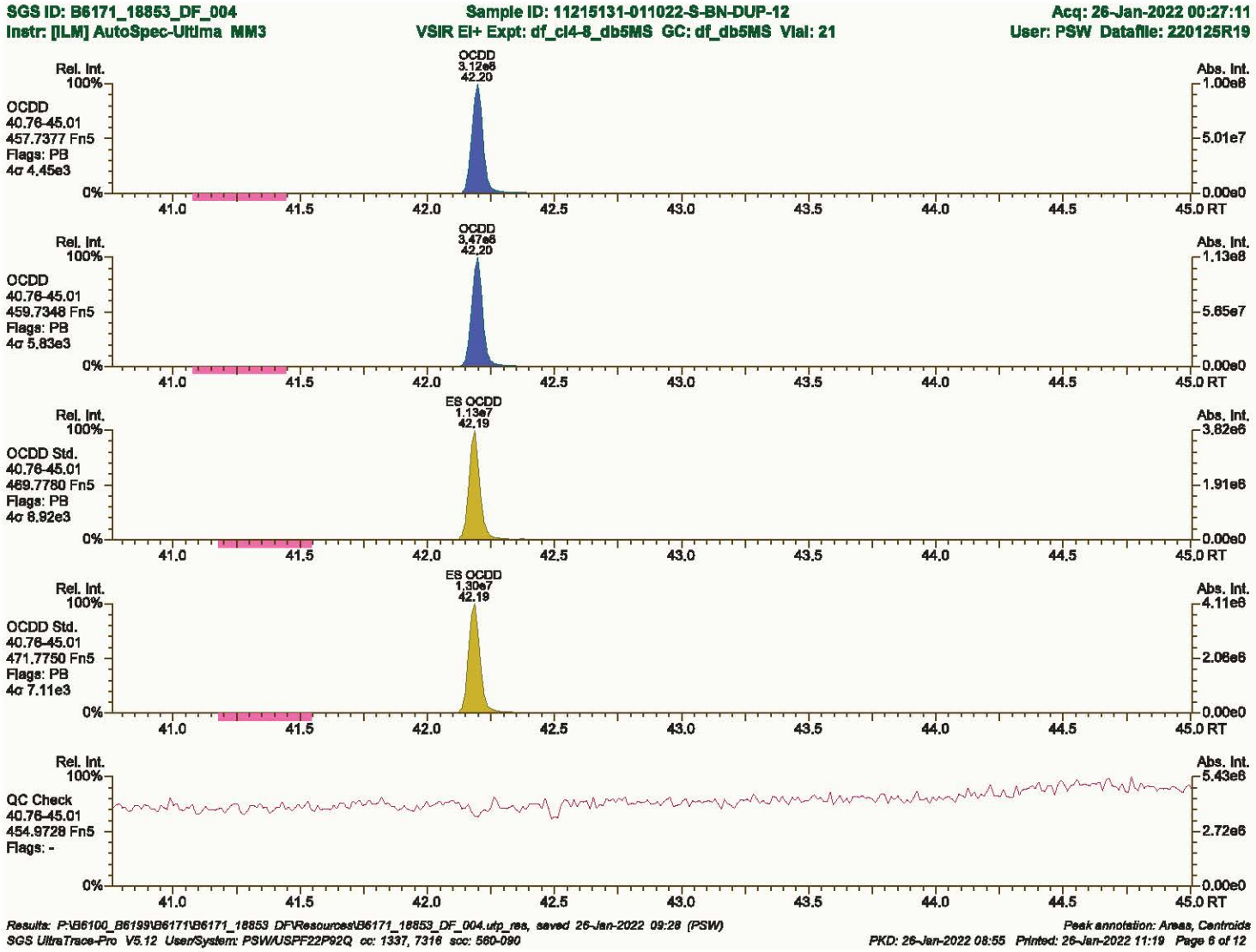

SGS ID: B6171_18853_DF_004
Sample ID: 11215131-011022-S-BN-DUP-12
Acq: 26-Jan-2022 00:27:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: PSW Datafile: 220125R19
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 5.09e3
12479/12468D 6.31e5 29.88
12469D 3.80e5 30.44
12368D 6.95e5 31.00
12478D 3.26e5 31.21
12379D 2.12e5* 31.31
12378D 4.32e6* 32.47
12367D 4.13e5* 32.59
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 5.74e3
12479/12468D 4.05e5 29.86
12469D 2.70e5 30.44
12368D 4.47e5 31.00
12478D 1.91e5 31.20
12369D...[3] 1.78e5 31.58
12378D 2.57e6* 32.47
12367D 1.99e5* 32.60
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 8.46e3
CS 12347D 1.28e7 31.94
ES 12378D 1.43e7 32.45
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 8.18e3
CS 12347D 7.83e6 31.94
ES 12378D 8.59e6 32.45
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
RT

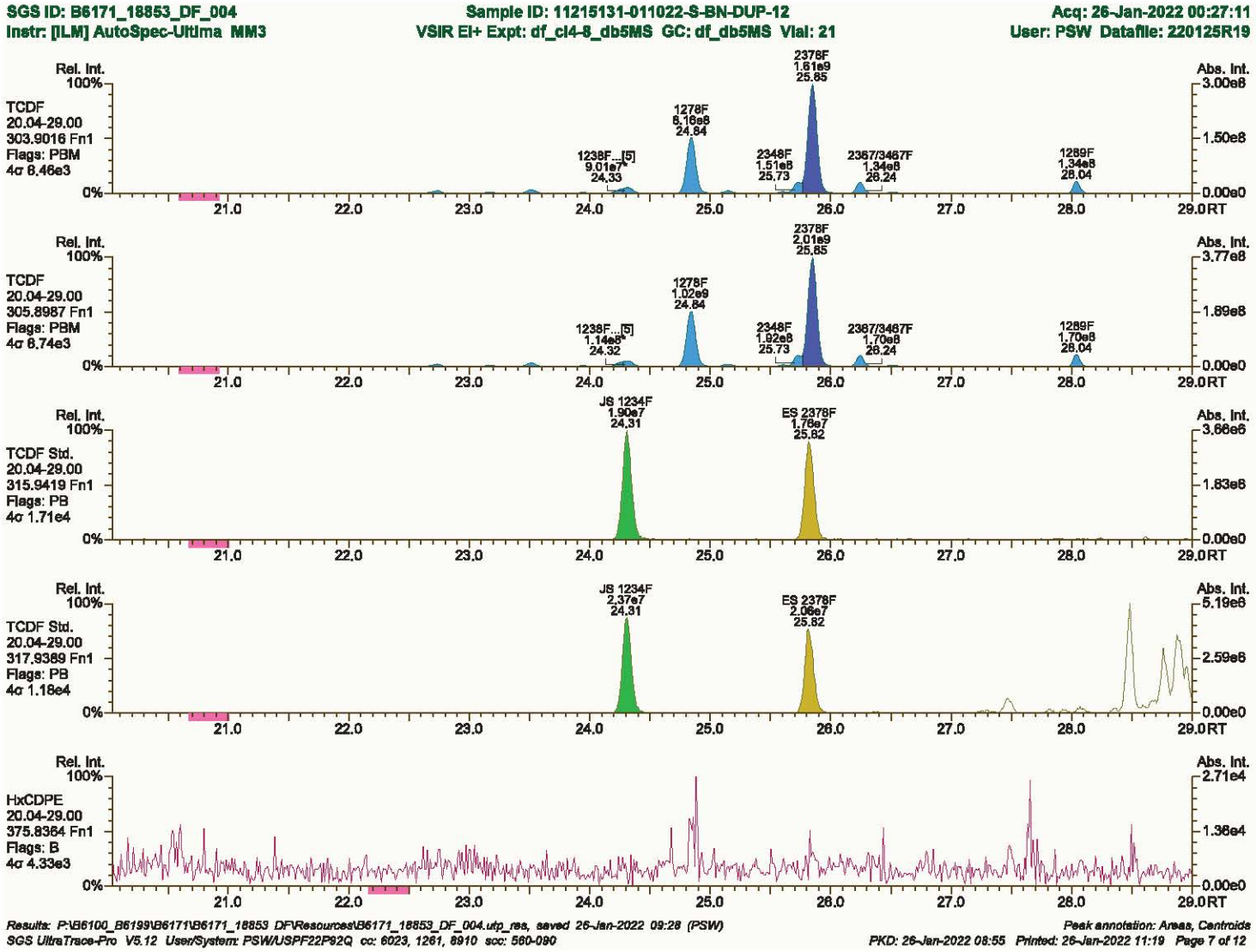
SGS ID: B6171_18853_DF_004 | Sample ID: 11215131-011022-S-BN-DUP-12 | Acq: 26-Jan-2022 00:27:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: PSW Datafile: 220125R19




SGS ID: B6171_18853_DF_004
Sample ID: 11215131-011022-S-BN-DUP-12
Acq: 26-Jan-2022 00:27:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: PSW Datafile: 220125R19
Rel. Int.
Abs. Int.
HpCDD
38.26-40.75
423.7767 Fn4
Flags: PB
4σ 6.77e3
1234679D
5.78e7
39.11
1234678D
3.83e7
39.78
2.22e7
1.11e7
0.00e0
HpCDD
38.26-40.75
425.7737 Fn4
Flags: PB
4σ 3.80e3
1234679D
5.57e7
39.11
1234678D
3.61e7
39.78
2.09e7
1.05e7
HpCDD Std.
38.26-40.75
435.8169 Fn4
Flags: PB
4σ 9.00e3
ES 1234678D
9.43e6
39.76
3.71e6
1.85e6
HpCDD Std.
38.26-40.75
437.8140 Fn4
Flags: PB
4σ 6.23e3
ES 1234678D
8.87e6
39.76
3.96e6
1.98e6
QC Check
38.26-40.75
430.9728 Fn4
Flags: -
4.78e6
2.39e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT

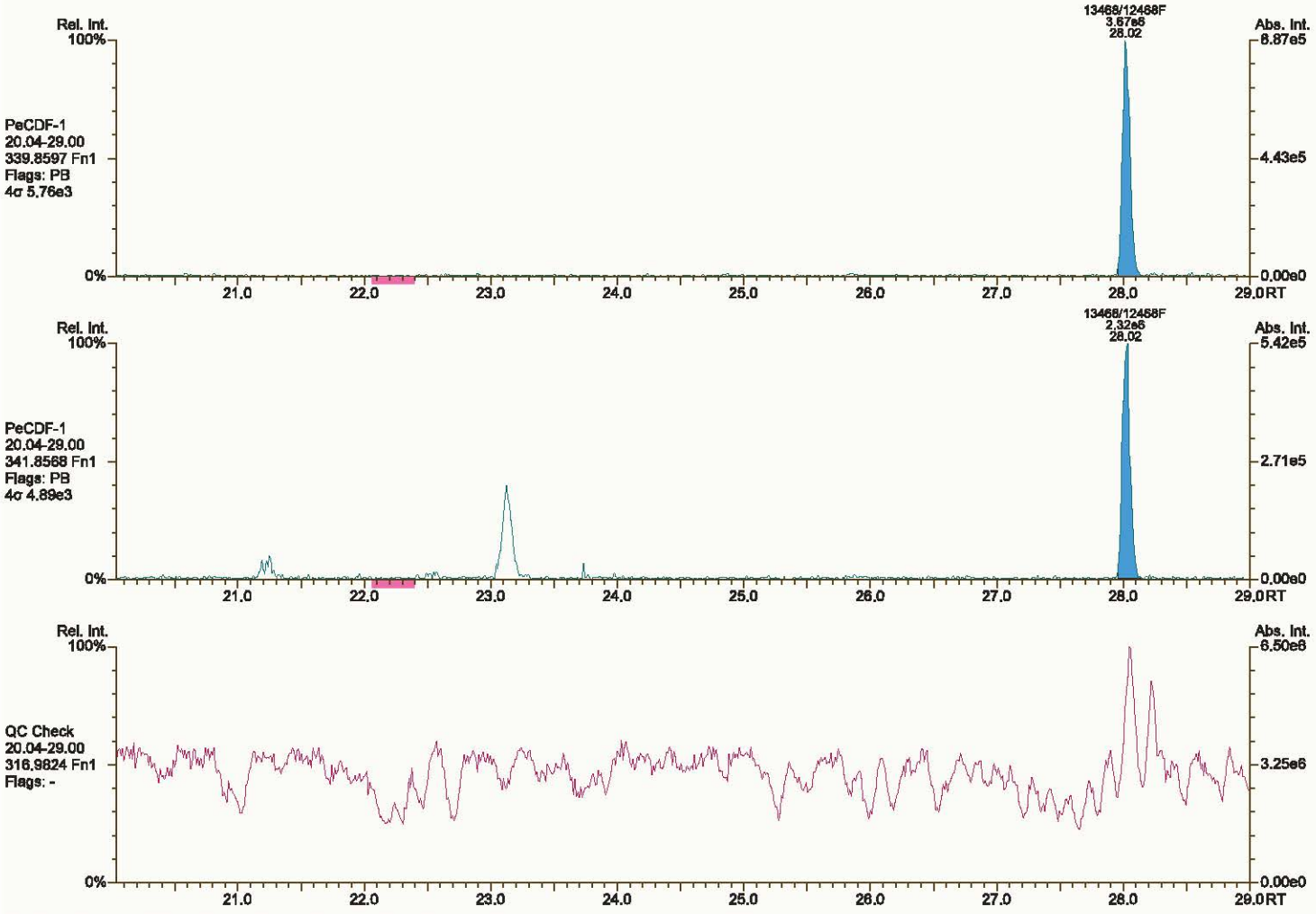

SGS ID: B6171_18853_DF_004
Sample ID: 11215131-011022-S-BN-DUP-12
Acq: 26-Jan-2022 00:27:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: PSW Datafile: 220125R19
Rel. Int.
Abs. Int.
OCDD
3.12e6
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 4.45e3
1.00e8
5.01e7
0.00e0
OCDD
3.47e6
42.20
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 5.83e3
1.13e8
5.65e7
ES OCDD
1.13e7
42.19
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 8.92e3
3.82e6
1.91e6
ES OCDD
1.30e7
42.19
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 7.11e3
4.11e6
2.06e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.43e6
2.72e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6023, 1261, 8910 scc: 560-090
PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 7 of 12

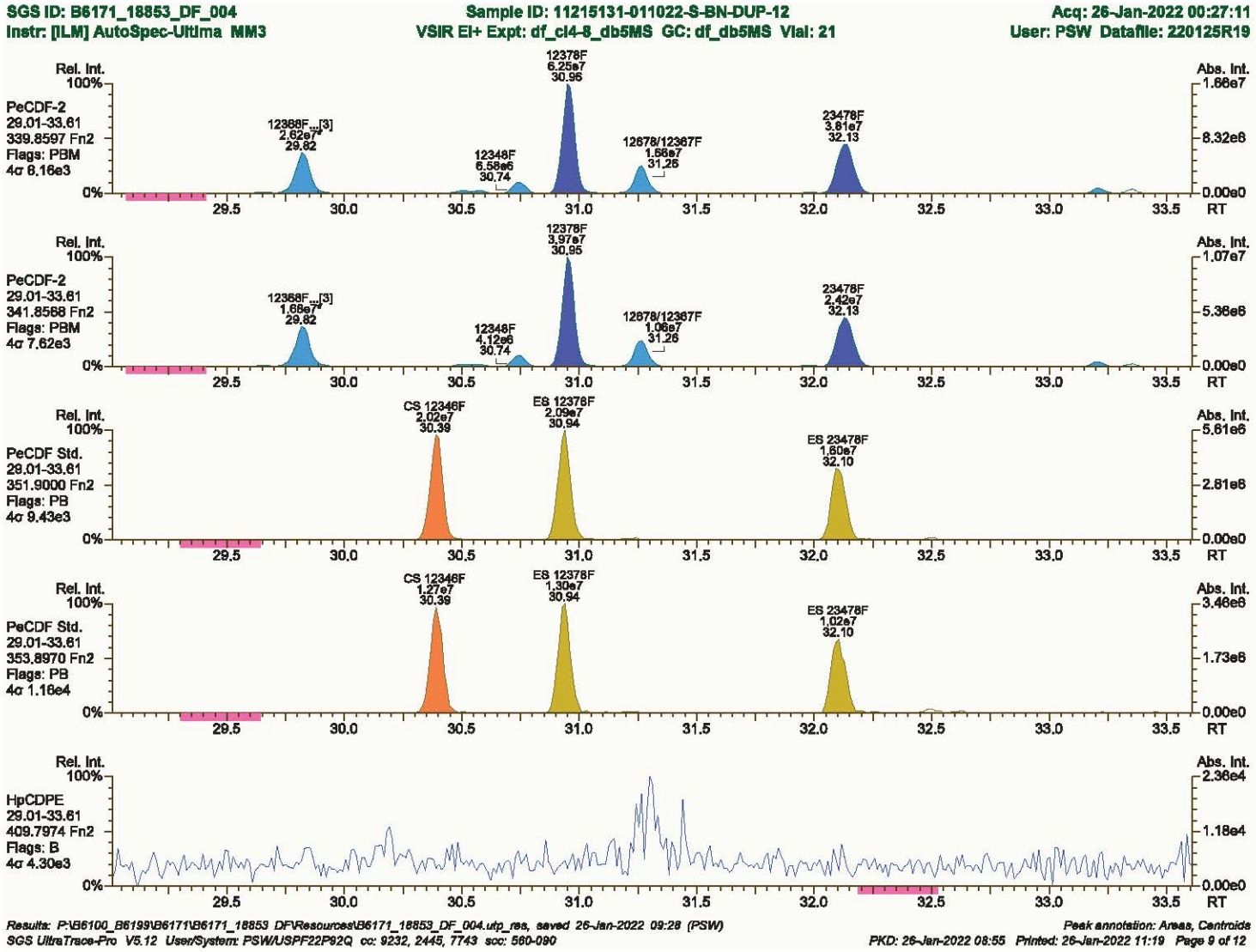
SGS ID: B6171_18853_DF_004 | Sample ID: 11215131-011022-S-BN-DUP-12 | Acq: 26-Jan-2022 00:27:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: PSW Datafile: 220125R19



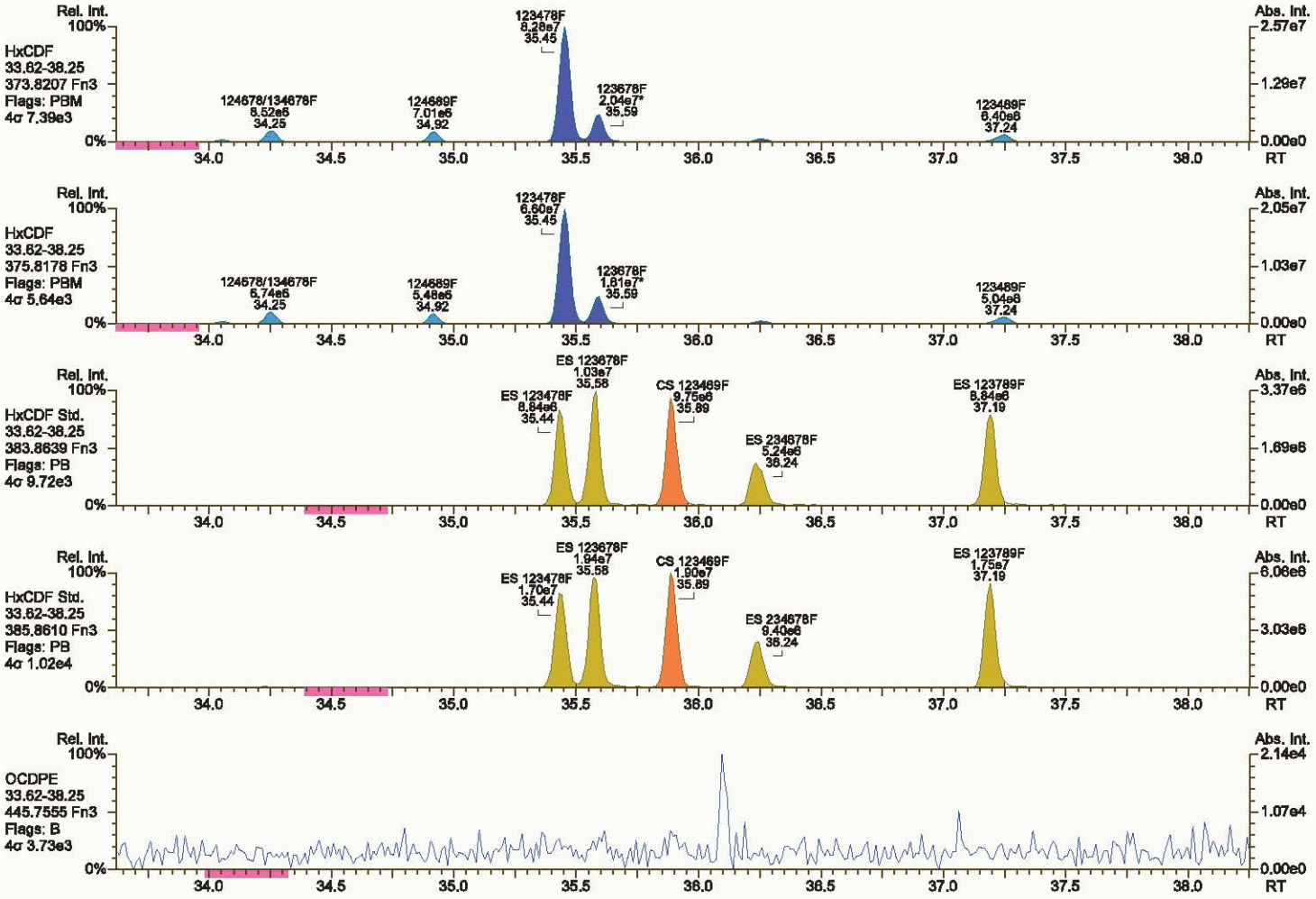
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4283 scc: 560-090 | *PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 8 of 12*


SGS ID: B6171_18853_DF_004
Sample ID: 11215131-011022-S-BN-DUP-12
Acq: 26-Jan-2022 00:27:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: PSW Datafile: 220125R19
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 8.16e3
12368F [3] 2.62e7 29.82
12348F 6.58e6 30.74
12378F 6.25e7 30.96
12678/12367F 1.66e7 31.25
23478F 3.81e7 32.13
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 7.62e3
12368F [3] 1.66e7 29.82
12348F 4.12e6 30.74
12378F 3.97e7 30.95
12678/12367F 1.06e7 31.26
23478F 2.42e7 32.13
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 9.43e3
CS 12346F 2.02e7 30.39
ES 12378F 2.09e7 30.94
ES 23478F 1.60e7 32.10
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 1.16e4
CS 12346F 1.27e7 30.39
ES 12378F 1.30e7 30.94
ES 23478F 1.02e7 32.10
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.30e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9232, 2445, 7743 scc: 560-090
PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 9 of 12

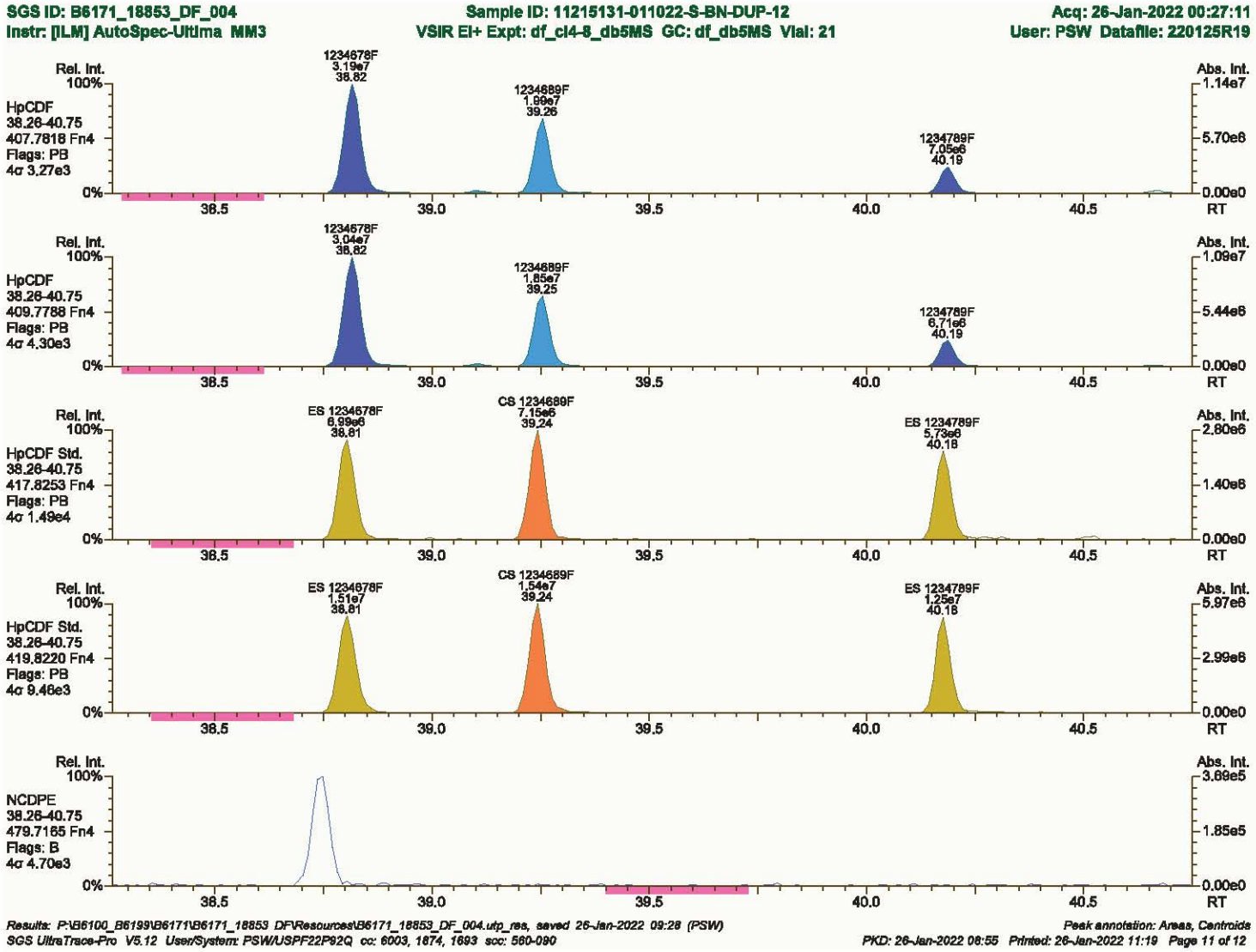
SGS ID: B6171_18853_DF_004 | Sample ID: 11215131-011022-S-BN-DUP-12 | Acq: 26-Jan-2022 00:27:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: PSW Datafile: 220125R19



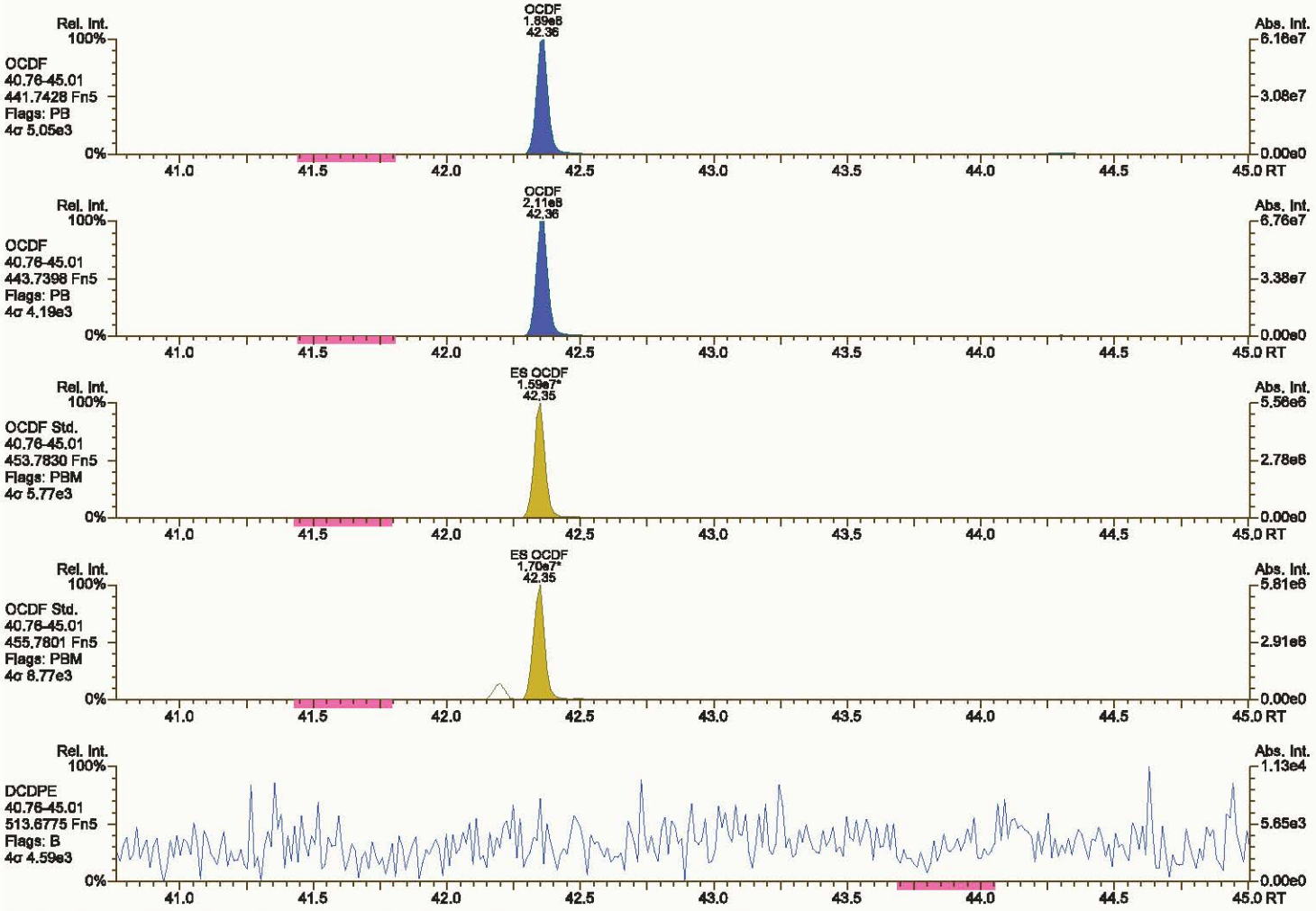
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0225, 0221, 8927 scc: 560-090 | *PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 10 of 12*


SGS ID: B6171_18853_DF_004
Sample ID: 11215131-011022-S-BN-DUP-12
Acq: 26-Jan-2022 00:27:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: PSW Datafile: 220125R19
Rel. Int.
Abs. Int.
HpCDF
38.26-40.75
407.7818 Fn4
Flags: PB
4σ 3.27e3
1234678F
3.19e7
38.82
1234689F
1.99e7
39.26
1234789F
7.05e6
40.19
1.14e7
5.70e6
0.00e0
HpCDF
38.26-40.75
409.7788 Fn4
Flags: PB
4σ 4.30e3
1234678F
3.04e7
38.82
1234689F
1.85e7
39.25
1234789F
6.71e6
40.19
1.09e7
5.44e6
0.00e0
HpCDF Std.
38.26-40.75
417.8253 Fn4
Flags: PB
4σ 1.49e4
ES 1234678F
6.99e6
38.81
CS 1234689F
7.15e6
39.24
ES 1234789F
5.73e6
40.18
2.80e6
1.40e6
0.00e0
HpCDF Std.
38.26-40.75
419.8220 Fn4
Flags: PB
4σ 9.46e3
ES 1234678F
1.51e7
38.81
CS 1234689F
1.54e7
39.24
ES 1234789F
1.25e7
40.18
5.97e6
2.99e6
0.00e0
NCDPE
38.26-40.75
479.7165 Fn4
Flags: B
4σ 4.70e3
3.69e5
1.85e5
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6003, 1874, 1693 scc: 560-090
PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 11 of 12

SGS ID: B6171_18853_DF_004 | Sample ID: 11215131-011022-S-BN-DUP-12 | Acq: 26-Jan-2022 00:27:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: PSW Datafile: 220125R19



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_004.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0124, 7619, 4714 scc: 560-090 *PKD: 26-Jan-2022 08:55 Printed: 26-Jan-2022 11:19 Page 12 of 12*

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 01:14 PSW | Wt/Vol: 10.15 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-30 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.493 pg/g | Split: 1 | Checkcode: 289-914-XMH

Datafile: 220125R20 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.76		1.0008	1.0011	+0.5	5.56E+06	0.76	Y	1.34	43.5	9780.293	0.921
12378-PeCDD	32.46	J EMPC	1.0005	1.0007	+0.4	1.03E+05	1.81	N	1.06	1.09	8395.642	0.81
123478-HxCDD	36.42	J EMPC	1.0004	1.0003	-0.2	1.08E+05	0.94	N	1.06	1.33	9273.753	0.887
123678-HxCDD	36.54		1.0035	1.0034	-0.2	3.09E+05	1.39	Y	1.08	3.9	9273.753	0.956
123789-HxCDD	36.83		1.0116	1.0116	0	2.13E+05	1.28	Y	1.02	2.53	9273.753	0.981
1234678-HpCDD	39.78		1.0003	1.0003	0	7.72E+06	1.01	Y	0.97	118	9192.014	0.898
OCDD	42.20		1.0003	1.0003	0	6.30E+07	0.89	Y	1.07	1,590	10927.738	1.94
2378-TCDF	25.82		1.0008	1.0010	+0.3	2.43E+07	0.79	Y	0.96	164	14322.41	1.12
12378-PeCDF	30.93		1.0006	1.0006	0	9.73E+05	1.55	Y	0.95	7.38	7281.146	0.531
23478-PeCDF	32.10		1.0006	1.0007	+0.2	6.41E+05	1.57	Y	0.94	5.08	7281.146	0.57
123478-HxCDF	35.44		1.0004	1.0005	+0.2	1.52E+06	1.27	Y	1.23	12.2	8564.495	0.591
123678-HxCDF	35.58		1.0004	1.0005	+0.2	4.23E+05	1.29	Y	1.13	3.15	8564.495	0.558
234678-HxCDF	36.25	J EMPC	1.0005	1.0005	0	8.84E+04	1.86	N	1.15	1.28	8564.495	1.27
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8564.495	0.776
1234678-HpCDF	38.82		1.0003	1.0003	0	2.74E+06	1.06	Y	1.36	22.7	10338.502	0.604
1234789-HpCDF	40.19		1.0002	1.0003	+0.2	2.12E+05	1.12	Y	1.30	2.92	10338.502	0.97
OCDF	42.36		1.0003	1.0002	-0.3	4.53E+06	0.84	Y	1.03	98.6	9337.221	1.63

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.74	1.0273	1.0274	+0.2	1.87E+07	0.76	Y	1.03	86.1
ES 12378-PeCDD	32.43	1.2455	1.2463	+1.6	1.76E+07	1.50	Y	1.03	81
ES 123478-HxCDD	36.41	0.9917	0.9918	+0.2	1.52E+07	1.27	Y	0.99	85.6
ES 123678-HxCDD	36.52	0.9948	0.9948	0	1.44E+07	1.27	Y	0.97	83.2
ES 123789-HxCDD	36.82	1.0028	1.0028	0	1.64E+07	1.27	Y	1.12	81.7
ES 1234678-HpCDD	39.76	1.0830	1.0831	+0.2	1.33E+07	1.06	Y	0.99	75.1
ES OCDD	42.19	1.1489	1.1491	+0.5	1.46E+07	0.92	Y	0.78	52.8
ES 2378-TCDF	25.79	1.0623	1.0625	+0.3	3.04E+07	0.81	Y	1.08	85.5
ES 12378-PeCDF	30.91	1.2724	1.2733	+1.7	2.74E+07	1.57	Y	0.93	89.7
ES 23478-PeCDF	32.08	1.3205	1.3215	+1.9	2.65E+07	1.61	Y	0.92	87.5
ES 123478-HxCDF	35.42	0.9649	0.9649	0	1.99E+07	0.56	Y	1.14	97.7
ES 123678-HxCDF	35.56	0.9688	0.9687	-0.2	2.34E+07	0.54	Y	1.30	101
ES 234678-HxCDF	36.23	0.9868	0.9870	+0.4	1.18E+07	0.52	Y	1.20	55
ES 123789-HxCDF	37.19	1.0129	1.0130	+0.2	1.74E+07	0.51	Y	1.14	85.9
ES 1234678-HpCDF	38.81	1.0569	1.0570	+0.2	1.74E+07	0.48	Y	0.95	103
ES 1234789-HpCDF	40.18	1.0944	1.0945	+0.2	1.10E+07	0.46	Y	0.85	72.7
ES OCDF	42.35	1.1533	1.1535	+0.5	1.76E+07	0.86	Y	0.93	53.5

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 01:14 PSW | Wt/Vol: 10.15 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-30 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.493 pg/g | Split: 1 | Checkcode: 289-914-XMH

Datafile: 220125R20 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.02		-	-	-	2.10E+07	0.83	Y	-	-
JS 1234-TCDF	24.27		-	-	-	3.28E+07	0.80	Y	-	-
JS 123467-HxCDD	36.71		-	-	-	8.91E+06	1.35	Y	-	-
CS 37Cl-2378-TCDD	26.76		1.0282	1.0283	+0.2	9.41E+06	n/a	-	1.31	85.5
CS 12347-PeCDD	31.91		1.2257	1.2263	+1.1	1.75E+07	1.61	Y	0.89	93.5
CS 12346-PeCDF	30.35		1.2496	1.2505	+1.6	2.85E+07	1.66	Y	0.87	100
CS 123469-HxCDF	35.88		0.9773	0.9773	0	2.28E+07	0.53	Y	1.09	117
CS 1234689-HpCDF	39.24		1.0687	1.0689	+0.5	1.70E+07	0.44	Y	0.86	110
~~SS 37Cl-2378-TCDD~~	~~26.76~~		~~1.0282~~	~~1.0283~~	~~+0.2~~	~~9.41E+06~~	~~n/a~~		~~1.26~~	~~99.0~~
~~SS 12347-PeCDD~~	~~31.91~~		~~1.2257~~	~~1.2263~~	~~+1.1~~	~~1.75E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2505~~	~~+1.6~~	~~2.85E+07~~	~~1.66~~	~~Y~~	~~0.93~~	~~112~~
~~SS 123469-HxCDF~~	~~35.88~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.28E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~116~~
~~SS 1234689-HpCDF~~	~~39.24~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.70E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~107~~

Totals	Conc	EMPC
Total TCDD	43.5	48.5
Total PeCDD	0	3.4
Total HxCDD	44.5	48.5
Total HpCDD	353	353
Total Tetra-Octa Dioxins	2030	2040
Total TCDF	257	275
Total PeCDF	22.7	23.3
Total HxCDF	35.4	39
Total HpCDF	65.6	65.6
Total Tetra-Octa Furans	480	501
Total Tetra-Octa Dioxins & Furans	2510	2540

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 01:14 PSW | Wt/Vol: 10.15 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-30 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.493 pg/g | Split: 1 | Checkcode: 289-914-XMH

Datafile: 220125R20 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		9780.293	0.921
1379-TCDD	NotFnd		0.8642						1.34		9780.293	0.921
1369-TCDD	NotFnd		0.8825						1.34		9780.293	0.921
1469-TCDD	24.46	EMPC	0.9154	0.9150	-0.6	1.67E+05	0.64	N	1.34	1.31	9780.293	0.921
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		9780.293	0.921
1378-TCDD	NotFnd		0.9332						1.34		9780.293	0.921
1268-TCDD	NotFnd		0.9415						1.34		9780.293	0.921
1478-TCDD	NotFnd		0.9518						1.34		9780.293	0.921
1279-TCDD	NotFnd		0.9586						1.34		9780.293	0.921
1234/1269-TCDD	NotFnd		0.9734						1.34		9780.293	0.921
1236-TCDD	NotFnd		0.9788						1.34		9780.293	0.921
1237/1238-TCDD	NotFnd		0.9892						1.34		9780.293	0.921
1239-TCDD	NotFnd		0.9944						1.34		9780.293	0.921
2378-TCDD	**26.76**		**1.0008**	1.0011	+0.5	5.56E+06	0.76	Y	**1.34**	**43.5**	**9780.293**	**0.921**
1278-TCDD	27.12	EMPC	1.0142	1.0144	+0.3	4.61E+05	0.91	N	1.34	3.61	9780.293	0.921
1267-TCDD	NotFnd		1.0197						1.34		9780.293	0.921
1289-TCDD	NotFnd		1.0401						1.34		9780.293	0.921
12479/12468-PeCDD	NotFnd		0.9202						1.06		8395.642	0.81
12469-PeCDD	30.40	J EMPC	0.9375	0.9374	-0.2	2.19E+05	1.25	N	1.06	2.31	8395.642	0.81
12368-PeCDD	NotFnd		0.9553						1.06		8395.642	0.81
12478-PeCDD	NotFnd		0.9613						1.06		8395.642	0.81
12379-PeCDD	NotFnd		0.9644						1.06		8395.642	0.81
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		8395.642	0.81
12346/12347-PeCDD	NotFnd		0.9848						1.06		8395.642	0.81
12378-PeCDD	32.46	J EMPC	**1.0005**	**1.0007**	**+0.4**	**1.03E+05**	**1.81**	**N**	**1.06**	**1.09**	**8395.642**	**0.81**
12367-PeCDD	NotFnd		1.0035						1.06		8395.642	0.81
12389-PeCDD	NotFnd		1.0146						1.06		8395.642	0.81
124679/124689-HxCDD	34.71		0.9532	0.9532	0	1.85E+06	1.33	Y	1.05	22.6	9273.753	0.94
123468-HxCDD	35.37	J	0.9715	0.9713	-0.4	1.49E+05	1.17	Y	1.05	1.82	9273.753	0.94
123679/123689-HxCDD	35.67		0.9795	0.9796	+0.2	1.11E+06	1.25	Y	1.05	13.6	9273.753	0.94
123469-HxCDD	35.80	J EMPC	0.9832	0.9832	0	1.34E+05	1.74	N	1.05	1.64	9273.753	0.94
123478-HxCDD	36.42	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.08E+05**	**0.94**	**N**	1.06	**1.33**	**9273.753**	**0.887**
123678-HxCDD	36.54		**1.0035**	**1.0034**	**-0.2**	**3.09E+05**	**1.39**	**Y**	1.08	**3.9**	**9273.753**	**0.956**
123467-HxCDD	36.73	J EMPC	1.0087	1.0087	0	8.68E+04	1.59	N	1.05	1.06	9273.753	0.94
123789-HxCDD	36.83		**1.0116**	**1.0116**	**0**	**2.13E+05**	**1.28**	**Y**	1.02	**2.53**	**9273.753**	**0.981**

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 01:14 PSW | Wt/Vol: 10.15 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-30 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.493 pg/g | Split: 1 | Checkcode: 289-914-XMH

Datafile: 220125R20 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9834	0	1.54E+07	1.05	Y	0.97	236	9192.014	0.898
1234678-HpCDD	**39.78**		**1.0003**	**1.0003**	**0**	**7.72E+06**	**1.01**	**Y**	**0.97**	**118**	**9192.014**	**0.898**
OCDD	**42.20**		**1.0003**	**1.0003**	**0**	**6.30E+07**	**0.89**	**Y**	**1.07**	**1,590**	**10927.738**	**1.94**
OCDD-a	42.19		1.0001	1.0001	0	3.96E+06	2.36	Y	0.07	1,620	11335.616	32.6
1368-TCDF	NotFnd		0.7942						0.96		14322.41	1.12
1468-TCDF	NotFnd		0.8155						0.96		14322.41	1.12
2468-TCDF	NotFnd		0.8407						0.96		14322.41	1.12
1346/1246-TCDF	NotFnd		0.8553						0.96		14322.41	1.12
1347/1378/1247-TCDF	22.21		0.8617	0.8611	-0.8	3.34E+05	0.68	Y	0.96	2.26	14322.41	1.12
1348-TCDF	NotFnd		0.8740						0.96		14322.41	1.12
1248/1367/1379-TCDF	22.65		0.8798	0.8783	-2.0	5.94E+05	0.80	Y	0.96	4.01	14322.41	1.12
1268-TCDF	23.11		0.8967	0.8962	-0.7	3.27E+05	0.85	Y	0.96	2.21	14322.41	1.12
1467-TCDF	NotFnd		0.9025						0.96		14322.41	1.12
1478-TCDF	23.46	EMPC	0.9101	0.9096	-0.7	4.86E+05	0.91	N	0.96	3.28	14322.41	1.12
1369/1237-TCDF	23.90		0.9263	0.9266	+0.4	3.48E+05	0.83	Y	0.96	2.35	14322.41	1.12
2467-TCDF	NotFnd		0.9322						0.96		14322.41	1.12
2368-TCDF	24.22	EMPC	0.9389	0.9390	+0.1	1.01E+06	0.89	N	0.96	6.84	14322.41	1.12
1238/1234/1678/1469/1236-TCDF	24.31		0.9427	0.9427	0	5.50E+05	0.75	Y	0.96	3.72	14322.41	1.12
1278-TCDF	24.82		0.9623	0.9622	-0.1	6.31E+06	0.80	Y	0.96	42.6	14322.41	1.12
1349-TCDF	NotFnd		0.9678						0.96		14322.41	1.12
1267-TCDF	25.12		0.9740	0.9740	0	5.83E+05	0.79	Y	0.96	3.94	14322.41	1.12
2346/1249-TCDF	NotFnd		0.9820						0.96		14322.41	1.12
2347/1279-TCDF	25.57		0.9915	0.9914	-0.2	3.29E+05	0.77	Y	0.96	2.22	14322.41	1.12
2348-TCDF	25.69	EMPC	0.9964	0.9961	-0.5	8.32E+05	1.01	N	0.96	5.62	14322.41	1.12
2378-TCDF	**25.82**		**1.0008**	**1.0010**	**+0.3**	**2.43E+07**	**0.79**	**Y**	**0.96**	**164**	**14322.41**	**1.12**
2367/3467-TCDF	26.20		1.0163	1.0160	-0.5	3.10E+06	0.81	Y	0.96	21	14322.41	1.12
1269-TCDF	26.47	EMPC	1.0265	1.0262	-0.5	2.41E+05	0.94	N	0.96	1.63	14322.41	1.12
1239-TCDF	NotFnd		1.0373						0.96		14322.41	1.12
1289-TCDF	27.99		1.0847	1.0853	+1.0	1.32E+06	0.74	Y	0.96	8.89	14322.41	1.12
13468/12468-PeCDF	27.97		0.9045	0.9049	+0.7	3.74E+05	1.35	Y	0.94	2.9	9754.572	0.737
13678/13467/12467-PeCDF	NotFnd		0.9574						0.94		7281.146	0.55
12368/13478/12478-PeCDF	29.78		0.9628	0.9634	+1.1	6.44E+05	1.51	Y	0.94	5	7281.146	0.55
14678-PeCDF	NotFnd		0.9661						0.94		7281.146	0.55
13479-PeCDF	NotFnd		0.9695						0.94		7281.146	0.55
13469/12479-PeCDF	NotFnd		0.9779						0.94		7281.146	0.55
12346-PeCDF	NotFnd		0.9824						0.94		7281.146	0.55

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 01:14 PSW | Wt/Vol: 10.15 g | ICAL: MM3_DF_10272021_27JUL2021

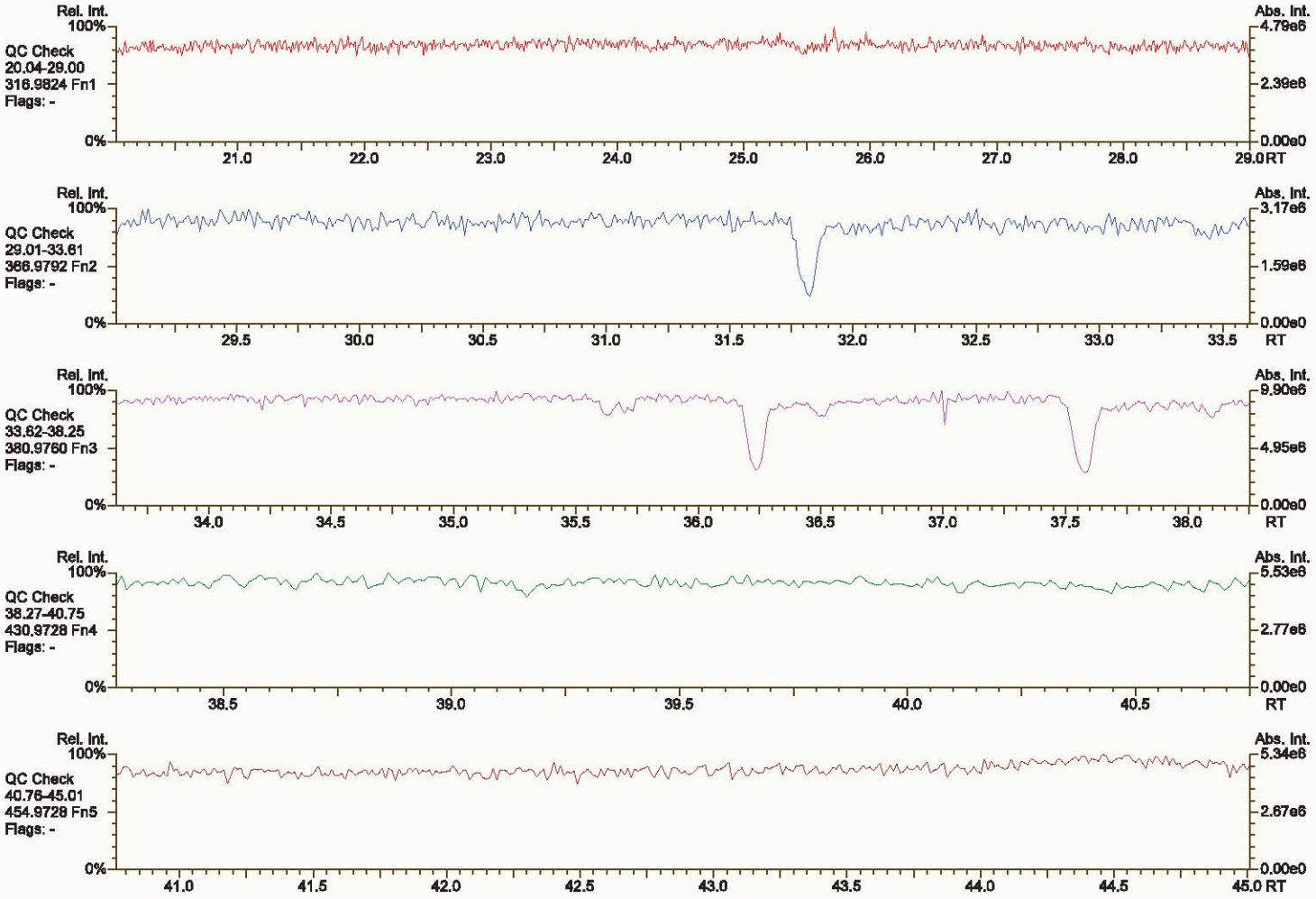
Client ID: 11215131-011122-S-BN-NC-O-30 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.493 pg/g | Split: 1 | Checkcode: 289-914-XMH

Datafile: 220125R20 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.47	J EMPC	0.9857	0.9860	+0.5	8.06E+04	2.52	N	0.94	0.625	7281.146	0.55
12347-PeCDF	NotFnd		0.9882						0.94		7281.146	0.55
12348-PeCDF	NotFnd		0.9935						0.94		7281.146	0.55
12378-PeCDF	**30.93**		**1.0006**	**1.0006**	**0**	**9.73E+05**	**1.55**	**Y**	**0.95**	**7.38**	**7281.146**	**0.531**
12678/12367-PeCDF	31.23	J	1.0099	1.0104	+0.9	3.04E+05	1.35	Y	0.94	2.36	7281.146	0.55
12379-PeCDF	NotFnd		1.0155						0.94		7281.146	0.55
12679-PeCDF	NotFnd		0.9921						0.94		7281.146	0.55
23467/12369-PeCDF	NotFnd		0.9962						0.94		7281.146	0.55
23478-PeCDF	**32.10**		**1.0006**	**1.0007**	**+0.2**	**6.41E+05**	**1.57**	**Y**	**0.94**	**5.08**	**7281.146**	**0.57**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7281.146	0.55
12349-PeCDF	NotFnd		1.0106						0.94		7281.146	0.55
12389-PeCDF	NotFnd		1.0349						0.94		7281.146	0.55
123468-HxCDF	34.03	J EMPC	0.9606	0.9606	0	2.47E+05	1.04	N	1.16	2.31	8564.495	0.733
124678/134678-HxCDF	34.23		0.9663	0.9664	+0.2	9.93E+05	1.32	Y	1.16	9.3	8564.495	0.733
134679-HxCDF	NotFnd		0.9729						1.16		8564.495	0.733
124679-HxCDF	NotFnd		0.9786						1.16		8564.495	0.733
124689-HxCDF	34.90		0.9851	0.9852	+0.2	1.03E+06	1.22	Y	1.16	9.63	8564.495	0.733
123467-HxCDF	NotFnd		0.9970						1.16		8564.495	0.733
123478-HxCDF	**35.44**		**1.0004**	**1.0005**	**+0.2**	**1.52E+06**	**1.27**	**Y**	**1.23**	**12.2**	**8564.495**	**0.591**
123678-HxCDF	**35.58**		**1.0004**	**1.0005**	**+0.2**	**4.23E+05**	**1.29**	**Y**	**1.13**	**3.15**	**8564.495**	**0.558**
123479-HxCDF	NotFnd		1.0050						1.16		8564.495	0.733
123469-HxCDF	NotFnd		1.0091						1.16		8564.495	0.733
123679-HxCDF	NotFnd		0.9942						1.16		8564.495	0.733
234678-HxCDF	**36.25**	J EMPC	**1.0005**	**1.0005**	**0**	**8.84E+04**	**1.86**	**N**	**1.15**	**1.28**	**8564.495**	**1.27**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8564.495	0.733
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8564.495**	**0.776**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.23	J	1.0008	1.0012	+0.9	1.15E+05	1.15	Y	1.16	1.07	8564.495	0.733
1234678-HpCDF	**38.82**		**1.0003**	**1.0003**	**0**	**2.74E+06**	**1.06**	**Y**	**1.36**	**22.7**	**10338.502**	**0.604**
1234679-HpCDF	NotFnd		1.0076						1.33		10338.502	0.745
1234689-HpCDF	39.25		1.0114	1.0116	+0.5	3.83E+06	1.05	Y	1.33	39.9	10338.502	0.745
1234789-HpCDF	**40.19**		**1.0002**	**1.0003**	**+0.2**	**2.12E+05**	**1.12**	**Y**	**1.30**	**2.92**	**10338.502**	**0.97**
OCDF	**42.36**		**1.0003**	**1.0002**	**-0.3**	**4.53E+06**	**0.84**	**Y**	**1.03**	**98.6**	**9337.221**	**1.63**
OCDF-a	42.35		1.0001	1.0000	-0.3	2.19E+05	2.75	Y	0.06	82.6	12200.796	36.9

SGS ID: B6171_18853_DF_005 | Sample ID: 11215131-011122-S-BN-NC-O-30 | Acq: 26-Jan-2022 01:14:38

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: PSW Datafile: 220125R20



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)

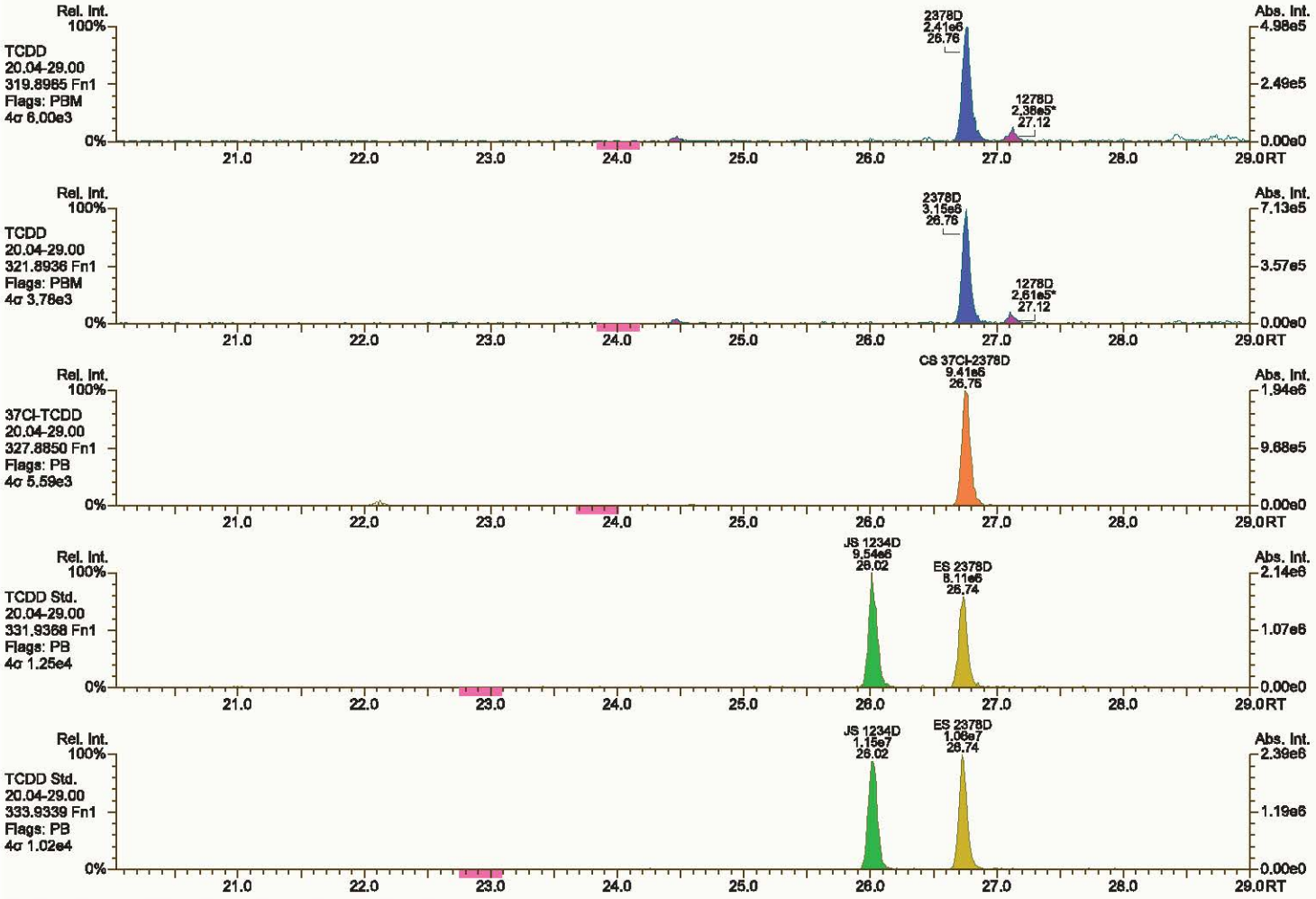
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 289-914

PKD: n/a Printed: 26-Jan-2022 11:19 Page 1 of 12

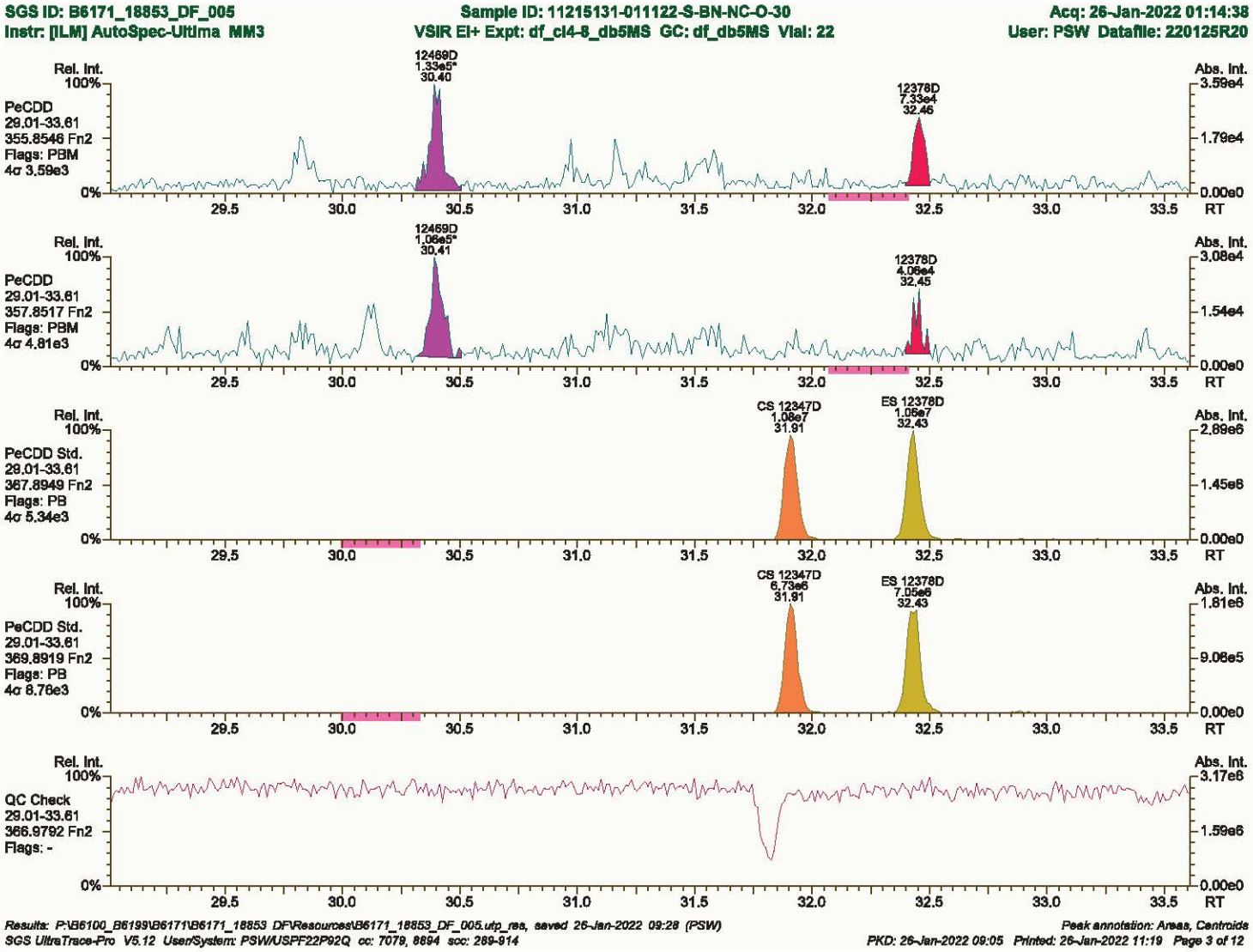
SGS ID: B6171_18853_DF_005 | Sample ID: 11215131-011122-S-BN-NC-O-30 | Acq: 26-Jan-2022 01:14:38

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: PSW Datafile: 220125R20

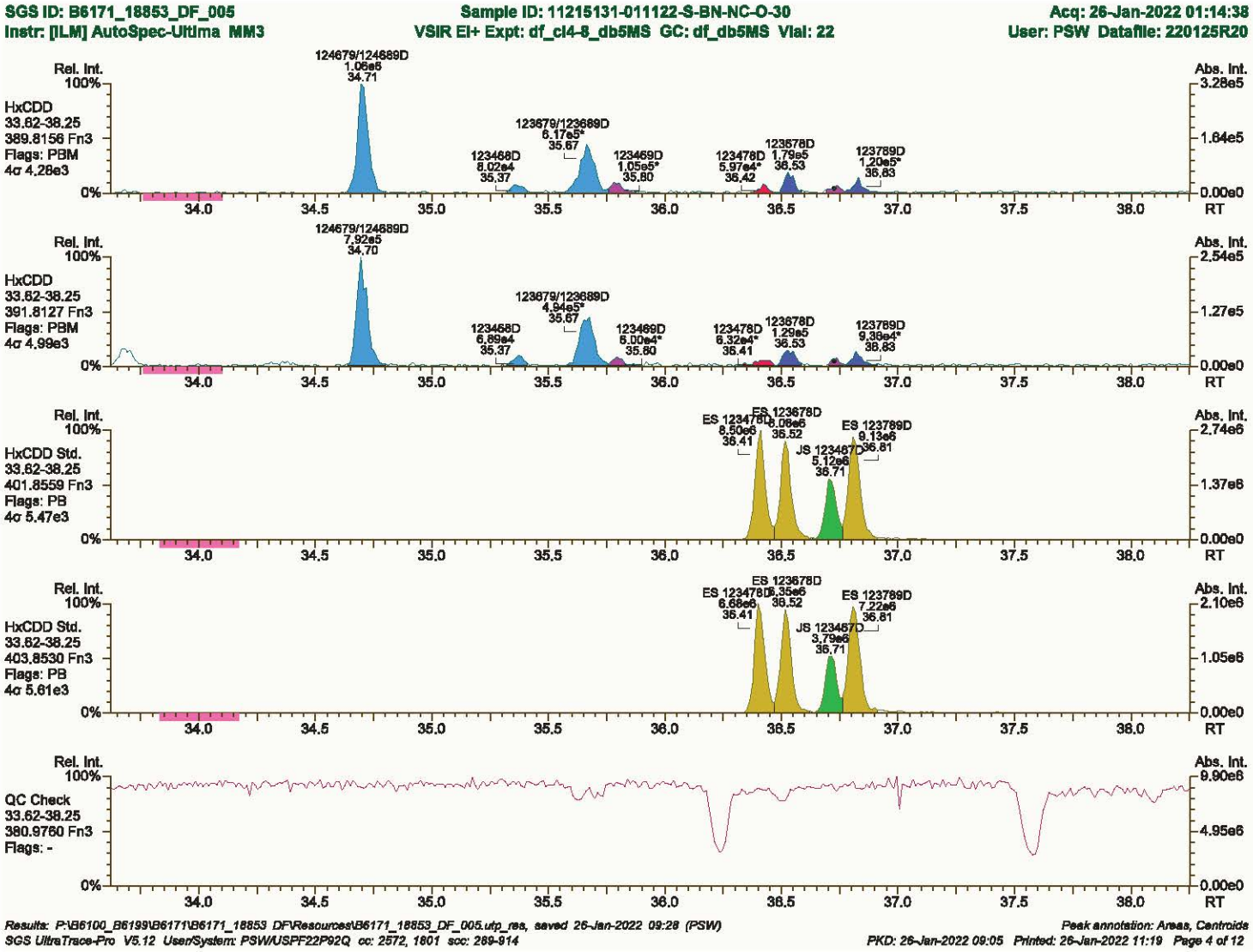


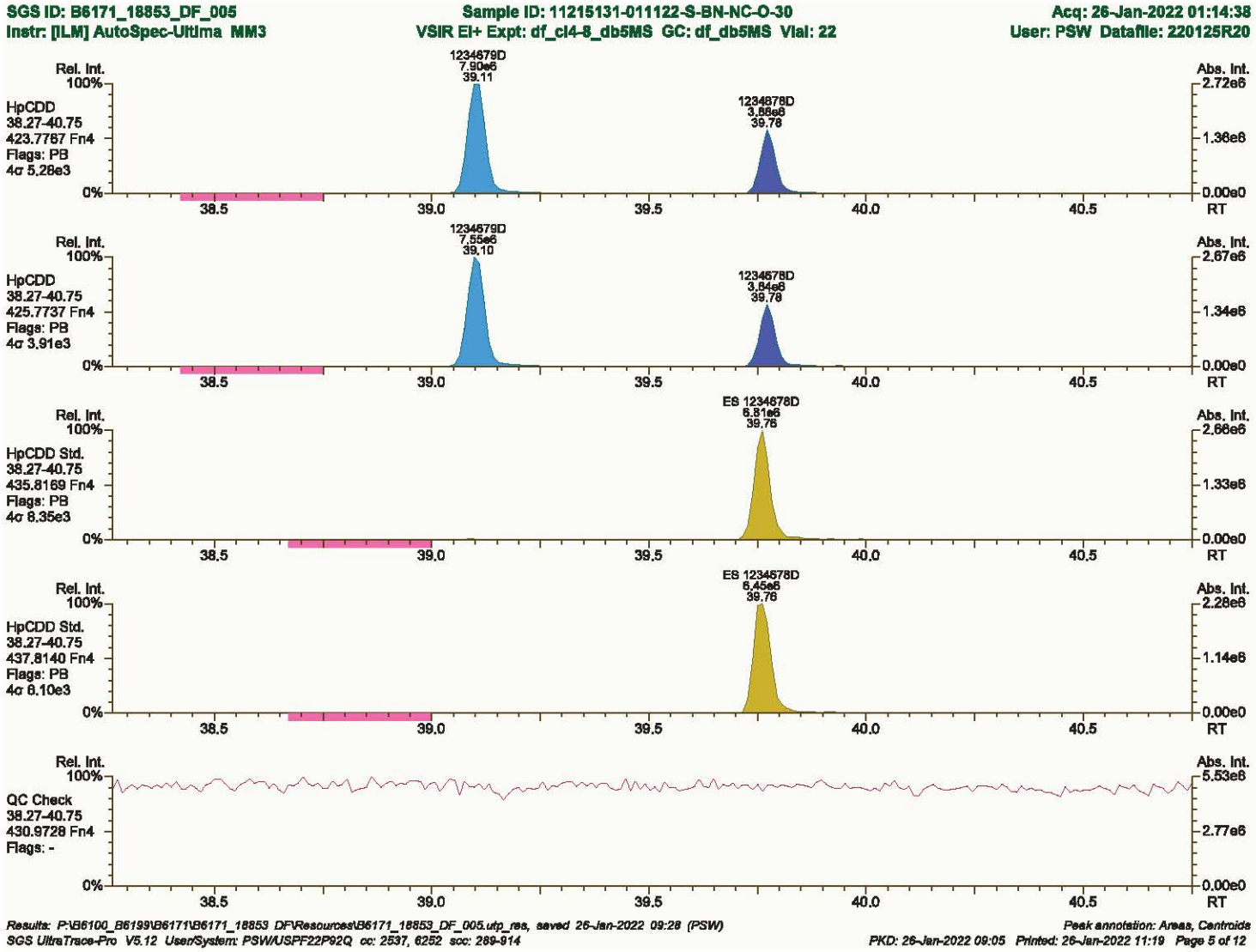
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5678, 0212, 0916 scc: 289-914 | *PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 2 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7079, 8894 scc: 289-914
PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 3 of 12

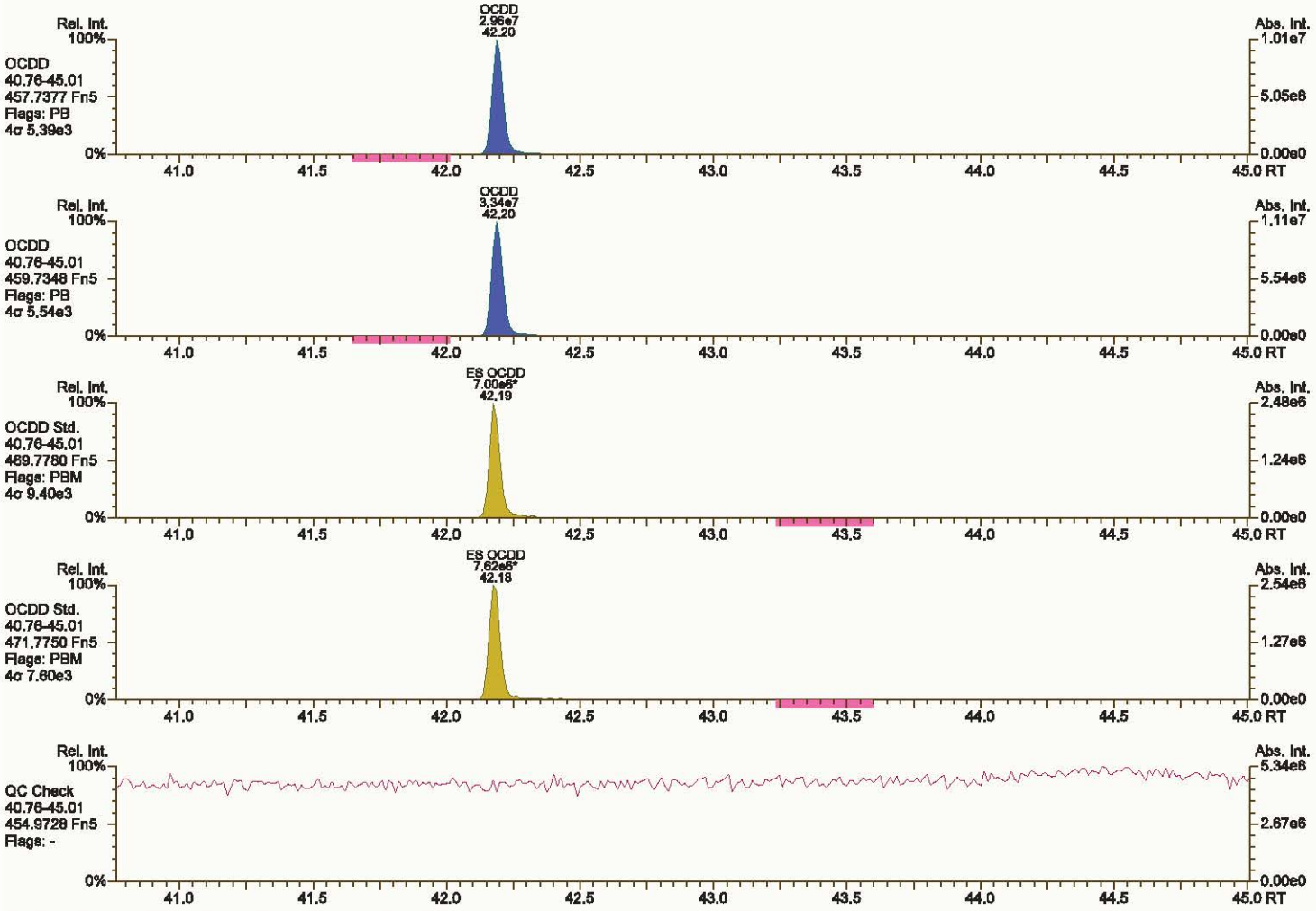

SGS ID: B6171_18853_DF_005
Sample ID: 11215131-011122-S-BN-NC-O-30
Acq: 26-Jan-2022 01:14:38
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: PSW Datafile: 220125R20
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.28e3
124679/124689D
1.06e6
34.71
123679/123689D
6.17e5*
35.67
123468D
6.02e4
35.37
123469D
1.05e5*
35.80
123478D
5.97e4*
36.42
123678D
1.79e5
36.53
123789D
1.20e5*
36.83
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.99e3
124679/124689D
7.92e5
34.70
123679/123689D
4.94e5*
35.67
123468D
6.89e4
35.37
123469D
6.00e4*
35.80
123478D
6.32e4*
36.41
123678D
1.29e5
36.53
123789D
9.36e4*
36.83
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 5.47e3
ES 123678D
ES 123478D
8.50e6
36.41
8.06e6
36.52
ES 123789D
9.13e6
36.81
JS 123467D
5.12e6
36.71
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 5.61e3
ES 123678D
ES 123478D
6.68e6
36.41
6.35e6
36.52
ES 123789D
7.22e6
36.81
JS 123467D
3.79e6
36.71
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2572, 1601 scc: 289-914
PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 4 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2537, 6252 scc: 289-914
PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 5 of 12

SGS ID: B6171_18853_DF_005 | Sample ID: 11215131-011122-S-BN-NC-O-30 | Acq: 26-Jan-2022 01:14:38

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: PSW Datafile: 220125R20



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2824, 1335 scc: 289-914 | *PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 6 of 12*

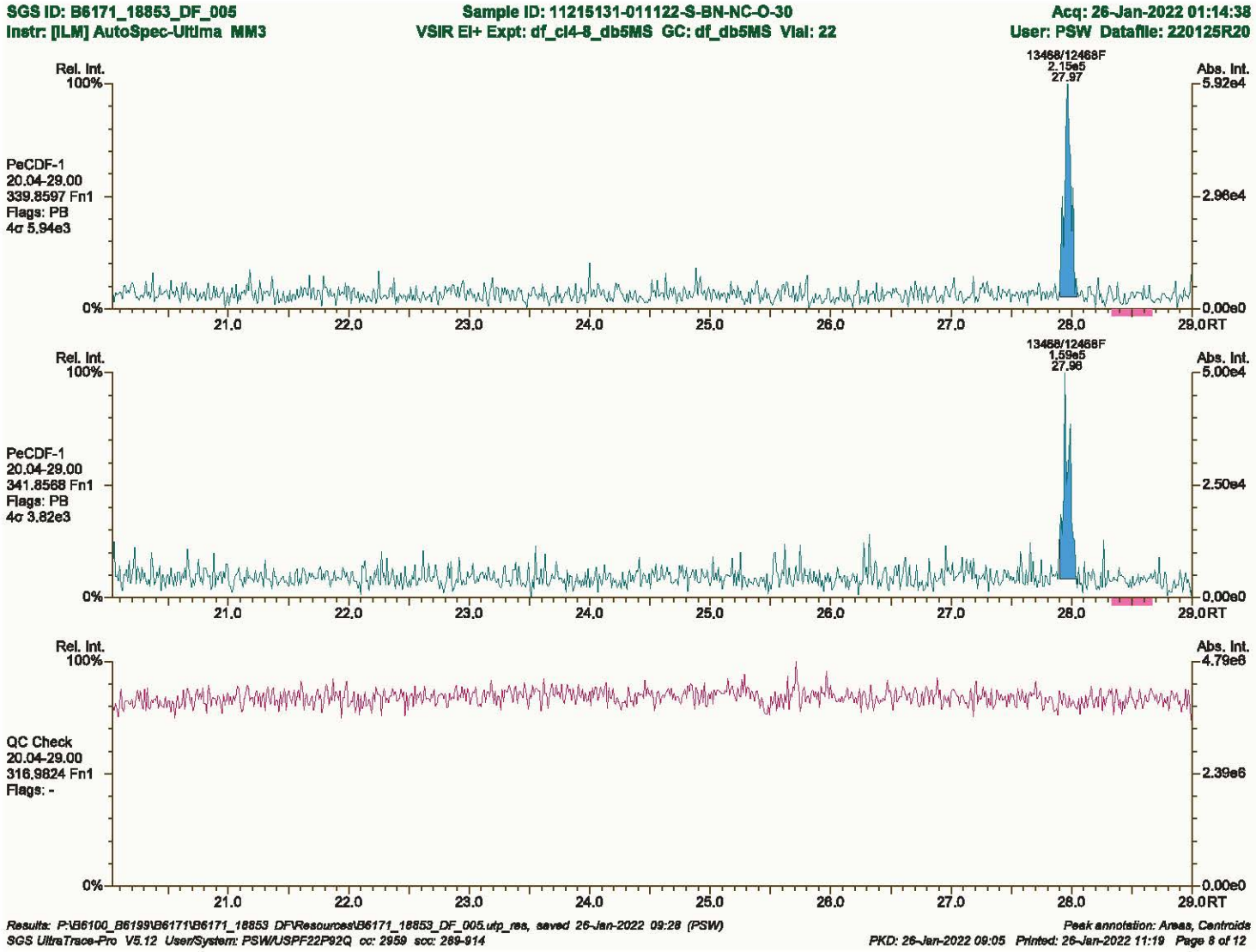
SGS ID: B6171_18853_DF_005 | Sample ID: 11215131-011122-S-BN-NC-O-30 | Acq: 26-Jan-2022 01:14:38

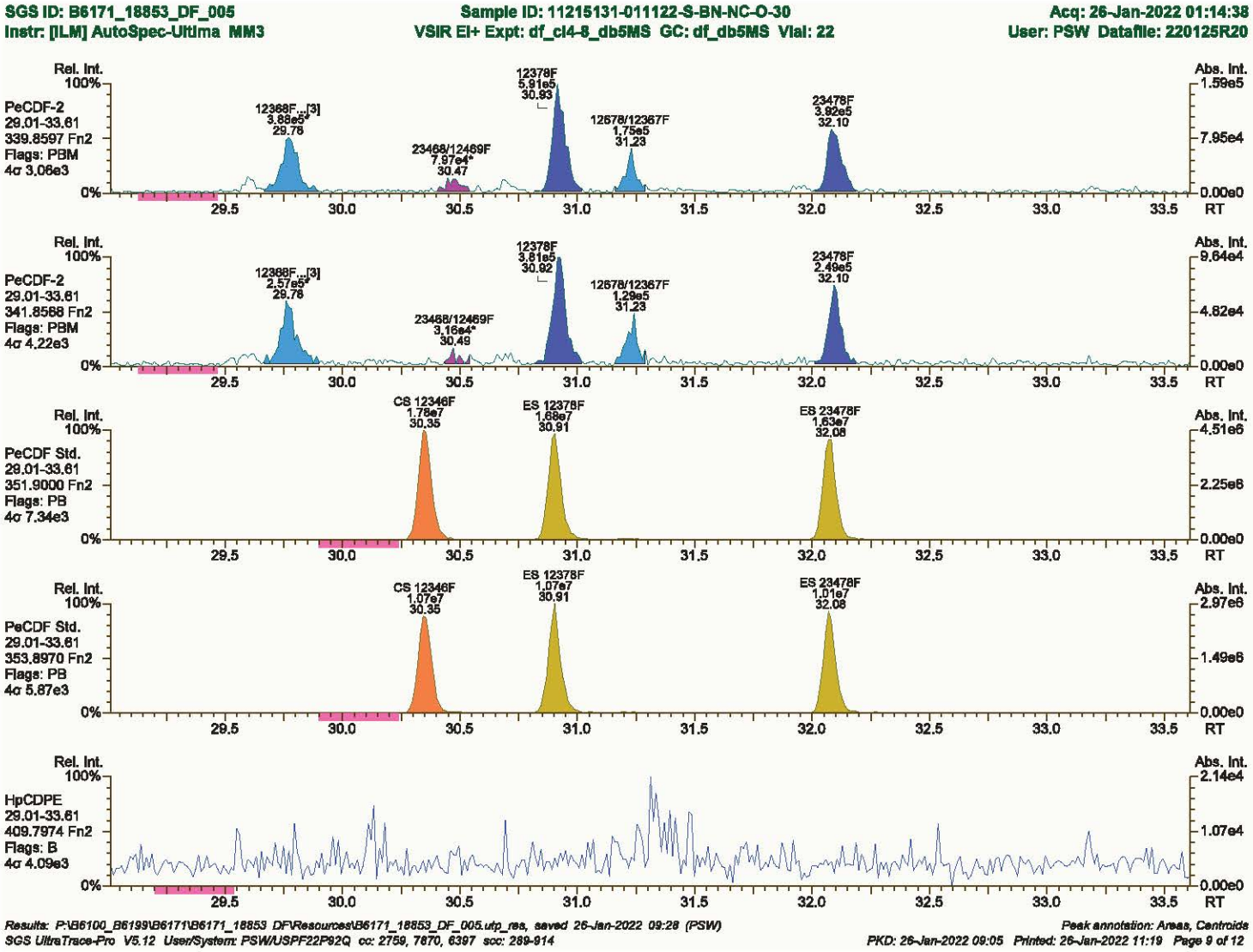
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: PSW Datafile: 220125R20

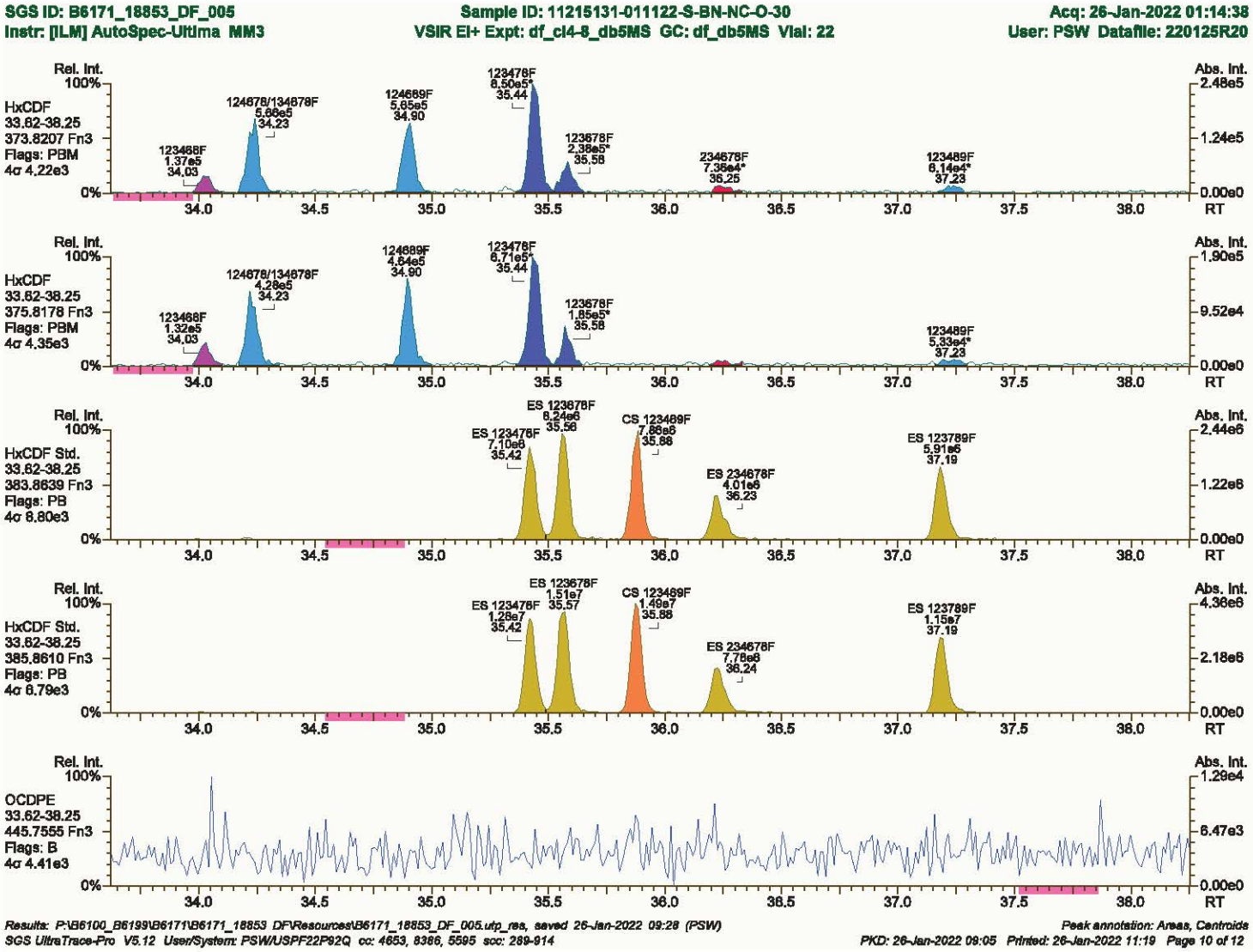


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2102, 9944, 6573 scc: 289-914 *PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 7 of 12*

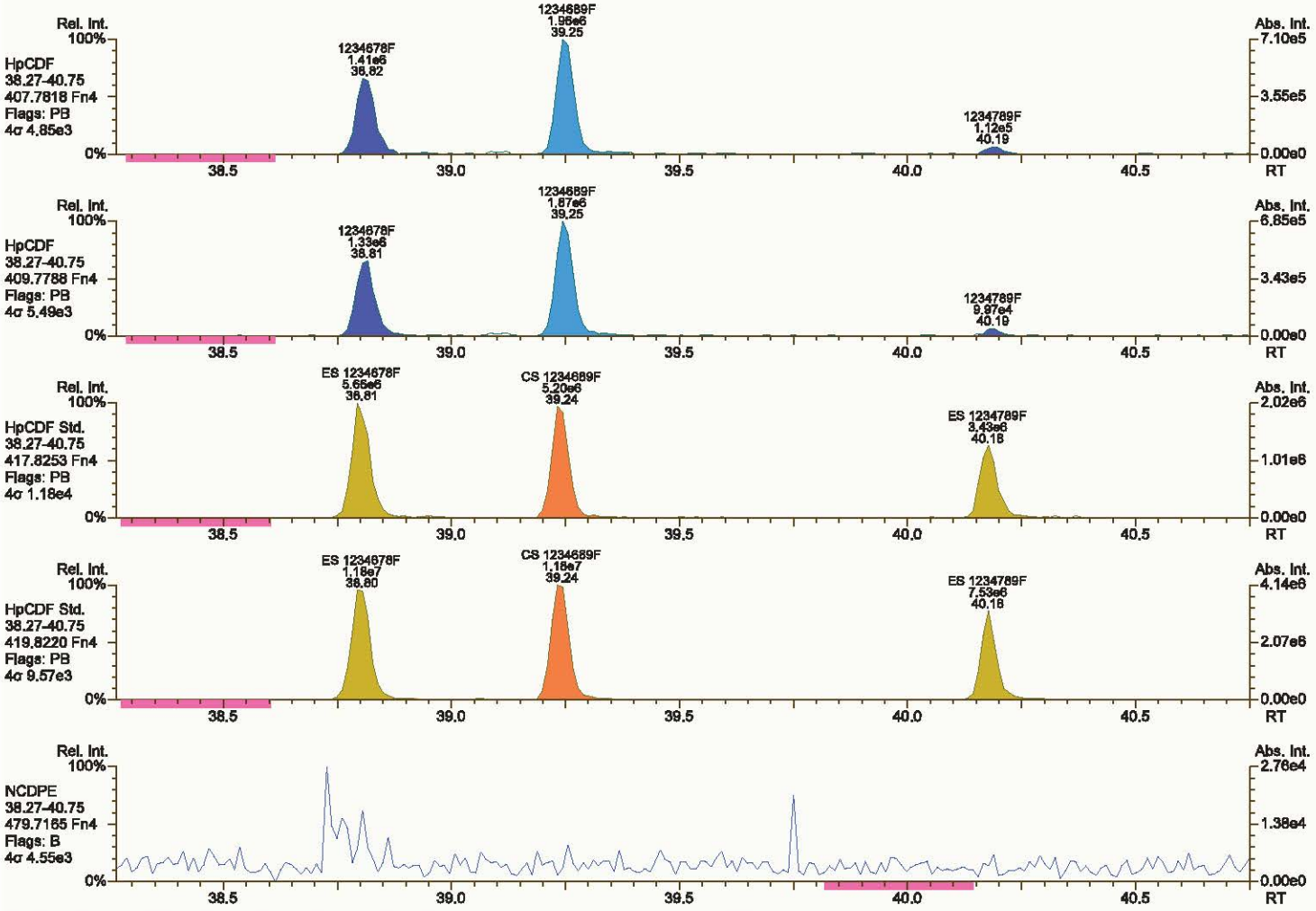

SGS ID: B6171_18853_DF_005
Sample ID: 11215131-011122-S-BN-NC-O-30
Acq: 26-Jan-2022 01:14:38
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: PSW Datafile: 220125R20
Rel. Int.
100%
Abs. Int.
13468/12468F
2.15e5
27.97
5.92e4
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 5.94e3
2.96e4
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
Abs. Int.
13468/12468F
1.59e5
27.96
5.00e4
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 3.82e3
2.50e4
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
Abs. Int.
4.79e6
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
2.39e6
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2959 scc: 289-914
PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 8 of 12


SGS ID: B6171_18853_DF_005
Sample ID: 11215131-011122-S-BN-NC-O-30
Acq: 26-Jan-2022 01:14:38
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: PSW Datafile: 220125R20
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 3.06e3
12368F...[3]
3.88e5*
29.78
23468/12469F
7.97e4*
30.47
12378F
5.91e5
30.93
12678/12367F
1.75e5
31.23
23478F
3.92e5
32.10
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.22e3
12368F...[3]
2.57e5*
29.78
23468/12469F
3.16e4*
30.49
12378F
3.61e5
30.92
12678/12367F
1.29e5
31.23
23478F
2.49e5
32.10
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 7.34e3
CS 12346F
1.78e7
30.35
ES 12378F
1.68e7
30.91
ES 23478F
1.63e7
32.08
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 5.87e3
CS 12346F
1.07e7
30.35
ES 12378F
1.07e7
30.91
ES 23478F
1.01e7
32.08
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.09e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2759, 7870, 6397 scc: 289-914
PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 9 of 12


SGS ID: B6171_18853_DF_005
Sample ID: 11215131-011122-S-BN-NC-O-30
Acq: 26-Jan-2022 01:14:38
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: PSW Datafile: 220125R20
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 4.22e3
123468F 1.37e5 34.03
124678/134678F 5.66e5 34.23
124689F 5.65e5 34.90
123478F 8.50e5* 35.44
123678F 2.38e5* 35.58
234678F 7.36e4* 36.25
123489F 8.14e4* 37.23
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 4.35e3
123468F 1.32e5 34.03
124678/134678F 4.28e5 34.23
124689F 4.64e5 34.90
123478F 6.71e5* 35.44
123678F 1.85e5* 35.58
123489F 5.33e4* 37.23
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 8.80e3
ES 123678F 8.24e6 35.56
ES 123478F 7.10e6 35.42
CS 123489F 7.86e6 35.88
ES 234678F 4.01e6 36.23
ES 123789F 5.91e6 37.19
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 6.79e3
ES 123678F 1.51e7 35.57
ES 123478F 1.28e7 35.42
CS 123489F 1.49e7 35.88
ES 234678F 7.78e6 36.24
ES 123789F 1.15e7 37.19
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.41e3
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
2.48e5
1.24e5
0.00e0
1.90e5
9.52e4
2.44e6
1.22e6
4.36e6
2.18e6
1.29e4
6.47e3
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4653, 8366, 5595 scc: 289-914
PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 10 of 12

SGS ID: B6171_18853_DF_005 | Sample ID: 11215131-011122-S-BN-NC-O-30 | Acq: 26-Jan-2022 01:14:38

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: PSW Datafile: 220125R20

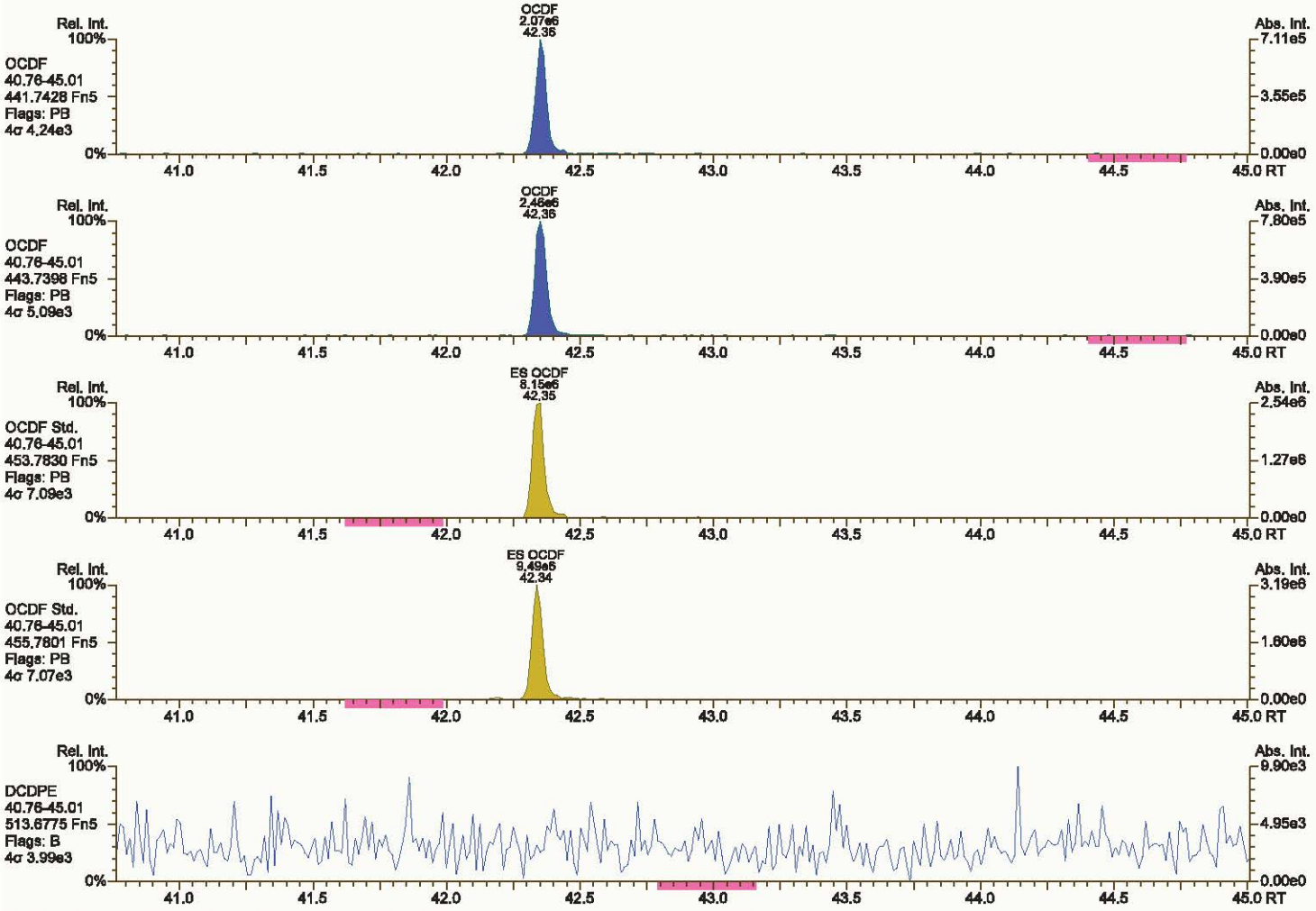


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0240, 1016, 0222 scc: 289-914 | *PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 11 of 12*

SGS ID: B6171_18853_DF_005 | Sample ID: 11215131-011122-S-BN-NC-O-30 | Acq: 26-Jan-2022 01:14:38

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: PSW Datafile: 220125R20



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_005.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3546, 6068, 6284 scc: 289-914 *PKD: 26-Jan-2022 09:05 Printed: 26-Jan-2022 11:19 Page 12 of 12*

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 02:02 PSW | Wt/Vol: 10.05 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-32 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 541-632-LFW

Datafile: 220125R21 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.75		1.0008	1.0011	+0.5	1.26E+07	0.81	Y	1.34	100	7422.914	0.561
12378-PeCDD	32.43	J EMPC	1.0005	1.0005	0	1.78E+05	1.79	N	1.06	1.82	8439.777	0.789
123478-HxCDD	36.41	J EMPC	1.0004	1.0005	+0.2	1.11E+05	0.84	N	1.06	1.36	7786.907	0.806
123678-HxCDD	36.52		1.0035	1.0035	0	4.85E+05	1.29	Y	1.08	5.88	7786.907	0.833
123789-HxCDD	36.81		1.0116	1.0115	-0.2	3.32E+05	1.16	Y	1.02	3.75	7786.907	0.782
1234678-HpCDD	39.77		1.0003	1.0003	0	1.20E+07	1.08	Y	0.97	178	9245.063	0.797
OCDD	42.19		1.0003	1.0003	0	1.26E+08	0.91	Y	1.07	2,800	8524.496	1.48
2378-TCDF	25.80		1.0008	1.0009	+0.2	5.15E+07	0.80	Y	0.96	340	10314.724	0.797
12378-PeCDF	30.91		1.0006	1.0006	0	2.29E+06	1.57	Y	0.95	17.2	9215.846	0.651
23478-PeCDF	32.09		1.0006	1.0007	+0.2	1.73E+06	1.56	Y	0.94	13.3	9215.846	0.634
123478-HxCDF	35.43		1.0004	1.0005	+0.2	3.35E+06	1.24	Y	1.23	26.9	8707.631	0.598
123678-HxCDF	35.57		1.0004	1.0004	0	9.06E+05	1.17	Y	1.13	6.74	8707.631	0.565
234678-HxCDF	36.23		1.0005	1.0003	-0.4	2.00E+05	1.32	Y	1.15	2.98	8707.631	1.38
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8707.631	0.738
1234678-HpCDF	38.80		1.0003	1.0003	0	4.89E+06	1.04	Y	1.36	41.5	9904.332	0.607
1234789-HpCDF	40.18		1.0002	1.0003	+0.2	4.09E+05	0.94	Y	1.30	5.23	9904.332	0.848
OCDF	42.35		1.0003	1.0003	0	1.20E+07	0.92	Y	1.03	230	9533.023	1.38

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.72	1.0273	1.0273	0	1.85E+07	0.84	Y	1.03	83.8
ES 12378-PeCDD	32.42	1.2455	1.2462	+1.4	1.83E+07	1.56	Y	1.03	82.8
ES 123478-HxCDD	36.40	0.9917	0.9918	+0.2	1.54E+07	1.36	Y	0.99	94
ES 123678-HxCDD	36.51	0.9948	0.9948	0	1.52E+07	1.31	Y	0.97	94.5
ES 123789-HxCDD	36.80	1.0028	1.0028	0	1.74E+07	1.30	Y	1.12	93.7
ES 1234678-HpCDD	39.75	1.0830	1.0833	+0.7	1.38E+07	1.09	Y	0.99	84.2
ES OCDD	42.17	1.1489	1.1492	+0.8	1.68E+07	0.96	Y	0.78	65.5
ES 2378-TCDF	25.78	1.0623	1.0626	+0.5	3.14E+07	0.80	Y	1.08	86.4
ES 12378-PeCDF	30.89	1.2724	1.2734	+1.9	2.80E+07	1.59	Y	0.93	89.6
ES 23478-PeCDF	32.06	1.3205	1.3216	+2.1	2.77E+07	1.64	Y	0.92	89.5
ES 123478-HxCDF	35.41	0.9649	0.9649	0	2.01E+07	0.54	Y	1.14	107
ES 123678-HxCDF	35.55	0.9688	0.9688	0	2.37E+07	0.53	Y	1.30	111
ES 234678-HxCDF	36.22	0.9868	0.9869	+0.2	1.16E+07	0.58	Y	1.20	58.6
ES 123789-HxCDF	37.18	1.0129	1.0131	+0.4	1.85E+07	0.51	Y	1.14	98.6
ES 1234678-HpCDF	38.79	1.0569	1.0571	+0.5	1.73E+07	0.41	Y	0.95	110
ES 1234789-HpCDF	40.17	1.0944	1.0945	+0.2	1.20E+07	0.46	Y	0.85	85.7
ES OCDF	42.34	1.1533	1.1536	+0.8	2.03E+07	0.93	Y	0.93	66.4

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 02:02 PSW | Wt/Vol: 10.05 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-32 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 541-632-LFW

Datafile: 220125R21 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.01		-	-	-	2.14E+07	0.81	Y	-	-
JS 1234-TCDF	24.26		-	-	-	3.35E+07	0.78	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	8.24E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0283	+0.2	9.41E+06	n/a	-	1.31	84.1
CS 12347-PeCDD	31.90		1.2257	1.2263	+1.1	1.69E+07	1.63	Y	0.89	88.7
CS 12346-PeCDF	30.34		1.2496	1.2506	+1.8	2.76E+07	1.56	Y	0.87	95
CS 123469-HxCDF	35.87		0.9773	0.9773	0	2.28E+07	0.54	Y	1.09	127
CS 1234689-HpCDF	39.23		1.0687	1.0690	+0.7	1.69E+07	0.43	Y	0.86	119
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0283~~	~~+0.2~~	~~9.41E+06~~	~~n/a~~		~~1.26~~	~~101~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2263~~	~~+1.1~~	~~1.69E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~30.34~~		~~1.2496~~	~~1.2506~~	~~+1.8~~	~~2.76E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.28E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~114~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0690~~	~~+0.7~~	~~1.69E+07~~	~~0.43~~	~~Y~~	~~0.91~~	~~109~~

Totals	Conc	EMPC
Total TCDD	113	115
Total PeCDD	0	7.97
Total HxCDD	64.2	67.5
Total HpCDD	481	481
Total Tetra-Octa Dioxins	3450	3470
Total TCDF	600	635
Total PeCDF	57.6	60.1
Total HxCDF	75.7	75.7
Total HpCDF	102	104
Total Tetra-Octa Furans	1,070	1100
Total Tetra-Octa Dioxins & Furans	4520	4570

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 02:02 PSW | Wt/Vol: 10.05 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-32 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 541-632-LFW

Datafile: 220125R21 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.67		0.8486	0.8483	-0.4	1.17E+05	0.74	Y	1.34	0.938	7422.914	0.561
1379-TCDD	NotFnd		0.8642						1.34		7422.914	0.561
1369-TCDD	NotFnd		0.8825						1.34		7422.914	0.561
1469-TCDD	24.46	EMPC	0.9154	0.9154	0	1.73E+05	0.95	N	1.34	1.38	7422.914	0.561
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		7422.914	0.561
1378-TCDD	NotFnd		0.9332						1.34		7422.914	0.561
1268-TCDD	NotFnd		0.9415						1.34		7422.914	0.561
1478-TCDD	NotFnd		0.9518						1.34		7422.914	0.561
1279-TCDD	NotFnd		0.9586						1.34		7422.914	0.561
1234/1269-TCDD	NotFnd		0.9734						1.34		7422.914	0.561
1236-TCDD	NotFnd		0.9788						1.34		7422.914	0.561
1237/1238-TCDD	26.44		0.9892	0.9894	+0.3	2.36E+05	0.75	Y	1.34	1.88	7422.914	0.561
1239-TCDD	NotFnd		0.9944						1.34		7422.914	0.561
2378-TCDD	**26.75**		**1.0008**	1.0011	**+0.5**	1.26E+07	0.81	Y	**1.34**	**100**	**7422.914**	**0.561**
1278-TCDD	27.11		1.0142	1.0145	+0.5	1.28E+06	0.74	Y	1.34	10.2	7422.914	0.561
1267-TCDD	NotFnd		1.0197						1.34		7422.914	0.561
1289-TCDD	NotFnd		1.0401						1.34		7422.914	0.561
12479/12468-PeCDD	29.83	EMPC	0.9202	0.9202	0	2.48E+05	1.29	N	1.06	2.55	8439.777	0.789
12469-PeCDD	30.38	J EMPC	0.9375	0.9372	-0.5	2.36E+05	0.96	N	1.06	2.42	8439.777	0.789
12368-PeCDD	NotFnd		0.9553						1.06		8439.777	0.789
12478-PeCDD	NotFnd		0.9613						1.06		8439.777	0.789
12379-PeCDD	NotFnd		0.9644						1.06		8439.777	0.789
12369/12467/12489-PeCDD	31.55	J EMPC	0.9730	0.9732	+0.4	1.15E+05	1.12	N	1.06	1.18	8439.777	0.789
12346/12347-PeCDD	NotFnd		0.9848						1.06		8439.777	0.789
12378-PeCDD	32.43	J EMPC	**1.0005**	**1.0005**	**0**	**1.78E+05**	**1.79**	**N**	**1.06**	**1.82**	**8439.777**	**0.789**
12367-PeCDD	NotFnd		1.0035						1.06		8439.777	0.789
12389-PeCDD	NotFnd		1.0146						1.06		8439.777	0.789
124679/124689-HxCDD	34.69		0.9532	0.9532	0	2.54E+06	1.24	Y	1.05	30.1	7786.907	0.805
123468-HxCDD	35.35		0.9715	0.9713	-0.4	2.64E+05	1.06	Y	1.05	3.13	7786.907	0.805
123679/123689-HxCDD	35.66		0.9795	0.9797	+0.4	1.68E+06	1.21	Y	1.05	19.9	7786.907	0.805
123469-HxCDD	35.78	J EMPC	0.9832	0.9830	-0.4	1.65E+05	1.03	N	1.05	1.96	7786.907	0.805
123478-HxCDD	36.41	J EMPC	**1.0004**	**1.0005**	**+0.2**	**1.11E+05**	**0.84**	**N**	1.06	**1.36**	**7786.907**	**0.806**
123678-HxCDD	36.52		**1.0035**	**1.0035**	**0**	**4.85E+05**	**1.29**	**Y**	1.08	**5.88**	**7786.907**	**0.833**
123467-HxCDD	36.71	J	1.0087	1.0087	0	1.20E+05	1.13	Y	1.05	1.43	7786.907	0.805
123789-HxCDD	36.81		**1.0116**	**1.0115**	**-0.2**	**3.32E+05**	**1.16**	**Y**	1.02	**3.75**	**7786.907**	**0.782**

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 02:02 PSW | Wt/Vol: 10.05 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-32 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 541-632-LFW

Datafile: 220125R21 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.09		0.9834	0.9834	0	2.04E+07	1.05	Y	0.97	303	9245.063	0.797
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**1.20E+07**	**1.08**	**Y**	**0.97**	**178**	**9245.063**	**0.797**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**1.26E+08**	**0.91**	**Y**	**1.07**	**2,800**	**8524.496**	**1.48**
OCDD-a	42.18		1.0001	1.0002	+0.3	6.93E+06	2.44	Y	0.07	2,490	11743.34	33
1368-TCDF	NotFnd		0.7942						0.96		10314.724	0.797
1468-TCDF	NotFnd		0.8155						0.96		10314.724	0.797
2468-TCDF	21.66	EMPC	0.8407	0.8401	-0.8	2.47E+05	0.90	N	0.96	1.63	10314.724	0.797
1346/1246-TCDF	22.12	EMPC	0.8553	0.8581	+3.7	1.74E+05	1.19	N	0.96	1.15	10314.724	0.797
1347/1378/1247-TCDF	22.24	EMPC	0.8617	0.8627	+1.3	5.23E+05	0.91	N	0.96	3.45	10314.724	0.797
1348-TCDF	22.50		0.8740	0.8729	-1.5	1.48E+05	0.72	Y	0.96	0.977	10314.724	0.797
1248/1367/1379-TCDF	22.63		0.8798	0.8778	-2.7	2.13E+06	0.84	Y	0.96	14	10314.724	0.797
1268-TCDF	23.10		0.8967	0.8962	-0.7	8.71E+05	0.80	Y	0.96	5.75	10314.724	0.797
1467-TCDF	23.24	EMPC	0.9025	0.9016	-1.3	1.93E+05	0.95	N	0.96	1.27	10314.724	0.797
1478-TCDF	23.45		0.9101	0.9097	-0.6	2.02E+06	0.73	Y	0.96	13.3	10314.724	0.797
1369/1237-TCDF	23.87	EMPC	0.9263	0.9261	-0.3	5.62E+05	0.90	N	0.96	3.71	10314.724	0.797
2467-TCDF	24.02		0.9322	0.9319	-0.4	1.44E+05	0.75	Y	0.96	0.953	10314.724	0.797
2368-TCDF	24.21	EMPC	0.9389	0.9389	0	1.48E+06	1.08	N	0.96	9.79	10314.724	0.797
1238/1234/1678/1469/1236-TCDF	24.30	EMPC	0.9427	0.9424	-0.4	2.03E+06	0.63	N	0.96	13.4	10314.724	0.797
1278-TCDF	24.80		0.9623	0.9621	-0.3	1.98E+07	0.79	Y	0.96	130	10314.724	0.797
1349-TCDF	NotFnd		0.9678						0.96		10314.724	0.797
1267-TCDF	25.11		0.9740	0.9740	0	1.27E+06	0.85	Y	0.96	8.37	10314.724	0.797
2346/1249-TCDF	NotFnd		0.9820						0.96		10314.724	0.797
2347/1279-TCDF	25.56		0.9915	0.9913	-0.3	6.99E+05	0.83	Y	0.96	4.61	10314.724	0.797
2348-TCDF	25.68		0.9964	0.9960	-0.6	3.05E+06	0.81	Y	0.96	20.1	10314.724	0.797
2378-TCDF	**25.80**		**1.0008**	**1.0009**	**+0.2**	**5.15E+07**	**0.80**	**Y**	**0.96**	**340**	**10314.724**	**0.797**
2367/3467-TCDF	26.19		1.0163	1.0160	-0.5	4.91E+06	0.85	Y	0.96	32.4	10314.724	0.797
1269-TCDF	26.46		1.0265	1.0265	0	6.94E+05	0.70	Y	0.96	4.58	10314.724	0.797
1239-TCDF	NotFnd		1.0373						0.96		10314.724	0.797
1289-TCDF	27.98		1.0847	1.0852	+0.8	3.74E+06	0.78	Y	0.96	24.7	10314.724	0.797
13468/12468-PeCDF	27.96		0.9045	0.9049	+0.7	7.94E+05	1.38	Y	0.94	6.02	8712.814	0.608
13678/13467/12467-PeCDF	29.59	J	0.9574	0.9579	+0.9	2.46E+05	1.35	Y	0.94	1.87	9215.846	0.643
12368/13478/12478-PeCDF	29.76		0.9628	0.9633	+0.9	1.34E+06	1.54	Y	0.94	10.2	9215.846	0.643
14678-PeCDF	29.84	J EMPC	0.9661	0.9660	-0.2	1.02E+05	2.20	N	0.94	0.77	9215.846	0.643
13479-PeCDF	NotFnd		0.9695						0.94		9215.846	0.643
13469/12479-PeCDF	NotFnd		0.9779						0.94		9215.846	0.643
12346-PeCDF	NotFnd		0.9824						0.94		9215.846	0.643

Lab ID: B6171_18863_DF_006 | Acq'd: 26 Jan 2022 02:02 PSW | Wt/Vol: 10.05 g | ICAL: MM3_DF_10272021_27JUL2021

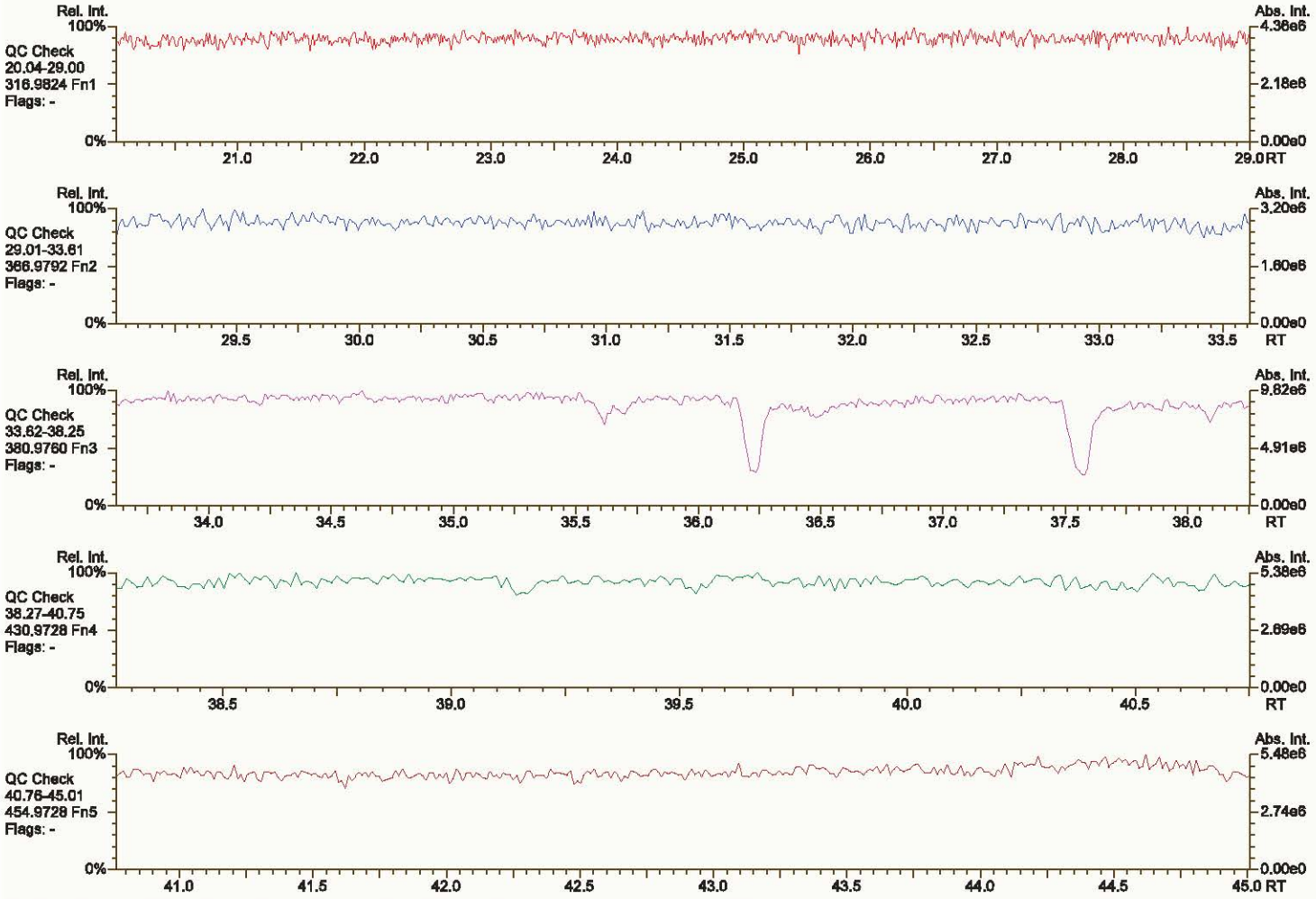
Client ID: 11215131-011122-S-BN-NC-O-32 | UTP: 26-Jan-2022 09:28:53 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 541-632-LFW

Datafile: 220125R21 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.47	J EMPC	0.9857	0.9862	+0.9	2.31E+05	1.78	N	0.94	1.75	9215.846	0.643
12347-PeCDF	NotFnd		0.9882						0.94		9215.846	0.643
12348-PeCDF	30.70	J	0.9935	0.9937	+0.4	2.47E+05	1.63	Y	0.94	1.87	9215.846	0.643
12378-PeCDF	**30.91**		**1.0006**	**1.0006**	**0**	**2.29E+06**	**1.57**	**Y**	**0.95**	**17.2**	**9215.846**	**0.651**
12678/12367-PeCDF	31.22		1.0099	1.0105	+1.1	8.58E+05	1.55	Y	0.94	6.5	9215.846	0.643
12379-PeCDF	NotFnd		1.0155						0.94		9215.846	0.643
12679-PeCDF	NotFnd		0.9921						0.94		9215.846	0.643
23467/12369-PeCDF	31.94	J	0.9962	0.9961	-0.2	9.97E+04	1.35	Y	0.94	0.756	9215.846	0.643
23478-PeCDF	**32.09**		**1.0006**	**1.0007**	**+0.2**	**1.73E+06**	**1.56**	**Y**	**0.94**	**13.3**	**9215.846**	**0.634**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		9215.846	0.643
12349-PeCDF	NotFnd		1.0106						0.94		9215.846	0.643
12389-PeCDF	NotFnd		1.0349						0.94		9215.846	0.643
123468-HxCDF	34.02		0.9606	0.9606	0	4.86E+05	1.28	Y	1.16	4.51	8707.631	0.744
124678/134678-HxCDF	34.22		0.9663	0.9663	0	1.77E+06	1.26	Y	1.16	16.4	8707.631	0.744
134679-HxCDF	NotFnd		0.9729						1.16		8707.631	0.744
124679-HxCDF	NotFnd		0.9786						1.16		8707.631	0.744
124689-HxCDF	34.89		0.9851	0.9852	+0.2	1.53E+06	1.28	Y	1.16	14.1	8707.631	0.744
123467-HxCDF	35.31	J	0.9970	0.9971	+0.2	1.35E+05	1.31	Y	1.16	1.25	8707.631	0.744
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**3.35E+06**	**1.24**	**Y**	**1.23**	**26.9**	**8707.631**	**0.598**
123678-HxCDF	**35.57**		**1.0004**	**1.0004**	**0**	**9.06E+05**	**1.17**	**Y**	**1.13**	**6.74**	**8707.631**	**0.565**
123479-HxCDF	NotFnd		1.0050						1.16		8707.631	0.744
123469-HxCDF	NotFnd		1.0091						1.16		8707.631	0.744
123679-HxCDF	NotFnd		0.9942						1.16		8707.631	0.744
234678-HxCDF	**36.23**		**1.0005**	**1.0003**	**-0.4**	**2.00E+05**	**1.32**	**Y**	**1.15**	**2.98**	**8707.631**	**1.38**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8707.631	0.744
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8707.631**	**0.738**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.23		1.0008	1.0013	+1.1	2.93E+05	1.28	Y	1.16	2.72	8707.631	0.744
1234678-HpCDF	**38.80**		**1.0003**	**1.0003**	**0**	**4.89E+06**	**1.04**	**Y**	**1.36**	**41.5**	**9904.332**	**0.607**
1234679-HpCDF	39.09	J EMPC	1.0076	1.0077	+0.2	1.31E+05	1.34	N	1.33	1.35	9904.332	0.706
1234689-HpCDF	39.24		1.0114	1.0116	+0.5	5.44E+06	1.08	Y	1.33	55.7	9904.332	0.706
1234789-HpCDF	**40.18**		**1.0002**	**1.0003**	**+0.2**	**4.09E+05**	**0.94**	**Y**	**1.30**	**5.23**	**9904.332**	**0.848**
OCDF	**42.35**		**1.0003**	**1.0003**	**0**	**1.20E+07**	**0.92**	**Y**	**1.03**	**230**	**9533.023**	**1.38**
OCDF-a	42.34		1.0001	1.0001	0	5.97E+05	2.45	Y	0.06	198	11240.376	28.2

SGS ID: B6171_18853_DF_006 | Sample ID: 11215131-011122-S-BN-NC-O-32 | Acq: 26-Jan-2022 02:02:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: PSW Datafile: 220125R21



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)

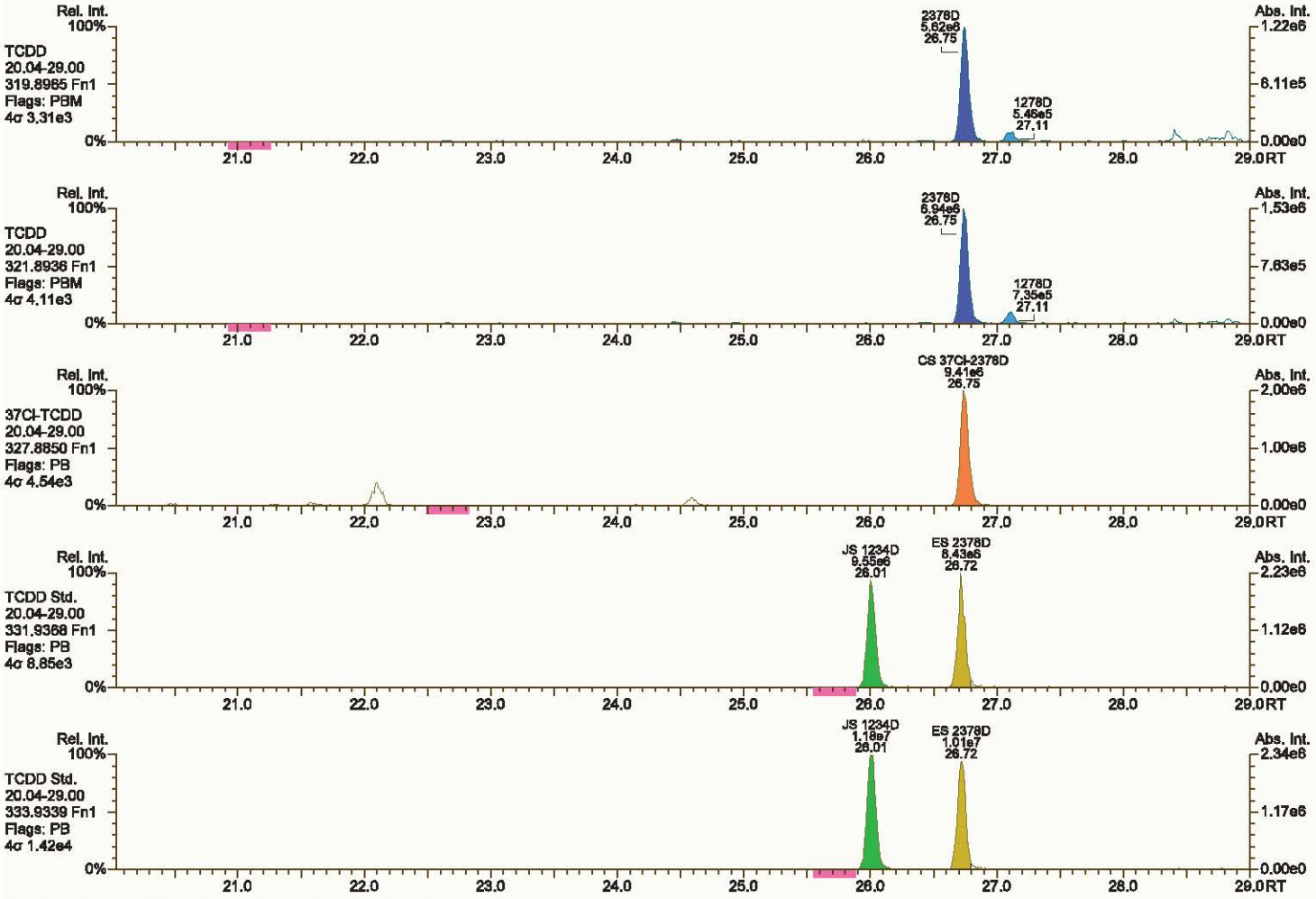
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 541-632

PKD: n/a Printed: 26-Jan-2022 11:20 Page 1 of 12

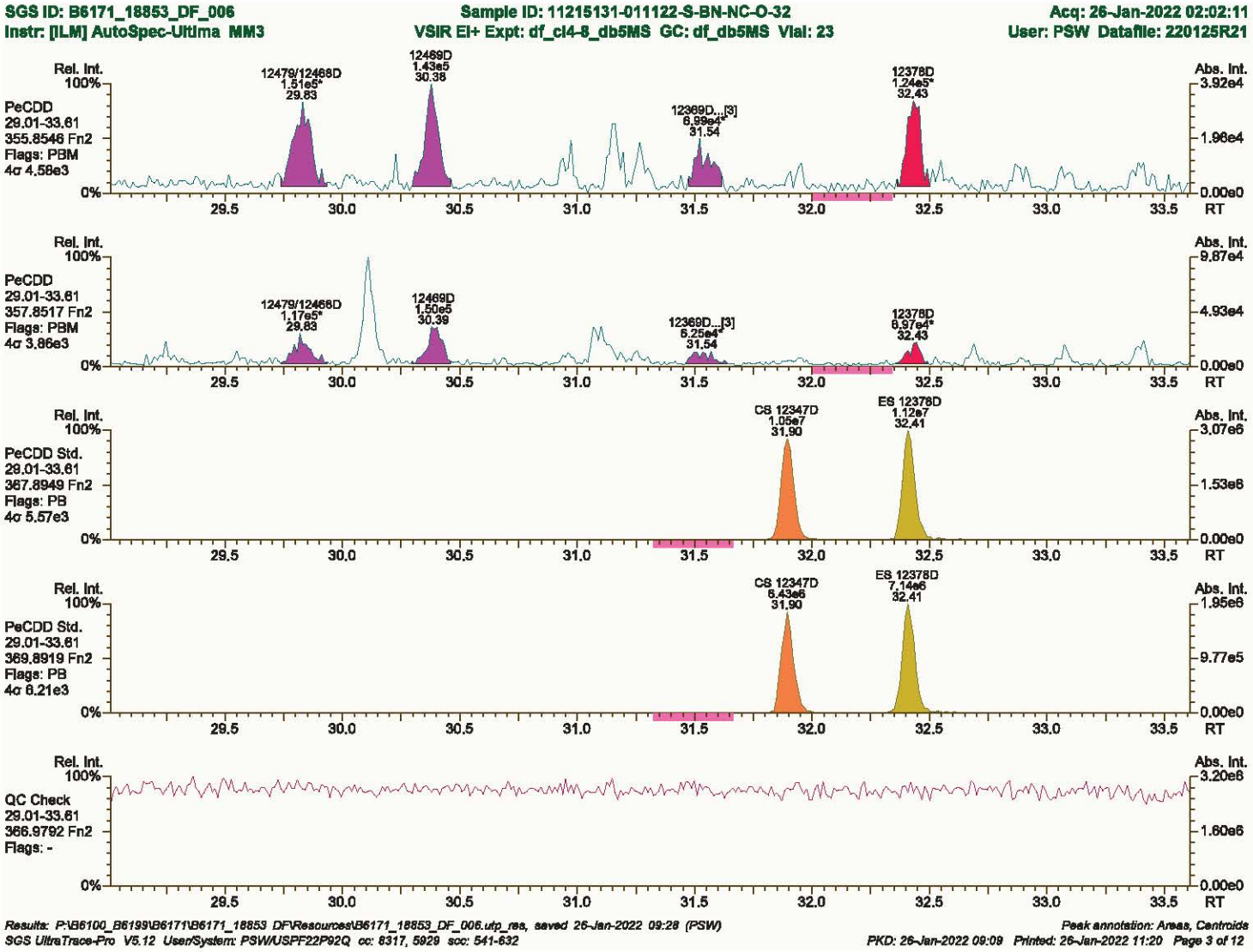
SGS ID: B6171_18853_DF_006 | Sample ID: 11215131-011122-S-BN-NC-O-32 | Acq: 26-Jan-2022 02:02:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: PSW Datafile: 220125R21



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

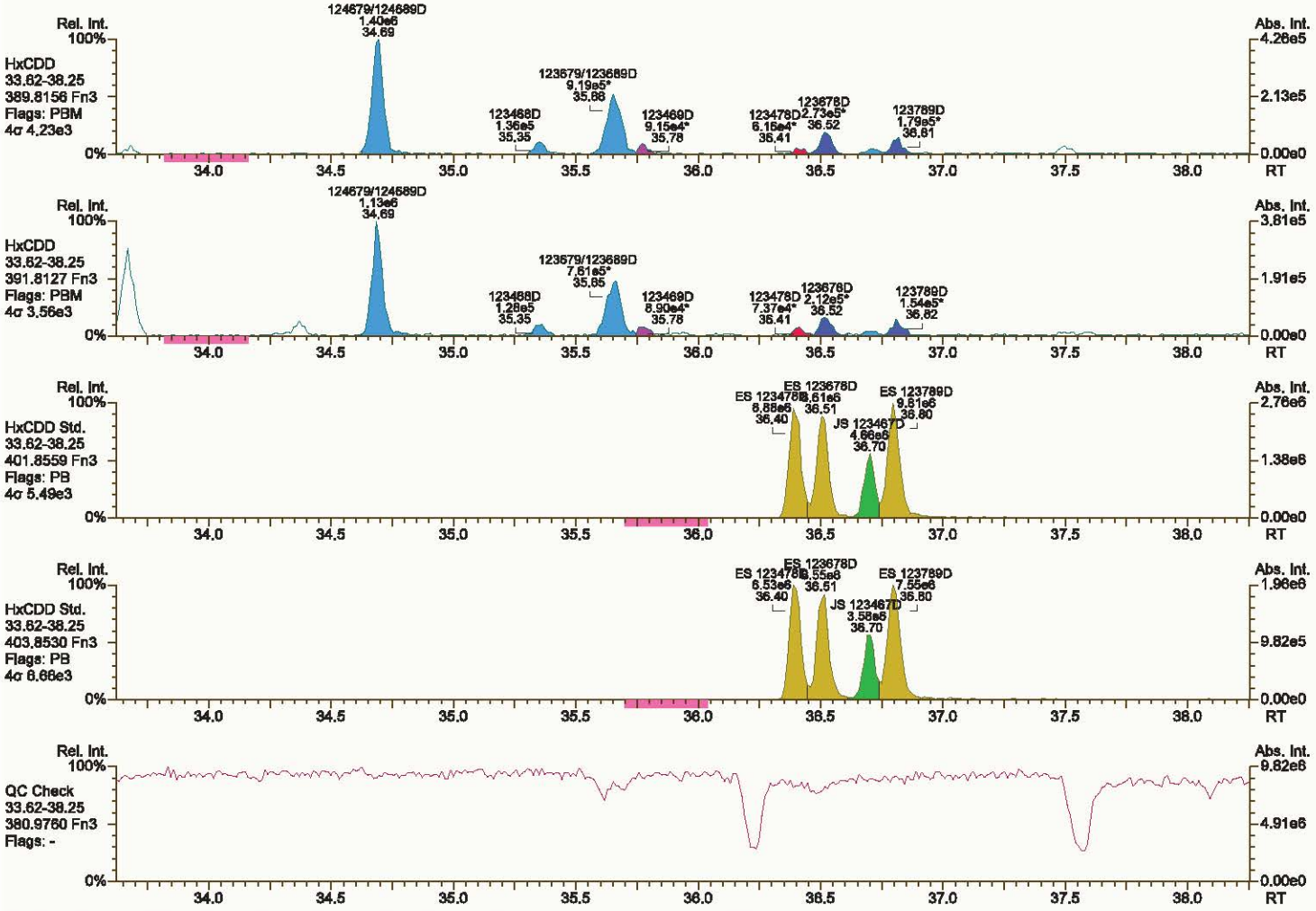
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3444, 9113, 4938 scc: 541-632 | *PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 2 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8317, 5929 scc: 541-632
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 3 of 12

SGS ID: B6171_18853_DF_006 | Sample ID: 11215131-011122-S-BN-NC-O-32 | Acq: 26-Jan-2022 02:02:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: PSW Datafile: 220125R21

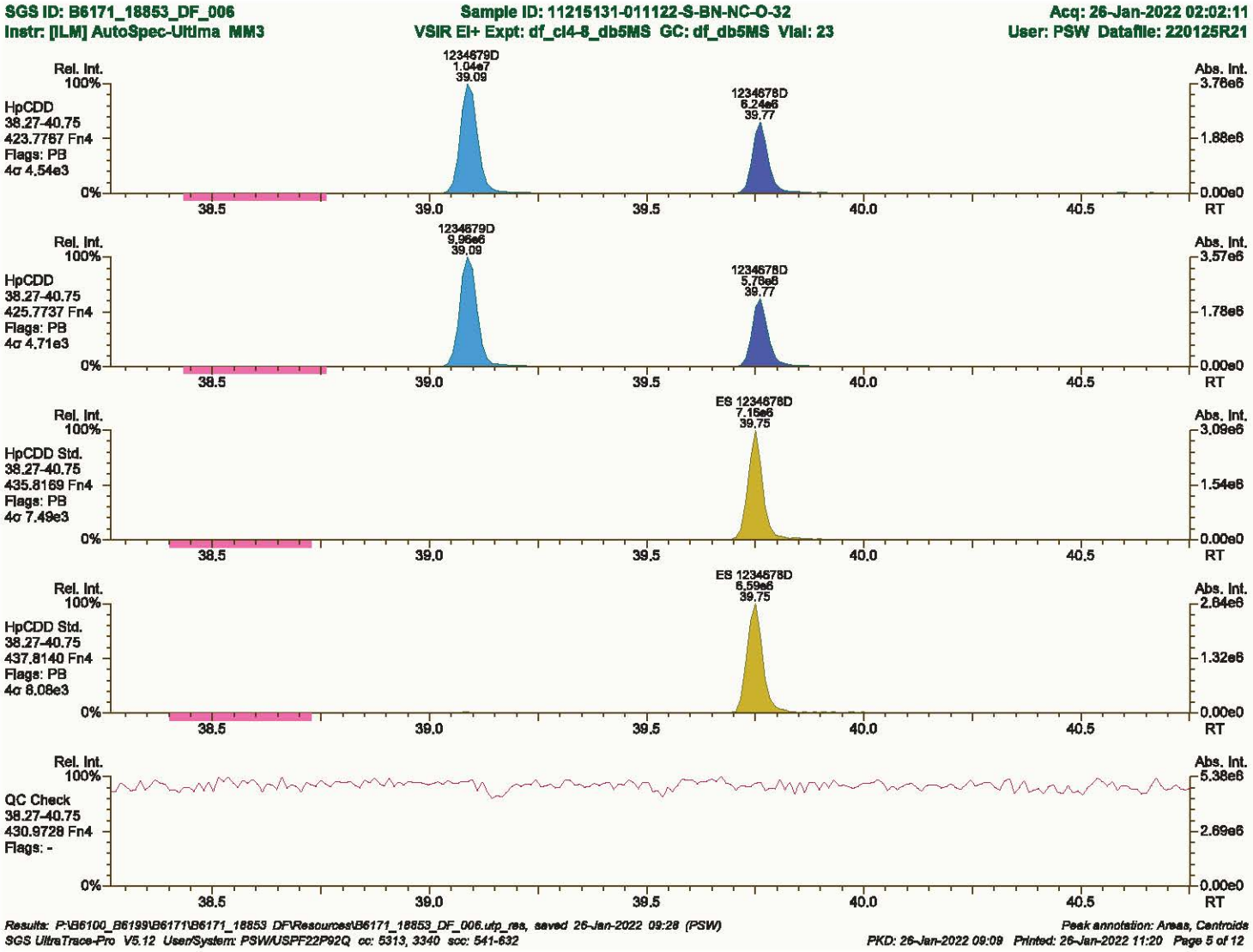


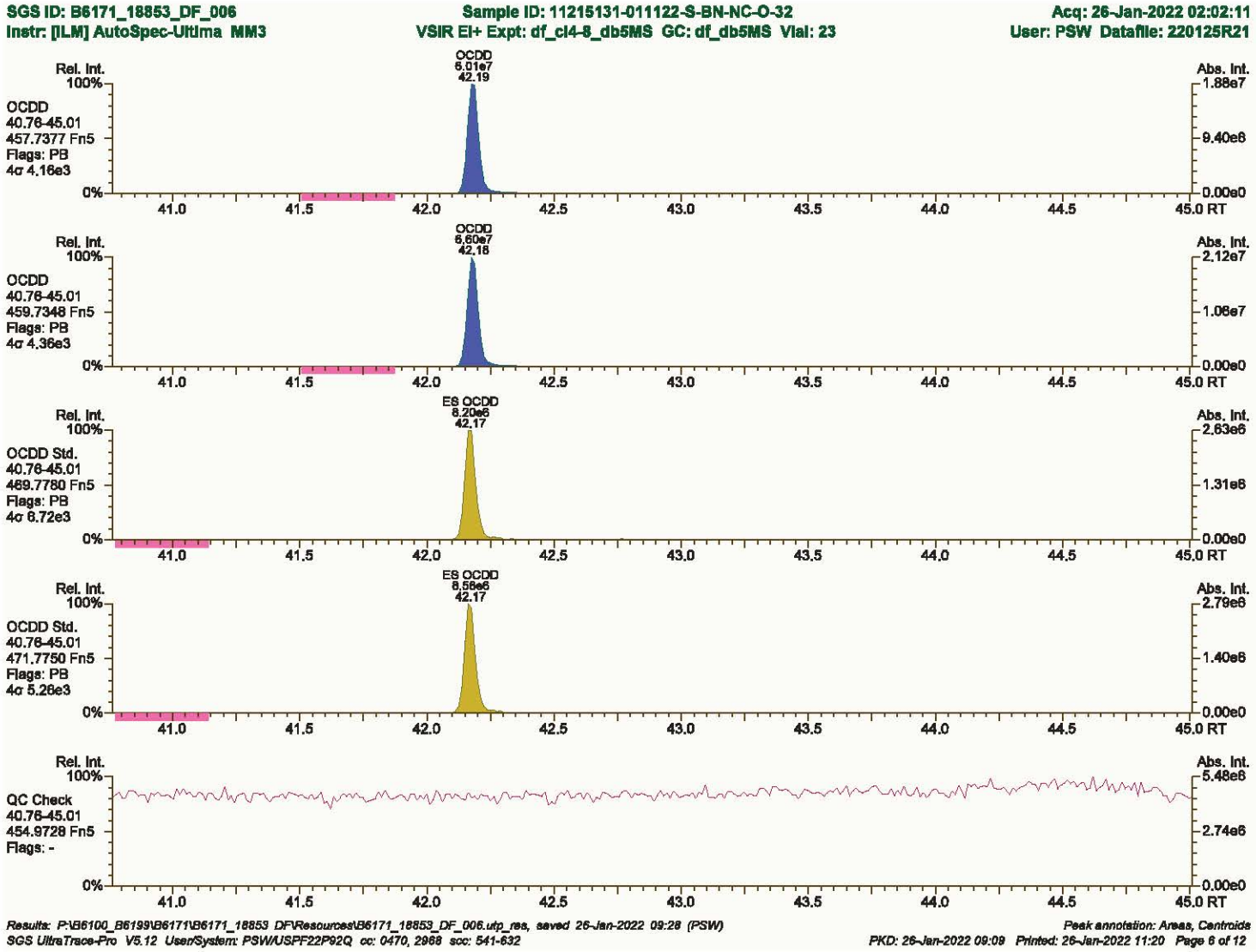
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2075, 9645 scc: 541-632

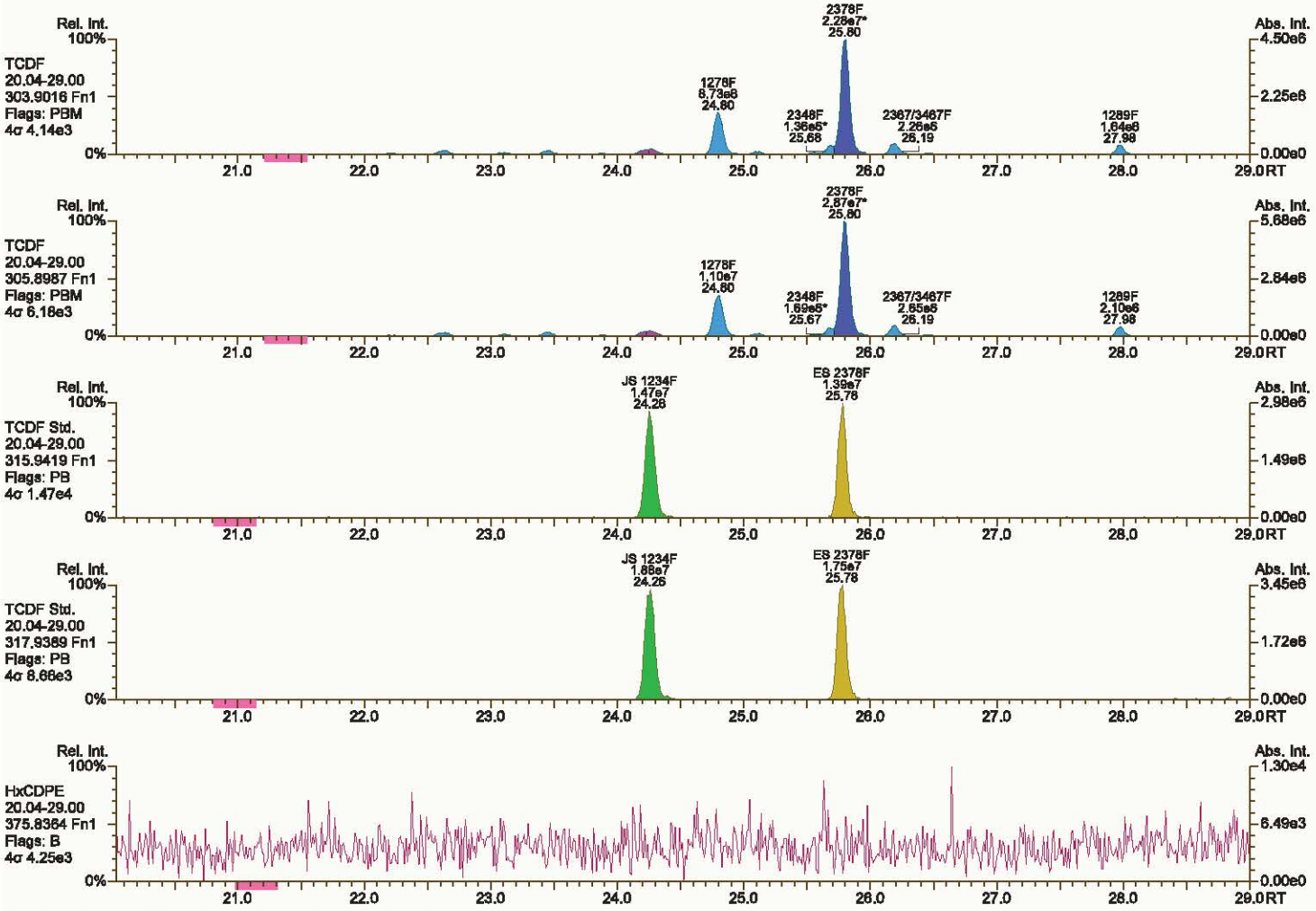
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 4 of 12


SGS ID: B6171_18853_DF_006
Sample ID: 11215131-011122-S-BN-NC-O-32
Acq: 26-Jan-2022 02:02:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23
User: PSW Datafile: 220125R21
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 4.54e3
1234679D
1.04e7
39.09
1234678D
6.24e6
39.77
3.76e6
1.88e6
0.00e0
RT
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 4.71e3
1234679D
9.96e6
39.09
1234678D
5.78e6
39.77
3.57e6
1.78e6
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 7.49e3
ES 1234678D
7.15e6
39.75
3.09e6
1.54e6
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 8.08e3
ES 1234678D
6.59e6
39.75
2.84e6
1.32e6
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
5.38e6
2.69e6
100%
0%
38.5
39.0
39.5
40.0
40.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5313, 3340 scc: 541-632
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 5 of 12


SGS ID: B6171_18853_DF_006
Sample ID: 11215131-011122-S-BN-NC-O-32
Acq: 26-Jan-2022 02:02:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23
User: PSW Datafile: 220125R21
Rel. Int.
Abs. Int.
OCDD
6.01e7
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 4.16e3
1.88e7
9.40e6
0.00e0
OCDD
6.60e7
42.18
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.36e3
2.12e7
1.06e7
ES OCDD
8.20e6
42.17
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 6.72e3
2.63e6
1.31e6
ES OCDD
8.58e6
42.17
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 5.26e3
2.79e6
1.40e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.48e6
2.74e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0470, 2968 scc: 541-632
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 6 of 12

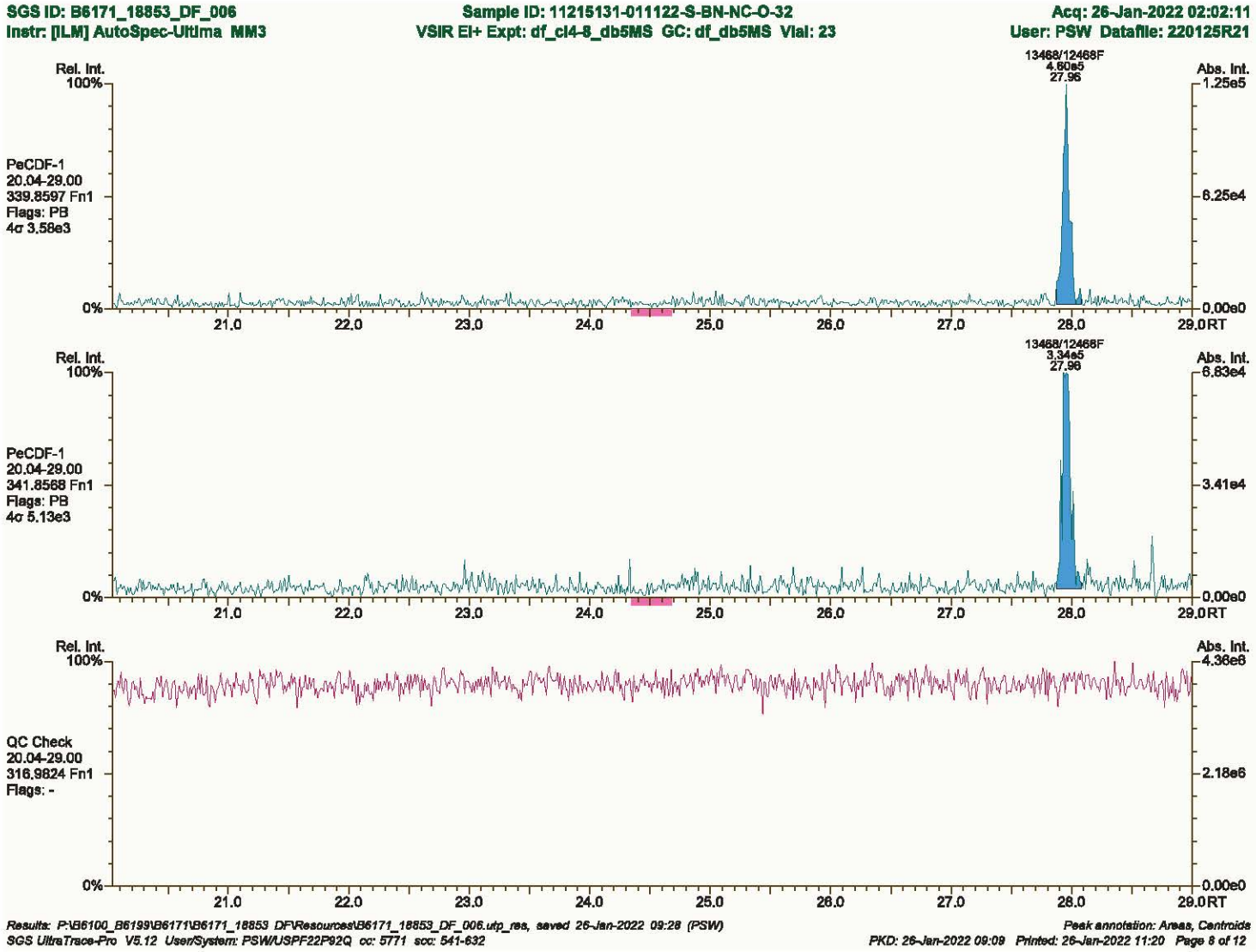
SGS ID: B6171_18853_DF_006 | Sample ID: 11215131-011122-S-BN-NC-O-32 | Acq: 26-Jan-2022 02:02:11

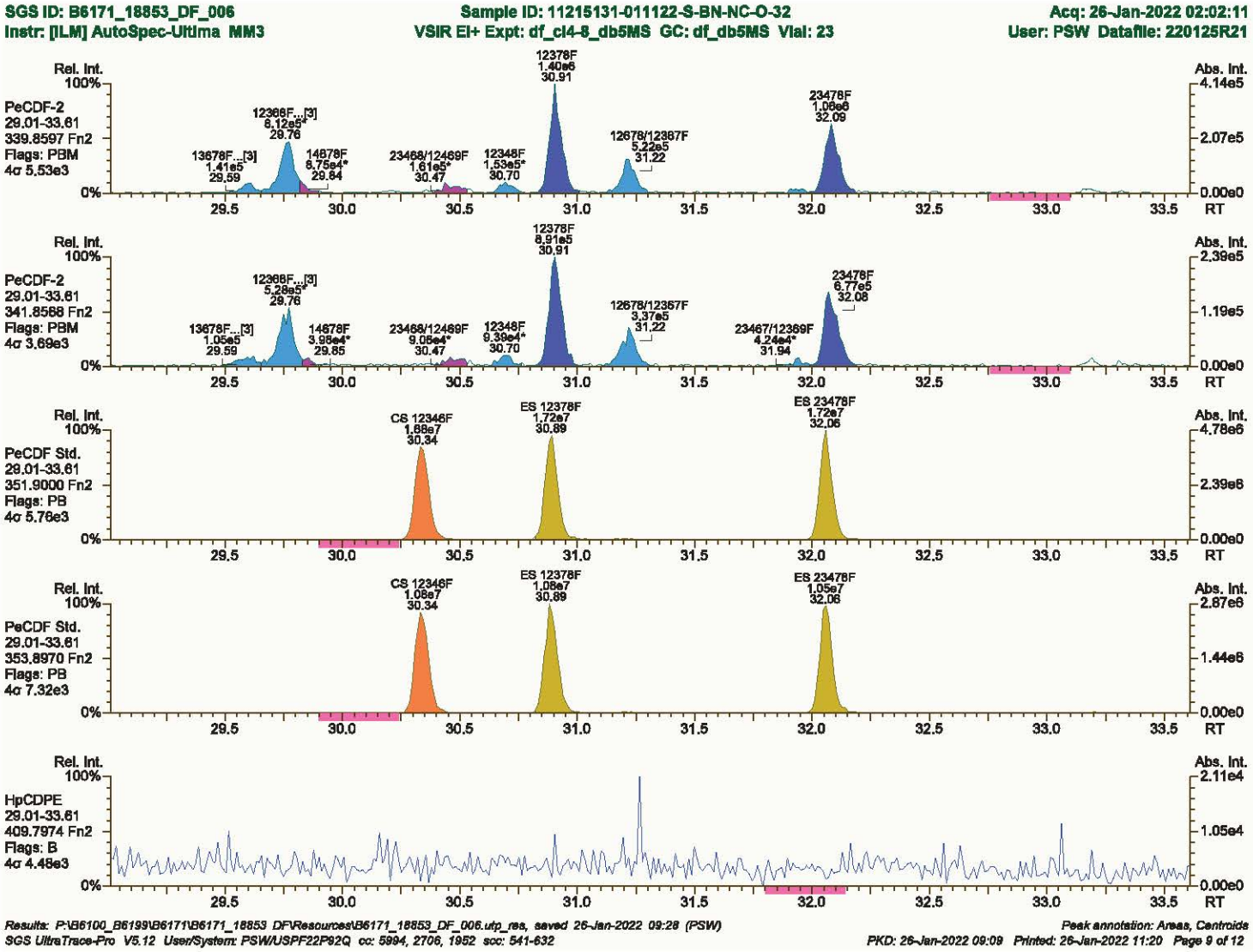
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: PSW Datafile: 220125R21

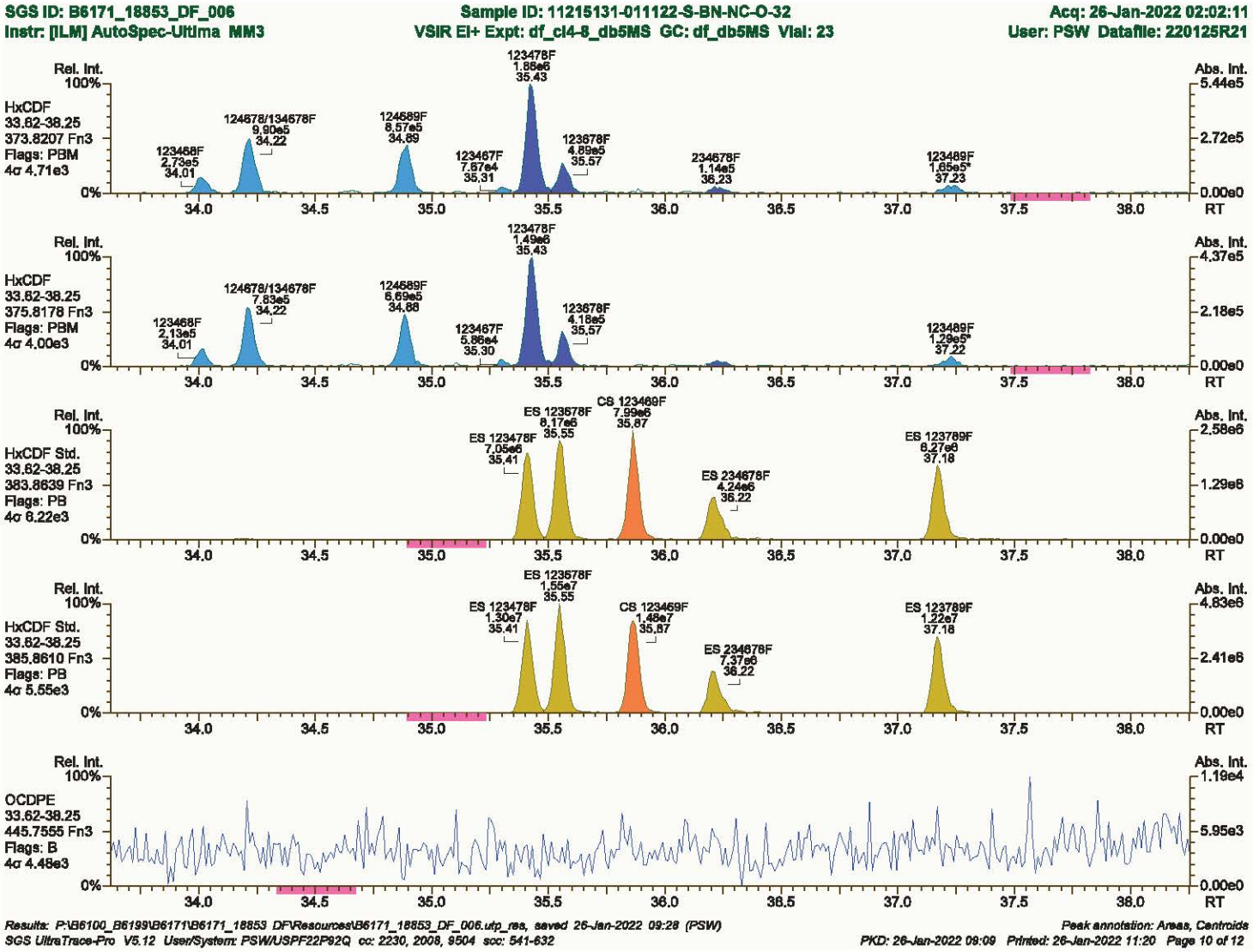


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8091, 5823, 3735 scc: 541-632 *PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 7 of 12*


SGS ID: B6171_18853_DF_006
Sample ID: 11215131-011122-S-BN-NC-O-32
Acq: 26-Jan-2022 02:02:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23
User: PSW Datafile: 220125R21
Rel. Int.
100%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 3.58e3
13468/12468F
4.60e5
27.96
Abs. Int.
1.25e5
6.25e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.13e3
13468/12468F
3.34e5
27.96
Abs. Int.
6.83e4
3.41e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5771 scc: 541-632
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 8 of 12

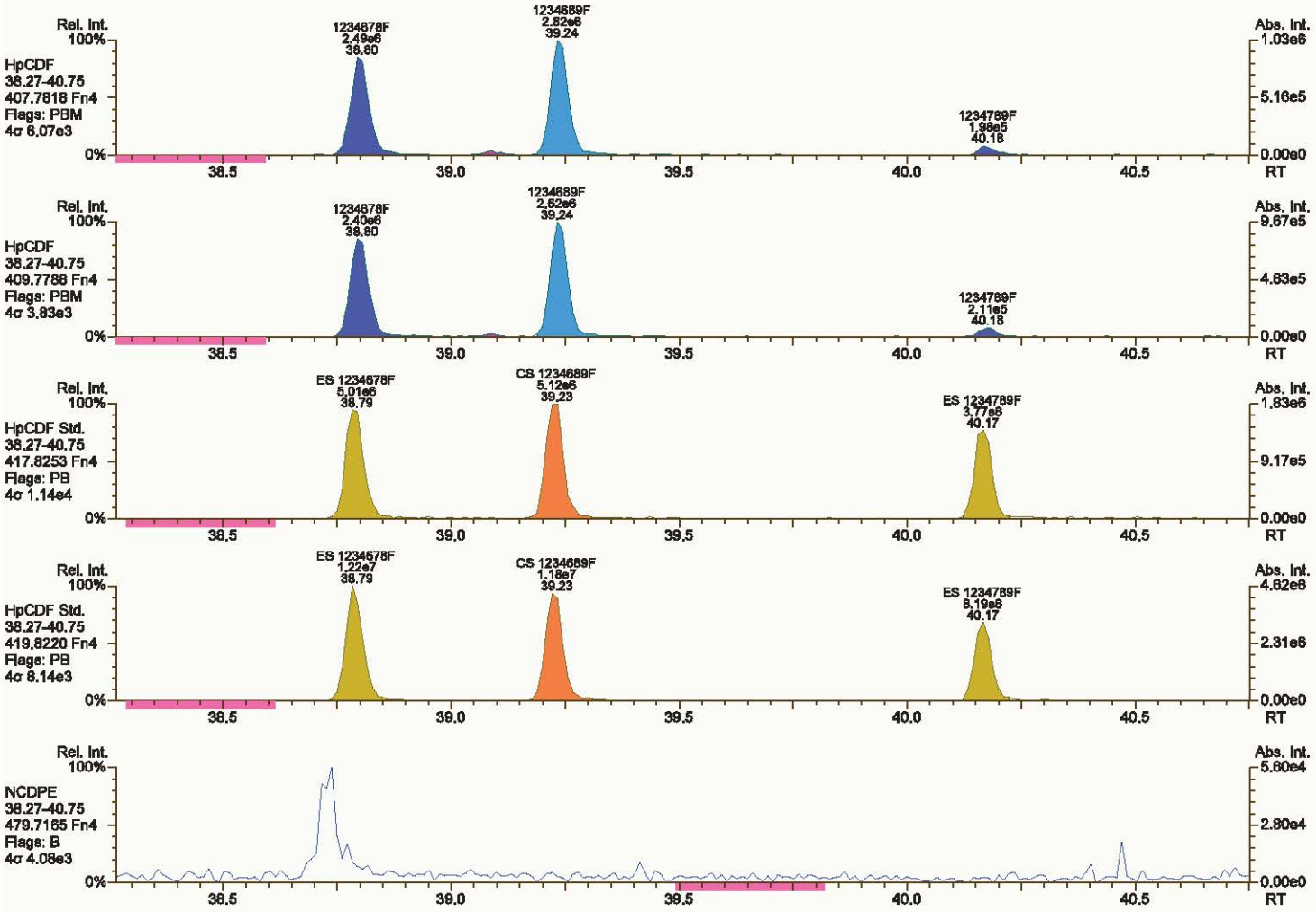

SGS ID: B6171_18853_DF_006
Sample ID: 11215131-011122-S-BN-NC-O-32
Acq: 26-Jan-2022 02:02:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23
User: PSW Datafile: 220125R21
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 5.53e3
12378F 1.40e6 30.91
12366F...[3] 8.12e5* 29.76
13678F...[3] 1.41e5 29.59
14678F 6.75e4* 29.84
23468/12469F 1.61e5* 30.47
12348F 1.53e5* 30.70
12678/12367F 5.22e5 31.22
23478F 1.06e6 32.09
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 3.69e3
12378F 8.91e5 30.91
12366F...[3] 5.26e5* 29.76
13678F...[3] 1.05e5 29.59
14678F 3.98e4* 29.85
23468/12469F 9.05e4* 30.47
12348F 9.30e4* 30.70
12678/12367F 3.37e5 31.22
23467/12369F 4.24e4* 31.94
23478F 6.77e5 32.08
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 5.76e3
CS 12346F 1.68e7 30.34
ES 12378F 1.72e7 30.89
ES 23478F 1.72e7 32.06
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 7.32e3
CS 12346F 1.08e7 30.34
ES 12378F 1.08e7 30.89
ES 23478F 1.05e7 32.06
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.48e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5994, 2706, 1952 scc: 541-632
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 9 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2230, 2008, 9504 scc: 541-632
PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 10 of 12

SGS ID: B6171_18853_DF_006 | Sample ID: 11215131-011122-S-BN-NC-O-32 | Acq: 26-Jan-2022 02:02:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: PSW Datafile: 220125R21

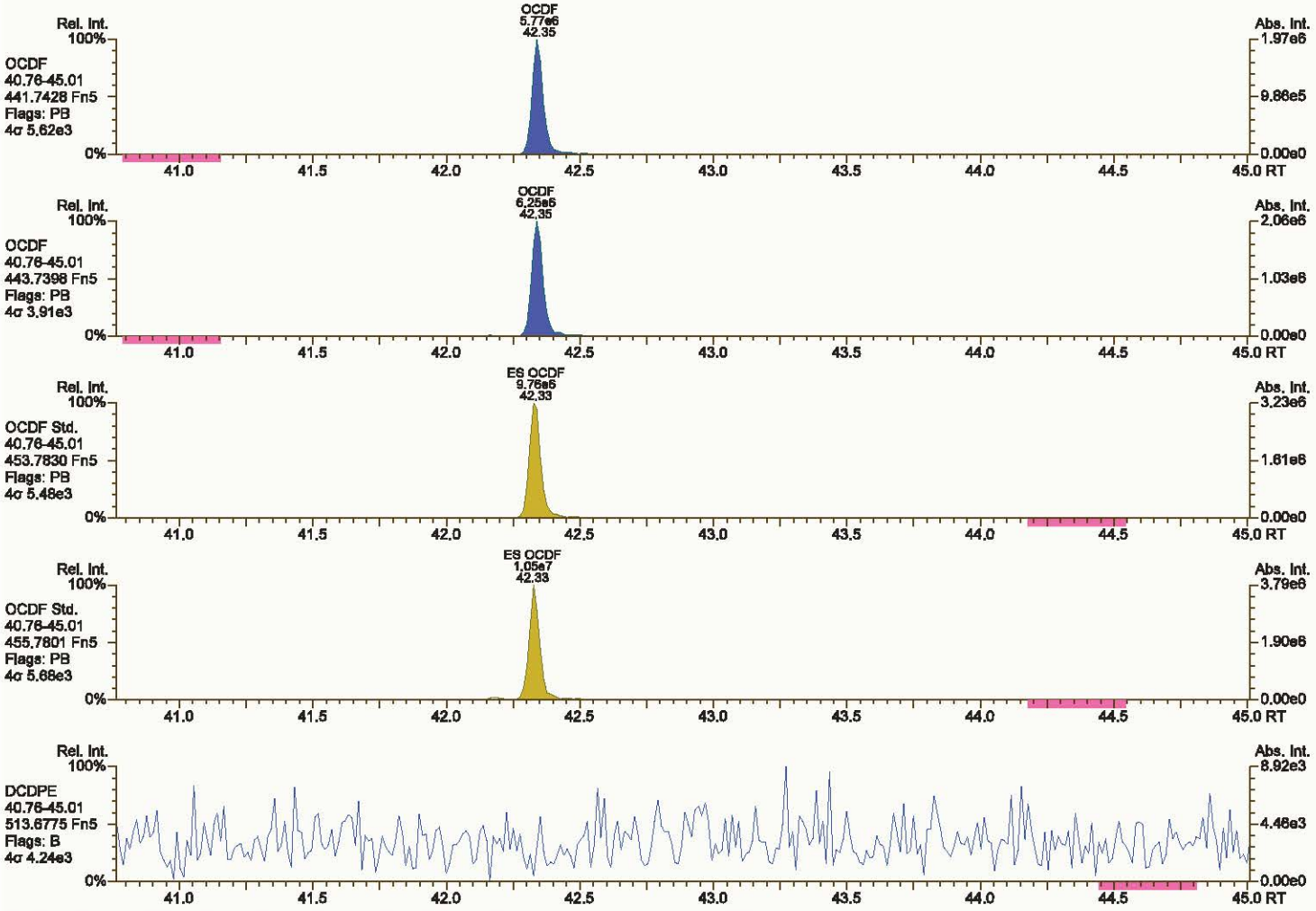


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0145, 8408, 4748 scc: 541-632 *PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 11 of 12*

SGS ID: B6171_18853_DF_006 | Sample ID: 11215131-011122-S-BN-NC-O-32 | Acq: 26-Jan-2022 02:02:11

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: PSW Datafile: 220125R21



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_006.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8456, 7201, 9316 scc: 541-632 | *PKD: 26-Jan-2022 09:09 Printed: 26-Jan-2022 11:20 Page 12 of 12*

Lab ID: B6171_18863_DF_007 | Acq'd: 26 Jan 2022 02:49 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-B-9 | UTP: 26-Jan-2022 09:28:54 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 250-190-WNN

Datafile: 220125R22 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.78	E	1.0008	1.0009	+0.2	2.24E+08	0.79	Y	1.34	1,630	7813.394	0.588
12378-PeCDD	32.46		1.0005	1.0006	+0.2	1.71E+06	1.70	Y	1.06	18.4	7602.074	0.731
123478-HxCDD	36.43		1.0004	1.0003	-0.2	2.33E+05	1.17	Y	1.06	2.85	13628.184	1.36
123678-HxCDD	36.54		1.0035	1.0035	0	1.19E+06	1.21	Y	1.08	16	13628.184	1.48
123789-HxCDD	36.84		1.0116	1.0115	-0.2	6.29E+05	1.16	Y	1.02	7.63	13628.184	1.36
1234678-HpCDD	39.78		1.0003	1.0004	+0.2	3.08E+07	1.04	Y	0.97	536	8633.801	0.908
OCDD	42.20		1.0003	1.0003	0	3.45E+08	0.91	Y	1.07	7,480	11541.247	1.8
2378-TCDF	25.84	E	1.0008	1.0009	+0.2	9.07E+08	0.80	Y	0.96	5,690	11817.989	0.961
12378-PeCDF	30.94		1.0006	1.0006	0	2.53E+07	1.56	Y	0.95	202	13363.204	1.06
23478-PeCDF	32.11		1.0006	1.0008	+0.4	1.89E+07	1.59	Y	0.94	167	13363.204	1.11
123478-HxCDF	35.45		1.0004	1.0005	+0.2	3.55E+07	1.24	Y	1.23	310	12740.009	0.877
123678-HxCDF	35.59		1.0004	1.0005	+0.2	9.51E+06	1.25	Y	1.13	79	12740.009	0.932
234678-HxCDF	36.25		1.0005	1.0004	-0.2	1.47E+06	1.20	Y	1.15	21.4	12740.009	1.68
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	12740.009	1.07
1234678-HpCDF	38.82		1.0003	1.0003	0	2.87E+07	1.05	Y	1.36	275	7416.032	0.51
1234789-HpCDF	40.20		1.0002	1.0003	+0.2	3.81E+06	1.07	Y	1.30	48.7	7416.032	0.627
OCDF	42.36		1.0003	1.0002	-0.3	2.43E+08	0.89	Y	1.03	4,470	9600.254	1.3

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.76	1.0273	1.0272	-0.2	2.03E+07	0.79	Y	1.03	82.8
ES 12378-PeCDD	32.44	1.2455	1.2452	-0.6	1.74E+07	1.65	Y	1.03	70.8
ES 123478-HxCDD	36.42	0.9917	0.9917	0	1.53E+07	1.26	Y	0.99	90
ES 123678-HxCDD	36.53	0.9948	0.9947	-0.2	1.37E+07	1.31	Y	0.97	82.2
ES 123789-HxCDD	36.82	1.0028	1.0028	0	1.60E+07	1.31	Y	1.12	83.4
ES 1234678-HpCDD	39.77	1.0830	1.0829	-0.2	1.17E+07	1.10	Y	0.99	68.7
ES OCDD	42.19	1.1489	1.1489	0	1.70E+07	0.90	Y	0.78	64.1
ES 2378-TCDF	25.81	1.0623	1.0623	0	3.28E+07	0.79	Y	1.08	82.7
ES 12378-PeCDF	30.92	1.2724	1.2724	0	2.62E+07	1.60	Y	0.93	76.6
ES 23478-PeCDF	32.09	1.3205	1.3205	0	2.37E+07	1.59	Y	0.92	70.2
ES 123478-HxCDF	35.43	0.9649	0.9648	-0.2	1.83E+07	0.50	Y	1.14	93.7
ES 123678-HxCDF	35.57	0.9688	0.9686	-0.4	2.11E+07	0.52	Y	1.30	94.9
ES 234678-HxCDF	36.24	0.9868	0.9867	-0.2	1.18E+07	0.50	Y	1.20	57.3
ES 123789-HxCDF	37.19	1.0129	1.0128	-0.2	1.78E+07	0.55	Y	1.14	91.4
ES 1234678-HpCDF	38.81	1.0569	1.0568	-0.2	1.52E+07	0.46	Y	0.95	93.4
ES 1234789-HpCDF	40.18	1.0944	1.0942	-0.5	1.19E+07	0.46	Y	0.85	82.1
ES OCDF	42.35	1.1533	1.1533	0	2.10E+07	0.89	Y	0.93	66.2

Lab ID: B6171_18863_DF_007 | Acq'd: 26 Jan 2022 02:49 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-B-9 | UTP: 26-Jan-2022 09:28:54 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 250-190-WNN

Datafile: 220125R22 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.05		-	-	-	2.37E+07	0.77	Y	-	-
JS 1234-TCDF	24.30		-	-	-	3.66E+07	0.79	Y	-	-
JS 123467-HxCDD	36.72		-	-	-	8.55E+06	1.19	Y	-	-
CS 37Cl-2378-TCDD	26.78		1.0282	1.0280	-0.3	1.01E+07	n/a	-	1.31	81.1
CS 12347-PeCDD	31.92		1.2257	1.2255	-0.4	1.67E+07	1.71	Y	0.89	78.9
CS 12346-PeCDF	30.37		1.2496	1.2499	+0.5	2.79E+07	1.57	Y	0.87	87.6
CS 123469-HxCDF	35.89		0.9773	0.9772	-0.2	2.07E+07	0.52	Y	1.09	111
CS 1234689-HpCDF	39.25		1.0687	1.0687	0	1.56E+07	0.44	Y	0.86	106
~~SS 37Cl-2378-TCDD~~	~~26.78~~		~~1.0282~~	~~1.0280~~	~~-0.3~~	~~1.01E+07~~	~~n/a~~		~~1.26~~	~~98.5~~
~~SS 12347-PeCDD~~	~~31.92~~		~~1.2257~~	~~1.2255~~	~~-0.4~~	~~1.67E+07~~	~~1.71~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~30.37~~		~~1.2496~~	~~1.2499~~	~~+0.5~~	~~2.79E+07~~	~~1.57~~	~~Y~~	~~0.93~~	~~114~~
~~SS 123469-HxCDF~~	~~35.89~~		~~0.9773~~	~~0.9772~~	~~-0.2~~	~~2.07E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~117~~
~~SS 1234689-HpCDF~~	~~39.25~~		~~1.0687~~	~~1.0687~~	~~0~~	~~1.56E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~113~~

Totals	Conc	EMPC
Total TCDD	1810	1820
Total PeCDD	41.8	49.3
Total HxCDD	161	163
Total HpCDD	1240	1240
Total Tetra-Octa Dioxins	10700	10700
Total TCDF	11,100	11100
Total PeCDF	658	662
Total HxCDF	602	604
Total HpCDF	573	573
Total Tetra-Octa Furans	17,400	17400
Total Tetra-Octa Dioxins & Furans	28100	28200

Lab ID: B6171_18863_DF_007 | Acq'd: 26 Jan 2022 02:49 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-B-9 | UTP: 26-Jan-2022 09:28:54 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 250-190-WNN

Datafile: 220125R22 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.71		0.8486	0.8488	+0.3	7.82E+05	0.72	Y	1.34	5.67	7813.394	0.588
1379-TCDD	23.11		0.8642	0.8636	-0.8	2.51E+05	0.78	Y	1.34	1.82	7813.394	0.588
1369-TCDD	NotFnd		0.8825						1.34		7813.394	0.588
1469-TCDD	24.50		0.9154	0.9155	+0.1	1.09E+06	0.66	Y	1.34	7.88	7813.394	0.588
1247/1246/1248/1249-TCDD	24.77	EMPC	0.9256	0.9257	+0.1	4.40E+05	0.97	N	1.34	3.19	7813.394	0.588
1378-TCDD	24.97		0.9332	0.9331	-0.1	6.75E+05	0.76	Y	1.34	4.9	7813.394	0.588
1268-TCDD	NotFnd		0.9415						1.34		7813.394	0.588
1478-TCDD	25.47		0.9518	0.9519	+0.2	5.26E+05	0.75	Y	1.34	3.82	7813.394	0.588
1279-TCDD	NotFnd		0.9586						1.34		7813.394	0.588
1234/1269-TCDD	26.04		0.9734	0.9733	-0.2	1.91E+05	0.83	Y	1.34	1.38	7813.394	0.588
1236-TCDD	NotFnd		0.9788						1.34		7813.394	0.588
1237/1238-TCDD	26.46		0.9892	0.9889	-0.5	3.33E+06	0.86	Y	1.34	24.2	7813.394	0.588
1239-TCDD	NotFnd		0.9944						1.34		7813.394	0.588
2378-TCDD	**26.78**	E	**1.0008**	1.0009	**+0.2**	2.24E+08	0.79	Y	**1.34**	**1,630**	**7813.394**	**0.588**
1278-TCDD	27.15		1.0142	1.0146	+0.7	1.87E+07	0.80	Y	1.34	135	7813.394	0.588
1267-TCDD	NotFnd		1.0197						1.34		7813.394	0.588
1289-TCDD	27.79	EMPC	1.0401	1.0386	-2.5	6.63E+05	1.39	N	1.34	4.81	7813.394	0.588
12479/12468-PeCDD	29.85		0.9202	0.9203	+0.2	6.98E+05	1.46	Y	1.06	7.51	7602.074	0.731
12469-PeCDD	30.42		0.9375	0.9377	+0.4	5.75E+05	1.46	Y	1.06	6.18	7602.074	0.731
12368-PeCDD	30.99	EMPC	0.9553	0.9554	+0.2	4.23E+05	1.79	N	1.06	4.55	7602.074	0.731
12478-PeCDD	31.19		0.9613	0.9614	+0.2	2.76E+05	1.75	Y	1.06	2.97	7602.074	0.731
12379-PeCDD	31.29	J	0.9644	0.9646	+0.4	1.88E+05	1.53	Y	1.06	2.03	7602.074	0.731
12369/12467/12489-PeCDD	31.57		0.9730	0.9732	+0.4	3.37E+05	1.51	Y	1.06	3.63	7602.074	0.731
12346/12347-PeCDD	31.94	J	0.9848	0.9848	0	1.00E+05	1.77	Y	1.06	1.08	7602.074	0.731
12378-PeCDD	32.46		**1.0005**	**1.0006**	**+0.2**	**1.71E+06**	**1.70**	**Y**	**1.06**	**18.4**	**7602.074**	**0.731**
12367-PeCDD	32.58	J EMPC	1.0035	1.0043	+1.6	1.81E+05	1.78	N	1.06	1.95	7602.074	0.731
12389-PeCDD	32.91	J EMPC	1.0146	1.0146	0	9.06E+04	1.29	N	1.06	0.974	7602.074	0.731
124679/124689-HxCDD	34.71		0.9532	0.9532	0	6.05E+06	1.31	Y	1.05	75.8	13628.184	1.4
123468-HxCDD	35.38		0.9715	0.9714	-0.2	5.73E+05	1.16	Y	1.05	7.18	13628.184	1.4
123679/123689-HxCDD	35.67		0.9795	0.9796	+0.2	3.90E+06	1.36	Y	1.05	48.8	13628.184	1.4
123469-HxCDD	35.80		0.9832	0.9831	-0.2	2.03E+05	1.31	Y	1.05	2.54	13628.184	1.4
123478-HxCDD	36.43		**1.0004**	**1.0003**	**-0.2**	**2.33E+05**	**1.17**	**Y**	1.06	**2.85**	**13628.184**	**1.36**
123678-HxCDD	36.54		**1.0035**	**1.0035**	**0**	**1.19E+06**	**1.21**	**Y**	1.08	**16**	**13628.184**	**1.48**
123467-HxCDD	36.73	J EMPC	1.0087	1.0087	0	1.56E+05	1.57	N	1.05	1.96	13628.184	1.4
123789-HxCDD	36.84		**1.0116**	**1.0115**	**-0.2**	**6.29E+05**	**1.16**	**Y**	1.02	**7.63**	**13628.184**	**1.36**

Lab ID: B6171_18863_DF_007 | Acq'd: 26 Jan 2022 02:49 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-B-9 | UTP: 26-Jan-2022 09:28:54 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 250-190-WNN

Datafile: 220125R22 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.11		0.9834	0.9835	+0.2	4.04E+07	1.04	Y	0.97	703	8633.801	0.908
1234678-HpCDD	**39.78**		**1.0003**	**1.0004**	**+0.2**	**3.08E+07**	**1.04**	**Y**	**0.97**	**536**	**8633.801**	**0.908**
OCDD	**42.20**		**1.0003**	**1.0003**	**0**	**3.45E+08**	**0.91**	**Y**	**1.07**	**7,480**	**11541.247**	**1.8**
OCDD-a	42.20		1.0001	1.0001	0	2.02E+07	2.49	Y	0.07	7,100	12624.982	31.9
1368-TCDF	20.50		0.7942	0.7940	-0.2	2.50E+05	0.72	Y	0.96	1.57	11817.989	0.961
1468-TCDF	21.06		0.8155	0.8157	+0.3	1.73E+06	0.85	Y	0.96	10.9	11817.989	0.961
2468-TCDF	21.70		0.8407	0.8406	-0.1	2.51E+06	0.78	Y	0.96	15.8	11817.989	0.961
1346/1246-TCDF	22.19		0.8553	0.8595	+5.6	2.15E+06	0.82	Y	0.96	13.5	11817.989	0.961
1347/1378/1247-TCDF	22.31		0.8617	0.8643	+3.5	7.07E+06	0.83	Y	0.96	44.3	11817.989	0.961
1348-TCDF	22.55		0.8740	0.8736	-0.5	2.53E+06	0.80	Y	0.96	15.9	11817.989	0.961
1248/1367/1379-TCDF	22.68		0.8798	0.8786	-1.6	4.06E+07	0.80	Y	0.96	255	11817.989	0.961
1268-TCDF	23.15		0.8967	0.8968	+0.1	1.52E+07	0.79	Y	0.96	95.2	11817.989	0.961
1467-TCDF	23.31		0.9025	0.9028	+0.4	2.00E+06	0.86	Y	0.96	12.6	11817.989	0.961
1478-TCDF	23.49		0.9101	0.9101	0	3.83E+07	0.79	Y	0.96	240	11817.989	0.961
1369/1237-TCDF	23.92		0.9263	0.9265	+0.3	9.46E+06	0.81	Y	0.96	59.4	11817.989	0.961
2467-TCDF	24.06		0.9322	0.9321	-0.1	1.20E+06	0.83	Y	0.96	7.53	11817.989	0.961
2368-TCDF	24.24		0.9389	0.9392	+0.4	3.75E+07	0.78	Y	0.96	236	11817.989	0.961
1238/1234/1678/1469/1236-TCDF	24.33		0.9427	0.9424	-0.4	3.68E+07	0.79	Y	0.96	231	11817.989	0.961
1278-TCDF	24.84	E	0.9623	0.9621	-0.3	4.01E+08	0.80	Y	0.96	2,520	11817.989	0.961
1349-TCDF	NotFnd		0.9678						0.96		11817.989	0.961
1267-TCDF	25.14		0.9740	0.9740	0	2.19E+07	0.79	Y	0.96	137	11817.989	0.961
2346/1249-TCDF	25.36		0.9820	0.9824	+0.6	2.61E+06	0.86	Y	0.96	16.4	11817.989	0.961
2347/1279-TCDF	25.58		0.9915	0.9910	-0.8	1.01E+07	0.80	Y	0.96	63.6	11817.989	0.961
2348-TCDF	25.72		0.9964	0.9962	-0.3	7.27E+07	0.78	Y	0.96	457	11817.989	0.961
2378-TCDF	**25.84**	E	**1.0008**	**1.0009**	**+0.2**	**9.07E+08**	**0.80**	**Y**	**0.96**	**5,690**	**11817.989**	**0.961**
2367/3467-TCDF	26.23		1.0163	1.0160	-0.5	7.57E+07	0.80	Y	0.96	475	11817.989	0.961
1269-TCDF	26.50		1.0265	1.0266	+0.2	1.23E+07	0.82	Y	0.96	77.1	11817.989	0.961
1239-TCDF	26.80		1.0373	1.0383	+1.6	1.61E+06	0.71	Y	0.96	10.1	11817.989	0.961
1289-TCDF	28.01		1.0847	1.0852	+0.8	6.67E+07	0.80	Y	0.96	419	11817.989	0.961
13468/12468-PeCDF	27.99		0.9045	0.9054	+1.5	5.69E+06	1.60	Y	0.94	47.8	10266.699	0.836
13678/13467/12467-PeCDF	29.63		0.9574	0.9582	+1.4	7.53E+05	1.51	Y	0.94	6.33	13363.204	1.09
12368/13478/12478-PeCDF	29.79		0.9628	0.9636	+1.4	1.34E+07	1.59	Y	0.94	113	13363.204	1.09
14678-PeCDF	29.89		0.9661	0.9666	+0.9	5.85E+05	1.49	Y	0.94	4.92	13363.204	1.09
13479-PeCDF	NotFnd		0.9695						0.94		13363.204	1.09
13469/12479-PeCDF	30.20	J	0.9779	0.9769	-1.8	2.57E+05	1.58	Y	0.94	2.16	13363.204	1.09
12346-PeCDF	30.39	J	0.9824	0.9828	+0.7	1.47E+05	1.69	Y	0.94	1.24	13363.204	1.09

Lab ID: B6171_18863_DF_007 | Acq'd: 26 Jan 2022 02:49 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

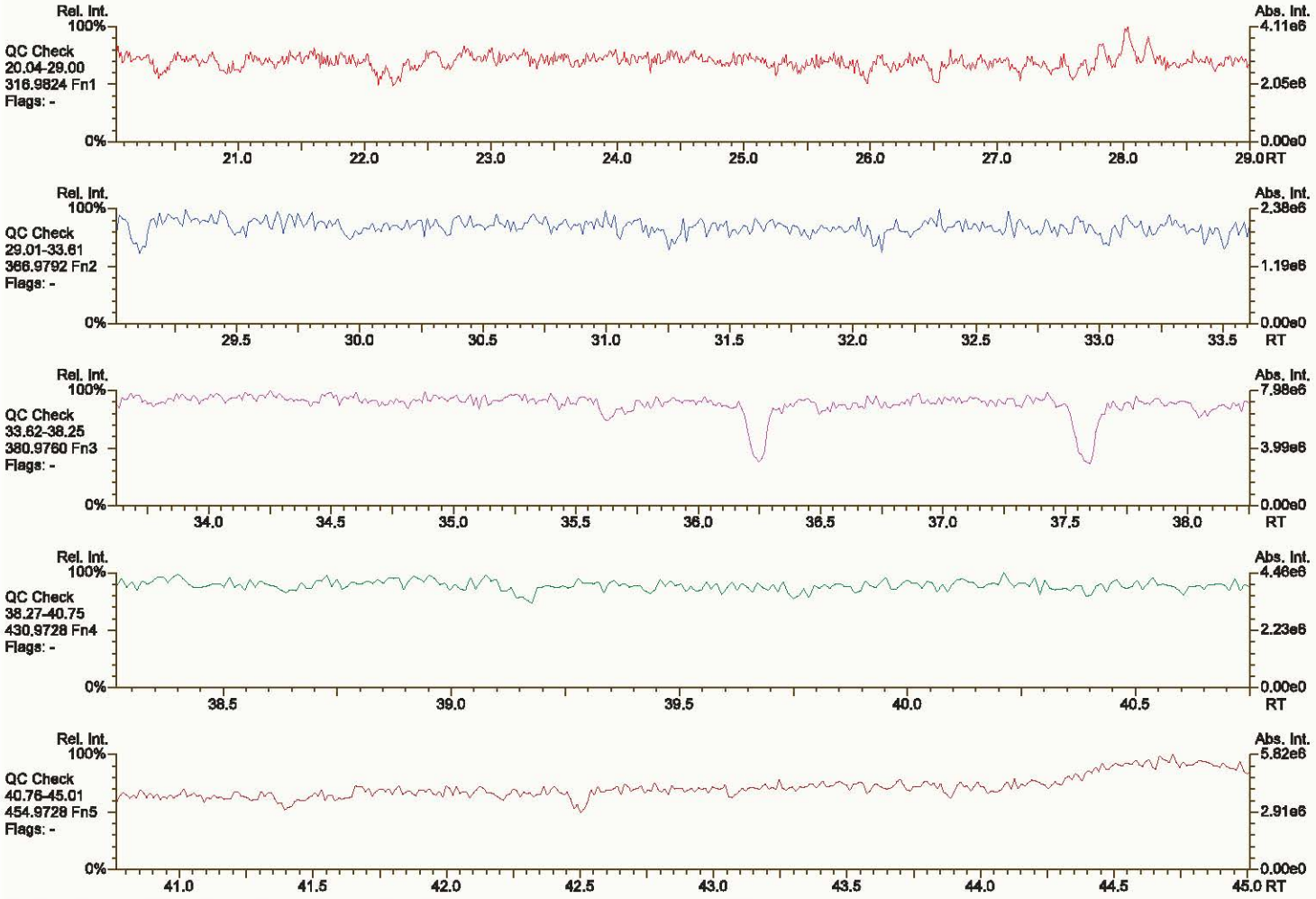
Client ID: 11215131-011122-S-BN-NC-B-9 | UTP: 26-Jan-2022 09:28:54 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 250-190-WNN

Datafile: 220125R22 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.49		0.9857	0.9860	+0.5	1.47E+06	1.76	Y	0.94	12.4	13363.204	1.09
12347-PeCDF	30.56	EMPC	0.9882	0.9883	+0.2	5.37E+05	1.82	N	0.94	4.51	13363.204	1.09
12348-PeCDF	30.72		0.9935	0.9937	+0.4	2.67E+06	1.52	Y	0.94	22.4	13363.204	1.09
12378-PeCDF	**30.94**		**1.0006**	**1.0006**	**0**	**2.53E+07**	**1.56**	**Y**	**0.95**	**202**	**13363.204**	**1.06**
12678/12367-PeCDF	31.25		1.0099	1.0106	+1.3	7.73E+06	1.53	Y	0.94	65	13363.204	1.09
12379-PeCDF	NotFnd		1.0155						0.94		13363.204	1.09
12679-PeCDF	NotFnd		0.9921						0.94		13363.204	1.09
23467/12369-PeCDF	31.97		0.9962	0.9962	0	4.84E+05	1.72	Y	0.94	4.07	13363.204	1.09
23478-PeCDF	**32.11**		**1.0006**	**1.0008**	**+0.4**	**1.89E+07**	**1.59**	**Y**	**0.94**	**167**	**13363.204**	**1.11**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		13363.204	1.09
12349-PeCDF	NotFnd		1.0106						0.94		13363.204	1.09
12389-PeCDF	33.20		1.0349	1.0347	-0.4	1.07E+06	1.51	Y	0.94	9.01	13363.204	1.09
123468-HxCDF	34.04		0.9606	0.9607	+0.2	1.75E+06	1.31	Y	1.16	17.3	12740.009	1.08
124678/134678-HxCDF	34.24		0.9663	0.9664	+0.2	7.35E+06	1.27	Y	1.16	72.6	12740.009	1.08
134679-HxCDF	NotFnd		0.9729						1.16		12740.009	1.08
124679-HxCDF	34.68	J EMPC	0.9786	0.9787	+0.2	1.96E+05	1.55	N	1.16	1.94	12740.009	1.08
124689-HxCDF	34.91		0.9851	0.9852	+0.2	6.70E+06	1.34	Y	1.16	66.1	12740.009	1.08
123467-HxCDF	35.33		0.9970	0.9971	+0.2	4.49E+05	1.36	Y	1.16	4.44	12740.009	1.08
123478-HxCDF	**35.45**		**1.0004**	**1.0005**	**+0.2**	**3.55E+07**	**1.24**	**Y**	**1.23**	**310**	**12740.009**	**0.877**
123678-HxCDF	**35.59**		**1.0004**	**1.0005**	**+0.2**	**9.51E+06**	**1.25**	**Y**	**1.13**	**79**	**12740.009**	**0.932**
123479-HxCDF	NotFnd		1.0050						1.16		12740.009	1.08
123469-HxCDF	35.90		1.0091	1.0092	+0.2	4.02E+05	1.14	Y	1.16	3.96	12740.009	1.08
123679-HxCDF	NotFnd		0.9942						1.16		12740.009	1.08
234678-HxCDF	**36.25**		**1.0005**	**1.0004**	**-0.2**	**1.47E+06**	**1.20**	**Y**	**1.15**	**21.4**	**12740.009**	**1.68**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12740.009	1.08
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**12740.009**	**1.07**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.25		1.0008	1.0014	+1.3	2.74E+06	1.34	Y	1.16	27.1	12740.009	1.08
1234678-HpCDF	**38.82**		**1.0003**	**1.0003**	**0**	**2.87E+07**	**1.05**	**Y**	**1.36**	**275**	**7416.032**	**0.51**
1234679-HpCDF	39.11		1.0076	1.0076	0	1.05E+06	0.92	Y	1.33	11.5	7416.032	0.561
1234689-HpCDF	39.26		1.0114	1.0115	+0.2	2.16E+07	1.04	Y	1.33	237	7416.032	0.561
1234789-HpCDF	**40.20**		**1.0002**	**1.0003**	**+0.2**	**3.81E+06**	**1.07**	**Y**	**1.30**	**48.7**	**7416.032**	**0.627**
OCDF	**42.36**		**1.0003**	**1.0002**	**-0.3**	**2.43E+08**	**0.89**	**Y**	**1.03**	**4,470**	**9600.254**	**1.3**
OCDF-a	42.36		1.0001	1.0002	+0.3	1.42E+07	2.64	Y	0.06	4,510	10046.273	23.6

SGS ID: B6171_18853_DF_007 | Sample ID: 11215131-011122-S-BN-NC-B-9 | Acq: 26-Jan-2022 02:49:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24 | User: PSW Datafile: 220125R22



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)

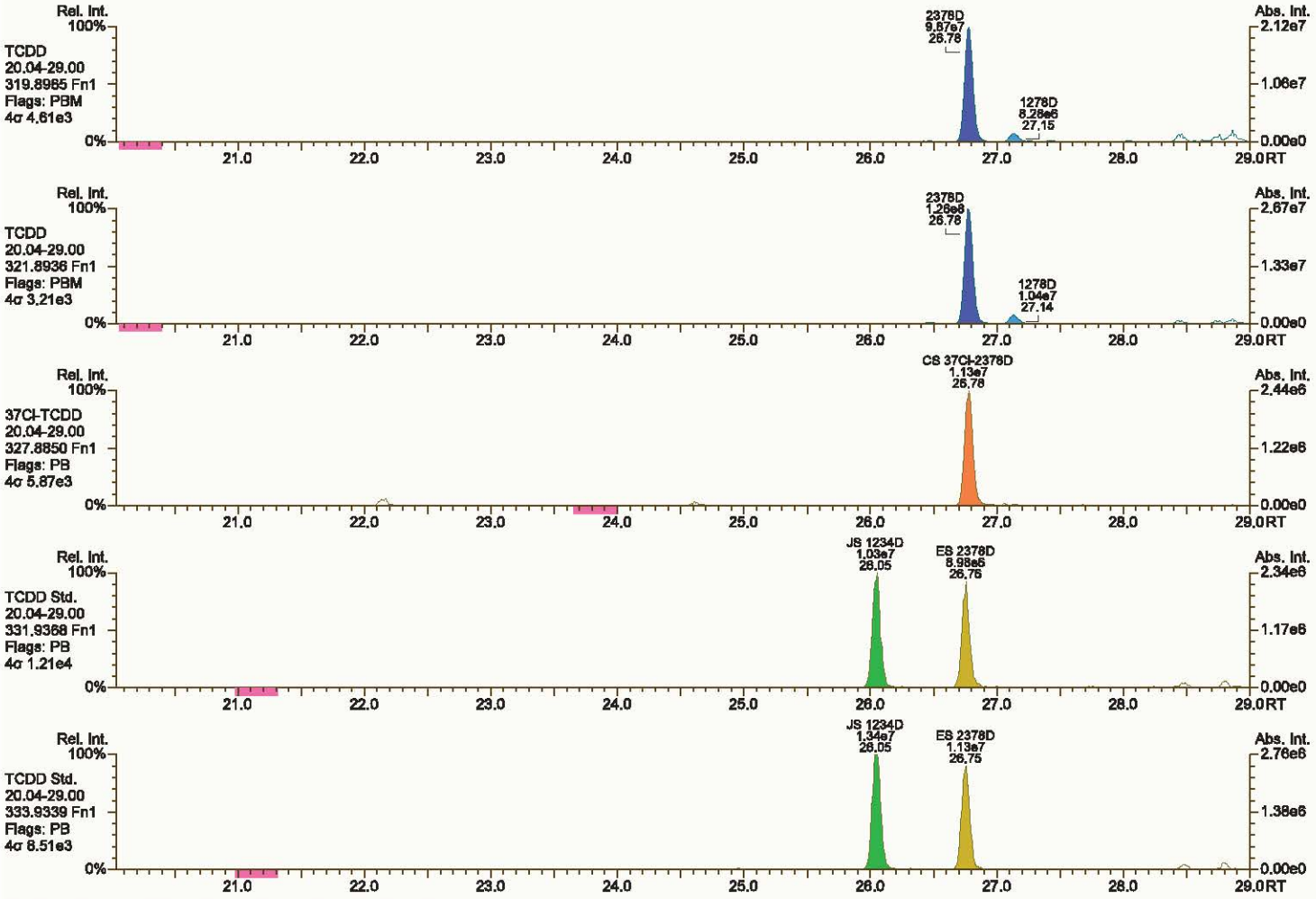
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 250-190

PKD: n/a Printed: 26-Jan-2022 11:20 Page 1 of 12

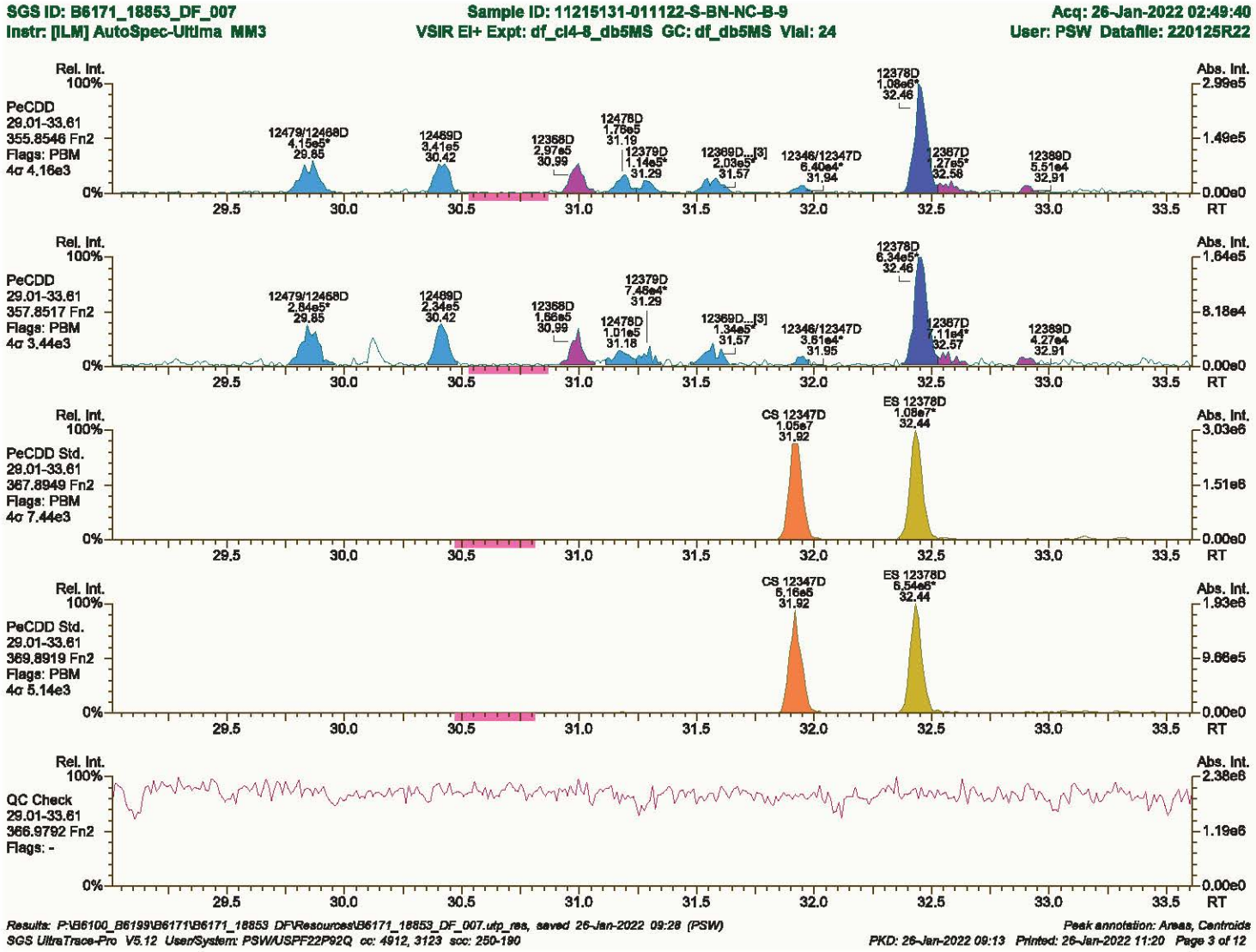
SGS ID: B6171_18853_DF_007 | Sample ID: 11215131-011122-S-BN-NC-B-9 | Acq: 26-Jan-2022 02:49:40

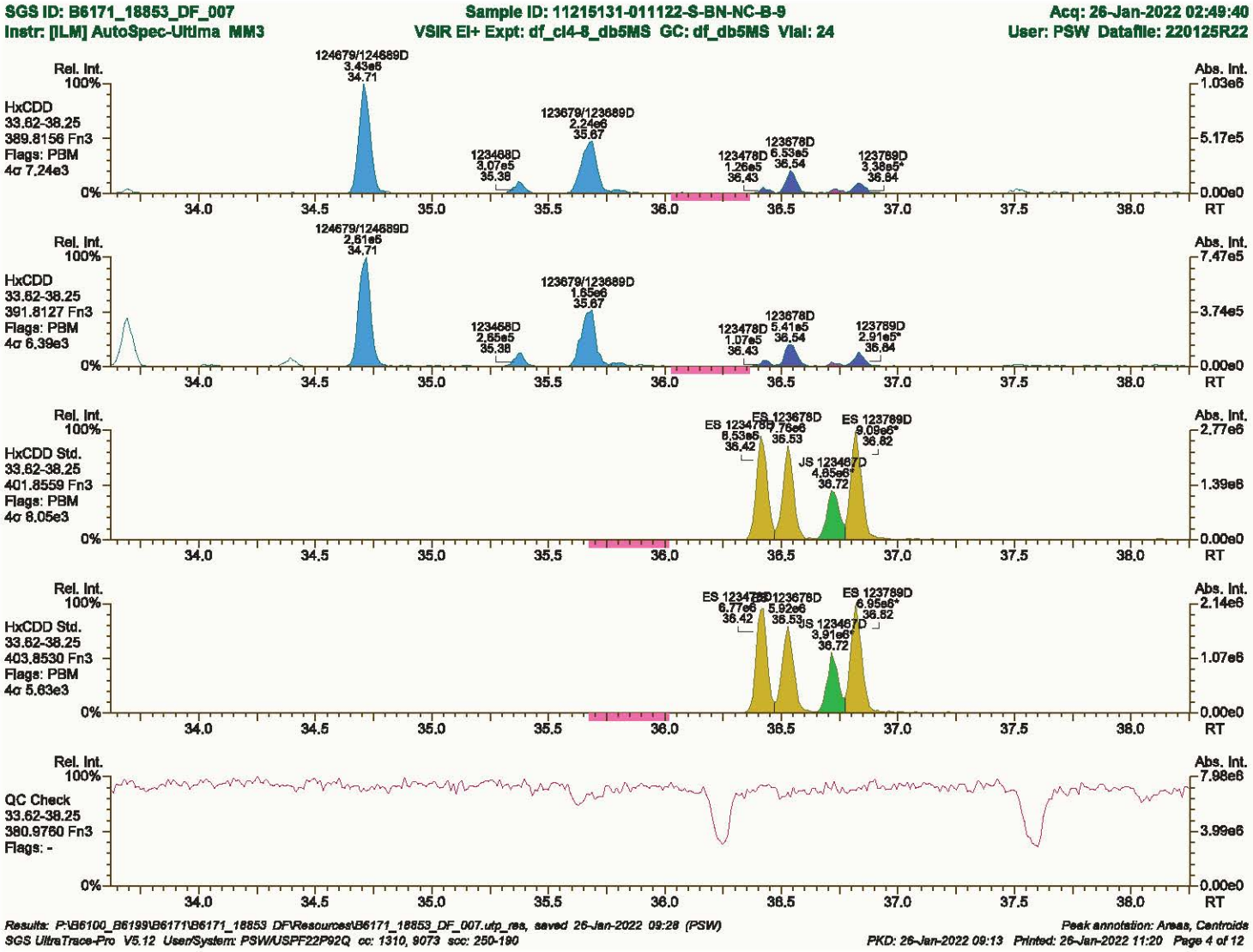
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24 | User: PSW Datafile: 220125R22

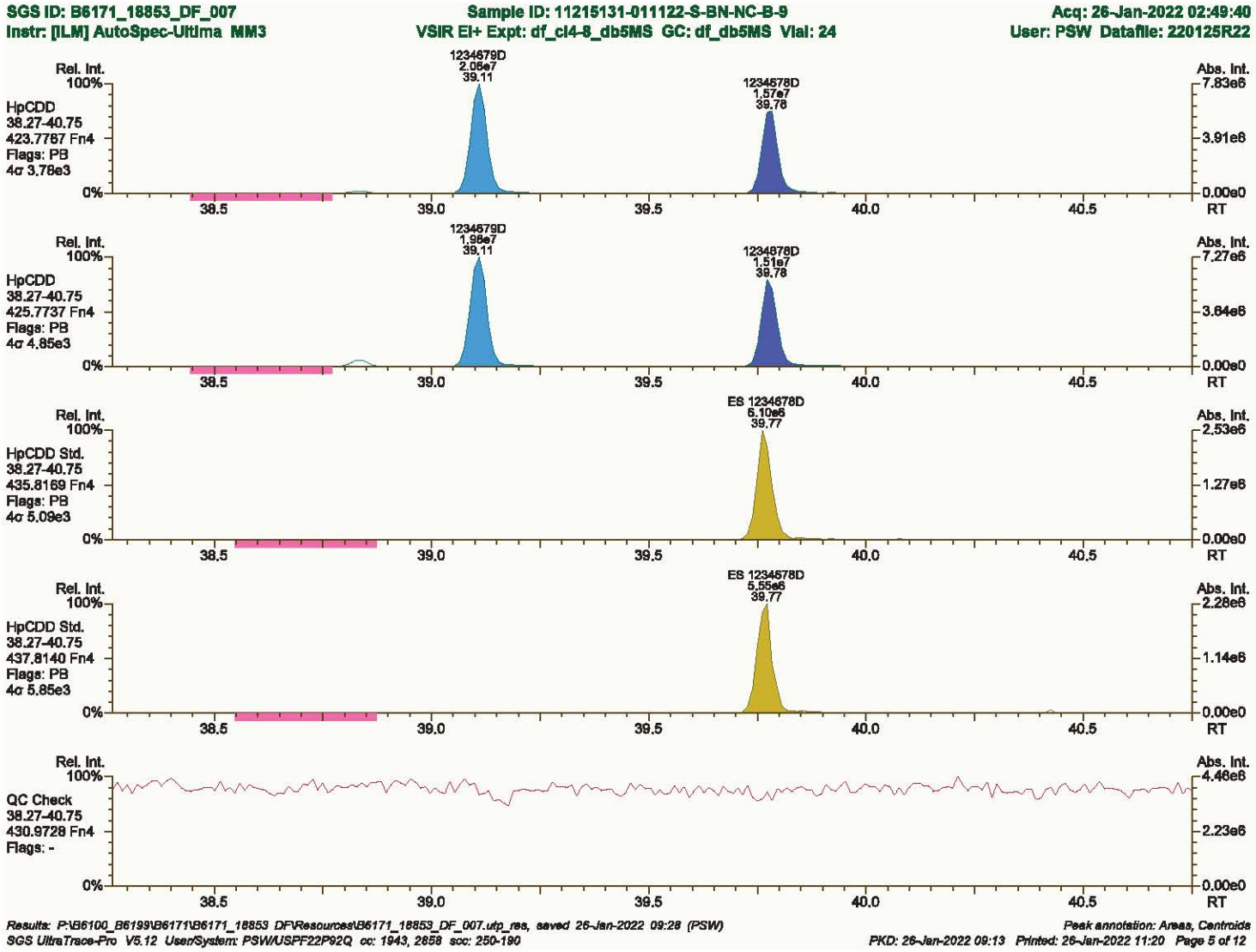


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

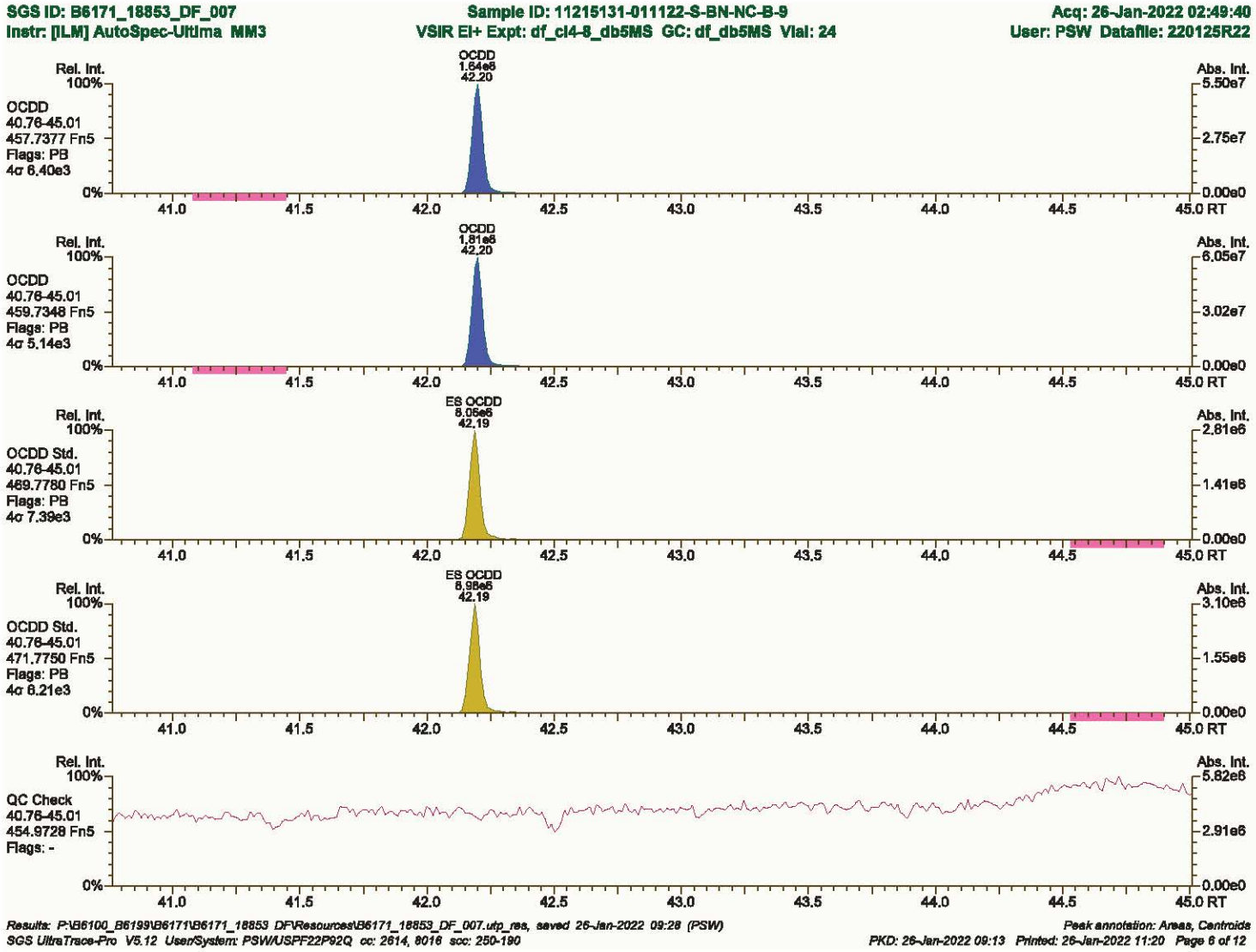
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8001, 8352, 4052 scc: 250-190 *PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 2 of 12*

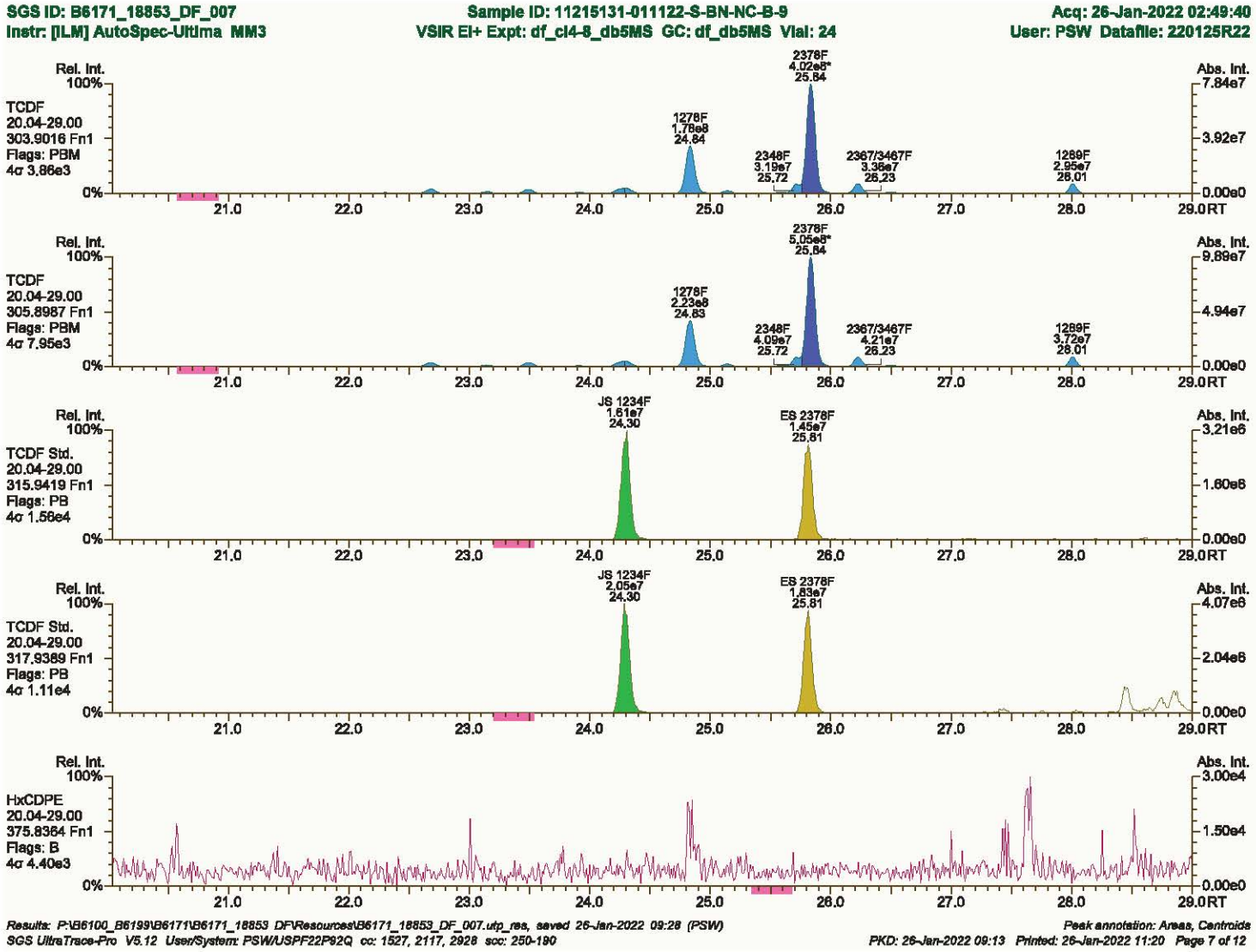

SGS ID: B6171_18853_DF_007
Sample ID: 11215131-011122-S-BN-NC-B-9
Acq: 26-Jan-2022 02:49:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: PSW Datafile: 220125R22
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 4.16e3
12479/12468D
4.15e5*
29.85
12489D
3.41e5
30.42
12368D
2.97e5
30.99
12478D
1.76e5
31.19
12379D
1.14e5*
31.29
12369D...[3]
2.03e5*
31.57
12346/12347D
6.40e4*
31.94
12378D
1.08e6*
32.46
12387D
1.27e5*
32.58
12389D
5.51e4
32.91
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 3.44e3
12479/12468D
2.84e5*
29.85
12489D
2.34e5
30.42
12368D
1.66e5
30.99
12379D
7.45e4*
31.29
12478D
1.01e5
31.18
12369D...[3]
1.34e5*
31.57
12346/12347D
3.61e4*
31.95
12378D
6.34e5*
32.46
12387D
7.11e4*
32.57
12389D
4.27e4
32.91
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PBM
4σ 7.44e3
CS 12347D
1.05e7
31.92
ES 12378D
1.08e7*
32.44
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PBM
4σ 5.14e3
CS 12347D
5.16e6
31.92
ES 12378D
5.54e6*
32.44
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4912, 3123 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 3 of 12

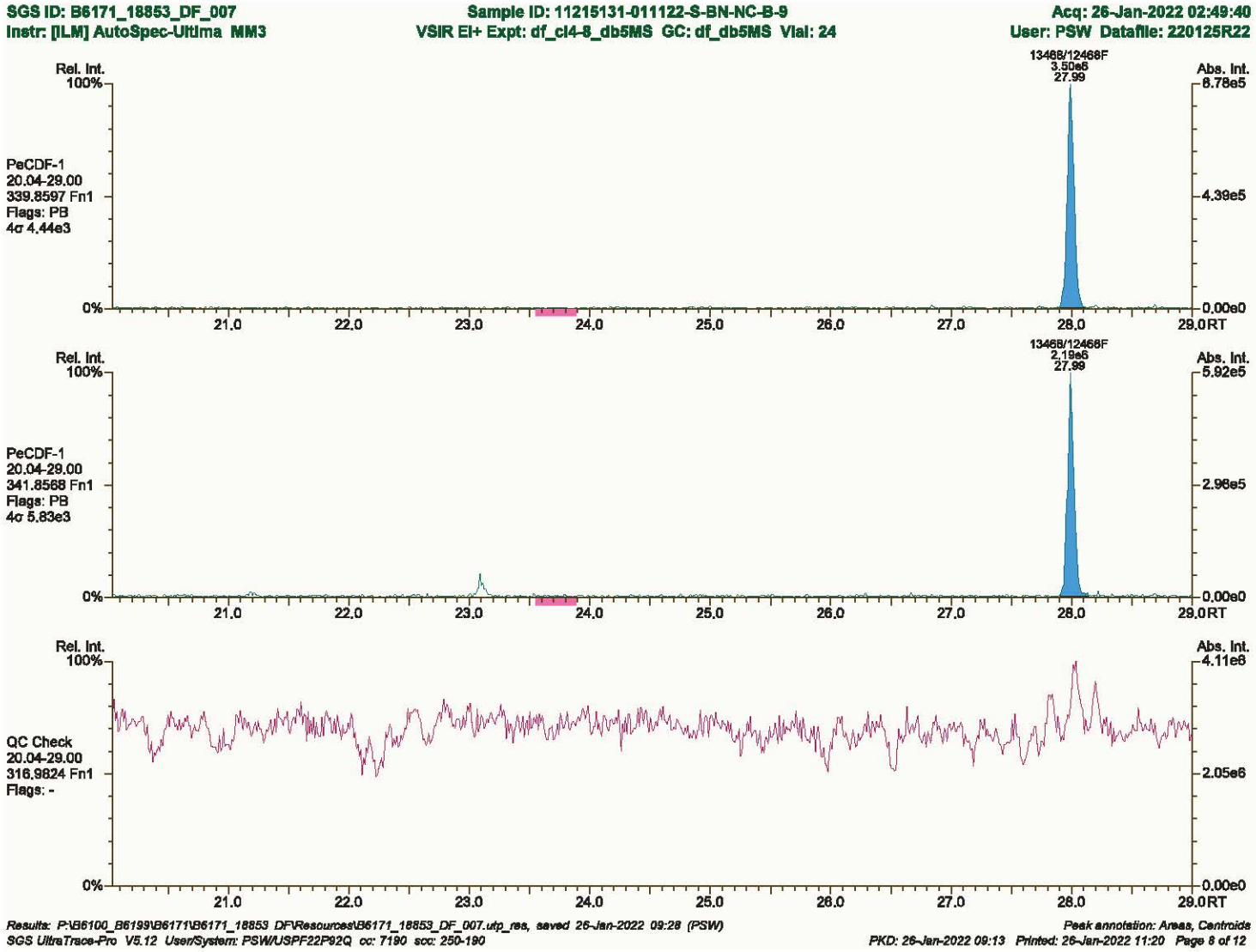

SGS ID: B6171_18853_DF_007
Sample ID: 11215131-011122-S-BN-NC-B-9
Acq: 26-Jan-2022 02:49:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: PSW Datafile: 220125R22
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 7.24e3
124679/124689D
3.43e6
34.71
123679/123689D
2.24e6
35.67
123468D
3.07e5
35.38
123478D
1.26e5
36.43
123678D
6.53e5
36.54
123789D
3.38e5*
36.84
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 6.39e3
124679/124689D
2.61e5
34.71
123679/123689D
1.65e6
35.67
123468D
2.85e5
35.38
123478D
1.07e5
36.43
123678D
5.41e5
36.54
123789D
2.91e5*
36.84
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 8.05e3
ES 123678D
7.76e6
36.53
ES 123789D
9.09e6*
36.82
JS 123467D
4.65e6*
36.72
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 5.63e3
ES 123678D
5.92e6
36.53
ES 123789D
6.95e6*
36.82
JS 123467D
3.91e6*
36.72
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1310, 9073 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 4 of 12

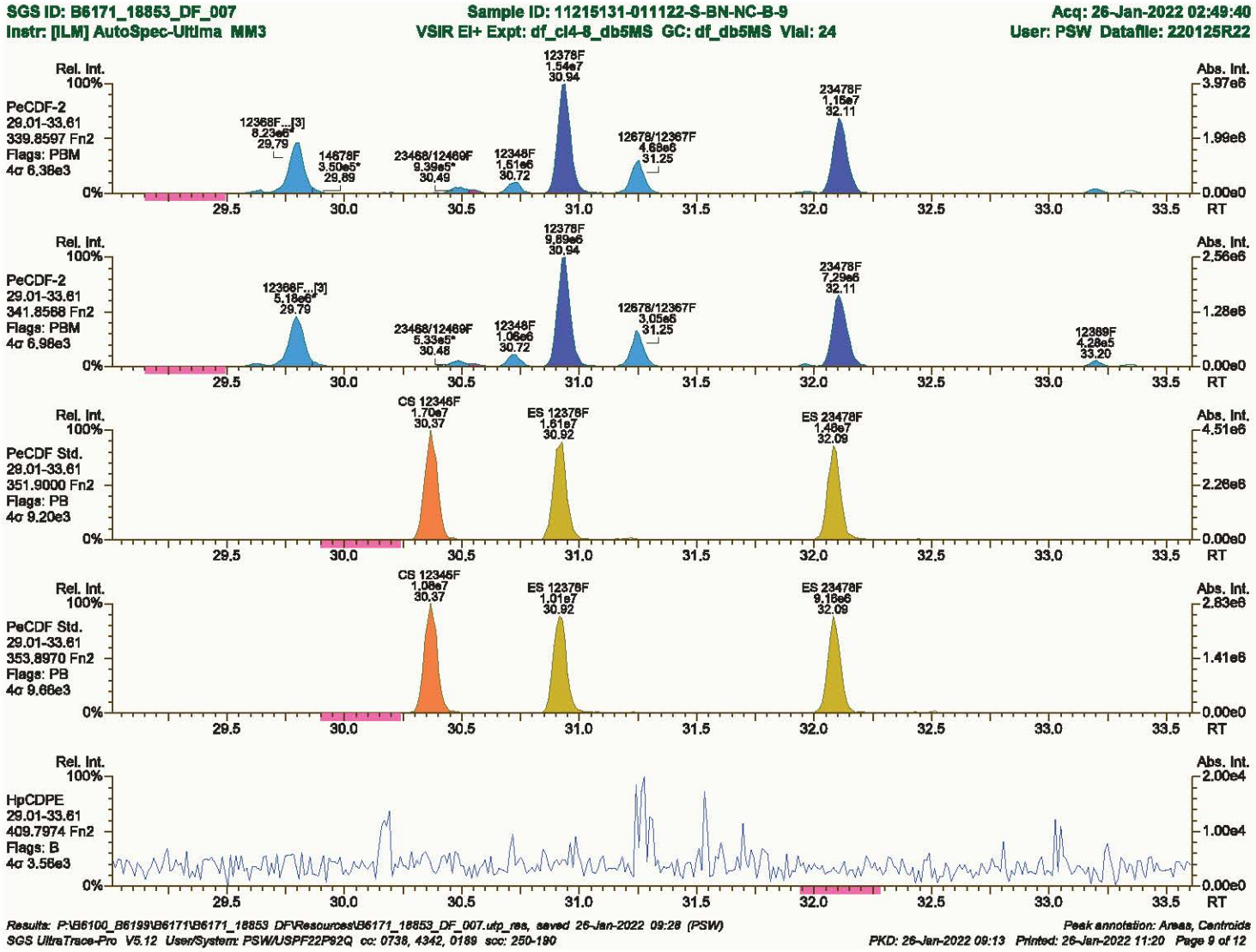


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1943, 2858 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 5 of 12

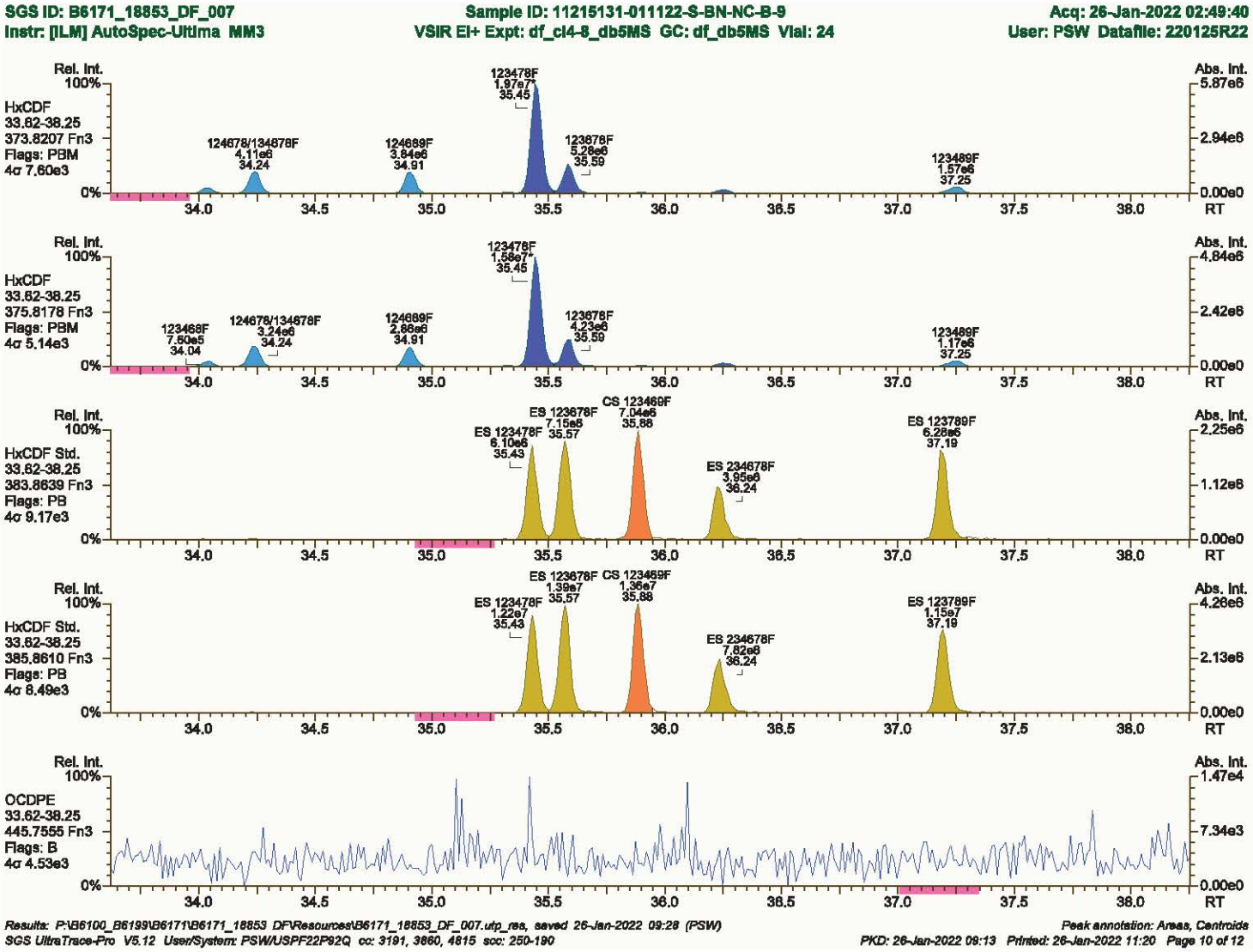

SGS ID: B6171_18853_DF_007
Sample ID: 11215131-011122-S-BN-NC-B-9
Acq: 26-Jan-2022 02:49:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: PSW Datafile: 220125R22
Rel. Int.
Abs. Int.
OCDD
1.64e6
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 6.40e3
5.50e7
2.75e7
0.00e0
OCDD
1.81e6
42.20
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 5.14e3
6.05e7
3.02e7
ES OCDD
8.06e6
42.19
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 7.39e3
2.81e6
1.41e6
ES OCDD
8.98e6
42.19
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 6.21e3
3.10e6
1.55e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.82e6
2.91e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2614, 8016 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 6 of 12

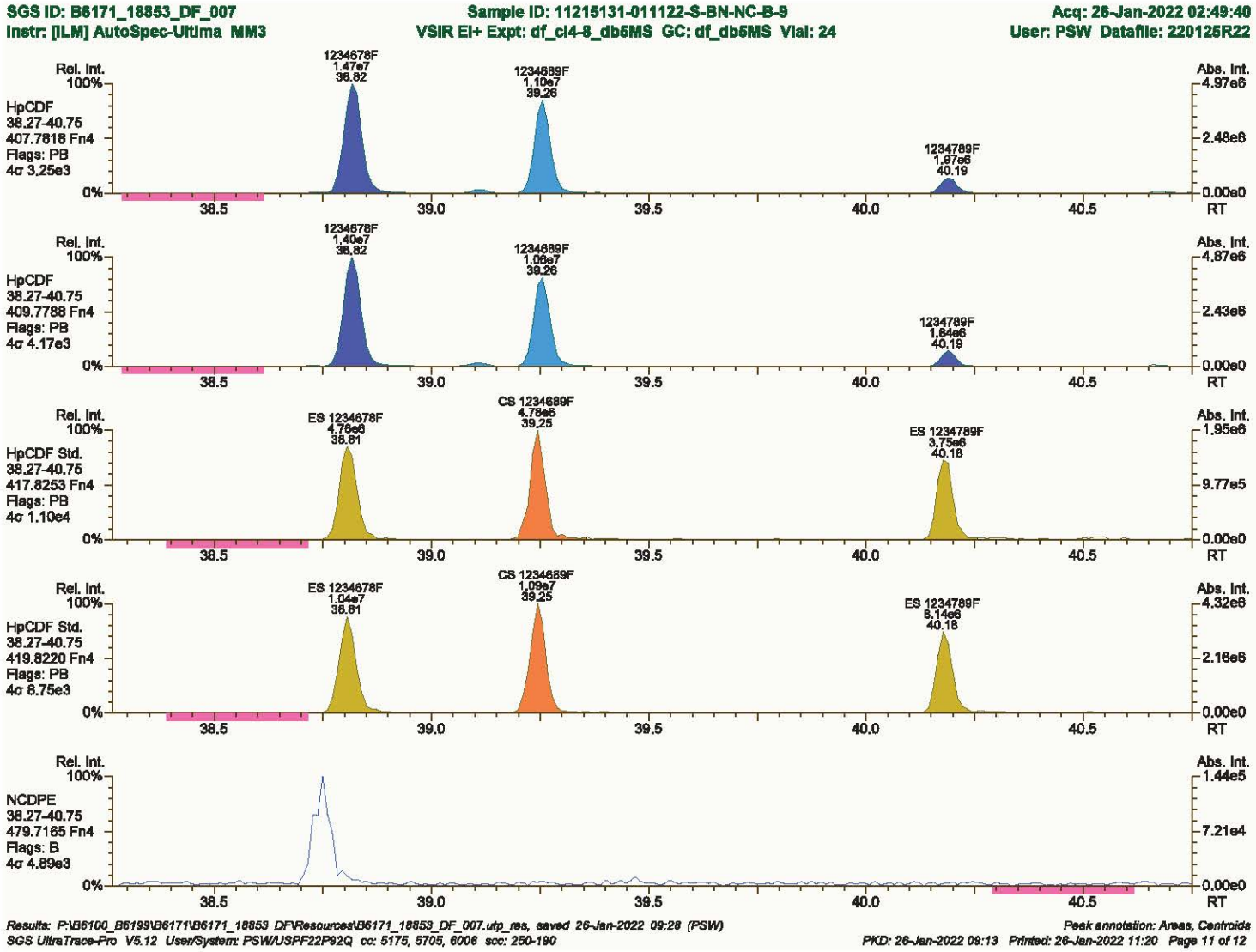

SGS ID: B6171_18853_DF_007
Sample ID: 11215131-011122-S-BN-NC-B-9
Acq: 26-Jan-2022 02:49:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: PSW Datafile: 220125R22
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 3.86e3
1278F 1.78e8 24.84
2348F 3.19e7 25.72
2378F 4.02e8* 25.84
2367/3467F 3.36e7 26.23
1289F 2.95e7 28.01
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 7.95e3
1278F 2.23e8 24.83
2348F 4.09e7 25.72
2378F 5.05e8* 25.84
2367/3467F 4.21e7 26.23
1289F 3.72e7 28.01
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.56e4
JS 1234F 1.61e7 24.30
ES 2378F 1.45e7 25.81
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.11e4
JS 1234F 2.05e7 24.30
ES 2378F 1.83e7 25.81
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.40e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1527, 2117, 2928 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 7 of 12


SGS ID: B6171_18853_DF_007
Sample ID: 11215131-011122-S-BN-NC-B-9
Acq: 26-Jan-2022 02:49:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: PSW Datafile: 220125R22
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 4.44e3
13468/12468F
3.50e6
27.99
Abs. Int.
8.78e5
4.39e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.83e3
13468/12468F
2.19e6
27.99
Abs. Int.
5.92e5
2.96e5
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
4.11e6
2.05e6
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7190 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 8 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0738, 4342, 0189 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 9 of 12

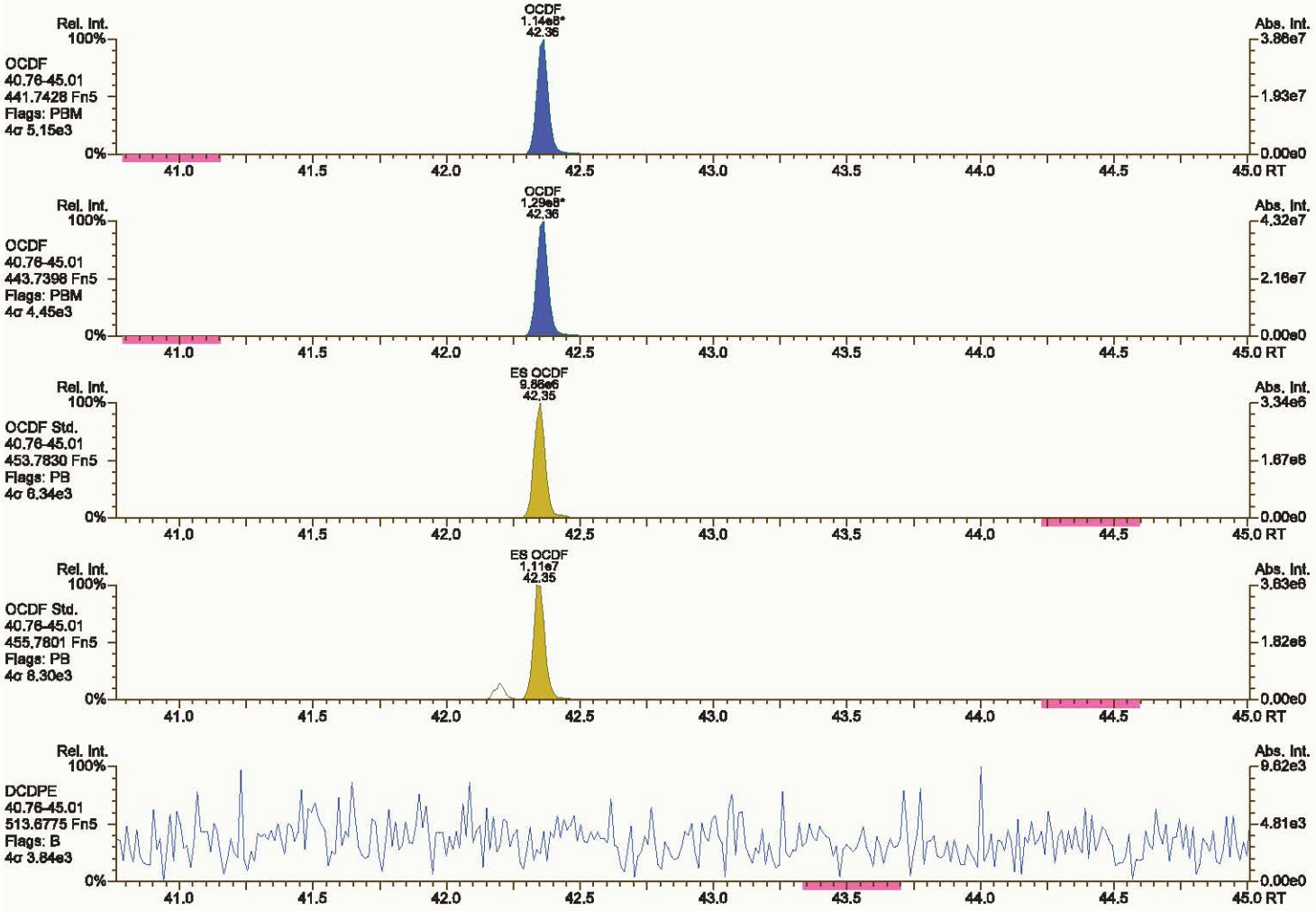

SGS ID: B6171_18853_DF_007
Sample ID: 11215131-011122-S-BN-NC-B-9
Acq: 26-Jan-2022 02:49:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: PSW Datafile: 220125R22
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 7.60e3
123478F 1.97e7 35.45
124678/134678F 4.11e6 34.24
124689F 3.84e6 34.91
123678F 5.28e6 35.59
123489F 1.57e6 37.25
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 5.14e3
123468F 7.50e5 34.04
124678/134678F 3.24e6 34.24
124689F 2.86e6 34.91
123478F 1.58e7 35.45
123678F 4.23e6 35.59
123489F 1.17e6 37.25
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 9.17e3
ES 123478F 6.10e6 35.43
ES 123678F 7.15e6 35.57
CS 123469F 7.04e6 35.88
ES 234678F 3.95e6 36.24
ES 123789F 6.28e6 37.19
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 8.49e3
ES 123478F 1.22e7 35.43
ES 123678F 1.39e7 35.57
CS 123469F 1.36e7 35.88
ES 234678F 7.82e6 36.24
ES 123789F 1.15e7 37.19
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.53e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3191, 3860, 4815 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 10 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5175, 5705, 6006 scc: 250-190
PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 11 of 12

SGS ID: B6171_18853_DF_007 | Sample ID: 11215131-011122-S-BN-NC-B-9 | Acq: 26-Jan-2022 02:49:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24 | User: PSW Datafile: 220125R22



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_007.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2089, 7208, 0600 scc: 250-190 *PKD: 26-Jan-2022 09:13 Printed: 26-Jan-2022 11:20 Page 12 of 12*

Lab ID: B6171_18863_DF_008 | Acq'd: 26 Jan 2022 03:37 PSW | Wt/Vol: 10.22 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-28 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 822-366-VQR

Datafile: 220125R23 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.76	E	1.0008	1.0009	+0.2	2.35E+08	0.80	Y	1.34	1,710	11537.843	0.916
12378-PeCDD	32.44		1.0005	1.0006	+0.2	1.69E+06	1.70	Y	1.06	17.8	9907.503	0.967
123478-HxCDD	36.41	J	1.0004	1.0003	-0.2	1.23E+05	1.18	Y	1.06	1.44	10828.21	1.01
123678-HxCDD	36.52		1.0035	1.0034	-0.2	5.95E+05	1.17	Y	1.08	7.16	10828.21	1.16
123789-HxCDD	36.81		1.0116	1.0115	-0.2	3.21E+05	1.17	Y	1.02	3.47	10828.21	0.953
1234678-HpCDD	39.76		1.0003	1.0002	-0.2	1.77E+07	1.05	Y	0.97	250	9295.793	0.884
OCDD	42.19	E	1.0003	1.0003	0	5.30E+08	0.90	Y	1.07	11,700	11479.484	2.05
2378-TCDF	25.81	E	1.0008	1.0009	+0.2	9.73E+08	0.80	Y	0.96	6,260	15582.219	1.22
12378-PeCDF	30.92		1.0006	1.0006	0	3.38E+07	1.57	Y	0.95	245	11754.464	0.818
23478-PeCDF	32.09		1.0006	1.0008	+0.4	2.21E+07	1.57	Y	0.94	179	11754.464	0.899
123478-HxCDF	35.43		1.0004	1.0005	+0.2	5.68E+07	1.27	Y	1.23	423	12191.418	0.773
123678-HxCDF	35.57		1.0004	1.0004	0	1.46E+07	1.30	Y	1.13	105	12191.418	0.715
234678-HxCDF	36.23		1.0005	1.0004	-0.2	1.71E+06	1.24	Y	1.15	23	12191.418	1.64
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	12191.418	0.871
1234678-HpCDF	38.80		1.0003	1.0003	0	1.69E+07	1.05	Y	1.36	139	9721.019	0.53
1234789-HpCDF	40.18		1.0002	1.0002	0	4.00E+06	1.07	Y	1.30	47.3	9721.019	0.712
OCDF	42.34		1.0003	1.0003	0	3.17E+07	0.89	Y	1.03	540	10072.015	1.25
Name	**Act RT**		**Pred. RRT**	**Act. RRT**	**ΔSecs**	**Response**	**Ra**	**OK**	**RRF**	**Rec. %**		
ES 2378-TCDD	26.73		1.0273	1.0272	-0.2	2.00E+07	0.75	Y	1.03	94.7		
ES 12378-PeCDD	32.42		1.2455	1.2458	+0.6	1.75E+07	1.70	Y	1.03	82.9		
ES 123478-HxCDD	36.40		0.9917	0.9917	0	1.58E+07	1.29	Y	0.99	96.6		
ES 123678-HxCDD	36.51		0.9948	0.9948	0	1.50E+07	1.23	Y	0.97	93.7		
ES 123789-HxCDD	36.80		1.0028	1.0028	0	1.78E+07	1.25	Y	1.12	96		
ES 1234678-HpCDD	39.75		1.0830	1.0832	+0.5	1.42E+07	1.03	Y	0.99	87.1		
ES OCDD	42.17		1.1489	1.1491	+0.5	1.65E+07	0.87	Y	0.78	64.5		
ES 2378-TCDF	25.79		1.0623	1.0625	+0.3	3.17E+07	0.77	Y	1.08	93.8		
ES 12378-PeCDF	30.90		1.2724	1.2732	+1.5	2.86E+07	1.55	Y	0.93	98.2		
ES 23478-PeCDF	32.07		1.3205	1.3214	+1.7	2.57E+07	1.67	Y	0.92	89.5		
ES 123478-HxCDF	35.41		0.9649	0.9649	0	2.13E+07	0.51	Y	1.14	113		
ES 123678-HxCDF	35.55		0.9688	0.9688	0	2.41E+07	0.53	Y	1.30	113		
ES 234678-HxCDF	36.22		0.9868	0.9869	+0.2	1.26E+07	0.51	Y	1.20	63.8		
ES 123789-HxCDF	37.17		1.0129	1.0129	0	2.05E+07	0.53	Y	1.14	109		
ES 1234678-HpCDF	38.79		1.0569	1.0570	+0.2	1.76E+07	0.46	Y	0.95	112		
ES 1234789-HpCDF	40.17		1.0944	1.0945	+0.2	1.27E+07	0.45	Y	0.85	91.2		
ES OCDF	42.33		1.1533	1.1535	+0.5	2.24E+07	0.93	Y	0.93	73.5		

Lab ID: B6171_18863_DF_008 | Acq'd: 26 Jan 2022 03:37 PSW | Wt/Vol: 10.22 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-28 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 822-366-VQR

Datafile: 220125R23 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.02		-	-	-	2.04E+07	0.78	Y	-	-
JS 1234-TCDF	24.27		-	-	-	3.12E+07	0.80	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	8.24E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0281	-0.2	8.79E+06	n/a	-	1.31	82.3
CS 12347-PeCDD	31.90		1.2257	1.2260	+0.6	1.57E+07	1.66	Y	0.89	86.2
CS 12346-PeCDF	30.35		1.2496	1.2505	+1.6	2.60E+07	1.55	Y	0.87	96.3
CS 123469-HxCDF	35.87		0.9773	0.9773	0	2.15E+07	0.53	Y	1.09	120
CS 1234689-HpCDF	39.23		1.0687	1.0689	+0.5	1.56E+07	0.43	Y	0.86	110
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0281~~	~~-0.2~~	~~8.79E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~87.4~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2260~~	~~+0.6~~	~~1.57E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2505~~	~~+1.6~~	~~2.60E+07~~	~~1.55~~	~~Y~~	~~0.93~~	~~90~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.15E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.56E+07~~	~~0.43~~	~~Y~~	~~0.91~~	~~97.5~~

Totals	Conc	EMPC
Total TCDD	1900	1920
Total PeCDD	30.5	32.8
Total HxCDD	64.1	64.1
Total HpCDD	584	584
Total Tetra-Octa Dioxins	14300	14300
Total TCDF	12,300	12300
Total PeCDF	673	677
Total HxCDF	685	688
Total HpCDF	287	290
Total Tetra-Octa Furans	14,500	14500
Total Tetra-Octa Dioxins & Furans	28800	28900

Lab ID: B6171_18863_DF_008 | Acq'd: 26 Jan 2022 03:37 PSW | Wt/Vol: 10.22 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-28 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 822-366-VQR

Datafile: 220125R23 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.67		0.8486	0.8481	-0.7	4.22E+05	0.69	Y	1.34	3.08	11537.843	0.916
1379-TCDD	23.08		0.8642	0.8635	-1.0	1.70E+05	0.77	Y	1.34	1.24	11537.843	0.916
1369-TCDD	NotFnd		0.8825						1.34		11537.843	0.916
1469-TCDD	NotFnd		0.9154						1.34		11537.843	0.916
1247/1246/1248/1249-TCDD	24.72		0.9256	0.9249	-1.0	3.81E+05	0.74	Y	1.34	2.78	11537.843	0.916
1378-TCDD	24.94		0.9332	0.9330	-0.3	6.76E+05	0.87	Y	1.34	4.93	11537.843	0.916
1268-TCDD	NotFnd		0.9415						1.34		11537.843	0.916
1478-TCDD	25.44		0.9518	0.9519	+0.2	5.68E+05	0.77	Y	1.34	4.14	11537.843	0.916
1279-TCDD	NotFnd		0.9586						1.34		11537.843	0.916
1234/1269-TCDD	NotFnd		0.9734						1.34		11537.843	0.916
1236-TCDD	NotFnd		0.9788						1.34		11537.843	0.916
1237/1238-TCDD	26.44		0.9892	0.9891	-0.2	3.60E+06	0.85	Y	1.34	26.3	11537.843	0.916
1239-TCDD	NotFnd		0.9944						1.34		11537.843	0.916
2378-TCDD	**26.76**	E	**1.0008**	1.0009	**+0.2**	2.35E+08	0.80	Y	**1.34**	**1,710**	**11537.843**	**0.916**
1278-TCDD	27.11		1.0142	1.0143	+0.2	1.95E+07	0.80	Y	1.34	142	11537.843	0.916
1267-TCDD	27.23	EMPC	1.0197	1.0188	-1.5	1.57E+06	0.98	N	1.34	11.5	11537.843	0.916
1289-TCDD	27.80	EMPC	1.0401	1.0399	-0.3	7.71E+05	1.27	N	1.34	5.63	11537.843	0.916
12479/12468-PeCDD	29.84		0.9202	0.9204	+0.4	3.89E+05	1.67	Y	1.06	4.11	9907.503	0.967
12469-PeCDD	30.40	J EMPC	0.9375	0.9378	+0.5	1.09E+05	1.11	N	1.06	1.15	9907.503	0.967
12368-PeCDD	30.96		0.9553	0.9552	-0.2	3.07E+05	1.44	Y	1.06	3.25	9907.503	0.967
12478-PeCDD	31.17	J	0.9613	0.9615	+0.4	1.95E+05	1.46	Y	1.06	2.07	9907.503	0.967
12379-PeCDD	31.28	J	0.9644	0.9648	+0.8	1.52E+05	1.72	Y	1.06	1.6	9907.503	0.967
12369/12467/12489-PeCDD	31.56	J	0.9730	0.9734	+0.8	1.57E+05	1.34	Y	1.06	1.65	9907.503	0.967
12346/12347-PeCDD	NotFnd		0.9848						1.06		9907.503	0.967
12378-PeCDD	32.44		**1.0005**	**1.0006**	**+0.2**	**1.69E+06**	**1.70**	**Y**	**1.06**	**17.8**	**9907.503**	**0.967**
12367-PeCDD	32.55	J EMPC	1.0035	1.0040	+1.0	1.10E+05	2.59	N	1.06	1.17	9907.503	0.967
12389-PeCDD	NotFnd		1.0146						1.06		9907.503	0.967
124679/124689-HxCDD	34.69		0.9532	0.9532	0	2.14E+06	1.34	Y	1.05	24.6	10828.21	1.04
123468-HxCDD	35.35		0.9715	0.9714	-0.2	4.90E+05	1.33	Y	1.05	5.62	10828.21	1.04
123679/123689-HxCDD	35.65		0.9795	0.9796	+0.2	1.78E+06	1.11	Y	1.05	20.5	10828.21	1.04
123469-HxCDD	NotFnd		0.9832						1.05		10828.21	1.04
123478-HxCDD	36.41	J	**1.0004**	**1.0003**	**-0.2**	**1.23E+05**	**1.18**	**Y**	1.06	**1.44**	**10828.21**	**1.01**
123678-HxCDD	36.52		**1.0035**	**1.0034**	**-0.2**	**5.95E+05**	**1.17**	**Y**	1.08	**7.16**	**10828.21**	**1.16**
123467-HxCDD	36.72	J	1.0087	1.0089	+0.4	1.16E+05	1.21	Y	1.05	1.33	10828.21	1.04
123789-HxCDD	36.81		**1.0116**	**1.0115**	**-0.2**	**3.21E+05**	**1.17**	**Y**	1.02	**3.47**	**10828.21**	**0.953**

Lab ID: B6171_18863_DF_008 | Acq'd: 26 Jan 2022 03:37 PSW | Wt/Vol: 10.22 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011122-S-BN-NC-O-28 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 822-366-VQR

Datafile: 220125R23 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.09		0.9834	0.9833	-0.2	2.37E+07	1.04	Y	0.97	335	9295.793	0.884
1234678-HpCDD	**39.76**		**1.0003**	**1.0002**	**-0.2**	**1.77E+07**	**1.05**	**Y**	**0.97**	**250**	**9295.793**	**0.884**
OCDD	**42.19**	**E**	**1.0003**	**1.0003**	**0**	**5.30E+08**	**0.90**	**Y**	**1.07**	**11,700**	**11479.484**	**2.05**
OCDD-a	42.18	E	1.0001	1.0002	+0.3	3.11E+07	2.50	Y	0.07	11,100	14627.196	42.2
1368-TCDF	NotFnd		0.7942						0.96		15582.219	1.22
1468-TCDF	21.02		0.8155	0.8150	-0.6	1.27E+06	0.75	Y	0.96	8.17	15582.219	1.22
2468-TCDF	21.66		0.8407	0.8401	-0.8	1.25E+06	0.77	Y	0.96	8.04	15582.219	1.22
1346/1246-TCDF	22.15		0.8553	0.8588	+4.7	1.95E+06	0.81	Y	0.96	12.5	15582.219	1.22
1347/1378/1247-TCDF	22.27		0.8617	0.8635	+2.4	7.38E+06	0.78	Y	0.96	47.5	15582.219	1.22
1348-TCDF	22.50		0.8740	0.8724	-2.2	1.62E+06	0.82	Y	0.96	10.4	15582.219	1.22
1248/1367/1379-TCDF	22.64		0.8798	0.8781	-2.3	4.26E+07	0.79	Y	0.96	274	15582.219	1.22
1268-TCDF	23.12		0.8967	0.8964	-0.4	1.44E+07	0.76	Y	0.96	92.6	15582.219	1.22
1467-TCDF	23.27		0.9025	0.9022	-0.4	2.33E+06	0.82	Y	0.96	15	15582.219	1.22
1478-TCDF	23.46		0.9101	0.9098	-0.4	3.90E+07	0.79	Y	0.96	251	15582.219	1.22
1369/1237-TCDF	23.89		0.9263	0.9262	-0.1	9.42E+06	0.80	Y	0.96	60.6	15582.219	1.22
2467-TCDF	24.03		0.9322	0.9319	-0.4	1.25E+06	0.83	Y	0.96	8.05	15582.219	1.22
2368-TCDF	24.20		0.9389	0.9386	-0.4	2.85E+07	0.79	Y	0.96	183	15582.219	1.22
1238/1234/1678/1469/1236-TCDF	24.29		0.9427	0.9418	-1.3	4.74E+07	0.78	Y	0.96	305	15582.219	1.22
1278-TCDF	24.81	E	0.9623	0.9619	-0.6	4.57E+08	0.80	Y	0.96	2,940	15582.219	1.22
1349-TCDF	NotFnd		0.9678						0.96		15582.219	1.22
1267-TCDF	25.11		0.9740	0.9738	-0.3	2.34E+07	0.79	Y	0.96	150	15582.219	1.22
2346/1249-TCDF	25.34		0.9820	0.9827	+1.1	2.97E+06	0.80	Y	0.96	19.1	15582.219	1.22
2347/1279-TCDF	25.56		0.9915	0.9910	-0.8	1.06E+07	0.78	Y	0.96	68.1	15582.219	1.22
2348-TCDF	25.69		0.9964	0.9963	-0.2	8.33E+07	0.78	Y	0.96	536	15582.219	1.22
2378-TCDF	**25.81**	**E**	**1.0008**	**1.0009**	**+0.2**	**9.73E+08**	**0.80**	**Y**	**0.96**	**6,260**	**15582.219**	**1.22**
2367/3467-TCDF	26.20		1.0163	1.0160	-0.5	7.76E+07	0.80	Y	0.96	499	15582.219	1.22
1269-TCDF	26.47		1.0265	1.0265	0	1.43E+07	0.76	Y	0.96	92.2	15582.219	1.22
1239-TCDF	26.75		1.0373	1.0373	0	1.30E+06	0.77	Y	0.96	8.38	15582.219	1.22
1289-TCDF	27.99		1.0847	1.0854	+1.2	7.83E+07	0.80	Y	0.96	503	15582.219	1.22
13468/12468-PeCDF	27.97		0.9045	0.9051	+1.0	1.84E+06	1.74	Y	0.94	14.1	10823.342	0.789
13678/13467/12467-PeCDF	29.60		0.9574	0.9579	+0.9	6.70E+05	1.56	Y	0.94	5.13	11754.464	0.856
12368/13478/12478-PeCDF	29.77		0.9628	0.9636	+1.4	1.41E+07	1.58	Y	0.94	108	11754.464	0.856
14678-PeCDF	29.87	EMPC	0.9661	0.9666	+0.9	5.22E+05	1.81	N	0.94	4	11754.464	0.856
13479-PeCDF	NotFnd		0.9695						0.94		11754.464	0.856
13469/12479-PeCDF	NotFnd		0.9779						0.94		11754.464	0.856
12346-PeCDF	30.37	J	0.9824	0.9827	+0.5	1.85E+05	1.55	Y	0.94	1.42	11754.464	0.856

Lab ID: B6171_18863_DF_008 | Acq'd: 26 Jan 2022 03:37 PSW | Wt/Vol: 10.22 g | ICAL: MM3_DF_10272021_27JUL2021

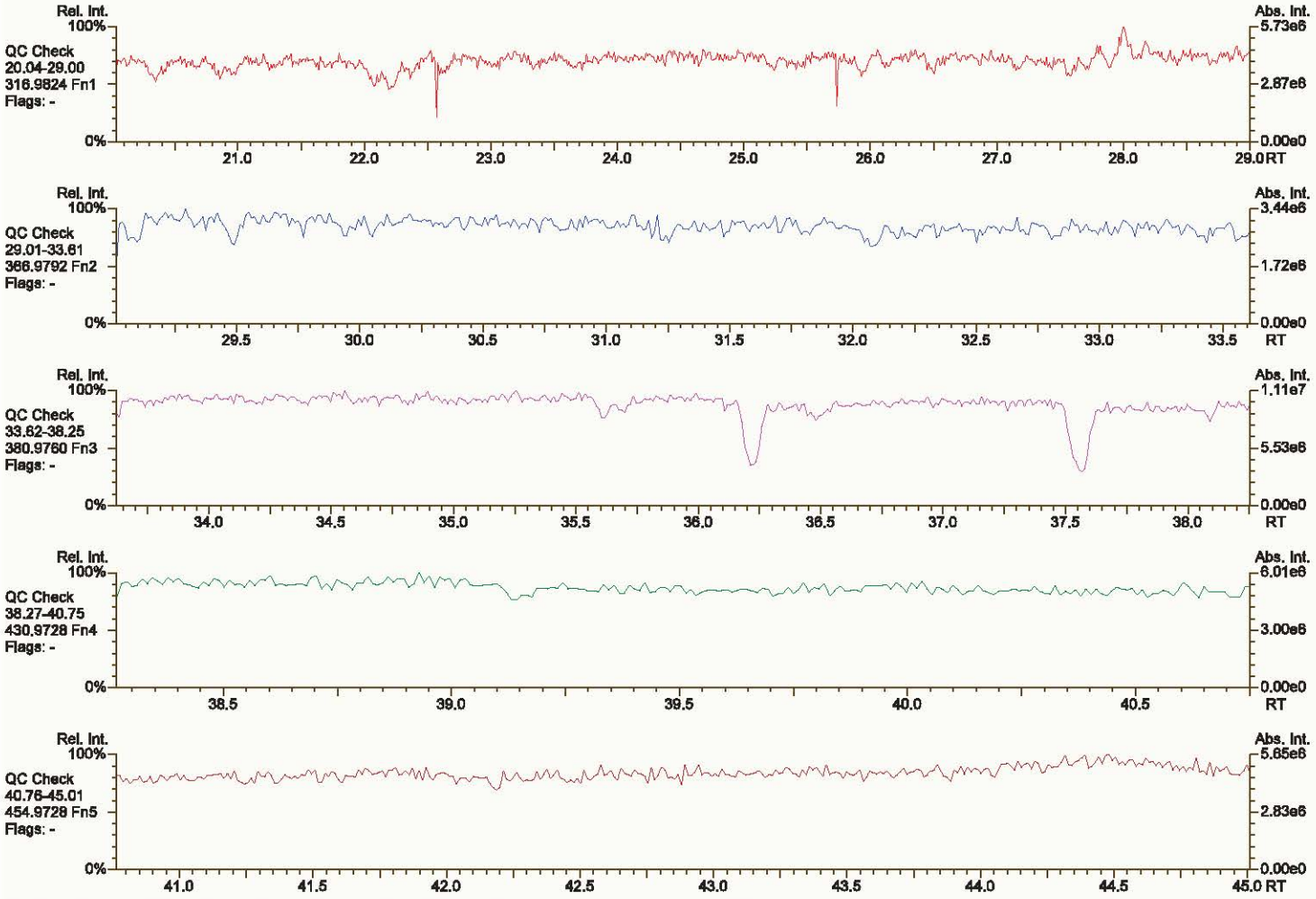
Client ID: 11215131-011122-S-BN-NC-O-28 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 822-366-VQR

Datafile: 220125R23 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.46		0.9857	0.9858	+0.2	7.85E+05	1.55	Y	0.94	6	11754.464	0.856
12347-PeCDF	30.53		0.9882	0.9881	-0.2	6.98E+05	1.43	Y	0.94	5.34	11754.464	0.856
12348-PeCDF	30.70		0.9935	0.9937	+0.4	2.96E+06	1.55	Y	0.94	22.7	11754.464	0.856
12378-PeCDF	**30.92**		**1.0006**	**1.0006**	**0**	**3.38E+07**	**1.57**	**Y**	**0.95**	**245**	**11754.464**	**0.818**
12678/12367-PeCDF	31.23		1.0099	1.0106	+1.3	9.32E+06	1.60	Y	0.94	71.3	11754.464	0.856
12379-PeCDF	NotFnd		1.0155						0.94		11754.464	0.856
12679-PeCDF	NotFnd		0.9921						0.94		11754.464	0.856
23467/12369-PeCDF	31.95		0.9962	0.9962	0	5.76E+05	1.75	Y	0.94	4.4	11754.464	0.856
23478-PeCDF	**32.09**		**1.0006**	**1.0008**	**+0.4**	**2.21E+07**	**1.57**	**Y**	**0.94**	**179**	**11754.464**	**0.899**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		11754.464	0.856
12349-PeCDF	NotFnd		1.0106						0.94		11754.464	0.856
12389-PeCDF	33.18		1.0349	1.0347	-0.4	1.32E+06	1.67	Y	0.94	10.1	11754.464	0.856
123468-HxCDF	34.02		0.9606	0.9607	+0.2	9.74E+05	1.26	Y	1.16	8.35	12191.418	0.919
124678/134678-HxCDF	34.22		0.9663	0.9664	+0.2	5.72E+06	1.23	Y	1.16	49	12191.418	0.919
134679-HxCDF	NotFnd		0.9729						1.16		12191.418	0.919
124679-HxCDF	34.66	J	0.9786	0.9788	+0.4	8.20E+04	1.13	Y	1.16	0.703	12191.418	0.919
124689-HxCDF	34.89		0.9851	0.9852	+0.2	3.75E+06	1.24	Y	1.16	32.1	12191.418	0.919
123467-HxCDF	35.31		0.9970	0.9970	0	5.20E+05	1.20	Y	1.16	4.46	12191.418	0.919
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**5.68E+07**	**1.27**	**Y**	**1.23**	**423**	**12191.418**	**0.773**
123678-HxCDF	**35.57**		**1.0004**	**1.0004**	**0**	**1.46E+07**	**1.30**	**Y**	**1.13**	**105**	**12191.418**	**0.715**
123479-HxCDF	35.73		1.0050	1.0050	0	4.21E+05	1.29	Y	1.16	3.61	12191.418	0.919
123469-HxCDF	35.88	J EMPC	1.0091	1.0093	+0.4	2.44E+05	1.03	N	1.16	2.09	12191.418	0.919
123679-HxCDF	36.01	J EMPC	0.9942	0.9943	+0.2	1.57E+05	1.43	N	1.16	1.35	12191.418	0.919
234678-HxCDF	**36.23**		**1.0005**	**1.0004**	**-0.2**	**1.71E+06**	**1.24**	**Y**	**1.15**	**23**	**12191.418**	**1.64**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12191.418	0.919
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**12191.418**	**0.871**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.22		1.0008	1.0013	+1.1	4.17E+06	1.18	Y	1.16	35.7	12191.418	0.919
1234678-HpCDF	**38.80**		**1.0003**	**1.0003**	**0**	**1.69E+07**	**1.05**	**Y**	**1.36**	**139**	**9721.019**	**0.53**
1234679-HpCDF	39.09	**EMPC**	1.0076	1.0077	+0.2	2.98E+05	1.32	N	1.33	2.9	9721.019	0.607
1234689-HpCDF	39.24		1.0114	1.0115	+0.2	1.04E+07	1.05	Y	1.33	101	9721.019	0.607
1234789-HpCDF	**40.18**		**1.0002**	**1.0002**	**0**	**4.00E+06**	**1.07**	**Y**	**1.30**	**47.3**	**9721.019**	**0.712**
OCDF	**42.34**		**1.0003**	**1.0003**	**0**	**3.17E+07**	**0.89**	**Y**	**1.03**	**540**	**10072.015**	**1.25**
OCDF-a	42.34		1.0001	1.0002	+0.3	1.82E+06	2.79	Y	0.06	534	13294.192	28.5

SGS ID: B6171_18853_DF_008 | Sample ID: 11215131-011122-S-BN-NC-O-28 | Acq: 26-Jan-2022 03:37:06

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25 | User: PSW Datafile: 220125R23

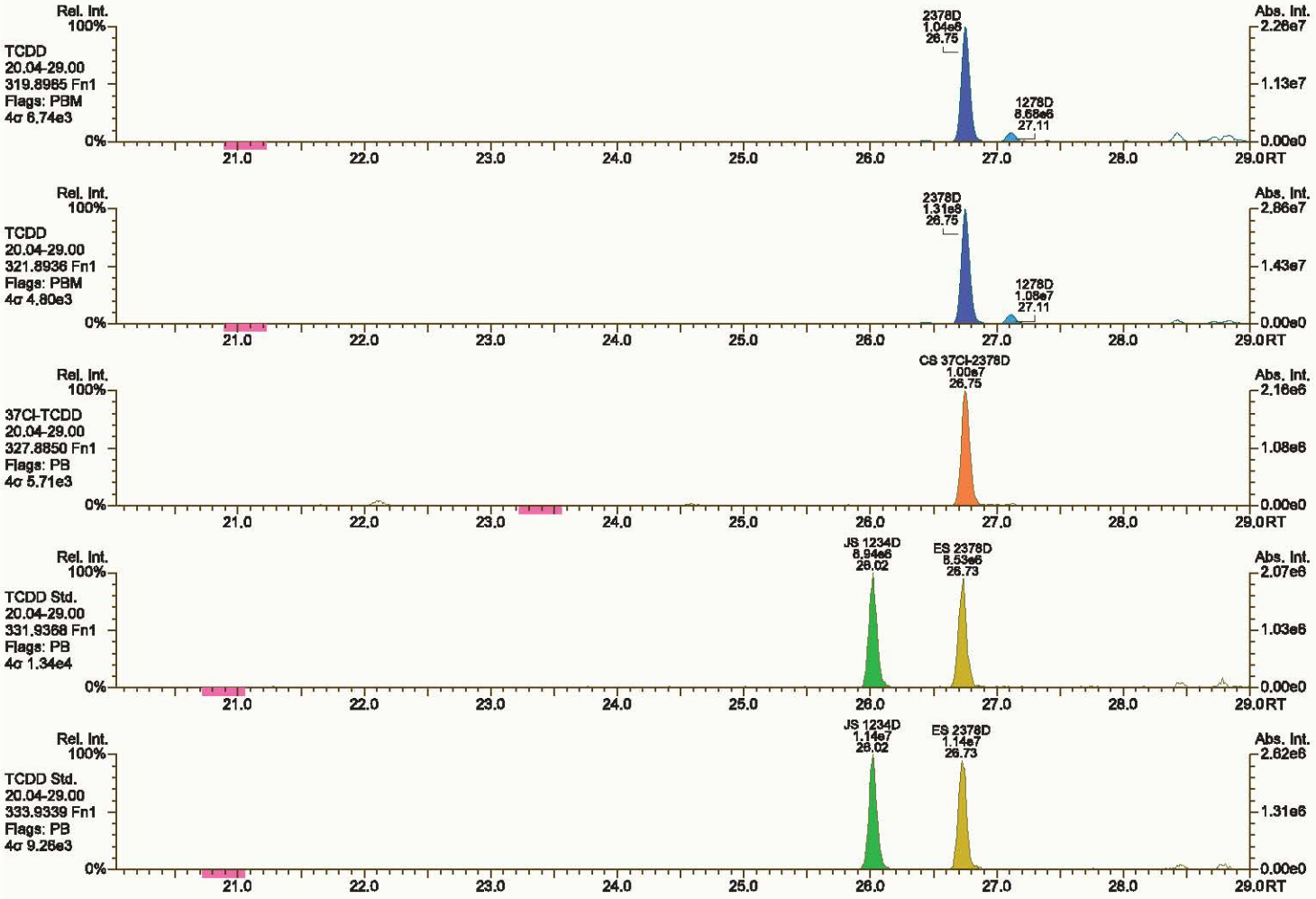


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 822-366 | *PKD: n/a Printed: 26-Jan-2022 11:20 Page 1 of 12*

SGS ID: B6171_18853_DF_008 | Sample ID: 11215131-011122-S-BN-NC-O-28 | Acq: 26-Jan-2022 03:37:06

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25 | User: PSW Datafile: 220125R23

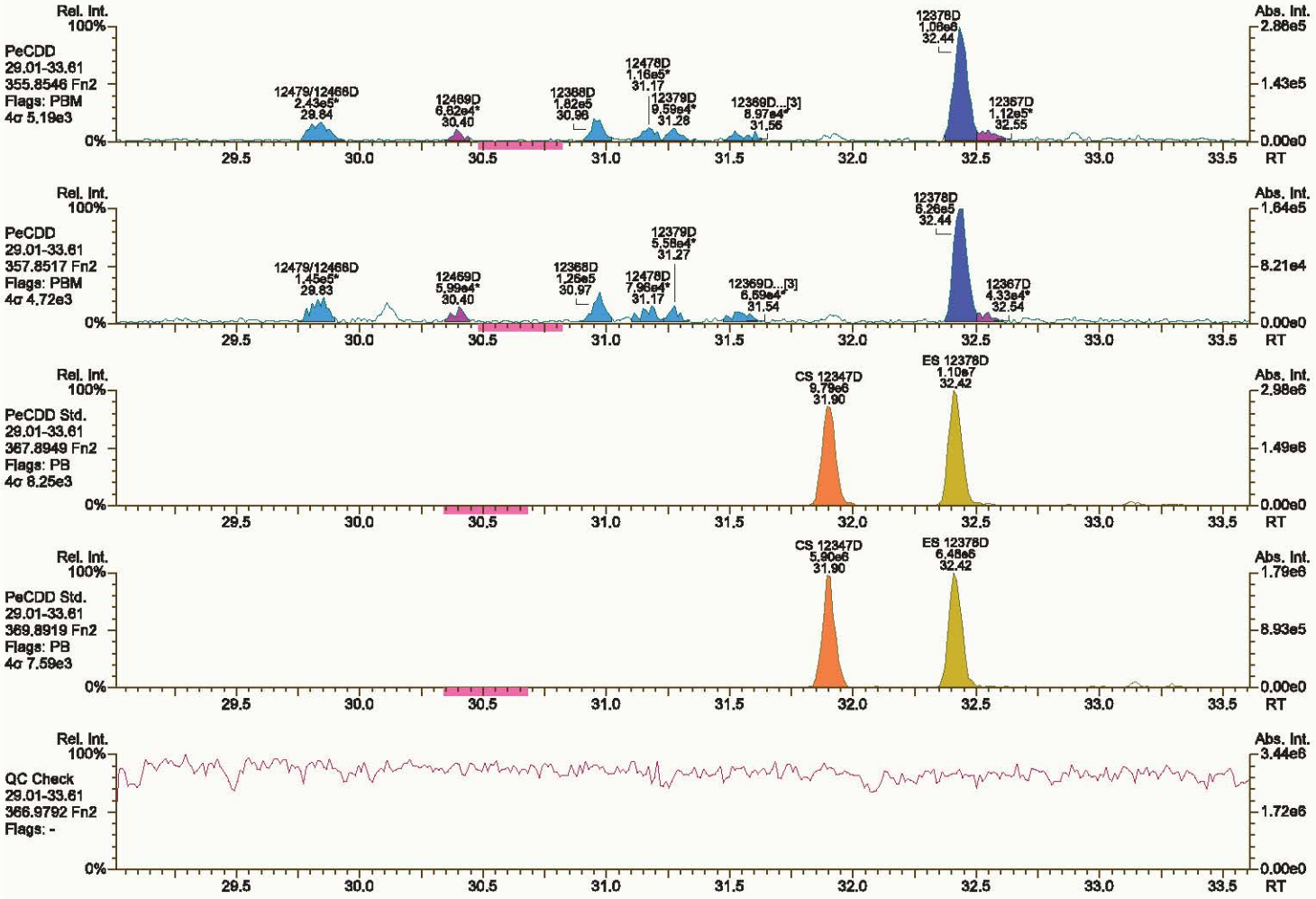


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3070, 7529, 3020 scc: 822-366 *PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 2 of 12*

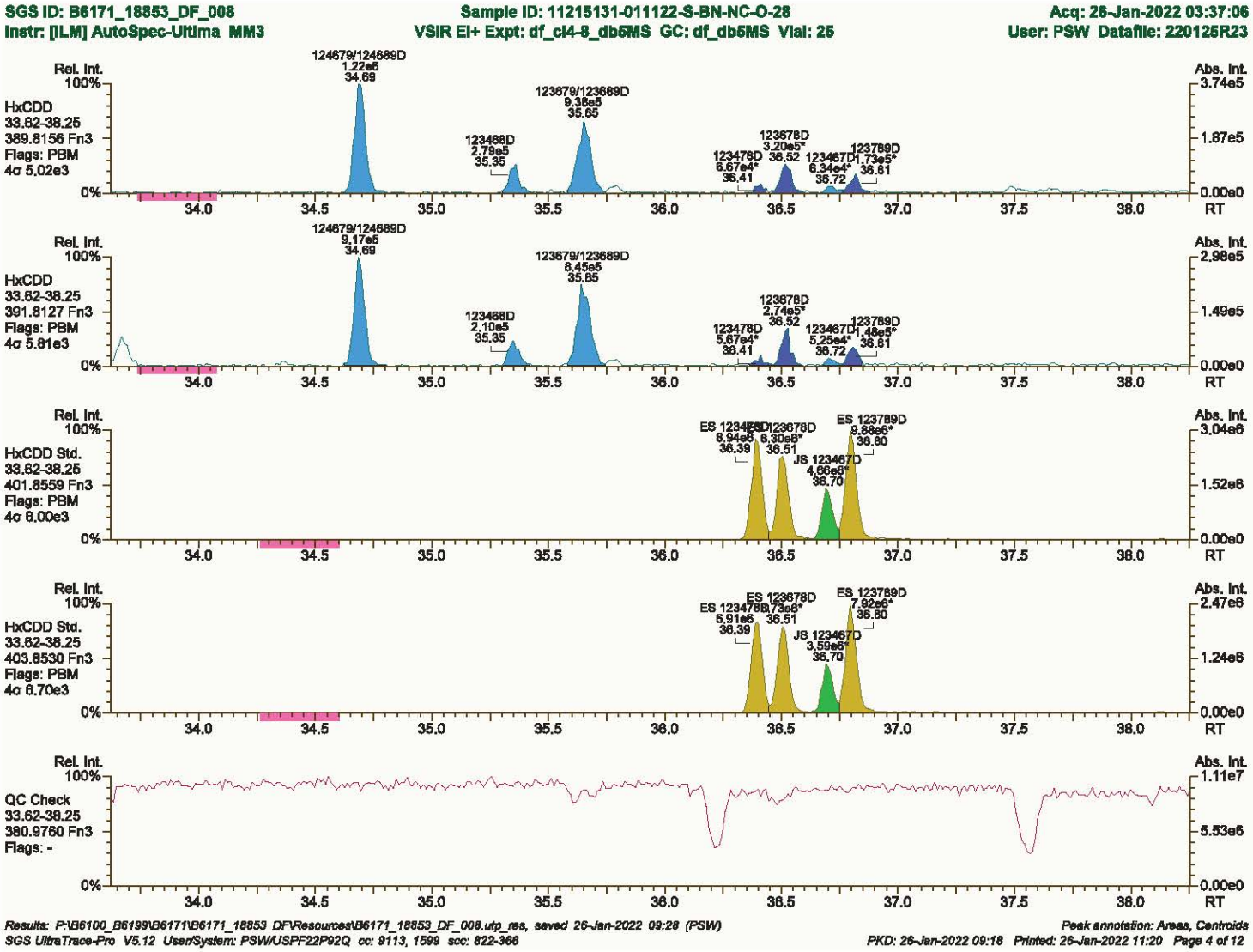
SGS ID: B6171_18853_DF_008 | Sample ID: 11215131-011122-S-BN-NC-O-28 | Acq: 26-Jan-2022 03:37:06

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25 | User: PSW Datafile: 220125R23



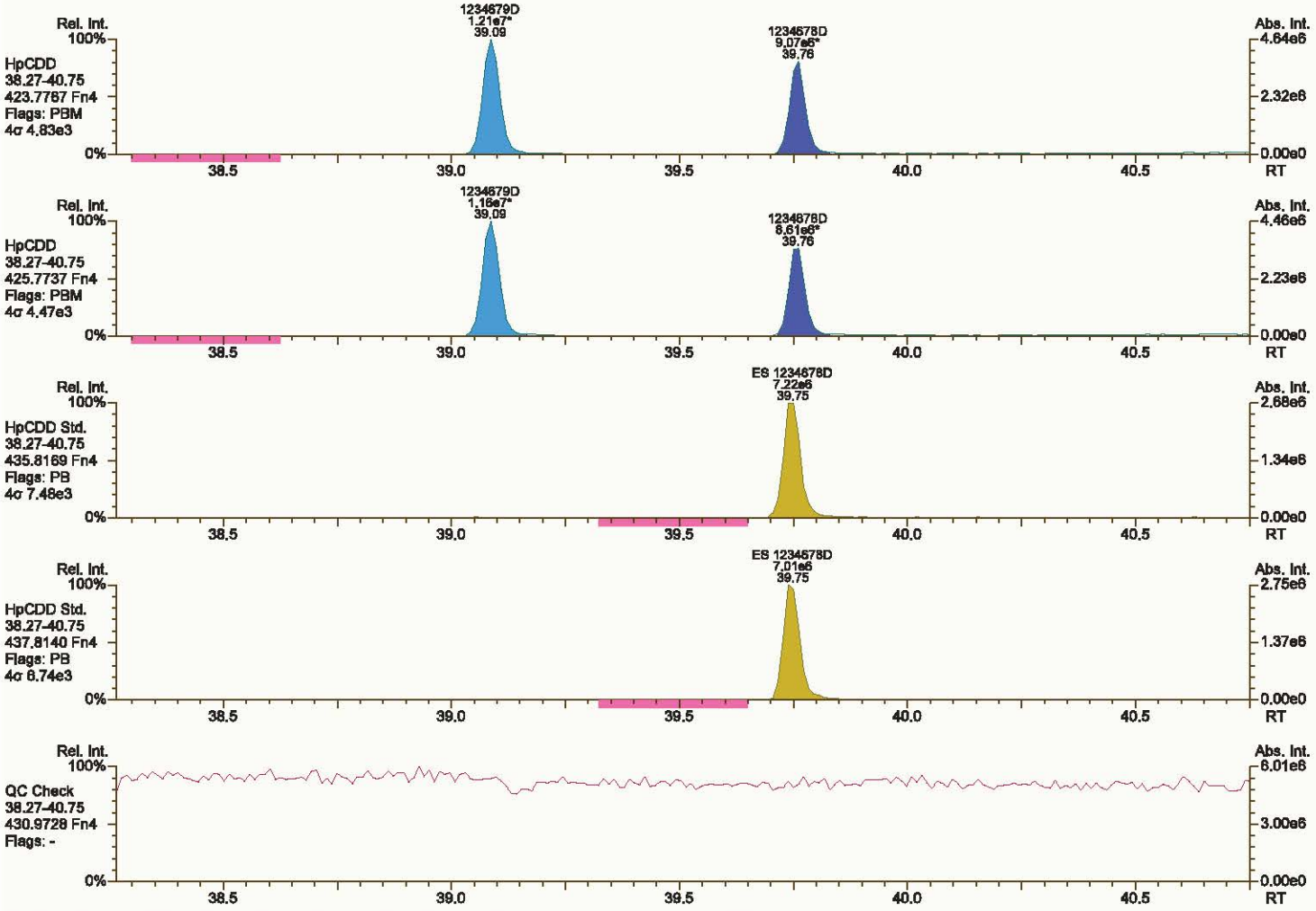
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7354, 2336 scc: 822-366 | *PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 3 of 12*


SGS ID: B6171_18853_DF_008
Sample ID: 11215131-011122-S-BN-NC-O-28
Acq: 26-Jan-2022 03:37:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: PSW Datafile: 220125R23
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 5.02e3
124679/124689D
1.22e6
34.69
123679/123689D
9.38e5
35.65
123468D
2.79e5
35.35
123678D
3.20e5*
36.52
123478D
6.67e4*
36.41
123467D
6.34e4*
36.72
123789D
1.73e5*
36.81
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 5.81e3
124679/124689D
9.17e5
34.69
123679/123689D
8.45e5
35.65
123468D
2.10e5
35.35
123678D
2.74e5*
36.52
123478D
5.67e4*
36.41
123467D
5.25e4*
36.72
123789D
1.48e5*
36.81
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 6.00e3
ES 123678D
8.30e6*
36.51
ES 123789D
9.88e6*
36.60
JS 123467D
4.66e6*
36.70
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 6.70e3
ES 123678D
8.73e6*
36.51
ES 123789D
7.92e6*
36.60
ES 123478D
5.91e6
36.39
JS 123467D
3.59e6*
36.70
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9113, 1599 scc: 822-366
PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 4 of 12

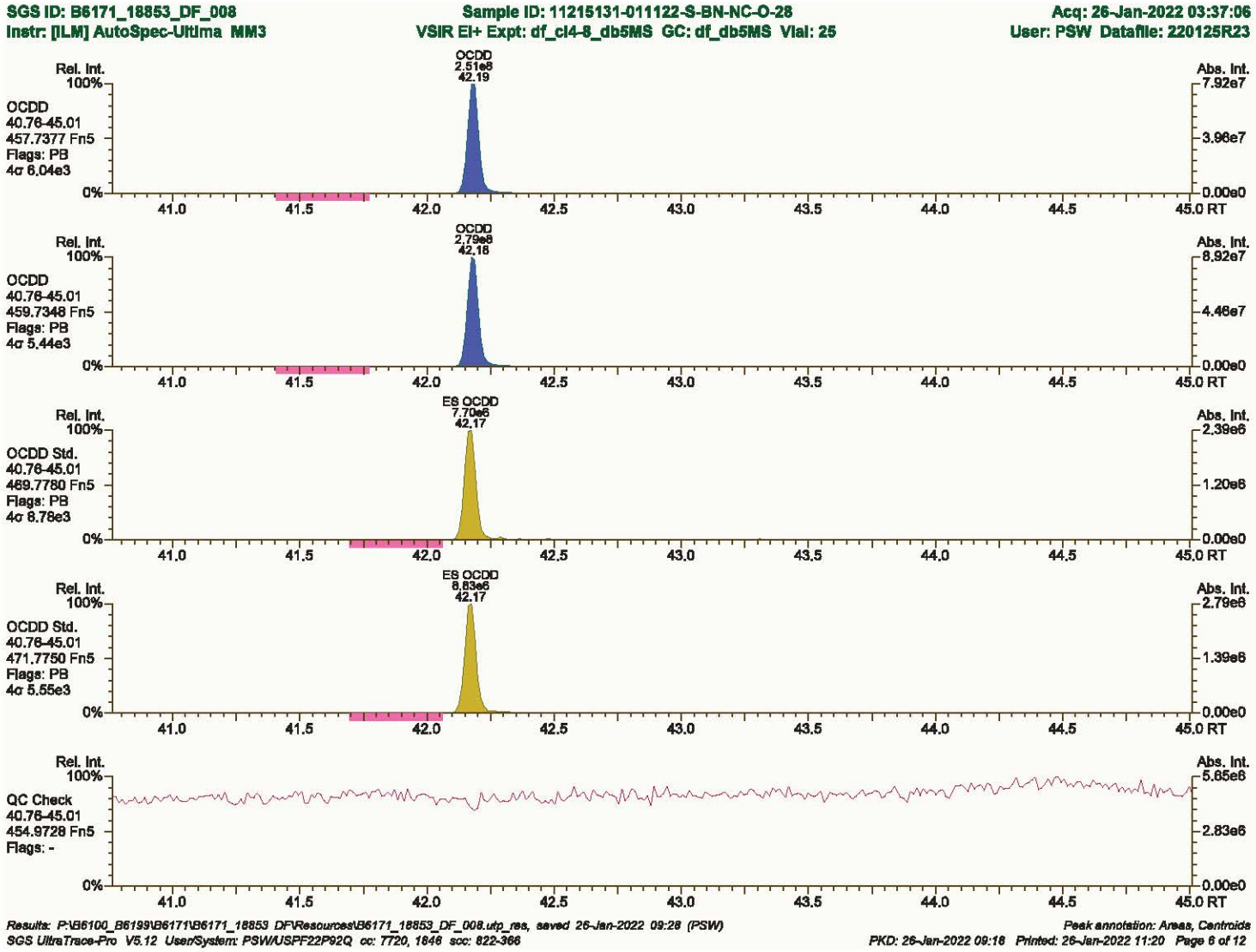
SGS ID: B6171_18853_DF_008 | Sample ID: 11215131-011122-S-BN-NC-O-28 | Acq: 26-Jan-2022 03:37:06

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25 | User: PSW Datafile: 220125R23



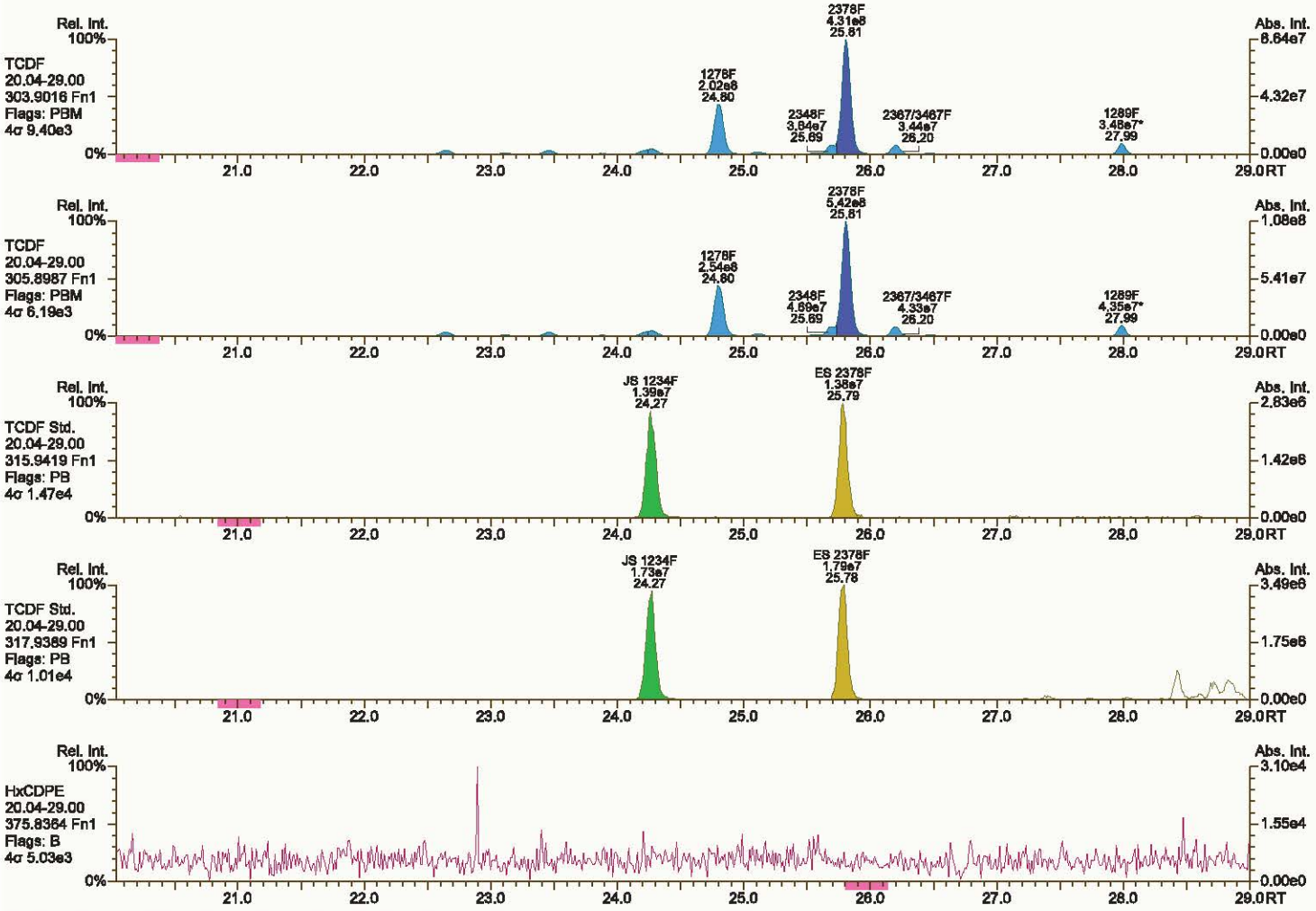
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5332, 7693 scc: 822-366 *PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 5 of 12*


SGS ID: B6171_18853_DF_008
Sample ID: 11215131-011122-S-BN-NC-O-28
Acq: 26-Jan-2022 03:37:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: PSW Datafile: 220125R23
Rel. Int.
Abs. Int.
OCDD
2.51e8
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 6.04e3
7.92e7
3.96e7
0.00e0
OCDD
2.79e8
42.18
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 5.44e3
8.92e7
4.46e7
ES OCDD
7.70e6
42.17
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 8.78e3
2.39e6
1.20e6
ES OCDD
8.83e6
42.17
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 5.55e3
2.79e6
1.39e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.65e6
2.83e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

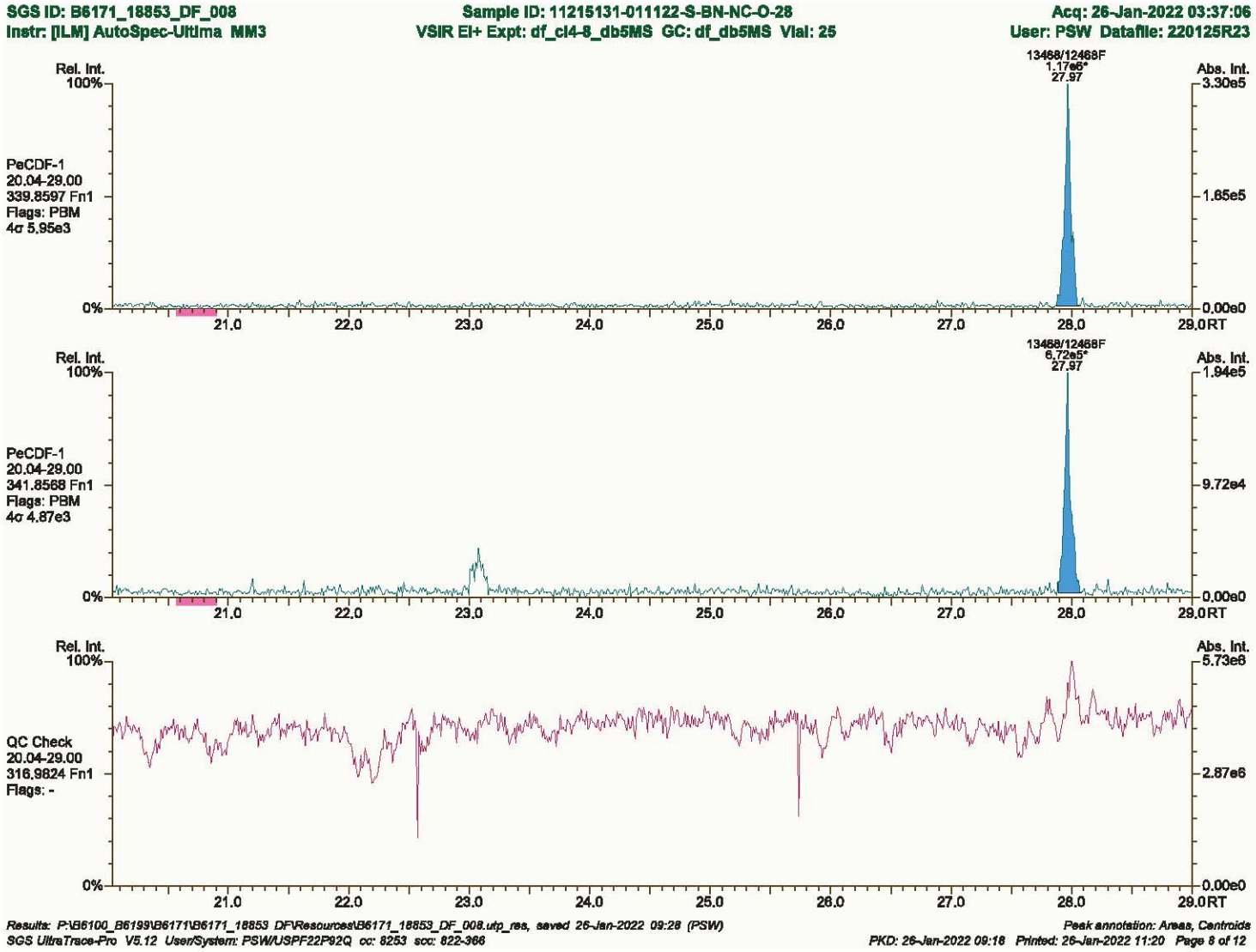
SGS ID: B6171_18853_DF_008 | Sample ID: 11215131-011122-S-BN-NC-O-28 | Acq: 26-Jan-2022 03:37:06

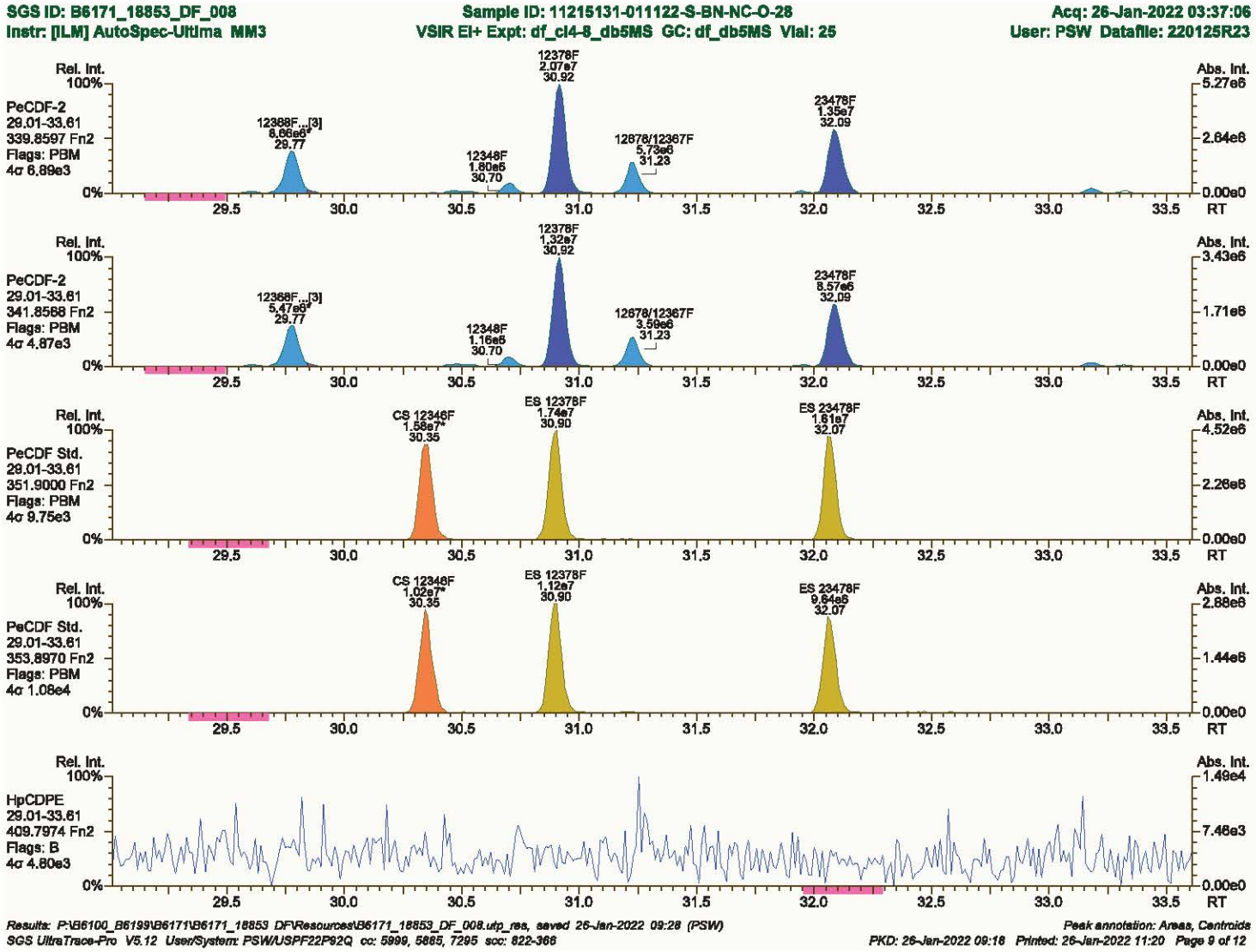
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25 | User: PSW Datafile: 220125R23

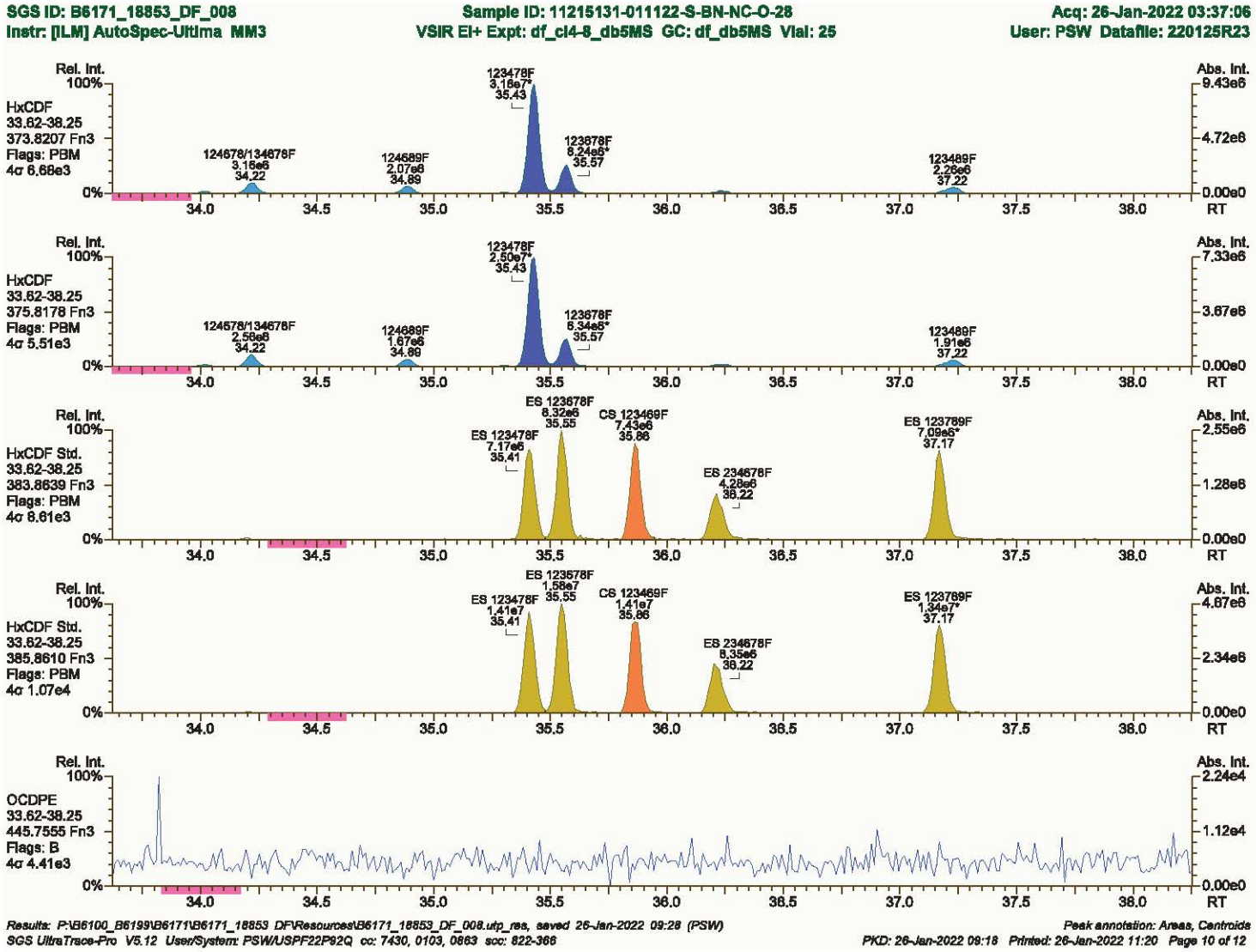


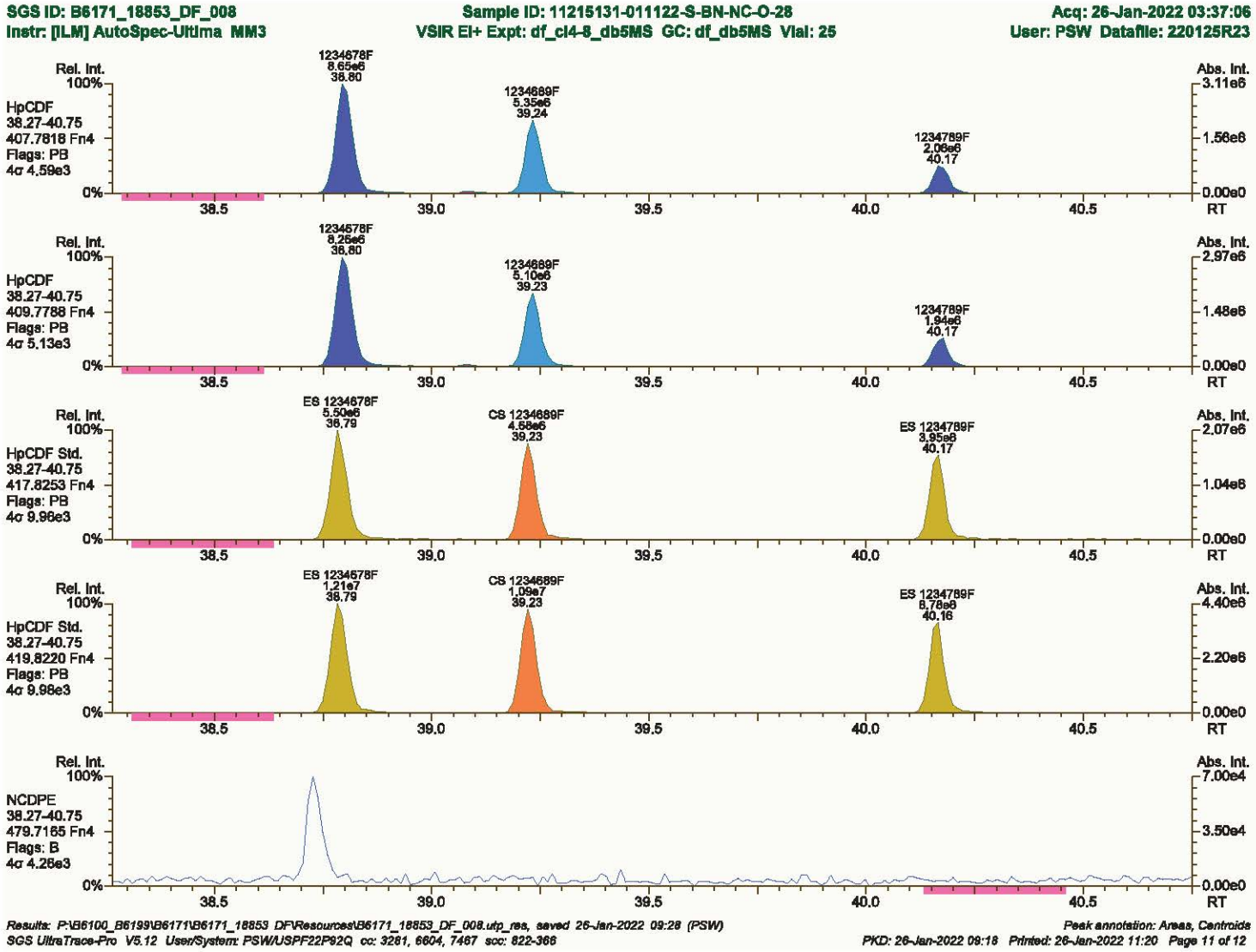
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

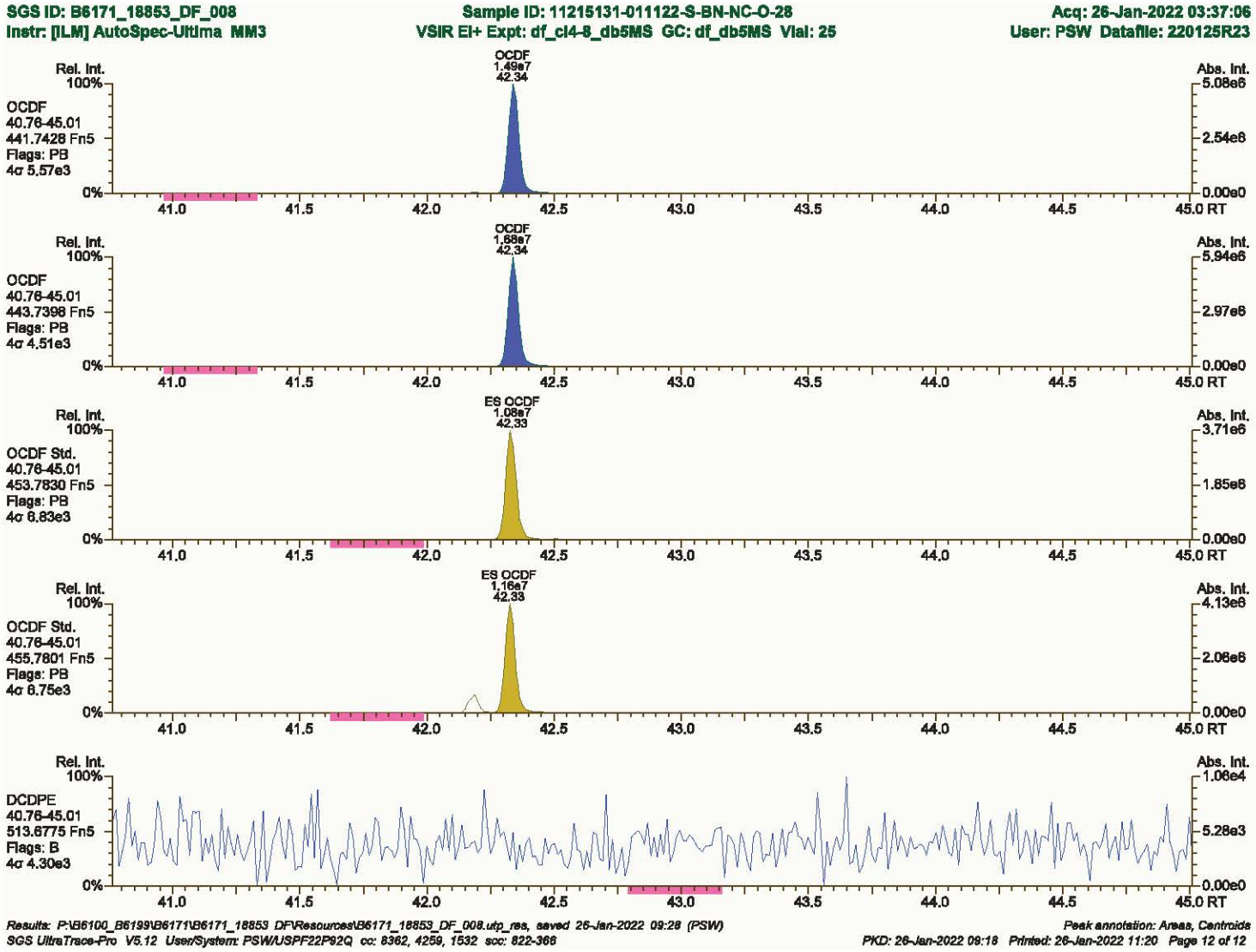
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9267, 9239, 9943 scc: 822-366 *PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 7 of 12*


SGS ID: B6171_18853_DF_008
Sample ID: 11215131-011122-S-BN-NC-O-28
Acq: 26-Jan-2022 03:37:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: PSW Datafile: 220125R23
Rel. Int.
100%
0%
Abs. Int.
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PBM
4σ 5.95e3
13468/12468F
1.17e6*
27.97
3.30e5
1.65e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PBM
4σ 4.87e3
13468/12468F
6.72e5*
27.97
1.94e5
9.72e4
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
5.73e6
2.87e6
0.00e0
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8253 scc: 822-366
PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 8 of 12


SGS ID: B6171_18853_DF_008
Sample ID: 11215131-011122-S-BN-NC-O-28
Acq: 26-Jan-2022 03:37:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: PSW Datafile: 220125R23
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 6.89e3
12368F...[3]
8.66e6*
29.77
12348F
1.80e5
30.70
12378F
2.07e7
30.92
12678/12367F
5.73e6
31.23
23478F
1.35e7
32.09
5.27e6
2.64e6
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.87e3
12368F...[3]
5.47e6*
29.77
12348F
1.16e5
30.70
12378F
1.32e7
30.92
12678/12367F
3.59e6
31.23
23478F
8.57e6
32.09
3.43e6
1.71e6
0.00e0
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PBM
4σ 9.75e3
CS 12346F
1.58e7*
30.35
ES 12378F
1.74e7
30.90
ES 23478F
1.61e7
32.07
4.52e6
2.26e6
0.00e0
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PBM
4σ 1.08e4
CS 12346F
1.02e7*
30.35
ES 12378F
1.12e7
30.90
ES 23478F
9.64e6
32.07
2.88e6
1.44e6
0.00e0
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.80e3
1.49e4
7.46e3
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5999, 5865, 7295 scc: 822-366
PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 9 of 12


SGS ID: B6171_18853_DF_008
Sample ID: 11215131-011122-S-BN-NC-O-28
Acq: 26-Jan-2022 03:37:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: PSW Datafile: 220125R23
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 6.68e3
124678/134678F
3.16e6
34.22
124689F
2.07e6
34.89
123478F
3.16e7*
35.43
123678F
8.24e6*
35.57
123489F
2.26e6
37.22
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 5.51e3
124678/134678F
2.56e6
34.22
124689F
1.67e6
34.89
123478F
2.50e7*
35.43
123678F
6.34e6*
35.57
123489F
1.91e6
37.22
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PBM
4σ 8.61e3
ES 123678F
8.32e6
35.55
ES 123478F
7.17e6
35.41
CS 123469F
7.43e6
35.86
ES 234678F
4.28e6
36.22
ES 123789F
7.09e6*
37.17
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PBM
4σ 1.07e4
ES 123678F
1.58e7
35.55
ES 123478F
1.41e7
35.41
CS 123469F
1.41e7
35.86
ES 234678F
8.35e6
36.22
ES 123789F
1.34e7*
37.17
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.41e3
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
9.43e6
4.72e6
0.00e0
7.33e6
3.67e6
2.55e6
1.28e6
4.67e6
2.34e6
2.24e4
1.12e4
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7430, 0103, 0863 scc: 822-366
PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 10 of 12


SGS ID: B6171_18853_DF_008
Sample ID: 11215131-011122-S-BN-NC-O-28
Acq: 26-Jan-2022 03:37:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: PSW Datafile: 220125R23
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.59e3
1234678F
8.65e6
38.80
1234689F
5.35e6
39.24
1234789F
2.06e6
40.17
3.11e6
1.56e6
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 5.13e3
1234678F
8.26e6
38.80
1234689F
5.10e6
39.23
1234789F
1.94e6
40.17
2.97e6
1.48e6
0.00e0
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 9.96e3
ES 1234678F
5.50e6
38.79
CS 1234689F
4.58e6
39.23
ES 1234789F
3.95e6
40.17
2.07e6
1.04e6
0.00e0
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 9.98e3
ES 1234678F
1.21e7
38.79
CS 1234689F
1.09e7
39.23
ES 1234789F
8.78e6
40.16
4.40e6
2.20e6
0.00e0
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 4.26e3
7.00e4
3.50e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3281, 6604, 7467 scc: 822-366
PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 11 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_008.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8362, 4259, 1532 scc: 822-366
PKD: 26-Jan-2022 09:18 Printed: 26-Jan-2022 11:20 Page 12 of 12

Lab ID: B6171_18863_DF_009 | Acq'd: 26 Jan 2022 04:24 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-O-16 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 863-295-DGX

Datafile: 220125R24 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.76		1.0008	1.0010	+0.3	3.23E+06	0.81	Y	1.34	22.4	11162.091	0.945
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.06	-	9513.264	0.84
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	8535.167	0.723
123678-HxCDD	36.53	J EMPC	1.0035	1.0036	+0.2	9.47E+04	1.48	N	1.08	1.03	8535.167	0.76
123789-HxCDD	36.81	J	1.0116	1.0112	-0.9	8.62E+04	1.13	Y	1.02	0.941	8535.167	0.831
1234678-HpCDD	39.77		1.0003	1.0003	0	1.82E+06	1.17	Y	0.97	26.4	8757.448	0.838
OCDD	42.19		1.0003	1.0003	0	1.25E+07	0.90	Y	1.07	337	11642.07	2.42
2378-TCDF	25.81		1.0008	1.0010	+0.3	1.22E+07	0.78	Y	0.96	76.7	9631.645	0.738
12378-PeCDF	30.91		1.0006	1.0006	0	3.73E+05	1.58	Y	0.95	2.58	10341.061	0.706
23478-PeCDF	32.09		1.0006	1.0007	+0.2	3.84E+05	1.51	Y	0.94	2.81	10341.061	0.764
123478-HxCDF	35.43		1.0004	1.0005	+0.2	4.93E+05	1.27	Y	1.23	3.64	8758.75	0.563
123678-HxCDF	35.58	J	1.0004	1.0006	+0.4	2.17E+05	1.20	Y	1.13	1.45	8758.75	0.525
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	8758.75	1.19
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8758.75	0.809
1234678-HpCDF	38.81		1.0003	1.0002	-0.2	5.95E+05	1.04	Y	1.36	4.3	10159.491	0.526
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	10159.491	0.929
OCDF	42.35		1.0003	1.0002	-0.3	5.29E+05	0.90	Y	1.03	13.6	10594.277	2.12

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.73	1.0273	1.0274	+0.2	2.12E+07	0.79	Y	1.03	90.5
ES 12378-PeCDD	32.42	1.2455	1.2461	+1.2	1.93E+07	1.64	Y	1.03	82.1
ES 123478-HxCDD	36.40	0.9917	0.9918	+0.2	1.66E+07	1.28	Y	0.99	95.4
ES 123678-HxCDD	36.51	0.9948	0.9948	0	1.68E+07	1.32	Y	0.97	98.9
ES 123789-HxCDD	36.81	1.0028	1.0028	0	1.78E+07	1.26	Y	1.12	90.7
ES 1234678-HpCDD	39.76	1.0830	1.0832	+0.5	1.40E+07	1.10	Y	0.99	80.5
ES OCDD	42.18	1.1489	1.1491	+0.5	1.37E+07	0.94	Y	0.78	50.6
ES 2378-TCDF	25.79	1.0623	1.0625	+0.3	3.28E+07	0.83	Y	1.08	82.2
ES 12378-PeCDF	30.90	1.2724	1.2731	+1.3	3.02E+07	1.64	Y	0.93	87.9
ES 23478-PeCDF	32.07	1.3205	1.3213	+1.5	2.88E+07	1.59	Y	0.92	84.9
ES 123478-HxCDF	35.42	0.9649	0.9649	0	2.17E+07	0.57	Y	1.14	109
ES 123678-HxCDF	35.56	0.9688	0.9688	0	2.63E+07	0.54	Y	1.30	116
ES 234678-HxCDF	36.22	0.9868	0.9869	+0.2	1.19E+07	0.52	Y	1.20	56.7
ES 123789-HxCDF	37.18	1.0129	1.0130	+0.2	1.72E+07	0.56	Y	1.14	86.5
ES 1234678-HpCDF	38.80	1.0569	1.0570	+0.2	2.01E+07	0.45	Y	0.95	121
ES 1234789-HpCDF	40.17	1.0944	1.0945	+0.2	1.12E+07	0.46	Y	0.85	76
ES OCDF	42.34	1.1533	1.1535	+0.5	1.50E+07	0.88	Y	0.93	46.2

Lab ID: B6171_18863_DF_009 | Acq'd: 26 Jan 2022 04:24 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-O-16 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 863-295-DGX

Datafile: 220125R24 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.02		-	-	-	2.27E+07	0.75	Y	-	-
JS 1234-TCDF	24.27		-	-	-	3.68E+07	0.78	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	8.74E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	26.76		1.0282	1.0284	+0.3	1.00E+07	n/a	-	1.31	84.4
CS 12347-PeCDD	31.90		1.2257	1.2262	+1.0	1.83E+07	1.62	Y	0.89	90.4
CS 12346-PeCDF	30.35		1.2496	1.2504	+1.5	3.02E+07	1.53	Y	0.87	94.7
CS 123469-HxCDF	35.87		0.9773	0.9773	0	2.38E+07	0.55	Y	1.09	125
CS 1234689-HpCDF	39.23		1.0687	1.0689	+0.5	1.65E+07	0.44	Y	0.86	109
~~SS 37Cl-2378-TCDD~~	~~26.76~~		~~1.0282~~	~~1.0284~~	~~+0.3~~	~~1.00E+07~~	~~n/a~~		~~1.26~~	~~93.7~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2262~~	~~+1.0~~	~~1.83E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2504~~	~~+1.5~~	~~3.02E+07~~	~~1.53~~	~~Y~~	~~0.93~~	~~100~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.38E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~100~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.65E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~90.1~~

Totals	Conc	EMPC
Total TCDD	23.9	23.9
Total PeCDD	0	0
Total HxCDD	4.78	9.2
Total HpCDD	83.7	83.7
Total Tetra-Octa Dioxins	449	454
Total TCDF	140	150
Total PeCDF	13.7	14.7
Total HxCDF	17	17
Total HpCDF	10.5	10.5
Total Tetra-Octa Furans	195	206
Total Tetra-Octa Dioxins & Furans	644	660

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.809	0.81
Response	3.24E+06	3.23E+06

Lab ID: B6171_18863_DF_009 | Acq'd: 26 Jan 2022 04:24 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-O-16 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 863-295-DGX

Datafile: 220125R24 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		11162.091	0.945
1379-TCDD	NotFnd		0.8642						1.34		11162.091	0.945
1369-TCDD	NotFnd		0.8825						1.34		11162.091	0.945
1469-TCDD	NotFnd		0.9154						1.34		11162.091	0.945
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		11162.091	0.945
1378-TCDD	NotFnd		0.9332						1.34		11162.091	0.945
1268-TCDD	NotFnd		0.9415						1.34		11162.091	0.945
1478-TCDD	NotFnd		0.9518						1.34		11162.091	0.945
1279-TCDD	NotFnd		0.9586						1.34		11162.091	0.945
1234/1269-TCDD	NotFnd		0.9734						1.34		11162.091	0.945
1236-TCDD	NotFnd		0.9788						1.34		11162.091	0.945
1237/1238-TCDD	NotFnd		0.9892						1.34		11162.091	0.945
1239-TCDD	NotFnd		0.9944						1.34		11162.091	0.945
2378-TCDD	**26.76**		**1.0008**	1.0010	**+0.3**	3.23E+06	0.81	Y	**1.34**	**22.4**	**11162.091**	**0.945**
1278-TCDD	27.11		1.0142	1.0141	-0.2	2.21E+05	0.69	Y	1.34	1.53	11162.091	0.945
1267-TCDD	NotFnd		1.0197						1.34		11162.091	0.945
1289-TCDD	NotFnd		1.0401						1.34		11162.091	0.945
12479/12468-PeCDD	NotFnd		0.9202						1.06		9513.264	0.84
12469-PeCDD	NotFnd		0.9375						1.06		9513.264	0.84
12368-PeCDD	NotFnd		0.9553						1.06		9513.264	0.84
12478-PeCDD	NotFnd		0.9613						1.06		9513.264	0.84
12379-PeCDD	NotFnd		0.9644						1.06		9513.264	0.84
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		9513.264	0.84
12346/12347-PeCDD	NotFnd		0.9848						1.06		9513.264	0.84
12378-PeCDD	NotFnd		**1.0005**						**1.06**		**9513.264**	**0.84**
12367-PeCDD	NotFnd		1.0035						1.06		9513.264	0.84
12389-PeCDD	NotFnd		1.0146						1.06		9513.264	0.84
124679/124689-HxCDD	34.70		0.9532	0.9532	0	3.49E+05	1.21	Y	1.05	3.84	8535.167	0.771
123468-HxCDD	NotFnd		0.9715						1.05		8535.167	0.771
123679/123689-HxCDD	35.65	EMPC	0.9795	0.9793	-0.4	3.08E+05	1.56	N	1.05	3.39	8535.167	0.771
123469-HxCDD	NotFnd		0.9832						1.05		8535.167	0.771
123478-HxCDD	NotFnd		**1.0004**						1.06		**8535.167**	**0.723**
123678-HxCDD	36.53	J EMPC	**1.0035**	**1.0036**	**+0.2**	**9.47E+04**	**1.48**	**N**	1.08	**1.03**	**8535.167**	**0.76**
123467-HxCDD	NotFnd		1.0087						1.05		8535.167	0.771
123789-HxCDD	36.81	J	**1.0116**	**1.0112**	**-0.9**	**8.62E+04**	**1.13**	**Y**	1.02	**0.941**	**8535.167**	**0.831**

Lab ID: B6171_18863_DF_009 | Acq'd: 26 Jan 2022 04:24 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-O-16 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 863-295-DGX

Datafile: 220125R24 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9834	0	3.95E+06	1.04	Y	0.97	57.3	8757.448	0.838
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**1.82E+06**	**1.17**	**Y**	**0.97**	**26.4**	**8757.448**	**0.838**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**1.25E+07**	**0.90**	**Y**	**1.07**	**337**	**11642.07**	**2.42**
OCDD-a	NotFnd		1.0001						0.07		14831.947	50
1368-TCDF	NotFnd		0.7942						0.96		9631.645	0.738
1468-TCDF	NotFnd		0.8155						0.96		9631.645	0.738
2468-TCDF	21.67		0.8407	0.8402	-0.6	2.24E+05	0.71	Y	0.96	1.41	9631.645	0.738
1346/1246-TCDF	NotFnd		0.8553						0.96		9631.645	0.738
1347/1378/1247-TCDF	NotFnd		0.8617						0.96		9631.645	0.738
1348-TCDF	22.55	J EMPC	0.8740	0.8743	+0.4	6.01E+04	1.59	N	0.96	0.377	9631.645	0.738
1248/1367/1379-TCDF	22.64	EMPC	0.8798	0.8779	-2.6	4.23E+05	0.63	N	0.96	2.66	9631.645	0.738
1268-TCDF	23.11		0.8967	0.8963	-0.6	2.10E+05	0.72	Y	0.96	1.32	9631.645	0.738
1467-TCDF	NotFnd		0.9025						0.96		9631.645	0.738
1478-TCDF	23.46		0.9101	0.9098	-0.4	4.69E+05	0.82	Y	0.96	2.94	9631.645	0.738
1369/1237-TCDF	NotFnd		0.9263						0.96		9631.645	0.738
2467-TCDF	NotFnd		0.9322						0.96		9631.645	0.738
2368-TCDF	24.20		0.9389	0.9385	-0.6	3.93E+05	0.84	Y	0.96	2.47	9631.645	0.738
1238/1234/1678/1469/1236-TCDF	24.29		0.9427	0.9418	-1.3	7.08E+05	0.87	Y	0.96	4.44	9631.645	0.738
1278-TCDF	24.81		0.9623	0.9623	0	5.64E+06	0.79	Y	0.96	35.4	9631.645	0.738
1349-TCDF	NotFnd		0.9678						0.96		9631.645	0.738
1267-TCDF	25.11		0.9740	0.9739	-0.2	3.59E+05	0.74	Y	0.96	2.25	9631.645	0.738
2346/1249-TCDF	NotFnd		0.9820						0.96		9631.645	0.738
2347/1279-TCDF	25.56	EMPC	0.9915	0.9912	-0.5	1.63E+05	0.97	N	0.96	1.02	9631.645	0.738
2348-TCDF	25.69		0.9964	0.9961	-0.5	8.21E+05	0.81	Y	0.96	5.15	9631.645	0.738
2378-TCDF	**25.81**		**1.0008**	**1.0010**	**+0.3**	**1.22E+07**	**0.78**	**Y**	**0.96**	**76.7**	**9631.645**	**0.738**
2367/3467-TCDF	26.20		1.0163	1.0161	-0.3	1.03E+06	0.77	Y	0.96	6.47	9631.645	0.738
1269-TCDF	26.48		1.0265	1.0268	+0.5	2.65E+05	0.77	Y	0.96	1.66	9631.645	0.738
1239-TCDF	NotFnd		1.0373						0.96		9631.645	0.738
1289-TCDF	27.98	EMPC	1.0847	1.0852	+0.8	9.83E+05	0.91	N	0.96	6.17	9631.645	0.738
13468/12468-PeCDF	27.96		0.9045	0.9049	+0.7	7.27E+05	1.49	Y	0.94	5.17	10398.549	0.738
13678/13467/12467-PeCDF	NotFnd		0.9574						0.94		10341.061	0.734
12368/13478/12478-PeCDF	29.76		0.9628	0.9632	+0.7	4.41E+05	1.77	Y	0.94	3.13	10341.061	0.734
14678-PeCDF	NotFnd		0.9661						0.94		10341.061	0.734
13479-PeCDF	NotFnd		0.9695						0.94		10341.061	0.734
13469/12479-PeCDF	NotFnd		0.9779						0.94		10341.061	0.734
12346-PeCDF	NotFnd		0.9824						0.94		10341.061	0.734

Lab ID: B6171_18863_DF_009 | Acq'd: 26 Jan 2022 04:24 PSW | Wt/Vol: 10.12 g | ICAL: MM3_DF_10272021_27JUL2021

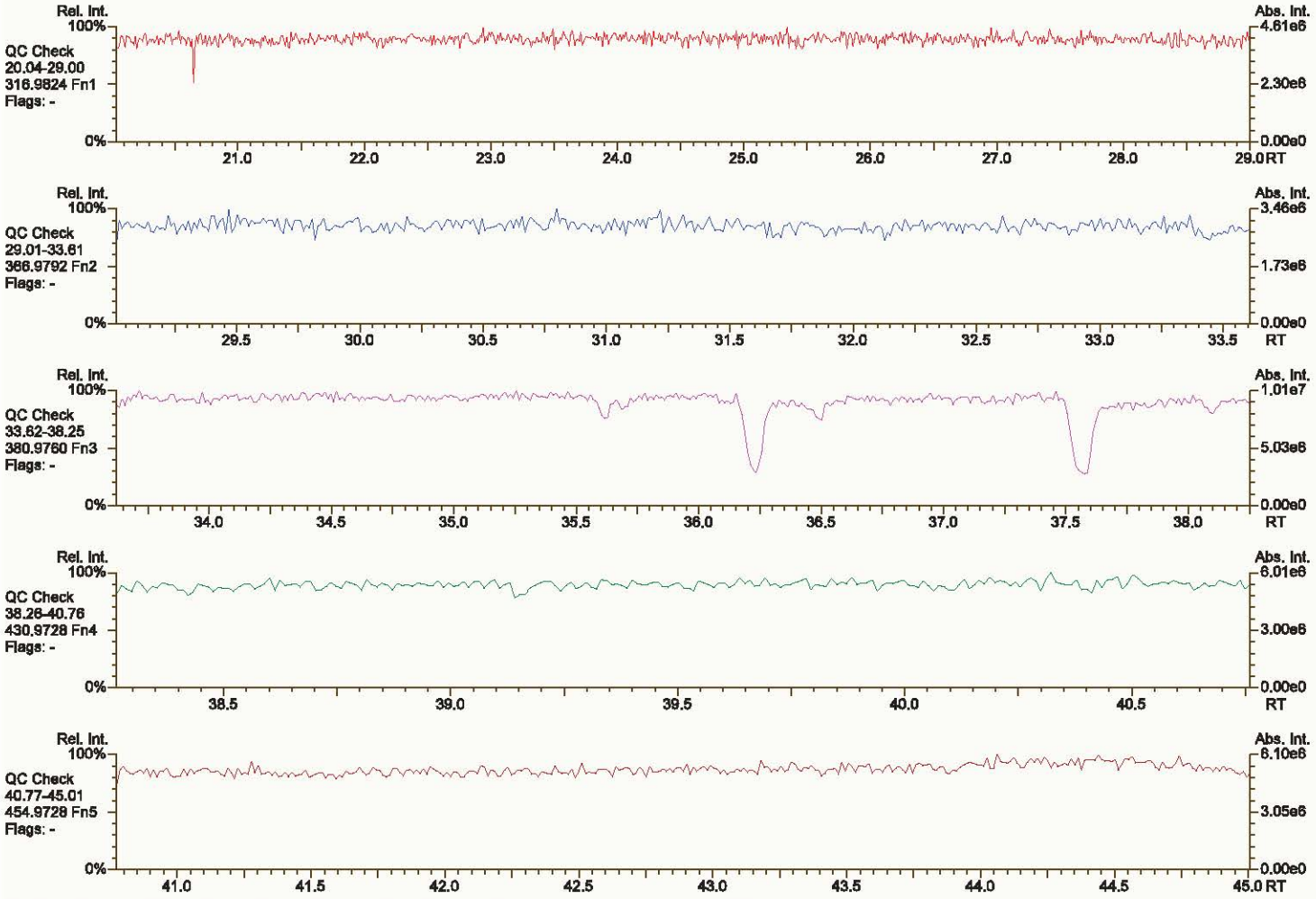
Client ID: 11215131-010722-S-BN-SW-O-16 | UTP: 26-Jan-2022 09:28:55 PSW | J-level: 0.494 pg/g | Split: 1 | Checkcode: 863-295-DGX

Datafile: 220125R24 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9857						0.94		10341.061	0.734
12347-PeCDF	NotFnd		0.9882						0.94		10341.061	0.734
12348-PeCDF	NotFnd		0.9935						0.94		10341.061	0.734
12378-PeCDF	**30.91**		**1.0006**	**1.0006**	**0**	**3.73E+05**	**1.58**	**Y**	**0.95**	**2.58**	**10341.061**	**0.706**
12678/12367-PeCDF	31.23	J EMPC	1.0099	1.0108	+1.7	1.42E+05	1.98	N	0.94	1.01	10341.061	0.734
12379-PeCDF	NotFnd		1.0155						0.94		10341.061	0.734
12679-PeCDF	NotFnd		0.9921						0.94		10341.061	0.734
23467/12369-PeCDF	NotFnd		0.9962						0.94		10341.061	0.734
23478-PeCDF	**32.09**		**1.0006**	**1.0007**	**+0.2**	**3.84E+05**	**1.51**	**Y**	**0.94**	**2.81**	**10341.061**	**0.764**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		10341.061	0.734
12349-PeCDF	NotFnd		1.0106						0.94		10341.061	0.734
12389-PeCDF	NotFnd		1.0349						0.94		10341.061	0.734
123468-HxCDF	34.02	J	0.9606	0.9607	+0.2	1.50E+05	1.16	Y	1.16	1.32	8758.75	0.7
124678/134678-HxCDF	34.22		0.9663	0.9662	-0.2	7.01E+05	1.34	Y	1.16	6.18	8758.75	0.7
134679-HxCDF	NotFnd		0.9729						1.16		8758.75	0.7
124679-HxCDF	NotFnd		0.9786						1.16		8758.75	0.7
124689-HxCDF	34.89		0.9851	0.9851	0	4.98E+05	1.11	Y	1.16	4.39	8758.75	0.7
123467-HxCDF	NotFnd		0.9970						1.16		8758.75	0.7
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**4.93E+05**	**1.27**	**Y**	**1.23**	**3.64**	**8758.75**	**0.563**
123678-HxCDF	**35.50**	J	**1.0004**	**1.0006**	**+0.4**	**2.17E+05**	**1.20**	**Y**	**1.13**	**1.45**	**8758.75**	**0.525**
123479-HxCDF	NotFnd		1.0050						1.16		8758.75	0.7
123469-HxCDF	NotFnd		1.0091						1.16		8758.75	0.7
123679-HxCDF	NotFnd		0.9942						1.16		8758.75	0.7
234678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**8758.75**	**1.19**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8758.75	0.7
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8758.75**	**0.809**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		8758.75	0.7
1234678-HpCDF	**30.81**		**1.0003**	**1.0002**	**-0.2**	**5.95E+05**	**1.04**	**Y**	**1.36**	**4.3**	**10159.491**	**0.526**
1234679-HpCDF	NotFnd		1.0076						1.33		10159.491	0.67
1234689-HpCDF	39.24		1.0114	1.0115	+0.2	6.57E+05	0.99	Y	1.33	6.23	10159.491	0.67
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**10159.491**	**0.929**
OCDF	**42.35**		**1.0003**	**1.0002**	**-0.3**	**5.29E+05**	**0.90**	**Y**	**1.03**	**13.6**	**10594.277**	**2.12**
OCDF-a	NotFnd		1.0001						0.06		14062.396	48.6

SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW)

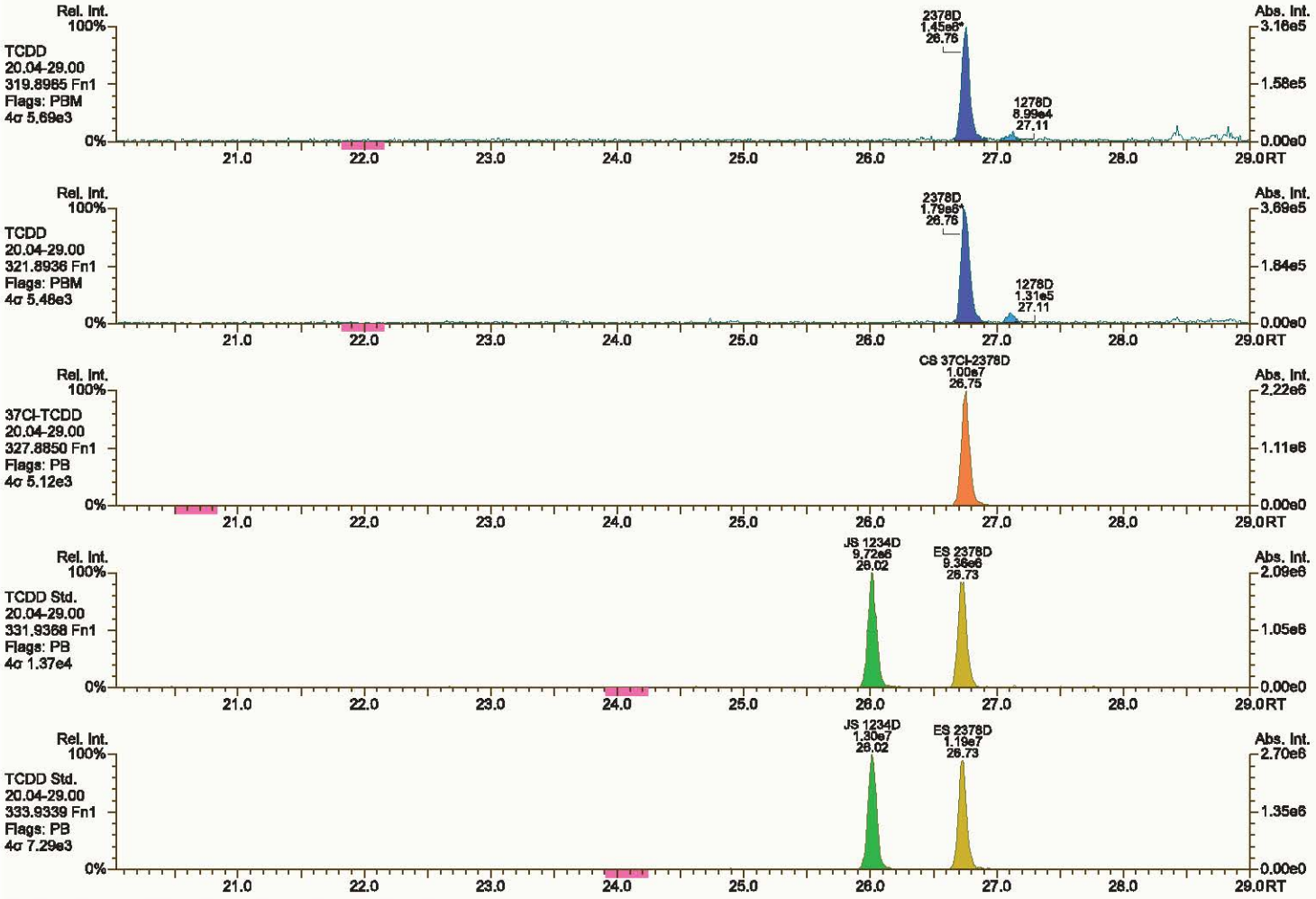
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 863-295

PKD: n/a Printed: 26-Jan-2022 11:20 Page 1 of 12

SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24

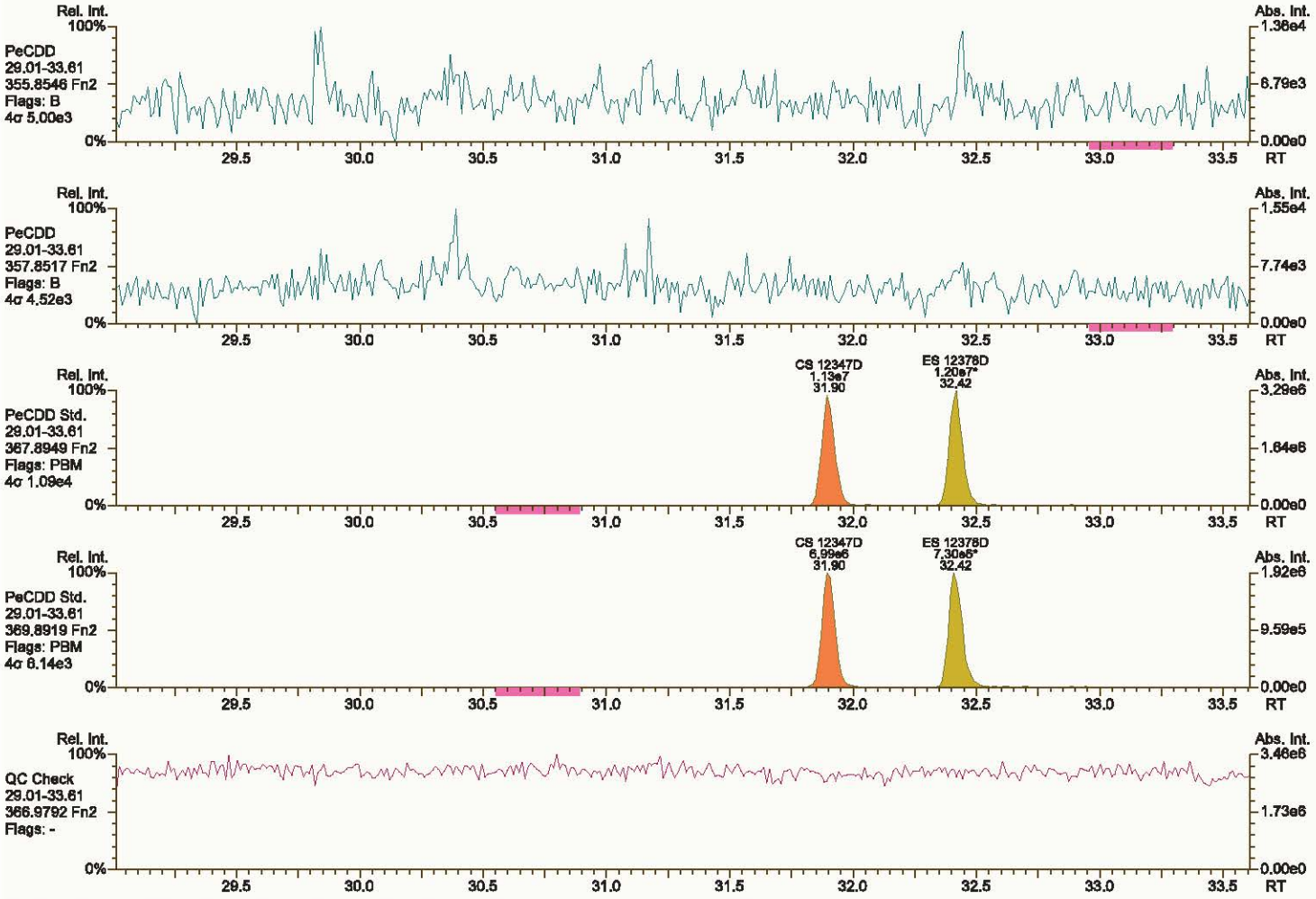


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4074, 9252, 4526 scc: 863-295 *PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:20 Page 2 of 12*

SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24

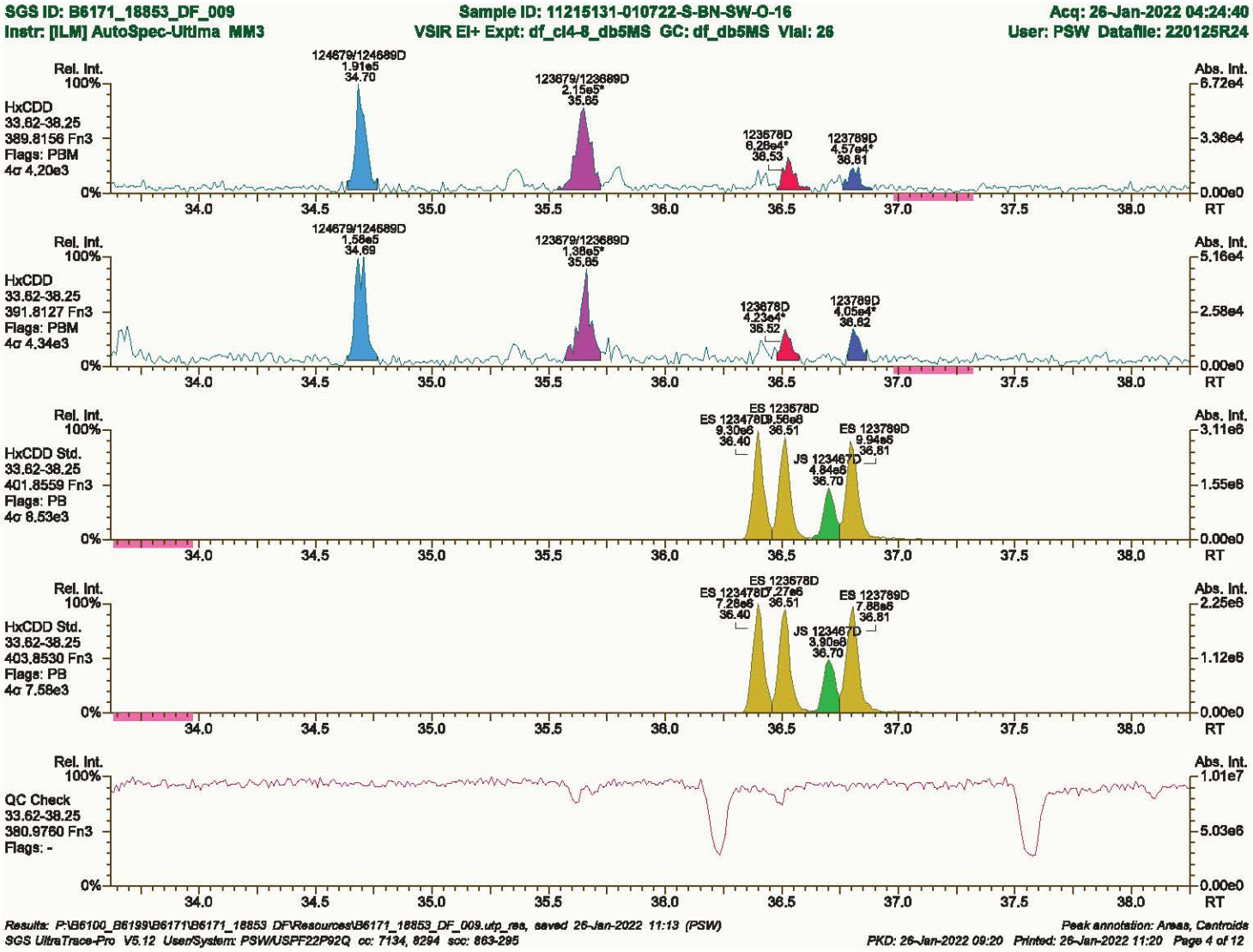


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW)

Peak annotation: Areas, Centroids

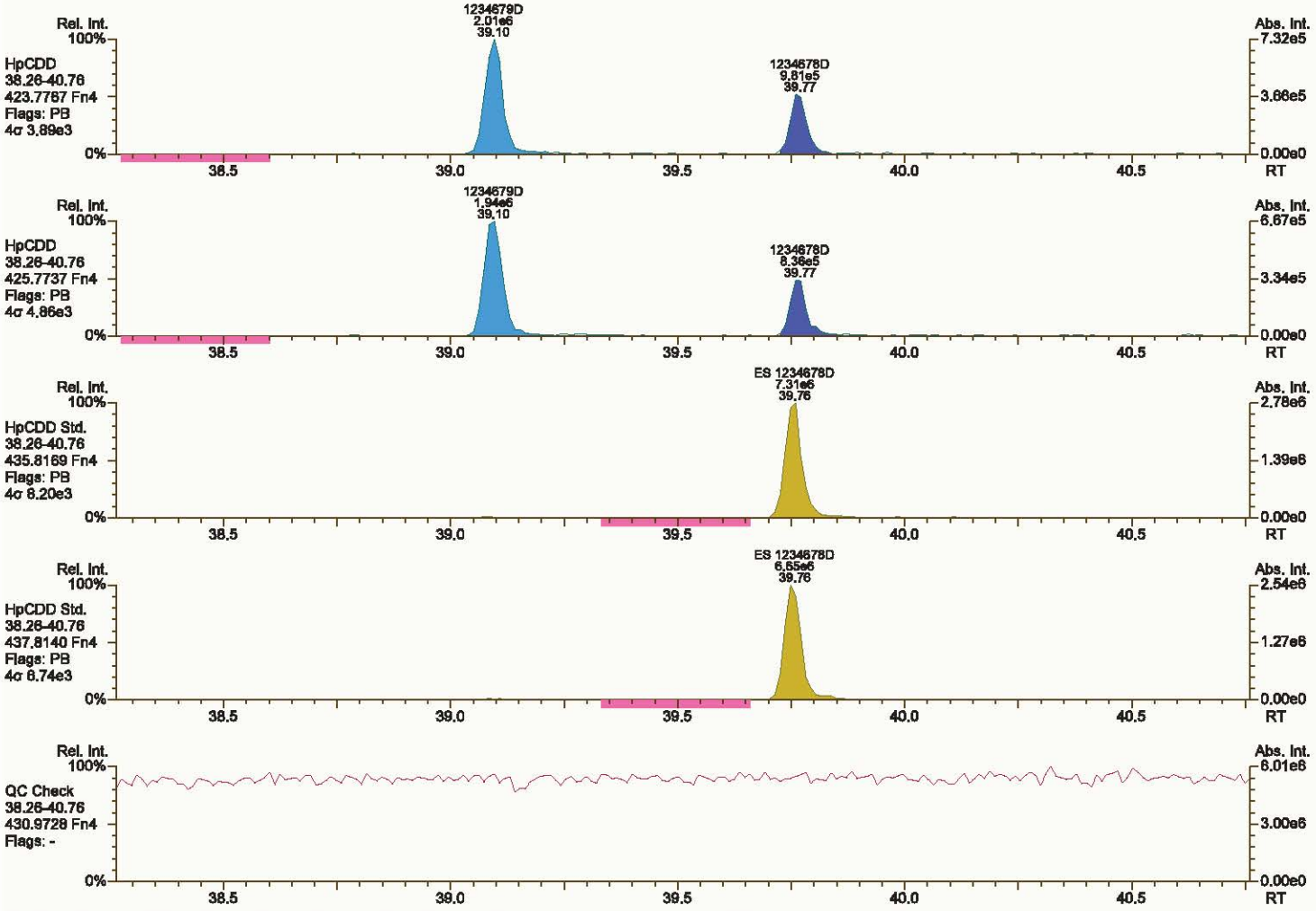
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1159, 8701 scc: 863-295

PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:20 Page 3 of 12


SGS ID: B6171_18853_DF_009
Sample ID: 11215131-010722-S-BN-SW-O-16
Acq: 26-Jan-2022 04:24:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: PSW Datafile: 220125R24
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.20e3
124679/124689D
1.91e5
34.70
123679/123689D
2.15e5*
35.65
123678D
6.29e4*
36.53
123789D
4.57e4*
36.81
6.72e4
3.36e4
0.00e0
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.34e3
124679/124689D
1.58e5
34.69
123679/123689D
1.38e5*
35.65
123678D
4.23e4*
36.52
123789D
4.05e4*
36.82
5.16e4
2.58e4
0.00e0
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 8.53e3
ES 123678D
ES 123478D 9.56e6
9.30e6 36.51
36.40
ES 123789D
9.94e6
36.81
JS 123467D
4.84e6
36.70
3.11e6
1.55e6
0.00e0
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 7.58e3
ES 123678D
ES 123478D 7.27e6
7.28e6 36.51
36.40
ES 123789D
7.88e6
36.81
JS 123467D
3.90e6
36.70
2.25e6
1.12e6
0.00e0
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
1.01e7
5.03e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7134, 8294 scc: 863-295
PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:20 Page 4 of 12

SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW)

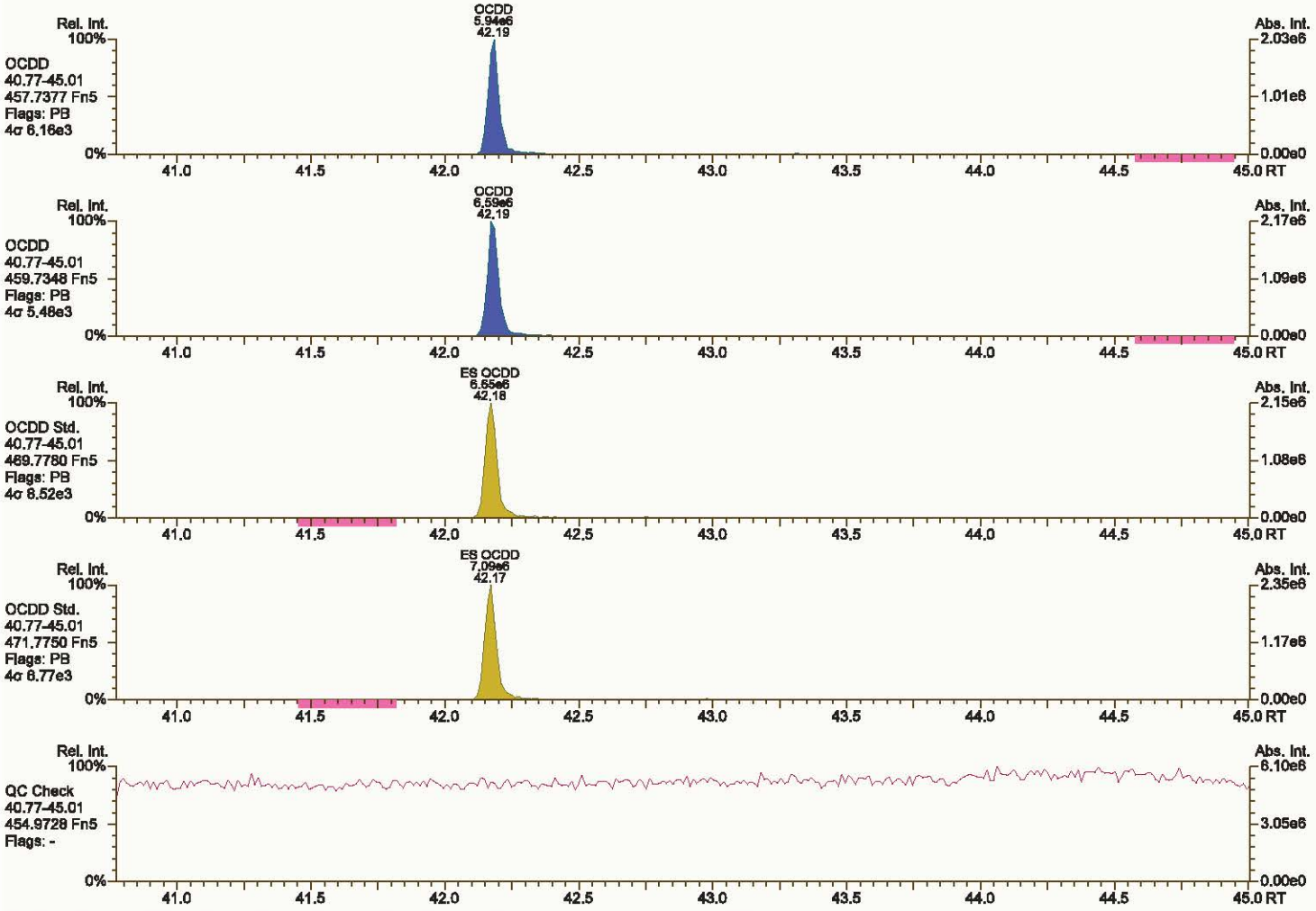
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5347, 6757 scc: 863-295

PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:20 Page 5 of 12

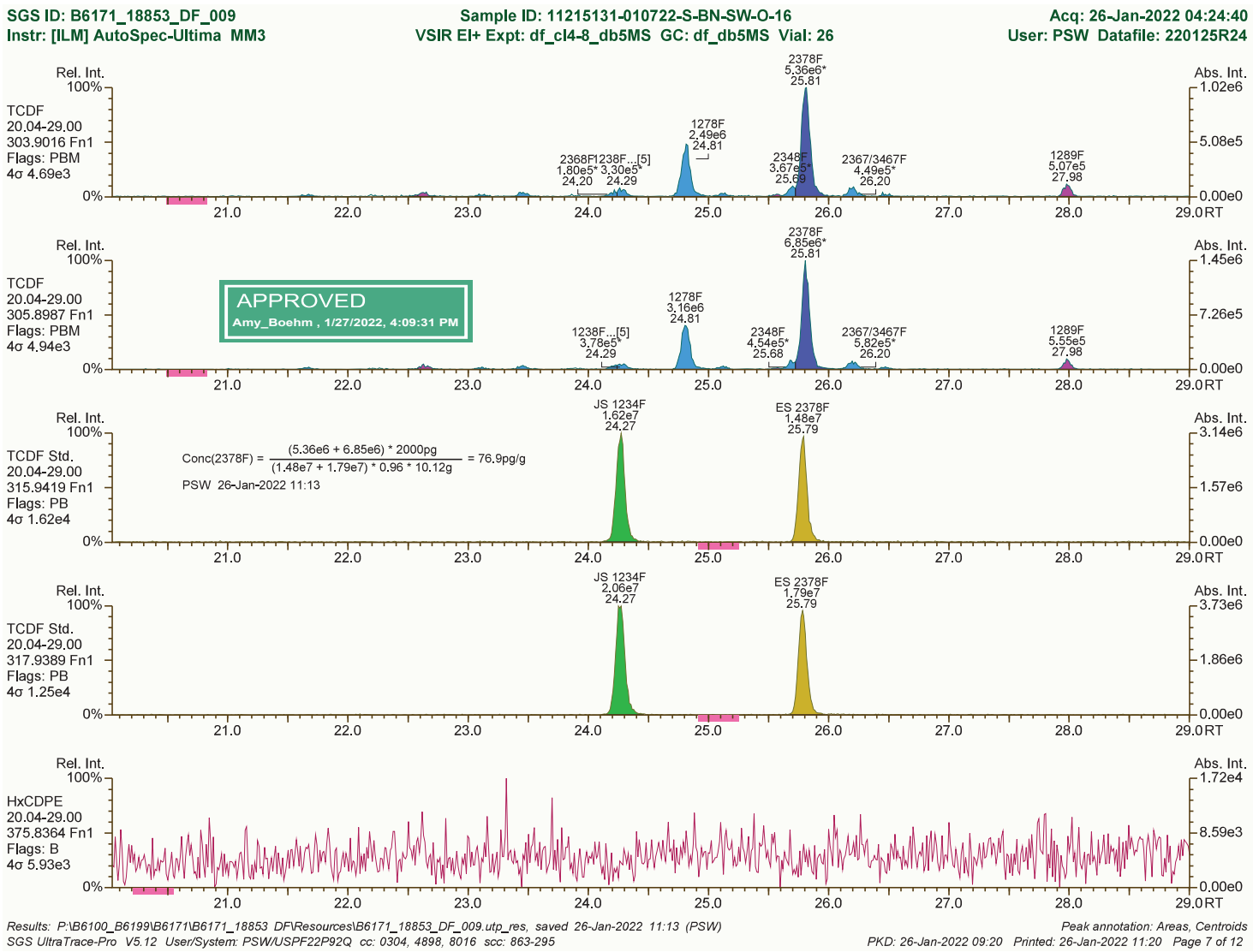
SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

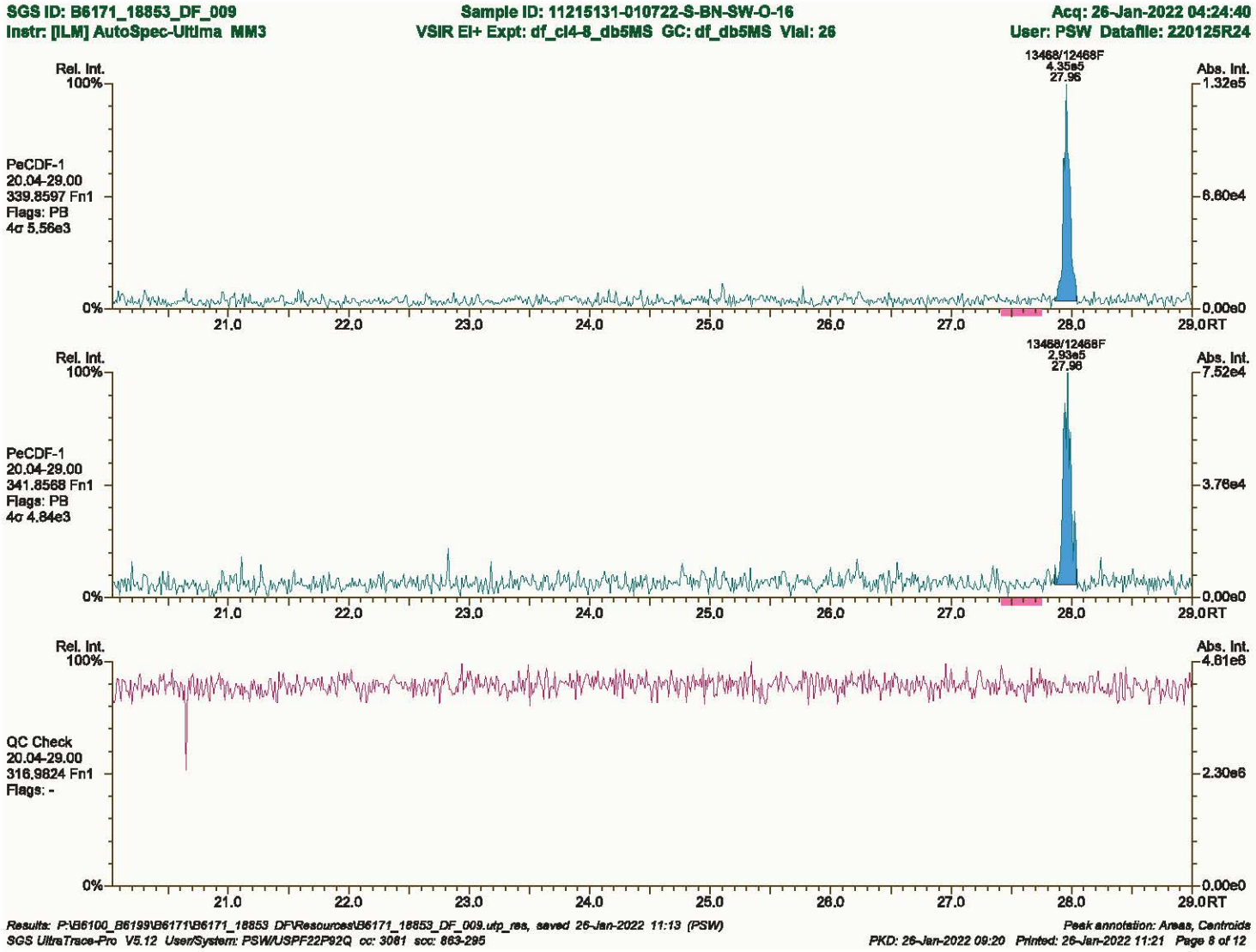
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24

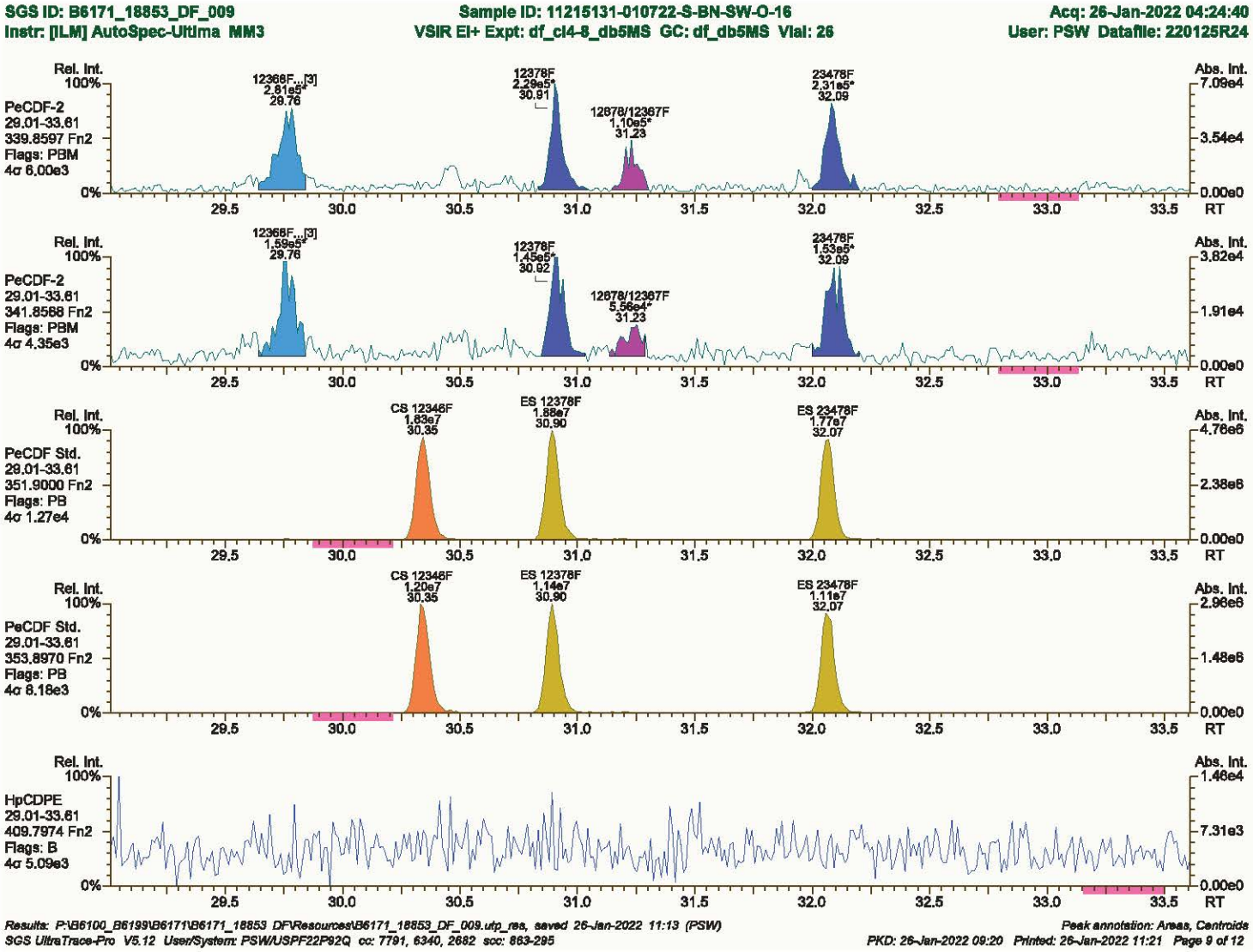


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1507, 9148 scc: 863-295 | *PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:20 Page 6 of 12*

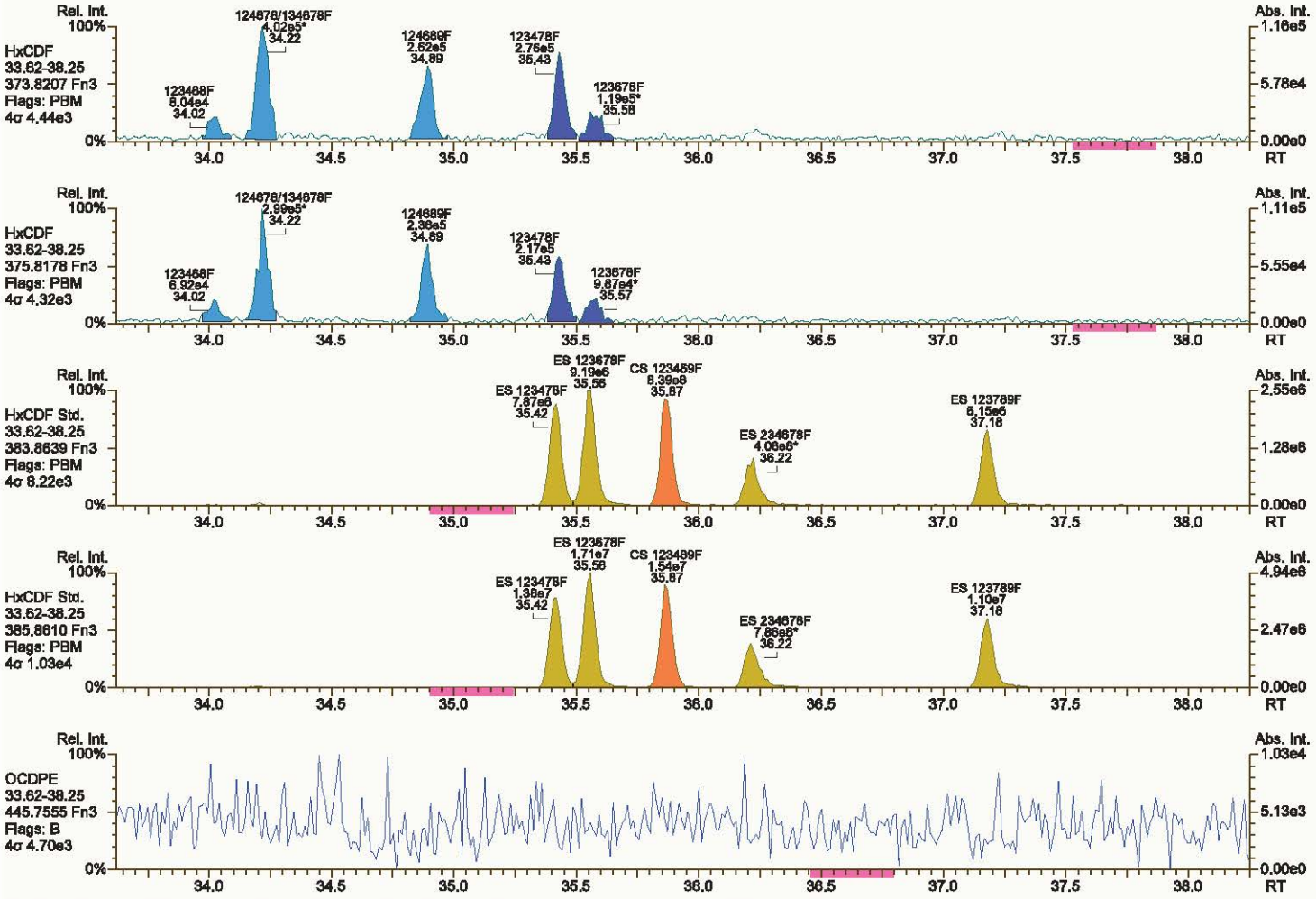

SGS ID: B6171_18853_DF_009
Sample ID: 11215131-010722-S-BN-SW-O-16
Acq: 26-Jan-2022 04:24:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: PSW Datafile: 220125R24
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 4.69e3
2378F 5.36e6* 25.81
1278F 2.49e6 24.81
2368F1238F...[5] 1.80e5* 3.30e5* 24.20 24.29
2348F 3.67e5* 25.69
2367/3467F 4.49e5* 26.20
1289F 5.07e5 27.98
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 4.94e3
APPROVED
Amy_Boehm , 1/27/2022, 4:09:31 PM
2378F 6.85e6* 25.81
1278F 3.16e6 24.81
1238F...[5] 3.78e5* 24.29
2348F 4.54e5* 25.68
2367/3467F 5.82e5* 26.20
1289F 5.55e5 27.98
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.62e4
Conc(2378F) = (5.36e6 + 6.85e6) * 2000pg / (1.48e7 + 1.79e7) * 0.96 * 10.12g = 76.9pg/g
PSW 26-Jan-2022 11:13
JS 1234F 1.62e7 24.27
ES 2378F 1.48e7 25.79
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.25e4
JS 1234F 2.06e7 24.27
ES 2378F 1.79e7 25.79
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 5.93e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
1.02e6
5.08e5
0.00e0
1.45e6
7.26e5
3.14e6
1.57e6
3.73e6
1.86e6
1.72e4
8.59e3


SGS ID: B6171_18853_DF_009
Sample ID: 11215131-010722-S-BN-SW-O-16
Acq: 26-Jan-2022 04:24:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: PSW Datafile: 220125R24
Rel. Int.
100%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 5.56e3
13468/12468F
4.35e5
27.96
Abs. Int.
1.32e5
6.60e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.84e3
13468/12468F
2.93e5
27.96
Abs. Int.
7.52e4
3.76e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
4.61e6
2.30e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3081 scc: 863-295
PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:21 Page 8 of 12


SGS ID: B6171_18853_DF_009
Sample ID: 11215131-010722-S-BN-SW-O-16
Acq: 26-Jan-2022 04:24:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: PSW Datafile: 220125R24
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 6.00e3
12366F...[3]
2.81e5*
29.76
12378F
2.29e5*
30.81
12878/12367F
1.10e5*
31.23
23478F
2.31e5*
32.09
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.35e3
12366F...[3]
1.59e5*
29.76
12378F
1.45e5*
30.82
12878/12367F
5.56e4*
31.23
23478F
1.53e5*
32.09
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 1.27e4
CS 12346F
1.83e7
30.35
ES 12378F
1.88e7
30.90
ES 23478F
1.77e7
32.07
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 8.18e3
CS 12346F
1.20e7
30.35
ES 12378F
1.14e7
30.90
ES 23478F
1.11e7
32.07
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 5.09e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7791, 6340, 2682 scc: 863-295
PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:21 Page 9 of 12

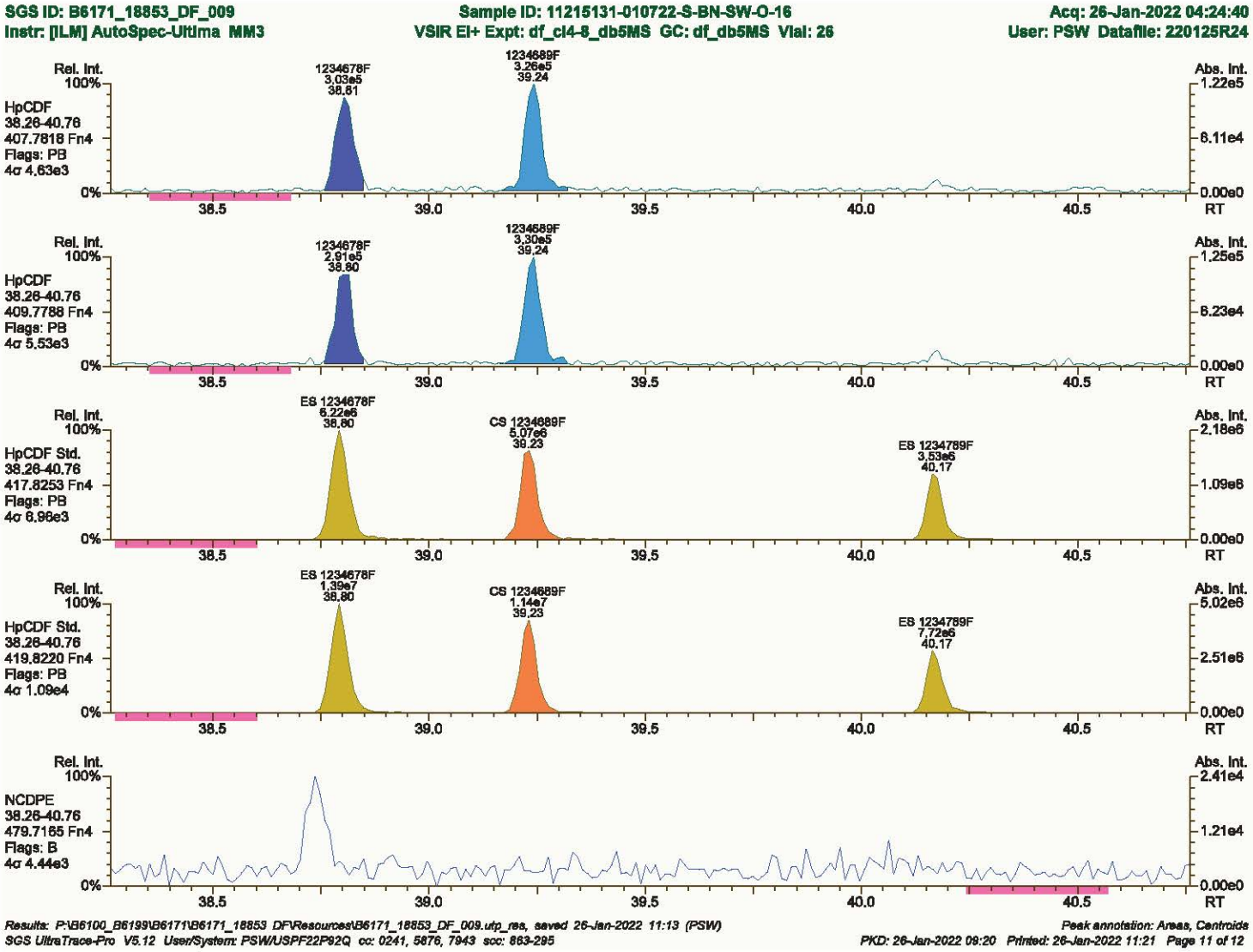
SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24



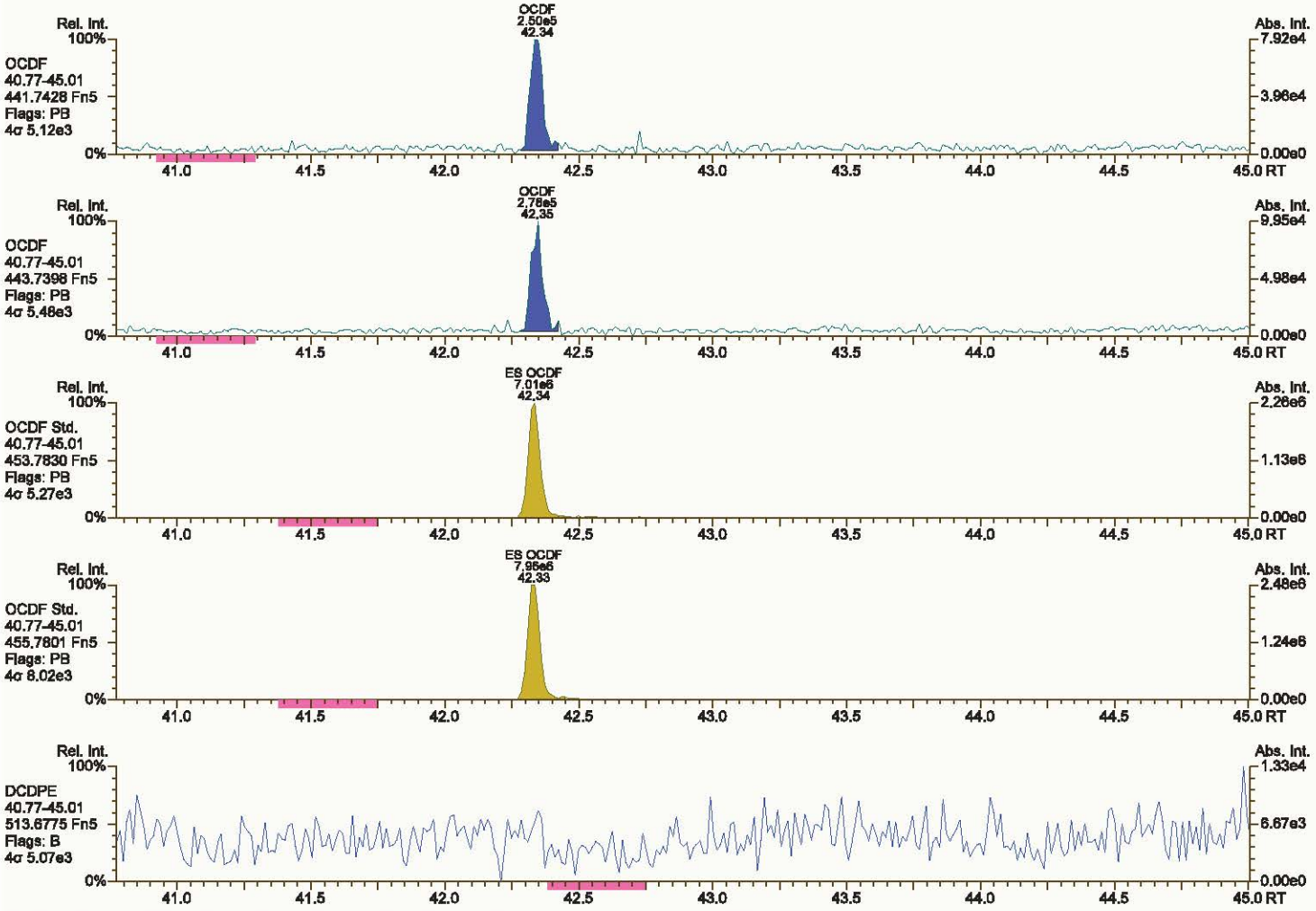
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4026, 1544, 9175 scc: 863-295 *PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:21 Page 10 of 12*


SGS ID: B6171_18853_DF_009
Sample ID: 11215131-010722-S-BN-SW-O-16
Acq: 26-Jan-2022 04:24:40
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: PSW Datafile: 220125R24
Rel. Int.
Abs. Int.
HpCDF
38.26-40.76
407.7818 Fn4
Flags: PB
4σ 4.63e3
1234678F
3.03e5
38.61
1234689F
3.26e5
39.24
1.22e5
6.11e4
0.00e0
HpCDF
38.26-40.76
409.7788 Fn4
Flags: PB
4σ 5.53e3
1234678F
2.91e5
38.60
1234689F
3.30e5
39.24
1.25e5
6.23e4
0.00e0
HpCDF Std.
38.26-40.76
417.8253 Fn4
Flags: PB
4σ 6.96e3
ES 1234678F
6.22e6
38.60
CS 1234689F
5.07e6
39.23
ES 1234789F
3.53e6
40.17
2.18e6
1.09e6
0.00e0
HpCDF Std.
38.26-40.76
419.8220 Fn4
Flags: PB
4σ 1.09e4
ES 1234678F
1.39e7
38.60
CS 1234689F
1.14e7
39.23
ES 1234789F
7.72e6
40.17
5.02e6
2.51e6
0.00e0
NCDPE
38.26-40.76
479.7165 Fn4
Flags: B
4σ 4.44e3
2.41e4
1.21e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT

SGS ID: B6171_18853_DF_009 | Sample ID: 11215131-010722-S-BN-SW-O-16 | Acq: 26-Jan-2022 04:24:40

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: PSW Datafile: 220125R24



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_009.utp_res, saved 26-Jan-2022 11:13 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1410, 1344, 3500 scc: 863-295 *PKD: 26-Jan-2022 09:20 Printed: 26-Jan-2022 11:21 Page 12 of 12*

Lab ID: B6171_18863_DF_010 | Acq'd: 26 Jan 2022 07:41 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-B-18 | UTP: 26-Jan-2022 09:28:57 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 280-389-PPM

Datafile: 220125R28 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.75		1.0008	1.0010	+0.3	4.28E+05	0.83	Y	1.34	3.44	7705.835	0.64
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.06	-	5316.725	0.6
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	6711.095	0.71
123678-HxCDD	36.53	J EMPC	1.0035	1.0034	-0.2	7.15E+04	1.52	N	1.08	0.808	6711.095	0.611
123789-HxCDD	36.82	J EMPC	1.0116	1.0115	-0.2	8.60E+04	1.48	N	1.02	1.05	6711.095	0.742
1234678-HpCDD	39.78		1.0003	1.0004	+0.2	1.42E+06	1.01	Y	0.97	21.6	7300.242	0.709
OCDD	42.19		1.0003	1.0003	0	1.91E+07	0.86	Y	1.07	477	7554.352	1.45
2378-TCDF	25.81		1.0008	1.0009	+0.2	1.80E+06	0.78	Y	0.96	12.7	8120.069	0.679
12378-PeCDF	30.92	J EMPC	1.0006	1.0005	-0.2	1.13E+05	1.18	N	0.95	0.882	6964.386	0.518
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	6964.386	0.54
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.23	-	6821.313	0.526
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	6821.313	0.482
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	6821.313	0.959
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	6821.313	0.679
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	6334.547	0.325
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	6334.547	0.531
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	7552.379	1.36

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.73	1.0273	1.0275	+0.3	1.84E+07	0.79	Y	1.03	80.6
ES 12378-PeCDD	32.42	1.2455	1.2463	+1.6	1.64E+07	1.61	Y	1.03	71.6
ES 123478-HxCDD	36.40	0.9917	0.9918	+0.2	1.53E+07	1.24	Y	0.99	94.8
ES 123678-HxCDD	36.52	0.9948	0.9949	+0.2	1.63E+07	1.27	Y	0.97	103
ES 123789-HxCDD	36.81	1.0028	1.0028	0	1.61E+07	1.26	Y	1.12	88.2
ES 1234678-HpCDD	39.76	1.0830	1.0833	+0.7	1.35E+07	1.12	Y	0.99	84
ES OCDD	42.18	1.1489	1.1492	+0.8	1.49E+07	0.87	Y	0.78	59.2
ES 2378-TCDF	25.78	1.0623	1.0626	+0.5	2.94E+07	0.82	Y	1.08	80.1
ES 12378-PeCDF	30.90	1.2724	1.2733	+1.7	2.70E+07	1.63	Y	0.93	85.6
ES 23478-PeCDF	32.07	1.3205	1.3216	+2.1	2.52E+07	1.67	Y	0.92	80.8
ES 123478-HxCDF	35.42	0.9649	0.9649	0	1.83E+07	0.54	Y	1.14	98.7
ES 123678-HxCDF	35.56	0.9688	0.9688	0	2.30E+07	0.54	Y	1.30	109
ES 234678-HxCDF	36.23	0.9868	0.9871	+0.7	1.25E+07	0.54	Y	1.20	64.3
ES 123789-HxCDF	37.18	1.0129	1.0131	+0.4	1.52E+07	0.55	Y	1.14	82.3
ES 1234678-HpCDF	38.80	1.0569	1.0571	+0.5	1.91E+07	0.44	Y	0.95	124
ES 1234789-HpCDF	40.18	1.0944	1.0947	+0.7	1.08E+07	0.45	Y	0.85	79
ES OCDF	42.34	1.1533	1.1536	+0.8	1.68E+07	0.92	Y	0.93	55.9

Lab ID: B6171_18863_DF_010 | **Acq'd:** 26 Jan 2022 07:41 PSW | **Wt/Vol:** 10.03 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-B-18 | **UTP:** 26-Jan-2022 09:28:57 PSW | **J-level:** 0.498 pg/g | **Split:** 1 | **Checkcode:** 290-389-PPM

Datafile: 220125R28 | **Report:** 26 Jan 2022 11:12 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.02		-	-	-	2.21E+07	0.80	Y	-	-
JS 1234-TCDF	24.27		-	-	-	3.38E+07	0.78	Y	-	-
JS 123467-HxCDD	36.71		-	-	-	8.11E+06	1.39	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0284	+0.3	9.02E+06	n/a	-	1.31	77.8
CS 12347-PeCDD	31.90		1.2257	1.2263	+1.1	1.68E+07	1.72	Y	0.89	85
CS 12346-PeCDF	30.35		1.2496	1.2506	+1.8	2.76E+07	1.61	Y	0.87	93.8
CS 123469-HxCDF	35.87		0.9773	0.9773	0	2.28E+07	0.53	Y	1.09	129
CS 1234689-HpCDF	39.24		1.0687	1.0689	+0.5	1.66E+07	0.44	Y	0.86	118
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0284~~	~~+0.3~~	~~9.02E+06~~	~~n/a~~		~~1.26~~	~~97~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2263~~	~~+1.1~~	~~1.68E+07~~	~~1.72~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2506~~	~~+1.8~~	~~2.76E+07~~	~~1.61~~	~~Y~~	~~0.93~~	~~110~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.28E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~110~~
~~SS 1234689-HpCDF~~	~~39.24~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.66E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~95.1~~

Totals	Conc	EMPC
Total TCDD	9.85	9.85
Total PeCDD	5.39	6.43
Total HxCDD	28.2	30.1
Total HpCDD	85.5	85.5
Total Tetra-Octa Dioxins	606	609
Total TCDF	21.8	24.4
Total PeCDF	0	0.882
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	21.8	25.2
Total Tetra-Octa Dioxins & Furans	628	635

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.813	0.83
Response	4.33E+05	4.28E+05

Lab ID: B6171_18863_DF_010 | Acq'd: 26 Jan 2022 07:41 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-B-18 | UTP: 26-Jan-2022 09:28:57 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 280-389-PPM

Datafile: 220125R28 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		7705.835	0.64
1379-TCDD	NotFnd		0.8642						1.34		7705.835	0.64
1369-TCDD	NotFnd		0.8825						1.34		7705.835	0.64
1469-TCDD	24.47		0.9154	0.9154	0	7.98E+05	0.83	Y	1.34	6.41	7705.835	0.64
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		7705.835	0.64
1378-TCDD	NotFnd		0.9332						1.34		7705.835	0.64
1268-TCDD	NotFnd		0.9415						1.34		7705.835	0.64
1478-TCDD	NotFnd		0.9518						1.34		7705.835	0.64
1279-TCDD	NotFnd		0.9586						1.34		7705.835	0.64
1234/1269-TCDD	NotFnd		0.9734						1.34		7705.835	0.64
1236-TCDD	NotFnd		0.9788						1.34		7705.835	0.64
1237/1238-TCDD	NotFnd		0.9892						1.34		7705.835	0.64
1239-TCDD	NotFnd		0.9944						1.34		7705.835	0.64
2378-TCDD	**26.75**		**1.0008**	1.0010	**+0.3**	4.28E+05	0.83	Y	**1.34**	**3.44**	**7705.835**	**0.64**
1278-TCDD	NotFnd		1.0142						1.34		7705.835	0.64
1267-TCDD	NotFnd		1.0197						1.34		7705.835	0.64
1289-TCDD	NotFnd		1.0401						1.34		7705.835	0.64
12479/12468-PeCDD	29.83	J EMPC	0.9202	0.9201	-0.2	9.08E+04	1.24	N	1.06	1.04	5316.725	0.6
12469-PeCDD	30.39		0.9375	0.9373	-0.4	3.41E+05	1.49	Y	1.06	3.91	5316.725	0.6
12368-PeCDD	NotFnd		0.9553						1.06		5316.725	0.6
12478-PeCDD	NotFnd		0.9613						1.06		5316.725	0.6
12379-PeCDD	NotFnd		0.9644						1.06		5316.725	0.6
12369/12467/12489-PeCDD	31.56	J	0.9730	0.9734	+0.8	1.29E+05	1.51	Y	1.06	1.48	5316.725	0.6
12346/12347-PeCDD	NotFnd		0.9848						1.06		5316.725	0.6
12378-PeCDD	NotFnd		**1.0005**						**1.06**		**5316.725**	**0.6**
12367-PeCDD	NotFnd		1.0035						1.06		5316.725	0.6
12389-PeCDD	NotFnd		1.0146						1.06		5316.725	0.6
124679/124689-HxCDD	34.70		0.9532	0.9531	-0.2	1.93E+06	1.25	Y	1.05	23.1	6711.095	0.685
123468-HxCDD	NotFnd		0.9715						1.05		6711.095	0.685
123679/123689-HxCDD	35.66		0.9795	0.9795	0	4.29E+05	1.33	Y	1.05	5.12	6711.095	0.685
123469-HxCDD	NotFnd		0.9832						1.05		6711.095	0.685
123478-HxCDD	NotFnd		**1.0004**						1.06		**6711.095**	**0.71**
123678-HxCDD	36.53	J EMPC	**1.0035**	**1.0034**	**-0.2**	**7.15E+04**	**1.52**	**N**	1.08	**0.808**	**6711.095**	**0.611**
123467-HxCDD	NotFnd		1.0087						1.05		6711.095	0.685
123789-HxCDD	36.82	J EMPC	**1.0116**	**1.0115**	**-0.2**	**8.60E+04**	**1.48**	**N**	1.02	**1.05**	**6711.095**	**0.742**

Lab ID: B6171_18863_DF_010 | Acq'd: 26 Jan 2022 07:41 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-B-18 | UTP: 26-Jan-2022 09:28:57 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 280-389-PPM

Datafile: 220125R28 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9834	0	4.22E+06	0.98	Y	0.97	63.9	7300.242	0.709
1234678-HpCDD	**39.78**		**1.0003**	**1.0004**	**+0.2**	**1.42E+06**	**1.01**	**Y**	**0.97**	**21.6**	**7300.242**	**0.709**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**1.91E+07**	**0.86**	**Y**	**1.07**	**477**	**7554.352**	**1.45**
OCDD-a	42.19		1.0001	1.0001	0	1.05E+06	2.24	Y	0.07	424	10310.919	32
1368-TCDF	NotFnd		0.7942						0.96		8120.069	0.679
1468-TCDF	NotFnd		0.8155						0.96		8120.069	0.679
2468-TCDF	NotFnd		0.8407						0.96		8120.069	0.679
1346/1246-TCDF	NotFnd		0.8553						0.96		8120.069	0.679
1347/1378/1247-TCDF	NotFnd		0.8617						0.96		8120.069	0.679
1348-TCDF	NotFnd		0.8740						0.96		8120.069	0.679
1248/1367/1379-TCDF	NotFnd		0.8798						0.96		8120.069	0.679
1268-TCDF	NotFnd		0.8967						0.96		8120.069	0.679
1467-TCDF	NotFnd		0.9025						0.96		8120.069	0.679
1478-TCDF	NotFnd		0.9101						0.96		8120.069	0.679
1369/1237-TCDF	NotFnd		0.9263						0.96		8120.069	0.679
2467-TCDF	NotFnd		0.9322						0.96		8120.069	0.679
2368-TCDF	24.21	EMPC	0.9389	0.9388	-0.1	1.03E+05	0.95	N	0.96	0.728	8120.069	0.679
1238/1234/1678/1469/1236-TCDF	24.29	EMPC	0.9427	0.9421	-0.9	1.19E+05	0.89	N	0.96	0.839	8120.069	0.679
1278-TCDF	24.81		0.9623	0.9622	-0.1	8.91E+05	0.72	Y	0.96	6.3	8120.069	0.679
1349-TCDF	NotFnd		0.9678						0.96		8120.069	0.679
1267-TCDF	NotFnd		0.9740						0.96		8120.069	0.679
2346/1249-TCDF	NotFnd		0.9820						0.96		8120.069	0.679
2347/1279-TCDF	NotFnd		0.9915						0.96		8120.069	0.679
2348-TCDF	25.70		0.9964	0.9966	+0.3	1.92E+05	0.72	Y	0.96	1.35	8120.069	0.679
2378-TCDF	**25.81**		**1.0008**	**1.0009**	**+0.2**	**1.80E+06**	**0.78**	**Y**	**0.96**	**12.7**	**8120.069**	**0.679**
2367/3467-TCDF	26.20		1.0163	1.0162	-0.2	1.96E+05	0.81	Y	0.96	1.38	8120.069	0.679
1269-TCDF	NotFnd		1.0265						0.96		8120.069	0.679
1239-TCDF	NotFnd		1.0373						0.96		8120.069	0.679
1289-TCDF	27.99	EMPC	1.0847	1.0855	+1.3	1.46E+05	1.12	N	0.96	1.04	8120.069	0.679
13468/12468-PeCDF	NotFnd		0.9045						0.94		8235.623	0.625
13678/13467/12467-PeCDF	NotFnd		0.9574						0.94		6964.386	0.528
12368/13478/12478-PeCDF	NotFnd		0.9628						0.94		6964.386	0.528
14678-PeCDF	NotFnd		0.9661						0.94		6964.386	0.528
13479-PeCDF	NotFnd		0.9695						0.94		6964.386	0.528
13469/12479-PeCDF	NotFnd		0.9779						0.94		6964.386	0.528
12346-PeCDF	NotFnd		0.9824						0.94		6964.386	0.528

Lab ID: B6171_18863_DF_010 | Acq'd: 26 Jan 2022 07:41 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-SW-B-18 | UTP: 26-Jan-2022 09:28:57 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 280-389-PPM

Datafile: 220125R28 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9857						0.94		6964.386	0.528
12347-PeCDF	NotFnd		0.9882						0.94		6964.386	0.528
12348-PeCDF	NotFnd		0.9935						0.94		6964.386	0.528
12378-PeCDF	**30.92**	J EMPC	**1.0006**	**1.0005**	**-0.2**	**1.13E+05**	**1.18**	**N**	**0.95**	**0.882**	**6964.386**	**0.518**
12678/12367-PeCDF	NotFnd		1.0099						0.94		6964.386	0.528
12379-PeCDF	NotFnd		1.0155						0.94		6964.386	0.528
12679-PeCDF	NotFnd		0.9921						0.94		6964.386	0.528
23467/12369-PeCDF	NotFnd		0.9962						0.94		6964.386	0.528
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**6964.386**	**0.54**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		6964.386	0.528
12349-PeCDF	NotFnd		1.0106						0.94		6964.386	0.528
12389-PeCDF	NotFnd		1.0349						0.94		6964.386	0.528
123468-HxCDF	NotFnd		0.9606						1.16		6821.313	0.622
124678/134678-HxCDF	NotFnd		0.9663						1.16		6821.313	0.622
134679-HxCDF	NotFnd		0.9729						1.16		6821.313	0.622
124679-HxCDF	NotFnd		0.9786						1.16		6821.313	0.622
124689-HxCDF	NotFnd		0.9851						1.16		6821.313	0.622
123467-HxCDF	NotFnd		0.9970						1.16		6821.313	0.622
123478-HxCDF	**NotFnd**		**1.0004**						**1.23**		**6821.313**	**0.526**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**6821.313**	**0.482**
123479-HxCDF	NotFnd		1.0050						1.16		6821.313	0.622
123469-HxCDF	NotFnd		1.0091						1.16		6821.313	0.622
123679-HxCDF	NotFnd		0.9942						1.16		6821.313	0.622
234678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**6821.313**	**0.959**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		6821.313	0.622
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**6821.313**	**0.679**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		6821.313	0.622
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**6334.547**	**0.325**
1234679-HpCDF	NotFnd		1.0076						1.33		6334.547	0.4
1234689-HpCDF	NotFnd		1.0114						1.33		6334.547	0.4
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**6334.547**	**0.531**
OCDF	**NotFnd**		**1.0003**						**1.03**		**7552.379**	**1.36**
OCDF-a	NotFnd		1.0001						0.06		9962.861	30.9

SGS ID: B6171_18853_DF_010 | Sample ID: 11215131-010722-S-BN-SW-B-18 | Acq: 26-Jan-2022 07:41:59

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: PSW Datafile: 220125R28



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW)

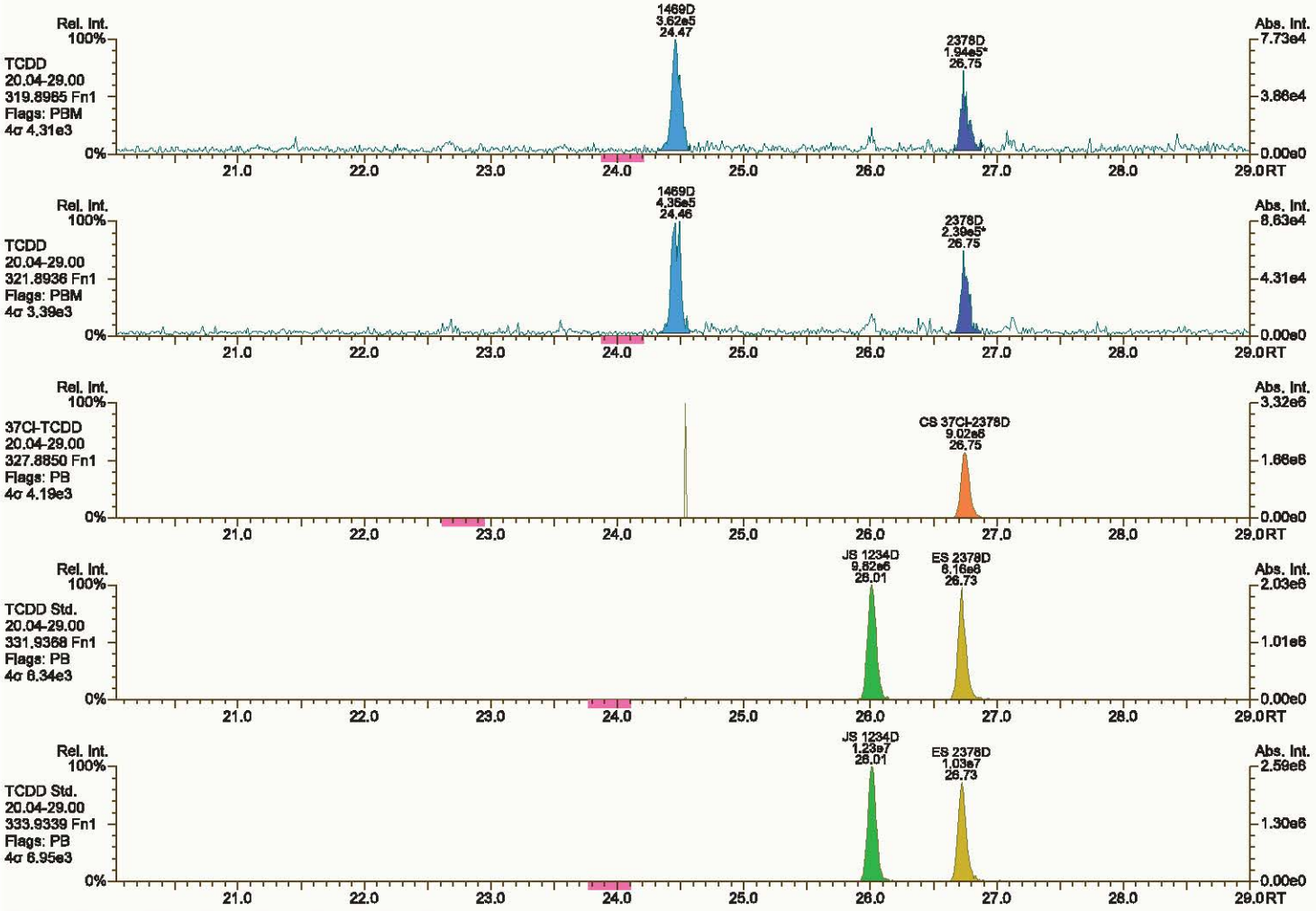
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 290-389

PKD: n/a Printed: 26-Jan-2022 11:21 Page 1 of 12

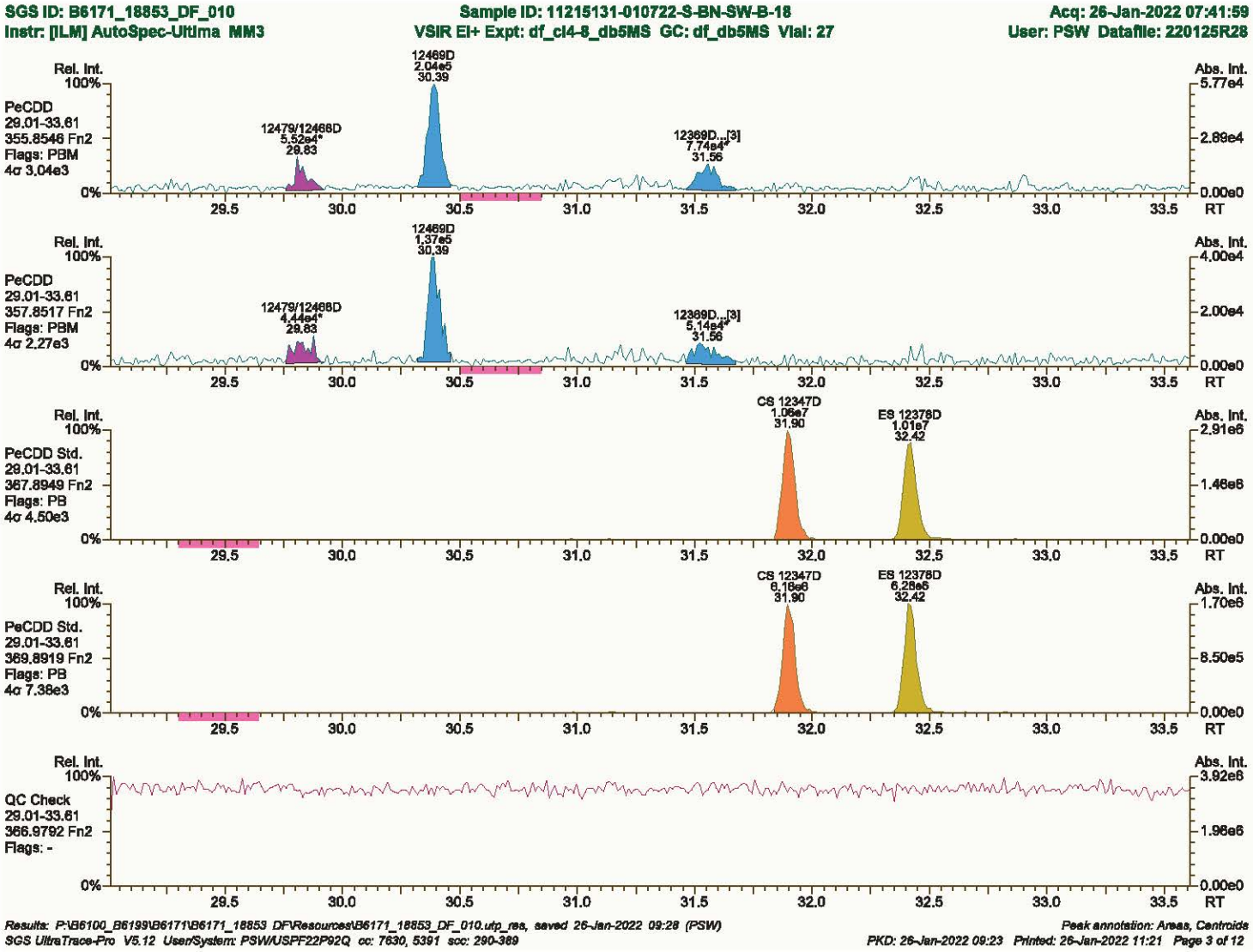
SGS ID: B6171_18853_DF_010 | Sample ID: 11215131-010722-S-BN-SW-B-18 | Acq: 26-Jan-2022 07:41:59

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: PSW Datafile: 220125R28

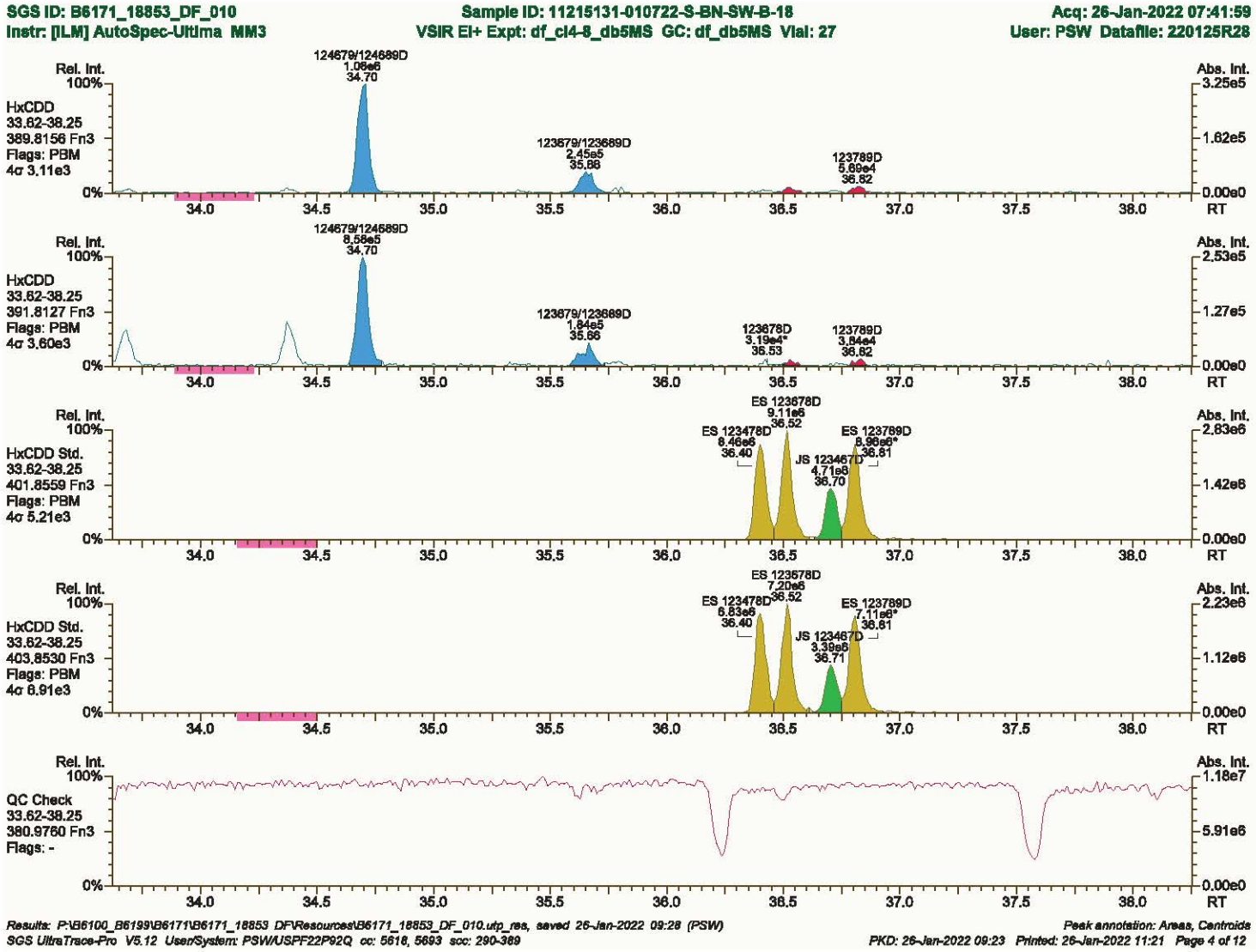


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3946, 4794, 9150 scc: 290-369 | *PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:21 Page 2 of 12*

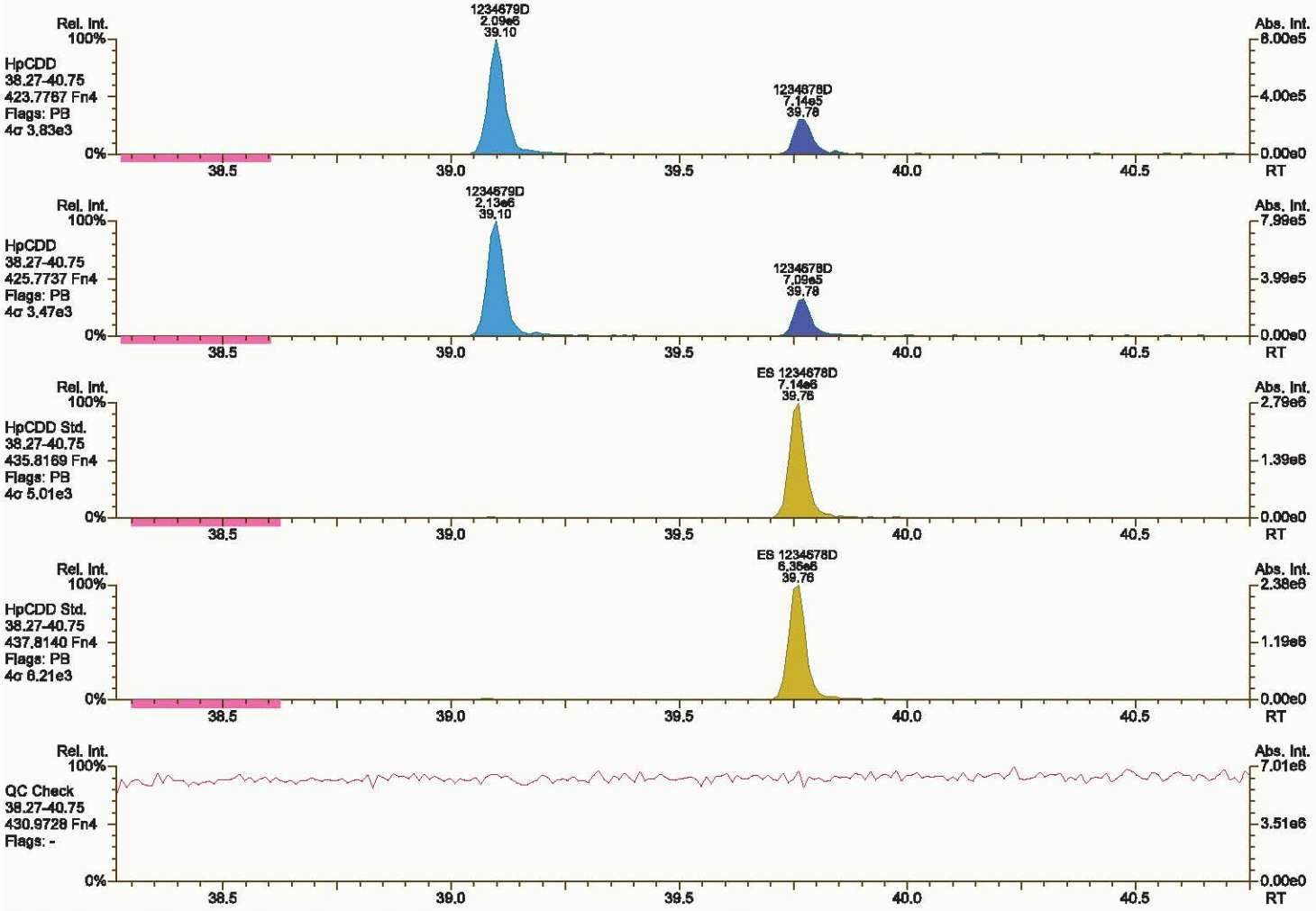


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7630, 5391 scc: 290-369
PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:21 Page 3 of 12


SGS ID: B6171_18853_DF_010
Sample ID: 11215131-010722-S-BN-SW-B-18
Acq: 26-Jan-2022 07:41:59
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220125R28
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 3.11e3
124679/124689D
1.06e6
34.70
123679/123689D
2.45e5
35.86
123789D
5.69e4
36.82
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 3.60e3
124679/124689D
8.58e5
34.70
123679/123689D
1.84e5
35.86
123678D
3.19e4*
36.53
123789D
3.84e4
36.82
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 5.21e3
ES 123678D
9.11e6
36.52
ES 123478D
8.46e6
36.40
ES 123789D
8.96e6*
36.81
JS 123467D
4.71e8
36.70
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 6.91e3
ES 123678D
7.20e6
36.52
ES 123478D
6.83e6
36.40
ES 123789D
7.11e6*
36.81
JS 123467D
3.39e6
36.71
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
3.25e5
1.62e5
0.00e0
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2.83e6
1.42e6
2.23e6
1.12e6
1.18e7
5.91e6

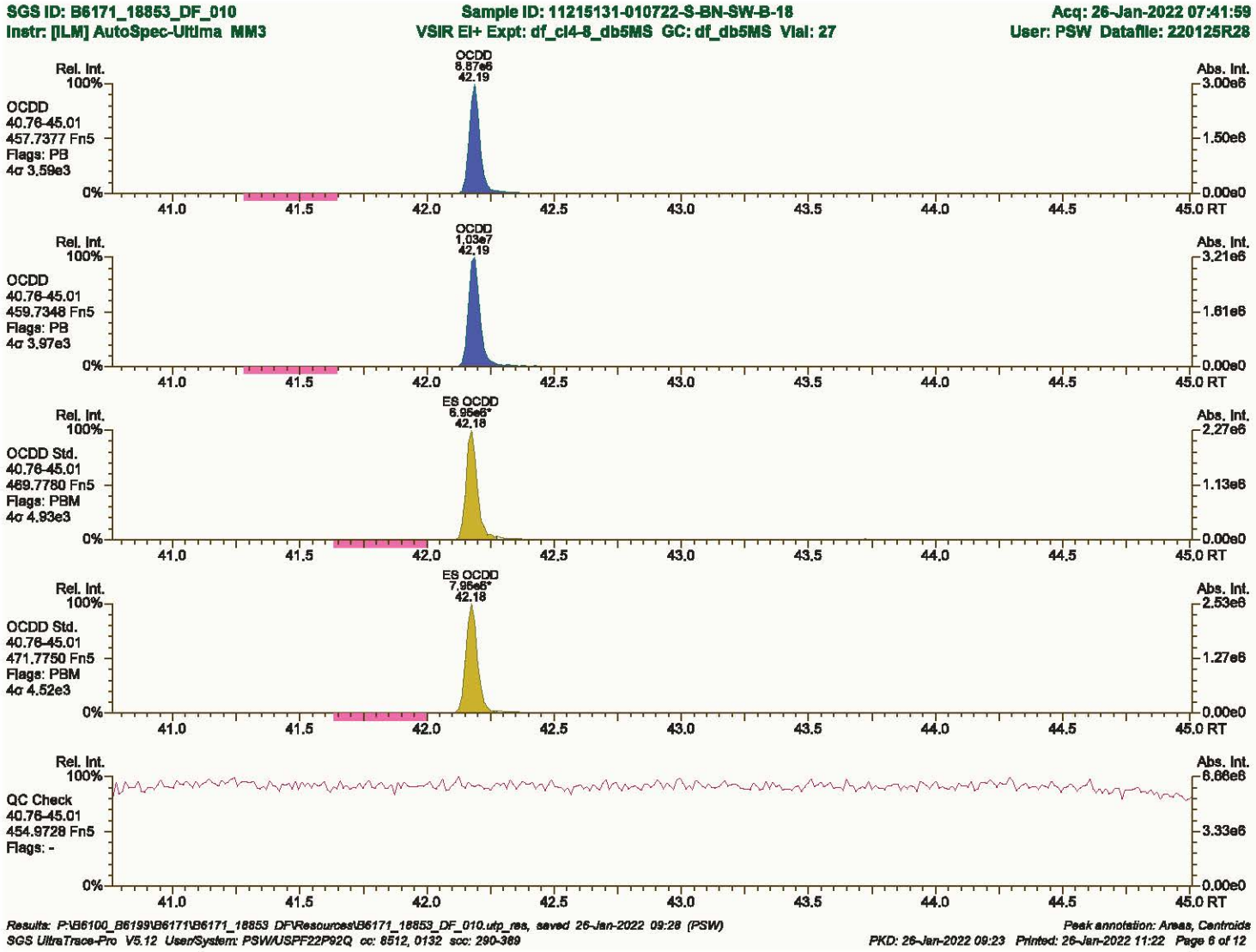
SGS ID: B6171_18853_DF_010 | Sample ID: 11215131-010722-S-BN-SW-B-18 | Acq: 26-Jan-2022 07:41:59

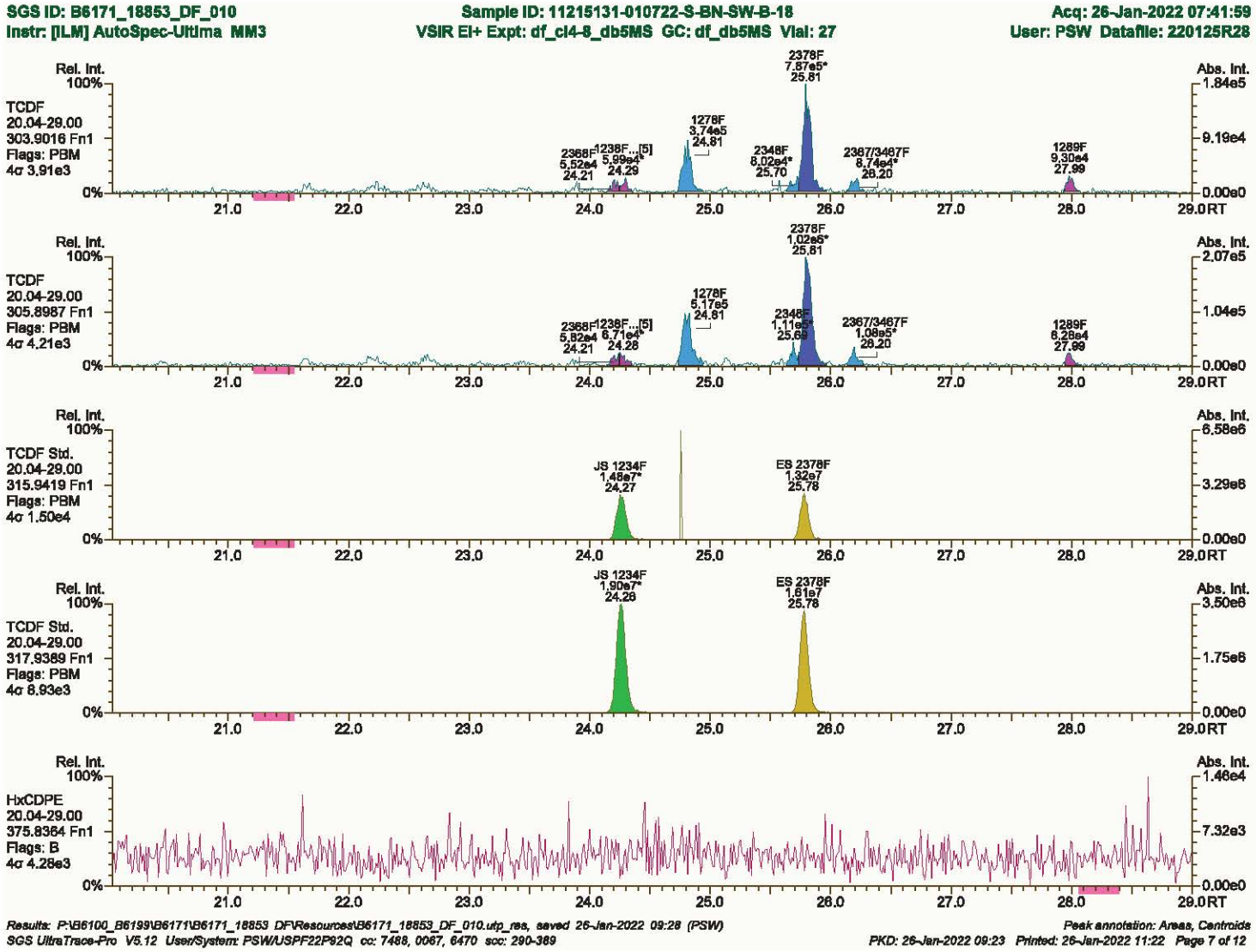
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: PSW Datafile: 220125R28

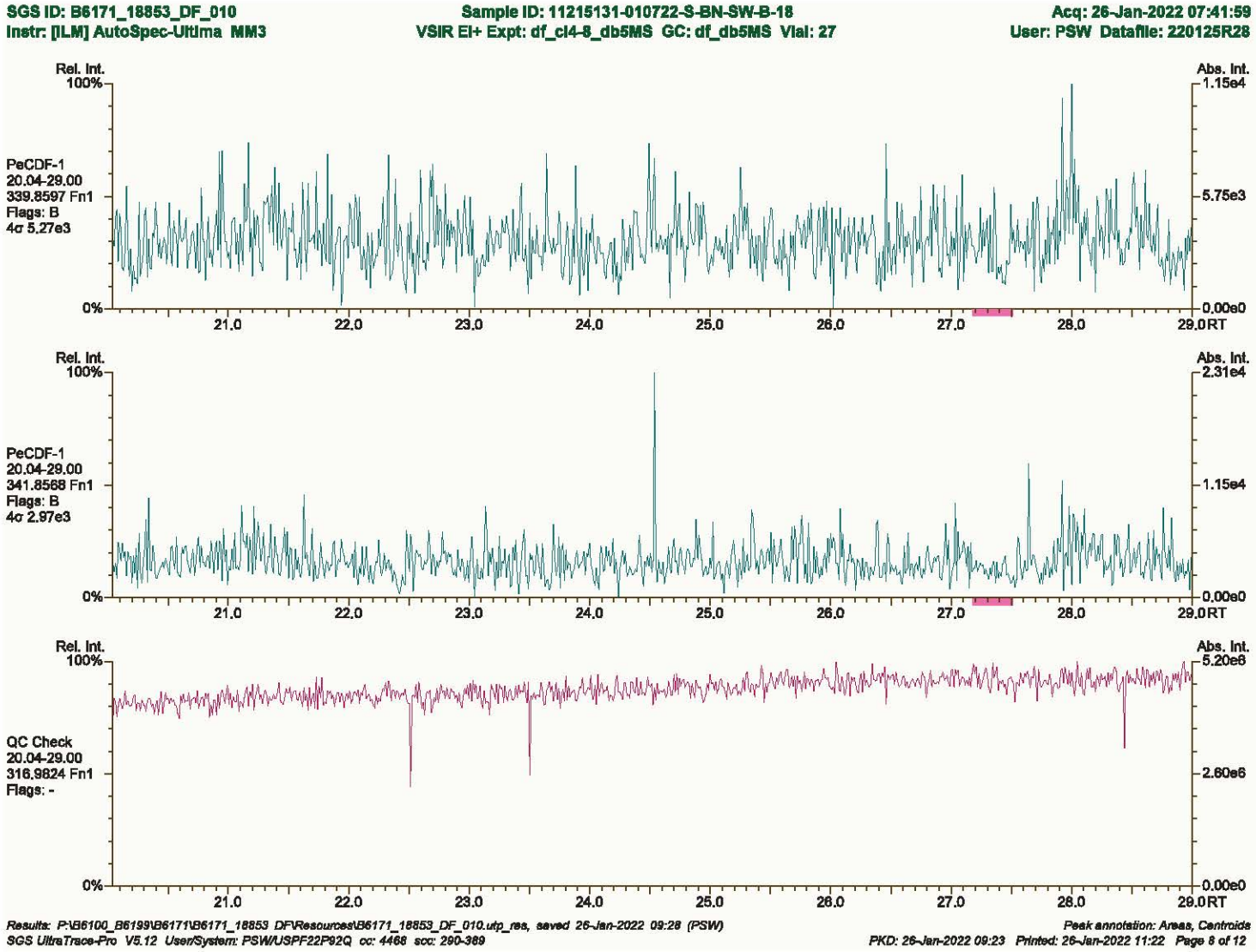


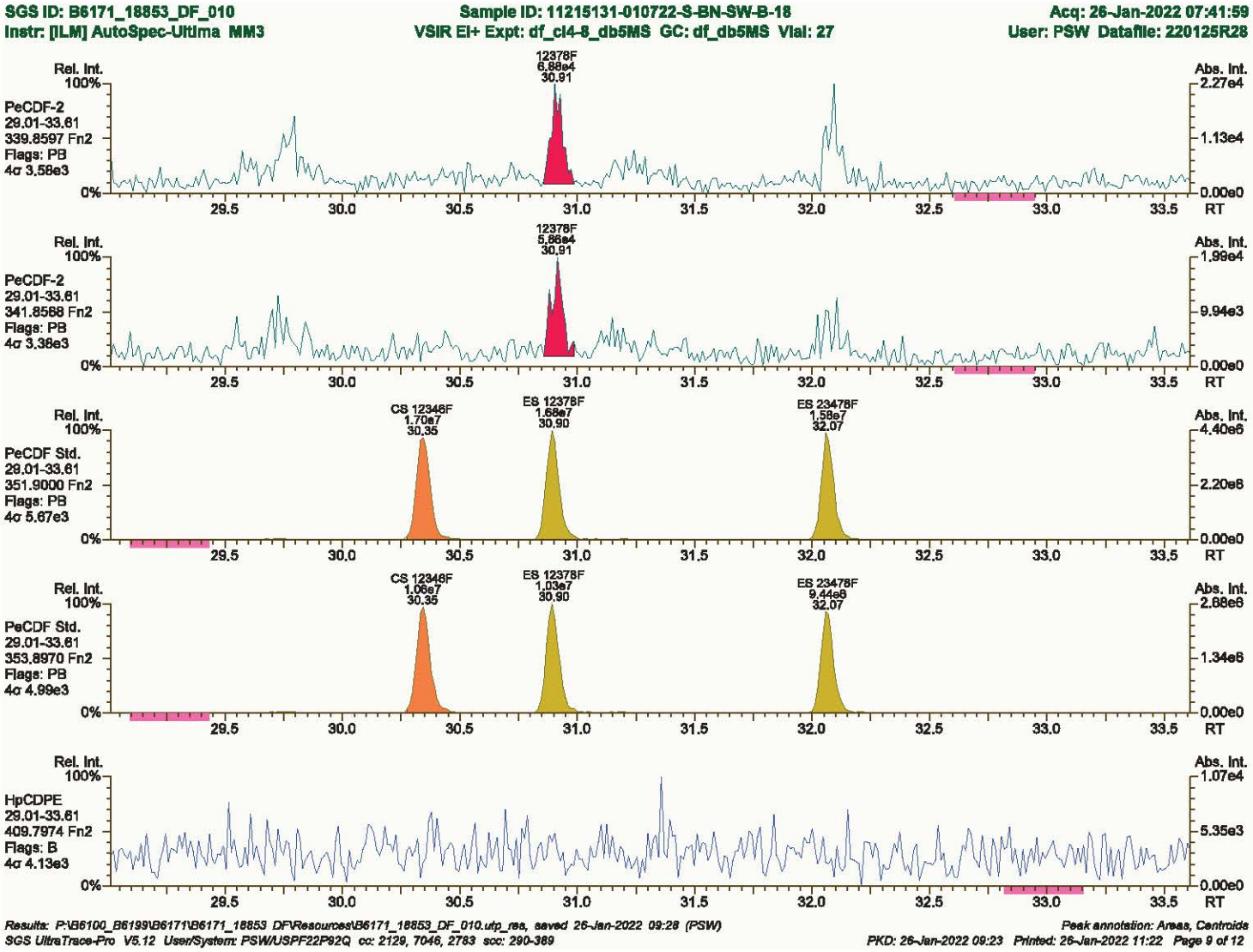
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7636, 3622 scc: 290-389 | *PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 5 of 12*


SGS ID: B6171_18853_DF_010
Sample ID: 11215131-010722-S-BN-SW-B-18
Acq: 26-Jan-2022 07:41:59
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220125R28
Rel. Int.
Abs. Int.
OCDD
6.87e6
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 3.59e3
3.00e6
1.50e6
0.00e0
OCDD
1.03e7
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 3.97e3
3.21e6
1.61e6
ES OCDD
6.95e6*
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PBM
4σ 4.93e3
2.27e6
1.13e6
ES OCDD
7.95e6*
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PBM
4σ 4.52e3
2.53e6
1.27e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
6.66e6
3.33e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8512, 0132 scc: 290-389
PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 6 of 12

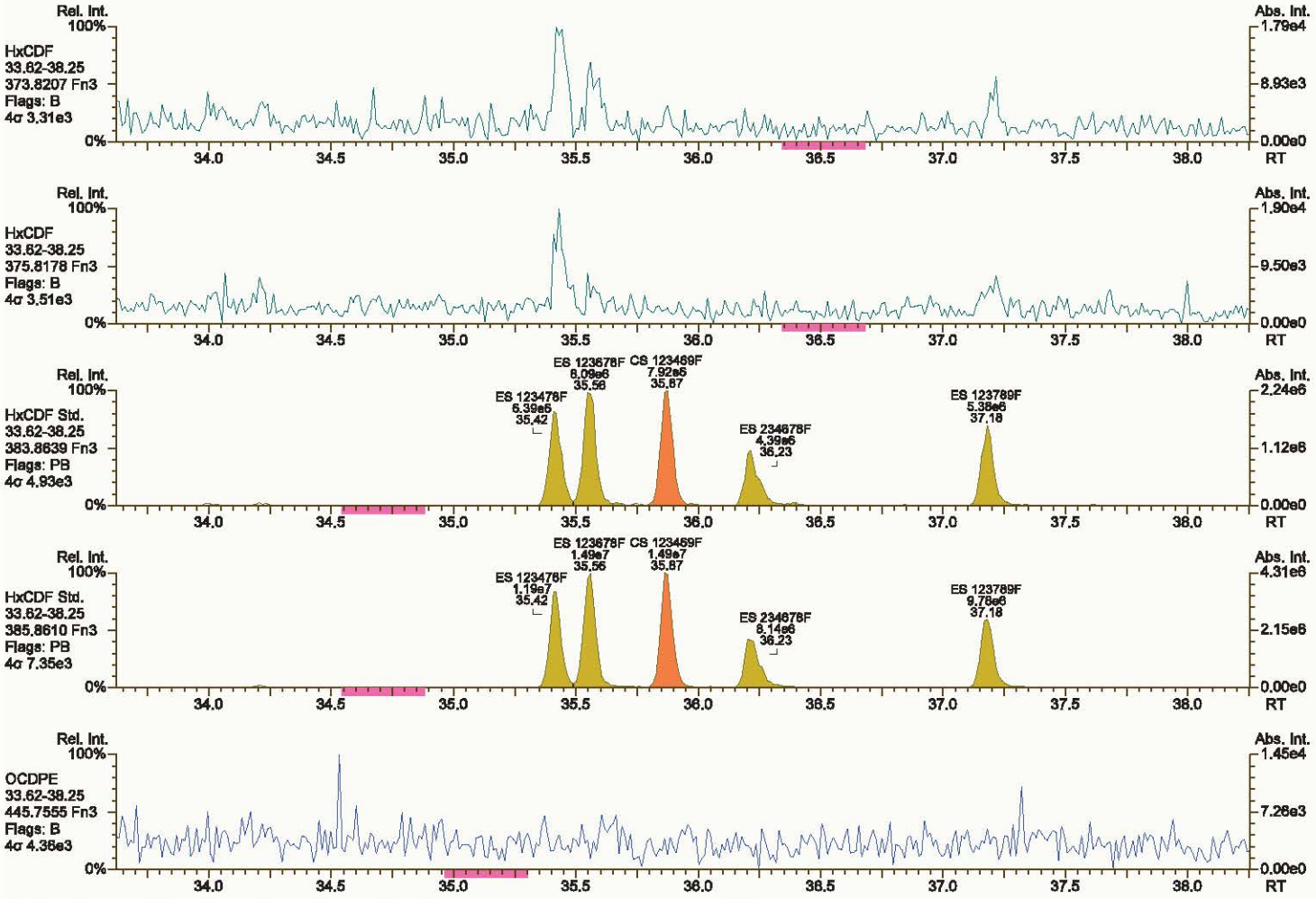

SGS ID: B6171_18853_DF_010
Sample ID: 11215131-010722-S-BN-SW-B-18
Acq: 26-Jan-2022 07:41:59
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220125R28
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 3.91e3
2378F 7.87e5* 25.81
1278F 3.74e5 24.81
2368F 5.52e4 24.21
1238F...[5] 5.99e4* 24.29
2348F 8.02e4* 25.70
2367/3467F 8.74e4* 26.20
1289F 9.30e4 27.99
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 4.21e3
2378F 1.02e5* 25.81
1278F 5.17e5 24.81
2368F 5.82e4 24.21
1238F...[5] 6.71e4* 24.28
2348F 1.11e5* 25.69
2367/3467F 1.08e5* 26.20
1289F 6.28e4 27.99
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PBM
4σ 1.50e4
JS 1234F 1.48e7* 24.27
ES 2378F 1.32e7 25.78
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PBM
4σ 8.93e3
JS 1234F 1.90e7* 24.26
ES 2378F 1.61e7 25.78
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.28e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: B6171_18853_DF_010
Sample ID: 11215131-010722-S-BN-SW-B-18
Acq: 26-Jan-2022 07:41:59
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220125R28
Rel. Int.
100%
Abs. Int.
1.15e4
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 5.27e3
5.75e3
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
Abs. Int.
2.31e4
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 2.97e3
1.15e4
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
Abs. Int.
5.20e6
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
2.60e6
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4468 scc: 290-389
PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 8 of 12


SGS ID: B6171_18853_DF_010
Sample ID: 11215131-010722-S-BN-SW-B-18
Acq: 26-Jan-2022 07:41:59
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: PSW Datafile: 220125R28
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 3.58e3
12378F
6.88e4
30.91
2.27e4
1.13e4
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 3.38e3
12378F
5.86e4
30.91
1.99e4
9.94e3
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 5.67e3
CS 12346F
1.70e7
30.35
ES 12378F
1.68e7
30.90
ES 23478F
1.58e7
32.07
4.40e6
2.20e6
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 4.99e3
CS 12346F
1.06e7
30.35
ES 12378F
1.03e7
30.90
ES 23478F
9.44e6
32.07
2.68e6
1.34e6
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.13e3
1.07e4
5.35e3
0%
100%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2129, 7046, 2783 scc: 290-369
PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 9 of 12

SGS ID: B6171_18853_DF_010 | Sample ID: 11215131-010722-S-BN-SW-B-18 | Acq: 26-Jan-2022 07:41:59

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: PSW Datafile: 220125R28



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW)

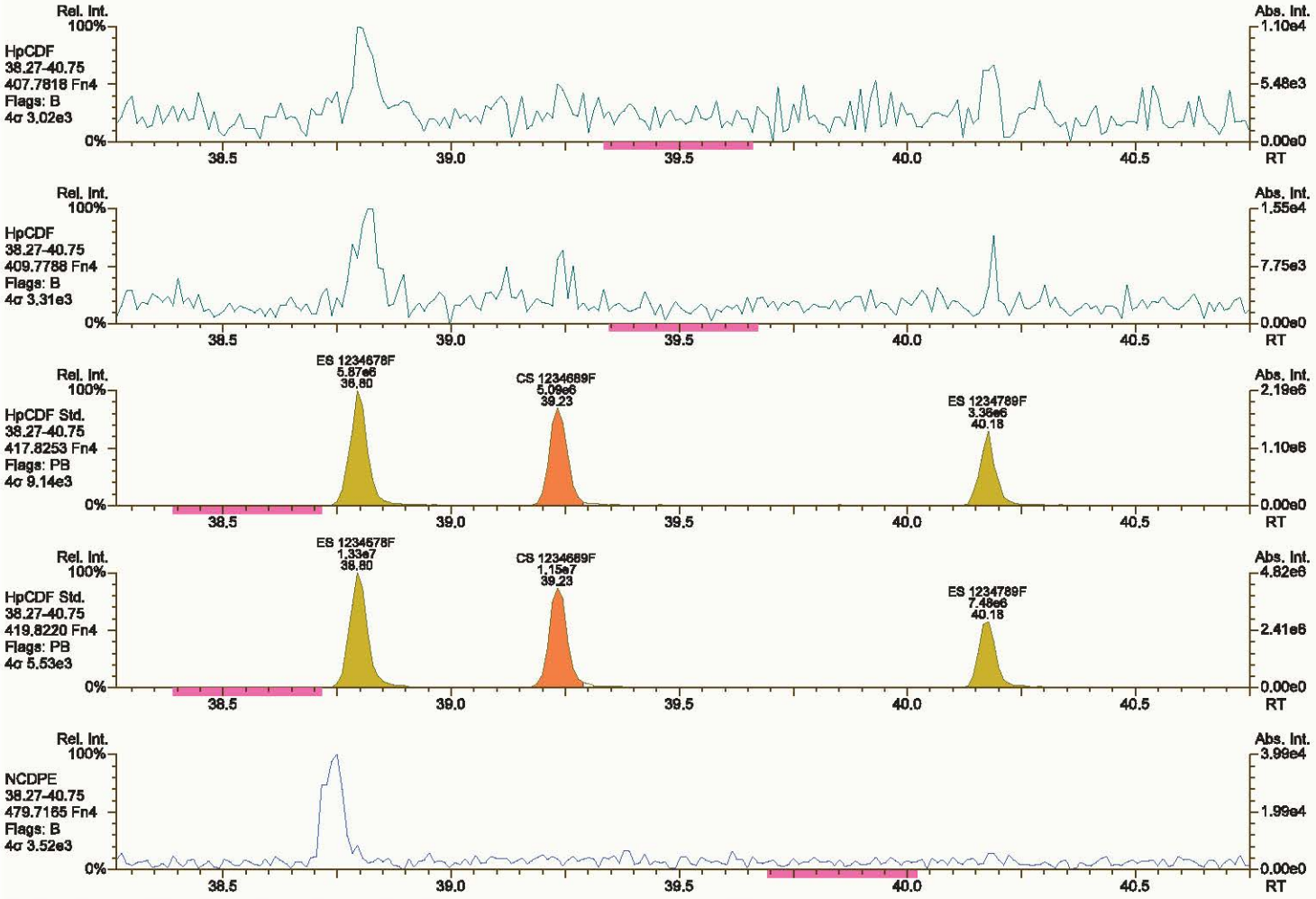
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9951, 5307, 5632 scc: 290-369

PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 10 of 12

SGS ID: B6171_18853_DF_010 | Sample ID: 11215131-010722-S-BN-SW-B-18 | Acq: 26-Jan-2022 07:41:59

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: PSW Datafile: 220125R28

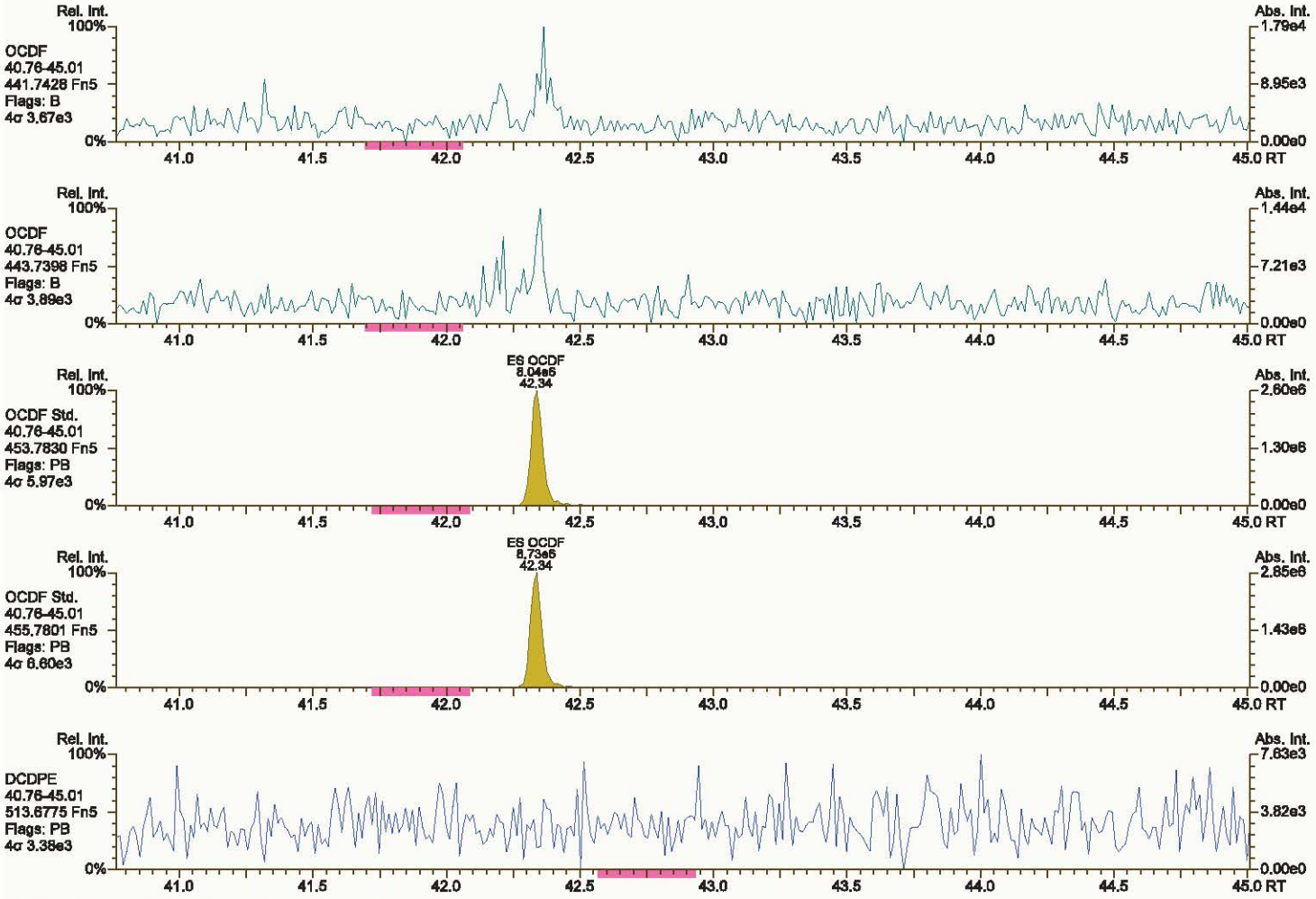


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1793, 6600, 7783 scc: 290-369 *PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 11 of 12*

SGS ID: B6171_18853_DF_010 | Sample ID: 11215131-010722-S-BN-SW-B-18 | Acq: 26-Jan-2022 07:41:59

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: PSW Datafile: 220125R28



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_010.utp_res, saved 26-Jan-2022 09:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0239, 6691, 3135 scc: 290-369 *PKD: 26-Jan-2022 09:23 Printed: 26-Jan-2022 11:22 Page 12 of 12*

Lab ID: B6171_18863_DF_011 | Acq'd: 26 Jan 2022 08:29 PSW | Wt/Vol: 10.04 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-33 | UTP: 26-Jan-2022 09:28:58 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 908-477-WSH

Datafile: 220125R29 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.74		1.0008	1.0009	+0.2	6.02E+06	0.77	Y	1.34	42.7	8123.056	0.686
12378-PeCDD	32.43	J	1.0005	1.0004	-0.2	1.38E+05	1.45	Y	1.06	1.39	9472.989	0.874
123478-HxCDD	36.40	J EMPC	1.0004	1.0002	-0.4	1.75E+05	1.55	N	1.06	1.84	9317.624	0.797
123678-HxCDD	36.52		1.0035	1.0035	0	7.39E+05	1.32	Y	1.08	7.6	9317.624	0.808
123789-HxCDD	36.81		1.0116	1.0115	-0.2	3.90E+05	1.24	Y	1.02	4.03	9317.624	0.818
1234678-HpCDD	39.77		1.0003	1.0004	+0.2	1.99E+07	1.08	Y	0.97	249	8590.686	0.676
OCDD	42.18		1.0003	1.0002	-0.3	1.70E+08	0.90	Y	1.07	3,110	9266.356	1.26
2378-TCDF	25.80		1.0008	1.0009	+0.2	2.53E+07	0.81	Y	0.96	155	10824.222	0.792
12378-PeCDF	30.90		1.0006	1.0005	-0.2	1.09E+06	1.69	Y	0.95	7.56	9333.802	0.65
23478-PeCDF	32.09		1.0006	1.0009	+0.6	8.24E+05	1.54	Y	0.94	6.07	9333.802	0.624
123478-HxCDF	35.42		1.0004	1.0005	+0.2	1.80E+06	1.19	Y	1.23	13.4	10961.281	0.666
123678-HxCDF	35.56		1.0004	1.0004	0	5.91E+05	1.27	Y	1.13	3.99	10961.281	0.622
234678-HxCDF	36.22	J EMPC	1.0005	1.0002	-0.7	1.77E+05	1.00	N	1.15	2.18	10961.281	1.45
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	10961.281	0.794
1234678-HpCDF	38.80		1.0003	1.0003	0	6.29E+06	1.02	Y	1.36	43	8617.621	0.404
1234789-HpCDF	40.18		1.0002	1.0003	+0.2	3.86E+05	1.02	Y	1.30	4.12	8617.621	0.608
OCDF	42.34		1.0003	1.0003	0	1.39E+07	0.90	Y	1.03	226	9863.428	1.22

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.72		1.0273	1.0275	+0.3	2.09E+07	0.76	Y	1.03	86.5
ES 12378-PeCDD	32.41		1.2455	1.2464	+1.8	1.88E+07	1.60	Y	1.03	77.6
ES 123478-HxCDD	36.39		0.9917	0.9918	+0.2	1.79E+07	1.30	Y	0.99	96.9
ES 123678-HxCDD	36.51		0.9948	0.9948	0	1.79E+07	1.25	Y	0.97	99.3
ES 123789-HxCDD	36.80		1.0028	1.0027	-0.2	1.89E+07	1.27	Y	1.12	90.9
ES 1234678-HpCDD	39.75		1.0830	1.0833	+0.7	1.63E+07	1.10	Y	0.99	88.8
ES OCDD	42.17		1.1489	1.1493	+1.0	2.04E+07	0.94	Y	0.78	70.8
ES 2378-TCDF	25.77		1.0623	1.0626	+0.5	3.39E+07	0.76	Y	1.08	81.4
ES 12378-PeCDF	30.89		1.2724	1.2735	+2.0	3.05E+07	1.62	Y	0.93	85.1
ES 23478-PeCDF	32.06		1.3205	1.3218	+2.5	2.88E+07	1.65	Y	0.92	81.4
ES 123478-HxCDF	35.41		0.9649	0.9649	0	2.17E+07	0.50	Y	1.14	102
ES 123678-HxCDF	35.55		0.9688	0.9688	0	2.61E+07	0.55	Y	1.30	108
ES 234678-HxCDF	36.22		0.9868	0.9869	+0.2	1.41E+07	0.52	Y	1.20	63.3
ES 123789-HxCDF	37.17		1.0129	1.0130	+0.2	1.95E+07	0.54	Y	1.14	92.6
ES 1234678-HpCDF	38.79		1.0569	1.0571	+0.5	2.14E+07	0.44	Y	0.95	122
ES 1234789-HpCDF	40.17		1.0944	1.0947	+0.7	1.44E+07	0.47	Y	0.85	91.5
ES OCDF	42.33		1.1533	1.1536	+0.8	2.38E+07	0.91	Y	0.93	69.4

Lab ID: B6171_18863_DF_011 | Acq'd: 26 Jan 2022 08:29 PSW | Wt/Vol: 10.04 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-33 | UTP: 26-Jan-2022 09:28:58 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 908-477-WSH

Datafile: 220125R29 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.00		-	-	-	2.34E+07	0.83	Y	-	-
JS 1234-TCDF	24.25		-	-	-	3.84E+07	0.79	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	9.26E+06	1.20	Y	-	-
CS 37Cl-2378-TCDD	26.74		1.0282	1.0284	+0.3	1.03E+07	n/a	-	1.31	84
CS 12347-PeCDD	31.89		1.2257	1.2265	+1.5	1.77E+07	1.64	Y	0.89	84.6
CS 12346-PeCDF	30.34		1.2496	1.2507	+2.0	3.05E+07	1.58	Y	0.87	91.5
CS 123469-HxCDF	35.86		0.9773	0.9773	0	2.50E+07	0.52	Y	1.09	124
CS 1234689-HpCDF	39.23		1.0687	1.0691	+0.9	2.00E+07	0.47	Y	0.86	125
~~SS 37Cl-2378-TCDD~~	~~26.74~~		~~1.0282~~	~~1.0284~~	~~+0.3~~	~~1.03E+07~~	~~n/a~~		~~1.26~~	~~97.6~~
~~SS 12347-PeCDD~~	~~31.89~~		~~1.2257~~	~~1.2265~~	~~+1.5~~	~~1.77E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~30.34~~		~~1.2496~~	~~1.2507~~	~~+2.0~~	~~3.05E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~107~~
~~SS 123469-HxCDF~~	~~35.86~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.50E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~114~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0691~~	~~+0.9~~	~~2.00E+07~~	~~0.47~~	~~Y~~	~~0.91~~	~~102~~

Totals	Conc	EMPC
Total TCDD	49.3	52
Total PeCDD	6.51	9.98
Total HxCDD	110	112
Total HpCDD	799	799
Total Tetra-Octa Dioxins	4080	4090
Total TCDF	274	281
Total PeCDF	26.7	35.5
Total HxCDF	62.6	67.1
Total HpCDF	113	114
Total Tetra-Octa Furans	702	724
Total Tetra-Octa Dioxins & Furans	4780	4810

Lab ID: B6171_18863_DF_011 | Acq'd: 26 Jan 2022 08:29 PSW | Wt/Vol: 10.04 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-33 | UTP: 26-Jan-2022 09:28:58 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 908-477-WSH

Datafile: 220125R29 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.65		0.8486	0.8476	-1.4	1.98E+05	0.75	Y	1.34	1.4	8123.056	0.686
1379-TCDD	NotFnd		0.8642						1.34		8123.056	0.686
1369-TCDD	NotFnd		0.8825						1.34		8123.056	0.686
1469-TCDD	24.45	EMPC	0.9154	0.9152	-0.3	3.75E+05	0.89	N	1.34	2.66	8123.056	0.686
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		8123.056	0.686
1378-TCDD	NotFnd		0.9332						1.34		8123.056	0.686
1268-TCDD	NotFnd		0.9415						1.34		8123.056	0.686
1478-TCDD	NotFnd		0.9518						1.34		8123.056	0.686
1279-TCDD	NotFnd		0.9586						1.34		8123.056	0.686
1234/1269-TCDD	NotFnd		0.9734						1.34		8123.056	0.686
1236-TCDD	NotFnd		0.9788						1.34		8123.056	0.686
1237/1238-TCDD	26.44		0.9892	0.9894	+0.3	1.72E+05	0.71	Y	1.34	1.22	8123.056	0.686
1239-TCDD	NotFnd		0.9944						1.34		8123.056	0.686
2378-TCDD	**26.74**		**1.0008**	1.0009	**+0.2**	6.02E+06	0.77	Y	**1.34**	**42.7**	**8123.056**	**0.686**
1278-TCDD	27.10		1.0142	1.0144	+0.3	5.69E+05	0.78	Y	1.34	4.03	8123.056	0.686
1267-TCDD	NotFnd		1.0197						1.34		8123.056	0.686
1289-TCDD	NotFnd		1.0401						1.34		8123.056	0.686
12479/12468-PeCDD	29.82	EMPC	0.9202	0.9200	-0.4	3.46E+05	1.28	N	1.06	3.47	9472.989	0.874
12469-PeCDD	30.38		0.9375	0.9374	-0.2	3.35E+05	1.75	Y	1.06	3.36	9472.989	0.874
12368-PeCDD	NotFnd		0.9553						1.06		9472.989	0.874
12478-PeCDD	NotFnd		0.9613						1.06		9472.989	0.874
12379-PeCDD	NotFnd		0.9644						1.06		9472.989	0.874
12369/12467/12489-PeCDD	31.54	J	0.9730	0.9732	+0.4	1.76E+05	1.73	Y	1.06	1.76	9472.989	0.874
12346/12347-PeCDD	NotFnd		0.9848						1.06		9472.989	0.874
12378-PeCDD	32.43	J	**1.0005**	**1.0004**	**-0.2**	**1.38E+05**	**1.45**	**Y**	**1.06**	**1.39**	**9472.989**	**0.874**
12367-PeCDD	NotFnd		1.0035						1.06		9472.989	0.874
12389-PeCDD	NotFnd		1.0146						1.06		9472.989	0.874
124679/124689-HxCDD	34.69		0.9532	0.9531	-0.2	5.36E+06	1.30	Y	1.05	55.7	9317.624	0.807
123468-HxCDD	35.35		0.9715	0.9712	-0.6	6.28E+05	1.37	Y	1.05	6.53	9317.624	0.807
123679/123689-HxCDD	35.65		0.9795	0.9796	+0.2	2.54E+06	1.29	Y	1.05	26.4	9317.624	0.807
123469-HxCDD	35.77		0.9832	0.9829	-0.6	7.20E+05	1.42	Y	1.05	7.48	9317.624	0.807
123478-HxCDD	36.40	J EMPC	**1.0004**	**1.0002**	**-0.4**	**1.75E+05**	**1.55**	**N**	1.06	**1.84**	**9317.624**	**0.797**
123678-HxCDD	36.52		**1.0035**	**1.0035**	**0**	**7.39E+05**	**1.32**	**Y**	1.08	**7.6**	**9317.624**	**0.808**
123467-HxCDD	36.71	J	1.0087	1.0088	+0.2	2.20E+05	1.23	Y	1.05	2.29	9317.624	0.807
123789-HxCDD	36.81		**1.0116**	**1.0115**	**-0.2**	**3.90E+05**	**1.24**	**Y**	1.02	**4.03**	**9317.624**	**0.818**

Lab ID: B6171_18863_DF_011 **Acq'd:** 26 Jan 2022 08:29 PSW **Wt/Vol:** 10.04 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-33 **UTP:** 26-Jan-2022 09:28:58 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 908-477-WSH

Datafile: 220125R29 **Report:** 26 Jan 2022 11:12 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.09		0.9834	0.9834	0	4.39E+07	1.05	Y	0.97	550	8590.686	0.676
1234678-HpCDD	**39.77**		**1.0003**	**1.0004**	**+0.2**	**1.99E+07**	**1.08**	**Y**	**0.97**	**249**	**8590.686**	**0.676**
OCDD	**42.18**		**1.0003**	**1.0002**	**-0.3**	**1.70E+08**	**0.90**	**Y**	**1.07**	**3,110**	**9266.356**	**1.26**
OCDD-a	42.18		1.0001	1.0002	+0.3	1.00E+07	2.57	Y	0.07	2,970	12801.02	28.3
1368-TCDF	NotFnd		0.7942						0.96		10824.222	0.792
1468-TCDF	NotFnd		0.8155						0.96		10824.222	0.792
2468-TCDF	21.65		0.8407	0.8398	-1.2	2.63E+05	0.86	Y	0.96	1.61	10824.222	0.792
1346/1246-TCDF	NotFnd		0.8553						0.96		10824.222	0.792
1347/1378/1247-TCDF	22.23		0.8617	0.8627	+1.3	3.39E+05	0.78	Y	0.96	2.08	10824.222	0.792
1348-TCDF	22.50	EMPC	0.8740	0.8731	-1.2	1.06E+05	0.94	N	0.96	0.652	10824.222	0.792
1248/1367/1379-TCDF	22.62		0.8798	0.8776	-3.0	9.93E+05	0.84	Y	0.96	6.09	10824.222	0.792
1268-TCDF	23.09		0.8967	0.8961	-0.8	5.20E+05	0.70	Y	0.96	3.18	10824.222	0.792
1467-TCDF	23.24		0.9025	0.9017	-1.1	1.58E+05	0.78	Y	0.96	0.97	10824.222	0.792
1478-TCDF	23.44		0.9101	0.9094	-1.0	9.63E+05	0.79	Y	0.96	5.9	10824.222	0.792
1369/1237-TCDF	23.86		0.9263	0.9258	-0.7	2.91E+05	0.82	Y	0.96	1.78	10824.222	0.792
2467-TCDF	NotFnd		0.9322						0.96		10824.222	0.792
2368-TCDF	24.21		0.9389	0.9393	+0.6	1.36E+06	0.75	Y	0.96	8.32	10824.222	0.792
1238/1234/1678/1469/1236-TCDF	24.30	EMPC	0.9427	0.9427	0	6.04E+05	0.95	N	0.96	3.7	10824.222	0.792
1278-TCDF	24.79		0.9623	0.9620	-0.4	7.92E+06	0.80	Y	0.96	48.5	10824.222	0.792
1349-TCDF	NotFnd		0.9678						0.96		10824.222	0.792
1267-TCDF	25.10		0.9740	0.9737	-0.5	7.04E+05	0.85	Y	0.96	4.31	10824.222	0.792
2346/1249-TCDF	NotFnd		0.9820						0.96		10824.222	0.792
2347/1279-TCDF	25.55		0.9915	0.9912	-0.5	3.26E+05	0.80	Y	0.96	2	10824.222	0.792
2348-TCDF	25.67		0.9964	0.9958	-0.9	1.10E+06	0.76	Y	0.96	6.77	10824.222	0.792
2378-TCDF	**25.80**		**1.0008**	**1.0009**	**+0.2**	**2.53E+07**	**0.81**	**Y**	**0.96**	**155**	**10824.222**	**0.792**
2367/3467-TCDF	26.18		1.0163	1.0160	-0.5	2.93E+06	0.76	Y	0.96	18	10824.222	0.792
1269-TCDF	26.46	EMPC	1.0265	1.0266	+0.2	3.49E+05	0.91	N	0.96	2.14	10824.222	0.792
1239-TCDF	NotFnd		1.0373						0.96		10824.222	0.792
1289-TCDF	27.97		1.0847	1.0852	+0.8	1.53E+06	0.87	Y	0.96	9.39	10824.222	0.792
13468/12468-PeCDF	27.95	EMPC	0.9045	0.9049	+0.7	1.01E+06	1.31	N	0.94	7.21	9997.157	0.683
13678/13467/12467-PeCDF	29.58	J	0.9574	0.9577	+0.5	2.29E+05	1.60	Y	0.94	1.63	9333.802	0.638
12368/13478/12478-PeCDF	29.75		0.9628	0.9632	+0.7	8.99E+05	1.74	Y	0.94	6.41	9333.802	0.638
14678-PeCDF	29.85	J	0.9661	0.9662	+0.2	8.97E+04	1.58	Y	0.94	0.64	9333.802	0.638
13479-PeCDF	NotFnd		0.9695						0.94		9333.802	0.638
13469/12479-PeCDF	NotFnd		0.9779						0.94		9333.802	0.638
12346-PeCDF	NotFnd		0.9824						0.94		9333.802	0.638

Lab ID: B6171_18863_DF_011 | Acq'd: 26 Jan 2022 08:29 PSW | Wt/Vol: 10.04 g | ICAL: MM3_DF_10272021_27JUL2021

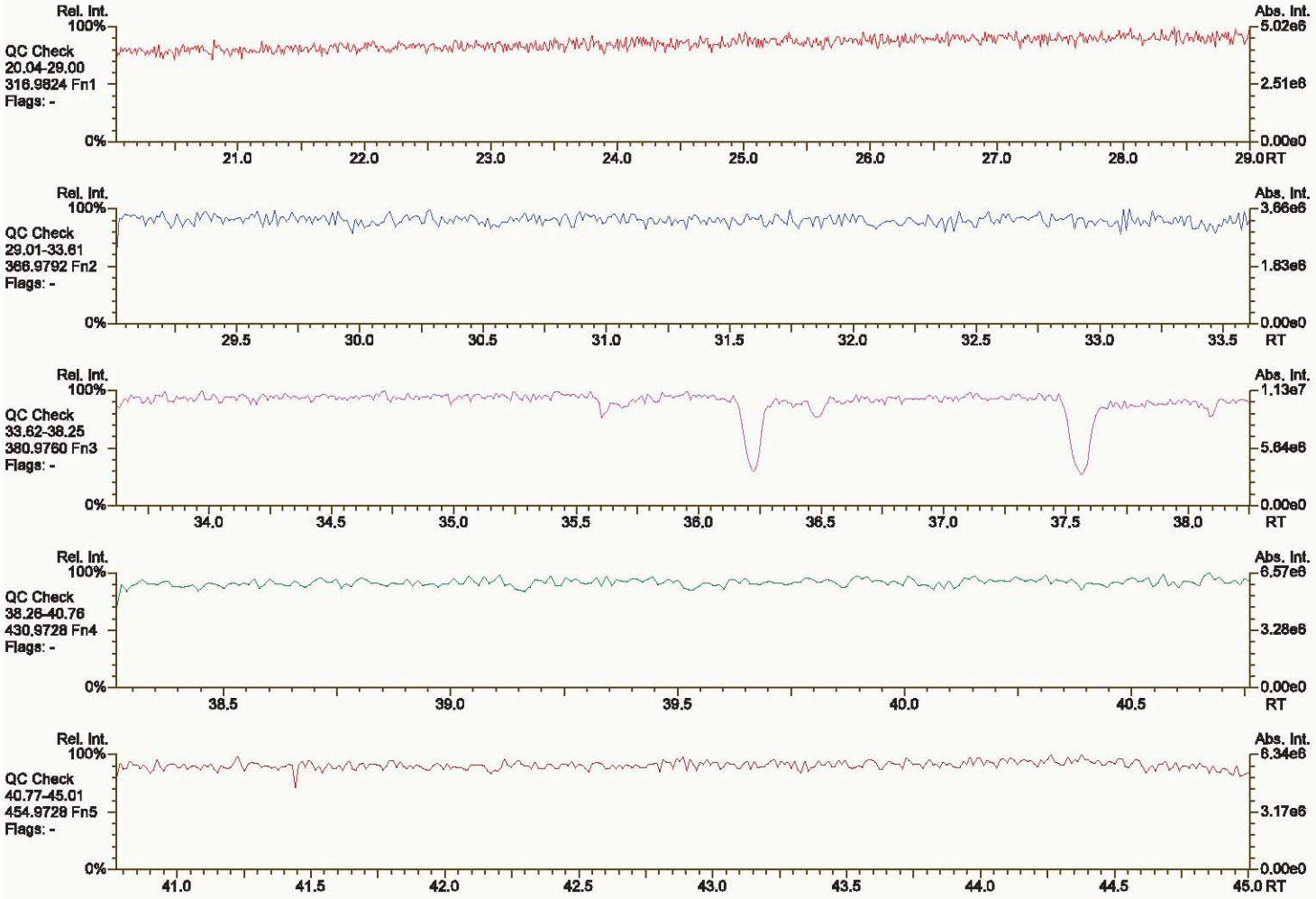
Client ID: 11215131-010822-S-BN-NC-O-33 | UTP: 26-Jan-2022 09:28:58 PSW | J-level: 0.498 pg/g | Split: 1 | Checkcode: 908-477-WSH

Datafile: 220125R29 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.45	J	0.9857	0.9859	+0.4	1.98E+05	1.78	Y	0.94	1.41	9333.802	0.638
12347-PeCDF	NotFnd		0.9882						0.94		9333.802	0.638
12348-PeCDF	30.69	J EMPC	0.9935	0.9936	+0.2	1.43E+05	1.82	N	0.94	1.02	9333.802	0.638
12378-PeCDF	**30.90**		**1.0006**	**1.0005**	**-0.2**	**1.09E+06**	**1.69**	**Y**	**0.95**	**7.56**	**9333.802**	**0.65**
12678/12367-PeCDF	31.22		1.0099	1.0106	+1.3	4.13E+05	1.67	Y	0.94	2.94	9333.802	0.638
12379-PeCDF	NotFnd		1.0155						0.94		9333.802	0.638
12679-PeCDF	NotFnd		0.9921						0.94		9333.802	0.638
23467/12369-PeCDF	31.94	J EMPC	0.9962	0.9962	0	9.00E+04	1.24	N	0.94	0.642	9333.802	0.638
23478-PeCDF	**32.09**		**1.0006**	**1.0009**	**+0.6**	**8.24E+05**	**1.54**	**Y**	**0.94**	**6.07**	**9333.802**	**0.624**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		9333.802	0.638
12349-PeCDF	NotFnd		1.0106						0.94		9333.802	0.638
12389-PeCDF	NotFnd		1.0349						0.94		9333.802	0.638
123468-HxCDF	34.01		0.9606	0.9606	0	6.77E+05	1.31	Y	1.16	5.7	10961.281	0.818
124678/134678-HxCDF	34.21		0.9663	0.9663	0	2.24E+06	1.23	Y	1.16	18.8	10961.281	0.818
134679-HxCDF	NotFnd		0.9729						1.16		10961.281	0.818
124679-HxCDF	NotFnd		0.9786						1.16		10961.281	0.818
124689-HxCDF	34.88		0.9851	0.9851	0	2.45E+06	1.21	Y	1.16	20.6	10961.281	0.818
123467-HxCDF	35.30	J EMPC	0.9970	0.9970	0	1.32E+05	1.44	N	1.16	1.12	10961.281	0.818
123478-HxCDF	**35.42**		**1.0004**	**1.0005**	**+0.2**	**1.80E+06**	**1.19**	**Y**	**1.23**	**13.4**	**10961.281**	**0.666**
123678-HxCDF	**35.56**		**1.0004**	**1.0004**	**0**	**5.91E+05**	**1.27**	**Y**	**1.13**	**3.99**	**10961.281**	**0.622**
123479-HxCDF	NotFnd		1.0050						1.16		10961.281	0.818
123469-HxCDF	NotFnd		1.0091						1.16		10961.281	0.818
123679-HxCDF	NotFnd		0.9942						1.16		10961.281	0.818
234678-HxCDF	**36.22**	J EMPC	**1.0005**	**1.0002**	**-0.7**	**1.77E+05**	**1.00**	**N**	**1.15**	**2.18**	**10961.281**	**1.45**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		10961.281	0.818
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**10961.281**	**0.794**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.22	J EMPC	1.0008	1.0012	+0.9	1.52E+05	1.70	N	1.16	1.28	10961.281	0.818
1234678-HpCDF	**38.80**		**1.0003**	**1.0003**	**0**	**6.29E+06**	**1.02**	**Y**	**1.36**	**43**	**8617.621**	**0.404**
1234679-HpCDF	39.09	**J EMPC**	1.0076	1.0077	+0.2	1.64E+05	1.20	N	1.33	1.37	8617.621	0.486
1234689-HpCDF	39.24		1.0114	1.0116	+0.5	7.82E+06	1.03	Y	1.33	65.4	8617.621	0.486
1234789-HpCDF	**40.18**		**1.0002**	**1.0003**	**+0.2**	**3.86E+05**	**1.02**	**Y**	**1.30**	**4.12**	**8617.621**	**0.608**
OCDF	**42.34**		**1.0003**	**1.0003**	**0**	**1.39E+07**	**0.90**	**Y**	**1.03**	**226**	**9863.428**	**1.22**
OCDF-a	42.34	**EMPC**	1.0001	1.0002	+0.3	6.17E+05	3.26	N	0.06	174	12506.694	26.7

SGS ID: B6171_18853_DF_011 | Sample ID: 11215131-010822-S-BN-NC-O-33 | Acq: 26-Jan-2022 08:29:31

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220125R29



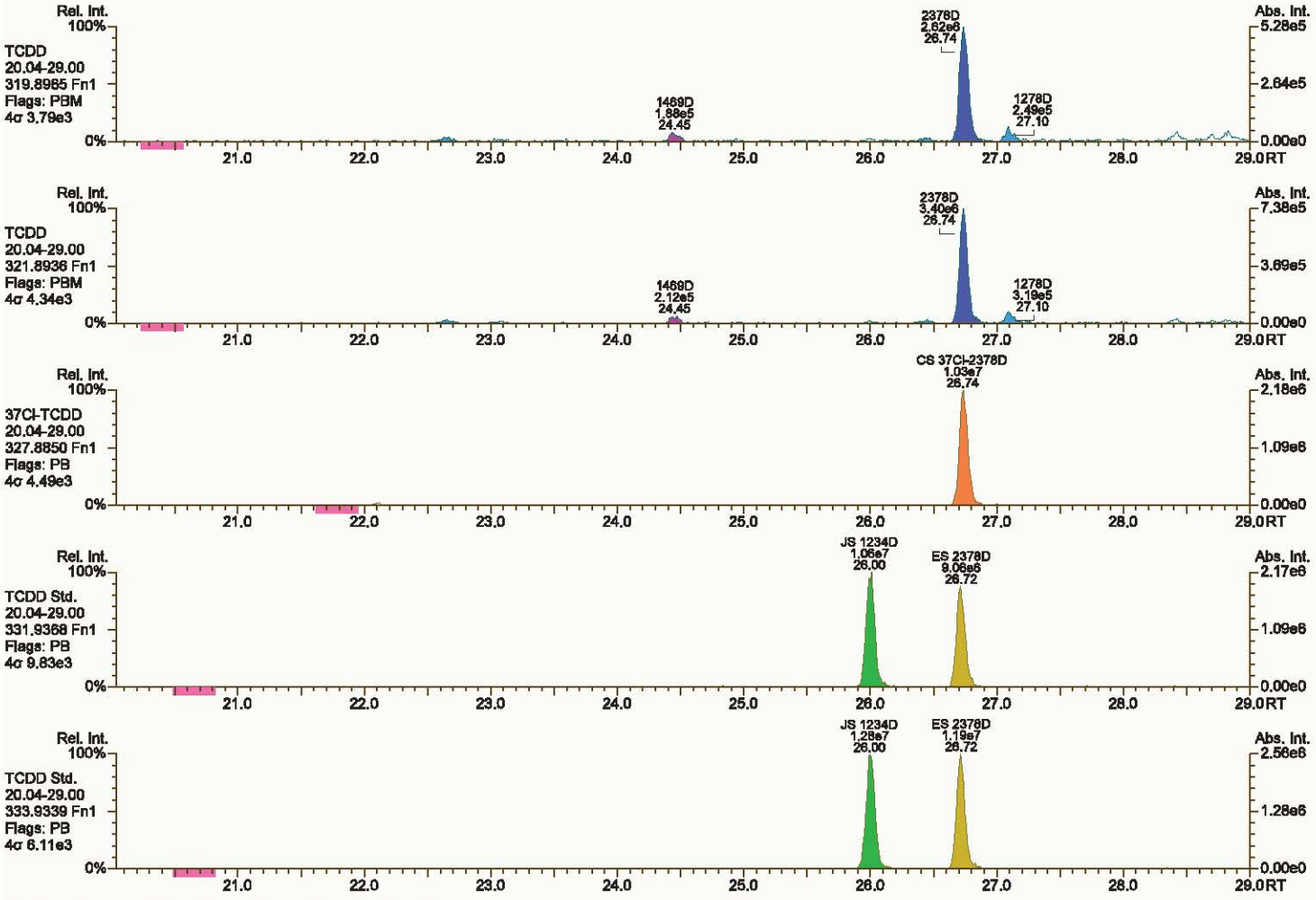
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)

Peak annotation: Areas, Centroids

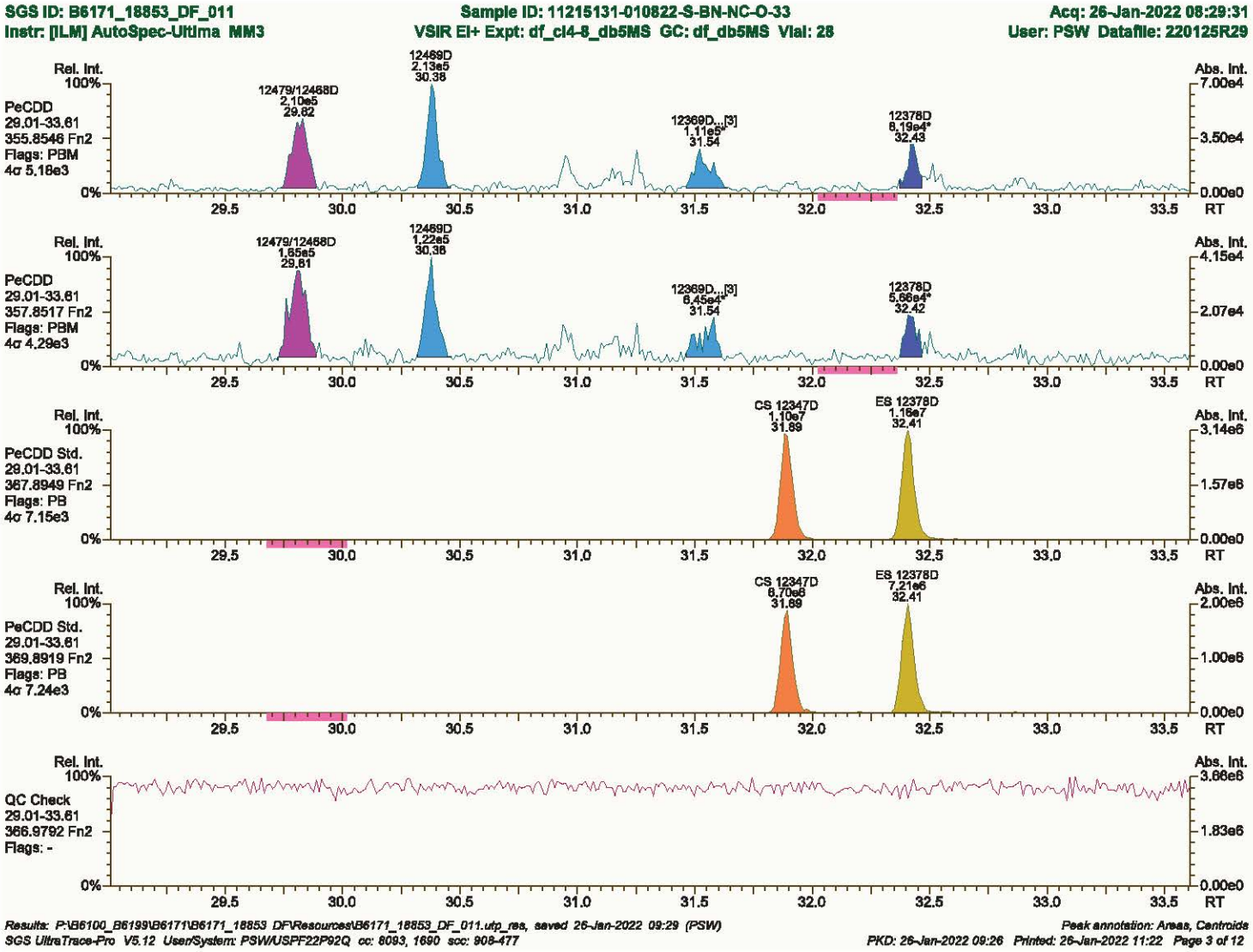
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 908-477

PKD: n/a Printed: 26-Jan-2022 11:22 Page 1 of 12

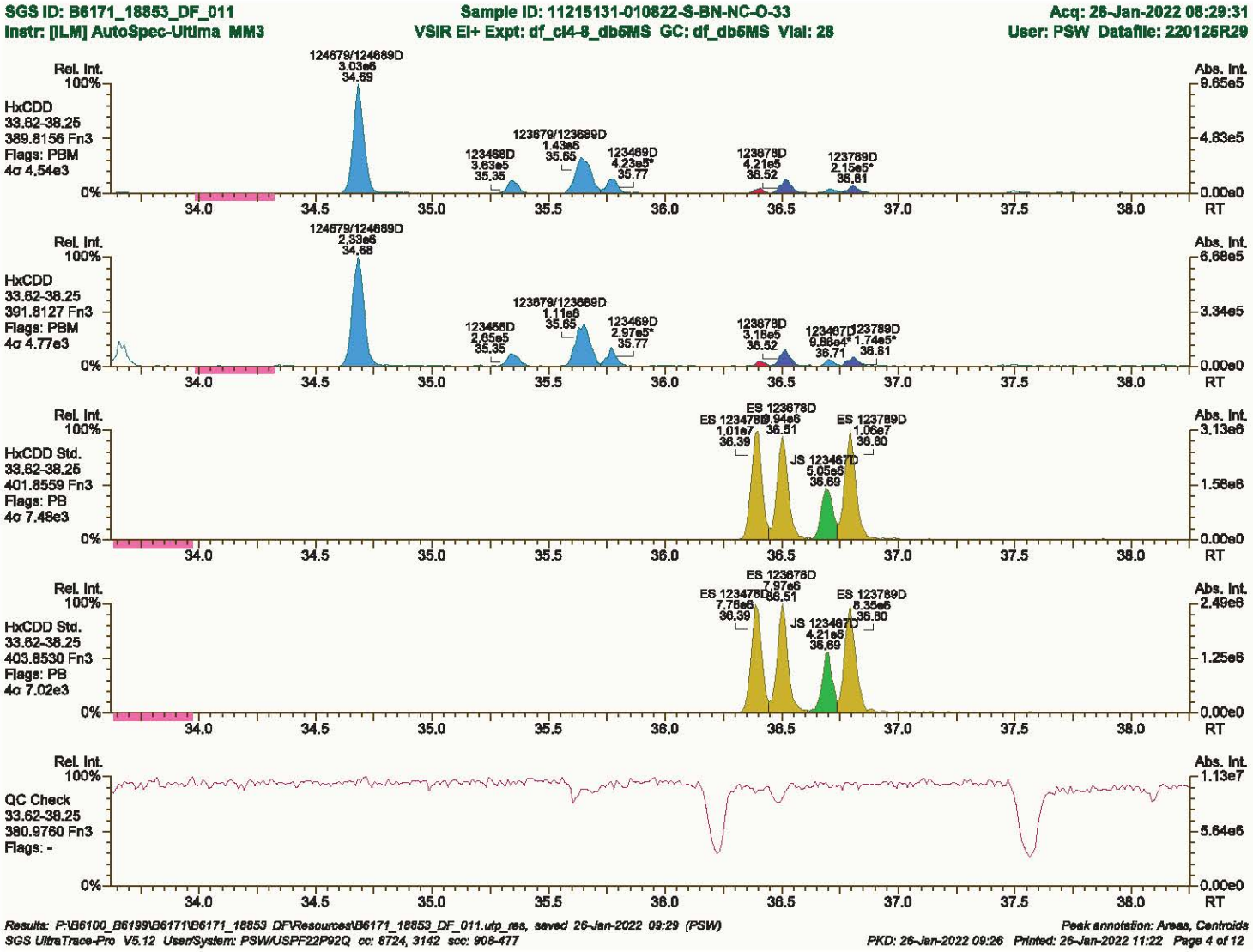
SGS ID: B6171_18853_DF_011 | Sample ID: 11215131-010822-S-BN-NC-O-33 | Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: PSW Datafile: 220125R29



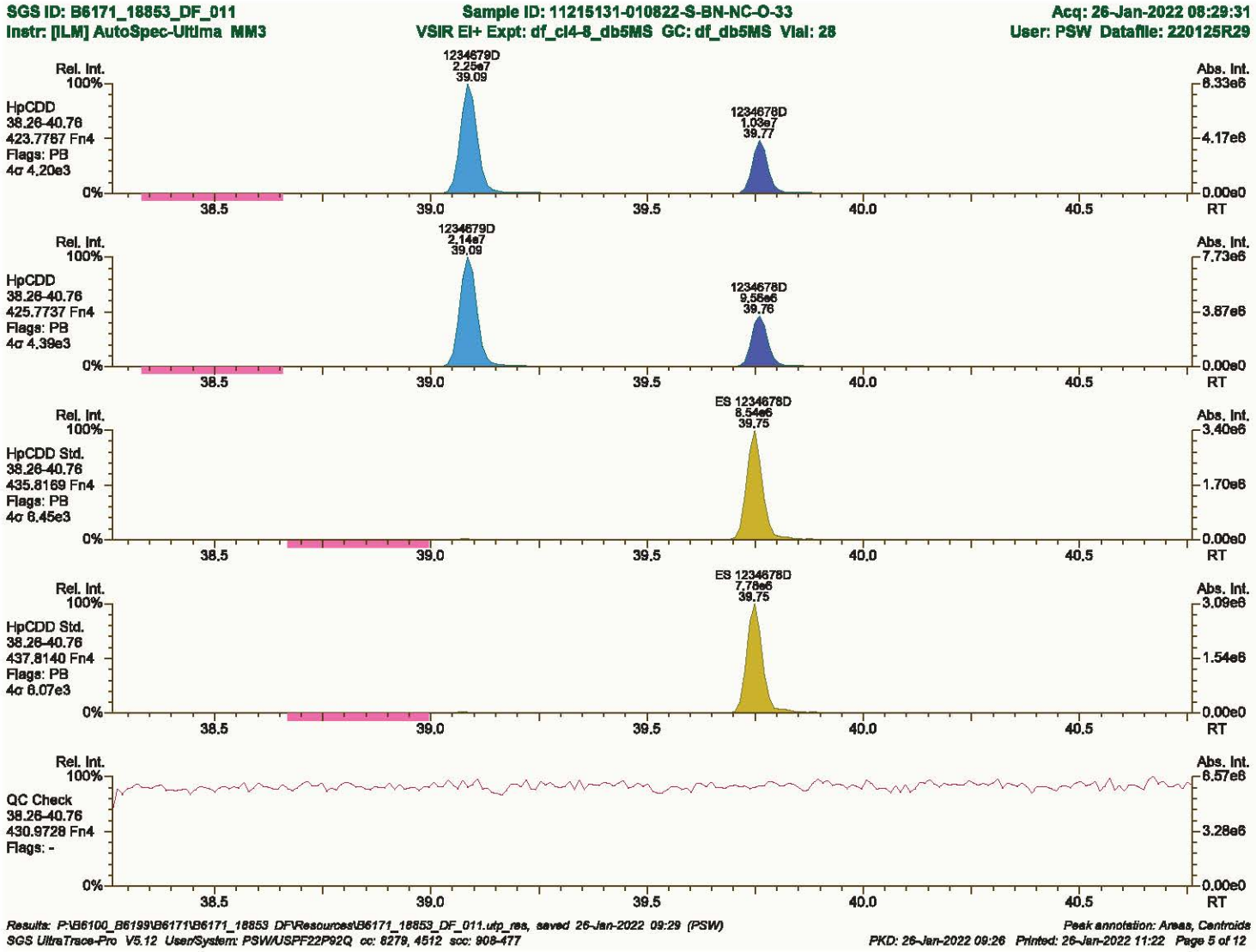
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0182, 2196, 3629 scc: 908-477 *PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 2 of 12*

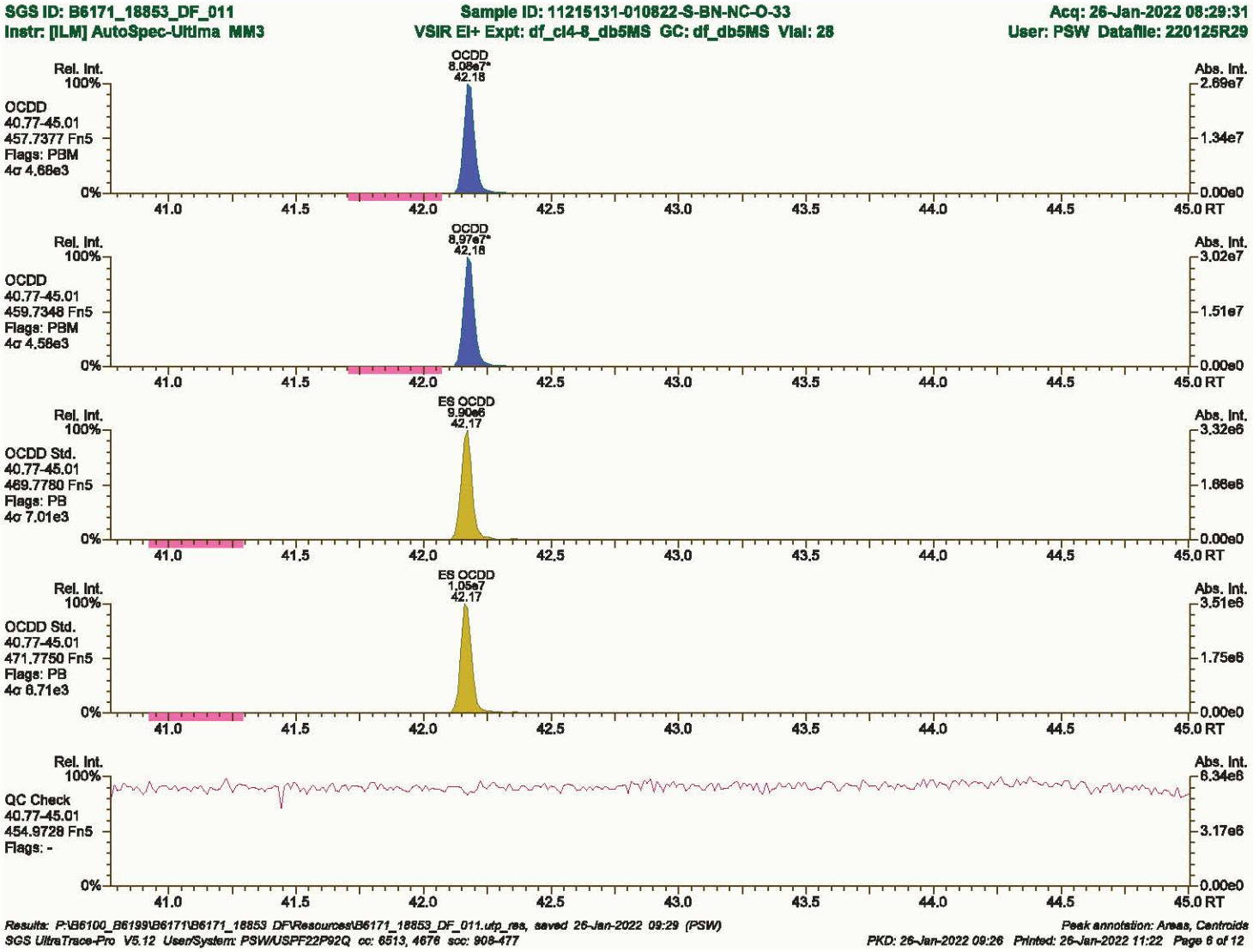


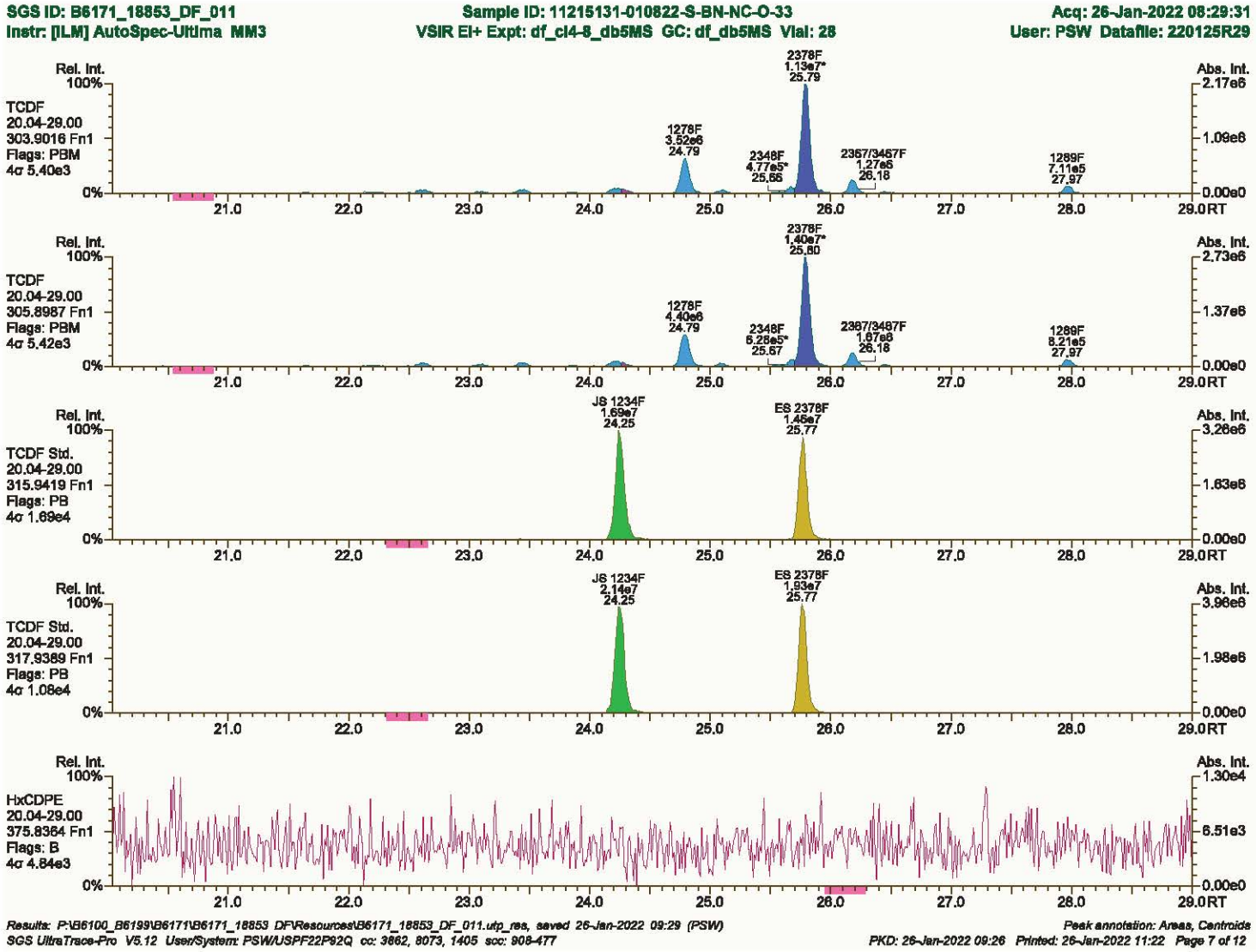
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8093, 1690 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 3 of 12



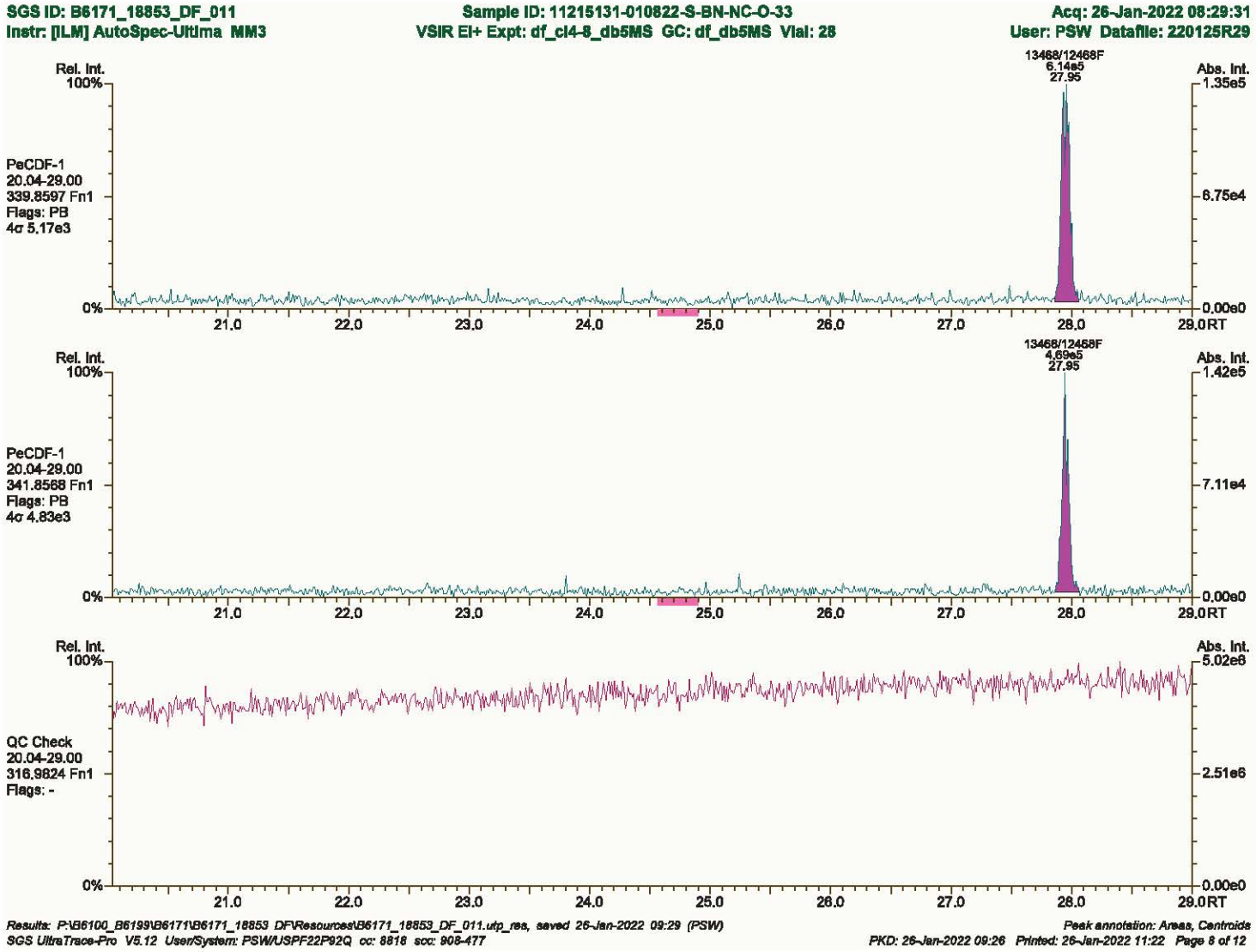
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8724, 3142 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 4 of 12

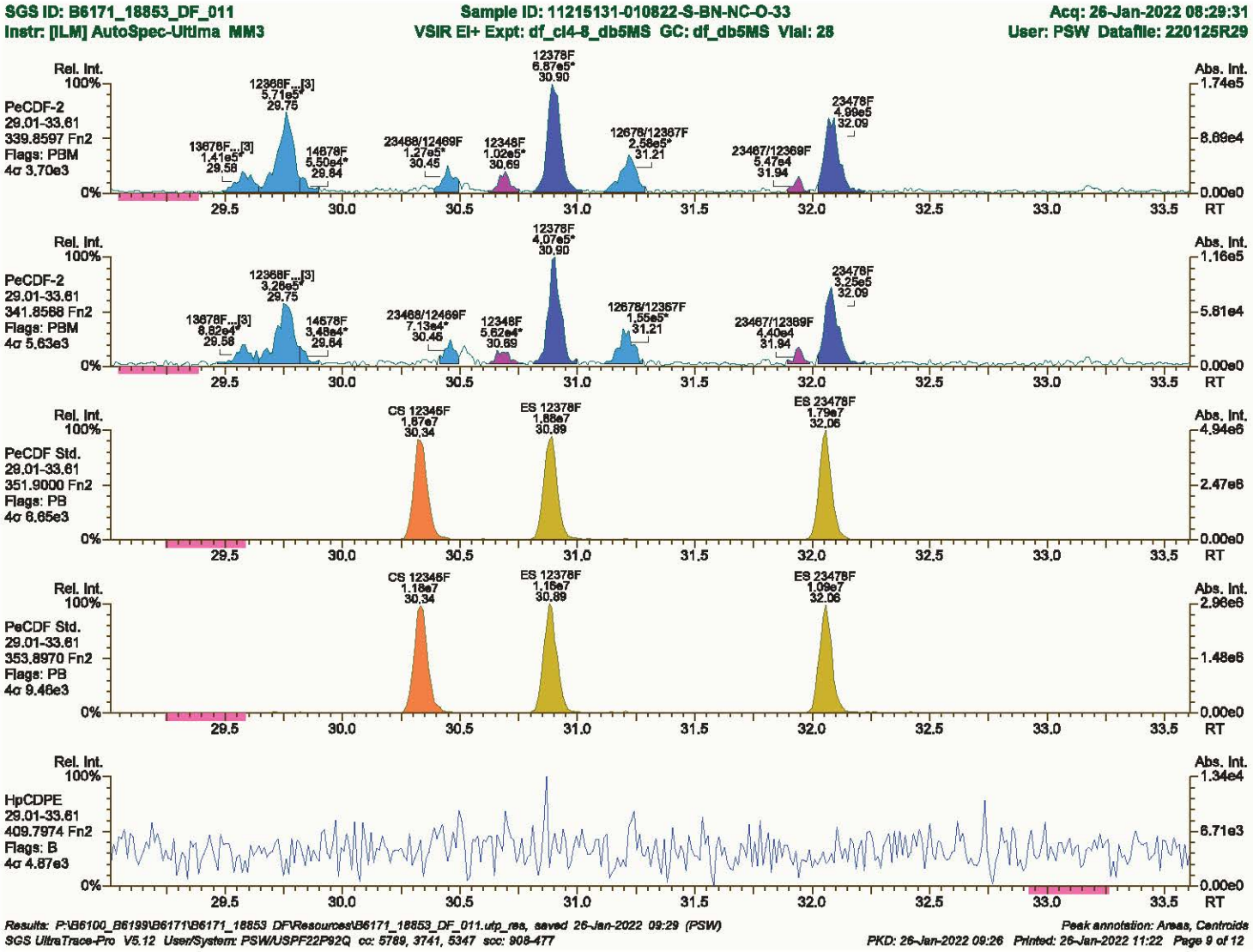

SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
Rel. Int.
Abs. Int.
HpCDD
38.26-40.76
423.7767 Fn4
Flags: PB
4σ 4.20e3
1234679D
2.25e7
39.09
1234678D
1.03e7
39.77
8.33e6
4.17e6
0.00e0
HpCDD
38.26-40.76
425.7737 Fn4
Flags: PB
4σ 4.39e3
1234679D
2.14e7
39.09
1234678D
9.56e6
39.76
7.73e6
3.87e6
HpCDD Std.
38.26-40.76
435.8169 Fn4
Flags: PB
4σ 6.45e3
ES 1234678D
8.54e6
39.75
3.40e6
1.70e6
HpCDD Std.
38.26-40.76
437.8140 Fn4
Flags: PB
4σ 6.07e3
ES 1234678D
7.78e6
39.75
3.09e6
1.54e6
QC Check
38.26-40.76
430.9728 Fn4
Flags: -
6.57e6
3.28e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT

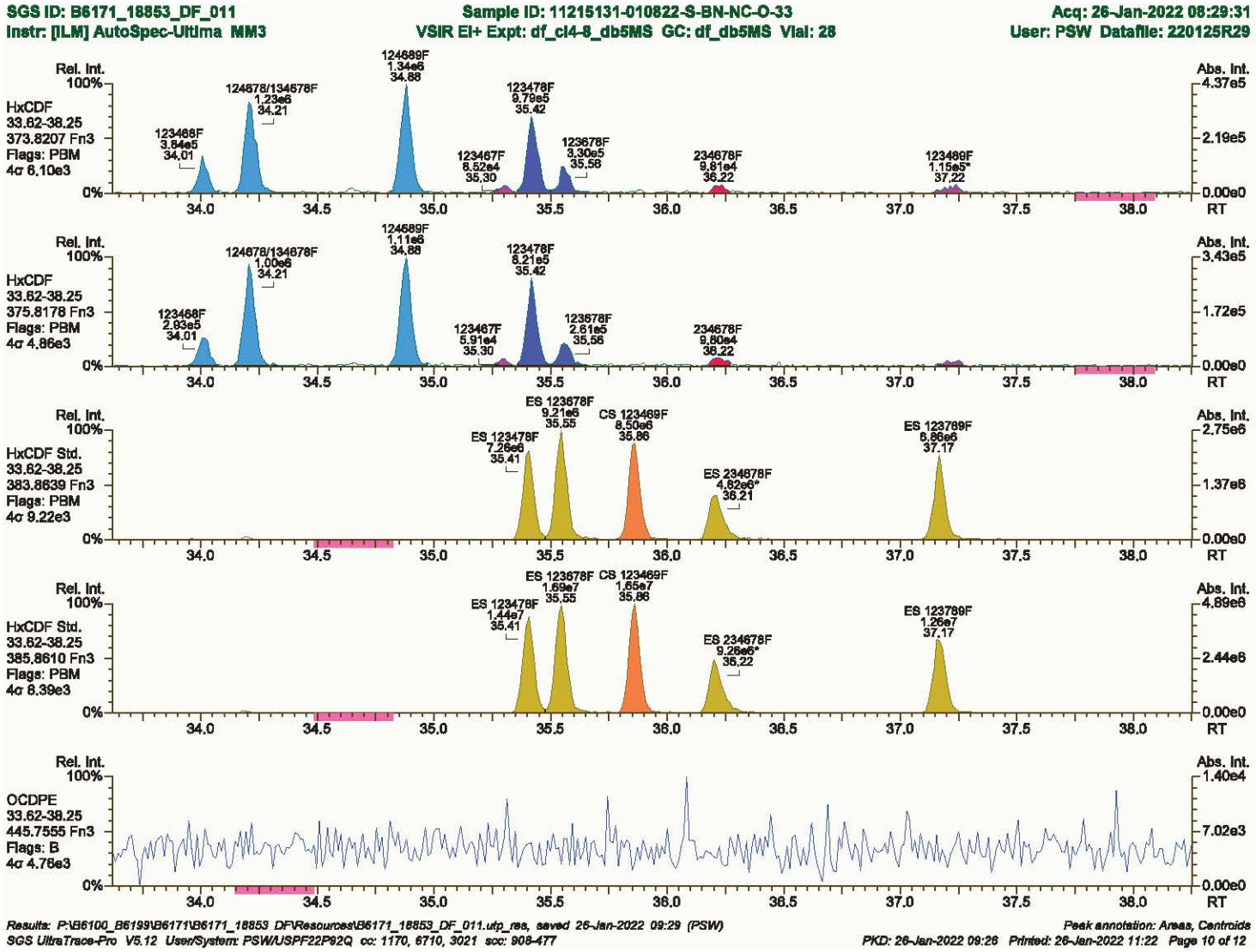

SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
Rel. Int.
Abs. Int.
OCDD
8.08e7*
42.18
OCDD
40.77-45.01
457.7377 Fn5
Flags: PBM
4σ 4.68e3
2.69e7
1.34e7
0.00e0
OCDD
8.97e7*
42.18
OCDD
40.77-45.01
459.7348 Fn5
Flags: PBM
4σ 4.58e3
3.02e7
1.51e7
0.00e0
ES OCDD
9.90e6
42.17
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 7.01e3
3.32e6
1.66e6
0.00e0
ES OCDD
1.05e7
42.17
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 6.71e3
3.51e6
1.75e6
0.00e0
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
6.34e6
3.17e6
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6513, 4676 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 6 of 12

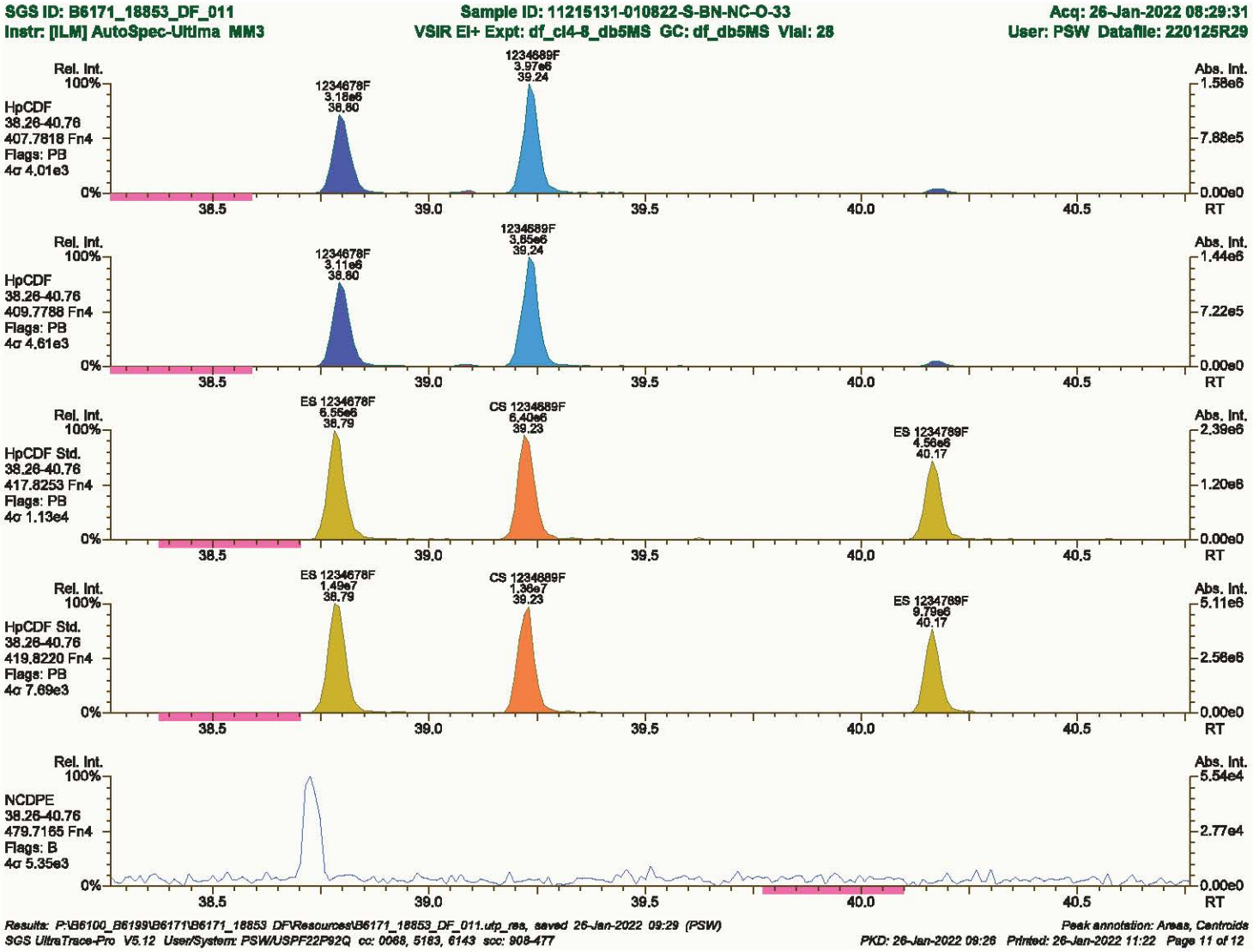


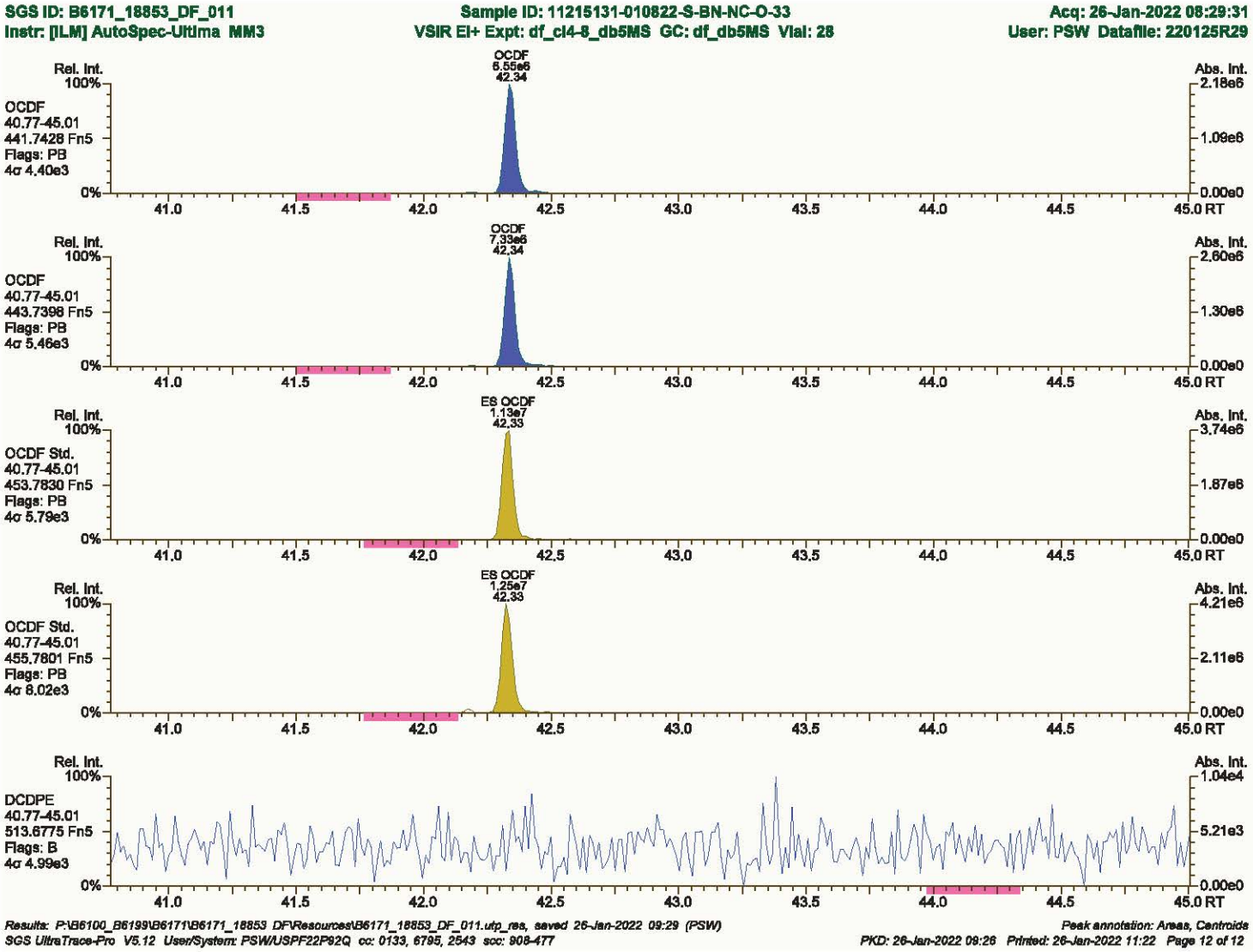
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3862, 8073, 1405 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 7 of 12


SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 5.17e3
13468/12468F
6.14e5
27.95
Abs. Int.
1.35e5
6.75e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.83e3
13468/12468F
4.69e5
27.95
Abs. Int.
1.42e5
7.11e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
5.02e6
2.51e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8818 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 8 of 12


SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 3.70e3
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 5.63e3
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 6.65e3
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 9.46e3
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.87e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5789, 3741, 5347 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 9 of 12


SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 6.10e3
123468F 3.84e5 34.01
124678/134678F 1.23e6 34.21
124689F 1.34e6 34.88
123467F 8.52e4 35.30
123478F 9.79e5 35.42
123678F 3.30e5 35.56
234678F 9.81e4 36.22
123489F 1.15e5* 37.22
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 4.86e3
123468F 2.83e5 34.01
124678/134678F 1.00e6 34.21
124689F 1.11e6 34.88
123467F 5.91e4 35.30
123478F 8.21e5 35.42
123678F 2.61e5 35.56
234678F 9.80e4 36.22
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PBM
4σ 9.22e3
ES 123678F 9.21e6 35.55
CS 123469F 8.50e6 35.86
ES 123478F 7.26e6 35.41
ES 234678F 4.82e6* 36.21
ES 123789F 6.86e6 37.17
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PBM
4σ 8.39e3
ES 123678F 1.69e7 35.55
CS 123469F 1.65e7 35.86
ES 123478F 1.44e7 35.41
ES 234678F 9.26e6* 36.22
ES 123789F 1.26e7 37.17
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.76e3
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
0%
100%
0.00e0
7.02e3
1.37e6
2.44e6
1.72e5
2.19e5
1.40e4
2.75e6
3.43e5
4.37e5
4.89e6


SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
Rel. Int.
Abs. Int.
HpCDF
38.26-40.76
407.7818 Fn4
Flags: PB
4σ 4.01e3
1234678F
3.18e6
38.80
1234689F
3.97e6
39.24
1.58e6
7.88e5
0.00e0
HpCDF
38.26-40.76
409.7788 Fn4
Flags: PB
4σ 4.61e3
1234678F
3.11e6
38.80
1234689F
3.85e6
39.24
1.44e6
7.22e5
0.00e0
HpCDF Std.
38.26-40.76
417.8253 Fn4
Flags: PB
4σ 1.13e4
ES 1234678F
6.55e6
38.79
CS 1234689F
6.40e6
39.23
ES 1234789F
4.56e6
40.17
2.39e6
1.20e6
0.00e0
HpCDF Std.
38.26-40.76
419.8220 Fn4
Flags: PB
4σ 7.69e3
ES 1234678F
1.49e7
38.79
CS 1234689F
1.36e7
39.23
ES 1234789F
9.79e6
40.17
5.11e6
2.56e6
0.00e0
NCDPE
38.26-40.76
479.7165 Fn4
Flags: B
4σ 5.35e3
5.54e4
2.77e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0068, 5163, 6143 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 11 of 12


SGS ID: B6171_18853_DF_011
Sample ID: 11215131-010822-S-BN-NC-O-33
Acq: 26-Jan-2022 08:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: PSW Datafile: 220125R29
Rel. Int.
Abs. Int.
OCDF
6.55e6
42.34
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 4.40e3
2.18e6
1.09e6
0.00e0
OCDF
7.33e6
42.34
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 5.46e3
2.60e6
1.30e6
ES OCDF
1.13e7
42.33
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 5.79e3
3.74e6
1.87e6
ES OCDF
1.25e7
42.33
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 8.02e3
4.21e6
2.11e6
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 4.99e3
1.04e4
5.21e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_011.utp_res, saved 26-Jan-2022 09:29 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0133, 6795, 2543 scc: 908-477
PKD: 26-Jan-2022 09:26 Printed: 26-Jan-2022 11:22 Page 12 of 12

Lab ID: B6171_18863_DF_012 | Acq'd: 26 Jan 2022 09:16 PSW | Wt/Vol: 10.02 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-34 | UTP: 26-Jan-2022 10:17:55 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 704-926-WTZ

Datafile: 220125R30 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.76		1.0008	1.0009	+0.2	1.16E+08	0.79	Y	1.34	932	7944.996	0.738
12378-PeCDD	32.44		1.0005	1.0006	+0.2	1.05E+06	1.64	Y	1.06	11.5	11635.085	1.21
123478-HxCDD	36.42		1.0004	1.0004	0	2.26E+05	1.11	Y	1.06	2.63	10712.023	0.955
123678-HxCDD	36.53		1.0035	1.0035	0	1.00E+06	1.25	Y	1.08	12.6	10712.023	1.15
123789-HxCDD	36.82	EMPC	1.0116	1.0115	-0.2	5.08E+05	1.51	N	1.02	5.8	10712.023	1.04
1234678-HpCDD	39.77		1.0003	1.0003	0	3.19E+07	1.03	Y	0.97	455	11337.416	1.04
OCDD	42.19		1.0003	1.0003	0	2.74E+08	0.89	Y	1.07	5,810	9066.856	1.37
2378-TCDF	25.82	E	1.0008	1.0010	+0.3	4.65E+08	0.80	Y	0.96	3,240	11668.205	0.983
12378-PeCDF	30.92		1.0006	1.0006	0	1.47E+07	1.56	Y	0.95	114	12400.168	0.912
23478-PeCDF	32.09		1.0006	1.0008	+0.4	1.10E+07	1.57	Y	0.94	90	12400.168	0.943
123478-HxCDF	35.43		1.0004	1.0005	+0.2	2.26E+07	1.28	Y	1.23	179	13682.061	0.925
123678-HxCDF	35.57		1.0004	1.0005	+0.2	6.06E+06	1.28	Y	1.13	45.2	13682.061	0.878
234678-HxCDF	36.24		1.0005	1.0005	0	9.72E+05	1.32	Y	1.15	14.3	13682.061	1.89
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	13682.061	1.11
1234678-HpCDF	38.81		1.0003	1.0004	+0.2	3.18E+07	1.04	Y	1.36	272	9956.476	0.608
1234789-HpCDF	40.19		1.0002	1.0002	0	2.28E+06	1.08	Y	1.30	24.8	9956.476	0.682
OCDF	42.35		1.0003	1.0003	0	7.49E+07	0.90	Y	1.03	1,260	9036.81	1.12

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.73	1.0273	1.0272	-0.2	1.84E+07	0.82	Y	1.03	90
ES 12378-PeCDD	32.42	1.2455	1.2457	+0.4	1.73E+07	1.55	Y	1.03	84.4
ES 123478-HxCDD	36.40	0.9917	0.9918	+0.2	1.63E+07	1.25	Y	0.99	101
ES 123678-HxCDD	36.51	0.9948	0.9948	0	1.47E+07	1.23	Y	0.97	92.8
ES 123789-HxCDD	36.81	1.0028	1.0027	-0.2	1.72E+07	1.25	Y	1.12	94.3
ES 1234678-HpCDD	39.76	1.0830	1.0833	+0.7	1.44E+07	1.07	Y	0.99	89.1
ES OCDD	42.18	1.1489	1.1491	+0.5	1.76E+07	0.96	Y	0.78	69.8
ES 2378-TCDF	25.79	1.0623	1.0624	+0.2	2.98E+07	0.84	Y	1.08	89.7
ES 12378-PeCDF	30.90	1.2724	1.2729	+0.9	2.72E+07	1.59	Y	0.93	95.2
ES 23478-PeCDF	32.07	1.3205	1.3210	+1.0	2.61E+07	1.62	Y	0.92	92.2
ES 123478-HxCDF	35.42	0.9649	0.9649	0	2.04E+07	0.53	Y	1.14	110
ES 123678-HxCDF	35.56	0.9688	0.9687	-0.2	2.37E+07	0.52	Y	1.30	112
ES 234678-HxCDF	36.22	0.9868	0.9868	0	1.18E+07	0.49	Y	1.20	60.5
ES 123789-HxCDF	37.18	1.0129	1.0129	0	1.94E+07	0.51	Y	1.14	105
ES 1234678-HpCDF	38.80	1.0569	1.0570	+0.2	1.72E+07	0.46	Y	0.95	111
ES 1234789-HpCDF	40.18	1.0944	1.0946	+0.5	1.41E+07	0.46	Y	0.85	102
ES OCDF	42.34	1.1533	1.1534	+0.3	2.31E+07	0.89	Y	0.93	76.6

Lab ID: B6171_18863_DF_012 | Acq'd: 26 Jan 2022 09:16 PSW | Wt/Vol: 10.02 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-34 | UTP: 26-Jan-2022 10:17:55 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 704-926-WTZ

Datafile: 220125R30 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.03		-	-	-	1.98E+07	0.77	Y	-	-
JS 1234-TCDF	24.28		-	-	-	3.06E+07	0.79	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	8.13E+06	1.20	Y	-	-
CS 37Cl-2378-TCDD	26.76		1.0282	1.0281	-0.2	9.17E+06	n/a	-	1.31	88.4
CS 12347-PeCDD	31.91		1.2257	1.2259	+0.4	1.63E+07	1.59	Y	0.89	92
CS 12346-PeCDF	30.35		1.2496	1.2502	+1.1	2.68E+07	1.61	Y	0.87	101
CS 123469-HxCDF	35.87		0.9773	0.9772	-0.2	2.26E+07	0.54	Y	1.09	128
CS 1234689-HpCDF	39.24		1.0687	1.0690	+0.7	1.70E+07	0.45	Y	0.86	121
~~SS 37Cl-2378-TCDD~~	~~26.76~~		~~1.0282~~	~~1.0281~~	~~-0.2~~	~~9.17E+06~~	~~n/a~~		~~1.26~~	~~98.7~~
~~SS 12347-PeCDD~~	~~31.91~~		~~1.2257~~	~~1.2259~~	~~+0.4~~	~~1.63E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2502~~	~~+1.1~~	~~2.68E+07~~	~~1.61~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9772~~	~~-0.2~~	~~2.26E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~113~~
~~SS 1234689-HpCDF~~	~~39.24~~		~~1.0687~~	~~1.0690~~	~~+0.7~~	~~1.70E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~109~~

Totals	Conc	EMPC
Total TCDD	1040	1050
Total PeCDD	21	29.7
Total HxCDD	140	145
Total HpCDD	1030	1030
Total Tetra-Octa Dioxins	8030	8060
Total TCDF	6,430	6430
Total PeCDF	351	351
Total HxCDF	409	412
Total HpCDF	620	620
Total Tetra-Octa Furans	9,080	9080
Total Tetra-Octa Dioxins & Furans	17100	17100

Lab ID: B6171_18863_DF_012 | Acq'd: 26 Jan 2022 09:16 PSW | Wt/Vol: 10.02 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-34 | UTP: 26-Jan-2022 10:17:55 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 704-926-WTZ

Datafile: 220125R30 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.69		0.8486	0.8488	+0.3	3.58E+05	0.69	Y	1.34	2.88	7944.996	0.738
1379-TCDD	NotFnd		0.8642						1.34		7944.996	0.738
1369-TCDD	NotFnd		0.8825						1.34		7944.996	0.738
1469-TCDD	24.48		0.9154	0.9155	+0.1	3.20E+05	0.83	Y	1.34	2.57	7944.996	0.738
1247/1246/1248/1249-TCDD	24.74	EMPC	0.9256	0.9255	-0.1	3.00E+05	0.99	N	1.34	2.42	7944.996	0.738
1378-TCDD	24.94		0.9332	0.9330	-0.3	3.27E+05	0.79	Y	1.34	2.64	7944.996	0.738
1268-TCDD	NotFnd		0.9415						1.34		7944.996	0.738
1478-TCDD	25.45		0.9518	0.9518	0	2.91E+05	0.78	Y	1.34	2.34	7944.996	0.738
1279-TCDD	NotFnd		0.9586						1.34		7944.996	0.738
1234/1269-TCDD	NotFnd		0.9734						1.34		7944.996	0.738
1236-TCDD	NotFnd		0.9788						1.34		7944.996	0.738
1237/1238-TCDD	26.44		0.9892	0.9891	-0.2	1.73E+06	0.81	Y	1.34	13.9	7944.996	0.738
1239-TCDD	NotFnd		0.9944						1.34		7944.996	0.738
2378-TCDD	**26.76**		**1.0008**	1.0009	**+0.2**	1.16E+08	0.79	Y	**1.34**	**932**	**7944.996**	**0.738**
1278-TCDD	27.12		1.0142	1.0145	+0.5	1.02E+07	0.83	Y	1.34	81.8	7944.996	0.738
1267-TCDD	NotFnd		1.0197						1.34		7944.996	0.738
1289-TCDD	27.79	EMPC	1.0401	1.0394	-1.2	5.57E+05	1.30	N	1.34	4.49	7944.996	0.738
12479/12468-PeCDD	29.83		0.9202	0.9201	-0.2	6.59E+05	1.53	Y	1.06	7.19	11635.085	1.21
12469-PeCDD	30.40	EMPC	0.9375	0.9376	+0.2	4.11E+05	0.63	N	1.06	4.48	11635.085	1.21
12368-PeCDD	30.97	J	0.9553	0.9553	0	2.15E+05	1.34	Y	1.06	2.34	11635.085	1.21
12478-PeCDD	31.17	J EMPC	0.9613	0.9615	+0.4	1.70E+05	1.05	N	1.06	1.86	11635.085	1.21
12379-PeCDD	NotFnd		0.9644						1.06		11635.085	1.21
12369/12467/12489-PeCDD	31.55	J EMPC	0.9730	0.9730	0	2.19E+05	1.18	N	1.06	2.39	11635.085	1.21
12346/12347-PeCDD	NotFnd		0.9848						1.06		11635.085	1.21
12378-PeCDD	32.44		**1.0005**	**1.0006**	**+0.2**	**1.05E+06**	**1.64**	**Y**	**1.06**	**11.5**	**11635.085**	**1.21**
12367-PeCDD	NotFnd		1.0035						1.06		11635.085	1.21
12389-PeCDD	NotFnd		1.0146						1.06		11635.085	1.21
124679/124689-HxCDD	34.70		0.9532	0.9531	-0.2	5.74E+06	1.28	Y	1.05	67.9	10712.023	1.05
123468-HxCDD	35.36		0.9715	0.9714	-0.2	5.70E+05	1.23	Y	1.05	6.74	10712.023	1.05
123679/123689-HxCDD	35.66		0.9795	0.9795	0	3.78E+06	1.32	Y	1.05	44.7	10712.023	1.05
123469-HxCDD	35.79		0.9832	0.9832	0	2.61E+05	1.22	Y	1.05	3.08	10712.023	1.05
123478-HxCDD	36.42		**1.0004**	**1.0004**	**0**	**2.26E+05**	**1.11**	**Y**	1.06	**2.63**	**10712.023**	**0.955**
123678-HxCDD	36.53		**1.0035**	**1.0035**	**0**	**1.00E+06**	**1.25**	**Y**	1.08	**12.6**	**10712.023**	**1.15**
123467-HxCDD	36.72	J	1.0087	1.0087	0	1.69E+05	1.25	Y	1.05	2	10712.023	1.05
123789-HxCDD	36.82	EMPC	**1.0116**	**1.0115**	**-0.2**	**5.08E+05**	**1.51**	**N**	1.02	**5.8**	**10712.023**	**1.04**

Lab ID: B6171_18863_DF_012 | Acq'd: 26 Jan 2022 09:16 PSW | Wt/Vol: 10.02 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-34 | UTP: 26-Jan-2022 10:17:55 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 704-926-WTZ

Datafile: 220125R30 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9834	0	4.01E+07	1.03	Y	0.97	572	11337.416	1.04
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**3.19E+07**	**1.03**	**Y**	**0.97**	**455**	**11337.416**	**1.04**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**2.74E+08**	**0.89**	**Y**	**1.07**	**5,810**	**9066.856**	**1.37**
OCDD-a	42.18		1.0001	1.0002	+0.3	1.64E+07	2.75	Y	0.07	5,610	12900.828	31.6
1368-TCDF	20.47	EMPC	0.7942	0.7936	-0.7	1.59E+05	0.61	N	0.96	1.11	11668.205	0.983
1468-TCDF	21.03		0.8155	0.8152	-0.4	8.96E+05	0.88	Y	0.96	6.25	11668.205	0.983
2468-TCDF	21.67		0.8407	0.8404	-0.4	9.07E+05	0.81	Y	0.96	6.33	11668.205	0.983
1346/1246-TCDF	22.14		0.8553	0.8583	+4.0	8.60E+05	0.82	Y	0.96	6	11668.205	0.983
1347/1378/1247-TCDF	22.26		0.8617	0.8633	+2.1	4.40E+06	0.78	Y	0.96	30.7	11668.205	0.983
1348-TCDF	22.54		0.8740	0.8738	-0.3	1.77E+06	0.88	Y	0.96	12.4	11668.205	0.983
1248/1367/1379-TCDF	22.65		0.8798	0.8783	-2.0	2.12E+07	0.79	Y	0.96	148	11668.205	0.983
1268-TCDF	23.12		0.8967	0.8966	-0.1	7.72E+06	0.81	Y	0.96	53.9	11668.205	0.983
1467-TCDF	23.28		0.9025	0.9026	+0.1	1.38E+06	0.79	Y	0.96	9.6	11668.205	0.983
1478-TCDF	23.47		0.9101	0.9100	-0.1	1.95E+07	0.81	Y	0.96	136	11668.205	0.983
1369/1237-TCDF	23.90		0.9263	0.9265	+0.3	4.79E+06	0.83	Y	0.96	33.4	11668.205	0.983
2467-TCDF	24.04		0.9322	0.9321	-0.1	6.95E+05	0.80	Y	0.96	4.85	11668.205	0.983
2368-TCDF	24.20		0.9389	0.9383	-0.9	9.54E+06	0.75	Y	0.96	66.6	11668.205	0.983
1238/1234/1678/1469/1236-TCDF	24.29		0.9427	0.9416	-1.6	2.62E+07	0.82	Y	0.96	183	11668.205	0.983
1278-TCDF	24.81	E	0.9623	0.9621	-0.3	2.17E+08	0.80	Y	0.96	1,510	11668.205	0.983
1349-TCDF	NotFnd		0.9678						0.96		11668.205	0.983
1267-TCDF	25.12		0.9740	0.9740	0	1.12E+07	0.77	Y	0.96	78.3	11668.205	0.983
2346/1249-TCDF	25.34		0.9820	0.9826	+0.9	1.33E+06	0.81	Y	0.96	9.26	11668.205	0.983
2347/1279-TCDF	25.56		0.9915	0.9912	-0.5	5.38E+06	0.79	Y	0.96	37.5	11668.205	0.983
2348-TCDF	25.70		0.9964	0.9966	+0.3	4.17E+07	0.77	Y	0.96	291	11668.205	0.983
2378-TCDF	**25.82**	E	**1.0008**	**1.0010**	**+0.3**	**4.65E+08**	**0.80**	**Y**	**0.96**	**3,240**	**11668.205**	**0.983**
2367/3467-TCDF	26.20		1.0163	1.0160	-0.5	3.73E+07	0.79	Y	0.96	260	11668.205	0.983
1269-TCDF	26.48		1.0265	1.0267	+0.3	6.62E+06	0.79	Y	0.96	46.2	11668.205	0.983
1239-TCDF	NotFnd		1.0373						0.96		11668.205	0.983
1289-TCDF	27.99		1.0847	1.0853	+1.0	3.69E+07	0.81	Y	0.96	258	11668.205	0.983
13468/12468-PeCDF	27.97		0.9045	0.9053	+1.3	2.07E+06	1.70	Y	0.94	16.5	10349.038	0.774
13678/13467/12467-PeCDF	29.61		0.9574	0.9581	+1.2	5.84E+05	1.61	Y	0.94	4.64	12400.168	0.927
12368/13478/12478-PeCDF	29.78		0.9628	0.9636	+1.4	7.19E+06	1.53	Y	0.94	57.1	12400.168	0.927
14678-PeCDF	29.85		0.9661	0.9661	0	5.60E+05	1.72	Y	0.94	4.45	12400.168	0.927
13479-PeCDF	NotFnd		0.9695						0.94		12400.168	0.927
13469/12479-PeCDF	NotFnd		0.9779						0.94		12400.168	0.927
12346-PeCDF	NotFnd		0.9824						0.94		12400.168	0.927

Lab ID: B6171_18863_DF_012 | Acq'd: 26 Jan 2022 09:16 PSW | Wt/Vol: 10.02 g | ICAL: MM3_DF_10272021_27JUL2021

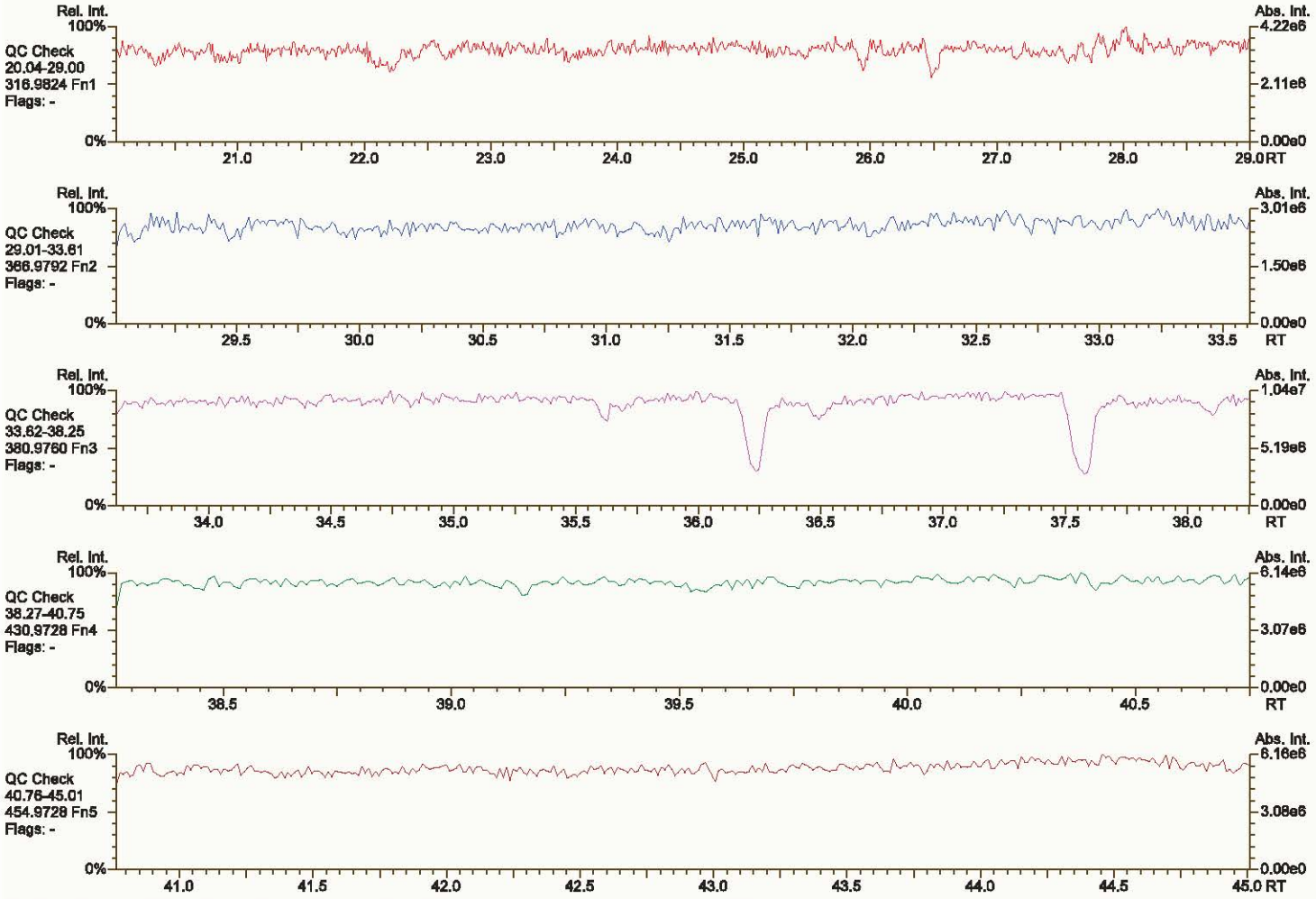
Client ID: 11215131-010822-S-BN-NC-O-34 | UTP: 26-Jan-2022 10:17:55 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 704-926-WTZ

Datafile: 220125R30 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.47		0.9857	0.9860	+0.5	6.41E+05	1.69	Y	0.94	5.09	12400.168	0.927
12347-PeCDF	30.54		0.9882	0.9883	+0.2	3.66E+05	1.68	Y	0.94	2.91	12400.168	0.927
12348-PeCDF	30.71		0.9935	0.9937	+0.4	1.54E+06	1.33	Y	0.94	12.2	12400.168	0.927
12378-PeCDF	**30.92**		**1.0006**	**1.0006**	**0**	**1.47E+07**	**1.56**	**Y**	**0.95**	**114**	**12400.168**	**0.912**
12678/12367-PeCDF	31.23		1.0099	1.0106	+1.3	4.66E+06	1.54	Y	0.94	37	12400.168	0.927
12379-PeCDF	NotFnd		1.0155						0.94		12400.168	0.927
12679-PeCDF	NotFnd		0.9921						0.94		12400.168	0.927
23467/12369-PeCDF	31.95		0.9962	0.9962	0	4.15E+05	1.61	Y	0.94	3.3	12400.168	0.927
23478-PeCDF	**32.09**		**1.0006**	**1.0008**	**+0.4**	**1.10E+07**	**1.57**	**Y**	**0.94**	**90**	**12400.168**	**0.943**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		12400.168	0.927
12349-PeCDF	NotFnd		1.0106						0.94		12400.168	0.927
12389-PeCDF	33.18		1.0349	1.0347	-0.4	5.62E+05	1.64	Y	0.94	4.47	12400.168	0.927
123468-HxCDF	34.02		0.9606	0.9606	0	1.50E+06	1.11	Y	1.16	13.7	13682.061	1.11
124678/134678-HxCDF	34.22		0.9663	0.9664	+0.2	6.82E+06	1.29	Y	1.16	62.2	13682.061	1.11
134679-HxCDF	NotFnd		0.9729						1.16		13682.061	1.11
124679-HxCDF	34.66	J EMPC	0.9786	0.9785	-0.2	1.38E+05	1.72	N	1.16	1.26	13682.061	1.11
124689-HxCDF	34.89		0.9851	0.9852	+0.2	8.31E+06	1.22	Y	1.16	75.7	13682.061	1.11
123467-HxCDF	35.30		0.9970	0.9968	-0.4	3.86E+05	1.42	Y	1.16	3.52	13682.061	1.11
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**2.26E+07**	**1.28**	**Y**	**1.23**	**179**	**13682.061**	**0.925**
123678-HxCDF	**35.57**		**1.0004**	**1.0005**	**+0.2**	**6.06E+06**	**1.28**	**Y**	**1.13**	**45.2**	**13682.061**	**0.878**
123479-HxCDF	NotFnd		1.0050						1.16		13682.061	1.11
123469-HxCDF	35.89	J EMPC	1.0091	1.0095	+0.9	1.83E+05	1.03	N	1.16	1.67	13682.061	1.11
123679-HxCDF	NotFnd		0.9942						1.16		13682.061	1.11
234678-HxCDF	**36.24**		**1.0005**	**1.0005**	**0**	**9.72E+05**	**1.32**	**Y**	**1.15**	**14.3**	**13682.061**	**1.89**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		13682.061	1.11
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**13682.061**	**1.11**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.23		1.0008	1.0014	+1.3	1.72E+06	1.34	Y	1.16	15.7	13682.061	1.11
1234678-HpCDF	**38.81**		**1.0003**	**1.0004**	**+0.2**	**3.18E+07**	**1.04**	**Y**	**1.36**	**272**	**9956.476**	**0.608**
1234679-HpCDF	39.09		1.0076	1.0077	+0.2	5.21E+05	0.94	Y	1.33	5	9956.476	0.642
1234689-HpCDF	39.25		1.0114	1.0116	+0.5	3.32E+07	1.06	Y	1.33	319	9956.476	0.642
1234789-HpCDF	**40.19**		**1.0002**	**1.0002**	**0**	**2.28E+06**	**1.08**	**Y**	**1.30**	**24.8**	**9956.476**	**0.682**
OCDF	**42.35**		**1.0003**	**1.0003**	**0**	**7.49E+07**	**0.90**	**Y**	**1.03**	**1,260**	**9036.81**	**1.12**
OCDF-a	42.34		1.0001	1.0002	+0.3	4.33E+06	2.25	Y	0.06	1,270	13525.876	28.9

SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW)

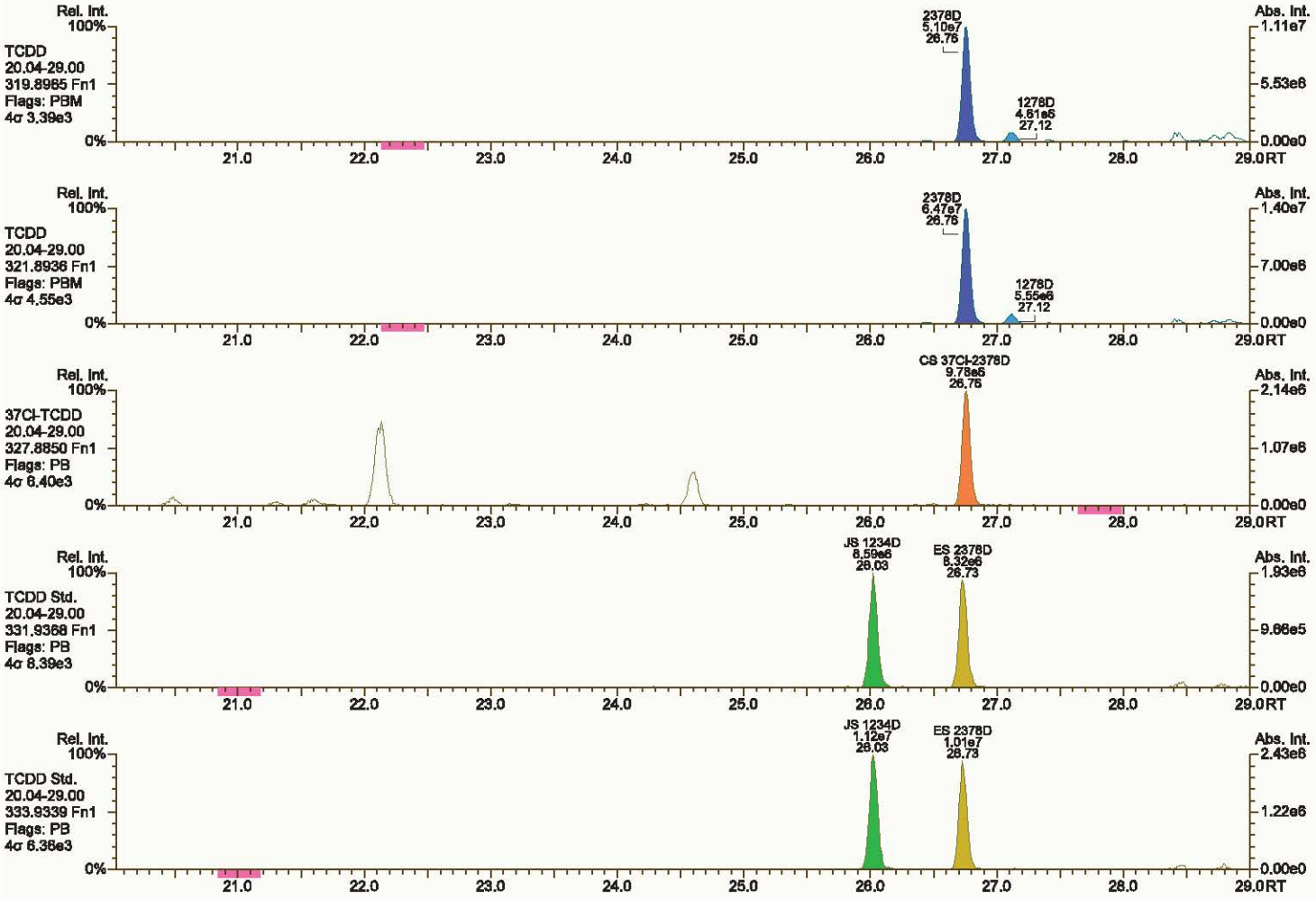
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 704-926

PKD: n/a Printed: 26-Jan-2022 11:22 Page 1 of 12

SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30

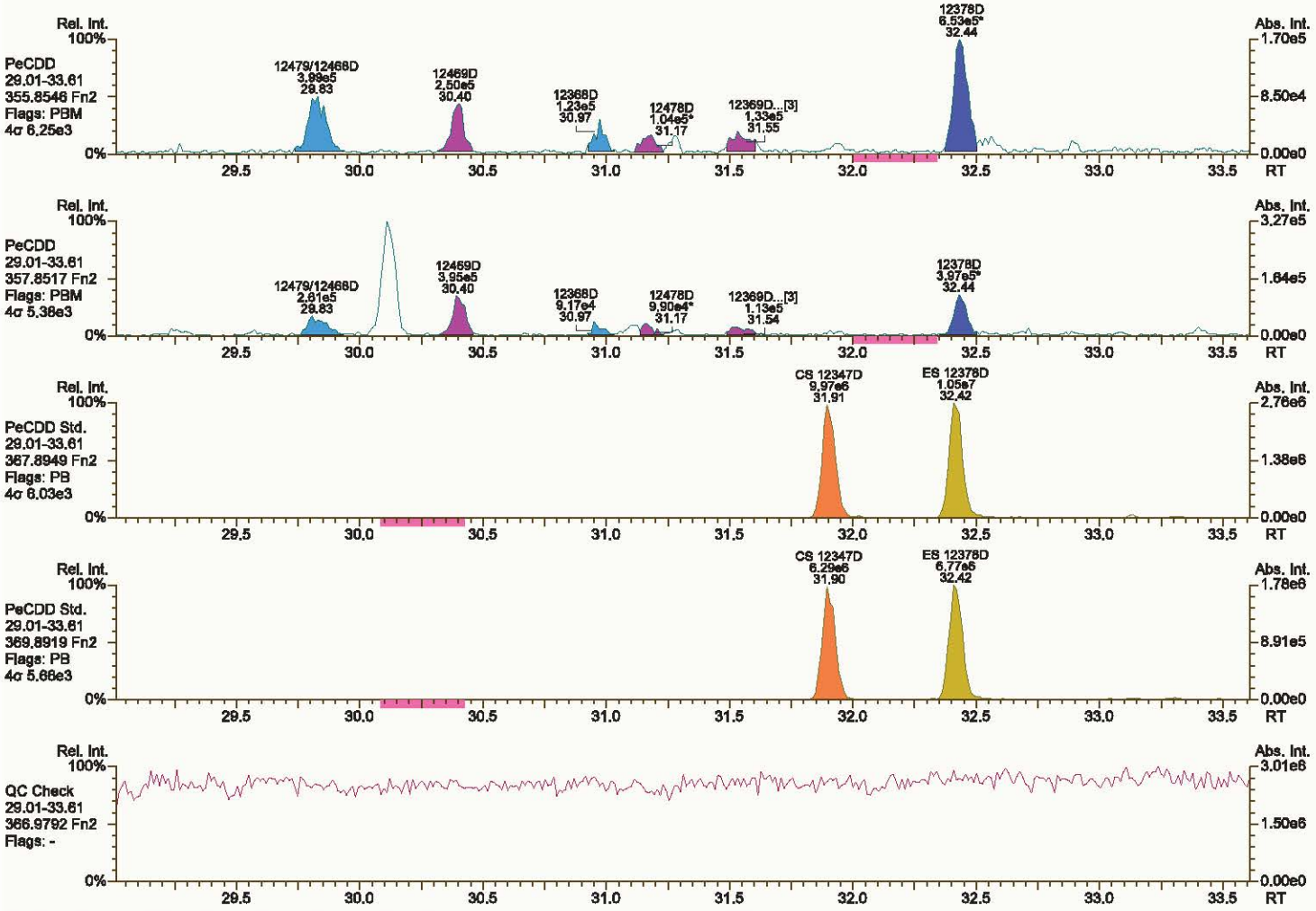


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5238, 0395, 0362 scc: 704-926 *PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 2 of 12*

SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW)

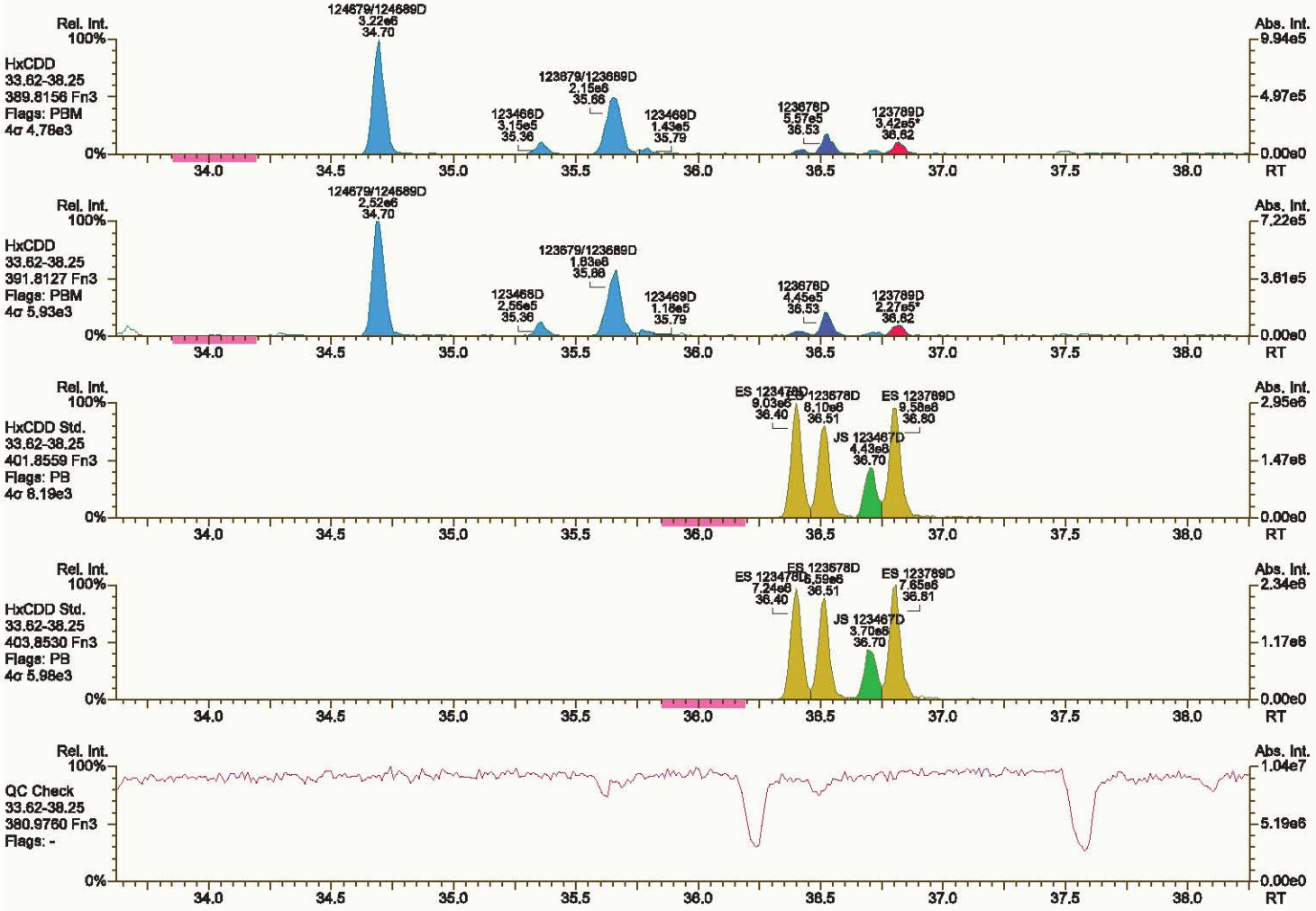
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6710, 8222 scc: 704-926

PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 3 of 12

SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30

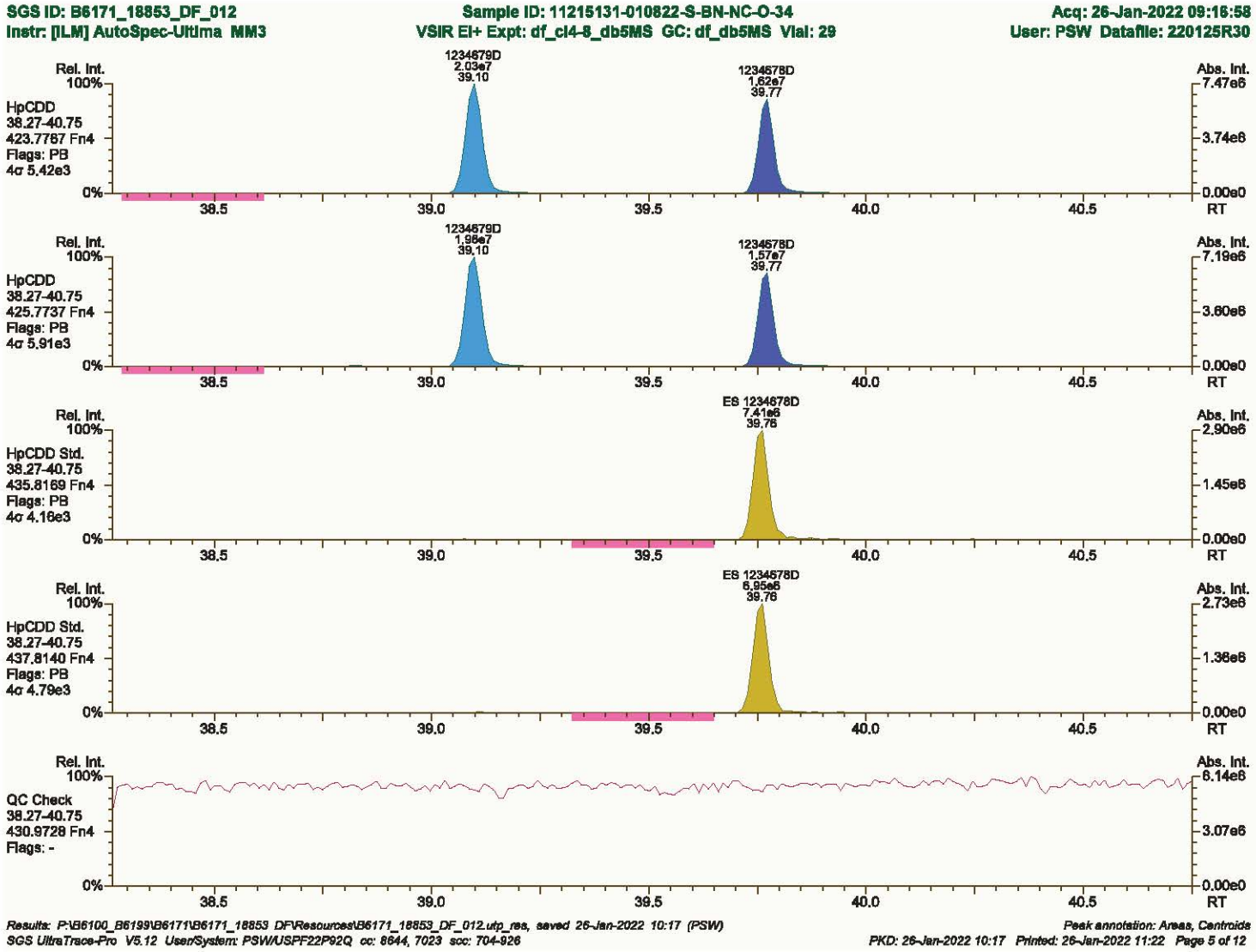


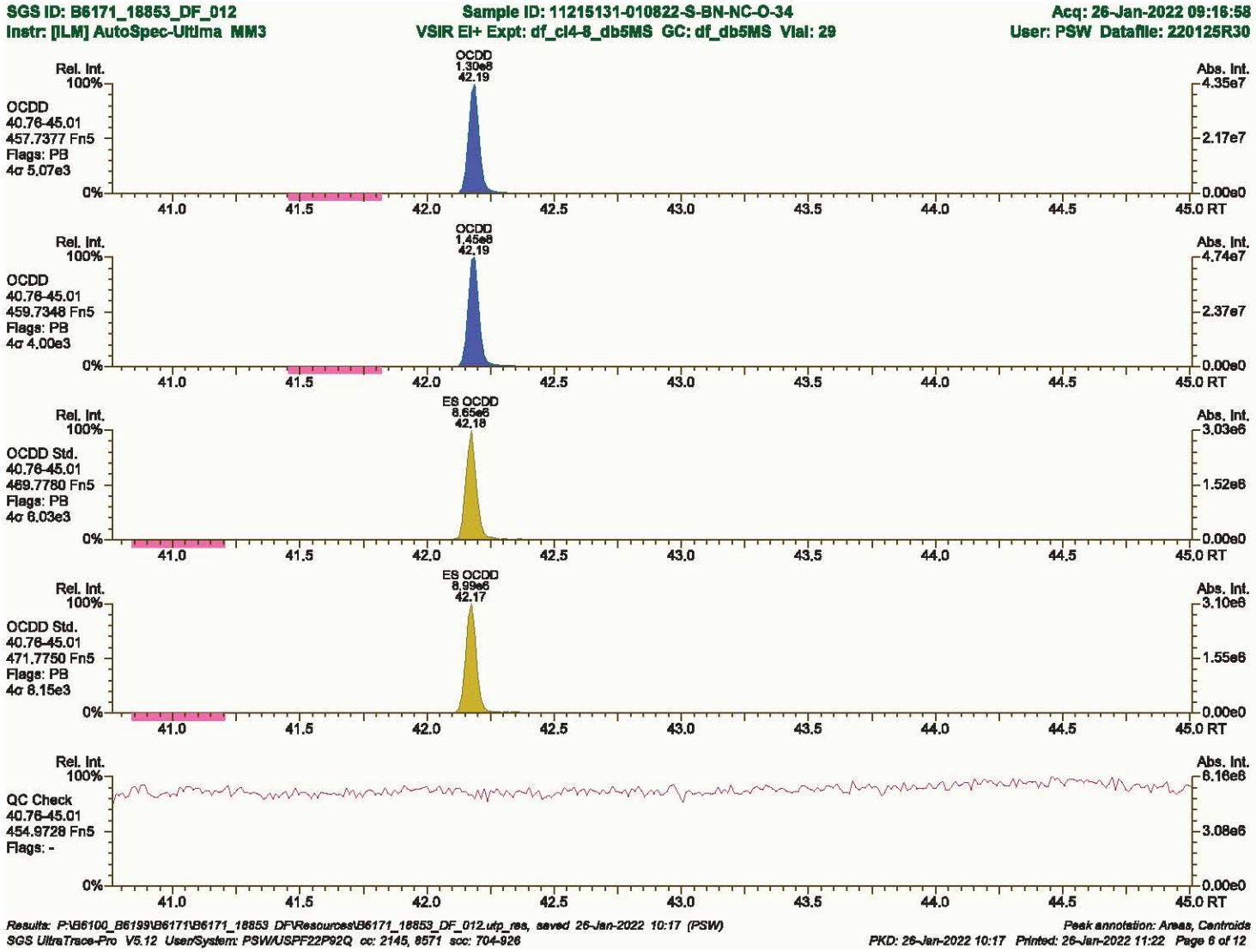
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1415, 7770 scc: 704-926

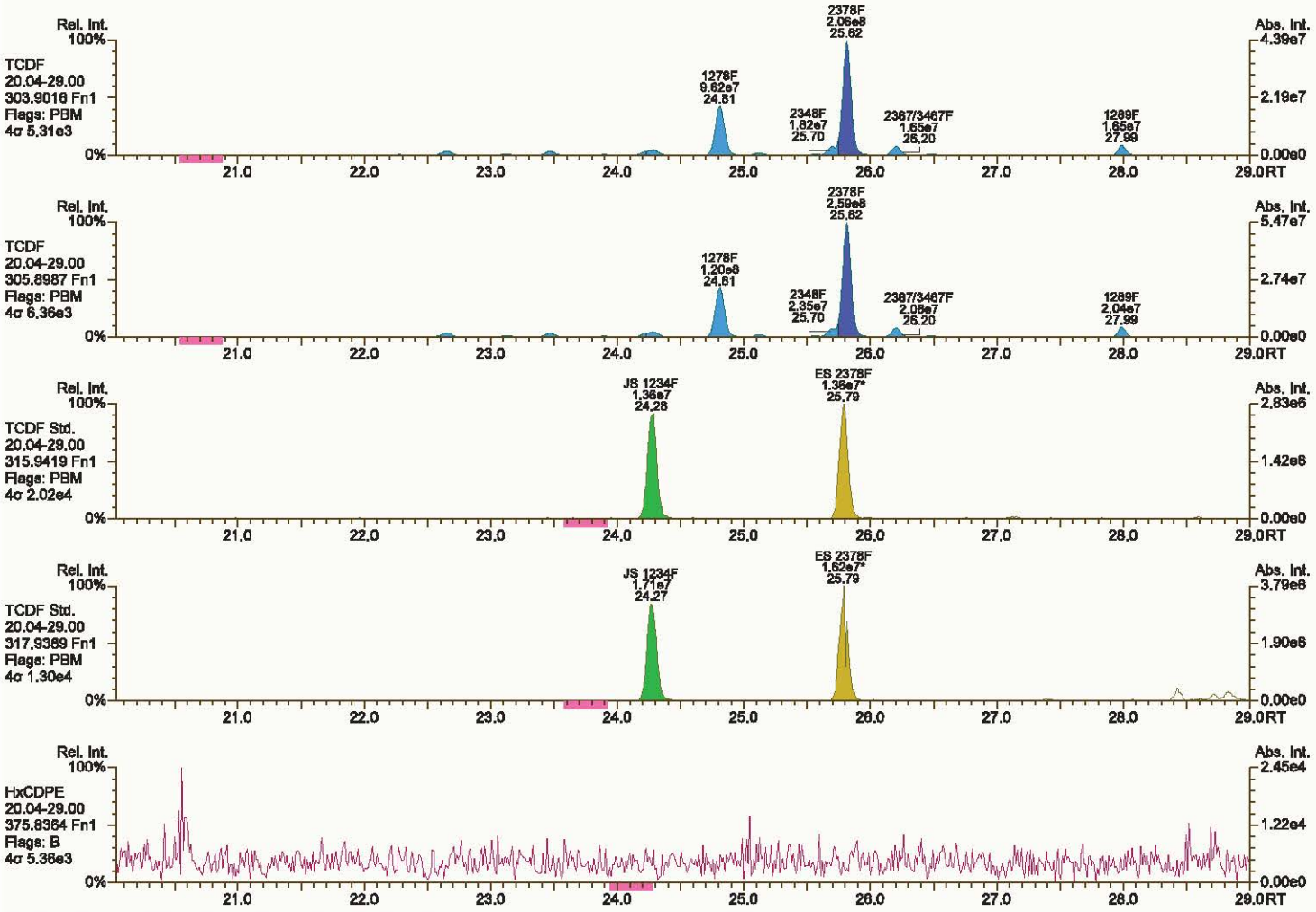
PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 4 of 12


SGS ID: B6171_18853_DF_012
Sample ID: 11215131-010822-S-BN-NC-O-34
Acq: 26-Jan-2022 09:16:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220125R30
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 5.42e3
1234679D
2.03e7
39.10
1234678D
1.62e7
39.77
7.47e6
3.74e6
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 5.91e3
1234679D
1.98e7
39.10
1234678D
1.57e7
39.77
7.19e6
3.60e6
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 4.16e3
ES 1234678D
7.41e6
39.76
2.90e6
1.45e6
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 4.79e3
ES 1234678D
6.95e6
39.76
2.73e6
1.36e6
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
6.14e6
3.07e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT


SGS ID: B6171_18853_DF_012
Sample ID: 11215131-010822-S-BN-NC-O-34
Acq: 26-Jan-2022 09:16:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220125R30
Rel. Int.
Abs. Int.
OCDD
1.30e8
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 5.07e3
4.35e7
2.17e7
0.00e0
OCDD
1.45e8
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.00e3
4.74e7
2.37e7
ES OCDD
8.65e6
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 6.03e3
3.03e6
1.52e6
ES OCDD
8.99e6
42.17
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 8.15e3
3.10e6
1.55e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
6.16e6
3.08e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2145, 8571 scc: 704-926
PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 6 of 12

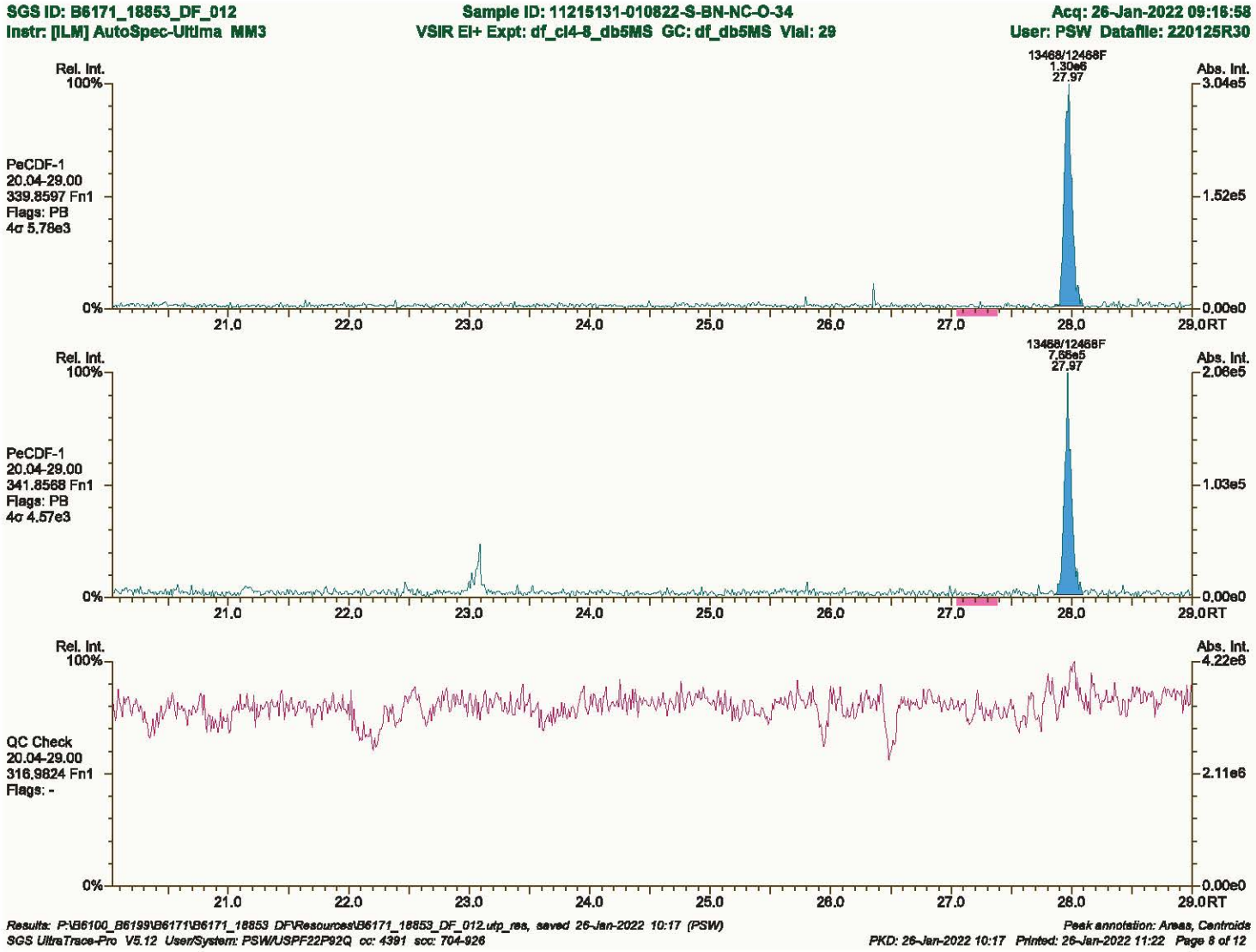
SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW) *Peak annotation: Areas, Centroids*

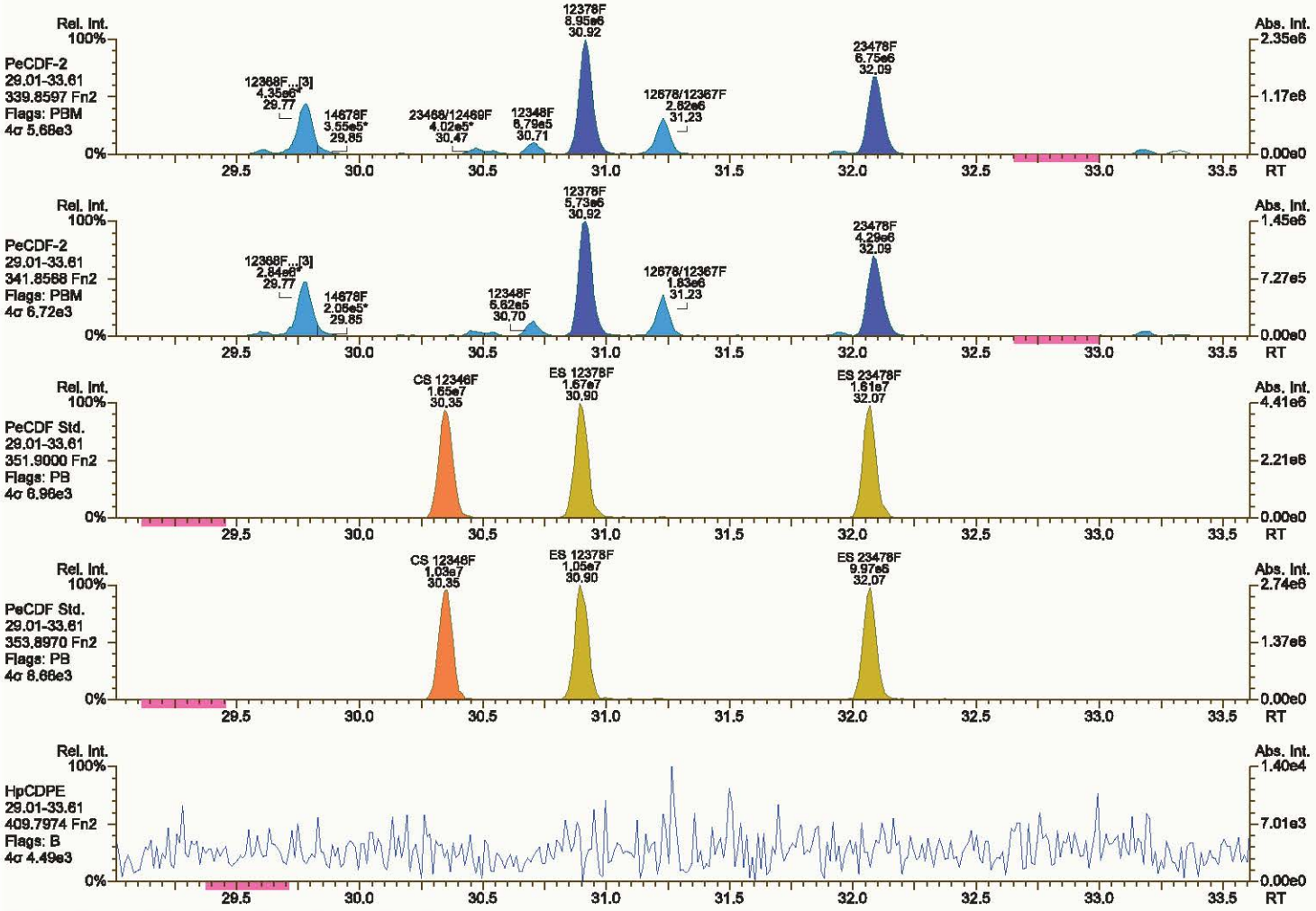
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5453, 8868, 3085 scc: 704-926 *PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 7 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4391 scc: 704-926
PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 8 of 12

SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30

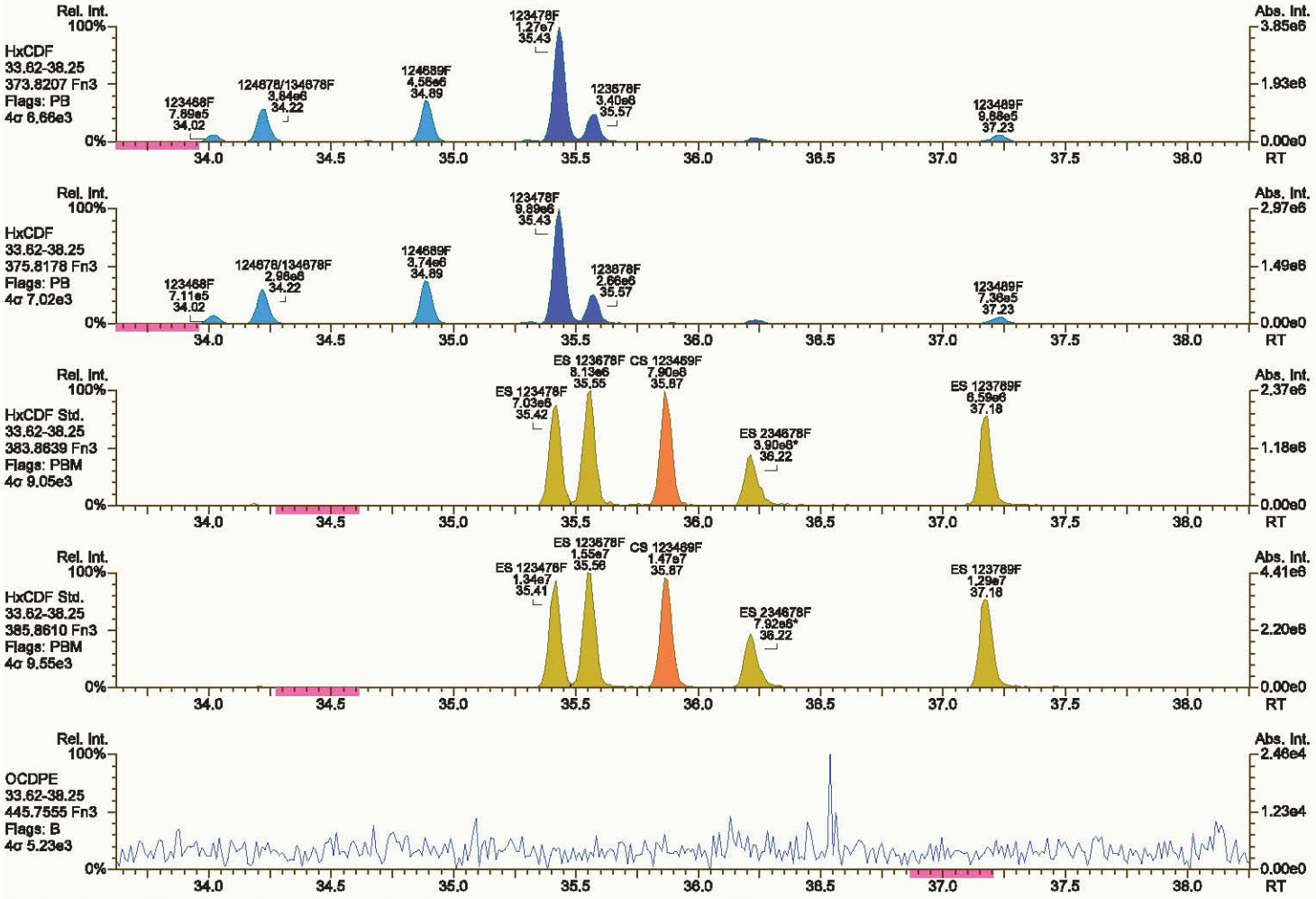


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4057, 5108, 2014 scc: 704-926 *PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 9 of 12*

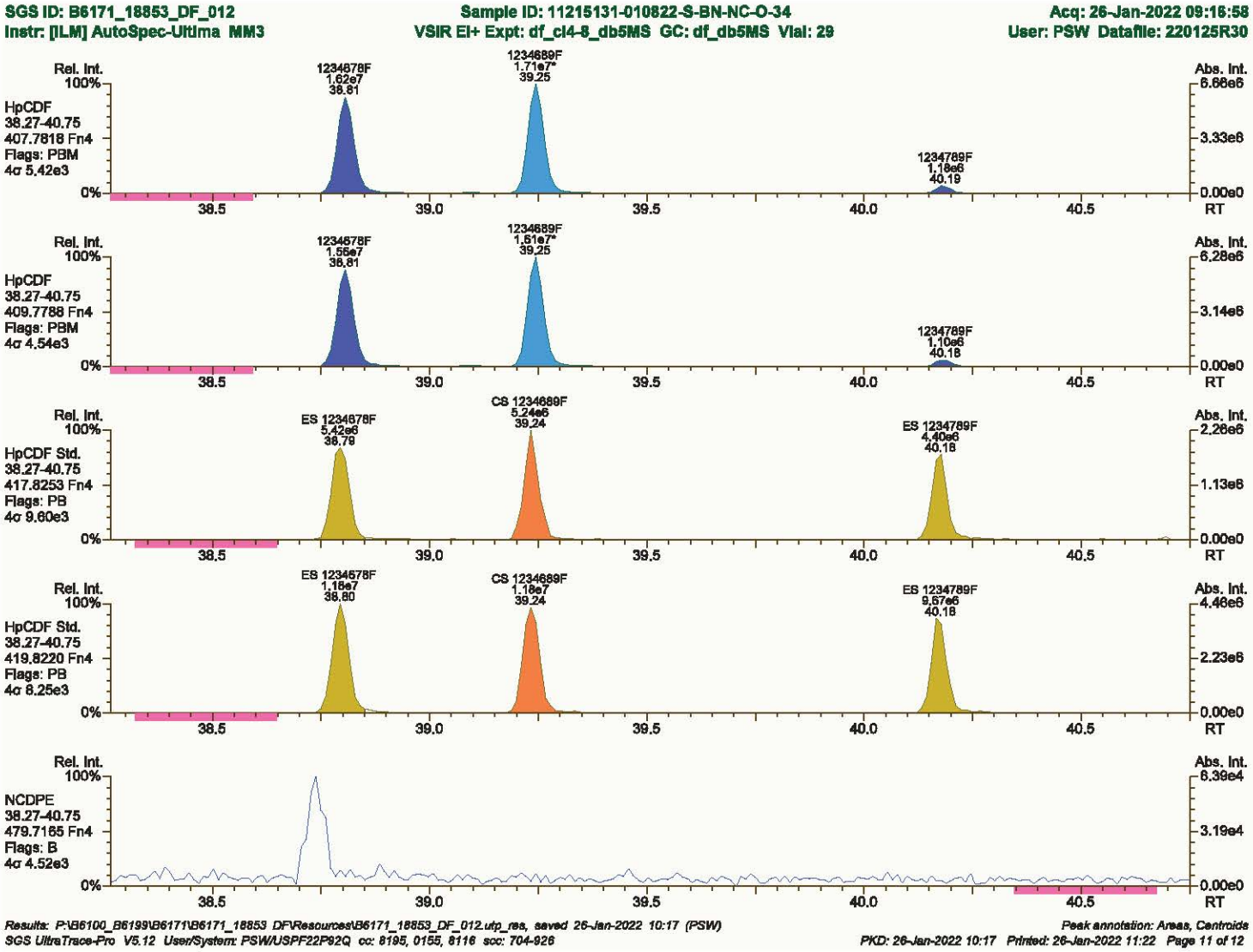
SGS ID: B6171_18853_DF_012 | Sample ID: 11215131-010822-S-BN-NC-O-34 | Acq: 26-Jan-2022 09:16:58

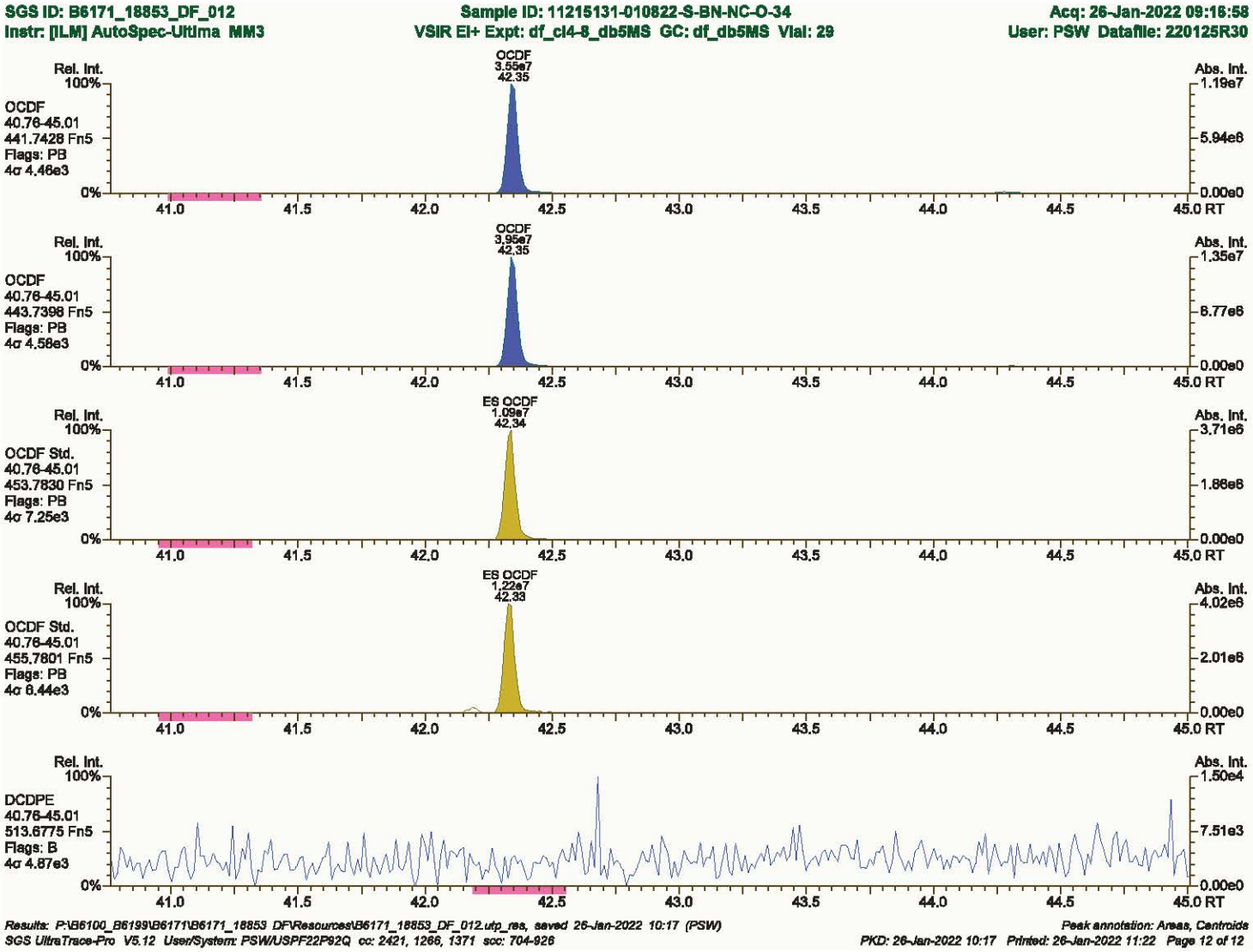
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29 | User: PSW Datafile: 220125R30



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0672, 4464, 5026 scc: 704-926 *PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 10 of 12*


SGS ID: B6171_18853_DF_012
Sample ID: 11215131-010822-S-BN-NC-O-34
Acq: 26-Jan-2022 09:16:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: PSW Datafile: 220125R30
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PBM
4σ 5.42e3
1234678F
1.62e7
38.81
1234689F
1.71e7*
39.25
1234789F
1.18e6
40.19
6.66e6
3.33e6
0.00e0
RT
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PBM
4σ 4.54e3
1234678F
1.55e7
38.81
1234689F
1.61e7*
39.25
1234789F
1.10e6
40.18
6.28e6
3.14e6
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 9.60e3
ES 1234678F
5.42e6
38.79
CS 1234689F
5.24e6
39.24
ES 1234789F
4.40e6
40.18
2.26e6
1.13e6
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 8.25e3
ES 1234678F
1.15e7
38.80
CS 1234689F
1.18e7
39.24
ES 1234789F
9.67e6
40.18
4.46e6
2.23e6
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 4.52e3
6.39e4
3.19e4
100%
0%
38.5
39.0
39.5
40.0
40.5



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_012.utp_res, saved 26-Jan-2022 10:17 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2421, 1266, 1371 scc: 704-926
PKD: 26-Jan-2022 10:17 Printed: 26-Jan-2022 11:22 Page 12 of 12

Lab ID: B6171_18863_DF_013 | Acq'd: 26 Jan 2022 10:04 PSW | Wt/Vol: 10.23 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-31 | UTP: 26-Jan-2022 11:09:05 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 347-530-FBB

Datafile: 220125R31 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.74		1.0008	1.0009	+0.2	4.84E+06	0.82	Y	1.34	31	9485.989	0.746
12378-PeCDD	32.44	J	1.0005	1.0009	+0.8	1.30E+05	1.72	Y	1.06	1.15	8881.378	0.703
123478-HxCDD	36.40	J	1.0004	1.0003	-0.2	1.35E+05	1.34	Y	1.06	1.34	9212.182	0.747
123678-HxCDD	36.52		1.0035	1.0036	+0.2	5.25E+05	1.29	Y	1.08	5.21	9212.182	0.734
123789-HxCDD	36.81		1.0116	1.0115	-0.2	3.40E+05	1.34	Y	1.02	3.24	9212.182	0.794
1234678-HpCDD	39.76		1.0003	1.0003	0	1.20E+07	1.07	Y	0.97	151	9215.307	0.766
OCDD	42.18		1.0003	1.0003	0	1.04E+08	0.89	Y	1.07	2,070	10716.493	1.66
2378-TCDF	25.79		1.0008	1.0009	+0.2	1.88E+07	0.80	Y	0.96	104	10610.591	0.663
12378-PeCDF	30.90		1.0006	1.0005	-0.2	9.81E+05	1.50	Y	0.95	6.33	7827.812	0.469
23478-PeCDF	32.08		1.0006	1.0008	+0.4	6.92E+05	1.37	Y	0.94	4.59	7827.812	0.502
123478-HxCDF	35.42		1.0004	1.0005	+0.2	1.51E+06	1.21	Y	1.23	9.93	9282.993	0.517
123678-HxCDF	35.56		1.0004	1.0005	+0.2	4.64E+05	1.20	Y	1.13	2.84	9282.993	0.511
234678-HxCDF	36.23	J EMPC	1.0005	1.0006	+0.2	1.56E+05	1.57	N	1.15	1.85	9282.993	1.13
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	9282.993	0.713
1234678-HpCDF	38.80		1.0003	1.0003	0	4.24E+06	1.13	Y	1.36	28.9	9578.462	0.453
1234789-HpCDF	40.17		1.0002	1.0002	0	3.41E+05	1.18	Y	1.30	3.54	9578.462	0.627
OCDF	42.34		1.0003	1.0003	0	7.84E+06	0.85	Y	1.03	132	7426.839	0.87

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.72		1.0273	1.0275	+0.3	2.27E+07	0.79	Y	1.03	89.8
ES 12378-PeCDD	32.41		1.2455	1.2464	+1.8	2.08E+07	1.62	Y	1.03	82.2
ES 123478-HxCDD	36.39		0.9917	0.9917	0	1.87E+07	1.34	Y	0.99	95.6
ES 123678-HxCDD	36.50		0.9948	0.9948	0	1.82E+07	1.20	Y	0.97	95.2
ES 123789-HxCDD	36.80		1.0028	1.0028	0	2.02E+07	1.30	Y	1.12	91.6
ES 1234678-HpCDD	39.75		1.0830	1.0833	+0.7	1.59E+07	1.13	Y	0.99	81.6
ES OCDD	42.17		1.1489	1.1493	+1.0	1.84E+07	0.91	Y	0.78	60.2
ES 2378-TCDF	25.77		1.0623	1.0626	+0.5	3.68E+07	0.80	Y	1.08	87
ES 12378-PeCDF	30.89		1.2724	1.2736	+2.2	3.20E+07	1.57	Y	0.93	87.9
ES 23478-PeCDF	32.06		1.3205	1.3218	+2.5	3.13E+07	1.56	Y	0.92	87.1
ES 123478-HxCDF	35.40		0.9649	0.9649	0	2.41E+07	0.51	Y	1.14	108
ES 123678-HxCDF	35.55		0.9688	0.9687	-0.2	2.82E+07	0.55	Y	1.30	111
ES 234678-HxCDF	36.21		0.9868	0.9869	+0.2	1.44E+07	0.54	Y	1.20	60.9
ES 123789-HxCDF	37.17		1.0129	1.0130	+0.2	2.08E+07	0.53	Y	1.14	93.1
ES 1234678-HpCDF	38.79		1.0569	1.0570	+0.2	2.11E+07	0.43	Y	0.95	113
ES 1234789-HpCDF	40.17		1.0944	1.0946	+0.5	1.45E+07	0.43	Y	0.85	87.2
ES OCDF	42.33		1.1533	1.1536	+0.8	2.26E+07	0.89	Y	0.93	62.3

Lab ID: B6171_18863_DF_013 | Acq'd: 26 Jan 2022 10:04 PSW | Wt/Vol: 10.23 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-31 | UTP: 26-Jan-2022 11:09:05 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 347-530-FBB

Datafile: 220125R31 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.00		-	-	-	2.45E+07	0.79	Y	-	-
JS 1234-TCDF	24.25		-	-	-	3.90E+07	0.79	Y	-	-
JS 123467-HxCDD	36.69		-	-	-	9.81E+06	1.26	Y	-	-
CS 37Cl-2378-TCDD	26.74		1.0282	1.0284	+0.3	1.12E+07	n/a	-	1.31	87.1
CS 12347-PeCDD	31.89		1.2257	1.2265	+1.5	2.00E+07	1.60	Y	0.89	91.4
CS 12346-PeCDF	30.33		1.2496	1.2507	+2.0	3.27E+07	1.61	Y	0.87	96.5
CS 123469-HxCDF	35.86		0.9773	0.9773	0	2.72E+07	0.54	Y	1.09	127
CS 1234689-HpCDF	39.23		1.0687	1.0690	+0.7	2.01E+07	0.44	Y	0.86	119
~~SS 37Cl-2378-TCDD~~	~~26.74~~		~~1.0282~~	~~1.0284~~	~~+0.3~~	~~1.12E+07~~	~~n/a~~		~~1.26~~	~~97.5~~
~~SS 12347-PeCDD~~	~~31.89~~		~~1.2257~~	~~1.2265~~	~~+1.5~~	~~2.00E+07~~	~~1.60~~	~~Y~~	~~0.96~~	~~111~~
~~SS 12346-PeCDF~~	~~30.33~~		~~1.2496~~	~~1.2507~~	~~+2.0~~	~~3.27E+07~~	~~1.61~~	~~Y~~	~~0.93~~	~~110~~
~~SS 123469-HxCDF~~	~~35.86~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.72E+07~~	~~0.54~~	~~Y~~	~~0.94~~	~~114~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0690~~	~~+0.7~~	~~2.01E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~105~~

Totals	Conc	EMPC
Total TCDD	36.3	36.3
Total PeCDD	1.15	4.48
Total HxCDD	48.9	48.9
Total HpCDD	366	366
Total Tetra-Octa Dioxins	2530	2530
Total TCDF	167	180
Total PeCDF	24	27.8
Total HxCDF	46.8	48.7
Total HpCDF	86.6	87.5
Total Tetra-Octa Furans	456	476
Total Tetra-Octa Dioxins & Furans	2980	3010

Lab ID: B6171_18863_DF_013 | Acq'd: 26 Jan 2022 10:04 PSW | Wt/Vol: 10.23 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-31 | UTP: 26-Jan-2022 11:09:05 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 347-530-FBB

Datafile: 220125R31 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		9485.989	0.746
1379-TCDD	NotFnd		0.8642						1.34		9485.989	0.746
1369-TCDD	NotFnd		0.8825						1.34		9485.989	0.746
1469-TCDD	24.45		0.9154	0.9151	-0.4	2.00E+05	0.80	Y	1.34	1.28	9485.989	0.746
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		9485.989	0.746
1378-TCDD	NotFnd		0.9332						1.34		9485.989	0.746
1268-TCDD	NotFnd		0.9415						1.34		9485.989	0.746
1478-TCDD	NotFnd		0.9518						1.34		9485.989	0.746
1279-TCDD	NotFnd		0.9586						1.34		9485.989	0.746
1234/1269-TCDD	NotFnd		0.9734						1.34		9485.989	0.746
1236-TCDD	NotFnd		0.9788						1.34		9485.989	0.746
1237/1238-TCDD	26.43		0.9892	0.9894	+0.3	1.97E+05	0.75	Y	1.34	1.26	9485.989	0.746
1239-TCDD	NotFnd		0.9944						1.34		9485.989	0.746
2378-TCDD	**26.74**		**1.0008**	1.0009	**+0.2**	4.84E+06	0.82	Y	**1.34**	**31**	**9485.989**	**0.746**
1278-TCDD	27.10		1.0142	1.0145	+0.5	4.34E+05	0.86	Y	1.34	2.78	9485.989	0.746
1267-TCDD	NotFnd		1.0197						1.34		9485.989	0.746
1289-TCDD	NotFnd		1.0401						1.34		9485.989	0.746
12479/12468-PeCDD	29.82	J EMPC	0.9202	0.9202	0	1.90E+05	1.11	N	1.06	1.69	8881.378	0.703
12469-PeCDD	30.38	J EMPC	0.9375	0.9373	-0.4	1.86E+05	1.27	N	1.06	1.65	8881.378	0.703
12368-PeCDD	NotFnd		0.9553						1.06		8881.378	0.703
12478-PeCDD	NotFnd		0.9613						1.06		8881.378	0.703
12379-PeCDD	NotFnd		0.9644						1.06		8881.378	0.703
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		8881.378	0.703
12346/12347-PeCDD	NotFnd		0.9848						1.06		8881.378	0.703
12378-PeCDD	32.44	J	**1.0005**	**1.0009**	**+0.8**	**1.30E+05**	**1.72**	**Y**	**1.06**	**1.15**	**8881.378**	**0.703**
12367-PeCDD	NotFnd		1.0035						1.06		8881.378	0.703
12389-PeCDD	NotFnd		1.0146						1.06		8881.378	0.703
124679/124689-HxCDD	34.69		0.9532	0.9531	-0.2	1.99E+06	1.24	Y	1.05	19.4	9212.182	0.758
123468-HxCDD	35.35		0.9715	0.9713	-0.4	2.88E+05	1.32	Y	1.05	2.81	9212.182	0.758
123679/123689-HxCDD	35.65		0.9795	0.9796	+0.2	1.59E+06	1.32	Y	1.05	15.5	9212.182	0.758
123469-HxCDD	35.77	J	0.9832	0.9830	-0.4	1.39E+05	1.27	Y	1.05	1.36	9212.182	0.758
123478-HxCDD	36.40	J	**1.0004**	**1.0003**	**-0.2**	**1.35E+05**	**1.34**	**Y**	1.06	**1.34**	**9212.182**	**0.747**
123678-HxCDD	36.52		**1.0035**	**1.0036**	**+0.2**	**5.25E+05**	**1.29**	**Y**	1.08	**5.21**	**9212.182**	**0.734**
123467-HxCDD	NotFnd		1.0087						1.05		9212.182	0.758
123789-HxCDD	36.81		**1.0116**	**1.0115**	**-0.2**	**3.40E+05**	**1.34**	**Y**	1.02	**3.24**	**9212.182**	**0.794**

Lab ID: B6171_18863_DF_013 | Acq'd: 26 Jan 2022 10:04 PSW | Wt/Vol: 10.23 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-O-31 | UTP: 26-Jan-2022 11:09:05 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 347-530-FBB

Datafile: 220125R31 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.09		0.9834	0.9834	0	1.70E+07	1.05	Y	0.97	215	9215.307	0.766
1234678-HpCDD	**39.76**		**1.0003**	**1.0003**	**0**	**1.20E+07**	**1.07**	**Y**	**0.97**	**151**	**9215.307**	**0.766**
OCDD	**42.18**		**1.0003**	**1.0003**	**0**	**1.04E+08**	**0.89**	**Y**	**1.07**	**2,070**	**10716.493**	**1.66**
OCDD-a	42.18		1.0001	1.0002	+0.3	5.98E+06	2.65	Y	0.07	1,930	11801.663	29.6
1368-TCDF	NotFnd		0.7942						0.96		10610.591	0.663
1468-TCDF	NotFnd		0.8155						0.96		10610.591	0.663
2468-TCDF	21.64		0.8407	0.8399	-1.0	2.44E+05	0.68	Y	0.96	1.35	10610.591	0.663
1346/1246-TCDF	NotFnd		0.8553						0.96		10610.591	0.663
1347/1378/1247-TCDF	22.21		0.8617	0.8619	+0.3	4.89E+05	0.75	Y	0.96	2.71	10610.591	0.663
1348-TCDF	NotFnd		0.8740						0.96		10610.591	0.663
1248/1367/1379-TCDF	22.62		0.8798	0.8778	-2.7	7.41E+05	0.78	Y	0.96	4.1	10610.591	0.663
1268-TCDF	23.09		0.8967	0.8960	-1.0	3.46E+05	0.71	Y	0.96	1.92	10610.591	0.663
1467-TCDF	NotFnd		0.9025						0.96		10610.591	0.663
1478-TCDF	23.44	EMPC	0.9101	0.9096	-0.7	7.48E+05	0.92	N	0.96	4.14	10610.591	0.663
1369/1237-TCDF	23.87		0.9263	0.9260	-0.4	2.61E+05	0.83	Y	0.96	1.44	10610.591	0.663
2467-TCDF	NotFnd		0.9322						0.96		10610.591	0.663
2368-TCDF	24.21	EMPC	0.9389	0.9393	+0.6	9.34E+05	0.90	N	0.96	5.17	10610.591	0.663
1238/1234/1678/1469/1236-TCDF	24.30	EMPC	0.9427	0.9430	+0.4	4.06E+05	0.91	N	0.96	2.25	10610.591	0.663
1278-TCDF	24.79		0.9623	0.9621	-0.3	4.59E+06	0.79	Y	0.96	25.4	10610.591	0.663
1349-TCDF	NotFnd		0.9678						0.96		10610.591	0.663
1267-TCDF	25.10		0.9740	0.9739	-0.2	4.59E+05	0.73	Y	0.96	2.54	10610.591	0.663
2346/1249-TCDF	NotFnd		0.9820						0.96		10610.591	0.663
2347/1279-TCDF	25.54	EMPC	0.9915	0.9911	-0.6	2.33E+05	1.00	N	0.96	1.29	10610.591	0.663
2348-TCDF	25.67		0.9964	0.9960	-0.6	8.15E+05	0.80	Y	0.96	4.51	10610.591	0.663
2378-TCDF	**25.79**		**1.0008**	**1.0009**	**+0.2**	**1.88E+07**	**0.80**	**Y**	**0.96**	**104**	**10610.591**	**0.663**
2367/3467-TCDF	26.18		1.0163	1.0160	-0.5	2.41E+06	0.85	Y	0.96	13.3	10610.591	0.663
1269-TCDF	26.46	EMPC	1.0265	1.0268	+0.5	1.68E+05	1.08	N	0.96	0.93	10610.591	0.663
1239-TCDF	NotFnd		1.0373						0.96		10610.591	0.663
1289-TCDF	27.97		1.0847	1.0853	+1.0	9.10E+05	0.86	Y	0.96	5.04	10610.591	0.663
13468/12468-PeCDF	27.95		0.9045	0.9049	+0.7	8.15E+05	1.38	Y	0.94	5.34	9809.37	0.609
13678/13467/12467-PeCDF	29.58	J EMPC	0.9574	0.9578	+0.7	1.93E+05	1.99	N	0.94	1.27	7827.812	0.486
12368/13478/12478-PeCDF	29.75		0.9628	0.9631	+0.5	8.44E+05	1.52	Y	0.94	5.53	7827.812	0.486
14678-PeCDF	29.84	J EMPC	0.9661	0.9661	0	7.56E+04	2.54	N	0.94	0.495	7827.812	0.486
13479-PeCDF	NotFnd		0.9695						0.94		7827.812	0.486
13469/12479-PeCDF	NotFnd		0.9779						0.94		7827.812	0.486
12346-PeCDF	NotFnd		0.9824						0.94		7827.812	0.486

Lab ID: B6171_18863_DF_013 | Acq'd: 26 Jan 2022 10:04 PSW | Wt/Vol: 10.23 g | ICAL: MM3_DF_10272021_27JUL2021

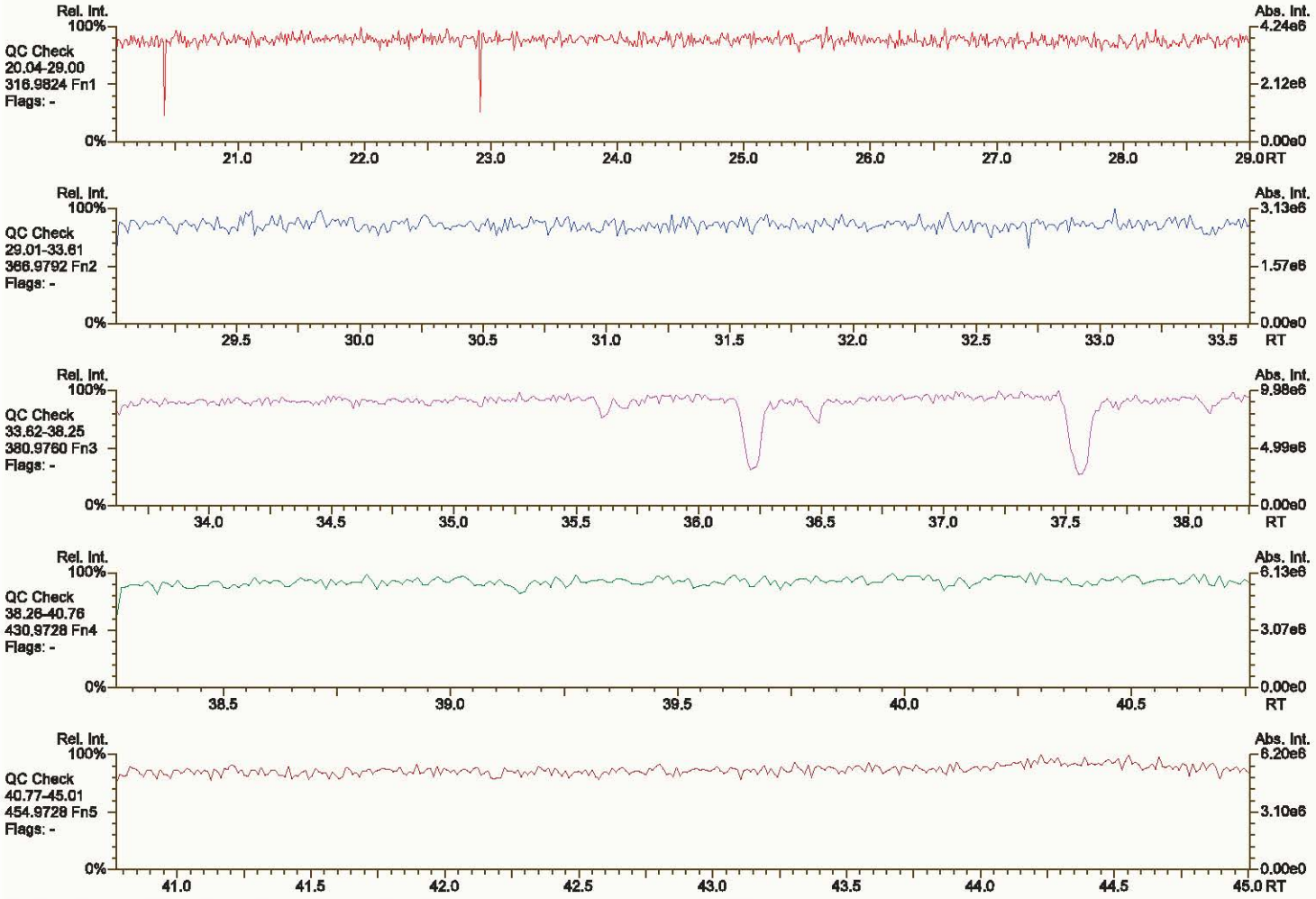
Client ID: 11215131-010822-S-BN-NC-O-31 | UTP: 26-Jan-2022 11:09:05 PSW | J-level: 0.489 pg/g | Split: 1 | Checkcode: 347-530-FBB

Datafile: 220125R31 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.46	J EMPC	0.9857	0.9860	+0.5	2.13E+05	1.26	N	0.94	1.4	7827.812	0.486
12347-PeCDF	NotFnd		0.9882						0.94		7827.812	0.486
12348-PeCDF	30.70	J EMPC	0.9935	0.9938	+0.6	8.96E+04	1.86	N	0.94	0.587	7827.812	0.486
12378-PeCDF	**30.90**		**1.0006**	**1.0005**	**-0.2**	**9.81E+05**	**1.50**	**Y**	**0.95**	**6.33**	**7827.812**	**0.469**
12678/12367-PeCDF	31.21	J	1.0099	1.0105	+1.1	3.39E+05	1.66	Y	0.94	2.22	7827.812	0.486
12379-PeCDF	NotFnd		1.0155						0.94		7827.812	0.486
12679-PeCDF	NotFnd		0.9921						0.94		7827.812	0.486
23467/12369-PeCDF	NotFnd		0.9962						0.94		7827.812	0.486
23478-PeCDF	**32.08**		**1.0006**	**1.0008**	**+0.4**	**6.92E+05**	**1.37**	**Y**	**0.94**	**4.59**	**7827.812**	**0.502**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7827.812	0.486
12349-PeCDF	NotFnd		1.0106						0.94		7827.812	0.486
12389-PeCDF	NotFnd		1.0349						0.94		7827.812	0.486
123468-HxCDF	34.01		0.9606	0.9605	-0.2	4.94E+05	1.27	Y	1.16	3.8	9282.993	0.661
124678/134678-HxCDF	34.21		0.9663	0.9662	-0.2	1.82E+06	1.24	Y	1.16	14	9282.993	0.661
134679-HxCDF	NotFnd		0.9729						1.16		9282.993	0.661
124679-HxCDF	NotFnd		0.9786						1.16		9282.993	0.661
124689-HxCDF	34.88		0.9851	0.9852	+0.2	1.84E+06	1.26	Y	1.16	14.2	9282.993	0.661
123467-HxCDF	35.29	J	0.9970	0.9969	-0.2	1.34E+05	1.14	Y	1.16	1.03	9282.993	0.661
123478-HxCDF	**35.42**		**1.0004**	**1.0005**	**+0.2**	**1.51E+06**	**1.21**	**Y**	**1.23**	**9.93**	**9282.993**	**0.517**
123678-HxCDF	**35.56**		**1.0004**	**1.0005**	**+0.2**	**4.64E+05**	**1.20**	**Y**	**1.13**	**2.84**	**9282.993**	**0.511**
123479-HxCDF	NotFnd		1.0050						1.16		9282.993	0.661
123469-HxCDF	NotFnd		1.0091						1.16		9282.993	0.661
123679-HxCDF	NotFnd		0.9942						1.16		9282.993	0.661
234678-HxCDF	**36.23**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**1.56E+05**	**1.57**	**N**	**1.15**	**1.85**	**9282.993**	**1.13**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		9282.993	0.661
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**9282.993**	**0.713**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.22	J	1.0008	1.0012	+0.9	1.35E+05	1.10	Y	1.16	1.03	9282.993	0.661
1234678-HpCDF	**38.80**		**1.0003**	**1.0003**	**0**	**4.24E+06**	**1.13**	**Y**	**1.36**	**28.9**	**9578.462**	**0.453**
1234679-HpCDF	39.08	**J EMPC**	1.0076	1.0077	+0.2	1.14E+05	1.22	N	1.33	0.939	9578.462	0.525
1234689-HpCDF	39.24		1.0114	1.0116	+0.5	6.54E+06	1.04	Y	1.33	54.1	9578.462	0.525
1234789-HpCDF	**40.17**		**1.0002**	**1.0002**	**0**	**3.41E+05**	**1.18**	**Y**	**1.30**	**3.54**	**9578.462**	**0.627**
OCDF	**42.34**		**1.0003**	**1.0003**	**0**	**7.84E+06**	**0.85**	**Y**	**1.03**	**132**	**7426.839**	**0.87**
OCDF-a	42.34		1.0001	1.0001	0	3.58E+05	2.50	Y	0.06	104	12782.941	25.9

SGS ID: B6171_18853_DF_013 | Sample ID: 11215131-010822-S-BN-NC-O-31 | Acq: 26-Jan-2022 10:04:31

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: PSW Datafile: 220125R31



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW)

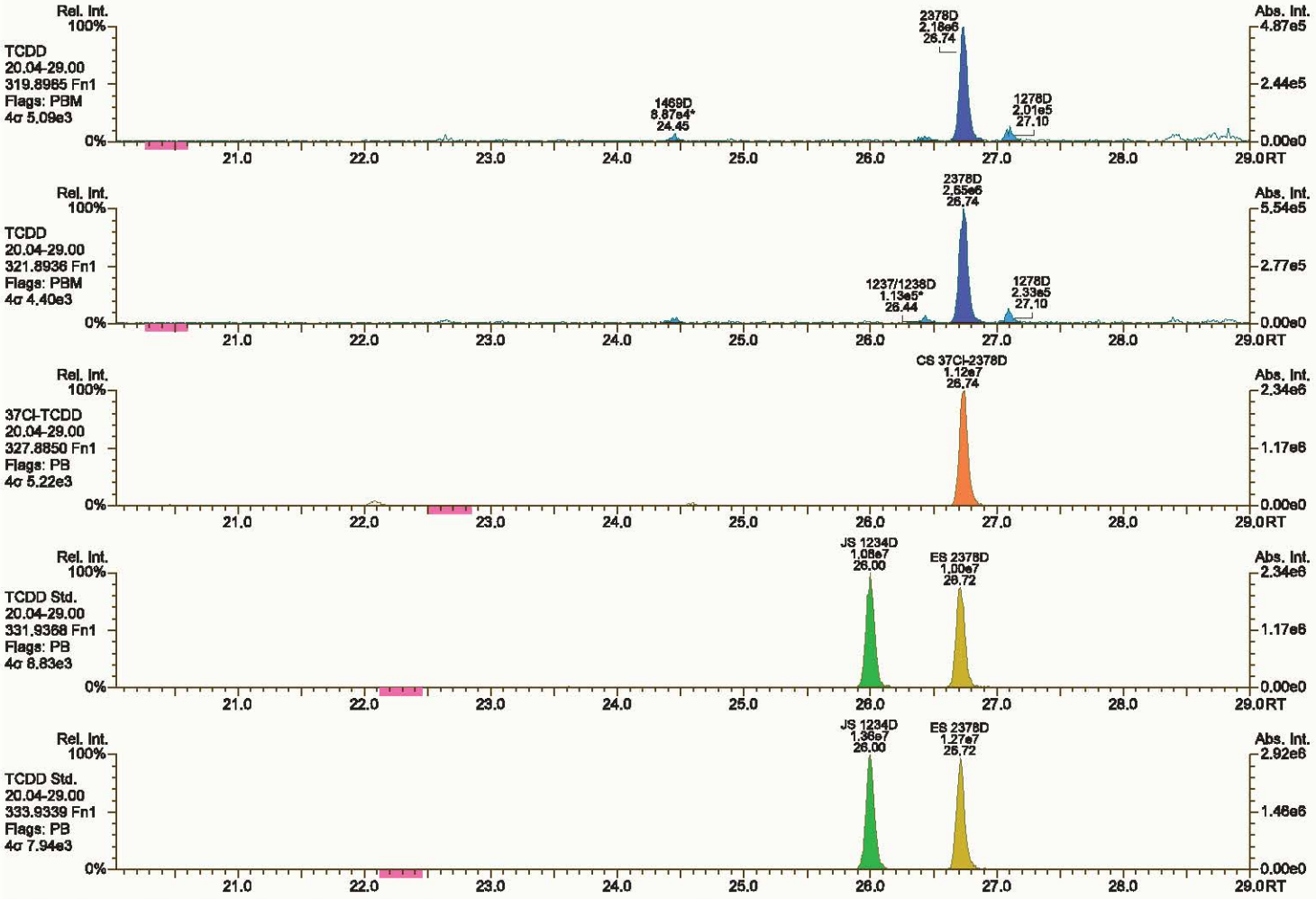
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 347-530

PKD: n/a Printed: 26-Jan-2022 11:22 Page 1 of 12

SGS ID: B6171_18853_DF_013 | Sample ID: 11215131-010822-S-BN-NC-O-31 | Acq: 26-Jan-2022 10:04:31

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: PSW Datafile: 220125R31

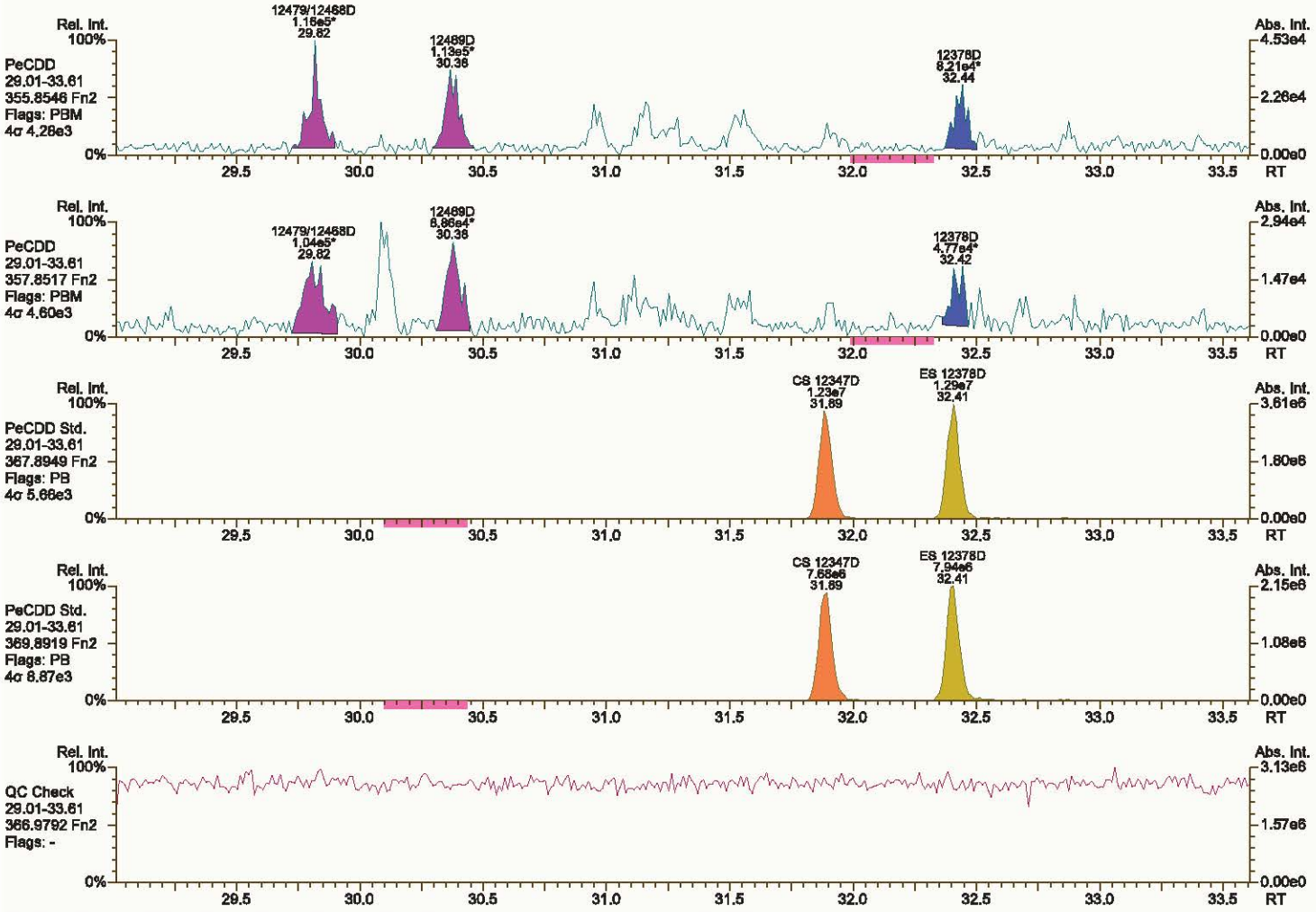


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0691, 4995, 4926 scc: 347-530 *PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 2 of 12*

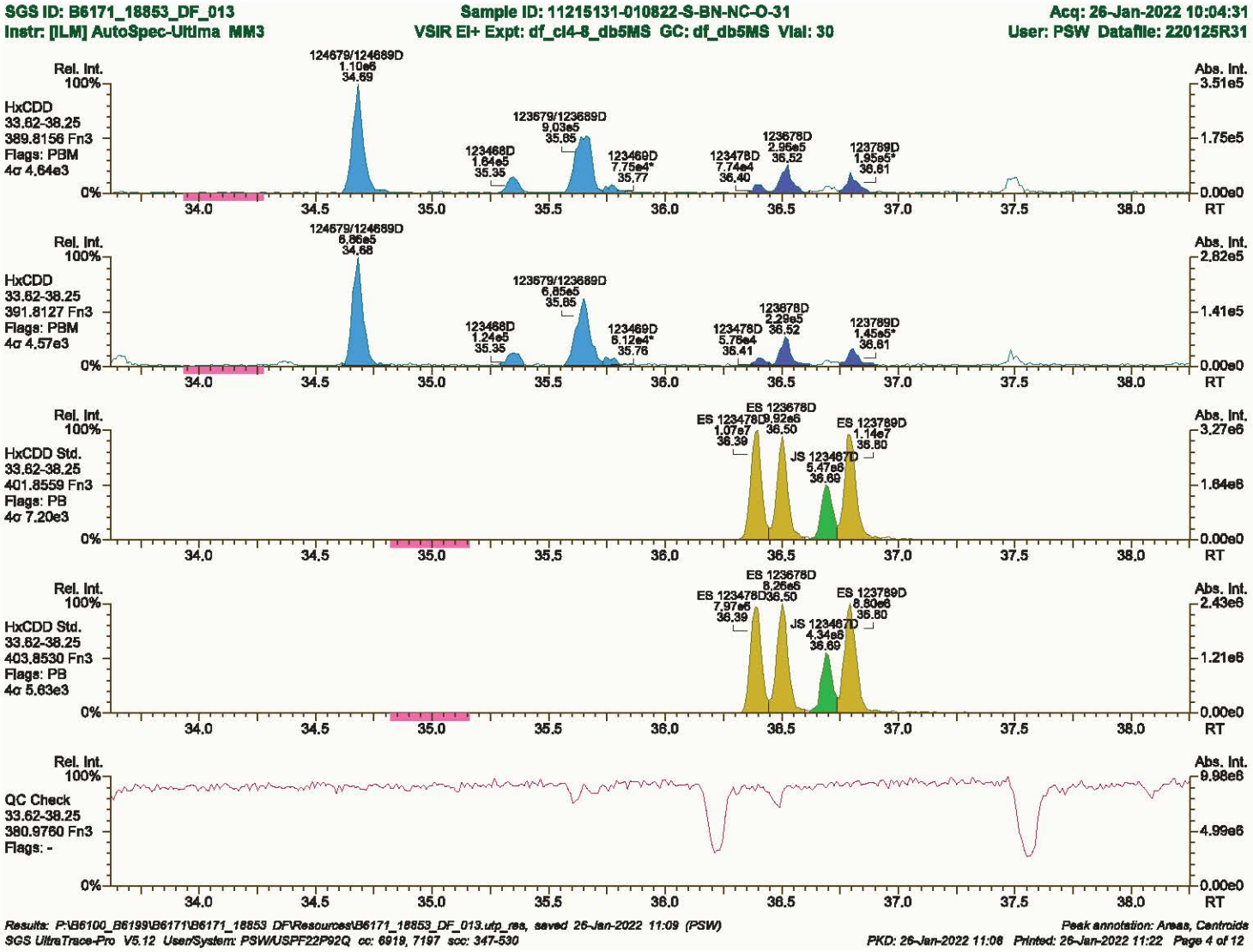
SGS ID: B6171_18853_DF_013 | Sample ID: 11215131-010822-S-BN-NC-O-31 | Acq: 26-Jan-2022 10:04:31

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: PSW Datafile: 220125R31



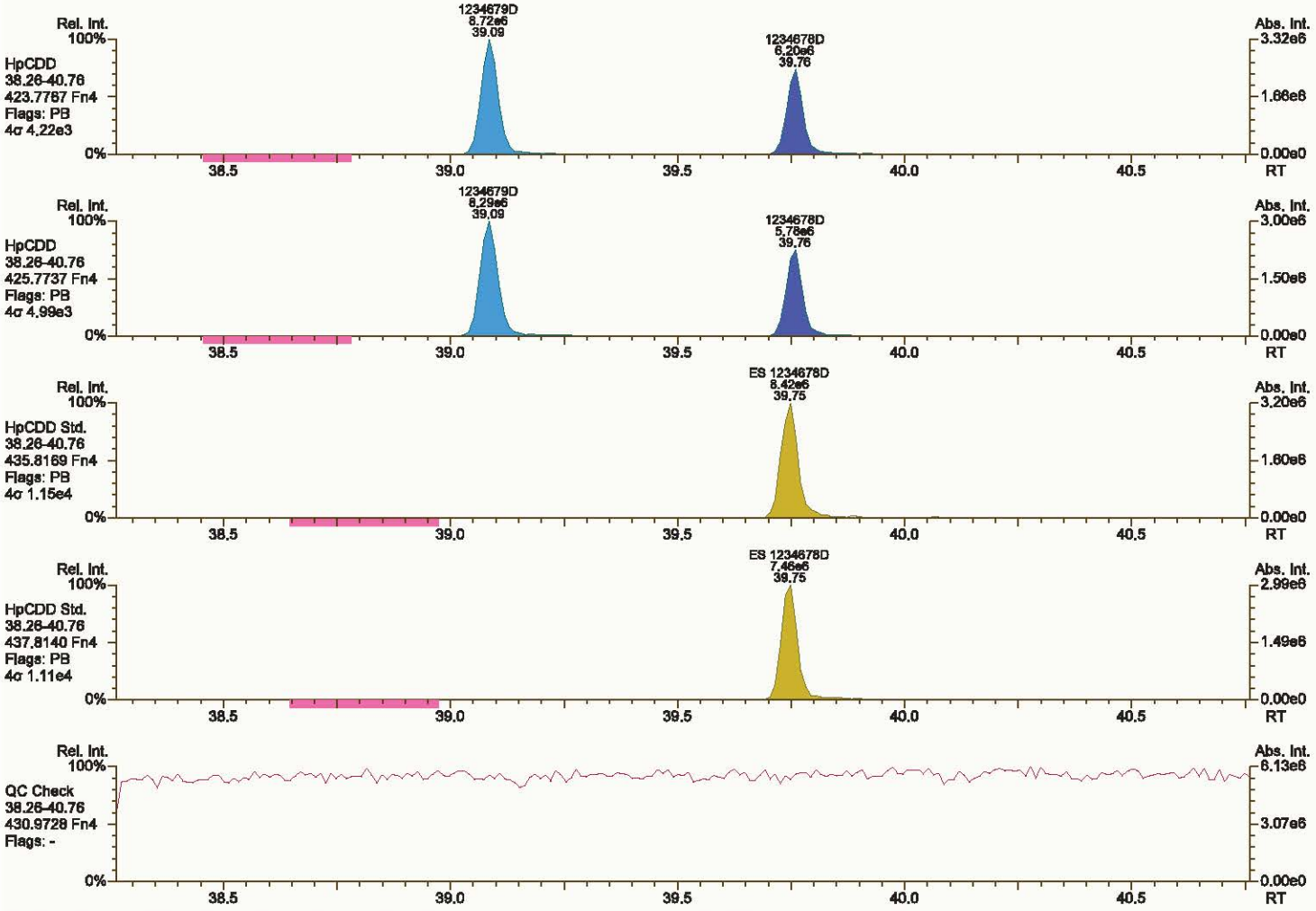
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1663, 3535 scc: 347-530 | *PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 3 of 12*


SGS ID: B6171_18853_DF_013
Sample ID: 11215131-010822-S-BN-NC-O-31
Acq: 26-Jan-2022 10:04:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220125R31
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.64e3
124679/124689D
1.10e6
34.69
123579/123689D
9.03e5
35.65
123468D
1.64e5
35.35
123469D
7.75e4*
35.77
123478D
7.74e4
36.40
123678D
2.96e5
36.52
123789D
1.95e5*
36.61
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.57e3
124679/124689D
6.86e5
34.68
123579/123689D
6.85e5
35.65
123468D
1.24e5
35.35
123469D
6.12e4*
35.76
123478D
5.78e4
36.41
123678D
2.29e5
36.52
123789D
1.45e5*
36.61
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 7.20e3
ES 123678D
ES 123478D 9.92e6
1.07e7
36.39
36.50
ES 123789D
1.14e7
36.60
JS 123478D
5.47e6
36.69
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 5.63e3
ES 123678D
8.26e6
ES 123478D 36.50
7.97e6
36.39
ES 123789D
8.80e6
36.60
JS 123478D
4.34e6
36.69
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
0.00e0
1.75e5
3.51e5
1.41e5
2.82e5
1.64e6
3.27e6
1.21e6
2.43e6
4.99e6
9.98e6
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6919, 7197 scc: 347-530
PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 4 of 12

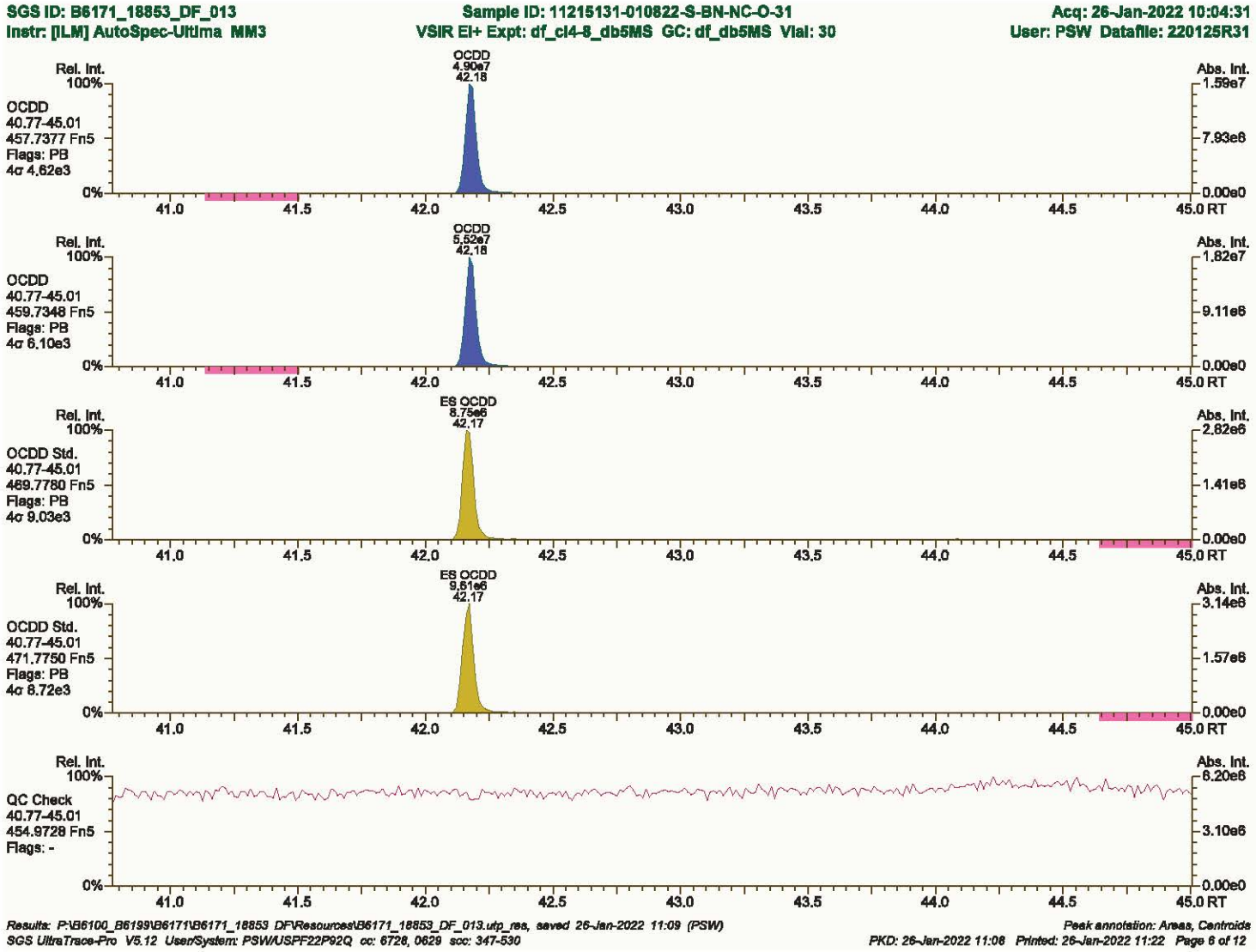
SGS ID: B6171_18853_DF_013 | Sample ID: 11215131-010822-S-BN-NC-O-31 | Acq: 26-Jan-2022 10:04:31

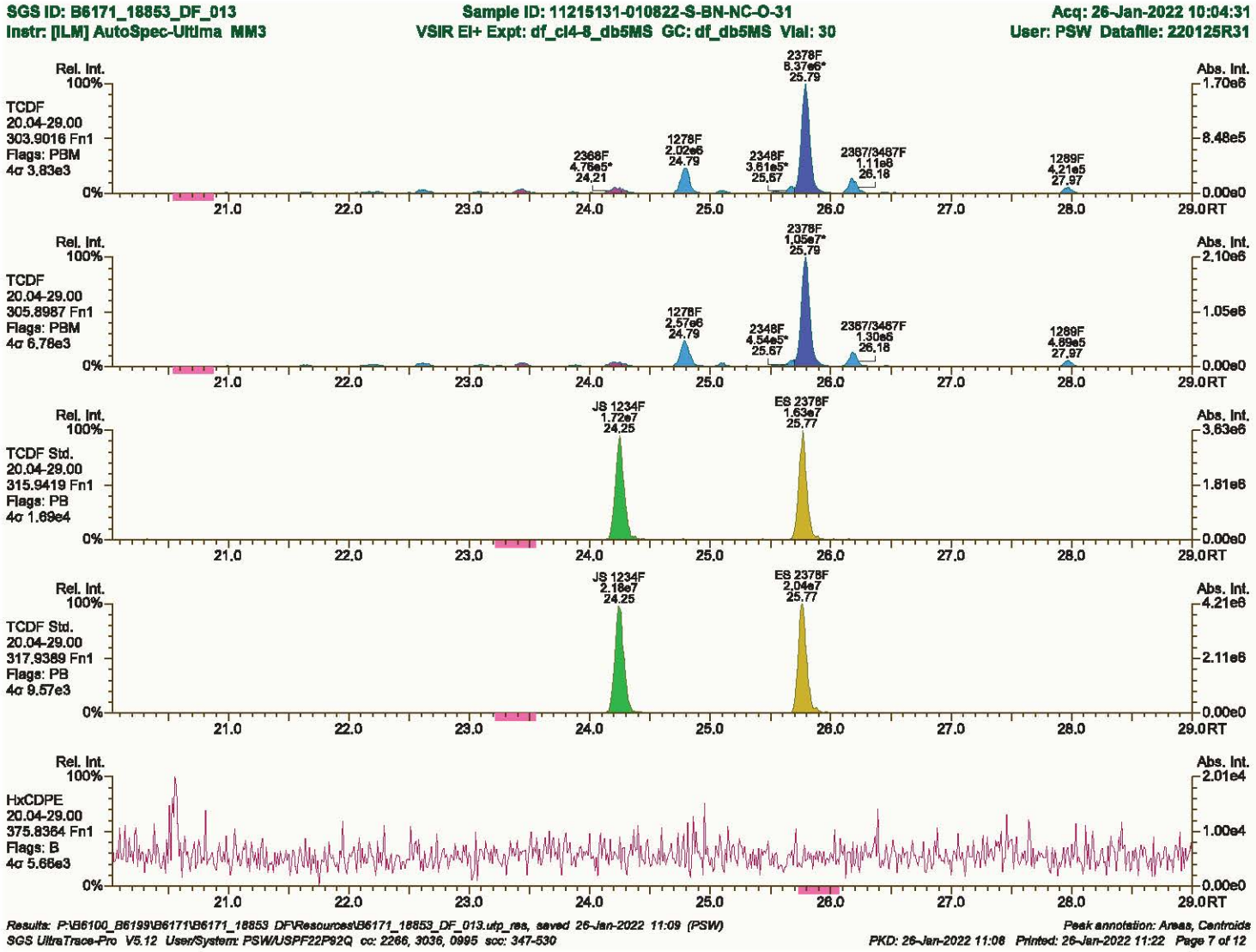
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: PSW Datafile: 220125R31



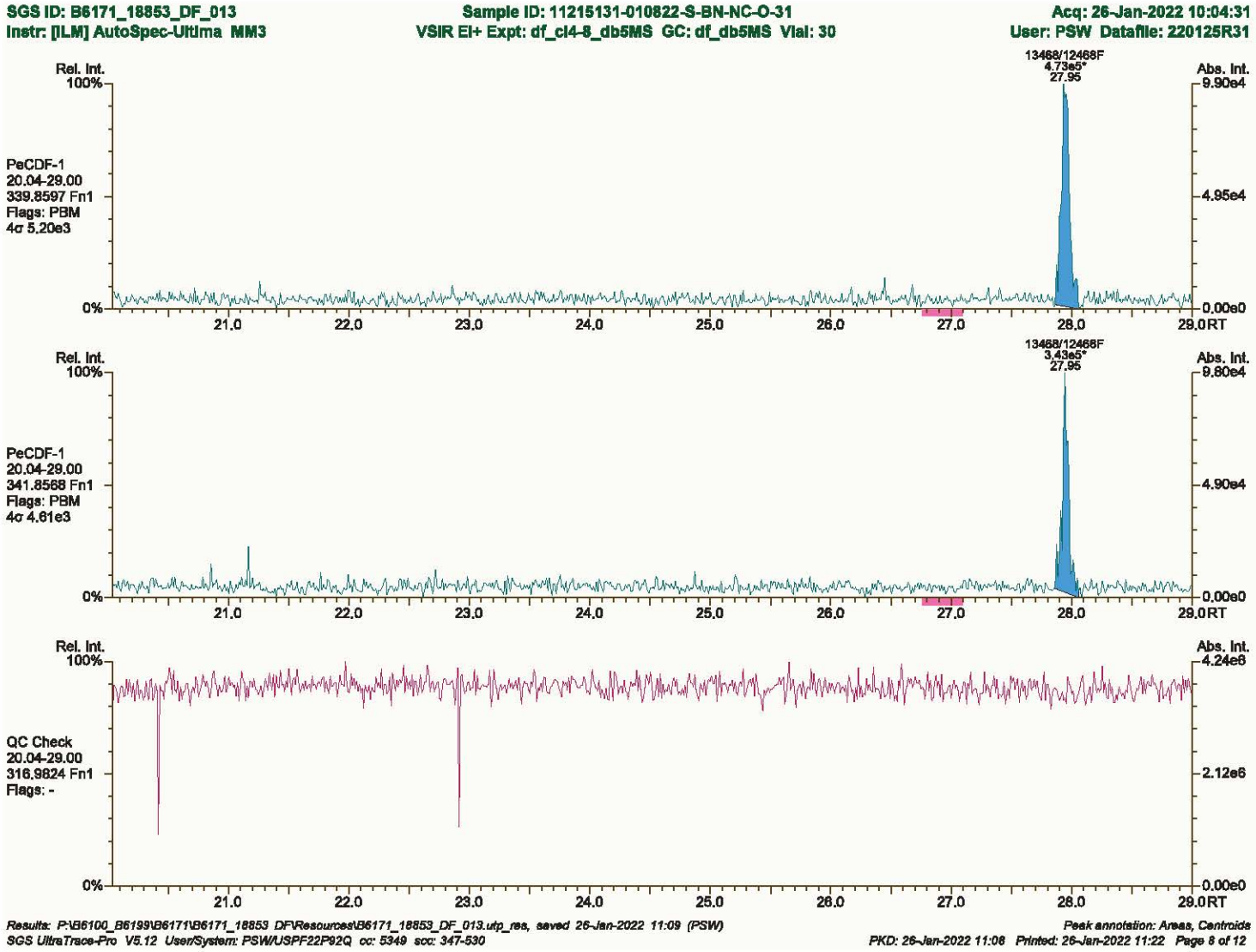
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW) | *Peak annotation: Areas, Centroids*

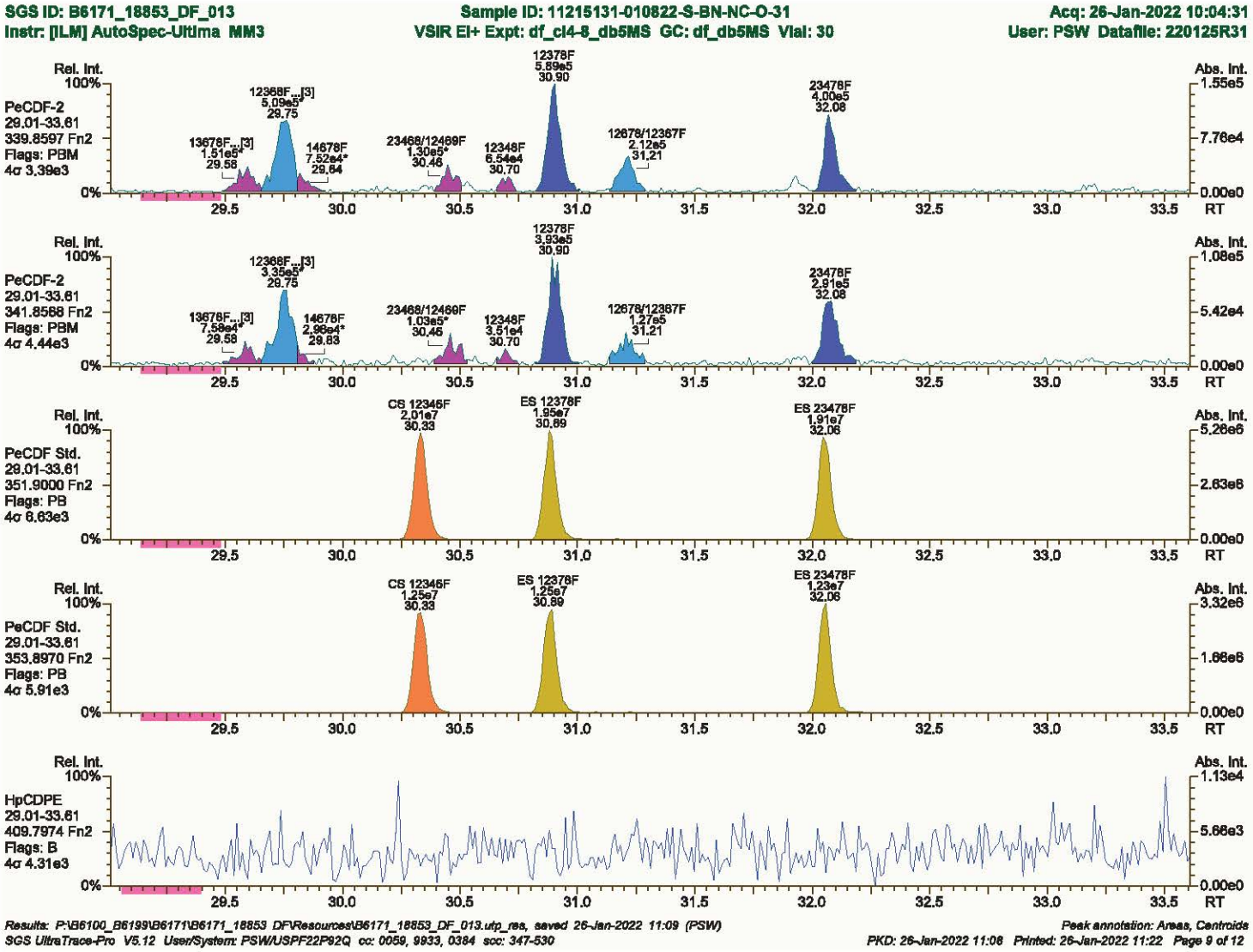
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5282, 8702 scc: 347-530 | *PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 5 of 12*


SGS ID: B6171_18853_DF_013
Sample ID: 11215131-010822-S-BN-NC-O-31
Acq: 26-Jan-2022 10:04:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220125R31
Rel. Int.
Abs. Int.
OCDD
4.90e7
42.18
OCDD
40.77-45.01
457.7377 Fn5
Flags: PB
4σ 4.62e3
1.59e7
7.93e6
0.00e0
OCDD
5.52e7
42.18
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 6.10e3
1.82e7
9.11e6
ES OCDD
8.75e6
42.17
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 9.03e3
2.82e6
1.41e6
ES OCDD
9.61e6
42.17
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 8.72e3
3.14e6
1.57e6
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
6.20e6
3.10e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



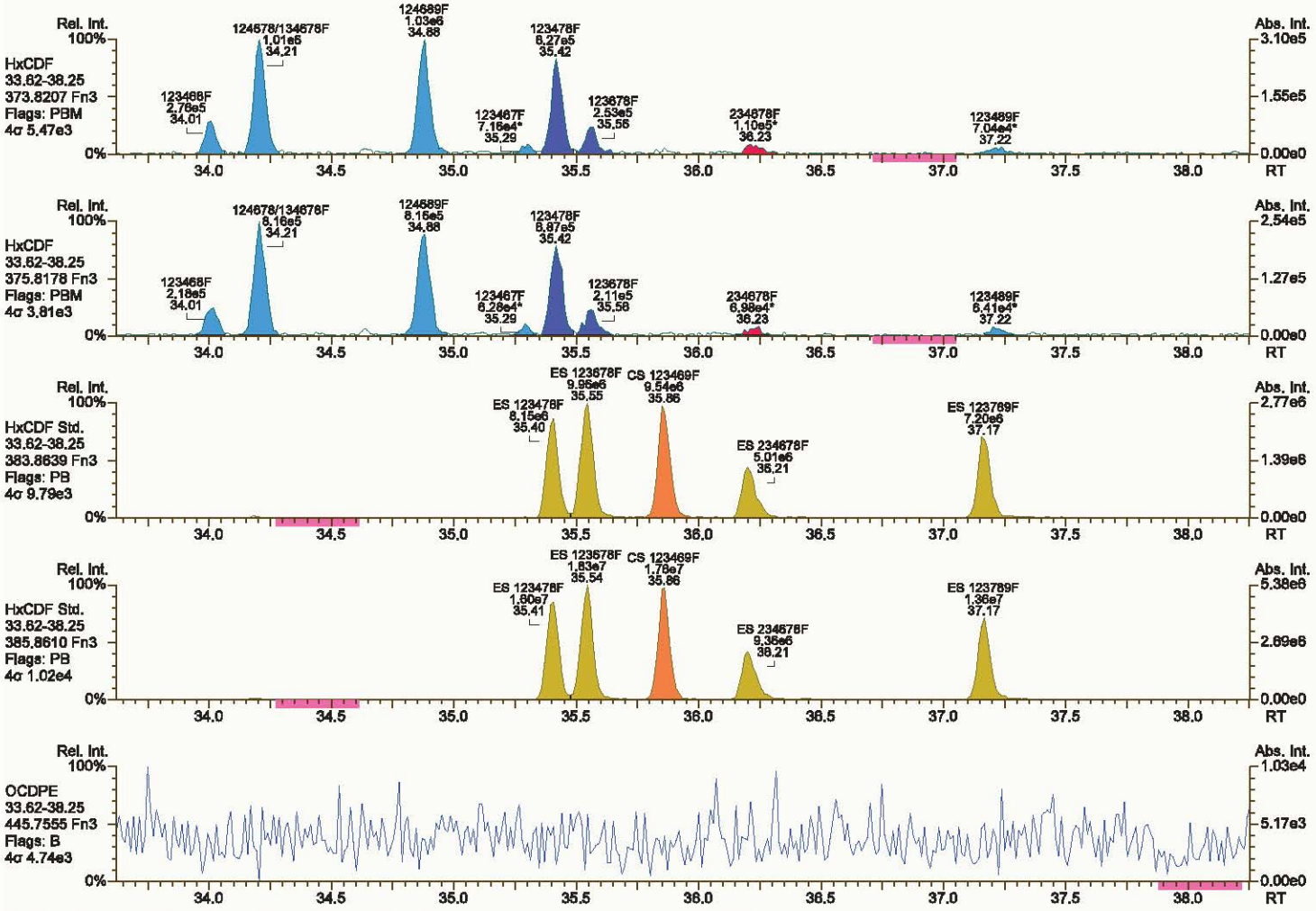
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2266, 3036, 0995 scc: 347-530
PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 7 of 12


SGS ID: B6171_18853_DF_013
Sample ID: 11215131-010822-S-BN-NC-O-31
Acq: 26-Jan-2022 10:04:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220125R31
Rel. Int.
100%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PBM
4σ 5.20e3
13468/12468F
4.73e5*
27.95
Abs. Int.
9.90e4
4.95e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PBM
4σ 4.61e3
13468/12468F
3.43e5*
27.95
Abs. Int.
9.80e4
4.90e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
4.24e6
2.12e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5349 scc: 347-530
PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 8 of 12


SGS ID: B6171_18853_DF_013
Sample ID: 11215131-010822-S-BN-NC-O-31
Acq: 26-Jan-2022 10:04:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220125R31
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 3.39e3
12368F...[3] 5.09e5* 29.75
13678F...[3] 1.51e5* 29.58
14678F 7.52e4* 29.64
23468/12469F 1.30e5* 30.46
12348F 6.54e4 30.70
12378F 5.89e5 30.90
12678/12367F 2.12e5 31.21
23478F 4.00e5 32.08
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.44e3
12368F...[3] 3.35e5* 29.75
13678F...[3] 7.58e4* 29.58
14678F 2.96e4* 29.63
23468/12469F 1.03e5* 30.46
12348F 3.51e4 30.70
12378F 3.93e5 30.90
12678/12367F 1.27e5 31.21
23478F 2.91e5 32.08
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 6.63e3
CS 12346F 2.01e7 30.33
ES 12378F 1.95e7 30.89
ES 23478F 1.91e7 32.06
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 5.91e3
CS 12346F 1.25e7 30.33
ES 12378F 1.25e7 30.89
ES 23478F 1.23e7 32.06
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.31e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
1.55e5
7.76e4
0.00e0
1.08e5
5.42e4
5.26e6
2.63e6
3.32e6
1.66e6
1.13e4
5.66e3
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0059, 9933, 0384 scc: 347-530
PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 9 of 12

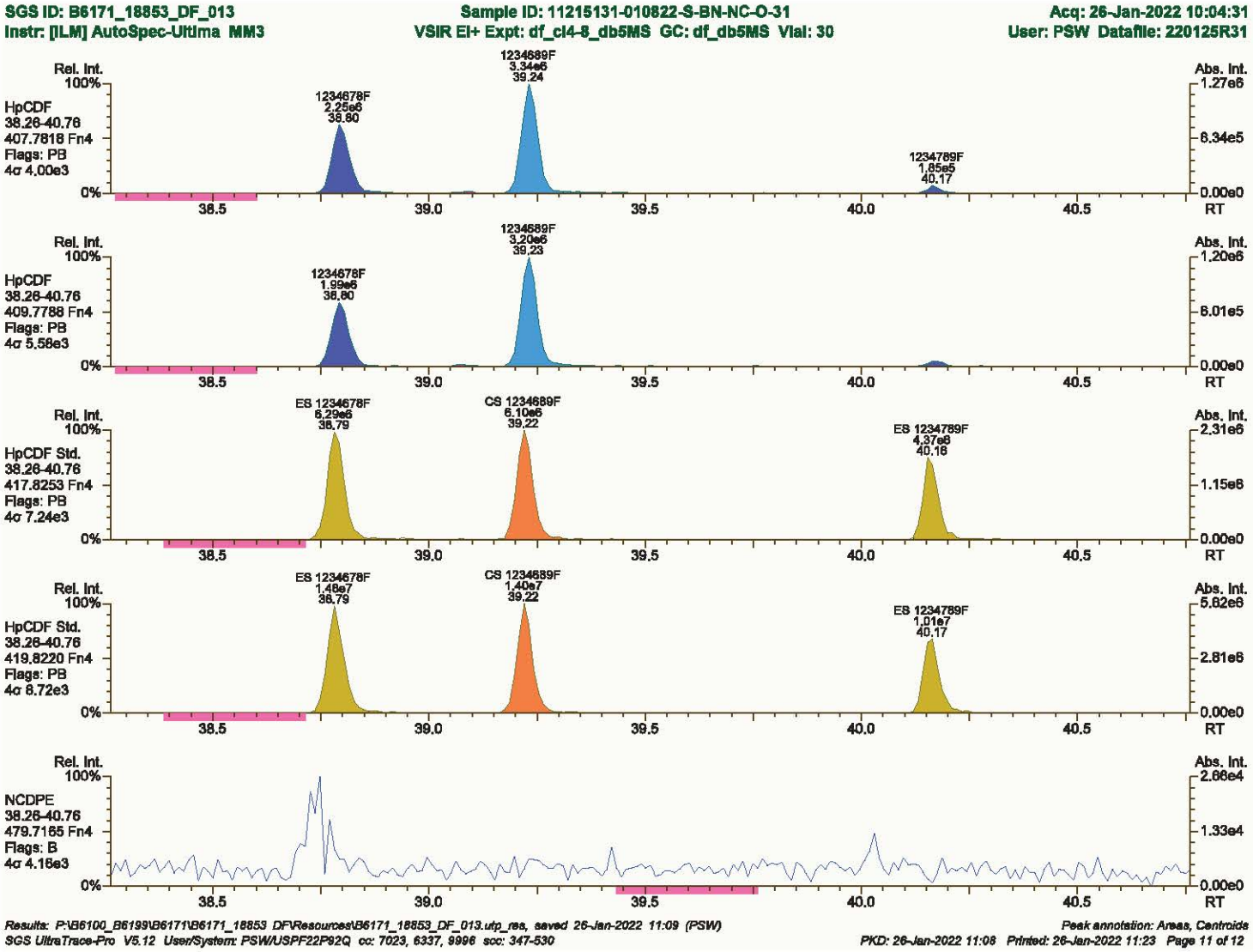
SGS ID: B6171_18853_DF_013 | Sample ID: 11215131-010822-S-BN-NC-O-31 | Acq: 26-Jan-2022 10:04:31

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: PSW Datafile: 220125R31



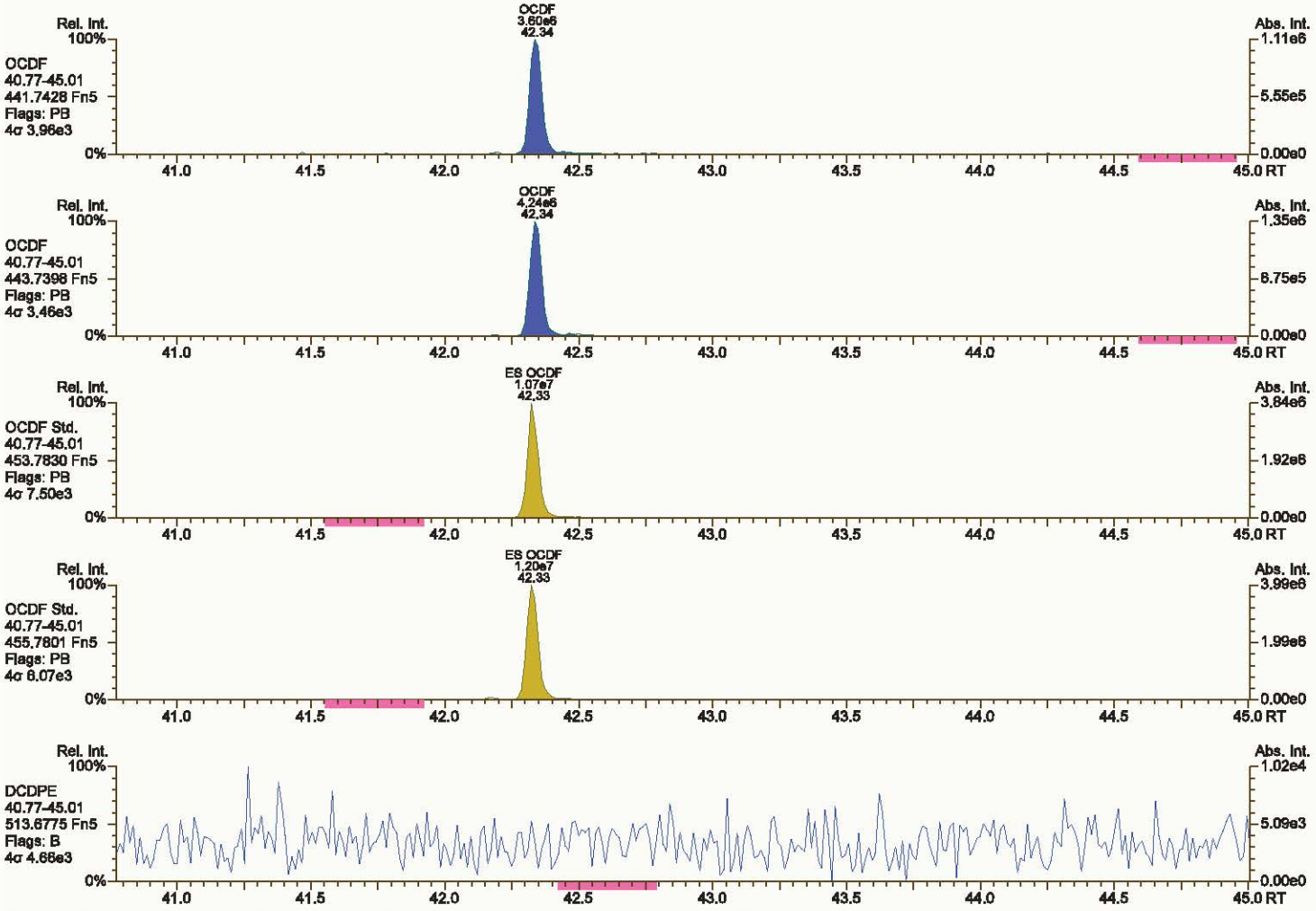
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1542, 0722, 3289 scc: 347-530 *PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:22 Page 10 of 12*


SGS ID: B6171_18853_DF_013
Sample ID: 11215131-010822-S-BN-NC-O-31
Acq: 26-Jan-2022 10:04:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30
User: PSW Datafile: 220125R31
Rel. Int.
Abs. Int.
HpCDF
38.26-40.76
407.7818 Fn4
Flags: PB
4σ 4.00e3
1234678F
2.25e6
38.80
1234689F
3.34e6
39.24
1234789F
1.85e5
40.17
1.27e6
6.34e5
0.00e0
RT
HpCDF
38.26-40.76
409.7788 Fn4
Flags: PB
4σ 5.58e3
1234678F
1.99e6
38.80
1234689F
3.20e6
39.23
1.20e6
6.01e5
HpCDF Std.
38.26-40.76
417.8253 Fn4
Flags: PB
4σ 7.24e3
ES 1234678F
6.29e6
38.79
CS 1234689F
6.10e6
39.22
ES 1234789F
4.37e6
40.16
2.31e6
1.15e6
HpCDF Std.
38.26-40.76
419.8220 Fn4
Flags: PB
4σ 8.72e3
ES 1234678F
1.48e7
38.79
CS 1234689F
1.40e7
39.22
ES 1234789F
1.01e7
40.17
5.62e6
2.81e6
NCDPE
38.26-40.76
479.7165 Fn4
Flags: B
4σ 4.16e3
2.66e4
1.33e4
38.5
39.0
39.5
40.0
40.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7023, 6337, 9996 scc: 347-530
PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:23 Page 11 of 12

SGS ID: B6171_18853_DF_013 | Sample ID: 11215131-010822-S-BN-NC-O-31 | Acq: 26-Jan-2022 10:04:31

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: PSW Datafile: 220125R31



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_013.utp_res, saved 26-Jan-2022 11:09 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4278, 4634, 6660 scc: 347-530 *PKD: 26-Jan-2022 11:08 Printed: 26-Jan-2022 11:23 Page 12 of 12*

Lab ID: B6171_18863_DF_014 | Acq'd: 26 Jan 2022 10:52 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-B-8 | UTP: 26-Jan-2022 11:56:09 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 264-662-ZKS

Datafile: 220125R32 | Report: 26 Jan 2022 11:56 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.75		1.0008	1.0009	+0.2	7.27E+07	0.81	Y	1.34	512	8885.14	0.686
12378-PeCDD	32.43		1.0005	1.0006	+0.2	5.65E+05	1.35	Y	1.06	5.96	8981.729	0.842
123478-HxCDD	36.41	J	1.0004	1.0005	+0.2	9.57E+04	1.17	Y	1.06	1.04	8730.317	0.761
123678-HxCDD	36.52		1.0035	1.0035	0	3.46E+05	1.35	Y	1.08	3.49	8730.317	0.713
123789-HxCDD	36.81		1.0116	1.0114	-0.4	2.55E+05	1.22	Y	1.02	2.63	8730.317	0.794
1234678-HpCDD	39.77		1.0003	1.0003	0	9.30E+06	1.03	Y	0.97	120	7933.997	0.61
OCDD	42.19		1.0003	1.0002	-0.3	7.79E+07	0.91	Y	1.07	1,680	9478.615	1.41
2378-TCDF	25.80	E	1.0008	1.0009	+0.2	3.11E+08	0.80	Y	0.96	1,940	10345.601	0.715
12378-PeCDF	30.91		1.0006	1.0006	0	9.80E+06	1.56	Y	0.95	71.8	9077.617	0.659
23478-PeCDF	32.09		1.0006	1.0007	+0.2	7.69E+06	1.59	Y	0.94	55.2	9077.617	0.61
123478-HxCDF	35.43		1.0004	1.0005	+0.2	1.51E+07	1.27	Y	1.23	111	12178.455	0.688
123678-HxCDF	35.57		1.0004	1.0004	0	4.06E+06	1.29	Y	1.13	28	12178.455	0.695
234678-HxCDF	36.24		1.0005	1.0005	0	5.20E+05	1.23	Y	1.15	6.19	12178.455	1.55
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	12178.455	0.894
1234678-HpCDF	38.81		1.0003	1.0003	0	9.36E+06	1.06	Y	1.36	68.1	9068.48	0.486
1234789-HpCDF	40.18		1.0002	1.0003	+0.2	1.37E+06	1.05	Y	1.30	14	9068.48	0.569
OCDF	42.35		1.0003	1.0002	-0.3	2.63E+07	0.92	Y	1.03	462	9799.791	1.36

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.72	1.0273	1.0274	+0.2	2.11E+07	0.79	Y	1.03	88.1
ES 12378-PeCDD	32.41	1.2455	1.2462	+1.4	1.78E+07	1.63	Y	1.03	74.7
ES 123478-HxCDD	36.40	0.9917	0.9917	0	1.74E+07	1.29	Y	0.99	93
ES 123678-HxCDD	36.51	0.9948	0.9948	0	1.83E+07	1.24	Y	0.97	99.9
ES 123789-HxCDD	36.80	1.0028	1.0027	-0.2	1.91E+07	1.28	Y	1.12	90.2
ES 1234678-HpCDD	39.75	1.0830	1.0832	+0.5	1.59E+07	1.08	Y	0.99	85.2
ES OCDD	42.18	1.1489	1.1492	+0.8	1.73E+07	0.92	Y	0.78	59.3
ES 2378-TCDF	25.78	1.0623	1.0626	+0.5	3.33E+07	0.79	Y	1.08	86.3
ES 12378-PeCDF	30.89	1.2724	1.2734	+1.9	2.88E+07	1.55	Y	0.93	86.6
ES 23478-PeCDF	32.06	1.3205	1.3216	+2.1	2.96E+07	1.60	Y	0.92	90.1
ES 123478-HxCDF	35.41	0.9649	0.9648	-0.2	2.20E+07	0.53	Y	1.14	102
ES 123678-HxCDF	35.55	0.9688	0.9687	-0.2	2.56E+07	0.54	Y	1.30	105
ES 234678-HxCDF	36.22	0.9868	0.9869	+0.2	1.45E+07	0.52	Y	1.20	64.3
ES 123789-HxCDF	37.17	1.0129	1.0129	0	1.98E+07	0.55	Y	1.14	92.8
ES 1234678-HpCDF	38.79	1.0569	1.0570	+0.2	2.02E+07	0.46	Y	0.95	113
ES 1234789-HpCDF	40.17	1.0944	1.0946	+0.5	1.50E+07	0.45	Y	0.85	94.2
ES OCDF	42.34	1.1533	1.1536	+0.8	2.22E+07	0.90	Y	0.93	63.6

Lab ID: B6171_18863_DF_014 | Acq'd: 26 Jan 2022 10:52 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-B-8 | UTP: 26-Jan-2022 11:56:09 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 264-662-ZKS

Datafile: 220125R32 | Report: 26 Jan 2022 11:56 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.01		-	-	-	2.31E+07	0.77	Y	-	-
JS 1234-TCDF	24.26		-	-	-	3.56E+07	0.81	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	9.41E+06	1.26	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0283	+0.2	9.72E+06	n/a	-	1.31	80.3
CS 12347-PeCDD	31.90		1.2257	1.2263	+1.1	1.78E+07	1.66	Y	0.89	86.1
CS 12346-PeCDF	30.34		1.2496	1.2506	+1.8	2.83E+07	1.64	Y	0.87	91.7
CS 123469-HxCDF	35.87		0.9773	0.9772	-0.2	2.39E+07	0.51	Y	1.09	117
CS 1234689-HpCDF	39.23		1.0687	1.0689	+0.5	1.87E+07	0.43	Y	0.86	115
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0283~~	~~+0.2~~	~~9.72E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~91.6~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2263~~	~~+1.1~~	~~1.78E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~30.34~~		~~1.2496~~	~~1.2506~~	~~+1.8~~	~~2.83E+07~~	~~1.64~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9772~~	~~-0.2~~	~~2.39E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~111~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.87E+07~~	~~0.43~~	~~Y~~	~~0.91~~	~~102~~

Totals	Conc	EMPC
Total TCDD	576	579
Total PeCDD	9.52	9.52
Total HxCDD	47.9	49.6
Total HpCDD	306	306
Total Tetra-Octa Dioxins	2620	2620
Total TCDF	3,670	3680
Total PeCDF	205	205
Total HxCDF	187	187
Total HpCDF	123	123
Total Tetra-Octa Furans	4,650	4660
Total Tetra-Octa Dioxins & Furans	7270	7280

Lab ID: B6171_18863_DF_014 | Acq'd: 26 Jan 2022 10:52 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-B-8 | UTP: 26-Jan-2022 11:56:09 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 264-662-ZKS

Datafile: 220125R32 | Report: 26 Jan 2022 11:56 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.66	EMPC	0.8486	0.8480	-0.8	1.53E+05	0.91	N	1.34	1.08	8885.14	0.686
1379-TCDD	NotFnd		0.8642						1.34		8885.14	0.686
1369-TCDD	NotFnd		0.8825						1.34		8885.14	0.686
1469-TCDD	24.46		0.9154	0.9153	-0.1	7.92E+05	0.77	Y	1.34	5.58	8885.14	0.686
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		8885.14	0.686
1378-TCDD	24.94		0.9332	0.9334	+0.3	2.15E+05	0.78	Y	1.34	1.51	8885.14	0.686
1268-TCDD	NotFnd		0.9415						1.34		8885.14	0.686
1478-TCDD	25.43		0.9518	0.9518	0	2.12E+05	0.75	Y	1.34	1.49	8885.14	0.686
1279-TCDD	NotFnd		0.9586						1.34		8885.14	0.686
1234/1269-TCDD	NotFnd		0.9734						1.34		8885.14	0.686
1236-TCDD	NotFnd		0.9788						1.34		8885.14	0.686
1237/1238-TCDD	26.43		0.9892	0.9889	-0.5	1.13E+06	0.88	Y	1.34	7.96	8885.14	0.686
1239-TCDD	NotFnd		0.9944						1.34		8885.14	0.686
2378-TCDD	**26.75**		**1.0008**	1.0009	**+0.2**	7.27E+07	0.81	Y	**1.34**	**512**	**8885.14**	**0.686**
1278-TCDD	27.10		1.0142	1.0143	+0.2	6.36E+06	0.77	Y	1.34	44.8	8885.14	0.686
1267-TCDD	27.24		1.0197	1.0194	-0.5	3.70E+05	0.73	Y	1.34	2.61	8885.14	0.686
1289-TCDD	27.78	EMPC	1.0401	1.0396	-0.8	2.81E+05	1.55	N	1.34	1.98	8885.14	0.686
12479/12468-PeCDD	29.82	J	0.9202	0.9199	-0.5	1.55E+05	1.59	Y	1.06	1.64	8981.729	0.842
12469-PeCDD	30.38	J	0.9375	0.9374	-0.2	1.82E+05	1.54	Y	1.06	1.92	8981.729	0.842
12368-PeCDD	NotFnd		0.9553						1.06		8981.729	0.842
12478-PeCDD	NotFnd		0.9613						1.06		8981.729	0.842
12379-PeCDD	NotFnd		0.9644						1.06		8981.729	0.842
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		8981.729	0.842
12346/12347-PeCDD	NotFnd		0.9848						1.06		8981.729	0.842
12378-PeCDD	32.43		**1.0005**	**1.0006**	**+0.2**	**5.65E+05**	**1.35**	**Y**	**1.06**	**5.96**	**8981.729**	**0.842**
12367-PeCDD	NotFnd		1.0035						1.06		8981.729	0.842
12389-PeCDD	NotFnd		1.0146						1.06		8981.729	0.842
124679/124689-HxCDD	34.69		0.9532	0.9531	-0.2	2.58E+06	1.32	Y	1.05	26.8	8730.317	0.755
123468-HxCDD	35.36	J EMPC	0.9715	0.9714	-0.2	1.60E+05	1.01	N	1.05	1.66	8730.317	0.755
123679/123689-HxCDD	35.65		0.9795	0.9795	0	1.34E+06	1.35	Y	1.05	13.9	8730.317	0.755
123469-HxCDD	NotFnd		0.9832						1.05		8730.317	0.755
123478-HxCDD	36.41	J	**1.0004**	**1.0005**	**+0.2**	**9.57E+04**	**1.17**	**Y**	1.06	**1.04**	**8730.317**	**0.761**
123678-HxCDD	36.52		**1.0035**	**1.0035**	**0**	**3.46E+05**	**1.35**	**Y**	1.08	**3.49**	**8730.317**	**0.713**
123467-HxCDD	NotFnd		1.0087						1.05		8730.317	0.755
123789-HxCDD	36.81		**1.0116**	**1.0114**	**-0.4**	**2.55E+05**	**1.22**	**Y**	1.02	**2.63**	**8730.317**	**0.794**

Lab ID: B6171_18863_DF_014 | Acq'd: 26 Jan 2022 10:52 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010822-S-BN-NC-B-8 | UTP: 26-Jan-2022 11:56:09 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 264-662-ZKS

Datafile: 220125R32 | Report: 26 Jan 2022 11:56 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9834	0	1.44E+07	1.05	Y	0.97	186	7933.997	0.61
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**9.30E+06**	**1.03**	**Y**	**0.97**	**120**	**7933.997**	**0.61**
OCDD	**42.19**		**1.0003**	**1.0002**	**-0.3**	**7.79E+07**	**0.91**	**Y**	**1.07**	**1,680**	**9478.615**	**1.41**
OCDD-a	42.18		1.0001	1.0002	+0.3	4.86E+06	2.81	Y	0.07	1,690	12340.482	29.7
1368-TCDF	NotFnd		0.7942						0.96		10345.601	0.715
1468-TCDF	21.00		0.8155	0.8145	-1.3	4.58E+05	0.80	Y	0.96	2.86	10345.601	0.715
2468-TCDF	21.65		0.8407	0.8397	-1.3	4.67E+05	0.75	Y	0.96	2.91	10345.601	0.715
1346/1246-TCDF	22.11		0.8553	0.8576	+3.1	4.99E+05	0.89	Y	0.96	3.11	10345.601	0.715
1347/1378/1247-TCDF	22.23		0.8617	0.8624	+0.9	2.92E+06	0.81	Y	0.96	18.2	10345.601	0.715
1348-TCDF	22.49	EMPC	0.8740	0.8725	-2.0	7.57E+05	0.92	N	0.96	4.72	10345.601	0.715
1248/1367/1379-TCDF	22.63		0.8798	0.8778	-2.7	1.38E+07	0.78	Y	0.96	86.4	10345.601	0.715
1268-TCDF	23.10		0.8967	0.8962	-0.7	4.70E+06	0.77	Y	0.96	29.3	10345.601	0.715
1467-TCDF	23.25		0.9025	0.9020	-0.7	7.08E+05	0.73	Y	0.96	4.42	10345.601	0.715
1478-TCDF	23.45		0.9101	0.9096	-0.7	1.21E+07	0.78	Y	0.96	75.3	10345.601	0.715
1369/1237-TCDF	23.87		0.9263	0.9260	-0.4	2.83E+06	0.83	Y	0.96	17.7	10345.601	0.715
2467-TCDF	24.01	EMPC	0.9322	0.9316	-0.9	3.83E+05	1.14	N	0.96	2.39	10345.601	0.715
2368-TCDF	24.20		0.9389	0.9388	-0.1	9.93E+06	0.77	Y	0.96	62	10345.601	0.715
1238/1234/1678/1469/1236-TCDF	24.28		0.9427	0.9420	-1.0	1.24E+07	0.81	Y	0.96	77.7	10345.601	0.715
1278-TCDF	24.80		0.9623	0.9620	-0.4	1.34E+08	0.79	Y	0.96	837	10345.601	0.715
1349-TCDF	NotFnd		0.9678						0.96		10345.601	0.715
1267-TCDF	25.10		0.9740	0.9739	-0.2	7.13E+06	0.80	Y	0.96	44.5	10345.601	0.715
2346/1249-TCDF	25.32		0.9820	0.9823	+0.5	9.12E+05	0.72	Y	0.96	5.69	10345.601	0.715
2347/1279-TCDF	25.55		0.9915	0.9912	-0.5	3.25E+06	0.82	Y	0.96	20.3	10345.601	0.715
2348-TCDF	25.67		0.9964	0.9960	-0.6	1.94E+07	0.78	Y	0.96	121	10345.601	0.715
2378-TCDF	**25.80**	**E**	**1.0008**	**1.0009**	**+0.2**	**3.11E+08**	**0.80**	**Y**	**0.96**	**1,940**	**10345.601**	**0.715**
2367/3467-TCDF	26.19		1.0163	1.0160	-0.5	2.47E+07	0.80	Y	0.96	154	10345.601	0.715
1269-TCDF	26.46		1.0265	1.0265	0	4.34E+06	0.79	Y	0.96	27.1	10345.601	0.715
1239-TCDF	26.73		1.0373	1.0369	-0.6	1.15E+05	0.83	Y	0.96	0.716	10345.601	0.715
1289-TCDF	27.98		1.0847	1.0854	+1.2	2.24E+07	0.80	Y	0.96	140	10345.601	0.715
13468/12468-PeCDF	27.96		0.9045	0.9049	+0.7	7.69E+05	1.70	Y	0.94	5.58	10948.887	0.765
13678/13467/12467-PeCDF	29.60	J	0.9574	0.9581	+1.2	1.45E+05	1.35	Y	0.94	1.05	9077.617	0.634
12368/13478/12478-PeCDF	29.77		0.9628	0.9635	+1.3	4.55E+06	1.61	Y	0.94	33	9077.617	0.634
14678-PeCDF	29.85	J	0.9661	0.9662	+0.2	1.80E+05	1.58	Y	0.94	1.3	9077.617	0.634
13479-PeCDF	NotFnd		0.9695						0.94		9077.617	0.634
13469/12479-PeCDF	NotFnd		0.9779						0.94		9077.617	0.634
12346-PeCDF	NotFnd		0.9824						0.94		9077.617	0.634

Lab ID: B6171_18863_DF_014 | Acq'd: 26 Jan 2022 10:52 PSW | Wt/Vol: 10.03 g | ICAL: MM3_DF_10272021_27JUL2021

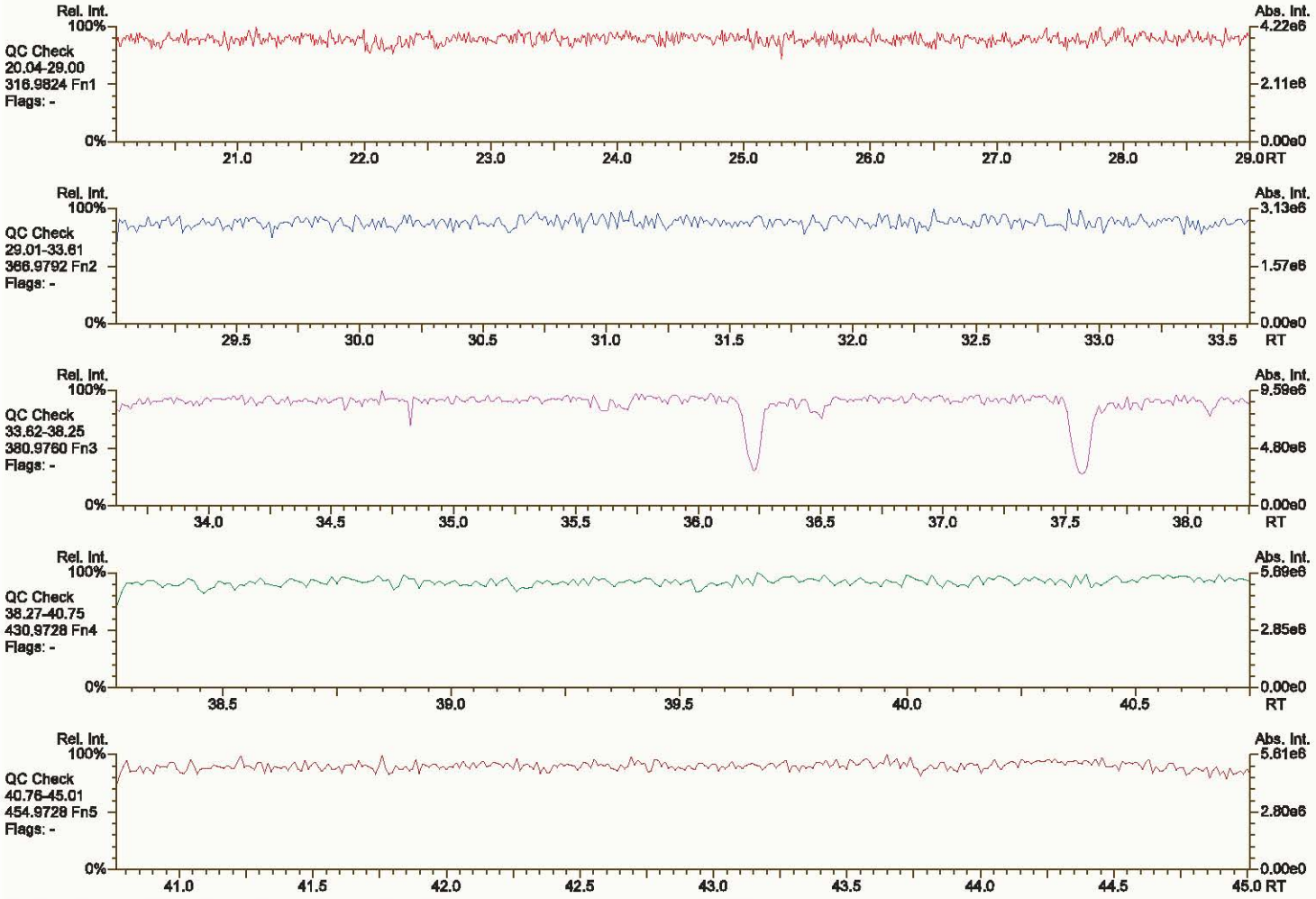
Client ID: 11215131-010822-S-BN-NC-B-8 | UTP: 26-Jan-2022 11:56:09 PSW | J-level: 0.499 pg/g | Split: 1 | Checkcode: 264-662-ZKS

Datafile: 220125R32 | Report: 26 Jan 2022 11:56 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.45	J	0.9857	0.9857	0	2.27E+05	1.43	Y	0.94	1.65	9077.617	0.634
12347-PeCDF	30.52	J	0.9882	0.9880	-0.4	2.46E+05	1.54	Y	0.94	1.78	9077.617	0.634
12348-PeCDF	30.69		0.9935	0.9936	+0.2	9.67E+05	1.66	Y	0.94	7.01	9077.617	0.634
12378-PeCDF	**30.91**		**1.0006**	**1.0006**	**0**	**9.80E+06**	**1.56**	**Y**	**0.95**	**71.8**	**9077.617**	**0.659**
12678/12367-PeCDF	31.22		1.0099	1.0105	+1.1	3.12E+06	1.62	Y	0.94	22.6	9077.617	0.634
12379-PeCDF	NotFnd		1.0155						0.94		9077.617	0.634
12679-PeCDF	NotFnd		0.9921						0.94		9077.617	0.634
23467/12369-PeCDF	31.95	J	0.9962	0.9964	+0.4	1.59E+05	1.65	Y	0.94	1.15	9077.617	0.634
23478-PeCDF	**32.09**		**1.0006**	**1.0007**	**+0.2**	**7.69E+06**	**1.59**	**Y**	**0.94**	**55.2**	**9077.617**	**0.61**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		9077.617	0.634
12349-PeCDF	NotFnd		1.0106						0.94		9077.617	0.634
12389-PeCDF	33.19		1.0349	1.0350	+0.2	4.11E+05	1.73	Y	0.94	2.98	9077.617	0.634
123468-HxCDF	34.02		0.9606	0.9606	0	4.26E+05	1.34	Y	1.16	3.56	12178.455	0.891
124678/134678-HxCDF	34.22		0.9663	0.9663	0	2.02E+06	1.22	Y	1.16	16.9	12178.455	0.891
134679-HxCDF	NotFnd		0.9729						1.16		12178.455	0.891
124679-HxCDF	NotFnd		0.9786						1.16		12178.455	0.891
124689-HxCDF	34.89		0.9851	0.9852	+0.2	1.29E+06	1.34	Y	1.16	10.8	12178.455	0.891
123467-HxCDF	35.31	J	0.9970	0.9972	+0.4	1.18E+05	1.39	Y	1.16	0.989	12178.455	0.891
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**1.51E+07**	**1.27**	**Y**	**1.23**	**111**	**12178.455**	**0.688**
123678-HxCDF	**35.57**		**1.0004**	**1.0004**	**0**	**4.06E+06**	**1.29**	**Y**	**1.13**	**28**	**12178.455**	**0.695**
123479-HxCDF	NotFnd		1.0050						1.16		12178.455	0.891
123469-HxCDF	NotFnd		1.0091						1.16		12178.455	0.891
123679-HxCDF	NotFnd		0.9942						1.16		12178.455	0.891
234678-HxCDF	**36.24**		**1.0005**	**1.0005**	**0**	**5.20E+05**	**1.23**	**Y**	**1.15**	**6.19**	**12178.455**	**1.55**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12178.455	0.891
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**12178.455**	**0.894**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.22		1.0008	1.0013	+1.1	1.09E+06	1.22	Y	1.16	9.16	12178.455	0.891
1234678-HpCDF	**38.81**		**1.0003**	**1.0003**	**0**	**9.36E+06**	**1.06**	**Y**	**1.36**	**68.1**	**9068.48**	**0.486**
1234679-HpCDF	39.10	J	1.0076	1.0078	+0.5	1.82E+05	0.97	Y	1.33	1.55	9068.48	0.522
1234689-HpCDF	39.24		1.0114	1.0116	+0.5	4.64E+06	1.05	Y	1.33	39.6	9068.48	0.522
1234789-HpCDF	**40.18**		**1.0002**	**1.0003**	**+0.2**	**1.37E+06**	**1.05**	**Y**	**1.30**	**14**	**9068.48**	**0.569**
OCDF	**42.35**		**1.0003**	**1.0002**	**-0.3**	**2.63E+07**	**0.92**	**Y**	**1.03**	**462**	**9799.791**	**1.36**
OCDF-a	42.34		1.0001	1.0000	-0.3	1.42E+06	2.49	Y	0.06	431	13341.918	32

SGS ID: B6171_18853_DF_014 | Sample ID: 11215131-010822-S-BN-NC-B-8 | Acq: 26-Jan-2022 10:52:05

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31 | User: PSW Datafile: 220125R32



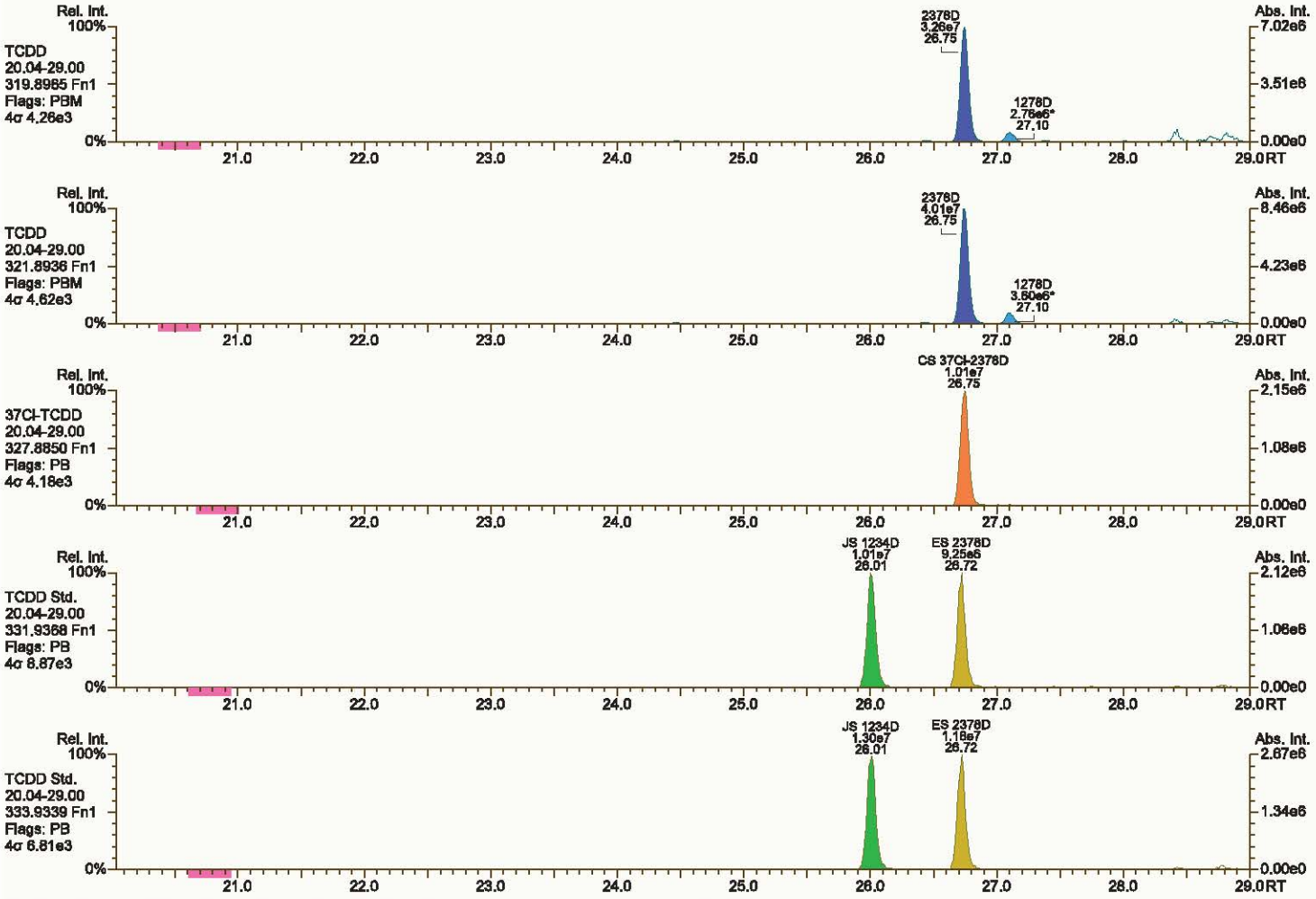
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)

Peak annotation: Areas, Centroids

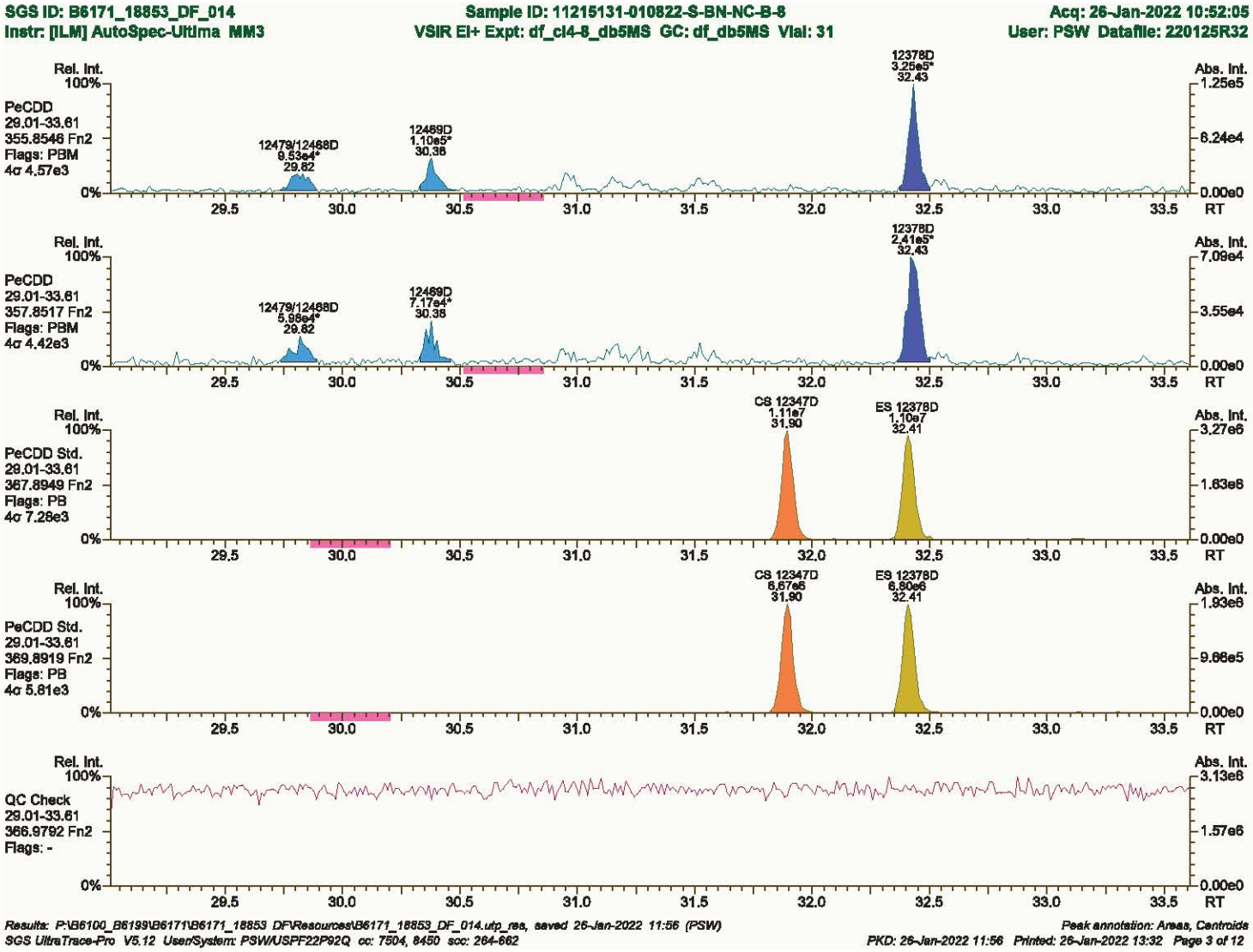
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 264-662

PKD: n/a Printed: 26-Jan-2022 13:32 Page 1 of 12

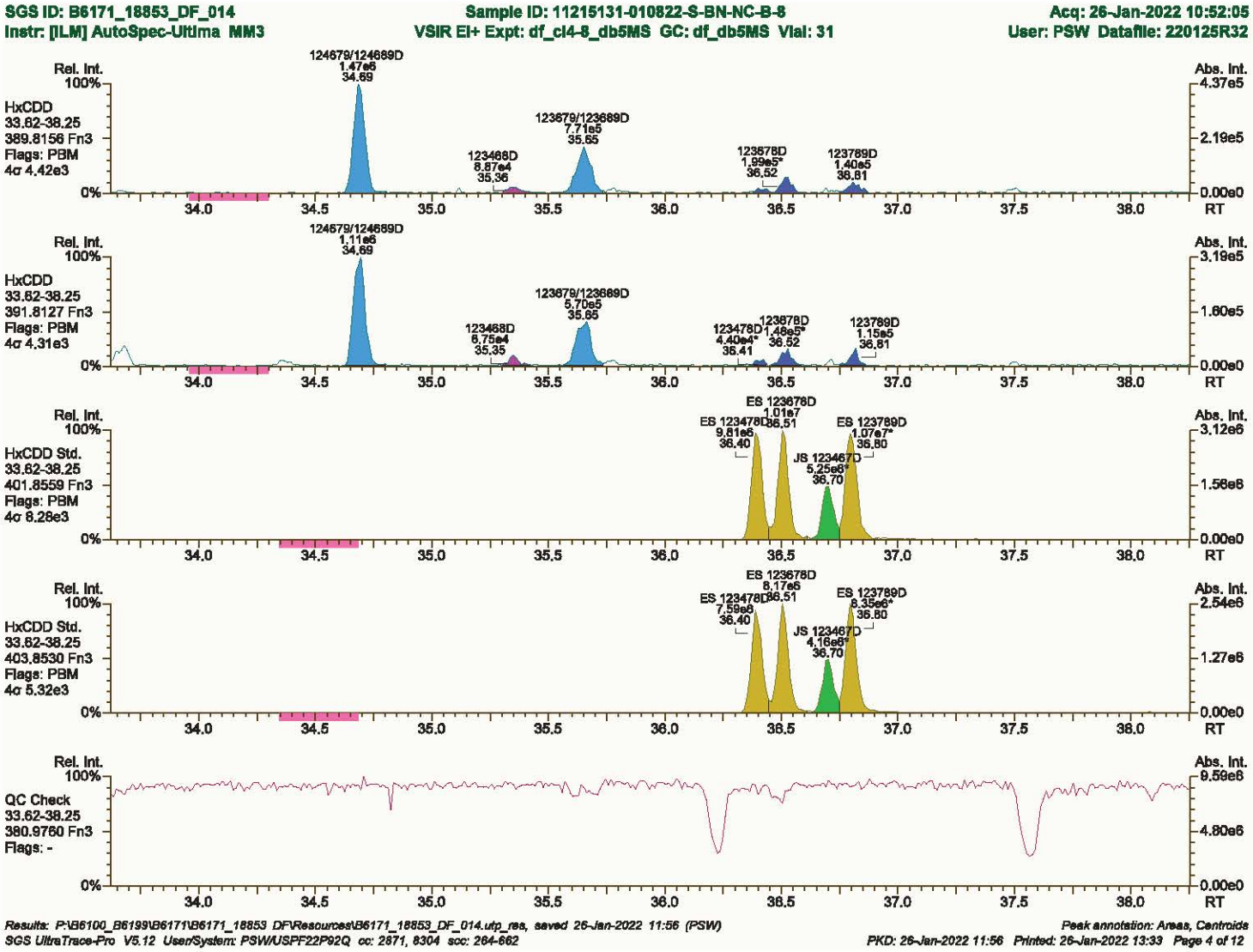
SGS ID: B6171_18853_DF_014 | Sample ID: 11215131-010822-S-BN-NC-B-8 | Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31 | User: PSW Datafile: 220125R32

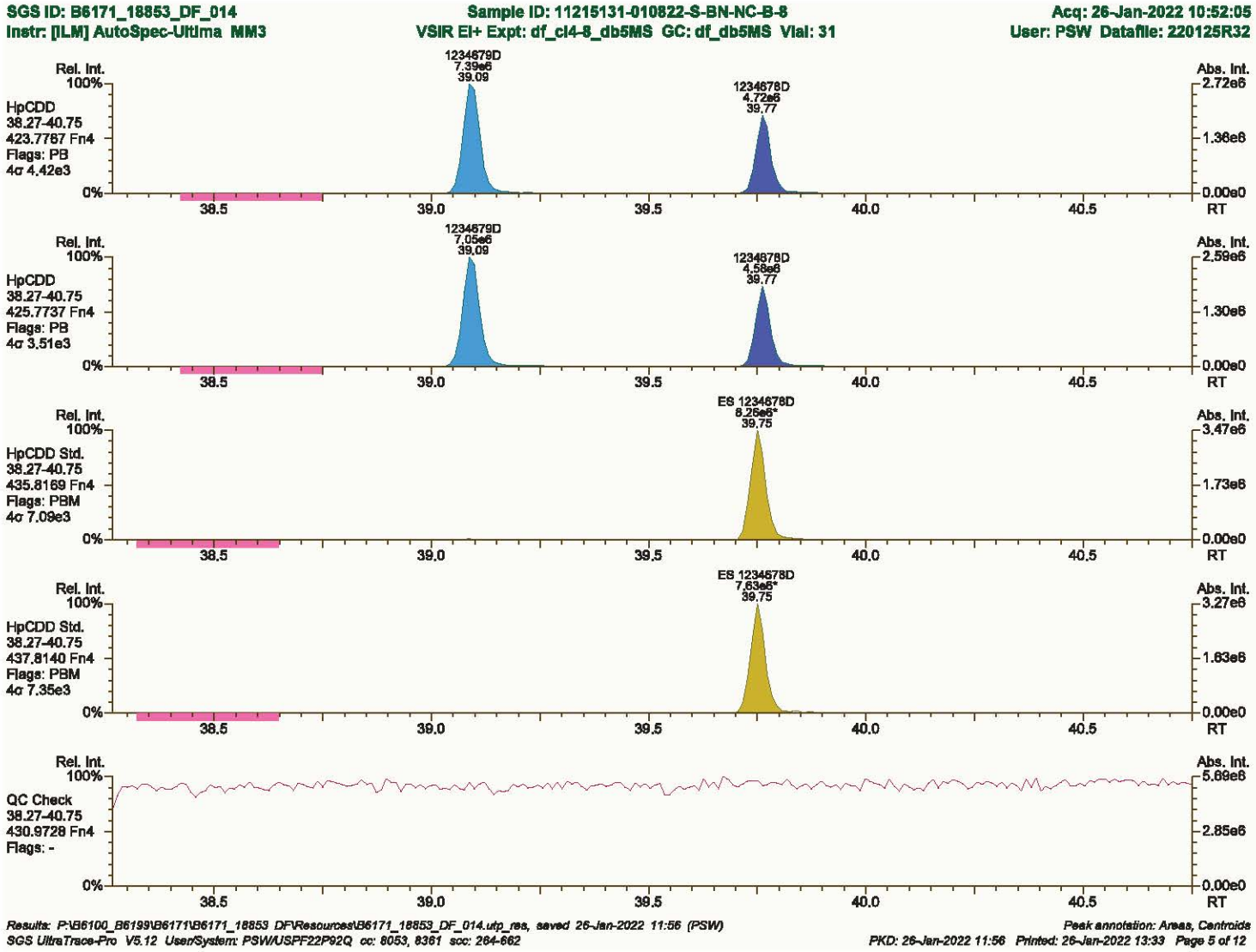


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2636, 9891, 8843 scc: 264-662 *PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:32 Page 2 of 12*



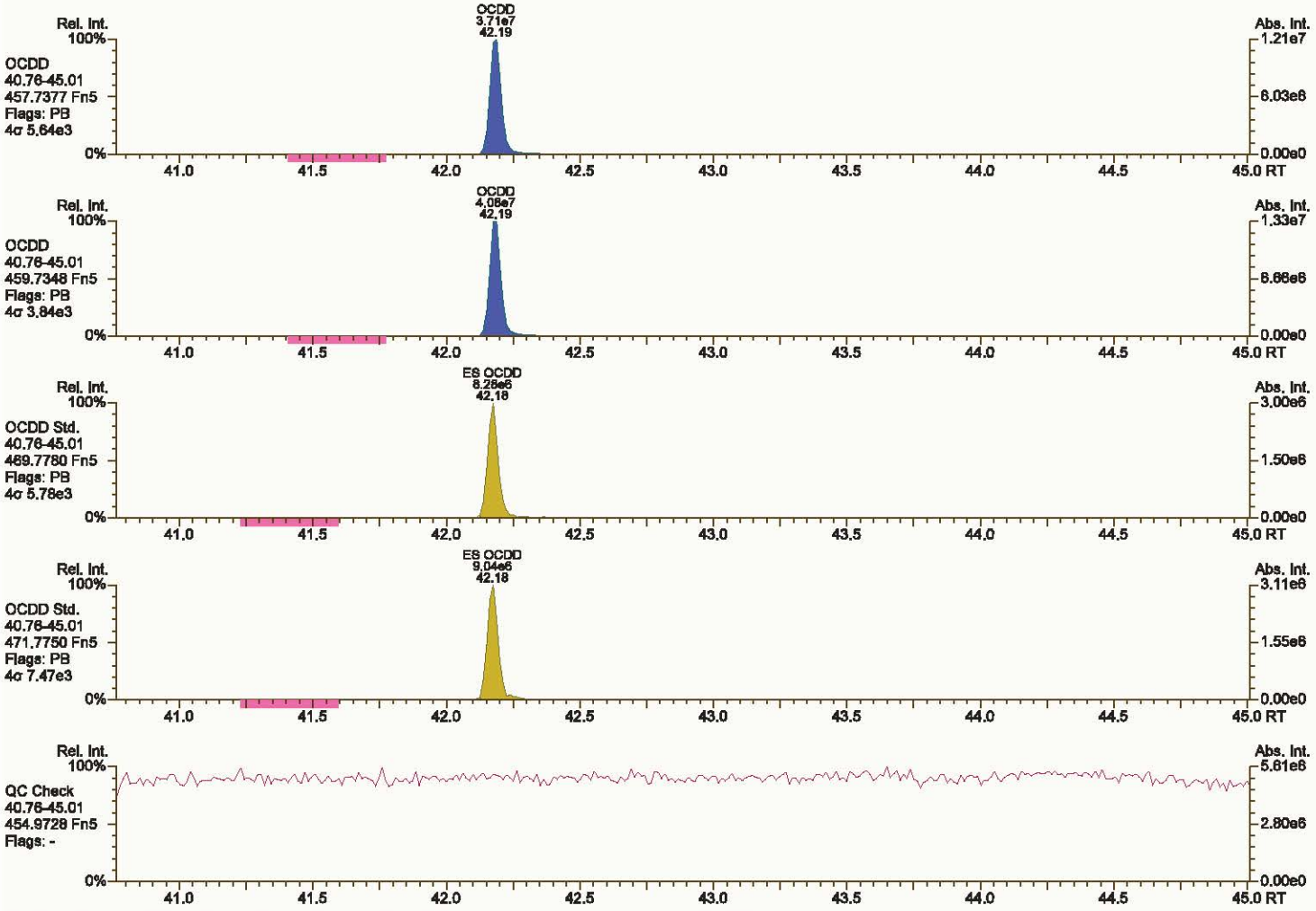
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7504, 8450 scc: 264-662
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:32 Page 3 of 12


SGS ID: B6171_18853_DF_014
Sample ID: 11215131-010822-S-BN-NC-B-8
Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220125R32
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.42e3
124679/124689D
1.47e6
34.69
123679/123689D
7.71e5
35.65
123468D
8.87e4
35.36
123678D
1.99e5*
36.52
123789D
1.40e5
36.81
4.37e5
2.19e5
0.00e0
RT
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.31e3
124679/124689D
1.11e6
34.69
123679/123689D
5.70e5
35.65
123468D
6.75e4
35.35
123478D
4.40e4*
36.41
123678D
1.48e5*
36.52
123789D
1.15e5
36.81
3.19e5
1.60e5
0.00e0
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 8.28e3
ES 123678D
1.01e7
36.51
ES 123478D
9.81e6
36.40
ES 123789D
1.07e7*
36.80
JS 123467D
5.25e6*
36.70
3.12e6
1.56e6
0.00e0
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 5.32e3
ES 123678D
8.17e6
36.51
ES 123478D
7.59e6
36.40
ES 123789D
8.35e6*
36.80
JS 123467D
4.16e6*
36.70
2.54e6
1.27e6
0.00e0
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
9.59e6
4.80e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2871, 8304 scc: 264-562
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 4 of 12


SGS ID: B6171_18853_DF_014
Sample ID: 11215131-010822-S-BN-NC-B-8
Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220125R32
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 4.42e3
1234679D
7.39e6
39.09
1234678D
4.72e6
39.77
2.72e6
1.36e6
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.51e3
1234679D
7.05e6
39.09
1234678D
4.58e6
39.77
2.59e6
1.30e6
0.00e0
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PBM
4σ 7.09e3
ES 1234678D
8.26e6*
39.75
3.47e6
1.73e6
0.00e0
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PBM
4σ 7.35e3
ES 1234678D
7.63e6*
39.75
3.27e6
1.63e6
0.00e0
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
5.69e6
2.85e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8053, 8361 scc: 264-662
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 5 of 12

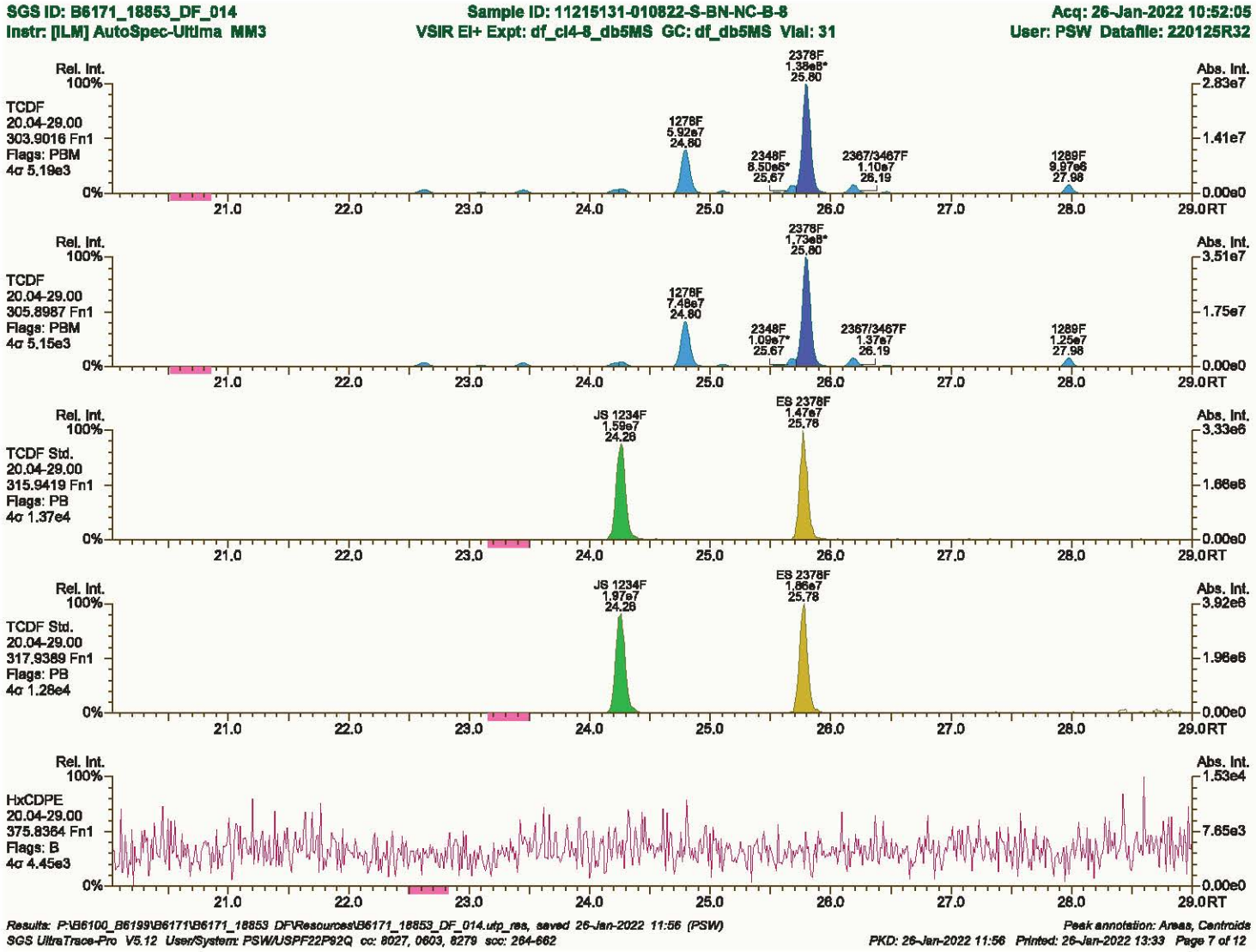
SGS ID: B6171_18853_DF_014 | Sample ID: 11215131-010822-S-BN-NC-B-8 | Acq: 26-Jan-2022 10:52:05

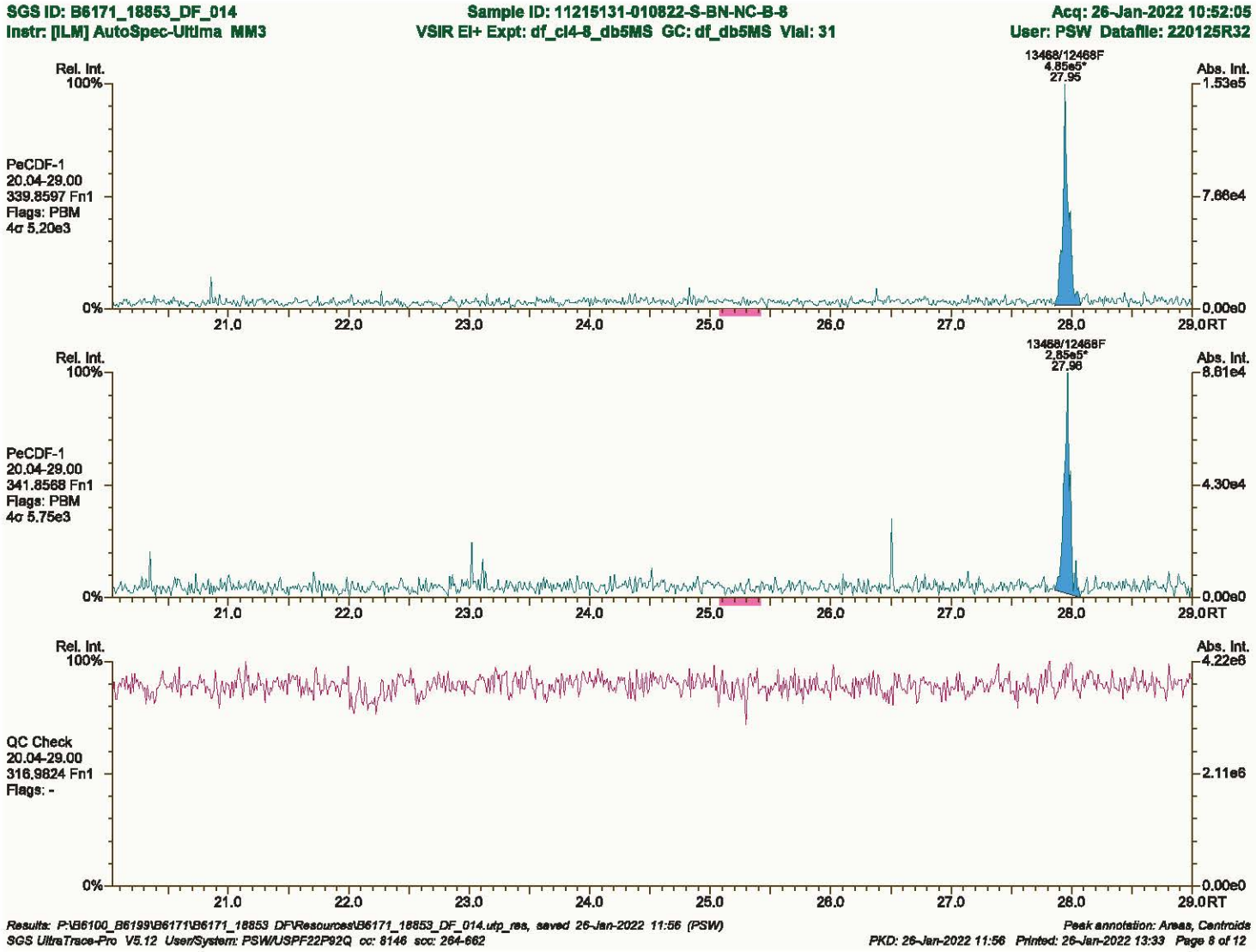
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31 | User: PSW Datafile: 220125R32

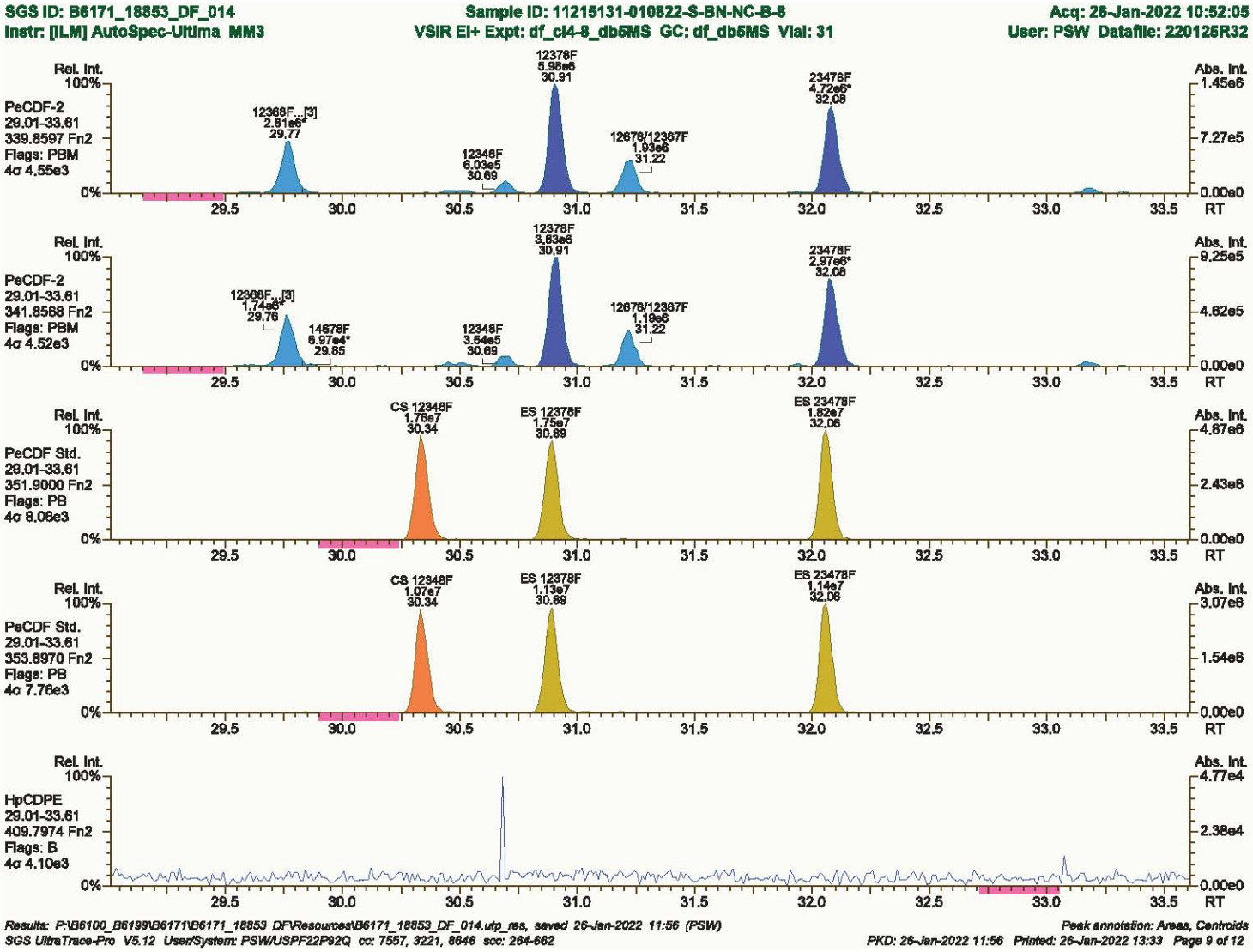


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9157, 2792 scc: 264-662 *PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 6 of 12*

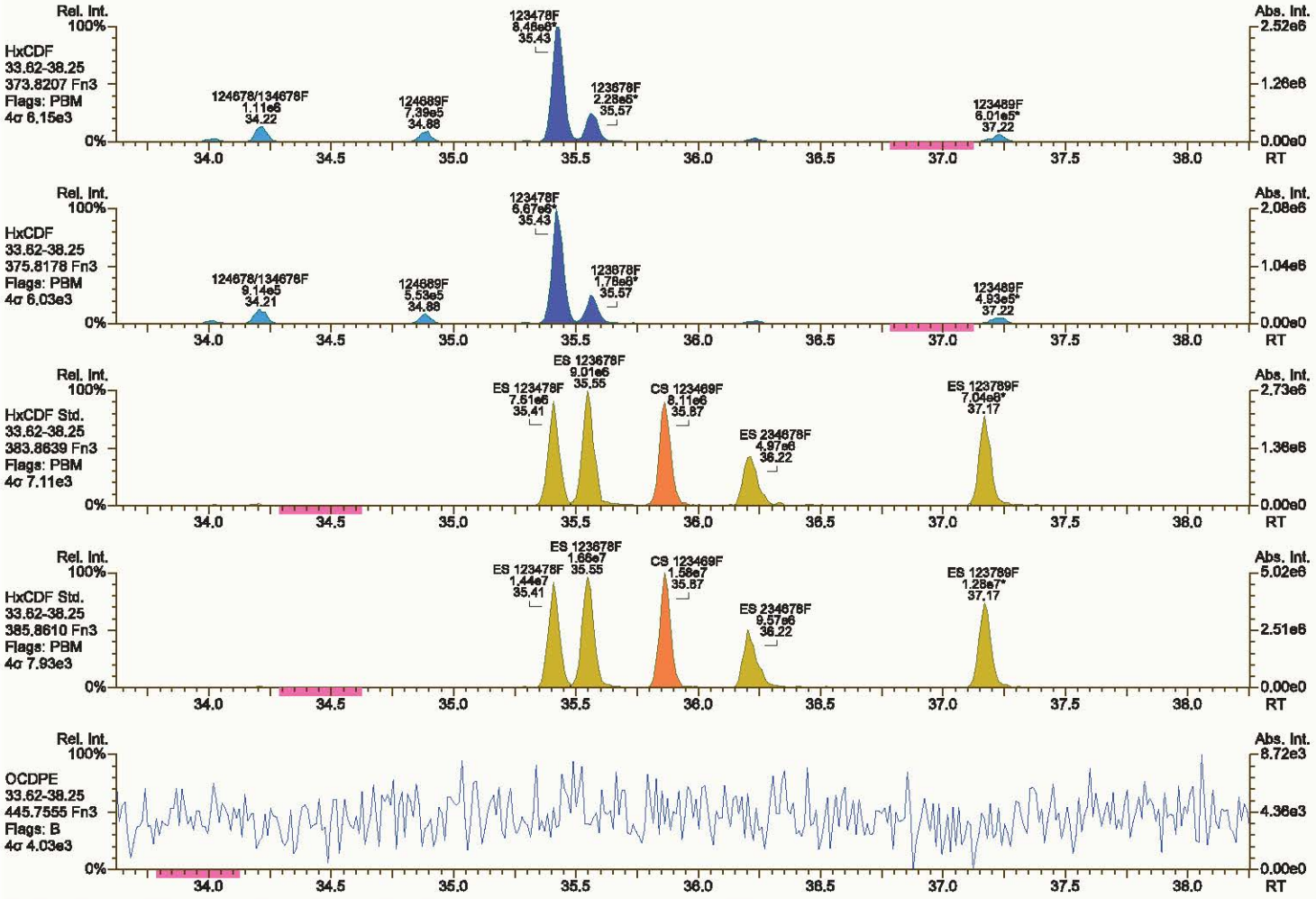

SGS ID: B6171_18853_DF_014
Sample ID: 11215131-010822-S-BN-NC-B-8
Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220125R32
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 5.19e3
2378F
1.38e8*
25.80
1278F
5.92e7
24.80
2348F
8.50e5*
25.67
2367/3467F
1.10e7
26.19
1289F
9.97e6
27.98
2.83e7
1.41e7
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 5.15e3
2378F
1.73e8*
25.80
1278F
7.48e7
24.80
2348F
1.09e7*
25.67
2367/3467F
1.37e7
26.19
1289F
1.25e7
27.98
3.51e7
1.75e7
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.37e4
JS 1234F
1.59e7
24.28
ES 2378F
1.47e7
25.78
3.33e6
1.66e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.28e4
JS 1234F
1.97e7
24.28
ES 2378F
1.86e7
25.78
3.92e6
1.96e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.45e3
1.53e4
7.65e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: B6171_18853_DF_014
Sample ID: 11215131-010822-S-BN-NC-B-8
Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220125R32
Rel. Int.
100%
13468/12468F
4.85e5*
27.95
Abs. Int.
1.53e5
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PBM
4σ 5.20e3
7.66e4
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
13468/12468F
2.85e5*
27.96
Abs. Int.
8.61e4
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PBM
4σ 5.75e3
4.30e4
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
Abs. Int.
4.22e6
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
2.11e6
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8146 scc: 264-662
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 8 of 12


SGS ID: B6171_18853_DF_014
Sample ID: 11215131-010822-S-BN-NC-B-8
Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220125R32
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 4.55e3
12368F...[3]
2.61e6*
29.77
12348F
6.03e5
30.69
12378F
5.98e6
30.91
12678/12367F
1.93e6
31.22
23478F
4.72e6*
32.08
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.52e3
12368F...[3]
1.74e6*
29.76
14678F
6.97e4*
29.85
12348F
3.64e5
30.69
12378F
3.83e6
30.91
12678/12367F
1.19e6
31.22
23478F
2.97e6*
32.08
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 8.06e3
CS 12348F
1.76e7
30.34
ES 12378F
1.75e7
30.89
ES 23478F
1.82e7
32.06
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 7.76e3
CS 12348F
1.07e7
30.34
ES 12378F
1.13e7
30.89
ES 23478F
1.14e7
32.06
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.10e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
1.45e6
7.27e5
0.00e0
9.25e5
4.62e5
4.87e6
2.43e6
3.07e6
1.54e6
4.77e4
2.38e4
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7557, 3221, 8646 scc: 264-662
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 9 of 12

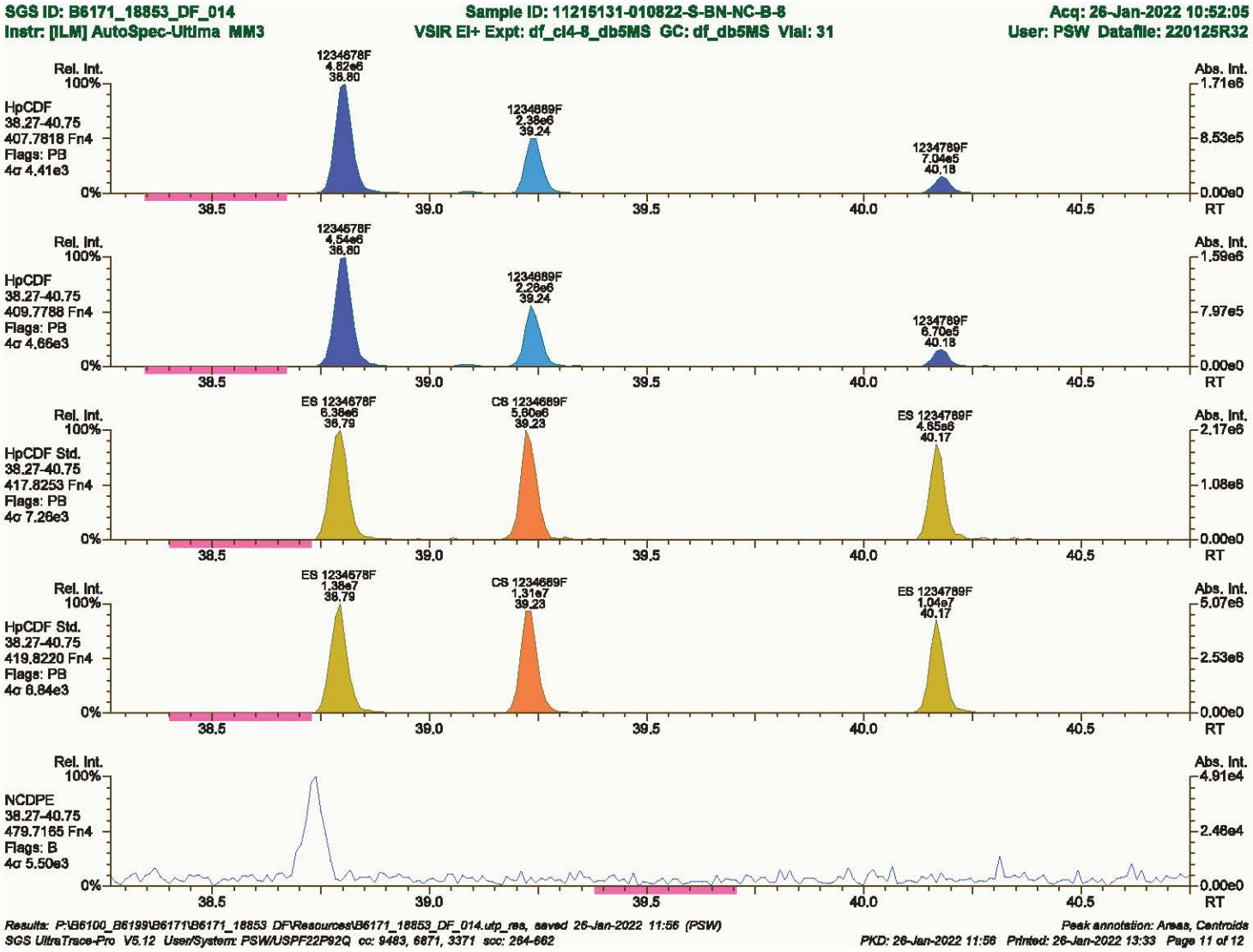
SGS ID: B6171_18853_DF_014 | Sample ID: 11215131-010822-S-BN-NC-B-8 | Acq: 26-Jan-2022 10:52:05

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31 | User: PSW Datafile: 220125R32

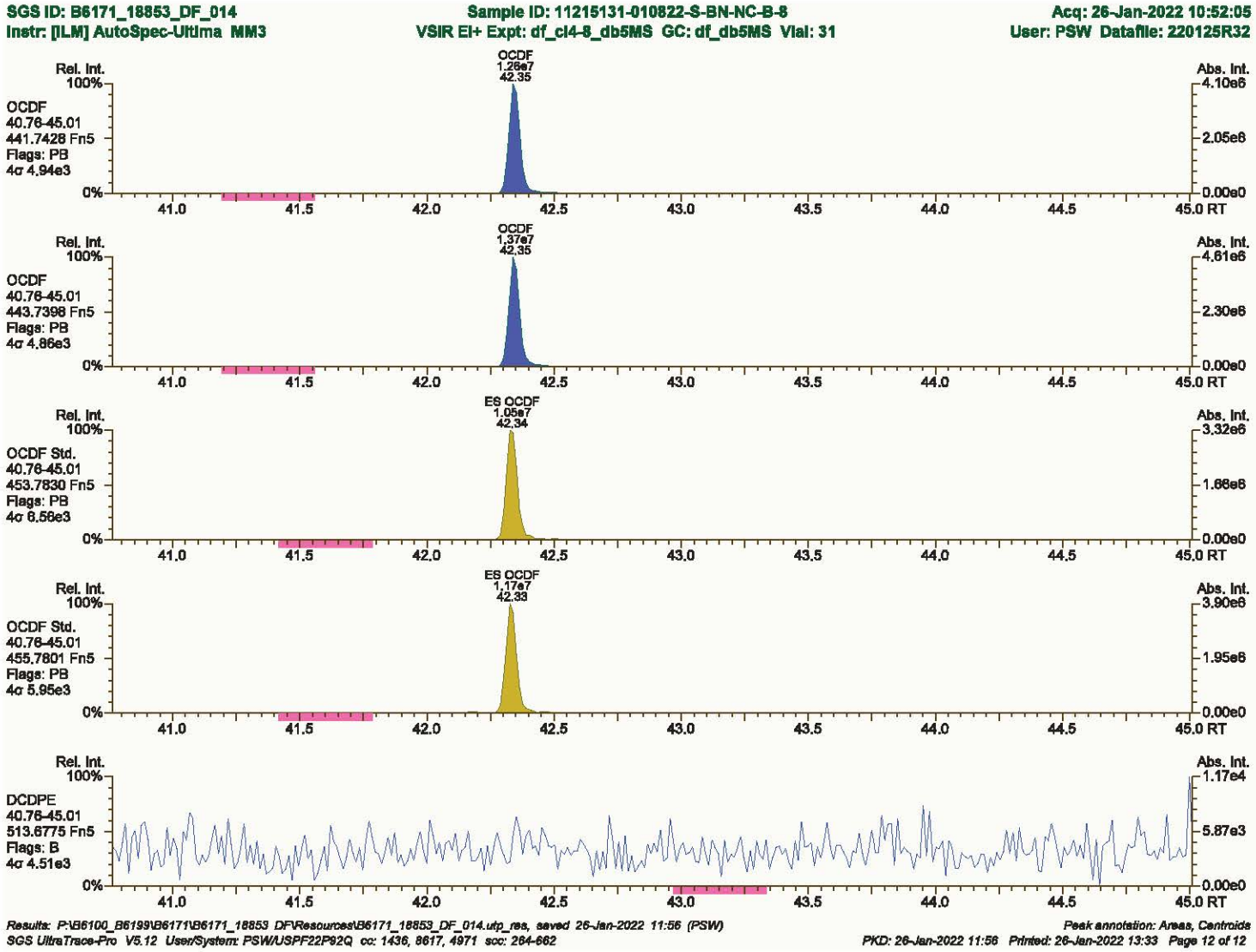


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4256, 7961, 6839 scc: 264-662 | *PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 10 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9483, 6871, 3371 scc: 264-662
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 11 of 12


SGS ID: B6171_18853_DF_014
Sample ID: 11215131-010822-S-BN-NC-B-8
Acq: 26-Jan-2022 10:52:05
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 31
User: PSW Datafile: 220125R32
Rel. Int.
Abs. Int.
OCDF
1.26e7
42.35
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 4.94e3
4.10e6
2.05e6
0.00e0
OCDF
1.37e7
42.35
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 4.86e3
4.61e6
2.30e6
0.00e0
ES OCDF
1.05e7
42.34
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 6.56e3
3.32e6
1.66e6
0.00e0
ES OCDF
1.17e7
42.33
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 5.95e3
3.90e6
1.95e6
0.00e0
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 4.51e3
1.17e4
5.87e3
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_014.utp_res, saved 26-Jan-2022 11:56 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1436, 8617, 4971 scc: 264-662
PKD: 26-Jan-2022 11:56 Printed: 26-Jan-2022 13:33 Page 12 of 12

Lab ID: B6171_18863_DF_016 **Acq'd:** 26 Jan 2022 11:39 PSW **Wt/Vol:** 10.11 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-DUP-11 **UTP:** 26-Jan-2022 12:40:53 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 050-766-HHT

Datafile: 220125R33 **Report:** 26 Jan 2022 13:29 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.74		1.0008	1.0009	+0.2	5.36E+06	0.77	Y	1.34	37.6	7892.542	0.607
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.06	-	7570.984	0.704
123478-HxCDD	36.42	J EMPC	1.0004	1.0004	0	6.13E+04	1.78	N	1.06	0.625	8509.097	0.691
123678-HxCDD	36.53		1.0035	1.0035	0	2.81E+05	1.25	Y	1.08	2.76	8509.097	0.695
123789-HxCDD	36.82	J	1.0116	1.0114	-0.4	2.04E+05	1.23	Y	1.02	2.06	8509.097	0.759
1234678-HpCDD	39.77		1.0003	1.0003	0	1.80E+07	1.06	Y	0.97	225	6890.022	0.537
OCDD	42.19		1.0003	1.0003	0	9.40E+07	0.90	Y	1.07	1,890	9489.755	1.34
2378-TCDF	25.80		1.0008	1.0009	+0.2	2.46E+07	0.81	Y	0.96	159	9284.627	0.724
12378-PeCDF	30.91		1.0006	1.0005	-0.2	6.66E+05	1.51	Y	0.95	4.88	7608.821	0.565
23478-PeCDF	32.09		1.0006	1.0007	+0.2	5.43E+05	1.65	Y	0.94	3.99	7608.821	0.497
123478-HxCDF	35.43		1.0004	1.0005	+0.2	9.06E+05	1.14	Y	1.23	6.68	8175.447	0.497
123678-HxCDF	35.57	J EMPC	1.0004	1.0004	0	1.99E+05	1.01	N	1.13	1.36	8175.447	0.503
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	8175.447	0.99
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8175.447	0.586
1234678-HpCDF	38.81		1.0003	1.0003	0	8.49E+05	1.02	Y	1.36	6.43	8669.506	0.428
1234789-HpCDF	40.18	J EMPC	1.0002	1.0001	-0.2	7.63E+04	1.55	N	1.30	0.752	8669.506	0.574
OCDF	42.35		1.0003	1.0002	-0.3	2.23E+06	0.90	Y	1.03	35.8	8403.091	0.938

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.72	1.0273	1.0275	+0.3	2.10E+07	0.76	Y	1.03	92.4
ES 12378-PeCDD	32.42	1.2455	1.2465	+1.9	1.84E+07	1.59	Y	1.03	80.8
ES 123478-HxCDD	36.40	0.9917	0.9917	0	1.84E+07	1.22	Y	0.99	100
ES 123678-HxCDD	36.52	0.9948	0.9948	0	1.86E+07	1.24	Y	0.97	103
ES 123789-HxCDD	36.81	1.0028	1.0027	-0.2	1.93E+07	1.29	Y	1.12	92.9
ES 1234678-HpCDD	39.76	1.0830	1.0832	+0.5	1.63E+07	1.05	Y	0.99	88.9
ES OCDD	42.18	1.1489	1.1491	+0.5	1.84E+07	0.84	Y	0.78	64.1
ES 2378-TCDF	25.77	1.0623	1.0627	+0.6	3.19E+07	0.78	Y	1.08	83.7
ES 12378-PeCDF	30.90	1.2724	1.2739	+2.8	2.85E+07	1.60	Y	0.93	86.9
ES 23478-PeCDF	32.07	1.3205	1.3222	+3.3	2.87E+07	1.60	Y	0.92	88.5
ES 123478-HxCDF	35.42	0.9649	0.9649	0	2.17E+07	0.53	Y	1.14	103
ES 123678-HxCDF	35.56	0.9688	0.9687	-0.2	2.57E+07	0.51	Y	1.30	107
ES 234678-HxCDF	36.22	0.9868	0.9868	0	1.49E+07	0.52	Y	1.20	67.2
ES 123789-HxCDF	37.18	1.0129	1.0130	+0.2	2.04E+07	0.53	Y	1.14	97.2
ES 1234678-HpCDF	38.80	1.0569	1.0570	+0.2	1.92E+07	0.46	Y	0.95	109
ES 1234789-HpCDF	40.18	1.0944	1.0946	+0.5	1.54E+07	0.46	Y	0.85	98.5
ES OCDF	42.34	1.1533	1.1536	+0.8	2.40E+07	0.92	Y	0.93	70.2

Lab ID: B6171_18863_DF_016 | Acq'd: 26 Jan 2022 11:39 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-DUP-11 | UTP: 26-Jan-2022 12:40:53 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 050-766-HHT

Datafile: 220125R33 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.01		-	-	-	2.20E+07	0.80	Y	-	-
JS 1234-TCDF	24.25		-	-	-	3.52E+07	0.79	Y	-	-
JS 123467-HxCDD	36.71		-	-	-	9.24E+06	1.31	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0284	+0.3	1.02E+07	n/a	-	1.31	88.6
CS 12347-PeCDD	31.90		1.2257	1.2267	+1.9	1.79E+07	1.65	Y	0.89	91.1
CS 12346-PeCDF	30.34		1.2496	1.2511	+2.7	3.11E+07	1.57	Y	0.87	102
CS 123469-HxCDF	35.87		0.9773	0.9773	0	2.51E+07	0.55	Y	1.09	125
CS 1234689-HpCDF	39.23		1.0687	1.0689	+0.5	1.95E+07	0.44	Y	0.86	122
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0284~~	~~+0.3~~	~~1.02E+07~~	~~n/a~~	~~-~~	~~1.26~~	~~96.4~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2267~~	~~+1.9~~	~~1.79E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~30.34~~		~~1.2496~~	~~1.2511~~	~~+2.7~~	~~3.11E+07~~	~~1.57~~	~~Y~~	~~0.93~~	~~117~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.51E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~116~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.95E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~111~~

Totals	Conc	EMPC
Total TCDD	57.2	58.4
Total PeCDD	11.9	11.9
Total HxCDD	94.1	97
Total HpCDD	721	721
Total Tetra-Octa Dioxins	2770	2780
Total TCDF	312	312
Total PeCDF	11.3	12.8
Total HxCDF	10.2	13.3
Total HpCDF	27.4	28.2
Total Tetra-Octa Furans	397	402
Total Tetra-Octa Dioxins & Furans	3170	3180

Lab ID: B6171_18863_DF_016 | Acq'd: 26 Jan 2022 11:39 PSW | Wt/Vol: 10.11 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-010722-S-BN-DUP-11 | UTP: 26-Jan-2022 12:40:53 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 050-766-HHT

Datafile: 220125R33 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8486						1.34		7892.542	0.607
1379-TCDD	NotFnd		0.8642						1.34		7892.542	0.607
1369-TCDD	NotFnd		0.8825						1.34		7892.542	0.607
1469-TCDD	24.45		0.9154	0.9152	-0.3	2.35E+06	0.75	Y	1.34	16.5	7892.542	0.607
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		7892.542	0.607
1378-TCDD	NotFnd		0.9332						1.34		7892.542	0.607
1268-TCDD	NotFnd		0.9415						1.34		7892.542	0.607
1478-TCDD	NotFnd		0.9518						1.34		7892.542	0.607
1279-TCDD	NotFnd		0.9586						1.34		7892.542	0.607
1234/1269-TCDD	26.00	EMPC	0.9734	0.9729	-0.8	1.58E+05	0.89	N	1.34	1.11	7892.542	0.607
1236-TCDD	NotFnd		0.9788						1.34		7892.542	0.607
1237/1238-TCDD	NotFnd		0.9892						1.34		7892.542	0.607
1239-TCDD	NotFnd		0.9944						1.34		7892.542	0.607
2378-TCDD	**26.74**		**1.0008**	1.0009	**+0.2**	5.36E+06	0.77	Y	**1.34**	**37.6**	**7892.542**	**0.607**
1278-TCDD	27.10		1.0142	1.0141	-0.2	4.52E+05	0.68	Y	1.34	3.17	7892.542	0.607
1267-TCDD	NotFnd		1.0197						1.34		7892.542	0.607
1289-TCDD	NotFnd		1.0401						1.34		7892.542	0.607
12479/12468-PeCDD	29.82	J	0.9202	0.9200	-0.4	1.68E+05	1.53	Y	1.06	1.71	7570.984	0.704
12469-PeCDD	30.39		0.9375	0.9374	-0.2	8.21E+05	1.46	Y	1.06	8.36	7570.984	0.704
12368-PeCDD	NotFnd		0.9553						1.06		7570.984	0.704
12478-PeCDD	NotFnd		0.9613						1.06		7570.984	0.704
12379-PeCDD	NotFnd		0.9644						1.06		7570.984	0.704
12369/12467/12489-PeCDD	31.54	J	0.9730	0.9729	-0.2	1.83E+05	1.75	Y	1.06	1.86	7570.984	0.704
12346/12347-PeCDD	NotFnd		0.9848						1.06		7570.984	0.704
12378-PeCDD	NotFnd		**1.0005**						**1.06**		**7570.984**	**0.704**
12367-PeCDD	NotFnd		1.0035						1.06		7570.984	0.704
12389-PeCDD	NotFnd		1.0146						1.06		7570.984	0.704
124679/124689-HxCDD	34.69		0.9532	0.9531	-0.2	6.52E+06	1.31	Y	1.05	65.5	8509.097	0.715
123468-HxCDD	35.36	J	0.9715	0.9712	-0.6	1.99E+05	1.32	Y	1.05	2	8509.097	0.715
123679/123689-HxCDD	35.66		0.9795	0.9795	0	2.06E+06	1.21	Y	1.05	20.7	8509.097	0.715
123469-HxCDD	35.79	J EMPC	0.9832	0.9830	-0.4	2.28E+05	0.97	N	1.05	2.29	8509.097	0.715
123478-HxCDD	36.42	J EMPC	**1.0004**	**1.0004**	**0**	**6.13E+04**	**1.78**	**N**	1.06	**0.625**	**8509.097**	**0.691**
123678-HxCDD	36.53		**1.0035**	**1.0035**	**0**	**2.81E+05**	**1.25**	**Y**	1.08	**2.76**	**8509.097**	**0.695**
123467-HxCDD	36.71	J	1.0087	1.0086	-0.2	1.14E+05	1.32	Y	1.05	1.14	8509.097	0.715
123789-HxCDD	36.82	J	**1.0116**	**1.0114**	**-0.4**	**2.04E+05**	**1.23**	**Y**	1.02	**2.06**	**8509.097**	**0.759**

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Client ID: 11215131-010722-S-BN-DUP-11 | UTP: 26-Jan-2022 12:40:53 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 050-766-HHT

Datafile: 220125R33 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9834	0	3.98E+07	1.03	Y	0.97	496	6890.022	0.537
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**1.80E+07**	**1.06**	**Y**	**0.97**	**225**	**6890.022**	**0.537**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**9.40E+07**	**0.90**	**Y**	**1.07**	**1,890**	**9489.755**	**1.34**
OCDD-a	42.19		1.0001	1.0002	+0.3	5.40E+06	2.52	Y	0.07	1,760	13834.568	31.7
1368-TCDF	NotFnd		0.7942						0.96		9284.627	0.724
1468-TCDF	NotFnd		0.8155						0.96		9284.627	0.724
2468-TCDF	NotFnd		0.8407						0.96		9284.627	0.724
1346/1246-TCDF	NotFnd		0.8553						0.96		9284.627	0.724
1347/1378/1247-TCDF	22.21		0.8617	0.8619	+0.3	2.82E+05	0.78	Y	0.96	1.82	9284.627	0.724
1348-TCDF	22.49		0.8740	0.8728	-1.6	1.49E+05	0.86	Y	0.96	0.961	9284.627	0.724
1248/1367/1379-TCDF	22.62		0.8798	0.8775	-3.1	1.20E+06	0.75	Y	0.96	7.74	9284.627	0.724
1268-TCDF	23.10		0.8967	0.8962	-0.7	4.06E+05	0.81	Y	0.96	2.62	9284.627	0.724
1467-TCDF	NotFnd		0.9025						0.96		9284.627	0.724
1478-TCDF	23.44		0.9101	0.9094	-1.0	1.16E+06	0.74	Y	0.96	7.52	9284.627	0.724
1369/1237-TCDF	23.87		0.9263	0.9262	-0.1	2.61E+05	0.76	Y	0.96	1.68	9284.627	0.724
2467-TCDF	NotFnd		0.9322						0.96		9284.627	0.724
2368-TCDF	24.18		0.9389	0.9383	-0.9	6.78E+05	0.73	Y	0.96	4.38	9284.627	0.724
1238/1234/1678/1469/1236-TCDF	24.27		0.9427	0.9418	-1.3	1.36E+06	0.77	Y	0.96	8.75	9284.627	0.724
1278-TCDF	24.79		0.9623	0.9620	-0.4	1.13E+07	0.81	Y	0.96	72.8	9284.627	0.724
1349-TCDF	24.94		0.9678	0.9678	0	1.82E+05	0.79	Y	0.96	1.18	9284.627	0.724
1267-TCDF	25.10		0.9740	0.9739	-0.2	6.13E+05	0.84	Y	0.96	3.96	9284.627	0.724
2346/1249-TCDF	NotFnd		0.9820						0.96		9284.627	0.724
2347/1279-TCDF	25.55		0.9915	0.9914	-0.2	3.07E+05	0.74	Y	0.96	1.98	9284.627	0.724
2348-TCDF	25.67		0.9964	0.9959	-0.8	1.46E+06	0.76	Y	0.96	9.45	9284.627	0.724
2378-TCDF	**25.80**		**1.0008**	**1.0009**	**+0.2**	**2.46E+07**	**0.81**	**Y**	**0.96**	**159**	**9284.627**	**0.724**
2367/3467-TCDF	26.19		1.0163	1.0160	-0.5	2.03E+06	0.77	Y	0.96	13.1	9284.627	0.724
1269-TCDF	26.46		1.0265	1.0266	+0.2	3.81E+05	0.85	Y	0.96	2.46	9284.627	0.724
1239-TCDF	NotFnd		1.0373						0.96		9284.627	0.724
1289-TCDF	27.98		1.0847	1.0855	+1.3	2.04E+06	0.82	Y	0.96	13.2	9284.627	0.724
13468/12468-PeCDF	NotFnd		0.9045						0.94		8239.643	0.575
13678/13467/12467-PeCDF	NotFnd		0.9574						0.94		7608.821	0.531
12368/13478/12478-PeCDF	29.77	J	0.9628	0.9634	+1.1	3.29E+05	1.37	Y	0.94	2.41	7608.821	0.531
14678-PeCDF	NotFnd		0.9661						0.94		7608.821	0.531
13479-PeCDF	NotFnd		0.9695						0.94		7608.821	0.531
13469/12479-PeCDF	NotFnd		0.9779						0.94		7608.821	0.531
12346-PeCDF	NotFnd		0.9824						0.94		7608.821	0.531

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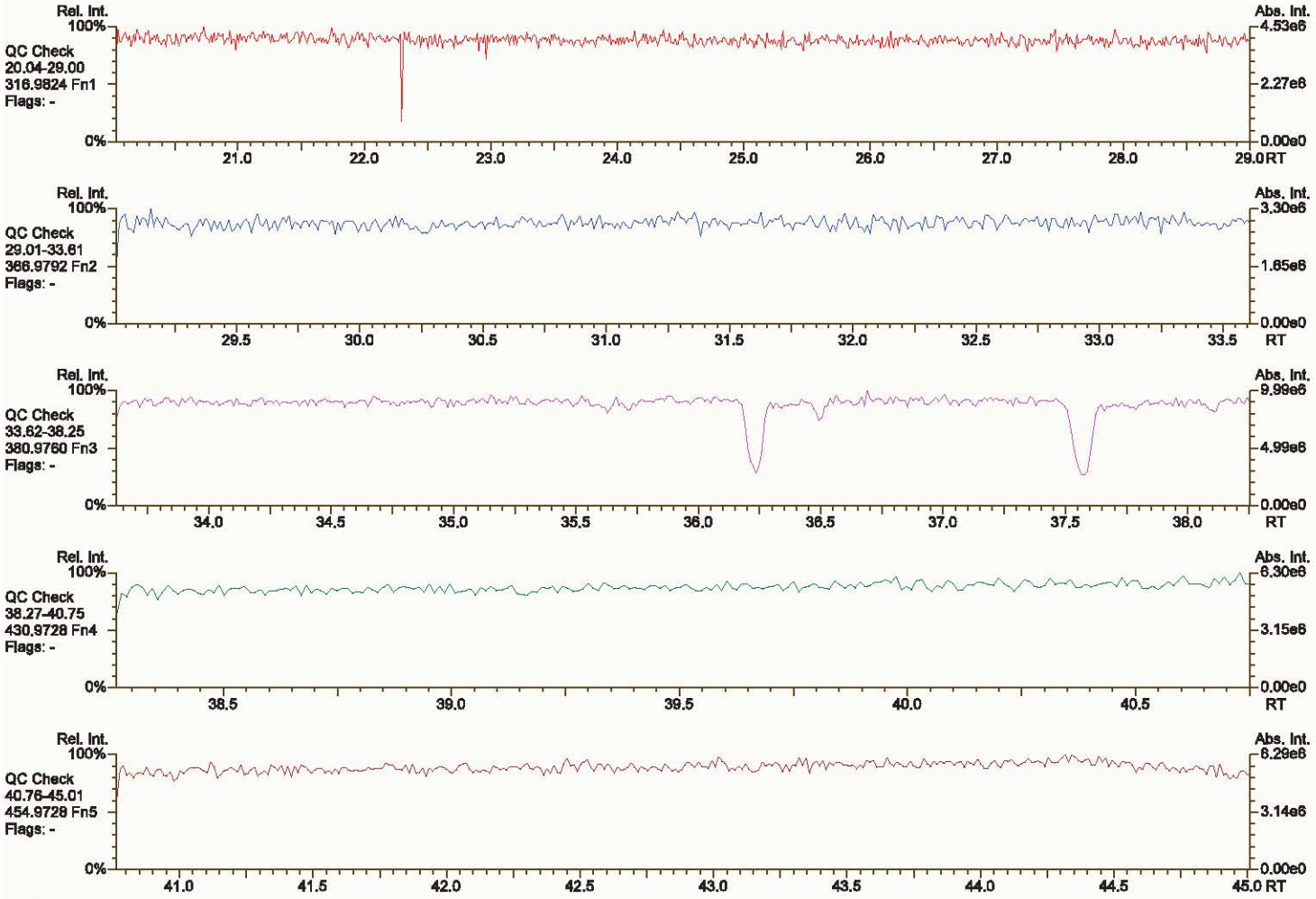
Client ID: 11215131-010722-S-BN-DUP-11 | UTP: 26-Jan-2022 12:40:53 PSW | J-level: 0.495 pg/g | Split: 1 | Checkcode: 050-766-HHT

Datafile: 220125R33 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9857						0.94		7608.821	0.531
12347-PeCDF	NotFnd		0.9882						0.94		7608.821	0.531
12348-PeCDF	NotFnd		0.9935						0.94		7608.821	0.531
12378-PeCDF	**30.91**		**1.0006**	**1.0005**	**-0.2**	**6.66E+05**	**1.51**	**Y**	**0.95**	**4.88**	**7608.821**	**0.565**
12678/12367-PeCDF	31.23	J EMPC	1.0099	1.0107	+1.5	2.04E+05	1.78	N	0.94	1.5	7608.821	0.531
12379-PeCDF	NotFnd		1.0155						0.94		7608.821	0.531
12679-PeCDF	NotFnd		0.9921						0.94		7608.821	0.531
23467/12369-PeCDF	NotFnd		0.9962						0.94		7608.821	0.531
23478-PeCDF	**32.09**		**1.0006**	**1.0007**	**+0.2**	**5.43E+05**	**1.65**	**Y**	**0.94**	**3.99**	**7608.821**	**0.497**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		7608.821	0.531
12349-PeCDF	NotFnd		1.0106						0.94		7608.821	0.531
12389-PeCDF	NotFnd		1.0349						0.94		7608.821	0.531
123468-HxCDF	NotFnd		0.9606						1.16		8175.447	0.608
124678/134678-HxCDF	34.22	J EMPC	0.9663	0.9661	-0.4	1.40E+05	1.50	N	1.16	1.15	8175.447	0.608
134679-HxCDF	NotFnd		0.9729						1.16		8175.447	0.608
124679-HxCDF	NotFnd		0.9786						1.16		8175.447	0.608
124689-HxCDF	34.89		0.9851	0.9851	0	4.27E+05	1.37	Y	1.16	3.51	8175.447	0.608
123467-HxCDF	NotFnd		0.9970						1.16		8175.447	0.608
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**9.06E+05**	**1.14**	**Y**	**1.23**	**6.68**	**8175.447**	**0.497**
123678-HxCDF	**35.57**	**J EMPC**	**1.0004**	**1.0004**	**0**	**1.99E+05**	**1.01**	**N**	**1.13**	**1.36**	**8175.447**	**0.503**
123479-HxCDF	NotFnd		1.0050						1.16		8175.447	0.608
123469-HxCDF	NotFnd		1.0091						1.16		8175.447	0.608
123679-HxCDF	NotFnd		0.9942						1.16		8175.447	0.608
234678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**8175.447**	**0.99**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8175.447	0.608
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8175.447**	**0.586**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.23	J EMPC	1.0008	1.0012	+0.9	6.97E+04	1.77	N	1.16	0.573	8175.447	0.608
1234678-HpCDF	**36.81**		**1.0003**	**1.0003**	**0**	**8.49E+05**	**1.02**	**Y**	**1.36**	**6.43**	**8669.506**	**0.428**
1234679-HpCDF	NotFnd		1.0076						1.33		8669.506	0.492
1234689-HpCDF	39.25		1.0114	1.0115	+0.2	2.44E+06	1.08	Y	1.33	21	8669.506	0.492
1234789-HpCDF	**40.18**	**J EMPC**	**1.0002**	**1.0001**	**-0.2**	**7.63E+04**	**1.55**	**N**	**1.30**	**0.752**	**8669.506**	**0.574**
OCDF	**42.35**		**1.0003**	**1.0002**	**-0.3**	**2.23E+06**	**0.90**	**Y**	**1.03**	**35.8**	**8403.091**	**0.938**
OCDF-a	NotFnd		1.0001						0.06		12295.152	23.7

SGS ID: B6171_18853_DF_015 | Sample ID: 11215131-010722-S-BN-DUP-11 | Acq: 26-Jan-2022 11:39:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32 | User: PSW Datafile: 220125R33



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)

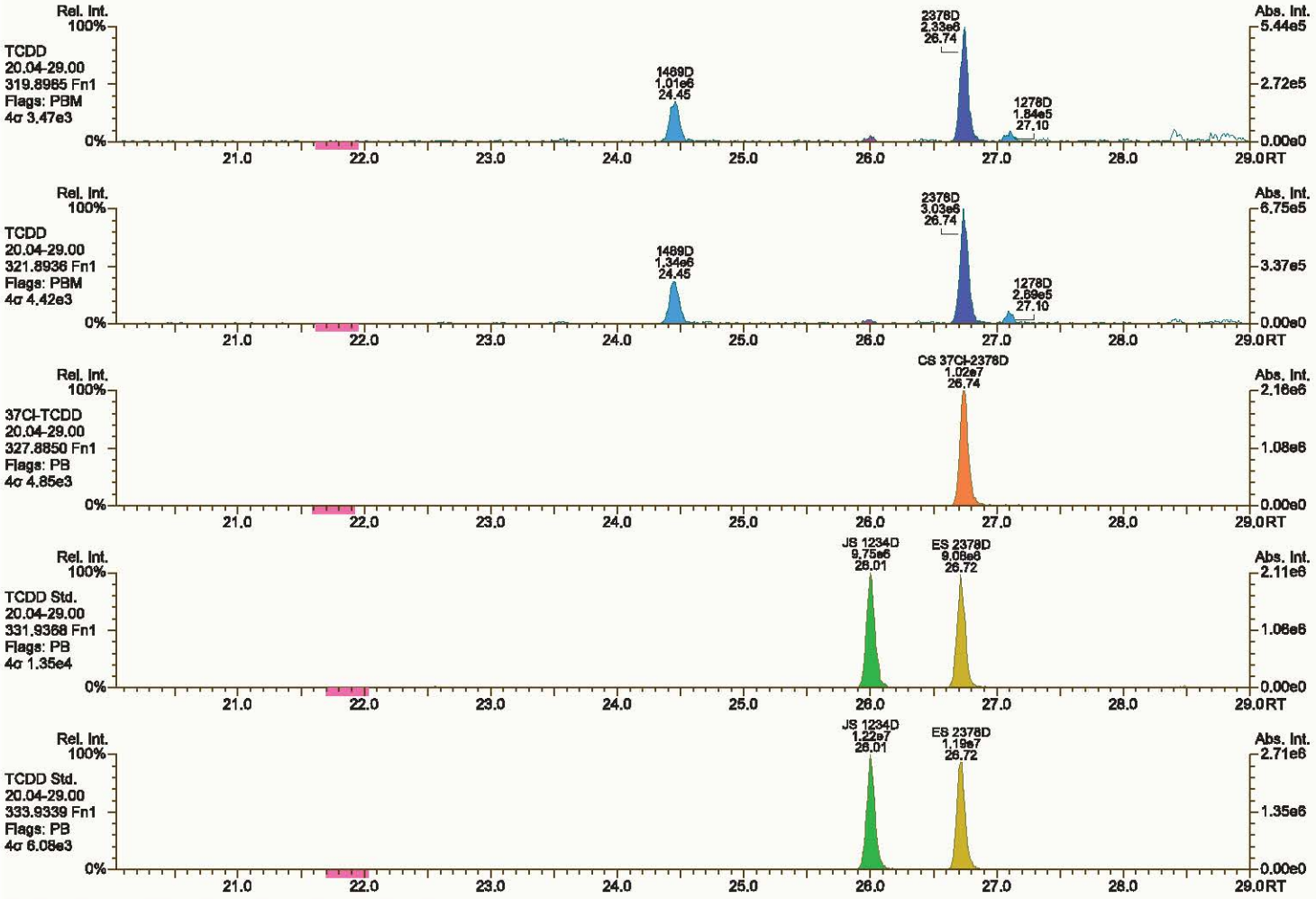
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 050-766

PKD: n/a Printed: 26-Jan-2022 13:33 Page 1 of 12

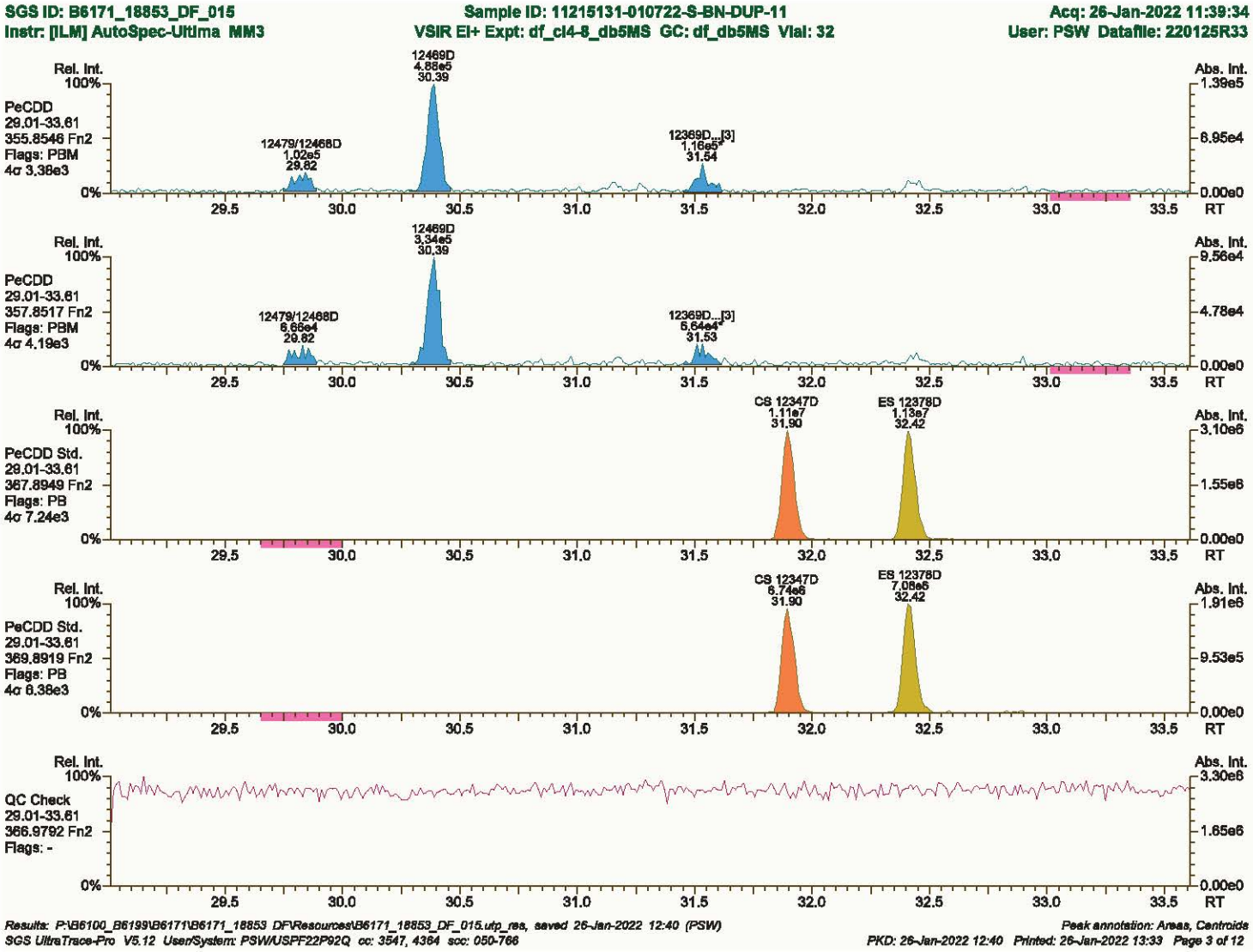
SGS ID: B6171_18853_DF_015 | Sample ID: 11215131-010722-S-BN-DUP-11 | Acq: 26-Jan-2022 11:39:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32 | User: PSW Datafile: 220125R33

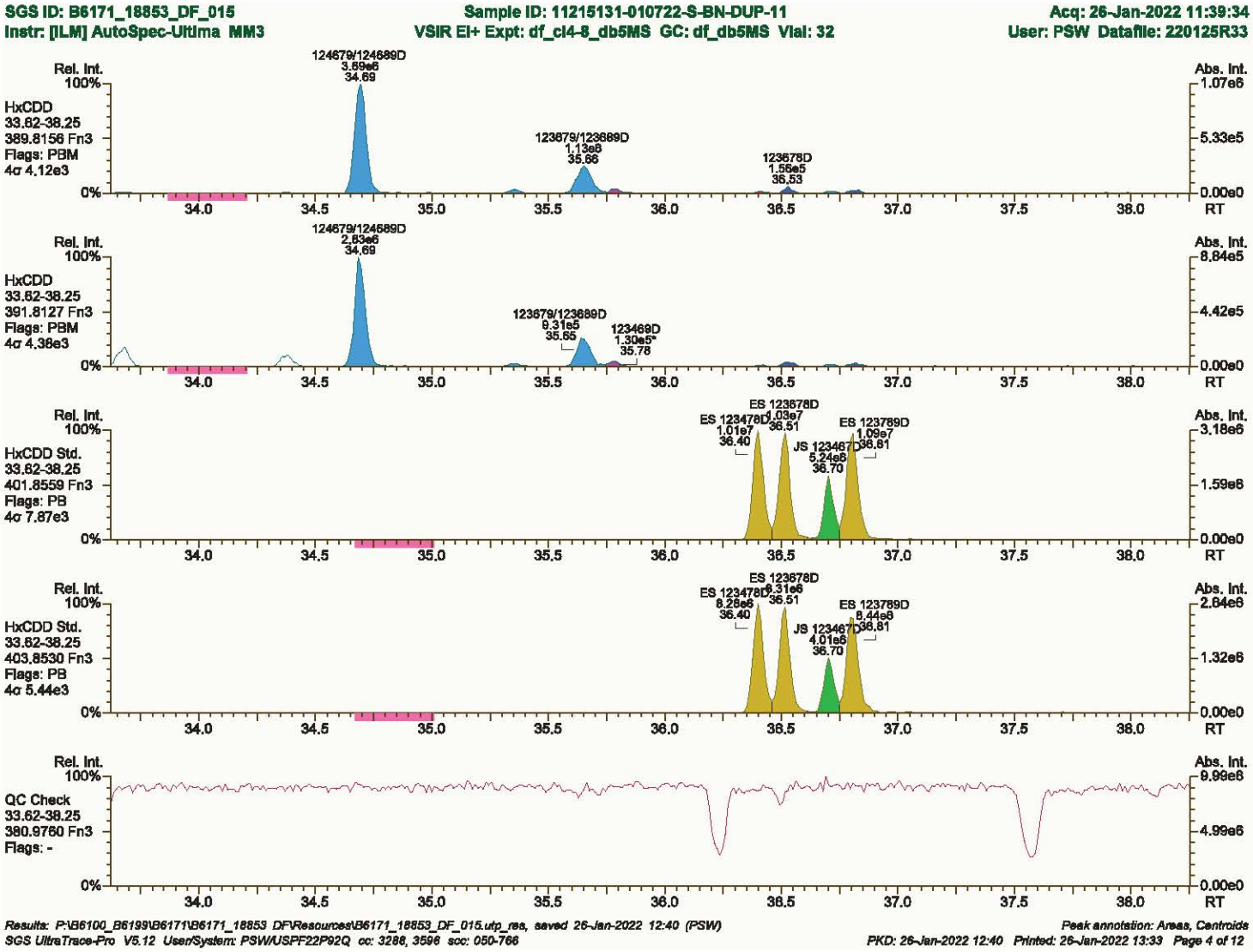


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW) *Peak annotation: Areas, Centroids*

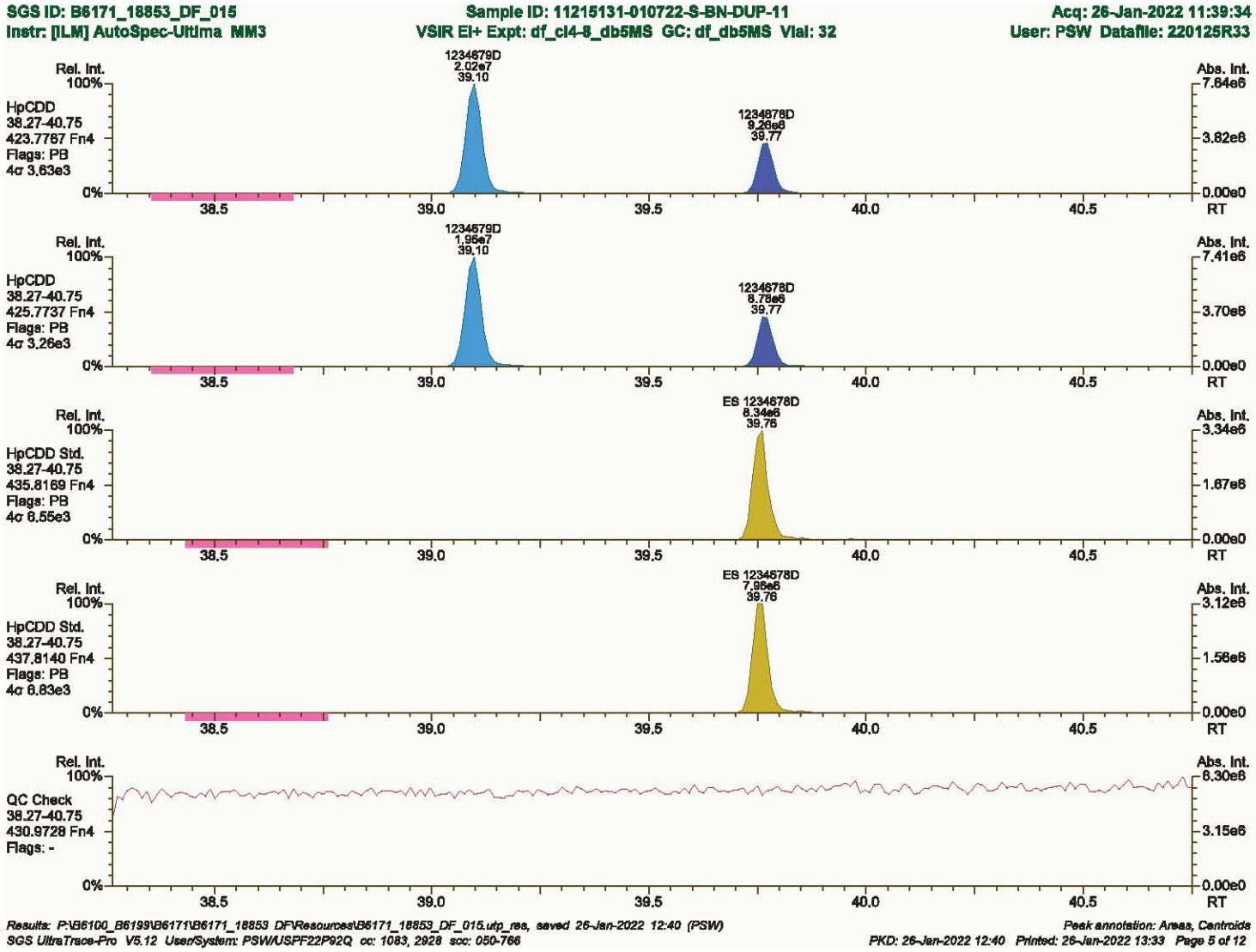
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8183, 6962, 2347 scc: 050-766 *PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 2 of 12*

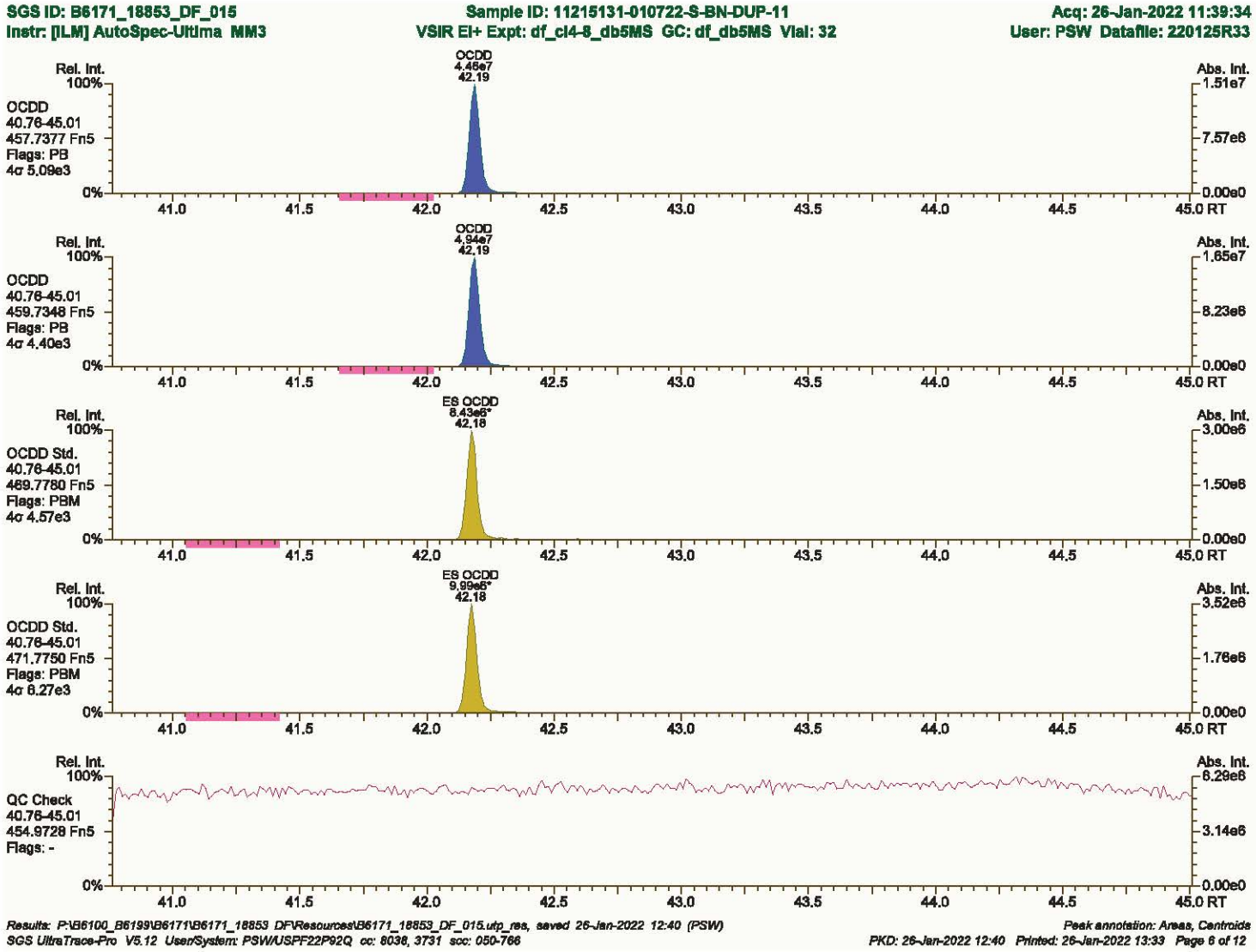


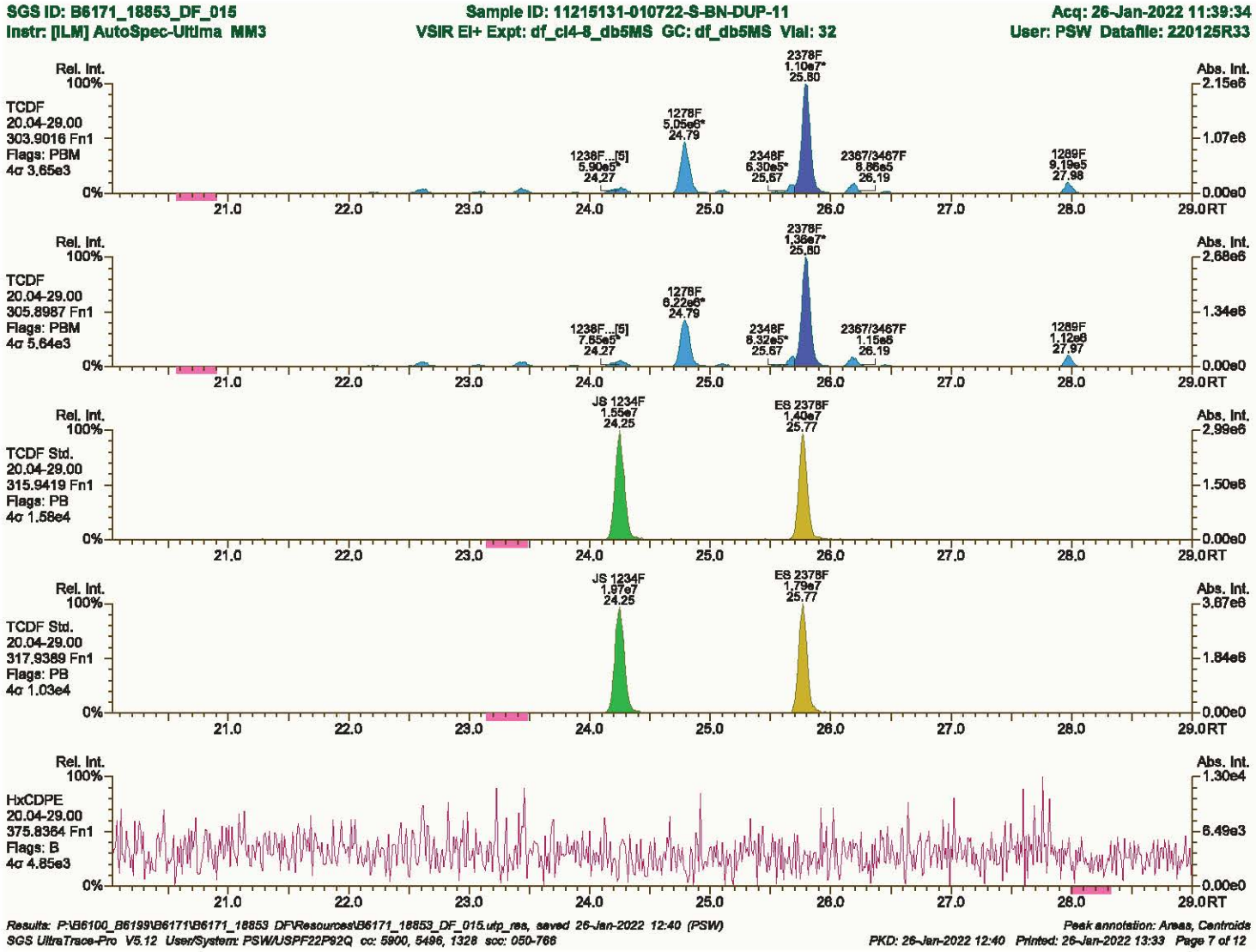
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3547, 4364 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 3 of 12

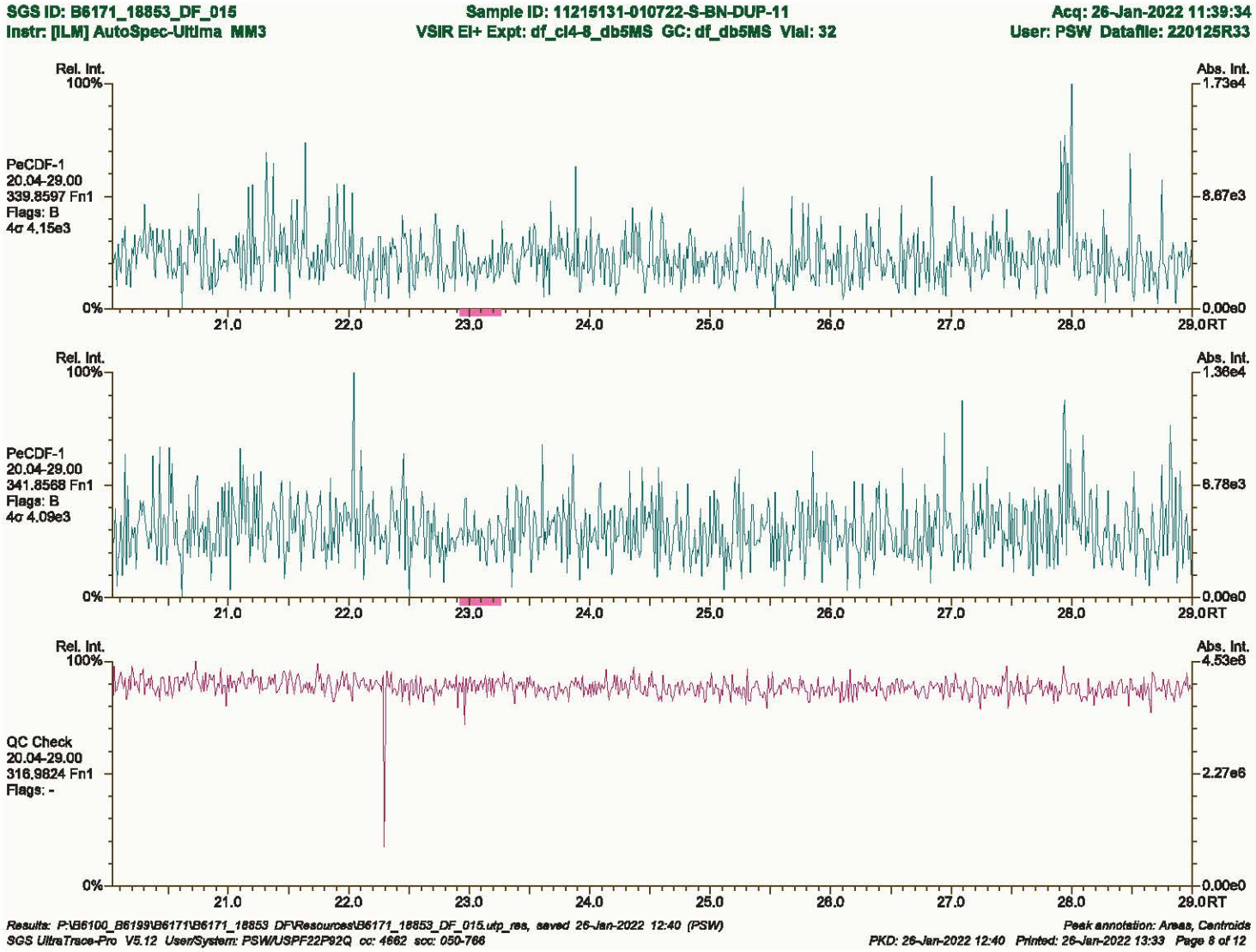


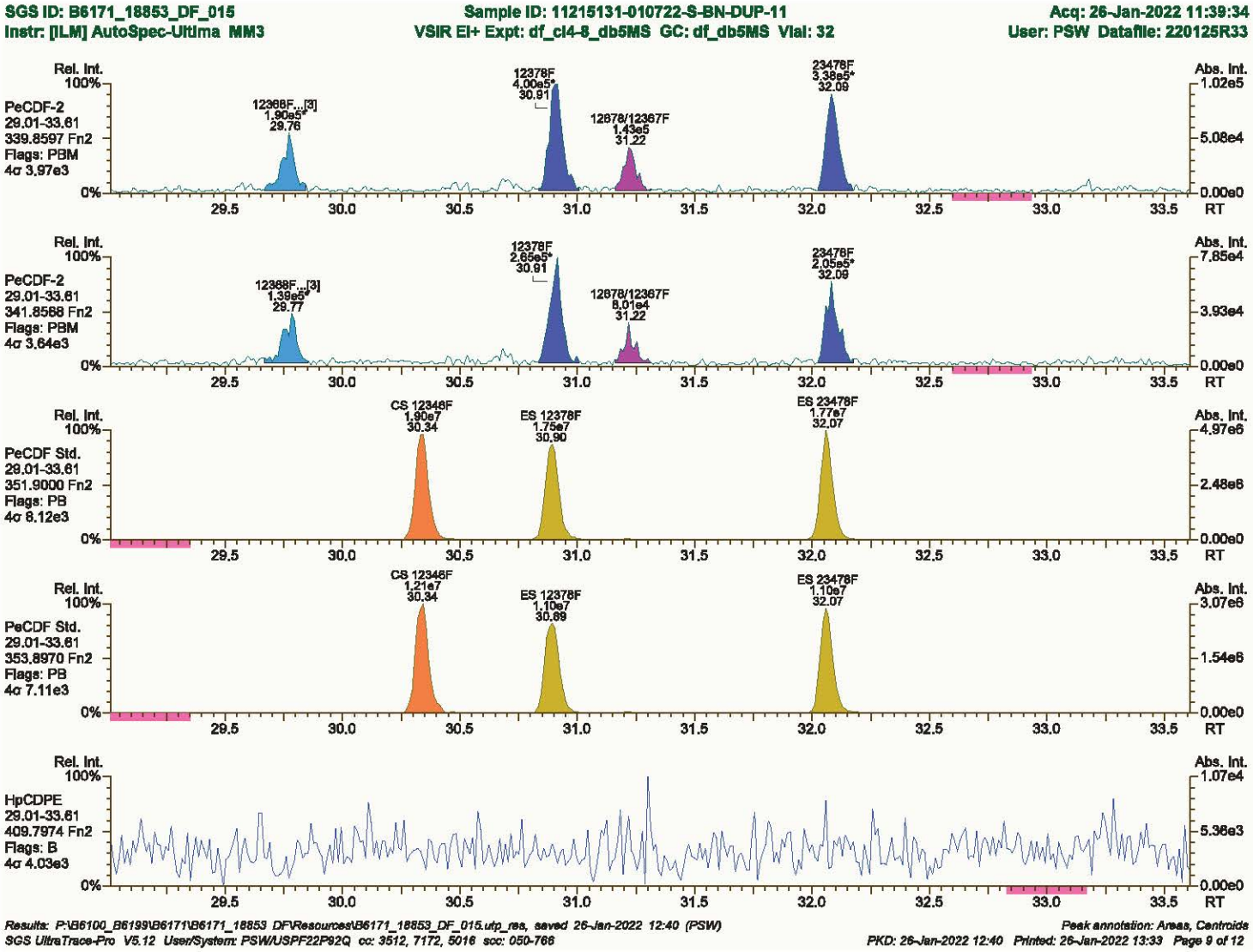
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3286, 3596 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 4 of 12

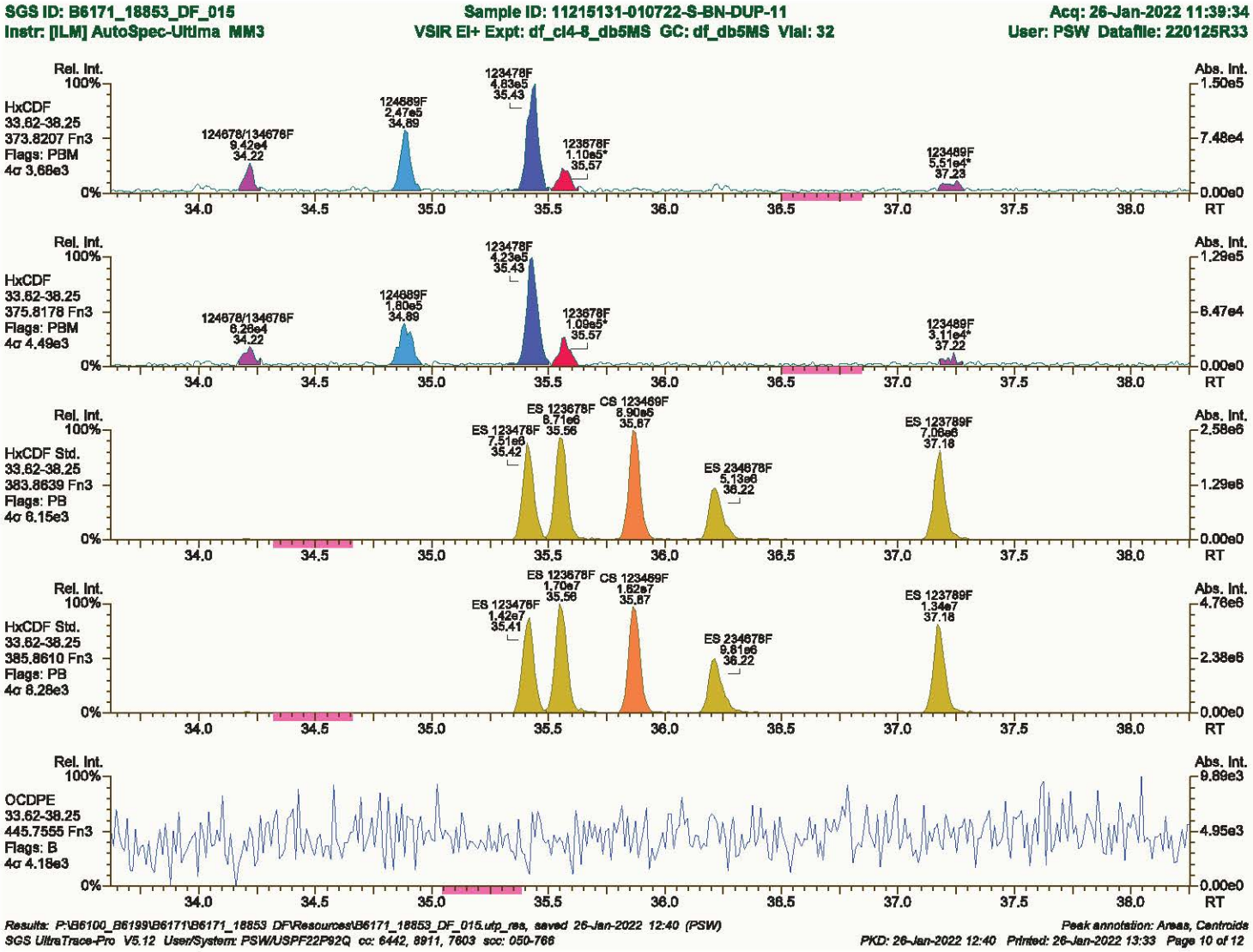

SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 3.63e3
1234679D
2.02e7
39.10
1234678D
9.26e6
39.77
7.64e6
3.82e6
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.26e3
1234679D
1.95e7
39.10
1234678D
8.78e6
39.77
7.41e6
3.70e6
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 6.55e3
ES 1234678D
8.34e6
39.76
3.34e6
1.67e6
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 6.83e3
ES 1234678D
7.95e6
39.76
3.12e6
1.58e6
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
6.30e6
3.15e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1083, 2928 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 5 of 12

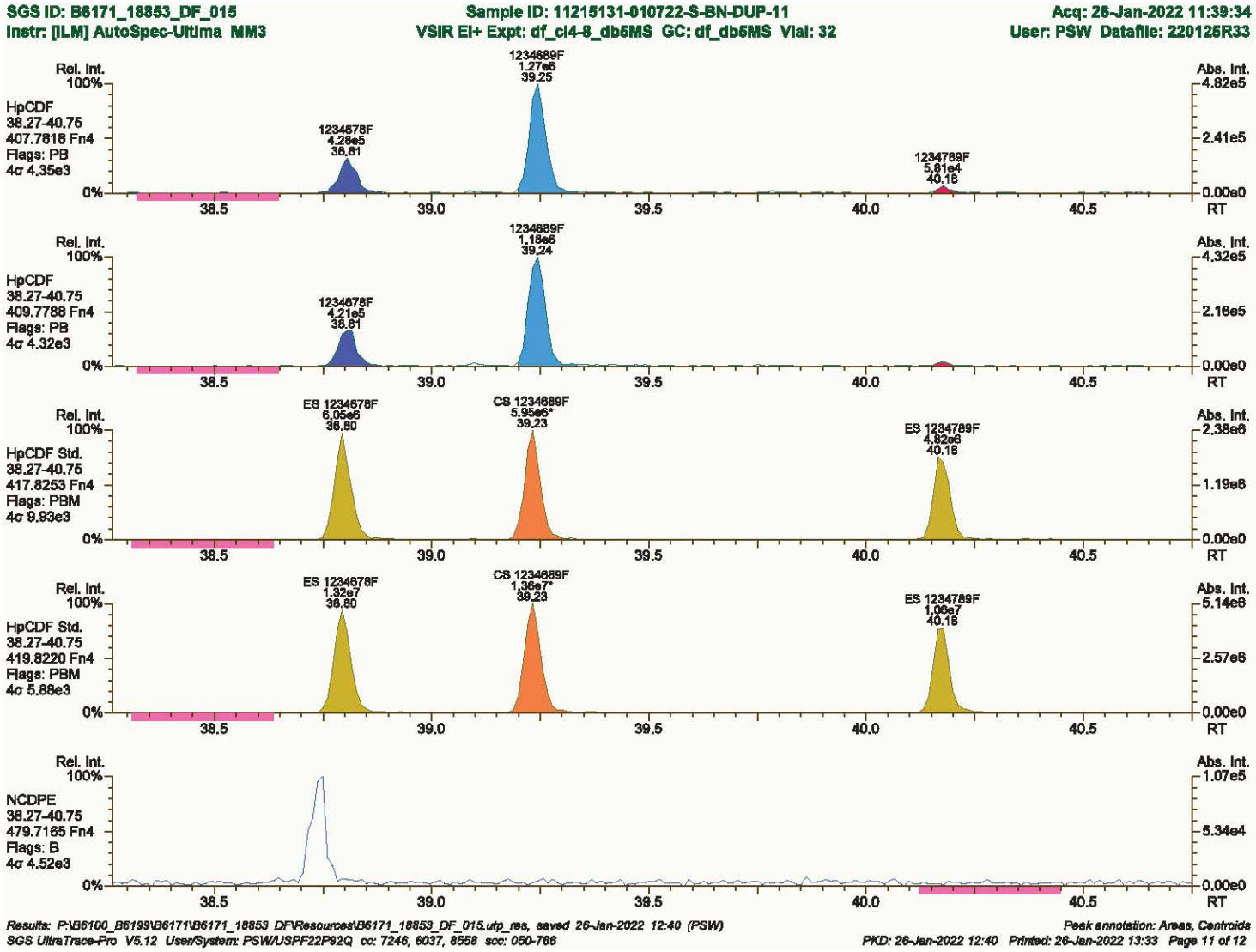

SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
Abs. Int.
OCDD
4.46e7
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 5.09e3
1.51e7
7.57e6
0.00e0
OCDD
4.94e7
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.40e3
1.65e7
8.23e6
0.00e0
ES OCDD
8.43e6*
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PBM
4σ 4.57e3
3.00e6
1.50e6
0.00e0
ES OCDD
9.99e6*
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PBM
4σ 6.27e3
3.52e6
1.76e6
0.00e0
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
6.29e6
3.14e6
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8036, 3731 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 6 of 12


SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 3.65e3
2378F
1.10e7*
25.80
1278F
5.05e6*
24.79
1238F...[5]
5.90e5*
24.27
2348F
6.30e5*
25.67
2367/3467F
8.86e5
26.19
1289F
9.19e5
27.98
2.15e6
1.07e6
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 5.64e3
2378F
1.36e7*
25.80
1278F
6.22e6*
24.79
1238F...[5]
7.65e5*
24.27
2348F
8.32e5*
25.67
2367/3467F
1.15e6
26.19
1289F
1.12e6
27.97
2.68e6
1.34e6
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.58e4
JS 1234F
1.55e7
24.25
ES 2378F
1.40e7
25.77
2.99e6
1.50e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.03e4
JS 1234F
1.97e7
24.25
ES 2378F
1.79e7
25.77
3.67e6
1.84e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.85e3
1.30e4
6.49e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5900, 5496, 1328 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 7 of 12


SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
100%
Abs. Int.
1.73e4
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 4.15e3
8.67e3
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
Abs. Int.
1.36e4
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 4.09e3
6.78e3
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Rel. Int.
100%
Abs. Int.
4.53e6
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
2.27e6
0%
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4662 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 8 of 12

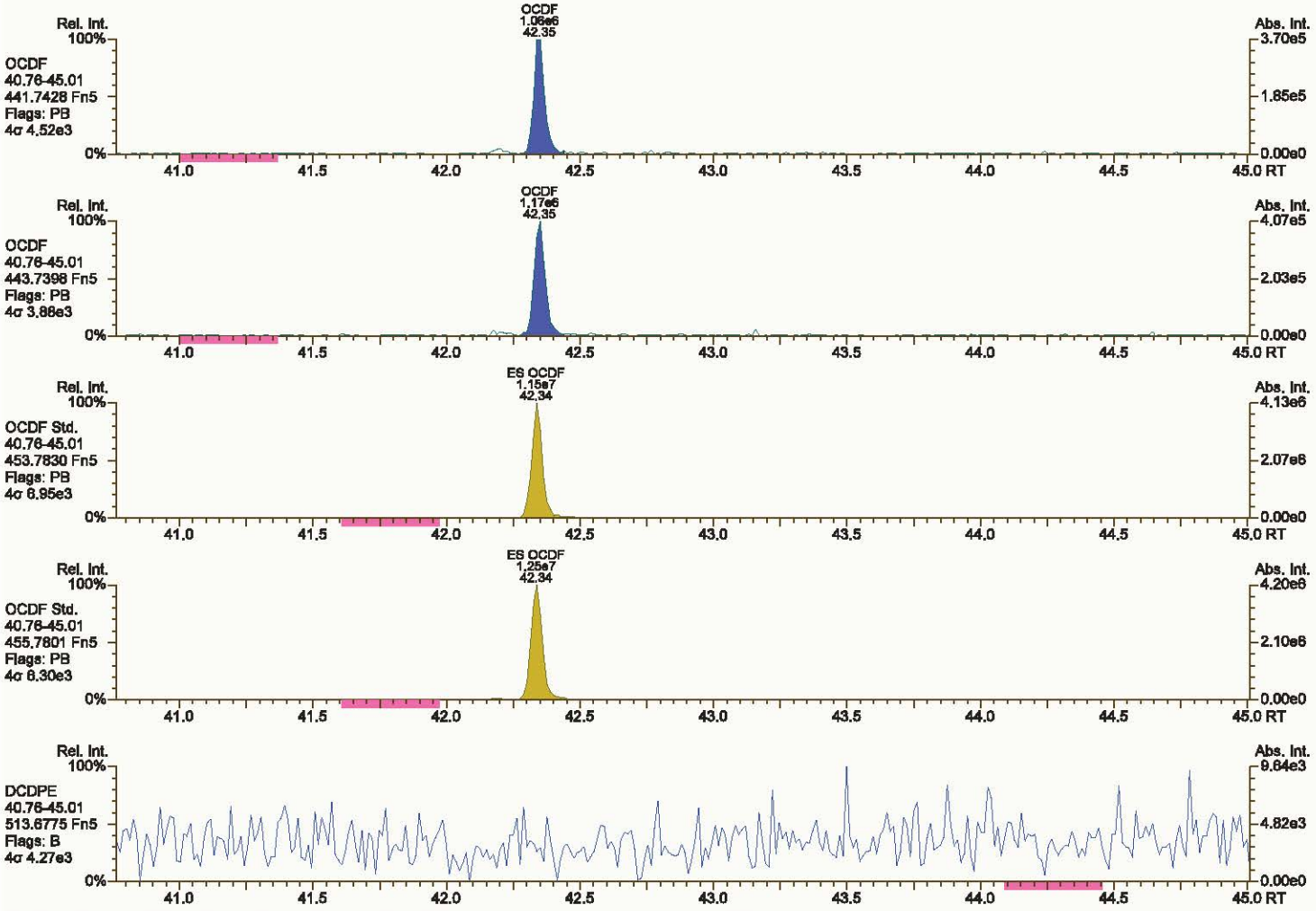

SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 3.97e3
12368F...[3]
1.90e5*
29.76
12378F
4.00e5*
30.91
12878/12367F
1.43e5
31.22
23478F
3.38e5*
32.09
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 3.64e3
12368F...[3]
1.39e5*
29.77
12378F
2.65e5*
30.91
12878/12367F
8.01e4
31.22
23478F
2.05e5*
32.09
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 8.12e3
CS 12348F
1.90e7
30.34
ES 12378F
1.75e7
30.90
ES 23478F
1.77e7
32.07
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 7.11e3
CS 12348F
1.21e7
30.34
ES 12378F
1.10e7
30.89
ES 23478F
1.10e7
32.07
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.03e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3512, 7172, 5016 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 9 of 12


SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 3.68e3
124678/134678F 9.42e4 34.22
124689F 2.47e5 34.69
123478F 4.83e5 35.43
123678F 1.10e5* 35.57
123489F 5.51e4* 37.23
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 4.49e3
124678/134678F 6.28e4 34.22
124689F 1.80e5 34.89
123478F 4.23e5 35.43
123678F 1.09e5* 35.57
123489F 3.11e4* 37.22
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 6.15e3
ES 123478F 7.51e6 35.42
ES 123678F 8.71e6 35.56
CS 123489F 8.90e6 35.67
ES 234678F 5.13e6 36.22
ES 123789F 7.06e6 37.18
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 8.28e3
ES 123478F 1.42e7 35.41
ES 123678F 1.70e7 35.56
CS 123489F 1.82e7 35.67
ES 234678F 9.81e6 36.22
ES 123789F 1.34e7 37.18
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.18e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6442, 8911, 7803 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 10 of 12


SGS ID: B6171_18853_DF_015
Sample ID: 11215131-010722-S-BN-DUP-11
Acq: 26-Jan-2022 11:39:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32
User: PSW Datafile: 220125R33
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.35e3
1234678F
4.28e5
38.81
1234689F
1.27e6
39.25
1234789F
5.81e4
40.18
4.82e5
2.41e5
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 4.32e3
1234678F
4.21e5
38.81
1234689F
1.18e6
39.24
4.32e5
2.16e5
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PBM
4σ 9.93e3
ES 1234678F
6.05e6
38.80
CS 1234689F
5.95e6*
39.23
ES 1234789F
4.82e6
40.18
2.38e6
1.19e6
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PBM
4σ 5.88e3
ES 1234678F
1.32e7
38.80
CS 1234689F
1.36e7*
39.23
ES 1234789F
1.06e7
40.18
5.14e6
2.57e6
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 4.52e3
1.07e5
5.34e4
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
0.00e0
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7246, 6037, 8558 scc: 050-766
PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 11 of 12

SGS ID: B6171_18853_DF_015 | Sample ID: 11215131-010722-S-BN-DUP-11 | Acq: 26-Jan-2022 11:39:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 32 | User: PSW Datafile: 220125R33



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_015.utp_res, saved 26-Jan-2022 12:40 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8426, 8948, 7678 scc: 050-766 *PKD: 26-Jan-2022 12:40 Printed: 26-Jan-2022 13:33 Page 12 of 12*

Lab ID: B6171_18863_DF_016 | Acq'd: 26 Jan 2022 12:27 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-29 | UTP: 26-Jan-2022 13:29:34 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 025-300-MFV

Datafile: 220125R34 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.75	E	1.0008	1.0009	+0.2	2.37E+08	0.79	Y	1.34	1,550	8392.892	0.622
12378-PeCDD	32.44		1.0005	1.0006	+0.2	1.83E+06	1.58	Y	1.06	16.6	9596.066	0.781
123478-HxCDD	36.41	J	1.0004	1.0004	0	1.35E+05	1.18	Y	1.06	1.33	9800.54	0.745
123678-HxCDD	36.52		1.0035	1.0035	0	5.19E+05	1.26	Y	1.08	5.33	9800.54	0.846
123789-HxCDD	36.82	EMPC	1.0116	1.0115	-0.2	2.72E+05	1.65	N	1.02	2.6	9800.54	0.786
1234678-HpCDD	39.77		1.0003	1.0004	+0.2	2.22E+07	1.06	Y	0.97	270	8466.311	0.618
OCDD	42.20	E	1.0003	1.0003	0	1.02E+09	0.90	Y	1.07	18,400	8483.463	1.16
2378-TCDF	25.81	E	1.0008	1.0009	+0.2	9.32E+08	0.86	Y	0.96	5,340	12179.643	0.827
12378-PeCDF	30.92		1.0006	1.0006	0	3.53E+07	1.58	Y	0.95	227	12206.15	0.768
23478-PeCDF	32.09		1.0006	1.0008	+0.4	2.39E+07	1.52	Y	0.94	167	12206.15	0.835
123478-HxCDF	35.43		1.0004	1.0005	+0.2	5.76E+07	1.27	Y	1.23	382	10352.979	0.583
123678-HxCDF	35.57		1.0004	1.0006	+0.4	1.42E+07	1.28	Y	1.13	89.2	10352.979	0.505
234678-HxCDF	36.23		1.0005	1.0003	-0.4	1.46E+06	1.34	Y	1.15	17.9	10352.979	1.28
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	10352.979	0.747
1234678-HpCDF	38.81		1.0003	1.0003	0	1.69E+07	1.05	Y	1.36	123	9118.181	0.453
1234789-HpCDF	40.18		1.0002	1.0003	+0.2	4.52E+06	1.08	Y	1.30	42.9	9118.181	0.517
OCDF	42.35		1.0003	1.0002	-0.3	6.67E+06	0.92	Y	1.03	93.2	8568.263	0.907

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.73	1.0273	1.0271	-0.3	2.23E+07	0.81	Y	1.03	103
ES 12378-PeCDD	32.42	1.2455	1.2457	+0.4	2.06E+07	1.60	Y	1.03	94.9
ES 123478-HxCDD	36.40	0.9917	0.9917	0	1.89E+07	1.29	Y	0.99	105
ES 123678-HxCDD	36.51	0.9948	0.9947	-0.2	1.77E+07	1.25	Y	0.97	100
ES 123789-HxCDD	36.80	1.0028	1.0028	0	2.03E+07	1.25	Y	1.12	99.5
ES 1234678-HpCDD	39.75	1.0830	1.0831	+0.2	1.66E+07	1.06	Y	0.99	92.5
ES OCDD	42.18	1.1489	1.1493	+1.0	2.04E+07	0.90	Y	0.78	72.3
ES 2378-TCDF	25.79	1.0623	1.0625	+0.3	3.58E+07	0.82	Y	1.08	99.8
ES 12378-PeCDF	30.90	1.2724	1.2731	+1.3	3.23E+07	1.63	Y	0.93	104
ES 23478-PeCDF	32.07	1.3205	1.3213	+1.5	3.00E+07	1.52	Y	0.92	98.3
ES 123478-HxCDF	35.41	0.9649	0.9649	0	2.40E+07	0.51	Y	1.14	116
ES 123678-HxCDF	35.55	0.9688	0.9686	-0.4	2.77E+07	0.54	Y	1.30	118
ES 234678-HxCDF	36.22	0.9868	0.9869	+0.2	1.39E+07	0.53	Y	1.20	64
ES 123789-HxCDF	37.17	1.0129	1.0129	0	2.25E+07	0.54	Y	1.14	109
ES 1234678-HpCDF	38.79	1.0569	1.0570	+0.2	1.99E+07	0.45	Y	0.95	115
ES 1234789-HpCDF	40.17	1.0944	1.0945	+0.2	1.59E+07	0.42	Y	0.85	104
ES OCDF	42.34	1.1533	1.1537	+1.0	2.74E+07	0.89	Y	0.93	81.8

Lab ID: B6171_18863_DF_016 | Acq'd: 26 Jan 2022 12:27 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-29 | UTP: 26-Jan-2022 13:29:34 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 025-300-MFV

Datafile: 220125R34 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.02		-	-	-	2.09E+07	0.82	Y	-	-
JS 1234-TCDF	24.27		-	-	-	3.31E+07	0.81	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	9.06E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0281	-0.2	9.26E+06	n/a	-	1.31	84.4
CS 12347-PeCDD	31.90		1.2257	1.2259	+0.4	1.77E+07	1.59	Y	0.89	94.9
CS 12346-PeCDF	30.35		1.2496	1.2504	+1.5	2.80E+07	1.54	Y	0.87	97.5
CS 123469-HxCDF	35.87		0.9773	0.9772	-0.2	2.42E+07	0.55	Y	1.09	122
CS 1234689-HpCDF	39.23		1.0687	1.0689	+0.5	1.80E+07	0.46	Y	0.86	115
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0281~~	~~-0.2~~	~~9.26E+06~~	~~n/a~~		~~1.26~~	~~82.4~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2259~~	~~+0.4~~	~~1.77E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~99.9~~
~~SS 12346-PeCDF~~	~~30.35~~		~~1.2496~~	~~1.2504~~	~~+1.5~~	~~2.80E+07~~	~~1.54~~	~~Y~~	~~0.93~~	~~93.2~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9772~~	~~-0.2~~	~~2.42E+07~~	~~0.55~~	~~Y~~	~~0.84~~	~~104~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0689~~	~~+0.5~~	~~1.80E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~99.1~~

Totals	Conc	EMPC
Total TCDD	1730	1750
Total PeCDD	29.4	30.4
Total HxCDD	81.3	88.7
Total HpCDD	621	621
Total Tetra-Octa Dioxins	20800	20900
Total TCDF	10,800	10800
Total PeCDF	608	612
Total HxCDF	591	591
Total HpCDF	233	233
Total Tetra-Octa Furans	12,300	12300
Total Tetra-Octa Dioxins & Furans	33100	33200

Lab ID: B6171_18863_DF_016 | Acq'd: 26 Jan 2022 12:27 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-29 | UTP: 26-Jan-2022 13:29:34 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 025-300-MFV

Datafile: 220125R34 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.68		0.8486	0.8484	-0.3	3.62E+05	0.77	Y	1.34	2.38	8392.892	0.622
1379-TCDD	23.09	EMPC	0.8642	0.8637	-0.7	1.55E+05	1.02	N	1.34	1.02	8392.892	0.622
1369-TCDD	NotFnd		0.8825						1.34		8392.892	0.622
1469-TCDD	24.47		0.9154	0.9154	0	2.50E+06	0.78	Y	1.34	16.4	8392.892	0.622
1247/1246/1248/1249-TCDD	24.73	EMPC	0.9256	0.9252	-0.6	4.01E+05	1.08	N	1.34	2.63	8392.892	0.622
1378-TCDD	24.94		0.9332	0.9331	-0.1	6.16E+05	0.84	Y	1.34	4.05	8392.892	0.622
1268-TCDD	NotFnd		0.9415						1.34		8392.892	0.622
1478-TCDD	25.45		0.9518	0.9522	+0.6	5.12E+05	0.81	Y	1.34	3.36	8392.892	0.622
1279-TCDD	NotFnd		0.9586						1.34		8392.892	0.622
1234/1269-TCDD	26.01	EMPC	0.9734	0.9732	-0.3	1.33E+05	0.98	N	1.34	0.873	8392.892	0.622
1236-TCDD	NotFnd		0.9788						1.34		8392.892	0.622
1237/1238-TCDD	26.44		0.9892	0.9890	-0.3	3.76E+06	0.84	Y	1.34	24.7	8392.892	0.622
1239-TCDD	NotFnd		0.9944						1.34		8392.892	0.622
2378-TCDD	**26.75**	E	**1.0008**	1.0009	**+0.2**	2.37E+08	0.79	Y	**1.34**	**1,550**	**8392.892**	**0.622**
1278-TCDD	27.11		1.0142	1.0143	+0.2	1.86E+07	0.81	Y	1.34	122	8392.892	0.622
1267-TCDD	27.24	EMPC	1.0197	1.0192	-0.8	1.29E+06	1.20	N	1.34	8.44	8392.892	0.622
1289-TCDD	27.75	EMPC	1.0401	1.0382	-3.2	6.43E+05	1.14	N	1.34	4.22	8392.892	0.622
12479/12468-PeCDD	29.83		0.9202	0.9202	0	3.44E+05	1.63	Y	1.06	3.11	9596.066	0.781
12469-PeCDD	30.39		0.9375	0.9375	0	4.66E+05	1.42	Y	1.06	4.21	9596.066	0.781
12368-PeCDD	30.97		0.9553	0.9554	+0.2	3.19E+05	1.48	Y	1.06	2.88	9596.066	0.781
12478-PeCDD	31.17	J	0.9613	0.9614	+0.2	1.36E+05	1.37	Y	1.06	1.23	9596.066	0.781
12379-PeCDD	NotFnd		0.9644						1.06		9596.066	0.781
12369/12467/12489-PeCDD	31.54	J	0.9730	0.9730	0	1.58E+05	1.58	Y	1.06	1.42	9596.066	0.781
12346/12347-PeCDD	NotFnd		0.9848						1.06		9596.066	0.781
12378-PeCDD	32.44		**1.0005**	**1.0006**	**+0.2**	**1.83E+06**	**1.58**	**Y**	**1.06**	**16.6**	**9596.066**	**0.781**
12367-PeCDD	32.57	J EMPC	1.0035	1.0047	+2.3	1.12E+05	2.02	N	1.06	1.02	9596.066	0.781
12389-PeCDD	NotFnd		1.0146						1.06		9596.066	0.781
124679/124689-HxCDD	34.69		0.9532	0.9532	0	5.59E+06	1.36	Y	1.05	55.2	9800.54	0.79
123468-HxCDD	35.36	EMPC	0.9715	0.9715	0	2.60E+05	1.55	N	1.05	2.56	9800.54	0.79
123679/123689-HxCDD	35.65		0.9795	0.9796	+0.2	1.97E+06	1.20	Y	1.05	19.5	9800.54	0.79
123469-HxCDD	35.80	J EMPC	0.9832	0.9836	+0.9	1.50E+05	0.96	N	1.05	1.48	9800.54	0.79
123478-HxCDD	36.41	J	**1.0004**	**1.0004**	**0**	**1.35E+05**	**1.18**	**Y**	1.06	**1.33**	**9800.54**	**0.745**
123678-HxCDD	36.52		**1.0035**	**1.0035**	**0**	**5.19E+05**	**1.26**	**Y**	1.08	**5.33**	**9800.54**	**0.846**
123467-HxCDD	36.71	J EMPC	1.0087	1.0087	0	7.73E+04	1.67	N	1.05	0.763	9800.54	0.79
123789-HxCDD	36.82	EMPC	**1.0116**	**1.0115**	**-0.2**	**2.72E+05**	**1.65**	**N**	1.02	**2.6**	**9800.54**	**0.786**

Lab ID: B6171_18853_DF_016 | Acq'd: 26 Jan 2022 12:27 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011022-S-BN-NC-O-29 | UTP: 26-Jan-2022 13:29:34 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 025-300-MFV

Datafile: 220125R34 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9835	+0.2	2.89E+07	1.07	Y	0.97	351	8466.311	0.618
1234678-HpCDD	**39.77**		**1.0003**	**1.0004**	**+0.2**	**2.22E+07**	**1.06**	**Y**	**0.97**	**270**	**8466.311**	**0.618**
OCDD	**42.20**	**E**	**1.0003**	**1.0003**	**0**	**1.02E+09**	**0.90**	**Y**	**1.07**	**18,400**	**8483.463**	**1.16**
OCDD-a	42.19	E	1.0001	1.0001	0	5.99E+07	2.44	Y	0.07	17,500	13670.799	30.3
1368-TCDF	20.45	EMPC	0.7942	0.7929	-1.6	1.58E+05	1.04	N	0.96	0.904	12179.643	0.827
1468-TCDF	21.02		0.8155	0.8151	-0.5	1.30E+06	0.79	Y	0.96	7.46	12179.643	0.827
2468-TCDF	21.67		0.8407	0.8404	-0.4	1.10E+06	0.85	Y	0.96	6.31	12179.643	0.827
1346/1246-TCDF	22.15		0.8553	0.8589	+4.8	1.53E+06	0.80	Y	0.96	8.78	12179.643	0.827
1347/1378/1247-TCDF	22.28		0.8617	0.8638	+2.8	7.70E+06	0.78	Y	0.96	44.1	12179.643	0.827
1348-TCDF	22.53		0.8740	0.8735	-0.7	2.94E+06	0.78	Y	0.96	16.9	12179.643	0.827
1248/1367/1379-TCDF	22.65		0.8798	0.8784	-1.9	4.21E+07	0.80	Y	0.96	241	12179.643	0.827
1268-TCDF	23.12		0.8967	0.8965	-0.3	1.55E+07	0.77	Y	0.96	89	12179.643	0.827
1467-TCDF	23.27		0.9025	0.9025	0	2.02E+06	0.79	Y	0.96	11.5	12179.643	0.827
1478-TCDF	23.47		0.9101	0.9099	-0.3	3.89E+07	0.80	Y	0.96	223	12179.643	0.827
1369/1237-TCDF	23.89		0.9263	0.9264	+0.1	9.80E+06	0.81	Y	0.96	56.1	12179.643	0.827
2467-TCDF	24.04		0.9322	0.9320	-0.3	1.06E+06	0.76	Y	0.96	6.06	12179.643	0.827
2368-TCDF	24.21		0.9389	0.9386	-0.4	2.81E+07	0.79	Y	0.96	161	12179.643	0.827
1238/1234/1678/1469/1236-TCDF	24.29		0.9427	0.9419	-1.2	4.95E+07	0.80	Y	0.96	284	12179.643	0.827
1278-TCDF	24.81	E	0.9623	0.9619	-0.6	4.61E+08	0.79	Y	0.96	2,640	12179.643	0.827
1349-TCDF	NotFnd		0.9678						0.96		12179.643	0.827
1267-TCDF	25.11		0.9740	0.9739	-0.2	2.34E+07	0.80	Y	0.96	134	12179.643	0.827
2346/1249-TCDF	25.34		0.9820	0.9824	+0.6	2.84E+06	0.80	Y	0.96	16.2	12179.643	0.827
2347/1279-TCDF	25.56		0.9915	0.9910	-0.8	1.12E+07	0.79	Y	0.96	64.3	12179.643	0.827
2348-TCDF	25.68		0.9964	0.9960	-0.6	7.32E+07	0.77	Y	0.96	419	12179.643	0.827
2378-TCDF	**25.81**	**E**	**1.0008**	**1.0009**	**+0.2**	**9.32E+08**	**0.86**	**Y**	**0.96**	**5,340**	**12179.643**	**0.827**
2367/3467-TCDF	26.20		1.0163	1.0160	-0.5	7.77E+07	0.80	Y	0.96	445	12179.643	0.827
1269-TCDF	26.47		1.0265	1.0266	+0.2	1.45E+07	0.80	Y	0.96	82.9	12179.643	0.827
1239-TCDF	26.76		1.0373	1.0375	+0.3	1.20E+06	0.80	Y	0.96	6.89	12179.643	0.827
1289-TCDF	27.99		1.0847	1.0854	+1.2	7.97E+07	0.79	Y	0.96	457	12179.643	0.827
13468/12468-PeCDF	27.97		0.9045	0.9052	+1.2	7.32E+05	1.61	Y	0.94	4.91	8853.955	0.58
13678/13467/12467-PeCDF	29.60		0.9574	0.9580	+1.1	4.17E+05	1.75	Y	0.94	2.8	12206.15	0.8
12368/13478/12478-PeCDF	29.78		0.9628	0.9637	+1.6	1.44E+07	1.54	Y	0.94	96.6	12206.15	0.8
14678-PeCDF	29.87	EMPC	0.9661	0.9666	+0.9	4.81E+05	1.84	N	0.94	3.23	12206.15	0.8
13479-PeCDF	NotFnd		0.9695						0.94		12206.15	0.8
13469/12479-PeCDF	NotFnd		0.9779						0.94		12206.15	0.8
12346-PeCDF	NotFnd		0.9824						0.94		12206.15	0.8

Lab ID: B6171_18863_DF_016 | Acq'd: 26 Jan 2022 12:27 PSW | Wt/Vol: 10.17 g | ICAL: MM3_DF_10272021_27JUL2021

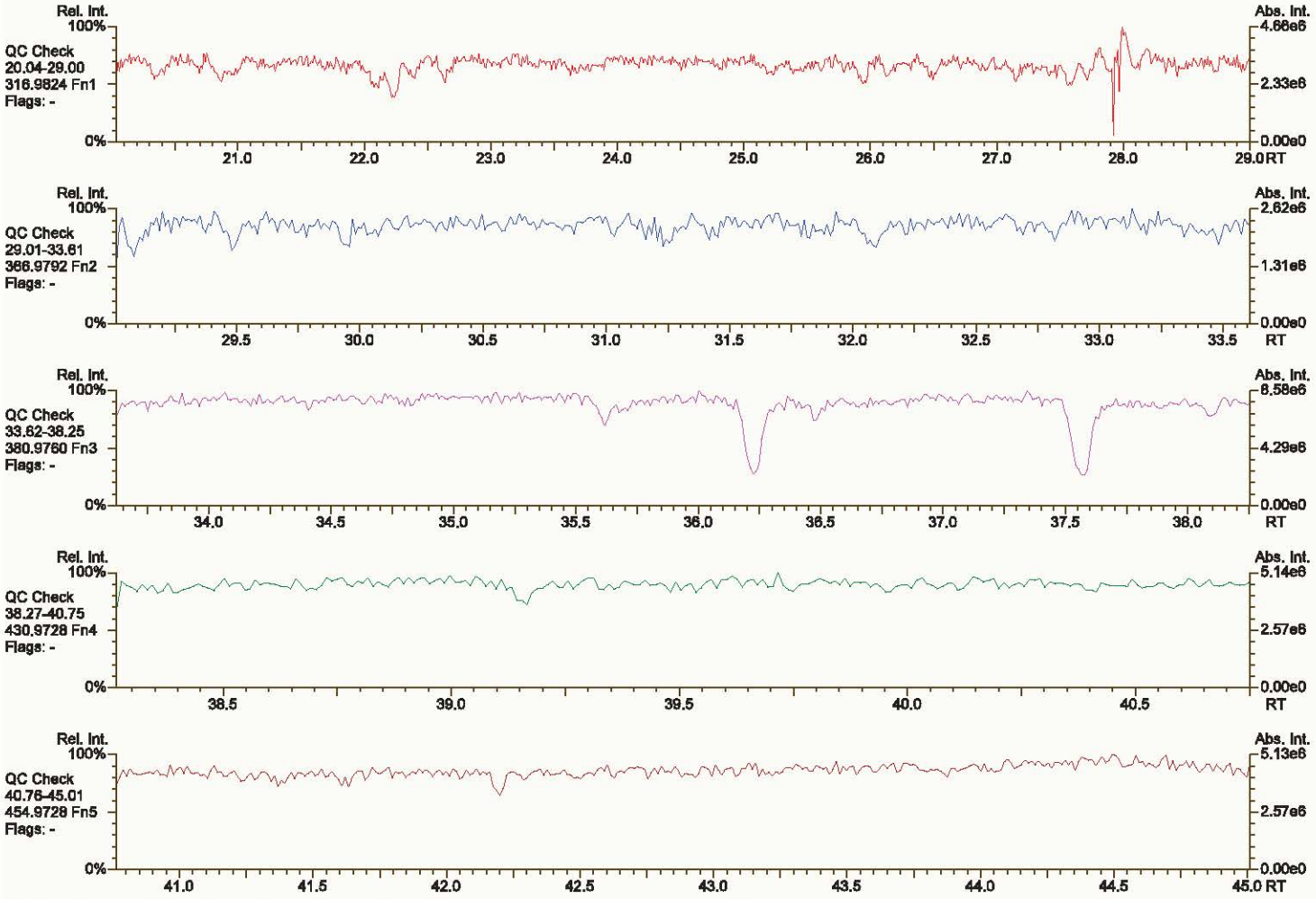
Client ID: 11215131-011022-S-BN-NC-O-29 | UTP: 26-Jan-2022 13:29:34 PSW | J-level: 0.492 pg/g | Split: 1 | Checkcode: 025-300-MFV

Datafile: 220125R34 | Report: 26 Jan 2022 13:29 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.46		0.9857	0.9859	+0.4	6.33E+05	1.47	Y	0.94	4.24	12206.15	0.8
12347-PeCDF	30.53		0.9882	0.9881	-0.2	7.01E+05	1.51	Y	0.94	4.7	12206.15	0.8
12348-PeCDF	30.70		0.9935	0.9936	+0.2	3.27E+06	1.51	Y	0.94	21.9	12206.15	0.8
12378-PeCDF	**30.92**		**1.0006**	**1.0006**	**0**	**3.53E+07**	**1.58**	**Y**	**0.95**	**227**	**12206.15**	**0.768**
12678/12367-PeCDF	31.23		1.0099	1.0106	+1.3	9.94E+06	1.62	Y	0.94	66.7	12206.15	0.8
12379-PeCDF	NotFnd		1.0155						0.94		12206.15	0.8
12679-PeCDF	NotFnd		0.9921						0.94		12206.15	0.8
23467/12369-PeCDF	31.94		0.9962	0.9961	-0.2	5.32E+05	1.35	Y	0.94	3.57	12206.15	0.8
23478-PeCDF	**32.09**		**1.0006**	**1.0008**	**+0.4**	**2.39E+07**	**1.52**	**Y**	**0.94**	**167**	**12206.15**	**0.835**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		12206.15	0.8
12349-PeCDF	NotFnd		1.0106						0.94		12206.15	0.8
12389-PeCDF	33.18		1.0349	1.0347	-0.4	1.34E+06	1.58	Y	0.94	9	12206.15	0.8
123468-HxCDF	34.02		0.9606	0.9606	0	6.46E+05	1.25	Y	1.16	4.96	10352.979	0.71
124678/134678-HxCDF	34.22		0.9663	0.9663	0	4.90E+06	1.24	Y	1.16	37.6	10352.979	0.71
134679-HxCDF	NotFnd		0.9729						1.16		10352.979	0.71
124679-HxCDF	NotFnd		0.9786						1.16		10352.979	0.71
124689-HxCDF	34.89		0.9851	0.9852	+0.2	3.01E+06	1.33	Y	1.16	23.1	10352.979	0.71
123467-HxCDF	35.31		0.9970	0.9970	0	3.77E+05	1.31	Y	1.16	2.89	10352.979	0.71
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**5.76E+07**	**1.27**	**Y**	**1.23**	**382**	**10352.979**	**0.583**
123678-HxCDF	**35.57**		**1.0004**	**1.0006**	**+0.4**	**1.42E+07**	**1.28**	**Y**	**1.13**	**89.2**	**10352.979**	**0.505**
123479-HxCDF	NotFnd		1.0050						1.16		10352.979	0.71
123469-HxCDF	35.88	J	1.0091	1.0092	+0.2	1.47E+05	1.27	Y	1.16	1.13	10352.979	0.71
123679-HxCDF	NotFnd		0.9942						1.16		10352.979	0.71
234678-HxCDF	**36.23**		**1.0005**	**1.0003**	**-0.4**	**1.46E+06**	**1.34**	**Y**	**1.15**	**17.9**	**10352.979**	**1.28**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		10352.979	0.71
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**10352.979**	**0.747**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.23		1.0008	1.0014	+1.3	4.21E+06	1.14	Y	1.16	32.3	10352.979	0.71
1234678-HpCDF	**38.81**		**1.0003**	**1.0003**	**0**	**1.69E+07**	**1.05**	**Y**	**1.36**	**123**	**9118.181**	**0.453**
1234679-HpCDF	39.09	J	1.0076	1.0076	0	2.56E+05	1.16	Y	1.33	2.11	9118.181	0.482
1234689-HpCDF	39.24		1.0114	1.0115	+0.2	7.87E+06	1.08	Y	1.33	65	9118.181	0.482
1234789-HpCDF	**40.18**		**1.0002**	**1.0003**	**+0.2**	**4.52E+06**	**1.08**	**Y**	**1.30**	**42.9**	**9118.181**	**0.517**
OCDF	**42.35**		**1.0003**	**1.0002**	**-0.3**	**6.67E+06**	**0.92**	**Y**	**1.03**	**93.2**	**8568.263**	**0.907**
OCDF-a	NotFnd		1.0001						0.06		11093.194	20.3

SGS ID: B6171_18853_DF_016 | Sample ID: 11215131-011022-S-BN-NC-O-29 | Acq: 26-Jan-2022 12:27:08

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33 | User: PSW Datafile: 220125R34

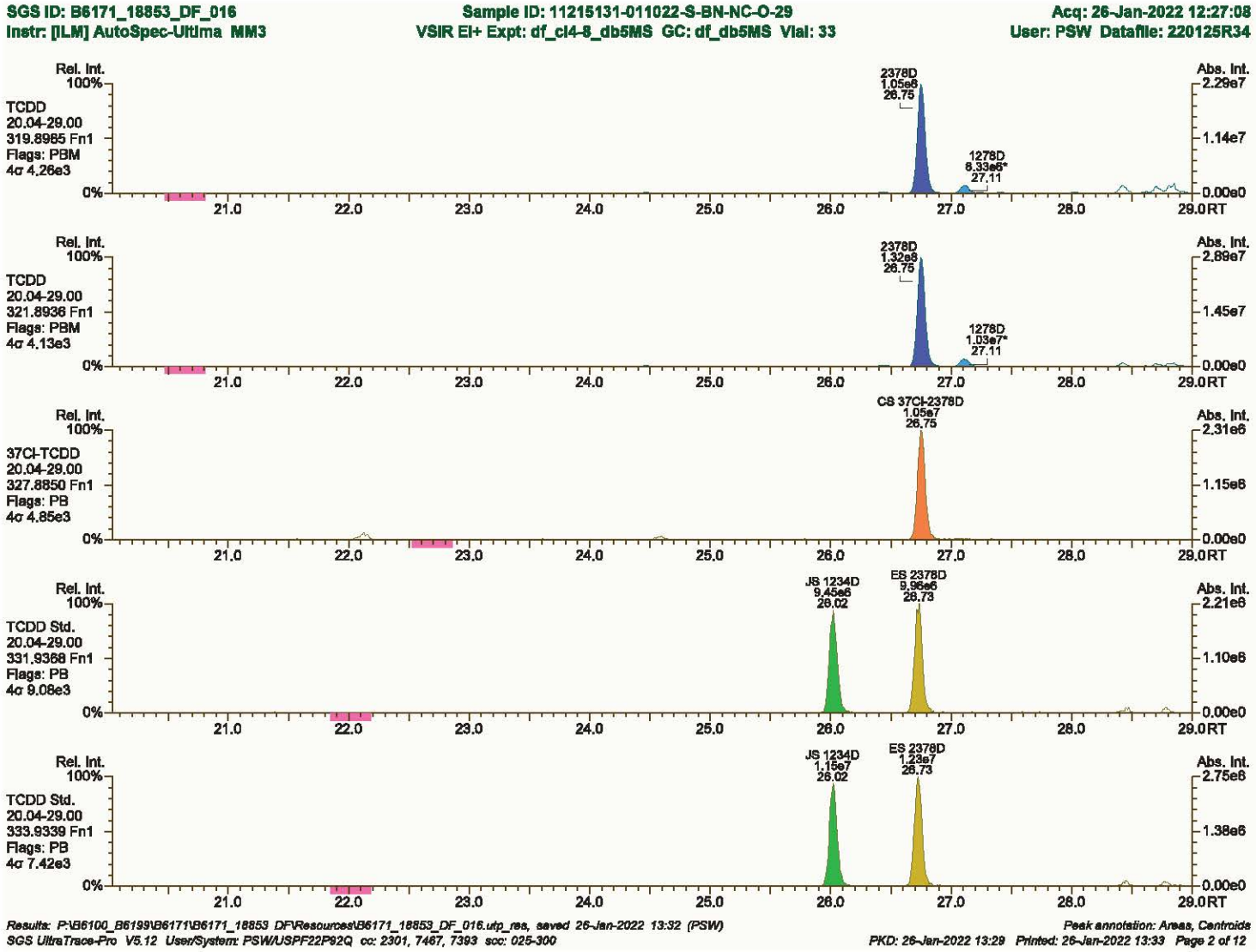


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 025-300

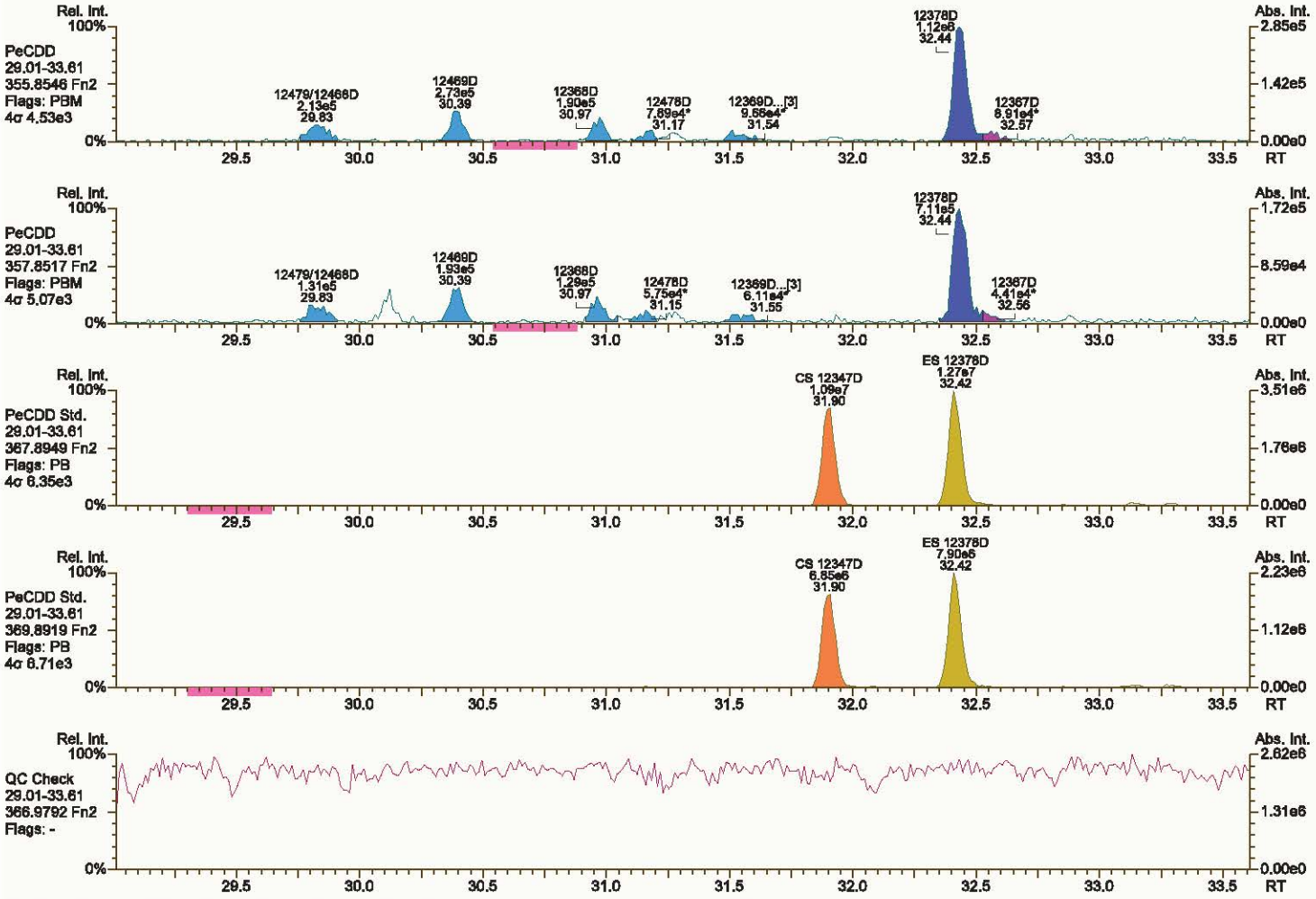
PKD: n/a Printed: 26-Jan-2022 13:33 Page 1 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2301, 7467, 7393 scc: 025-300
PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 2 of 12

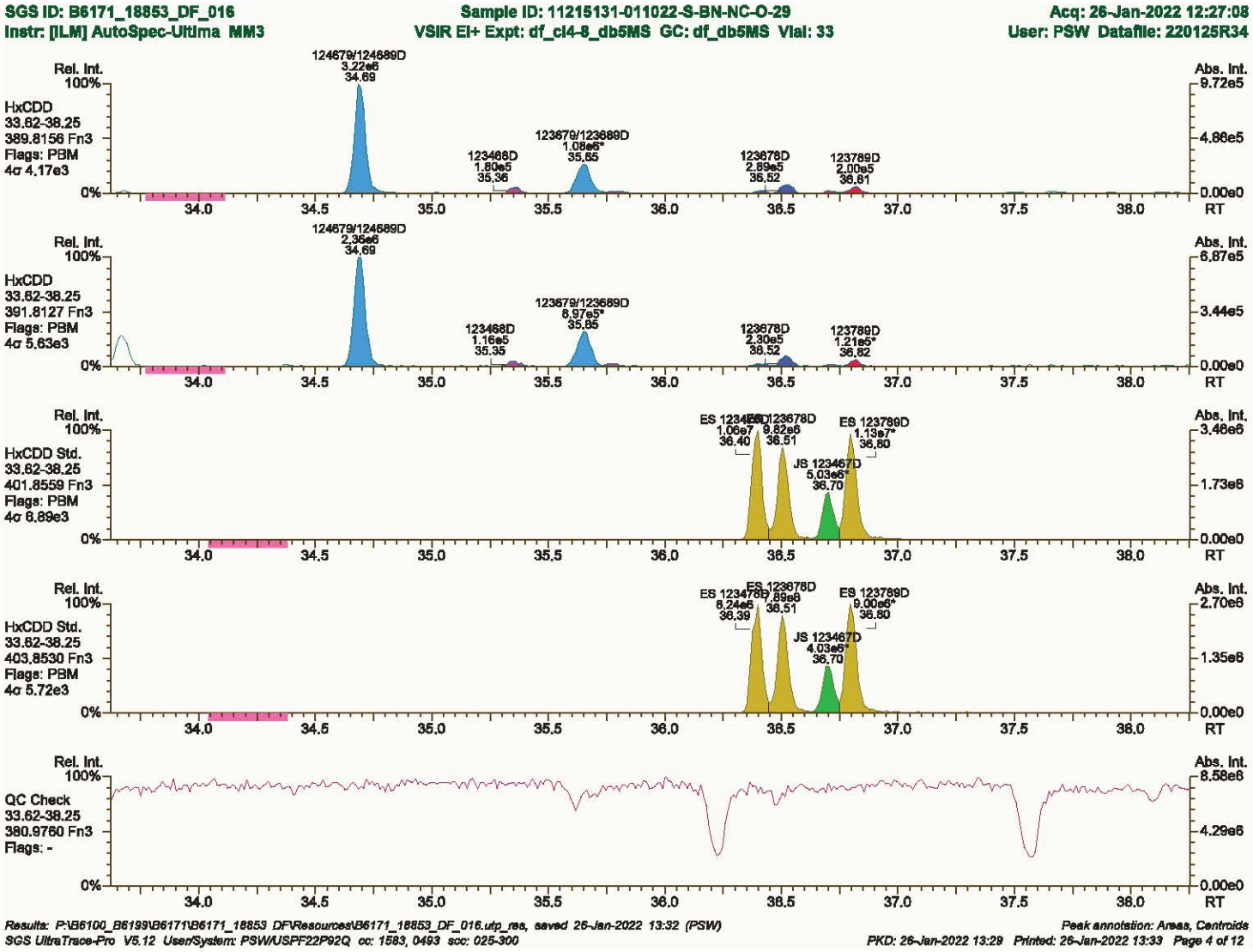
SGS ID: B6171_18853_DF_016 | Sample ID: 11215131-011022-S-BN-NC-O-29 | Acq: 26-Jan-2022 12:27:08

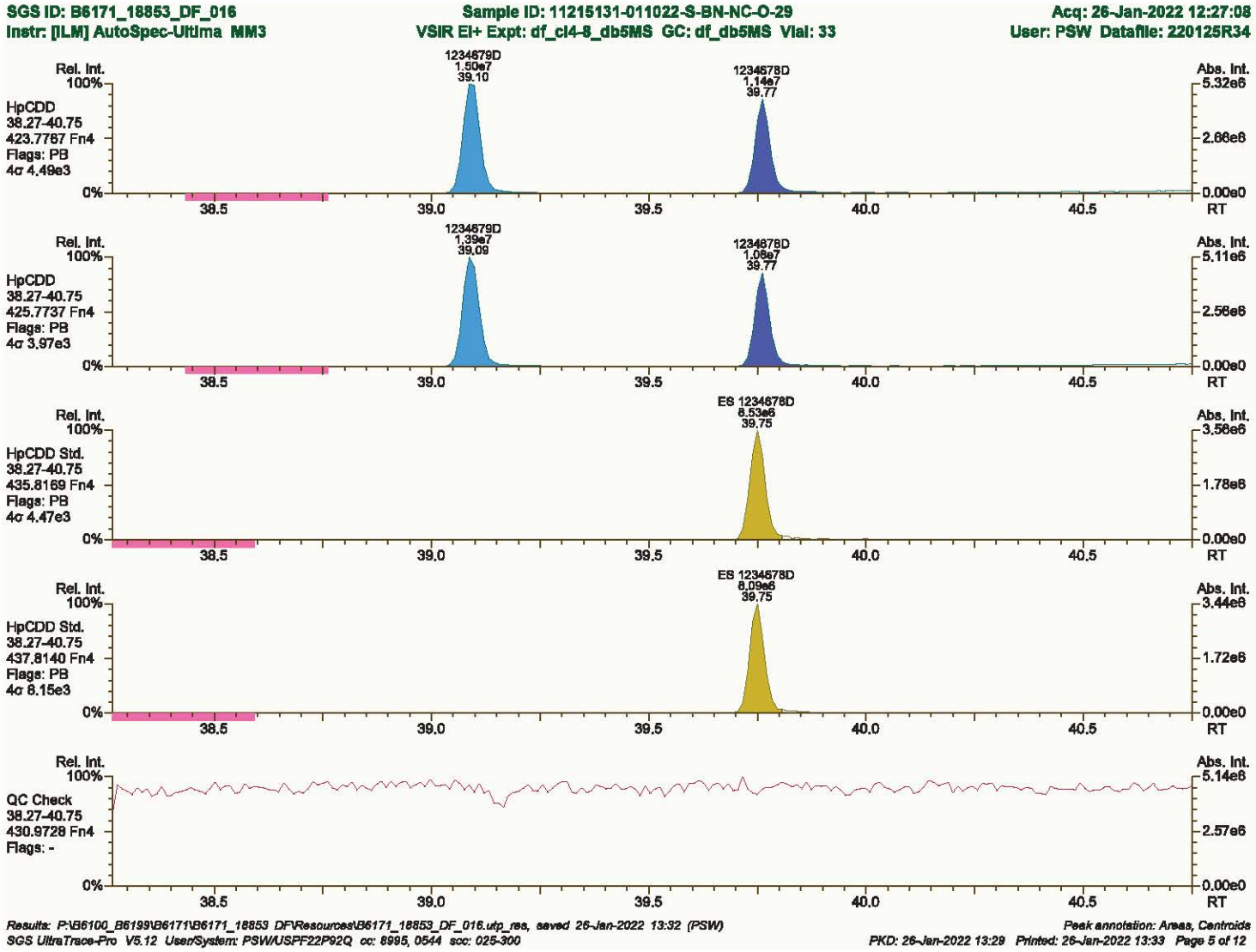
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33 | User: PSW Datafile: 220125R34

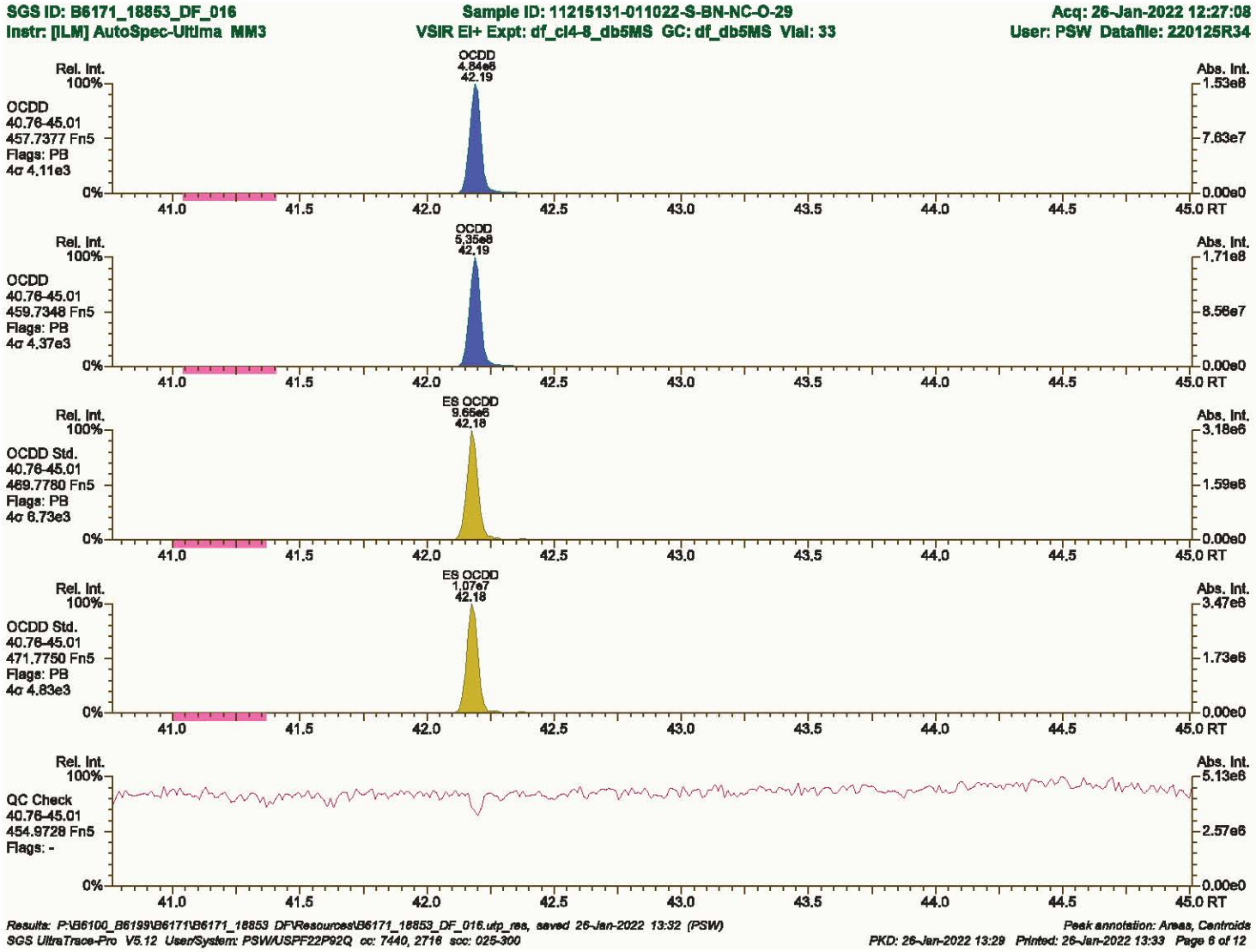


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7960, 3381 scc: 025-300 *PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 3 of 12*


SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.17e3
124679/124689D
3.22e6
34.69
123468D
1.80e5
35.36
123679/123689D
1.08e6*
35.65
123678D
2.89e5
36.52
123789D
2.00e5
36.81
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 5.63e3
124679/124689D
2.36e6
34.69
123468D
1.16e5
35.35
123679/123689D
6.97e5*
35.65
123678D
2.30e5
36.52
123789D
1.21e5*
36.82
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 6.89e3
ES 123678D
9.82e6
36.51
ES 123789D
1.13e7*
36.60
JS 123467D
5.03e6*
36.70
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 5.72e3
ES 123678D
8.89e6
36.51
ES 123789D
9.00e6*
36.60
JS 123467D
4.03e6*
36.70
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
RT


SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 4.49e3
1234679D
1.50e7
39.10
1234678D
1.14e7
39.77
5.32e6
2.66e6
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.97e3
1234679D
1.39e7
39.09
1234678D
1.08e7
39.77
5.11e6
2.56e6
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 4.47e3
ES 1234678D
8.53e6
39.75
3.56e6
1.78e6
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 8.15e3
ES 1234678D
8.09e6
39.75
3.44e6
1.72e6
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
5.14e6
2.57e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT


SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
Rel. Int.
Abs. Int.
OCDD
4.84e6
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 4.11e3
1.53e8
7.63e7
0.00e0
OCDD
5.35e8
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.37e3
1.71e8
8.56e7
ES OCDD
9.65e6
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 6.73e3
3.18e6
1.59e6
ES OCDD
1.07e7
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 4.83e3
3.47e6
1.73e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.13e6
2.57e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7440, 2716 scc: 025-300
PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 6 of 12

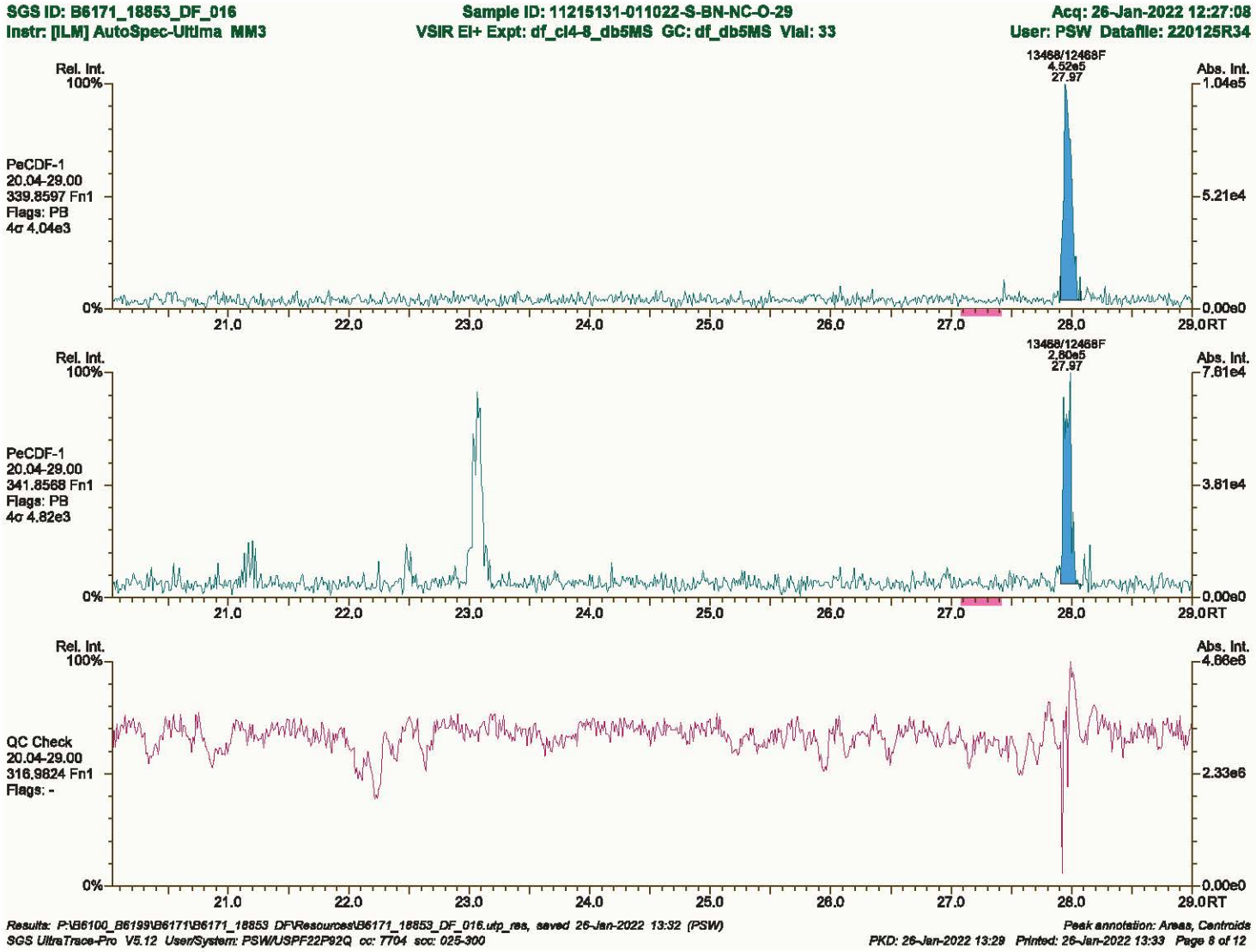
SGS ID: B6171_18853_DF_016 | Sample ID: 11215131-011022-S-BN-NC-O-29 | Acq: 26-Jan-2022 12:27:08

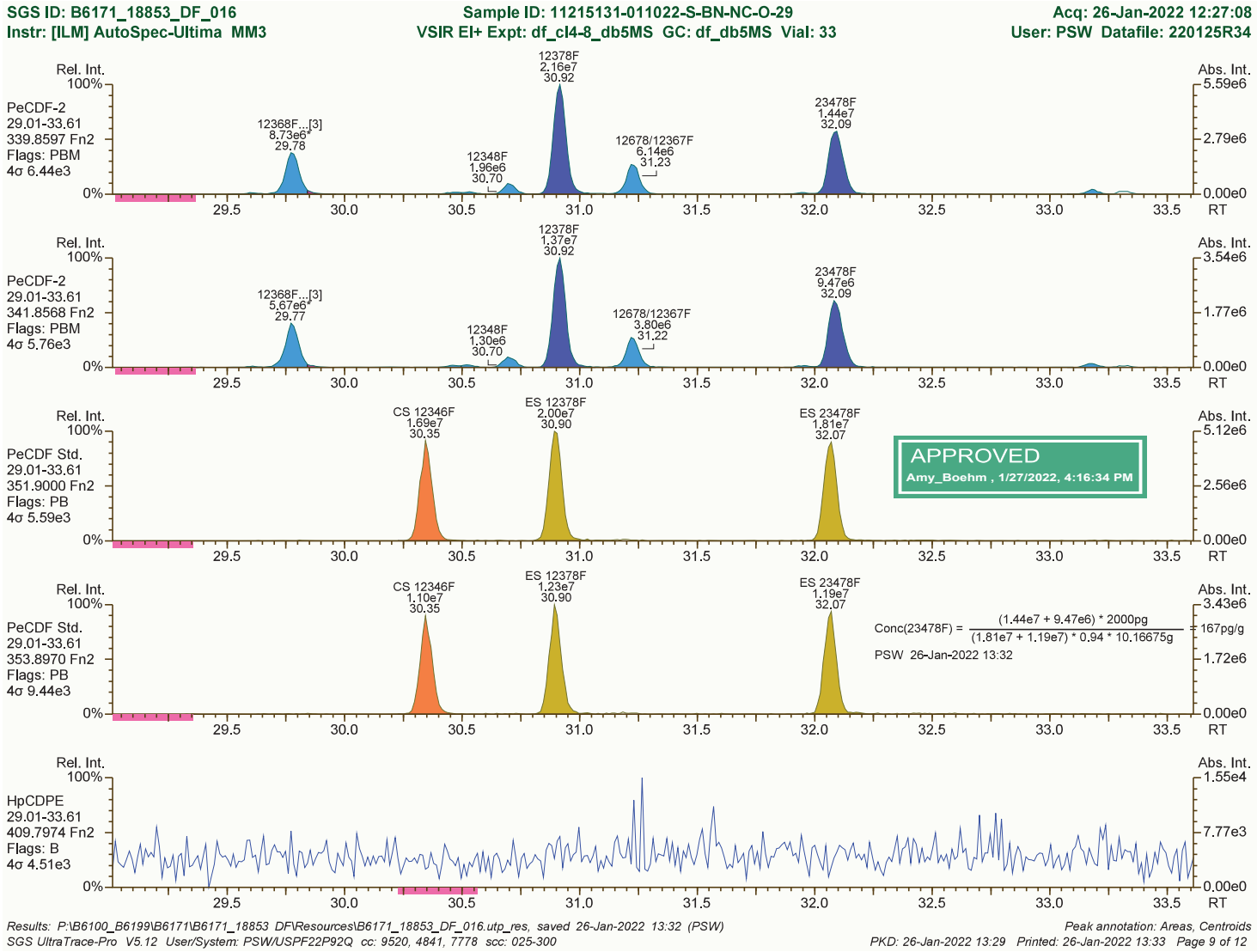
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33 | User: PSW Datafile: 220125R34

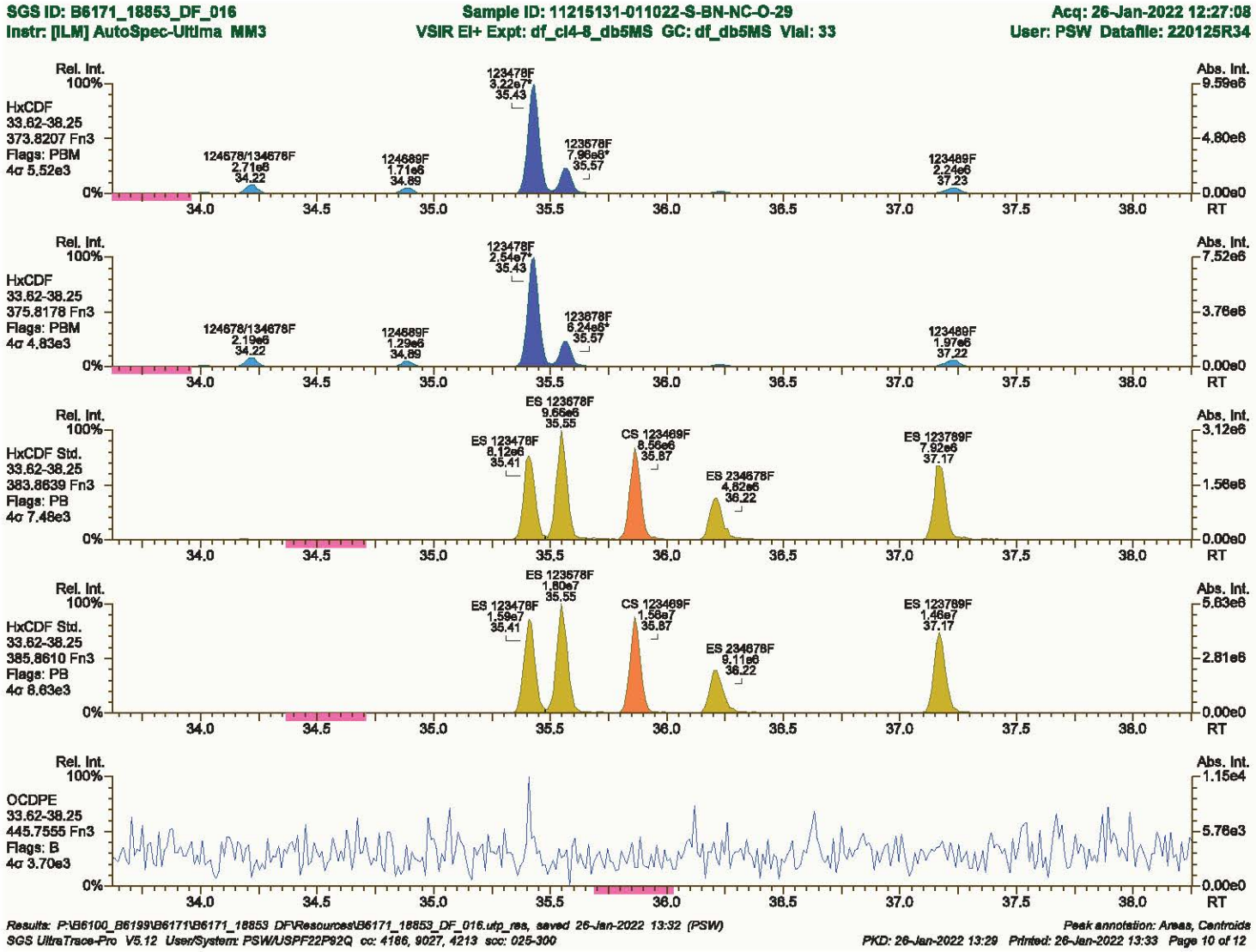


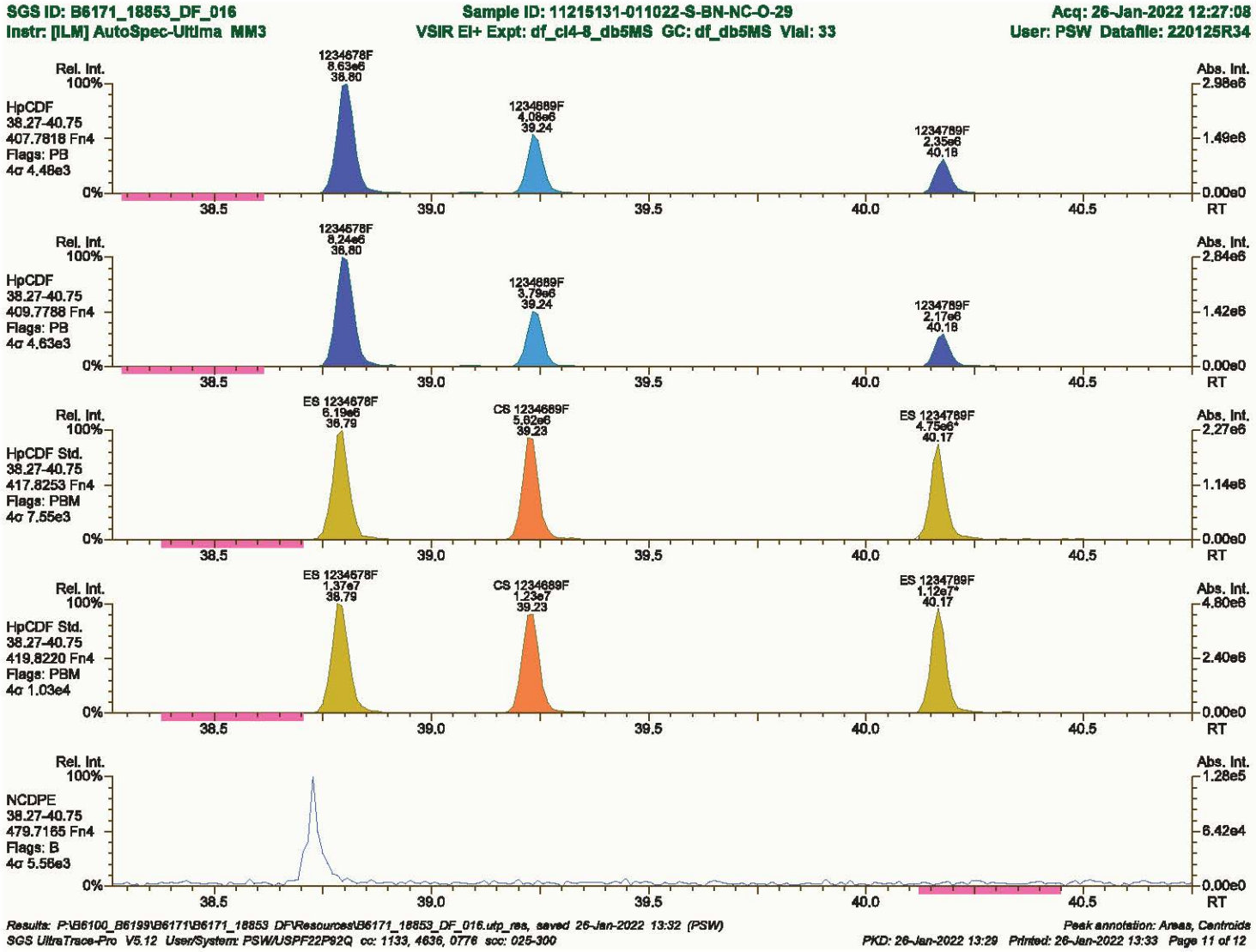
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3125, 6208, 3524 scc: 025-300 *PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 7 of 12*


SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
Rel. Int.
100%
0%
Abs. Int.
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 4.04e3
13468/12468F
4.52e5
27.97
1.04e5
5.21e4
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.82e3
13468/12468F
2.80e5
27.97
7.81e4
3.81e4
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
4.66e6
2.33e6
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7704 scc: 025-300
PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 8 of 12

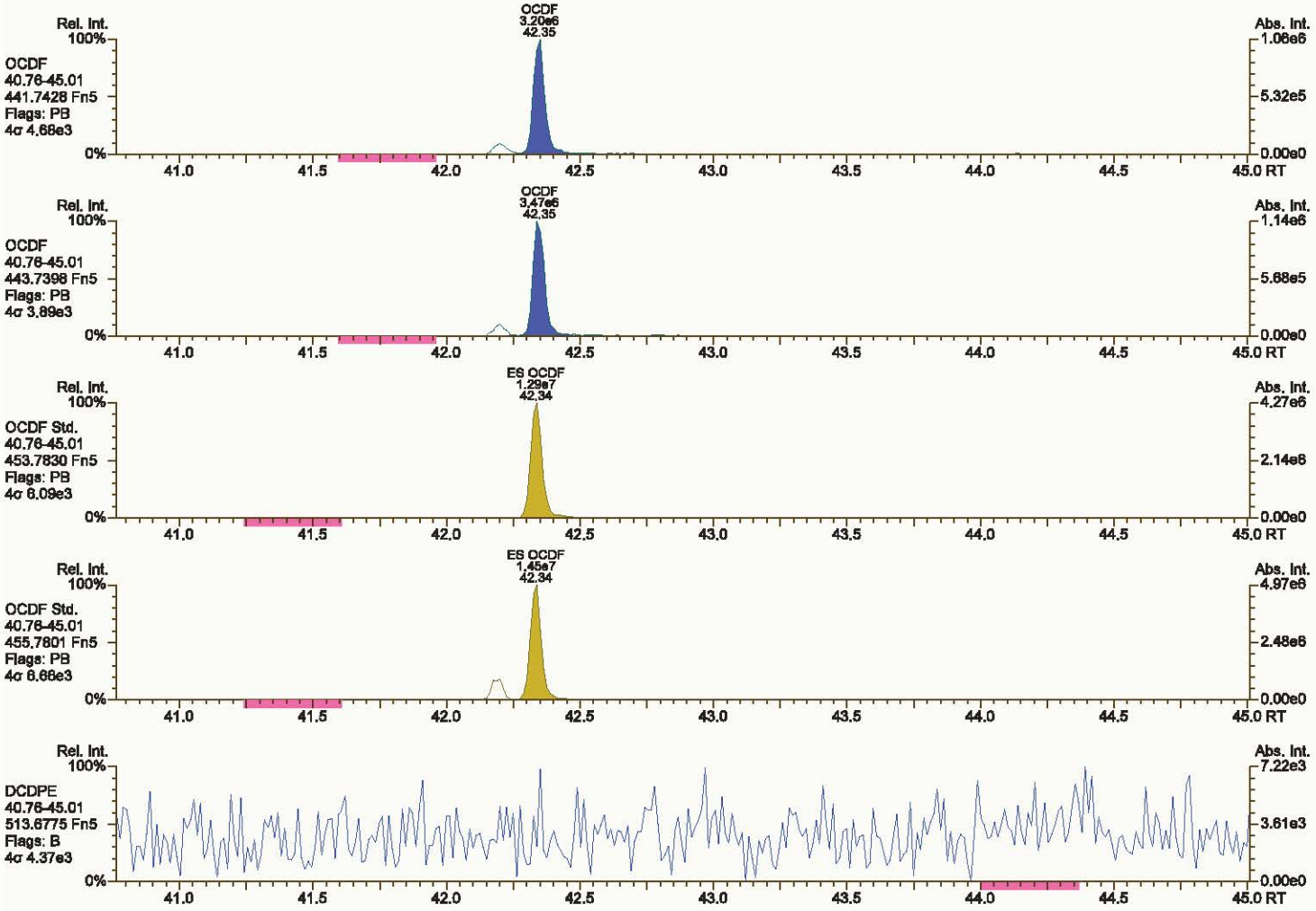

SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 6.44e3
12368F...[3]
8.73e6*
29.78
12348F
1.96e6
30.70
12378F
2.16e7
30.92
12678/12367F
6.14e6
31.23
23478F
1.44e7
32.09
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 5.76e3
12368F...[3]
5.67e6*
29.77
12348F
1.30e6
30.70
12378F
1.37e7
30.92
12678/12367F
3.80e6
31.22
23478F
9.47e6
32.09
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 5.59e3
CS 12346F
1.69e7
30.35
ES 12378F
2.00e7
30.90
ES 23478F
1.81e7
32.07
APPROVED
Amy_Boehm , 1/27/2022, 4:16:34 PM
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 9.44e3
CS 12346F
1.10e7
30.35
ES 12378F
1.23e7
30.90
ES 23478F
1.19e7
32.07
Conc(23478F) = (1.44e7 + 9.47e6) * 2000pg / (1.81e7 + 1.19e7) * 0.94 * 10.16675g = 167pg/g
PSW 26-Jan-2022 13:32
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.51e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9520, 4841, 7778 scc: 025-300
PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 9 of 12


SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 5.52e3
123478F
3.22e7*
35.43
124678/134678F
2.71e6
34.22
124689F
1.71e6
34.89
123678F
7.96e6*
35.57
123489F
2.24e6
37.23
9.59e6
4.80e6
0.00e0
RT
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 4.83e3
123478F
2.54e7*
35.43
124678/134678F
2.19e6
34.22
124689F
1.29e6
34.89
123678F
6.24e6*
35.57
123489F
1.97e6
37.22
7.52e6
3.76e6
0.00e0
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 7.48e3
ES 123678F
9.66e6
35.55
ES 123478F
8.12e6
35.41
CS 123469F
8.56e6
35.87
ES 234678F
4.62e6
36.22
ES 123789F
7.92e6
37.17
3.12e6
1.56e6
0.00e0
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 8.63e3
ES 123678F
1.80e7
35.55
ES 123478F
1.59e7
35.41
CS 123469F
1.58e7
35.87
ES 234678F
9.11e6
36.22
ES 123789F
1.46e7
37.17
5.63e6
2.81e6
0.00e0
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 3.70e3
1.15e4
5.76e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4186, 9027, 4213 scc: 025-300
PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 10 of 12


SGS ID: B6171_18853_DF_016
Sample ID: 11215131-011022-S-BN-NC-O-29
Acq: 26-Jan-2022 12:27:08
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: PSW Datafile: 220125R34
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.48e3
1234678F
8.63e6
38.80
1234689F
4.08e6
39.24
1234789F
2.35e6
40.18
2.98e6
1.49e6
0.00e0
RT
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 4.63e3
1234678F
8.24e6
38.80
1234689F
3.79e6
39.24
1234789F
2.17e6
40.18
2.84e6
1.42e6
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PBM
4σ 7.55e3
ES 1234678F
6.19e6
38.79
CS 1234689F
5.82e6
39.23
ES 1234789F
4.75e6*
40.17
2.27e6
1.14e6
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PBM
4σ 1.03e4
ES 1234678F
1.37e7
38.79
CS 1234689F
1.23e7
39.23
ES 1234789F
1.12e7*
40.17
4.80e6
2.40e6
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 5.58e3
1.28e5
6.42e4
100%
0%
38.5
39.0
39.5
40.0
40.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1133, 4636, 0776 scc: 025-300
PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 11 of 12

SGS ID: B6171_18853_DF_016 | Sample ID: 11215131-011022-S-BN-NC-O-29 | Acq: 26-Jan-2022 12:27:08

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33 | User: PSW Datafile: 220125R34



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\B6171_18853_DF_016.utp_res, saved 26-Jan-2022 13:32 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7010, 9567, 5016 scc: 025-300 *PKD: 26-Jan-2022 13:29 Printed: 26-Jan-2022 13:33 Page 12 of 12*

SGS Environmental Services — Run Log **Project: B6171_18853_DF**

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220125R01	3	CS3_220125_DF_RA ✓	1.00	SIL 25-347-1	PSW	082-235	25-Jan-2022	09:53:35
2	220125R02	7	OPR1_18859_DF	1.00	0_18859_OPR001 CPSM only	PSW	110-319	25-Jan-2022	10:50:07
3	220125R03	2	SBS_220125_DF_RA	1.00	SIL 20-61-1	PSW	155-316	25-Jan-2022	11:40:29
5	220125R05	14	MB1_18853_DF_SDS	10.00	Method Blank	PSW	853-216	25-Jan-2022	13:15:24
11	220125R11	16	B6171_18853_DF_001	10.19	11215131-011022-S-BN-NC-O-27	PSW	483-564	25-Jan-2022	17:59:45
12	220125R12	3	CS3_220125_DF_RB	1.00	SIL 25-347-1	PSW	296-169	25-Jan-2022	18:47:18
13	220125R13	15	OPR1_18853_DF	1.00	0_18853_OPR001	PSW	403-513	25-Jan-2022	19:42:55
14	220125R14	2	SBS_220125_DF_RB	1.00	SIL 20-61-1	PSW	031-706	25-Jan-2022	20:29:34
15	220125R15	17	B6171_18853_DF_002	10.17	11215131-011022-S-BN-NC-O-26	PSW	520-616	25-Jan-2022	21:17:06
16	220125R16	18	B6171_18853_DF_003	10.10	11215131-011022-S-BN-NC-B-7	PSW	857-991	25-Jan-2022	22:04:39
17	220125R17	19	B6171_18853_DF_003MS	10.19	11215131-011022-S-BN-NC-B-7-MS	PSW	~~731-233~~ 924-148-VMF	25-Jan-2022	22:52:07
18	220125R18	20	B6171_18853_DF_003MSD	10.07	11215131-011022-S-BN-NC-B-7-MSD	PSW	~~679-188~~ 912-757-QDR	25-Jan-2022	23:39:38
19	220125R19	21	B6171_18853_DF_004	10.12	11215131-011022-S-BN-DUP-12	PSW	560-090	26-Jan-2022	00:27:11
20	220125R20	22	B6171_18853_DF_005	10.15	11215131-011122-S-BN-NC-O-30	PSW	289-914	26-Jan-2022	01:14:38
21	220125R21	23	B6171_18853_DF_006	10.05	11215131-011122-S-BN-NC-O-32	PSW	541-632	26-Jan-2022	02:02:11
22	220125R22	24	B6171_18853_DF_007	10.11	11215131-011122-S-BN-NC-B-9	PSW	250-190	26-Jan-2022	02:49:40
23	220125R23	25	B6171_18853_DF_008	10.22	11215131-011122-S-BN-NC-O-28	PSW	822-366	26-Jan-2022	03:37:06
24	220125R24	26	B6171_18853_DF_009 ✓	10.12	11215131-010722-S-BN-SW-O-16	PSW	863-295	26-Jan-2022	04:24:40
25	220125R25	3	CS3_220125_DF_RC	1.00	SIL 25-347-1	PSW	957-248	26-Jan-2022	05:20:10
26	220125R26	15	OPR1_18853_DF-RJ	1.00	0_18853_OPR001 CPSM only	PSW	759-601	26-Jan-2022	06:06:51
27	220125R27	2	SBS_220125_DF_RC	1.00	SIL 20-61-1	PSW	633-961	26-Jan-2022	06:54:26
28	220125R28	27	B6171_18853_DF_010	10.03	11215131-010722-S-BN-SW-B-18	PSW	290-389	26-Jan-2022	07:41:59
29	220125R29	28	B6171_18853_DF_011	10.04	11215131-010822-S-BN-NC-O-33	PSW	908-477	26-Jan-2022	08:29:31
30	220125R30	29	B6171_18853_DF_012	10.02	11215131-010822-S-BN-NC-O-34	PSW	704-926	26-Jan-2022	09:16:58
31	220125R31	30	B6171_18853_DF_013	10.23	11215131-010822-S-BN-NC-O-31	PSW	347-530	26-Jan-2022	10:04:31
32	220125R32	31	B6171_18853_DF_014	10.03	11215131-010822-S-BN-NC-B-8	PSW	264-662	26-Jan-2022	10:52:05
33	220125R33	32	B6171_18853_DF_015	10.11	11215131-010722-S-BN-DUP-11	PSW	050-766	26-Jan-2022	11:39:34
34	220125R34	33	B6171_18853_DF_016 ✓	10.17	11215131-011022-S-BN-NC-O-29	PSW	025-300	26-Jan-2022	12:27:08

REVIEWED
paul_walton , 1/26/2022, 1:35:09 PM

APPROVED
Amy_Boehm , 1/28/2022, 9:38:21 AM

Project file: not saved
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Printed: 26-Jan-2022 13:34

Dioxin/Furan QC Summary		Acq'd: 25 Jan 2022 09:53 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_220125_DF_RA		UTP: 26-Jan-2022 09:28:46 PSW				Checkcode: 082-235-YLC	
Sample ID: SIL 25-347-1		Report: 26 Jan 2022 11:12 pw				Datafile: 220125R01	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	26.76	8.96E+05	0.81	Y	1.34	1.08	-20%
12378-PeCDD	32.45	3.92E+06	1.66	Y	1.06	1.01	-5%
123478-HxCDD	36.42	3.65E+06	1.29	Y	1.06	1.06	0%
123678-HxCDD	36.53	3.90E+06	1.25	Y	1.08	1.12	3%
123789-HxCDD	36.82	3.89E+06	1.33	Y	1.02	1.01	-1%
1234678-HpCDD	39.77	3.45E+06	1.05	Y	0.97	1.01	4%
OCDD	42.20	5.18E+06	0.93	Y	1.07	1.15	8%
2378-TCDF	25.82	1.45E+06	0.81	Y	0.96	1.11	15%
12378-PeCDF	30.92	6.33E+06	1.57	Y	0.95	1.06	12%
23478-PeCDF	32.10	6.16E+06	1.57	Y	0.94	1.05	12%
123478-HxCDF	35.44	5.85E+06	1.26	Y	1.23	1.27	3%
123678-HxCDF	35.58	5.98E+06	1.29	Y	1.13	1.12	-1%
234678-HxCDF	36.25	5.60E+06	1.30	Y	1.15	1.15	0%
123789-HxCDF	37.21	4.79E+06	1.26	Y	1.14	1.21	7%
1234678-HpCDF	38.81	5.47E+06	1.02	Y	1.36	1.33	-2%
1234789-HpCDF	40.19	4.27E+06	1.02	Y	1.30	1.36	5%
OCDF	42.36	6.24E+06	0.91	Y	1.03	1.11	8%
ES 2378-TCDD	26.74	8.29E+06	0.74	Y	1.03	0.98	-5%
ES 12378-PeCDD	32.427	7.80E+06	1.54	Y	1.03	0.92	-11%
ES 123478-HxCDD	36.406	6.89E+06	1.32	Y	0.99	1.00	0%
ES 123678-HxCDD	36.519	6.97E+06	1.23	Y	0.97	1.01	3%
ES 123789-HxCDD	36.813	7.72E+06	1.18	Y	1.12	1.12	-1%
ES 1234678-HpCDD	39.761	6.83E+06	1.07	Y	0.99	0.99	0%
ES OCDD	42.184	8.99E+06	0.87	Y	0.78	0.65	-16%
ES 2378-TCDF	25.798	1.31E+07	0.79	Y	1.08	0.97	-10%
ES 12378-PeCDF	30.906	1.20E+07	1.61	Y	0.93	0.89	-5%
ES 23478-PeCDF	32.076	1.17E+07	1.72	Y	0.92	0.86	-6%
ES 123478-HxCDF	35.422	9.19E+06	0.54	Y	1.14	1.33	16%
ES 123678-HxCDF	35.562	1.07E+07	0.54	Y	1.30	1.55	19%
ES 234678-HxCDF	36.227	9.74E+06	0.50	Y	1.20	1.41	17%
ES 123789-HxCDF	37.187	7.89E+06	0.55	Y	1.14	1.14	0%
ES 1234678-HpCDF	38.802	8.19E+06	0.46	Y	0.95	1.18	25%
ES 1234789-HpCDF	40.179	6.26E+06	0.42	Y	0.85	0.91	7%
ES OCDF	42.348	1.13E+07	0.90	Y	0.93	0.82	-12%

Dioxin/Furan QC Summary		Acq'd: 25 Jan 2022 09:53 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_220125_DF_RA		UTP: 26-Jan-2022 09:28:46 PSW				Checkcode: 082-235-YLC	
Sample ID: SIL 25-347-1		Report: 26 Jan 2022 11:12 pw				Datafile: 220125R01	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.03	8.44E+06	0.81	Y	-	-	-
JS 1234-TCDF	24.28	1.35E+07	0.77	Y	-	-	-
JS 123467-HxCDD	36.71	3.46E+06	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	26.76	1.12E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	31.91	7.20E+06	1.71	Y	0.89	0.85	-4%
CS 12346-PeCDF	30.35	1.17E+07	1.51	Y	0.87	0.86	0%
CS 123469-HxCDF	35.88	9.75E+06	0.52	Y	1.09	1.41	29%
CS 1234689-HpCDF	39.23	7.78E+06	0.45	Y	0.86	1.12	30% meets M1613B criteria TB 01/28/2022
~~SS 37Cl-2378-TCDD~~	~~26.76~~	~~1.12E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.35~~	~~7%~~
~~SS 12347-PeCDD~~	~~31.91~~	~~7.20E+06~~	~~1.71~~	~~Y~~	~~0.86~~	~~0.92~~	~~7%~~
~~SS 12346-PeCDF~~	~~30.35~~	~~1.17E+07~~	~~1.51~~	~~Y~~	~~0.93~~	~~0.97~~	~~5%~~
~~SS 123469-HxCDF~~	~~35.88~~	~~9.75E+06~~	~~0.52~~	~~Y~~	~~0.84~~	~~0.91~~	~~8%~~
~~SS 1234689-HpCDF~~	~~39.22~~	~~7.78E+06~~	~~0.45~~	~~Y~~	~~0.91~~	~~0.95~~	~~4%~~
~~OCDD-a~~	~~42.19~~	~~2.49E+05~~	~~2.94~~	~~N~~	~~0.87~~	~~0.86~~	~~-16%~~
~~OCDF-a~~	~~0.00~~	~~0.00E+00~~	~~0.00~~	~~0~~	~~0.86~~	~~0.00~~	~~-100%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220125R01 Analysis Date: 25-JAN-2022 09:53:35

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	8.05	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32 - 1.78	Y	47.4	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	50.2	38 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	51.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.33	1.05 - 1.43	Y	49.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	51.9	43 - 58	Y
OCDD	M+2/M+4	0.93	0.76 - 1.02	Y	108	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	11.5	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	55.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	56.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	51.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.29	1.05 - 1.43	Y	49.3	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.30	1.05 - 1.43	Y	50	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	53.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	52.5	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	108	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 26 Jan 2022 11:09 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

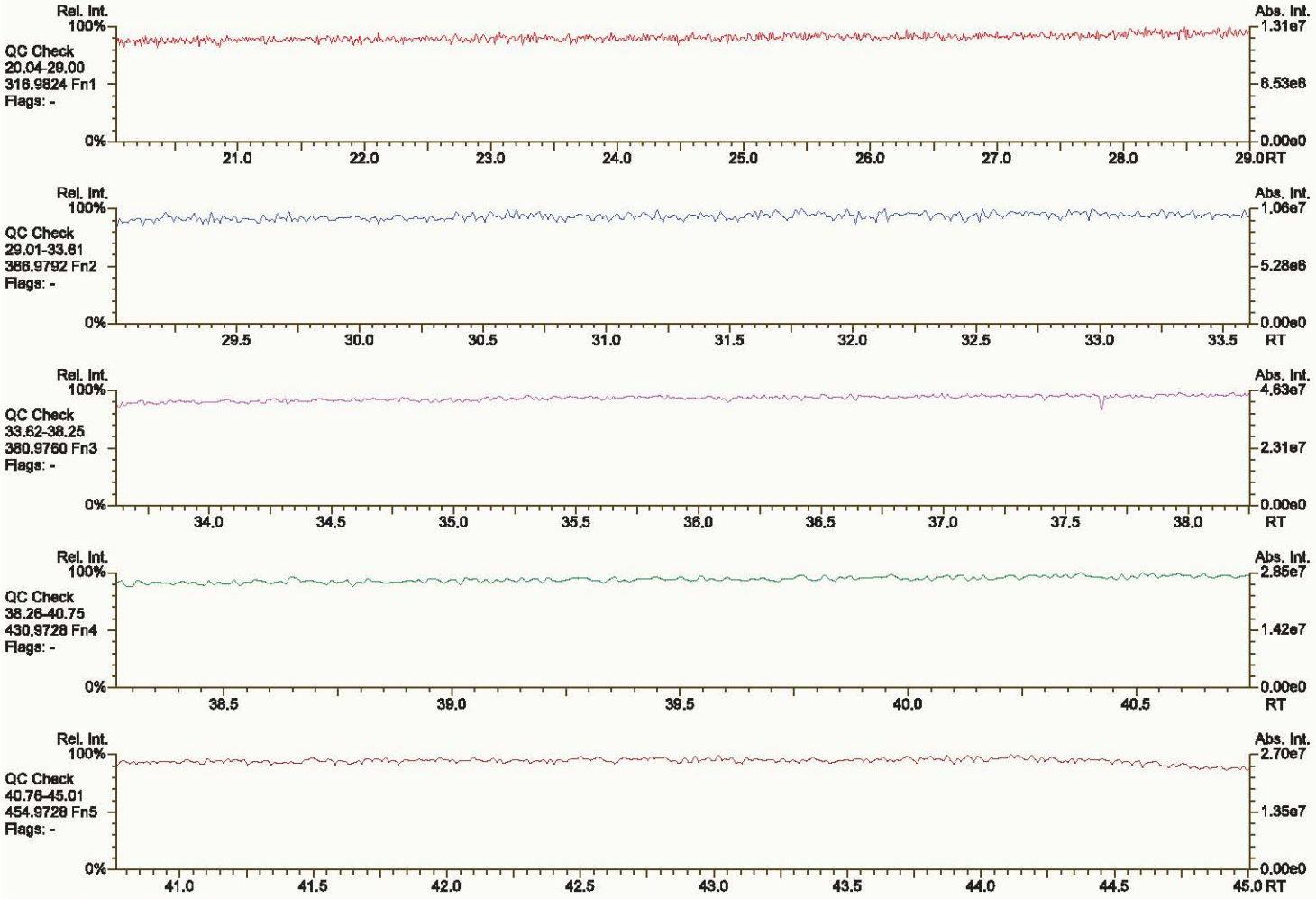
VER Data Filename: 220125R01 Analysis Date: 25-JAN-2022 09:53:35

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.74	0.65 - 0.89	Y	95	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	89.4	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	100	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	103	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.18	1.05 - 1.43	Y	99.3	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	99.6	72 - 138	Y
13C-OCDD	M+2/M+4	0.87	0.76 - 1.02	Y	167	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	89.6	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32 - 1.78	Y	94.9	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.72	1.32 - 1.78	Y	93.7	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	116	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	119	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.50	0.43 - 0.59	Y	117	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	100	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	125	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37 - 0.51	Y	107	77 - 129	Y
13C-OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	176	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.1	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.71	1.32 - 1.78	Y	95.5	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	99.5	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	129	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	130	70 - 130	Y

Processed: 26 Jan 2022 11:09 Analyst: pw

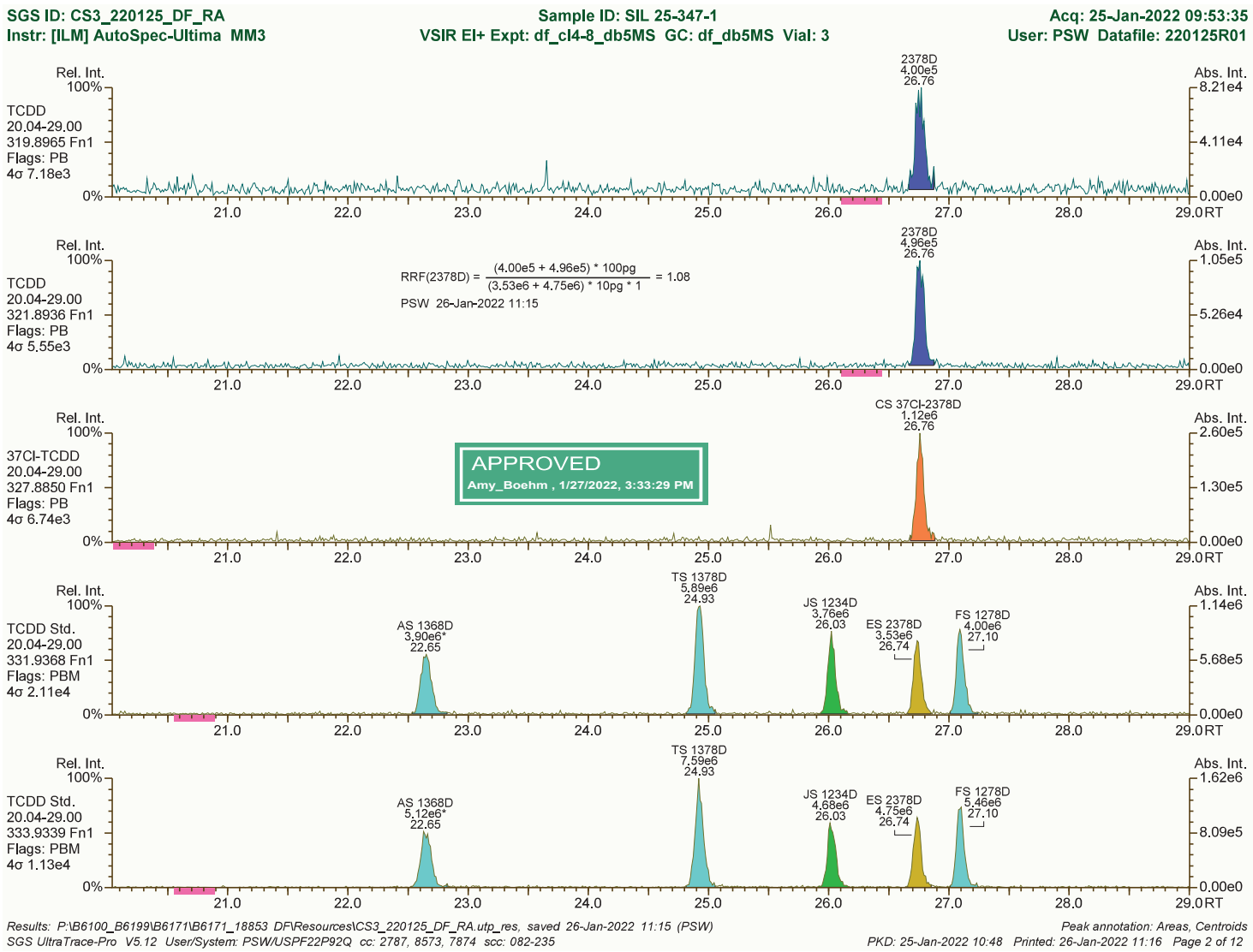
SGS ID: CS3_220125_DF_RA | Sample ID: SIL 25-347-1 | Acq: 25-Jan-2022 09:53:35

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R01

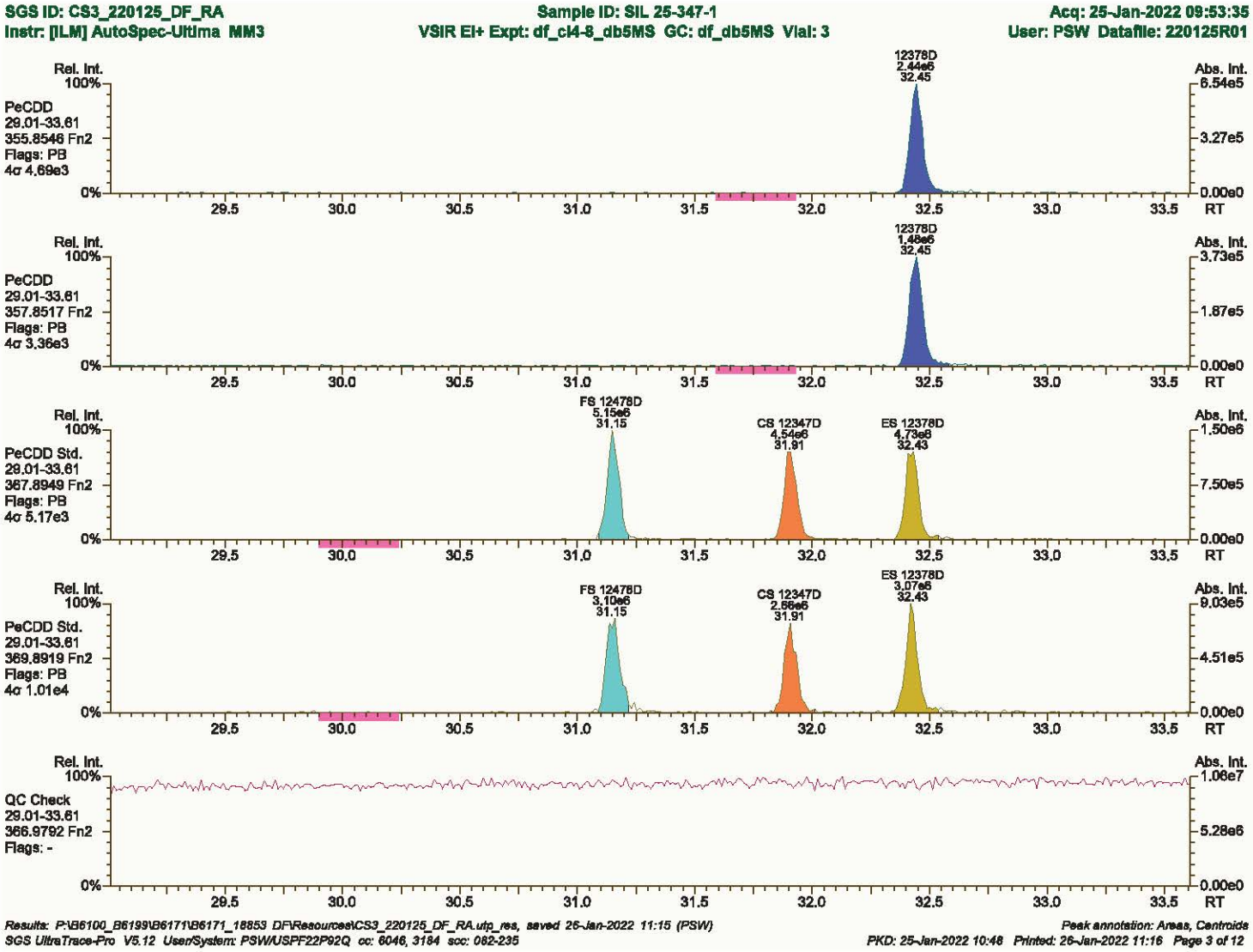


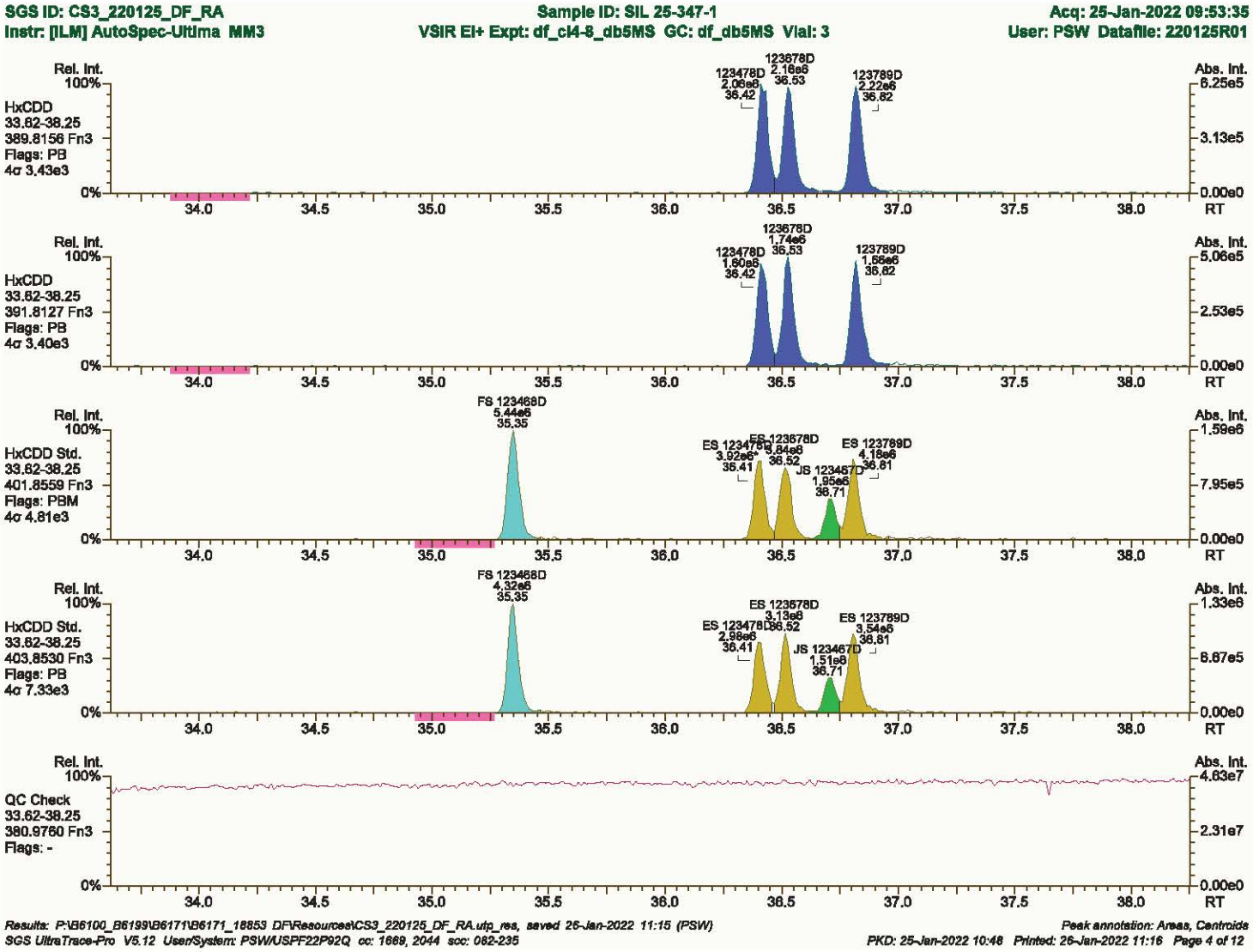
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW) *Peak annotation: Areas, Centroids*

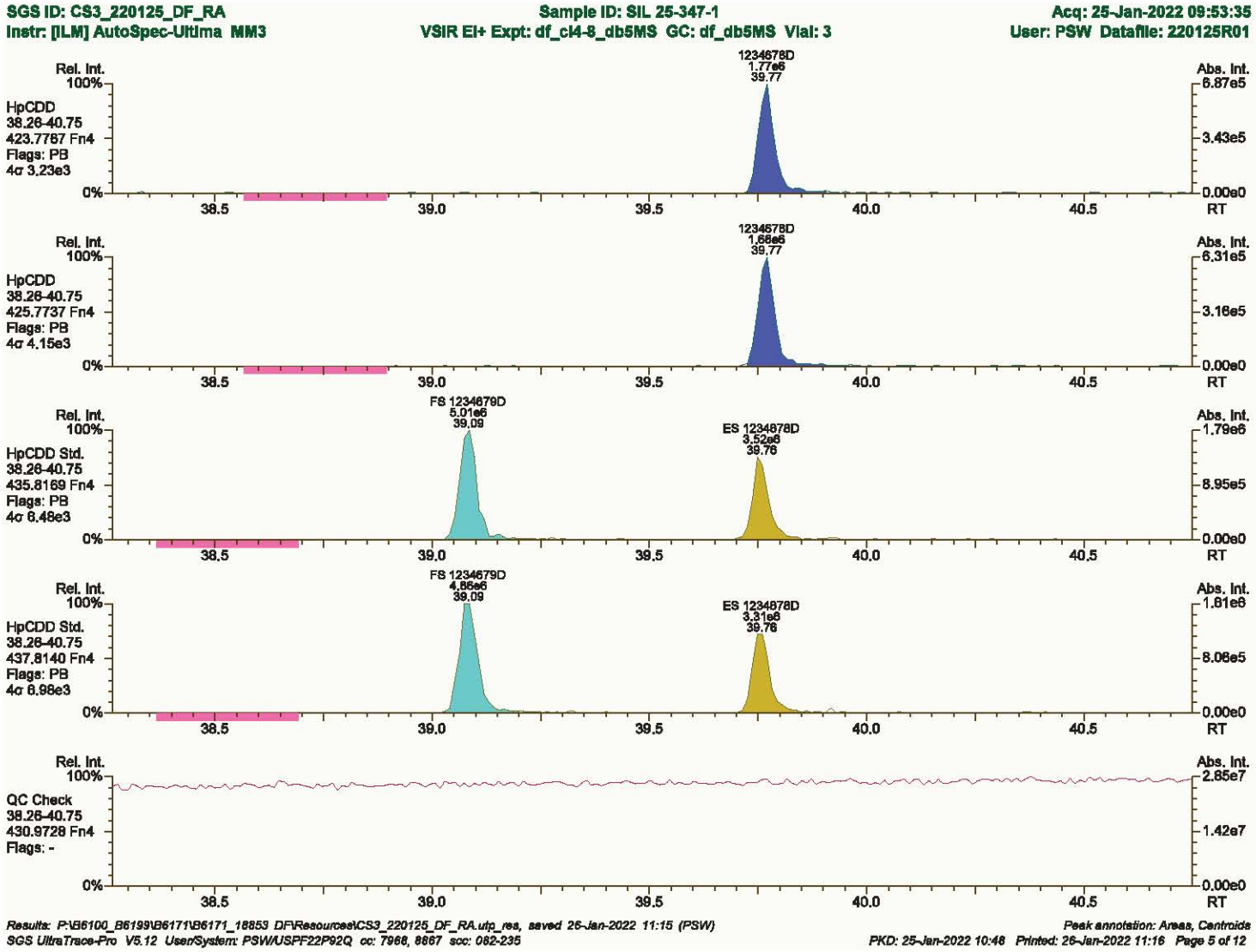
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 082-235 *PKD: n/a Printed: 26-Jan-2022 11:16 Page 1 of 12*

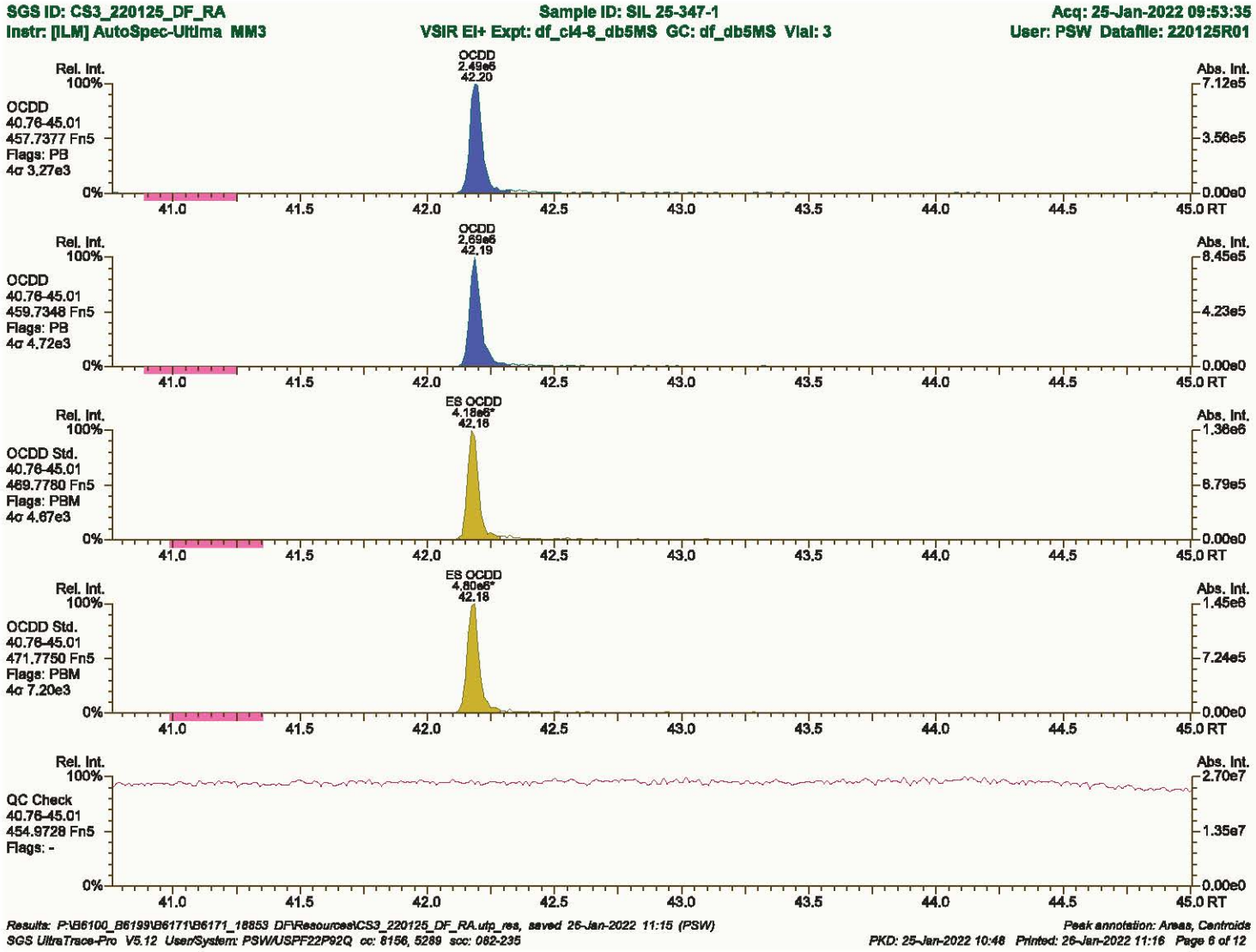


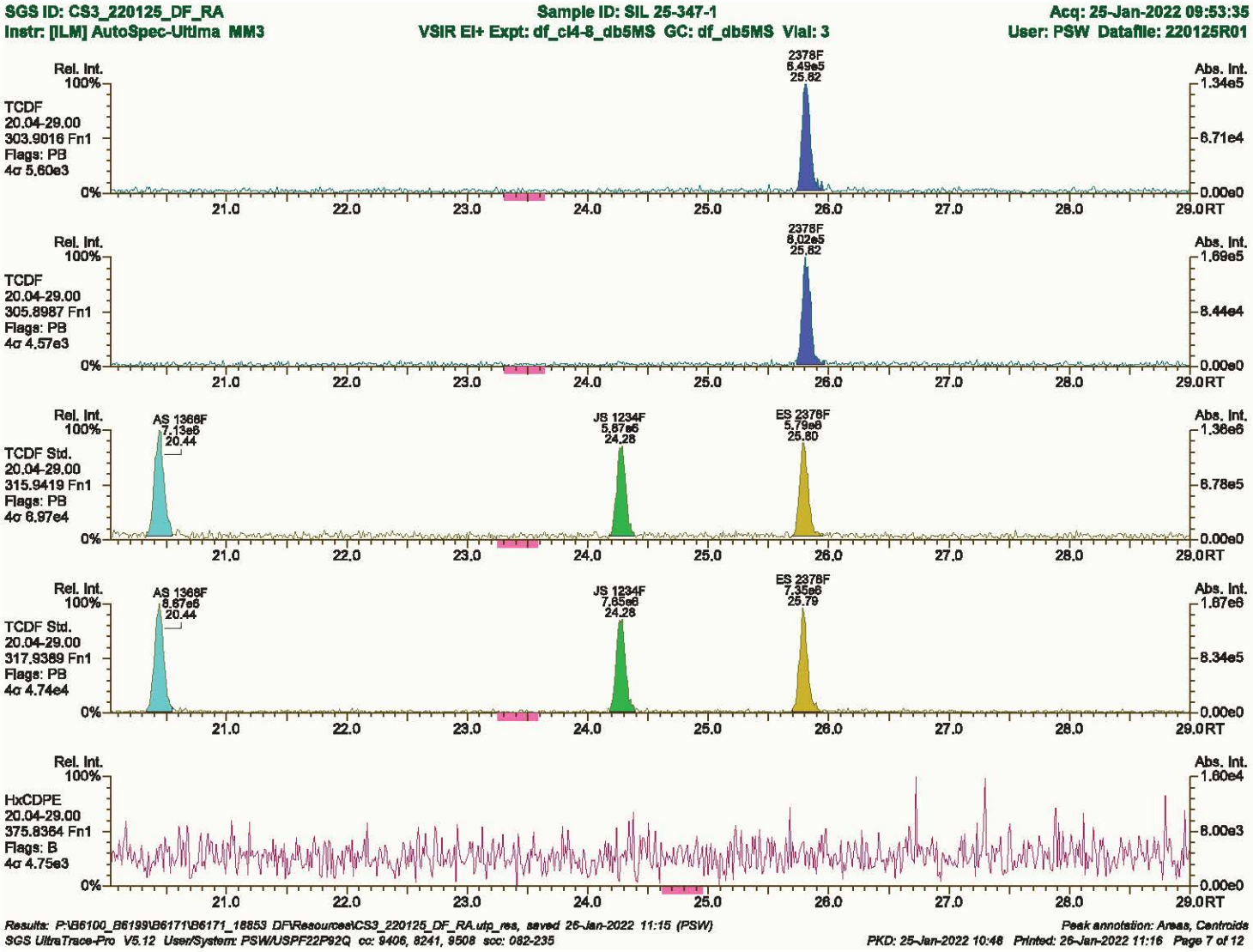
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2787, 8573, 7874 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 2 of 12


SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PB
4σ 4.69e3
12378D
2.44e6
32.45
6.54e5
3.27e5
0.00e0
RT
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PB
4σ 3.36e3
12378D
1.48e6
32.45
3.73e5
1.87e5
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 5.17e3
FS 12478D
5.15e6
31.15
CS 12347D
4.54e6
31.91
ES 12378D
4.73e6
32.43
1.50e6
7.50e5
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 1.01e4
FS 12478D
3.10e6
31.15
CS 12347D
2.66e6
31.91
ES 12378D
3.07e6
32.43
9.03e5
4.51e5
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
1.06e7
5.28e6
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6046, 3184 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 3 of 12


SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PB
4σ 3.43e3
123678D 2.16e6 36.53
123478D 2.06e6 36.42
123789D 2.22e6 36.62
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PB
4σ 3.40e3
123678D 1.74e6 36.53
123478D 1.60e6 36.42
123789D 1.56e6 36.62
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 4.81e3
FS 123468D 5.44e6 35.35
ES 123478D 3.52e6 36.41
FS 123678D 3.84e6 36.52
JS 123467D 1.95e6 36.71
ES 123789D 4.18e6 36.81
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 7.33e3
FS 123468D 4.32e6 35.35
ES 123678D 3.13e6 36.52
ES 123478D 2.98e6 36.41
JS 123467D 1.51e8 36.71
ES 123789D 3.54e6 36.81
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1669, 2044 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 4 of 12


SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
Rel. Int.
Abs. Int.
HpCDD
38.26-40.75
423.7767 Fn4
Flags: PB
4σ 3.23e3
1234678D
1.77e6
39.77
6.87e5
3.43e5
0.00e0
HpCDD
38.26-40.75
425.7737 Fn4
Flags: PB
4σ 4.15e3
1234678D
1.66e6
39.77
6.31e5
3.16e5
HpCDD Std.
38.26-40.75
435.8169 Fn4
Flags: PB
4σ 6.48e3
FS 1234678D
5.01e6
39.09
ES 1234878D
3.52e6
39.76
1.79e6
8.95e5
HpCDD Std.
38.26-40.75
437.8140 Fn4
Flags: PB
4σ 6.98e3
FS 1234679D
4.66e6
39.09
ES 1234878D
3.31e6
39.76
1.81e6
8.08e5
QC Check
38.26-40.75
430.9728 Fn4
Flags: -
2.85e7
1.42e7
100%
0%
38.5
39.0
39.5
40.0
40.5
RT

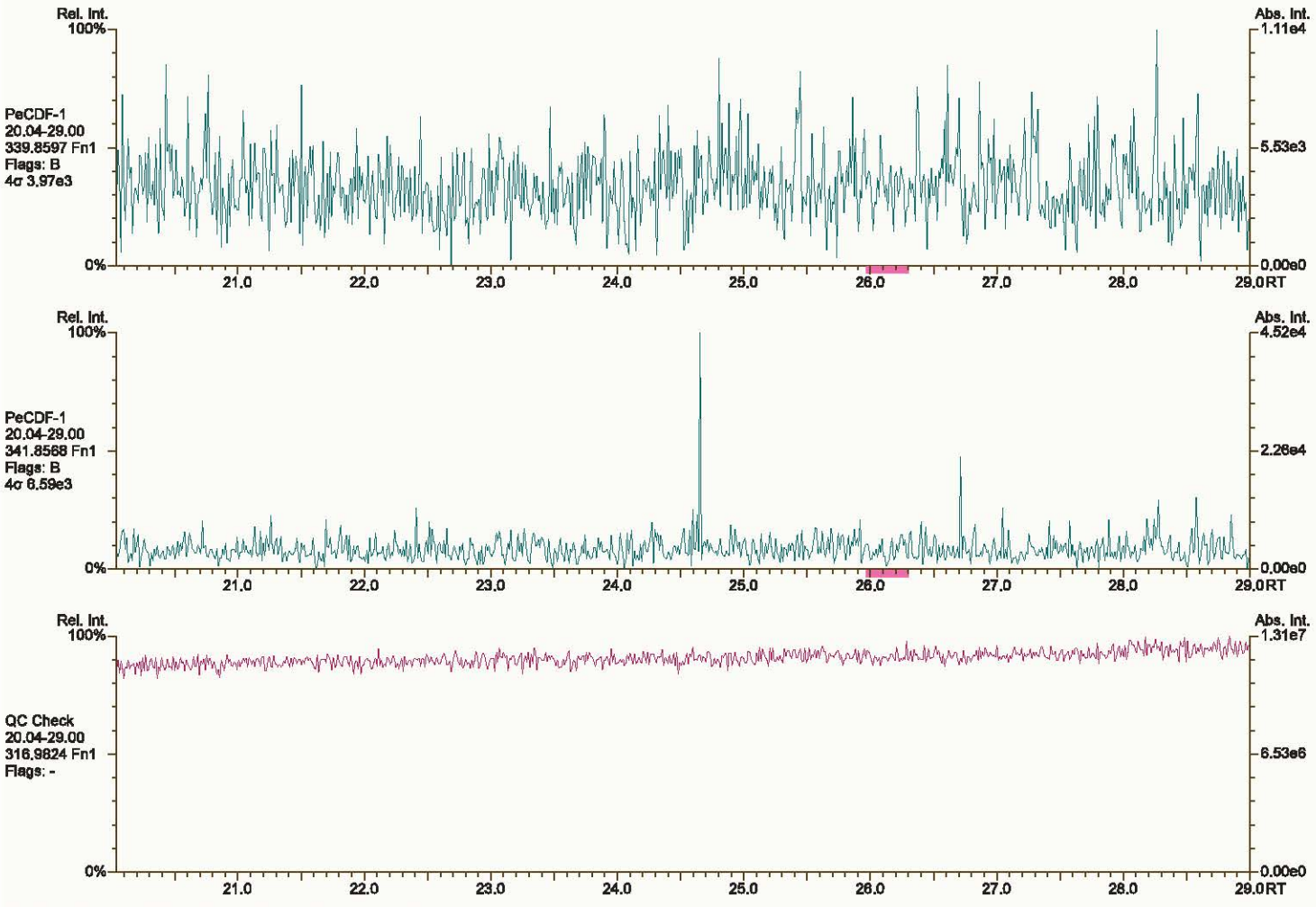

SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
OCDD
2.49e6
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 3.27e3
OCDD
2.69e6
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.72e3
ES OCDD
4.18e6*
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PBM
4σ 4.67e3
ES OCDD
4.80e6*
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PBM
4σ 7.20e3
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
Rel. Int.
Abs. Int.
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8156, 5289 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 6 of 12


SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 5.60e3
2378F
6.49e5
25.82
1.34e5
6.71e4
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PB
4σ 4.57e3
2378F
8.02e5
25.82
1.69e5
8.44e4
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 6.97e4
AS 1368F
7.13e6
20.44
JS 1234F
5.87e6
24.28
ES 2378F
5.79e6
25.80
1.36e6
6.78e5
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 4.74e4
AS 1368F
8.67e6
20.44
JS 1234F
7.85e6
24.28
ES 2378F
7.35e6
25.79
1.67e6
8.34e5
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.75e3
1.60e4
8.00e3
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9406, 8241, 9508 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 7 of 12

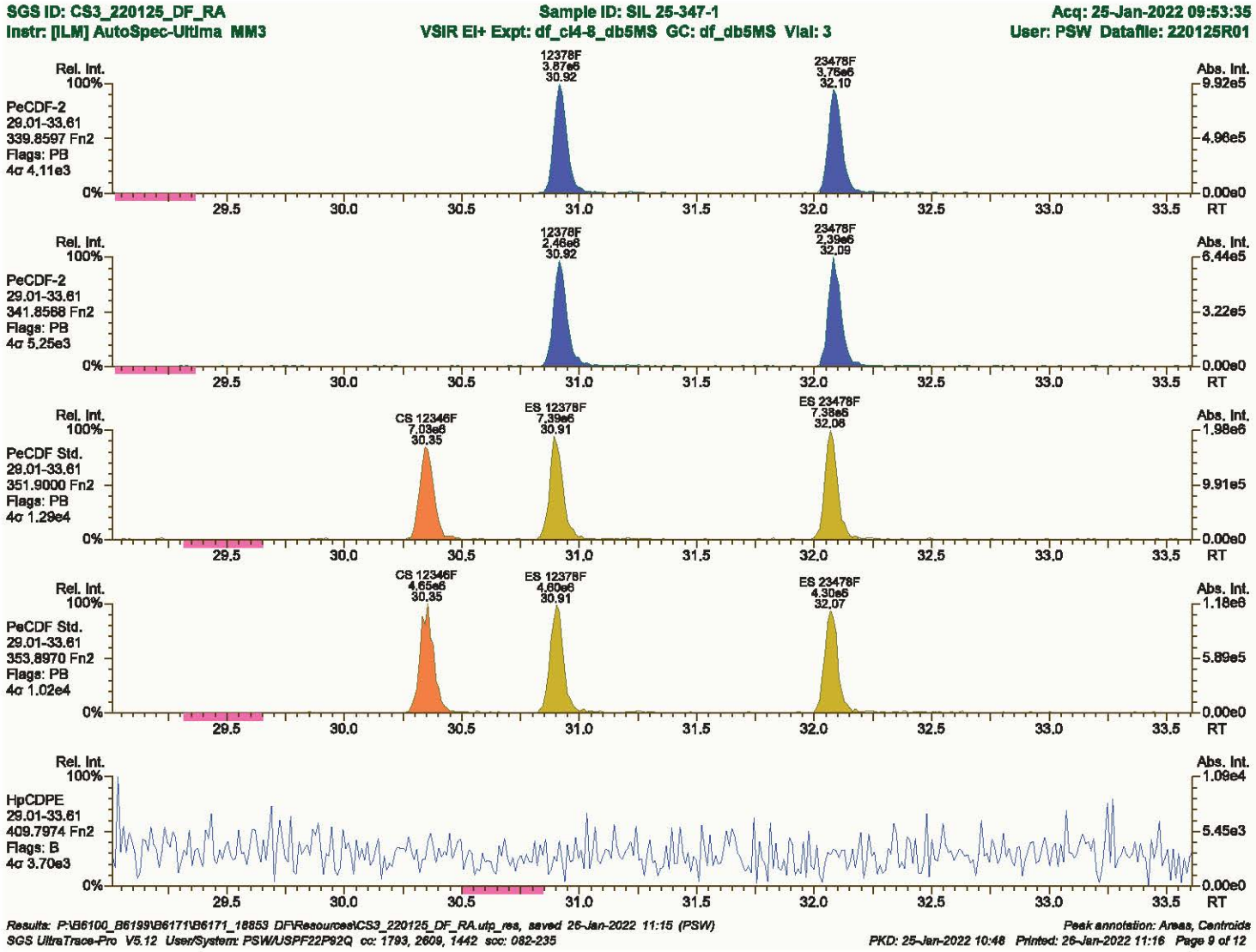
SGS ID: CS3_220125_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

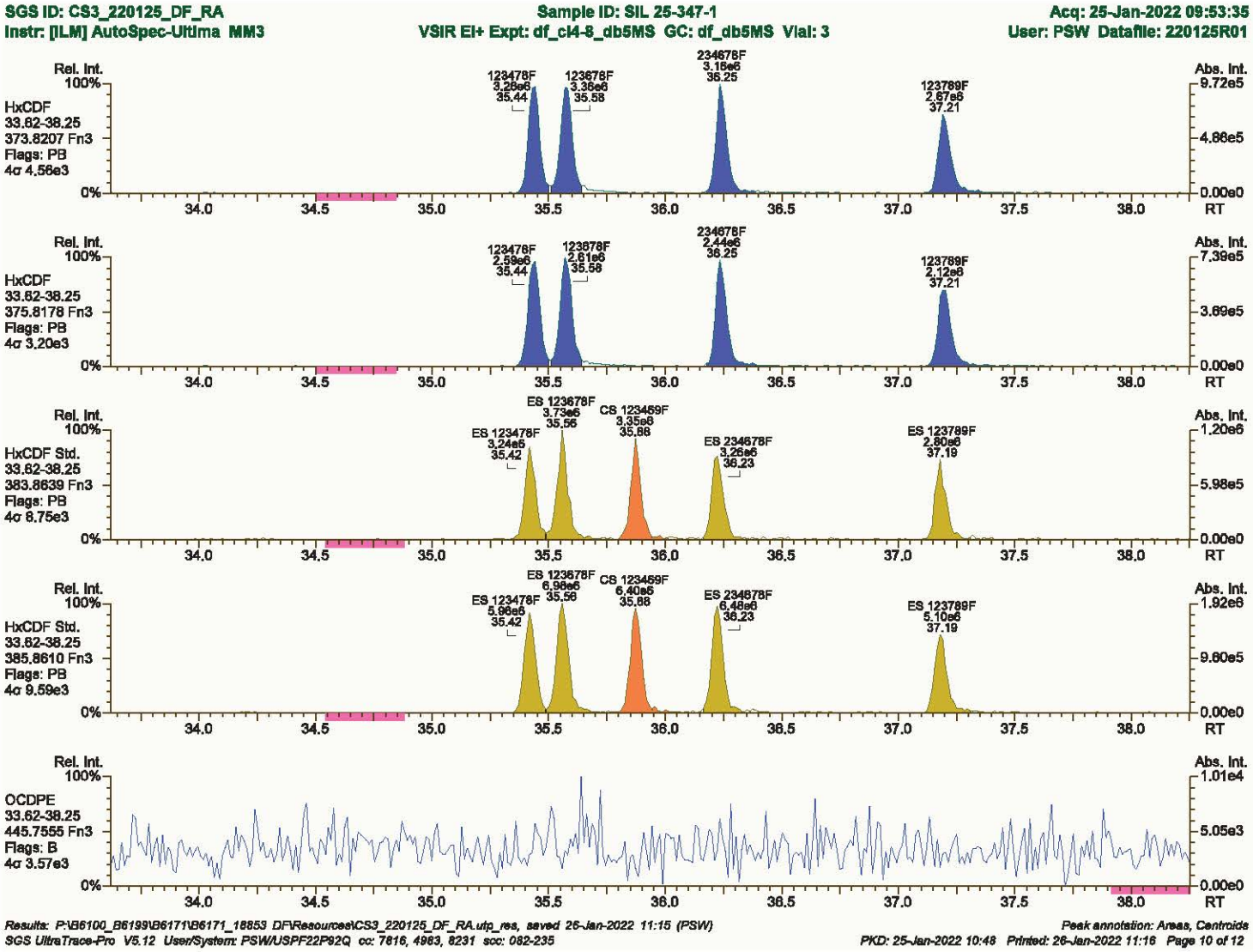
Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

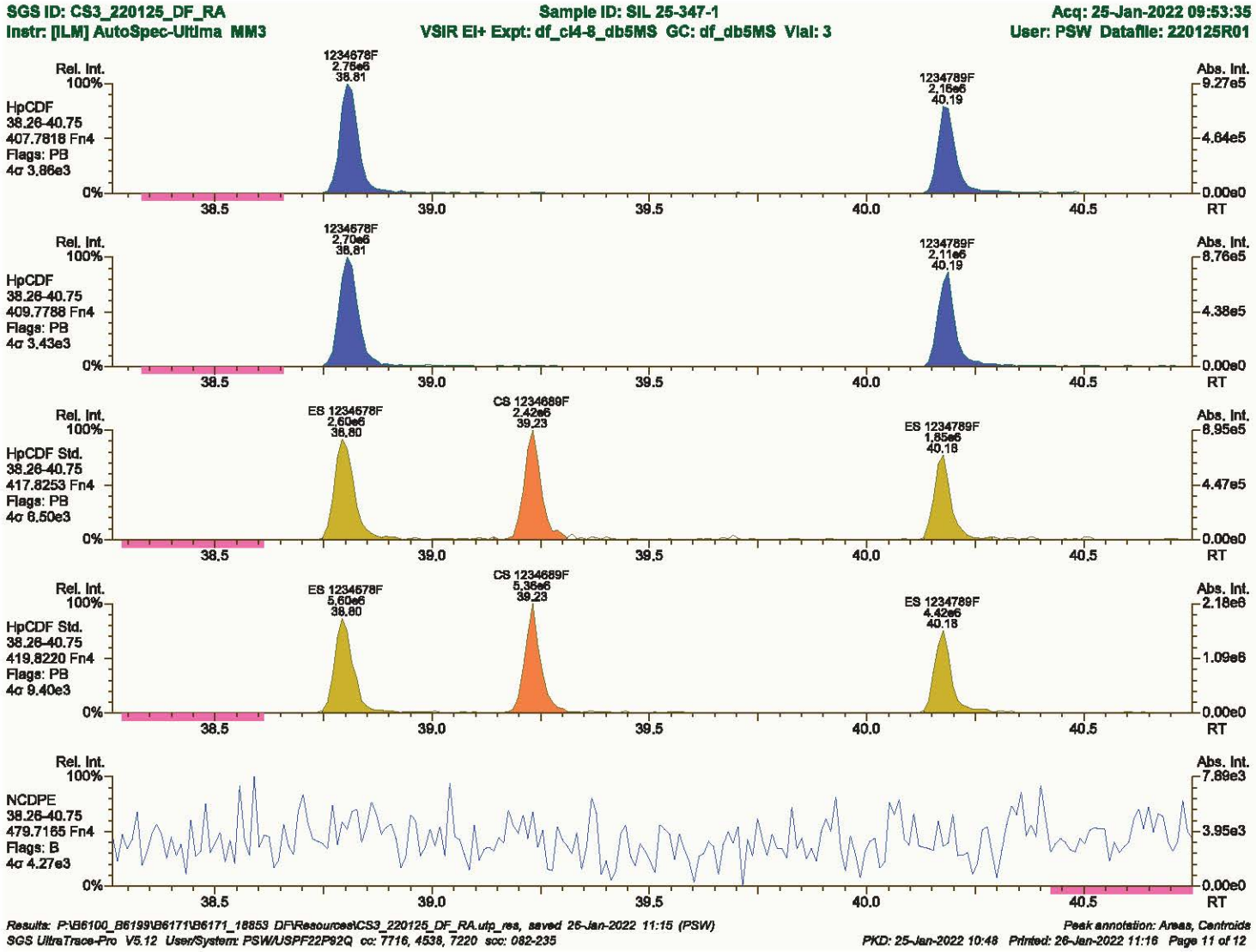
Acq: 25-Jan-2022 09:53:35
User: PSW Datafile: 220125R01



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0466 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 8 of 12


SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 4.11e3
12378F
3.87e6
30.92
23478F
3.75e6
32.10
9.92e5
4.96e5
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 5.25e3
12378F
2.46e6
30.92
23478F
2.39e6
32.09
6.44e5
3.22e5
0.00e0
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 1.29e4
CS 12346F
7.03e6
30.35
ES 12378F
7.39e6
30.91
ES 23478F
7.38e6
32.06
1.98e6
9.91e5
0.00e0
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 1.02e4
CS 12346F
4.65e6
30.35
ES 12378F
4.60e6
30.91
ES 23478F
4.30e6
32.07
1.18e6
5.89e5
0.00e0
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.70e3
1.09e4
5.45e3
0.00e0
0%
100%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1793, 2609, 1442 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 9 of 12

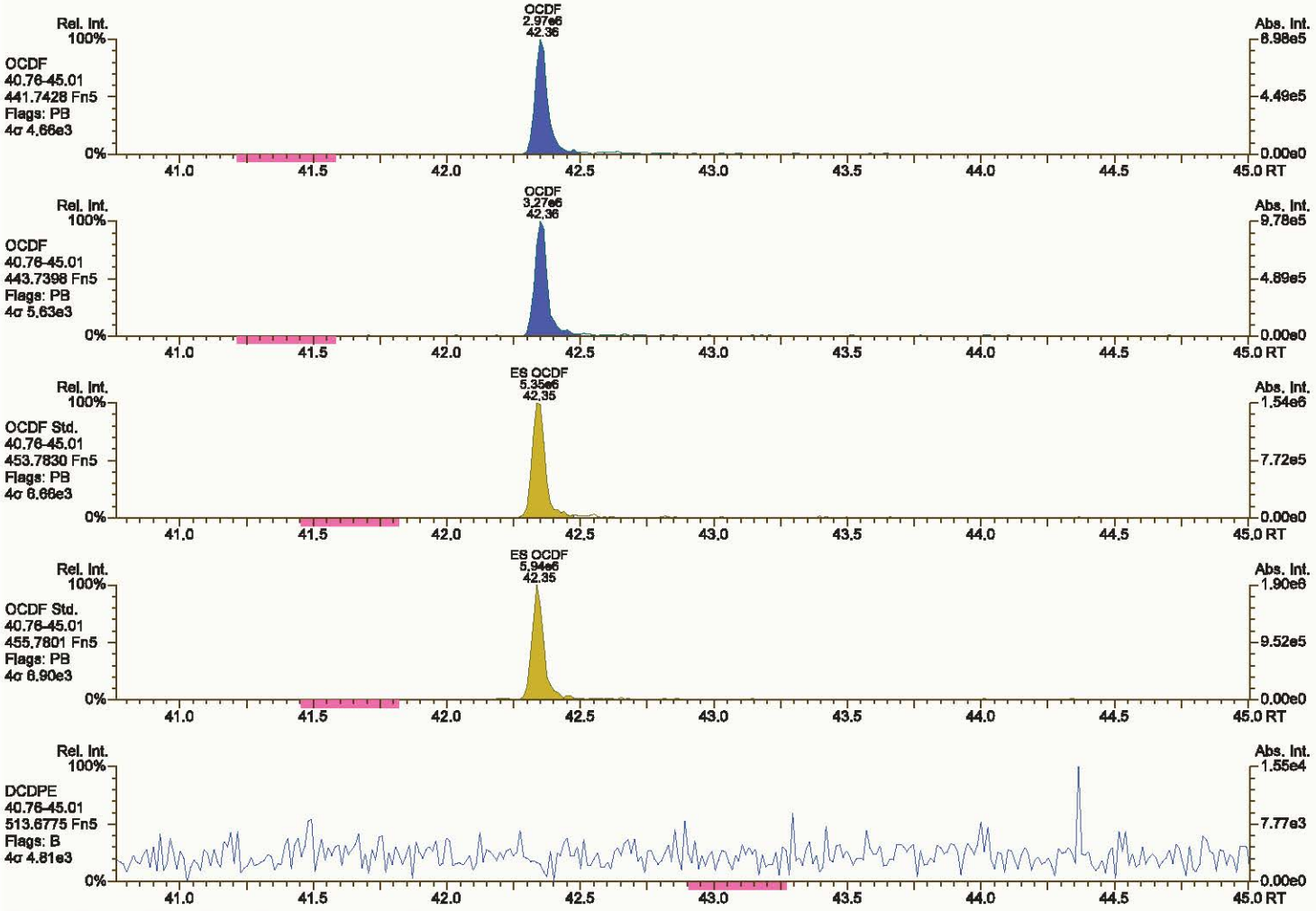

SGS ID: CS3_220125_DF_RA
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 09:53:35
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R01
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PB
4σ 4.56e3
123478F 3.25e6 35.44
123678F 3.35e6 35.58
234678F 3.16e6 36.25
123789F 2.67e6 37.21
9.72e5
4.86e5
0.00e0
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PB
4σ 3.20e3
123478F 2.59e6 35.44
123678F 2.61e6 35.58
234678F 2.44e6 36.25
123789F 2.12e6 37.21
7.39e5
3.69e5
0.00e0
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 8.75e3
ES 123678F 3.73e6 35.56
CS 123469F 3.35e6 35.88
ES 123478F 3.24e6 35.42
ES 234678F 3.26e6 36.23
ES 123789F 2.80e6 37.19
1.20e6
5.98e5
0.00e0
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 9.59e3
ES 123678F 6.98e6 35.56
CS 123469F 6.40e6 35.88
ES 123478F 5.96e6 35.42
ES 234678F 6.48e6 36.23
ES 123789F 5.10e6 37.19
1.92e6
9.60e5
0.00e0
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 3.57e3
1.01e4
5.05e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7816, 4963, 8231 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 10 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7716, 4538, 7220 scc: 082-235
PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 11 of 12

SGS ID: CS3_220125_DF_RA | Sample ID: SIL 25-347-1 | Acq: 25-Jan-2022 09:53:35

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R01



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RA.utp_res, saved 26-Jan-2022 11:15 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9710, 3320, 1148 scc: 082-235 *PKD: 25-Jan-2022 10:48 Printed: 26-Jan-2022 11:16 Page 12 of 12*

Dioxin/Furan QC Summary		Acq'd: 25 Jan 2022 18:47 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_220125_DF_RB		UTP: 26-Jan-2022 09:28:49 PSW				Checkcode: 296-169-BYY	
Sample ID: SIL 25-347-1		Report: 26 Jan 2022 11:11 pw				Datafile: 220125R12	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	26.76	2.94E+06	0.81	Y	1.34	1.14	-15%
12378-PeCDD	32.44	1.23E+07	1.58	Y	1.06	1.02	-3%
123478-HxCDD	36.42	1.13E+07	1.25	Y	1.06	1.10	4%
123678-HxCDD	36.53	1.24E+07	1.27	Y	1.08	1.14	5%
123789-HxCDD	36.83	1.20E+07	1.25	Y	1.02	0.99	-2%
1234678-HpCDD	39.78	1.02E+07	1.08	Y	0.97	1.00	3%
OCDD	42.20	1.40E+07	0.91	Y	1.07	1.14	7%
2378-TCDF	25.81	4.34E+06	0.79	Y	0.96	1.06	10%
12378-PeCDF	30.92	1.91E+07	1.57	Y	0.95	1.06	12%
23478-PeCDF	32.09	1.95E+07	1.58	Y	0.94	1.05	11%
123478-HxCDF	35.44	1.79E+07	1.27	Y	1.23	1.29	5%
123678-HxCDF	35.58	1.90E+07	1.26	Y	1.13	1.18	4%
234678-HxCDF	36.24	1.78E+07	1.25	Y	1.15	1.21	5%
123789-HxCDF	37.20	1.52E+07	1.25	Y	1.14	1.18	4%
1234678-HpCDF	38.81	1.64E+07	1.07	Y	1.36	1.40	3%
1234789-HpCDF	40.19	1.27E+07	1.04	Y	1.30	1.38	6%
OCDF	42.36	1.70E+07	0.92	Y	1.03	1.10	7%
ES 2378-TCDD	26.73	2.58E+07	0.83	Y	1.03	0.99	-4%
ES 12378-PeCDD	32.422	2.41E+07	1.58	Y	1.03	0.93	-10%
ES 123478-HxCDD	36.404	2.06E+07	1.25	Y	0.99	0.98	-1%
ES 123678-HxCDD	36.516	2.17E+07	1.34	Y	0.97	1.03	6%
ES 123789-HxCDD	36.809	2.42E+07	1.30	Y	1.12	1.15	3%
ES 1234678-HpCDD	39.763	2.04E+07	1.16	Y	0.99	0.97	-2%
ES OCDD	42.186	2.45E+07	0.89	Y	0.78	0.59	-25%
ES 2378-TCDF	25.788	4.10E+07	0.81	Y	1.08	1.02	-6%
ES 12378-PeCDF	30.899	3.62E+07	1.61	Y	0.93	0.90	-4%
ES 23478-PeCDF	32.069	3.74E+07	1.66	Y	0.92	0.93	1%
ES 123478-HxCDF	35.42	2.77E+07	0.54	Y	1.14	1.32	16%
ES 123678-HxCDF	35.561	3.22E+07	0.52	Y	1.30	1.54	19%
ES 234678-HxCDF	36.225	2.94E+07	0.54	Y	1.20	1.40	17%
ES 123789-HxCDF	37.185	2.58E+07	0.54	Y	1.14	1.23	8%
ES 1234678-HpCDF	38.8	2.34E+07	0.46	Y	0.95	1.12	18%
ES 1234789-HpCDF	40.178	1.85E+07	0.43	Y	0.85	0.88	4%
ES OCDF	42.349	3.10E+07	0.88	Y	0.93	0.74	-20%

Dioxin/Furan QC Summary		Acq'd: 25 Jan 2022 18:47 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_220125_DF_RB		UTP: 26-Jan-2022 09:28:49 PSW				Checkcode: 296-169-BYY	
Sample ID: SIL 25-347-1		Report: 26 Jan 2022 11:11 pw				Datafile: 220125R12	
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.02	2.60E+07	0.78	Y	-	-	-
JS 1234-TCDF	24.27	4.02E+07	0.80	Y	-	-	-
JS 123467-HxCDD	36.71	1.05E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	26.76	3.43E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	31.91	2.30E+07	1.67	Y	0.89	0.89	-1%
CS 12346-PeCDF	30.35	3.52E+07	1.56	Y	0.87	0.88	1%
CS 123469-HxCDF	35.87	2.96E+07	0.53	Y	1.09	1.41	30%
CS 1234689-HpCDF	39.24	2.29E+07	0.47	Y	0.86	1.09	27%
~~SS 37Cl-2378-TCDD~~	~~26.76~~	~~3.43E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.33~~	~~5%~~
~~SS 12347-PeCDD~~	~~31.91~~	~~2.30E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~0.95~~	~~10%~~
~~SS 12346-PeCDF~~	~~30.35~~	~~3.52E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~0.97~~	~~5%~~
~~SS 123469-HxCDF~~	~~35.87~~	~~2.96E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~0.92~~	~~9%~~
~~SS 1234689-HpCDF~~	~~39.24~~	~~2.29E+07~~	~~0.47~~	~~Y~~	~~0.91~~	~~0.98~~	~~7%~~
~~OCDD-a~~	~~42.20~~	~~5.69E+05~~	~~3.50~~	~~N~~	~~0.87~~	~~0.85~~	~~-30%~~
~~OCDF-a~~	~~42.36~~	~~9.51E+05~~	~~2.45~~	~~Y~~	~~0.86~~	~~0.86~~	~~4%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220125R12 Analysis Date: 25-JAN-2022 18:47:18

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	8.48	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	46.4	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	52	38 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	52.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	48.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88 - 1.20	Y	51.5	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	107	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	11	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	56	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	55.7	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	52.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	52.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	52.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	52	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88 - 1.20	Y	51.4	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	53	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	107	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 26 Jan 2022 11:09 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

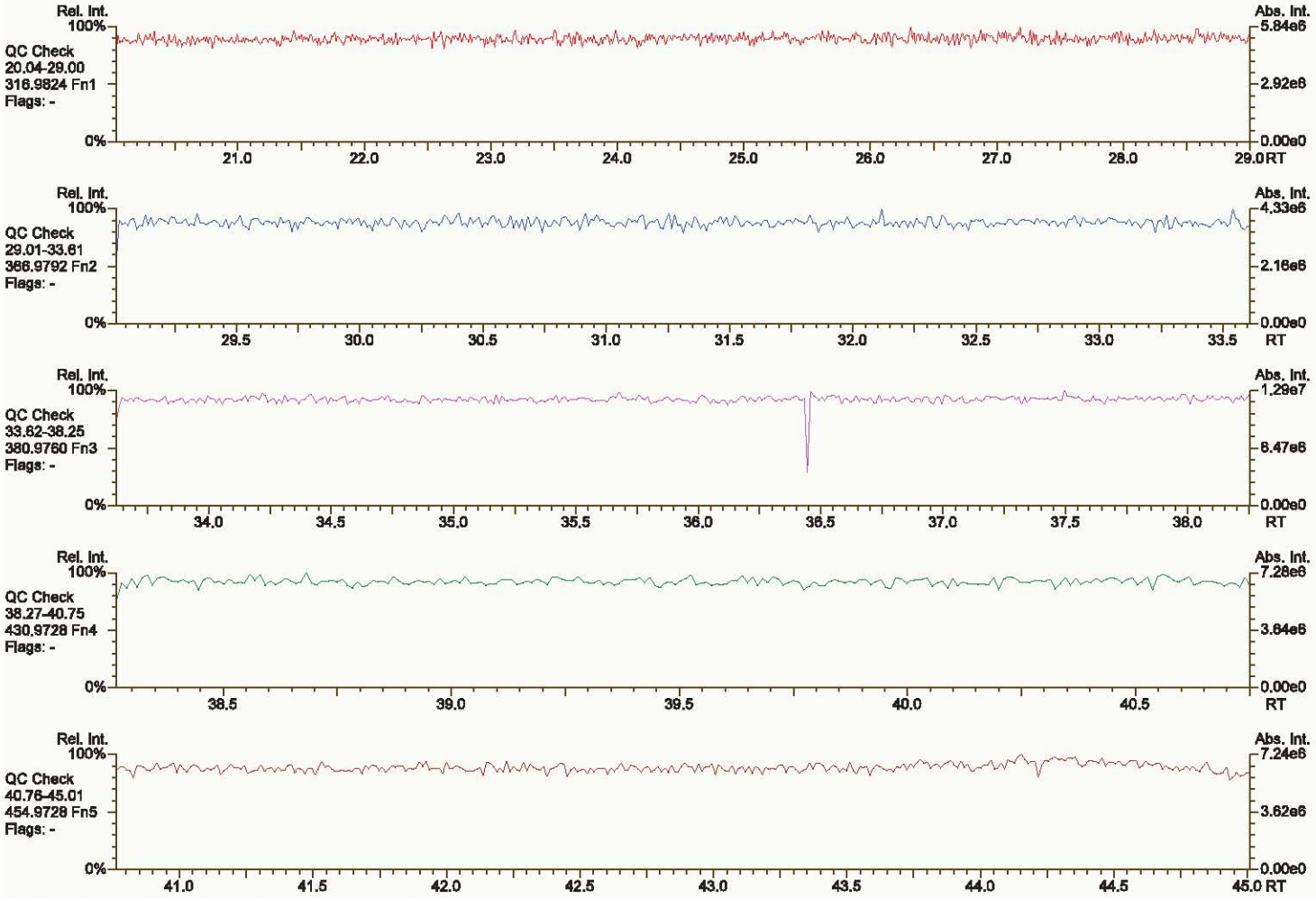
VER Data Filename: 220125R12 Analysis Date: 25-JAN-2022 18:47:18

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.83	0.65 - 0.89	Y	96.1	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	89.7	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	99	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.34	1.05 - 1.43	Y	106	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	103	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.16	0.88 - 1.20	Y	98.2	72 - 138	Y
13C-OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	151	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	94.1	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32 - 1.78	Y	96.3	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.66	1.32 - 1.78	Y	101	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	116	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	119	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	117	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	108	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	116	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37 - 0.51	Y	104	77 - 129	Y
13C-OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	160	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.1	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.67	1.32 - 1.78	Y	99.2	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	101	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	130	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	127	70 - 130	Y

Processed: 26 Jan 2022 11:09 Analyst: pw

SGS ID: CS3_220125_DF_RB | Sample ID: SIL 25-347-1 | Acq: 25-Jan-2022 18:47:18

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R12

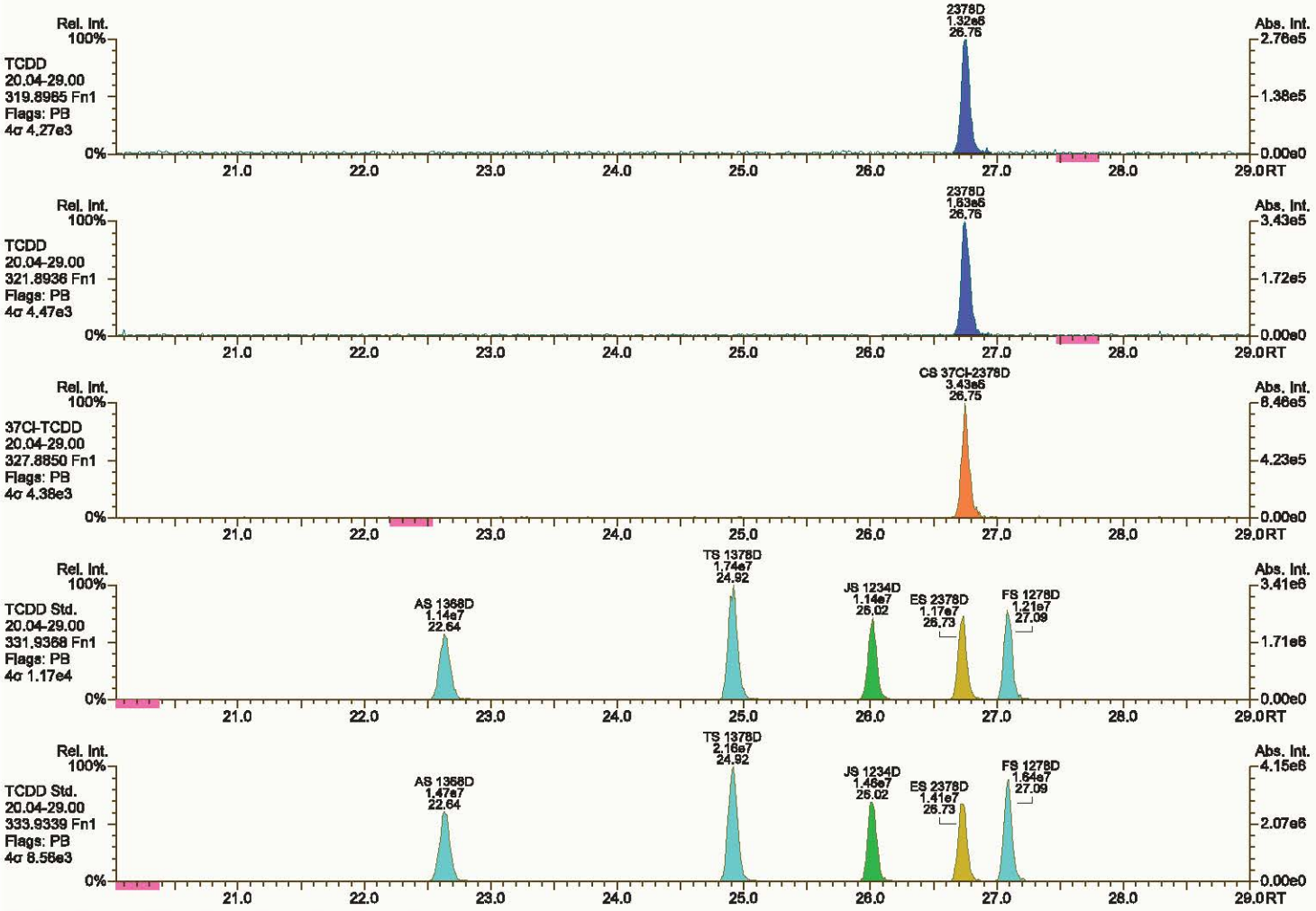


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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 296-169 *PKD: n/a Printed: 26-Jan-2022 11:17 Page 1 of 12*

SGS ID: CS3_220125_DF_RB | Sample ID: SIL 25-347-1 | Acq: 25-Jan-2022 18:47:18

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R12

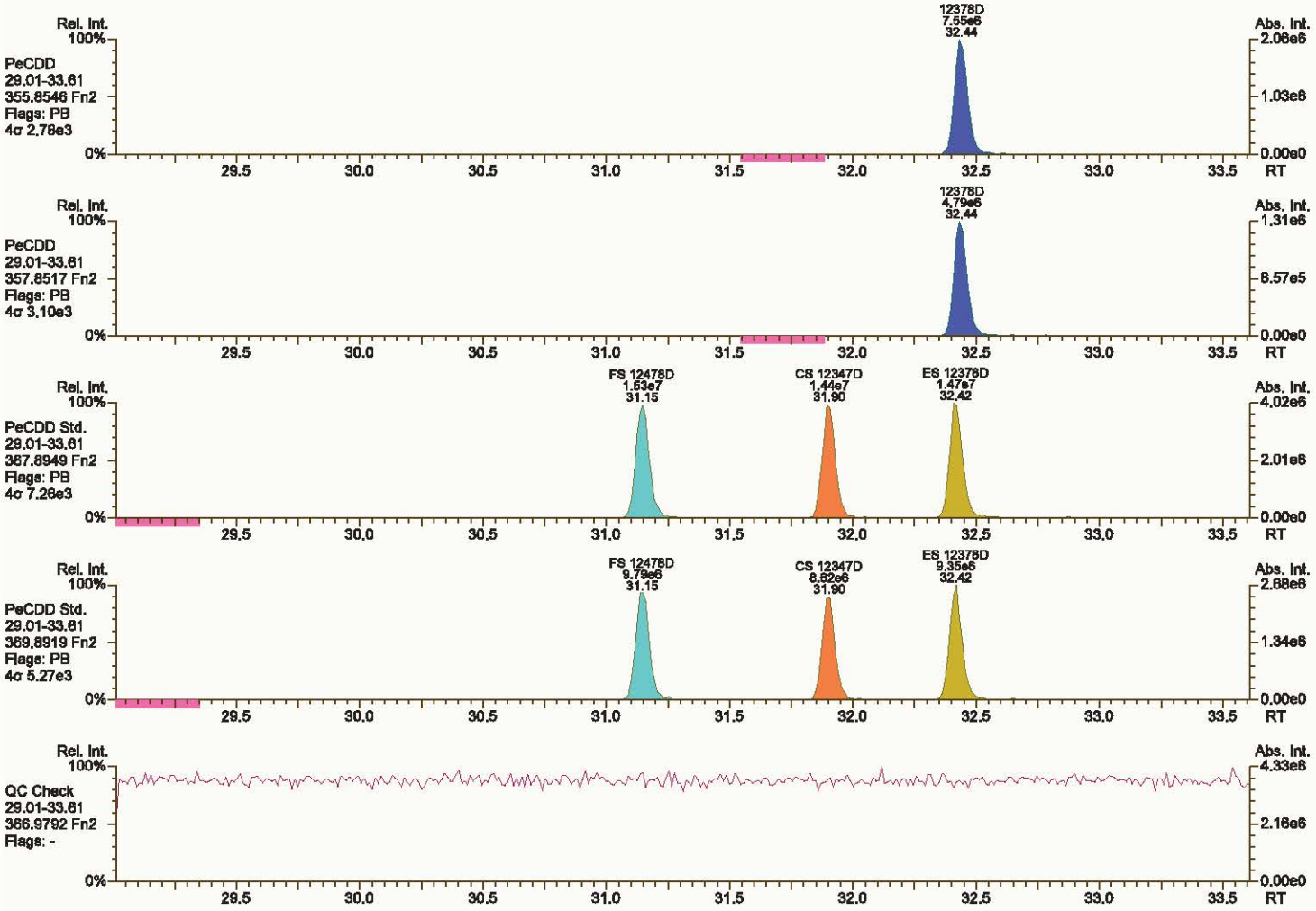


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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2139, 2697, 1589 scc: 296-169 | *PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 2 of 12*

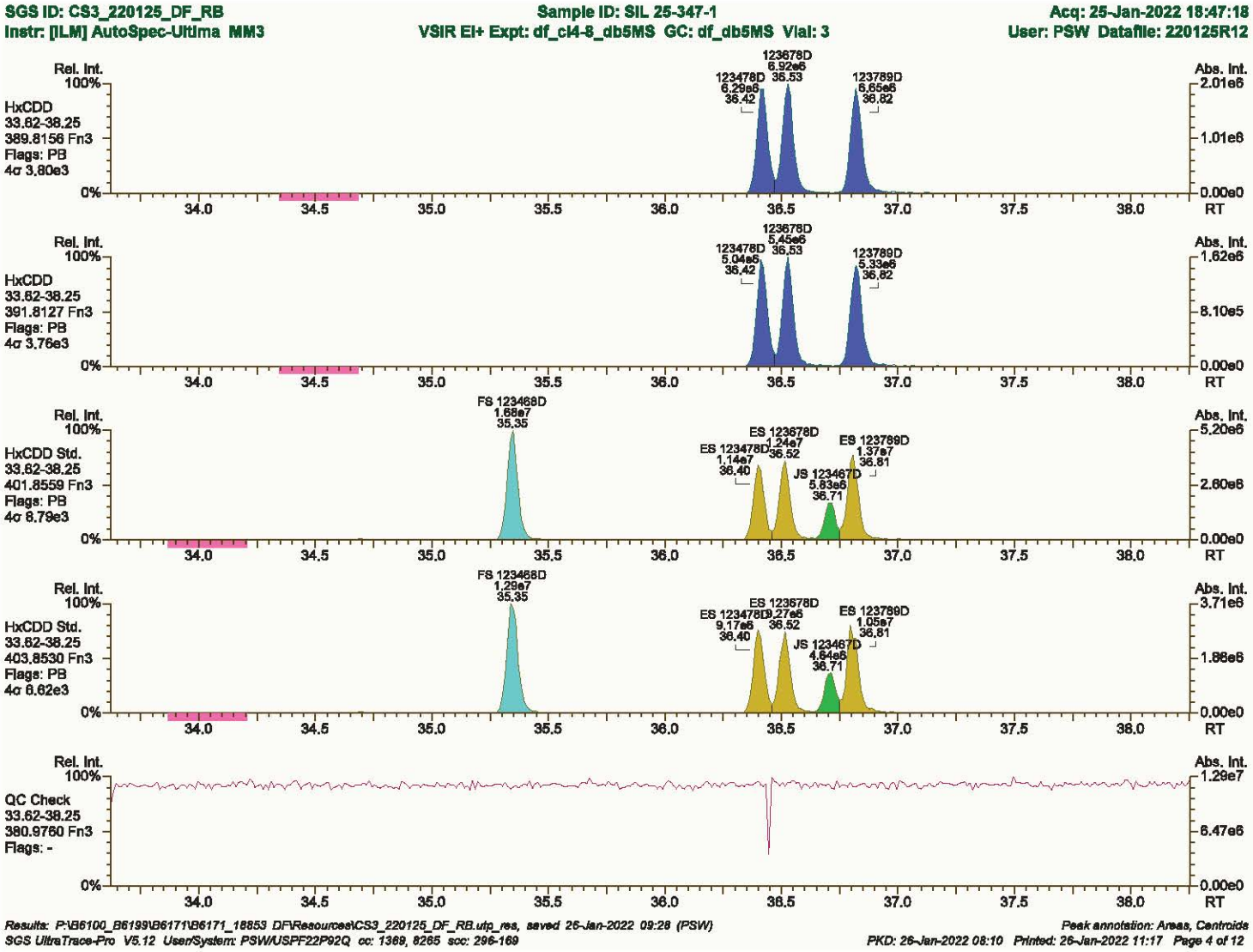
SGS ID: CS3_220125_DF_RB | Sample ID: SIL 25-347-1 | Acq: 25-Jan-2022 18:47:18

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R12



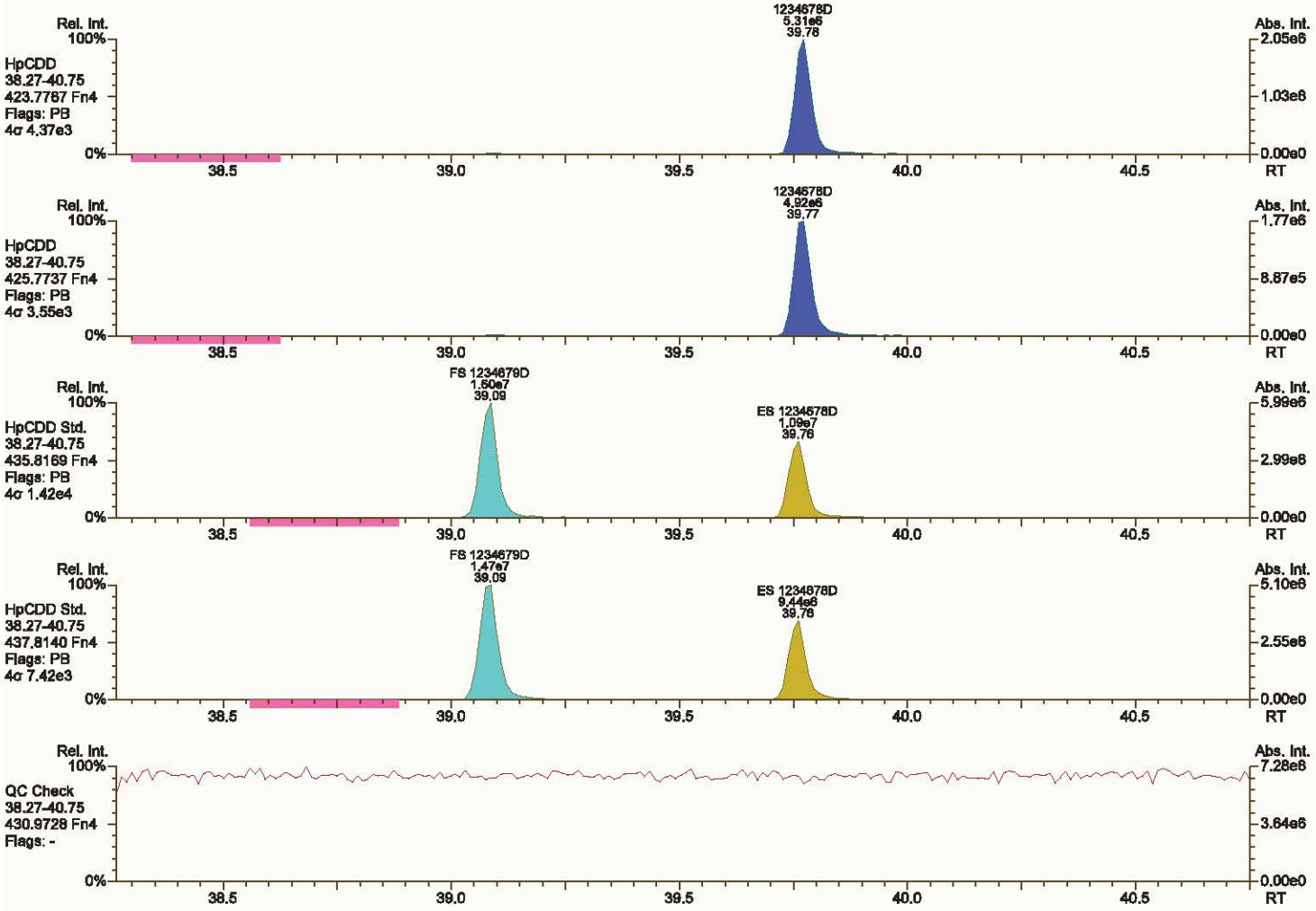
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SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4002, 8892 scc: 296-169 *PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 3 of 12*


SGS ID: CS3_220125_DF_RB
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 18:47:18
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R12
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PB
4σ 3.80e3
123678D 6.92e6 36.53
123478D 6.29e6 36.42
123789D 6.65e6 36.82
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PB
4σ 3.76e3
123678D 5.45e6 36.53
123478D 5.04e6 36.42
123789D 5.33e6 36.82
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 8.79e3
FS 123468D 1.68e7 35.35
ES 123678D 1.24e7 36.52
ES 123478D 1.14e7 36.40
ES 123789D 1.37e7 36.81
JS 123467D 5.83e6 36.71
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 8.62e3
FS 123468D 1.29e7 35.35
ES 123678D 9.27e6 36.52
ES 123478D 9.17e6 36.40
ES 123789D 1.05e7 36.81
JS 123467D 4.64e6 36.71
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
RT
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1369, 8265 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 4 of 12

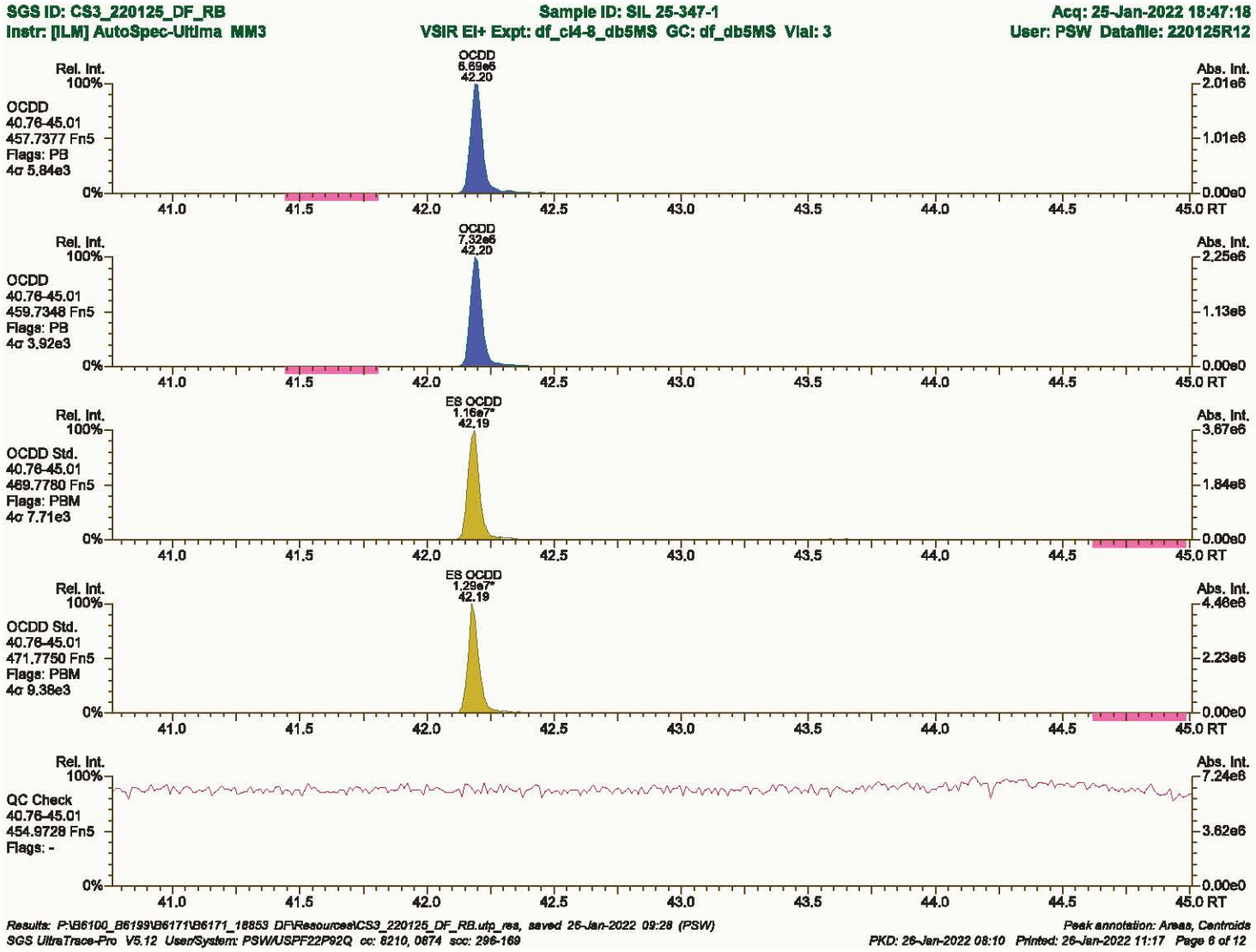
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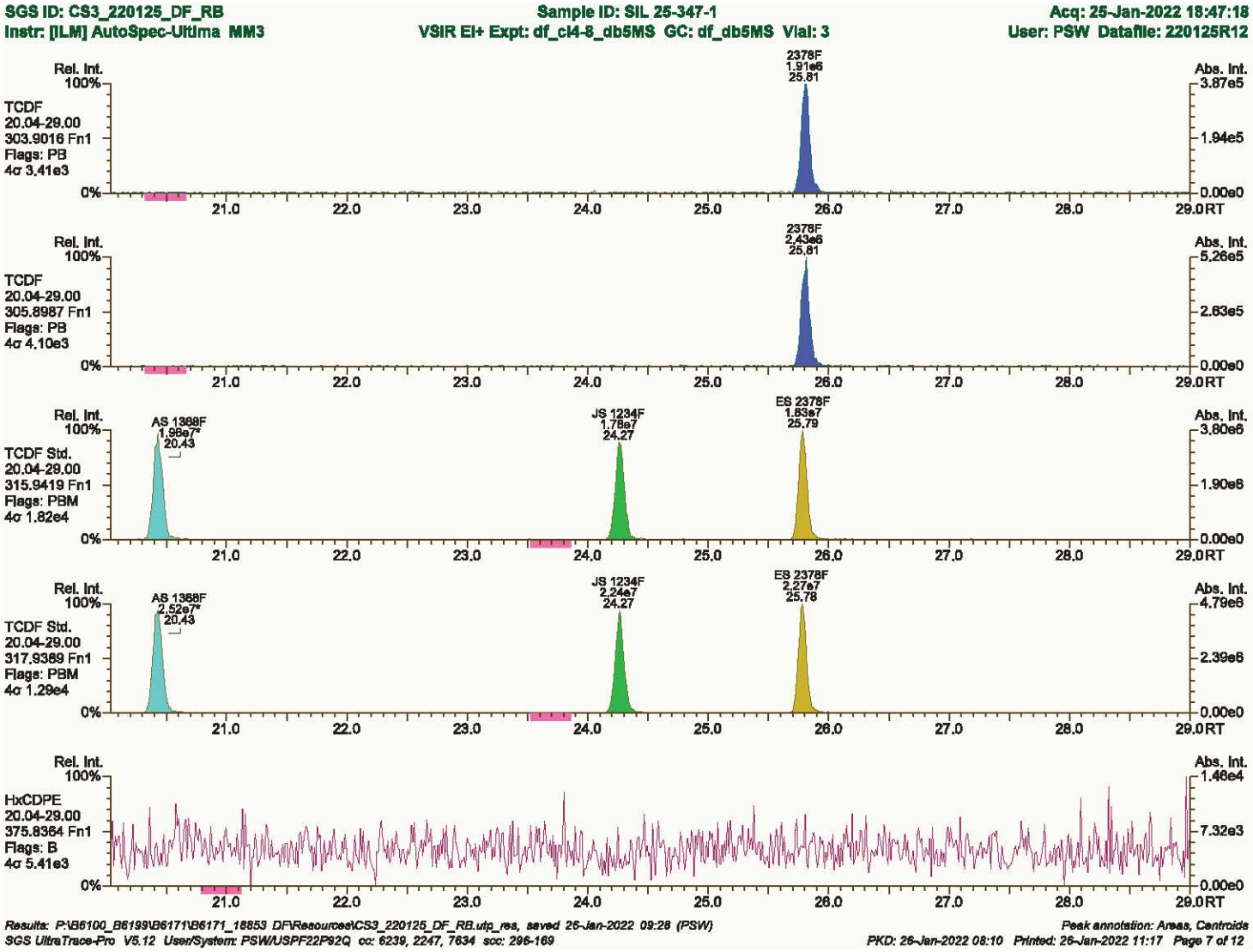
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SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3562, 1627 scc: 296-169 | *PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 5 of 12*

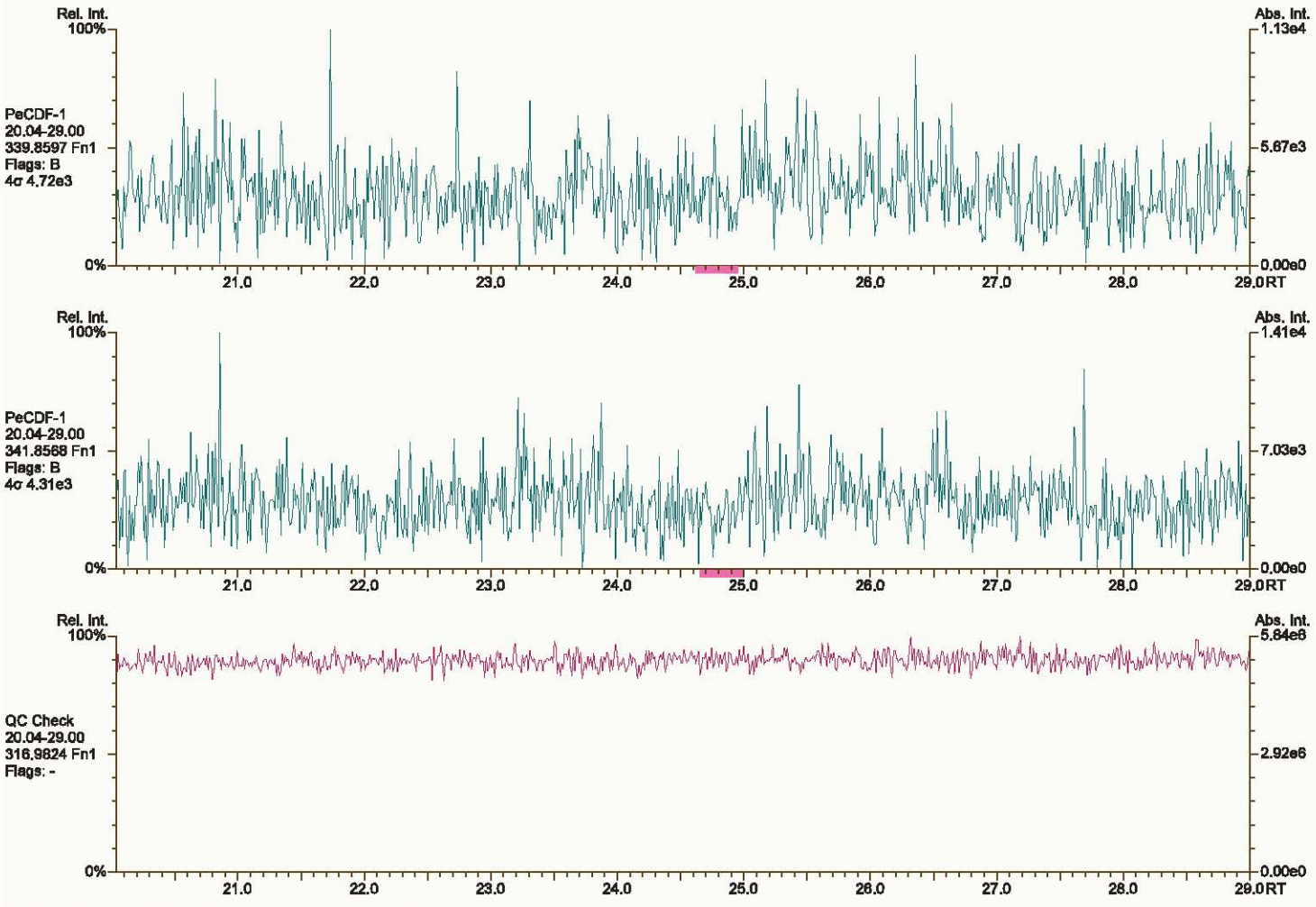

SGS ID: CS3_220125_DF_RB
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 18:47:18
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R12
Rel. Int.
Abs. Int.
OCDD
6.69e6
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 5.84e3
2.01e6
1.01e6
0.00e0
OCDD
7.32e6
42.20
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 3.92e3
2.25e6
1.13e6
ES OCDD
1.16e7*
42.19
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PBM
4σ 7.71e3
3.67e6
1.84e6
ES OCDD
1.29e7*
42.19
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PBM
4σ 9.38e3
4.46e6
2.23e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
7.24e6
3.62e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RB.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6210, 0674 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 6 of 12


SGS ID: CS3_220125_DF_RB
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 18:47:18
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R12
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 3.41e3
2378F
1.91e6
25.81
3.87e5
1.94e5
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PB
4σ 4.10e3
2378F
2.43e6
25.81
5.26e5
2.63e5
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PBM
4σ 1.82e4
AS 1368F
1.98e7*
20.43
JS 1234F
1.78e7
24.27
ES 2378F
1.83e7
25.79
3.80e6
1.90e6
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PBM
4σ 1.29e4
AS 1368F
2.52e7*
20.43
JS 1234F
2.24e7
24.27
ES 2378F
2.27e7
25.78
4.79e6
2.39e6
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 5.41e3
1.46e4
7.32e3
0%
100%
21.0
22.0
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26.0
27.0
28.0
29.0
RT
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6239, 2247, 7634 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 7 of 12

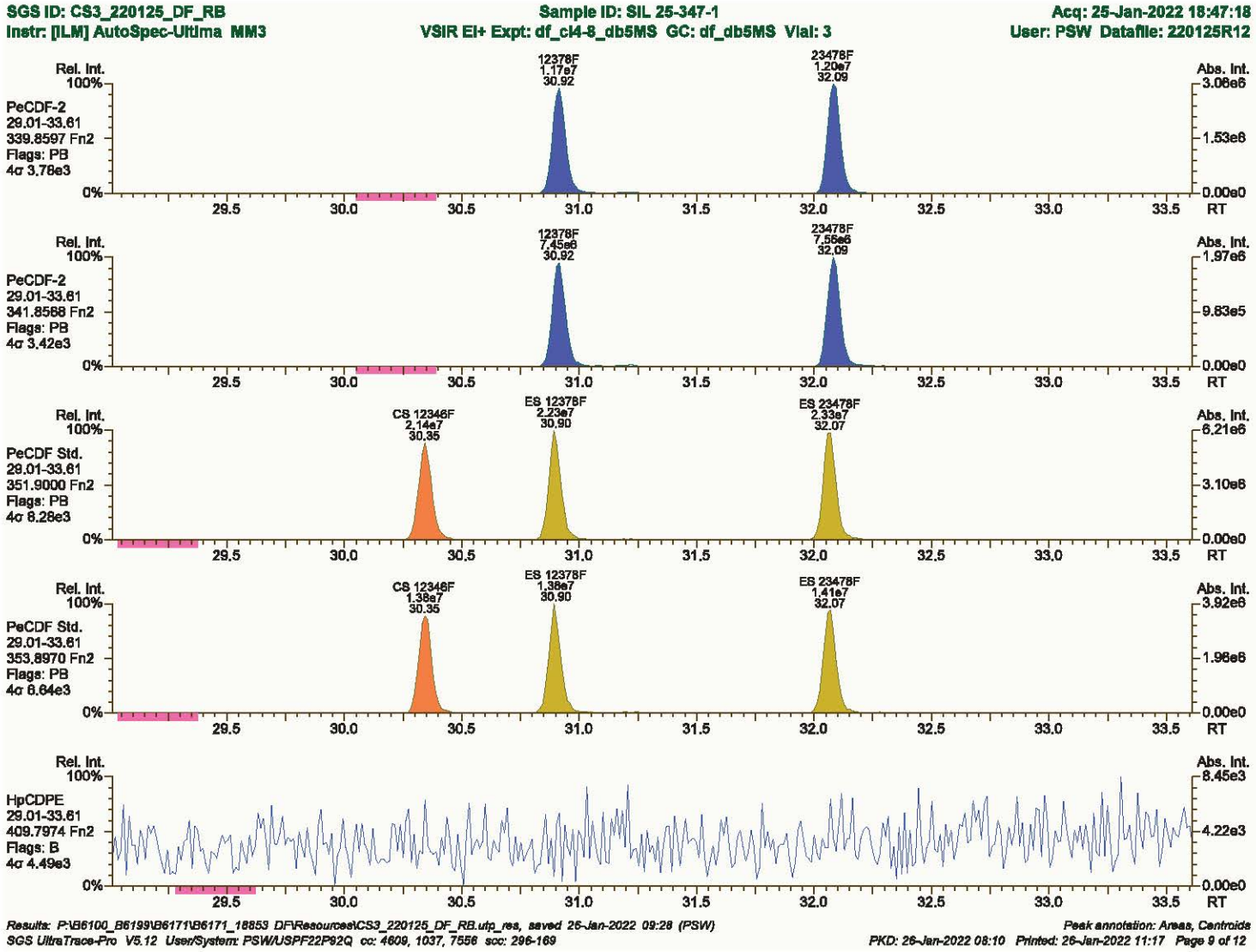
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Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 25-Jan-2022 18:47:18
User: PSW Datafile: 220125R12

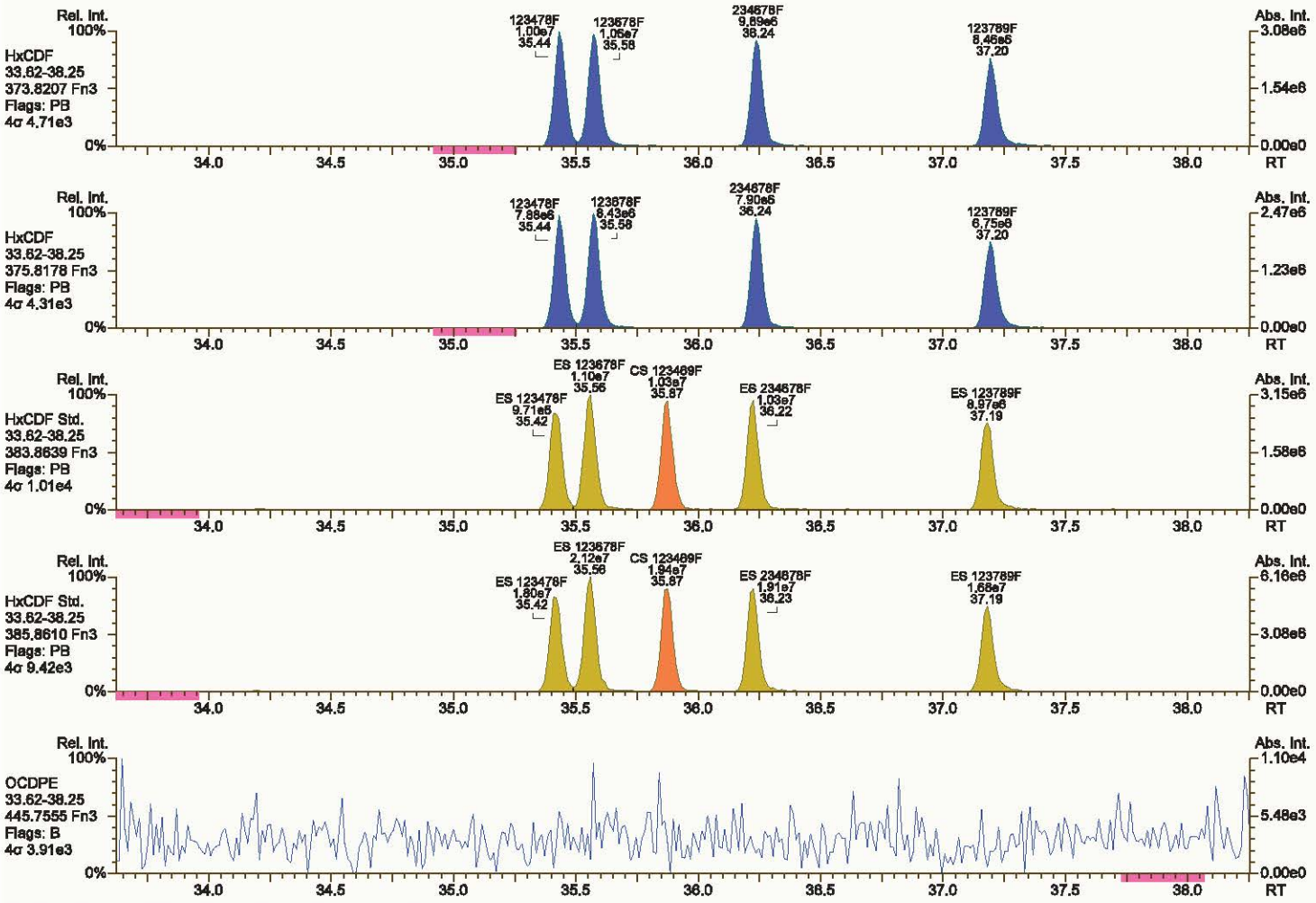


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3436 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 8 of 12


SGS ID: CS3_220125_DF_RB
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 18:47:18
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R12
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 3.78e3
12378F
1.17e7
30.92
23478F
1.20e7
32.09
3.06e6
1.53e6
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 3.42e3
12378F
7.45e6
30.92
23478F
7.56e6
32.09
1.97e6
9.83e5
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 8.28e3
CS 12346F
2.14e7
30.35
ES 12378F
2.23e7
30.90
ES 23478F
2.33e7
32.07
6.21e6
3.10e6
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 6.64e3
CS 12346F
1.38e7
30.35
ES 12378F
1.38e7
30.90
ES 23478F
1.41e7
32.07
3.92e6
1.96e6
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.49e3
8.45e3
4.22e3
0%
100%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RB.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4609, 1037, 7556 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 9 of 12

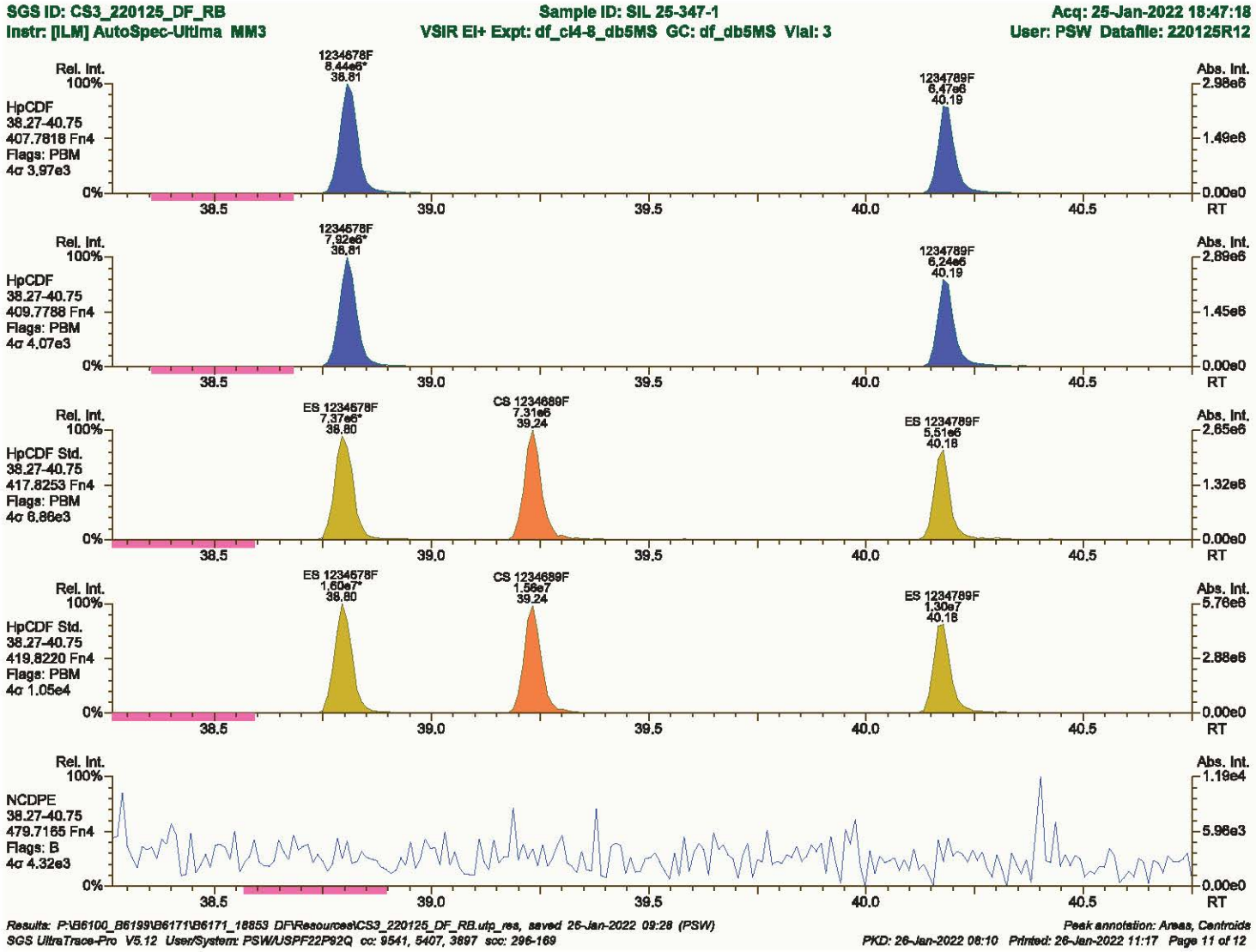
SGS ID: CS3_220125_DF_RB | Sample ID: SIL 25-347-1 | Acq: 25-Jan-2022 18:47:18

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R12

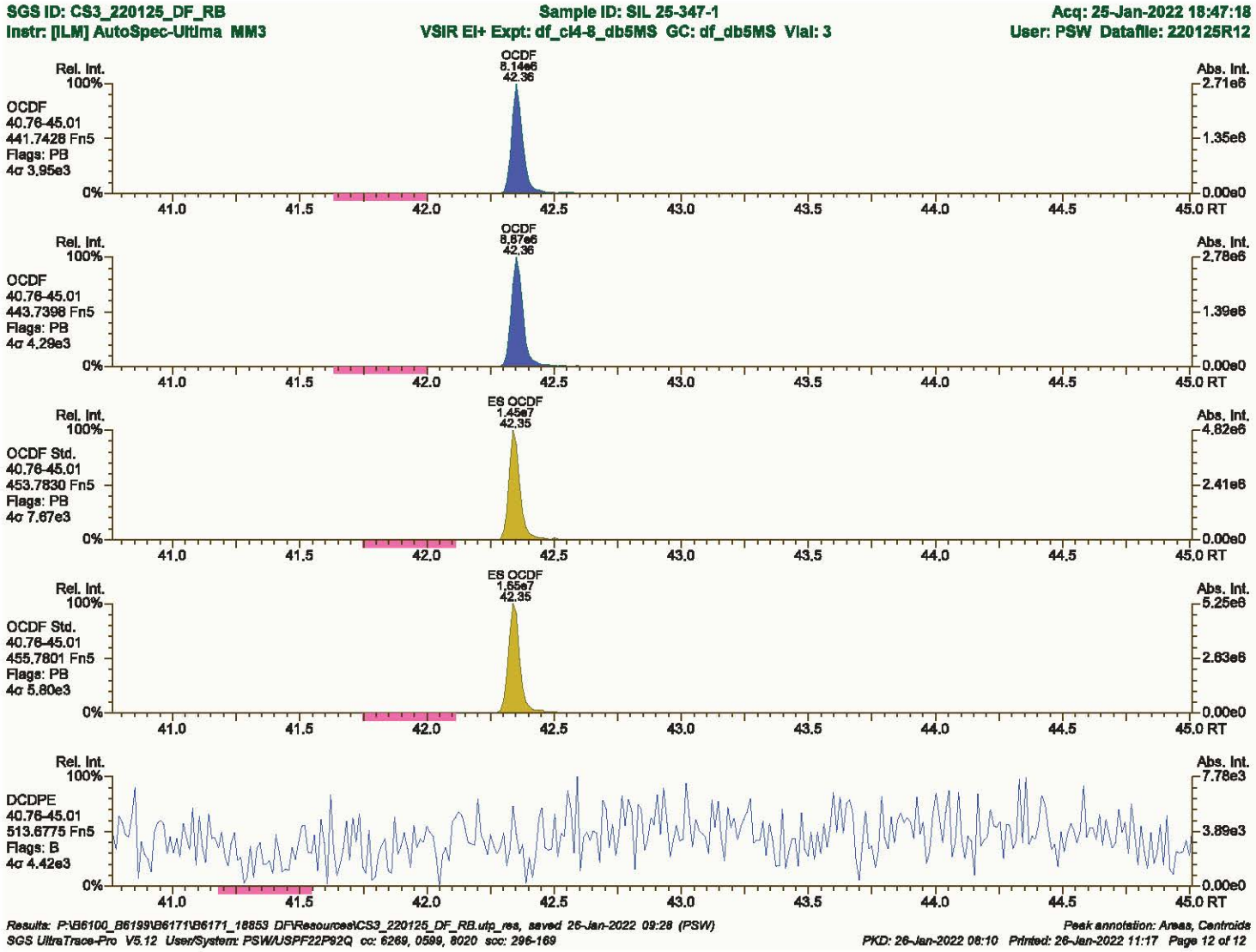


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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3564, 5307, 9722 scc: 296-169 | *PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 10 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RB.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9541, 5407, 3897 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 11 of 12


SGS ID: CS3_220125_DF_RB
Sample ID: SIL 25-347-1
Acq: 25-Jan-2022 18:47:18
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R12
Rel. Int.
Abs. Int.
OCDF
8.14e6
42.36
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 3.95e3
2.71e6
1.35e6
0.00e0
OCDF
8.57e6
42.36
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 4.29e3
2.78e6
1.39e6
0.00e0
ES OCDF
1.45e7
42.35
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 7.67e3
4.82e6
2.41e6
0.00e0
ES OCDF
1.55e7
42.35
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 5.80e3
5.25e6
2.63e6
0.00e0
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 4.42e3
7.78e3
3.89e3
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RB.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6269, 0599, 8020 scc: 296-169
PKD: 26-Jan-2022 08:10 Printed: 26-Jan-2022 11:17 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 26 Jan 2022 05:20 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_220125_DF_RC		UTP: 26-Jan-2022 11:11:26 PSW				Checkcode: 957-248-MGR	
Sample ID: SIL 25-347-1		Report: 26 Jan 2022 11:11 pw				Datafile: 220125R25	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	26.76	2.70E+06	0.79	Y	1.34	1.14	-15%
12378-PeCDD	32.44	1.08E+07	1.64	Y	1.06	1.04	-2%
123478-HxCDD	36.42	9.75E+06	1.30	Y	1.06	1.09	3%
123678-HxCDD	36.53	1.05E+07	1.28	Y	1.08	1.16	7%
123789-HxCDD	36.82	1.03E+07	1.25	Y	1.02	1.00	-2%
1234678-HpCDD	39.77	8.74E+06	1.08	Y	0.97	0.99	2%
OCDD	42.19	1.27E+07	0.91	Y	1.07	1.09	2%
2378-TCDF	25.82	4.43E+06	0.81	Y	0.96	1.15	20%
12378-PeCDF	30.92	1.70E+07	1.60	Y	0.95	1.06	12%
23478-PeCDF	32.09	1.70E+07	1.62	Y	0.94	1.05	12%
123478-HxCDF	35.44	1.57E+07	1.25	Y	1.23	1.30	5%
123678-HxCDF	35.58	1.68E+07	1.26	Y	1.13	1.22	8%
234678-HxCDF	36.24	1.54E+07	1.25	Y	1.15	1.20	4%
123789-HxCDF	37.20	1.30E+07	1.32	Y	1.14	1.18	4%
1234678-HpCDF	38.81	1.44E+07	1.07	Y	1.36	1.40	3%
1234789-HpCDF	40.19	1.15E+07	1.06	Y	1.30	1.38	6%
OCDF	42.35	1.54E+07	0.92	Y	1.03	1.10	7%
ES 2378-TCDD	26.73	2.36E+07	0.80	Y	1.03	0.99	-4%
ES 12378-PeCDD	32.422	2.08E+07	1.59	Y	1.03	0.88	-15%
ES 123478-HxCDD	36.403	1.80E+07	1.31	Y	0.99	0.99	0%
ES 123678-HxCDD	36.514	1.80E+07	1.28	Y	0.97	1.00	2%
ES 123789-HxCDD	36.808	2.07E+07	1.28	Y	1.12	1.14	2%
ES 1234678-HpCDD	39.758	1.77E+07	1.02	Y	0.99	0.98	-2%
ES OCDD	42.182	2.32E+07	0.90	Y	0.78	0.64	-18%
ES 2378-TCDF	25.793	3.85E+07	0.80	Y	1.08	1.02	-6%
ES 12378-PeCDF	30.901	3.22E+07	1.52	Y	0.93	0.85	-9%
ES 23478-PeCDF	32.07	3.23E+07	1.58	Y	0.92	0.86	-7%
ES 123478-HxCDF	35.418	2.43E+07	0.53	Y	1.14	1.34	17%
ES 123678-HxCDF	35.56	2.75E+07	0.53	Y	1.30	1.52	17%
ES 234678-HxCDF	36.224	2.58E+07	0.53	Y	1.20	1.42	18%
ES 123789-HxCDF	37.183	2.20E+07	0.53	Y	1.14	1.21	7%
ES 1234678-HpCDF	38.797	2.05E+07	0.47	Y	0.95	1.13	19%
ES 1234789-HpCDF	40.177	1.67E+07	0.46	Y	0.85	0.92	9%
ES OCDF	42.342	2.80E+07	0.91	Y	0.93	0.77	-16%

Dioxin/Furan QC Summary		Acq'd: 26 Jan 2022 05:20 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_220125_DF_RC		UTP: 26-Jan-2022 11:11:26 PSW				Checkcode: 957-248-MGR	
Sample ID: SIL 25-347-1		Report: 26 Jan 2022 11:11 pw				Datafile: 220125R25	
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.02	2.37E+07	0.80	Y	-	-	-
JS 1234-TCDF	24.28	3.78E+07	0.81	Y	-	-	-
JS 123467-HxCDD	36.71	9.05E+06	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	26.76	2.87E+06	n/a	-	1.31	1.21	-8%
CS 12347-PeCDD	31.90	1.92E+07	1.59	Y	0.89	0.81	-10%
CS 12346-PeCDF	30.35	3.19E+07	1.58	Y	0.87	0.84	-3%
CS 123469-HxCDF	35.87	2.56E+07	0.53	Y	1.09	1.42	30%
CS 1234689-HpCDF	39.23	2.02E+07	0.46	Y	0.86	1.12	29%
~~SS 37Cl-2378-TCDD~~	~~26.76~~	~~2.87E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.21~~	~~-4%~~
~~SS 12347-PeCDD~~	~~31.90~~	~~1.92E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~0.92~~	~~7%~~
~~SS 12346-PeCDF~~	~~30.35~~	~~3.19E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~0.99~~	~~7%~~
~~SS 123469-HxCDF~~	~~35.87~~	~~2.56E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~0.93~~	~~11%~~
~~SS 1234689-HpCDF~~	~~39.22~~	~~2.02E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~0.99~~	~~8%~~
~~OCDD-a~~	~~42.19~~	~~6.63E+05~~	~~3.15~~	~~N~~	~~0.87~~	~~0.86~~	~~-13%~~
~~OCDF-a~~	~~42.35~~	~~7.22E+05~~	~~3.18~~	~~N~~	~~0.86~~	~~0.85~~	~~-13%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220125R25 Analysis Date: 26-JAN-2022 05:20:10

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	8.49	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32 - 1.78	Y	48.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	51.4	38 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	53.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88 - 1.20	Y	50.8	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	102	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	12	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	55.9	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	56.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	52.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	54	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	52	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.32	1.05 - 1.43	Y	52	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88 - 1.20	Y	51.6	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	52.9	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	107	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 26 Jan 2022 11:11 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

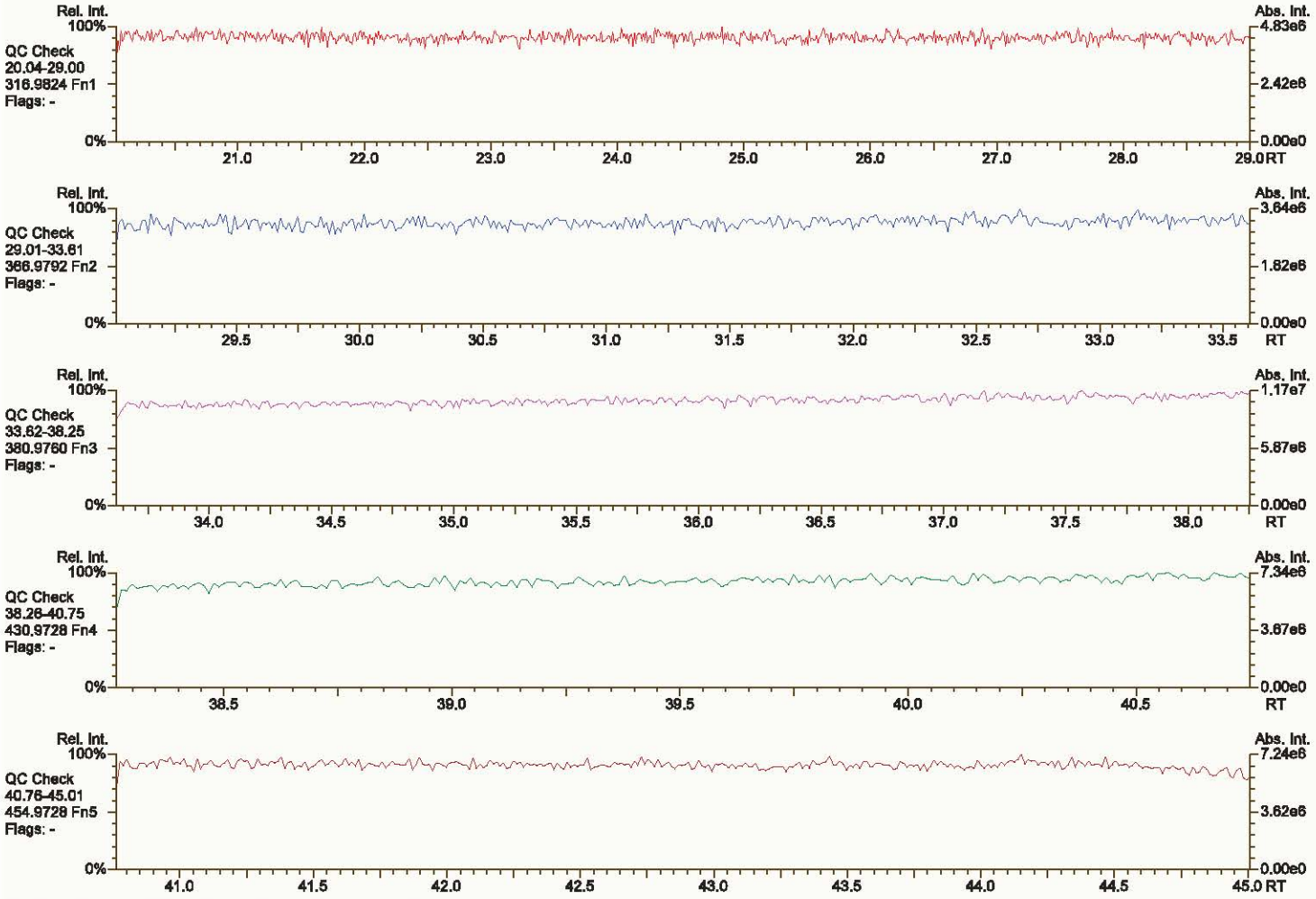
VER Data Filename: 220125R25 Analysis Date: 26-JAN-2022 05:20:10

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	96.2	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	84.7	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	99.8	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	98.4	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	165	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	94	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	91.2	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	92.7	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	117	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	117	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	118	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	107	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	119	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	109	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	167	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				9.22	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	90.4	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	97.3	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	130	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	129	70 - 130	Y

Processed: 26 Jan 2022 11:11 Analyst: pw

SGS ID: CS3_220125_DF_RC | Sample ID: SIL 25-347-1 | Acq: 26-Jan-2022 05:20:10

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R25

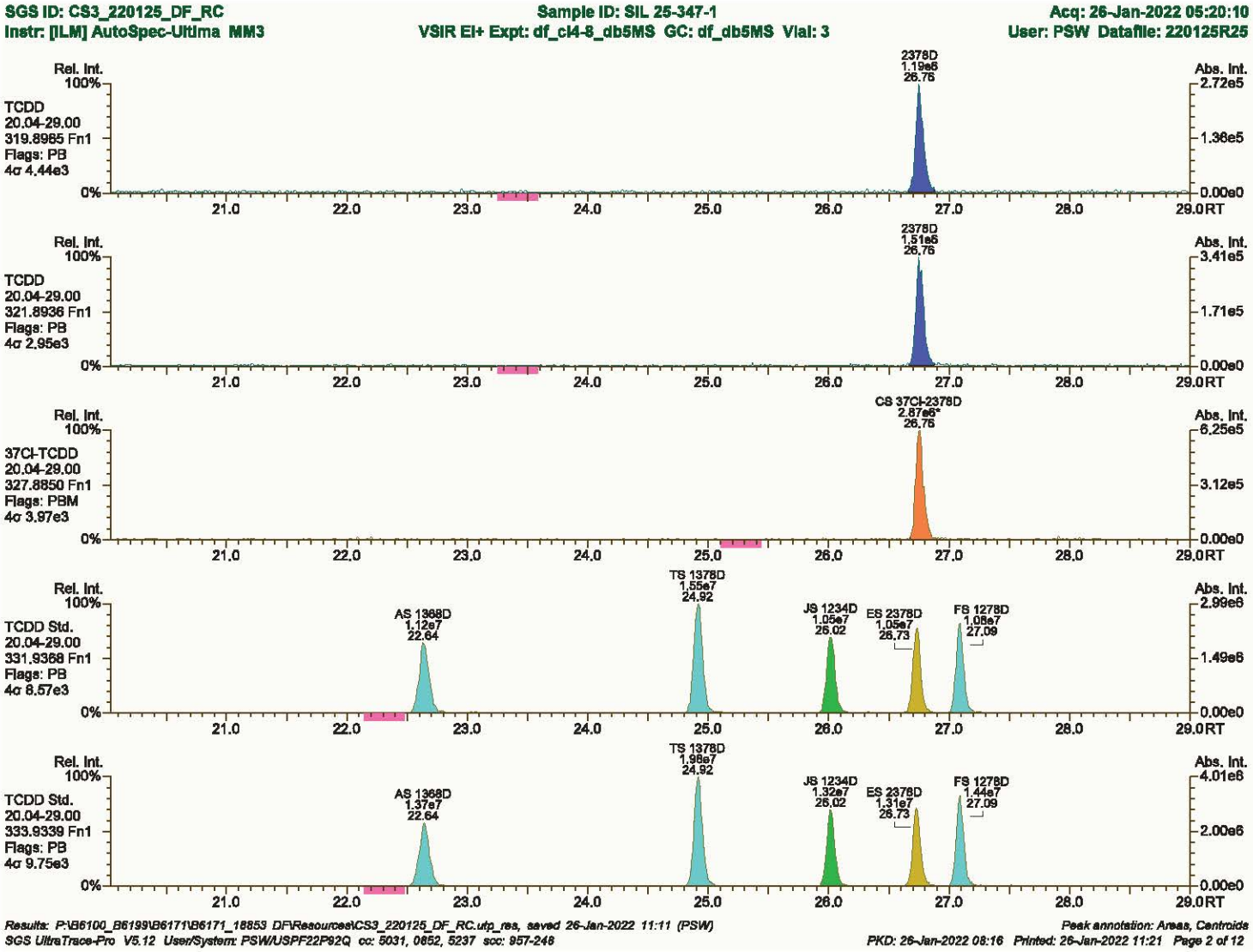


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Peak annotation: Areas, Centroids

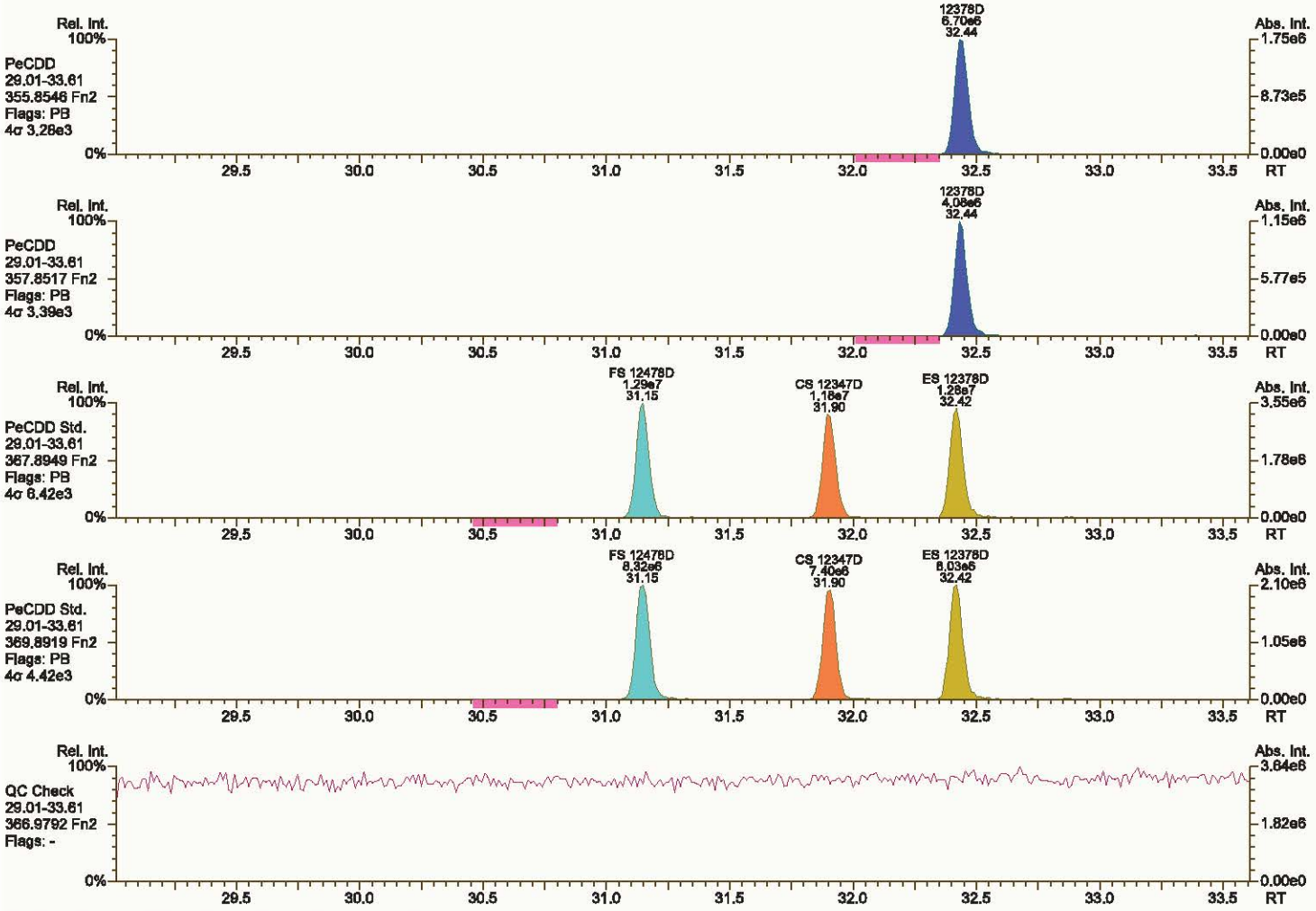
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 957-248

PKD: n/a Printed: 26-Jan-2022 11:21 Page 1 of 12


SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PB
4σ 4.44e3
2378D
1.19e6
26.76
2.72e5
1.36e5
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PB
4σ 2.95e3
2378D
1.51e6
26.76
3.41e5
1.71e5
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PBM
4σ 3.97e3
CS 37Cl-2378D
2.87e6*
26.76
6.25e5
3.12e5
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 8.57e3
AS 1368D
1.12e7
22.64
TS 1378D
1.55e7
24.92
JS 1234D
1.05e7
26.02
ES 2378D
1.05e7
26.73
FS 1278D
1.05e7
27.09
2.99e6
1.49e6
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 9.75e3
AS 1368D
1.37e7
22.64
TS 1378D
1.98e7
24.92
JS 1234D
1.32e7
26.02
ES 2378D
1.31e7
26.73
FS 1278D
1.44e7
27.09
4.01e6
2.00e6
0%
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27.0
28.0
29.0
RT

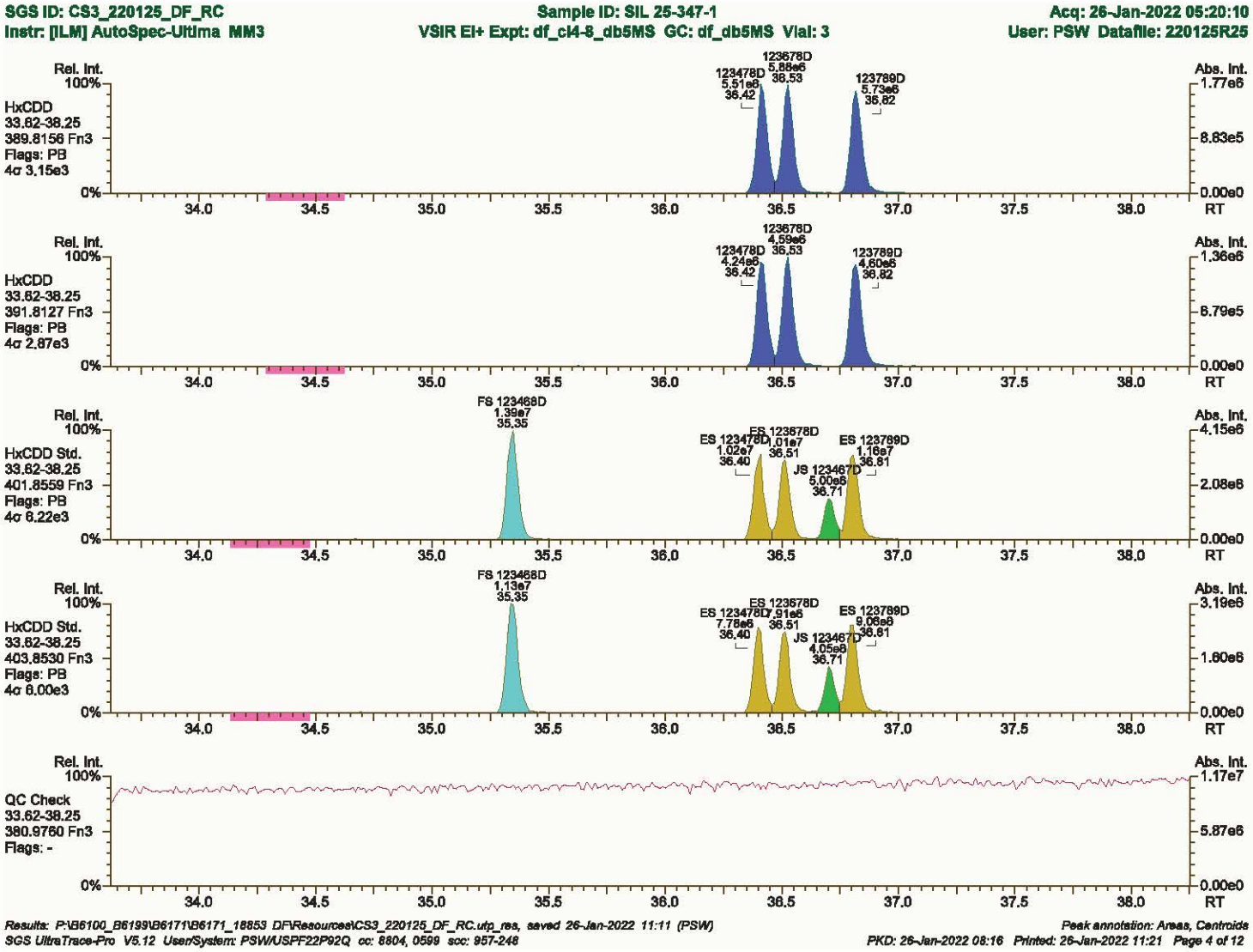
SGS ID: CS3_220125_DF_RC | Sample ID: SIL 25-347-1 | Acq: 26-Jan-2022 05:20:10

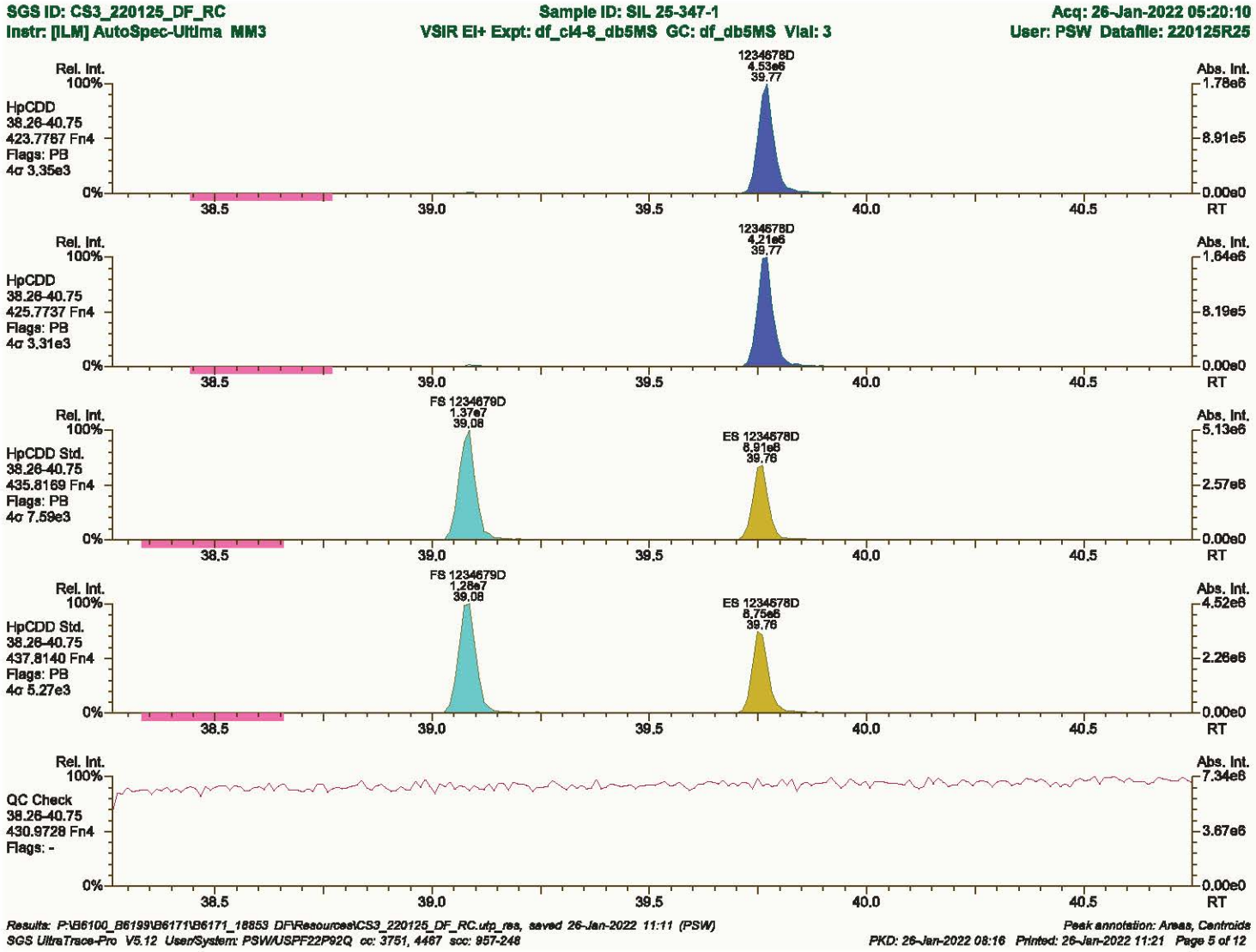
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R25

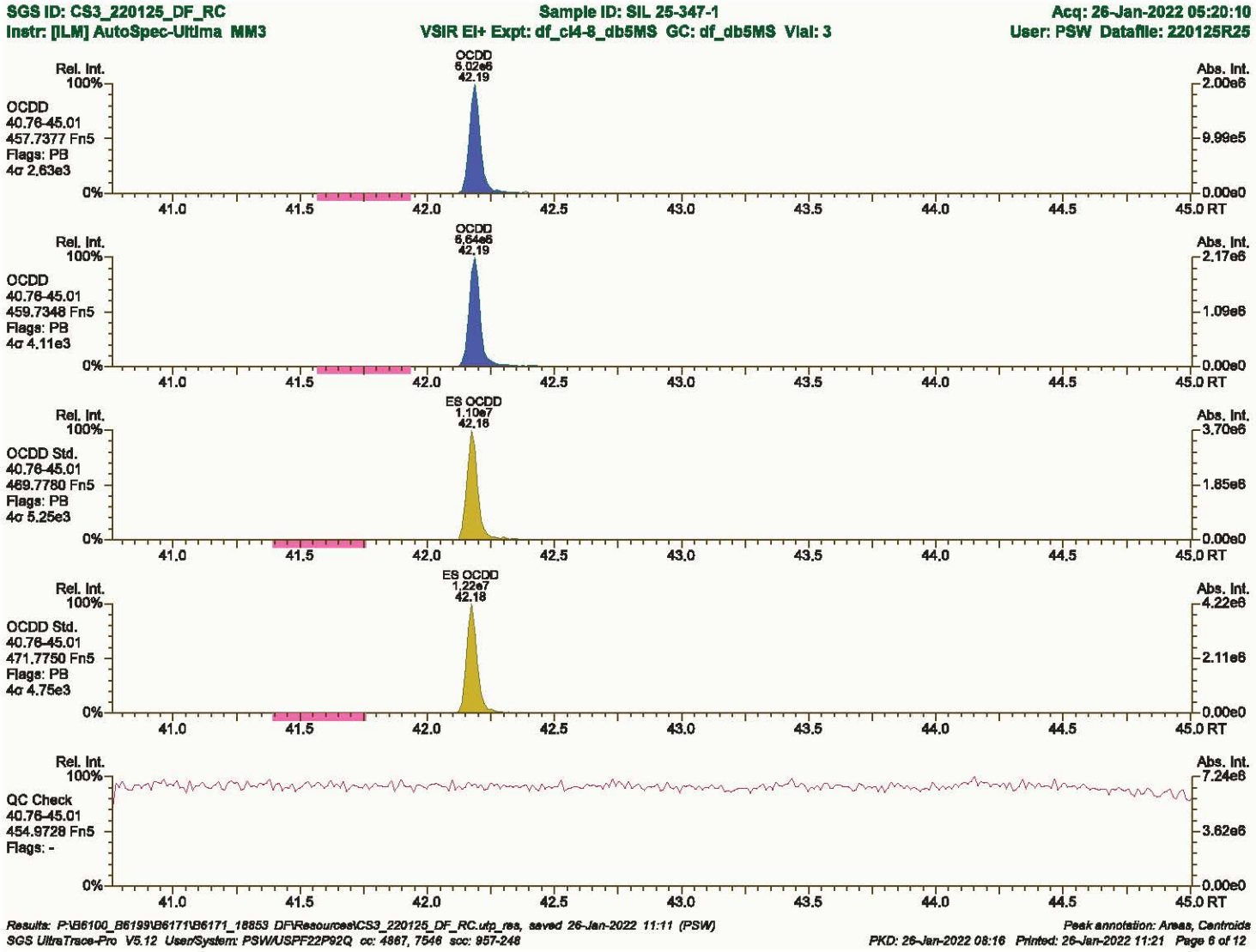


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2328, 0611 scc: 957-248 *PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 3 of 12*

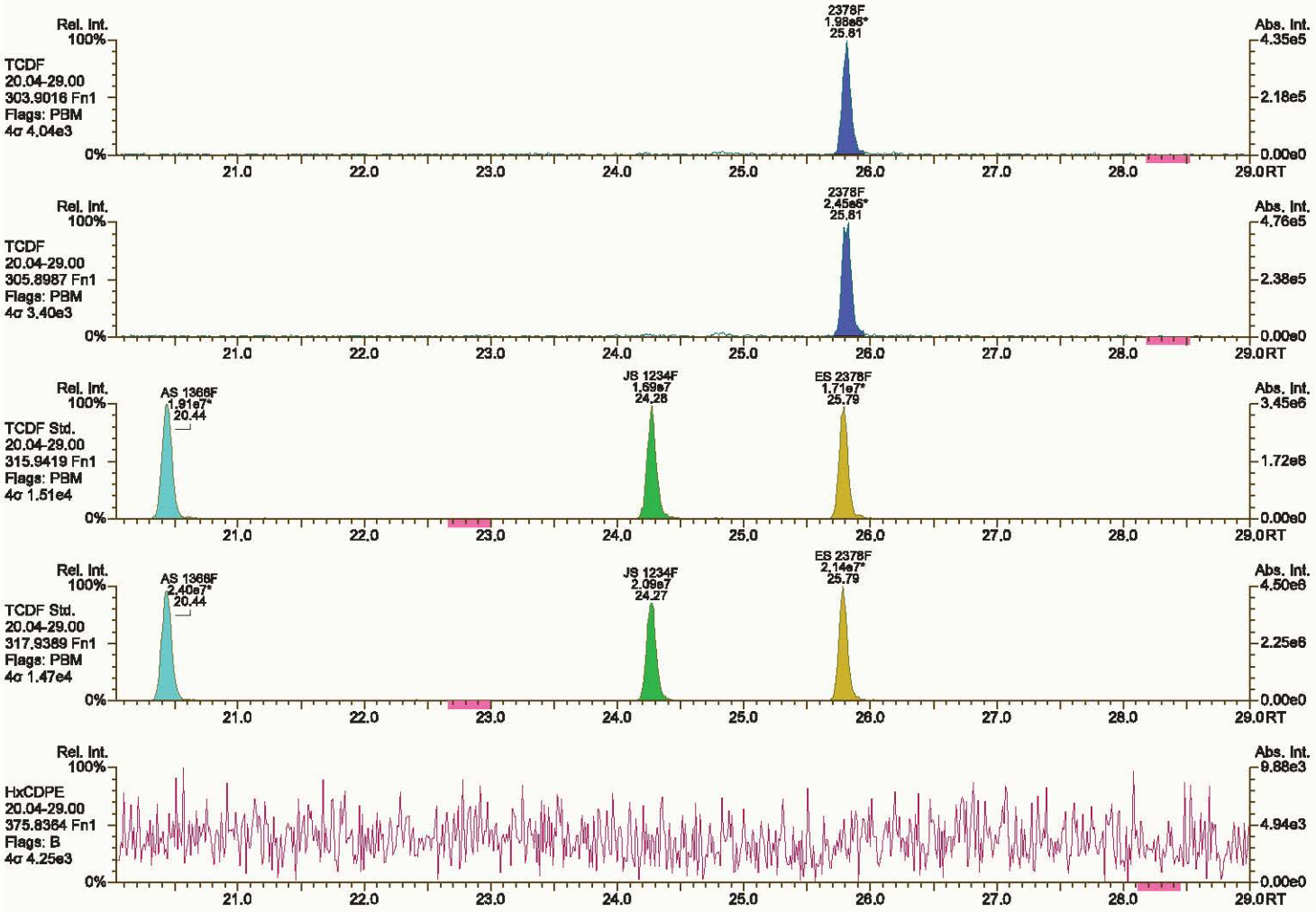

SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PB
4σ 3.15e3
123678D 5.88e6 38.53
123478D 5.51e6 38.42
123789D 5.73e6 36.82
1.77e6
8.83e5
0.00e0
RT
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PB
4σ 2.87e3
123678D 4.59e6 38.53
123478D 4.24e6 38.42
123789D 4.60e6 36.82
1.36e6
6.79e5
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 6.22e3
FS 123468D 1.39e7 35.35
ES 123678D 1.01e7 36.51
ES 123478D 1.02e7 36.40
ES 123789D 1.16e7 36.81
JS 123467D 5.00e6 36.71
4.15e6
2.08e6
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 6.00e3
FS 123468D 1.13e7 35.35
ES 123678D 7.91e6 36.51
ES 123478D 7.78e6 36.40
ES 123789D 9.06e6 36.81
JS 123467D 4.05e6 36.71
3.19e6
1.60e6
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
1.17e7
5.87e6
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
0%
100%
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8804, 0599 scc: 957-248
PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 4 of 12


SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
Rel. Int.
Abs. Int.
HpCDD
38.26-40.75
423.7767 Fn4
Flags: PB
4σ 3.35e3
1234678D
4.53e6
39.77
1.78e6
8.91e5
0.00e0
HpCDD
38.26-40.75
425.7737 Fn4
Flags: PB
4σ 3.31e3
1234678D
4.21e6
39.77
1.64e6
8.19e5
HpCDD Std.
38.26-40.75
435.8169 Fn4
Flags: PB
4σ 7.59e3
FS 1234678D
1.37e7
39.08
ES 1234678D
6.91e6
39.76
5.13e6
2.57e6
HpCDD Std.
38.26-40.75
437.8140 Fn4
Flags: PB
4σ 5.27e3
FS 1234679D
1.28e7
39.08
ES 1234678D
8.75e6
39.76
4.52e6
2.26e6
QC Check
38.26-40.75
430.9728 Fn4
Flags: -
7.34e6
3.67e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3751, 4467 scc: 957-248
PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 5 of 12


SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
OCDD
6.02e6
42.19
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 2.63e3
OCDD
5.64e6
42.19
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 4.11e3
ES OCDD
1.10e7
42.18
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 5.25e3
ES OCDD
1.22e7
42.18
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 4.75e3
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
Rel. Int.
Abs. Int.
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
2.00e6
9.99e5
0.00e0
2.17e6
1.09e6
3.70e6
1.85e6
4.22e6
2.11e6
7.24e6
3.62e6
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4867, 7546 scc: 957-248
PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 6 of 12

SGS ID: CS3_220125_DF_RC | Sample ID: SIL 25-347-1 | Acq: 26-Jan-2022 05:20:10

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 220125R25



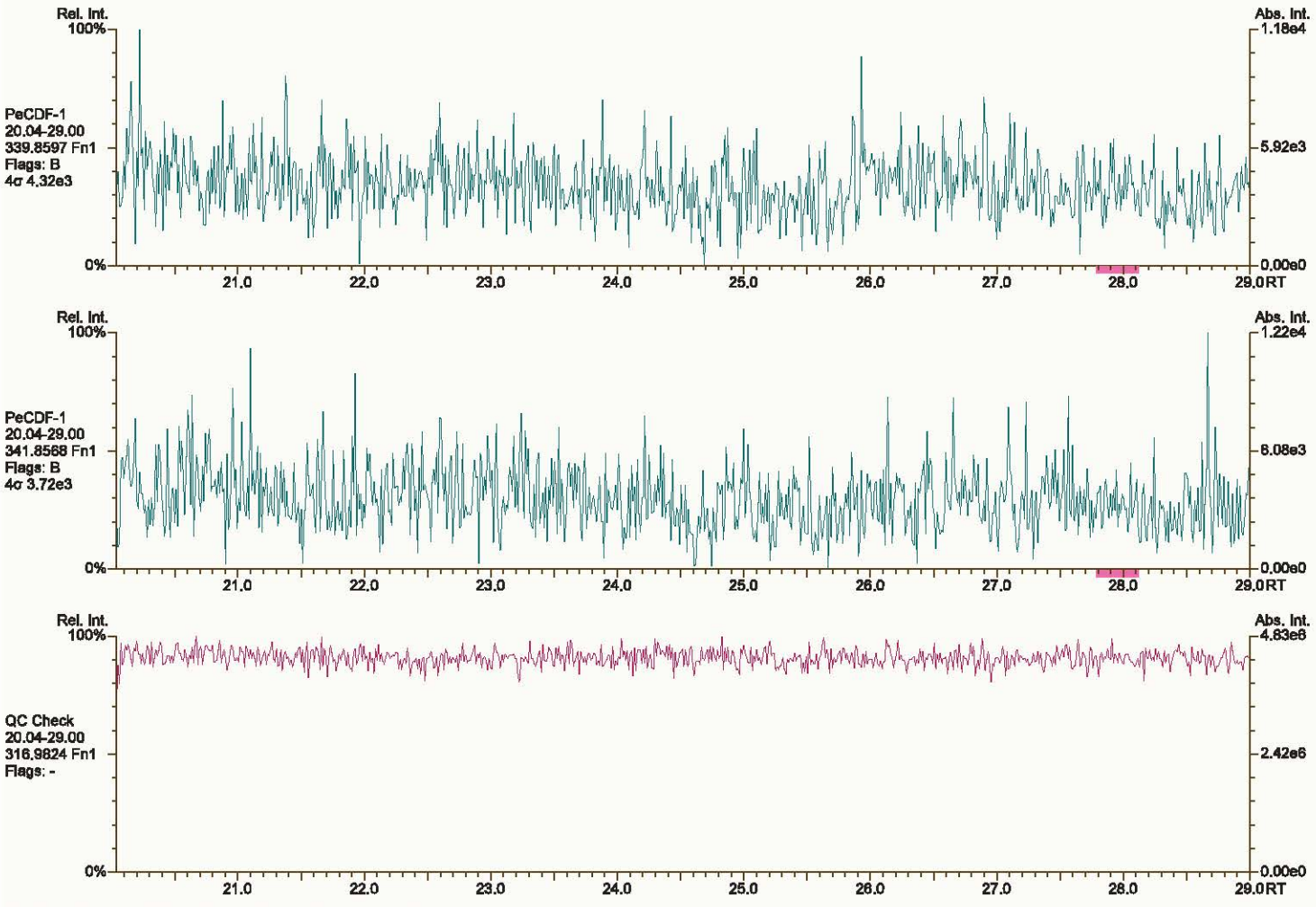
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3565, 0911, 4458 scc: 957-248 *Revised: 26-Jan-2022 11:10 (PSW) Printed: 26-Jan-2022 11:21 Page 7 of 12*

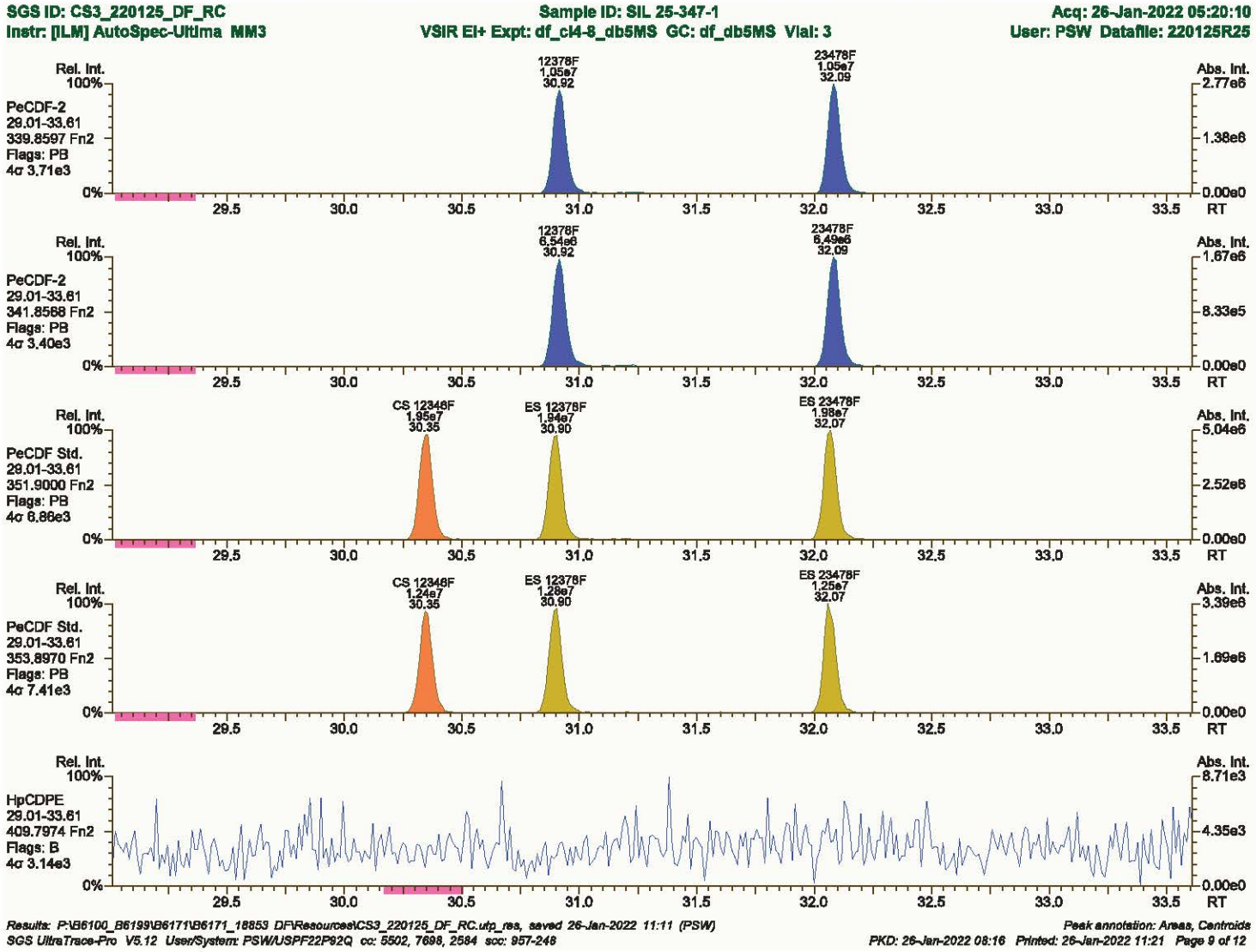
SGS ID: CS3_220125_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 26-Jan-2022 05:20:10
User: PSW Datafile: 220125R25



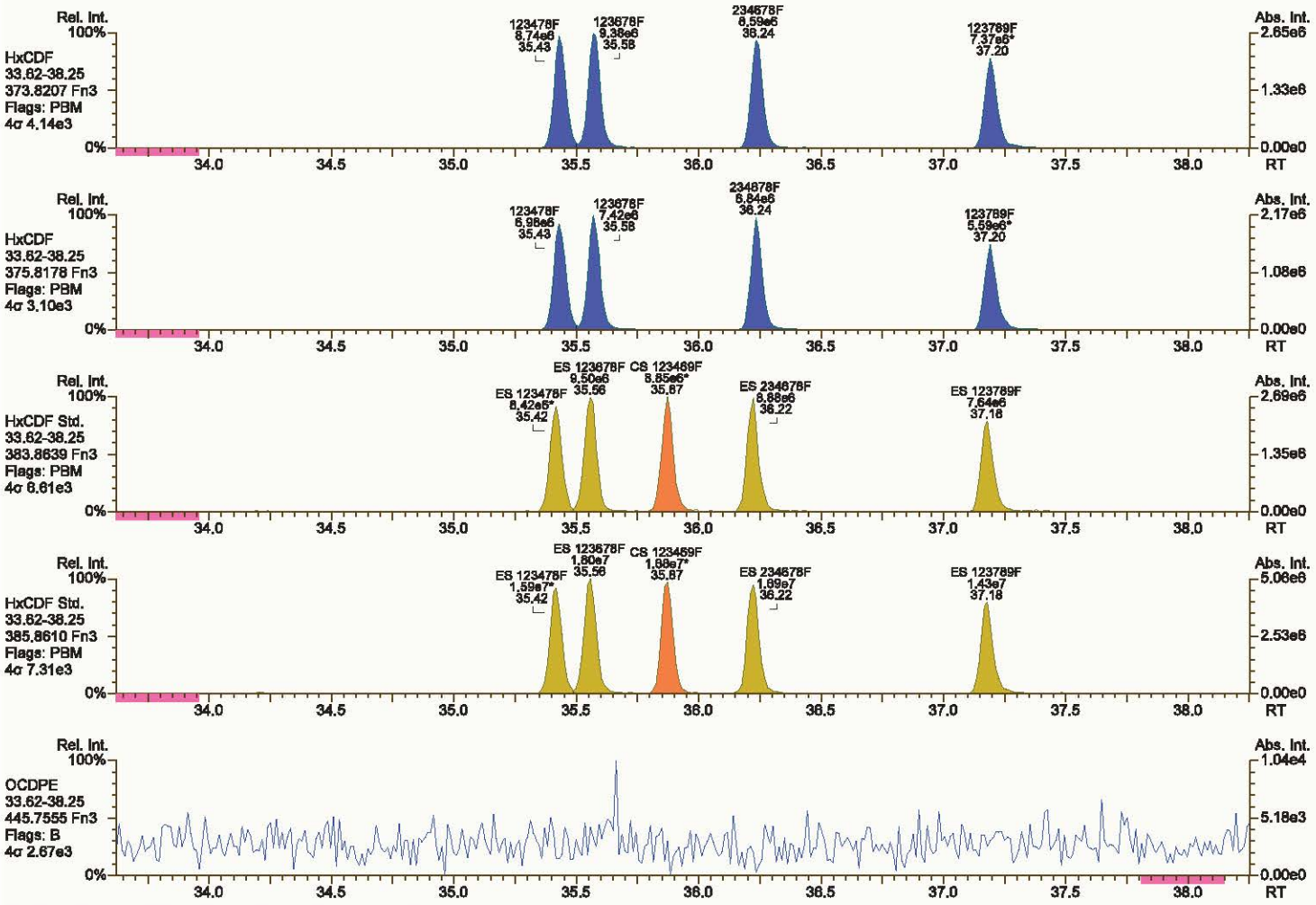
Results: P:\B6100_B6199\B6171\B6171_16853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7794 scc: 957-248
PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 8 of 12


SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 3.71e3
12378F
1.05e7
30.92
23478F
1.05e7
32.09
2.77e6
1.38e6
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 3.40e3
12378F
6.54e6
30.92
23478F
6.49e6
32.09
1.67e6
8.33e5
0.00e0
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 6.86e3
CS 12348F
1.95e7
30.35
ES 12378F
1.94e7
30.90
ES 23478F
1.98e7
32.07
5.04e6
2.52e6
0.00e0
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 7.41e3
CS 12348F
1.24e7
30.35
ES 12378F
1.28e7
30.90
ES 23478F
1.25e7
32.07
3.39e6
1.69e6
0.00e0
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.14e3
8.71e3
4.35e3
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5502, 7698, 2584 scc: 957-248
PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 9 of 12

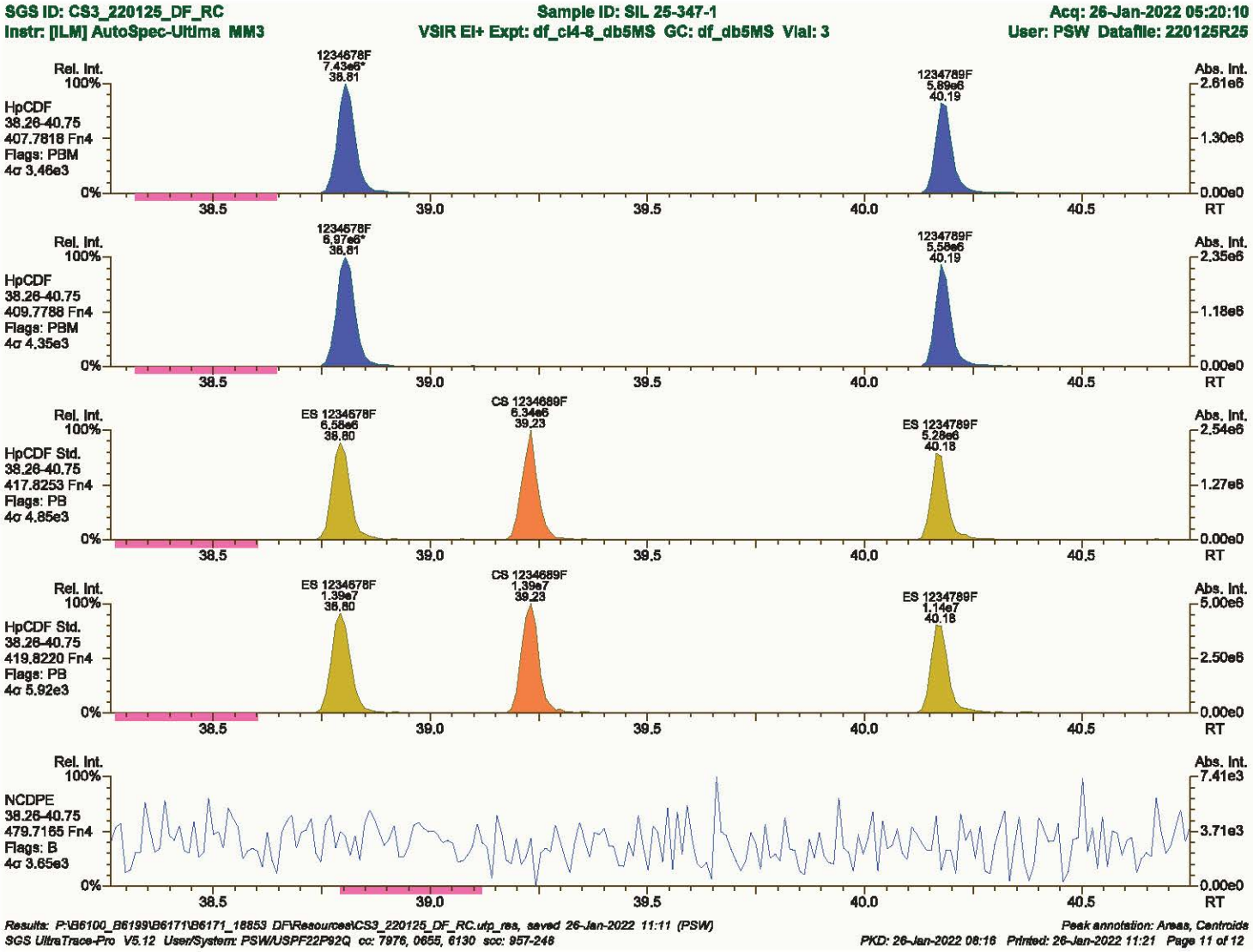
SGS ID: CS3_220125_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

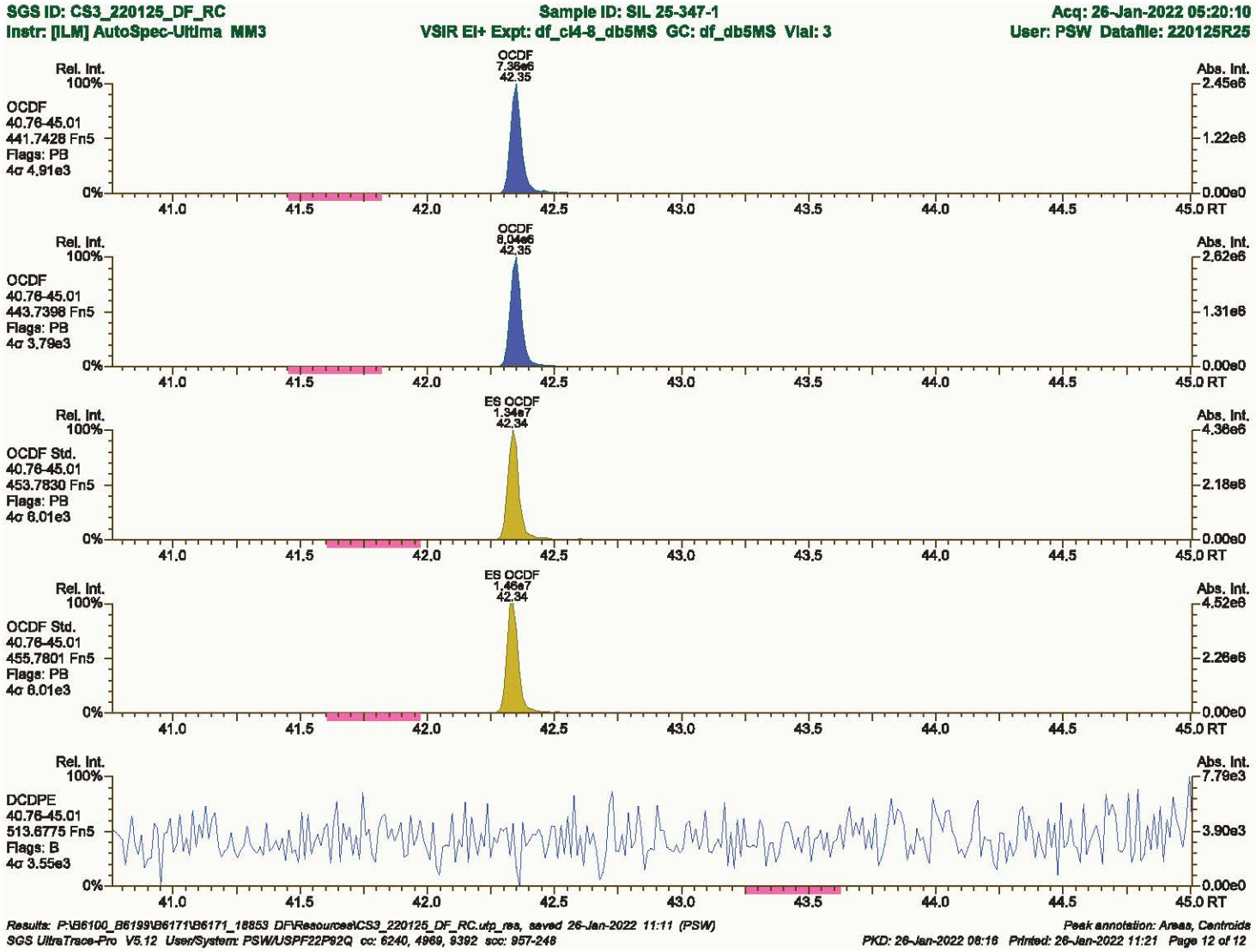
Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 26-Jan-2022 05:20:10
User: PSW Datafile: 220125R25



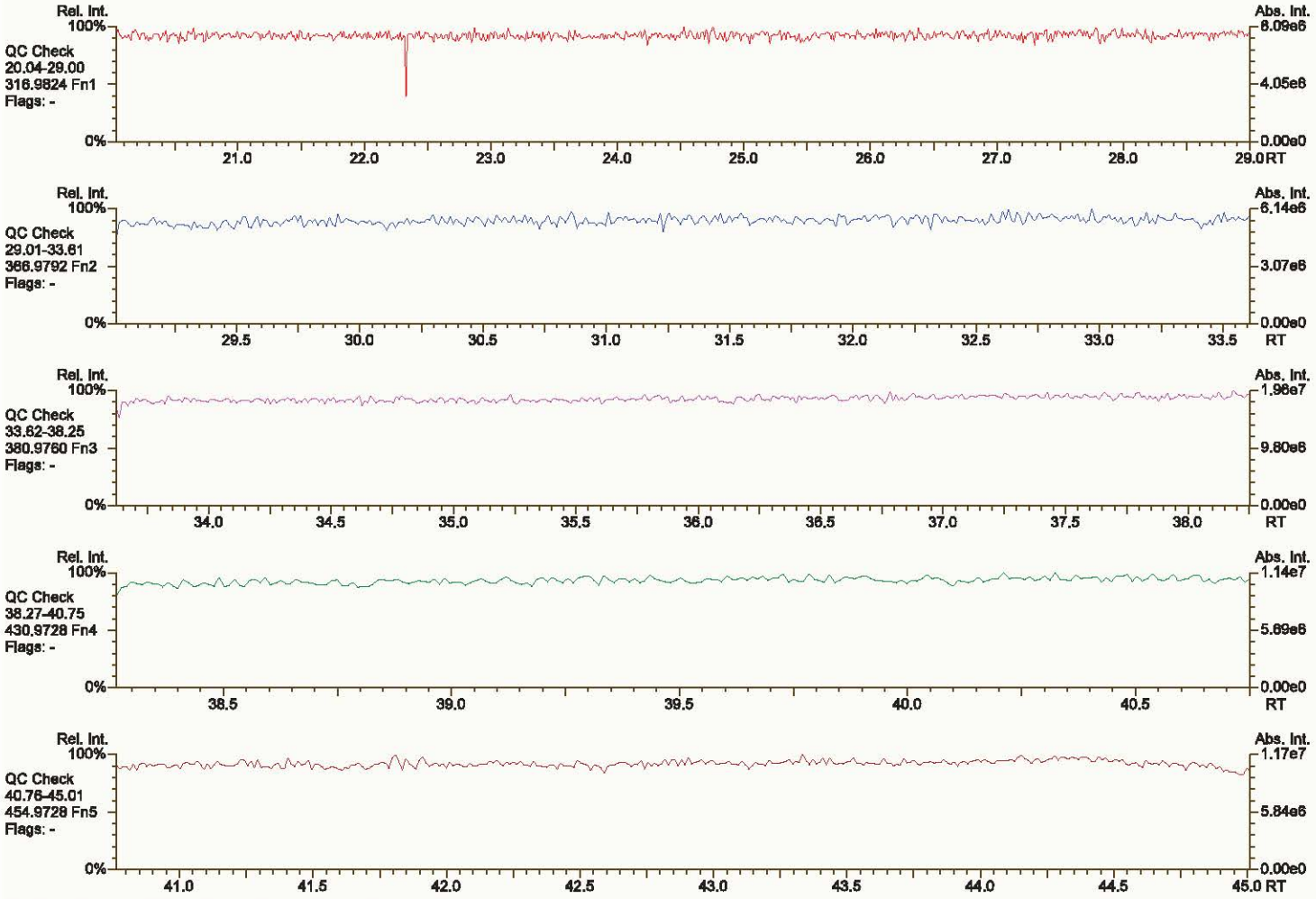
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6335, 8598, 6131 scc: 957-248
Revised: 26-Jan-2022 11:11 (PSW) Printed: 26-Jan-2022 11:21 Page 10 of 12


SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
Rel. Int.
Abs. Int.
HpCDF
38.26-40.75
407.7818 Fn4
Flags: PBM
4σ 3.46e3
1234678F
7.43e6*
38.81
1234789F
5.69e6
40.19
2.61e6
1.30e6
0.00e0
HpCDF
38.26-40.75
409.7788 Fn4
Flags: PBM
4σ 4.35e3
1234678F
6.97e6*
38.81
1234789F
5.58e6
40.19
2.35e6
1.18e6
0.00e0
HpCDF Std.
38.26-40.75
417.8253 Fn4
Flags: PB
4σ 4.85e3
ES 1234678F
6.58e6
38.80
CS 1234689F
6.34e6
39.23
ES 1234789F
5.28e6
40.18
2.54e6
1.27e6
0.00e0
HpCDF Std.
38.26-40.75
419.8220 Fn4
Flags: PB
4σ 5.92e3
ES 1234678F
1.39e7
38.80
CS 1234689F
1.39e7
39.23
ES 1234789F
1.14e7
40.18
5.00e6
2.50e6
0.00e0
NCDPE
38.26-40.75
479.7165 Fn4
Flags: B
4σ 3.65e3
7.41e3
3.71e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT


SGS ID: CS3_220125_DF_RC
Sample ID: SIL 25-347-1
Acq: 26-Jan-2022 05:20:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220125R25
Rel. Int.
Abs. Int.
OCDF
7.36e6
42.35
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 4.91e3
2.45e6
1.22e6
0.00e0
OCDF
8.04e6
42.35
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 3.79e3
2.62e6
1.31e6
ES OCDF
1.34e7
42.34
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 6.01e3
4.36e6
2.18e6
ES OCDF
1.46e7
42.34
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 6.01e3
4.52e6
2.26e6
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 3.55e3
7.79e3
3.90e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\CS3_220125_DF_RC.utp_res, saved 26-Jan-2022 11:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6240, 4969, 9392 scc: 957-248
PKD: 26-Jan-2022 08:16 Printed: 26-Jan-2022 11:21 Page 12 of 12

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03

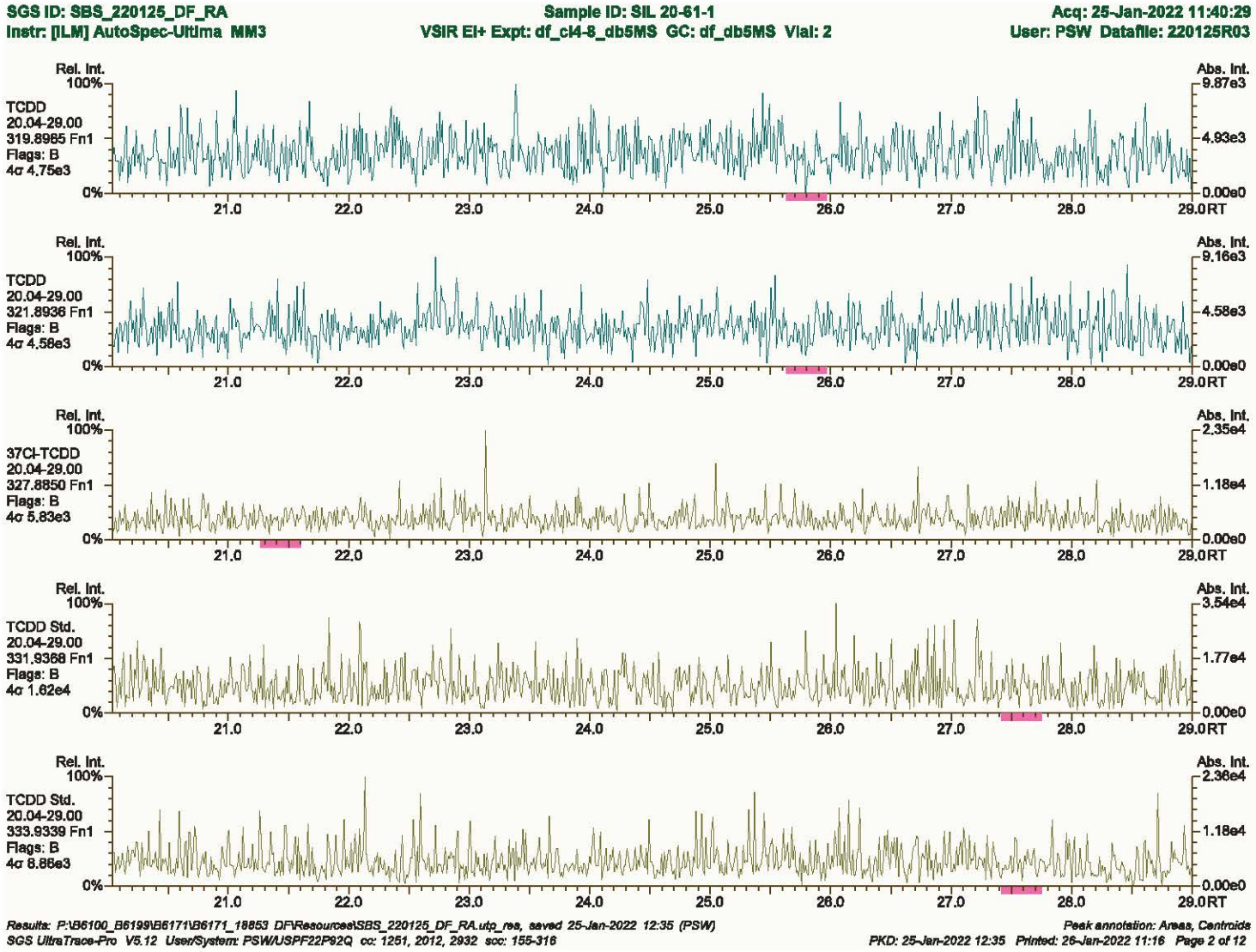


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 155-316

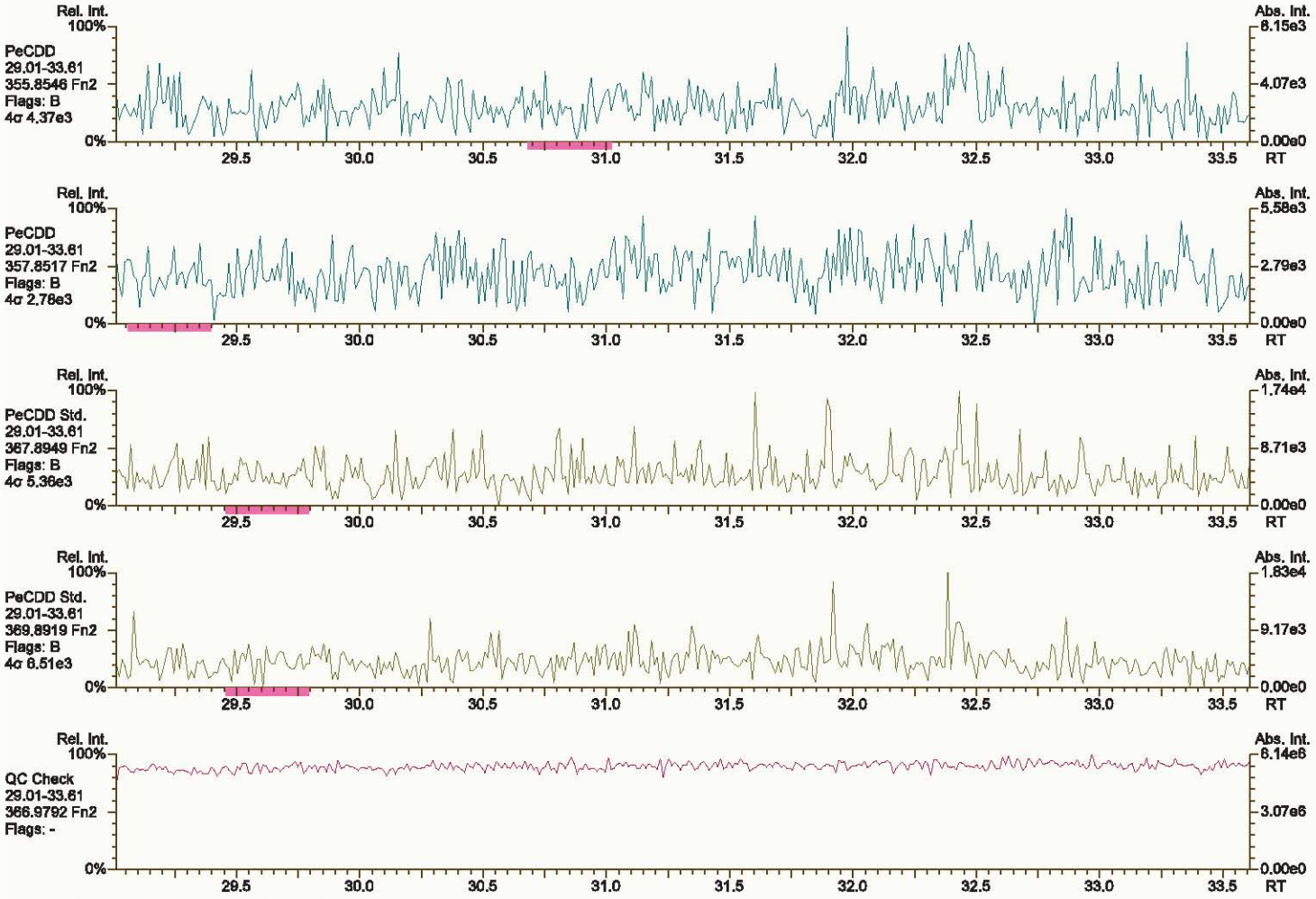
PKD: n/a Printed: 26-Jan-2022 11:16 Page 1 of 12


SGS ID: SBS_220125_DF_RA
Sample ID: SIL 20-61-1
Acq: 25-Jan-2022 11:40:29
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220125R03
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: B
4σ 4.75e3
9.87e3
4.93e3
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: B
4σ 4.58e3
9.16e3
4.58e3
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: B
4σ 5.83e3
2.35e4
1.18e4
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: B
4σ 1.62e4
3.54e4
1.77e4
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: B
4σ 8.86e3
2.36e4
1.18e4
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1251, 2012, 2932 scc: 155-316
PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 2 of 12

SGS ID: SBS_220125_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

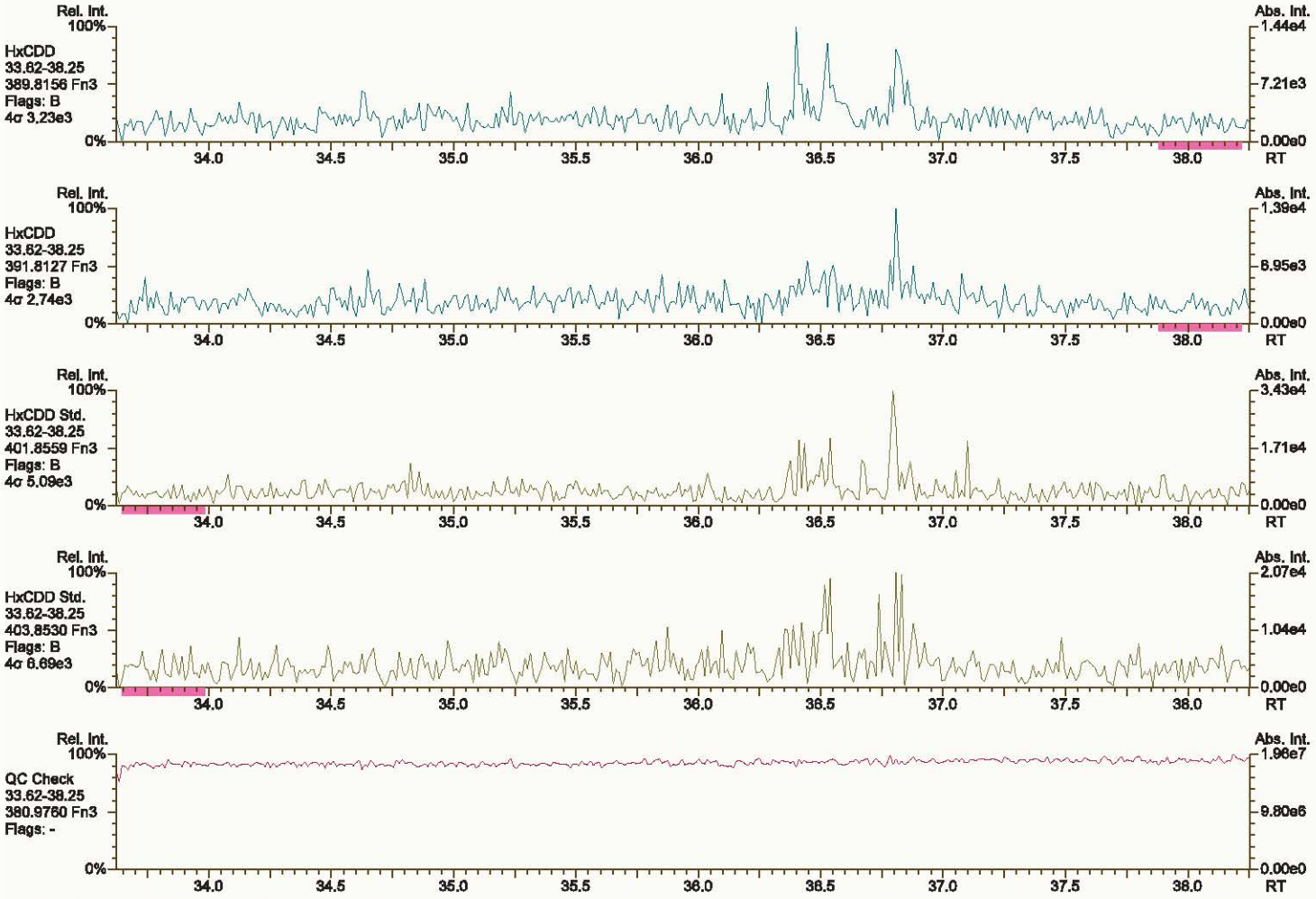
Acq: 25-Jan-2022 11:40:29
User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2822, 0472 scc: 155-316
PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 3 of 12

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)

Peak annotation: Areas, Centroids

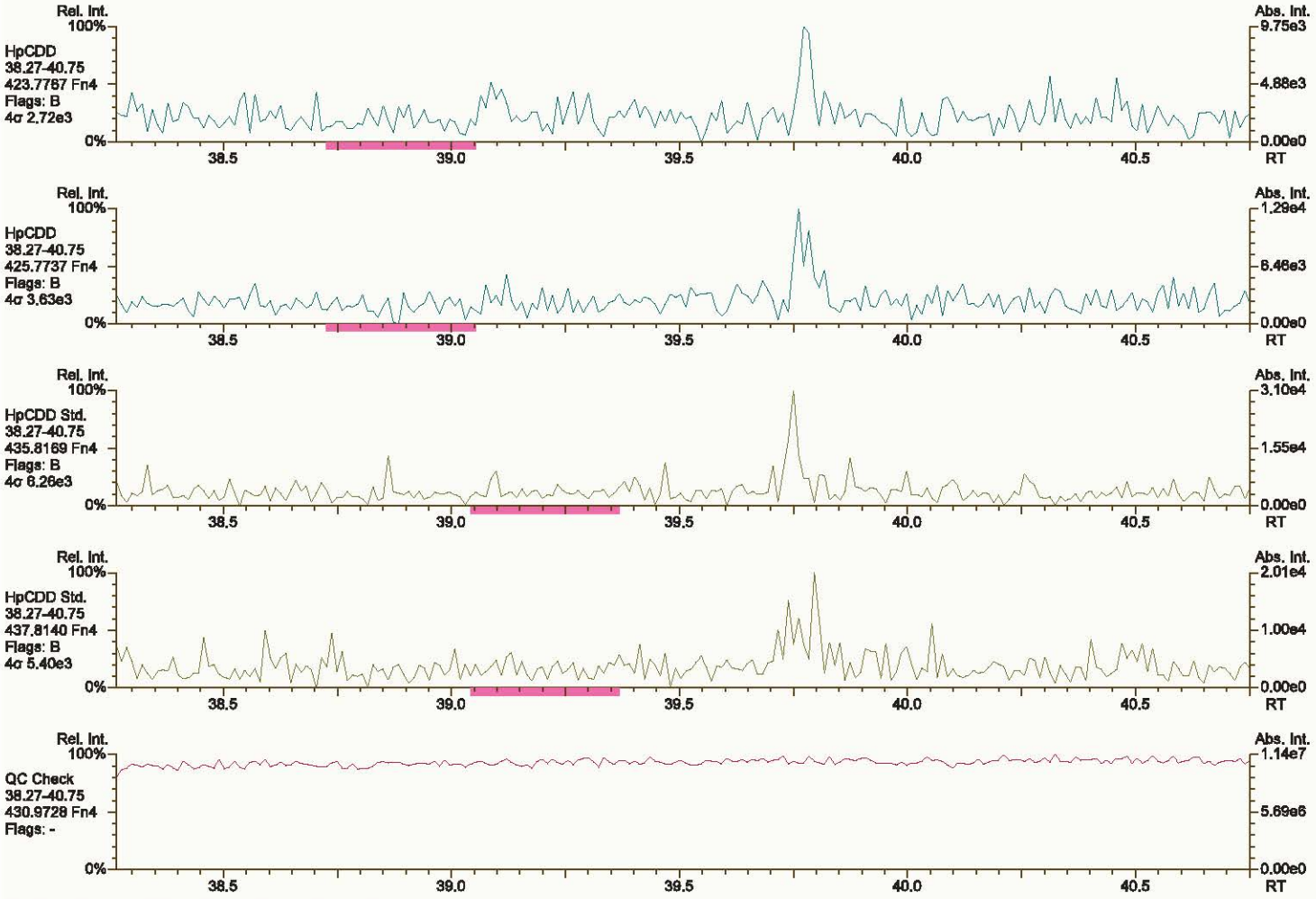
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9619, 0448 scc: 155-316

PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 4 of 12

SGS ID: SBS_220125_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

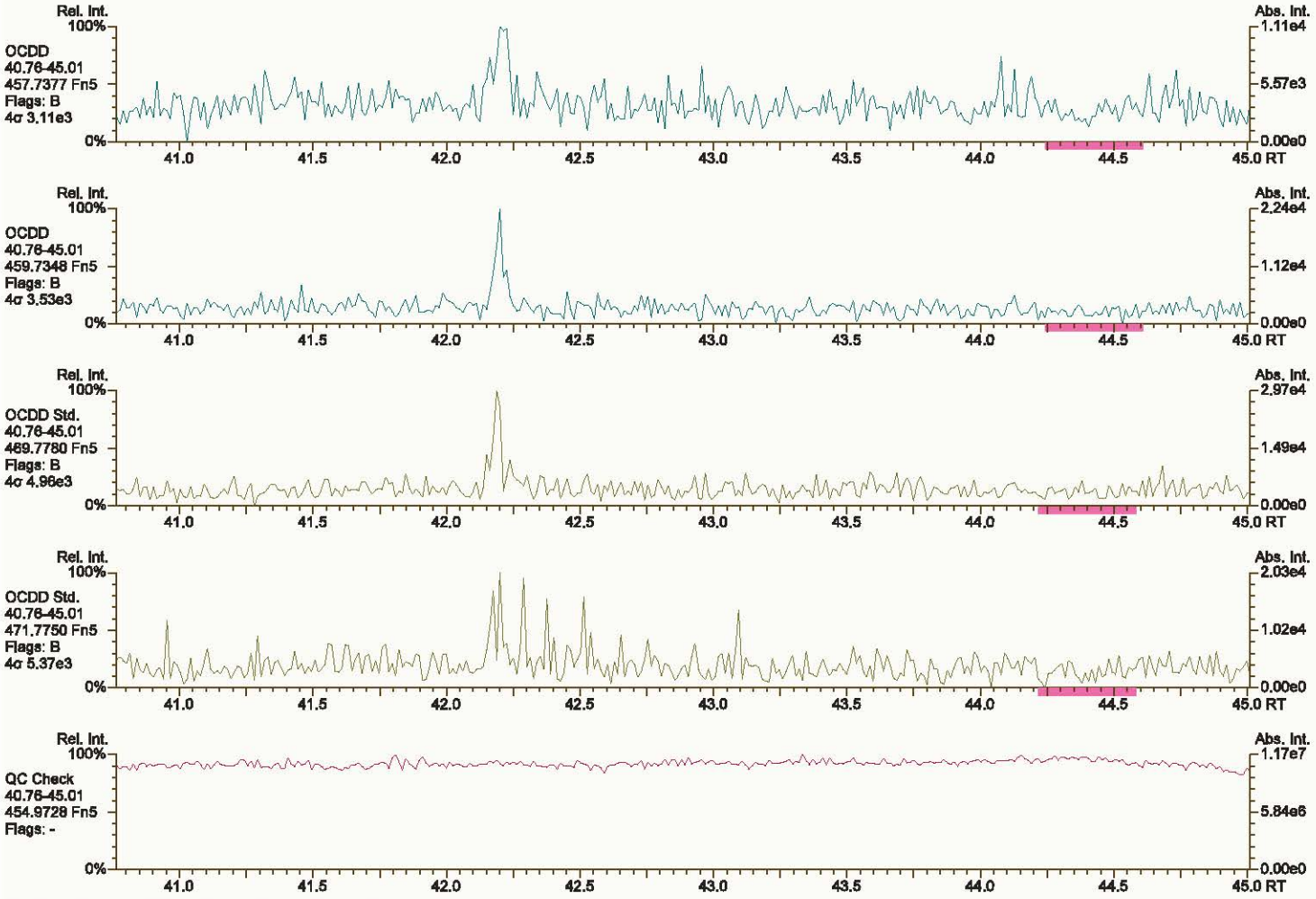
Acq: 25-Jan-2022 11:40:29
User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0310, 5523 scc: 155-316
PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 5 of 12

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9417, 4069 scc: 155-316 | *PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 6 of 12*

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03



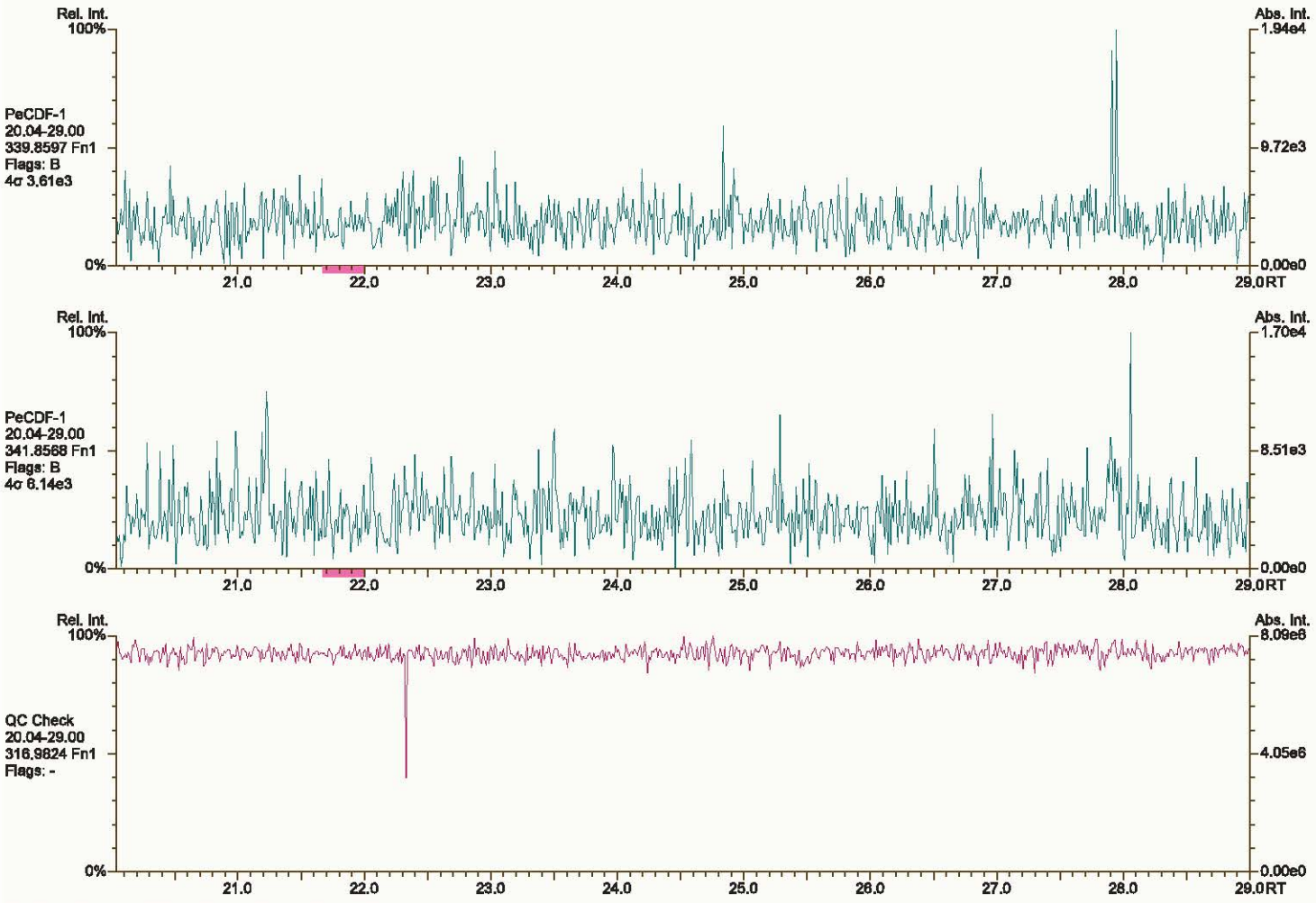
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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9714, 8600, 2044 scc: 155-316 *Revised: 25-Jan-2022 12:35 (PSW) Printed: 26-Jan-2022 11:16 Page 7 of 12*

SGS ID: SBS_220125_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

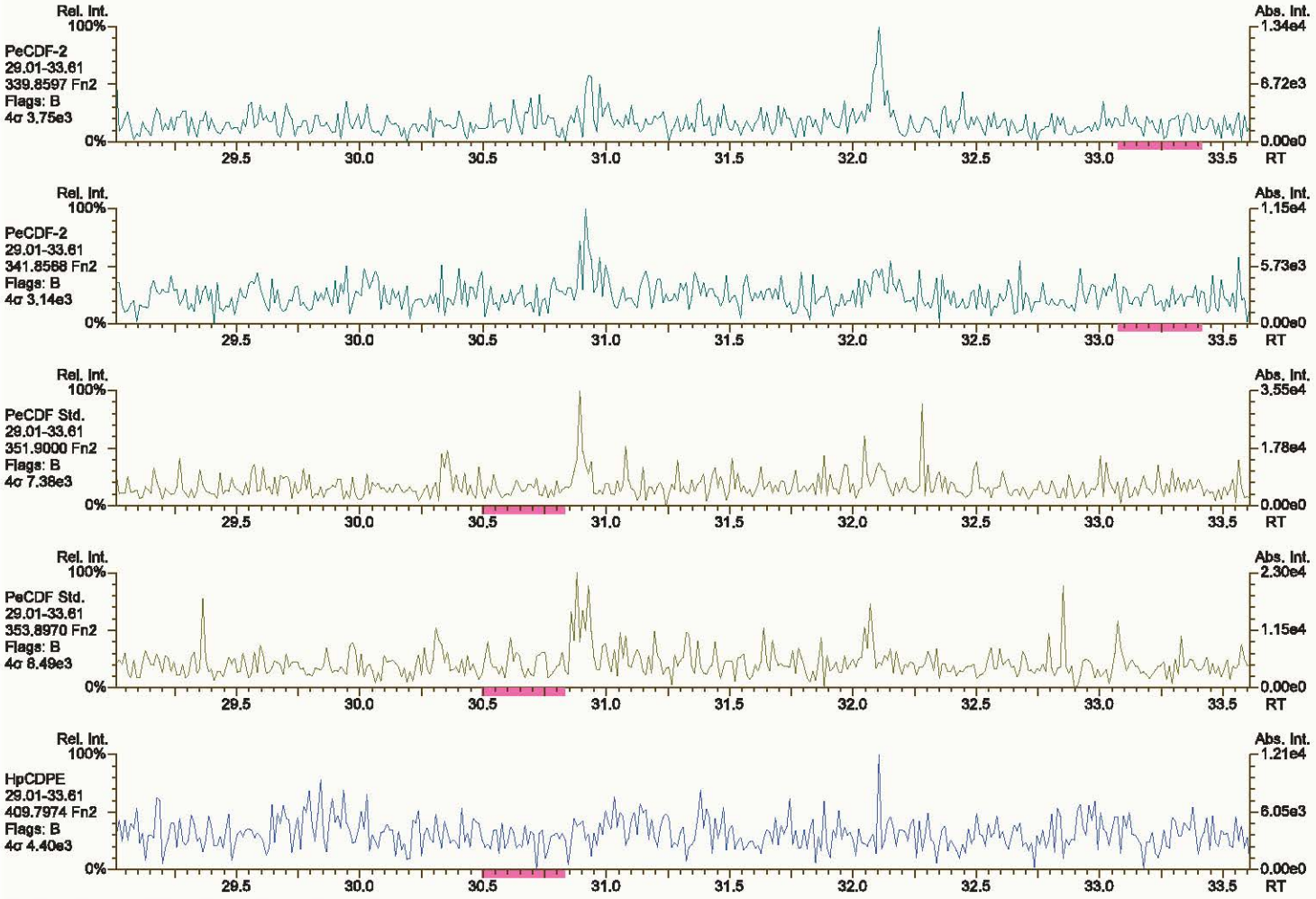
Acq: 25-Jan-2022 11:40:29
User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4169 scc: 155-316
PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 8 of 12

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03

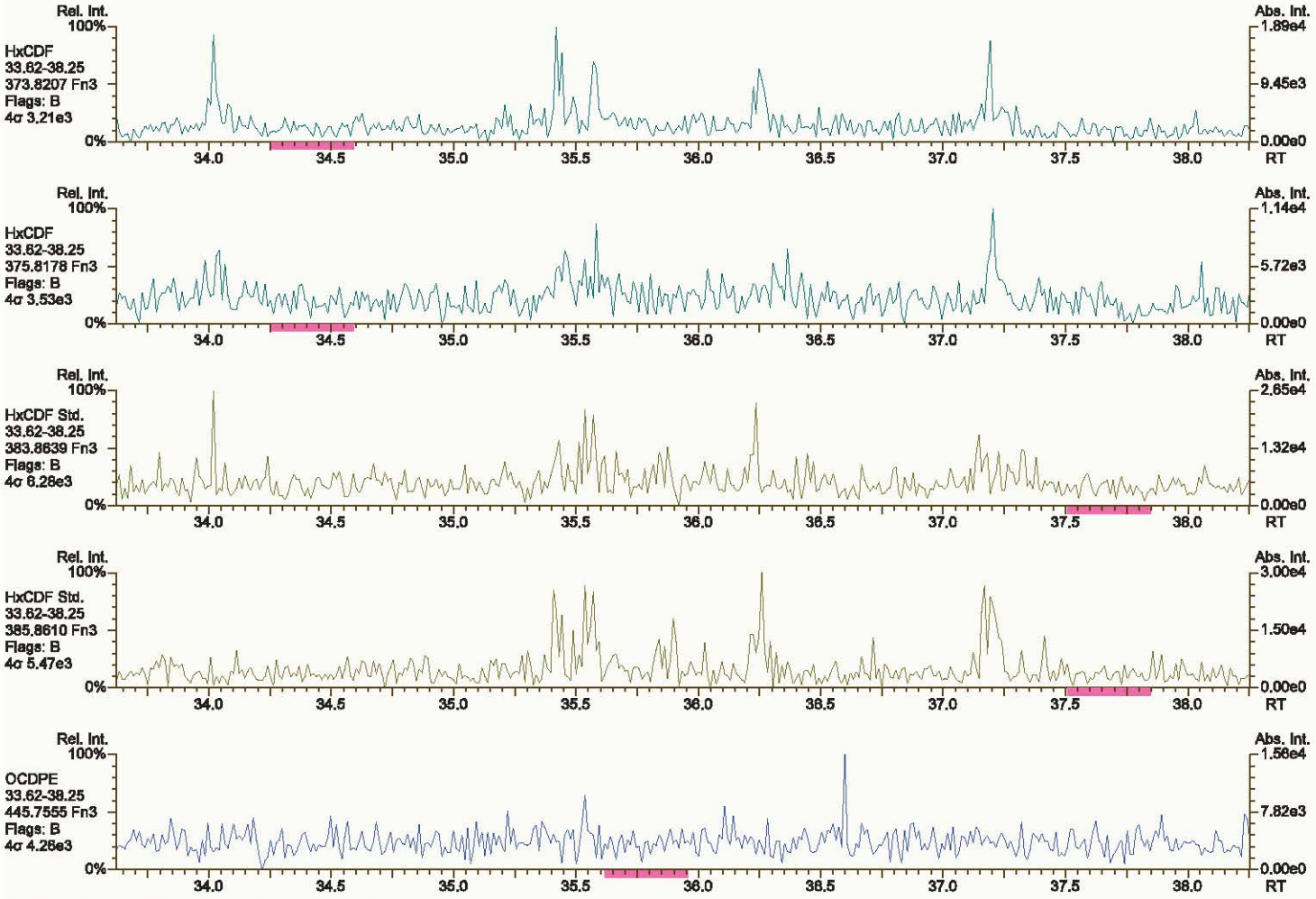


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3136, 8116, 2529 scc: 155-316 *PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 9 of 12*

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)

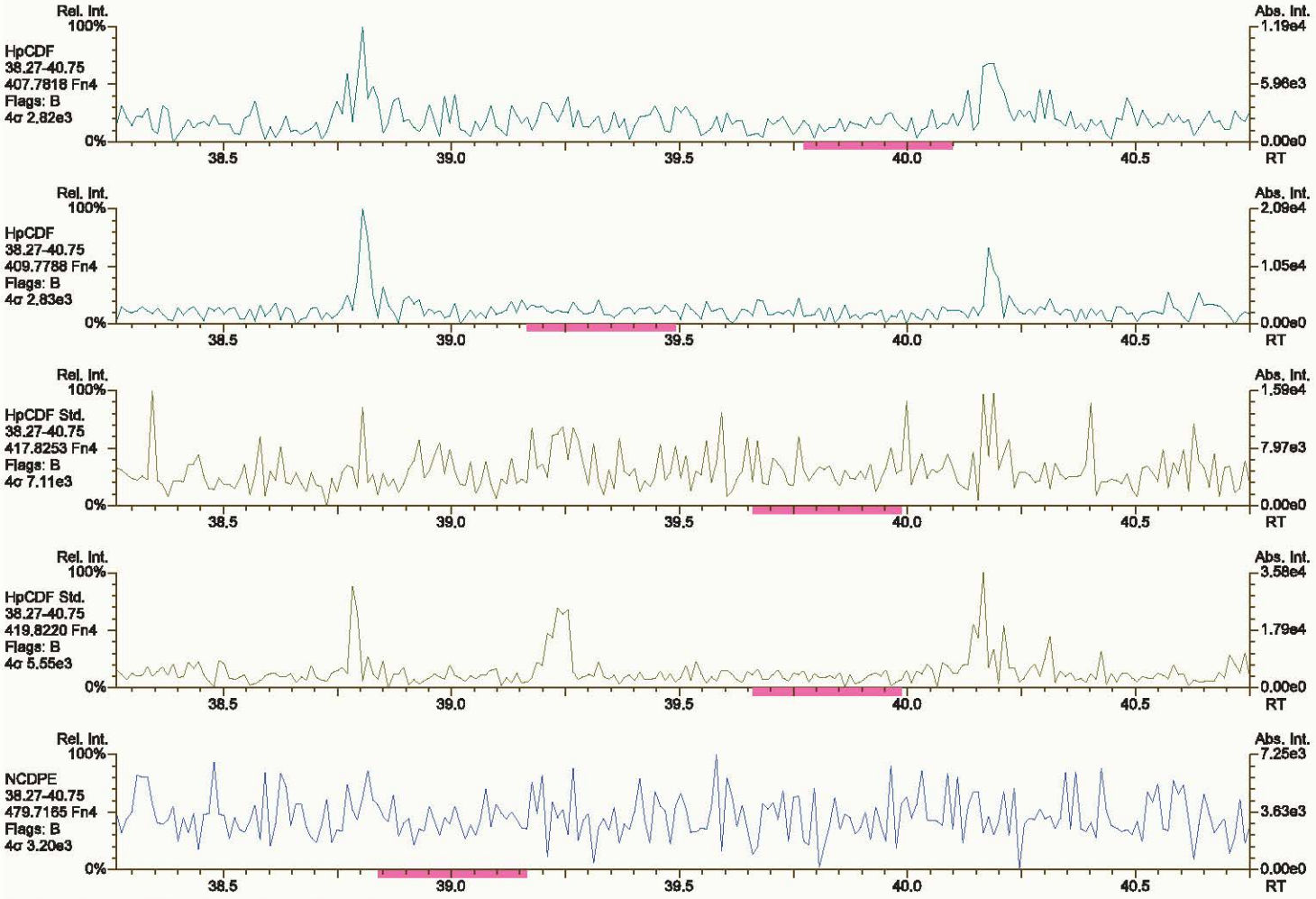
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2242, 0737, 5720 scc: 155-316

PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 10 of 12

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1691, 8667, 9609 scc: 155-316

PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 11 of 12

SGS ID: SBS_220125_DF_RA | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 11:40:29

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R03

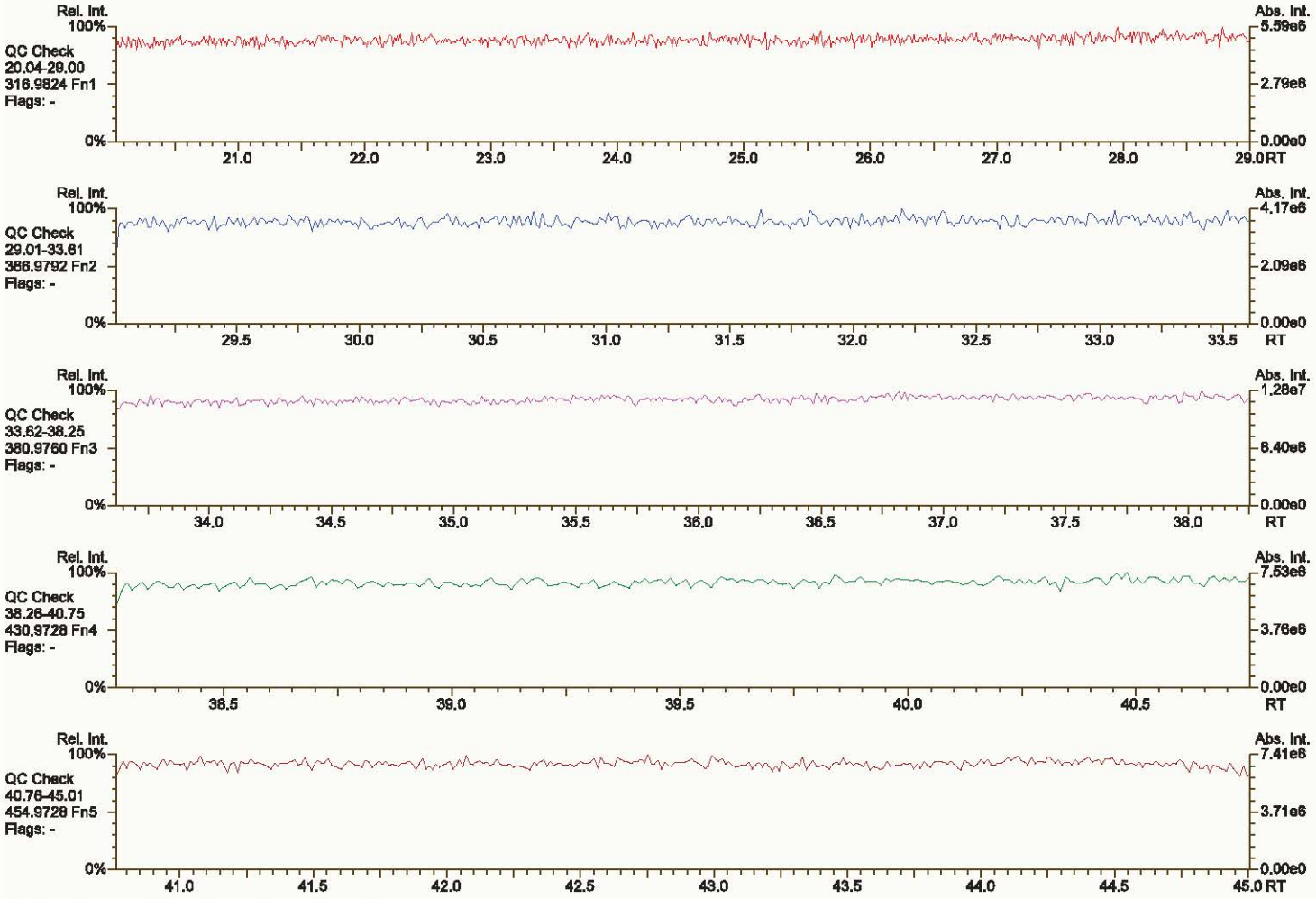


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RA.utp_res, saved 25-Jan-2022 12:35 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9127, 8876, 8746 scc: 155-316 *PKD: 25-Jan-2022 12:35 Printed: 26-Jan-2022 11:16 Page 12 of 12*

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14



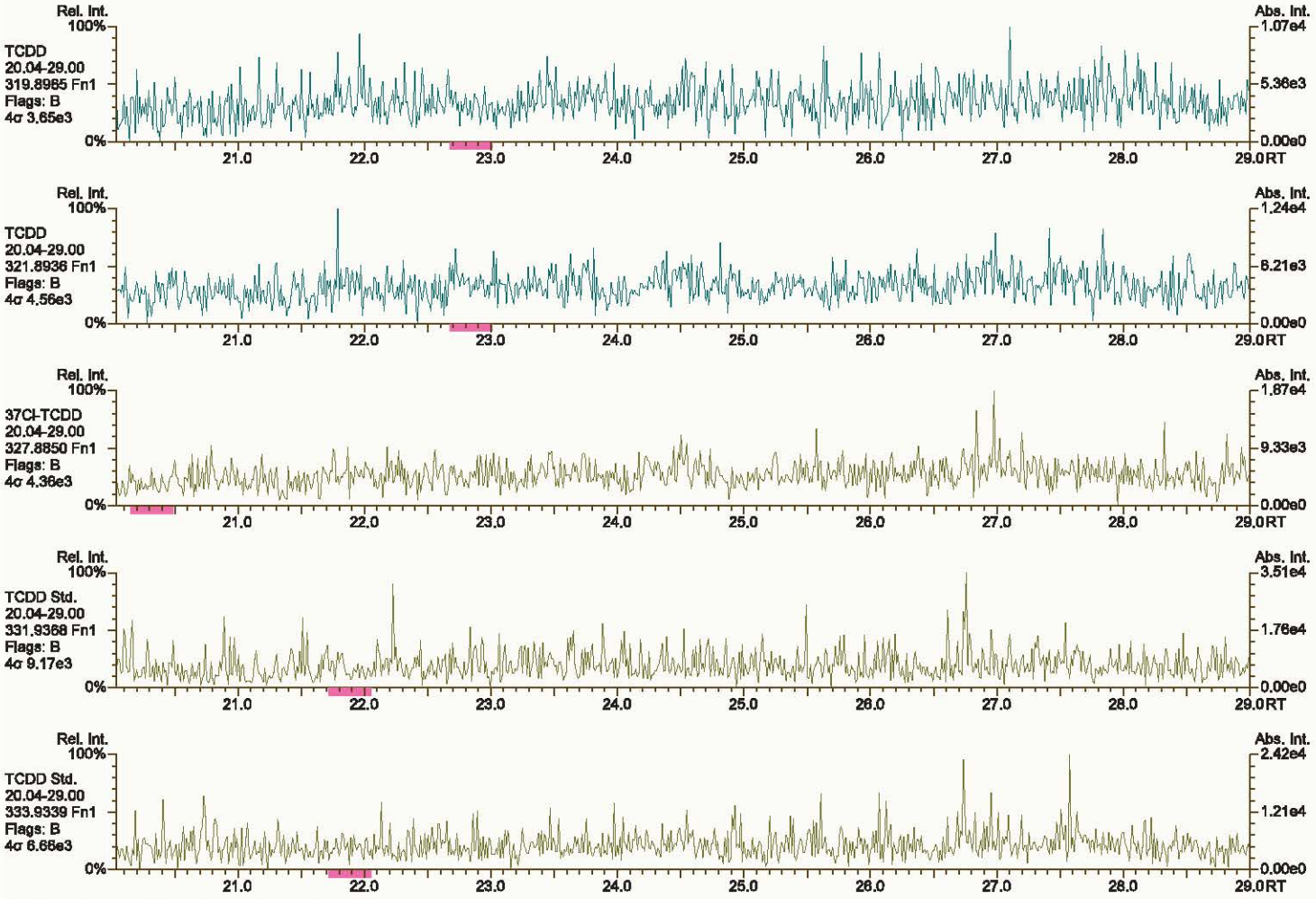
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 031-706 *PKD: n/a Printed: 26-Jan-2022 11:18 Page 1 of 12*

SGS ID: SBS_220125_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 25-Jan-2022 20:29:34
User: PSW Datafile: 220125R14

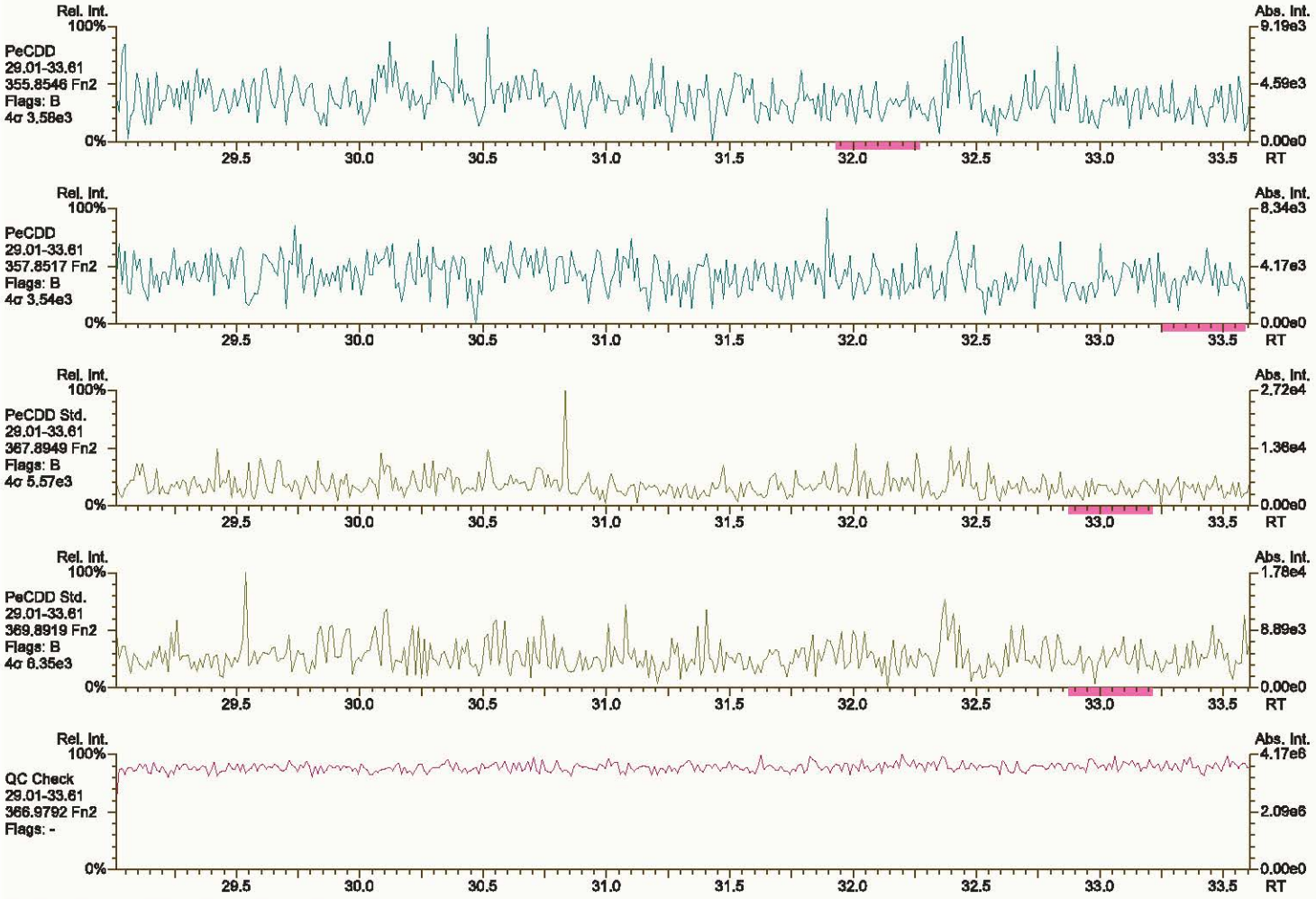


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5423, 3108, 6212 scc: 031-706
PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 2 of 12

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14



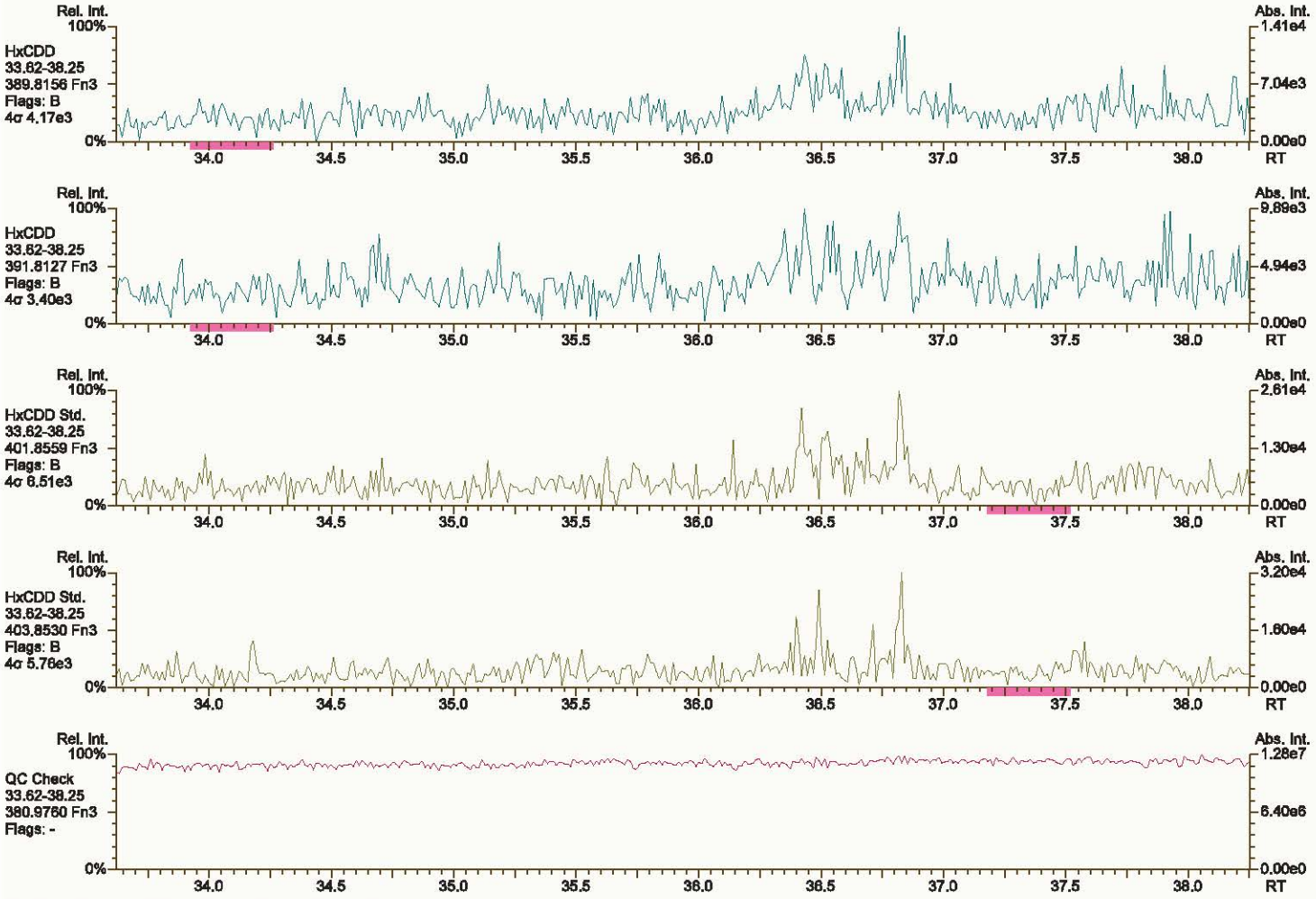
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SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 8521, 3226 scc: 031-706 *PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 3 of 12*

SGS ID: SBS_220125_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

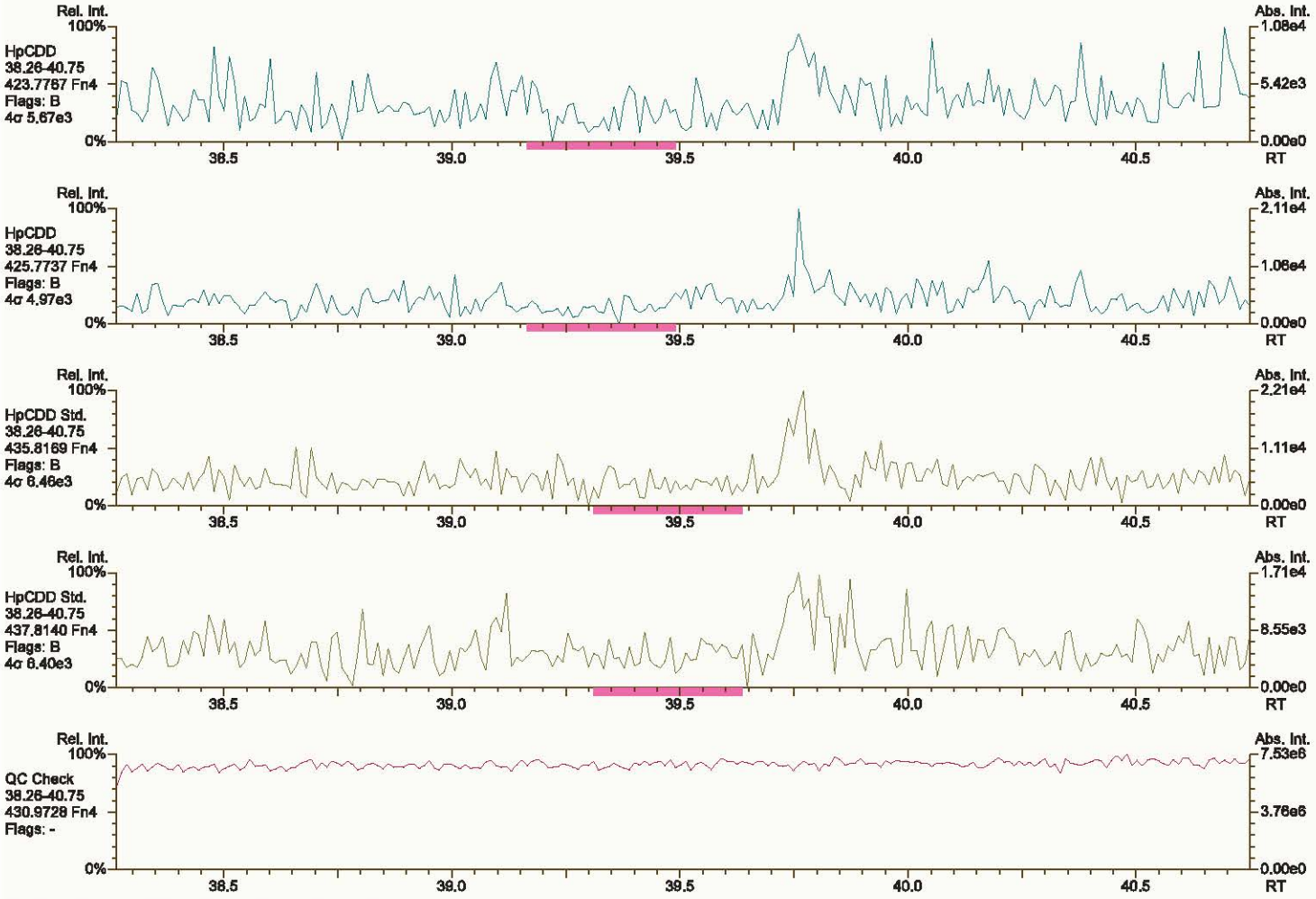
Acq: 25-Jan-2022 20:29:34
User: PSW Datafile: 220125R14



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9835, 7009 scc: 031-706
PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 4 of 12

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW)

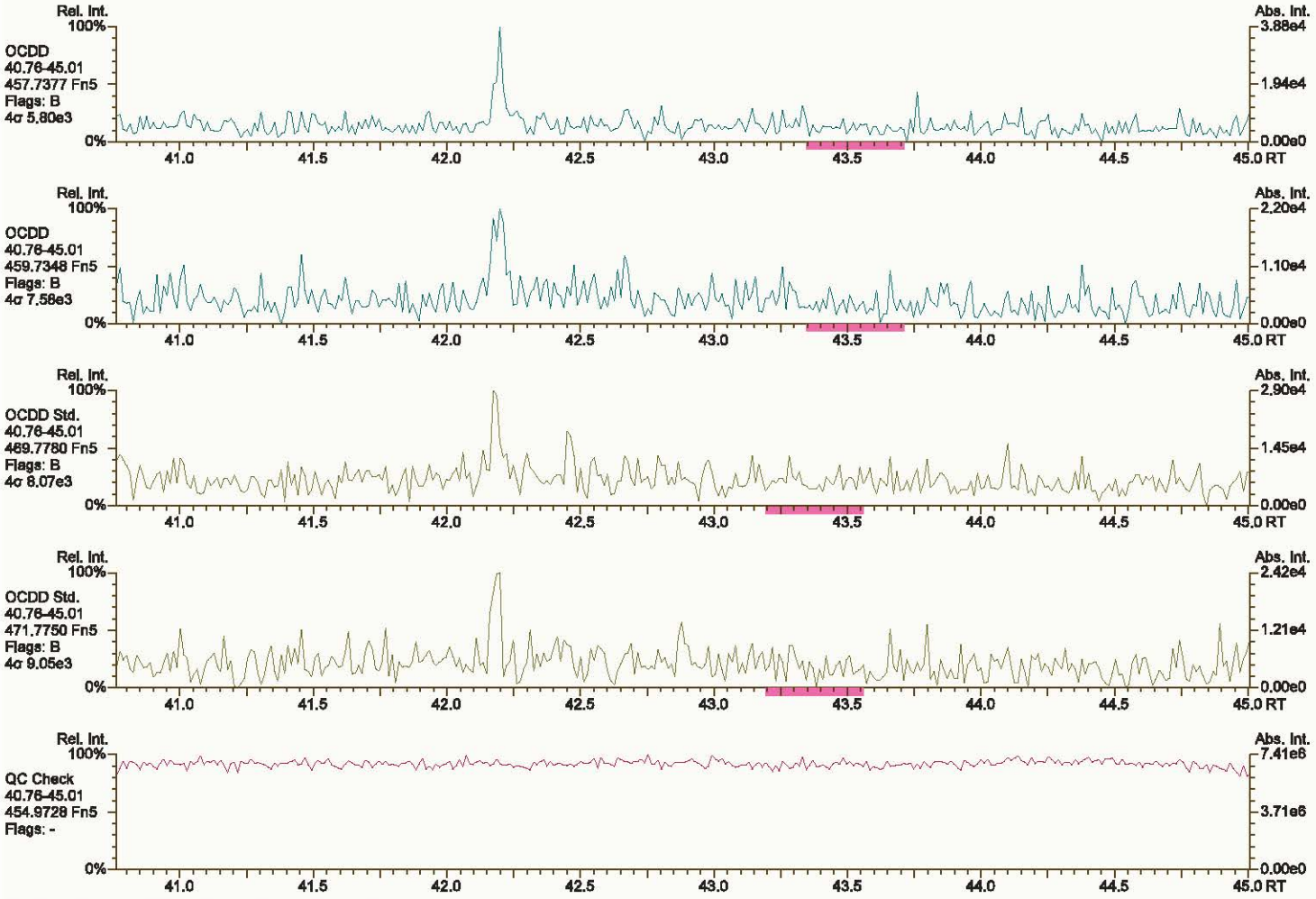
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 1942, 9539 scc: 031-706

PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 5 of 12

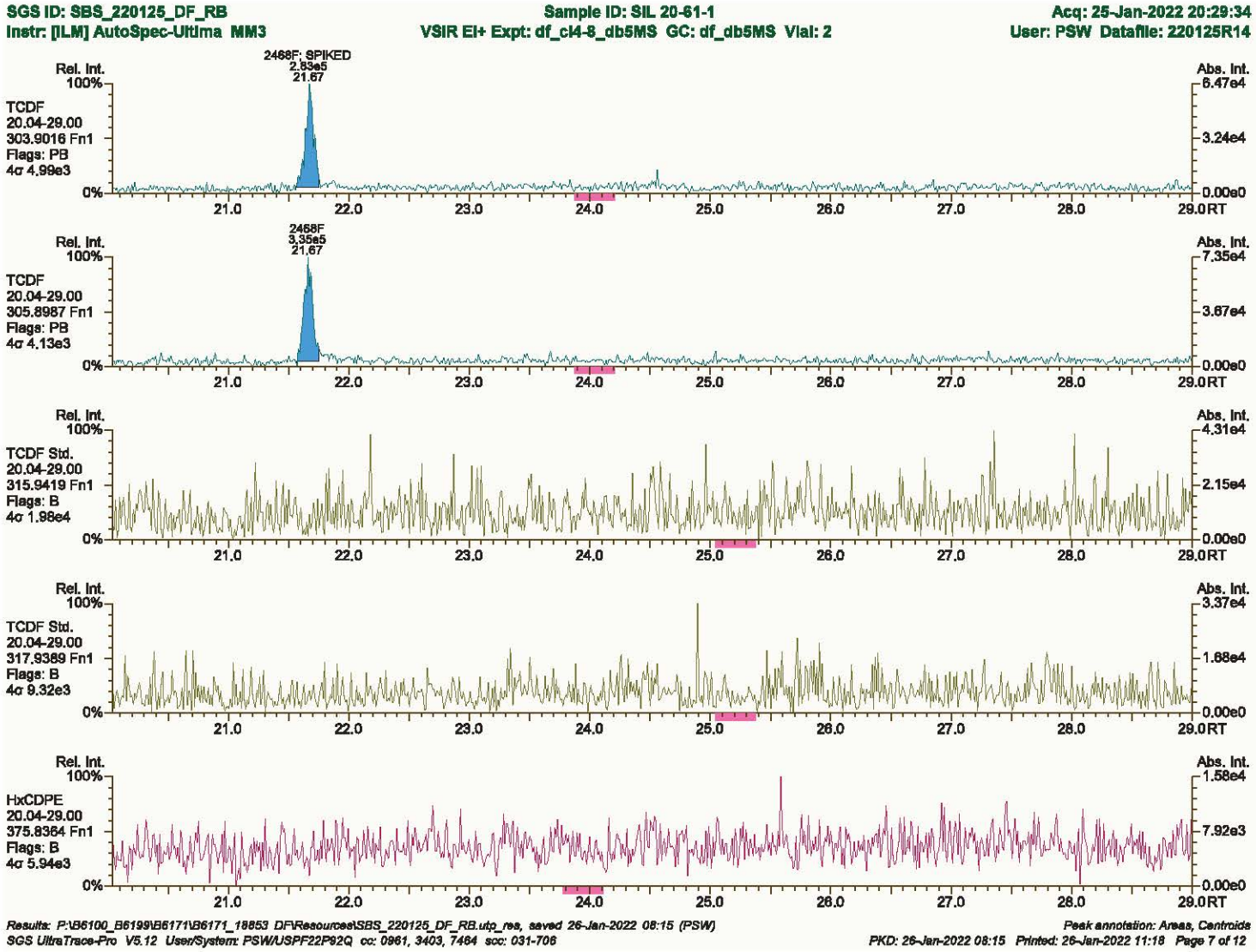
SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14



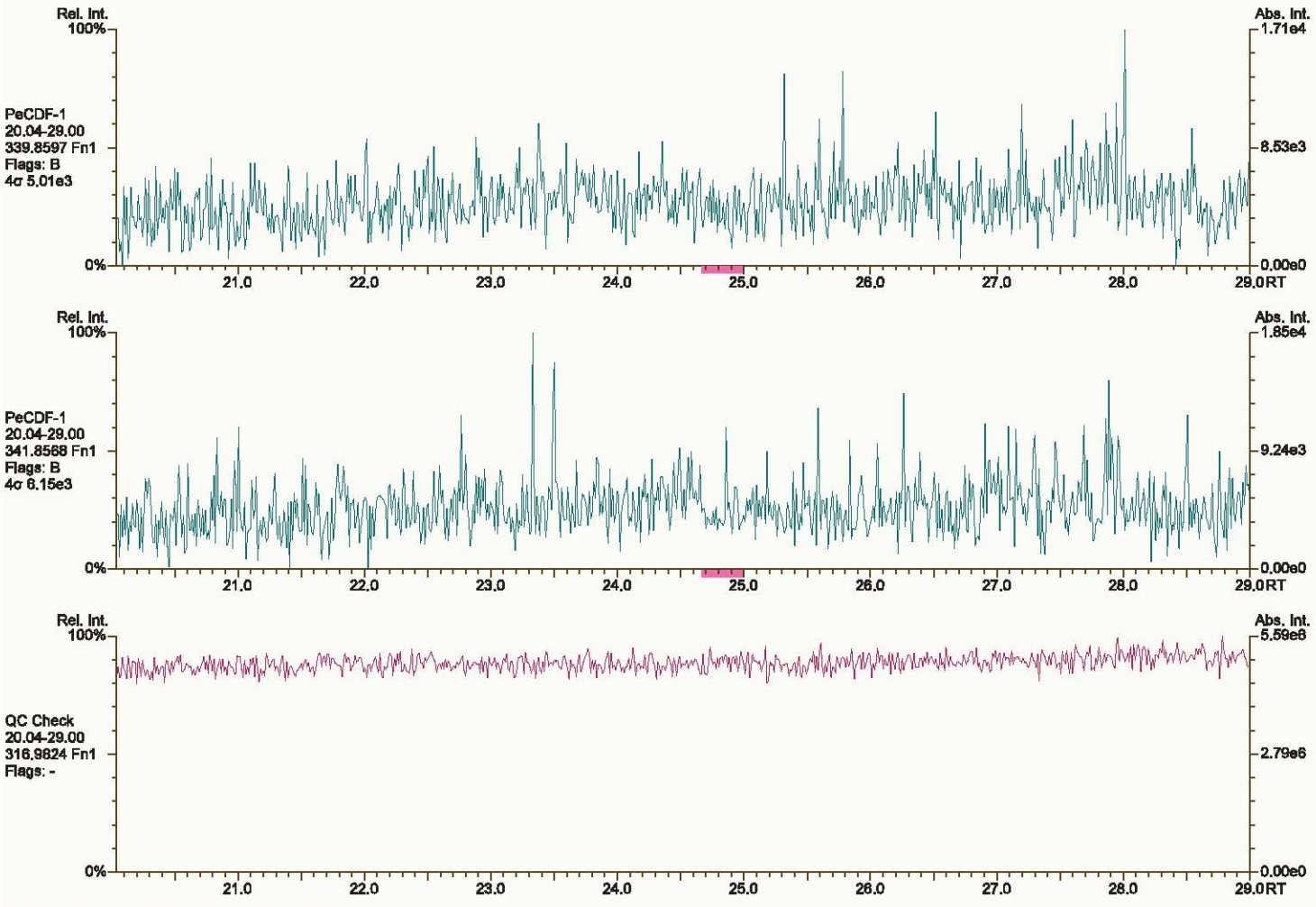
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3706, 4701 scc: 031-706 *PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 6 of 12*


SGS ID: SBS_220125_DF_RB
Sample ID: SIL 20-61-1
Acq: 25-Jan-2022 20:29:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220125R14
2468F: SPIKED
2.83e5
21.67
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 4.99e3
2468F
3.35e5
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TCDF
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315.9419 Fn1
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20.04-29.00
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Flags: B
4σ 5.94e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0961, 3403, 7464 scc: 031-706
PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 7 of 12

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14

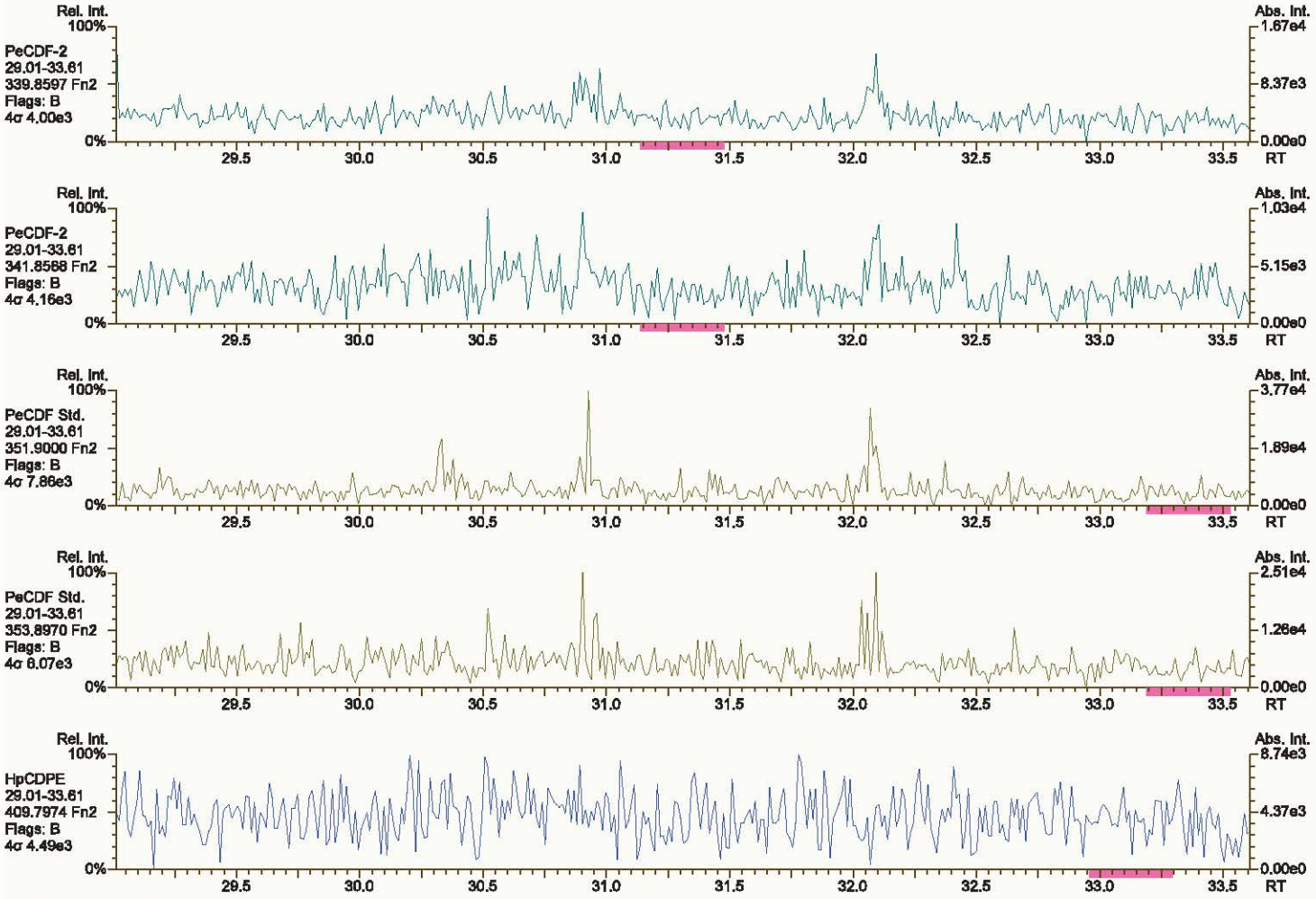


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5771 scc: 031-706 | *PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 8 of 12*

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW)

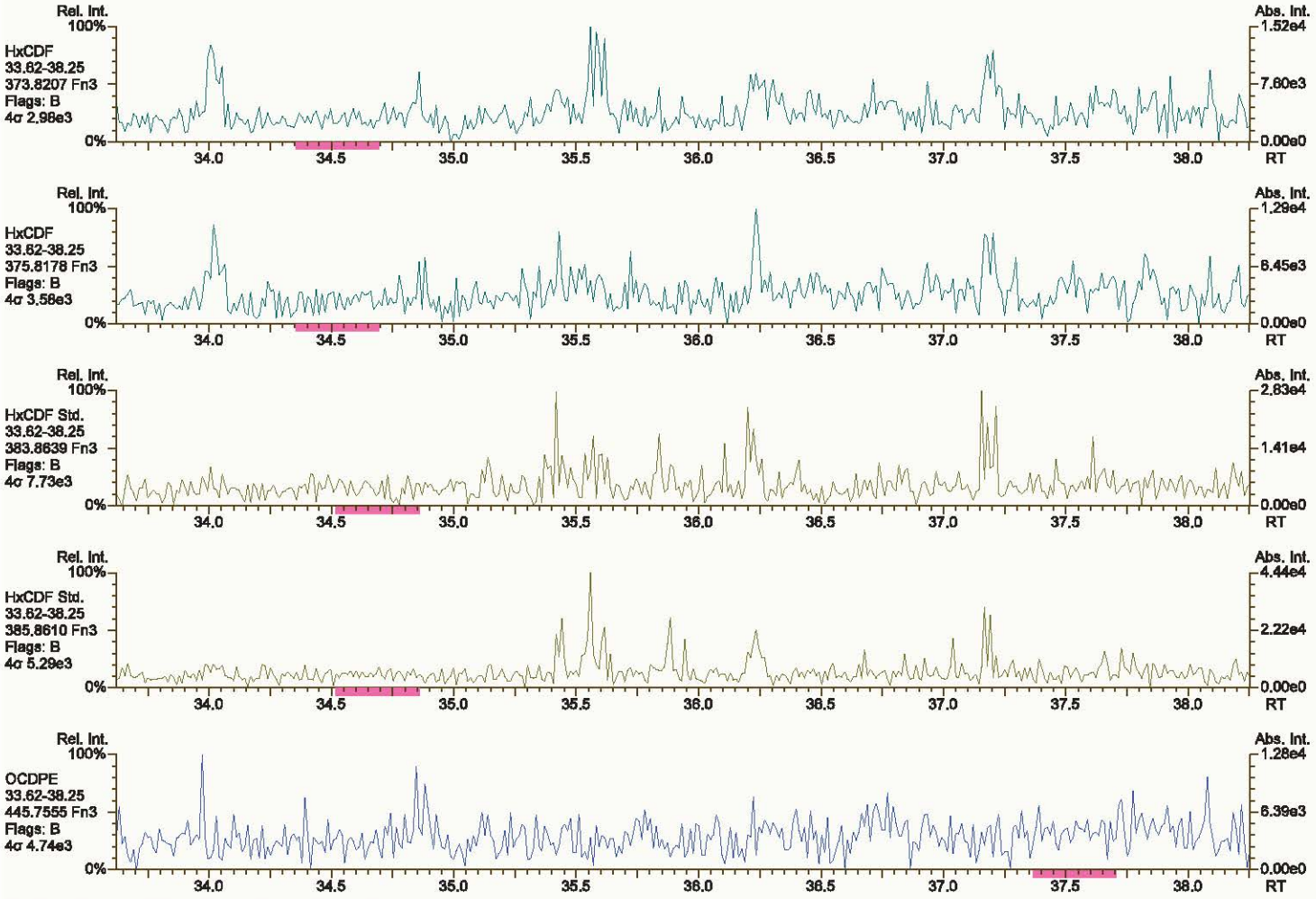
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8602, 5260, 5466 scc: 031-706

PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 9 of 12

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14

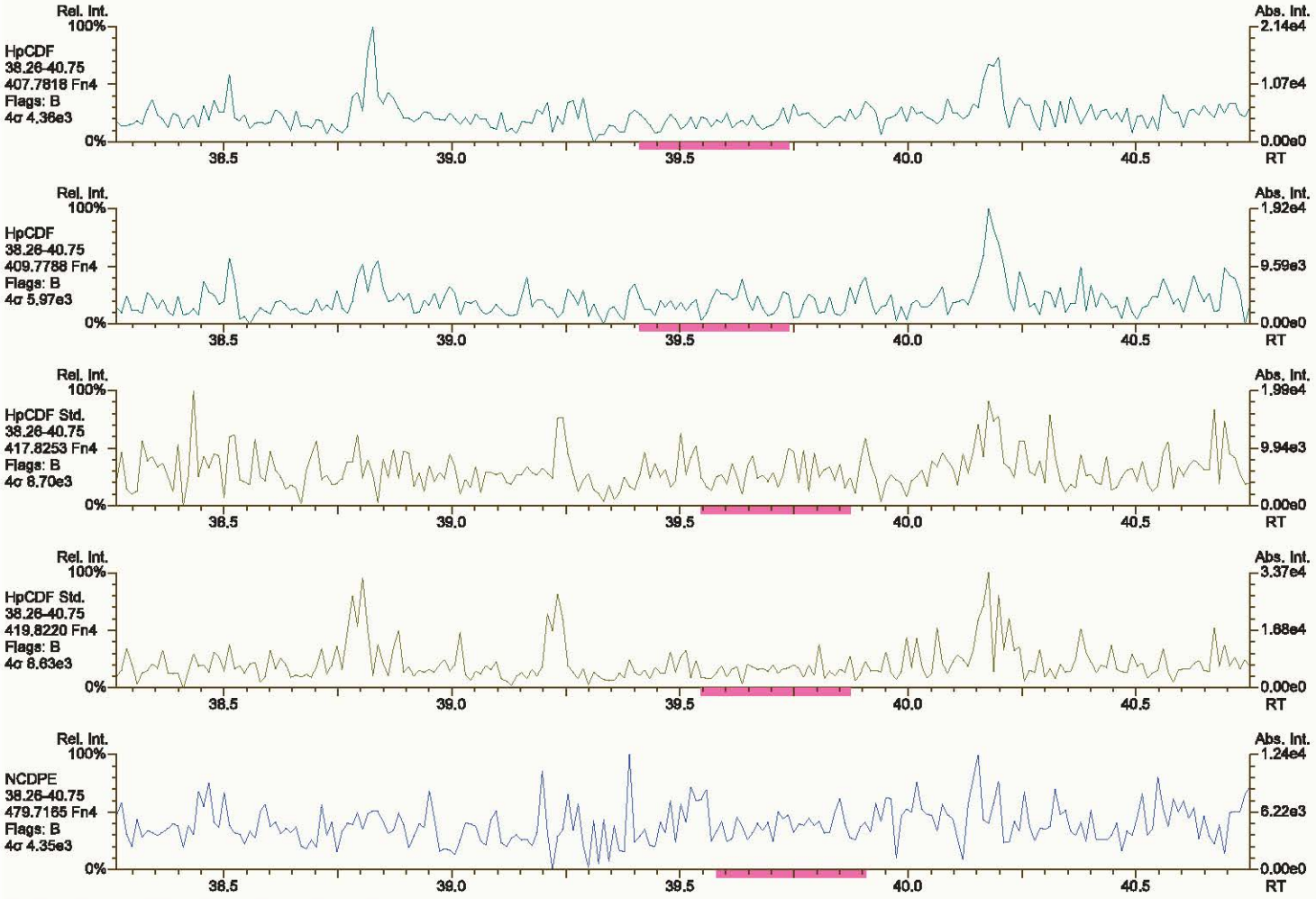


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5026, 1606, 7662 scc: 031-706 | *PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 10 of 12*

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14

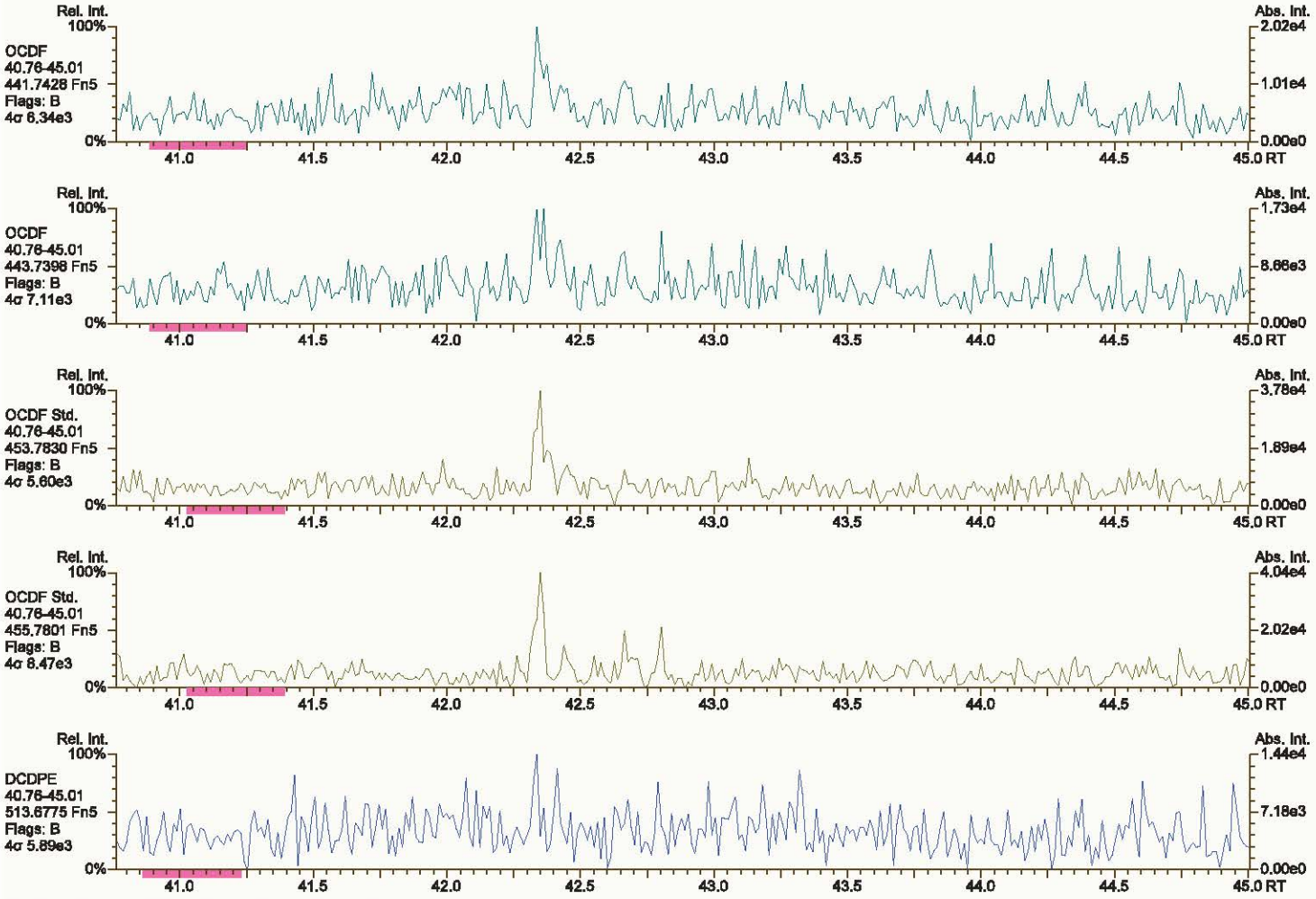


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0059, 1671, 3942 scc: 031-706 *PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 11 of 12*

SGS ID: SBS_220125_DF_RB | Sample ID: SIL 20-61-1 | Acq: 25-Jan-2022 20:29:34

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R14

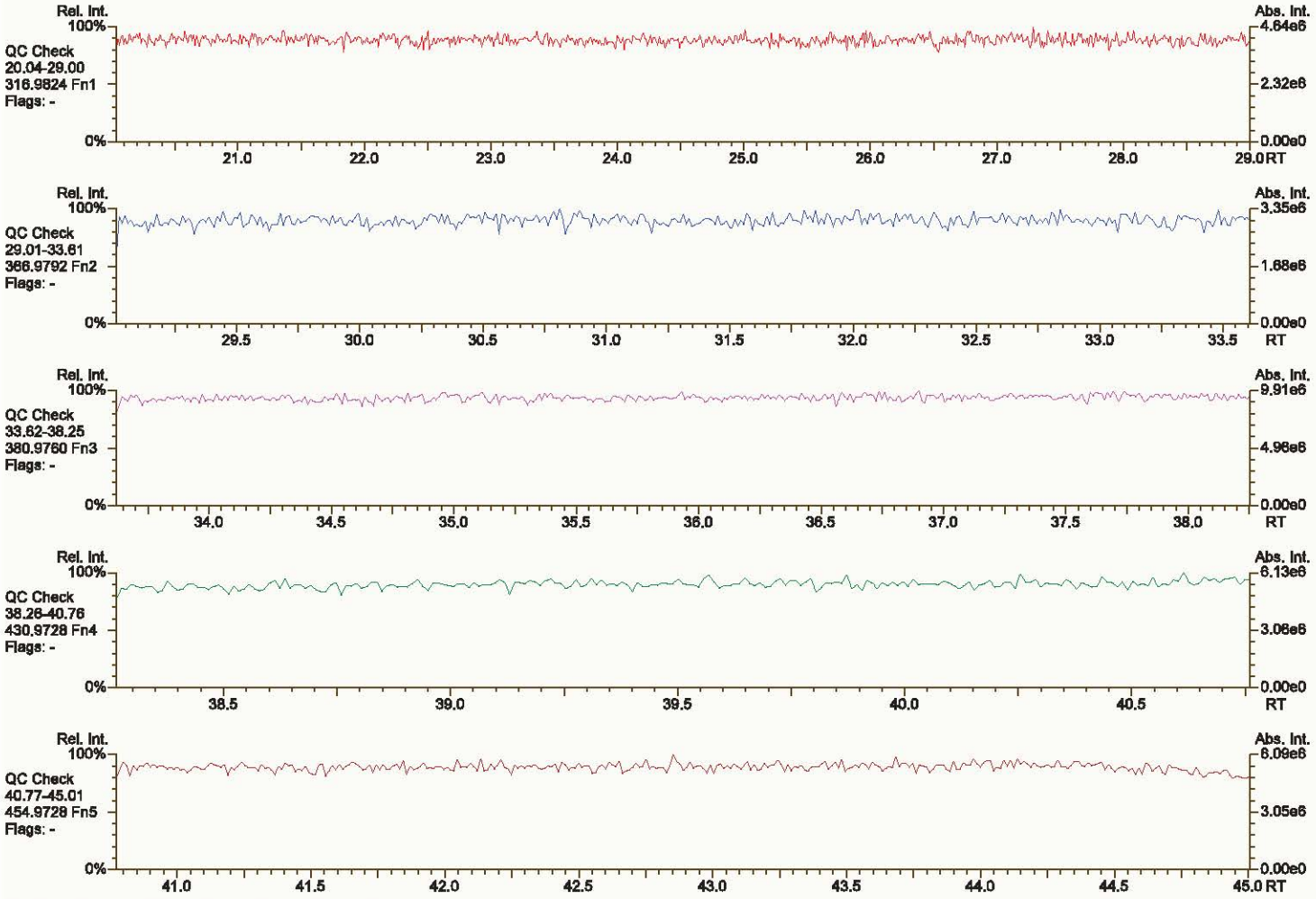


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RB.utp_res, saved 26-Jan-2022 08:15 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2309, 7098, 9488 scc: 031-706 | *PKD: 26-Jan-2022 08:15 Printed: 26-Jan-2022 11:18 Page 12 of 12*

SGS ID: SBS_220125_DF_RC | Sample ID: SIL 20-61-1 | Acq: 26-Jan-2022 06:54:26

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R27



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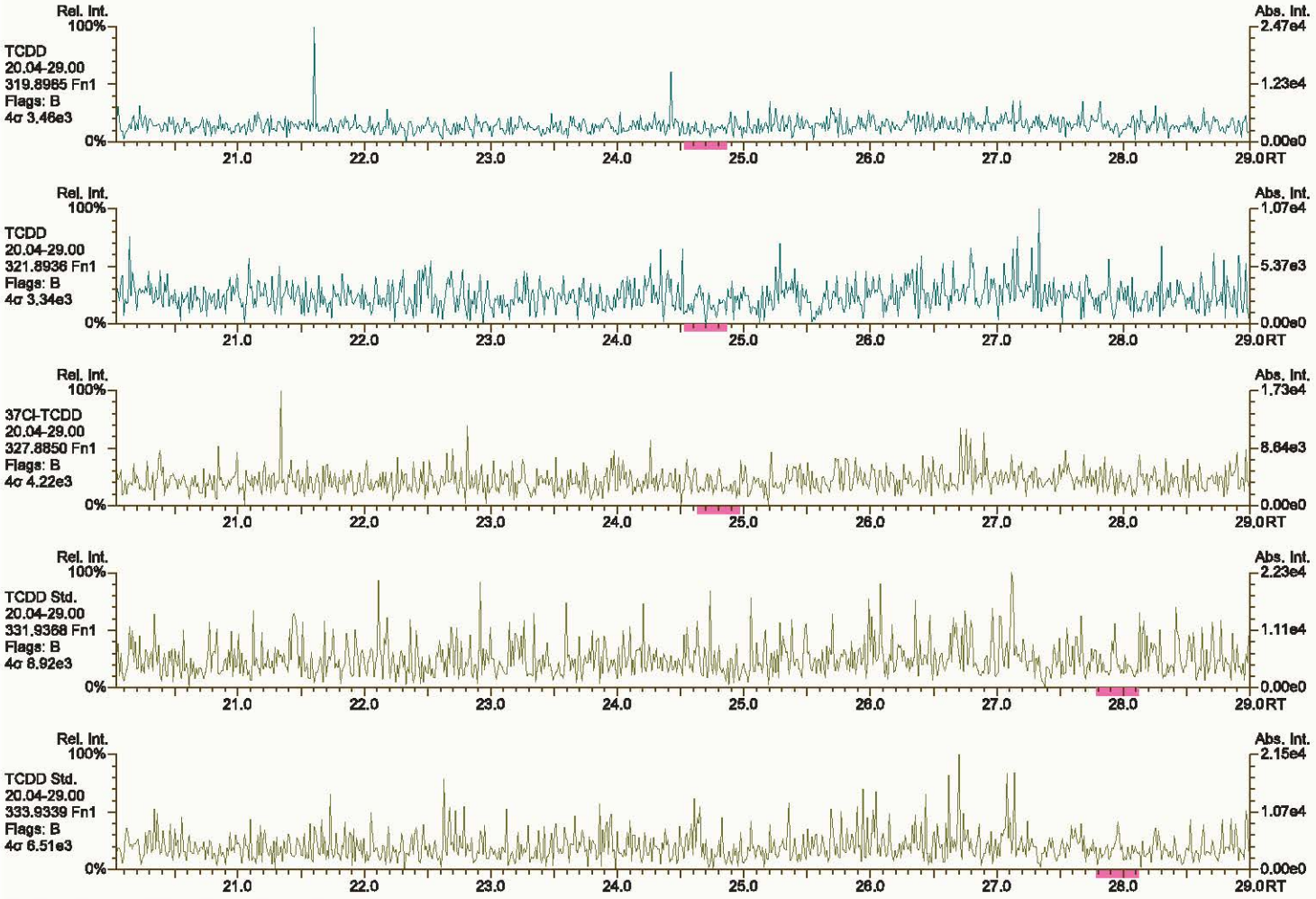
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 633-961

PKD: n/a Printed: 26-Jan-2022 11:21 Page 1 of 12

SGS ID: SBS_220125_DF_RC | Sample ID: SIL 20-61-1 | Acq: 26-Jan-2022 06:54:26

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R27



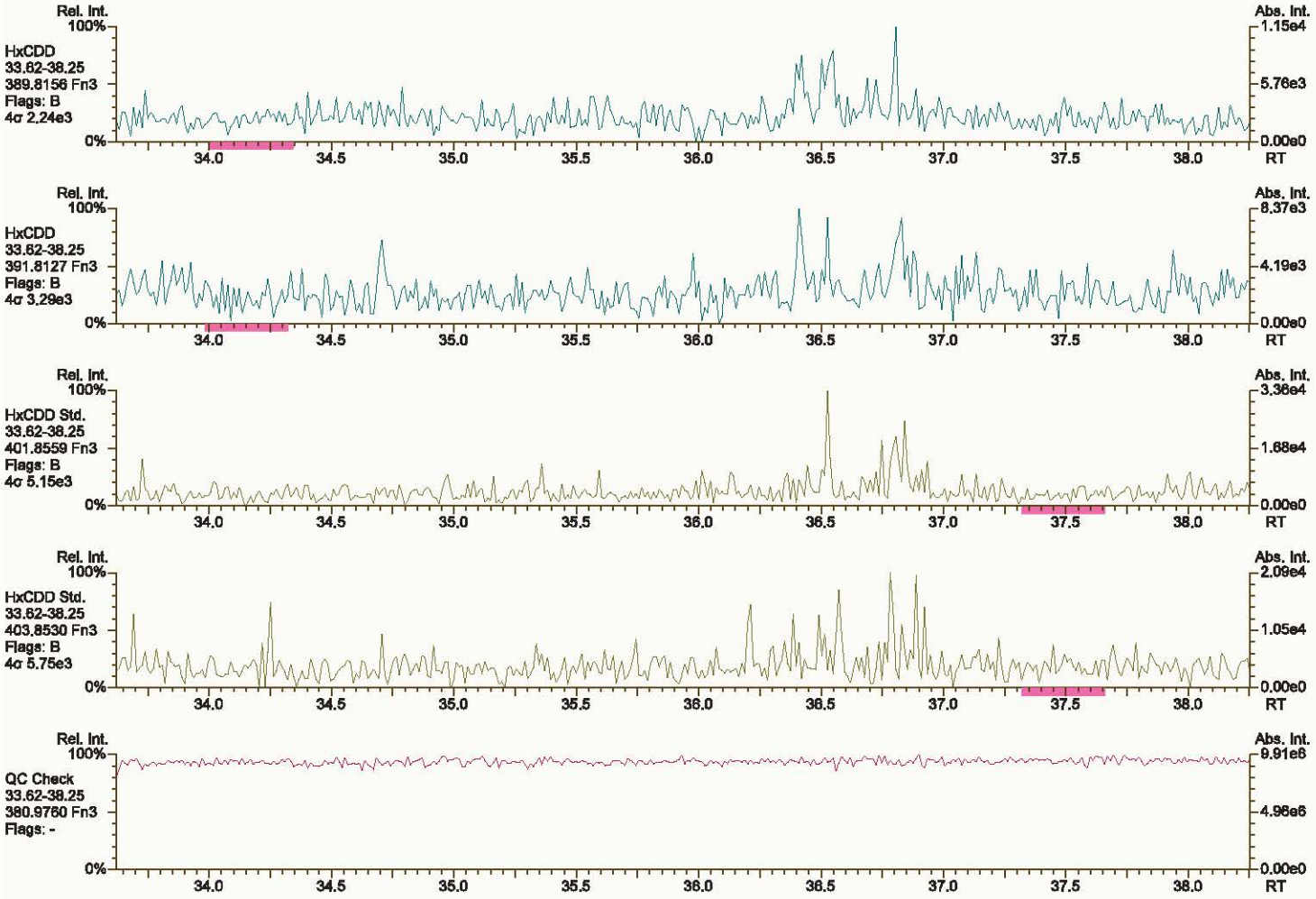
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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5049, 8029, 2006 scc: 633-961 *PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 2 of 12*


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: B
4σ 3.16e3
0%
Abs. Int.
8.12e3
4.06e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.32e3
4.66e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: B
4σ 4.68e3
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: B
4σ 5.73e3
0%
Abs. Int.
1.79e4
8.97e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.35e6
1.68e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT

SGS ID: SBS_220125_DF_RC | Sample ID: SIL 20-61-1 | Acq: 26-Jan-2022 06:54:26

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R27



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW)

Peak annotation: Areas, Centroids

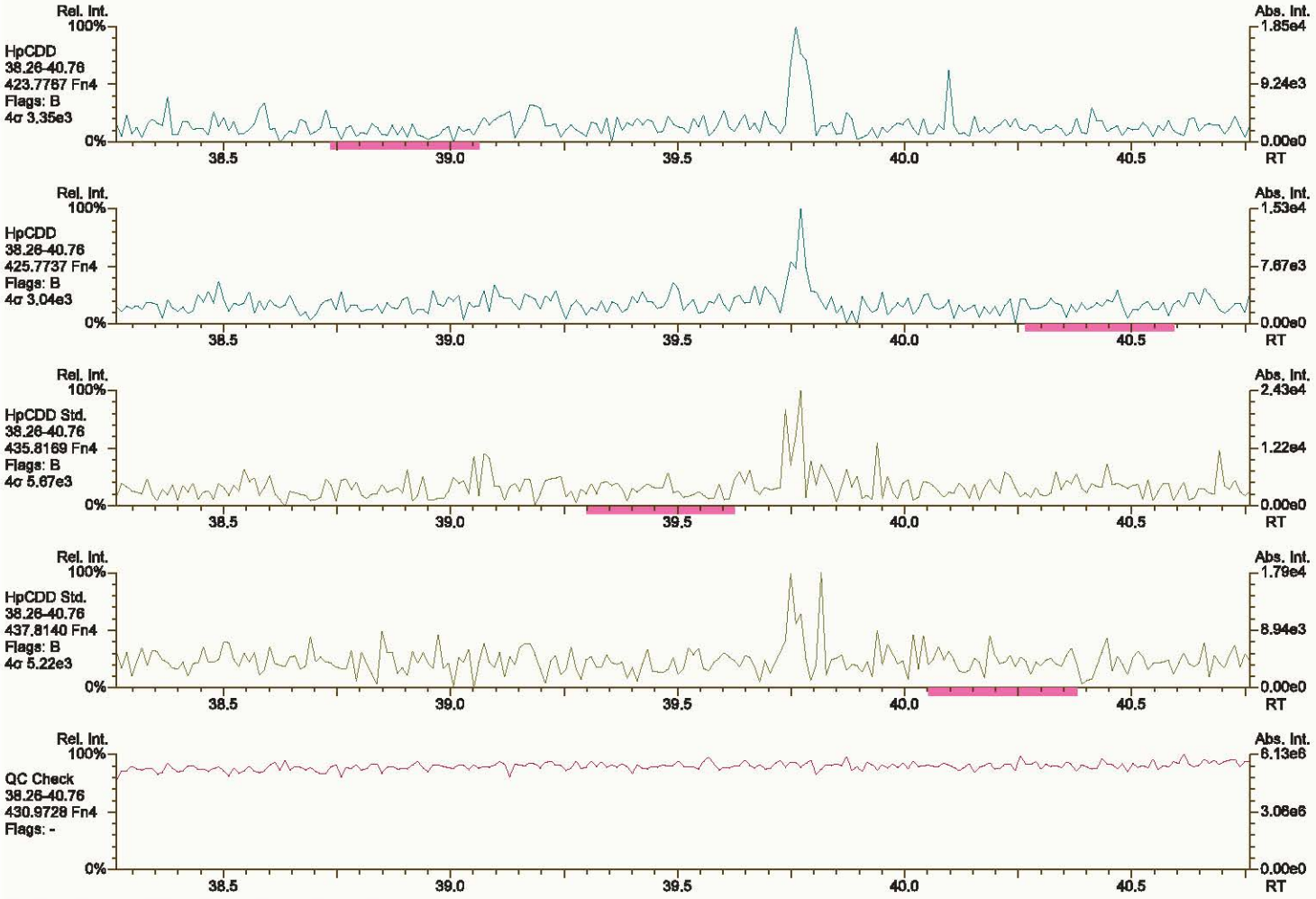
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0900, 1166 scc: 633-961

PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 4 of 12

SGS ID: SBS_220125_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

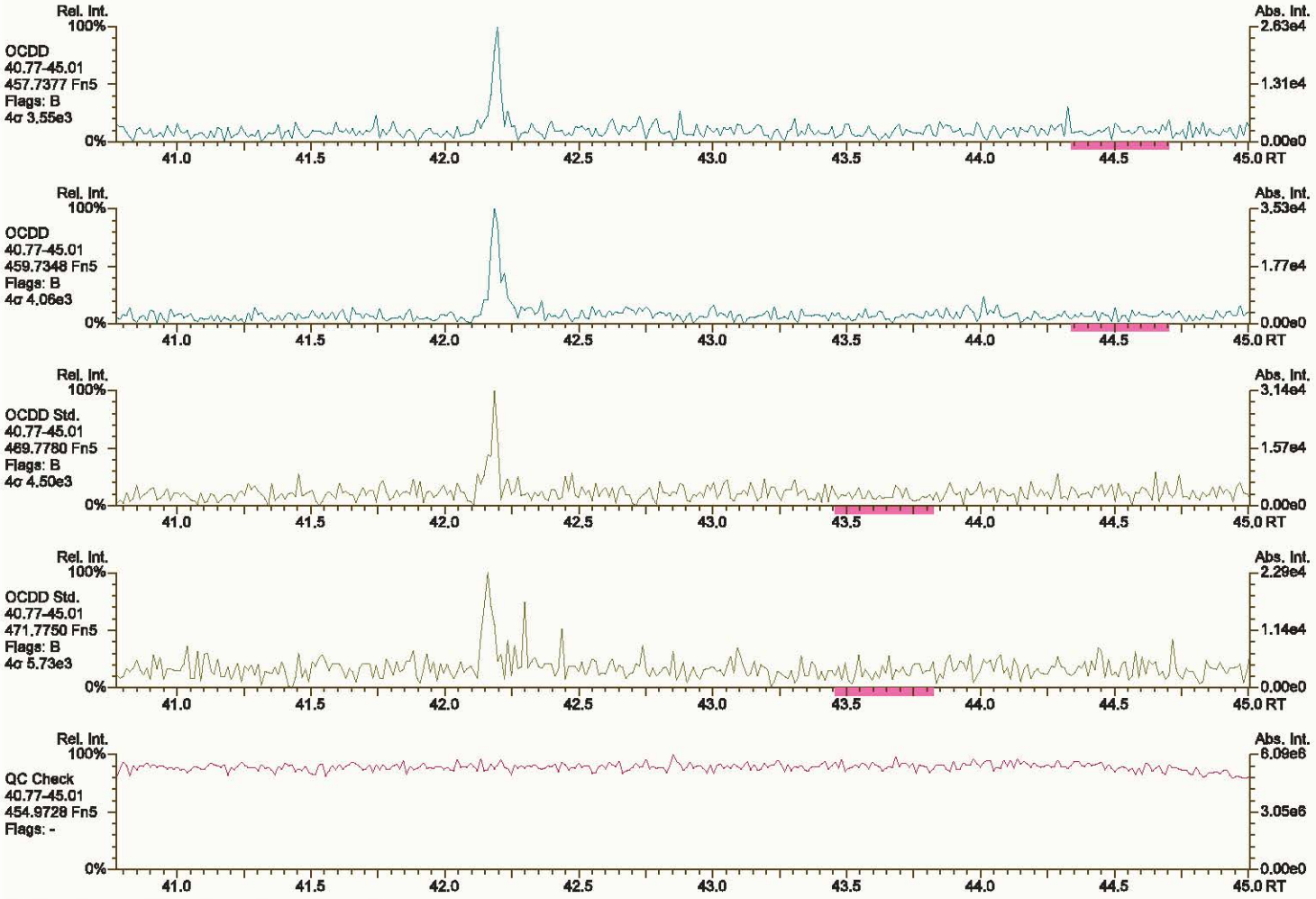
Acq: 26-Jan-2022 06:54:26
User: PSW Datafile: 220125R27



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9936, 8004 scc: 633-961
PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 5 of 12

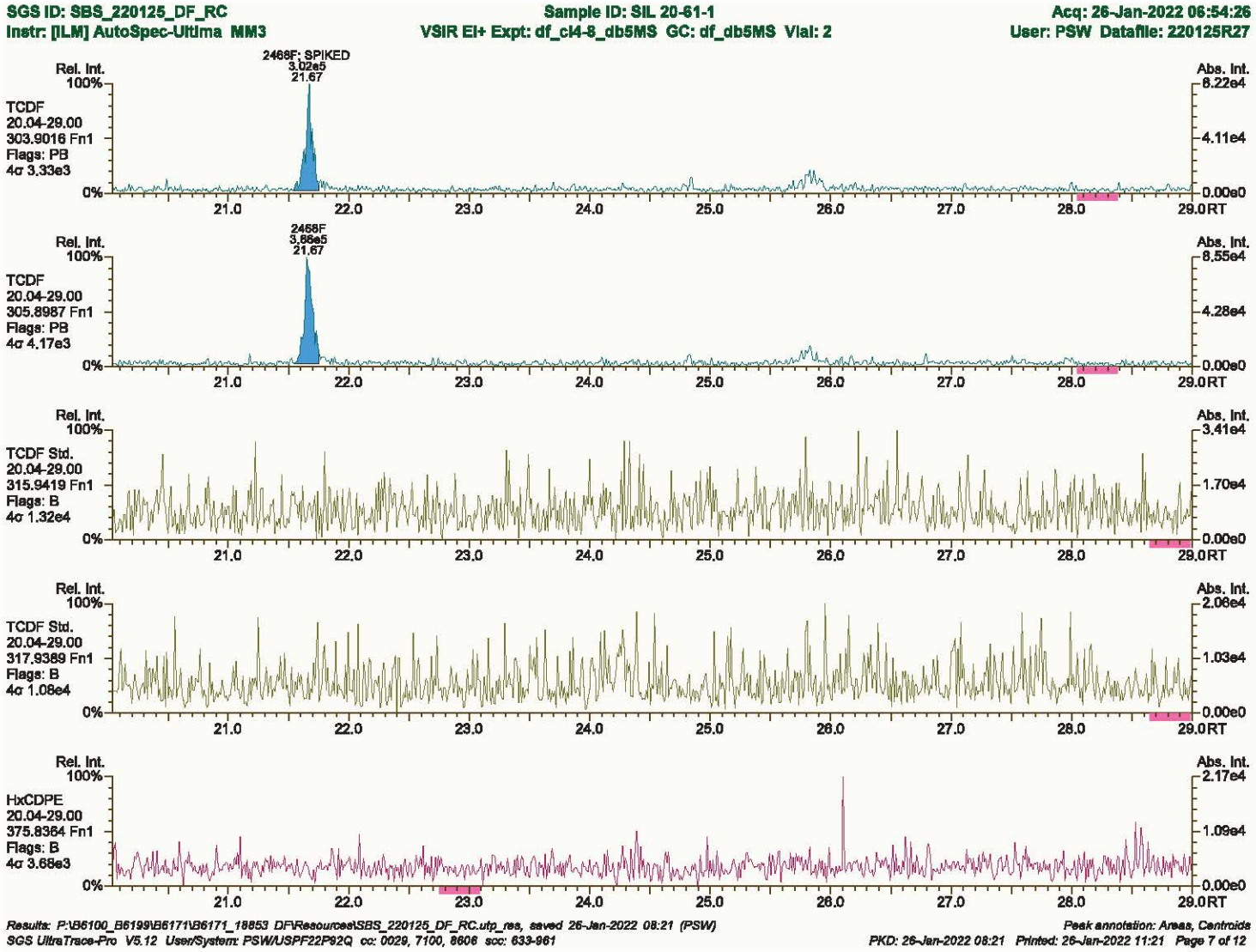
SGS ID: SBS_220125_DF_RC | Sample ID: SIL 20-61-1 | Acq: 26-Jan-2022 06:54:26

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R27



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW) *Peak annotation: Areas, Centroids*

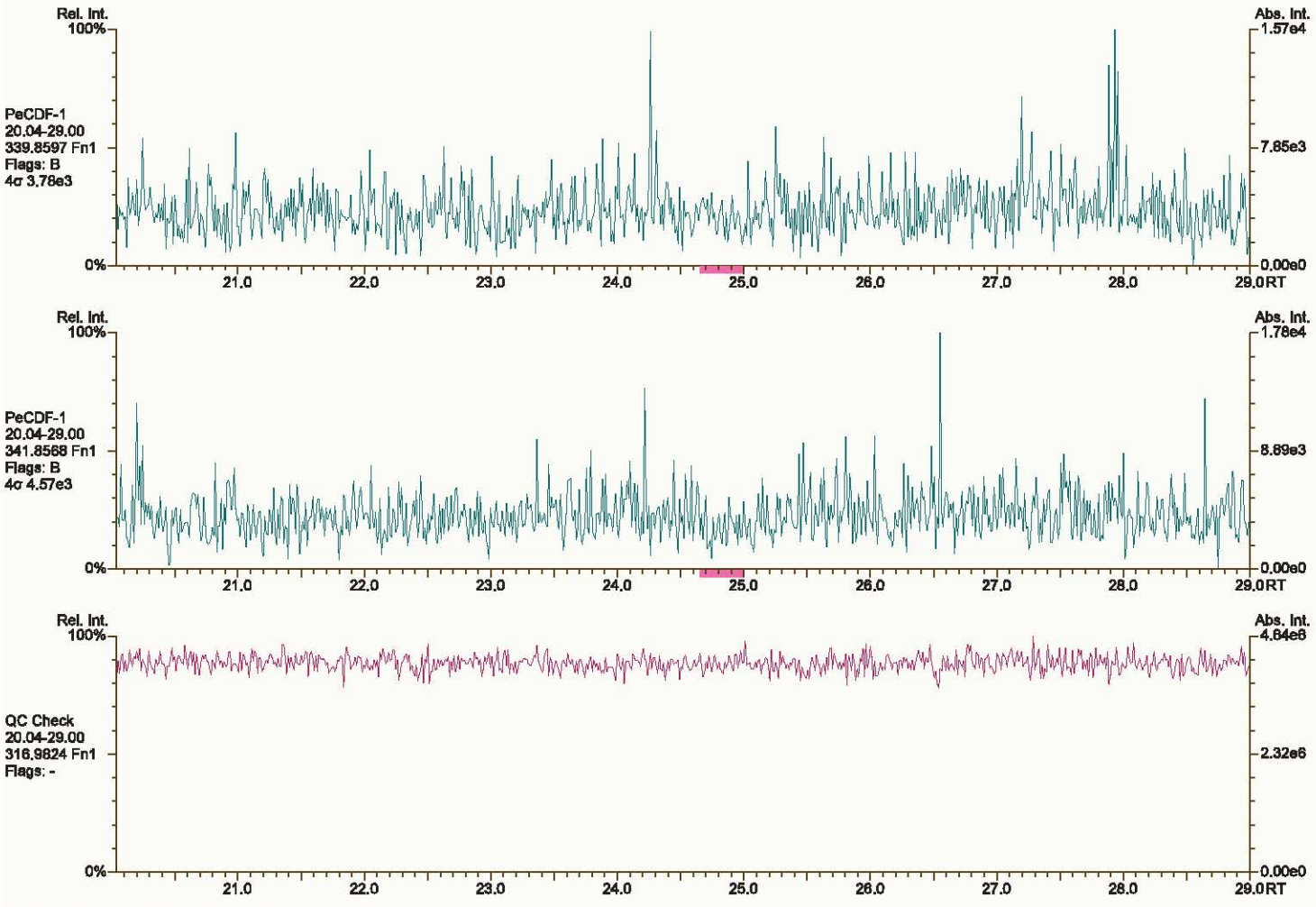
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0165, 0938 scc: 633-961 *PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 6 of 12*


SGS ID: SBS_220125_DF_RC
Sample ID: SIL 20-61-1
Acq: 26-Jan-2022 06:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220125R27
2468F: SPIKED
3.02e5
21.67
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 3.33e3
2468F
3.86e5
21.67
TCDF
20.04-29.00
305.8987 Fn1
Flags: PB
4σ 4.17e3
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: B
4σ 1.32e4
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: B
4σ 1.08e4
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 3.68e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0029, 7100, 8606 scc: 633-961
PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 7 of 12

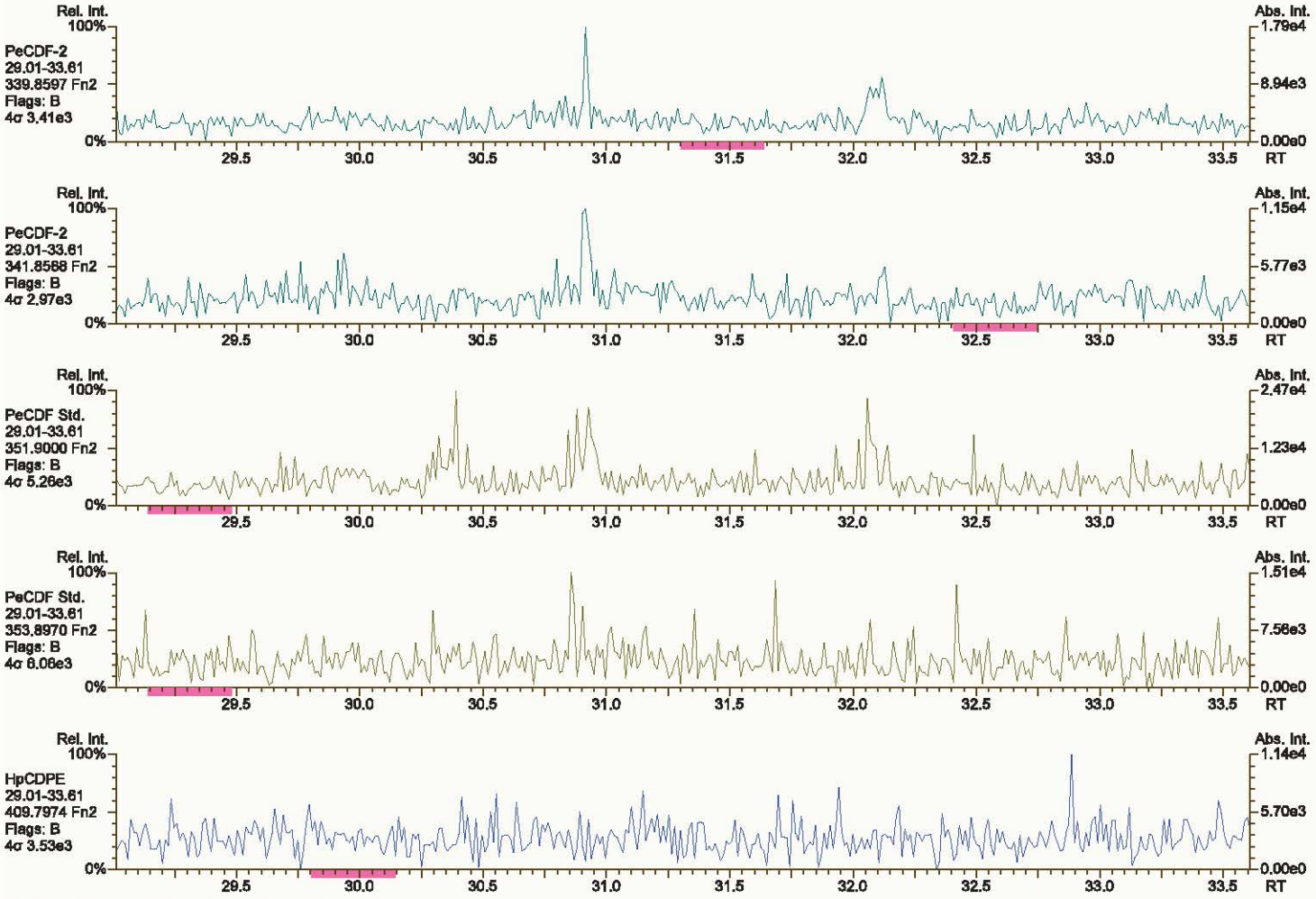
SGS ID: SBS_220125_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

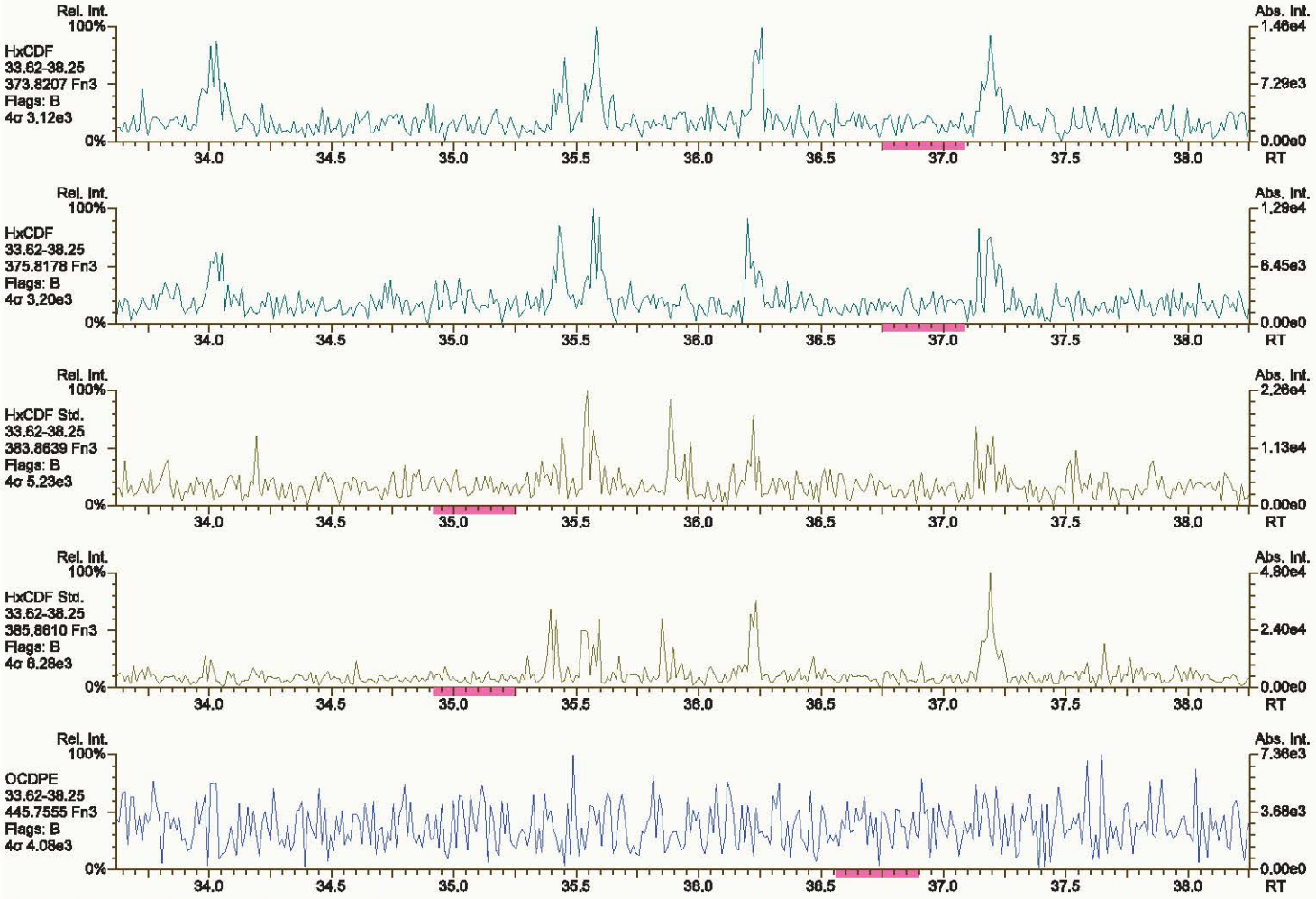
Acq: 26-Jan-2022 06:54:26
User: PSW Datafile: 220125R27



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7760 scc: 633-961
PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 8 of 12

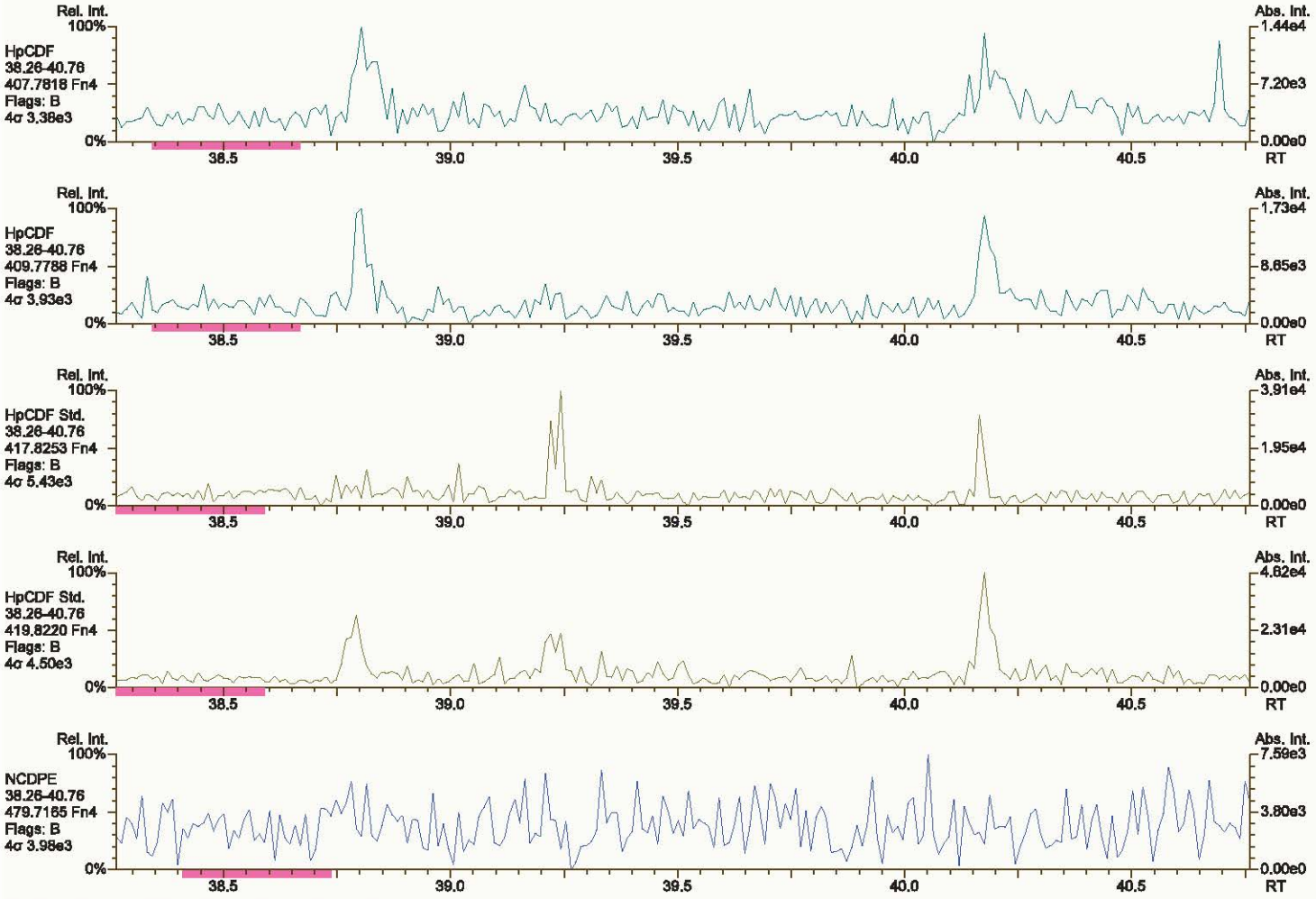

Rel. Int.
100%
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: B
4σ 3.41e3
0%
Abs. Int.
1.79e4
8.94e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 RT
Rel. Int.
100%
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.47e4
1.23e4
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: B
4σ 6.06e3
0%
Abs. Int.
1.51e4
7.58e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 RT
Rel. Int.
100%
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.53e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 RT

SGS ID: SBS_220125_DF_RC | Sample ID: SIL 20-61-1 | Acq: 26-Jan-2022 06:54:26
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R27



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7689, 8599, 9163 scc: 633-961
PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 10 of 12

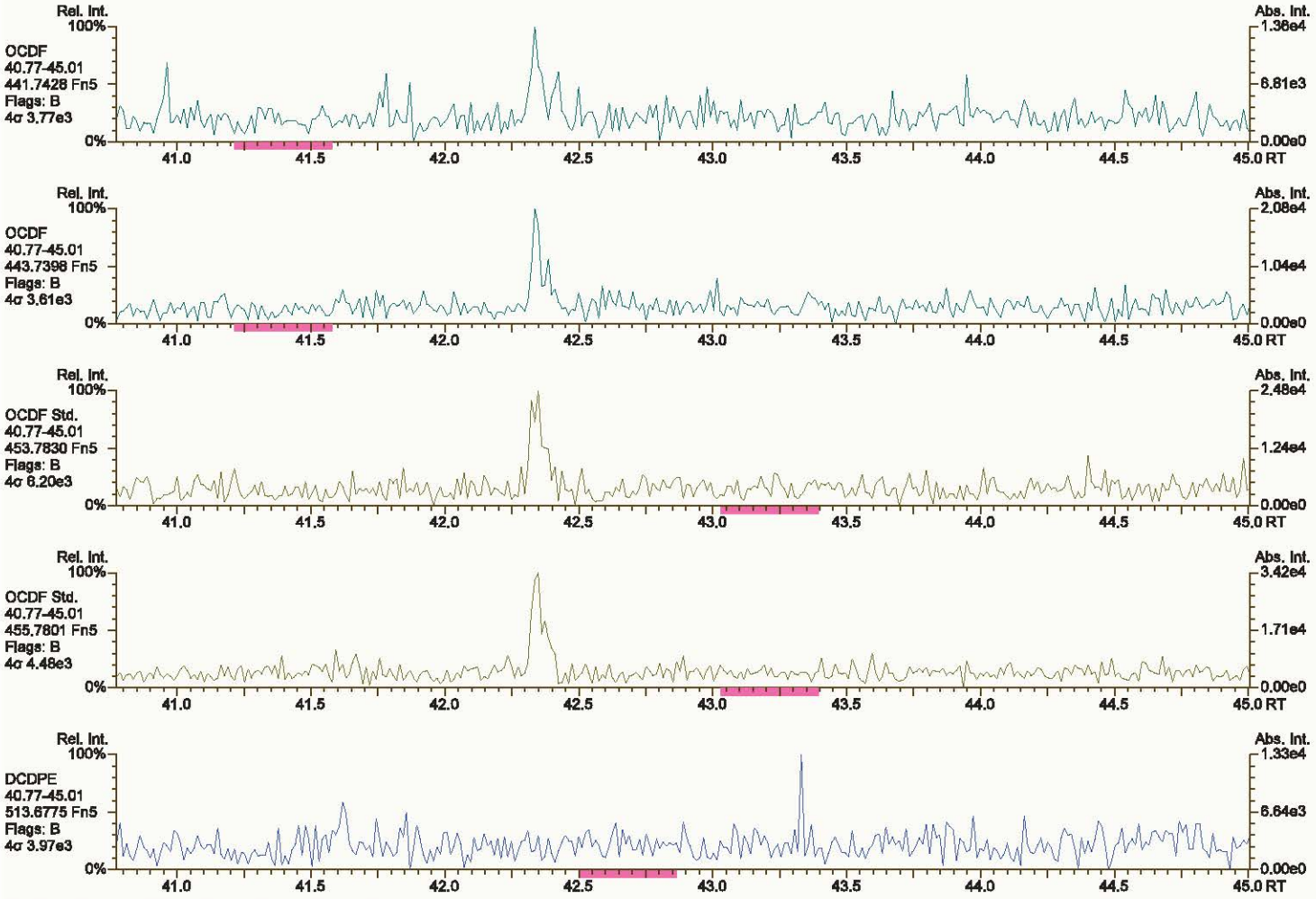
SGS ID: SBS_220125_DF_RC | **Sample ID: SIL 20-61-1** | **Acq: 26-Jan-2022 06:54:26**
Instr: [ILM] AutoSpec-Ultima MM3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2** | **User: PSW Datafile: 220125R27**



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9765, 9321, 3639 scc: 633-961
PKD: 26-Jan-2022 08:21 Printed: 26-Jan-2022 11:21 Page 11 of 12

SGS ID: SBS_220125_DF_RC | Sample ID: SIL 20-61-1 | Acq: 26-Jan-2022 06:54:26

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 220125R27

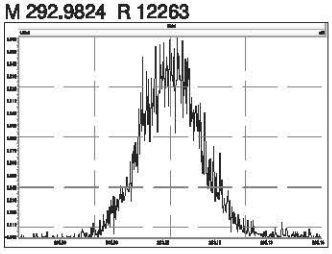


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\SBS_220125_DF_RC.utp_res, saved 26-Jan-2022 08:21 (PSW) *Peak annotation: Areas, Centroids*

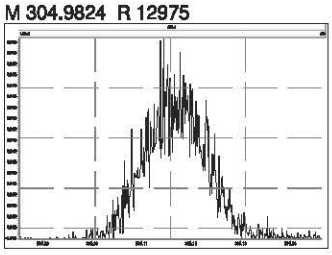
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Printed: Tuesday, January 25, 2022 09:46:23 Eastern Standard Time

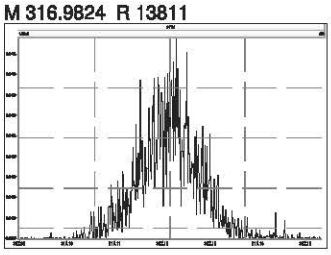
M 292.9824 R 12263



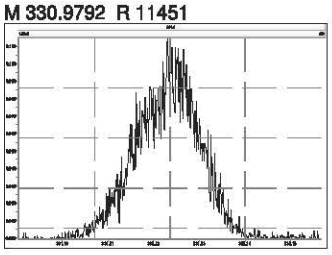
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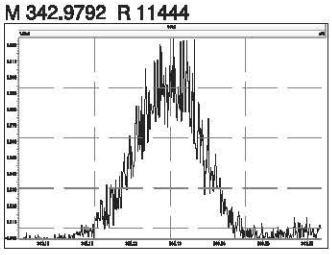
M 316.9824 R 13811



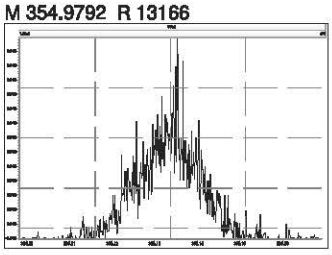
M 330.9792 R 11451



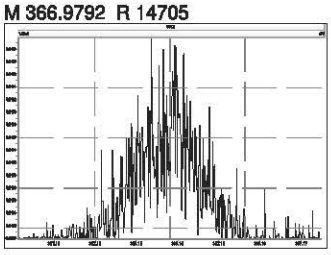
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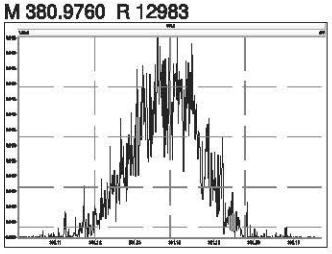
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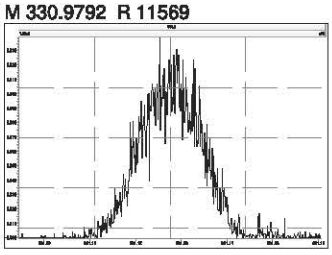
M 366.9792 R 14705



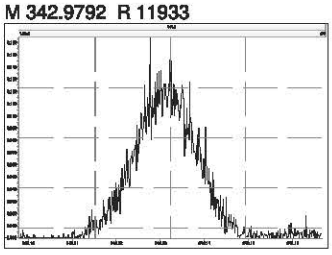
M 380.9760 R 12983



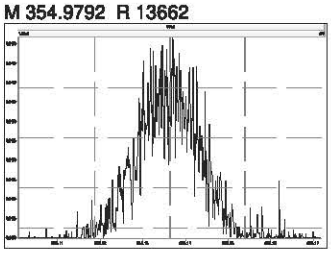
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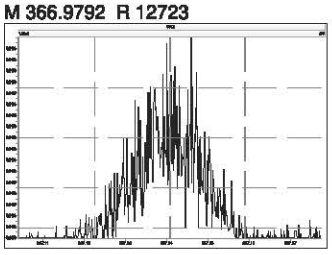
M 342.9792 R 11933



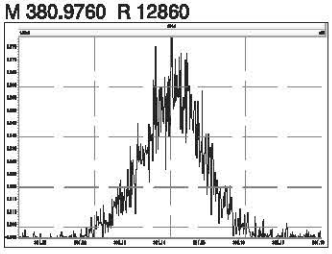
M 354.9792 R 13662



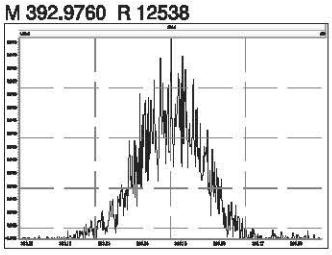
M 366.9792 R 12723



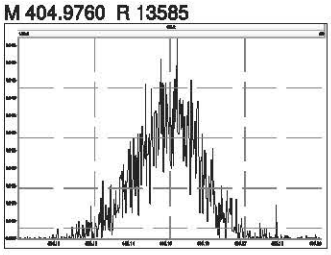
M 380.9760 R 12860



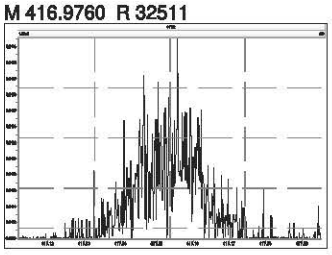
M 392.9760 R 12538



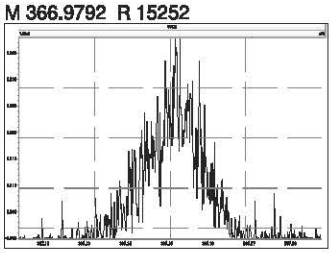
M 404.9760 R 13585



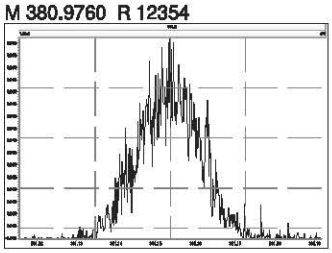
M 416.9760 R 32511



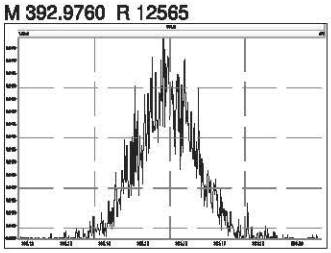
M 366.9792 R 15252



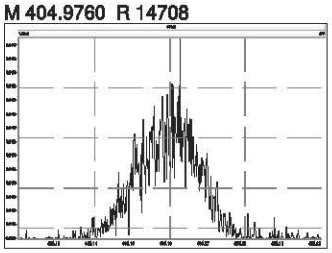
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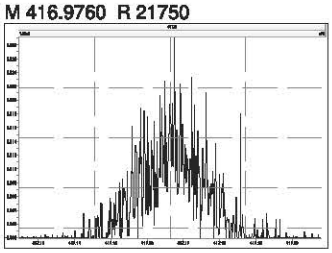
M 392.9760 R 12565



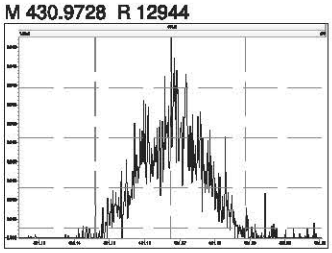
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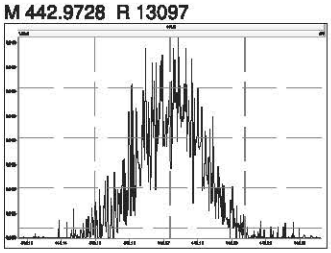
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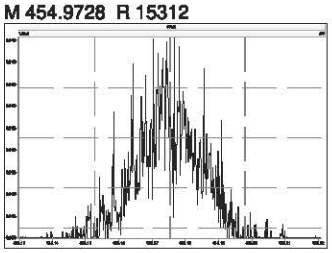
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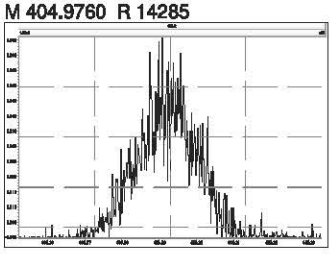
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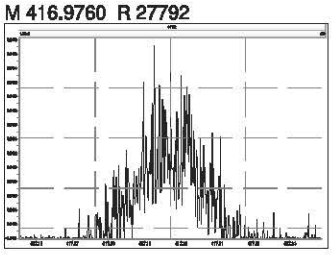
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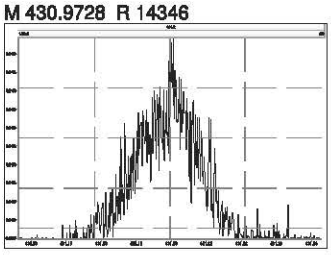
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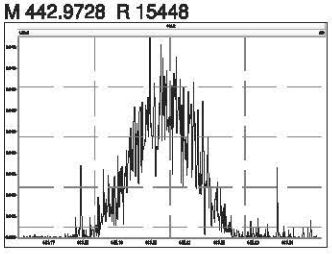
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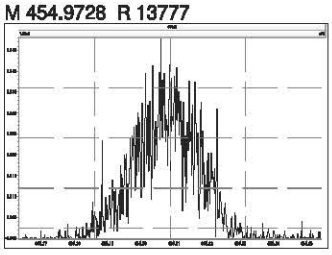
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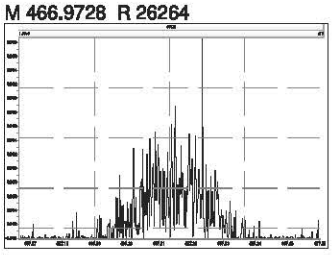
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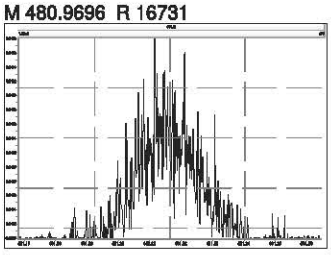
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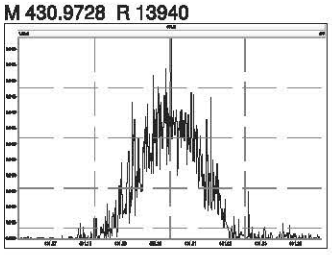
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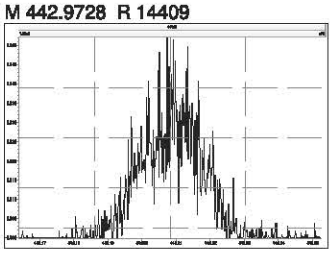
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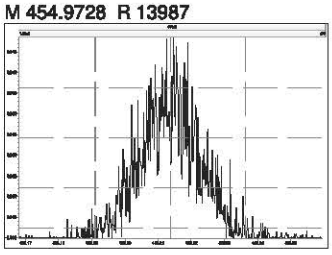
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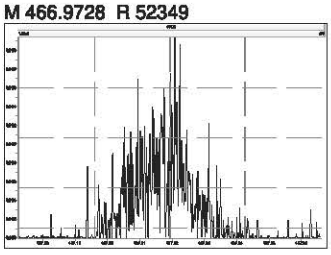
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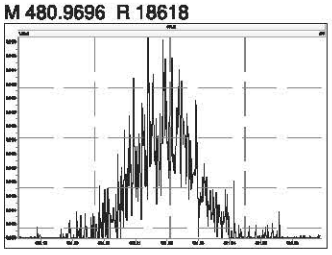
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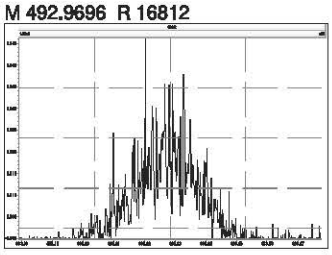
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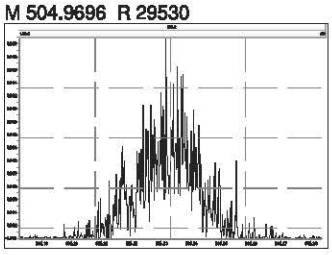
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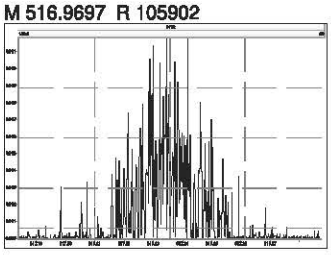
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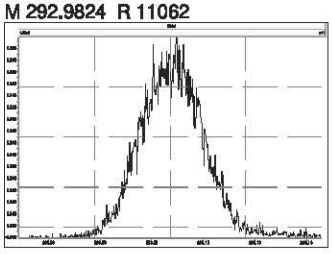


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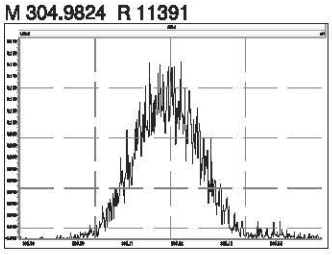


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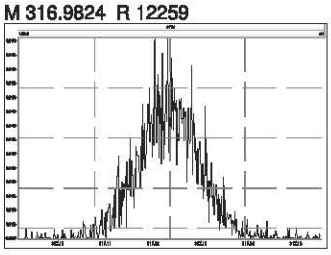
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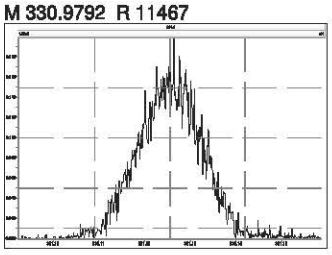
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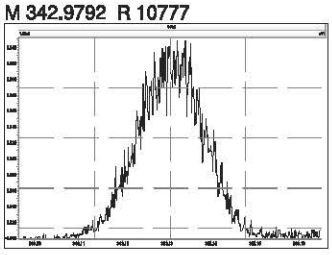
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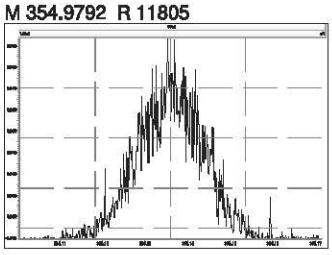
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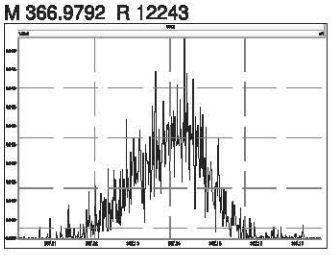
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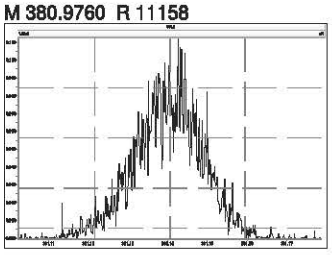
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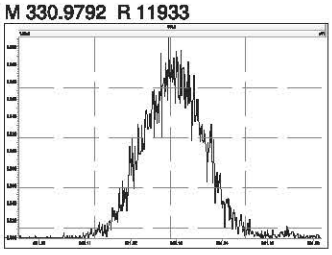
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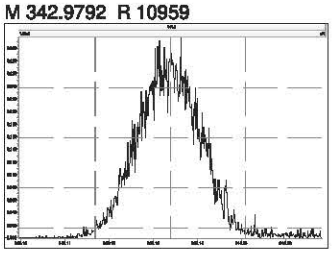
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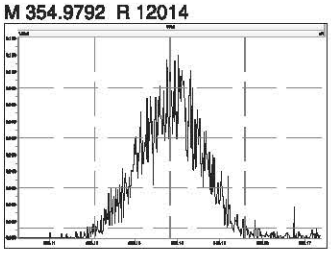
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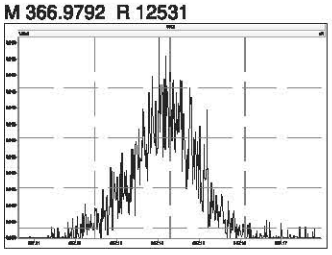
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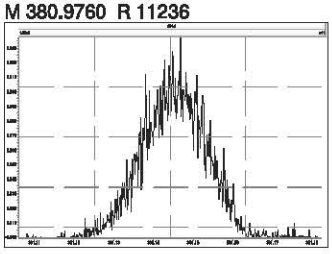
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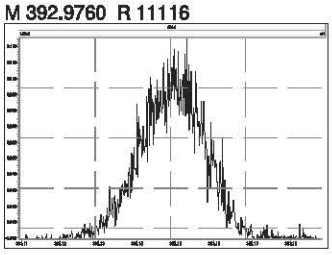
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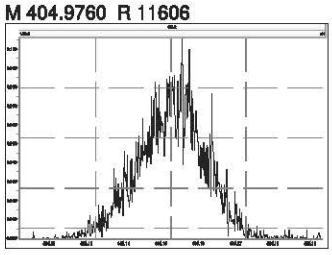
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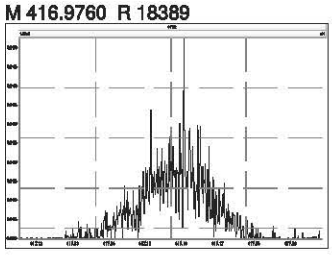
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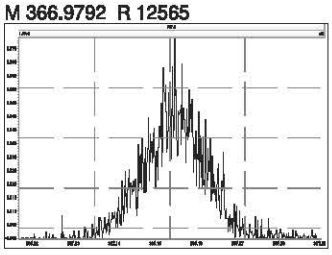
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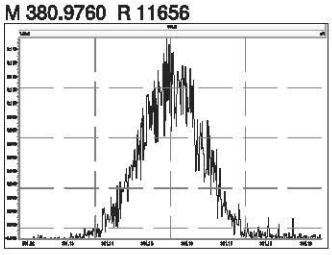
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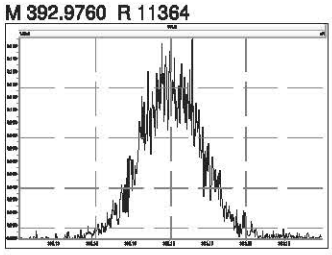
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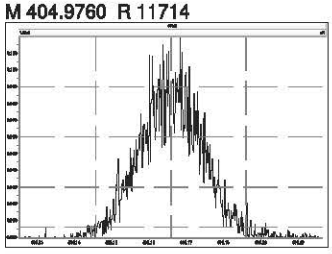
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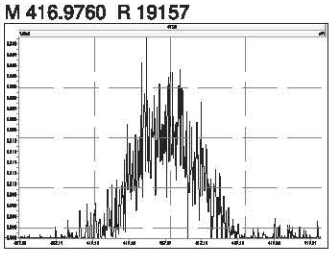
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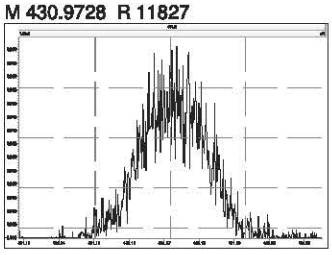
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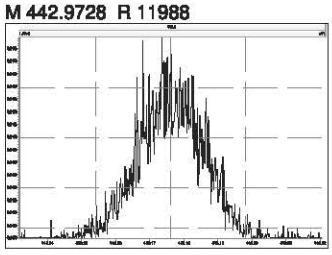
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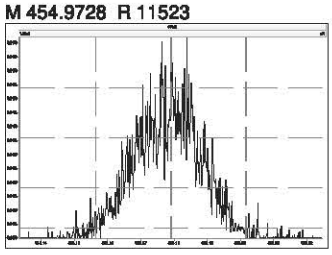
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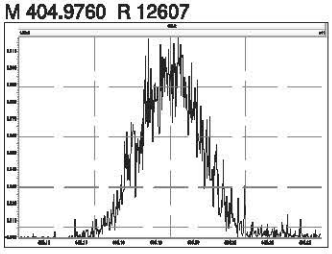
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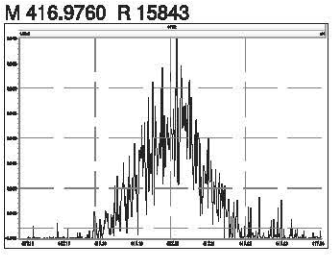
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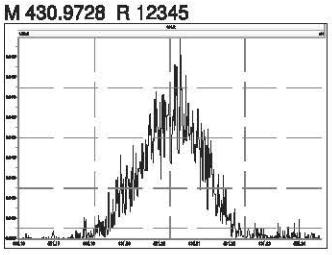
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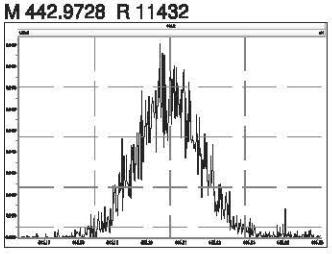
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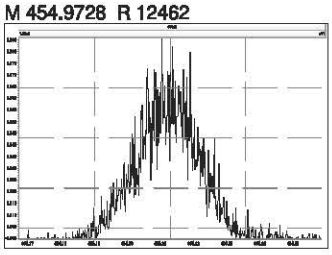
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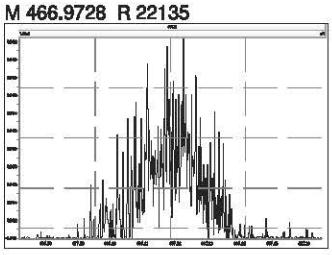
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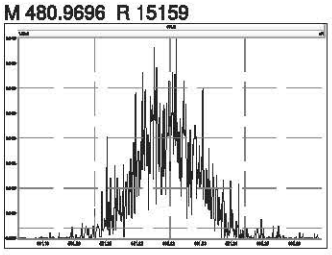
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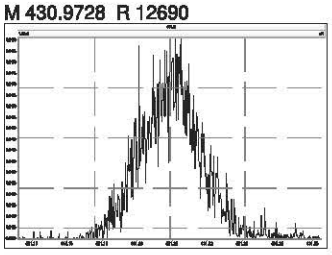
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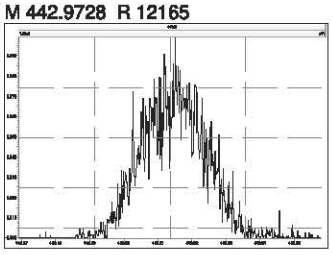
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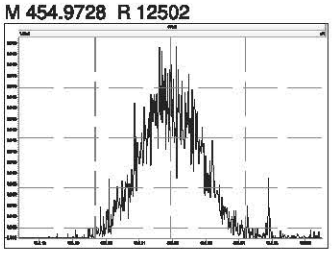
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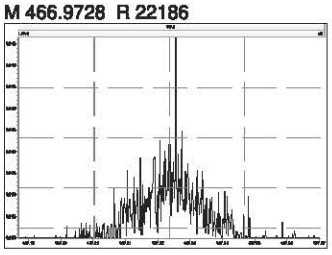
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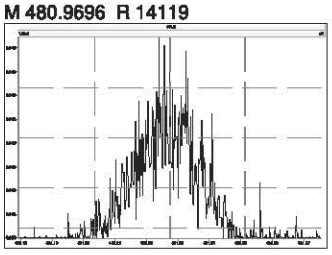
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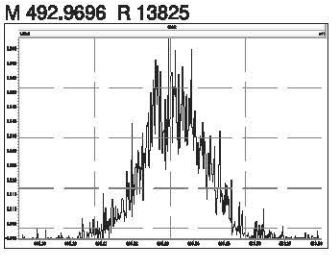
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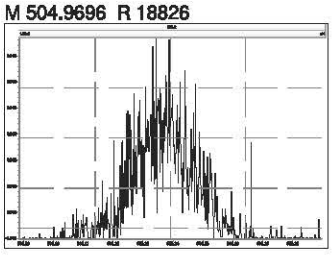
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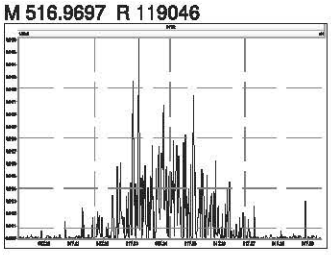
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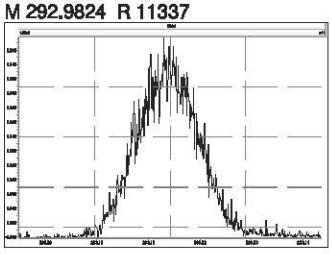


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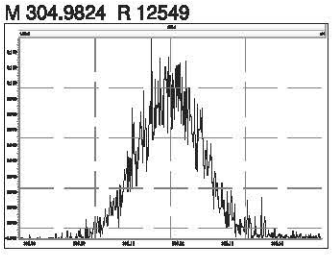


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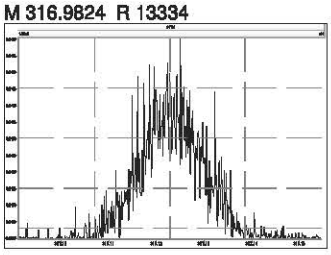
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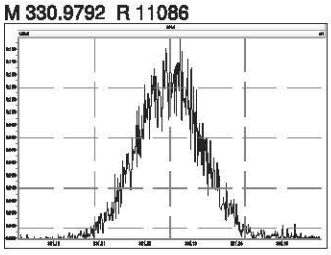
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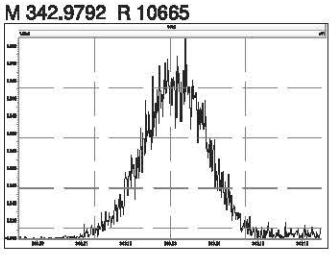
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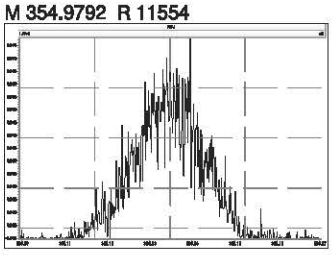
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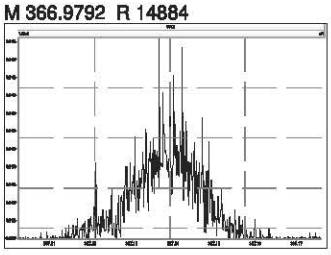
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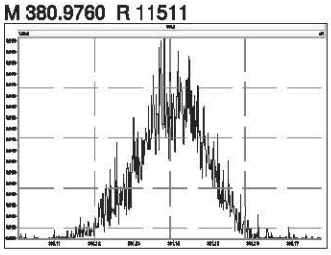
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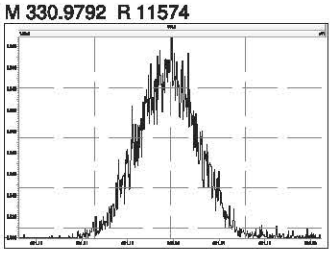
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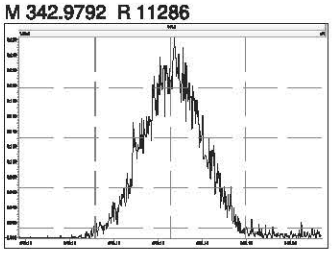
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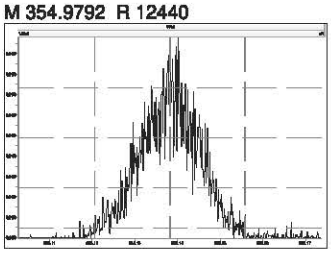
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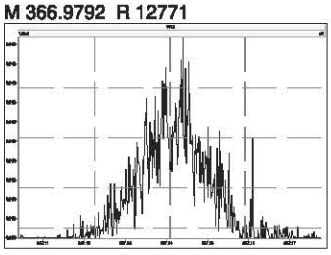
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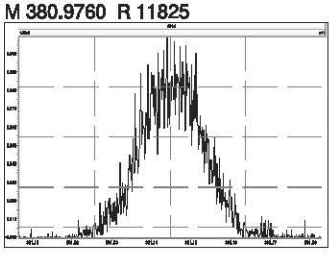
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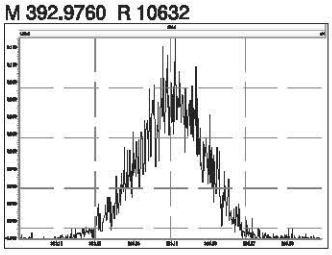
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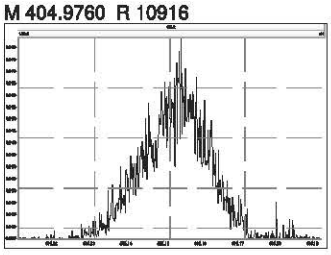
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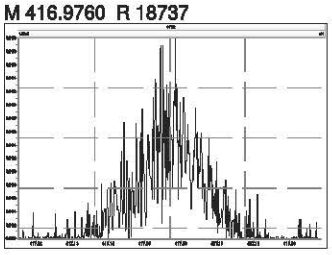
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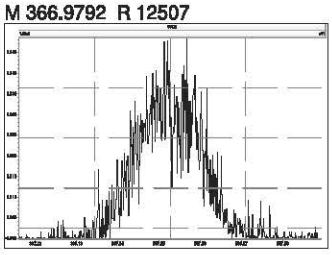
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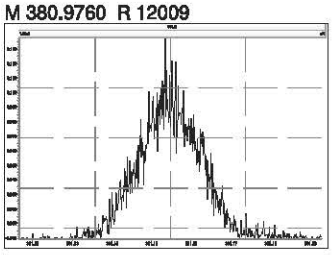
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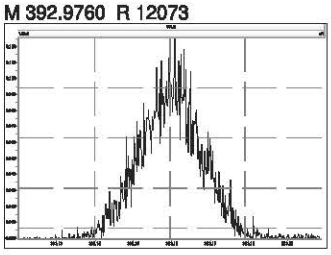
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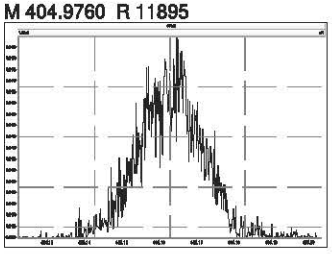
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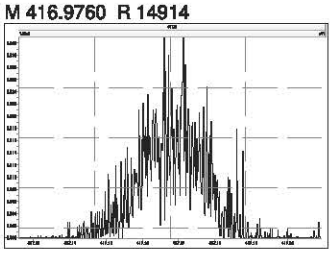
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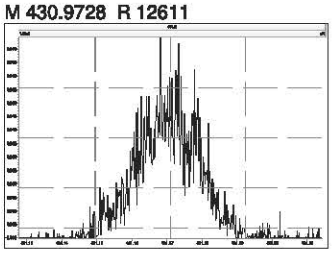
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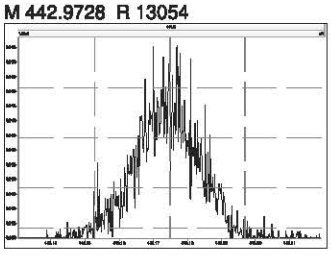
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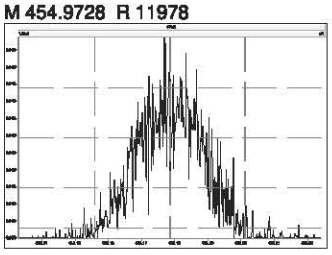
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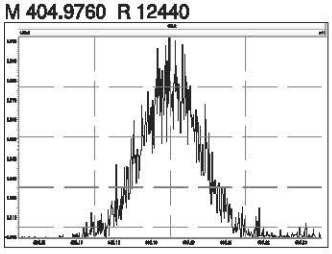
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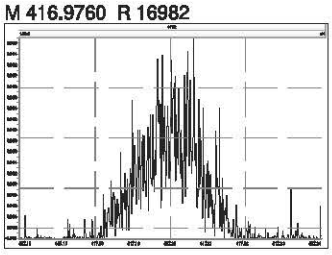
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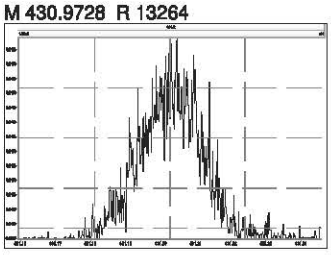
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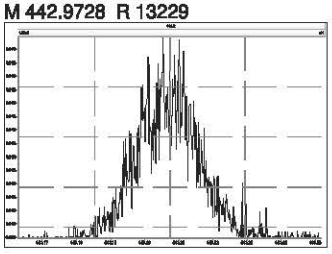
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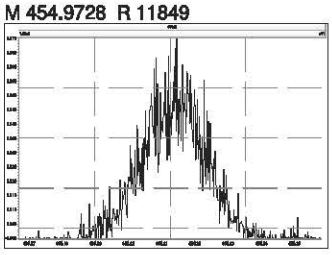
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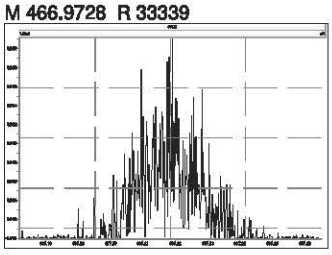
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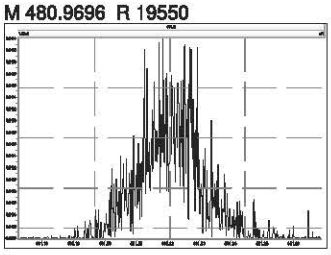
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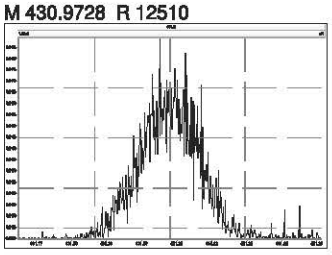
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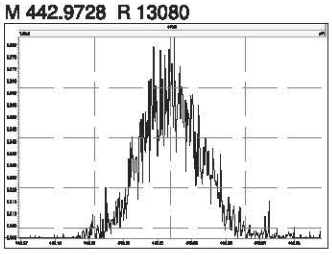
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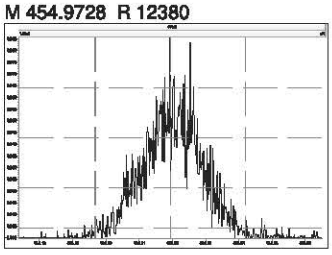
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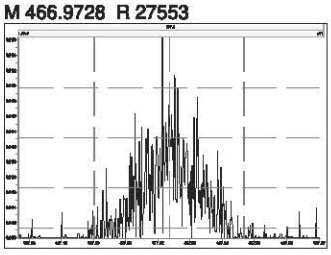
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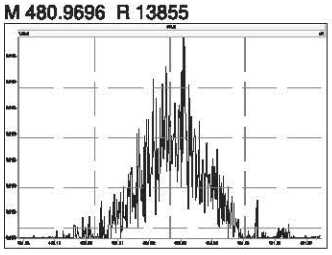
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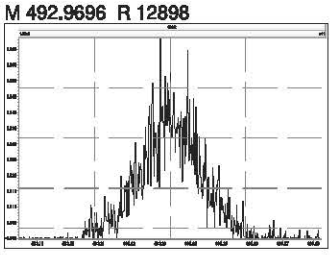
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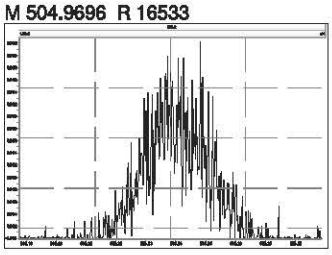
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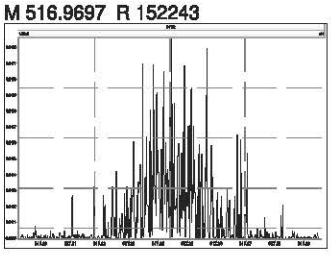
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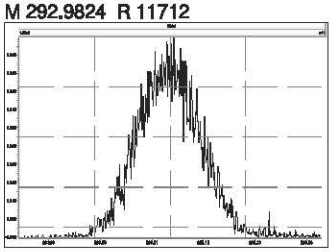


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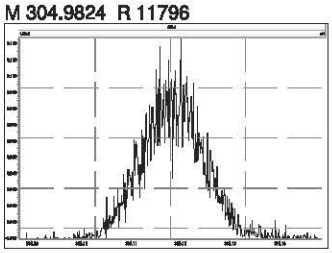


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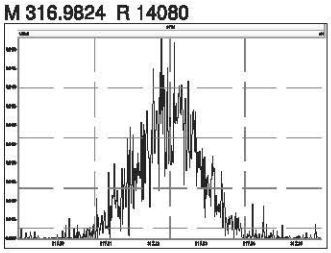
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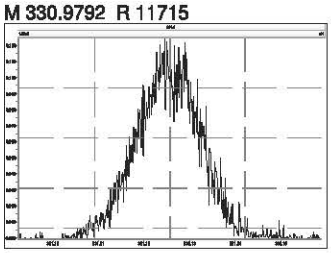
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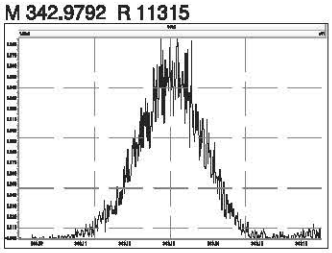
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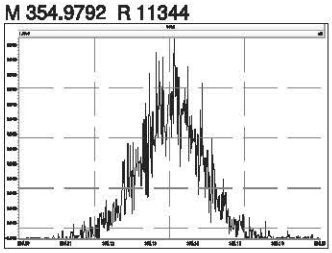
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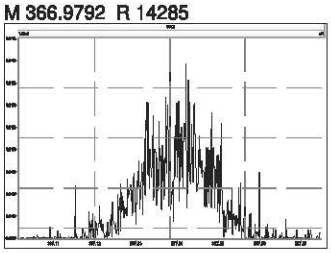
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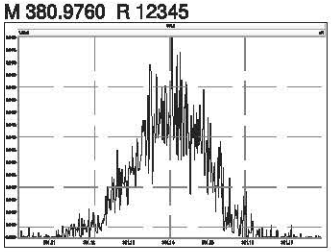
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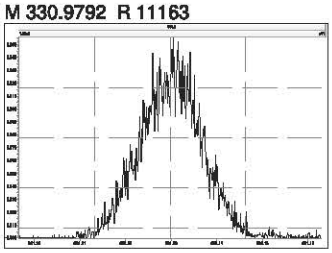
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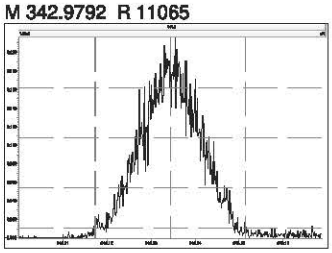
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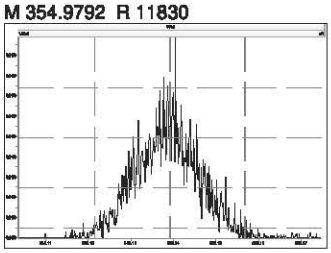
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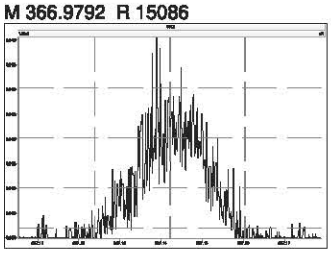
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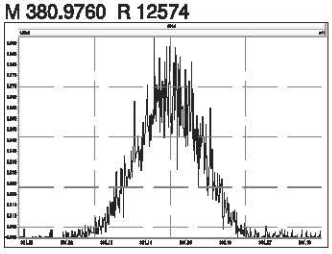
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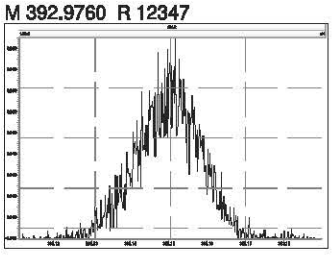
M 366.9792 R 15086



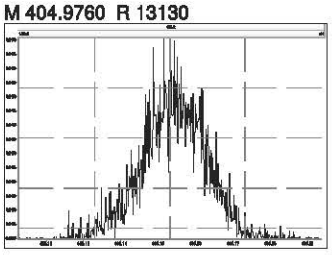
M 380.9760 R 12574



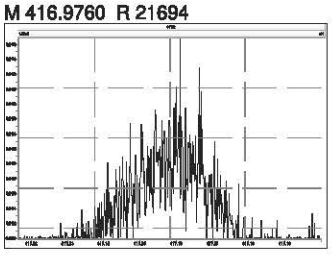
M 392.9760 R 12347



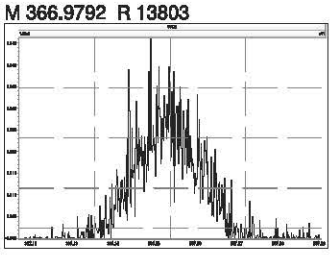
M 404.9760 R 13130



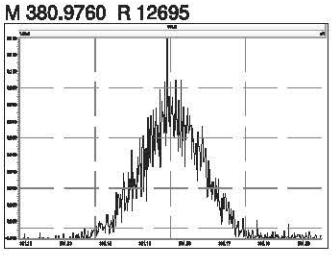
M 416.9760 R 21694



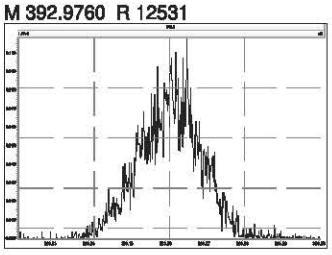
M 366.9792 R 13803



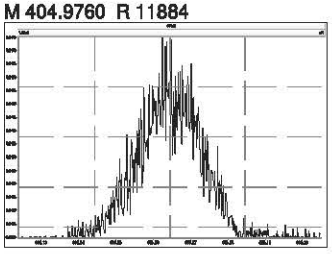
M 380.9760 R 12695



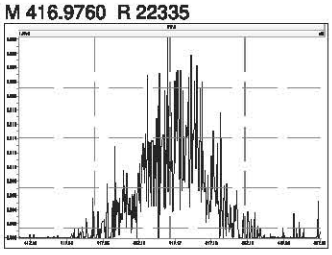
M 392.9760 R 12531



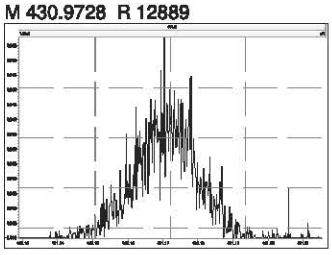
M 404.9760 R 11884



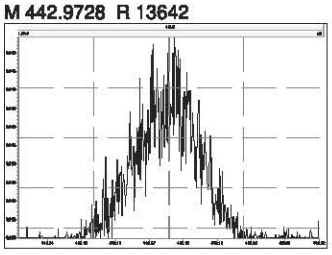
M 416.9760 R 22335



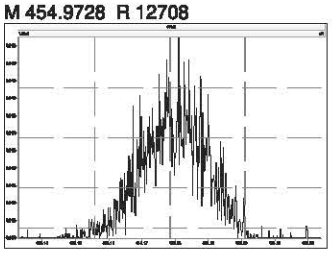
M 430.9728 R 12889



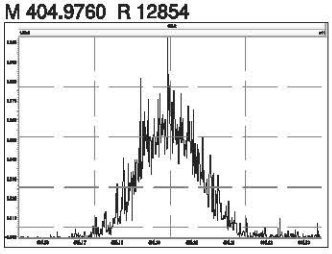
M 442.9728 R 13642



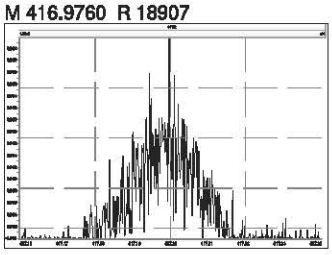
M 454.9728 R 12708



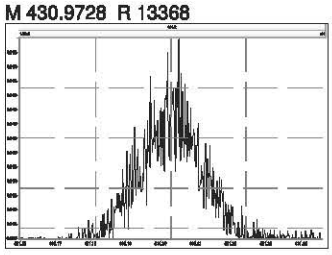
M 404.9760 R 12854



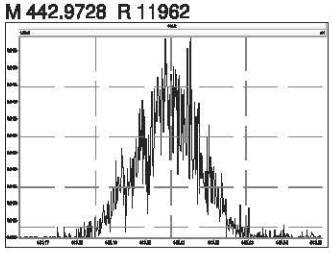
M 416.9760 R 18907



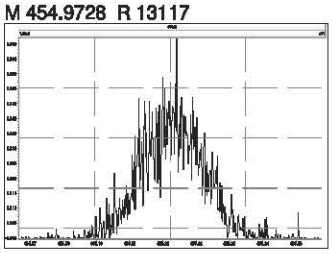
M 430.9728 R 13368



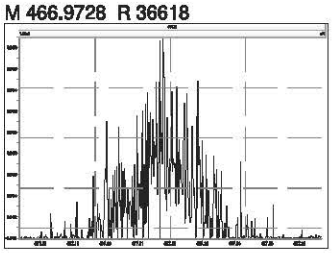
M 442.9728 R 11962



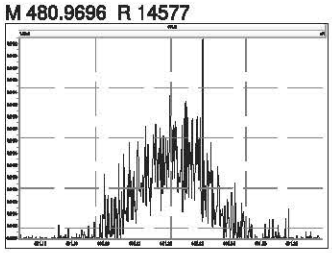
M 454.9728 R 13117



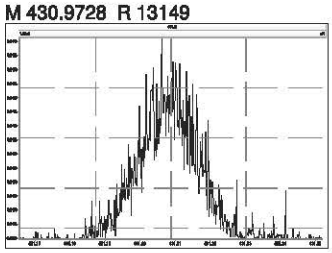
M 466.9728 R 36618



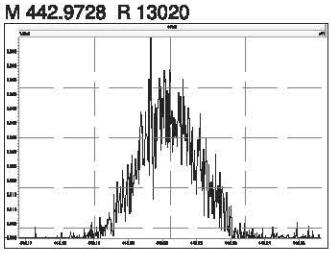
M 480.9696 R 14577



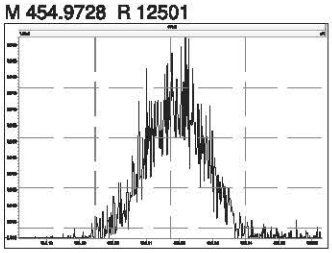
M 430.9728 R 13149



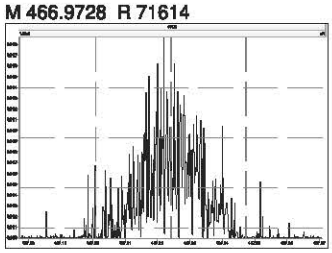
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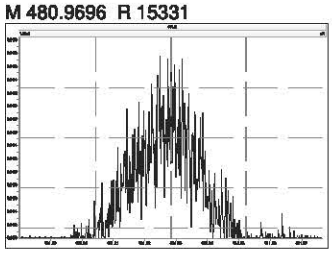
M 454.9728 R 12501



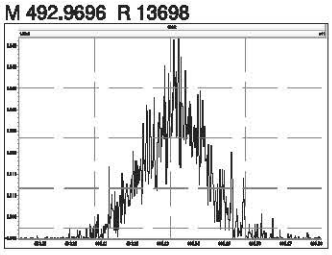
M 466.9728 R 71614



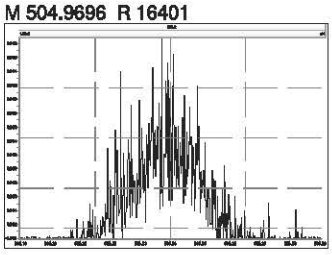
M 480.9696 R 15331



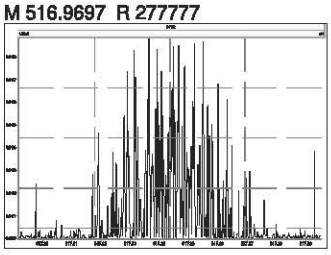
M 492.9696 R 13698



M 504.9696 R 16401



M 516.9697 R 277777



Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 0.25 pg/uL CS0	210727R03 0.5 pg/uL CS1	210727R04 2 pg/uL CS2	210727R05 10 pg/uL CS3	210727R06 40 pg/uL CS4	210727R07 200 pg/uL CS5	210727R08 500 pg/uL CS6
2378-TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
12378-PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
123478-HxCDD	1.06	3.3%	1.10	1.10	0.99	1.05	1.05	1.06	1.05
123678-HxCDD	1.08	2.9%	1.12	1.07	1.02	1.08	1.10	1.10	1.09
123789-HxCDD	1.02	4.8%	1.10	1.05	0.95	0.99	0.99	1.01	1.00
1234678-HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
OCDD	1.07	4.2%	1.15	1.04	1.01	1.07	1.08	1.06	1.08
2378-TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
12378-PeCDF	0.95	3.2%	1.00	0.94	0.90	0.94	0.95	0.93	0.96
23478-PeCDF	0.94	3.7%	0.99	0.90	0.90	0.92	0.93	0.96	0.96
123478-HxCDF	1.23	3.3%	1.32	1.23	1.19	1.22	1.24	1.24	1.22
123678-HxCDF	1.13	3.0%	1.17	1.16	1.07	1.10	1.13	1.14	1.14
234678-HxCDF	1.15	4.2%	1.23	1.19	1.08	1.14	1.13	1.15	1.15
123789-HxCDF	1.14	3.5%	1.19	1.08	1.09	1.14	1.14	1.15	1.16
1234678-HpCDF	1.36	3.6%	1.46	1.35	1.31	1.34	1.33	1.37	1.36
1234789-HpCDF	1.30	4.0%	1.34	1.20	1.26	1.34	1.30	1.35	1.33
OCDF	1.03	4.1%	1.01	1.01	0.95	1.03	1.05	1.06	1.08
ES 2378-TCDD	1.03	1.7%	1.02	1.02	1.02	1.05	1.06	1.04	1.02
ES 12378-PeCDD	1.03	3.5%	1.01	1.02	0.99	1.01	1.03	1.07	1.10
ES 123478-HxCDD	0.99	4.4%	0.97	0.93	0.99	1.00	0.98	1.03	1.07
ES 123678-HxCDD	0.97	5.2%	0.94	0.91	0.95	1.01	0.94	1.02	1.05
ES 123789-HxCDD	1.12	5.1%	1.09	1.04	1.12	1.14	1.09	1.17	1.22
ES 1234678-HpCDD	0.99	5.2%	0.95	0.92	0.98	1.02	0.97	1.05	1.06
ES OCDD	0.78	8.4%	0.73	0.71	0.74	0.77	0.75	0.85	0.89
ES 2378-TCDF	1.08	1.2%	1.06	1.08	1.07	1.09	1.09	1.08	1.10
ES 12378-PeCDF	0.93	2.7%	0.91	0.91	0.92	0.93	0.95	0.95	0.98
ES 23478-PeCDF	0.92	2.4%	0.90	0.91	0.90	0.93	0.93	0.93	0.96
ES 123478-HxCDF	1.14	5.9%	1.09	1.04	1.13	1.18	1.12	1.21	1.23
ES 123678-HxCDF	1.30	4.9%	1.24	1.21	1.27	1.35	1.27	1.36	1.37
ES 234678-HxCDF	1.20	4.9%	1.14	1.12	1.18	1.23	1.20	1.27	1.27
ES 123789-HxCDF	1.14	5.9%	1.06	1.07	1.11	1.16	1.12	1.20	1.24
ES 1234678-HpCDF	0.95	5.7%	0.90	0.88	0.92	0.98	0.94	1.00	1.03
ES 1234789-HpCDF	0.85	7.0%	0.79	0.78	0.82	0.86	0.83	0.90	0.94
ES OCDF	0.93	8.9%	0.86	0.83	0.88	0.93	0.90	1.01	1.06

Dioxin/Furan ICAL Summary			SGS North America					Processed: 27 Jul 2021 15:01	
ICAL: MM3_DF_10272021_27JUL2021									
Data Acquired: 27-Jul-2021			210727R02	210727R03	210727R04	210727R05	210727R06	210727R07	210727R08
			0.25	0.5	2	10	40	200	500
			pg/uL	pg/uL	pg/uL	pg/uL	pg/uL	pg/uL	pg/uL
Name	Mean	% RSD	CS0	CS1	CS2	CS3	CS4	CS5	CS6
CS 37Cl-2378-TCDD	1.31	2.3%	-	1.32	1.27	1.30	1.31	1.35	-
CS 12347-PeCDD	0.89	2.1%	0.89	0.91	0.88	0.87	0.93	0.88	0.89
CS 12346-PeCDF	0.87	1.7%	0.86	0.88	0.86	0.89	0.88	0.86	0.85
CS 123469-HxCDF	1.09	2.8%	1.06	1.04	1.08	1.14	1.09	1.12	1.09
CS 1234689-HpCDF	0.86	3.3%	0.86	0.84	0.86	0.92	0.86	0.86	0.84
SS 37Cl-2378-TCDD	1.26	2.3%	-	1.29	1.25	1.24	1.23	1.29	-
SS 12347-PeCDD	0.86	4.0%	0.88	0.89	0.89	0.86	0.90	0.82 ✓	0.81
SS 12346-PeCDF	0.93	3.5%	0.94	0.97	0.93	0.96	0.93	0.91	0.87
SS 123469-HxCDF	0.84	2.8%	0.86	0.86	0.85	0.84	0.86	0.82	0.80
SS 1234689-HpCDF	0.91	6.0%	0.96	0.96	0.94	0.94	0.92	0.86	0.81
AS 1368-TCDD	1.02	0.7%	1.01	1.03	1.02	1.02 ✓	1.02	1.04	1.02
AS 1368-TCDF	1.08	1.9%	1.05	1.06	1.07	1.10	1.09	1.10	1.07
~~OCDD-a~~	~~0.07~~	~~7.2%~~	~~0.06~~	~~0.08~~	~~0.07~~	~~0.07~~	~~0.07~~	~~0.06~~	~~0.07~~
~~OCDF-a~~	~~0.06~~	~~7.0%~~	~~0.05~~	~~0.06~~	~~0.05~~	~~0.06~~	~~0.06~~	~~0.06~~	~~0.06~~
Not reported from this ICAL - CL 28Jul21									
Totals									
Total TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
Total PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
Total HxCDD	1.05	3.3%	1.11	1.07	0.99	1.04	1.05	1.06	1.05
Total HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
Total TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
Total PeCDF	0.94	3.3%	1.00	0.92	0.90	0.93	0.94	0.95	0.96
Total HxCDF	1.16	3.1%	1.23	1.16	1.11	1.15	1.16	1.17	1.17
Total HpCDF	1.33	3.2%	1.40	1.28	1.28	1.34	1.32	1.36	1.34
FS 1278-TCDD	1.08	0.7%	1.08	1.08	1.09	1.08	1.08	1.08	1.10
FS 12478-PeCDD	1.09	3.7%	1.10	1.10 ✓	1.12	1.13	1.13	1.07	1.01
FS 123468-HxCDD	1.26	4.2%	1.27	1.30	1.28	1.32	1.28	1.24	1.16
FS 1234679-HpCDD	1.36	5.0%	1.41	1.37	1.38	1.42	1.38 ✓	1.30	1.23
TS 1378-TCDD	1.35	2.3%	1.36 ✓	1.38	1.36	1.31	1.30	1.35	1.37

SGS Environmental Services — Run Log **Project: MM3_DF_10272021_27JUL2021**

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	210727R01	2	SBS_210727_DF_RA	1.00	SIL 20-61-1	PSW	638-037	27-Jul-2021	08:17:39
2	210727R02	85	CS0_210727_DF_RA	1.00	SIL 25-6-3	PSW	693-472	27-Jul-2021	09:04:23
3	210727R03	86	CS1_210727_DF_RA	1.00	SIL 25-6-2	PSW	554-132	27-Jul-2021	09:54:34
4	210727R04	87	CS2_210727_DF_RA	1.00	SIL 25-6-1	PSW	377-233	27-Jul-2021	10:44:24
5	210727R05	3	CS3_210727_DF_RA	1.00	SIL 23-672-1	PSW	230-891	27-Jul-2021	11:32:33
6	210727R06	88	CS4_210727_DF_RA	1.00	SIL 25-5-4	PSW	602-590	27-Jul-2021	12:19:16
7	210727R07	89	CS5_210727_DF_RA	1.00	SIL 25-5-3	PSW	147-553	27-Jul-2021	13:09:36
8	210727R08	90	CS6_210727_DF_RA	1.00	SIL 25-5-2	PSW	783-472	27-Jul-2021	13:58:27

Alternate OCDD/OCDF - NR in this ICAL. CL 28Jul21

REVIEWED
paul_walton , 7/28/2021, 8:31:00 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:08 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

2378-TCDD	ES 2378-TCDD
12378-PeCDD	ES 12378-PeCDD
123478-HxCDD	ES 123478-HxCDD
123678-HxCDD	ES 123678-HxCDD
123789-HxCDD	ES 123789-HxCDD
1234678-HpCDD	ES 1234678-HpCDD
OCDD	ES OCDD
2378-TCDF	ES 2378-TCDF
12378-PeCDF	ES 12378-PeCDF
23478-PeCDF	ES 23478-PeCDF
123478-HxCDF	ES 123478-HxCDF
123678-HxCDF	ES 123678-HxCDF
234678-HxCDF	ES 234678-HxCDF
123789-HxCDF	ES 123789-HxCDF
1234678-HpCDF	ES 1234678-HpCDF
1234789-HpCDF	ES 1234789-HpCDF
OCDF	ES OCDF

Cleanup/Sampling Standards

CS 37Cl-2378-TCDD	1234 TCDD 13C12
CS 12347-PeCDD	1234 TCDD 13C12
CS 12346-PeCDF	1234 TCDF 13C12
CS 123469-HxCDF	123467 HxCDD 13C12
CS 1234689-HpCDF	123467 HxCDD 13C12

Alternate Standards

AS 1368-TCDD	1234 TCDD 13C12
AS 1368-TCDF	1234 TCDF 13C12

Shipping Standards

FS 1278-TCDD	ES 2378-TCDD
FS 12478-PeCDD	ES 12378-PeCDD
FS 123468-HxCDD	ES 123478-HxCDD
FS 1234679-HpCDD	ES 1234678-HpCDD
TS 1378-TCDD	ES 2378-TCDD

Extraction Standards

ES 2378-TCDD	1234 TCDD 13C12
ES 12378-PeCDD	1234 TCDD 13C12
ES 123478-HxCDD	123467 HxCDD 13C12
ES 123678-HxCDD	123467 HxCDD 13C12
ES 123789-HxCDD	123467 HxCDD 13C12
ES 1234678-HpCDD	123467 HxCDD 13C12
ES OCDD	123467 HxCDD 13C12
ES 2378-TCDF	1234 TCDF 13C12
ES 12378-PeCDF	1234 TCDF 13C12
ES 23478-PeCDF	1234 TCDF 13C12
ES 123478-HxCDF	123467 HxCDD 13C12
ES 123678-HxCDF	123467 HxCDD 13C12
ES 234678-HxCDF	123467 HxCDD 13C12
ES 123789-HxCDF	123467 HxCDD 13C12
ES 1234678-HpCDF	123467 HxCDD 13C12
ES 1234789-HpCDF	123467 HxCDD 13C12
ES OCDF	123467 HxCDD 13C12

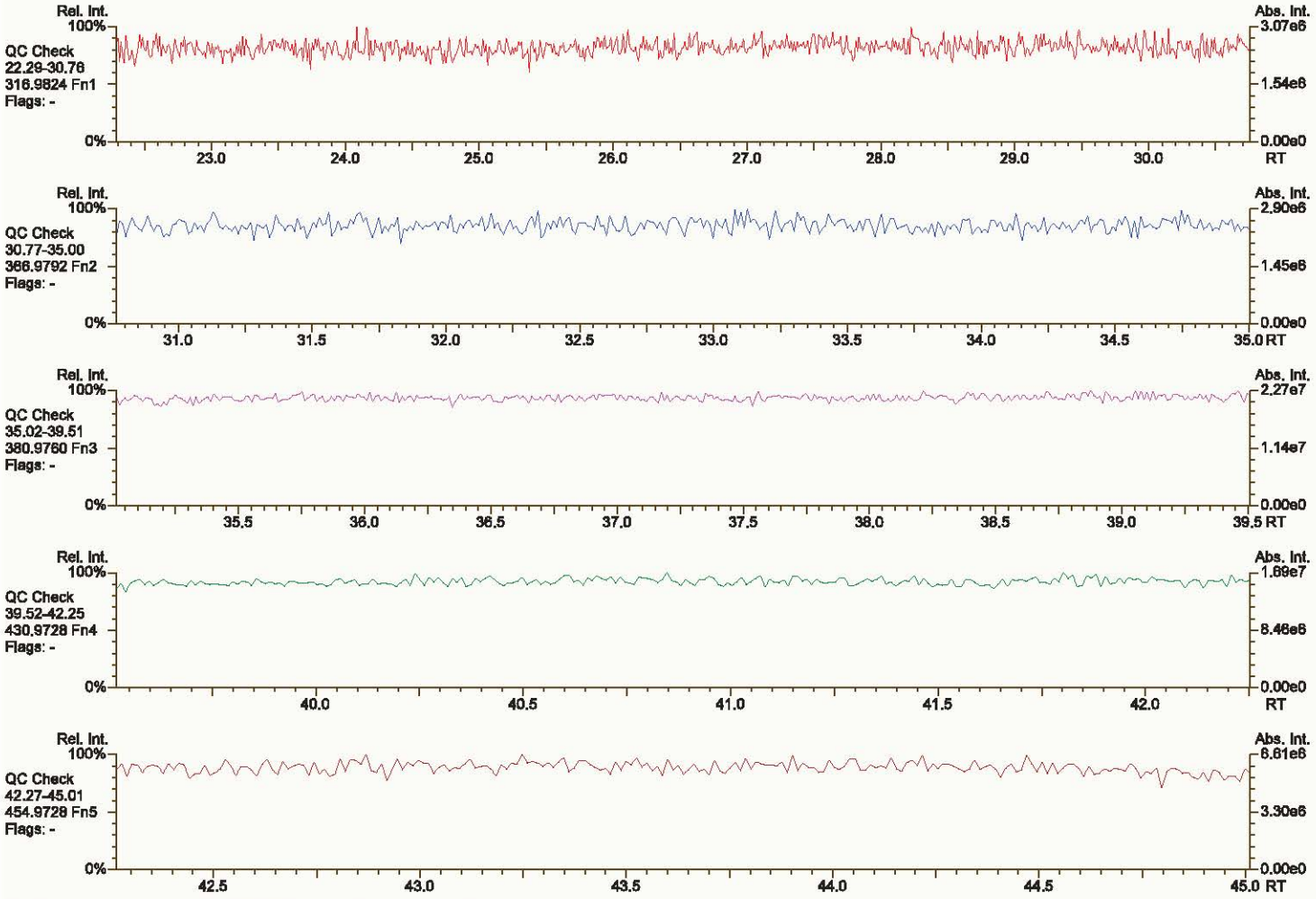
Injection Standards

1234 TCDD 13C12
1234 TCDF 13C12
123467 HxCDD 13C12

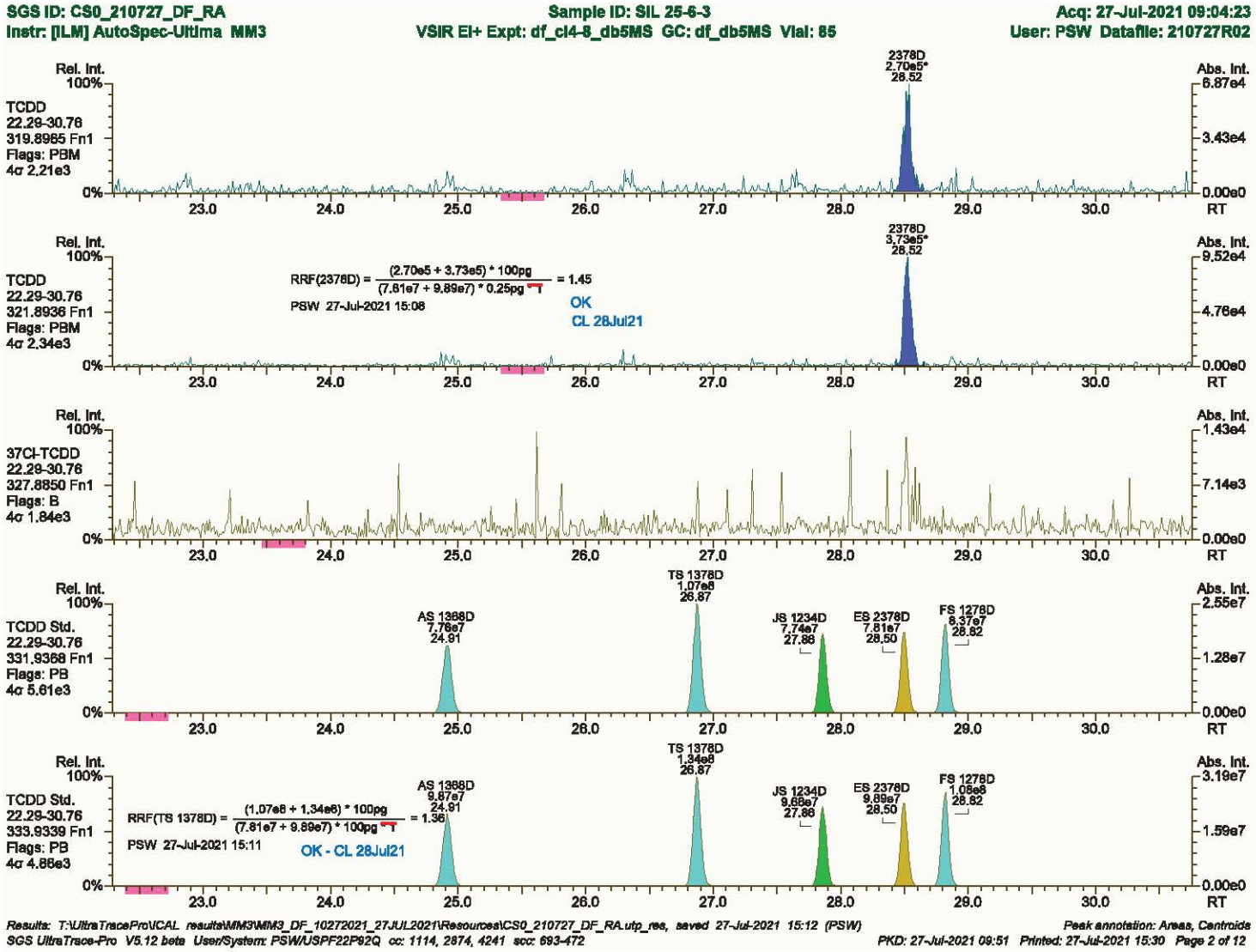
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 09:04 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS0_210727_DF_RA		UTP: 27-Jul-2021 15:00:19 PSW				Checkcode: 693-472-SFB	
Sample ID: SIL 25-6-3		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R02	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.52	6.43E+05	0.73	Y	1.34	1.45	8%
12378-PeCDD	33.80	2.41E+06	1.48	Y	1.06	1.09	3%
123478-HxCDD	37.67	2.24E+06	1.35	Y	1.06	1.10	4%
123678-HxCDD	37.78	2.20E+06	1.31	Y	1.08	1.12	3%
123789-HxCDD	38.07	2.52E+06	1.21	Y	1.02	1.10	9%
1234678-HpCDD	40.66	2.08E+06	0.99	Y	0.97	1.05	7%
OCDD	43.22	3.52E+06	0.85	Y	1.07	1.15	8%
2378-TCDF	27.66	7.49E+05	0.72	Y	0.96	1.01	5%
12378-PeCDF	32.38	3.19E+06	1.44	Y	0.95	1.00	5%
23478-PeCDF	33.46	3.11E+06	1.57	Y	0.94	0.99	6%
123478-HxCDF	36.68	3.00E+06	1.23	Y	1.23	1.32	7%
123678-HxCDF	36.82	3.05E+06	1.18	Y	1.13	1.17	4%
234678-HxCDF	37.49	2.95E+06	1.17	Y	1.15	1.23	7%
123789-HxCDF	38.42	2.65E+06	1.30	Y	1.14	1.19	5%
1234678-HpCDF	39.76	2.75E+06	1.00	Y	1.36	1.46	7%
1234789-HpCDF	41.10	2.20E+06	1.11	Y	1.30	1.34	3%
OCDF	43.40	3.66E+06	0.85	Y	1.03	1.01	-1%
ES 2378-TCDD	28.50	1.77E+08	0.79	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.781	1.77E+08	1.63	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.653	1.63E+08	1.26	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.766	1.57E+08	1.27	Y	0.97	0.94	-3%
ES 123789-HxCDD	38.056	1.82E+08	1.26	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.643	1.59E+08	1.05	Y	0.99	0.95	-4%
ES OCDD	43.205	2.44E+08	0.92	Y	0.78	0.73	-6%
ES 2378-TCDF	27.645	2.97E+08	0.78	Y	1.08	1.06	-2%
ES 12378-PeCDF	32.355	2.55E+08	1.55	Y	0.93	0.91	-2%
ES 23478-PeCDF	33.445	2.50E+08	1.56	Y	0.92	0.90	-3%
ES 123478-HxCDF	36.661	1.82E+08	0.53	Y	1.14	1.09	-5%
ES 123678-HxCDF	36.801	2.08E+08	0.53	Y	1.30	1.24	-4%
ES 234678-HxCDF	37.466	1.92E+08	0.53	Y	1.20	1.14	-5%
ES 123789-HxCDF	38.399	1.78E+08	0.52	Y	1.14	1.06	-7%
ES 1234678-HpCDF	39.748	1.51E+08	0.44	Y	0.95	0.90	-5%
ES 1234789-HpCDF	41.09	1.32E+08	0.45	Y	0.85	0.79	-7%
ES OCDF	43.389	2.89E+08	0.89	Y	0.93	0.86	-7%

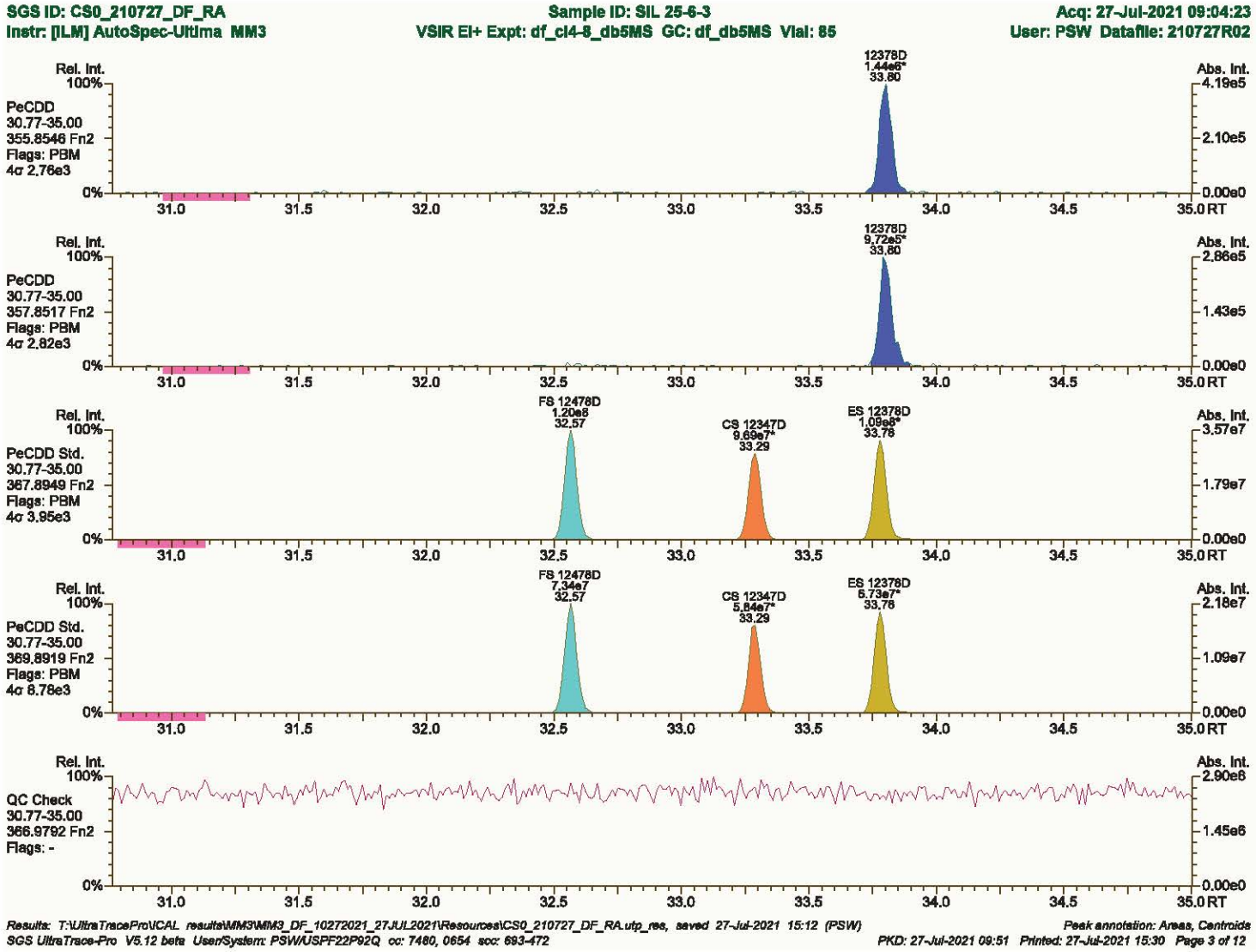
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 09:04 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS0_210727_DF_RA		UTP: 27-Jul-2021 15:00:19 PSW				Checkcode: 693-472-SFB	
Sample ID: SIL 25-6-3		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R02	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.87~~	~~0.86~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.01~~	~~Y~~	~~0.86~~	~~0.85~~	~~-7%~~
Not reported from this ICAL - CL 28Jul21							

SGS ID: CS0_210727_DF_RA | Sample ID: SIL 25-6-3 | Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: PSW Datafile: 210727R02



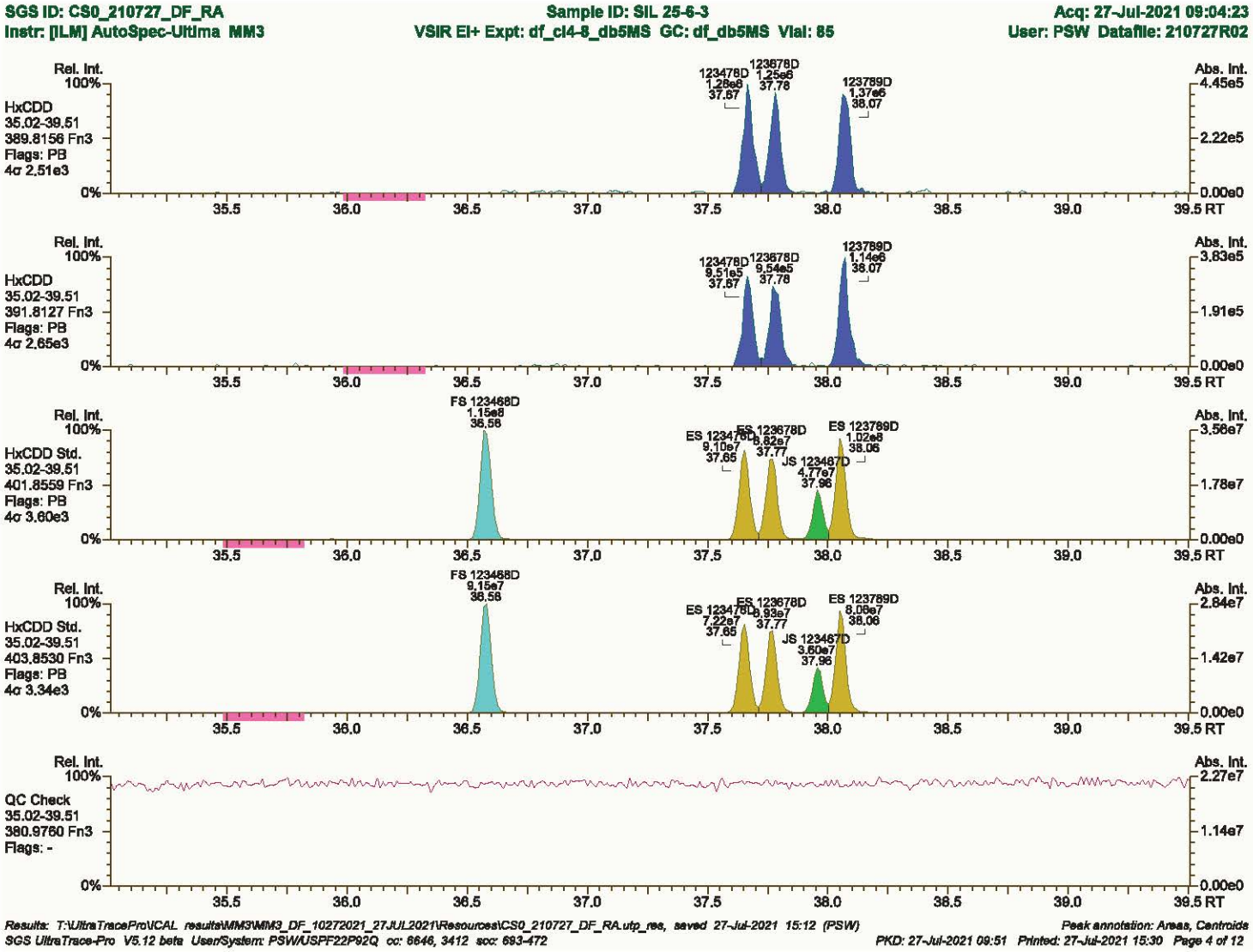
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 693-472
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 2.21e3
2378D
2.70e5*
28.52
6.87e4
3.43e4
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.34e3
RRF(2378D) = (2.70e5 + 3.73e5) * 100pg / (7.81e7 + 9.89e7) * 0.25pg = 1.45
PSW 27-Jul-2021 15:08
OK
CL 28Jul21
2378D
3.73e5*
28.52
9.52e4
4.76e4
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.84e3
1.43e4
7.14e3
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.61e3
AS 1368D
7.76e7
24.91
TS 1378D
1.07e8
26.87
JS 1234D
7.74e7
27.86
ES 2378D
7.81e7
28.50
FS 1278D
8.37e7
28.82
2.55e7
1.28e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.86e3
RRF(TS 1378D) = (1.07e8 + 1.34e8) * 100pg / (7.81e7 + 9.89e7) * 100pg = 1.36
PSW 27-Jul-2021 15:11
OK - CL 28Jul21
AS 1368D
9.87e7
24.91
TS 1378D
1.34e8
26.87
JS 1234D
9.68e7
27.86
ES 2378D
9.89e7
28.50
FS 1278D
1.08e8
28.82
3.19e7
1.59e7
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1114, 2874, 4241 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 2 of 12

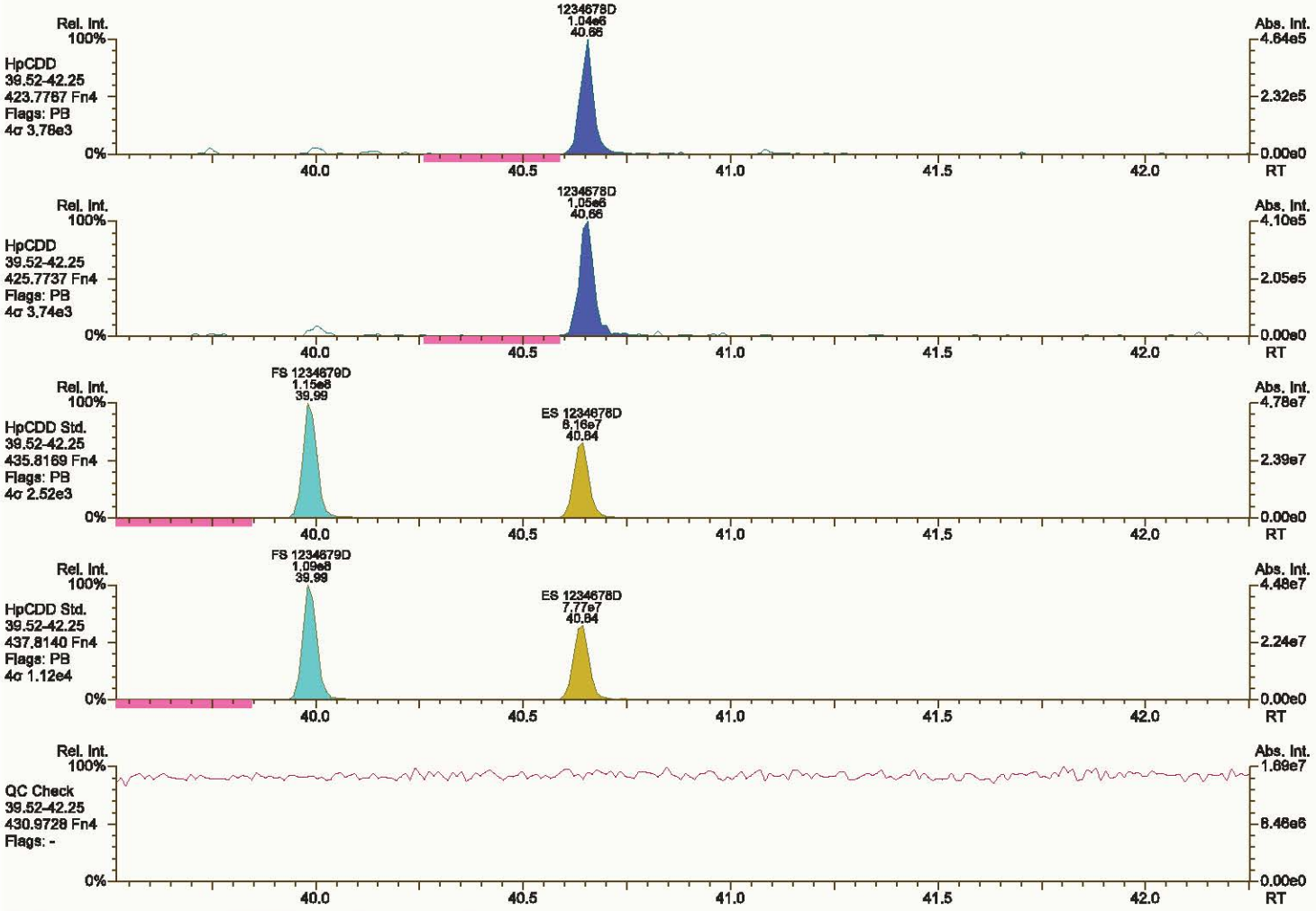


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 7480, 0654 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 3 of 12

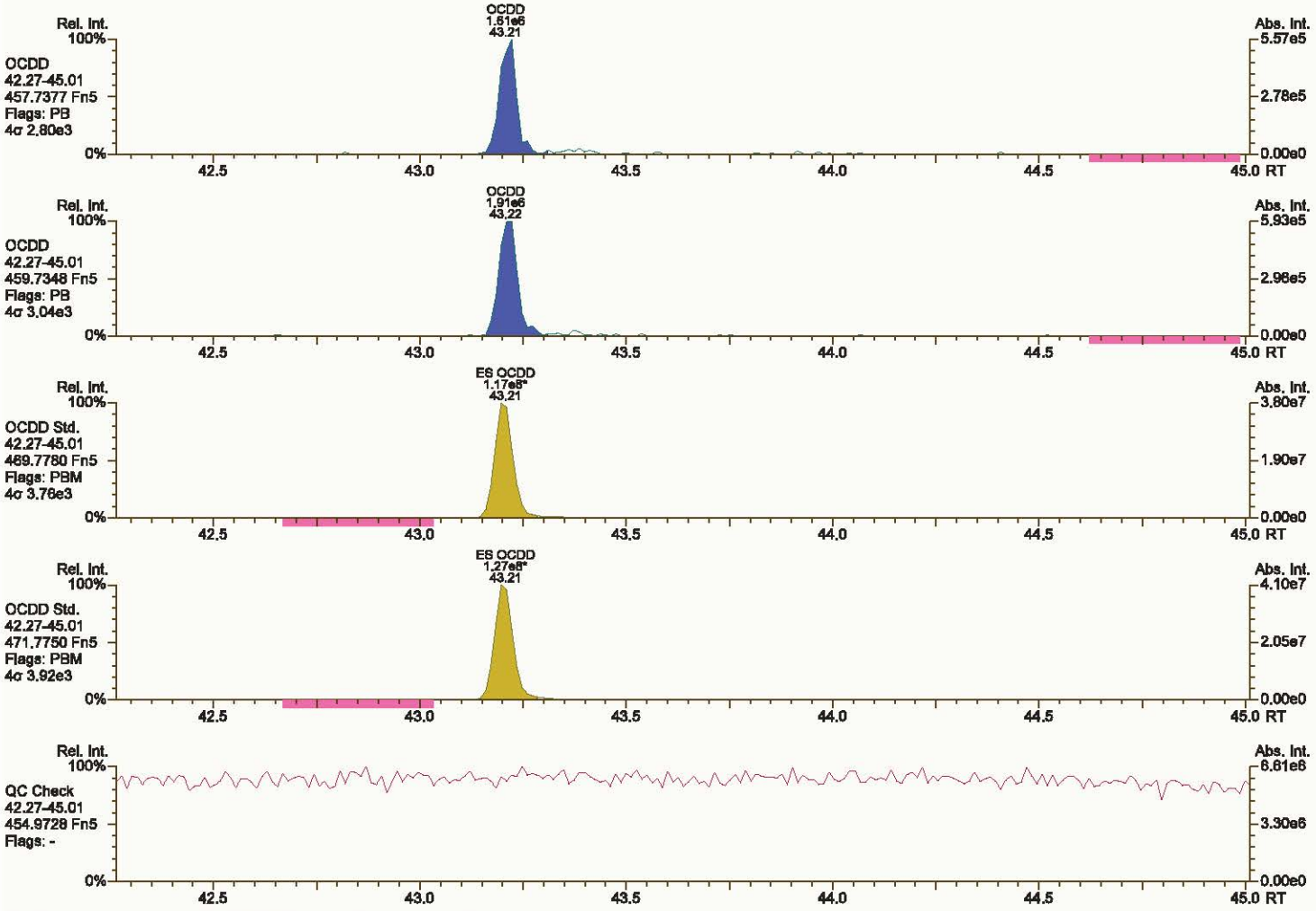

SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.51e3
123478D 1.28e8 37.67
123678D 1.25e8 37.78
123789D 1.37e8 38.07
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.65e3
123478D 9.51e5 37.67
123678D 9.54e5 37.78
123789D 1.14e8 38.07
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.60e3
FS 123468D 1.15e8 36.58
ES 123478D 9.10e7 37.65
ES 123678D 8.82e7 37.77
JS 123467D 4.77e7 37.96
ES 123789D 1.02e8 38.06
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.34e3
FS 123468D 9.15e7 36.58
ES 123478D 7.22e7 37.65
ES 123678D 8.93e7 37.77
JS 123467D 3.60e7 37.96
ES 123789D 8.06e7 38.06
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
RT

SGS ID: CS0_210727_DF_RA | Sample ID: SIL 25-6-3 | Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: PSW Datafile: 210727R02



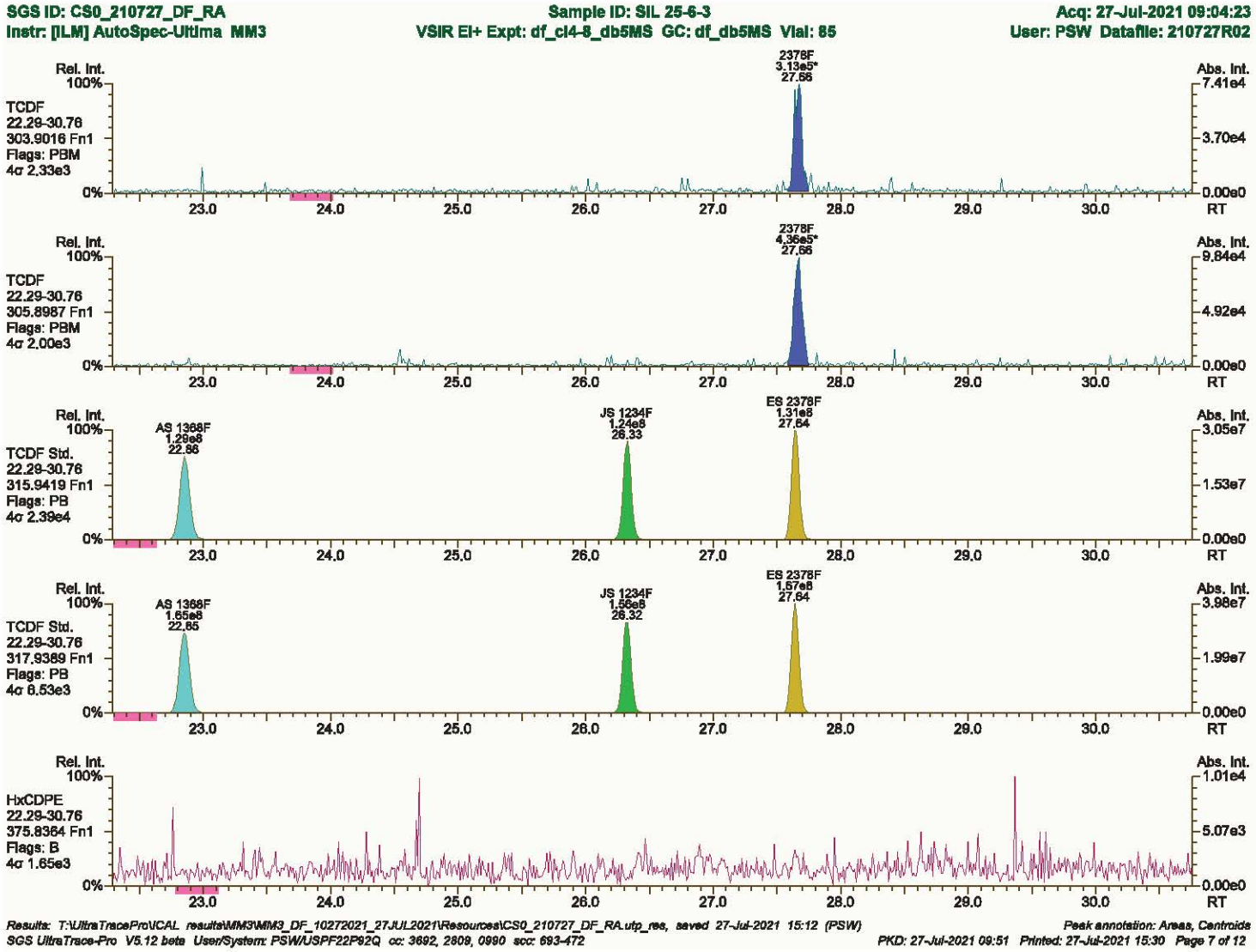
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 4179, 4607 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 5 of 12

SGS ID: CS0_210727_DF_RA | Sample ID: SIL 25-6-3 | Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: PSW Datafile: 210727R02



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW) *Peak annotation: Areas, Centroids*

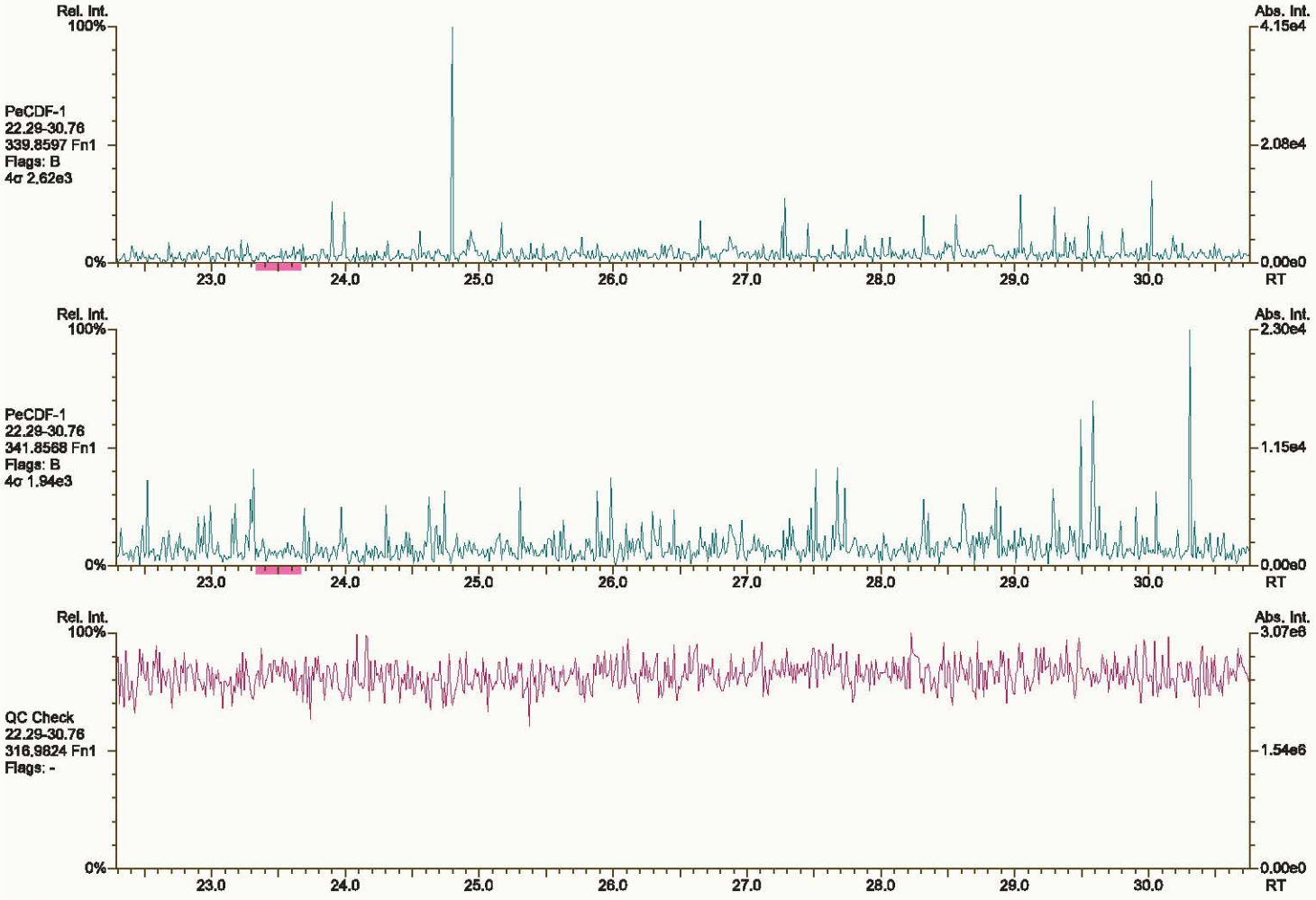
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 7947, 8230 scc: 693-472 *PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 6 of 12*


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.33e3
2378F
3.13e5*
27.66
7.41e4
3.70e4
0.00e0
RT
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.00e3
2378F
4.36e5*
27.66
9.84e4
4.92e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.39e4
AS 1368F
1.29e8
22.86
JS 1234F
1.24e8
26.33
ES 2378F
1.31e8
27.64
3.05e7
1.53e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 6.53e3
AS 1368F
1.65e8
22.85
JS 1234F
1.56e8
26.32
ES 2378F
1.67e8
27.64
3.98e7
1.99e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.65e3
1.01e4
5.07e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3692, 2809, 0990 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 7 of 12

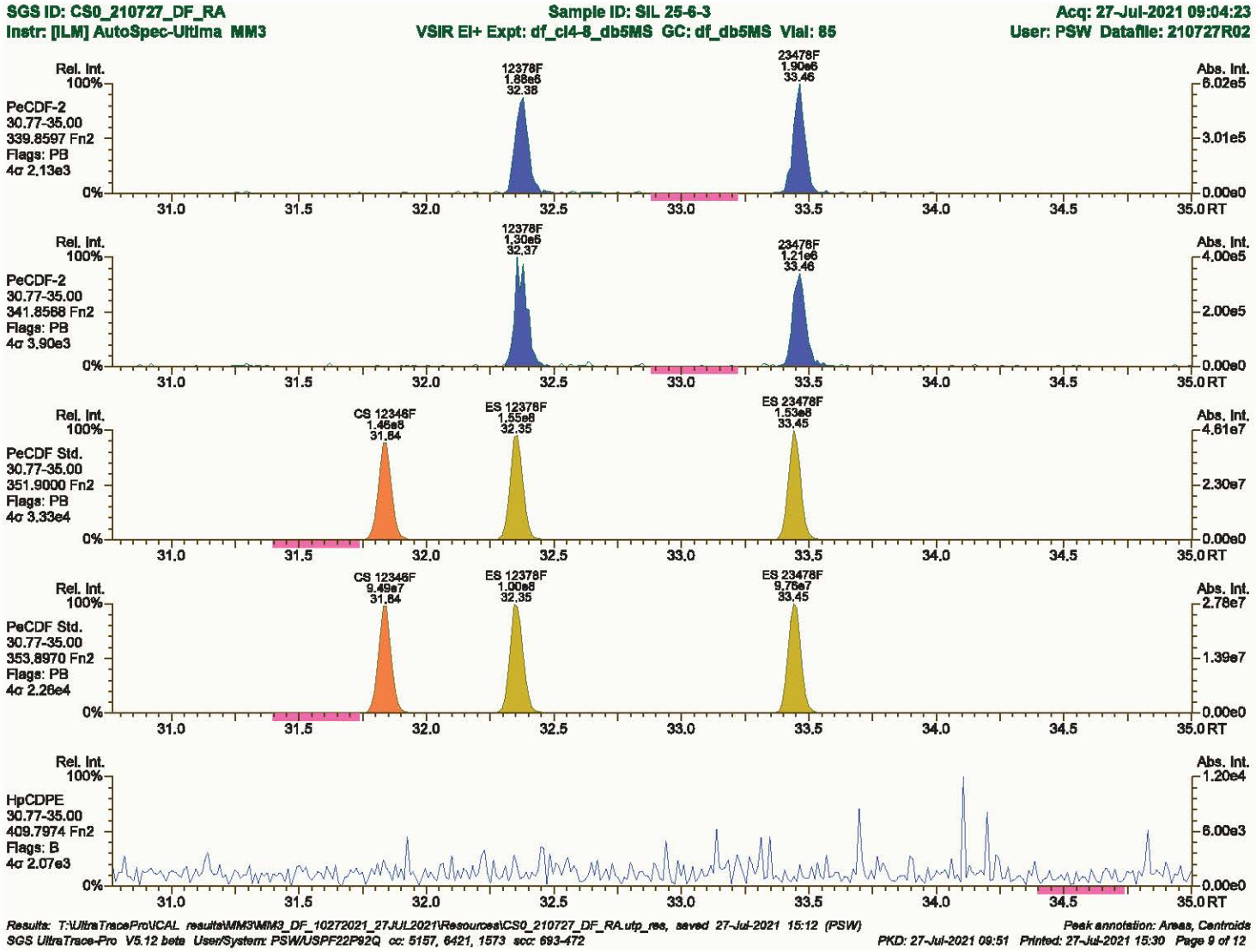
SGS ID: CS0_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85

Acq: 27-Jul-2021 09:04:23
User: PSW Datafile: 210727R02

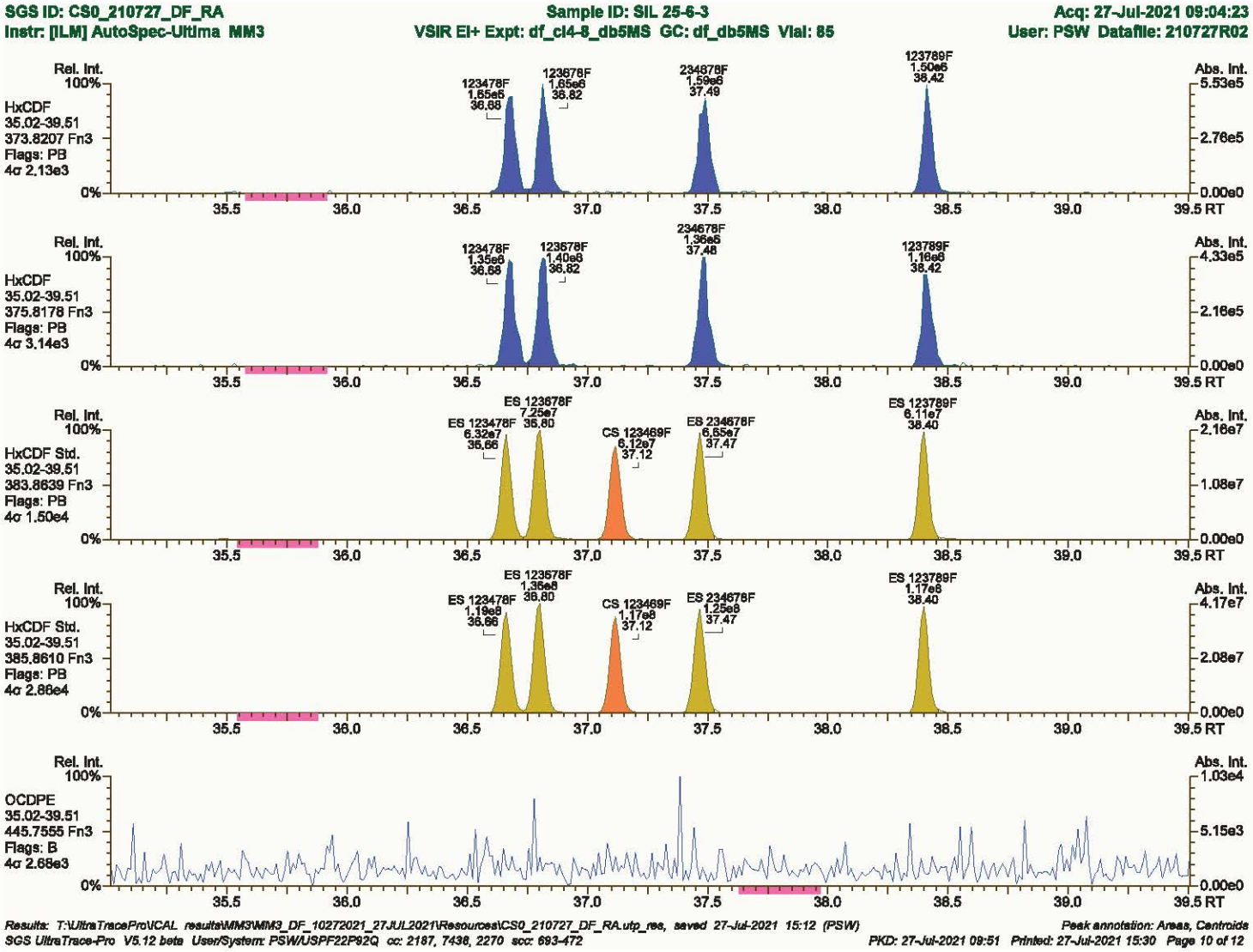


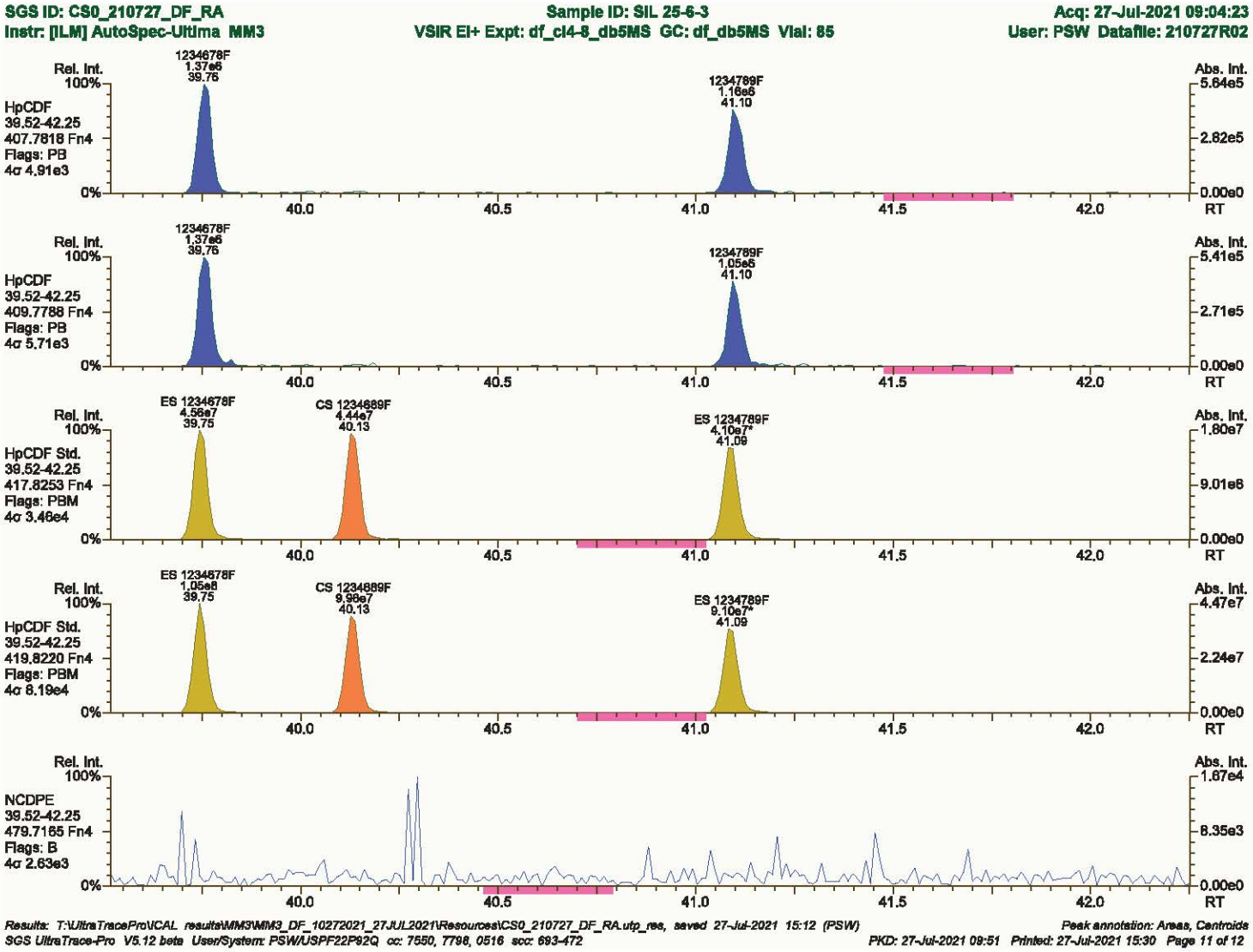
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1474 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 8 of 12

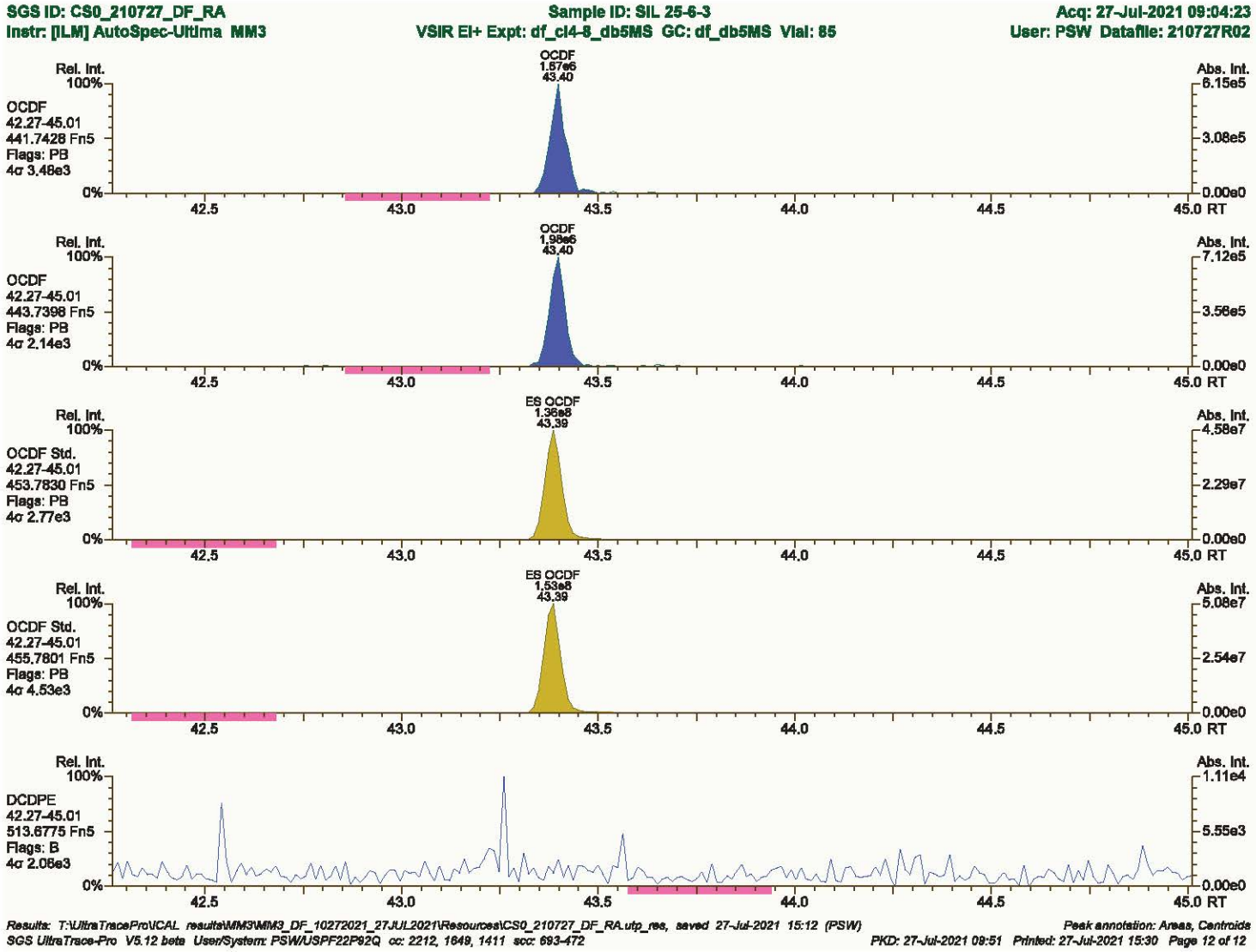


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5157, 6421, 1573 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
123478F 1.65e6 36.68
123678F 1.65e6 36.82
234678F 1.59e6 37.49
123789F 1.50e6 38.42
5.53e5
2.76e5
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
123478F 1.35e6 36.68
123678F 1.40e6 36.82
234678F 1.36e6 37.48
123789F 1.16e6 38.42
4.33e5
2.16e5
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
ES 123478F 6.32e7 36.66
ES 123678F 7.25e7 36.80
CS 123469F 6.12e7 37.12
ES 234678F 6.55e7 37.47
ES 123789F 6.11e7 38.40
2.16e7
1.08e7
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
ES 123478F 1.19e8 36.66
ES 123678F 1.36e8 36.80
CS 123469F 1.17e8 37.12
ES 234678F 1.25e8 37.47
ES 123789F 1.17e8 38.40
4.17e7
2.08e7
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
1.03e4
5.15e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e3
1234678F
1.37e6
39.76
1234789F
1.16e5
41.10
5.64e5
2.82e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.71e3
1.05e5
5.41e5
2.71e5
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.46e4
ES 1234678F
4.56e7
39.75
CS 1234889F
4.44e7
40.13
ES 1234789F
4.10e7*
41.09
1.80e7
9.01e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 8.19e4
1.05e8
9.96e7
9.10e7*
4.47e7
2.24e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
1.67e4
8.35e3
100%
0%
40.0
40.5
41.0
41.5
42.0
RT

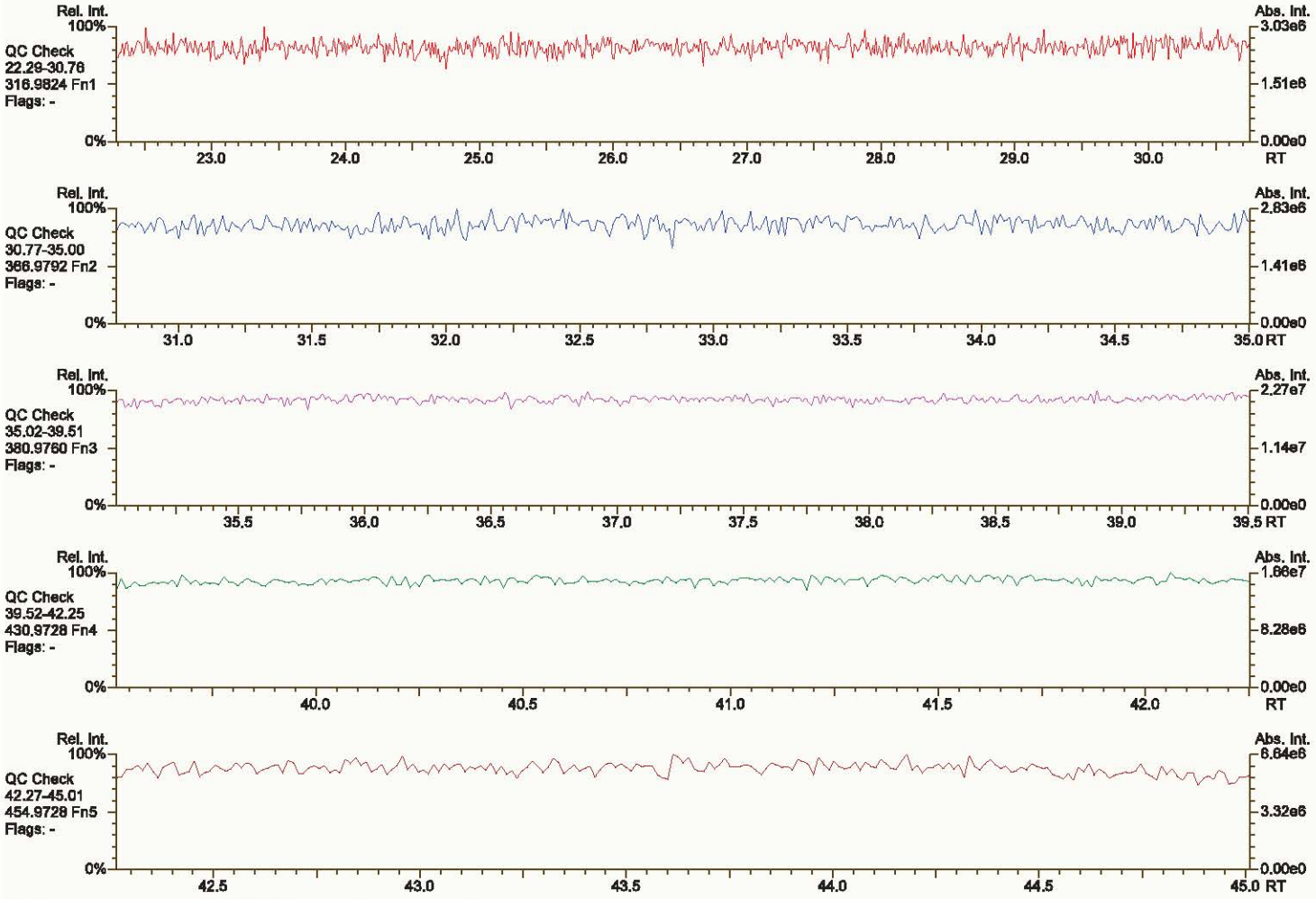

SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
OCDF
1.57e6
43.40
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 3.48e3
6.15e5
3.08e5
0.00e0
OCDF
1.98e6
43.40
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.14e3
7.12e5
3.56e5
ES OCDF
1.36e8
43.39
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 2.77e3
4.58e7
2.29e7
ES OCDF
1.53e8
43.39
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.53e3
5.08e7
2.54e7
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.08e3
1.11e4
5.55e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2212, 1649, 1411 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 09:54 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS1_210727_DF_RA		UTP: 27-Jul-2021 15:00:19 PSW				Checkcode: 554-132-FHC	
Sample ID: SIL 25-6-2		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R03	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD	40.66	3.34E+06	1.16	Y	0.97	0.95	-3%
OCDD	43.23	5.66E+06	0.85	Y	1.07	1.04	-3%
2378-TCDF	27.67	1.25E+06	0.72	Y	0.96	0.94	-2%
12378-PeCDF	32.38	5.24E+06	1.54	Y	0.95	0.94	0%
23478-PeCDF	33.47	5.06E+06	1.63	Y	0.94	0.90	-4%
123478-HxCDF	36.69	4.92E+06	1.14	Y	1.23	1.23	-1%
123678-HxCDF	36.83	5.41E+06	1.33	Y	1.13	1.16	3%
234678-HxCDF	37.49	5.10E+06	1.23	Y	1.15	1.19	3%
123789-HxCDF	38.42	4.41E+06	1.28	Y	1.14	1.08	-5%
1234678-HpCDF	39.76	4.59E+06	0.97	Y	1.36	1.35	0%
1234789-HpCDF	41.11	3.63E+06	1.08	Y	1.30	1.20	-7%
OCDF	43.41	6.46E+06	0.90	Y	1.03	1.01	-2%
ES 2378-TCDD	28.51	1.56E+08	0.81	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.789	1.56E+08	1.63	Y	1.03	1.02	-1%
ES 123478-HxCDD	37.66	1.43E+08	1.26	Y	0.99	0.93	-6%
ES 123678-HxCDD	37.773	1.40E+08	1.27	Y	0.97	0.91	-6%
ES 123789-HxCDD	38.062	1.60E+08	1.24	Y	1.12	1.04	-7%
ES 1234678-HpCDD	40.65	1.41E+08	1.06	Y	0.99	0.92	-8%
ES OCDD	43.215	2.18E+08	0.91	Y	0.78	0.71	-9%
ES 2378-TCDF	27.651	2.66E+08	0.77	Y	1.08	1.08	0%
ES 12378-PeCDF	32.362	2.22E+08	1.59	Y	0.93	0.91	-3%
ES 23478-PeCDF	33.454	2.24E+08	1.55	Y	0.92	0.91	-1%
ES 123478-HxCDF	36.667	1.60E+08	0.52	Y	1.14	1.04	-9%
ES 123678-HxCDF	36.807	1.86E+08	0.54	Y	1.30	1.21	-7%
ES 234678-HxCDF	37.474	1.72E+08	0.53	Y	1.20	1.12	-7%
ES 123789-HxCDF	38.407	1.64E+08	0.51	Y	1.14	1.07	-6%
ES 1234678-HpCDF	39.755	1.36E+08	0.46	Y	0.95	0.88	-7%
ES 1234789-HpCDF	41.099	1.21E+08	0.45	Y	0.85	0.78	-7%
ES OCDF	43.396	2.56E+08	0.88	Y	0.93	0.83	-10%

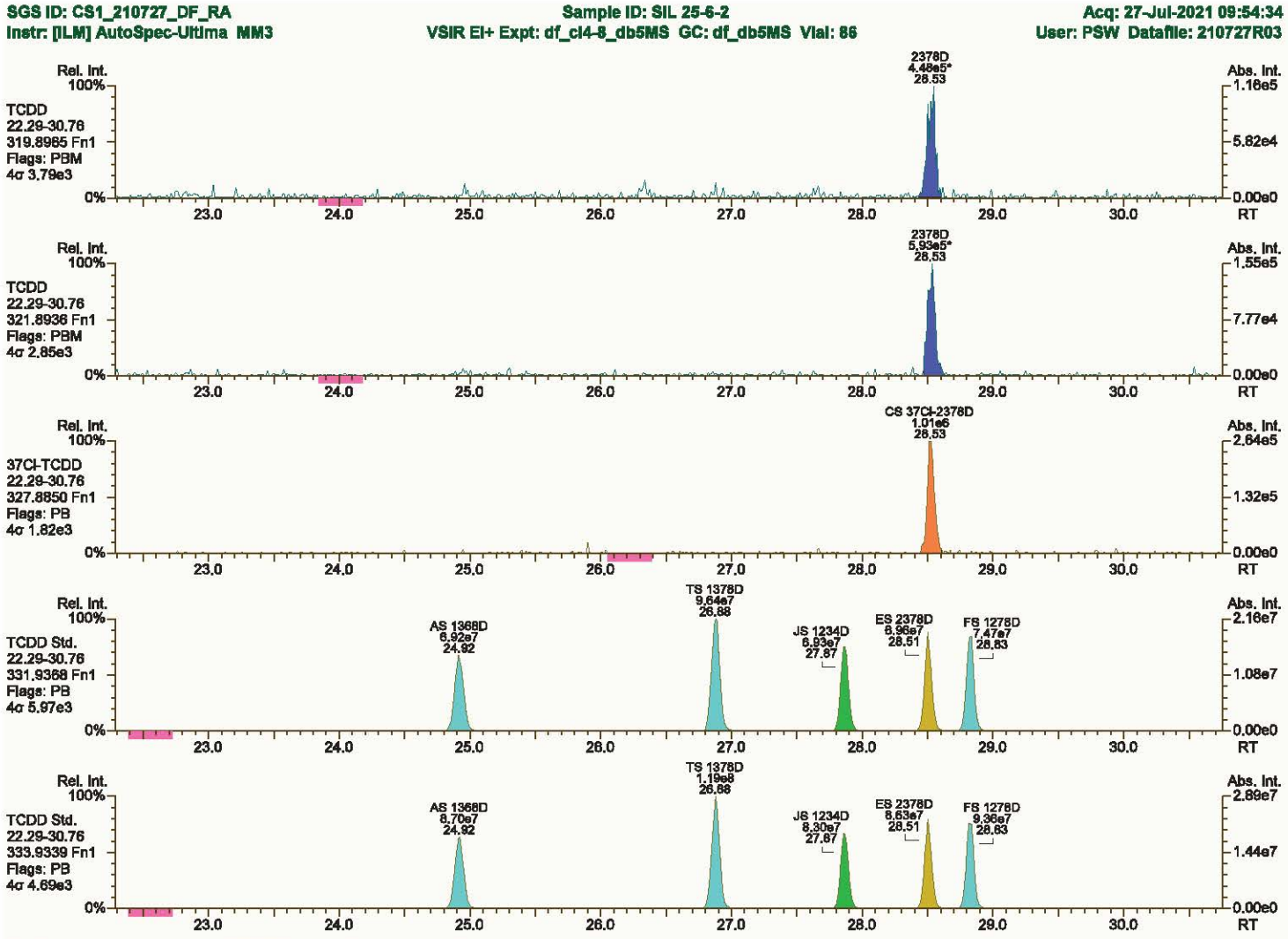
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 09:54 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS1_210727_DF_RA		UTP: 27-Jul-2021 15:00:19 PSW				Checkcode: 554-132-FHC	
Sample ID: SIL 25-6-2		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R03	
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.87	0.88	1%
CS 123469-HxCDF	37.12	1.61E+08	0.52	Y	1.09	1.04	-4%
CS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.86	0.84	-2%
SS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.26	1.29	2%
SS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.86	0.89	2%
SS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.61E+08	0.52	Y	0.84	0.86	3%
SS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.91	0.96	5%
AS 1368-TCDD	24.92	1.56E+08	0.80	Y	1.02	1.03	0%
AS 1368-TCDF	22.86	2.59E+08	0.77	Y	1.08	1.06	-2%
FS 1278-TCDD	28.83	1.68E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.72E+08	1.63	Y	1.09	1.10	1%
FS 123468-HxCDD	36.59	1.86E+08	1.29	Y	1.26	1.30	3%
FS 1234679-HpCDD	39.99	1.93E+08	1.05	Y	1.36	1.37	1%
TS 1378-TCDD	26.88	2.16E+08	0.81	Y	1.35	1.38	3%
~~OCDD-a~~	~~43.23~~	~~4.10E+05~~	~~2.91~~	~~N~~	~~0.87~~	~~0.80~~	~~14%~~
~~OCDF-a~~	~~43.40~~	~~3.79E+05~~	~~1.92~~	~~N~~	~~0.86~~	~~0.86~~	~~0%~~

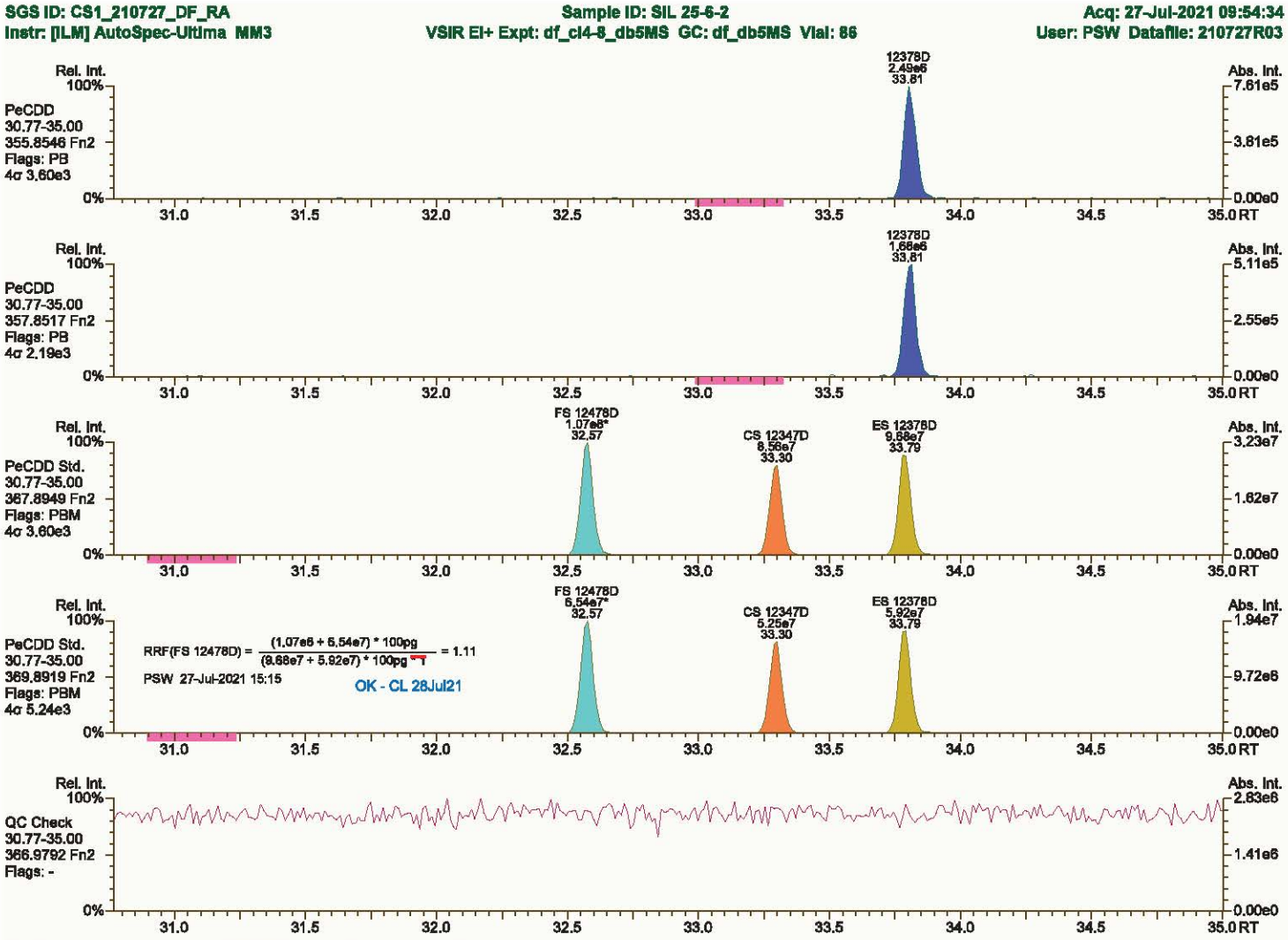
Not reported from this ICAL - CL 28Jul21

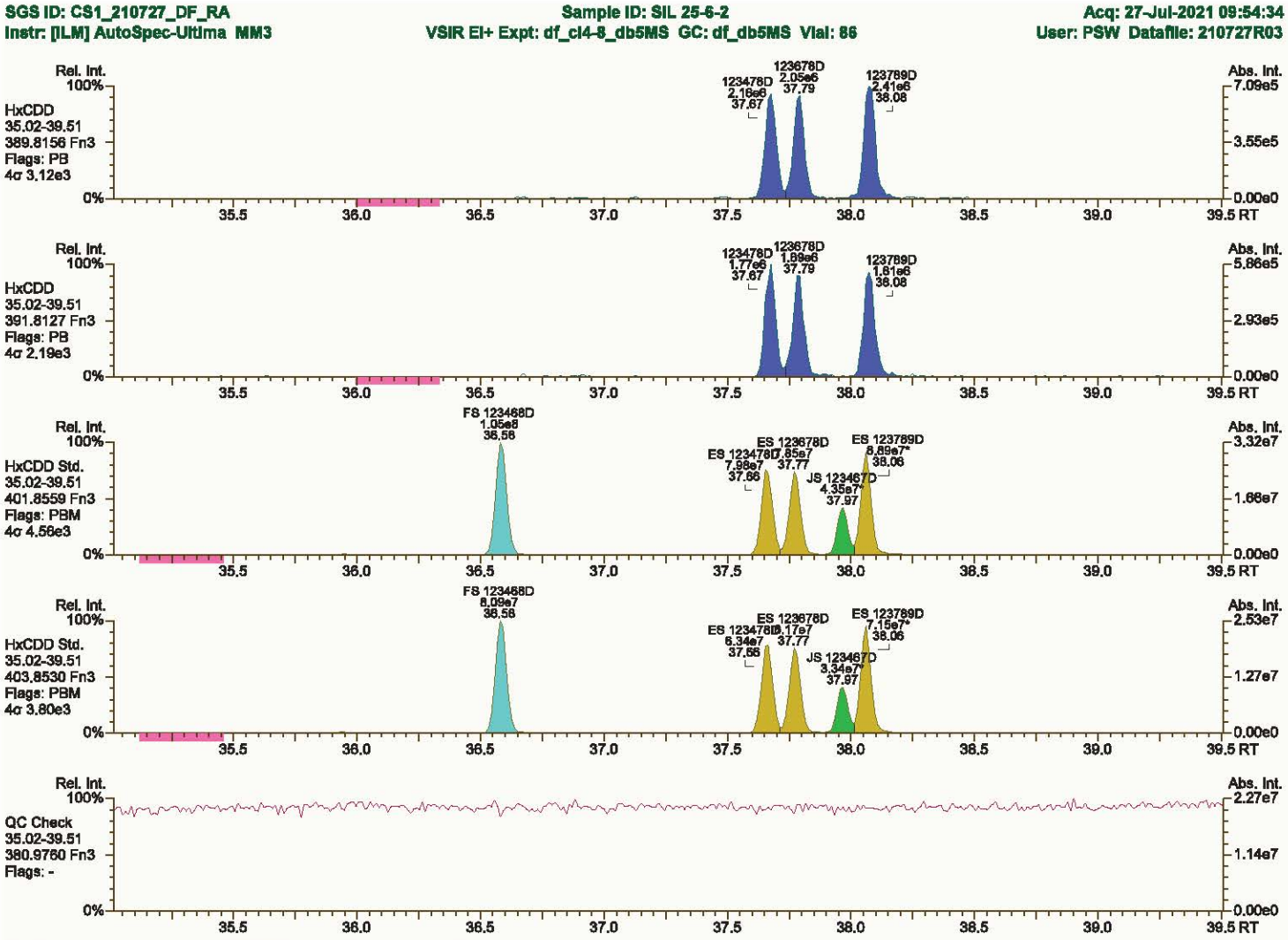
SGS ID: CS1_210727_DF_RA | Sample ID: SIL 25-6-2 | Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86 | User: PSW Datafile: 210727R03

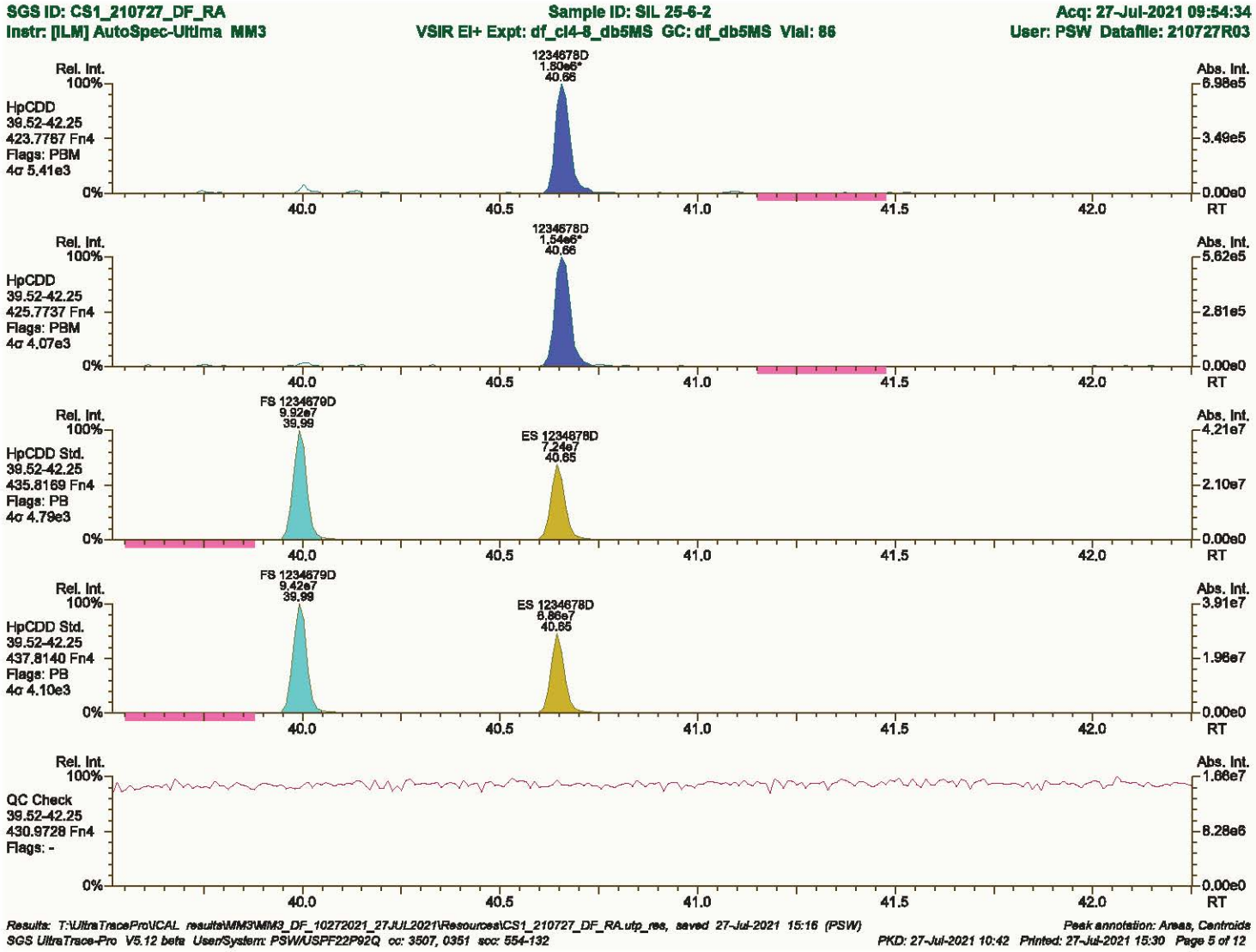


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 554-132
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12

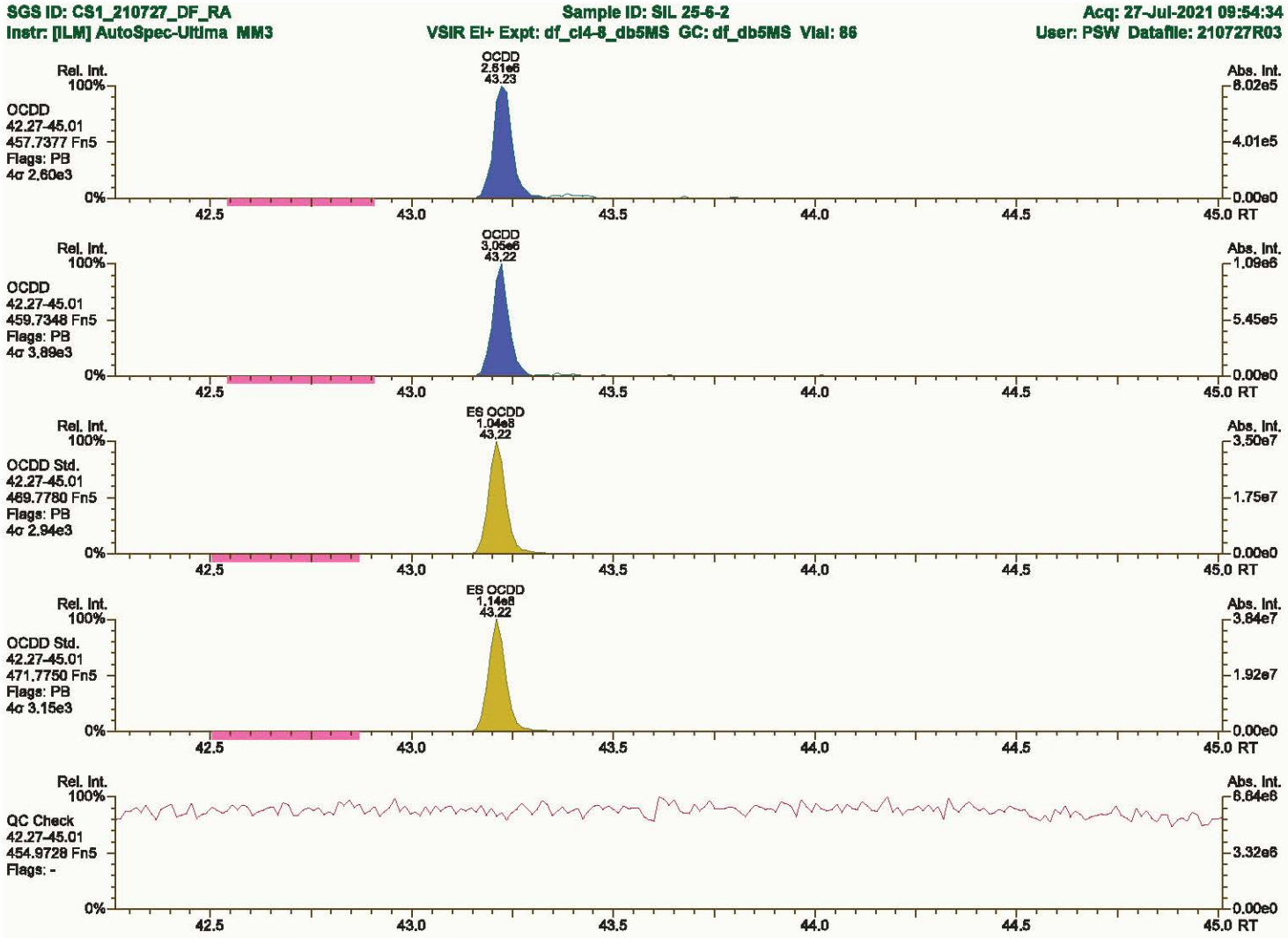

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 3.79e3
2378D
4.48e5*
28.53
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.85e3
2378D
5.93e5*
28.53
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.82e3
CS 37Cl-2378D
1.01e6
28.53
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.97e3
AS 1368D
6.92e7
24.92
TS 1378D
9.64e7
26.88
JS 1234D
8.93e7
27.67
ES 2378D
8.96e7
28.51
FS 1278D
7.47e7
28.83
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.69e3
AS 1368D
8.70e7
24.92
TS 1378D
1.19e8
26.88
JS 1234D
8.30e7
27.67
ES 2378D
8.63e7
28.51
FS 1278D
9.36e7
28.83
RT


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
12378D
2.49e6
33.81
7.61e5
3.81e5
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
12378D
1.66e6
33.81
5.11e5
2.55e5
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
FS 12478D
1.07e6*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.58e7
33.79
3.23e7
1.62e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
RRF(FS 12478D) = (1.07e6 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
1.94e7
9.72e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.83e6
1.41e6
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

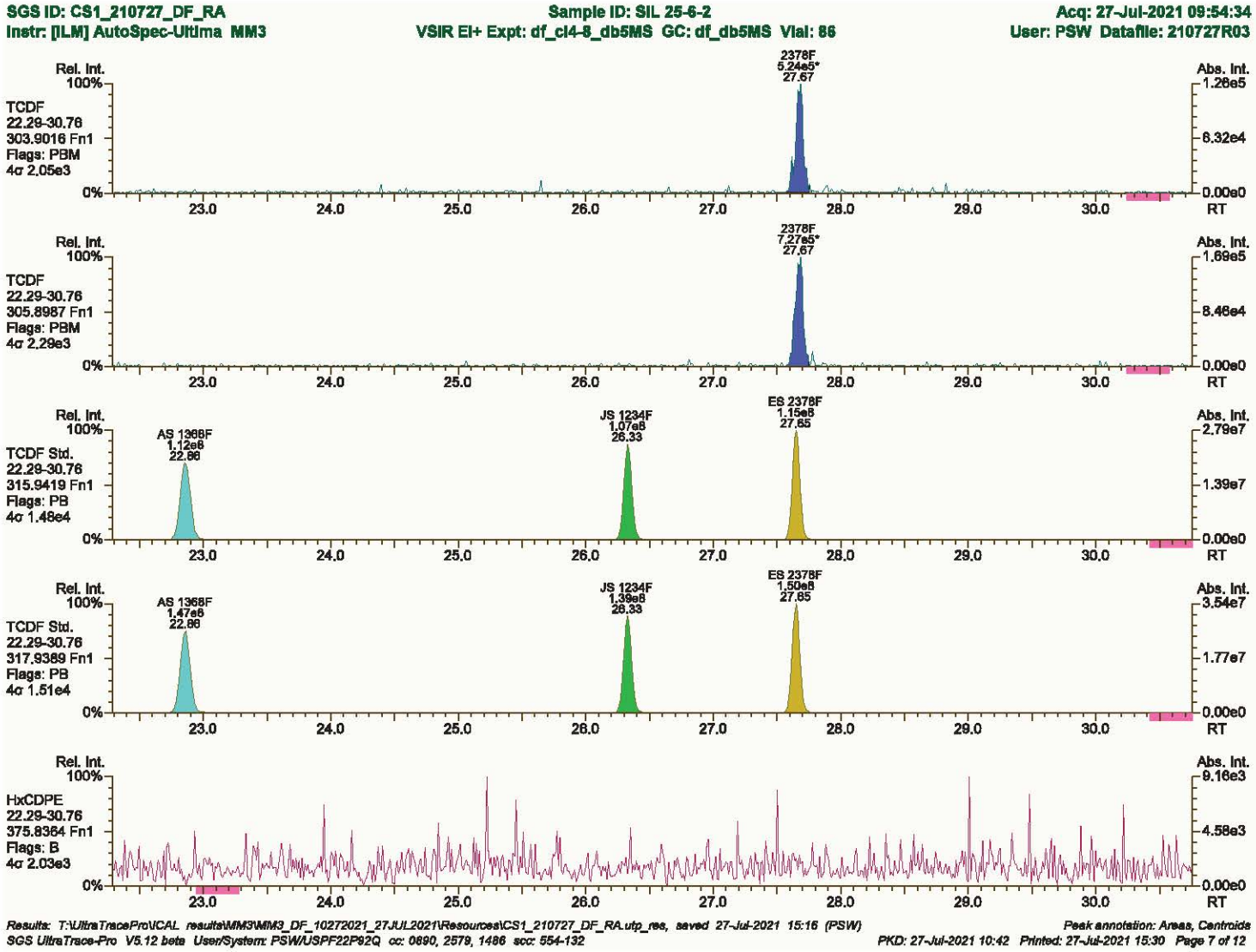

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.12e3
123678D 2.05e6 37.79
123478D 2.16e6 37.67
123789D 2.41e6 38.08
7.09e5
3.55e5
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.19e3
123678D 1.99e6 37.79
123478D 1.77e6 37.67
123789D 1.81e6 38.08
5.86e5
2.93e5
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.56e3
FS 123468D 1.05e8 36.58
ES 123678D 7.85e7 37.77
ES 123478D 7.98e7 37.66
ES 123789D 8.69e7* 38.06
JS 123467D 4.35e7* 37.97
3.32e7
1.66e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.80e3
FS 123468D 8.09e7 36.58
ES 123678D 9.17e7 37.77
ES 123478D 8.34e7 37.66
ES 123789D 7.15e7* 38.06
JS 123467D 3.34e7* 37.97
2.53e7
1.27e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.27e7
1.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 1026, 8944 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 4 of 12

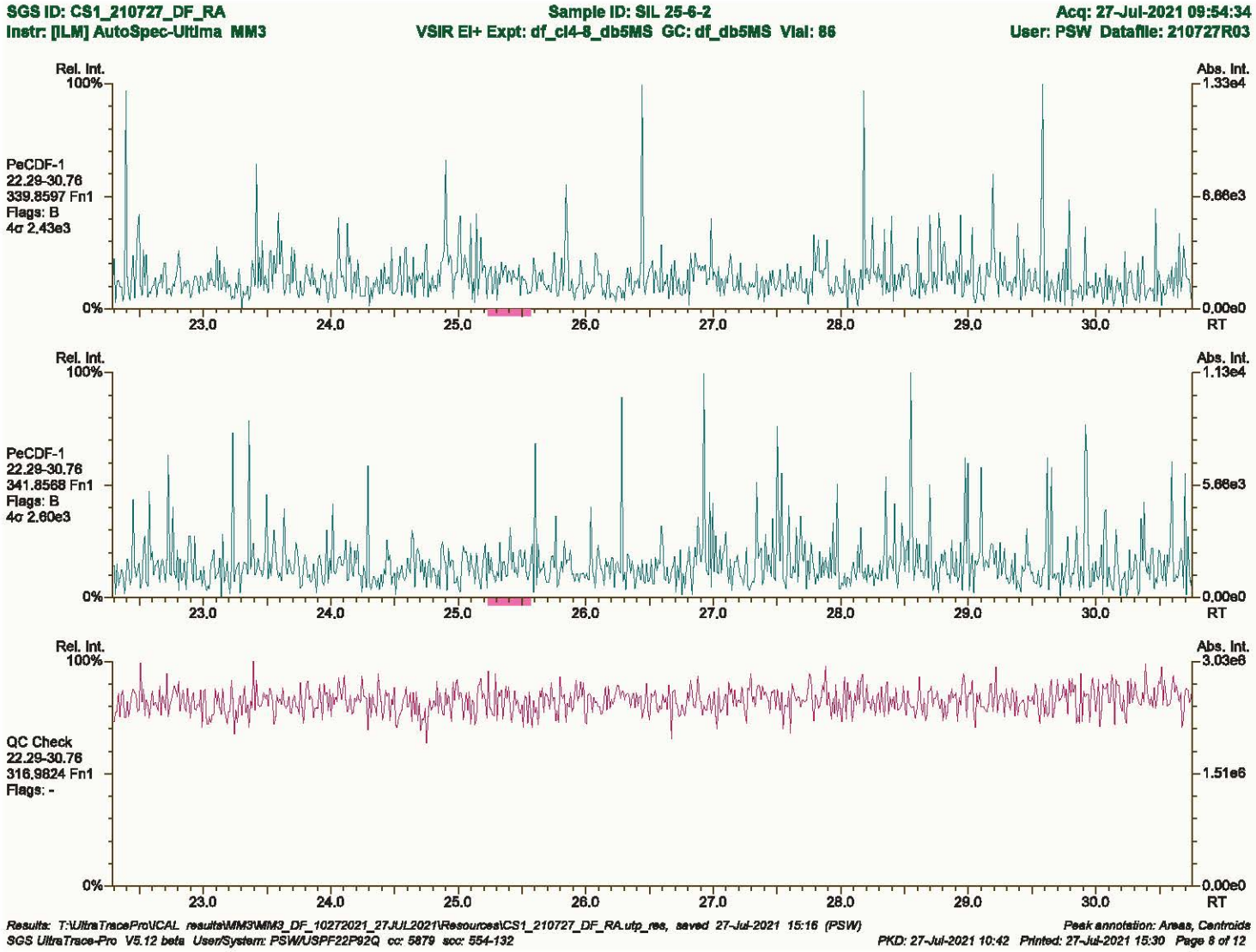


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 3507, 0351 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 5 of 12

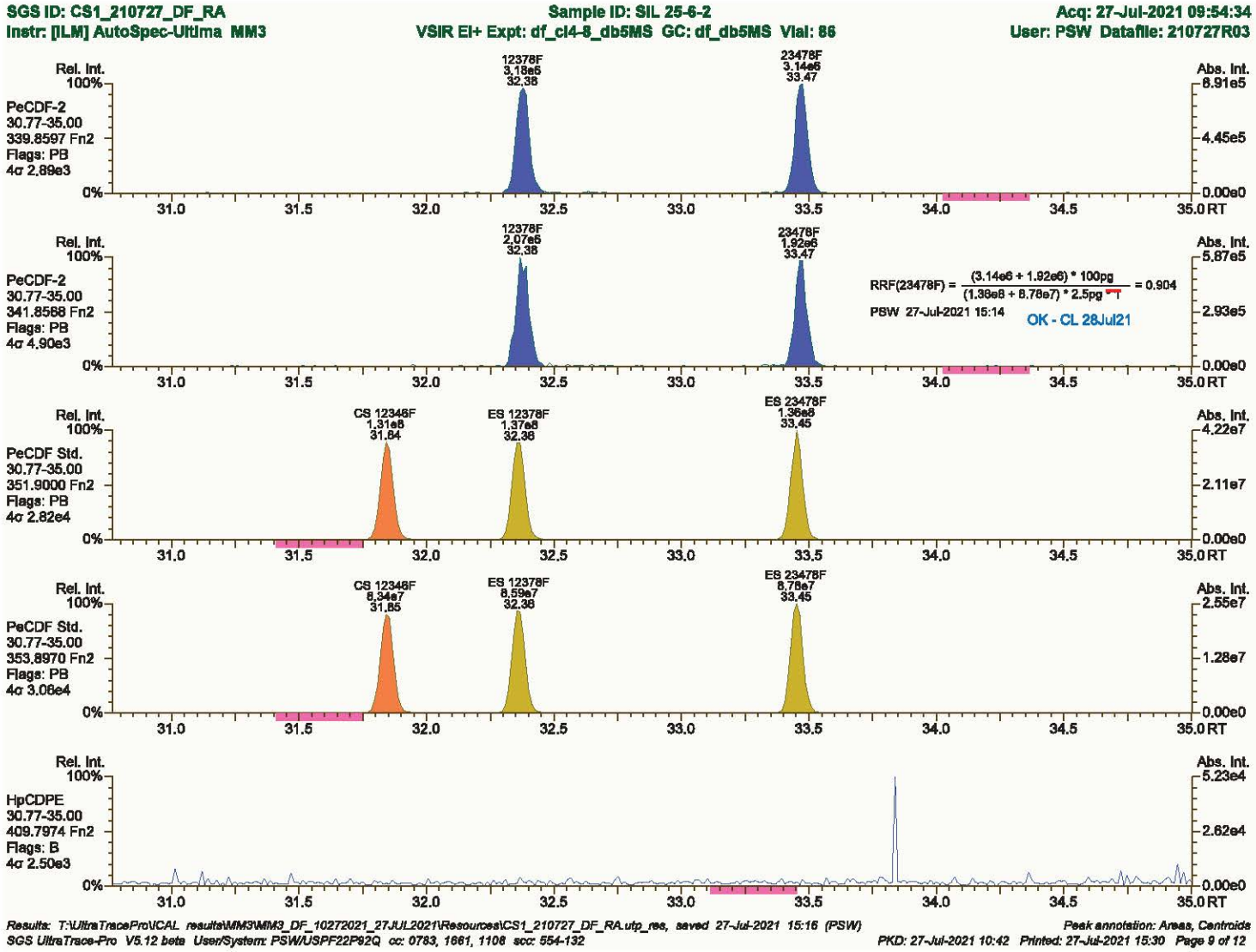


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 3442, 9341 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 6 of 12

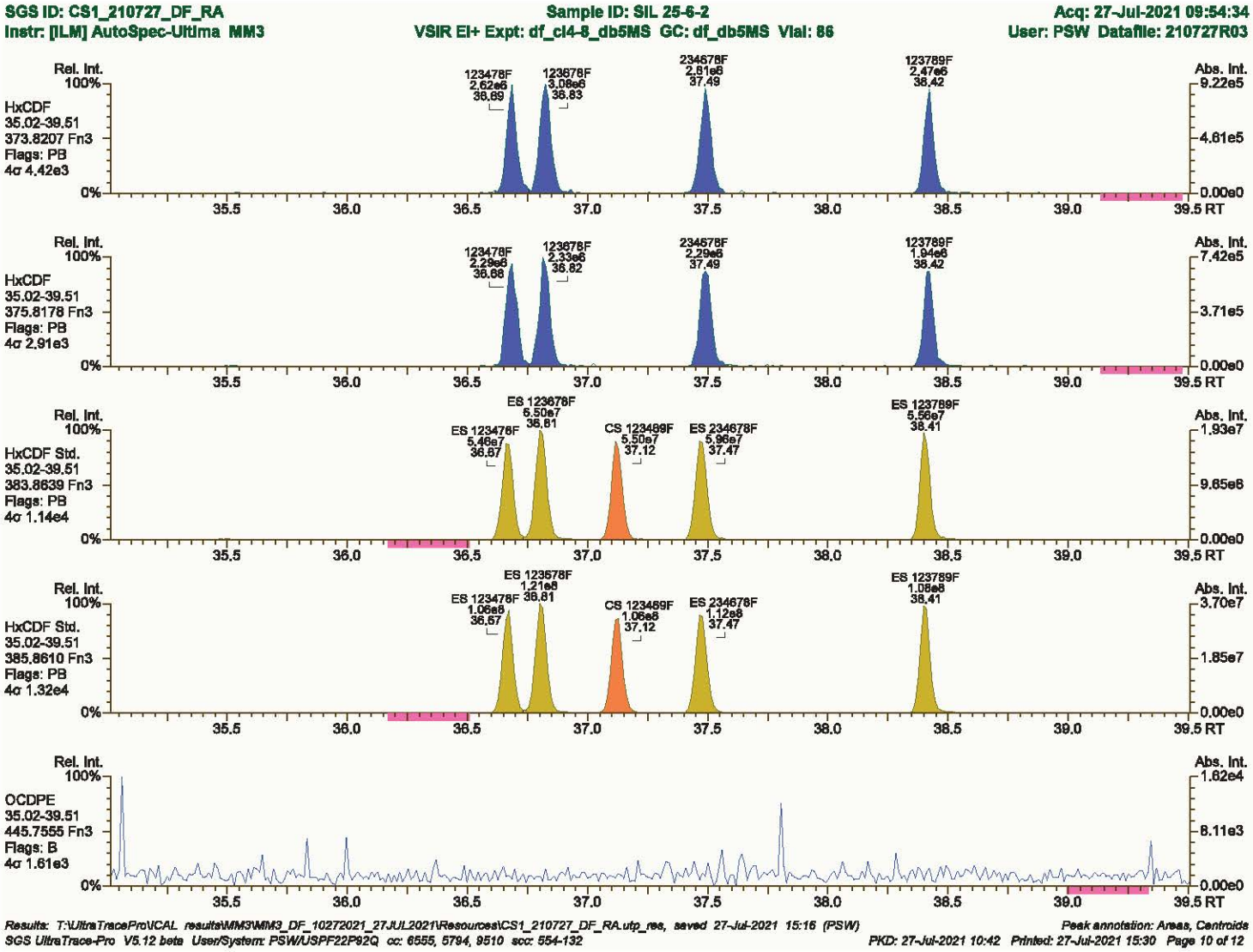

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
2378F
5.24e5*
27.67
1.26e5
6.32e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
2378F
7.27e5*
27.67
1.69e5
8.46e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
2.79e7
1.39e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
3.54e7
1.77e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
9.16e3
4.58e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0690, 2579, 1486 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 7 of 12

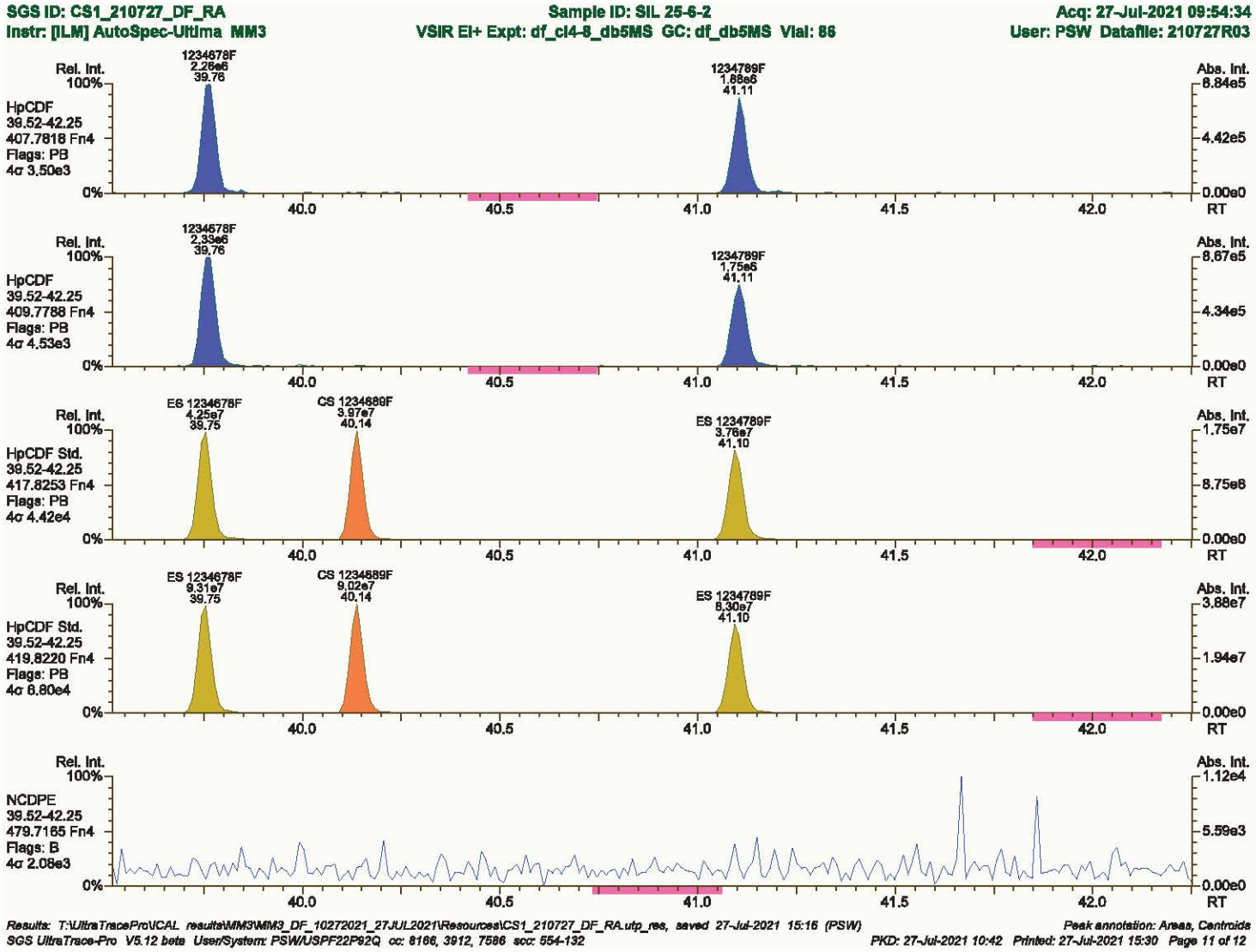


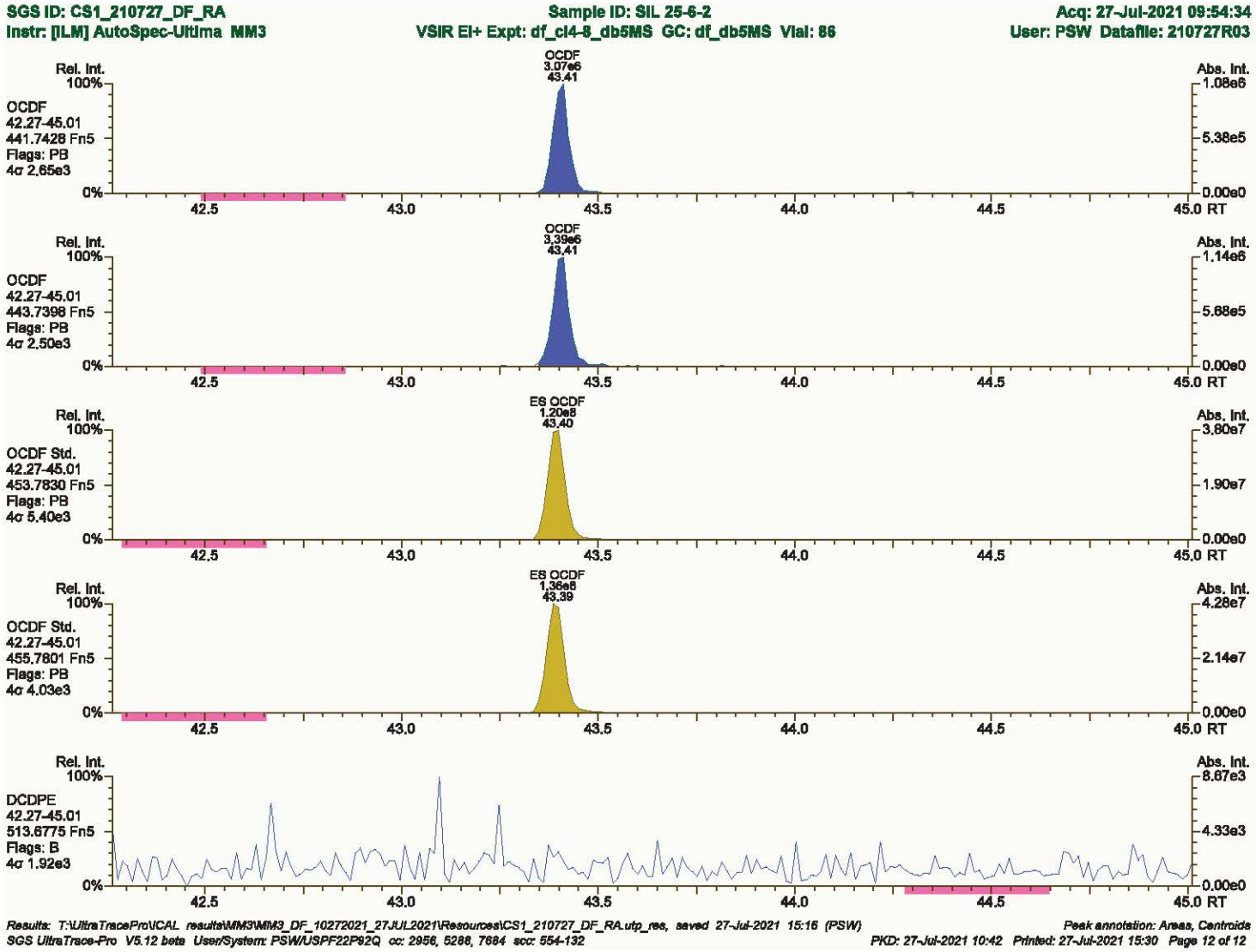
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5879 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 8 of 12



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0783, 1661, 1108 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS1_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: SIL 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
Acq: 27-Jul-2021 09:54:34
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 4.42e3
123478F 2.62e6 36.69
123678F 3.09e6 36.83
234678F 2.81e6 37.49
123789F 2.47e6 38.42
9.22e5
4.61e5
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.91e3
123478F 2.29e6 36.68
123678F 2.33e6 36.82
234678F 2.29e6 37.49
123789F 1.94e6 38.42
7.42e5
3.71e5
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123678F 5.50e7 36.81
ES 123478F 5.46e7 36.67
CS 123489F 5.50e7 37.12
ES 234678F 5.96e7 37.47
ES 123789F 5.56e7 38.41
1.93e7
9.65e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123678F 1.21e8 36.81
ES 123478F 1.06e8 36.67
CS 123489F 1.06e8 37.12
ES 234678F 1.12e8 37.47
ES 123789F 1.08e8 38.41
3.70e7
1.85e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.61e3
1.62e4
8.11e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6555, 5794, 9510 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 3.50e3
1234678F
2.26e6
39.76
1234789F
1.88e6
41.11
8.84e5
4.42e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 4.53e3
1234678F
2.33e6
39.76
1234789F
1.75e6
41.11
8.67e5
4.34e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 4.42e4
ES 1234678F
4.25e7
39.75
CS 1234689F
3.97e7
40.14
ES 1234789F
3.76e7
41.10
1.75e7
8.75e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 6.80e4
ES 1234678F
9.31e7
39.75
CS 1234689F
9.02e7
40.14
ES 1234789F
8.30e7
41.10
3.88e7
1.94e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.08e3
1.12e4
5.59e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8166, 3912, 7586 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
OCDF
3.07e6
43.41
Rel. Int.
100%
Abs. Int.
1.08e6
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
5.38e5
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.39e6
43.41
Rel. Int.
100%
Abs. Int.
1.14e6
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
5.68e5
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.20e8
43.40
Rel. Int.
100%
Abs. Int.
3.80e7
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
1.90e7
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e8
43.39
Rel. Int.
100%
Abs. Int.
4.28e7
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
2.14e7
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
8.67e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
4.33e3
0%
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

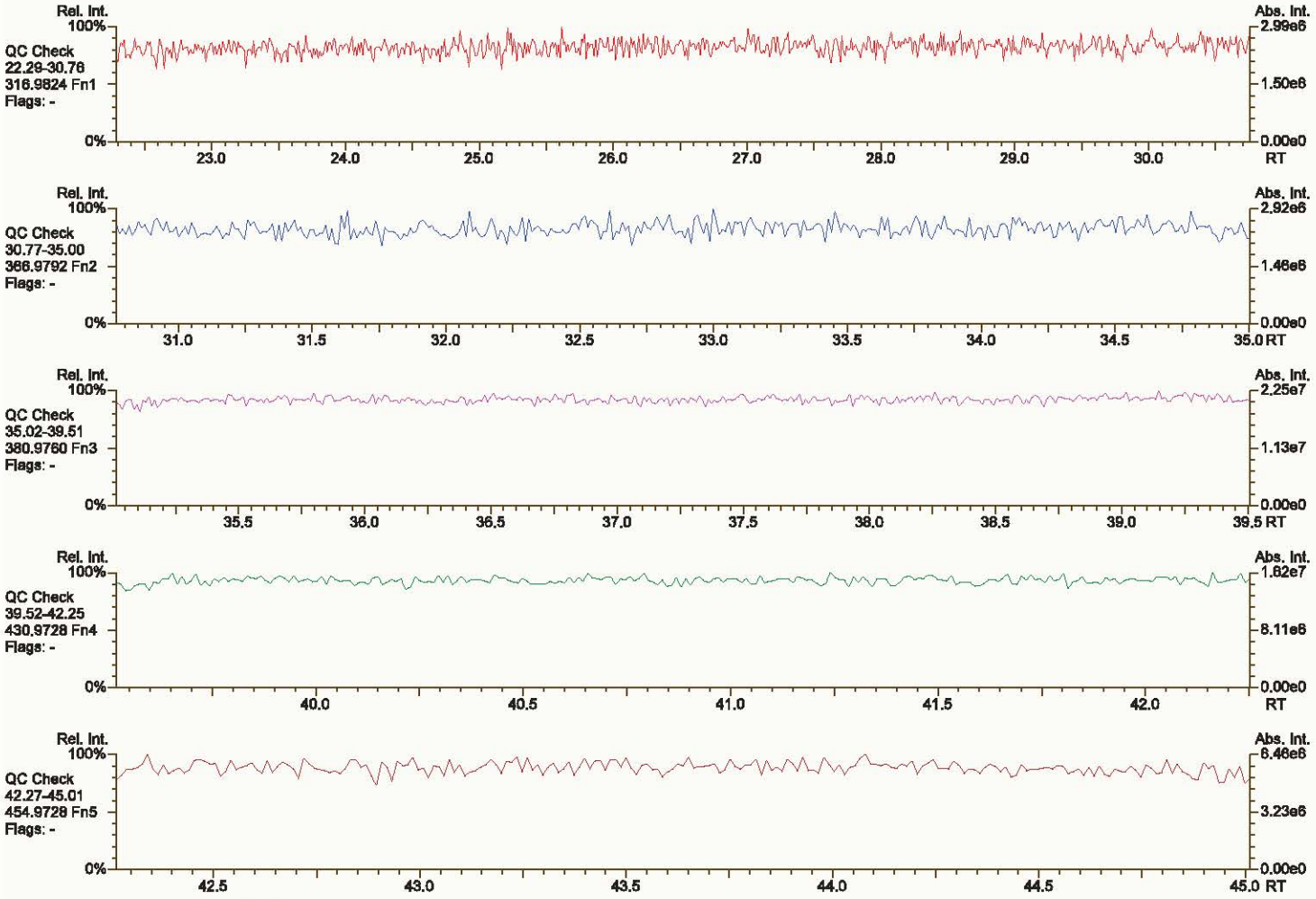
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 10:44 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS2_210727_DF_RA		UTP: 27-Jul-2021 15:00:20 PSW				Checkcode: 377-233-TNL	
Sample ID: SIL 25-6-1		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD	40.67	1.41E+07	1.01	Y	0.97	0.92	-6%
OCDD	43.23	2.33E+07	0.88	Y	1.07	1.01	-6%
2378-TCDF	27.68	5.04E+06	0.83	Y	0.96	0.90	-6%
12378-PeCDF	32.39	2.16E+07	1.63	Y	0.95	0.90	-5%
23478-PeCDF	33.48	2.12E+07	1.52	Y	0.94	0.90	-4%
123478-HxCDF	36.69	2.09E+07	1.25	Y	1.23	1.19	-4%
123678-HxCDF	36.83	2.13E+07	1.24	Y	1.13	1.07	-5%
234678-HxCDF	37.50	1.98E+07	1.20	Y	1.15	1.08	-6%
123789-HxCDF	38.43	1.89E+07	1.24	Y	1.14	1.09	-4%
1234678-HpCDF	39.77	1.87E+07	1.01	Y	1.36	1.31	-4%
1234789-HpCDF	41.12	1.60E+07	1.02	Y	1.30	1.26	-3%
OCDF	43.41	2.61E+07	0.92	Y	1.03	0.95	-7%
ES 2378-TCDD	28.51	1.68E+08	0.80	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.794	1.63E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.667	1.54E+08	1.28	Y	0.99	0.99	-1%
ES 123678-HxCDD	37.781	1.49E+08	1.24	Y	0.97	0.95	-2%
ES 123789-HxCDD	38.07	1.75E+08	1.26	Y	1.12	1.12	0%
ES 1234678-HpCDD	40.658	1.53E+08	1.06	Y	0.99	0.98	-1%
ES OCDD	43.222	2.31E+08	0.90	Y	0.78	0.74	-5%
ES 2378-TCDF	27.656	2.80E+08	0.80	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.368	2.40E+08	1.55	Y	0.93	0.92	-2%
ES 23478-PeCDF	33.459	2.36E+08	1.59	Y	0.92	0.90	-2%
ES 123478-HxCDF	36.674	1.76E+08	0.52	Y	1.14	1.13	-1%
ES 123678-HxCDF	36.814	1.99E+08	0.52	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.481	1.84E+08	0.52	Y	1.20	1.18	-2%
ES 123789-HxCDF	38.416	1.73E+08	0.52	Y	1.14	1.11	-2%
ES 1234678-HpCDF	39.761	1.43E+08	0.44	Y	0.95	0.92	-3%
ES 1234789-HpCDF	41.105	1.28E+08	0.46	Y	0.85	0.82	-3%
ES OCDF	43.404	2.74E+08	0.87	Y	0.93	0.88	-5%

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 10:44 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS2_210727_DF_RA		UTP: 27-Jul-2021 15:00:20 PSW				Checkcode: 377-233-TNL	
Sample ID: SIL 25-6-1		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R04	
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.13	1.69E+08	0.52	Y	1.09	1.08	-1%
CS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.86	0.89	3%
SS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.13	1.69E+08	0.52	Y	0.84	0.85	1%
SS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.92	1.68E+08	0.81	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.81E+08	0.77	Y	1.08	1.07	-1%
FS 1278-TCDD	28.83	1.83E+08	0.80	Y	1.08	1.09	0%
FS 12478-PeCDD	32.58	1.83E+08	1.61	Y	1.09	1.12	3%
FS 123468-HxCDD	36.59	1.97E+08	1.31	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	2.12E+08	1.04	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	2.27E+08	0.78	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.23~~	~~1.51E+06~~	~~2.07~~	~~N~~	~~0.87~~	~~0.87~~	~~-1%~~
~~OCDF-a~~	~~43.41~~	~~1.45E+06~~	~~3.13~~	~~N~~	~~0.86~~	~~0.85~~	~~-11%~~

Not reported from this ICAL - CL 28Jul21

SGS ID: CS2_210727_DF_RA | Sample ID: SIL 25-6-1 | Acq: 27-Jul-2021 10:44:24

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87 | User: PSW Datafile: 210727R04

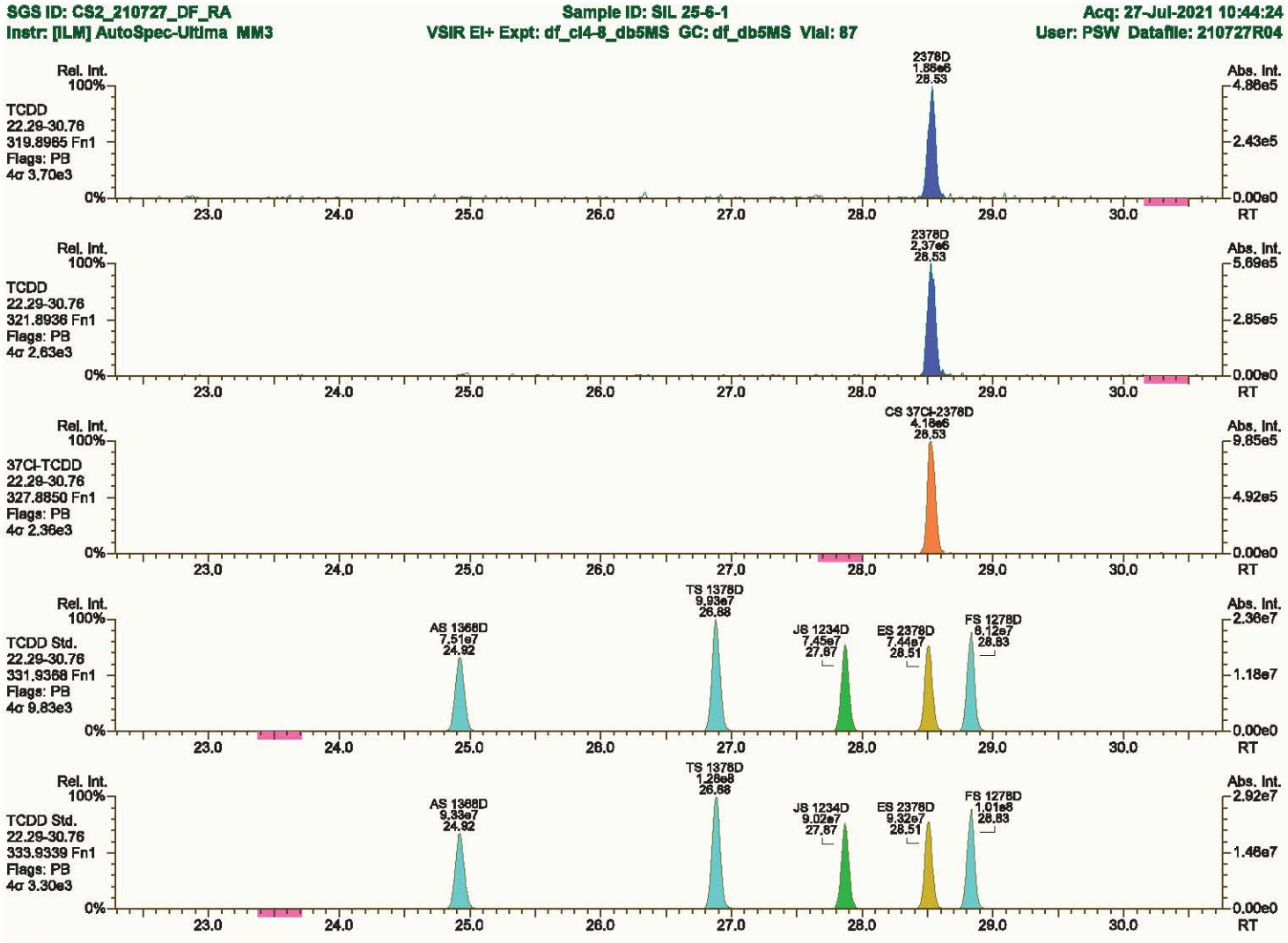


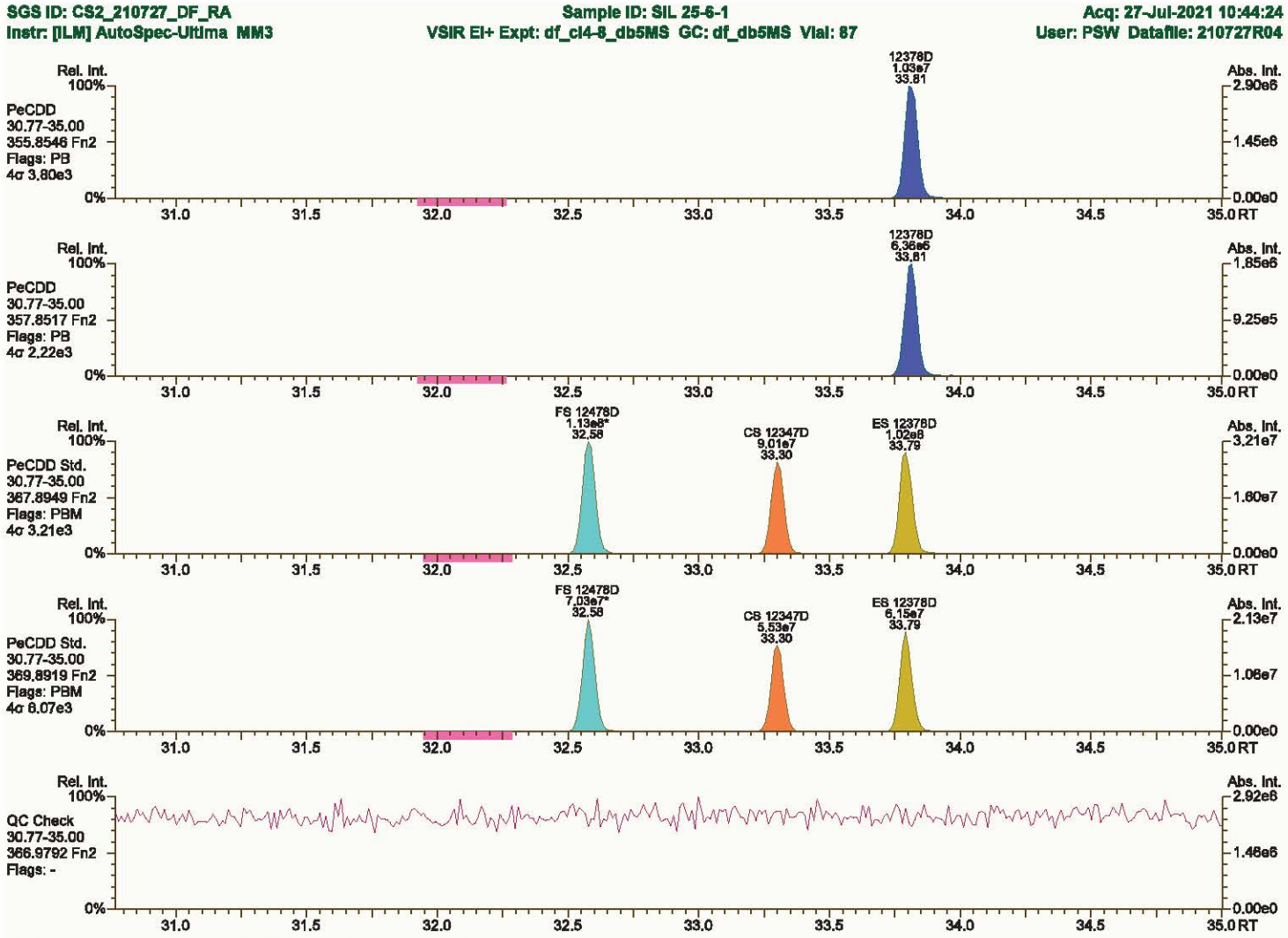
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)

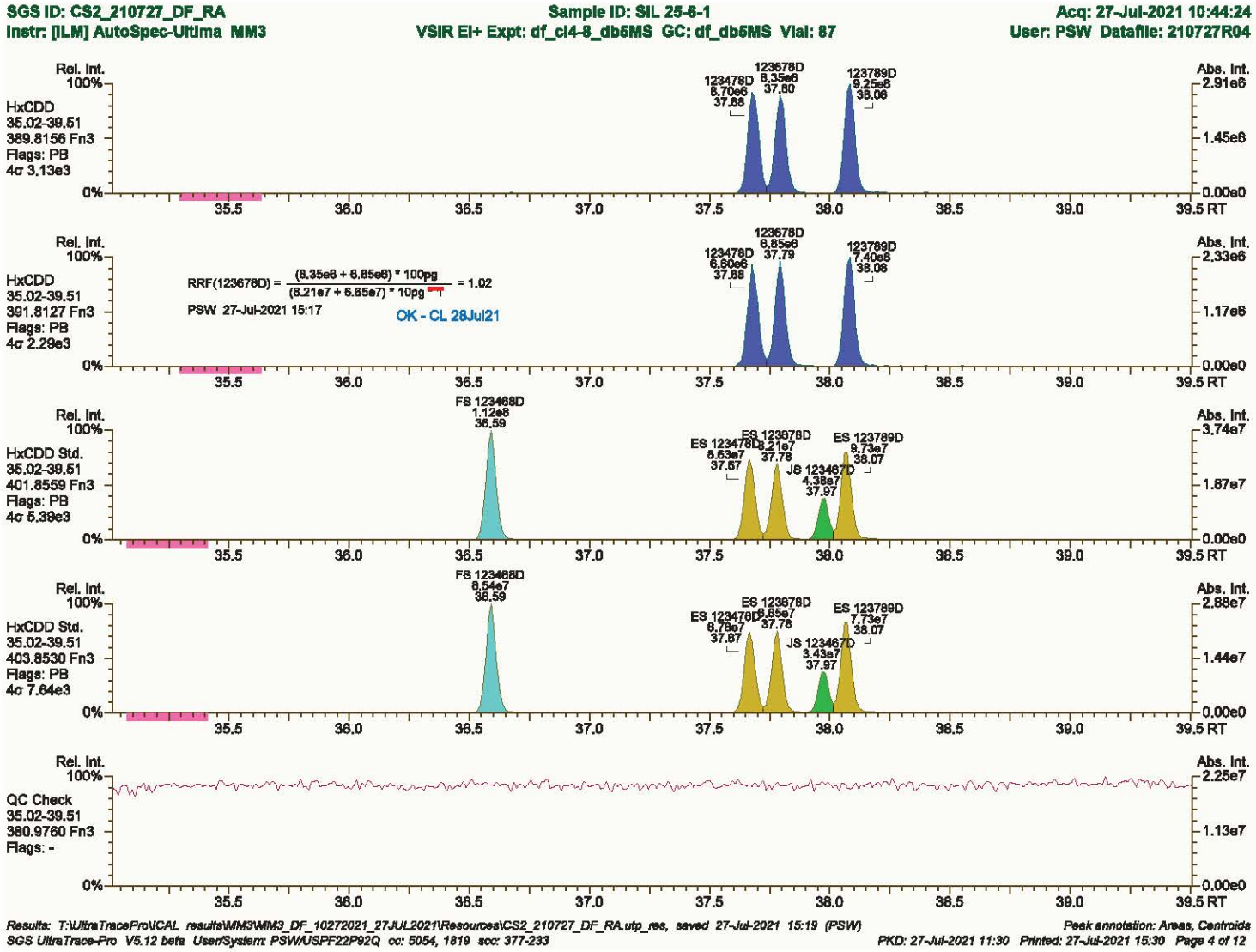
Peak annotation: Areas, Centroids

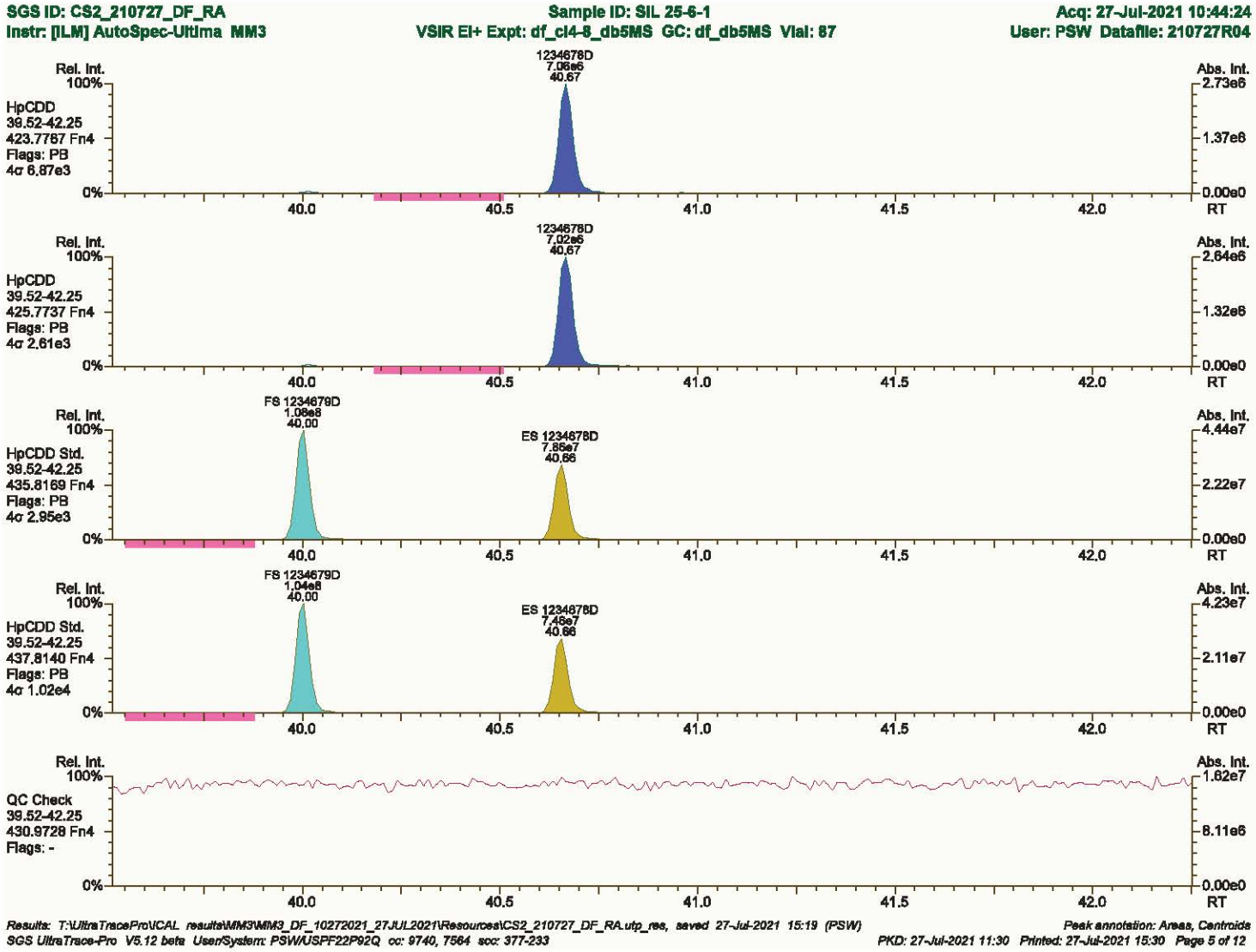
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 377-233

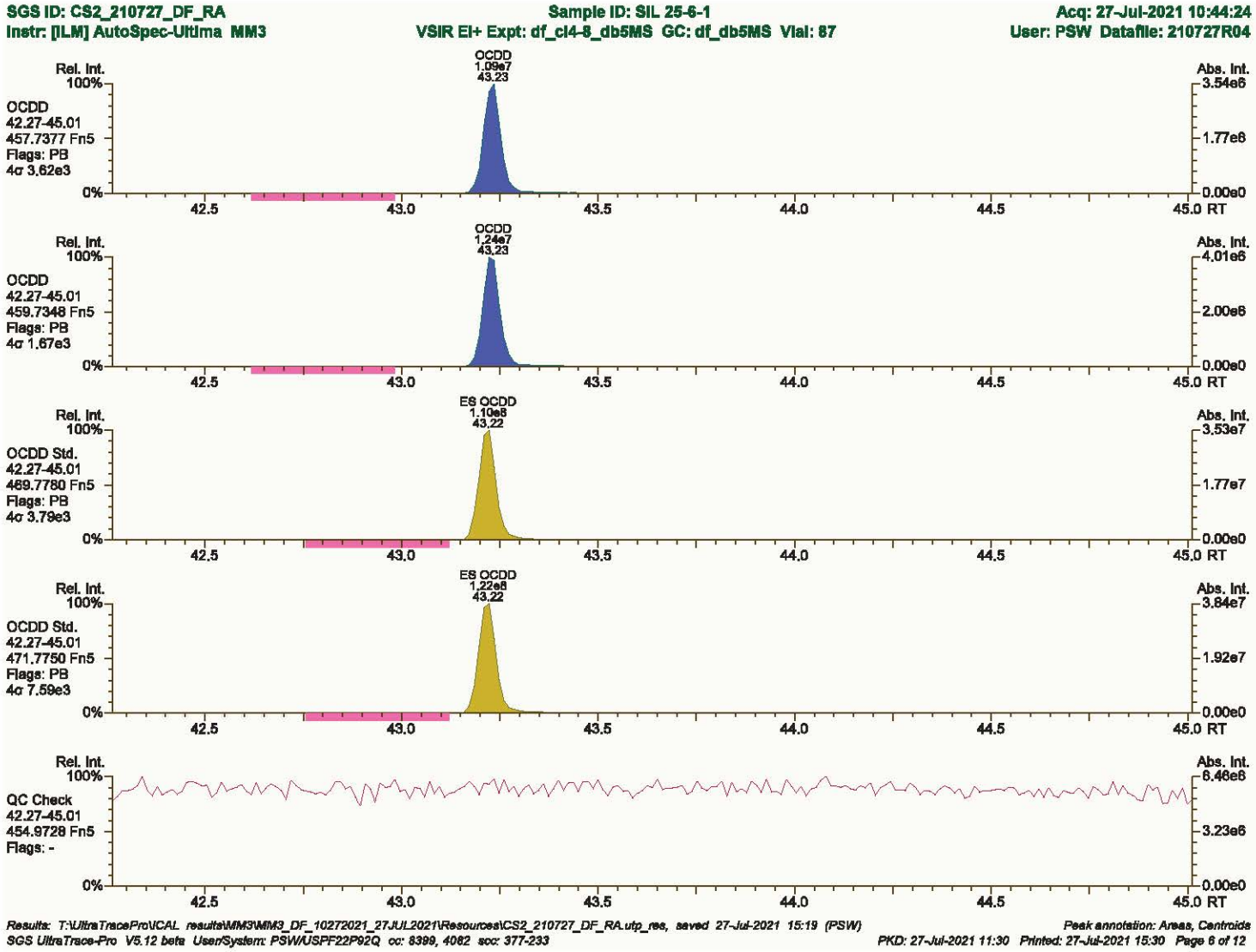
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
2378D
1.66e6
28.53
4.88e5
2.43e5
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
2378D
2.37e6
28.53
5.69e5
2.85e5
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.36e3
CS 37Cl-2378D
4.18e6
28.53
9.85e5
4.92e5
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 9.83e3
AS 1368D
7.51e7
24.92
TS 1378D
9.93e7
26.88
JS 1234D
7.45e7
27.87
ES 2378D
7.44e7
28.51
FS 1278D
8.12e7
28.83
2.36e7
1.18e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.30e3
AS 1368D
9.33e7
24.92
TS 1378D
1.26e8
26.88
JS 1234D
9.02e7
27.87
ES 2378D
9.32e7
28.51
FS 1278D
1.01e8
28.83
2.92e7
1.46e7
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1119, 4153, 3896 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 2 of 12

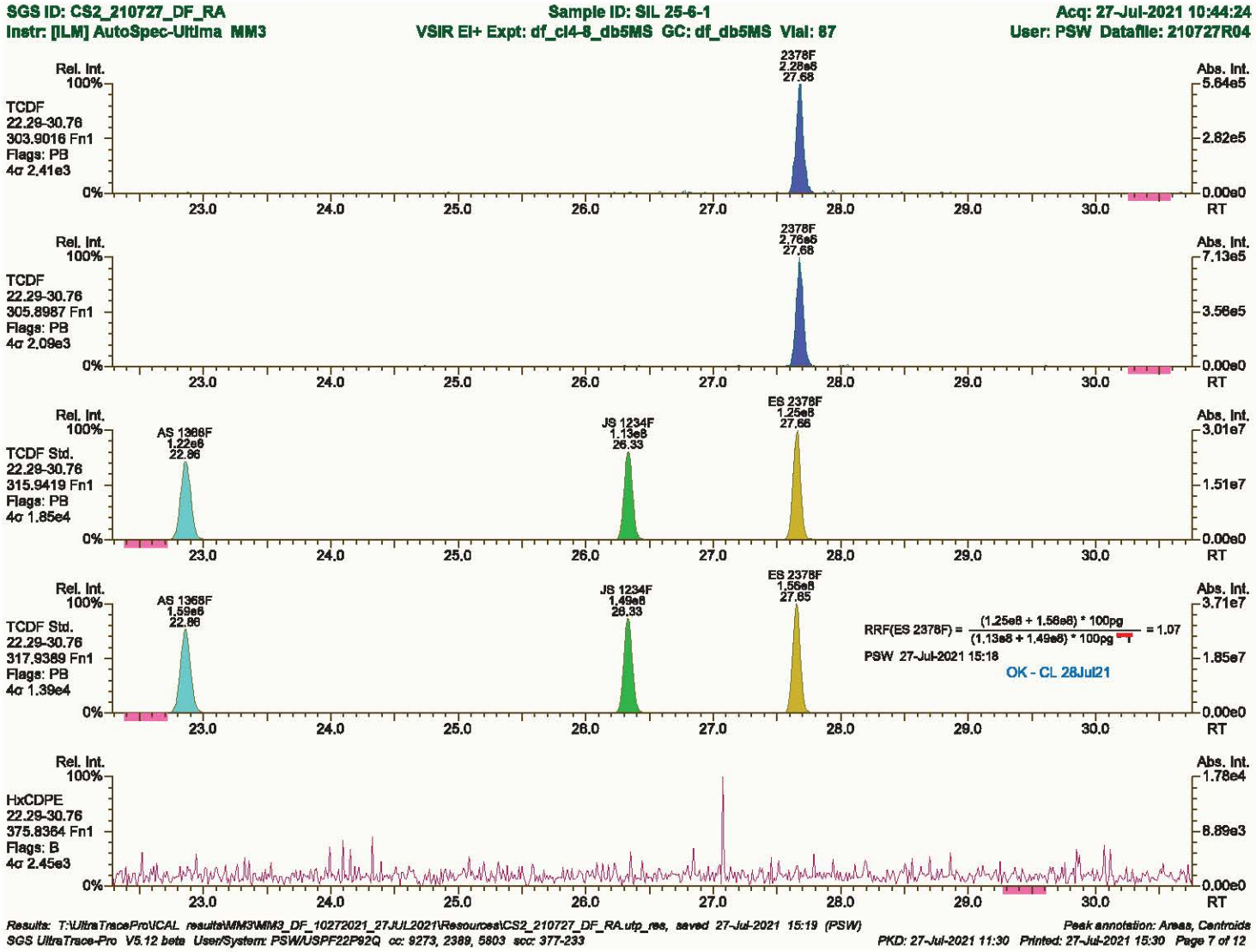

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.80e3
12378D
1.03e7
33.81
2.90e6
1.45e6
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.22e3
12378D
6.36e6
33.81
1.85e6
9.25e5
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.21e3
FS 12478D
1.13e6*
32.58
CS 12347D
9.01e7
33.30
ES 12378D
1.02e8
33.79
3.21e7
1.60e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 6.07e3
FS 12478D
7.03e7*
32.58
CS 12347D
5.53e7
33.30
ES 12378D
6.15e7
33.79
2.13e7
1.06e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.92e6
1.46e6
0%
100%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123678D 8.35e6 37.80
123478D 8.70e6 37.68
123789D 9.25e6 38.06
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg / (8.21e7 + 6.65e7) * 10pg = 1.02
PSW 27-Jul-2021 15:17
OK - CL 28Jul21
123678D 6.85e6 37.79
123478D 6.60e6 37.68
123789D 7.40e6 38.06
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 5.39e3
FS 123468D 1.12e8 36.59
ES 123678D 8.21e7 37.78
ES 123478D 8.63e7 37.67
ES 123789D 9.73e7 38.07
JS 123467D 4.38e7 37.97
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 7.64e3
FS 123468D 8.54e7 36.59
ES 123678D 8.65e7 37.78
ES 123478D 8.78e7 37.67
ES 123789D 7.73e7 38.07
JS 123467D 3.43e7 37.97
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
2.91e6
1.45e6
0.00e0
2.33e6
1.17e6
3.74e7
1.87e7
2.88e7
1.44e7
2.25e7
1.13e7


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 6.87e3
1234678D
7.06e6
40.67
2.73e6
1.37e6
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 2.61e3
1234678D
7.02e6
40.67
2.64e6
1.32e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.95e3
FS 1234679D
1.08e8
40.00
ES 1234678D
7.85e7
40.66
4.44e7
2.22e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.02e4
FS 1234679D
1.04e8
40.00
ES 1234678D
7.46e7
40.66
4.23e7
2.11e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.62e7
8.11e6
0%
100%
40.0
40.5
41.0
41.5
42.0
RT



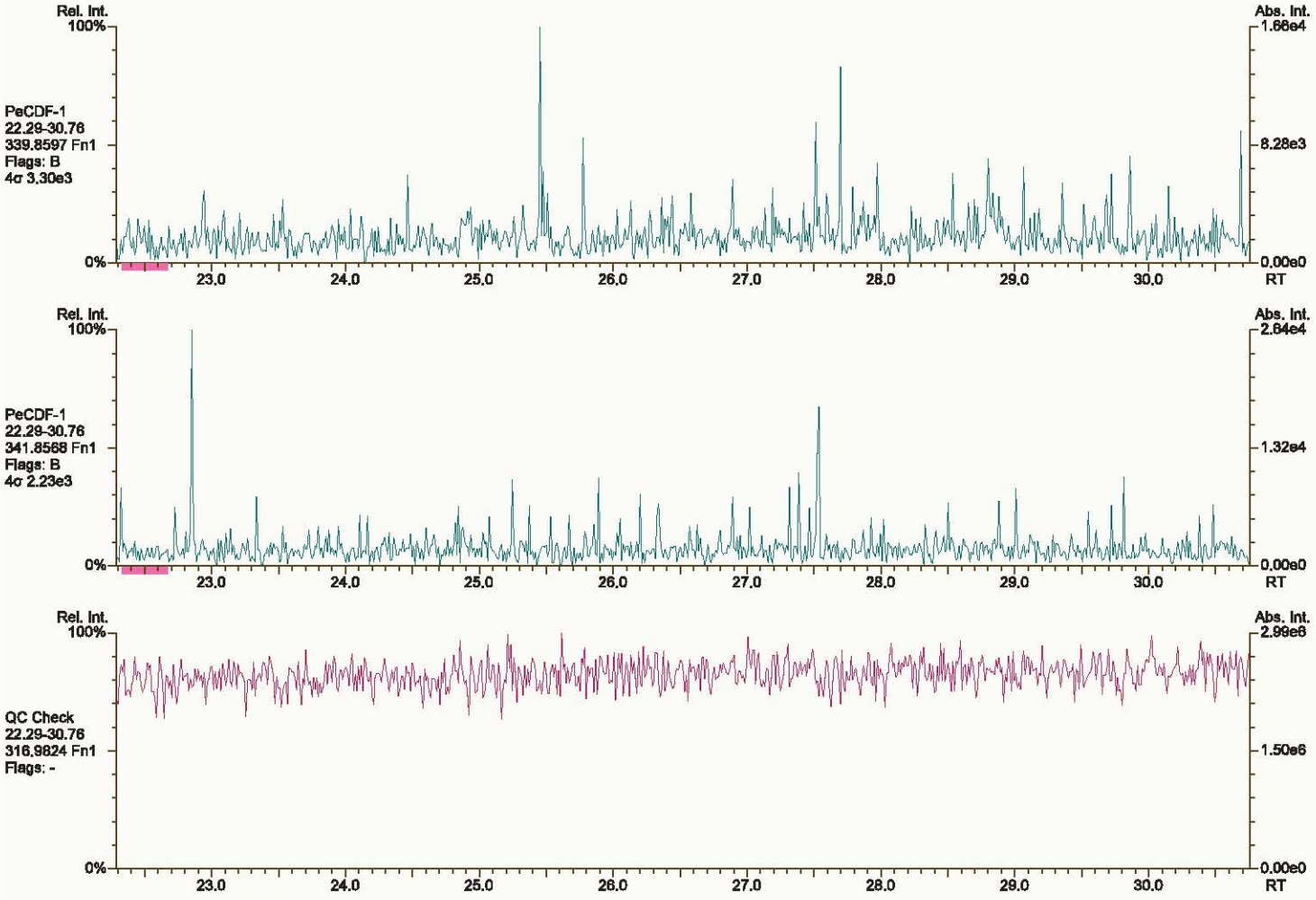
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 8399, 4082 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 6 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.41e3
2378F
2.28e6
27.68
5.64e5
2.82e5
0.00e0
RT
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.09e3
2378F
2.76e5
27.68
7.13e5
3.56e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.85e4
AS 1368F
1.22e6
22.86
JS 1234F
1.13e8
26.33
ES 2378F
1.25e8
27.66
3.01e7
1.51e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.39e4
AS 1368F
1.59e6
22.86
JS 1234F
1.49e8
26.33
ES 2378F
1.56e8
27.65
RRF(ES 2378F) = (1.25e8 + 1.56e8) * 100pg / (1.13e8 + 1.49e8) * 100pg = 1.07
PSW 27-Jul-2021 15:18
OK - CL 28Jul21
3.71e7
1.85e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.45e3
1.78e4
8.89e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9273, 2389, 5803 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 7 of 12

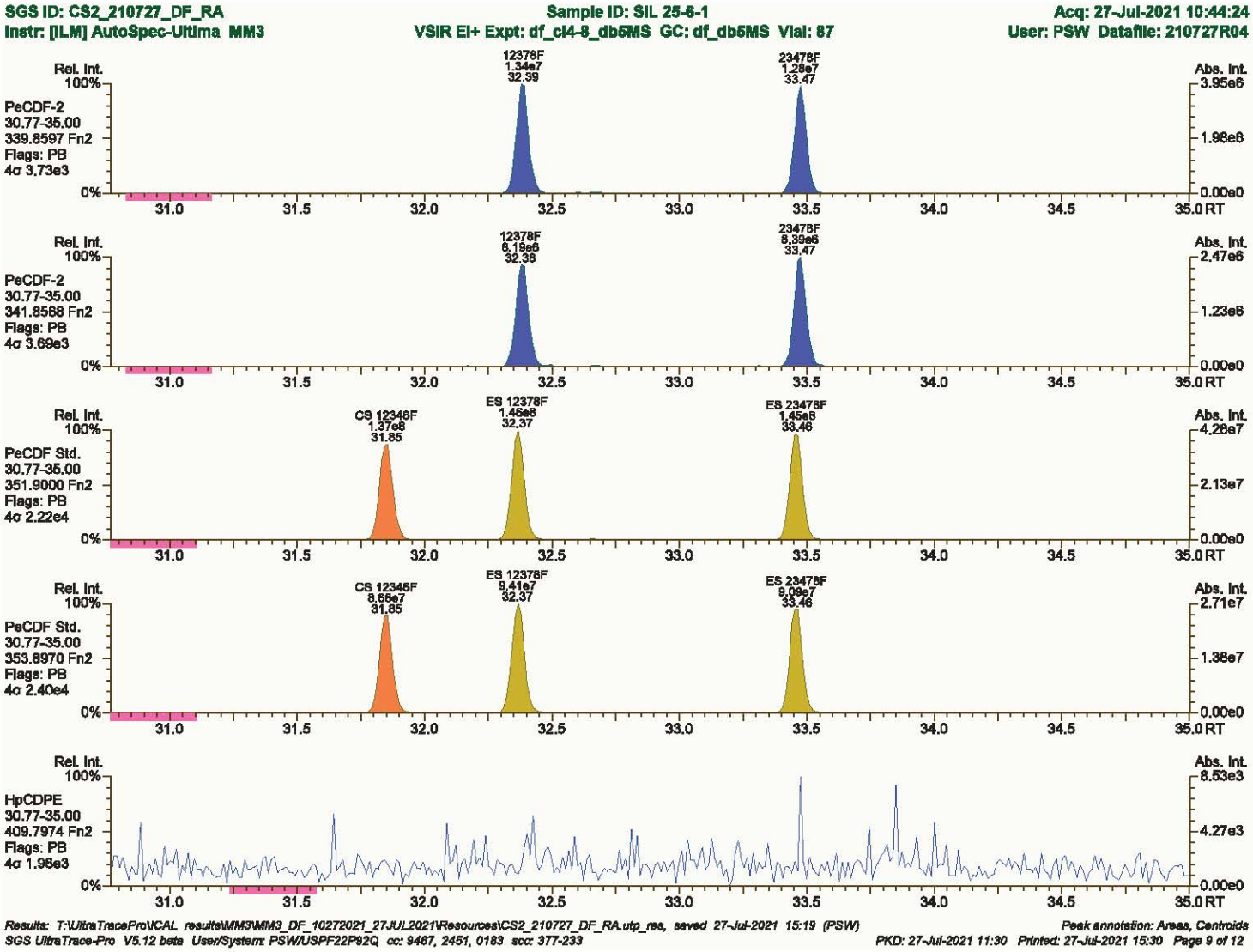
SGS ID: CS2_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87

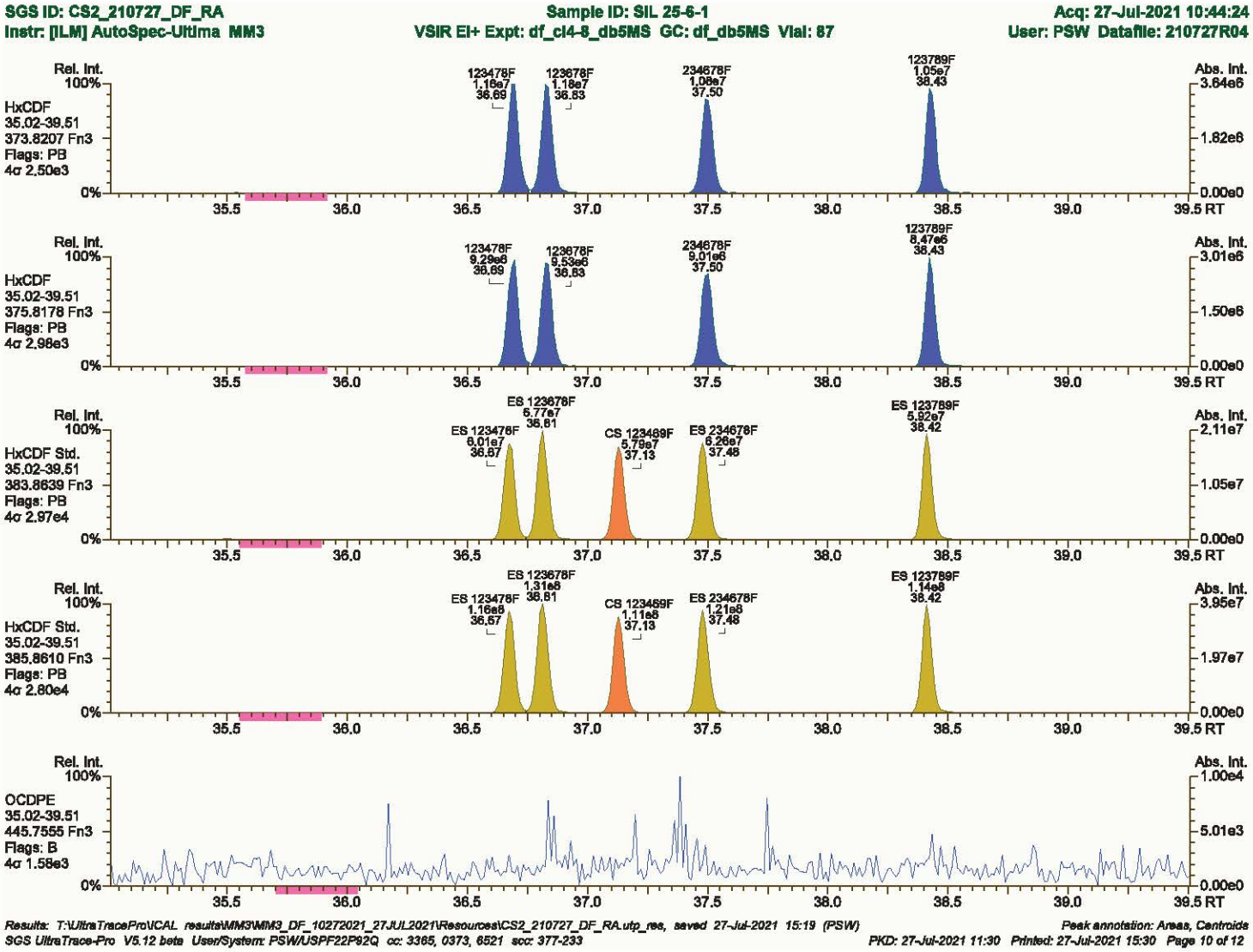
Acq: 27-Jul-2021 10:44:24
User: PSW Datafile: 210727R04

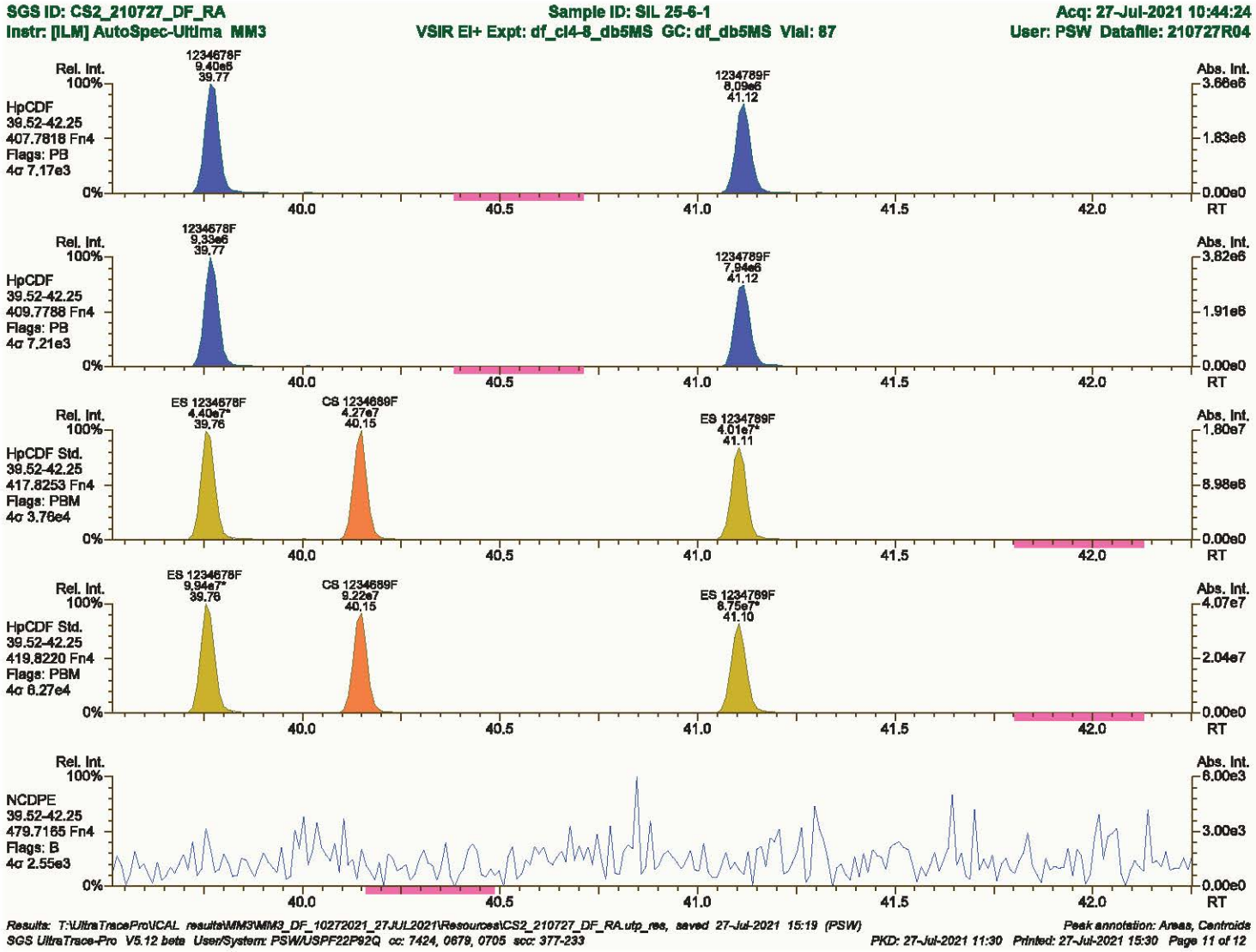


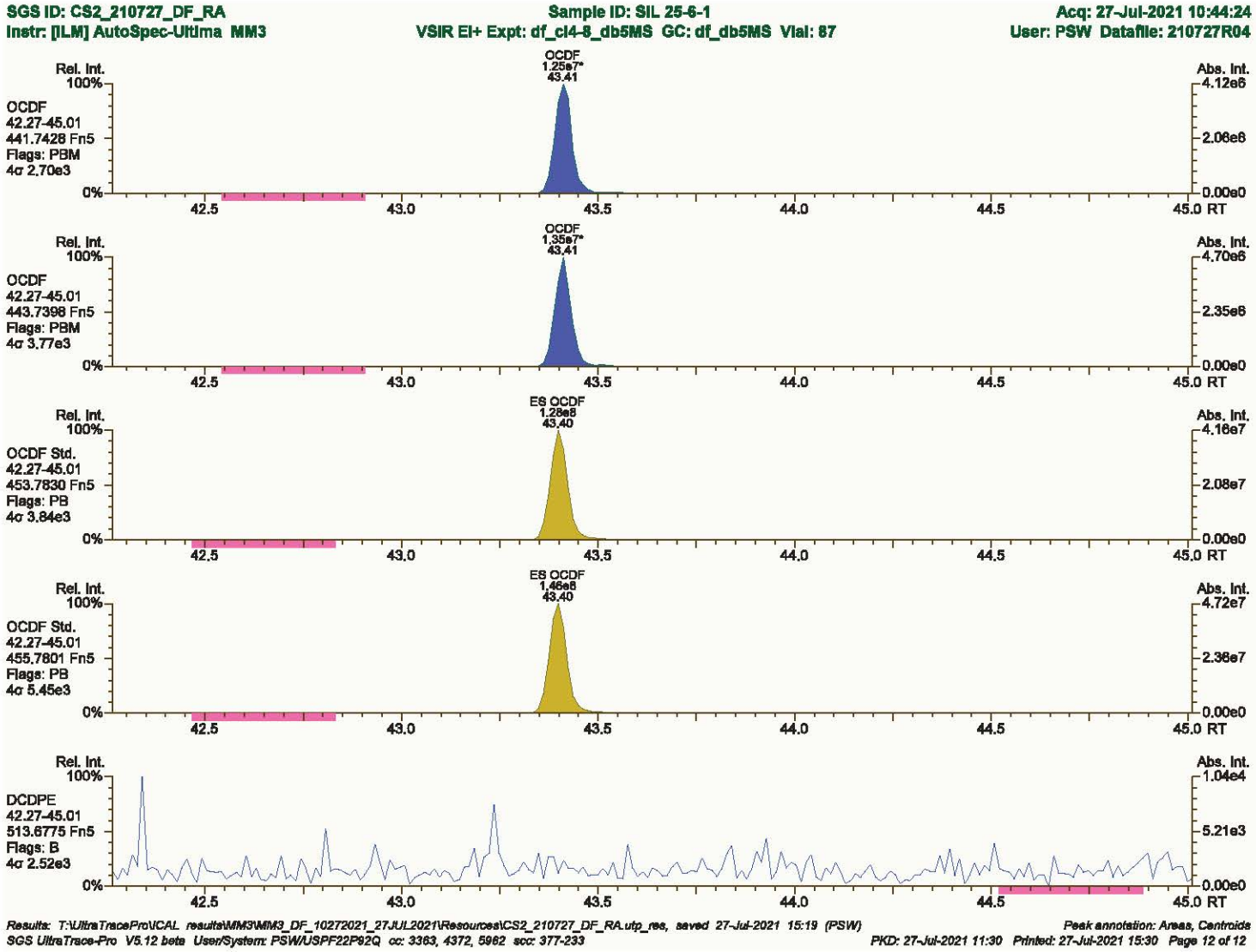
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6697 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 8 of 12



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9467, 2451, 0183 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.50e3
123478F 1.16e7 36.69
123678F 1.18e7 36.83
234678F 1.08e7 37.50
123789F 1.05e7 38.43
3.64e6
1.82e6
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.98e3
123478F 9.29e6 36.69
123678F 9.53e6 36.83
234678F 9.01e6 37.50
123789F 8.47e6 38.43
3.01e6
1.50e6
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 2.97e4
ES 123678F 5.77e7 36.81
ES 123478F 6.01e7 36.57
CS 123469F 5.79e7 37.13
ES 234678F 6.26e7 37.48
ES 123789F 5.92e7 38.42
2.11e7
1.05e7
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.80e4
ES 123678F 1.31e8 36.81
ES 123478F 1.16e8 36.57
CS 123469F 1.11e8 37.13
ES 234678F 1.21e8 37.48
ES 123789F 1.14e8 38.42
3.95e7
1.97e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.58e3
1.00e4
5.01e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3365, 0373, 6521 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 10 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 7.17e3
1234678F
9.40e6
39.77
1234789F
8.09e6
41.12
3.66e6
1.83e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 7.21e3
1234678F
9.33e6
39.77
1234789F
7.94e6
41.12
3.82e6
1.91e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.76e4
ES 1234678F
4.40e7*
39.76
CS 1234689F
4.27e7
40.15
ES 1234789F
4.01e7*
41.11
1.80e7
8.98e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 6.27e4
ES 1234678F
9.94e7*
39.76
CS 1234689F
9.22e7
40.15
ES 1234789F
8.75e7*
41.10
4.07e7
2.04e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.55e3
6.00e3
3.00e3
0%
100%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7424, 0679, 0705 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 11 of 12

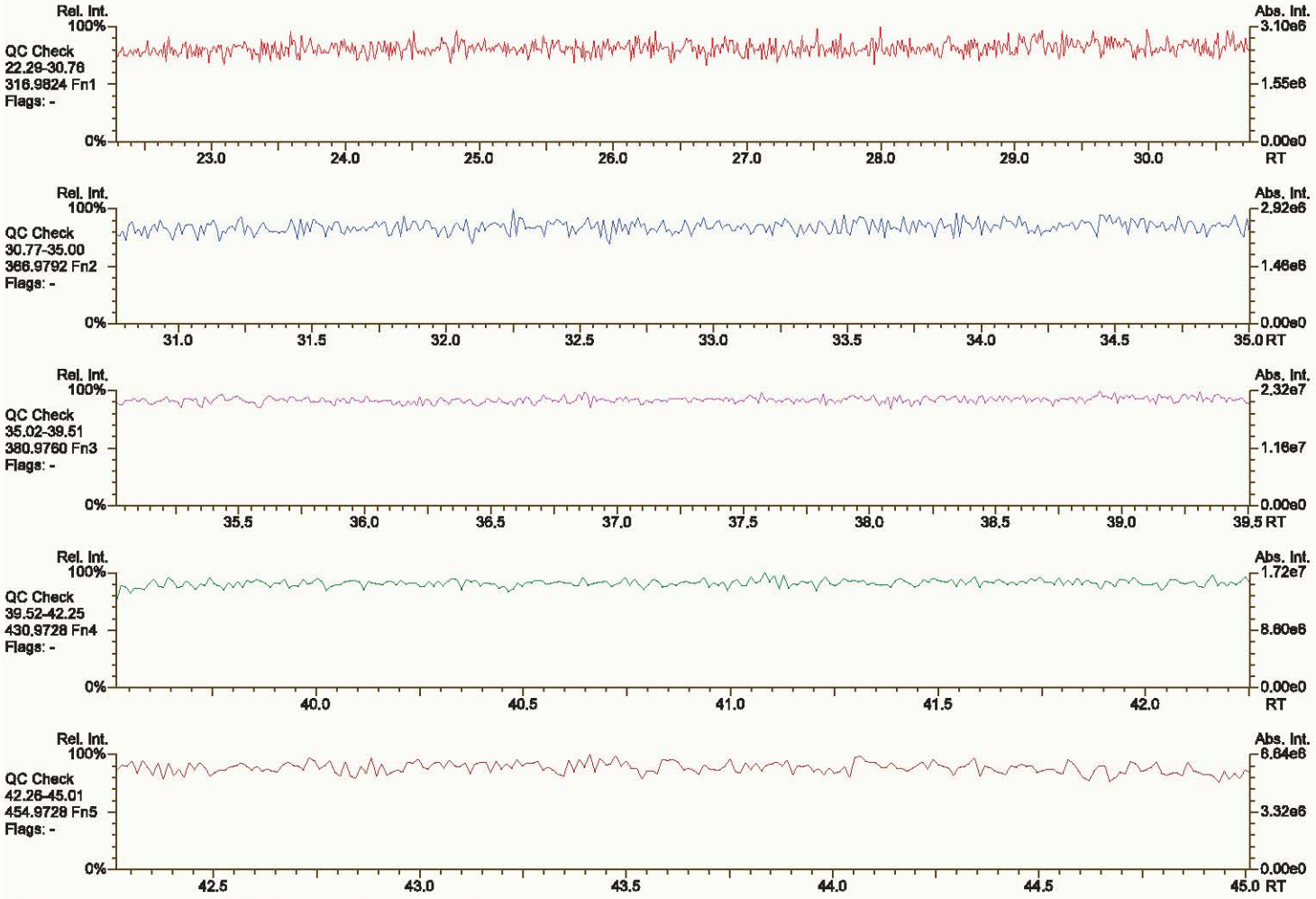

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
OCDF
1.25e7*
43.41
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
4.12e6
2.06e6
0.00e0
OCDF
1.35e7*
43.41
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
4.70e6
2.35e6
ES OCDF
1.28e8
43.40
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
4.16e7
2.08e7
ES OCDF
1.46e8
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
4.72e7
2.36e7
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
1.04e4
5.21e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3363, 4372, 5962 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 11:32 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RA		UTP: 27-Jul-2021 15:00:20 PSW				Checkcode: 230-891-PQT	
Sample ID: SIL 23-672-1		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.52	2.23E+07	0.80	Y	1.34	1.32	-2%
12378-PeCDD	33.80	8.56E+07	1.57	Y	1.06	1.05	-1%
123478-HxCDD	37.67	7.63E+07	1.25	Y	1.06	1.05	-1%
123678-HxCDD	37.78	7.89E+07	1.25	Y	1.08	1.08	0%
123789-HxCDD	38.07	8.22E+07	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.66	7.06E+07	1.03	Y	0.97	0.95	-2%
OCDD	43.22	1.21E+08	0.89	Y	1.07	1.07	0%
2378-TCDF	27.66	2.66E+07	0.80	Y	0.96	0.95	-1%
12378-PeCDF	32.37	1.11E+08	1.56	Y	0.95	0.94	-1%
23478-PeCDF	33.46	1.09E+08	1.56	Y	0.94	0.92	-2%
123478-HxCDF	36.68	1.05E+08	1.22	Y	1.23	1.22	-2%
123678-HxCDF	36.82	1.08E+08	1.25	Y	1.13	1.10	-2%
234678-HxCDF	37.49	1.02E+08	1.24	Y	1.15	1.14	-1%
123789-HxCDF	38.42	9.59E+07	1.23	Y	1.14	1.14	0%
1234678-HpCDF	39.76	9.62E+07	1.03	Y	1.36	1.34	-1%
1234789-HpCDF	41.10	8.35E+07	1.03	Y	1.30	1.34	3%
OCDF	43.41	1.40E+08	0.89	Y	1.03	1.03	0%
ES 2378-TCDD	28.50	1.70E+08	0.82	Y	1.03	1.05	2%
ES 12378-PeCDD	33.782	1.63E+08	1.65	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.654	1.45E+08	1.26	Y	0.99	1.00	0%
ES 123678-HxCDD	37.768	1.46E+08	1.27	Y	0.97	1.01	3%
ES 123789-HxCDD	38.057	1.66E+08	1.23	Y	1.12	1.14	1%
ES 1234678-HpCDD	40.644	1.48E+08	1.08	Y	0.99	1.02	3%
ES OCDD	43.211	2.25E+08	0.88	Y	0.78	0.77	-1%
ES 2378-TCDF	27.643	2.80E+08	0.79	Y	1.08	1.09	1%
ES 12378-PeCDF	32.354	2.37E+08	1.58	Y	0.93	0.93	-1%
ES 23478-PeCDF	33.446	2.37E+08	1.53	Y	0.92	0.93	0%
ES 123478-HxCDF	36.661	1.72E+08	0.52	Y	1.14	1.18	4%
ES 123678-HxCDF	36.801	1.96E+08	0.52	Y	1.30	1.35	4%
ES 234678-HxCDF	37.469	1.79E+08	0.54	Y	1.20	1.23	2%
ES 123789-HxCDF	38.404	1.68E+08	0.52	Y	1.14	1.16	2%
ES 1234678-HpCDF	39.75	1.43E+08	0.45	Y	0.95	0.98	4%
ES 1234789-HpCDF	41.092	1.25E+08	0.44	Y	0.85	0.86	1%
ES OCDF	43.395	2.71E+08	0.89	Y	0.93	0.93	1%

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 11:32 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RA		UTP: 27-Jul-2021 15:00:20 PSW				Checkcode: 230-891-PQT	
Sample ID: SIL 23-672-1		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R05	
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.87	0.89	2%
CS 123469-HxCDF	37.12	1.65E+08	0.52	Y	1.09	1.14	4%
CS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.86	0.92	7%
SS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.26	1.24	-2%
SS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.86	0.86	0%
SS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.93	0.96	3%
SS 123469-HxCDF	37.12	1.65E+08	0.52	Y	0.84	0.84	0%
SS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.91	1.64E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.85	2.82E+08	0.79	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.83E+08	0.81	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.84E+08	1.65	Y	1.09	1.13	3%
FS 123468-HxCDD	36.58	1.91E+08	1.27	Y	1.26	1.32	4%
FS 1234679-HpCDD	39.99	2.10E+08	1.06	Y	1.36	1.42	5%
TS 1378-TCDD	26.87	2.23E+08	0.80	Y	1.35	1.31	-3%
~~OCDD-a~~	~~43.22~~	~~7.32E+06~~	~~2.45~~	~~Y~~	~~0.87~~	~~0.87~~	~~-1%~~
~~OCDF-a~~	~~43.40~~	~~8.14E+06~~	~~2.47~~	~~Y~~	~~0.86~~	~~0.86~~	~~1%~~
Not reported from this ICAL - CL 28Jul21							

SGS ID: CS3_210727_DF_RA | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 11:32:33

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R05

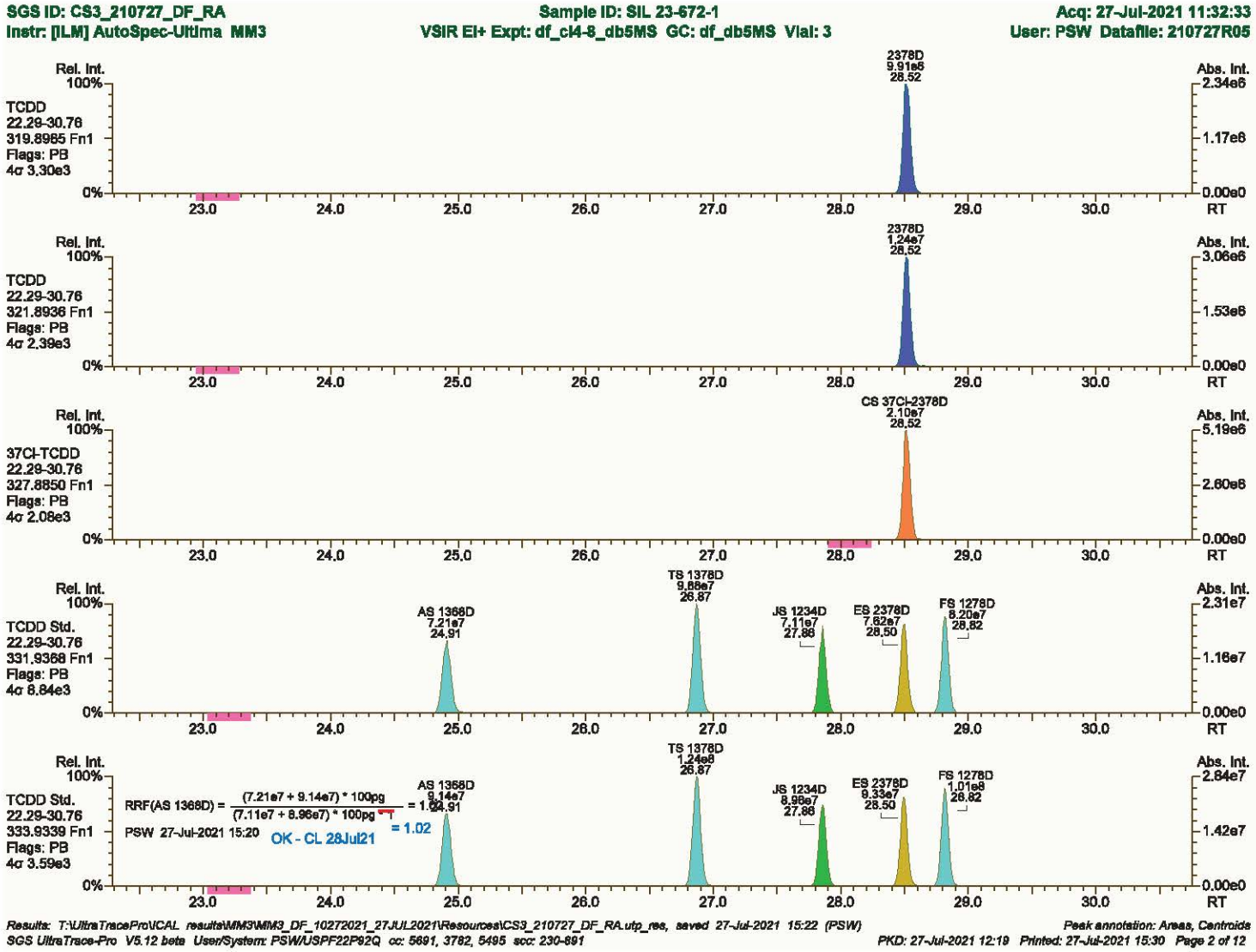


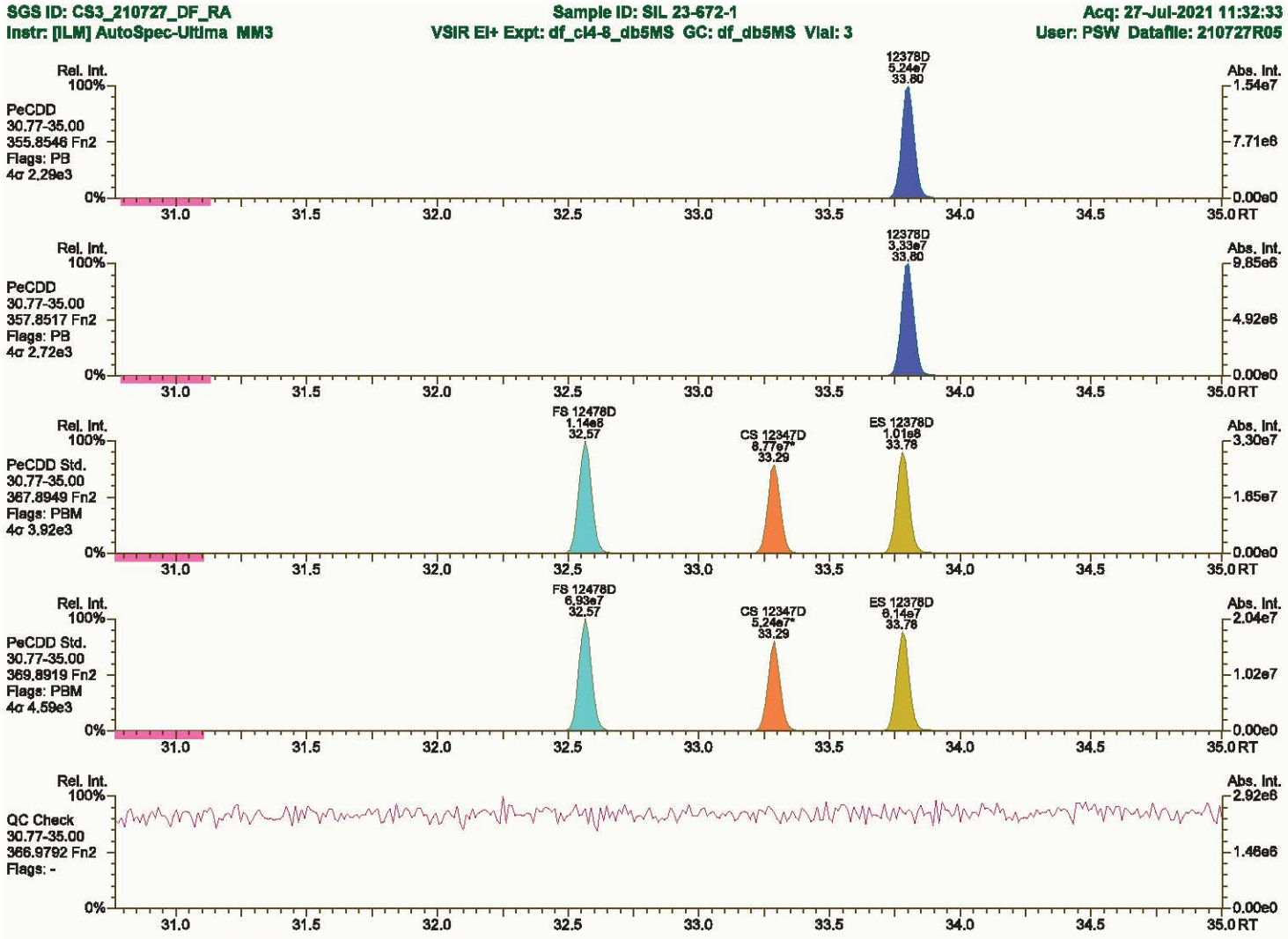
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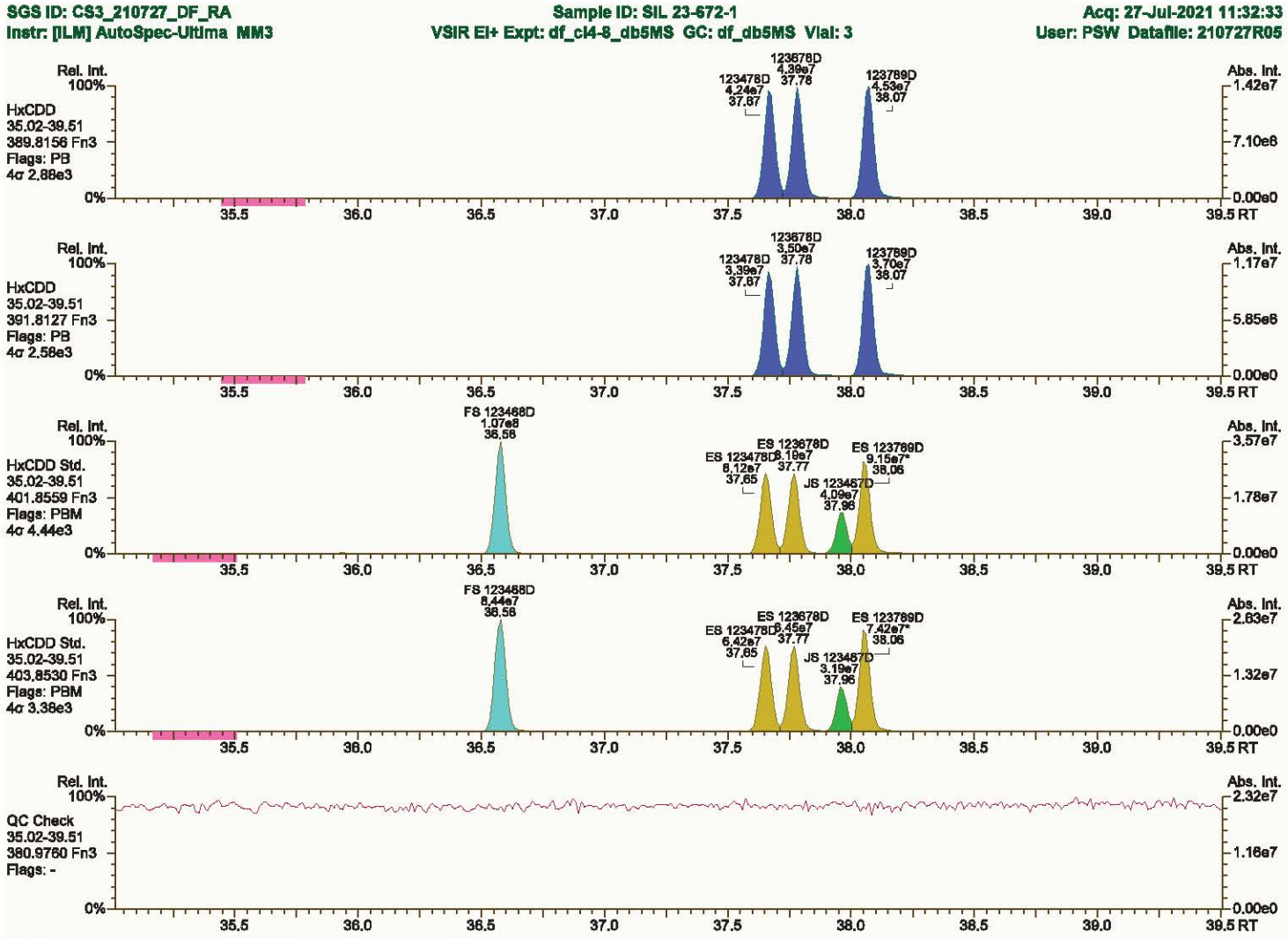
Peak annotation: Areas, Centroids

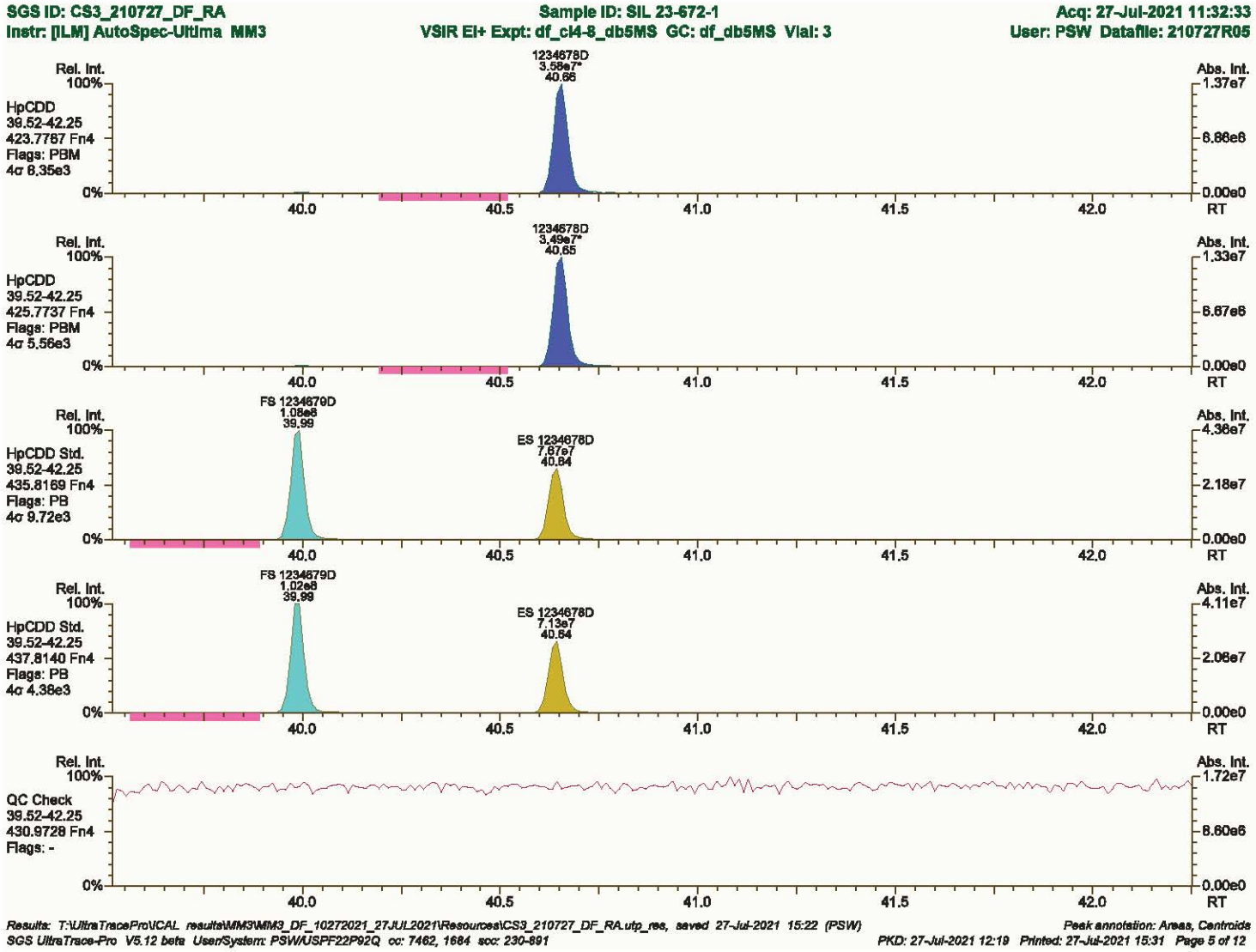
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 230-691

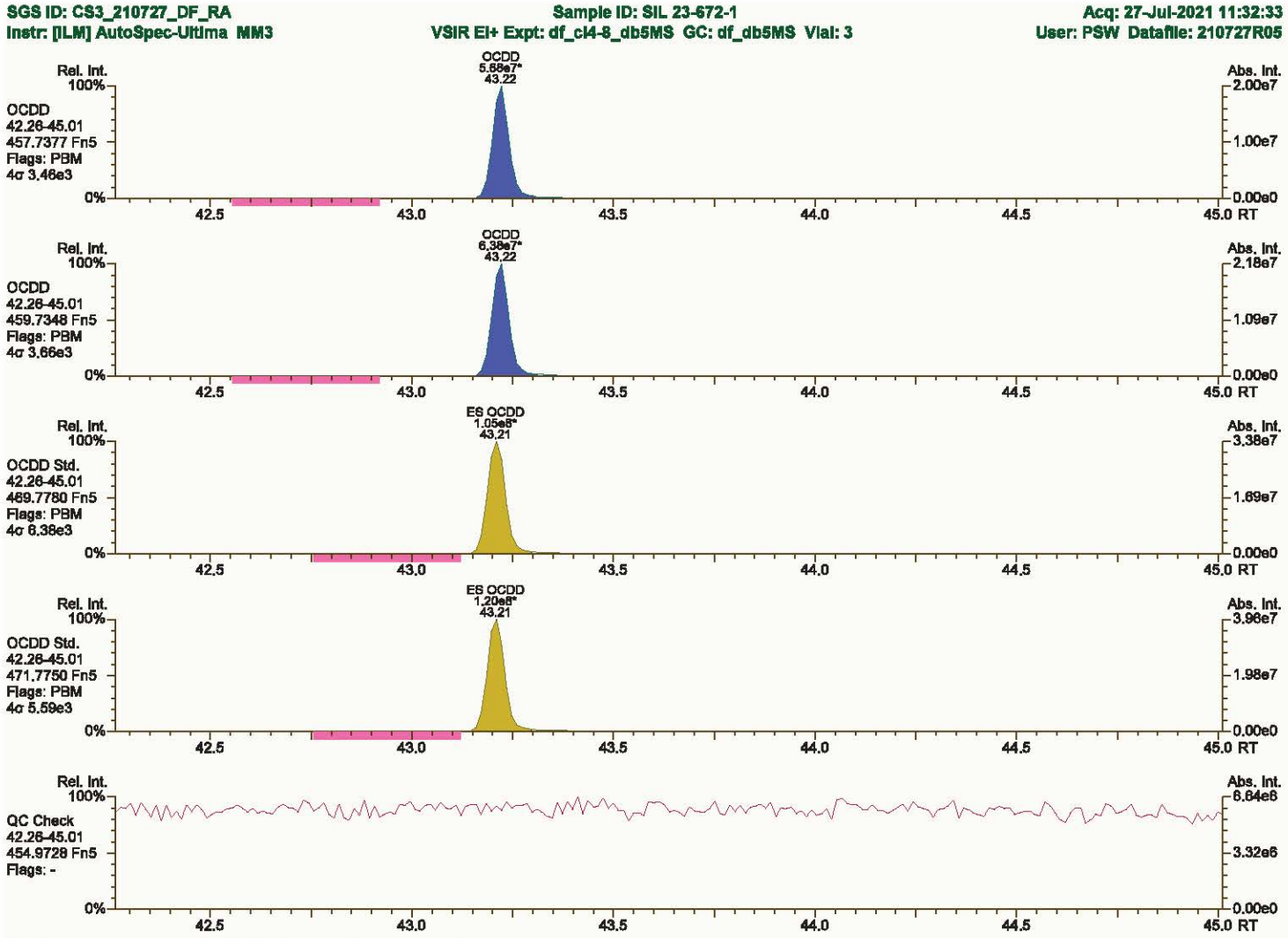
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
2378D
9.91e5
28.52
2.34e6
1.17e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
2378D
1.24e7
28.52
3.06e6
1.53e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.08e3
CS 37Cl-2378D
2.10e7
28.52
5.19e6
2.60e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 8.84e3
AS 1368D
7.21e7
24.91
TS 1378D
9.88e7
26.87
JS 1234D
7.11e7
27.86
ES 2378D
7.62e7
28.50
FS 1278D
8.20e7
28.82
2.31e7
1.16e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.59e3
AS 1368D
9.14e7
24.91
TS 1378D
1.24e8
26.87
JS 1234D
8.98e7
27.86
ES 2378D
9.33e7
28.50
FS 1278D
1.01e8
28.82
2.84e7
1.42e7
RRF(AS 1368D) = (7.21e7 + 9.14e7) * 100pg / (7.11e7 + 8.96e7) * 100pg = 1.02
PSW 27-Jul-2021 15:20
OK - CL 28Jul21
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5691, 3782, 5495 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:30 Page 2 of 12

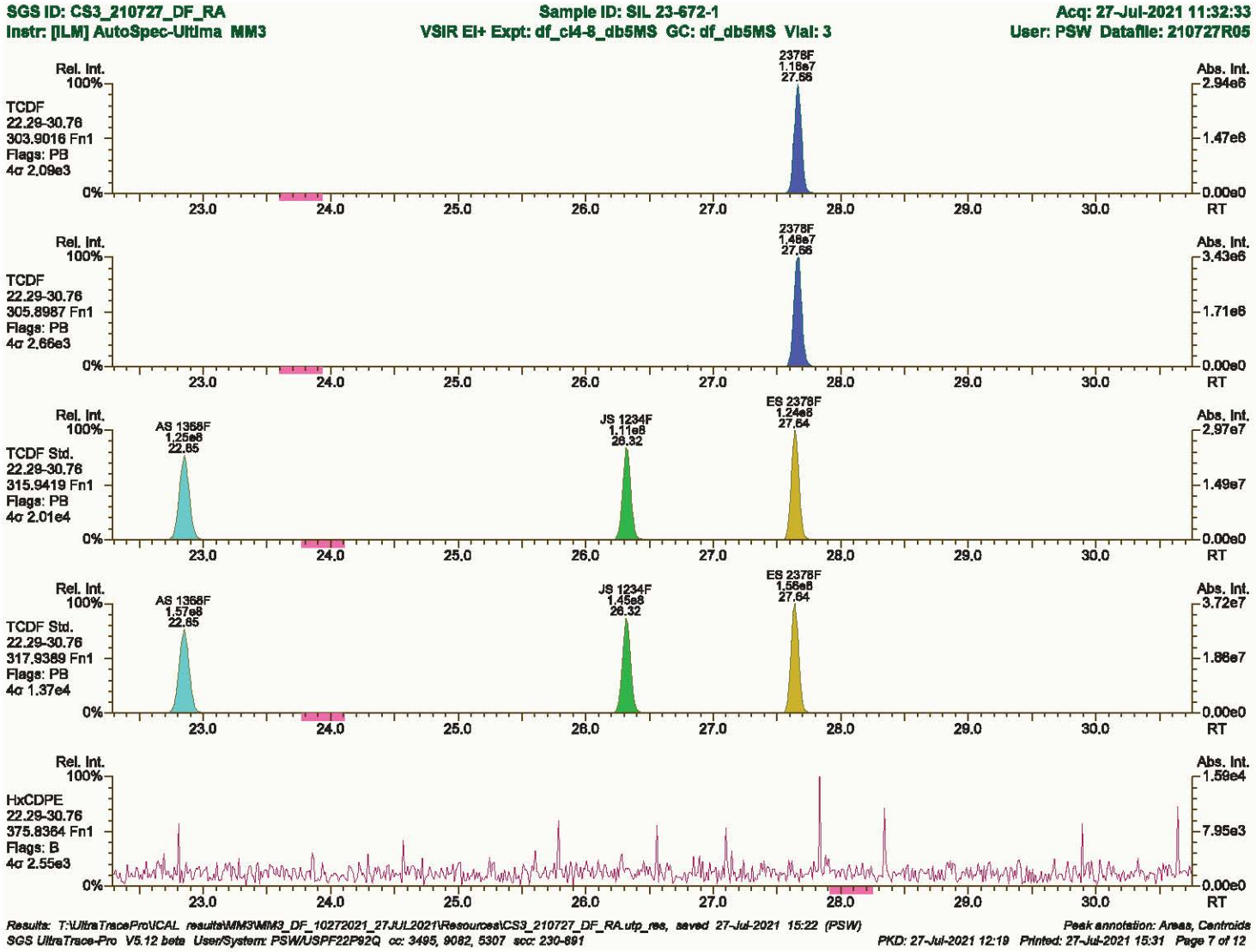

SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
12378D
5.24e7
33.80
1.54e7
7.71e6
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
12378D
3.33e7
33.80
9.85e6
4.92e6
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
3.30e7
1.65e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
2.04e7
1.02e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.92e6
1.46e6
0%
100%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D 4.39e7 37.78
123478D 4.24e7 37.67
123789D 4.53e7 38.07
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D 3.50e7 37.78
123478D 3.39e7 37.67
123789D 3.70e7 38.07
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D 1.07e8 36.56
ES 123678D 8.19e7 37.77
ES 123478D 8.12e7 37.65
ES 123789D 9.15e7* 38.06
JS 123467D 4.09e7 37.96
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D 8.44e7 36.56
ES 123678D 9.45e7 37.77
ES 123478D 6.42e7 37.65
ES 123789D 7.42e7* 38.06
JS 123467D 3.19e7 37.96
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7787 Fn4
Flags: PBM
4σ 8.35e3
1234678D
3.58e7*
40.66
1.37e7
6.86e6
0.00e0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6
100%
0%
40.0
40.5
41.0
41.5
42.0



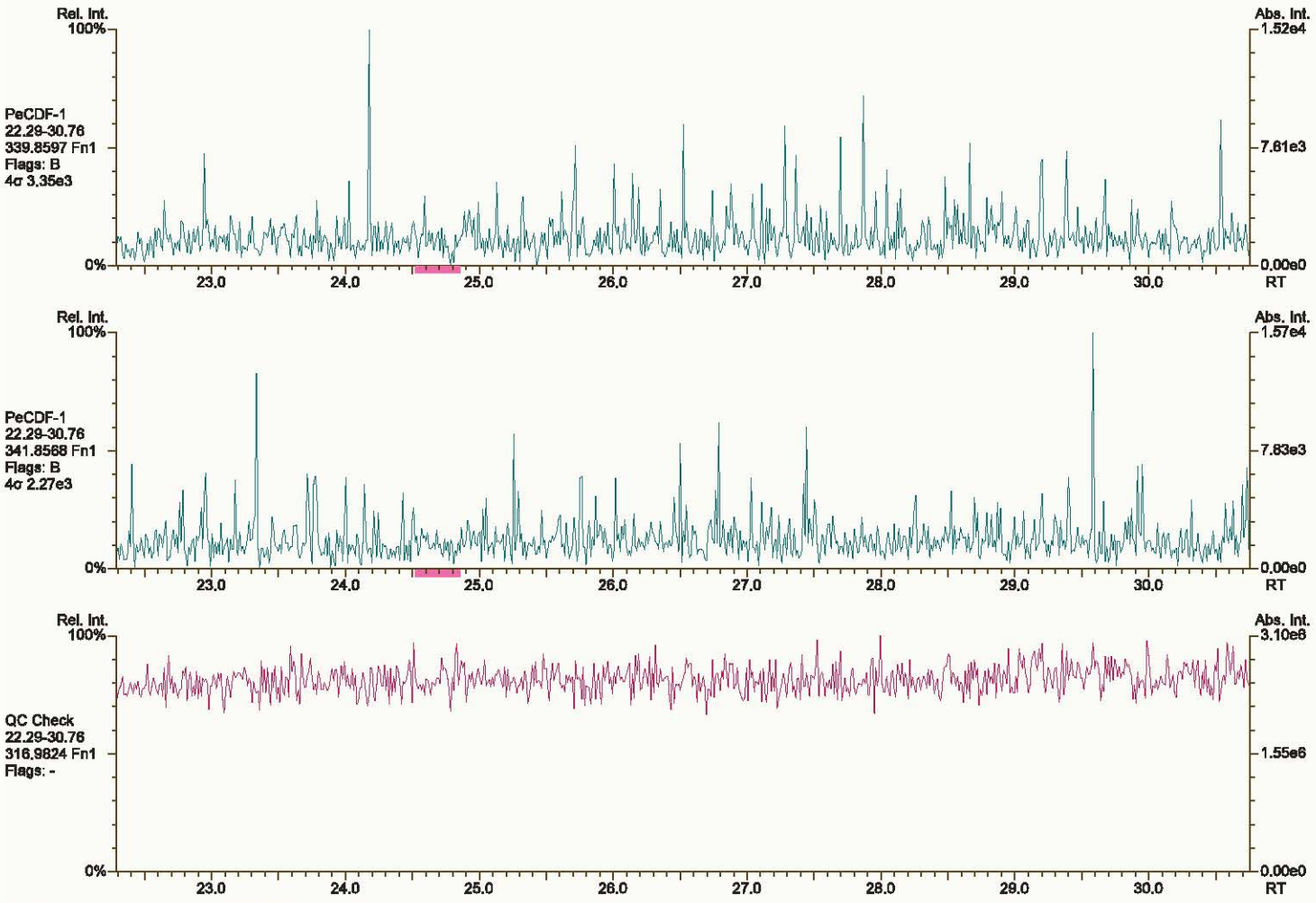
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 0095, 1296 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 6 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.09e3
2378F
1.18e7
27.66
2.94e6
1.47e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.66e3
2378F
1.48e7
27.66
3.43e6
1.71e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.01e4
AS 1368F
1.25e8
22.85
JS 1234F
1.11e8
26.32
ES 2378F
1.24e8
27.64
2.97e7
1.49e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.37e4
AS 1368F
1.57e8
22.85
JS 1234F
1.45e8
26.32
ES 2378F
1.56e8
27.64
3.72e7
1.86e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.55e3
1.59e4
7.95e3
0%
100%
23.0
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25.0
26.0
27.0
28.0
29.0
30.0
RT

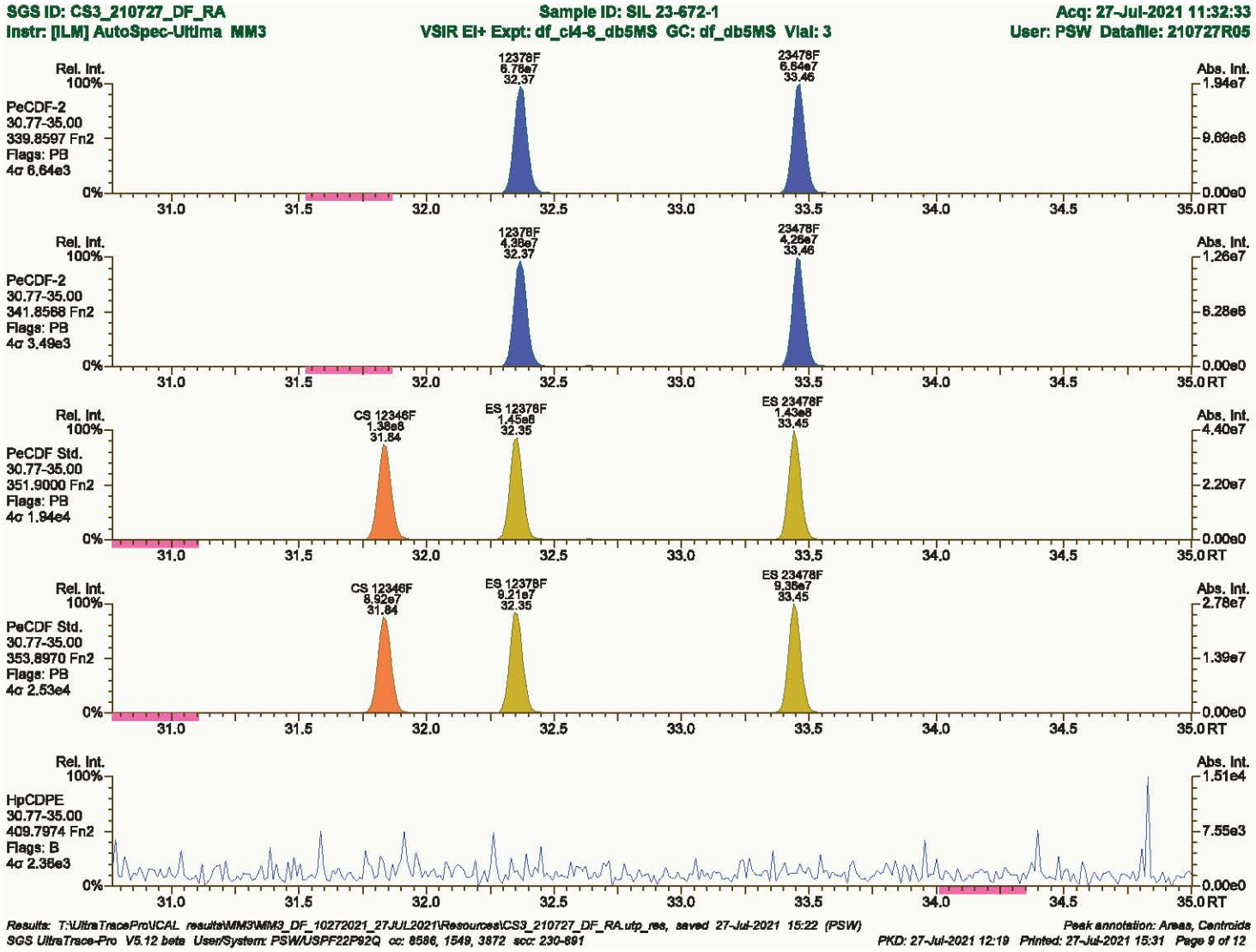
SGS ID: CS3_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 27-Jul-2021 11:32:33
User: PSW Datafile: 210727R05

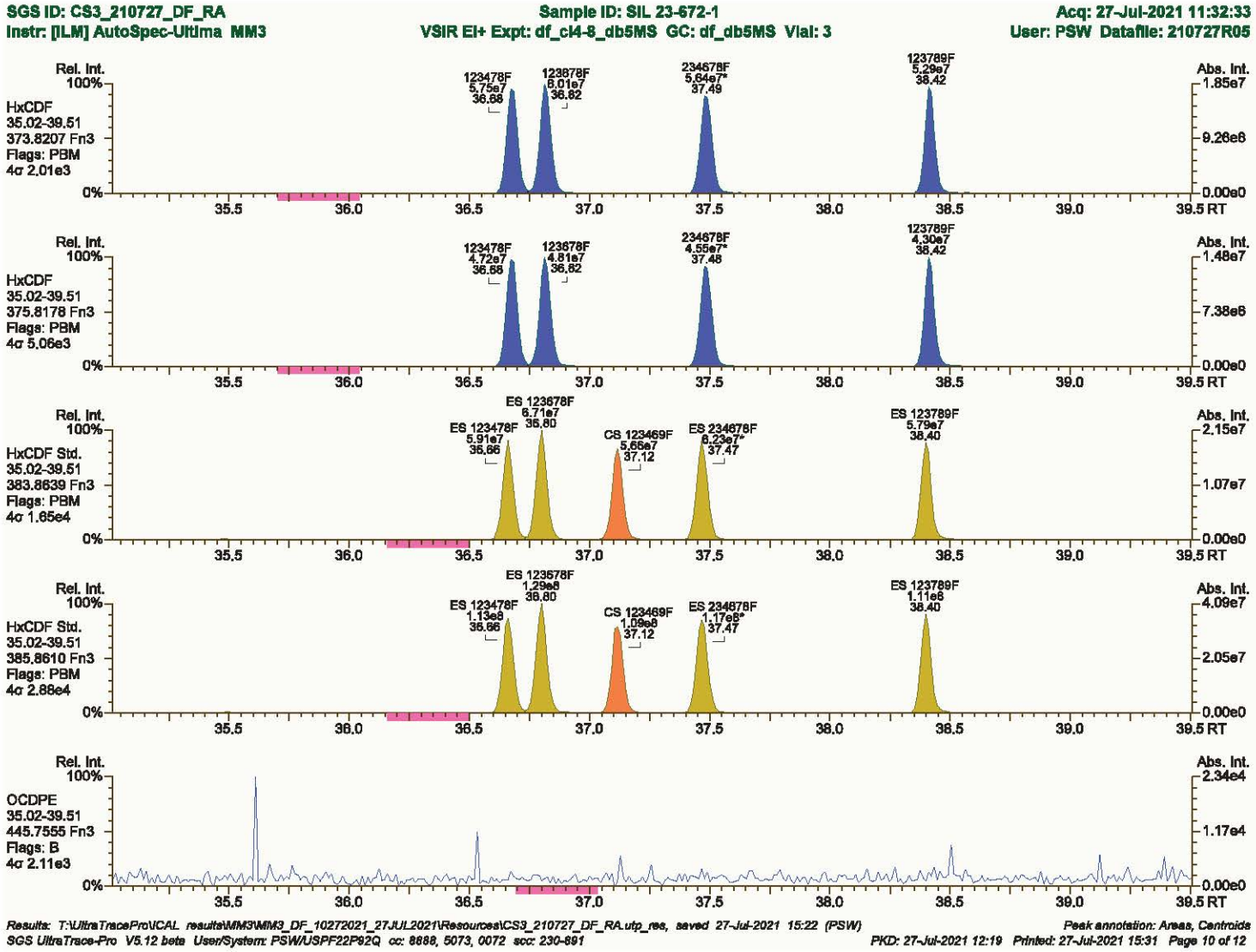


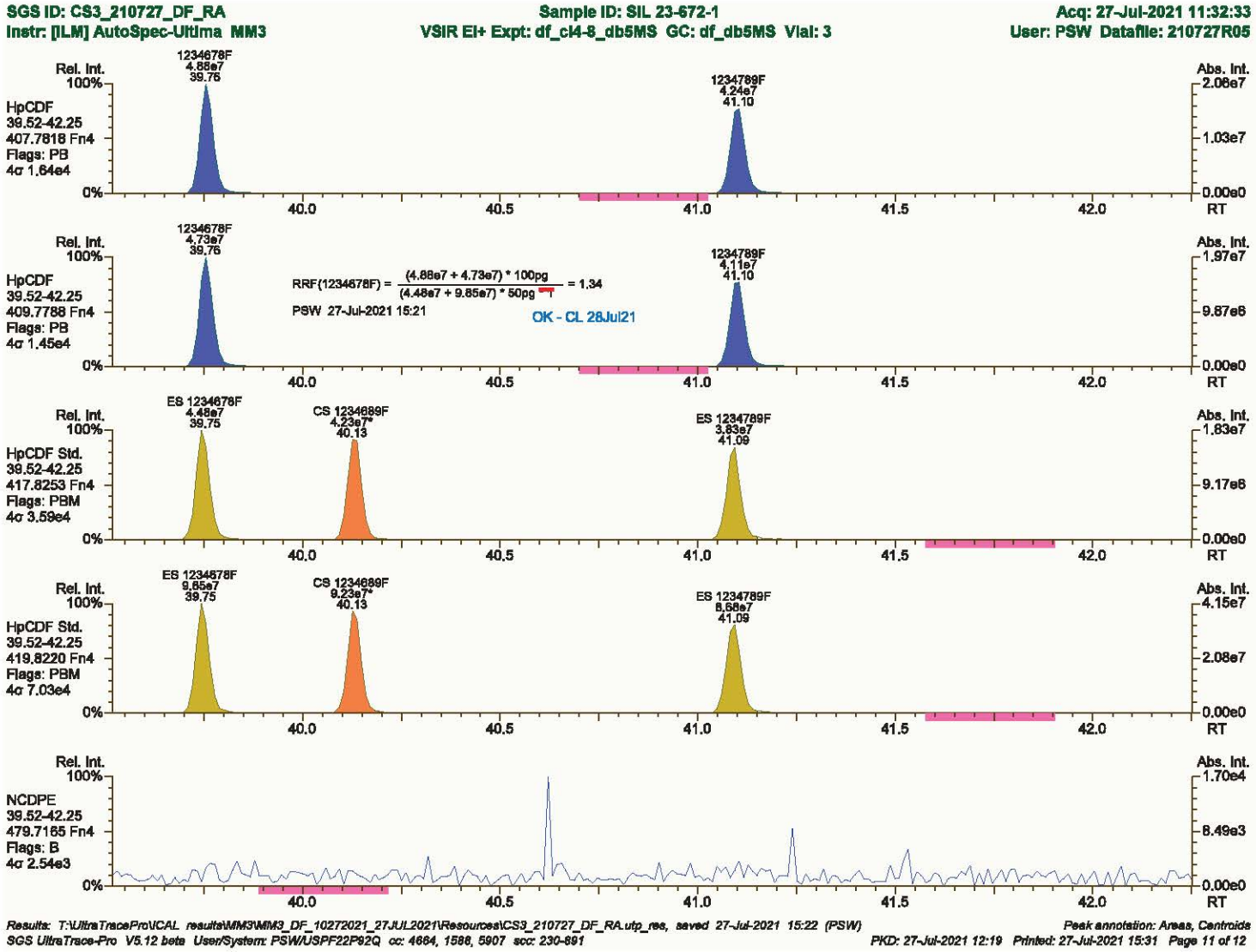
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2167 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 8 of 12



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids

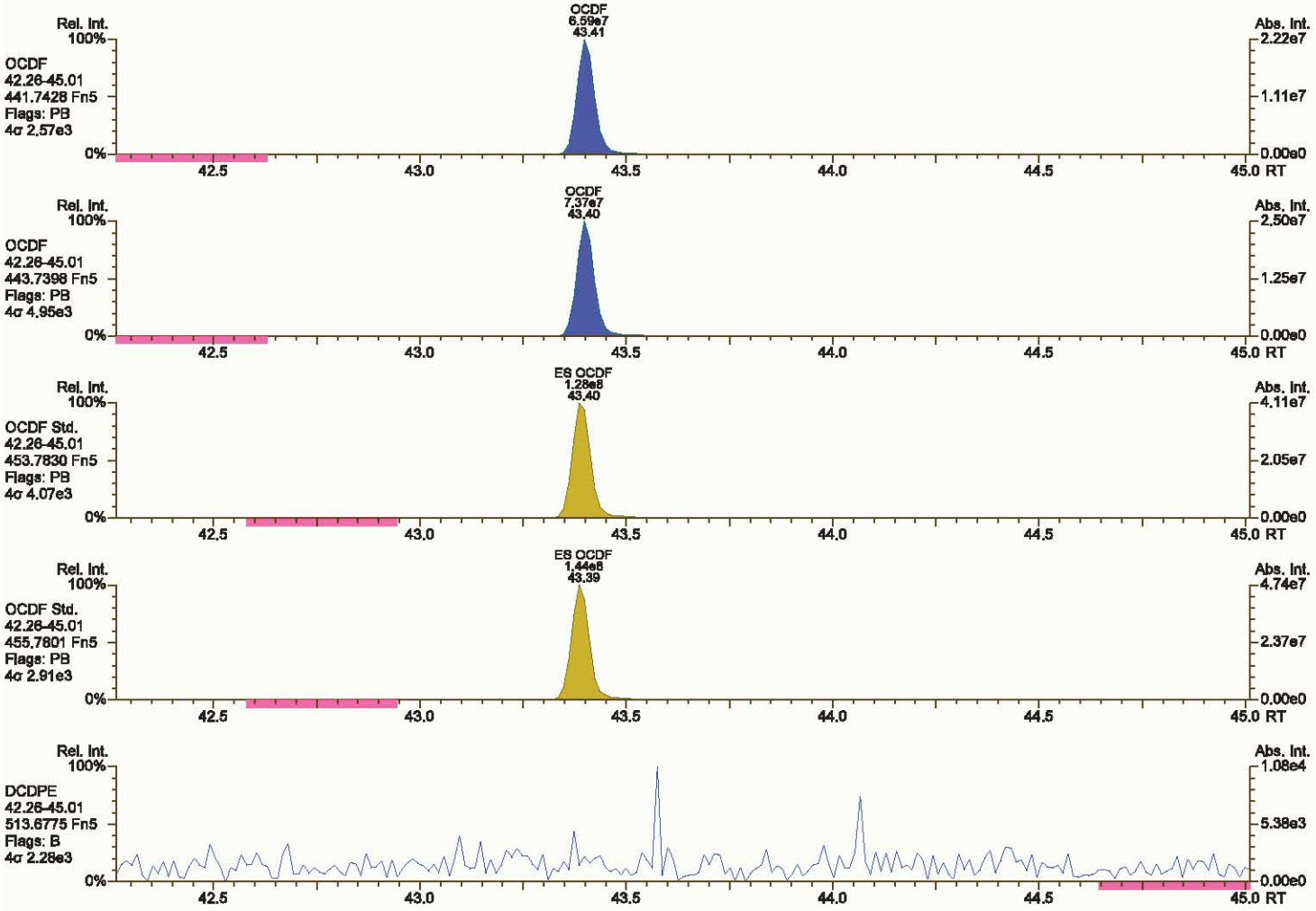
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8586, 1549, 3872 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 2.01e3
123478F 5.75e7 36.68
123678F 6.01e7 36.82
234678F 5.64e7* 37.49
123789F 5.29e7 38.42
1.85e7
9.26e6
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 5.06e3
123478F 4.72e7 36.68
123678F 4.81e7 36.82
234678F 4.55e7* 37.48
123789F 4.30e7 38.42
1.48e7
7.38e6
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 1.65e4
ES 123678F 6.71e7 36.80
ES 123478F 5.91e7 36.66
CS 123469F 5.65e7 37.12
ES 234678F 6.23e7* 37.47
ES 123789F 5.79e7 38.40
2.15e7
1.07e7
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.88e4
ES 123678F 1.29e8 36.80
ES 123478F 1.13e8 36.66
CS 123469F 1.09e8 37.12
ES 234678F 1.17e8* 37.47
ES 123789F 1.11e8 38.40
4.09e7
2.05e7
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.11e3
2.34e4
1.17e4
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
0.00e0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8888, 5073, 0072 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
2.06e7
1.03e7
0.00e0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
1234789F
4.11e7
41.10
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1.97e7
9.87e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.45e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.65e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3
100%
0%
40.0
40.5
41.0
41.5
42.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4664, 1586, 5907 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 11 of 12

SGS ID: CS3_210727_DF_RA | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 11:32:33

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R05



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW) *Peak annotation: Areas, Centroids*

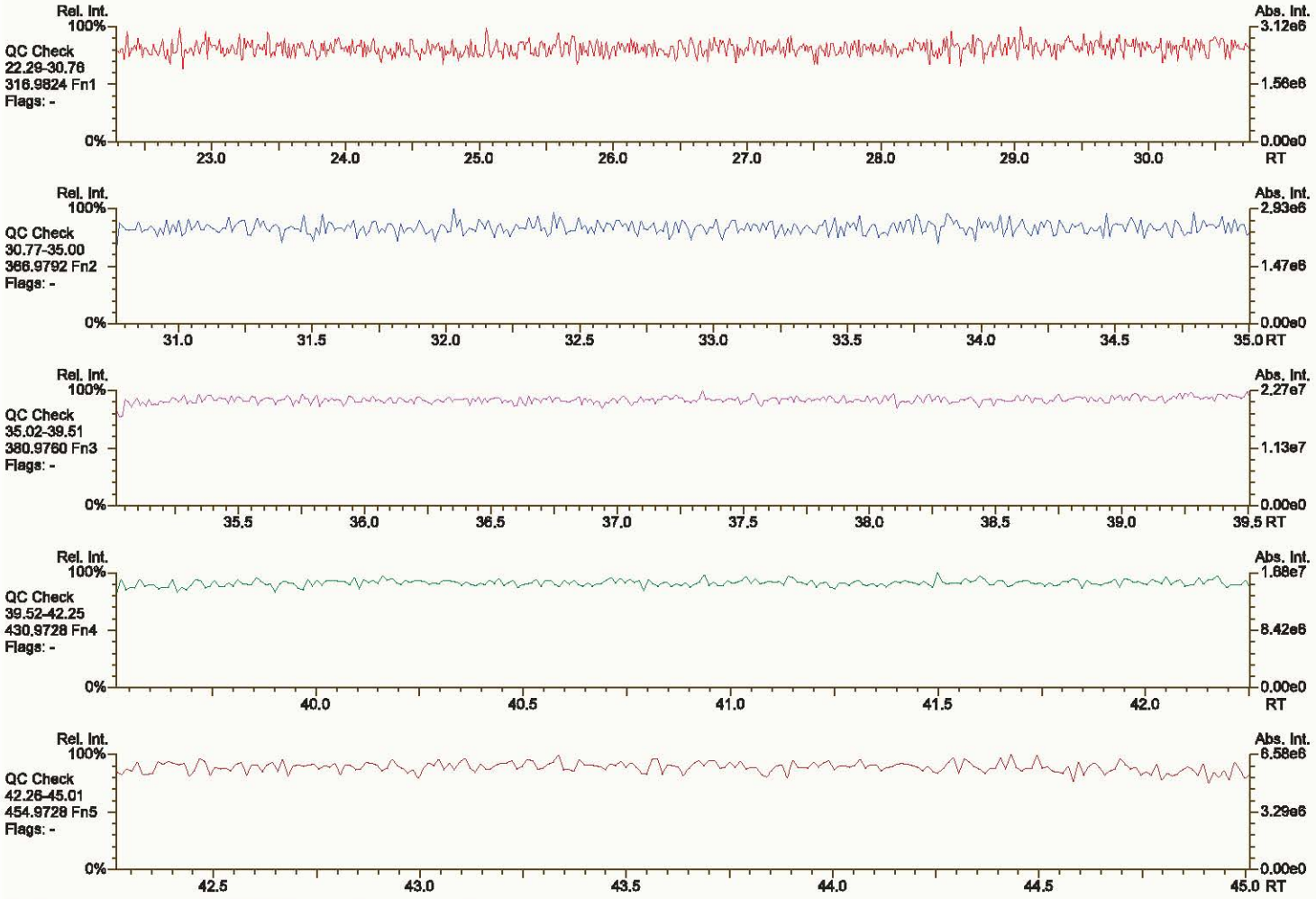
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0361, 7459, 0947 scc: 230-891 *PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 12 of 12*

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 12:19 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS4_210727_DF_RA		UTP: 27-Jul-2021 15:00:21 PSW				Checkcode: 602-590-JSF	
Sample ID: SIL 25-5-4		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	7.77E+07	0.76	Y	1.34	1.30	-4%
12378-PeCDD	33.81	3.10E+08	1.55	Y	1.06	1.06	0%
123478-HxCDD	37.68	2.82E+08	1.23	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.84E+08	1.24	Y	1.08	1.10	2%
123789-HxCDD	38.08	2.99E+08	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.67	2.61E+08	1.03	Y	0.97	0.98	0%
OCDD	43.23	4.49E+08	0.90	Y	1.07	1.08	1%
2378-TCDF	27.67	9.59E+07	0.77	Y	0.96	0.96	0%
12378-PeCDF	32.38	4.09E+08	1.58	Y	0.95	0.95	0%
23478-PeCDF	33.47	3.96E+08	1.56	Y	0.94	0.93	-1%
123478-HxCDF	36.69	3.82E+08	1.23	Y	1.23	1.24	0%
123678-HxCDF	36.83	3.97E+08	1.25	Y	1.13	1.13	0%
234678-HxCDF	37.49	3.75E+08	1.25	Y	1.15	1.13	-2%
123789-HxCDF	38.43	3.51E+08	1.24	Y	1.14	1.14	0%
1234678-HpCDF	39.77	3.45E+08	1.03	Y	1.36	1.33	-2%
1234789-HpCDF	41.11	2.99E+08	1.04	Y	1.30	1.30	0%
OCDF	43.41	5.22E+08	0.91	Y	1.03	1.05	2%
ES 2378-TCDD	28.50	1.50E+08	0.79	Y	1.03	1.06	2%
ES 12378-PeCDD	33.789	1.46E+08	1.59	Y	1.03	1.03	0%
ES 123478-HxCDD	37.662	1.34E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.775	1.29E+08	1.28	Y	0.97	0.94	-4%
ES 123789-HxCDD	38.064	1.51E+08	1.27	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.654	1.33E+08	1.06	Y	0.99	0.97	-2%
ES OCDD	43.216	2.07E+08	0.92	Y	0.78	0.75	-3%
ES 2378-TCDF	27.649	2.49E+08	0.80	Y	1.08	1.09	1%
ES 12378-PeCDF	32.362	2.16E+08	1.57	Y	0.93	0.95	2%
ES 23478-PeCDF	33.454	2.12E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.668	1.54E+08	0.51	Y	1.14	1.12	-2%
ES 123678-HxCDF	36.808	1.75E+08	0.53	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.477	1.66E+08	0.53	Y	1.20	1.20	0%
ES 123789-HxCDF	38.409	1.54E+08	0.52	Y	1.14	1.12	-1%
ES 1234678-HpCDF	39.757	1.30E+08	0.45	Y	0.95	0.94	-1%
ES 1234789-HpCDF	41.102	1.15E+08	0.45	Y	0.85	0.83	-2%
ES OCDF	43.398	2.49E+08	0.90	Y	0.93	0.90	-2%

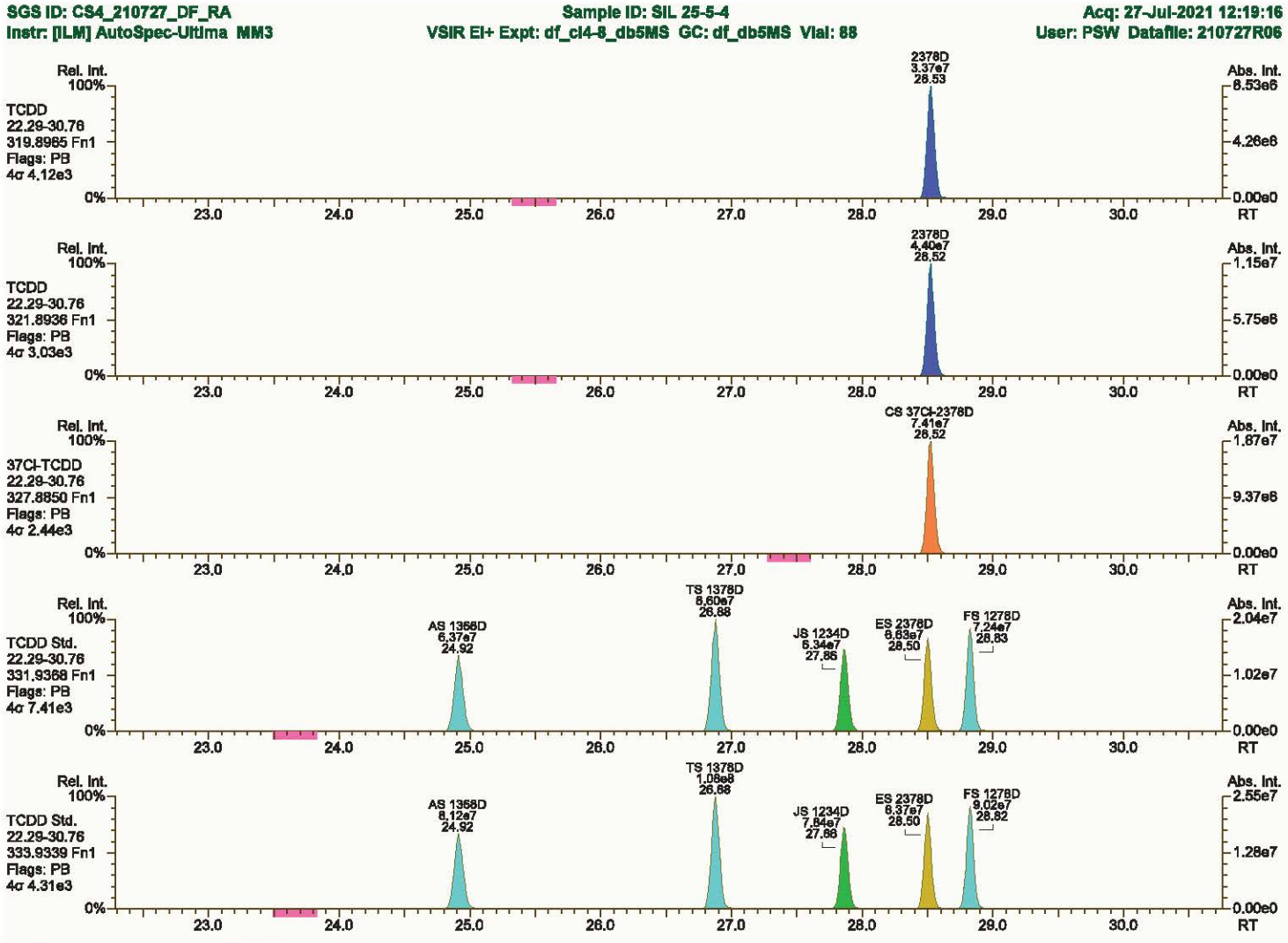
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 12:19 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS4_210727_DF_RA		UTP: 27-Jul-2021 15:00:21 PSW				Checkcode: 602-590-JSF	
Sample ID: SIL 25-5-4		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.87	0.88	2%
CS 123469-HxCDF	37.12	1.50E+08	0.54	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.26	1.23	-2%
SS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.86	0.90	4%
SS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.12	1.50E+08	0.54	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.91	0.92	1%
AS 1368-TCDD	24.92	1.45E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.49E+08	0.79	Y	1.08	1.09	1%
FS 1278-TCDD	28.83	1.63E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.64E+08	1.62	Y	1.09	1.13	3%
FS 123468-HxCDD	36.59	1.73E+08	1.29	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	1.84E+08	1.07	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	1.94E+08	0.79	Y	1.35	1.30	-4%
~~OCDD-a~~	~~43.22~~	~~2.77E+07~~	~~2.50~~	~~Y~~	~~0.87~~	~~0.87~~	~~1%~~
~~OCDF-a~~	~~43.41~~	~~3.08E+07~~	~~2.34~~	~~Y~~	~~0.86~~	~~0.86~~	~~4%~~

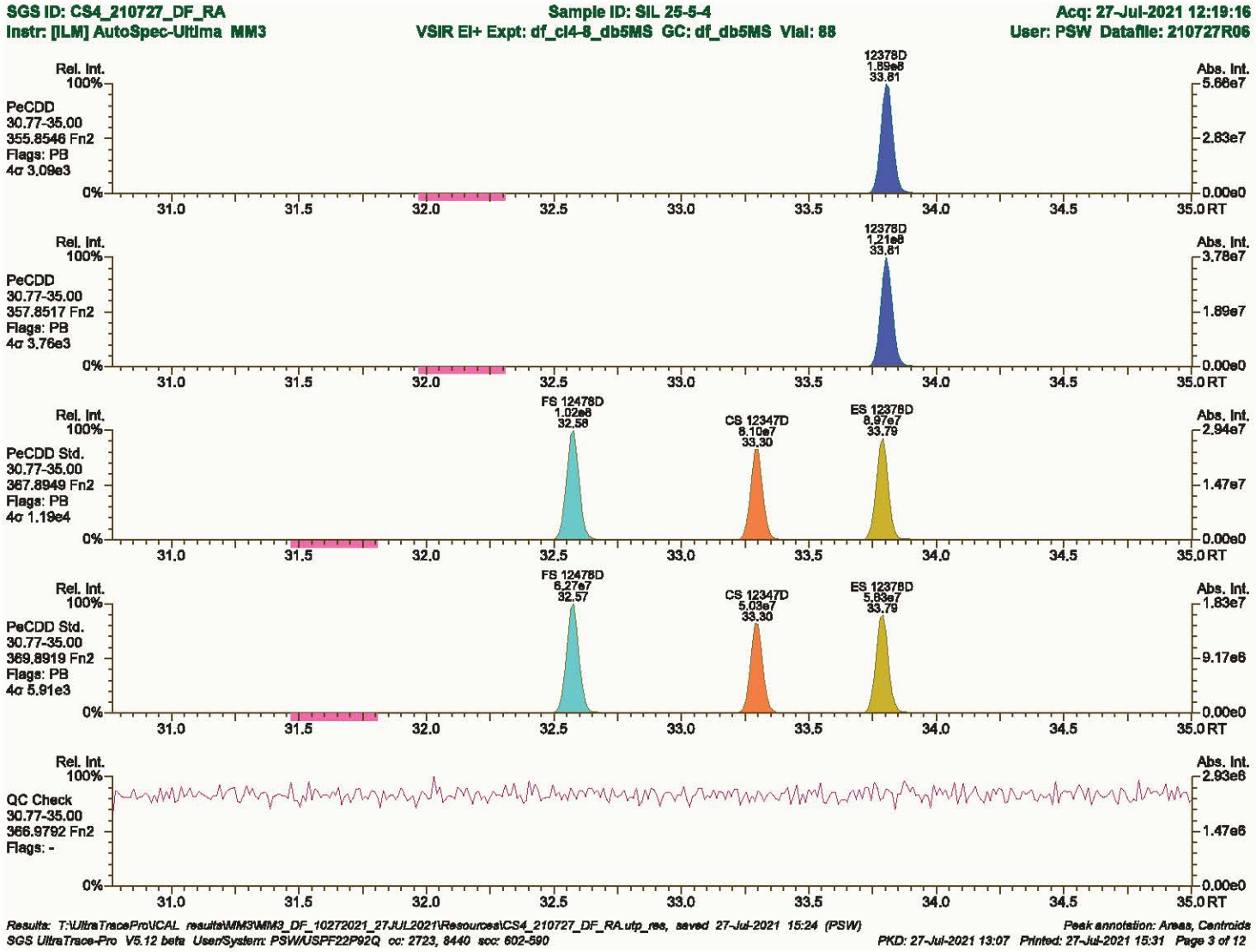
Not reported from this ICAL - CL 28Jul21

SGS ID: CS4_210727_DF_RA | Sample ID: SIL 25-5-4 | Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88 | User: PSW Datafile: 210727R06

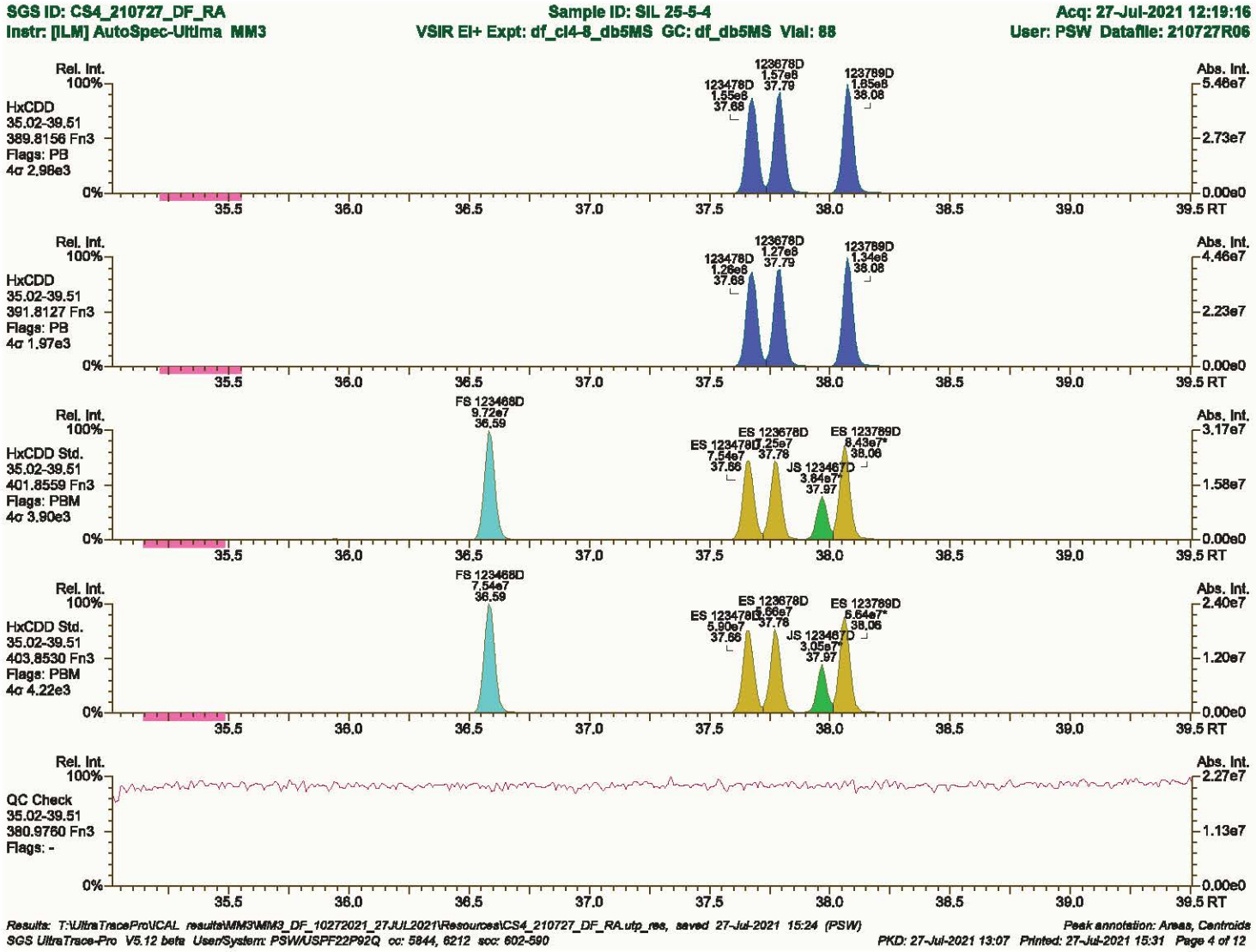


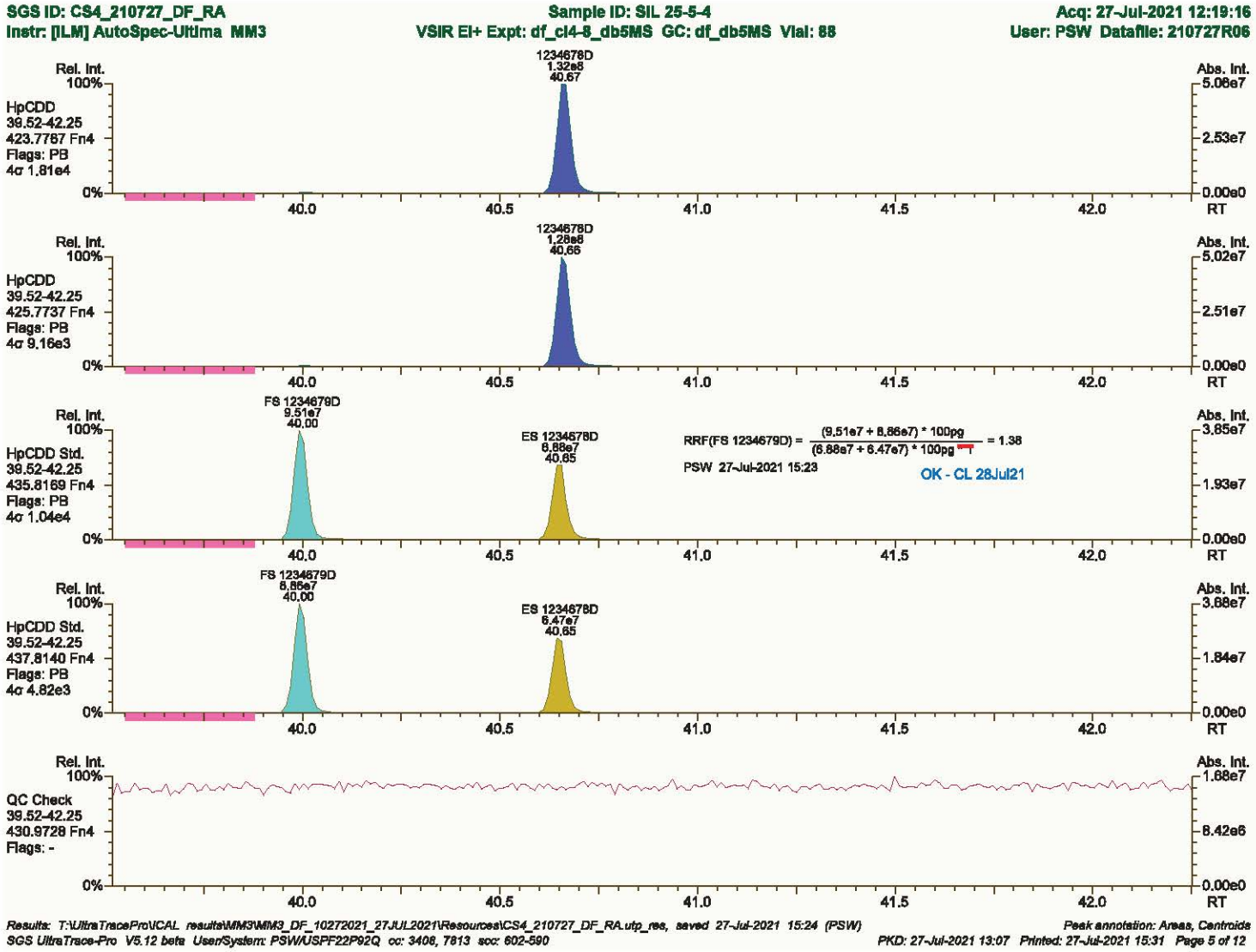
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 602-590
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12

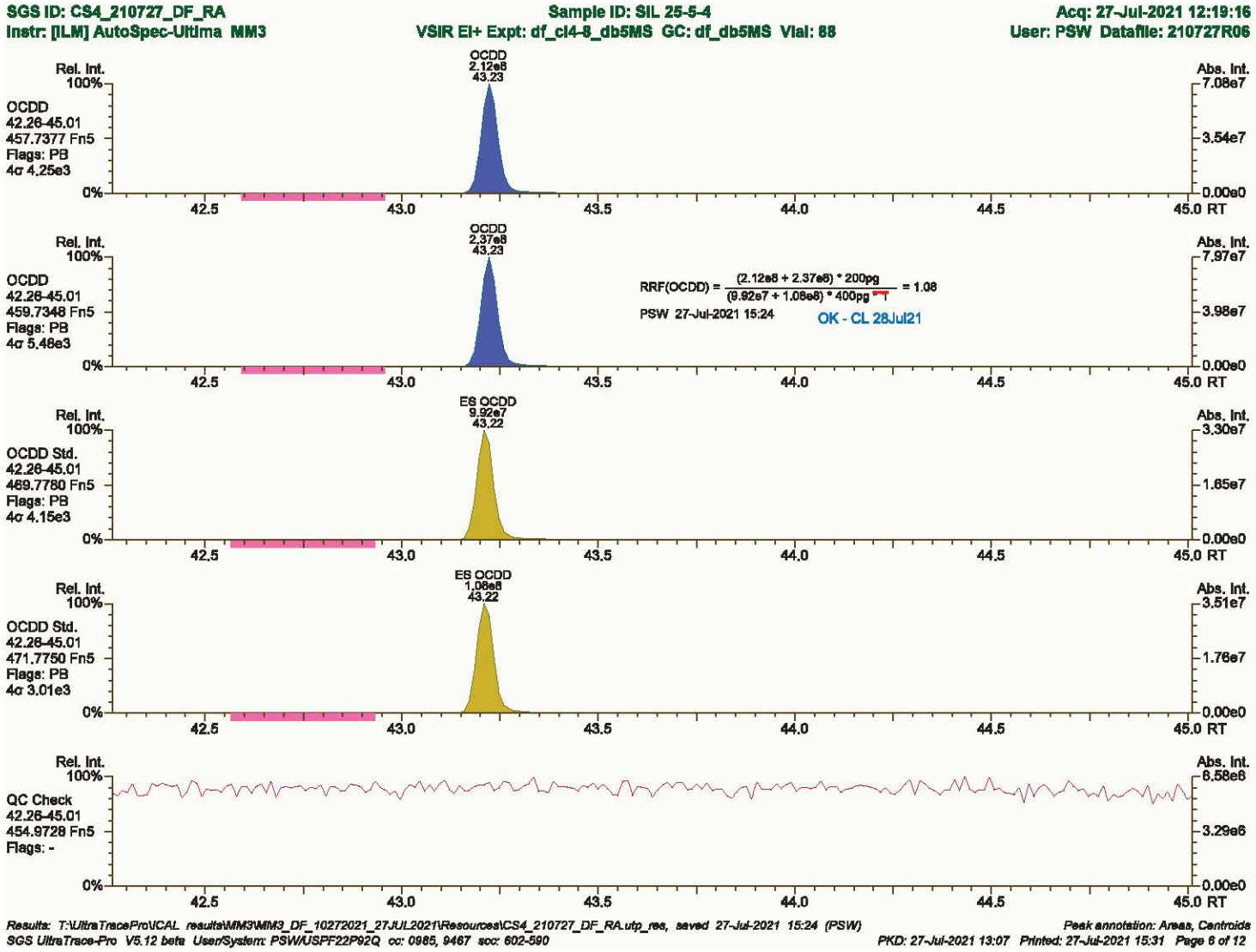

SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 4.12e3
2378D
3.37e7
28.53
8.53e6
4.26e6
0.00e0
321.8936 Fn1
4σ 3.03e3
2378D
4.40e7
28.52
1.15e7
5.75e6
37Cl-TCDD
327.8850 Fn1
4σ 2.44e3
CS 37Cl-2378D
7.41e7
28.52
1.87e7
9.37e6
TCDD Std.
331.9368 Fn1
4σ 7.41e3
AS 1368D
6.37e7
24.92
TS 1378D
8.60e7
26.88
JS 1234D
6.34e7
27.86
ES 2378D
6.63e7
28.50
FS 1278D
7.24e7
28.83
2.04e7
1.02e7
333.9339 Fn1
4σ 4.31e3
AS 1368D
8.12e7
24.92
TS 1378D
1.08e8
26.88
JS 1234D
7.84e7
27.86
ES 2378D
8.37e7
28.50
FS 1278D
9.02e7
28.82
2.55e7
1.28e7
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0780, 8931, 0792 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 2 of 12

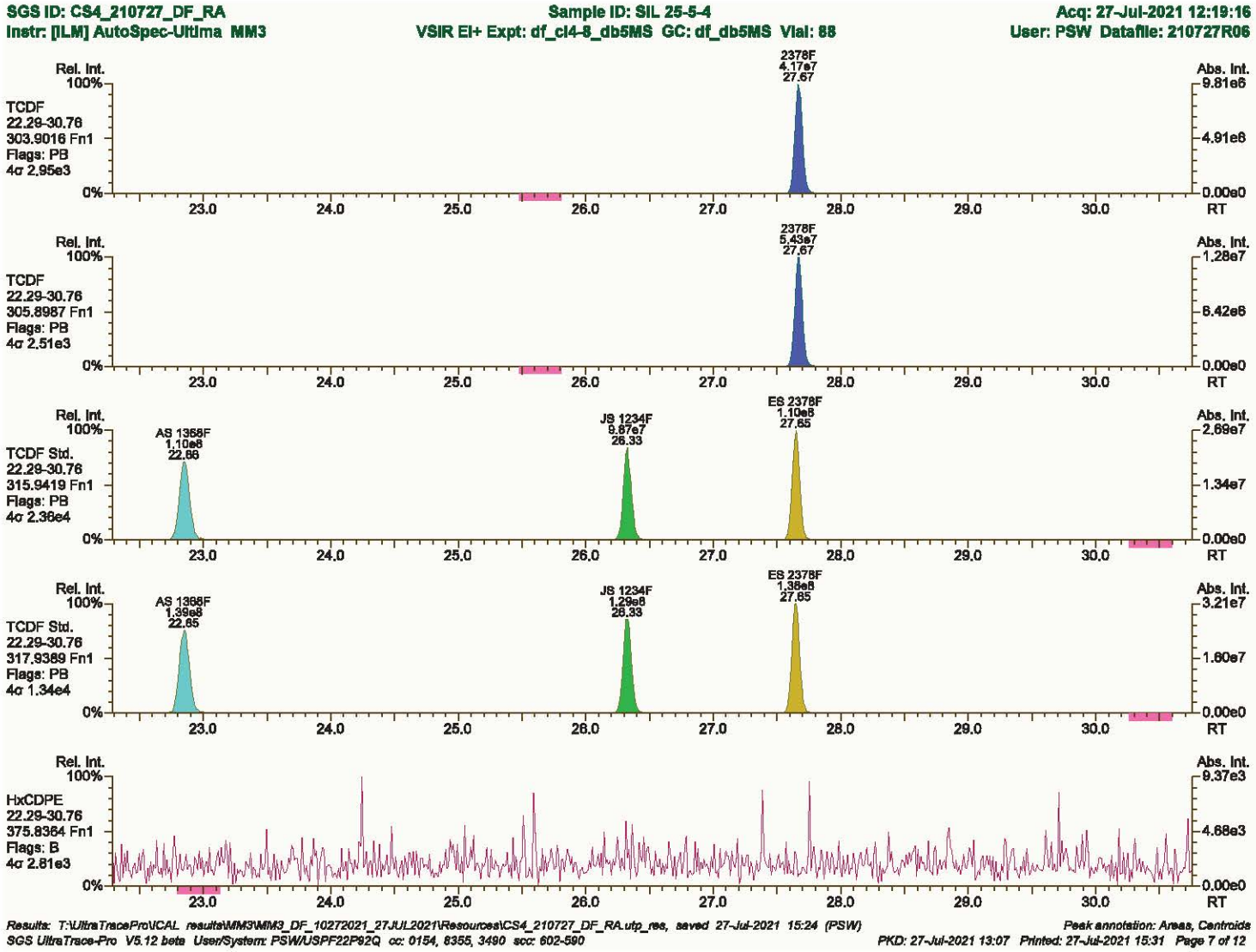


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 2723, 8440 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 3 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D 1.57e8 37.79
123478D 1.55e8 37.68
123789D 1.85e8 38.08
5.46e7
2.73e7
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D 1.27e8 37.79
123478D 1.26e8 37.68
123789D 1.34e8 38.08
4.46e7
2.23e7
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.90e3
FS 123468D 9.72e7 36.59
ES 123678D 7.25e7 37.78
ES 123478D 7.54e7 37.66
ES 123789D 8.43e7* 38.06
JS 123467D 3.84e7* 37.97
3.17e7
1.58e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 4.22e3
FS 123468D 7.54e7 36.59
ES 123678D 5.66e7 37.78
ES 123478D 5.90e7 37.66
ES 123789D 5.64e7* 38.06
JS 123467D 3.05e7* 37.97
2.40e7
1.20e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.27e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 5844, 6212 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 4 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
1234678D
1.32e8
40.67
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
5.06e7
2.53e7
0.00e0
RT
1234678D
1.28e8
40.66
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
5.02e7
2.51e7
FS 1234679D
9.51e7
40.00
ES 1234678D
6.88e7
40.65
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.04e4
RRF(FS 1234679D) = (9.51e7 + 6.86e7) * 100pg / (6.88e7 + 6.47e7) * 100pg = 1.38
PSW 27-Jul-2021 15:23
OK - CL 28Jul21
3.85e7
1.93e7
FS 1234679D
6.86e7
40.00
ES 1234678D
6.47e7
40.65
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.82e3
3.68e7
1.84e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.68e7
8.42e6
0%
100%
40.0
40.5
41.0
41.5
42.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 3406, 7813 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 5 of 12

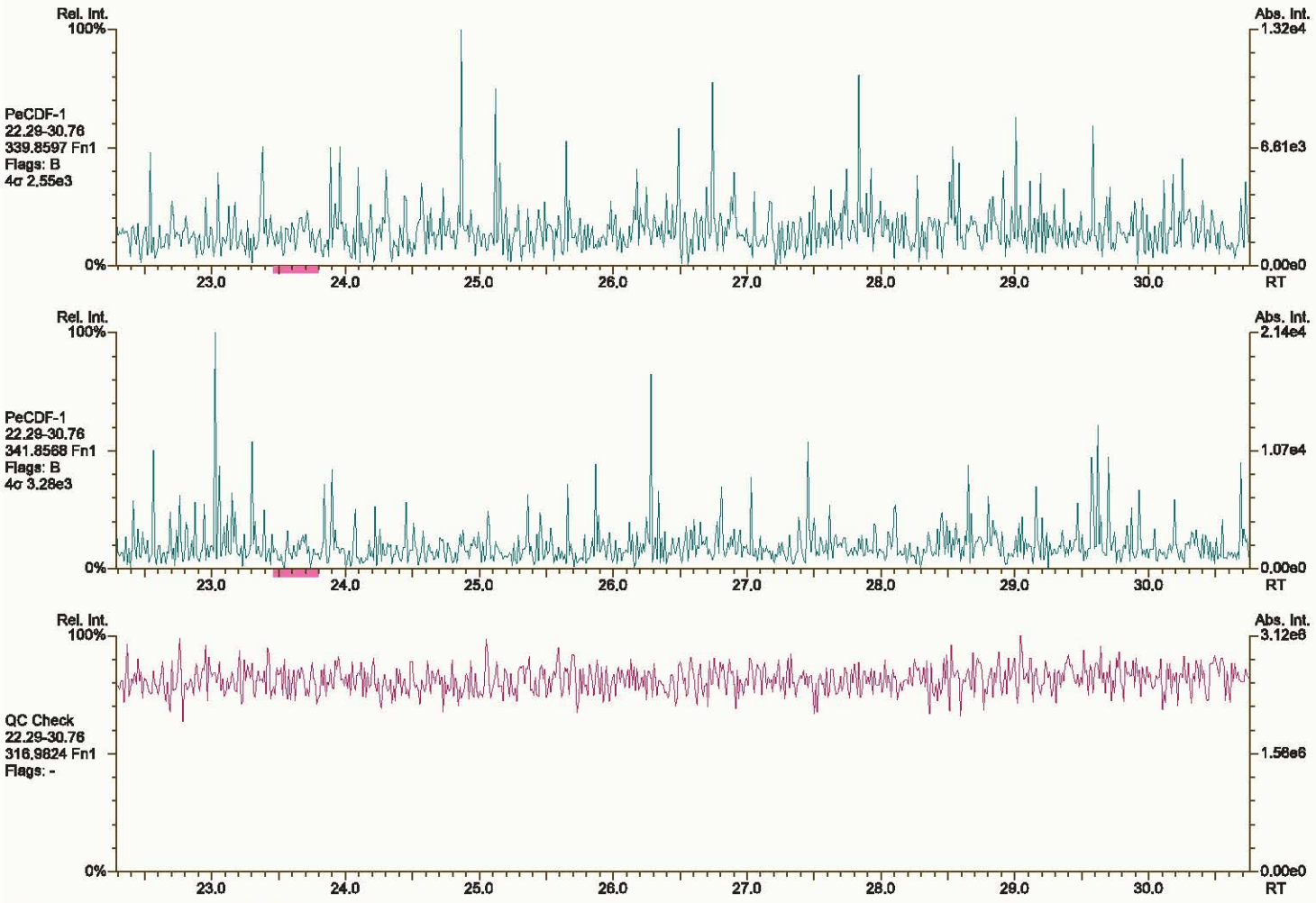

SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_ci4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
OCDD
2.12e8
43.23
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.37e8
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08
PSW 27-Jul-2021 15:24
OK - CL 28Jul21
7.97e7
3.98e7
ES OCDD
9.92e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.15e3
3.30e7
1.65e7
ES OCDD
1.08e8
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.01e3
3.51e7
1.76e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.58e6
3.29e6
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 0985, 9467 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 6 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
2378F
4.17e7
27.67
9.81e6
4.91e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
2378F
5.43e7
27.67
1.28e7
6.42e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
2.69e7
1.34e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
3.21e7
1.60e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
9.37e3
4.68e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

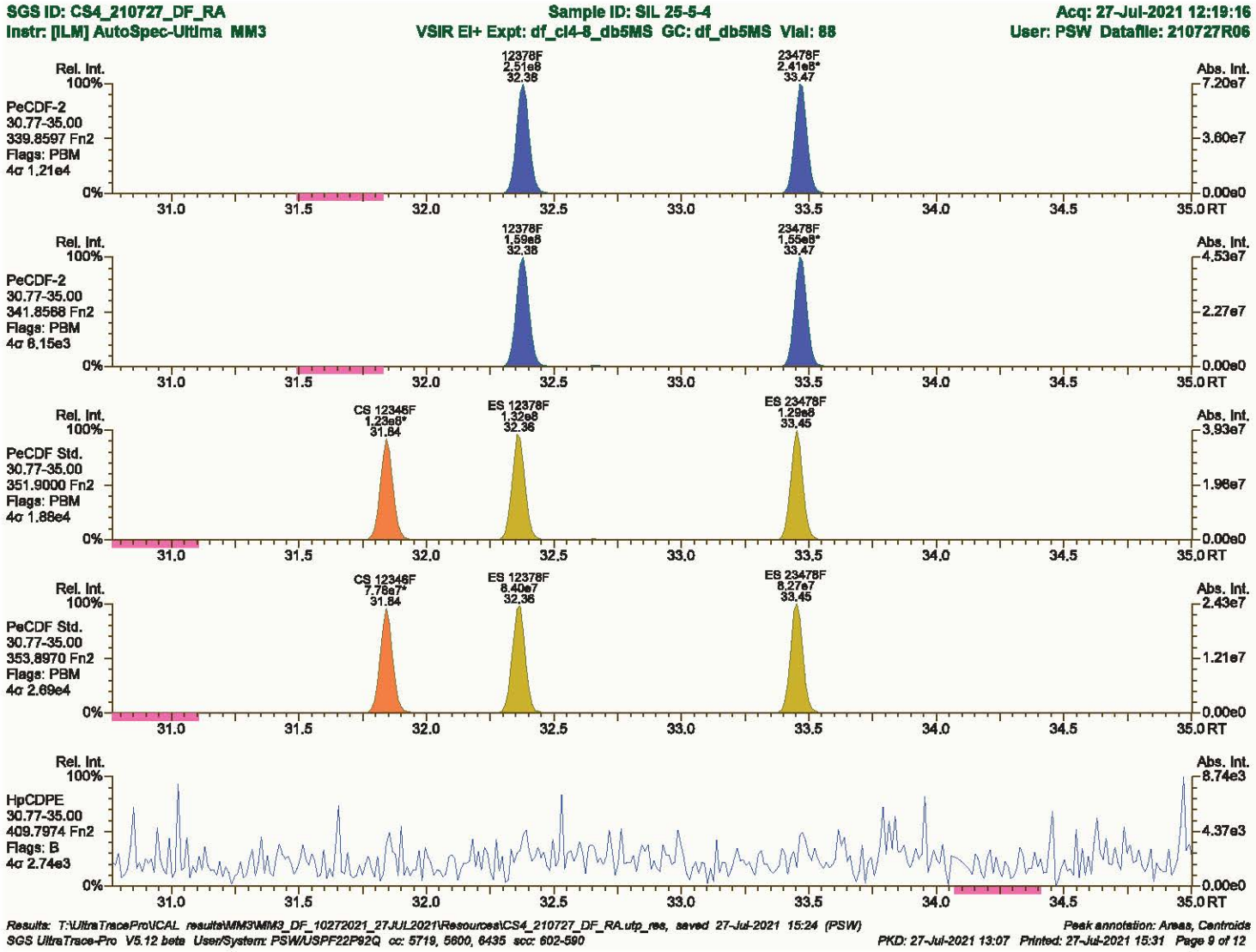
SGS ID: CS4_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88

Acq: 27-Jul-2021 12:19:16
User: PSW Datafile: 210727R06

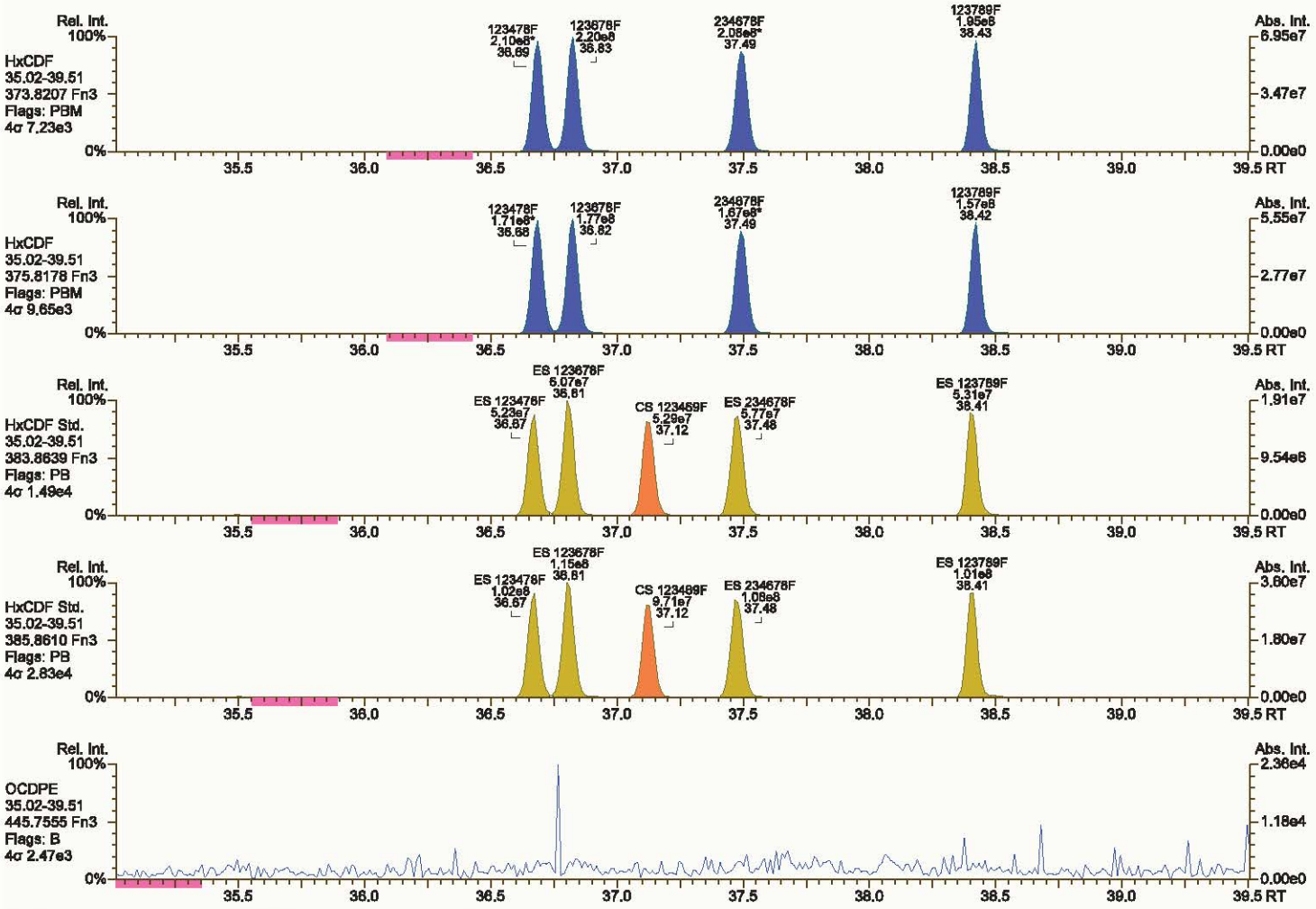


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6462 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 8 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PBM
4σ 1.21e4
12378F 2.51e8 32.38
23478F 2.41e8* 33.47
7.20e7
3.60e7
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PBM
4σ 8.15e3
12378F 1.59e8 32.38
23478F 1.55e8* 33.47
4.53e7
2.27e7
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 1.88e4
CS 12346F 1.23e8* 31.84
ES 12378F 1.32e8 32.36
ES 23478F 1.29e8 33.45
3.93e7
1.96e7
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.69e4
CS 12346F 7.78e7* 31.84
ES 12378F 8.40e7 32.36
ES 23478F 8.27e7 33.45
2.43e7
1.21e7
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.74e3
8.74e3
4.37e3
0%
100%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

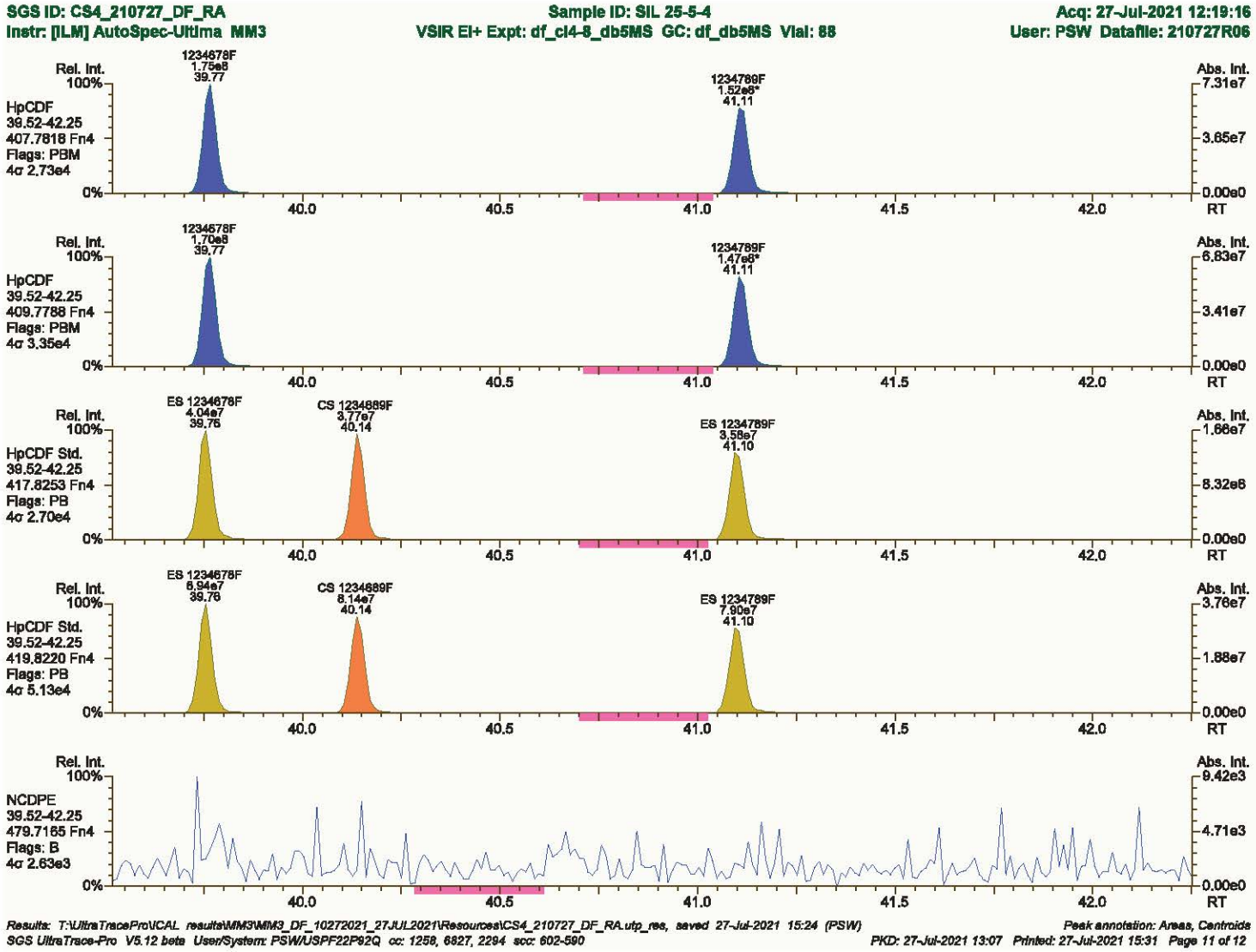
SGS ID: CS4_210727_DF_RA | Sample ID: SIL 25-5-4 | Acq: 27-Jul-2021 12:19:16

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88 | User: PSW Datafile: 210727R06

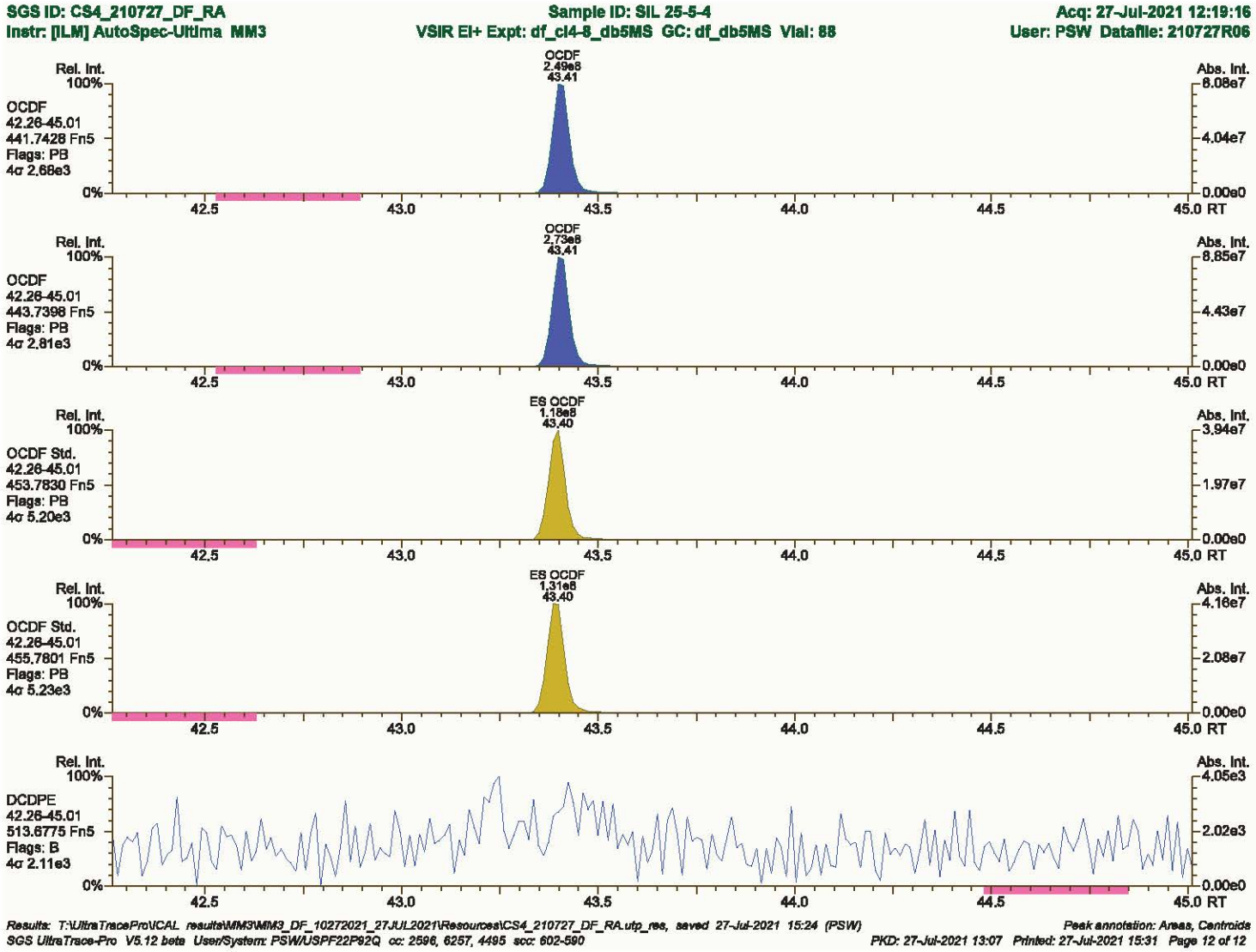


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7685, 9033, 4061 scc: 602-590 *PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 10 of 12*



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1258, 6827, 2294 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
OCDF
2.49e8
43.41
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
8.08e7
4.04e7
0.00e0
OCDF
2.73e8
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
8.85e7
4.43e7
ES OCDF
1.18e8
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
3.94e7
1.97e7
ES OCDF
1.31e8
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
4.16e7
2.08e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
4.05e3
2.02e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2596, 6257, 4495 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 12 of 12

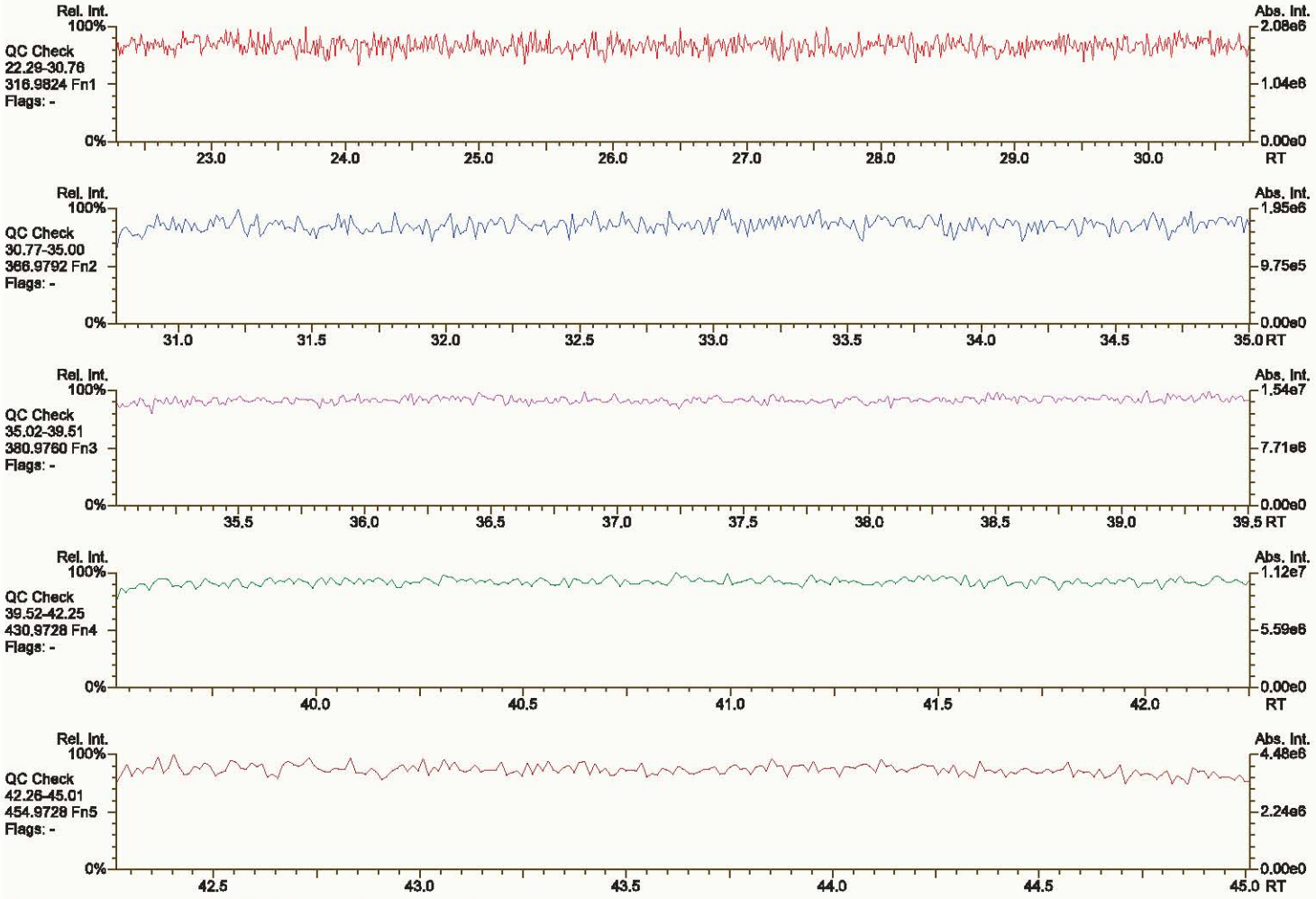
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 13:09 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS5_210727_DF_RA		UTP: 27-Jul-2021 15:00:22 PSW				Checkcode: 147-553-CLL	
Sample ID: SIL 25-5-3		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD	40.66	8.94E+08	1.04	Y	0.97	0.98	1%
OCDD	43.22	1.57E+09	0.88	Y	1.07	1.06	-1%
2378-TCDF	27.66	3.19E+08	0.77	Y	0.96	0.97	1%
12378-PeCDF	32.37	1.33E+09	1.51	Y	0.95	0.93	-1%
23478-PeCDF	33.46	1.36E+09	1.58	Y	0.94	0.96	3%
123478-HxCDF	36.68	1.30E+09	1.25	Y	1.23	1.24	0%
123678-HxCDF	36.82	1.35E+09	1.25	Y	1.13	1.14	1%
234678-HxCDF	37.49	1.27E+09	1.24	Y	1.15	1.15	0%
123789-HxCDF	38.42	1.20E+09	1.24	Y	1.14	1.15	2%
1234678-HpCDF	39.76	1.19E+09	1.03	Y	1.36	1.37	1%
1234789-HpCDF	41.10	1.06E+09	1.03	Y	1.30	1.35	4%
OCDF	43.40	1.87E+09	0.90	Y	1.03	1.06	3%
ES 2378-TCDD	28.49	9.72E+07	0.78	Y	1.03	1.04	1%
ES 12378-PeCDD	33.782	9.96E+07	1.62	Y	1.03	1.07	3%
ES 123478-HxCDD	37.654	8.99E+07	1.27	Y	0.99	1.03	4%
ES 123678-HxCDD	37.768	8.89E+07	1.27	Y	0.97	1.02	5%
ES 123789-HxCDD	38.058	1.02E+08	1.27	Y	1.12	1.17	4%
ES 1234678-HpCDD	40.644	9.11E+07	1.06	Y	0.99	1.05	6%
ES OCDD	43.21	1.48E+08	0.89	Y	0.78	0.85	9%
ES 2378-TCDF	27.639	1.64E+08	0.80	Y	1.08	1.08	0%
ES 12378-PeCDF	32.354	1.43E+08	1.61	Y	0.93	0.95	1%
ES 23478-PeCDF	33.446	1.41E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.662	1.05E+08	0.52	Y	1.14	1.21	6%
ES 123678-HxCDF	36.801	1.19E+08	0.53	Y	1.30	1.36	5%
ES 234678-HxCDF	37.468	1.11E+08	0.51	Y	1.20	1.27	6%
ES 123789-HxCDF	38.402	1.04E+08	0.54	Y	1.14	1.20	5%
ES 1234678-HpCDF	39.749	8.70E+07	0.46	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.092	7.84E+07	0.46	Y	0.85	0.90	6%
ES OCDF	43.392	1.76E+08	0.89	Y	0.93	1.01	9%

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 13:09 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS5_210727_DF_RA		UTP: 27-Jul-2021 15:00:22 PSW				Checkcode: 147-553-CLL	
Sample ID: SIL 25-5-3		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.11	9.75E+07	0.53	Y	1.09	1.12	3%
CS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.26	1.29	3%
SS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.86	0.82	-5%
SS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.93	0.91	-2%
SS 123469-HxCDF	37.11	9.75E+07	0.53	Y	0.84	0.82	-2%
SS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.91	0.86	-6%
AS 1368-TCDD	24.90	9.65E+07	0.80	Y	1.02	1.04	1%
AS 1368-TCDF	22.84	1.66E+08	0.78	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.05E+08	0.81	Y	1.08	1.08	-1%
FS 12478-PeCDD	32.57	1.07E+08	1.62	Y	1.09	1.07	-2%
FS 123468-HxCDD	36.58	1.11E+08	1.30	Y	1.26	1.24	-2%
FS 1234679-HpCDD	39.99	1.18E+08	1.06	Y	1.36	1.30	-4%
TS 1378-TCDD	26.87	1.32E+08	0.79	Y	1.35	1.35	1%
~~OCDD-a~~	~~43.22~~	~~9.57E+07~~	~~2.52~~	~~Y~~	~~0.87~~	~~0.86~~	~~-2%~~
~~OCDF-a~~	~~43.40~~	~~1.10E+09~~	~~2.51~~	~~Y~~	~~0.86~~	~~0.86~~	~~5%~~

Not reported from this ICAL - CL 28Jul21

SGS ID: CS5_210727_DF_RA | Sample ID: SIL 25-5-3 | Acq: 27-Jul-2021 13:09:36

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89 | User: PSW Datafile: 210727R07

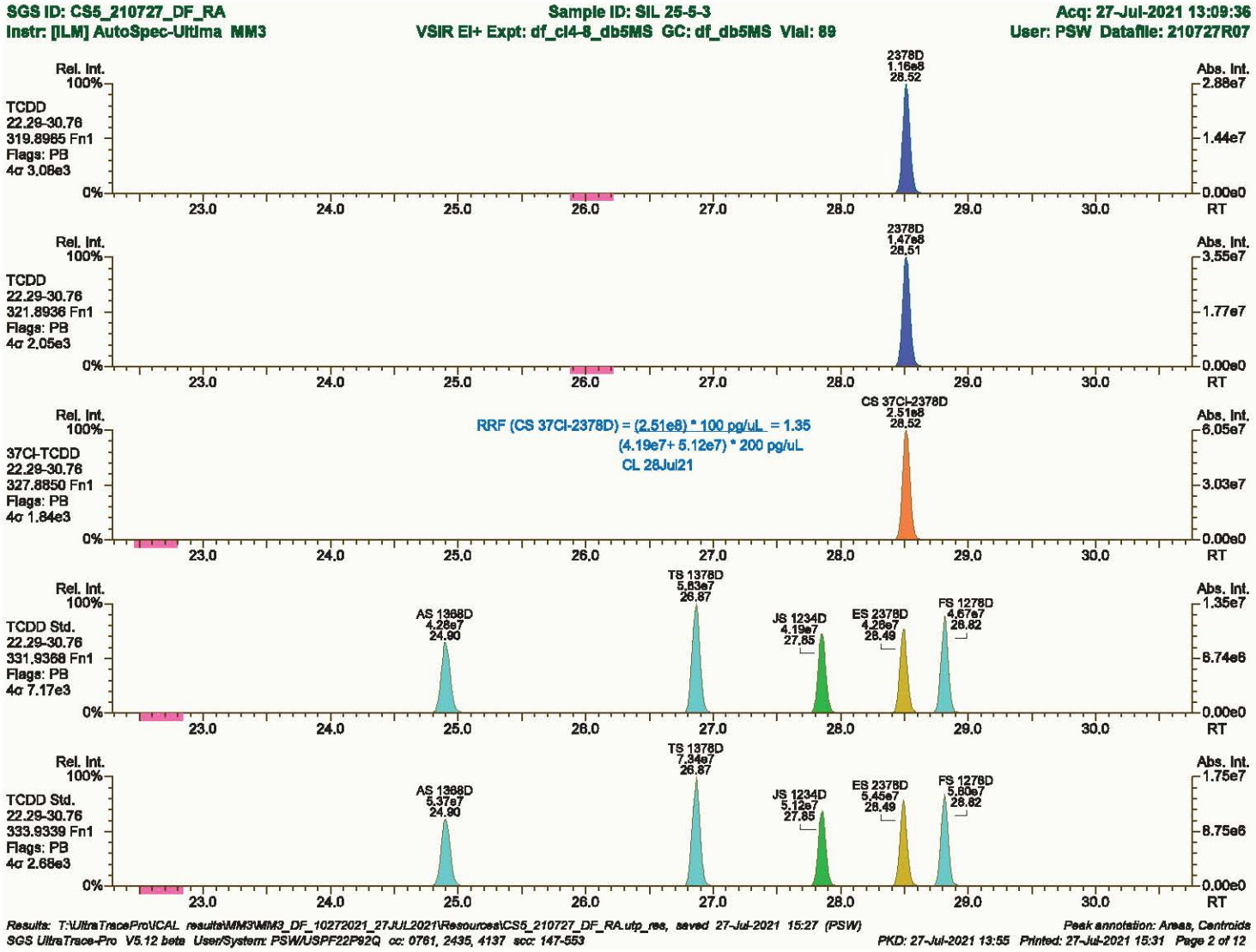


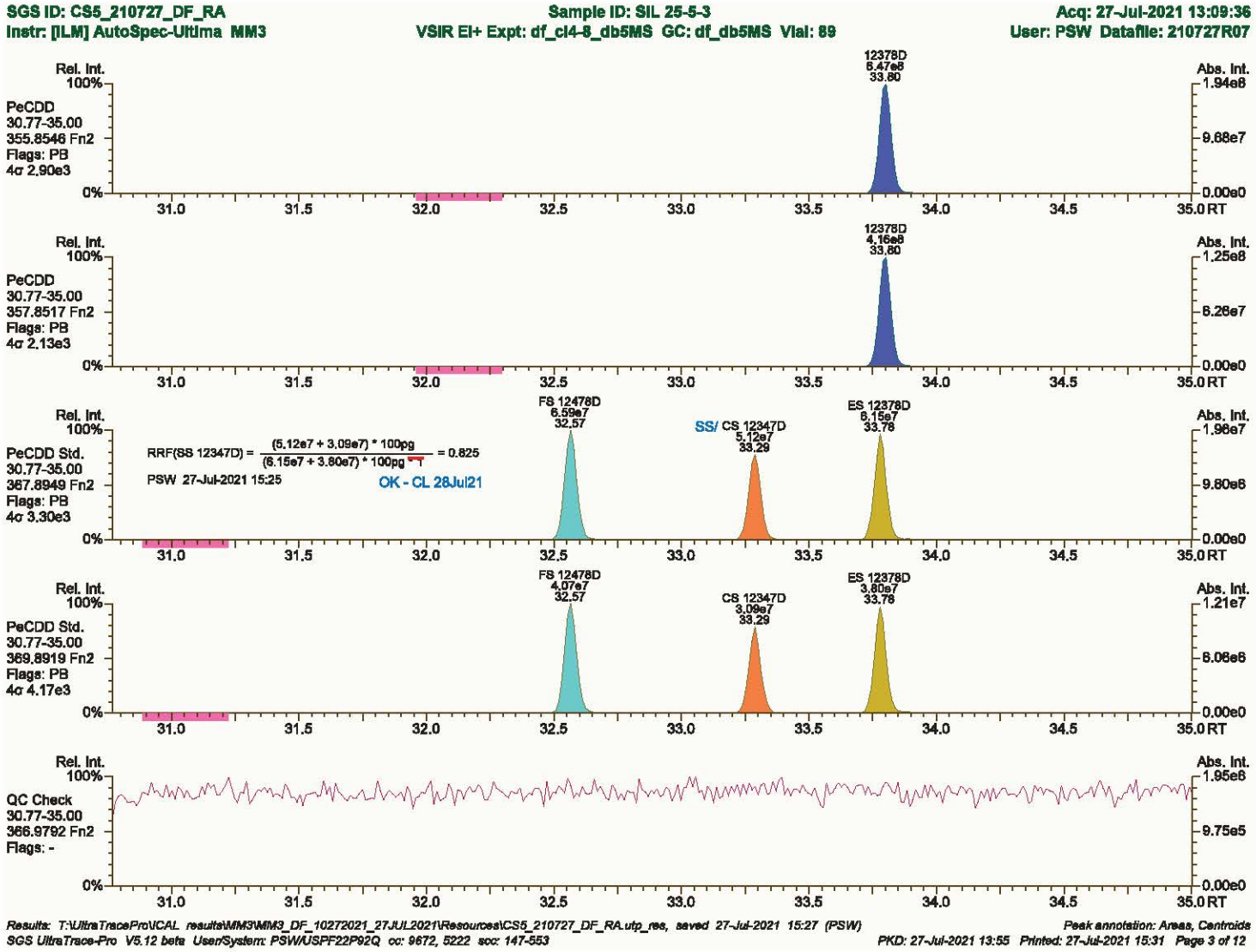
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)

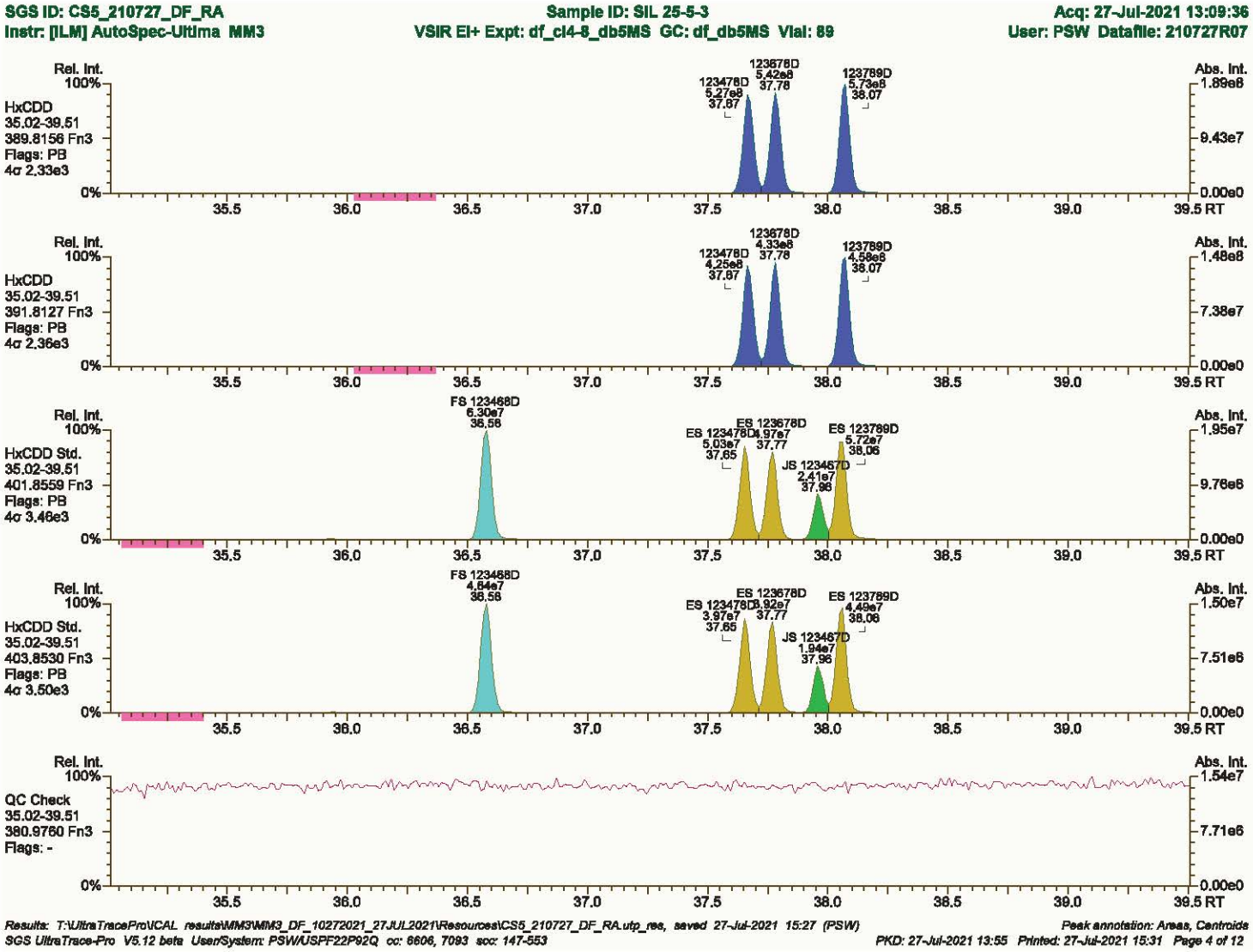
Peak annotation: Areas, Centroids

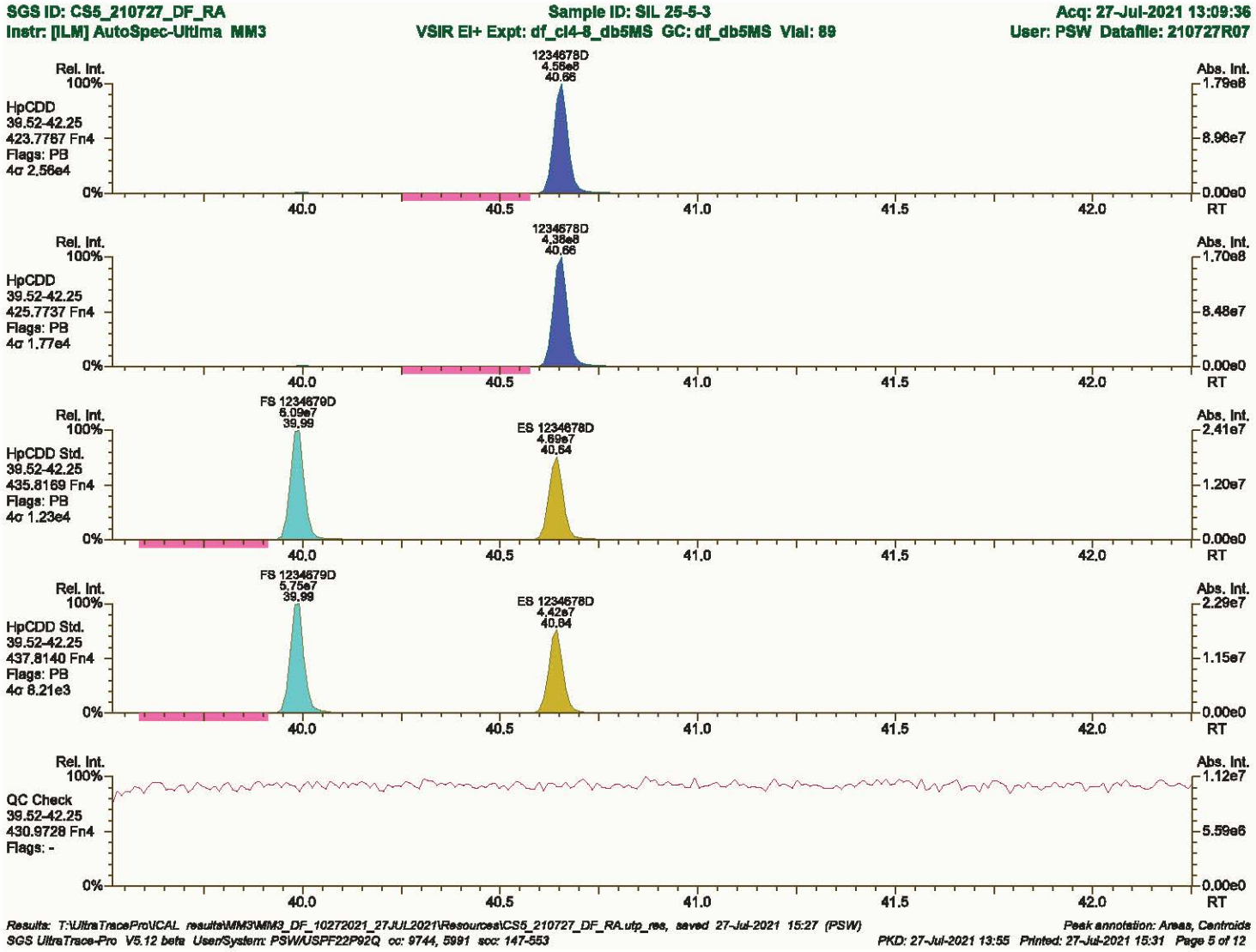
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 147-553

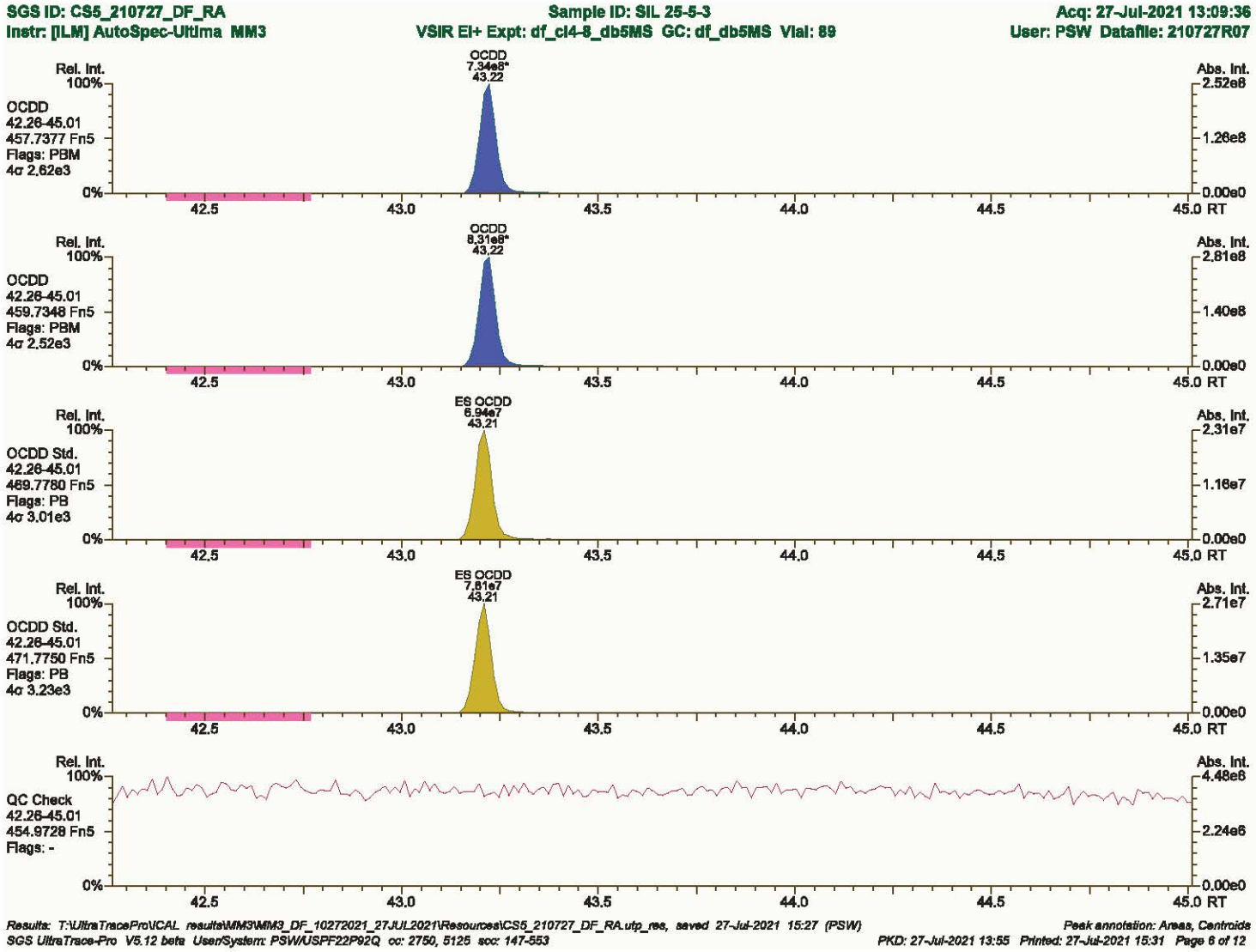
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.08e3
2378D
1.16e8
28.52
2.88e7
1.44e7
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.05e3
2378D
1.47e8
28.51
3.55e7
1.77e7
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.84e3
RRF (CS 37Cl-2378D) = (2.51e8) * 100 pg/uL = 1.35
(4.19e7+ 5.12e7) * 200 pg/uL
CL 28Jul21
CS 37Cl-2378D
2.51e8
28.52
6.05e7
3.03e7
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.17e3
AS 1368D
4.28e7
24.90
TS 1378D
5.83e7
26.87
JS 1234D
4.19e7
27.85
ES 2378D
4.29e7
28.49
FS 1278D
4.67e7
28.82
1.35e7
8.74e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.68e3
AS 1368D
5.37e7
24.90
TS 1378D
7.34e7
26.87
JS 1234D
5.12e7
27.85
ES 2378D
5.45e7
28.49
FS 1278D
5.80e7
28.82
1.75e7
8.75e6
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
0%
100%

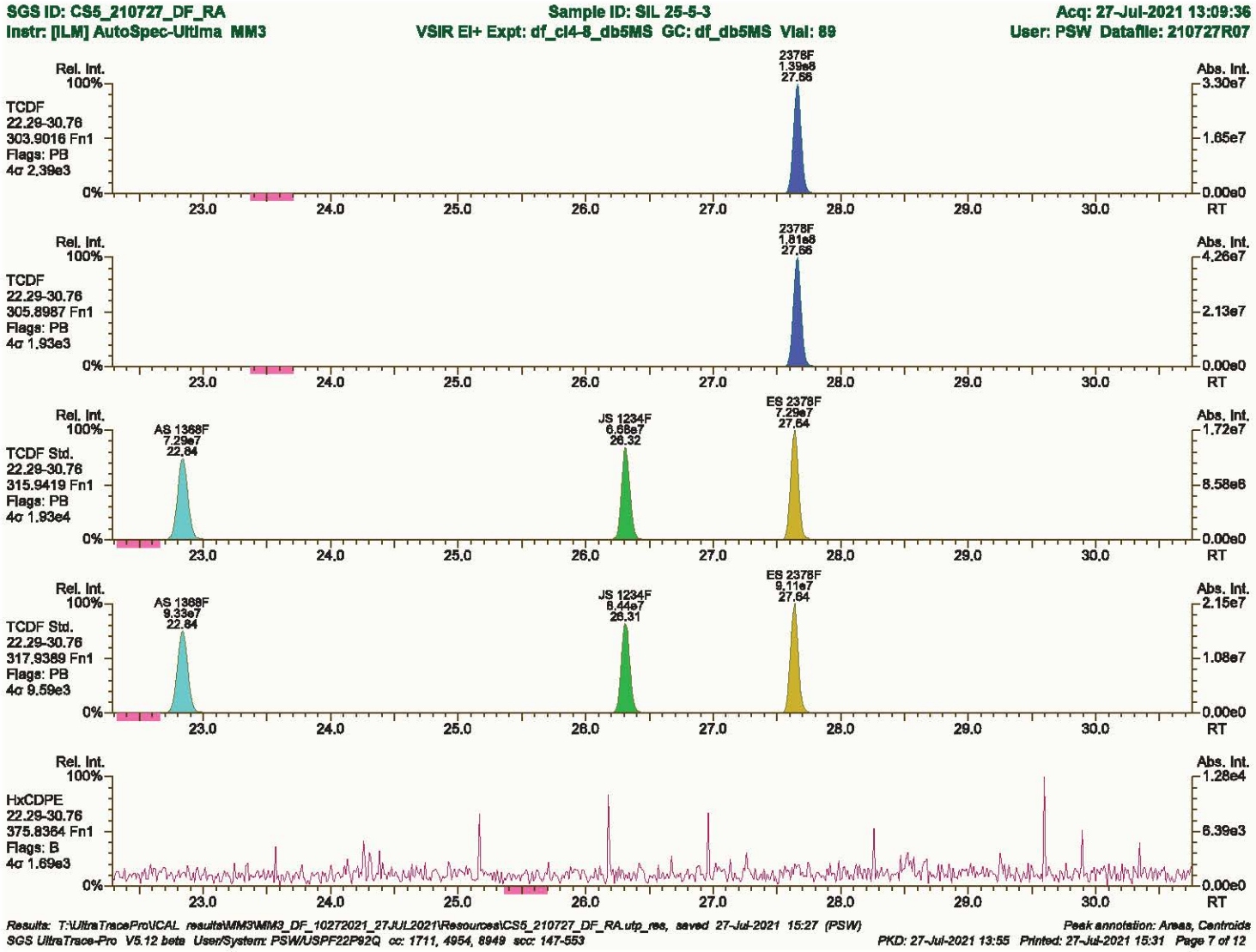

SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
12378D
6.47e8
33.80
1.94e8
9.68e7
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
12378D
4.16e8
33.80
1.25e8
6.26e7
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.30e3
RRF(SS 12347D) = (5.12e7 + 3.09e7) * 100pg / (6.15e7 + 3.80e7) * 100pg = 0.825
PSW 27-Jul-2021 15:25
OK - CL 28Jul21
FS 12478D
6.59e7
32.57
SS/ CS 12347D
5.12e7
33.29
ES 12378D
6.15e7
33.78
1.96e7
9.80e6
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.17e3
FS 12478D
4.07e7
32.57
CS 12347D
3.09e7
33.29
ES 12378D
3.80e7
33.78
1.21e7
6.08e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
1.95e6
9.75e5
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123678D 5.42e8 37.78
123478D 5.27e8 37.67
123789D 5.73e8 38.07
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123678D 4.33e8 37.78
123478D 4.25e8 37.67
123789D 4.58e8 38.07
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.46e3
FS 123468D 6.30e7 36.56
ES 123678D 4.97e7 37.77
ES 123478D 5.03e7 37.65
ES 123789D 5.72e7 38.06
JS 123467D 2.41e7 37.96
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.50e3
FS 123468D 4.64e7 36.56
ES 123678D 3.92e7 37.77
ES 123478D 3.97e7 37.65
ES 123789D 4.49e7 38.06
JS 123467D 1.94e7 37.96
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
100%
0%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
1234678D
4.56e8
40.66
1.79e8
8.96e7
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
1234678D
4.35e8
40.66
1.70e8
8.48e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
2.41e7
1.20e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
2.29e7
1.15e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.12e7
5.59e6
40.0
40.5
41.0
41.5
42.0
RT



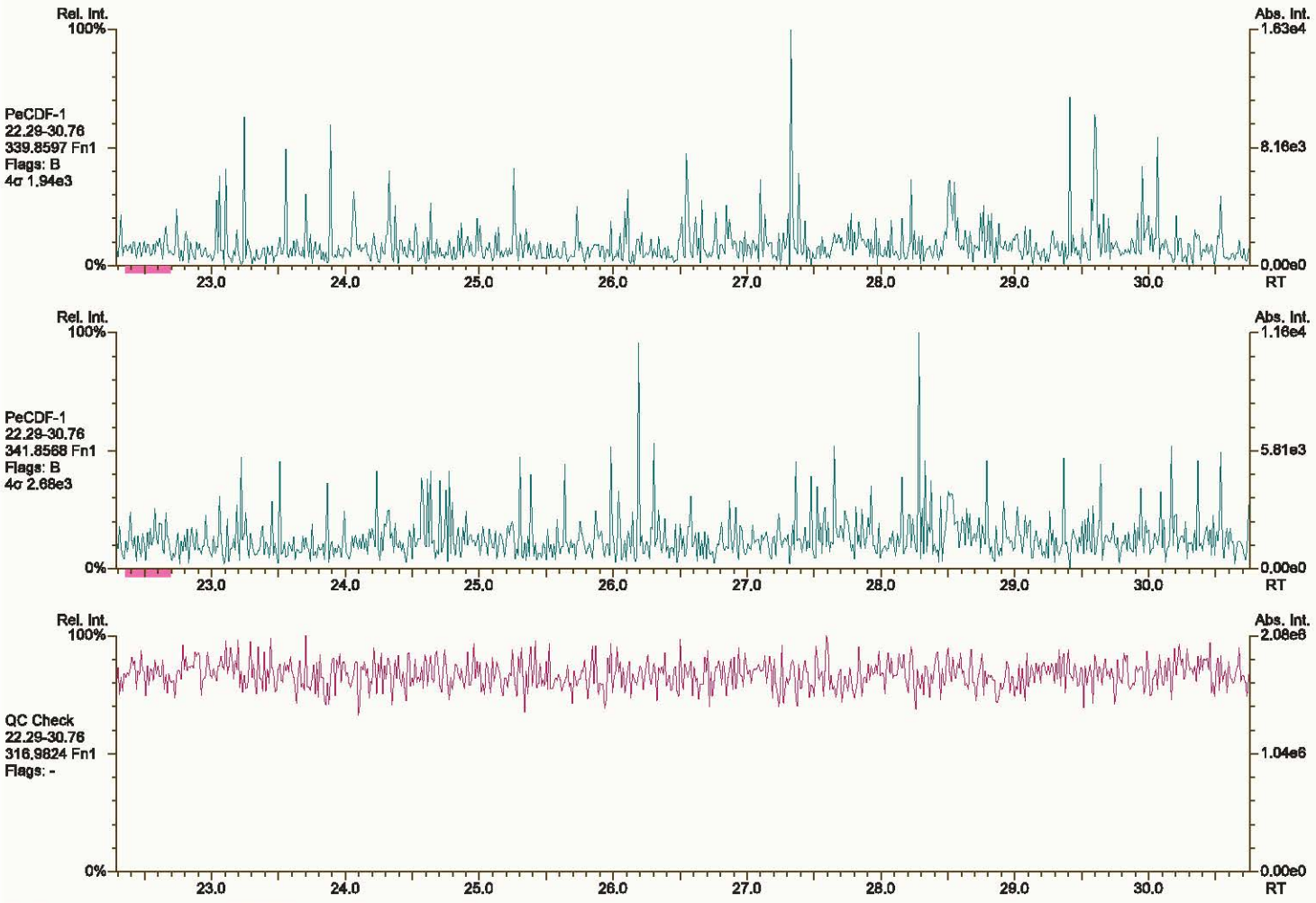
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 2750, 5125 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 6 of 12


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.39e3
2378F
1.39e8
27.66
3.30e7
1.65e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 1.93e3
2378F
1.81e8
27.66
4.26e7
2.13e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.93e4
AS 1368F
7.29e7
22.84
JS 1234F
6.68e7
26.32
ES 2378F
7.29e7
27.64
1.72e7
8.58e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 9.59e3
AS 1368F
9.33e7
22.84
JS 1234F
8.44e7
26.31
ES 2378F
9.11e7
27.64
2.15e7
1.08e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.69e3
1.28e4
6.39e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

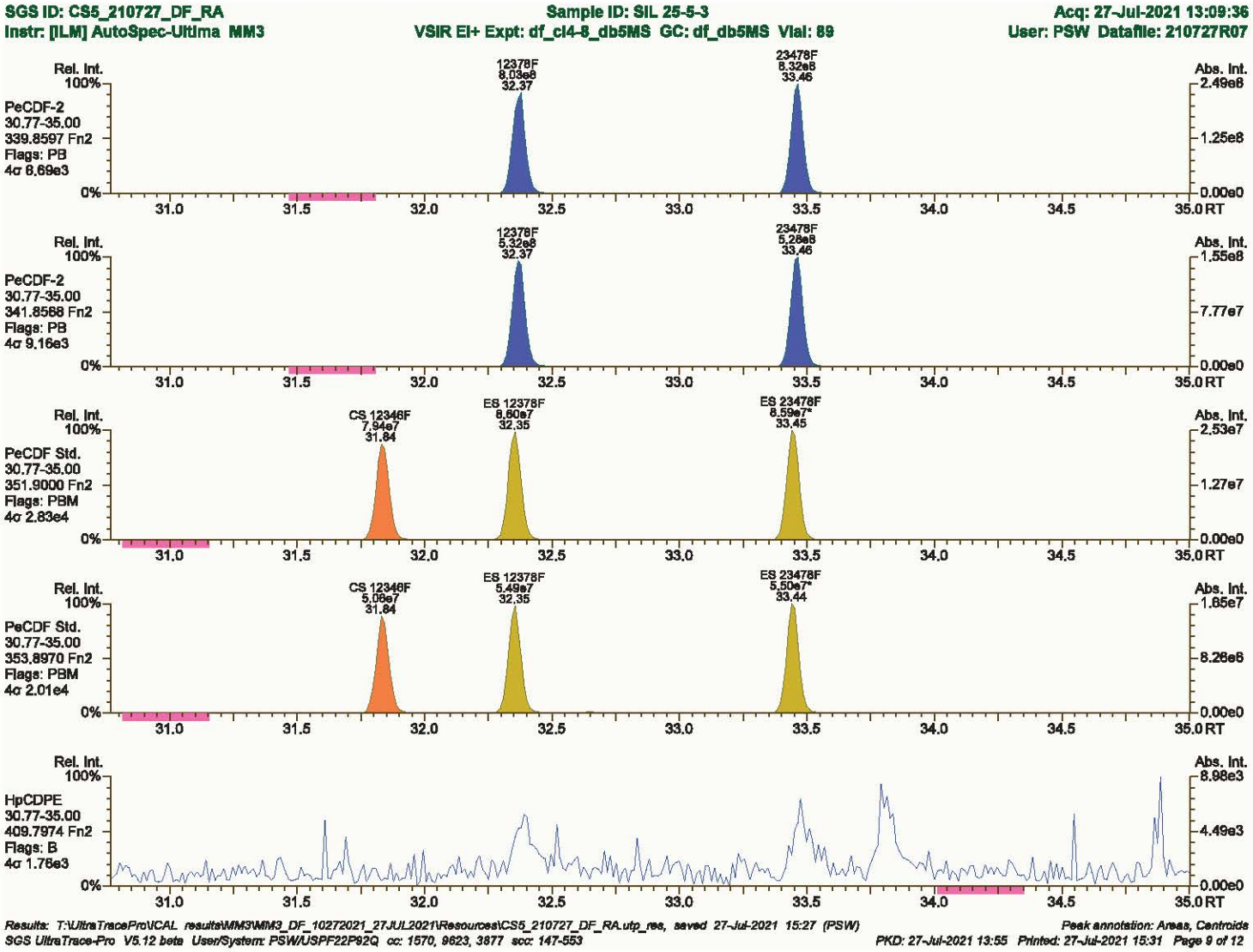
SGS ID: CS5_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89

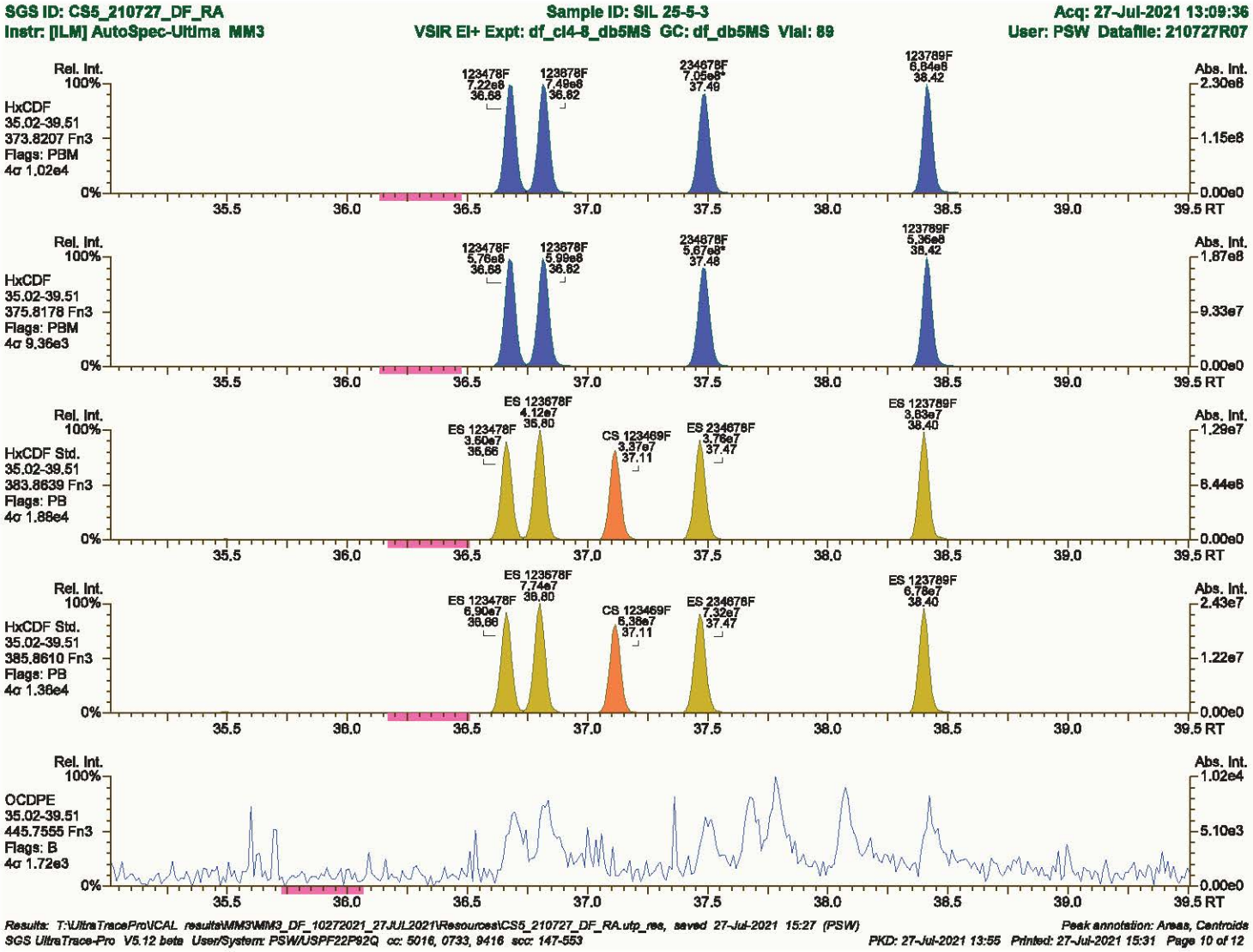
Acq: 27-Jul-2021 13:09:36
User: PSW Datafile: 210727R07

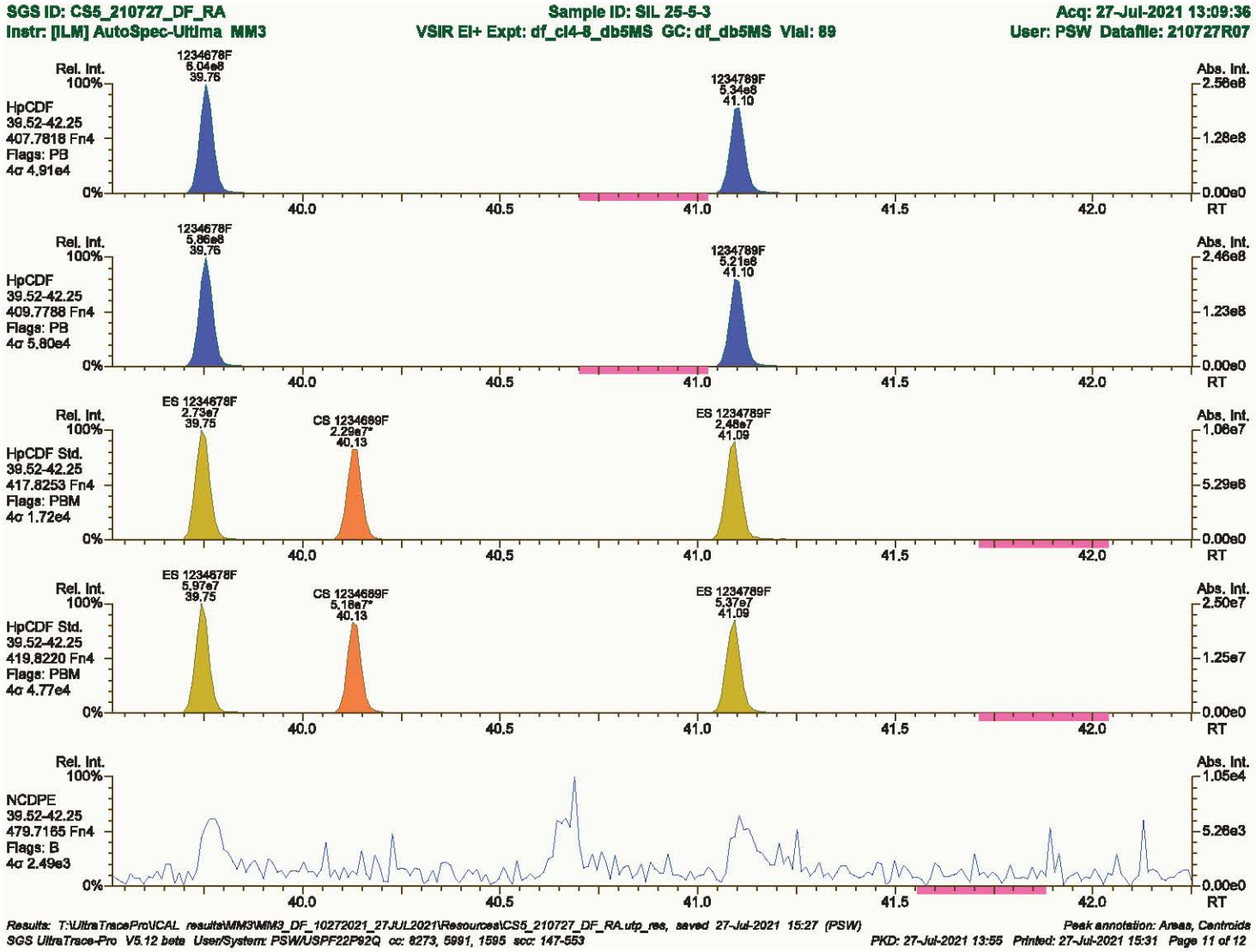


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7511 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 8 of 12



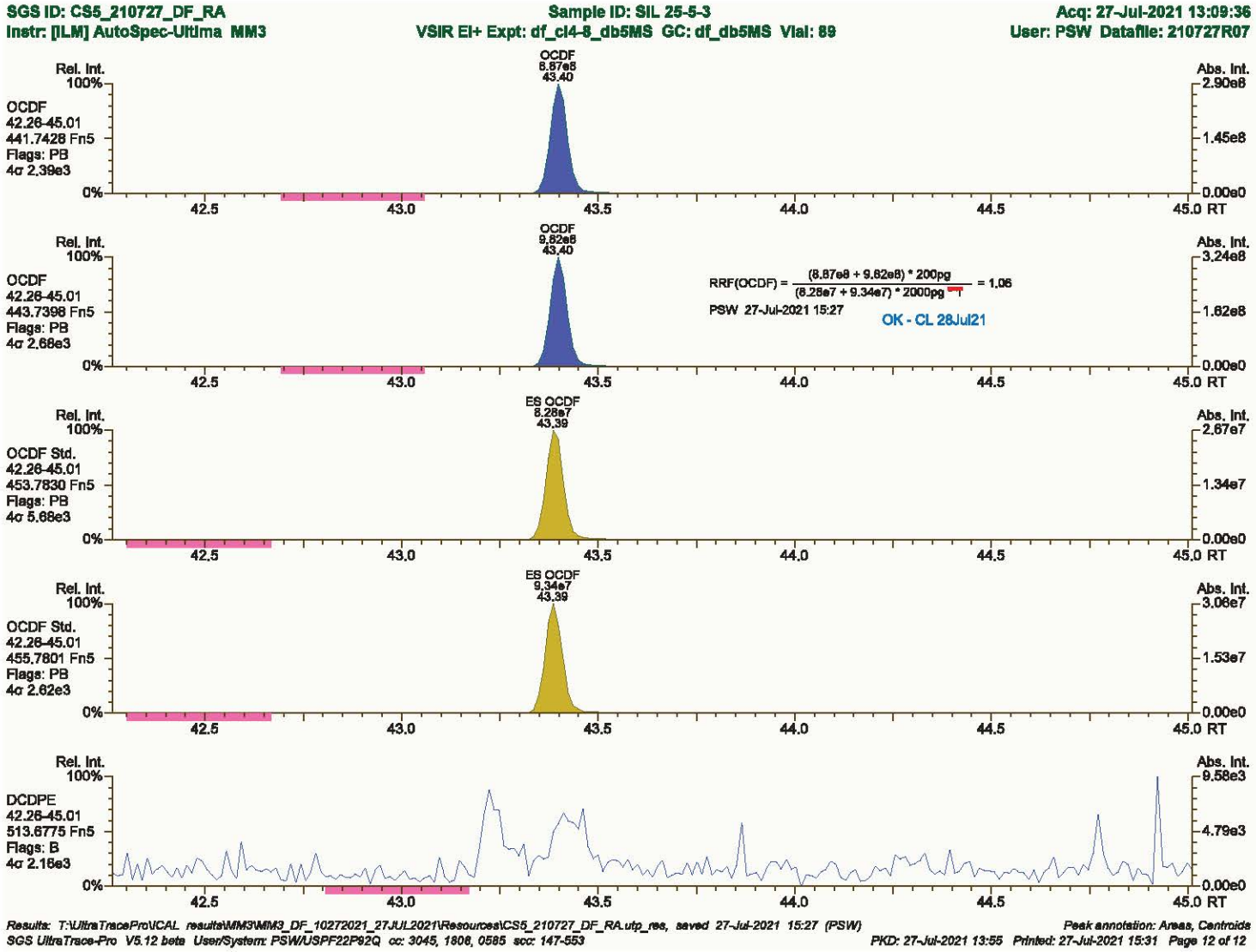
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1570, 9623, 3877 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.02e4
123478F 7.22e8 36.58
123678F 7.49e8 36.62
234678F 7.05e8* 37.49
123789F 6.84e8 38.42
2.30e8
1.15e8
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.36e3
123478F 5.76e8 36.58
123678F 5.99e8 36.62
234678F 5.67e8* 37.48
123789F 5.36e8 38.42
1.87e8
9.33e7
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.88e4
ES 123678F 4.12e7 36.60
ES 123478F 3.50e7 36.66
CS 123469F 3.37e7 37.11
ES 234678F 3.76e7 37.47
ES 123789F 3.63e7 38.40
1.29e7
6.44e6
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.36e4
ES 123678F 7.74e7 36.80
ES 123478F 6.90e7 36.66
CS 123469F 6.38e7 37.11
ES 234678F 7.32e7 37.47
ES 123789F 6.78e7 38.40
2.43e7
1.22e7
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.72e3
1.02e4
5.10e3
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8273, 5991, 1595 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 11 of 12

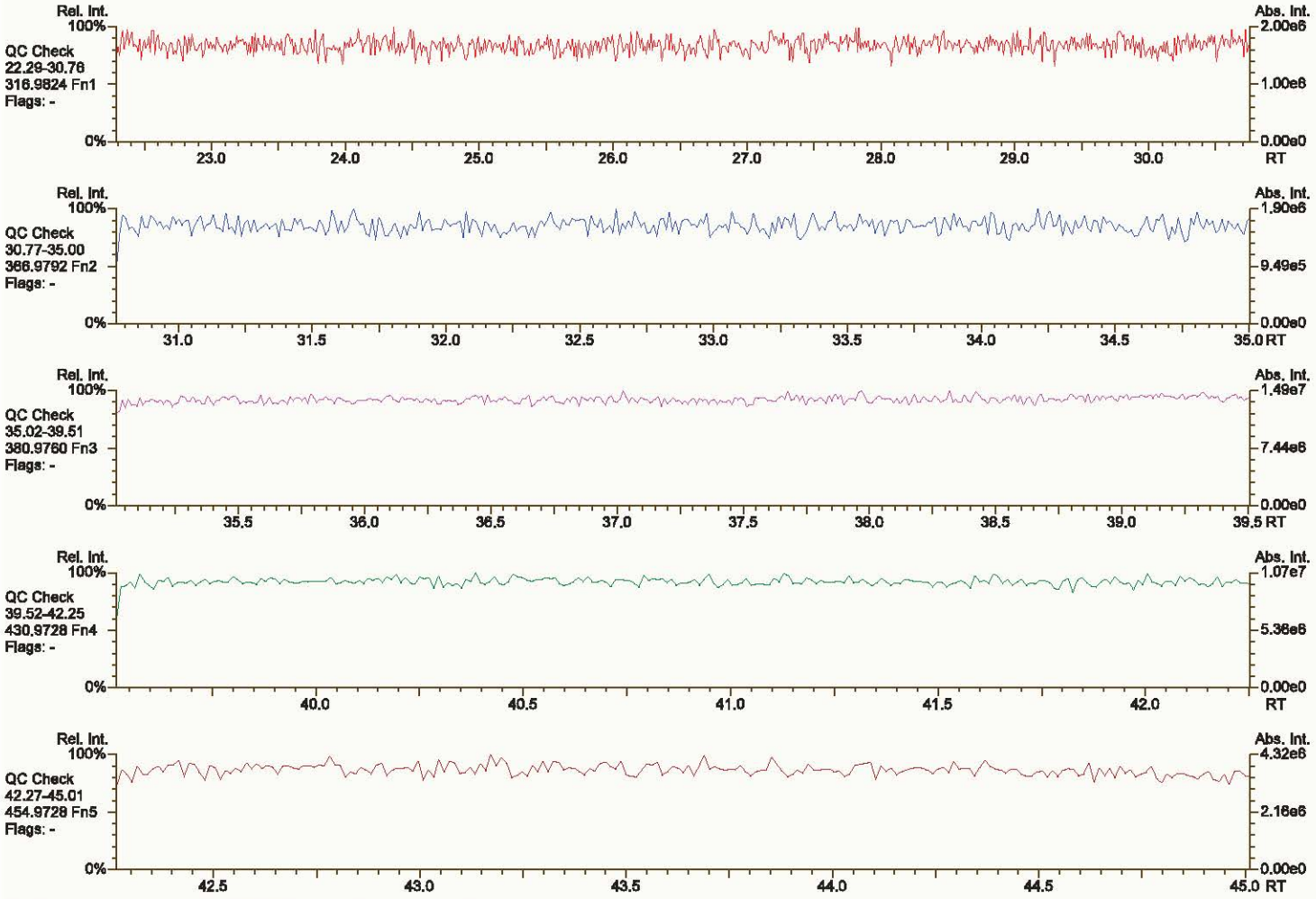

SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
OCDF
6.87e8
43.40
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.39e3
2.90e8
1.45e8
0.00e0
OCDF
9.82e8
43.40
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.68e3
RRF(OCDF) = (8.87e8 + 9.82e8) * 200pg / (8.28e7 + 9.34e7) * 2000pg = 1.06
PSW 27-Jul-2021 15:27
OK - CL 28Jul21
3.24e8
1.62e8
0.00e0
ES OCDF
8.28e7
43.39
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.68e3
2.67e7
1.34e7
0.00e0
ES OCDF
9.34e7
43.39
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.62e3
3.06e7
1.53e7
0.00e0
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.16e3
9.58e3
4.79e3
0.00e0
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3045, 1806, 0585 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 13:58 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS6_210727_DF_RA		UTP: 27-Jul-2021 15:00:22 PSW				Checkcode: 783-472-ZXK	
Sample ID: SIL 25-5-2		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD	40.66	2.28E+09	1.03	Y	0.97	1.00	2%
OCDD	43.24	4.13E+09	0.89	Y	1.07	1.08	1%
2378-TCDF	27.67	7.99E+08	0.77	Y	0.96	0.99	3%
12378-PeCDF	32.38	3.47E+09	1.57	Y	0.95	0.96	2%
23478-PeCDF	33.47	3.38E+09	1.55	Y	0.94	0.96	2%
123478-HxCDF	36.69	3.24E+09	1.24	Y	1.23	1.22	-1%
123678-HxCDF	36.83	3.36E+09	1.24	Y	1.13	1.14	0%
234678-HxCDF	37.49	3.14E+09	1.25	Y	1.15	1.15	0%
123789-HxCDF	38.43	3.10E+09	1.25	Y	1.14	1.16	2%
1234678-HpCDF	39.77	3.01E+09	1.04	Y	1.36	1.36	0%
1234789-HpCDF	41.11	2.70E+09	1.03	Y	1.30	1.33	2%
OCDF	43.42	4.91E+09	0.91	Y	1.03	1.08	5%
ES 2378-TCDD	28.50	9.29E+07	0.78	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.791	9.93E+07	1.63	Y	1.03	1.10	6%
ES 123478-HxCDD	37.663	9.19E+07	1.24	Y	0.99	1.07	7%
ES 123678-HxCDD	37.778	9.02E+07	1.27	Y	0.97	1.05	7%
ES 123789-HxCDD	38.067	1.05E+08	1.27	Y	1.12	1.22	8%
ES 1234678-HpCDD	40.65	9.14E+07	1.03	Y	0.99	1.06	7%
ES OCDD	43.227	1.53E+08	0.91	Y	0.78	0.89	14%
ES 2378-TCDF	27.65	1.62E+08	0.78	Y	1.08	1.10	2%
ES 12378-PeCDF	32.365	1.44E+08	1.56	Y	0.93	0.98	5%
ES 23478-PeCDF	33.455	1.42E+08	1.59	Y	0.92	0.96	4%
ES 123478-HxCDF	36.671	1.06E+08	0.53	Y	1.14	1.23	8%
ES 123678-HxCDF	36.81	1.18E+08	0.53	Y	1.30	1.37	6%
ES 234678-HxCDF	37.477	1.09E+08	0.52	Y	1.20	1.27	5%
ES 123789-HxCDF	38.411	1.07E+08	0.52	Y	1.14	1.24	9%
ES 1234678-HpCDF	39.757	8.85E+07	0.45	Y	0.95	1.03	8%
ES 1234789-HpCDF	41.1	8.15E+07	0.45	Y	0.85	0.94	12%
ES OCDF	43.407	1.83E+08	0.90	Y	0.93	1.06	14%

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 13:58 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS6_210727_DF_RA		UTP: 27-Jul-2021 15:00:22 PSW				Checkcode: 783-472-ZXK	
Sample ID: SIL 25-5-2		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.87	0.85	-2%
CS 123469-HxCDF	37.12	9.43E+07	0.51	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.86	0.84	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.86	0.81	-6%
SS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.93	0.87	-7%
SS 123469-HxCDF	37.12	9.43E+07	0.51	Y	0.84	0.80	-5%
SS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.91	0.81	-11%
AS 1368-TCDD	24.92	9.24E+07	0.82	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	1.58E+08	0.79	Y	1.08	1.07	0%
FS 1278-TCDD	28.83	1.02E+08	0.81	Y	1.08	1.10	1%
FS 12478-PeCDD	32.58	1.01E+08	1.67	Y	1.09	1.01	-7%
FS 123468-HxCDD	36.59	1.06E+08	1.23	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.99	1.12E+08	1.07	Y	1.36	1.23	-9%
TS 1378-TCDD	26.88	1.27E+08	0.79	Y	1.35	1.37	2%
~~OCDD-a~~	~~43.23~~	~~2.53E+08~~	~~2.47~~	~~Y~~	~~0.87~~	~~0.87~~	~~0%~~
~~OCDF-a~~	~~43.42~~	~~2.93E+08~~	~~2.57~~	~~Y~~	~~0.86~~	~~0.86~~	~~0%~~

Not reported from this ICAL - CL 28Jul21

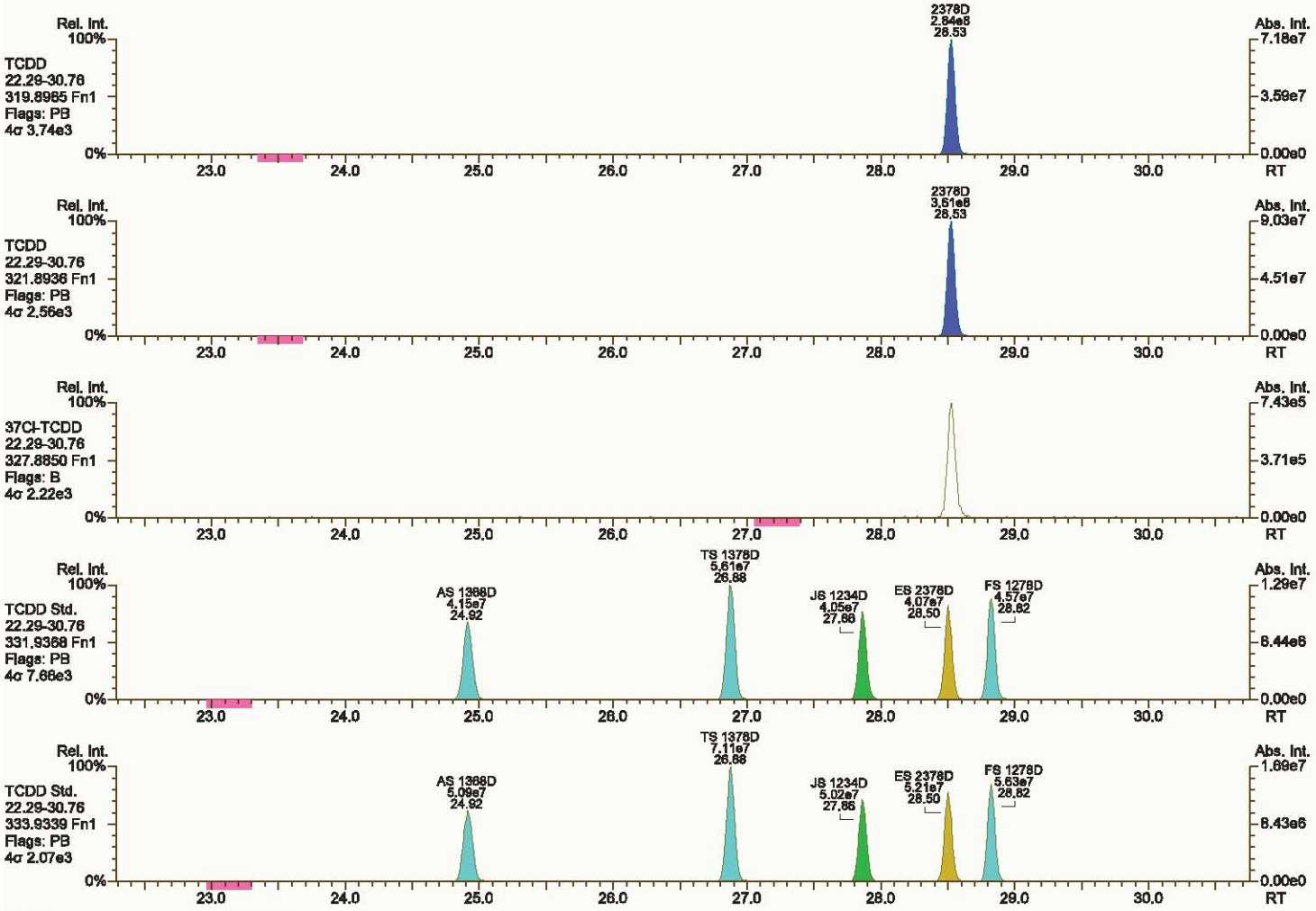
SGS ID: CS6_210727_DF_RA | Sample ID: SIL 25-5-2 | Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90 | User: PSW Datafile: 210727R08



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 783-472
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12

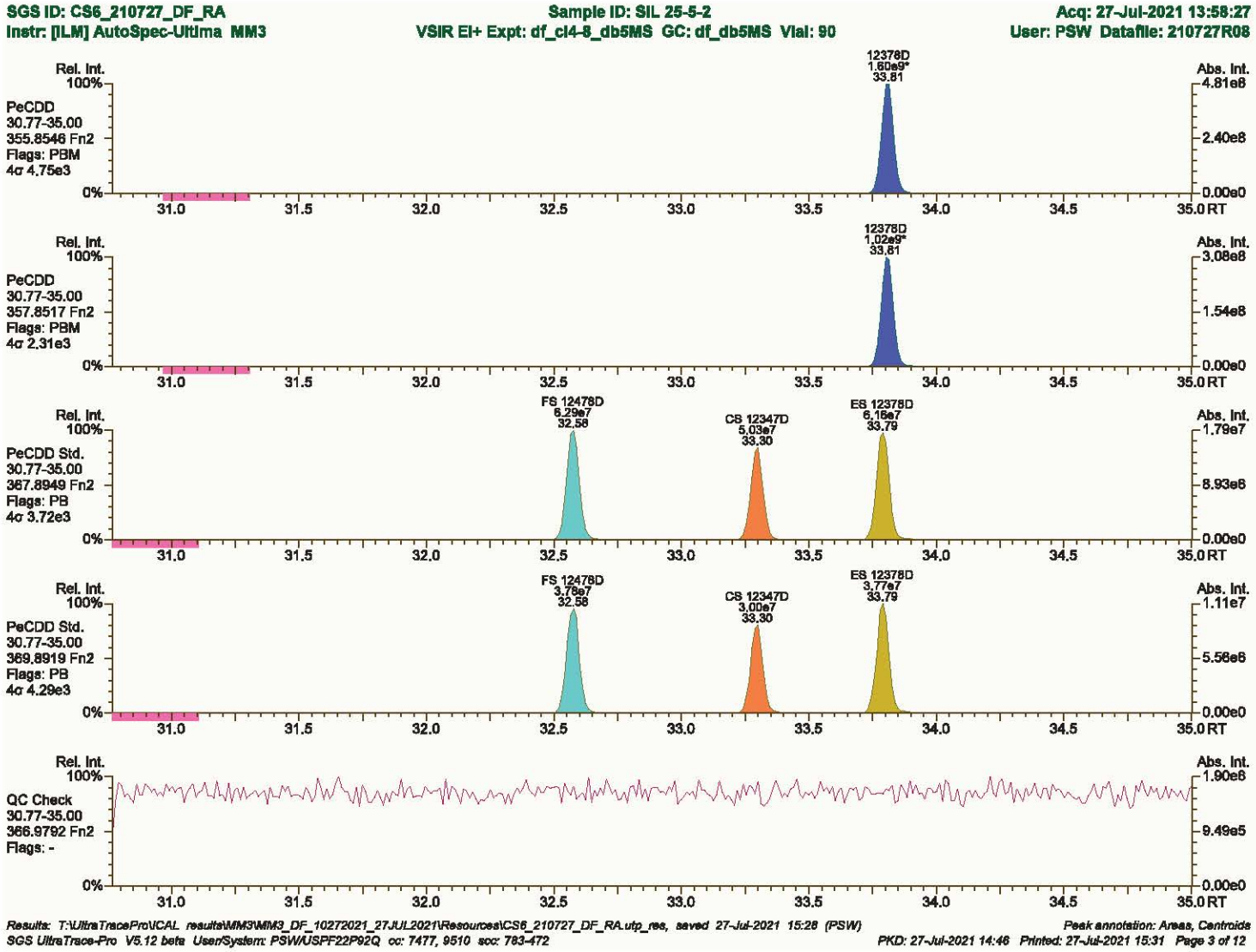
SGS ID: CS6_210727_DF_RA | Sample ID: SIL 25-5-2 | Acq: 27-Jul-2021 13:58:27

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90 | User: PSW Datafile: 210727R08

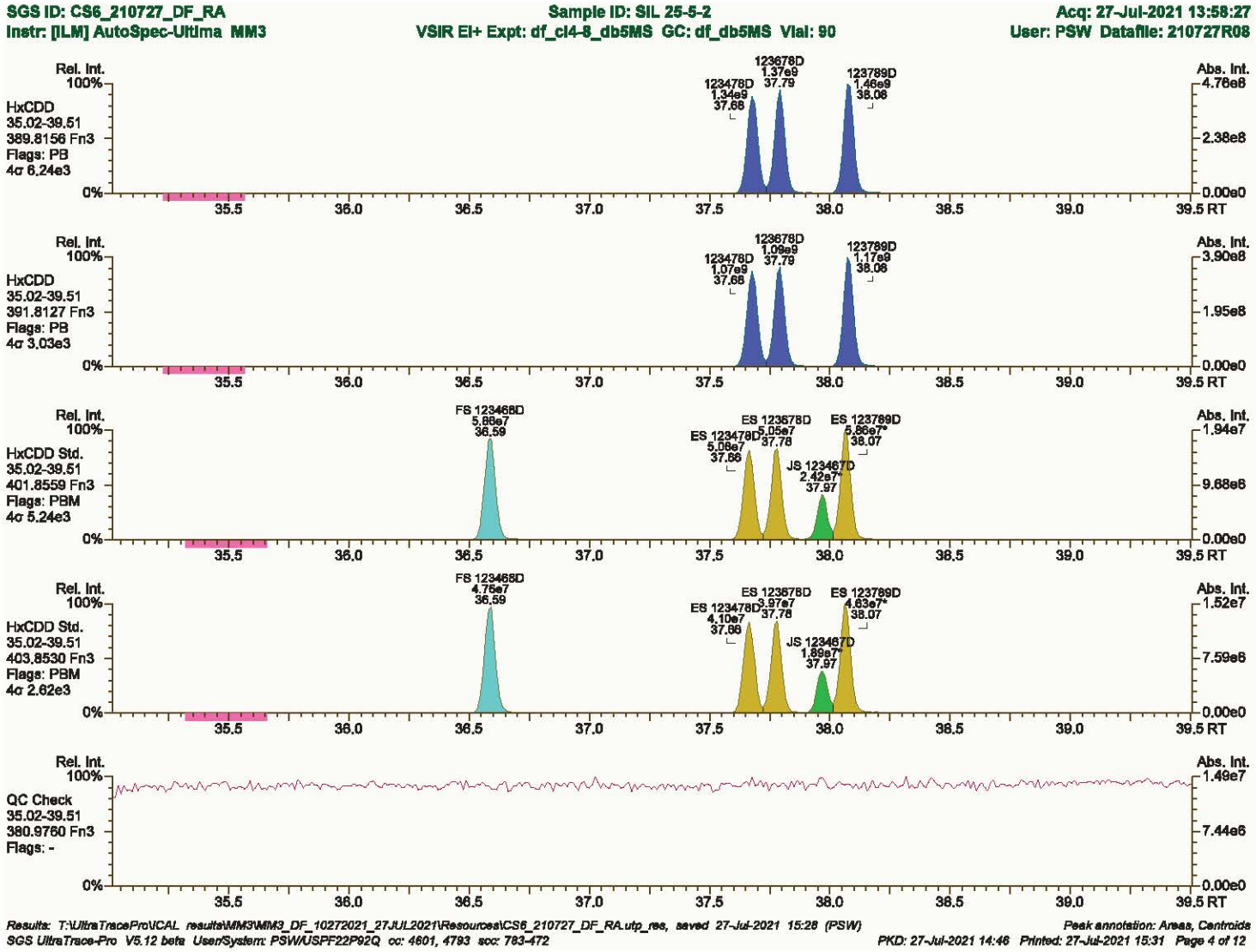


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5217, 9774, 0133 scc: 783-472 *Revised: 27-Jul-2021 14:46 (PSW) Printed: 27-Jul-2021 15:31 Page 2 of 12*

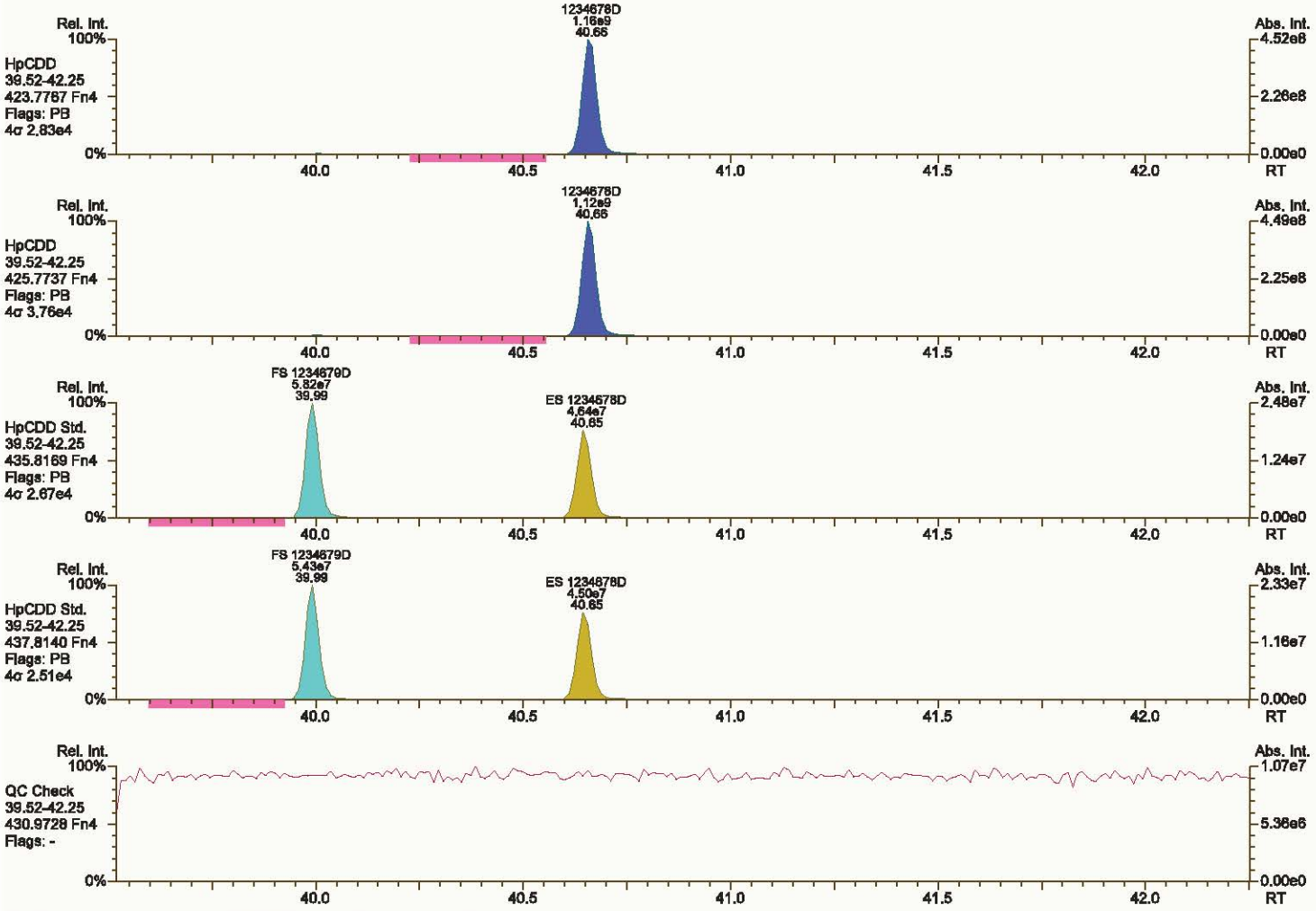


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 7477, 9510 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 3 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 6.24e3
123678D 1.37e9 37.79
123478D 1.34e9 37.68
123789D 1.46e9 38.06
4.78e8
2.38e8
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 3.03e3
123678D 1.09e9 37.79
123478D 1.07e9 37.68
123789D 1.17e9 38.06
3.90e8
1.95e8
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 5.24e3
FS 123468D 5.86e7 36.59
ES 123678D 5.05e7 37.78
ES 123478D 5.08e7 37.68
ES 123789D 5.86e7* 38.07
JS 123467D 2.42e7* 37.97
1.94e7
9.68e6
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.62e3
FS 123468D 4.76e7 36.59
ES 123678D 3.97e7 37.78
ES 123478D 4.10e7 37.68
ES 123789D 4.63e7* 38.07
JS 123467D 1.89e7* 37.97
1.52e7
7.59e6
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.49e7
7.44e6
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
0.00e0

SGS ID: CS6_210727_DF_RA | Sample ID: SIL 25-5-2 | Acq: 27-Jul-2021 13:58:27

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90 | User: PSW Datafile: 210727R08

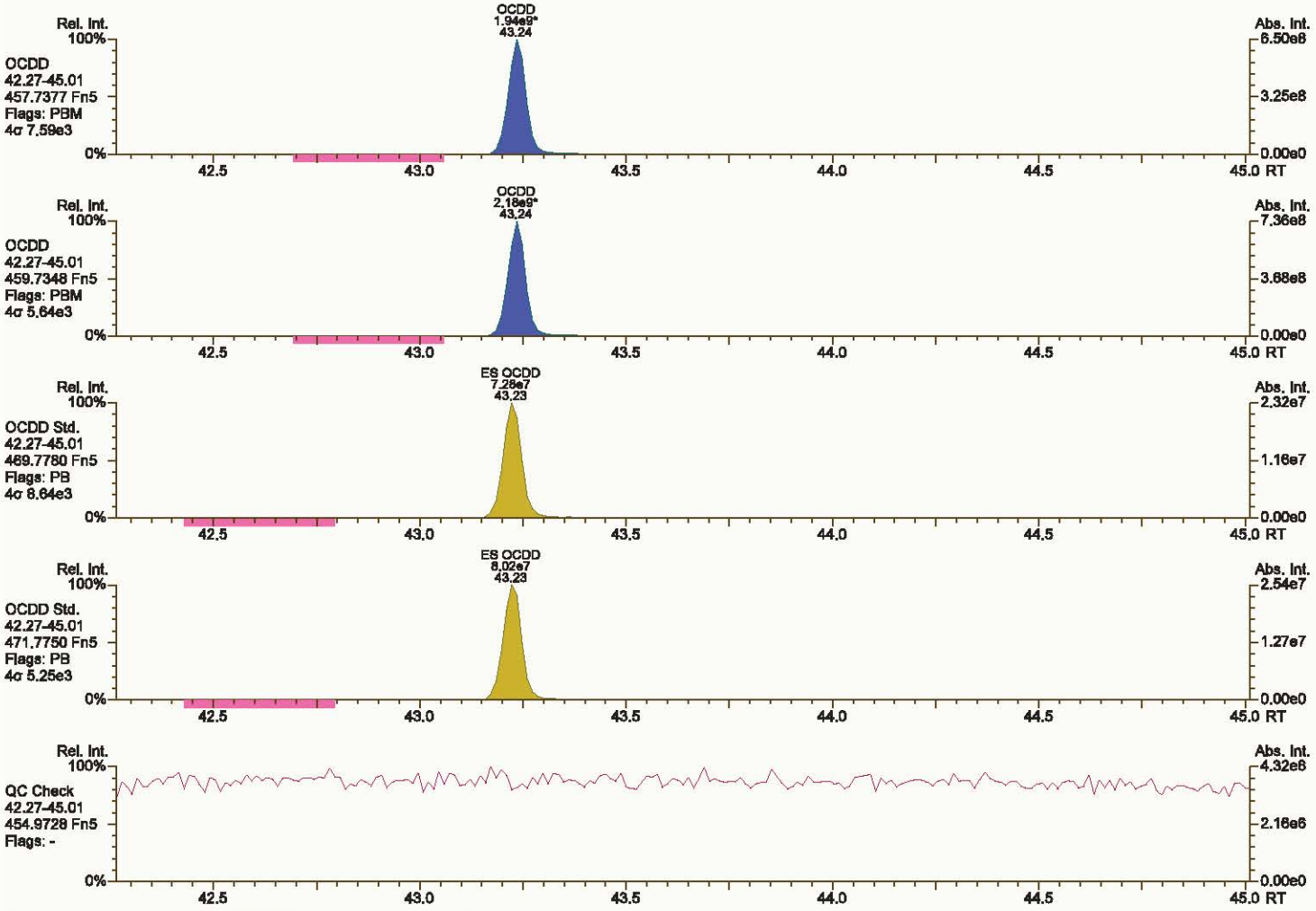


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 3766, 1729 scc: 783-472 *PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 5 of 12*

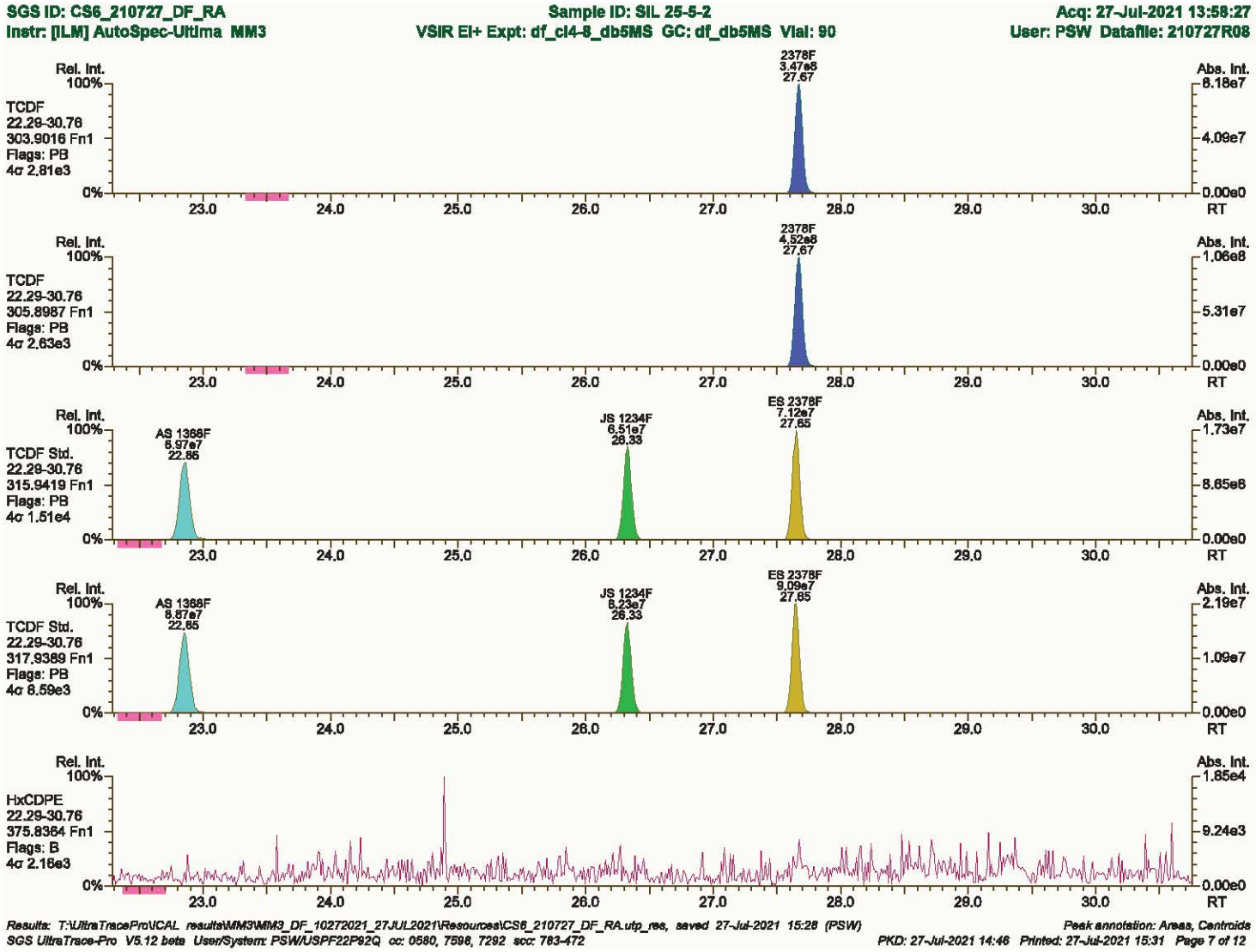
SGS ID: CS6_210727_DF_RA | Sample ID: SIL 25-5-2 | Acq: 27-Jul-2021 13:58:27

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90 | User: PSW Datafile: 210727R08



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW) *Peak annotation: Areas, Centroids*

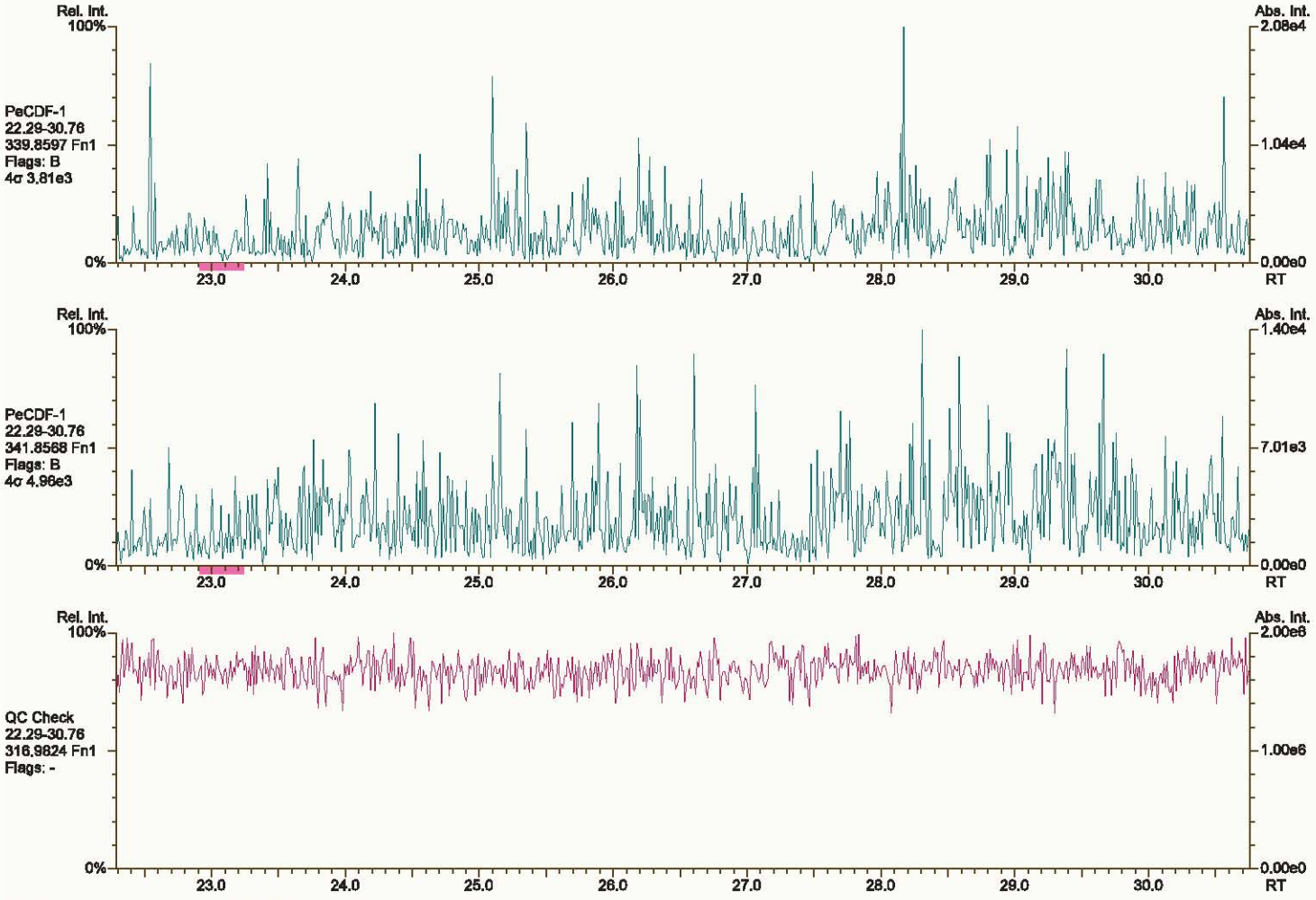
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 8670, 4502 scc: 783-472 *PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 6 of 12*


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
2378F
3.47e8
27.67
8.18e7
4.09e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
2378F
4.52e8
27.67
1.06e8
5.31e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
8.97e7
22.96
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
1.73e7
8.65e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
2.19e7
1.09e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
1.85e4
9.24e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

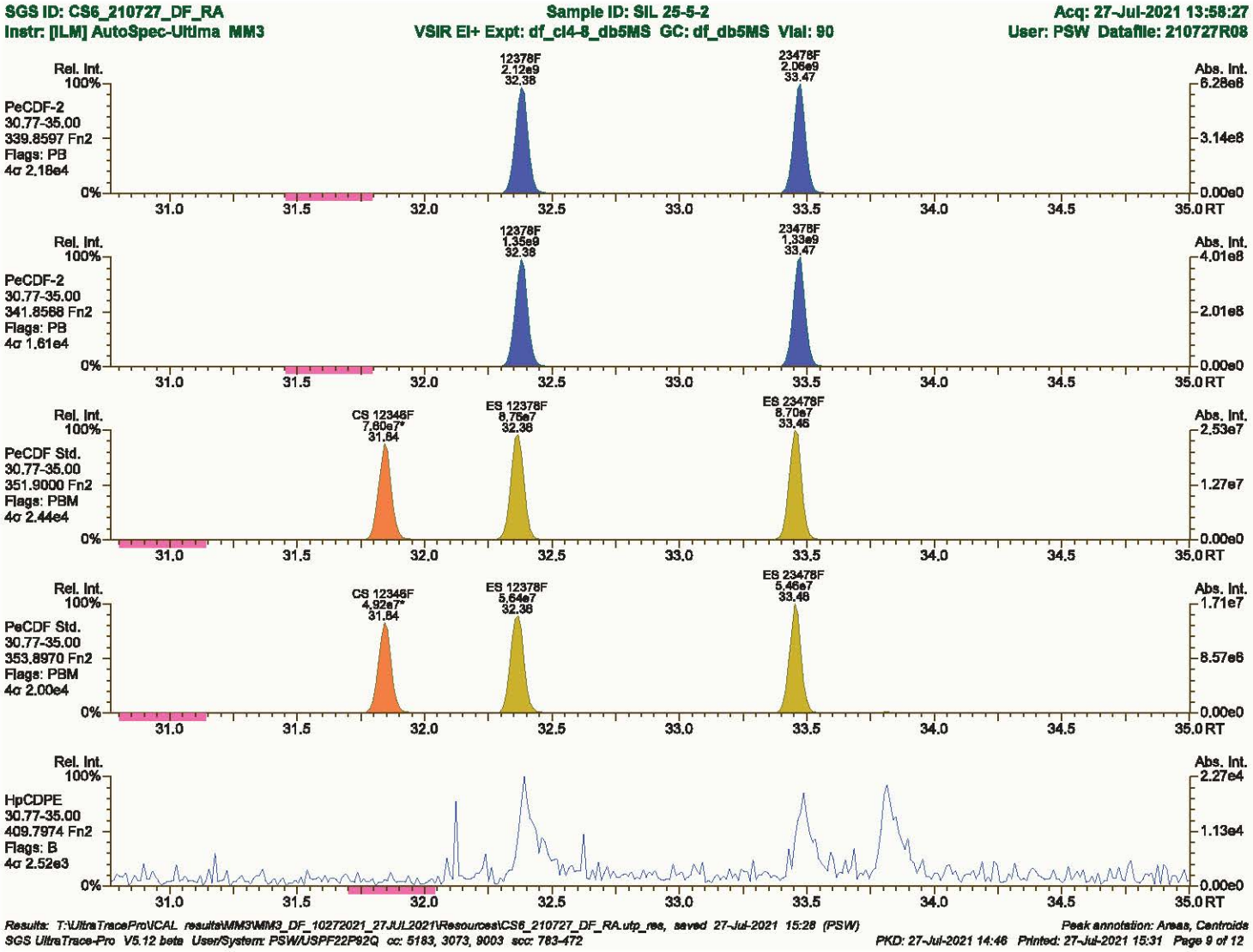
SGS ID: CS6_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-5-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90

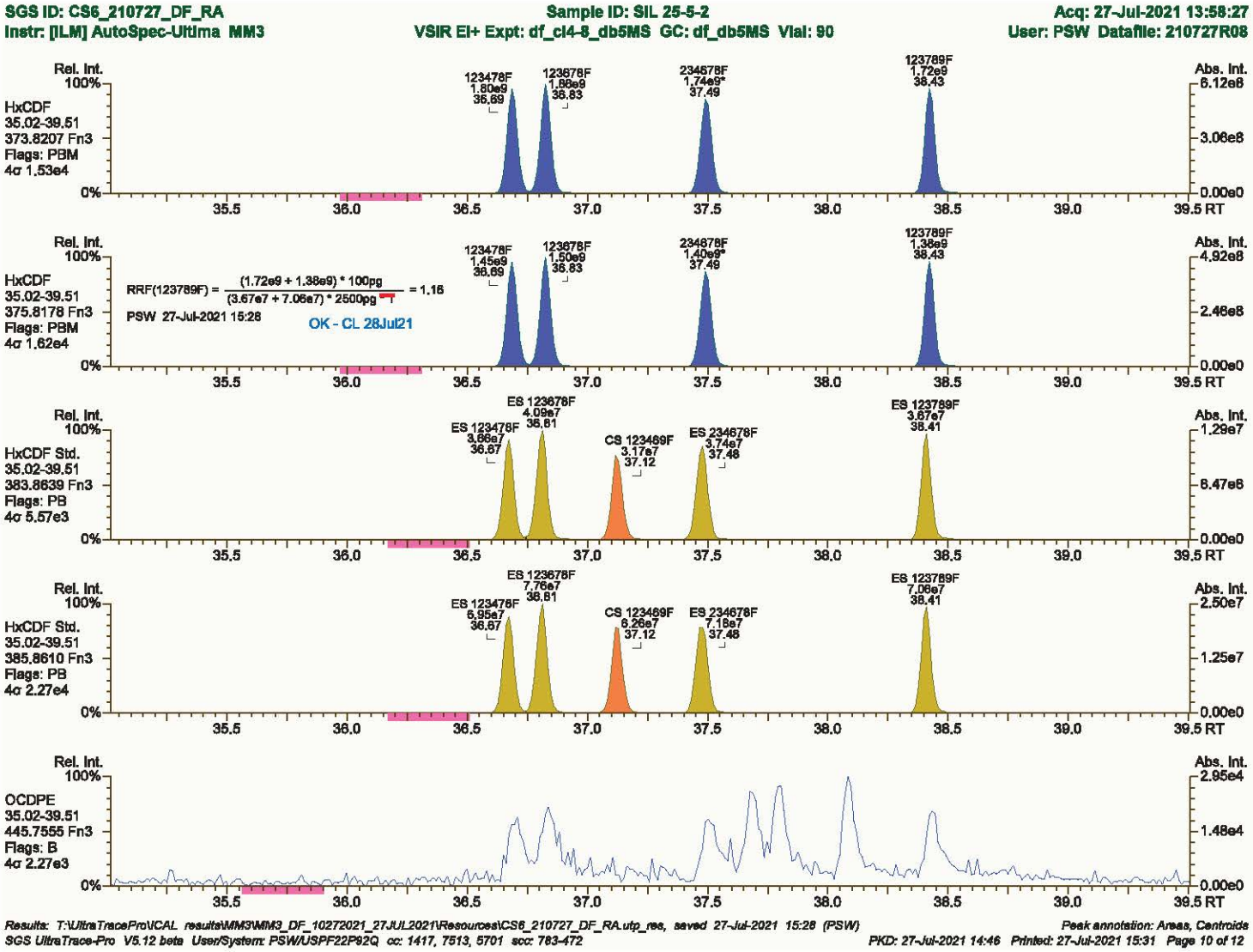
Acq: 27-Jul-2021 13:58:27
User: PSW Datafile: 210727R08

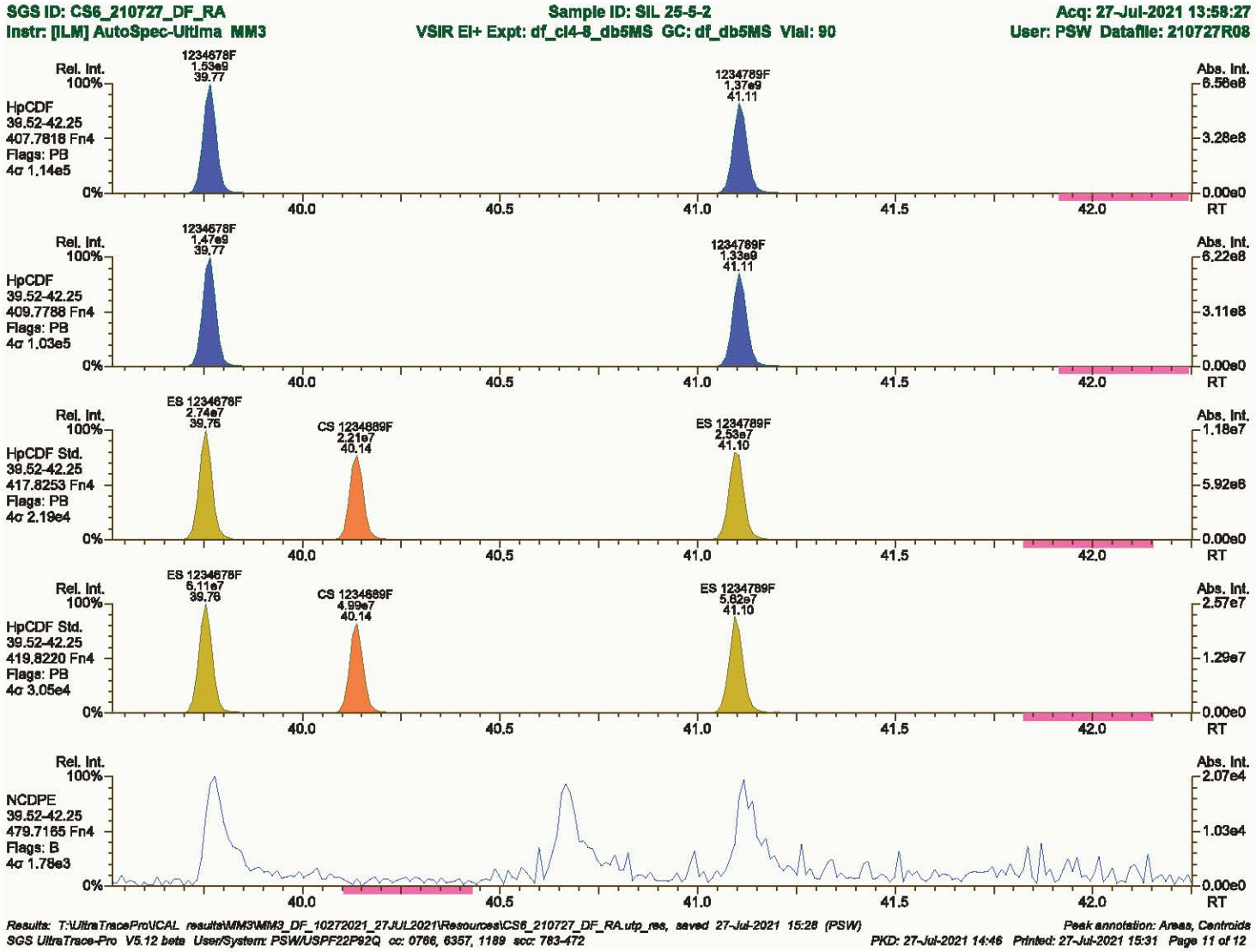


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3526 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 8 of 12

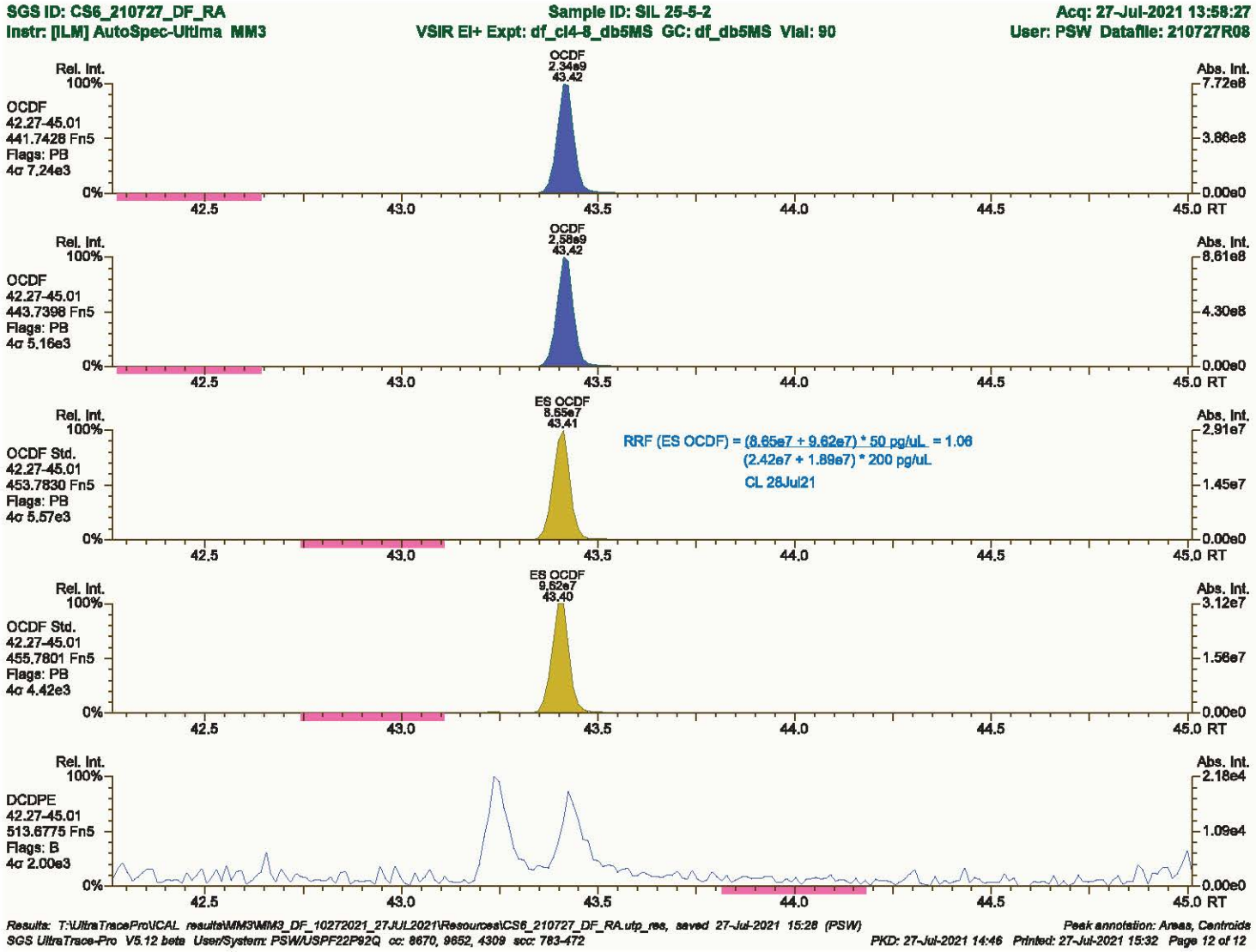


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5183, 3073, 9003 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.53e4
123478F 1.80e9 36.69
123678F 1.89e9 36.83
234678F 1.74e9* 37.49
123789F 1.72e9 38.43
6.12e8
3.06e8
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 1.62e4
RRF(123789F) = (1.72e9 + 1.38e9) * 100pg / (3.67e7 + 7.06e7) * 2500pg = 1.16
PSW 27-Jul-2021 15:28
OK - CL 28Jul21
123478F 1.45e9 36.69
123678F 1.50e9 36.83
234678F 1.40e9* 37.49
123789F 1.38e9 38.43
4.92e8
2.46e8
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.57e3
ES 123478F 3.66e7 36.67
ES 123678F 4.09e7 36.81
CS 123489F 3.17e7 37.12
ES 234678F 3.74e7 37.48
ES 123789F 3.67e7 38.41
1.29e7
6.47e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.27e4
ES 123478F 6.95e7 36.67
ES 123678F 7.76e7 36.81
CS 123489F 6.26e7 37.12
ES 234678F 7.18e7 37.48
ES 123789F 7.06e7 38.41
2.50e7
1.25e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.27e3
2.95e4
1.48e4
0.00e0
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

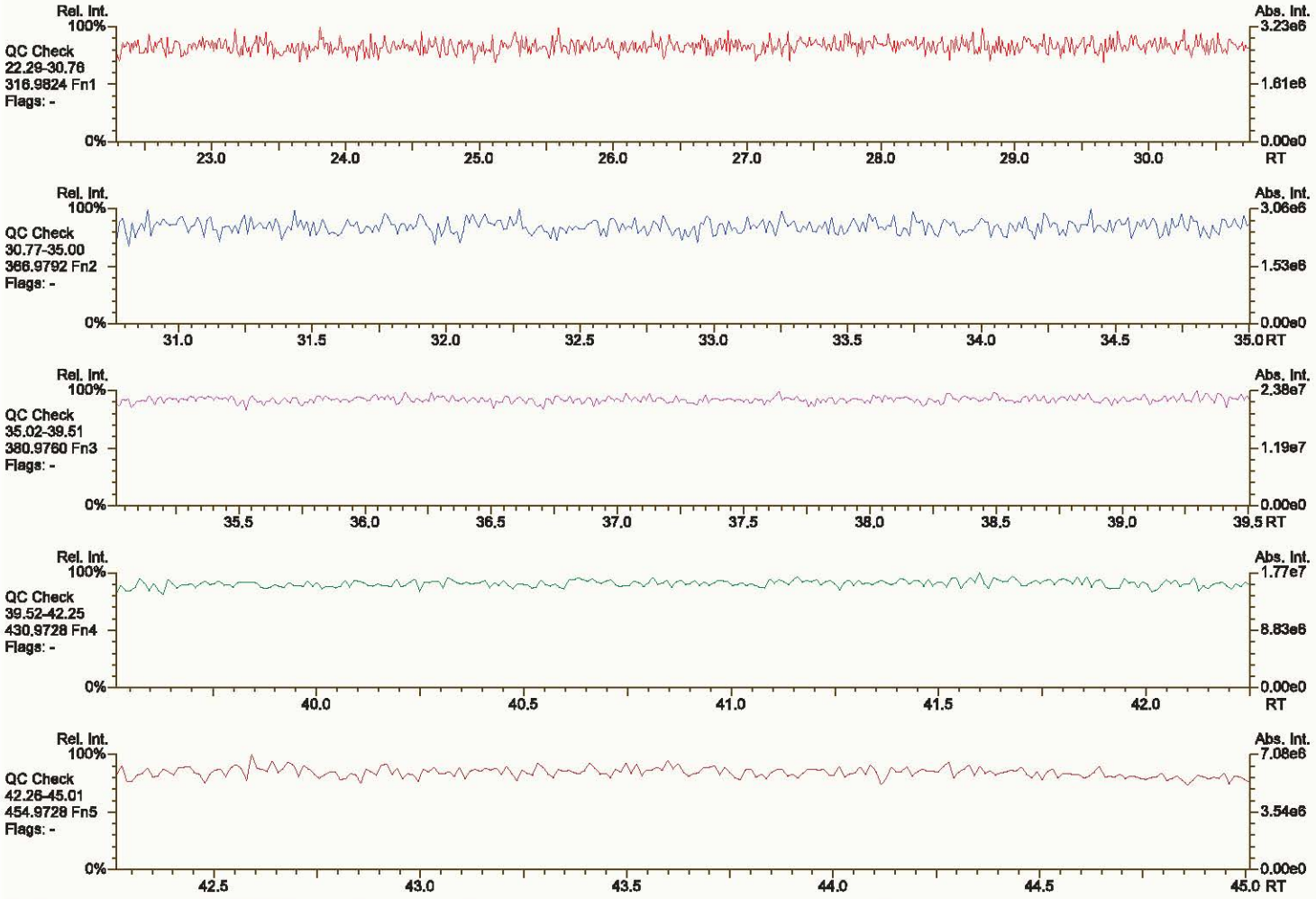


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0766, 6357, 1189 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
OCDF
2.34e9
43.42
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
7.72e8
3.86e8
0.00e0
OCDF
2.58e9
43.42
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
8.61e8
4.30e8
ES OCDF
8.65e7
43.41
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
2.91e7
1.45e7
ES OCDF
9.62e7
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
3.12e7
1.56e7
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
2.18e4
1.09e4
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8670, 9652, 4309 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:32 Page 12 of 12

SGS ID: SBS_210727_DF_RA | Sample ID: SIL 20-61-1 | Acq: 27-Jul-2021 08:17:39

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 210727R01



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 636-037

PKD: n/a Printed: 27-Jul-2021 15:29 Page 1 of 12

SGS ID: SBS_210727_DF_RA | Sample ID: SIL 20-61-1 | Acq: 27-Jul-2021 08:17:39

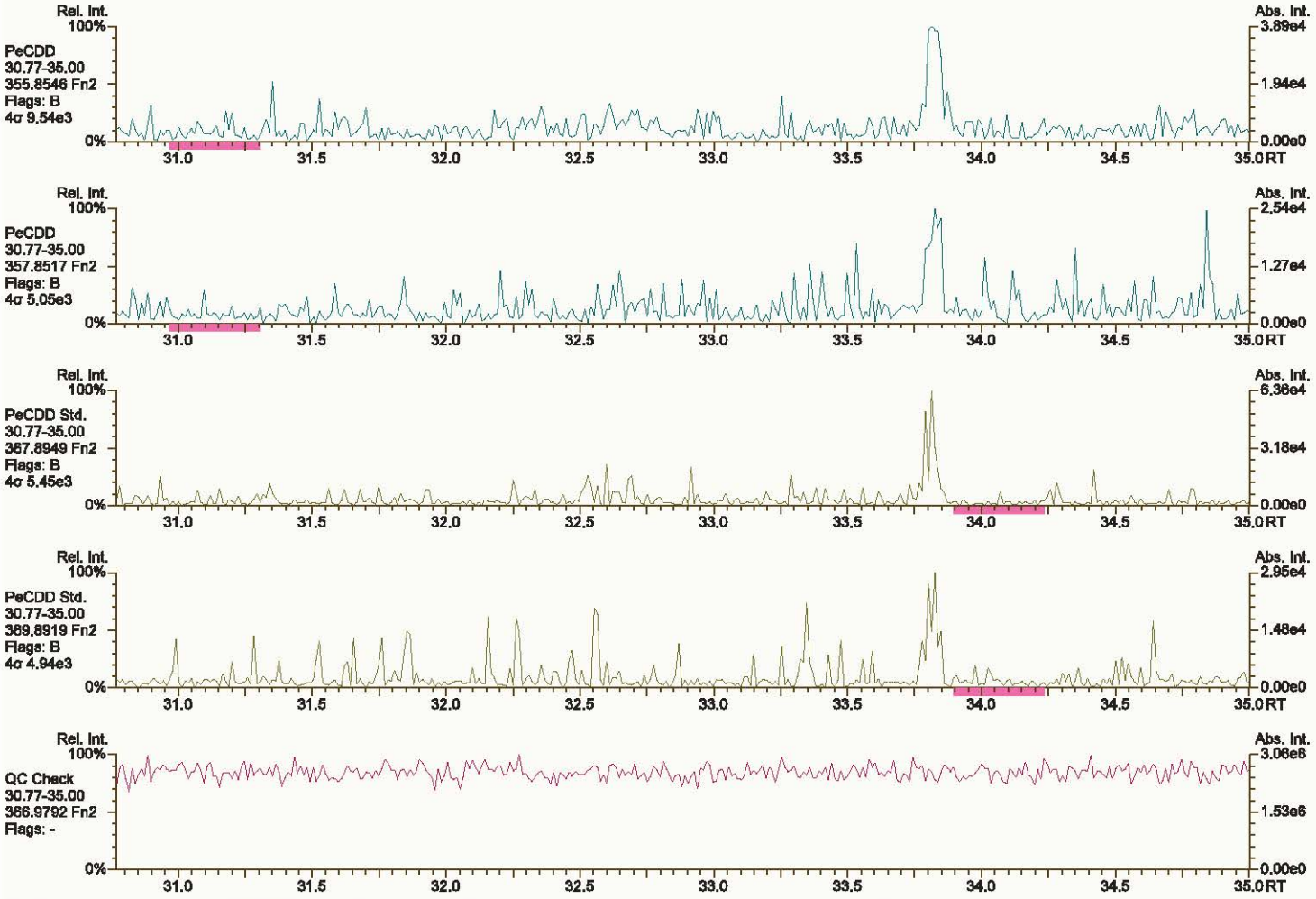
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 210727R01



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9391, 6236, 6585 scc: 636-037 *PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:29 Page 2 of 12*

SGS ID: SBS_210727_DF_RA | Sample ID: SIL 20-61-1 | Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 210727R01

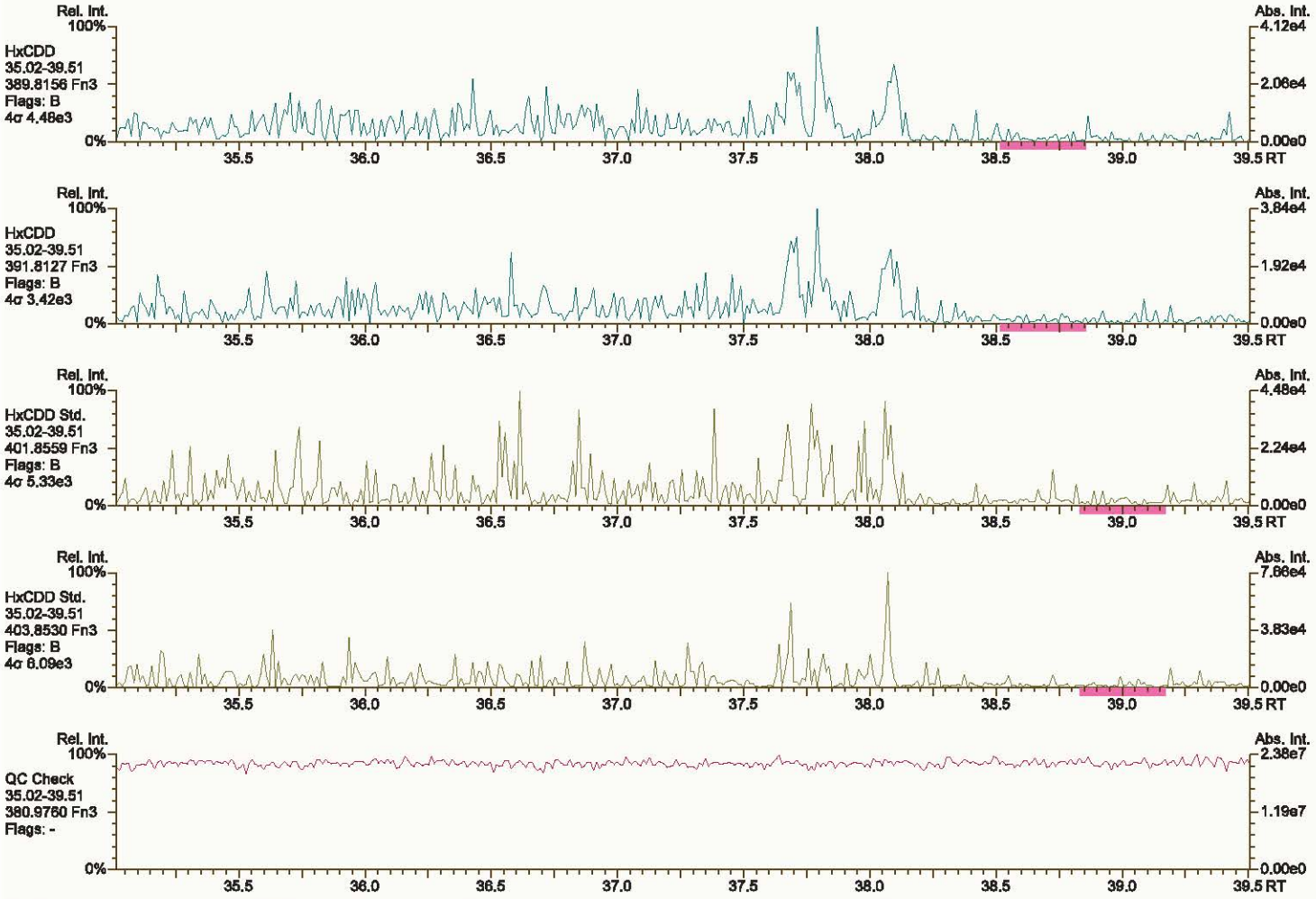


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3030, 1130 scc: 636-037 *PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:29 Page 3 of 12*

SGS ID: SBS_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 27-Jul-2021 08:17:39
User: PSW Datafile: 210727R01



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 9897, 1490 scc: 636-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:29 Page 4 of 12

SGS ID: SBS_210727_DF_RA | Sample ID: SIL 20-61-1 | Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 210727R01

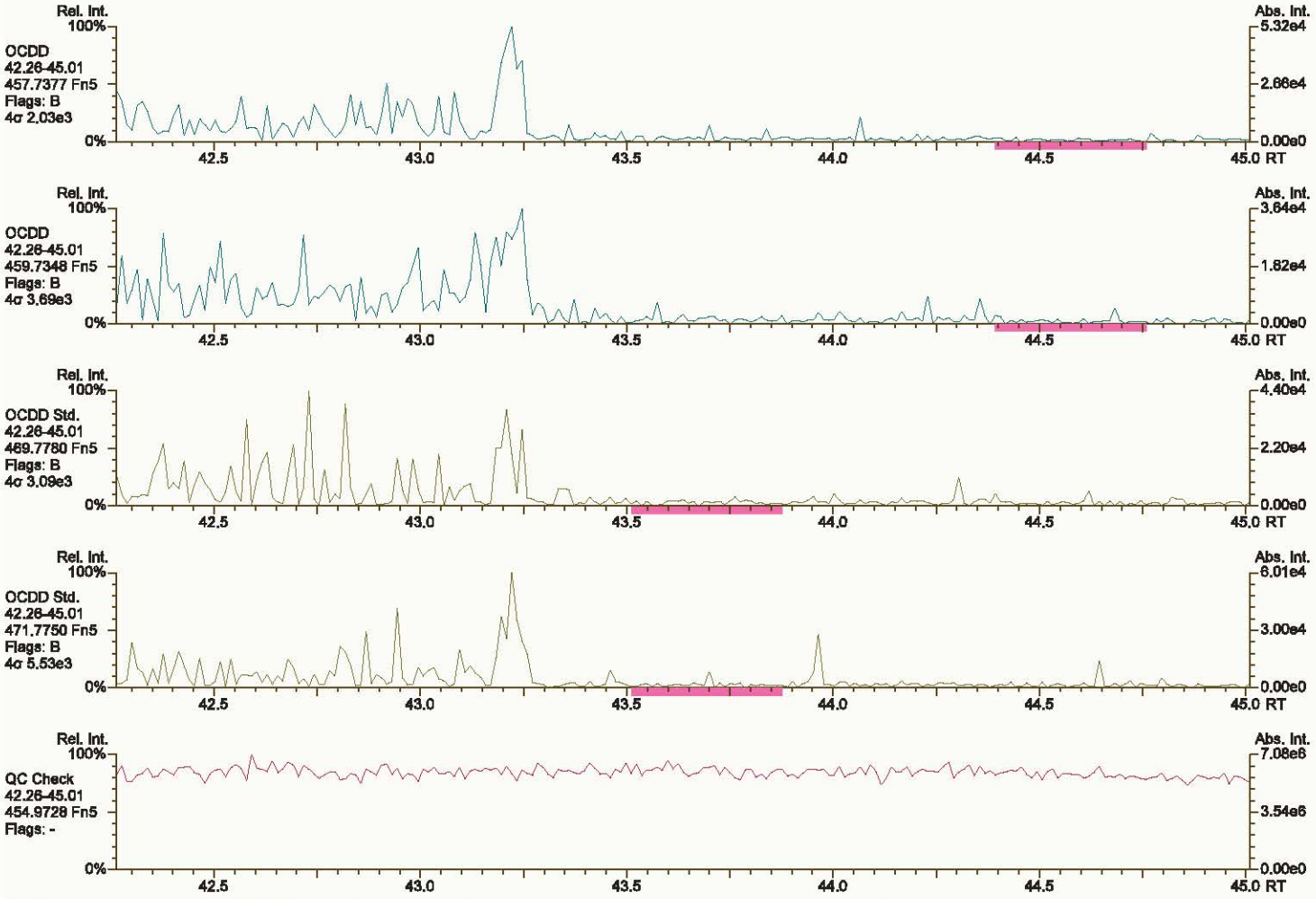


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 5736, 4168 scc: 636-037 *PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:29 Page 5 of 12*

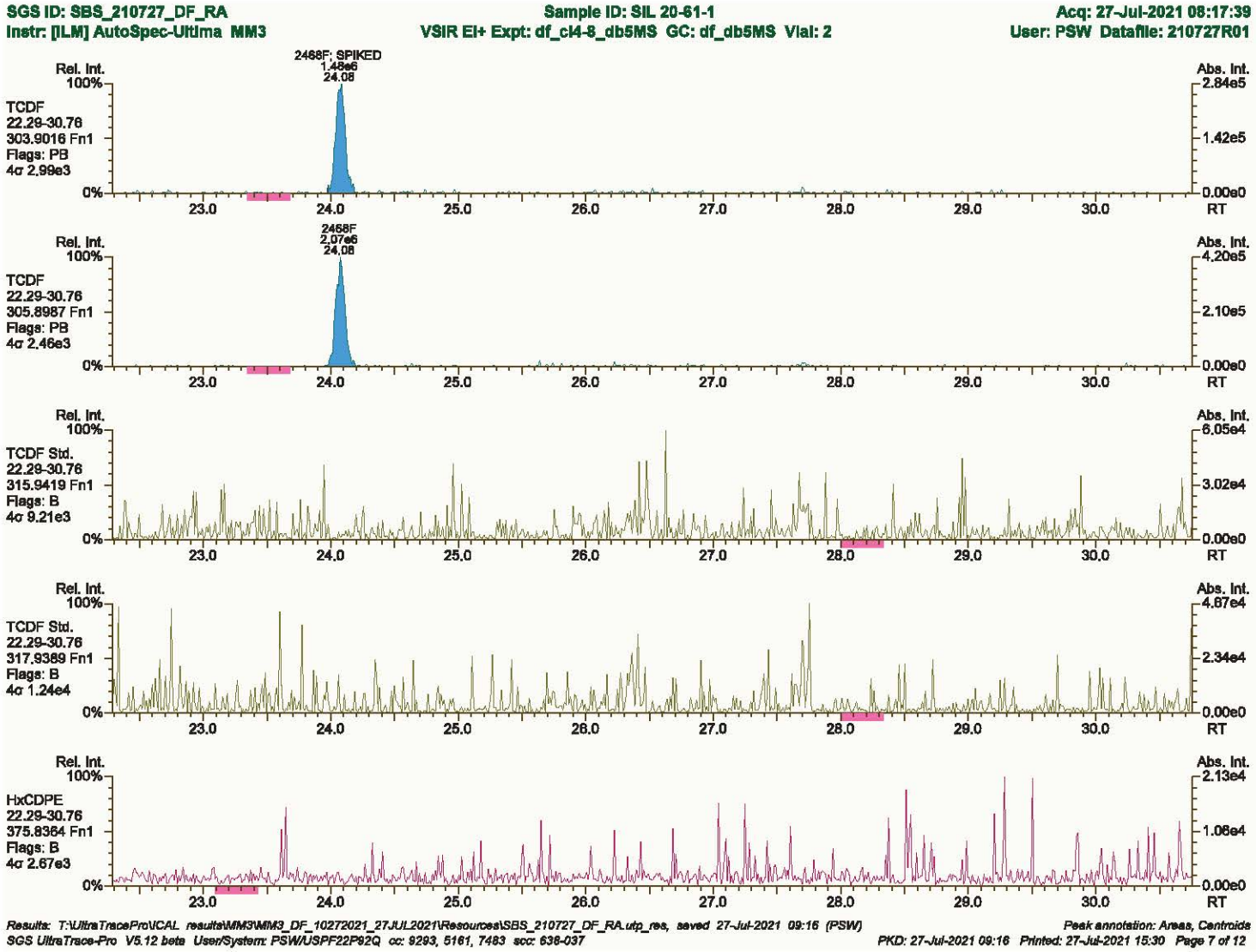
SGS ID: SBS_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 27-Jul-2021 08:17:39
User: PSW Datafile: 210727R01



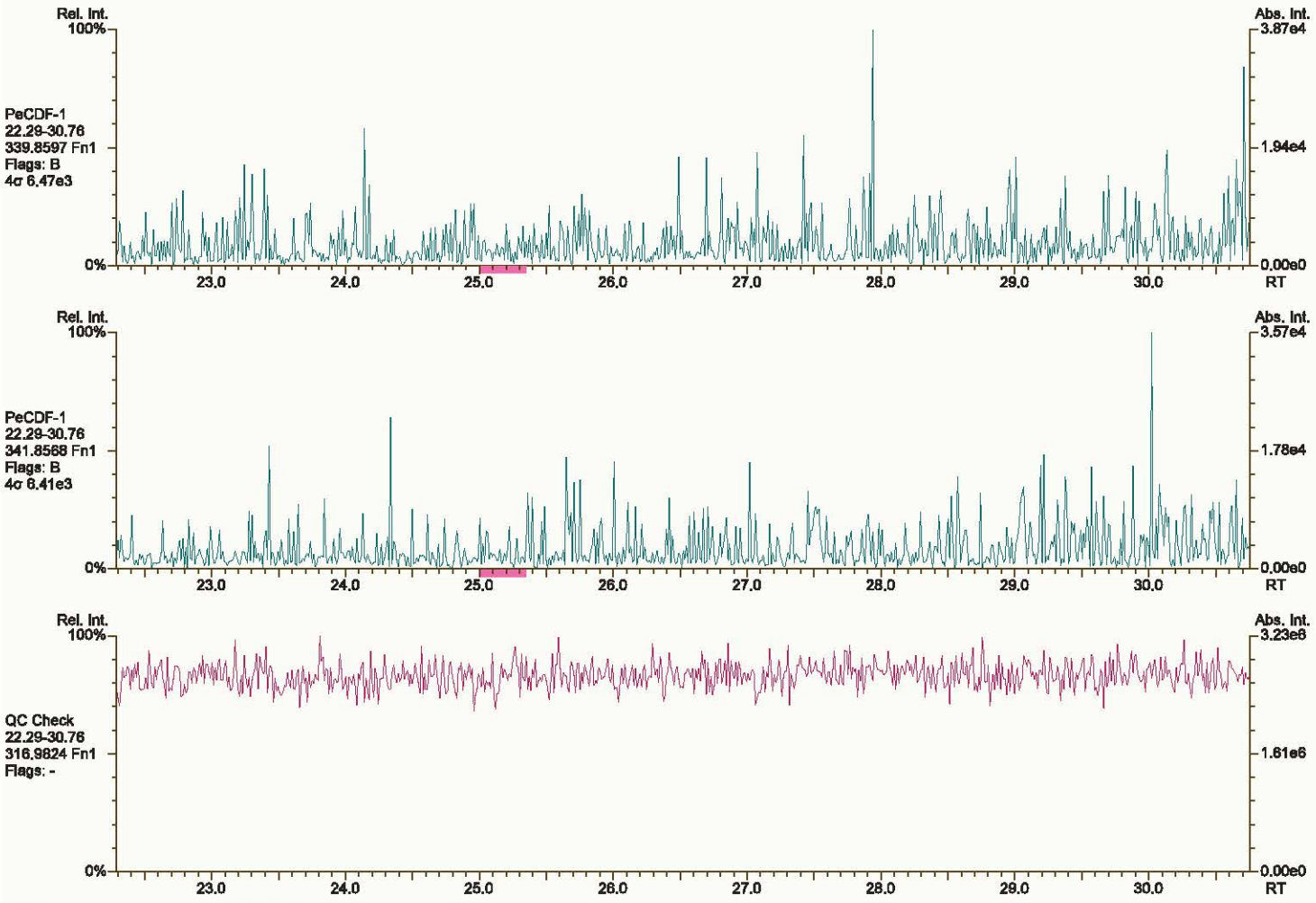
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 5349, 7327 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 6 of 12


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
2468F: SPIKED
1.48e6
24.08
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.99e3
2.84e5
1.42e5
0.00e0
2468F
2.07e6
24.08
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.46e3
4.20e5
2.10e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: B
4σ 9.21e3
6.05e4
3.02e4
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: B
4σ 1.24e4
4.67e4
2.34e4
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.67e3
2.13e4
1.06e4
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

SGS ID: SBS_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 27-Jul-2021 08:17:39
User: PSW Datafile: 210727R01

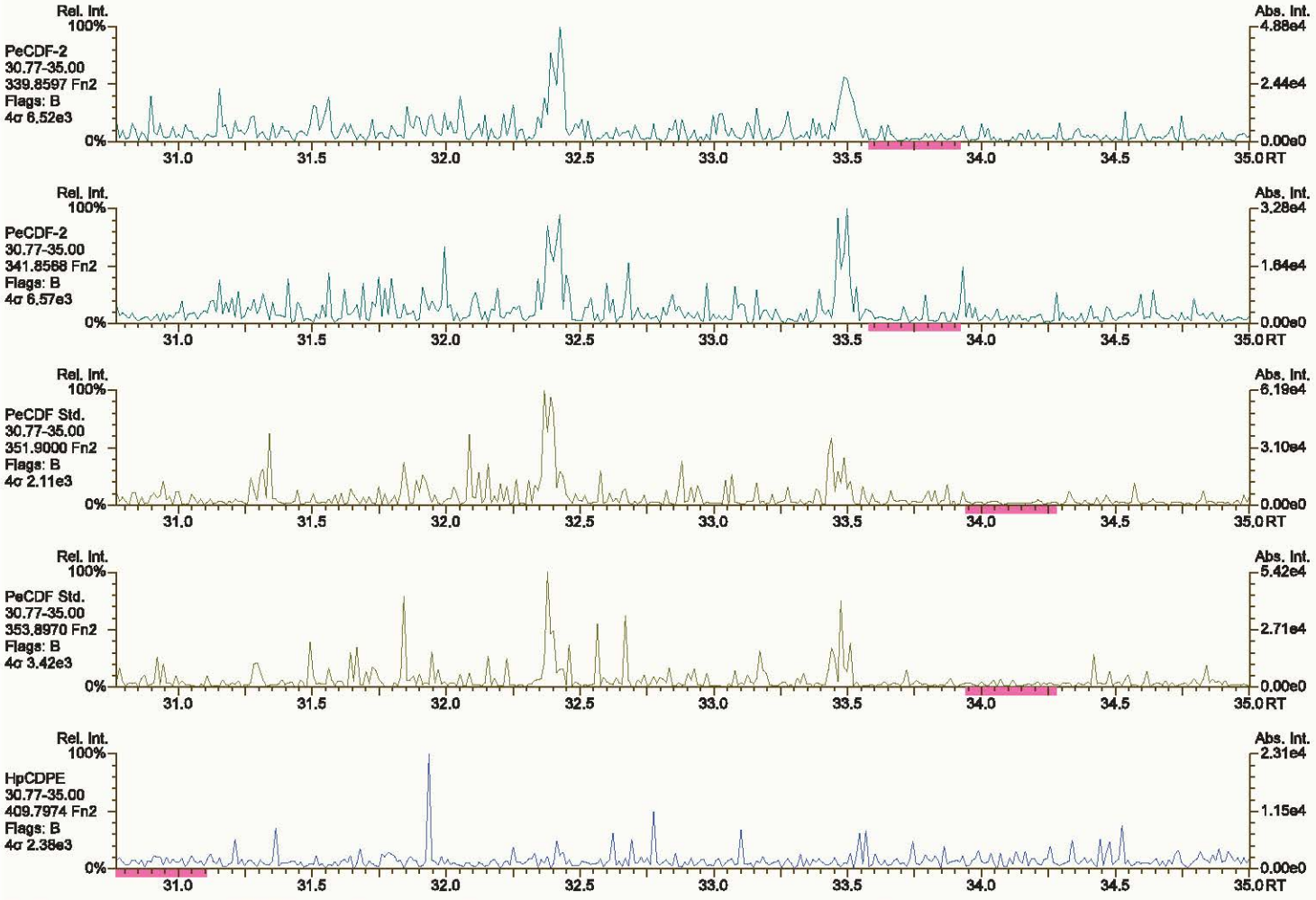


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1160 scc: 636-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 8 of 12

SGS ID: SBS_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 27-Jul-2021 08:17:39
User: PSW Datafile: 210727R01

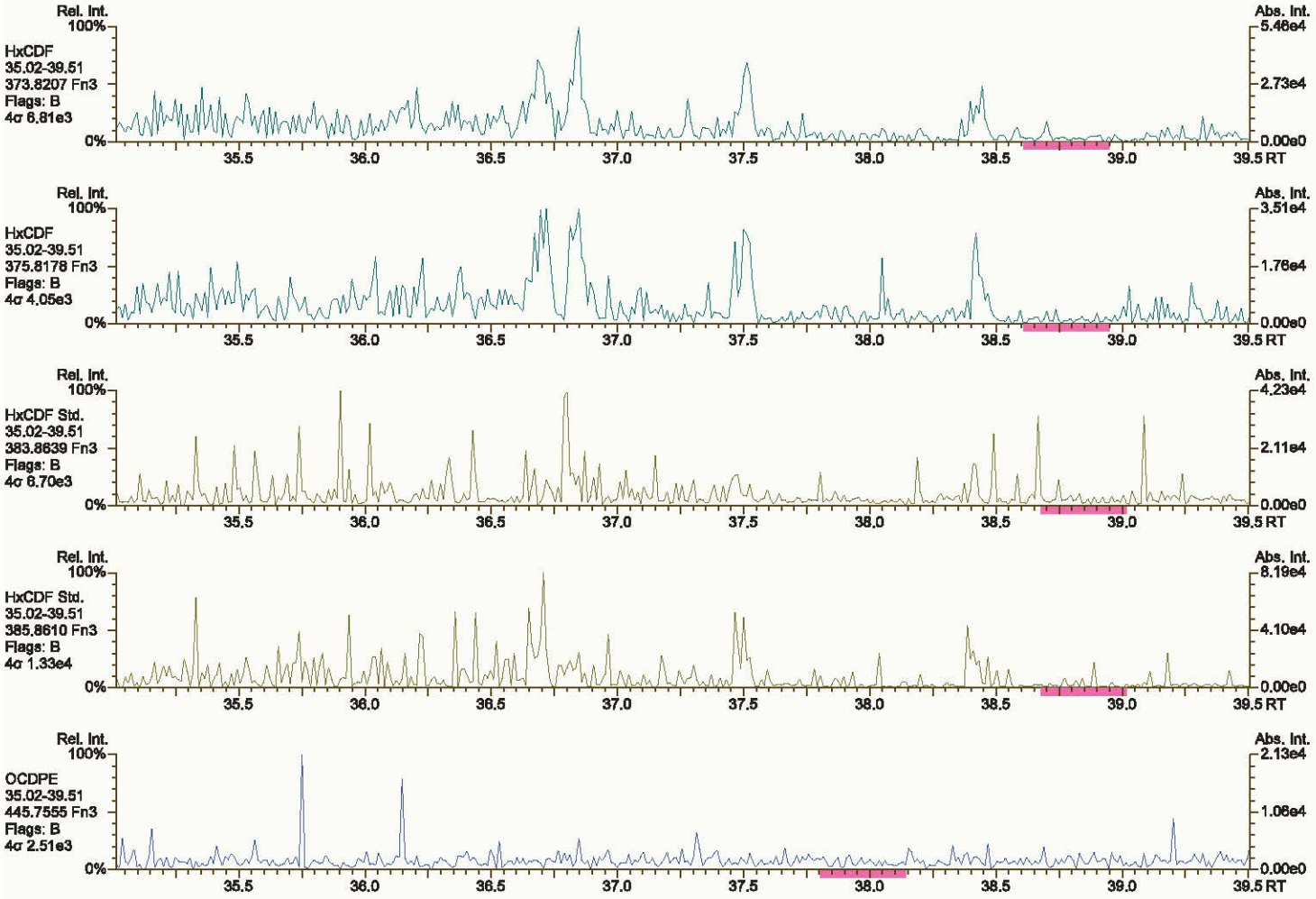


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9180, 6544, 0111 scc: 636-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 9 of 12

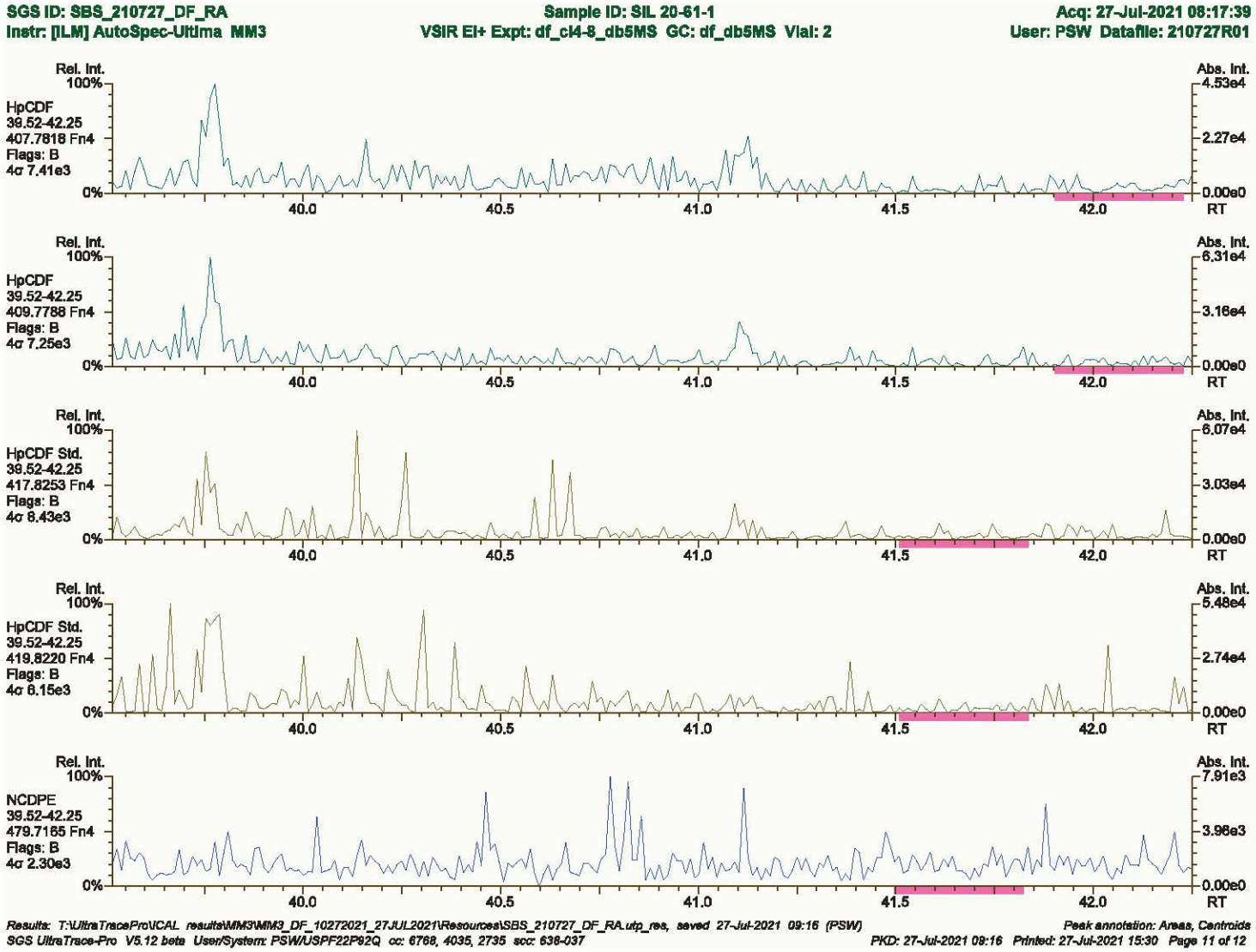
SGS ID: SBS_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

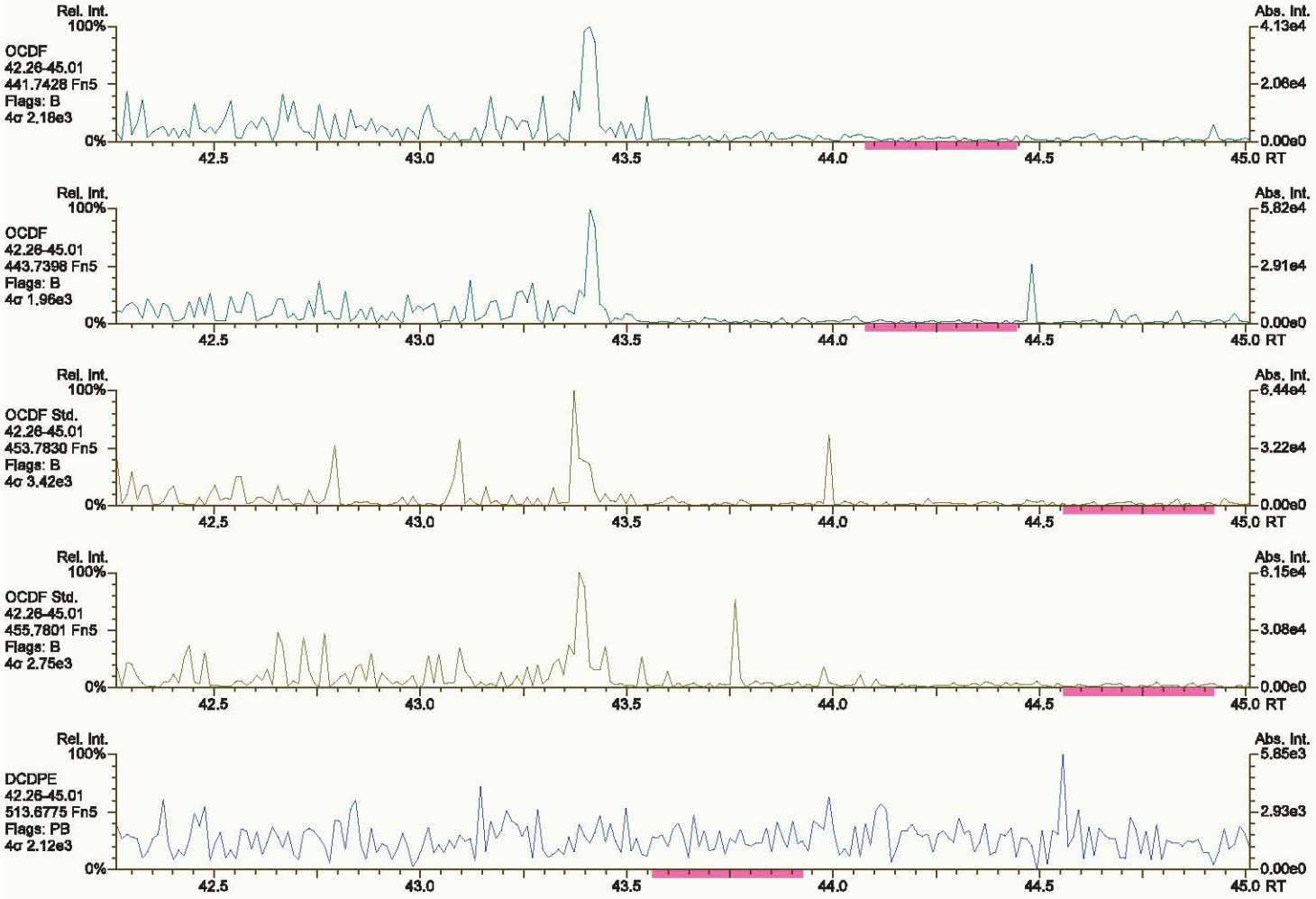
Acq: 27-Jul-2021 08:17:39
User: PSW Datafile: 210727R01



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: B
4σ 7.41e3
4.53e4
2.27e4
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: B
4σ 7.25e3
6.31e4
3.16e4
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: B
4σ 8.43e3
6.07e4
3.03e4
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: B
4σ 6.15e3
5.48e4
2.74e4
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.30e3
7.91e3
3.96e3
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6768, 4035, 2735 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 11 of 12

SGS ID: SBS_210727_DF_RA | Sample ID: SIL 20-61-1 | Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 210727R01



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6472, 3646, 2144 scc: 638-037 *PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 12 of 12*

SGS Environmental Services — Run Log **Project: 072721_mm3**

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	210727R15	3	CS3_210727_DF_RB ✓	1.00	SIL 23-672-1	PSW	320-816	27-Jul-2021	19:43:55
16	210727R16	92	CS3_210727_DF_RC	1.00	ICV SIL 24-11-9 ✓	PSW	537-883	27-Jul-2021	20:31:28

REVIEWED
paul_walton , 7/28/2021, 8:29:53 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:21 PM

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 19:43 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RB		UTP: 28-Jul-2021 08:16:58 PSW				Checkcode: 320-816-PRY	
Sample ID: SIL 23-672-1		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R15	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	1.67E+07	0.81	Y	1.34	1.35	0%
12378-PeCDD	33.81	6.38E+07	1.58	Y	1.06	1.06	0%
123478-HxCDD	37.68	5.49E+07	1.25	Y	1.06	1.06	1%
123678-HxCDD	37.79	5.63E+07	1.26	Y	1.08	1.10	2%
123789-HxCDD	38.08	5.86E+07	1.24	Y	1.02	1.00	-2%
1234678-HpCDD	40.66	4.96E+07	1.04	Y	0.97	0.98	0%
OCDD	43.23	8.27E+07	0.89	Y	1.07	1.07	0%
2378-TCDF	27.67	2.12E+07	0.80	Y	0.96	0.97	1%
12378-PeCDF	32.38	8.71E+07	1.57	Y	0.95	0.97	2%
23478-PeCDF	33.47	7.79E+07	1.46	Y	0.94	0.92	-2%
123478-HxCDF	36.69	7.88E+07	1.25	Y	1.23	1.25	2%
123678-HxCDF	36.83	8.26E+07	1.26	Y	1.13	1.13	0%
234678-HxCDF	37.49	7.73E+07	1.25	Y	1.15	1.18	2%
123789-HxCDF	38.43	6.95E+07	1.26	Y	1.14	1.13	0%
1234678-HpCDF	39.77	7.02E+07	1.03	Y	1.36	1.34	-2%
1234789-HpCDF	41.11	5.97E+07	1.05	Y	1.30	1.36	5%
OCDF	43.41	9.92E+07	0.91	Y	1.03	1.06	3%
ES 2378-TCDD	28.50	1.24E+08	0.80	Y	1.03	1.03	-1%
ES 12378-PeCDD	33.788	1.20E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.661	1.03E+08	1.29	Y	0.99	0.98	-1%
ES 123678-HxCDD	37.775	1.02E+08	1.32	Y	0.97	0.97	0%
ES 123789-HxCDD	38.065	1.17E+08	1.31	Y	1.12	1.12	-1%
ES 1234678-HpCDD	40.653	1.01E+08	1.07	Y	0.99	0.96	-3%
ES OCDD	43.218	1.54E+08	0.91	Y	0.78	0.73	-6%
ES 2378-TCDF	27.65	2.18E+08	0.77	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.362	1.80E+08	1.58	Y	0.93	0.89	-5%
ES 23478-PeCDF	33.452	1.68E+08	1.62	Y	0.92	0.83	-10%
ES 123478-HxCDF	36.669	1.26E+08	0.54	Y	1.14	1.19	4%
ES 123678-HxCDF	36.809	1.47E+08	0.50	Y	1.30	1.39	7%
ES 234678-HxCDF	37.476	1.31E+08	0.52	Y	1.20	1.25	4%
ES 123789-HxCDF	38.411	1.23E+08	0.52	Y	1.14	1.17	3%
ES 1234678-HpCDF	39.758	1.05E+08	0.47	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.102	8.75E+07	0.45	Y	0.85	0.83	-2%
ES OCDF	43.399	1.88E+08	0.89	Y	0.93	0.89	-4%

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 19:43 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RB		UTP: 28-Jul-2021 08:16:58 PSW				Checkcode: 320-816-PRY	
Sample ID: SIL 23-672-1		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R15	
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.21E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.33	2.03E+08	0.78	Y	-	-	-
JS 123467-HxCDD	37.97	5.27E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.31	1.28	-2%
CS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.89	0.87	-3%
CS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.22E+08	0.52	Y	1.09	1.16	7%
CS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.86	0.90	4%
SS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.86	0.87	1%
SS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.22E+08	0.52	Y	0.84	0.83	-1%
SS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.91	0.90	-1%
~~OCDD-a~~	~~43.22~~	~~4.70E+06~~	~~2.62~~	~~Y~~	~~0.87~~	~~0.86~~	~~-8%~~
~~OCDF-a~~	~~43.41~~	~~5.40E+06~~	~~2.31~~	~~Y~~	~~0.86~~	~~0.86~~	~~-3%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10	8 - 12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.1	40 - 60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	40 - 60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	40 - 60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	40 - 60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	40 - 60	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	100	80 - 120	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.1	8 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	40 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32 - 1.78	Y	49.2	40 - 60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	40 - 60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	40 - 60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51.1	40 - 60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	40 - 60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	40 - 60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52.4	40 - 60	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	103	80 - 120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	99.2	70 - 130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32 - 1.78	Y	96.1	70 - 130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	98.7	70 - 130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	99.8	70 - 130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	99.2	70 - 130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	97.1	70 - 130	Y
13C-OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	188	140 - 260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	98.9	70 - 130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	94.8	70 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	89.9	70 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	104	70 - 130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43 - 0.59	Y	107	70 - 130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	104	70 - 130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	103	70 - 130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	105	70 - 130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	98.1	70 - 130	Y
13C-OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	193	140 - 260	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				9.78	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32 - 1.78	Y	97	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	99.1	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	107	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	104	70 - 130	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32 - 1.78	Y	49.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52.4	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

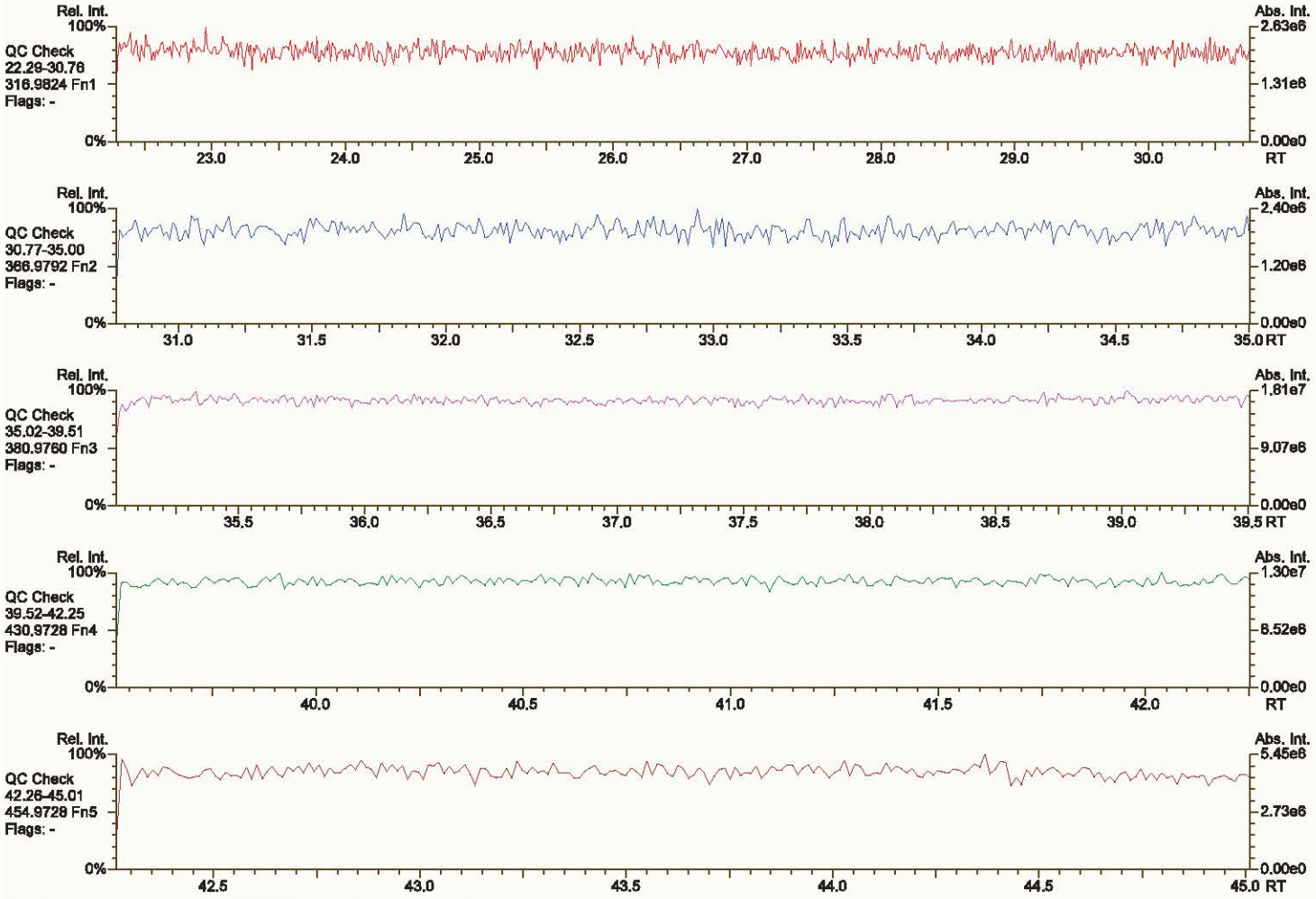
VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	99.2	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32 - 1.78	Y	96.1	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	98.7	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	99.8	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	99.2	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	97.1	72 - 138	Y
13C-OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	188	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	98.9	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	94.8	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	89.9	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	104	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43 - 0.59	Y	107	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	104	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	103	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	105	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	98.1	77 - 129	Y
13C-OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	193	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				9.78	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32 - 1.78	Y	97	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	99.1	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	107	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	104	70 - 130	Y

Processed: 28 Jul 2021 08:18 Analyst: pw

SGS ID: CS3_210727_DF_RB | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 19:43:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R15

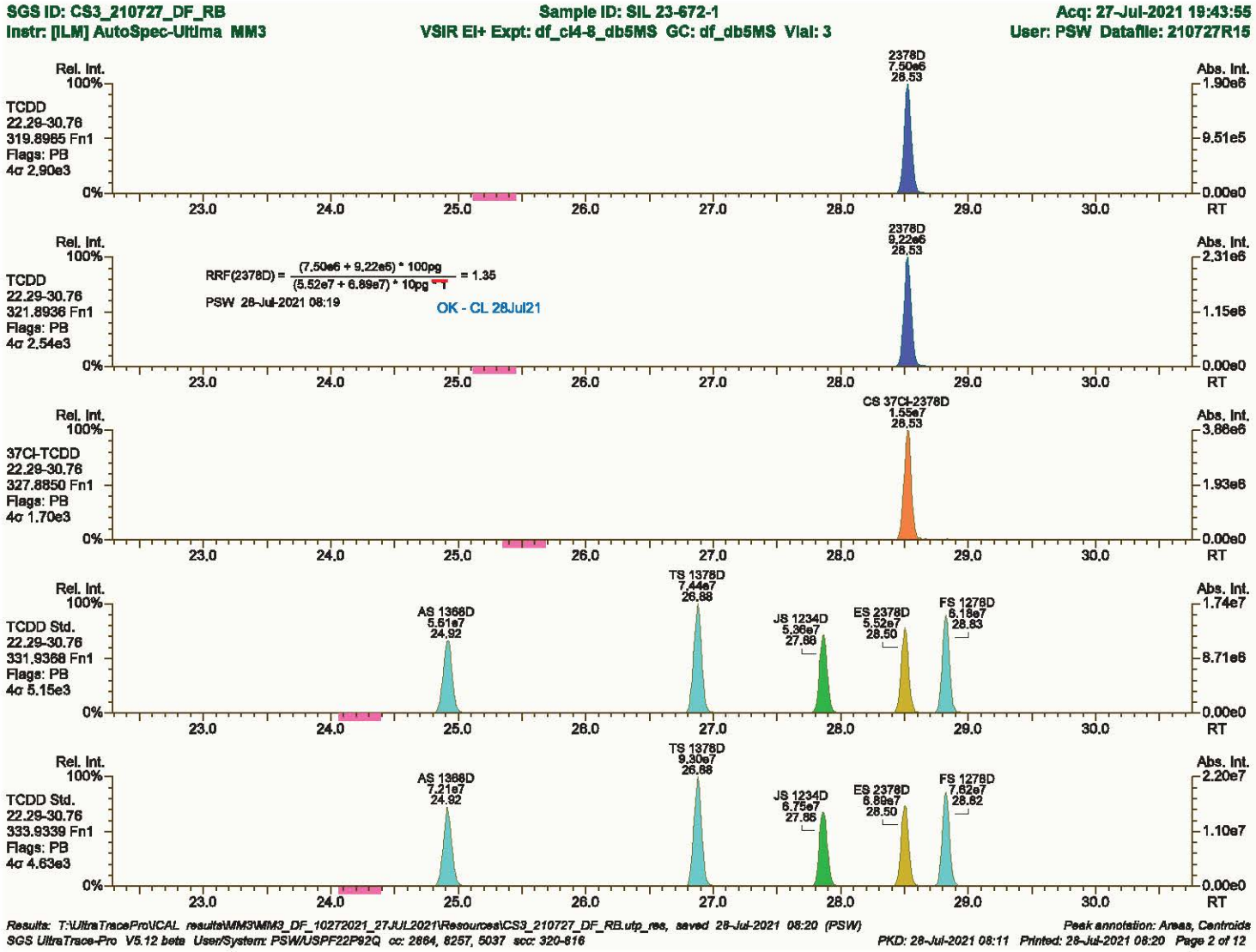


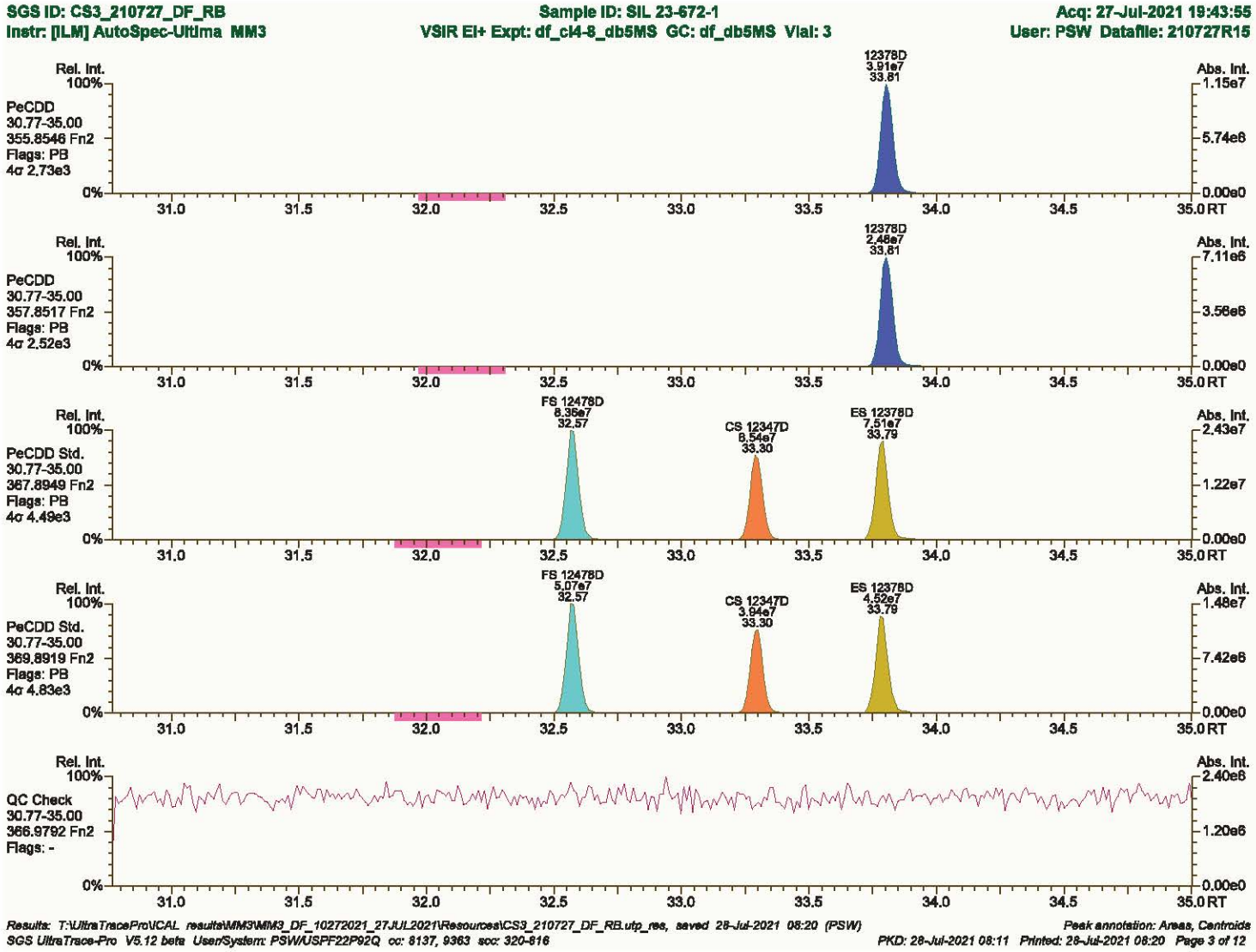
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)

Peak annotation: Areas, Centroids

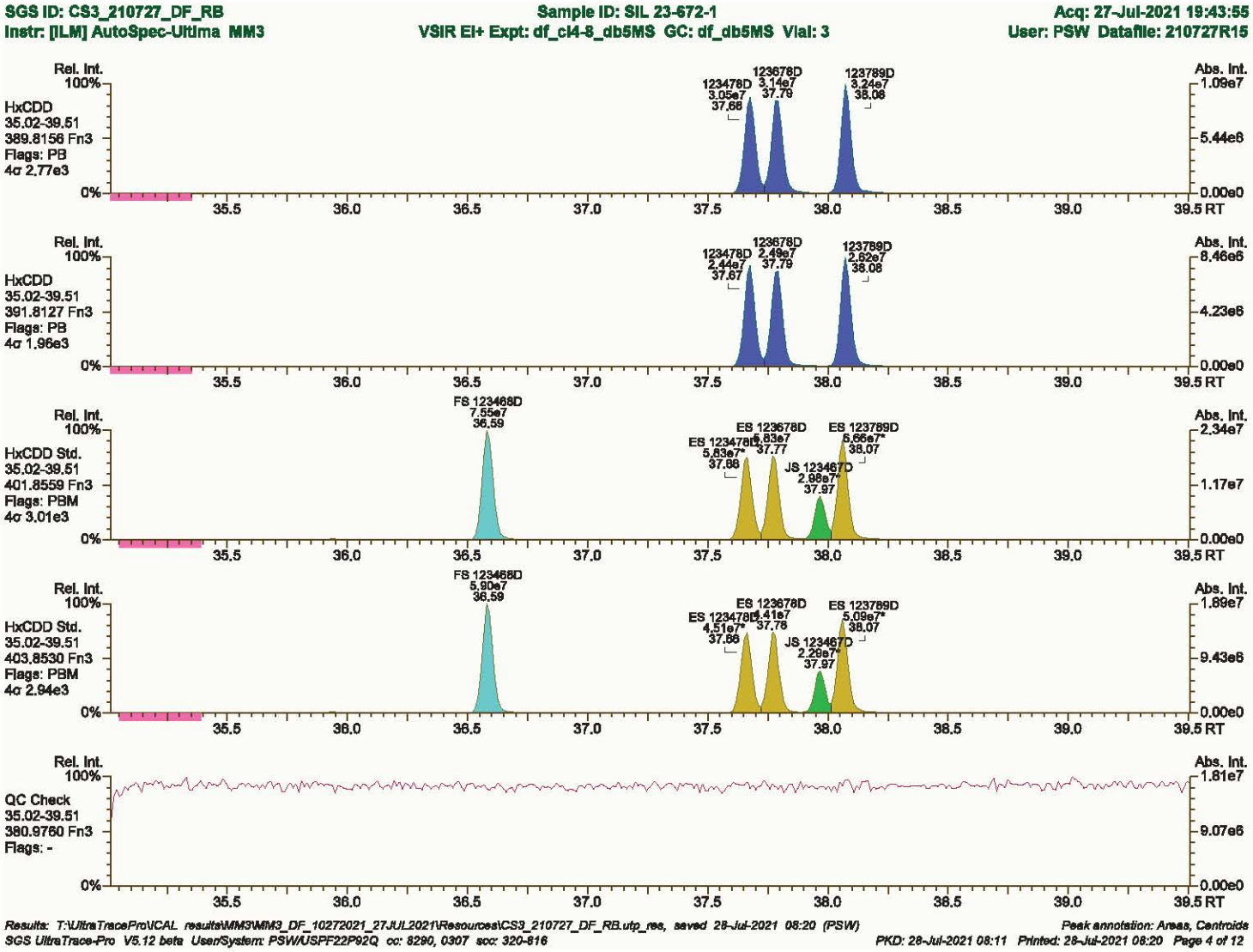
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 320-816

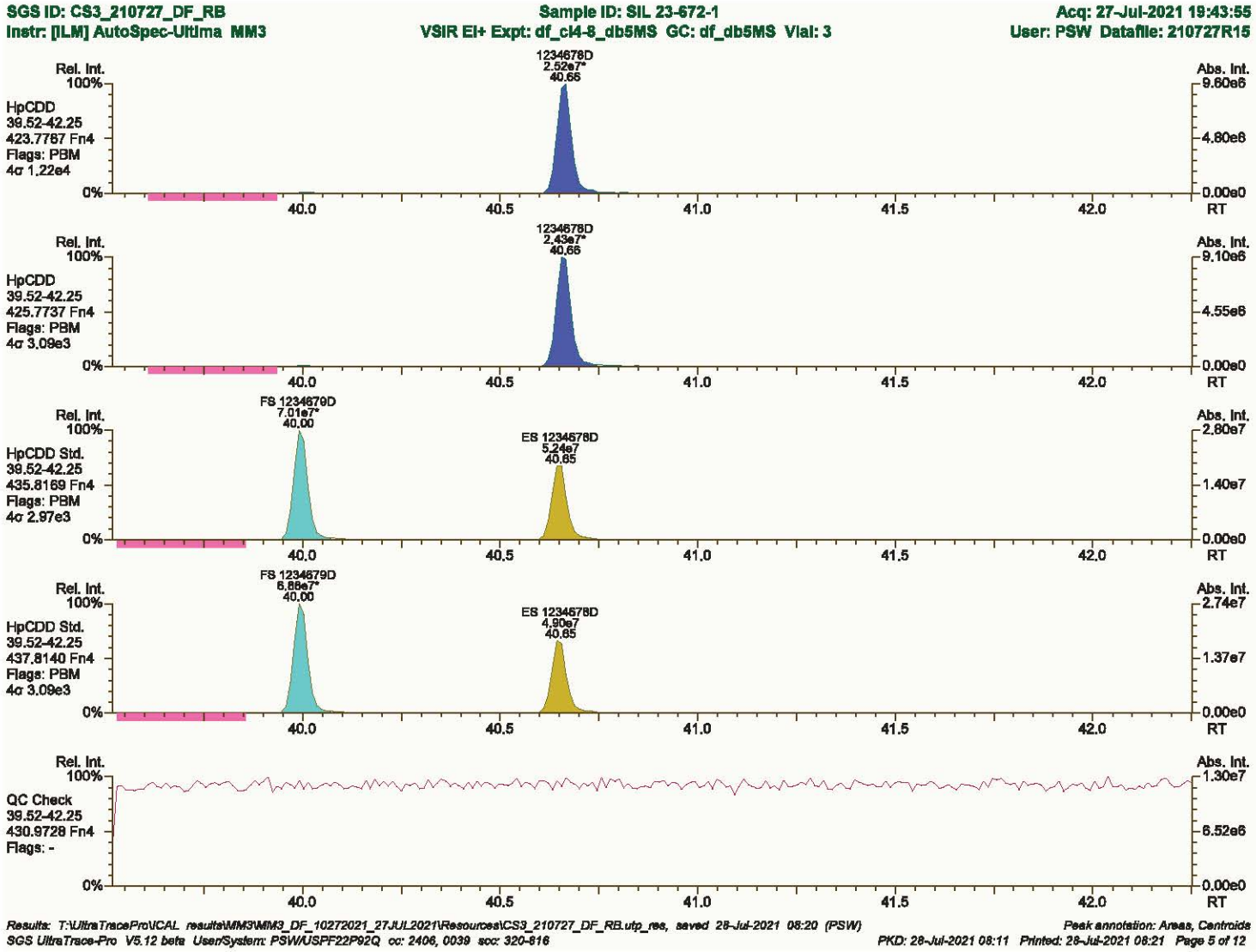
PKD: n/a Printed: 28-Jul-2021 08:20 Page 1 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
2378D
7.50e6
28.53
1.90e6
9.51e5
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
6.75e7
27.86
ES 2378D
6.89e7
28.50
FS 1278D
7.62e7
28.82
2.20e7
1.10e7
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2664, 6257, 5037 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 2 of 12



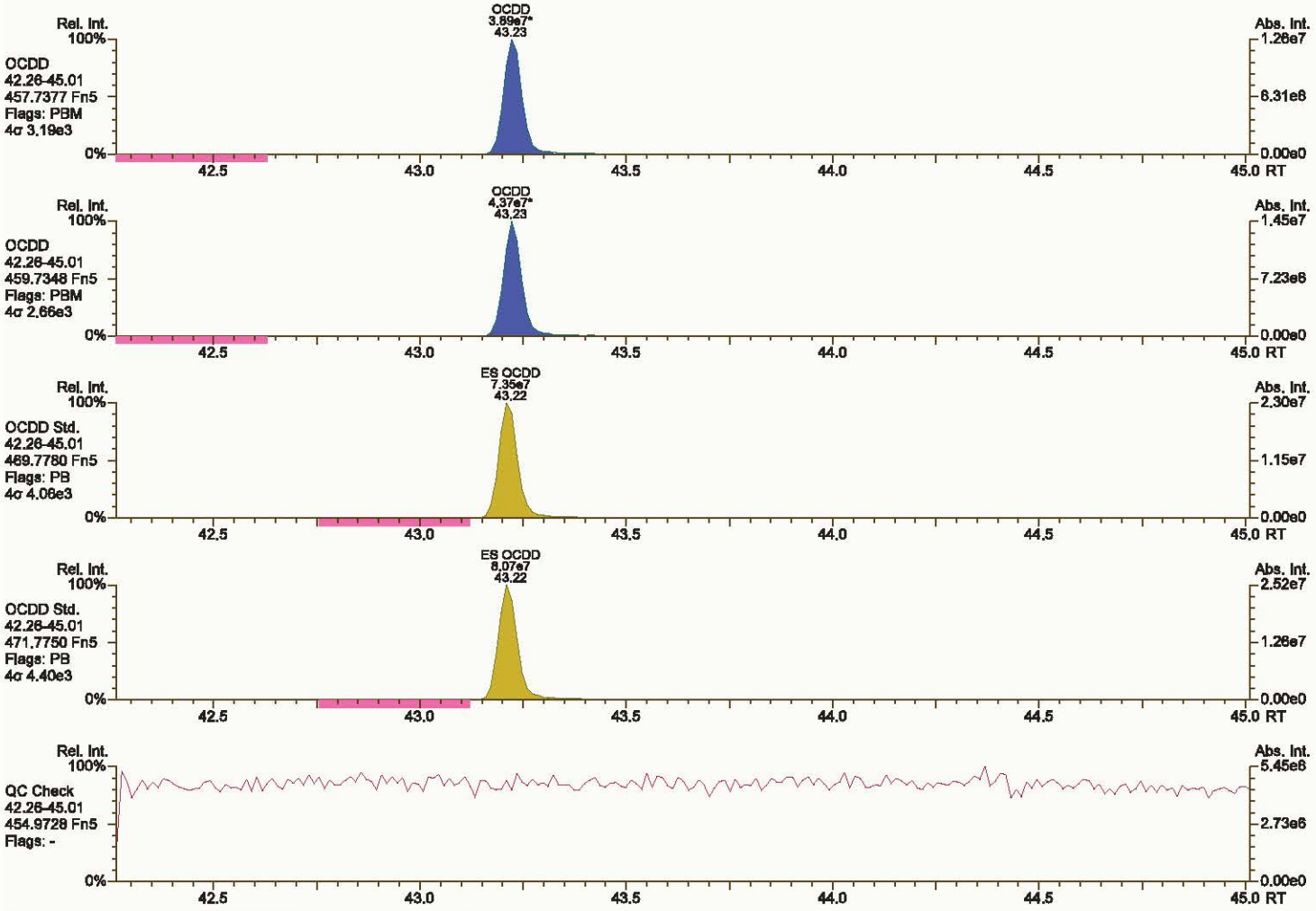
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 8137, 9363 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 3 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.77e3
123478D 3.05e7 37.68
123678D 3.14e7 37.79
123789D 3.24e7 38.08
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.96e3
123478D 2.44e7 37.67
123678D 2.49e7 37.79
123789D 2.62e7 38.08
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.01e3
FS 123468D 7.55e7 36.59
ES 123478D 5.83e7* 37.68
ES 123678D 5.83e7 37.77
JS 123467D 2.98e7* 37.97
ES 123789D 6.66e7* 38.07
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.94e3
FS 123468D 5.90e7 36.59
ES 123478D 4.51e7* 37.68
ES 123678D 4.41e7 37.78
JS 123467D 2.29e7* 37.97
ES 123789D 5.09e7* 38.07
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 8290, 0307 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 4 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 1.22e4
1234678D
2.52e7*
40.65
9.60e6
4.80e6
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 3.09e3
1234678D
2.43e7*
40.65
9.10e6
4.55e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 2.97e3
FS 1234679D
7.01e7*
40.00
ES 1234678D
5.24e7
40.65
2.80e7
1.40e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 3.09e3
FS 1234679D
6.86e7*
40.00
ES 1234678D
4.90e7
40.65
2.74e7
1.37e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.30e7
6.52e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 2406, 0039 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 5 of 12

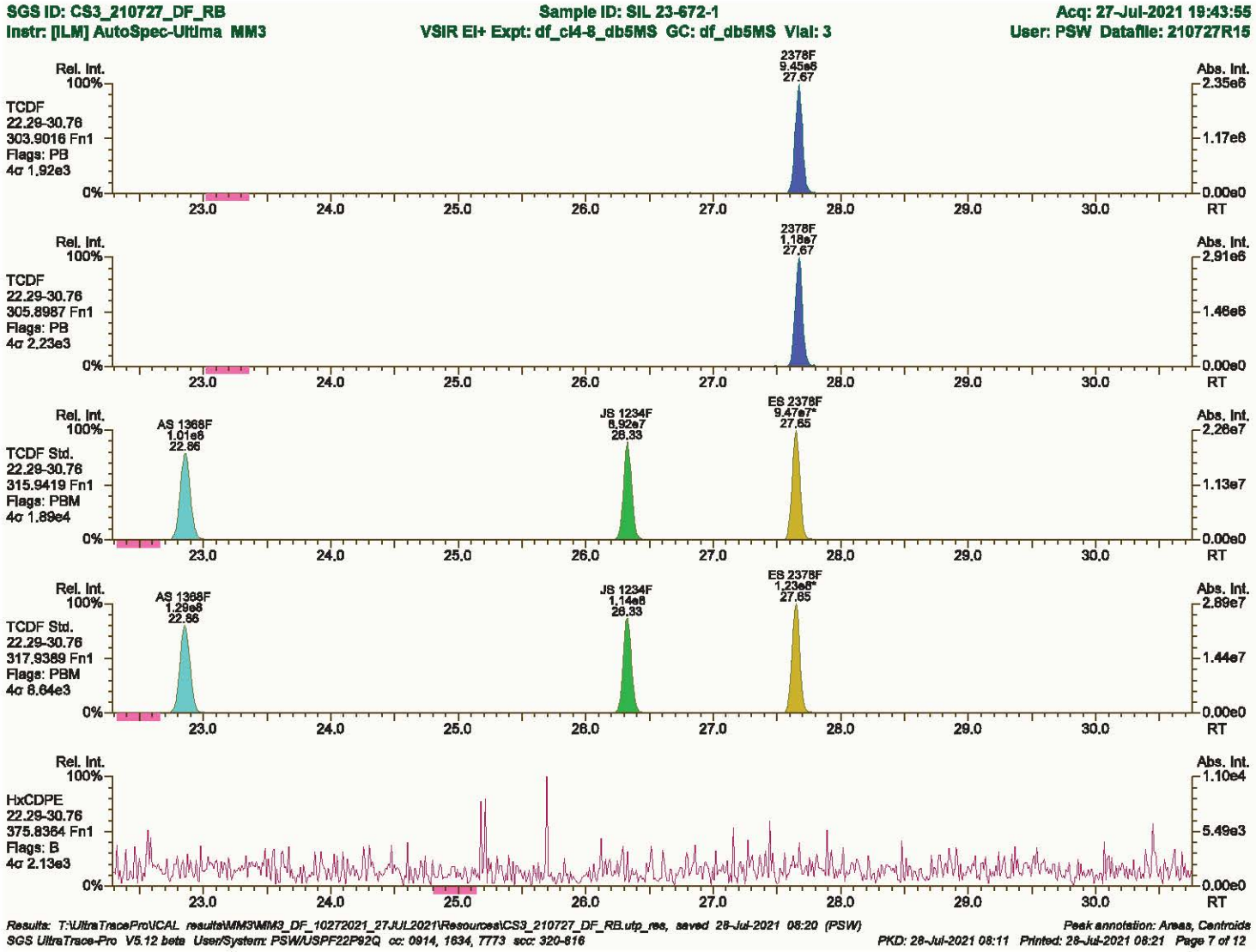
SGS ID: CS3_210727_DF_RB | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 19:43:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R15



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

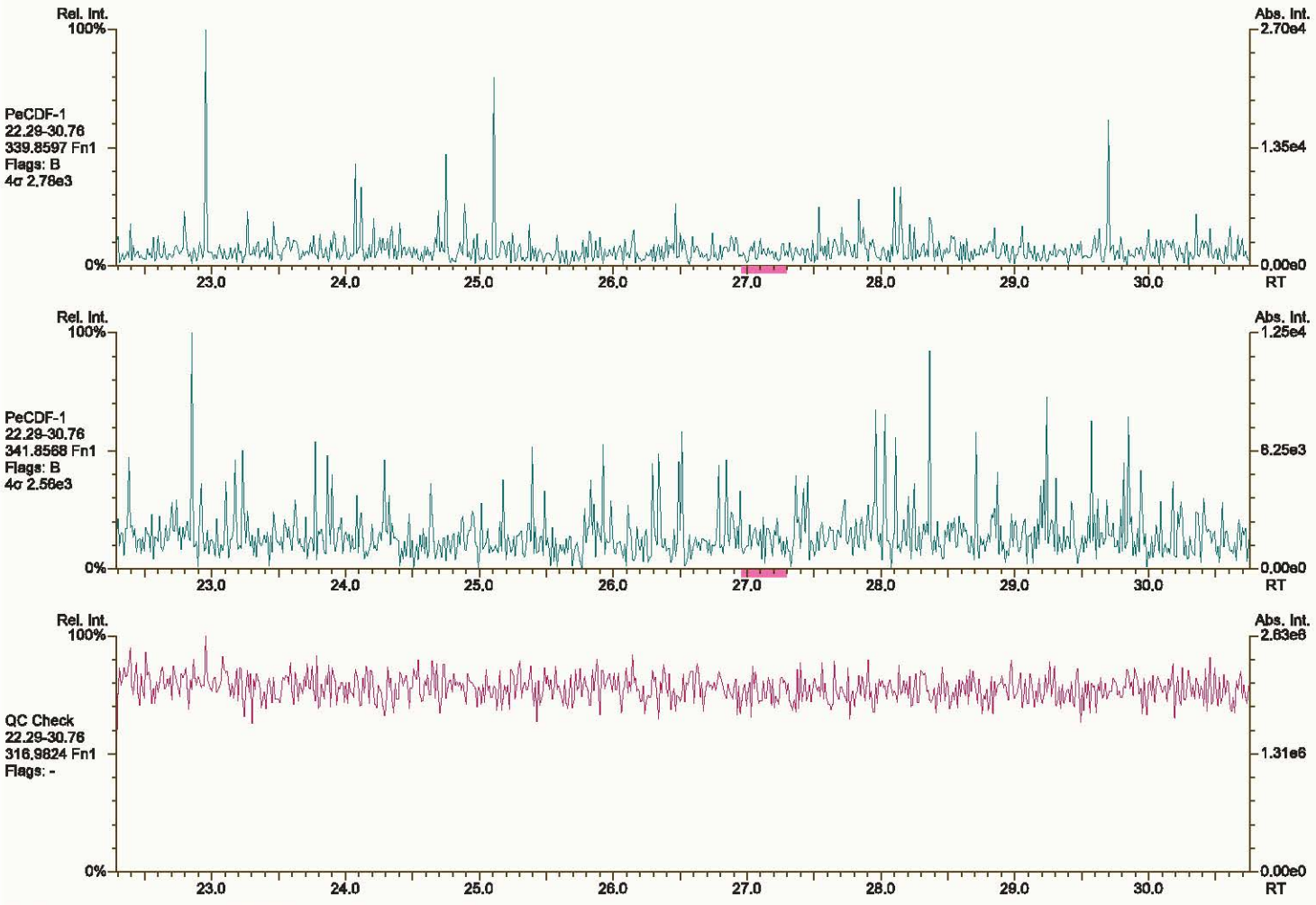
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 6031, 3469 scc: 320-816 *PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 6 of 12*


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 1.92e3
2378F
9.45e6
27.67
2.35e6
1.17e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.23e3
2378F
1.18e7
27.67
2.91e6
1.46e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PBM
4σ 1.89e4
AS 1368F
1.01e6
22.86
JS 1234F
6.92e7
28.33
ES 2378F
9.47e7*
27.65
2.26e7
1.13e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PBM
4σ 8.64e3
AS 1368F
1.29e6
22.86
JS 1234F
1.14e8
28.33
ES 2378F
1.23e8*
27.65
2.89e7
1.44e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.13e3
1.10e4
5.49e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
0%
100%

SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

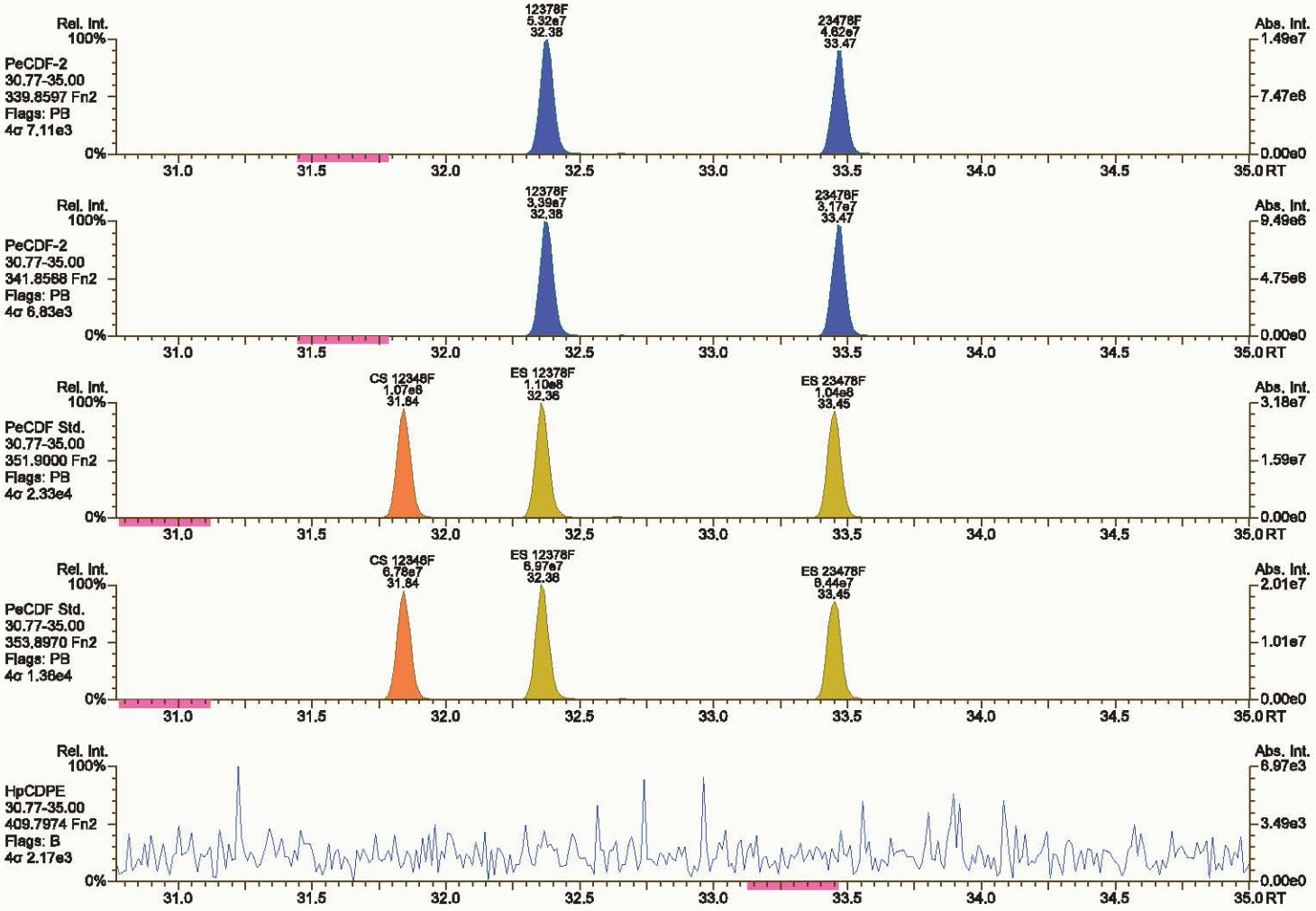
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15

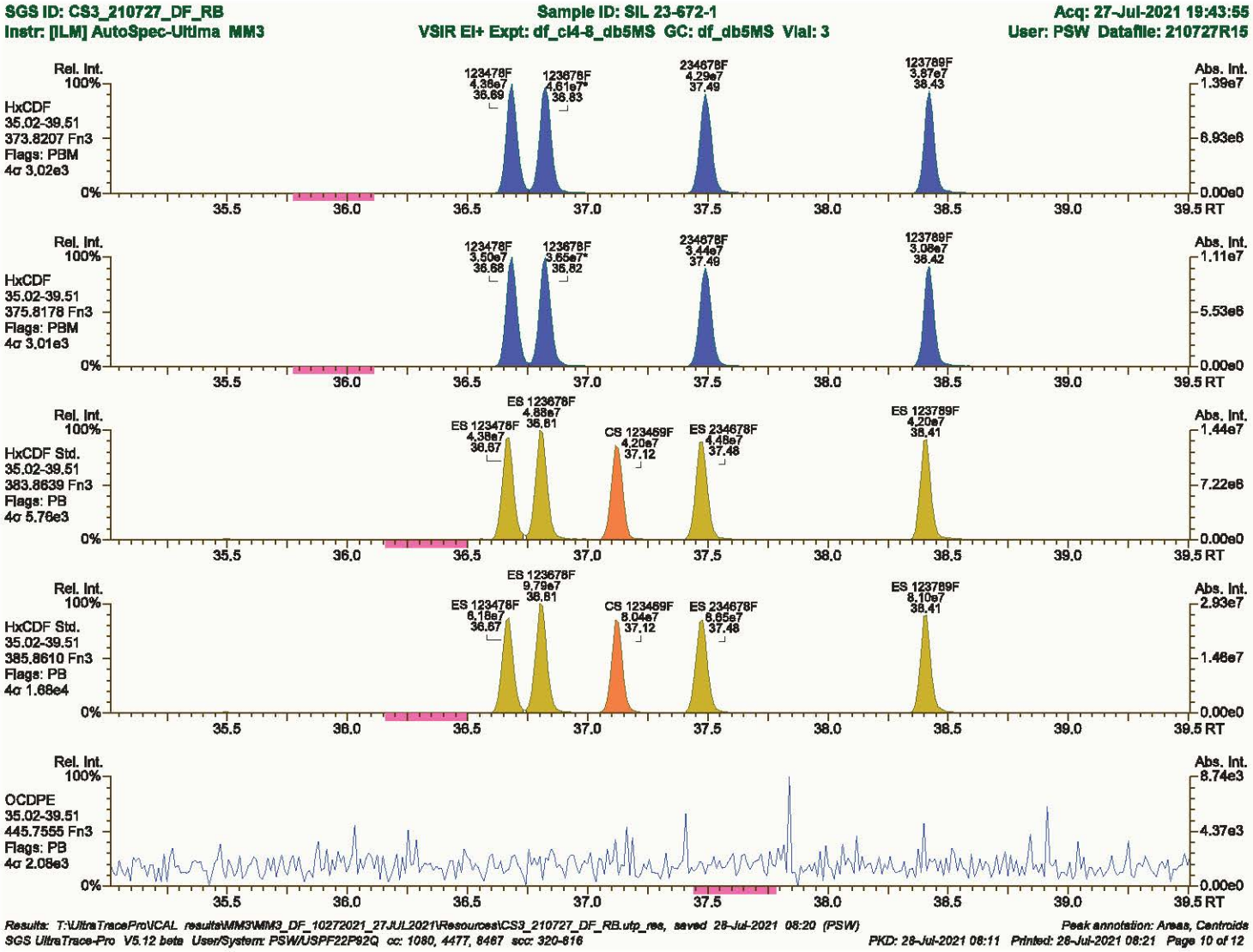


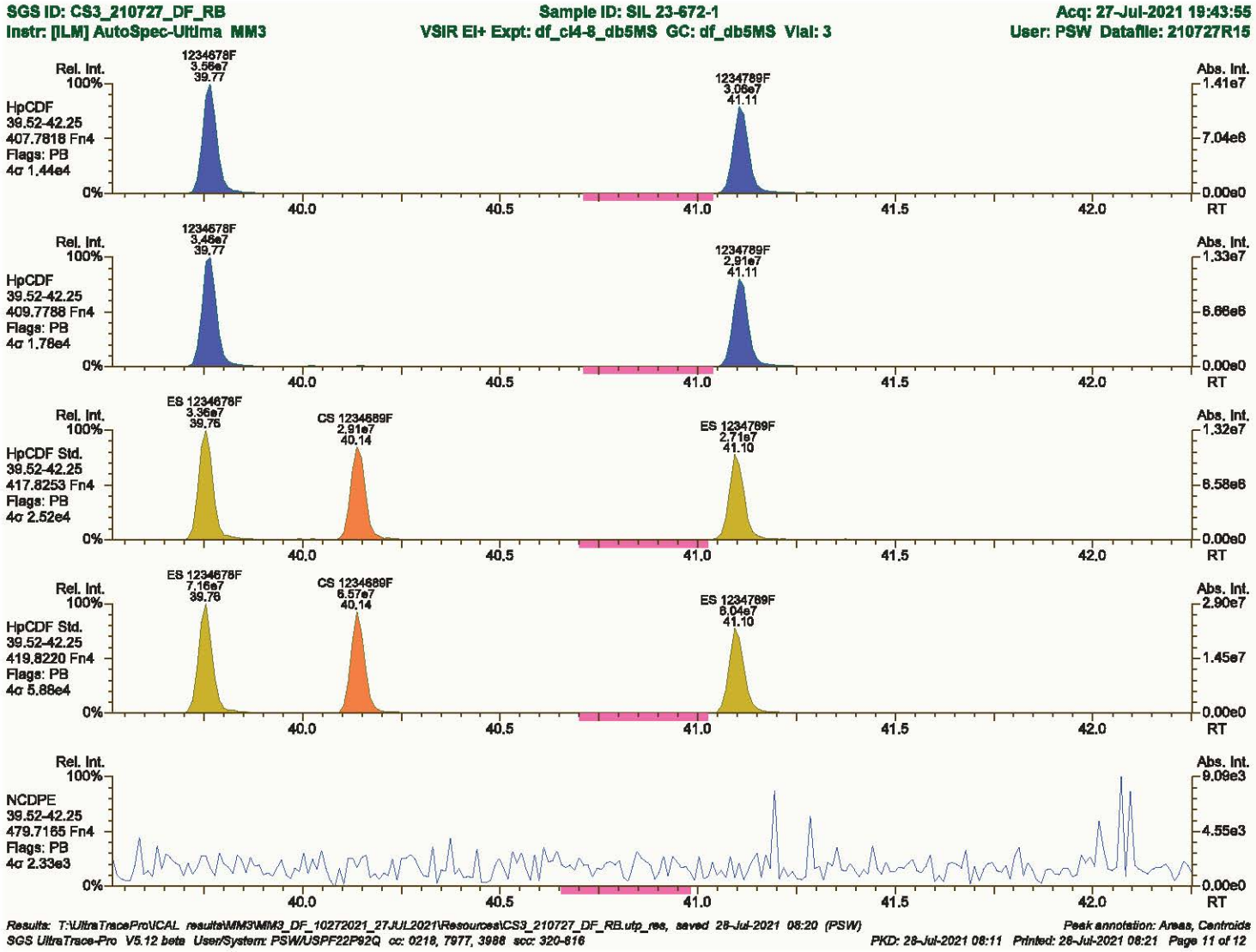
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5181 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 8 of 12

SGS ID: CS3_210727_DF_RB | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R15

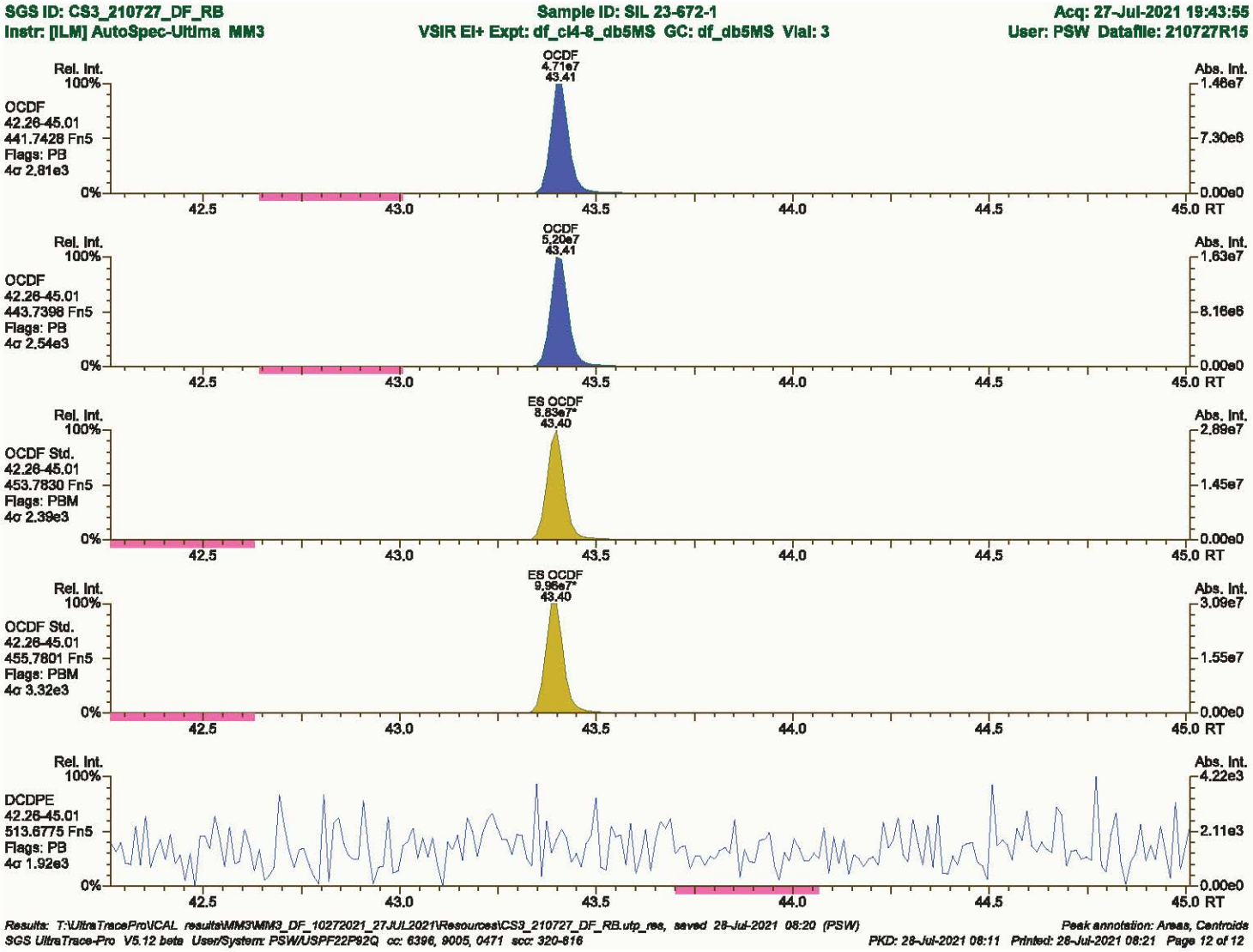


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1037, 5263, 2332 scc: 320-816 *PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 9 of 12*


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
123478F 4.36e7 36.69
123678F 4.61e7* 36.83
234678F 4.29e7 37.49
123789F 3.87e7 38.43
1.39e7
6.93e6
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
123478F 3.50e7 36.68
123678F 3.65e7* 36.82
234678F 3.44e7 37.49
123789F 3.08e7 38.42
1.11e7
5.53e6
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
ES 123678F 4.88e7 36.81
ES 123478F 4.38e7 36.67
CS 123469F 4.20e7 37.12
ES 234678F 4.48e7 37.48
ES 123789F 4.20e7 38.41
1.44e7
7.22e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
ES 123678F 9.79e7 36.81
ES 123478F 6.18e7 36.67
CS 123469F 8.04e7 37.12
ES 234678F 6.85e7 37.48
ES 123789F 8.10e7 38.41
2.93e7
1.46e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
8.74e3
4.37e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1080, 4477, 8467 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 10 of 12



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0218, 7977, 3988 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 11 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
OCDF
4.71e7
43.41
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.81e3
1.48e7
7.30e6
0.00e0
OCDF
5.20e7
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.54e3
1.63e7
8.16e6
ES OCDF
8.83e7*
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PBM
4σ 2.39e3
2.89e7
1.45e7
ES OCDF
9.96e7*
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PBM
4σ 3.32e3
3.09e7
1.55e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 1.92e3
4.22e3
2.11e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6396, 9005, 0471 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 20:31 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RC		UTP: 28-Jul-2021 08:16:59 PSW				Checkcode: 537-883-PJZ	
Sample ID: ICV SIL 24-11-9		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R16	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	2.48E+07	0.79	Y	1.34	1.22	-9%
12378-PeCDD	33.81	9.55E+07	1.55	Y	1.06	0.98	-8%
123478-HxCDD	37.68	8.89E+07	1.25	Y	1.06	1.04	-1%
123678-HxCDD	37.80	9.70E+07	1.25	Y	1.08	1.14	5%
123789-HxCDD	38.09	9.52E+07	1.24	Y	1.02	0.95	-7%
1234678-HpCDD	40.67	8.40E+07	1.03	Y	0.97	0.99	1%
OCDD	43.24	1.45E+08	0.90	Y	1.07	1.07	0%
2378-TCDF	27.68	3.32E+07	0.79	Y	0.96	0.95	-1%
12378-PeCDF	32.38	1.28E+08	1.52	Y	0.95	0.87	-8%
23478-PeCDF	33.48	1.47E+08	1.58	Y	0.94	1.00	6%
123478-HxCDF	36.69	1.27E+08	1.27	Y	1.23	1.25	1%
123678-HxCDF	36.83	1.34E+08	1.26	Y	1.13	1.11	-2%
234678-HxCDF	37.50	1.26E+08	1.24	Y	1.15	1.17	1%
123789-HxCDF	38.43	1.13E+08	1.25	Y	1.14	1.10	-3%
1234678-HpCDF	39.77	1.18E+08	1.02	Y	1.36	1.34	-2%
1234789-HpCDF	41.12	9.93E+07	1.03	Y	1.30	1.29	-1%
OCDF	43.42	1.67E+08	0.90	Y	1.03	1.02	-1%
ES 2378-TCDD	28.51	2.04E+08	0.81	Y	1.03	0.96	-7%
ES 12378-PeCDD	33.795	1.95E+08	1.65	Y	1.03	0.92	-11%
ES 123478-HxCDD	37.667	1.70E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.781	1.70E+08	1.29	Y	0.97	0.97	0%
ES 123789-HxCDD	38.071	2.01E+08	1.25	Y	1.12	1.15	2%
ES 1234678-HpCDD	40.656	1.70E+08	1.05	Y	0.99	0.97	-2%
ES OCDD	43.225	2.69E+08	0.90	Y	0.78	0.77	-1%
ES 2378-TCDF	27.654	3.51E+08	0.77	Y	1.08	0.99	-9%
ES 12378-PeCDF	32.366	2.97E+08	1.58	Y	0.93	0.84	-10%
ES 23478-PeCDF	33.459	2.95E+08	1.56	Y	0.92	0.84	-9%
ES 123478-HxCDF	36.673	2.04E+08	0.52	Y	1.14	1.17	2%
ES 123678-HxCDF	36.814	2.41E+08	0.53	Y	1.30	1.38	7%
ES 234678-HxCDF	37.481	2.17E+08	0.52	Y	1.20	1.24	3%
ES 123789-HxCDF	38.414	2.06E+08	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.764	1.76E+08	0.46	Y	0.95	1.01	6%
ES 1234789-HpCDF	41.106	1.54E+08	0.45	Y	0.85	0.88	4%
ES OCDF	43.408	3.28E+08	0.88	Y	0.93	0.94	2%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	2.13E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	3.53E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	8.73E+07	1.21	Y	-	-	-
~~OCDD-a~~	~~43.23~~	~~9.07E+06~~	~~2.21~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~
~~OCDF-a~~	~~43.42~~	~~9.95E+06~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~2%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	9.05	8 - 12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	46.2	40 - 60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.4	40 - 60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	52.7	40 - 60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.7	40 - 60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88 - 1.20	Y	50.7	40 - 60	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	100	80 - 120	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.87	8 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	45.8	40 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	53.1	40 - 60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	40 - 60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.2	40 - 60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	50.6	40 - 60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.4	40 - 60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49.2	40 - 60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.7	40 - 60	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	99.5	80 - 120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	92.9	70 - 130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	88.8	70 - 130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	98.1	70 - 130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	100	70 - 130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	102	70 - 130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	98.2	70 - 130	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	198	140 - 260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	91.5	70 - 130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	89.8	70 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	90.5	70 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	102	70 - 130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	107	70 - 130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	103	70 - 130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	104	70 - 130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	106	70 - 130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	104	70 - 130	Y
13C-OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	203	140 - 260	Y
CLEANUP STANDARDS n/a - CL 28Jul21							
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~				~~0~~	~~7.0 - 12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32 - 1.78~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32 - 1.78~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43 - 0.59~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37 - 0.51~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	9.05	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	46.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.4	38 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	52.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.7	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.87	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	45.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	53.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	50.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.7	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	99.5	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

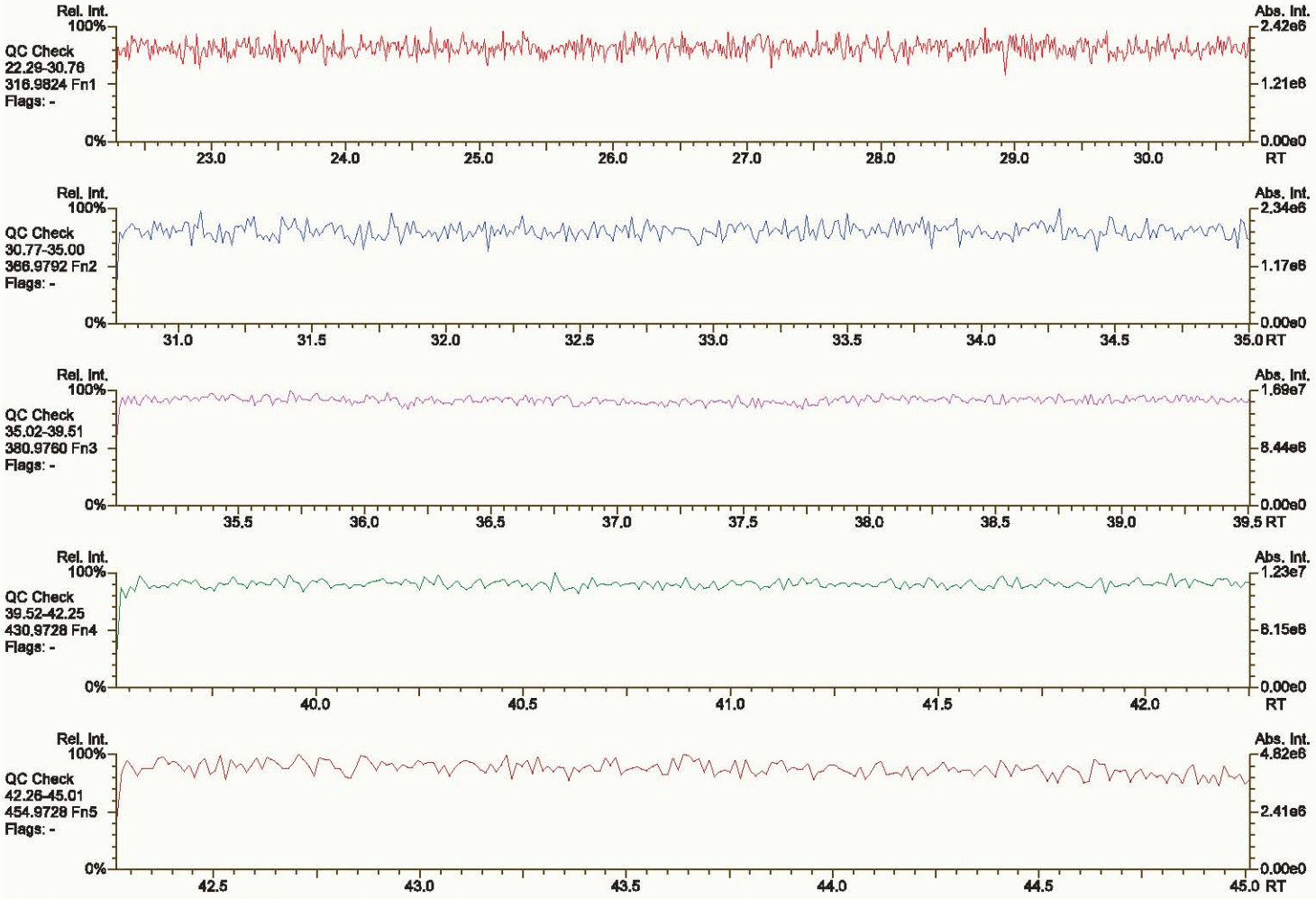
VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	92.9	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	88.8	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	98.1	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	100	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	98.2	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	198	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	91.5	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	89.8	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	90.5	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	102	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	107	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	103	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	104	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	106	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	104	77 - 129	Y
13C-OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	203	96 - 415	Y
CLEANUP STANDARDS	n/a - CL 28Jul21						
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~				~~0~~	~~7.9 - 12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32 - 1.78~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32 - 1.78~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43 - 0.59~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37 - 0.51~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~

Processed: 28 Jul 2021 08:18 Analyst: pw

SGS ID: CS3_210727_DF_RC | Sample ID: ICV SIL 24-11-9 | Acq: 27-Jul-2021 20:31:28

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92 | User: PSW Datafile: 210727R16



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)

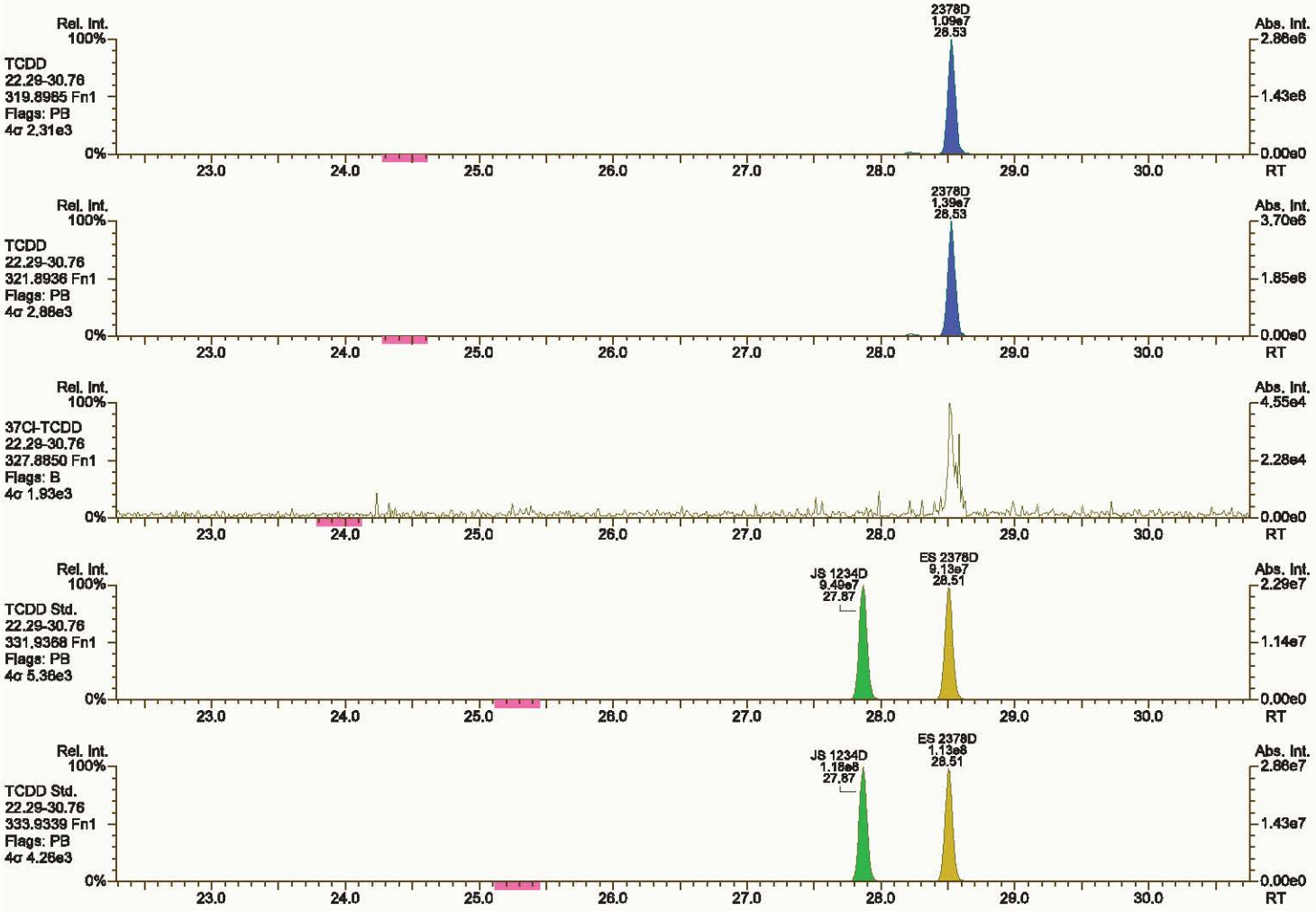
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 537-883

PKD: n/a Printed: 28-Jul-2021 08:21 Page 1 of 12

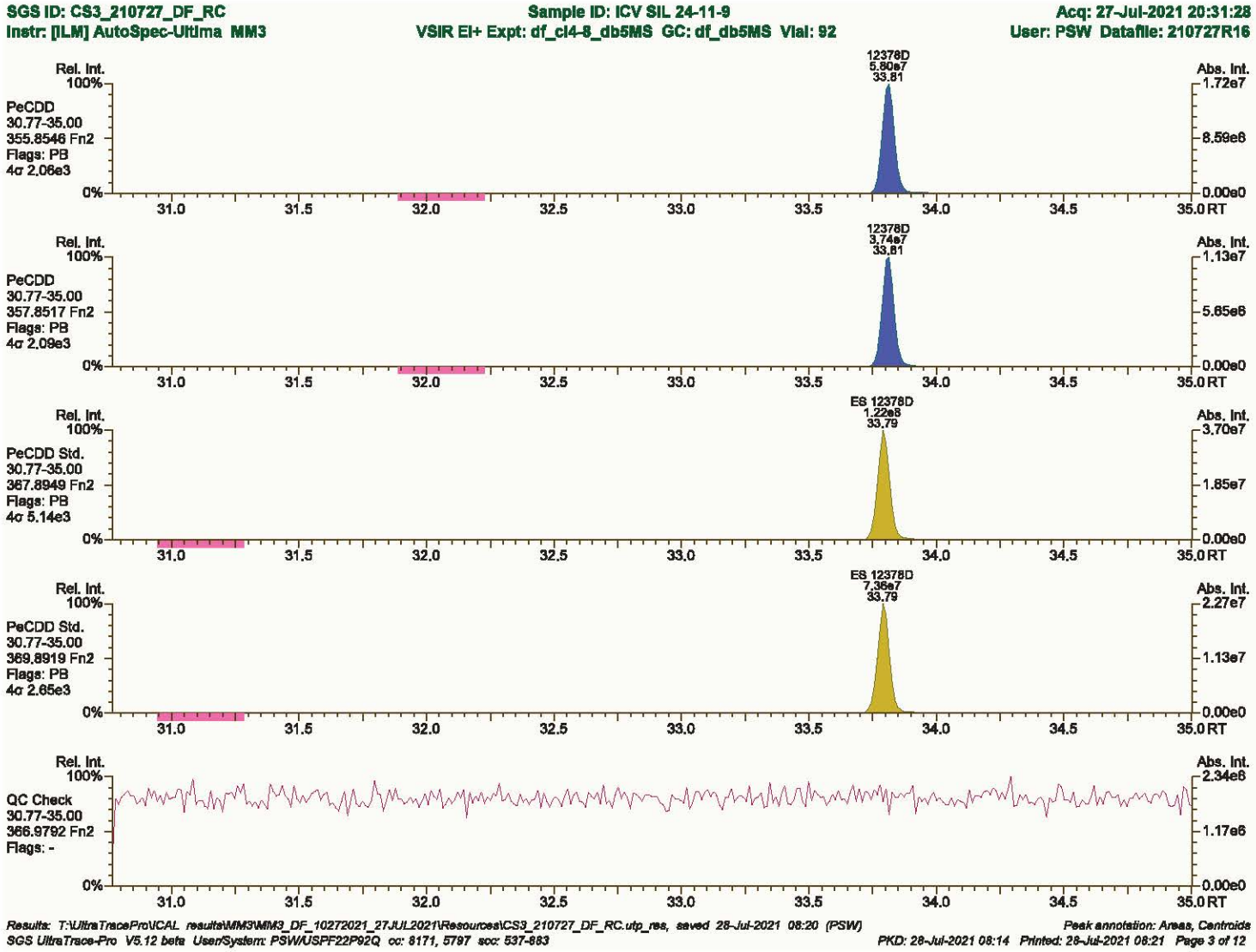
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Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92 | User: PSW Datafile: 210727R16



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

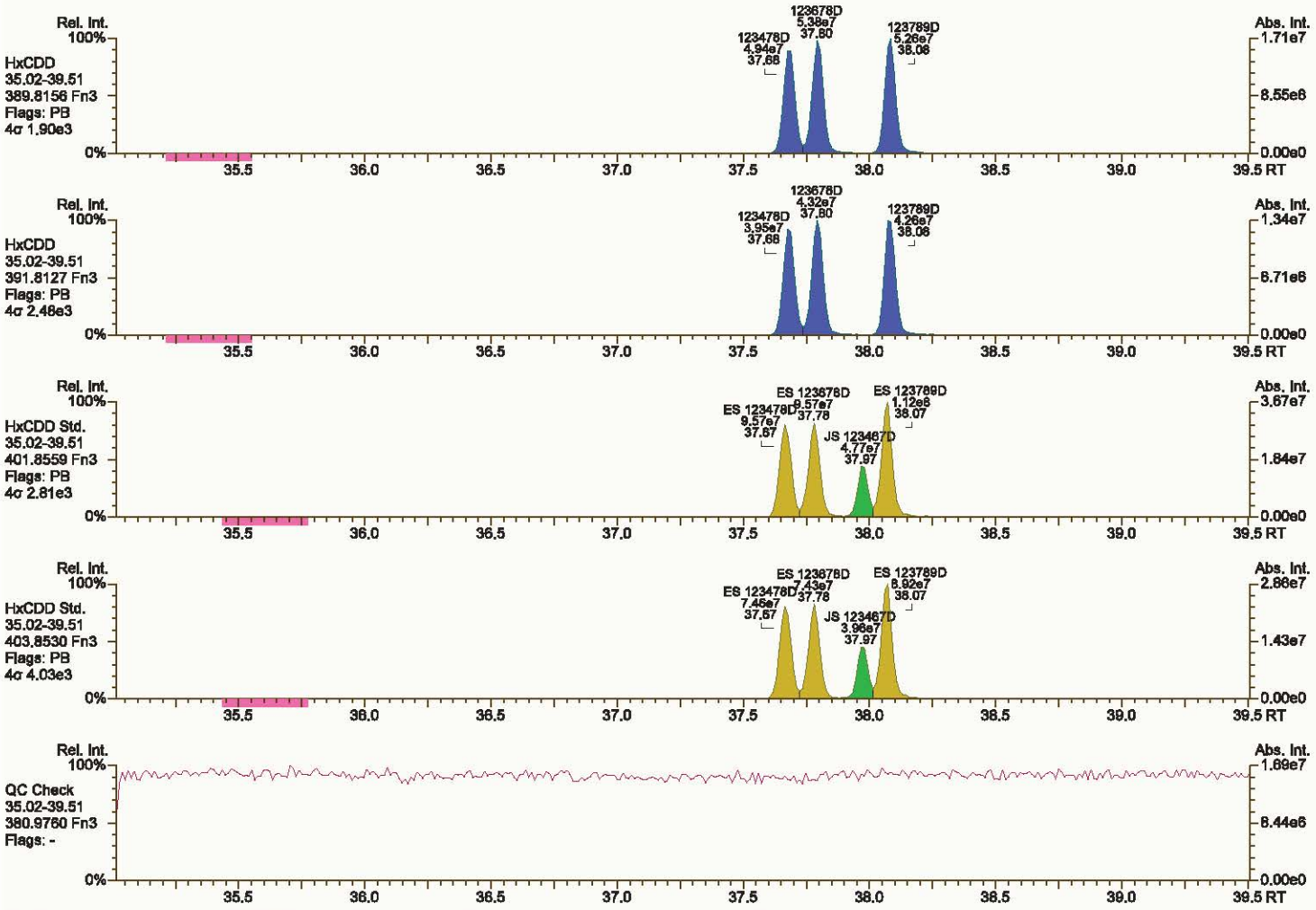
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8228, 3606, 8845 scc: 537-883 *PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 2 of 12*


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.06e3
12378D
5.80e7
33.81
1.72e7
8.59e6
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.09e3
12378D
3.74e7
33.81
1.13e7
5.65e6
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 5.14e3
ES 12378D
1.22e8
33.79
3.70e7
1.85e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 2.65e3
ES 12378D
7.35e7
33.79
2.27e7
1.13e7
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.34e6
1.17e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

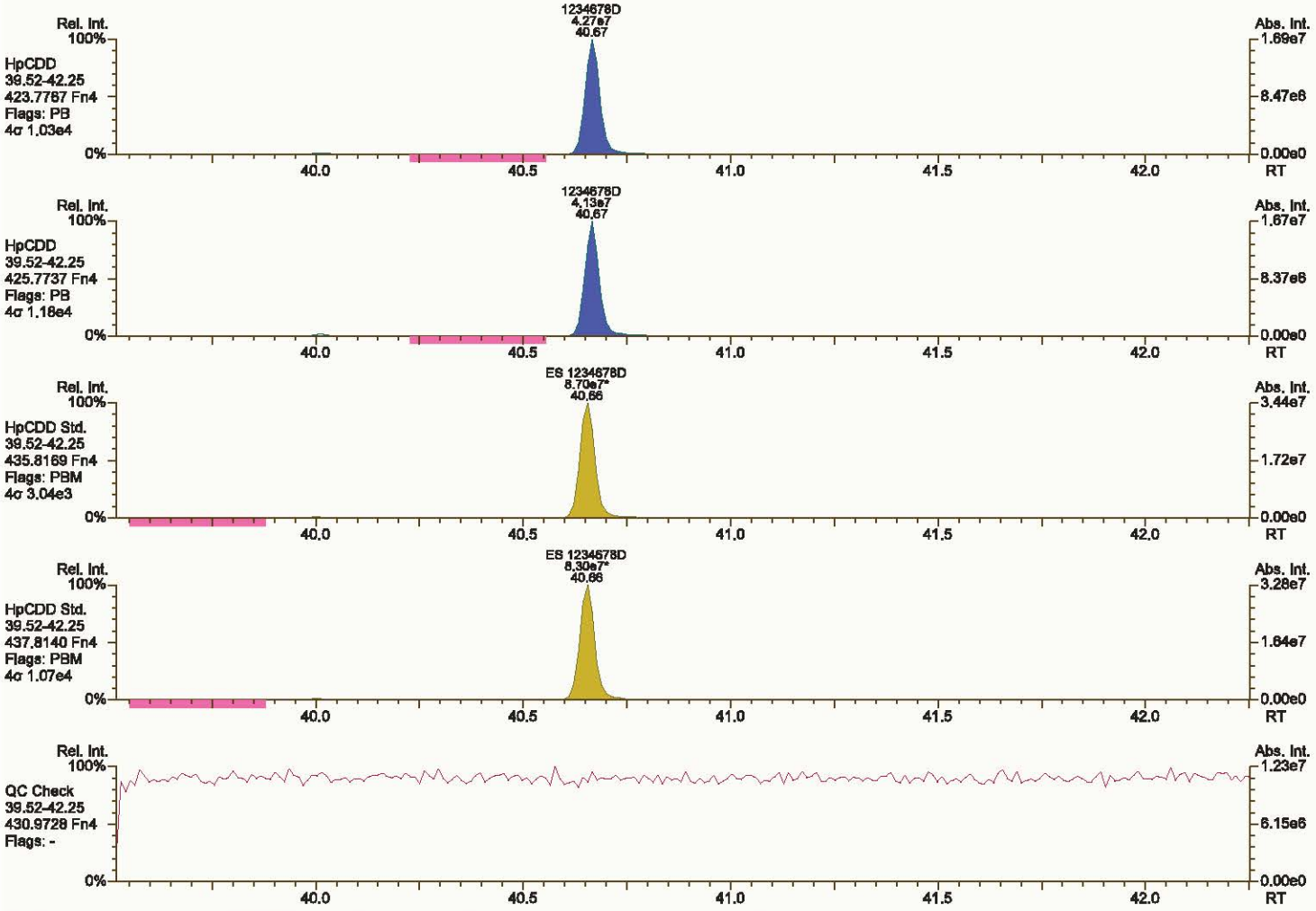
Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1539, 7390 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 4 of 12

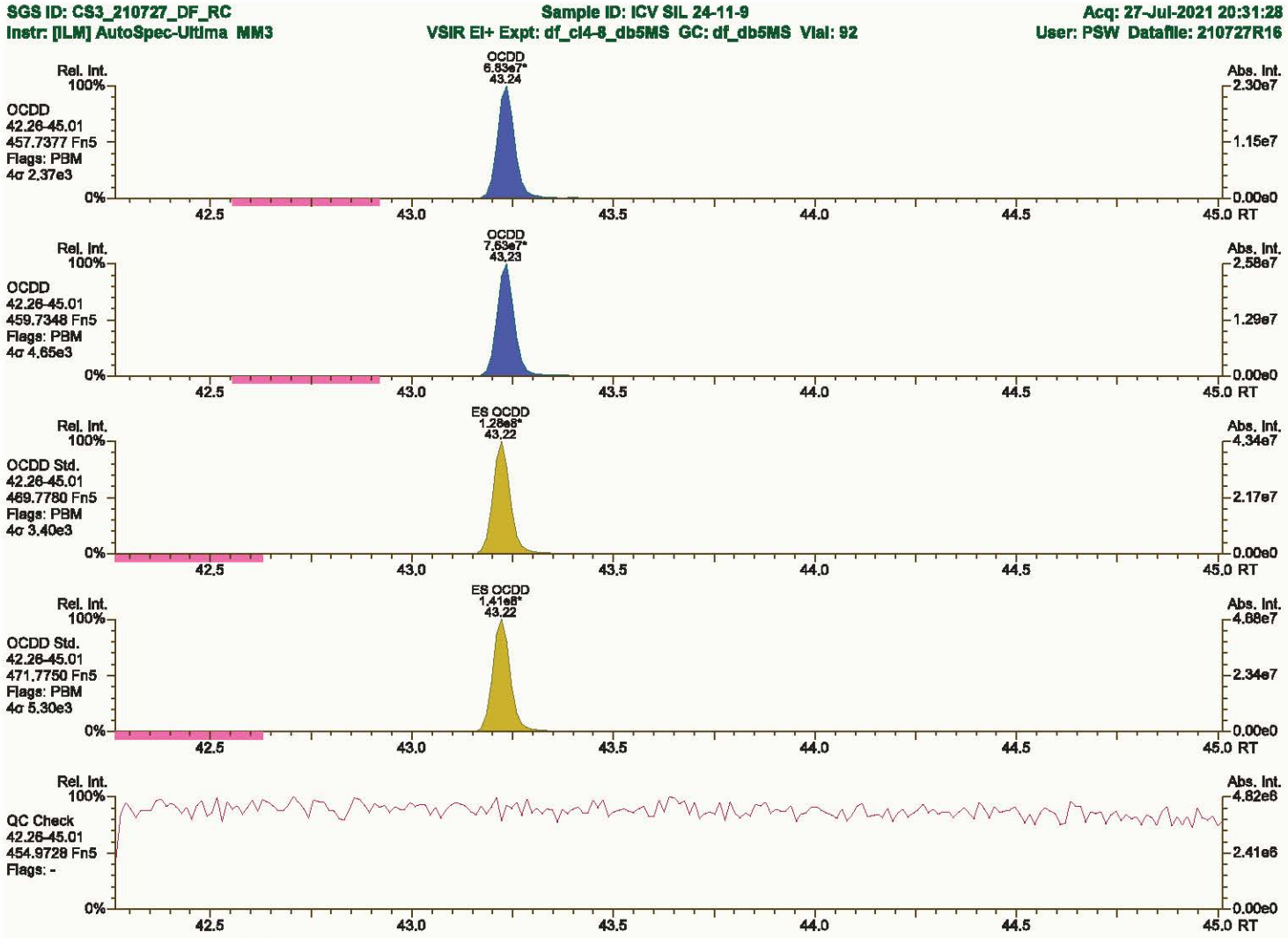
SGS ID: CS3_210727_DF_RC | Sample ID: ICV SIL 24-11-9 | Acq: 27-Jul-2021 20:31:28

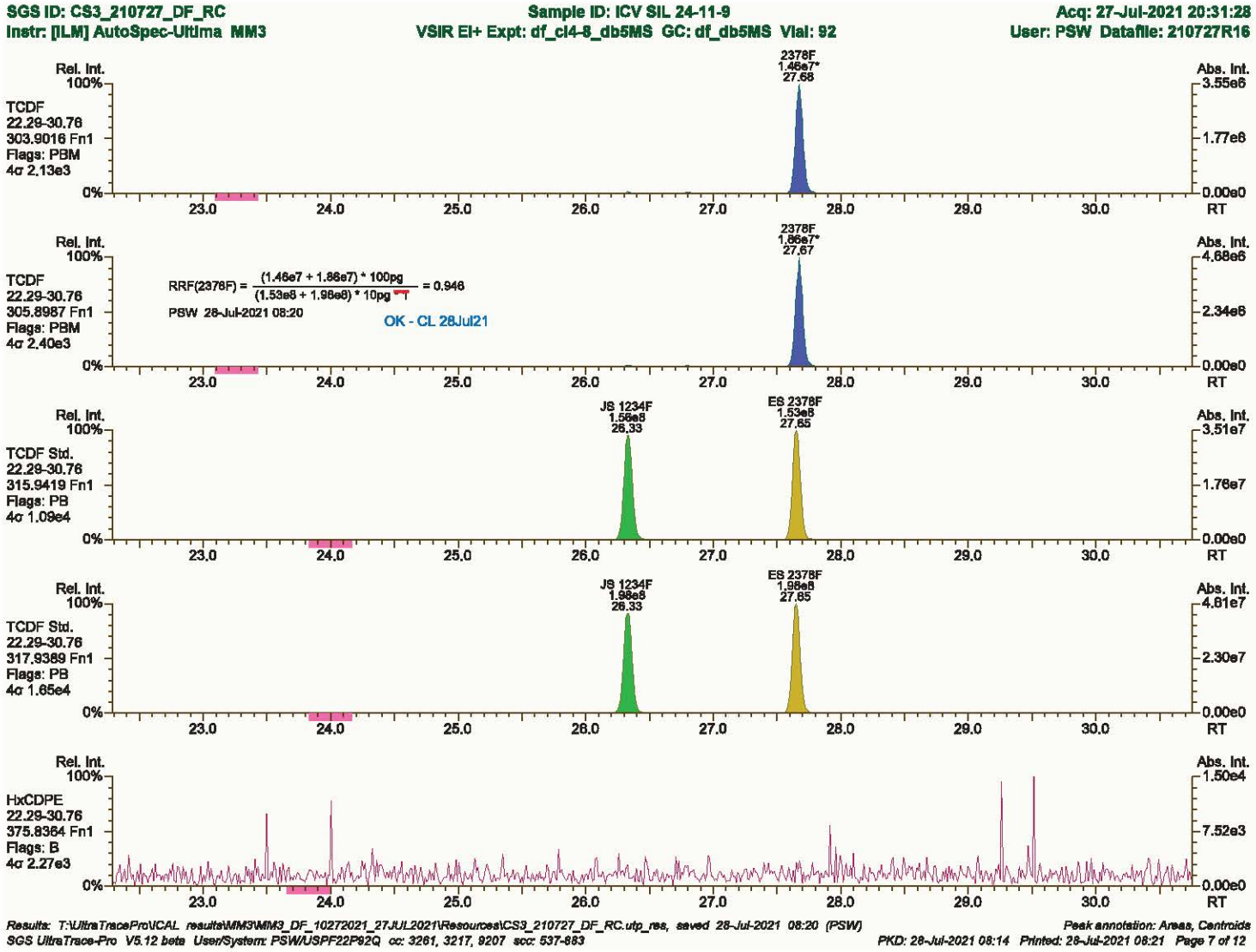
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92 | User: PSW Datafile: 210727R16



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 0021, 5962 scc: 537-883 *PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 5 of 12*

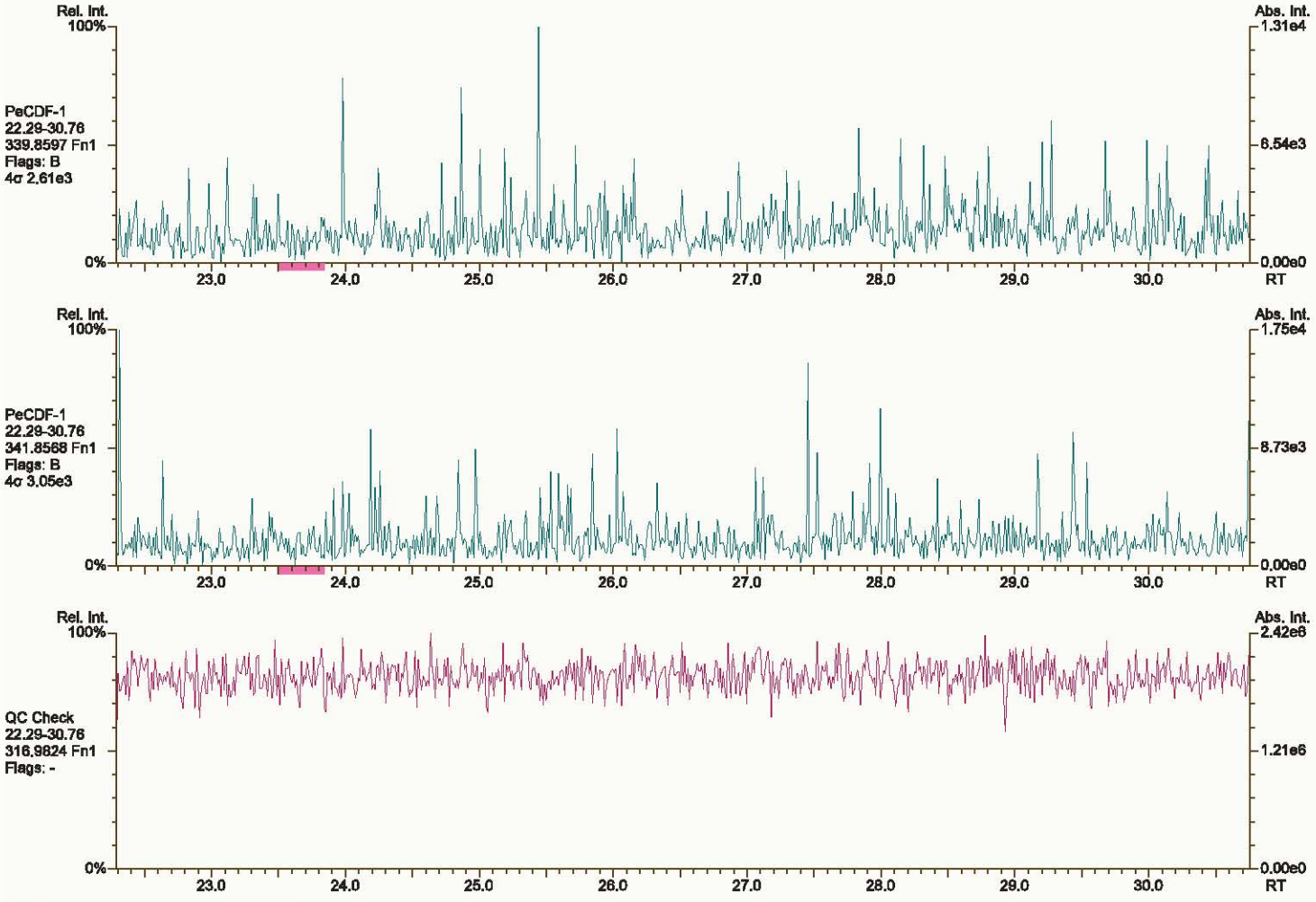

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
OCDD
6.83e7*
43.24
Rel. Int.
100%
Abs. Int.
2.30e7
1.15e7
0.00e0
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.63e7*
43.23
Rel. Int.
100%
Abs. Int.
2.58e7
1.29e7
0.00e0
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 4.65e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.28e8*
43.22
Rel. Int.
100%
Abs. Int.
4.34e7
2.17e7
0.00e0
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 3.40e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e8*
43.22
Rel. Int.
100%
Abs. Int.
4.68e7
2.34e7
0.00e0
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.30e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
4.82e6
2.41e6
0.00e0
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta UserSystem: PSW/USPF22P92Q cc: 9712, 6963 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 6 of 12


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
2378F
1.46e7*
27.68
3.55e6
1.77e6
0.00e0
RT
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
2378F
1.86e7*
27.67
4.68e6
2.34e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
3.51e7
1.76e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
4.61e7
2.30e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
1.50e4
7.52e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
0%
100%

SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

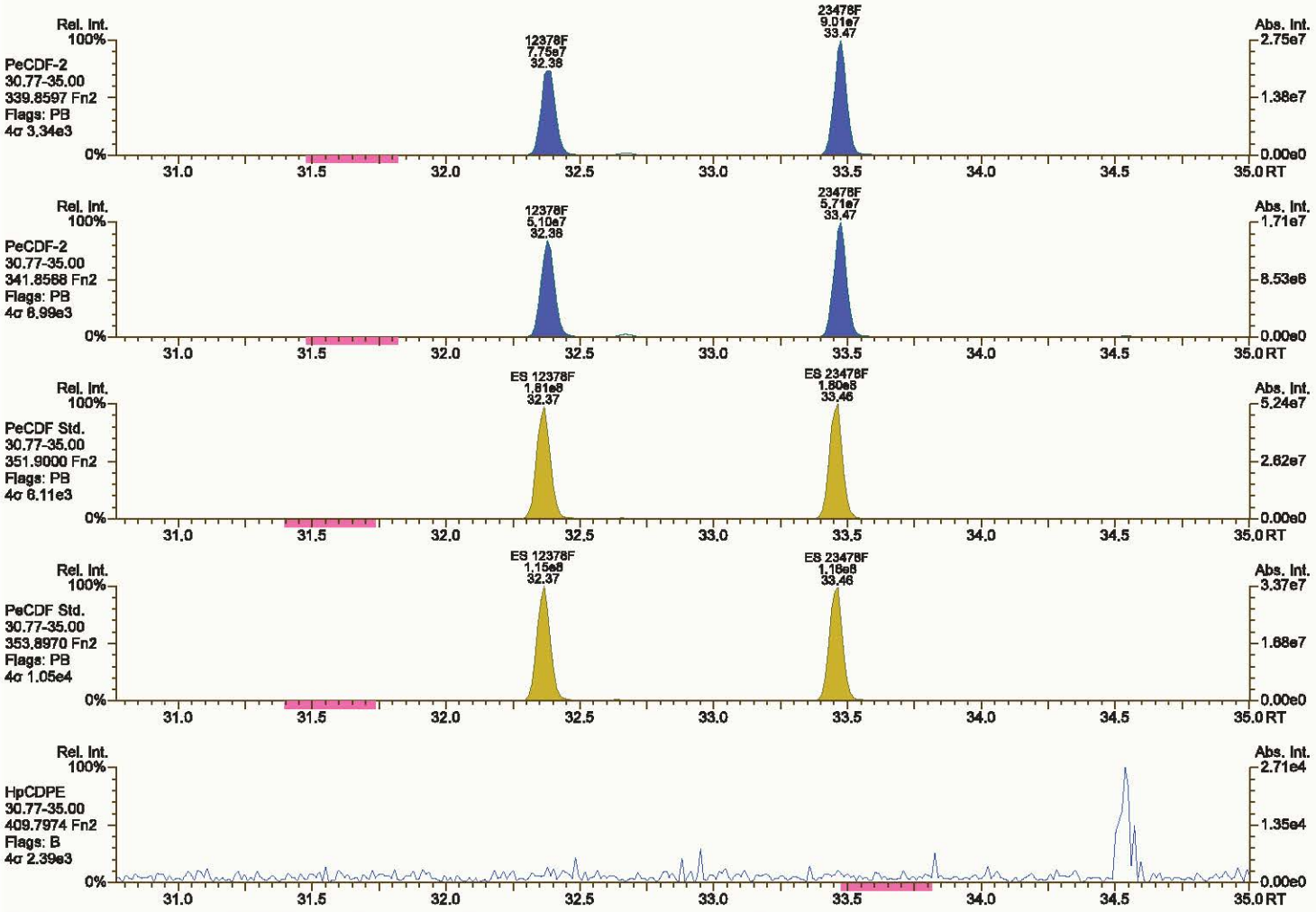
Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16



Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6216 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 8 of 12

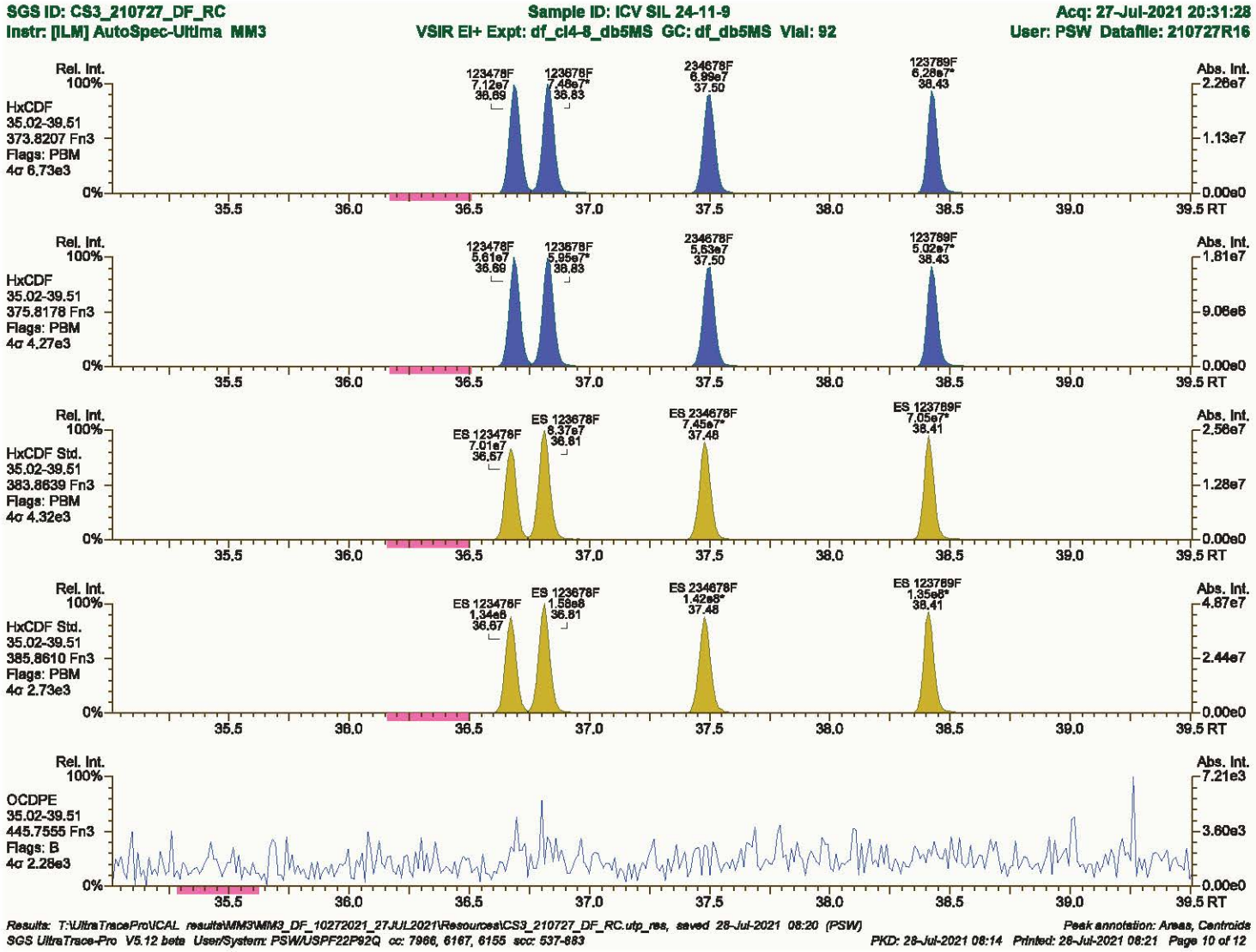
SGS ID: CS3_210727_DF_RC | Sample ID: ICV SIL 24-11-9 | Acq: 27-Jul-2021 20:31:28

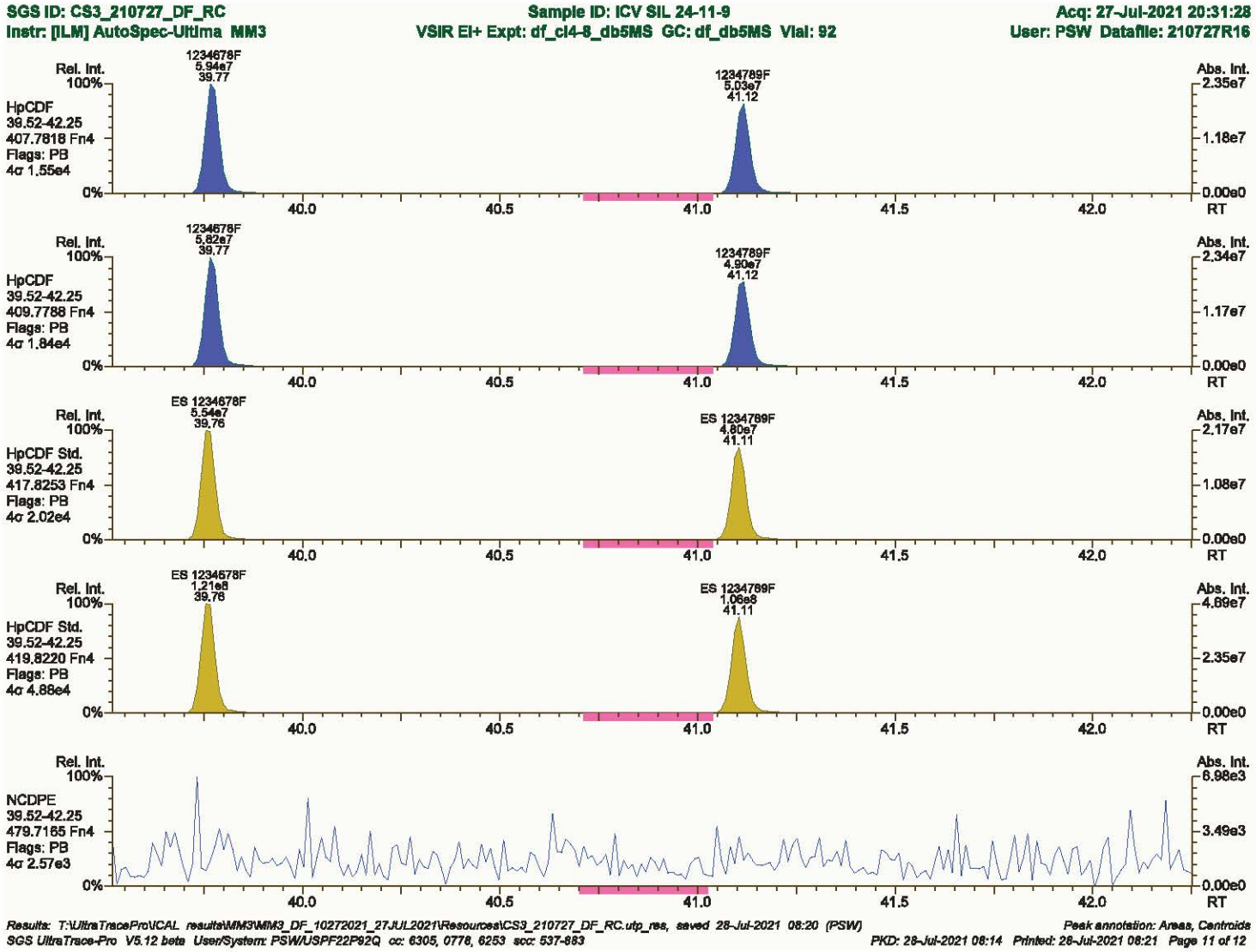
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92 | User: PSW Datafile: 210727R16

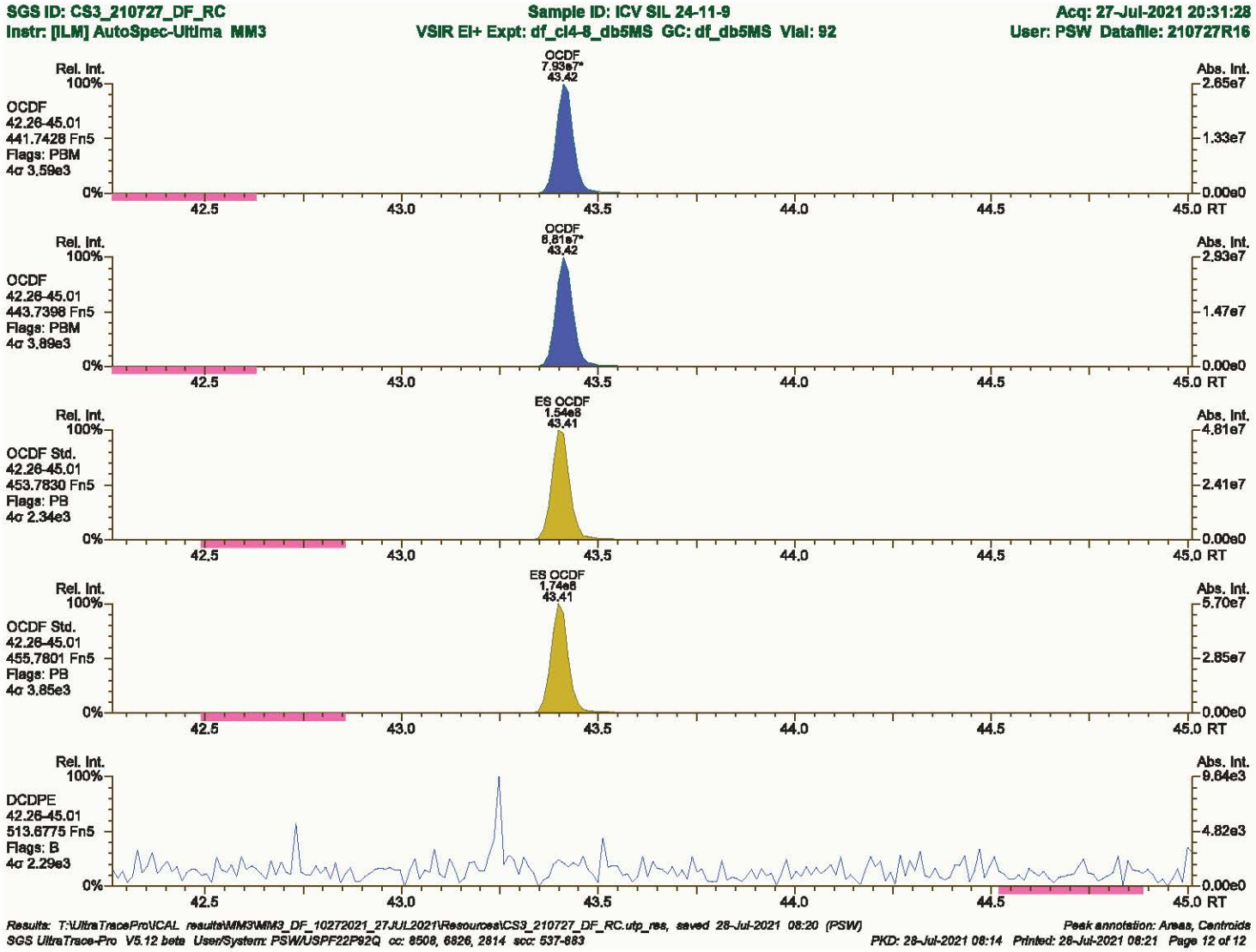


Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5316, 2043, 4878 scc: 537-883 *PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 9 of 12*


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 6.73e3
123478F 7.12e7 36.69
123678F 7.48e7* 36.83
234678F 6.99e7 37.50
123789F 6.28e7* 38.43
2.28e7
1.13e7
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123478F 5.61e7 36.69
123678F 5.95e7* 36.83
234678F 5.63e7 37.50
123789F 5.02e7* 38.43
1.81e7
9.06e6
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 4.32e3
ES 123478F 7.01e7 36.67
ES 123678F 8.37e7 36.81
ES 234678F 7.45e7* 37.48
ES 123789F 7.05e7* 38.41
2.56e7
1.28e7
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.73e3
ES 123478F 1.34e8 36.67
ES 123678F 1.58e8 36.81
ES 234678F 1.42e8* 37.48
ES 123789F 1.35e8* 38.41
4.87e7
2.44e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.28e3
7.21e3
3.60e3
0.00e0
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7966, 6167, 6155 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 10 of 12

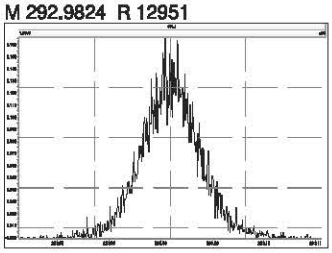

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
1234678F
5.94e7
39.77
1234789F
5.03e7
41.12
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.55e4
2.35e7
1.18e7
0.00e0
RT
1234678F
5.82e7
39.77
1234789F
4.90e7
41.12
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.84e4
2.34e7
1.17e7
ES 1234678F
5.54e7
39.76
ES 1234789F
4.80e7
41.11
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.02e4
2.17e7
1.08e7
ES 1234678F
1.21e8
39.76
ES 1234789F
1.06e8
41.11
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 4.88e4
4.69e7
2.35e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.57e3
6.98e3
3.49e3
100%
0%
40.0
40.5
41.0
41.5
42.0


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
OCDF
7.93e7*
43.42
Rel. Int.
100%
Abs. Int.
2.65e7
1.33e7
0.00e0
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.81e7*
43.42
Rel. Int.
100%
Abs. Int.
2.93e7
1.47e7
0.00e0
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.54e8
43.41
Rel. Int.
100%
Abs. Int.
4.81e7
2.41e7
0.00e0
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.74e8
43.41
Rel. Int.
100%
Abs. Int.
5.70e7
2.85e7
0.00e0
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
9.64e3
4.82e3
0.00e0
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\CAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8508, 6826, 2814 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 12 of 12

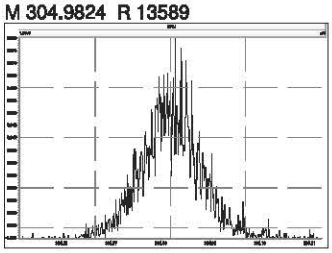
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:15:38 Eastern Daylight Time

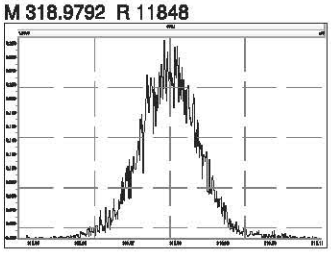
M 292.9824 R 12951



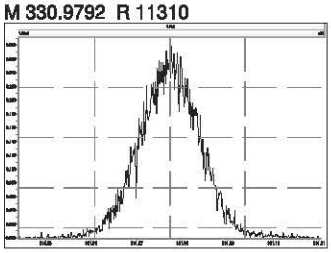
M 304.9824 R 13589



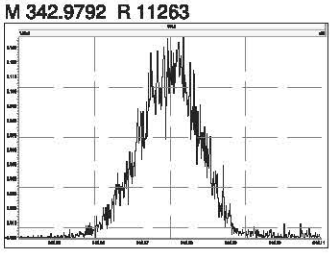
M 318.9792 R 11848



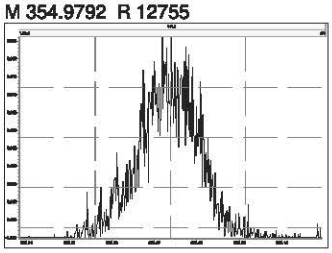
M 330.9792 R 11310



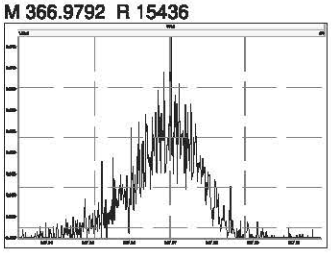
M 342.9792 R 11263



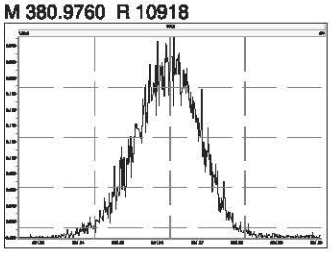
M 354.9792 R 12755



M 366.9792 R 15436



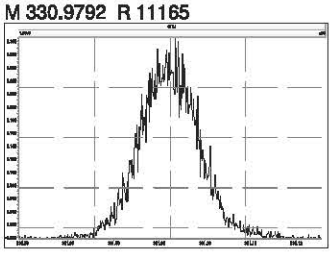
M 380.9760 R 10918



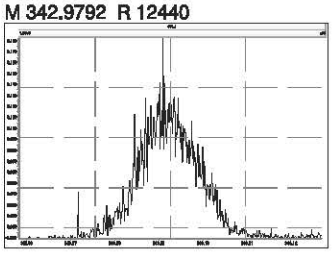
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:03 Eastern Daylight Time

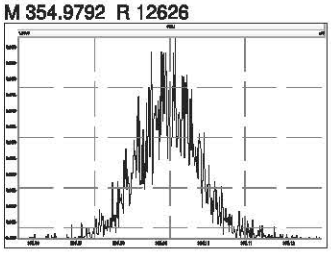
M 330.9792 R 11165



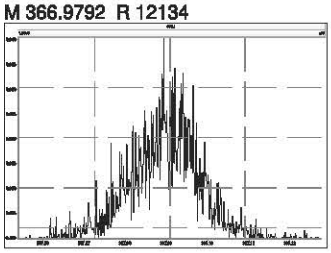
M 342.9792 R 12440



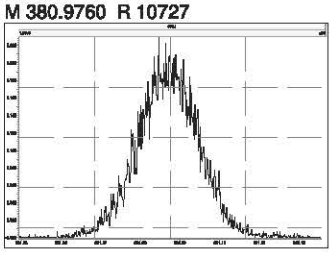
M 354.9792 R 12626



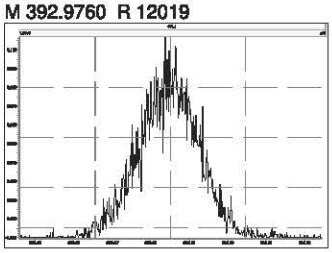
M 366.9792 R 12134



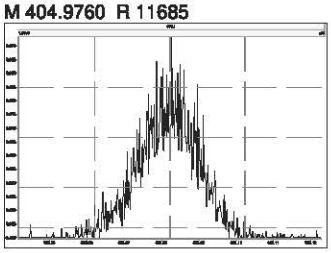
M 380.9760 R 10727



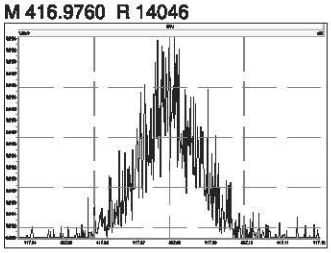
M 392.9760 R 12019



M 404.9760 R 11685



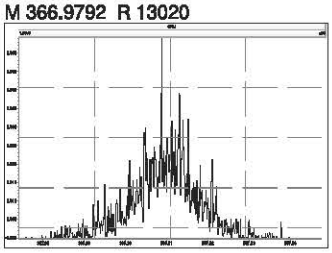
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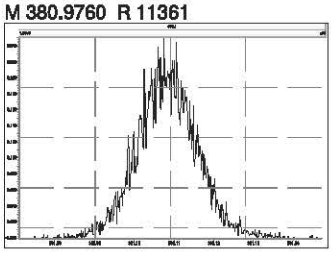
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

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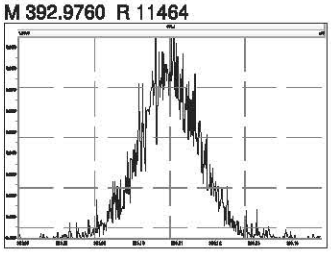
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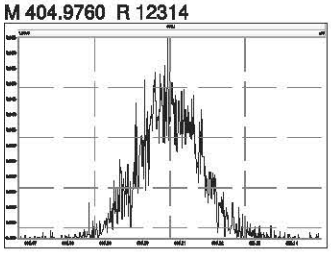
M 380.9760 R 11361



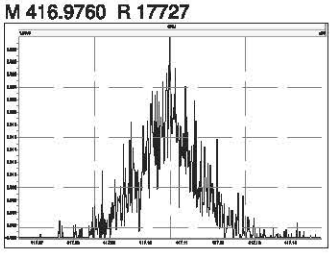
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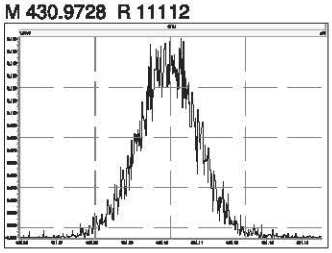
M 404.9760 R 12314



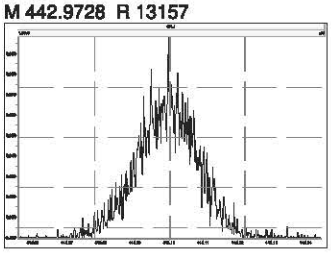
M 416.9760 R 17727



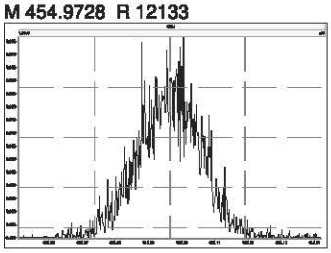
M 430.9728 R 11112



M 442.9728 R 13157



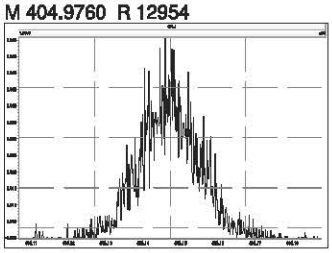
M 454.9728 R 12133



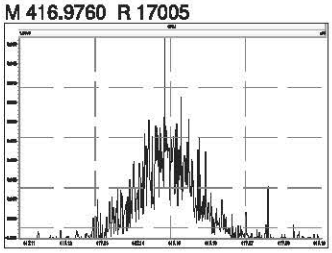
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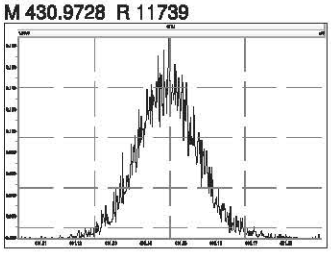
M 404.9760 R 12954



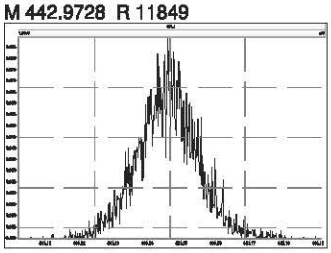
M 416.9760 R 17005



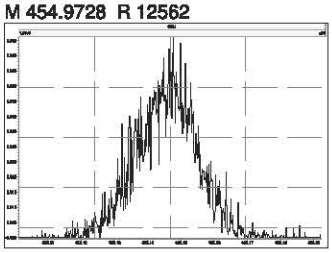
M 430.9728 R 11739



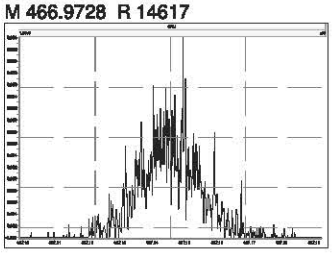
M 442.9728 R 11849



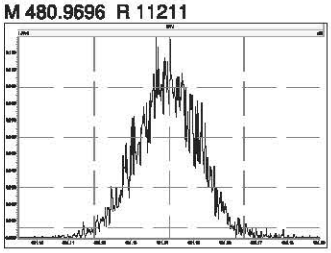
M 454.9728 R 12562



M 466.9728 R 14617



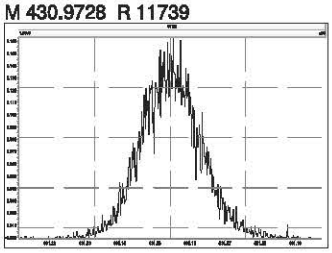
M 480.9696 R 11211



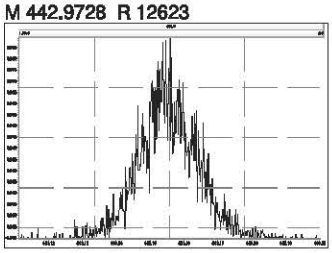
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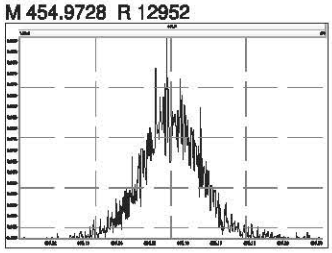
M 430.9728 R 11739



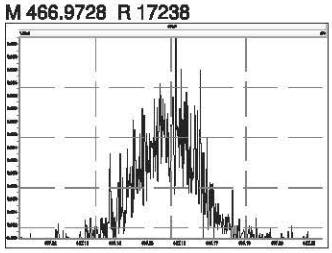
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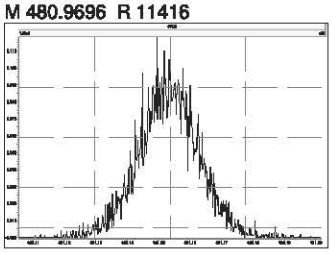
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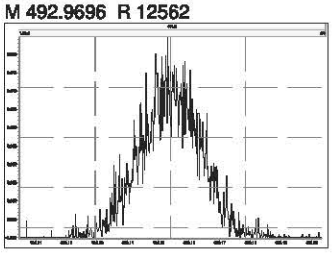
M 466.9728 R 17238



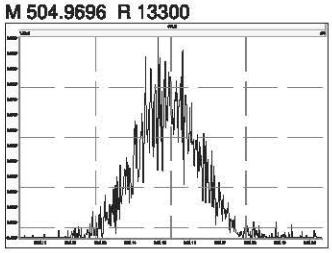
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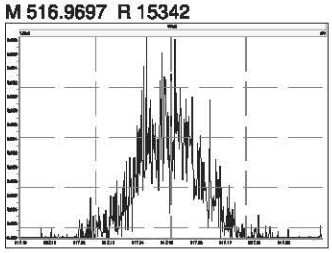
M 492.9696 R 12562



M 504.9696 R 13300

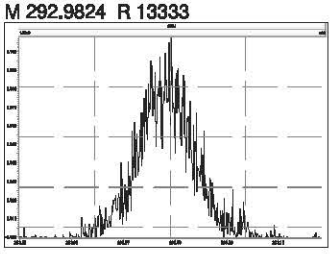


M 516.9697 R 15342

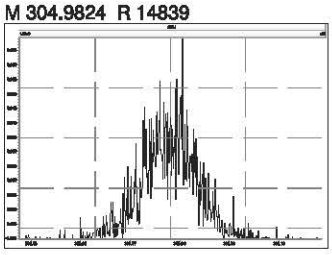


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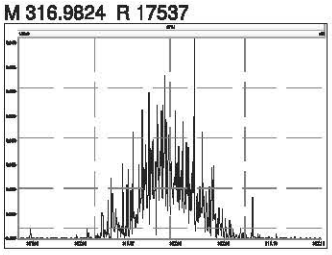
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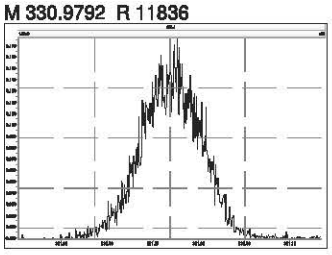
M 304.9824 R 14839



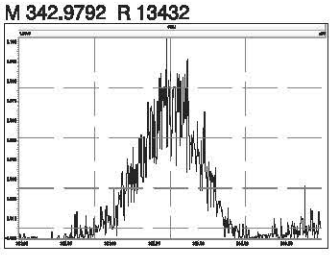
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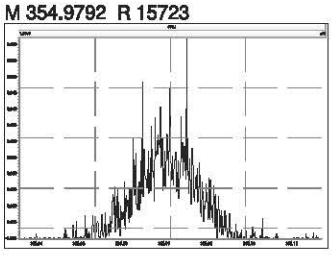
M 330.9792 R 11836



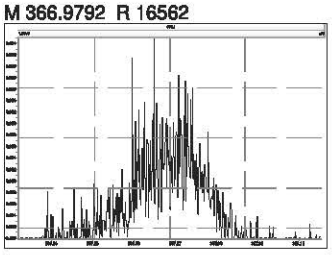
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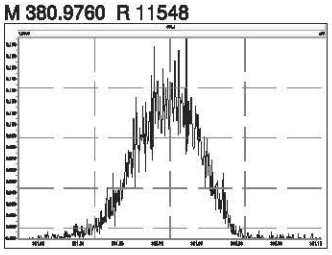
M 354.9792 R 15723



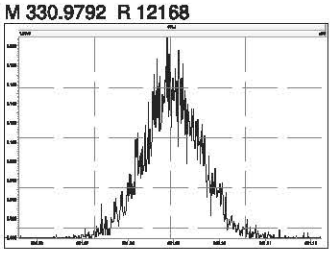
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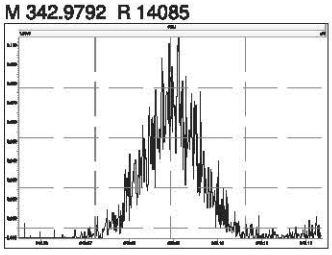
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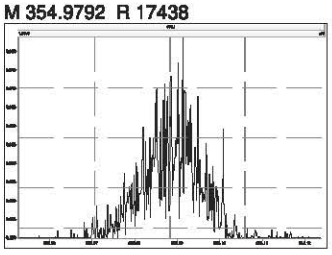
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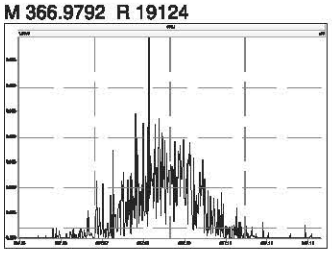
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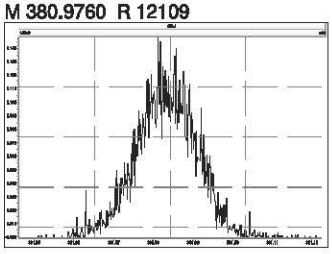
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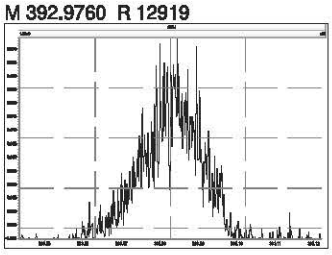
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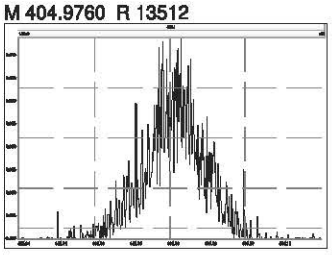
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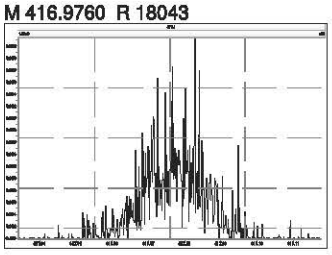
M 392.9760 R 12919



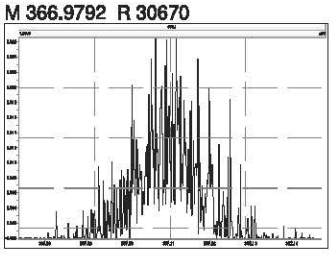
M 404.9760 R 13512



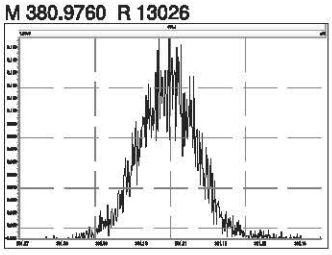
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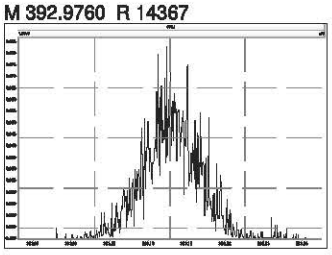
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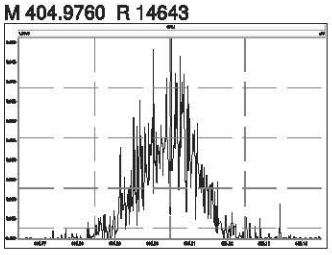
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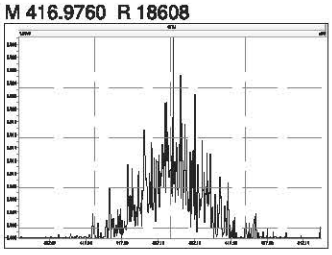
M 392.9760 R 14367



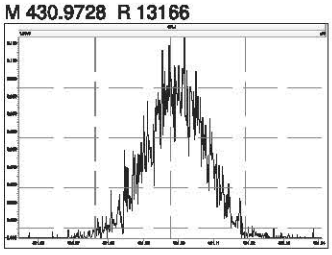
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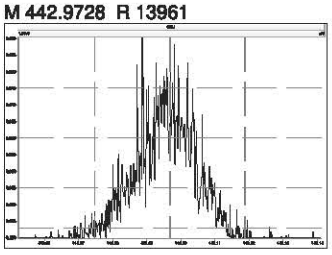
M 416.9760 R 18608



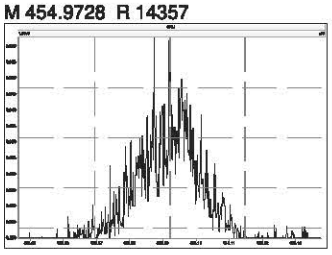
M 430.9728 R 13166



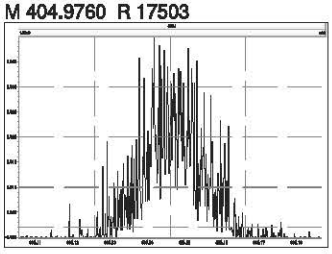
M 442.9728 R 13961



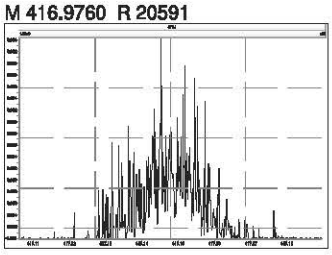
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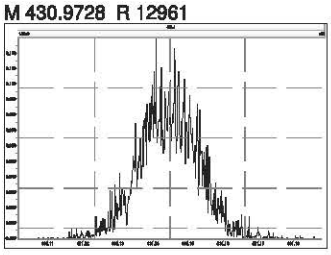
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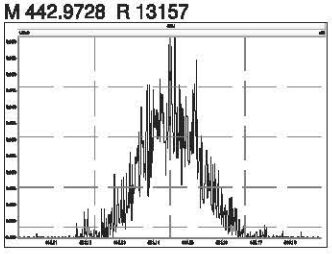
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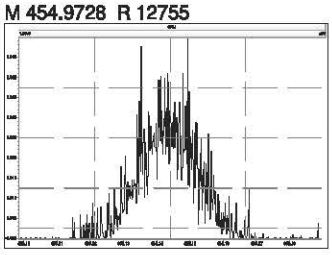
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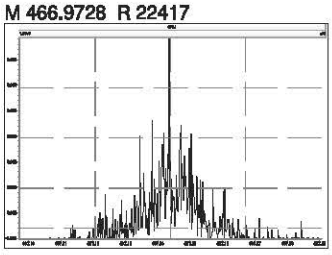
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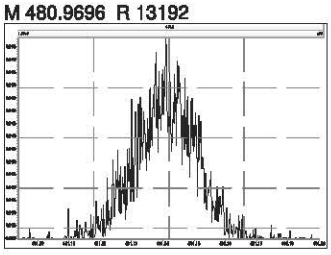
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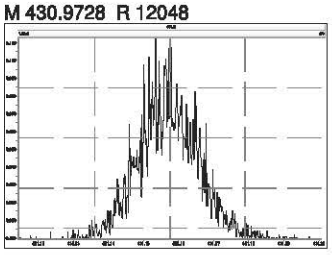
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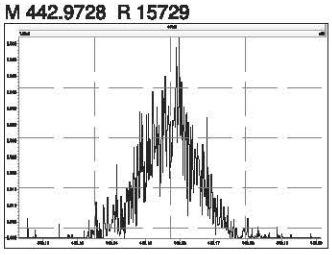
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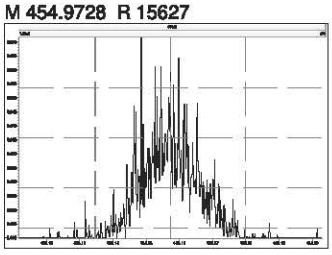
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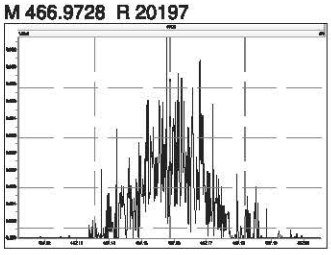
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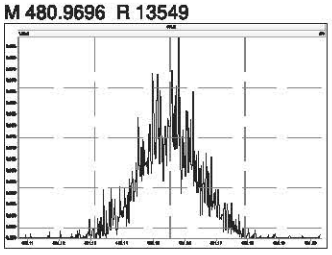
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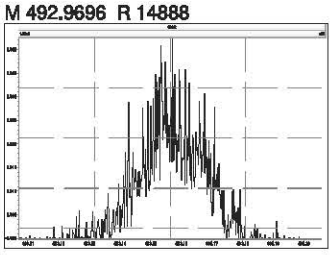
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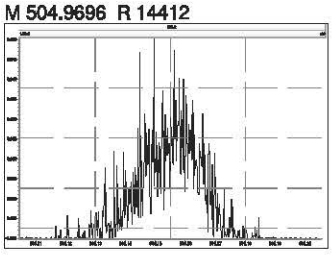
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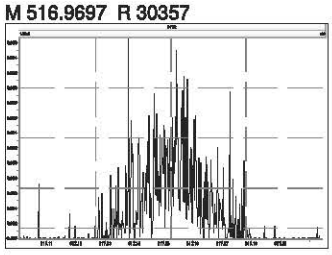
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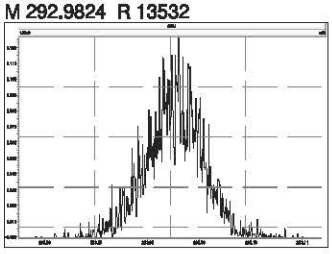


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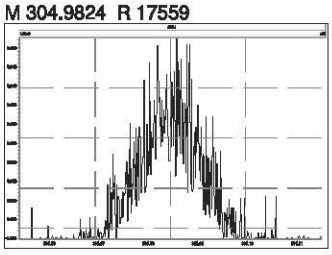


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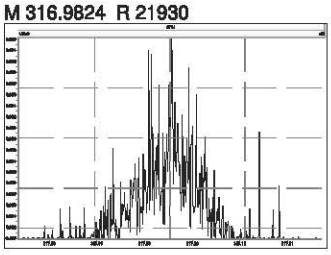
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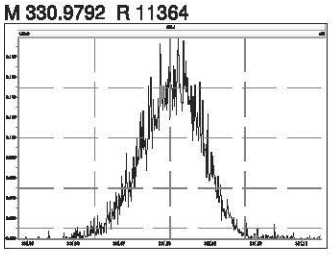
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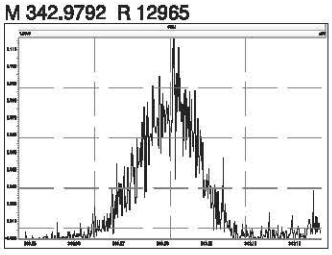
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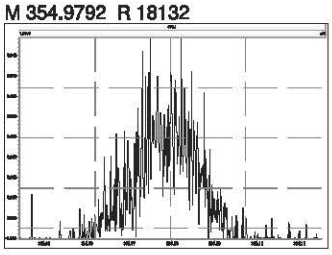
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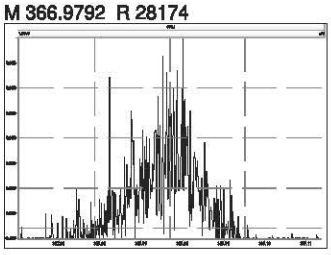
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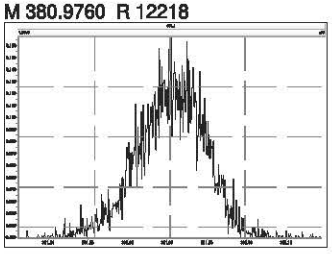
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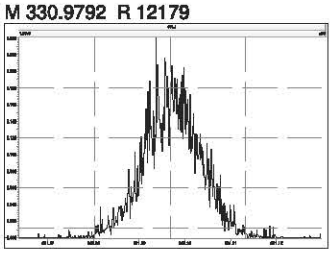
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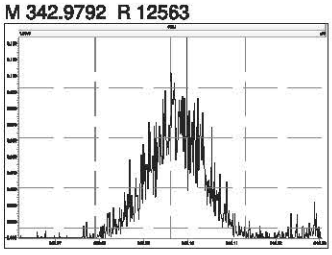
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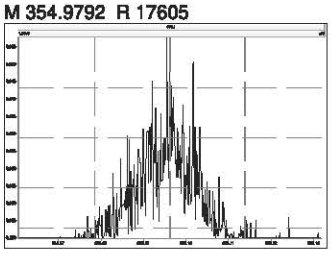
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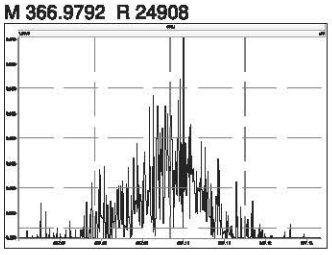
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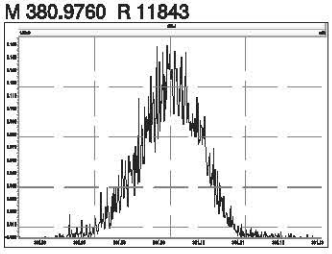
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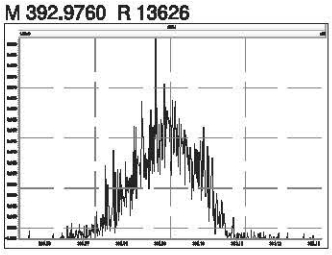
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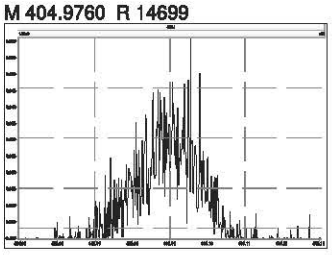
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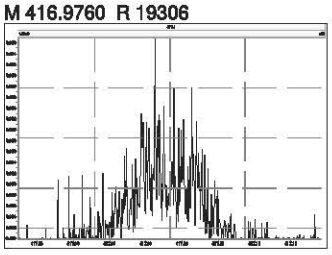
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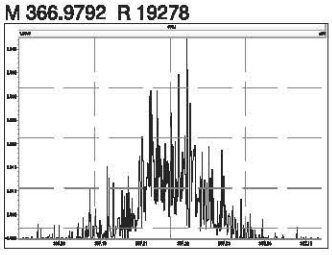
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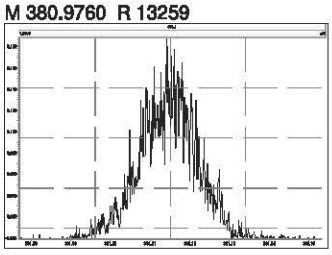
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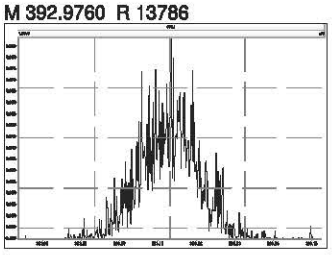
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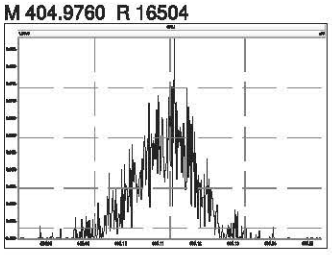
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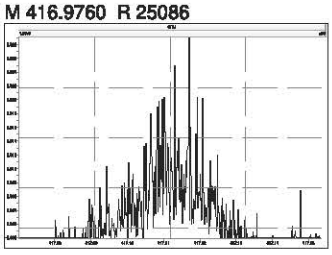
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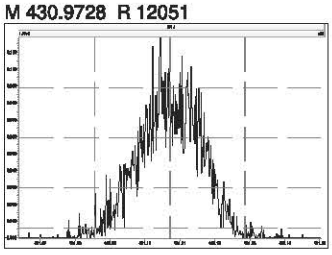
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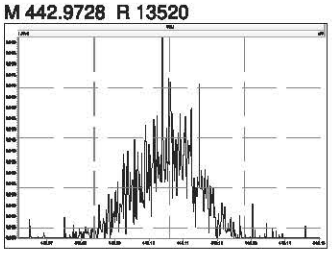
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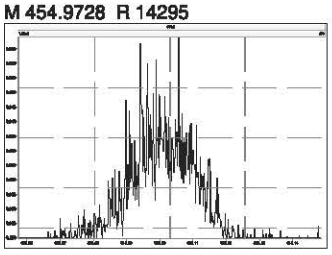
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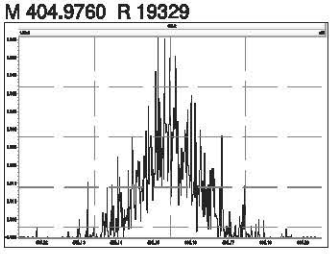
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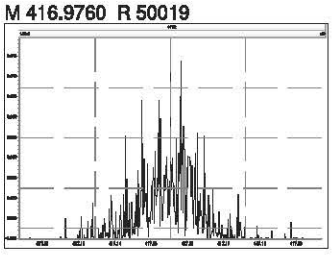
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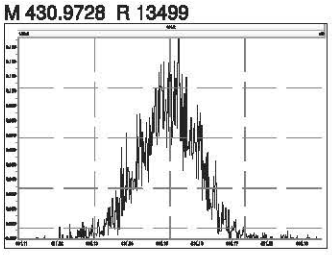
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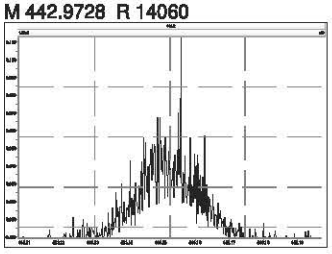
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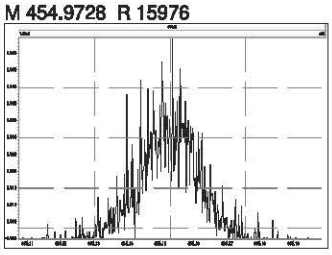
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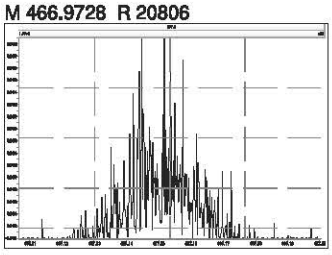
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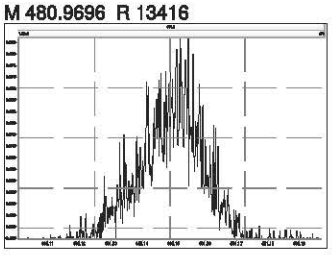
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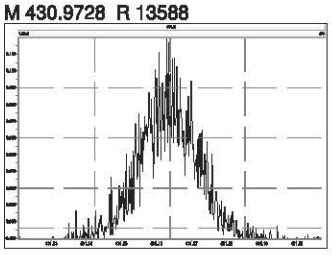
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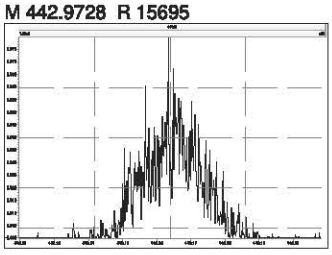
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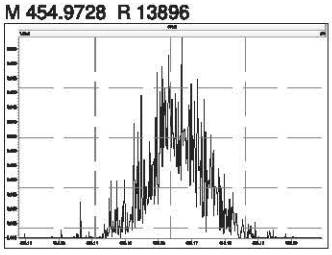
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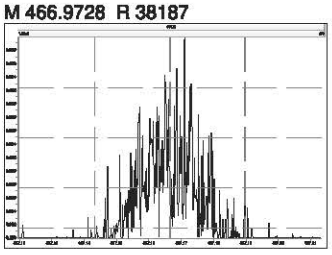
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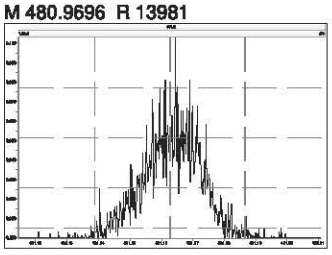
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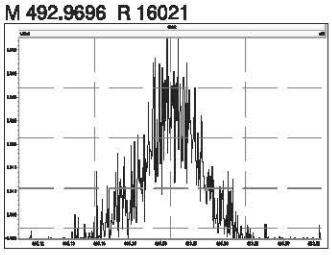
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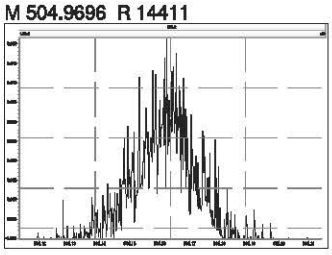
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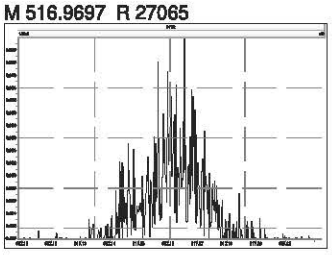
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Client ID: 0_18853_OPR001 | UTP: 26-Jan-2022 09:28:49 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 403-513-QGT

Datafile: 220125R13 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.75		1.0008	1.0008	0	2.99E+06	0.78	Y	1.34	8.44	7830.064	0.266
12378-PeCDD	32.43		1.0005	1.0006	+0.2	1.12E+07	1.55	Y	1.06	44.6	8472.825	0.303
123478-HxCDD	36.41		1.0004	1.0004	0	1.24E+07	1.29	Y	1.06	52.2	8510.736	0.294
123678-HxCDD	36.53		1.0035	1.0036	+0.2	1.32E+07	1.25	Y	1.08	53.4	8510.736	0.306
123789-HxCDD	36.82		1.0116	1.0116	0	1.22E+07	1.27	Y	1.02	48.3	8510.736	0.3
1234678-HpCDD	39.77		1.0003	1.0003	0	1.05E+07	1.09	Y	0.97	52.1	11124.588	0.35
OCDD	42.19		1.0003	1.0003	0	1.38E+07	0.92	Y	1.07	107	10567.749	0.646
2378-TCDF	25.81		1.0008	1.0009	+0.2	4.10E+06	0.77	Y	0.96	10.9	10308.912	0.347
12378-PeCDF	30.91		1.0006	1.0006	0	1.78E+07	1.57	Y	0.95	51.9	11331.627	0.322
23478-PeCDF	32.08		1.0006	1.0005	-0.2	1.87E+07	1.59	Y	0.94	54.5	11331.627	0.303
123478-HxCDF	35.43		1.0004	1.0005	+0.2	1.78E+07	1.27	Y	1.23	53.5	12526.157	0.296
123678-HxCDF	35.57		1.0004	1.0005	+0.2	1.84E+07	1.26	Y	1.13	49.9	12526.157	0.297
234678-HxCDF	36.24		1.0005	1.0005	0	1.01E+07	1.22	Y	1.15	50.5	12526.157	0.61
123789-HxCDF	37.19		1.0005	1.0005	0	1.39E+07	1.24	Y	1.14	47.9	12526.157	0.392
1234678-HpCDF	38.81		1.0003	1.0003	0	1.77E+07	1.05	Y	1.36	51.7	9137.668	0.205
1234789-HpCDF	40.18		1.0002	1.0003	+0.2	1.22E+07	1.07	Y	1.30	51	9137.668	0.248
OCDF	42.35		1.0003	1.0003	0	1.62E+07	0.91	Y	1.03	105	11353.609	0.582

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.73	1.0273	1.0274	+0.2	2.64E+07	0.78	Y	1.03	96.3
ES 12378-PeCDD	32.41	1.2455	1.2460	+1.0	2.37E+07	1.66	Y	1.03	86.3
ES 123478-HxCDD	36.40	0.9917	0.9918	+0.2	2.25E+07	1.29	Y	0.99	105
ES 123678-HxCDD	36.51	0.9948	0.9949	+0.2	2.28E+07	1.32	Y	0.97	108
ES 123789-HxCDD	36.80	1.0028	1.0028	0	2.48E+07	1.25	Y	1.12	102
ES 1234678-HpCDD	39.76	1.0830	1.0834	+1.0	2.07E+07	1.09	Y	0.99	96.5
ES OCDD	42.17	1.1489	1.1492	+0.8	2.41E+07	0.89	Y	0.78	71.9
ES 2378-TCDF	25.79	1.0623	1.0625	+0.3	3.92E+07	0.77	Y	1.08	84.4
ES 12378-PeCDF	30.89	1.2724	1.2729	+0.9	3.63E+07	1.55	Y	0.93	90.8
ES 23478-PeCDF	32.06	1.3205	1.3211	+1.2	3.65E+07	1.58	Y	0.92	92.4
ES 123478-HxCDF	35.41	0.9649	0.9649	0	2.69E+07	0.53	Y	1.14	109
ES 123678-HxCDF	35.55	0.9688	0.9688	0	3.27E+07	0.52	Y	1.30	117
ES 234678-HxCDF	36.22	0.9868	0.9870	+0.4	1.73E+07	0.51	Y	1.20	66.8
ES 123789-HxCDF	37.18	1.0129	1.0131	+0.4	2.55E+07	0.53	Y	1.14	104
ES 1234678-HpCDF	38.79	1.0569	1.0571	+0.5	2.51E+07	0.44	Y	0.95	123
ES 1234789-HpCDF	40.17	1.0944	1.0947	+0.7	1.85E+07	0.46	Y	0.85	101
ES OCDF	42.34	1.1533	1.1536	+0.8	3.00E+07	0.93	Y	0.93	74.9

APPROVED
Amy_Boehm , 1/27/2022, 3:42:04 PM

Lab ID: OPR1_18853_DF | **Acq'd:** 25 Jan 2022 19:42 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18853_OPR001 | **UTP:** 26-Jan-2022 09:28:49 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 403-513-QGT

Datafile: 220125R13 | **Report:** 26 Jan 2022 11:12 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.02		-	-	-	2.65E+07	0.81	Y	-	-
JS 1234-TCDF	24.27		-	-	-	4.28E+07	0.77	Y	-	-
JS 123467-HxCDD	36.70		-	-	-	1.08E+07	1.24	Y	-	-
CS 37Cl-2378-TCDD	26.75		1.0282	1.0283	+0.2	1.11E+07	n/a	-	1.31	79.7
CS 12347-PeCDD	31.90		1.2257	1.2261	+0.8	2.05E+07	1.58	Y	0.89	86.6
CS 12346-PeCDF	30.34		1.2496	1.2502	+1.1	3.35E+07	1.61	Y	0.87	90.1
CS 123469-HxCDF	35.87		0.9773	0.9774	+0.2	2.86E+07	0.52	Y	1.09	121
CS 1234689-HpCDF	39.23		1.0687	1.0690	+0.7	2.24E+07	0.44	Y	0.86	120
~~SS 37Cl-2378-TCDD~~	~~26.75~~		~~1.0282~~	~~1.0283~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.26~~	~~83.2~~
~~SS 12347-PeCDD~~	~~31.90~~		~~1.2257~~	~~1.2261~~	~~+0.8~~	~~2.05E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~100~~
~~SS 12346-PeCDF~~	~~30.34~~		~~1.2496~~	~~1.2502~~	~~+1.1~~	~~3.35E+07~~	~~1.61~~	~~Y~~	~~0.93~~	~~99.2~~
~~SS 123469-HxCDF~~	~~35.87~~		~~0.9773~~	~~0.9774~~	~~+0.2~~	~~2.86E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~104~~
~~SS 1234689-HpCDF~~	~~39.23~~		~~1.0687~~	~~1.0690~~	~~+0.7~~	~~2.24E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~97.6~~

Totals	Conc	EMPC
Total TCDD	39.1	39.1
Total PeCDD	65.1	65.1
Total HxCDD	166	166
Total HpCDD	63.8	63.8
Total Tetra-Octa Dioxins	442	442
Total TCDF	62.7	62.7
Total PeCDF	204	204
Total HxCDF	341	341
Total HpCDF	103	103
Total Tetra-Octa Furans	816	816
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.781	0.78
Response	3.00E+06	2.99E+06

Lab ID: OPR1_18853_DF | Acq'd: 25 Jan 2022 19:42 PSW | Wt/Vol: 1 uL | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18853_OPR001 | UTP: 26-Jan-2022 09:28:49 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 403-513-QGT

Datafile: 220125R13 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.68		0.8486	0.8485	-0.1	3.99E+06	0.80	Y	1.34	11.3	7830.064	0.266
1379-TCDD	NotFnd		0.8642						1.34		7830.064	0.266
1369-TCDD	NotFnd		0.8825						1.34		7830.064	0.266
1469-TCDD	NotFnd		0.9154						1.34		7830.064	0.266
1247/1246/1248/1249-TCDD	NotFnd		0.9256						1.34		7830.064	0.266
1378-TCDD	NotFnd		0.9332						1.34		7830.064	0.266
1268-TCDD	NotFnd		0.9415						1.34		7830.064	0.266
1478-TCDD	NotFnd		0.9518						1.34		7830.064	0.266
1279-TCDD	NotFnd		0.9586						1.34		7830.064	0.266
1234/1269-TCDD	NotFnd		0.9734						1.34		7830.064	0.266
1236-TCDD	NotFnd		0.9788						1.34		7830.064	0.266
1237/1238-TCDD	NotFnd		0.9892						1.34		7830.064	0.266
1239-TCDD	26.59		0.9944	0.9947	+0.5	2.76E+06	0.80	Y	1.34	7.78	7830.064	0.266
2378-TCDD	**26.75**		**1.0008**	1.0008	**0**	2.99E+06	0.78	Y	**1.34**	**8.44**	**7830.064**	**0.266**
1278-TCDD	NotFnd		1.0142						1.34		7830.064	0.266
1267-TCDD	NotFnd		1.0197						1.34		7830.064	0.266
1289-TCDD	27.81		1.0401	1.0403	+0.3	4.12E+06	0.77	Y	1.34	11.6	7830.064	0.266
12479/12468-PeCDD	29.83		0.9202	0.9202	0	2.41E+06	1.59	Y	1.06	9.63	8472.825	0.303
12469-PeCDD	NotFnd		0.9375						1.06		8472.825	0.303
12368-PeCDD	NotFnd		0.9553						1.06		8472.825	0.303
12478-PeCDD	NotFnd		0.9613						1.06		8472.825	0.303
12379-PeCDD	NotFnd		0.9644						1.06		8472.825	0.303
12369/12467/12489-PeCDD	NotFnd		0.9730						1.06		8472.825	0.303
12346/12347-PeCDD	NotFnd		0.9848						1.06		8472.825	0.303
12378-PeCDD	32.43		**1.0005**	**1.0006**	**+0.2**	**1.12E+07**	**1.55**	**Y**	**1.06**	**44.6**	**8472.825**	**0.303**
12367-PeCDD	NotFnd		1.0035						1.06		8472.825	0.303
12389-PeCDD	32.89		1.0146	1.0146	0	2.71E+06	1.48	Y	1.06	10.8	8472.825	0.303
124679/124689-HxCDD	34.69		0.9532	0.9531	-0.2	3.05E+06	1.26	Y	1.05	12.4	8510.736	0.3
123468-HxCDD	NotFnd		0.9715						1.05		8510.736	0.3
123679/123689-HxCDD	NotFnd		0.9795						1.05		8510.736	0.3
123469-HxCDD	NotFnd		0.9832						1.05		8510.736	0.3
123478-HxCDD	36.41		**1.0004**	**1.0004**	**0**	**1.24E+07**	**1.29**	**Y**	1.06	**52.2**	**8510.736**	**0.294**
123678-HxCDD	36.53		**1.0035**	**1.0036**	**+0.2**	**1.32E+07**	**1.25**	**Y**	1.08	**53.4**	**8510.736**	**0.306**
123467-HxCDD	NotFnd		1.0087						1.05		8510.736	0.3
123789-HxCDD	36.82		**1.0116**	**1.0116**	**0**	**1.22E+07**	**1.27**	**Y**	1.02	**48.3**	**8510.736**	**0.3**

Lab ID: OPR1_18853_DF | Acq'd: 25 Jan 2022 19:42 PSW | Wt/Vol: 1 uL | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18853_OPR001 | UTP: 26-Jan-2022 09:28:49 PSW | J-level: 0.25 pg/uL Split: 1 | Checkcode: 403-513-QGT

Datafile: 220125R13 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.10		0.9834	0.9834	0	2.35E+06	1.07	Y	0.97	11.7	11124.588	0.35
1234678-HpCDD	**39.77**		**1.0003**	**1.0003**	**0**	**1.05E+07**	**1.09**	**Y**	**0.97**	**52.1**	**11124.588**	**0.35**
OCDD	**42.19**		**1.0003**	**1.0003**	**0**	**1.38E+07**	**0.92**	**Y**	**1.07**	**107**	**10567.749**	**0.646**
OCDD-a	42.18		1.0001	1.0002	+0.3	7.25E+05	2.67	Y	0.07	91	12804.661	12.7
1368-TCDF	20.47		0.7942	0.7938	-0.5	5.80E+06	0.80	Y	0.96	15.4	10308.912	0.347
1468-TCDF	NotFnd		0.8155						0.96		10308.912	0.347
2468-TCDF	21.67		0.8407	0.8403	-0.5	1.36E+06	0.82	Y	0.96	3.62	10308.912	0.347
1346/1246-TCDF	NotFnd		0.8553						0.96		10308.912	0.347
1347/1378/1247-TCDF	NotFnd		0.8617						0.96		10308.912	0.347
1348-TCDF	NotFnd		0.8740						0.96		10308.912	0.347
1248/1367/1379-TCDF	NotFnd		0.8798						0.96		10308.912	0.347
1268-TCDF	NotFnd		0.8967						0.96		10308.912	0.347
1467-TCDF	NotFnd		0.9025						0.96		10308.912	0.347
1478-TCDF	NotFnd		0.9101						0.96		10308.912	0.347
1369/1237-TCDF	NotFnd		0.9263						0.96		10308.912	0.347
2467-TCDF	NotFnd		0.9322						0.96		10308.912	0.347
2368-TCDF	NotFnd		0.9389						0.96		10308.912	0.347
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9427						0.96		10308.912	0.347
1278-TCDF	NotFnd		0.9623						0.96		10308.912	0.347
1349-TCDF	NotFnd		0.9678						0.96		10308.912	0.347
1267-TCDF	NotFnd		0.9740						0.96		10308.912	0.347
2346/1249-TCDF	NotFnd		0.9820						0.96		10308.912	0.347
2347/1279-TCDF	NotFnd		0.9915						0.96		10308.912	0.347
2348-TCDF	25.69		0.9964	0.9964	0	5.89E+06	0.76	Y	0.96	15.7	10308.912	0.347
2378-TCDF	**25.81**		**1.0008**	**1.0009**	**+0.2**	**4.10E+06**	**0.77**	**Y**	**0.96**	**10.9**	**10308.912**	**0.347**
2367/3467-TCDF	NotFnd		1.0163						0.96		10308.912	0.347
1269-TCDF	NotFnd		1.0265						0.96		10308.912	0.347
1239-TCDF	NotFnd		1.0373						0.96		10308.912	0.347
1289-TCDF	27.98		1.0847	1.0851	+0.7	6.43E+06	0.79	Y	0.96	17.1	10308.912	0.347
13468/12468-PeCDF	27.92		0.9045	0.9039	-1.0	2.96E+07	1.56	Y	0.94	86.1	10917.865	0.301
13678/13467/12467-PeCDF	NotFnd		0.9574						0.94		11331.627	0.313
12368/13478/12478-PeCDF	NotFnd		0.9628						0.94		11331.627	0.313
14678-PeCDF	NotFnd		0.9661						0.94		11331.627	0.313
13479-PeCDF	NotFnd		0.9695						0.94		11331.627	0.313
13469/12479-PeCDF	NotFnd		0.9779						0.94		11331.627	0.313
12346-PeCDF	NotFnd		0.9824						0.94		11331.627	0.313

Lab ID: OPR1_18853_DF | Acq'd: 25 Jan 2022 19:42 PSW | Wt/Vol: 1 uL | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18853_OPR001 | UTP: 26-Jan-2022 09:28:49 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 403-513-QGT

Datafile: 220125R13 | Report: 26 Jan 2022 11:12 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9857						0.94		11331.627	0.313
12347-PeCDF	NotFnd		0.9882						0.94		11331.627	0.313
12348-PeCDF	NotFnd		0.9935						0.94		11331.627	0.313
12378-PeCDF	**30.91**		**1.0006**	**1.0006**	**0**	**1.78E+07**	**1.57**	**Y**	**0.95**	**51.9**	**11331.627**	**0.322**
12678/12367-PeCDF	NotFnd		1.0099						0.94		11331.627	0.313
12379-PeCDF	NotFnd		1.0155						0.94		11331.627	0.313
12679-PeCDF	NotFnd		0.9921						0.94		11331.627	0.313
23467/12369-PeCDF	NotFnd		0.9962						0.94		11331.627	0.313
23478-PeCDF	**32.08**		**1.0006**	**1.0005**	**-0.2**	**1.87E+07**	**1.59**	**Y**	**0.94**	**54.5**	**11331.627**	**0.303**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		11331.627	0.313
12349-PeCDF	NotFnd		1.0106						0.94		11331.627	0.313
12389-PeCDF	33.19		1.0349	1.0350	+0.2	3.90E+06	1.60	Y	0.94	11.4	11331.627	0.313
123468-HxCDF	34.02		0.9606	0.9606	0	4.16E+07	1.27	Y	1.16	140	12526.157	0.372
124678/134678-HxCDF	NotFnd		0.9663						1.16		12526.157	0.372
134679-HxCDF	NotFnd		0.9729						1.16		12526.157	0.372
124679-HxCDF	NotFnd		0.9786						1.16		12526.157	0.372
124689-HxCDF	NotFnd		0.9851						1.16		12526.157	0.372
123467-HxCDF	NotFnd		0.9970						1.16		12526.157	0.372
123478-HxCDF	**35.43**		**1.0004**	**1.0005**	**+0.2**	**1.78E+07**	**1.27**	**Y**	**1.23**	**53.5**	**12526.157**	**0.296**
123678-HxCDF	**35.57**		**1.0004**	**1.0005**	**+0.2**	**1.84E+07**	**1.26**	**Y**	**1.13**	**49.9**	**12526.157**	**0.297**
123479-HxCDF	NotFnd		1.0050						1.16		12526.157	0.372
123469-HxCDF	NotFnd		1.0091						1.16		12526.157	0.372
123679-HxCDF	NotFnd		0.9942						1.16		12526.157	0.372
234678-HxCDF	**36.24**		**1.0005**	**1.0005**	**0**	**1.01E+07**	**1.22**	**Y**	**1.15**	**50.5**	**12526.157**	**0.61**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12526.157	0.372
123789-HxCDF	**37.19**		**1.0005**	**1.0005**	**0**	**1.39E+07**	**1.24**	**Y**	**1.14**	**47.9**	**12526.157**	**0.392**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		12526.157	0.372
1234678-HpCDF	**38.81**		**1.0003**	**1.0003**	**0**	**1.77E+07**	**1.05**	**Y**	**1.36**	**51.7**	**9137.668**	**0.205**
1234679-HpCDF	NotFnd		1.0076						1.33		9137.668	0.223
1234689-HpCDF	NotFnd		1.0114						1.33		9137.668	0.223
1234789-HpCDF	**40.18**		**1.0002**	**1.0003**	**+0.2**	**1.22E+07**	**1.07**	**Y**	**1.30**	**51**	**9137.668**	**0.248**
OCDF	**42.35**		**1.0003**	**1.0003**	**0**	**1.62E+07**	**0.91**	**Y**	**1.03**	**105**	**11353.609**	**0.582**
OCDF-a	42.34		1.0001	1.0001	0	9.67E+05	2.69	Y	0.06	109	12548.078	11.1

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220125R13	Analysis Date:	25-JAN-2022 19:42:55
Lab ID:	OPR1_18853_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	8.44	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	44.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.3	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.1	35	-	70	Y
OCDD	100	107	78	-	144	Y
2,3,7,8-TCDF	10	10.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	51.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51.7	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613, 10/94

Processed: 26 Jan 2022 11:12 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220125R13	Analysis Date:	25-JAN-2022 19:42:55
Lab ID:	OPR1_18853_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	96.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	86.3	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	105	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	108	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	102	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	96.5	26	-	166	Y
13C-OCDD	200	144	26	-	397	Y
13C-2,3,7,8-TCDF	100	84.4	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	90.8	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.4	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	109	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	117	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	66.8	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	104	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	123	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	101	20	-	186	Y
13C-OCDF	200	150	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	31.9	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 8, Method 1613. 10/94

Processed: 26 Jan 2022 11:12 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220125R13	Analysis Date:	25-JAN-2022 19:42:55
Lab ID:	OPR1_18853_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	22.68	1289-TCDD	27.81
12479/12468-PeCDD	29.83	12389-PeCDD	32.89
124679/124689-HxCDD	34.69	123789-HxCDD	36.82
1234879-HpCDD	39.10	1234678-HpCDD	39.77
1368-TCDF	20.47	1289-TCDF	27.98
13468/12468-PeCDF	27.92	12389-PeCDF	33.19
123468-HxCDF	34.02	123789-HxCDF	37.19
1234678-HpCDF	38.81	1234789-HpCDF	40.16

Isomer Specificity Test Standard Results

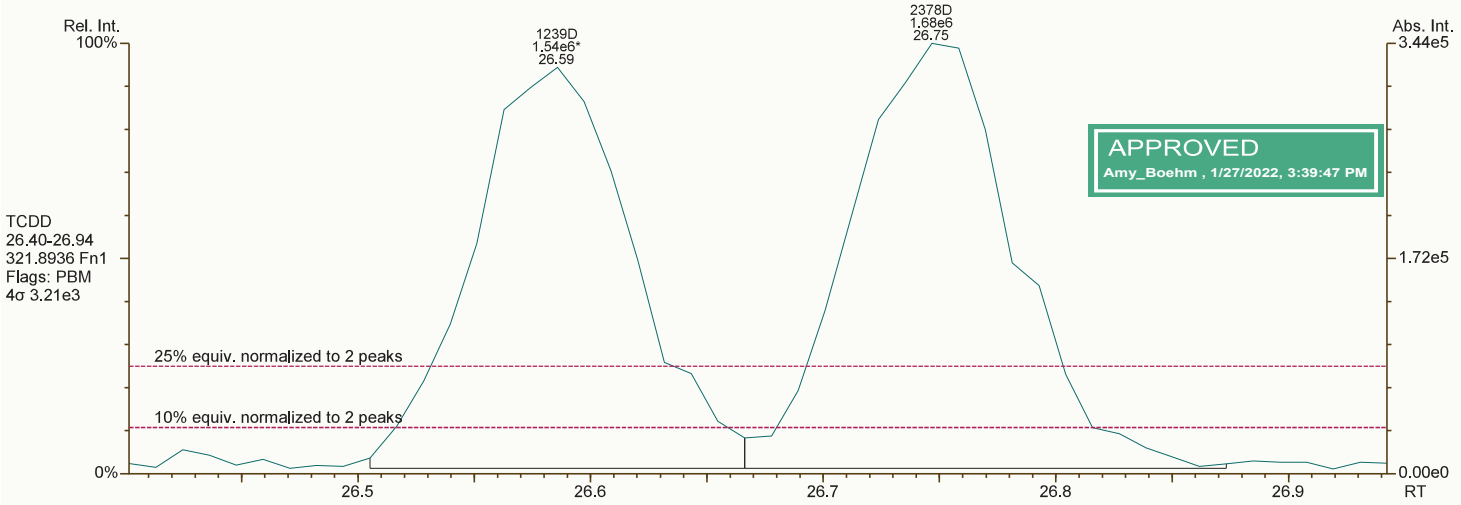
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	26.59	2378-TCDD	26.75
2348-TCDF	25.69	2378-TCDF	25.81

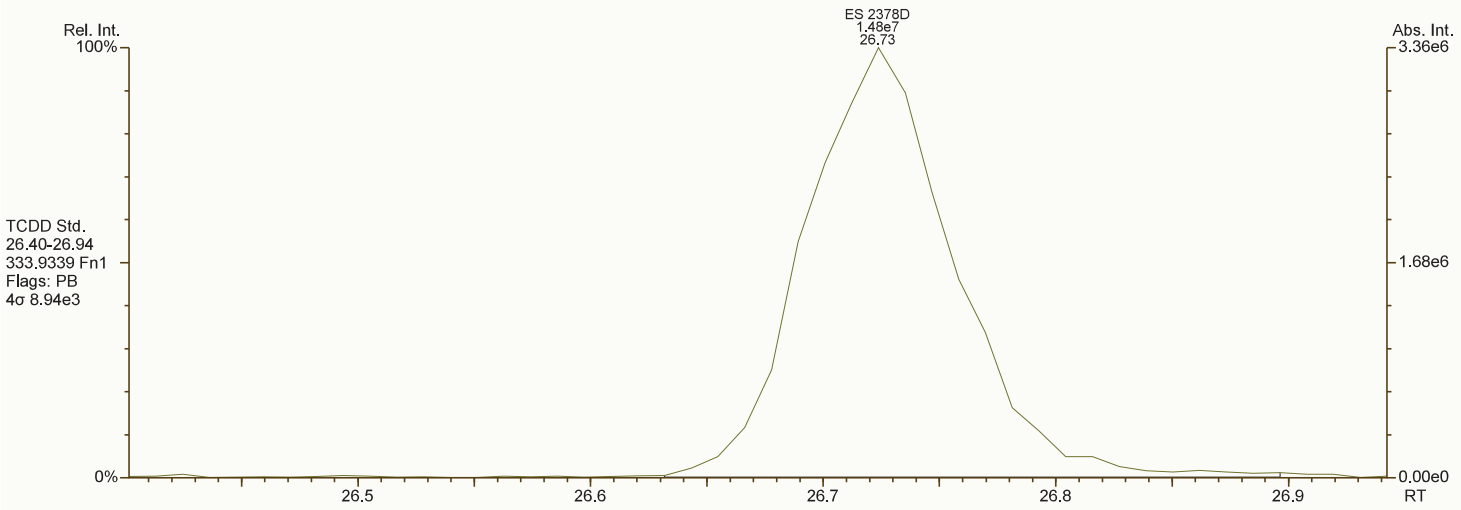
Processed: 26 Jan 2022 11:12 Analyst: pw

SGS ID: OPR1_18853_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18853_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15

Acq: 25-Jan-2022 19:42:55
User: PSW Datafile: 220125R13





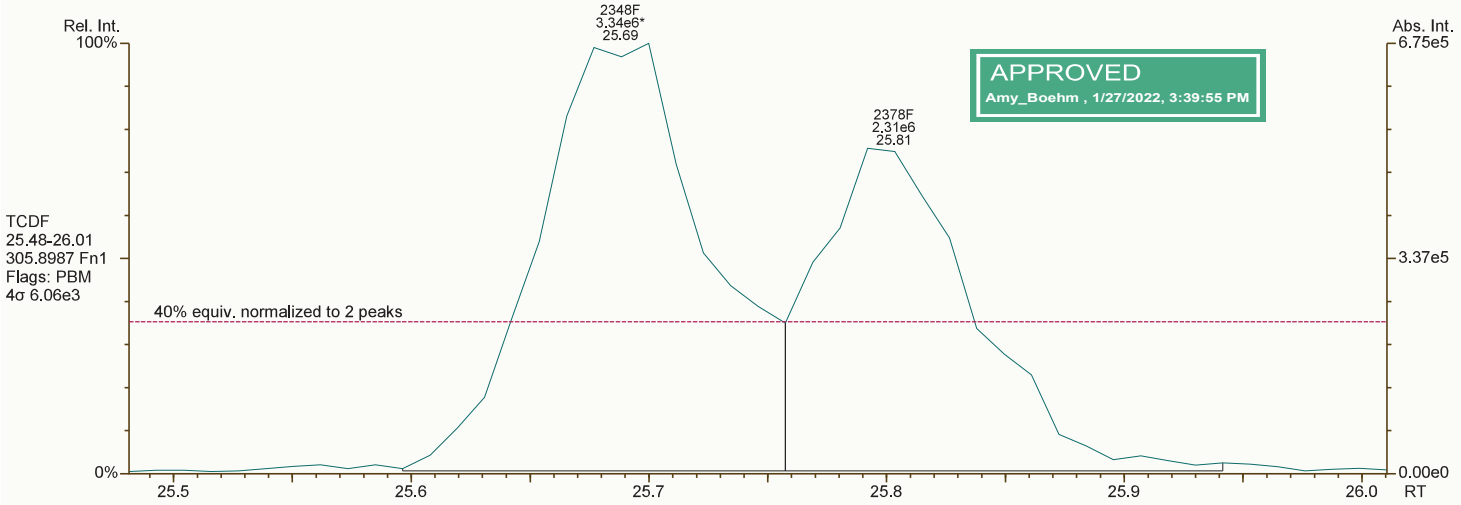
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

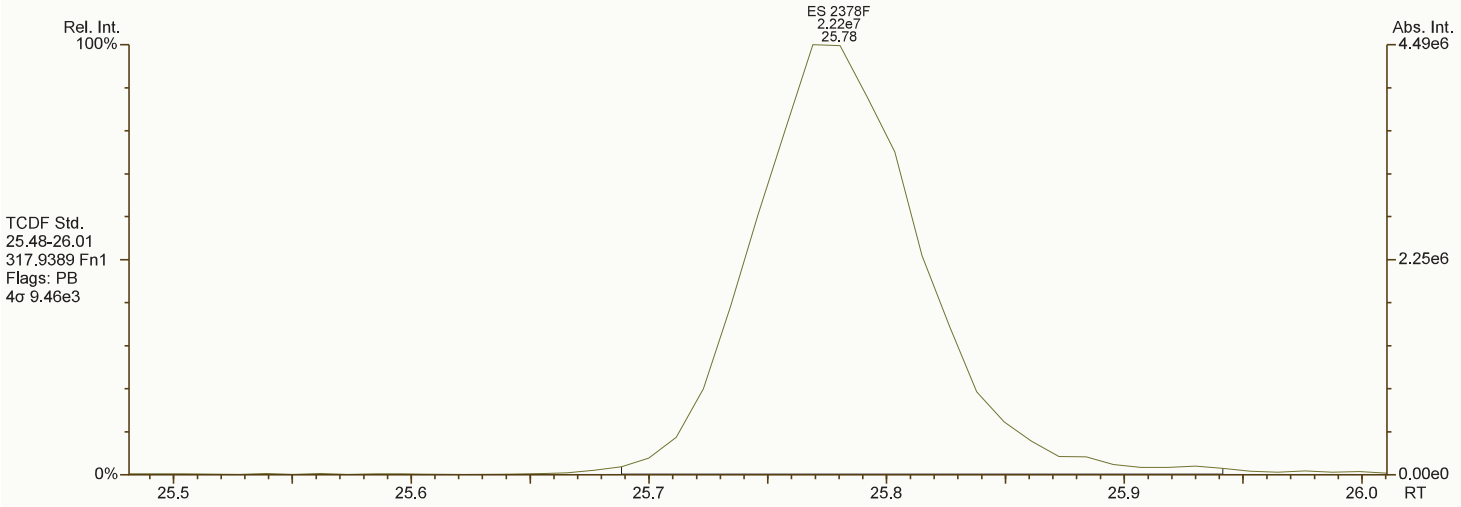
Peak annotation: Areas, Centroids
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:14

SGS ID: OPR1_18853_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18853_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15

Acq: 25-Jan-2022 19:42:55
User: PSW Datafile: 220125R13



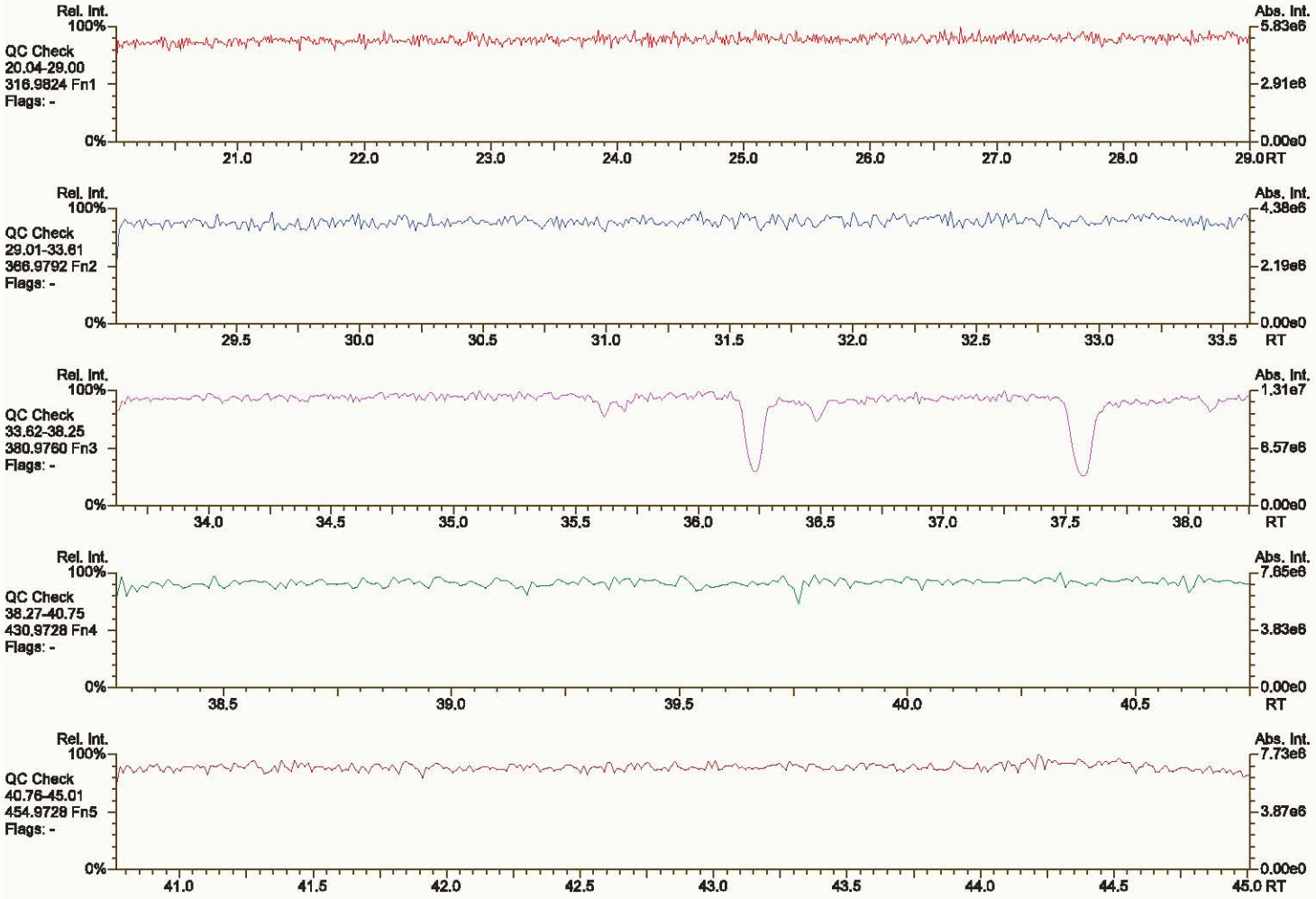


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Peak annotation: Areas, Centroids
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:14

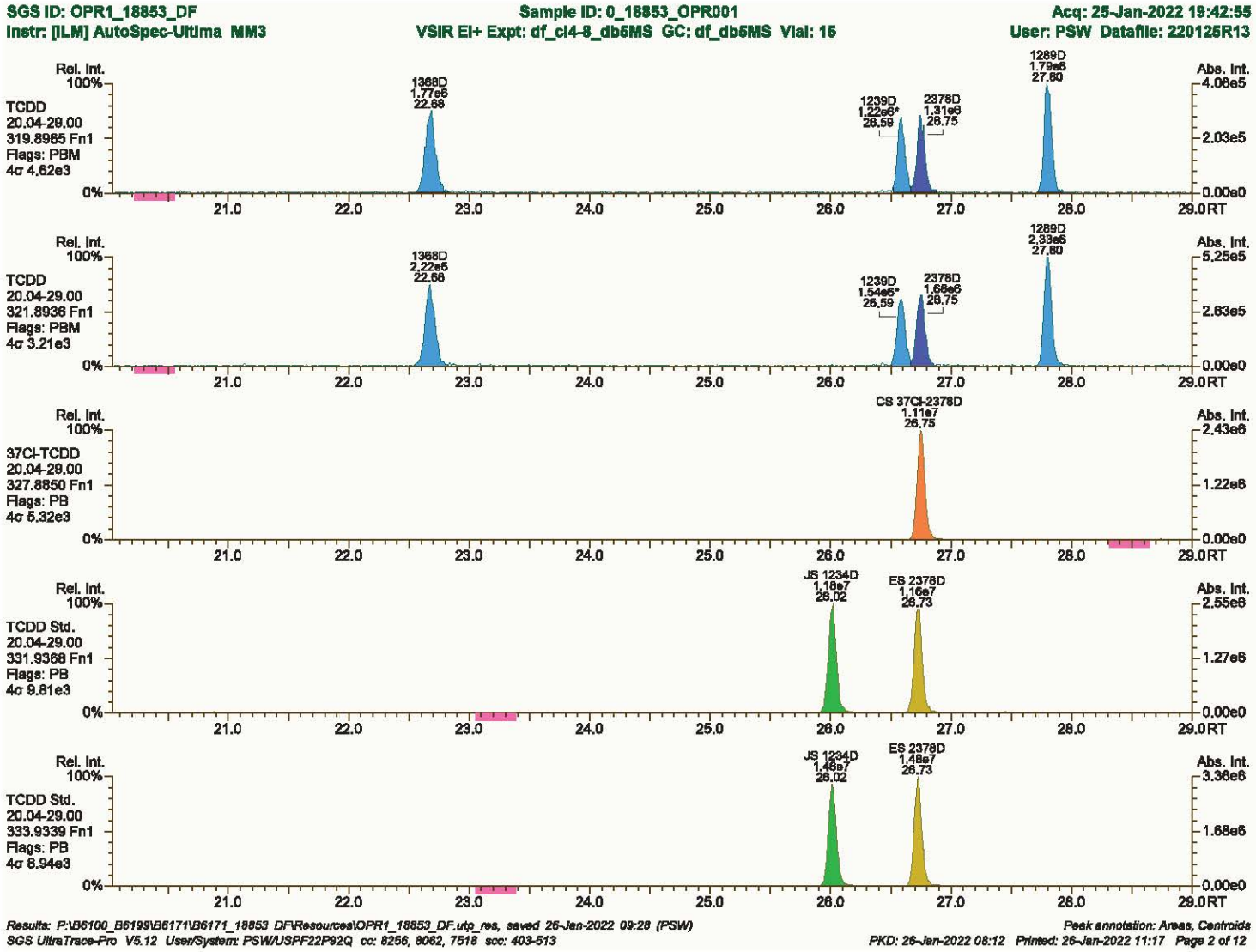
SGS ID: OPR1_18853_DF | Sample ID: 0_18853_OPR001 | Acq: 25-Jan-2022 19:42:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: PSW Datafile: 220125R13



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

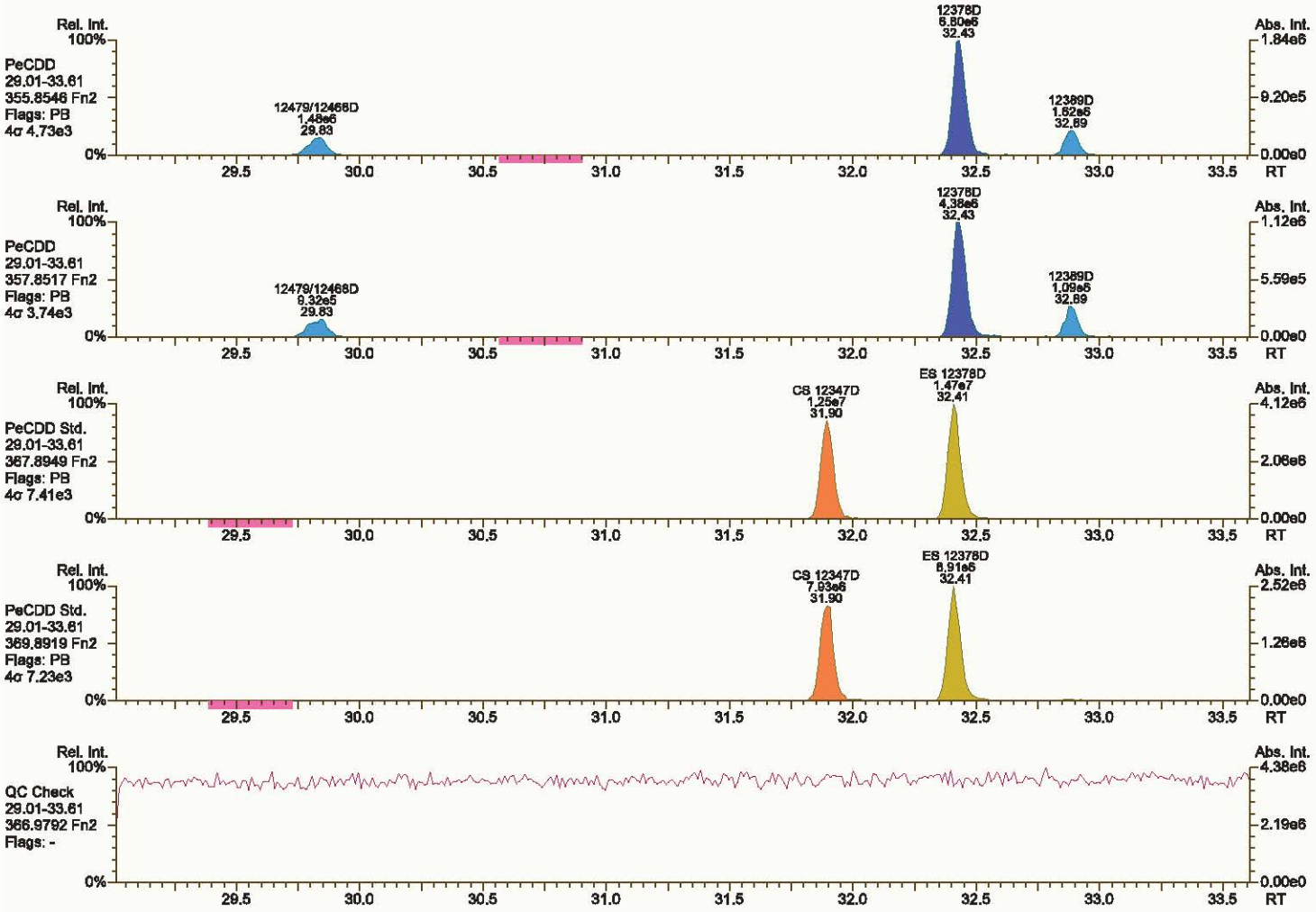
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 403-513 | *PKD: n/a Printed: 26-Jan-2022 11:17 Page 1 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8256, 8062, 7518 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 2 of 12

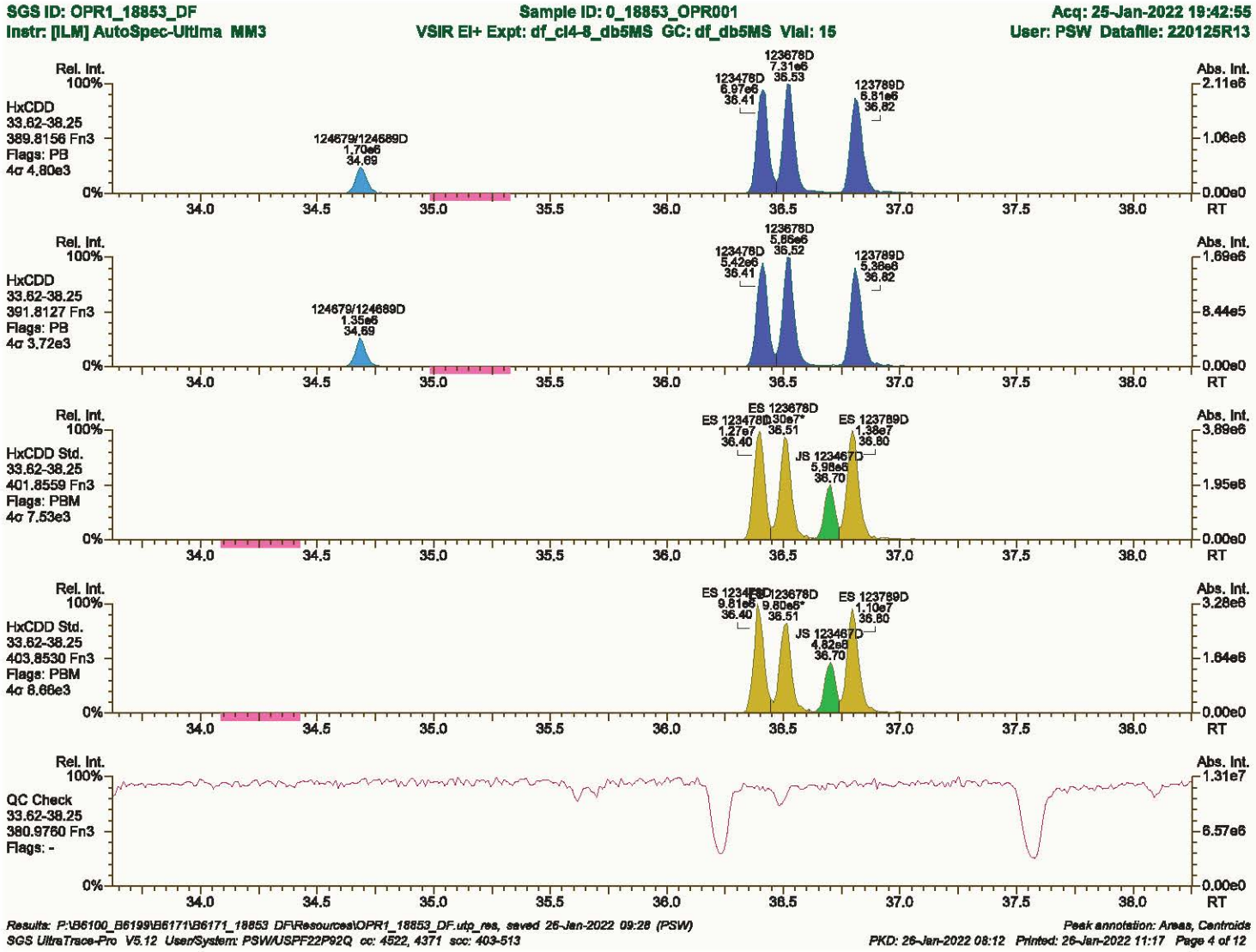
SGS ID: OPR1_18853_DF | Sample ID: 0_18853_OPR001 | Acq: 25-Jan-2022 19:42:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: PSW Datafile: 220125R13



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

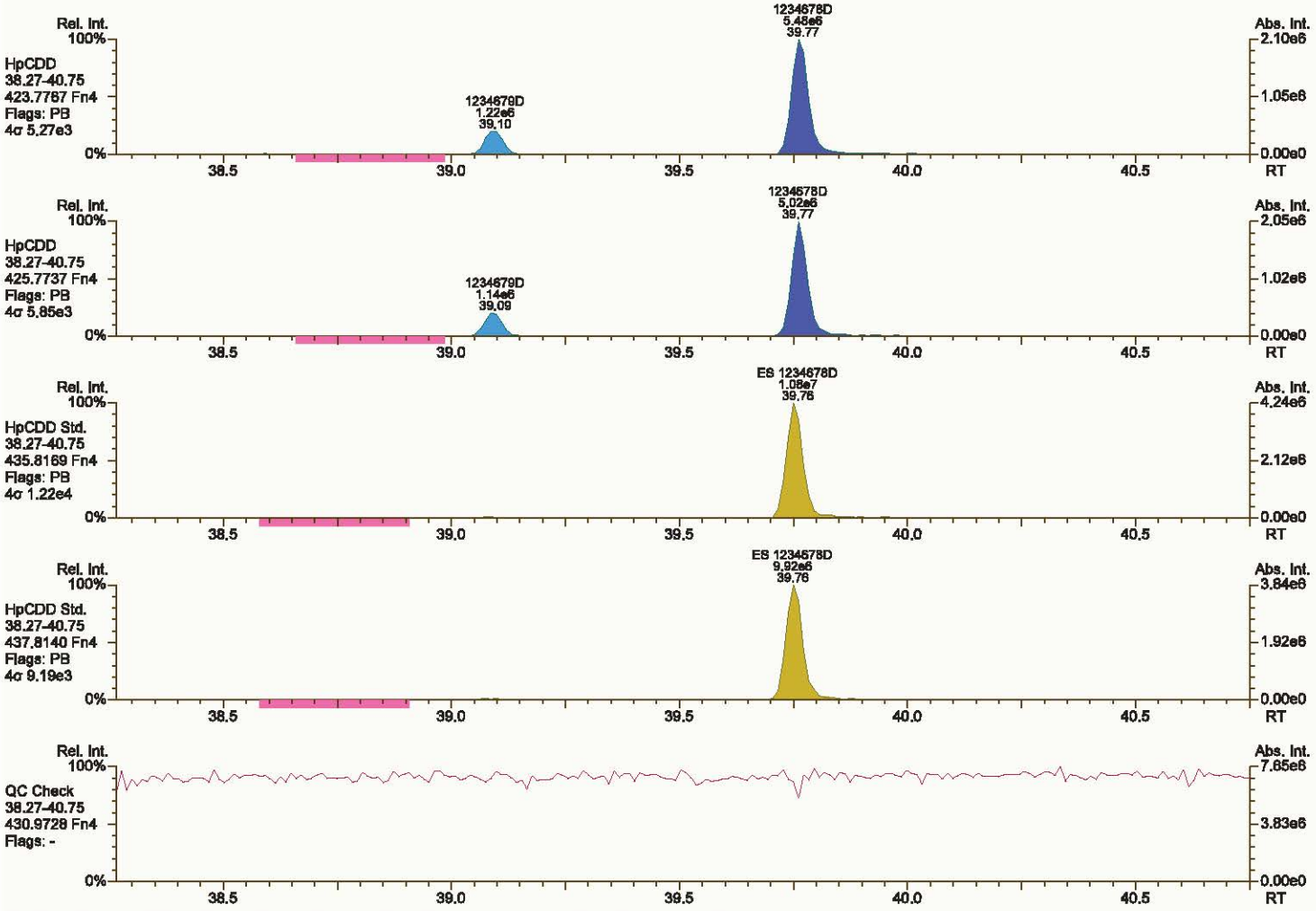
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6312, 0570 scc: 403-513 | *PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 3 of 12*



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4522, 4371 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 4 of 12

SGS ID: OPR1_18853_DF | Sample ID: 0_18853_OPR001 | Acq: 25-Jan-2022 19:42:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: PSW Datafile: 220125R13

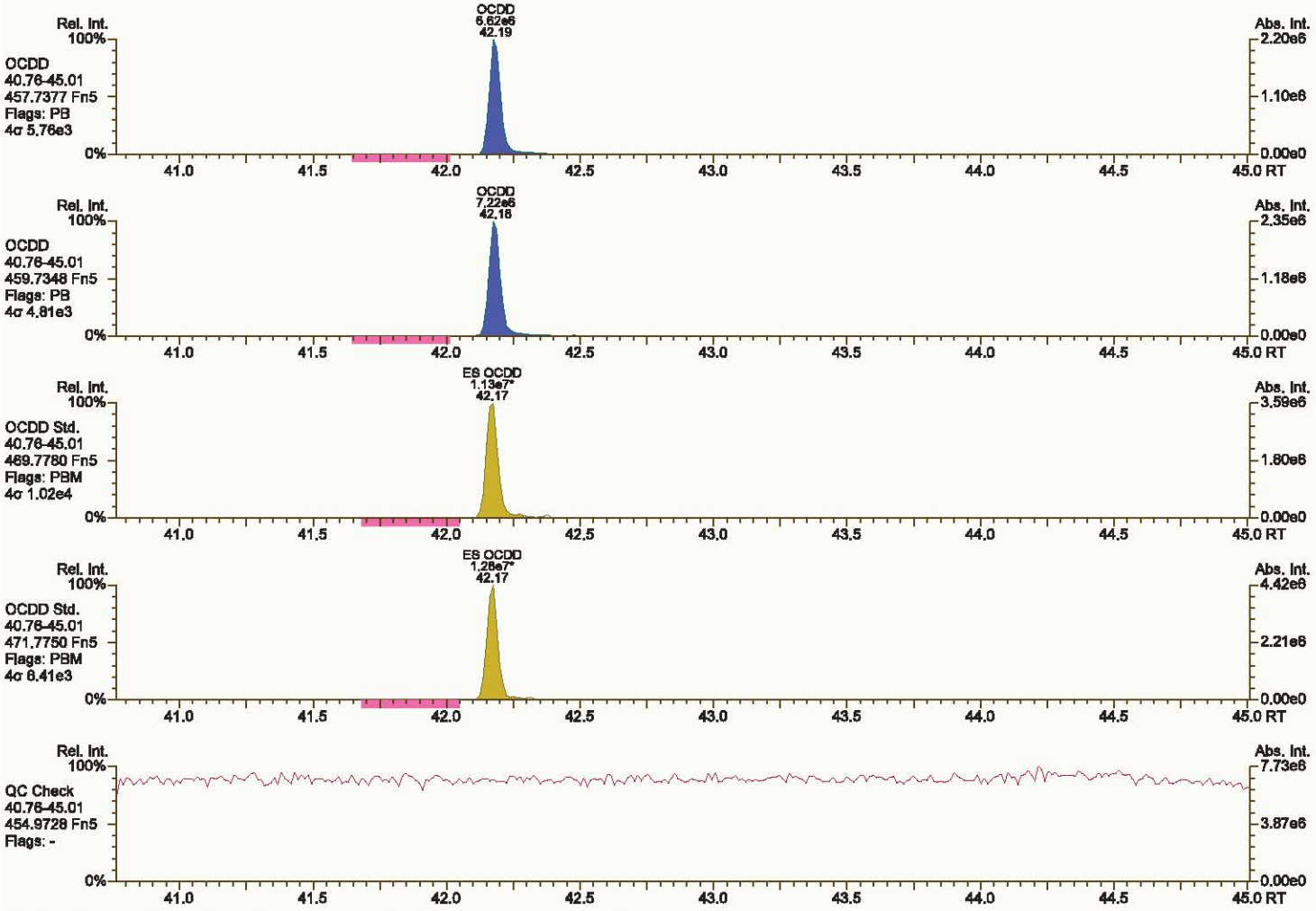


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 9704, 8559 scc: 403-513 | *PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 5 of 12*

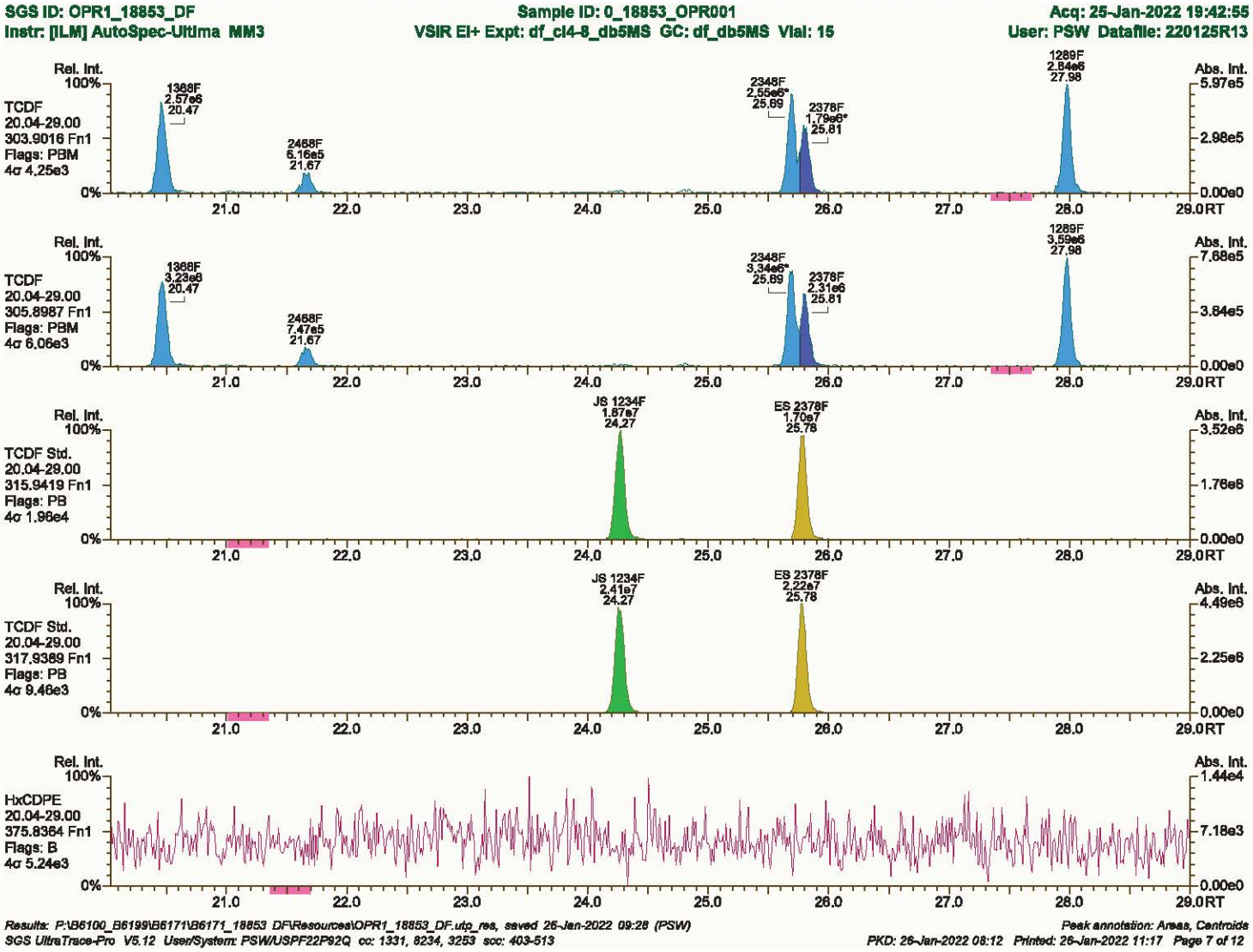
SGS ID: OPR1_18853_DF | Sample ID: 0_18853_OPR001 | Acq: 25-Jan-2022 19:42:55

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: PSW Datafile: 220125R13



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW) | *Peak annotation: Areas, Centroids*

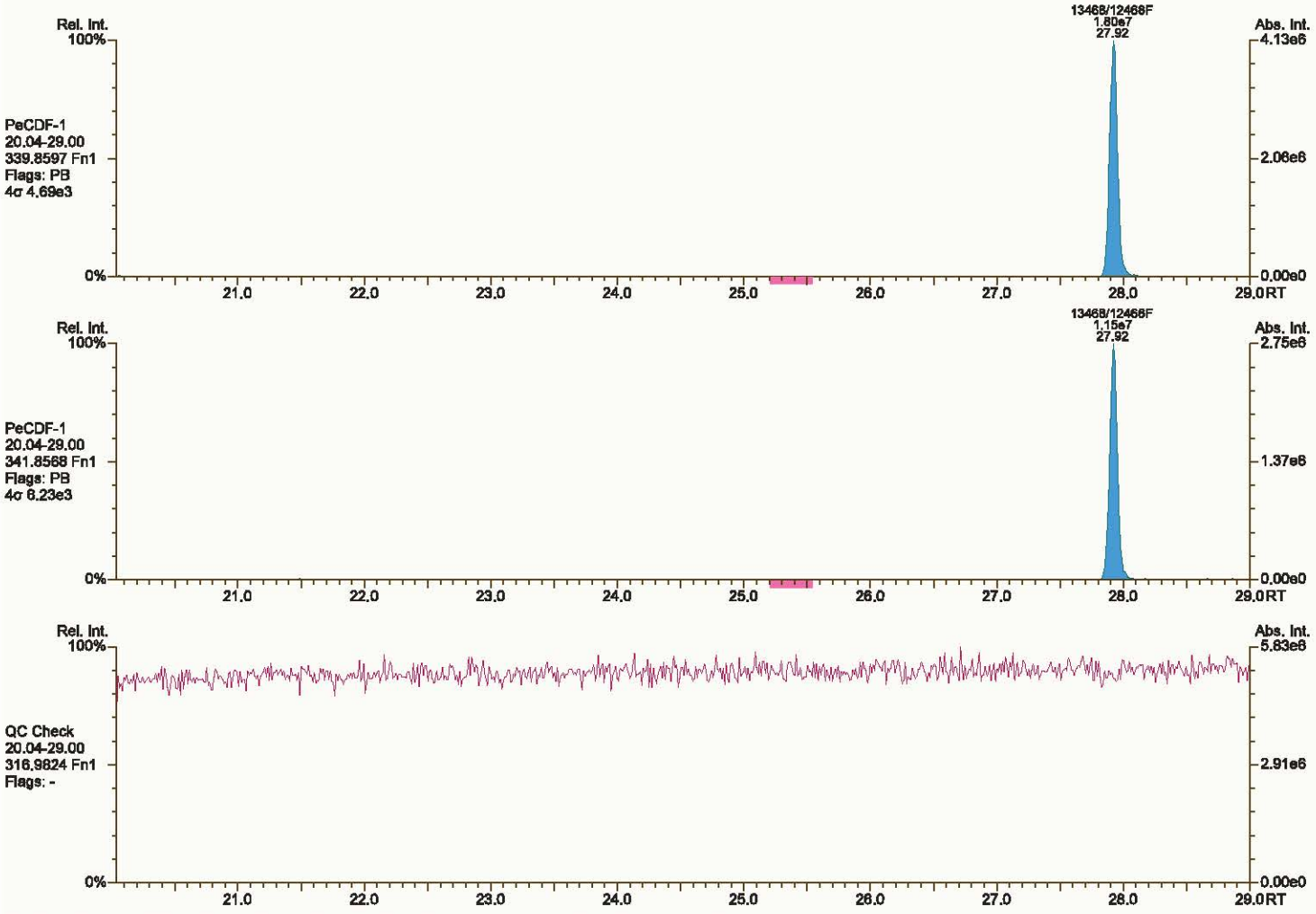
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3764, 1344 scc: 403-513 | *PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 6 of 12*


SGS ID: OPR1_18853_DF
Sample ID: 0_18853_OPR001
Acq: 25-Jan-2022 19:42:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R13
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 4.25e3
1368F 2.57e6 20.47
2468F 6.16e5 21.67
2348F 2.55e6* 25.69
2378F 1.79e6* 25.81
1289F 2.84e6 27.98
5.97e5
2.98e5
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 6.06e3
1368F 3.23e6 20.47
2468F 7.47e5 21.67
2348F 3.34e6* 25.69
2378F 2.31e6 25.81
1289F 3.59e6 27.98
7.68e5
3.84e5
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.96e4
JS 1234F 1.87e7 24.27
ES 2378F 1.70e7 25.78
3.52e6
1.76e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 9.46e3
JS 1234F 2.41e7 24.27
ES 2378F 2.22e7 25.78
4.49e6
2.25e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 5.24e3
1.44e4
7.18e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1331, 8234, 3253 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 7 of 12

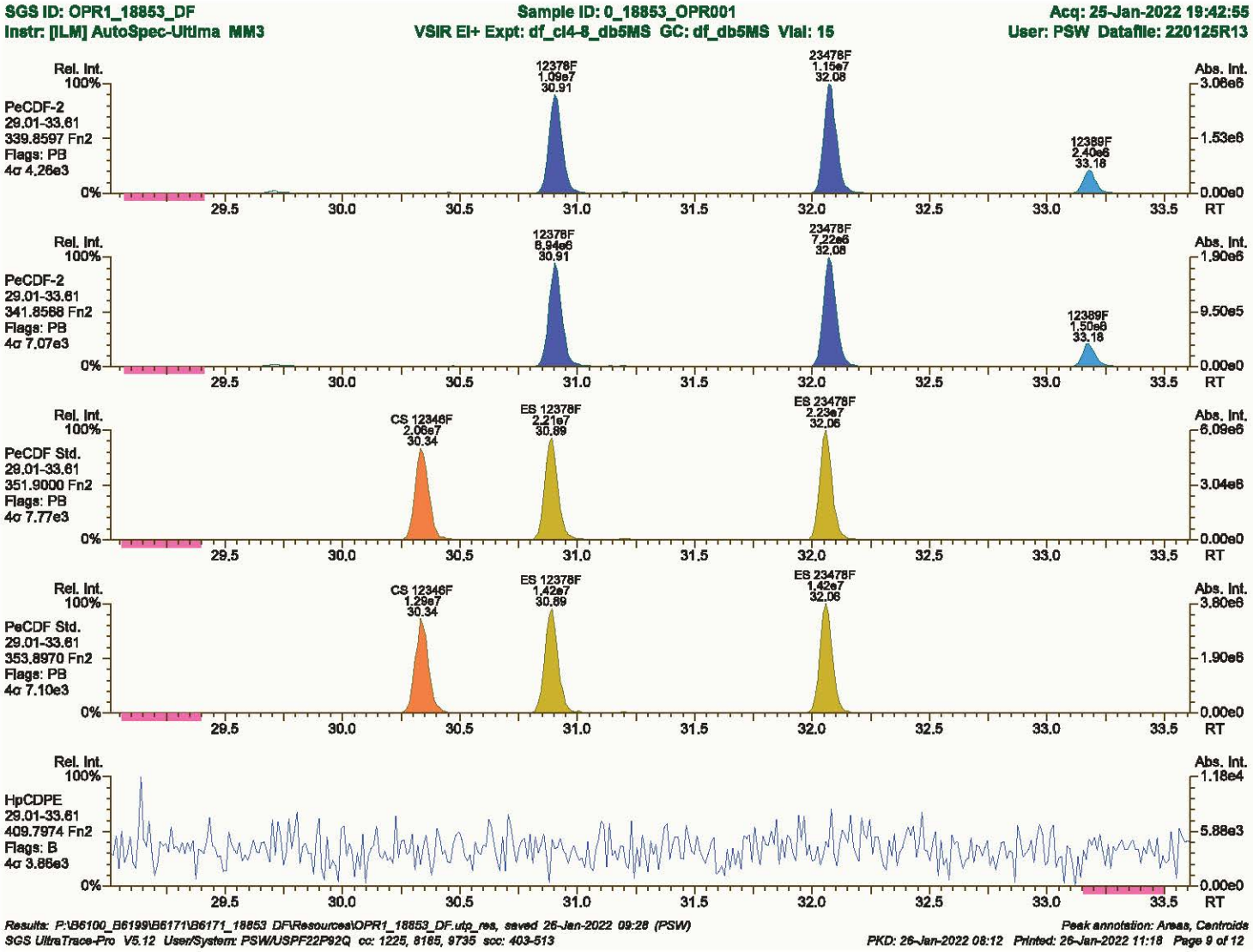
SGS ID: OPR1_18853_DF
Instr: [ILM] AutoSpec-Ultima MM3

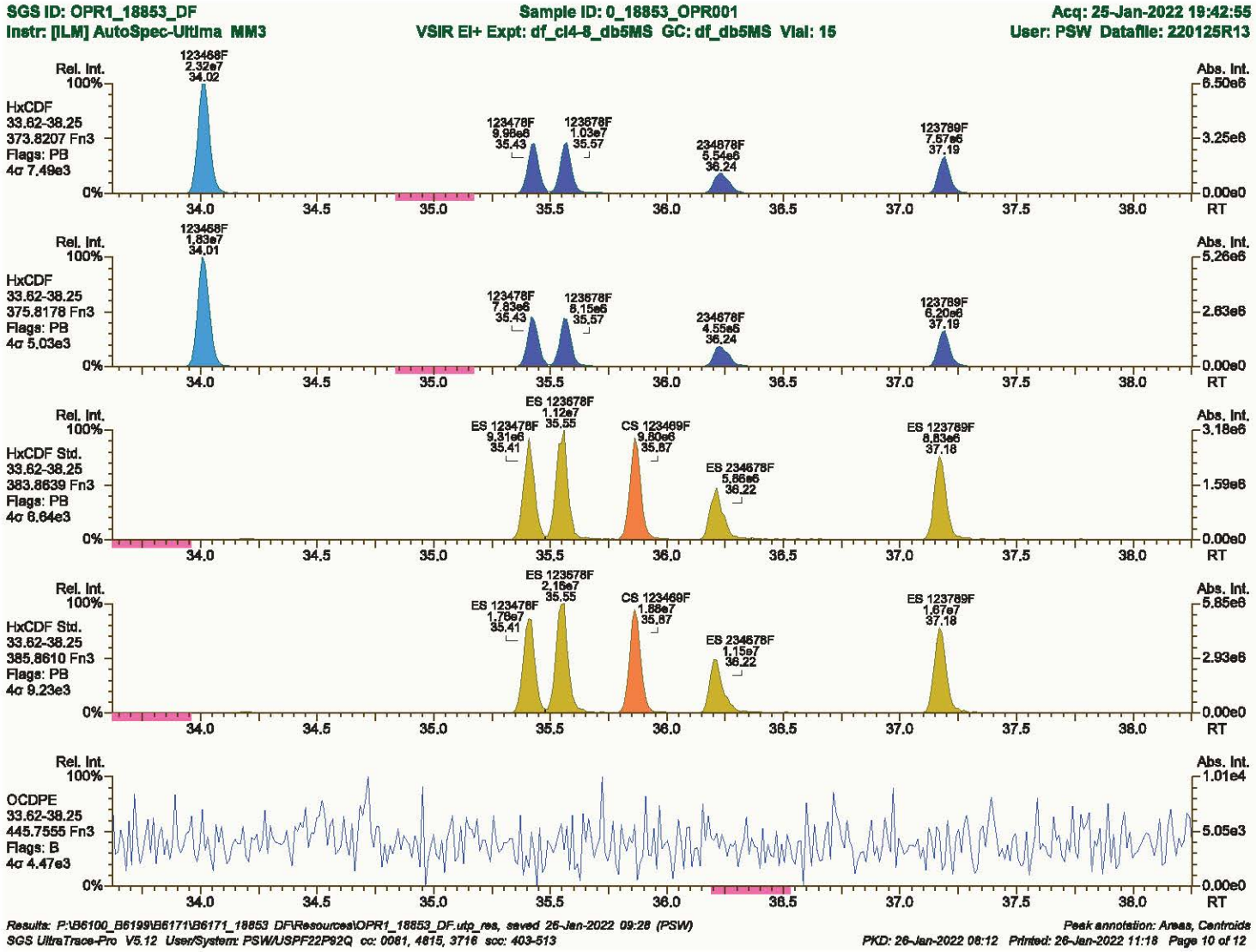
Sample ID: 0_18853_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15

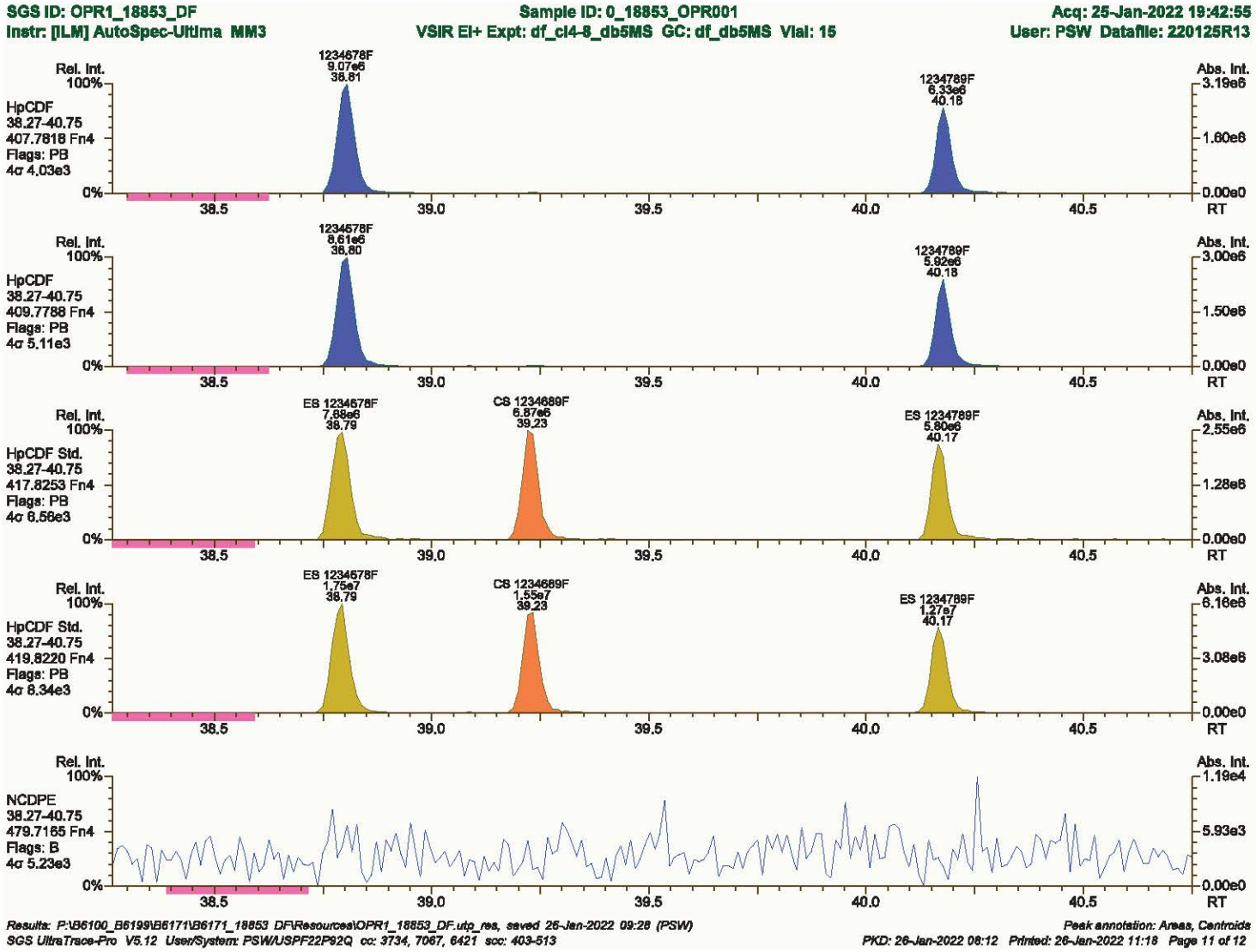
Acq: 25-Jan-2022 19:42:55
User: PSW Datafile: 220125R13

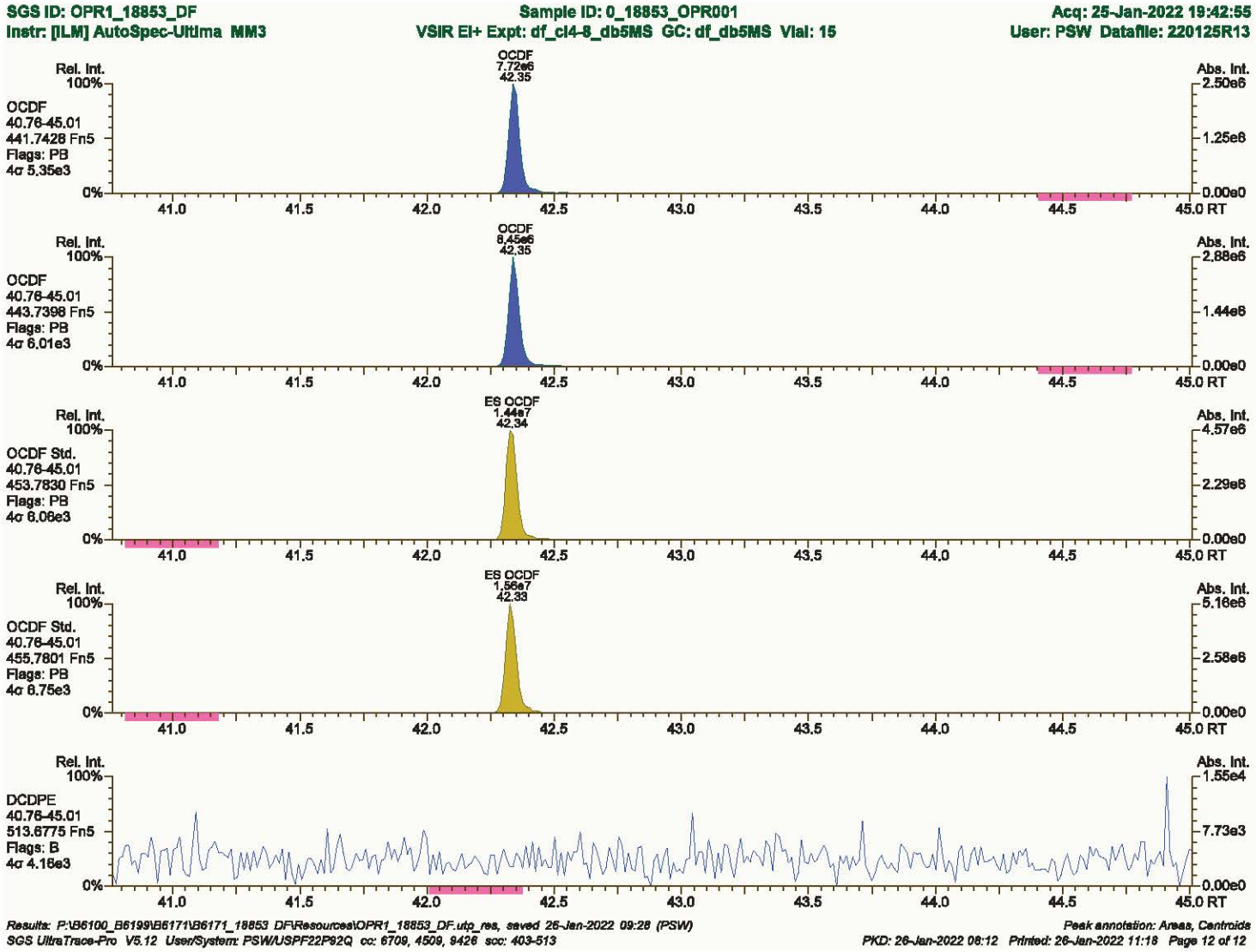


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 6200 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:17 Page 8 of 12


SGS ID: OPR1_18853_DF
Sample ID: 0_18853_OPR001
Acq: 25-Jan-2022 19:42:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R13
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 4.26e3
12378F
1.09e7
30.91
23478F
1.15e7
32.08
12389F
2.40e6
33.18
3.06e6
1.53e6
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 7.07e3
12378F
6.94e6
30.91
23478F
7.22e6
32.08
12389F
1.50e6
33.18
1.90e6
9.50e5
0.00e0
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 7.77e3
CS 12346F
2.06e7
30.34
ES 12378F
2.21e7
30.89
ES 23478F
2.23e7
32.06
6.09e6
3.04e6
0.00e0
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 7.10e3
CS 12346F
1.29e7
30.34
ES 12378F
1.42e7
30.89
ES 23478F
1.42e7
32.06
3.80e6
1.90e6
0.00e0
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.86e3
1.18e4
5.88e3
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1225, 8165, 9735 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:18 Page 9 of 12


SGS ID: OPR1_18853_DF
Sample ID: 0_18853_OPR001
Acq: 25-Jan-2022 19:42:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R13
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PB
4σ 7.49e3
123468F 2.32e7 34.02
123478F 9.98e6 35.43
123678F 1.03e7 35.57
234678F 5.54e6 36.24
123789F 7.67e6 37.19
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PB
4σ 5.03e3
123468F 1.83e7 34.01
123478F 7.83e6 35.43
123678F 8.15e6 35.57
234678F 4.55e6 36.24
123789F 6.20e6 37.19
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 6.64e3
ES 123678F 1.12e7 35.55
ES 123478F 9.31e6 35.41
CS 123469F 9.80e6 35.87
ES 234678F 5.86e6 36.22
ES 123789F 8.83e6 37.18
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 9.23e3
ES 123678F 2.15e7 35.55
ES 123478F 1.76e7 35.41
CS 123469F 1.88e7 35.87
ES 234678F 1.15e7 36.22
ES 123789F 1.67e7 37.18
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.47e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0061, 4815, 3716 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:18 Page 10 of 12


SGS ID: OPR1_18853_DF
Sample ID: 0_18853_OPR001
Acq: 25-Jan-2022 19:42:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R13
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.03e3
1234678F
9.07e6
38.81
1234789F
6.33e6
40.18
3.19e6
1.60e6
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 5.11e3
1234678F
8.61e6
38.80
1234789F
5.92e6
40.18
3.00e6
1.50e6
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 6.56e3
ES 1234678F
7.68e6
38.79
CS 1234689F
6.87e6
39.23
ES 1234789F
5.80e6
40.17
2.55e6
1.28e6
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 8.34e3
ES 1234678F
1.75e7
38.79
CS 1234689F
1.55e7
39.23
ES 1234789F
1.27e7
40.17
6.16e6
3.08e6
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 5.23e3
1.19e4
5.93e3
0%
100%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853_DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3734, 7067, 6421 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:18 Page 11 of 12



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6709, 4509, 9426 scc: 403-513
PKD: 26-Jan-2022 08:12 Printed: 26-Jan-2022 11:18 Page 12 of 12

CPSM only

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220125R02	Analysis Date:	25-JAN-2022 10:50:07
Lab ID:	OPR1_18859_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	22.70	1289-TCDD	27.83
12479/12468-PeCDD	29.85	12389-PeCDD	32.91
124679/124689-HxCDD	34.71	123789-HxCDD	36.84
1234679-HpCDD	39.11	1234678-HpCDD	39.78
1368-TCDF	20.49	1289-TCDF	28.00
13468/12468-PeCDF	27.94	12389-PeCDF	33.20
123468-HxCDF	34.04	123789-HxCDF	37.22
1234678-HpCDF	38.82	1234789-HpCDF	40.20

Isomer Specificity Test Standard Results

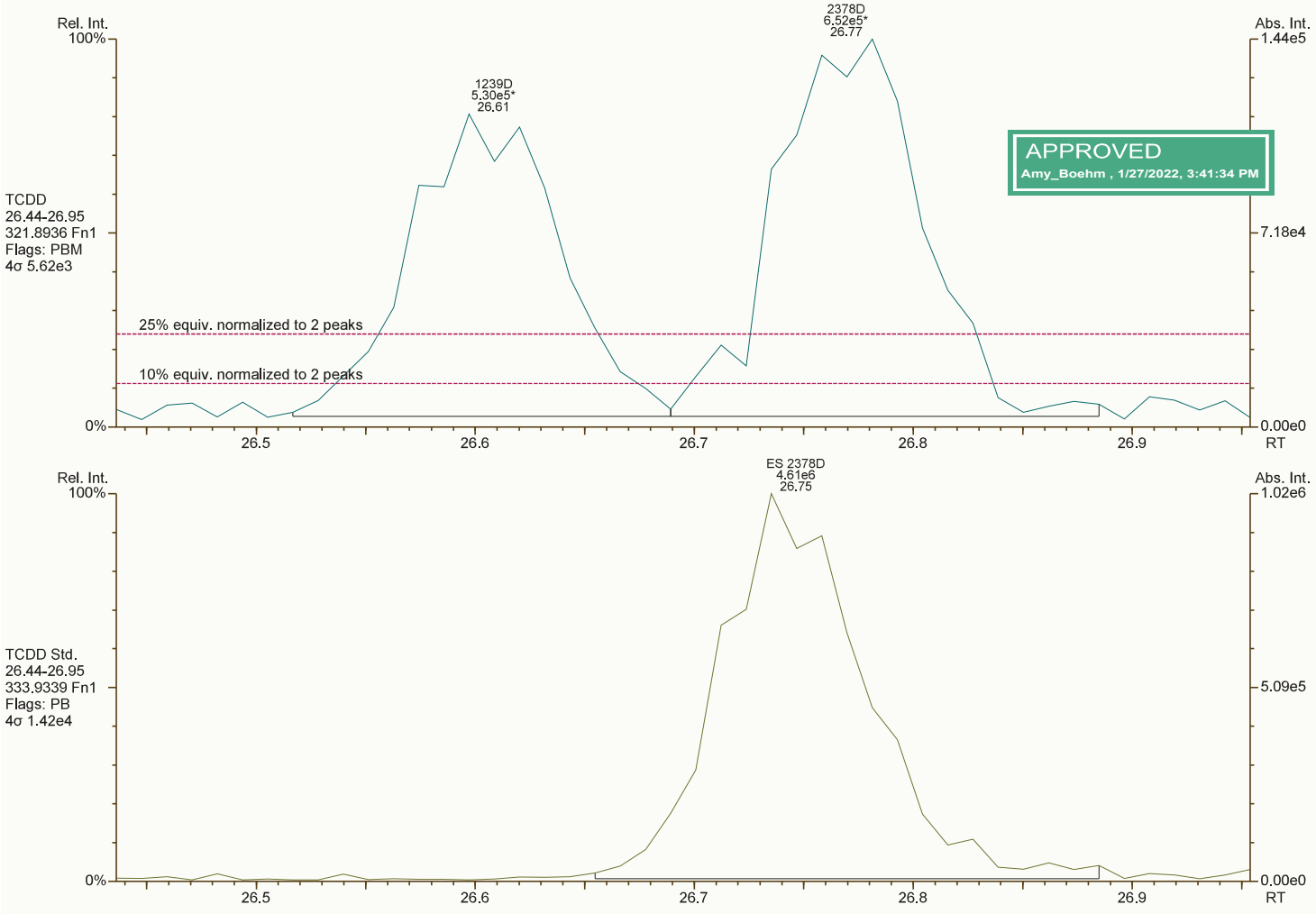
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	26.60	2378-TCDD	26.77
2348-TCDF	25.71	2378-TCDF	25.83

Processed: 26 Jan 2022 11:12 Analyst: pw

SGS ID: OPR1_18859_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18859_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

Acq: 25-Jan-2022 10:50:07
User: PSW Datafile: 220125R02



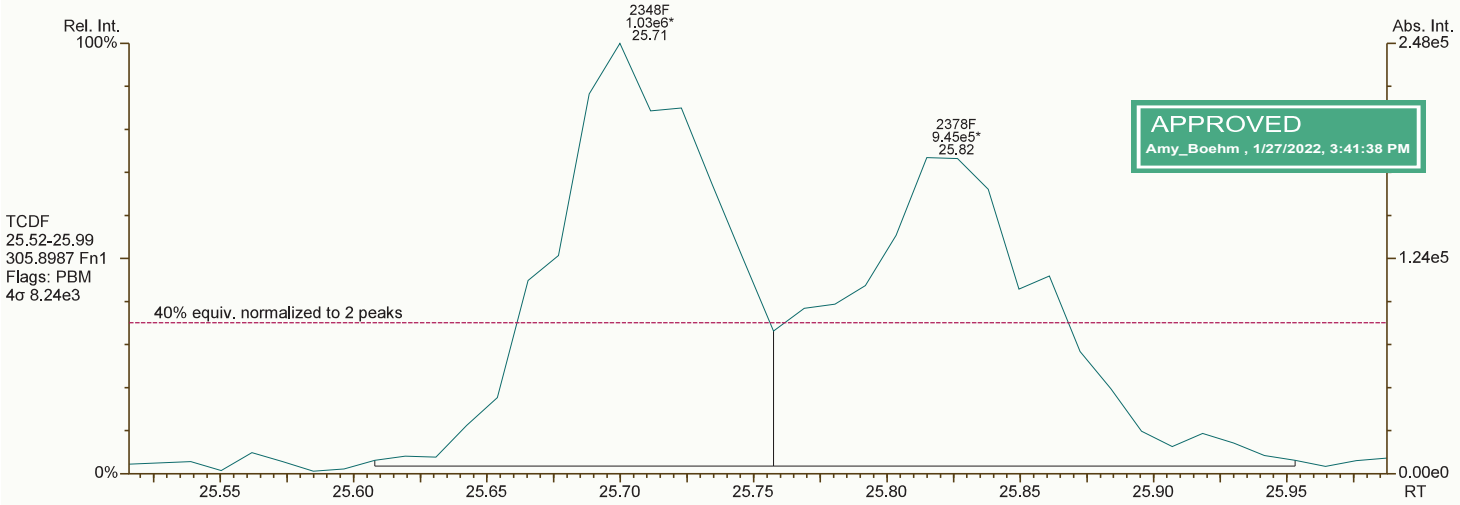
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

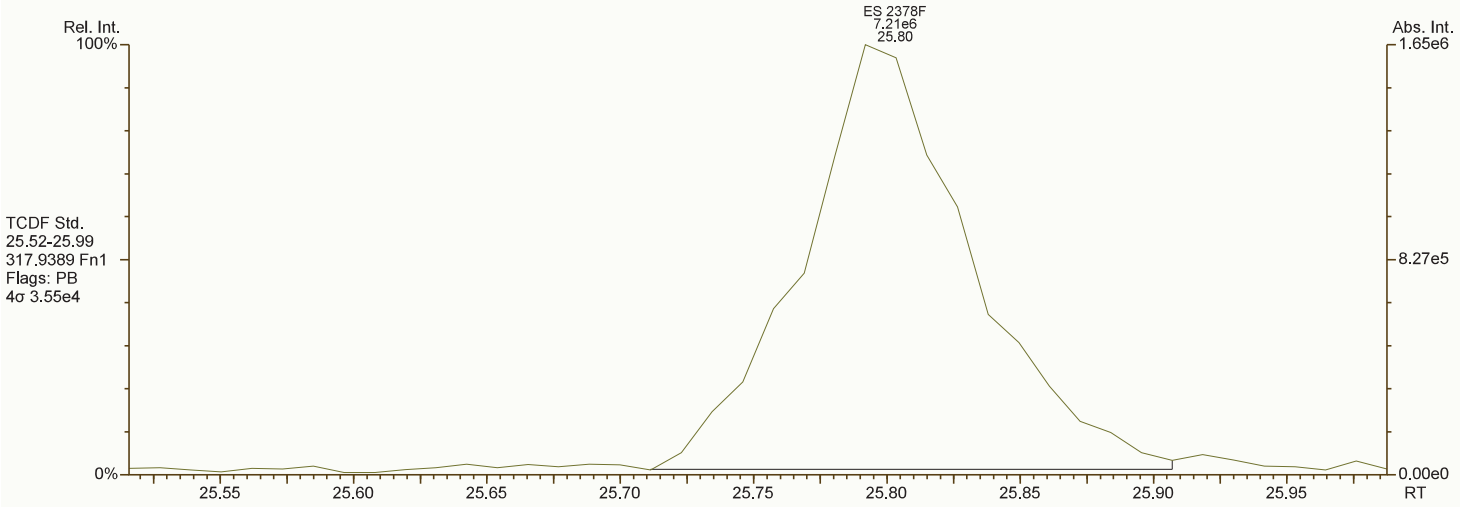
Peak annotation: Areas, Centroids
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:15

SGS ID: OPR1_18859_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18859_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

Acq: 25-Jan-2022 10:50:07
User: PSW Datafile: 220125R02



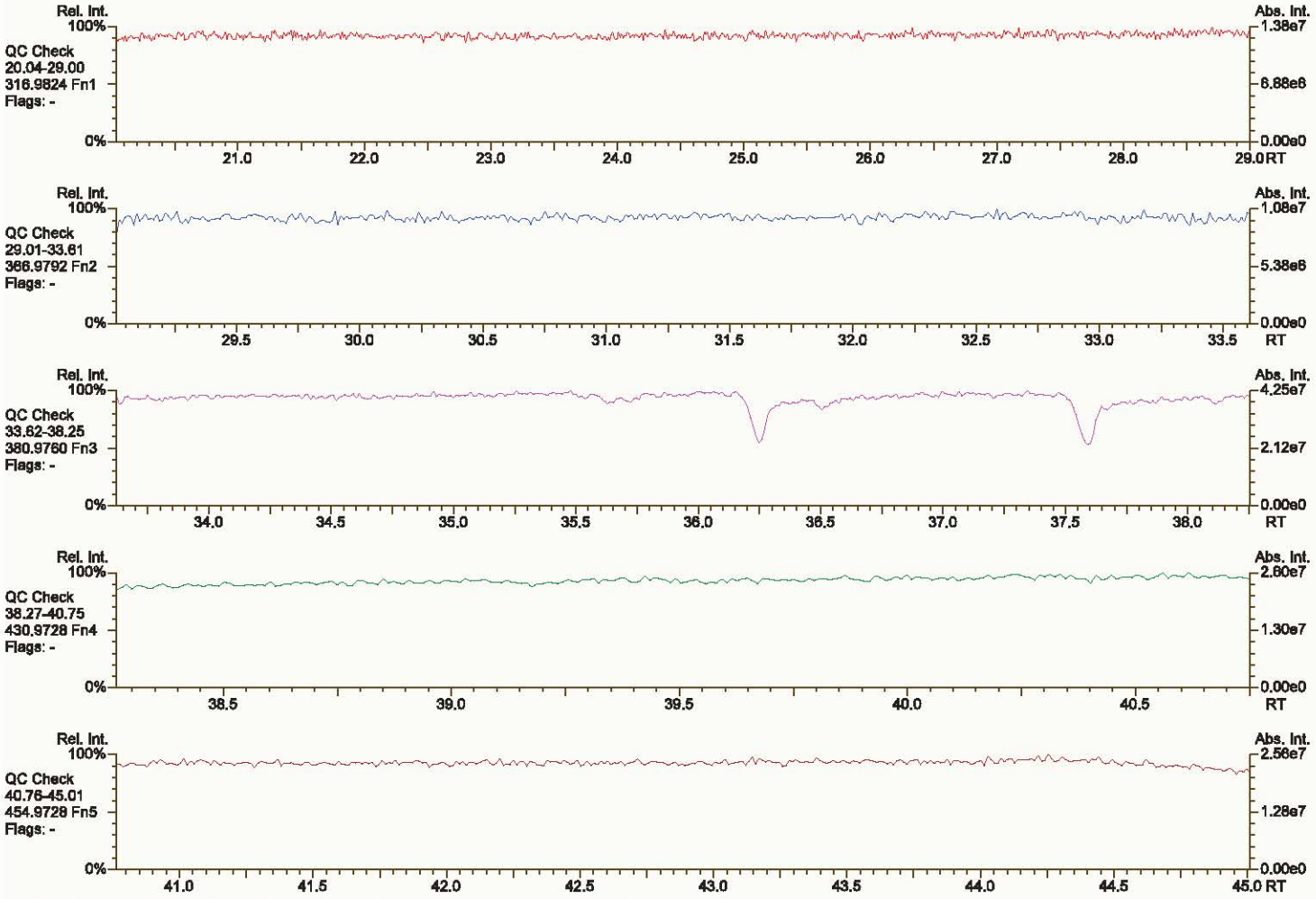


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Peak annotation: Areas, Centroids
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:15

SGS ID: OPR1_18859_DF | Sample ID: 0_18859_OPR001 | Acq: 25-Jan-2022 10:50:07

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7 | User: PSW Datafile: 220125R02

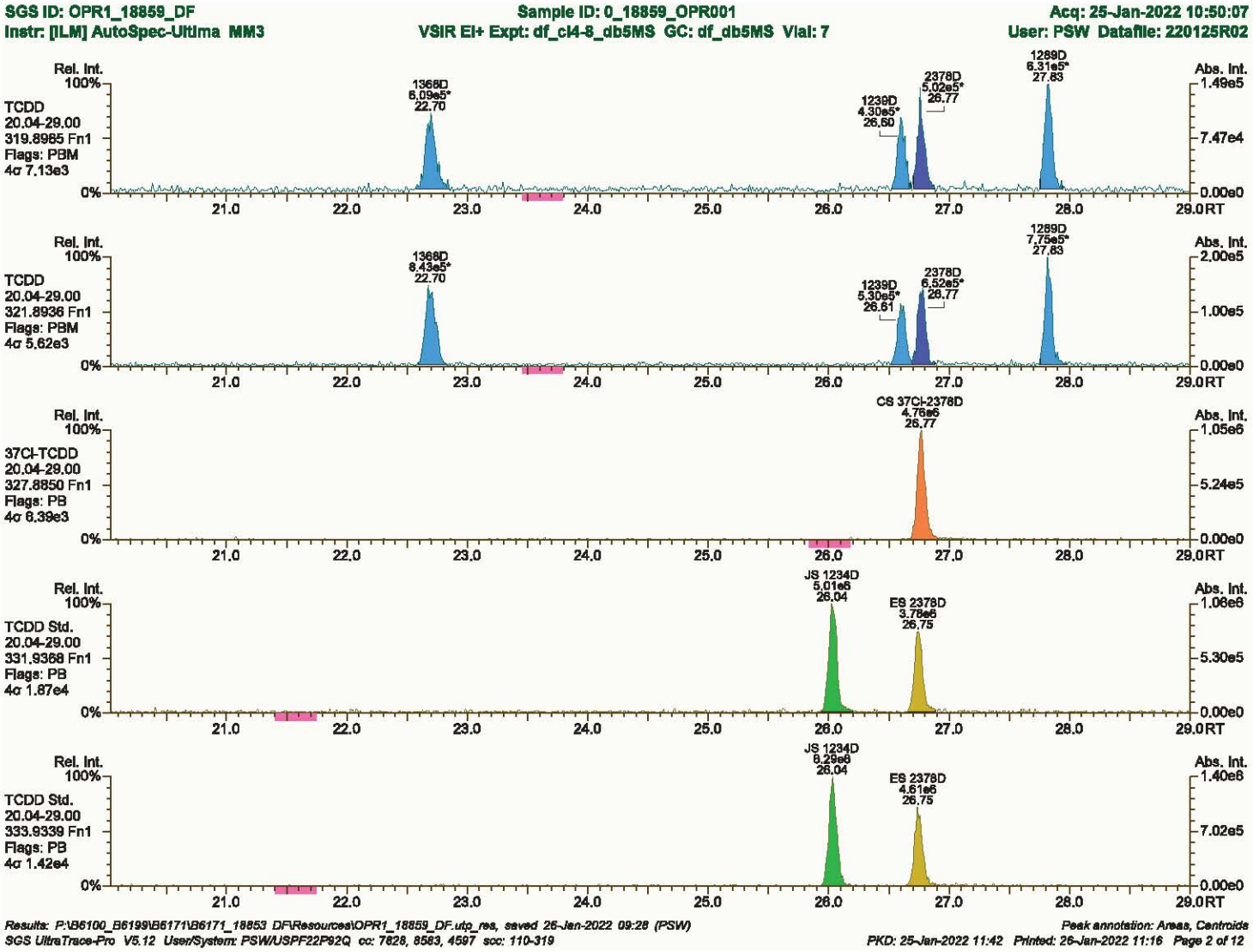


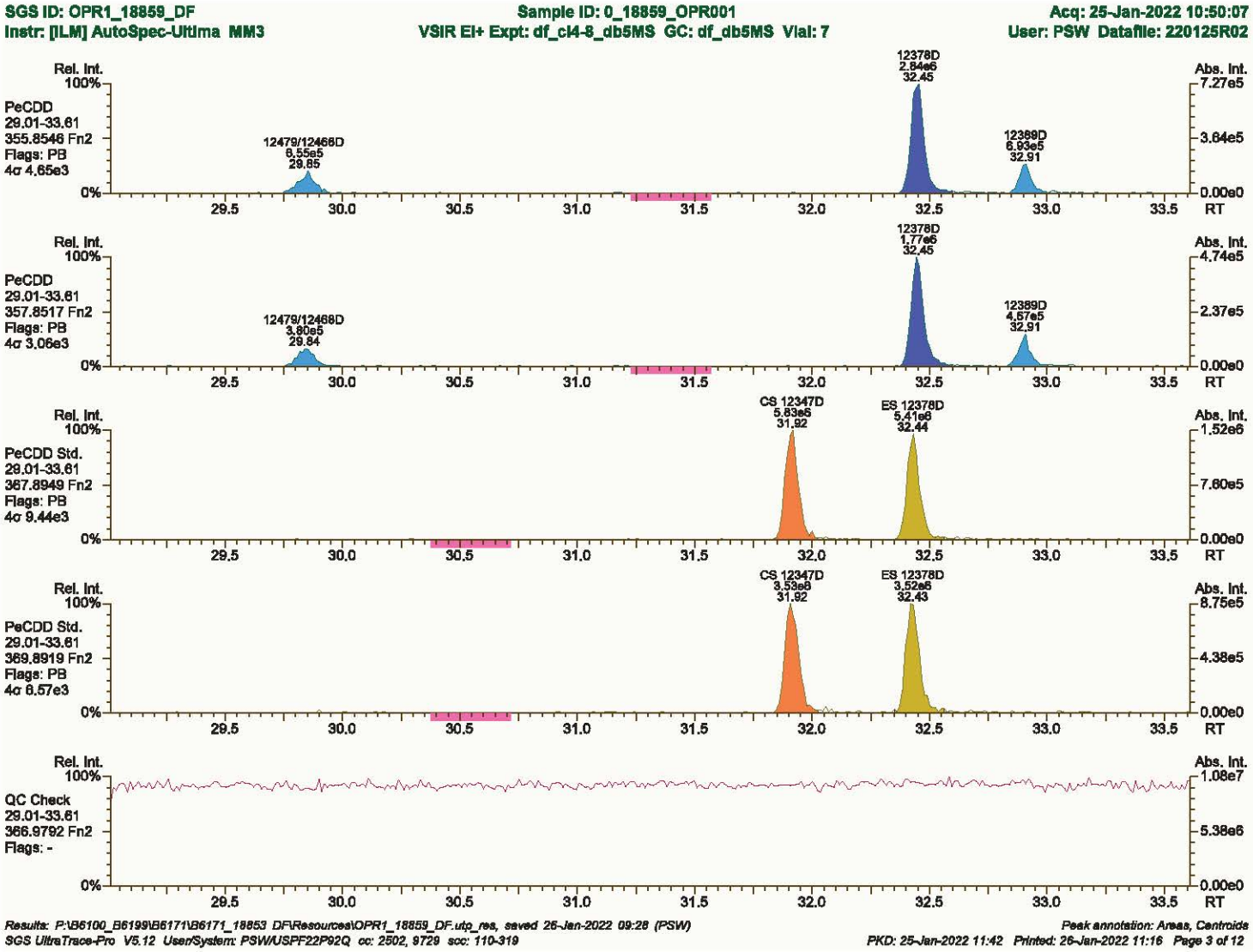
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)

Peak annotation: Areas, Centroids

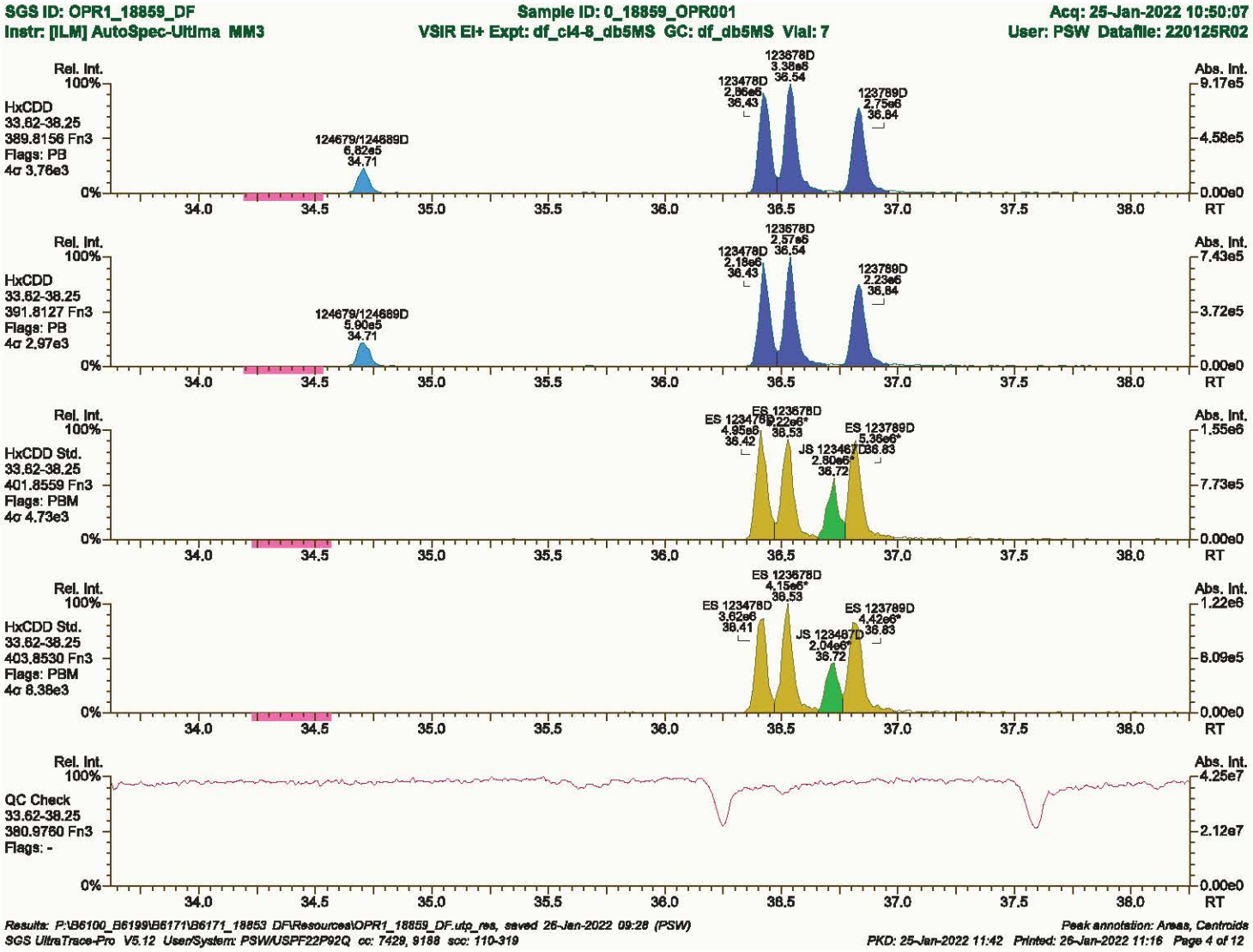
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 110-319

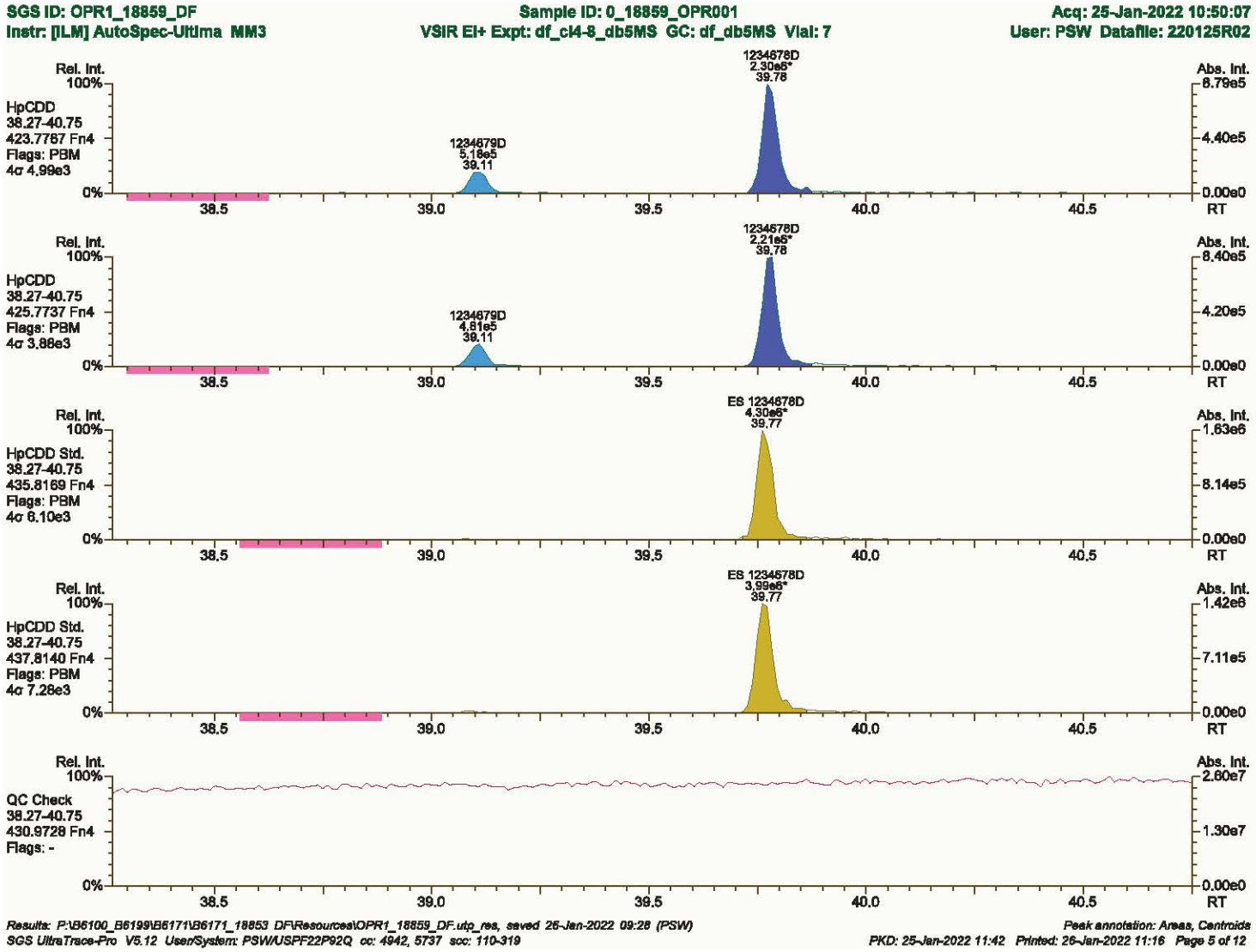
PKD: n/a Printed: 26-Jan-2022 11:16 Page 1 of 12

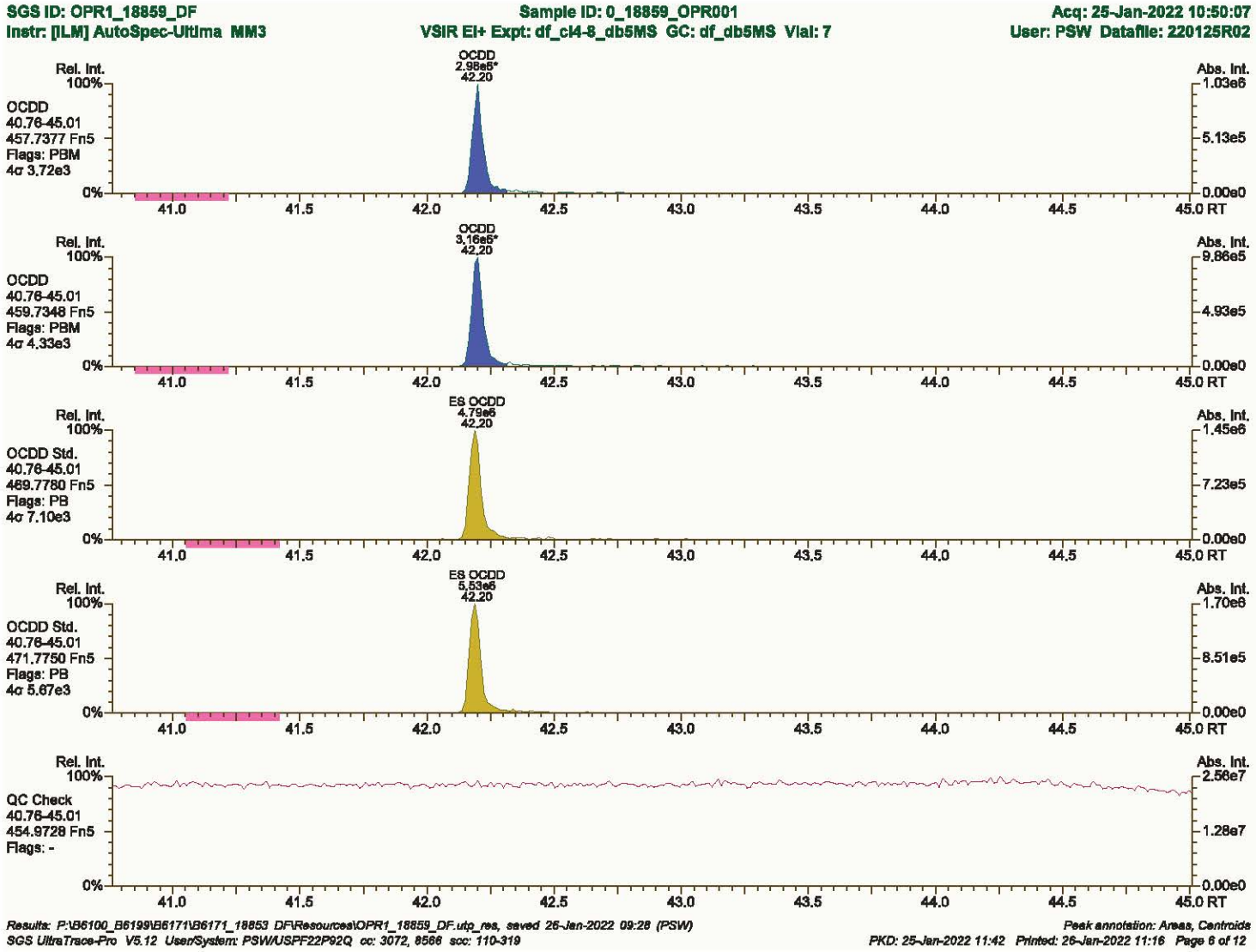

SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 7.13e3
1368D 6.09e5* 22.70
1239D 4.30e5* 26.60
2378D 5.02e5* 26.77
1289D 6.31e5* 27.83
1.49e5
7.47e4
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 5.62e3
1368D 8.43e5* 22.70
1239D 5.30e5* 26.61
2378D 6.52e5* 26.77
1289D 7.75e5* 27.83
2.00e5
1.00e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 6.39e3
CS 37Cl-2378D 4.76e6 26.77
1.05e6
5.24e5
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 1.87e4
JS 1234D 5.01e6 26.04
ES 2378D 3.75e6 26.75
1.06e6
5.30e5
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 1.42e4
JS 1234D 6.29e6 26.04
ES 2378D 4.61e6 26.75
1.40e6
7.02e5
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7628, 8563, 4597 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 2 of 12

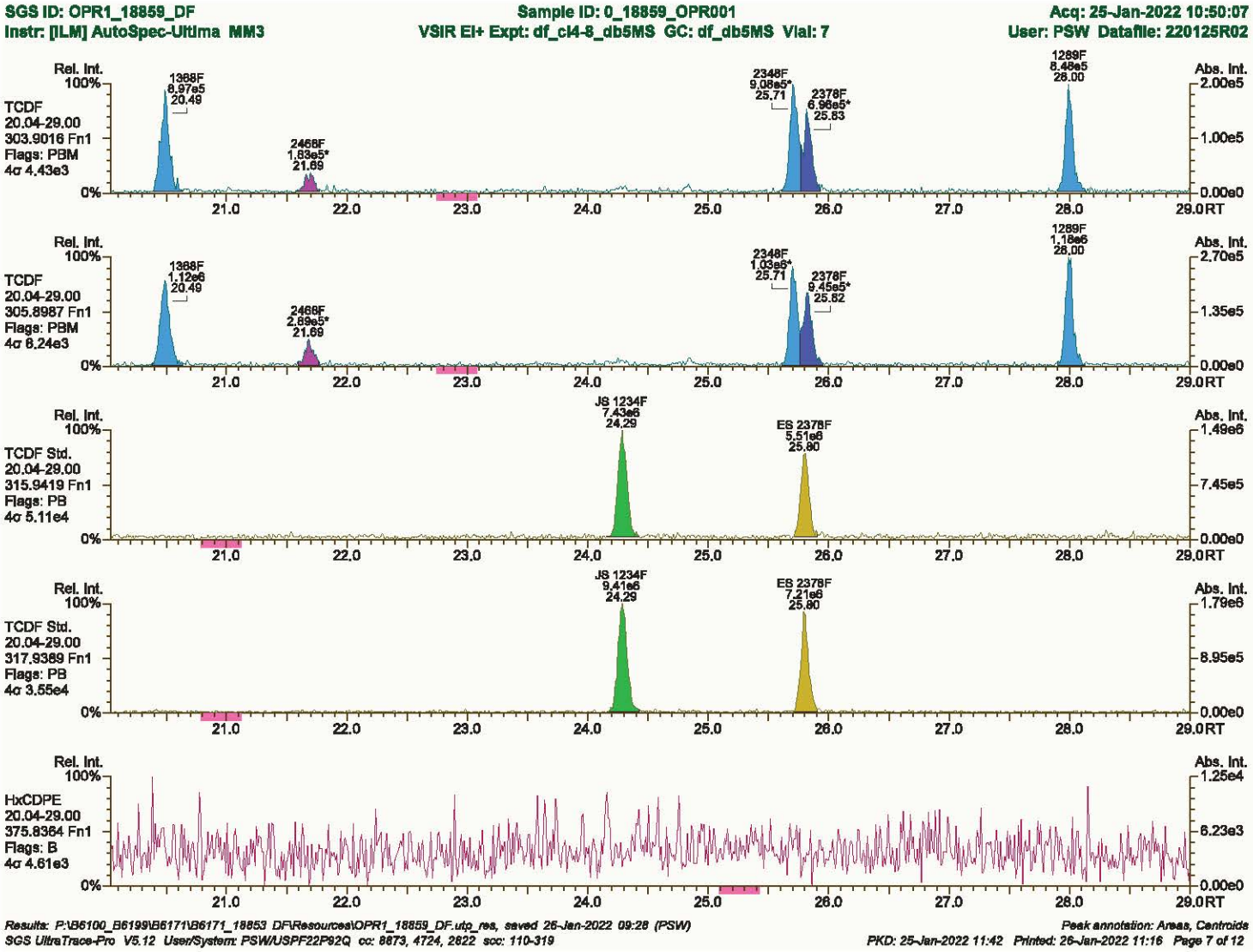


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2502, 9729 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 3 of 12

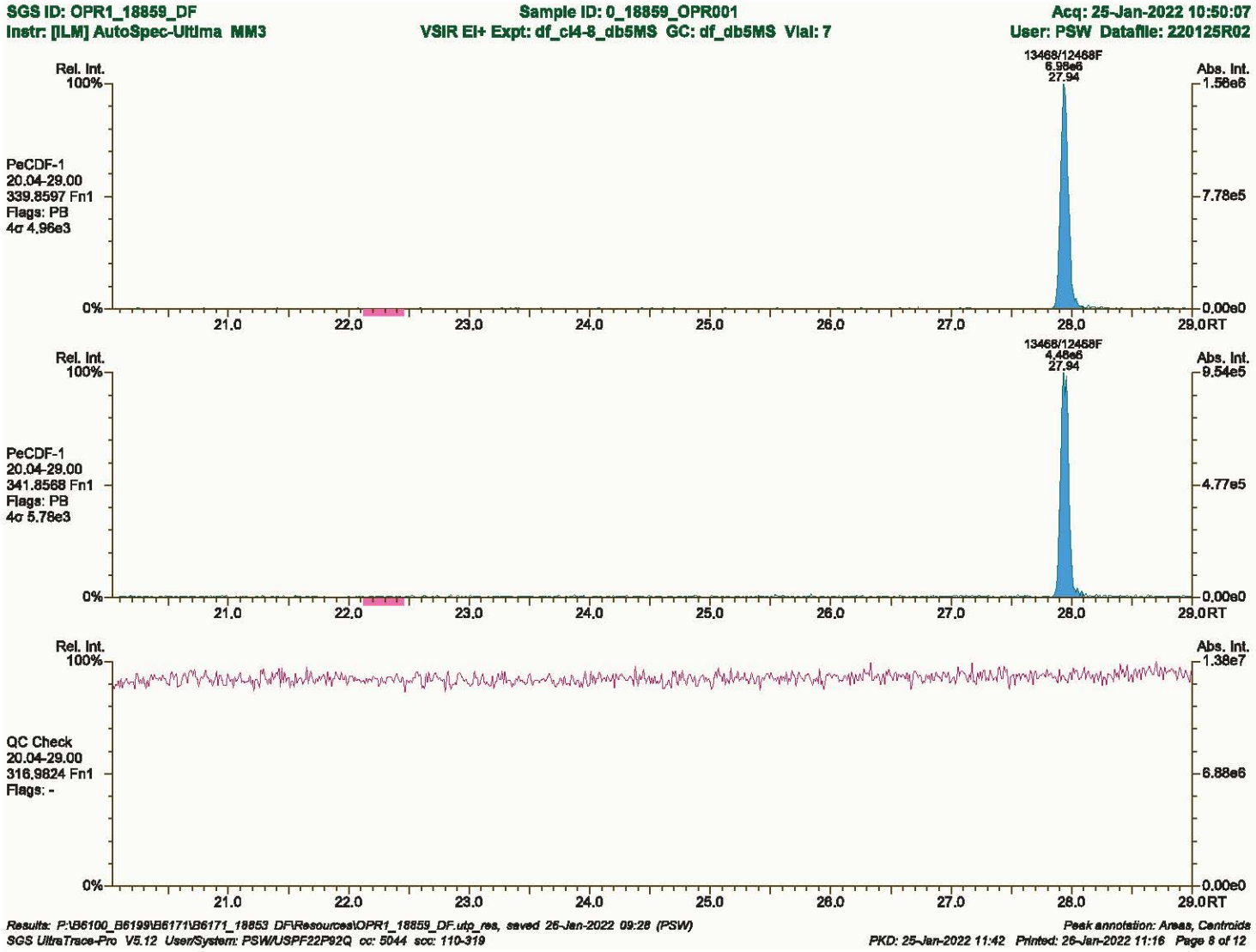

SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PB
4σ 3.76e3
124679/124689D
6.82e5
34.71
123678D
3.38e6
36.54
123478D
2.86e6
36.43
123789D
2.75e6
36.84
9.17e5
4.58e5
0.00e0
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PB
4σ 2.97e3
124679/124689D
5.90e5
34.71
123678D
2.57e6
36.54
123478D
2.18e6
36.43
123789D
2.23e6
36.84
7.43e5
3.72e5
0.00e0
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 4.73e3
ES 123678D
ES 123478D
4.95e5
36.42
36.53
ES 123789D
5.36e6*
JS 123467D
2.80e6*
36.72
36.83
1.55e6
7.73e5
0.00e0
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 8.38e3
ES 123678D
4.15e6*
36.53
ES 123478D
3.62e6
36.41
ES 123789D
4.42e6*
JS 123487D
2.04e6*
36.72
36.83
1.22e6
8.09e5
0.00e0
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
4.25e7
2.12e7
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 7428, 9188 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 4 of 12

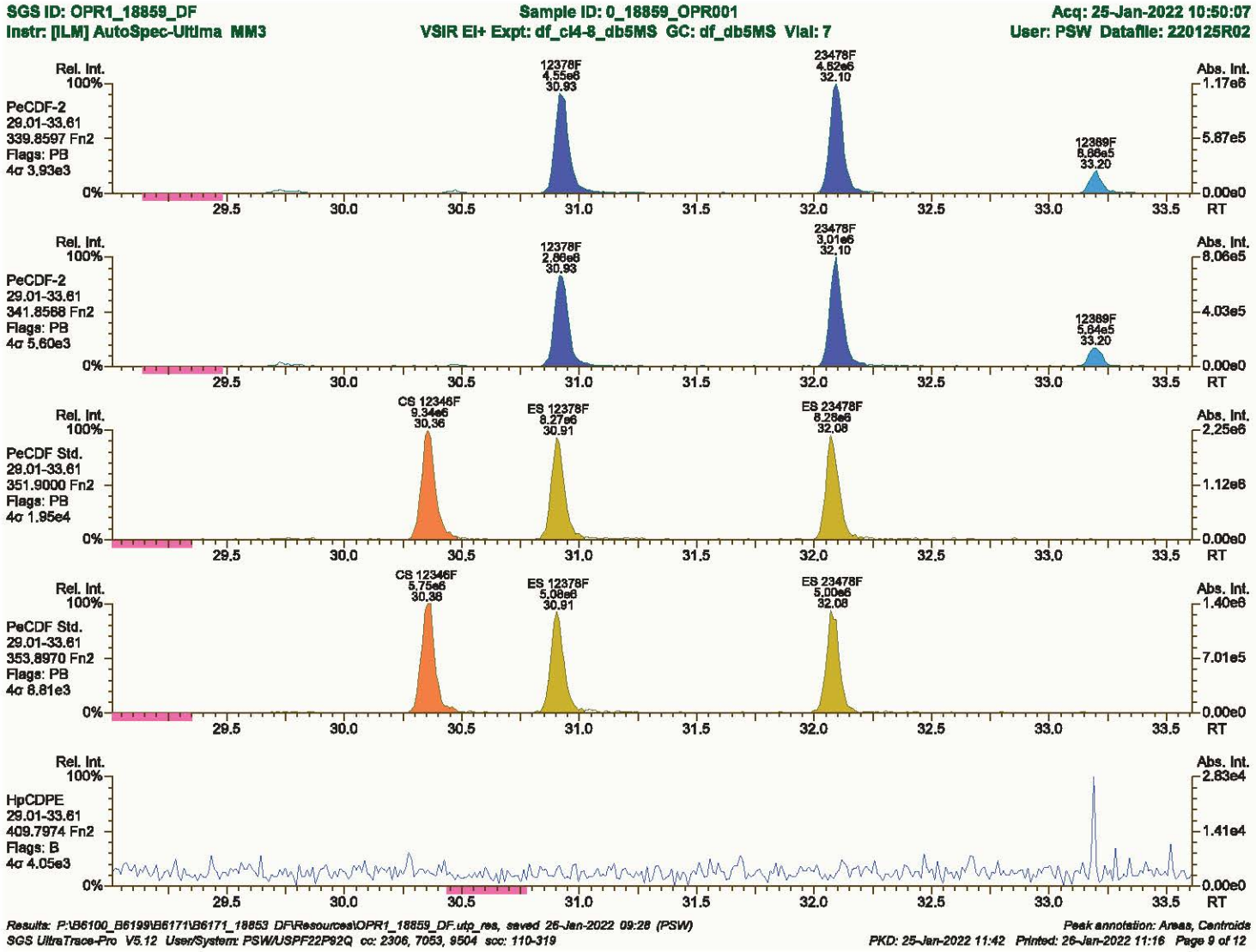

SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PBM
4σ 4.99e3
1234678D
2.30e6*
39.78
1234679D
5.18e5
39.11
8.79e5
4.40e5
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PBM
4σ 3.88e3
1234678D
2.21e6*
39.78
1234679D
4.81e5
39.11
8.40e5
4.20e5
0.00e0
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PBM
4σ 6.10e3
ES 1234678D
4.30e6*
39.77
1.63e6
8.14e5
0.00e0
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PBM
4σ 7.28e3
ES 1234678D
3.99e6*
39.77
1.42e6
7.11e5
0.00e0
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
2.60e7
1.30e7
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4942, 5737 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 5 of 12

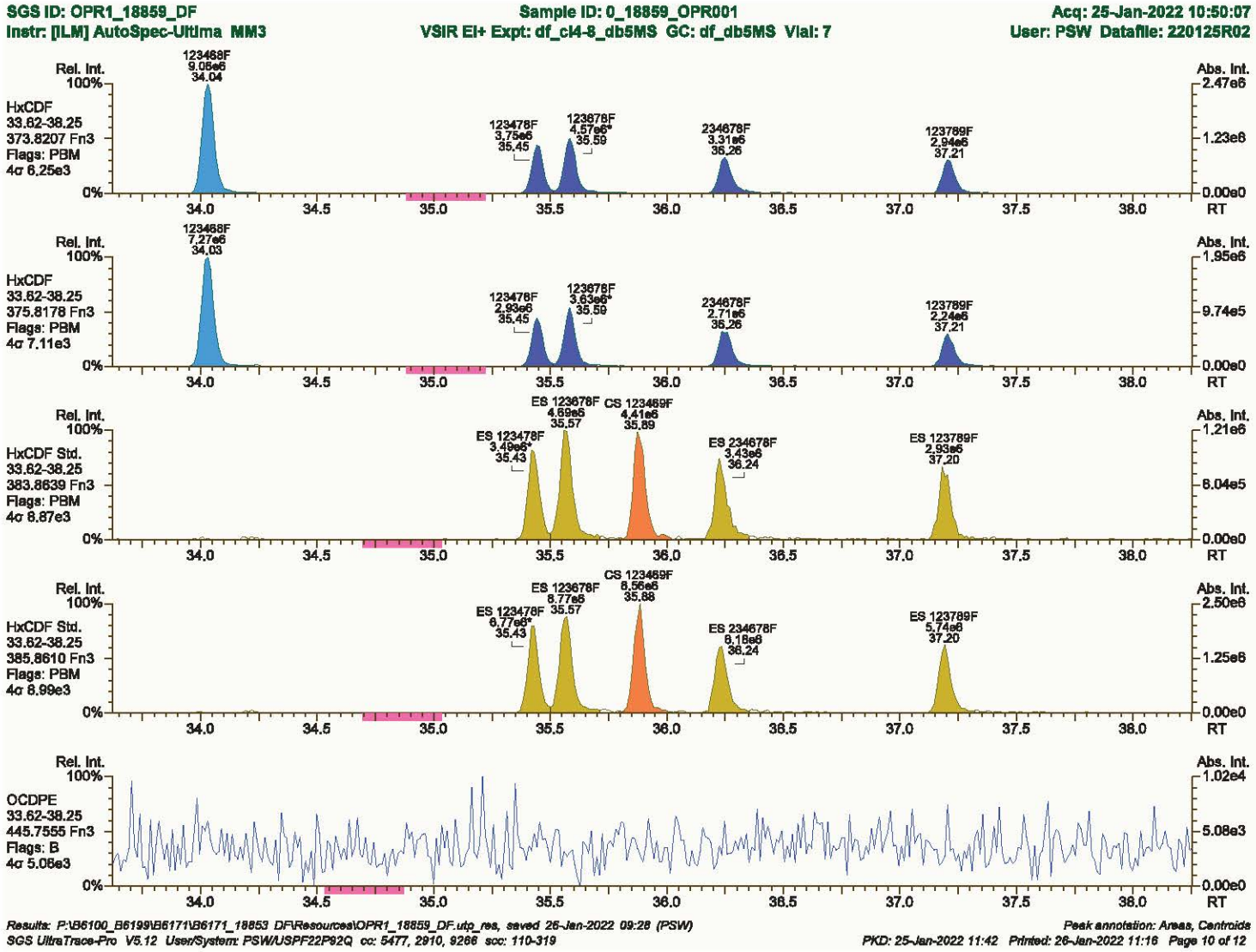

SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
Abs. Int.
OCDD
2.98e5*
42.20
OCDD
40.76-45.01
457.7377 Fn5
Flags: PBM
4σ 3.72e3
1.03e6
5.13e5
0.00e0
OCDD
3.16e5*
42.20
OCDD
40.76-45.01
459.7348 Fn5
Flags: PBM
4σ 4.33e3
9.86e5
4.93e5
0.00e0
ES OCDD
4.79e6
42.20
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 7.10e3
1.45e6
7.23e5
0.00e0
ES OCDD
5.53e6
42.20
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 5.67e3
1.70e6
8.51e5
0.00e0
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
2.56e7
1.28e7
0.00e0
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3072, 8566 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 6 of 12



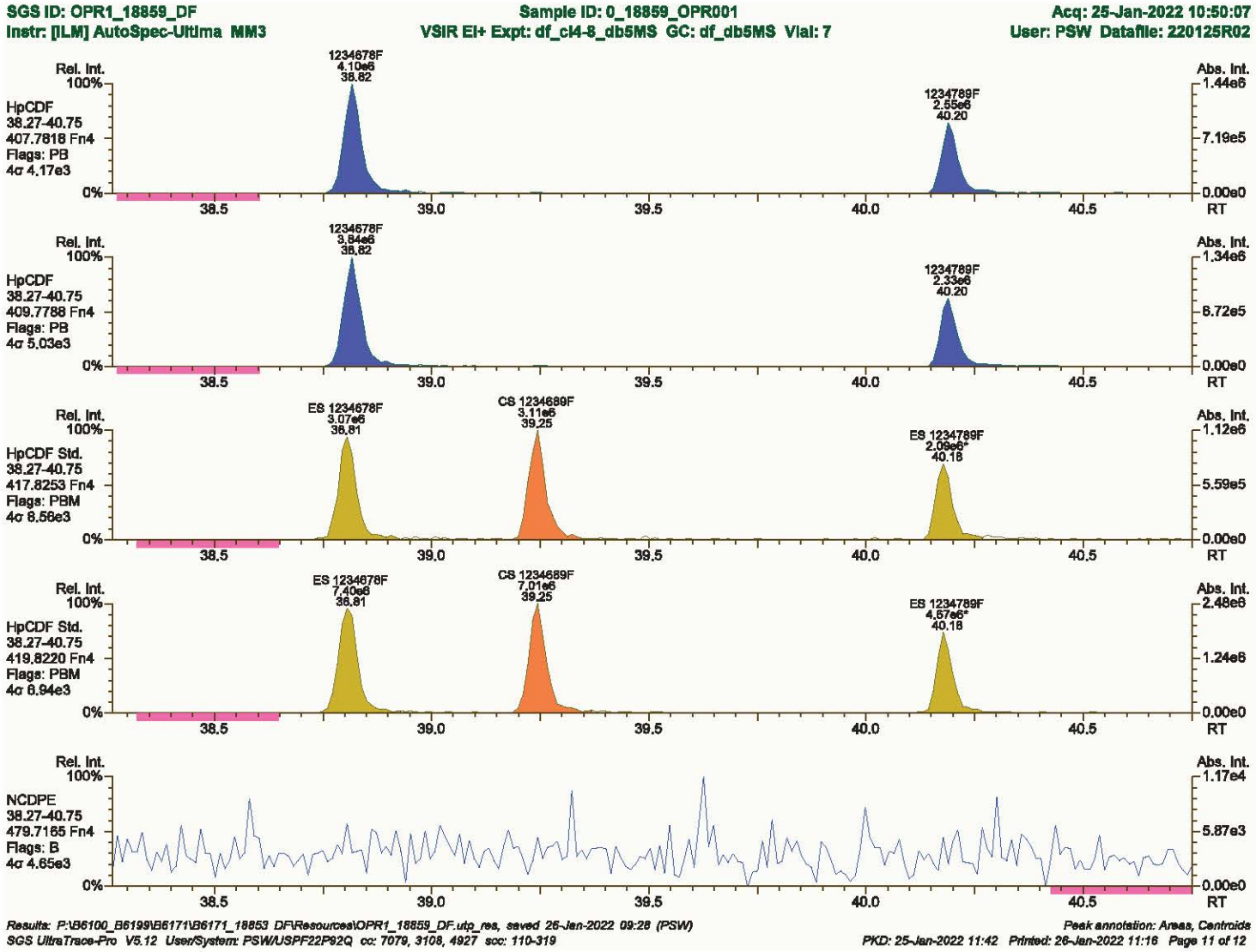
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8873, 4724, 2822 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 7 of 12

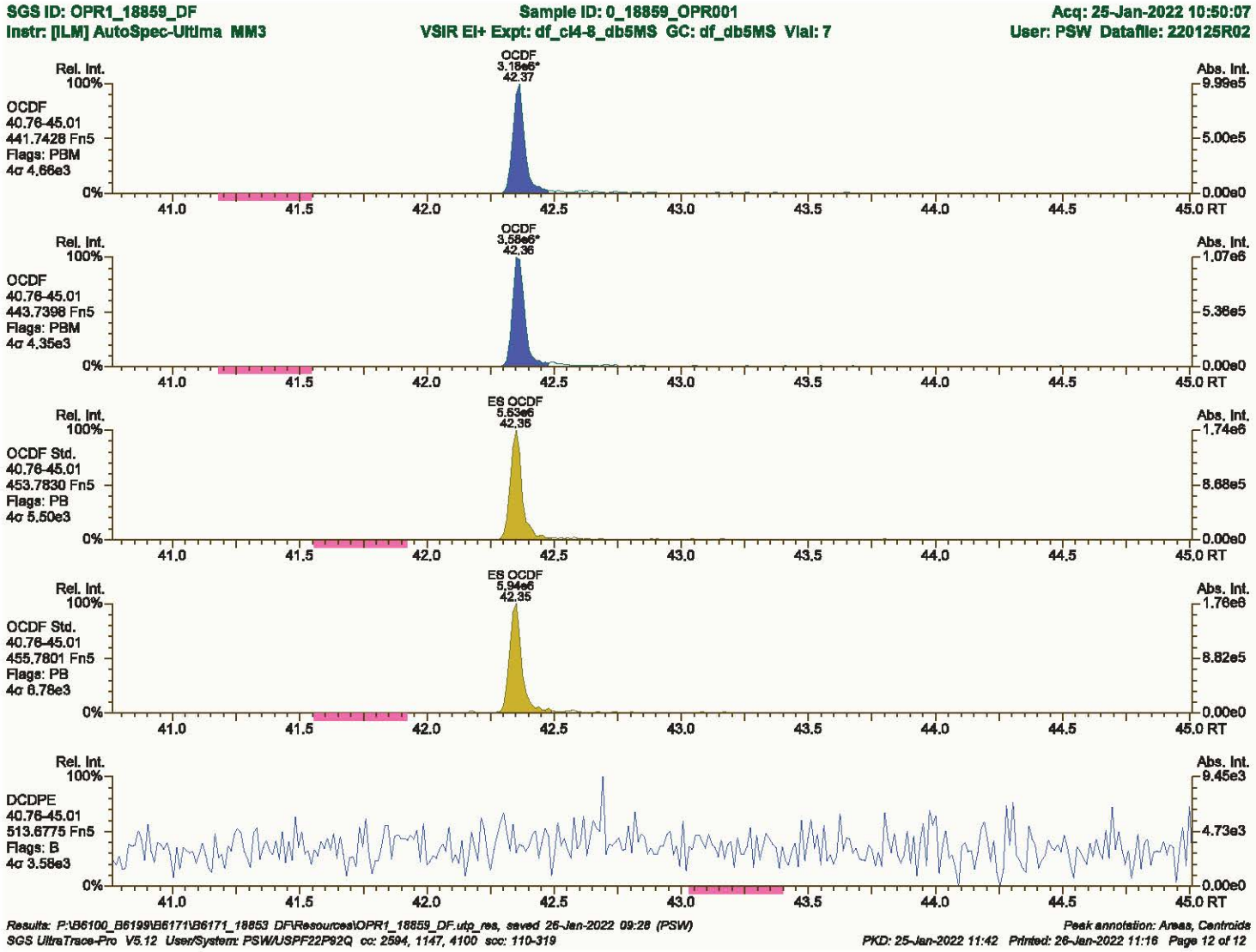

SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 4.96e3
13468/12468F
6.98e6
27.94
Abs. Int.
1.56e6
7.78e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.78e3
13468/12468F
4.46e6
27.94
Abs. Int.
9.54e5
4.77e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
1.38e7
6.88e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5044 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 8 of 12


SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 3.93e3
12378F
4.55e6
30.93
23478F
4.62e6
32.10
12389F
5.86e5
33.20
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 5.60e3
12378F
2.86e6
30.93
23478F
3.01e6
32.10
12389F
5.84e5
33.20
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 1.95e4
CS 12346F
9.34e6
30.36
ES 12378F
8.27e6
30.91
ES 23478F
8.26e6
32.08
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 8.81e3
CS 12346F
5.75e6
30.36
ES 12378F
5.08e6
30.91
ES 23478F
5.00e6
32.08
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 4.05e3
Rel. Int.
Abs. Int.
RT



Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5477, 2910, 9266 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 10 of 12


SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.17e3
1234678F
4.10e6
38.82
1234789F
2.55e6
40.20
1.44e6
7.19e5
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 5.03e3
1234678F
3.84e6
38.82
1234789F
2.33e6
40.20
1.34e6
6.72e5
0.00e0
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PBM
4σ 8.56e3
ES 1234678F
3.07e6
38.81
CS 1234689F
3.11e6
39.25
ES 1234789F
2.09e6*
40.18
1.12e6
5.59e5
0.00e0
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PBM
4σ 6.94e3
ES 1234678F
7.40e6
38.81
CS 1234689F
7.01e6
39.25
ES 1234789F
4.67e6*
40.18
2.48e6
1.24e6
0.00e0
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 4.65e3
1.17e4
5.87e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7079, 3108, 4927 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 11 of 12


SGS ID: OPR1_18859_DF
Sample ID: 0_18859_OPR001
Acq: 25-Jan-2022 10:50:07
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220125R02
Rel. Int.
Abs. Int.
OCDF
3.18e6*
42.37
OCDF
40.76-45.01
441.7428 Fn5
Flags: PBM
4σ 4.66e3
9.99e5
5.00e5
0.00e0
OCDF
3.58e6*
42.36
OCDF
40.76-45.01
443.7398 Fn5
Flags: PBM
4σ 4.35e3
1.07e6
5.36e5
ES OCDF
5.63e6
42.36
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 5.50e3
1.74e6
8.68e5
ES OCDF
5.94e6
42.35
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 6.78e3
1.76e6
8.82e5
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 3.58e3
9.45e3
4.73e3
0%
100%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18859_DF.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2594, 1147, 4100 scc: 110-319
PKD: 25-Jan-2022 11:42 Printed: 26-Jan-2022 11:16 Page 12 of 12

CPSM only

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220125R26	Analysis Date:	26-JAN-2022 06:06:51
Lab ID:	OPR1_18853_DF-RJ		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	22.66	1289-TCDD	27.80
12479/12468-PeCDD	29.82	12389-PeCDD	32.88
124679/124689-HxCDD	34.68	123789-HxCDD	36.81
1234679-HpCDD	39.09	1234678-HpCDD	39.76
1368-TCDF	20.46	1289-TCDF	27.97
13468/12468-PeCDF	27.92	12389-PeCDF	33.18
123468-HxCDF	34.01	123789-HxCDF	37.19
1234678-HpCDF	38.80	1234789-HpCDF	40.18

Isomer Specificity Test Standard Results

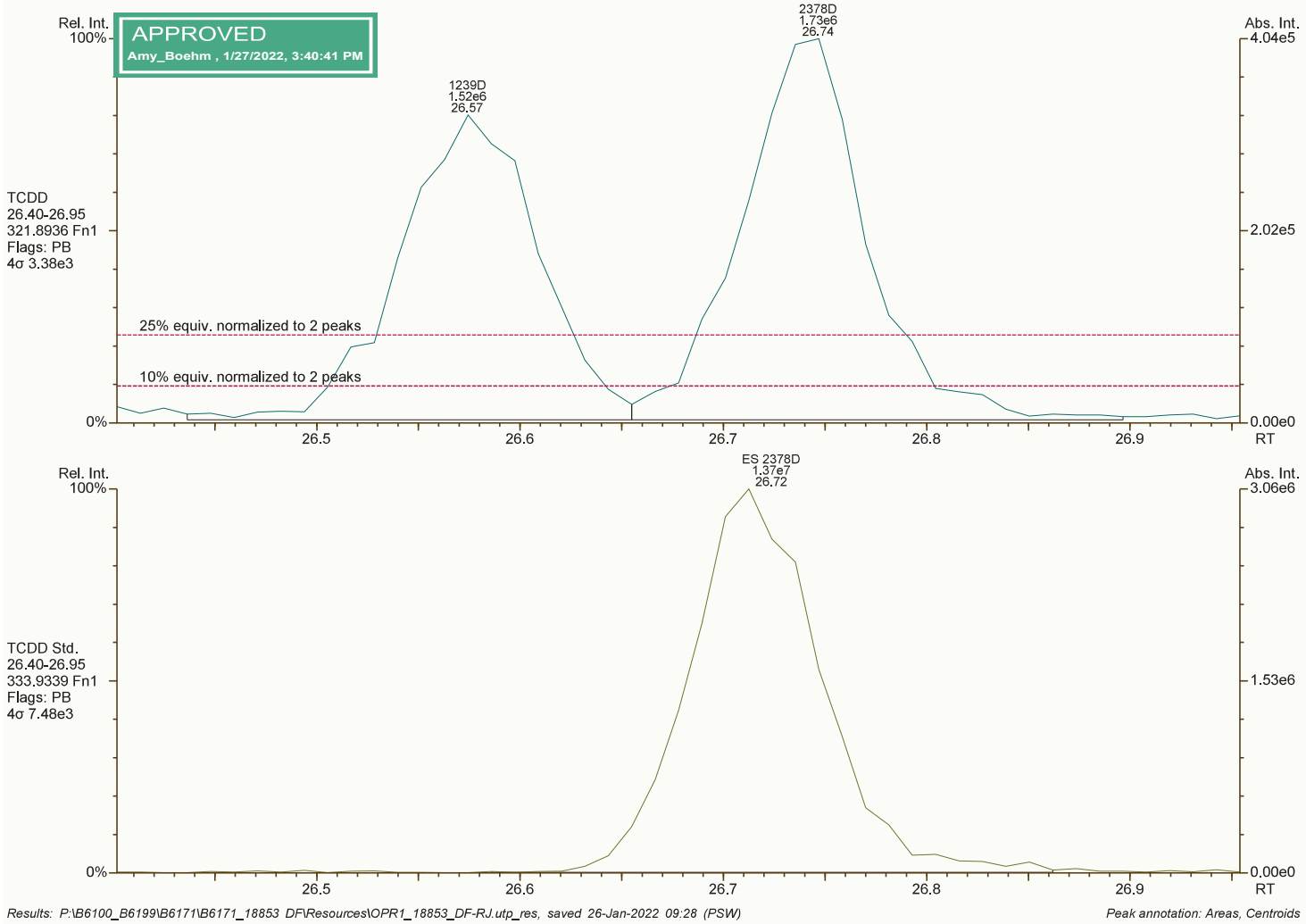
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	26.57	2378-TCDD	26.75
2348-TCDF	25.68	2378-TCDF	25.80

Processed: 26 Jan 2022 11:12 Analyst: pw

SGS ID: OPR1_18853_DF-RJ
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18853_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15

Acq: 26-Jan-2022 06:06:51
User: PSW Datafile: 220125R26



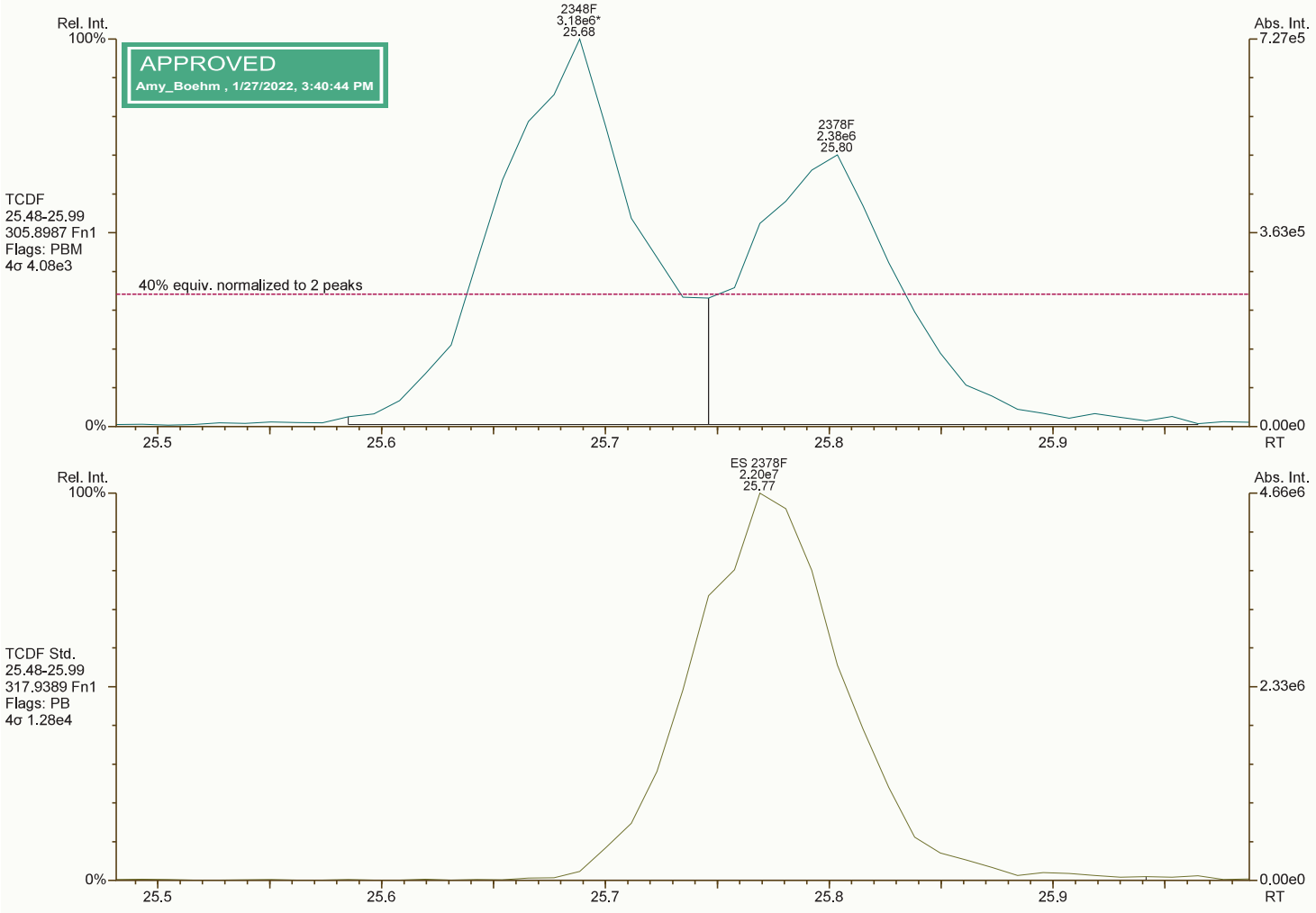
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Peak annotation: Areas, Centroids
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:15

SGS ID: OPR1_18853_DF-RJ
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18853_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15

Acq: 26-Jan-2022 06:06:51
User: PSW Datafile: 220125R26

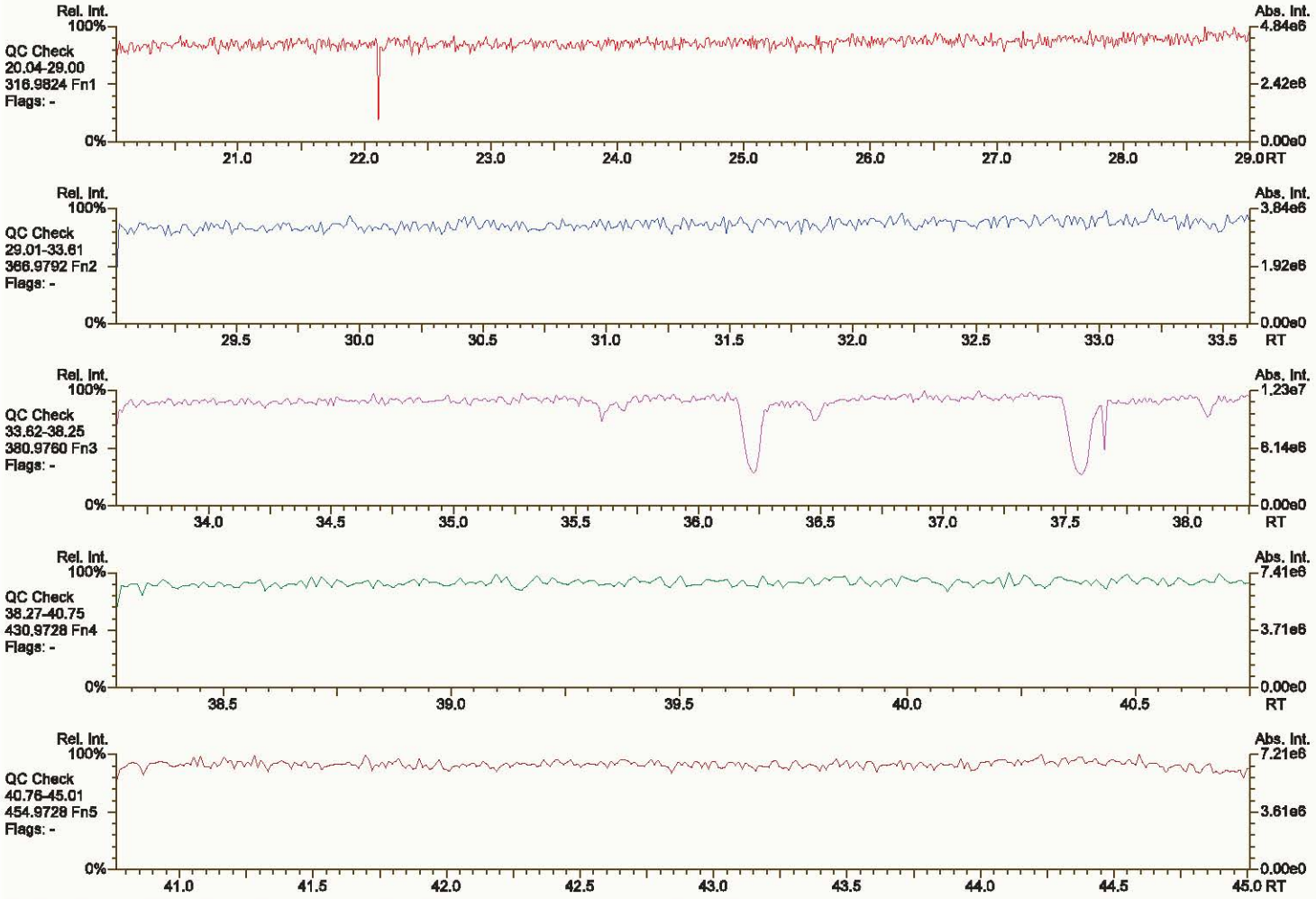


Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Peak annotation: Areas, Centroids
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:16

SGS ID: OPR1_18853_DF-RJ | Sample ID: 0_18853_OPR001 | Acq: 26-Jan-2022 06:06:51

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: PSW Datafile: 220125R26

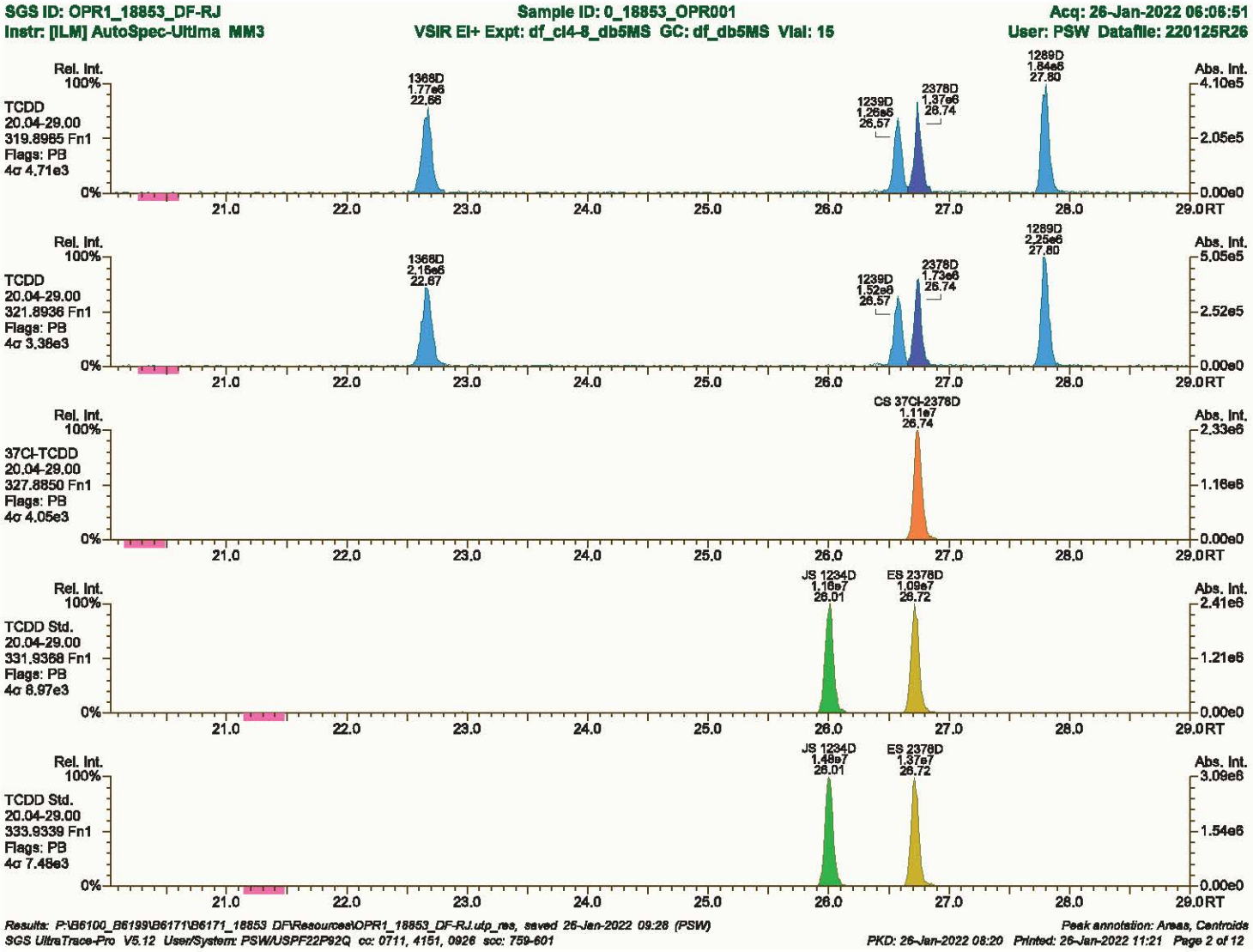


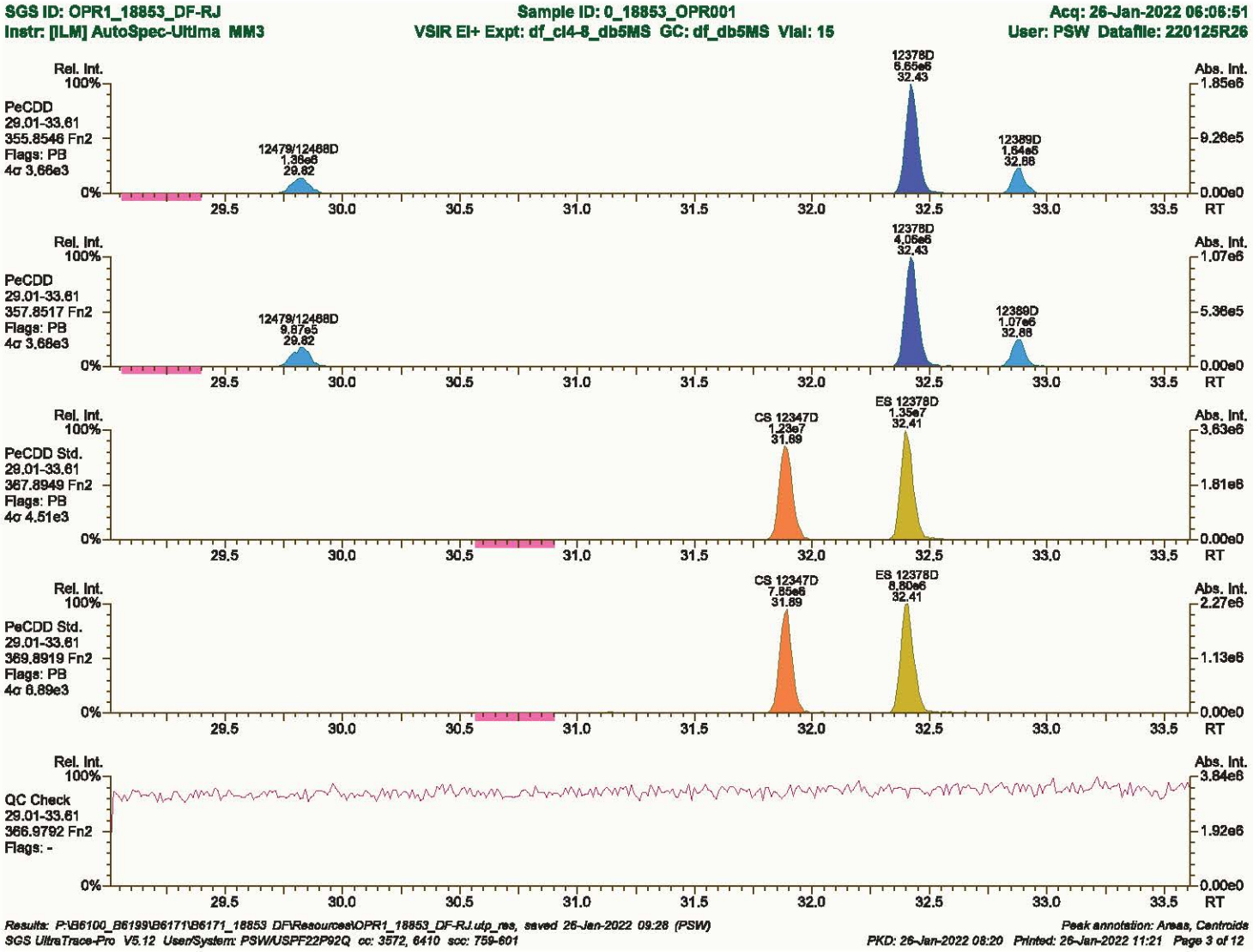
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)

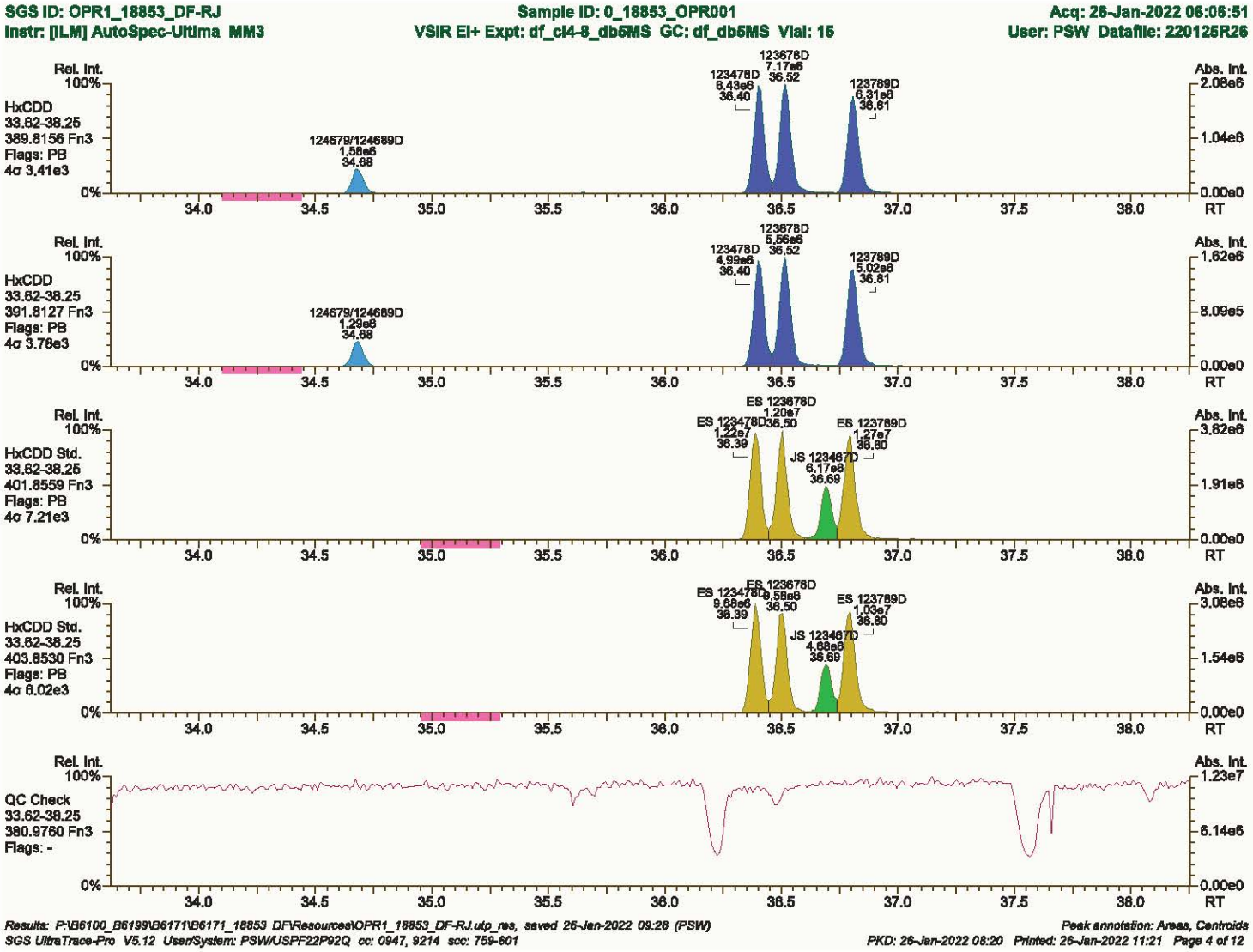
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 759-601

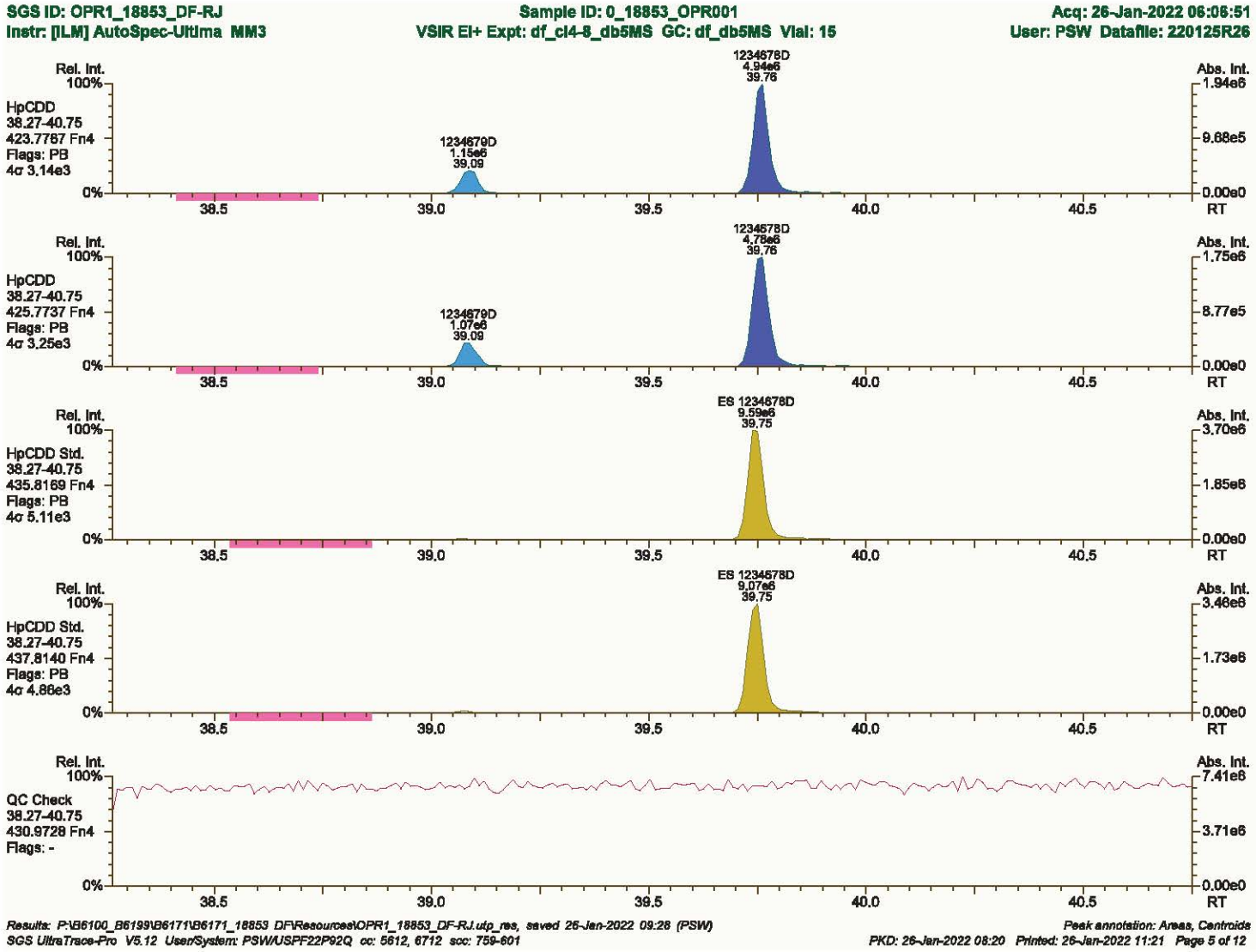
PKD: n/a Printed: 26-Jan-2022 11:21 Page 1 of 12

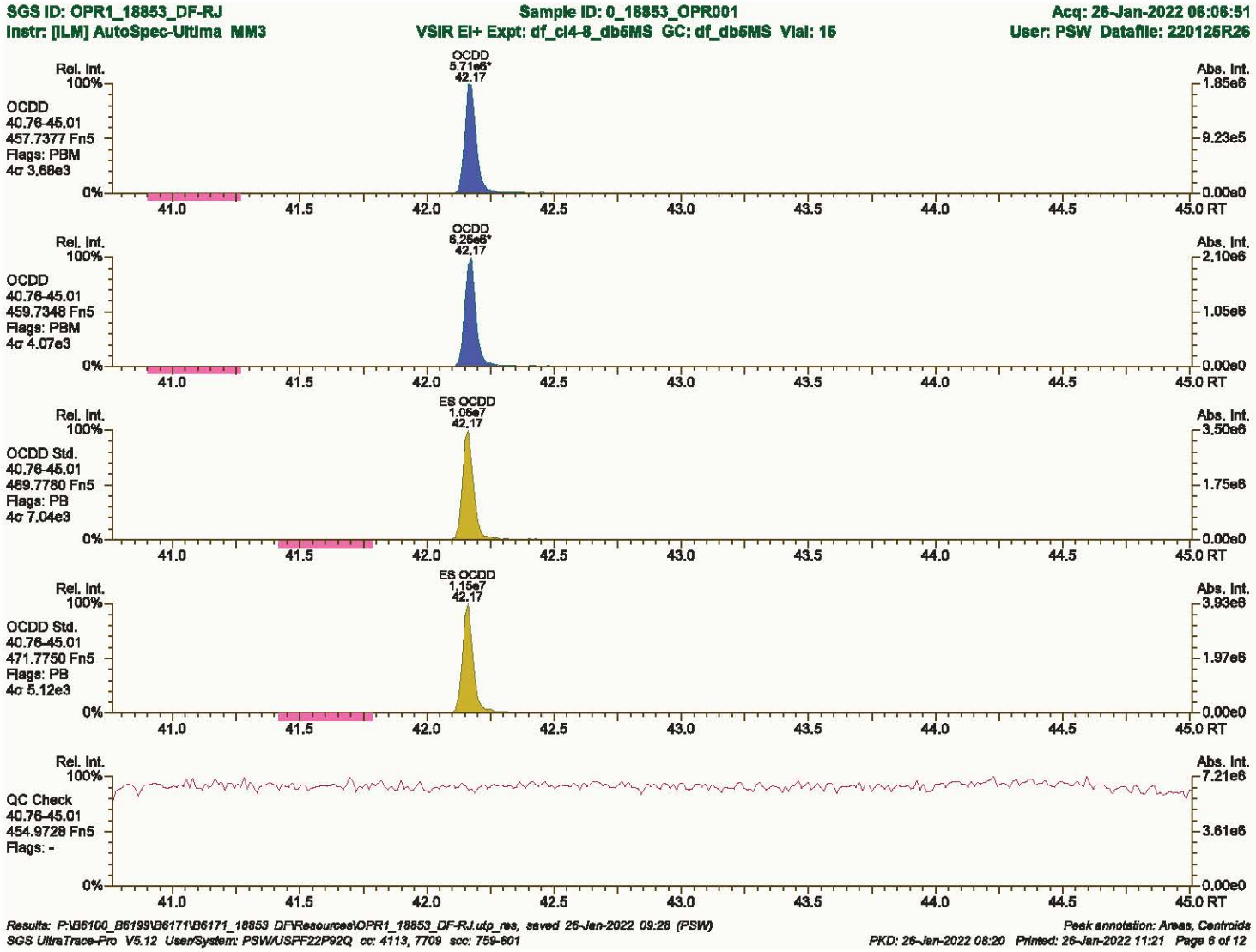

SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PB
4σ 4.71e3
1368D 1.77e6 22.66
1239D 1.26e6 26.57
2378D 1.37e6 26.74
1289D 1.84e6 27.80
4.10e5
2.05e5
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PB
4σ 3.38e3
1368D 2.16e6 22.67
1239D 1.52e6 26.57
2378D 1.73e6 26.74
1289D 2.25e6 27.80
5.05e5
2.52e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 4.05e3
CS 37Cl-2378D 1.11e7 26.74
2.33e6
1.16e6
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 8.97e3
JS 1234D 1.16e7 26.01
ES 2378D 1.09e7 26.72
2.41e6
1.21e6
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 7.48e3
JS 1234D 1.48e7 26.01
ES 2378D 1.37e7 26.72
3.09e6
1.54e6
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0711, 4151, 0926 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 2 of 12

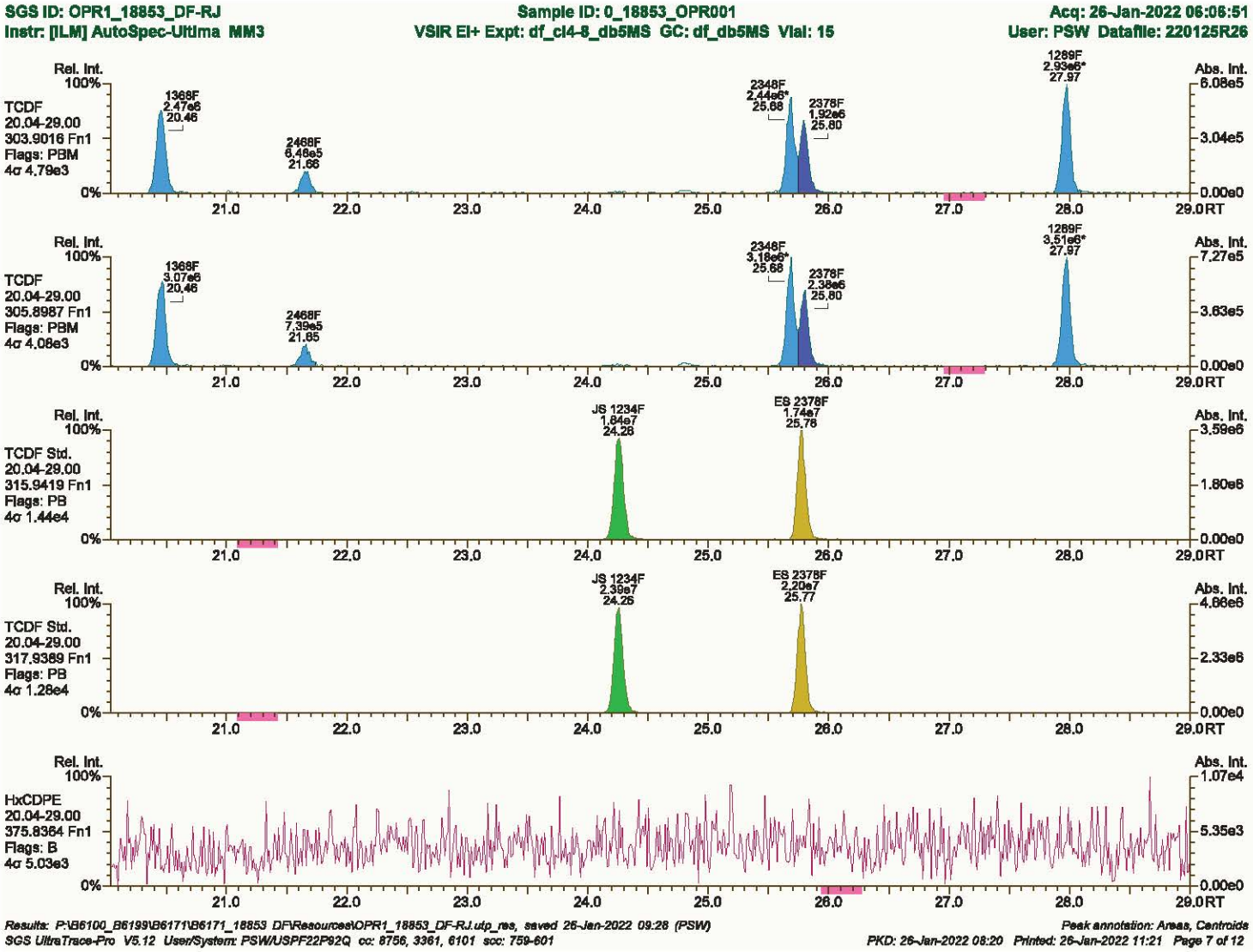

SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PB
4σ 3.66e3
12479/12488D
1.36e6
29.82
12378D
6.65e6
32.43
12389D
1.64e6
32.88
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PB
4σ 3.68e3
12479/12488D
9.87e5
29.82
12378D
4.06e6
32.43
12389D
1.07e6
32.88
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 4.51e3
CS 12347D
1.23e7
31.89
ES 12378D
1.35e7
32.41
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 6.89e3
CS 12347D
7.85e6
31.89
ES 12378D
8.60e6
32.41
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 3572, 6410 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 3 of 12

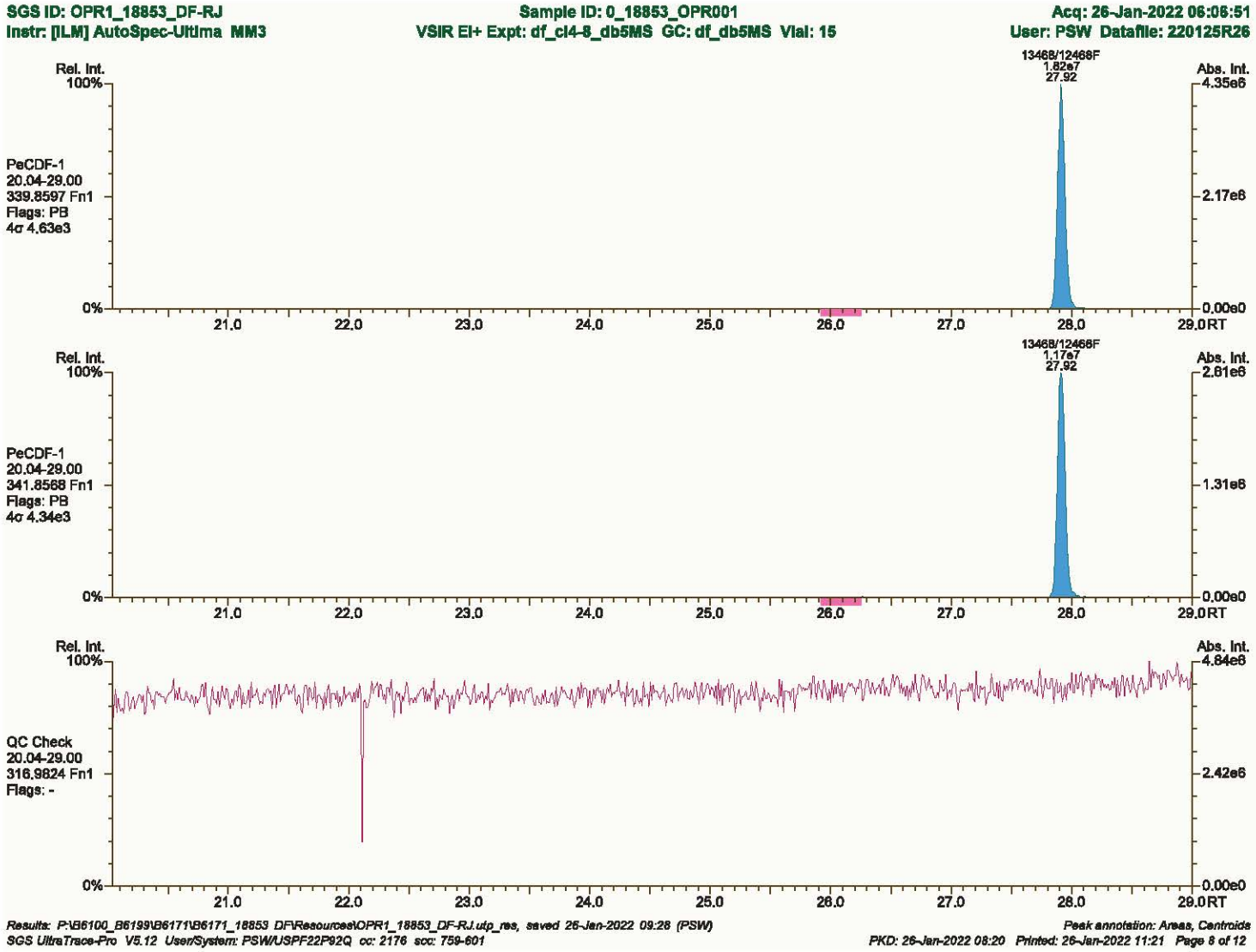


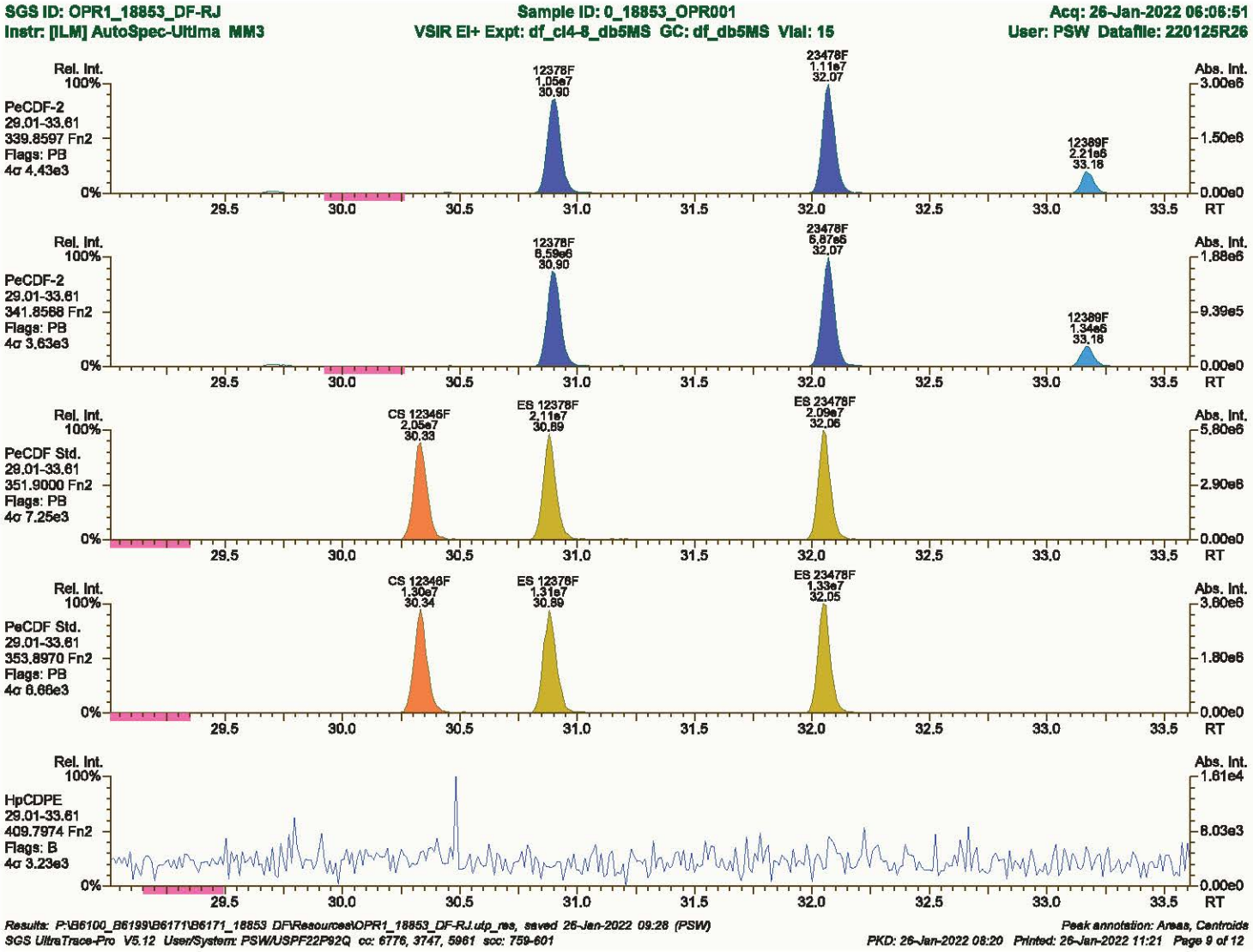
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 0947, 9214 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 4 of 12

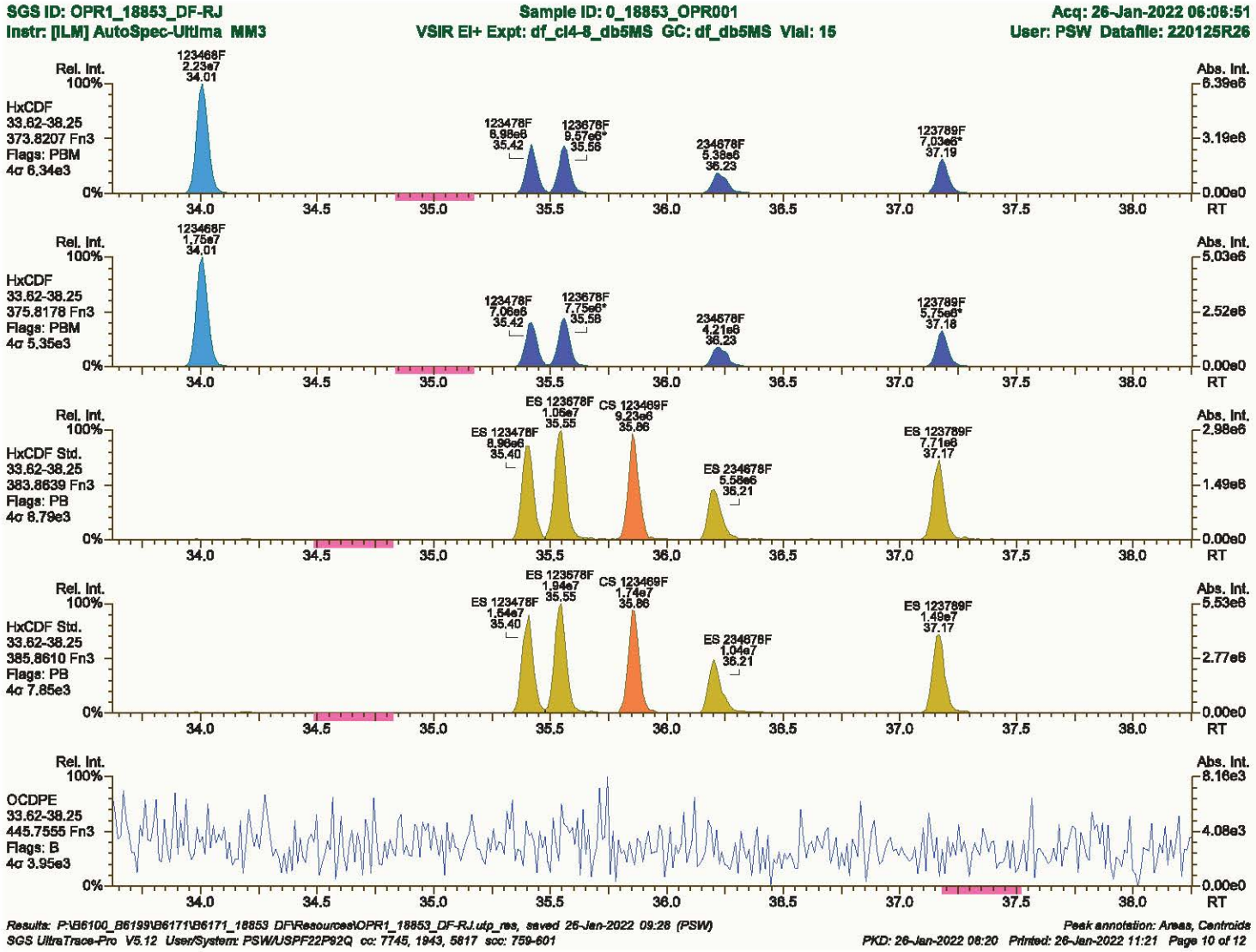

SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 3.14e3
1234678D
4.94e6
39.76
1234679D
1.15e6
39.09
1.94e6
9.68e5
0.00e0
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.25e3
1234678D
4.78e6
39.76
1234679D
1.07e6
39.09
1.75e6
8.77e5
0.00e0
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 5.11e3
ES 1234678D
9.59e6
39.75
3.70e6
1.85e6
0.00e0
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 4.86e3
ES 1234678D
9.07e6
39.75
3.46e6
1.73e6
0.00e0
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
7.41e6
3.71e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 5612, 6712 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 5 of 12

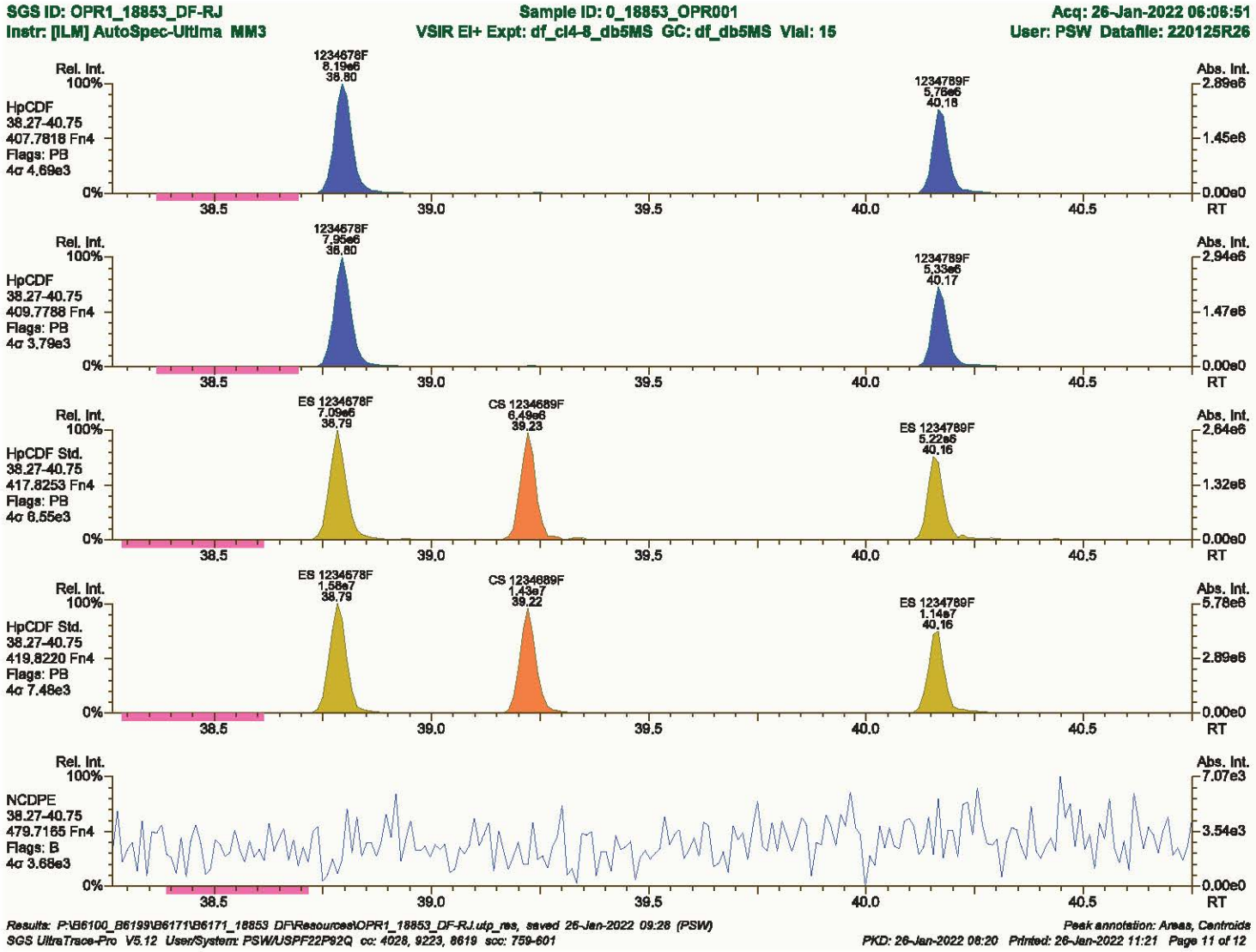

SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
OCDD
5.71e6*
42.17
OCDD
40.76-45.01
457.7377 Fn5
Flags: PBM
4σ 3.68e3
1.85e6
9.23e5
0.00e0
OCDD
6.26e6*
42.17
OCDD
40.76-45.01
459.7348 Fn5
Flags: PBM
4σ 4.07e3
2.10e6
1.05e6
ES OCDD
1.05e7
42.17
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 7.04e3
3.50e6
1.75e6
ES OCDD
1.15e7
42.17
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 5.12e3
3.93e6
1.97e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
7.21e6
3.61e6
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 4113, 7709 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 6 of 12

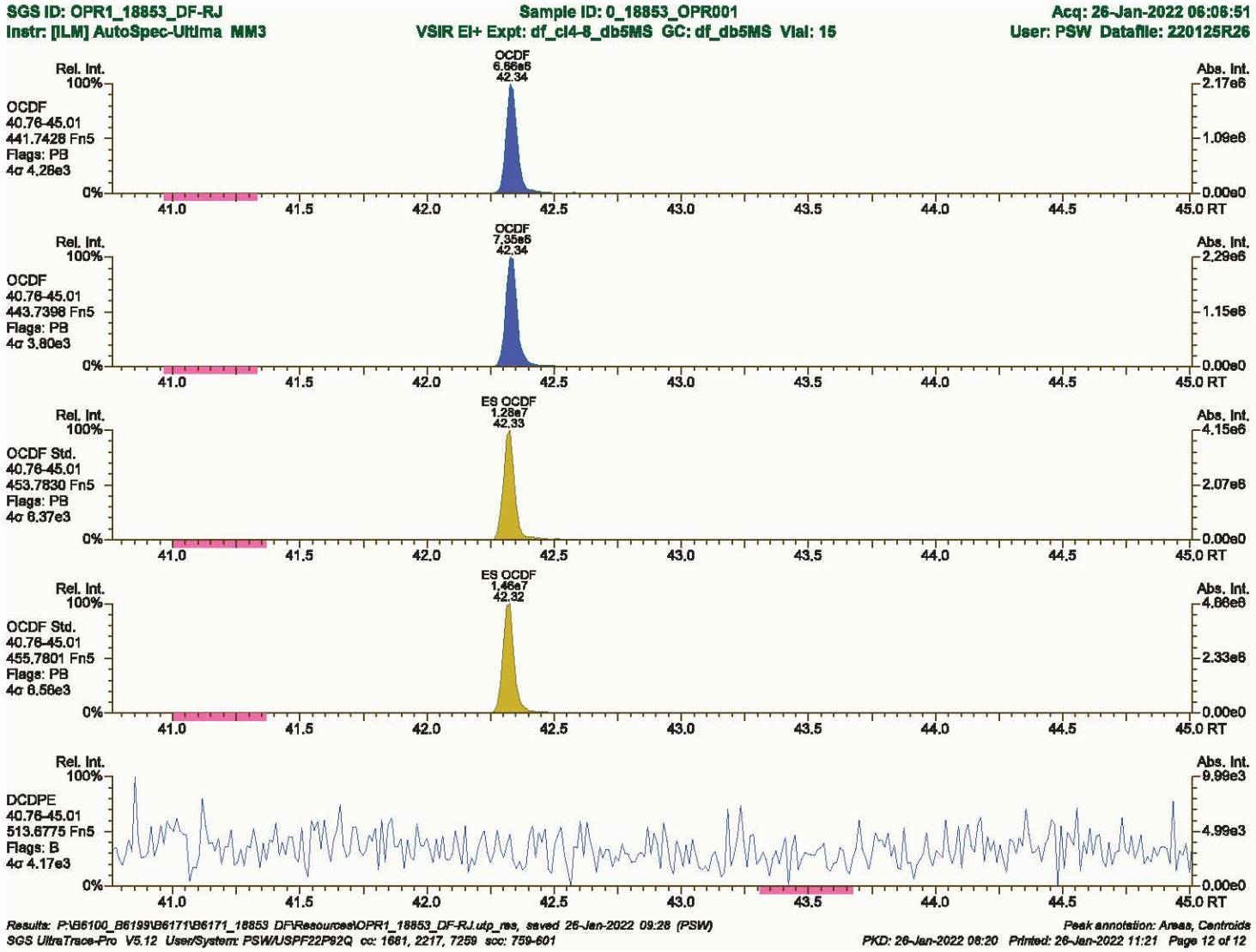

SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 4.79e3
1368F 2.47e6 20.46
2468F 6.48e5 21.66
2348F 2.44e6* 25.68
2378F 1.92e6 25.80
1289F 2.93e6* 27.97
6.08e5
3.04e5
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 4.08e3
1368F 3.07e6 20.46
2468F 7.39e5 21.85
2348F 3.18e6* 25.68
2378F 2.38e6 25.80
1289F 3.51e6* 27.97
7.27e5
3.63e5
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.44e4
JS 1234F 1.84e7 24.26
ES 2378F 1.74e7 25.78
3.59e6
1.80e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.28e4
JS 1234F 2.39e7 24.26
ES 2378F 2.20e7 25.77
4.66e6
2.33e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 5.03e3
1.07e4
5.35e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8756, 3361, 6101 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 7 of 12


SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 4.63e3
13468/12468F
1.82e7
27.92
Abs. Int.
4.35e6
2.17e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.34e3
13468/12468F
1.17e7
27.92
2.61e6
1.31e6
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
4.84e6
2.42e6
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 UserSystem: PSW/USPF22P92Q cc: 2176 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 8 of 12


SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 4.43e3
12378F
1.05e7
30.90
23478F
1.11e7
32.07
12389F
2.21e6
33.16
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 3.63e3
12378F
8.59e6
30.90
23478F
8.87e6
32.07
12389F
1.34e6
33.16
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 7.25e3
CS 12346F
2.05e7
30.33
ES 12378F
2.11e7
30.89
ES 23478F
2.09e7
32.06
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 6.66e3
CS 12346F
1.30e7
30.34
ES 12378F
1.31e7
30.89
ES 23478F
1.33e7
32.05
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.23e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6776, 3747, 5961 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 9 of 12


SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 6.34e3
123468F 2.23e7 34.01
123478F 8.98e6 35.42
123678F 9.57e6* 35.56
234678F 5.38e6 36.23
123789F 7.03e6* 37.19
6.39e6
3.19e6
0.00e0
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 5.35e3
123468F 1.75e7 34.01
123478F 7.06e6 35.42
123678F 7.75e6* 35.56
234678F 4.21e6 36.23
123789F 5.75e6* 37.18
5.03e6
2.52e6
0.00e0
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 8.79e3
ES 123678F 1.06e7 35.55
CS 123469F 9.23e6 35.86
ES 123478F 8.98e6 35.40
ES 234678F 5.58e6 36.21
ES 123789F 7.71e6 37.17
2.98e6
1.49e6
0.00e0
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 7.85e3
ES 123678F 1.94e7 35.55
CS 123469F 1.74e7 35.86
ES 123478F 1.54e7 35.40
ES 234678F 1.04e7 36.21
ES 123789F 1.49e7 37.17
5.53e6
2.77e6
0.00e0
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 3.95e3
8.16e3
4.08e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7745, 1943, 5817 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 10 of 12


SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.69e3
1234678F
8.19e6
38.80
1234789F
5.76e6
40.18
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 3.79e3
1234678F
7.95e6
38.80
1234789F
5.33e6
40.17
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 6.55e3
ES 1234678F
7.09e6
38.79
CS 1234689F
6.49e6
39.23
ES 1234789F
5.22e6
40.16
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 7.48e3
ES 1234678F
1.58e7
38.79
CS 1234689F
1.43e7
39.22
ES 1234789F
1.14e7
40.16
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 3.68e3
RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4028, 9223, 8619 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 11 of 12


SGS ID: OPR1_18853_DF-RJ
Sample ID: 0_18853_OPR001
Acq: 26-Jan-2022 06:06:51
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: PSW Datafile: 220125R26
Rel. Int.
Abs. Int.
OCDF
6.66e6
42.34
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 4.28e3
2.17e6
1.09e6
0.00e0
OCDF
7.35e6
42.34
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 3.80e3
2.29e6
1.15e6
ES OCDF
1.28e7
42.33
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 6.37e3
4.15e6
2.07e6
ES OCDF
1.46e7
42.32
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 6.58e3
4.66e6
2.33e6
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 4.17e3
9.99e3
4.99e3
0%
100%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6171\B6171_18853 DF\Resources\OPR1_18853_DF-RJ.utp_res, saved 26-Jan-2022 09:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1681, 2217, 7259 scc: 759-601
PKD: 26-Jan-2022 08:20 Printed: 26-Jan-2022 11:21 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6172

26-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6172
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	12-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	-0.4, -0.9
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3520C Continuous Liquid-Liquid Extraction. Revision 3, December 1996 and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Aqueous samples are reported on “as is” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, with the following exception: CS 1,2,3,4,6,9-HxCDF and CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on concentration results.

No re-extractions or dilutions were required.

B6172_001, B6172_002, MB1_18842: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18842 meet accuracy and precision criteria.

Samples were extracted at ~1 L volume and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011022-S-BN-RB-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6172_18842_DF_001	Date Extracted:	17-Jan-2022
Date Collected:	10-Jan-2022	pH:	5	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:00:59

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	5.39			ES 2378-TCDD	88	
12378-PeCDD	ND	3.2			ES 12378-PeCDD	96.3	
123478-HxCDD	ND	4.14			ES 123478-HxCDD	84.8	
123678-HxCDD	ND	3.27			ES 123678-HxCDD	111	
123789-HxCDD	ND	4.04			ES 123789-HxCDD	95.5	
1234678-HpCDD	ND	3.67			ES 1234678-HpCDD	89.8	
OCDD	ND	7.41			ES OCDD	77.7	
2378-TCDF	ND	3.76			ES 2378-TCDF	84.9	
12378-PeCDF	ND	3.42			ES 12378-PeCDF	86.9	
23478-PeCDF	ND	3.38			ES 23478-PeCDF	90.2	
123478-HxCDF	ND	2.53			ES 123478-HxCDF	90.5	
123678-HxCDF	ND	2.22			ES 123678-HxCDF	108	
234678-HxCDF	ND	2.81			ES 234678-HxCDF	96.5	
123789-HxCDF	ND	3.07			ES 123789-HxCDF	83.8	
1234678-HpCDF	ND	2.38			ES 1234678-HpCDF	99.8	
1234789-HpCDF	ND	3.73			ES 1234789-HpCDF	87.1	
OCDF	ND	6.01			ES OCDF	79.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.8	
Total TCDD	ND	5.39	ND		CS 12347-PeCDD	113	
Total PeCDD	ND	3.2	ND		CS 12346-PeCDF	99.2	
Total HxCDD	ND	3.78	ND		CS 123469-HxCDF	127	
Total HpCDD	ND	3.67	ND		CS 1234689-HpCDF	123	
Total TCDF	ND	3.76	ND				
Total PeCDF	ND	3.4	ND				
Total HxCDF	ND	2.61	ND				
Total HpCDF	ND	2.96	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	6.2	6.2	6.2				
TEQ: ND=DL	12.4	12.4	12.4				

SGS
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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-011022-S-BN-RB-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6172_18842_DF_001	Date Extracted:	17-Jan-2022
Date Collected:	10-Jan-2022	pH:	5	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:00:59

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(5.39)		12479/12468D	(3.2)		124679/124689D	(3.78)		1234679D	(3.67)	
1379D	(5.39)		12469D	(3.2)		123468D	(3.78)		1234678D	(3.67)	
1369D	(5.39)		12368D	(3.2)		123679/123689D	(3.78)				
1469D	(5.39)		12478D	(3.2)		123469D	(3.78)				
1247D...[4]	(5.39)		12379D	(3.2)		123478D	(4.14)				
1378D	(5.39)		12369D...[3]	(3.2)		123678D	(3.27)				
1268D	(5.39)		12346/12347D	(3.2)		123467D	(3.78)				
1478D	(5.39)		12378D	(3.2)		123789D	(4.04)		Conc.	0	
1279D	(5.39)		12367D	(3.2)					EMPC	0	
1234/1269D	(5.39)		12389D	(3.2)							
1236D	(5.39)								Octa-Dioxin	Conc (pg/L)	Qualifiers
1237/1238D	(5.39)										
1239D	(5.39)								OCDD	(7.41)	
2378D	(5.39)										
1278D	(5.39)										
1267D	(5.39)										
1289D	(5.39)										
Conc.	0		Conc.	0		Conc.	0				
EMPC	0		EMPC	0		EMPC	0				

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613
www.us.sgs.com

WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	6.2	6.2
TEQ: ND=DL	12.4	12.4

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 602-957-ZVG

Report Created: 24-Jan-2022 15:18 Analyst: pw

Sample ID: 11215131-011022-S-BN-RB-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6172_18842_DF_001	Date Extracted:	17-Jan-2022
Date Collected:	10-Jan-2022	pH:	5	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:00:59

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(3.76)		13468/12468F	(2.71)		123468F	(2.61)		1234678F	(2.38)	
1468F	(3.76)		13678F...[3]	(3.4)		124678/134678F	(2.61)		1234679F	(2.96)	
2468F	(3.76)		12368F...[3]	(3.4)		134679F	(2.61)		1234689F	(2.96)	
1346/1246F	(3.76)		14678F	(3.4)		124679F	(2.61)		1234789F	(3.73)	
1347F...[3]	(3.76)		13479F	(3.4)		124689F	(2.61)				
1348F	(3.76)		13469/12479F	(3.4)		123467F	(2.61)				
1248F...[3]	(3.76)		12346F	(3.4)		123478F	(2.53)				
1268F	(3.76)		23468/12469F	(3.4)		123678F	(2.22)				
1467F	(3.76)		12347F	(3.4)		123479F	(2.61)				
1478F	(3.76)		12348F	(3.4)		123469F	(2.61)				
1369/1237F	(3.76)		12378F	(3.42)		123679F	(2.61)				
2467F	(3.76)		12678/12367F	(3.4)		234678F	(2.81)		**Conc.**	0	
2368F	(3.76)		12379F	(3.4)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(3.76)		12679F	(3.4)		123689F	(2.61)				
1278F	(3.76)		23467/12369F	(3.4)		123789F	(3.07)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(3.76)		23478F	(3.38)		123789/123489F	0			**(pg/L)**	
1267F	(3.76)		23478/12489F	0		123489F	(2.61)		OCDF	(6.01)	
2346/1249F	(3.76)		12489F	(3.4)							
2347/1279F	(3.76)		12349F	(3.4)							
2348F	(3.76)		12389F	(3.4)							
2378F	(3.76)										
2367/3467F	(3.76)										
1269F	(3.76)										
1239F	(3.76)										
1289F	(3.76)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 602-957-ZVG

Report Created: 24-Jan-2022 15:18 Analyst: pw

Sample ID: 11215131-011022-S-BN-RB-12 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6172_18842_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18842
Date Collected:	10-Jan-2022	Split:	-	Date Extracted:	17-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	23-Jan-2022 20:00
Lab Project No:	B6172	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(5.39)		5.39	(5.39)	(5.39)	(5.39)
12378-PeCDD	(3.2)		3.2	(1.6)	(3.2)	(3.2)
123478-HxCDD	(4.14)		4.14	(0.414)	(0.414)	(0.414)
123678-HxCDD	(3.27)		3.27	(0.327)	(0.327)	(0.327)
123789-HxCDD	(4.04)		4.04	(0.404)	(0.404)	(0.404)
1234678-HpCDD	(3.67)		3.67	(0.0367)	(0.0367)	(0.0367)
OCDD	(7.41)		7.41	(0.00741)	(0.000741)	(0.00222)
2378-TCDF	(3.76)		3.76	(0.376)	(0.376)	(0.376)
12378-PeCDF	(3.42)		3.42	(0.171)	(0.171)	(0.103)
23478-PeCDF	(3.38)		3.38	(1.69)	(1.69)	(1.01)
123478-HxCDF	(2.53)		2.53	(0.253)	(0.253)	(0.253)
123678-HxCDF	(2.22)		2.22	(0.222)	(0.222)	(0.222)
234678-HxCDF	(2.81)		2.81	(0.281)	(0.281)	(0.281)
123789-HxCDF	(3.07)		3.07	(0.307)	(0.307)	(0.307)
1234678-HpCDF	(2.38)		2.38	(0.0238)	(0.0238)	(0.0238)
1234789-HpCDF	(3.73)		3.73	(0.0373)	(0.0373)	(0.0373)
OCDF	(6.01)		6.01	(0.00601)	(0.000601)	(0.0018)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	5.77	6.57	6.2
EMPC = 0, ND = DL	11.5	13.1	12.4
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	5.77	6.57	6.2
EMPC = EMPC, ND = DL	11.5	13.1	12.4
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 602-957-ZVG

Sample ID: 11215131-010722-S-BN-RB-11 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID	B6172_18842_DF_002	Date Extracted:	17-Jan-2022
Date Collected:	07-Jan-2022	pH:	5	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:47:17

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	5.68			ES 2378-TCDD	80.3	
12378-PeCDD	ND	3.6			ES 12378-PeCDD	96.2	
123478-HxCDD	ND	4.16			ES 123478-HxCDD	88.3	
123678-HxCDD	ND	3.7			ES 123678-HxCDD	108	
123789-HxCDD	ND	4.26			ES 123789-HxCDD	96.5	
1234678-HpCDD	ND	3.54			ES 1234678-HpCDD	85.9	
OCDD	ND	8.59			ES OCDD	76.1	
2378-TCDF	ND	2.84			ES 2378-TCDF	82.8	
12378-PeCDF	ND	4.44			ES 12378-PeCDF	84.8	
23478-PeCDF	ND	4.14			ES 23478-PeCDF	91.3	
123478-HxCDF	ND	2.55			ES 123478-HxCDF	87.9	
123678-HxCDF	ND	2.26			ES 123678-HxCDF	106	
234678-HxCDF	ND	2.77			ES 234678-HxCDF	91.7	
123789-HxCDF	ND	3.04			ES 123789-HxCDF	85.2	
1234678-HpCDF	ND	2.36			ES 1234678-HpCDF	96.3	
1234789-HpCDF	ND	3.4			ES 1234789-HpCDF	85	
OCDF	ND	7.08			ES OCDF	78.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.8	
Total TCDD	ND	5.68	ND		CS 12347-PeCDD	109	
Total PeCDD	ND	3.6	ND		CS 12346-PeCDF	96.8	
Total HxCDD	ND	4.03	ND		CS 123469-HxCDF	116	
Total HpCDD	ND	3.54	ND		CS 1234689-HpCDF	118	
Total TCDF	ND	2.84	ND				
Total PeCDF	ND	4.29	ND				
Total HxCDF	ND	2.62	ND				
Total HpCDF	ND	2.81	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	6.66	6.66	6.66				
TEQ: ND=DL	13.3	13.3	13.3				

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Sample ID: 11215131-010722-S-BN-RB-11 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID:	B6172_18842_DF_002	Date Extracted:	17-Jan-2022
Date Collected:	07-Jan-2022	pH:	5	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:47:17

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(5.68)		12479/12468D	(3.6)		124679/124689D	(4.03)		1234679D	(3.54)	
1379D	(5.68)		12469D	(3.6)		123468D	(4.03)		1234678D	(3.54)	
1369D	(5.68)		12368D	(3.6)		123679/123689D	(4.03)				
1469D	(5.68)		12478D	(3.6)		123469D	(4.03)				
1247D...[4]	(5.68)		12379D	(3.6)		123478D	(4.16)				
1378D	(5.68)		12369D...[3]	(3.6)		123678D	(3.7)				
1268D	(5.68)		12346/12347D	(3.6)		123467D	(4.03)				
1478D	(5.68)		12378D	(3.6)		123789D	(4.26)		Conc.	0	
1279D	(5.68)		12367D	(3.6)					EMPC	0	
1234/1269D	(5.68)		12389D	(3.6)							
1236D	(5.68)								Octa-Dioxin	Conc (pg/L)	Qualifiers
1237/1238D	(5.68)										
1239D	(5.68)								OCDD	(8.59)	
2378D	(5.68)										
1278D	(5.68)										
1267D	(5.68)										
1289D	(5.68)										
Conc.	0		Conc.	0		Conc.	0				
EMPC	0		EMPC	0		EMPC	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	6.66	6.66
TEQ: ND=DL	13.3	13.3

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 343-402-CGY

Report Created: 24-Jan-2022 15:18 Analyst: pw

Sample ID: 11215131-010722-S-BN-RB-11 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	12-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID:	B6172_18842_DF_002	Date Extracted:	17-Jan-2022
Date Collected:	07-Jan-2022	pH:	5	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:47:17

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(2.84)		13468/12468F	(3.33)		123468F	(2.62)		1234678F	(2.36)	
1468F	(2.84)		13678F...[3]	(4.29)		124678/134678F	(2.62)		1234679F	(2.81)	
2468F	(2.84)		12368F...[3]	(4.29)		134679F	(2.62)		1234689F	(2.81)	
1346/1246F	(2.84)		14678F	(4.29)		124679F	(2.62)		1234789F	(3.4)	
1347F...[3]	(2.84)		13479F	(4.29)		124689F	(2.62)				
1348F	(2.84)		13469/12479F	(4.29)		123467F	(2.62)				
1248F...[3]	(2.84)		12346F	(4.29)		123478F	(2.55)				
1268F	(2.84)		23468/12469F	(4.29)		123678F	(2.26)				
1467F	(2.84)		12347F	(4.29)		123479F	(2.62)				
1478F	(2.84)		12348F	(4.29)		123469F	(2.62)				
1369/1237F	(2.84)		12378F	(4.44)		123679F	(2.62)				
2467F	(2.84)		12678/12367F	(4.29)		234678F	(2.77)		**Conc.**	0	
2368F	(2.84)		12379F	(4.29)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(2.84)		12679F	(4.29)		123689F	(2.62)				
1278F	(2.84)		23467/12369F	(4.29)		123789F	(3.04)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(2.84)		23478F	(4.14)		123789/123489F	0				
1267F	(2.84)		23478/12489F	0		123489F	(2.62)		OCDF	(7.08)	
2346/1249F	(2.84)		12489F	(4.29)							
2347/1279F	(2.84)		12349F	(4.29)							
2348F	(2.84)		12389F	(4.29)							
2378F	(2.84)										
2367/3467F	(2.84)										
1269F	(2.84)										
1239F	(2.84)										
1289F	(2.84)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 343-402-CGY

Report Created: 24-Jan-2022 15:18 Analyst: pw

Sample ID: 11215131-010722-S-BN-RB-11 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6172_18842_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	QC Batch No.:	18842
Date Collected:	07-Jan-2022	Split:	-	Date Extracted:	17-Jan-2022
Date Received:	12-Jan-2022	Dilution:	-	Date Analyzed:	23-Jan-2022 20:47
Lab Project No:	B6172	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(5.68)		5.68	(5.68)	(5.68)	(5.68)
12378-PeCDD	(3.6)		3.6	(1.8)	(3.6)	(3.6)
123478-HxCDD	(4.16)		4.16	(0.416)	(0.416)	(0.416)
123678-HxCDD	(3.7)		3.7	(0.37)	(0.37)	(0.37)
123789-HxCDD	(4.26)		4.26	(0.426)	(0.426)	(0.426)
1234678-HpCDD	(3.54)		3.54	(0.0354)	(0.0354)	(0.0354)
OCDD	(8.59)		8.59	(0.00859)	(0.000859)	(0.00258)
2378-TCDF	(2.84)		2.84	(0.284)	(0.284)	(0.284)
12378-PeCDF	(4.44)		4.44	(0.222)	(0.222)	(0.133)
23478-PeCDF	(4.14)		4.14	(2.07)	(2.07)	(1.24)
123478-HxCDF	(2.55)		2.55	(0.255)	(0.255)	(0.255)
123678-HxCDF	(2.26)		2.26	(0.226)	(0.226)	(0.226)
234678-HxCDF	(2.77)		2.77	(0.277)	(0.277)	(0.277)
123789-HxCDF	(3.04)		3.04	(0.304)	(0.304)	(0.304)
1234678-HpCDF	(2.36)		2.36	(0.0236)	(0.0236)	(0.0236)
1234789-HpCDF	(3.4)		3.4	(0.034)	(0.034)	(0.034)
OCDF	(7.08)		7.08	(0.00708)	(0.000708)	(0.00213)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	6.22	7.11	6.66
EMPC = 0, ND = DL	12.4	14.2	13.3
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	6.22	7.11	6.66
EMPC = EMPC, ND = DL	12.4	14.2	13.3
EMPC = EMPC, < J-level = 0	0	0	0

Sample ID: Method Blank B6172_18842 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18842_DF_TLX	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:27

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	6.18			ES 2378-TCDD	80.6	
12378-PeCDD	ND	3.13			ES 12378-PeCDD	90.2	
123478-HxCDD	ND	2.96			ES 123478-HxCDD	92	
123678-HxCDD	ND	2.7			ES 123678-HxCDD	114	
123789-HxCDD	ND	3.26			ES 123789-HxCDD	93.5	
1234678-HpCDD	ND	4.39			ES 1234678-HpCDD	81.8	
OCDD	ND	7.37			ES OCDD	68	
2378-TCDF	ND	3.8			ES 2378-TCDF	79.8	
12378-PeCDF	ND	3.61			ES 12378-PeCDF	82.6	
23478-PeCDF	ND	3.24			ES 23478-PeCDF	84.5	
123478-HxCDF	ND	2.66			ES 123478-HxCDF	87.7	
123678-HxCDF	ND	2.59			ES 123678-HxCDF	106	
234678-HxCDF	ND	2.99			ES 234678-HxCDF	95.5	
123789-HxCDF	ND	3.44			ES 123789-HxCDF	83.2	
1234678-HpCDF	ND	2.23			ES 1234678-HpCDF	94.7	
1234789-HpCDF	ND	3.74			ES 1234789-HpCDF	81.9	
OCDF	ND	7.82			ES OCDF	73.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	ND	6.18	ND		CS 12347-PeCDD	110	
Total PeCDD	ND	3.13	ND		CS 12346-PeCDF	95.1	
Total HxCDD	ND	2.96	ND		CS 123469-HxCDF	130	
Total HpCDD	ND	4.39	ND		CS 1234689-HpCDF	125	
Total TCDF	ND	3.8	ND				
Total PeCDF	ND	3.43	ND				
Total HxCDF	ND	2.88	ND				
Total HpCDF	ND	2.87	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	6.47	6.47	6.47				
TEQ: ND=DL	12.9	12.9	12.9				

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Sample ID: Method Blank B6172_18842 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18842_DF_TLX	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:27

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(6.18)		12479/12468D	(3.13)		124679/124689D	(2.96)		1234679D	(4.39)	
1379D	(6.18)		12469D	(3.13)		123468D	(2.96)		1234678D	(4.39)	
1369D	(6.18)		12368D	(3.13)		123679/123689D	(2.96)				
1469D	(6.18)		12478D	(3.13)		123469D	(2.96)				
1247D...[4]	(6.18)		12379D	(3.13)		123478D	(2.96)				
1378D	(6.18)		12369D...[3]	(3.13)		123678D	(2.7)				
1268D	(6.18)		12346/12347D	(3.13)		123467D	(2.96)				
1478D	(6.18)		12378D	(3.13)		123789D	(3.26)		**Conc.**	0	
1279D	(6.18)		12367D	(3.13)					**EMPC**	0	
1234/1269D	(6.18)		12389D	(3.13)							
1236D	(6.18)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(6.18)										
1239D	(6.18)								OCDD	(7.37)	
2378D	(6.18)										
1278D	(6.18)										
1267D	(6.18)										
1289D	(6.18)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	6.47	6.47
TEQ: ND=DL	12.9	12.9

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 973-869-CYP

Report Created: 24-Jan-2022 15:18 Analyst: pw

Sample ID: Method Blank B6172_18842 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18842_DF_TLX	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:27

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(3.8)		13468/12468F	(2.79)		123468F	(2.88)		1234678F	(2.23)	
1468F	(3.8)		13678F...[3]	(3.43)		124678/134678F	(2.88)		1234679F	(2.87)	
2468F	(3.8)		12368F...[3]	(3.43)		134679F	(2.88)		1234689F	(2.87)	
1346/1246F	(3.8)		14678F	(3.43)		124679F	(2.88)		1234789F	(3.74)	
1347F...[3]	(3.8)		13479F	(3.43)		124689F	(2.88)				
1348F	(3.8)		13469/12479F	(3.43)		123467F	(2.88)				
1248F...[3]	(3.8)		12346F	(3.43)		123478F	(2.66)				
1268F	(3.8)		23468/12469F	(3.43)		123678F	(2.59)				
1467F	(3.8)		12347F	(3.43)		123479F	(2.88)				
1478F	(3.8)		12348F	(3.43)		123469F	(2.88)				
1369/1237F	(3.8)		12378F	(3.61)		123679F	(2.88)				
2467F	(3.8)		12678/12367F	(3.43)		234678F	(2.99)		**Conc.**	0	
2368F	(3.8)		12379F	(3.43)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(3.8)		12679F	(3.43)		123689F	(2.88)				
1278F	(3.8)		23467/12369F	(3.43)		123789F	(3.44)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(3.8)		23478F	(3.24)		123789/123489F	0			**(pg/L)**	
1267F	(3.8)		23478/12489F	0		123489F	(2.88)		OCDF	(7.82)	
2346/1249F	(3.8)		12489F	(3.43)							
2347/1279F	(3.8)		12349F	(3.43)							
2348F	(3.8)		12389F	(3.43)							
2378F	(3.8)										
2367/3467F	(3.8)										
1269F	(3.8)										
1239F	(3.8)										
1289F	(3.8)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 973-869-CYP

Report Created: 24-Jan-2022 15:18 Analyst: pw

Sample ID: Method Blank B6172_18842 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18842_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18842
Date Collected:	n/a	Split:	-	Date Extracted:	17-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	23-Jan-2022 16:09
Lab Project No:	B6172	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(6.18)		6.18	(6.18)	(6.18)	(6.18)
12378-PeCDD	(3.13)		3.13	(1.56)	(3.13)	(3.13)
123478-HxCDD	(2.96)		2.96	(0.296)	(0.296)	(0.296)
123678-HxCDD	(2.7)		2.7	(0.27)	(0.27)	(0.27)
123789-HxCDD	(3.26)		3.26	(0.326)	(0.326)	(0.326)
1234678-HpCDD	(4.39)		4.39	(0.0439)	(0.0439)	(0.0439)
OCDD	(7.37)		7.37	(0.00737)	(0.000737)	(0.00221)
2378-TCDF	(3.8)		3.8	(0.38)	(0.38)	(0.38)
12378-PeCDF	(3.61)		3.61	(0.18)	(0.18)	(0.108)
23478-PeCDF	(3.24)		3.24	(1.62)	(1.62)	(0.973)
123478-HxCDF	(2.66)		2.66	(0.266)	(0.266)	(0.266)
123678-HxCDF	(2.59)		2.59	(0.259)	(0.259)	(0.259)
234678-HxCDF	(2.99)		2.99	(0.299)	(0.299)	(0.299)
123789-HxCDF	(3.44)		3.44	(0.344)	(0.344)	(0.344)
1234678-HpCDF	(2.23)		2.23	(0.0223)	(0.0223)	(0.0223)
1234789-HpCDF	(3.74)		3.74	(0.0374)	(0.0374)	(0.0374)
OCDF	(7.82)		7.82	(0.00782)	(0.000782)	(0.00235)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	6.05	6.83	6.47
EMPC = 0, ND = DL	12.1	13.7	12.9
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	6.05	6.83	6.47
EMPC = EMPC, ND = DL	12.1	13.7	12.9
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 973-869-CYP

SGS North America - DF v0.99

Sample ID: 0_18842_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18842_DF	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:50:36

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.4				ES 2378-TCDD	91.5	
12378-PeCDD	50.7				ES 12378-PeCDD	98.5	
123478-HxCDD	54.5				ES 123478-HxCDD	91.5	
123678-HxCDD	55.3				ES 123678-HxCDD	122	
123789-HxCDD	51.4				ES 123789-HxCDD	95.8	
1234678-HpCDD	57.3				ES 1234678-HpCDD	86.2	
OCDD	111				ES OCDD	73.7	
2378-TCDF	11.8				ES 2378-TCDF	83.6	
12378-PeCDF	50.5				ES 12378-PeCDF	89.2	
23478-PeCDF	53.8				ES 23478-PeCDF	93.2	
123478-HxCDF	53.8				ES 123478-HxCDF	90.7	
123678-HxCDF	55.5				ES 123678-HxCDF	111	
234678-HxCDF	58.2				ES 234678-HxCDF	105	
123789-HxCDF	55.9				ES 123789-HxCDF	77.6	
1234678-HpCDF	54.7				ES 1234678-HpCDF	104	
1234789-HpCDF	53.3				ES 1234789-HpCDF	84.8	
OCDF	105				ES OCDF	78	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98	
Total TCDD	52.1		52.1		CS 12347-PeCDD	116	
Total PeCDD	75.1		75.1		CS 12346-PeCDF	95.1	
Total HxCDD	174		174		CS 123469-HxCDF	131	
Total HpCDD	69.4		69.4		CS 1234689-HpCDF	125	
Total TCDF	61.7		61.7				
Total PeCDF	199		199				
Total HxCDF	358		358				
Total HpCDF	108		108				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	121		121				
TEQ: ND=DL/2	121	0.413	121				
TEQ: ND=DL	121	0.825	121				

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Sample ID: 0_18842_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6172	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18842_DF	Date Extracted:	17-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18842	Date Analyzed:	23-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:36:49

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.4				ES 2378-TCDD	83.5	
12378-PeCDD	50.3				ES 12378-PeCDD	94.4	
123478-HxCDD	59.5				ES 123478-HxCDD	86	
123678-HxCDD	58.1				ES 123678-HxCDD	113	
123789-HxCDD	53.4				ES 123789-HxCDD	92.1	
1234678-HpCDD	57.7				ES 1234678-HpCDD	83	
OCDD	117				ES OCDD	68.5	
2378-TCDF	12.1				ES 2378-TCDF	85	
12378-PeCDF	54				ES 12378-PeCDF	90.2	
23478-PeCDF	57.5				ES 23478-PeCDF	91.7	
123478-HxCDF	56.5				ES 123478-HxCDF	86.1	
123678-HxCDF	56.1				ES 123678-HxCDF	108	
234678-HxCDF	53.5				ES 234678-HxCDF	91.4	
123789-HxCDF	55.9				ES 123789-HxCDF	82.8	
1234678-HpCDF	54				ES 1234678-HpCDF	97.3	
1234789-HpCDF	58.5				ES 1234789-HpCDF	75.8	
OCDF	110				ES OCDF	75.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89	
Total TCDD	55.4		55.4		CS 12347-PeCDD	106	
Total PeCDD	74.8		74.8		CS 12346-PeCDF	99.7	
Total HxCDD	185		185		CS 123469-HxCDF	124	
Total HpCDD	69.5		69.5		CS 1234689-HpCDF	117	
Total TCDF	64.7		64.7				
Total PeCDF	208		208				
Total HxCDF	354		354				
Total HpCDF	113		113				
Total PCDD/Fs	**1,350**		**1,350**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.42	124				
TEQ: ND=DL	124	0.839	124				

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Sample DUP

Method 1613B

Sample ID: 0_18842_OPR001

Analyte	OPR1_18842_DF pg/uL	OPR2_18842_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.4	12.4	8.4%
1,2,3,7,8-PeCDD	50.7	50.3	0.8%
1,2,3,4,7,8-HxCDD	54.5	59.5	8.8%
1,2,3,6,7,8-HxCDD	55.3	58.1	5.1%
1,2,3,7,8,9-HxCDD	51.4	53.4	3.7%
1,2,3,4,6,7,8-HpCDD	57.3	57.7	0.8%
OCDD	111	117	5.4%
2,3,7,8-TCDF	11.8	12.1	2.6%
1,2,3,7,8-PeCDF	50.5	54	6.6%
2,3,4,7,8-PeCDF	53.8	57.5	6.6%
1,2,3,4,7,8-HxCDF	53.8	56.5	4.8%
1,2,3,6,7,8-HxCDF	55.5	56.1	1.1%
2,3,4,6,7,8-HxCDF	58.2	53.5	8.4%
1,2,3,7,8,9-HxCDF	55.9	55.9	0.0%
1,2,3,4,6,7,8-HpCDF	54.7	54	1.2%
1,2,3,4,7,8,9-HpCDF	53.3	58.5	9.3%
OCDF	105	110	5.0%
Totals			
Total TCDD	52.1	55.4	6.2%
Total PeCDD	75.1	74.8	0.5%
Total HxCDD	174	185	6.2%
Total HpCDD	69.4	69.5	0.1%
Total TCDF	61.7	64.7	4.6%
Total PeCDF	199	208	4.1%
Total HxCDF	358	354	1.3%
Total HpCDF	108	113	4.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*12-Jan-22 at 11:52*
AP Project name:	*B6172*
Requested TAT:	*10 business days*
Projected due date:	*26-Jan-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011022-S-BN-RB-12	B6172_001	Water	2	1-Liter Amber	10-Jan-22	12:45	-0.4	1	4905 2704 3907
11215131-010722-S-BN-RB-11	B6172_002	Water	2	1-Liter Amber	07-Jan-22	15:15	-0.9	3	4905 2704 3929

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples not received frozen. Changed date portion of ids from 21 to 22.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 13 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BU172 1/2

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV

SPECIAL DELIVERABLES:

☐ DoD ☒ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8200A	M1668A	M1668C-LL	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
-001 11215131-011022-S-BN-RB-12	1-10-22	1245		W	12		X									2	RINSE BLANK (12)

COLLECTED/RELINQUISHED BY (1):	DATE: 1-11-22	TIME:	RECEIVED BY:	1-11-22 14:00	RECEIVED BY LABORATORY:	DATE: 1/12/2022	TIME: 11:52
RELINQUISHED BY (2):	DATE: 1-11-22	TIME: 1525	RECEIVED BY: Fedex		COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT		
RELINQUISHED BY (3): Fedex	DATE:	TIME:	RECEIVED BY:		CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
					CARRIER: FedEx	TEMP: °C -0.4°	
					TRACKING #: 4905 2704 3907		

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SGS CHAIN OF CUSTODY

B6172 2/2

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE	ANALYSIS & METHOD: M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~ (BN)	HR-PAH	~~M1699~~	QC: MS	MSD	DUP	QTY	REMARKS
-002 112-15131-010721-S-BN-RB-1	1-7-22	1515		W	1L	NONE	X									2	RINSE BLANK (1L)

SEE SSOW

COLLECTED/RELINQUISHED BY (1): Breanna North	DATE: 1-10-22	TIME: 1212	RECEIVED BY: Eddie Castro
RELINQUISHED BY (2): Eddie Castro	DATE: 1-10-22	TIME: 1700	RECEIVED BY: [signature] 1/10/22 1400
RELINQUISHED BY (3): [signature]	DATE: 1/10/22	TIME: 1400	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME: Ashley Owens 1/12/2022 11:52
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: FedEx TEMP: °C -0.9°
TRACKING #: 4905 2704 3929

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B6172

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.4° (T.B.)

565C2/01EF/05A2

FedEx Express

1 of 4

TRK# 0201 4905 2704 3907
MASTER

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 1501A8-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
1.0° (T.B.)

565C2/01EF/05A2

FedEx Express

J191215092001ov

2 of 4

MPS# 0283 4905 2704 3918
Mstr# 4905 2704 3907 0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 1501A8-434 MTW EXP 07/22

B6172

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.9° (T.B.)

565C2/01EF/0562

FedEx Express

J191219082001uv

3 of 4

MPS# 0263 4905 2704 3929
Mstr# 4905 2704 3907

0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 158148-434 MTW EXP 07/22

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 1 & 2

1/12/2022
11:52
-0.2° (T.B.)

565C2/01EF/0562

FedEx Express

J191219082001uv

4 of 4

MPS# 0263 4905 2704 3930
Mstr# 4905 2704 3907

0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 158148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number:	B6172	Initiation Date:	13-Jan-22
Client Name:	GHD Services Inc.	Sample Matrix:	Aqueous
Analysis Method:	1613 PCDD/F	TAT:	10 days
		Project Manager:	Tamara

Special Instructions

M1613B w/ OPR & OPRD

1L extraction

Read and understood, initial and date: Prep Lab: JAH 1/17/22 RAB 1/20/22 HRMS Lab: GJM 1/24/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: GJM 1/24/22

PM Initials: akornegay Date: 13-Jan-2022

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST

Extraction Type: SDS / CLL | TALEX Carbon SPE

Aqueous

Final Volume: 20µL

Batch# 18842 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 1/17/22 | Clean-up Initial/Date: ~~KB~~ 1/20/22 | Transfer Initial/Date: ~~KB~~ 1/20/22

Lab Sample ID	Extraction Position Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	pH	Cl-	Observations
B6155_18842_001	4	1013.3				5	0	clear, colorless
B6161_18842_001	5	1040.3				7	0	clear, colorless
B6161_18842_002	6	1029.5				7	0	clear, colorless
B6161_18842_003	7	1020.7				6	0	chemical smell, cloudy, brown, PM
B6172_18842_001	8	1020.6				5	0	clear, colorless
B6172_18842_002	9	1011.9				5	0	clear, colorless
MB1_18842	1	1000.0				5	0	Distilled H_2O
OPR1_18842	2	1000.0				5	0	Distilled H_2O
OPR2_18842	3	1000.0				5	0	Distilled H_2O

CL 26 Jan 22

Supply IDs

Toluene	N/A
MeCHL	STL14-23
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	SPLS-72
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-78C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CL 26 Jan 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

KB 1/20/22

Cycle Time

TOL	Start:	
	Stop:	
HEX	Start:	CL 26 Jan 22
	Stop:	
JRH 1/17/22 DCM	Start: ~~1630~~ 1430	
	Stop: 1130	

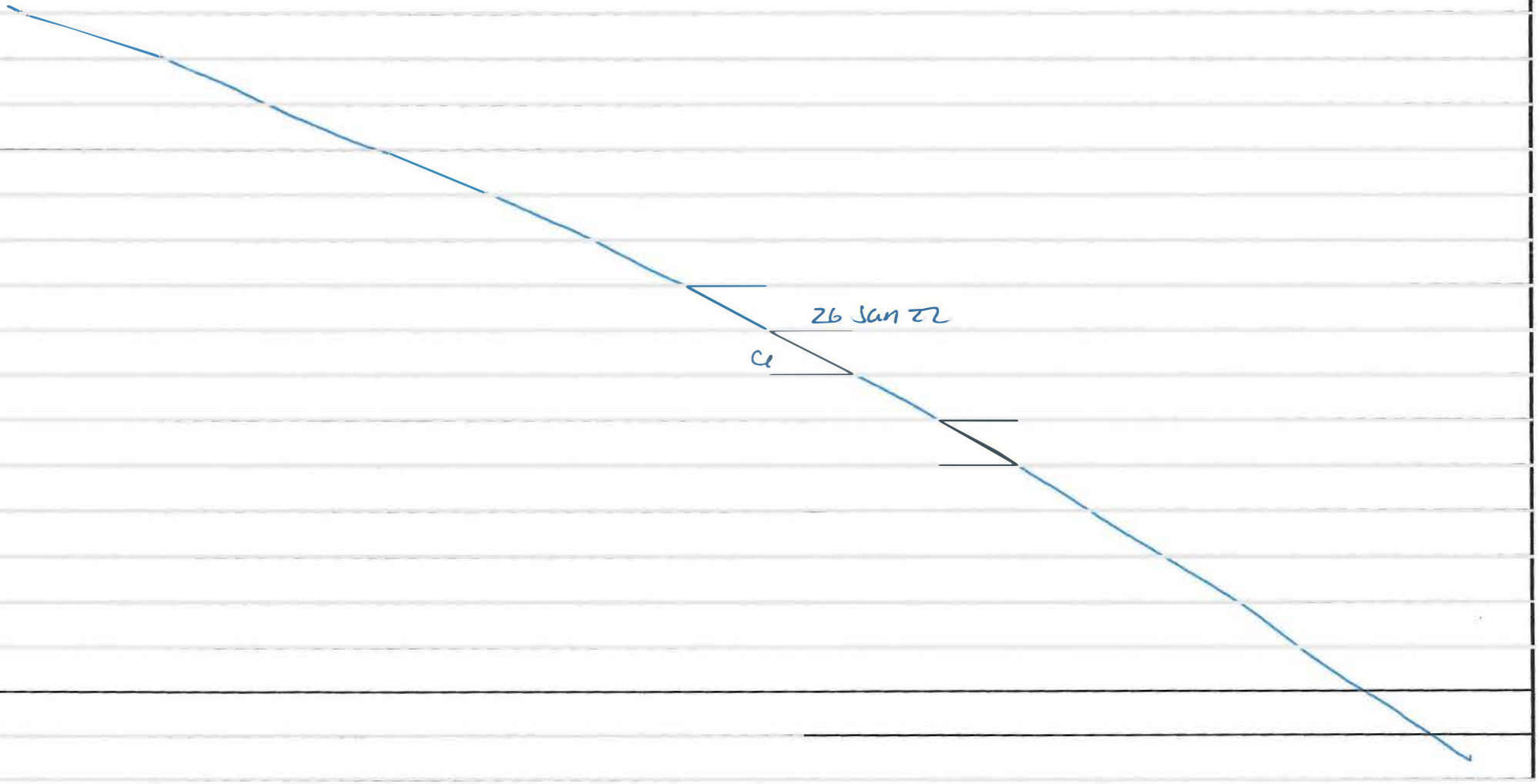
SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Aqueous

Batch# 18842

Inter-Department Communication Sheet



SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Aqueous

Batch # 18842

Spiker Initials/Date:	JRH 1/17/22	JRH 1/17/22	JRH 1/17/22	1/20/22	1/20/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
Lab Sample ID	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6155_18842_001	—	—	KE	KE	JRH		
B6161_18842_001	—	—	KE	KE	JRH		
B6161_18842_002	—	—	KE	KE	JRH		
B6161_18842_003	—	—	KE	KE	JRH		
B6172_18842_001	—	—	KE	KE	JRH		
B6172_18842_002	—	—	KE	KE	JRH		
MB1_18842	—	—	KE	KE	JRH		
OPR1_18842	KE	KE	KE	KE	JRH		
OPR2_18842	KE	KE	KE	KE	JRH		

1/20/22

Standard Information

Pipette ID						
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL #	26-2-8	25-187-8	26-2-9	25.338.1	25.309.1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	
Expiration Date	7/9/28	6/22/22	5/8/28	11/16/22	10/8/22	

1/20/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220123C01	3	CS3_220123_DF_CA	1.00	SIL 25-347-1	DTF, PSW	360-463	23-Jan-2022	12:26:11
1	220123C02	7	OPR1_18842_DF	1.00	0_18842_OPR001	DTF, PSW	322-778	23-Jan-2022	13:50:36
2	220123C03	8	OPR2_18842_DF	1.00	0_18842_OPR002	DTF, PSW	606-439	23-Jan-2022	14:36:49
3	220123C04	2	SBS_220123_DF_CA	1.00	SIL 20-61-1	DTF	105-853	23-Jan-2022	15:23:08
4	220123C05	6	MB1_18842_DF_TLX	1.00	Method Blank	DTF, PSW	973-869	23-Jan-2022	16:09:27
5	220123C10	13	B6172_18842_DF_001	1.02	11215131-011022-S-BN-RB-12	DTF, PSW	602-957	23-Jan-2022	20:00:59
6	220123C11	14	B6172_18842_DF_002	1.01	11215131-010722-S-BN-RB-11	DTF, PSW	343-402	23-Jan-2022	20:47:17

Lab ID: MB1_18842_DF_TLX **Acq'd:** 23 Jan 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6172_18842 **UTP:** 24-Jan-2022 15:16:30 PSW **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 973-869-CYP

Datafile: 220123C05 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4945.879	6.18
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2582.581	3.13
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2587.0503	2.96
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2587.0503	2.7
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2587.0503	3.26
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3003.175	4.39
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2501.629	7.37
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	5003.885	3.8
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4212.968	3.61
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4212.968	3.24
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3101.07	2.66
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3101.07	2.59
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3101.07	2.99
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3101.07	3.44
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2758.204	2.23
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2758.204	3.74
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3295.339	7.82

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0237	+0.7	1.60E+07	0.80	Y	1.05	80.6
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.50E+07	1.59	Y	0.88	90.2
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.36E+07	1.24	Y	0.97	92
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.63E+07	1.25	Y	0.94	114
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.55E+07	1.27	Y	1.09	93.5
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.13E+07	1.13	Y	0.91	81.8
ES OCDD	43.51	1.1403	1.1411	+2.1	1.29E+07	0.91	Y	0.62	68
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.73E+07	0.79	Y	1.06	79.8
ES 12378-PeCDF	32.50	1.2281	1.2297	+3.1	2.43E+07	1.57	Y	0.91	82.6
ES 23478-PeCDF	33.60	1.2698	1.2716	+3.6	2.41E+07	1.55	Y	0.88	84.5
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.59E+07	0.58	Y	1.20	87.7
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.16E+07	0.53	Y	1.35	106
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.80E+07	0.55	Y	1.24	95.5
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.46E+07	0.56	Y	1.16	83.2
ES 1234678-HpCDF	39.93	1.0467	1.0471	+1.0	1.39E+07	0.44	Y	0.97	94.7
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.06E+07	0.48	Y	0.85	81.9
ES OCDF	43.70	1.1451	1.1460	+2.4	1.80E+07	0.91	Y	0.81	73.5

Lab ID: MB1_18842_DF_TLX | **Acq'd:** 23 Jan 2022 16:09 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6172_18842 | **UTP:** 24-Jan-2022 15:16:30 PSW | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 973-869-CYP

Datafile: 220123C05 | **Report:** 24 Jan 2022 15:18 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.90E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.23E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.58E+06	1.30	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.40E+06	n/a	-	1.20	92.1	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.57E+07	1.58	Y	0.75	110	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.61E+07	1.55	Y	0.85	95.1	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.21E+07	0.55	Y	1.12	130	
CS 1234689-HpCDF	40.33		1.0571	1.0576	+1.2	1.68E+07	0.46	Y	0.89	125	
SS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.40E+06	n/a	-	1.15	115	Not used in this project.
SS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.57E+07	1.58	Y	0.86	121	CL 26Jan22
SS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.61E+07	1.55	Y	0.94	115	
SS 123469-HxCDF	37.29		0.9778	0.9778	0	2.21E+07	0.55	Y	0.83	123	
SS 1234689-HpCDF	40.33	V	1.0571	1.0576	+1.2	1.68E+07	0.46	Y	0.92	132	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18842_DF_TLX **Acq'd:** 23 Jan 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6172_18842 **UTP:** 24-Jan-2022 15:16:30 PSW **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 973-869-CYP

Datafile: 220123C05 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4945.879	6.18
1379-TCDD	NotFnd		0.8876						1.18		4945.879	6.18
1369-TCDD	NotFnd		0.9023						1.18		4945.879	6.18
1469-TCDD	NotFnd		0.9291						1.18		4945.879	6.18
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4945.879	6.18
1378-TCDD	NotFnd		0.9440						1.18		4945.879	6.18
1268-TCDD	NotFnd		0.9506						1.18		4945.879	6.18
1478-TCDD	NotFnd		0.9591						1.18		4945.879	6.18
1279-TCDD	NotFnd		0.9649						1.18		4945.879	6.18
1234/1269-TCDD	NotFnd		0.9771						1.18		4945.879	6.18
1236-TCDD	NotFnd		0.9820						1.18		4945.879	6.18
1237/1238-TCDD	NotFnd		0.9908						1.18		4945.879	6.18
1239-TCDD	NotFnd		0.9954						1.18		4945.879	6.18
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4945.879**	**6.18**
1278-TCDD	NotFnd		1.0121						1.18		4945.879	6.18
1267-TCDD	NotFnd		1.0167						1.18		4945.879	6.18
1289-TCDD	NotFnd		1.0341						1.18		4945.879	6.18
12479/12468-PeCDD	NotFnd		0.9273						1.04		2582.581	3.13
12469-PeCDD	NotFnd		0.9430						1.04		2582.581	3.13
12368-PeCDD	NotFnd		0.9592						1.04		2582.581	3.13
12478-PeCDD	NotFnd		0.9647						1.04		2582.581	3.13
12379-PeCDD	NotFnd		0.9676						1.04		2582.581	3.13
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2582.581	3.13
12346/12347-PeCDD	NotFnd		0.9860						1.04		2582.581	3.13
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2582.581**	**3.13**
12367-PeCDD	NotFnd		1.0034						1.04		2582.581	3.13
12389-PeCDD	NotFnd		1.0134						1.04		2582.581	3.13
124679/124689-HxCDD	NotFnd		0.9545						1.10		2587.0503	2.96
123468-HxCDD	NotFnd		0.9715						1.10		2587.0503	2.96
123679/123689-HxCDD	NotFnd		0.9793						1.10		2587.0503	2.96
123469-HxCDD	NotFnd		0.9829						1.10		2587.0503	2.96
123478-HxCDD	NotFnd		**1.0004**						1.09		**2587.0503**	**2.96**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2587.0503**	**2.7**
123467-HxCDD	NotFnd		1.0082						1.10		2587.0503	2.96
123789-HxCDD	NotFnd		**1.0109**						1.05		**2587.0503**	**3.26**

Lab ID: MB1_18842_DF_TLX | **Acq'd:** 23 Jan 2022 16:09 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6172_18842 | **UTP:** 24-Jan-2022 15:16:30 PSW | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 973-869-CYP

Datafile: 220123C05 | **Report:** 24 Jan 2022 15:18 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

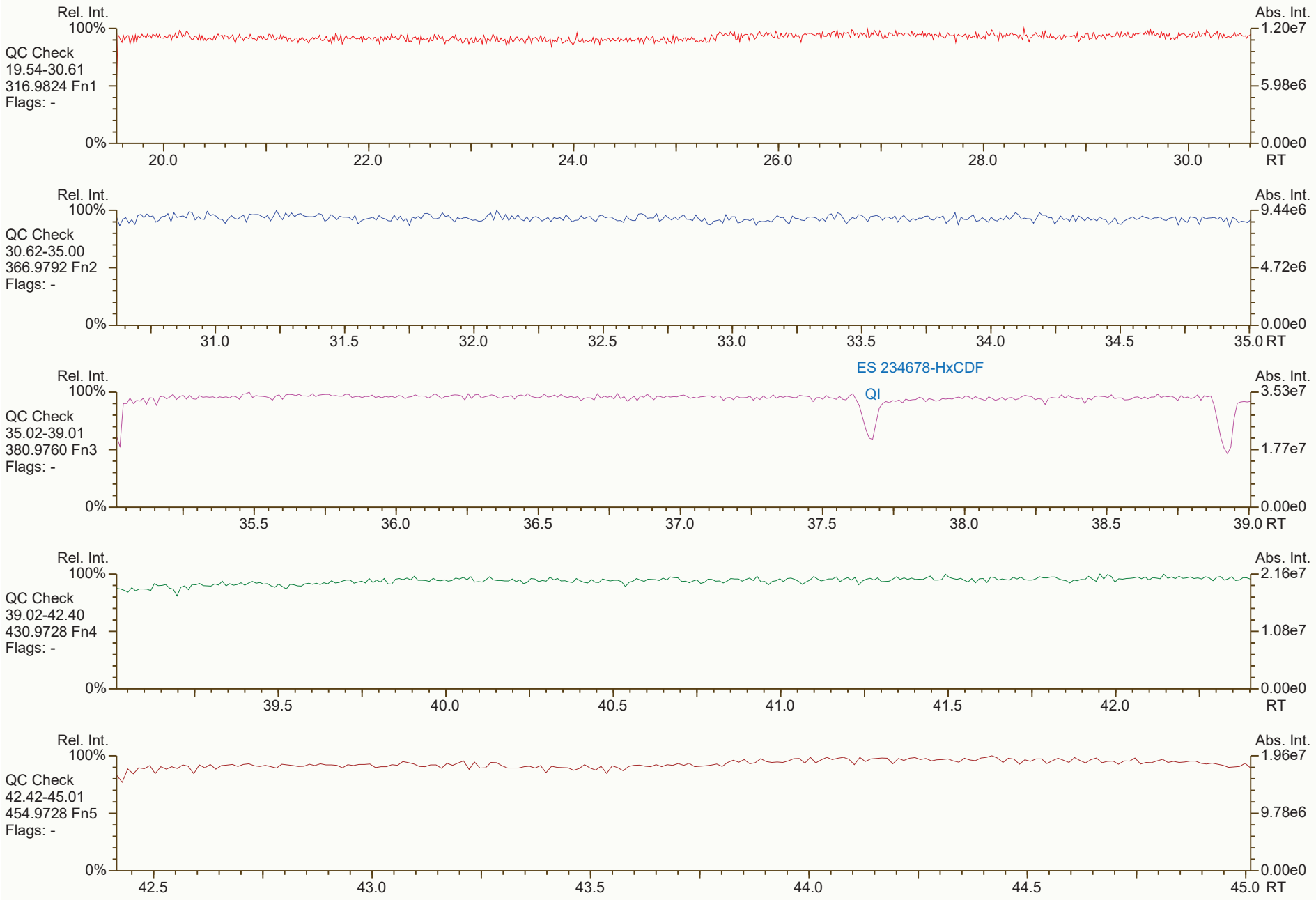
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3003.175	4.39
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3003.175**	**4.39**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2501.629**	**7.37**
OCDD-a	NotFnd		1.0002						0.07		3109.48	143
1368-TCDF	NotFnd		0.8282						1.08		5003.885	3.8
1468-TCDF	NotFnd		0.8485						1.08		5003.885	3.8
2468-TCDF	NotFnd		0.8709						1.08		5003.885	3.8
1346/1246-TCDF	NotFnd		0.8829						1.08		5003.885	3.8
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5003.885	3.8
1348-TCDF	NotFnd		0.8980						1.08		5003.885	3.8
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		5003.885	3.8
1268-TCDF	NotFnd		0.9158						1.08		5003.885	3.8
1467-TCDF	NotFnd		0.9206						1.08		5003.885	3.8
1478-TCDF	NotFnd		0.9266						1.08		5003.885	3.8
1369/1237-TCDF	NotFnd		0.9397						1.08		5003.885	3.8
2467-TCDF	NotFnd		0.9440						1.08		5003.885	3.8
2368-TCDF	NotFnd		0.9497						1.08		5003.885	3.8
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5003.885	3.8
1278-TCDF	NotFnd		0.9690						1.08		5003.885	3.8
1349-TCDF	NotFnd		0.9730						1.08		5003.885	3.8
1267-TCDF	NotFnd		0.9787						1.08		5003.885	3.8
2346/1249-TCDF	NotFnd		0.9850						1.08		5003.885	3.8
2347/1279-TCDF	NotFnd		0.9929						1.08		5003.885	3.8
2348-TCDF	NotFnd		0.9970						1.08		5003.885	3.8
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**5003.885**	**3.8**
2367/3467-TCDF	NotFnd		1.0136						1.08		5003.885	3.8
1269-TCDF	NotFnd		1.0221						1.08		5003.885	3.8
1239-TCDF	NotFnd		1.0319						1.08		5003.885	3.8
1289-TCDF	NotFnd		1.0740						1.08		5003.885	3.8
13468/12468-PeCDF	NotFnd		0.9145						1.02		3434.053	2.79
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4212.968	3.43
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4212.968	3.43
14678-PeCDF	NotFnd		0.9695						1.02		4212.968	3.43
13479-PeCDF	NotFnd		0.9724						1.02		4212.968	3.43
13469/12479-PeCDF	NotFnd		0.9801						1.02		4212.968	3.43
12346-PeCDF	NotFnd		0.9842						1.02		4212.968	3.43

Lab ID: MB1_18842_DF_TLX | **Acq'd:** 23 Jan 2022 16:09 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6172_18842 | **UTP:** 24-Jan-2022 15:16:30 PSW | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 973-869-CYP

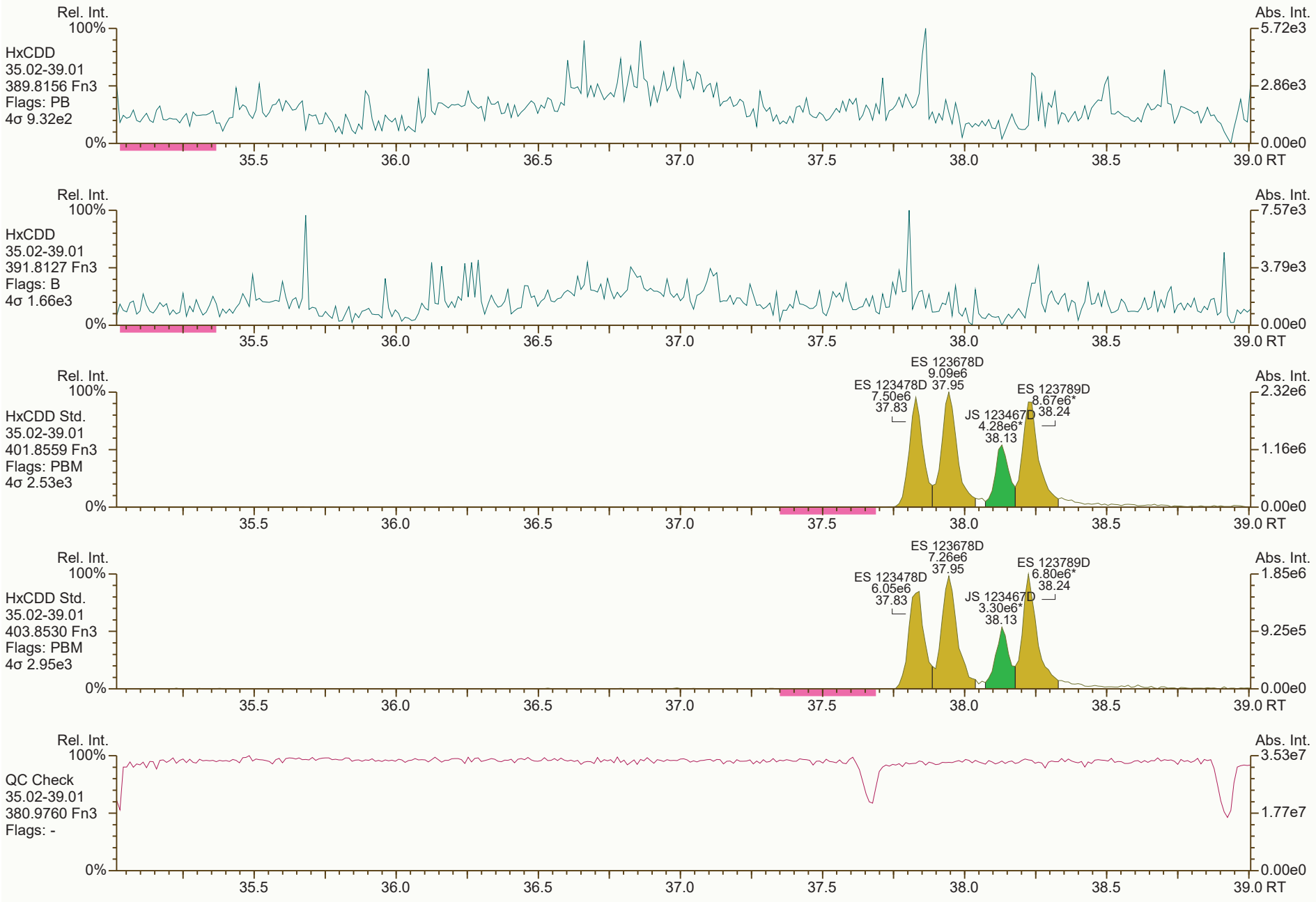
Datafile: 220123C05 | **Report:** 24 Jan 2022 15:18 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4212.968	3.43
12347-PeCDF	NotFnd		0.9895						1.02		4212.968	3.43
12348-PeCDF	NotFnd		0.9941						1.02		4212.968	3.43
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4212.968**	**3.61**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4212.968	3.43
12379-PeCDF	NotFnd		1.0142						1.02		4212.968	3.43
12679-PeCDF	NotFnd		0.9931						1.02		4212.968	3.43
23467/12369-PeCDF	NotFnd		0.9966						1.02		4212.968	3.43
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4212.968**	**3.24**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4212.968	3.43
12349-PeCDF	NotFnd		1.0101						1.02		4212.968	3.43
12389-PeCDF	NotFnd		1.0322						1.02		4212.968	3.43
123468-HxCDF	NotFnd		0.9627						1.19		3101.07	2.88
124678/134678-HxCDF	NotFnd		0.9684						1.19		3101.07	2.88
134679-HxCDF	NotFnd		0.9747						1.19		3101.07	2.88
124679-HxCDF	NotFnd		0.9802						1.19		3101.07	2.88
124689-HxCDF	NotFnd		0.9858						1.19		3101.07	2.88
123467-HxCDF	NotFnd		0.9972						1.19		3101.07	2.88
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3101.07**	**2.66**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3101.07**	**2.59**
123479-HxCDF	NotFnd		1.0051						1.19		3101.07	2.88
123469-HxCDF	NotFnd		1.0091						1.19		3101.07	2.88
123679-HxCDF	NotFnd		0.9943						1.19		3101.07	2.88
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3101.07**	**2.99**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3101.07	2.88
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3101.07**	**3.44**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3101.07	2.88
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2758.204**	**2.23**
1234679-HpCDF	NotFnd		1.0067						1.34		2758.204	2.87
1234689-HpCDF	NotFnd		1.0101						1.34		2758.204	2.87
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2758.204**	**3.74**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3295.339**	**7.82**
OCDF-a	NotFnd		1.0002						0.07		3019.183	116


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.20e7
5.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.44e6
4.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.53e7
1.77e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.16e7
1.08e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.96e7
9.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 2.72e3
0%
Abs. Int.
7.58e3
3.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
7.14e3
3.57e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.44e3
0%
CS 37Cl-2378D
8.40e6
28.65
Abs. Int.
1.95e6
9.74e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 8.03e3
0%
JS 1234D
8.45e6
27.97
ES 2378D
7.12e6
28.63
Abs. Int.
1.87e6
9.35e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.65e3
0%
JS 1234D
1.05e7
27.97
ES 2378D
8.86e6
28.63
Abs. Int.
2.28e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

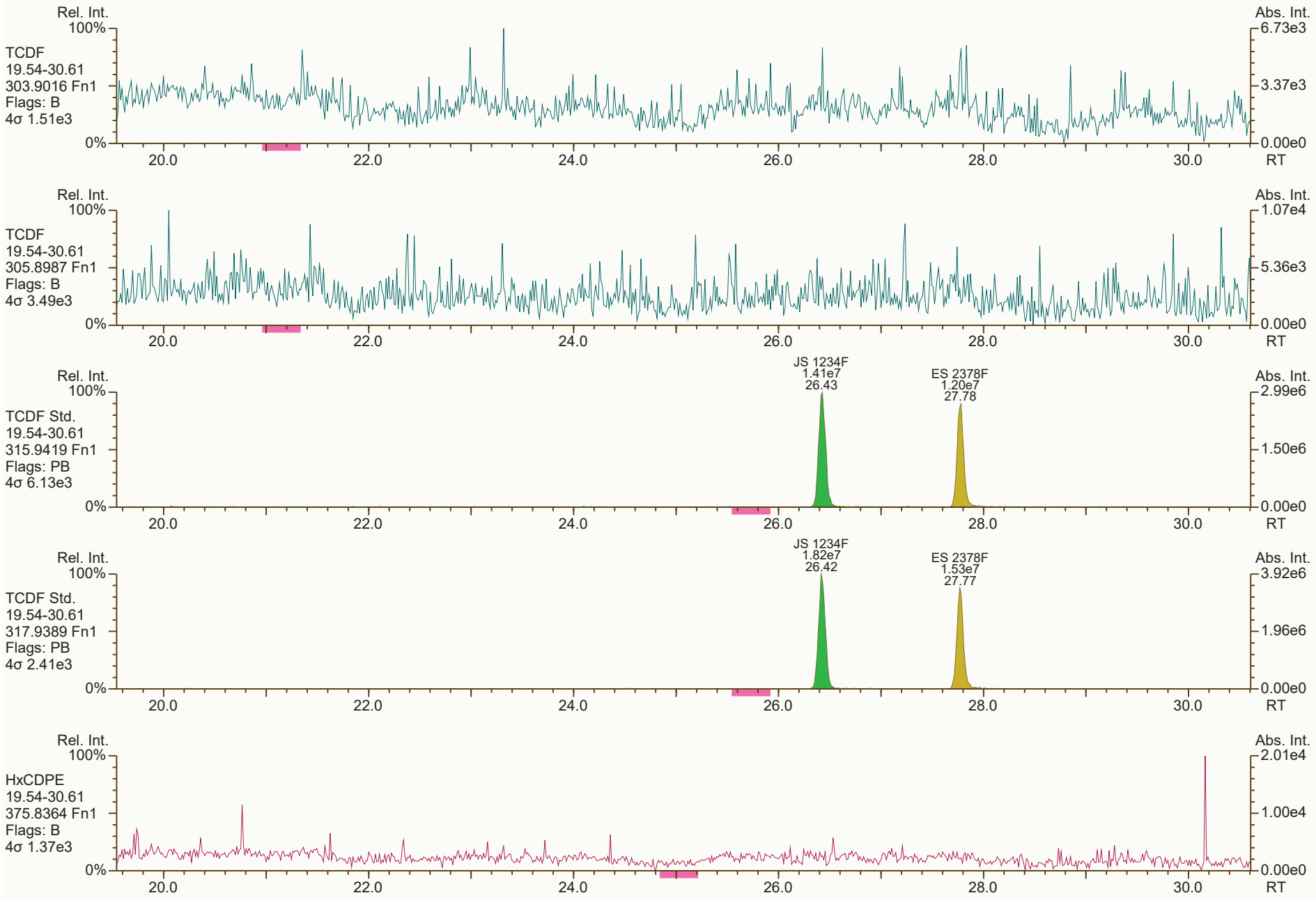

Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.54e3
0%
Abs. Int.
9.00e3
4.50e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.04e3
0%
Abs. Int.
4.83e3
2.42e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.13e3
CS 12347D
9.59e6
33.44
ES 12378D
9.22e6
33.94
0%
Abs. Int.
2.52e6
1.26e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.76e3
CS 12347D
6.07e6
33.44
ES 12378D
5.82e6
33.94
0%
Abs. Int.
1.55e6
7.73e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.44e6
4.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 9.32e2
0%
Abs. Int.
5.72e3
2.86e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.66e3
0%
Abs. Int.
7.57e3
3.79e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.53e3
0%
ES 123678D
9.09e6
37.95
ES 123478D
7.50e6
37.83
ES 123789D
8.67e6*
38.24
JS 123467D
4.28e6*
38.13
Abs. Int.
2.32e6
1.16e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.95e3
0%
ES 123678D
7.26e6
37.95
ES 123478D
6.05e6
37.83
ES 123789D
6.80e6*
38.24
JS 123467D
3.30e6*
38.13
Abs. Int.
1.85e6
9.25e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.53e7
1.77e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\MB1_18842_DF_TLX.utp_res, saved 24-Jan-2022 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4742, 1139 scc: 973-869
Revised: 24-Jan-2022 09:23 (DTF) Printed: 24-Jan-2022 15:27 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 1.42e3
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
6.90e3
3.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.59e3
0%
ES OCDD
6.12e6*
43.51
3.41e5*
43.64
Abs. Int.
1.43e6
7.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.97e3
0%
ES OCDD
6.75e6*
43.51
3.97e5*
43.64
Abs. Int.
1.43e6
7.13e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.96e7
9.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 1.51e3
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 3.49e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 6.13e3
0%
JS 1234F
1.41e7
26.43
ES 2378F
1.20e7
27.78
Abs. Int.
2.99e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.41e3
0%
JS 1234F
1.82e7
26.42
ES 2378F
1.53e7
27.77
Abs. Int.
3.92e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
2.01e4
1.00e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: MB1_18842_DF_TLX | **Sample ID: Method Blank** | **Acq: 23-Jan-2022 16:09:27**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 6** | **User: DTF Datafile: 220123C05**

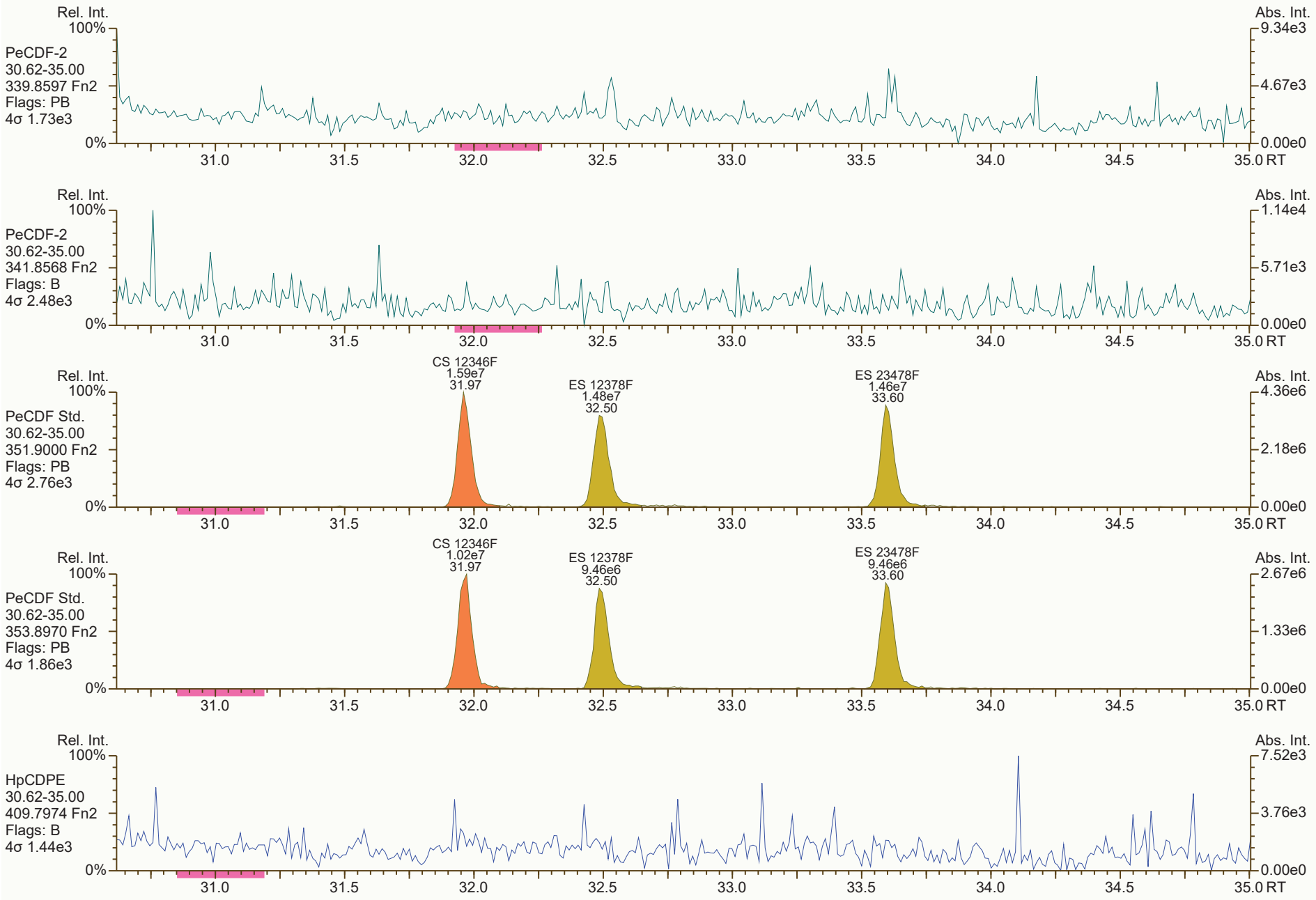


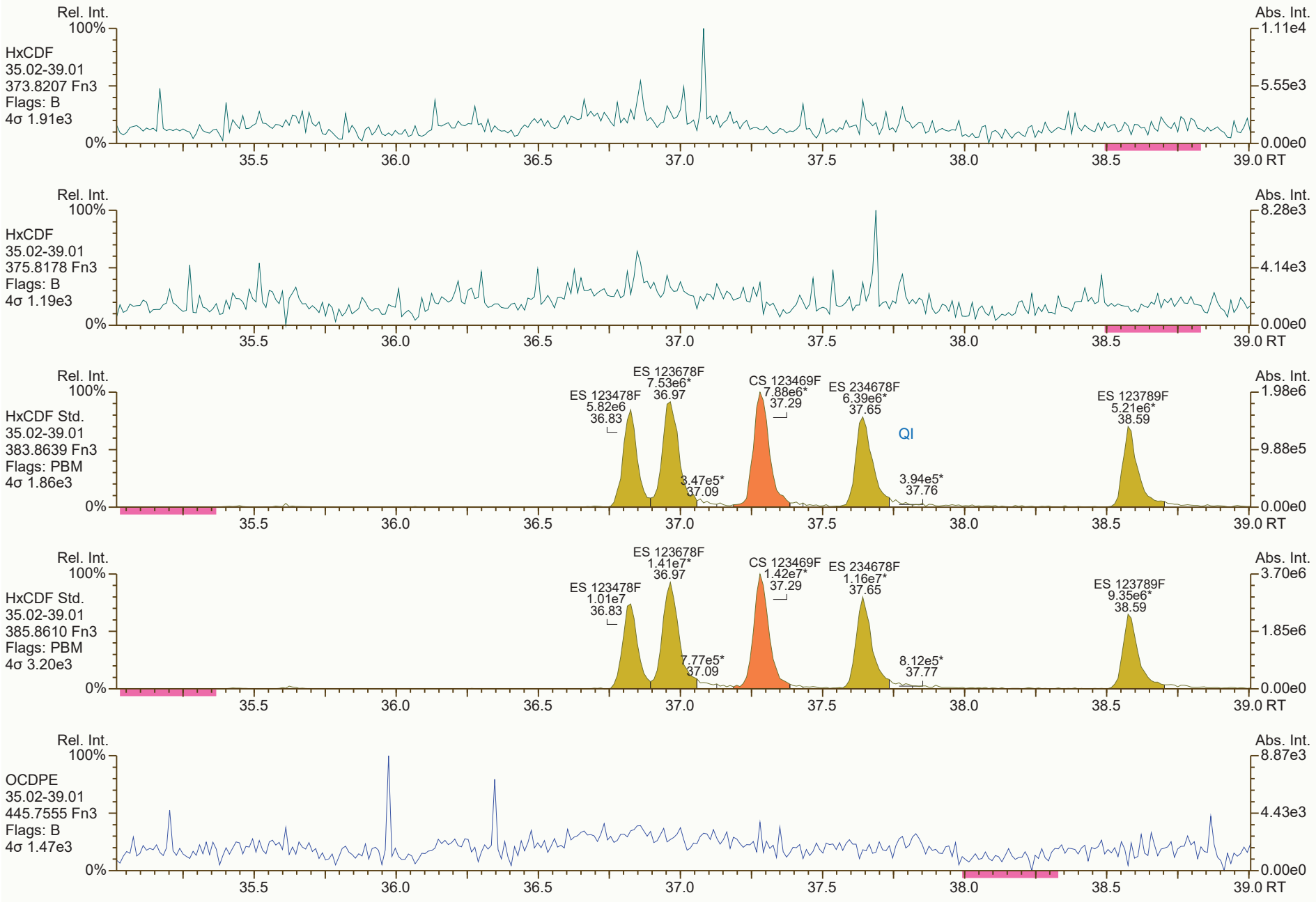
Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\MB1_18842_DF_TLX.utp_res, saved 24-Jan-2022 15:16 (PSW)

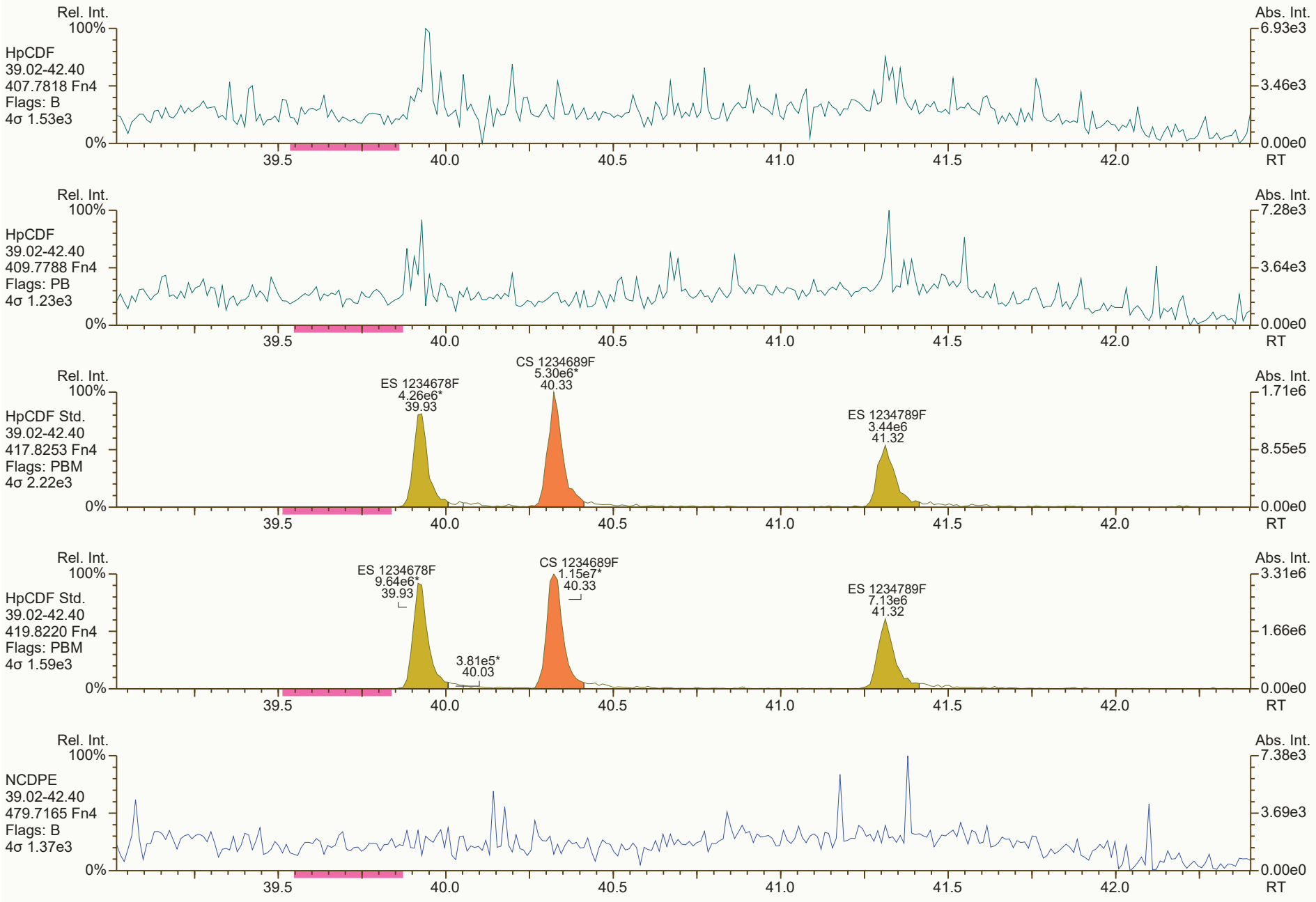
Peak annotation: Areas, Centroids

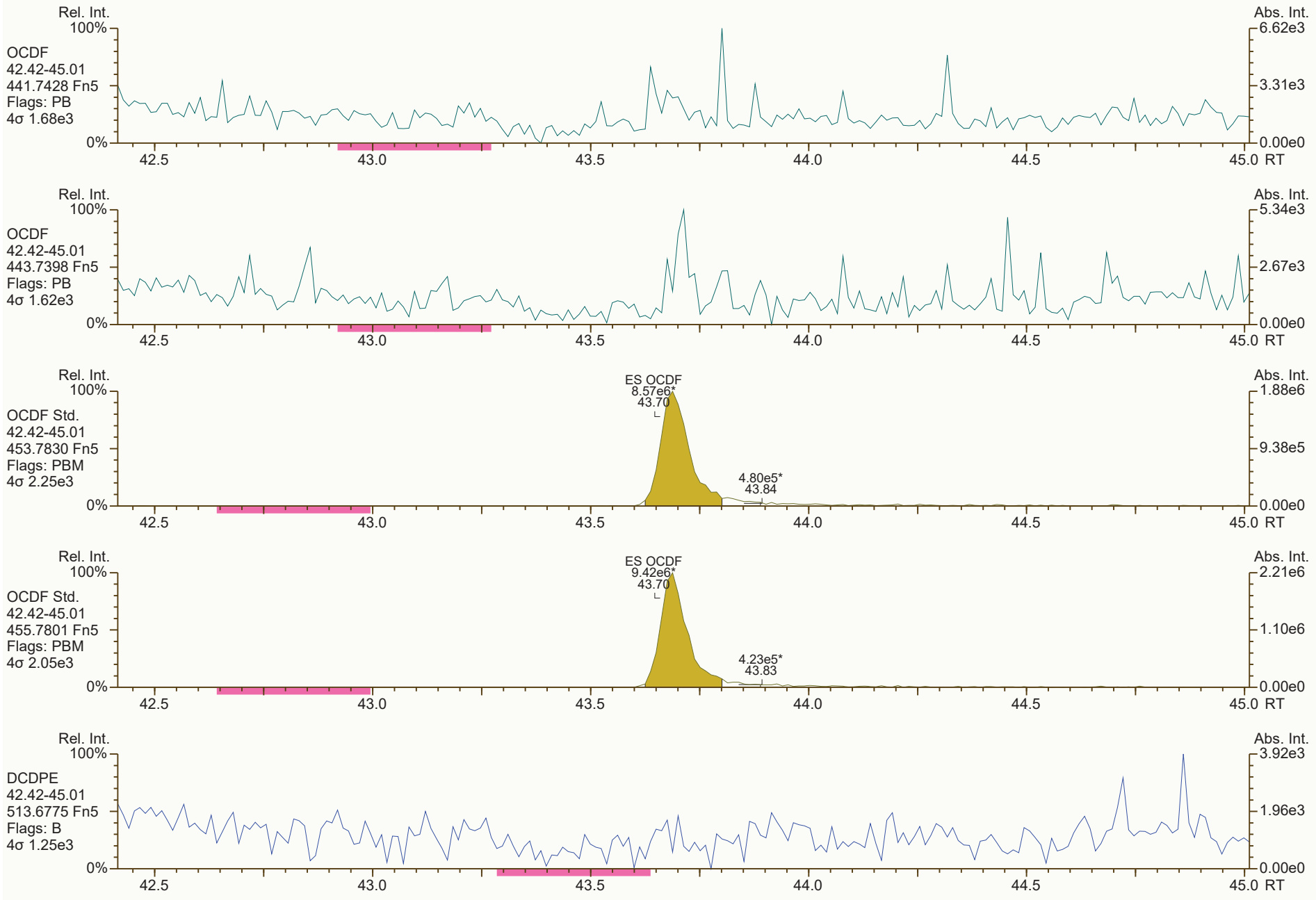
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3965 scc: 973-869

PKD: 24-Jan-2022 09:23 Printed: 24-Jan-2022 15:27 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.73e3
0%
Abs. Int.
9.34e3
4.67e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.48e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.59e7
31.97
ES 12378F
1.48e7
32.50
ES 23478F
1.46e7
33.60
Abs. Int.
4.36e6
2.18e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.86e3
0%
CS 12346F
1.02e7
31.97
ES 12378F
9.46e6
32.50
ES 23478F
9.46e6
33.60
Abs. Int.
2.67e6
1.33e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
7.52e3
3.76e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.91e3
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.19e3
0%
Abs. Int.
8.28e3
4.14e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 1.86e3
0%
ES 123478F
5.82e6
36.83
ES 123678F
7.53e6*
36.97
3.47e5*
37.09
CS 123469F
7.88e6*
37.29
ES 234678F
6.39e6*
37.65
QI
3.94e5*
37.76
ES 123789F
5.21e6*
38.59
Abs. Int.
1.98e6
9.88e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.20e3
0%
ES 123478F
1.01e7
36.83
ES 123678F
1.41e7*
36.97
7.77e5*
37.09
CS 123469F
1.42e7*
37.29
ES 234678F
1.16e7*
37.65
8.12e5*
37.77
ES 123789F
9.35e6*
38.59
Abs. Int.
3.70e6
1.85e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
8.87e3
4.43e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.53e3
0%
Abs. Int.
6.93e3
3.46e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.23e3
0%
Abs. Int.
7.28e3
3.64e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.22e3
0%
ES 1234678F
4.26e6*
39.93
CS 1234689F
5.30e6*
40.33
ES 1234789F
3.44e6
41.32
Abs. Int.
1.71e6
8.55e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.59e3
0%
ES 1234678F
9.64e6*
39.93
3.81e5*
40.03
CS 1234689F
1.15e7*
40.33
ES 1234789F
7.13e6
41.32
Abs. Int.
3.31e6
1.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
6.62e3
3.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.62e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.25e3
0%
ES OCDF
8.57e6*
43.70
4.80e5*
43.84
Abs. Int.
1.88e6
9.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.05e3
0%
ES OCDF
9.42e6*
43.70
4.23e5*
43.83
Abs. Int.
2.21e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
3.92e3
1.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6172_18842_DF_001 **Acq'd:** 23 Jan 2022 20:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-RB-12 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 602-957-ZVG

Datafile: 220123C10 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4733.572	5.39
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2634.544	3.2
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3345.977	4.14
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3345.977	3.27
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3345.977	4.04
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2909.828	3.67
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2750.854	7.41
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	4939.354	3.76
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4506.062	3.42
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4506.062	3.38
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3123.684	2.53
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3123.684	2.22
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3123.684	2.81
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3123.684	3.07
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	3448.86	2.38
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3448.86	3.73
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2904.753	6.01

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0236	+0.5	1.68E+07	0.78	Y	1.05	88
ES 12378-PeCDD	33.93	1.2121	1.2135	+2.8	1.55E+07	1.58	Y	0.88	96.3
ES 123478-HxCDD	37.82	0.9921	0.9922	+0.2	1.30E+07	1.22	Y	0.97	84.8
ES 123678-HxCDD	37.94	0.9951	0.9952	+0.2	1.65E+07	1.30	Y	0.94	111
ES 123789-HxCDD	38.23	1.0025	1.0028	+0.7	1.64E+07	1.19	Y	1.09	95.5
ES 1234678-HpCDD	40.86	1.0709	1.0717	+2.0	1.29E+07	1.12	Y	0.91	89.8
ES OCDD	43.51	1.1403	1.1414	+2.9	1.53E+07	0.89	Y	0.62	77.7
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	2.74E+07	0.80	Y	1.06	84.9
ES 12378-PeCDF	32.49	1.2281	1.2297	+3.1	2.41E+07	1.48	Y	0.91	86.9
ES 23478-PeCDF	33.59	1.2698	1.2716	+3.6	2.43E+07	1.61	Y	0.88	90.2
ES 123478-HxCDF	36.81	0.9657	0.9657	0	1.71E+07	0.54	Y	1.20	90.5
ES 123678-HxCDF	36.96	0.9695	0.9696	+0.2	2.29E+07	0.53	Y	1.35	108
ES 234678-HxCDF	37.65	0.9874	0.9875	+0.2	1.89E+07	0.54	Y	1.24	96.5
ES 123789-HxCDF	38.58	1.0116	1.0121	+1.2	1.52E+07	0.56	Y	1.16	83.8
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.52E+07	0.46	Y	0.97	99.8
ES 1234789-HpCDF	41.32	1.0830	1.0837	+1.7	1.17E+07	0.43	Y	0.85	87.1
ES OCDF	43.69	1.1451	1.1461	+2.6	2.03E+07	0.95	Y	0.81	79.7

Lab ID: B6172_18842_DF_001 **Acq'd:** 23 Jan 2022 20:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-RB-12 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 602-957-ZVG

Datafile: 220123C10 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.96		-	-	-	1.83E+07	0.83	Y	-	-
JS 1234-TCDF	26.42		-	-	-	3.05E+07	0.82	Y	-	-
JS 123467-HxCDD	38.12		-	-	-	7.86E+06	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	8.14E+06	n/a	-	1.20	92.8
CS 12347-PeCDD	33.43		1.1943	1.1955	+2.4	1.56E+07	1.58	Y	0.75	113
CS 12346-PeCDF	31.96		1.2083	1.2097	+2.7	2.58E+07	1.47	Y	0.85	99.2
CS 123469-HxCDF	37.28		0.9778	0.9778	0	2.23E+07	0.55	Y	1.12	127
CS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.72E+07	0.47	Y	0.89	123
SS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	8.14E+06	n/a	-	1.15	106
SS 12347-PeCDD	33.43		1.1943	1.1955	+2.4	1.56E+07	1.58	Y	0.86	118
SS 12346-PeCDF	31.96		1.2083	1.2097	+2.7	2.58E+07	1.47	Y	0.94	114
SS 123469-HxCDF	37.28		0.9778	0.9778	0	2.23E+07	0.55	Y	0.83	118
SS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.72E+07	0.47	Y	0.92	123

Not used in this project.
CL 26Jan22

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: B6172_18842_DF_001 **Acq'd:** 23 Jan 2022 20:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-RB-12 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 602-957-ZVG

Datafile: 220123C10 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4733.572	5.39
1379-TCDD	NotFnd		0.8876						1.18		4733.572	5.39
1369-TCDD	NotFnd		0.9023						1.18		4733.572	5.39
1469-TCDD	NotFnd		0.9291						1.18		4733.572	5.39
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4733.572	5.39
1378-TCDD	NotFnd		0.9440						1.18		4733.572	5.39
1268-TCDD	NotFnd		0.9506						1.18		4733.572	5.39
1478-TCDD	NotFnd		0.9591						1.18		4733.572	5.39
1279-TCDD	NotFnd		0.9649						1.18		4733.572	5.39
1234/1269-TCDD	NotFnd		0.9771						1.18		4733.572	5.39
1236-TCDD	NotFnd		0.9820						1.18		4733.572	5.39
1237/1238-TCDD	NotFnd		0.9908						1.18		4733.572	5.39
1239-TCDD	NotFnd		0.9954						1.18		4733.572	5.39
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4733.572**	**5.39**
1278-TCDD	NotFnd		1.0121						1.18		4733.572	5.39
1267-TCDD	NotFnd		1.0167						1.18		4733.572	5.39
1289-TCDD	NotFnd		1.0341						1.18		4733.572	5.39
12479/12468-PeCDD	NotFnd		0.9273						1.04		2634.544	3.2
12469-PeCDD	NotFnd		0.9430						1.04		2634.544	3.2
12368-PeCDD	NotFnd		0.9592						1.04		2634.544	3.2
12478-PeCDD	NotFnd		0.9647						1.04		2634.544	3.2
12379-PeCDD	NotFnd		0.9676						1.04		2634.544	3.2
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2634.544	3.2
12346/12347-PeCDD	NotFnd		0.9860						1.04		2634.544	3.2
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2634.544**	**3.2**
12367-PeCDD	NotFnd		1.0034						1.04		2634.544	3.2
12389-PeCDD	NotFnd		1.0134						1.04		2634.544	3.2
124679/124689-HxCDD	NotFnd		0.9545						1.10		3345.977	3.78
123468-HxCDD	NotFnd		0.9715						1.10		3345.977	3.78
123679/123689-HxCDD	NotFnd		0.9793						1.10		3345.977	3.78
123469-HxCDD	NotFnd		0.9829						1.10		3345.977	3.78
123478-HxCDD	NotFnd		**1.0004**						1.09		**3345.977**	**4.14**
123678-HxCDD	NotFnd		**1.0034**						1.15		**3345.977**	**3.27**
123467-HxCDD	NotFnd		1.0082						1.10		3345.977	3.78
123789-HxCDD	NotFnd		**1.0109**						1.05		**3345.977**	**4.04**

Lab ID: B6172_18842_DF_001 | Acq'd: 23 Jan 2022 20:00 DTF | Wt/Vol: 1.02 L | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-RB-12 | UTP: 24-Jan-2022 15:16:31 PSW | J-level: 4.9 pg/L | Split: 1 | Checkcode: 602-957-ZVG

Datafile: 220123C10 | Report: 24 Jan 2022 15:18 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		2909.828	3.67
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2909.828**	**3.67**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2750.854**	**7.41**
OCDD-a	NotFnd		1.0002						0.07		3517.951	148
1368-TCDF	NotFnd		0.8282						1.08		4939.354	3.76
1468-TCDF	NotFnd		0.8485						1.08		4939.354	3.76
2468-TCDF	NotFnd		0.8709						1.08		4939.354	3.76
1346/1246-TCDF	NotFnd		0.8829						1.08		4939.354	3.76
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4939.354	3.76
1348-TCDF	NotFnd		0.8980						1.08		4939.354	3.76
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4939.354	3.76
1268-TCDF	NotFnd		0.9158						1.08		4939.354	3.76
1467-TCDF	NotFnd		0.9206						1.08		4939.354	3.76
1478-TCDF	NotFnd		0.9266						1.08		4939.354	3.76
1369/1237-TCDF	NotFnd		0.9397						1.08		4939.354	3.76
2467-TCDF	NotFnd		0.9440						1.08		4939.354	3.76
2368-TCDF	NotFnd		0.9497						1.08		4939.354	3.76
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4939.354	3.76
1278-TCDF	NotFnd		0.9690						1.08		4939.354	3.76
1349-TCDF	NotFnd		0.9730						1.08		4939.354	3.76
1267-TCDF	NotFnd		0.9787						1.08		4939.354	3.76
2346/1249-TCDF	NotFnd		0.9850						1.08		4939.354	3.76
2347/1279-TCDF	NotFnd		0.9929						1.08		4939.354	3.76
2348-TCDF	NotFnd		0.9970						1.08		4939.354	3.76
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**4939.354**	**3.76**
2367/3467-TCDF	NotFnd		1.0136						1.08		4939.354	3.76
1269-TCDF	NotFnd		1.0221						1.08		4939.354	3.76
1239-TCDF	NotFnd		1.0319						1.08		4939.354	3.76
1289-TCDF	NotFnd		1.0740						1.08		4939.354	3.76
13468/12468-PeCDF	NotFnd		0.9145						1.02		3588.84	2.71
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4506.062	3.4
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4506.062	3.4
14678-PeCDF	NotFnd		0.9695						1.02		4506.062	3.4
13479-PeCDF	NotFnd		0.9724						1.02		4506.062	3.4
13469/12479-PeCDF	NotFnd		0.9801						1.02		4506.062	3.4
12346-PeCDF	NotFnd		0.9842						1.02		4506.062	3.4

Lab ID: B6172_18842_DF_001 **Acq'd:** 23 Jan 2022 20:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011022-S-BN-RB-12 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 602-957-ZVG

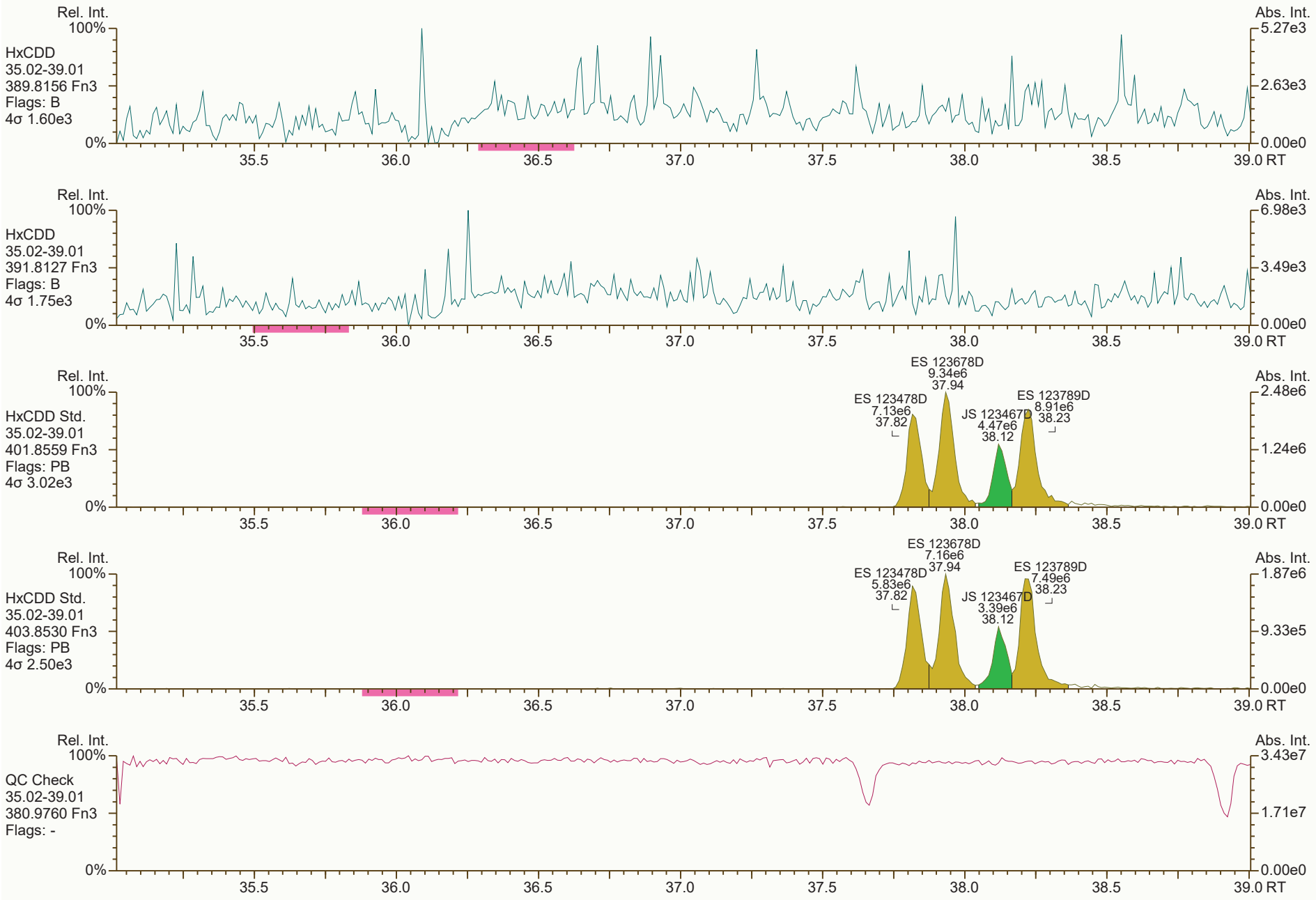
Datafile: 220123C10 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4506.062	3.4
12347-PeCDF	NotFnd		0.9895						1.02		4506.062	3.4
12348-PeCDF	NotFnd		0.9941						1.02		4506.062	3.4
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4506.062**	**3.42**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4506.062	3.4
12379-PeCDF	NotFnd		1.0142						1.02		4506.062	3.4
12679-PeCDF	NotFnd		0.9931						1.02		4506.062	3.4
23467/12369-PeCDF	NotFnd		0.9966						1.02		4506.062	3.4
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4506.062**	**3.38**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4506.062	3.4
12349-PeCDF	NotFnd		1.0101						1.02		4506.062	3.4
12389-PeCDF	NotFnd		1.0322						1.02		4506.062	3.4
123468-HxCDF	NotFnd		0.9627						1.19		3123.684	2.61
124678/134678-HxCDF	NotFnd		0.9684						1.19		3123.684	2.61
134679-HxCDF	NotFnd		0.9747						1.19		3123.684	2.61
124679-HxCDF	NotFnd		0.9802						1.19		3123.684	2.61
124689-HxCDF	NotFnd		0.9858						1.19		3123.684	2.61
123467-HxCDF	NotFnd		0.9972						1.19		3123.684	2.61
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3123.684**	**2.53**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3123.684**	**2.22**
123479-HxCDF	NotFnd		1.0051						1.19		3123.684	2.61
123469-HxCDF	NotFnd		1.0091						1.19		3123.684	2.61
123679-HxCDF	NotFnd		0.9943						1.19		3123.684	2.61
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3123.684**	**2.81**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3123.684	2.61
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3123.684**	**3.07**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3123.684	2.61
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**3448.86**	**2.38**
1234679-HpCDF	NotFnd		1.0067						1.34		3448.86	2.96
1234689-HpCDF	NotFnd		1.0101						1.34		3448.86	2.96
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3448.86**	**3.73**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2904.753**	**6.01**
OCDF-a	NotFnd		1.0002						0.07		3061.431	102


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.15e7
5.73e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
9.01e6
4.51e6
0.00e0
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
3.43e7
1.71e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.16e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.86e7
9.29e6
0.00e0

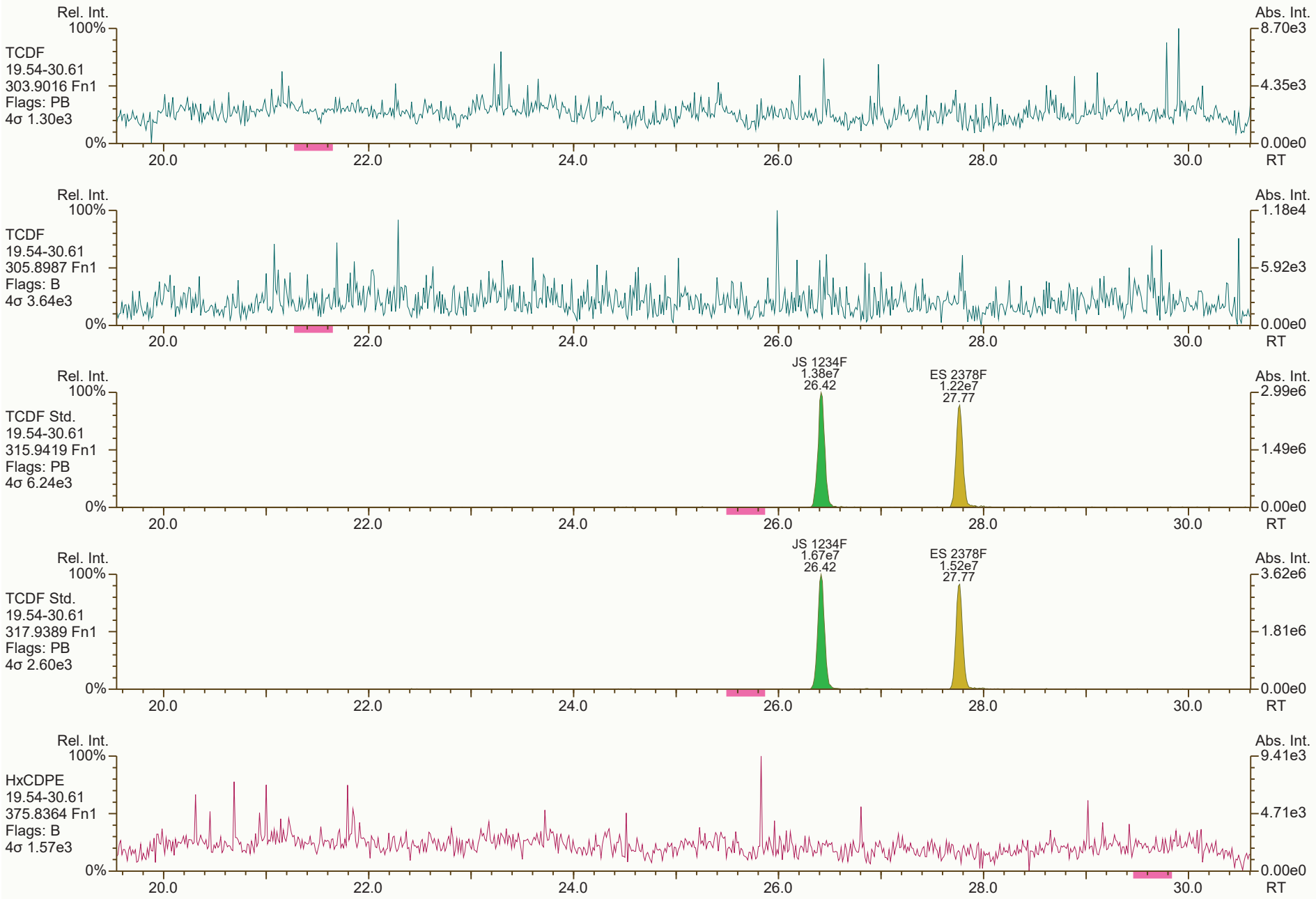

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 2.53e3
0%
Abs. Int.
8.60e3
4.30e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.20e3
0%
CS 37Cl-2378D
8.14e6
28.64
Abs. Int.
1.88e6
9.40e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 8.29e3
0%
JS 1234D
8.26e6
27.96
ES 2378D
7.37e6
28.62
Abs. Int.
1.93e6
9.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.31e3
0%
JS 1234D
1.00e7
27.96
ES 2378D
9.42e6
28.62
Abs. Int.
2.36e6
1.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.37e3
3.68e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: B
4σ 1.04e3
0%
Abs. Int.
3.39e3
1.70e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.86e3
0%
CS 12347D
9.54e6
33.42
ES 12378D
9.47e6
33.93
Abs. Int.
2.69e6
1.34e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 3.39e3
0%
CS 12347D
6.06e6
33.43
ES 12378D
5.99e6
33.93
Abs. Int.
1.68e6
8.41e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.01e6
4.51e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

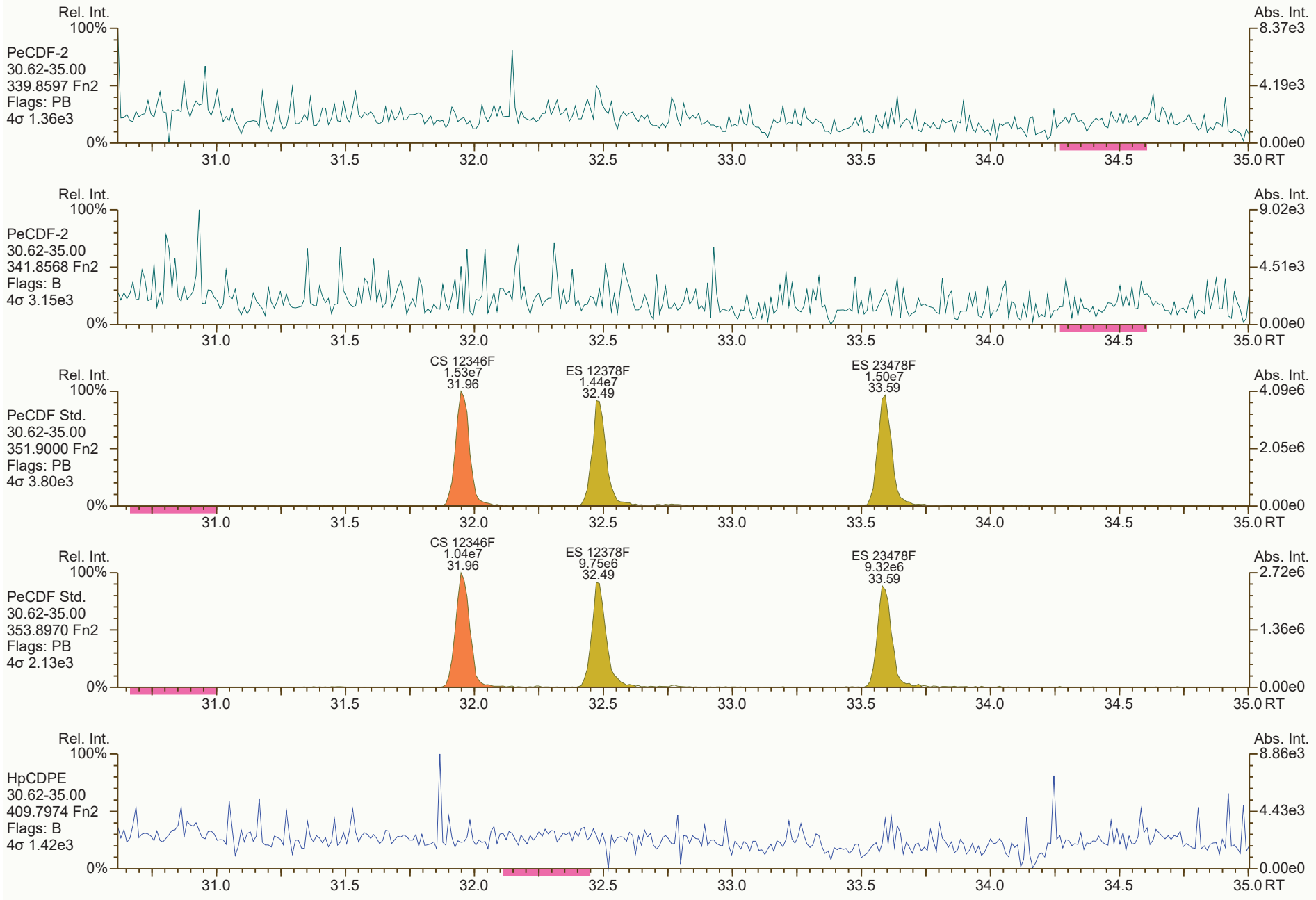

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.60e3
0%
Abs. Int.
5.27e3
2.63e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 3.02e3
0%
ES 123678D
9.34e6
37.94
ES 123478D
7.13e6
37.82
JS 123467D
4.47e6
38.12
ES 123789D
8.91e6
38.23
Abs. Int.
2.48e6
1.24e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.50e3
0%
ES 123678D
7.16e6
37.94
ES 123478D
5.83e6
37.82
JS 123467D
3.39e6
38.12
ES 123789D
7.49e6
38.23
Abs. Int.
1.87e6
9.33e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.43e7
1.71e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

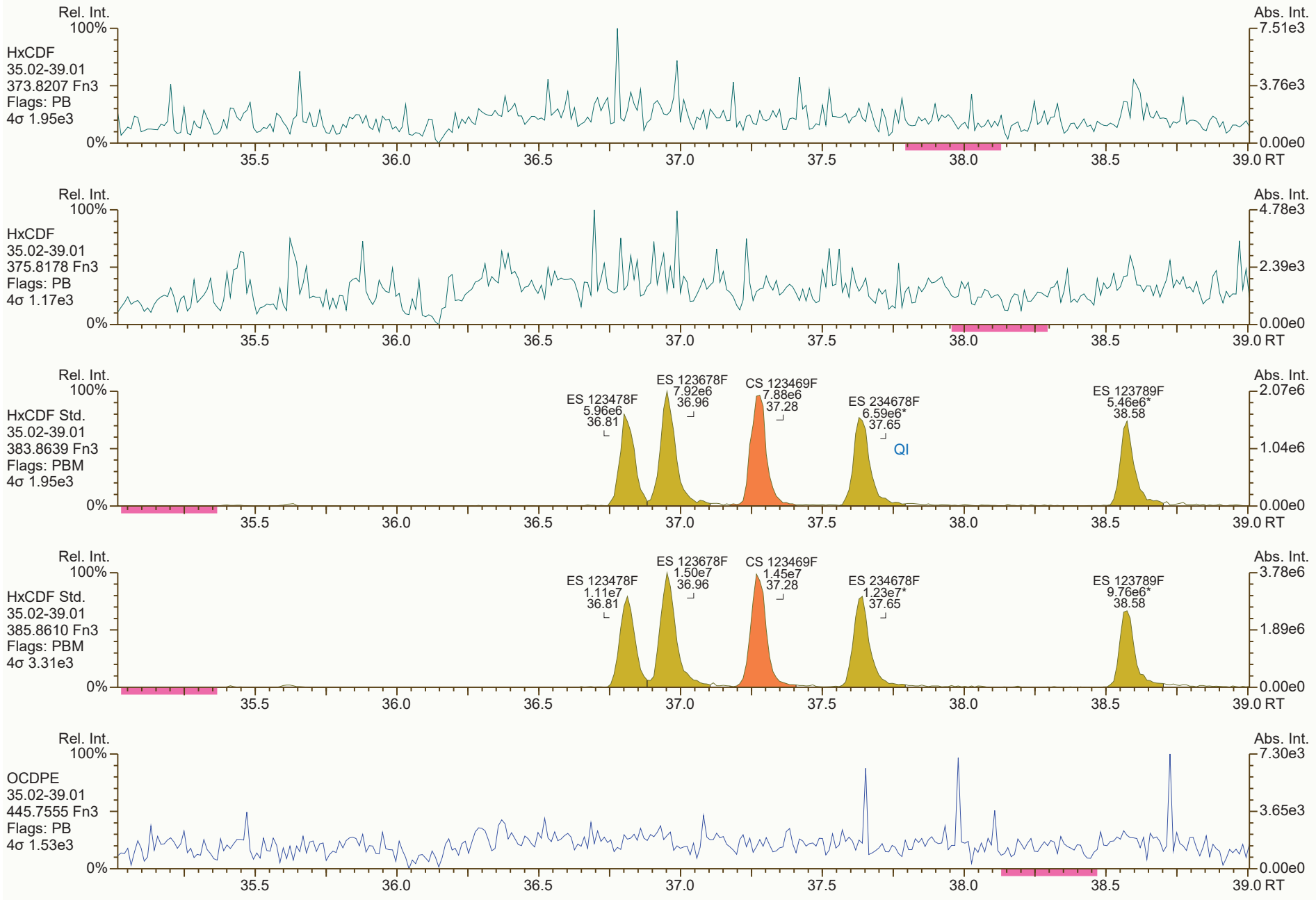

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.33e3
0%
Abs. Int.
4.38e3
2.19e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.81e6
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.55e3
0%
Abs. Int.
1.94e6
9.69e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.09e6
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.96e3
0%
Abs. Int.
1.71e6
8.53e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.16e7
1.08e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

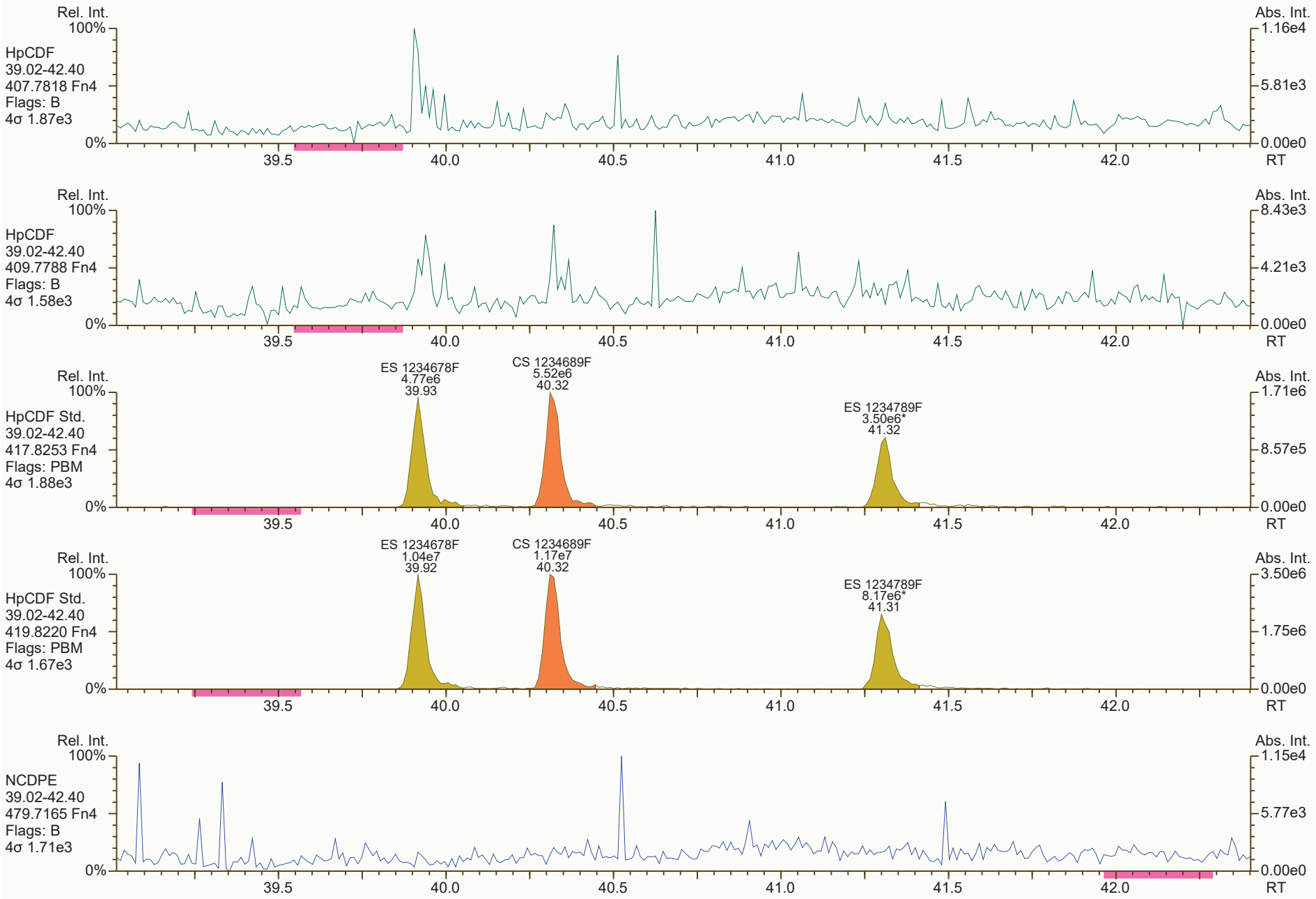

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
8.77e3
4.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
4.75e3
2.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.20e6
43.51
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.48e3
0%
Abs. Int.
1.52e6
7.62e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.06e6
43.51
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
1.77e6
8.86e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.86e7
9.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

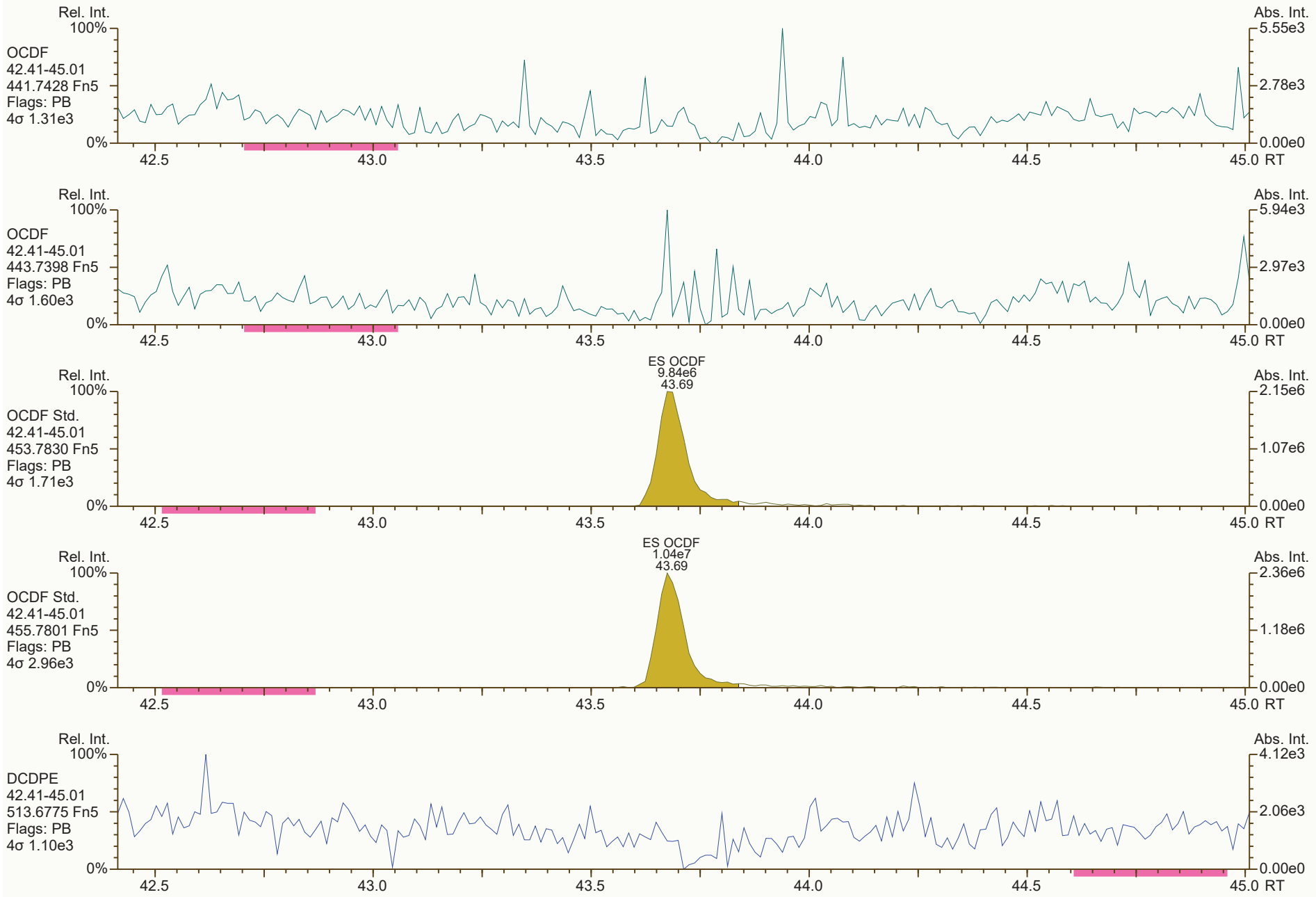

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.30e3
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 3.64e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 6.24e3
0%
JS 1234F
1.38e7
26.42
ES 2378F
1.22e7
27.77
Abs. Int.
2.99e6
1.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.60e3
0%
JS 1234F
1.67e7
26.42
ES 2378F
1.52e7
27.77
Abs. Int.
3.62e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.57e3
0%
Abs. Int.
9.41e3
4.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.62e3
0.00e0
RT
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.59e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
RT
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.00e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
1.15e7
5.73e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
8.37e3
4.19e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 3.15e3
9.02e3
4.51e3
CS 12346F
1.53e7
31.96
ES 12378F
1.44e7
32.49
ES 23478F
1.50e7
33.59
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 3.80e3
4.09e6
2.05e6
CS 12346F
1.04e7
31.96
ES 12378F
9.75e6
32.49
ES 23478F
9.32e6
33.59
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.13e3
2.72e6
1.36e6
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.42e3
8.86e3
4.43e3


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.95e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.17e3
0%
Abs. Int.
4.78e3
2.39e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 1.95e3
0%
ES 123478F
5.96e6
36.81
ES 123678F
7.92e6
36.96
CS 123469F
7.88e6
37.28
ES 234678F
6.59e6*
37.65
QI
ES 123789F
5.46e6*
38.58
Abs. Int.
2.07e6
1.04e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.31e3
0%
ES 123478F
1.11e7
36.81
ES 123678F
1.50e7
36.96
CS 123469F
1.45e7
37.28
ES 234678F
1.23e7*
37.65
ES 123789F
9.76e6*
38.58
Abs. Int.
3.78e6
1.89e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.53e3
0%
Abs. Int.
7.30e3
3.65e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.16e4
5.81e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
8.43e3
4.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.88e3
0%
ES 1234678F
4.77e6
39.93
CS 1234689F
5.52e6
40.32
ES 1234789F
3.50e6*
41.32
Abs. Int.
1.71e6
8.57e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.67e3
0%
ES 1234678F
1.04e7
39.92
CS 1234689F
1.17e7
40.32
ES 1234789F
8.17e6*
41.31
Abs. Int.
3.50e6
1.75e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.71e3
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.55e3
2.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.84e6
43.69
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.71e3
0%
Abs. Int.
2.15e6
1.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.04e7
43.69
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.96e3
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.10e3
0%
Abs. Int.
4.12e3
2.06e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6172_18842_DF_002 **Acq'd:** 23 Jan 2022 20:47 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-RB-11 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.94 pg/L **Split:** 1 **Checkcode:** 343-402-CGY

Datafile: 220123C11 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5070.24	5.68
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3025.978	3.6
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3470.805	4.16
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3470.805	3.7
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3470.805	4.26
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3036.571	3.54
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	3143.933	8.59
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3943.574	2.84
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	5289.397	4.44
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	5289.397	4.14
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2952.188	2.55
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2952.188	2.26
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2952.188	2.77
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2952.188	3.04
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2920.211	2.36
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2920.211	3.4
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3354.285	7.08

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0235	+0.3	1.51E+07	0.85	Y	1.05	80.3
ES 12378-PeCDD	33.94	1.2121	1.2134	+2.6	1.53E+07	1.65	Y	0.88	96.2
ES 123478-HxCDD	37.83	0.9921	0.9922	+0.2	1.35E+07	1.22	Y	0.97	88.3
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.59E+07	1.27	Y	0.94	108
ES 123789-HxCDD	38.25	1.0025	1.0030	+1.1	1.65E+07	1.23	Y	1.09	96.5
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.23E+07	1.11	Y	0.91	85.9
ES OCDD	43.51	1.1403	1.1411	+2.1	1.49E+07	0.92	Y	0.62	76.1
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.59E+07	0.79	Y	1.06	82.8
ES 12378-PeCDF	32.50	1.2281	1.2298	+3.3	2.28E+07	1.63	Y	0.91	84.8
ES 23478-PeCDF	33.60	1.2698	1.2715	+3.4	2.38E+07	1.60	Y	0.88	91.3
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.66E+07	0.51	Y	1.20	87.9
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.25E+07	0.52	Y	1.35	106
ES 234678-HxCDF	37.65	0.9874	0.9875	+0.2	1.79E+07	0.52	Y	1.24	91.7
ES 123789-HxCDF	38.59	1.0116	1.0121	+1.2	1.54E+07	0.55	Y	1.16	85.2
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.46E+07	0.45	Y	0.97	96.3
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.14E+07	0.45	Y	0.85	85
ES OCDF	43.70	1.1451	1.1460	+2.4	1.99E+07	0.93	Y	0.81	78.5

Lab ID: B6172_18842_DF_002 | Acq'd: 23 Jan 2022 20:47 DTF | Wt/Vol: 1.01 L | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-RB-11 | UTP: 24-Jan-2022 15:16:31 PSW | J-level: 4.94 pg/L | Split: 1 | Checkcode: 343-402-CGY

Datafile: 220123C11 | Report: 24 Jan 2022 15:18 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.80E+07	0.82	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	2.95E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.85E+06	1.31	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0243	+0.3	7.18E+06	n/a	-	1.20	82.8	
CS 12347-PeCDD	33.43		1.1943	1.1953	+2.0	1.48E+07	1.59	Y	0.75	109	
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.43E+07	1.50	Y	0.85	96.8	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.04E+07	0.53	Y	1.12	116	
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.64E+07	0.45	Y	0.89	118	
SS 37Cl-2378-TCDD	28.65		1.0241	1.0243	+0.3	7.18E+06	n/a	-	1.15	103	Not used in this project.
SS 12347-PeCDD	33.43		1.1943	1.1953	+2.0	1.48E+07	1.59	Y	0.86	113	CL 26Jan22
SS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.43E+07	1.50	Y	0.94	114	
SS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.04E+07	0.53	Y	0.83	109	
SS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.64E+07	0.45	Y	0.92	122	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: B6172_18842_DF_002 **Acq'd:** 23 Jan 2022 20:47 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-RB-11 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.94 pg/L **Split:** 1 **Checkcode:** 343-402-CGY

Datafile: 220123C11 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5070.24	5.68
1379-TCDD	NotFnd		0.8876						1.18		5070.24	5.68
1369-TCDD	NotFnd		0.9023						1.18		5070.24	5.68
1469-TCDD	NotFnd		0.9291						1.18		5070.24	5.68
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5070.24	5.68
1378-TCDD	NotFnd		0.9440						1.18		5070.24	5.68
1268-TCDD	NotFnd		0.9506						1.18		5070.24	5.68
1478-TCDD	NotFnd		0.9591						1.18		5070.24	5.68
1279-TCDD	NotFnd		0.9649						1.18		5070.24	5.68
1234/1269-TCDD	NotFnd		0.9771						1.18		5070.24	5.68
1236-TCDD	NotFnd		0.9820						1.18		5070.24	5.68
1237/1238-TCDD	NotFnd		0.9908						1.18		5070.24	5.68
1239-TCDD	NotFnd		0.9954						1.18		5070.24	5.68
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4070.25**	**4.98**
1278-TCDD	NotFnd		1.0121						1.18		5070.24	5.68
1267-TCDD	NotFnd		1.0167						1.18		5070.24	5.68
1289-TCDD	NotFnd		1.0341						1.18		5070.24	5.68
12479/12468-PeCDD	NotFnd		0.9273						1.04		3025.978	3.6
12469-PeCDD	NotFnd		0.9430						1.04		3025.978	3.6
12368-PeCDD	NotFnd		0.9592						1.04		3025.978	3.6
12478-PeCDD	NotFnd		0.9647						1.04		3025.978	3.6
12379-PeCDD	NotFnd		0.9676						1.04		3025.978	3.6
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3025.978	3.6
12346/12347-PeCDD	NotFnd		0.9860						1.04		3025.978	3.6
12378-PeCDD	NotFnd		**1.0009**						**1.05**		**3024.678**	**3.9**
12367-PeCDD	NotFnd		1.0034						1.04		3025.978	3.6
12389-PeCDD	NotFnd		1.0134						1.04		3025.978	3.6
124679/124689-HxCDD	NotFnd		0.9545						1.10		3470.805	4.03
123468-HxCDD	NotFnd		0.9715						1.10		3470.805	4.03
123679/123689-HxCDD	NotFnd		0.9793						1.10		3470.805	4.03
123469-HxCDD	NotFnd		0.9829						1.10		3470.805	4.03
123578-HxCDD	NotFnd		**1.0005**						1.09		**3570.804**	**5.19**
123978-HxCDD	NotFnd		**1.0035**						1.15		**3570.804**	**3.7**
123467-HxCDD	NotFnd		1.0082						1.10		3470.805	4.03
123786-HxCDD	NotFnd		**1.0106**						1.05		**3570.804**	**5.29**

Lab ID: B6172_18842_DF_002 **Acq'd:** 23 Jan 2022 20:47 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-010722-S-BN-RB-11 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.94 pg/L **Split:** 1 **Checkcode:** 343-402-CGY

Datafile: 220123C11 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

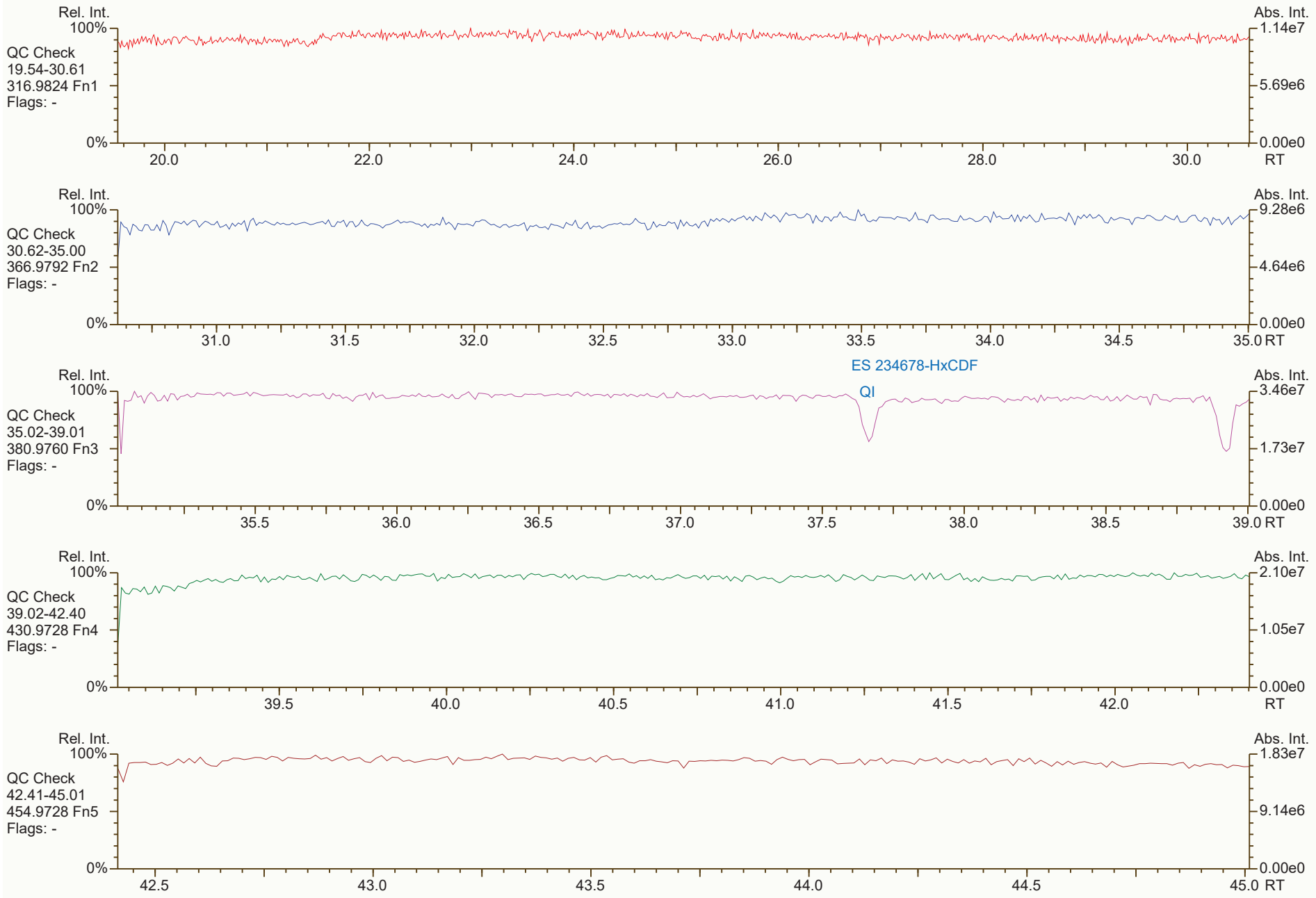
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3036.571	3.54
1235978-HpCDD	**NotFnd**		**1.0003**						**1.09**		**3039.471**	**3.45**
OCDD	**NotFnd**		**1.0002**						**1.13**		**3153.633**	**8.46**
OCDD-a	NotFnd		1.0002						0.07		3208.373	137
1368-TCDF	NotFnd		0.8282						1.08		3943.574	2.84
1468-TCDF	NotFnd		0.8485						1.08		3943.574	2.84
2468-TCDF	NotFnd		0.8709						1.08		3943.574	2.84
1346/1246-TCDF	NotFnd		0.8829						1.08		3943.574	2.84
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3943.574	2.84
1348-TCDF	NotFnd		0.8980						1.08		3943.574	2.84
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3943.574	2.84
1268-TCDF	NotFnd		0.9158						1.08		3943.574	2.84
1467-TCDF	NotFnd		0.9206						1.08		3943.574	2.84
1478-TCDF	NotFnd		0.9266						1.08		3943.574	2.84
1369/1237-TCDF	NotFnd		0.9397						1.08		3943.574	2.84
2467-TCDF	NotFnd		0.9440						1.08		3943.574	2.84
2368-TCDF	NotFnd		0.9497						1.08		3943.574	2.84
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3943.574	2.84
1278-TCDF	NotFnd		0.9690						1.08		3943.574	2.84
1349-TCDF	NotFnd		0.9730						1.08		3943.574	2.84
1267-TCDF	NotFnd		0.9787						1.08		3943.574	2.84
2346/1249-TCDF	NotFnd		0.9850						1.08		3943.574	2.84
2347/1279-TCDF	NotFnd		0.9929						1.08		3943.574	2.84
2348-TCDF	NotFnd		0.9970						1.08		3943.574	2.84
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3653.475**	**2.85**
2367/3467-TCDF	NotFnd		1.0136						1.08		3943.574	2.84
1269-TCDF	NotFnd		1.0221						1.08		3943.574	2.84
1239-TCDF	NotFnd		1.0319						1.08		3943.574	2.84
1289-TCDF	NotFnd		1.0740						1.08		3943.574	2.84
13468/12468-PeCDF	NotFnd		0.9145						1.02		4105.584	3.33
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		5289.397	4.29
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		5289.397	4.29
14678-PeCDF	NotFnd		0.9695						1.02		5289.397	4.29
13479-PeCDF	NotFnd		0.9724						1.02		5289.397	4.29
13469/12479-PeCDF	NotFnd		0.9801						1.02		5289.397	4.29
12346-PeCDF	NotFnd		0.9842						1.02		5289.397	4.29

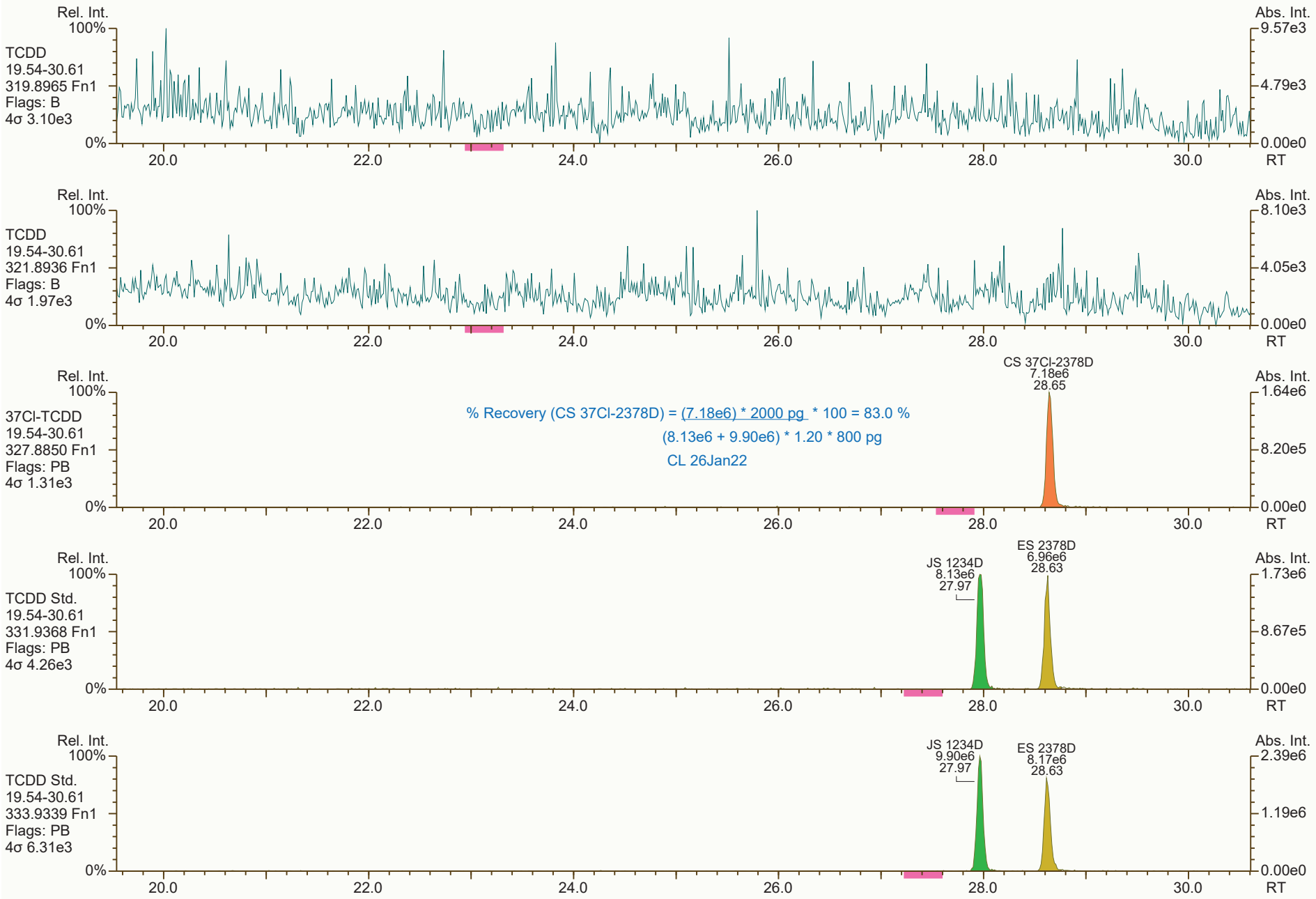
Lab ID: B6172_18842_DF_002 **Acq'd:** 23 Jan 2022 20:47 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

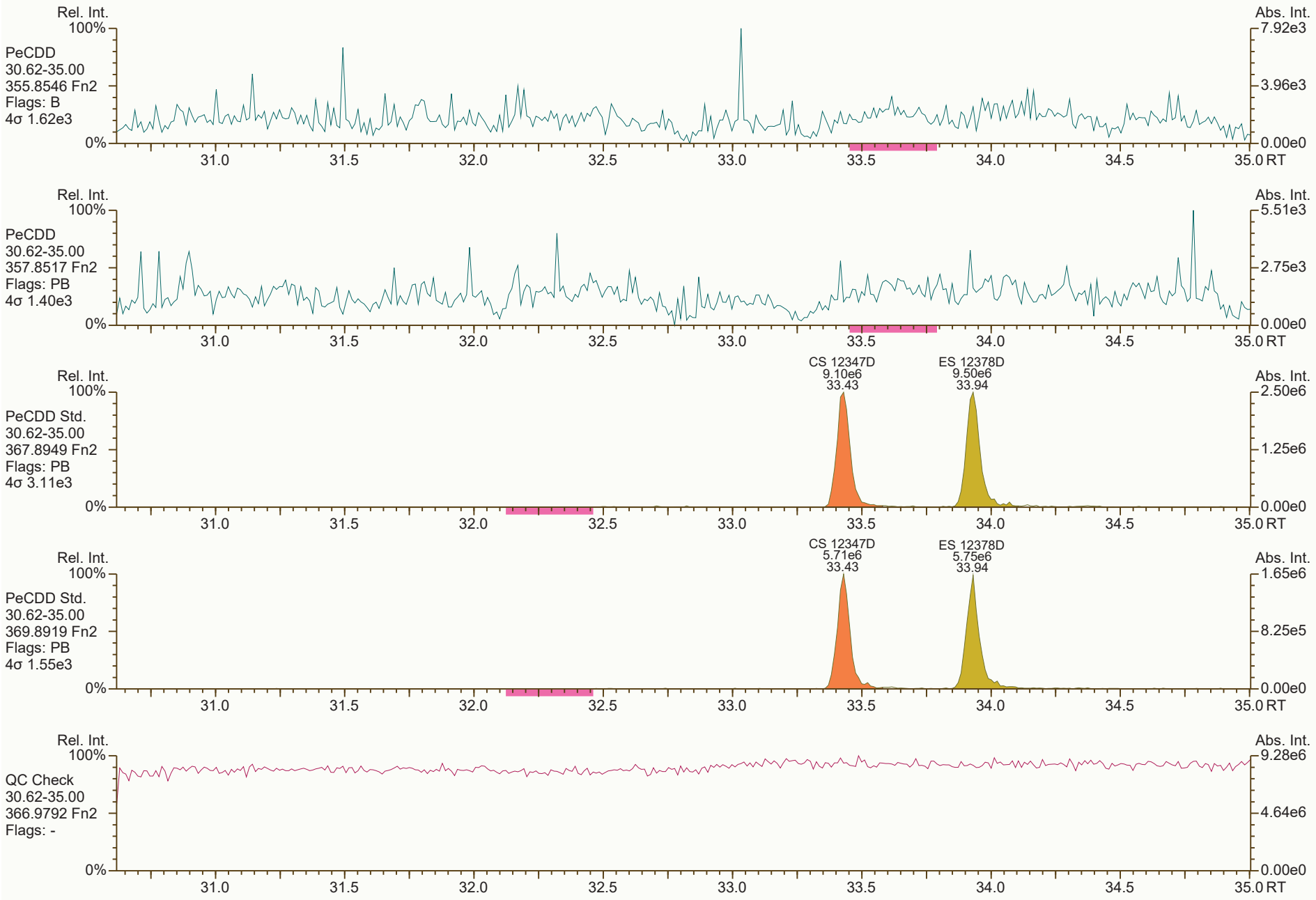
Client ID: 11215131-010722-S-BN-RB-11 **UTP:** 24-Jan-2022 15:16:31 PSW **J-level:** 4.94 pg/L **Split:** 1 **Checkcode:** 343-402-CGY

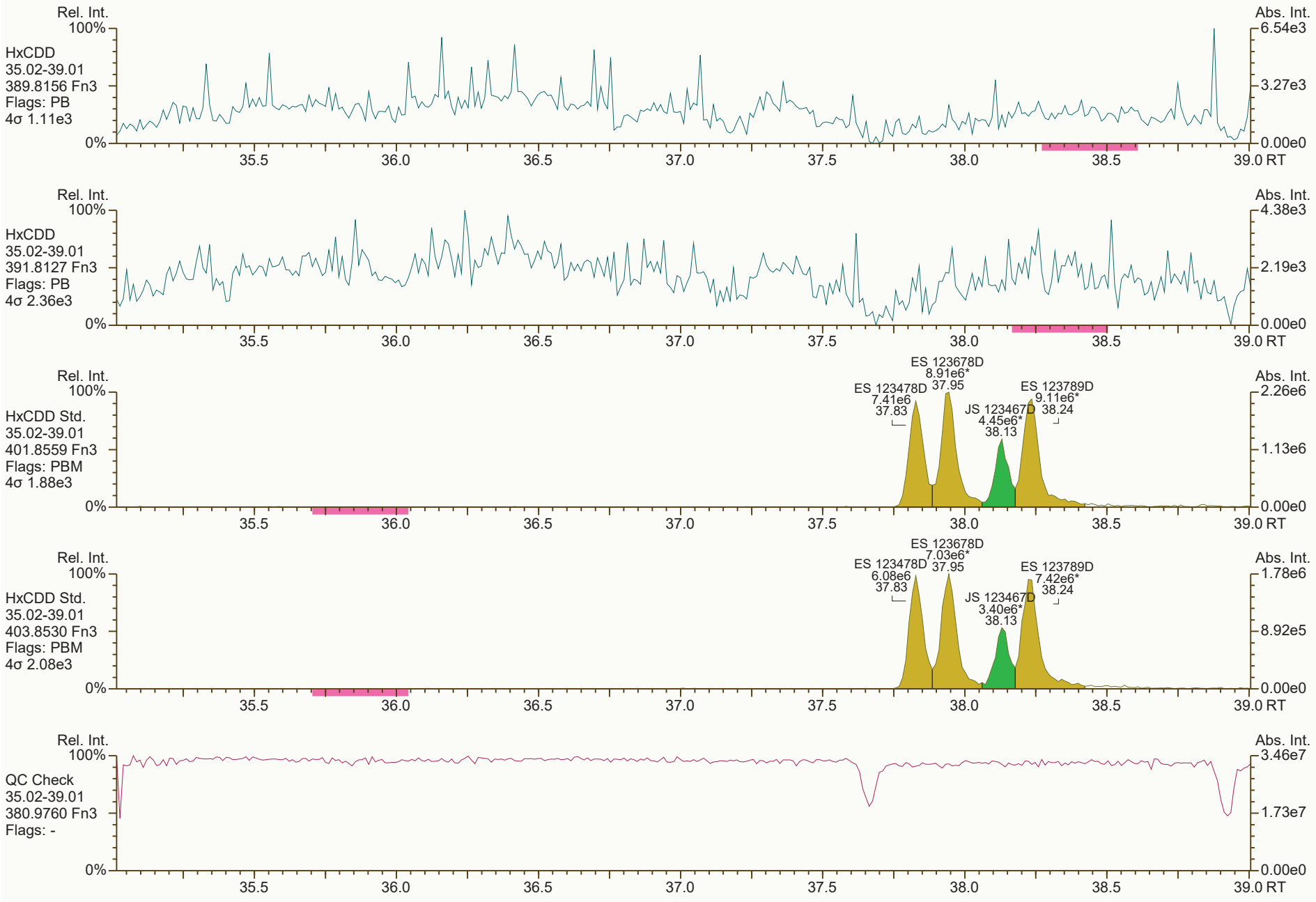
Datafile: 220123C11 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5289.397	4.29
12347-PeCDF	NotFnd		0.9895						1.02		5289.397	4.29
12348-PeCDF	NotFnd		0.9941						1.02		5289.397	4.29
12378-PeCDF	**NotFnd**		**1.0004**						**1.02**		**4286.367**	**5.55**
12678/12367-PeCDF	NotFnd		1.0090						1.02		5289.397	4.29
12379-PeCDF	NotFnd		1.0142						1.02		5289.397	4.29
12679-PeCDF	NotFnd		0.9931						1.02		5289.397	4.29
23467/12369-PeCDF	NotFnd		0.9966						1.02		5289.397	4.29
23578-PeCDF	**NotFnd**		**1.0004**						**1.02**		**4286.367**	**5.15**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5289.397	4.29
12349-PeCDF	NotFnd		1.0101						1.02		5289.397	4.29
12389-PeCDF	NotFnd		1.0322						1.02		5289.397	4.29
123468-HxCDF	NotFnd		0.9627						1.19		2952.188	2.62
124678/134678-HxCDF	NotFnd		0.9684						1.19		2952.188	2.62
134679-HxCDF	NotFnd		0.9747						1.19		2952.188	2.62
124679-HxCDF	NotFnd		0.9802						1.19		2952.188	2.62
124689-HxCDF	NotFnd		0.9858						1.19		2952.188	2.62
123467-HxCDF	NotFnd		0.9972						1.19		2952.188	2.62
123578-HxCDF	**NotFnd**		**1.0005**						**1.27**		**2642.188**	**2.44**
123978-HxCDF	**NotFnd**		**1.0005**						**1.14**		**2642.188**	**2.29**
123479-HxCDF	NotFnd		1.0051						1.19		2952.188	2.62
123469-HxCDF	NotFnd		1.0091						1.19		2952.188	2.62
123679-HxCDF	NotFnd		0.9943						1.19		2952.188	2.62
235978-HxCDF	**NotFnd**		**1.0005**						**1.16**		**2642.188**	**2.77**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2952.188	2.62
123786-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2642.188**	**3.05**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2952.188	2.62
1235978-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2620.211**	**2.39**
1234679-HpCDF	NotFnd		1.0067						1.34		2920.211	2.81
1234689-HpCDF	NotFnd		1.0101						1.34		2920.211	2.81
1235786-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2620.211**	**3.5**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3345.284**	**7.08**
OCDF-a	NotFnd		1.0002						0.07		3624.821	124


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.14e7
5.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.28e6
4.64e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
ES 234678-HxCDF
QI
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.46e7
1.73e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.10e7
1.05e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.83e7
9.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

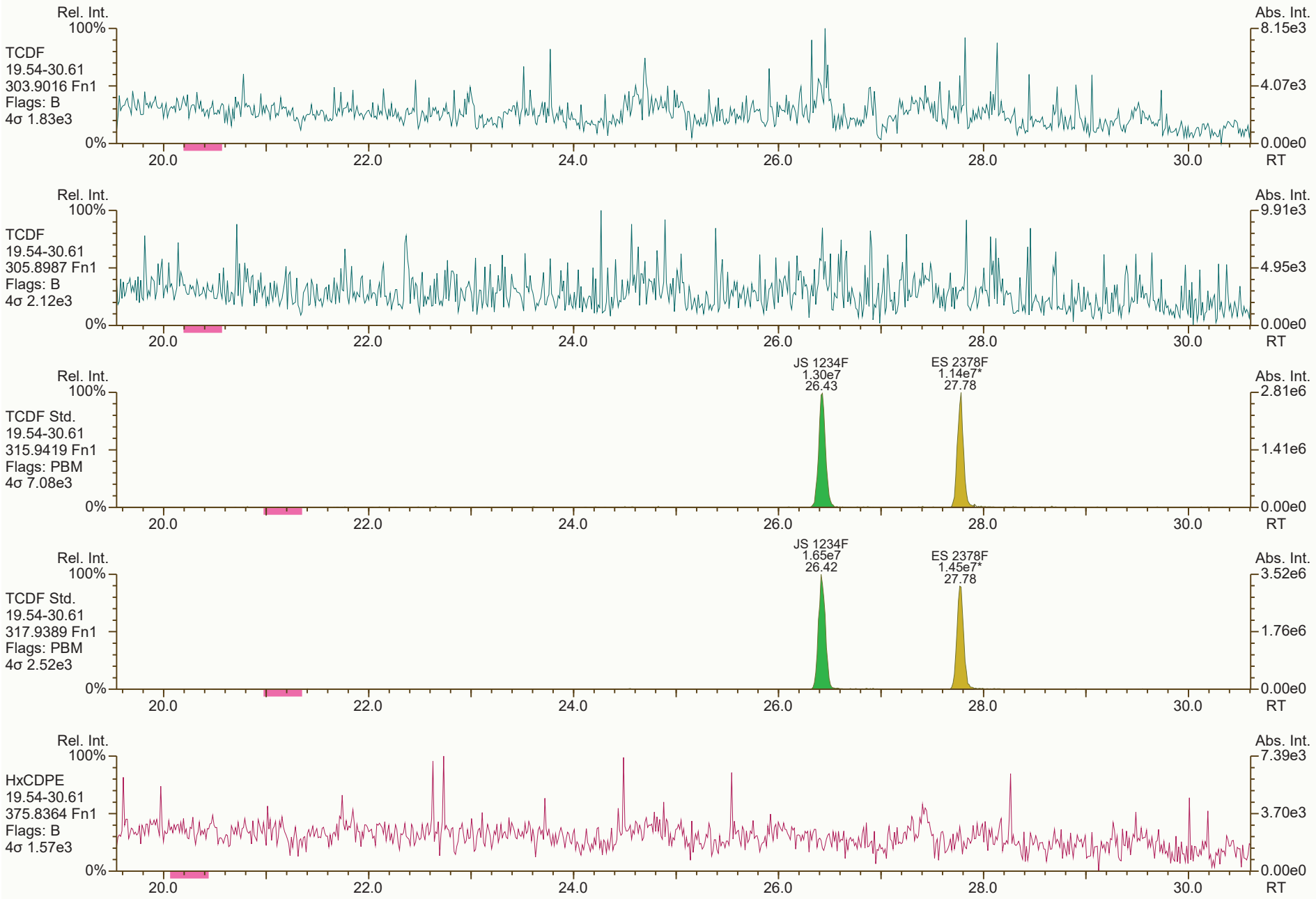

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.10e3
0%
Abs. Int.
9.57e3
4.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.97e3
0%
Abs. Int.
8.10e3
4.05e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.31e3
0%
CS 37Cl-2378D
7.18e6
28.65
% Recovery (CS 37Cl-2378D) = (7.18e6) * 2000 pg * 100 = 83.0 %
(8.13e6 + 9.90e6) * 1.20 * 800 pg
CL 26Jan22
Abs. Int.
1.64e6
8.20e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
8.13e6
27.97
ES 2378D
6.96e6
28.63
Abs. Int.
1.73e6
8.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 6.31e3
0%
JS 1234D
9.90e6
27.97
ES 2378D
8.17e6
28.63
Abs. Int.
2.39e6
1.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.62e3
0%
Abs. Int.
7.92e3
3.96e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.40e3
0%
Abs. Int.
5.51e3
2.75e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 3.11e3
0%
CS 12347D
9.10e6
33.43
ES 12378D
9.50e6
33.94
Abs. Int.
2.50e6
1.25e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.55e3
0%
CS 12347D
5.71e6
33.43
ES 12378D
5.75e6
33.94
Abs. Int.
1.65e6
8.25e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.28e6
4.64e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

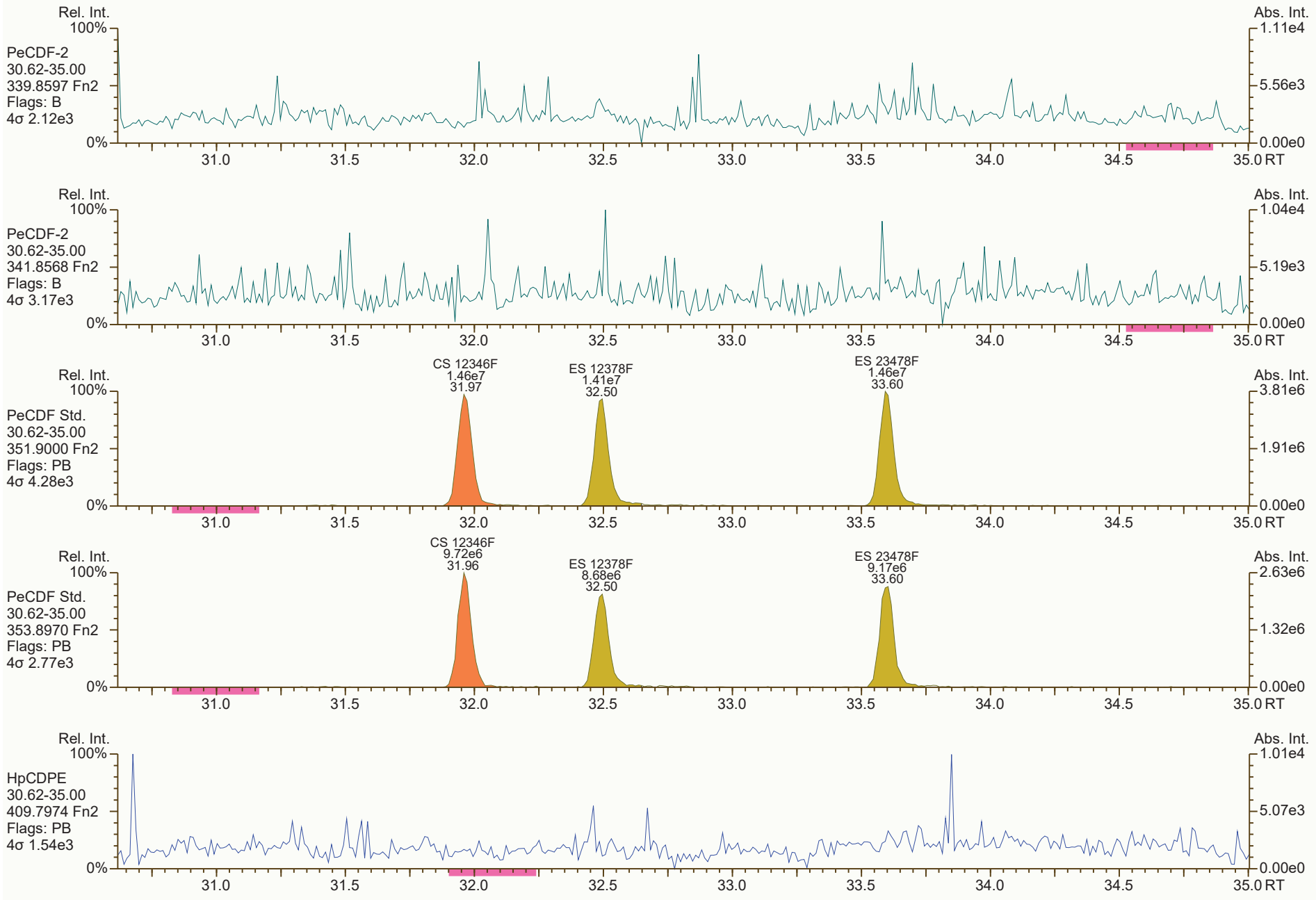

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.11e3
0%
Abs. Int.
6.54e3
3.27e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 2.36e3
0%
Abs. Int.
4.38e3
2.19e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.88e3
0%
ES 123678D
8.91e6*
37.95
ES 123478D
7.41e6
37.83
ES 123789D
9.11e6*
38.24
JS 123467D
4.45e6*
38.13
Abs. Int.
2.26e6
1.13e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.08e3
0%
ES 123678D
7.03e6*
37.95
ES 123478D
6.08e6
37.83
ES 123789D
7.42e6*
38.24
JS 123467D
3.40e6*
38.13
Abs. Int.
1.78e6
8.92e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.46e7
1.73e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

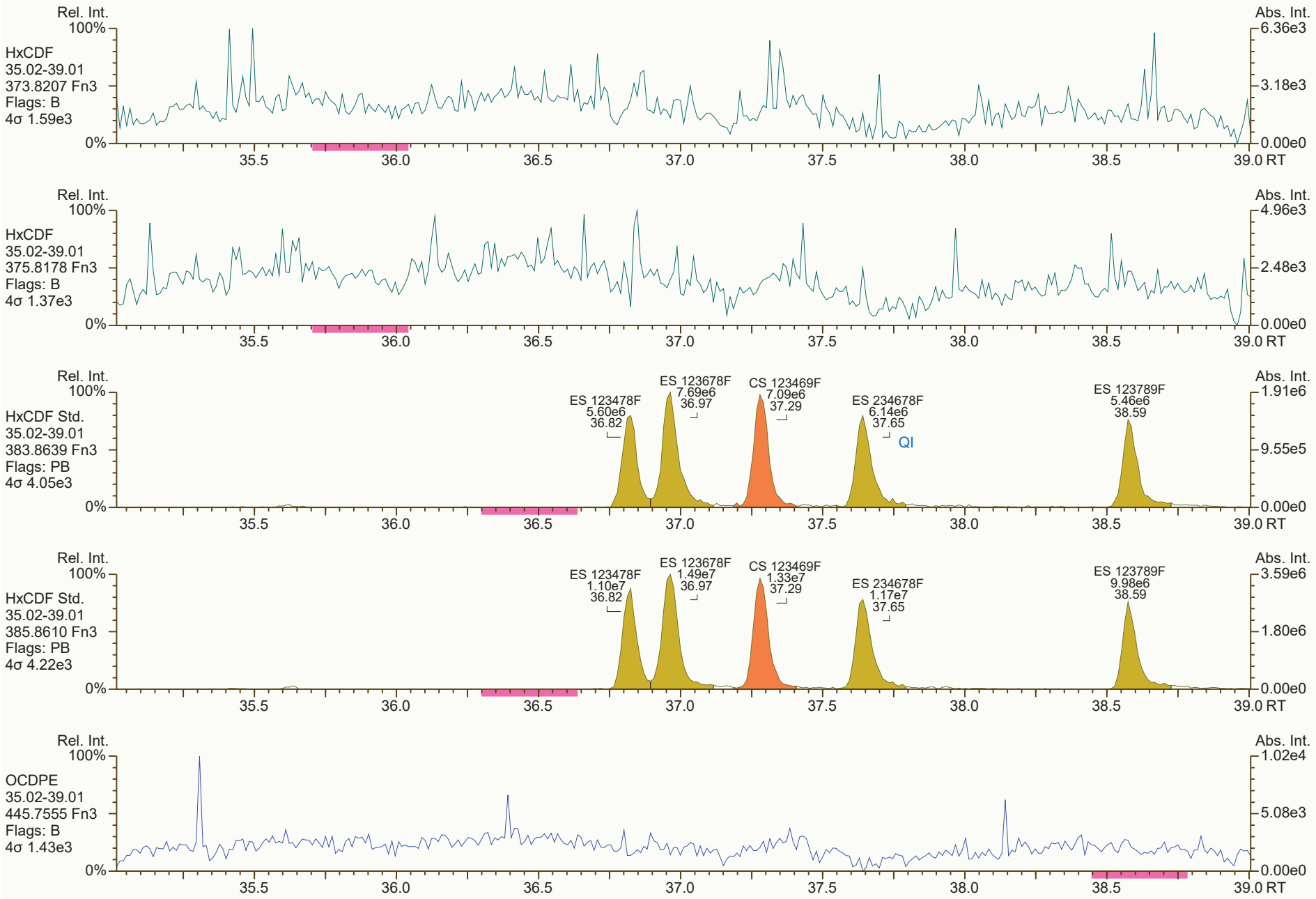

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.78e3
0%
Abs. Int.
7.47e3
3.74e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.25e3
0%
Abs. Int.
4.29e3
2.15e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.47e6
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.89e3
0%
Abs. Int.
2.11e6
1.05e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
5.84e6
40.86
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.77e3
0%
Abs. Int.
1.68e6
8.40e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.10e7
1.05e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

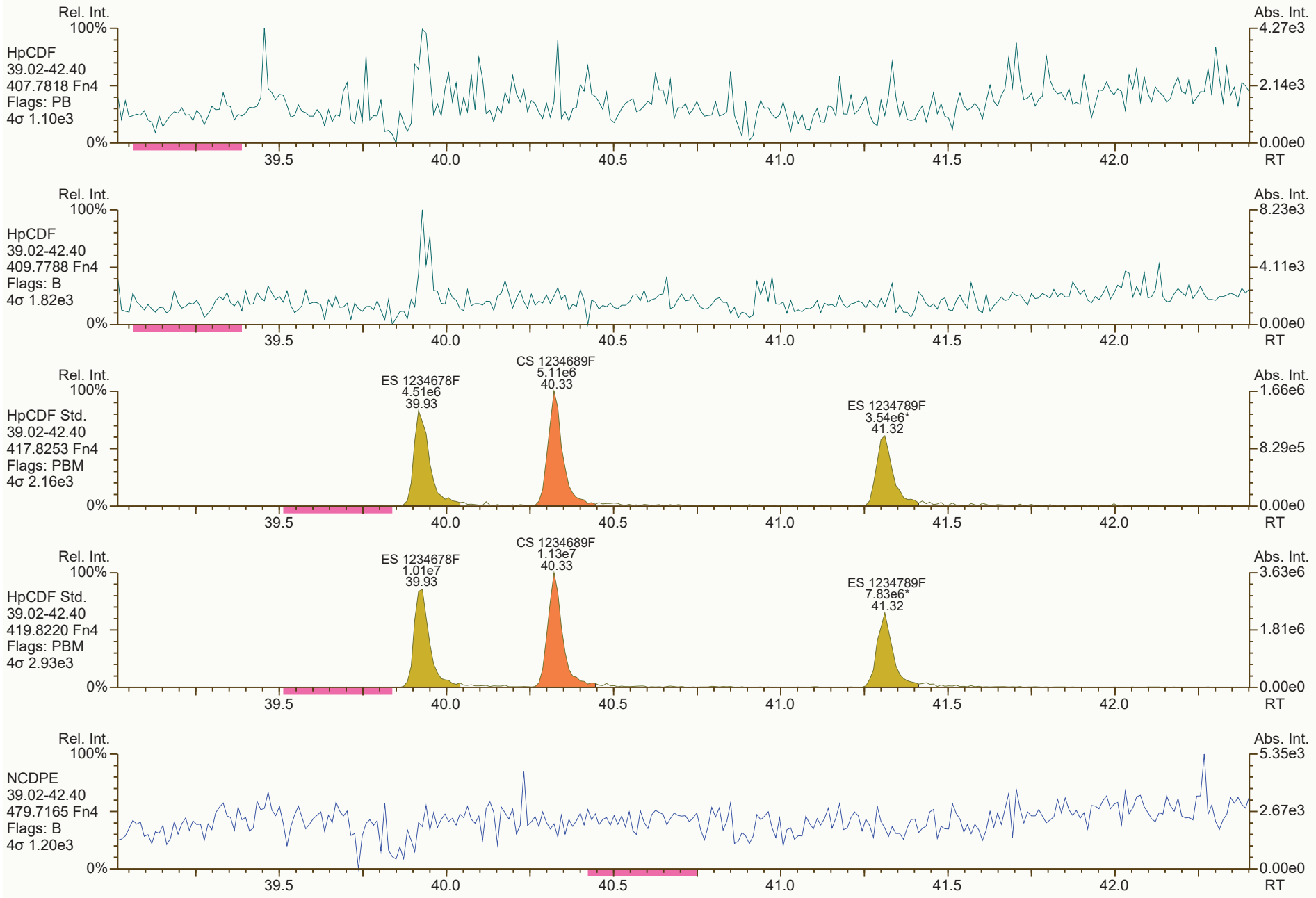

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.40e3
0%
Abs. Int.
6.82e3
3.41e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.64e3
2.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.16e6*
43.51
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.64e3
0%
Abs. Int.
1.54e6
7.72e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.75e6*
43.51
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
1.72e6
8.58e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.83e7
9.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 1.83e3
0%
Abs. Int.
8.15e3
4.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 2.12e3
0%
Abs. Int.
9.91e3
4.95e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 7.08e3
0%
JS 1234F
1.30e7
26.43
ES 2378F
1.14e7*
27.78
Abs. Int.
2.81e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 2.52e3
0%
JS 1234F
1.65e7
26.42
ES 2378F
1.45e7*
27.78
Abs. Int.
3.52e6
1.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.57e3
0%
Abs. Int.
7.39e3
3.70e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.24e4
6.21e3
0.00e0
RT
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.67e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
RT
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
1.14e7
5.69e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.11e4
5.56e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 3.17e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 4.28e3
0%
CS 12346F
1.46e7
31.97
ES 12378F
1.41e7
32.50
ES 23478F
1.46e7
33.60
Abs. Int.
3.81e6
1.91e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.77e3
0%
CS 12346F
9.72e6
31.96
ES 12378F
8.68e6
32.50
ES 23478F
9.17e6
33.60
Abs. Int.
2.63e6
1.32e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: PB
4σ 1.54e3
0%
Abs. Int.
1.01e4
5.07e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.59e3
0%
Abs. Int.
6.36e3
3.18e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.37e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 4.05e3
0%
ES 123478F
5.60e6
36.82
ES 123678F
7.69e6
36.97
CS 123469F
7.09e6
37.29
ES 234678F
6.14e6
37.65
QI
ES 123789F
5.46e6
38.59
Abs. Int.
1.91e6
9.55e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 4.22e3
0%
ES 123478F
1.10e7
36.82
ES 123678F
1.49e7
36.97
CS 123469F
1.33e7
37.29
ES 234678F
1.17e7
37.65
ES 123789F
9.98e6
38.59
Abs. Int.
3.59e6
1.80e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.10e3
0%
Abs. Int.
4.27e3
2.14e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
0%
Abs. Int.
8.23e3
4.11e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.16e3
0%
ES 1234678F
4.51e6
39.93
CS 1234689F
5.11e6
40.33
ES 1234789F
3.54e6*
41.32
Abs. Int.
1.66e6
8.29e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.93e3
0%
ES 1234678F
1.01e7
39.93
CS 1234689F
1.13e7
40.33
ES 1234789F
7.83e6*
41.32
Abs. Int.
3.63e6
1.81e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.20e3
0%
Abs. Int.
5.35e3
2.67e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.59e3
0%
Abs. Int.
6.52e3
3.26e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.76e3
0%
Abs. Int.
6.26e3
3.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.59e6
43.70
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.30e3
0%
Abs. Int.
2.11e6
1.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.03e7
43.69
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.18e3
0%
Abs. Int.
2.25e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
6.91e3
3.46e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220123C01	3	CS3_220123_DF_CA ✓	1.00	SIL 25-347-1	DTF, PSW	360-463	23-Jan-2022	12:26:11
1	220123C02	7	OPR1_18842_DF	1.00	0_18842_OPR001 ✓	DTF, PSW	322-778	23-Jan-2022	13:50:36
2	220123C03	8	OPR2_18842_DF	1.00	0_18842_OPR002	DTF, PSW	606-439	23-Jan-2022	14:36:49
3	220123C04	2	SBS_220123_DF_CA	1.00	SIL 20-61-1	DTF	105-853	23-Jan-2022	15:23:08
4	220123C05	6	MB1_18842_DF_TLX	1.00	Method Blank	DTF, PSW	973-869	23-Jan-2022	16:09:27
5	220123C10	13	B6172_18842_DF_001	1.02	11215131-011022-S-BN-RB-12	DTF, PSW	602-957	23-Jan-2022	20:00:59
6	220123C11	14	B6172_18842_DF_002	1.01	11215131-010722-S-BN-RB-11	DTF, PSW	343-402	23-Jan-2022	20:47:17

Dioxin/Furan QC Summary	Acq'd: 23 Jan 2022 12:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220123_DF_CA	UTP: 24-Jan-2022 15:16:28 PSW	Checkcode: 360-463-GFZ
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 15:18 pw	Datafile: 220123C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.67	2.34E+06	0.80	Y	1.18	1.22	3%
12378-PeCDD	33.97	8.45E+06	1.59	Y	1.04	1.01	-3%
123478-HxCDD	37.86	7.79E+06	1.28	Y	1.09	1.13	4%
123678-HxCDD	37.97	8.99E+06	1.35	Y	1.15	1.14	-1%
123789-HxCDD	38.26	8.06E+06	1.24	Y	1.05	0.97	-8%
1234678-HpCDD	40.89	7.58E+06	1.06	Y	1.06	1.09	3%
OCDD	43.53	1.01E+07	0.89	Y	1.13	1.12	-1%
2378-TCDF	27.82	3.77E+06	0.80	Y	1.08	1.11	3%
12378-PeCDF	32.54	1.49E+07	1.55	Y	1.02	1.05	2%
23478-PeCDF	33.64	1.55E+07	1.53	Y	1.02	1.03	1%
123478-HxCDF	36.85	1.30E+07	1.27	Y	1.27	1.31	3%
123678-HxCDF	36.99	1.54E+07	1.23	Y	1.15	1.21	5%
234678-HxCDF	37.68	1.32E+07	1.20	Y	1.19	1.16	-2%
123789-HxCDF	38.62	1.00E+07	1.23	Y	1.16	1.13	-3%
1234678-HpCDF	39.95	1.27E+07	1.05	Y	1.37	1.46	7%
1234789-HpCDF	41.34	8.72E+06	1.06	Y	1.31	1.26	-4%
OCDF	43.72	1.40E+07	0.94	Y	1.07	1.11	3%
ES 2378-TCDD	28.65	1.92E+07	0.80	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.951	1.68E+07	1.61	Y	0.88	0.89	1%
ES 123478-HxCDD	37.842	1.37E+07	1.28	Y	0.97	0.90	-7%
ES 123678-HxCDD	37.955	1.58E+07	1.41	Y	0.94	1.04	10%
ES 123789-HxCDD	38.247	1.66E+07	1.24	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.873	1.39E+07	1.06	Y	0.91	0.92	0%
ES OCDD	43.522	1.81E+07	0.90	Y	0.62	0.59	-5%
ES 2378-TCDF	27.797	3.39E+07	0.81	Y	1.06	1.08	2%
ES 12378-PeCDF	32.518	2.85E+07	1.46	Y	0.91	0.90	-1%
ES 23478-PeCDF	33.624	3.01E+07	1.62	Y	0.88	0.95	8%
ES 123478-HxCDF	36.836	1.99E+07	0.54	Y	1.20	1.31	9%
ES 123678-HxCDF	36.978	2.55E+07	0.54	Y	1.35	1.67	24%
ES 234678-HxCDF	37.663	2.28E+07	0.51	Y	1.24	1.50	21%
ES 123789-HxCDF	38.603	1.76E+07	0.55	Y	1.16	1.16	0%
ES 1234678-HpCDF	39.94	1.73E+07	0.45	Y	0.97	1.14	18%
ES 1234789-HpCDF	41.333	1.39E+07	0.46	Y	0.85	0.91	7%
ES OCDF	43.711	2.53E+07	0.91	Y	0.81	0.83	3%

Dioxin/Furan QC Summary	Acq'd: 23 Jan 2022 12:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220123_DF_CA	UTP: 24-Jan-2022 15:16:28 PSW	Checkcode: 360-463-GFZ
Sample ID: SIL 25-347-1	Report: 24 Jan 2022 15:18 pw	Datafile: 220123C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.98	1.90E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.44	3.15E+07	0.83	Y	-	-	-
JS 123467-HxCDD	38.14	7.60E+06	1.41	Y	-	-	-
CS 37Cl-2378-TCDD	28.67	2.73E+06	n/a	-	1.20	1.44	20%
CS 12347-PeCDD	33.45	1.56E+07	1.56	Y	0.75	0.82	9%
CS 12346-PeCDF	31.98	2.83E+07	1.54	Y	0.85	0.90	5%
CS 123469-HxCDF	37.30	2.35E+07	0.54	Y	1.12	1.55	38% **
CS 1234689-HpCDF	40.34	1.87E+07	0.44	Y	0.89	1.23	38% **
SS 37Cl-2378-TCDD	28.67	2.73E+06	n/a	-	1.15	1.42	24%
SS 12347-PeCDD	33.45	1.56E+07	1.56	Y	0.86	0.93	8%
SS 12346-PeCDF	31.98	2.83E+07	1.54	Y	0.94	0.99	6%
SS 123469-HxCDF	37.30	2.35E+07	0.54	Y	0.83	0.92	12%
SS 1234689-HpCDF	40.34	1.87E+07	0.44	Y	0.92	1.08	17%
OCDD-a	43.53	6.61E+05	2.21	Y	0.07	0.07	2%
OCDF-a	43.72	7.61E+05	2.43	Y	0.07	0.06	-9%

Not used in this project.
CL 26Jan22

** No criteria specified in M1613B
CL 26Jan22

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220123C01 Analysis Date: 23-JAN-2022 12:26:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	48.5	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	52.1	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.35	1.05 - 1.43	Y	49.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.2	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	51.4	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	99.2	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.3	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	51.1	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	50.5	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	51.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	52.5	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05 - 1.43	Y	48.9	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	53.4	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	48.1	43 - 58	Y
OCDF	M+2/M+4	0.94	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 24 Jan 2022 15:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

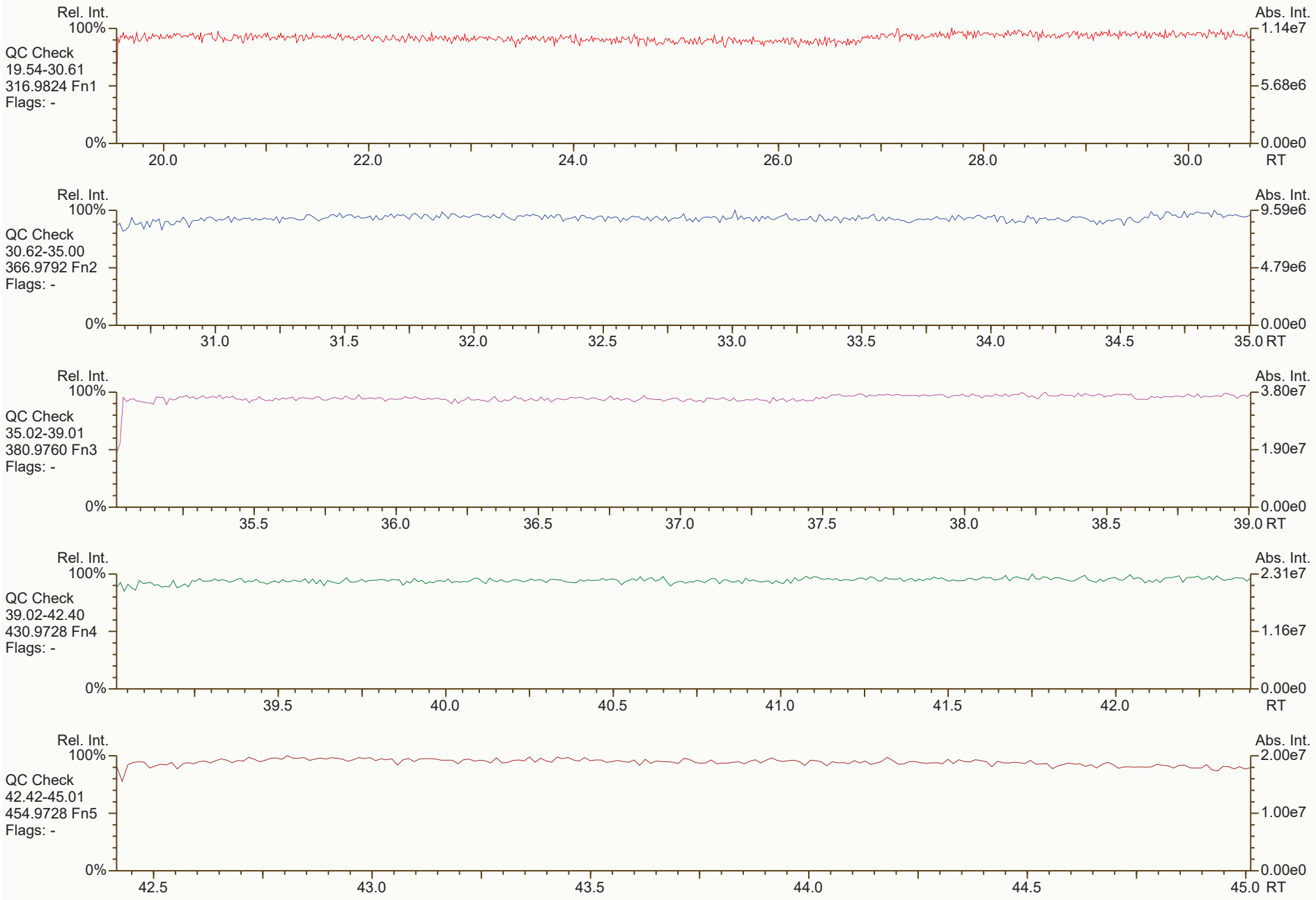
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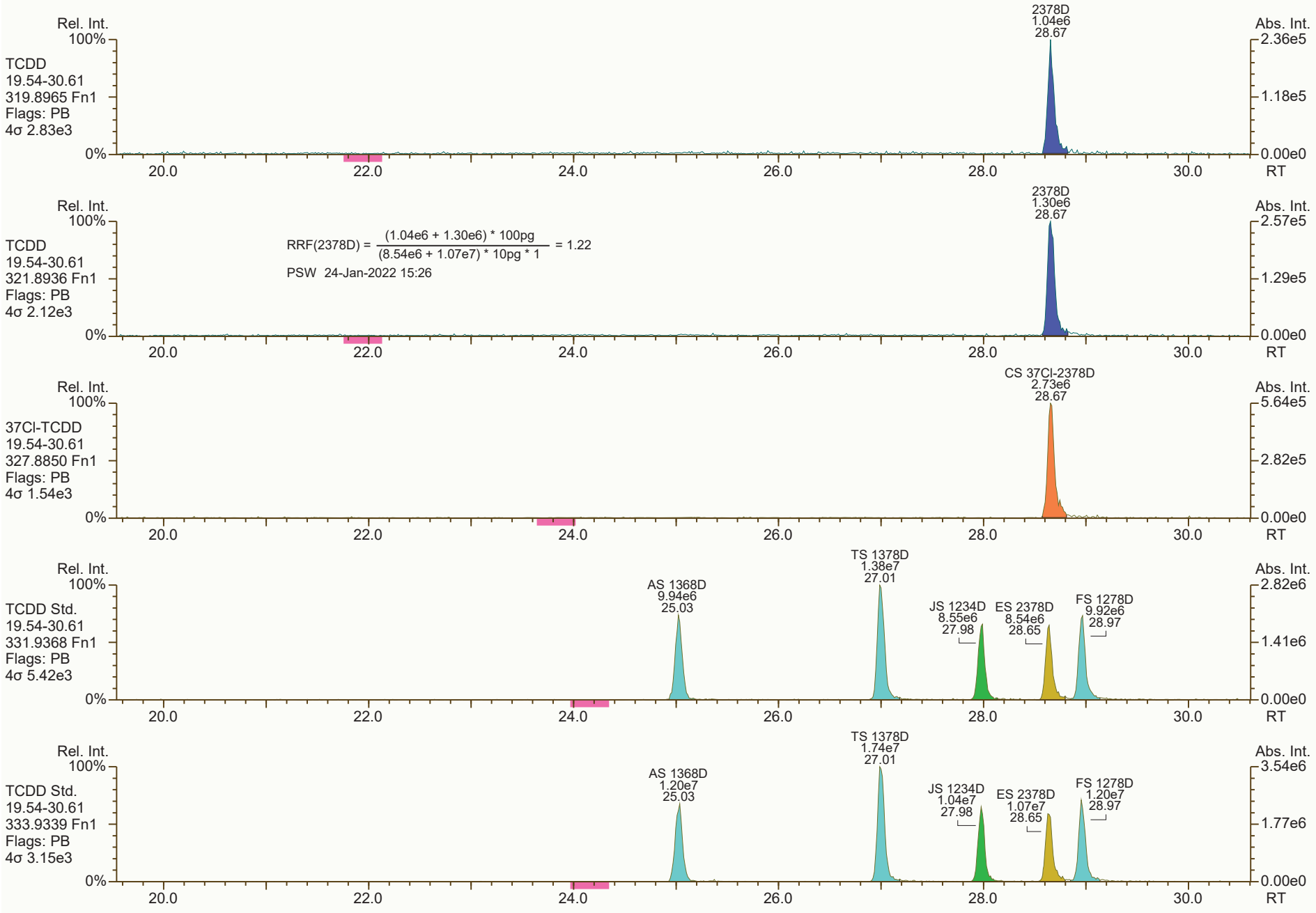
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	96.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	101	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	92.8	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.41	1.05	-	1.43	Y	110	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88	-	1.20	Y	100	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	190	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65	-	0.89	Y	102	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.46	1.32	-	1.78	Y	99.2	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	108	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	121	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	100	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	118	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	107	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	206	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						12	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	109	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.54	1.32	-	1.78	Y	105	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	138 *	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	138 *	70	-	130	N

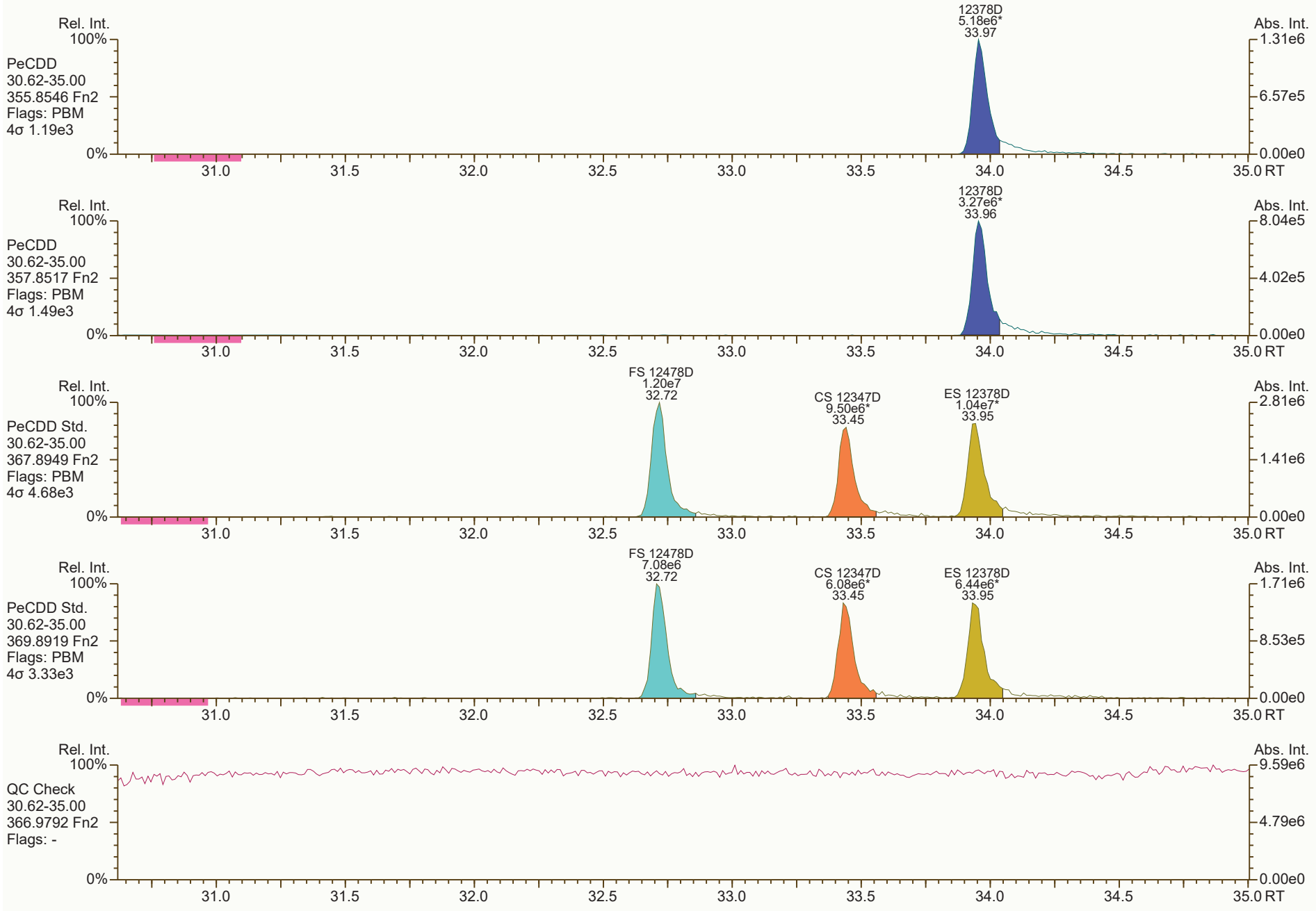
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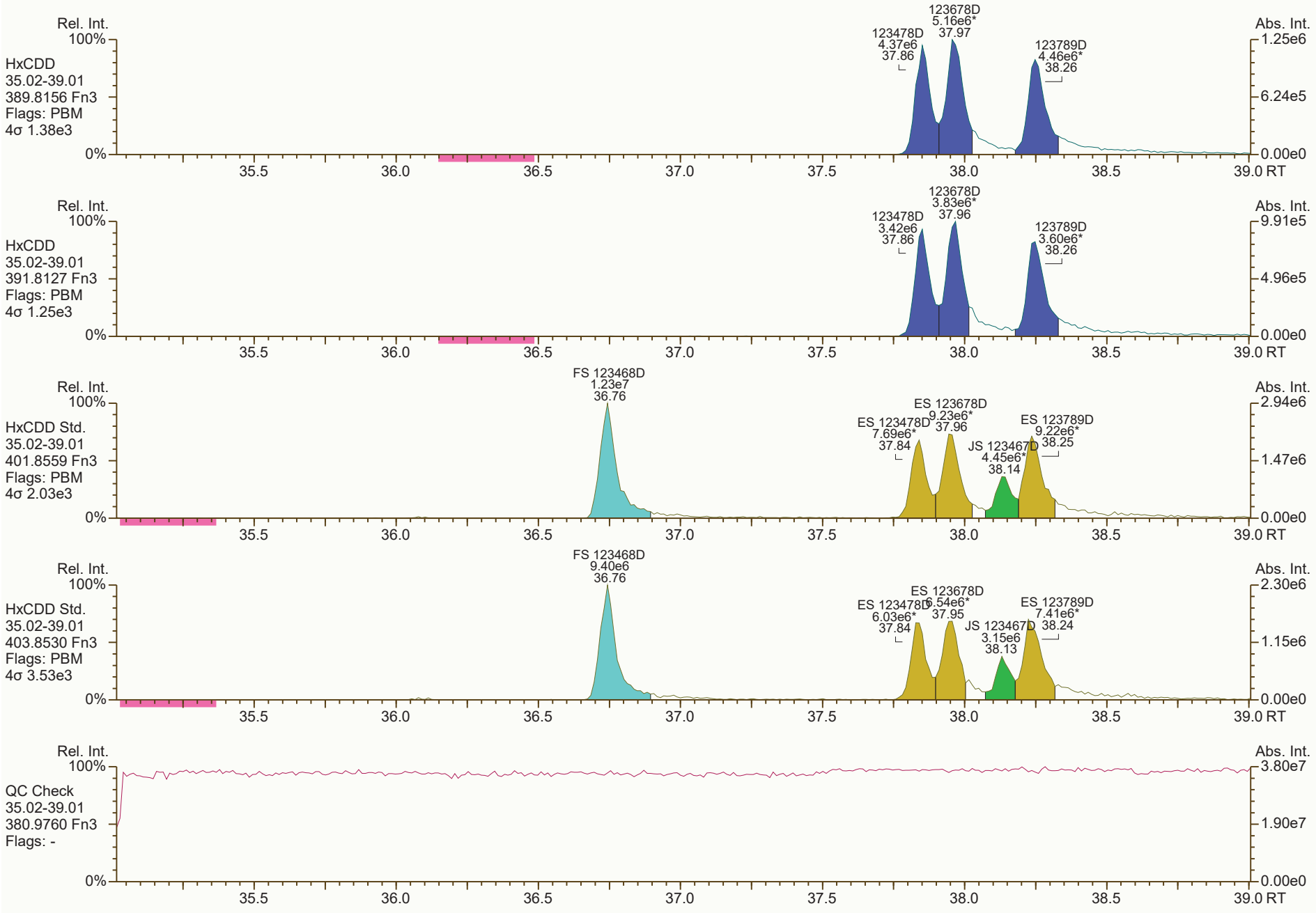
CL 26Jan22

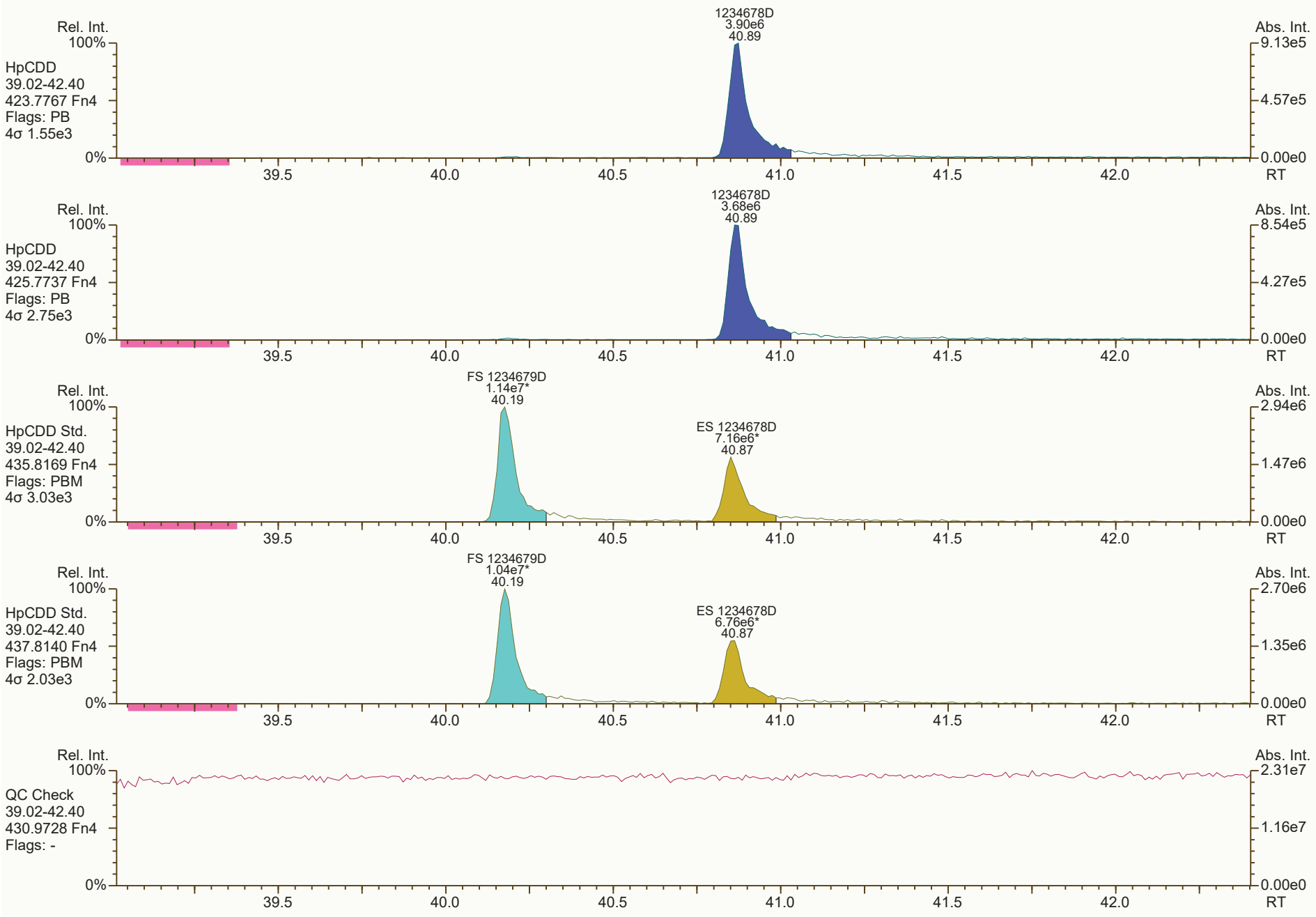
Processed: 24 Jan 2022 15:18 Analyst: pw

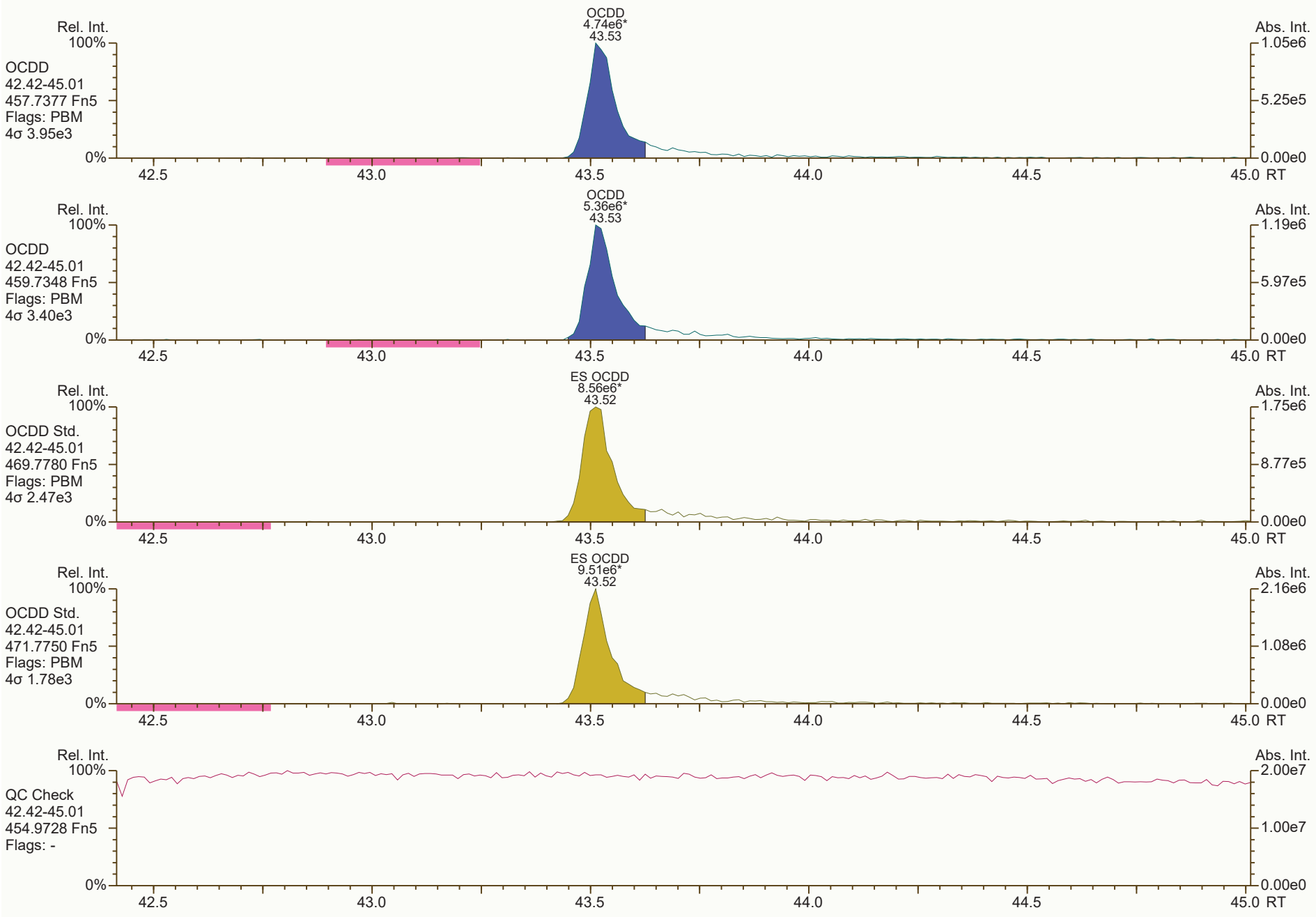

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.14e7
5.68e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
9.59e6
4.79e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
3.80e7
1.90e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.31e7
1.16e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.00e7
1.00e7
0.00e0

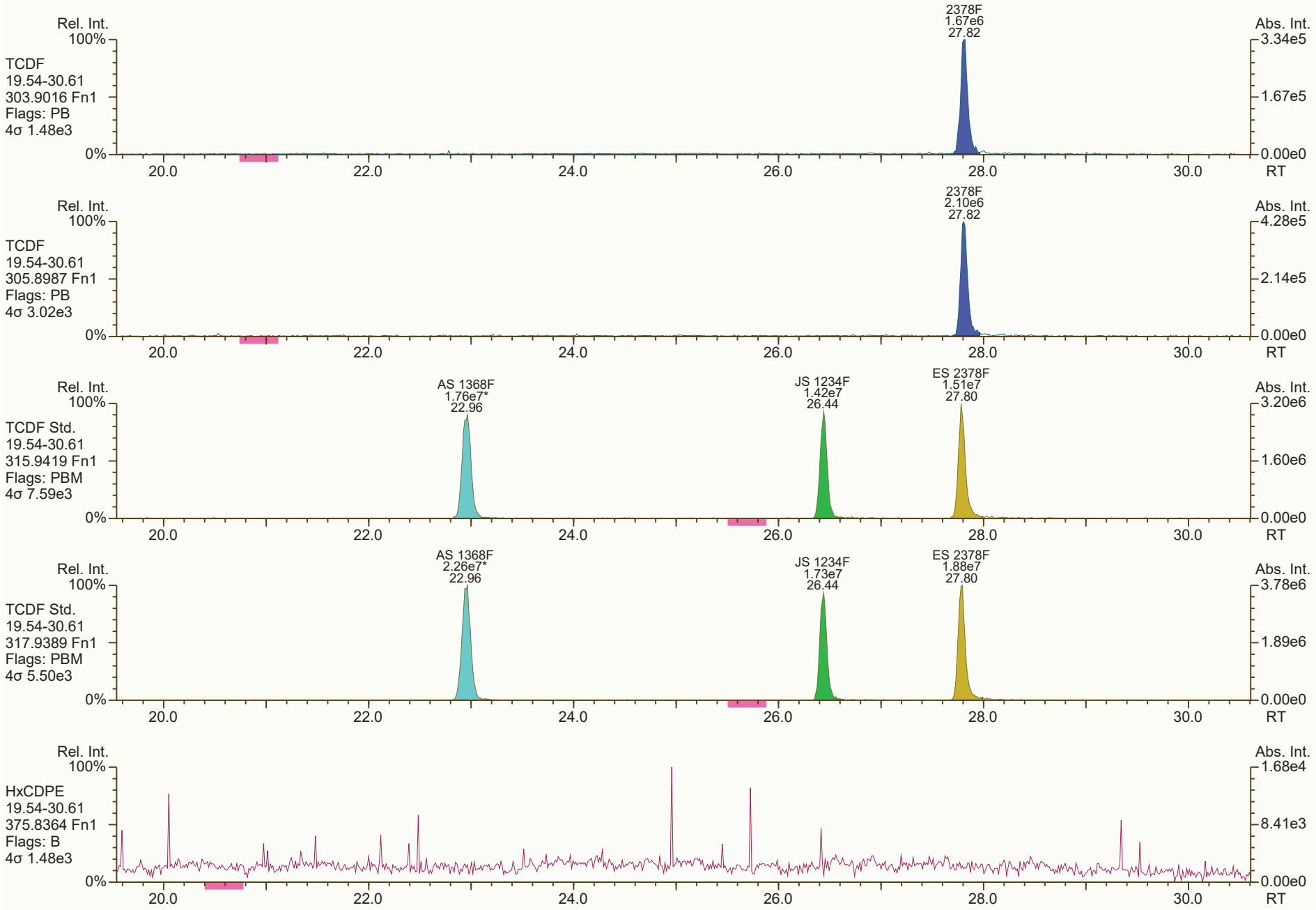

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 2.83e3
0%
2378D
1.04e6
28.67
Abs. Int.
2.36e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.12e3
RRF(2378D) = (1.04e6 + 1.30e6) * 100pg / (8.54e6 + 1.07e7) * 10pg * 1 = 1.22
PSW 24-Jan-2022 15:26
2378D
1.30e6
28.67
Abs. Int.
2.57e5
1.29e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.54e3
CS 37Cl-2378D
2.73e6
28.67
Abs. Int.
5.64e5
2.82e5
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.42e3
AS 1368D
9.94e6
25.03
TS 1378D
1.38e7
27.01
JS 1234D
8.55e6
27.98
ES 2378D
8.54e6
28.65
FS 1278D
9.92e6
28.97
Abs. Int.
2.82e6
1.41e6
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.15e3
AS 1368D
1.20e7
25.03
TS 1378D
1.74e7
27.01
JS 1234D
1.04e7
27.98
ES 2378D
1.07e7
28.65
FS 1278D
1.20e7
28.97
Abs. Int.
3.54e6
1.77e6
0.00e0


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.19e3
0%
12378D
5.18e6*
33.97
Abs. Int.
1.31e6
6.57e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.49e3
0%
12378D
3.27e6*
33.96
Abs. Int.
8.04e5
4.02e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 4.68e3
0%
FS 12478D
1.20e7
32.72
CS 12347D
9.50e6*
33.45
ES 12378D
1.04e7*
33.95
Abs. Int.
2.81e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 3.33e3
0%
FS 12478D
7.08e6
32.72
CS 12347D
6.08e6*
33.45
ES 12378D
6.44e6*
33.95
Abs. Int.
1.71e6
8.53e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.59e6
4.79e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

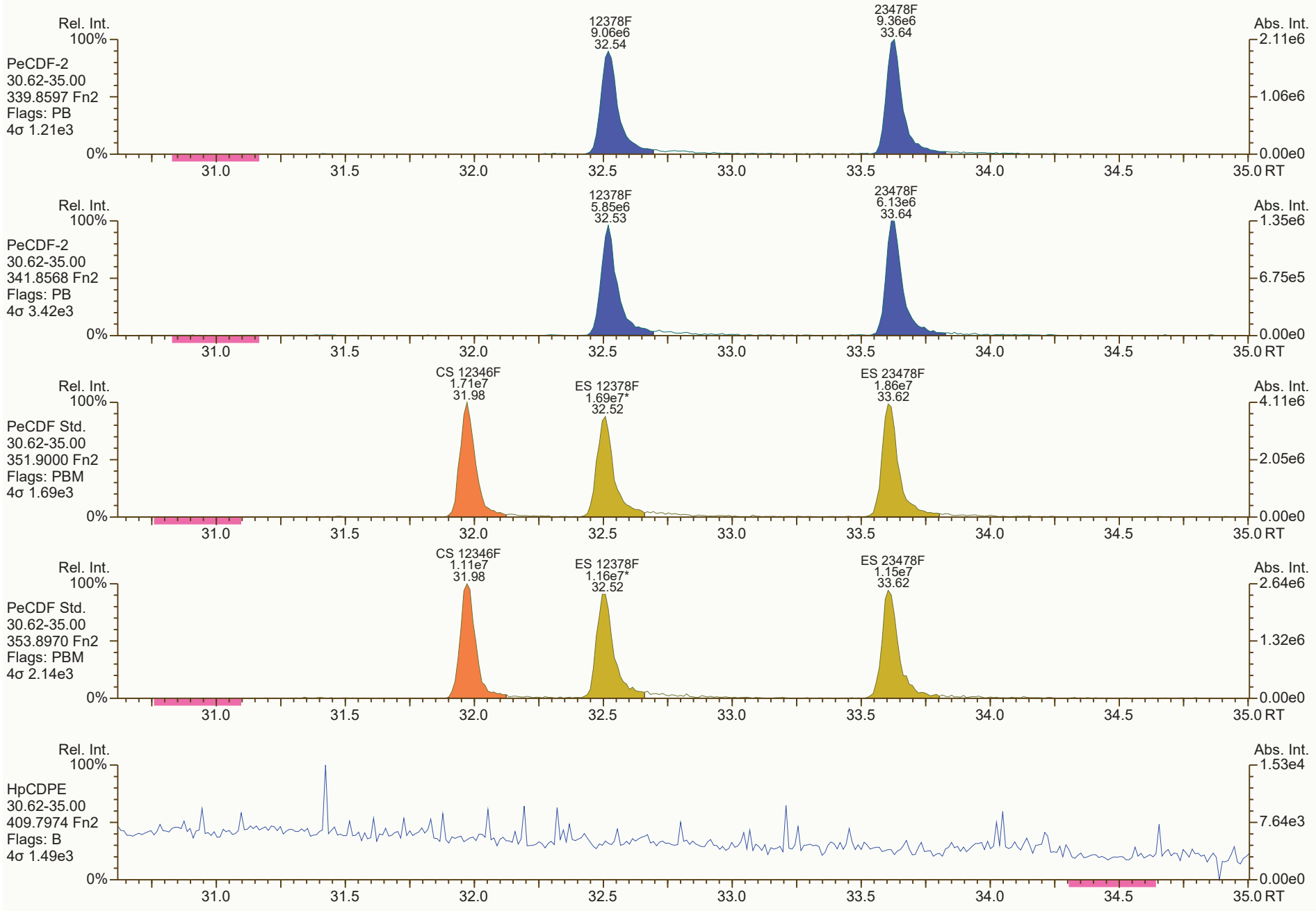

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.38e3
123678D
5.16e6*
37.97
123478D
4.37e6
37.86
123789D
4.46e6*
38.26
Abs. Int.
1.25e6
6.24e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.25e3
123678D
3.83e6*
37.96
123478D
3.42e6
37.86
123789D
3.60e6*
38.26
Abs. Int.
9.91e5
4.96e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.03e3
FS 123468D
1.23e7
36.76
ES 123678D
9.23e6*
37.96
ES 123478D
7.69e6*
37.84
ES 123789D
9.22e6*
38.25
JS 123467D
4.45e6*
38.14
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.53e3
FS 123468D
9.40e6
36.76
ES 123678D
6.54e6*
37.95
ES 123478D
6.03e6*
37.84
ES 123789D
7.41e6*
38.24
JS 123467D
3.15e6
38.13
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
3.80e7
1.90e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

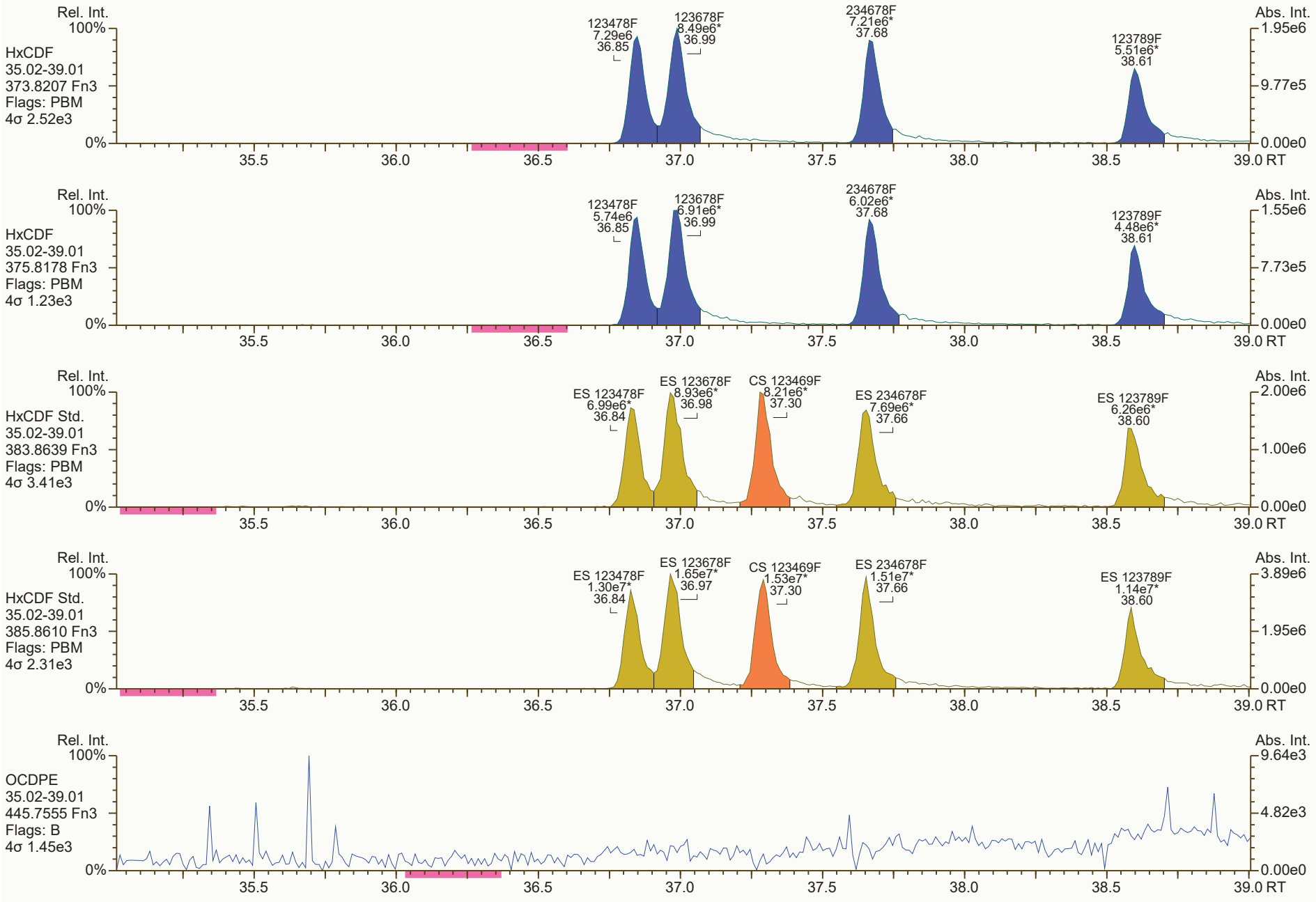

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.55e3
1234678D
3.90e6
40.89
Abs. Int.
9.13e5
4.57e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.75e3
1234678D
3.68e6
40.89
Abs. Int.
8.54e5
4.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 3.03e3
FS 1234679D
1.14e7*
40.19
ES 1234678D
7.16e6*
40.87
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.03e3
FS 1234679D
1.04e7*
40.19
ES 1234678D
6.76e6*
40.87
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.31e7
1.16e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

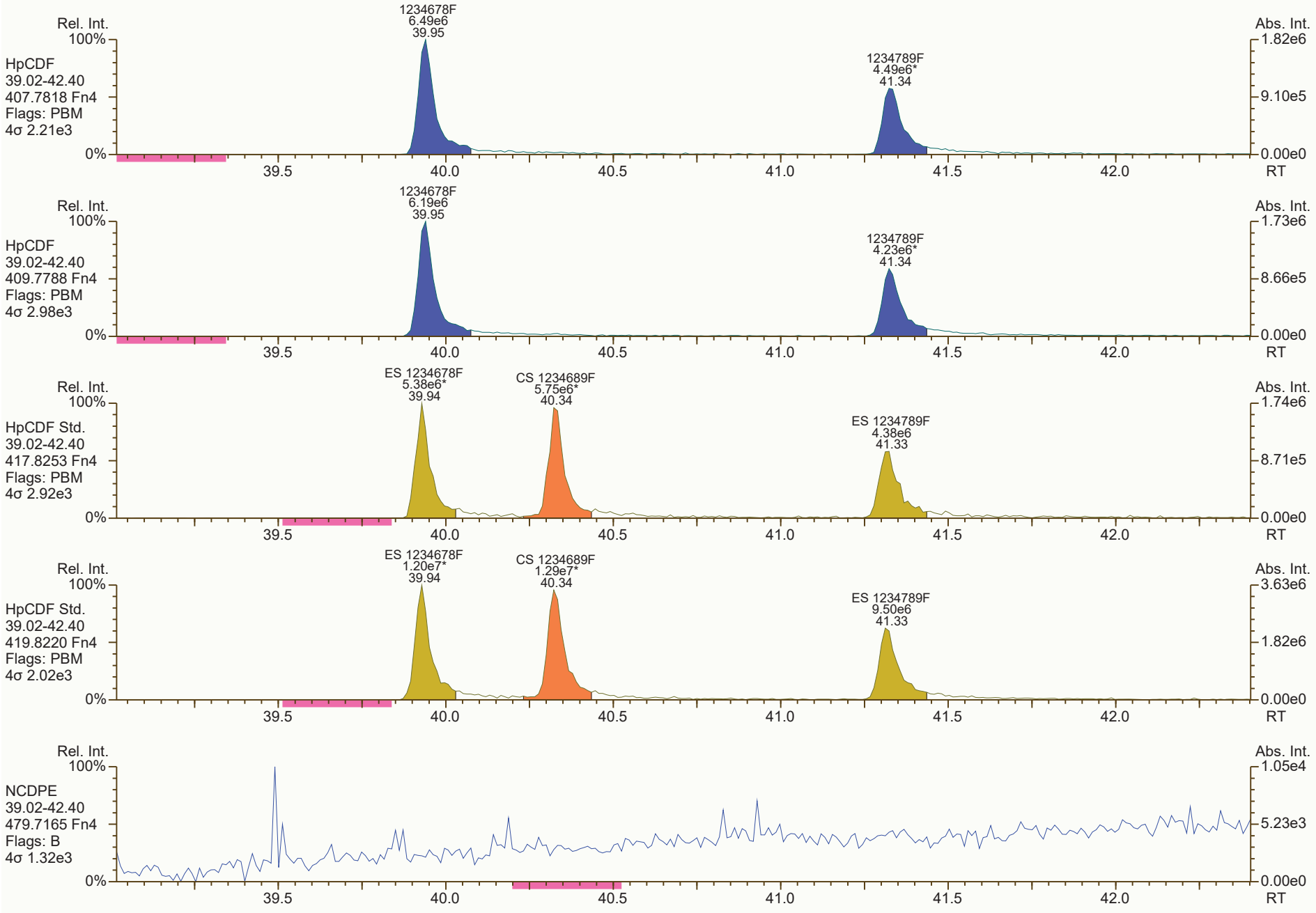

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 3.95e3
0%
OCDD
4.74e6*
43.53
Abs. Int.
1.05e6
5.25e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 3.40e3
0%
OCDD
5.36e6*
43.53
Abs. Int.
1.19e6
5.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.47e3
0%
ES OCDD
8.56e6*
43.52
Abs. Int.
1.75e6
8.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDD
9.51e6*
43.52
Abs. Int.
2.16e6
1.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

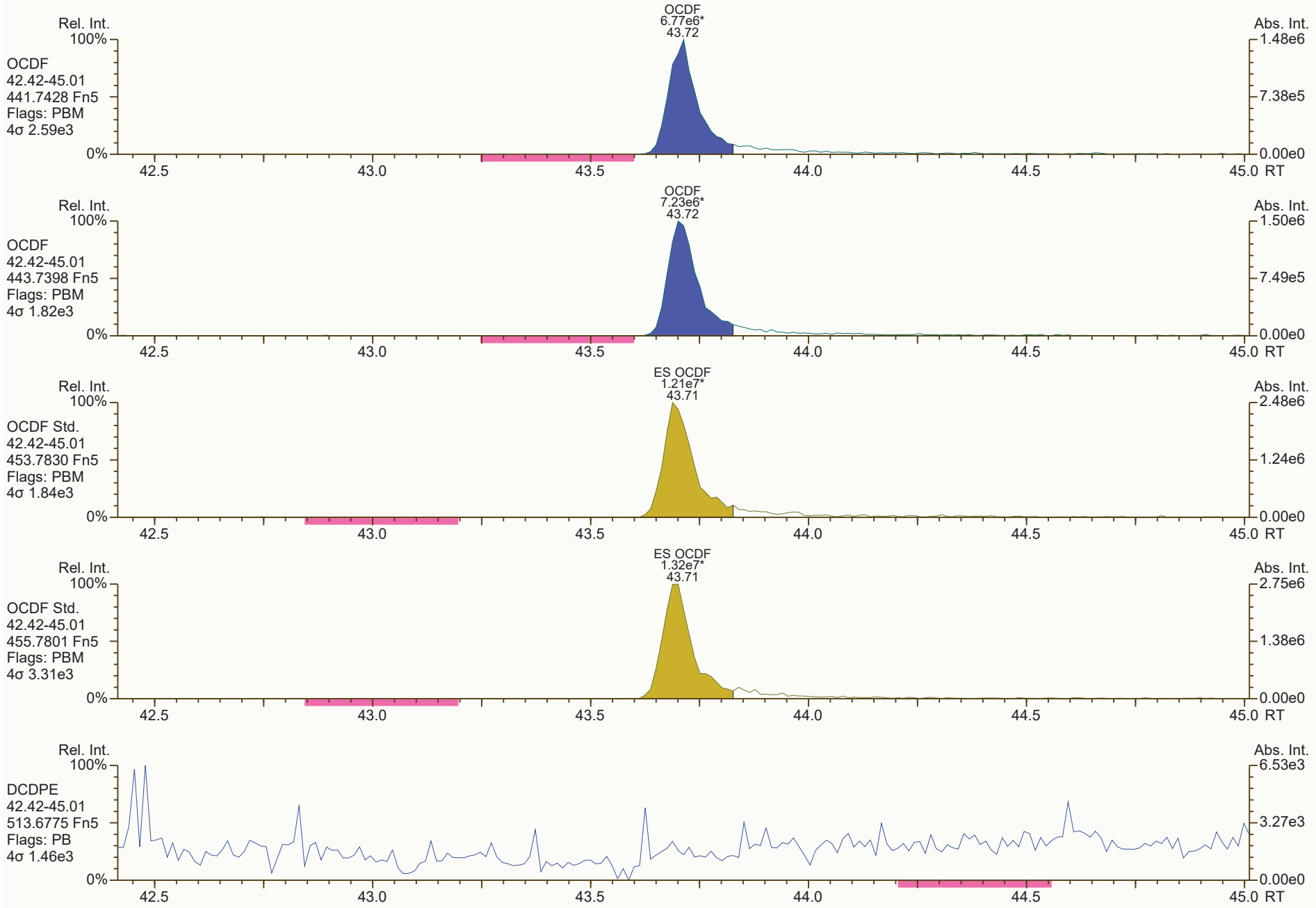

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.48e3
0%
2378F
1.67e6
27.82
Abs. Int.
3.34e5
1.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 3.02e3
0%
2378F
2.10e6
27.82
Abs. Int.
4.28e5
2.14e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 7.59e3
0%
AS 1368F
1.76e7*
22.96
JS 1234F
1.42e7
26.44
ES 2378F
1.51e7
27.80
Abs. Int.
3.20e6
1.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 5.50e3
0%
AS 1368F
2.26e7*
22.96
JS 1234F
1.73e7
26.44
ES 2378F
1.88e7
27.80
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.68e4
8.41e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

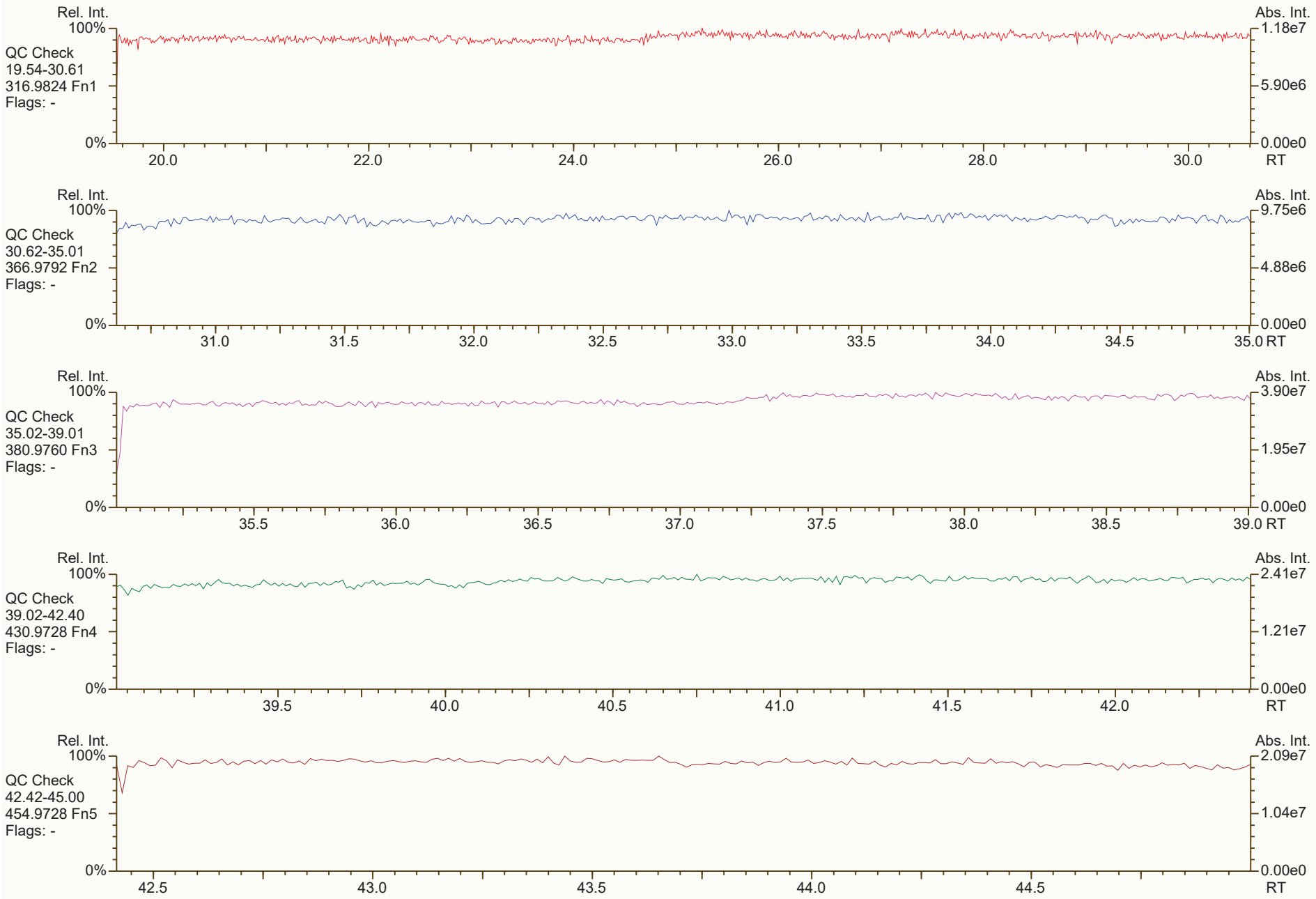

Rel. Int.
100%
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.36e3
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.27e3
1.82e4
9.12e3
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
1.14e7
5.68e6

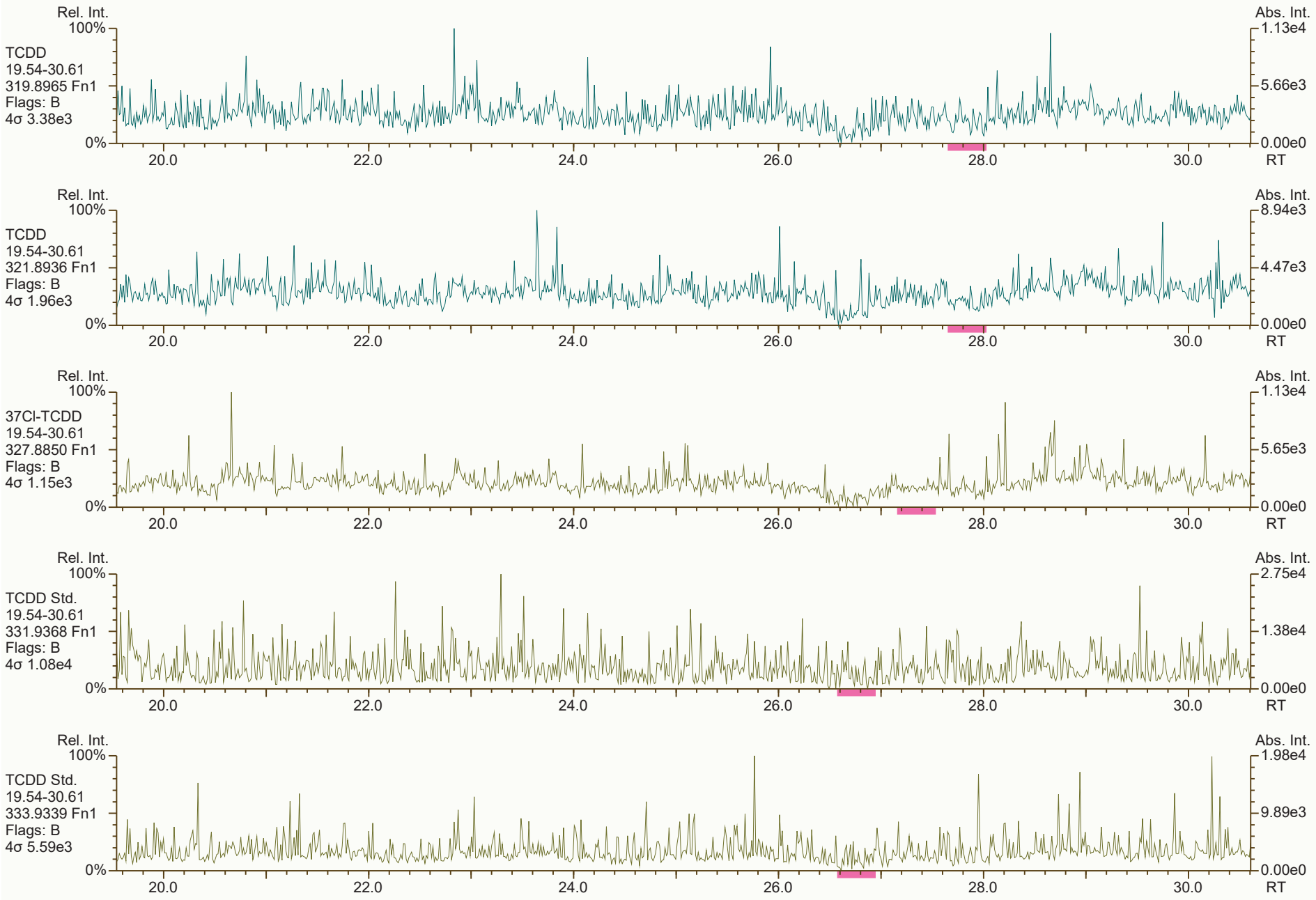

Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.21e3
12378F
9.06e6
32.54
23478F
9.36e6
33.64
2.11e6
1.06e6
0.00e0
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 3.42e3
12378F
5.85e6
32.53
23478F
6.13e6
33.64
1.35e6
6.75e5
0.00e0
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 1.69e3
CS 12346F
1.71e7
31.98
ES 12378F
1.69e7*
32.52
ES 23478F
1.86e7
33.62
4.11e6
2.05e6
0.00e0
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 2.14e3
CS 12346F
1.11e7
31.98
ES 12378F
1.16e7*
32.52
ES 23478F
1.15e7
33.62
2.64e6
1.32e6
0.00e0
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.49e3
1.53e4
7.64e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.52e3
123478F
7.29e6
36.85
123678F
8.49e6*
36.99
234678F
7.21e6*
37.68
123789F
5.51e6*
38.61
Abs. Int.
1.95e6
9.77e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.23e3
123478F
5.74e6
36.85
123678F
6.91e6*
36.99
234678F
6.02e6*
37.68
123789F
4.48e6*
38.61
Abs. Int.
1.55e6
7.73e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.41e3
ES 123478F
6.99e6*
36.84
ES 123678F
8.93e6*
36.98
CS 123469F
8.21e6*
37.30
ES 234678F
7.69e6*
37.66
ES 123789F
6.26e6*
38.60
Abs. Int.
2.00e6
1.00e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.31e3
ES 123478F
1.30e7*
36.84
ES 123678F
1.65e7*
36.97
CS 123469F
1.53e7*
37.30
ES 234678F
1.51e7*
37.66
ES 123789F
1.14e7*
38.60
Abs. Int.
3.89e6
1.95e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
9.64e3
4.82e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.21e3
1234678F
6.49e6
39.95
1234789F
4.49e6*
41.34
Abs. Int.
1.82e6
9.10e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.98e3
1234678F
6.19e6
39.95
1234789F
4.23e6*
41.34
Abs. Int.
1.73e6
8.66e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.92e3
ES 1234678F
5.38e6*
39.94
CS 1234689F
5.75e6*
40.34
ES 1234789F
4.38e6
41.33
Abs. Int.
1.74e6
8.71e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.02e3
ES 1234678F
1.20e7*
39.94
CS 1234689F
1.29e7*
40.34
ES 1234789F
9.50e6
41.33
Abs. Int.
3.63e6
1.82e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.32e3
Abs. Int.
1.05e4
5.23e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.59e3
0%
OCDF
6.77e6*
43.72
Abs. Int.
1.48e6
7.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.82e3
0%
OCDF
7.23e6*
43.72
Abs. Int.
1.50e6
7.49e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.84e3
0%
ES OCDF
1.21e7*
43.71
Abs. Int.
2.48e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.31e3
0%
ES OCDF
1.32e7*
43.71
Abs. Int.
2.75e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
6.53e3
3.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.18e7
5.90e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
9.75e6
4.88e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
3.90e7
1.95e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.41e7
1.21e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
RT
Abs. Int.
2.09e7
1.04e7
0.00e0

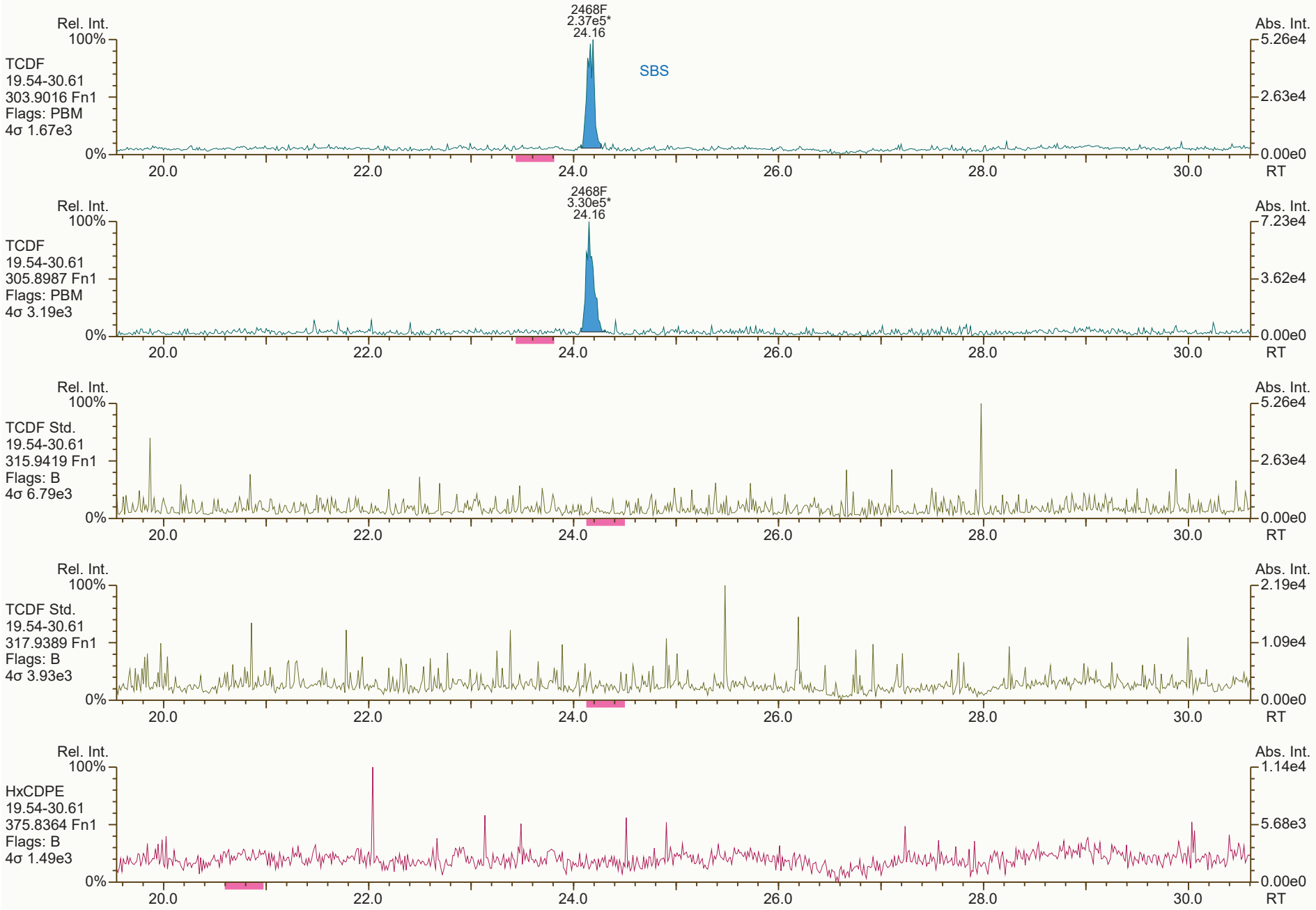

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 3.38e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.96e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.15e3
0%
Abs. Int.
1.13e4
5.65e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 1.08e4
0%
Abs. Int.
2.75e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 5.59e3
0%
Abs. Int.
1.98e4
9.89e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.64e3
0%
Abs. Int.
5.01e3
2.51e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.21e3
0%
Abs. Int.
4.92e3
2.46e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.96e4
9.80e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: B
4σ 2.95e3
0%
Abs. Int.
2.69e4
1.35e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.75e6
4.88e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.37e3
0%
Abs. Int.
5.68e3
2.84e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.50e3
0%
Abs. Int.
9.22e3
4.61e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 2.17e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.41e4
7.06e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.90e7
1.95e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

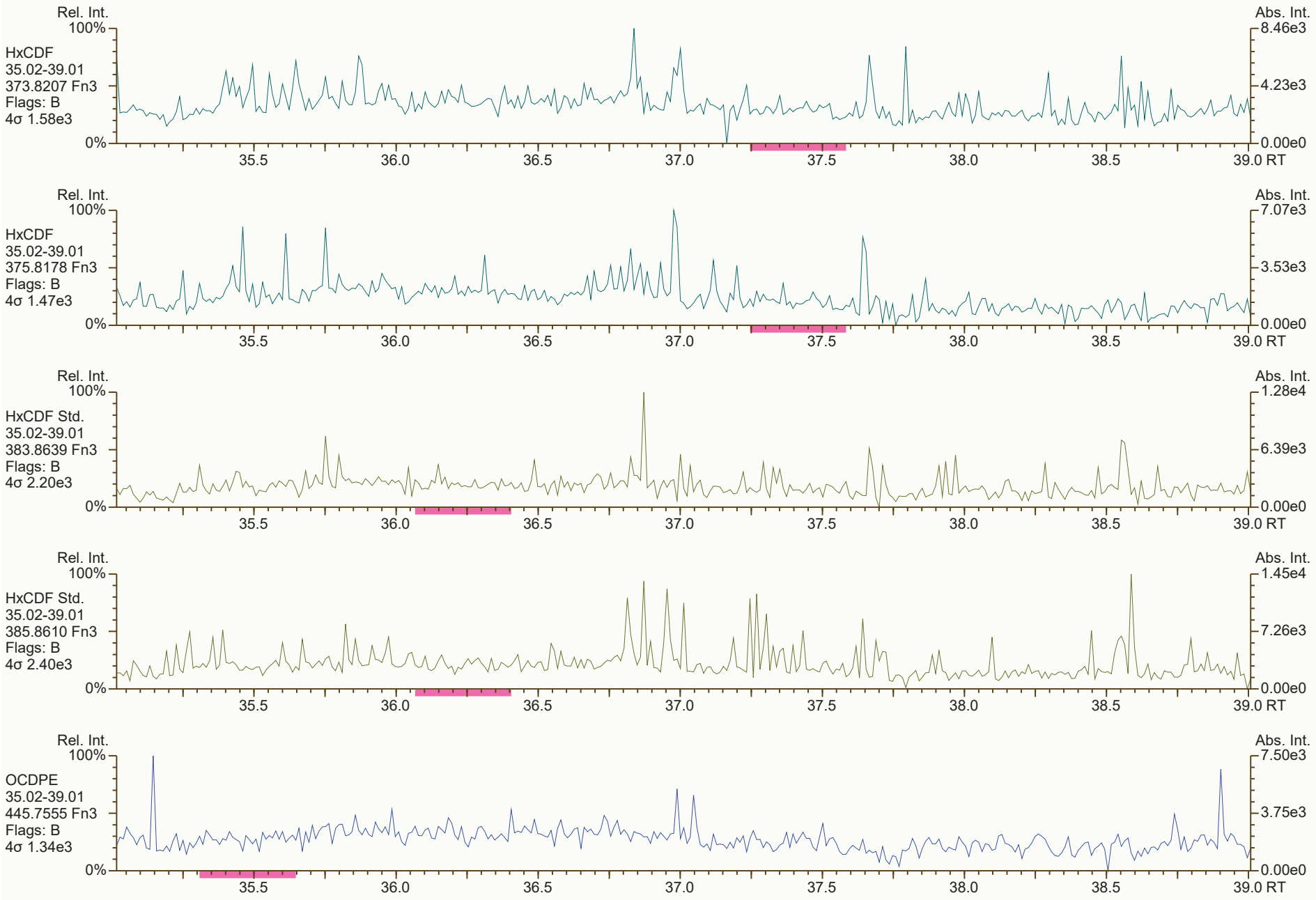

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.06e3
0%
Abs. Int.
6.48e3
3.24e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.11e3
0%
Abs. Int.
6.64e3
3.32e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.73e3
0%
Abs. Int.
9.85e3
4.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.41e7
1.21e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.33e3
0%
Abs. Int.
6.68e3
3.34e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 2.99e3
0%
Abs. Int.
1.14e4
5.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.09e7
1.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.67e3
2468F
2.37e5*
24.16
SBS
Abs. Int.
5.26e4
2.63e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.19e3
2468F
3.30e5*
24.16
Abs. Int.
7.23e4
3.62e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 6.79e3
Abs. Int.
5.26e4
2.63e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 3.93e3
Abs. Int.
2.19e4
1.09e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.49e3
Abs. Int.
1.14e4
5.68e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.75e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.51e4
7.56e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.96e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.90e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: B
4σ 3.05e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.28e4
6.42e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.55e3
4.77e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.58e3
0%
Abs. Int.
8.46e3
4.23e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 2.40e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

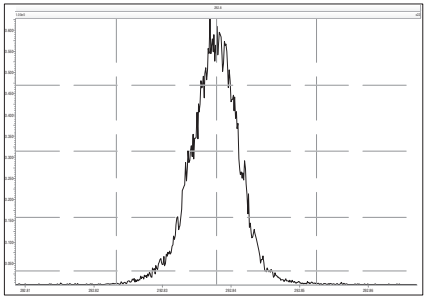

Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.86e3
0%
Abs. Int.
7.95e3
3.97e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
6.89e3
3.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
2.06e4
1.03e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.26e3
0%
Abs. Int.
8.52e3
4.26e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
7.67e3
3.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.66e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.09e4
1.04e4
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.36e3
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
42.5
43.0
43.5
44.0
44.5
RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
5.85e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
RT

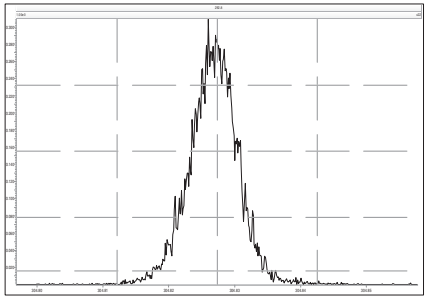
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:24:24 Eastern Standard Time

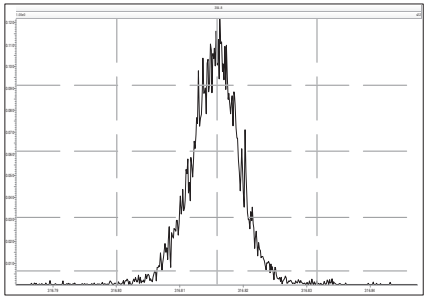
M 292.9824 R 16999



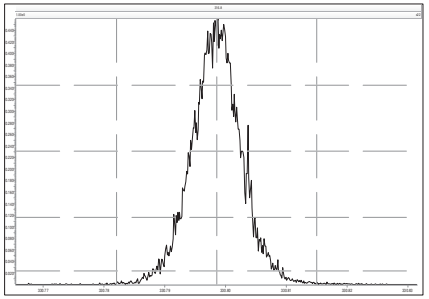
M 304.9824 R 17238



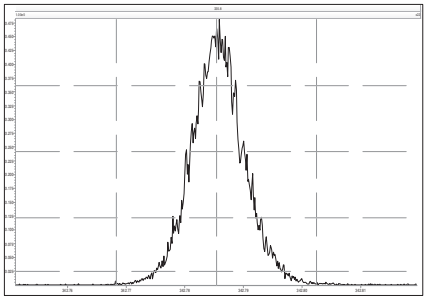
M 316.9824 R 17125



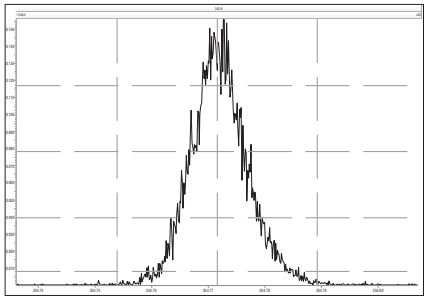
M 330.9792 R 16777



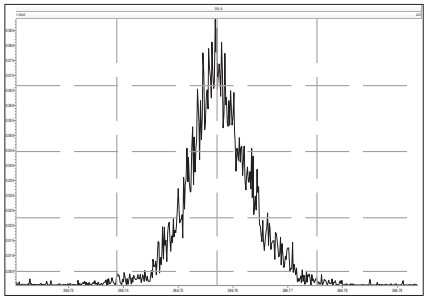
M 342.9792 R 15628



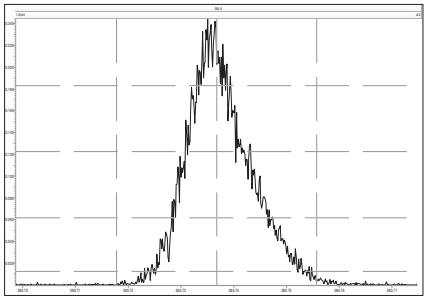
M 354.9792 R 15237



M 366.9792 R 13886



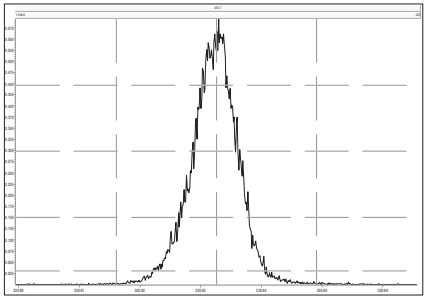
M 380.9760 R 13299



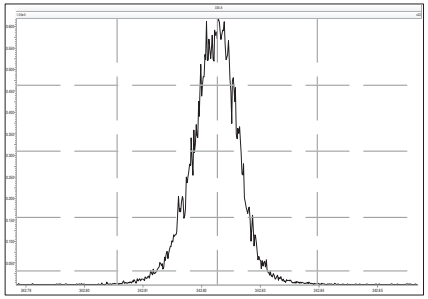
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:24:40 Eastern Standard Time

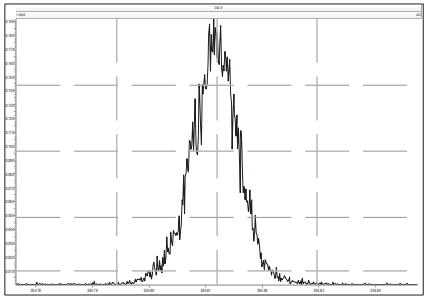
M 330.9792 R 17858



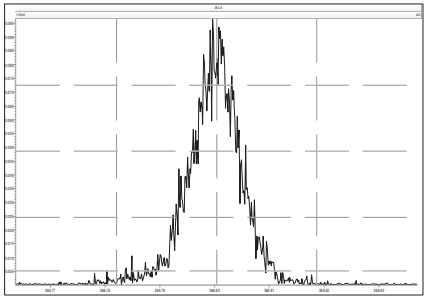
M 342.9792 R 17728



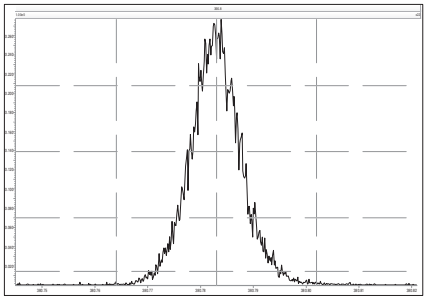
M 354.9792 R 18384



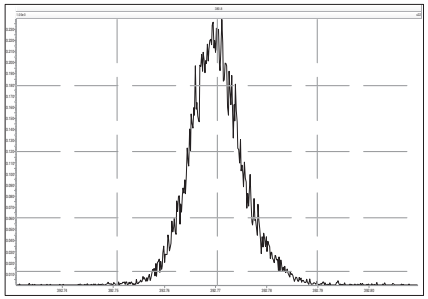
M 366.9792 R 16890



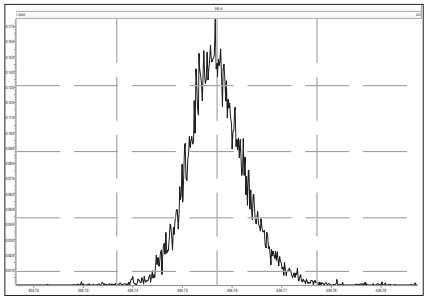
M 380.9760 R 16670



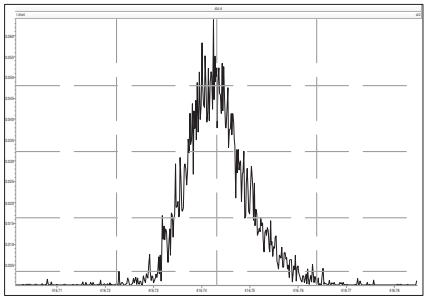
M 392.9760 R 15337



M 404.9760 R 16560



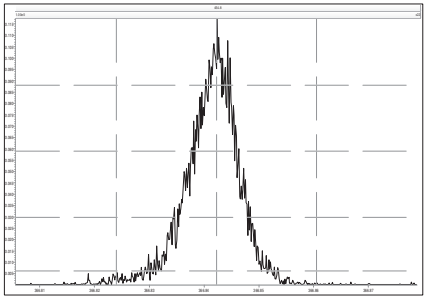
M 416.9760 R 15724



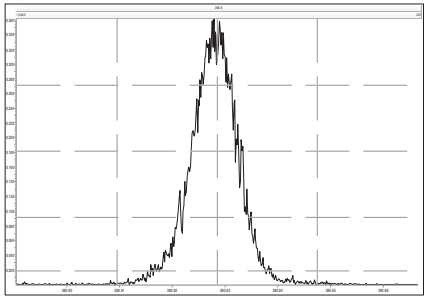
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:24:57 Eastern Standard Time

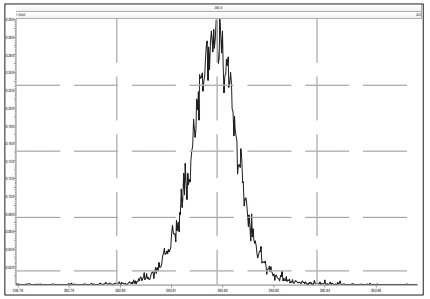
M 366.9792 R 17242



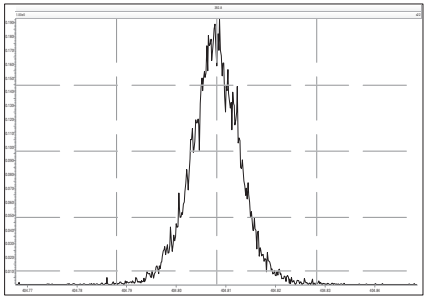
M 380.9760 R 17855



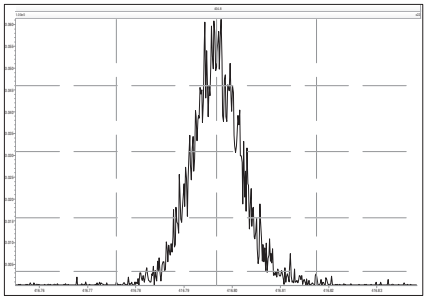
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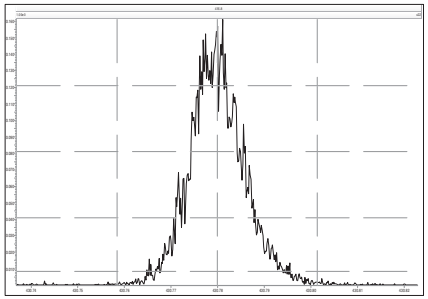
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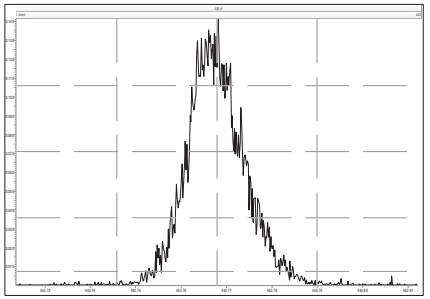
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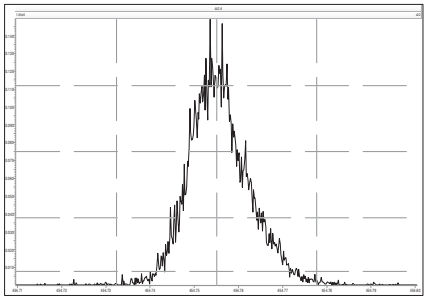
M 430.9728 R 15152



M 442.9728 R 16133



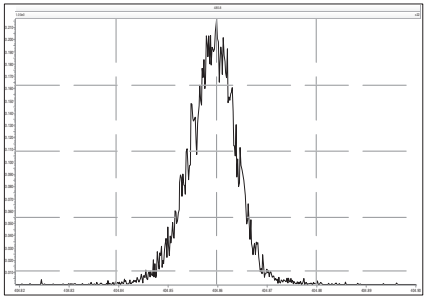
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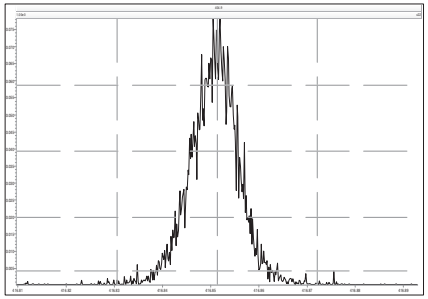
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Sunday, January 23, 2022 12:25:13 Eastern Standard Time

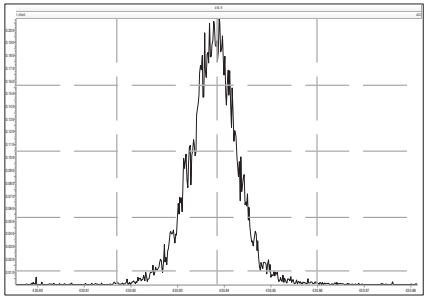
M 404.9760 R 19078



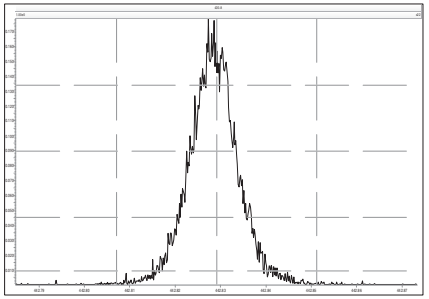
M 416.9760 R 18247



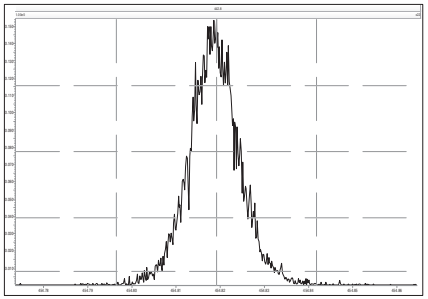
M 430.9728 R 19383



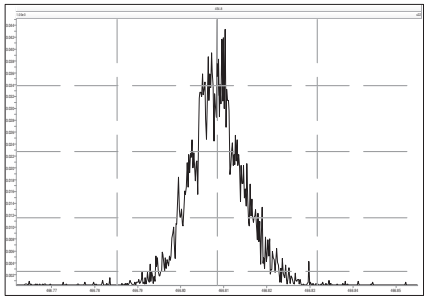
M 442.9728 R 18657



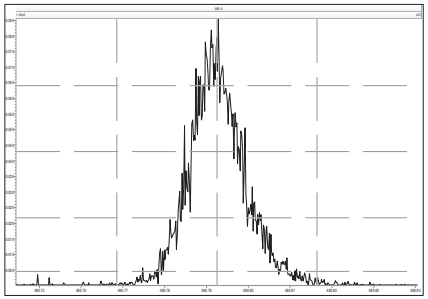
M 454.9728 R 16776



M 466.9728 R 16130



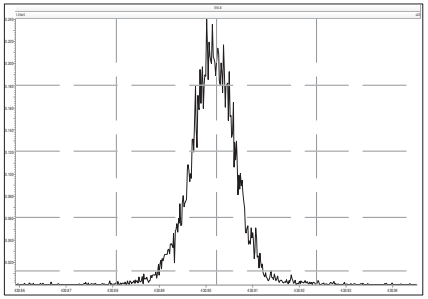
M 480.9696 R 15243



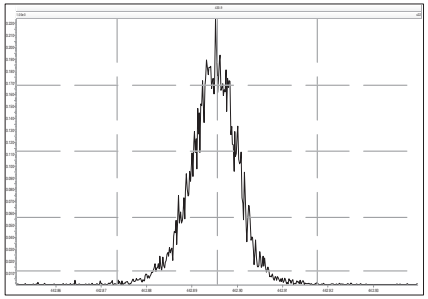
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

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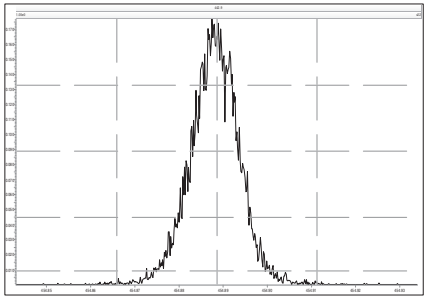
M 430.9728 R 19230



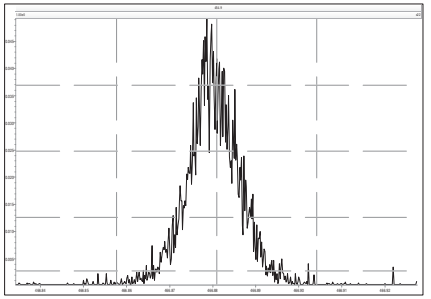
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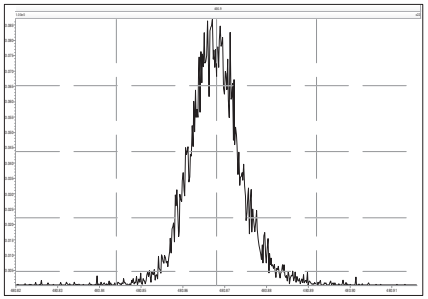
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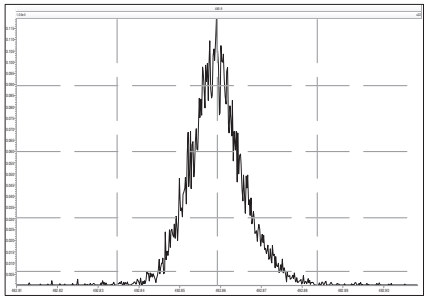
M 466.9728 R 17855



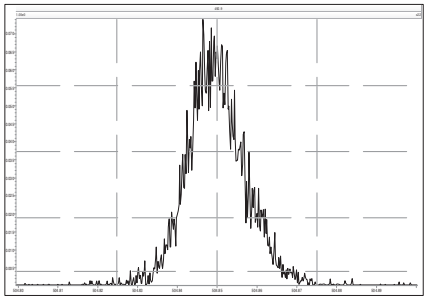
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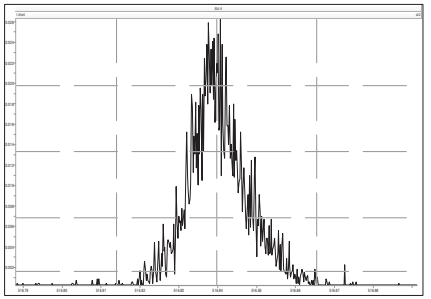
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M 504.9696 R 15623

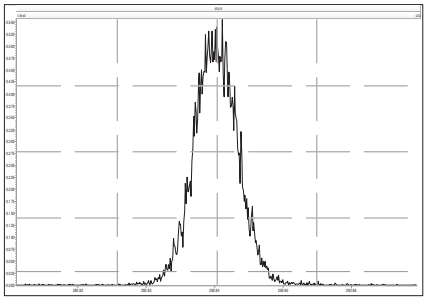


M 516.9697 R 14798

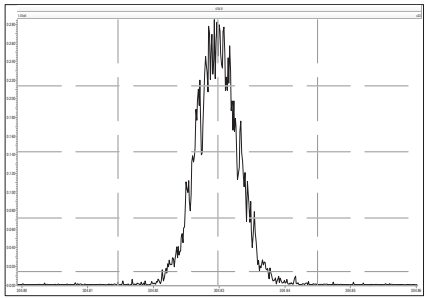


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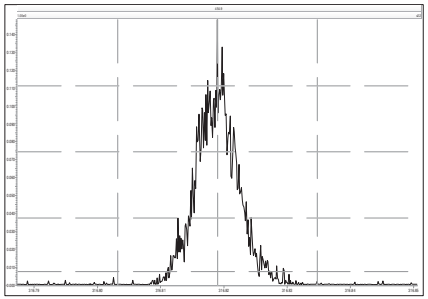
M 292.9824 R 19695



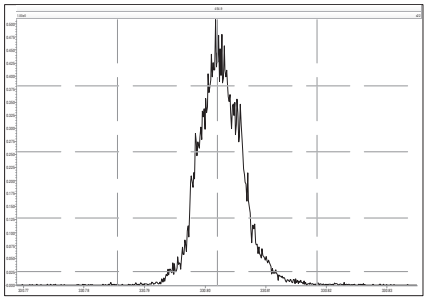
M 304.9824 R 19763



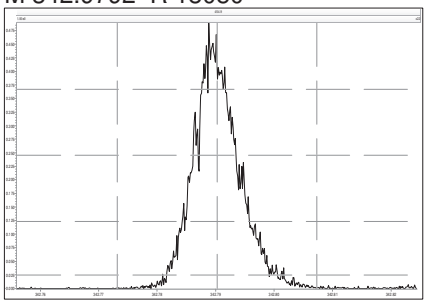
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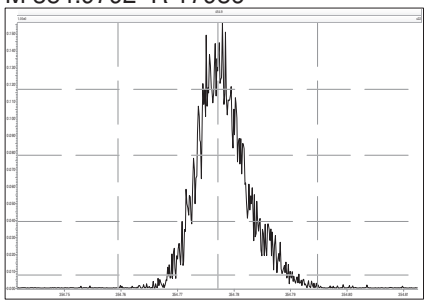
M 330.9792 R 18315



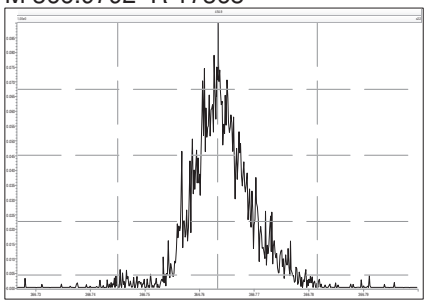
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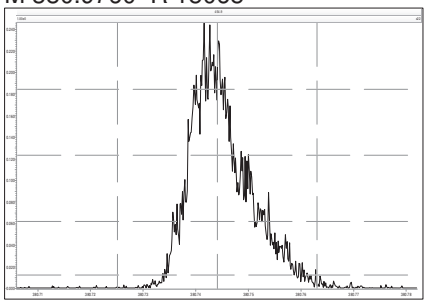
M 354.9792 R 17986



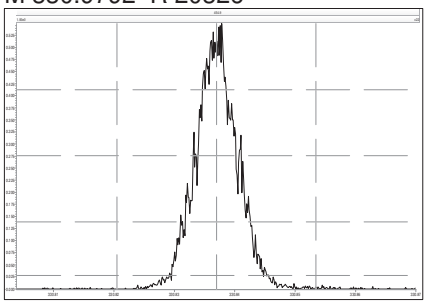
M 366.9792 R 17368



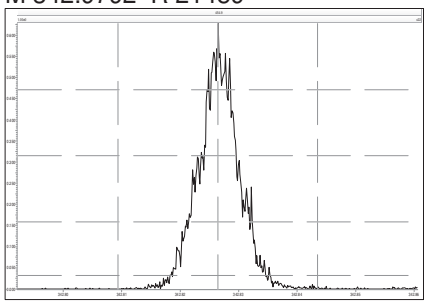
M 380.9760 R 15065



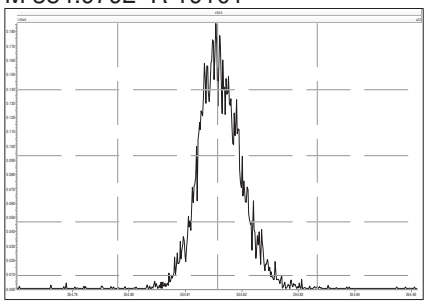
M 330.9792 R 20326



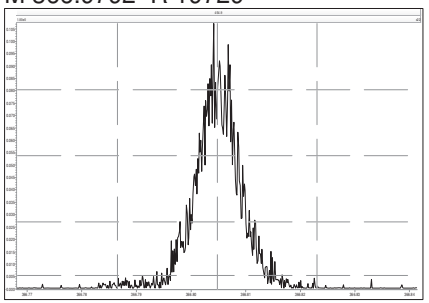
M 342.9792 R 21459



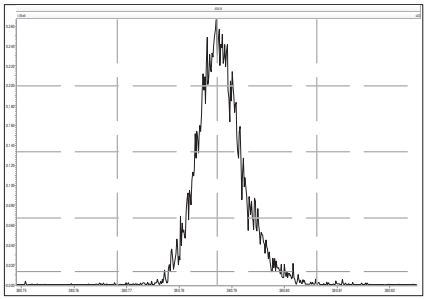
M 354.9792 R 19101



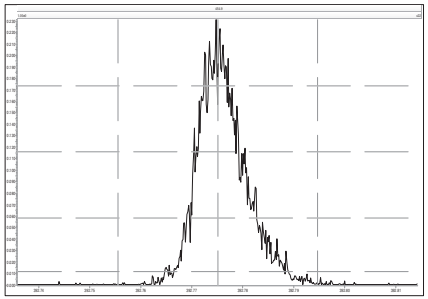
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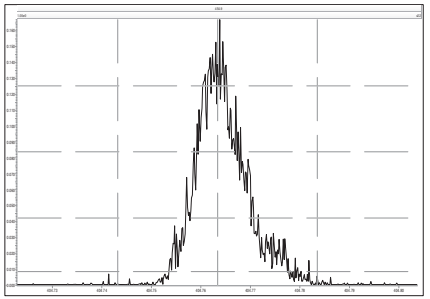
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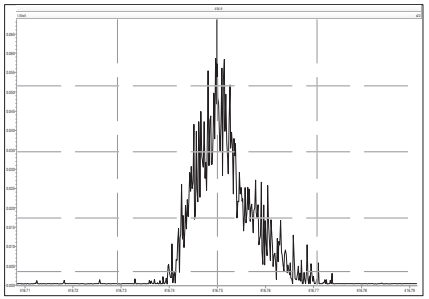
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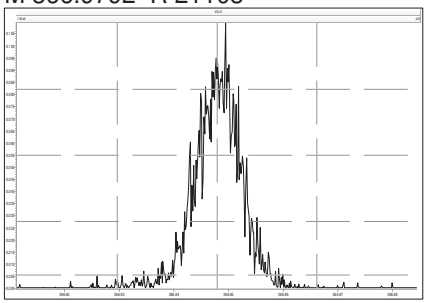
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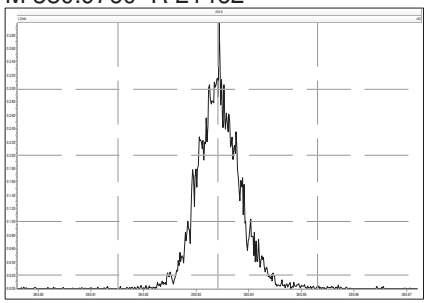
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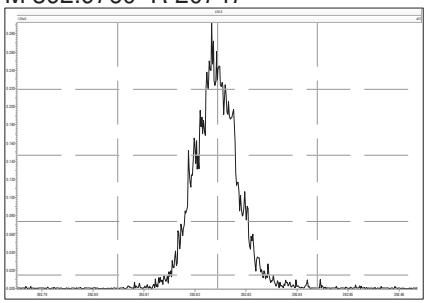
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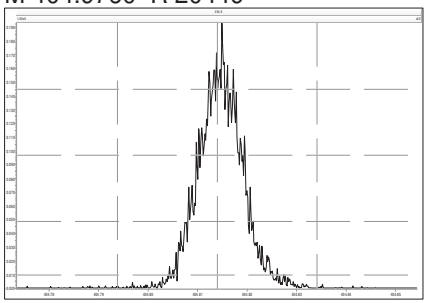
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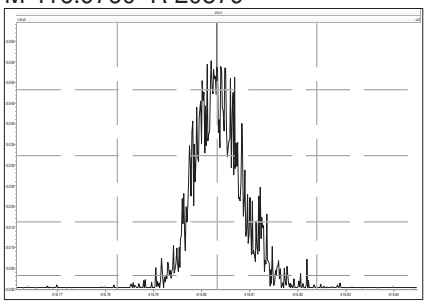
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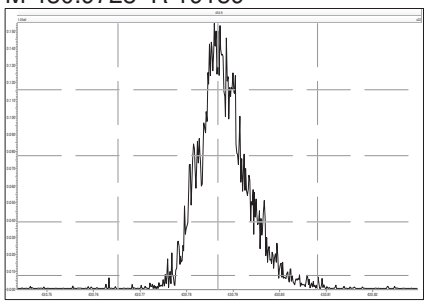
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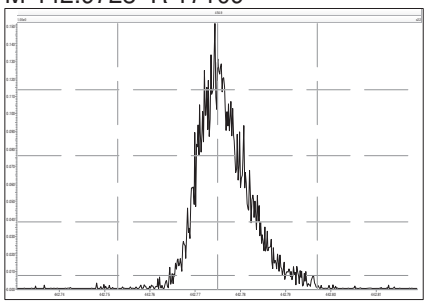
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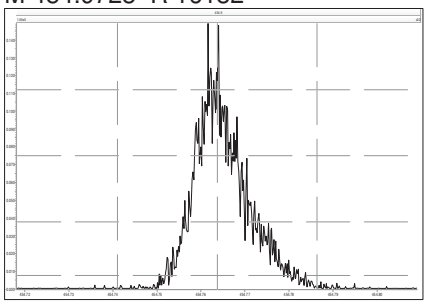
M 430.9728 R 19159



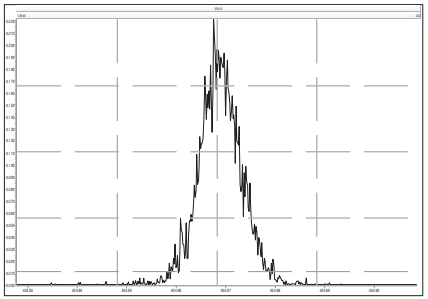
M 442.9728 R 17109



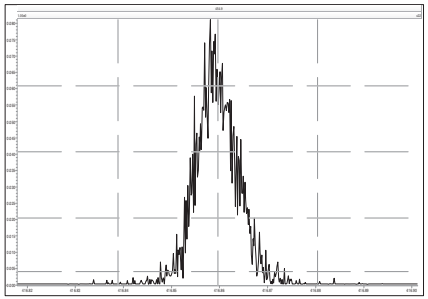
M 454.9728 R 16182



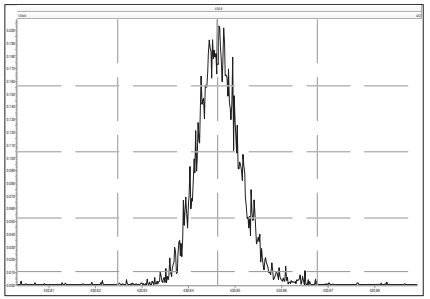
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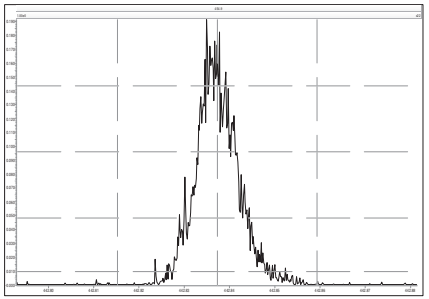
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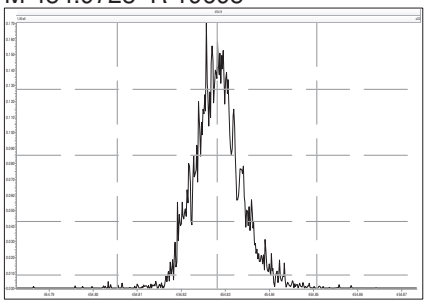
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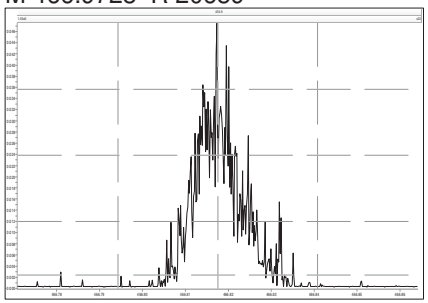
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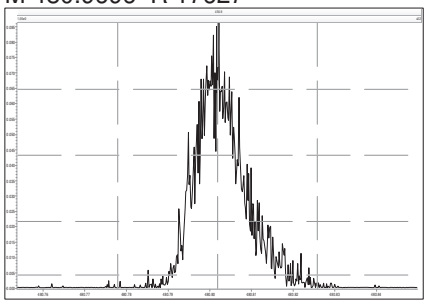
M 454.9728 R 19695



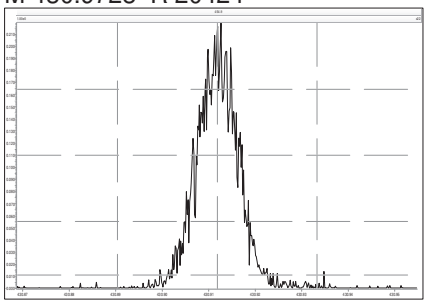
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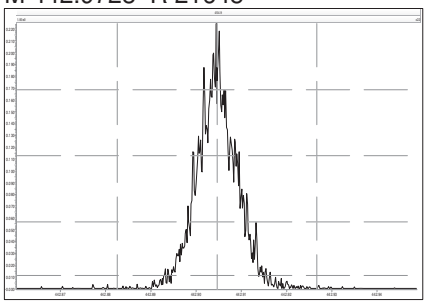
M 480.9696 R 17627



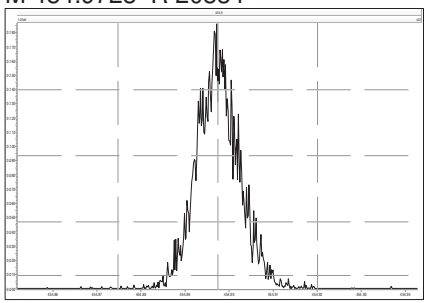
M 430.9728 R 20424



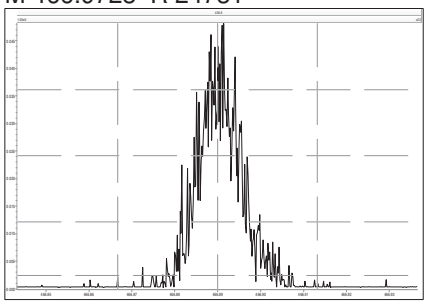
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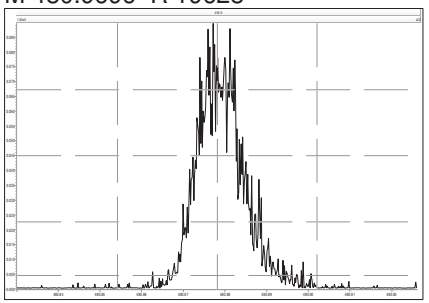
M 454.9728 R 20834



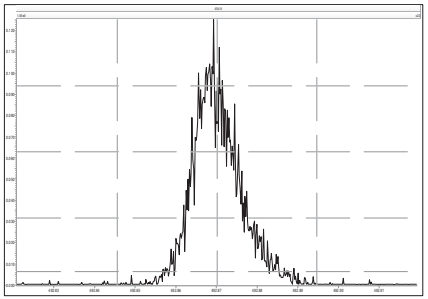
M 466.9728 R 24731



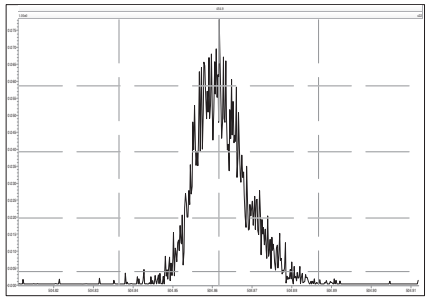
M 480.9696 R 19628



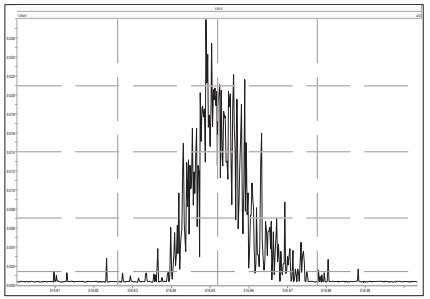
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M 504.9696 R 18295



M 516.9697 R 20584



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

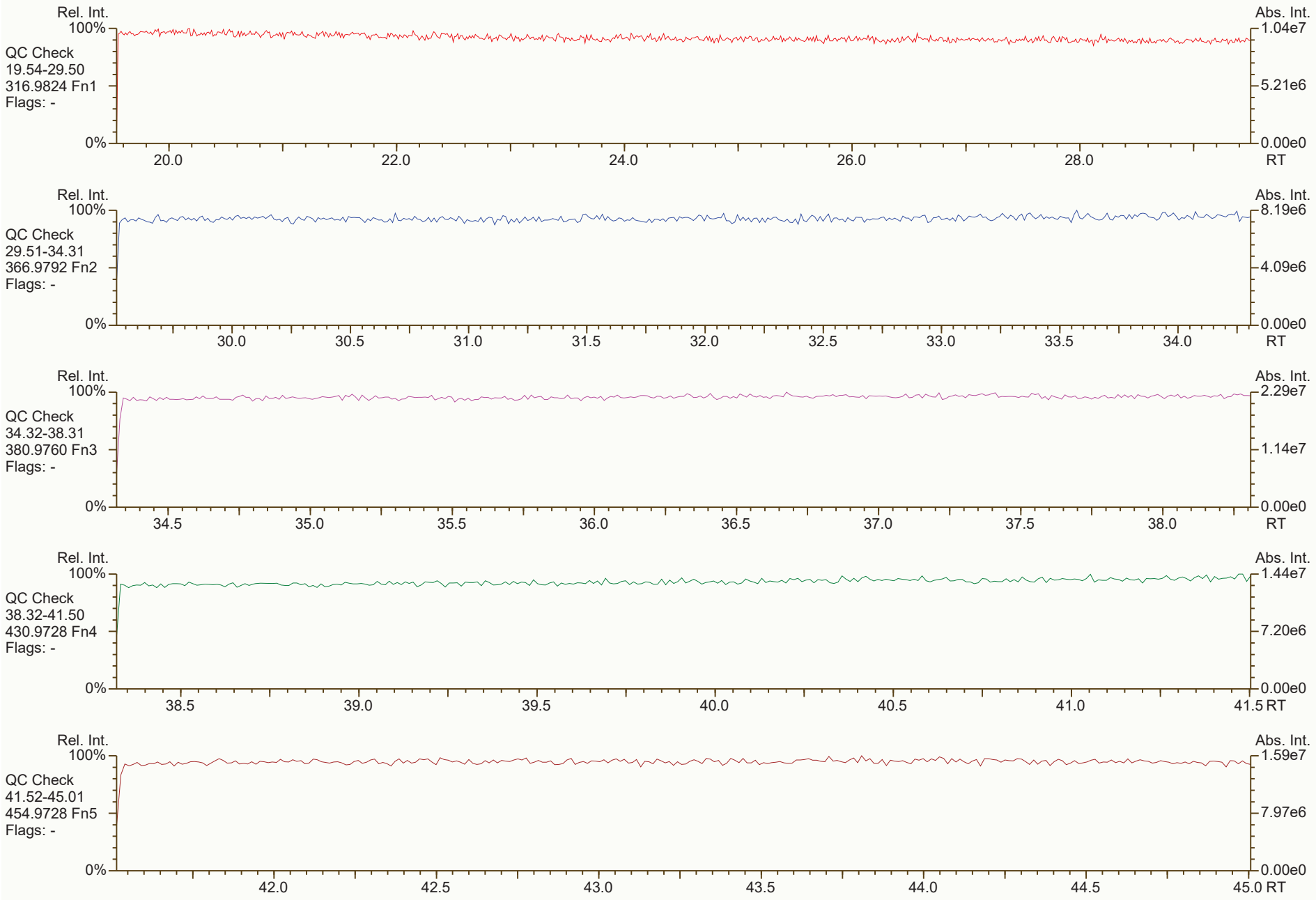
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

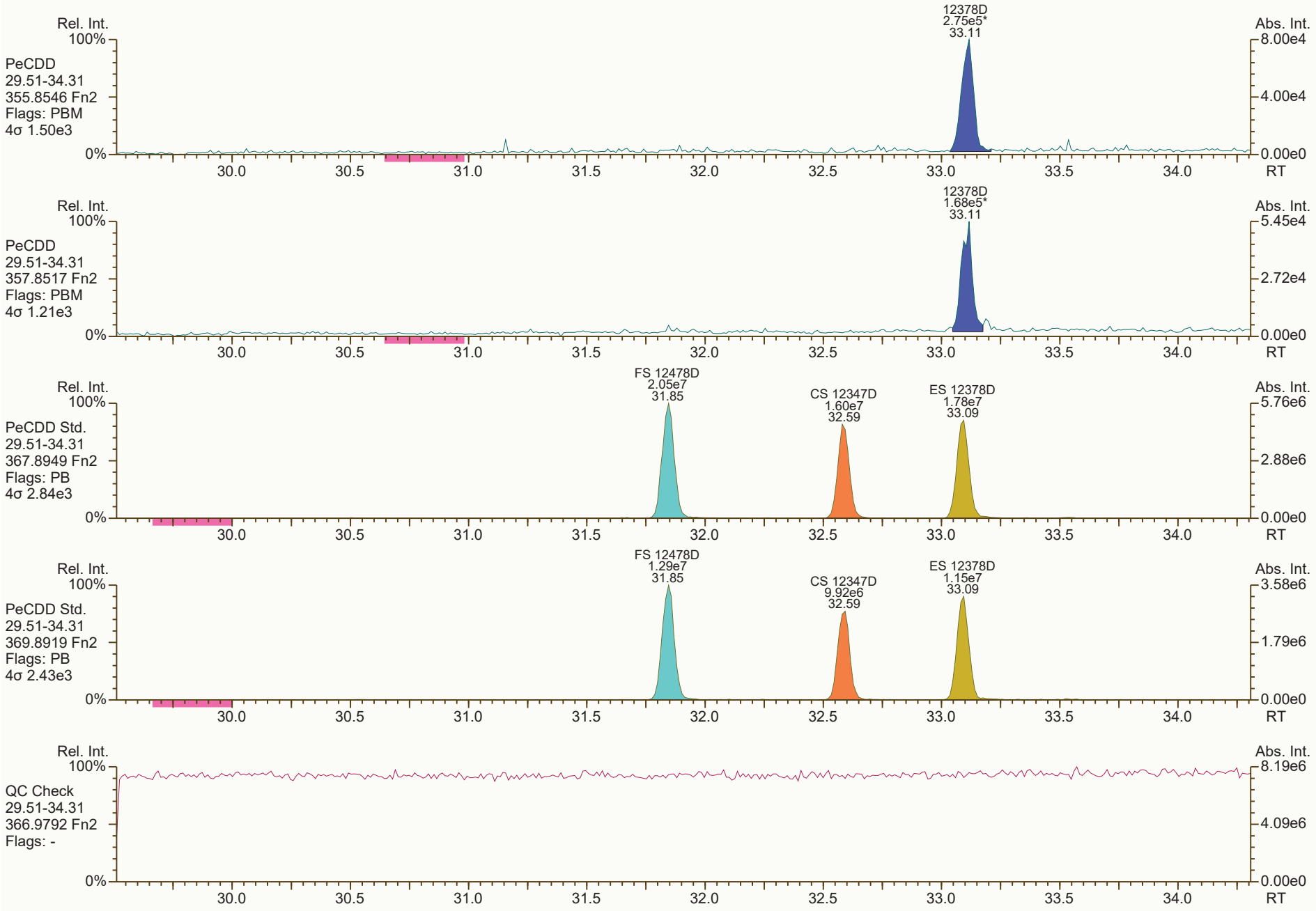
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

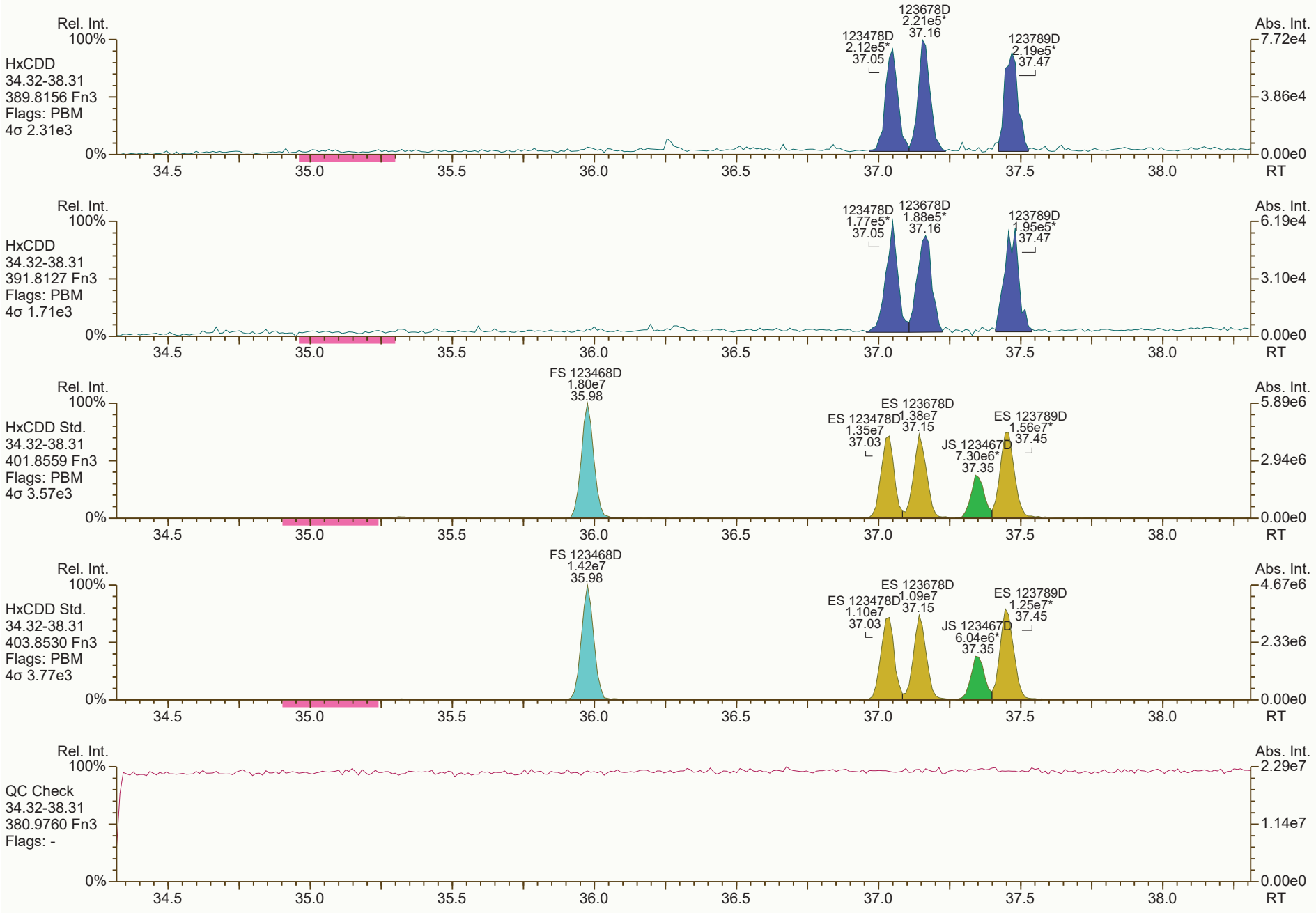
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

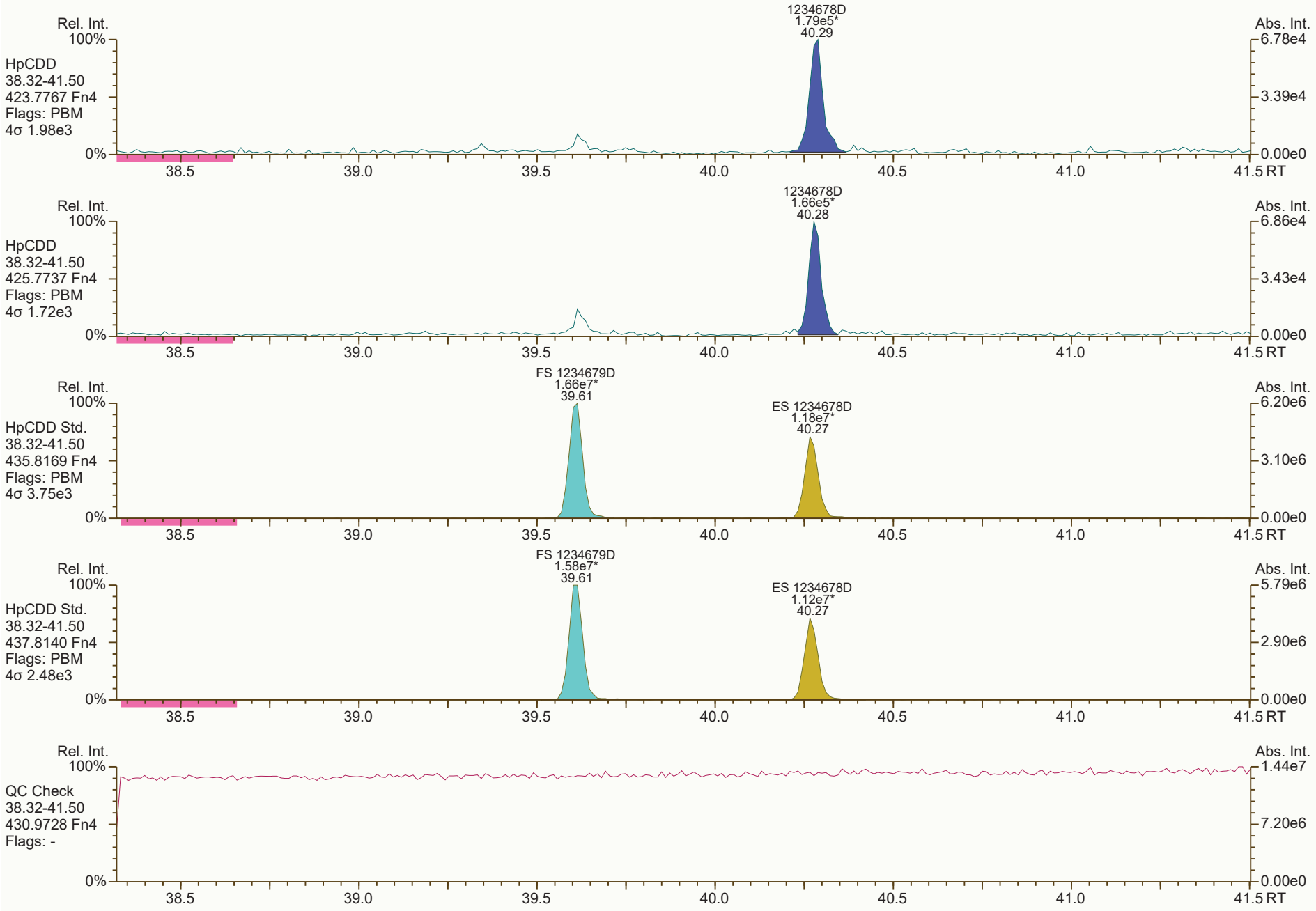
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

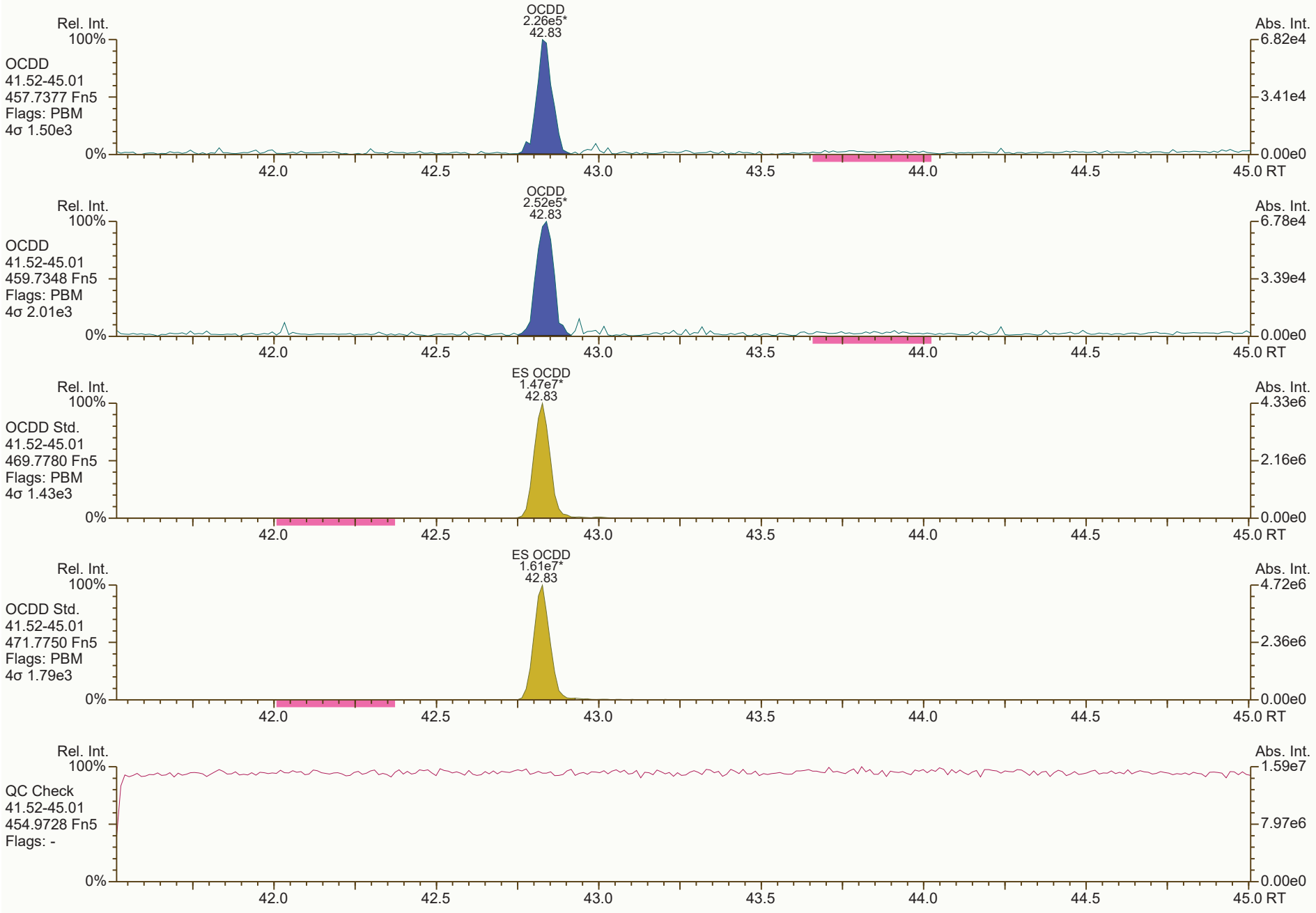

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.19e6
4.09e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.29e7
1.14e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.44e7
7.20e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.59e7
7.97e6
0.00e0
RT

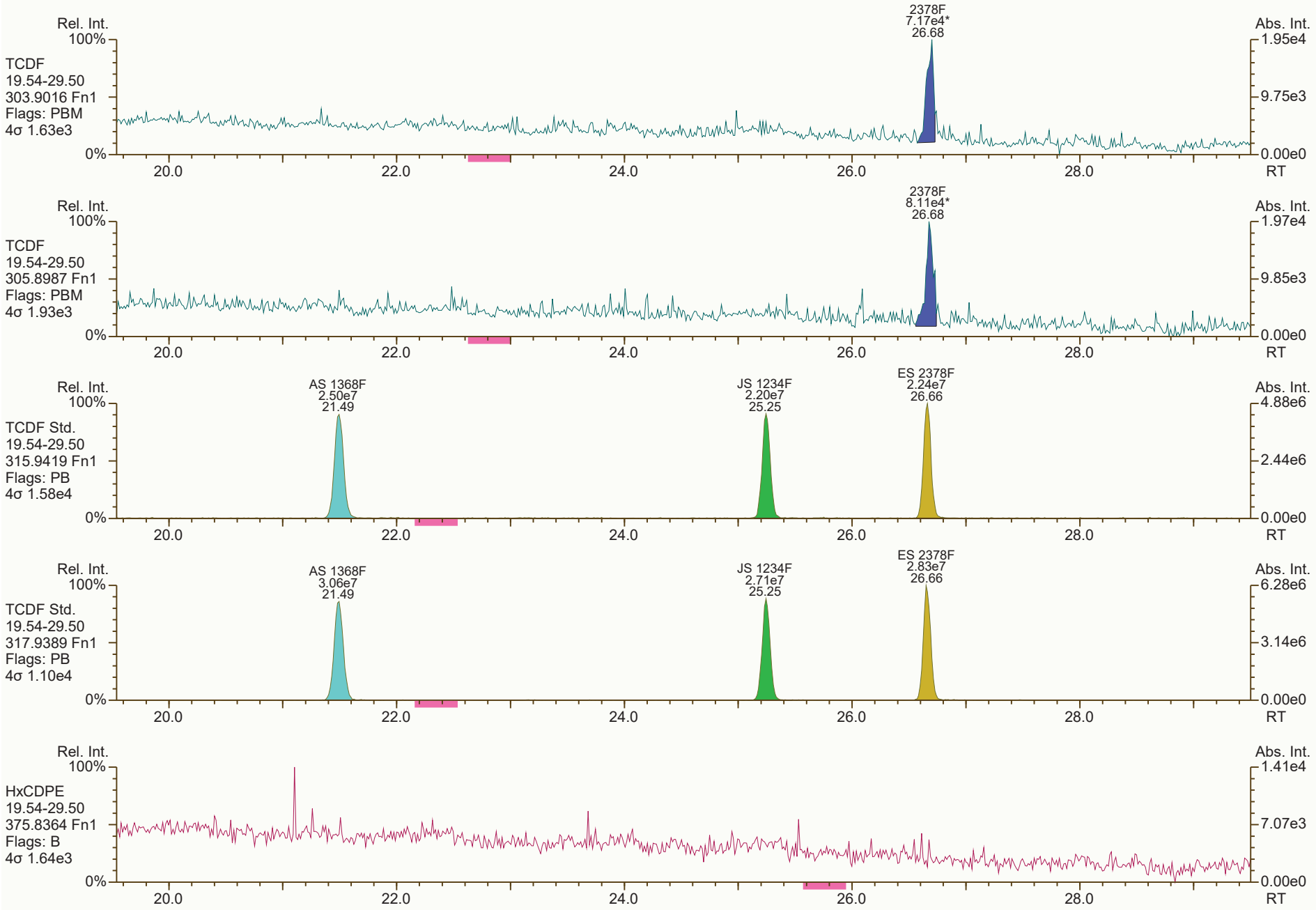

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
0%
2378D
6.64e4*
27.59
Abs. Int.
2.13e4
1.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.73e3
4.86e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
0%
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
Abs. Int.
4.65e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
0%
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
Abs. Int.
5.85e6
2.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

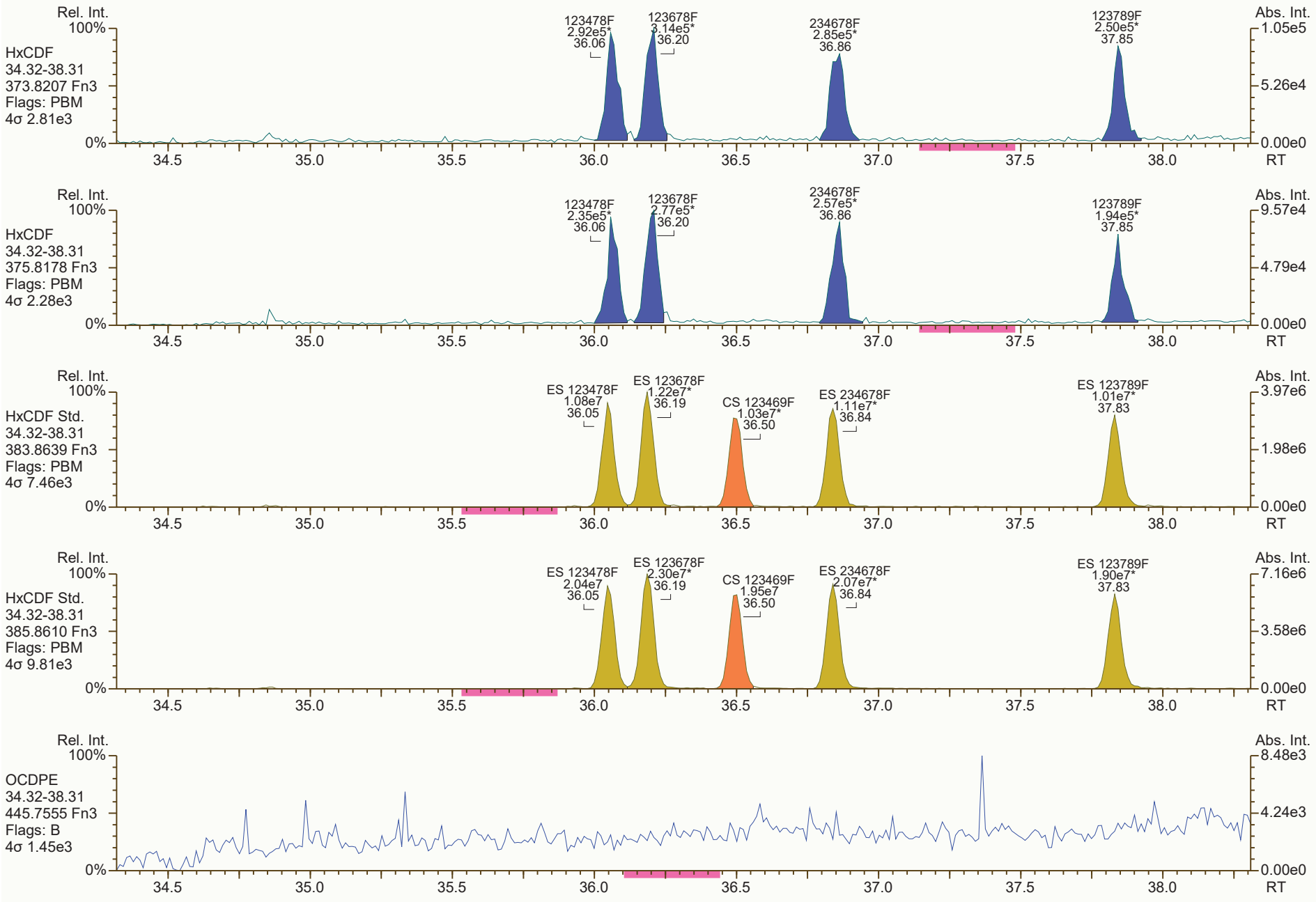

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

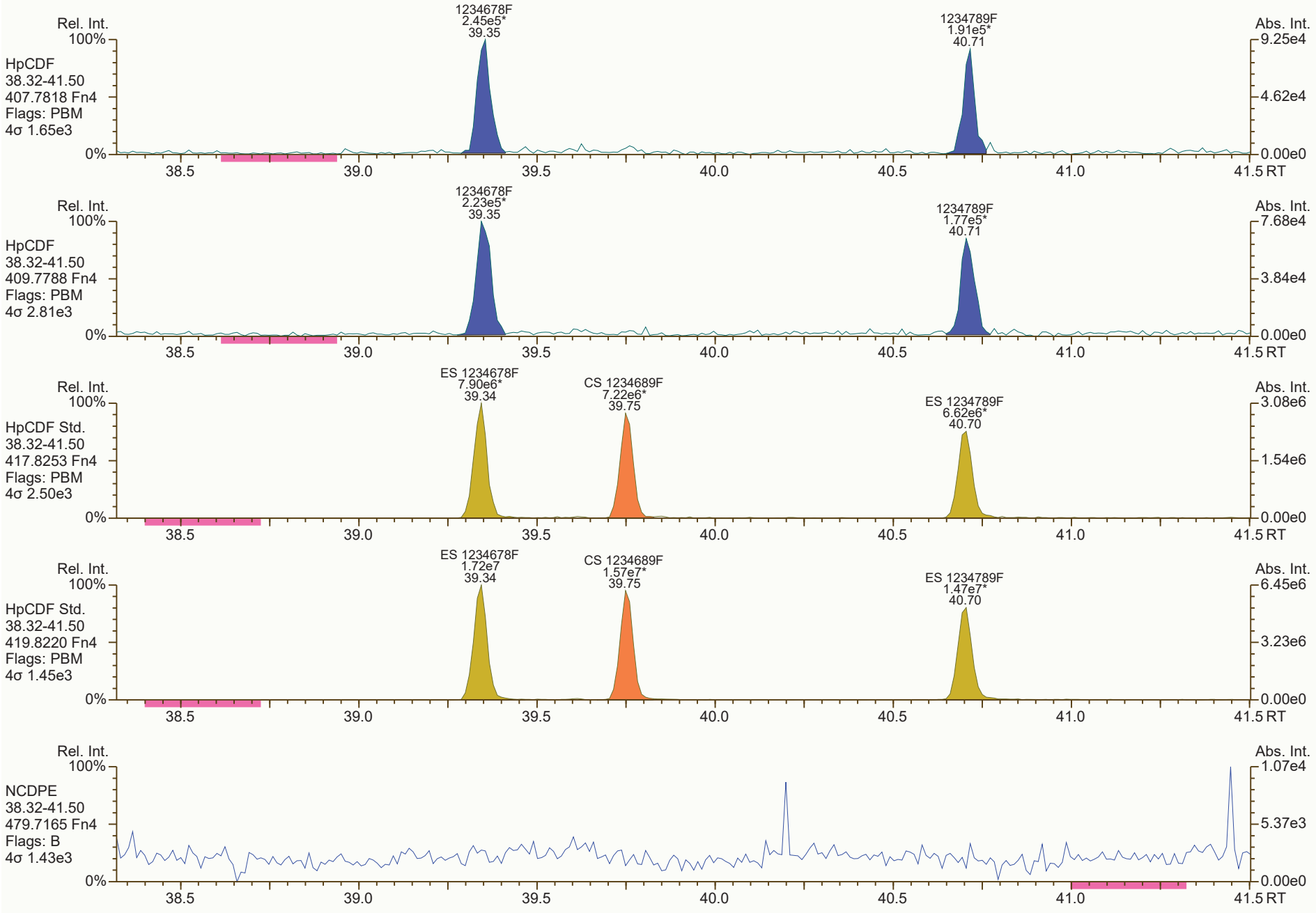

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

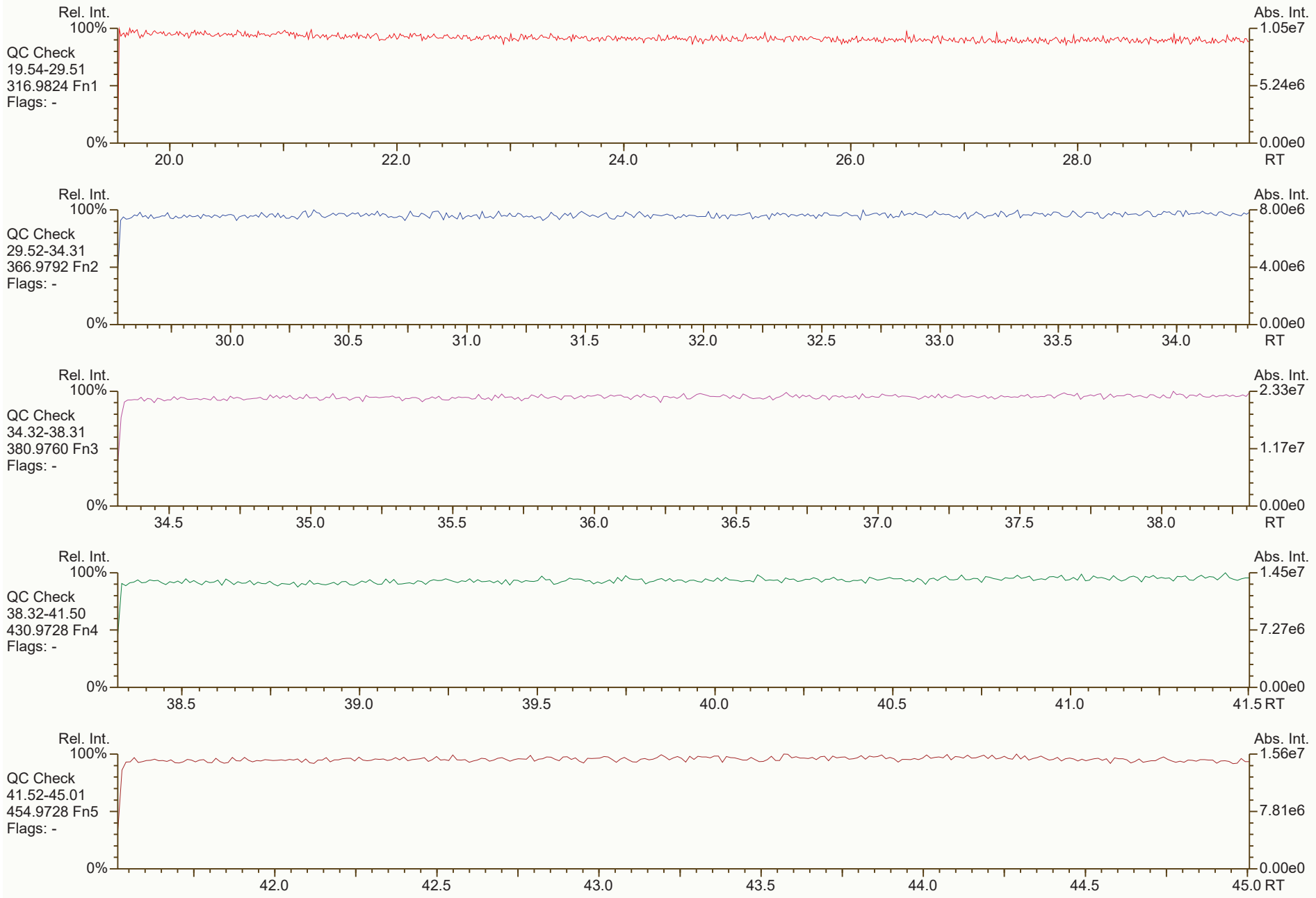

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

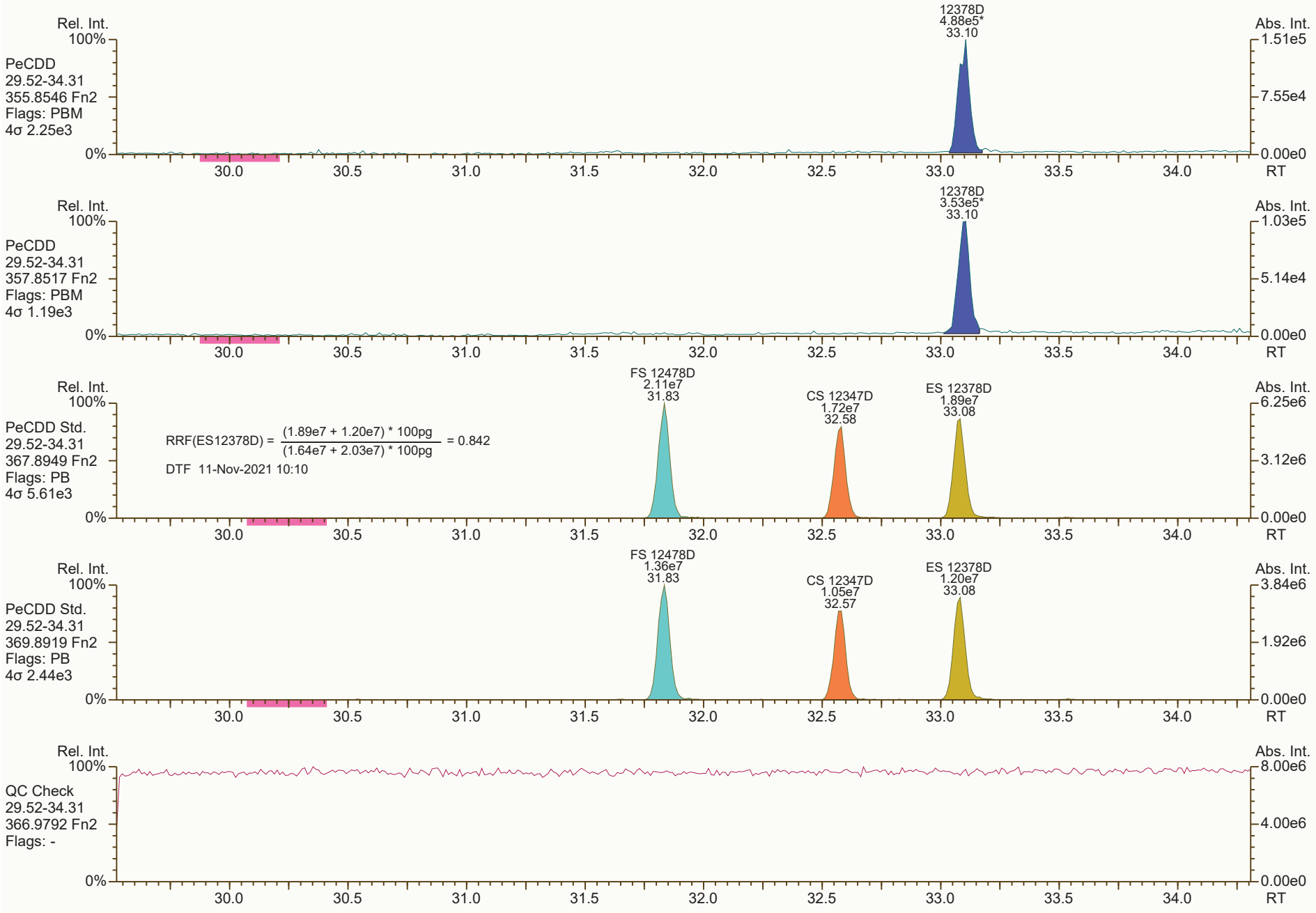
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

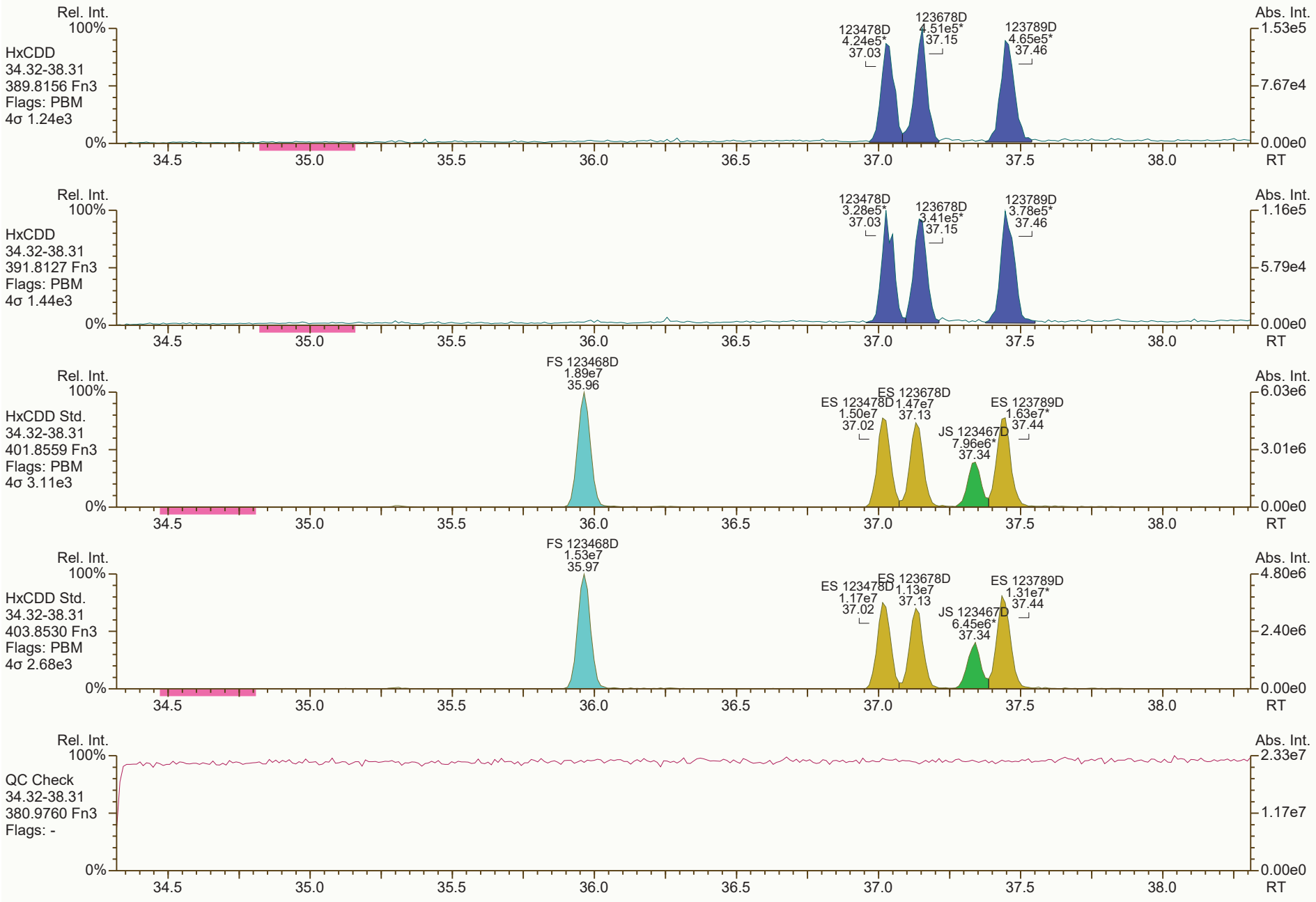
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

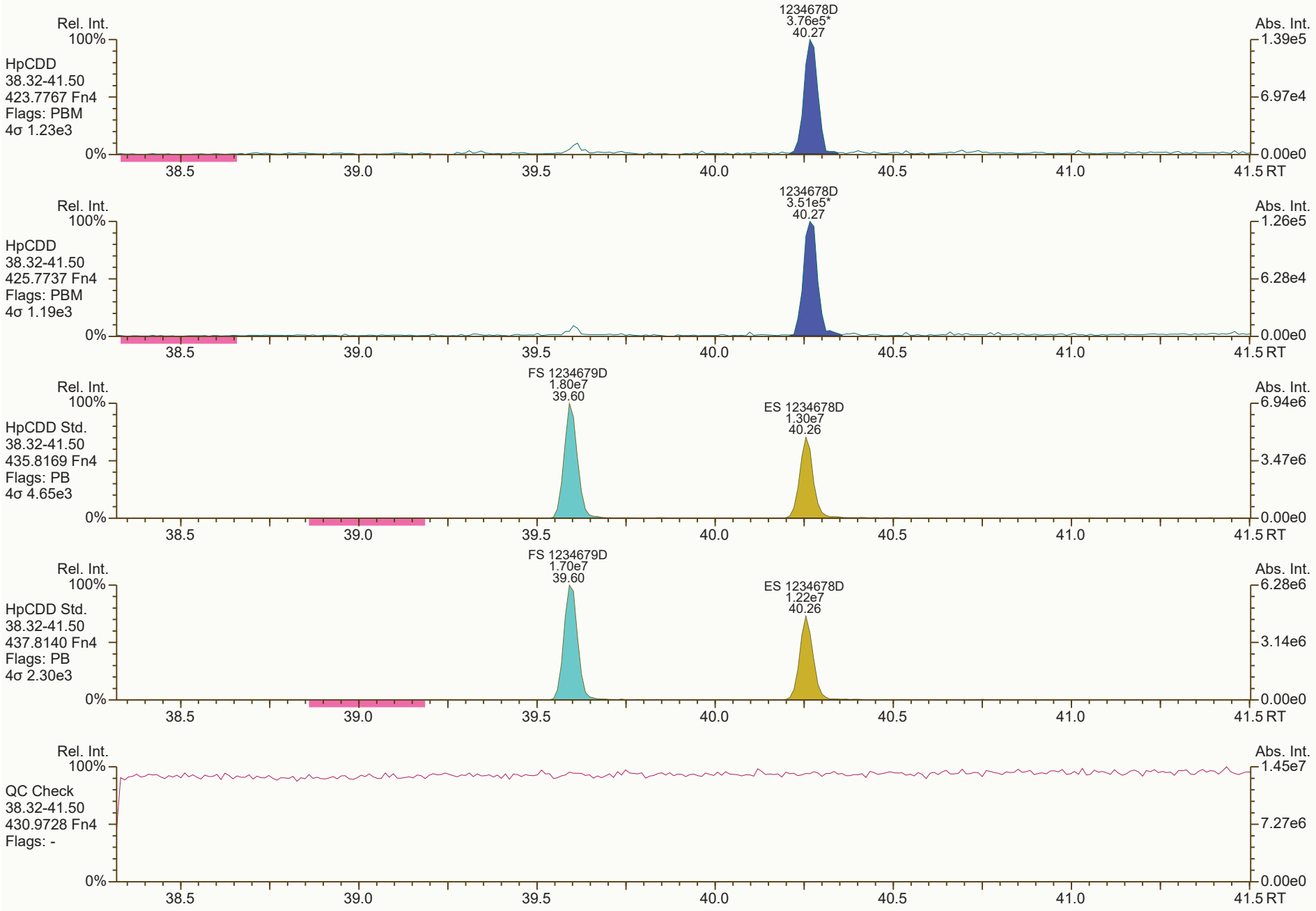
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

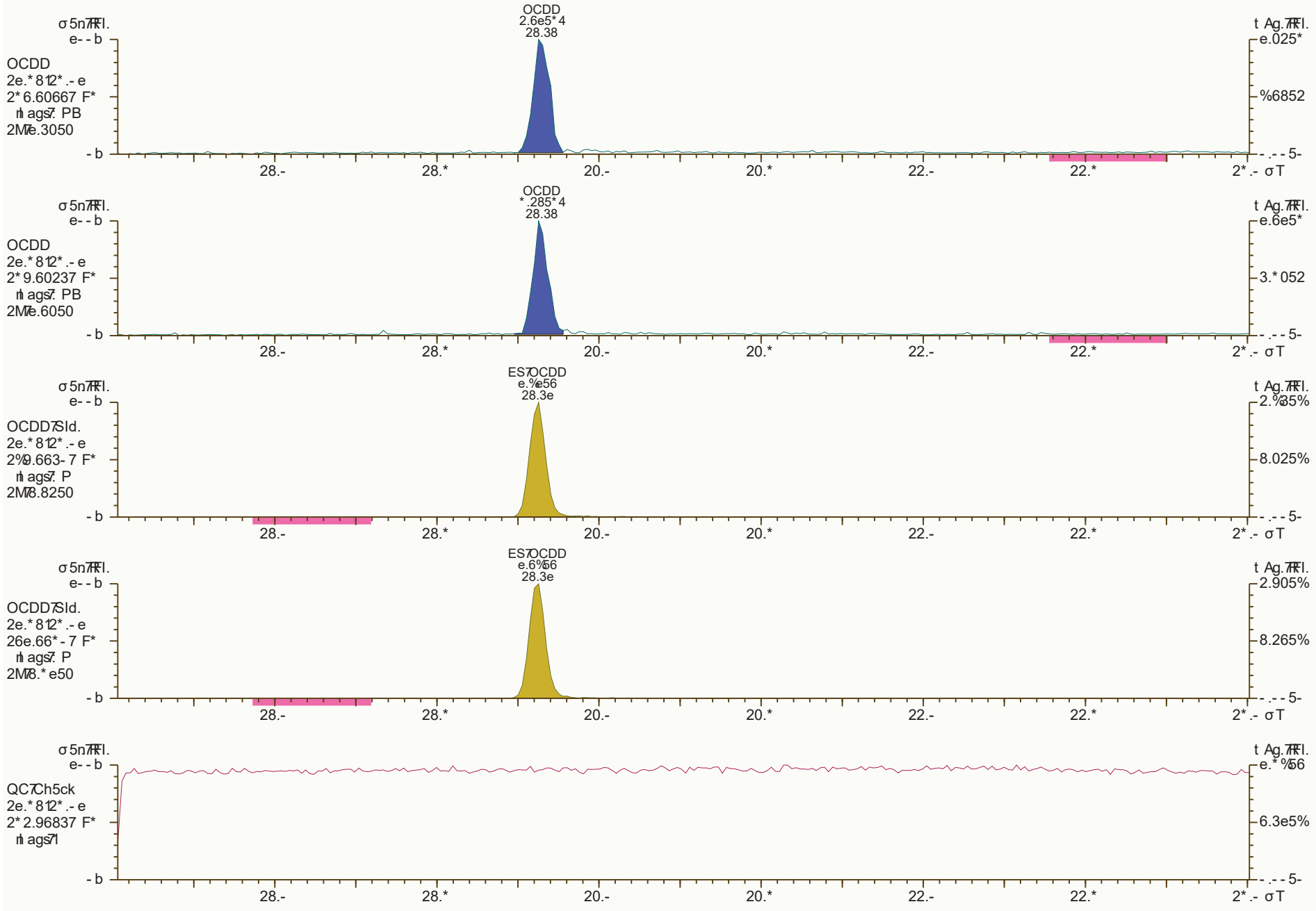

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.05e7
5.24e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.00e6
4.00e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.33e7
1.17e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.45e7
7.27e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.56e7
7.81e6
0.00e0
RT

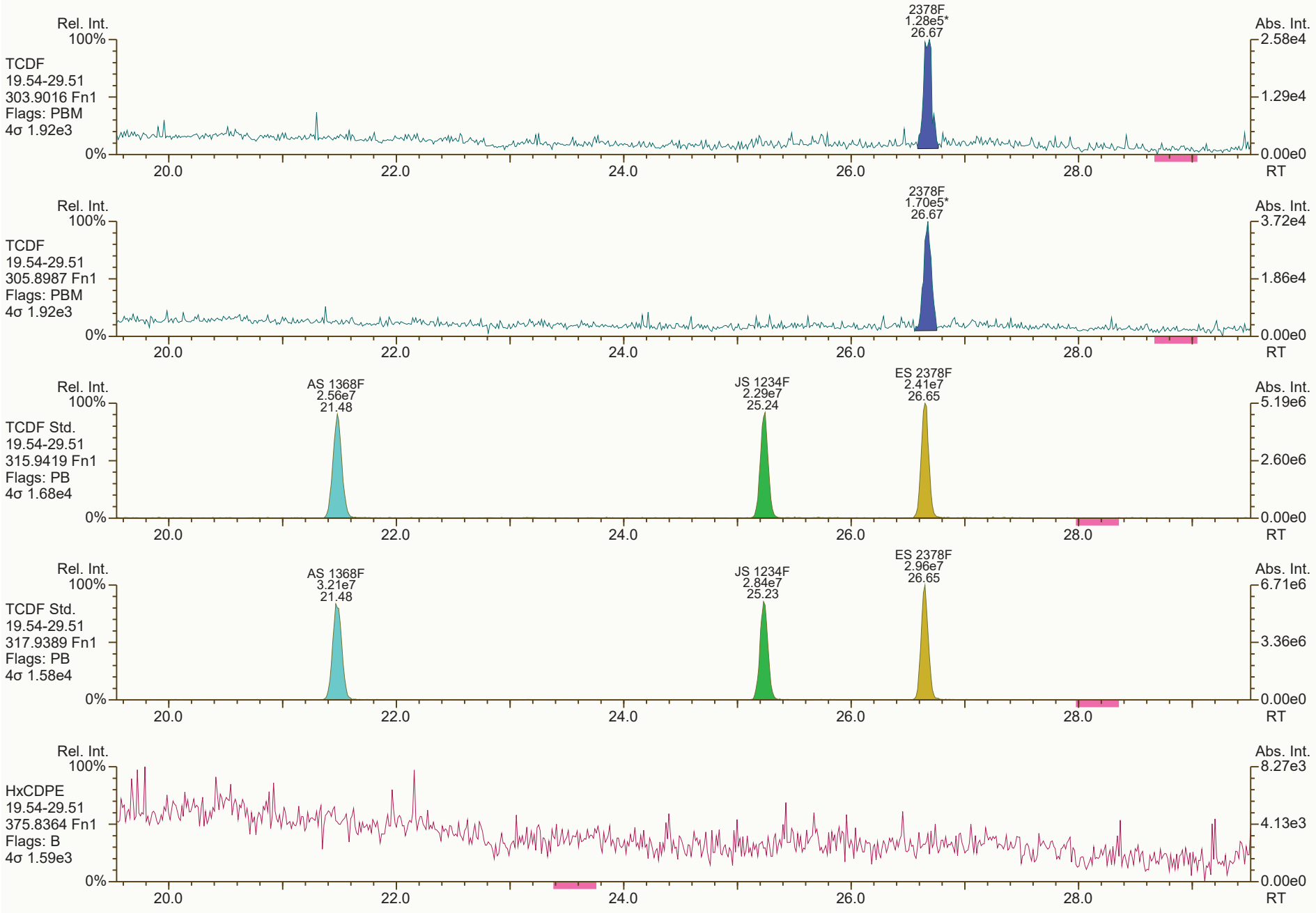

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

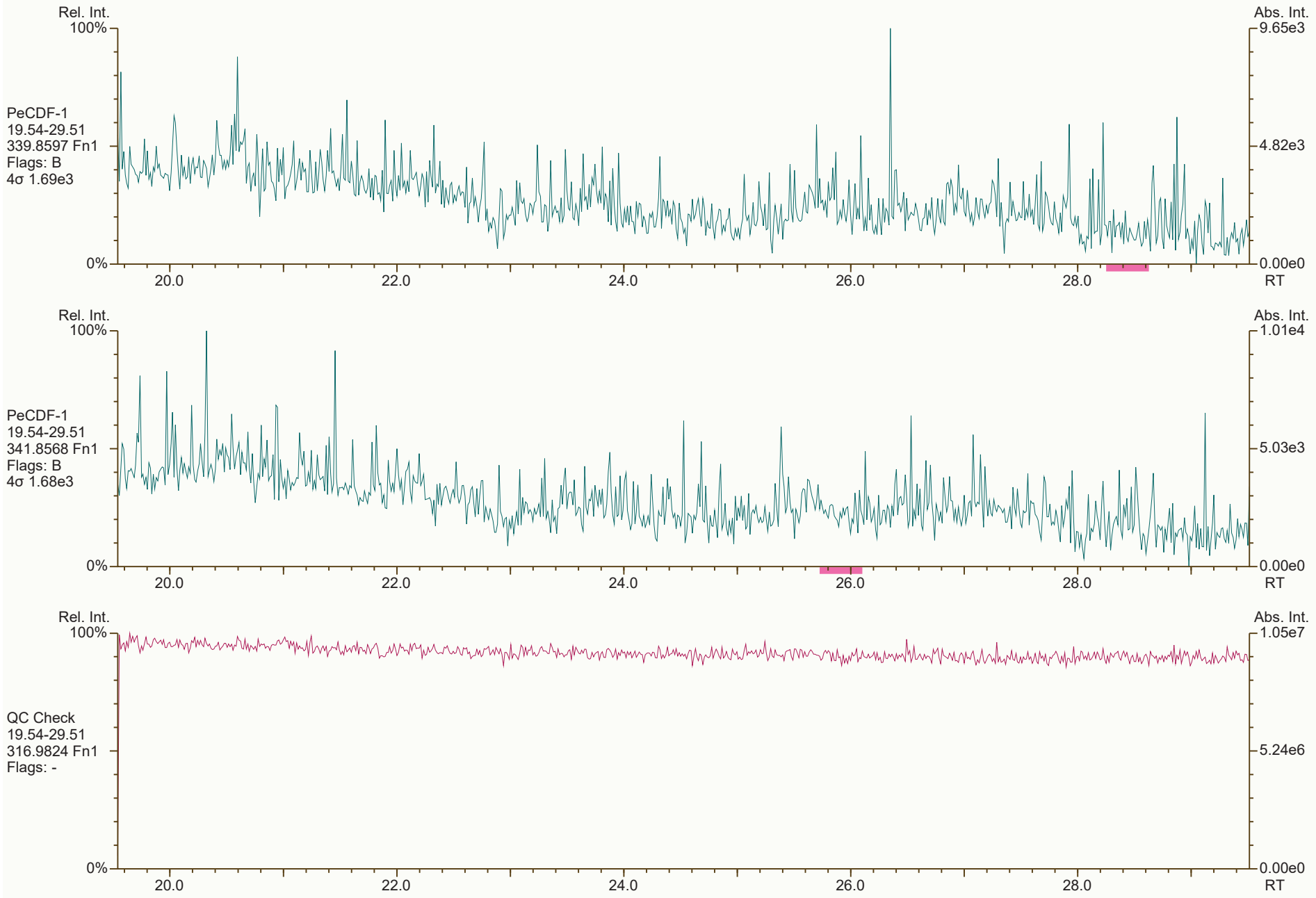

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

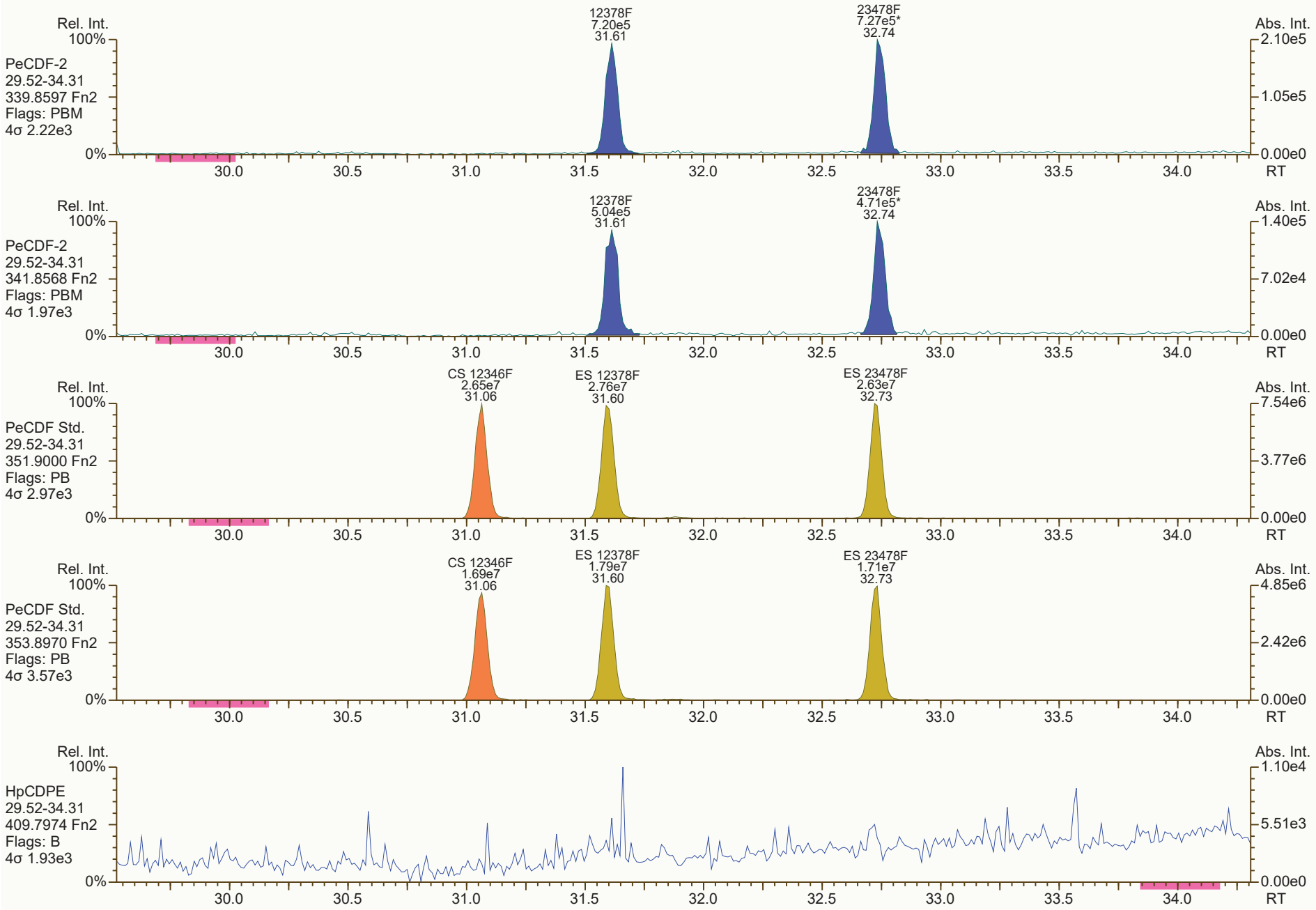

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

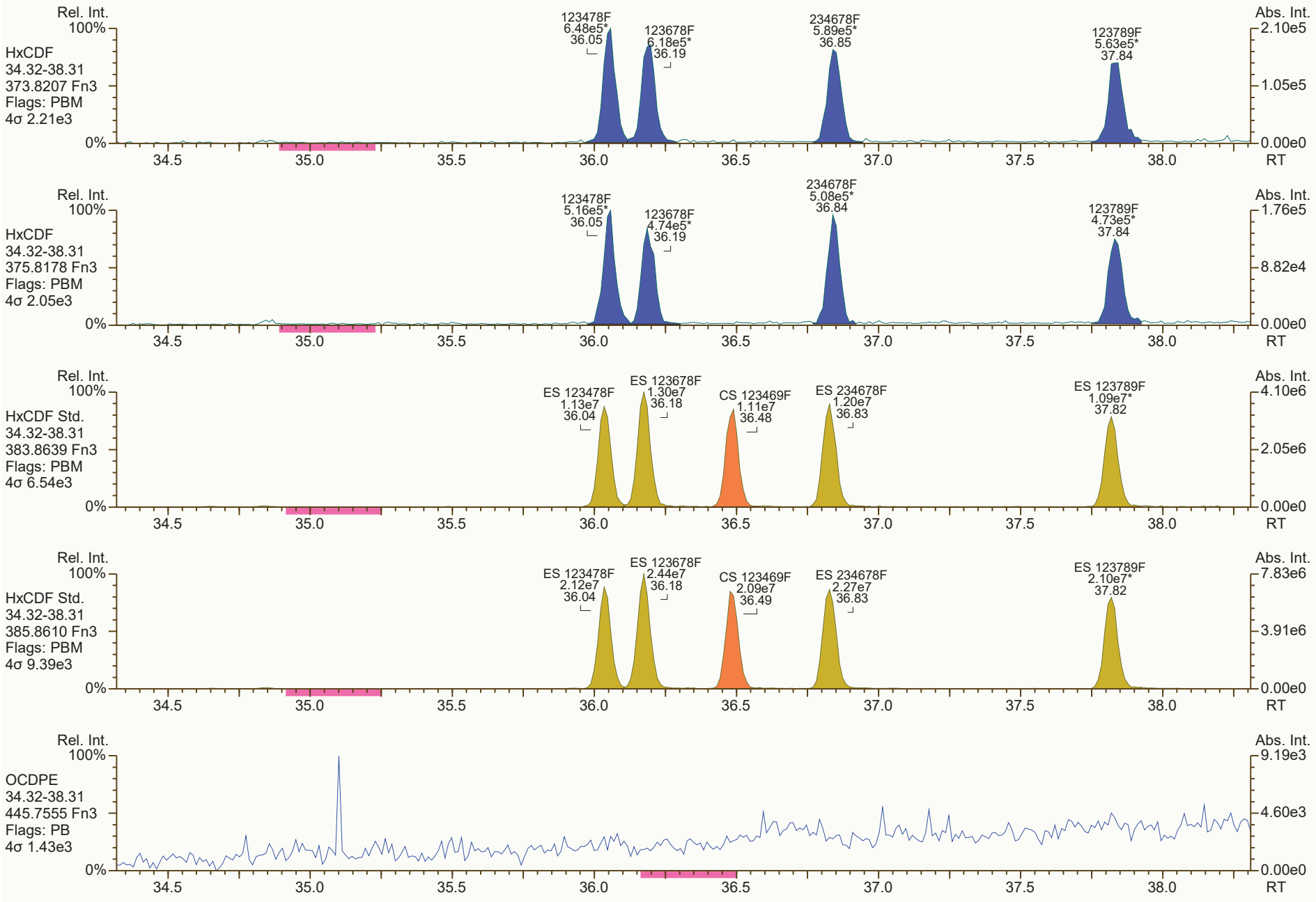

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

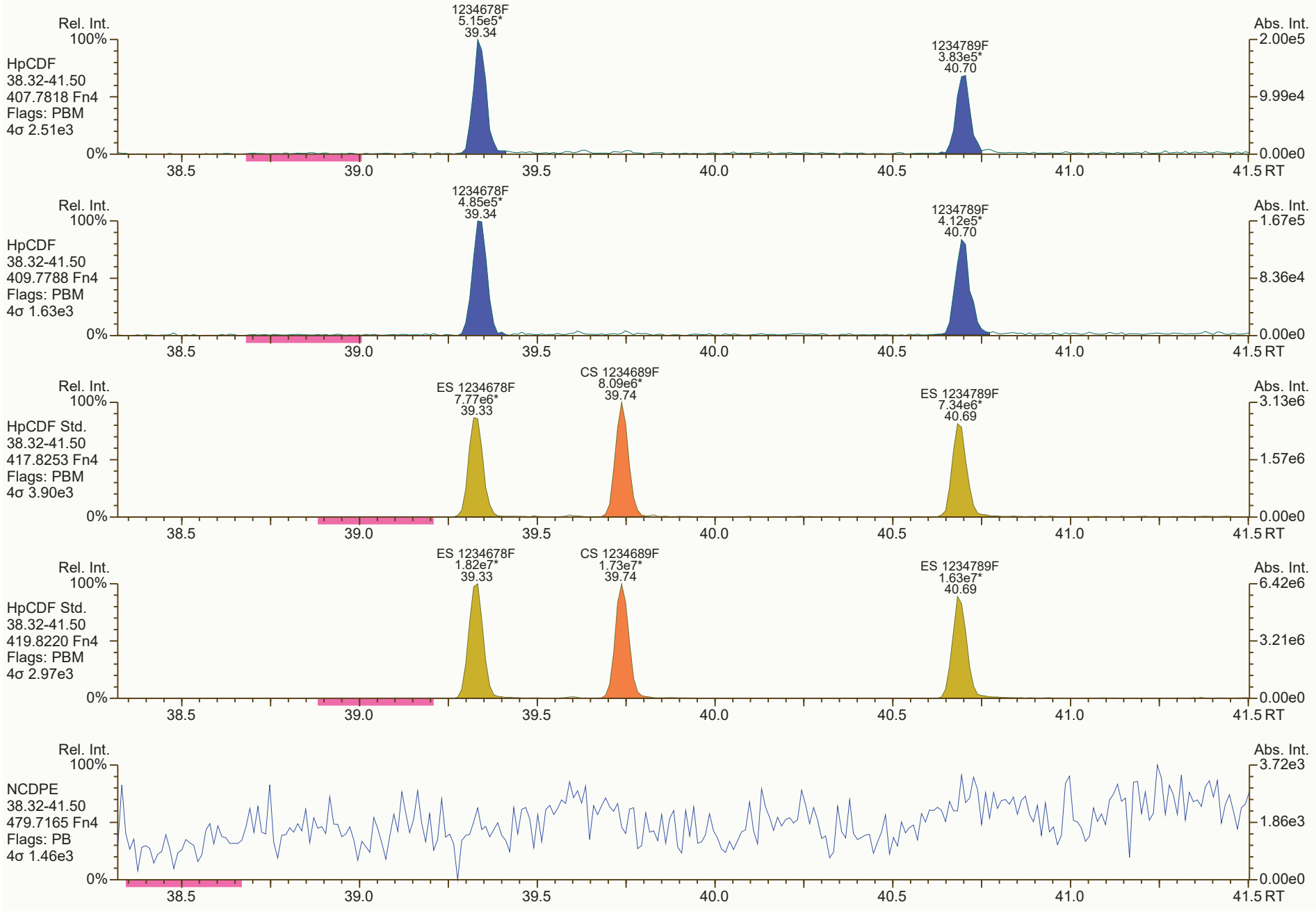

OCDD
2.6e5* 4
28.38
OCDD
2e.* 812* .- e
2* 6.60667 F*
m agsv. PB
2M e.3050
%6852
28.-
28.*
20.-
20.*
22.-
22.*
OCDD
* .285* 4
28.38
OCDD
2e.* 812* .- e
2* 9.60237 F*
m agsv. PB
2M e.6050
3.* 052
ES7OCDD
28.3e
OCDD7Sld.
2e.* 812* .- e
2%9.663- 7 F*
m agsv. P
2M 8.8250
8.025%
ES7OCDD
28.3e
OCDD7Sld.
2e.* 812* .- e
26e.66* - 7 F*
m agsv. P
2M 8.* e50
2.905%
8.265%
QC7Ch5ck
2e.* 812* .- e
2* 2.96837 F*
m agsv1
6.3e5%

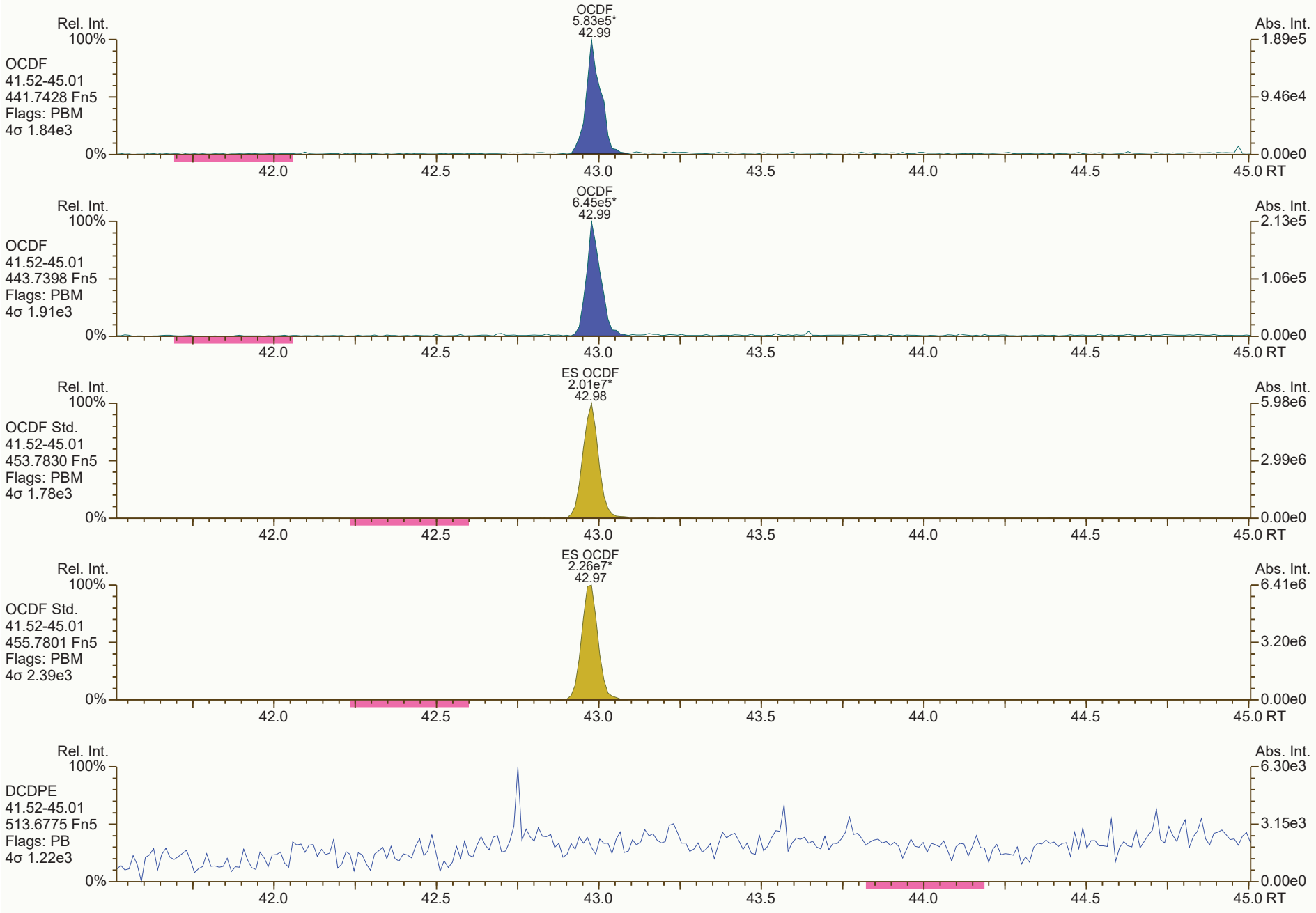

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
Abs. Int.
3.72e3
1.86e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

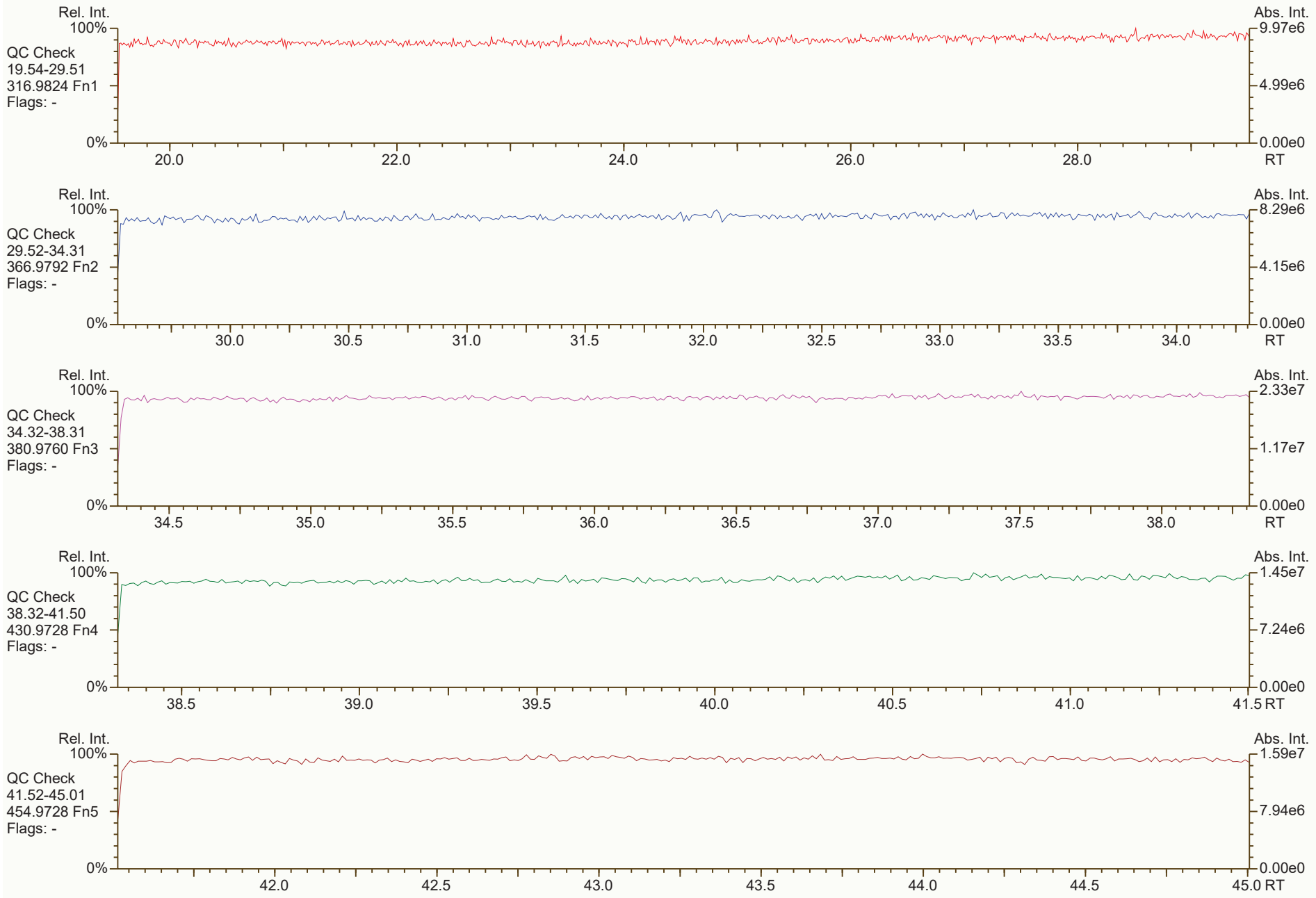

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

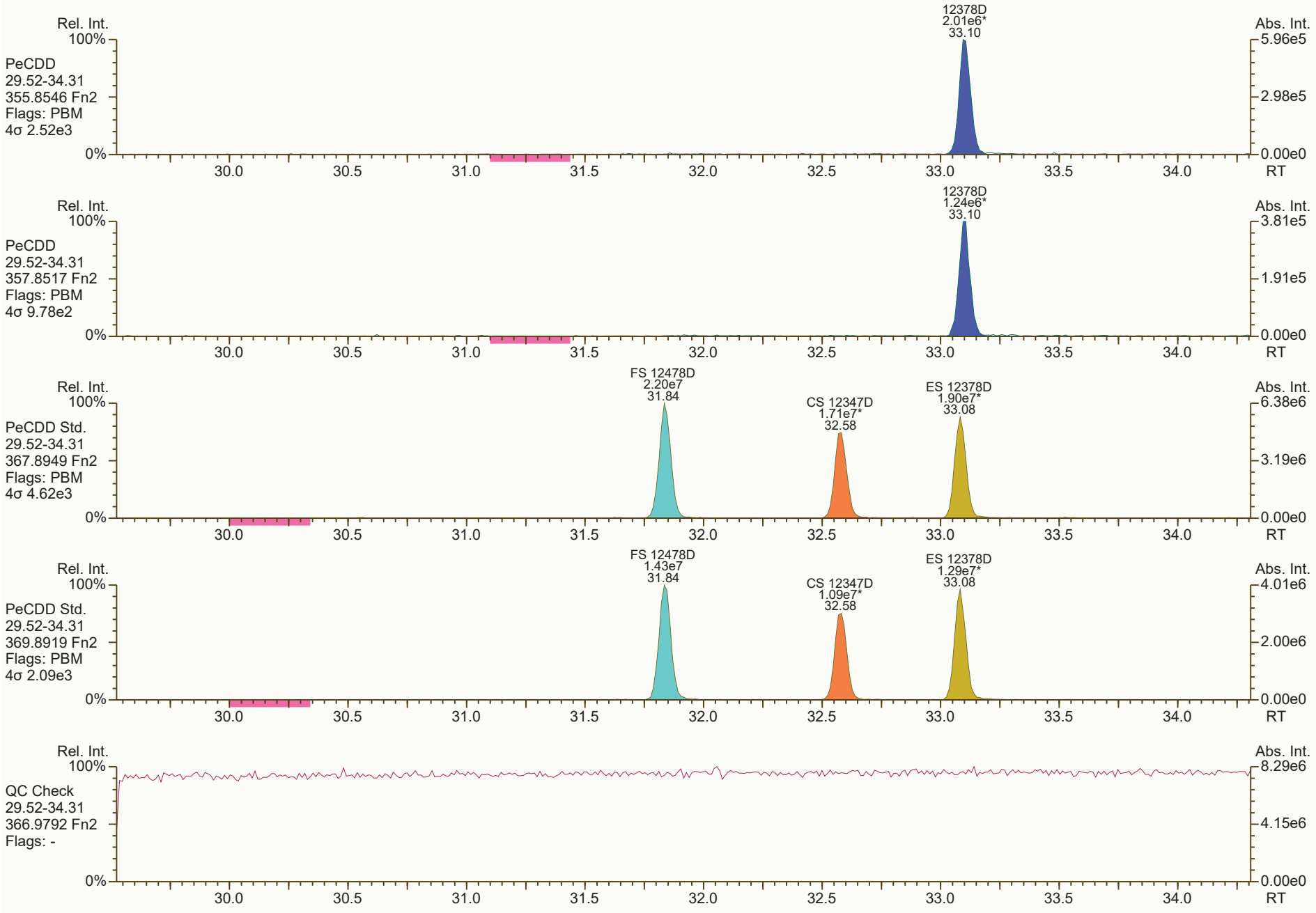
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

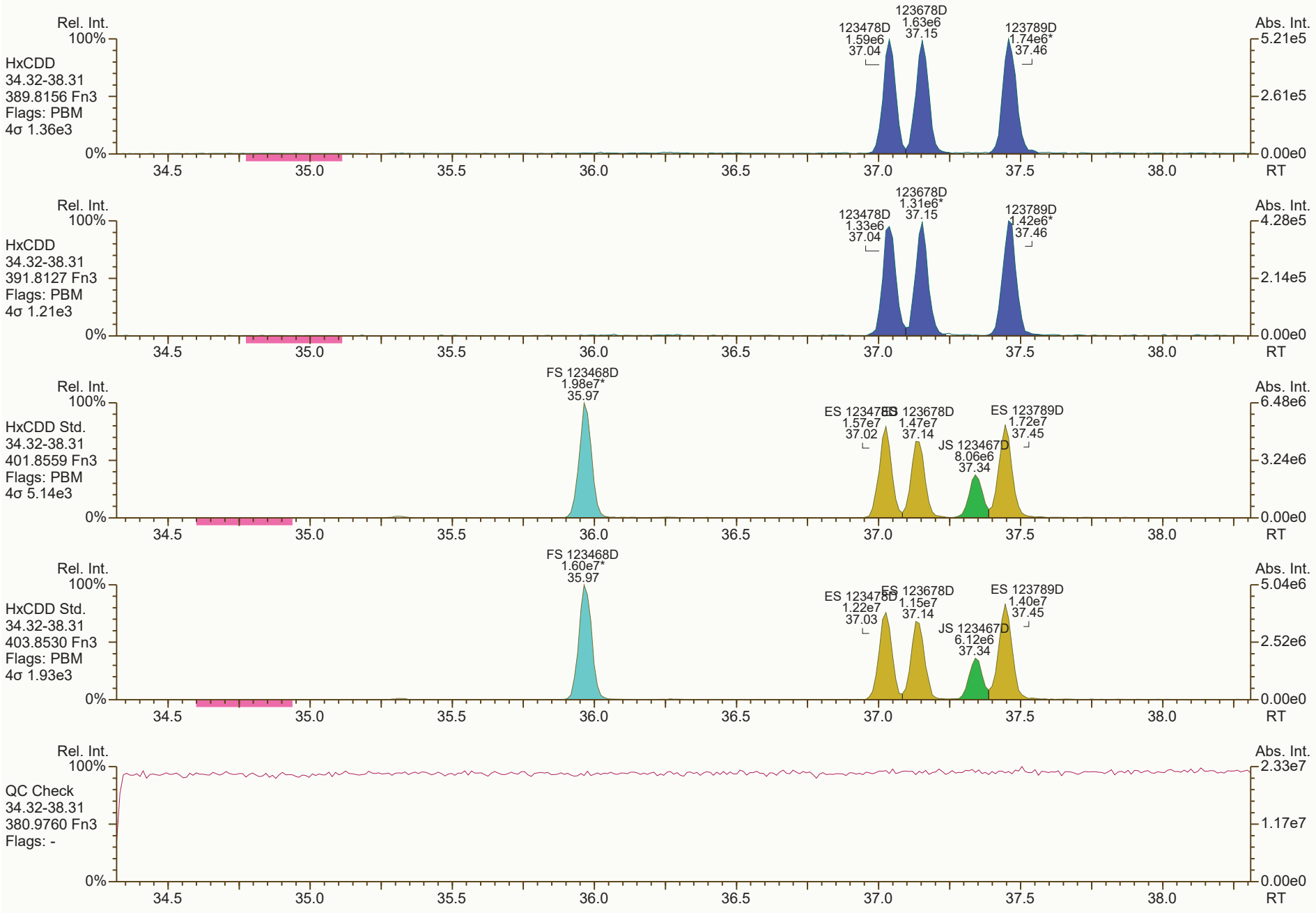
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

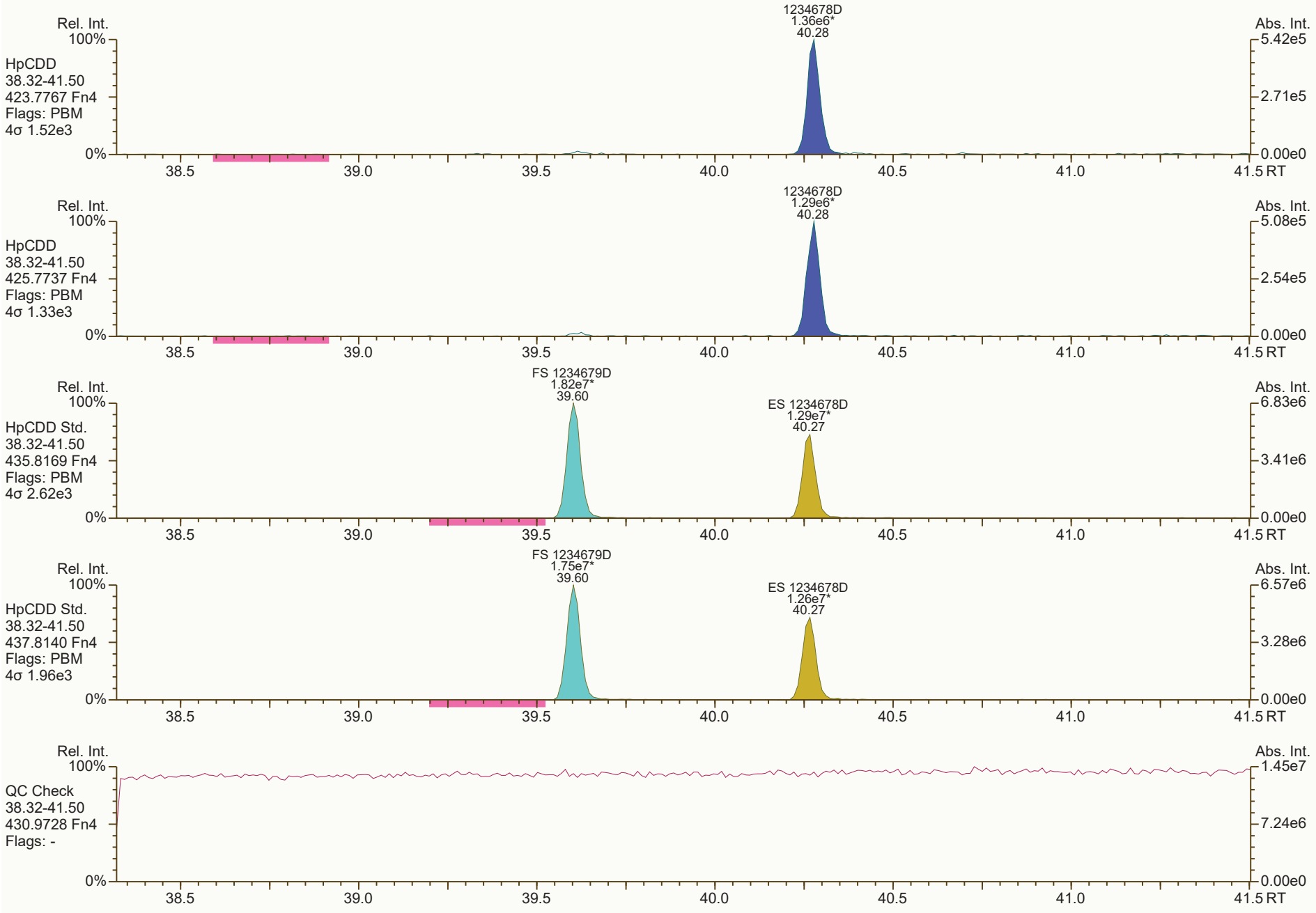
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

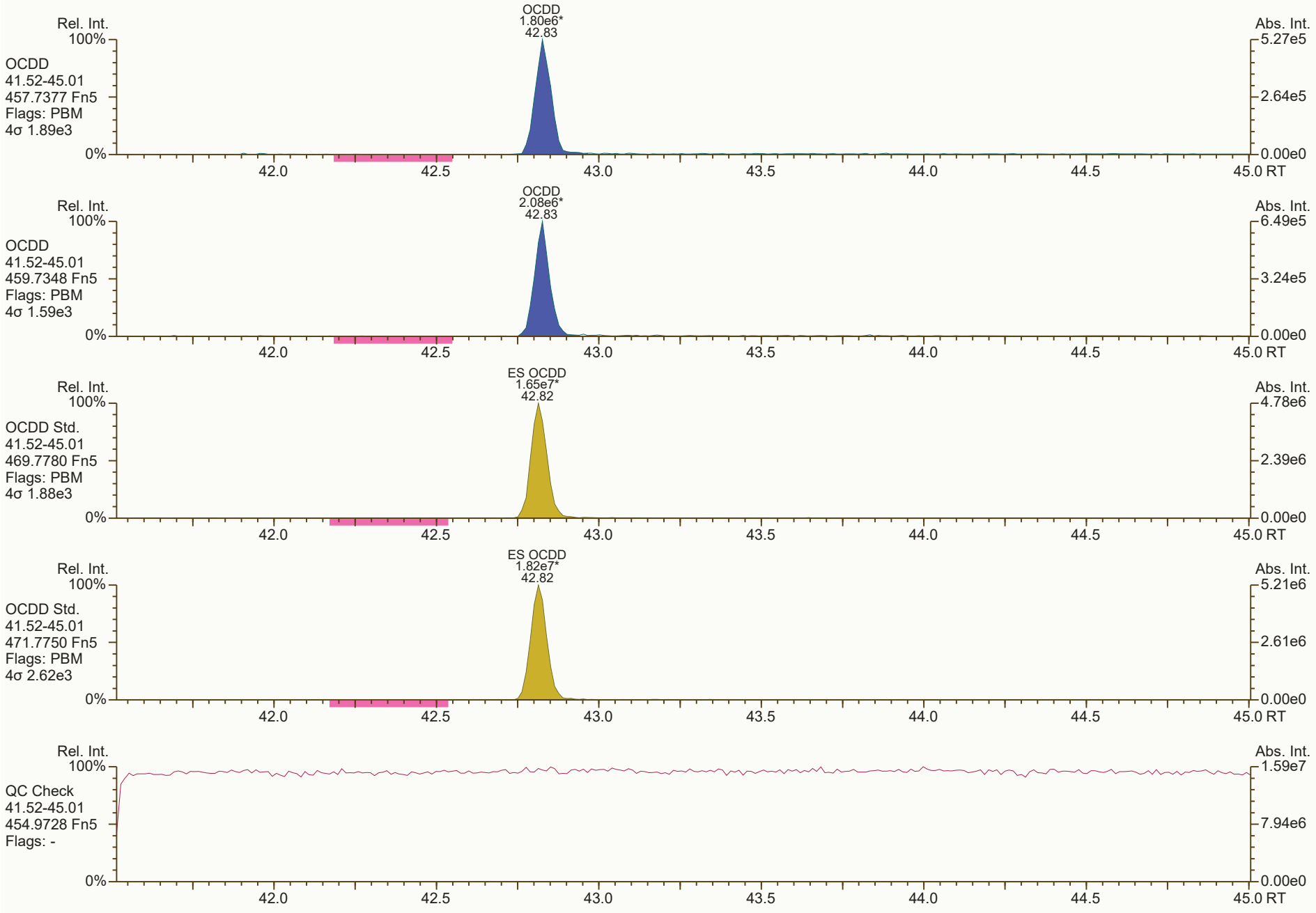

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

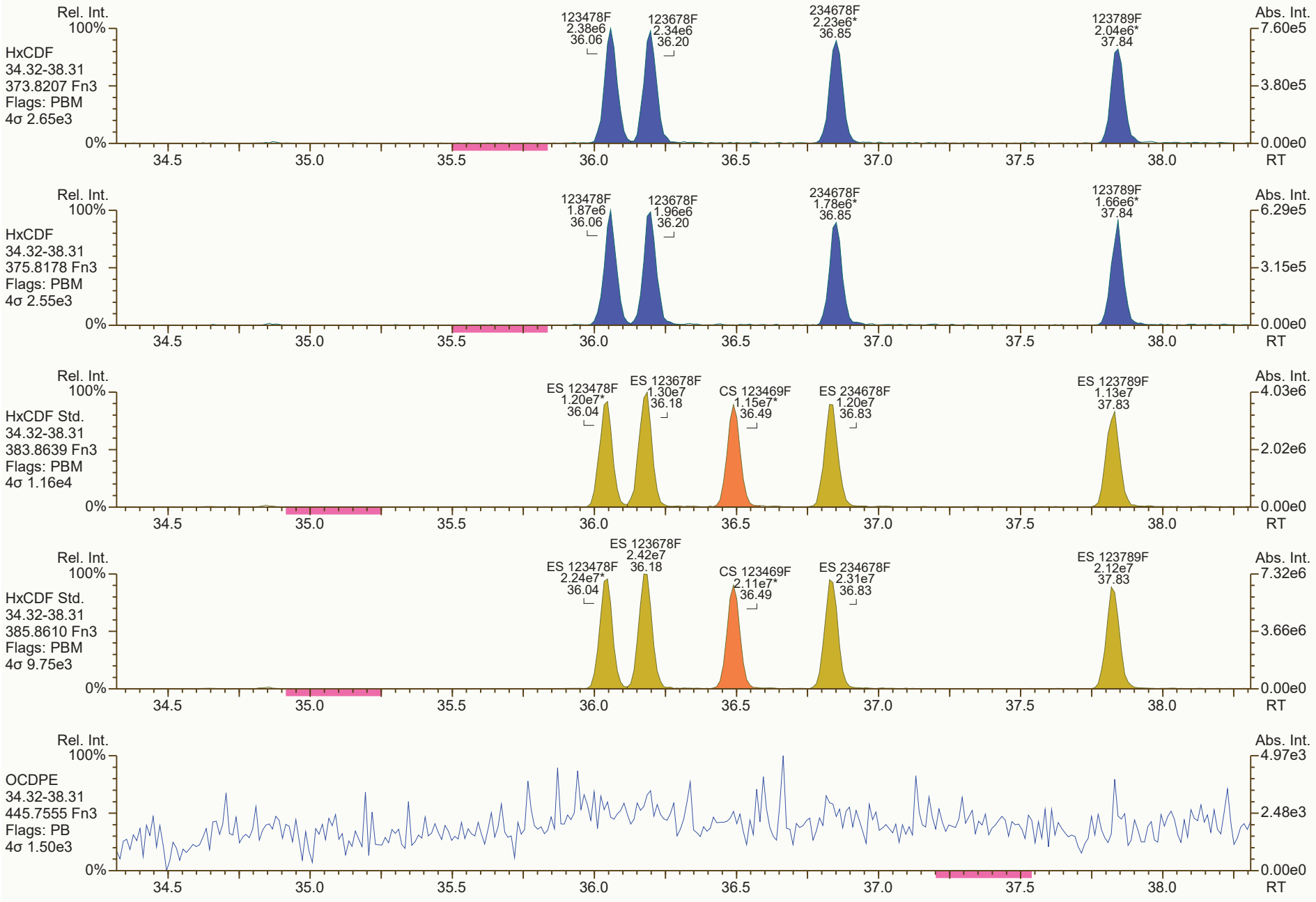

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

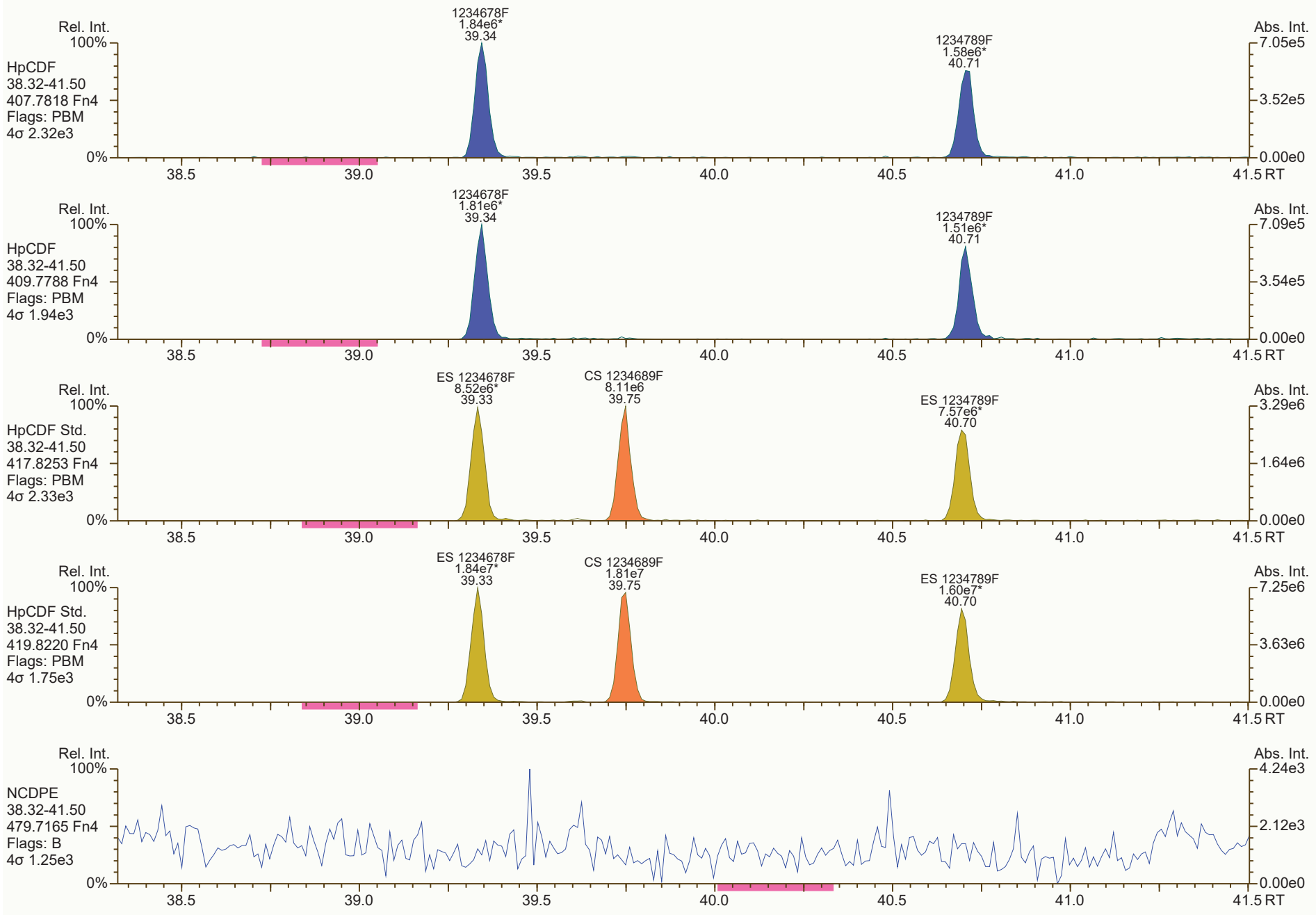

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

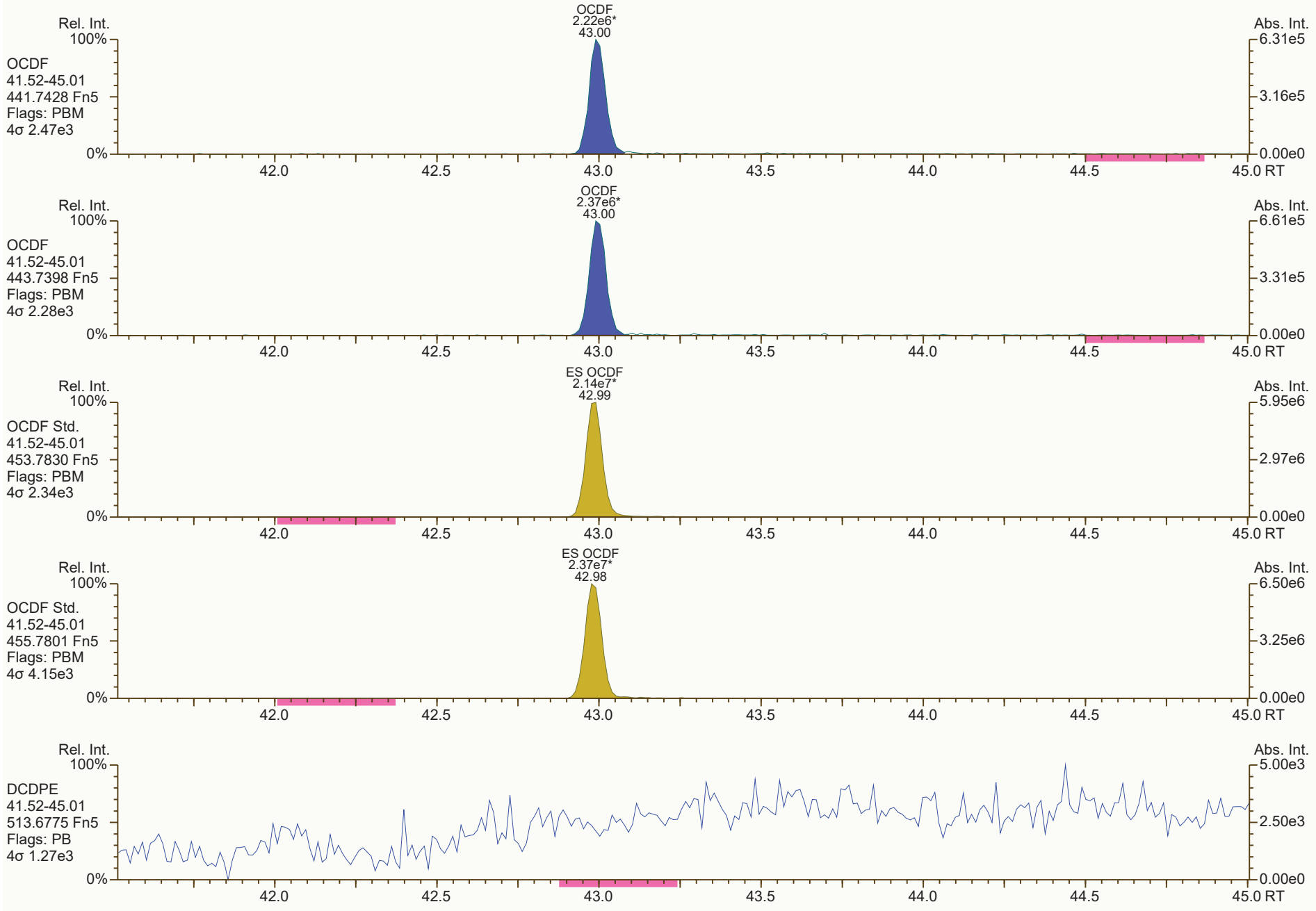

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
0%
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
Abs. Int.
6.29e5
3.15e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
0%
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
Abs. Int.
4.03e6
2.02e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
0%
ES 123678F
2.42e7
36.18
ES 123478F
2.24e7*
36.04
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
Abs. Int.
7.32e6
3.66e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

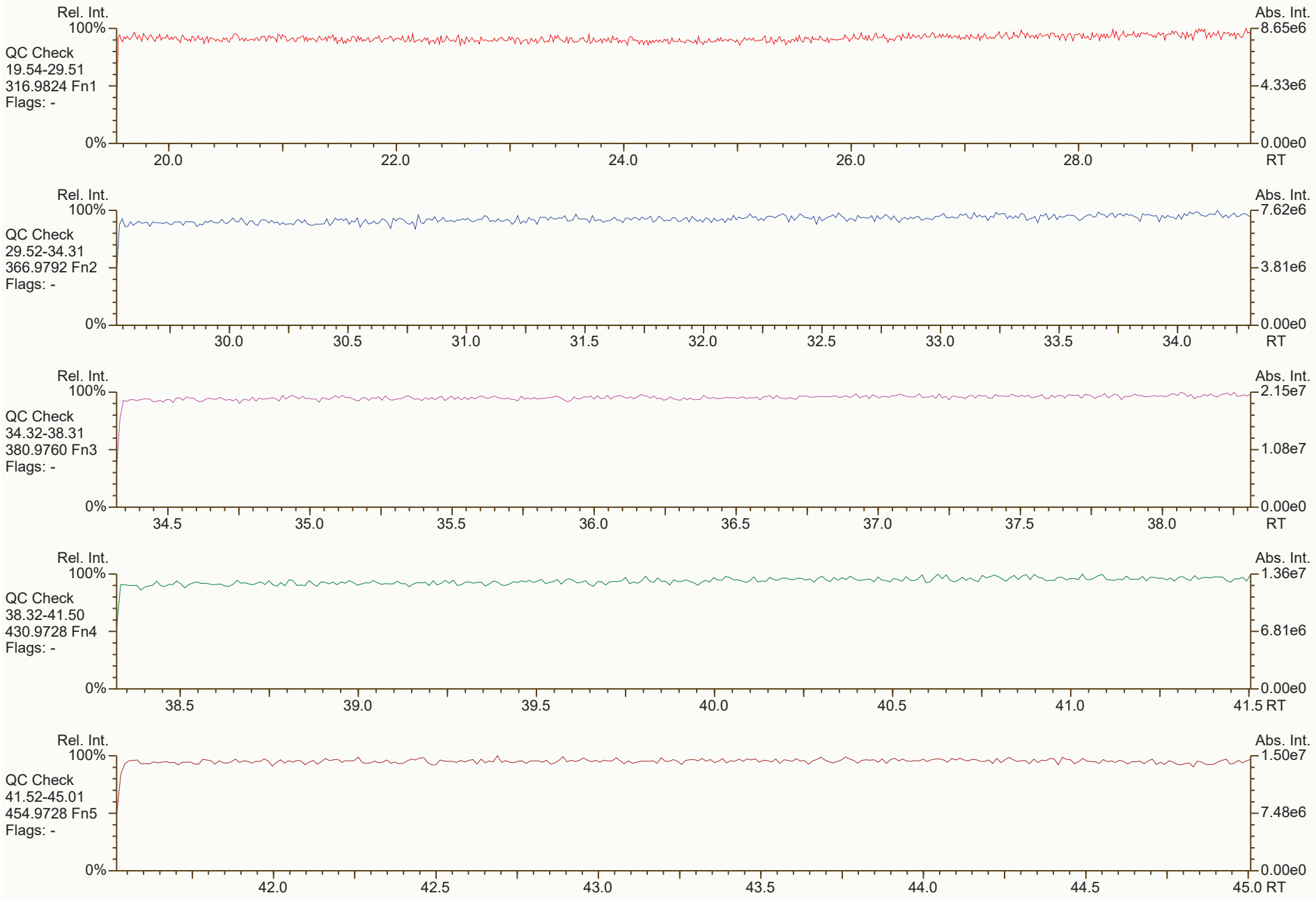

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

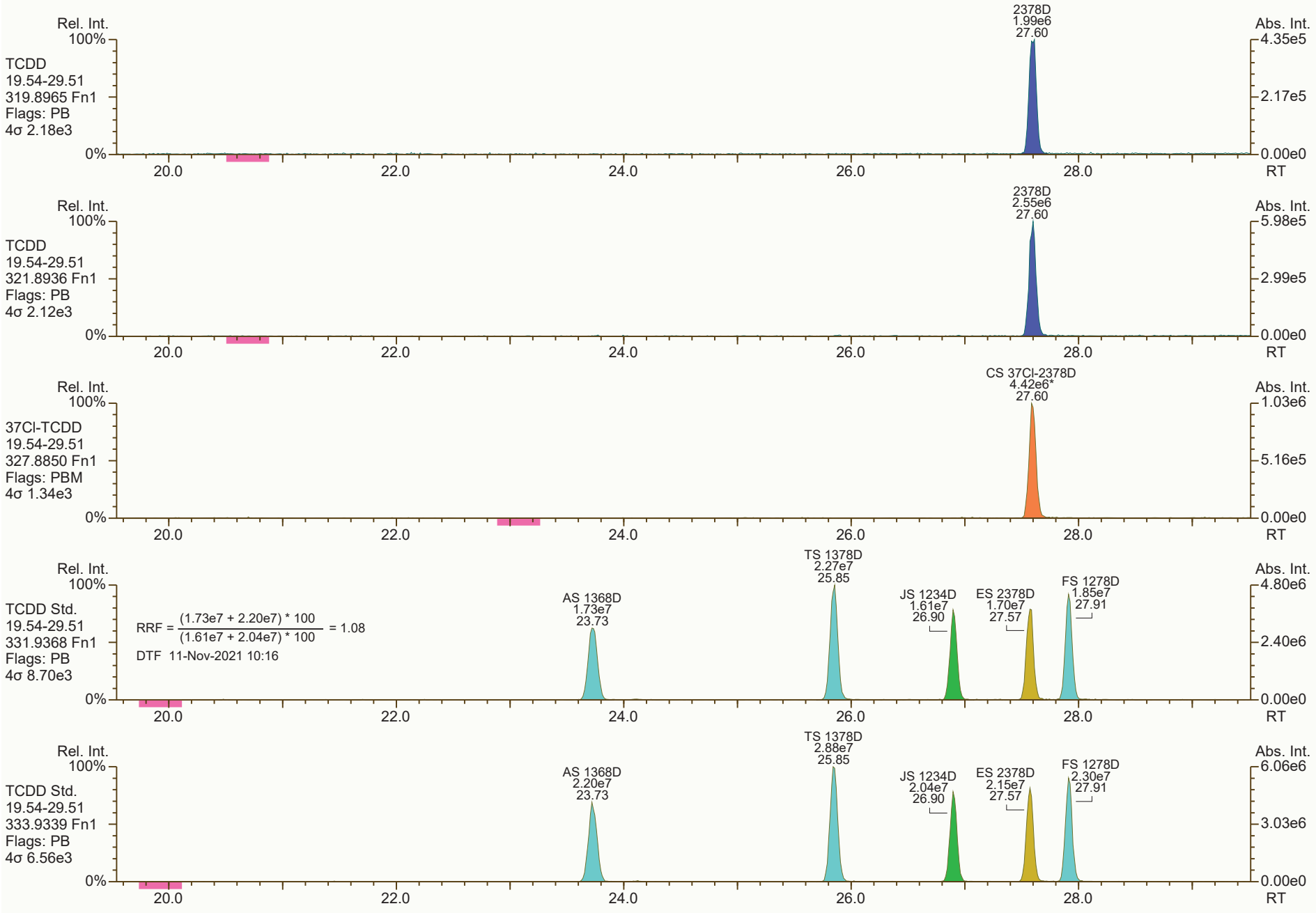
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

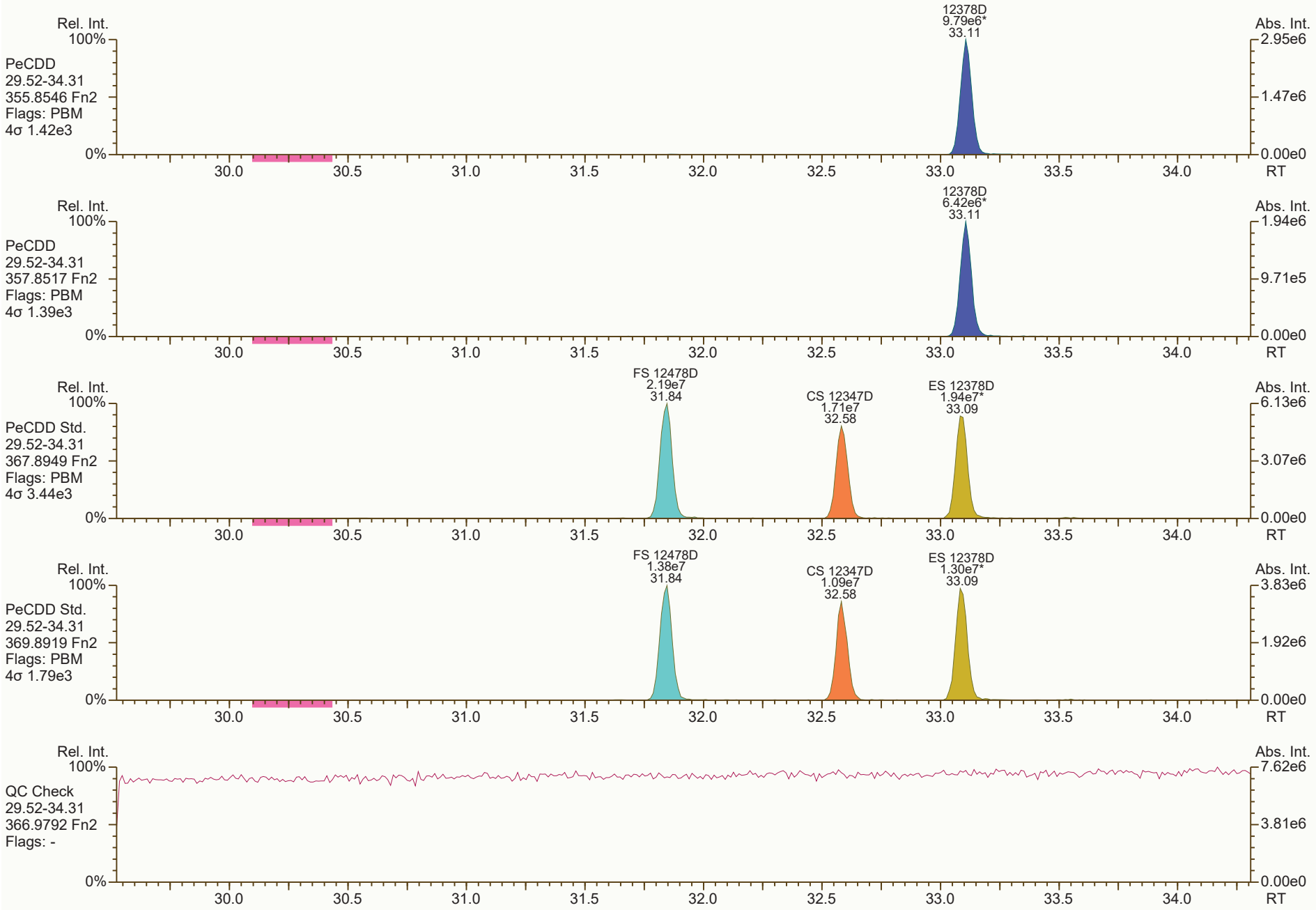
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

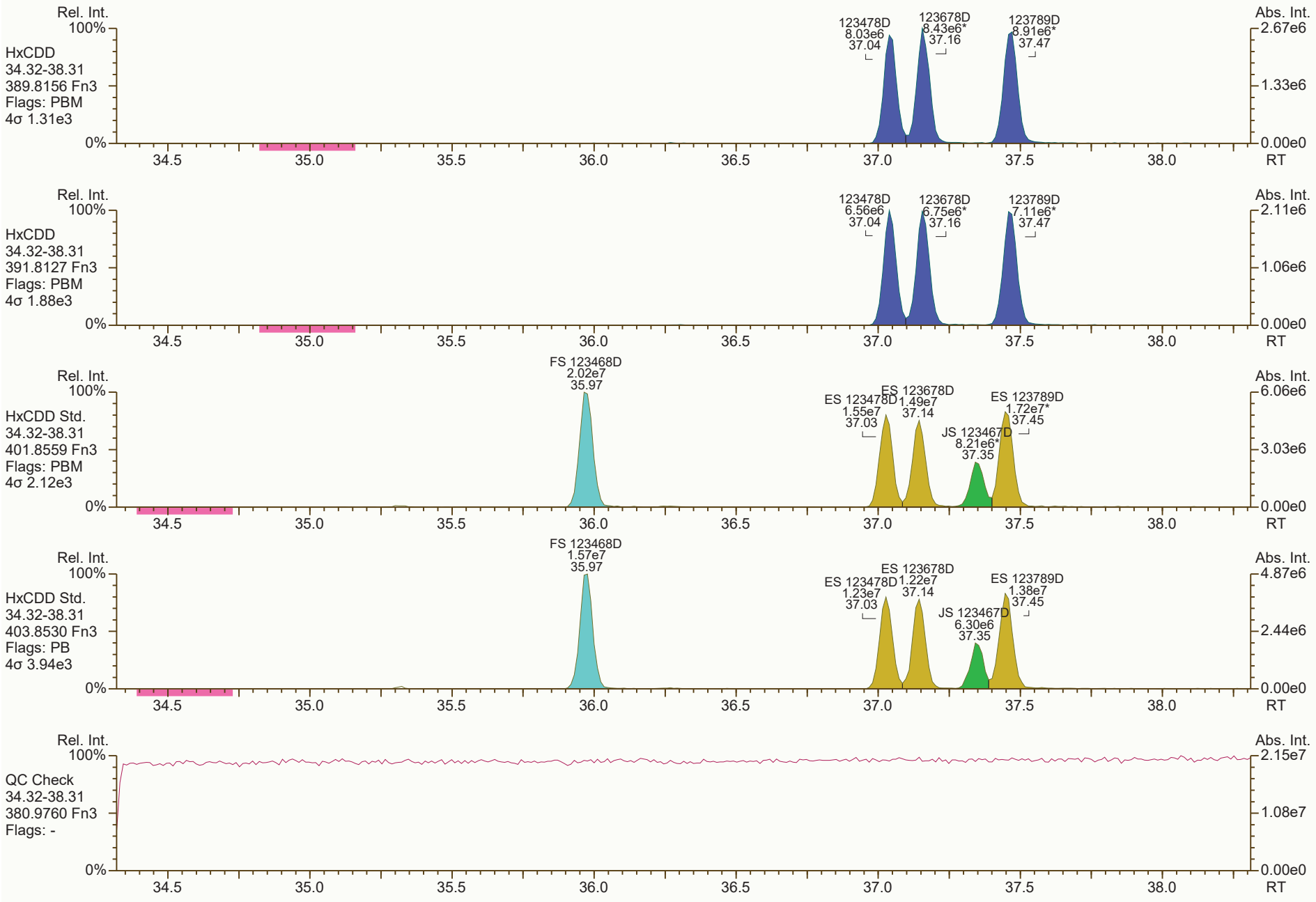
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

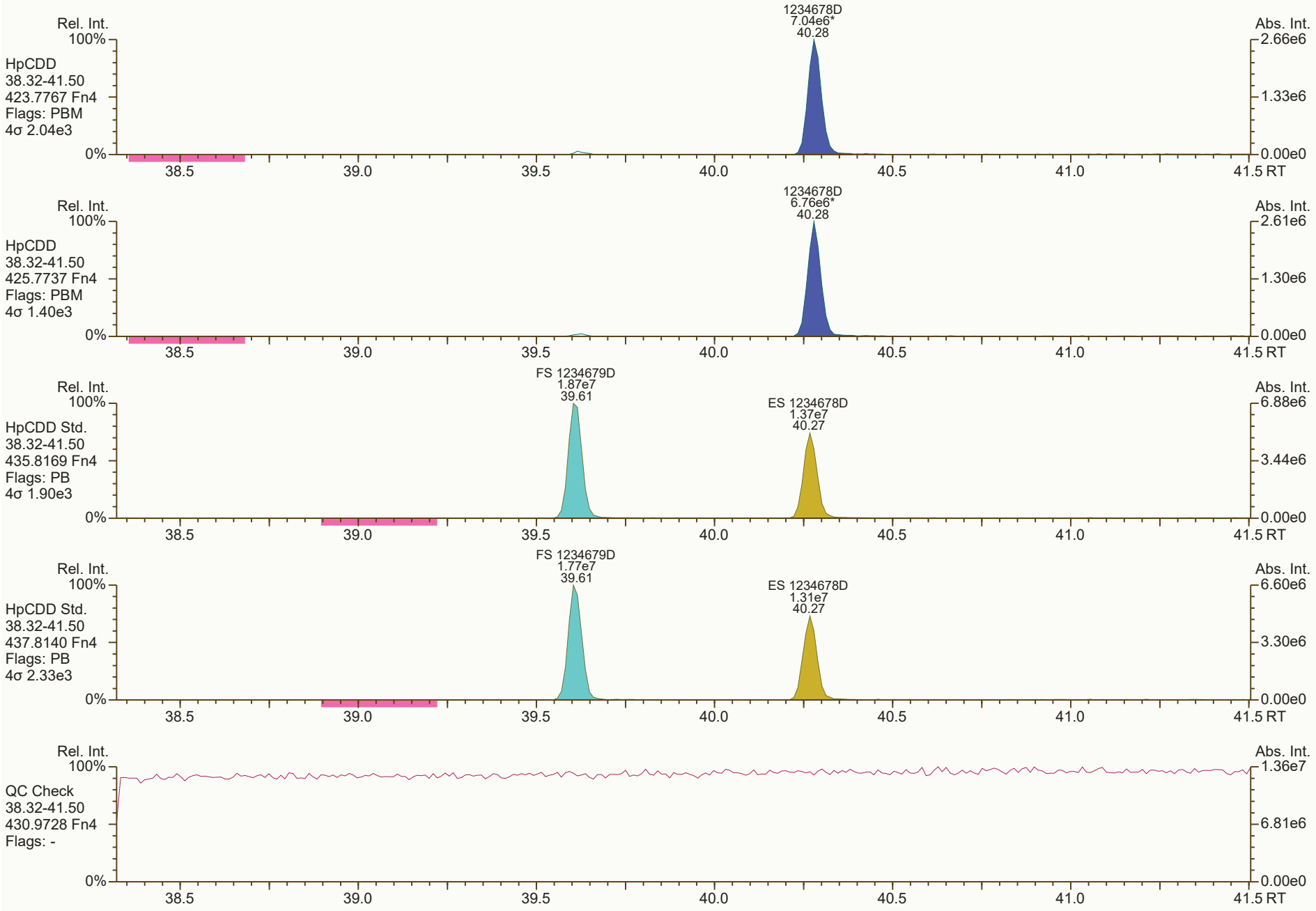
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

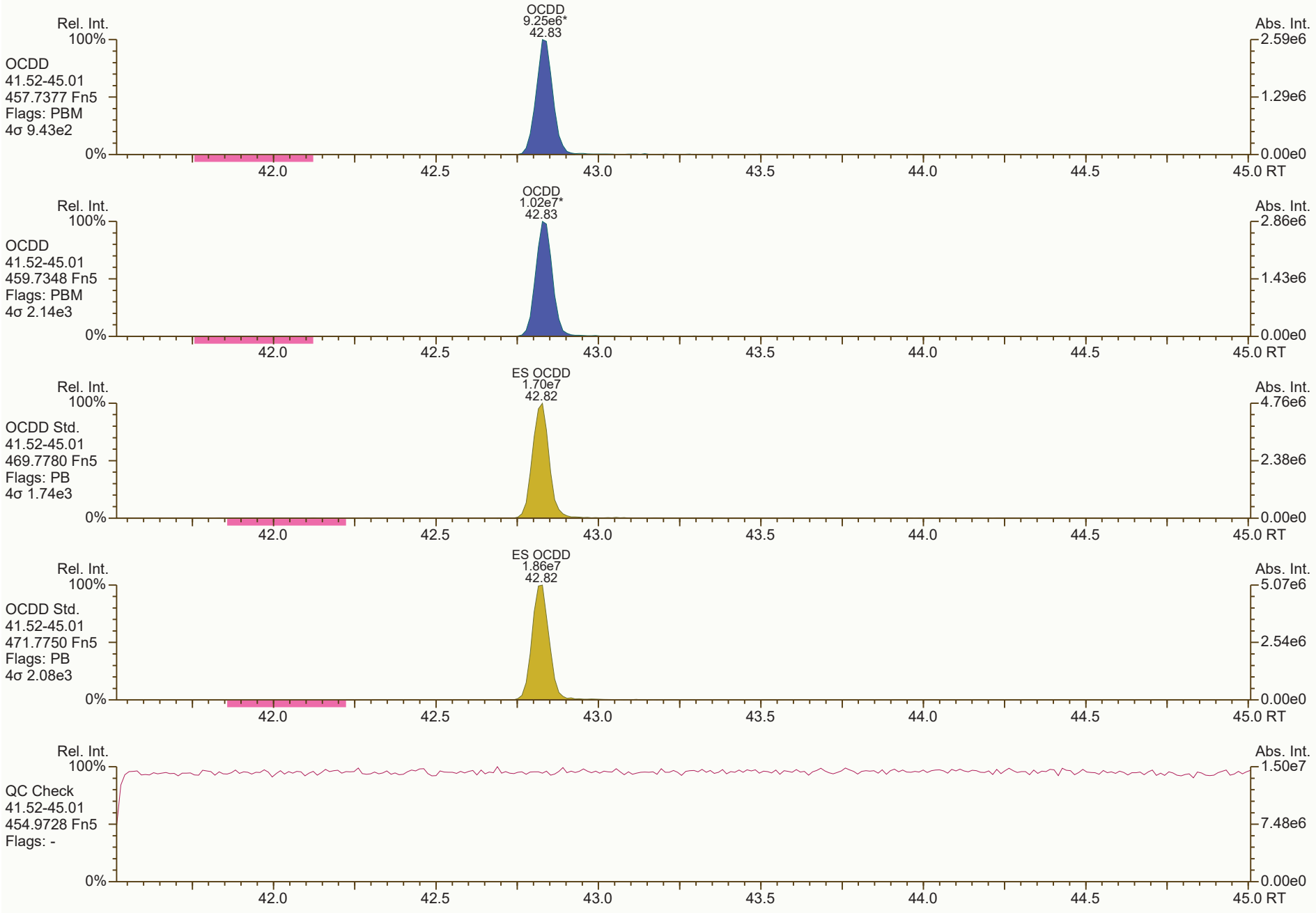

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
8.65e6
4.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

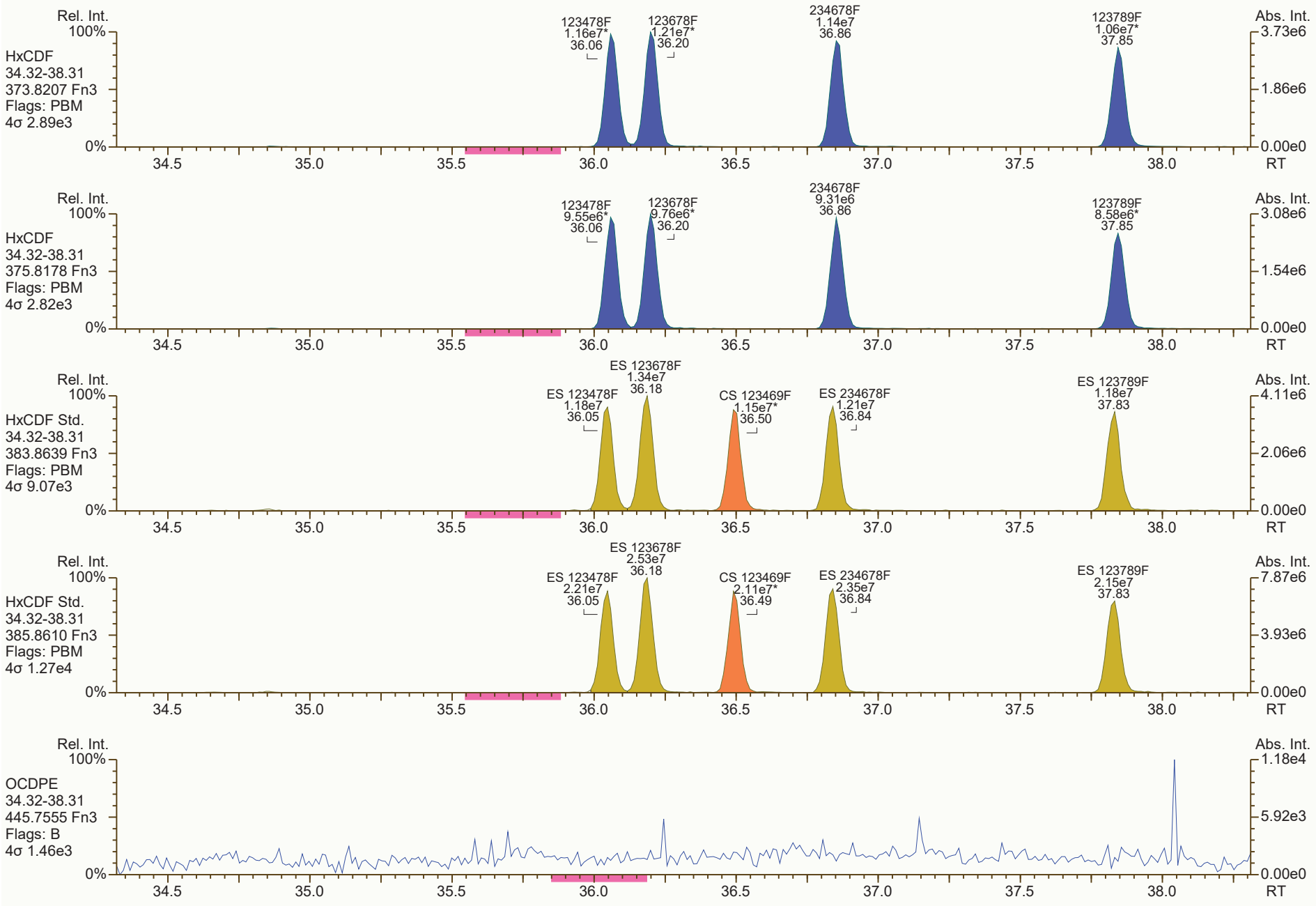

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
0%
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
0%
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
0%
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

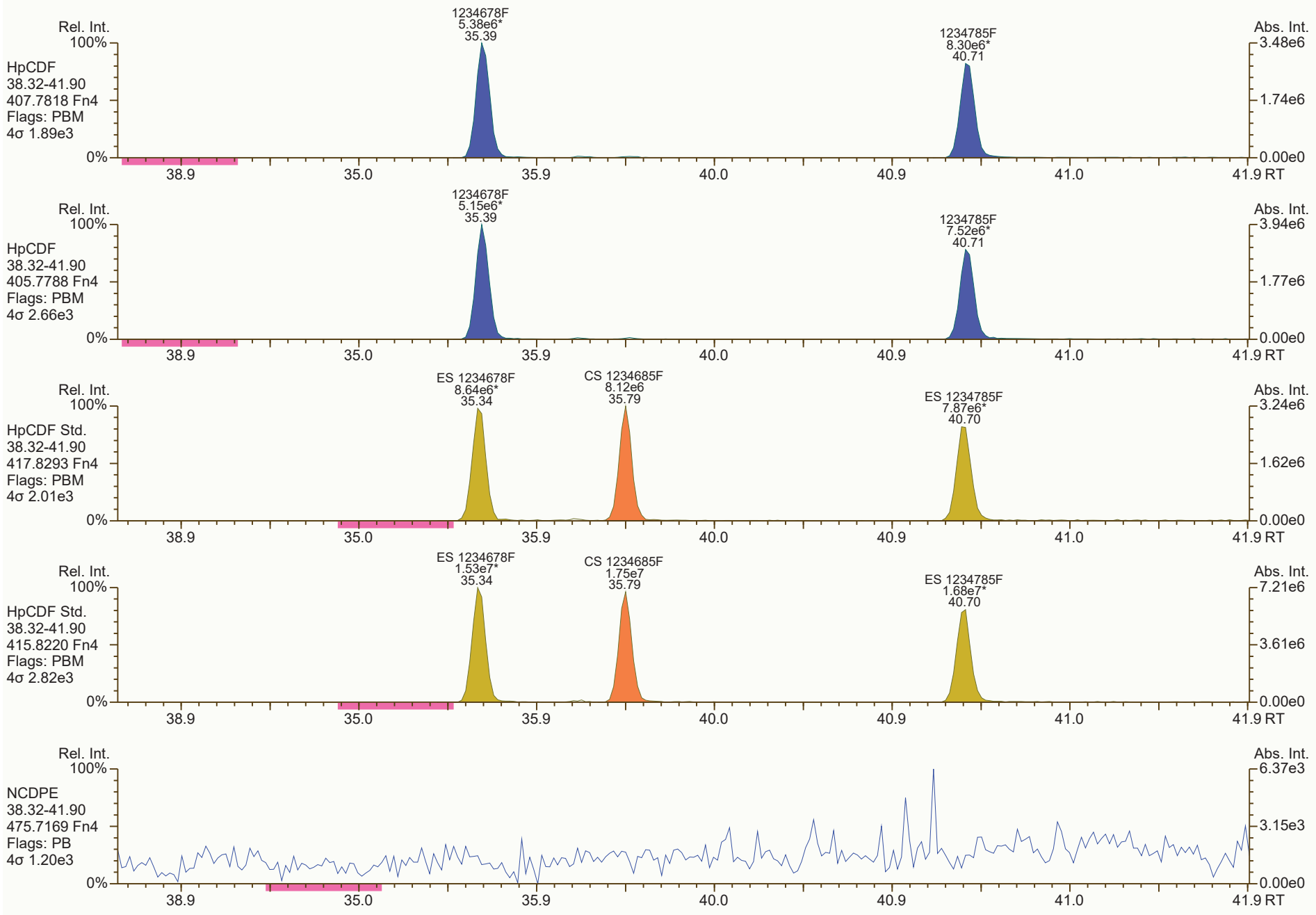

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
2.86e6
1.43e6
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
4.76e6
2.38e6
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
5.07e6
2.54e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6

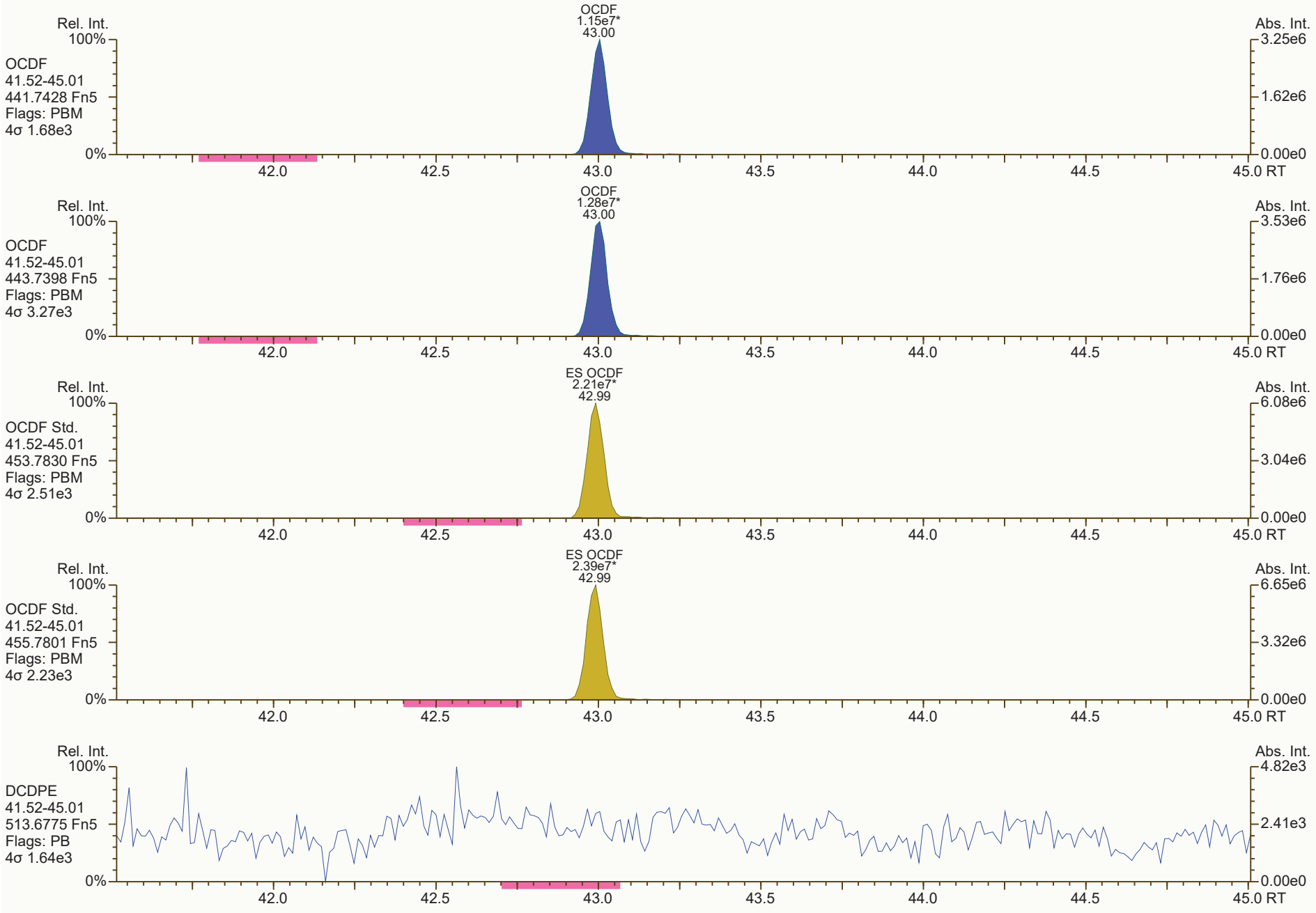

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
3.08e6
1.54e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123678F
1.34e7
36.18
ES 123478F
1.18e7
36.05
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
4.11e6
2.06e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123678F
2.53e7
36.18
ES 123478F
2.21e7
36.05
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
7.87e6
3.93e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3


Rel. Int.
100%
HpCDF
38.32-41.90
407.7818 Fn4
Flags: PBM
4σ 1.89e3
0%
1234678F
5.38e6*
35.39
1234785F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF
38.32-41.90
405.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
5.15e6*
35.39
1234785F
7.52e6*
40.71
Abs. Int.
3.94e6
1.77e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
417.8293 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
35.34
CS 1234685F
8.12e6
35.79
ES 1234785F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
415.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.53e7*
35.34
CS 1234685F
1.75e7
35.79
ES 1234785F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
NCDPE
38.32-41.90
475.7169 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.15e3
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT

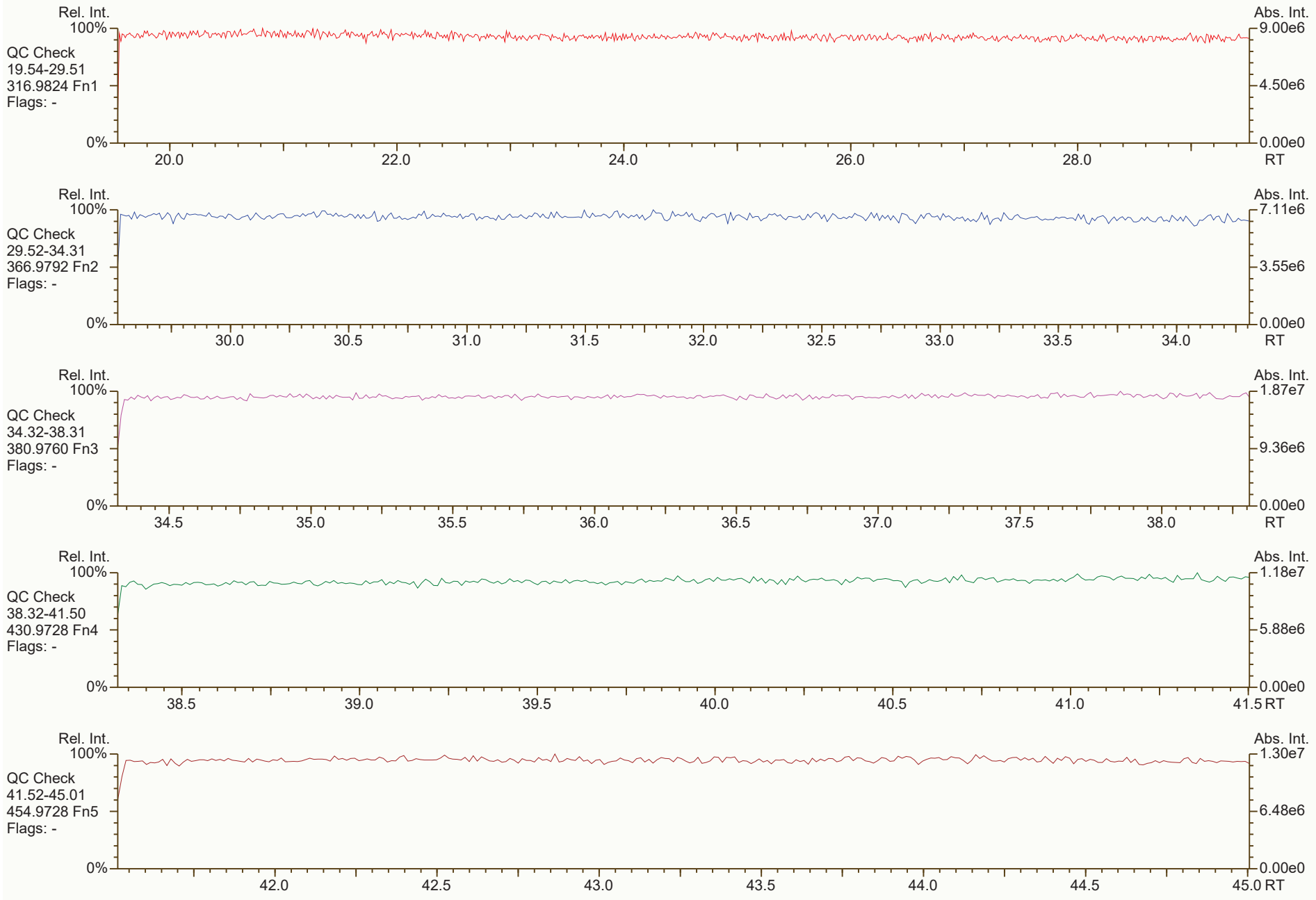

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

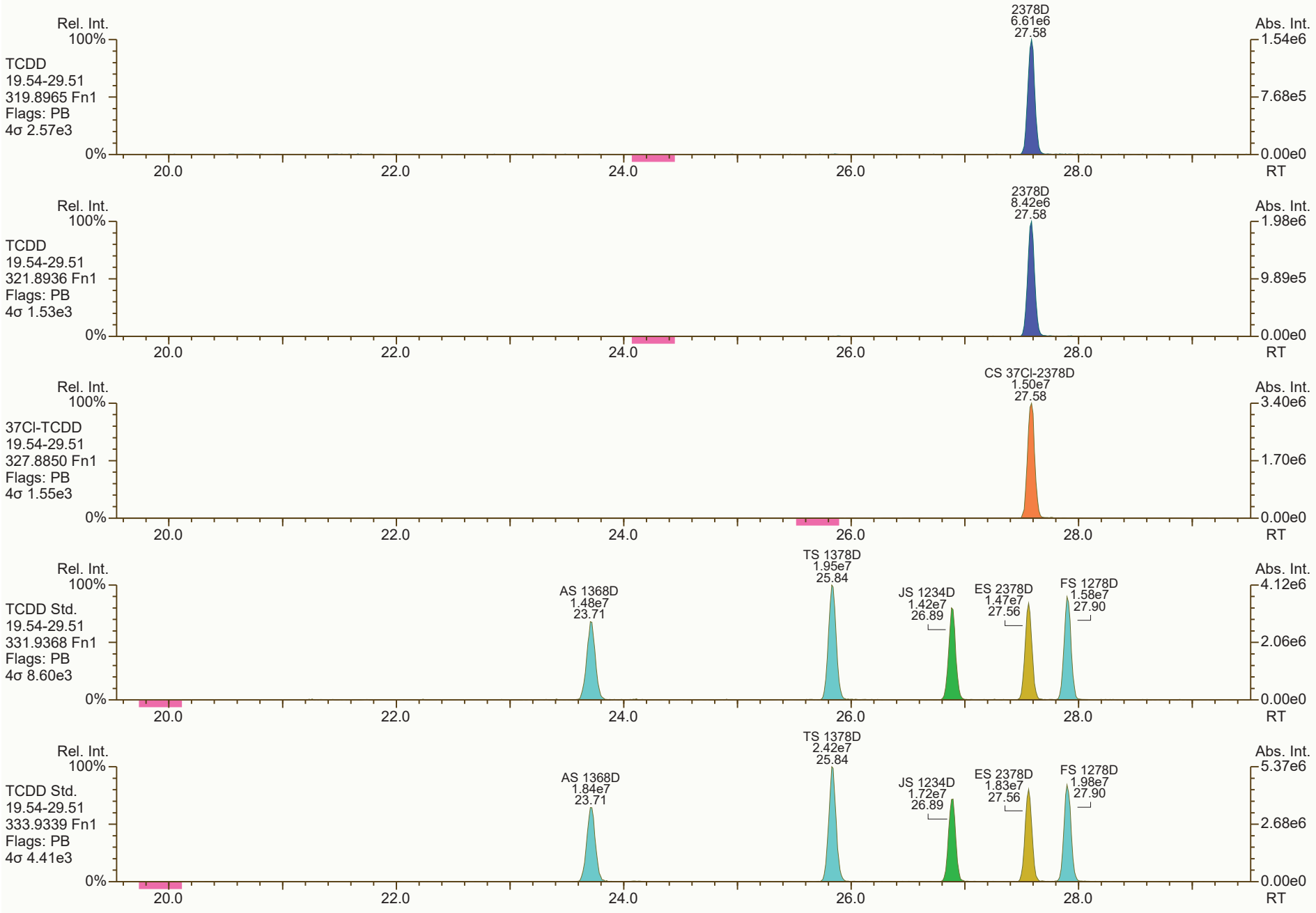
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

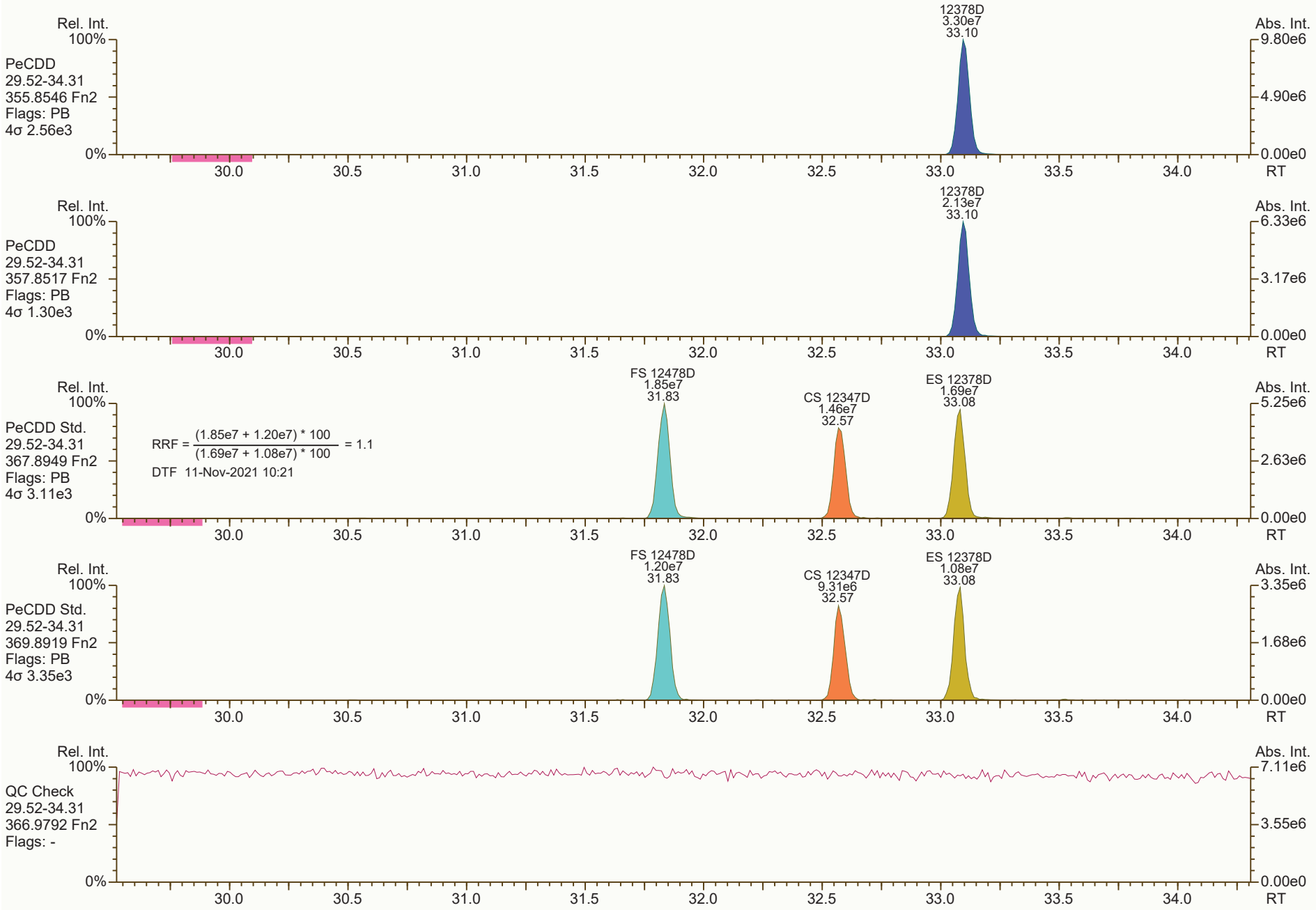
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

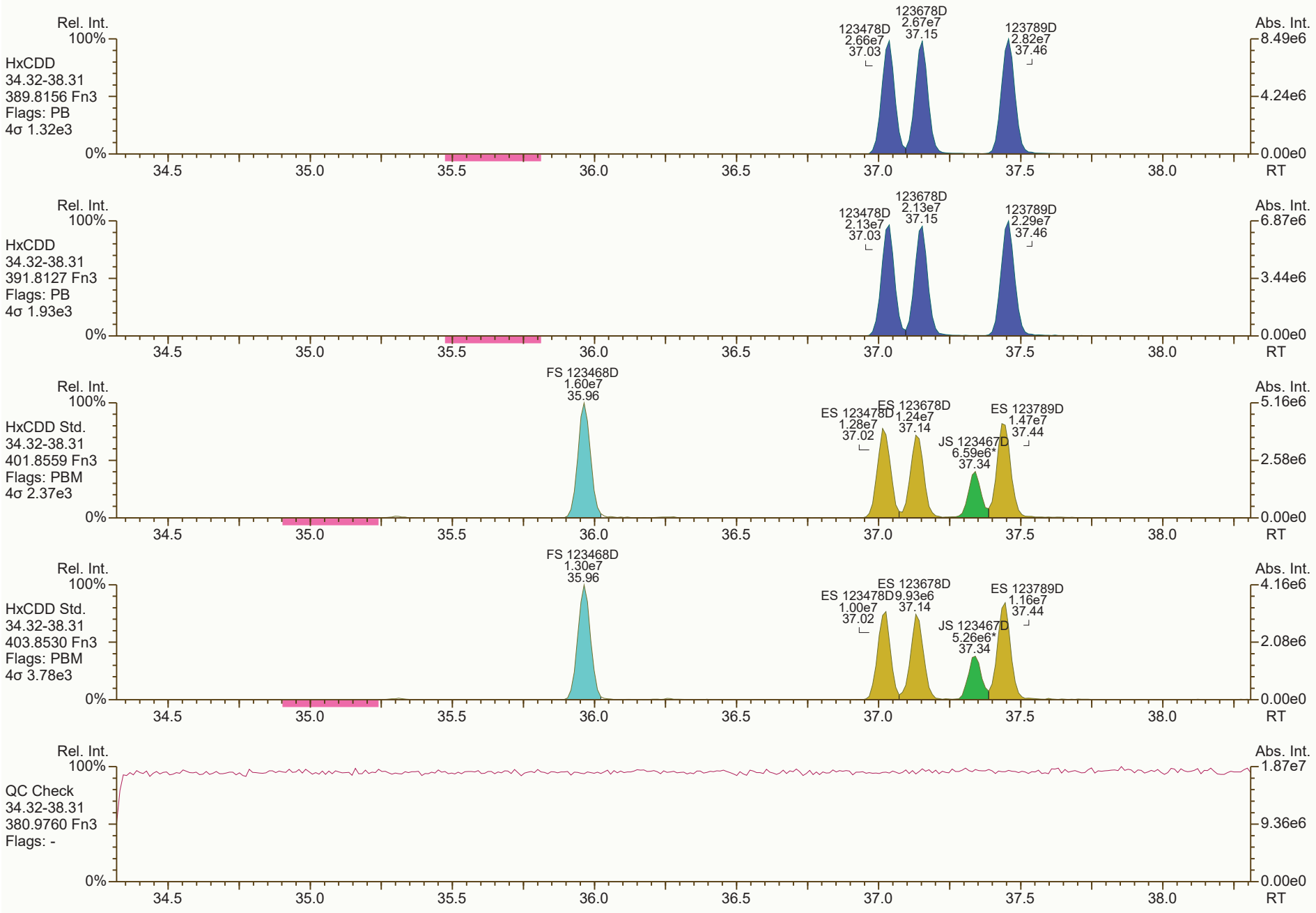
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

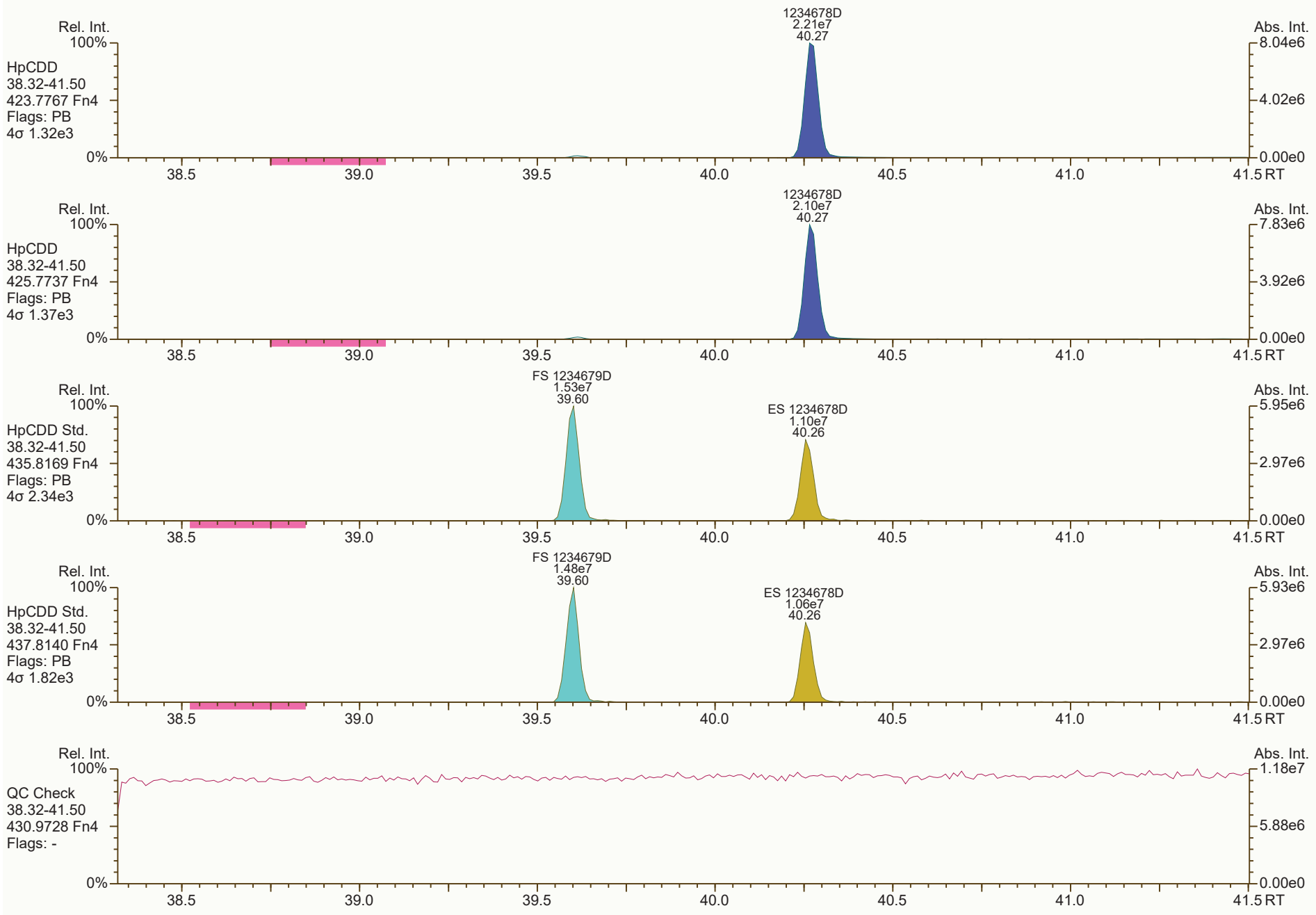
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

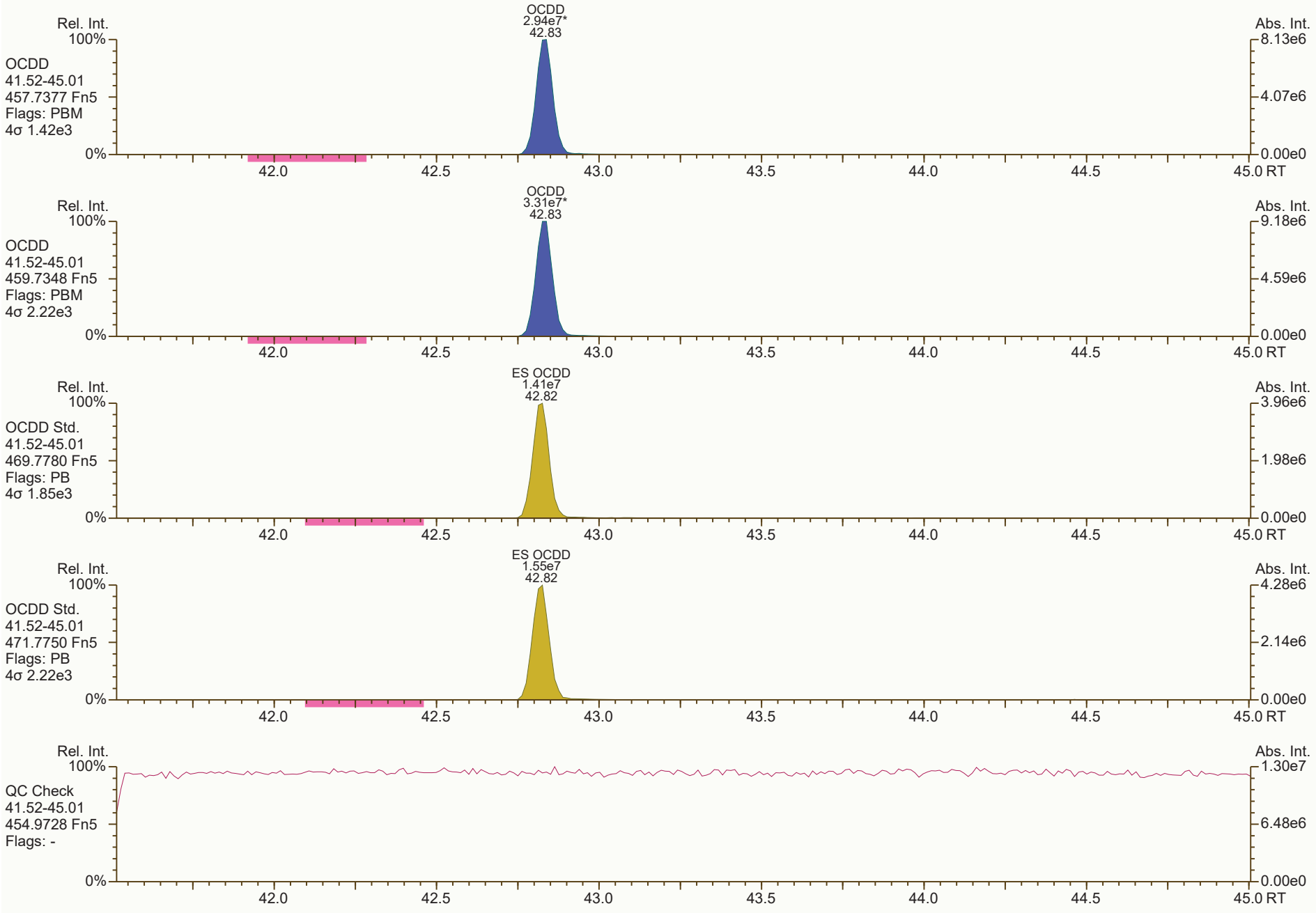

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
0%
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

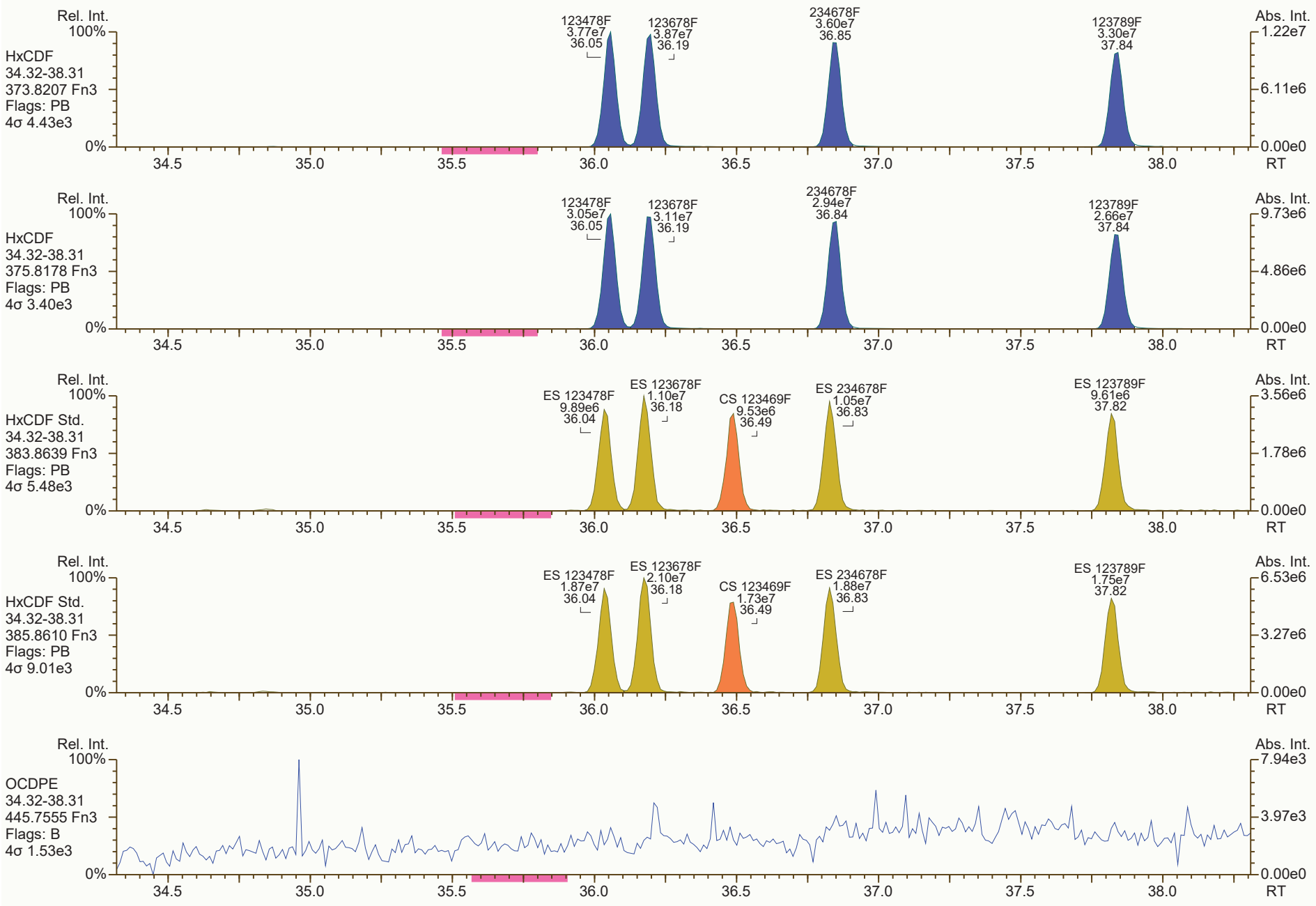

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

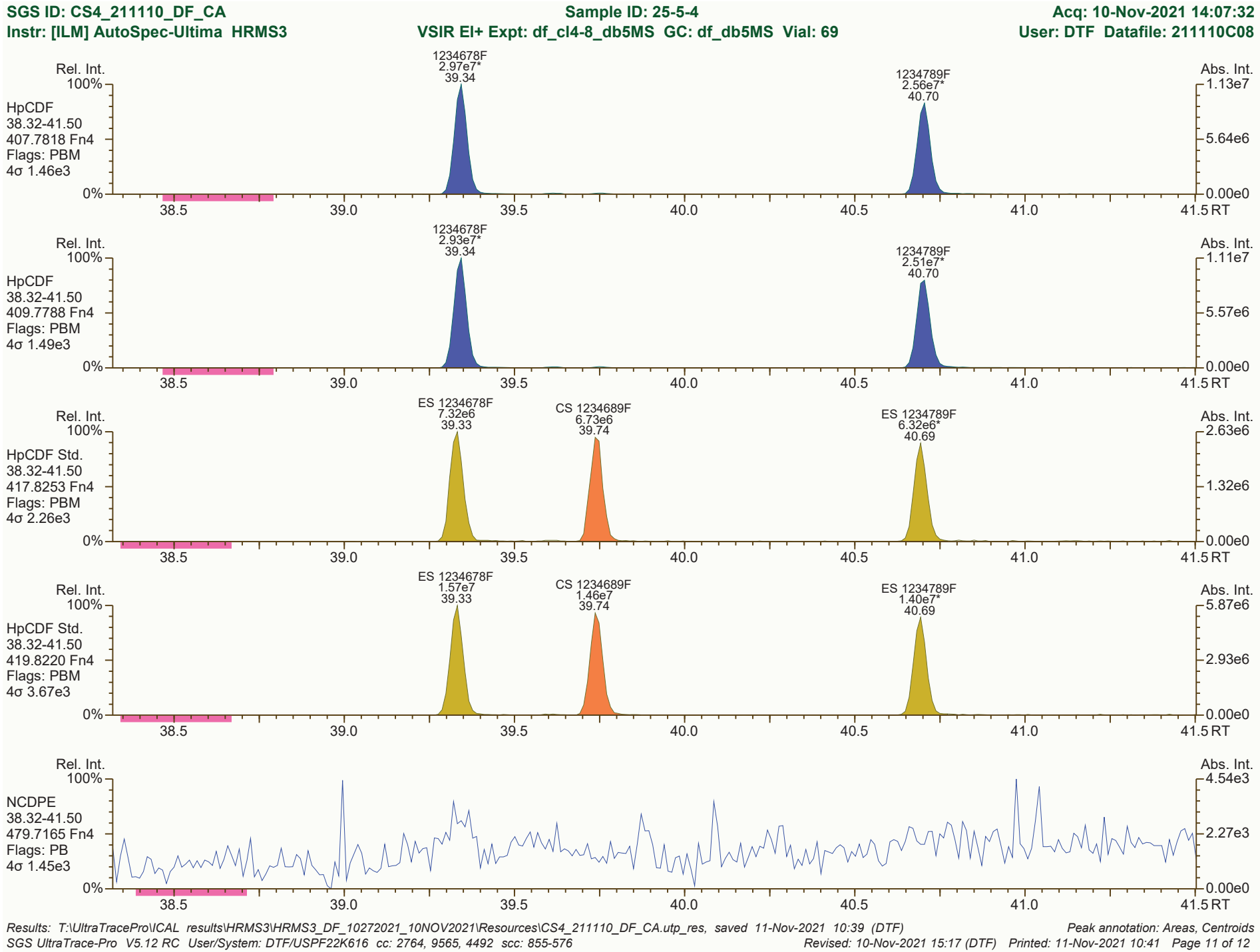

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
0%
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
0%
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
0%
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
0%
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

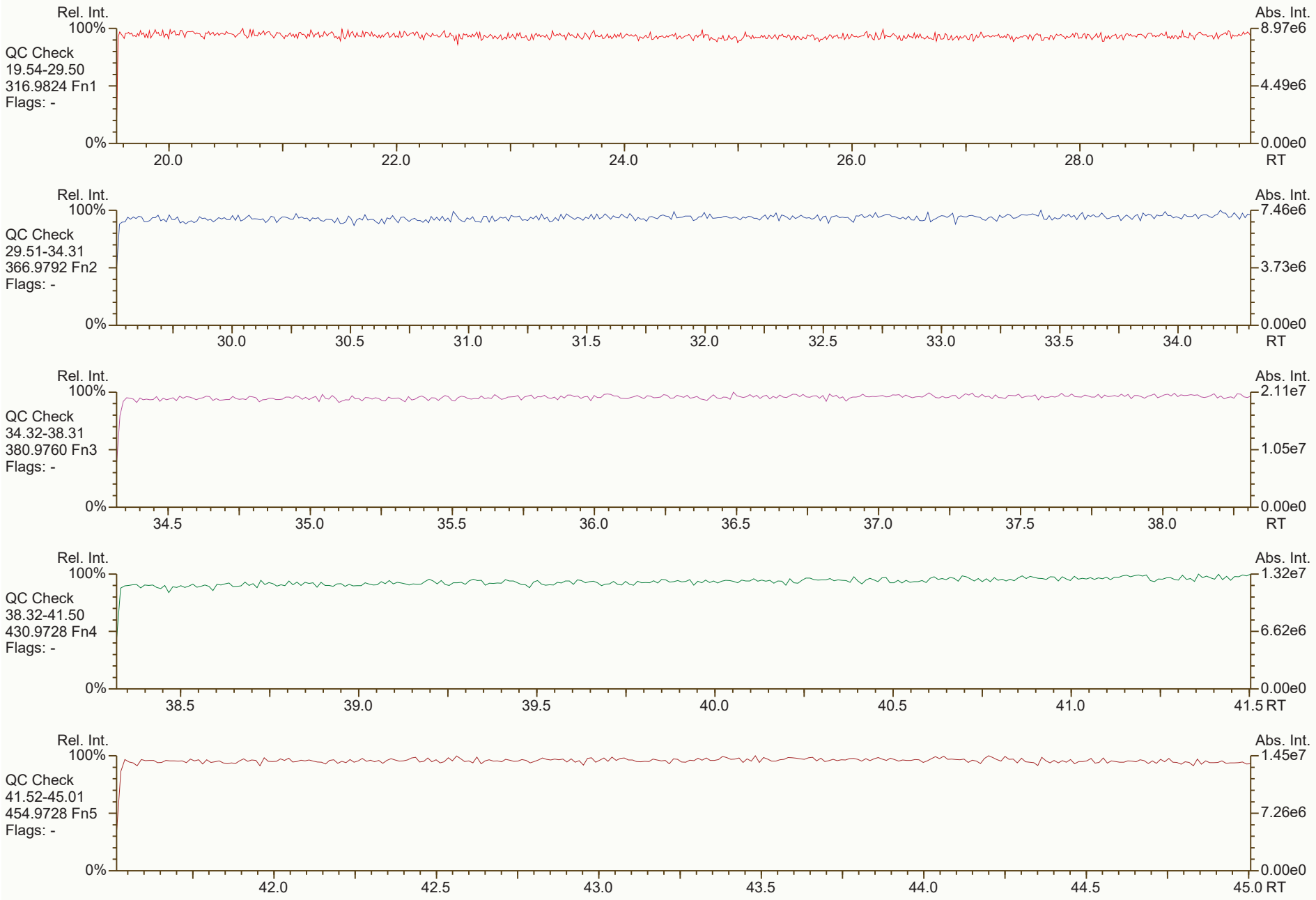

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
OCDF
3.65e7*
42.99
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
OCDF
4.04e7*
42.99
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDF
1.75e7
42.98
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
ES OCDF
2.01e7
42.98
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

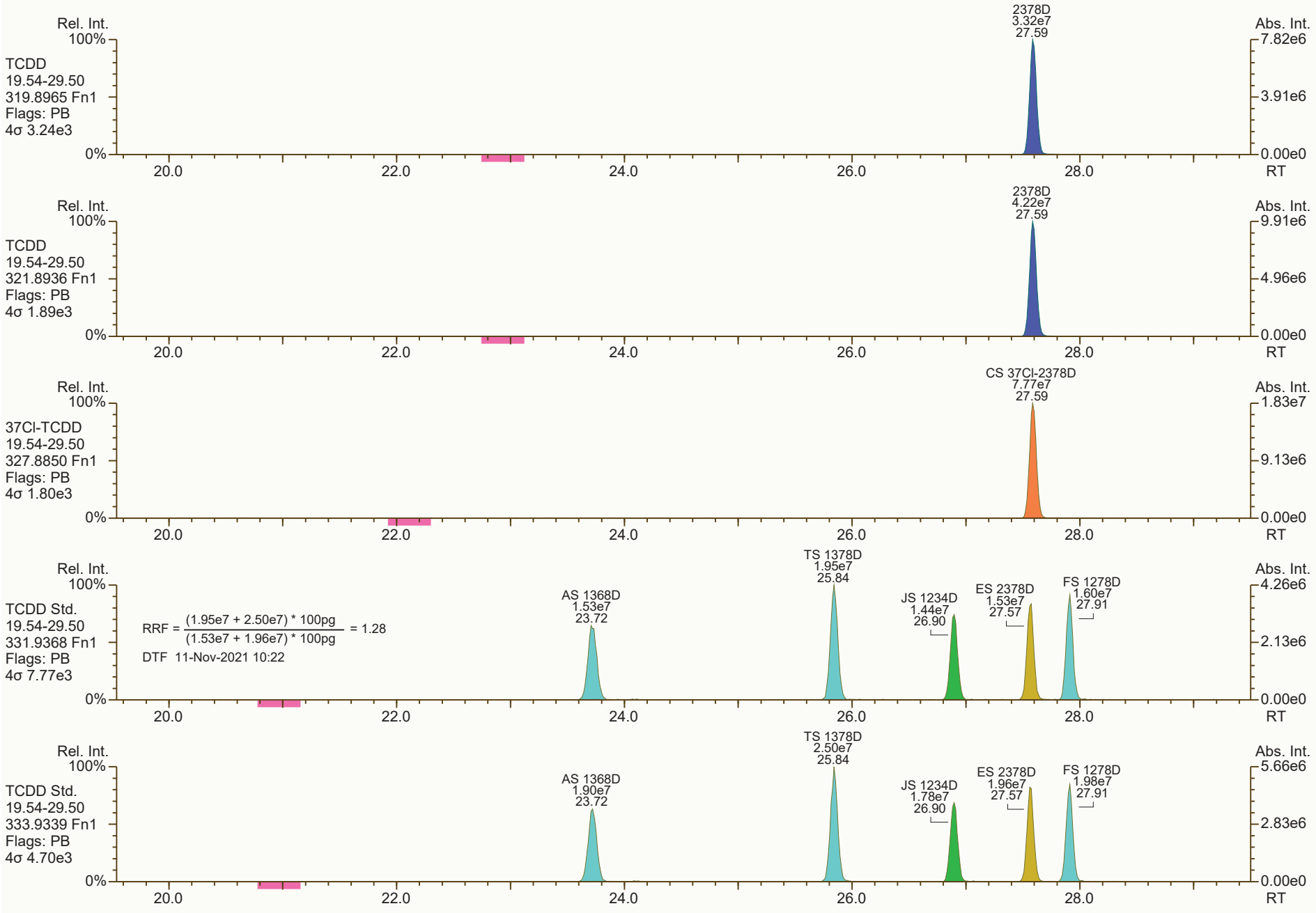
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

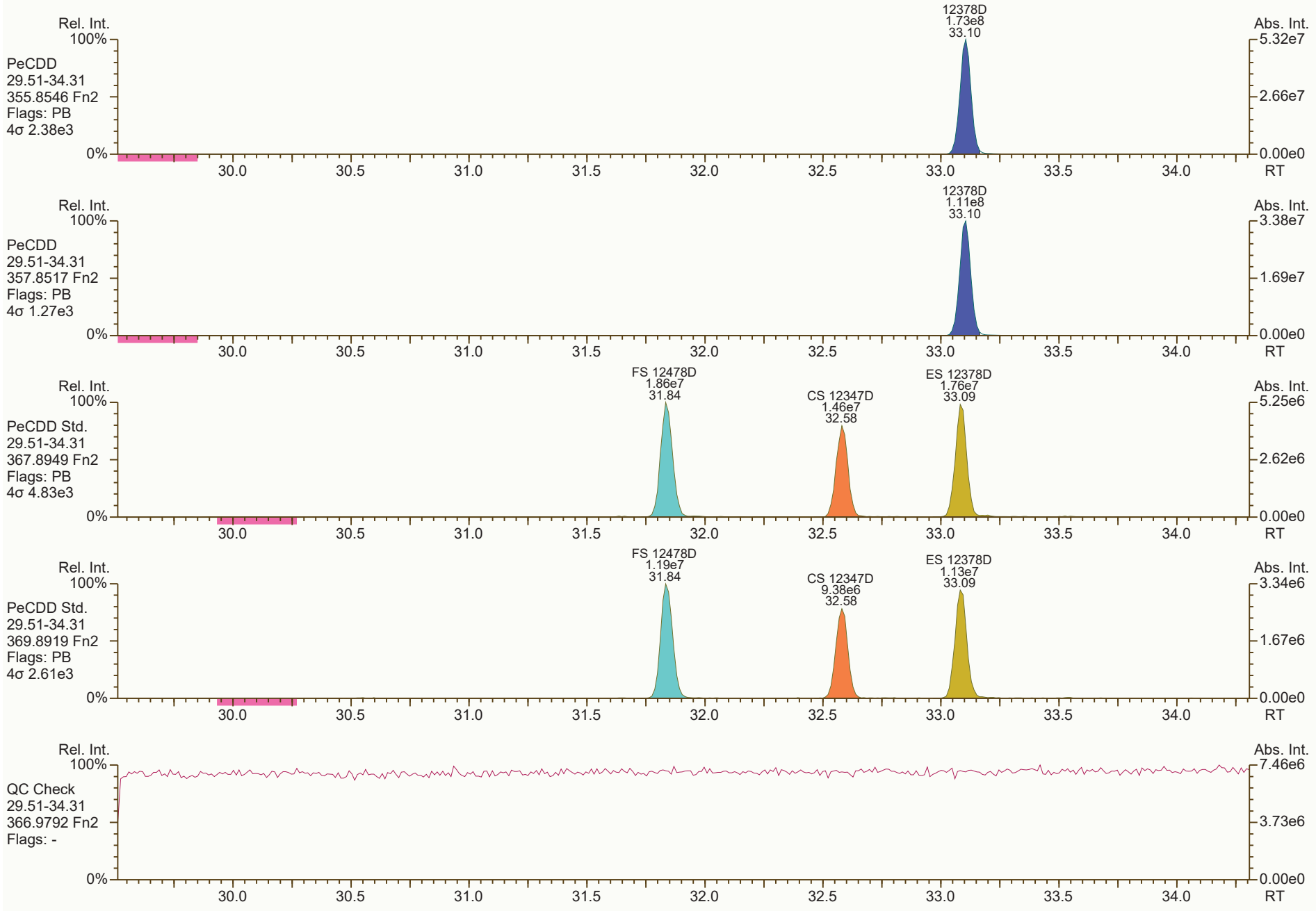
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

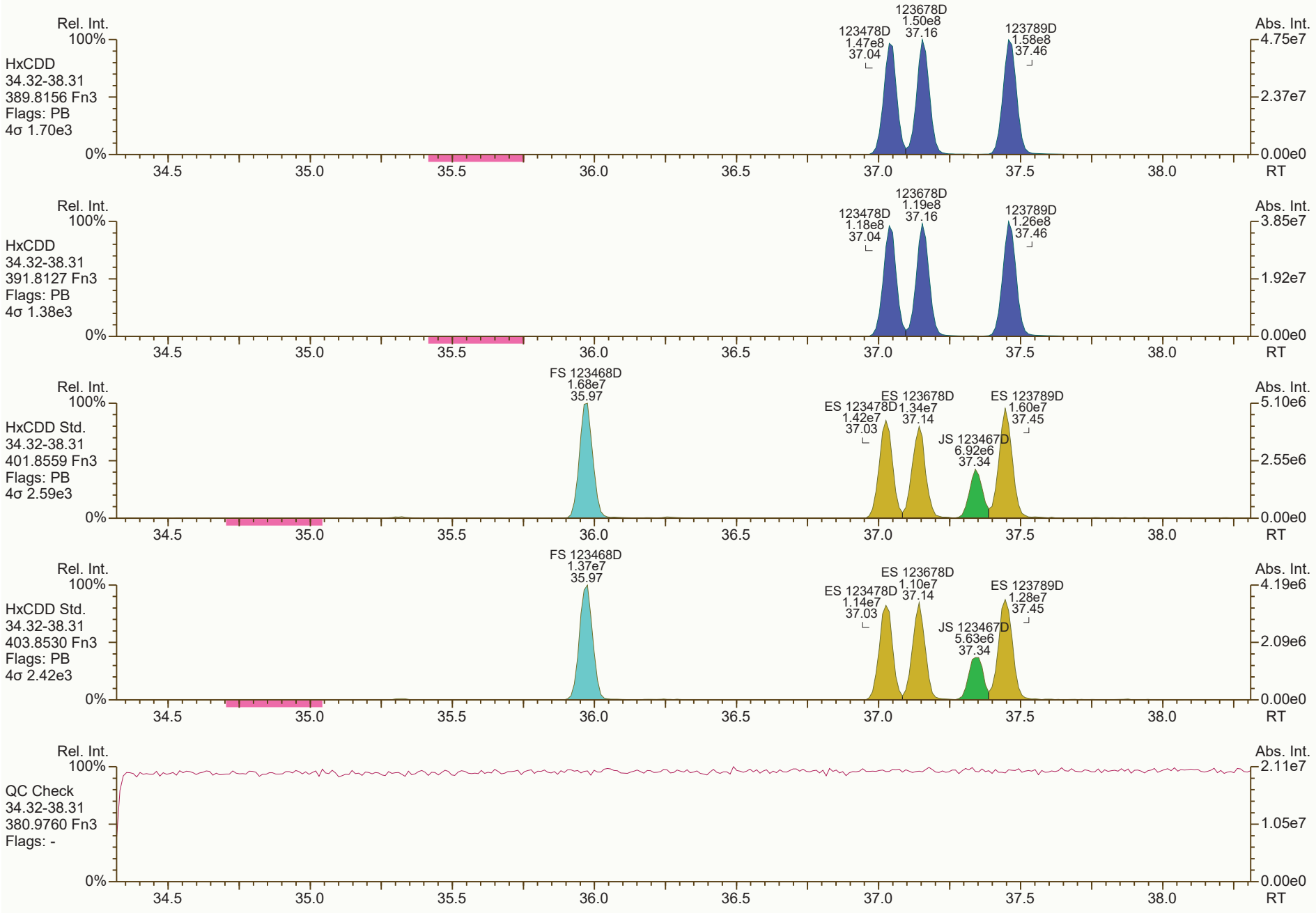
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

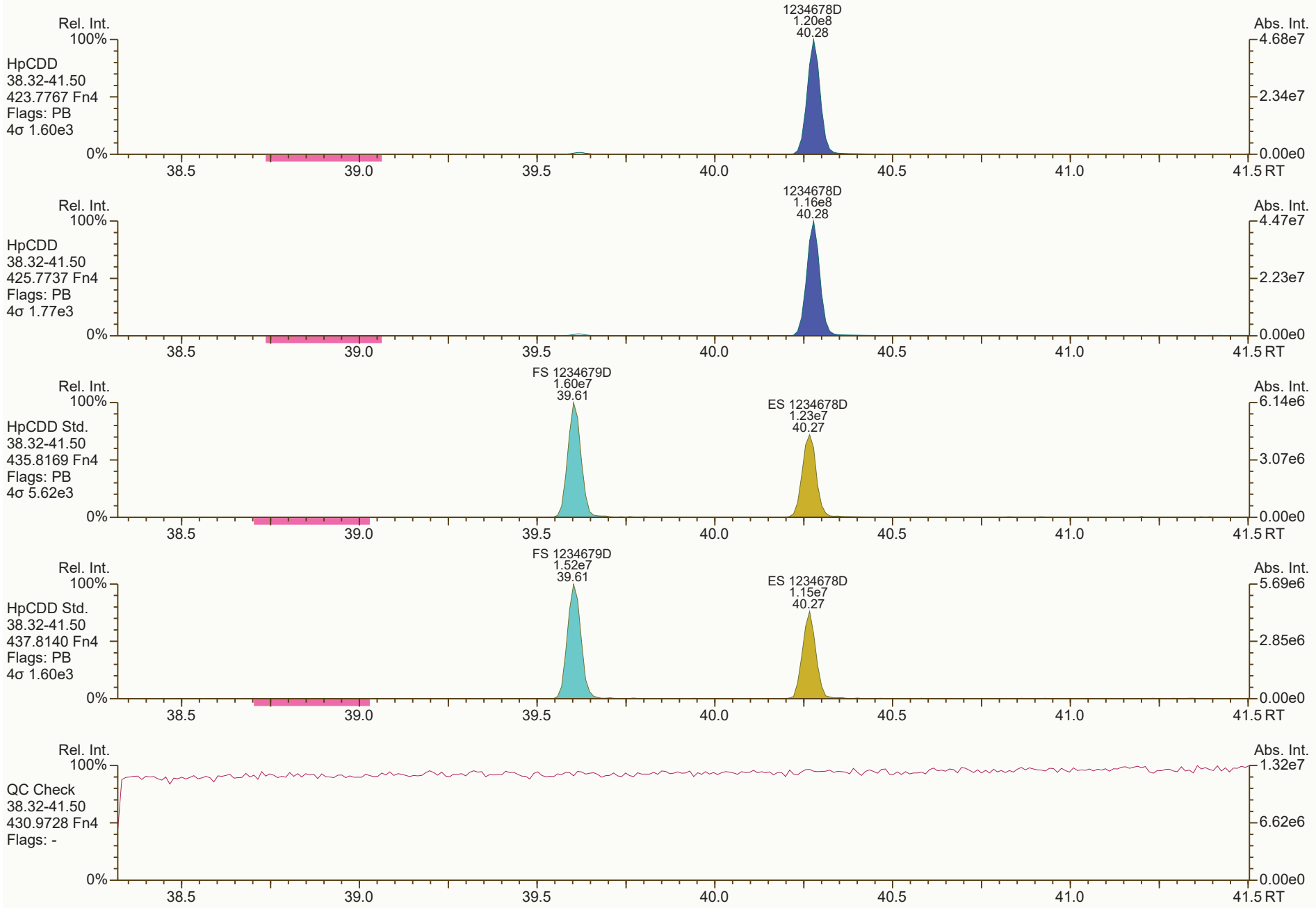
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

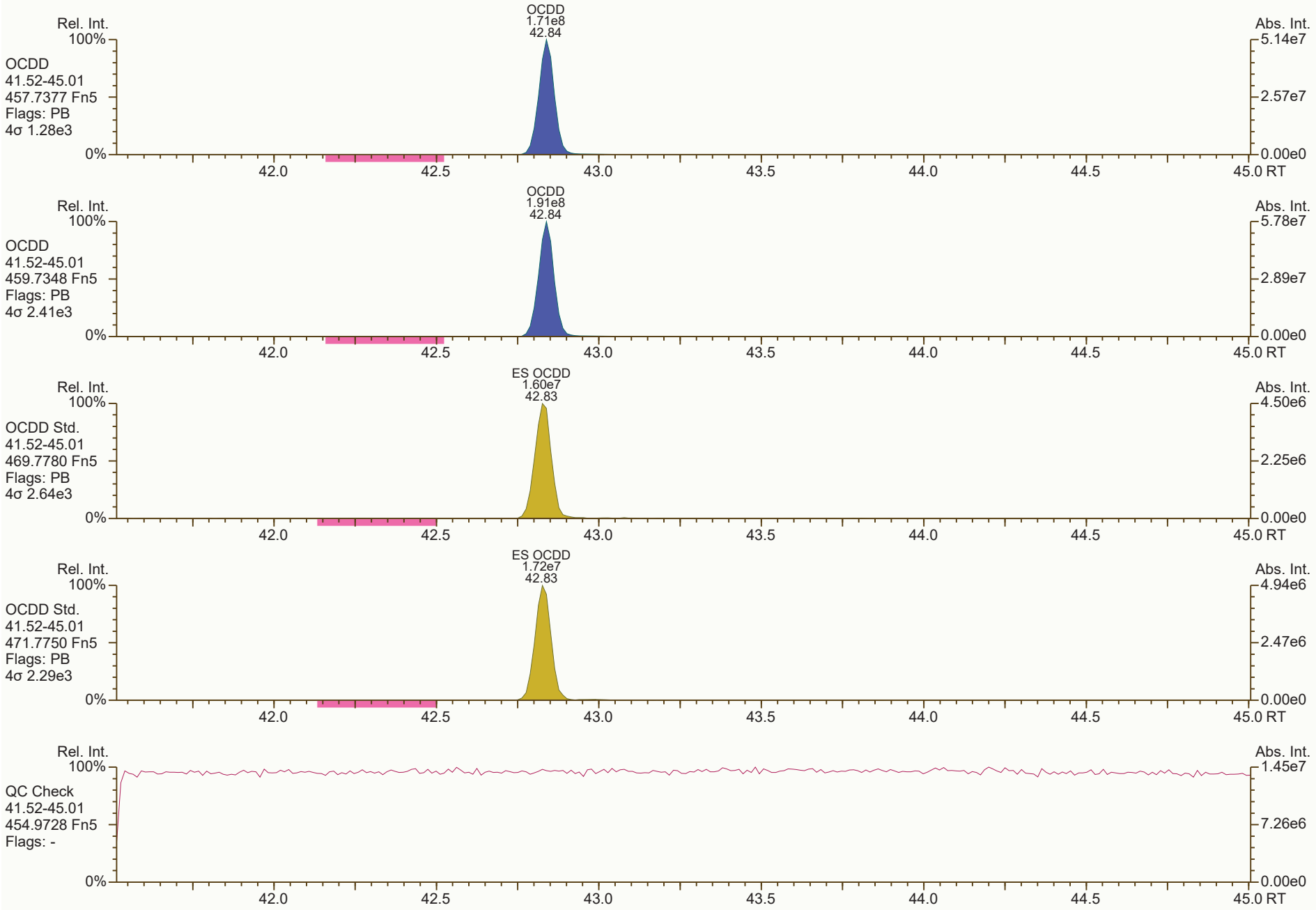

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.46e6
3.73e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.11e7
1.05e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.32e7
6.62e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.45e7
7.26e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

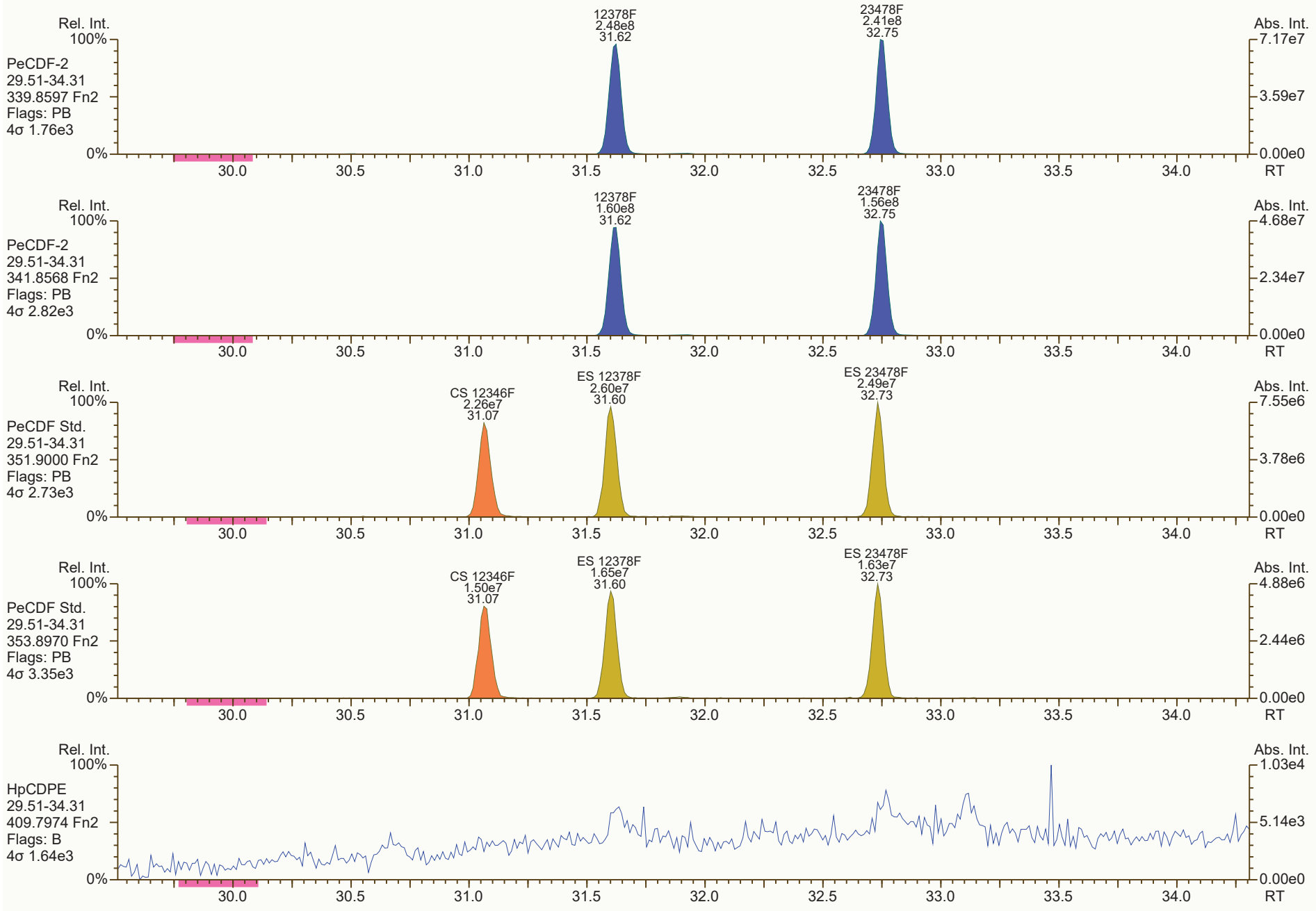

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

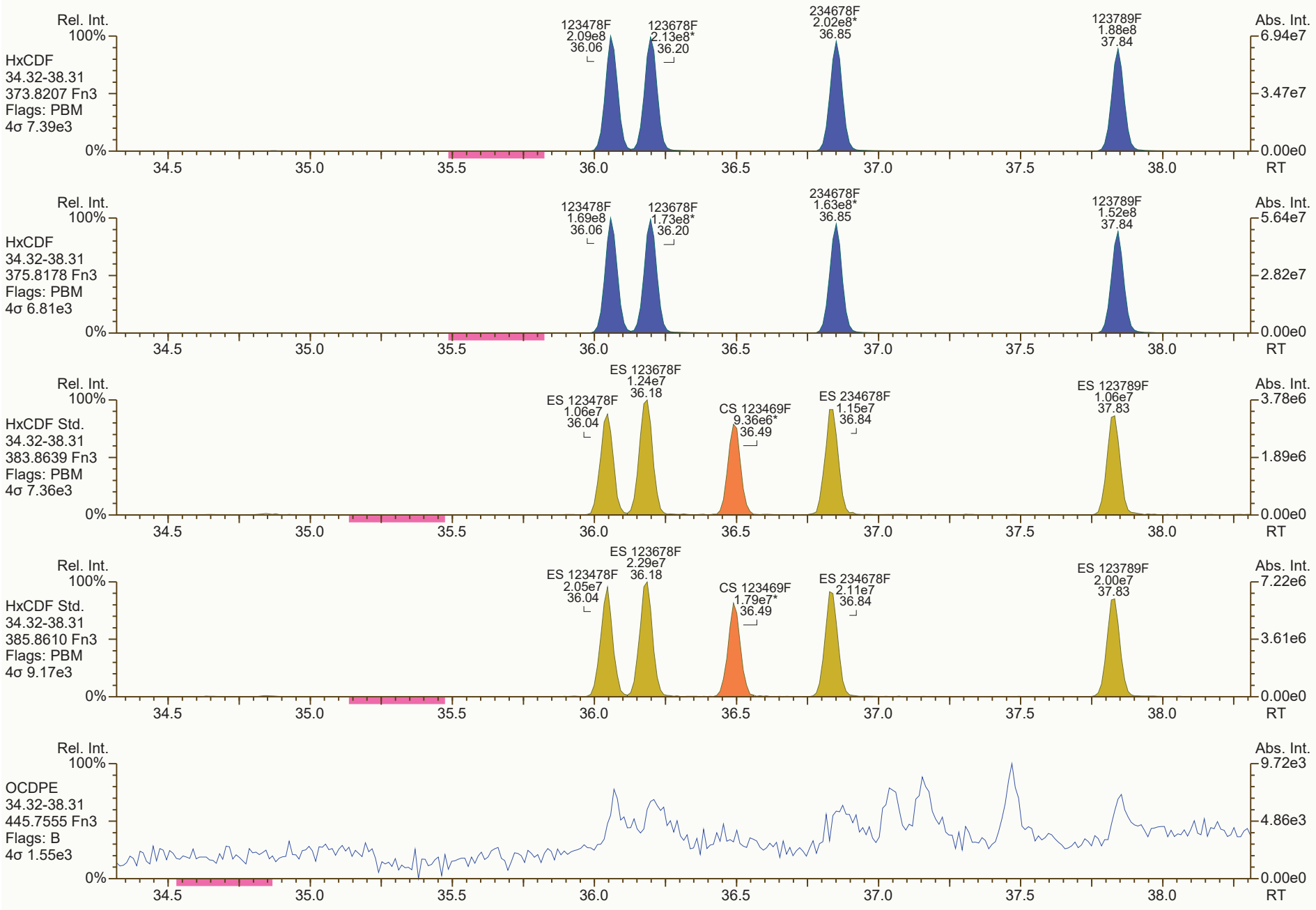

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

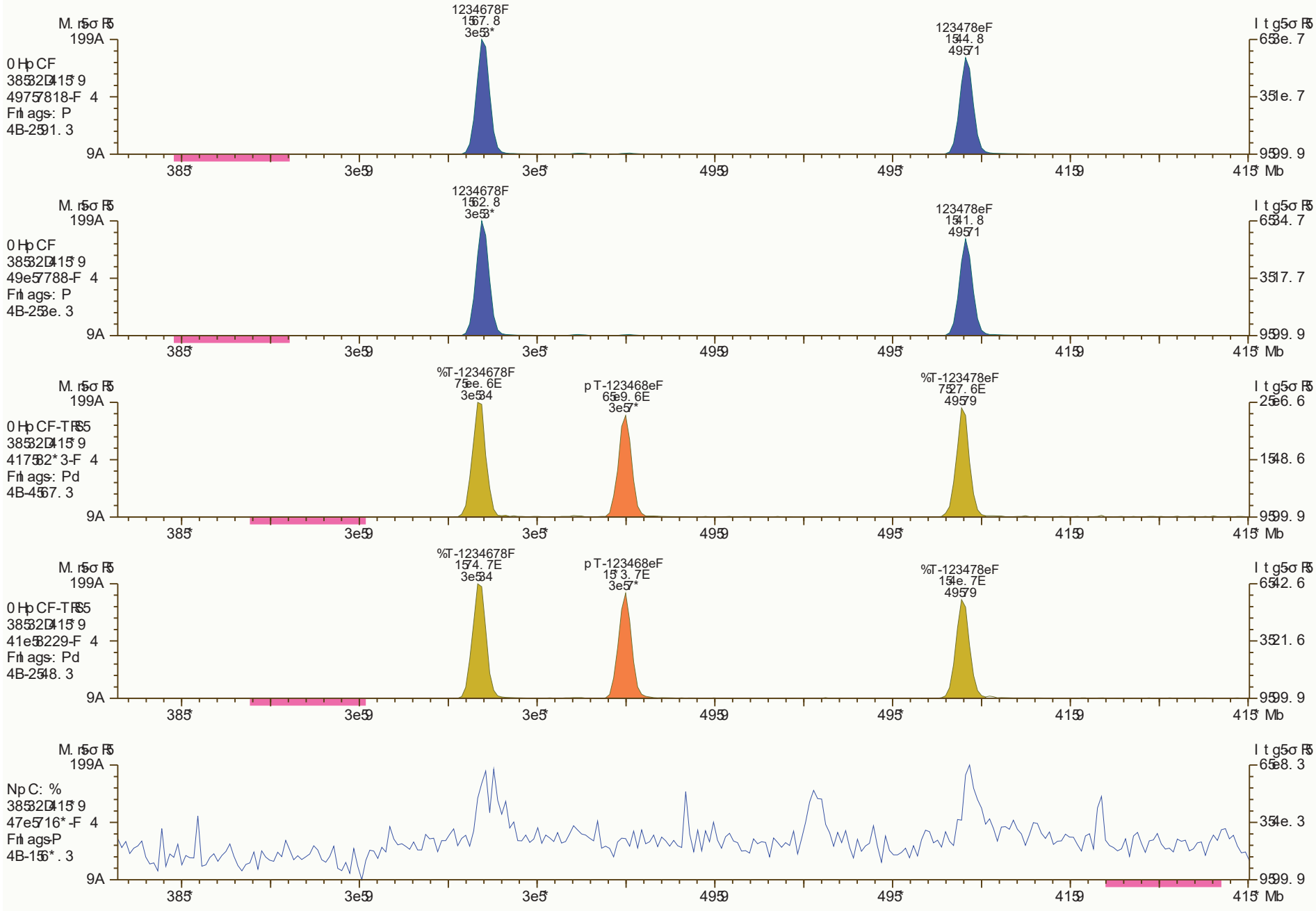

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


1234678F
123478eF
%T-1234678F
pT-123468eF
%T-123478eF
385
3e59
3e5
495
415
Mb

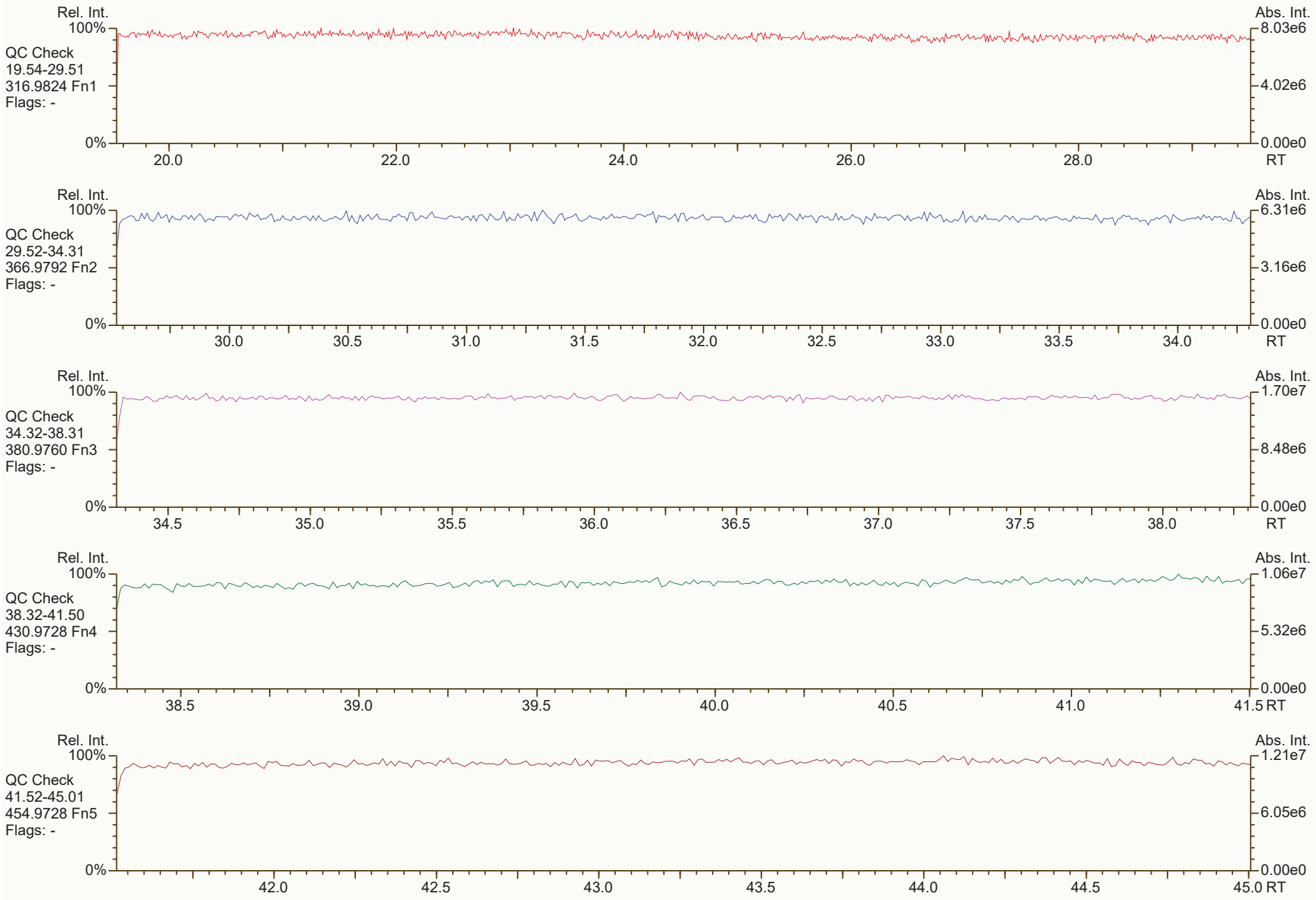

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

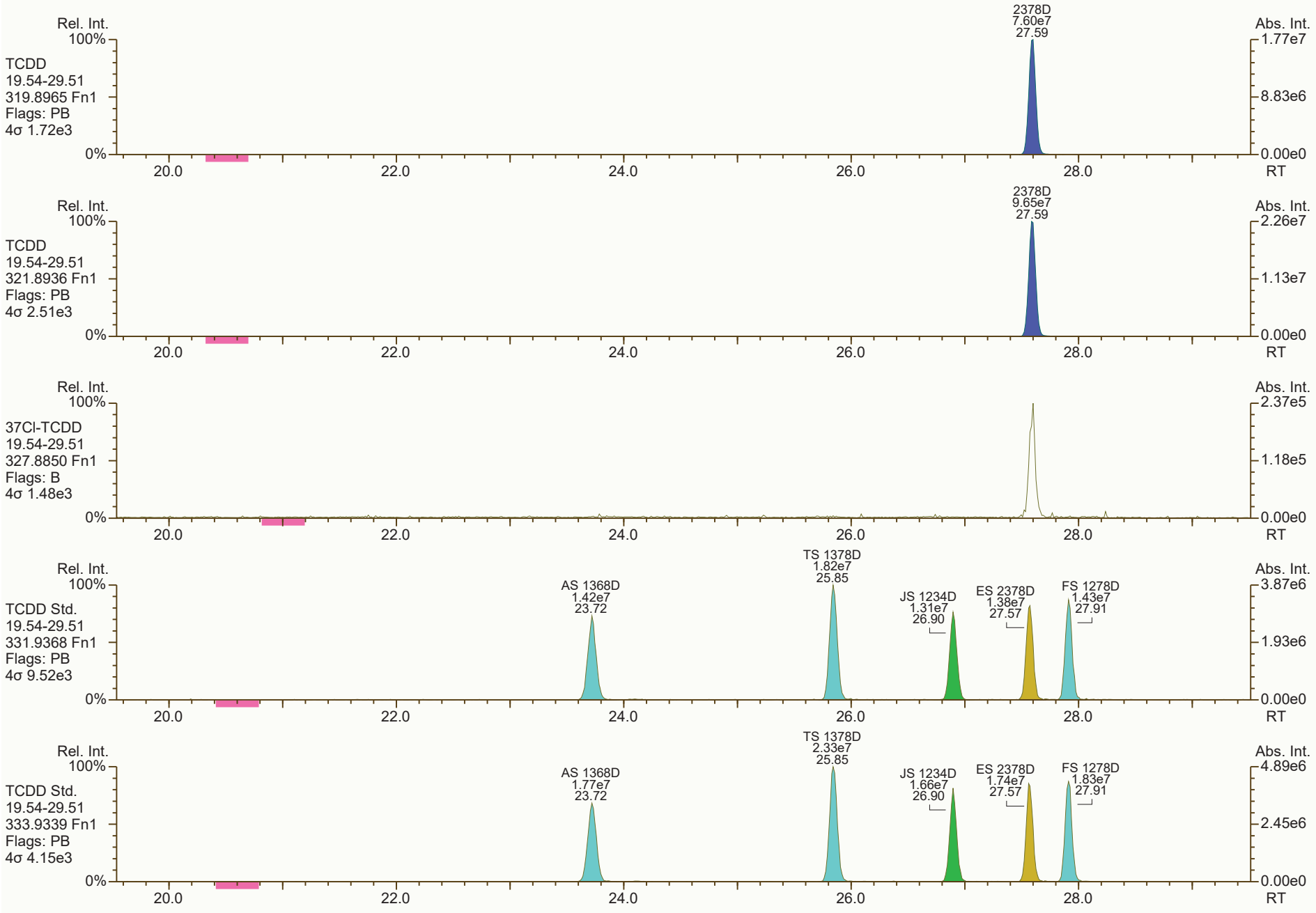
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

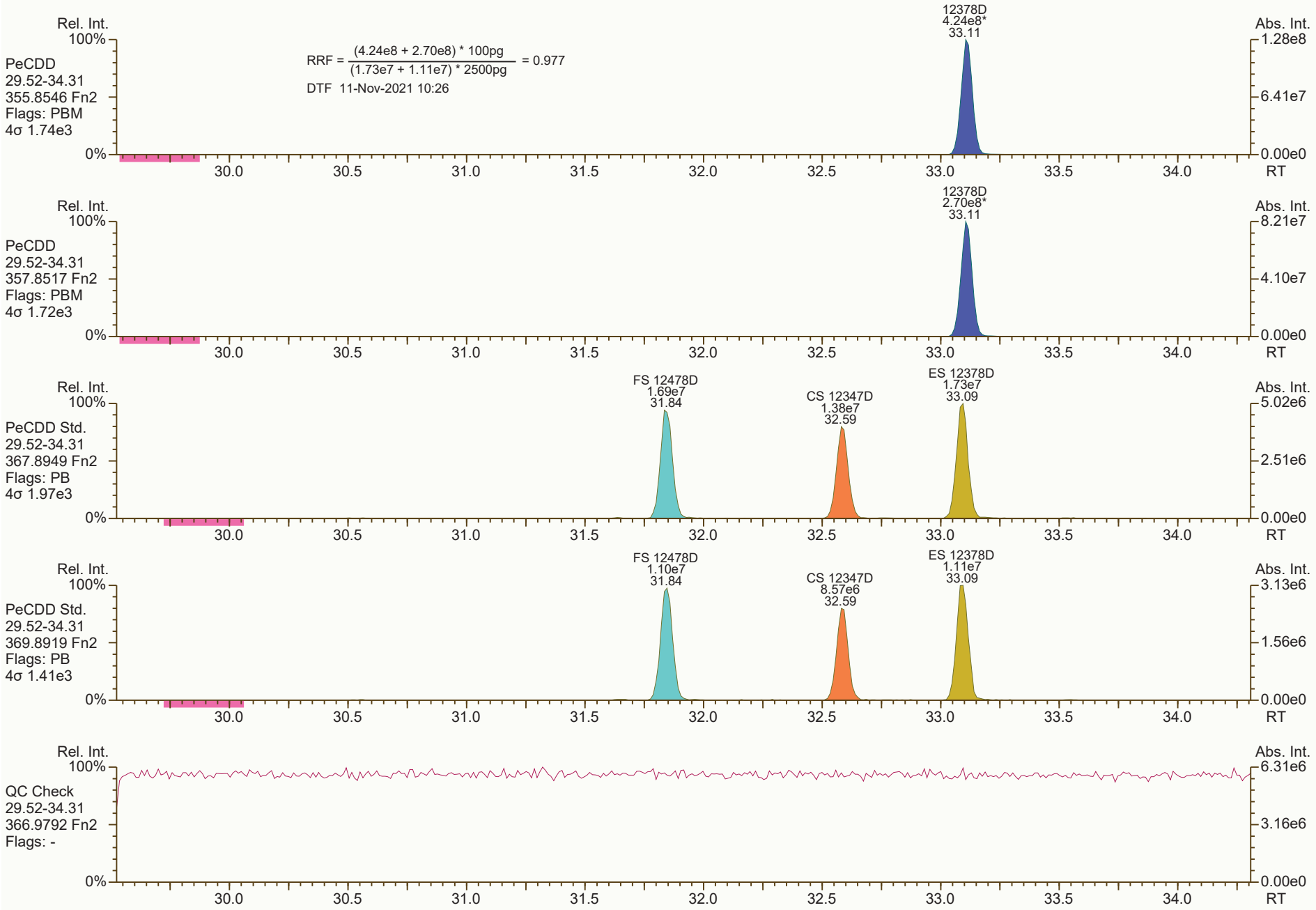
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

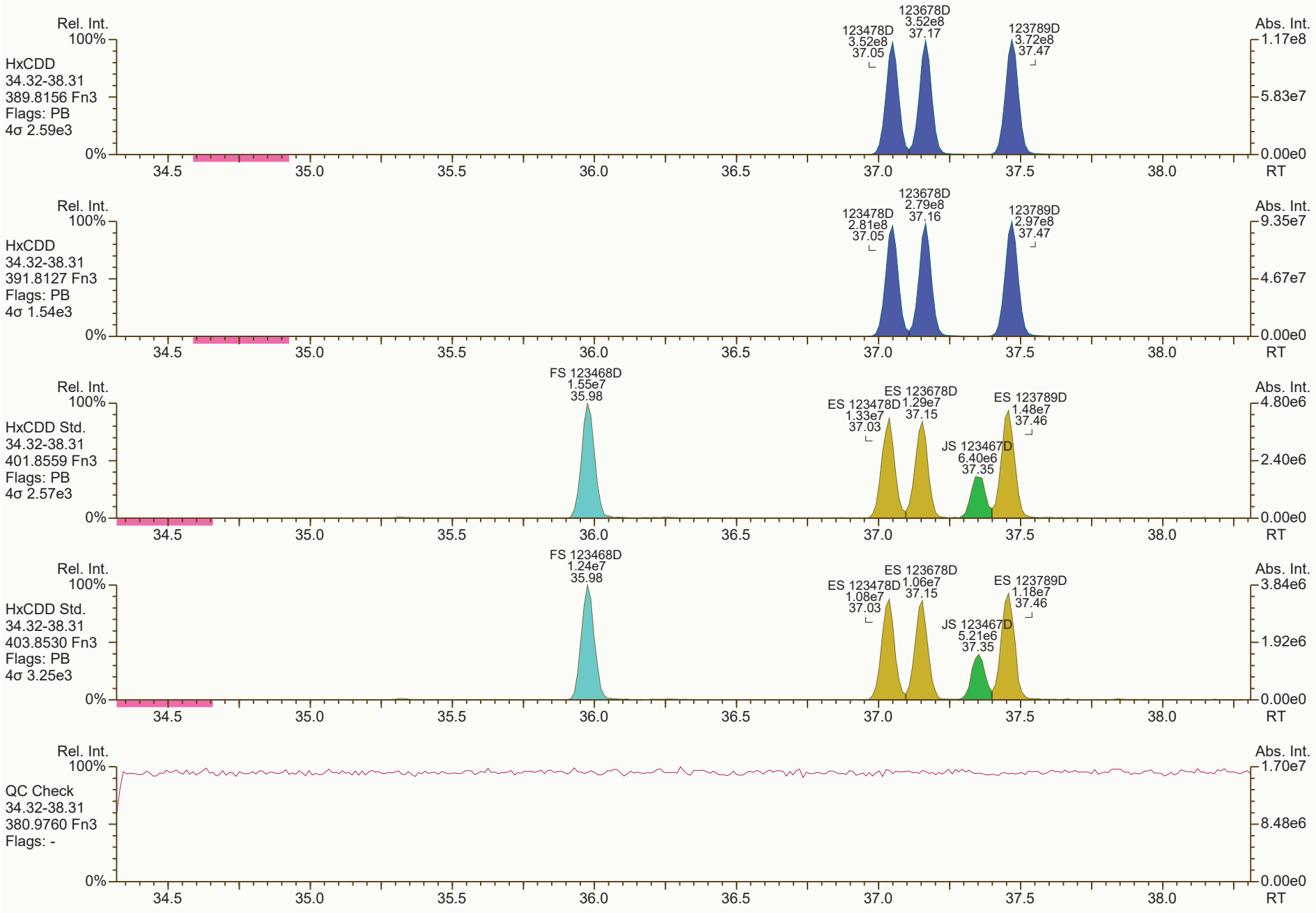
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

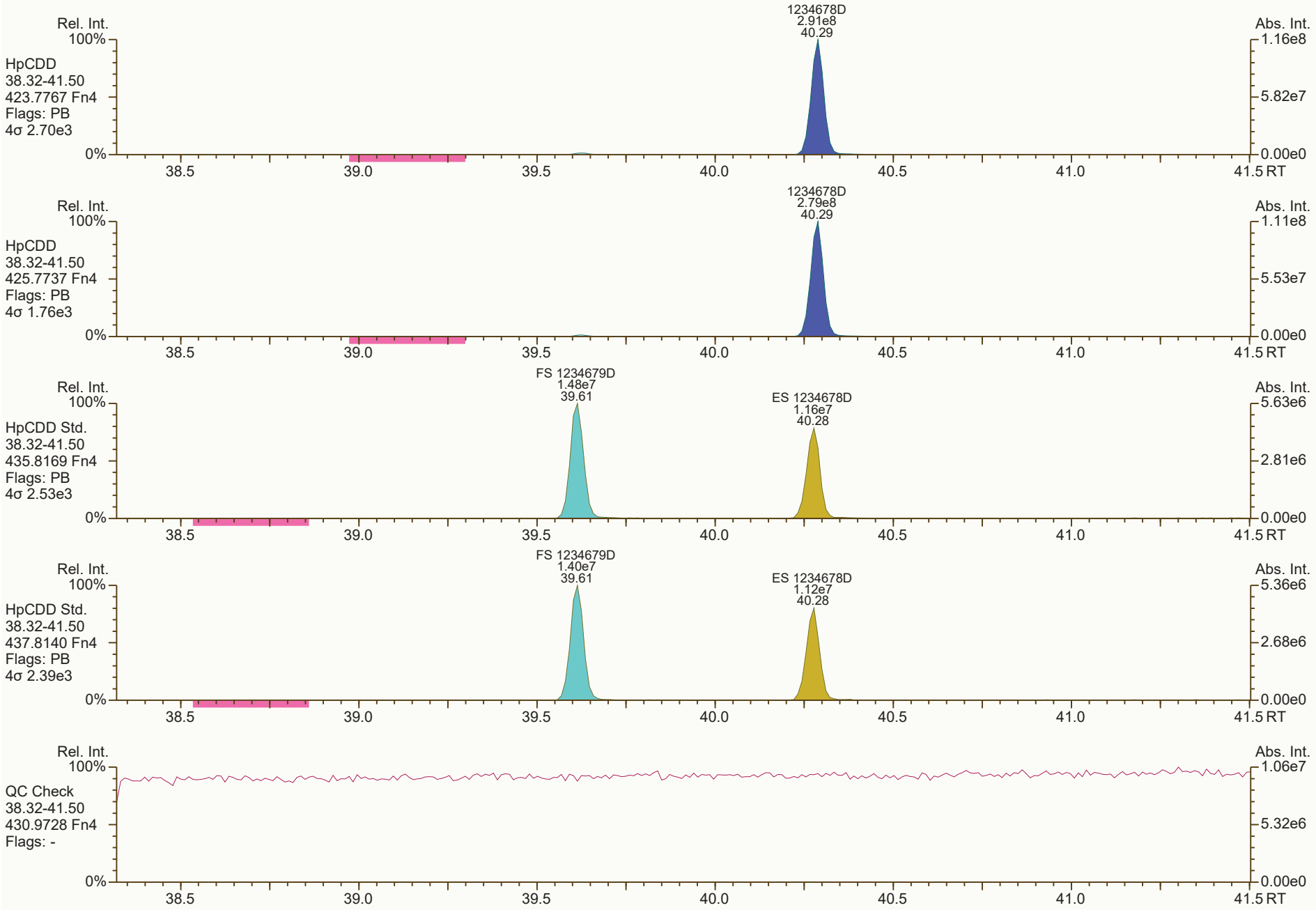
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

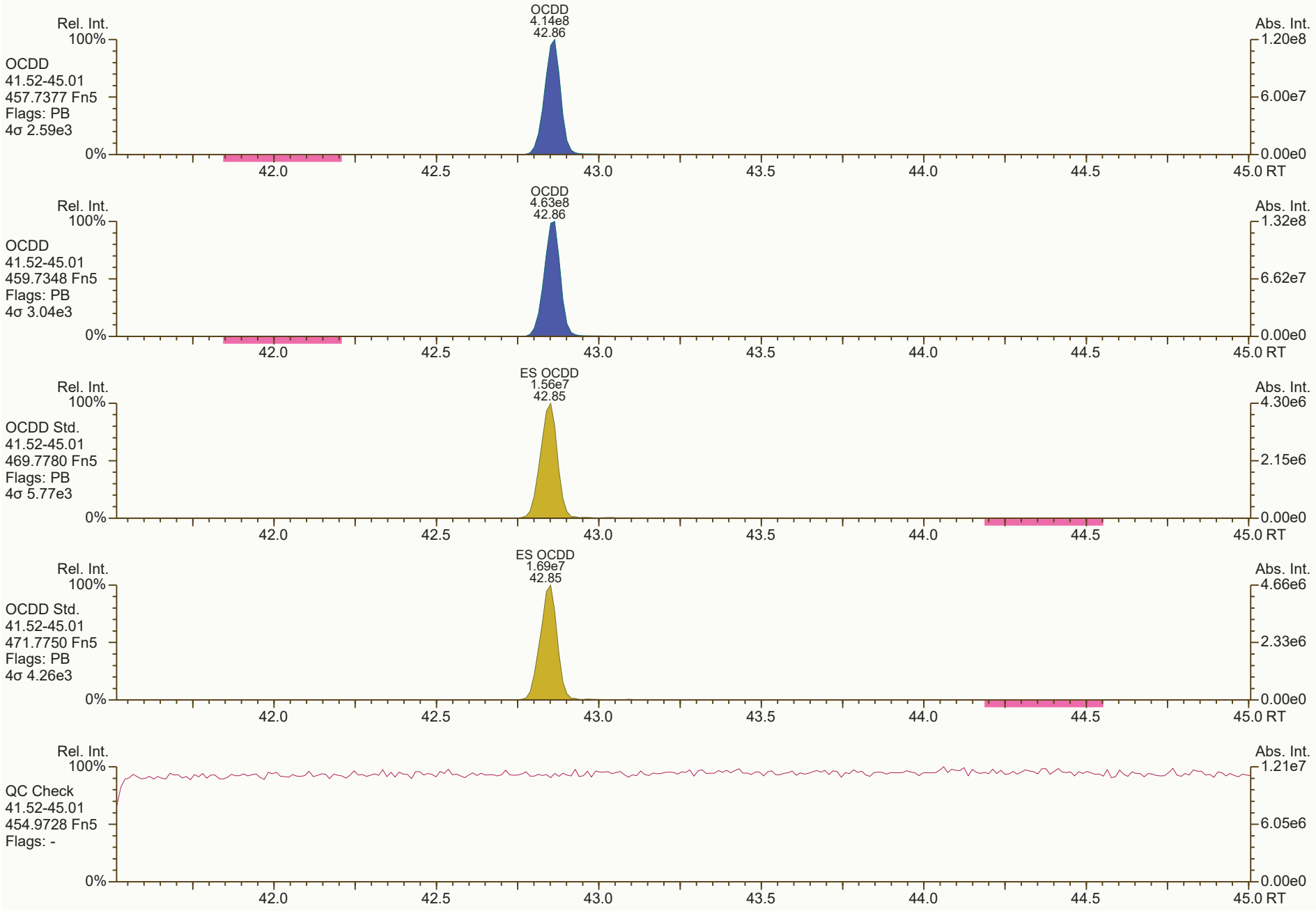

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
12378D
2.70e8*
33.11
8.21e7
4.10e7
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
5.02e6
2.51e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
3.13e6
1.56e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
6.31e6
3.16e6

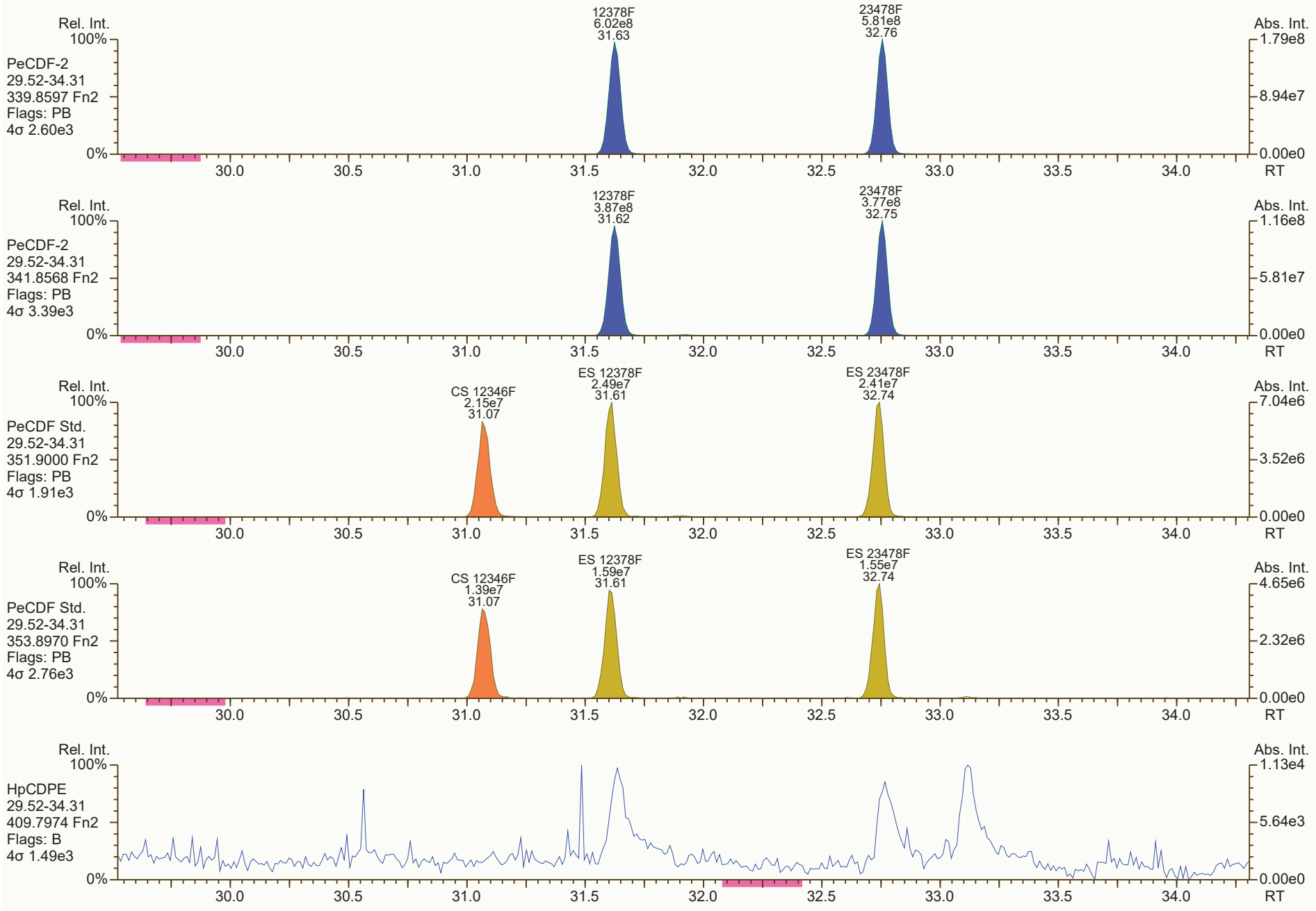

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

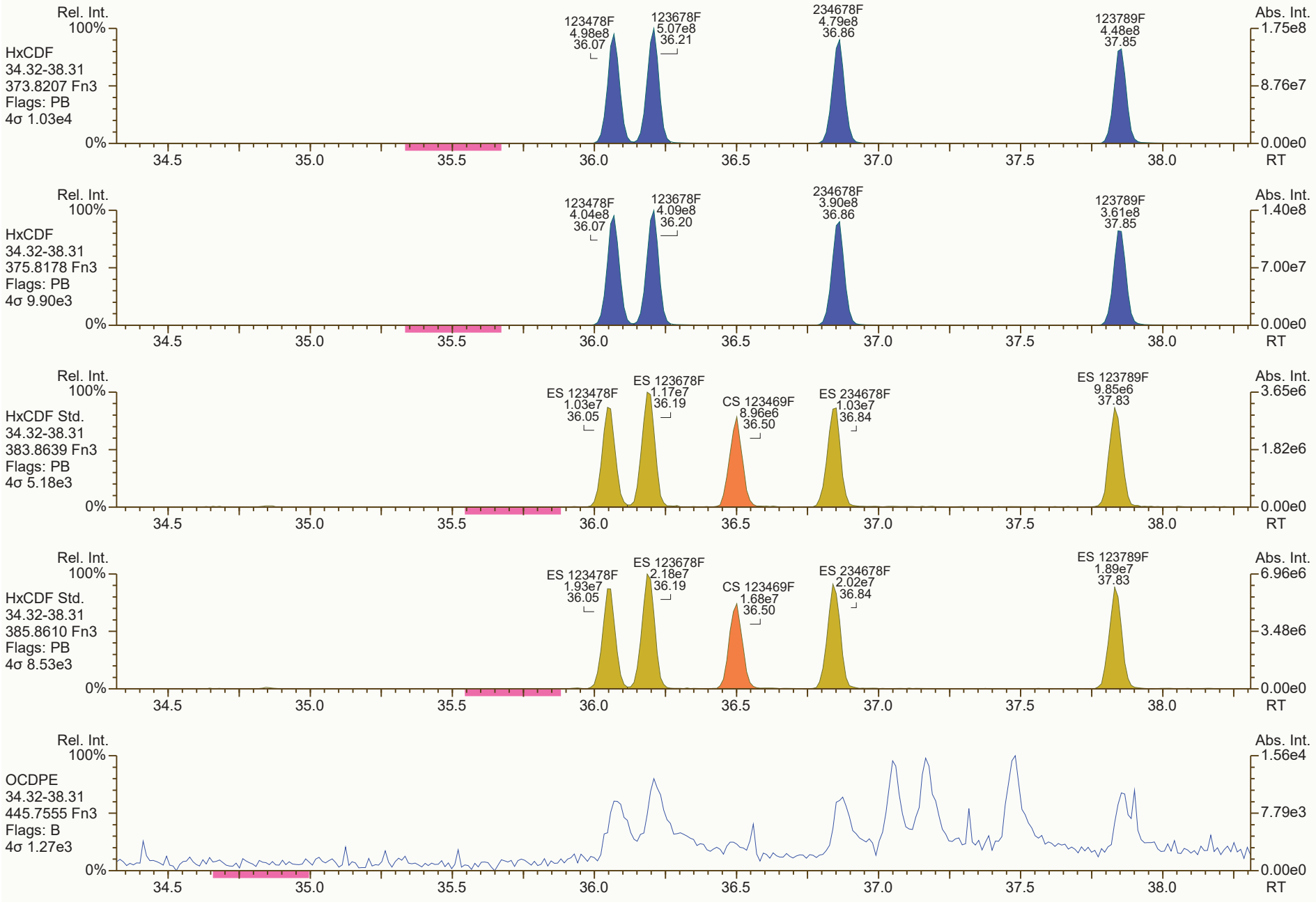

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

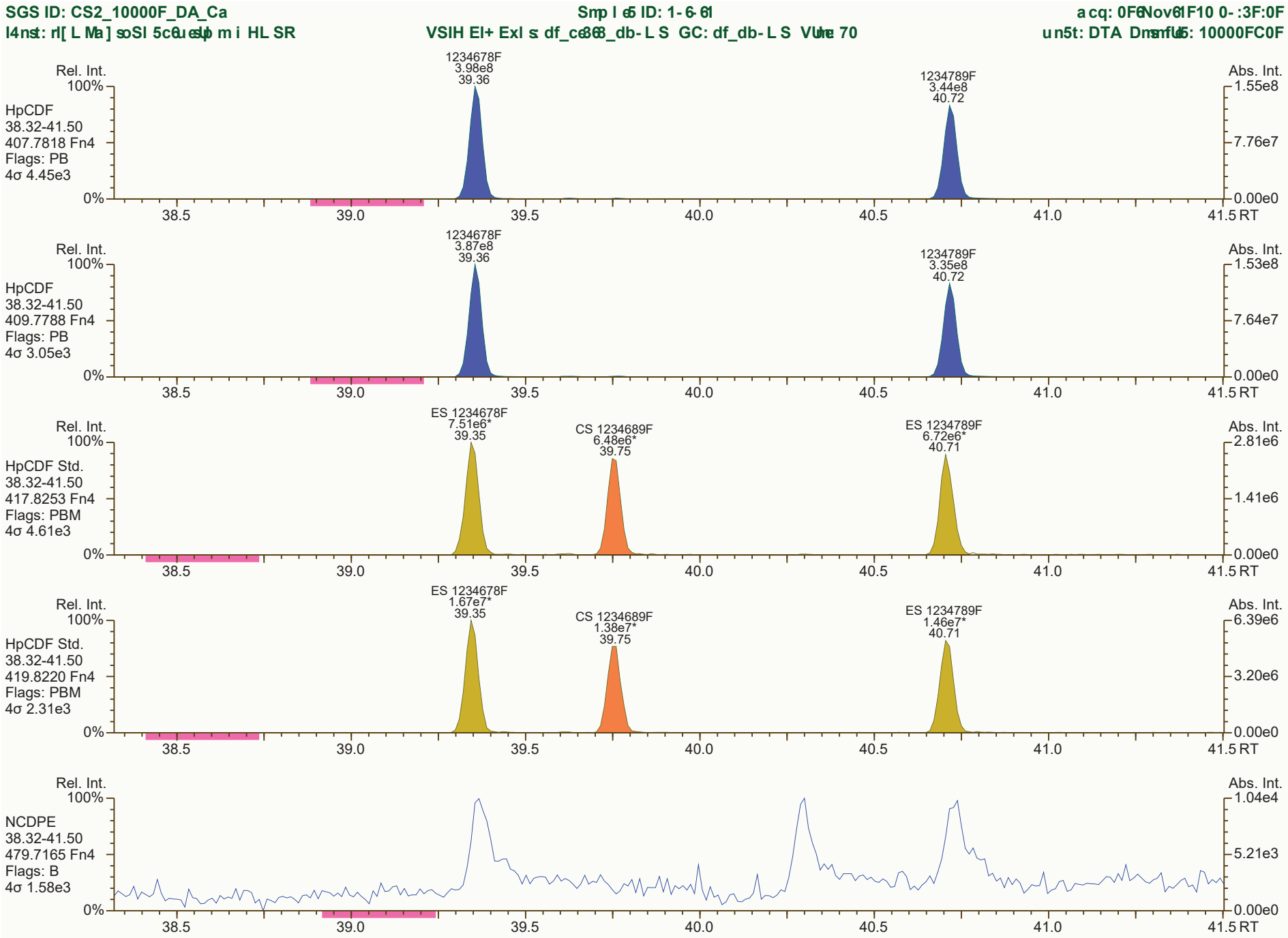

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

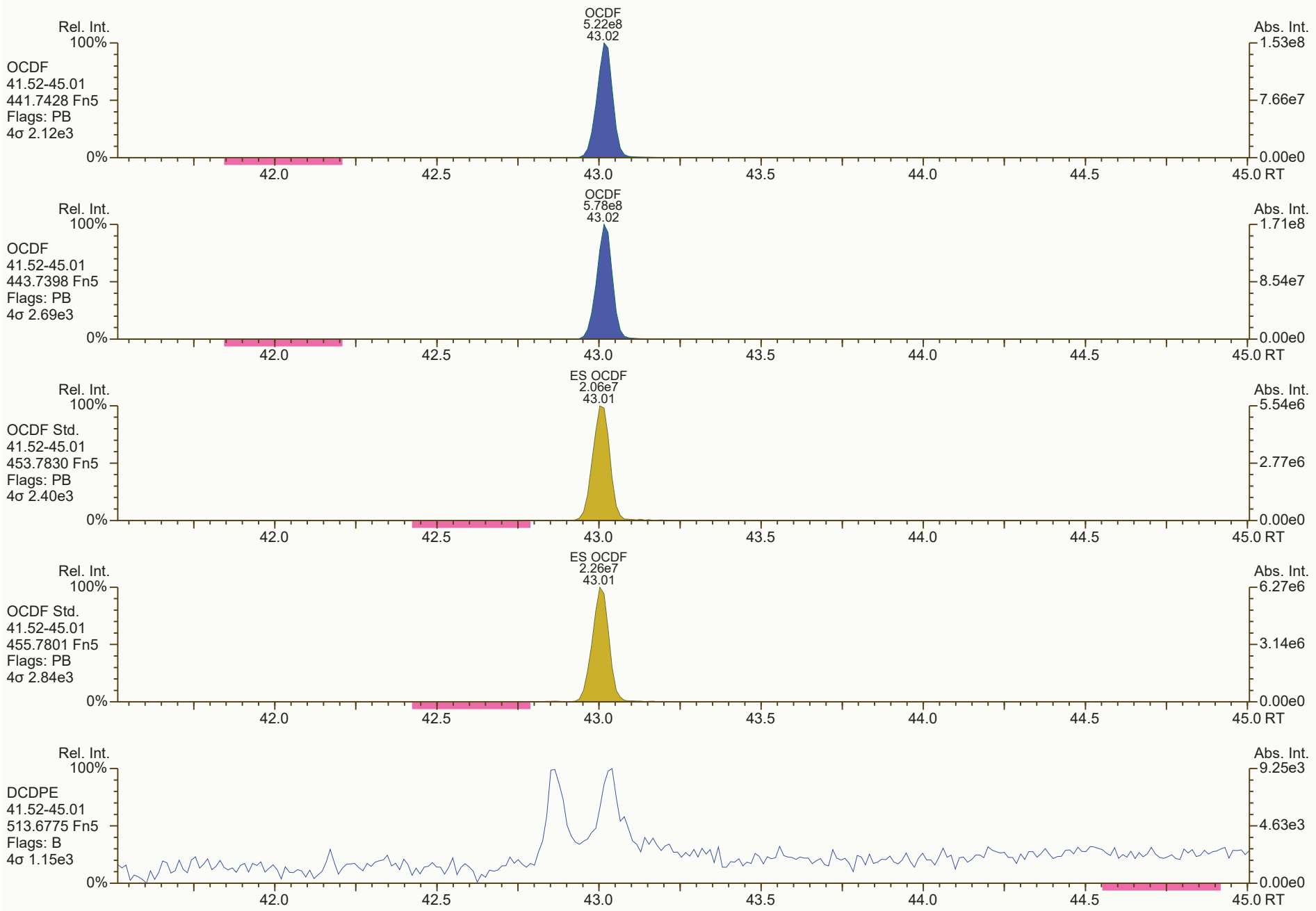

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

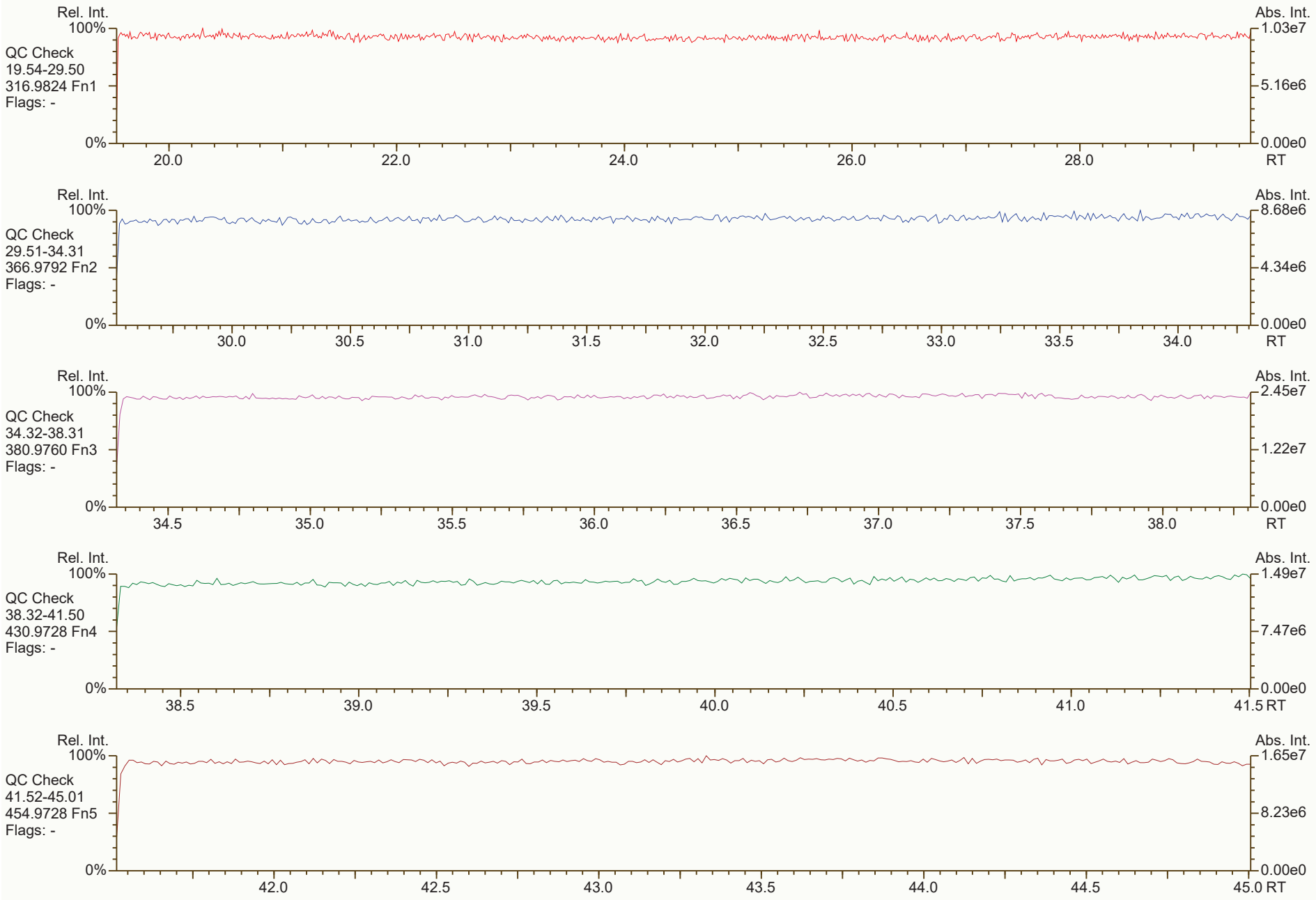

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

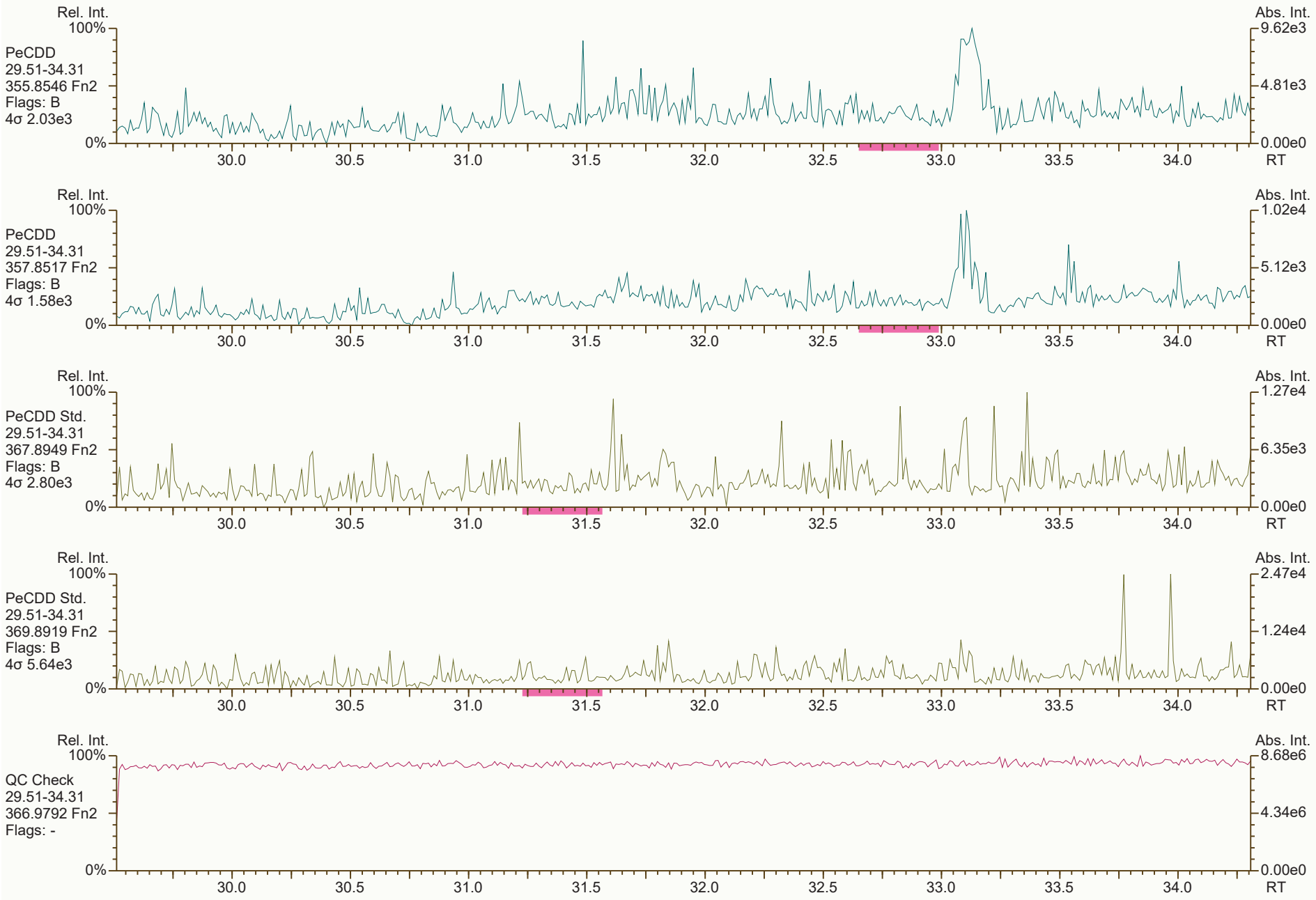

SGS ID: CS2_10000F_DA_Ca
Smp l e5 ID: 1-6-61
a cq: 0F6Nov61F10 0-:3F:0F
VSIH El+ Exl s: df_ce868_db-L S GC: df_db-L S Vuhe 70
un5t: DTA Dmsmfu5: 10000FC0F
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
1.55e8
7.76e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
1.53e8
7.64e7
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
2.81e6
1.41e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
6.39e6
3.20e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
1.04e4
5.21e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.03e7
5.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.68e6
4.34e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.45e7
1.22e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.49e7
7.47e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.65e7
8.23e6
0.00e0
RT


Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

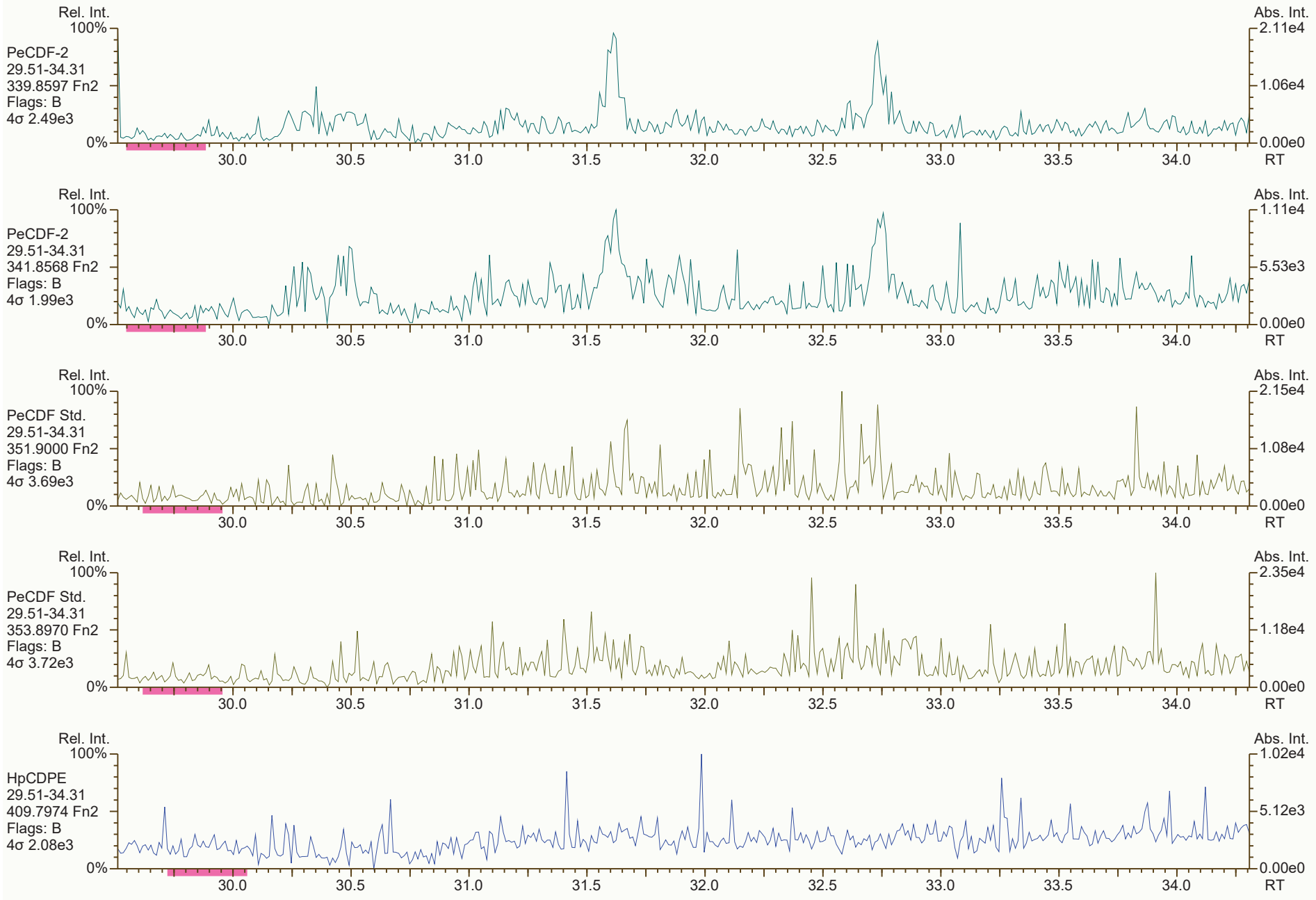

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

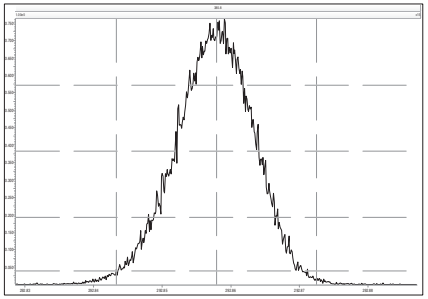

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

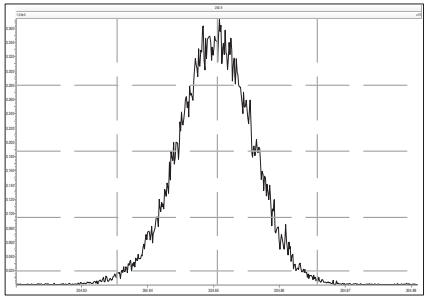
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

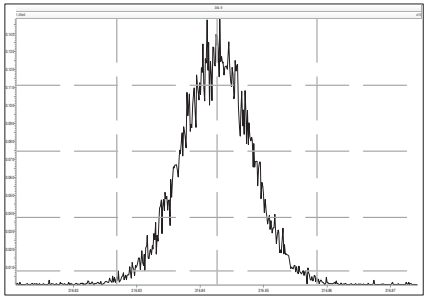
M 292.9824 R 10731



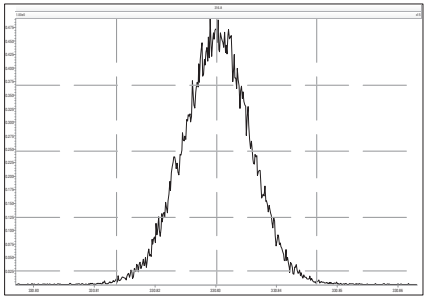
M 304.9824 R 11311



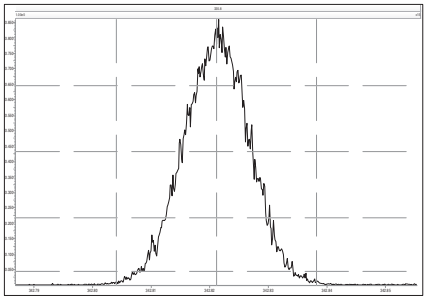
M 316.9824 R 12373



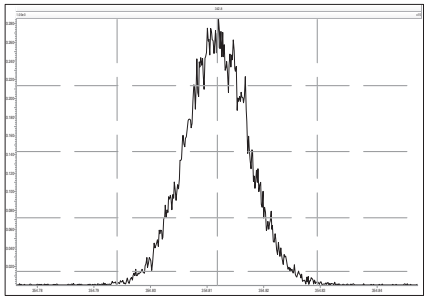
M 330.9792 R 12887



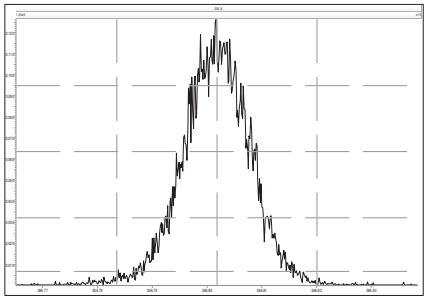
M 342.9792 R 12818



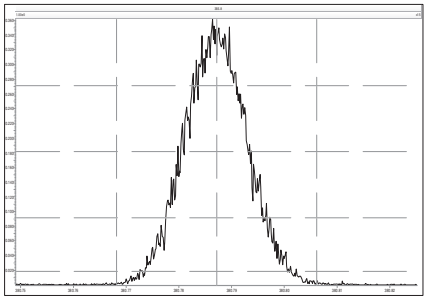
M 354.9792 R 12882



M 366.9792 R 13368



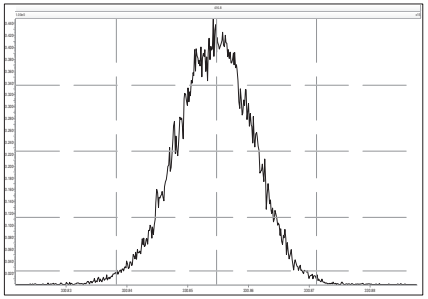
M 380.9760 R 13658



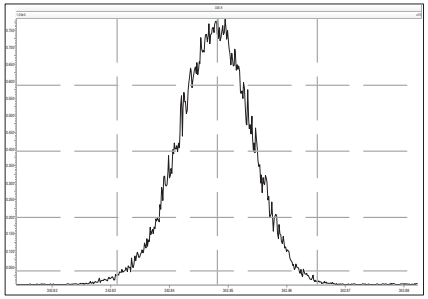
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

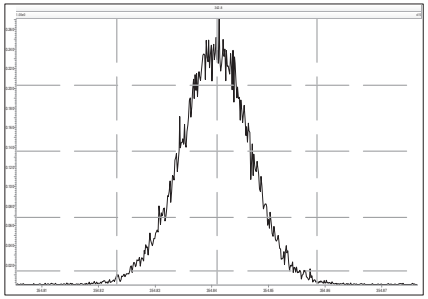
M 330.9792 R 11112



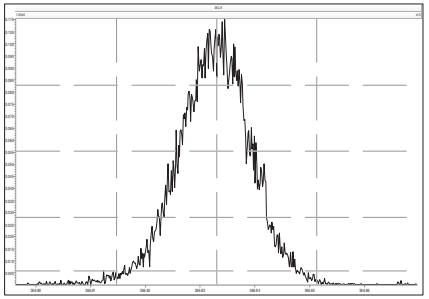
M 342.9792 R 11909



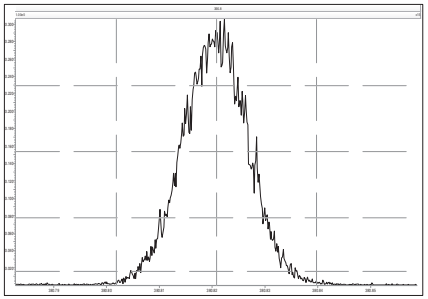
M 354.9792 R 11684



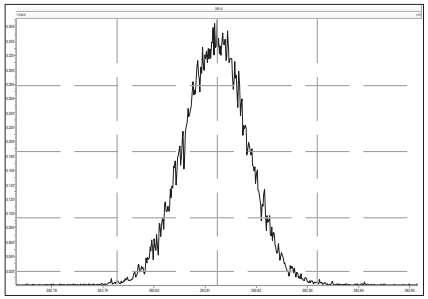
M 366.9792 R 11962



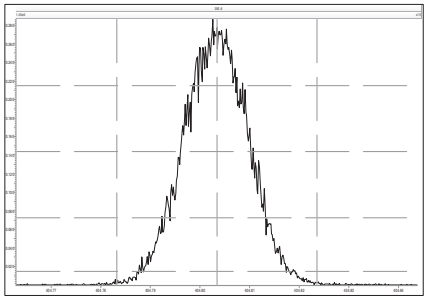
M 380.9760 R 13161



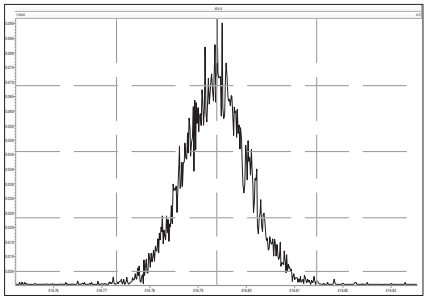
M 392.9760 R 13968



M 404.9760 R 13227



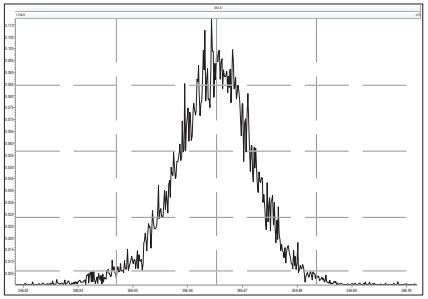
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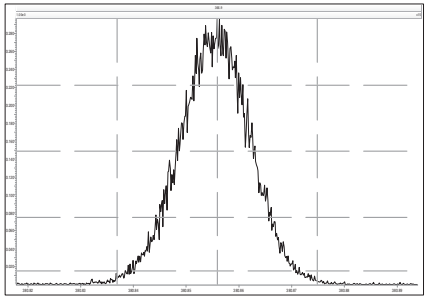
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

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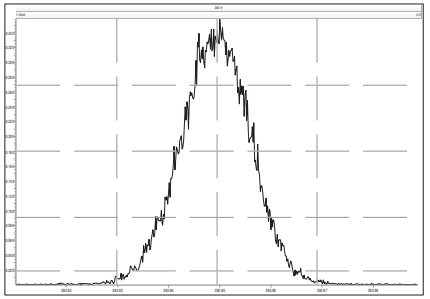
M 366.9792 R 10680



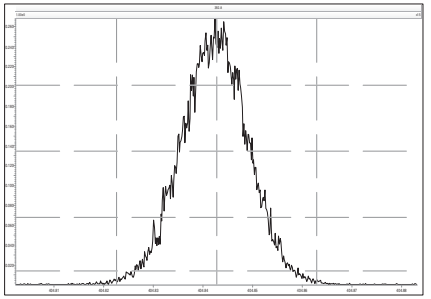
M 380.9760 R 12315



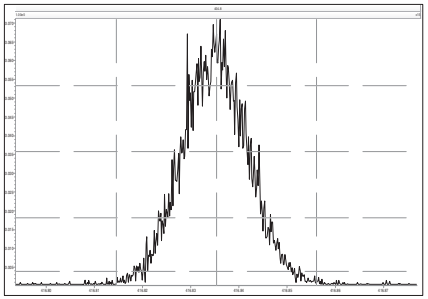
M 392.9760 R 12197



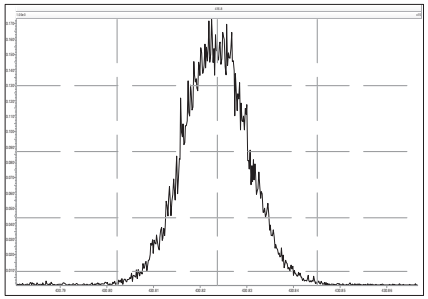
M 404.9760 R 12433



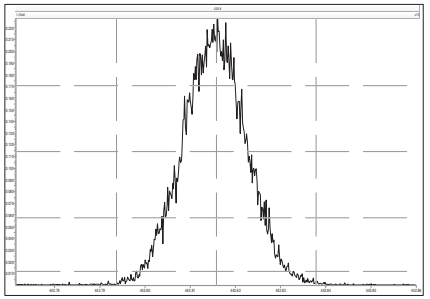
M 416.9760 R 13660



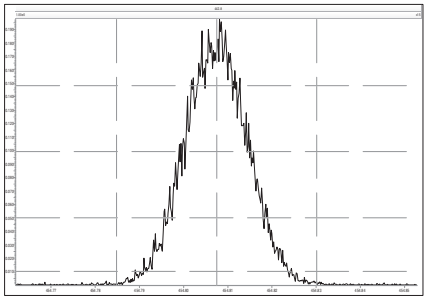
M 430.9728 R 13295



M 442.9728 R 13364



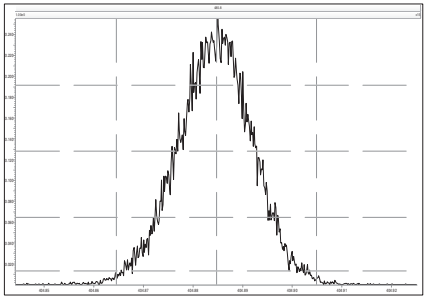
M 454.9728 R 13810



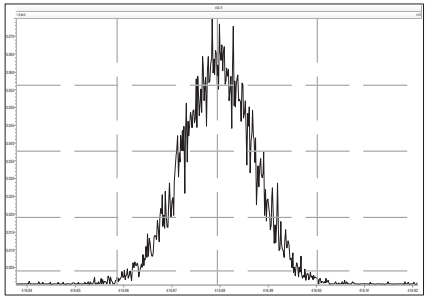
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

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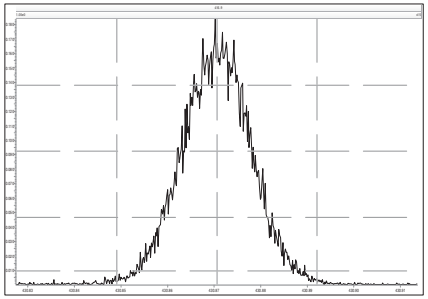
M 404.9760 R 11679



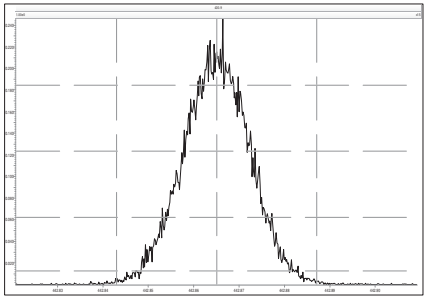
M 416.9760 R 12886



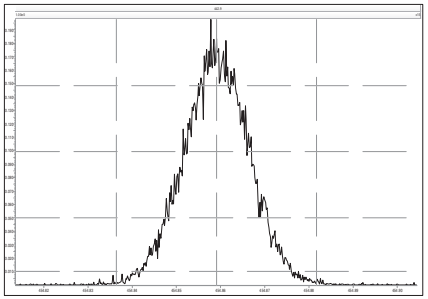
M 430.9728 R 12253



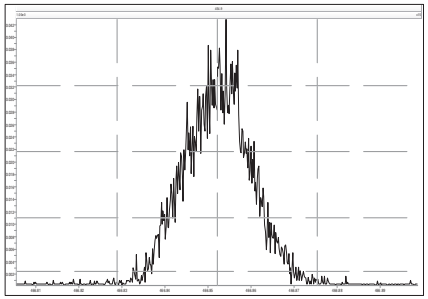
M 442.9728 R 12756



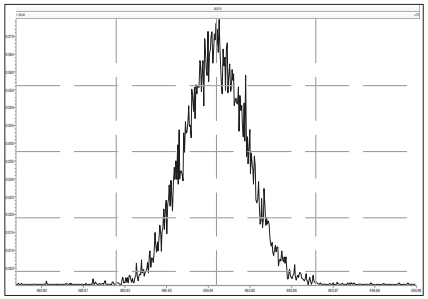
M 454.9728 R 13157



M 466.9728 R 13810



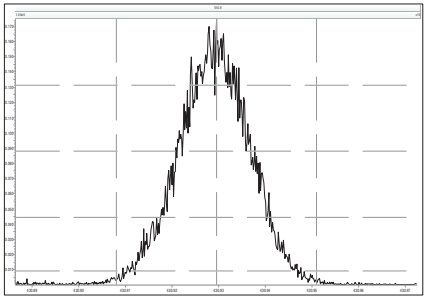
M 480.9696 R 14046



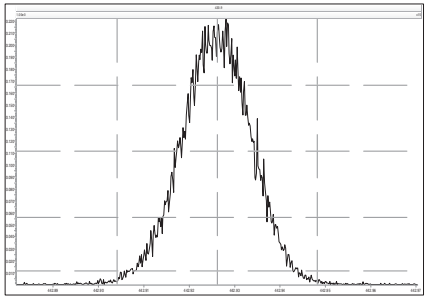
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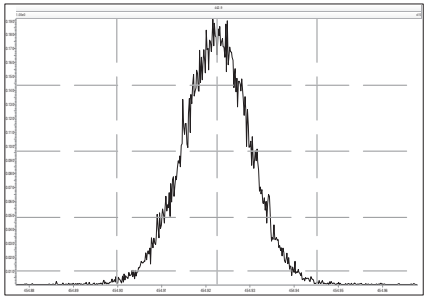
M 430.9728 R 11574



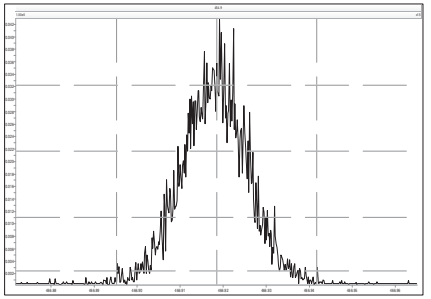
M 442.9728 R 12198



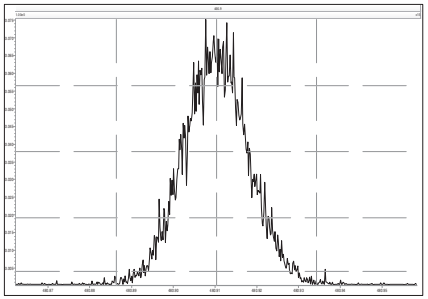
M 454.9728 R 12950



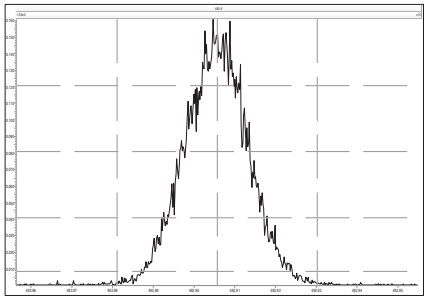
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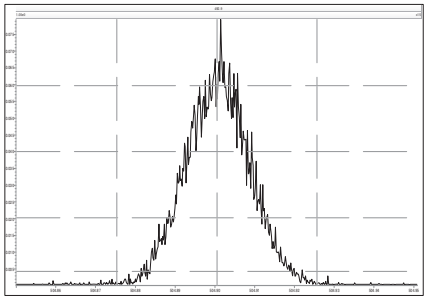
M 480.9696 R 13156



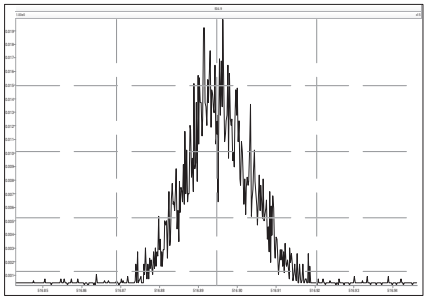
M 492.9696 R 13228



M 504.9696 R 13227



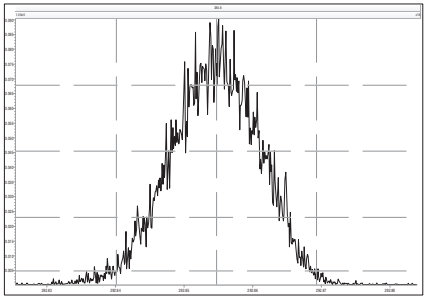
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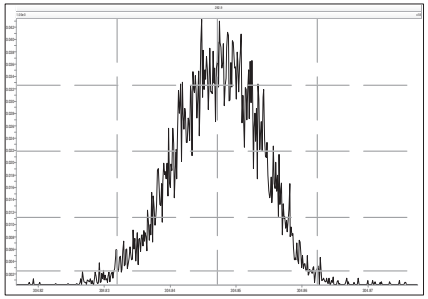
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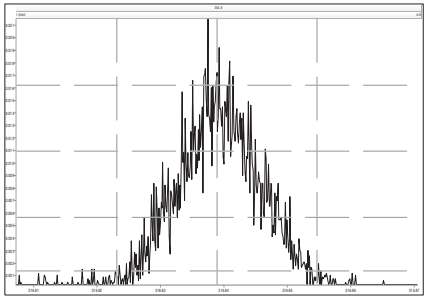
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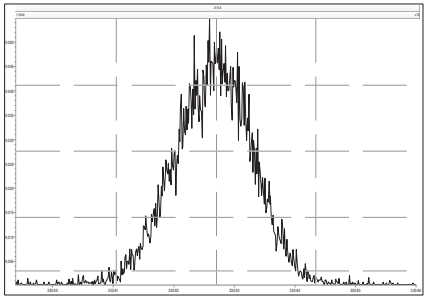
M 304.9824 R 10329



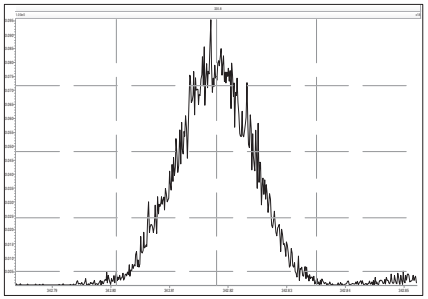
M 316.9824 R 11964



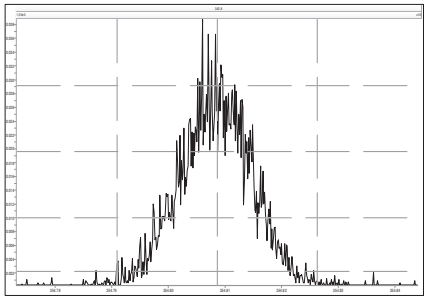
M 330.9792 R 11062



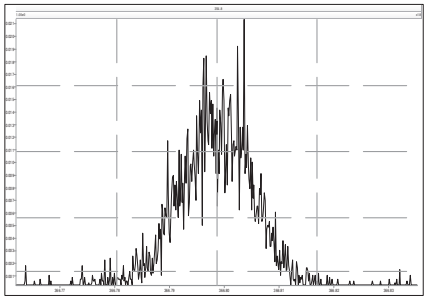
M 342.9792 R 12075



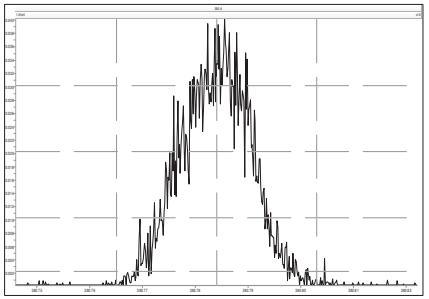
M 354.9792 R 12439



M 366.9792 R 12694



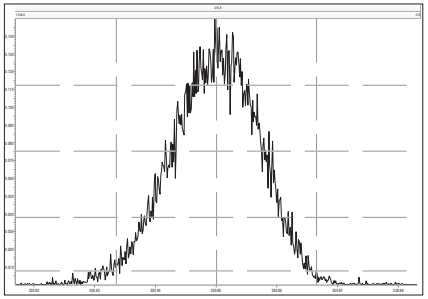
M 380.9760 R 13224



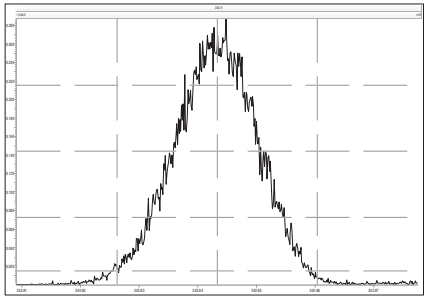
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

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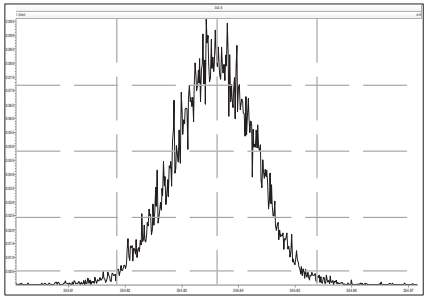
M 330.9792 R 10730



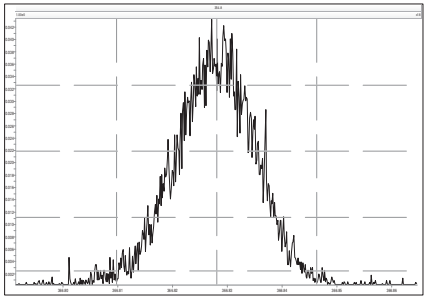
M 342.9792 R 10039



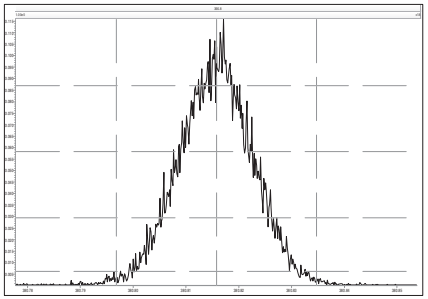
M 354.9792 R 11108



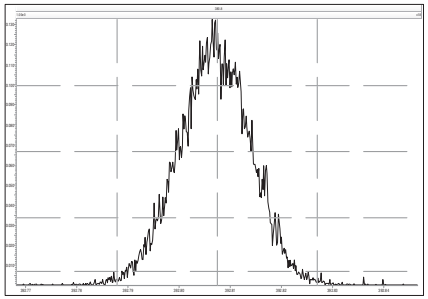
M 366.9792 R 11520



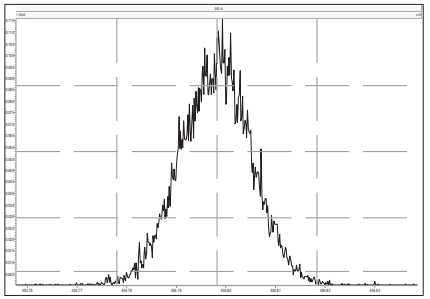
M 380.9760 R 12080



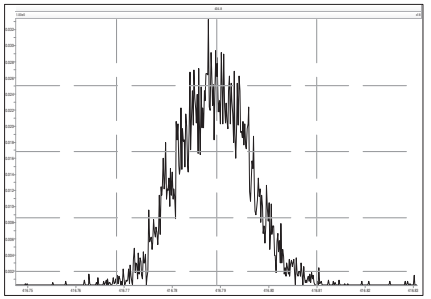
M 392.9760 R 12377



M 404.9760 R 12375



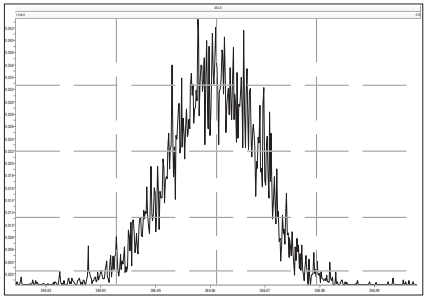
M 416.9760 R 13515



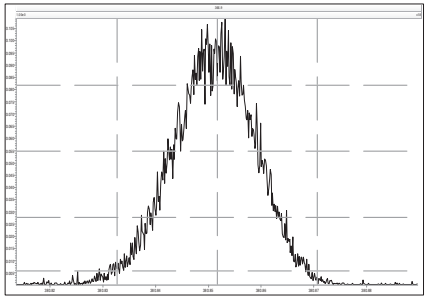
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

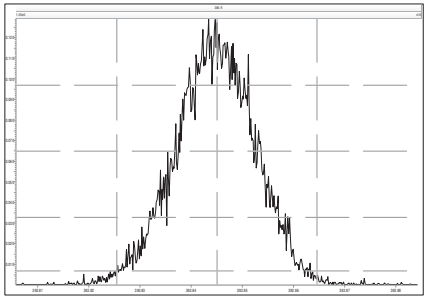
M 366.9792 R 10866



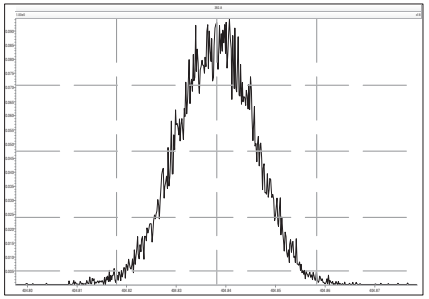
M 380.9760 R 10416



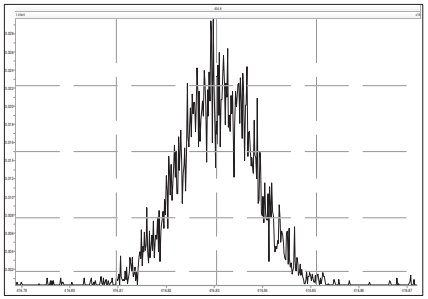
M 392.9760 R 10640



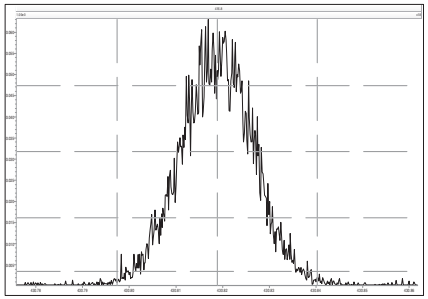
M 404.9760 R 11957



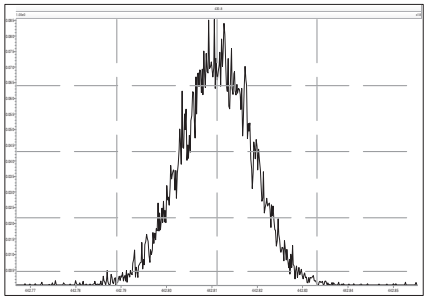
M 416.9760 R 12076



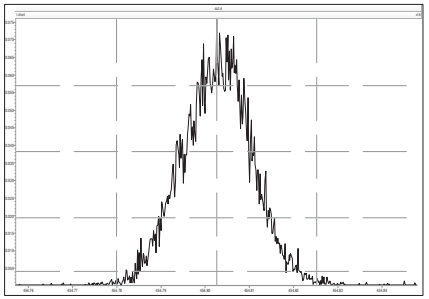
M 430.9728 R 11629



M 442.9728 R 12820



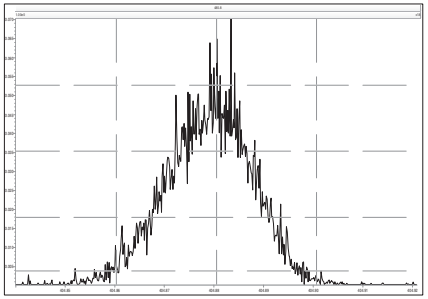
M 454.9728 R 12317



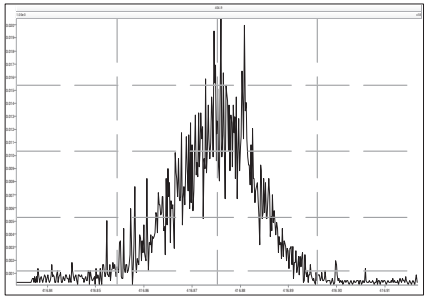
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

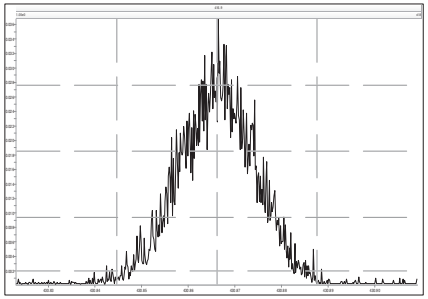
M 404.9760 R 10505



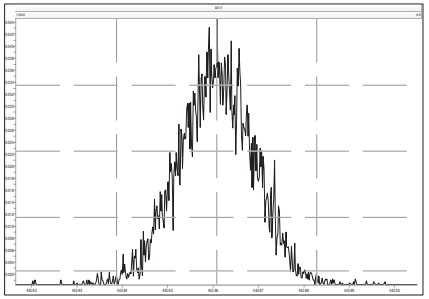
M 416.9760 R 12500



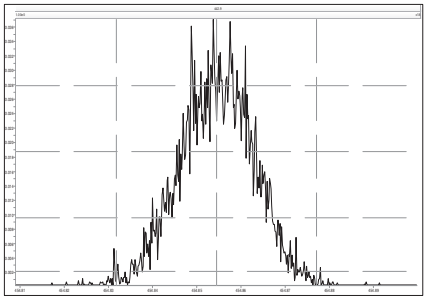
M 430.9728 R 11362



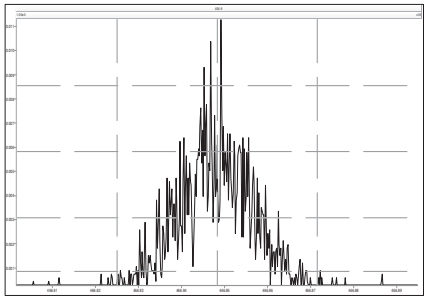
M 442.9728 R 12756



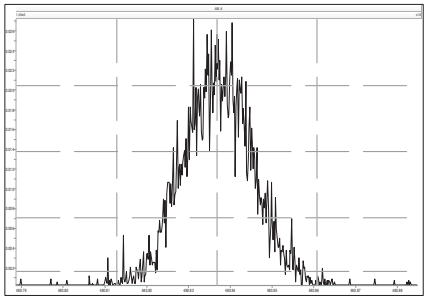
M 454.9728 R 12194



M 466.9728 R 12313



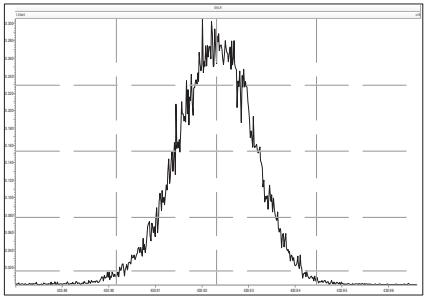
M 480.9696 R 13294



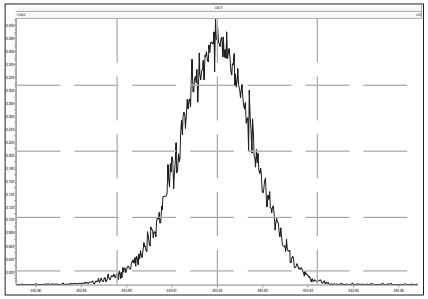
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Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

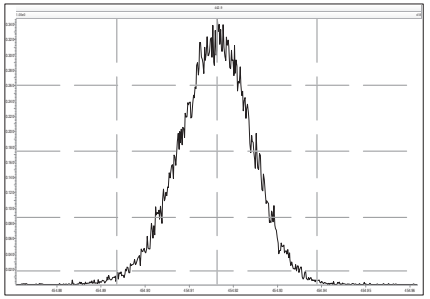
M 430.9728 R 11312



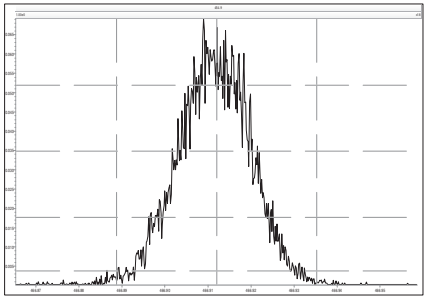
M 442.9728 R 11110



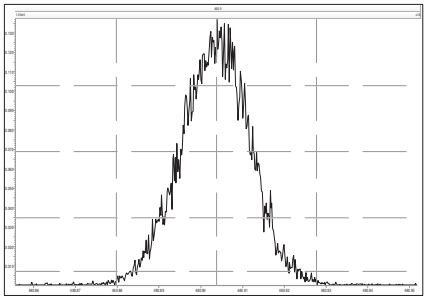
M 454.9728 R 11906



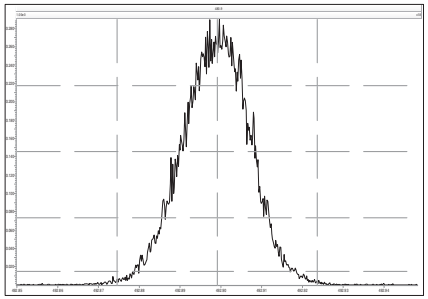
M 466.9728 R 12562



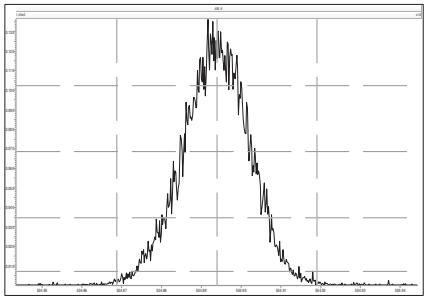
M 480.9696 R 12561



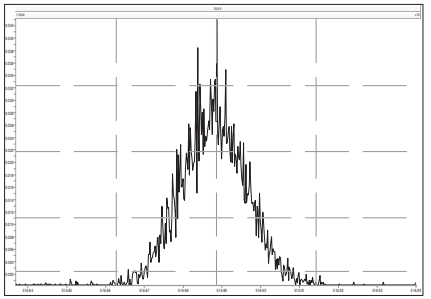
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18842_DF **Acq'd:** 23 Jan 2022 13:50 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 **UTP:** 24-Jan-2022 15:16:29 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 322-778-GPP

Datafile: 220123C02 **Report:** 24 Jan 2022 15:18 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0006	-0.3	2.28E+06	0.82	Y	1.18	11.4	5414.473	0.293
12378-PeCDD	33.97		1.0006	1.0006	0	8.01E+06	1.64	Y	1.04	50.7	3928.619	0.266
123478-HxCDD	37.85		1.0004	1.0004	0	7.81E+06	1.25	Y	1.09	54.5	2357.0007	0.147
123678-HxCDD	37.96		1.0034	1.0034	0	1.08E+07	1.28	Y	1.15	55.3	2357.0007	0.131
123789-HxCDD	38.25		1.0109	1.0111	+0.5	8.34E+06	1.30	Y	1.05	51.4	2357.0007	0.165
1234678-HpCDD	40.88		1.0003	1.0005	+0.5	7.06E+06	1.06	Y	1.06	57.3	3828.041	0.278
OCDD	43.52		1.0002	1.0003	+0.3	8.52E+06	0.88	Y	1.13	111	3338.773	0.452
2378-TCDF	27.81		1.0008	1.0007	-0.2	3.44E+06	0.78	Y	1.08	11.8	4881.919	0.188
12378-PeCDF	32.52		1.0005	1.0005	0	1.29E+07	1.57	Y	1.02	50.5	7544.014	0.328
23478-PeCDF	33.63		1.0005	1.0004	-0.2	1.38E+07	1.50	Y	1.02	53.8	7544.014	0.298
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.10E+07	1.25	Y	1.27	53.8	4667.512	0.222
123678-HxCDF	36.99		1.0004	1.0004	0	1.42E+07	1.28	Y	1.15	55.5	4667.512	0.202
234678-HxCDF	37.68		1.0004	1.0007	+0.7	1.33E+07	1.27	Y	1.19	58.2	4667.512	0.213
123789-HxCDF	38.61		1.0004	1.0006	+0.5	8.62E+06	1.29	Y	1.16	55.9	4667.512	0.312
1234678-HpCDF	39.95		1.0002	1.0004	+0.5	1.11E+07	1.05	Y	1.37	54.7	5433.133	0.214
1234789-HpCDF	41.34		1.0003	1.0003	0	7.44E+06	1.04	Y	1.31	53.3	5433.133	0.379
OCDF	43.71		1.0002	1.0003	+0.3	1.05E+07	0.89	Y	1.07	105	4398.083	0.5

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0237	+0.7	1.68E+07	0.83	Y	1.05	91.5
ES 12378-PeCDD	33.95	1.2121	1.2134	+2.6	1.52E+07	1.59	Y	0.88	98.5
ES 123478-HxCDD	37.84	0.9921	0.9923	+0.5	1.32E+07	1.29	Y	0.97	91.5
ES 123678-HxCDD	37.95	0.9951	0.9953	+0.5	1.71E+07	1.32	Y	0.94	122
ES 123789-HxCDD	38.24	1.0025	1.0029	+0.9	1.55E+07	1.27	Y	1.09	95.8
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.16E+07	1.02	Y	0.91	86.2
ES OCDD	43.51	1.1403	1.1410	+1.8	1.36E+07	0.95	Y	0.62	73.7
ES 2378-TCDF	27.79	1.0506	1.0511	+0.8	2.71E+07	0.81	Y	1.06	83.6
ES 12378-PeCDF	32.51	1.2281	1.2297	+3.1	2.49E+07	1.53	Y	0.91	89.2
ES 23478-PeCDF	33.61	1.2698	1.2715	+3.4	2.52E+07	1.56	Y	0.88	93.2
ES 123478-HxCDF	36.83	0.9657	0.9658	+0.2	1.61E+07	0.55	Y	1.20	90.7
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.22E+07	0.55	Y	1.35	111
ES 234678-HxCDF	37.66	0.9874	0.9876	+0.5	1.93E+07	0.55	Y	1.24	105
ES 123789-HxCDF	38.59	1.0116	1.0121	+1.2	1.33E+07	0.52	Y	1.16	77.6
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.49E+07	0.46	Y	0.97	104
ES 1234789-HpCDF	41.33	1.0830	1.0838	+2.0	1.07E+07	0.44	Y	0.85	84.8
ES OCDF	43.69	1.1451	1.1459	+2.1	1.86E+07	0.96	Y	0.81	78

Lab ID: OPR1_18842_DF | Acq'd: 23 Jan 2022 13:50 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 | UTP: 24-Jan-2022 15:16:29 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 322-778-GPP

Datafile: 220123C02 | Report: 24 Jan 2022 15:18 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	1.76E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.06E+07	0.77	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.39E+06	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0245	+0.7	8.29E+06	n/a	-	1.20	98	
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.53E+07	1.54	Y	0.75	116	
CS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.48E+07	1.59	Y	0.85	95.1	
CS 123469-HxCDF	37.29		0.9778	0.9780	+0.4	2.17E+07	0.53	Y	1.12	131	
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.64E+07	0.45	Y	0.89	125	
SS 37Cl-2378-TCDD	28.66		1.0241	1.0245	+0.7	8.29E+06	n/a	-	1.15	107	Not used in this project.
SS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.53E+07	1.54	Y	0.86	117	CL 26Jan22
SS 12346-PeCDF	31.97		1.2083	1.2095	+2.3	2.48E+07	1.59	Y	0.94	106	
SS 123469-HxCDF	37.29		0.9778	0.9780	+0.4	2.17E+07	0.53	Y	0.83	118	
SS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.64E+07	0.45	Y	0.92	120	

Totals	Conc	EMPC
Total TCDD	52.1	52.1
Total PeCDD	75.1	75.1
Total HxCDD	174	174
Total HpCDD	69.4	69.4
Total Tetra-Octa Dioxins	481	481
Total TCDF	61.7	61.7
Total PeCDF	199	199
Total HxCDF	358	358
Total HpCDF	108	108
Total Tetra-Octa Furans	832	832
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.82	0.82
Response	2.28E+06	2.28E+06

Lab ID: OPR1_18842_DF **Acq'd: 23 Jan 2022 13:50 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18842_OPR001 **UTP: 24-Jan-2022 15:16:29 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 322-778-GPP**

Datafile: 220123C02 **Report: 24 Jan 2022 15:18 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8746	-1.4	3.05E+06	0.78	Y	1.18	15.3	5414.473	0.293
1379-TCDD	NotFnd		0.8876						1.18		5414.473	0.293
1369-TCDD	NotFnd		0.9023						1.18		5414.473	0.293
1469-TCDD	NotFnd		0.9291						1.18		5414.473	0.293
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5414.473	0.293
1378-TCDD	NotFnd		0.9440						1.18		5414.473	0.293
1268-TCDD	NotFnd		0.9506						1.18		5414.473	0.293
1478-TCDD	NotFnd		0.9591						1.18		5414.473	0.293
1279-TCDD	NotFnd		0.9649						1.18		5414.473	0.293
1234/1269-TCDD	NotFnd		0.9771						1.18		5414.473	0.293
1236-TCDD	NotFnd		0.9820						1.18		5414.473	0.293
1237/1238-TCDD	NotFnd		0.9908						1.18		5414.473	0.293
1239-TCDD	28.49		0.9954	0.9949	-0.9	1.99E+06	0.77	Y	1.18	9.95	5414.473	0.293
2378-TCDD	**28.66**		**1.0008**	1.0006	**-0.3**	2.28E+06	0.82	Y	**1.18**	**11.4**	**5414.473**	**0.293**
1278-TCDD	NotFnd		1.0121						1.18		5414.473	0.293
1267-TCDD	NotFnd		1.0167						1.18		5414.473	0.293
1289-TCDD	29.62		1.0341	1.0343	+0.4	3.08E+06	0.80	Y	1.18	15.4	5414.473	0.293
12479/12468-PeCDD	31.47		0.9273	0.9270	-0.6	1.90E+06	1.50	Y	1.04	12	3928.619	0.266
12469-PeCDD	NotFnd		0.9430						1.04		3928.619	0.266
12368-PeCDD	NotFnd		0.9592						1.04		3928.619	0.266
12478-PeCDD	NotFnd		0.9647						1.04		3928.619	0.266
12379-PeCDD	NotFnd		0.9676						1.04		3928.619	0.266
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3928.619	0.266
12346/12347-PeCDD	NotFnd		0.9860						1.04		3928.619	0.266
12378-PeCDD	33.97		**1.0006**	**1.0006**	**0**	**8.01E+06**	**1.64**	**Y**	**1.04**	**50.7**	**3928.619**	**0.266**
12367-PeCDD	NotFnd		1.0034						1.04		3928.619	0.266
12389-PeCDD	34.40		1.0134	1.0133	-0.2	1.95E+06	1.51	Y	1.04	12.3	3928.619	0.266
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	2.10E+06	1.30	Y	1.10	12.6	2357.0007	0.147
123468-HxCDD	NotFnd		0.9715						1.10		2357.0007	0.147
123679/123689-HxCDD	NotFnd		0.9793						1.10		2357.0007	0.147
123469-HxCDD	NotFnd		0.9829						1.10		2357.0007	0.147
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**7.81E+06**	**1.25**	**Y**	1.09	**54.5**	**2357.0007**	**0.147**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.08E+07**	**1.28**	**Y**	1.15	**55.3**	**2357.0007**	**0.131**
123467-HxCDD	NotFnd		1.0082						1.10		2357.0007	0.147
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**8.34E+06**	**1.30**	**Y**	1.05	**51.4**	**2357.0007**	**0.165**

Lab ID: OPR1_18842_DF | Acq'd: 23 Jan 2022 13:50 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR001 | UTP: 24-Jan-2022 15:16:29 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 322-778-GPP

Datafile: 220123C02 | Report: 24 Jan 2022 15:18 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9838	0	1.50E+06	1.06	Y	1.06	12.2	3828.041	0.278
1234678-HpCDD	**40.88**		**1.0003**	**1.0005**	**+0.5**	**7.06E+06**	**1.06**	**Y**	**1.06**	**57.3**	**3828.041**	**0.278**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**8.52E+06**	**0.88**	**Y**	**1.13**	**111**	**3338.773**	**0.452**
OCDD-a	43.52		1.0002	1.0004	+0.5	6.73E+05	2.52	Y	0.07	137	4234.304	8.96
1368-TCDF	22.98		0.8282	0.8270	-1.7	4.61E+06	0.83	Y	1.08	15.8	4881.919	0.188
1468-TCDF	NotFnd		0.8485						1.08		4881.919	0.188
2468-TCDF	24.17		0.8709	0.8699	-1.5	1.13E+06	0.78	Y	1.08	3.86	4881.919	0.188
1346/1246-TCDF	NotFnd		0.8829						1.08		4881.919	0.188
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4881.919	0.188
1348-TCDF	NotFnd		0.8980						1.08		4881.919	0.188
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4881.919	0.188
1268-TCDF	NotFnd		0.9158						1.08		4881.919	0.188
1467-TCDF	NotFnd		0.9206						1.08		4881.919	0.188
1478-TCDF	NotFnd		0.9266						1.08		4881.919	0.188
1369/1237-TCDF	NotFnd		0.9397						1.08		4881.919	0.188
2467-TCDF	NotFnd		0.9440						1.08		4881.919	0.188
2368-TCDF	NotFnd		0.9497						1.08		4881.919	0.188
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4881.919	0.188
1278-TCDF	NotFnd		0.9690						1.08		4881.919	0.188
1349-TCDF	NotFnd		0.9730						1.08		4881.919	0.188
1267-TCDF	NotFnd		0.9787						1.08		4881.919	0.188
2346/1249-TCDF	NotFnd		0.9850						1.08		4881.919	0.188
2347/1279-TCDF	NotFnd		0.9929						1.08		4881.919	0.188
2348-TCDF	27.70		0.9970	0.9967	-0.5	4.27E+06	0.83	Y	1.08	14.6	4881.919	0.188
2378-TCDF	**27.81**		**1.0008**	**1.0007**	**-0.2**	**3.44E+06**	**0.78**	**Y**	**1.08**	**11.8**	**4881.919**	**0.188**
2367/3467-TCDF	NotFnd		1.0136						1.08		4881.919	0.188
1269-TCDF	NotFnd		1.0221						1.08		4881.919	0.188
1239-TCDF	NotFnd		1.0319						1.08		4881.919	0.188
1289-TCDF	29.80		1.0740	1.0724	-2.9	4.60E+06	0.78	Y	1.08	15.7	4881.919	0.188
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	2.18E+07	1.55	Y	1.02	85.3	3330.268	0.138
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7544.014	0.313
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7544.014	0.313
14678-PeCDF	NotFnd		0.9695						1.02		7544.014	0.313
13479-PeCDF	NotFnd		0.9724						1.02		7544.014	0.313
13469/12479-PeCDF	NotFnd		0.9801						1.02		7544.014	0.313
12346-PeCDF	NotFnd		0.9842						1.02		7544.014	0.313

Lab ID: OPR1_18842_DF | **Acq'd: 23 Jan 2022 13:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18842_OPR001 | **UTP: 24-Jan-2022 15:16:29 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 322-778-GPP**

Datafile: 220123C02 | **Report: 24 Jan 2022 15:18 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7544.014	0.313
12347-PeCDF	NotFnd		0.9895						1.02		7544.014	0.313
12348-PeCDF	NotFnd		0.9941						1.02		7544.014	0.313
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.29E+07**	**1.57**	**Y**	**1.02**	**50.5**	**7544.014**	**0.328**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7544.014	0.313
12379-PeCDF	NotFnd		1.0142						1.02		7544.014	0.313
12679-PeCDF	NotFnd		0.9931						1.02		7544.014	0.313
23467/12369-PeCDF	NotFnd		0.9966						1.02		7544.014	0.313
23478-PeCDF	**33.63**		**1.0005**	**1.0004**	**-0.2**	**1.38E+07**	**1.50**	**Y**	**1.02**	**53.8**	**7544.014**	**0.298**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7544.014	0.313
12349-PeCDF	NotFnd		1.0101						1.02		7544.014	0.313
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.51E+06	1.58	Y	1.02	9.8	7544.014	0.313
123468-HxCDF	35.46		0.9627	0.9630	+0.6	2.85E+07	1.25	Y	1.19	135	4667.512	0.23
124678/134678-HxCDF	NotFnd		0.9684						1.19		4667.512	0.23
134679-HxCDF	NotFnd		0.9747						1.19		4667.512	0.23
124679-HxCDF	NotFnd		0.9802						1.19		4667.512	0.23
124689-HxCDF	NotFnd		0.9858						1.19		4667.512	0.23
123467-HxCDF	NotFnd		0.9972						1.19		4667.512	0.23
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.10E+07**	**1.25**	**Y**	**1.27**	**53.8**	**4667.512**	**0.222**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**1.42E+07**	**1.28**	**Y**	**1.15**	**55.5**	**4667.512**	**0.202**
123479-HxCDF	NotFnd		1.0051						1.19		4667.512	0.23
123469-HxCDF	NotFnd		1.0091						1.19		4667.512	0.23
123679-HxCDF	NotFnd		0.9943						1.19		4667.512	0.23
234678-HxCDF	**37.68**		**1.0004**	**1.0007**	**+0.7**	**1.33E+07**	**1.27**	**Y**	**1.19**	**58.2**	**4667.512**	**0.213**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4667.512	0.23
123789-HxCDF	**38.61**		**1.0004**	**1.0006**	**+0.5**	**8.62E+06**	**1.29**	**Y**	**1.16**	**55.9**	**4667.512**	**0.312**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4667.512	0.23
1234678-HpCDF	**39.95**		**1.0002**	**1.0004**	**+0.5**	**1.11E+07**	**1.05**	**Y**	**1.37**	**54.7**	**5433.133**	**0.214**
1234679-HpCDF	NotFnd		1.0067						1.34		5433.133	0.282
1234689-HpCDF	NotFnd		1.0101						1.34		5433.133	0.282
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**7.44E+06**	**1.04**	**Y**	**1.31**	**53.3**	**5433.133**	**0.379**
OCDF	**43.71**		**1.0002**	**1.0003**	**+0.3**	**1.05E+07**	**0.89**	**Y**	**1.07**	**105**	**4398.083**	**0.5**
OCDF-a	43.70	**EMPC**	1.0002	1.0001	-0.3	6.73E+05	2.98	N	0.07	109	3570.946	6.55

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220123C02	Analysis Date:	23-JAN-2022 13:50:36
Lab ID:	OPR1_18842_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.4	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.3	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.3	35	-	70	Y
OCDD	100	111	78	-	144	Y
2,3,7,8-TCDF	10	11.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.5	40	-	67	Y
2,3,4,7,8-PeCDF	50	53.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.8	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.5	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	58.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	55.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.7	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	53.3	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 15:18 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220123C02 Analysis Date: 23-JAN-2022 13:50:36
Lab ID: OPR1_18842_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	98.5	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	91.5	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	122	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	86.2	26	-	166	Y
13C-OCDD	200	147	26	-	397	Y
13C-2,3,7,8-TCDF	100	83.6	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	89.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	93.2	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	90.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	111	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	105	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	77.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	84.8	20	-	186	Y
13C-OCDF	200	156	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 15:18 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220123C02	Analysis Date:	23-JAN-2022 13:50:36
Lab ID:	OPR1_18842_DF		

Window Defining Standards Results

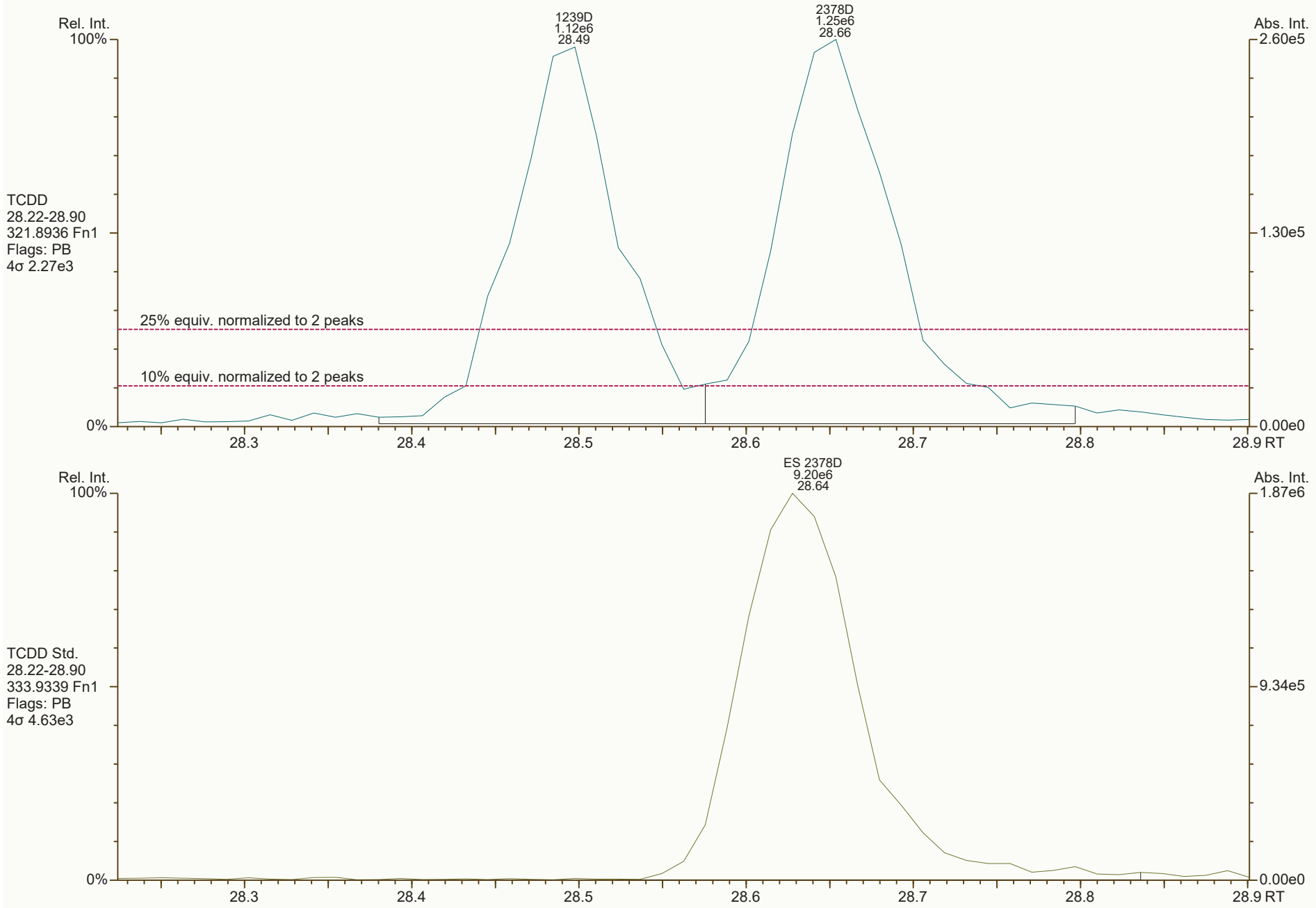
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.05	1289-TCDD	29.62
12479/12468-PeCDD	31.47	12389-PeCDD	34.40
124679/124689-HxCDD	36.10	123789-HxCDD	38.25
1234679-HpCDD	40.20	1234678-HpCDD	40.88
1368-TCDF	22.98	1289-TCDF	29.80
13468/12468-PeCDF	29.70	12389-PeCDF	34.70
123468-HxCDF	35.46	123789-HxCDF	38.61
1234678-HpCDF	39.95	1234789-HpCDF	41.34

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.49	2378-TCDD	28.66
2348-TCDF	27.70	2378-TCDF	27.81

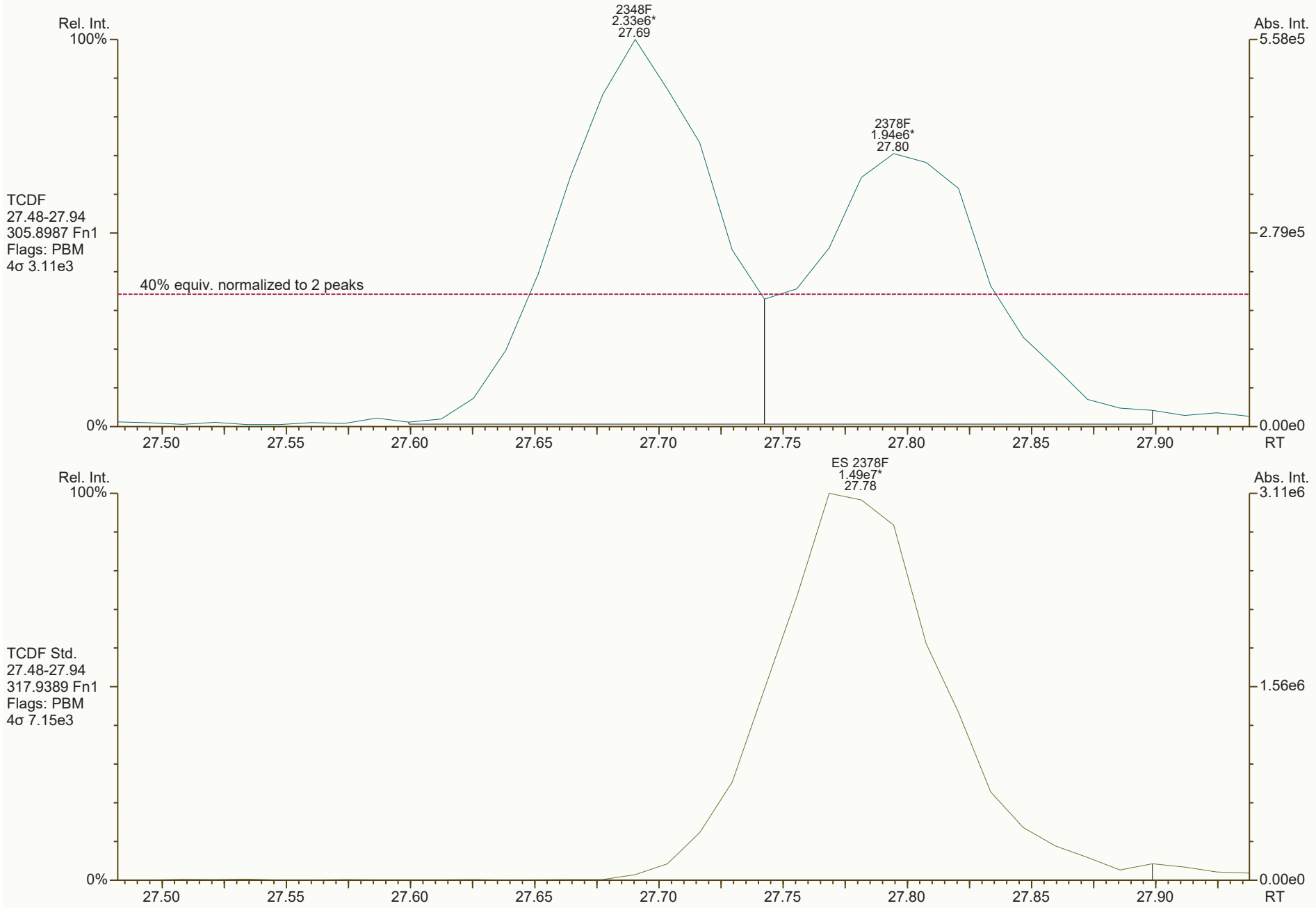
Processed: 24 Jan 2022 15:18 Analyst: pw

SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02

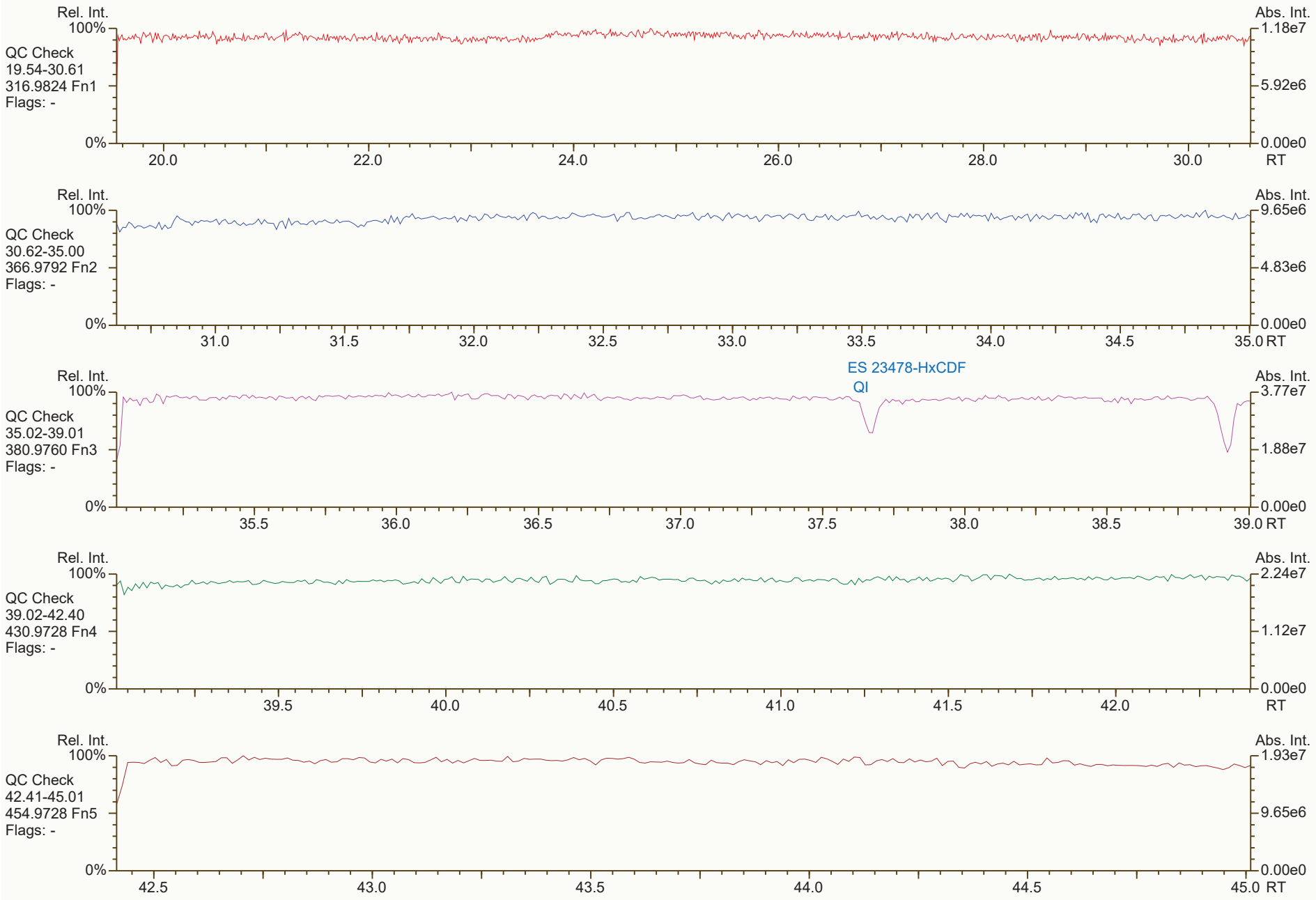


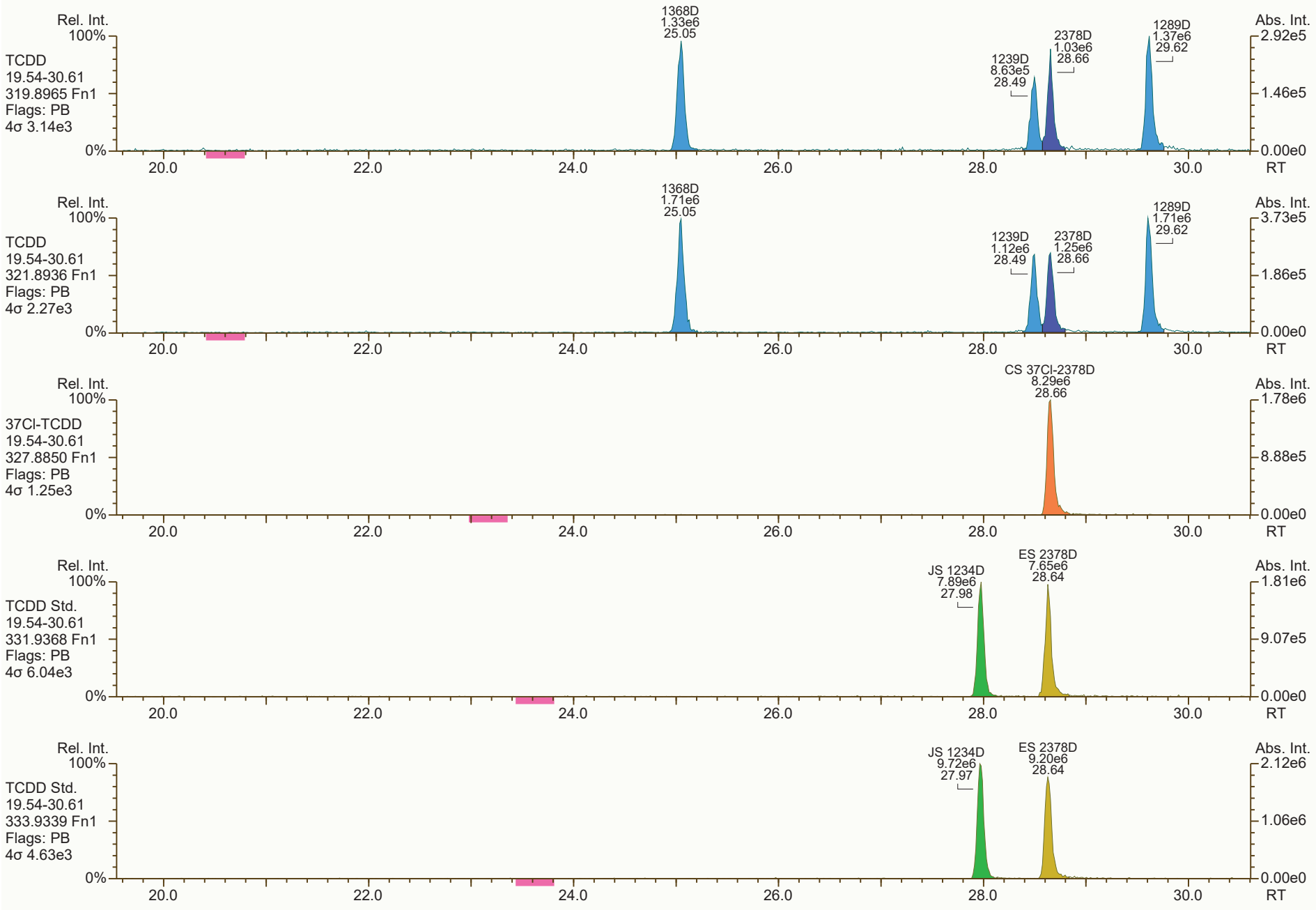
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 24-Jan-2022 09:18 Printed: 24-Jan-2022 15:25

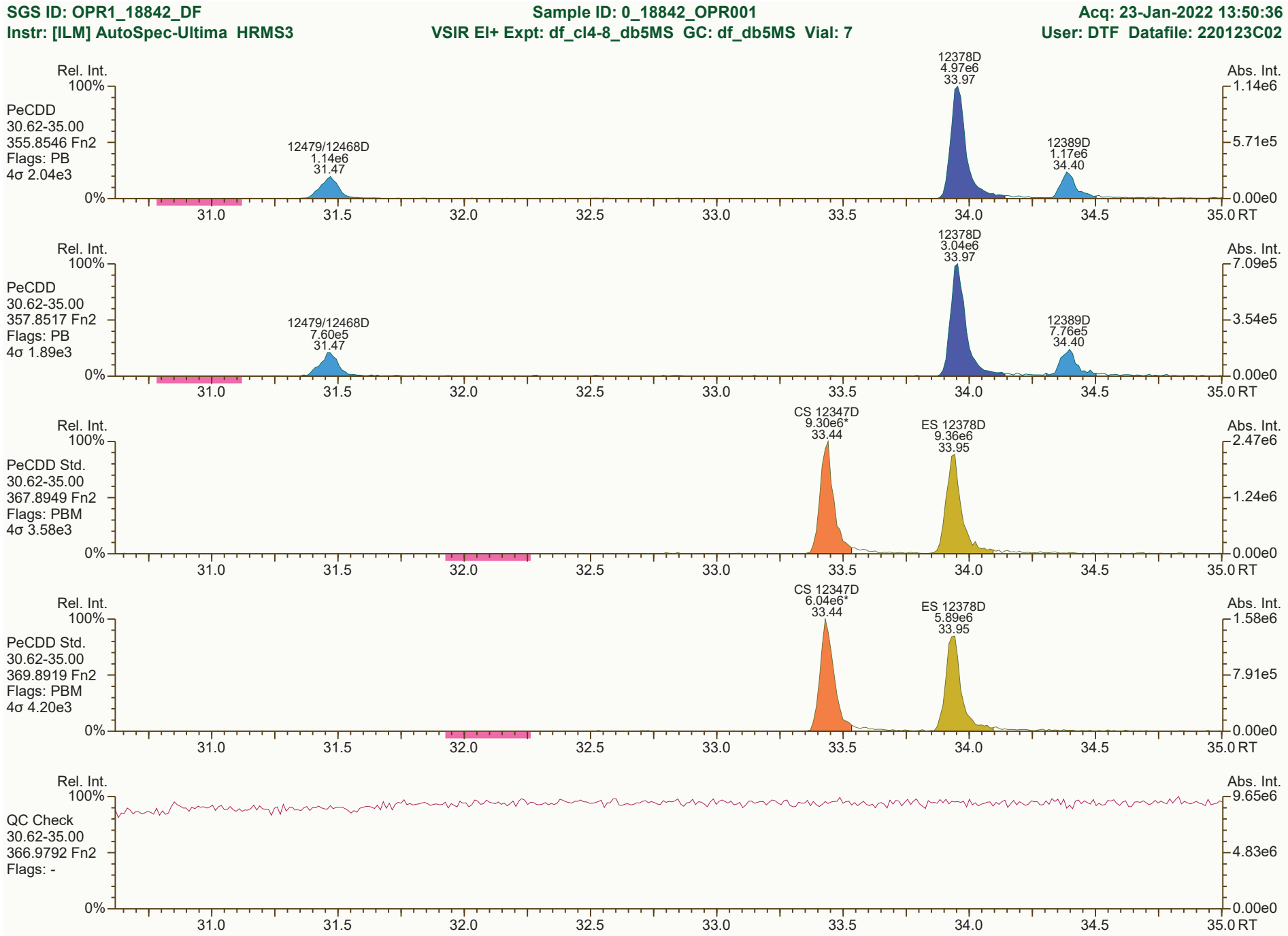
SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02



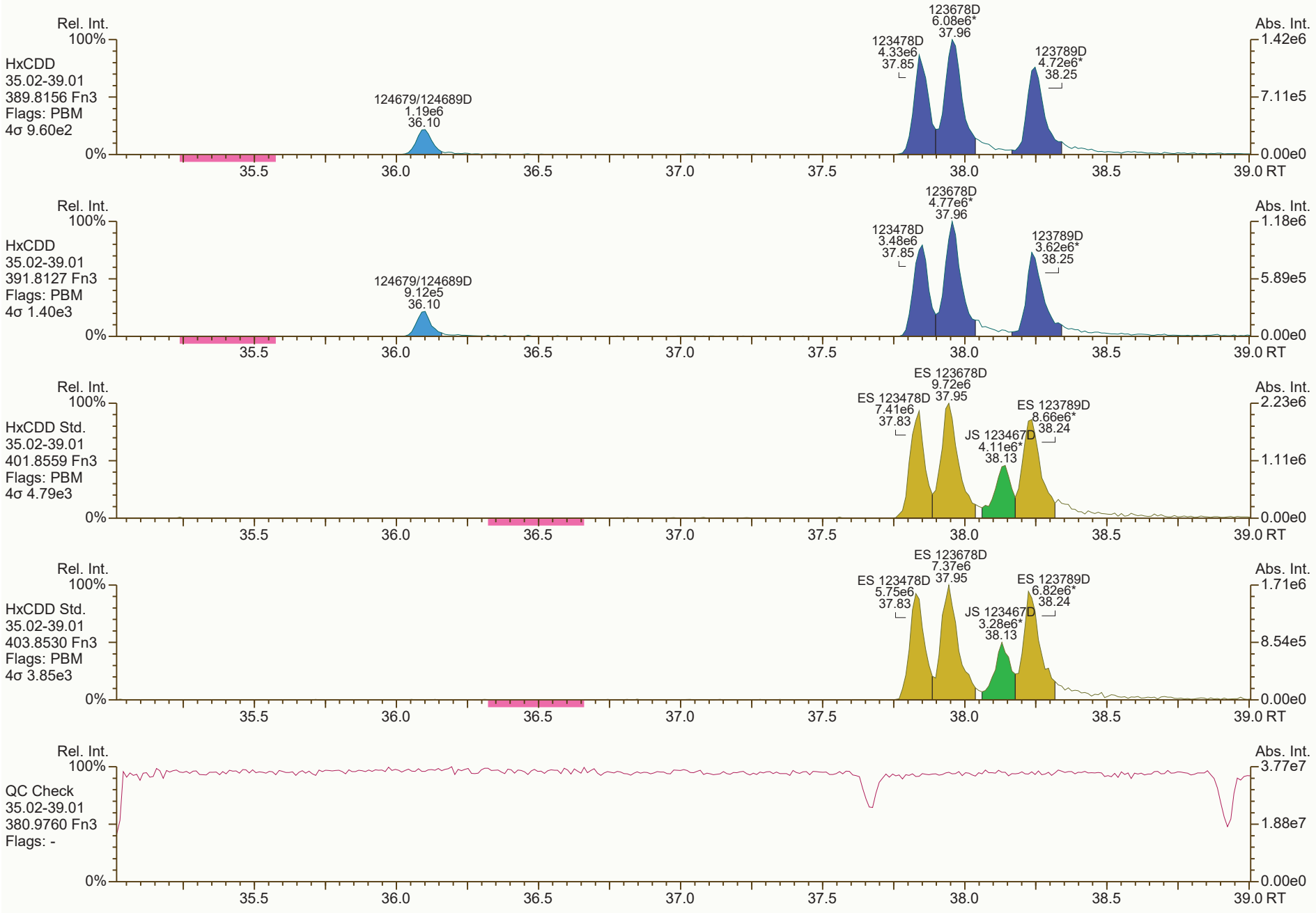
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 24-Jan-2022 09:20 (DTF) Printed: 24-Jan-2022 15:25

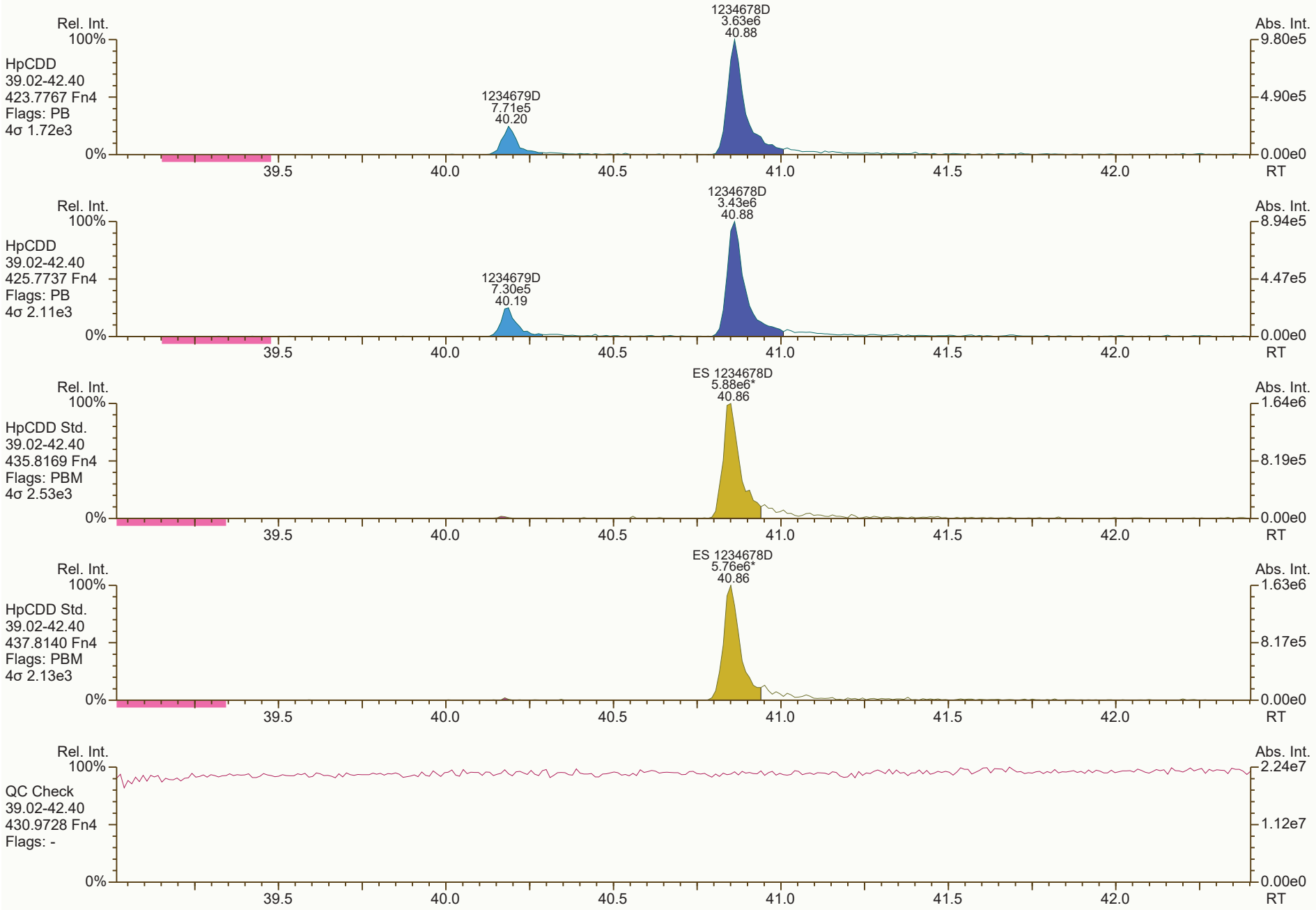

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.18e7
5.92e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
9.65e6
4.83e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 23478-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
3.77e7
1.88e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.24e7
1.12e7
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.93e7
9.65e6
0.00e0

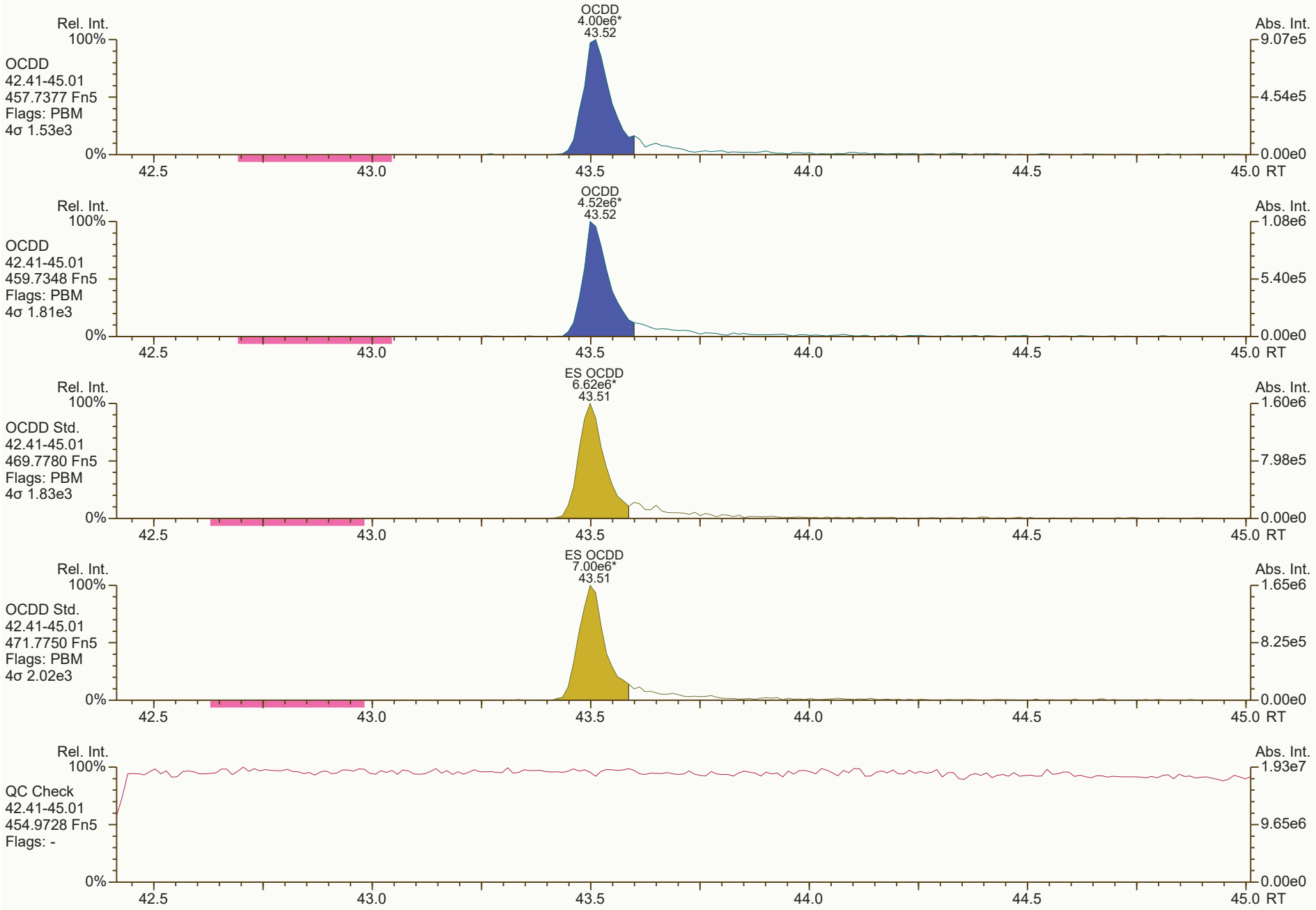

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.14e3
0%
1368D
1.33e6
25.05
1239D
8.63e5
28.49
2378D
1.03e6
28.66
1289D
1.37e6
29.62
Abs. Int.
2.92e5
1.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.27e3
0%
1368D
1.71e6
25.05
1239D
1.12e6
28.49
2378D
1.25e6
28.66
1289D
1.71e6
29.62
Abs. Int.
3.73e5
1.86e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.25e3
0%
CS 37Cl-2378D
8.29e6
28.66
Abs. Int.
1.78e6
8.88e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.04e3
0%
JS 1234D
7.89e6
27.98
ES 2378D
7.65e6
28.64
Abs. Int.
1.81e6
9.07e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.63e3
0%
JS 1234D
9.72e6
27.97
ES 2378D
9.20e6
28.64
Abs. Int.
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1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

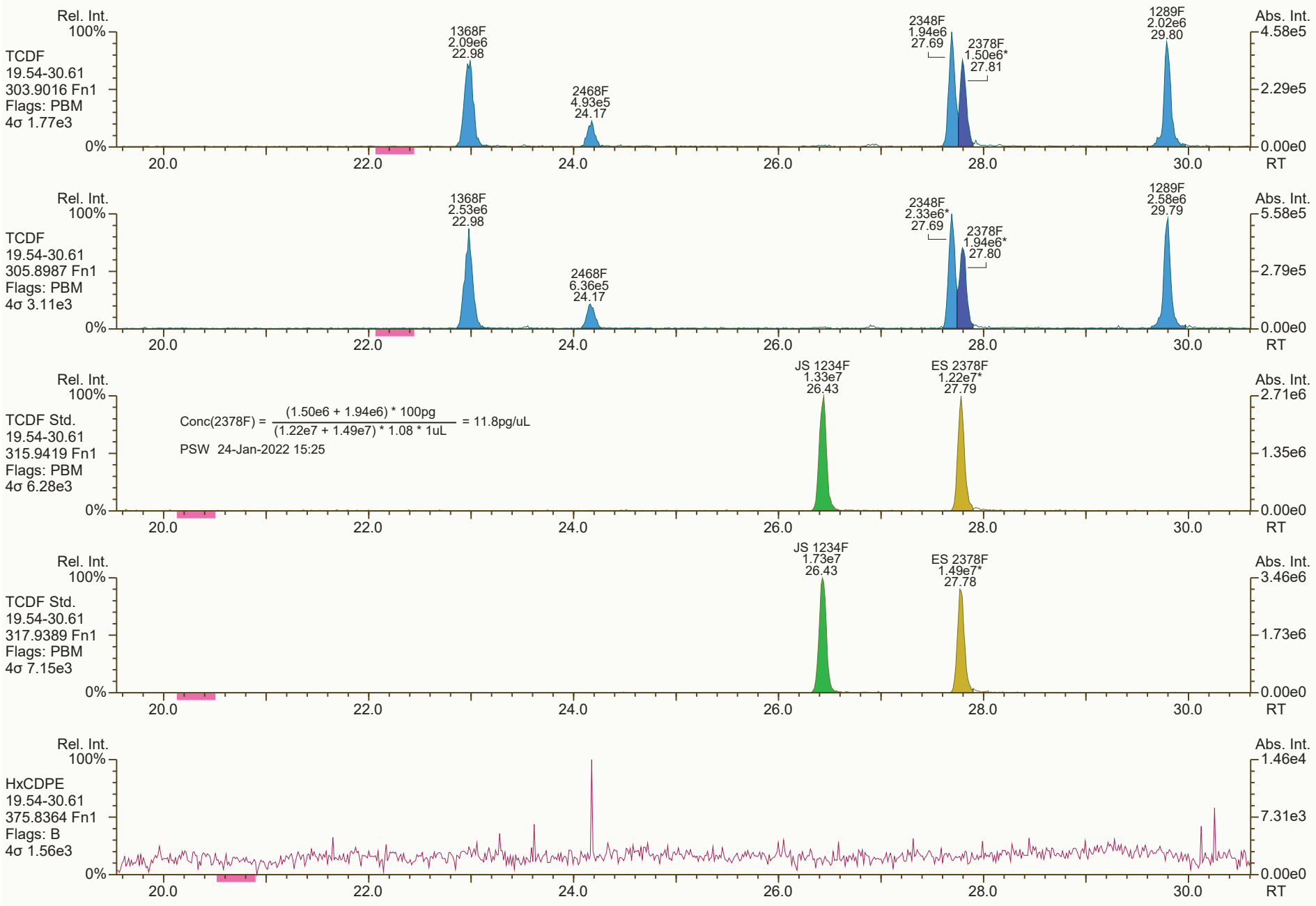


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5833, 8542 scc: 322-778
PKD: 24-Jan-2022 09:20 Printed: 24-Jan-2022 15:26 Page 3 of 12

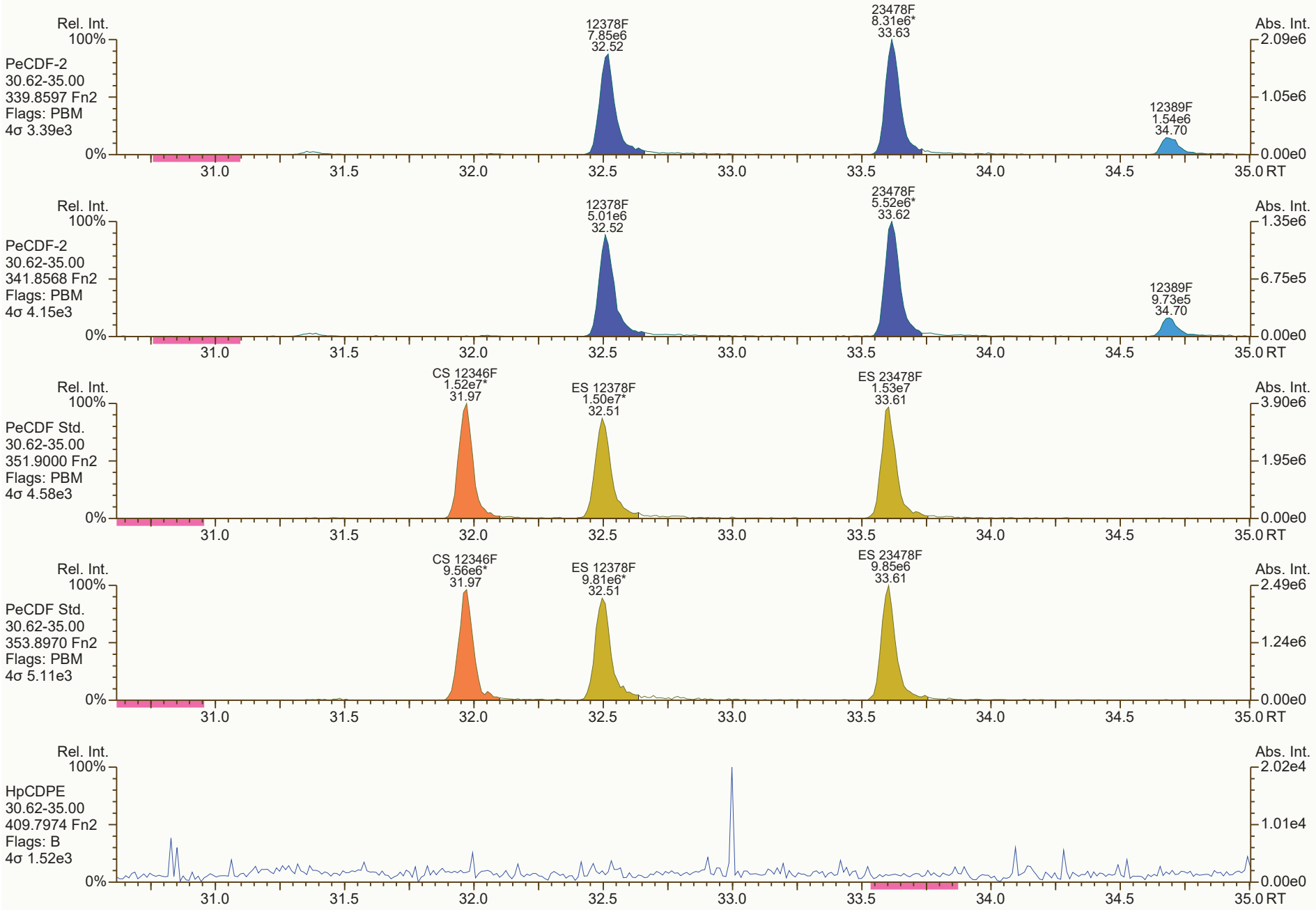

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 9.60e2
0%
124679/124689D
1.19e6
36.10
123478D
4.33e6
37.85
123678D
6.08e6*
37.96
123789D
4.72e6*
38.25
Abs. Int.
1.42e6
7.11e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.40e3
0%
124679/124689D
9.12e5
36.10
123478D
3.48e6
37.85
123678D
4.77e6*
37.96
123789D
3.62e6*
38.25
Abs. Int.
1.18e6
5.89e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.79e3
0%
ES 123478D
7.41e6
37.83
ES 123678D
9.72e6
37.95
JS 123467D
4.11e6*
38.13
ES 123789D
8.66e6*
38.24
Abs. Int.
2.23e6
1.11e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.85e3
0%
ES 123478D
5.75e6
37.83
ES 123678D
7.37e6
37.95
JS 123467D
3.28e6*
38.13
ES 123789D
6.82e6*
38.24
Abs. Int.
1.71e6
8.54e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.77e7
1.88e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

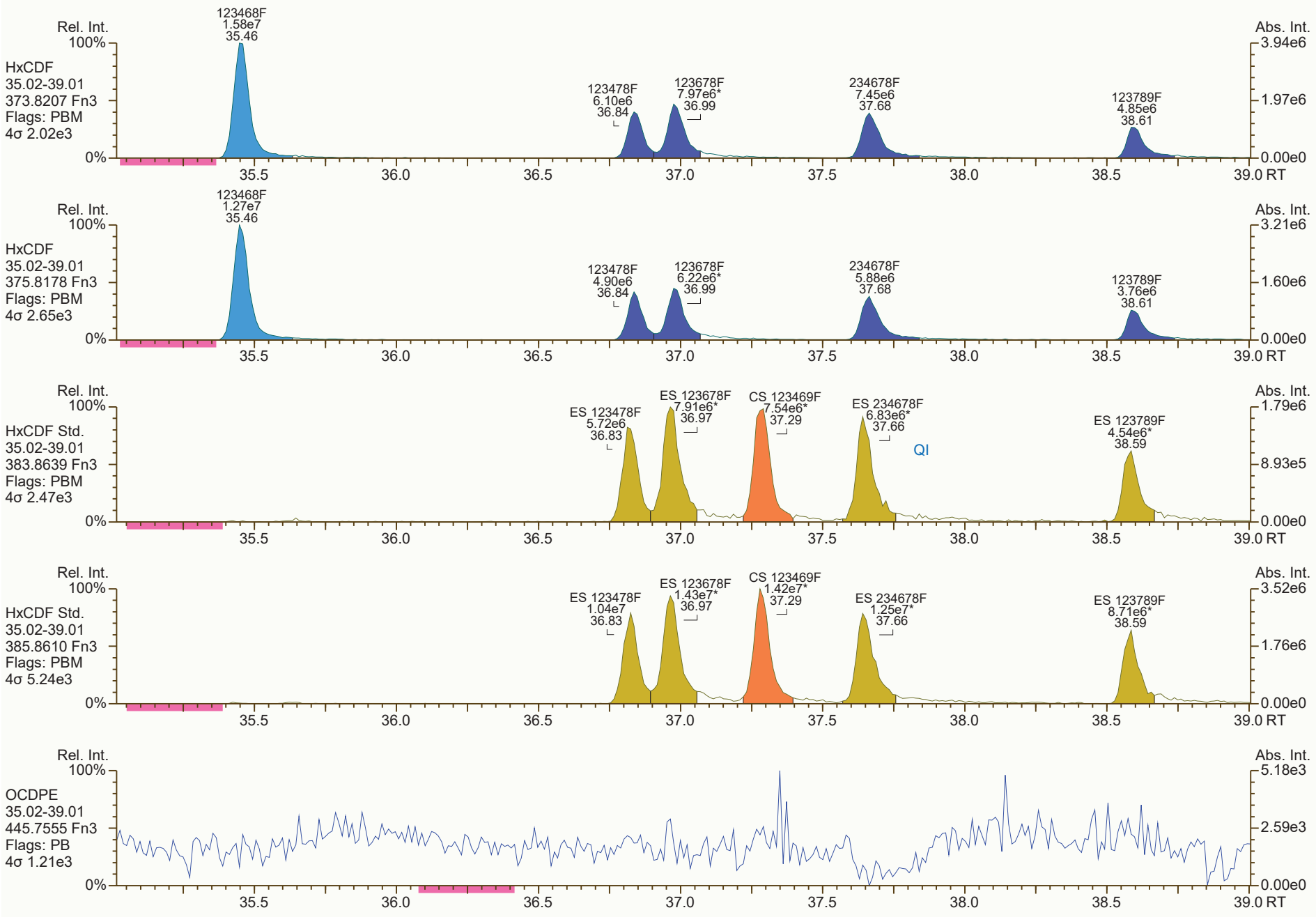

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.72e3
1234678D
3.63e6
40.88
1234679D
7.71e5
40.20
Abs. Int.
9.80e5
4.90e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.11e3
1234678D
3.43e6
40.88
1234679D
7.30e5
40.19
Abs. Int.
8.94e5
4.47e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.53e3
ES 1234678D
5.88e6*
40.86
Abs. Int.
1.64e6
8.19e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.13e3
ES 1234678D
5.76e6*
40.86
Abs. Int.
1.63e6
8.17e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.24e7
1.12e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

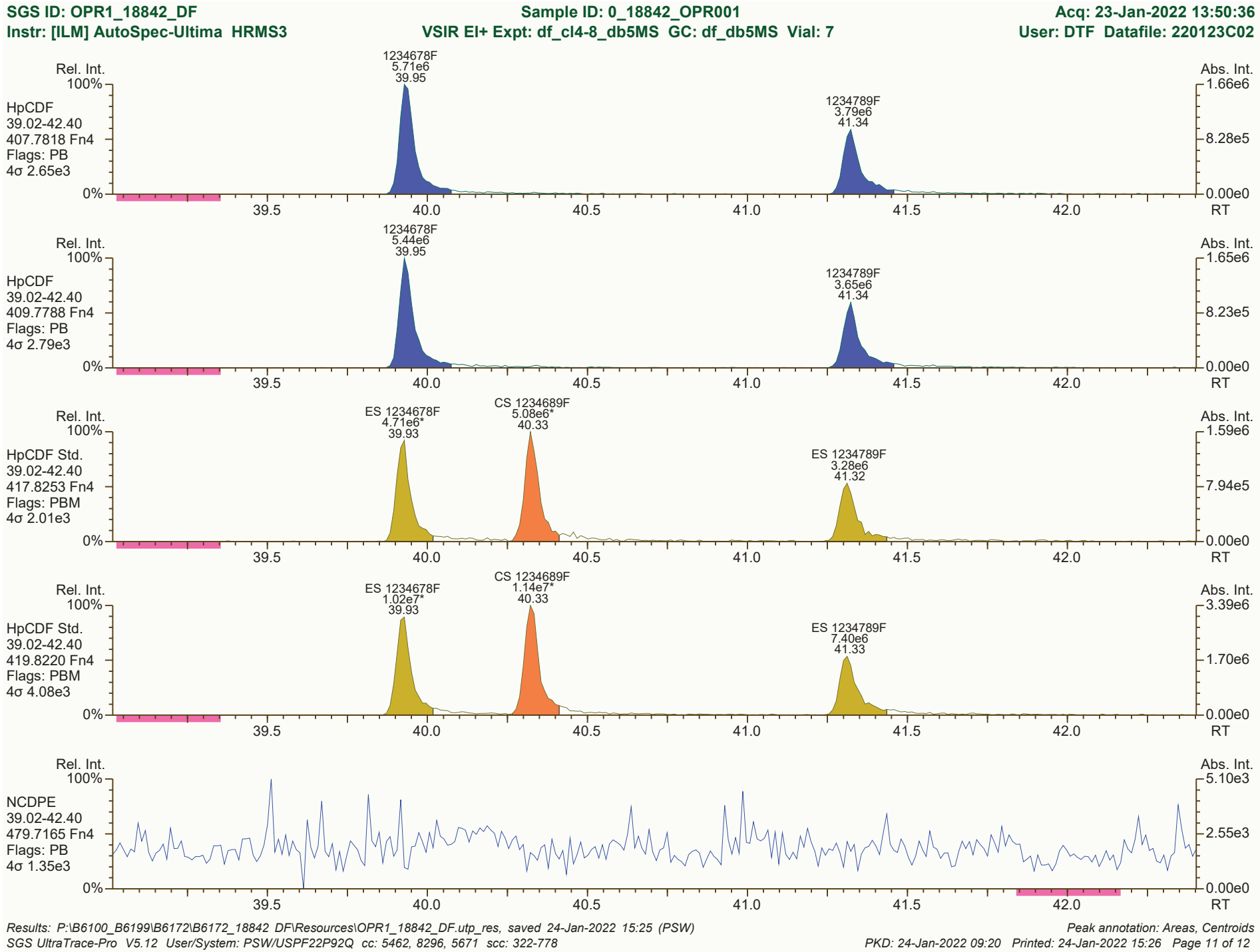

OCDD
4.00e6*
43.52
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.53e3
0%
Abs. Int.
9.07e5
4.54e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.52e6*
43.52
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.81e3
1.08e6
5.40e5
ES OCDD
6.62e6*
43.51
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.83e3
1.60e6
7.98e5
ES OCDD
7.00e6*
43.51
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.02e3
1.65e6
8.25e5
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.93e7
9.65e6

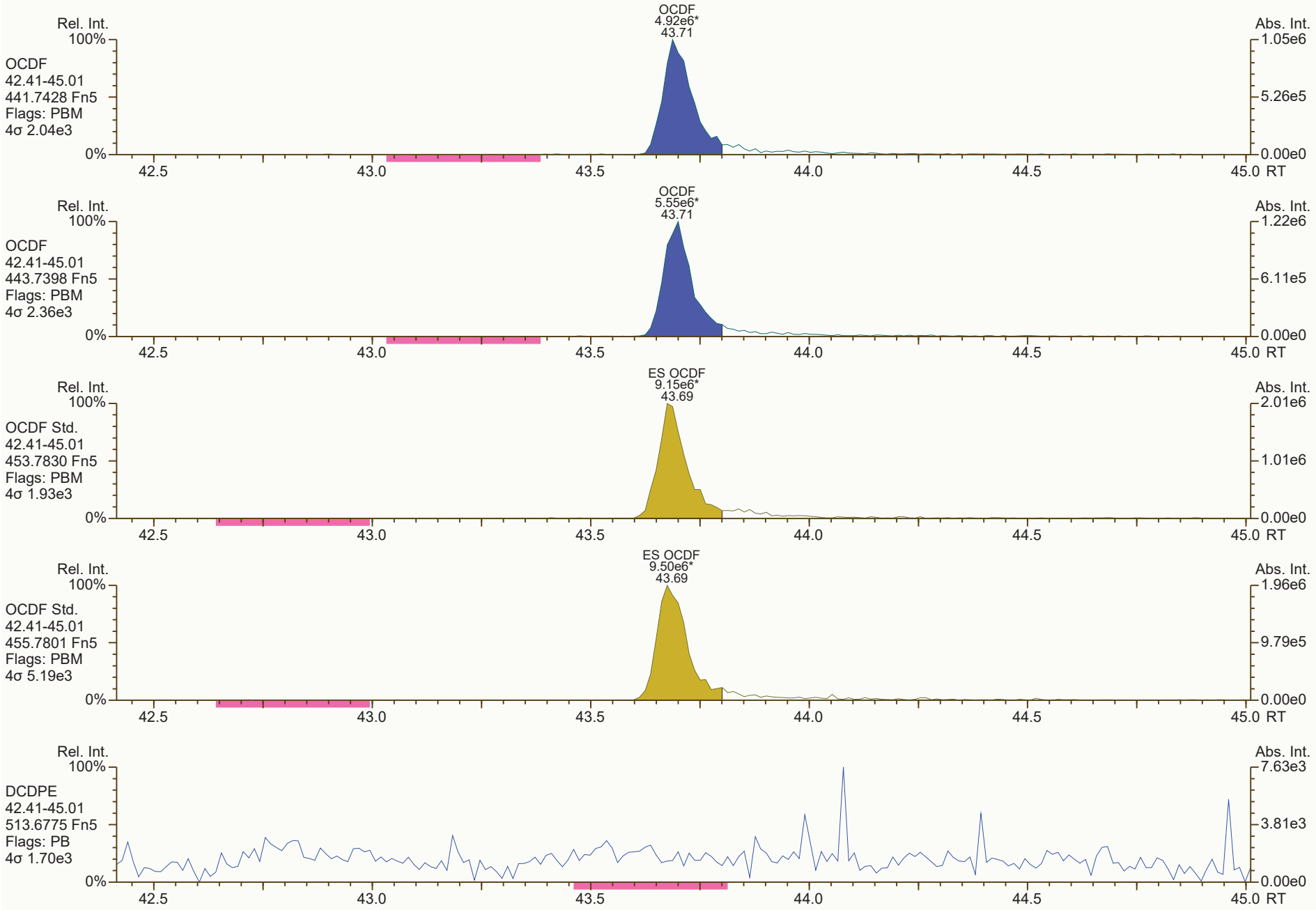

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.77e3
0%
1368F
2.09e6
22.98
2468F
4.93e5
24.17
2348F
1.94e6
27.69
2378F
1.50e6*
27.81
1289F
2.02e6
29.80
Abs. Int.
4.58e5
2.29e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.11e3
0%
1368F
2.53e6
22.98
2468F
6.36e5
24.17
2348F
2.33e6*
27.69
2378F
1.94e6*
27.80
1289F
2.58e6
29.79
Abs. Int.
5.58e5
2.79e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 6.28e3
0%
Conc(2378F) = (1.50e6 + 1.94e6) * 100pg / (1.22e7 + 1.49e7) * 1.08 * 1uL = 11.8pg/uL
PSW 24-Jan-2022 15:25
JS 1234F
1.33e7
26.43
ES 2378F
1.22e7*
27.79
Abs. Int.
2.71e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 7.15e3
0%
JS 1234F
1.73e7
26.43
ES 2378F
1.49e7*
27.78
Abs. Int.
3.46e6
1.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.46e4
7.31e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.71e3
13468/12468F
1.33e7
29.70
Abs. Int.
3.33e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.62e3
13468/12468F
8.57e6
29.70
Abs. Int.
2.23e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.18e7
5.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 3.39e3
0%
12378F
7.85e6
32.52
23478F
8.31e6*
33.63
12389F
1.54e6
34.70
Abs. Int.
2.09e6
1.05e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 4.15e3
0%
12378F
5.01e6
32.52
23478F
5.52e6*
33.62
12389F
9.73e5
34.70
Abs. Int.
1.35e6
6.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 4.58e3
0%
CS 12346F
1.52e7*
31.97
ES 12378F
1.50e7*
32.51
ES 23478F
1.53e7
33.61
Abs. Int.
3.90e6
1.95e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 5.11e3
0%
CS 12346F
9.56e6*
31.97
ES 12378F
9.81e6*
32.51
ES 23478F
9.85e6
33.61
Abs. Int.
2.49e6
1.24e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.52e3
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.02e3
0%
123468F
1.58e7
35.46
123478F
6.10e6
36.84
123678F
7.97e6*
36.99
234678F
7.45e6
37.68
123789F
4.85e6
38.61
Abs. Int.
3.94e6
1.97e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.65e3
0%
123468F
1.27e7
35.46
123478F
4.90e6
36.84
123678F
6.22e6*
36.99
234678F
5.88e6
37.68
123789F
3.76e6
38.61
Abs. Int.
3.21e6
1.60e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.47e3
0%
ES 123478F
5.72e6
36.83
ES 123678F
7.91e6*
36.97
CS 123469F
7.54e6*
37.29
ES 234678F
6.83e6*
37.66
QI
ES 123789F
4.54e6*
38.59
Abs. Int.
1.79e6
8.93e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.24e3
0%
ES 123478F
1.04e7
36.83
ES 123678F
1.43e7*
36.97
CS 123469F
1.42e7*
37.29
ES 234678F
1.25e7*
37.66
ES 123789F
8.71e6*
38.59
Abs. Int.
3.52e6
1.76e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.21e3
0%
Abs. Int.
5.18e3
2.59e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR1_18842_DF
Sample ID: 0_18842_OPR001
Acq: 23-Jan-2022 13:50:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220123C02
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.65e3
1234678F
5.71e6
39.95
1234789F
3.79e6
41.34
1.66e6
8.28e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.79e3
1234678F
5.44e6
39.95
1234789F
3.65e6
41.34
1.65e6
8.23e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
4.71e6*
39.93
CS 1234689F
5.08e6*
40.33
ES 1234789F
3.28e6
41.32
1.59e6
7.94e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 4.08e3
ES 1234678F
1.02e7*
39.93
CS 1234689F
1.14e7*
40.33
ES 1234789F
7.40e6
41.33
3.39e6
1.70e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.35e3
5.10e3
2.55e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\OPR1_18842_DF.utp_res, saved 24-Jan-2022 15:25 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5462, 8296, 5671 scc: 322-778
PKD: 24-Jan-2022 09:20 Printed: 24-Jan-2022 15:26 Page 11 of 12


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.04e3
0%
OCDF
4.92e6*
43.71
Abs. Int.
1.05e6
5.26e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.36e3
0%
OCDF
5.55e6*
43.71
Abs. Int.
1.22e6
6.11e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.93e3
0%
ES OCDF
9.15e6*
43.69
Abs. Int.
2.01e6
1.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 5.19e3
0%
ES OCDF
9.50e6*
43.69
Abs. Int.
1.96e6
9.79e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
7.63e3
3.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18842_DF | **Acq'd: 23 Jan 2022 14:36 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18842_OPR002 | **UTP: 24-Jan-2022 15:16:29 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 606-439-XMN**

Datafile: 220123C03 | **Report: 24 Jan 2022 15:18 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0007	-0.2	2.53E+06	0.84	Y	1.18	12.4	5022.625	0.267
12378-PeCDD	33.96		1.0006	1.0005	-0.2	8.55E+06	1.57	Y	1.04	50.3	3929.073	0.236
123478-HxCDD	37.85		1.0004	1.0004	0	8.91E+06	1.31	Y	1.09	59.5	2737.649	0.176
123678-HxCDD	37.97		1.0034	1.0036	+0.5	1.17E+07	1.21	Y	1.15	58.1	2737.649	0.14
123789-HxCDD	38.26		1.0109	1.0111	+0.5	9.24E+06	1.24	Y	1.05	53.4	2737.649	0.173
1234678-HpCDD	40.88		1.0003	1.0003	0	7.62E+06	1.02	Y	1.06	57.7	3781.485	0.278
OCDD	43.53		1.0002	1.0003	+0.3	9.29E+06	0.90	Y	1.13	117	3114.034	0.393
2378-TCDF	27.80		1.0008	1.0006	-0.3	3.75E+06	0.77	Y	1.08	12.1	4327.401	0.162
12378-PeCDF	32.52		1.0005	1.0005	0	1.45E+07	1.56	Y	1.02	54	7603.001	0.287
23478-PeCDF	33.63		1.0005	1.0005	0	1.52E+07	1.55	Y	1.02	57.5	7603.001	0.277
123478-HxCDF	36.84		1.0004	1.0004	0	1.22E+07	1.27	Y	1.27	56.5	9367.947	0.398
123678-HxCDF	36.99		1.0004	1.0003	-0.2	1.55E+07	1.26	Y	1.15	56.1	9367.947	0.385
234678-HxCDF	37.67		1.0004	1.0004	0	1.19E+07	1.26	Y	1.19	53.5	9367.947	0.427
123789-HxCDF	38.62		1.0004	1.0005	+0.2	1.02E+07	1.28	Y	1.16	55.9	9367.947	0.525
1234678-HpCDF	39.95		1.0002	1.0002	0	1.15E+07	1.02	Y	1.37	54	2986.104	0.119
1234789-HpCDF	41.34		1.0003	1.0003	0	8.12E+06	1.01	Y	1.31	58.5	2986.104	0.19
OCDF	43.71		1.0002	1.0002	0	1.19E+07	0.93	Y	1.07	110	3664.628	0.413

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0236	+0.5	1.72E+07	0.79	Y	1.05	83.5
ES 12378-PeCDD	33.94	1.2121	1.2134	+2.6	1.64E+07	1.61	Y	0.88	94.4
ES 123478-HxCDD	37.84	0.9921	0.9922	+0.2	1.38E+07	1.31	Y	0.97	86
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.76E+07	1.24	Y	0.94	113
ES 123789-HxCDD	38.24	1.0025	1.0028	+0.7	1.65E+07	1.27	Y	1.09	92.1
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.25E+07	1.10	Y	0.91	83
ES OCDD	43.51	1.1403	1.1411	+2.1	1.41E+07	0.91	Y	0.62	68.5
ES 2378-TCDF	27.78	1.0506	1.0512	+1.0	2.88E+07	0.80	Y	1.06	85
ES 12378-PeCDF	32.50	1.2281	1.2298	+3.3	2.63E+07	1.54	Y	0.91	90.2
ES 23478-PeCDF	33.61	1.2698	1.2716	+3.6	2.59E+07	1.53	Y	0.88	91.7
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.70E+07	0.53	Y	1.20	86.1
ES 123678-HxCDF	36.98	0.9695	0.9696	+0.2	2.40E+07	0.55	Y	1.35	108
ES 234678-HxCDF	37.66	0.9874	0.9875	+0.2	1.87E+07	0.57	Y	1.24	91.4
ES 123789-HxCDF	38.60	1.0116	1.0121	+1.2	1.57E+07	0.54	Y	1.16	82.8
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	1.55E+07	0.47	Y	0.97	97.3
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.06E+07	0.44	Y	0.85	75.8
ES OCDF	43.70	1.1451	1.1460	+2.4	2.02E+07	0.91	Y	0.81	75.9

Lab ID: OPR2_18842_DF | Acq'd: 23 Jan 2022 14:36 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 | UTP: 24-Jan-2022 15:16:29 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 606-439-XMN

Datafile: 220123C03 | Report: 24 Jan 2022 15:18 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.98E+07	0.83	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.20E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	8.22E+06	1.40	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.45E+06	n/a	-	1.20	89	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.58E+07	1.56	Y	0.75	106	
CS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	2.71E+07	1.61	Y	0.85	99.7	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.28E+07	0.51	Y	1.12	124	
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.71E+07	0.44	Y	0.89	117	
SS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	8.45E+06	n/a	-	1.15	107	Not used in this project.
SS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.58E+07	1.56	Y	0.86	113	CL 26Jan22
SS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	2.71E+07	1.61	Y	0.94	110	
SS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.28E+07	0.51	Y	0.83	115	
SS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.71E+07	0.44	Y	0.92	120	

Totals	Conc	EMPC
Total TCDD	55.4	55.4
Total PeCDD	74.8	74.8
Total HxCDD	185	185
Total HpCDD	69.5	69.5
Total Tetra-Octa Dioxins	502	502
Total TCDF	64.7	64.7
Total PeCDF	208	208
Total HxCDF	354	354
Total HpCDF	113	113
Total Tetra-Octa Furans	849	849
Total Tetra-Octa Dioxins & Furans	1350	1350

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.836	0.84
Response	2.54E+06	2.53E+06

Lab ID: OPR2_18842_DF | **Acq'd: 23 Jan 2022 14:36 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18842_OPR002 | **UTP: 24-Jan-2022 15:16:29 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 606-439-XMN**

Datafile: 220123C03 | **Report: 24 Jan 2022 15:18 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8747	-1.2	3.35E+06	0.82	Y	1.18	16.4	5022.625	0.267
1379-TCDD	NotFnd		0.8876						1.18		5022.625	0.267
1369-TCDD	NotFnd		0.9023						1.18		5022.625	0.267
1469-TCDD	NotFnd		0.9291						1.18		5022.625	0.267
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5022.625	0.267
1378-TCDD	NotFnd		0.9440						1.18		5022.625	0.267
1268-TCDD	NotFnd		0.9506						1.18		5022.625	0.267
1478-TCDD	NotFnd		0.9591						1.18		5022.625	0.267
1279-TCDD	NotFnd		0.9649						1.18		5022.625	0.267
1234/1269-TCDD	NotFnd		0.9771						1.18		5022.625	0.267
1236-TCDD	NotFnd		0.9820						1.18		5022.625	0.267
1237/1238-TCDD	NotFnd		0.9908						1.18		5022.625	0.267
1239-TCDD	28.49		0.9954	0.9950	-0.7	2.14E+06	0.76	Y	1.18	10.5	5022.625	0.267
2378-TCDD	**28.65**		**1.0008**	1.0007	**-0.2**	2.53E+06	0.84	Y	**1.18**	**12.4**	**5022.625**	**0.267**
1278-TCDD	NotFnd		1.0121						1.18		5022.625	0.267
1267-TCDD	NotFnd		1.0167						1.18		5022.625	0.267
1289-TCDD	29.61		1.0341	1.0344	+0.5	3.29E+06	0.81	Y	1.18	16.1	5022.625	0.267
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	1.97E+06	1.58	Y	1.04	11.6	3929.073	0.236
12469-PeCDD	NotFnd		0.9430						1.04		3929.073	0.236
12368-PeCDD	NotFnd		0.9592						1.04		3929.073	0.236
12478-PeCDD	NotFnd		0.9647						1.04		3929.073	0.236
12379-PeCDD	NotFnd		0.9676						1.04		3929.073	0.236
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3929.073	0.236
12346/12347-PeCDD	NotFnd		0.9860						1.04		3929.073	0.236
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**8.55E+06**	**1.57**	**Y**	**1.04**	**50.3**	**3929.073**	**0.236**
12367-PeCDD	NotFnd		1.0034						1.04		3929.073	0.236
12389-PeCDD	34.40		1.0134	1.0135	+0.2	2.19E+06	1.52	Y	1.04	12.9	3929.073	0.236
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.44E+06	1.31	Y	1.10	14	2737.649	0.161
123468-HxCDD	NotFnd		0.9715						1.10		2737.649	0.161
123679/123689-HxCDD	NotFnd		0.9793						1.10		2737.649	0.161
123469-HxCDD	NotFnd		0.9829						1.10		2737.649	0.161
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**8.91E+06**	**1.31**	**Y**	1.09	**59.5**	**2737.649**	**0.176**
123678-HxCDD	37.97		**1.0034**	**1.0036**	**+0.5**	**1.17E+07**	**1.21**	**Y**	1.15	**58.1**	**2737.649**	**0.14**
123467-HxCDD	NotFnd		1.0082						1.10		2737.649	0.161
123789-HxCDD	38.26		**1.0109**	**1.0111**	**+0.5**	**9.24E+06**	**1.24**	**Y**	1.05	**53.4**	**2737.649**	**0.173**

Lab ID: OPR2_18842_DF | Acq'd: 23 Jan 2022 14:36 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18842_OPR002 | UTP: 24-Jan-2022 15:16:29 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 606-439-XMN

Datafile: 220123C03 | Report: 24 Jan 2022 15:18 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	1.55E+06	1.09	Y	1.06	11.8	3781.485	0.278
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**7.62E+06**	**1.02**	**Y**	**1.06**	**57.7**	**3781.485**	**0.278**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**9.29E+06**	**0.90**	**Y**	**1.13**	**117**	**3114.034**	**0.393**
OCDD-a	43.53		1.0002	1.0005	+0.8	2.43E+05	2.43	Y	0.07	48.1	4066.803	8.02
1368-TCDF	22.97		0.8282	0.8269	-1.8	5.06E+06	0.82	Y	1.08	16.3	4327.401	0.162
1468-TCDF	NotFnd		0.8485						1.08		4327.401	0.162
2468-TCDF	24.17		0.8709	0.8699	-1.4	1.38E+06	0.87	Y	1.08	4.45	4327.401	0.162
1346/1246-TCDF	NotFnd		0.8829						1.08		4327.401	0.162
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4327.401	0.162
1348-TCDF	NotFnd		0.8980						1.08		4327.401	0.162
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4327.401	0.162
1268-TCDF	NotFnd		0.9158						1.08		4327.401	0.162
1467-TCDF	NotFnd		0.9206						1.08		4327.401	0.162
1478-TCDF	NotFnd		0.9266						1.08		4327.401	0.162
1369/1237-TCDF	NotFnd		0.9397						1.08		4327.401	0.162
2467-TCDF	NotFnd		0.9440						1.08		4327.401	0.162
2368-TCDF	NotFnd		0.9497						1.08		4327.401	0.162
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4327.401	0.162
1278-TCDF	NotFnd		0.9690						1.08		4327.401	0.162
1349-TCDF	NotFnd		0.9730						1.08		4327.401	0.162
1267-TCDF	NotFnd		0.9787						1.08		4327.401	0.162
2346/1249-TCDF	NotFnd		0.9850						1.08		4327.401	0.162
2347/1279-TCDF	NotFnd		0.9929						1.08		4327.401	0.162
2348-TCDF	27.69		0.9970	0.9966	-0.7	4.60E+06	0.77	Y	1.08	14.8	4327.401	0.162
2378-TCDF	**27.80**		**1.0008**	**1.0006**	**-0.3**	**3.75E+06**	**0.77**	**Y**	**1.08**	**12.1**	**4327.401**	**0.162**
2367/3467-TCDF	NotFnd		1.0136						1.08		4327.401	0.162
1269-TCDF	NotFnd		1.0221						1.08		4327.401	0.162
1239-TCDF	NotFnd		1.0319						1.08		4327.401	0.162
1289-TCDF	29.79		1.0740	1.0721	-3.4	5.30E+06	0.78	Y	1.08	17.1	4327.401	0.162
13468/12468-PeCDF	29.69		0.9145	0.9135	-1.8	2.29E+07	1.59	Y	1.02	85.9	3929.494	0.146
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7603.001	0.282
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7603.001	0.282
14678-PeCDF	NotFnd		0.9695						1.02		7603.001	0.282
13479-PeCDF	NotFnd		0.9724						1.02		7603.001	0.282
13469/12479-PeCDF	NotFnd		0.9801						1.02		7603.001	0.282
12346-PeCDF	NotFnd		0.9842						1.02		7603.001	0.282

Lab ID: OPR2_18842_DF | **Acq'd: 23 Jan 2022 14:36 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18842_OPR002 | **UTP: 24-Jan-2022 15:16:29 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 606-439-XMN**

Datafile: 220123C03 | **Report: 24 Jan 2022 15:18 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7603.001	0.282
12347-PeCDF	NotFnd		0.9895						1.02		7603.001	0.282
12348-PeCDF	NotFnd		0.9941						1.02		7603.001	0.282
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.45E+07**	**1.56**	**Y**	**1.02**	**54**	**7603.001**	**0.287**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7603.001	0.282
12379-PeCDF	NotFnd		1.0142						1.02		7603.001	0.282
12679-PeCDF	NotFnd		0.9931						1.02		7603.001	0.282
23467/12369-PeCDF	NotFnd		0.9966						1.02		7603.001	0.282
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.52E+07**	**1.55**	**Y**	**1.02**	**57.5**	**7603.001**	**0.277**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7603.001	0.282
12349-PeCDF	NotFnd		1.0101						1.02		7603.001	0.282
12389-PeCDF	34.70		1.0322	1.0325	+0.6	2.77E+06	1.58	Y	1.02	10.4	7603.001	0.282
123468-HxCDF	35.46		0.9627	0.9628	+0.2	2.96E+07	1.28	Y	1.19	132	9367.947	0.426
124678/134678-HxCDF	NotFnd		0.9684						1.19		9367.947	0.426
134679-HxCDF	NotFnd		0.9747						1.19		9367.947	0.426
124679-HxCDF	NotFnd		0.9802						1.19		9367.947	0.426
124689-HxCDF	NotFnd		0.9858						1.19		9367.947	0.426
123467-HxCDF	NotFnd		0.9972						1.19		9367.947	0.426
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.27**	**Y**	**1.27**	**56.5**	**9367.947**	**0.398**
123678-HxCDF	**36.99**		**1.0004**	**1.0003**	**-0.2**	**1.55E+07**	**1.26**	**Y**	**1.15**	**56.1**	**9367.947**	**0.385**
123479-HxCDF	NotFnd		1.0051						1.19		9367.947	0.426
123469-HxCDF	NotFnd		1.0091						1.19		9367.947	0.426
123679-HxCDF	NotFnd		0.9943						1.19		9367.947	0.426
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**1.19E+07**	**1.26**	**Y**	**1.19**	**53.5**	**9367.947**	**0.427**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9367.947	0.426
123789-HxCDF	**38.62**		**1.0004**	**1.0005**	**+0.2**	**1.02E+07**	**1.28**	**Y**	**1.16**	**55.9**	**9367.947**	**0.525**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		9367.947	0.426
1234678-HpCDF	**39.95**		**1.0002**	**1.0002**	**0**	**1.15E+07**	**1.02**	**Y**	**1.37**	**54**	**2986.104**	**0.119**
1234679-HpCDF	NotFnd		1.0067						1.34		2986.104	0.148
1234689-HpCDF	NotFnd		1.0101						1.34		2986.104	0.148
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**8.12E+06**	**1.01**	**Y**	**1.31**	**58.5**	**2986.104**	**0.19**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**1.19E+07**	**0.93**	**Y**	**1.07**	**110**	**3664.628**	**0.413**
OCDF-a	NotFnd		1.0002						0.07		3097.485	5.64

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220123C03	Analysis Date:	23-JAN-2022 14:36:49
Lab ID:	OPR2_18842_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.4	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	59.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.1	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	53.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.7	35	-	70	Y
OCDD	100	117	78	-	144	Y
2,3,7,8-TCDF	10	12.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	56.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	55.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	58.5	39	-	69	Y
OCDF	100	110	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Jan 2022 15:18 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

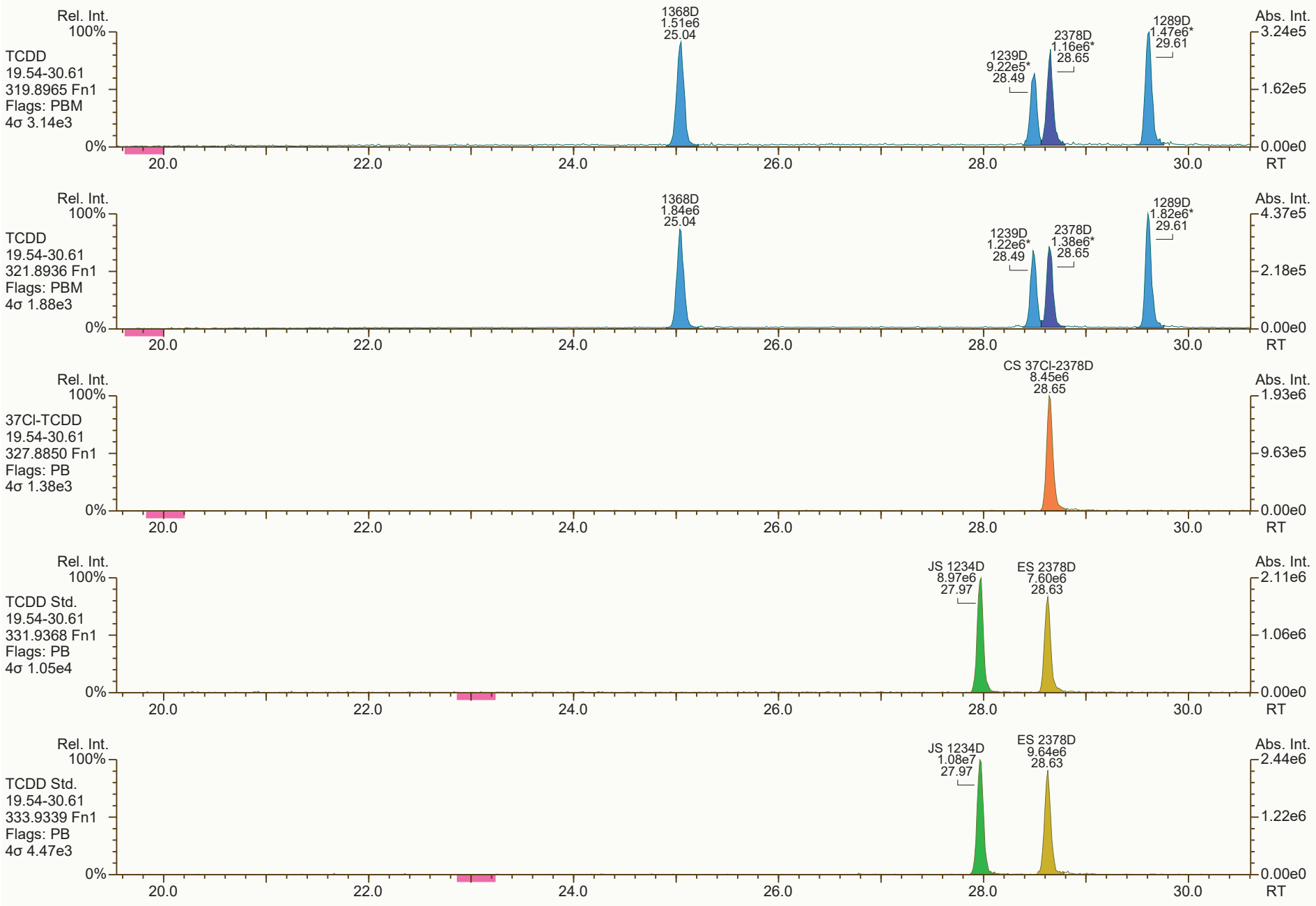
Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220123C03 Analysis Date: 23-JAN-2022 14:36:49
Lab ID: OPR2_18842_DF

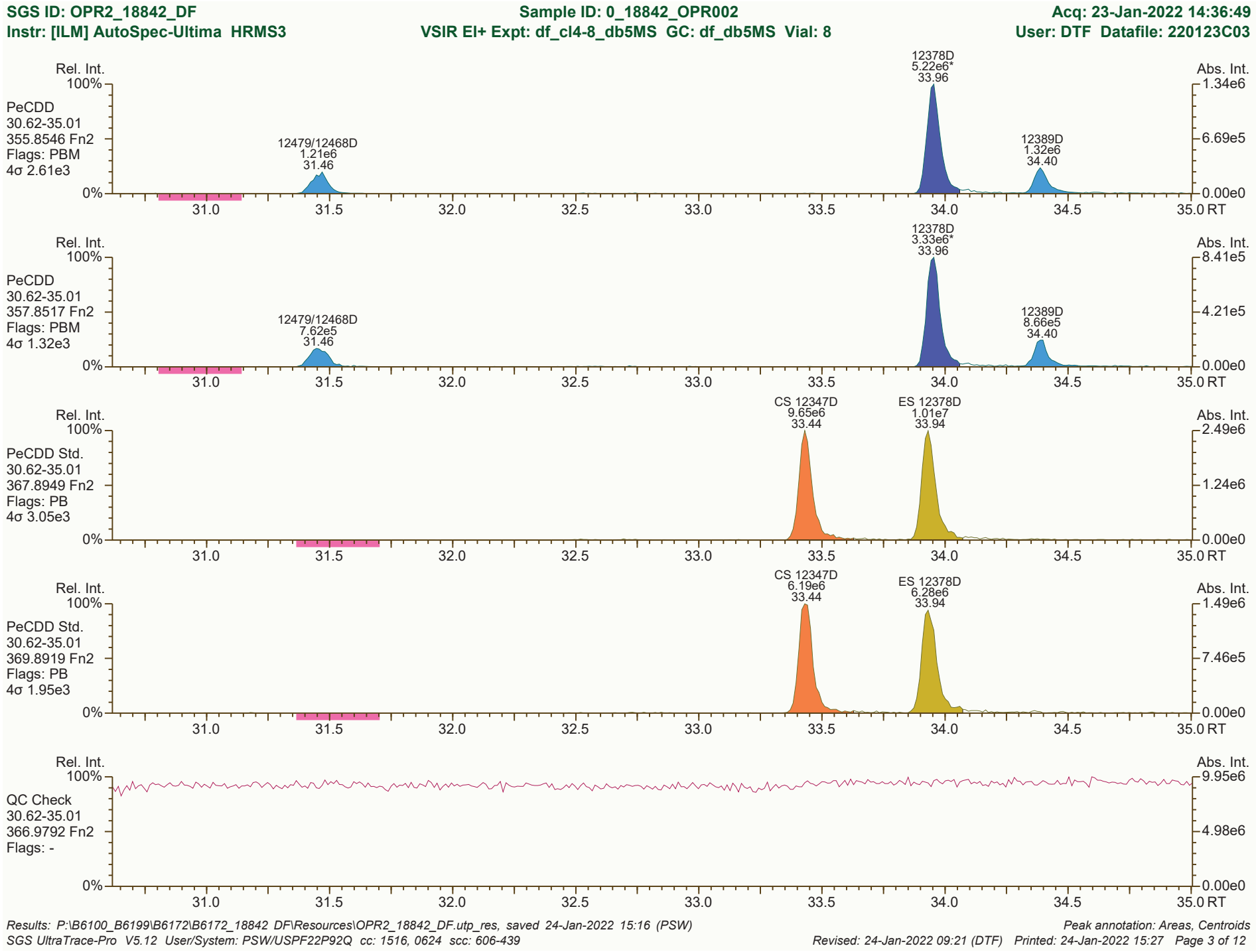
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	83.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	94.4	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	86	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	113	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92.1	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	83	26	-	166	Y
13C-OCDD	200	137	26	-	397	Y
13C-2,3,7,8-TCDF	100	85	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	90.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	91.7	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	86.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	108	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	91.4	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	82.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	97.3	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	75.8	20	-	186	Y
13C-OCDF	200	152	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.6	12.4	-	76.4	Y

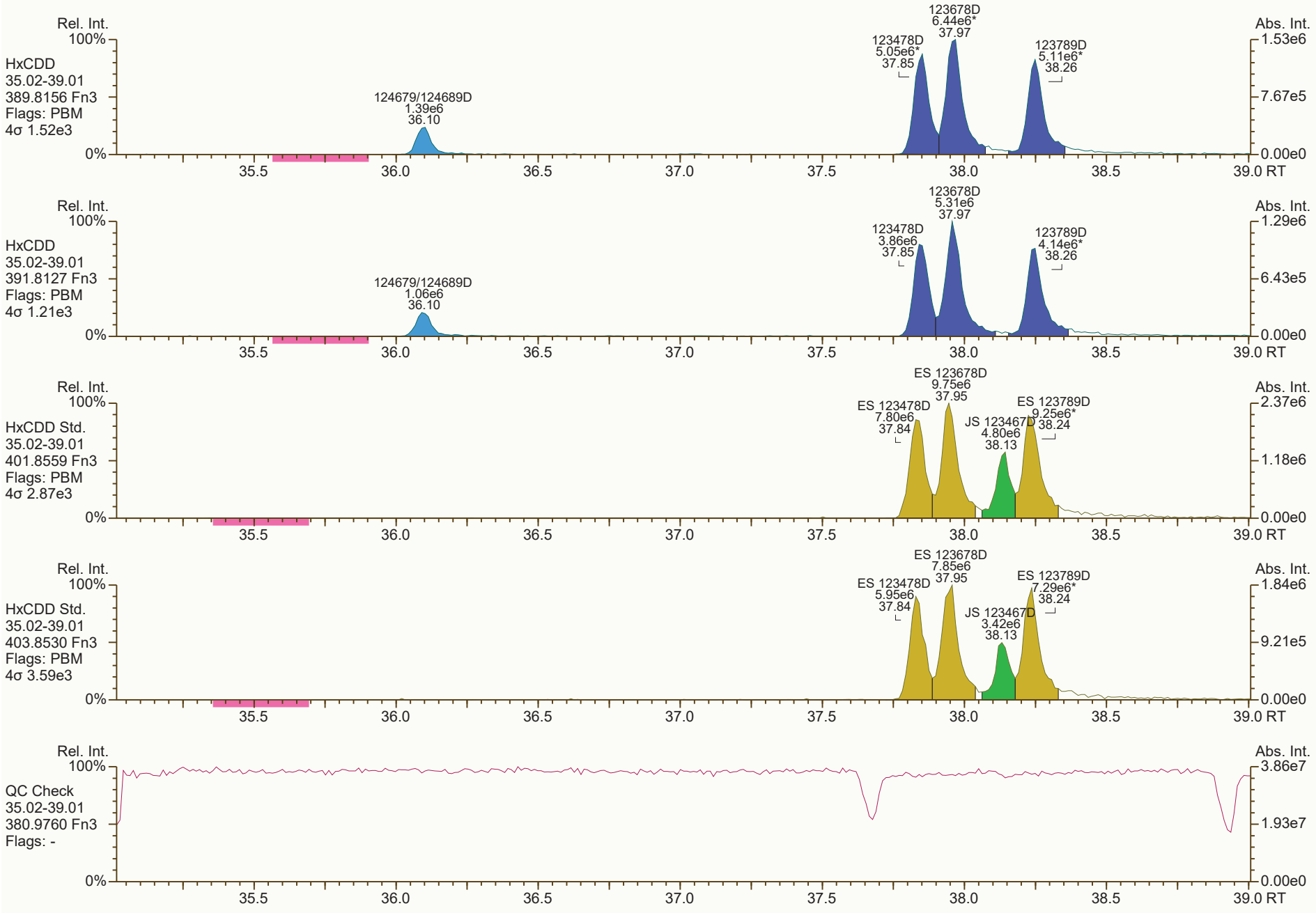
Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

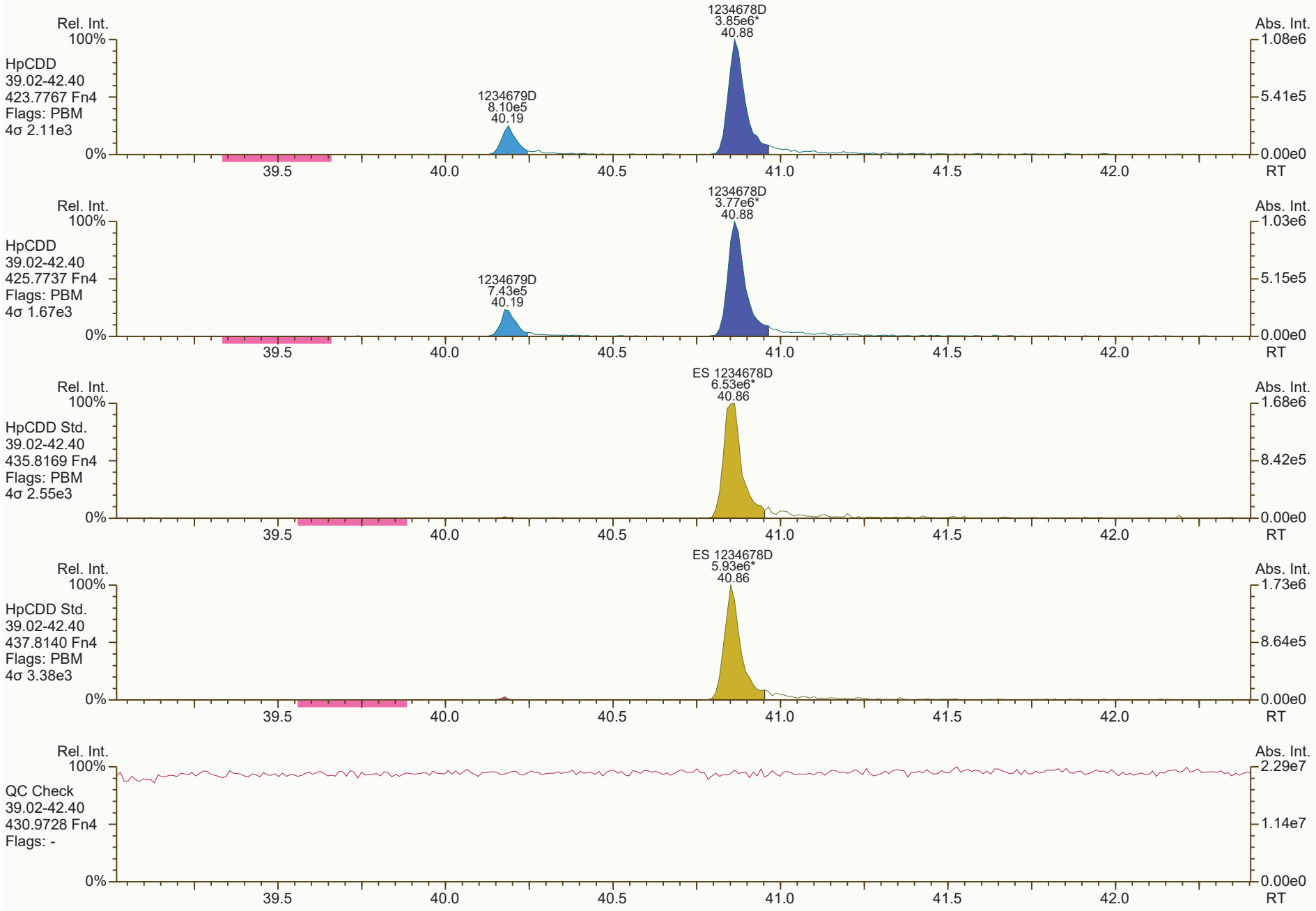
Processed: 24 Jan 2022 15:18 Analyst: pw

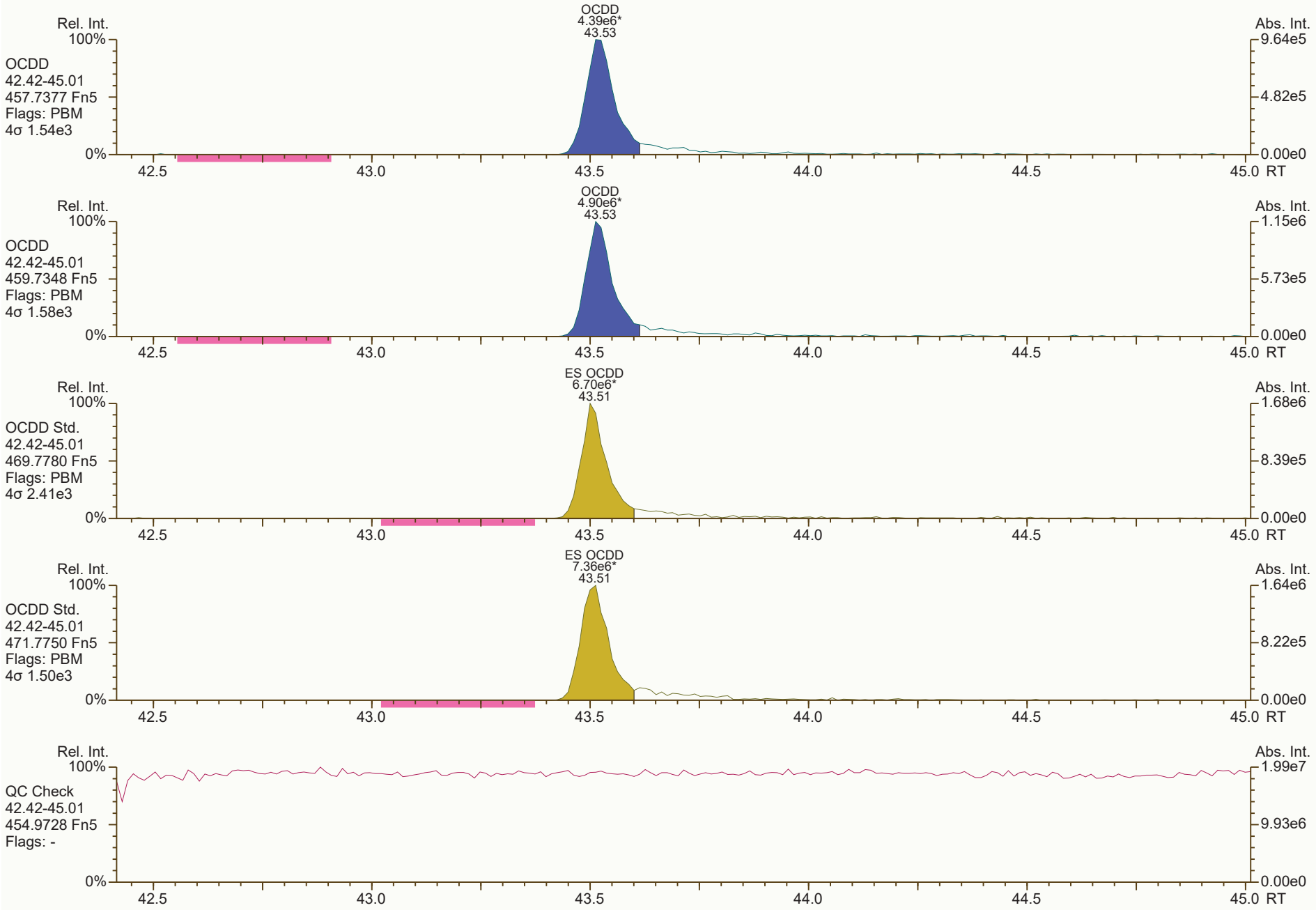

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.20e7
6.01e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
9.95e6
4.98e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
ES 23478-HxCDF
QI
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
3.86e7
1.93e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.99e7
9.93e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.14e3
0%
1368D
1.51e6
25.04
1239D
9.22e5*
28.49
2378D
1.16e6*
28.65
1289D
1.47e6*
29.61
Abs. Int.
3.24e5
1.62e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.88e3
0%
1368D
1.84e6
25.04
1239D
1.22e6*
28.49
2378D
1.38e6*
28.65
1289D
1.82e6*
29.61
Abs. Int.
4.37e5
2.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.38e3
0%
CS 37Cl-2378D
8.45e6
28.65
Abs. Int.
1.93e6
9.63e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
JS 1234D
8.97e6
27.97
ES 2378D
7.60e6
28.63
Abs. Int.
2.11e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.47e3
0%
JS 1234D
1.08e7
27.97
ES 2378D
9.64e6
28.63
Abs. Int.
2.44e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR2_18842_DF
Sample ID: 0_18842_OPR002
Acq: 23-Jan-2022 14:36:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: DTF Datafile: 220123C03
Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 2.61e3
12479/12468D
1.21e6
31.46
12378D
5.22e6*
33.96
12389D
1.32e6
34.40
1.34e6
6.69e5
0.00e0
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.32e3
12479/12468D
7.62e5
31.46
12378D
3.33e6*
33.96
12389D
8.66e5
34.40
8.41e5
4.21e5
0.00e0
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 3.05e3
CS 12347D
9.65e6
33.44
ES 12378D
1.01e7
33.94
2.49e6
1.24e6
0.00e0
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 1.95e3
CS 12347D
6.19e6
33.44
ES 12378D
6.28e6
33.94
1.49e6
7.46e5
0.00e0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
9.95e6
4.98e6
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\OPR2_18842_DF.utp_res, saved 24-Jan-2022 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1516, 0624 scc: 606-439
Revised: 24-Jan-2022 09:21 (DTF) Printed: 24-Jan-2022 15:27 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.52e3
124679/124689D
1.39e6
36.10
123478D
5.05e6*
37.85
123678D
6.44e6*
37.97
123789D
5.11e6*
38.26
Abs. Int.
1.53e6
7.67e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.21e3
124679/124689D
1.06e6
36.10
123478D
3.86e6
37.85
123678D
5.31e6
37.97
123789D
4.14e6*
38.26
Abs. Int.
1.29e6
6.43e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.87e3
ES 123478D
7.80e6
37.84
ES 123678D
9.75e6
37.95
JS 123467D
4.80e6
38.13
ES 123789D
9.25e6*
38.24
Abs. Int.
2.37e6
1.18e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.59e3
ES 123478D
5.95e6
37.84
ES 123678D
7.85e6
37.95
JS 123467D
3.42e6
38.13
ES 123789D
7.29e6*
38.24
Abs. Int.
1.84e6
9.21e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
3.86e7
1.93e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

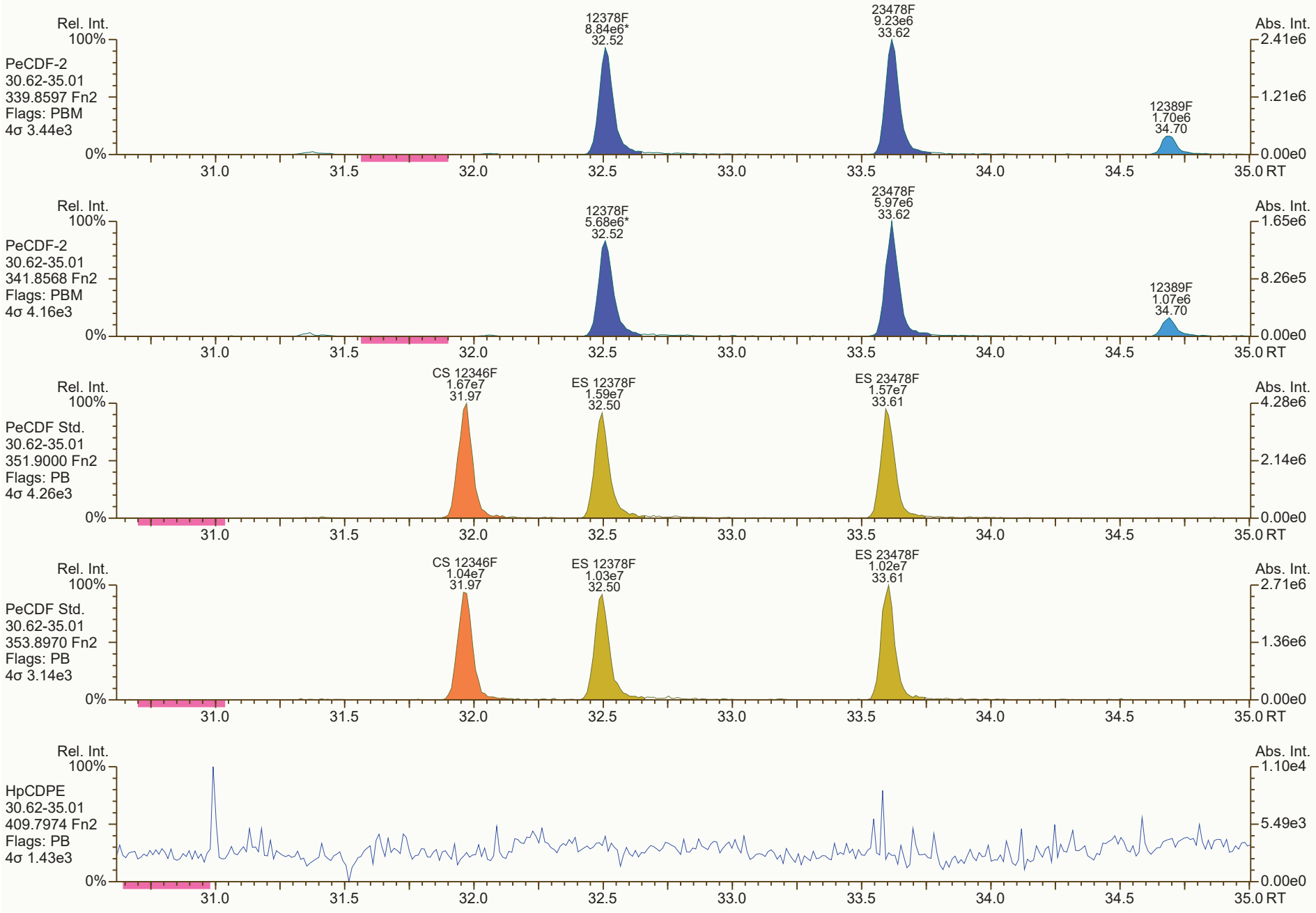

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.11e3
1234678D
3.85e6*
40.88
1234679D
8.10e5
40.19
Abs. Int.
1.08e6
5.41e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.67e3
1234678D
3.77e6*
40.88
1234679D
7.43e5
40.19
Abs. Int.
1.03e6
5.15e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.55e3
ES 1234678D
6.53e6*
40.86
Abs. Int.
1.68e6
8.42e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 3.38e3
ES 1234678D
5.93e6*
40.86
Abs. Int.
1.73e6
8.64e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

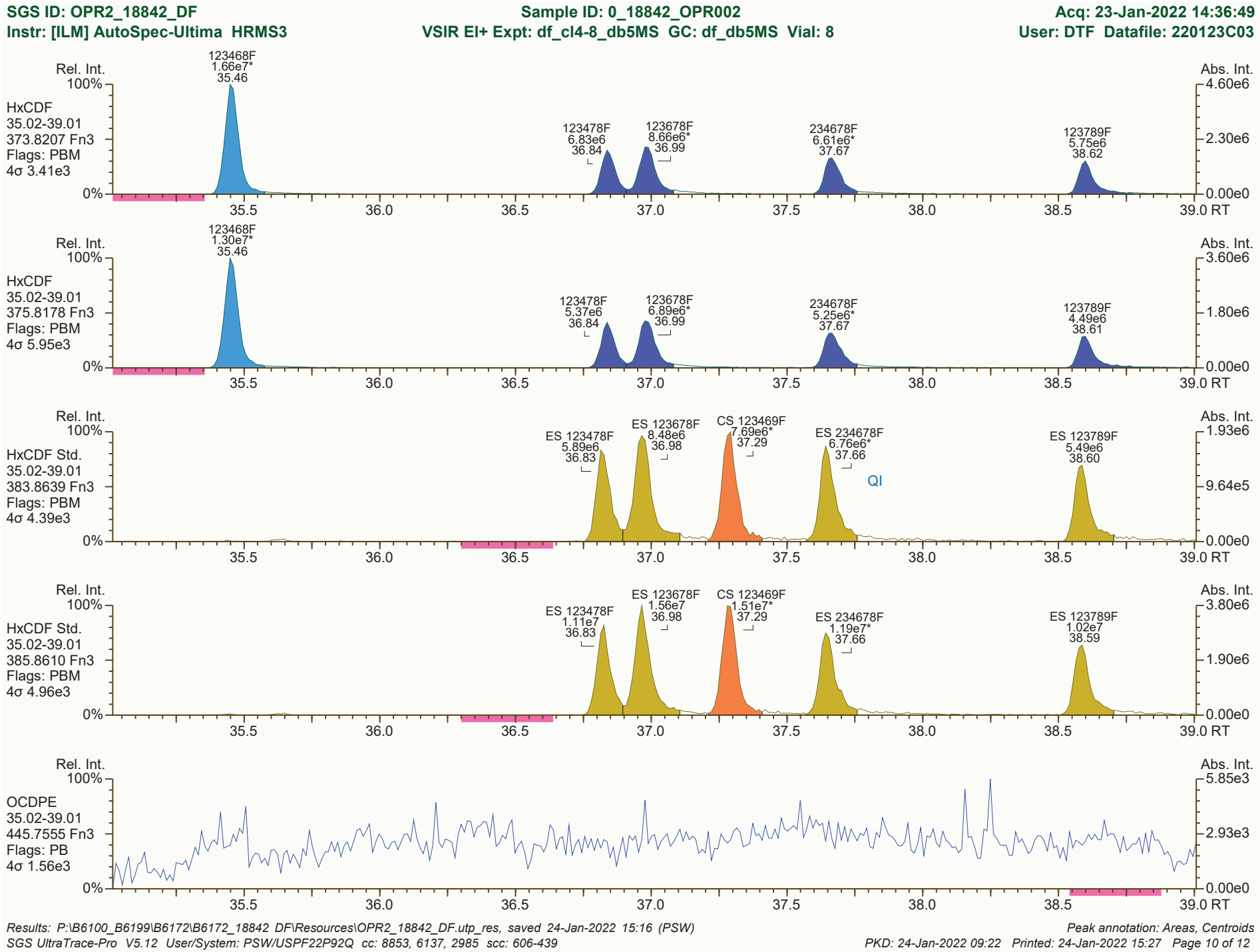

OCDD
4.39e6*
43.53
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.54e3
OCDD
4.90e6*
43.53
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.58e3
ES OCDD
6.70e6*
43.51
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.41e3
ES OCDD
7.36e6*
43.51
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.50e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

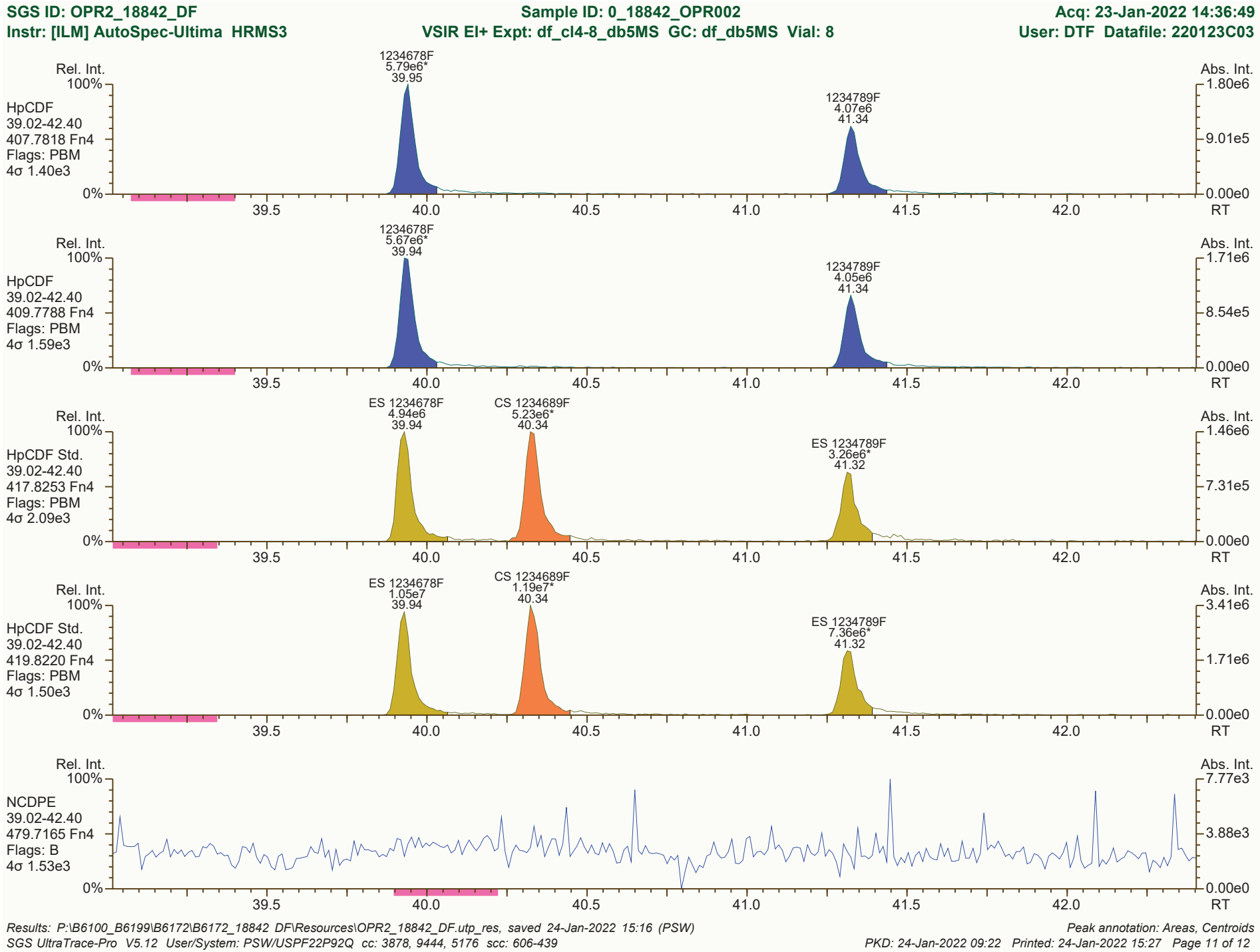


Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\OPR2_18842_DF.utp_res, saved 24-Jan-2022 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2283, 9255, 7438 scc: 606-439
Revised: 24-Jan-2022 09:22 (DTF) Printed: 24-Jan-2022 15:27 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.94e3
13468/12468F
1.41e7
29.69
Abs. Int.
3.37e6
1.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.99e3
13468/12468F
8.86e6
29.69
Abs. Int.
2.27e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
1.20e7
6.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 3.44e3
0%
12378F
8.84e6*
32.52
23478F
9.23e6
33.62
12389F
1.70e6
34.70
Abs. Int.
2.41e6
1.21e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 4.16e3
0%
12378F
5.68e6*
32.52
23478F
5.97e6
33.62
12389F
1.07e6
34.70
Abs. Int.
1.65e6
8.26e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 4.26e3
0%
CS 12346F
1.67e7
31.97
ES 12378F
1.59e7
32.50
ES 23478F
1.57e7
33.61
Abs. Int.
4.28e6
2.14e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.14e3
0%
CS 12346F
1.04e7
31.97
ES 12378F
1.03e7
32.50
ES 23478F
1.02e7
33.61
Abs. Int.
2.71e6
1.36e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
1.10e4
5.49e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: OPR2_18842_DF
Sample ID: 0_18842_OPR002
Acq: 23-Jan-2022 14:36:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: DTF Datafile: 220123C03
Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.41e3
123468F
1.66e7*
35.46
123478F
6.83e6
36.84
123678F
8.66e6*
36.99
234678F
6.61e6*
37.67
123789F
5.75e6
38.62
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 5.95e3
123468F
1.30e7*
35.46
123478F
5.37e6
36.84
123678F
6.89e6*
36.99
234678F
5.25e6*
37.67
123789F
4.49e6
38.61
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.39e3
ES 123478F
5.89e6
36.83
ES 123678F
8.48e6
36.98
CS 123469F
7.69e6*
37.29
ES 234678F
6.76e6*
37.66
QI
ES 123789F
5.49e6
38.60
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.96e3
ES 123478F
1.11e7
36.83
ES 123678F
1.56e7
36.98
CS 123469F
1.51e7*
37.29
ES 234678F
1.19e7*
37.66
ES 123789F
1.02e7
38.59
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.56e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
4.60e6
2.30e6
0.00e0
3.60e6
1.80e6
1.93e6
9.64e5
3.80e6
1.90e6
5.85e3
2.93e3
Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\OPR2_18842_DF.utp_res, saved 24-Jan-2022 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8853, 6137, 2985 scc: 606-439
PKD: 24-Jan-2022 09:22 Printed: 24-Jan-2022 15:27 Page 10 of 12


SGS ID: OPR2_18842_DF
Sample ID: 0_18842_OPR002
Acq: 23-Jan-2022 14:36:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: DTF Datafile: 220123C03
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.40e3
1234678F
5.79e6*
39.95
1234789F
4.07e6
41.34
1.80e6
9.01e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.59e3
1234678F
5.67e6*
39.94
1234789F
4.05e6
41.34
1.71e6
8.54e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.09e3
ES 1234678F
4.94e6
39.94
CS 1234689F
5.23e6*
40.34
ES 1234789F
3.26e6*
41.32
1.46e6
7.31e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.50e3
ES 1234678F
1.05e7
39.94
CS 1234689F
1.19e7*
40.34
ES 1234789F
7.36e6*
41.32
3.41e6
1.71e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.53e3
7.77e3
3.88e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6172\B6172_18842 DF\Resources\OPR2_18842_DF.utp_res, saved 24-Jan-2022 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3878, 9444, 5176 scc: 606-439
PKD: 24-Jan-2022 09:22 Printed: 24-Jan-2022 15:27 Page 11 of 12


OCDF
5.74e6*
43.71
Rel. Int.
Abs. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.11e3
1.25e6
6.24e5
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.15e6*
43.71
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.56e3
1.42e6
7.10e5
ES OCDF
9.63e6*
43.70
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.81e3
1.98e6
9.89e5
ES OCDF
1.05e7*
43.70
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.15e3
2.23e6
1.12e6
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.13e3
4.31e3
2.15e3



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011222-S-BN-SC-S-26 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.17 g	Lab Sample ID	B6181_18838_DF_001	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	79.5 %	QC Batch No:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:51:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	129				ES 2378-TCDD	55.8	
12378-PeCDD	2.38				ES 12378-PeCDD	48.2	
123478-HxCDD	ND	0.789			ES 123478-HxCDD	57.5	
123678-HxCDD	2.15				ES 123678-HxCDD	62.1	
123789-HxCDD	1.68			J	ES 123789-HxCDD	52.5	
1234678-HpCDD	80.5				ES 1234678-HpCDD	49.8	
OCDD	1,420				ES OCDD	33	
2378-TCDF	491				ES 2378-TCDF	51.4	
12378-PeCDF	20.1				ES 12378-PeCDF	53	
23478-PeCDF	15.8				ES 23478-PeCDF	52.9	
123478-HxCDF	27.8				ES 123478-HxCDF	58.5	
123678-HxCDF	7.15				ES 123678-HxCDF	61.2	
234678-HxCDF	EMPC		2.04	J	ES 234678-HxCDF	43.2	
123789-HxCDF	ND	0.596			ES 123789-HxCDF	57.7	
1234678-HpCDF	16.4				ES 1234678-HpCDF	58.9	
1234789-HpCDF	3.41				ES 1234789-HpCDF	56.5	
OCDF	22.9				ES OCDF	38.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	54.7	
Total TCDD	145		145		CS 12347-PeCDD	63.3	
Total PeCDD	3.98		3.98		CS 12346-PeCDF	62.9	
Total HxCDD	17.6		25.4		CS 123469-HxCDF	77.3	
Total HpCDD	179		179		CS 1234689-HpCDF	76.2	
Total TCDF	933		936				
Total PeCDF	59.1		61.7				
Total HxCDF	51.4		55.2				
Total HpCDF	40.4		41.2				
Total PCDD/Fs	**2,870**		**2,890**				
WHO-2005 TEQs							
TEQ: ND=0	191		192				
TEQ: ND=DL/2	191	1.32	192				
TEQ: ND=DL	191	2.65	192				

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Sample ID: 11215131-011222-S-BN-SC-S-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.17 g	Lab Sample ID:	B6181_18838_DF_001	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	79.5 %	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:51:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.887)		12479/12468D	(0.973)		124679/124689D	13.8		1234679D	98.2	
1379D	(0.887)		12469D	1.6	J	123468D	(0.78)		1234678D	80.5	
1369D	(0.887)		12368D	(0.973)		123679/123689D	[7.84]				
1469D	1.91		12478D	(0.973)		123469D	(0.78)				
1247D...[4]	(0.887)		12379D	(0.973)		123478D	(0.789)				
1378D	(0.887)		12369D...[3]	(0.973)		123678D	2.15				
1268D	(0.887)		12346/12347D	(0.973)		123467D	(0.78)				
1478D	(0.887)		12378D	2.38		123789D	1.68	J	**Conc.**	179	
1279D	(0.887)		12367D	(0.973)					**EMPC**	179	
1234/1269D	(0.887)		12389D	(0.973)							
1236D	(0.887)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	2.11										
1239D	(0.887)								OCDD	1420	
2378D	129										
1278D	11.9										
1267D	(0.887)										
1289D	(0.887)										
Conc.	145		**Conc.**	3.98		**Conc.**	17.6				
EMPC	145		**EMPC**	3.98		**EMPC**	25.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	191	192
TEQ: ND=DL/2	191	192
TEQ: ND=DL	191	192

	Conc.	EMPC
Total PCDD/Fs	2,870	2,890

Checkcode: 105-037-YTJ

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.17 g	Lab Sample ID:	B6181_18838_DF_001	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	79.5 %	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:51:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.986)		13468/12468F	4.47		123468F	[1.82]	J	1234678F	16.4	
1468F	(0.986)		13678F...[3]	0.781	J	124678/134678F	7.57		1234679F	[0.76]	J
2468F	[1.37]		12368F...[3]	11.1		134679F	(0.587)		1234689F	20.6	
1346/1246F	(0.986)		14678F	0.456	J	124679F	(0.587)		1234789F	3.41	
1347F...[3]	4.69		13479F	(0.6)		124689F	6.37				
1348F	[1.81]		13469/12479F	(0.6)		123467F	(0.587)				
1248F...[3]	21.8		12346F	(0.6)		123478F	27.8				
1268F	7.75		23468/12469F	[0.996]	J	123678F	7.15				
1467F	(0.986)		12347F	(0.6)		123479F	(0.587)				
1478F	18.4		12348F	[1.6]	J	123469F	(0.587)				
1369/1237F	5.17		12378F	20.1		123679F	(0.587)				
2467F	(0.986)		12678/12367F	6.41		234678F	[2.04]	J	**Conc.**	40.4	
2368F	11.9		12379F	(0.6)		234678/123689F	0		**EMPC**	41.2	
1238F...[5]	26.5		12679F	(0.6)		123689F	(0.587)				
1278F	219		23467/12369F	(0.6)		123789F	(0.596)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.986)		23478F	15.8		123789/123489F	0				
1267F	10.9		23478/12489F	0		123489F	2.51		OCDF	22.9	
2346/1249F	(0.986)		12489F	(0.6)							
2347/1279F	5.3		12349F	(0.6)							
2348F	32.2		12389F	(0.6)							
2378F	491										
2367/3467F	38										
1269F	5.99										
1239F	(0.986)										
1289F	33.6										
Conc.	933		**Conc.**	59.1		**Conc.**	51.4				
EMPC	936		**EMPC**	61.7		**EMPC**	55.2				

Checkcode: 105-037-YTJ

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-26 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6181_18838_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.17 g	QC Batch No.:	18838
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	19-Jan-2022 02:51
Lab Project No:	B6181	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	129		0.887	129	129	129
12378-PeCDD	2.38		0.973	1.19	2.38	2.38
123478-HxCDD	(0.789)		0.789	(0.0789)	(0.0789)	(0.0789)
123678-HxCDD	2.15		0.731	0.215	0.215	0.215
123789-HxCDD	1.68	J	0.823	0.168	0.168	0.168
1234678-HpCDD	80.5		0.572	0.805	0.805	0.805
OCDD	1420		1.66	1.42	0.142	0.425
2378-TCDF	491		0.986	49.1	49.1	49.1
12378-PeCDF	20.1		0.605	1.01	1.01	0.603
23478-PeCDF	15.8		0.596	7.88	7.88	4.73
123478-HxCDF	27.8		0.528	2.78	2.78	2.78
123678-HxCDF	7.15		0.497	0.715	0.715	0.715
234678-HxCDF	[2.04]	J	0.795	[0.204]	[0.204]	[0.204]
123789-HxCDF	(0.596)		0.596	(0.0596)	(0.0596)	(0.0596)
1234678-HpCDF	16.4		0.464	0.164	0.164	0.164
1234789-HpCDF	3.41		0.539	0.0341	0.0341	0.0341
OCDF	22.9		1.07	0.0229	0.00229	0.00687

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TEQ Summaries			
EMPC = 0, ND = 0	195	195	191
EMPC = 0, ND = DL / 2	195	195	191
EMPC = 0, ND = DL	195	195	191
EMPC = 0, < J-level = 0	195	194	191
EMPC = EMPC, ND = 0	195	195	192
EMPC = EMPC, ND = DL / 2	195	195	192
EMPC = EMPC, ND = DL	195	195	192
EMPC = EMPC, < J-level = 0	195	194	191

Checkcode: 105-037-YTJ

Sample ID: 11215131-011222-S-BN-SC-S-27 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.20 g	Lab Sample ID	B6181_18838_DF_002	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	81.3 %	QC Batch No:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:39:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	6.89				ES 2378-TCDD	72.6	
12378-PeCDD	0.82			J	ES 12378-PeCDD	66.9	
123478-HxCDD	1.19			J	ES 123478-HxCDD	74.1	
123678-HxCDD	EMPC		2.82		ES 123678-HxCDD	79.4	
123789-HxCDD	3.06				ES 123789-HxCDD	69.7	
1234678-HpCDD	131				ES 1234678-HpCDD	66.5	
OCDD	1,280				ES OCDD	50.8	
2378-TCDF	66.1				ES 2378-TCDF	67.8	
12378-PeCDF	3.94				ES 12378-PeCDF	76.6	
23478-PeCDF	3.74				ES 23478-PeCDF	75.1	
123478-HxCDF	6.07				ES 123478-HxCDF	77.3	
123678-HxCDF	1.88			J	ES 123678-HxCDF	86.3	
234678-HxCDF	1.3			J	ES 234678-HxCDF	55.1	
123789-HxCDF	ND	0.357			ES 123789-HxCDF	75.7	
1234678-HpCDF	11.2				ES 1234678-HpCDF	83.9	
1234789-HpCDF	EMPC		1.24	J	ES 1234789-HpCDF	73.4	
OCDF	25.6				ES OCDF	52.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	62.5	
Total TCDD	12.1		13.6		CS 12347-PeCDD	72	
Total PeCDD	2.95		6.3		CS 12346-PeCDF	75.6	
Total HxCDD	53.9		60.7		CS 123469-HxCDF	87.1	
Total HpCDD	361		361		CS 1234689-HpCDF	90.1	
Total TCDF	129		132				
Total PeCDF	17.7		18.3				
Total HxCDF	22.5		23.1				
Total HpCDF	27		28.3				
Total PCDD/Fs	**1,930**		**1,950**				
WHO-2005 TEQs							
TEQ: ND=0	18.7		19				
TEQ: ND=DL/2	18.7	0.588	19				
TEQ: ND=DL	18.8	1.18	19.1				

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Sample ID: 11215131-011222-S-BN-SC-S-27 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.20 g	Lab Sample ID:	B6181_18838_DF_002	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	81.3 %	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:39:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.324)		12479/12468D	1.22	J	124679/124689D	34		1234679D	230	
1379D	(0.324)		12469D	[3.35]		123468D	[1.35]	J	1234678D	131	
1369D	(0.324)		12368D	(0.428)		123679/123689D	15.6				
1469D	4.42		12478D	(0.428)		123469D	[1.89]	J			
1247D...[4]	(0.324)		12379D	(0.428)		123478D	1.19	J			
1378D	(0.324)		12369D...[3]	0.912	J	123678D	[2.82]				
1268D	(0.324)		12346/12347D	(0.428)		123467D	[0.809]	J			
1478D	(0.324)		12378D	0.82	J	123789D	3.06		**Conc.**	361	
1279D	(0.324)		12367D	(0.428)					**EMPC**	361	
1234/1269D	0.755		12389D	(0.428)							
1236D	(0.324)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.42]										
1239D	(0.324)								OCDD	1280	
2378D	6.89										
1278D	[1.13]										
1267D	(0.324)										
1289D	(0.324)										
Conc.	12.1		**Conc.**	2.95		**Conc.**	53.9				
EMPC	13.6		**EMPC**	6.3		**EMPC**	60.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	18.7	19
TEQ: ND=DL/2	18.7	19
TEQ: ND=DL	18.8	19.1

	Conc.	EMPC
Total PCDD/Fs	1,930	1,950

Checkcode: 984-853-BXQ

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-27 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received: 13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.20 g	Lab Sample ID:	B6181_18838_DF_002	Date Extracted: 13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	81.3 %	QC Batch No.:	18838	Date Analyzed: 19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 3:39:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.413)		13468/12468F	3.36		123468F	1.81	J	1234678F	11.2	
1468F	(0.413)		13678F...[3]	[0.608]	J	124678/134678F	7.16		1234679F	0.622	J
2468F	(0.413)		12368F...[3]	3.7		134679F	(0.335)		1234689F	15.2	
1346/1246F	0.439		14678F	0.378	J	124679F	[0.271]	J	1234789F	[1.24]	J
1347F...[3]	1.71		13479F	(0.321)		124689F	4.23				
1348F	(0.413)		13469/12479F	(0.321)		123467F	[0.355]	J			
1248F...[3]	(0.413)		12346F	(0.321)		123478F	6.07				
1268F	1.91		23468/12469F	0.619	J	123678F	1.88	J			
1467F	(0.413)		12347F	(0.321)		123479F	(0.335)				
1478F	2.81		12348F	0.454	J	123469F	(0.335)				
1369/1237F	[1.3]		12378F	3.94		123679F	(0.335)				
2467F	(0.413)		12678/12367F	1.49	J	234678F	1.3	J	**Conc.**	27	
2368F	2.91		12379F	(0.321)		234678/123689F	0		**EMPC**	28.3	
1238F...[5]	4.92		12679F	(0.321)		123689F	(0.335)				
1278F	27		23467/12369F	(0.321)		123789F	(0.357)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.413)		23478F	3.74		123789/123489F	0			**(pg/g)**	
1267F	2.6		23478/12489F	0		123489F	(0.335)		OCDF	25.6	
2346/1249F	(0.413)		12489F	(0.321)							
2347/1279F	1.14		12349F	(0.321)							
2348F	4.68		12389F	(0.321)							
2378F	66.1										
2367/3467F	7.68										
1269F	[1.72]										
1239F	(0.413)										
1289F	5.35										
Conc.	129		**Conc.**	17.7		**Conc.**	22.5				
EMPC	132		**EMPC**	18.3		**EMPC**	23.1				

Checkcode: 984-853-BXQ

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-27 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6181_18838_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.20 g	QC Batch No.:	18838
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	19-Jan-2022 03:39
Lab Project No:	B6181	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	6.89		0.324	6.89	6.89	6.89
12378-PeCDD	0.82	J	0.428	0.41	0.82	0.82
123478-HxCDD	1.19	J	0.408	0.119	0.119	0.119
123678-HxCDD	[2.82]		0.433	[0.282]	[0.282]	[0.282]
123789-HxCDD	3.06		0.455	0.306	0.306	0.306
1234678-HpCDD	131		0.361	1.31	1.31	1.31
OCDD	1280		0.811	1.28	0.128	0.383
2378-TCDF	66.1		0.413	6.61	6.61	6.61
12378-PeCDF	3.94		0.319	0.197	0.197	0.118
23478-PeCDF	3.74		0.323	1.87	1.87	1.12
123478-HxCDF	6.07		0.308	0.607	0.607	0.607
123678-HxCDF	1.88	J	0.283	0.188	0.188	0.188
234678-HxCDF	1.3	J	0.432	0.13	0.13	0.13
123789-HxCDF	(0.357)		0.357	(0.0357)	(0.0357)	(0.0357)
1234678-HpCDF	11.2		0.269	0.112	0.112	0.112
1234789-HpCDF	[1.24]	J	0.337	[0.0124]	[0.0124]	[0.0124]
OCDF	25.6		0.563	0.0256	0.00256	0.00767

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TEQ Summaries			
EMPC = 0, ND = 0	20.1	19.3	18.7
EMPC = 0, ND = DL / 2	20.1	19.3	18.7
EMPC = 0, ND = DL	20.1	19.3	18.8
EMPC = 0, < J-level = 0	19.2	18	17.5
EMPC = EMPC, ND = 0	20.3	19.6	19
EMPC = EMPC, ND = DL / 2	20.4	19.6	19
EMPC = EMPC, ND = DL	20.4	19.6	19.1
EMPC = EMPC, < J-level = 0	19.5	18.3	17.7

Checkcode: 984-853-BXQ

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Sample ID: 11215131-011222-S-BN-SC-S-28 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.85 g	Lab Sample ID	B6181_18838_DF_003	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	77.2 %	QC Batch No:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:26:53

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,680			E	ES 2378-TCDD	81.5	
12378-PeCDD	29				ES 12378-PeCDD	71.6	
123478-HxCDD	0.966			J	ES 123478-HxCDD	87.6	
123678-HxCDD	3.86				ES 123678-HxCDD	86.1	
123789-HxCDD	2.17				ES 123789-HxCDD	85.8	
1234678-HpCDD	139				ES 1234678-HpCDD	82.2	
OCDD	2,120				ES OCDD	67.6	
2378-TCDF	9,440			E	ES 2378-TCDF	79.5	
12378-PeCDF	389				ES 12378-PeCDF	83.8	
23478-PeCDF	268				ES 23478-PeCDF	76.7	
123478-HxCDF	777				ES 123478-HxCDF	91.1	
123678-HxCDF	190				ES 123678-HxCDF	95.2	
234678-HxCDF	32.1				ES 234678-HxCDF	60.1	
123789-HxCDF	ND	0.422			ES 123789-HxCDF	88.7	
1234678-HpCDF	277				ES 1234678-HpCDF	105	
1234789-HpCDF	87.2				ES 1234789-HpCDF	88.3	
OCDF	130				ES OCDF	68.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.6	
Total TCDD	2,930		2,960	E	CS 12347-PeCDD	83.9	
Total PeCDD	37.5		41.3		CS 12346-PeCDF	93.1	
Total HxCDD	41.7		43.5		CS 123469-HxCDF	110	
Total HpCDD	302		302		CS 1234689-HpCDF	110	
Total TCDF	18,800		18,800	E			
Total PeCDF	1,010		1,010				
Total HxCDF	1,150		1,150				
Total HpCDF	426		426				
Total PCDD/Fs	**27,000**		**27,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	3850		3850				
TEQ: ND=DL/2	3850	0.663	3850				
TEQ: ND=DL	3850	1.33	3850				

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Sample ID: 11215131-011222-S-BN-SC-S-28 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.85 g	Lab Sample ID:	B6181_18838_DF_003	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	77.2 %	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:26:53

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2		12479/12468D	1.86	J	124679/124689D	20.9		1234679D	164	
1379D	0.921		12469D	[1.9]	J	123468D	[1.23]	J	1234678D	139	
1369D	(0.345)		12368D	2.26		123679/123689D	12.8				
1469D	2.36		12478D	2.02		123469D	1.08	J			
1247D...[4]	[4.12]		12379D	(0.521)		123478D	0.966	J			
1378D	7		12369D...[3]	1.54	J	123678D	3.86				
1268D	[0.562]		12346/12347D	0.831	J	123467D	[0.572]	J			
1478D	6.27		12378D	29		123789D	2.17		**Conc.**	302	
1279D	(0.345)		12367D	[1.86]	J				**EMPC**	302	
1234/1269D	[0.799]		12389D	(0.521)							
1236D	[0.559]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	40.4										
1239D	(0.345)								OCDD	2120	
2378D	2680	E									
1278D	198										
1267D	[8.97]										
1289D	[9.03]										
Conc.	2,930		**Conc.**	37.5		**Conc.**	41.7				
EMPC	2,960		**EMPC**	41.3		**EMPC**	43.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,850	3,850
TEQ: ND=DL/2	3,850	3,850
TEQ: ND=DL	3,850	3,850

	Conc.	EMPC
Total PCDD/Fs	27,000	27,000

Checkcode: 290-471-DNY

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-28 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.85 g	Lab Sample ID:	B6181_18838_DF_003	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	77.2 %	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:26:53

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.99		13468/12468F	7.65		123468F	6.92		1234678F	277	
1468F	11.7		13678F...[3]	3.89		124678/134678F	61.1		1234679F	3.5	
2468F	8.09		12368F...[3]	159		134679F	[0.772]	J	1234689F	58.4	
1346/1246F	20.2		14678F	5.11		124679F	0.628	J	1234789F	87.2	
1347F...[3]	64.2		13479F	[0.51]	J	124689F	26.5				
1348F	39.5		13469/12479F	1.42	J	123467F	2.96				
1248F...[3]	385		12346F	0.896	J	123478F	777				
1268F	144		23468/12469F	6.06		123678F	190				
1467F	20.6		12347F	6.13		123479F	(0.383)				
1478F	391		12348F	32		123469F	(0.383)				
1369/1237F	97.3		12378F	389		123679F	(0.383)				
2467F	9.37		12678/12367F	110		234678F	32.1		**Conc.**	426	
2368F	312		12379F	(0.389)		234678/123689F	0		**EMPC**	426	
1238F...[5]	435		12679F	(0.389)		123689F	(0.383)				
1278F	4500	E	23467/12369F	4.46		123789F	(0.422)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.474)		23478F	268		123789/123489F	0				
1267F	235		23478/12489F	0		123489F	56.6		OCDF	130	
2346/1249F	31.4		12489F	(0.389)							
2347/1279F	111		12349F	(0.389)							
2348F	885	E	12389F	14.8							
2378F	9440	E									
2367/3467F	766										
1269F	149										
1239F	14										
1289F	753										
Conc.	18,800		**Conc.**	1,010		**Conc.**	1,150				
EMPC	18,800		**EMPC**	1,010		**EMPC**	1,150				

Checkcode: 290-471-DNY

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-28 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6181_18838_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.85 g	QC Batch No.:	18838
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	19-Jan-2022 04:26
Lab Project No:	B6181	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2680	E	0.345	2680	2680	2680
12378-PeCDD	29		0.521	14.5	29	29
123478-HxCDD	0.966	J	0.373	0.0966	0.0966	0.0966
123678-HxCDD	3.86		0.388	0.386	0.386	0.386
123789-HxCDD	2.17		0.357	0.217	0.217	0.217
1234678-HpCDD	139		0.343	1.39	1.39	1.39
OCDD	2120		0.743	2.12	0.212	0.635
2378-TCDF	9440	E	0.474	944	944	944
12378-PeCDF	389		0.368	19.5	19.5	11.7
23478-PeCDF	268		0.412	134	134	80.4
123478-HxCDF	777		0.341	77.7	77.7	77.7
123678-HxCDF	190		0.315	19	19	19
234678-HxCDF	32.1		0.507	3.21	3.21	3.21
123789-HxCDF	(0.422)		0.422	(0.0422)	(0.0422)	(0.0422)
1234678-HpCDF	277		0.192	2.77	2.77	2.77
1234789-HpCDF	87.2		0.242	0.872	0.872	0.872
OCDF	130		0.456	0.13	0.013	0.039

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TEQ Summaries			
EMPC = 0, ND = 0	3900	3910	3850
EMPC = 0, ND = DL / 2	3900	3910	3850
EMPC = 0, ND = DL	3900	3910	3850
EMPC = 0, < J-level = 0	3900	3910	3850
EMPC = EMPC, ND = 0	3900	3910	3850
EMPC = EMPC, ND = DL / 2	3900	3910	3850
EMPC = EMPC, ND = DL	3900	3910	3850
EMPC = EMPC, < J-level = 0	3900	3910	3850

Checkcode: 290-471-DNY

Sample ID: 11215131-011222-S-BN-SC-S-29 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.41 g	Lab Sample ID	B6181_18838_DF_004	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	67.4 %	QC Batch No:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:14:21

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9,900			E	ES 2378-TCDD	69.8	
12378-PeCDD	115				ES 12378-PeCDD	60.8	
123478-HxCDD	3.52				ES 123478-HxCDD	69.3	
123678-HxCDD	20.9				ES 123678-HxCDD	69.8	
123789-HxCDD	8.22				ES 123789-HxCDD	65.1	
1234678-HpCDD	913				ES 1234678-HpCDD	62.8	
OCDD	9,610			E	ES OCDD	54.8	
2378-TCDF	34,200			E	ES 2378-TCDF	61	
12378-PeCDF	2,310				ES 12378-PeCDF	60.9	
23478-PeCDF	1,340			PR	ES 23478-PeCDF	49.7	
123478-HxCDF	3,880				ES 123478-HxCDF	74.7	
123678-HxCDF	952				ES 123678-HxCDF	76.7	
234678-HxCDF	207				ES 234678-HxCDF	41.4	
123789-HxCDF	ND	0.692			ES 123789-HxCDF	76.8	
1234678-HpCDF	948				ES 1234678-HpCDF	77	
1234789-HpCDF	383				ES 1234789-HpCDF	73.9	
OCDF	638				ES OCDF	59.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	59.2	
Total TCDD	10,800		10,900	E	CS 12347-PeCDD	62.4	
Total PeCDD	151		159		CS 12346-PeCDF	61.7	
Total HxCDD	171		171		CS 123469-HxCDF	83.9	
Total HpCDD	1,670		1,670		CS 1234689-HpCDF	84.2	
Total TCDF	67,200		67,200	E			
Total PeCDF	5,670		5,670				
Total HxCDF	5,860		5,860				
Total HpCDF	1,620		1,620				
Total PCDD/Fs	**103,000**		**104,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	14400		14400				
TEQ: ND=DL/2	14400	0.939	14400				
TEQ: ND=DL	14400	1.88	14400				

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Sample ID: 11215131-011222-S-BN-SC-S-29 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.41 g	Lab Sample ID:	B6181_18838_DF_004	Date Extracted:	13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	67.4 %	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:14:21

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	5.74		12479/12468D	9.18		124679/124689D	46.4		1234679D	760	
1379D	3.84		12469D	[2.21]		123468D	8.36		1234678D	913	
1369D	0.942		12368D	9.72		123679/123689D	77.2				
1469D	0.765		12478D	6.63		123469D	3.94				
1247D...[4]	[16.5]		12379D	[2.75]		123478D	3.52				
1378D	26.5		12369D...[3]	2.43		123678D	20.9				
1268D	[1.54]		12346/12347D	[2.73]		123467D	2.65				
1478D	20.2		12378D	115		123789D	8.22		**Conc.**	1,670	
1279D	(0.353)		12367D	7.51					**EMPC**	1,670	
1234/1269D	2.62		12389D	(0.661)							
1236D	[1.75]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	149										
1239D	(0.353)								OCDD	9610	E
2378D	9900	E									
1278D	741										
1267D	[38.1]										
1289D	[13.8]										
Conc.	10,800		**Conc.**	151		**Conc.**	171				
EMPC	10,900		**EMPC**	159		**EMPC**	171				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	14,400	14,400
TEQ: ND=DL/2	14,400	14,400
TEQ: ND=DL	14,400	14,400

	Conc.	EMPC
Total PCDD/Fs	103,000	104,000

Checkcode: 066-216-FCY

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-29 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received: 13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.41 g	Lab Sample ID:	B6181_18838_DF_004	Date Extracted: 13-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	67.4 %	QC Batch No.:	18838	Date Analyzed: 19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 5:14:21

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	5.09		13468/12468F	32.6		123468F	25.8		1234678F	948	
1468F	40.5		13678F...[3]	20.6		124678/134678F	300		1234679F	15.8	
2468F	29.7		12368F...[3]	951		134679F	(0.773)		1234689F	278	
1346/1246F	11.4		14678F	37		124679F	3.1		1234789F	383	
1347F...[3]	178		13479F	[1.61]	J	124689F	151				
1348F	147		13469/12479F	5.37		123467F	19.5				
1248F...[3]	521		12346F	5.37		123478F	3880				
1268F	343		23468/12469F	52.6		123678F	952				
1467F	86.3		12347F	(0.712)		123479F	(0.773)				
1478F	947	E	12348F	180		123469F	(0.773)				
1369/1237F	326		12378F	2310		123679F	(0.773)				
2467F	40		12678/12367F	628		234678F	207		**Conc.**	1,620	
2368F	669		12379F	(0.712)		234678/123689F	0		**EMPC**	1,620	
1238F...[5]	2070	E	12679F	(0.712)		123689F	(0.773)				
1278F	17300	E	23467/12369F	22.7		123789F	(0.692)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.903)		23478F	1340	PR	123789/123489F	0				
1267F	741		23478/12489F	0		123489F	330		OCDF	638	
2346/1249F	98.2		12489F	(0.712)							
2347/1279F	416		12349F	(0.712)							
2348F	3080	E	12389F	80.4							
2378F	34200	E									
2367/3467F	2830	E									
1269F	418										
1239F	60.6										
1289F	2630	E									
Conc.	67,200		**Conc.**	5,670		**Conc.**	5,860				
EMPC	67,200		**EMPC**	5,670		**EMPC**	5,860				

Checkcode: 066-216-FCY

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: 11215131-011222-S-BN-SC-S-29 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6181_18838_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.41 g	QC Batch No.:	18838
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	19-Jan-2022 05:14
Lab Project No:	B6181	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	9900	E	0.353	9900	9900	9900
12378-PeCDD	115		0.661	57.7	115	115
123478-HxCDD	3.52		0.454	0.352	0.352	0.352
123678-HxCDD	20.9		0.499	2.09	2.09	2.09
123789-HxCDD	8.22		0.475	0.822	0.822	0.822
1234678-HpCDD	913		0.453	9.13	9.13	9.13
OCDD	9610	E	0.834	9.61	0.961	2.88
2378-TCDF	34200	E	0.903	3420	3420	3420
12378-PeCDF	2310		0.586	115	115	69.2
23478-PeCDF	1340		0.868	672	672	403
123478-HxCDF	3880		0.631	388	388	388
123678-HxCDF	952		0.627	95.2	95.2	95.2
234678-HxCDF	207		1.46	20.7	20.7	20.7
123789-HxCDF	(0.692)		0.692	(0.0692)	(0.0692)	(0.0692)
1234678-HpCDF	948		0.355	9.48	9.48	9.48
1234789-HpCDF	383		0.403	3.83	3.83	3.83
OCDF	638		0.551	0.638	0.0638	0.191

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TEQ Summaries			
EMPC = 0, ND = 0	14700	14800	14400
EMPC = 0, ND = DL / 2	14700	14800	14400
EMPC = 0, ND = DL	14700	14800	14400
EMPC = 0, < J-level = 0	14700	14800	14400
EMPC = EMPC, ND = 0	14700	14800	14400
EMPC = EMPC, ND = DL / 2	14700	14800	14400
EMPC = EMPC, ND = DL	14700	14800	14400
EMPC = EMPC, < J-level = 0	14700	14800	14400

Checkcode: 066-216-FCY

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Sample ID: Method Blank B6181_18838 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18838_DF_SDS	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:04:26

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.472			ES 2378-TCDD	95.2	
12378-PeCDD	ND	0.524			ES 12378-PeCDD	87.6	
123478-HxCDD	ND	0.462			ES 123478-HxCDD	103	
123678-HxCDD	ND	0.519			ES 123678-HxCDD	106	
123789-HxCDD	ND	0.572			ES 123789-HxCDD	91.9	
1234678-HpCDD	ND	0.545			ES 1234678-HpCDD	86.5	
OCDD	ND	1.41			ES OCDD	64.8	
2378-TCDF	ND	0.645			ES 2378-TCDF	85.4	
12378-PeCDF	ND	0.451			ES 12378-PeCDF	98.1	
23478-PeCDF	ND	0.394			ES 23478-PeCDF	95.8	
123478-HxCDF	ND	0.455			ES 123478-HxCDF	98.5	
123678-HxCDF	ND	0.397			ES 123678-HxCDF	118	
234678-HxCDF	ND	0.672			ES 234678-HxCDF	71.4	
123789-HxCDF	ND	0.577			ES 123789-HxCDF	93.5	
1234678-HpCDF	ND	0.327			ES 1234678-HpCDF	114	
1234789-HpCDF	ND	0.405			ES 1234789-HpCDF	88.6	
OCDF	ND	0.942			ES OCDF	65.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.8	
Total TCDD	ND	0.472	ND		CS 12347-PeCDD	98	
Total PeCDD	ND	0.524	ND		CS 12346-PeCDF	100	
Total HxCDD	ND	0.517	ND		CS 123469-HxCDF	120	
Total HpCDD	ND	0.545	ND		CS 1234689-HpCDF	118	
Total TCDF	ND	0.645	ND				
Total PeCDF	ND	0.423	ND				
Total HxCDF	ND	0.503	ND				
Total HpCDF	ND	0.359	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.786	0.786	0.786				
TEQ: ND=DL	1.57	1.57	1.57				

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Sample ID: Method Blank B6181_18838 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18838_DF_SDS	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:04:26

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.472)		12479/12468D	(0.524)		124679/124689D	(0.517)		1234679D	(0.545)	
1379D	(0.472)		12469D	(0.524)		123468D	(0.517)		1234678D	(0.545)	
1369D	(0.472)		12368D	(0.524)		123679/123689D	(0.517)				
1469D	(0.472)		12478D	(0.524)		123469D	(0.517)				
1247D...[4]	(0.472)		12379D	(0.524)		123478D	(0.462)				
1378D	(0.472)		12369D...[3]	(0.524)		123678D	(0.519)				
1268D	(0.472)		12346/12347D	(0.524)		123467D	(0.517)				
1478D	(0.472)		12378D	(0.524)		123789D	(0.572)		**Conc.**	0	
1279D	(0.472)		12367D	(0.524)					**EMPC**	0	
1234/1269D	(0.472)		12389D	(0.524)							
1236D	(0.472)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.472)										
1239D	(0.472)								OCDD	(1.41)	
2378D	(0.472)										
1278D	(0.472)										
1267D	(0.472)										
1289D	(0.472)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.786	0.786
TEQ: ND=DL	1.57	1.57

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 978-665-RXR

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: Method Blank B6181_18838 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18838_DF_SDS	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18838	Date Analyzed:	19-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:04:26

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.645)		13468/12468F	(0.582)		123468F	(0.503)		1234678F	(0.327)	
1468F	(0.645)		13678F...[3]	(0.423)		124678/134678F	(0.503)		1234679F	(0.359)	
2468F	(0.645)		12368F...[3]	(0.423)		134679F	(0.503)		1234689F	(0.359)	
1346/1246F	(0.645)		14678F	(0.423)		124679F	(0.503)		1234789F	(0.405)	
1347F...[3]	(0.645)		13479F	(0.423)		124689F	(0.503)				
1348F	(0.645)		13469/12479F	(0.423)		123467F	(0.503)				
1248F...[3]	(0.645)		12346F	(0.423)		123478F	(0.455)				
1268F	(0.645)		23468/12469F	(0.423)		123678F	(0.397)				
1467F	(0.645)		12347F	(0.423)		123479F	(0.503)				
1478F	(0.645)		12348F	(0.423)		123469F	(0.503)				
1369/1237F	(0.645)		12378F	(0.451)		123679F	(0.503)				
2467F	(0.645)		12678/12367F	(0.423)		234678F	(0.672)		**Conc.**	0	
2368F	(0.645)		12379F	(0.423)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.645)		12679F	(0.423)		123689F	(0.503)				
1278F	(0.645)		23467/12369F	(0.423)		123789F	(0.577)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.645)		23478F	(0.394)		123789/123489F	0				
1267F	(0.645)		23478/12489F	0		123489F	(0.503)		OCDF	(0.942)	
2346/1249F	(0.645)		12489F	(0.423)							
2347/1279F	(0.645)		12349F	(0.423)							
2348F	(0.645)		12389F	(0.423)							
2378F	(0.645)										
2367/3467F	(0.645)										
1269F	(0.645)										
1239F	(0.645)										
1289F	(0.645)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 978-665-RXR

Report Created: 19-Jan-2022 09:33 Analyst: gd

Sample ID: Method Blank B6181_18838 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18838_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18838
Date Collected:	n/a	Split:	-	Date Extracted:	13-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	19-Jan-2022 02:04
Lab Project No:	B6181	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.472)		0.472	(0.472)	(0.472)	(0.472)
12378-PeCDD	(0.524)		0.524	(0.262)	(0.524)	(0.524)
123478-HxCDD	(0.462)		0.462	(0.0462)	(0.0462)	(0.0462)
123678-HxCDD	(0.519)		0.519	(0.0519)	(0.0519)	(0.0519)
123789-HxCDD	(0.572)		0.572	(0.0572)	(0.0572)	(0.0572)
1234678-HpCDD	(0.545)		0.545	(0.00545)	(0.00545)	(0.00545)
OCDD	(1.41)		1.41	(0.00141)	(0.000141)	(0.000422)
2378-TCDF	(0.645)		0.645	(0.0645)	(0.0645)	(0.0645)
12378-PeCDF	(0.451)		0.451	(0.0225)	(0.0225)	(0.0135)
23478-PeCDF	(0.394)		0.394	(0.197)	(0.197)	(0.118)
123478-HxCDF	(0.455)		0.455	(0.0455)	(0.0455)	(0.0455)
123678-HxCDF	(0.397)		0.397	(0.0397)	(0.0397)	(0.0397)
234678-HxCDF	(0.672)		0.672	(0.0672)	(0.0672)	(0.0672)
123789-HxCDF	(0.577)		0.577	(0.0577)	(0.0577)	(0.0577)
1234678-HpCDF	(0.327)		0.327	(0.00327)	(0.00327)	(0.00327)
1234789-HpCDF	(0.405)		0.405	(0.00405)	(0.00405)	(0.00405)
OCDF	(0.942)		0.942	(0.000942)	(0.0000942)	(0.000283)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.699	0.829	0.786
EMPC = 0, ND = DL	1.4	1.66	1.57
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.699	0.829	0.786
EMPC = EMPC, ND = DL	1.4	1.66	1.57
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 978-665-RXR

Sample ID: 0_18838_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18838_DF	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18838	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:54:26

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.22				ES 2378-TCDD	85.8	
12378-PeCDD	47.2				ES 12378-PeCDD	76.6	
123478-HxCDD	53.4				ES 123478-HxCDD	93.7	
123678-HxCDD	54.1				ES 123678-HxCDD	100	
123789-HxCDD	50.6				ES 123789-HxCDD	90.2	
1234678-HpCDD	56.5				ES 1234678-HpCDD	84.8	
OCDD	107				ES OCDD	71.3	
2378-TCDF	12.3				ES 2378-TCDF	81.8	
12378-PeCDF	53				ES 12378-PeCDF	87.6	
23478-PeCDF	59.4				ES 23478-PeCDF	84.3	
123478-HxCDF	54				ES 123478-HxCDF	94.6	
123678-HxCDF	53.1				ES 123678-HxCDF	103	
234678-HxCDF	50.8				ES 234678-HxCDF	70.7	
123789-HxCDF	51.5				ES 123789-HxCDF	92	
1234678-HpCDF	53.5				ES 1234678-HpCDF	111	
1234789-HpCDF	53.5				ES 1234789-HpCDF	92.6	
OCDF	109				ES OCDF	70.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.9	
Total TCDD	40.2		40.2		CS 12347-PeCDD	90	
Total PeCDD	68.3		68.3		CS 12346-PeCDF	92.4	
Total HxCDD	170		170		CS 123469-HxCDF	117	
Total HpCDD	68.2		68.2		CS 1234689-HpCDF	115	
Total TCDF	62.2		62.2				
Total PeCDF	223		223				
Total HxCDF	343		343				
Total HpCDF	107		107				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	115		115				
TEQ: ND=DL/2	115	0.312	115				
TEQ: ND=DL	115	0.624	115				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18838_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6181	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18838_DF	Date Extracted:	13-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18838	Date Analyzed:	18-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:41:58

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.23				ES 2378-TCDD	91.6	
12378-PeCDD	46.6				ES 12378-PeCDD	85.6	
123478-HxCDD	53.8				ES 123478-HxCDD	96.3	
123678-HxCDD	57.9				ES 123678-HxCDD	94.4	
123789-HxCDD	52				ES 123789-HxCDD	95.3	
1234678-HpCDD	55.5				ES 1234678-HpCDD	90.3	
OCDD	110				ES OCDD	68.5	
2378-TCDF	11.8				ES 2378-TCDF	86.5	
12378-PeCDF	54.9				ES 12378-PeCDF	97.5	
23478-PeCDF	60.5				ES 23478-PeCDF	94.6	
123478-HxCDF	56.4				ES 123478-HxCDF	96.9	
123678-HxCDF	55.6				ES 123678-HxCDF	107	
234678-HxCDF	50.3				ES 234678-HxCDF	68.1	
123789-HxCDF	54.2				ES 123789-HxCDF	95.6	
1234678-HpCDF	55.8				ES 1234678-HpCDF	114	
1234789-HpCDF	54.9				ES 1234789-HpCDF	95.5	
OCDF	111				ES OCDF	68.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.1	
Total TCDD	41.7		41.7		CS 12347-PeCDD	97.9	
Total PeCDD	68.2		68.2		CS 12346-PeCDF	103	
Total HxCDD	177		177		CS 123469-HxCDF	120	
Total HpCDD	67.6		67.6		CS 1234689-HpCDF	121	
Total TCDF	63.2		63.2				
Total PeCDF	221		221				
Total HxCDF	358		358				
Total HpCDF	111		111				
Total PCDD/Fs	**1,330**		**1,330**				
WHO-2005 TEQs							
TEQ: ND=0	117		117				
TEQ: ND=DL/2	117	0.411	117				
TEQ: ND=DL	117	0.823	117				

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Sample DUP

Method 1613B

Sample ID: 0_18838_OPR001

Analyte	OPR1_18838_DF pg/uL	OPR2_18838_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	9.22	9.23	0.1%
1,2,3,7,8-PeCDD	47.2	46.6	1.3%
1,2,3,4,7,8-HxCDD	53.4	53.8	0.6%
1,2,3,6,7,8-HxCDD	54.1	57.9	6.8%
1,2,3,7,8,9-HxCDD	50.6	52	2.6%
1,2,3,4,6,7,8-HpCDD	56.5	55.5	1.8%
OCDD	107	110	2.4%
2,3,7,8-TCDF	12.3	11.8	3.8%
1,2,3,7,8-PeCDF	53	54.9	3.6%
2,3,4,7,8-PeCDF	59.4	60.5	2.0%
1,2,3,4,7,8-HxCDF	54	56.4	4.3%
1,2,3,6,7,8-HxCDF	53.1	55.6	4.6%
2,3,4,6,7,8-HxCDF	50.8	50.3	1.0%
1,2,3,7,8,9-HxCDF	51.5	54.2	5.1%
1,2,3,4,6,7,8-HpCDF	53.5	55.8	4.1%
1,2,3,4,7,8,9-HpCDF	53.5	54.9	2.7%
OCDF	109	111	1.4%
Totals			
Total TCDD	40.2	41.7	3.6%
Total PeCDD	68.3	68.2	0.1%
Total HxCDD	170	177	3.9%
Total HpCDD	68.2	67.6	0.9%
Total TCDF	62.2	63.2	1.6%
Total PeCDF	223	221	0.9%
Total HxCDF	343	358	4.5%
Total HpCDF	107	111	3.4%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*13-Jan-22 at 11:09*
AP Project name:	*B6181*
Requested TAT:	*3 business days*
Projected due date:	*18-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011222-S-BN-SC-S-26	B6181_001	SO	1	4oz Clear Glass	12-Jan-22	08:20	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-S-27	B6181_002	SO	1	4oz Clear Glass	12-Jan-22	09:00	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-S-28	B6181_003	SO	1	4oz Clear Glass	12-Jan-22	13:45	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-S-29	B6181_004	SO	1	4oz Clear Glass	12-Jan-22	13:55	0.1	1	4905 2704 3973

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 13 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BU181

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV

SPECIAL DELIVERABLES:

☐ DoD ☒ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston,

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE

None

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	M1668C (BN)	HR-PAH	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS	SEESSOW
11215131-011222-S-BN-SC-S-26	1-12-22	0820	C	S	4oz	X									1	RUSH	X
11215131-011222-S-BN-SC-0-14a		0830				X									1	~~RUSH~~ (BN)	
11215131-011222-S-BN-SC-B-8a		0840				X									1		
11215131-011222-S-BN-SC-B-8aH		0850				X									1	HOLD	
11215131-011222-S-BN-SC-S-27		0900				X									1	RUSH	*
11215131-011222-S-BN-SC-0-18		0910				X									1		
11215131-011222-S-BN-SC-B-12		0920				X									1		
11215131-011222-S-BN-SC-S-28		1345				X									1	RUSH	*
11215131-011222-S-BN-SC-S-29		1355				X									1	RUSH	*
11215131-011222-S-BN-SC-0-19		1405				X									1		

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna North	1-12-22	1525	
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Fedex			
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:

1/13/2022 11:09

COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT

CARRIER: FedEx | TEMP: °C 5.1°

TRACKING #: 4691 7704 2973

*=Samples in this project.

SGS NORTH AMERICA INC. ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

BU181

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	~~M0290A~~	~~M1668A~~	~~M1668C~~ (Bu)	~~PR-PAH~~	~~M1699~~	QC: MS	MSD	DUP	QTY	REMARKS: SEE SOW
11215131-011222-SGN-SC-B-13	1-12-22	1415	C	S	4oz		X									1	
11215131-011222-S-GN-SC-B-13H	1-12-22	1425	C	S	4oz		X									1	HOLD

COLLECTED/RELINQUISHED BY (1): Brianna W — **DATE:** 1-12-22 **TIME:** 1525 — **RECEIVED BY:**

RELINQUISHED BY (2): Fedex — **DATE:** **TIME:** — **RECEIVED BY:**

RELINQUISHED BY (3): — **DATE:** **TIME:** — **RECEIVED BY:**

RECEIVED BY LABORATORY: — **DATE:** **TIME:** 1/13/2022 11:09

COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT

CARRIER: FedEx TEMP: °C 0.1°

TRACKING #: 4905 2704 3973

B601811

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 12JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/13/2022
11:09
0.1° (T.B.)

585C2/01EF/0582

FedEx Express

J191219082D01uv

THU - 13 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3973**

NL ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6181

Initiation Date: 13-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: VE JRH [illegible] 1/13/22 1/19/22 1/4/22

HRMS Lab: 1/19/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: 1/19/22

PM Initials: akornegay Date: 13-Jan-2022

SGS

Methods: PCB / PAH | (PCDD/F) WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: (SDS) CLL | TALEX Carbon SPE | Solid | Final Volume: 20 mL

Batch# 18838 | Split: ~~1/2~~ ~~1/2~~ | Extract Initial/Date: KE 1/13/22 | Clean-up Initial/Date: KB3 1/14/22 | Transfer Init/Date: KB3 1/14/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	●bservations
B6181_18838_001	45	15.31				gray, clay-like
B6181_18838_002	46	16.24				gray, clay-like
B6181_18838_003	47	16.64				gray, clay-like
B6181_18838_004	48	16.93				gray, clay-like
MB1_18838	42	10.00				sodium sulfate
OPR1_18838	43	10.00				sodium sulfate
OPR2_18838	44	10.00				sodium sulfate

TP 1/19/22

KB3 1/14/22

Supply IDs

Toluene STL14-23
MeCHL STL14-21
Florisil SPE5-77
Hexane STL14-22
Silica SPE5-69
S Nitrate N/A
Base Silica SPE5-78
HydroMatrix N/A
Tetradecane SPE5-730
H_2SO_4 N/A
A Silica SPE5-79
Sodium Sulfate SPE5-28C

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TP 1/19/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1615 / Stop: 0900
HEX	Start: / Stop:
DCM	Start: / Stop:

TP 1/19/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18838

Inter-Department Communication Sheet

SGS

Wt. Volume Results

Batch #: 18838

Comments:

AK, 11/9/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6181_001	0.81	4.17	3.48	79.46%	79.46%			12.58	15.31	12.17
B6181_002	0.81	4.44	3.76	81.27%	81.27%			12.31	16.24	13.2
B6181_003	0.8	5.06	4.09	77.23%	77.23%			12.95	16.64	12.85
B6181004	0.79	4.75	3.46	67.42%	67.42%			14.83	16.93	11.41

TB 11/9/22

% Solid Determination WorkSheet

SGS

Batch: 18838

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	Comments
B6181_18838_001	0.81	4.17	3.48/3.48	
B6181_18838_002	0.81	4.44	3.76/3.76	
B6181_18838_003	0.80	5.06	4.09/4.09	
B6181_18838_004	0.79	4.75	3.46/3.46	
Date/Initials: KE 1/14/22				

1/14/22

SGS

Methods: PCB / PAH | PCDD/F 1613B / WTIO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18838

Lab Sample ID	Spiker Initials/Date: JRH 1/13/22	JRH 1/13/22	JRH 1/13/22	25.338.1 1/14/22	1/14/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6181_18838_001	—	—	KE	KE	JRH		
B6181_18838_002	—	—	KE	KE	JRH		
B6181_18838_003	—	—	KE	KE	JRH		
B6181_18838_004	—	—	KE	KE	JRH		
MB1_18838	—	—	KE	KE	JRH		
OPR1_18838	KE	KE	KE	KE	JRH		
OPR2_18838	KE	KE	KE	KE	JRH		

1/14/22

Standard Information

Pipette ID							JRH 1/14/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL#	26-2-8	25-187-2	26-2-9	25.338.1	25.309.1		
Concentration	10pg/µL	100pg/mL	100pg/mL	100pg/µL	100pg/µL		
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	10/8/22		

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
13	220118R13	3	CS3_220118_DF_RB ✓	1.00	SIL 25-347-1	PSW	031-227	18-Jan-2022	20:32:36
16	220118R16	7	OPR1_18838_DF	1.00	0_18838_OPR001	PSW	283-132	18-Jan-2022	22:54:26
17	220118R17	8	OPR2_18838_DF	1.00	0_18838_OPR002	PSW	650-262	18-Jan-2022	23:41:58
18	220118R18	2	SBS_220118_DF_RB	1.00	SIL 20-61-1	PSW	555-594	19-Jan-2022	00:29:31
20	220118R20	6	MB1_18838_DF_SDS	10.00	Method Blank	PSW	978-665	19-Jan-2022	02:04:26
21	220118R21	9	B6181_18838_DF_001	12.17	11215131-011222-S-BN-SC-S-26	PSW	105-037	19-Jan-2022	02:51:54
22	220118R22	10	B6181_18838_DF_002 ✓	13.20	11215131-011222-S-BN-SC-S-27	PSW	984-853	19-Jan-2022	03:39:20
23	220118R23	11	B6181_18838_DF_003	12.85	11215131-011222-S-BN-SC-S-28	PSW	290-471	19-Jan-2022	04:26:53
24	220118R24	12	B6181_18838_DF_004	11.41	11215131-011222-S-BN-SC-S-29	PSW	066-216	19-Jan-2022	05:14:21

REVIEWED
paul_walton , 1/19/2022, 9:47:52 AM

REVIEWED
Amber_Kornegay , 1/19/2022, 11:34:23 AM

Lab ID: MB1_18838_DF_SDS | **Acq'd:** 19 Jan 2022 02:04 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6181_18838 | **UTP:** 19-Jan-2022 09:32:43 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 978-665-RXR

Datafile: 220118R20 | **Report:** 19 Jan 2022 09:33 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	8011.82	0.472
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	7601.223	0.524
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	7842.383	0.462
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.08	-	7842.383	0.519
123789-HxCDD	NotFnd		1.0115	-		-	-	-	1.02	-	7842.383	0.572
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	8318.913	0.545
OCDD	NotFnd		1.0003	-		-	-	-	1.07	-	11397.493	1.41
2378-TCDF	NotFnd		1.0008	-		-	-	-	0.96	-	9830.066	0.645
12378-PeCDF	NotFnd		1.0006	-		-	-	-	0.95	-	8113.963	0.451
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	8113.963	0.394
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.23	-	9003.812	0.455
123678-HxCDF	NotFnd		1.0005	-		-	-	-	1.13	-	9003.812	0.397
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	9003.812	0.672
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	9003.812	0.577
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	7929.743	0.327
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	7929.743	0.405
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	8668.482	0.942

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.81	1.0270	1.0272	+0.3	2.70E+07	0.78	Y	1.03	95.2
ES 12378-PeCDD	32.47	1.2424	1.2444	+3.9	2.49E+07	1.60	Y	1.03	87.6
ES 123478-HxCDD	36.45	0.9918	0.9918	0	2.29E+07	1.28	Y	0.99	103
ES 123678-HxCDD	36.56	0.9948	0.9948	0	2.32E+07	1.26	Y	0.97	106
ES 123789-HxCDD	36.85	1.0028	1.0028	0	2.32E+07	1.26	Y	1.12	91.9
ES 1234678-HpCDD	39.79	1.0820	1.0827	+1.7	1.92E+07	1.07	Y	0.99	86.5
ES OCDD	42.21	1.1479	1.1486	+1.8	2.26E+07	0.90	Y	0.78	64.8
ES 2378-TCDF	25.87	1.0611	1.0619	+1.2	4.00E+07	0.79	Y	1.08	85.4
ES 12378-PeCDF	30.96	1.2682	1.2708	+4.8	3.96E+07	1.61	Y	0.93	98.1
ES 23478-PeCDF	32.12	1.3157	1.3187	+5.8	3.82E+07	1.59	Y	0.92	95.8
ES 123478-HxCDF	35.46	0.9650	0.9650	0	2.52E+07	0.54	Y	1.14	98.5
ES 123678-HxCDF	35.61	0.9689	0.9689	0	3.44E+07	0.53	Y	1.30	118
ES 234678-HxCDF	36.26	0.9869	0.9868	-0.2	1.93E+07	0.51	Y	1.20	71.4
ES 123789-HxCDF	37.23	1.0130	1.0130	0	2.38E+07	0.52	Y	1.14	93.5
ES 1234678-HpCDF	38.83	1.0563	1.0568	+1.2	2.43E+07	0.45	Y	0.95	114
ES 1234789-HpCDF	40.20	1.0933	1.0940	+1.7	1.68E+07	0.47	Y	0.85	88.6
ES OCDF	42.37	1.1522	1.1531	+2.3	2.72E+07	0.88	Y	0.93	65.6

Lab ID: MB1_18838_DF_SDS | **Acq'd:** 19 Jan 2022 02:04 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6181_18838 | **UTP:** 19-Jan-2022 09:32:43 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 978-665-RXR

Datafile: 220118R20 | **Report:** 19 Jan 2022 09:33 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.10		-	-	-	2.75E+07	0.77	Y	-	-
JS 1234-TCDF	24.36		-	-	-	4.32E+07	0.77	Y	-	-
JS 123467-HxCDD	36.75		-	-	-	1.12E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	26.83		1.0278	1.0281	+0.5	1.25E+07	n/a	-	1.31	86.8
CS 12347-PeCDD	31.96		1.2228	1.2246	+3.5	2.40E+07	1.64	Y	0.89	98
CS 12346-PeCDF	30.41		1.2457	1.2483	+4.7	3.76E+07	1.58	Y	0.87	100
CS 123469-HxCDF	35.92		0.9774	0.9774	0	2.95E+07	0.51	Y	1.09	120
CS 1234689-HpCDF	39.27		1.0680	1.0685	+1.2	2.28E+07	0.46	Y	0.86	118
~~SS 37Cl-2378-TCDD~~	~~26.83~~		~~1.0278~~	~~1.0281~~	~~+0.5~~	~~1.25E+07~~	~~n/a~~		~~1.26~~	~~91.7~~
~~SS 12347-PeCDD~~	~~31.96~~		~~1.2228~~	~~1.2246~~	~~+3.5~~	~~2.40E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~30.41~~		~~1.2457~~	~~1.2483~~	~~+4.7~~	~~3.76E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~102~~
~~SS 123469-HxCDF~~	~~35.92~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.95E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~102~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0680~~	~~1.0685~~	~~+1.2~~	~~2.28E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~103~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18838_DF_SDS **Acq'd: 19 Jan 2022 02:04 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6181_18838 **UTP: 19-Jan-2022 09:32:43 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 978-665-RXR**

Datafile: 220118R20 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8514						1.34		8011.82	0.472
1379-TCDD	NotFnd		0.8665						1.34		8011.82	0.472
1369-TCDD	NotFnd		0.8845						1.34		8011.82	0.472
1469-TCDD	NotFnd		0.9165						1.34		8011.82	0.472
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		8011.82	0.472
1378-TCDD	NotFnd		0.9343						1.34		8011.82	0.472
1268-TCDD	NotFnd		0.9424						1.34		8011.82	0.472
1478-TCDD	NotFnd		0.9525						1.34		8011.82	0.472
1279-TCDD	NotFnd		0.9592						1.34		8011.82	0.472
1234/1269-TCDD	NotFnd		0.9735						1.34		8011.82	0.472
1236-TCDD	NotFnd		0.9790						1.34		8011.82	0.472
1237/1238-TCDD	NotFnd		0.9893						1.34		8011.82	0.472
1239-TCDD	NotFnd		0.9947						1.34		8011.82	0.472
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**8011.82**	**0.472**
1278-TCDD	NotFnd		1.0140						1.34		8011.82	0.472
1267-TCDD	NotFnd		1.0196						1.34		8011.82	0.472
1289-TCDD	NotFnd		1.0396						1.34		8011.82	0.472
12479/12468-PeCDD	NotFnd		0.9208						1.06		7601.223	0.524
12469-PeCDD	NotFnd		0.9381						1.06		7601.223	0.524
12368-PeCDD	NotFnd		0.9557						1.06		7601.223	0.524
12478-PeCDD	NotFnd		0.9617						1.06		7601.223	0.524
12379-PeCDD	NotFnd		0.9648						1.06		7601.223	0.524
12369/12467/12489-PeCDD	NotFnd		0.9732						1.06		7601.223	0.524
12346/12347-PeCDD	NotFnd		0.9849						1.06		7601.223	0.524
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**7601.223**	**0.524**
12367-PeCDD	NotFnd		1.0037						1.06		7601.223	0.524
12389-PeCDD	NotFnd		1.0145						1.06		7601.223	0.524
124679/124689-HxCDD	NotFnd		0.9534						1.05		7842.383	0.517
123468-HxCDD	NotFnd		0.9715						1.05		7842.383	0.517
123679/123689-HxCDD	NotFnd		0.9797						1.05		7842.383	0.517
123469-HxCDD	NotFnd		0.9834						1.05		7842.383	0.517
123478-HxCDD	NotFnd		**1.0004**						1.06		**7842.383**	**0.462**
123678-HxCDD	NotFnd		**1.0035**						1.08		**7842.383**	**0.519**
123467-HxCDD	NotFnd		1.0087						1.05		7842.383	0.517
123789-HxCDD	NotFnd		**1.0115**						1.02		**7842.383**	**0.572**

Lab ID: MB1_18838_DF_SDS | **Acq'd:** 19 Jan 2022 02:04 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6181_18838 | **UTP:** 19-Jan-2022 09:32:43 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 978-665-RXR

Datafile: 220118R20 | **Report:** 19 Jan 2022 09:33 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9835						0.97		8318.913	0.545
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**8318.913**	**0.545**
OCDD	**NotFnd**		**1.0003**						**1.07**		**11397.493**	**1.41**
OCDD-a	NotFnd		1.0002						0.07		14262.356	28.5
1368-TCDF	NotFnd		0.7966						0.96		9830.066	0.645
1468-TCDF	NotFnd		0.8179						0.96		9830.066	0.645
2468-TCDF	NotFnd		0.8432						0.96		9830.066	0.645
1346/1246-TCDF	NotFnd		0.8572						0.96		9830.066	0.645
1347/1378/1247-TCDF	NotFnd		0.8641						0.96		9830.066	0.645
1348-TCDF	NotFnd		0.8764						0.96		9830.066	0.645
1248/1367/1379-TCDF	NotFnd		0.8820						0.96		9830.066	0.645
1268-TCDF	NotFnd		0.8986						0.96		9830.066	0.645
1467-TCDF	NotFnd		0.9044						0.96		9830.066	0.645
1478-TCDF	NotFnd		0.9117						0.96		9830.066	0.645
1369/1237-TCDF	NotFnd		0.9276						0.96		9830.066	0.645
2467-TCDF	NotFnd		0.9334						0.96		9830.066	0.645
2368-TCDF	NotFnd		0.9400						0.96		9830.066	0.645
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9436						0.96		9830.066	0.645
1278-TCDF	NotFnd		0.9628						0.96		9830.066	0.645
1349-TCDF	NotFnd		0.9678						0.96		9830.066	0.645
1267-TCDF	NotFnd		0.9745						0.96		9830.066	0.645
2346/1249-TCDF	NotFnd		0.9823						0.96		9830.066	0.645
2347/1279-TCDF	NotFnd		0.9916						0.96		9830.066	0.645
2348-TCDF	NotFnd		0.9964						0.96		9830.066	0.645
2378-TCDF	**NotFnd**		**1.0008**						**0.96**		**9830.066**	**0.645**
2367/3467-TCDF	NotFnd		1.0161						0.96		9830.066	0.645
1269-TCDF	NotFnd		1.0258						0.96		9830.066	0.645
1239-TCDF	NotFnd		1.0370						0.96		9830.066	0.645
1289-TCDF	NotFnd		1.0833						0.96		9830.066	0.645
13468/12468-PeCDF	NotFnd		0.9054						0.94		11160.002	0.582
13678/13467/12467-PeCDF	NotFnd		0.9578						0.94		8113.963	0.423
12368/13478/12478-PeCDF	NotFnd		0.9632						0.94		8113.963	0.423
14678-PeCDF	NotFnd		0.9666						0.94		8113.963	0.423
13479-PeCDF	NotFnd		0.9696						0.94		8113.963	0.423
13469/12479-PeCDF	NotFnd		0.9784						0.94		8113.963	0.423
12346-PeCDF	NotFnd		0.9828						0.94		8113.963	0.423

Lab ID: MB1_18838_DF_SDS | **Acq'd:** 19 Jan 2022 02:04 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

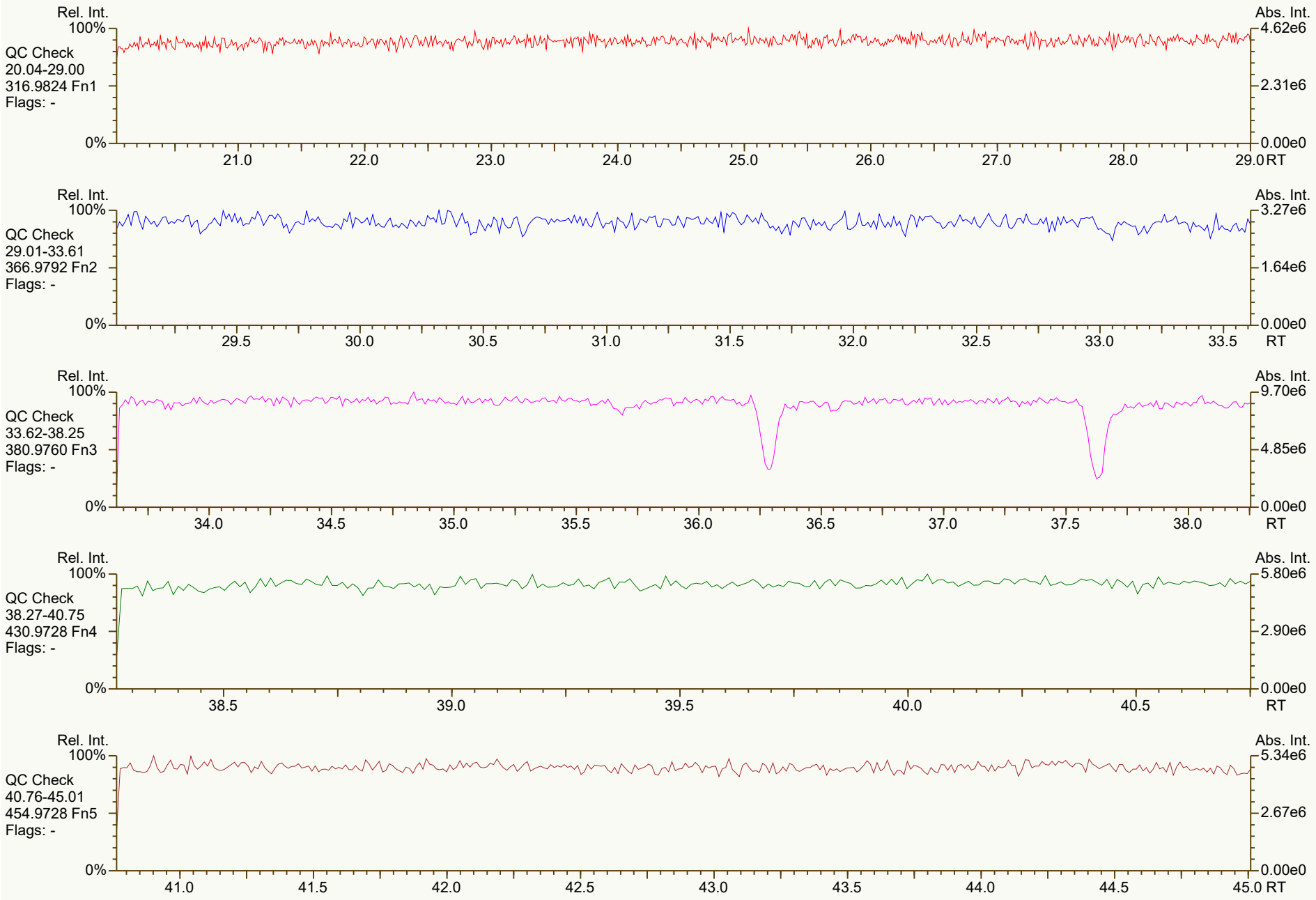
Client ID: Method Blank B6181_18838 | **UTP:** 19-Jan-2022 09:32:43 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 978-665-RXR

Datafile: 220118R20 | **Report:** 19 Jan 2022 09:33 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9860						0.94		8113.963	0.423
12347-PeCDF	NotFnd		0.9884						0.94		8113.963	0.423
12348-PeCDF	NotFnd		0.9937						0.94		8113.963	0.423
12378-PeCDF	**NotFnd**		**1.0006**						**0.95**		**8113.963**	**0.451**
12678/12367-PeCDF	NotFnd		1.0098						0.94		8113.963	0.423
12379-PeCDF	NotFnd		1.0155						0.94		8113.963	0.423
12679-PeCDF	NotFnd		0.9922						0.94		8113.963	0.423
23467/12369-PeCDF	NotFnd		0.9964						0.94		8113.963	0.423
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**8113.963**	**0.394**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		8113.963	0.423
12349-PeCDF	NotFnd		1.0105						0.94		8113.963	0.423
12389-PeCDF	NotFnd		1.0346						0.94		8113.963	0.423
123468-HxCDF	NotFnd		0.9609						1.16		9003.812	0.503
124678/134678-HxCDF	NotFnd		0.9666						1.16		9003.812	0.503
134679-HxCDF	NotFnd		0.9731						1.16		9003.812	0.503
124679-HxCDF	NotFnd		0.9788						1.16		9003.812	0.503
124689-HxCDF	NotFnd		0.9852						1.16		9003.812	0.503
123467-HxCDF	NotFnd		0.9971						1.16		9003.812	0.503
123478-HxCDF	**NotFnd**		**1.0005**						**1.23**		**9003.812**	**0.455**
123678-HxCDF	**NotFnd**		**1.0005**						**1.13**		**9003.812**	**0.397**
123479-HxCDF	NotFnd		1.0050						1.16		9003.812	0.503
123469-HxCDF	NotFnd		1.0092						1.16		9003.812	0.503
123679-HxCDF	NotFnd		0.9942						1.16		9003.812	0.503
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**9003.812**	**0.672**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		9003.812	0.503
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**9003.812**	**0.577**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		9003.812	0.503
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**7929.743**	**0.327**
1234679-HpCDF	NotFnd		1.0074						1.33		7929.743	0.359
1234689-HpCDF	NotFnd		1.0112						1.33		7929.743	0.359
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**7929.743**	**0.405**
OCDF	**NotFnd**		**1.0003**						**1.03**		**8668.482**	**0.942**
OCDF-a	NotFnd		1.0002						0.06		11196.544	21.1

SGS ID: MB1_18838_DF_SDS | **Sample ID: Method Blank** | **Acq: 19-Jan-2022 02:04:26**

Instr: [ILM] AutoSpec-Ultima MM3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 6** | **User: PSW Datafile: 220118R20**

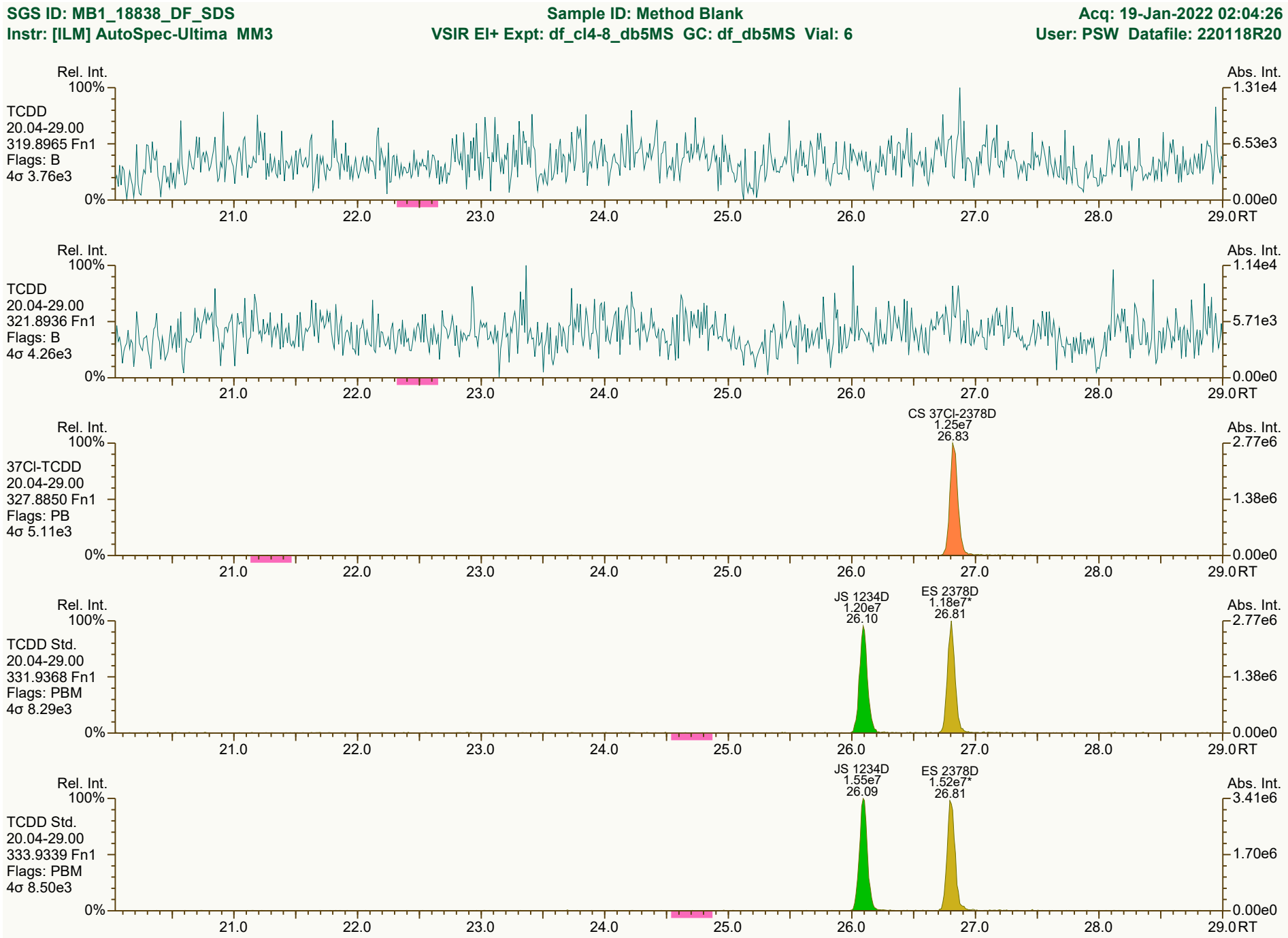


Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\MB1_18838_DF_SDS.utp_res, saved 19-Jan-2022 09:32 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 978-665

PKD: n/a Printed: 19-Jan-2022 09:39 Page 1 of 12


SGS ID: MB1_18838_DF_SDS
Sample ID: Method Blank
Acq: 19-Jan-2022 02:04:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 6
User: PSW Datafile: 220118R20
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: B
4σ 3.76e3
1.31e4
6.53e3
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: B
4σ 4.26e3
1.14e4
5.71e3
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 5.11e3
CS 37Cl-2378D
1.25e7
26.83
2.77e6
1.38e6
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PBM
4σ 8.29e3
JS 1234D
1.20e7
26.10
ES 2378D
1.18e7*
26.81
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PBM
4σ 8.50e3
JS 1234D
1.55e7
26.09
ES 2378D
1.52e7*
26.81
3.41e6
1.70e6
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\MB1_18838_DF_SDS.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6212, 1775, 8157 scc: 978-665
PKD: 19-Jan-2022 08:24 Printed: 19-Jan-2022 09:39 Page 2 of 12


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: B
4σ 4.67e3
0%
Abs. Int.
1.05e4
5.24e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: B
4σ 2.93e3
0%
Abs. Int.
1.31e4
6.55e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 9.14e3
0%
CS 12347D
1.49e7
31.96
ES 12378D
1.53e7
32.47
Abs. Int.
4.28e6
2.14e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 5.24e3
0%
CS 12347D
9.11e6
31.96
ES 12378D
9.56e6
32.47
Abs. Int.
2.83e6
1.41e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.27e6
1.64e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: B
4σ 3.50e3
0%
Abs. Int.
9.78e3
4.89e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: B
4σ 4.34e3
0%
Abs. Int.
7.85e3
3.93e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 8.25e3
0%
ES 123678D
1.29e7
36.45
ES 123678D
1.29e7
36.56
ES 123789D
1.29e7
36.85
JS 123467D
6.18e6*
36.75
Abs. Int.
4.52e6
2.26e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 6.92e3
0%
ES 123678D
1.03e7
ES 123678D
1.00e7
36.56
36.45
ES 123789D
1.02e7
36.85
JS 123467D
5.04e6*
36.75
Abs. Int.
3.10e6
1.55e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.70e6
4.85e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

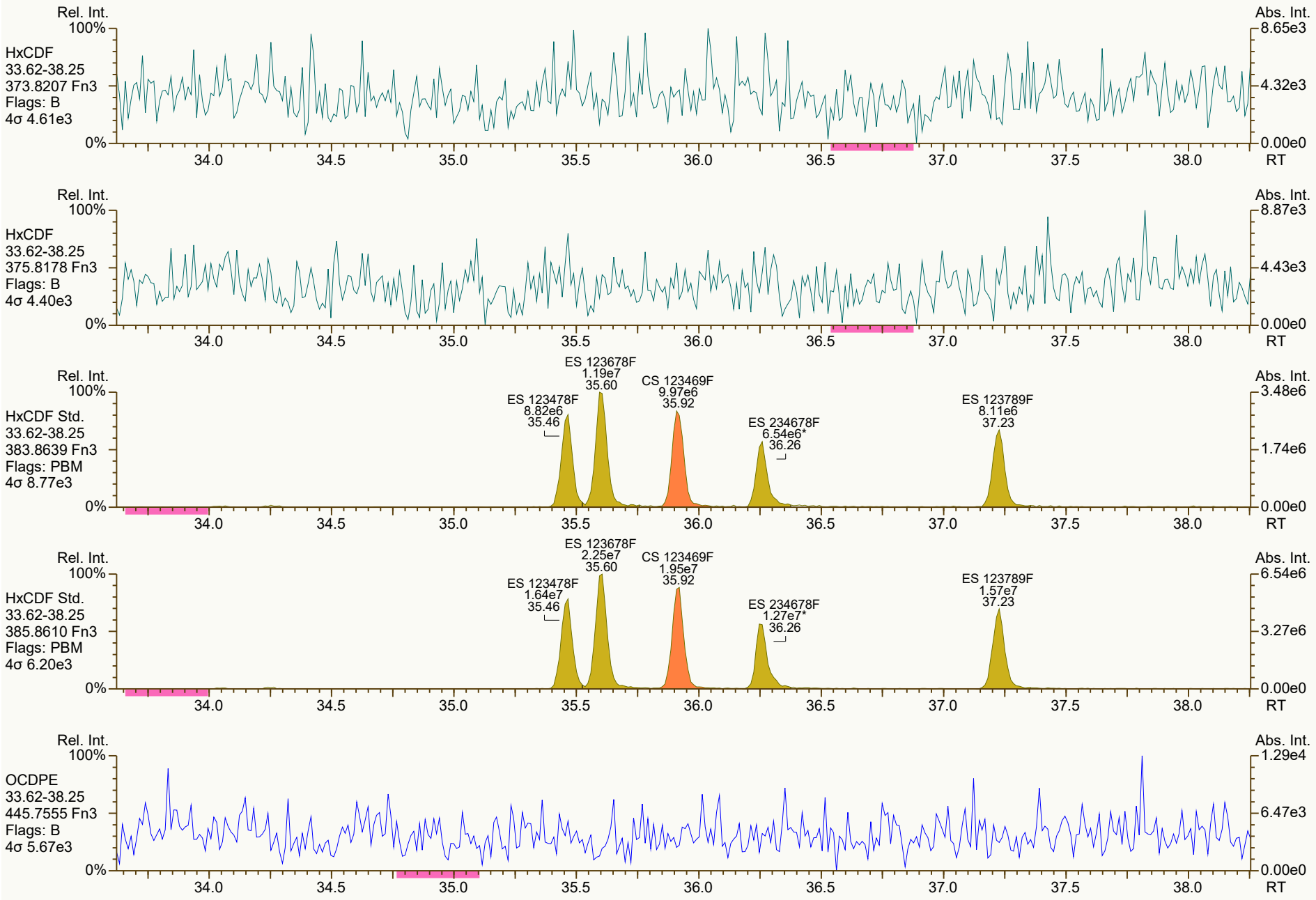

Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: B
4σ 4.50e3
0%
Abs. Int.
1.44e4
7.21e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: B
4σ 3.82e3
0%
Abs. Int.
1.14e4
5.68e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 7.18e3
0%
ES 1234678D
9.94e6
39.79
Abs. Int.
4.05e6
2.03e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 6.80e3
0%
ES 1234678D
9.28e6
39.79
Abs. Int.
3.75e6
1.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.80e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT

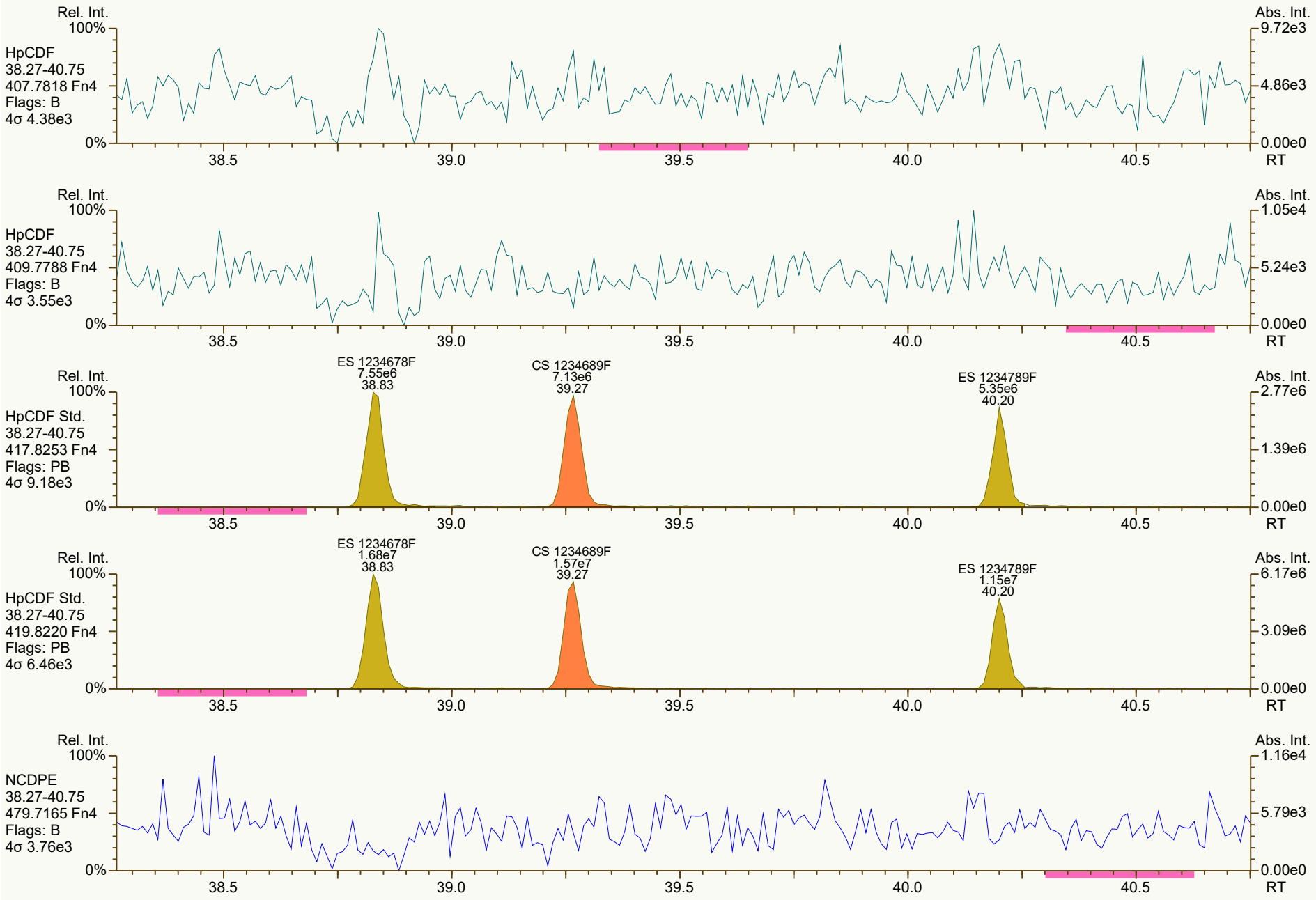

Rel. Int.
100%
OCDD
40.76-45.01
457.7377 Fn5
Flags: B
4σ 6.07e3
0%
Abs. Int.
2.21e4
1.10e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
40.76-45.01
459.7348 Fn5
Flags: B
4σ 5.32e3
0%
Abs. Int.
1.88e4
9.40e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.07e7
42.21
Rel. Int.
100%
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 5.43e3
0%
Abs. Int.
3.59e6
1.79e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.19e7
42.21
Rel. Int.
100%
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 7.02e3
0%
Abs. Int.
4.08e6
2.04e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.34e6
2.67e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18838_DF_SDS
Sample ID: Method Blank
Acq: 19-Jan-2022 02:04:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 6
User: PSW Datafile: 220118R20
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: B
4σ 3.94e3
9.67e3
4.84e3
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: B
4σ 5.89e3
1.19e4
5.94e3
JS 1234F
1.88e7
24.36
ES 2378F
1.76e7*
25.87
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PBM
4σ 1.52e4
3.56e6
1.78e6
JS 1234F
2.44e7
24.36
ES 2378F
2.24e7*
25.86
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PBM
4σ 1.28e4
4.74e6
2.37e6
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.74e3
1.45e4
7.24e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\MB1_18838_DF_SDS.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9492, 8220, 1253 scc: 978-665
PKD: 19-Jan-2022 08:24 Printed: 19-Jan-2022 09:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 7.33e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.73e3
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 3.83e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
4.62e6
2.31e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: B
4σ 4.85e3
0%
Abs. Int.
1.03e4
5.13e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: B
4σ 3.27e3
0%
Abs. Int.
8.76e3
4.38e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 8.17e3
0%
CS 12346F
2.31e7
30.41
ES 12378F
2.44e7
30.96
ES 23478F
2.34e7
32.12
Abs. Int.
6.73e6
3.37e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 7.39e3
0%
CS 12346F
1.46e7
30.41
ES 12378F
1.52e7
30.95
ES 23478F
1.48e7
32.12
Abs. Int.
4.19e6
2.09e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 5.03e3
0%
Abs. Int.
1.78e4
8.90e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: B
4σ 4.61e3
0%
Abs. Int.
8.65e3
4.32e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
33.62-38.25
375.8178 Fn3
Flags: B
4σ 4.40e3
0%
Abs. Int.
8.87e3
4.43e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PBM
4σ 8.77e3
0%
ES 123678F
1.19e7
35.60
CS 123469F
9.97e6
35.92
ES 123478F
8.82e6
35.46
ES 234678F
6.54e6*
36.26
ES 123789F
8.11e6
37.23
Abs. Int.
3.48e6
1.74e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PBM
4σ 6.20e3
0%
ES 123678F
2.25e7
35.60
CS 123469F
1.95e7
35.92
ES 123478F
1.64e7
35.46
ES 234678F
1.27e7*
36.26
ES 123789F
1.57e7
37.23
Abs. Int.
6.54e6
3.27e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 5.67e3
0%
Abs. Int.
1.29e4
6.47e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.27-40.75
407.7818 Fn4
Flags: B
4σ 4.38e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF
38.27-40.75
409.7788 Fn4
Flags: B
4σ 3.55e3
0%
Abs. Int.
1.05e4
5.24e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 9.18e3
0%
ES 1234678F
7.55e6
38.83
CS 1234689F
7.13e6
39.27
ES 1234789F
5.35e6
40.20
Abs. Int.
2.77e6
1.39e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 6.46e3
0%
ES 1234678F
1.68e7
38.83
CS 1234689F
1.57e7
39.27
ES 1234789F
1.15e7
40.20
Abs. Int.
6.17e6
3.09e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 3.76e3
0%
Abs. Int.
1.16e4
5.79e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


Rel. Int.
100%
OCDF
40.76-45.01
441.7428 Fn5
Flags: B
4σ 4.52e3
0%
Abs. Int.
1.10e4
5.49e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
40.76-45.01
443.7398 Fn5
Flags: B
4σ 4.15e3
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e7
42.37
Rel. Int.
100%
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 6.54e3
0%
Abs. Int.
4.21e6
2.10e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.45e7
42.37
Rel. Int.
100%
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 7.95e3
0%
Abs. Int.
4.84e6
2.42e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 3.91e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6181_18838_DF_001 **Acq'd:** 19 Jan 2022 02:51 PSW **Wt/Vol:** 12.17 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-26 **UTP:** 19-Jan-2022 09:32:43 PSW **J-level:** 0.411 pg/g **Split:** 1 **Checkcode:** 105-037-YTJ

Datafile: 220118R21 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.83		1.0008	1.0009	+0.2	1.98E+07	0.81	Y	1.34	129	11232.048	0.887
12378-PeCDD	32.50		1.0006	1.0006	0	2.48E+05	1.58	Y	1.06	2.38	10729.999	0.973
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	9157.883	0.789
123678-HxCDD	36.58		1.0035	1.0035	0	2.26E+05	1.24	Y	1.08	2.15	9157.883	0.731
123789-HxCDD	36.87	J	1.0115	1.0115	0	1.62E+05	1.43	Y	1.02	1.68	9157.883	0.823
1234678-HpCDD	39.81		1.0003	1.0003	0	6.24E+06	1.00	Y	0.97	80.5	7296.111	0.572
OCDD	42.22		1.0003	1.0003	0	6.24E+07	0.91	Y	1.07	1,420	10576.701	1.66
2378-TCDF	25.88		1.0008	1.0009	+0.2	7.98E+07	0.78	Y	0.96	491	13489.812	0.986
12378-PeCDF	30.97		1.0006	1.0006	0	2.86E+06	1.55	Y	0.95	20.1	8835.408	0.605
23478-PeCDF	32.15		1.0006	1.0008	+0.4	2.19E+06	1.66	Y	0.94	15.8	8835.408	0.596
123478-HxCDF	35.48		1.0005	1.0005	0	3.69E+06	1.21	Y	1.23	27.8	8308.863	0.528
123678-HxCDF	35.62		1.0005	1.0005	0	1.03E+06	1.23	Y	1.13	7.15	8308.863	0.497
234678-HxCDF	36.28	J EMPC	1.0004	1.0002	-0.4	1.96E+05	1.44	N	1.15	2.04	8308.863	0.795
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8308.863	0.596
1234678-HpCDF	38.85		1.0003	1.0003	0	2.01E+06	1.05	Y	1.36	16.4	8276.237	0.464
1234789-HpCDF	40.22		1.0002	1.0002	0	3.42E+05	1.15	Y	1.30	3.41	8276.237	0.539
OCDF	42.39		1.0003	1.0002	-0.3	1.35E+06	0.90	Y	1.03	22.9	9000.285	1.07

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.80	1.0270	1.0273	+0.5	1.87E+07	0.77	Y	1.03	55.8
ES 12378-PeCDD	32.48	1.2424	1.2449	+4.9	1.62E+07	1.60	Y	1.03	48.2
ES 123478-HxCDD	36.45	0.9918	0.9917	-0.2	1.51E+07	1.26	Y	0.99	57.5
ES 123678-HxCDD	36.56	0.9948	0.9948	0	1.60E+07	1.29	Y	0.97	62.1
ES 123789-HxCDD	36.86	1.0028	1.0028	0	1.56E+07	1.28	Y	1.12	52.5
ES 1234678-HpCDD	39.79	1.0820	1.0826	+1.4	1.31E+07	1.02	Y	0.99	49.8
ES OCDD	42.21	1.1479	1.1485	+1.5	1.35E+07	0.90	Y	0.78	33
ES 2378-TCDF	25.86	1.0611	1.0621	+1.6	2.78E+07	0.80	Y	1.08	51.4
ES 12378-PeCDF	30.96	1.2682	1.2715	+6.1	2.47E+07	1.56	Y	0.93	53
ES 23478-PeCDF	32.12	1.3157	1.3194	+7.1	2.43E+07	1.64	Y	0.92	52.9
ES 123478-HxCDF	35.47	0.9650	0.9650	0	1.77E+07	0.52	Y	1.14	58.5
ES 123678-HxCDF	35.61	0.9689	0.9688	-0.2	2.10E+07	0.50	Y	1.30	61.2
ES 234678-HxCDF	36.27	0.9869	0.9869	0	1.37E+07	0.53	Y	1.20	43.2
ES 123789-HxCDF	37.23	1.0130	1.0130	0	1.73E+07	0.53	Y	1.14	57.7
ES 1234678-HpCDF	38.84	1.0563	1.0566	+0.7	1.48E+07	0.45	Y	0.95	58.9
ES 1234789-HpCDF	40.21	1.0933	1.0939	+1.4	1.26E+07	0.46	Y	0.85	56.5
ES OCDF	42.38	1.1522	1.1529	+1.8	1.89E+07	0.89	Y	0.93	38.6

Lab ID: B6181_18838_DF_001 **Acq'd:** 19 Jan 2022 02:51 PSW **Wt/Vol:** 12.17 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-26 **UTP:** 19-Jan-2022 09:32:43 PSW **J-level:** 0.411 pg/g **Split:** 1 **Checkcode:** 105-037-YTJ

Datafile: 220118R21 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.09		-	-	-	3.25E+07	0.79	Y	-	-
JS 1234-TCDF	24.35		-	-	-	4.99E+07	0.81	Y	-	-
JS 123467-HxCDD	36.75		-	-	-	1.32E+07	1.35	Y	-	-
CS 37Cl-2378-TCDD	26.82		1.0278	1.0282	+0.6	9.31E+06	n/a	-	1.31	54.7
CS 12347-PeCDD	31.96		1.2228	1.2250	+4.2	1.83E+07	1.65	Y	0.89	63.3
CS 12346-PeCDF	30.41		1.2457	1.2489	+5.8	2.72E+07	1.58	Y	0.87	62.9
CS 123469-HxCDF	35.92		0.9774	0.9773	-0.2	2.23E+07	0.52	Y	1.09	77.3
CS 1234689-HpCDF	39.27		1.0680	1.0685	+1.2	1.74E+07	0.47	Y	0.86	76.2
~~SS 37Cl-2378-TCDD~~	~~26.82~~		~~1.0278~~	~~1.0282~~	~~+0.6~~	~~9.31E+06~~	~~n/a~~		~~1.26~~	~~98.6~~
~~SS 12347-PeCDD~~	~~31.96~~	~~V~~	~~1.2228~~	~~1.2250~~	~~+4.2~~	~~1.83E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~131~~
~~SS 12346-PeCDF~~	~~30.41~~		~~1.2457~~	~~1.2489~~	~~+5.8~~	~~2.72E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~110~~
~~SS 123469-HxCDF~~	~~35.92~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.23E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~126~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0680~~	~~1.0685~~	~~+1.2~~	~~1.74E+07~~	~~0.47~~	~~Y~~	~~0.91~~	~~129~~

Totals	Conc	EMPC
Total TCDD	145	145
Total PeCDD	3.98	3.98
Total HxCDD	17.6	25.4
Total HpCDD	179	179
Total Tetra-Octa Dioxins	1760	1770
Total TCDF	933	936
Total PeCDF	59.1	61.7
Total HxCDF	51.4	55.2
Total HpCDF	40.4	41.2
Total Tetra-Octa Furans	1,110	1120
Total Tetra-Octa Dioxins & Furans	2870	2890

Lab ID: B6181_18838_DF_001 **Acq'd: 19 Jan 2022 02:51 PSW** **Wt/Vol: 12.17 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-011222-S-BN-SC-S-26 **UTP: 19-Jan-2022 09:32:43 PSW** **J-level: 0.411 pg/g** **Split: 1** **Checkcode: 105-037-YTJ**

Datafile: 220118R21 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8514						1.34		11232.048	0.887
1379-TCDD	NotFnd		0.8665						1.34		11232.048	0.887
1369-TCDD	NotFnd		0.8845						1.34		11232.048	0.887
1469-TCDD	24.54		0.9165	0.9157	-1.2	2.93E+05	0.75	Y	1.34	1.91	11232.048	0.887
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		11232.048	0.887
1378-TCDD	NotFnd		0.9343						1.34		11232.048	0.887
1268-TCDD	NotFnd		0.9424						1.34		11232.048	0.887
1478-TCDD	NotFnd		0.9525						1.34		11232.048	0.887
1279-TCDD	NotFnd		0.9592						1.34		11232.048	0.887
1234/1269-TCDD	NotFnd		0.9735						1.34		11232.048	0.887
1236-TCDD	NotFnd		0.9790						1.34		11232.048	0.887
1237/1238-TCDD	26.51		0.9893	0.9891	-0.3	3.23E+05	0.87	Y	1.34	2.11	11232.048	0.887
1239-TCDD	NotFnd		0.9947						1.34		11232.048	0.887
2378-TCDD	**26.83**		**1.0008**	1.0009	**+0.2**	1.98E+07	0.81	Y	**1.34**	**129**	**11232.048**	**0.887**
1278-TCDD	27.18		1.0140	1.0141	+0.2	1.82E+06	0.84	Y	1.34	11.9	11232.048	0.887
1267-TCDD	NotFnd		1.0196						1.34		11232.048	0.887
1289-TCDD	NotFnd		1.0396						1.34		11232.048	0.887
12479/12468-PeCDD	NotFnd		0.9208						1.06		10729.999	0.973
12469-PeCDD	30.45	J	0.9381	0.9376	-0.9	1.67E+05	1.36	Y	1.06	1.6	10729.999	0.973
12368-PeCDD	NotFnd		0.9557						1.06		10729.999	0.973
12478-PeCDD	NotFnd		0.9617						1.06		10729.999	0.973
12379-PeCDD	NotFnd		0.9648						1.06		10729.999	0.973
12369/12467/12489-PeCDD	NotFnd		0.9732						1.06		10729.999	0.973
12346/12347-PeCDD	NotFnd		0.9849						1.06		10729.999	0.973
12378-PeCDD	32.50		**1.0006**	**1.0006**	**0**	**2.48E+05**	**1.58**	**Y**	**1.06**	**2.38**	**10729.999**	**0.973**
12367-PeCDD	NotFnd		1.0037						1.06		10729.999	0.973
12389-PeCDD	NotFnd		1.0145						1.06		10729.999	0.973
124679/124689-HxCDD	34.75		0.9534	0.9532	-0.4	1.37E+06	1.29	Y	1.05	13.8	9157.883	0.78
123468-HxCDD	NotFnd		0.9715						1.05		9157.883	0.78
123679/123689-HxCDD	35.71	EMPC	0.9797	0.9796	-0.2	7.80E+05	1.56	N	1.05	7.84	9157.883	0.78
123469-HxCDD	NotFnd		0.9834						1.05		9157.883	0.78
123478-HxCDD	NotFnd		**1.0004**						1.06		**9157.883**	**0.789**
123678-HxCDD	36.58		**1.0035**	**1.0035**	**0**	**2.26E+05**	**1.24**	**Y**	1.08	**2.15**	**9157.883**	**0.731**
123467-HxCDD	NotFnd		1.0087						1.05		9157.883	0.78
123789-HxCDD	36.87	J	**1.0115**	**1.0115**	**0**	**1.62E+05**	**1.43**	**Y**	1.02	**1.68**	**9157.883**	**0.823**

Lab ID: B6181_18838_DF_001 **Acq'd:** 19 Jan 2022 02:51 PSW **Wt/Vol:** 12.17 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-26 **UTP:** 19-Jan-2022 09:32:43 PSW **J-level:** 0.411 pg/g **Split:** 1 **Checkcode:** 105-037-YTJ

Datafile: 220118R21 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

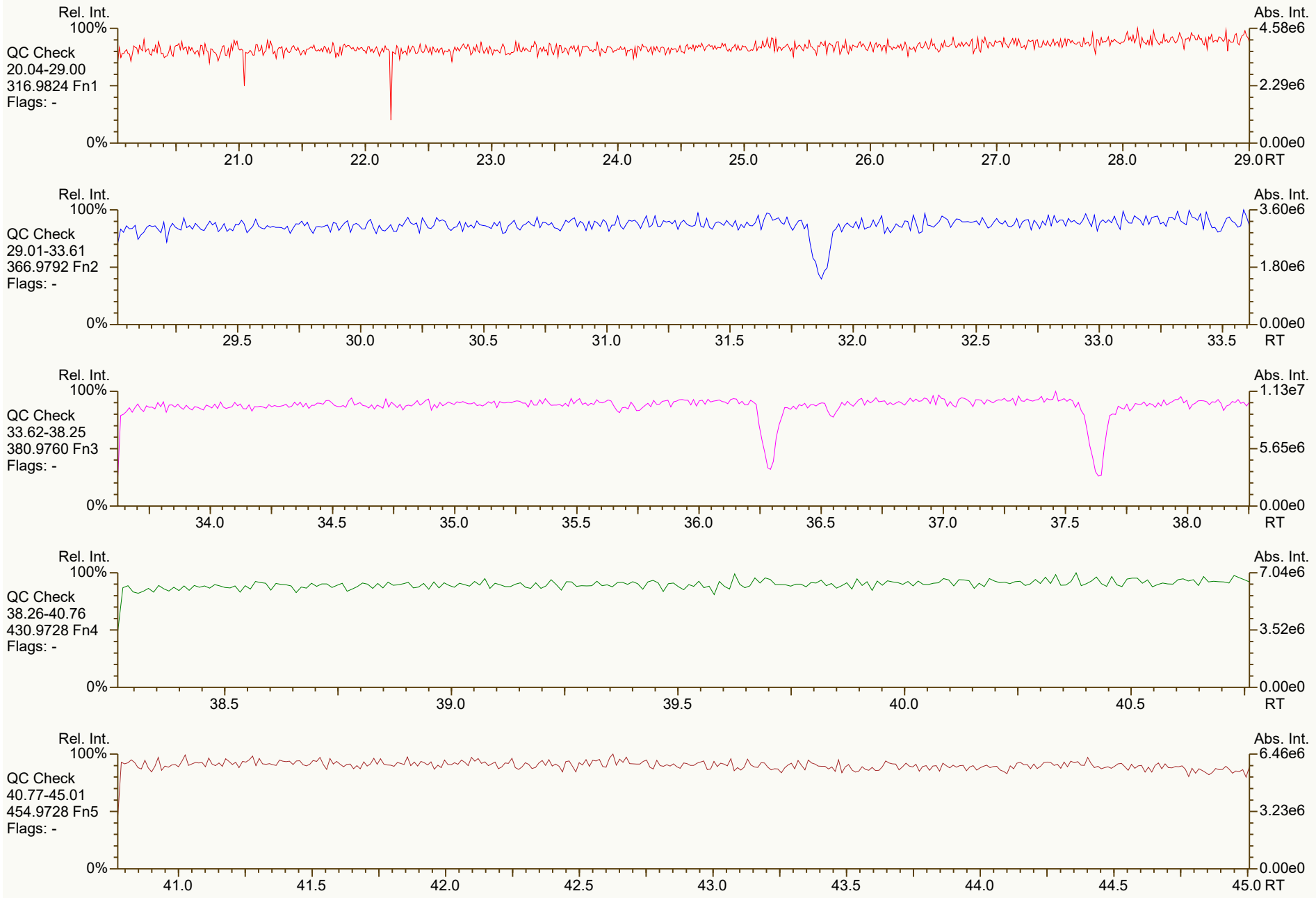
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.13		0.9835	0.9835	0	7.61E+06	1.05	Y	0.97	98.2	7296.111	0.572
1234678-HpCDD	**39.81**		**1.0003**	**1.0003**	**0**	**6.24E+06**	**1.00**	**Y**	**0.97**	**80.5**	**7296.111**	**0.572**
OCDD	**42.22**		**1.0003**	**1.0003**	**0**	**6.24E+07**	**0.91**	**Y**	**1.07**	**1,420**	**10576.701**	**1.66**
OCDD-a	42.22		1.0002	1.0002	0	3.68E+06	2.76	Y	0.07	1,350	9467.027	24.1
1368-TCDF	NotFnd		0.7966						0.96		13489.812	0.986
1468-TCDF	NotFnd		0.8179						0.96		13489.812	0.986
2468-TCDF	21.73	EMPC	0.8432	0.8403	-3.8	2.22E+05	0.60	N	0.96	1.37	13489.812	0.986
1346/1246-TCDF	NotFnd		0.8572						0.96		13489.812	0.986
1347/1378/1247-TCDF	22.33		0.8641	0.8637	-0.5	7.62E+05	0.80	Y	0.96	4.69	13489.812	0.986
1348-TCDF	22.61	EMPC	0.8764	0.8745	-2.6	2.93E+05	0.61	N	0.96	1.81	13489.812	0.986
1248/1367/1379-TCDF	22.72		0.8820	0.8786	-4.6	3.54E+06	0.76	Y	0.96	21.8	13489.812	0.986
1268-TCDF	23.20		0.8986	0.8972	-1.9	1.26E+06	0.74	Y	0.96	7.75	13489.812	0.986
1467-TCDF	NotFnd		0.9044						0.96		13489.812	0.986
1478-TCDF	23.54		0.9117	0.9104	-1.8	2.99E+06	0.73	Y	0.96	18.4	13489.812	0.986
1369/1237-TCDF	23.97		0.9276	0.9269	-1.0	8.40E+05	0.85	Y	0.96	5.17	13489.812	0.986
2467-TCDF	NotFnd		0.9334						0.96		13489.812	0.986
2368-TCDF	24.28		0.9400	0.9389	-1.6	1.93E+06	0.79	Y	0.96	11.9	13489.812	0.986
1238/1234/1678/1469/1236-TCDF	24.36		0.9436	0.9421	-2.2	4.30E+06	0.78	Y	0.96	26.5	13489.812	0.986
1278-TCDF	24.89		0.9628	0.9624	-0.6	3.56E+07	0.80	Y	0.96	219	13489.812	0.986
1349-TCDF	NotFnd		0.9678						0.96		13489.812	0.986
1267-TCDF	25.19		0.9745	0.9742	-0.5	1.76E+06	0.79	Y	0.96	10.9	13489.812	0.986
2346/1249-TCDF	NotFnd		0.9823						0.96		13489.812	0.986
2347/1279-TCDF	25.63		0.9916	0.9912	-0.6	8.61E+05	0.85	Y	0.96	5.3	13489.812	0.986
2348-TCDF	25.76		0.9964	0.9960	-0.6	5.24E+06	0.80	Y	0.96	32.2	13489.812	0.986
2378-TCDF	**25.88**		**1.0008**	**1.0009**	**+0.2**	**7.98E+07**	**0.78**	**Y**	**0.96**	**491**	**13489.812**	**0.986**
2367/3467-TCDF	26.27		1.0161	1.0159	-0.3	6.17E+06	0.79	Y	0.96	38	13489.812	0.986
1269-TCDF	26.54		1.0258	1.0263	+0.8	9.73E+05	0.85	Y	0.96	5.99	13489.812	0.986
1239-TCDF	NotFnd		1.0370						0.96		13489.812	0.986
1289-TCDF	28.05		1.0833	1.0848	+2.5	5.46E+06	0.76	Y	0.96	33.6	13489.812	0.986
13468/12468-PeCDF	28.02		0.9054	0.9051	-0.5	6.28E+05	1.33	Y	0.94	4.47	8826.359	0.6
13678/13467/12467-PeCDF	29.66	J	0.9578	0.9580	+0.4	1.10E+05	1.45	Y	0.94	0.781	8835.408	0.6
12368/13478/12478-PeCDF	29.83		0.9632	0.9636	+0.7	1.56E+06	1.51	Y	0.94	11.1	8835.408	0.6
14678-PeCDF	29.92	J	0.9666	0.9666	0	6.41E+04	1.61	Y	0.94	0.456	8835.408	0.6
13479-PeCDF	NotFnd		0.9696						0.94		8835.408	0.6
13469/12479-PeCDF	NotFnd		0.9784						0.94		8835.408	0.6
12346-PeCDF	NotFnd		0.9828						0.94		8835.408	0.6

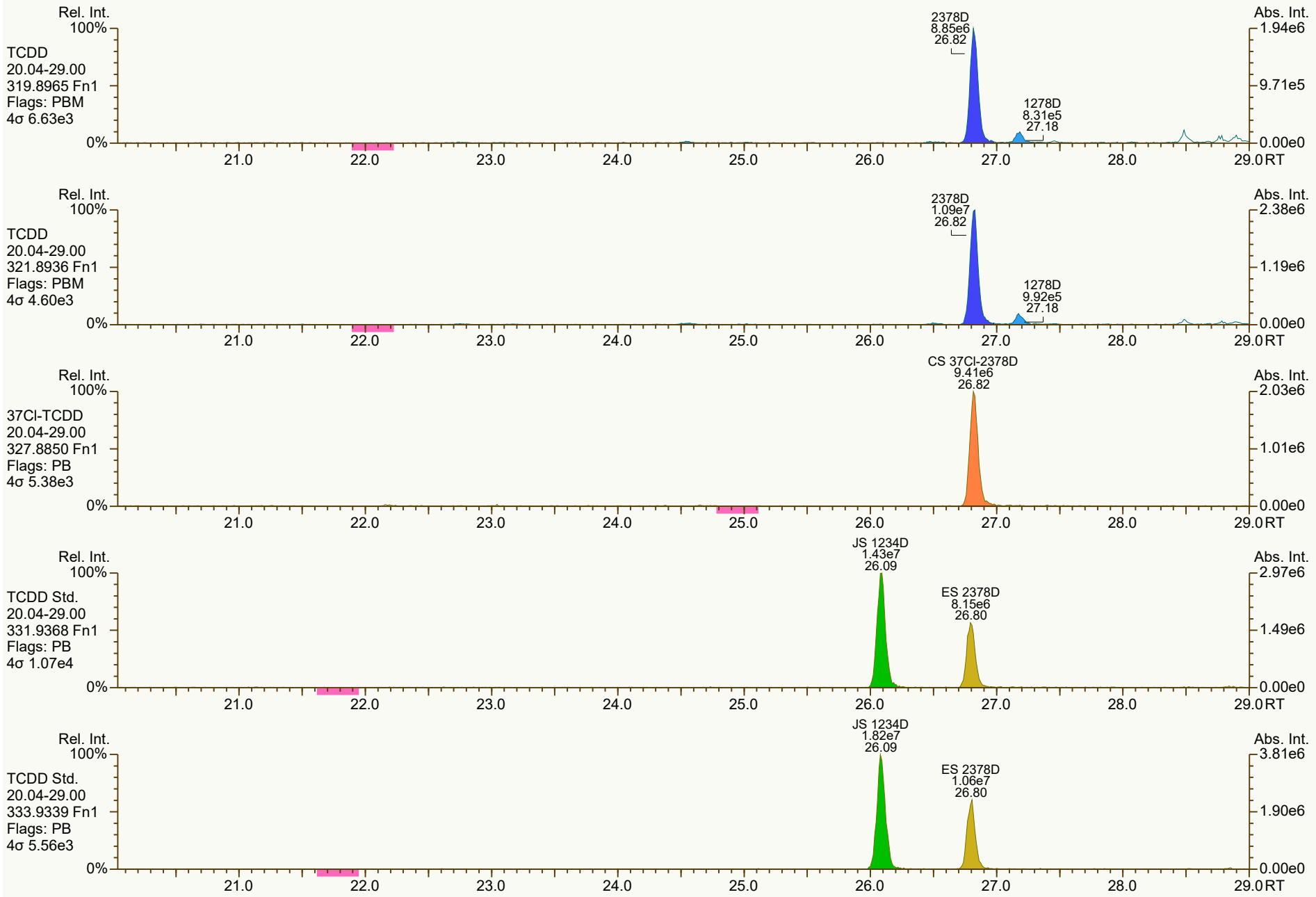
Lab ID: B6181_18838_DF_001 **Acq'd: 19 Jan 2022 02:51 PSW** **Wt/Vol: 12.17 g** **ICAL: MM3_DF_10272021_27JUL2021**

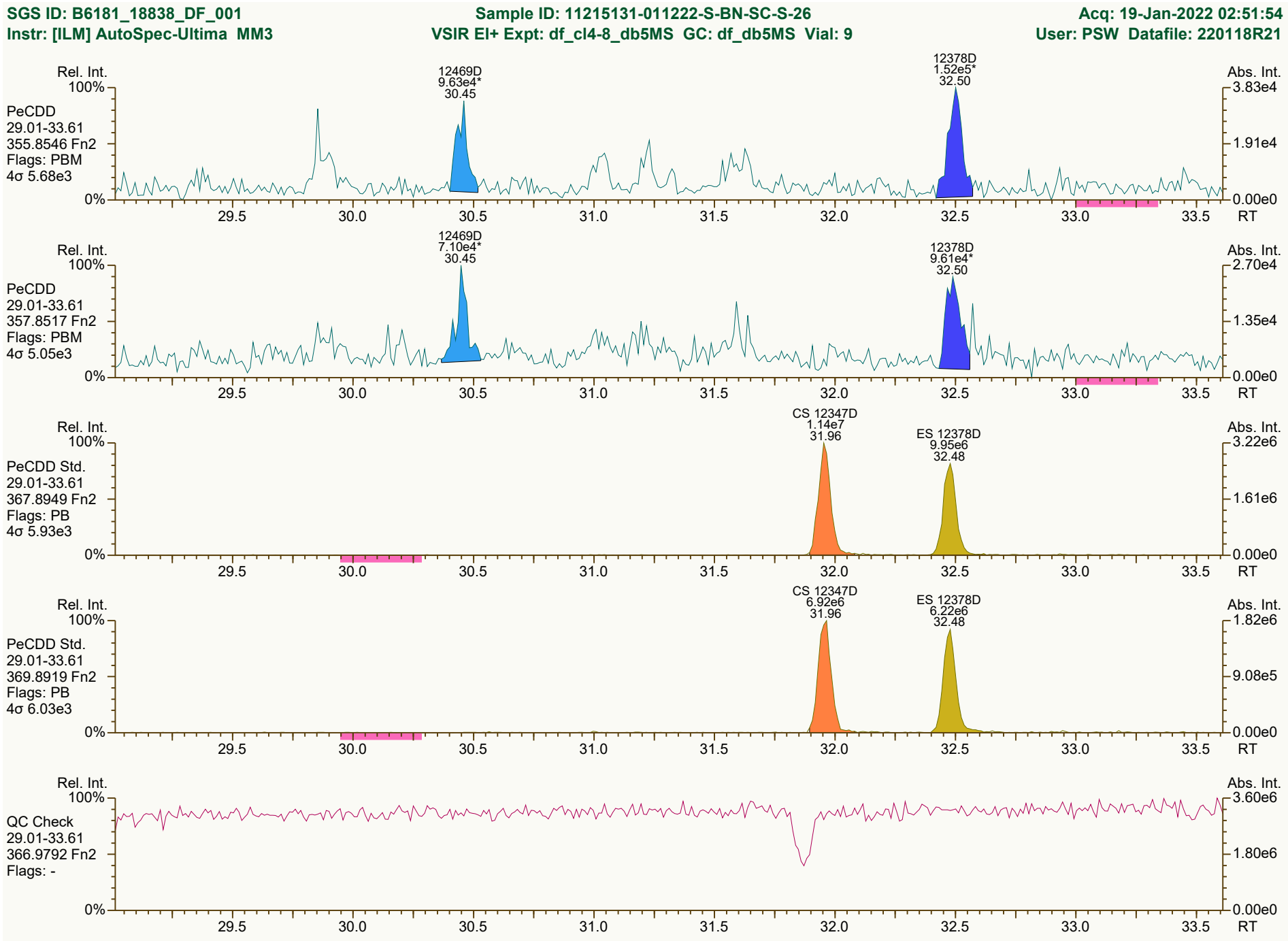
Client ID: 11215131-011222-S-BN-SC-S-26 **UTP: 19-Jan-2022 09:32:43 PSW** **J-level: 0.411 pg/g** **Split: 1** **Checkcode: 105-037-YTJ**

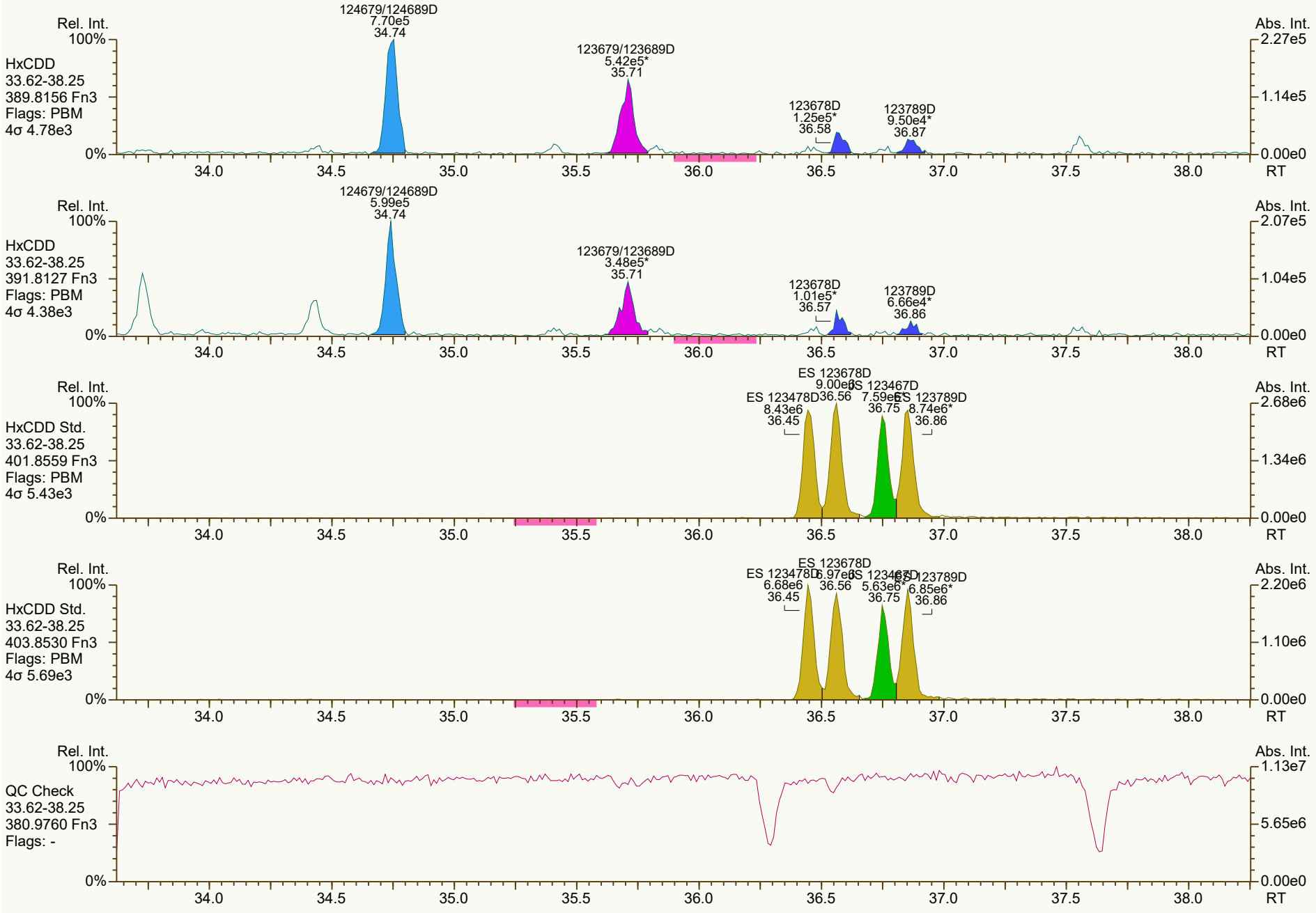
Datafile: 220118R21 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

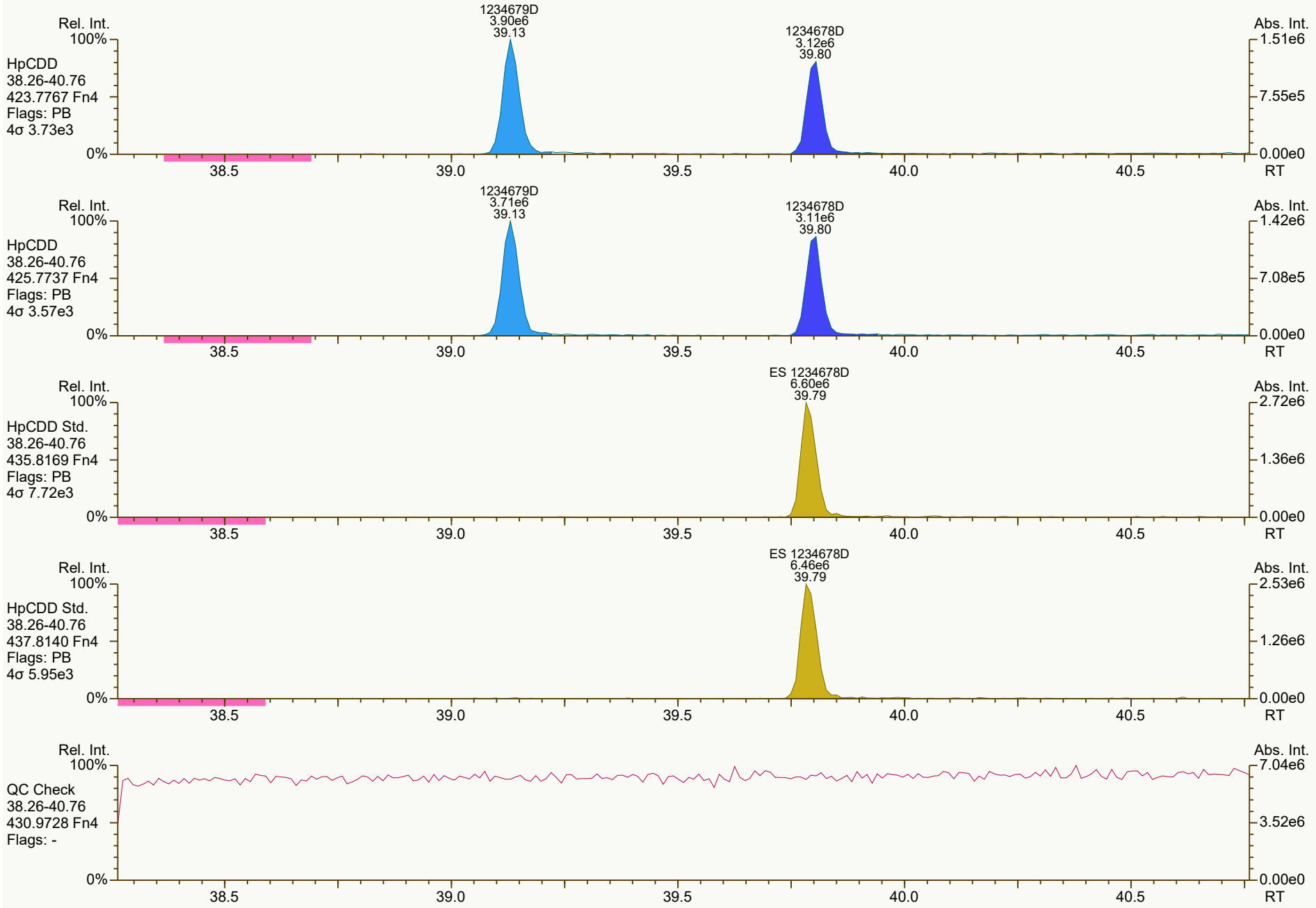
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.52	J EMPC	0.9860	0.9860	0	1.40E+05	1.28	N	0.94	0.996	8835.408	0.6
12347-PeCDF	NotFnd		0.9884						0.94		8835.408	0.6
12348-PeCDF	30.76	J EMPC	0.9937	0.9935	-0.4	2.25E+05	1.92	N	0.94	1.6	8835.408	0.6
12378-PeCDF	**30.97**		**1.0006**	**1.0006**	**0**	**2.86E+06**	**1.55**	**Y**	**0.95**	**20.1**	**8835.408**	**0.605**
12678/12367-PeCDF	31.28		1.0098	1.0106	+1.5	9.00E+05	1.47	Y	0.94	6.41	8835.408	0.6
12379-PeCDF	NotFnd		1.0155						0.94		8835.408	0.6
12679-PeCDF	NotFnd		0.9922						0.94		8835.408	0.6
23467/12369-PeCDF	NotFnd		0.9964						0.94		8835.408	0.6
23478-PeCDF	**32.15**		**1.0006**	**1.0008**	**+0.4**	**2.19E+06**	**1.66**	**Y**	**0.94**	**15.8**	**8835.408**	**0.596**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		8835.408	0.6
12349-PeCDF	NotFnd		1.0105						0.94		8835.408	0.6
12389-PeCDF	NotFnd		1.0346						0.94		8835.408	0.6
123468-HxCDF	34.06	J EMPC	0.9609	0.9604	-1.0	2.24E+05	1.01	N	1.16	1.82	8308.863	0.587
124678/134678-HxCDF	34.28		0.9666	0.9664	-0.4	9.34E+05	1.19	Y	1.16	7.57	8308.863	0.587
134679-HxCDF	NotFnd		0.9731						1.16		8308.863	0.587
124679-HxCDF	NotFnd		0.9788						1.16		8308.863	0.587
124689-HxCDF	34.94		0.9852	0.9852	0	7.86E+05	1.26	Y	1.16	6.37	8308.863	0.587
123467-HxCDF	NotFnd		0.9971						1.16		8308.863	0.587
123478-HxCDF	**35.48**		**1.0005**	**1.0005**	**0**	**3.69E+06**	**1.21**	**Y**	**1.23**	**27.8**	**8308.863**	**0.528**
123678-HxCDF	**35.62**		**1.0005**	**1.0005**	**0**	**1.03E+06**	**1.23**	**Y**	**1.13**	**7.15**	**8308.863**	**0.497**
123479-HxCDF	NotFnd		1.0050						1.16		8308.863	0.587
123469-HxCDF	NotFnd		1.0092						1.16		8308.863	0.587
123679-HxCDF	NotFnd		0.9942						1.16		8308.863	0.587
234678-HxCDF	**36.28**	J EMPC	**1.0004**	**1.0002**	**-0.4**	**1.96E+05**	**1.44**	**N**	**1.15**	**2.04**	**8308.863**	**0.795**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8308.863	0.587
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8308.863**	**0.596**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.28		1.0007	1.0013	+1.3	3.10E+05	1.32	Y	1.16	2.51	8308.863	0.587
1234678-HpCDF	**38.85**		**1.0003**	**1.0003**	**0**	**2.01E+06**	**1.05**	**Y**	**1.36**	**16.4**	**8276.237**	**0.464**
1234679-HpCDF	39.13	**J EMPC**	1.0074	1.0075	+0.2	8.44E+04	1.30	N	1.33	0.76	8276.237	0.499
1234689-HpCDF	39.28		1.0112	1.0115	+0.7	2.29E+06	1.01	Y	1.33	20.6	8276.237	0.499
1234789-HpCDF	**40.22**		**1.0002**	**1.0002**	**0**	**3.42E+05**	**1.15**	**Y**	**1.30**	**3.41**	**8276.237**	**0.539**
OCDF	**42.39**		**1.0003**	**1.0002**	**-0.3**	**1.35E+06**	**0.90**	**Y**	**1.03**	**22.9**	**9000.285**	**1.07**
OCDF-a	NotFnd		1.0002						0.06		9926.602	20.4


Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.60e6
1.80e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.13e7
5.65e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.26-40.76
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.04e6
3.52e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 6.63e3
0%
2378D
8.85e6
26.82
1278D
8.31e5
27.18
Abs. Int.
1.94e6
9.71e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 4.60e3
0%
2378D
1.09e7
26.82
1278D
9.92e5
27.18
Abs. Int.
2.38e6
1.19e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 5.38e3
0%
CS 37Cl-2378D
9.41e6
26.82
Abs. Int.
2.03e6
1.01e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 1.07e4
0%
JS 1234D
1.43e7
26.09
ES 2378D
8.15e6
26.80
Abs. Int.
2.97e6
1.49e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 5.56e3
0%
JS 1234D
1.82e7
26.09
ES 2378D
1.06e7
26.80
Abs. Int.
3.81e6
1.90e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


SGS ID: B6181_18838_DF_001
Sample ID: 11215131-011222-S-BN-SC-S-26
Acq: 19-Jan-2022 02:51:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: PSW Datafile: 220118R21
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 5.68e3
12469D
9.63e4*
30.45
12378D
1.52e5*
32.50
3.83e4
1.91e4
0.00e0
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 5.05e3
12469D
7.10e4*
30.45
12378D
9.61e4*
32.50
2.70e4
1.35e4
0.00e0
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 5.93e3
CS 12347D
1.14e7
31.96
ES 12378D
9.95e6
32.48
3.22e6
1.61e6
0.00e0
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 6.03e3
CS 12347D
6.92e6
31.96
ES 12378D
6.22e6
32.48
1.82e6
9.08e5
0.00e0
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
3.60e6
1.80e6
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_001.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1539, 6666 scc: 105-037
PKD: 19-Jan-2022 08:29 Printed: 19-Jan-2022 09:39 Page 3 of 12


Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.78e3
124679/124689D
7.70e5
34.74
123679/123689D
5.42e5*
35.71
123678D
1.25e5*
36.58
123789D
9.50e4*
36.87
Abs. Int.
2.27e5
1.14e5
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.38e3
124679/124689D
5.99e5
34.74
123679/123689D
3.48e5*
35.71
123678D
1.01e5*
36.57
123789D
6.66e4*
36.86
Abs. Int.
2.07e5
1.04e5
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 5.43e3
ES 123678D
9.00e6
ES 123478D
8.43e6
36.45
36.56
ES 123467D
7.59e6
36.75
ES 123789D
8.74e6*
36.86
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 5.69e3
ES 123678D
ES 123478D
6.68e6
36.45
36.56
36.75
6.85e6*
36.86
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
Abs. Int.
1.13e7
5.65e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.26-40.76
423.7767 Fn4
Flags: PB
4σ 3.73e3
1234679D
3.90e6
39.13
1234678D
3.12e6
39.80
Abs. Int.
1.51e6
7.55e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.26-40.76
425.7737 Fn4
Flags: PB
4σ 3.57e3
1234679D
3.71e6
39.13
1234678D
3.11e6
39.80
Abs. Int.
1.42e6
7.08e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.26-40.76
435.8169 Fn4
Flags: PB
4σ 7.72e3
ES 1234678D
6.60e6
39.79
Abs. Int.
2.72e6
1.36e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.26-40.76
437.8140 Fn4
Flags: PB
4σ 5.95e3
ES 1234678D
6.46e6
39.79
Abs. Int.
2.53e6
1.26e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.26-40.76
430.9728 Fn4
Flags: -
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT


OCDD
2.97e7
42.22
Rel. Int.
Abs. Int.
OCDD
40.77-45.01
457.7377 Fn5
Flags: PB
4σ 4.19e3
OCDD
3.27e7
42.22
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 6.39e3
ES OCDD
6.42e6*
42.21
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PBM
4σ 5.12e3
ES OCDD
7.12e6*
42.21
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PBM
4σ 5.88e3
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6181_18838_DF_001 | Sample ID: 11215131-011222-S-BN-SC-S-26 | Acq: 19-Jan-2022 02:51:54

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: PSW Datafile: 220118R21



Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_001.utp_res, saved 19-Jan-2022 09:32 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2751, 2566, 5332 scc: 105-037 | *PKD: 19-Jan-2022 08:29 Printed: 19-Jan-2022 09:39 Page 7 of 12*

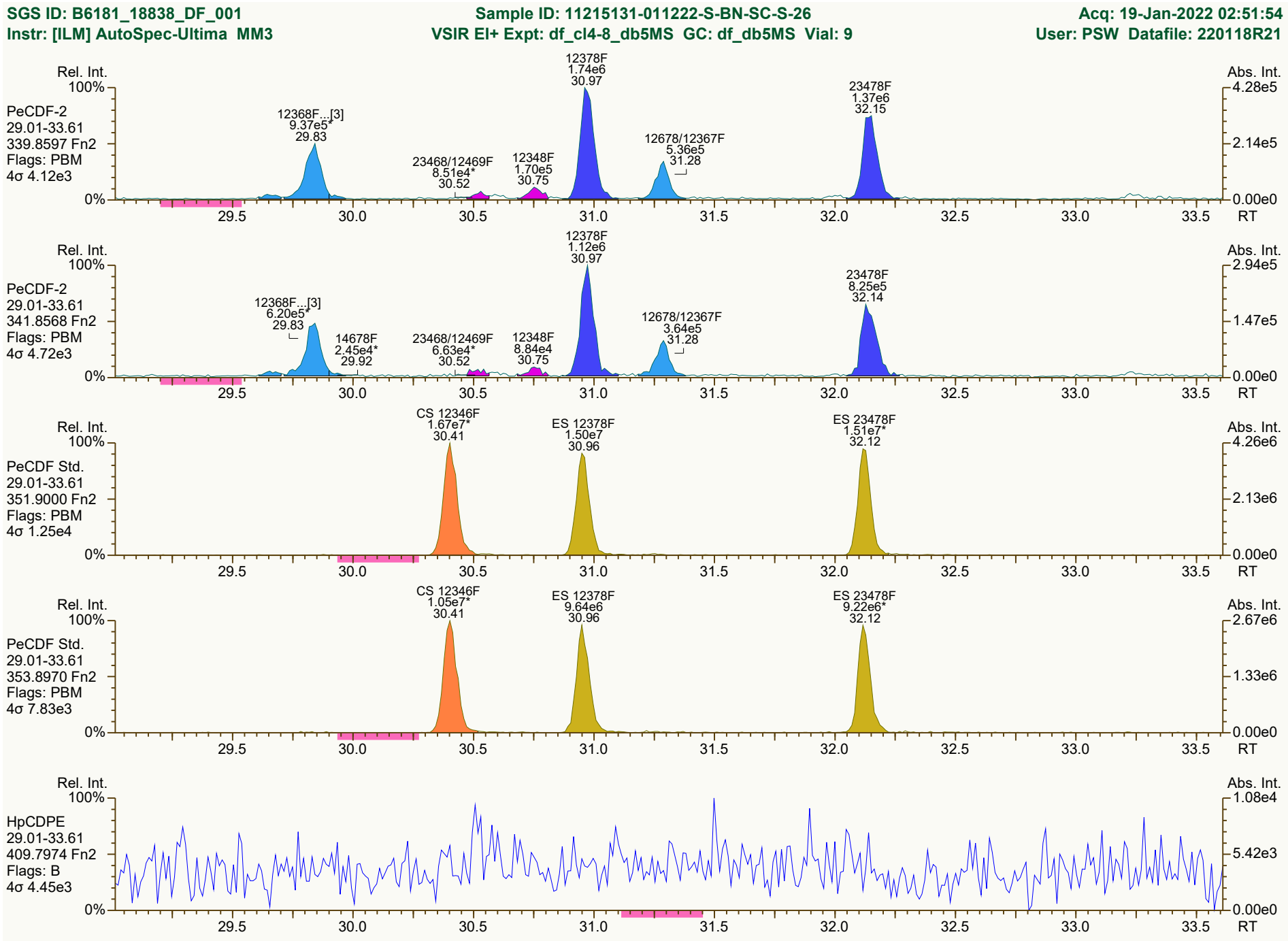
SGS ID: B6181_18838_DF_001 | Sample ID: 11215131-011222-S-BN-SC-S-26 | Acq: 19-Jan-2022 02:51:54

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: PSW Datafile: 220118R21

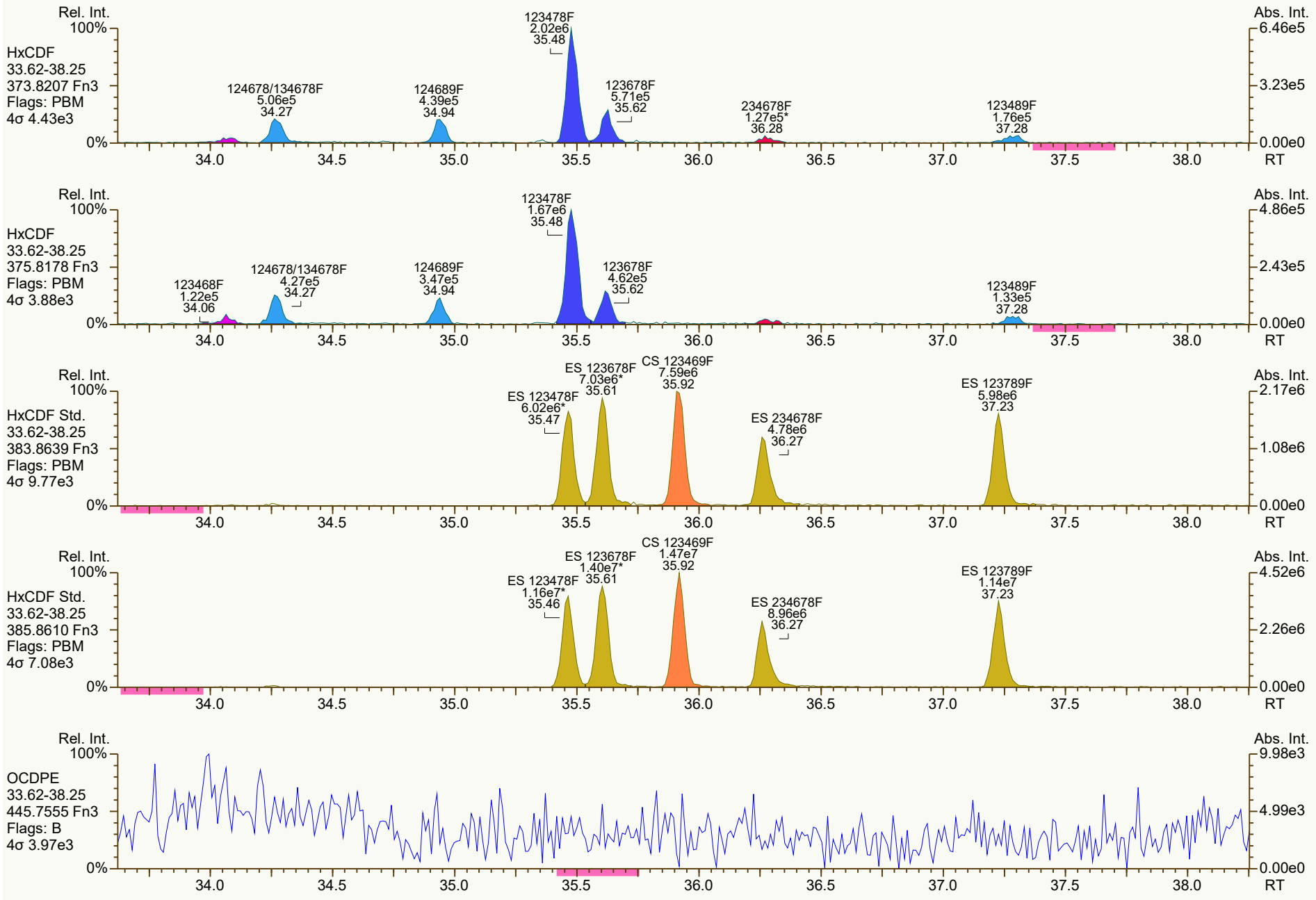


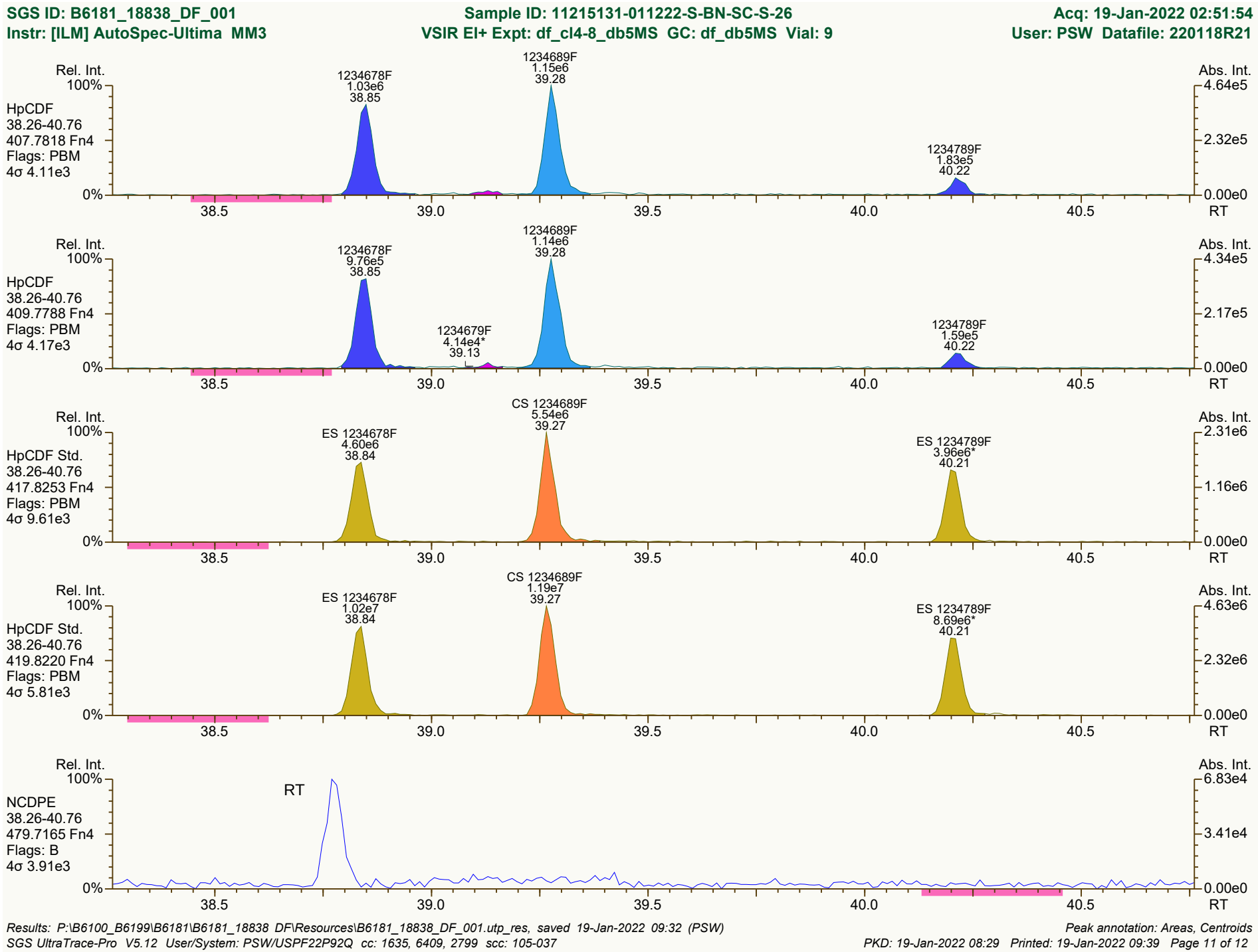
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_001.utp_res, saved 19-Jan-2022 09:32 (PSW) | *Peak annotation: Areas, Centroids*

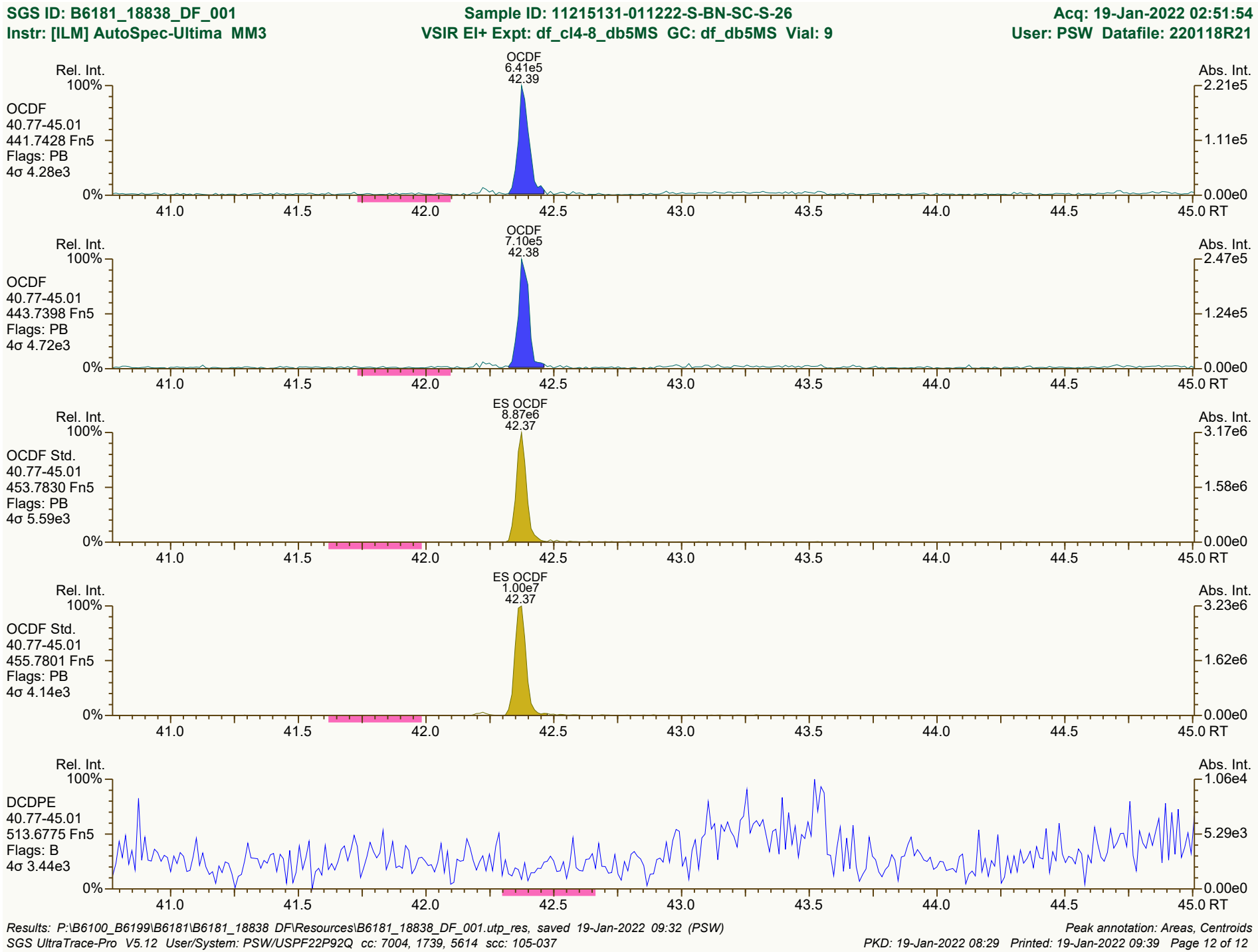
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2845 scc: 105-037 | *PKD: 19-Jan-2022 08:29 Printed: 19-Jan-2022 09:39 Page 8 of 12*



Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_001.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3175, 6062, 4582 scc: 105-037
PKD: 19-Jan-2022 08:29 Printed: 19-Jan-2022 09:39 Page 9 of 12


Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 4.43e3
123478F 2.02e6 35.48
124678/134678F 5.06e5 34.27
124689F 4.39e5 34.94
123678F 5.71e5 35.62
234678F 1.27e5* 36.28
123489F 1.76e5 37.28
Abs. Int.
6.46e5
3.23e5
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 3.88e3
123478F 1.67e6 35.48
123468F 1.22e5 34.06
124678/134678F 4.27e5 34.27
124689F 3.47e5 34.94
123678F 4.62e5 35.62
123489F 1.33e5 37.28
4.86e5
2.43e5
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PBM
4σ 9.77e3
ES 123678F 7.03e6* 35.61
CS 123469F 7.59e6 35.92
ES 123478F 6.02e6* 35.47
ES 234678F 4.78e6 36.27
ES 123789F 5.98e6 37.23
2.17e6
1.08e6
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PBM
4σ 7.08e3
CS 123469F 1.47e7 35.92
ES 123678F 1.40e7* 35.61
ES 123478F 1.16e7* 35.46
ES 234678F 8.96e6 36.27
ES 123789F 1.14e7 37.23
4.52e6
2.26e6
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 3.97e3
9.98e3
4.99e3


SGS ID: B6181_18838_DF_001
Sample ID: 11215131-011222-S-BN-SC-S-26
Acq: 19-Jan-2022 02:51:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: PSW Datafile: 220118R21
Rel. Int.
Abs. Int.
HpCDF
38.26-40.76
407.7818 Fn4
Flags: PBM
4σ 4.11e3
1234678F
1.03e6
38.85
1234689F
1.15e6
39.28
1234789F
1.83e5
40.22
4.64e5
2.32e5
0.00e0
HpCDF
38.26-40.76
409.7788 Fn4
Flags: PBM
4σ 4.17e3
1234678F
9.76e5
38.85
1234679F
4.14e4*
39.13
1234689F
1.14e6
39.28
1234789F
1.59e5
40.22
4.34e5
2.17e5
0.00e0
HpCDF Std.
38.26-40.76
417.8253 Fn4
Flags: PBM
4σ 9.61e3
ES 1234678F
4.60e6
38.84
CS 1234689F
5.54e6
39.27
ES 1234789F
3.96e6*
40.21
2.31e6
1.16e6
0.00e0
HpCDF Std.
38.26-40.76
419.8220 Fn4
Flags: PBM
4σ 5.81e3
ES 1234678F
1.02e7
38.84
CS 1234689F
1.19e7
39.27
ES 1234789F
8.69e6*
40.21
4.63e6
2.32e6
0.00e0
NCDPE
38.26-40.76
479.7165 Fn4
Flags: B
4σ 3.91e3
RT
6.83e4
3.41e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_001.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1635, 6409, 2799 scc: 105-037
PKD: 19-Jan-2022 08:29 Printed: 19-Jan-2022 09:39 Page 11 of 12


SGS ID: B6181_18838_DF_001
Sample ID: 11215131-011222-S-BN-SC-S-26
Acq: 19-Jan-2022 02:51:54
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: PSW Datafile: 220118R21
OCDF
6.41e5
42.39
Rel. Int.
Abs. Int.
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 4.28e3
OCDF
7.10e5
42.38
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 4.72e3
ES OCDF
8.87e6
42.37
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 5.59e3
ES OCDF
1.00e7
42.37
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 4.14e3
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 3.44e3
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_001.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7004, 1739, 5614 scc: 105-037
PKD: 19-Jan-2022 08:29 Printed: 19-Jan-2022 09:39 Page 12 of 12

Lab ID: B6181_18838_DF_002 **Acq'd:** 19 Jan 2022 03:39 PSW **Wt/Vol:** 13.20 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-27 **UTP:** 19-Jan-2022 09:32:44 PSW **J-level:** 0.379 pg/g **Split:** 1 **Checkcode:** 984-853-BXQ

Datafile: 220118R22 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.82		1.0008	1.0009	+0.2	1.71E+06	0.79	Y	1.34	6.89	7321.404	0.324
12378-PeCDD	32.48	J	1.0006	1.0005	-0.2	1.48E+05	1.71	Y	1.06	0.82	8965.459	0.428
123478-HxCDD	36.46	J	1.0004	1.0004	0	1.93E+05	1.29	Y	1.06	1.19	8742.875	0.408
123678-HxCDD	36.57	EMPC	1.0035	1.0034	-0.2	4.90E+05	1.55	N	1.08	2.82	8742.875	0.433
123789-HxCDD	36.86		1.0115	1.0115	0	5.06E+05	1.14	Y	1.02	3.06	8742.875	0.455
1234678-HpCDD	39.80		1.0003	1.0003	0	1.75E+07	1.02	Y	0.97	131	7643.859	0.361
OCDD	42.21		1.0003	1.0002	-0.3	1.12E+08	0.90	Y	1.07	1,280	10420.344	0.811
2378-TCDF	25.88		1.0008	1.0009	+0.2	1.77E+07	0.79	Y	0.96	66.1	8733.926	0.413
12378-PeCDF	30.97		1.0006	1.0006	0	1.01E+06	1.50	Y	0.95	3.94	8624.453	0.319
23478-PeCDF	32.14		1.0006	1.0007	+0.2	9.25E+05	1.50	Y	0.94	3.74	8624.453	0.323
123478-HxCDF	35.47		1.0005	1.0005	0	1.38E+06	1.18	Y	1.23	6.07	8357.461	0.308
123678-HxCDF	35.62	J	1.0005	1.0005	0	4.95E+05	1.29	Y	1.13	1.88	8357.461	0.283
234678-HxCDF	36.28	J	1.0004	1.0005	+0.2	2.06E+05	1.20	Y	1.15	1.3	8357.461	0.432
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	8357.461	0.357
1234678-HpCDF	38.84		1.0003	1.0003	0	2.53E+06	0.99	Y	1.36	11.2	9215.323	0.269
1234789-HpCDF	40.21	J EMPC	1.0002	1.0002	0	2.08E+05	1.32	N	1.30	1.24	9215.323	0.337
OCDF	42.38		1.0003	1.0002	-0.3	2.66E+06	0.87	Y	1.03	25.6	8564.027	0.563

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.79		1.0270	1.0272	+0.3	2.80E+07	0.78	Y	1.03	72.6
ES 12378-PeCDD	32.47		1.2424	1.2447	+4.5	2.58E+07	1.59	Y	1.03	66.9
ES 123478-HxCDD	36.44		0.9918	0.9917	-0.2	2.32E+07	1.31	Y	0.99	74.1
ES 123678-HxCDD	36.55		0.9948	0.9948	0	2.43E+07	1.29	Y	0.97	79.4
ES 123789-HxCDD	36.85		1.0028	1.0027	-0.2	2.47E+07	1.29	Y	1.12	69.7
ES 1234678-HpCDD	39.78		1.0820	1.0826	+1.4	2.08E+07	1.06	Y	0.99	66.5
ES OCDD	42.20		1.1479	1.1485	+1.5	2.48E+07	0.93	Y	0.78	50.8
ES 2378-TCDF	25.85		1.0611	1.0621	+1.6	4.23E+07	0.80	Y	1.08	67.8
ES 12378-PeCDF	30.95		1.2682	1.2713	+5.8	4.11E+07	1.59	Y	0.93	76.6
ES 23478-PeCDF	32.12		1.3157	1.3193	+6.9	3.98E+07	1.59	Y	0.92	75.1
ES 123478-HxCDF	35.46		0.9650	0.9649	-0.2	2.78E+07	0.52	Y	1.14	77.3
ES 123678-HxCDF	35.60		0.9689	0.9688	-0.2	3.52E+07	0.53	Y	1.30	86.3
ES 234678-HxCDF	36.26		0.9869	0.9868	-0.2	2.08E+07	0.54	Y	1.20	55.1
ES 123789-HxCDF	37.22		1.0130	1.0130	0	2.71E+07	0.52	Y	1.14	75.7
ES 1234678-HpCDF	38.83		1.0563	1.0567	+0.9	2.51E+07	0.47	Y	0.95	83.9
ES 1234789-HpCDF	40.20		1.0933	1.0940	+1.7	1.96E+07	0.46	Y	0.85	73.4
ES OCDF	42.37		1.1522	1.1530	+2.0	3.08E+07	0.90	Y	0.93	52.8

Lab ID: B6181_18838_DF_002 **Acq'd:** 19 Jan 2022 03:39 PSW **Wt/Vol:** 13.20 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-27 **UTP:** 19-Jan-2022 09:32:44 PSW **J-level:** 0.379 pg/g **Split:** 1 **Checkcode:** 984-853-BXQ

Datafile: 220118R22 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.08		-	-	-	3.73E+07	0.79	Y	-	-
JS 1234-TCDF	24.34		-	-	-	5.75E+07	0.80	Y	-	-
JS 123467-HxCDD	36.75		-	-	-	1.57E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	26.82		1.0278	1.0282	+0.6	1.22E+07	n/a	-	1.31	62.5
CS 12347-PeCDD	31.95		1.2228	1.2249	+4.0	2.40E+07	1.62	Y	0.89	72
CS 12346-PeCDF	30.40		1.2457	1.2487	+5.5	3.78E+07	1.57	Y	0.87	75.6
CS 123469-HxCDF	35.91		0.9774	0.9773	-0.2	2.99E+07	0.53	Y	1.09	87.1
CS 1234689-HpCDF	39.26		1.0680	1.0685	+1.2	2.45E+07	0.48	Y	0.86	90.1
~~SS 37Cl-2378-TCDD~~	~~26.82~~		~~1.0278~~	~~1.0282~~	~~+0.6~~	~~1.22E+07~~	~~n/a~~		~~1.26~~	~~86.6~~
~~SS 12347-PeCDD~~	~~31.95~~		~~1.2228~~	~~1.2249~~	~~+4.0~~	~~2.40E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~100~~
~~SS 12346-PeCDF~~	~~30.40~~		~~1.2457~~	~~1.2487~~	~~+5.5~~	~~3.78E+07~~	~~1.57~~	~~Y~~	~~0.93~~	~~98.6~~
~~SS 123469-HxCDF~~	~~35.91~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.99E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~101~~
~~SS 1234689-HpCDF~~	~~39.26~~		~~1.0680~~	~~1.0685~~	~~+1.2~~	~~2.45E+07~~	~~0.48~~	~~Y~~	~~0.91~~	~~107~~

Totals	Conc	EMPC
Total TCDD	12.1	13.6
Total PeCDD	2.95	6.3
Total HxCDD	53.9	60.7
Total HpCDD	361	361
Total Tetra-Octa Dioxins	1710	1720
Total TCDF	129	132
Total PeCDF	17.7	18.3
Total HxCDF	22.5	23.1
Total HpCDF	27	28.3
Total Tetra-Octa Furans	222	227
Total Tetra-Octa Dioxins & Furans	1930	1950

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.779	0.79
Response	1.72E+06	1.71E+06

Lab ID: B6181_18838_DF_002 **Acq'd: 19 Jan 2022 03:39 PSW** **Wt/Vol: 13.20 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-011222-S-BN-SC-S-27 **UTP: 19-Jan-2022 09:32:44 PSW** **J-level: 0.379 pg/g** **Split: 1** **Checkcode: 984-853-BXQ**

Datafile: 220118R22 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8514						1.34		7321.404	0.324
1379-TCDD	NotFnd		0.8665						1.34		7321.404	0.324
1369-TCDD	NotFnd		0.8845						1.34		7321.404	0.324
1469-TCDD	24.54		0.9165	0.9160	-0.7	1.10E+06	0.78	Y	1.34	4.42	7321.404	0.324
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		7321.404	0.324
1378-TCDD	NotFnd		0.9343						1.34		7321.404	0.324
1268-TCDD	NotFnd		0.9424						1.34		7321.404	0.324
1478-TCDD	NotFnd		0.9525						1.34		7321.404	0.324
1279-TCDD	NotFnd		0.9592						1.34		7321.404	0.324
1234/1269-TCDD	26.08		0.9735	0.9735	0	1.88E+05	0.82	Y	1.34	0.755	7321.404	0.324
1236-TCDD	NotFnd		0.9790						1.34		7321.404	0.324
1237/1238-TCDD	26.52	EMPC	0.9893	0.9896	+0.5	1.04E+05	0.50	N	1.34	0.42	7321.404	0.324
1239-TCDD	NotFnd		0.9947						1.34		7321.404	0.324
2378-TCDD	**26.82**		**1.0008**	1.0009	**+0.2**	1.71E+06	0.79	Y	**1.34**	**6.89**	**7321.404**	**0.324**
1278-TCDD	27.18	EMPC	1.0140	1.0145	+0.8	2.81E+05	0.90	N	1.34	1.13	7321.404	0.324
1267-TCDD	NotFnd		1.0196						1.34		7321.404	0.324
1289-TCDD	NotFnd		1.0396						1.34		7321.404	0.324
12479/12468-PeCDD	29.88	J	0.9208	0.9204	-0.7	2.21E+05	1.64	Y	1.06	1.22	8965.459	0.428
12469-PeCDD	30.44	EMPC	0.9381	0.9376	-0.9	6.05E+05	1.31	N	1.06	3.35	8965.459	0.428
12368-PeCDD	NotFnd		0.9557						1.06		8965.459	0.428
12478-PeCDD	NotFnd		0.9617						1.06		8965.459	0.428
12379-PeCDD	NotFnd		0.9648						1.06		8965.459	0.428
12369/12467/12489-PeCDD	31.60	J	0.9732	0.9732	0	1.65E+05	1.78	Y	1.06	0.912	8965.459	0.428
12346/12347-PeCDD	NotFnd		0.9849						1.06		8965.459	0.428
12378-PeCDD	32.48	J	**1.0006**	**1.0005**	**-0.2**	**1.48E+05**	**1.71**	**Y**	**1.06**	**0.82**	**8965.459**	**0.428**
12367-PeCDD	NotFnd		1.0037						1.06		8965.459	0.428
12389-PeCDD	NotFnd		1.0145						1.06		8965.459	0.428
124679/124689-HxCDD	34.74		0.9534	0.9533	-0.2	5.68E+06	1.23	Y	1.05	34	8742.875	0.432
123468-HxCDD	35.40	J EMPC	0.9715	0.9714	-0.2	2.26E+05	1.46	N	1.05	1.35	8742.875	0.432
123679/123689-HxCDD	35.70		0.9797	0.9795	-0.4	2.60E+06	1.26	Y	1.05	15.6	8742.875	0.432
123469-HxCDD	35.82	J EMPC	0.9834	0.9830	-0.9	3.15E+05	1.47	N	1.05	1.89	8742.875	0.432
123478-HxCDD	36.46	J	**1.0004**	**1.0004**	**0**	**1.93E+05**	**1.29**	**Y**	1.06	**1.19**	**8742.875**	**0.408**
123678-HxCDD	36.57	EMPC	**1.0035**	**1.0034**	**-0.2**	**4.90E+05**	**1.55**	**N**	1.08	**2.82**	**8742.875**	**0.433**
123467-HxCDD	36.76	J EMPC	1.0087	1.0087	0	1.35E+05	1.73	N	1.05	0.809	8742.875	0.432
123789-HxCDD	36.86		**1.0115**	**1.0115**	**0**	**5.06E+05**	**1.14**	**Y**	1.02	**3.06**	**8742.875**	**0.455**

Lab ID: B6181_18838_DF_002 **Acq'd: 19 Jan 2022 03:39 PSW** **Wt/Vol: 13.20 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-011222-S-BN-SC-S-27 **UTP: 19-Jan-2022 09:32:44 PSW** **J-level: 0.379 pg/g** **Split: 1** **Checkcode: 984-853-BXQ**

Datafile: 220118R22 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

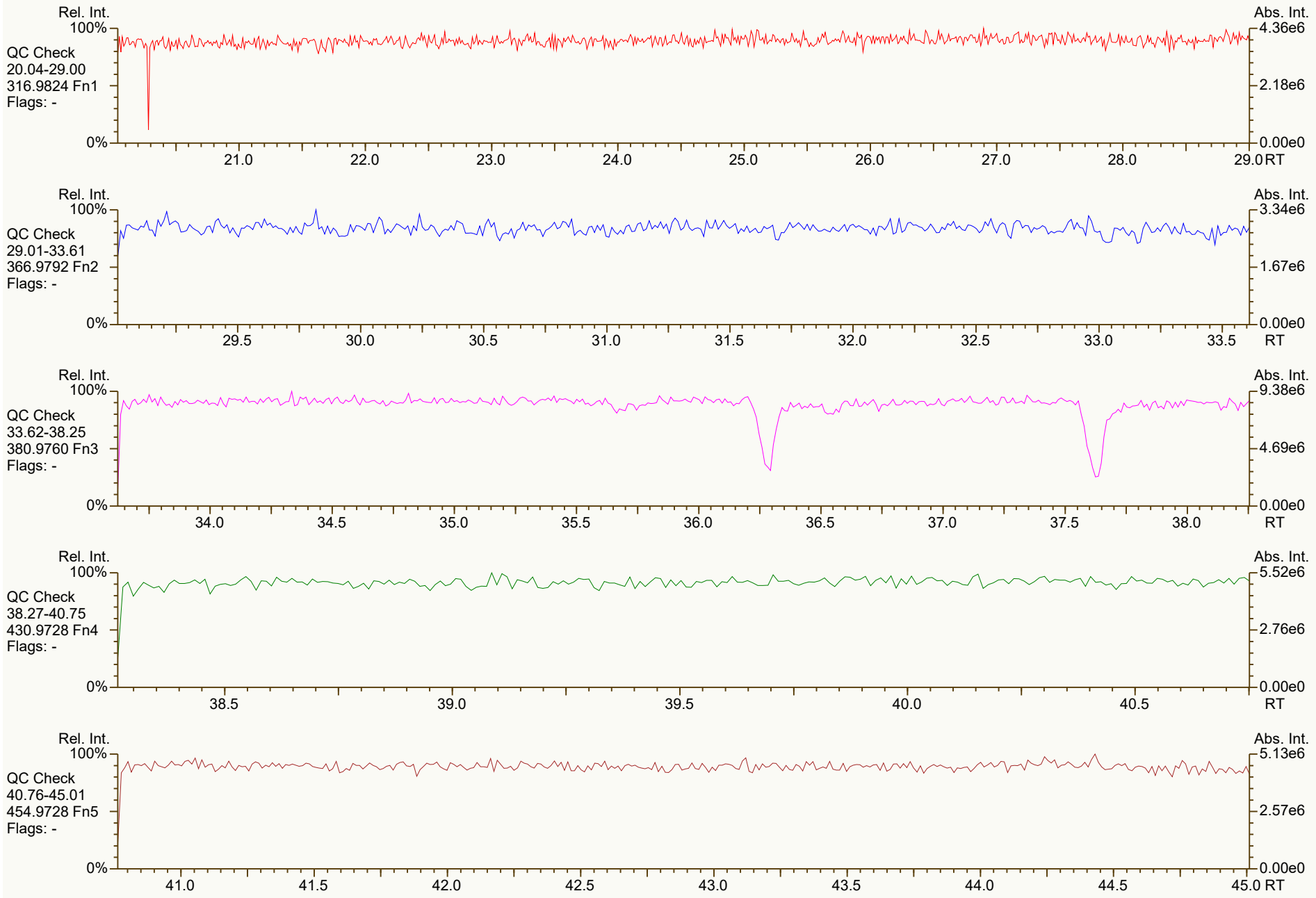
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.13		0.9835	0.9835	0	3.07E+07	1.04	Y	0.97	230	7643.859	0.361
1234678-HpCDD	**39.80**		**1.0003**	**1.0003**	**0**	**1.75E+07**	**1.02**	**Y**	**0.97**	**131**	**7643.859**	**0.361**
OCDD	**42.21**		**1.0003**	**1.0002**	**-0.3**	**1.12E+08**	**0.90**	**Y**	**1.07**	**1,280**	**10420.344**	**0.811**
OCDD-a	42.21		1.0002	1.0002	0	6.80E+06	2.71	Y	0.07	1,260	10852.232	13.7
1368-TCDF	NotFnd		0.7966						0.96		8733.926	0.413
1468-TCDF	NotFnd		0.8179						0.96		8733.926	0.413
2468-TCDF	NotFnd		0.8432						0.96		8733.926	0.413
1346/1246-TCDF	22.17		0.8572	0.8574	+0.3	1.18E+05	0.87	Y	0.96	0.439	8733.926	0.413
1347/1378/1247-TCDF	22.32		0.8641	0.8633	-1.1	4.59E+05	0.88	Y	0.96	1.71	8733.926	0.413
1348-TCDF	NotFnd		0.8764						0.96		8733.926	0.413
1248/1367/1379-TCDF	NotFnd		0.8820						0.96		8733.926	0.413
1268-TCDF	23.20		0.8986	0.8973	-1.8	5.12E+05	0.86	Y	0.96	1.91	8733.926	0.413
1467-TCDF	NotFnd		0.9044						0.96		8733.926	0.413
1478-TCDF	23.54		0.9117	0.9107	-1.4	7.52E+05	0.80	Y	0.96	2.81	8733.926	0.413
1369/1237-TCDF	23.99	EMPC	0.9276	0.9277	+0.1	3.49E+05	1.01	N	0.96	1.3	8733.926	0.413
2467-TCDF	NotFnd		0.9334						0.96		8733.926	0.413
2368-TCDF	24.27		0.9400	0.9388	-1.7	7.79E+05	0.73	Y	0.96	2.91	8733.926	0.413
1238/1234/1678/1469/1236-TCDF	24.37		0.9436	0.9424	-1.8	1.32E+06	0.86	Y	0.96	4.92	8733.926	0.413
1278-TCDF	24.88		0.9628	0.9624	-0.6	7.22E+06	0.79	Y	0.96	27	8733.926	0.413
1349-TCDF	NotFnd		0.9678						0.96		8733.926	0.413
1267-TCDF	25.19		0.9745	0.9743	-0.3	6.97E+05	0.76	Y	0.96	2.6	8733.926	0.413
2346/1249-TCDF	NotFnd		0.9823						0.96		8733.926	0.413
2347/1279-TCDF	25.63		0.9916	0.9912	-0.6	3.05E+05	0.82	Y	0.96	1.14	8733.926	0.413
2348-TCDF	25.76		0.9964	0.9964	0	1.25E+06	0.83	Y	0.96	4.68	8733.926	0.413
2378-TCDF	**25.88**		**1.0008**	**1.0009**	**+0.2**	**1.77E+07**	**0.79**	**Y**	**0.96**	**66.1**	**8733.926**	**0.413**
2367/3467-TCDF	26.26		1.0161	1.0158	-0.5	2.06E+06	0.76	Y	0.96	7.68	8733.926	0.413
1269-TCDF	26.54	EMPC	1.0258	1.0263	+0.8	4.60E+05	0.92	N	0.96	1.72	8733.926	0.413
1239-TCDF	NotFnd		1.0370						0.96		8733.926	0.413
1289-TCDF	28.04		1.0833	1.0847	+2.4	1.43E+06	0.82	Y	0.96	5.35	8733.926	0.413
13468/12468-PeCDF	28.02		0.9054	0.9054	0	8.47E+05	1.51	Y	0.94	3.36	9175.708	0.342
13678/13467/12467-PeCDF	29.65	J EMPC	0.9578	0.9579	+0.2	1.53E+05	1.30	N	0.94	0.608	8624.453	0.321
12368/13478/12478-PeCDF	29.82		0.9632	0.9635	+0.5	9.32E+05	1.48	Y	0.94	3.7	8624.453	0.321
14678-PeCDF	29.90	J	0.9666	0.9660	-1.1	9.52E+04	1.66	Y	0.94	0.378	8624.453	0.321
13479-PeCDF	NotFnd		0.9696						0.94		8624.453	0.321
13469/12479-PeCDF	NotFnd		0.9784						0.94		8624.453	0.321
12346-PeCDF	NotFnd		0.9828						0.94		8624.453	0.321

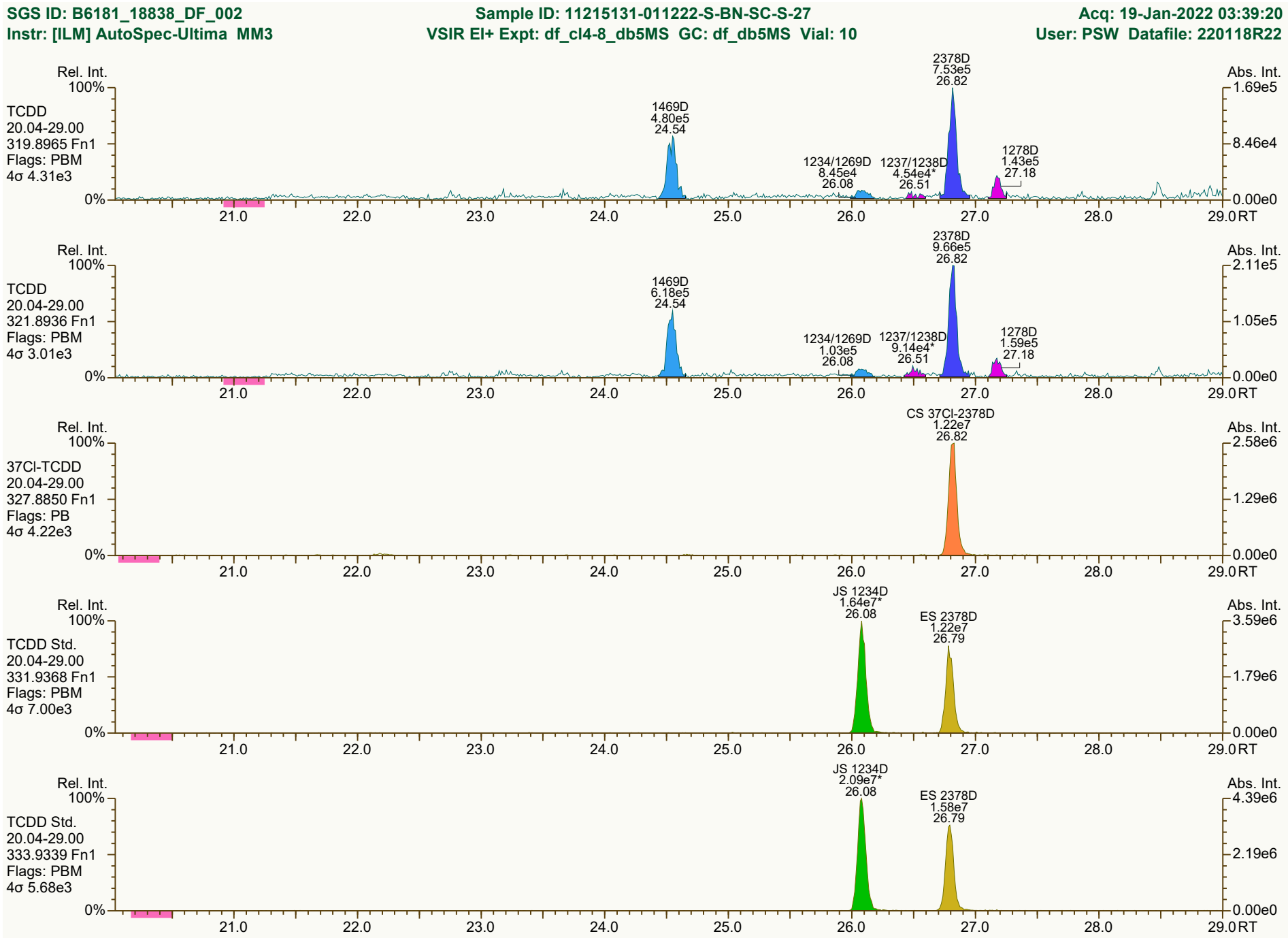
Lab ID: B6181_18838_DF_002 **Acq'd: 19 Jan 2022 03:39 PSW** **Wt/Vol: 13.20 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-011222-S-BN-SC-S-27 **UTP: 19-Jan-2022 09:32:44 PSW** **J-level: 0.379 pg/g** **Split: 1** **Checkcode: 984-853-BXQ**

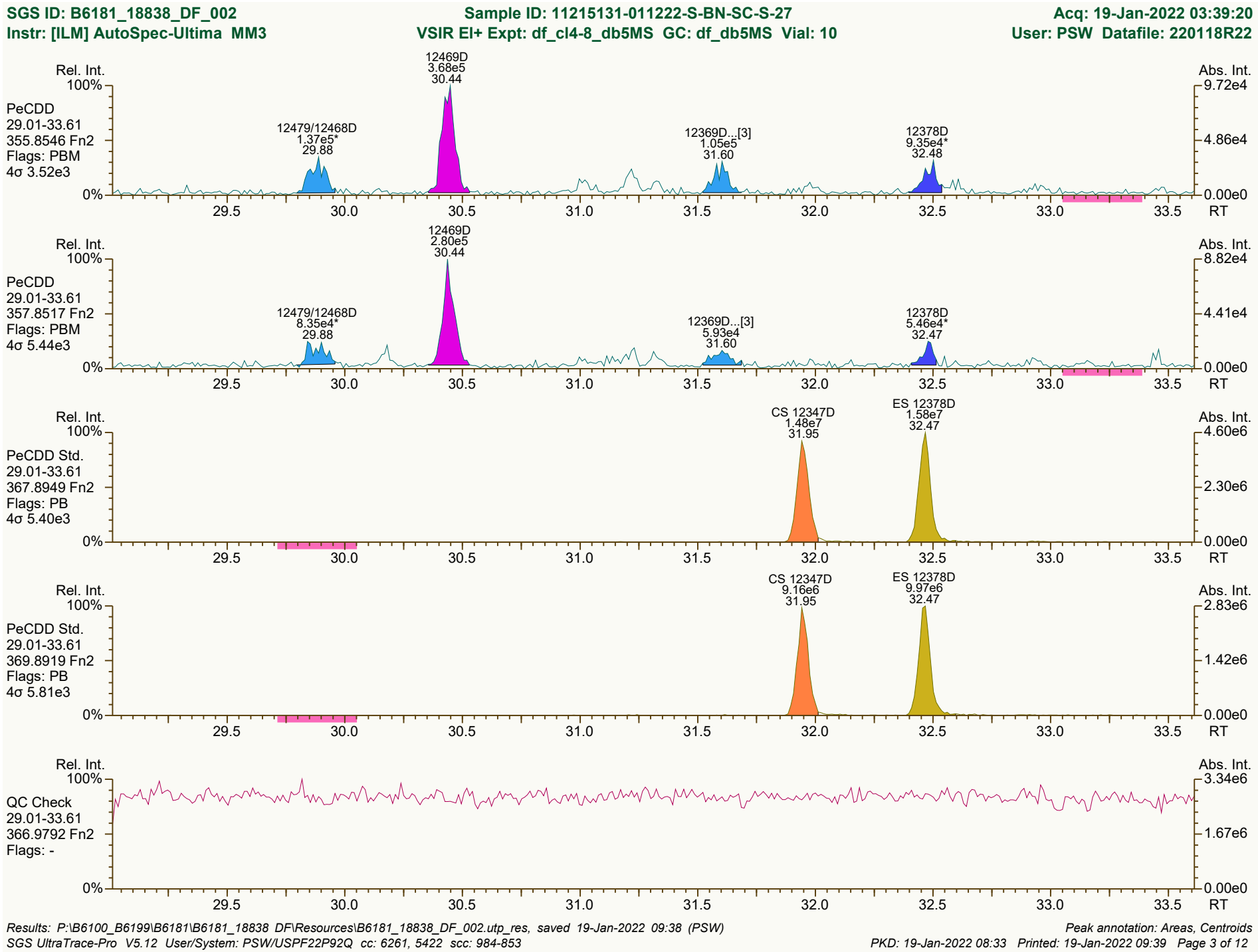
Datafile: 220118R22 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

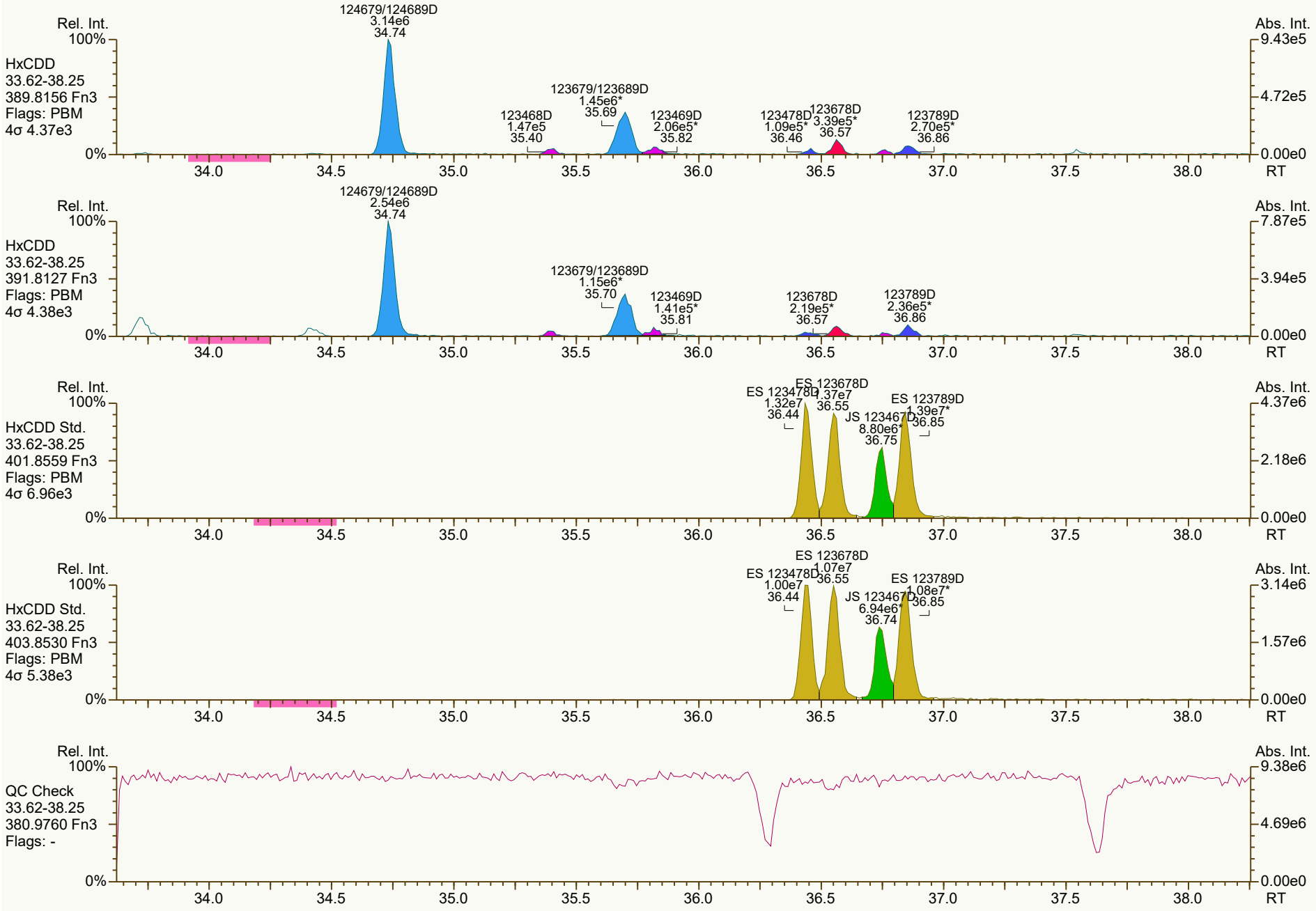
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.51	J	0.9860	0.9859	-0.2	1.56E+05	1.46	Y	0.94	0.619	8624.453	0.321
12347-PeCDF	NotFnd		0.9884						0.94		8624.453	0.321
12348-PeCDF	30.75	J	0.9937	0.9937	0	1.14E+05	1.75	Y	0.94	0.454	8624.453	0.321
12378-PeCDF	**30.97**		**1.0006**	**1.0006**	**0**	**1.01E+06**	**1.50**	**Y**	**0.95**	**3.94**	**8624.453**	**0.319**
12678/12367-PeCDF	31.27	J	1.0098	1.0105	+1.3	3.76E+05	1.65	Y	0.94	1.49	8624.453	0.321
12379-PeCDF	NotFnd		1.0155						0.94		8624.453	0.321
12679-PeCDF	NotFnd		0.9922						0.94		8624.453	0.321
23467/12369-PeCDF	NotFnd		0.9964						0.94		8624.453	0.321
23478-PeCDF	**32.14**		**1.0006**	**1.0007**	**+0.2**	**9.25E+05**	**1.50**	**Y**	**0.94**	**3.74**	**8624.453**	**0.323**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		8624.453	0.321
12349-PeCDF	NotFnd		1.0105						0.94		8624.453	0.321
12389-PeCDF	NotFnd		1.0346						0.94		8624.453	0.321
123468-HxCDF	34.06	J	0.9609	0.9607	-0.4	3.86E+05	1.30	Y	1.16	1.81	8357.461	0.335
124678/134678-HxCDF	34.27		0.9666	0.9664	-0.4	1.53E+06	1.34	Y	1.16	7.16	8357.461	0.335
134679-HxCDF	NotFnd		0.9731						1.16		8357.461	0.335
124679-HxCDF	34.71	J EMPC	0.9788	0.9788	0	5.76E+04	2.32	N	1.16	0.271	8357.461	0.335
124689-HxCDF	34.93		0.9852	0.9851	-0.2	9.01E+05	1.28	Y	1.16	4.23	8357.461	0.335
123467-HxCDF	35.35	J EMPC	0.9971	0.9968	-0.6	7.56E+04	0.95	N	1.16	0.355	8357.461	0.335
123478-HxCDF	**35.47**		**1.0005**	**1.0005**	**0**	**1.38E+06**	**1.18**	**Y**	**1.23**	**6.07**	**8357.461**	**0.308**
123678-HxCDF	**35.62**	J	**1.0005**	**1.0005**	**0**	**4.95E+05**	**1.29**	**Y**	**1.13**	**1.88**	**8357.461**	**0.283**
123479-HxCDF	NotFnd		1.0050						1.16		8357.461	0.335
123469-HxCDF	NotFnd		1.0092						1.16		8357.461	0.335
123679-HxCDF	NotFnd		0.9942						1.16		8357.461	0.335
234678-HxCDF	**36.28**	J	**1.0004**	**1.0005**	**+0.2**	**2.06E+05**	**1.20**	**Y**	**1.15**	**1.3**	**8357.461**	**0.432**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8357.461	0.335
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**8357.461**	**0.357**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		8357.461	0.335
1234678-HpCDF	**38.84**		**1.0003**	**1.0003**	**0**	**2.53E+06**	**0.99**	**Y**	**1.36**	**11.2**	**9215.323**	**0.269**
1234679-HpCDF	39.12	**J**	1.0074	1.0076	+0.5	1.22E+05	1.07	Y	1.33	0.622	9215.323	0.299
1234689-HpCDF	39.27		1.0112	1.0114	+0.5	2.97E+06	1.08	Y	1.33	15.2	9215.323	0.299
1234789-HpCDF	**40.21**	**J EMPC**	**1.0002**	**1.0002**	**0**	**2.08E+05**	**1.32**	**N**	**1.30**	**1.24**	**9215.323**	**0.337**
OCDF	**42.38**		**1.0003**	**1.0002**	**-0.3**	**2.66E+06**	**0.87**	**Y**	**1.03**	**25.6**	**8564.027**	**0.563**
OCDF-a	NotFnd		1.0002						0.06		10312.45	11.7

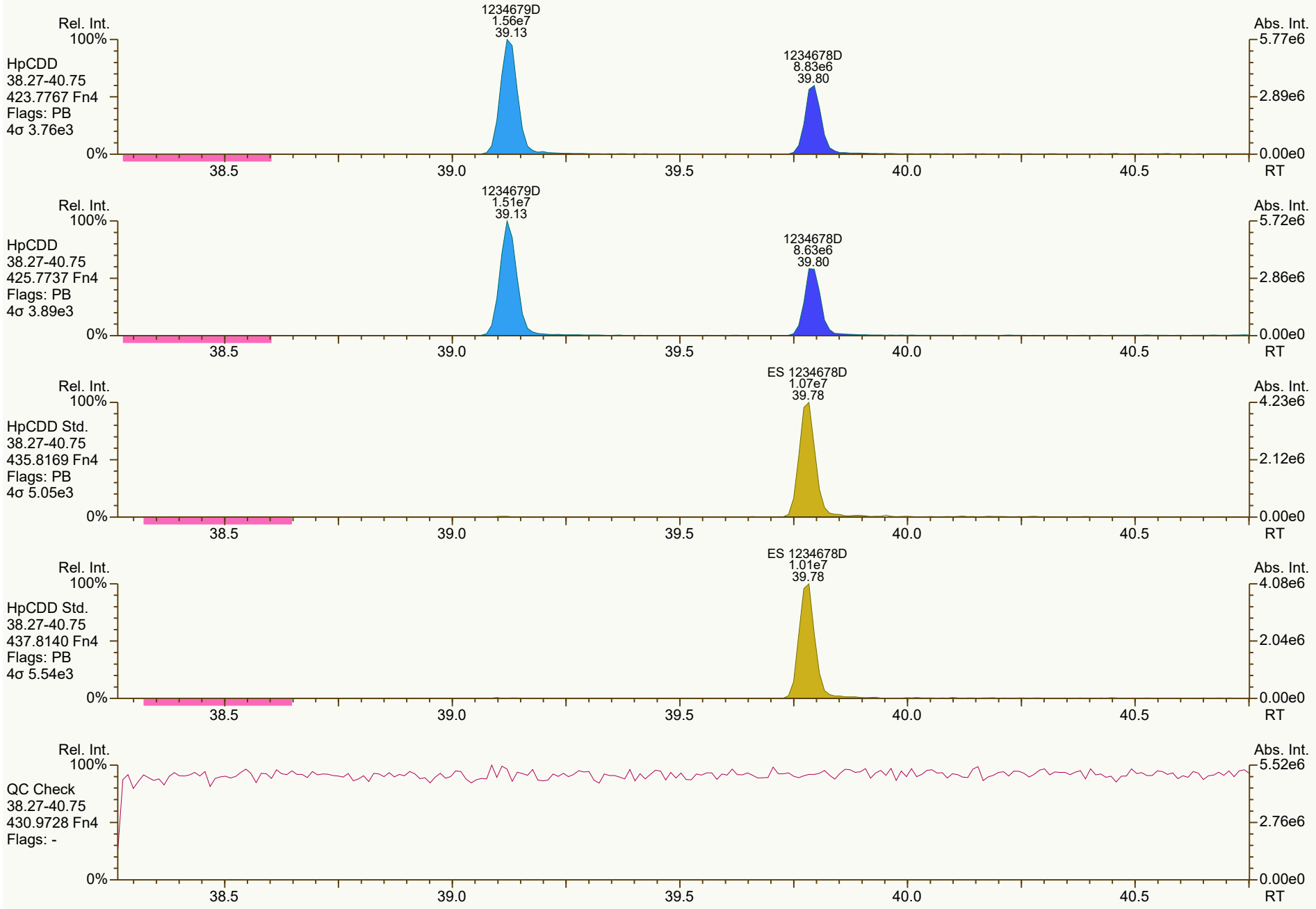

Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.36e6
2.18e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.34e6
1.67e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.38e6
4.69e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.52e6
2.76e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.13e6
2.57e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



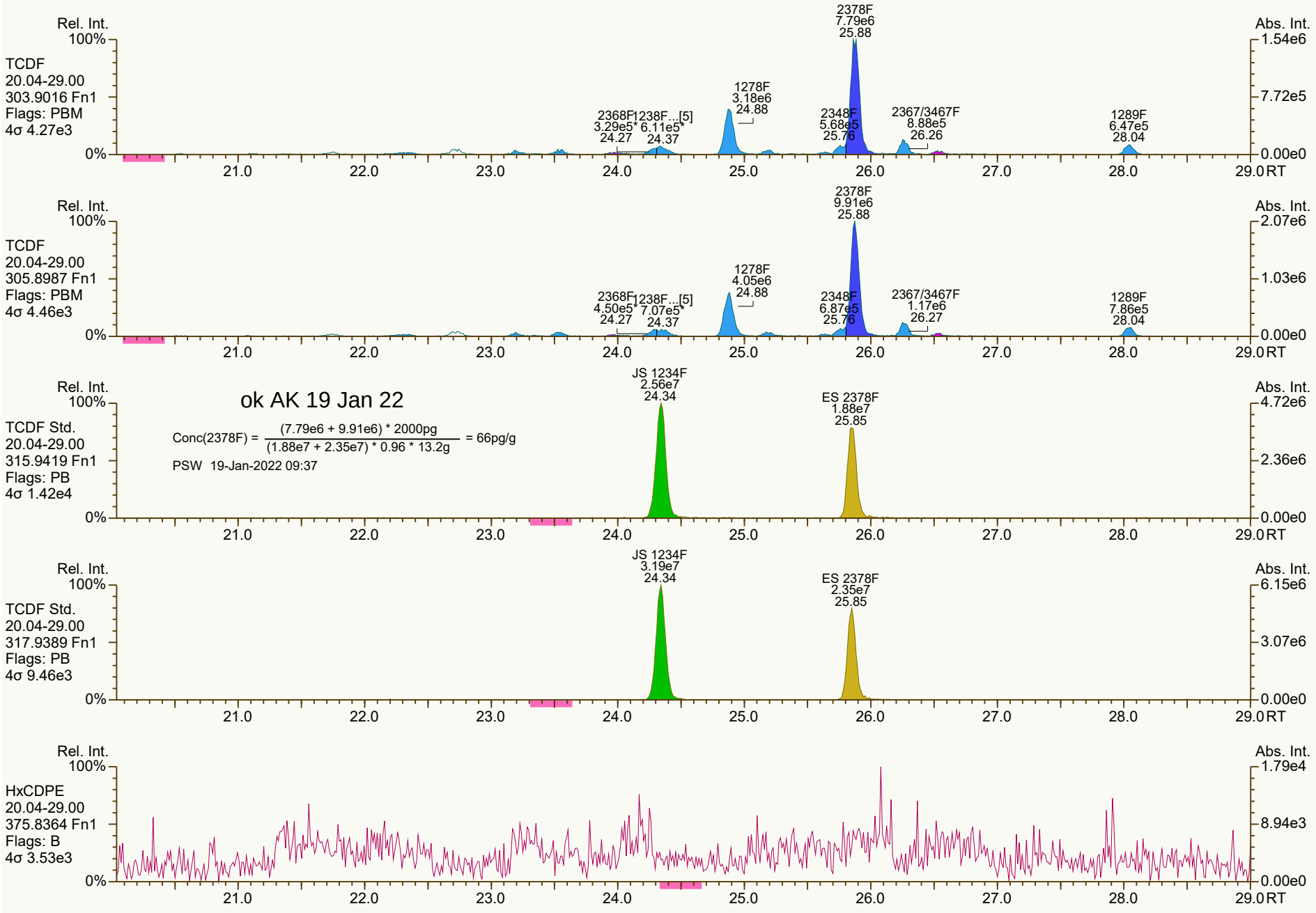
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_002.utp_res, saved 19-Jan-2022 09:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2579, 2961, 7552 scc: 984-853
PKD: 19-Jan-2022 08:33 Printed: 19-Jan-2022 09:39 Page 2 of 12


SGS ID: B6181_18838_DF_002
Sample ID: 11215131-011222-S-BN-SC-S-27
Acq: 19-Jan-2022 03:39:20
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: PSW Datafile: 220118R22
Rel. Int.
Abs. Int.
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 3.52e3
12469D
3.68e5
30.44
12479/12468D
1.37e5*
29.88
12369D...[3]
1.05e5
31.60
12378D
9.35e4*
32.48
9.72e4
4.86e4
0.00e0
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 5.44e3
12469D
2.80e5
30.44
12479/12468D
8.35e4*
29.88
12369D...[3]
5.93e4
31.60
12378D
5.46e4*
32.47
8.82e4
4.41e4
0.00e0
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 5.40e3
CS 12347D
1.48e7
31.95
ES 12378D
1.58e7
32.47
4.60e6
2.30e6
0.00e0
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 5.81e3
CS 12347D
9.16e6
31.95
ES 12378D
9.97e6
32.47
2.83e6
1.42e6
0.00e0
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
3.34e6
1.67e6
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_002.utp_res, saved 19-Jan-2022 09:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6261, 5422 scc: 984-853
PKD: 19-Jan-2022 08:33 Printed: 19-Jan-2022 09:39 Page 3 of 12


Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 4.37e3
124679/124689D
3.14e6
34.74
123679/123689D
1.45e6*
35.69
123468D
1.47e5
35.40
123469D
2.06e5*
35.82
123478D
1.09e5*
36.46
123678D
3.39e5*
36.57
123789D
2.70e5*
36.86
Abs. Int.
9.43e5
4.72e5
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.38e3
124679/124689D
2.54e6
34.74
123679/123689D
1.15e6*
35.70
123469D
1.41e5*
35.81
123678D
2.19e5*
36.57
123789D
2.36e5*
36.86
Abs. Int.
7.87e5
3.94e5
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 6.96e3
ES 123678D
1.37e7
36.55
ES 123478D
1.32e7
36.44
ES 123789D
1.39e7*
36.85
JS 123467D
8.80e6*
36.75
Abs. Int.
4.37e6
2.18e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 5.38e3
ES 123678D
1.07e7
36.55
ES 123478D
1.00e7
36.44
ES 123789D
1.08e7*
36.85
JS 123467D
6.94e6*
36.74
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
Abs. Int.
9.38e6
4.69e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 3.76e3
1234679D
1.56e7
39.13
1234678D
8.83e6
39.80
Abs. Int.
5.77e6
2.89e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.89e3
1234679D
1.51e7
39.13
1234678D
8.63e6
39.80
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 5.05e3
ES 1234678D
1.07e7
39.78
Abs. Int.
4.23e6
2.12e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 5.54e3
ES 1234678D
1.01e7
39.78
Abs. Int.
4.08e6
2.04e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
Abs. Int.
5.52e6
2.76e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT


OCDD
5.30e7
42.21
Rel. Int.
100%
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 5.13e3
0%
Abs. Int.
1.90e7
9.49e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.91e7
42.21
Rel. Int.
100%
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 5.30e3
0%
Abs. Int.
2.11e7
1.06e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.19e7
42.20
Rel. Int.
100%
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 5.80e3
0%
Abs. Int.
4.38e6
2.19e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.29e7
42.20
Rel. Int.
100%
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 5.07e3
0%
Abs. Int.
4.36e6
2.18e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.13e6
2.57e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 4.27e3
0%
2368F 3.29e5* 24.27
1238F...[5] 6.11e5* 24.37
1278F 3.18e6 24.88
2378F 7.79e6 25.88
2348F 5.68e5 25.76
2367/3467F 8.88e5 26.26
1289F 6.47e5 28.04
Abs. Int.
1.54e6
7.72e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 4.46e3
0%
2368F 4.50e5* 24.27
1238F...[5] 7.07e5* 24.37
1278F 4.05e6 24.88
2378F 9.91e6 25.88
2348F 6.87e5 25.76
2367/3467F 1.17e6 26.27
1289F 7.86e5 28.04
Abs. Int.
2.07e6
1.03e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.42e4
0%
ok AK 19 Jan 22
Conc(2378F) = (7.79e6 + 9.91e6) * 2000pg / (1.88e7 + 2.35e7) * 0.96 * 13.2g = 66pg/g
PSW 19-Jan-2022 09:37
JS 1234F 2.56e7 24.34
ES 2378F 1.88e7 25.85
Abs. Int.
4.72e6
2.36e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 9.46e3
0%
JS 1234F 3.19e7 24.34
ES 2378F 2.35e7 25.85
Abs. Int.
6.15e6
3.07e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 3.53e3
0%
Abs. Int.
1.79e4
8.94e3
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT

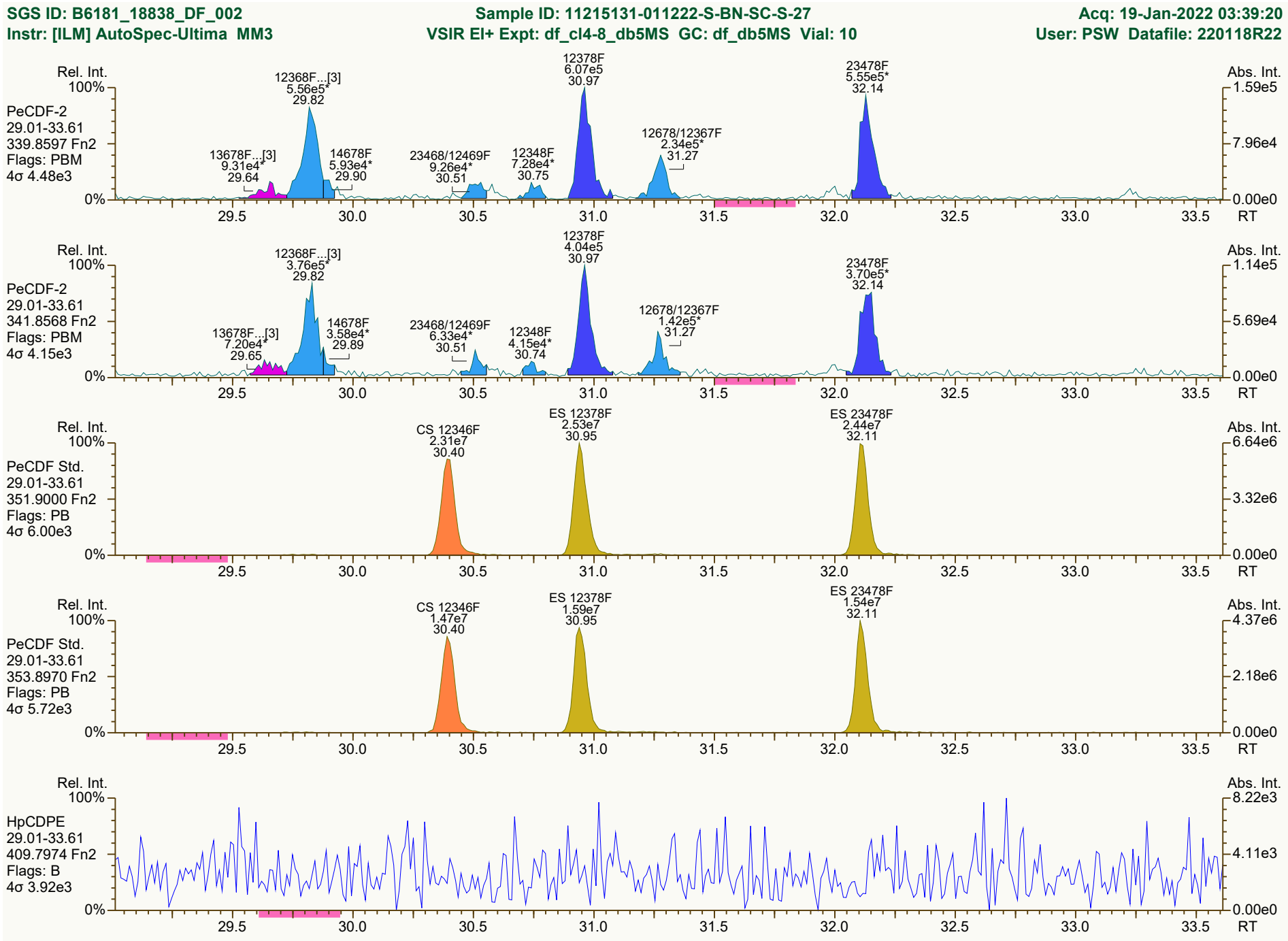
SGS ID: B6181_18838_DF_002 | Sample ID: 11215131-011222-S-BN-SC-S-27 | Acq: 19-Jan-2022 03:39:20

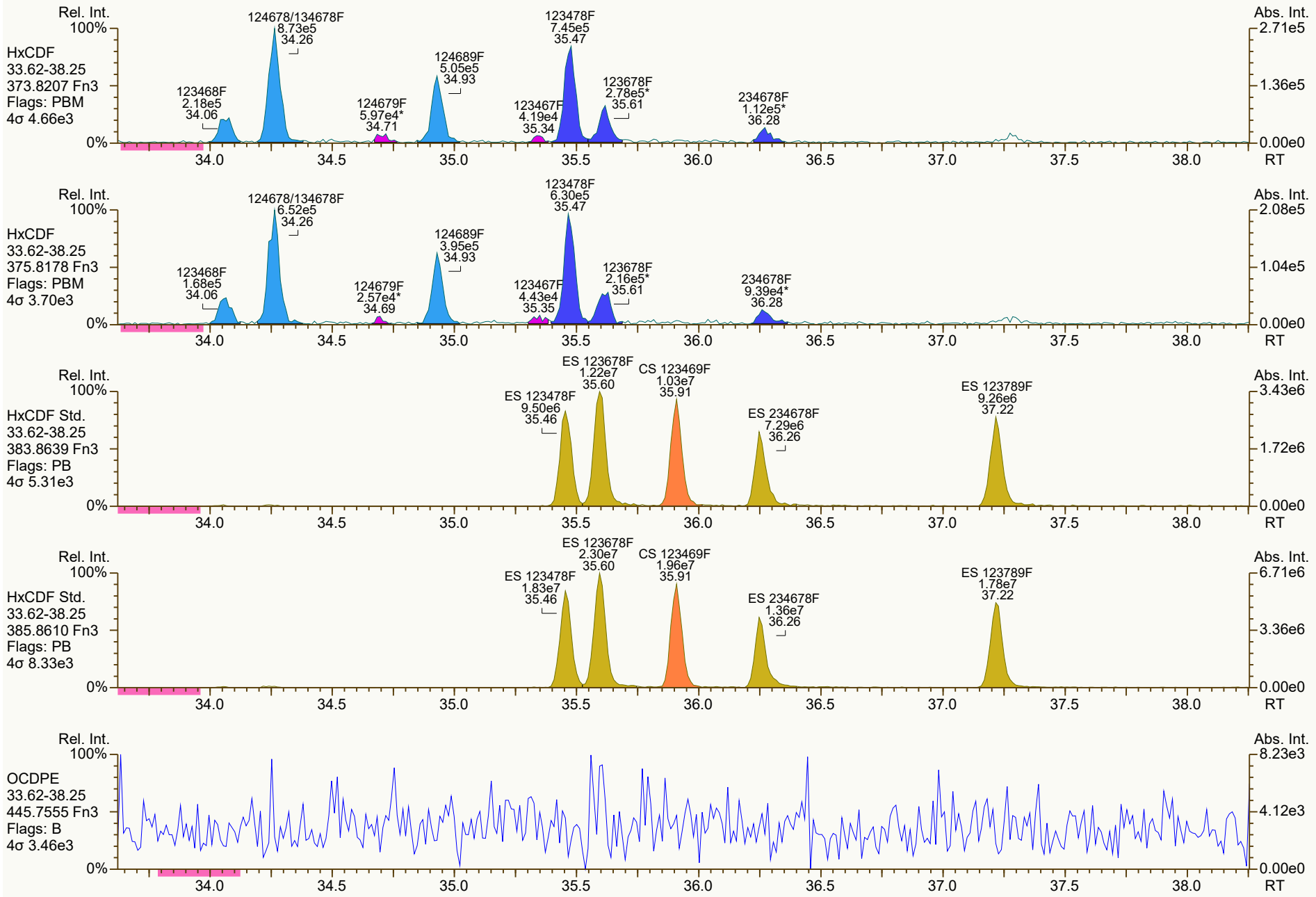
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10 | User: PSW Datafile: 220118R22

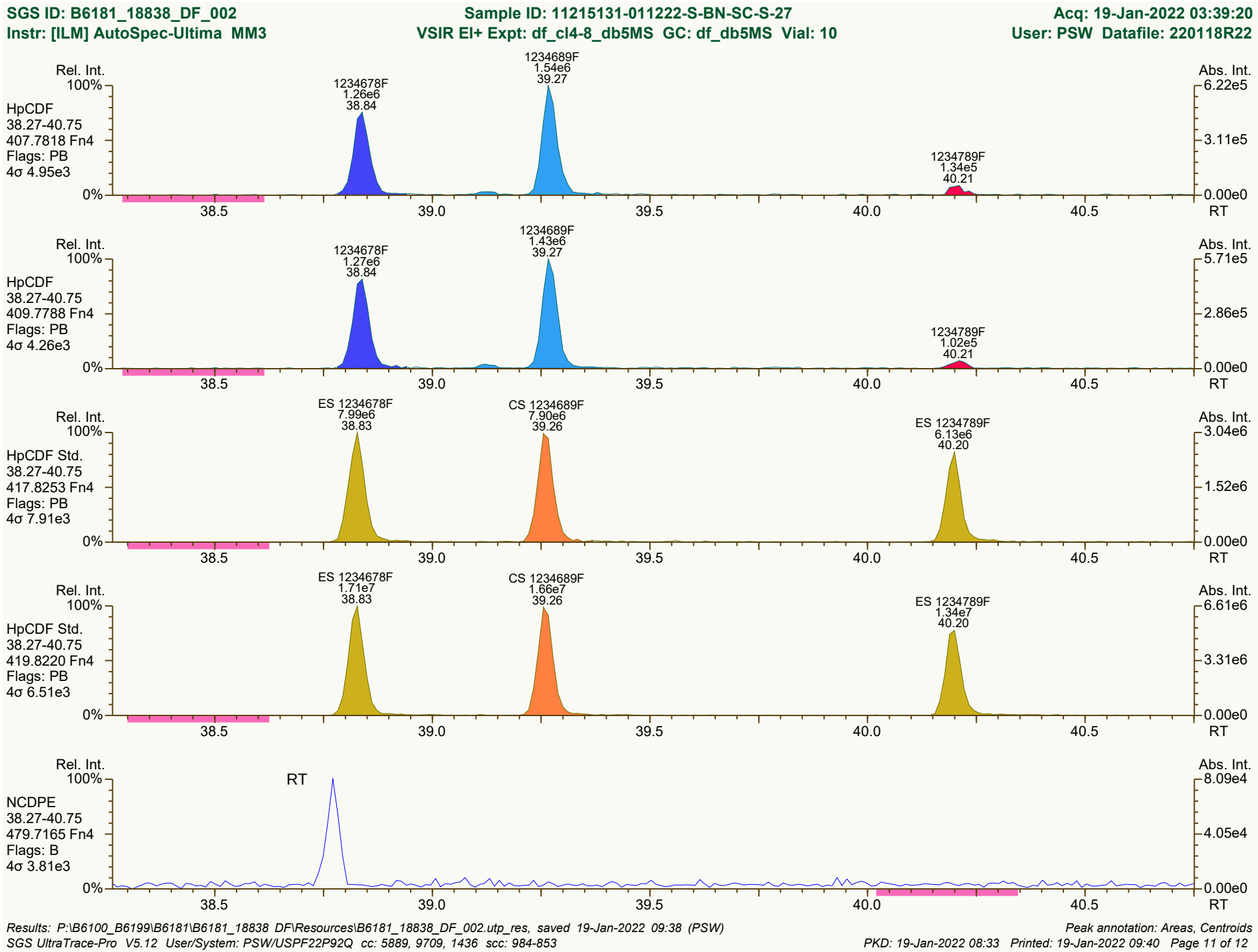


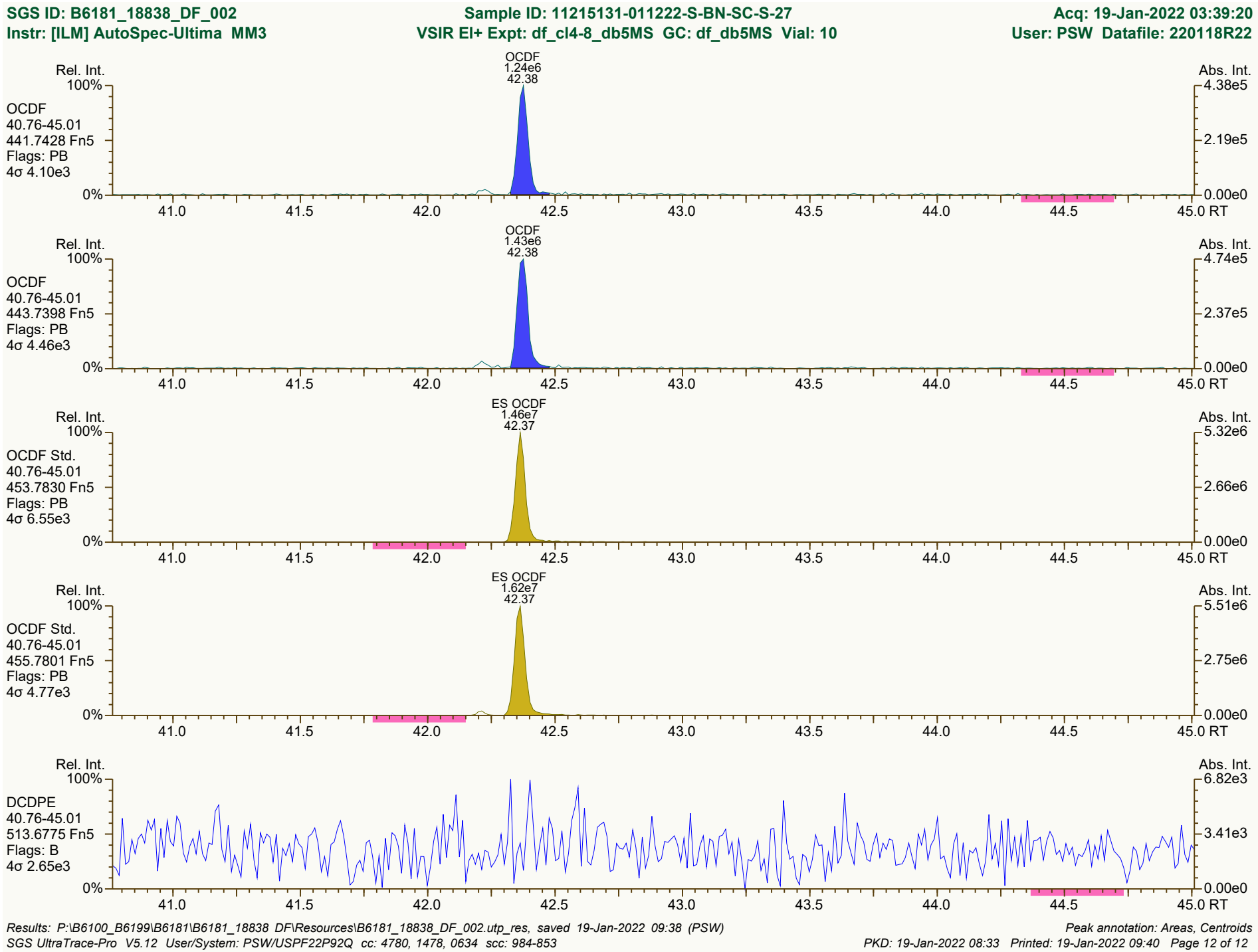
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_002.utp_res, saved 19-Jan-2022 09:38 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7292 scc: 984-853 | *PKD: 19-Jan-2022 08:33 Printed: 19-Jan-2022 09:40 Page 8 of 12*


SGS ID: B6181_18838_DF_002
Sample ID: 11215131-011222-S-BN-SC-S-27
Acq: 19-Jan-2022 03:39:20
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: PSW Datafile: 220118R22
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 4.48e3
12368F...[3] 5.56e5* 29.82
13678F...[3] 9.31e4* 29.64
14678F 5.93e4* 29.90
23468/12469F 9.26e4* 30.51
12348F 7.28e4* 30.75
12378F 6.07e5 30.97
12678/12367F 2.34e5* 31.27
23478F 5.55e5* 32.14
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.15e3
12368F...[3] 3.76e5* 29.82
13678F...[3] 7.20e4* 29.65
14678F 3.58e4* 29.89
23468/12469F 6.33e4* 30.51
12348F 4.15e4* 30.74
12378F 4.04e5 30.97
12678/12367F 1.42e5* 31.27
23478F 3.70e5* 32.14
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 6.00e3
CS 12346F 2.31e7 30.40
ES 12378F 2.53e7 30.95
ES 23478F 2.44e7 32.11
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 5.72e3
CS 12346F 1.47e7 30.40
ES 12378F 1.59e7 30.95
ES 23478F 1.54e7 32.11
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.92e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_002.utp_res, saved 19-Jan-2022 09:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5786, 0653, 0488 scc: 984-853
PKD: 19-Jan-2022 08:33 Printed: 19-Jan-2022 09:40 Page 9 of 12


Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 4.66e3
123468F 2.18e5 34.06
124678/134678F 8.73e5 34.26
124679F 5.97e4* 34.71
124689F 5.05e5 34.93
123467F 4.19e4 35.34
123478F 7.45e5 35.47
123678F 2.78e5* 35.61
234678F 1.12e5* 36.28
Abs. Int.
2.71e5
1.36e5
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 3.70e3
123468F 1.68e5 34.06
124678/134678F 6.52e5 34.26
124679F 2.57e4* 34.69
124689F 3.95e5 34.93
123467F 4.43e4 35.35
123478F 6.30e5 35.47
123678F 2.16e5* 35.61
234678F 9.39e4* 36.28
Abs. Int.
2.08e5
1.04e5
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 5.31e3
ES 123478F 9.50e6 35.46
ES 123678F 1.22e7 35.60
CS 123469F 1.03e7 35.91
ES 234678F 7.29e6 36.26
ES 123789F 9.26e6 37.22
Abs. Int.
3.43e6
1.72e6
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 8.33e3
ES 123478F 1.83e7 35.46
ES 123678F 2.30e7 35.60
CS 123469F 1.96e7 35.91
ES 234678F 1.36e7 36.26
ES 123789F 1.78e7 37.22
Abs. Int.
6.71e6
3.36e6
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 3.46e3
Abs. Int.
8.23e3
4.12e3
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT


SGS ID: B6181_18838_DF_002
Sample ID: 11215131-011222-S-BN-SC-S-27
Acq: 19-Jan-2022 03:39:20
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: PSW Datafile: 220118R22
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 4.95e3
1234678F
1.26e6
38.84
1234689F
1.54e6
39.27
1234789F
1.34e5
40.21
6.22e5
3.11e5
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 4.26e3
1234678F
1.27e6
38.84
1234689F
1.43e6
39.27
1234789F
1.02e5
40.21
5.71e5
2.86e5
0.00e0
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 7.91e3
ES 1234678F
7.99e6
38.83
CS 1234689F
7.90e6
39.26
ES 1234789F
6.13e6
40.20
3.04e6
1.52e6
0.00e0
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 6.51e3
ES 1234678F
1.71e7
38.83
CS 1234689F
1.66e7
39.26
ES 1234789F
1.34e7
40.20
6.61e6
3.31e6
0.00e0
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 3.81e3
RT
8.09e4
4.05e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_002.utp_res, saved 19-Jan-2022 09:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5889, 9709, 1436 scc: 984-853
PKD: 19-Jan-2022 08:33 Printed: 19-Jan-2022 09:40 Page 11 of 12


SGS ID: B6181_18838_DF_002
Sample ID: 11215131-011222-S-BN-SC-S-27
Acq: 19-Jan-2022 03:39:20
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: PSW Datafile: 220118R22
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 4.10e3
OCDF
1.24e6
42.38
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 4.46e3
OCDF
1.43e6
42.38
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 6.55e3
ES OCDF
1.46e7
42.37
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 4.77e3
ES OCDF
1.62e7
42.37
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 2.65e3
Rel. Int.
Abs. Int.
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_002.utp_res, saved 19-Jan-2022 09:38 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4780, 1478, 0634 scc: 984-853
PKD: 19-Jan-2022 08:33 Printed: 19-Jan-2022 09:40 Page 12 of 12

Lab ID: B6181_18838_DF_003 **Acq'd:** 19 Jan 2022 04:26 PSW **Wt/Vol:** 12.85 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-28 **UTP:** 19-Jan-2022 09:32:44 PSW **J-level:** 0.389 pg/g **Split:** 1 **Checkcode:** 290-471-DNY

Datafile: 220118R23 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.84	E	1.0008	1.0009	+0.2	7.38E+08	0.79	Y	1.34	2,680	8422.216	0.345
12378-PeCDD	32.50		1.0006	1.0006	0	5.55E+06	1.67	Y	1.06	29	11077.844	0.521
123478-HxCDD	36.47	J	1.0004	1.0004	0	1.76E+05	1.21	Y	1.06	0.966	8613.42	0.373
123678-HxCDD	36.58		1.0035	1.0035	0	6.93E+05	1.26	Y	1.08	3.86	8613.42	0.388
123789-HxCDD	36.87		1.0115	1.0115	0	4.21E+05	1.34	Y	1.02	2.17	8613.42	0.357
1234678-HpCDD	39.80		1.0003	1.0003	0	2.18E+07	1.07	Y	0.97	139	8420.509	0.343
OCDD	42.22		1.0003	1.0003	0	2.36E+08	0.91	Y	1.07	2,120	11520.133	0.743
2378-TCDF	25.91	E	1.0008	1.0010	+0.3	2.88E+09	0.79	Y	0.96	9,440	11422.232	0.474
12378-PeCDF	30.99		1.0006	1.0006	0	1.06E+08	1.59	Y	0.95	389	10190.593	0.368
23478-PeCDF	32.16		1.0006	1.0008	+0.4	6.56E+07	1.58	Y	0.94	268	10190.593	0.412
123478-HxCDF	35.49		1.0005	1.0005	0	1.98E+08	1.26	Y	1.23	777	10855.328	0.341
123678-HxCDF	35.63		1.0005	1.0005	0	5.25E+07	1.26	Y	1.13	190	10855.328	0.315
234678-HxCDF	36.29		1.0004	1.0005	+0.2	5.30E+06	1.28	Y	1.15	32.1	10855.328	0.507
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	10855.328	0.422
1234678-HpCDF	38.85		1.0003	1.0003	0	7.45E+07	1.03	Y	1.36	277	7487.815	0.192
1234789-HpCDF	40.22		1.0002	1.0003	+0.2	1.68E+07	1.04	Y	1.30	87.2	7487.815	0.242
OCDF	42.39		1.0003	1.0003	0	1.67E+07	0.89	Y	1.03	130	8023.369	0.456

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.82	1.0270	1.0266	-0.6	3.19E+07	0.77	Y	1.03	81.5
ES 12378-PeCDD	32.48	1.2424	1.2434	+1.9	2.81E+07	1.56	Y	1.03	71.6
ES 123478-HxCDD	36.45	0.9918	0.9918	0	2.69E+07	1.28	Y	0.99	87.6
ES 123678-HxCDD	36.56	0.9948	0.9948	0	2.58E+07	1.35	Y	0.97	86.1
ES 123789-HxCDD	36.86	1.0028	1.0028	0	2.97E+07	1.26	Y	1.12	85.8
ES 1234678-HpCDD	39.79	1.0820	1.0827	+1.7	2.51E+07	1.05	Y	0.99	82.2
ES OCDD	42.21	1.1479	1.1485	+1.5	3.24E+07	0.88	Y	0.78	67.6
ES 2378-TCDF	25.88	1.0611	1.0619	+1.2	4.95E+07	0.83	Y	1.08	79.5
ES 12378-PeCDF	30.97	1.2682	1.2706	+4.5	4.49E+07	1.58	Y	0.93	83.8
ES 23478-PeCDF	32.14	1.3157	1.3184	+5.2	4.06E+07	1.61	Y	0.92	76.7
ES 123478-HxCDF	35.47	0.9650	0.9651	+0.2	3.21E+07	0.54	Y	1.14	91.1
ES 123678-HxCDF	35.61	0.9689	0.9689	0	3.81E+07	0.54	Y	1.30	95.2
ES 234678-HxCDF	36.27	0.9869	0.9869	0	2.23E+07	0.53	Y	1.20	60.1
ES 123789-HxCDF	37.23	1.0130	1.0130	0	3.11E+07	0.54	Y	1.14	88.7
ES 1234678-HpCDF	38.84	1.0563	1.0567	+0.9	3.08E+07	0.46	Y	0.95	105
ES 1234789-HpCDF	40.20	1.0933	1.0939	+1.4	2.31E+07	0.43	Y	0.85	88.3
ES OCDF	42.37	1.1522	1.1529	+1.8	3.89E+07	0.93	Y	0.93	68.1

Lab ID: B6181_18838_DF_003 **Acq'd:** 19 Jan 2022 04:26 PSW **Wt/Vol:** 12.85 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-28 **UTP:** 19-Jan-2022 09:32:44 PSW **J-level:** 0.389 pg/g **Split:** 1 **Checkcode:** 290-471-DNY

Datafile: 220118R23 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.12		-	-	-	3.79E+07	0.79	Y	-	-
JS 1234-TCDF	24.38		-	-	-	5.73E+07	0.80	Y	-	-
JS 123467-HxCDD	36.75		-	-	-	1.54E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	26.84		1.0278	1.0276	-0.3	1.58E+07	n/a	-	1.31	79.6
CS 12347-PeCDD	31.97		1.2228	1.2239	+2.1	2.84E+07	1.59	Y	0.89	83.9
CS 12346-PeCDF	30.43		1.2457	1.2482	+4.6	4.64E+07	1.57	Y	0.87	93.1
CS 123469-HxCDF	35.92		0.9774	0.9774	0	3.71E+07	0.52	Y	1.09	110
CS 1234689-HpCDF	39.27		1.0680	1.0685	+1.2	2.94E+07	0.46	Y	0.86	110
~~SS 37Cl-2378-TCDD~~	~~26.84~~		~~1.0278~~	~~1.0276~~	~~-0.3~~	~~1.58E+07~~	~~n/a~~		~~1.26~~	~~98.2~~
~~SS 12347-PeCDD~~	~~31.97~~		~~1.2228~~	~~1.2239~~	~~+2.1~~	~~2.84E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~30.43~~		~~1.2457~~	~~1.2482~~	~~+4.6~~	~~4.64E+07~~	~~1.57~~	~~Y~~	~~0.93~~	~~111~~
~~SS 123469-HxCDF~~	~~35.92~~		~~0.9774~~	~~0.9774~~	~~0~~	~~3.71E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~116~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0680~~	~~1.0685~~	~~+1.2~~	~~2.94E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~105~~

Totals	Conc	EMPC
Total TCDD	2930	2960
Total PeCDD	37.5	41.3
Total HxCDD	41.7	43.5
Total HpCDD	302	302
Total Tetra-Octa Dioxins	5430	5460
Total TCDF	18,800	18800
Total PeCDF	1,010	1010
Total HxCDF	1,150	1150
Total HpCDF	426	426
Total Tetra-Octa Furans	21,500	21500
Total Tetra-Octa Dioxins & Furans	27000	27000

Lab ID: B6181_18838_DF_003 | Acq'd: 19 Jan 2022 04:26 PSW | Wt/Vol: 12.85 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-28 | UTP: 19-Jan-2022 09:32:44 PSW | J-level: 0.389 pg/g | Split: 1 | Checkcode: 290-471-DNY

Datafile: 220118R23 | Report: 19 Jan 2022 09:33 gd | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.81		0.8514	0.8503	-1.5	5.52E+05	0.76	Y	1.34	2	8422.216	0.345
1379-TCDD	23.21		0.8665	0.8653	-1.7	2.54E+05	0.71	Y	1.34	0.921	8422.216	0.345
1369-TCDD	NotFnd		0.8845						1.34		8422.216	0.345
1469-TCDD	24.57		0.9165	0.9161	-0.6	6.51E+05	0.80	Y	1.34	2.36	8422.216	0.345
1247/1246/1248/1249-TCDD	24.84	EMPC	0.9266	0.9261	-0.7	1.14E+06	0.97	N	1.34	4.12	8422.216	0.345
1378-TCDD	25.04		0.9343	0.9338	-0.8	1.93E+06	0.79	Y	1.34	7	8422.216	0.345
1268-TCDD	25.26	EMPC	0.9424	0.9418	-0.9	1.55E+05	0.65	N	1.34	0.562	8422.216	0.345
1478-TCDD	25.55		0.9525	0.9525	0	1.73E+06	0.85	Y	1.34	6.27	8422.216	0.345
1279-TCDD	NotFnd		0.9592						1.34		8422.216	0.345
1234/1269-TCDD	26.12	EMPC	0.9735	0.9738	+0.5	2.20E+05	0.61	N	1.34	0.799	8422.216	0.345
1236-TCDD	26.26	EMPC	0.9790	0.9791	+0.2	1.54E+05	1.58	N	1.34	0.559	8422.216	0.345
1237/1238-TCDD	26.53		0.9893	0.9890	-0.5	1.11E+07	0.83	Y	1.34	40.4	8422.216	0.345
1239-TCDD	NotFnd		0.9947						1.34		8422.216	0.345
2378-TCDD	**26.84**	E	**1.0008**	1.0009	**+0.2**	7.38E+08	0.79	Y	**1.34**	**2,680**	**8422.216**	**0.345**
1278-TCDD	27.20		1.0140	1.0142	+0.3	5.47E+07	0.78	Y	1.34	198	8422.216	0.345
1267-TCDD	27.36	EMPC	1.0196	1.0200	+0.7	2.47E+06	1.10	N	1.34	8.97	8422.216	0.345
1289-TCDD	27.86	EMPC	1.0396	1.0386	-1.7	2.49E+06	1.30	N	1.34	9.03	8422.216	0.345
12479/12468-PeCDD	29.91	J	0.9208	0.9208	0	3.56E+05	1.40	Y	1.06	1.86	11077.844	0.521
12469-PeCDD	30.47	J EMPC	0.9381	0.9381	0	3.63E+05	1.18	N	1.06	1.9	11077.844	0.521
12368-PeCDD	31.04		0.9557	0.9556	-0.2	4.32E+05	1.58	Y	1.06	2.26	11077.844	0.521
12478-PeCDD	31.25		0.9617	0.9620	+0.6	3.85E+05	1.54	Y	1.06	2.02	11077.844	0.521
12379-PeCDD	NotFnd		0.9648						1.06		11077.844	0.521
12369/12467/12489-PeCDD	31.61	J	0.9732	0.9733	+0.2	2.95E+05	1.44	Y	1.06	1.54	11077.844	0.521
12346/12347-PeCDD	31.99	J	0.9849	0.9849	0	1.59E+05	1.35	Y	1.06	0.831	11077.844	0.521
12378-PeCDD	32.50		**1.0006**	**1.0006**	**0**	**5.55E+06**	**1.67**	**Y**	**1.06**	**29**	**11077.844**	**0.521**
12367-PeCDD	32.62	J EMPC	1.0037	1.0043	+1.2	3.55E+05	2.49	N	1.06	1.86	11077.844	0.521
12389-PeCDD	NotFnd		1.0145						1.06		11077.844	0.521
124679/124689-HxCDD	34.75		0.9534	0.9534	0	3.87E+06	1.31	Y	1.05	20.9	8613.42	0.371
123468-HxCDD	35.41	J EMPC	0.9715	0.9715	0	2.29E+05	1.05	N	1.05	1.23	8613.42	0.371
123679/123689-HxCDD	35.71		0.9797	0.9797	0	2.38E+06	1.32	Y	1.05	12.8	8613.42	0.371
123469-HxCDD	35.84	J	0.9834	0.9832	-0.4	2.01E+05	1.38	Y	1.05	1.08	8613.42	0.371
123478-HxCDD	36.47	J	**1.0004**	**1.0004**	**0**	**1.76E+05**	**1.21**	**Y**	1.06	**0.966**	**8613.42**	**0.373**
123678-HxCDD	36.58		**1.0035**	**1.0035**	**0**	**6.93E+05**	**1.26**	**Y**	1.08	**3.86**	**8613.42**	**0.388**
123467-HxCDD	36.77	J EMPC	1.0087	1.0088	+0.2	1.06E+05	1.49	N	1.05	0.572	8613.42	0.371
123789-HxCDD	36.87		**1.0115**	**1.0115**	**0**	**4.21E+05**	**1.34**	**Y**	1.02	**2.17**	**8613.42**	**0.357**

Lab ID: B6181_18838_DF_003 **Acq'd:** 19 Jan 2022 04:26 PSW **Wt/Vol:** 12.85 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-28 **UTP:** 19-Jan-2022 09:32:44 PSW **J-level:** 0.389 pg/g **Split:** 1 **Checkcode:** 290-471-DNY

Datafile: 220118R23 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

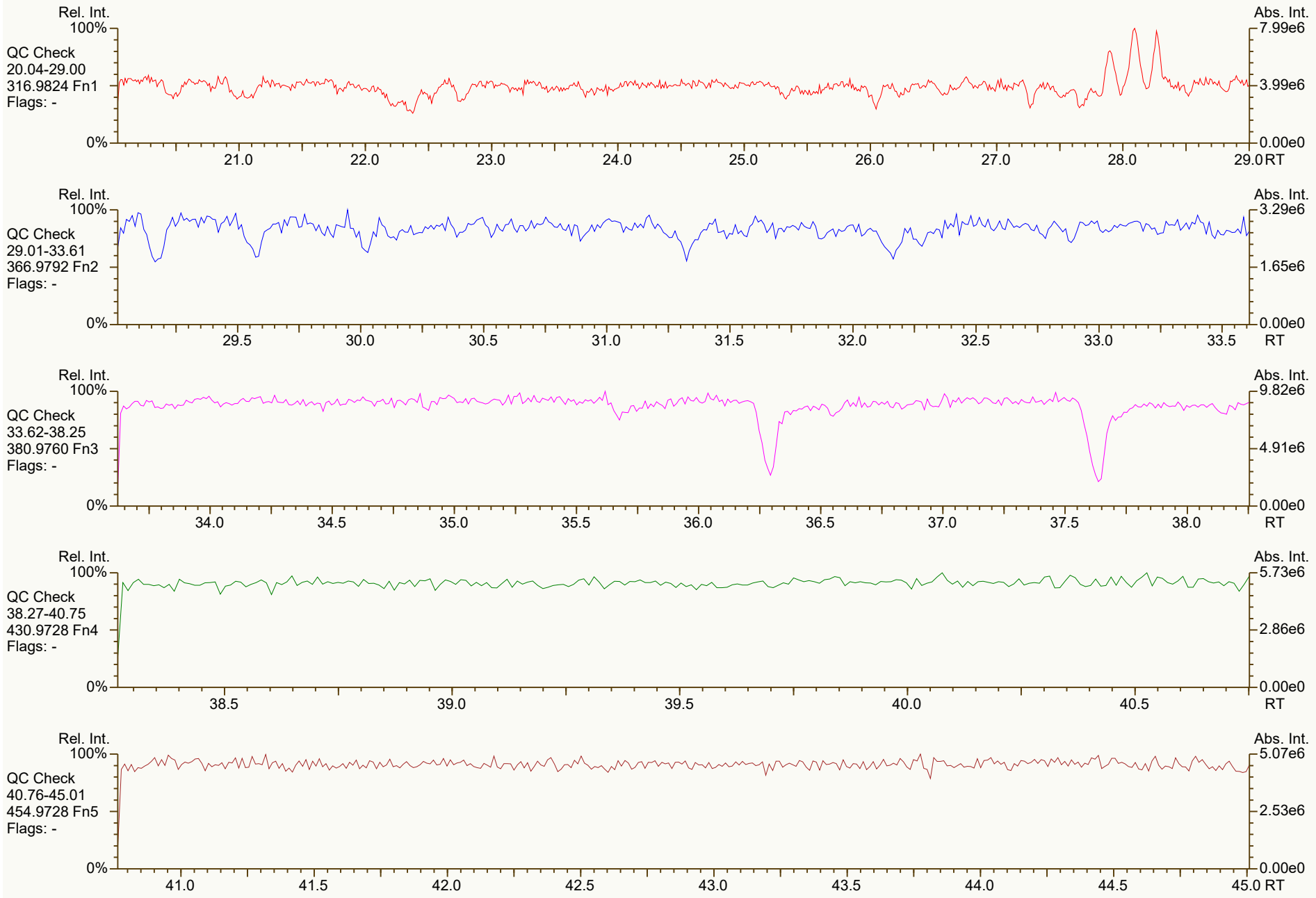
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.14		0.9835	0.9835	0	2.58E+07	1.06	Y	0.97	164	8420.509	0.343
1234678-HpCDD	**39.80**		**1.0003**	**1.0003**	**0**	**2.18E+07**	**1.07**	**Y**	**0.97**	**139**	**8420.509**	**0.343**
OCDD	**42.22**		**1.0003**	**1.0003**	**0**	**2.36E+08**	**0.91**	**Y**	**1.07**	**2,120**	**11520.133**	**0.743**
OCDD-a	42.22		1.0002	1.0002	0	1.40E+07	2.56	Y	0.07	2,030	12173.12	12.7
1368-TCDF	20.57		0.7966	0.7949	-2.1	6.08E+05	0.80	Y	0.96	1.99	11422.232	0.474
1468-TCDF	21.14		0.8179	0.8167	-1.5	3.56E+06	0.83	Y	0.96	11.7	11422.232	0.474
2468-TCDF	21.79		0.8432	0.8420	-1.6	2.47E+06	0.79	Y	0.96	8.09	11422.232	0.474
1346/1246-TCDF	22.30		0.8572	0.8616	+5.9	6.17E+06	0.78	Y	0.96	20.2	11422.232	0.474
1347/1378/1247-TCDF	22.42		0.8641	0.8662	+2.8	1.96E+07	0.81	Y	0.96	64.2	11422.232	0.474
1348-TCDF	22.68		0.8764	0.8761	-0.4	1.21E+07	0.80	Y	0.96	39.5	11422.232	0.474
1248/1367/1379-TCDF	22.78		0.8820	0.8802	-2.5	1.17E+08	0.79	Y	0.96	385	11422.232	0.474
1268-TCDF	23.24		0.8986	0.8977	-1.3	4.38E+07	0.78	Y	0.96	144	11422.232	0.474
1467-TCDF	23.39		0.9044	0.9036	-1.1	6.29E+06	0.78	Y	0.96	20.6	11422.232	0.474
1478-TCDF	23.58		0.9117	0.9111	-0.8	1.19E+08	0.79	Y	0.96	391	11422.232	0.474
1369/1237-TCDF	24.00		0.9276	0.9272	-0.6	2.97E+07	0.79	Y	0.96	97.3	11422.232	0.474
2467-TCDF	24.14		0.9334	0.9326	-1.2	2.86E+06	0.77	Y	0.96	9.37	11422.232	0.474
2368-TCDF	24.32		0.9400	0.9394	-0.9	9.52E+07	0.78	Y	0.96	312	11422.232	0.474
1238/1234/1678/1469/1236-TCDF	24.40		0.9436	0.9426	-1.5	1.33E+08	0.79	Y	0.96	435	11422.232	0.474
1278-TCDF	24.91	E	0.9628	0.9623	-0.7	1.37E+09	0.79	Y	0.96	4,500	11422.232	0.474
1349-TCDF	NotFnd		0.9678						0.96		11422.232	0.474
1267-TCDF	25.21		0.9745	0.9741	-0.6	7.17E+07	0.80	Y	0.96	235	11422.232	0.474
2346/1249-TCDF	25.44		0.9823	0.9828	+0.8	9.59E+06	0.83	Y	0.96	31.4	11422.232	0.474
2347/1279-TCDF	25.66		0.9916	0.9912	-0.6	3.38E+07	0.79	Y	0.96	111	11422.232	0.474
2348-TCDF	25.79	E	0.9964	0.9965	+0.2	2.70E+08	0.78	Y	0.96	885	11422.232	0.474
2378-TCDF	**25.91**	E	**1.0008**	**1.0010**	**+0.3**	**2.88E+09**	**0.79**	**Y**	**0.96**	**9,440**	**11422.232**	**0.474**
2367/3467-TCDF	26.30		1.0161	1.0159	-0.3	2.34E+08	0.79	Y	0.96	766	11422.232	0.474
1269-TCDF	26.57		1.0258	1.0263	+0.8	4.55E+07	0.77	Y	0.96	149	11422.232	0.474
1239-TCDF	26.84		1.0370	1.0369	-0.2	4.27E+06	0.78	Y	0.96	14	11422.232	0.474
1289-TCDF	28.08		1.0833	1.0848	+2.5	2.30E+08	0.79	Y	0.96	753	11422.232	0.474
13468/12468-PeCDF	28.06		0.9054	0.9059	+0.8	1.98E+06	1.52	Y	0.94	7.65	8463.469	0.323
13678/13467/12467-PeCDF	29.68		0.9578	0.9583	+0.9	1.01E+06	1.58	Y	0.94	3.89	10190.593	0.389
12368/13478/12478-PeCDF	29.86		0.9632	0.9639	+1.3	4.11E+07	1.56	Y	0.94	159	10190.593	0.389
14678-PeCDF	29.95		0.9666	0.9669	+0.5	1.32E+06	1.49	Y	0.94	5.11	10190.593	0.389
13479-PeCDF	30.05	J EMPC	0.9696	0.9701	+0.9	1.32E+05	1.86	N	0.94	0.51	10190.593	0.389
13469/12479-PeCDF	30.24	J	0.9784	0.9763	-3.8	3.67E+05	1.73	Y	0.94	1.42	10190.593	0.389
12346-PeCDF	30.44	J	0.9828	0.9829	+0.2	2.32E+05	1.68	Y	0.94	0.896	10190.593	0.389

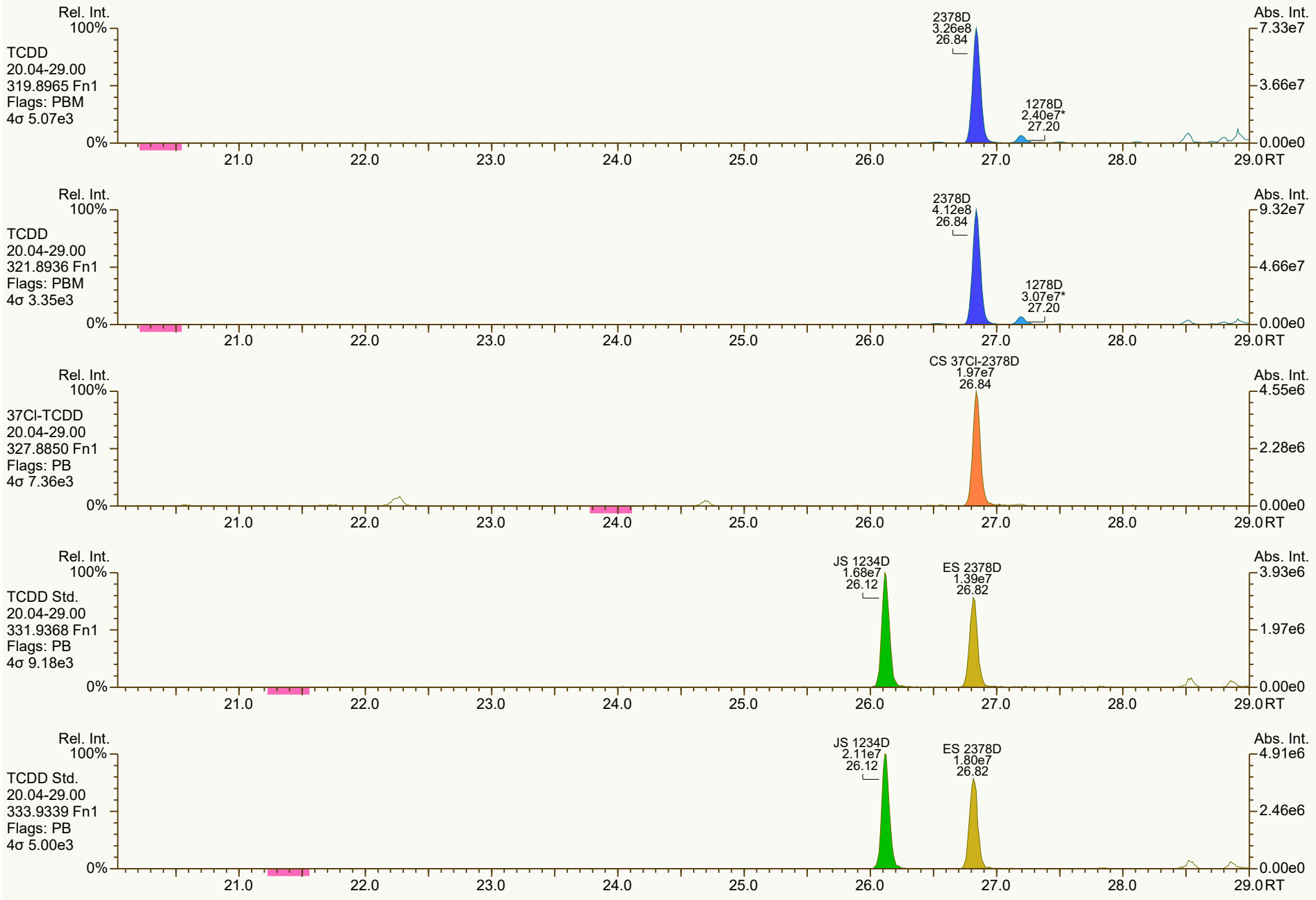
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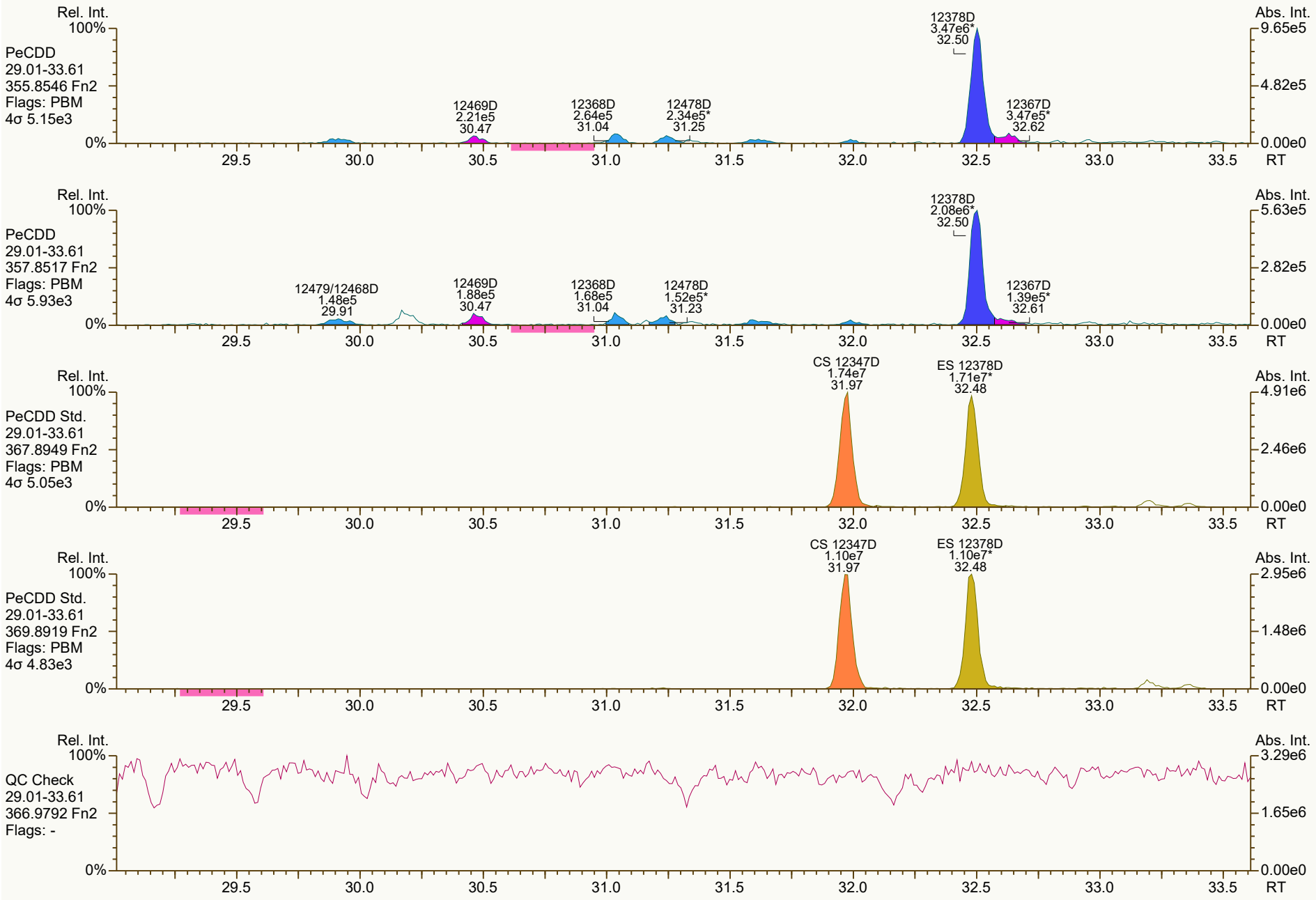
Client ID: 11215131-011222-S-BN-SC-S-28 | **UTP: 19-Jan-2022 09:32:44 PSW** | **J-level: 0.389 pg/g** | **Split: 1** | **Checkcode: 290-471-DNY**

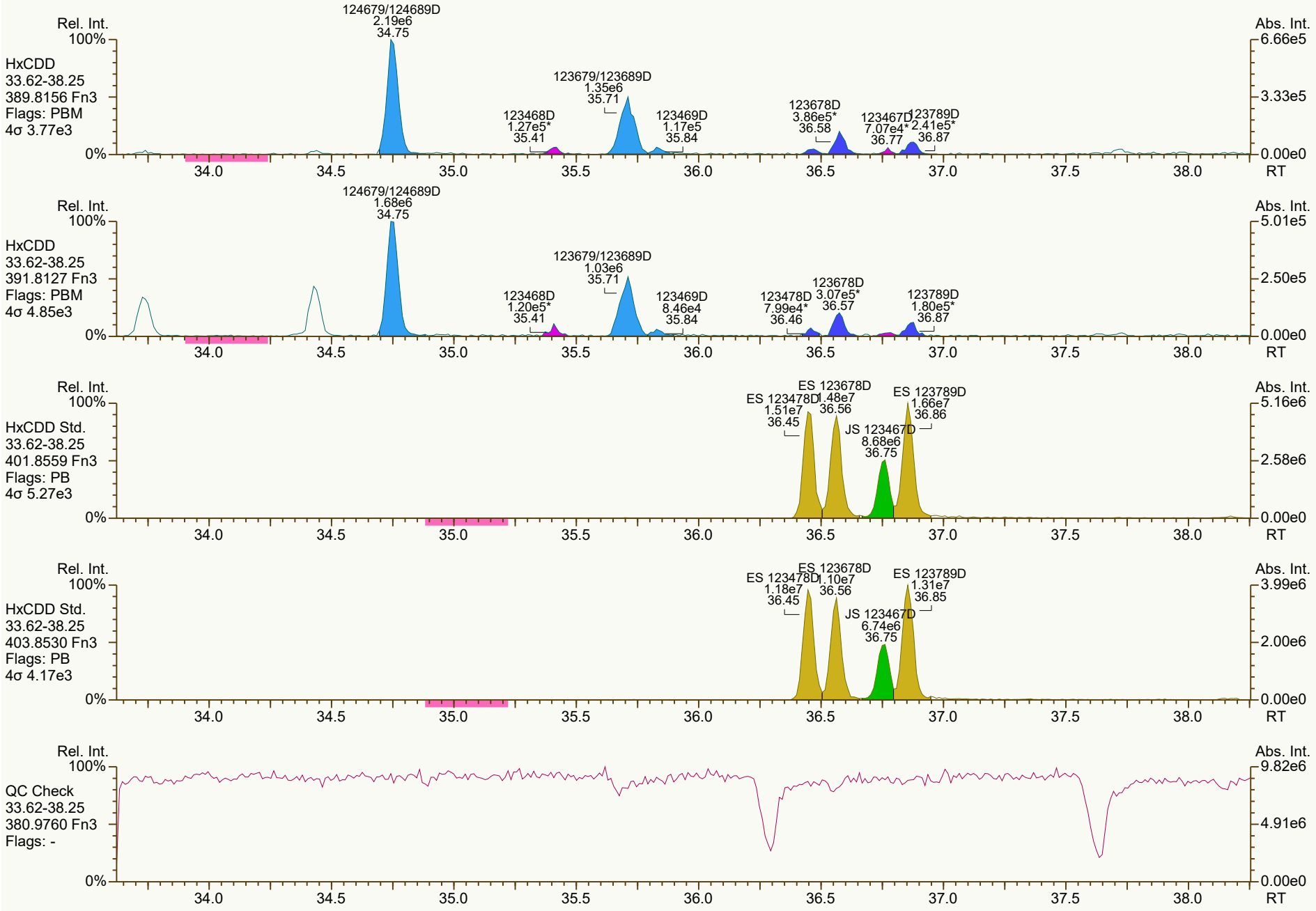
Datafile: 220118R23 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

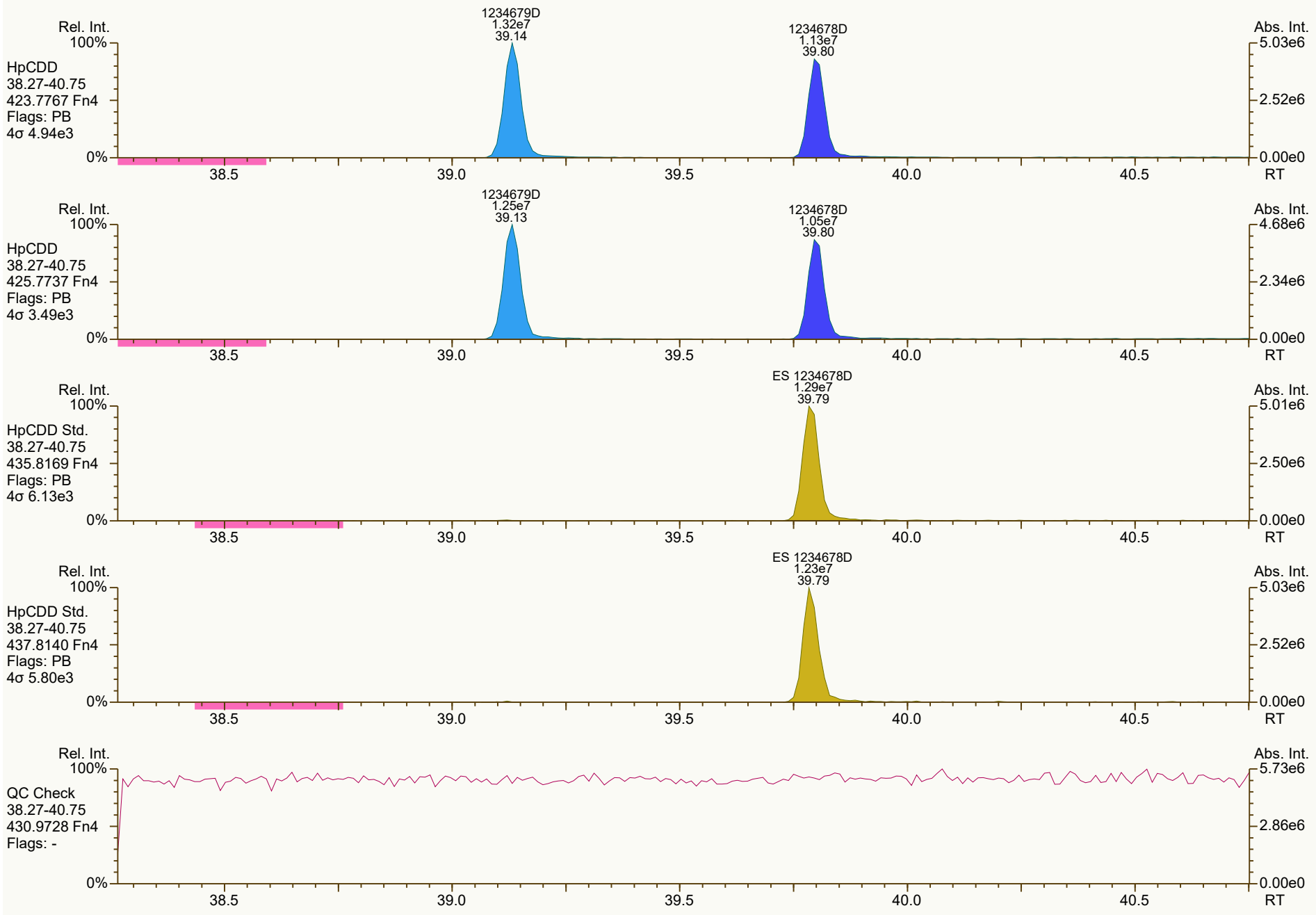
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.54		0.9860	0.9861	+0.2	1.57E+06	1.62	Y	0.94	6.06	10190.593	0.389
12347-PeCDF	30.61		0.9884	0.9883	-0.2	1.58E+06	1.60	Y	0.94	6.13	10190.593	0.389
12348-PeCDF	30.78		0.9937	0.9937	0	8.28E+06	1.55	Y	0.94	32	10190.593	0.389
12378-PeCDF	**30.99**		**1.0006**	**1.0006**	**0**	**1.06E+08**	**1.59**	**Y**	**0.95**	**389**	**10190.593**	**0.368**
12678/12367-PeCDF	31.30		1.0098	1.0106	+1.5	2.84E+07	1.58	Y	0.94	110	10190.593	0.389
12379-PeCDF	NotFnd		1.0155						0.94		10190.593	0.389
12679-PeCDF	NotFnd		0.9922						0.94		10190.593	0.389
23467/12369-PeCDF	32.01		0.9964	0.9959	-1.0	1.15E+06	1.63	Y	0.94	4.46	10190.593	0.389
23478-PeCDF	**32.16**		**1.0006**	**1.0008**	**+0.4**	**6.56E+07**	**1.58**	**Y**	**0.94**	**268**	**10190.593**	**0.412**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		10190.593	0.389
12349-PeCDF	NotFnd		1.0105						0.94		10190.593	0.389
12389-PeCDF	33.25		1.0346	1.0345	-0.2	3.83E+06	1.56	Y	0.94	14.8	10190.593	0.389
123468-HxCDF	34.08		0.9609	0.9609	0	1.60E+06	1.24	Y	1.16	6.92	10855.328	0.383
124678/134678-HxCDF	34.28		0.9666	0.9666	0	1.41E+07	1.26	Y	1.16	61.1	10855.328	0.383
134679-HxCDF	34.48	J EMPC	0.9731	0.9721	-2.1	1.78E+05	1.47	N	1.16	0.772	10855.328	0.383
124679-HxCDF	34.72	J	0.9788	0.9789	+0.2	1.45E+05	1.16	Y	1.16	0.628	10855.328	0.383
124689-HxCDF	34.95		0.9852	0.9853	+0.2	6.11E+06	1.27	Y	1.16	26.5	10855.328	0.383
123467-HxCDF	35.36		0.9971	0.9969	-0.4	6.84E+05	1.16	Y	1.16	2.96	10855.328	0.383
123478-HxCDF	**35.49**		**1.0005**	**1.0005**	**0**	**1.98E+08**	**1.26**	**Y**	**1.23**	**777**	**10855.328**	**0.341**
123678-HxCDF	**35.63**		**1.0005**	**1.0005**	**0**	**5.25E+07**	**1.26**	**Y**	**1.13**	**190**	**10855.328**	**0.315**
123479-HxCDF	NotFnd		1.0050						1.16		10855.328	0.383
123469-HxCDF	NotFnd		1.0092						1.16		10855.328	0.383
123679-HxCDF	NotFnd		0.9942						1.16		10855.328	0.383
234678-HxCDF	**36.29**		**1.0004**	**1.0005**	**+0.2**	**5.30E+06**	**1.28**	**Y**	**1.15**	**32.1**	**10855.328**	**0.507**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		10855.328	0.383
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**10855.328**	**0.422**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.28		1.0007	1.0013	+1.3	1.31E+07	1.24	Y	1.16	56.6	10855.328	0.383
1234678-HpCDF	**38.85**		**1.0003**	**1.0003**	**0**	**7.45E+07**	**1.03**	**Y**	**1.36**	**277**	**7487.815**	**0.192**
1234679-HpCDF	39.13		1.0074	1.0075	+0.2	8.06E+05	1.11	Y	1.33	3.5	7487.815	0.213
1234689-HpCDF	39.28		1.0112	1.0114	+0.5	1.34E+07	1.06	Y	1.33	58.4	7487.815	0.213
1234789-HpCDF	**40.22**		**1.0002**	**1.0003**	**+0.2**	**1.68E+07**	**1.04**	**Y**	**1.30**	**87.2**	**7487.815**	**0.242**
OCDF	**42.39**		**1.0003**	**1.0003**	**0**	**1.67E+07**	**0.89**	**Y**	**1.03**	**130**	**8023.369**	**0.456**
OCDF-a	42.38		1.0002	1.0002	0	9.93E+05	2.74	Y	0.06	134	9720.92	9.57


Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.99e6
3.99e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.29e6
1.65e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.82e6
4.91e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.73e6
2.86e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.07e6
2.53e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

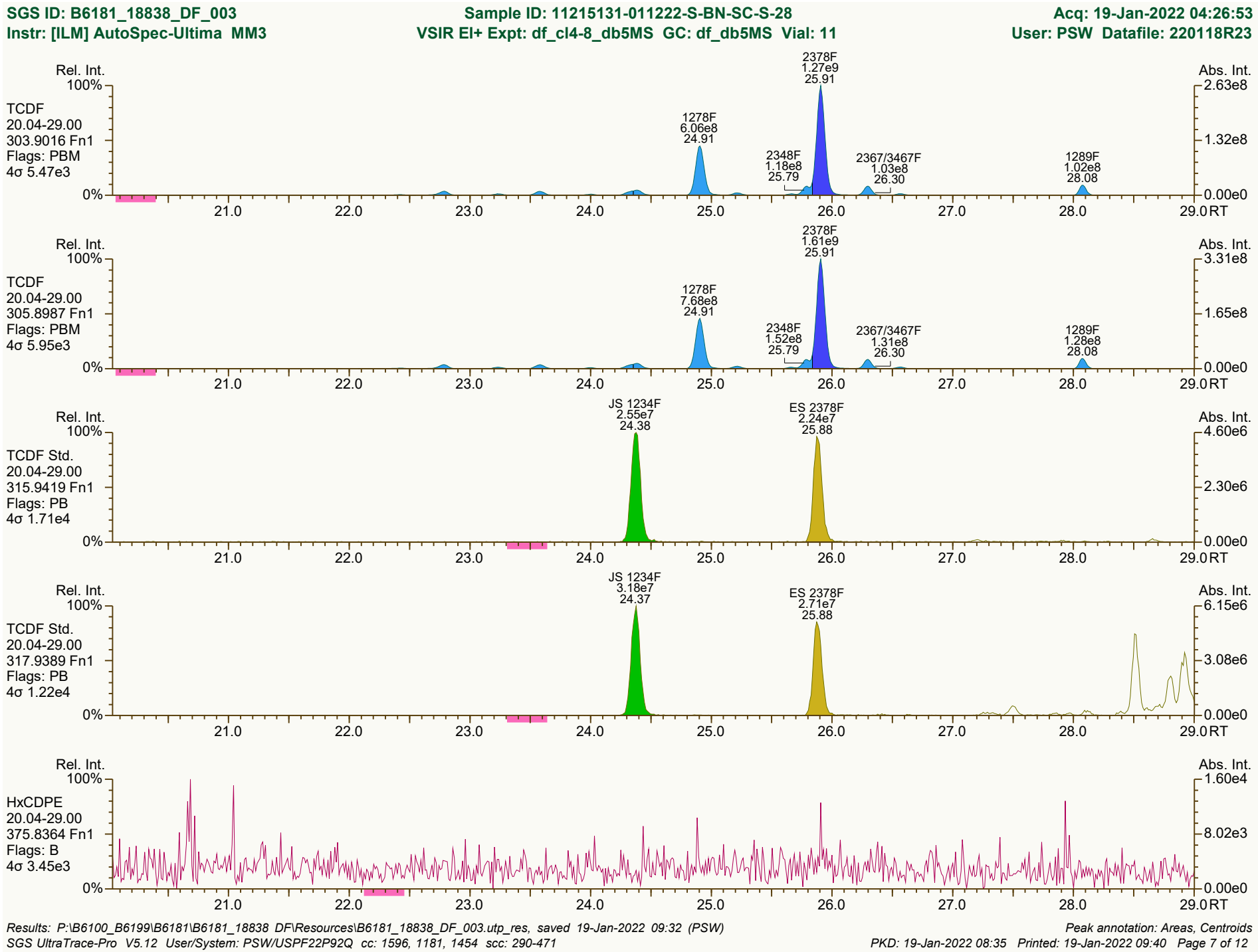

Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 5.07e3
0%
2378D
3.26e8
26.84
1278D
2.40e7*
27.20
Abs. Int.
7.33e7
3.66e7
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 3.35e3
0%
2378D
4.12e8
26.84
1278D
3.07e7*
27.20
Abs. Int.
9.32e7
4.66e7
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 7.36e3
0%
CS 37Cl-2378D
1.97e7
26.84
Abs. Int.
4.55e6
2.28e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 9.18e3
0%
JS 1234D
1.68e7
26.12
ES 2378D
1.39e7
26.82
Abs. Int.
3.93e6
1.97e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 5.00e3
0%
JS 1234D
2.11e7
26.12
ES 2378D
1.80e7
26.82
Abs. Int.
4.91e6
2.46e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT

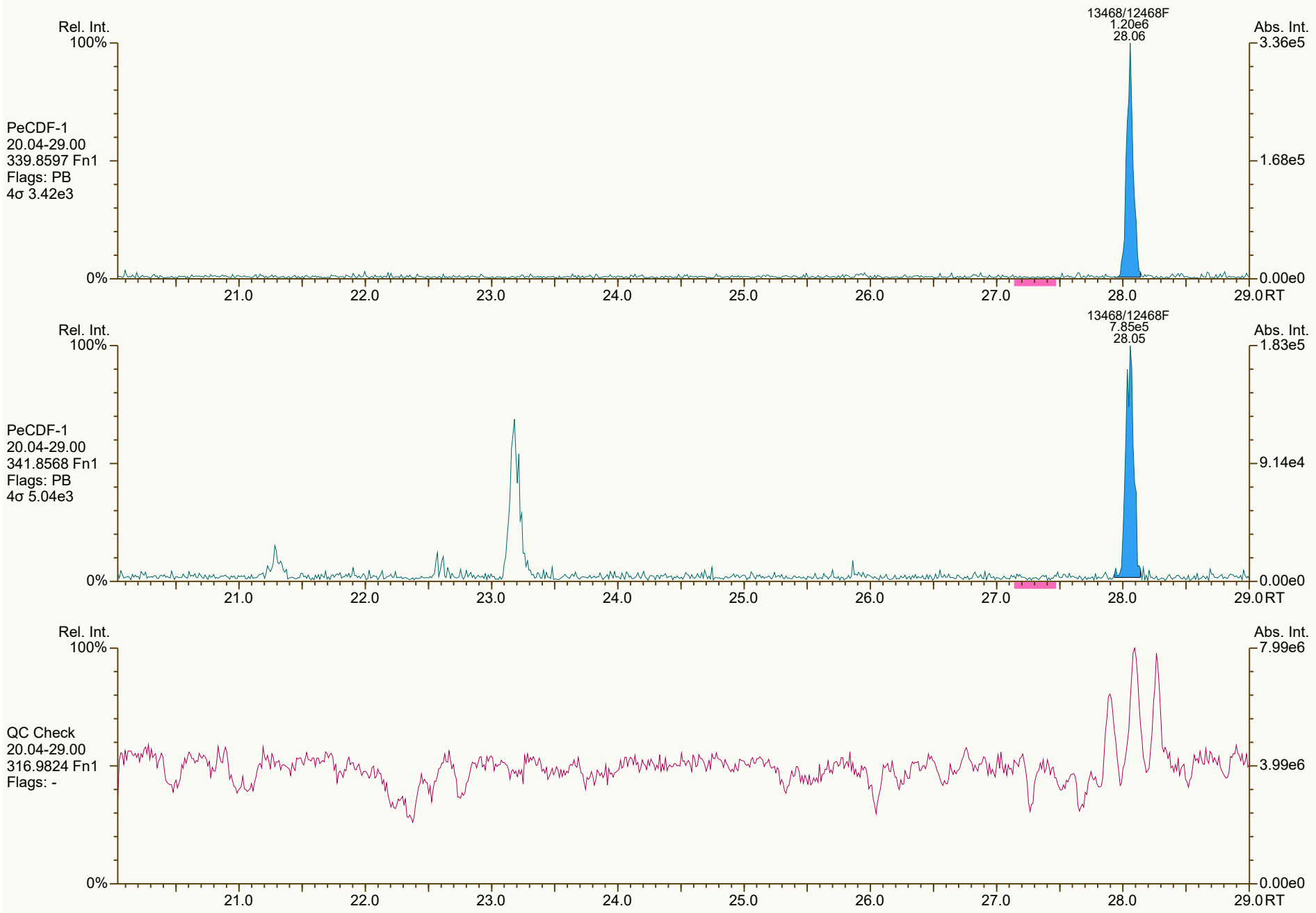

Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 5.15e3
0%
12469D
2.21e5
30.47
12368D
2.64e5
31.04
12478D
2.34e5*
31.25
12378D
3.47e6*
32.50
12367D
3.47e5*
32.62
Abs. Int.
9.65e5
4.82e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 5.93e3
0%
12479/12468D
1.48e5
29.91
12469D
1.88e5
30.47
12368D
1.68e5
31.04
12478D
1.52e5*
31.23
12378D
2.08e6*
32.50
12367D
1.39e5*
32.61
Abs. Int.
5.63e5
2.82e5
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PBM
4σ 5.05e3
0%
CS 12347D
1.74e7
31.97
ES 12378D
1.71e7*
32.48
Abs. Int.
4.91e6
2.46e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PBM
4σ 4.83e3
0%
CS 12347D
1.10e7
31.97
ES 12378D
1.10e7*
32.48
Abs. Int.
2.95e6
1.48e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.29e6
1.65e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 3.77e3
0%
124679/124689D
2.19e6
34.75
123679/123689D
1.35e6
35.71
123468D
1.27e5*
35.41
123469D
1.17e5
35.84
123678D
3.86e5*
36.58
123467D
7.07e4*
36.77
123789D
2.41e5*
36.87
Abs. Int.
6.66e5
3.33e5
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.85e3
0%
124679/124689D
1.68e6
34.75
123679/123689D
1.03e6
35.71
123468D
1.20e5*
35.41
123469D
8.46e4
35.84
123478D
7.99e4*
36.46
123678D
3.07e5*
36.57
123789D
1.80e5*
36.87
Abs. Int.
5.01e5
2.50e5
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 5.27e3
0%
ES 123678D
ES 123478D
1.51e7
36.45
1.48e7
36.56
ES 123789D
1.66e7
36.86
JS 123467D
8.68e6
36.75
Abs. Int.
5.16e6
2.58e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 4.17e3
0%
ES 123678D
ES 123478D
1.18e7
36.45
1.10e7
36.56
ES 123789D
1.31e7
36.85
JS 123467D
6.74e6
36.75
Abs. Int.
3.99e6
2.00e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.82e6
4.91e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

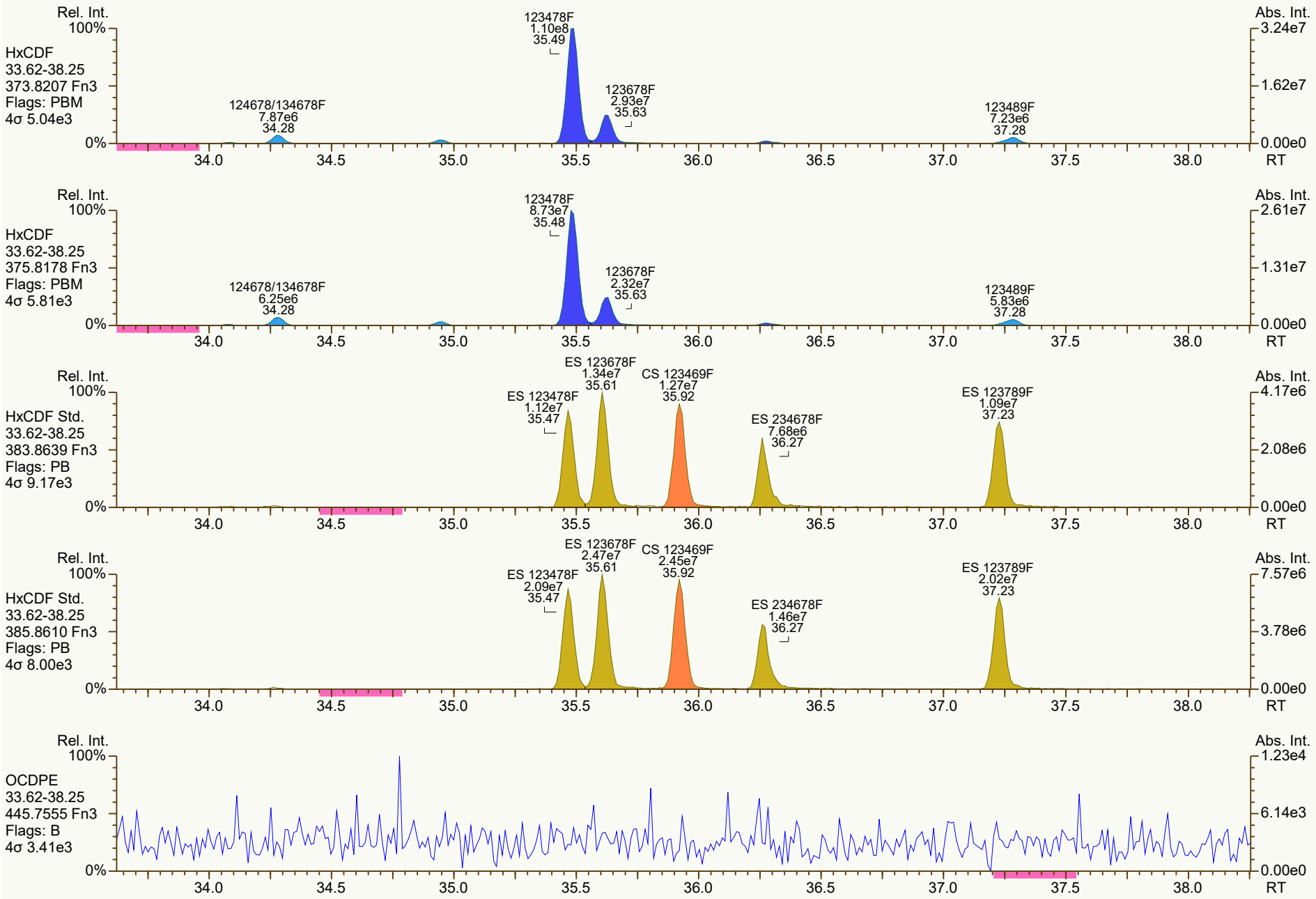

Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 4.94e3
0%
1234679D
1.32e7
39.14
1234678D
1.13e7
39.80
Abs. Int.
5.03e6
2.52e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.49e3
0%
1234679D
1.25e7
39.13
1234678D
1.05e7
39.80
Abs. Int.
4.68e6
2.34e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 6.13e3
0%
ES 1234678D
1.29e7
39.79
Abs. Int.
5.01e6
2.50e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 5.80e3
0%
ES 1234678D
1.23e7
39.79
Abs. Int.
5.03e6
2.52e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.73e6
2.86e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT

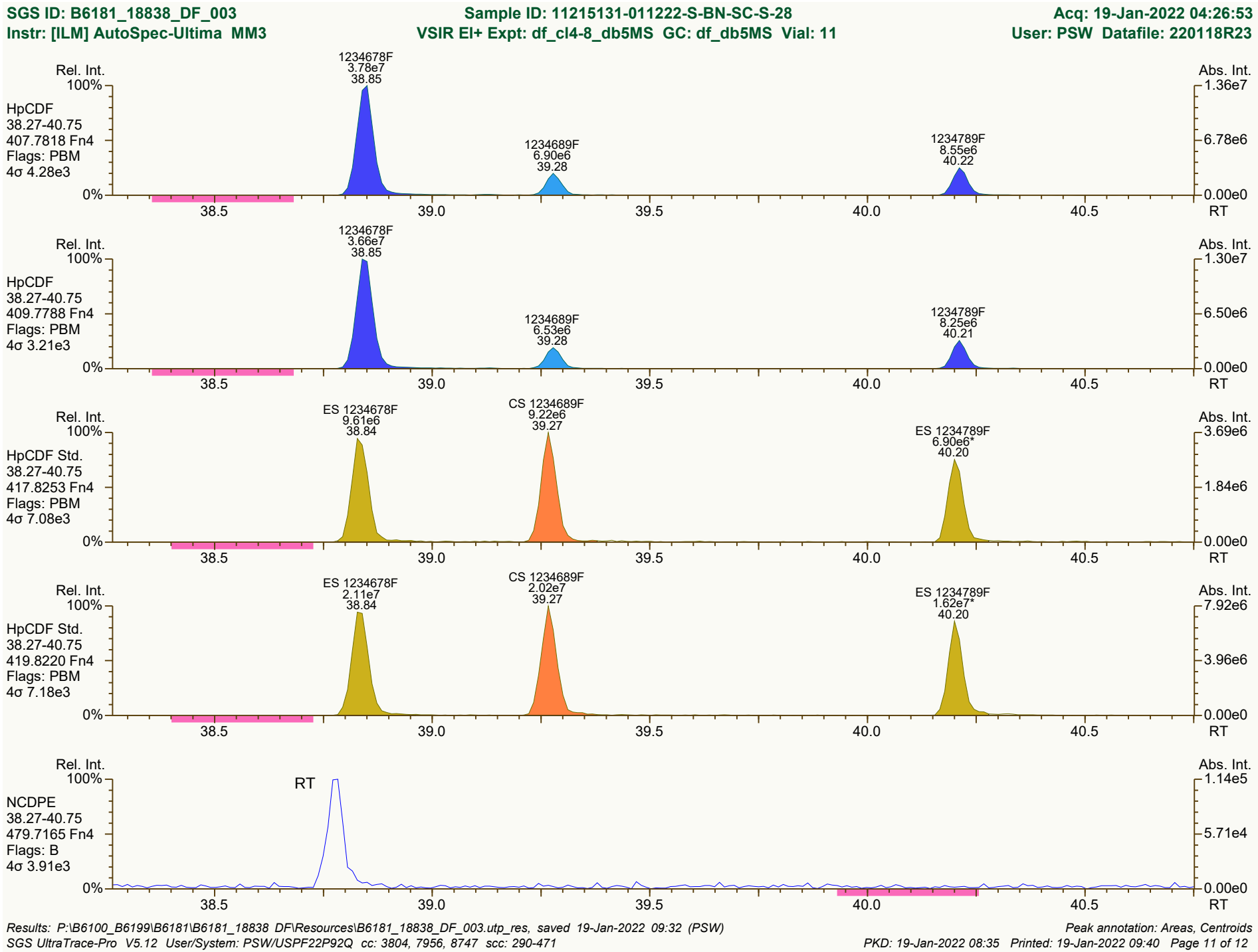

OCDD
1.12e8
42.22
Rel. Int.
100%
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 6.04e3
0%
Abs. Int.
3.69e7
1.84e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.24e8
42.22
Rel. Int.
100%
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
0%
Abs. Int.
4.10e7
2.05e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.52e7
42.21
Rel. Int.
100%
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 5.35e3
0%
Abs. Int.
5.28e6
2.64e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.73e7
42.21
Rel. Int.
100%
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 5.15e3
0%
Abs. Int.
6.01e6
3.01e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.07e6
2.53e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

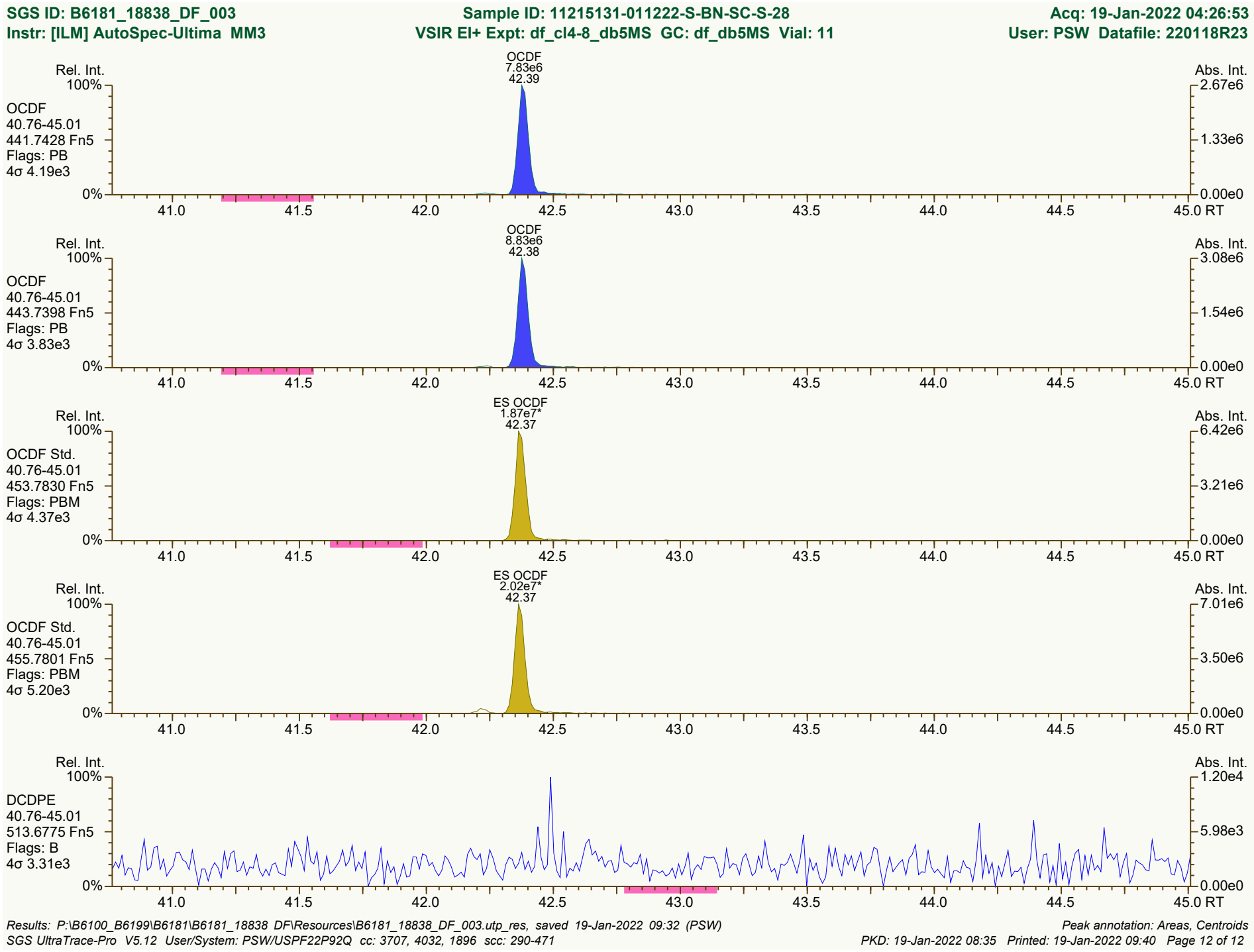

SGS ID: B6181_18838_DF_003
Sample ID: 11215131-011222-S-BN-SC-S-28
Acq: 19-Jan-2022 04:26:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220118R23
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 5.47e3
2378F
1.27e9
25.91
1278F
6.06e8
24.91
2348F
1.18e8
25.79
2367/3467F
1.03e8
26.30
1289F
1.02e8
28.08
2.63e8
1.32e8
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 5.95e3
2378F
1.61e9
25.91
1278F
7.68e8
24.91
2348F
1.52e8
25.79
2367/3467F
1.31e8
26.30
1289F
1.28e8
28.08
3.31e8
1.65e8
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.71e4
JS 1234F
2.55e7
24.38
ES 2378F
2.24e7
25.88
4.60e6
2.30e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.22e4
JS 1234F
3.18e7
24.37
ES 2378F
2.71e7
25.88
6.15e6
3.08e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 3.45e3
1.60e4
8.02e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_003.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1596, 1181, 1454 scc: 290-471
PKD: 19-Jan-2022 08:35 Printed: 19-Jan-2022 09:40 Page 7 of 12


13468/12468F
1.20e6
28.06
Rel. Int.
100%
0%
Abs. Int.
3.36e5
1.68e5
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 3.42e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
13468/12468F
7.85e5
28.05
Rel. Int.
100%
0%
Abs. Int.
1.83e5
9.14e4
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 5.04e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
7.99e6
3.99e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


SGS ID: B6181_18838_DF_003
Sample ID: 11215131-011222-S-BN-SC-S-28
Acq: 19-Jan-2022 04:26:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220118R23
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 5.26e3
12368F...[3]
2.50e7*
29.86
12348F
5.03e6
30.78
12378F
6.51e7
30.99
12678/12367F
1.74e7
31.30
23478F
4.02e7
32.16
1.73e7
8.67e6
0.00e0
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.93e3
12368F...[3]
1.61e7*
29.85
12348F
3.25e6
30.78
12378F
4.10e7
30.99
12678/12367F
1.10e7
31.30
23478F
2.54e7
32.16
1.10e7
5.52e6
0.00e0
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 7.67e3
CS 12346F
2.83e7
30.43
ES 12378F
2.75e7
30.97
ES 23478F
2.50e7
32.14
7.86e6
3.93e6
0.00e0
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 3.67e3
CS 12346F
1.81e7
30.43
ES 12378F
1.74e7
30.97
ES 23478F
1.56e7
32.14
4.82e6
2.41e6
0.00e0
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.84e3
9.46e3
4.73e3
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 5.04e3
123478F
1.10e8
35.49
123678F
2.93e7
35.63
124678/134678F
7.87e6
34.28
123489F
7.23e6
37.28
Abs. Int.
3.24e7
1.62e7
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 5.81e3
123478F
8.73e7
35.48
123678F
2.32e7
35.63
124678/134678F
6.25e6
34.28
123489F
5.83e6
37.28
Abs. Int.
2.61e7
1.31e7
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 9.17e3
ES 123678F
1.34e7
35.61
CS 123469F
1.27e7
35.92
ES 123478F
1.12e7
35.47
ES 234678F
7.68e6
36.27
ES 123789F
1.09e7
37.23
Abs. Int.
4.17e6
2.08e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 8.00e3
ES 123678F
2.47e7
35.61
CS 123469F
2.45e7
35.92
ES 123478F
2.09e7
35.47
ES 234678F
1.46e7
36.27
ES 123789F
2.02e7
37.23
Abs. Int.
7.57e6
3.78e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 3.41e3
Abs. Int.
1.23e4
6.14e3
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: B6181_18838_DF_003
Sample ID: 11215131-011222-S-BN-SC-S-28
Acq: 19-Jan-2022 04:26:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220118R23
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PBM
4σ 4.28e3
1234678F
3.78e7
38.85
1234689F
6.90e6
39.28
1234789F
8.55e6
40.22
1.36e7
6.78e6
0.00e0
RT
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PBM
4σ 3.21e3
1234678F
3.66e7
38.85
1234689F
6.53e6
39.28
1234789F
8.25e6
40.21
1.30e7
6.50e6
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PBM
4σ 7.08e3
ES 1234678F
9.61e6
38.84
CS 1234689F
9.22e6
39.27
ES 1234789F
6.90e6*
40.20
3.69e6
1.84e6
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PBM
4σ 7.18e3
ES 1234678F
2.11e7
38.84
CS 1234689F
2.02e7
39.27
ES 1234789F
1.62e7*
40.20
7.92e6
3.96e6
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 3.91e3
RT
1.14e5
5.71e4
100%
0%
38.5
39.0
39.5
40.0
40.5
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_003.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3804, 7956, 8747 scc: 290-471
PKD: 19-Jan-2022 08:35 Printed: 19-Jan-2022 09:40 Page 11 of 12


SGS ID: B6181_18838_DF_003
Sample ID: 11215131-011222-S-BN-SC-S-28
Acq: 19-Jan-2022 04:26:53
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220118R23
OCDF
7.83e6
42.39
Rel. Int.
Abs. Int.
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 4.19e3
OCDF
8.83e6
42.38
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 3.83e3
ES OCDF
1.87e7*
42.37
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PBM
4σ 4.37e3
ES OCDF
2.02e7*
42.37
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PBM
4σ 5.20e3
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 3.31e3
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_003.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3707, 4032, 1896 scc: 290-471
PKD: 19-Jan-2022 08:35 Printed: 19-Jan-2022 09:40 Page 12 of 12

Lab ID: B6181_18838_DF_004 **Acq'd:** 19 Jan 2022 05:14 PSW **Wt/Vol:** 11.41 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-29 **UTP:** 19-Jan-2022 09:32:45 PSW **J-level:** 0.438 pg/g **Split:** 1 **Checkcode:** 066-216-FCY

Datafile: 220118R24 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.88	E	1.0008	1.0009	+0.2	2.37E+09	0.79	Y	1.34	9,900	7266.758	0.353
12378-PeCDD	32.55		1.0006	1.0008	+0.4	1.90E+07	1.64	Y	1.06	115	12060.172	0.661
123478-HxCDD	36.49		1.0004	1.0004	0	5.16E+05	1.15	Y	1.06	3.52	8776.287	0.454
123678-HxCDD	36.60		1.0035	1.0035	0	3.09E+06	1.30	Y	1.08	20.9	8776.287	0.499
123789-HxCDD	36.90		1.0115	1.0116	+0.2	1.23E+06	1.25	Y	1.02	8.22	8776.287	0.475
1234678-HpCDD	39.82		1.0003	1.0004	+0.2	1.11E+08	1.04	Y	0.97	913	8666.944	0.453
OCDD	42.24	E	1.0003	1.0003	0	8.82E+08	0.90	Y	1.07	9,610	10056.907	0.834
2378-TCDF	25.94	E	1.0008	1.0010	+0.3	8.36E+09	0.80	Y	0.96	34,200	15772.202	0.903
12378-PeCDF	31.04		1.0006	1.0006	0	4.78E+08	1.57	Y	0.95	2,310	13228.975	0.586
23478-PeCDF	32.21		1.0006	1.0010	+0.8	2.22E+08	1.59	Y	0.94	1,340	13228.975	0.868
123478-HxCDF	35.52		1.0005	1.0005	0	8.22E+08	1.25	Y	1.23	3,880	16515.445	0.631
123678-HxCDF	35.66		1.0005	1.0005	0	2.15E+08	1.25	Y	1.13	952	16515.445	0.627
234678-HxCDF	36.32		1.0004	1.0005	+0.2	2.40E+07	1.28	Y	1.15	207	16515.445	1.46
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	16515.445	0.692
1234678-HpCDF	38.87		1.0003	1.0003	0	1.90E+08	1.04	Y	1.36	948	10553.188	0.355
1234789-HpCDF	40.23		1.0002	1.0002	0	6.26E+07	1.06	Y	1.30	383	10553.188	0.403
OCDF	42.40		1.0003	1.0003	0	7.21E+07	0.89	Y	1.03	638	8363.465	0.551

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.86	1.0270	1.0267	-0.5	3.12E+07	0.77	Y	1.03	69.8
ES 12378-PeCDD	32.52	1.2424	1.2433	+1.8	2.72E+07	1.63	Y	1.03	60.8
ES 123478-HxCDD	36.47	0.9918	0.9917	-0.2	2.43E+07	1.28	Y	0.99	69.3
ES 123678-HxCDD	36.59	0.9948	0.9947	-0.2	2.39E+07	1.33	Y	0.97	69.8
ES 123789-HxCDD	36.89	1.0028	1.0029	+0.2	2.58E+07	1.27	Y	1.12	65.1
ES 1234678-HpCDD	39.81	1.0820	1.0822	+0.5	2.19E+07	1.06	Y	0.99	62.8
ES OCDD	42.23	1.1479	1.1482	+0.8	3.01E+07	0.90	Y	0.78	54.8
ES 2378-TCDF	25.92	1.0611	1.0618	+1.1	4.46E+07	0.80	Y	1.08	61
ES 12378-PeCDF	31.02	1.2682	1.2708	+4.8	3.84E+07	1.58	Y	0.93	60.9
ES 23478-PeCDF	32.18	1.3157	1.3185	+5.4	3.09E+07	1.62	Y	0.92	49.7
ES 123478-HxCDF	35.50	0.9650	0.9652	+0.4	3.01E+07	0.54	Y	1.14	74.7
ES 123678-HxCDF	35.64	0.9689	0.9689	0	3.51E+07	0.52	Y	1.30	76.7
ES 234678-HxCDF	36.30	0.9869	0.9870	+0.2	1.76E+07	0.53	Y	1.20	41.4
ES 123789-HxCDF	37.25	1.0130	1.0128	-0.4	3.08E+07	0.50	Y	1.14	76.8
ES 1234678-HpCDF	38.85	1.0563	1.0564	+0.2	2.58E+07	0.45	Y	0.95	77
ES 1234789-HpCDF	40.22	1.0933	1.0935	+0.5	2.21E+07	0.45	Y	0.85	73.9
ES OCDF	42.39	1.1522	1.1526	+1.0	3.86E+07	0.89	Y	0.93	59.1

Lab ID: B6181_18838_DF_004 **Acq'd:** 19 Jan 2022 05:14 PSW **Wt/Vol:** 11.41 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-29 **UTP:** 19-Jan-2022 09:32:45 PSW **J-level:** 0.438 pg/g **Split:** 1 **Checkcode:** 066-216-FCY

Datafile: 220118R24 **Report:** 19 Jan 2022 09:33 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.16		-	-	-	4.32E+07	0.81	Y	-	-
JS 1234-TCDF	24.41		-	-	-	6.74E+07	0.79	Y	-	-
JS 123467-HxCDD	36.78		-	-	-	1.76E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	26.88		1.0278	1.0276	-0.3	1.34E+07	n/a	-	1.31	59.2
CS 12347-PeCDD	32.02		1.2228	1.2240	+2.3	2.41E+07	1.62	Y	0.89	62.4
CS 12346-PeCDF	30.48		1.2457	1.2487	+5.5	3.61E+07	1.60	Y	0.87	61.7
CS 123469-HxCDF	35.95		0.9774	0.9775	+0.2	3.23E+07	0.53	Y	1.09	83.9
CS 1234689-HpCDF	39.29		1.0680	1.0682	+0.5	2.57E+07	0.45	Y	0.86	84.2
~~SS 37Cl-2378-TCDD~~	~~26.88~~		~~1.0278~~	~~1.0276~~	~~-0.3~~	~~1.34E+07~~	~~n/a~~		~~1.26~~	~~85.3~~
~~SS 12347-PeCDD~~	~~32.02~~		~~1.2228~~	~~1.2240~~	~~+2.3~~	~~2.41E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~30.48~~		~~1.2457~~	~~1.2487~~	~~+5.5~~	~~3.61E+07~~	~~1.60~~	~~Y~~	~~0.93~~	~~101~~
~~SS 123469-HxCDF~~	~~35.95~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~3.23E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~109~~
~~SS 1234689-HpCDF~~	~~39.29~~		~~1.0680~~	~~1.0682~~	~~+0.5~~	~~2.57E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~109~~

Totals	Conc	EMPC
Total TCDD	10800	10900
Total PeCDD	151	159
Total HxCDD	171	171
Total HpCDD	1670	1670
Total Tetra-Octa Dioxins	22500	22500
Total TCDF	67,200	67200
Total PeCDF	5,670	5670
Total HxCDF	5,860	5860
Total HpCDF	1,620	1620
Total Tetra-Octa Furans	81,000	81000
Total Tetra-Octa Dioxins & Furans	103000	104000

Lab ID: B6181_18838_DF_004 **Acq'd: 19 Jan 2022 05:14 PSW** **Wt/Vol: 11.41 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-011222-S-BN-SC-S-29 **UTP: 19-Jan-2022 09:32:45 PSW** **J-level: 0.438 pg/g** **Split: 1** **Checkcode: 066-216-FCY**

Datafile: 220118R24 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.86		0.8514	0.8512	-0.3	1.37E+06	0.82	Y	1.34	5.74	7266.758	0.353
1379-TCDD	23.25		0.8665	0.8656	-1.3	9.18E+05	0.78	Y	1.34	3.84	7266.758	0.353
1369-TCDD	23.74		0.8845	0.8840	-0.7	2.25E+05	0.79	Y	1.34	0.942	7266.758	0.353
1469-TCDD	24.60		0.9165	0.9162	-0.4	1.83E+05	0.81	Y	1.34	0.765	7266.758	0.353
1247/1246/1248/1249-TCDD	24.87	EMPC	0.9266	0.9262	-0.6	3.94E+06	0.96	N	1.34	16.5	7266.758	0.353
1378-TCDD	25.07		0.9343	0.9334	-1.4	6.34E+06	0.82	Y	1.34	26.5	7266.758	0.353
1268-TCDD	25.29	EMPC	0.9424	0.9417	-1.1	3.69E+05	0.91	N	1.34	1.54	7266.758	0.353
1478-TCDD	25.58		0.9525	0.9524	-0.2	4.84E+06	0.83	Y	1.34	20.2	7266.758	0.353
1279-TCDD	NotFnd		0.9592						1.34		7266.758	0.353
1234/1269-TCDD	26.16		0.9735	0.9740	+0.8	6.27E+05	0.71	Y	1.34	2.62	7266.758	0.353
1236-TCDD	26.31	EMPC	0.9790	0.9796	+0.9	4.17E+05	1.17	N	1.34	1.75	7266.758	0.353
1237/1238-TCDD	26.56		0.9893	0.9889	-0.6	3.57E+07	0.85	Y	1.34	149	7266.758	0.353
1239-TCDD	NotFnd		0.9947						1.34		7266.758	0.353
2378-TCDD	**26.88**	E	**1.0008**	1.0009	**+0.2**	2.37E+09	0.79	Y	**1.34**	**9,900**	**7266.758**	**0.353**
1278-TCDD	27.24		1.0140	1.0144	+0.7	1.77E+08	0.79	Y	1.34	741	7266.758	0.353
1267-TCDD	27.38	EMPC	1.0196	1.0196	0	9.11E+06	1.09	N	1.34	38.1	7266.758	0.353
1289-TCDD	27.95	EMPC	1.0396	1.0409	+2.2	3.29E+06	1.04	N	1.34	13.8	7266.758	0.353
12479/12468-PeCDD	29.96		0.9208	0.9213	+0.9	1.51E+06	1.50	Y	1.06	9.18	12060.172	0.661
12469-PeCDD	30.52	EMPC	0.9381	0.9385	+0.7	3.63E+05	0.71	N	1.06	2.21	12060.172	0.661
12368-PeCDD	31.08		0.9557	0.9557	0	1.60E+06	1.57	Y	1.06	9.72	12060.172	0.661
12478-PeCDD	31.28		0.9617	0.9619	+0.4	1.09E+06	1.58	Y	1.06	6.63	12060.172	0.661
12379-PeCDD	31.39	EMPC	0.9648	0.9653	+0.9	4.52E+05	1.84	N	1.06	2.75	12060.172	0.661
12369/12467/12489-PeCDD	31.66		0.9732	0.9733	+0.2	3.99E+05	1.64	Y	1.06	2.43	12060.172	0.661
12346/12347-PeCDD	32.04	EMPC	0.9849	0.9850	+0.2	4.48E+05	1.84	N	1.06	2.73	12060.172	0.661
12378-PeCDD	32.55		**1.0006**	**1.0008**	**+0.4**	**1.90E+07**	**1.64**	**Y**	**1.06**	**115**	**12060.172**	**0.661**
12367-PeCDD	32.69		1.0037	1.0051	+2.7	1.23E+06	1.36	Y	1.06	7.51	12060.172	0.661
12389-PeCDD	NotFnd		1.0145						1.06		12060.172	0.661
124679/124689-HxCDD	34.79		0.9534	0.9538	+0.8	6.87E+06	1.28	Y	1.05	46.4	8776.287	0.475
123468-HxCDD	35.45		0.9715	0.9718	+0.6	1.24E+06	1.36	Y	1.05	8.36	8776.287	0.475
123679/123689-HxCDD	35.74		0.9797	0.9798	+0.2	1.14E+07	1.25	Y	1.05	77.2	8776.287	0.475
123469-HxCDD	35.87		0.9834	0.9835	+0.2	5.83E+05	1.40	Y	1.05	3.94	8776.287	0.475
123478-HxCDD	36.49		**1.0004**	**1.0004**	**0**	**5.16E+05**	**1.15**	**Y**	1.06	**3.52**	**8776.287**	**0.454**
123678-HxCDD	36.60		**1.0035**	**1.0035**	**0**	**3.09E+06**	**1.30**	**Y**	1.08	**20.9**	**8776.287**	**0.499**
123467-HxCDD	36.79		1.0087	1.0087	0	3.92E+05	1.25	Y	1.05	2.65	8776.287	0.475
123789-HxCDD	36.90		**1.0115**	**1.0116**	**+0.2**	**1.23E+06**	**1.25**	**Y**	1.02	**8.22**	**8776.287**	**0.475**

Lab ID: B6181_18838_DF_004 | Acq'd: 19 Jan 2022 05:14 PSW | Wt/Vol: 11.41 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-011222-S-BN-SC-S-29 | UTP: 19-Jan-2022 09:32:45 PSW | J-level: 0.438 pg/g | Split: 1 | Checkcode: 066-216-FCY

Datafile: 220118R24 | Report: 19 Jan 2022 09:33 gd | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

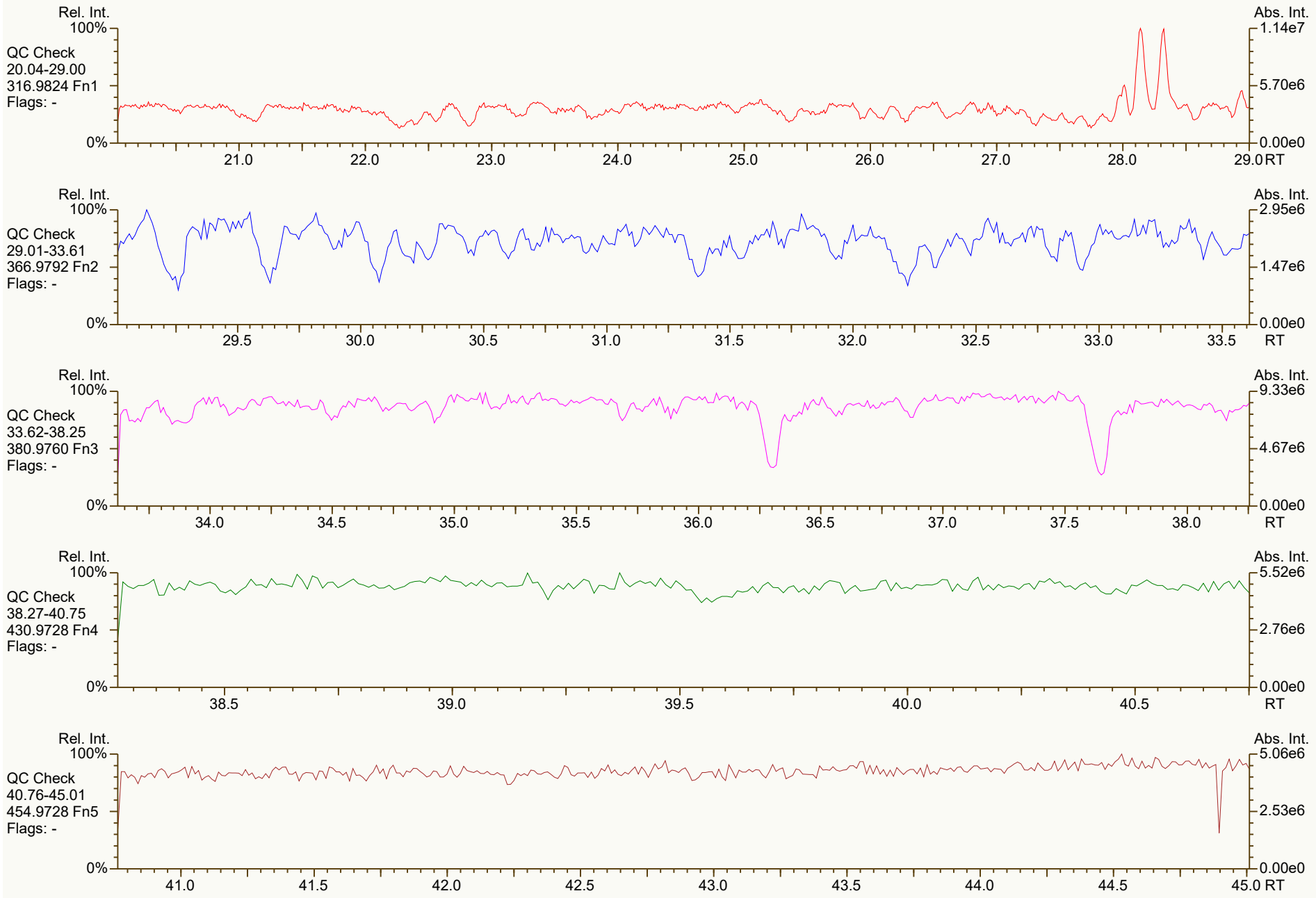
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.15		0.9835	0.9837	+0.5	9.27E+07	1.05	Y	0.97	760	8666.944	0.453
1234678-HpCDD	**39.82**		**1.0003**	**1.0004**	**+0.2**	**1.11E+08**	**1.04**	**Y**	**0.97**	**913**	**8666.944**	**0.453**
OCDD	**42.24**	**E**	**1.0003**	**1.0003**	**0**	**8.82E+08**	**0.90**	**Y**	**1.07**	**9,610**	**10056.907**	**0.834**
OCDD-a	42.24	E	1.0002	1.0002	0	5.21E+07	2.51	Y	0.07	9,200	12535.983	16.8
1368-TCDF	20.59		0.7966	0.7944	-2.7	1.24E+06	0.75	Y	0.96	5.09	15772.202	0.903
1468-TCDF	21.17		0.8179	0.8169	-1.3	9.89E+06	0.78	Y	0.96	40.5	15772.202	0.903
2468-TCDF	21.83		0.8432	0.8423	-1.2	7.27E+06	0.76	Y	0.96	29.7	15772.202	0.903
1346/1246-TCDF	22.28		0.8572	0.8596	+3.2	2.78E+06	0.82	Y	0.96	11.4	15772.202	0.903
1347/1378/1247-TCDF	22.43		0.8641	0.8654	+1.7	4.35E+07	0.80	Y	0.96	178	15772.202	0.903
1348-TCDF	22.73		0.8764	0.8770	+0.8	3.59E+07	0.78	Y	0.96	147	15772.202	0.903
1248/1367/1379-TCDF	22.84		0.8820	0.8815	-0.7	1.27E+08	0.80	Y	0.96	521	15772.202	0.903
1268-TCDF	23.28		0.8986	0.8982	-0.6	8.38E+07	0.79	Y	0.96	343	15772.202	0.903
1467-TCDF	23.42		0.9044	0.9037	-1.0	2.11E+07	0.79	Y	0.96	86.3	15772.202	0.903
1478-TCDF	23.62	E	0.9117	0.9113	-0.6	2.31E+08	0.79	Y	0.96	947	15772.202	0.903
1369/1237-TCDF	24.04		0.9276	0.9276	0	7.98E+07	0.79	Y	0.96	326	15772.202	0.903
2467-TCDF	24.18		0.9334	0.9328	-0.9	9.77E+06	0.81	Y	0.96	40	15772.202	0.903
2368-TCDF	24.33		0.9400	0.9387	-1.9	1.64E+08	0.79	Y	0.96	669	15772.202	0.903
1238/1234/1678/1469/1236-TCDF	24.42	E	0.9436	0.9421	-2.2	5.07E+08	0.79	Y	0.96	2,070	15772.202	0.903
1278-TCDF	24.94	E	0.9628	0.9623	-0.7	4.23E+09	0.79	Y	0.96	17,300	15772.202	0.903
1349-TCDF	NotFnd		0.9678						0.96		15772.202	0.903
1267-TCDF	25.24		0.9745	0.9739	-0.9	1.81E+08	0.80	Y	0.96	741	15772.202	0.903
2346/1249-TCDF	25.46		0.9823	0.9824	+0.2	2.40E+07	0.79	Y	0.96	98.2	15772.202	0.903
2347/1279-TCDF	25.69		0.9916	0.9911	-0.8	1.02E+08	0.78	Y	0.96	416	15772.202	0.903
2348-TCDF	25.82	E	0.9964	0.9962	-0.3	7.52E+08	0.79	Y	0.96	3,080	15772.202	0.903
2378-TCDF	**25.94**	E	**1.0008**	**1.0010**	**+0.3**	**8.36E+09**	**0.80**	**Y**	**0.96**	**34,200**	**15772.202**	**0.903**
2367/3467-TCDF	26.34	E	1.0161	1.0162	+0.2	6.93E+08	0.80	Y	0.96	2,830	15772.202	0.903
1269-TCDF	26.60		1.0258	1.0262	+0.6	1.02E+08	0.80	Y	0.96	418	15772.202	0.903
1239-TCDF	26.88		1.0370	1.0371	+0.2	1.48E+07	0.79	Y	0.96	60.6	15772.202	0.903
1289-TCDF	28.14	E	1.0833	1.0857	+4.1	6.42E+08	0.78	Y	0.96	2,630	15772.202	0.903
13468/12468-PeCDF	28.12		0.9054	0.9064	+1.7	6.07E+06	1.59	Y	0.94	32.6	8175.345	0.44
13678/13467/12467-PeCDF	29.74		0.9578	0.9588	+1.8	3.84E+06	1.51	Y	0.94	20.6	13228.975	0.712
12368/13478/12478-PeCDF	29.91		0.9632	0.9642	+1.8	1.77E+08	1.56	Y	0.94	951	13228.975	0.712
14678-PeCDF	29.99		0.9666	0.9669	+0.5	6.88E+06	1.60	Y	0.94	37	13228.975	0.712
13479-PeCDF	30.10	J EMPC	0.9696	0.9705	+1.6	2.99E+05	1.29	N	0.94	1.61	13228.975	0.712
13469/12479-PeCDF	30.29		0.9784	0.9765	-3.5	1.00E+06	1.67	Y	0.94	5.37	13228.975	0.712
12346-PeCDF	30.50		0.9828	0.9834	+1.1	1.00E+06	1.41	Y	0.94	5.37	13228.975	0.712

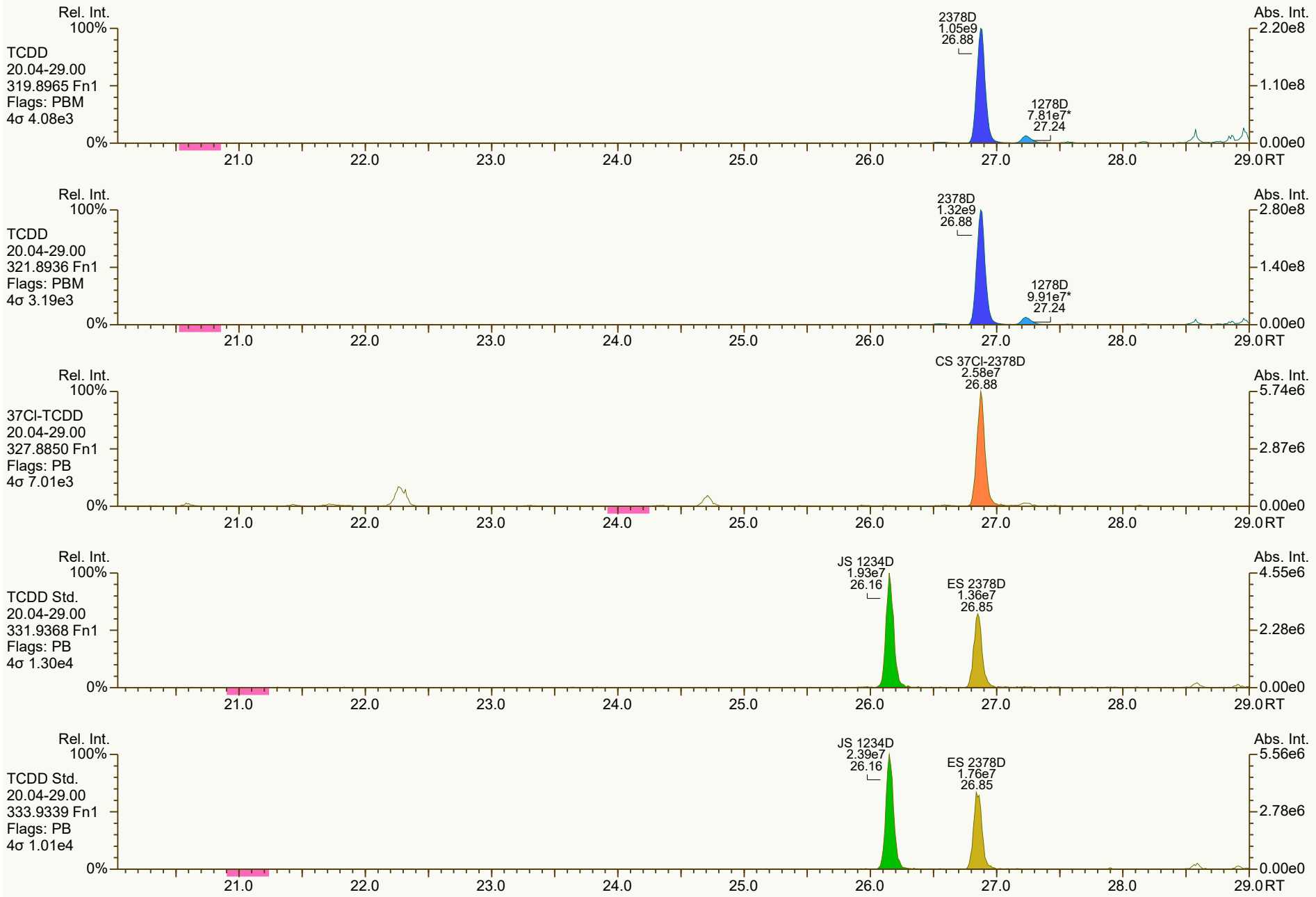
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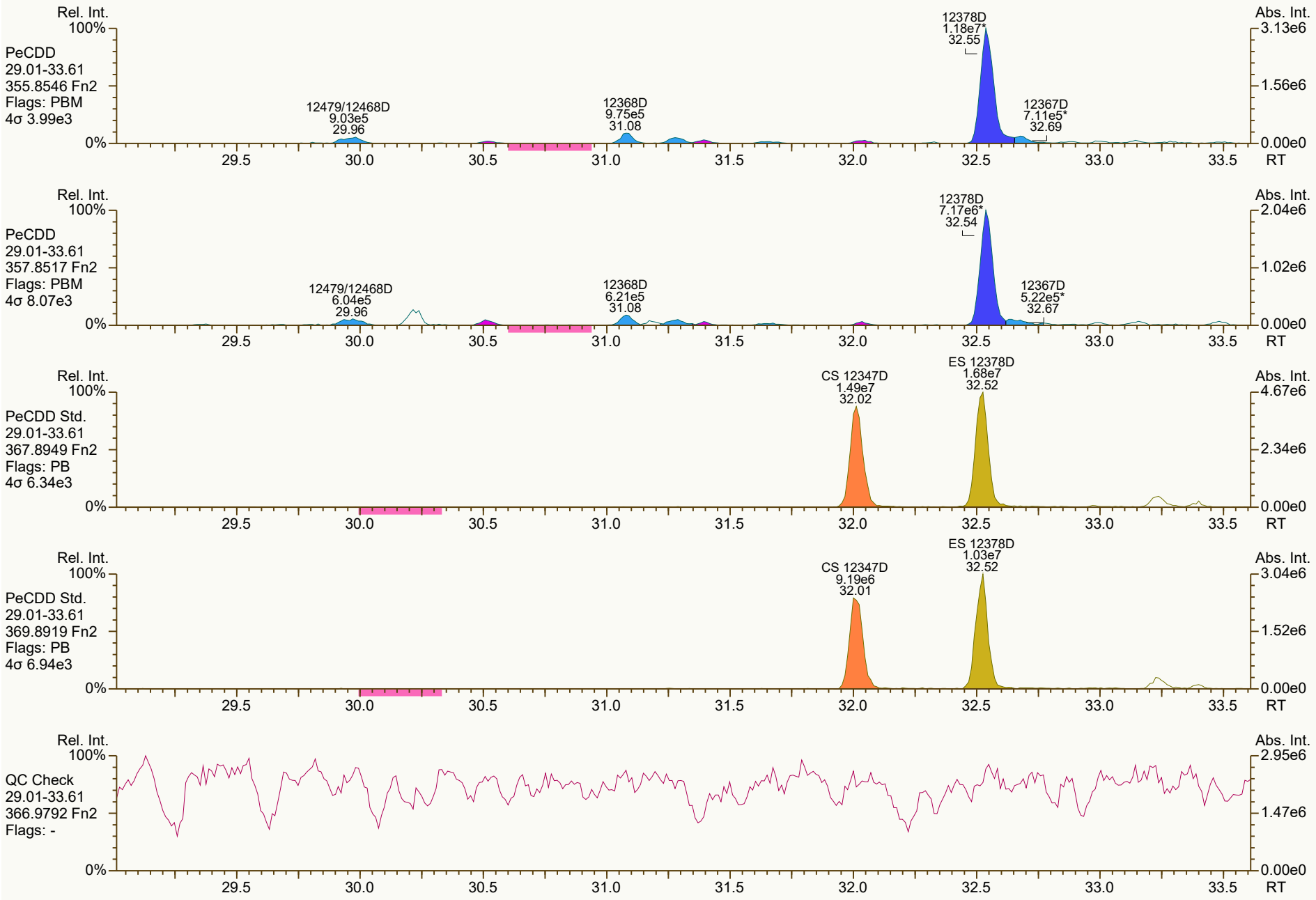
Client ID: 11215131-011222-S-BN-SC-S-29 **UTP:** 19-Jan-2022 09:32:45 PSW **J-level:** 0.438 pg/g **Split:** 1 **Checkcode:** 066-216-FCY

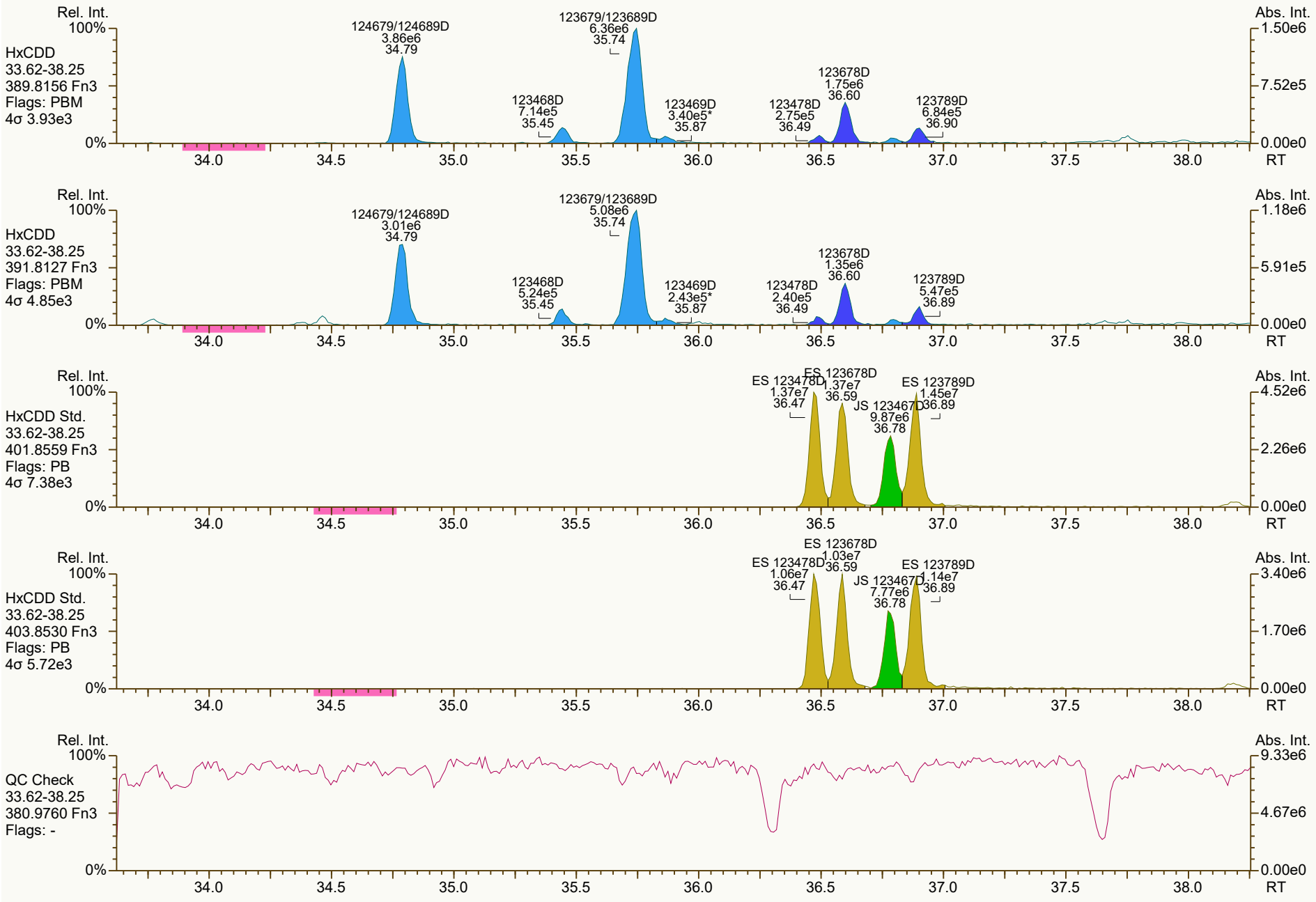
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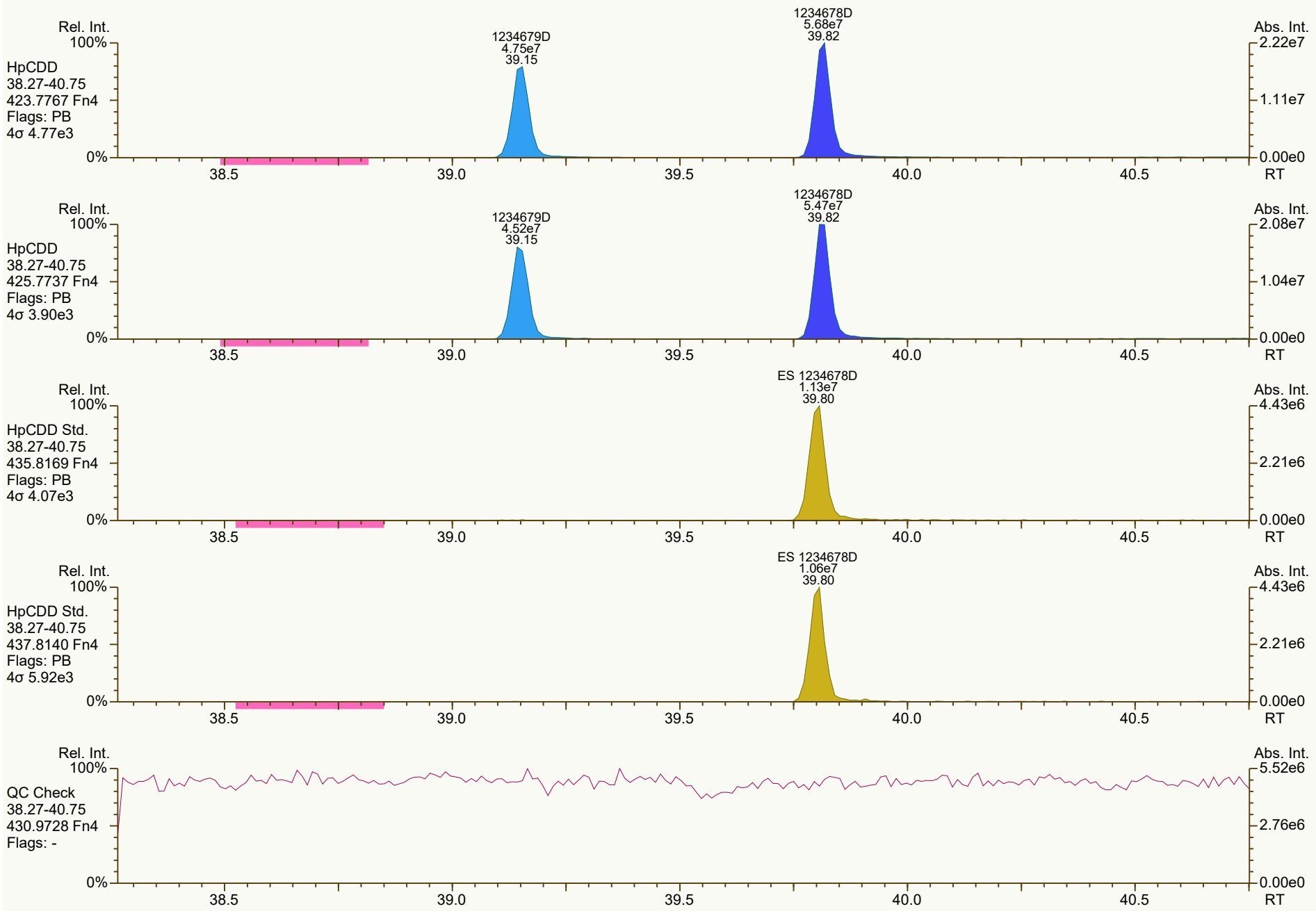
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.63		0.9860	0.9874	+2.6	9.81E+06	1.65	Y	0.94	52.6	13228.975	0.712
12347-PeCDF	NotFnd		0.9884						0.94		13228.975	0.712
12348-PeCDF	30.82		0.9937	0.9937	0	3.35E+07	1.60	Y	0.94	180	13228.975	0.712
12378-PeCDF	**31.04**		**1.0006**	**1.0006**	**0**	**4.78E+08**	**1.57**	**Y**	**0.95**	**2,310**	**13228.975**	**0.586**
12678/12367-PeCDF	31.34		1.0098	1.0103	+0.9	1.17E+08	1.60	Y	0.94	628	13228.975	0.712
12379-PeCDF	NotFnd		1.0155						0.94		13228.975	0.712
12679-PeCDF	NotFnd		0.9922						0.94		13228.975	0.712
23467/12369-PeCDF	32.05		0.9964	0.9960	-0.8	4.22E+06	1.56	Y	0.94	22.7	13228.975	0.712
23478-PeCDF	**32.21**		**1.0006**	**1.0010**	**+0.8**	**2.22E+08**	**1.59**	**Y**	**0.94**	**1,340**	**13228.975**	**0.868**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		13228.975	0.712
12349-PeCDF	NotFnd		1.0105						0.94		13228.975	0.712
12389-PeCDF	33.28		1.0346	1.0342	-0.8	1.50E+07	1.53	Y	0.94	80.4	13228.975	0.712
123468-HxCDF	34.13		0.9609	0.9613	+0.8	4.87E+06	1.25	Y	1.16	25.8	16515.445	0.773
124678/134678-HxCDF	34.33		0.9666	0.9669	+0.6	5.65E+07	1.23	Y	1.16	300	16515.445	0.773
134679-HxCDF	NotFnd		0.9731						1.16		16515.445	0.773
124679-HxCDF	34.75		0.9788	0.9788	0	5.85E+05	1.34	Y	1.16	3.1	16515.445	0.773
124689-HxCDF	34.99		0.9852	0.9855	+0.6	2.84E+07	1.28	Y	1.16	151	16515.445	0.773
123467-HxCDF	35.39		0.9971	0.9968	-0.6	3.68E+06	1.27	Y	1.16	19.5	16515.445	0.773
123478-HxCDF	**35.52**		**1.0005**	**1.0005**	**0**	**8.22E+08**	**1.25**	**Y**	**1.23**	**3,880**	**16515.445**	**0.631**
123678-HxCDF	**35.66**		**1.0005**	**1.0005**	**0**	**2.15E+08**	**1.25**	**Y**	**1.13**	**952**	**16515.445**	**0.627**
123479-HxCDF	NotFnd		1.0050						1.16		16515.445	0.773
123469-HxCDF	NotFnd		1.0092						1.16		16515.445	0.773
123679-HxCDF	NotFnd		0.9942						1.16		16515.445	0.773
234678-HxCDF	**36.32**		**1.0004**	**1.0005**	**+0.2**	**2.40E+07**	**1.28**	**Y**	**1.15**	**207**	**16515.445**	**1.46**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		16515.445	0.773
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**16515.445**	**0.692**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.30		1.0007	1.0013	+1.3	6.23E+07	1.28	Y	1.16	330	16515.445	0.773
1234678-HpCDF	**38.87**		**1.0003**	**1.0003**	**0**	**1.90E+08**	**1.04**	**Y**	**1.36**	**948**	**10553.188**	**0.355**
1234679-HpCDF	39.15		1.0074	1.0075	+0.2	2.87E+06	1.09	Y	1.33	15.8	10553.188	0.377
1234689-HpCDF	39.30		1.0112	1.0114	+0.5	5.05E+07	1.05	Y	1.33	278	10553.188	0.377
1234789-HpCDF	**40.23**		**1.0002**	**1.0002**	**0**	**6.26E+07**	**1.06**	**Y**	**1.30**	**383**	**10553.188**	**0.403**
OCDF	**42.40**		**1.0003**	**1.0003**	**0**	**7.21E+07**	**0.89**	**Y**	**1.03**	**638**	**8363.465**	**0.551**
OCDF-a	42.40		1.0002	1.0002	0	4.22E+06	2.30	Y	0.06	647	8589.189	9.79

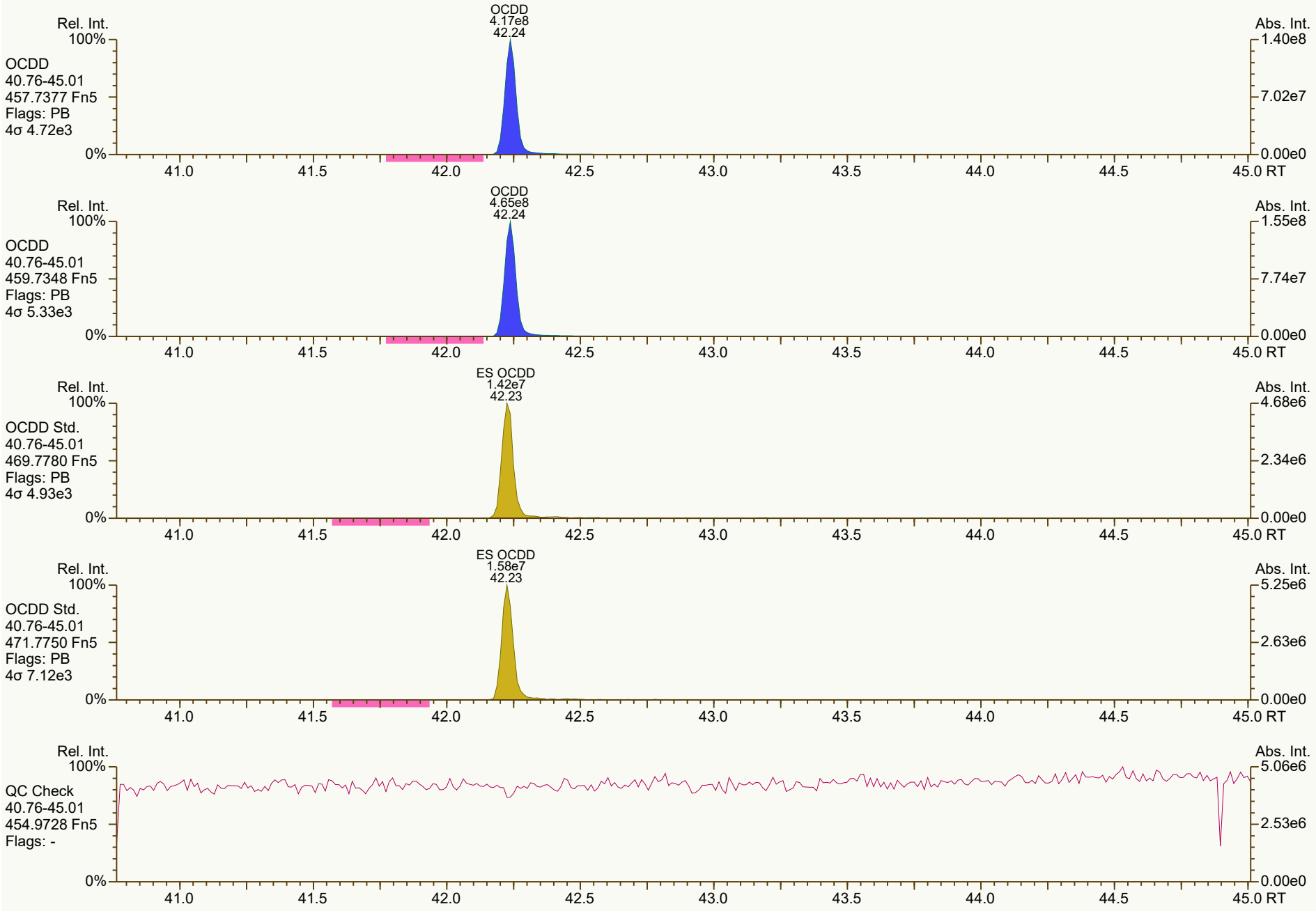

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23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
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100%
QC Check
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0.00e0
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30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
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380.9760 Fn3
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38.0
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Rel. Int.
100%
QC Check
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Rel. Int.
100%
QC Check
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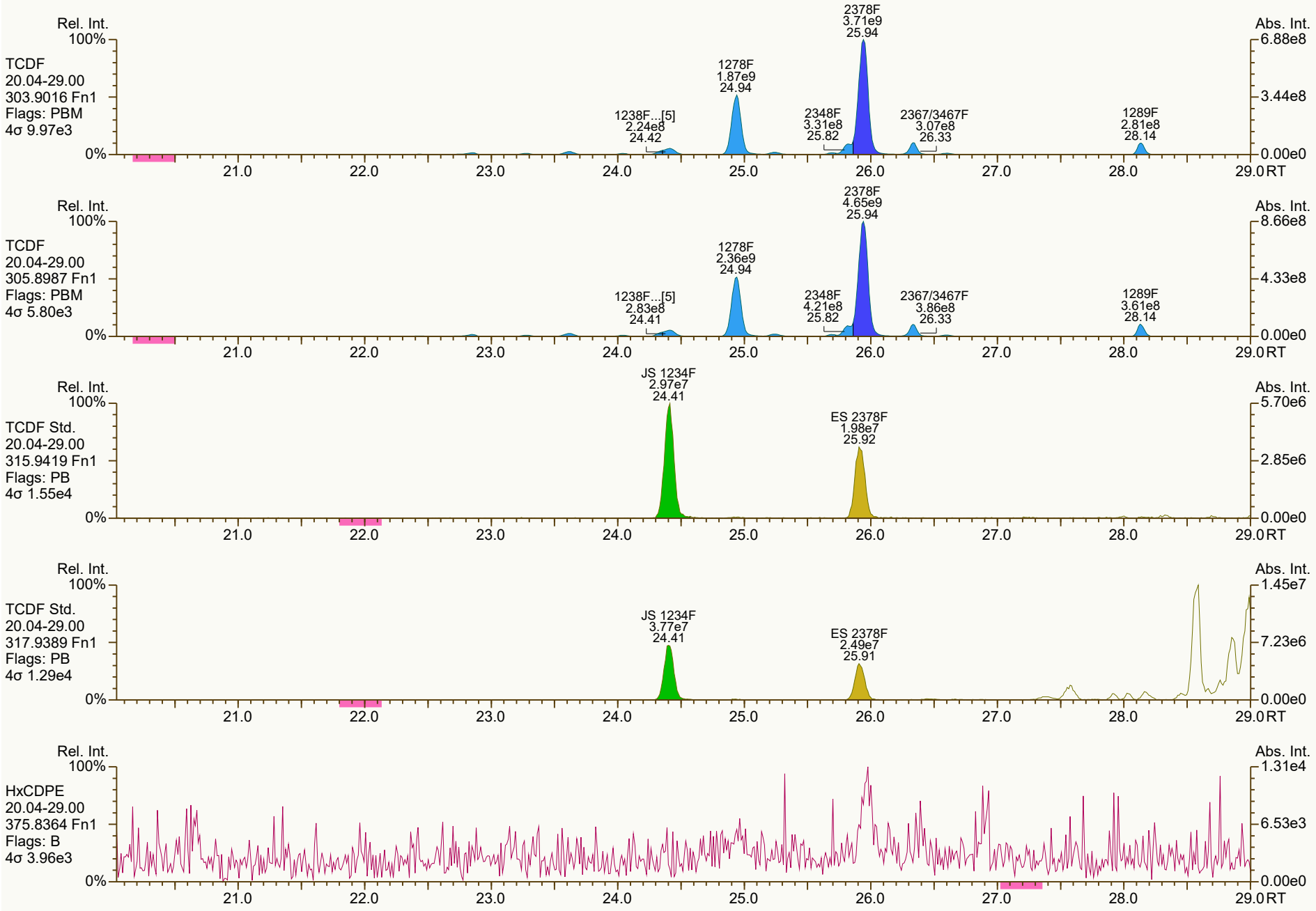

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27.24
Abs. Int.
2.20e8
1.10e8
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 3.19e3
0%
2378D
1.32e9
26.88
1278D
9.91e7*
27.24
Abs. Int.
2.80e8
1.40e8
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 7.01e3
0%
CS 37Cl-2378D
2.58e7
26.88
Abs. Int.
5.74e6
2.87e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 1.30e4
0%
JS 1234D
1.93e7
26.16
ES 2378D
1.36e7
26.85
Abs. Int.
4.55e6
2.28e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 1.01e4
0%
JS 1234D
2.39e7
26.16
ES 2378D
1.76e7
26.85
Abs. Int.
5.56e6
2.78e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PBM
4σ 3.99e3
12479/12468D
9.03e5
29.96
12368D
9.75e5
31.08
12378D
1.18e7*
32.55
12367D
7.11e5*
32.69
0%
Abs. Int.
3.13e6
1.56e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PBM
4σ 8.07e3
12479/12468D
6.04e5
29.96
12368D
6.21e5
31.08
12378D
7.17e6*
32.54
12367D
5.22e5*
32.67
0%
Abs. Int.
2.04e6
1.02e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 6.34e3
CS 12347D
1.49e7
32.02
ES 12378D
1.68e7
32.52
0%
Abs. Int.
4.67e6
2.34e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 6.94e3
CS 12347D
9.19e6
32.01
ES 12378D
1.03e7
32.52
0%
Abs. Int.
3.04e6
1.52e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.95e6
1.47e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT

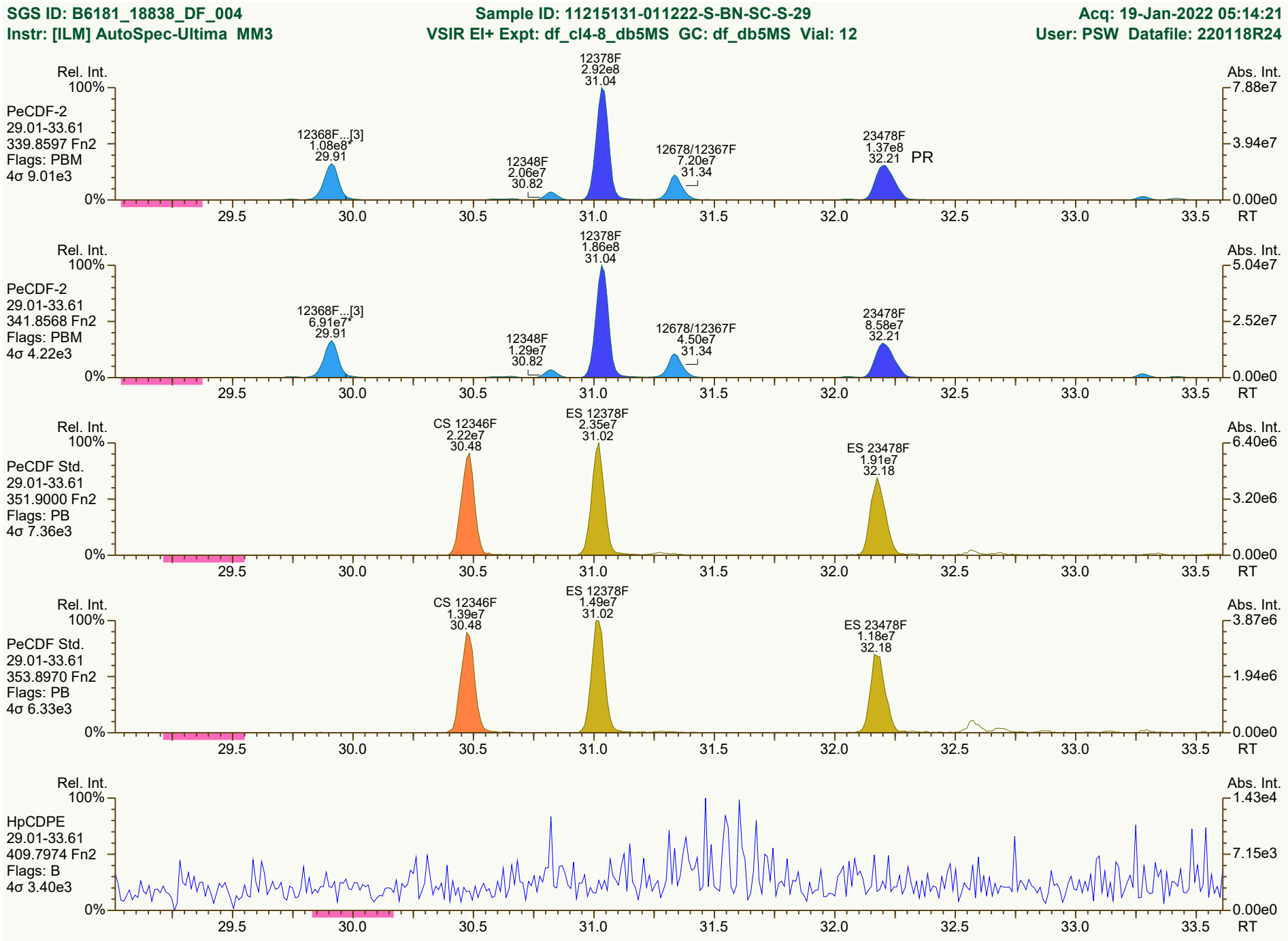

Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 3.93e3
124679/124689D
3.86e6
34.79
123679/123689D
6.36e6
35.74
123468D
7.14e5
35.45
123469D
3.40e5*
35.87
123478D
2.75e5
36.49
123678D
1.75e6
36.60
123789D
6.84e5
36.90
0%
Abs. Int.
1.50e6
7.52e5
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.85e3
124679/124689D
3.01e6
34.79
123679/123689D
5.08e6
35.74
123468D
5.24e5
35.45
123469D
2.43e5*
35.87
123478D
2.40e5
36.49
123678D
1.35e6
36.60
123789D
5.47e5
36.89
0%
Abs. Int.
1.18e6
5.91e5
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 7.38e3
ES 123478D
1.37e7
36.47
ES 123678D
1.37e7
36.59
JS 123467D
9.87e6
36.78
ES 123789D
1.45e7
36.89
0%
Abs. Int.
4.52e6
2.26e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 5.72e3
ES 123478D
1.06e7
36.47
ES 123678D
1.03e7
36.59
JS 123467D
7.77e6
36.78
ES 123789D
1.14e7
36.89
0%
Abs. Int.
3.40e6
1.70e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
9.33e6
4.67e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

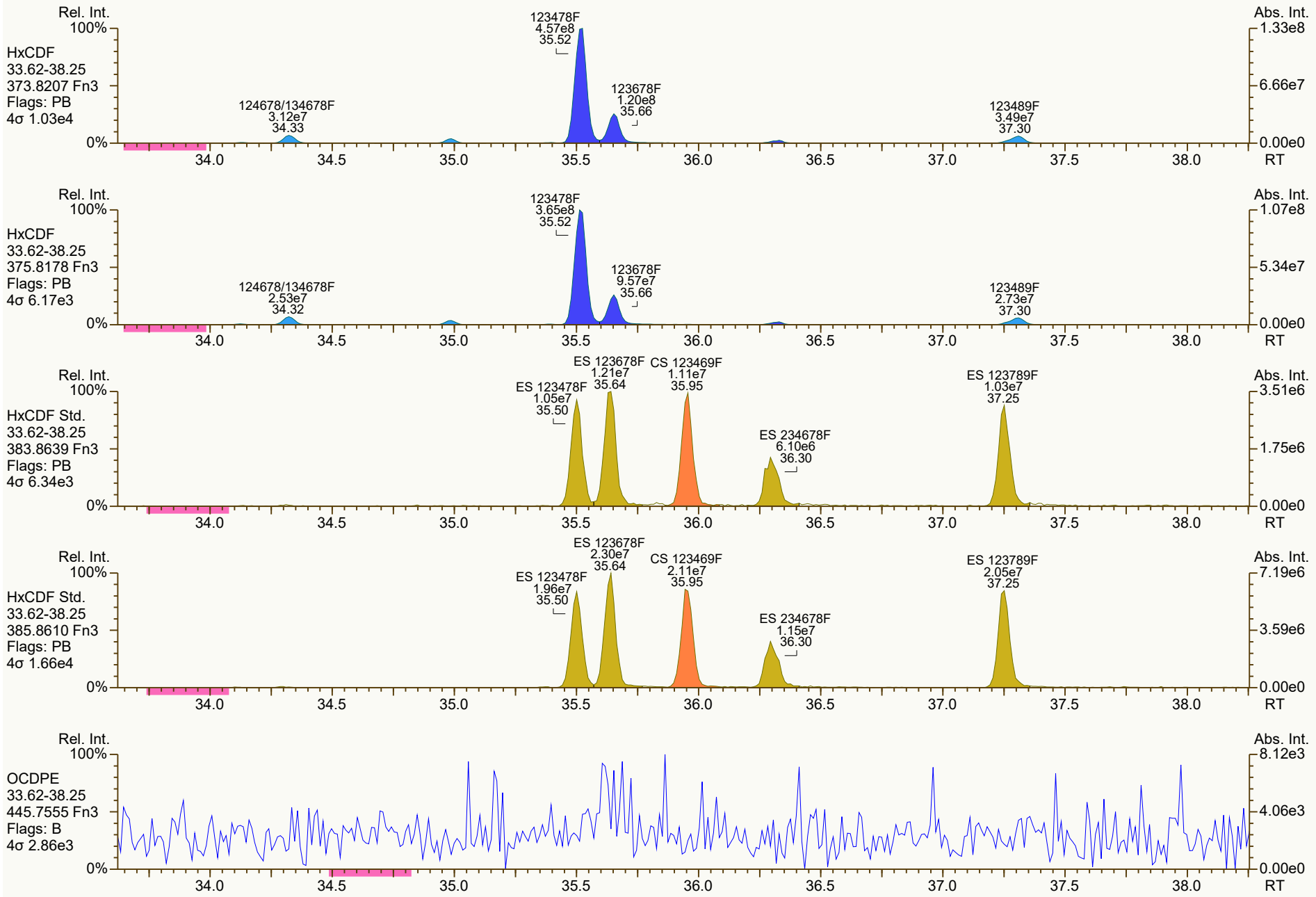

Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 4.77e3
0%
1234679D
4.75e7
39.15
1234678D
5.68e7
39.82
Abs. Int.
2.22e7
1.11e7
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 3.90e3
0%
1234679D
4.52e7
39.15
1234678D
5.47e7
39.82
Abs. Int.
2.08e7
1.04e7
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 4.07e3
0%
ES 1234678D
1.13e7
39.80
Abs. Int.
4.43e6
2.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 5.92e3
0%
ES 1234678D
1.06e7
39.80
Abs. Int.
4.43e6
2.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.52e6
2.76e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT

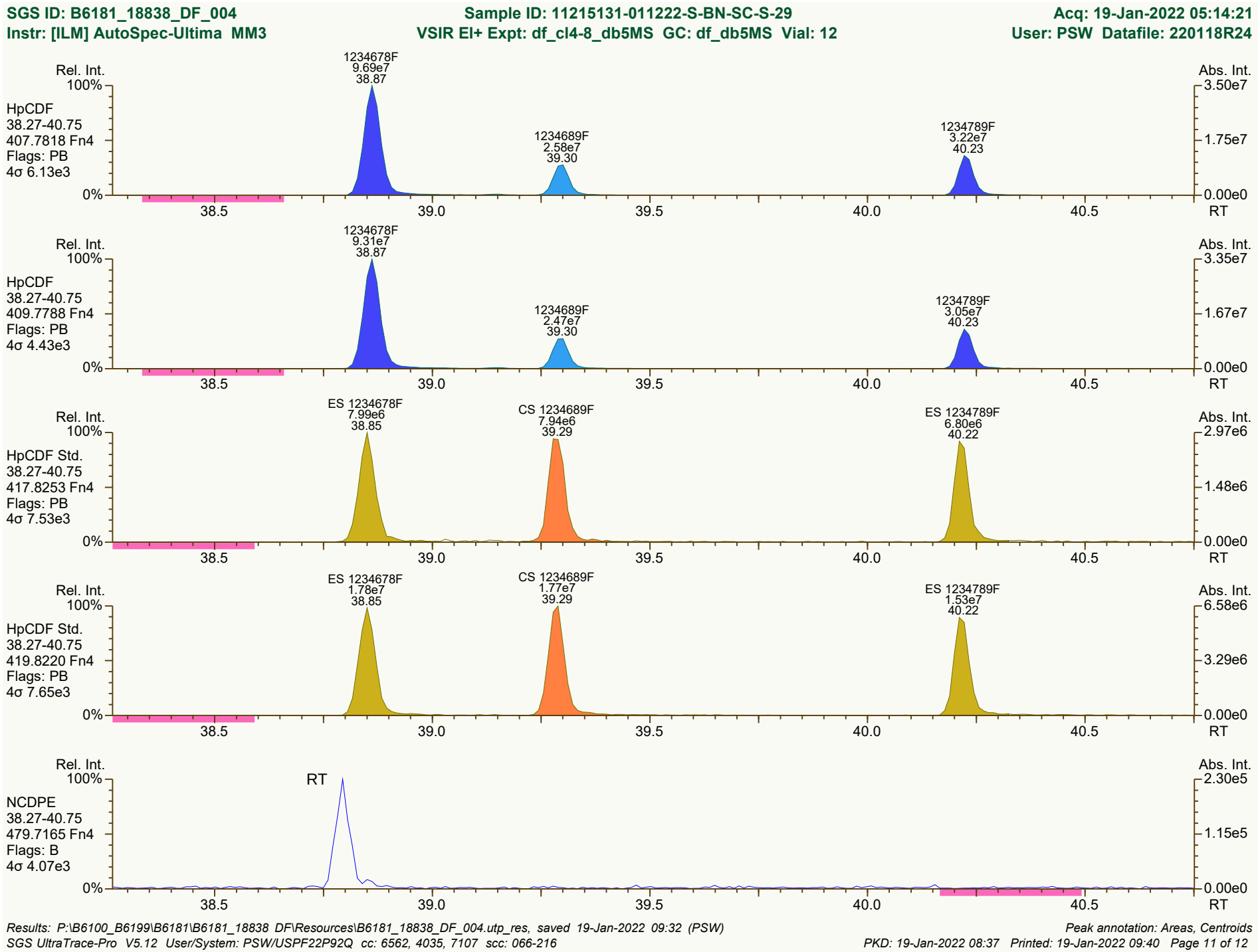

OCDD
4.17e8
42.24
Rel. Int.
100%
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 4.72e3
0%
Abs. Int.
1.40e8
7.02e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.65e8
42.24
Rel. Int.
100%
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 5.33e3
0%
Abs. Int.
1.55e8
7.74e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.42e7
42.23
Rel. Int.
100%
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 4.93e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.58e7
42.23
Rel. Int.
100%
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 7.12e3
0%
Abs. Int.
5.25e6
2.63e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.06e6
2.53e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

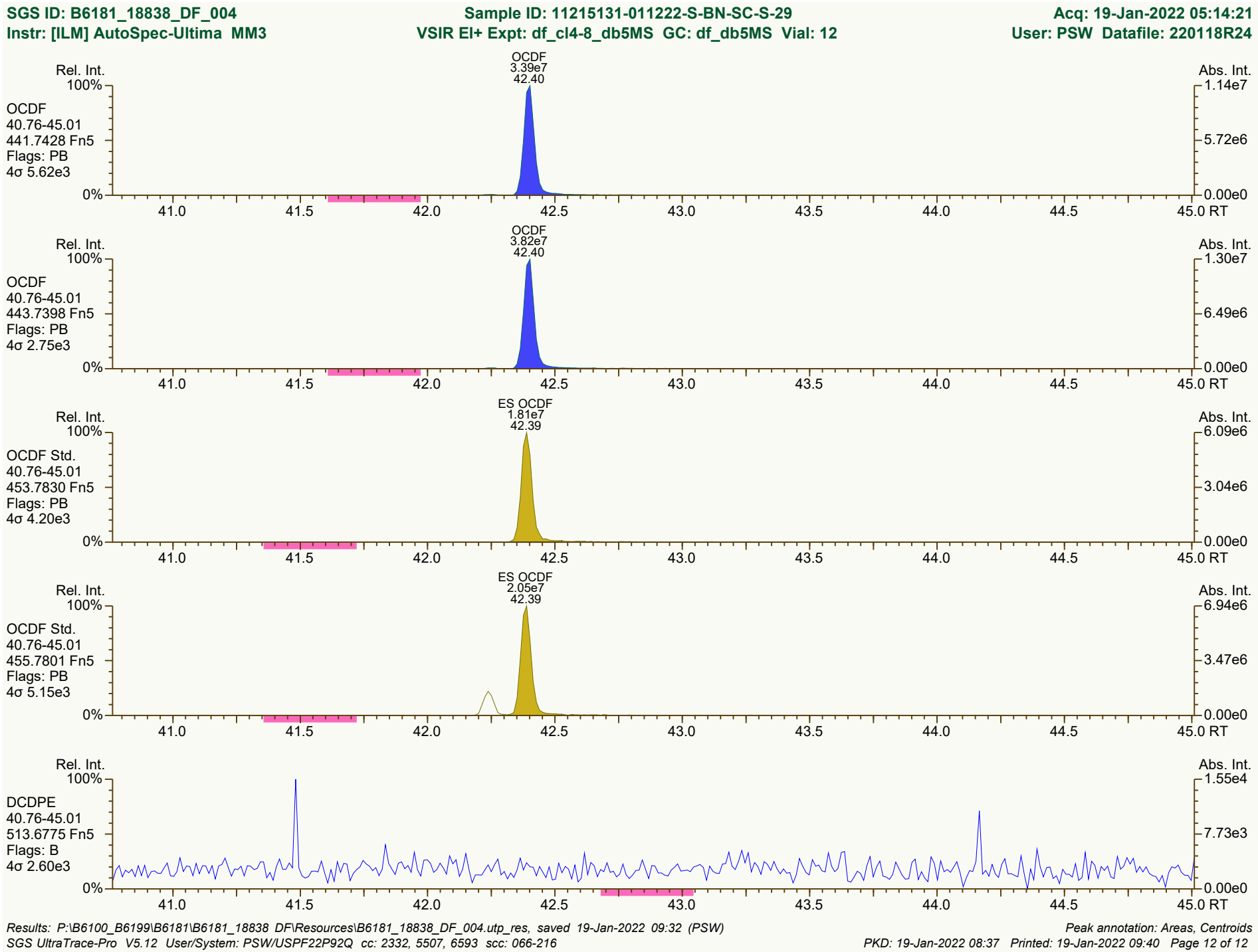

Rel. Int.
100%
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 9.97e3
0%
2378F
3.71e9
25.94
1278F
1.87e9
24.94
1238F...[5]
2.24e8
24.42
2348F
3.31e8
25.82
2367/3467F
3.07e8
26.33
1289F
2.81e8
28.14
Abs. Int.
6.88e8
3.44e8
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 5.80e3
0%
2378F
4.65e9
25.94
1278F
2.36e9
24.94
1238F...[5]
2.83e8
24.41
2348F
4.21e8
25.82
2367/3467F
3.86e8
26.33
1289F
3.61e8
28.14
Abs. Int.
8.66e8
4.33e8
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.55e4
0%
JS 1234F
2.97e7
24.41
ES 2378F
1.98e7
25.92
Abs. Int.
5.70e6
2.85e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 1.29e4
0%
JS 1234F
3.77e7
24.41
ES 2378F
2.49e7
25.91
Abs. Int.
1.45e7
7.23e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 3.96e3
0%
Abs. Int.
1.31e4
6.53e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
0%
Abs. Int.
8.43e5
4.22e5
0.00e0
13468/12468F
3.73e6
28.12
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 3.42e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
5.49e5
2.74e5
0.00e0
13468/12468F
2.34e6
28.12
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.75e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.14e7
5.70e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


SGS ID: B6181_18838_DF_004
Sample ID: 11215131-011222-S-BN-SC-S-29
Acq: 19-Jan-2022 05:14:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220118R24
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 9.01e3
12368F...[3]
1.08e8*
29.91
12348F
2.06e7
30.82
12378F
2.92e8
31.04
12678/12367F
7.20e7
31.34
23478F
1.37e8
32.21
PR
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 4.22e3
12368F...[3]
6.91e7*
29.91
12348F
1.29e7
30.82
12378F
1.86e8
31.04
12678/12367F
4.50e7
31.34
23478F
8.58e7
32.21
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 7.36e3
CS 12346F
2.22e7
30.48
ES 12378F
2.35e7
31.02
ES 23478F
1.91e7
32.18
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 6.33e3
CS 12346F
1.39e7
30.48
ES 12378F
1.49e7
31.02
ES 23478F
1.18e7
32.18
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.40e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_004.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1782, 3748, 2263 scc: 066-216
PKD: 19-Jan-2022 08:37 Printed: 19-Jan-2022 09:40 Page 9 of 12


Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.57e8
35.52
123678F
1.20e8
35.66
124678/134678F
3.12e7
34.33
123489F
3.49e7
37.30
Abs. Int.
1.33e8
6.66e7
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PB
4σ 6.17e3
123478F
3.65e8
35.52
123678F
9.57e7
35.66
124678/134678F
2.53e7
34.32
123489F
2.73e7
37.30
Abs. Int.
1.07e8
5.34e7
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 6.34e3
ES 123678F
1.21e7
35.64
CS 123469F
1.11e7
35.95
ES 123478F
1.05e7
35.50
ES 234678F
6.10e6
36.30
ES 123789F
1.03e7
37.25
Abs. Int.
3.51e6
1.75e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 1.66e4
ES 123678F
2.30e7
35.64
CS 123469F
2.11e7
35.95
ES 123478F
1.96e7
35.50
ES 234678F
1.15e7
36.30
ES 123789F
2.05e7
37.25
Abs. Int.
7.19e6
3.59e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 2.86e3
Abs. Int.
8.12e3
4.06e3
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: B6181_18838_DF_004
Sample ID: 11215131-011222-S-BN-SC-S-29
Acq: 19-Jan-2022 05:14:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220118R24
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 6.13e3
1234678F
9.69e7
38.87
1234689F
2.58e7
39.30
1234789F
3.22e7
40.23
3.50e7
1.75e7
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 4.43e3
1234678F
9.31e7
38.87
1234689F
2.47e7
39.30
1234789F
3.05e7
40.23
3.35e7
1.67e7
0.00e0
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 7.53e3
ES 1234678F
7.99e6
38.85
CS 1234689F
7.94e6
39.29
ES 1234789F
6.80e6
40.22
2.97e6
1.48e6
0.00e0
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 7.65e3
ES 1234678F
1.78e7
38.85
CS 1234689F
1.77e7
39.29
ES 1234789F
1.53e7
40.22
6.58e6
3.29e6
0.00e0
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 4.07e3
RT
2.30e5
1.15e5
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_004.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6562, 4035, 7107 scc: 066-216
PKD: 19-Jan-2022 08:37 Printed: 19-Jan-2022 09:40 Page 11 of 12


SGS ID: B6181_18838_DF_004
Sample ID: 11215131-011222-S-BN-SC-S-29
Acq: 19-Jan-2022 05:14:21
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220118R24
OCDF
3.39e7
42.40
Rel. Int.
Abs. Int.
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 5.62e3
OCDF
3.82e7
42.40
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 2.75e3
ES OCDF
1.81e7
42.39
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 4.20e3
ES OCDF
2.05e7
42.39
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 5.15e3
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 2.60e3
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\B6181_18838_DF_004.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2332, 5507, 6593 scc: 066-216
PKD: 19-Jan-2022 08:37 Printed: 19-Jan-2022 09:40 Page 12 of 12

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
13	220118R13	3	CS3_220118_DF_RB ✓	1.00	SIL 25-347-1	PSW	031-227	18-Jan-2022	20:32:36
16	220118R16	7	OPR1_18838_DF	1.00	0_18838_OPR001	PSW	283-132	18-Jan-2022	22:54:26
17	220118R17	8	OPR2_18838_DF	1.00	0_18838_OPR002	PSW	650-262	18-Jan-2022	23:41:58
18	220118R18	2	SBS_220118_DF_RB	1.00	SIL 20-61-1	PSW	555-594	19-Jan-2022	00:29:31
20	220118R20	6	MB1_18838_DF_SDS	10.00	Method Blank	PSW	978-665	19-Jan-2022	02:04:26
21	220118R21	9	B6181_18838_DF_001	12.17	11215131-011222-S-BN-SC-S-26	PSW	105-037	19-Jan-2022	02:51:54
22	220118R22	10	B6181_18838_DF_002 ✓	13.20	11215131-011222-S-BN-SC-S-27	PSW	984-853	19-Jan-2022	03:39:20
23	220118R23	11	B6181_18838_DF_003	12.85	11215131-011222-S-BN-SC-S-28	PSW	290-471	19-Jan-2022	04:26:53
24	220118R24	12	B6181_18838_DF_004	11.41	11215131-011222-S-BN-SC-S-29	PSW	066-216	19-Jan-2022	05:14:21

REVIEWED
paul_walton , 1/19/2022, 9:47:52 AM

REVIEWED
Amber_Kornegay , 1/19/2022, 11:08:15 AM

Dioxin/Furan QC Summary	Acq'd: 18 Jan 2022 20:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220118_DF_RB	UTP: 19-Jan-2022 09:32:41 PSW	Checkcode: 031-227-LNK
Sample ID: SIL 25-347-1	Report: 19 Jan 2022 09:33 gd	Datafile: 220118R13

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	26.84	4.81E+06	0.77	Y	1.34	1.10	-18%
12378-PeCDD	32.50	2.02E+07	1.60	Y	1.06	1.00	-6%
123478-HxCDD	36.47	1.87E+07	1.23	Y	1.06	1.06	1%
123678-HxCDD	36.58	1.92E+07	1.26	Y	1.08	1.07	-1%
123789-HxCDD	36.87	2.02E+07	1.25	Y	1.02	0.98	-4%
1234678-HpCDD	39.81	1.78E+07	1.05	Y	0.97	1.00	3%
OCDD	42.23	2.85E+07	0.89	Y	1.07	1.18	10%
2378-TCDF	25.90	7.01E+06	0.78	Y	0.96	1.03	7%
12378-PeCDF	30.98	3.04E+07	1.56	Y	0.95	1.02	7%
23478-PeCDF	32.15	3.06E+07	1.55	Y	0.94	1.02	9%
123478-HxCDF	35.49	2.84E+07	1.29	Y	1.23	1.27	3%
123678-HxCDF	35.63	3.04E+07	1.26	Y	1.13	1.16	3%
234678-HxCDF	36.29	2.86E+07	1.27	Y	1.15	1.17	1%
123789-HxCDF	37.25	2.61E+07	1.25	Y	1.14	1.16	2%
1234678-HpCDF	38.85	2.68E+07	1.05	Y	1.36	1.38	1%
1234789-HpCDF	40.23	2.29E+07	1.05	Y	1.30	1.35	4%
OCDF	42.39	3.25E+07	0.91	Y	1.03	1.07	4%
ES 2378-TCDD	26.82	4.37E+07	0.81	Y	1.03	0.98	-6%
ES 12378-PeCDD	32.481	4.04E+07	1.56	Y	1.03	0.90	-13%
ES 123478-HxCDD	36.454	3.53E+07	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	36.564	3.58E+07	1.27	Y	0.97	0.99	2%
ES 123789-HxCDD	36.859	4.13E+07	1.24	Y	1.12	1.15	2%
ES 1234678-HpCDD	39.795	3.55E+07	1.03	Y	0.99	0.98	-1%
ES OCDD	42.219	4.82E+07	0.91	Y	0.78	0.67	-14%
ES 2378-TCDF	25.877	6.83E+07	0.79	Y	1.08	1.01	-7%
ES 12378-PeCDF	30.963	5.98E+07	1.58	Y	0.93	0.89	-5%
ES 23478-PeCDF	32.13	5.98E+07	1.58	Y	0.92	0.89	-4%
ES 123478-HxCDF	35.469	4.49E+07	0.53	Y	1.14	1.24	9%
ES 123678-HxCDF	35.612	5.25E+07	0.53	Y	1.30	1.45	12%
ES 234678-HxCDF	36.276	4.89E+07	0.54	Y	1.20	1.36	13%
ES 123789-HxCDF	37.235	4.50E+07	0.51	Y	1.14	1.25	10%
ES 1234678-HpCDF	38.839	3.90E+07	0.46	Y	0.95	1.08	14%
ES 1234789-HpCDF	40.214	3.39E+07	0.45	Y	0.85	0.94	11%
ES OCDF	42.384	6.07E+07	0.90	Y	0.93	0.84	-9%

Dioxin/Furan QC Summary	Acq'd: 18 Jan 2022 20:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220118_DF_RB	UTP: 19-Jan-2022 09:32:41 PSW	Checkcode: 031-227-LNK
Sample ID: SIL 25-347-1	Report: 19 Jan 2022 09:33 gd	Datafile: 220118R13

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.11	4.47E+07	0.76	Y	-	-	-
JS 1234-TCDF	24.37	6.74E+07	0.78	Y	-	-	-
JS 123467-HxCDD	36.76	1.81E+07	1.19	Y	-	-	-
CS 37Cl-2378-TCDD	26.84	5.50E+06	n/a	-	1.31	1.23	-6%
CS 12347-PeCDD	31.97	3.70E+07	1.63	Y	0.89	0.83	-7%
CS 12346-PeCDF	30.41	5.79E+07	1.55	Y	0.87	0.86	-1%
CS 123469-HxCDF	35.93	4.88E+07	0.52	Y	1.09	1.35	24%
CS 1234689-HpCDF	39.27	3.95E+07	0.45	Y	0.86	1.09	27%
~~SS 37Cl-2378-TCDD~~	~~26.84~~	~~5.50E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.26~~	~~0%~~
~~SS 12347-PeCDD~~	~~31.97~~	~~3.70E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~0.92~~	~~6%~~
~~SS 12346-PeCDF~~	~~30.41~~	~~5.79E+07~~	~~1.55~~	~~Y~~	~~0.93~~	~~0.97~~	~~4%~~
~~SS 123469-HxCDF~~	~~35.93~~	~~4.88E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~0.93~~	~~11%~~
~~SS 1234689-HpCDF~~	~~39.27~~	~~3.95E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~1.01~~	~~11%~~
~~OCDD-a~~	~~42.22~~	~~1.66E+06~~	~~2.46~~	~~Y~~	~~0.07~~	~~0.07~~	~~4%~~
~~OCDF-a~~	~~42.39~~	~~1.75E+06~~	~~2.60~~	~~Y~~	~~0.06~~	~~0.06~~	~~-3%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220118R13 Analysis Date: 18-JAN-2022 20:32:36

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.77	0.65 - 0.89	Y	8.19	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32 - 1.78	Y	47.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	49.4	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	48.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	51.4	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	110	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.7	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	53.7	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	54.5	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.29	1.05 - 1.43	Y	51.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	51.3	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	50.7	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	50.6	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	104	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 19 Jan 2022 09:33 Analyst: gd

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

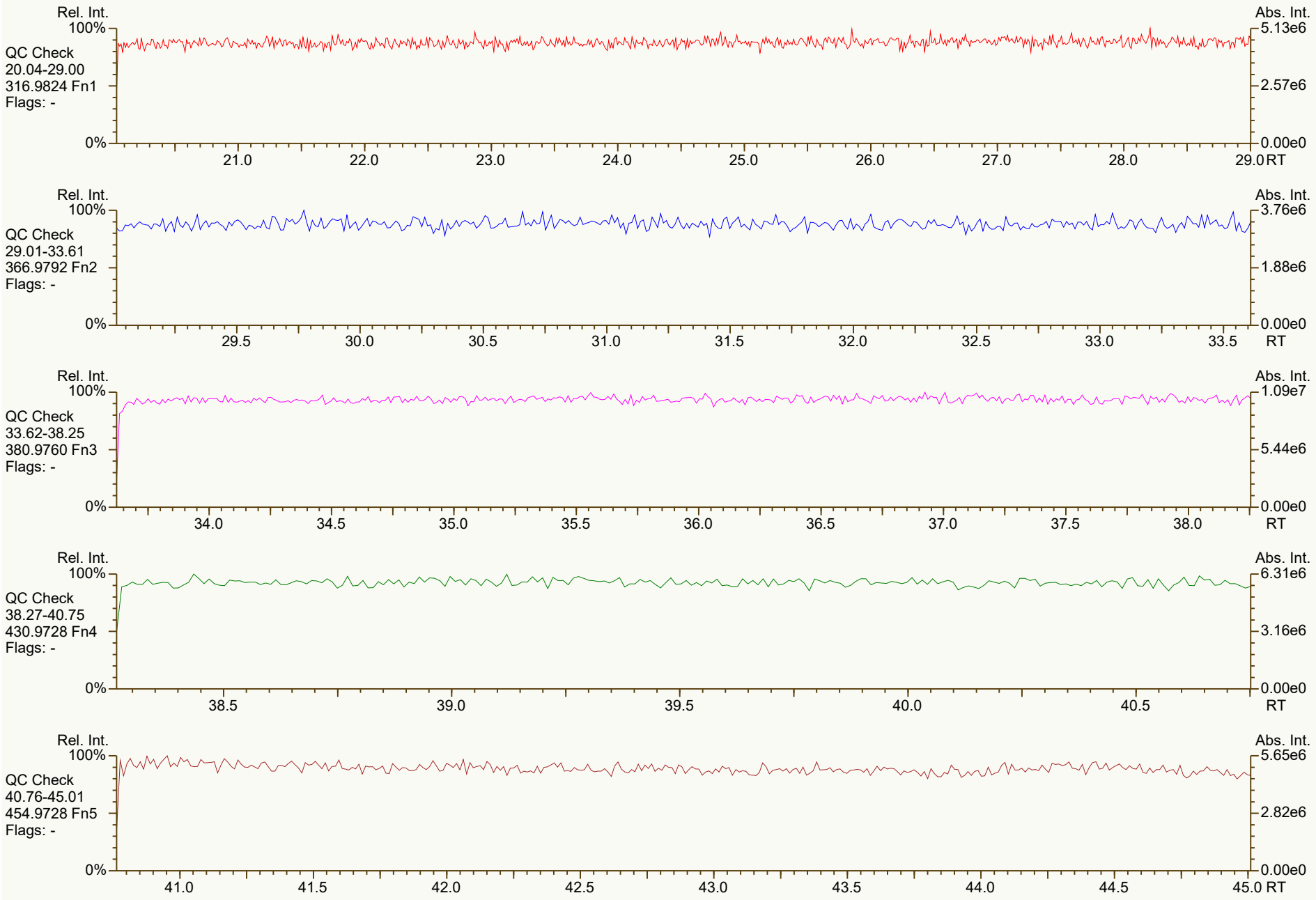
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

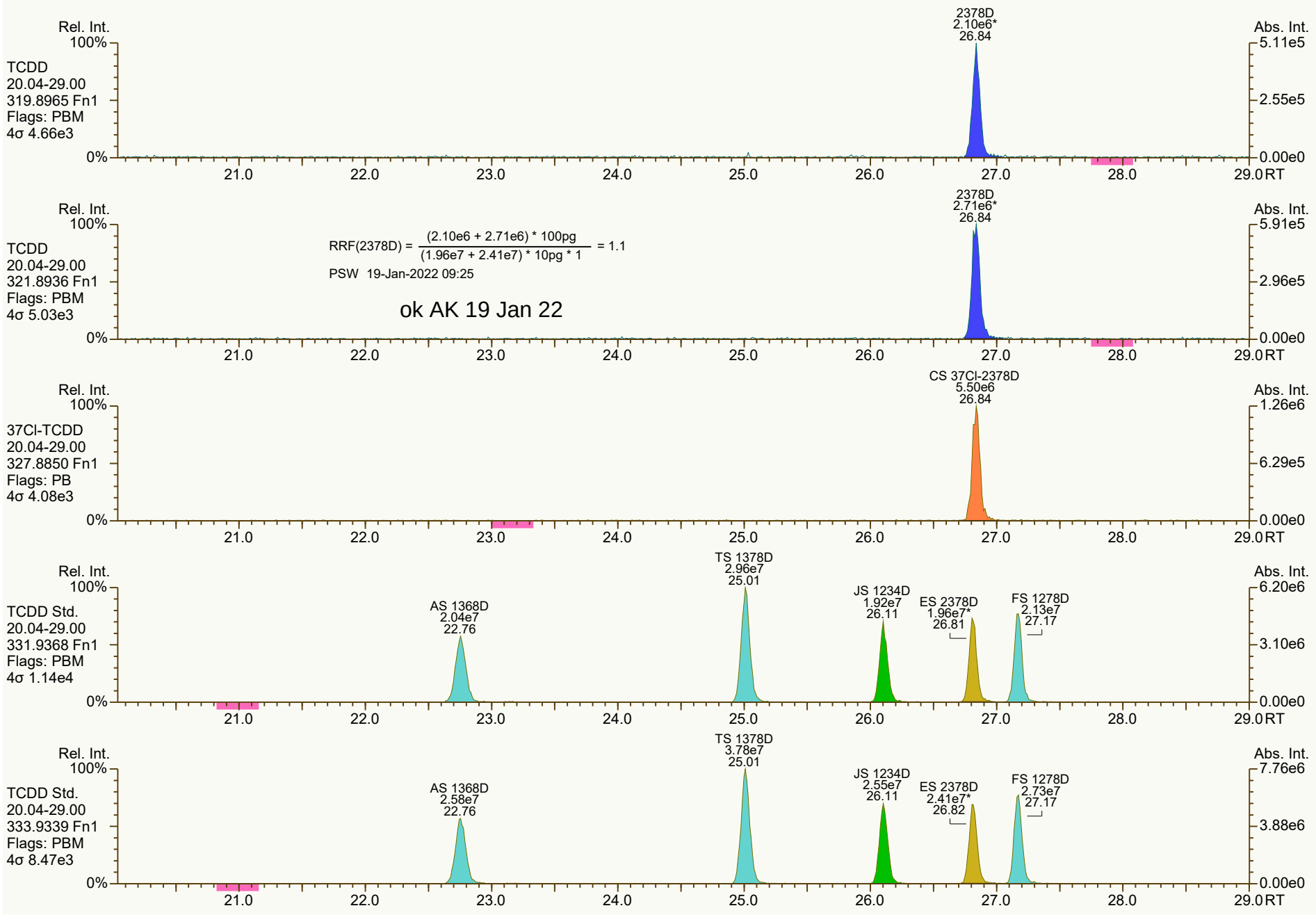
Instrument ID: MM3 GC Column ID: ZB-5ms

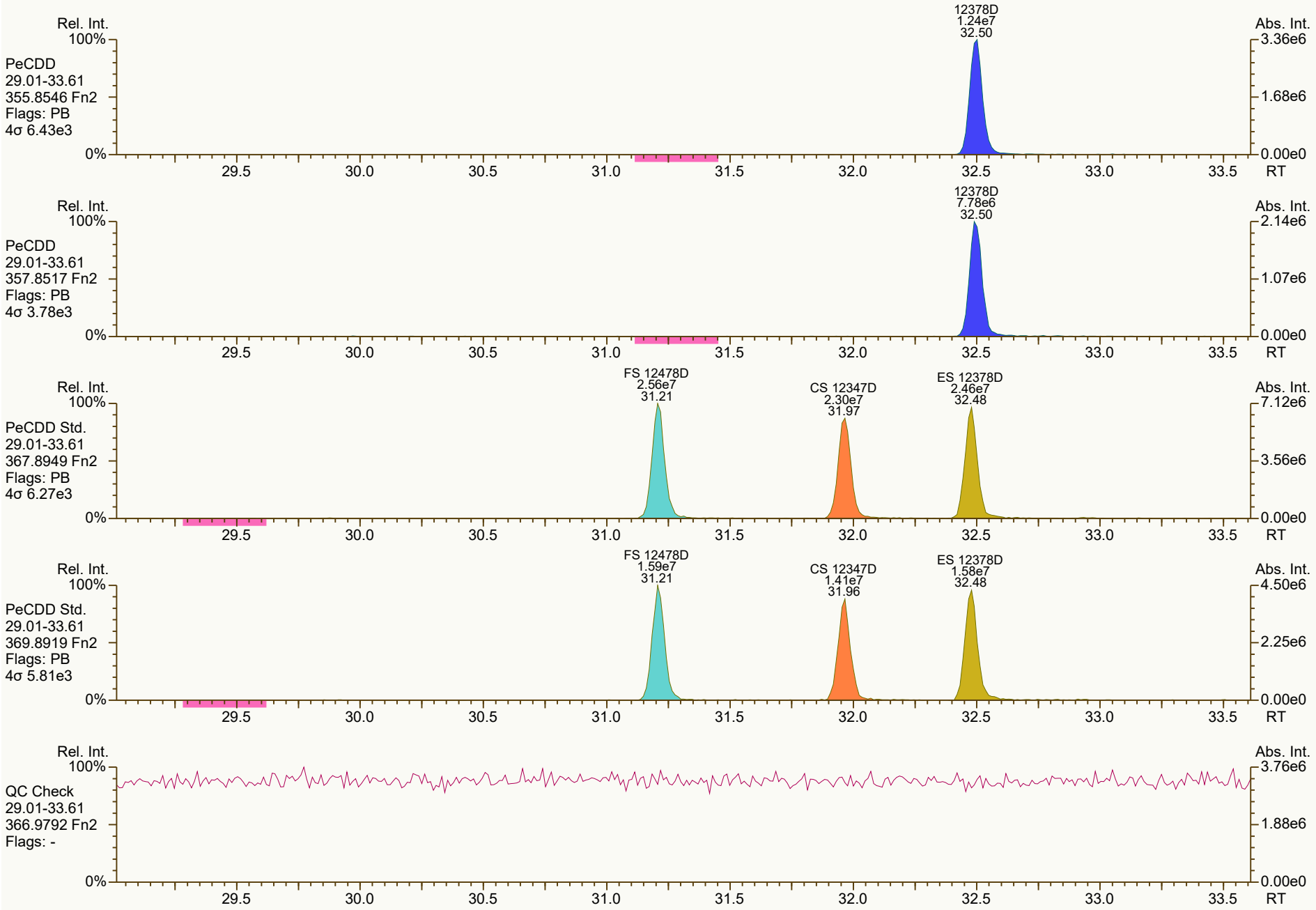
VER Data Filename: 220118R13 Analysis Date: 18-JAN-2022 20:32:36

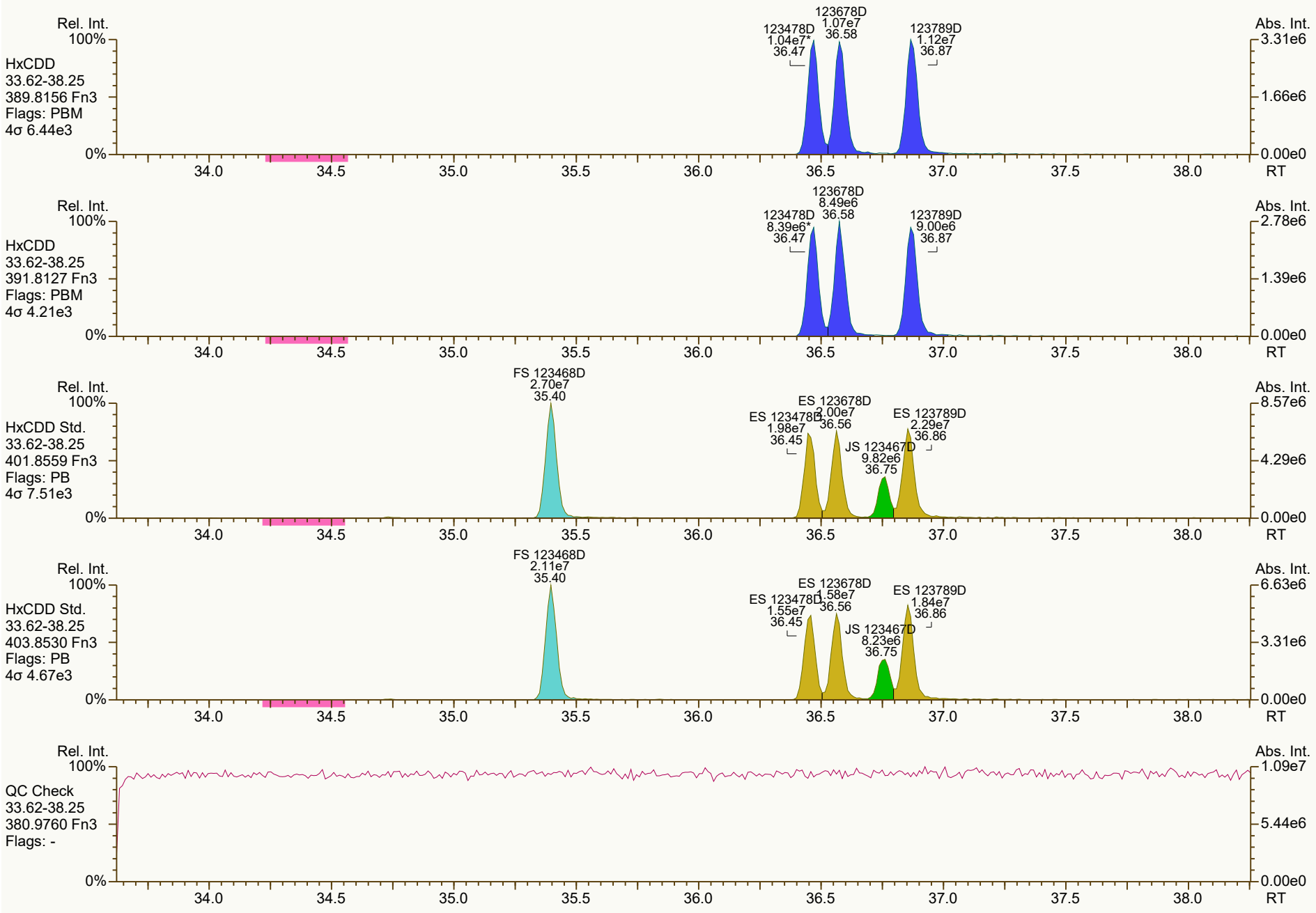
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	94.4	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	87.4	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.3	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	99.1	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	172	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	93.5	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	95.1	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	96.2	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	112	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	113	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	110	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	114	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	111	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	182	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.39	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.63	1.32	-	1.78	Y	92.8	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	99	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	127	70	-	130	Y

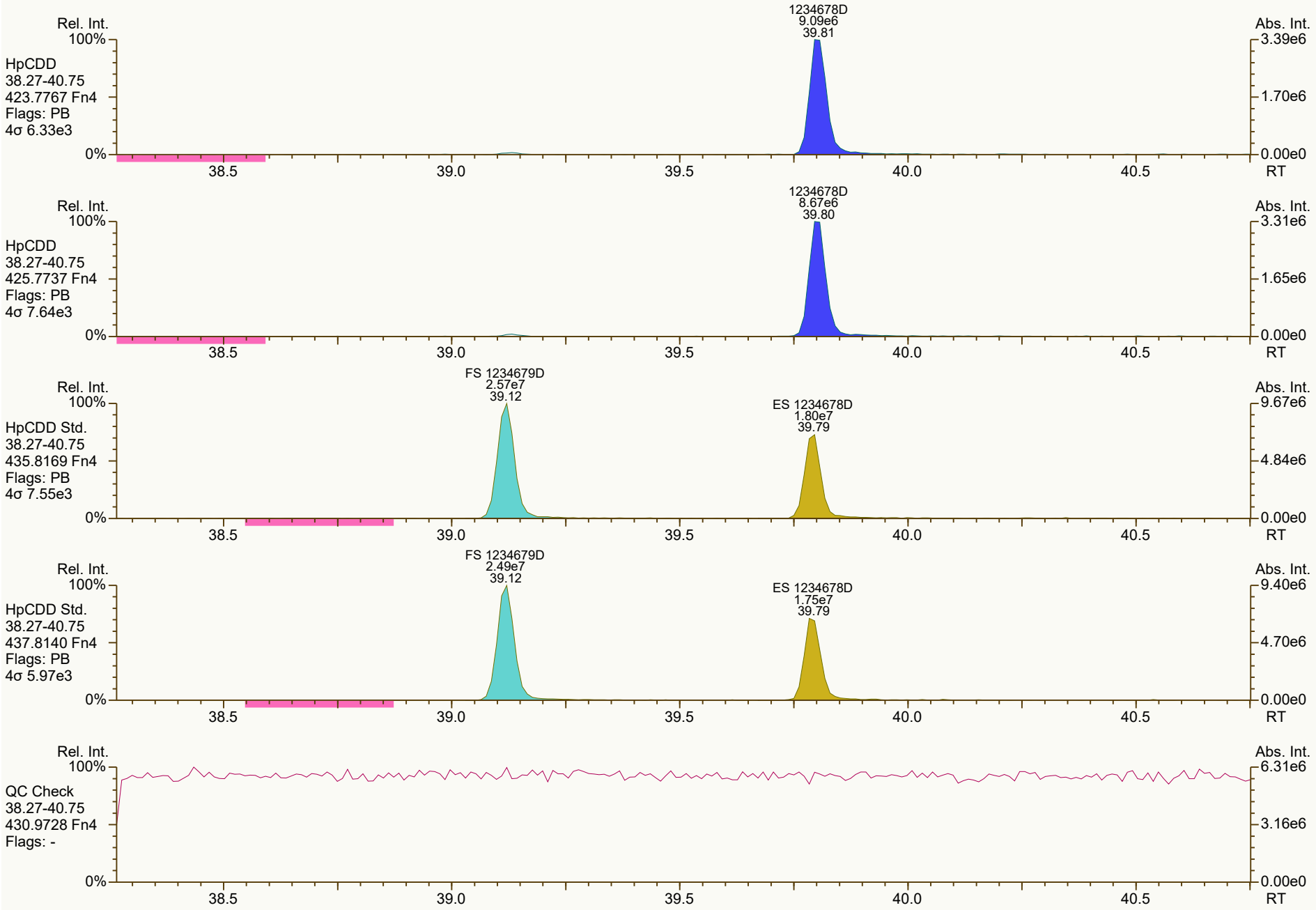
Processed: 19 Jan 2022 09:33 Analyst: gd


Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.13e6
2.57e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.76e6
1.88e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.09e7
5.44e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.65e6
2.82e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 4.66e3
0%
2378D
2.10e6*
26.84
Abs. Int.
5.11e5
2.55e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 5.03e3
0%
RRF(2378D) = (2.10e6 + 2.71e6) * 100pg / (1.96e7 + 2.41e7) * 10pg * 1 = 1.1
PSW 19-Jan-2022 09:25
ok AK 19 Jan 22
2378D
2.71e6*
26.84
Abs. Int.
5.91e5
2.96e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 4.08e3
0%
CS 37Cl-2378D
5.50e6
26.84
Abs. Int.
1.26e6
6.29e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PBM
4σ 1.14e4
0%
AS 1368D
2.04e7
22.76
TS 1378D
2.96e7
25.01
JS 1234D
1.92e7
26.11
ES 2378D
1.96e7*
26.81
FS 1278D
2.13e7
27.17
Abs. Int.
6.20e6
3.10e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PBM
4σ 8.47e3
0%
AS 1368D
2.58e7
22.76
TS 1378D
3.78e7
25.01
JS 1234D
2.55e7
26.11
ES 2378D
2.41e7*
26.82
FS 1278D
2.73e7
27.17
Abs. Int.
7.76e6
3.88e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PB
4σ 6.43e3
12378D
1.24e7
32.50
Abs. Int.
3.36e6
1.68e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PB
4σ 3.78e3
12378D
7.78e6
32.50
Abs. Int.
2.14e6
1.07e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 6.27e3
FS 12478D
2.56e7
31.21
CS 12347D
2.30e7
31.97
ES 12378D
2.46e7
32.48
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 5.81e3
FS 12478D
1.59e7
31.21
CS 12347D
1.41e7
31.96
ES 12378D
1.58e7
32.48
Abs. Int.
4.50e6
2.25e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
Abs. Int.
3.76e6
1.88e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT

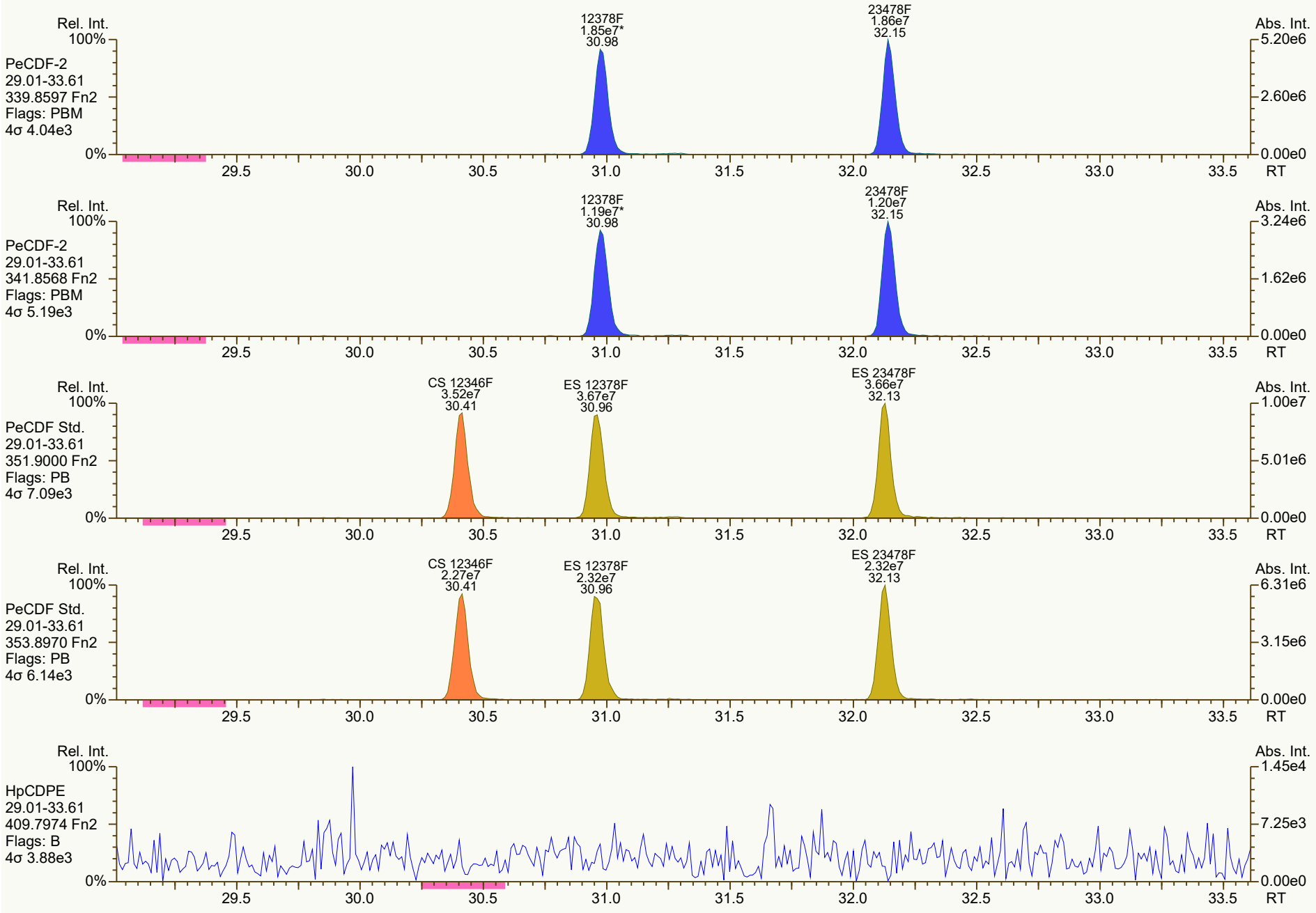

Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PBM
4σ 6.44e3
123478D
1.04e7*
36.47
123678D
1.07e7
36.58
123789D
1.12e7
36.87
Abs. Int.
3.31e6
1.66e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PBM
4σ 4.21e3
123478D
8.39e6*
36.47
123678D
8.49e6
36.58
123789D
9.00e6
36.87
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PB
4σ 7.51e3
FS 123468D
2.70e7
35.40
ES 123478D
1.98e7
36.45
ES 123678D
2.00e7
36.56
JS 123467D
9.82e6
36.75
ES 123789D
2.29e7
36.86
Abs. Int.
8.57e6
4.29e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PB
4σ 4.67e3
FS 123468D
2.11e7
35.40
ES 123478D
1.55e7
36.45
ES 123678D
1.58e7
36.56
JS 123467D
8.23e6
36.75
ES 123789D
1.84e7
36.86
Abs. Int.
6.63e6
3.31e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
Abs. Int.
1.09e7
5.44e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

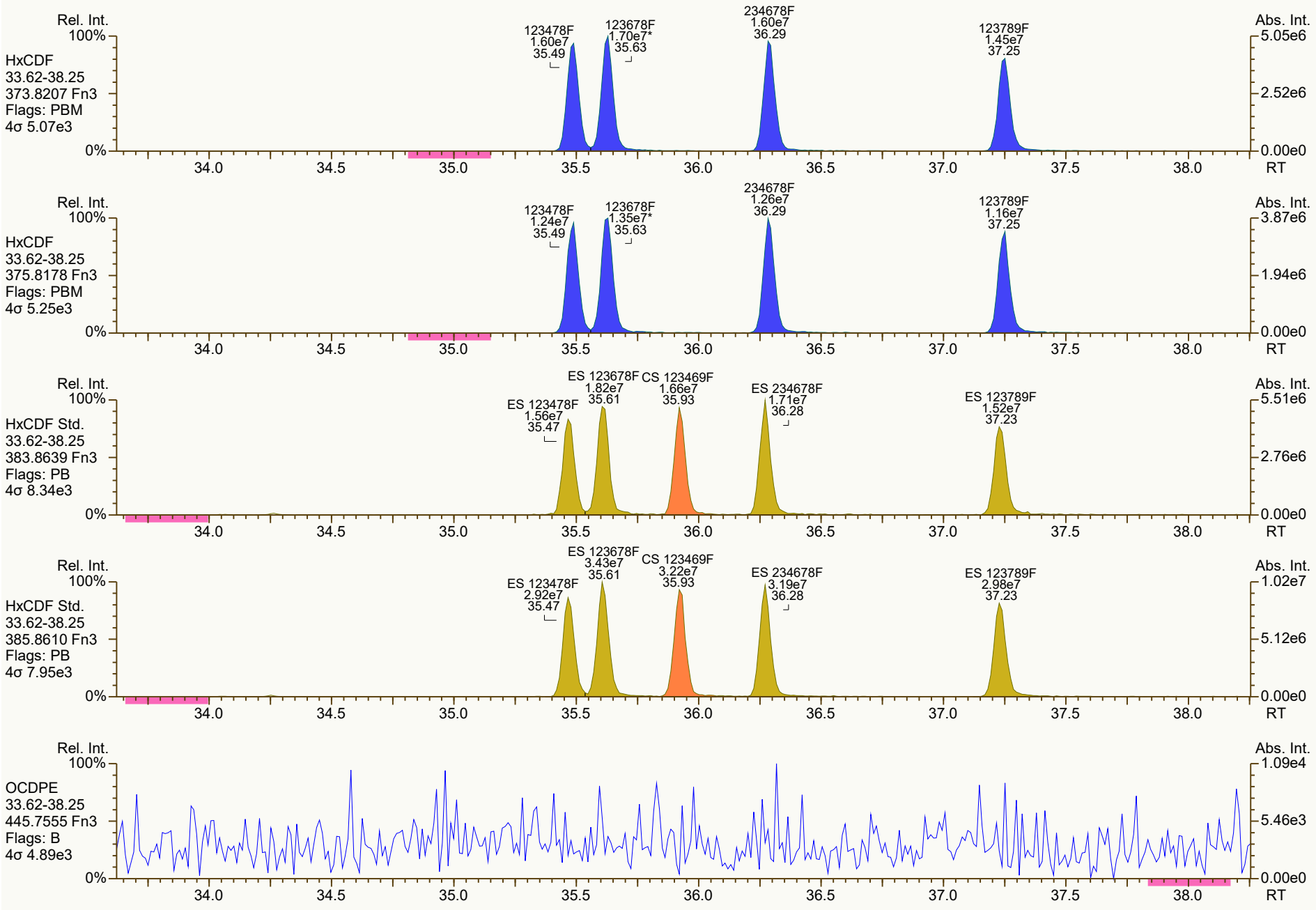

Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 6.33e3
0%
1234678D
9.09e6
39.81
Abs. Int.
3.39e6
1.70e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 7.64e3
0%
1234678D
8.67e6
39.80
Abs. Int.
3.31e6
1.65e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 7.55e3
0%
FS 1234679D
2.57e7
39.12
ES 1234678D
1.80e7
39.79
Abs. Int.
9.67e6
4.84e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 5.97e3
0%
FS 1234679D
2.49e7
39.12
ES 1234678D
1.75e7
39.79
Abs. Int.
9.40e6
4.70e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT

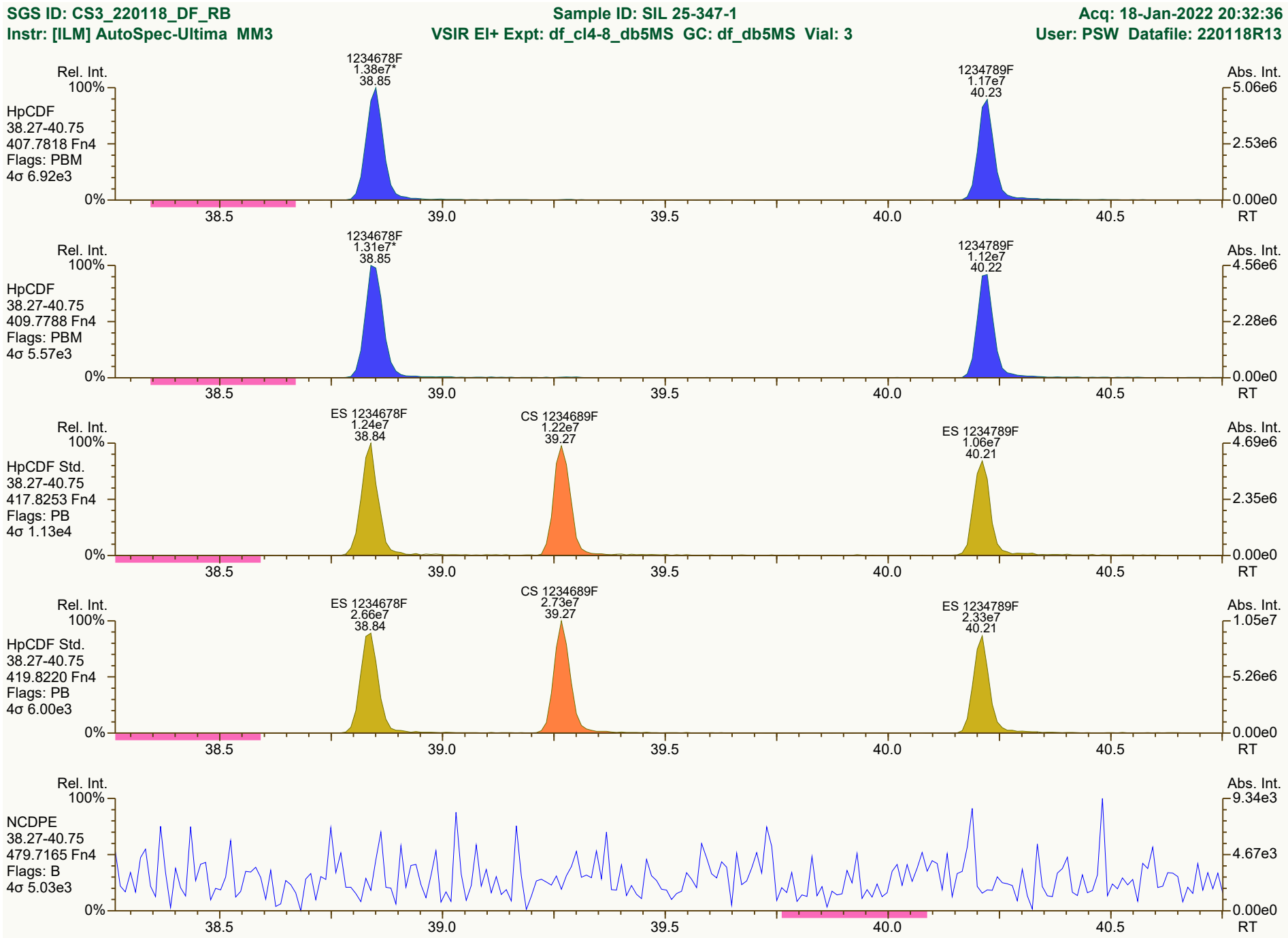

OCDD
1.34e7
42.23
Rel. Int.
Abs. Int.
100%
0%
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 7.75e3
4.46e6
2.23e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.51e7
42.23
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 9.82e3
4.79e6
2.39e6
ES OCDD
2.29e7
42.22
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 1.02e4
7.95e6
3.97e6
ES OCDD
2.53e7
42.22
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 6.51e3
8.58e6
4.29e6
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
5.65e6
2.82e6

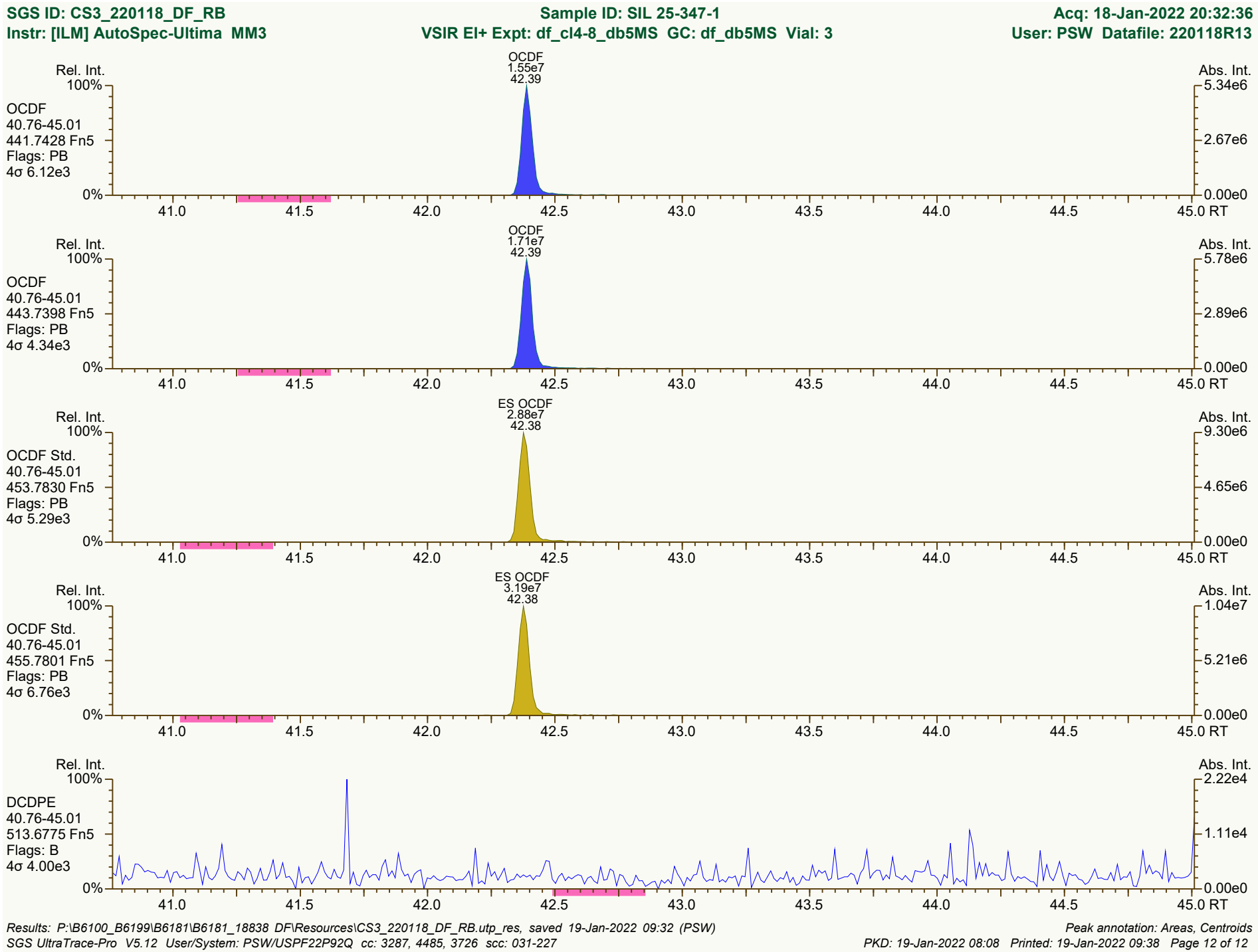

SGS ID: CS3_220118_DF_RB
Sample ID: SIL 25-347-1
Acq: 18-Jan-2022 20:32:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220118R13
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 5.07e3
2378F
3.06e6
25.90
6.68e5
3.34e5
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PB
4σ 3.51e3
2378F
3.95e6
25.90
8.39e5
4.19e5
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PBM
4σ 1.57e4
AS 1368F
3.36e7*
20.54
JS 1234F
2.95e7
24.37
ES 2378F
3.02e7
25.88
6.59e6
3.30e6
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PBM
4σ 1.70e4
AS 1368F
4.30e7*
20.54
JS 1234F
3.79e7
24.37
ES 2378F
3.81e7
25.88
8.17e6
4.09e6
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 3.91e3
2.19e4
1.09e4
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\CS3_220118_DF_RB.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6790, 9622, 4829 scc: 031-227
PKD: 19-Jan-2022 08:08 Printed: 19-Jan-2022 09:38 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.24e4
6.20e3
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 5.15e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.81e4
1.90e4
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 5.36e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.13e6
2.57e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PBM
4σ 4.04e3
0%
12378F
1.85e7*
30.98
23478F
1.86e7
32.15
Abs. Int.
5.20e6
2.60e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PBM
4σ 5.19e3
0%
12378F
1.19e7*
30.98
23478F
1.20e7
32.15
Abs. Int.
3.24e6
1.62e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 7.09e3
0%
CS 12346F
3.52e7
30.41
ES 12378F
3.67e7
30.96
ES 23478F
3.66e7
32.13
Abs. Int.
1.00e7
5.01e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 6.14e3
0%
CS 12346F
2.27e7
30.41
ES 12378F
2.32e7
30.96
ES 23478F
2.32e7
32.13
Abs. Int.
6.31e6
3.15e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.88e3
0%
Abs. Int.
1.45e4
7.25e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PBM
4σ 5.07e3
123478F
1.60e7
35.49
123678F
1.70e7*
35.63
234678F
1.60e7
36.29
123789F
1.45e7
37.25
Abs. Int.
5.05e6
2.52e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PBM
4σ 5.25e3
123478F
1.24e7
35.49
123678F
1.35e7*
35.63
234678F
1.26e7
36.29
123789F
1.16e7
37.25
Abs. Int.
3.87e6
1.94e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 8.34e3
ES 123478F
1.56e7
35.47
ES 123678F
1.82e7
35.61
CS 123469F
1.66e7
35.93
ES 234678F
1.71e7
36.28
ES 123789F
1.52e7
37.23
Abs. Int.
5.51e6
2.76e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 7.95e3
ES 123478F
2.92e7
35.47
ES 123678F
3.43e7
35.61
CS 123469F
3.22e7
35.93
ES 234678F
3.19e7
36.28
ES 123789F
2.98e7
37.23
Abs. Int.
1.02e7
5.12e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.89e3
Abs. Int.
1.09e4
5.46e3
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS3_220118_DF_RB
Sample ID: SIL 25-347-1
Acq: 18-Jan-2022 20:32:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220118R13
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PBM
4σ 6.92e3
1234678F
1.38e7*
38.85
1234789F
1.17e7
40.23
5.06e6
2.53e6
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PBM
4σ 5.57e3
1234678F
1.31e7*
38.85
1234789F
1.12e7
40.22
4.56e6
2.28e6
0.00e0
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PB
4σ 1.13e4
ES 1234678F
1.24e7
38.84
CS 1234689F
1.22e7
39.27
ES 1234789F
1.06e7
40.21
4.69e6
2.35e6
0.00e0
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PB
4σ 6.00e3
ES 1234678F
2.66e7
38.84
CS 1234689F
2.73e7
39.27
ES 1234789F
2.33e7
40.21
1.05e7
5.26e6
0.00e0
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 5.03e3
9.34e3
4.67e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\CS3_220118_DF_RB.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4185, 9471, 2010 scc: 031-227
PKD: 19-Jan-2022 08:08 Printed: 19-Jan-2022 09:38 Page 11 of 12



Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\CS3_220118_DF_RB.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3287, 4485, 3726 scc: 031-227
PKD: 19-Jan-2022 08:08 Printed: 19-Jan-2022 09:38 Page 12 of 12


Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.92e6
2.46e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.67e6
1.84e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.02e7
5.08e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.07e6
3.03e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.68e6
2.84e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

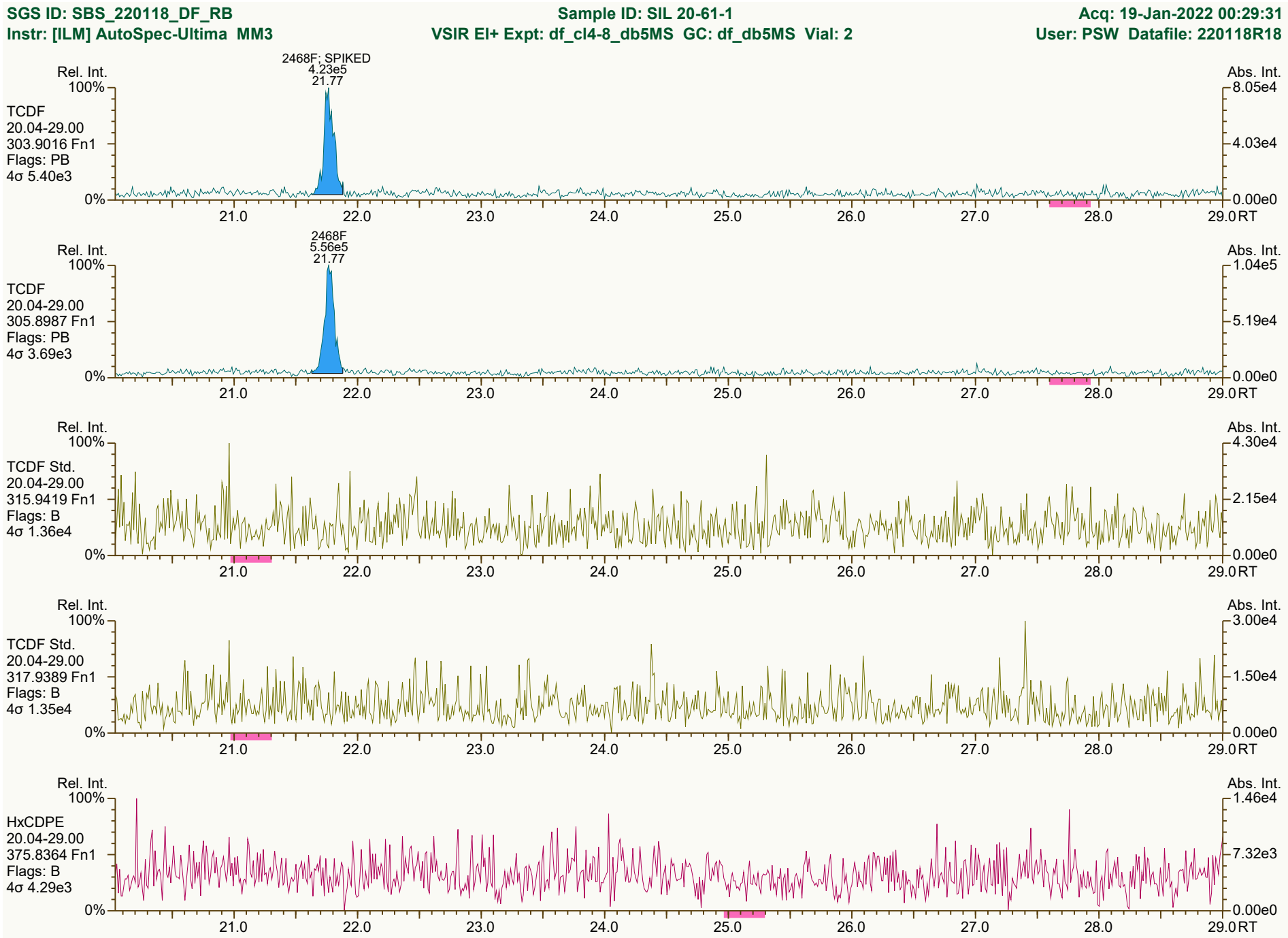

Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: B
4σ 4.98e3
0%
Abs. Int.
1.02e4
5.10e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: B
4σ 4.46e3
0%
Abs. Int.
9.39e3
4.69e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: B
4σ 4.45e3
0%
Abs. Int.
1.47e4
7.33e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: B
4σ 8.96e3
0%
Abs. Int.
2.59e4
1.29e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: B
4σ 7.21e3
0%
Abs. Int.
1.95e4
9.73e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: B
4σ 5.06e3
0%
Abs. Int.
9.70e3
4.85e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
8.98e3
4.49e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: B
4σ 6.74e3
0%
Abs. Int.
2.25e4
1.13e4
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: B
4σ 7.17e3
0%
Abs. Int.
1.58e4
7.90e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.67e6
1.84e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDD
33.62-38.25
389.8156 Fn3
Flags: B
4σ 4.82e3
0%
Abs. Int.
1.25e4
6.23e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
33.62-38.25
391.8127 Fn3
Flags: B
4σ 3.91e3
0%
Abs. Int.
9.93e3
4.96e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: B
4σ 7.53e3
0%
Abs. Int.
2.79e4
1.39e4
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: B
4σ 7.04e3
0%
Abs. Int.
1.92e4
9.61e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.02e7
5.08e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

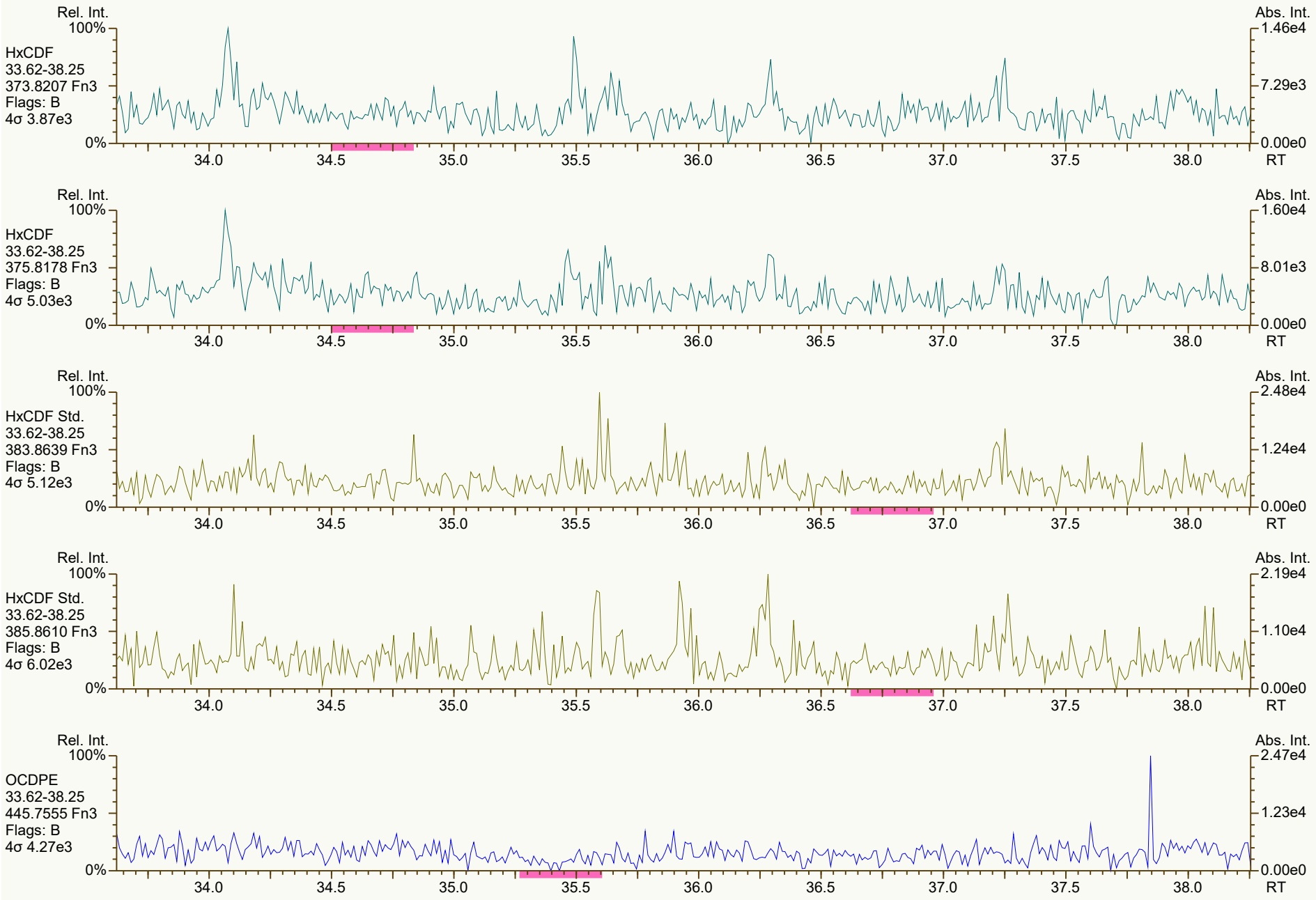

Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: B
4σ 4.61e3
0%
Abs. Int.
1.48e4
7.40e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: B
4σ 4.92e3
0%
Abs. Int.
1.06e4
5.30e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: B
4σ 5.93e3
0%
Abs. Int.
2.47e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: B
4σ 7.48e3
0%
Abs. Int.
1.59e4
7.95e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.07e6
3.03e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


Rel. Int.
100%
OCDD
40.76-45.01
457.7377 Fn5
Flags: B
4σ 5.96e3
0%
Abs. Int.
2.46e4
1.23e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
40.76-45.01
459.7348 Fn5
Flags: B
4σ 4.99e3
0%
Abs. Int.
2.53e4
1.27e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: B
4σ 5.44e3
0%
Abs. Int.
2.29e4
1.14e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: B
4σ 6.68e3
0%
Abs. Int.
2.28e4
1.14e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.68e6
2.84e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220118_DF_RB
Sample ID: SIL 20-61-1
Acq: 19-Jan-2022 00:29:31
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 220118R18
2468F: SPIKED
4.23e5
21.77
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 5.40e3
2468F
5.56e5
21.77
TCDF
20.04-29.00
305.8987 Fn1
Flags: PB
4σ 3.69e3
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: B
4σ 1.36e4
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: B
4σ 1.35e4
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 4.29e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\SBS_220118_DF_RB.utp_res, saved 19-Jan-2022 08:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1232, 3564, 1282 scc: 555-594
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.37e4
6.86e3
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 5.49e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 4.83e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
4.92e6
2.46e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: B
4σ 3.57e3
0%
Abs. Int.
9.46e3
4.73e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: B
4σ 4.84e3
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: B
4σ 6.89e3
0%
Abs. Int.
1.83e4
9.13e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: B
4σ 5.86e3
0%
Abs. Int.
1.68e4
8.40e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 5.47e3
0%
Abs. Int.
1.26e4
6.31e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT

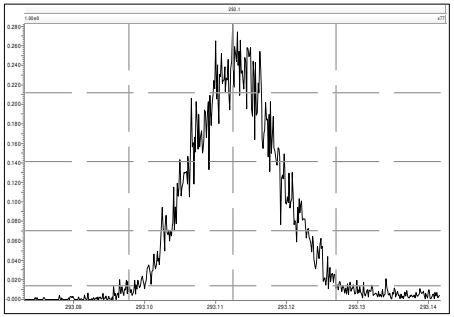

Rel. Int.
100%
HxCDF
33.62-38.25
373.8207 Fn3
Flags: B
4σ 3.87e3
0%
Abs. Int.
1.46e4
7.29e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
33.62-38.25
375.8178 Fn3
Flags: B
4σ 5.03e3
0%
Abs. Int.
1.60e4
8.01e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: B
4σ 5.12e3
0%
Abs. Int.
2.48e4
1.24e4
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: B
4σ 6.02e3
0%
Abs. Int.
2.19e4
1.10e4
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.27e3
0%
Abs. Int.
2.47e4
1.23e4
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.27-40.75
407.7818 Fn4
Flags: B
4σ 3.98e3
0%
Abs. Int.
1.77e4
8.85e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF
38.27-40.75
409.7788 Fn4
Flags: B
4σ 5.30e3
0%
Abs. Int.
1.96e4
9.78e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: B
4σ 7.62e3
0%
Abs. Int.
2.24e4
1.12e4
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: B
4σ 8.74e3
0%
Abs. Int.
3.70e4
1.85e4
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 5.65e3
0%
Abs. Int.
9.75e3
4.88e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT

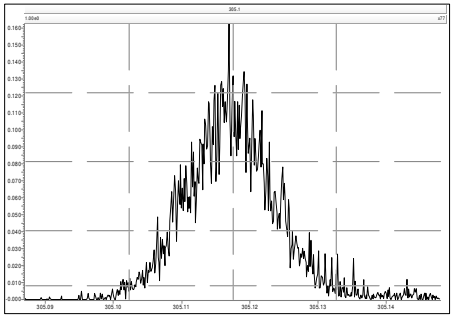

Rel. Int.
100%
OCDF
40.76-45.01
441.7428 Fn5
Flags: B
4σ 5.10e3
0%
Abs. Int.
1.32e4
6.62e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
40.76-45.01
443.7398 Fn5
Flags: B
4σ 4.10e3
0%
Abs. Int.
1.91e4
9.54e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: B
4σ 5.96e3
0%
Abs. Int.
2.58e4
1.29e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: B
4σ 6.08e3
0%
Abs. Int.
2.89e4
1.44e4
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 4.57e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, January 18, 2022 14:50:00 Eastern Standard Time

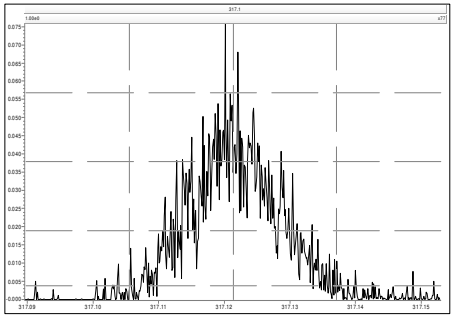
M 292.9824 R 11212



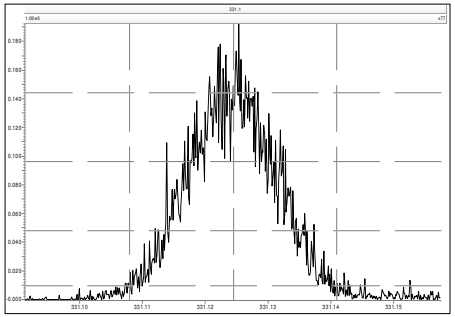
M 304.9824 R 11783



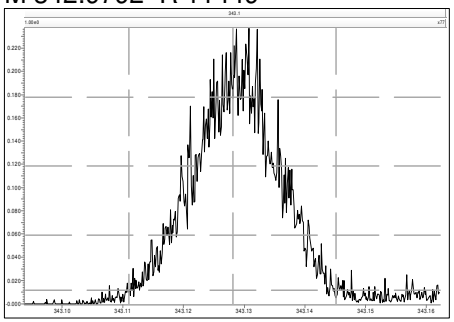
M 316.9824 R 13194



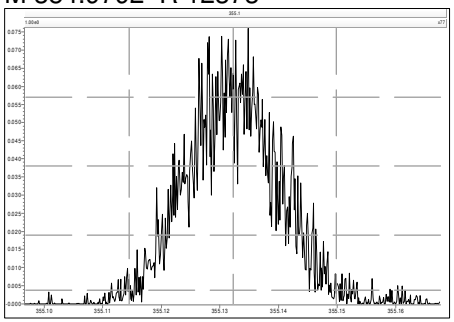
M 330.9792 R 11245



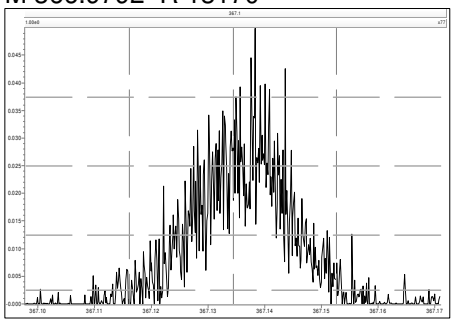
M 342.9792 R 11449



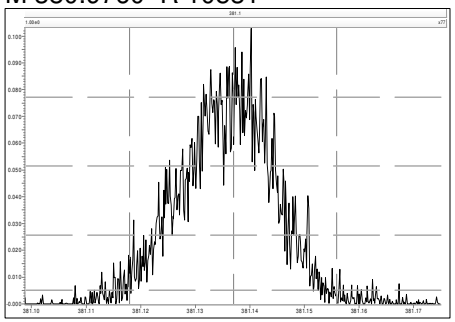
M 354.9792 R 12373



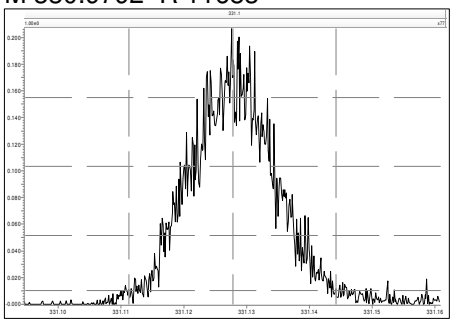
M 366.9792 R 13170



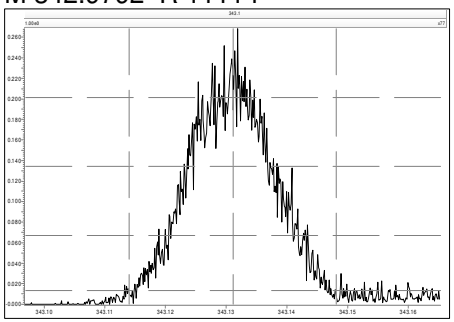
M 380.9760 R 10531



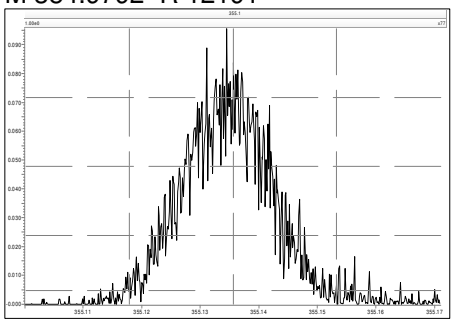
M 330.9792 R 11683



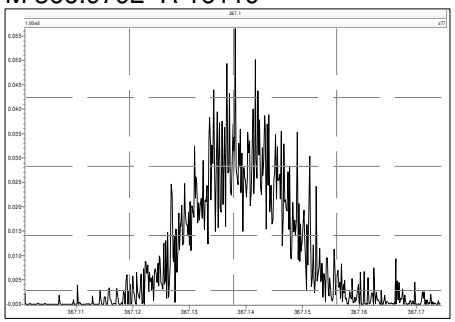
M 342.9792 R 11114



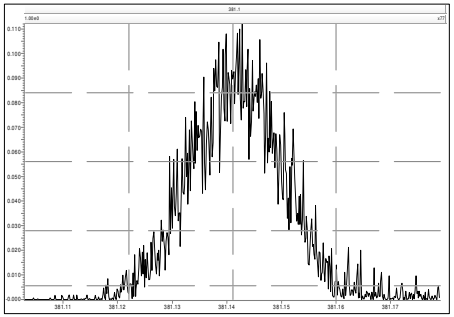
M 354.9792 R 12191



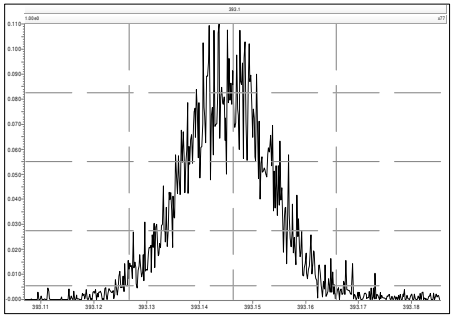
M 366.9792 R 16119



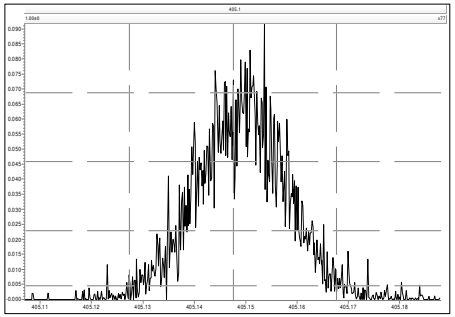
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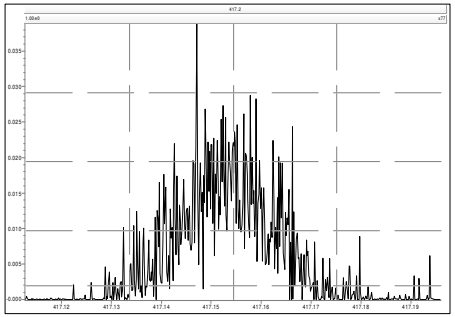
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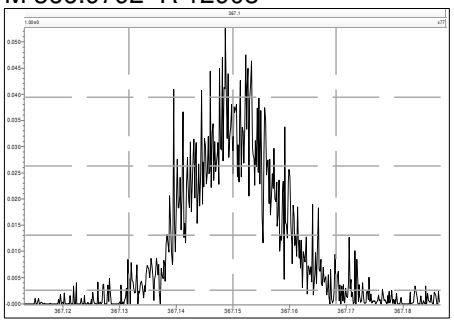
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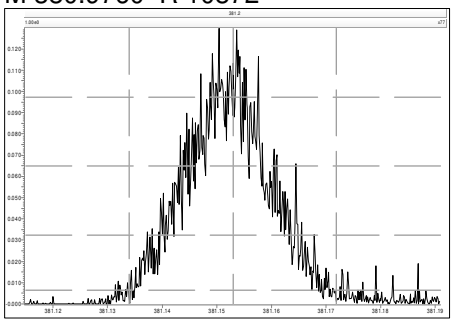
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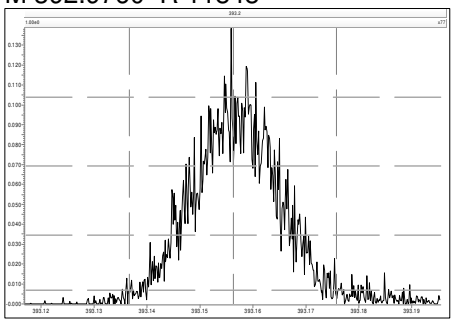
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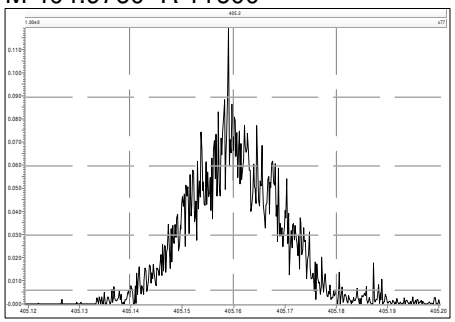
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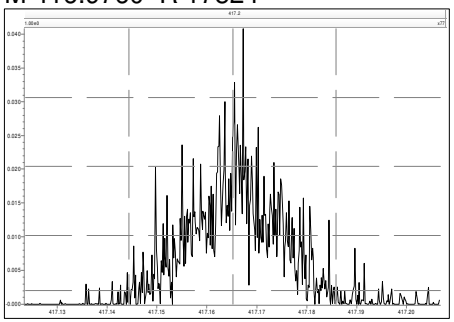
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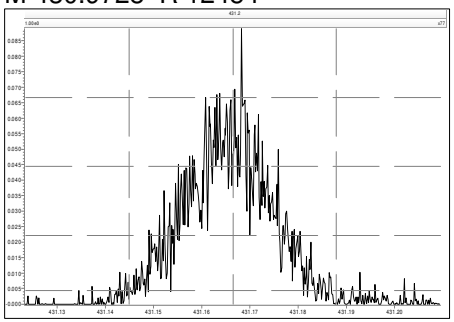
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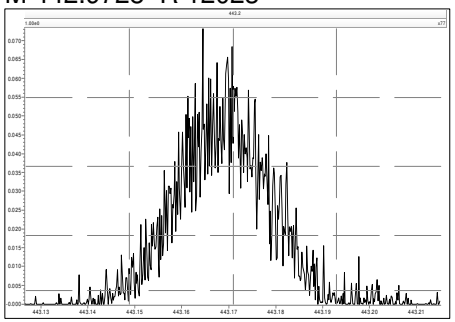
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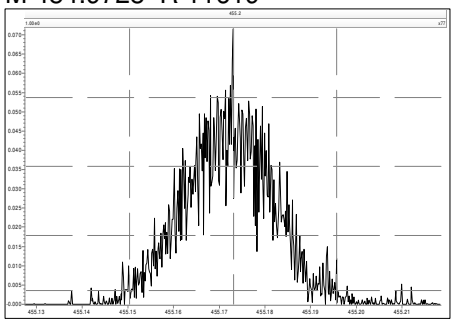
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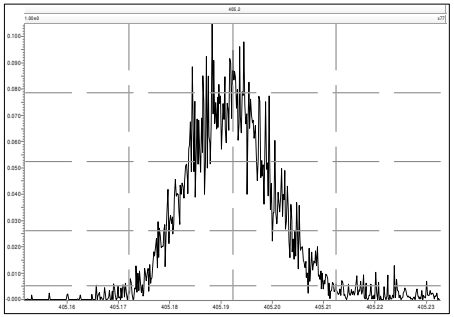
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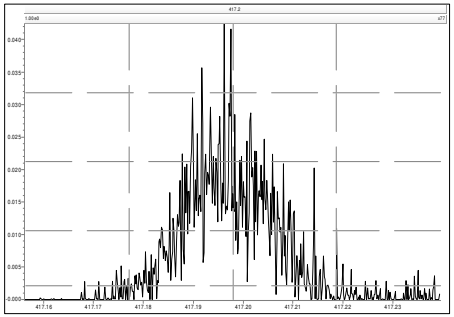
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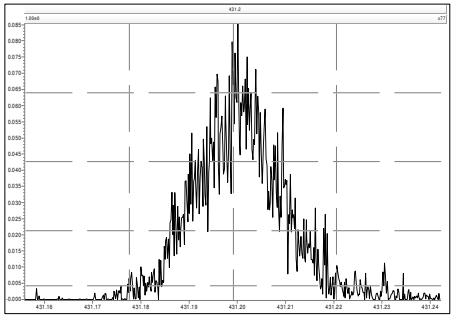
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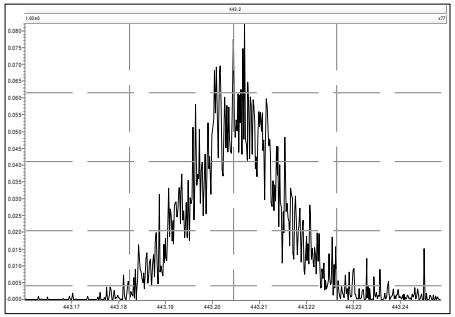
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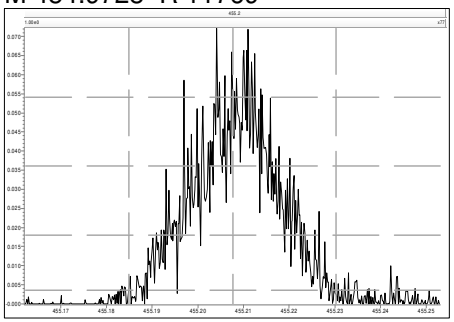
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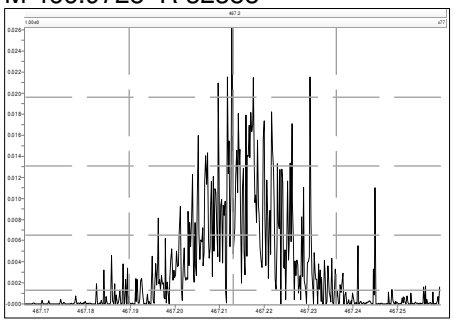
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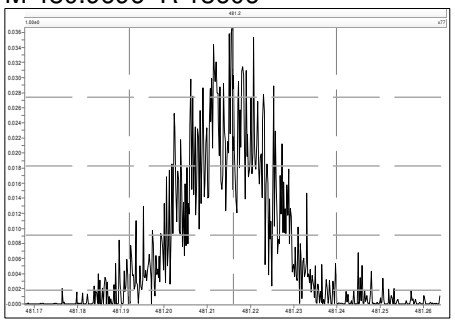
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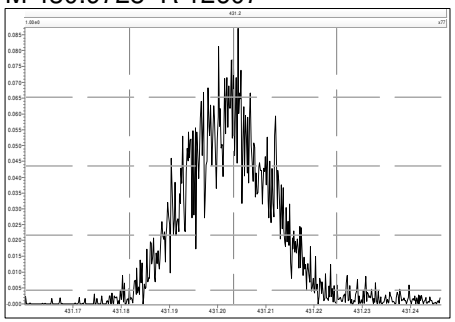
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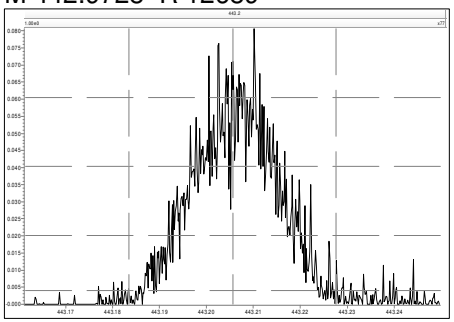
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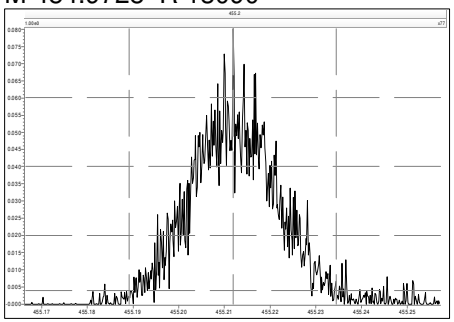
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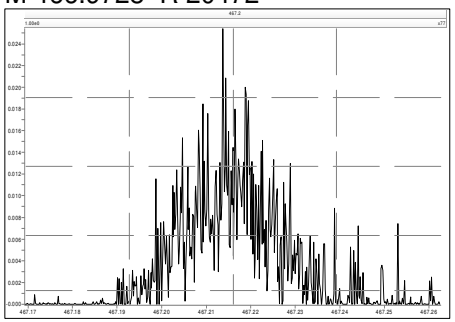
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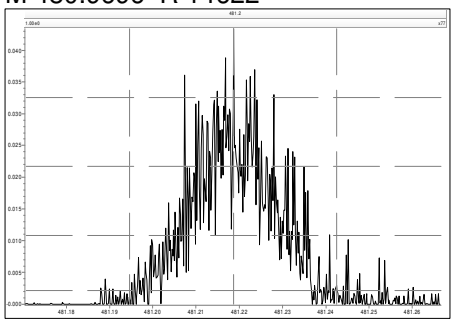
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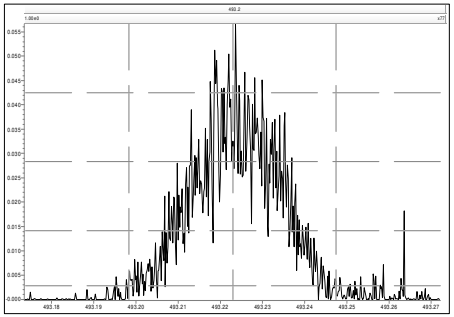
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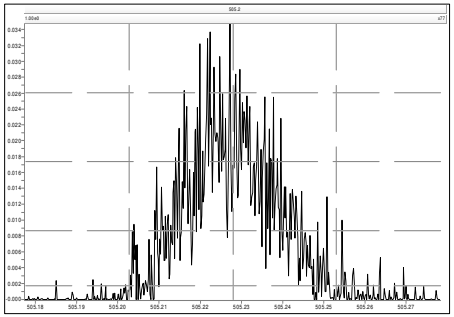
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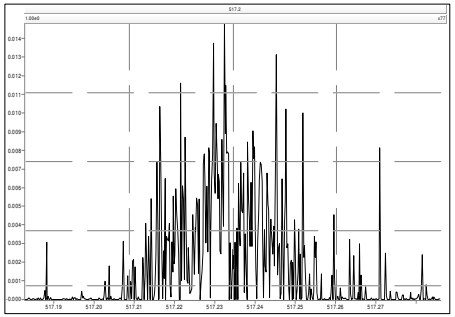
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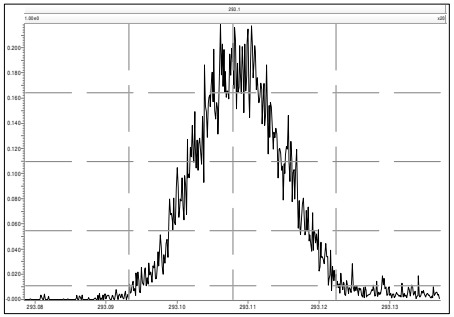


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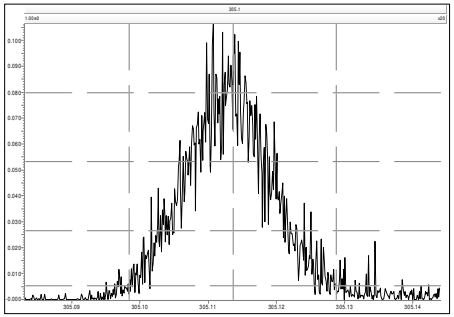


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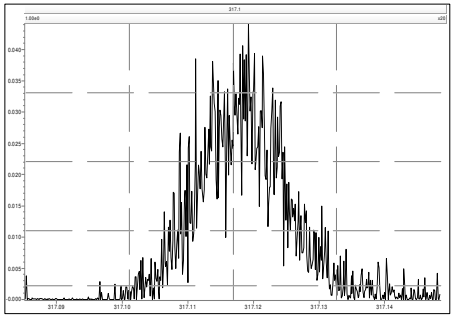
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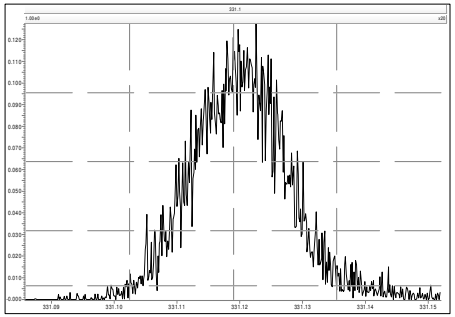
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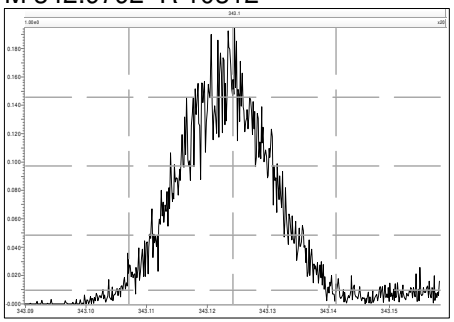
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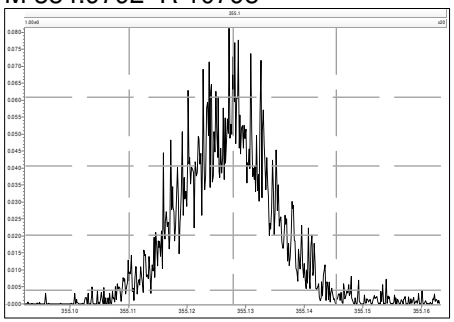
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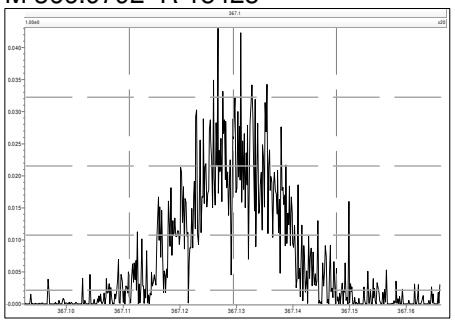
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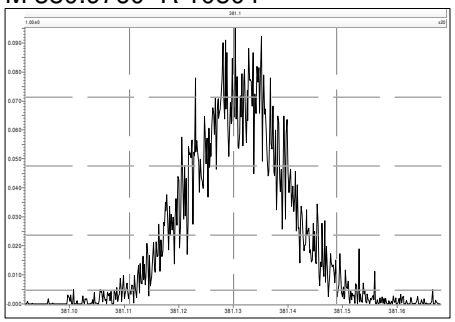
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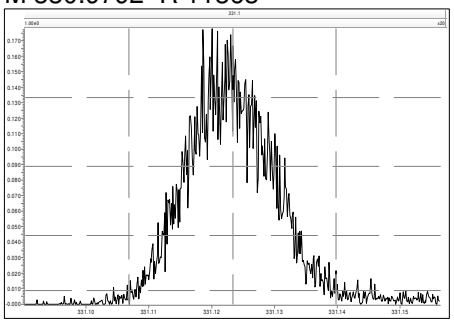
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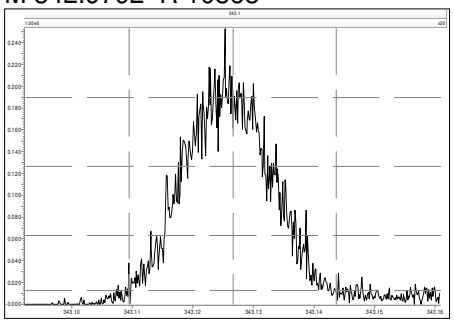
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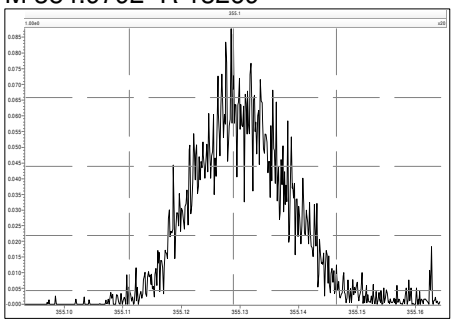
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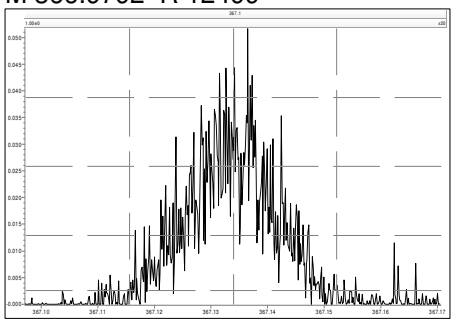
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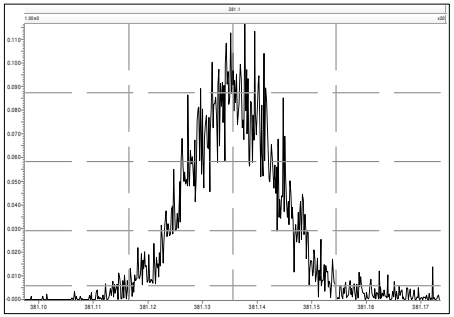
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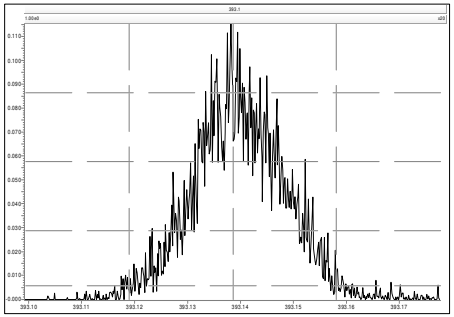
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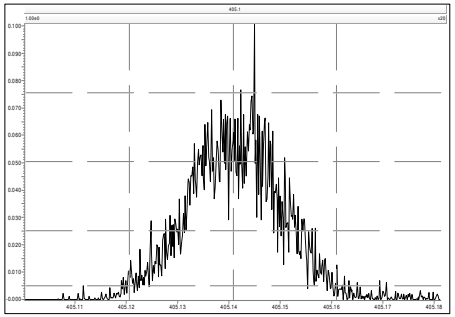
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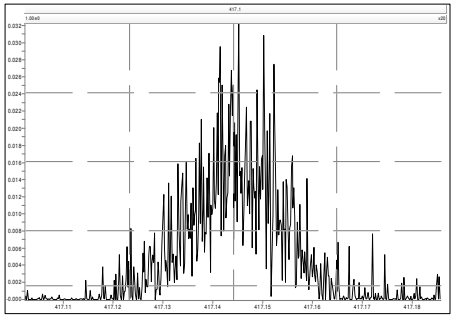
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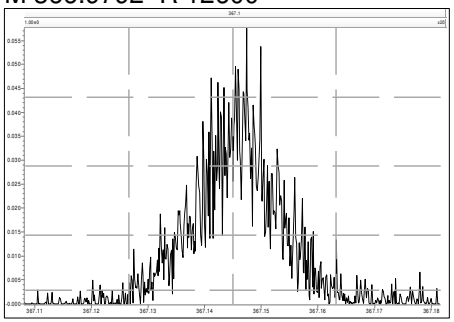
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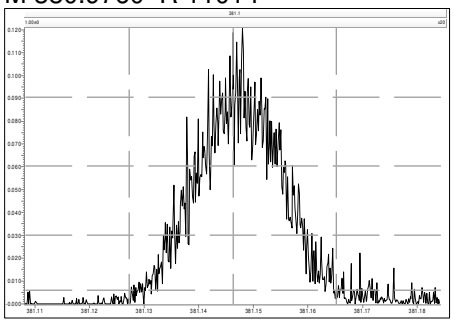
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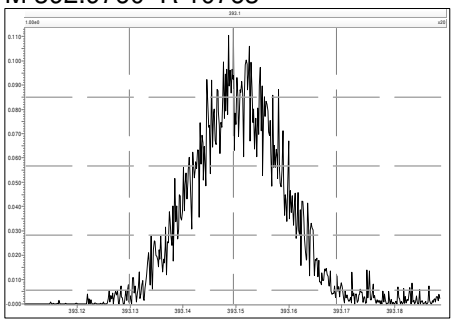
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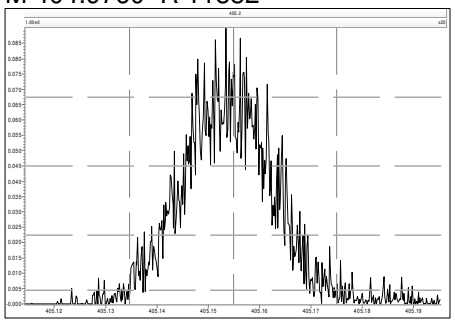
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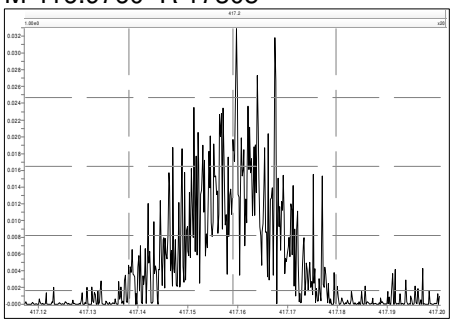
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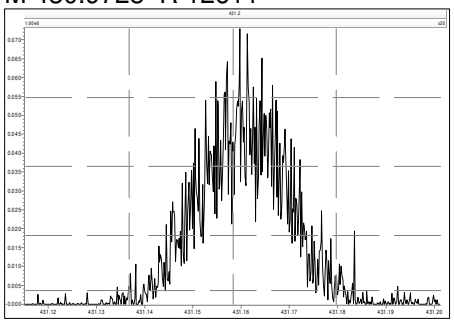
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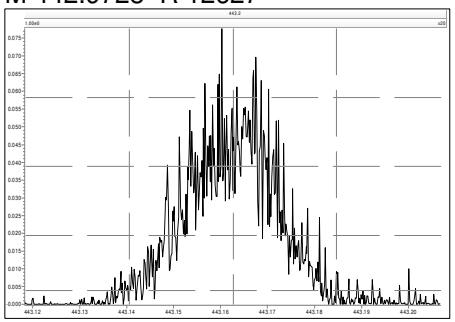
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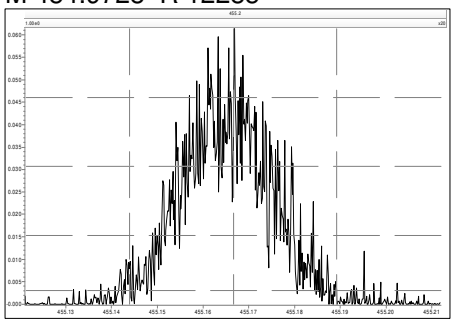
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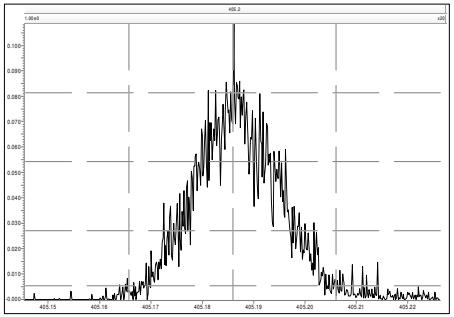
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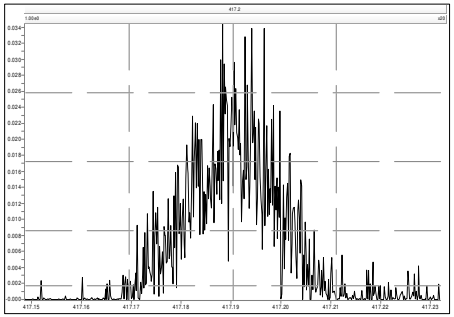
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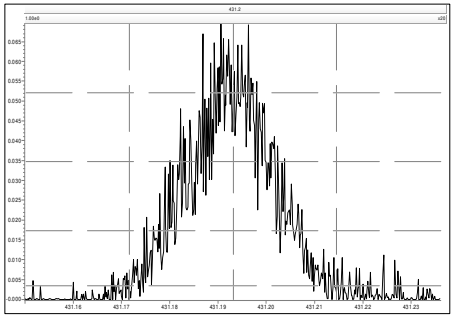
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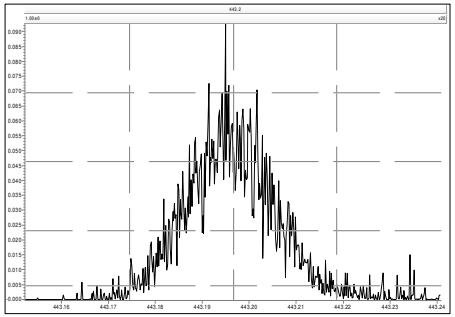
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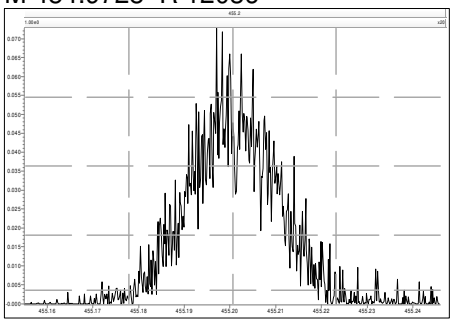
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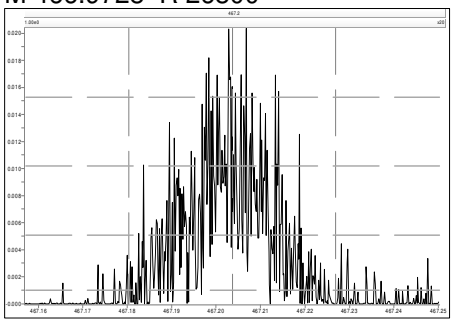
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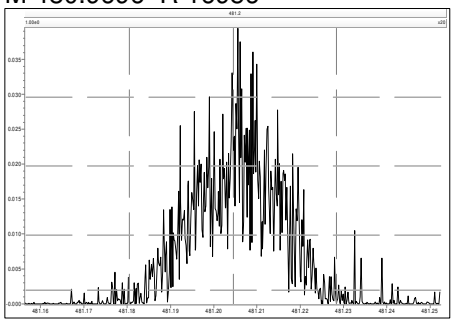
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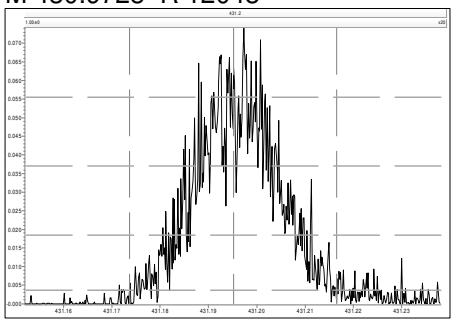
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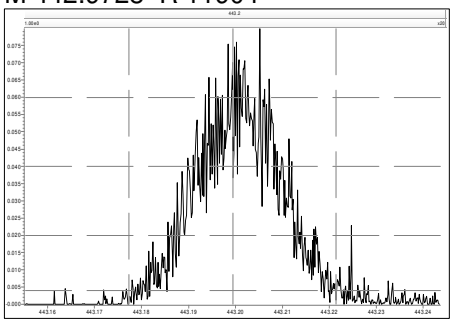
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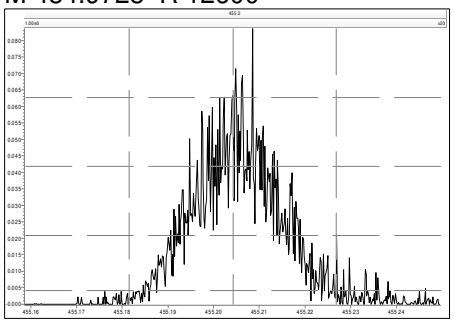
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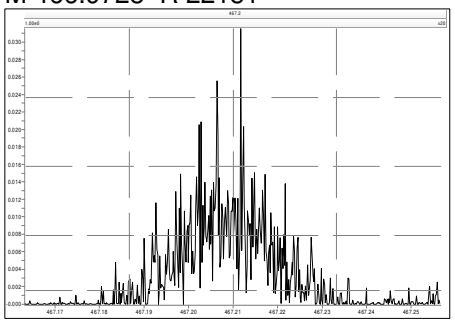
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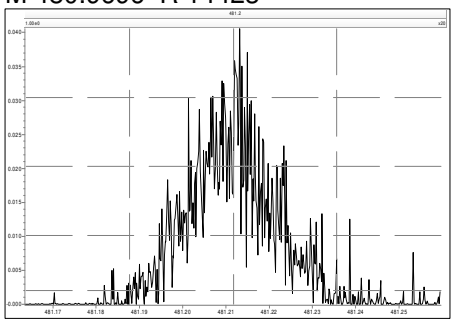
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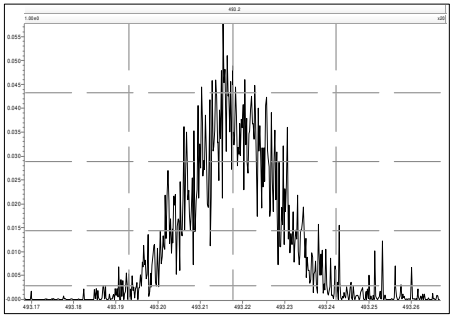
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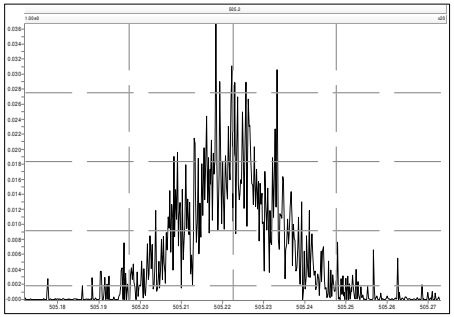
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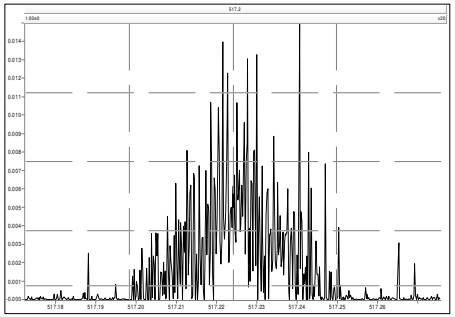
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M 504.9696 R 15322

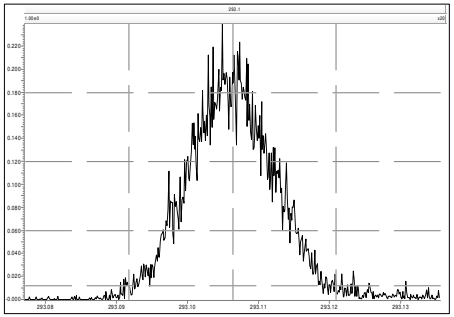


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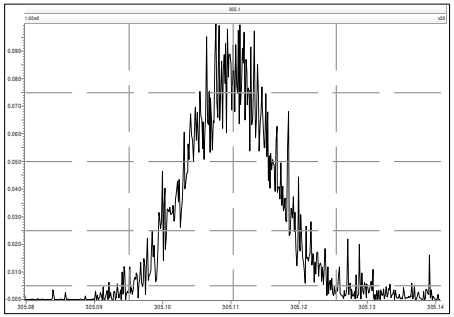


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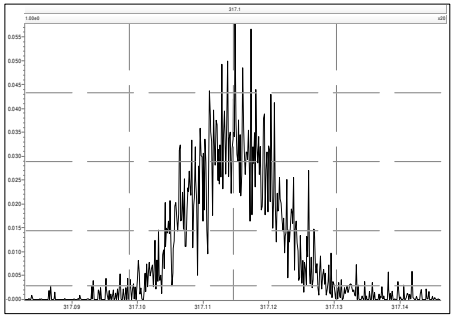
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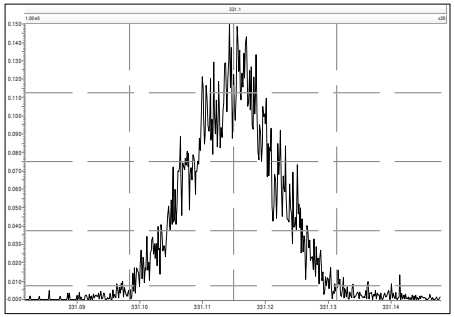
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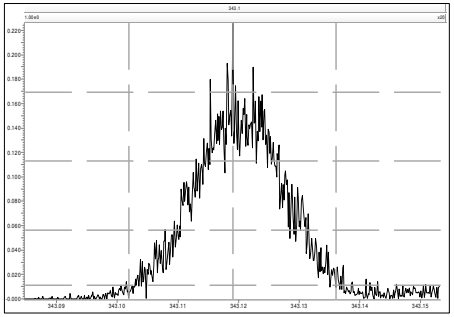
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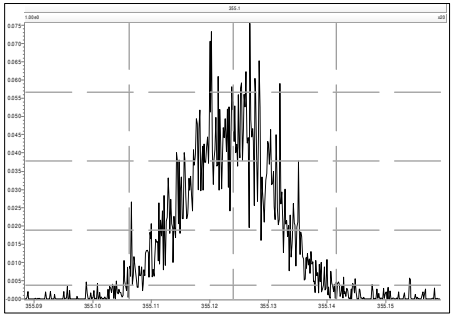
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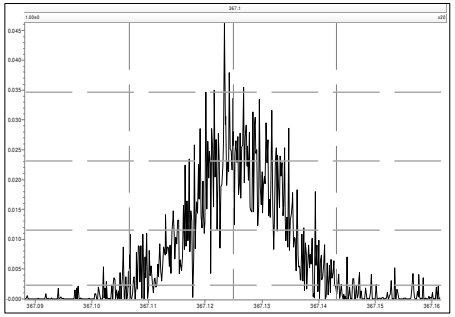
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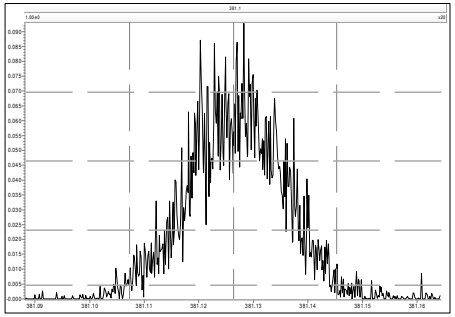
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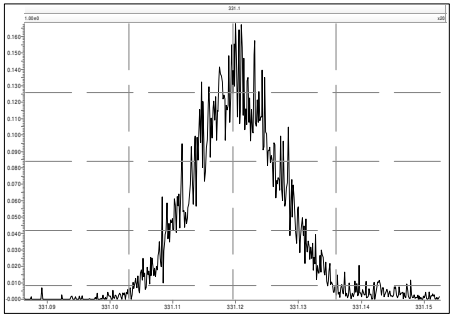
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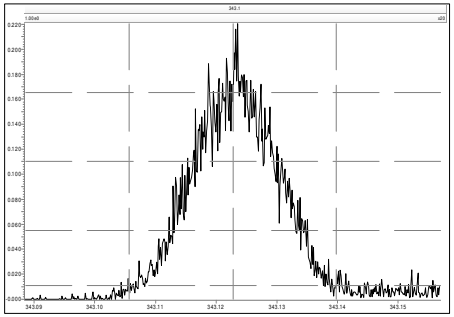
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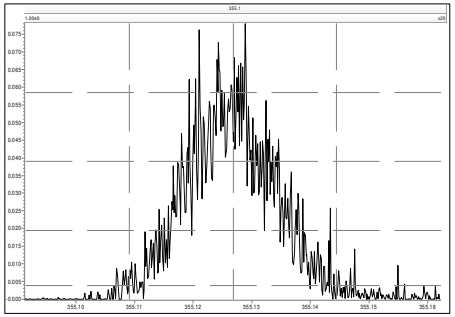
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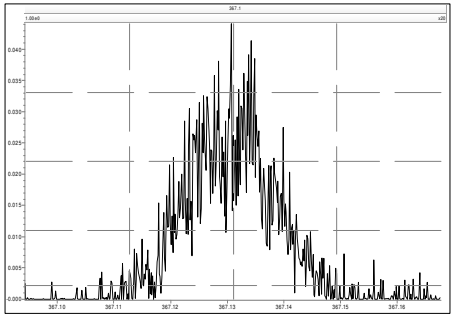
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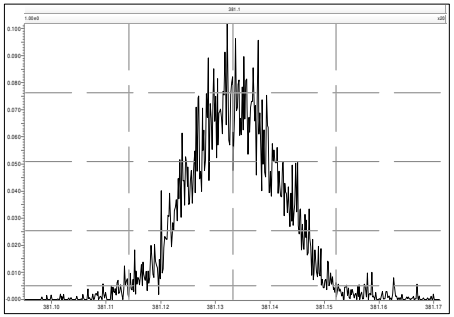
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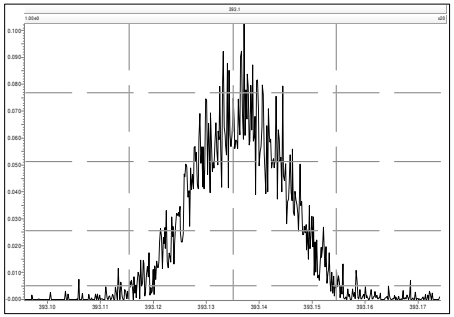
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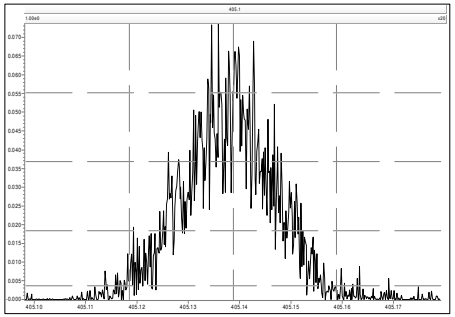
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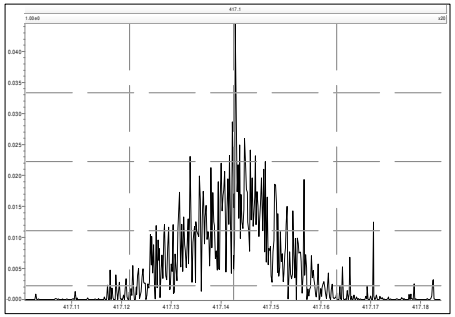
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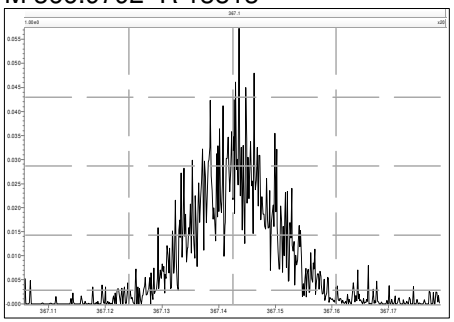
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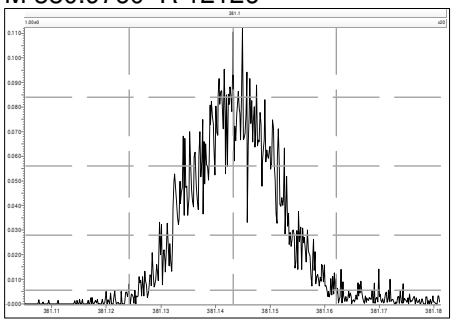
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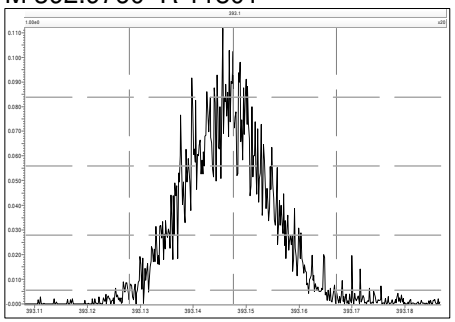
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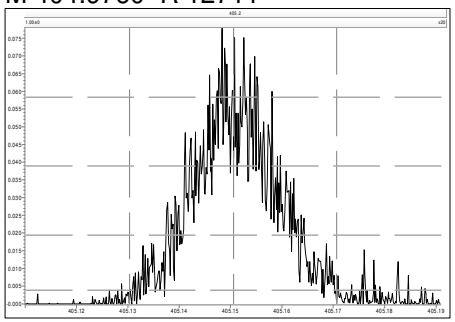
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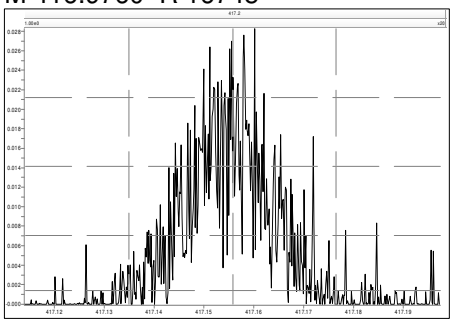
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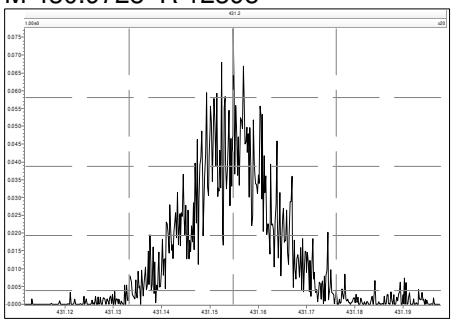
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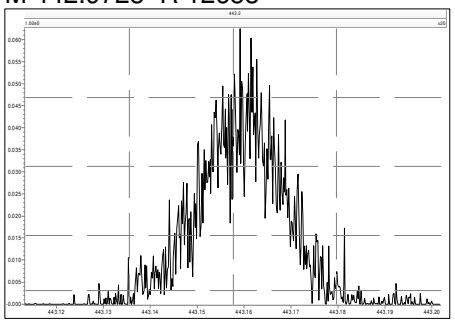
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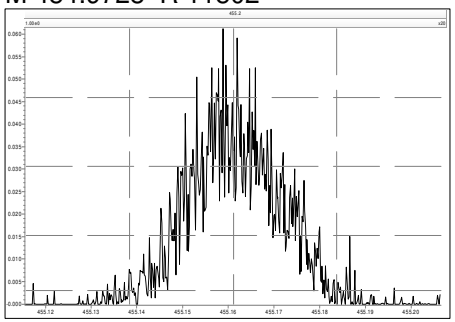
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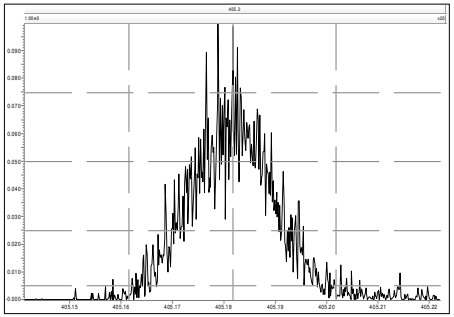
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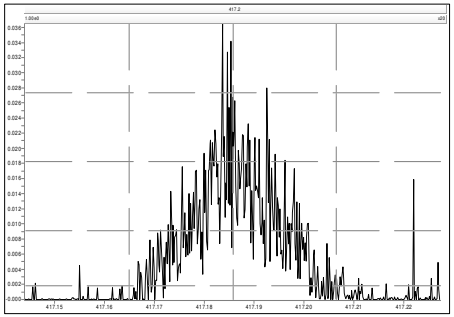
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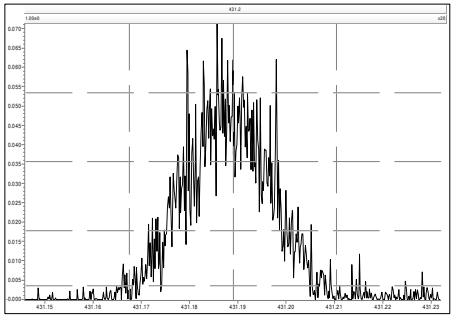
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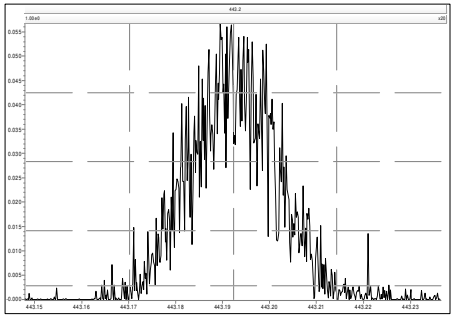
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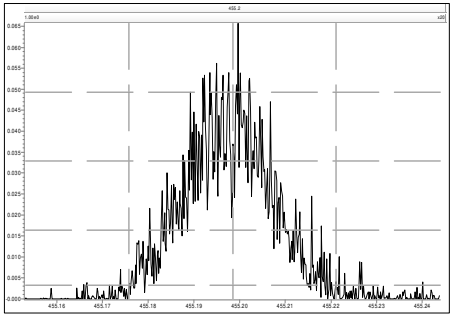
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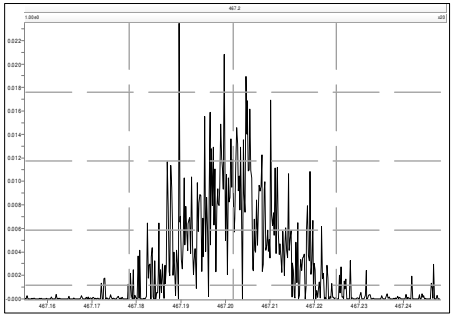
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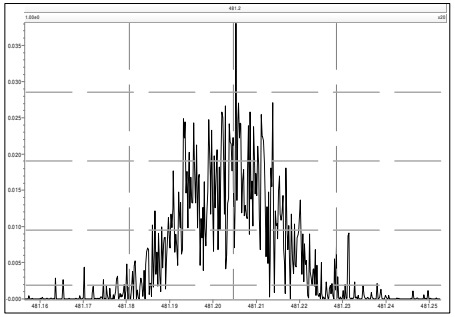
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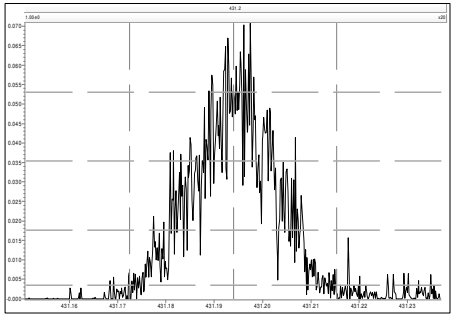
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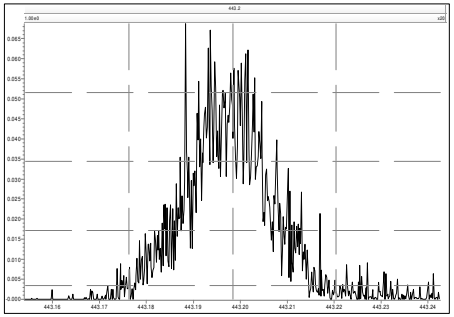
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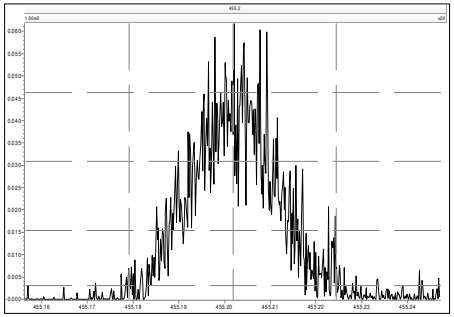
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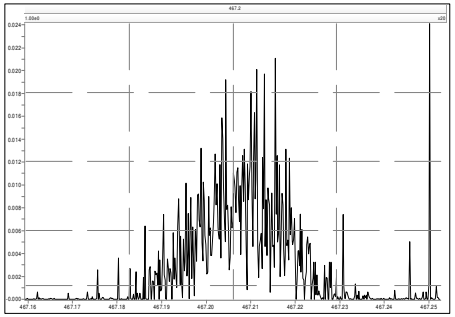
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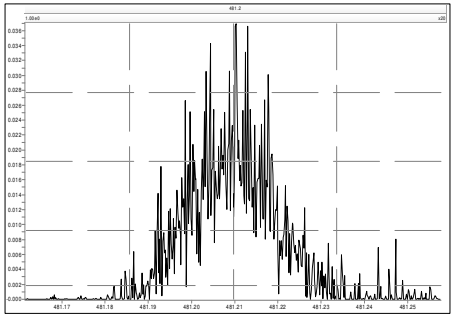
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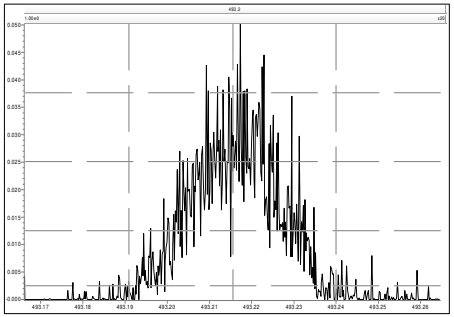
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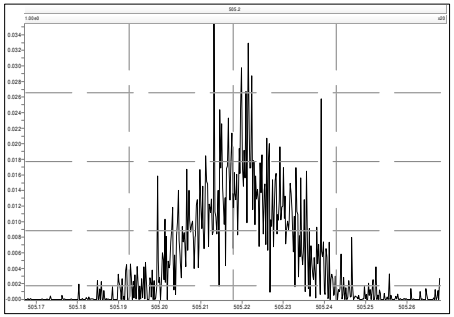
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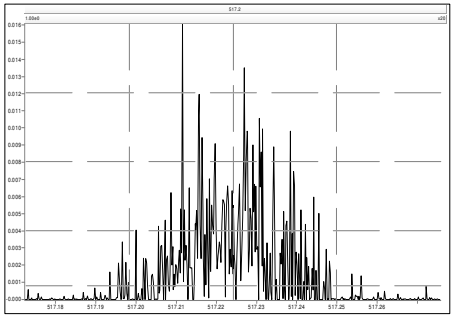
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M 516.9697 R 103667



Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 0.25 pg/uL CS0	210727R03 0.5 pg/uL CS1	210727R04 2 pg/uL CS2	210727R05 10 pg/uL CS3	210727R06 40 pg/uL CS4	210727R07 200 pg/uL CS5	210727R08 500 pg/uL CS6
2378-TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
12378-PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
123478-HxCDD	1.06	3.3%	1.10	1.10	0.99	1.05	1.05	1.06	1.05
123678-HxCDD	1.08	2.9%	1.12	1.07	1.02	1.08	1.10	1.10	1.09
123789-HxCDD	1.02	4.8%	1.10	1.05	0.95	0.99	0.99	1.01	1.00
1234678-HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
OCDD	1.07	4.2%	1.15	1.04	1.01	1.07	1.08	1.06	1.08
2378-TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
12378-PeCDF	0.95	3.2%	1.00	0.94	0.90	0.94	0.95	0.93	0.96
23478-PeCDF	0.94	3.7%	0.99	0.90	0.90	0.92	0.93	0.96	0.96
123478-HxCDF	1.23	3.3%	1.32	1.23	1.19	1.22	1.24	1.24	1.22
123678-HxCDF	1.13	3.0%	1.17	1.16	1.07	1.10	1.13	1.14	1.14
234678-HxCDF	1.15	4.2%	1.23	1.19	1.08	1.14	1.13	1.15	1.15
123789-HxCDF	1.14	3.5%	1.19	1.08	1.09	1.14	1.14	1.15	1.16
1234678-HpCDF	1.36	3.6%	1.46	1.35	1.31	1.34	1.33	1.37	1.36
1234789-HpCDF	1.30	4.0%	1.34	1.20	1.26	1.34	1.30	1.35	1.33
OCDF	1.03	4.1%	1.01	1.01	0.95	1.03	1.05	1.06	1.08
ES 2378-TCDD	1.03	1.7%	1.02	1.02	1.02	1.05	1.06	1.04	1.02
ES 12378-PeCDD	1.03	3.5%	1.01	1.02	0.99	1.01	1.03	1.07	1.10
ES 123478-HxCDD	0.99	4.4%	0.97	0.93	0.99	1.00	0.98	1.03	1.07
ES 123678-HxCDD	0.97	5.2%	0.94	0.91	0.95	1.01	0.94	1.02	1.05
ES 123789-HxCDD	1.12	5.1%	1.09	1.04	1.12	1.14	1.09	1.17	1.22
ES 1234678-HpCDD	0.99	5.2%	0.95	0.92	0.98	1.02	0.97	1.05	1.06
ES OCDD	0.78	8.4%	0.73	0.71	0.74	0.77	0.75	0.85	0.89
ES 2378-TCDF	1.08	1.2%	1.06	1.08	1.07	1.09	1.09	1.08	1.10
ES 12378-PeCDF	0.93	2.7%	0.91	0.91	0.92	0.93	0.95	0.95	0.98
ES 23478-PeCDF	0.92	2.4%	0.90	0.91	0.90	0.93	0.93	0.93	0.96
ES 123478-HxCDF	1.14	5.9%	1.09	1.04	1.13	1.18	1.12	1.21	1.23
ES 123678-HxCDF	1.30	4.9%	1.24	1.21	1.27	1.35	1.27	1.36	1.37
ES 234678-HxCDF	1.20	4.9%	1.14	1.12	1.18	1.23	1.20	1.27	1.27
ES 123789-HxCDF	1.14	5.9%	1.06	1.07	1.11	1.16	1.12	1.20	1.24
ES 1234678-HpCDF	0.95	5.7%	0.90	0.88	0.92	0.98	0.94	1.00	1.03
ES 1234789-HpCDF	0.85	7.0%	0.79	0.78	0.82	0.86	0.83	0.90	0.94
ES OCDF	0.93	8.9%	0.86	0.83	0.88	0.93	0.90	1.01	1.06

APPROVED
Carla_Lyon , 7/28/2021, 12:24:59 PM

Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 **0.25 pg/uL CS0**	210727R03 **0.5 pg/uL CS1**	210727R04 **2 pg/uL CS2**	210727R05 **10 pg/uL CS3**	210727R06 **40 pg/uL CS4**	210727R07 **200 pg/uL CS5**	210727R08 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.31	2.3%	-	1.32	1.27	1.30	1.31	1.35	-
CS 12347-PeCDD	0.89	2.1%	0.89	0.91	0.88	0.87	0.93	0.88	0.89
CS 12346-PeCDF	0.87	1.7%	0.86	0.88	0.86	0.89	0.88	0.86	0.85
CS 123469-HxCDF	1.09	2.8%	1.06	1.04	1.08	1.14	1.09	1.12	1.09
CS 1234689-HpCDF	0.86	3.3%	0.86	0.84	0.86	0.92	0.86	0.86	0.84
SS 37Cl-2378-TCDD	1.26	2.3%	-	1.29	1.25	1.24	1.23	1.29	-
SS 12347-PeCDD	0.86	4.0%	0.88	0.89	0.89	0.86	0.90	0.82 ✓	0.81
SS 12346-PeCDF	0.93	3.5%	0.94	0.97	0.93	0.96	0.93	0.91	0.87
SS 123469-HxCDF	0.84	2.8%	0.86	0.86	0.85	0.84	0.86	0.82	0.80
SS 1234689-HpCDF	0.91	6.0%	0.96	0.96	0.94	0.94	0.92	0.86	0.81
AS 1368-TCDD	1.02	0.7%	1.01	1.03	1.02	1.02 ✓	1.02	1.04	1.02
AS 1368-TCDF	1.08	1.9%	1.05	1.06	1.07	1.10	1.09	1.10	1.07
~~OCDD-a~~	~~0.07~~	~~7.2%~~	~~0.06~~	~~0.08~~	~~0.07~~	~~0.07~~	~~0.07~~	~~0.06~~	~~0.07~~
~~OCDF-a~~	~~0.06~~	~~7.0%~~	~~0.05~~	~~0.06~~	~~0.05~~	~~0.06~~	~~0.06~~	~~0.06~~	~~0.06~~
Not reported from this ICAL - CL 28Jul21									
Totals									
Total TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
Total PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
Total HxCDD	1.05	3.3%	1.11	1.07	0.99	1.04	1.05	1.06	1.05
Total HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
Total TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
Total PeCDF	0.94	3.3%	1.00	0.92	0.90	0.93	0.94	0.95	0.96
Total HxCDF	1.16	3.1%	1.23	1.16	1.11	1.15	1.16	1.17	1.17
Total HpCDF	1.33	3.2%	1.40	1.28	1.28	1.34	1.32	1.36	1.34
FS 1278-TCDD	1.08	0.7%	1.08	1.08	1.09	1.08	1.08	1.08	1.10
FS 12478-PeCDD	1.09	3.7%	1.10	1.10 ✓	1.12	1.13	1.13	1.07	1.01
FS 123468-HxCDD	1.26	4.2%	1.27	1.30	1.28	1.32	1.28	1.24	1.16
FS 1234679-HpCDD	1.36	5.0%	1.41	1.37	1.38	1.42	1.38 ✓	1.30	1.23
TS 1378-TCDD	1.35	2.3%	1.36 ✓	1.38	1.36	1.31	1.30	1.35	1.37

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	210727R01	2	SBS_210727_DF_RA	1.00	SIL 20-61-1	PSW	638-037	27-Jul-2021	08:17:39
2	210727R02	85	CS0_210727_DF_RA	1.00	SIL 25-6-3	PSW	693-472	27-Jul-2021	09:04:23
3	210727R03	86	CS1_210727_DF_RA	1.00	SIL 25-6-2	PSW	554-132	27-Jul-2021	09:54:34
4	210727R04	87	CS2_210727_DF_RA	1.00	SIL 25-6-1	PSW	377-233	27-Jul-2021	10:44:24
5	210727R05	3	CS3_210727_DF_RA	1.00	SIL 23-672-1	PSW	230-891	27-Jul-2021	11:32:33
6	210727R06	88	CS4_210727_DF_RA	1.00	SIL 25-5-4	PSW	602-590	27-Jul-2021	12:19:16
7	210727R07	89	CS5_210727_DF_RA	1.00	SIL 25-5-3	PSW	147-553	27-Jul-2021	13:09:36
8	210727R08	90	CS6_210727_DF_RA	1.00	SIL 25-5-2	PSW	783-472	27-Jul-2021	13:58:27

Alternate OCDD/OCDF - NR in this ICAL. CL 28Jul21

REVIEWED
paul_walton , 7/28/2021, 8:31:00 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:08 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

2378-TCDD	ES 2378-TCDD
12378-PeCDD	ES 12378-PeCDD
123478-HxCDD	ES 123478-HxCDD
123678-HxCDD	ES 123678-HxCDD
123789-HxCDD	ES 123789-HxCDD
1234678-HpCDD	ES 1234678-HpCDD
OCDD	ES OCDD
2378-TCDF	ES 2378-TCDF
12378-PeCDF	ES 12378-PeCDF
23478-PeCDF	ES 23478-PeCDF
123478-HxCDF	ES 123478-HxCDF
123678-HxCDF	ES 123678-HxCDF
234678-HxCDF	ES 234678-HxCDF
123789-HxCDF	ES 123789-HxCDF
1234678-HpCDF	ES 1234678-HpCDF
1234789-HpCDF	ES 1234789-HpCDF
OCDF	ES OCDF

Cleanup/Sampling Standards

CS 37Cl-2378-TCDD	1234 TCDD 13C12
CS 12347-PeCDD	1234 TCDD 13C12
CS 12346-PeCDF	1234 TCDF 13C12
CS 123469-HxCDF	123467 HxCDD 13C12
CS 1234689-HpCDF	123467 HxCDD 13C12

Alternate Standards

AS 1368-TCDD	1234 TCDD 13C12
AS 1368-TCDF	1234 TCDF 13C12

Shipping Standards

FS 1278-TCDD	ES 2378-TCDD
FS 12478-PeCDD	ES 12378-PeCDD
FS 123468-HxCDD	ES 123478-HxCDD
FS 1234679-HpCDD	ES 1234678-HpCDD
TS 1378-TCDD	ES 2378-TCDD

Extraction Standards

ES 2378-TCDD	1234 TCDD 13C12
ES 12378-PeCDD	1234 TCDD 13C12
ES 123478-HxCDD	123467 HxCDD 13C12
ES 123678-HxCDD	123467 HxCDD 13C12
ES 123789-HxCDD	123467 HxCDD 13C12
ES 1234678-HpCDD	123467 HxCDD 13C12
ES OCDD	123467 HxCDD 13C12
ES 2378-TCDF	1234 TCDF 13C12
ES 12378-PeCDF	1234 TCDF 13C12
ES 23478-PeCDF	1234 TCDF 13C12
ES 123478-HxCDF	123467 HxCDD 13C12
ES 123678-HxCDF	123467 HxCDD 13C12
ES 234678-HxCDF	123467 HxCDD 13C12
ES 123789-HxCDF	123467 HxCDD 13C12
ES 1234678-HpCDF	123467 HxCDD 13C12
ES 1234789-HpCDF	123467 HxCDD 13C12
ES OCDF	123467 HxCDD 13C12

Injection Standards

1234 TCDD 13C12
1234 TCDF 13C12
123467 HxCDD 13C12

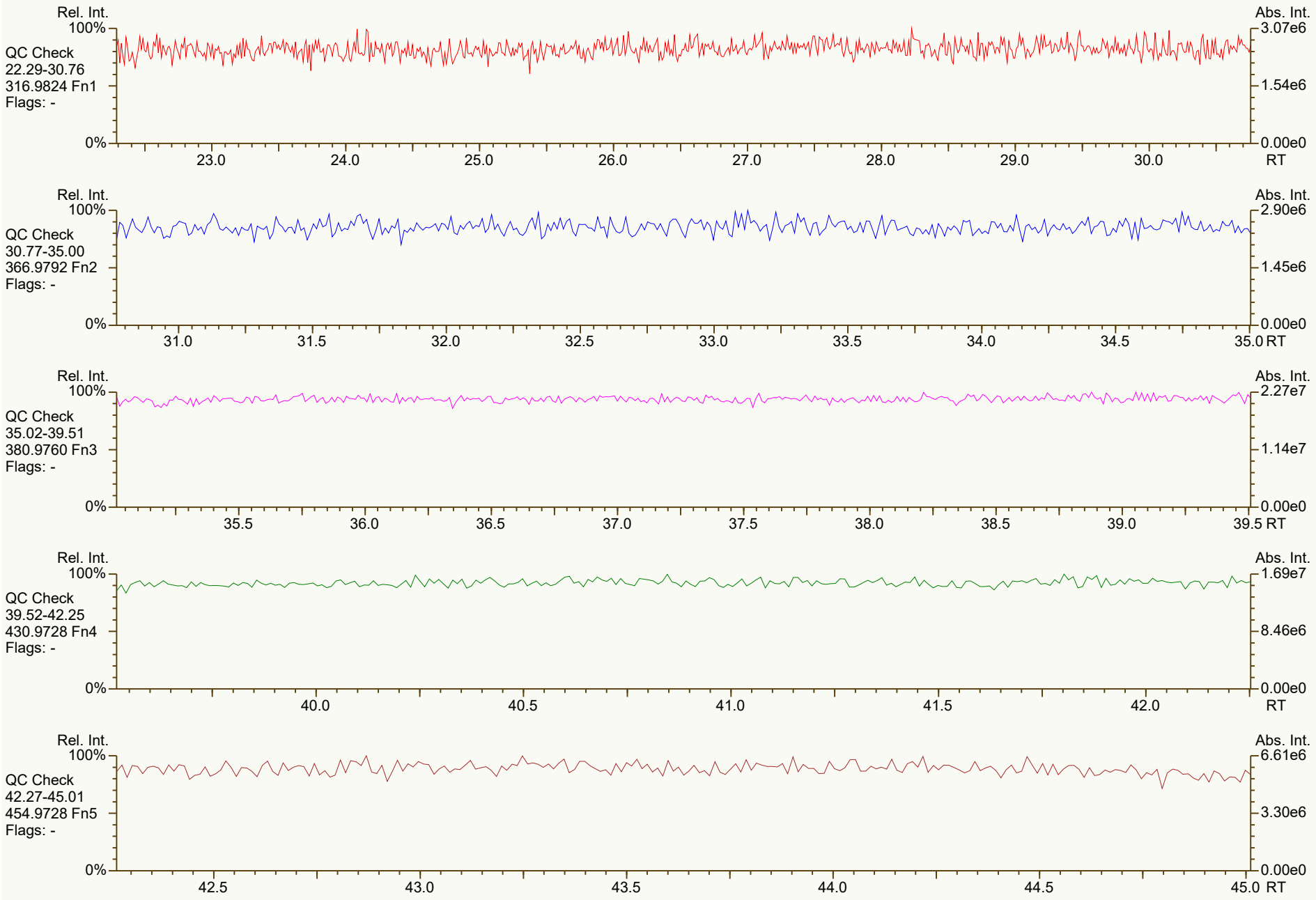
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

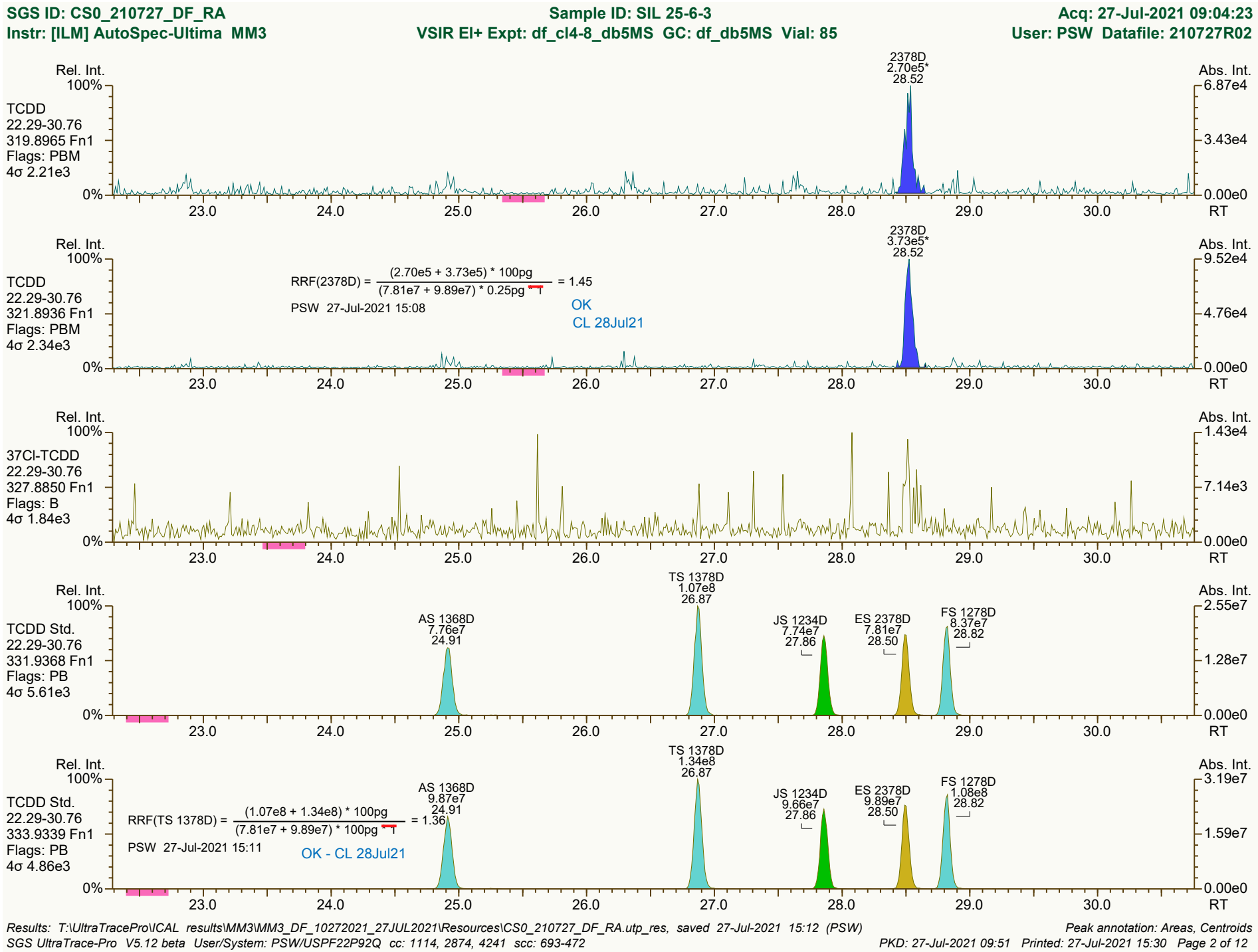
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	6.43E+05	0.73	Y	1.34	1.45	8%
12378-PeCDD	33.80	2.41E+06	1.48	Y	1.06	1.09	3%
123478-HxCDD	37.67	2.24E+06	1.35	Y	1.06	1.10	4%
123678-HxCDD	37.78	2.20E+06	1.31	Y	1.08	1.12	3%
123789-HxCDD	38.07	2.52E+06	1.21	Y	1.02	1.10	9%
1234678-HpCDD	40.66	2.08E+06	0.99	Y	0.97	1.05	7%
OCDD	43.22	3.52E+06	0.85	Y	1.07	1.15	8%
2378-TCDF	27.66	7.49E+05	0.72	Y	0.96	1.01	5%
12378-PeCDF	32.38	3.19E+06	1.44	Y	0.95	1.00	5%
23478-PeCDF	33.46	3.11E+06	1.57	Y	0.94	0.99	6%
123478-HxCDF	36.68	3.00E+06	1.23	Y	1.23	1.32	7%
123678-HxCDF	36.82	3.05E+06	1.18	Y	1.13	1.17	4%
234678-HxCDF	37.49	2.95E+06	1.17	Y	1.15	1.23	7%
123789-HxCDF	38.42	2.65E+06	1.30	Y	1.14	1.19	5%
1234678-HpCDF	39.76	2.75E+06	1.00	Y	1.36	1.46	7%
1234789-HpCDF	41.10	2.20E+06	1.11	Y	1.30	1.34	3%
OCDF	43.40	3.66E+06	0.85	Y	1.03	1.01	-1%
ES 2378-TCDD	28.50	1.77E+08	0.79	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.781	1.77E+08	1.63	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.653	1.63E+08	1.26	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.766	1.57E+08	1.27	Y	0.97	0.94	-3%
ES 123789-HxCDD	38.056	1.82E+08	1.26	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.643	1.59E+08	1.05	Y	0.99	0.95	-4%
ES OCDD	43.205	2.44E+08	0.92	Y	0.78	0.73	-6%
ES 2378-TCDF	27.645	2.97E+08	0.78	Y	1.08	1.06	-2%
ES 12378-PeCDF	32.355	2.55E+08	1.55	Y	0.93	0.91	-2%
ES 23478-PeCDF	33.445	2.50E+08	1.56	Y	0.92	0.90	-3%
ES 123478-HxCDF	36.661	1.82E+08	0.53	Y	1.14	1.09	-5%
ES 123678-HxCDF	36.801	2.08E+08	0.53	Y	1.30	1.24	-4%
ES 234678-HxCDF	37.466	1.92E+08	0.53	Y	1.20	1.14	-5%
ES 123789-HxCDF	38.399	1.78E+08	0.52	Y	1.14	1.06	-7%
ES 1234678-HpCDF	39.748	1.51E+08	0.44	Y	0.95	0.90	-5%
ES 1234789-HpCDF	41.09	1.32E+08	0.45	Y	0.85	0.79	-7%
ES OCDF	43.389	2.89E+08	0.89	Y	0.93	0.86	-7%

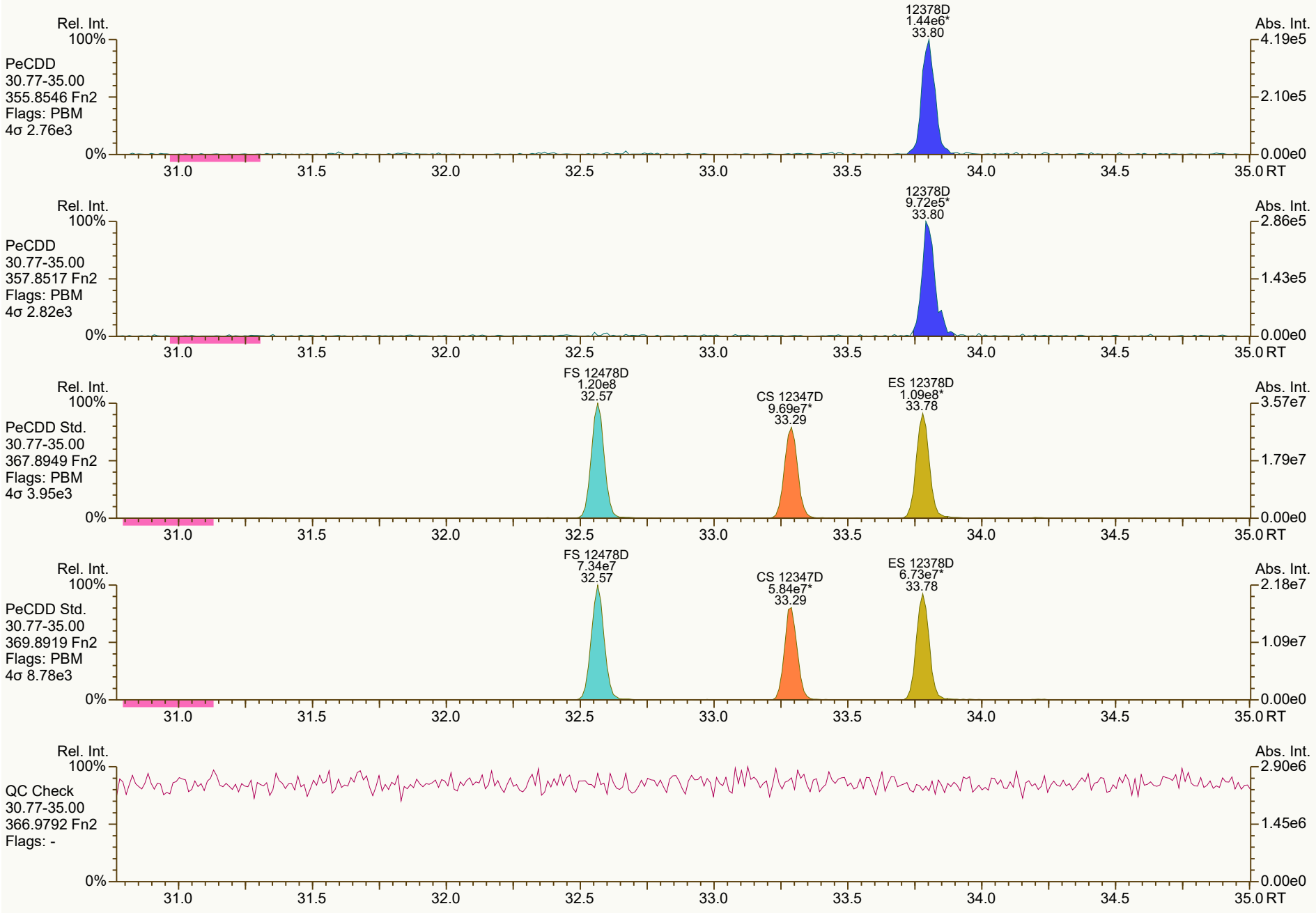
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

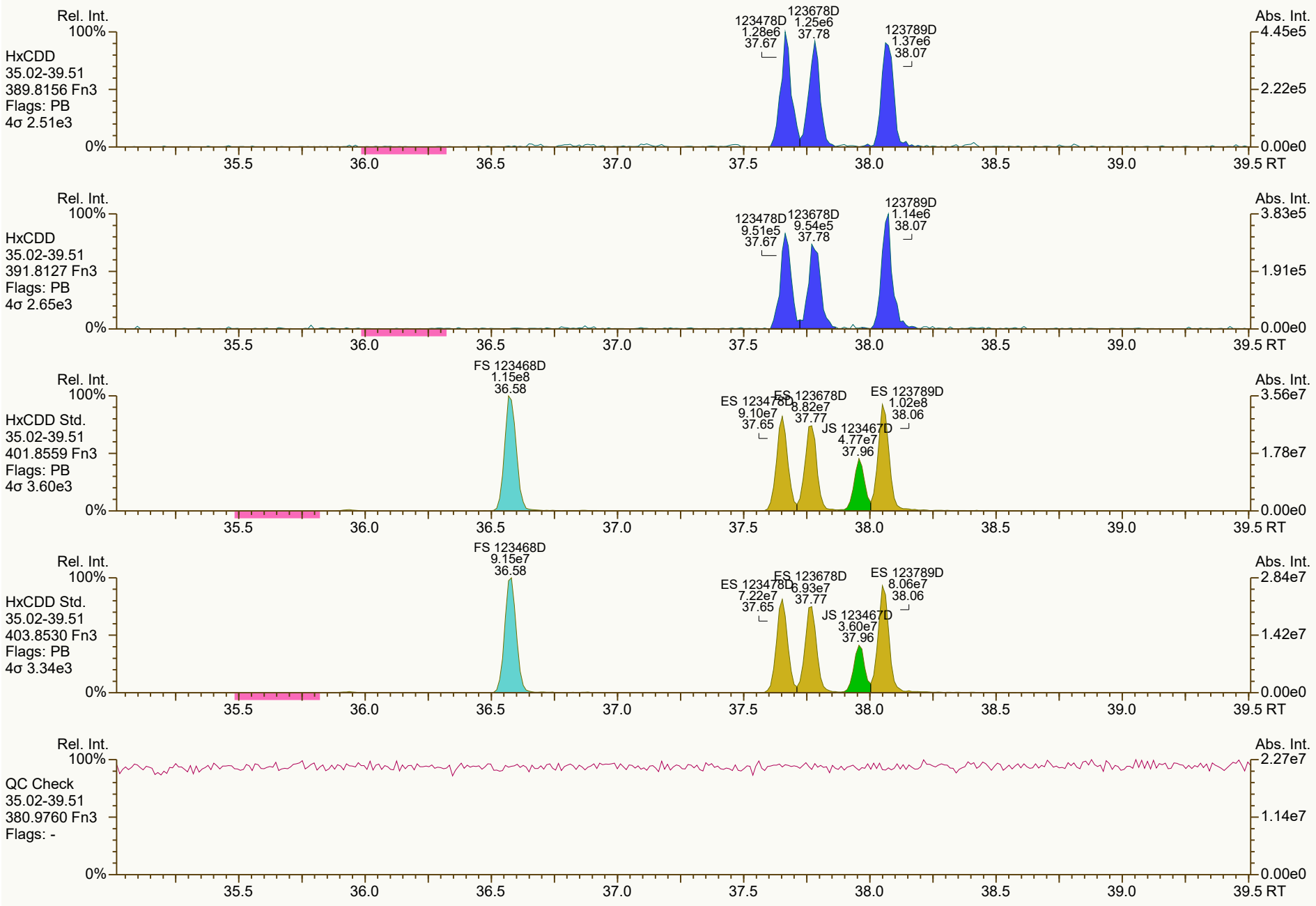
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.07~~	~~0.06~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.81~~	~~Y~~	~~0.06~~	~~0.05~~	~~-7%~~

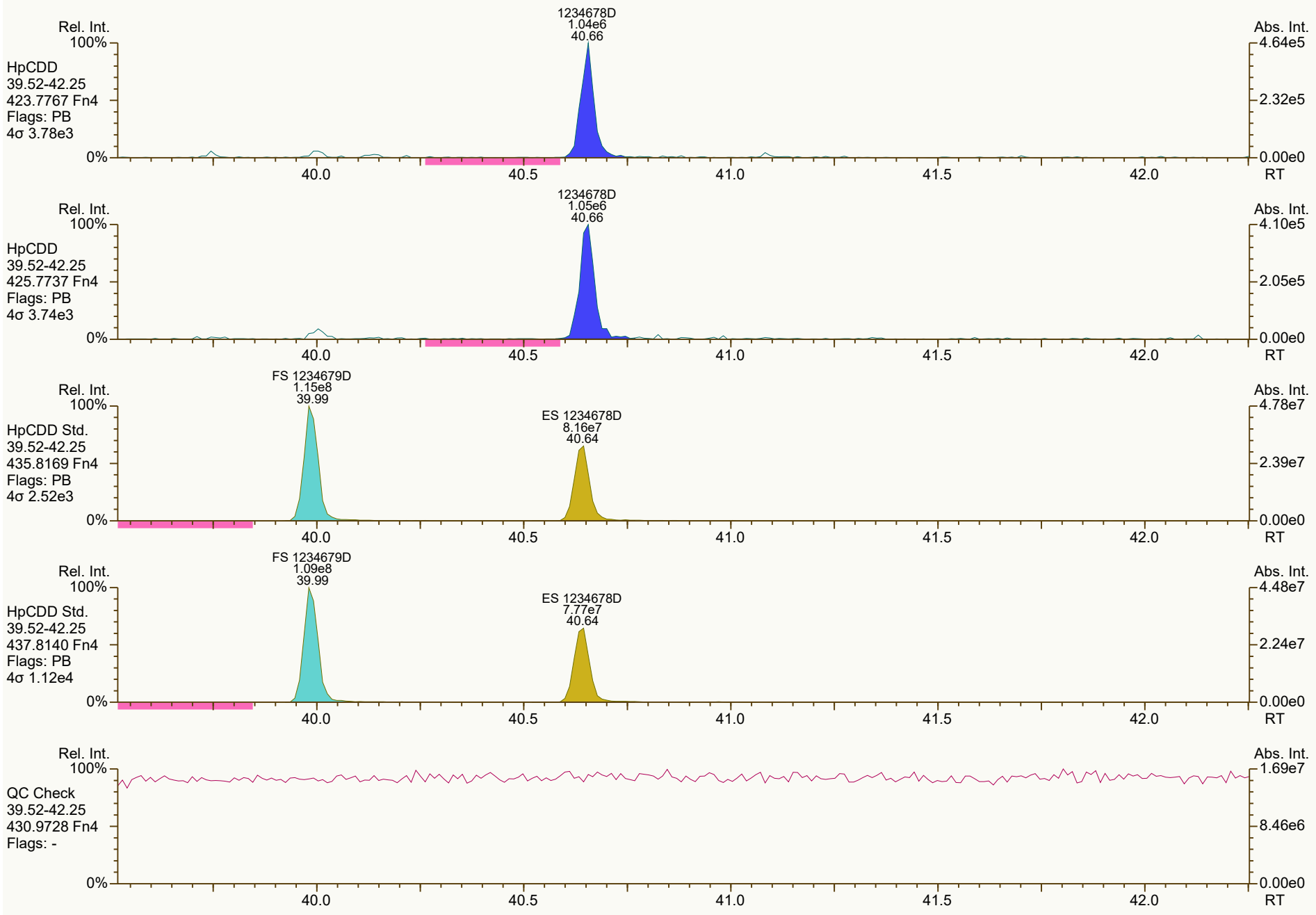
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.07e6
1.54e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.69e7
8.46e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

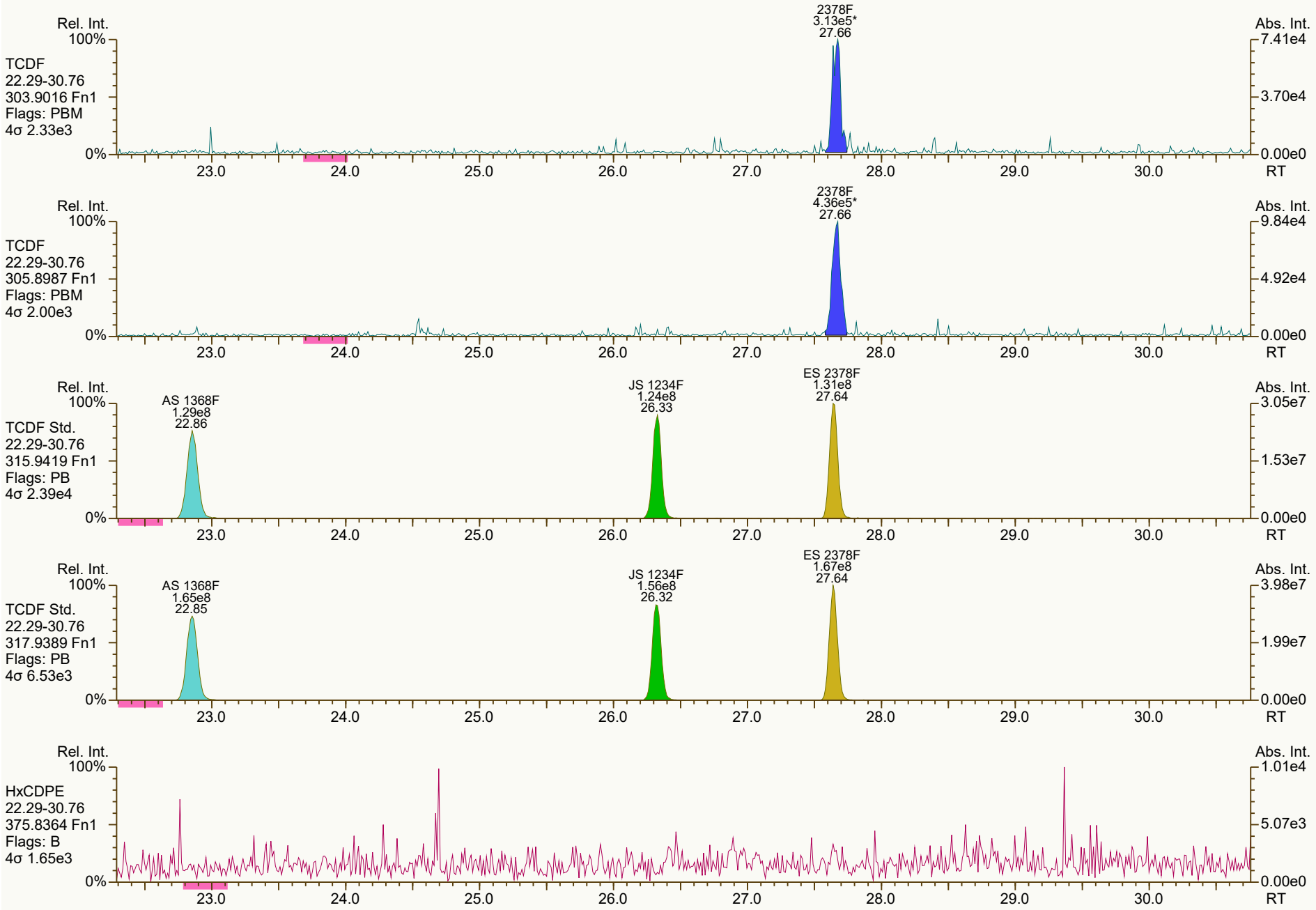

SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 2.21e3
2378D
2.70e5*
28.52
6.87e4
3.43e4
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.34e3
RRF(2378D) = (2.70e5 + 3.73e5) * 100pg / (7.81e7 + 9.89e7) * 0.25pg = 1.45
PSW 27-Jul-2021 15:08
OK
CL 28Jul21
2378D
3.73e5*
28.52
9.52e4
4.76e4
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.84e3
1.43e4
7.14e3
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.61e3
AS 1368D
7.76e7
24.91
TS 1378D
1.07e8
26.87
JS 1234D
7.74e7
27.86
ES 2378D
7.81e7
28.50
FS 1278D
8.37e7
28.82
2.55e7
1.28e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.86e3
RRF(TS 1378D) = (1.07e8 + 1.34e8) * 100pg / (7.81e7 + 9.89e7) * 100pg = 1.36
PSW 27-Jul-2021 15:11
OK - CL 28Jul21
AS 1368D
9.87e7
24.91
TS 1378D
1.34e8
26.87
JS 1234D
9.66e7
27.86
ES 2378D
9.89e7
28.50
FS 1278D
1.08e8
28.82
3.19e7
1.59e7
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1114, 2874, 4241 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 2 of 12


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 2.76e3
0%
12378D
1.44e6*
33.80
Abs. Int.
4.19e5
2.10e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.82e3
0%
12378D
9.72e5*
33.80
Abs. Int.
2.86e5
1.43e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.95e3
0%
FS 12478D
1.20e8
32.57
CS 12347D
9.69e7*
33.29
ES 12378D
1.09e8*
33.78
Abs. Int.
3.57e7
1.79e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 8.78e3
0%
FS 12478D
7.34e7
32.57
CS 12347D
5.84e7*
33.29
ES 12378D
6.73e7*
33.78
Abs. Int.
2.18e7
1.09e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.51e3
123478D 1.28e6 37.67
123678D 1.25e6 37.78
123789D 1.37e6 38.07
4.45e5
2.22e5
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.65e3
123478D 9.51e5 37.67
123678D 9.54e5 37.78
123789D 1.14e6 38.07
3.83e5
1.91e5
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.60e3
FS 123468D 1.15e8 36.58
ES 123478D 9.10e7 37.65
ES 123678D 8.82e7 37.77
JS 123467D 4.77e7 37.96
ES 123789D 1.02e8 38.06
3.56e7
1.78e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.34e3
FS 123468D 9.15e7 36.58
ES 123478D 7.22e7 37.65
ES 123678D 6.93e7 37.77
JS 123467D 3.60e7 37.96
ES 123789D 8.06e7 38.06
2.84e7
1.42e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.27e7
1.14e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 3.78e3
1234678D
1.04e6
40.66
Abs. Int.
4.64e5
2.32e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.74e3
1234678D
1.05e6
40.66
Abs. Int.
4.10e5
2.05e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.52e3
FS 1234679D
1.15e8
39.99
ES 1234678D
8.16e7
40.64
Abs. Int.
4.78e7
2.39e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.12e4
FS 1234679D
1.09e8
39.99
ES 1234678D
7.77e7
40.64
Abs. Int.
4.48e7
2.24e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.69e7
8.46e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.61e6
43.21
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
5.57e5
2.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
5.93e5
2.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PBM
4σ 3.76e3
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.27e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PBM
4σ 3.92e3
0%
Abs. Int.
4.10e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.33e3
2378F
3.13e5*
27.66
Abs. Int.
7.41e4
3.70e4
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.00e3
2378F
4.36e5*
27.66
Abs. Int.
9.84e4
4.92e4
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.39e4
AS 1368F
1.29e8
22.86
JS 1234F
1.24e8
26.33
ES 2378F
1.31e8
27.64
Abs. Int.
3.05e7
1.53e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 6.53e3
AS 1368F
1.65e8
22.85
JS 1234F
1.56e8
26.32
ES 2378F
1.67e8
27.64
Abs. Int.
3.98e7
1.99e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.65e3
Abs. Int.
1.01e4
5.07e3
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

SGS ID: CS0_210727_DF_RA | Sample ID: SIL 25-6-3 | Acq: 27-Jul-2021 09:04:23

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: PSW Datafile: 210727R02

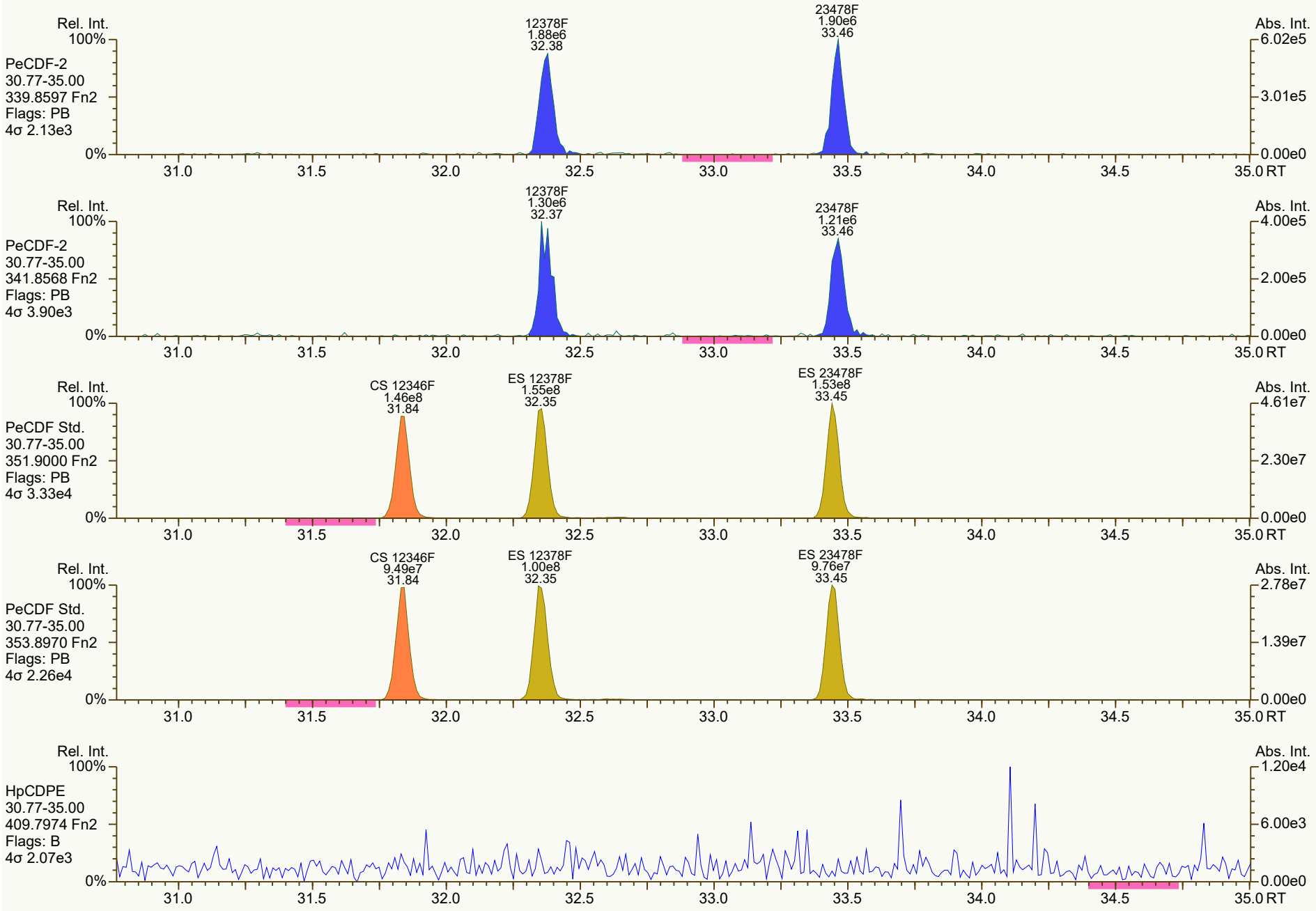


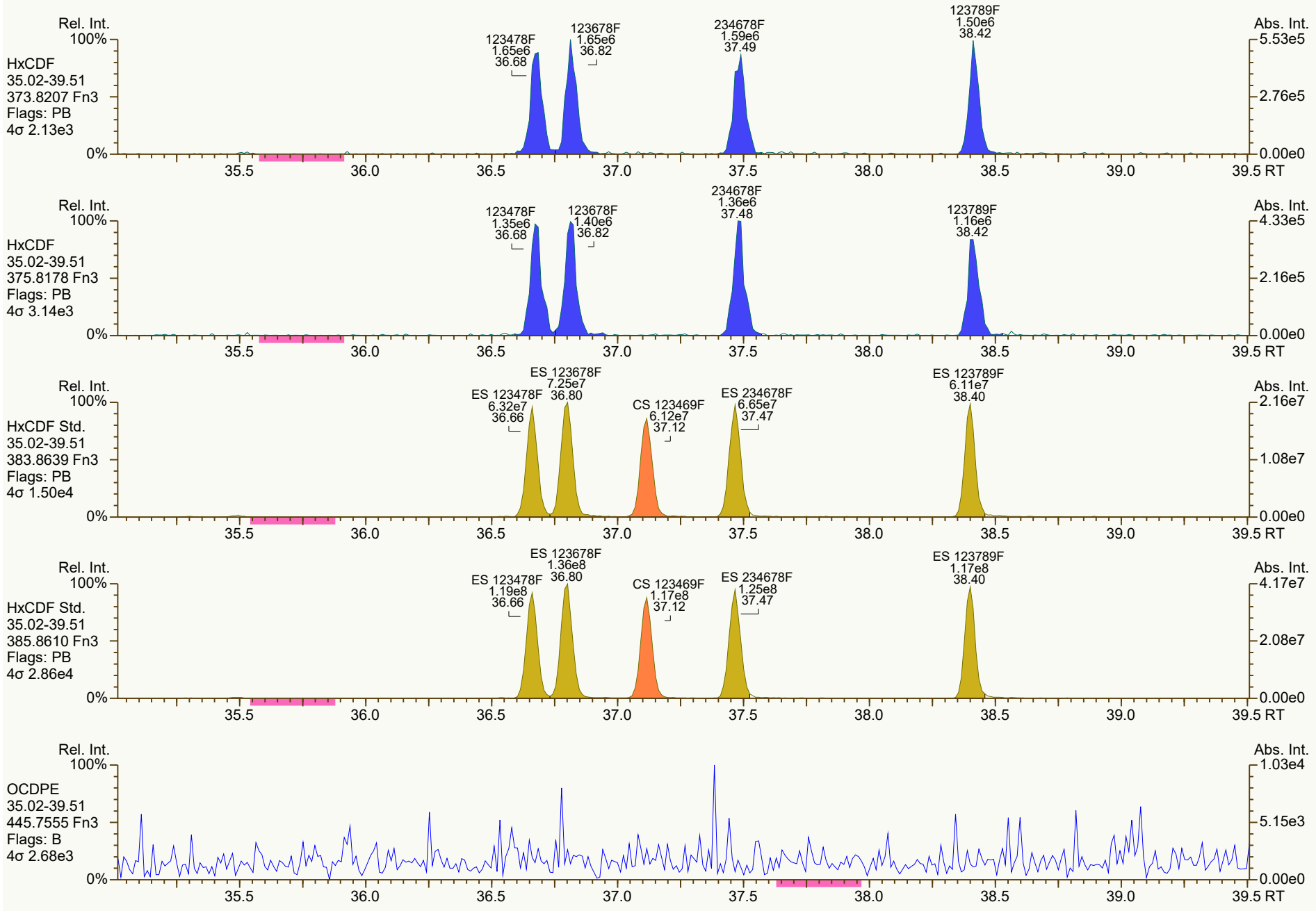
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)

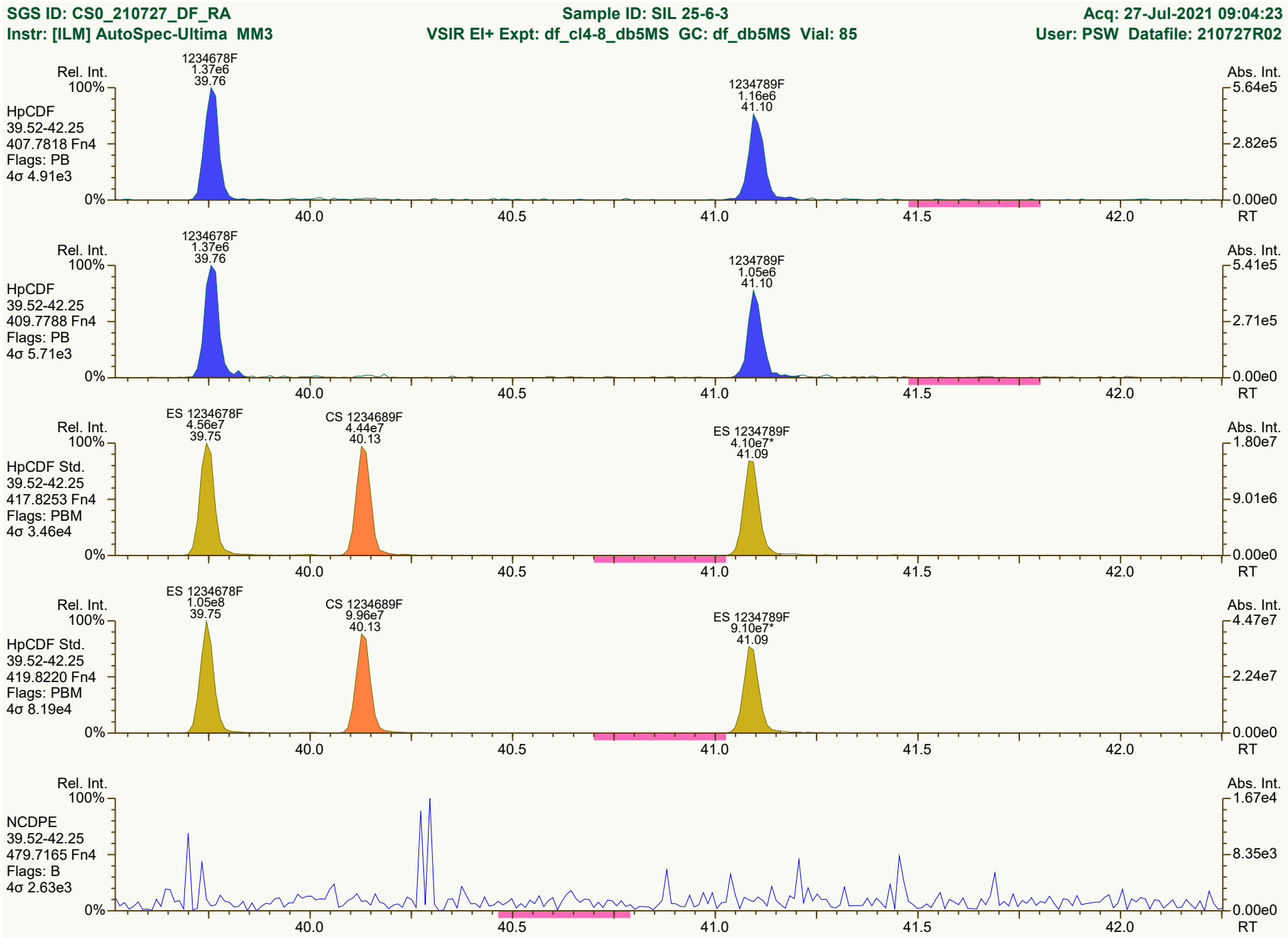
Peak annotation: Areas, Centroids

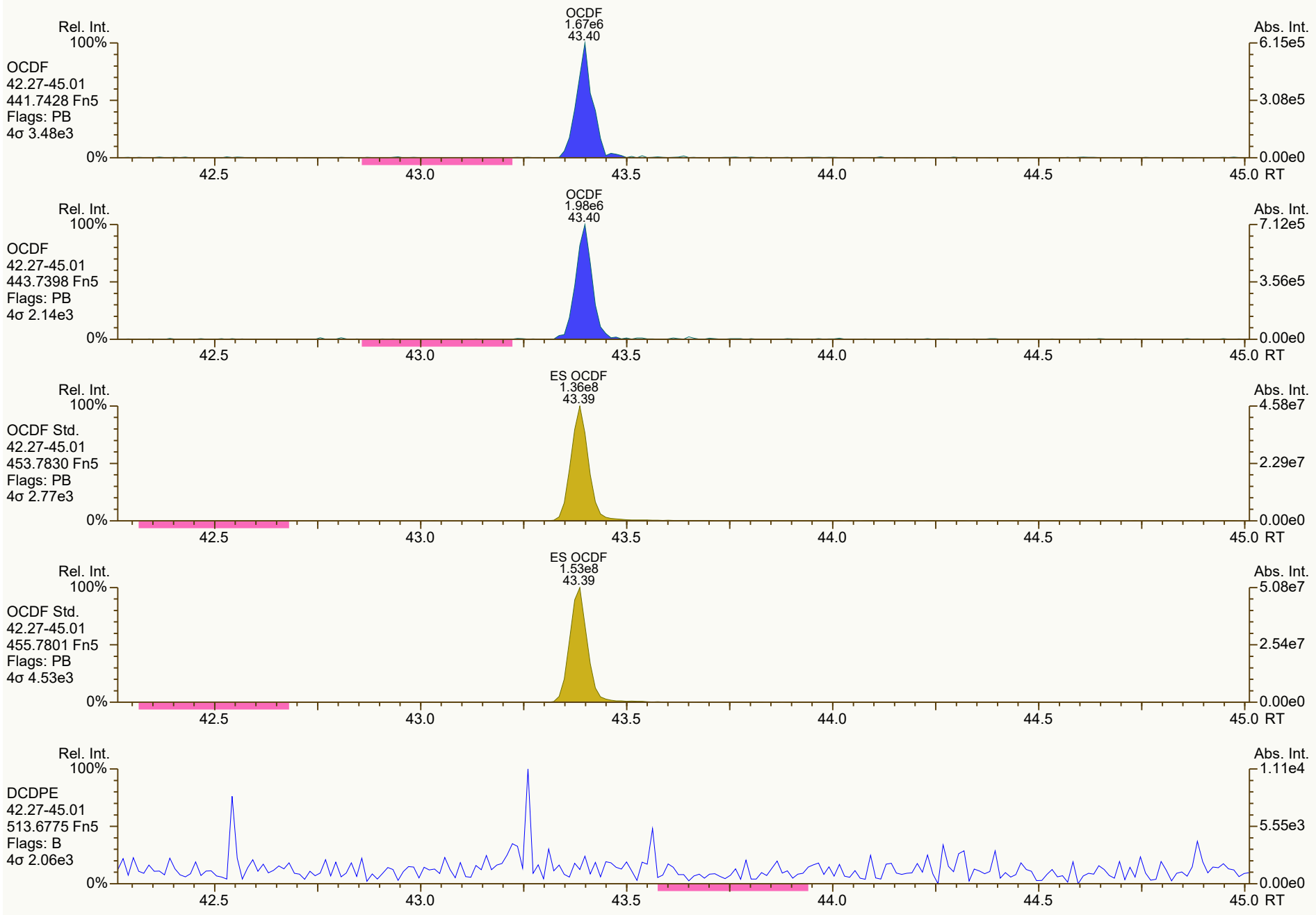
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1474 scc: 693-472

PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.13e3
0%
12378F
1.88e6
32.38
23478F
1.90e6
33.46
Abs. Int.
6.02e5
3.01e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.90e3
0%
12378F
1.30e6
32.37
23478F
1.21e6
33.46
Abs. Int.
4.00e5
2.00e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 3.33e4
0%
CS 12346F
1.46e8
31.84
ES 12378F
1.55e8
32.35
ES 23478F
1.53e8
33.45
Abs. Int.
4.61e7
2.30e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.26e4
0%
CS 12346F
9.49e7
31.84
ES 12378F
1.00e8
32.35
ES 23478F
9.76e7
33.45
Abs. Int.
2.78e7
1.39e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.07e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
0%
123478F 1.65e6 36.68
123678F 1.65e6 36.82
234678F 1.59e6 37.49
123789F 1.50e6 38.42
Abs. Int.
5.53e5
2.76e5
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
0%
123478F 1.35e6 36.68
123678F 1.40e6 36.82
234678F 1.36e6 37.48
123789F 1.16e6 38.42
Abs. Int.
4.33e5
2.16e5
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
0%
ES 123478F 6.32e7 36.66
ES 123678F 7.25e7 36.80
CS 123469F 6.12e7 37.12
ES 234678F 6.65e7 37.47
ES 123789F 6.11e7 38.40
Abs. Int.
2.16e7
1.08e7
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
0%
ES 123478F 1.19e8 36.66
ES 123678F 1.36e8 36.80
CS 123469F 1.17e8 37.12
ES 234678F 1.25e8 37.47
ES 123789F 1.17e8 38.40
Abs. Int.
4.17e7
2.08e7
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e3
1234678F
1.37e6
39.76
1234789F
1.16e6
41.10
5.64e5
2.82e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.71e3
1234678F
1.37e6
39.76
1234789F
1.05e6
41.10
5.41e5
2.71e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.46e4
ES 1234678F
4.56e7
39.75
CS 1234689F
4.44e7
40.13
ES 1234789F
4.10e7*
41.09
1.80e7
9.01e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 8.19e4
ES 1234678F
1.05e8
39.75
CS 1234689F
9.96e7
40.13
ES 1234789F
9.10e7*
41.09
4.47e7
2.24e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
1.67e4
8.35e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7550, 7798, 0516 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 11 of 12


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 3.48e3
0%
OCDF
1.67e6
43.40
Abs. Int.
6.15e5
3.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.14e3
0%
OCDF
1.98e6
43.40
Abs. Int.
7.12e5
3.56e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 2.77e3
0%
ES OCDF
1.36e8
43.39
Abs. Int.
4.58e7
2.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.53e3
0%
ES OCDF
1.53e8
43.39
Abs. Int.
5.08e7
2.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

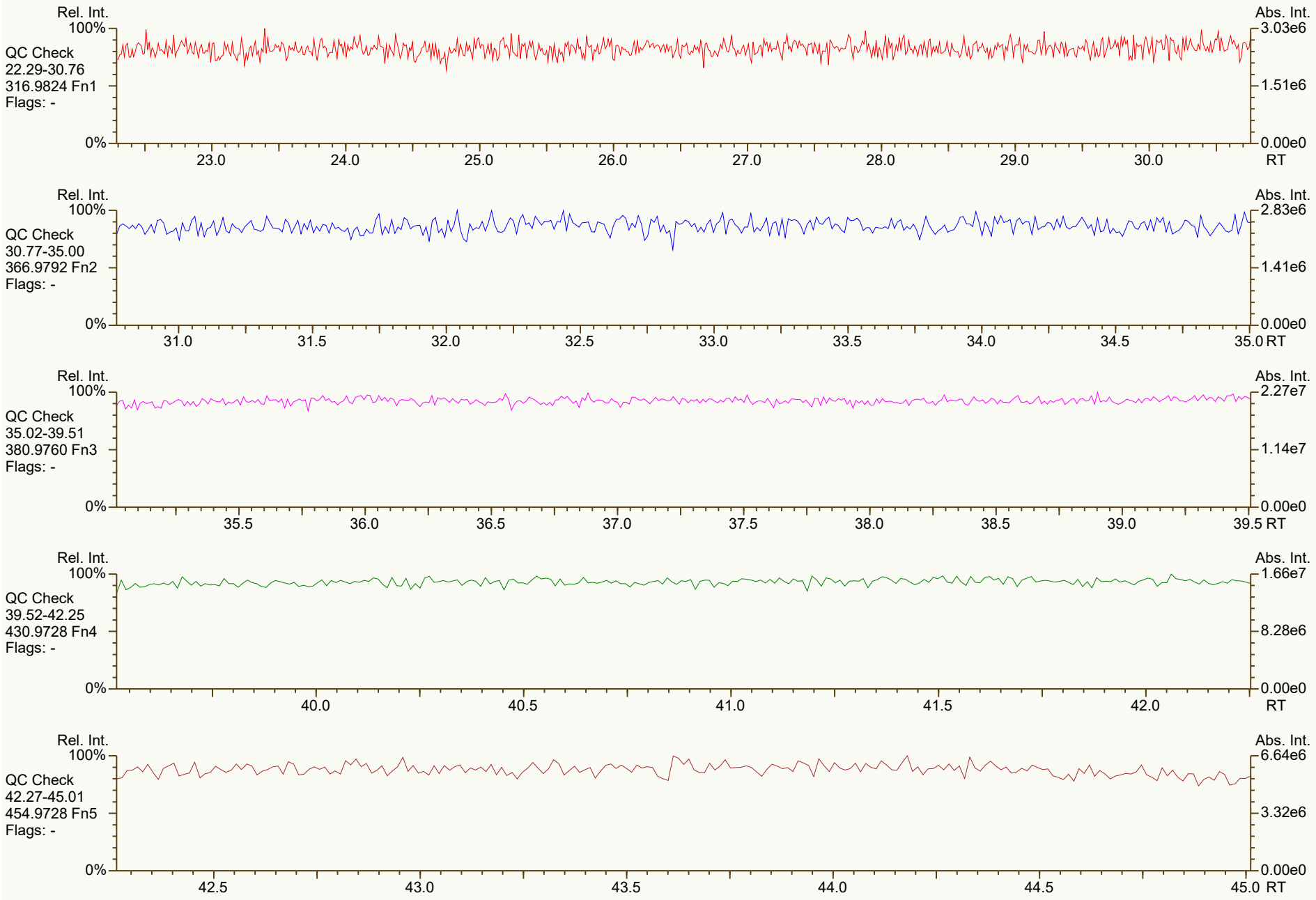
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

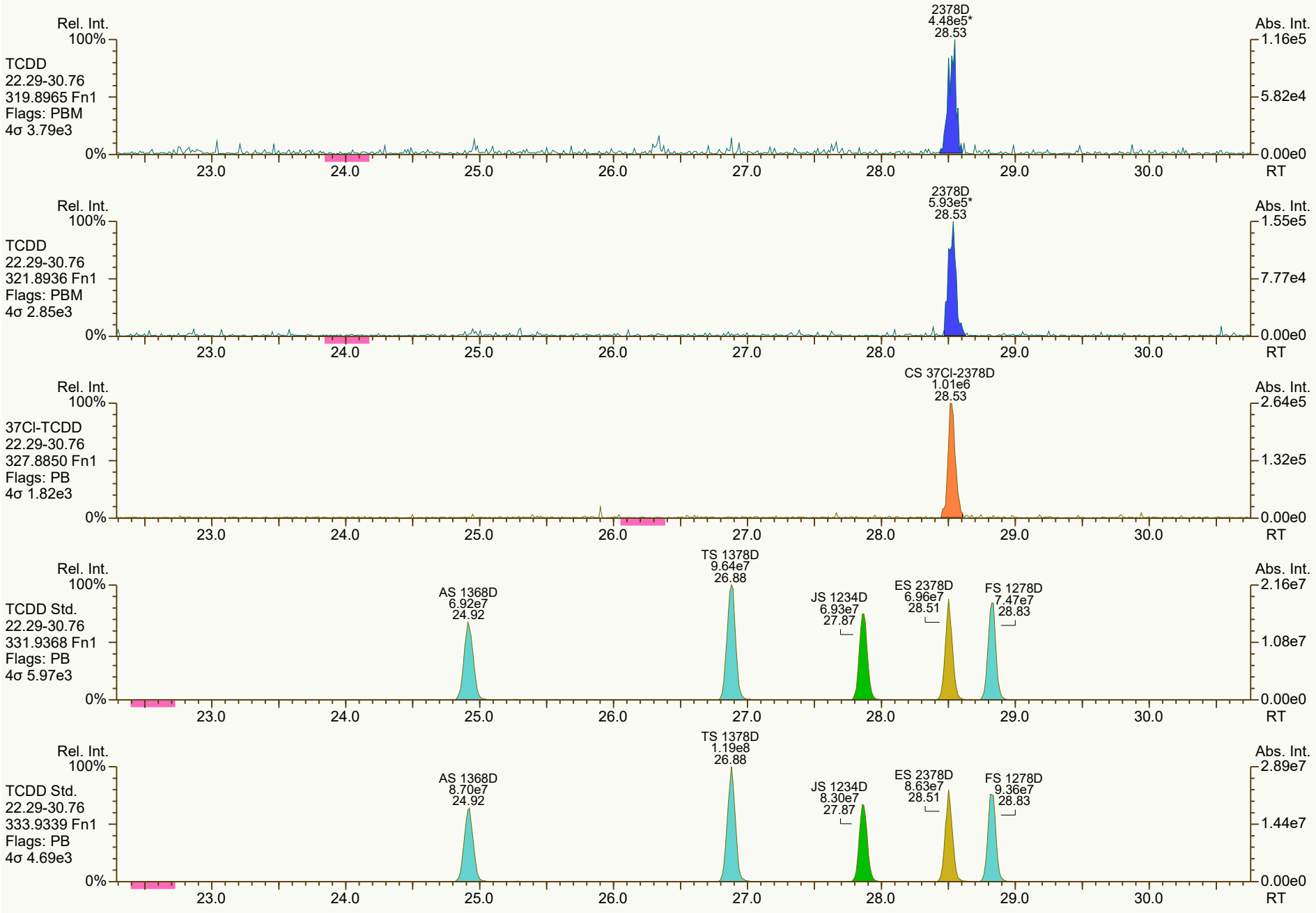
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD	40.66	3.34E+06	1.16	Y	0.97	0.95	-3%
OCDD	43.23	5.66E+06	0.85	Y	1.07	1.04	-3%
2378-TCDF	27.67	1.25E+06	0.72	Y	0.96	0.94	-2%
12378-PeCDF	32.38	5.24E+06	1.54	Y	0.95	0.94	0%
23478-PeCDF	33.47	5.06E+06	1.63	Y	0.94	0.90	-4%
123478-HxCDF	36.69	4.92E+06	1.14	Y	1.23	1.23	-1%
123678-HxCDF	36.83	5.41E+06	1.33	Y	1.13	1.16	3%
234678-HxCDF	37.49	5.10E+06	1.23	Y	1.15	1.19	3%
123789-HxCDF	38.42	4.41E+06	1.28	Y	1.14	1.08	-5%
1234678-HpCDF	39.76	4.59E+06	0.97	Y	1.36	1.35	0%
1234789-HpCDF	41.11	3.63E+06	1.08	Y	1.30	1.20	-7%
OCDF	43.41	6.46E+06	0.90	Y	1.03	1.01	-2%
ES 2378-TCDD	28.51	1.56E+08	0.81	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.789	1.56E+08	1.63	Y	1.03	1.02	-1%
ES 123478-HxCDD	37.66	1.43E+08	1.26	Y	0.99	0.93	-6%
ES 123678-HxCDD	37.773	1.40E+08	1.27	Y	0.97	0.91	-6%
ES 123789-HxCDD	38.062	1.60E+08	1.24	Y	1.12	1.04	-7%
ES 1234678-HpCDD	40.65	1.41E+08	1.06	Y	0.99	0.92	-8%
ES OCDD	43.215	2.18E+08	0.91	Y	0.78	0.71	-9%
ES 2378-TCDF	27.651	2.66E+08	0.77	Y	1.08	1.08	0%
ES 12378-PeCDF	32.362	2.22E+08	1.59	Y	0.93	0.91	-3%
ES 23478-PeCDF	33.454	2.24E+08	1.55	Y	0.92	0.91	-1%
ES 123478-HxCDF	36.667	1.60E+08	0.52	Y	1.14	1.04	-9%
ES 123678-HxCDF	36.807	1.86E+08	0.54	Y	1.30	1.21	-7%
ES 234678-HxCDF	37.474	1.72E+08	0.53	Y	1.20	1.12	-7%
ES 123789-HxCDF	38.407	1.64E+08	0.51	Y	1.14	1.07	-6%
ES 1234678-HpCDF	39.755	1.36E+08	0.46	Y	0.95	0.88	-7%
ES 1234789-HpCDF	41.099	1.21E+08	0.45	Y	0.85	0.78	-7%
ES OCDF	43.396	2.56E+08	0.88	Y	0.93	0.83	-10%

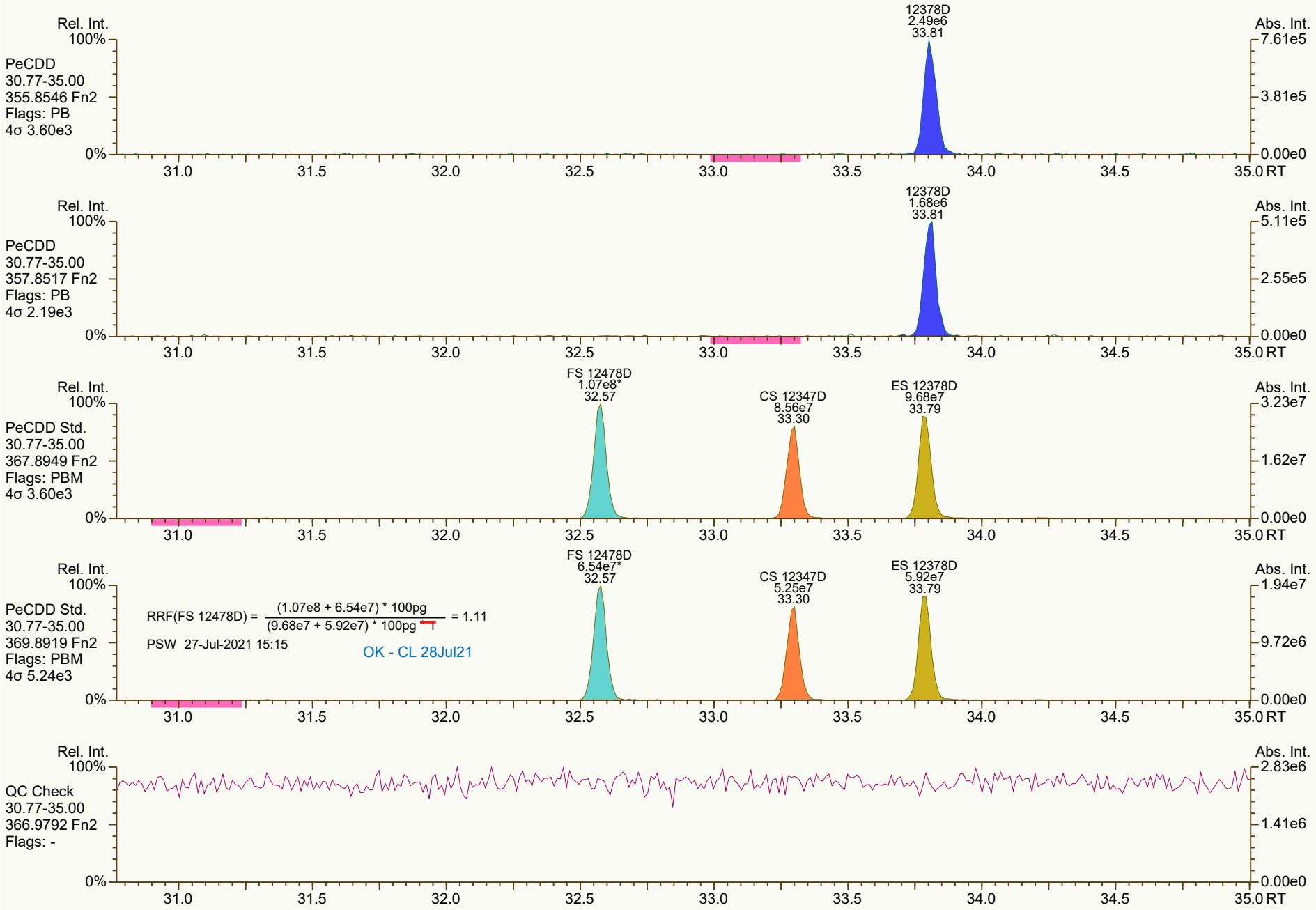
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

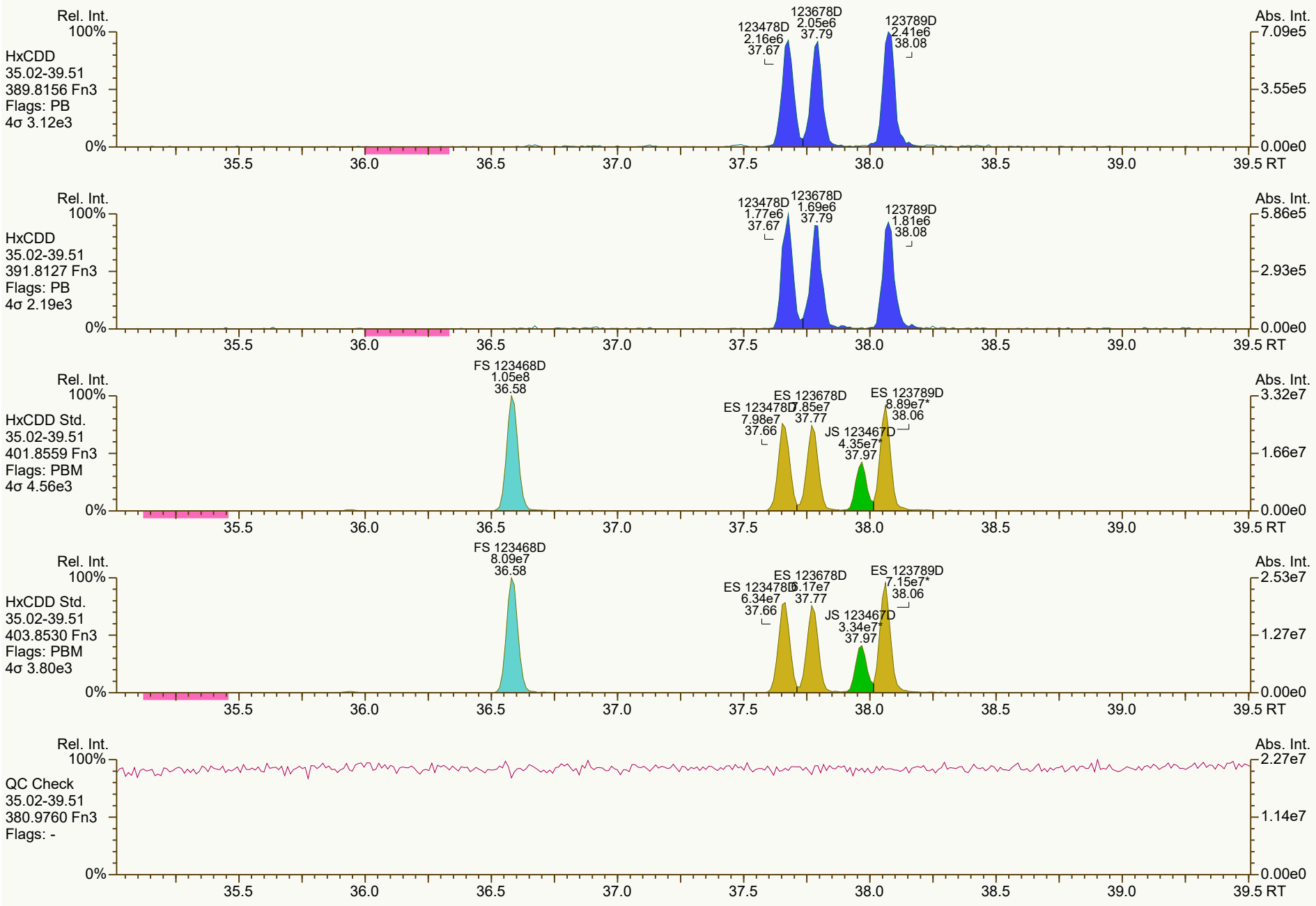
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.87	0.88	1%
CS 123469-HxCDF	37.12	1.61E+08	0.52	Y	1.09	1.04	-4%
CS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.86	0.84	-2%
SS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.26	1.29	2%
SS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.86	0.89	2%
SS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.61E+08	0.52	Y	0.84	0.86	3%
SS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.91	0.96	5%
AS 1368-TCDD	24.92	1.56E+08	0.80	Y	1.02	1.03	0%
AS 1368-TCDF	22.86	2.59E+08	0.77	Y	1.08	1.06	-2%
FS 1278-TCDD	28.83	1.68E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.72E+08	1.63	Y	1.09	1.10	1%
FS 123468-HxCDD	36.59	1.86E+08	1.29	Y	1.26	1.30	3%
FS 1234679-HpCDD	39.99	1.93E+08	1.05	Y	1.36	1.37	1%
TS 1378-TCDD	26.88	2.16E+08	0.81	Y	1.35	1.38	3%
~~OCDD-a~~	~~43.23~~	~~4.10E+05~~	~~2.91~~	~~N~~	~~0.07~~	~~0.08~~	~~14%~~
~~OCDF-a~~	~~43.40~~	~~3.79E+05~~	~~1.92~~	~~N~~	~~0.06~~	~~0.06~~	~~0%~~

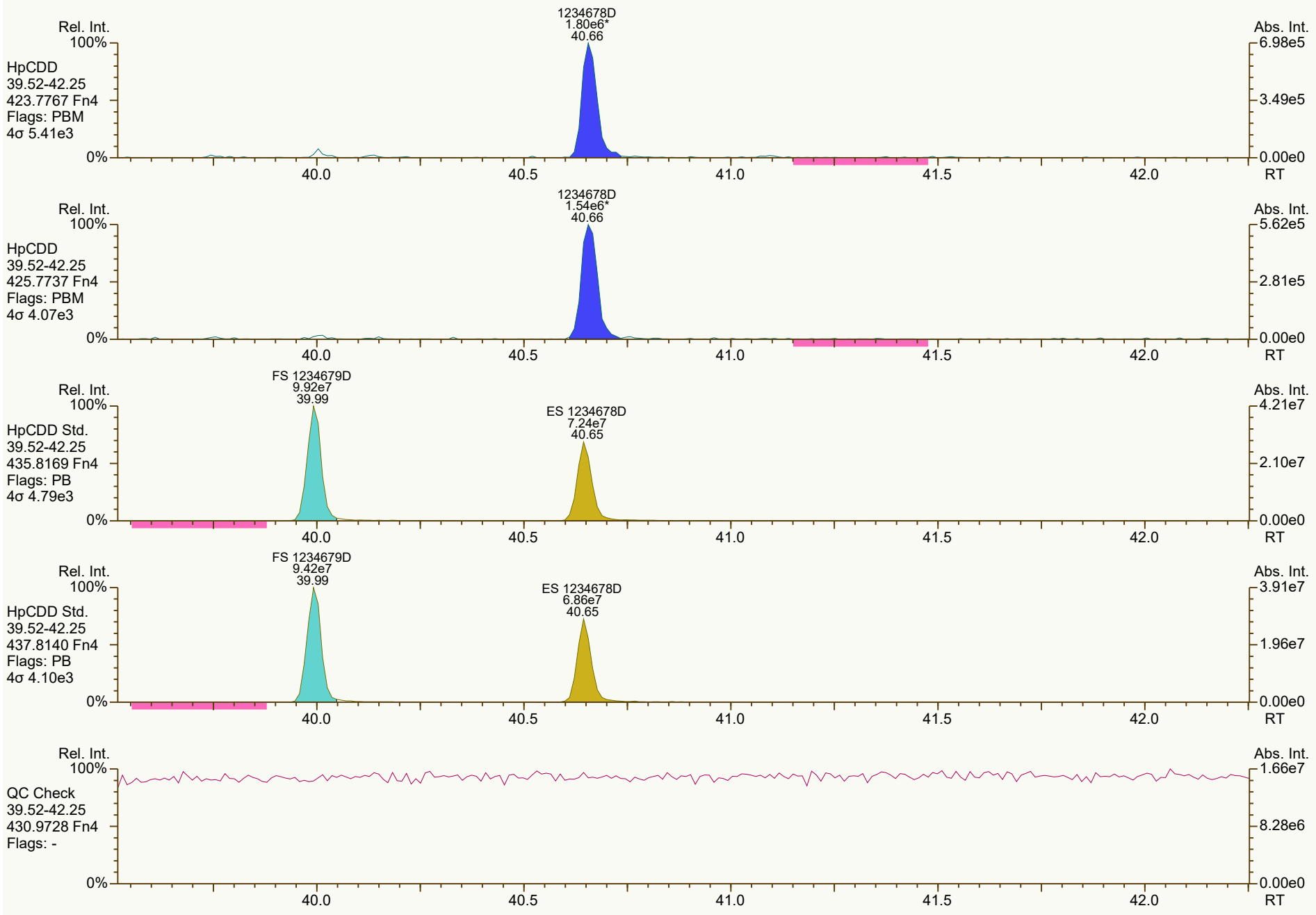
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.66e7
8.28e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

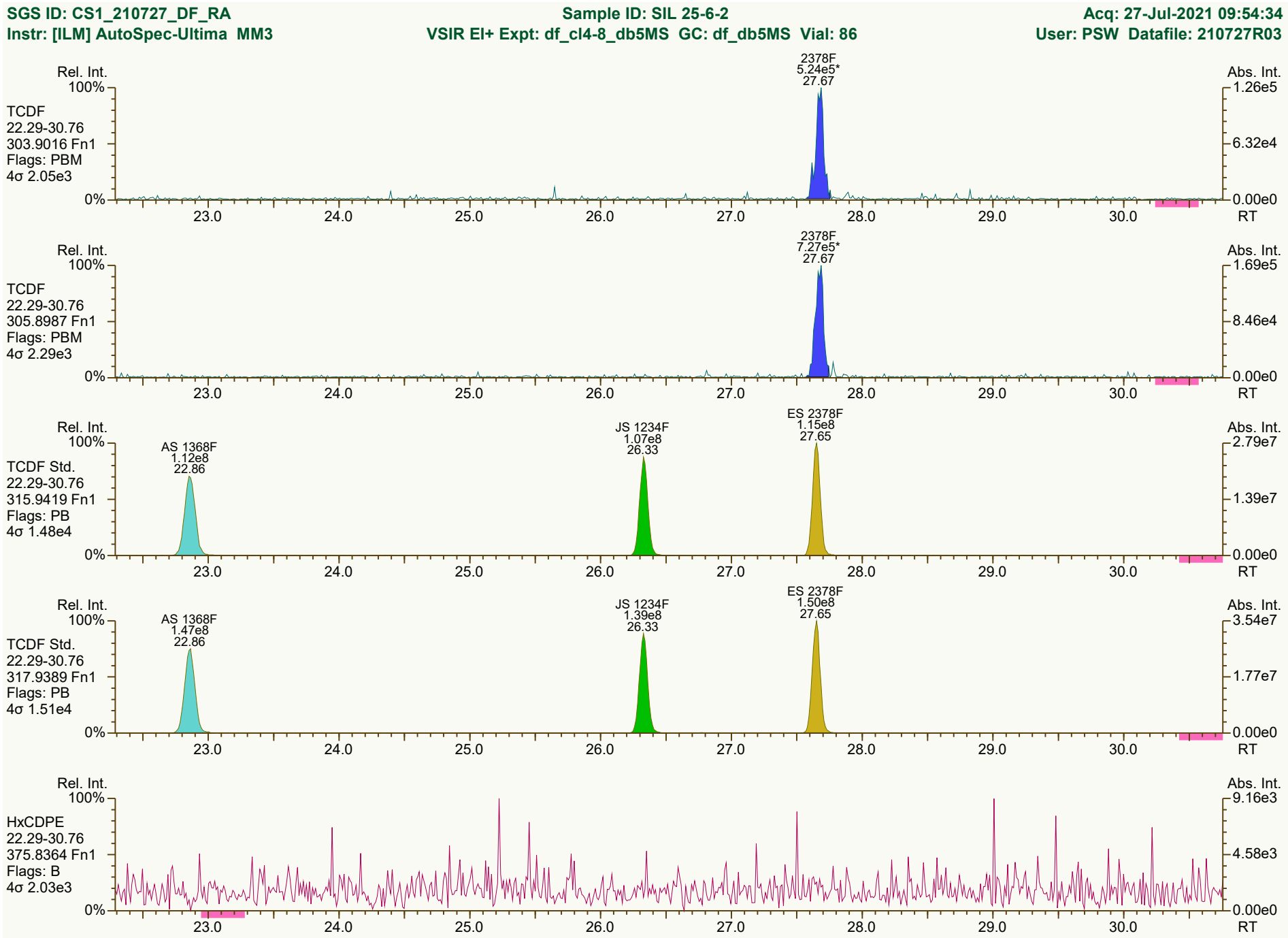

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 3.79e3
0%
2378D
4.48e5*
28.53
Abs. Int.
1.16e5
5.82e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.85e3
0%
2378D
5.93e5*
28.53
Abs. Int.
1.55e5
7.77e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.82e3
0%
CS 37Cl-2378D
1.01e6
28.53
Abs. Int.
2.64e5
1.32e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.97e3
0%
AS 1368D
6.92e7
24.92
TS 1378D
9.64e7
26.88
JS 1234D
6.93e7
27.87
ES 2378D
6.96e7
28.51
FS 1278D
7.47e7
28.83
Abs. Int.
2.16e7
1.08e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.69e3
0%
AS 1368D
8.70e7
24.92
TS 1378D
1.19e8
26.88
JS 1234D
8.30e7
27.87
ES 2378D
8.63e7
28.51
FS 1278D
9.36e7
28.83
Abs. Int.
2.89e7
1.44e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
0%
12378D
2.49e6
33.81
Abs. Int.
7.61e5
3.81e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
0%
12378D
1.68e6
33.81
Abs. Int.
5.11e5
2.55e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
0%
FS 12478D
1.07e8*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.68e7
33.79
Abs. Int.
3.23e7
1.62e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
0%
RRF(FS 12478D) = (1.07e8 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
Abs. Int.
1.94e7
9.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

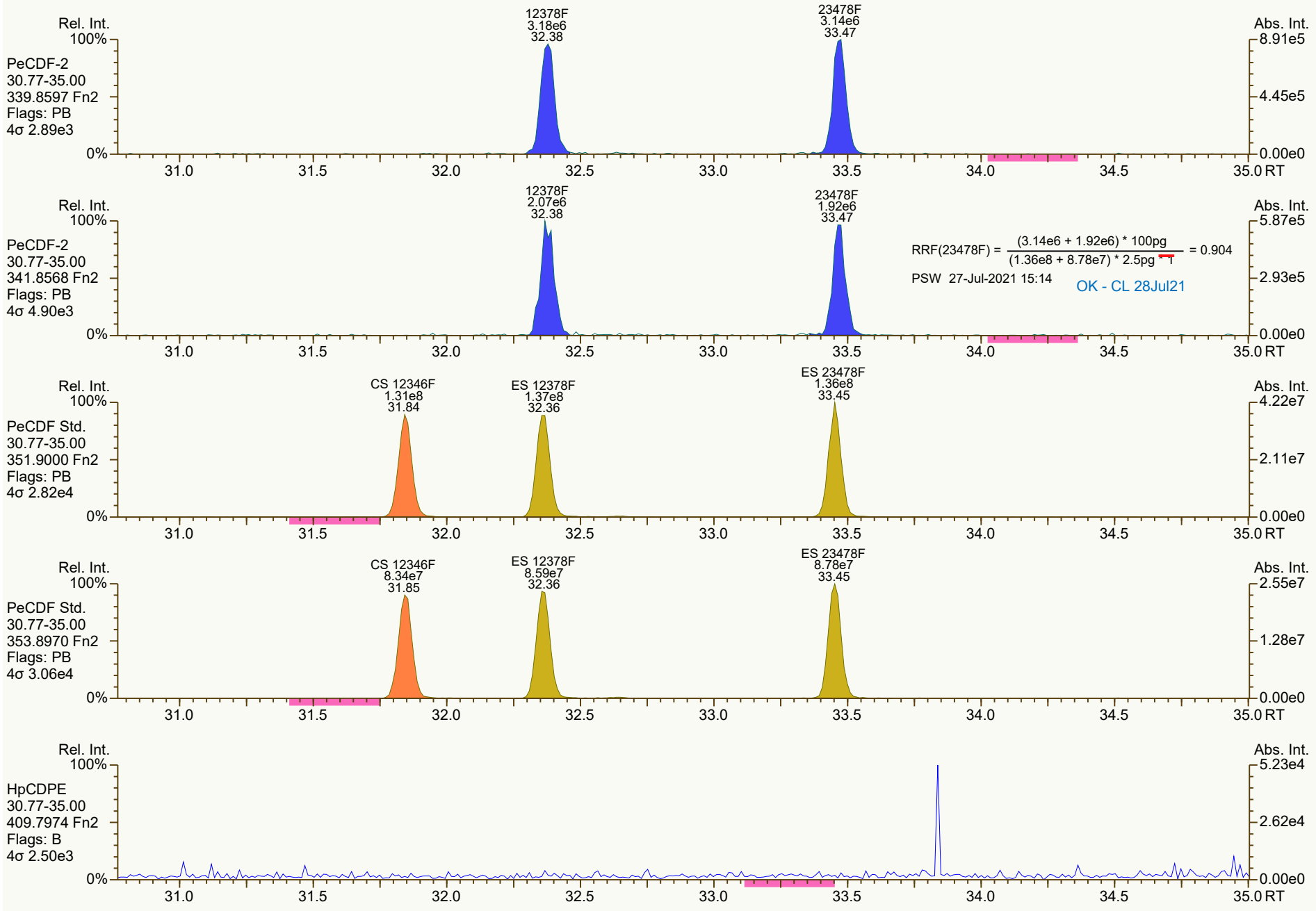

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.12e3
123478D
2.16e6
37.67
123678D
2.05e6
37.79
123789D
2.41e6
38.08
Abs. Int.
7.09e5
3.55e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.19e3
123478D
1.77e6
37.67
123678D
1.69e6
37.79
123789D
1.81e6
38.08
Abs. Int.
5.86e5
2.93e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.56e3
FS 123468D
1.05e8
36.58
ES 123478D
7.98e7
37.66
ES 123678D
7.85e7
37.77
JS 123467D
4.35e7*
37.97
ES 123789D
8.89e7*
38.06
Abs. Int.
3.32e7
1.66e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.80e3
FS 123468D
8.09e7
36.58
ES 123478D
6.34e7
37.66
ES 123678D
6.17e7
37.77
JS 123467D
3.34e7*
37.97
ES 123789D
7.15e7*
38.06
Abs. Int.
2.53e7
1.27e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.14e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

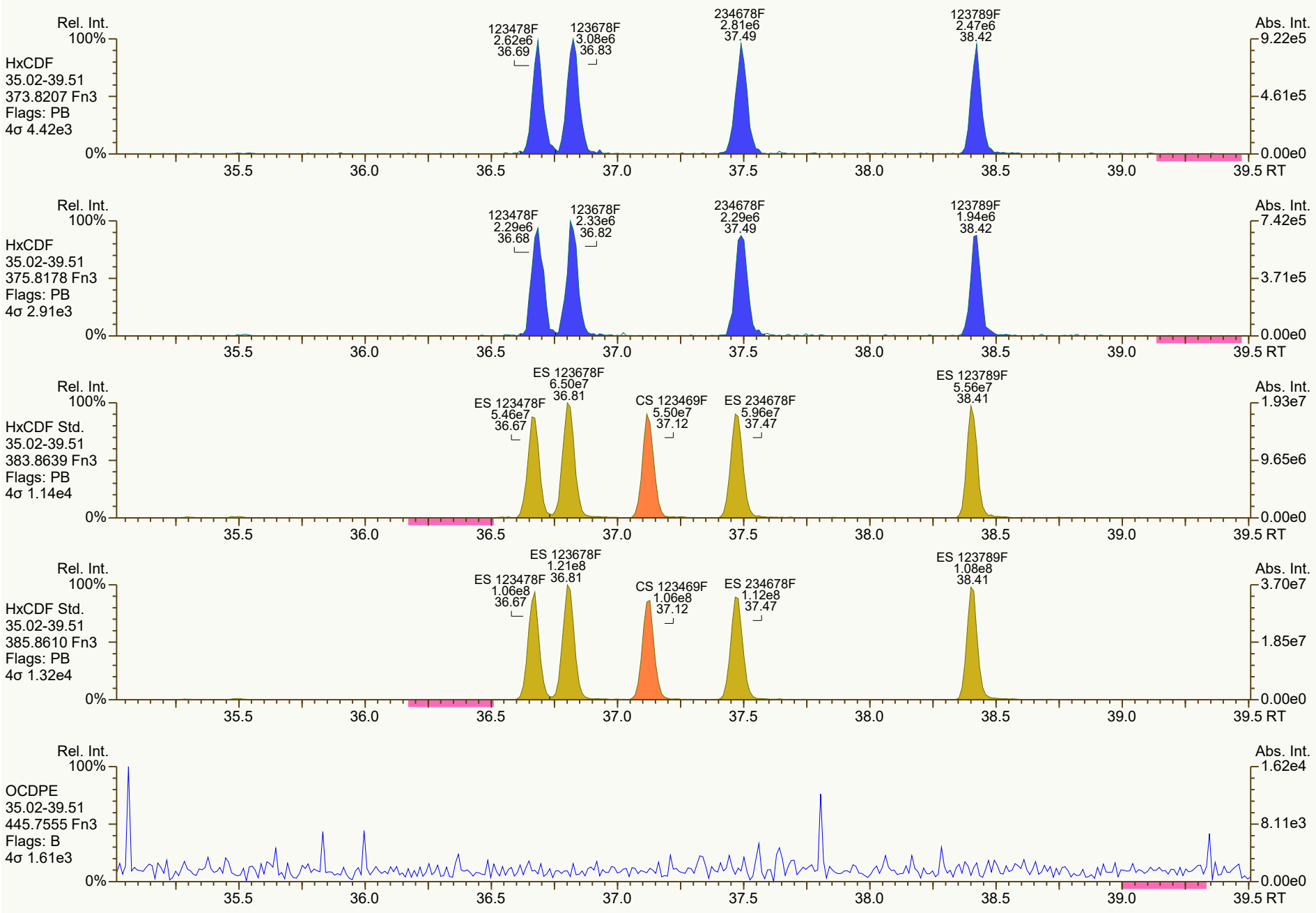

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 5.41e3
1234678D
1.80e6*
40.66
Abs. Int.
6.98e5
3.49e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 4.07e3
1234678D
1.54e6*
40.66
Abs. Int.
5.62e5
2.81e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 4.79e3
FS 1234679D
9.92e7
39.99
ES 1234678D
7.24e7
40.65
Abs. Int.
4.21e7
2.10e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.10e3
FS 1234679D
9.42e7
39.99
ES 1234678D
6.86e7
40.65
Abs. Int.
3.91e7
1.96e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.66e7
8.28e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT

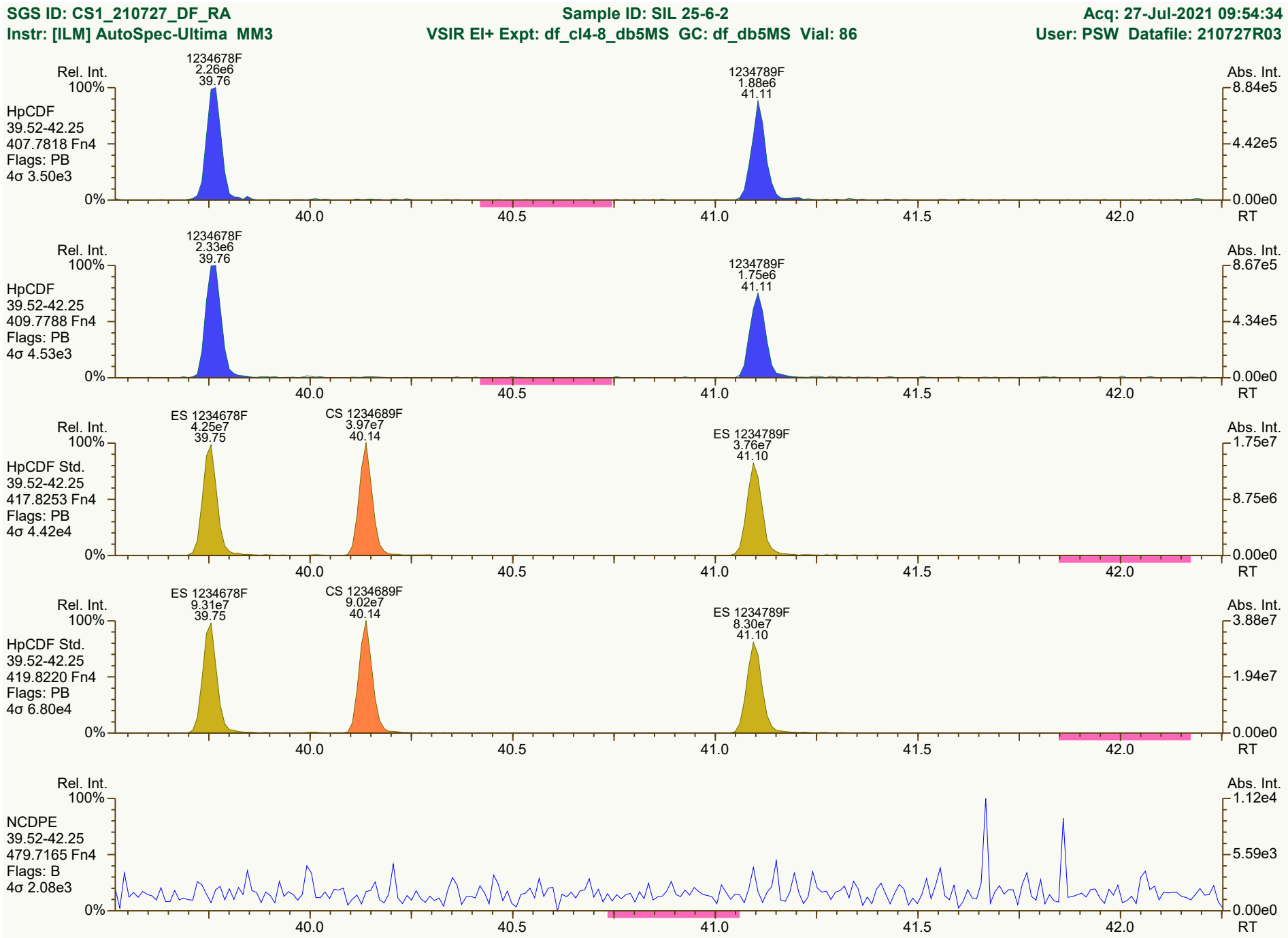

OCDD
2.61e6
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.60e3
0%
Abs. Int.
8.02e5
4.01e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.05e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.89e3
0%
Abs. Int.
1.09e6
5.45e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.04e8
43.22
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 2.94e3
0%
Abs. Int.
3.50e7
1.75e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.14e8
43.22
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 3.15e3
0%
Abs. Int.
3.84e7
1.92e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

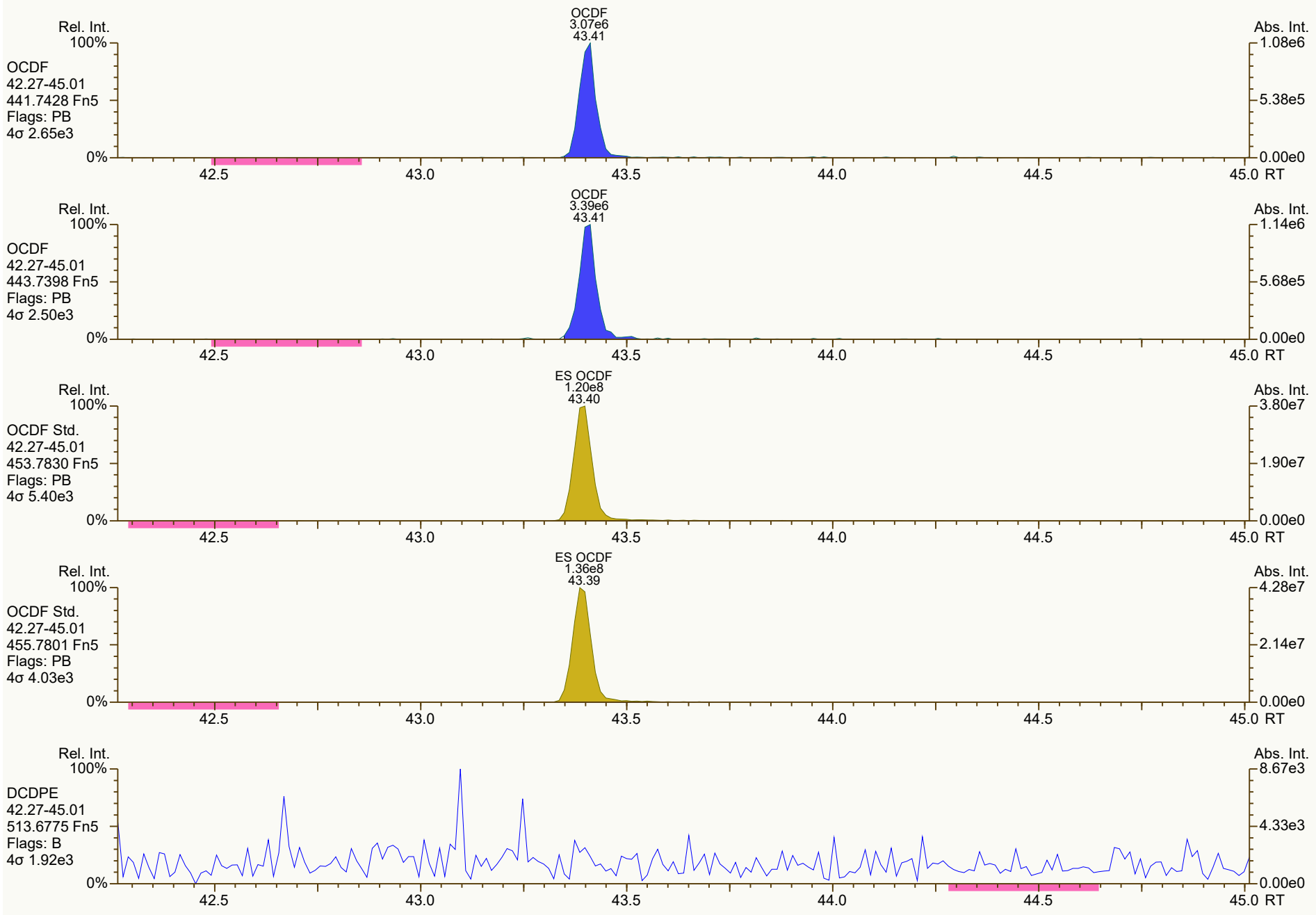

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
2378F
5.24e5*
27.67
1.26e5
6.32e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
2378F
7.27e5*
27.67
1.69e5
8.46e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
2.79e7
1.39e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
3.54e7
1.77e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
9.16e3
4.58e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0890, 2579, 1486 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.43e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.60e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.89e3
0%
12378F
3.18e6
32.38
23478F
3.14e6
33.47
Abs. Int.
8.91e5
4.45e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 4.90e3
0%
12378F
2.07e6
32.38
23478F
1.92e6
33.47
RRF(23478F) = (3.14e6 + 1.92e6) * 100pg / (1.36e8 + 8.78e7) * 2.5pg = 0.904
PSW 27-Jul-2021 15:14
OK - CL 28Jul21
Abs. Int.
5.87e5
2.93e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.82e4
0%
CS 12346F
1.31e8
31.84
ES 12378F
1.37e8
32.36
ES 23478F
1.36e8
33.45
Abs. Int.
4.22e7
2.11e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 3.06e4
0%
CS 12346F
8.34e7
31.85
ES 12378F
8.59e7
32.36
ES 23478F
8.78e7
33.45
Abs. Int.
2.55e7
1.28e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.50e3
0%
Abs. Int.
5.23e4
2.62e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 4.42e3
123478F 2.62e6 36.69
123678F 3.08e6 36.83
234678F 2.81e6 37.49
123789F 2.47e6 38.42
Abs. Int.
9.22e5
4.61e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.91e3
123478F 2.29e6 36.68
123678F 2.33e6 36.82
234678F 2.29e6 37.49
123789F 1.94e6 38.42
Abs. Int.
7.42e5
3.71e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123478F 5.46e7 36.67
ES 123678F 6.50e7 36.81
CS 123469F 5.50e7 37.12
ES 234678F 5.96e7 37.47
ES 123789F 5.56e7 38.41
Abs. Int.
1.93e7
9.65e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F 1.06e8 36.67
ES 123678F 1.21e8 36.81
CS 123469F 1.06e8 37.12
ES 234678F 1.12e8 37.47
ES 123789F 1.08e8 38.41
Abs. Int.
3.70e7
1.85e7
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.61e3
Abs. Int.
1.62e4
8.11e3
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 3.50e3
1234678F
2.26e6
39.76
1234789F
1.88e6
41.11
8.84e5
4.42e5
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 4.53e3
1234678F
2.33e6
39.76
1234789F
1.75e6
41.11
8.67e5
4.34e5
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 4.42e4
ES 1234678F
4.25e7
39.75
CS 1234689F
3.97e7
40.14
ES 1234789F
3.76e7
41.10
1.75e7
8.75e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 6.80e4
ES 1234678F
9.31e7
39.75
CS 1234689F
9.02e7
40.14
ES 1234789F
8.30e7
41.10
3.88e7
1.94e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.08e3
1.12e4
5.59e3
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT


OCDF
3.07e6
43.41
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
0%
Abs. Int.
1.08e6
5.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.39e6
43.41
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
0%
Abs. Int.
1.14e6
5.68e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.20e8
43.40
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e8
43.39
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
0%
Abs. Int.
4.28e7
2.14e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.67e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

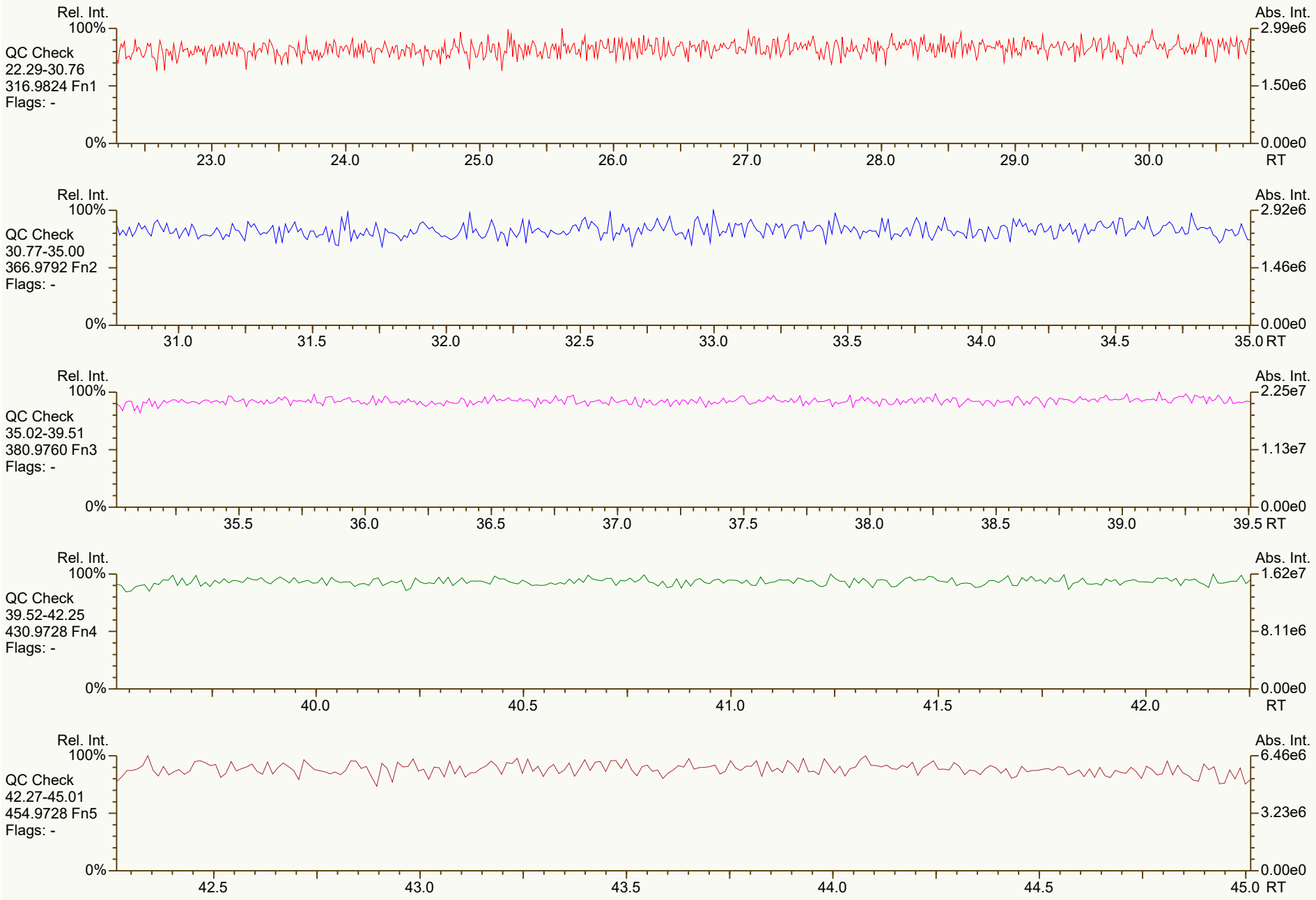
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

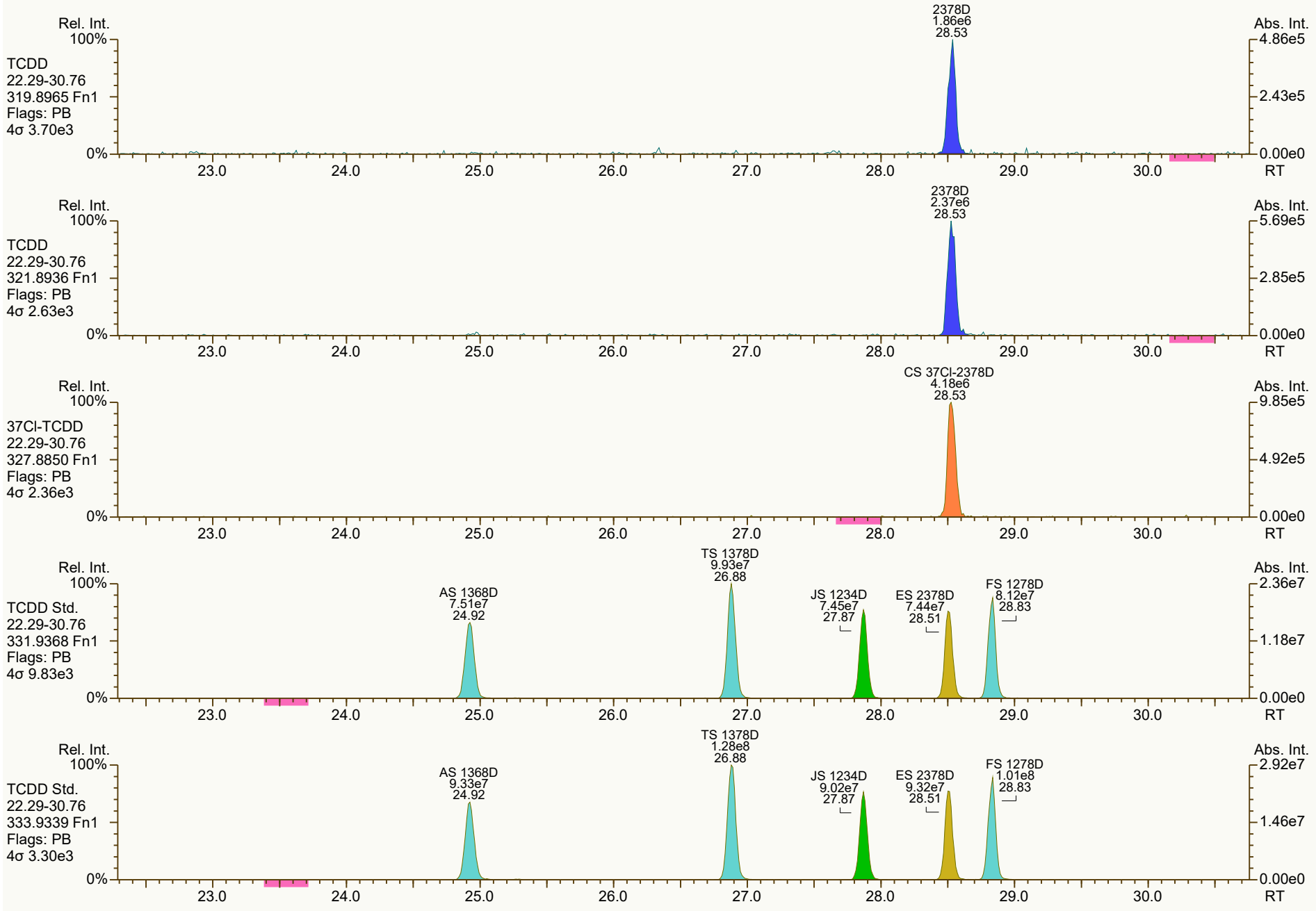
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD	40.67	1.41E+07	1.01	Y	0.97	0.92	-6%
OCDD	43.23	2.33E+07	0.88	Y	1.07	1.01	-6%
2378-TCDF	27.68	5.04E+06	0.83	Y	0.96	0.90	-6%
12378-PeCDF	32.39	2.16E+07	1.63	Y	0.95	0.90	-5%
23478-PeCDF	33.48	2.12E+07	1.52	Y	0.94	0.90	-4%
123478-HxCDF	36.69	2.09E+07	1.25	Y	1.23	1.19	-4%
123678-HxCDF	36.83	2.13E+07	1.24	Y	1.13	1.07	-5%
234678-HxCDF	37.50	1.98E+07	1.20	Y	1.15	1.08	-6%
123789-HxCDF	38.43	1.89E+07	1.24	Y	1.14	1.09	-4%
1234678-HpCDF	39.77	1.87E+07	1.01	Y	1.36	1.31	-4%
1234789-HpCDF	41.12	1.60E+07	1.02	Y	1.30	1.26	-3%
OCDF	43.41	2.61E+07	0.92	Y	1.03	0.95	-7%
ES 2378-TCDD	28.51	1.68E+08	0.80	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.794	1.63E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.667	1.54E+08	1.28	Y	0.99	0.99	-1%
ES 123678-HxCDD	37.781	1.49E+08	1.24	Y	0.97	0.95	-2%
ES 123789-HxCDD	38.07	1.75E+08	1.26	Y	1.12	1.12	0%
ES 1234678-HpCDD	40.658	1.53E+08	1.06	Y	0.99	0.98	-1%
ES OCDD	43.222	2.31E+08	0.90	Y	0.78	0.74	-5%
ES 2378-TCDF	27.656	2.80E+08	0.80	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.368	2.40E+08	1.55	Y	0.93	0.92	-2%
ES 23478-PeCDF	33.459	2.36E+08	1.59	Y	0.92	0.90	-2%
ES 123478-HxCDF	36.674	1.76E+08	0.52	Y	1.14	1.13	-1%
ES 123678-HxCDF	36.814	1.99E+08	0.52	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.481	1.84E+08	0.52	Y	1.20	1.18	-2%
ES 123789-HxCDF	38.416	1.73E+08	0.52	Y	1.14	1.11	-2%
ES 1234678-HpCDF	39.761	1.43E+08	0.44	Y	0.95	0.92	-3%
ES 1234789-HpCDF	41.105	1.28E+08	0.46	Y	0.85	0.82	-3%
ES OCDF	43.404	2.74E+08	0.87	Y	0.93	0.88	-5%

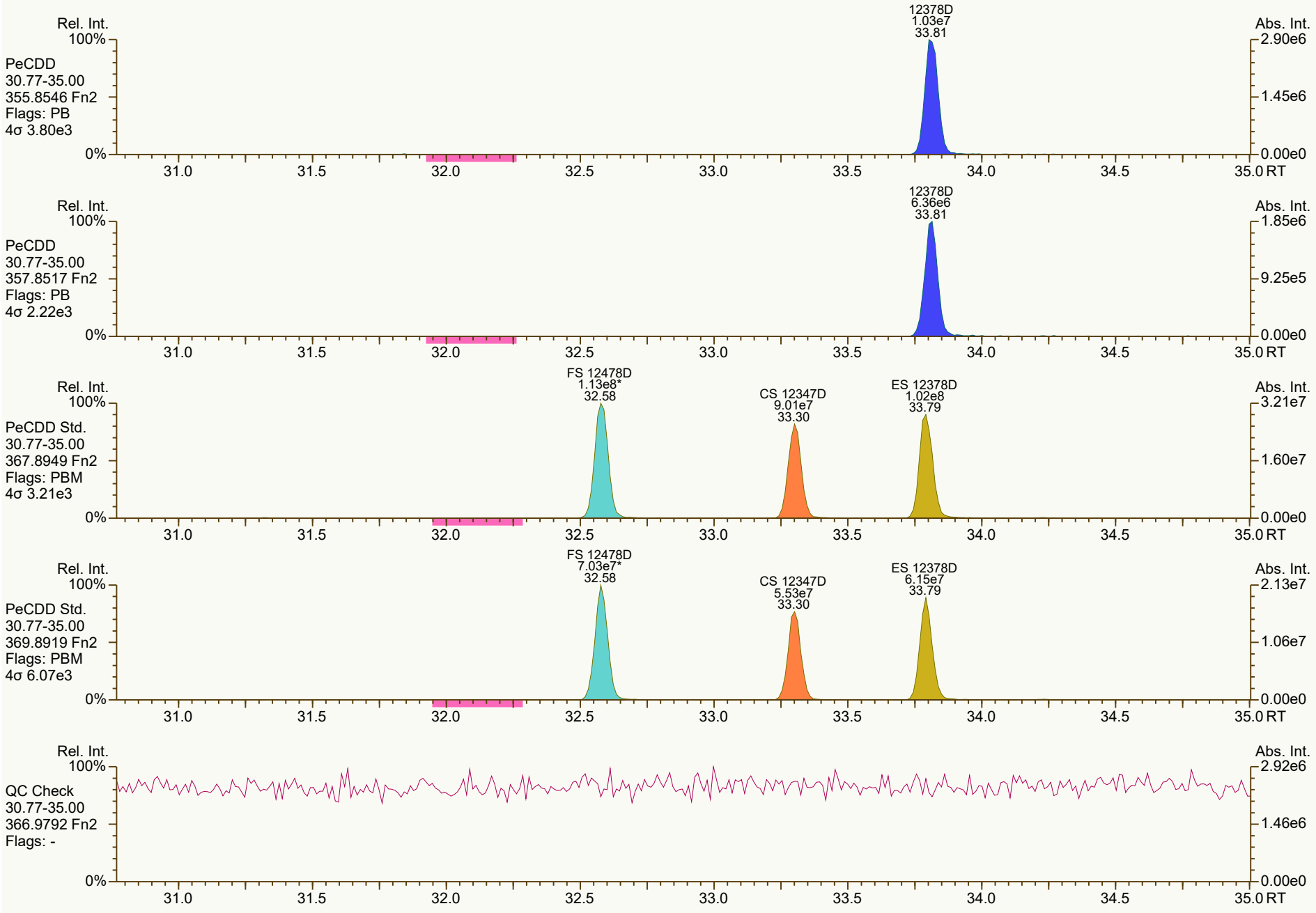
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

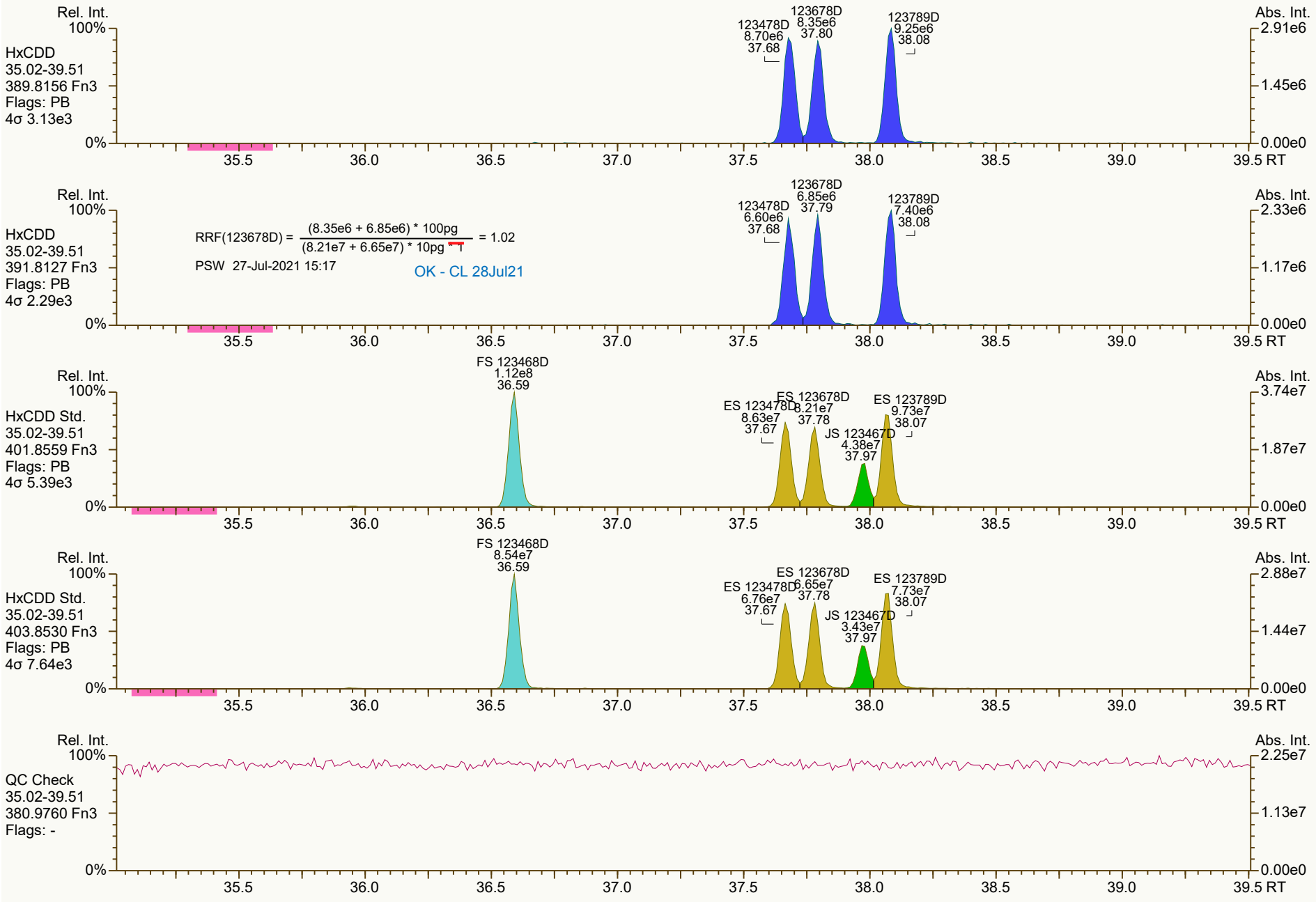
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.13	1.69E+08	0.52	Y	1.09	1.08	-1%
CS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.86	0.89	3%
SS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.13	1.69E+08	0.52	Y	0.84	0.85	1%
SS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.92	1.68E+08	0.81	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.81E+08	0.77	Y	1.08	1.07	-1%
FS 1278-TCDD	28.83	1.83E+08	0.80	Y	1.08	1.09	0%
FS 12478-PeCDD	32.58	1.83E+08	1.61	Y	1.09	1.12	3%
FS 123468-HxCDD	36.59	1.97E+08	1.31	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	2.12E+08	1.04	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	2.27E+08	0.78	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.23~~	~~1.51E+06~~	~~2.07~~	~~N~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.41~~	~~1.45E+06~~	~~3.13~~	~~N~~	~~0.06~~	~~0.05~~	~~-11%~~

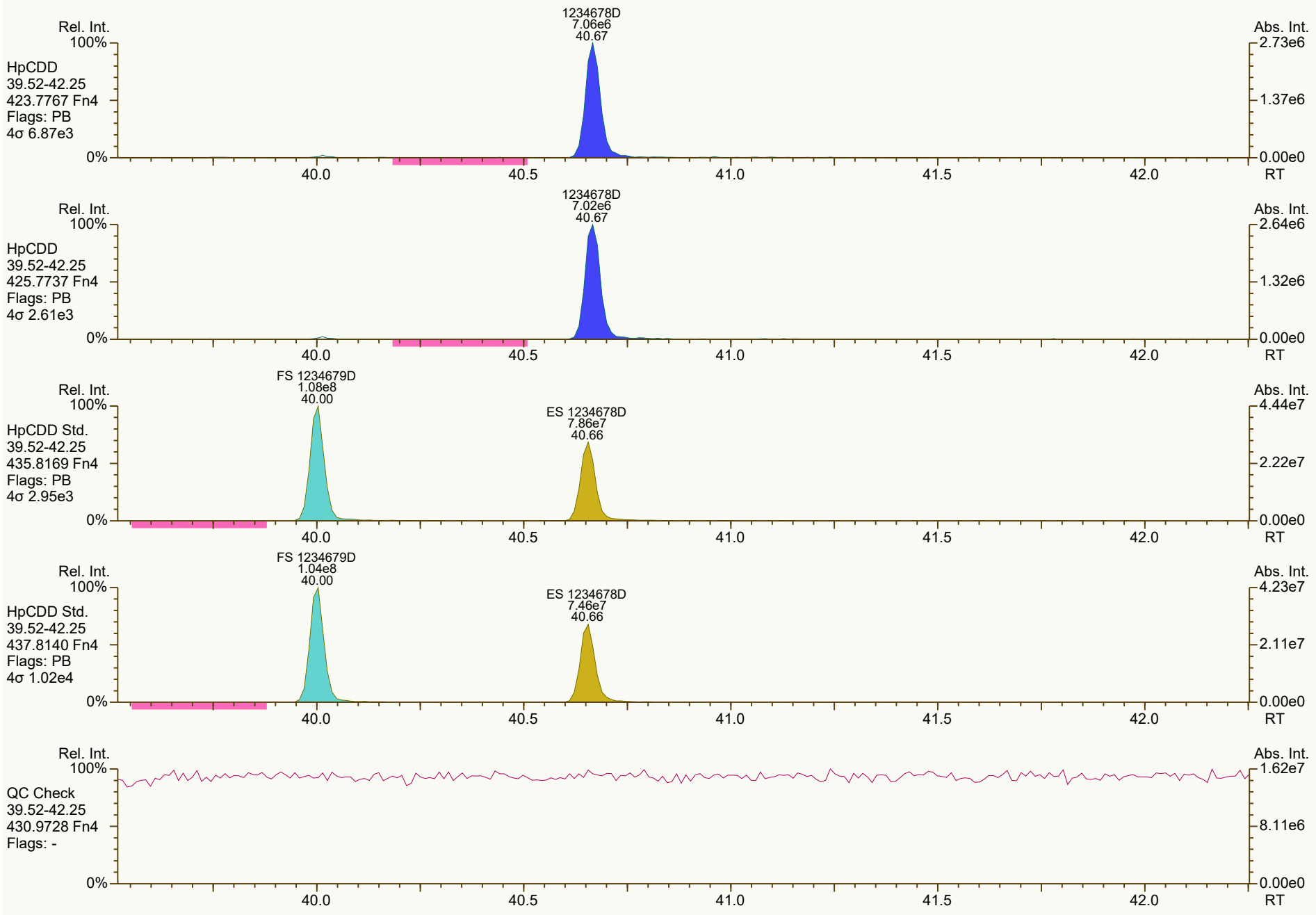
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.25e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

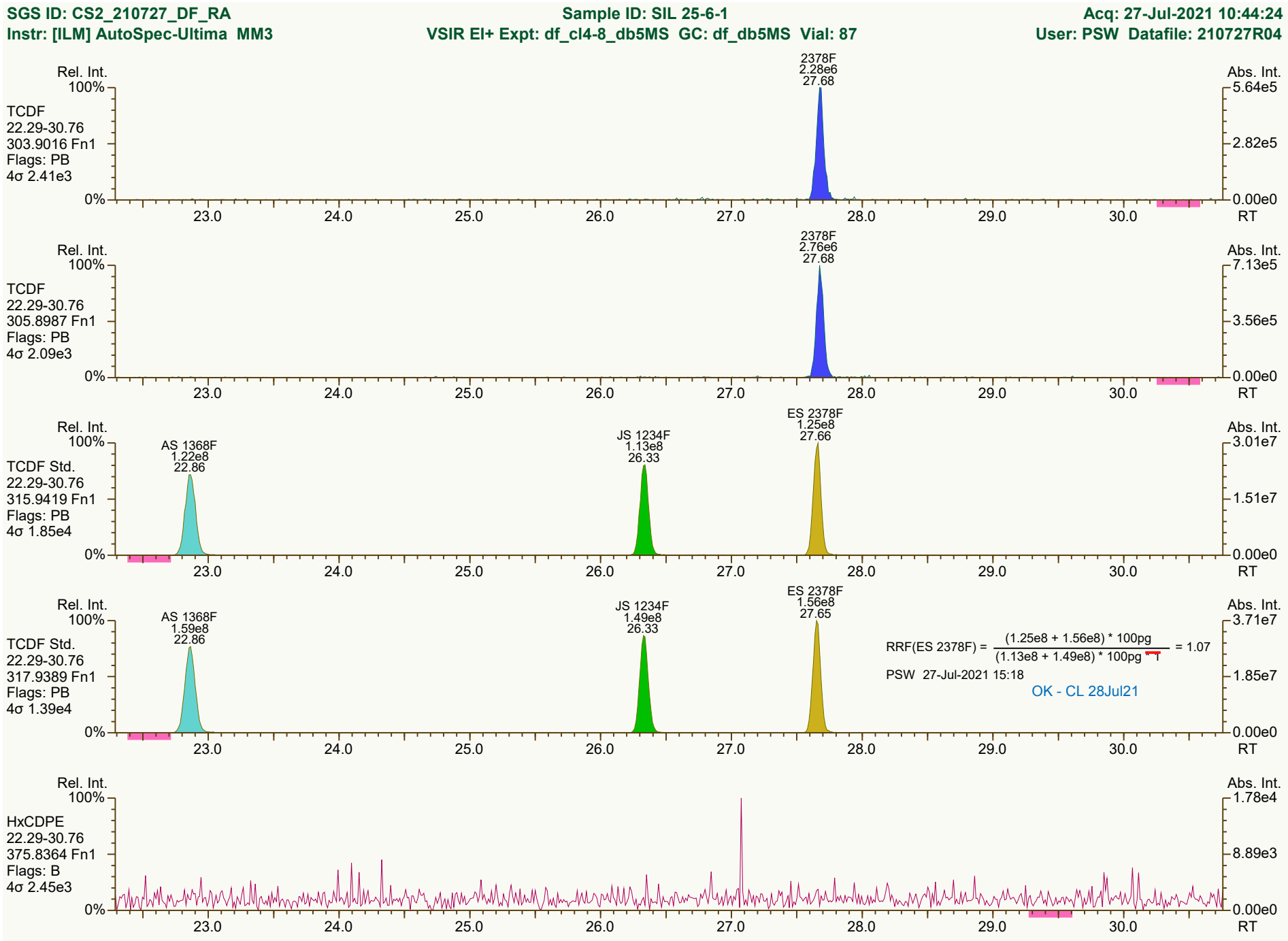

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
0%
2378D
1.86e6
28.53
Abs. Int.
4.86e5
2.43e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
0%
2378D
2.37e6
28.53
Abs. Int.
5.69e5
2.85e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.36e3
0%
CS 37Cl-2378D
4.18e6
28.53
Abs. Int.
9.85e5
4.92e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 9.83e3
0%
AS 1368D
7.51e7
24.92
TS 1378D
9.93e7
26.88
JS 1234D
7.45e7
27.87
ES 2378D
7.44e7
28.51
FS 1278D
8.12e7
28.83
Abs. Int.
2.36e7
1.18e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.30e3
0%
AS 1368D
9.33e7
24.92
TS 1378D
1.28e8
26.88
JS 1234D
9.02e7
27.87
ES 2378D
9.32e7
28.51
FS 1278D
1.01e8
28.83
Abs. Int.
2.92e7
1.46e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.80e3
12378D
1.03e7
33.81
Abs. Int.
2.90e6
1.45e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.22e3
12378D
6.36e6
33.81
Abs. Int.
1.85e6
9.25e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.21e3
FS 12478D
1.13e8*
32.58
CS 12347D
9.01e7
33.30
ES 12378D
1.02e8
33.79
Abs. Int.
3.21e7
1.60e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 6.07e3
FS 12478D
7.03e7*
32.58
CS 12347D
5.53e7
33.30
ES 12378D
6.15e7
33.79
Abs. Int.
2.13e7
1.06e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

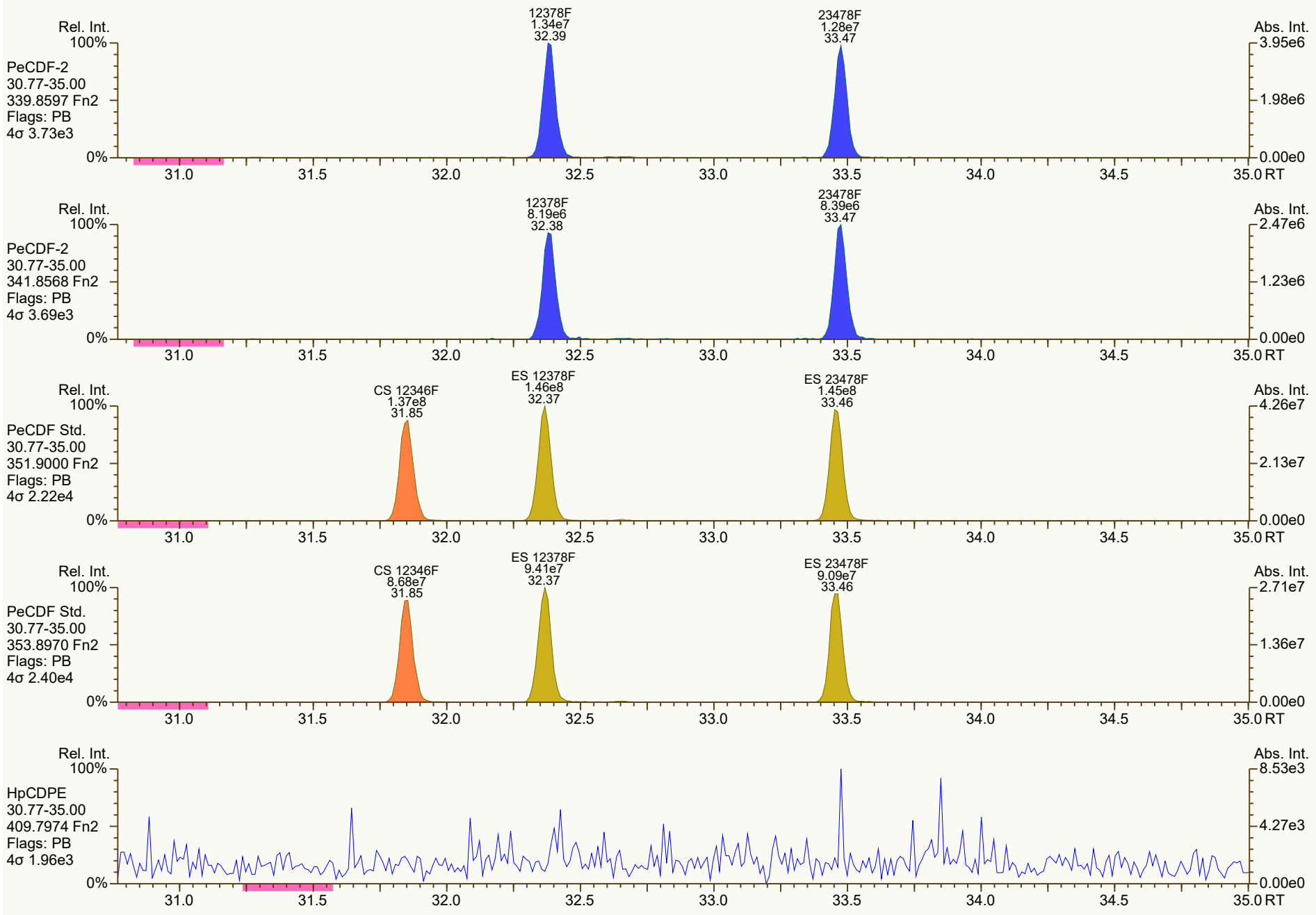

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123478D 8.70e6 37.68
123678D 8.35e6 37.80
123789D 9.25e6 38.08
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg / (8.21e7 + 6.65e7) * 10pg = 1.02
PSW 27-Jul-2021 15:17
OK - CL 28Jul21
123478D 6.60e6 37.68
123678D 6.85e6 37.79
123789D 7.40e6 38.08
2.33e6
1.17e6
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 5.39e3
FS 123468D 1.12e8 36.59
ES 123478D 8.63e7 37.67
ES 123678D 8.21e7 37.78
JS 123467D 4.38e7 37.97
ES 123789D 9.73e7 38.07
3.74e7
1.87e7
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 7.64e3
FS 123468D 8.54e7 36.59
ES 123478D 6.76e7 37.67
ES 123678D 6.65e7 37.78
JS 123467D 3.43e7 37.97
ES 123789D 7.73e7 38.07
2.88e7
1.44e7
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.25e7
1.13e7

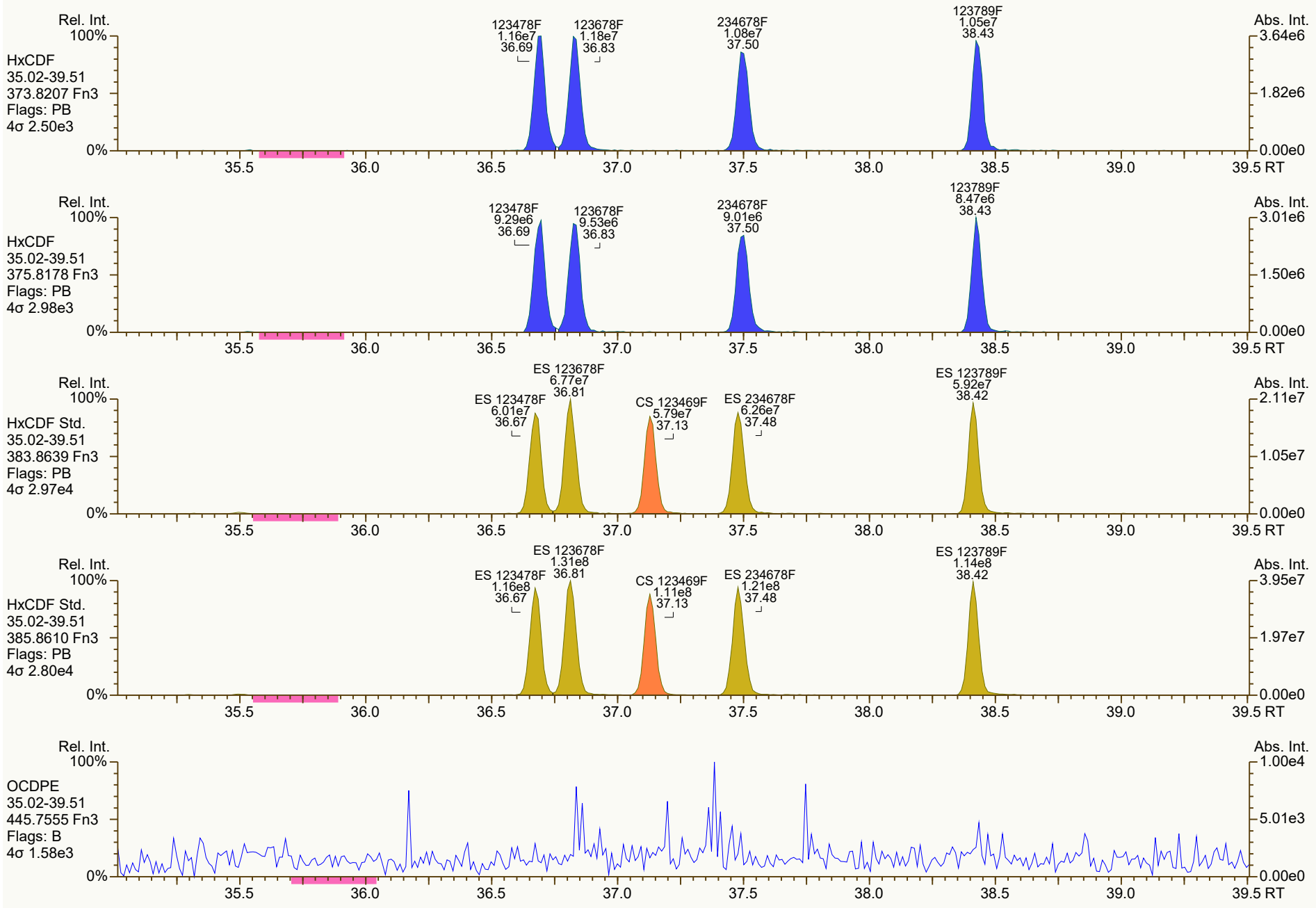

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 6.87e3
0%
1234678D
7.06e6
40.67
Abs. Int.
2.73e6
1.37e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 2.61e3
0%
1234678D
7.02e6
40.67
Abs. Int.
2.64e6
1.32e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.95e3
0%
FS 1234679D
1.08e8
40.00
ES 1234678D
7.86e7
40.66
Abs. Int.
4.44e7
2.22e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.02e4
0%
FS 1234679D
1.04e8
40.00
ES 1234678D
7.46e7
40.66
Abs. Int.
4.23e7
2.11e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT

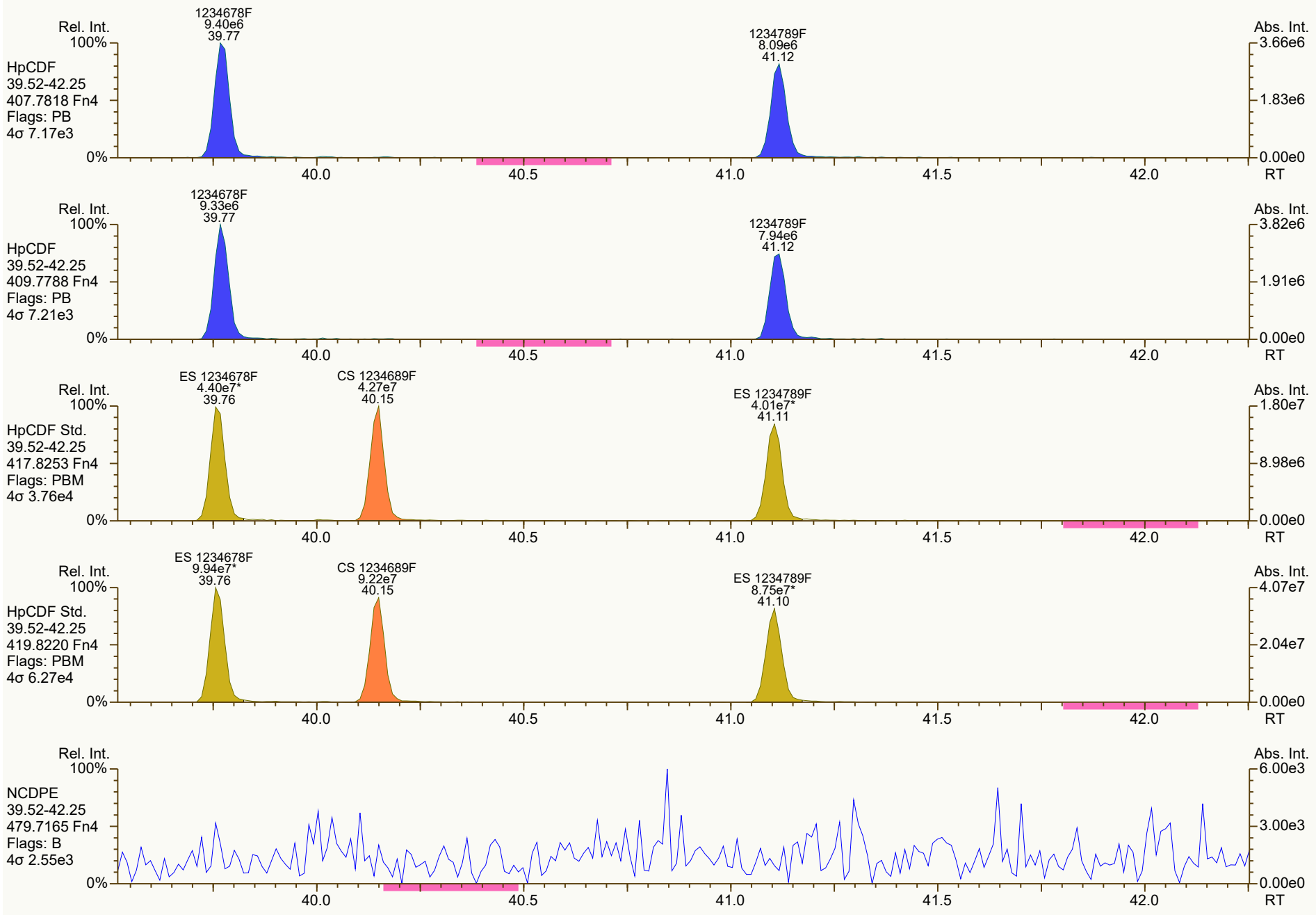

OCDD
1.09e7
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 3.62e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.24e7
43.23
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 1.67e3
4.01e6
2.00e6
ES OCDD
1.10e8
43.22
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 3.79e3
3.53e7
1.77e7
ES OCDD
1.22e8
43.22
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 7.59e3
3.84e7
1.92e7
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
6.46e6
3.23e6

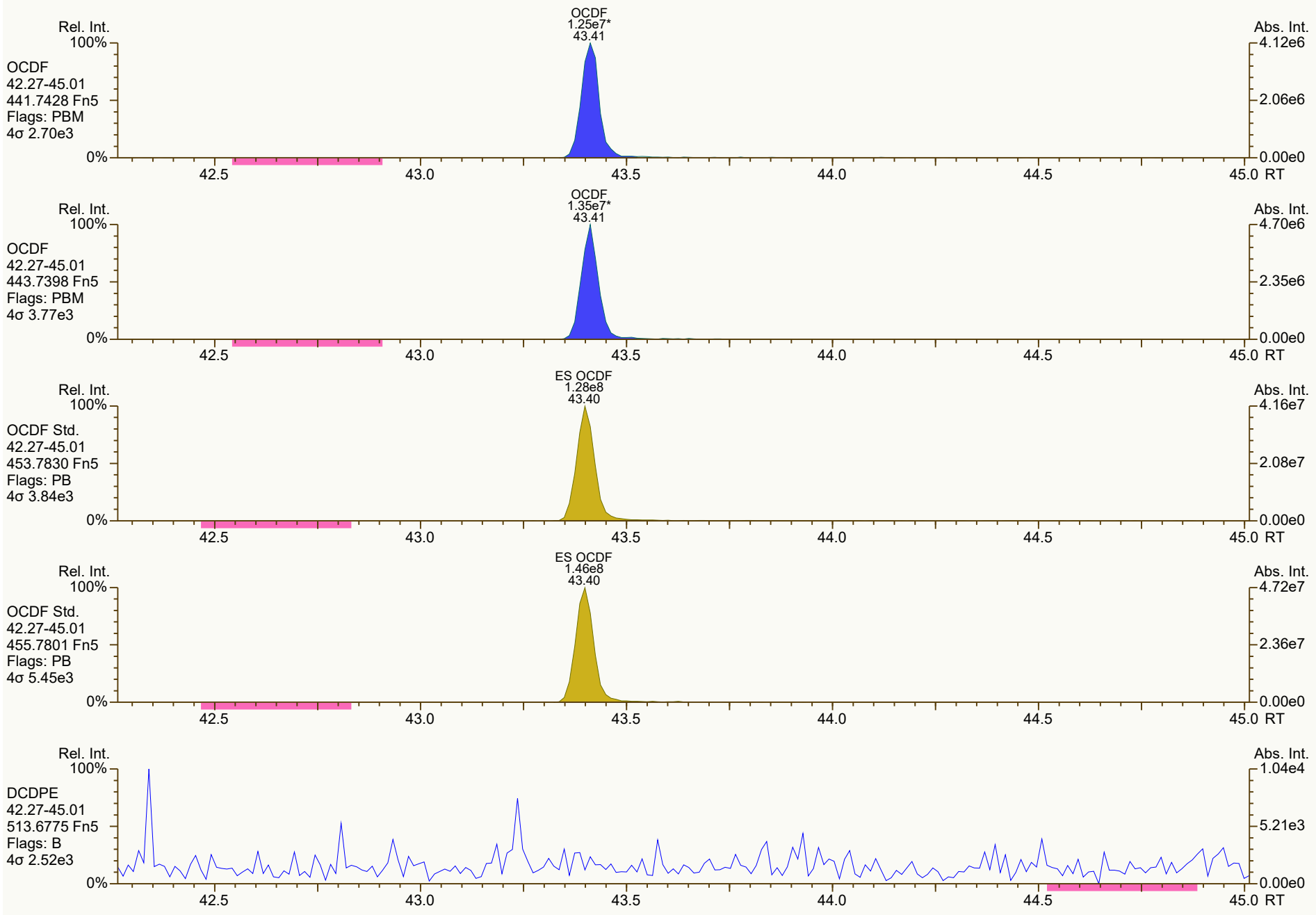

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.41e3
2378F
2.28e6
27.68
5.64e5
2.82e5
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.09e3
2378F
2.76e6
27.68
7.13e5
3.56e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.85e4
AS 1368F
1.22e8
22.86
JS 1234F
1.13e8
26.33
ES 2378F
1.25e8
27.66
3.01e7
1.51e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.39e4
AS 1368F
1.59e8
22.86
JS 1234F
1.49e8
26.33
ES 2378F
1.56e8
27.65
RRF(ES 2378F) = (1.25e8 + 1.56e8) * 100pg / (1.13e8 + 1.49e8) * 100pg * 1 = 1.07
PSW 27-Jul-2021 15:18
OK - CL 28Jul21
3.71e7
1.85e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.45e3
1.78e4
8.89e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9273, 2389, 5803 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.30e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.23e3
2.64e4
1.32e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.99e6
1.50e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.73e3
0%
12378F
1.34e7
32.39
23478F
1.28e7
33.47
Abs. Int.
3.95e6
1.98e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.69e3
0%
12378F
8.19e6
32.38
23478F
8.39e6
33.47
Abs. Int.
2.47e6
1.23e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.22e4
0%
CS 12346F
1.37e8
31.85
ES 12378F
1.46e8
32.37
ES 23478F
1.45e8
33.46
Abs. Int.
4.26e7
2.13e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.40e4
0%
CS 12346F
8.68e7
31.85
ES 12378F
9.41e7
32.37
ES 23478F
9.09e7
33.46
Abs. Int.
2.71e7
1.36e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: PB
4σ 1.96e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.50e3
0%
123478F
1.16e7
36.69
123678F
1.18e7
36.83
234678F
1.08e7
37.50
123789F
1.05e7
38.43
Abs. Int.
3.64e6
1.82e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.98e3
123478F
9.29e6
36.69
123678F
9.53e6
36.83
234678F
9.01e6
37.50
123789F
8.47e6
38.43
3.01e6
1.50e6
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 2.97e4
ES 123478F
6.01e7
36.67
ES 123678F
6.77e7
36.81
CS 123469F
5.79e7
37.13
ES 234678F
6.26e7
37.48
ES 123789F
5.92e7
38.42
2.11e7
1.05e7
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.80e4
ES 123478F
1.16e8
36.67
ES 123678F
1.31e8
36.81
CS 123469F
1.11e8
37.13
ES 234678F
1.21e8
37.48
ES 123789F
1.14e8
38.42
3.95e7
1.97e7
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.58e3
1.00e4
5.01e3


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 7.17e3
1234678F
9.40e6
39.77
1234789F
8.09e6
41.12
Abs. Int.
3.66e6
1.83e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 7.21e3
1234678F
9.33e6
39.77
1234789F
7.94e6
41.12
Abs. Int.
3.82e6
1.91e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.76e4
ES 1234678F
4.40e7*
39.76
CS 1234689F
4.27e7
40.15
ES 1234789F
4.01e7*
41.11
Abs. Int.
1.80e7
8.98e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 6.27e4
ES 1234678F
9.94e7*
39.76
CS 1234689F
9.22e7
40.15
ES 1234789F
8.75e7*
41.10
Abs. Int.
4.07e7
2.04e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.55e3
Abs. Int.
6.00e3
3.00e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
0%
OCDF
1.25e7*
43.41
Abs. Int.
4.12e6
2.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
0%
OCDF
1.35e7*
43.41
Abs. Int.
4.70e6
2.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
0%
ES OCDF
1.28e8
43.40
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
0%
ES OCDF
1.46e8
43.40
Abs. Int.
4.72e7
2.36e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

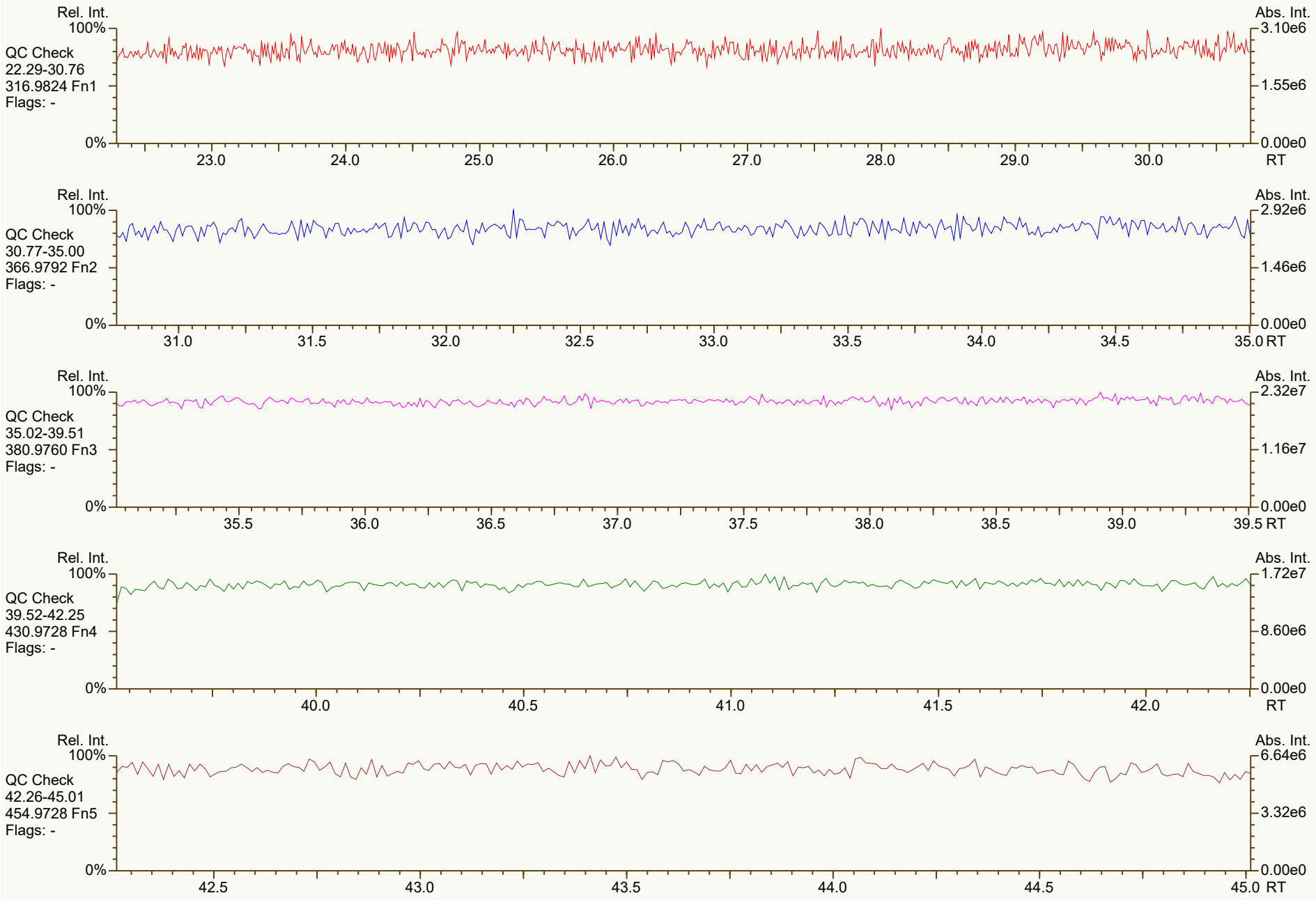
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

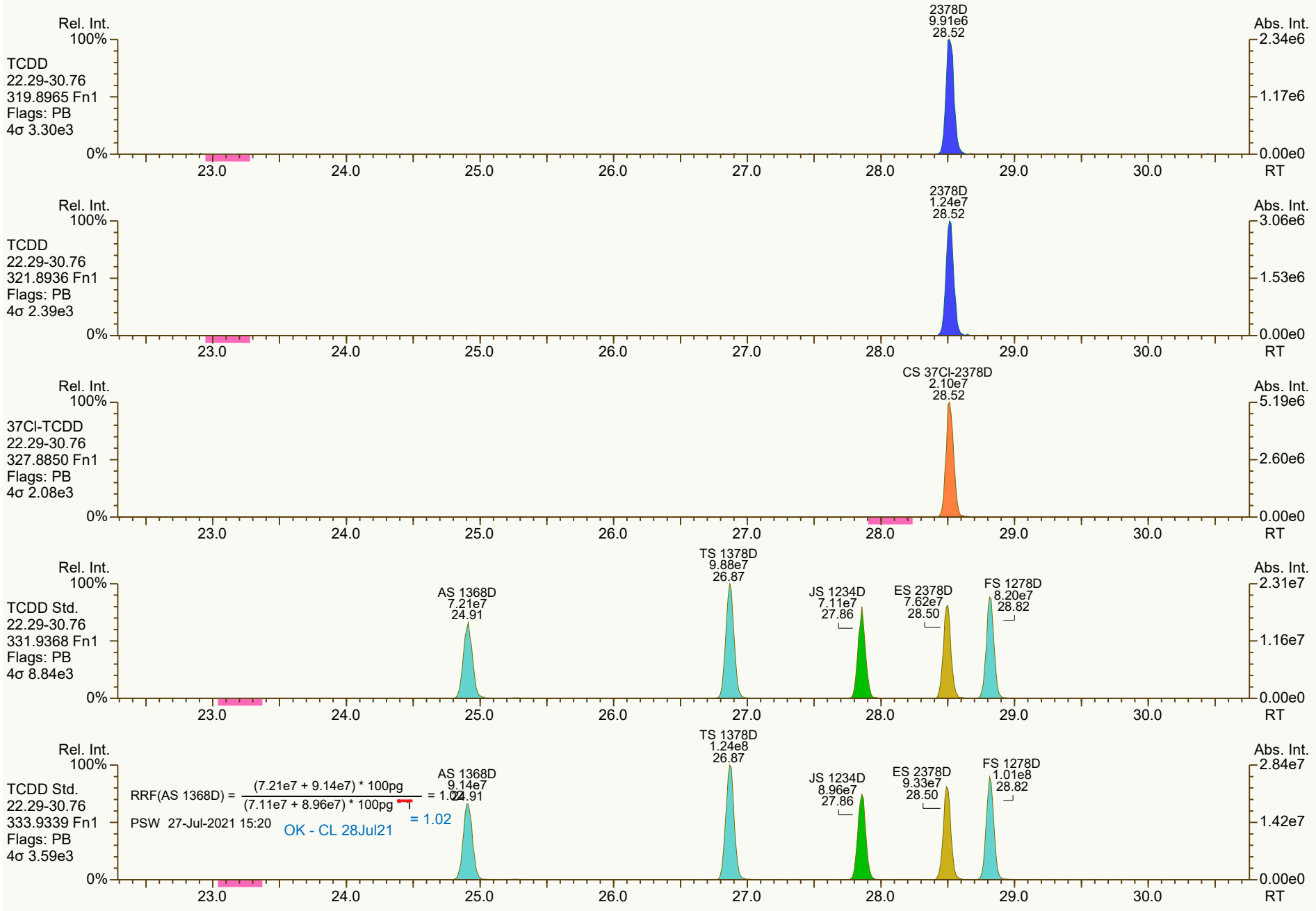
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.23E+07	0.80	Y	1.34	1.32	-2%
12378-PeCDD	33.80	8.56E+07	1.57	Y	1.06	1.05	-1%
123478-HxCDD	37.67	7.63E+07	1.25	Y	1.06	1.05	-1%
123678-HxCDD	37.78	7.89E+07	1.25	Y	1.08	1.08	0%
123789-HxCDD	38.07	8.22E+07	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.66	7.06E+07	1.03	Y	0.97	0.95	-2%
OCDD	43.22	1.21E+08	0.89	Y	1.07	1.07	0%
2378-TCDF	27.66	2.66E+07	0.80	Y	0.96	0.95	-1%
12378-PeCDF	32.37	1.11E+08	1.56	Y	0.95	0.94	-1%
23478-PeCDF	33.46	1.09E+08	1.56	Y	0.94	0.92	-2%
123478-HxCDF	36.68	1.05E+08	1.22	Y	1.23	1.22	-2%
123678-HxCDF	36.82	1.08E+08	1.25	Y	1.13	1.10	-2%
234678-HxCDF	37.49	1.02E+08	1.24	Y	1.15	1.14	-1%
123789-HxCDF	38.42	9.59E+07	1.23	Y	1.14	1.14	0%
1234678-HpCDF	39.76	9.62E+07	1.03	Y	1.36	1.34	-1%
1234789-HpCDF	41.10	8.35E+07	1.03	Y	1.30	1.34	3%
OCDF	43.41	1.40E+08	0.89	Y	1.03	1.03	0%
ES 2378-TCDD	28.50	1.70E+08	0.82	Y	1.03	1.05	2%
ES 12378-PeCDD	33.782	1.63E+08	1.65	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.654	1.45E+08	1.26	Y	0.99	1.00	0%
ES 123678-HxCDD	37.768	1.46E+08	1.27	Y	0.97	1.01	3%
ES 123789-HxCDD	38.057	1.66E+08	1.23	Y	1.12	1.14	1%
ES 1234678-HpCDD	40.644	1.48E+08	1.08	Y	0.99	1.02	3%
ES OCDD	43.211	2.25E+08	0.88	Y	0.78	0.77	-1%
ES 2378-TCDF	27.643	2.80E+08	0.79	Y	1.08	1.09	1%
ES 12378-PeCDF	32.354	2.37E+08	1.58	Y	0.93	0.93	-1%
ES 23478-PeCDF	33.446	2.37E+08	1.53	Y	0.92	0.93	0%
ES 123478-HxCDF	36.661	1.72E+08	0.52	Y	1.14	1.18	4%
ES 123678-HxCDF	36.801	1.96E+08	0.52	Y	1.30	1.35	4%
ES 234678-HxCDF	37.469	1.79E+08	0.54	Y	1.20	1.23	2%
ES 123789-HxCDF	38.404	1.68E+08	0.52	Y	1.14	1.16	2%
ES 1234678-HpCDF	39.75	1.43E+08	0.45	Y	0.95	0.98	4%
ES 1234789-HpCDF	41.092	1.25E+08	0.44	Y	0.85	0.86	1%
ES OCDF	43.395	2.71E+08	0.89	Y	0.93	0.93	1%

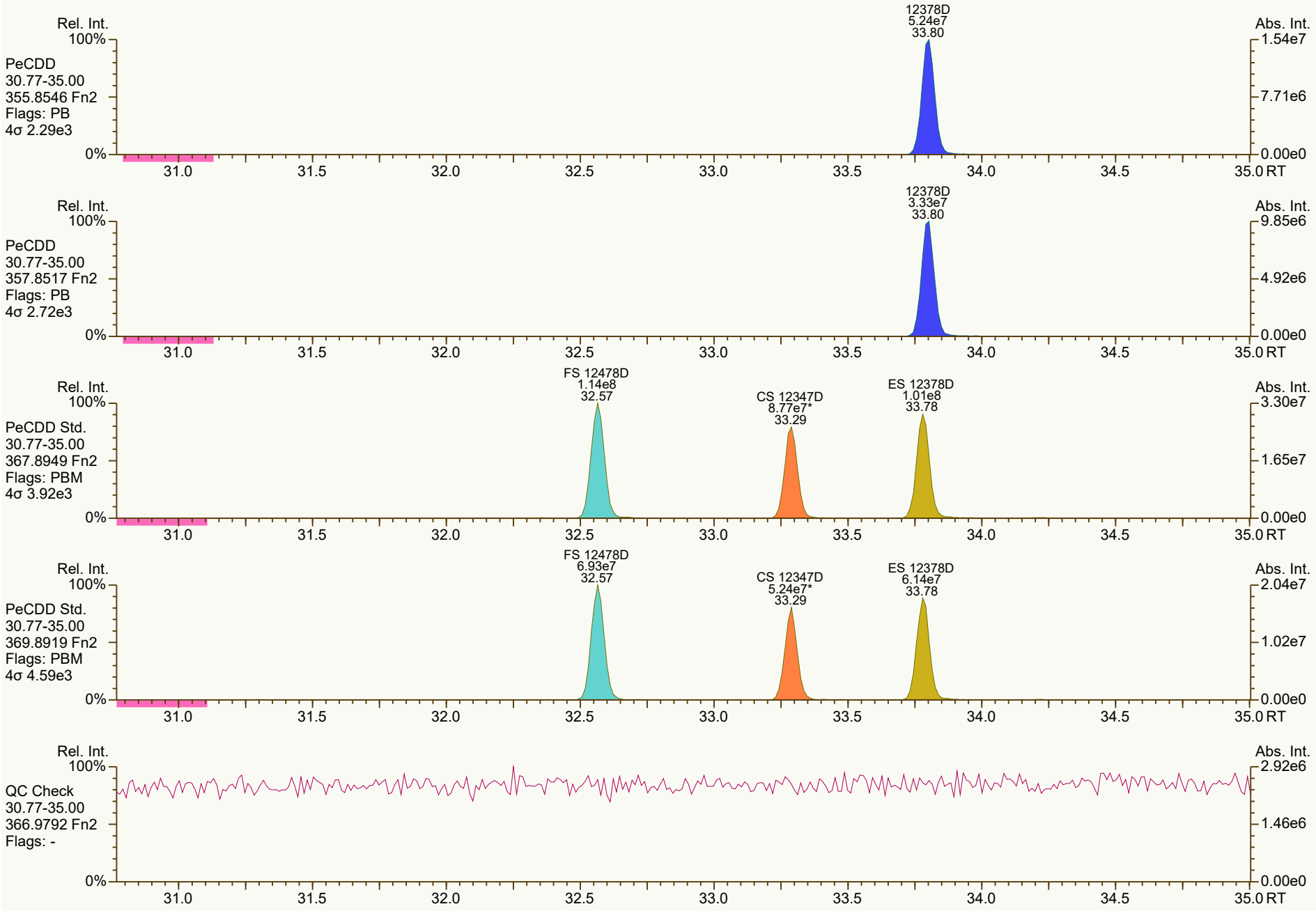
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

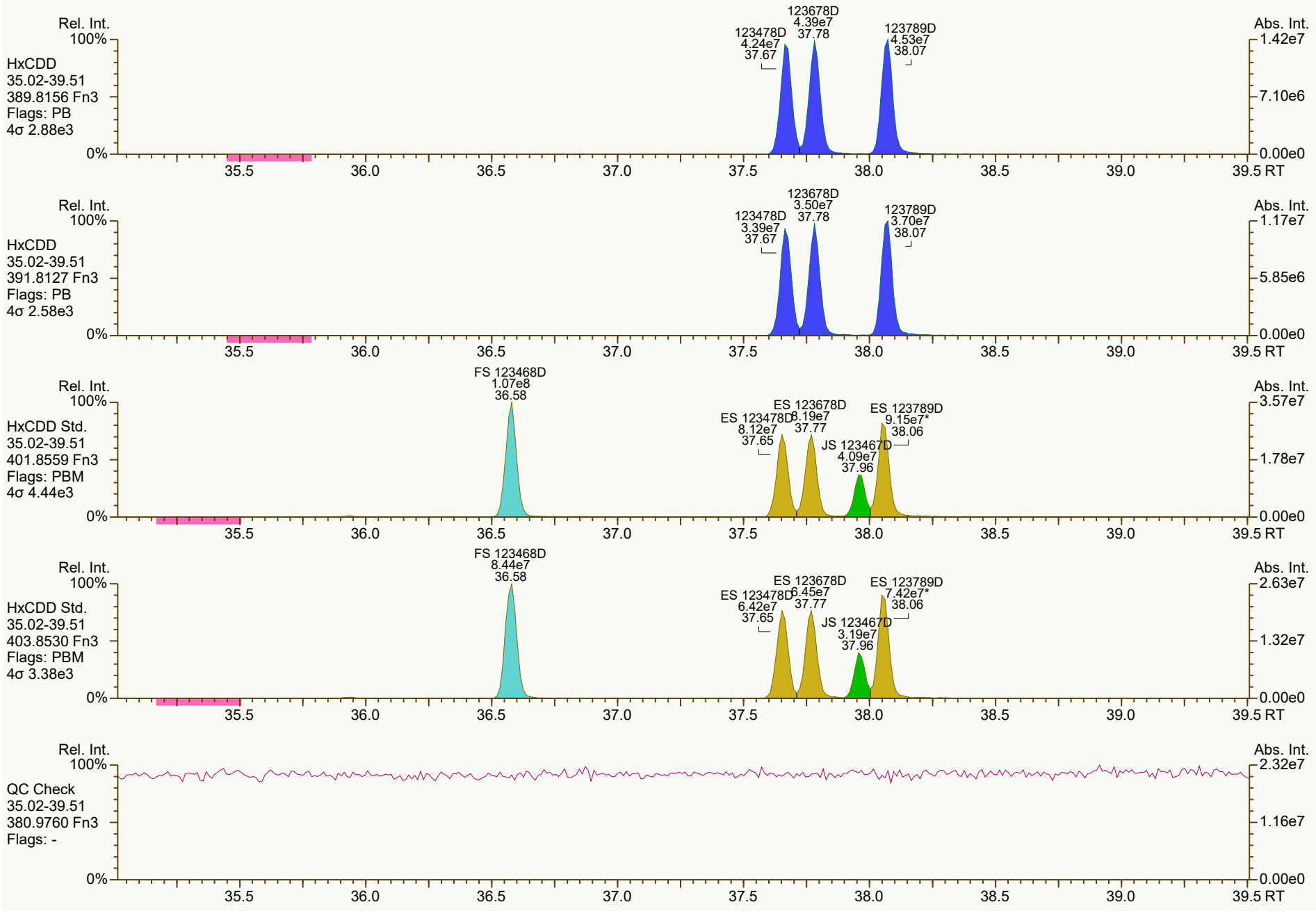
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.87	0.89	2%
CS 123469-HxCDF	37.12	1.65E+08	0.52	Y	1.09	1.14	4%
CS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.86	0.92	7%
SS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.26	1.24	-2%
SS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.86	0.86	0%
SS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.93	0.96	3%
SS 123469-HxCDF	37.12	1.65E+08	0.52	Y	0.84	0.84	0%
SS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.91	1.64E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.85	2.82E+08	0.79	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.83E+08	0.81	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.84E+08	1.65	Y	1.09	1.13	3%
FS 123468-HxCDD	36.58	1.91E+08	1.27	Y	1.26	1.32	4%
FS 1234679-HpCDD	39.99	2.10E+08	1.06	Y	1.36	1.42	5%
TS 1378-TCDD	26.87	2.23E+08	0.80	Y	1.35	1.31	-3%
~~OCDD-a~~	~~43.22~~	~~7.32E+06~~	~~2.45~~	~~Y~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.40~~	~~8.14E+06~~	~~2.47~~	~~Y~~	~~0.06~~	~~0.06~~	~~1%~~

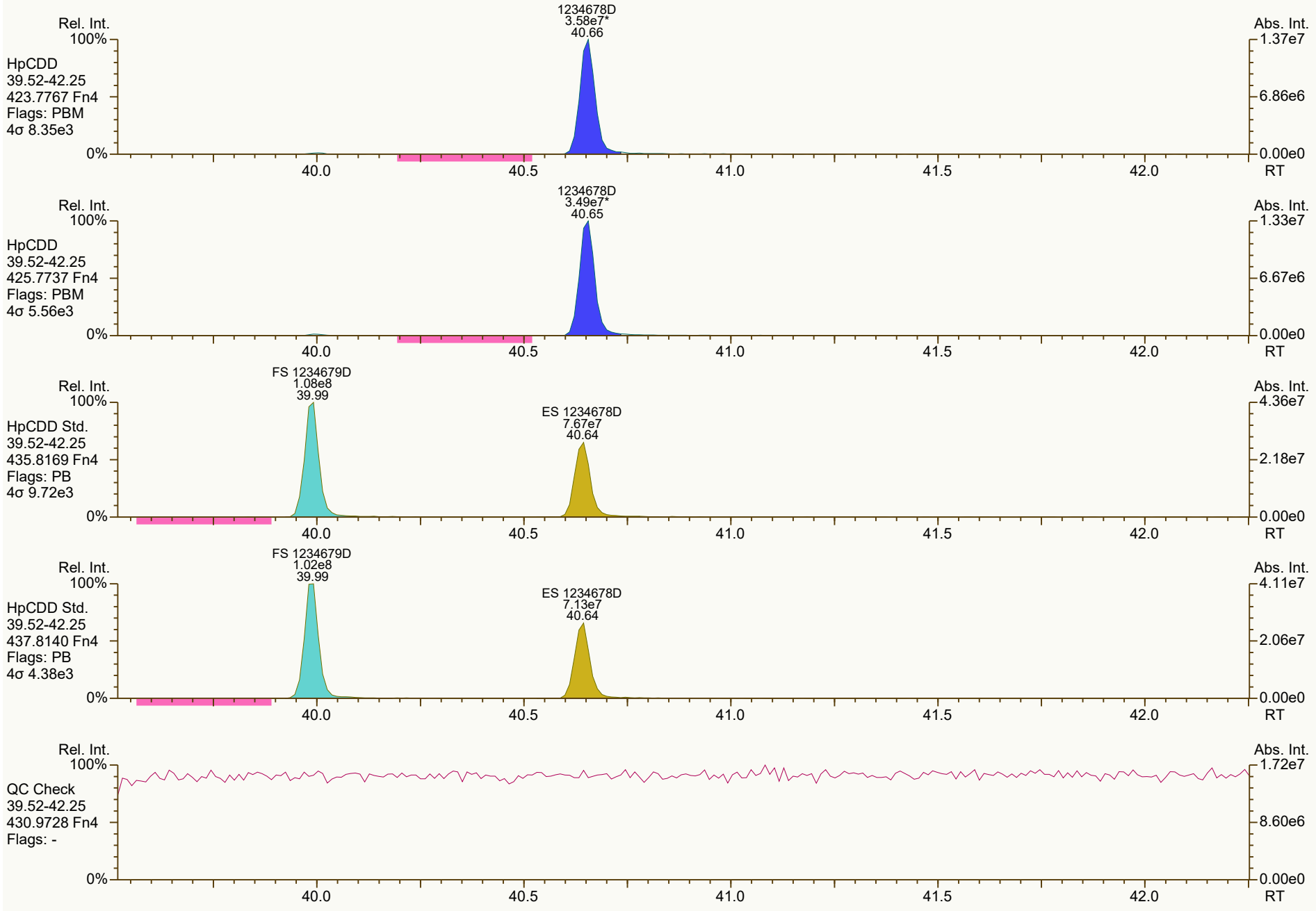
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.72e7
8.60e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

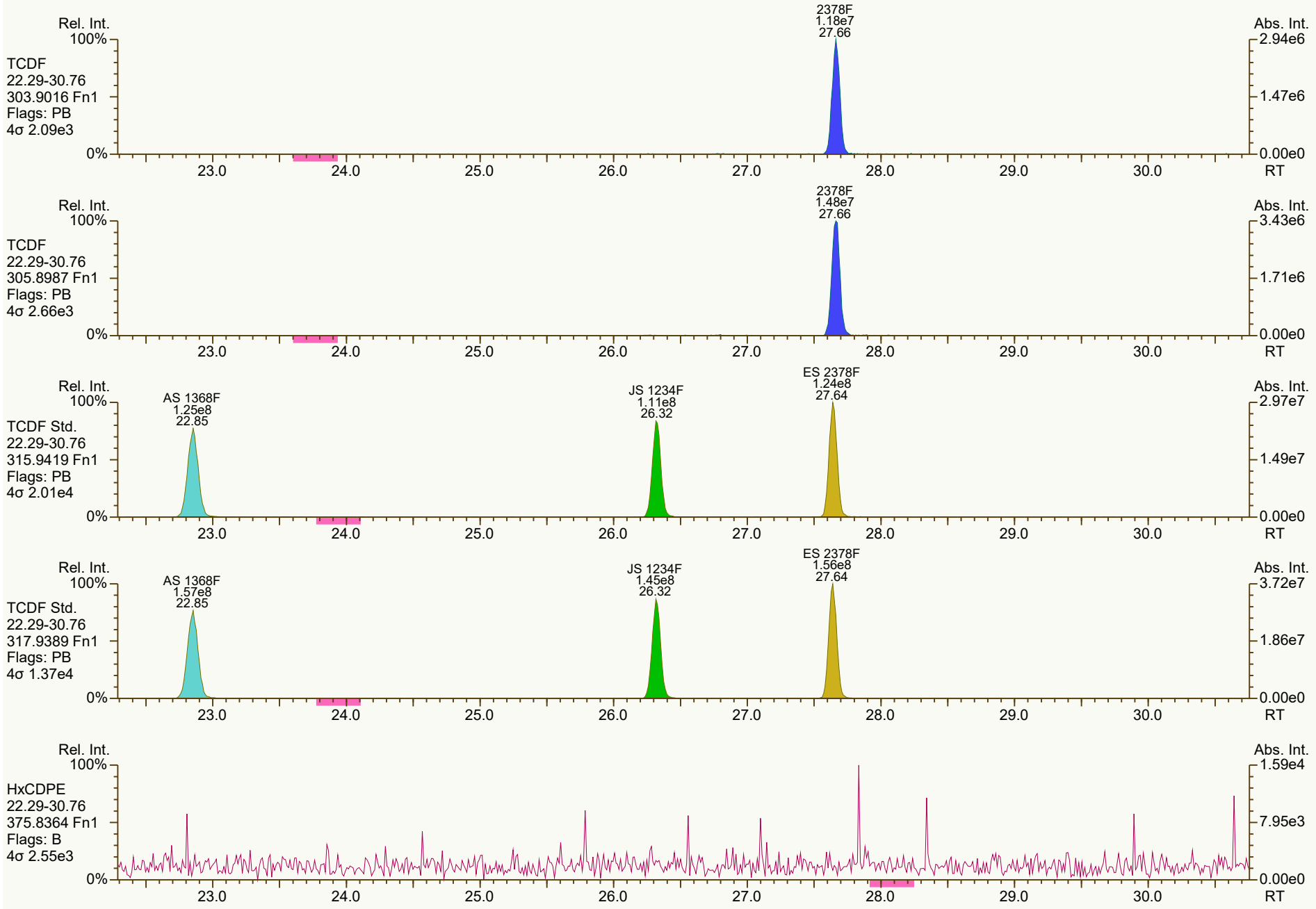

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
0%
2378D
9.91e6
28.52
Abs. Int.
2.34e6
1.17e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
0%
2378D
1.24e7
28.52
Abs. Int.
3.06e6
1.53e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.08e3
0%
CS 37Cl-2378D
2.10e7
28.52
Abs. Int.
5.19e6
2.60e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 8.84e3
0%
AS 1368D
7.21e7
24.91
TS 1378D
9.88e7
26.87
JS 1234D
7.11e7
27.86
ES 2378D
7.62e7
28.50
FS 1278D
8.20e7
28.82
Abs. Int.
2.31e7
1.16e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.59e3
0%
RRF(AS 1368D) = (7.21e7 + 9.14e7) * 100pg / (7.11e7 + 8.96e7) * 100pg = 1.02
PSW 27-Jul-2021 15:20
OK - CL 28Jul21
= 1.02
AS 1368D
9.14e7
24.91
TS 1378D
1.24e8
26.87
JS 1234D
8.96e7
27.86
ES 2378D
9.33e7
28.50
FS 1278D
1.01e8
28.82
Abs. Int.
2.84e7
1.42e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
0%
12378D
5.24e7
33.80
Abs. Int.
1.54e7
7.71e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
0%
12378D
3.33e7
33.80
Abs. Int.
9.85e6
4.92e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
0%
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
Abs. Int.
3.30e7
1.65e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
0%
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
Abs. Int.
2.04e7
1.02e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

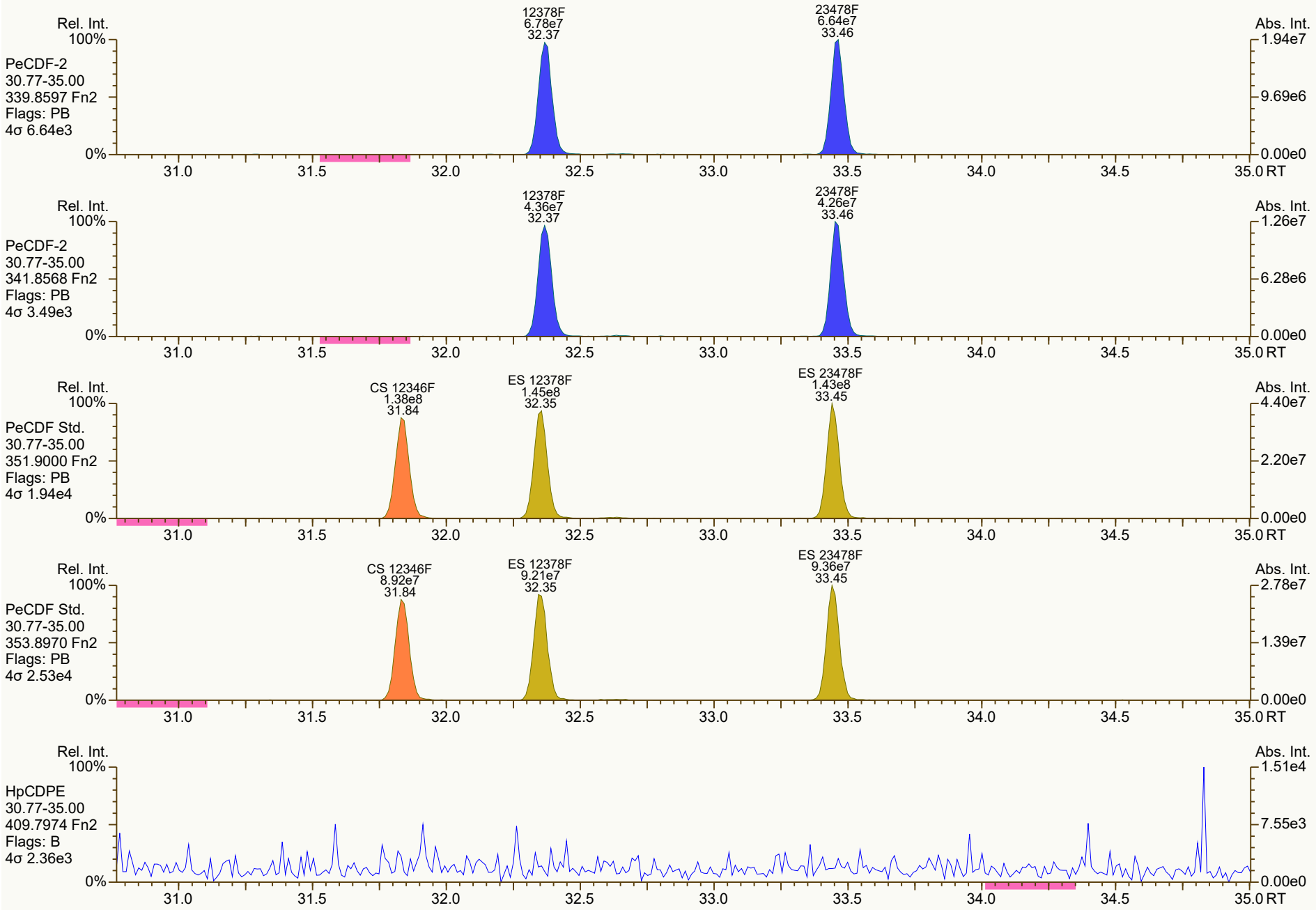

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D
4.39e7
37.78
123478D
4.24e7
37.67
123789D
4.53e7
38.07
Abs. Int.
1.42e7
7.10e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D
3.50e7
37.78
123478D
3.39e7
37.67
123789D
3.70e7
38.07
Abs. Int.
1.17e7
5.85e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D
1.07e8
36.58
ES 123678D
8.19e7
37.77
ES 123478D
8.12e7
37.65
ES 123789D
9.15e7*
38.06
JS 123467D
4.09e7
37.96
Abs. Int.
3.57e7
1.78e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D
8.44e7
36.58
ES 123678D
6.45e7
37.77
ES 123478D
6.42e7
37.65
ES 123789D
7.42e7*
38.06
JS 123467D
3.19e7
37.96
Abs. Int.
2.63e7
1.32e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.32e7
1.16e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

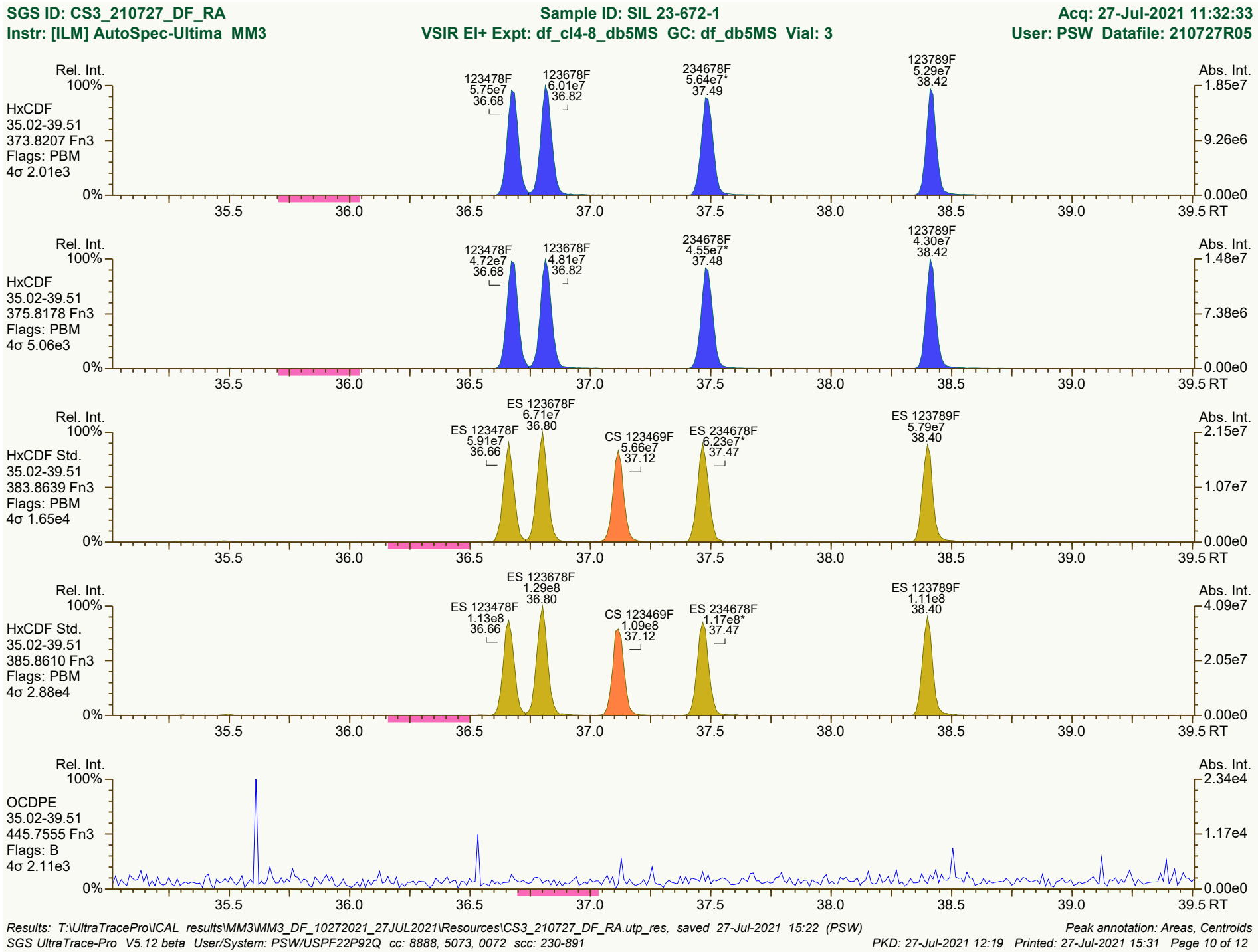

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 8.35e3
0%
1234678D
3.58e7*
40.66
Abs. Int.
1.37e7
6.86e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6


OCDD
5.68e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.46e3
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.38e7*
43.22
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 3.66e3
2.18e7
1.09e7
ES OCDD
1.05e8*
43.21
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 6.38e3
3.38e7
1.69e7
ES OCDD
1.20e8*
43.21
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.59e3
3.96e7
1.98e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.64e6
3.32e6


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.09e3
0%
2378F
1.18e7
27.66
Abs. Int.
2.94e6
1.47e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.66e3
0%
2378F
1.48e7
27.66
Abs. Int.
3.43e6
1.71e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.01e4
0%
AS 1368F
1.25e8
22.85
JS 1234F
1.11e8
26.32
ES 2378F
1.24e8
27.64
Abs. Int.
2.97e7
1.49e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.37e4
0%
AS 1368F
1.57e8
22.85
JS 1234F
1.45e8
26.32
ES 2378F
1.56e8
27.64
Abs. Int.
3.72e7
1.86e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.55e3
0%
Abs. Int.
1.59e4
7.95e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

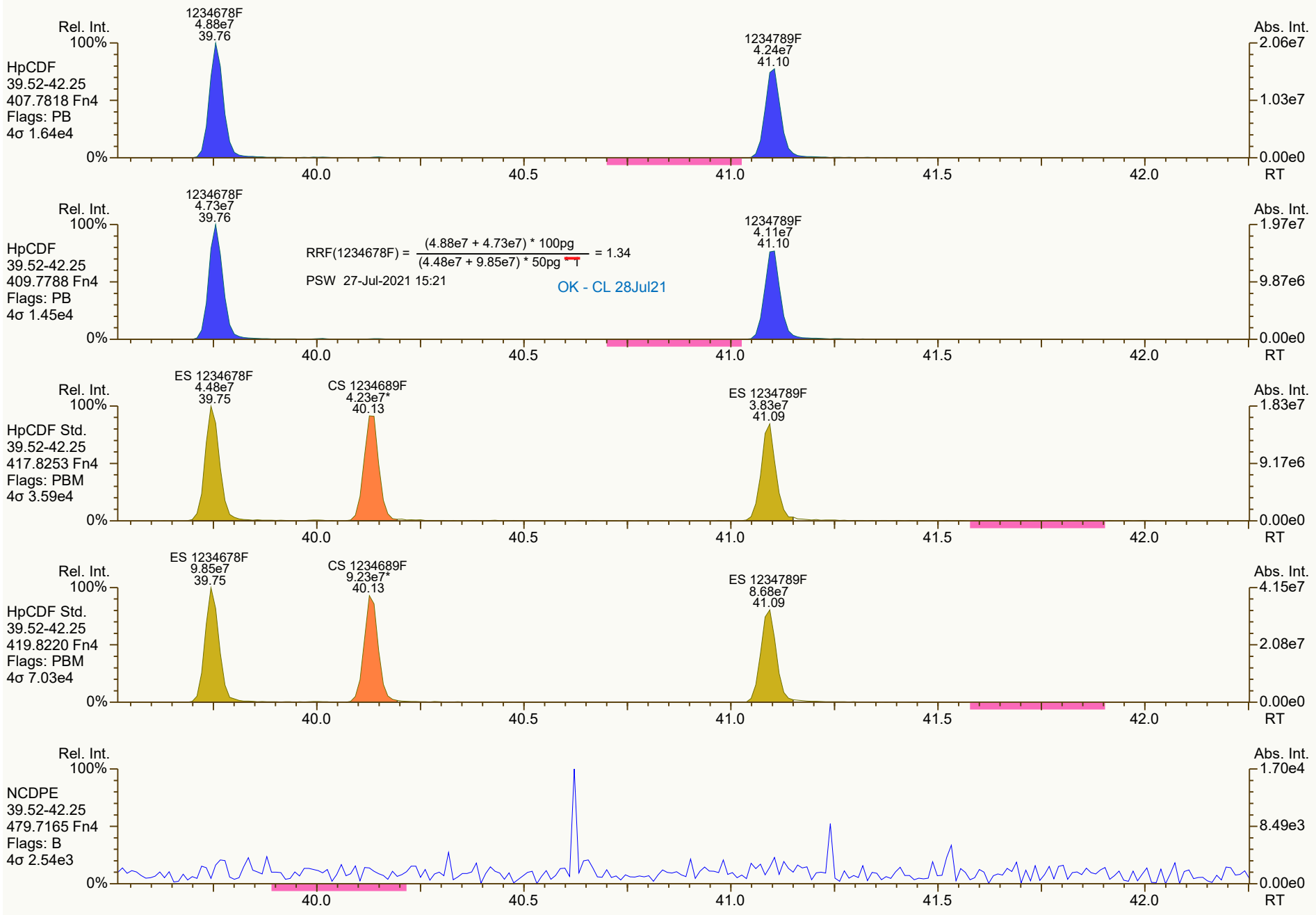

Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.35e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.27e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

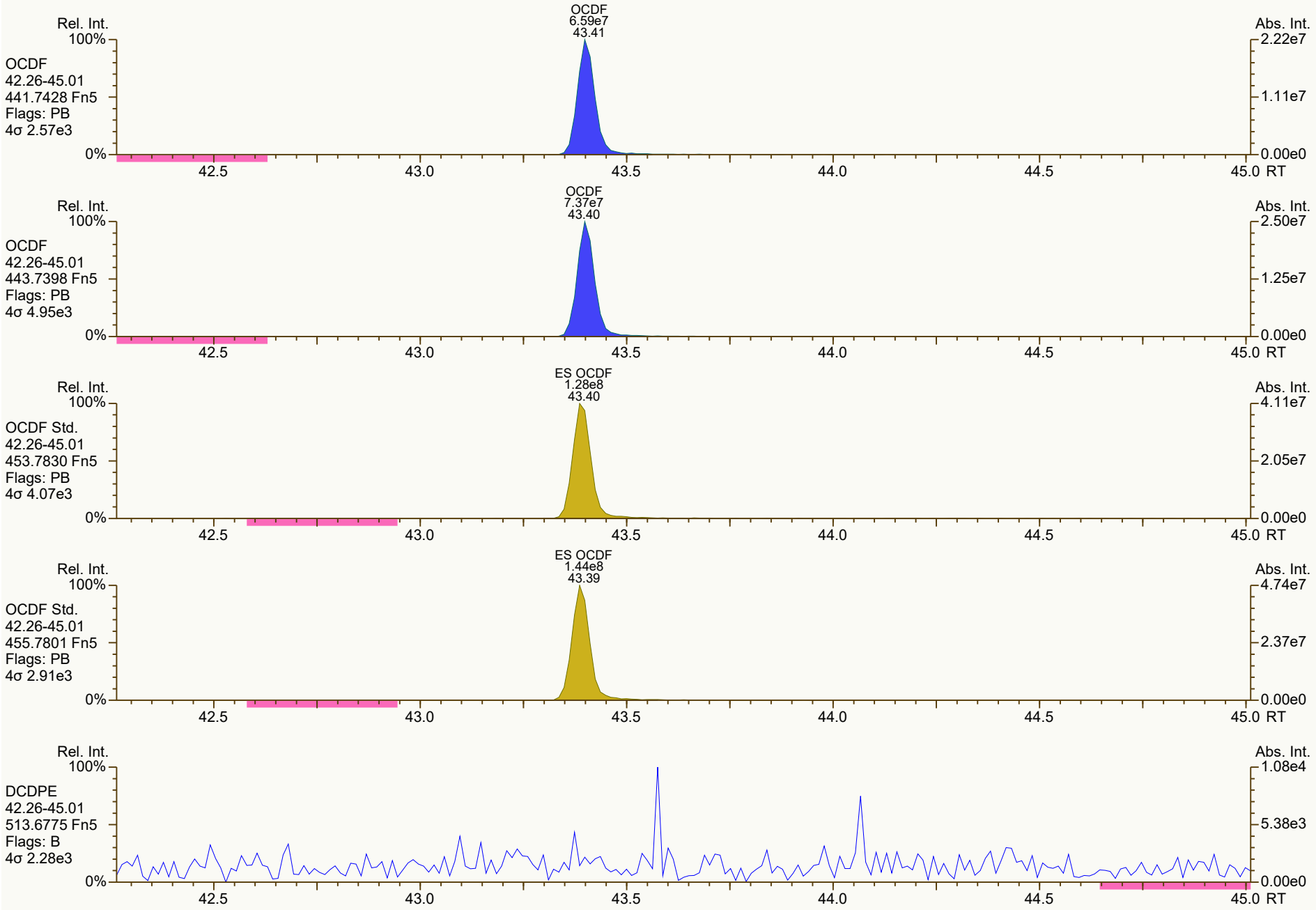

Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 6.64e3
0%
12378F
6.78e7
32.37
23478F
6.64e7
33.46
Abs. Int.
1.94e7
9.69e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.49e3
0%
12378F
4.36e7
32.37
23478F
4.26e7
33.46
Abs. Int.
1.26e7
6.28e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 1.94e4
0%
CS 12346F
1.38e8
31.84
ES 12378F
1.45e8
32.35
ES 23478F
1.43e8
33.45
Abs. Int.
4.40e7
2.20e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.53e4
0%
CS 12346F
8.92e7
31.84
ES 12378F
9.21e7
32.35
ES 23478F
9.36e7
33.45
Abs. Int.
2.78e7
1.39e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.36e3
0%
Abs. Int.
1.51e4
7.55e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8888, 5073, 0072 scc: 230-891 *PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 10 of 12*


Rel. Int.
100%
0%
Abs. Int.
RT
40.0
40.5
41.0
41.5
42.0
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
2.06e7
1.03e7
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
1234789F
4.11e7
41.10
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1.97e7
9.87e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.48e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.85e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3
0.00e0


OCDF
6.59e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.57e3
0%
Abs. Int.
2.22e7
1.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.37e7
43.40
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 4.95e3
0%
Abs. Int.
2.50e7
1.25e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 4.07e3
0%
Abs. Int.
4.11e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e8
43.39
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.91e3
0%
Abs. Int.
4.74e7
2.37e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

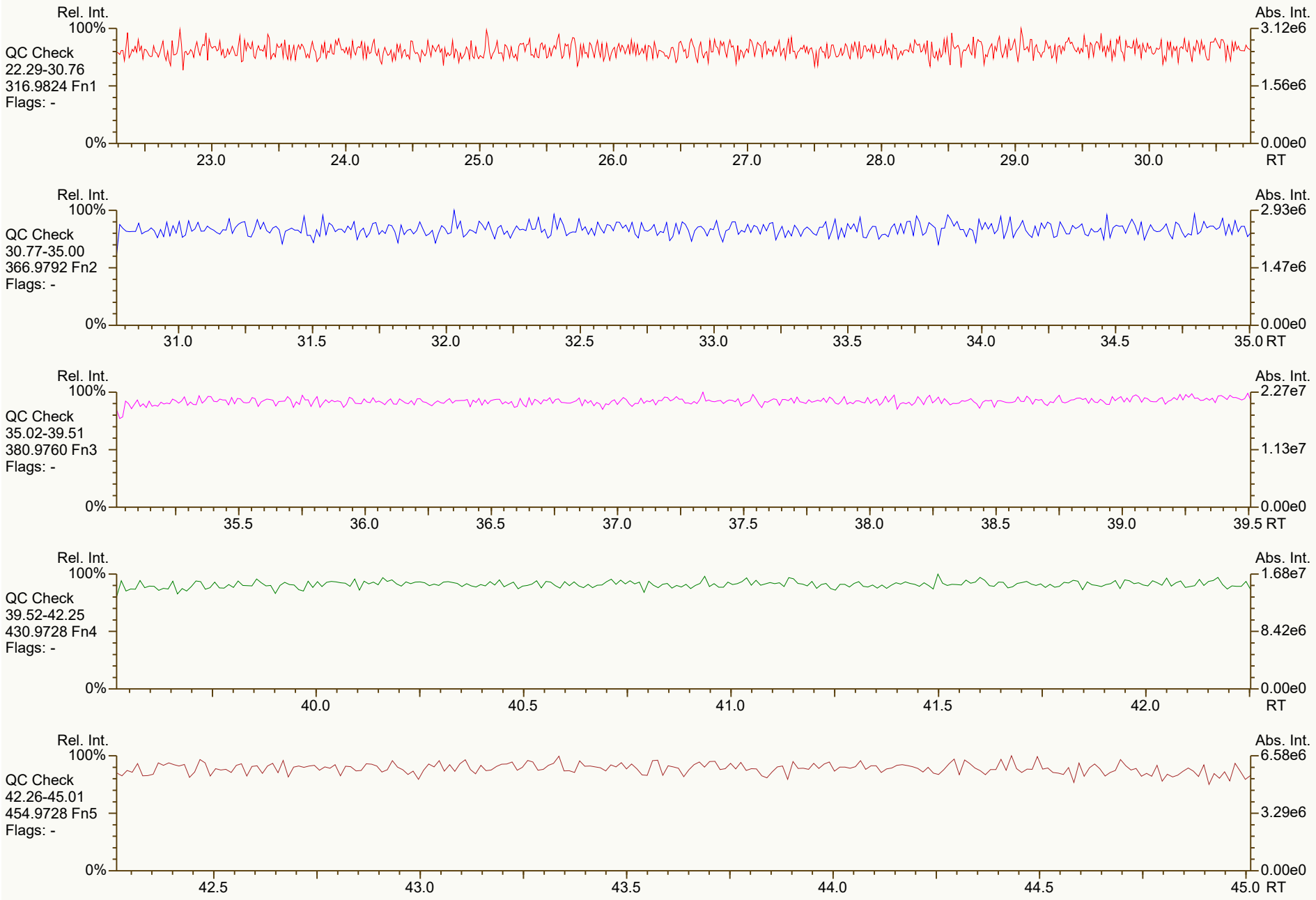
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

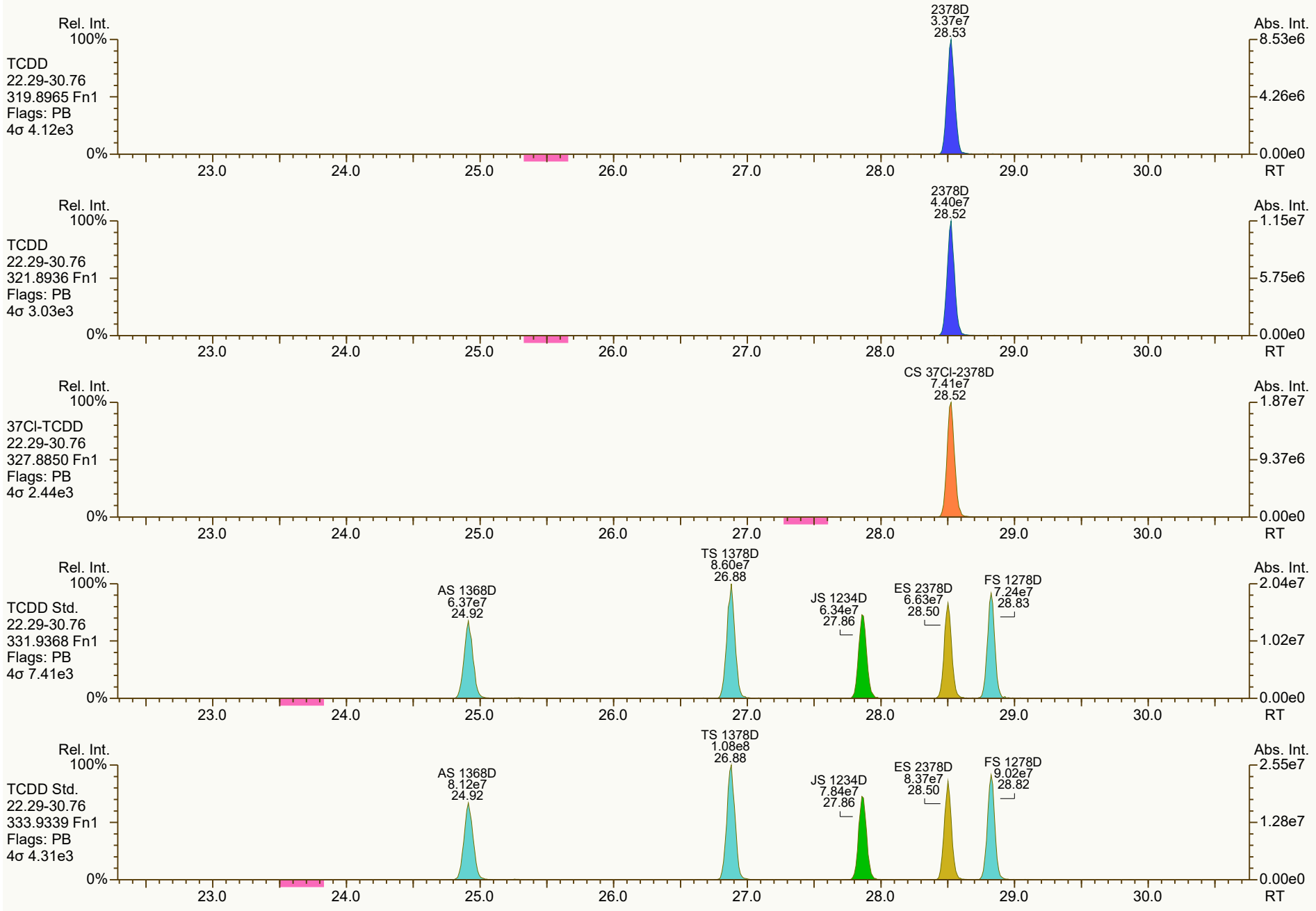
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	7.77E+07	0.76	Y	1.34	1.30	-4%
12378-PeCDD	33.81	3.10E+08	1.55	Y	1.06	1.06	0%
123478-HxCDD	37.68	2.82E+08	1.23	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.84E+08	1.24	Y	1.08	1.10	2%
123789-HxCDD	38.08	2.99E+08	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.67	2.61E+08	1.03	Y	0.97	0.98	0%
OCDD	43.23	4.49E+08	0.90	Y	1.07	1.08	1%
2378-TCDF	27.67	9.59E+07	0.77	Y	0.96	0.96	0%
12378-PeCDF	32.38	4.09E+08	1.58	Y	0.95	0.95	0%
23478-PeCDF	33.47	3.96E+08	1.56	Y	0.94	0.93	-1%
123478-HxCDF	36.69	3.82E+08	1.23	Y	1.23	1.24	0%
123678-HxCDF	36.83	3.97E+08	1.25	Y	1.13	1.13	0%
234678-HxCDF	37.49	3.75E+08	1.25	Y	1.15	1.13	-2%
123789-HxCDF	38.43	3.51E+08	1.24	Y	1.14	1.14	0%
1234678-HpCDF	39.77	3.45E+08	1.03	Y	1.36	1.33	-2%
1234789-HpCDF	41.11	2.99E+08	1.04	Y	1.30	1.30	0%
OCDF	43.41	5.22E+08	0.91	Y	1.03	1.05	2%
ES 2378-TCDD	28.50	1.50E+08	0.79	Y	1.03	1.06	2%
ES 12378-PeCDD	33.789	1.46E+08	1.59	Y	1.03	1.03	0%
ES 123478-HxCDD	37.662	1.34E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.775	1.29E+08	1.28	Y	0.97	0.94	-4%
ES 123789-HxCDD	38.064	1.51E+08	1.27	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.654	1.33E+08	1.06	Y	0.99	0.97	-2%
ES OCDD	43.216	2.07E+08	0.92	Y	0.78	0.75	-3%
ES 2378-TCDF	27.649	2.49E+08	0.80	Y	1.08	1.09	1%
ES 12378-PeCDF	32.362	2.16E+08	1.57	Y	0.93	0.95	2%
ES 23478-PeCDF	33.454	2.12E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.668	1.54E+08	0.51	Y	1.14	1.12	-2%
ES 123678-HxCDF	36.808	1.75E+08	0.53	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.477	1.66E+08	0.53	Y	1.20	1.20	0%
ES 123789-HxCDF	38.409	1.54E+08	0.52	Y	1.14	1.12	-1%
ES 1234678-HpCDF	39.757	1.30E+08	0.45	Y	0.95	0.94	-1%
ES 1234789-HpCDF	41.102	1.15E+08	0.45	Y	0.85	0.83	-2%
ES OCDF	43.398	2.49E+08	0.90	Y	0.93	0.90	-2%

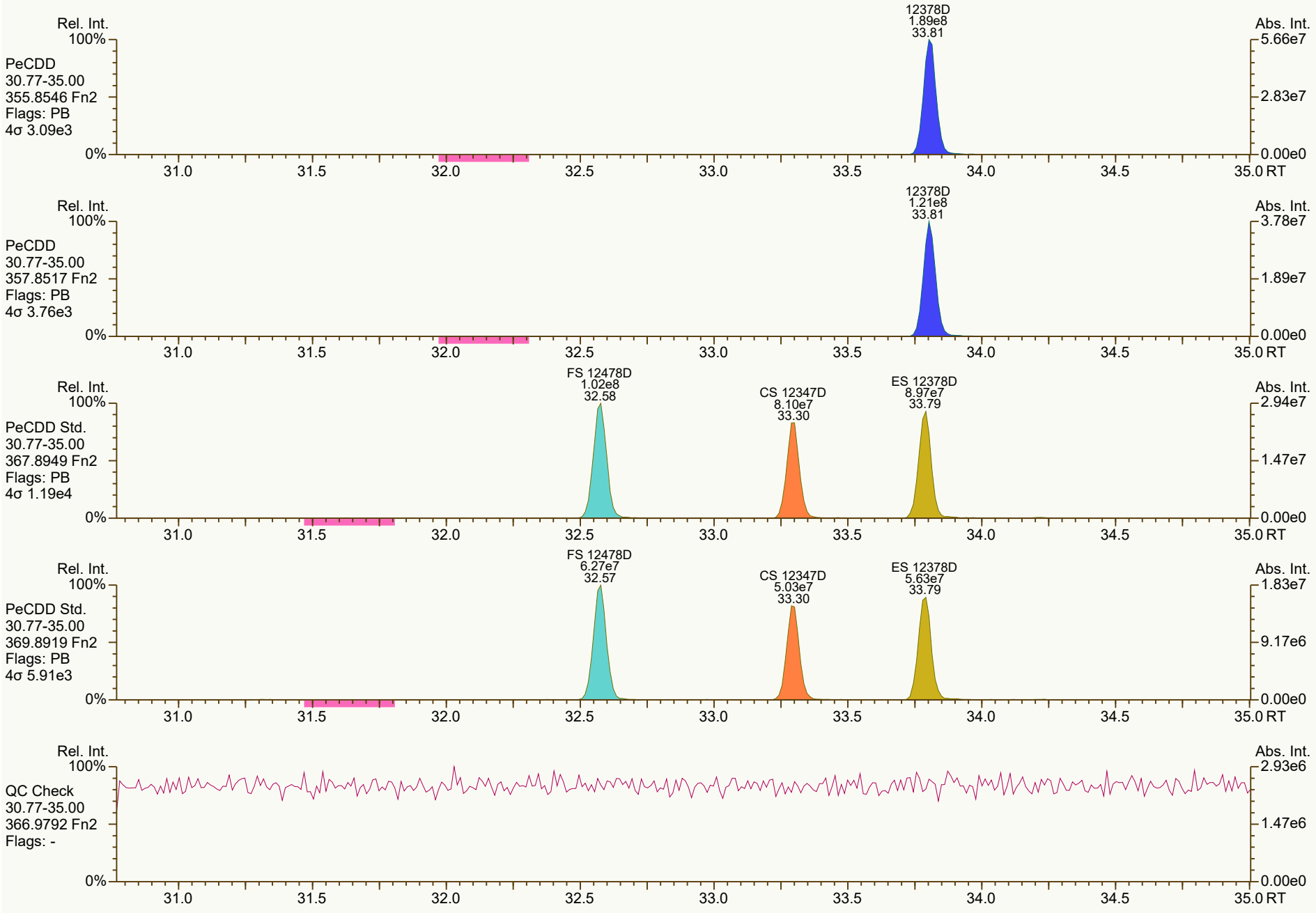
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

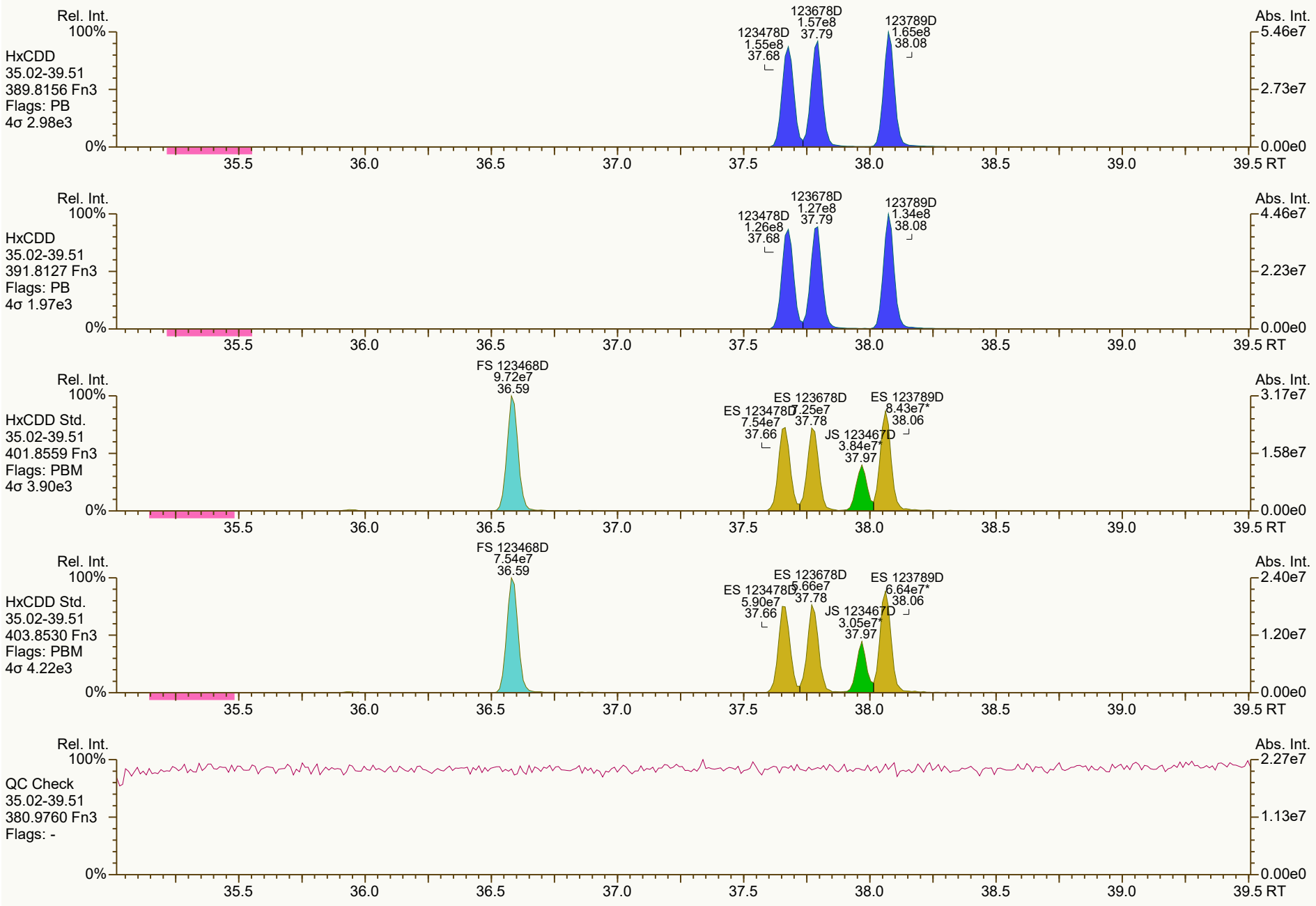
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.87	0.88	2%
CS 123469-HxCDF	37.12	1.50E+08	0.54	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.26	1.23	-2%
SS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.86	0.90	4%
SS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.12	1.50E+08	0.54	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.91	0.92	1%
AS 1368-TCDD	24.92	1.45E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.49E+08	0.79	Y	1.08	1.09	1%
FS 1278-TCDD	28.83	1.63E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.64E+08	1.62	Y	1.09	1.13	3%
FS 123468-HxCDD	36.59	1.73E+08	1.29	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	1.84E+08	1.07	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	1.94E+08	0.79	Y	1.35	1.30	-4%
~~OCDD-a~~	~~43.22~~	~~2.77E+07~~	~~2.50~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~
~~OCDF-a~~	~~43.41~~	~~3.08E+07~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~4%~~

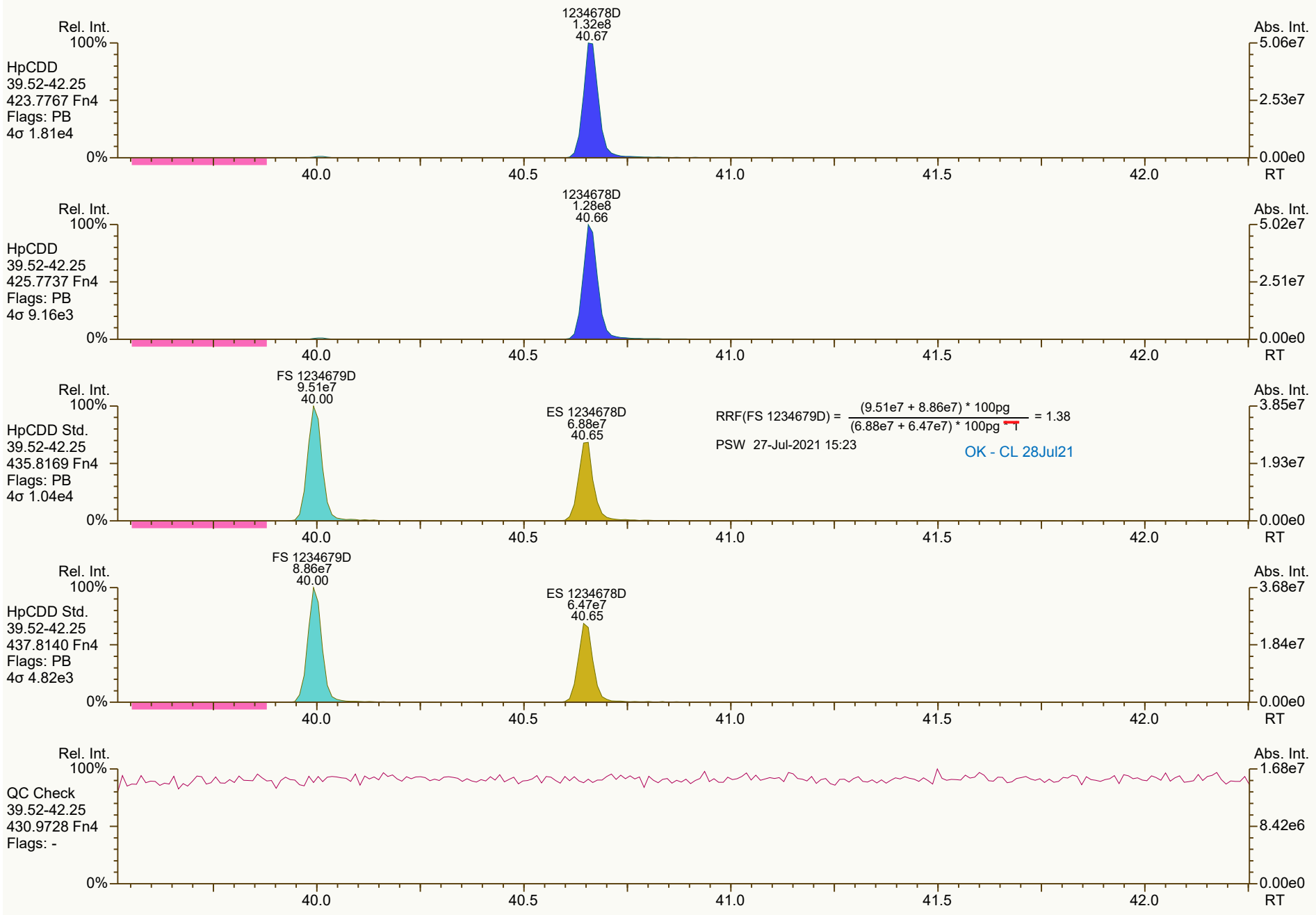
Not reported from this ICAL - CL 28Jul21

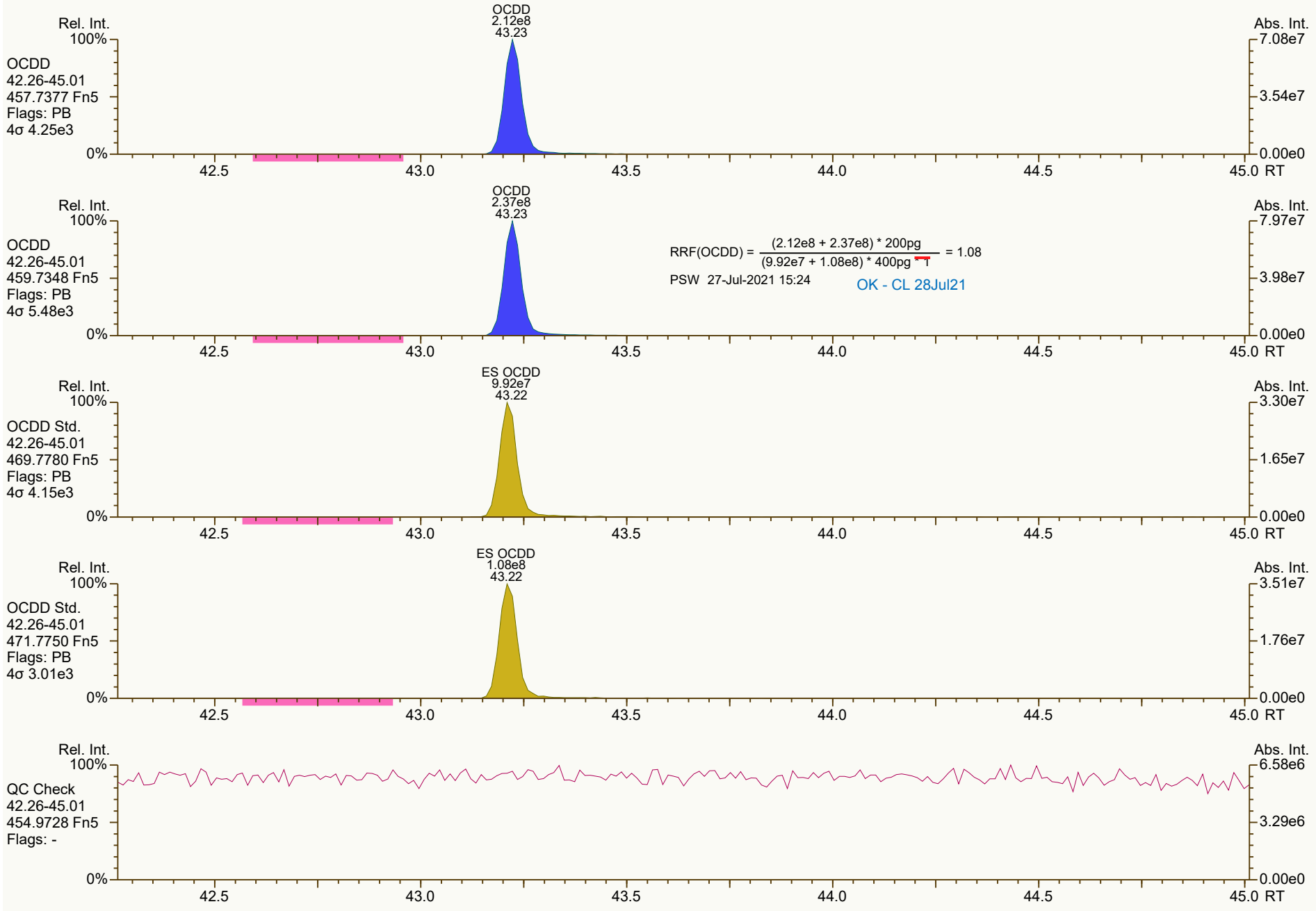

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.68e7
8.42e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 4.12e3
2378D
3.37e7
28.53
8.53e6
4.26e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 3.03e3
2378D
4.40e7
28.52
1.15e7
5.75e6
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.44e3
CS 37Cl-2378D
7.41e7
28.52
1.87e7
9.37e6
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.41e3
AS 1368D
6.37e7
24.92
TS 1378D
8.60e7
26.88
JS 1234D
6.34e7
27.86
ES 2378D
6.63e7
28.50
FS 1278D
7.24e7
28.83
2.04e7
1.02e7
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.31e3
AS 1368D
8.12e7
24.92
TS 1378D
1.08e8
26.88
JS 1234D
7.84e7
27.86
ES 2378D
8.37e7
28.50
FS 1278D
9.02e7
28.82
2.55e7
1.28e7
0.00e0


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.09e3
0%
12378D
1.89e8
33.81
Abs. Int.
5.66e7
2.83e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 3.76e3
0%
12378D
1.21e8
33.81
Abs. Int.
3.78e7
1.89e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 1.19e4
0%
FS 12478D
1.02e8
32.58
CS 12347D
8.10e7
33.30
ES 12378D
8.97e7
33.79
Abs. Int.
2.94e7
1.47e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 5.91e3
0%
FS 12478D
6.27e7
32.57
CS 12347D
5.03e7
33.30
ES 12378D
5.63e7
33.79
Abs. Int.
1.83e7
9.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

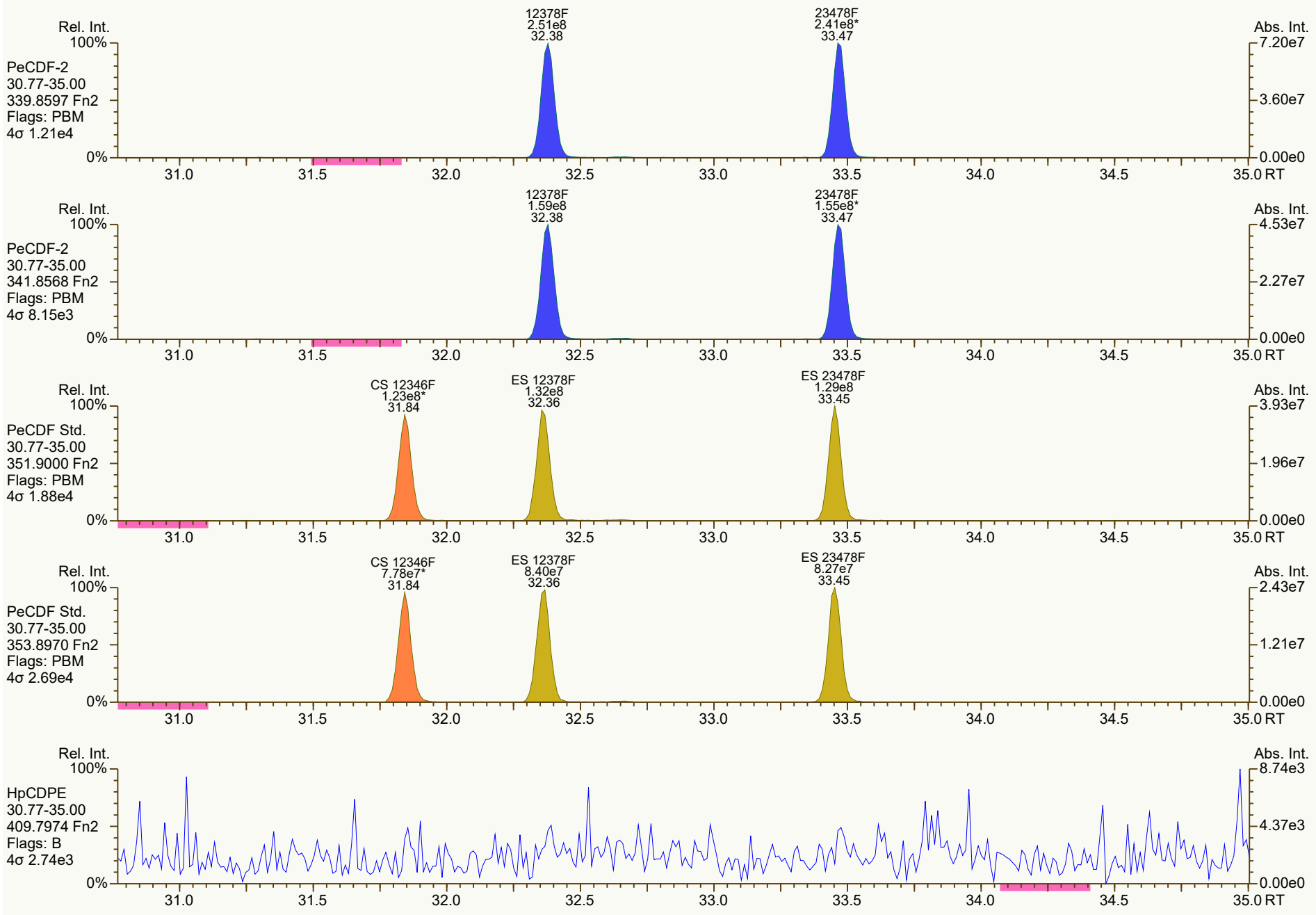

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D
1.57e8
37.79
123478D
1.55e8
37.68
123789D
1.65e8
38.08
Abs. Int.
5.46e7
2.73e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D
1.27e8
37.79
123478D
1.26e8
37.68
123789D
1.34e8
38.08
Abs. Int.
4.46e7
2.23e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.90e3
FS 123468D
9.72e7
36.59
ES 123678D
7.25e7
37.78
ES 123478D
7.54e7
37.66
ES 123789D
8.43e7*
38.06
JS 123467D
3.84e7*
37.97
Abs. Int.
3.17e7
1.58e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 4.22e3
FS 123468D
7.54e7
36.59
ES 123678D
5.66e7
37.78
ES 123478D
5.90e7
37.66
ES 123789D
6.64e7*
38.06
JS 123467D
3.05e7*
37.97
Abs. Int.
2.40e7
1.20e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.13e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

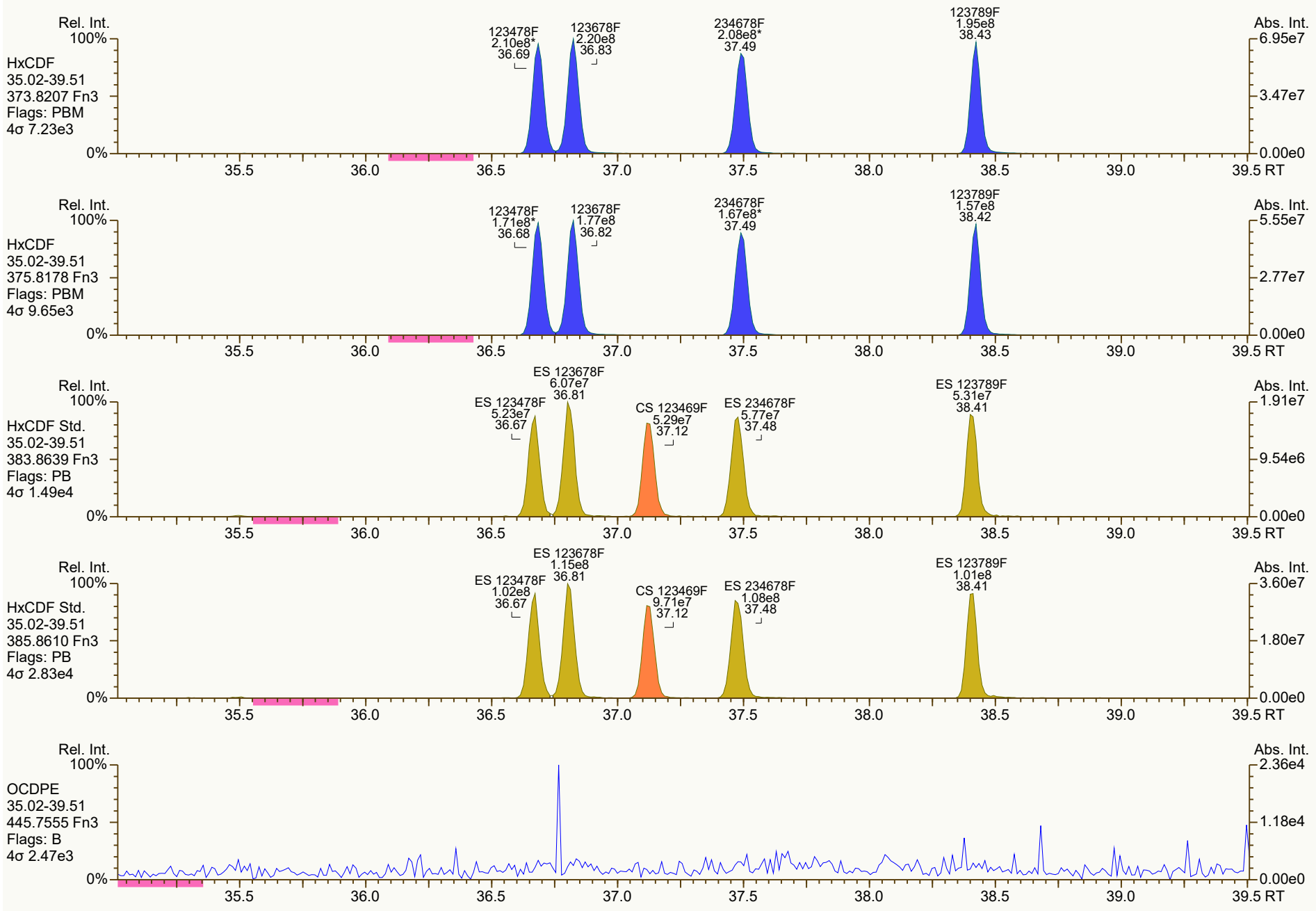

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
1234678D
1.32e8
40.67
Abs. Int.
5.06e7
2.53e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
1234678D
1.28e8
40.66
5.02e7
2.51e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.04e4
FS 1234679D
9.51e7
40.00
ES 1234678D
6.88e7
40.65
3.85e7
1.93e7
RRF(FS 1234679D) = (9.51e7 + 8.86e7) * 100pg / (6.88e7 + 6.47e7) * 100pg = 1.38
PSW 27-Jul-2021 15:23
OK - CL 28Jul21
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.82e3
FS 1234679D
8.86e7
40.00
ES 1234678D
6.47e7
40.65
3.68e7
1.84e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.68e7
8.42e6

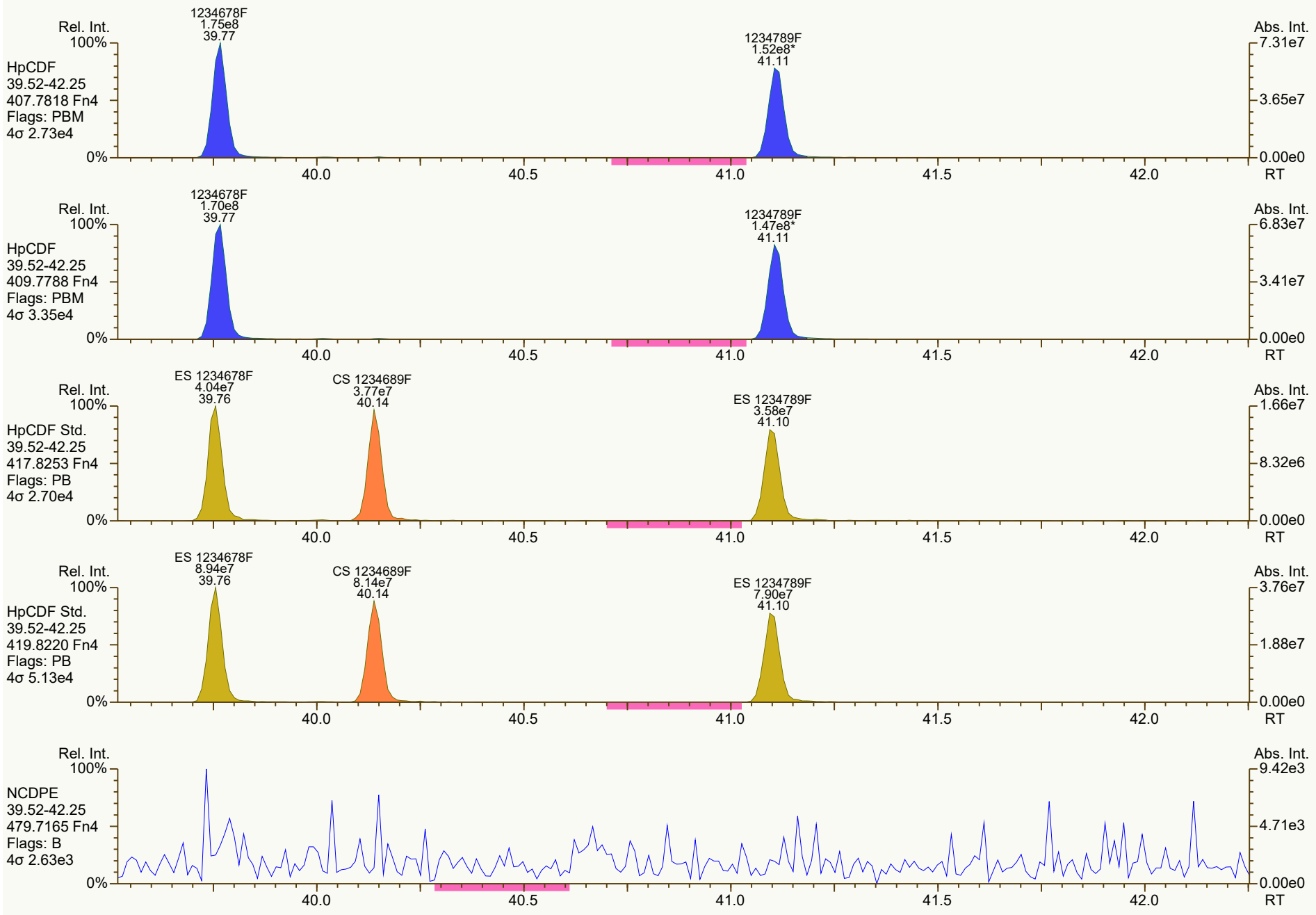

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
0%
OCDD
2.12e8
43.23
Abs. Int.
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
0%
OCDD
2.37e8
43.23
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08
PSW 27-Jul-2021 15:24
OK - CL 28Jul21
Abs. Int.
7.97e7
3.98e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.15e3
0%
ES OCDD
9.92e7
43.22
Abs. Int.
3.30e7
1.65e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.01e3
0%
ES OCDD
1.08e8
43.22
Abs. Int.
3.51e7
1.76e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
0%
2378F
4.17e7
27.67
Abs. Int.
9.81e6
4.91e6
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
0%
2378F
5.43e7
27.67
Abs. Int.
1.28e7
6.42e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
0%
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
Abs. Int.
2.69e7
1.34e7
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
0%
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
Abs. Int.
3.21e7
1.60e7
0.00e0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
0%
Abs. Int.
9.37e3
4.68e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.55e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.14e4
1.07e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.28e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PBM
4σ 1.21e4
0%
12378F
2.51e8
32.38
23478F
2.41e8*
33.47
Abs. Int.
7.20e7
3.60e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PBM
4σ 8.15e3
0%
12378F
1.59e8
32.38
23478F
1.55e8*
33.47
Abs. Int.
4.53e7
2.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 1.88e4
0%
CS 12346F
1.23e8*
31.84
ES 12378F
1.32e8
32.36
ES 23478F
1.29e8
33.45
Abs. Int.
3.93e7
1.96e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.69e4
0%
CS 12346F
7.78e7*
31.84
ES 12378F
8.40e7
32.36
ES 23478F
8.27e7
33.45
Abs. Int.
2.43e7
1.21e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.74e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 7.23e3
0%
123478F
2.10e8*
36.69
123678F
2.20e8
36.83
234678F
2.08e8*
37.49
123789F
1.95e8
38.43
Abs. Int.
6.95e7
3.47e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.65e3
0%
123478F
1.71e8*
36.68
123678F
1.77e8
36.82
234678F
1.67e8*
37.49
123789F
1.57e8
38.42
Abs. Int.
5.55e7
2.77e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.49e4
0%
ES 123478F
5.23e7
36.67
ES 123678F
6.07e7
36.81
CS 123469F
5.29e7
37.12
ES 234678F
5.77e7
37.48
ES 123789F
5.31e7
38.41
Abs. Int.
1.91e7
9.54e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.83e4
0%
ES 123478F
1.02e8
36.67
ES 123678F
1.15e8
36.81
CS 123469F
9.71e7
37.12
ES 234678F
1.08e8
37.48
ES 123789F
1.01e8
38.41
Abs. Int.
3.60e7
1.80e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.47e3
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PBM
4σ 2.73e4
1234678F
1.75e8
39.77
1234789F
1.52e8*
41.11
Abs. Int.
7.31e7
3.65e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PBM
4σ 3.35e4
1234678F
1.70e8
39.77
1234789F
1.47e8*
41.11
6.83e7
3.41e7
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.70e4
ES 1234678F
4.04e7
39.76
CS 1234689F
3.77e7
40.14
ES 1234789F
3.58e7
41.10
1.66e7
8.32e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.13e4
ES 1234678F
8.94e7
39.76
CS 1234689F
8.14e7
40.14
ES 1234789F
7.90e7
41.10
3.76e7
1.88e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
9.42e3
4.71e3


OCDF
2.49e8
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
0%
Abs. Int.
8.08e7
4.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.73e8
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
8.85e7
4.43e7
ES OCDF
1.18e8
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
3.94e7
1.97e7
ES OCDF
1.31e8
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
4.16e7
2.08e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
4.05e3
2.02e3

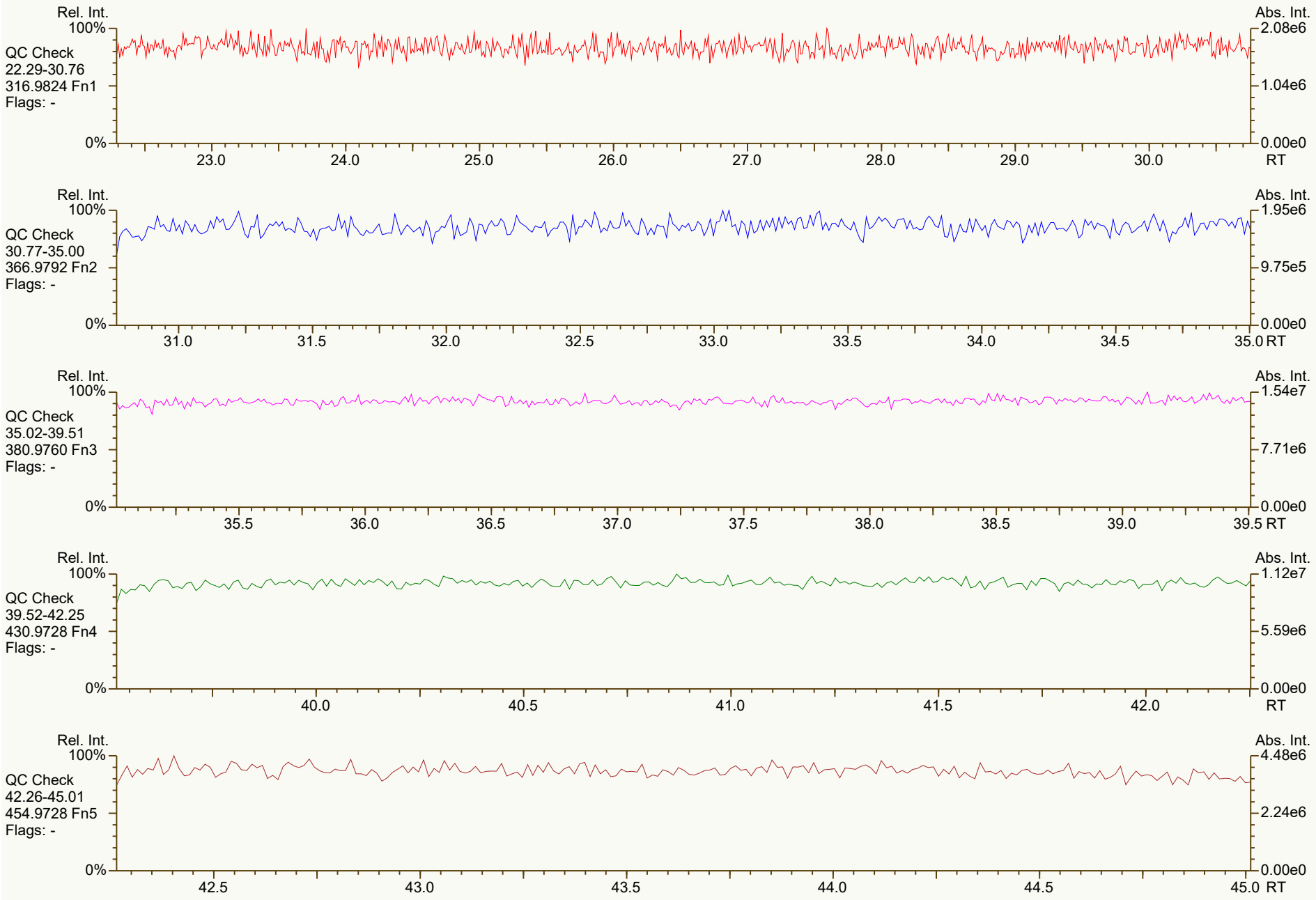
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

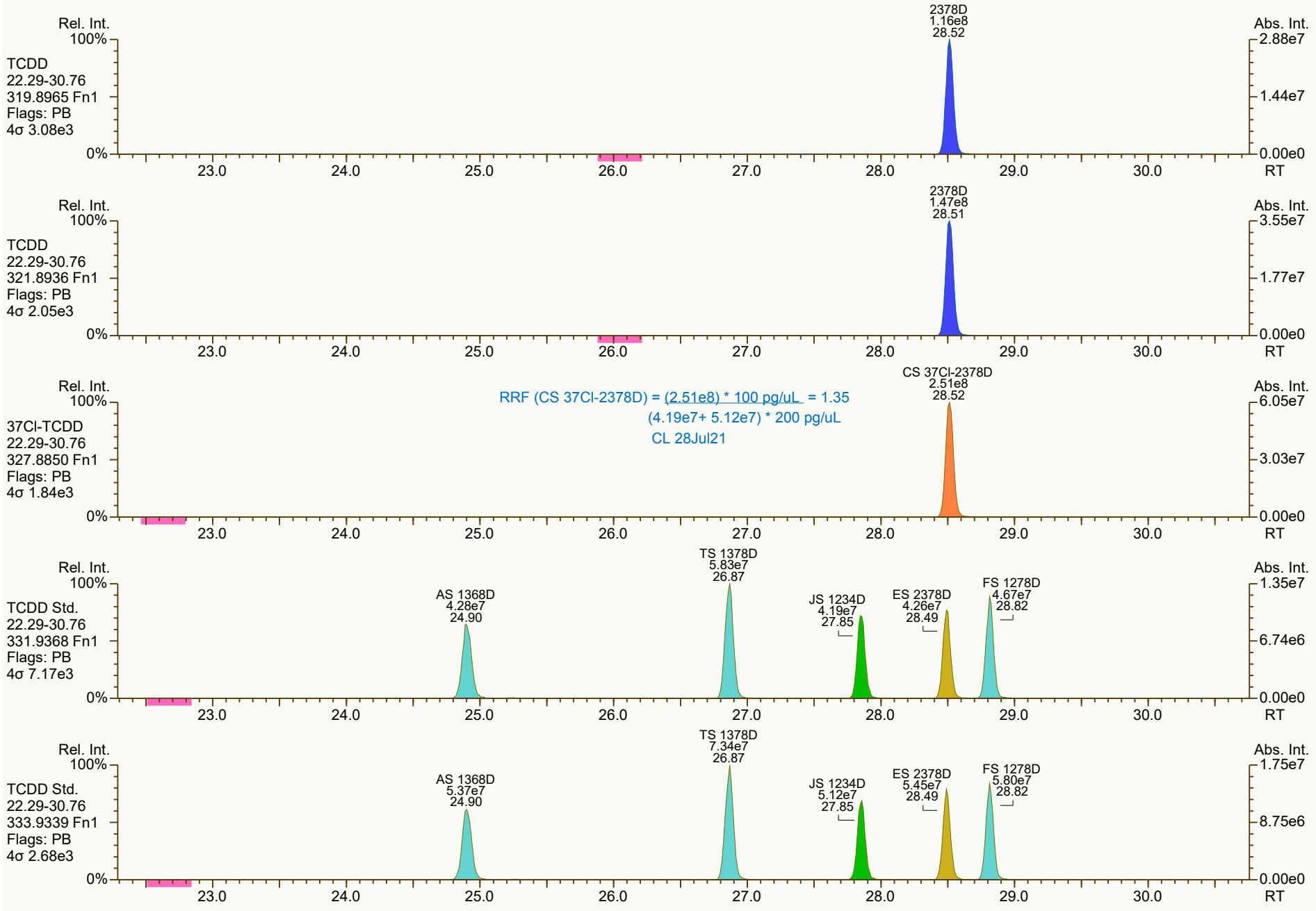
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD	40.66	8.94E+08	1.04	Y	0.97	0.98	1%
OCDD	43.22	1.57E+09	0.88	Y	1.07	1.06	-1%
2378-TCDF	27.66	3.19E+08	0.77	Y	0.96	0.97	1%
12378-PeCDF	32.37	1.33E+09	1.51	Y	0.95	0.93	-1%
23478-PeCDF	33.46	1.36E+09	1.58	Y	0.94	0.96	3%
123478-HxCDF	36.68	1.30E+09	1.25	Y	1.23	1.24	0%
123678-HxCDF	36.82	1.35E+09	1.25	Y	1.13	1.14	1%
234678-HxCDF	37.49	1.27E+09	1.24	Y	1.15	1.15	0%
123789-HxCDF	38.42	1.20E+09	1.24	Y	1.14	1.15	2%
1234678-HpCDF	39.76	1.19E+09	1.03	Y	1.36	1.37	1%
1234789-HpCDF	41.10	1.06E+09	1.03	Y	1.30	1.35	4%
OCDF	43.40	1.87E+09	0.90	Y	1.03	1.06	3%
ES 2378-TCDD	28.49	9.72E+07	0.78	Y	1.03	1.04	1%
ES 12378-PeCDD	33.782	9.96E+07	1.62	Y	1.03	1.07	3%
ES 123478-HxCDD	37.654	8.99E+07	1.27	Y	0.99	1.03	4%
ES 123678-HxCDD	37.768	8.89E+07	1.27	Y	0.97	1.02	5%
ES 123789-HxCDD	38.058	1.02E+08	1.27	Y	1.12	1.17	4%
ES 1234678-HpCDD	40.644	9.11E+07	1.06	Y	0.99	1.05	6%
ES OCDD	43.21	1.48E+08	0.89	Y	0.78	0.85	9%
ES 2378-TCDF	27.639	1.64E+08	0.80	Y	1.08	1.08	0%
ES 12378-PeCDF	32.354	1.43E+08	1.61	Y	0.93	0.95	1%
ES 23478-PeCDF	33.446	1.41E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.662	1.05E+08	0.52	Y	1.14	1.21	6%
ES 123678-HxCDF	36.801	1.19E+08	0.53	Y	1.30	1.36	5%
ES 234678-HxCDF	37.468	1.11E+08	0.51	Y	1.20	1.27	6%
ES 123789-HxCDF	38.402	1.04E+08	0.54	Y	1.14	1.20	5%
ES 1234678-HpCDF	39.749	8.70E+07	0.46	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.092	7.84E+07	0.46	Y	0.85	0.90	6%
ES OCDF	43.392	1.76E+08	0.89	Y	0.93	1.01	9%

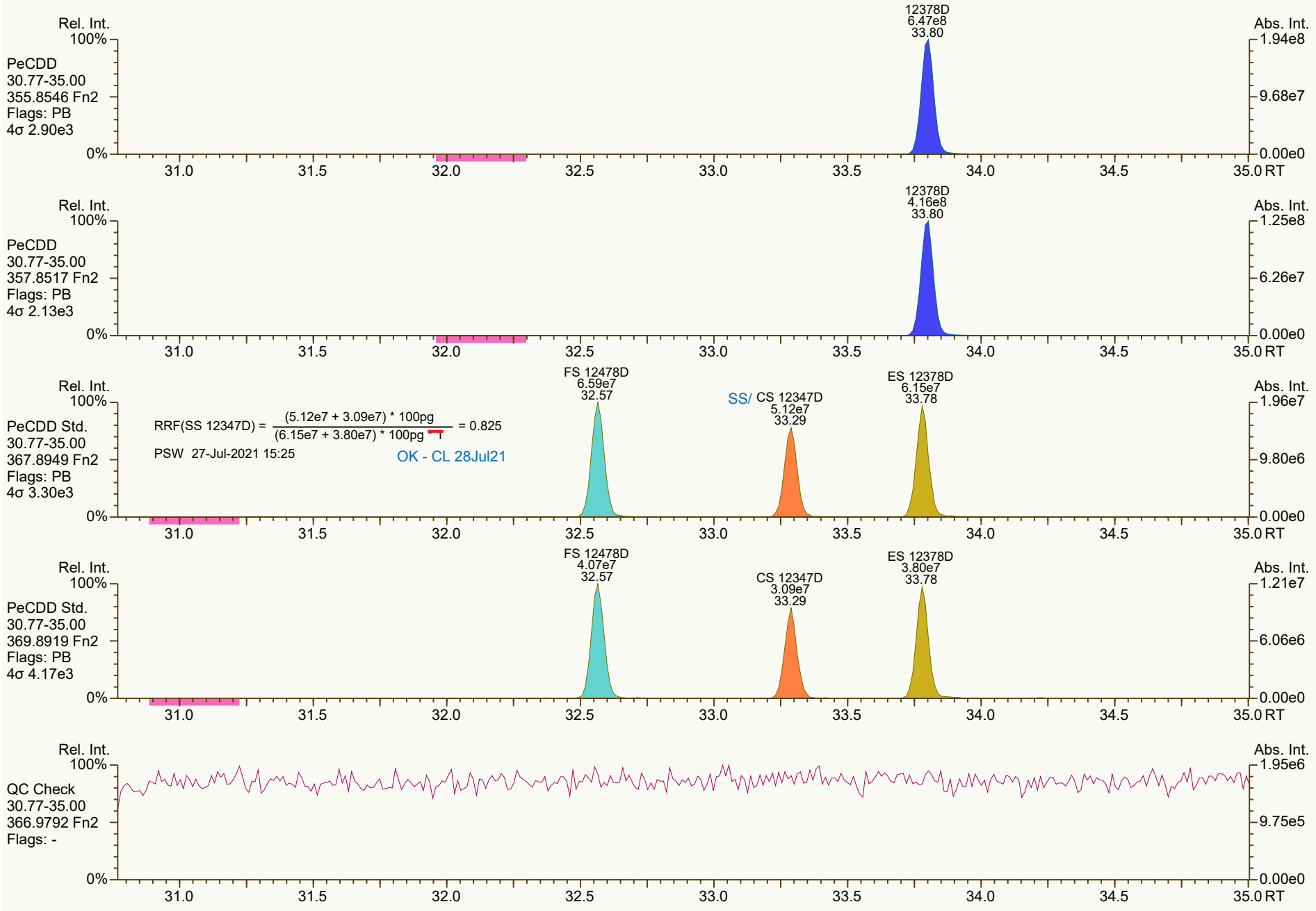
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

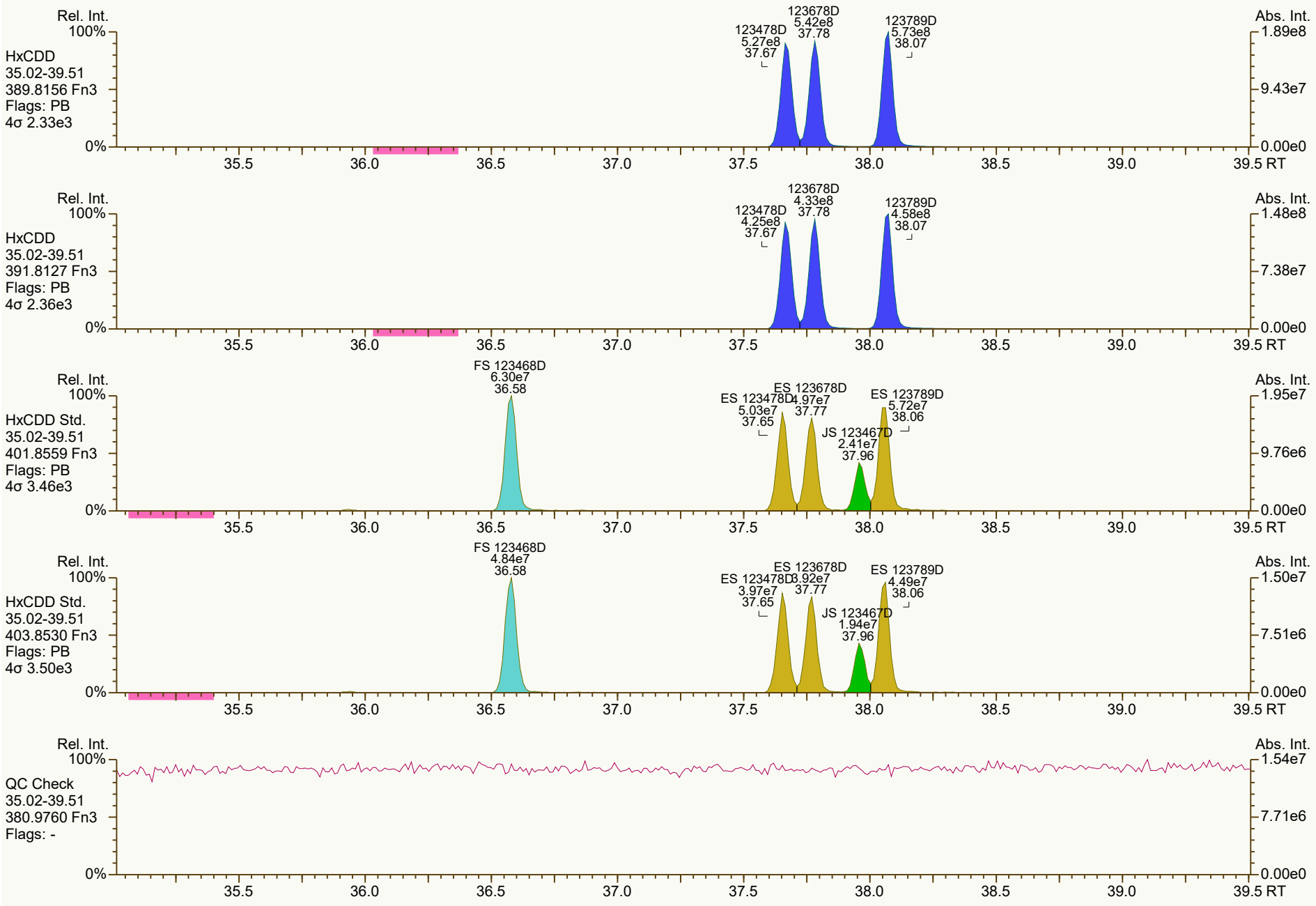
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.11	9.75E+07	0.53	Y	1.09	1.12	3%
CS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.26	1.29	3%
SS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.86	0.82	-5%
SS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.93	0.91	-2%
SS 123469-HxCDF	37.11	9.75E+07	0.53	Y	0.84	0.82	-2%
SS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.91	0.86	-6%
AS 1368-TCDD	24.90	9.65E+07	0.80	Y	1.02	1.04	1%
AS 1368-TCDF	22.84	1.66E+08	0.78	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.05E+08	0.81	Y	1.08	1.08	-1%
FS 12478-PeCDD	32.57	1.07E+08	1.62	Y	1.09	1.07	-2%
FS 123468-HxCDD	36.58	1.11E+08	1.30	Y	1.26	1.24	-2%
FS 1234679-HpCDD	39.99	1.18E+08	1.06	Y	1.36	1.30	-4%
TS 1378-TCDD	26.87	1.32E+08	0.79	Y	1.35	1.35	1%
~~OCDD-a~~	~~43.22~~	~~9.57E+07~~	~~2.52~~	~~Y~~	~~0.07~~	~~0.06~~	~~-2%~~
~~OCDF-a~~	~~43.40~~	~~1.10E+08~~	~~2.51~~	~~Y~~	~~0.06~~	~~0.06~~	~~5%~~

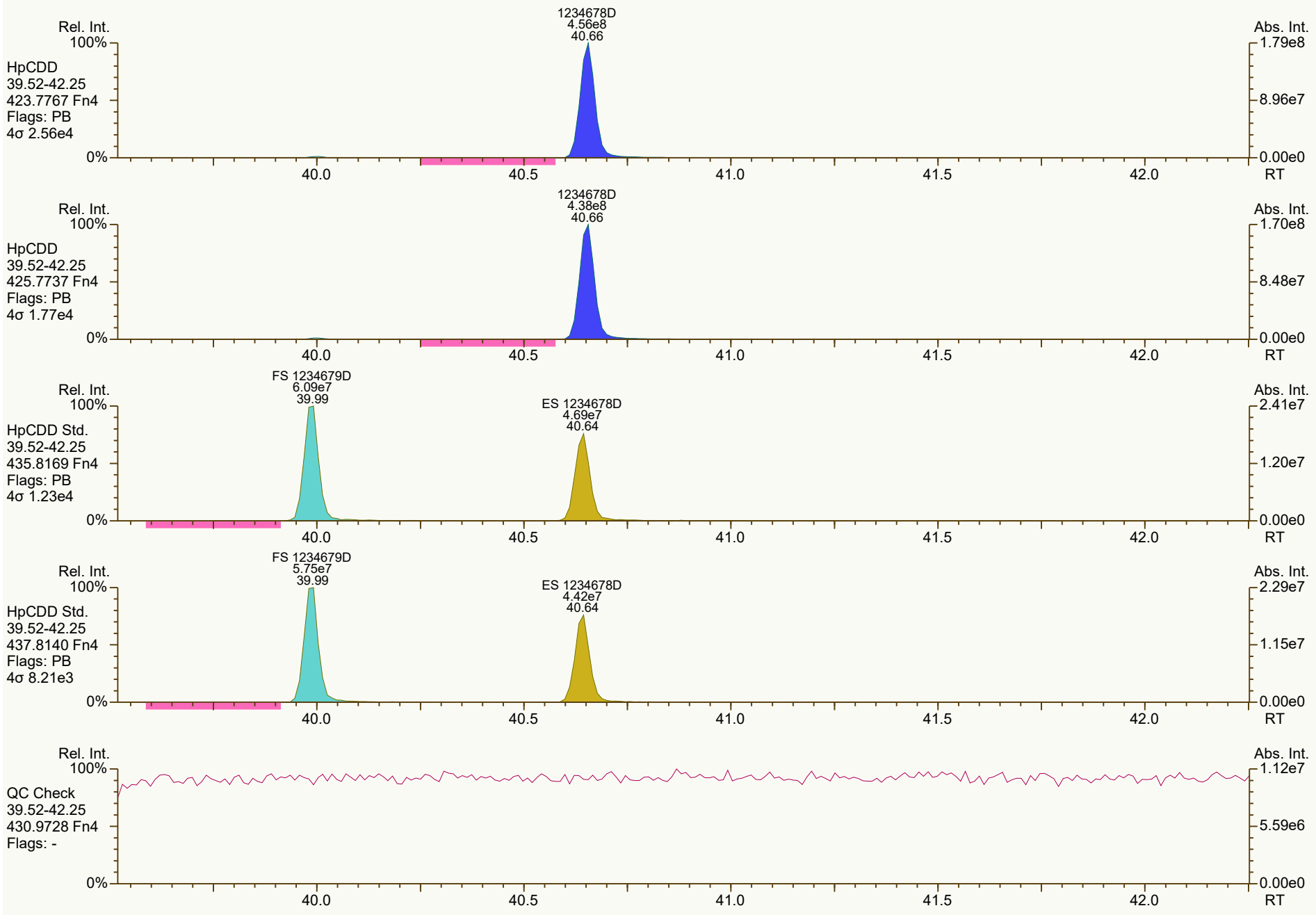
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.08e6
1.04e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.54e7
7.71e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.08e3
2378D
1.16e8
28.52
2.88e7
1.44e7
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.05e3
2378D
1.47e8
28.51
3.55e7
1.77e7
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.84e3
RRF (CS 37Cl-2378D) = (2.51e8) * 100 pg/uL = 1.35
(4.19e7+ 5.12e7) * 200 pg/uL
CL 28Jul21
CS 37Cl-2378D
2.51e8
28.52
6.05e7
3.03e7
0.00e0
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.17e3
AS 1368D
4.28e7
24.90
TS 1378D
5.83e7
26.87
JS 1234D
4.19e7
27.85
ES 2378D
4.26e7
28.49
FS 1278D
4.67e7
28.82
1.35e7
6.74e6
0.00e0
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.68e3
AS 1368D
5.37e7
24.90
TS 1378D
7.34e7
26.87
JS 1234D
5.12e7
27.85
ES 2378D
5.45e7
28.49
FS 1278D
5.80e7
28.82
1.75e7
8.75e6
0.00e0

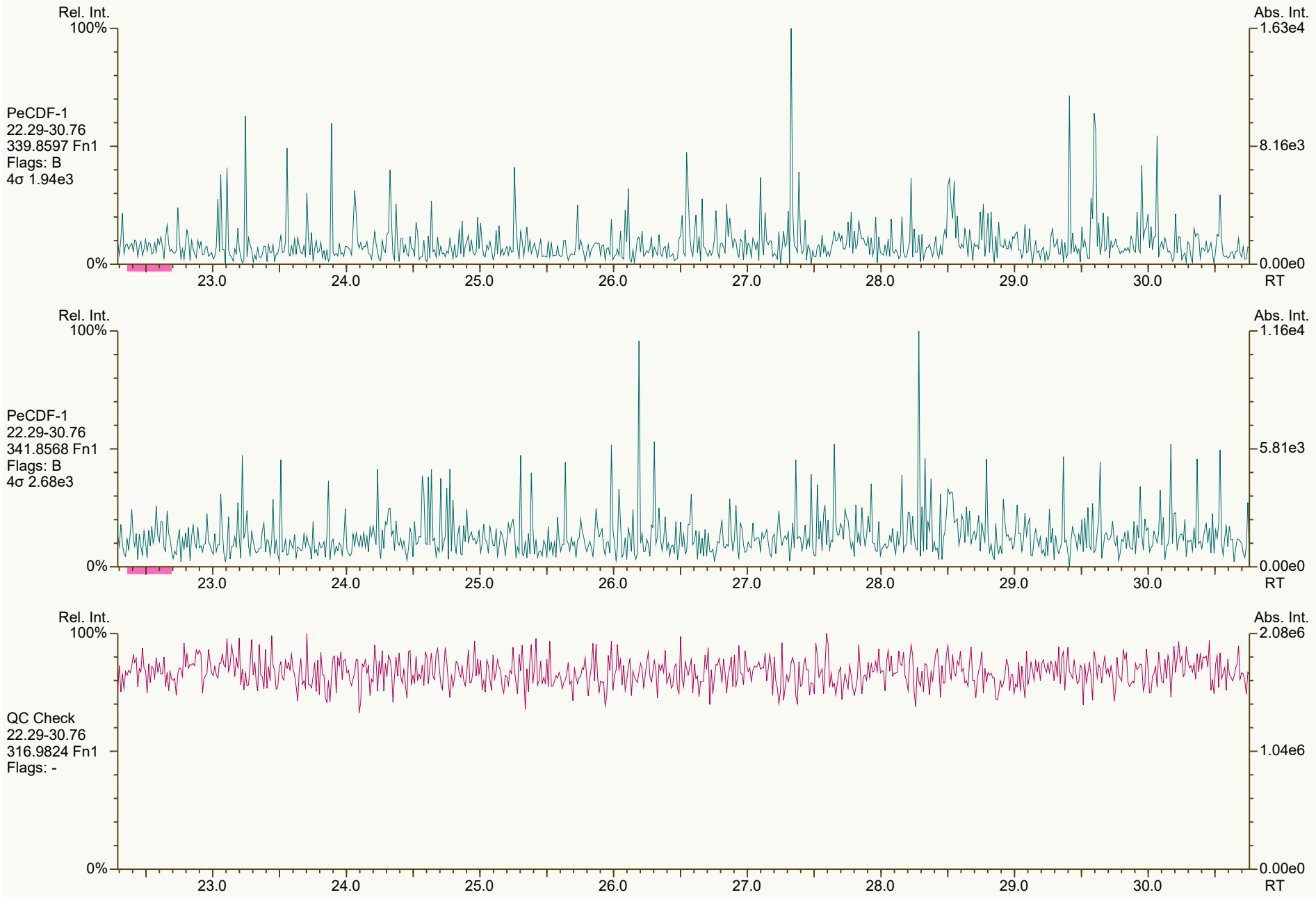

Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
0%
12378D
6.47e8
33.80
Abs. Int.
1.94e8
9.68e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
0%
12378D
4.16e8
33.80
Abs. Int.
1.25e8
6.26e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.30e3
0%
RRF(SS 12347D) = (5.12e7 + 3.09e7) * 100pg / (6.15e7 + 3.80e7) * 100pg = 0.825
PSW 27-Jul-2021 15:25
OK - CL 28Jul21
FS 12478D
6.59e7
32.57
SS/ CS 12347D
5.12e7
33.29
ES 12378D
6.15e7
33.78
Abs. Int.
1.96e7
9.80e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.17e3
0%
FS 12478D
4.07e7
32.57
CS 12347D
3.09e7
33.29
ES 12378D
3.80e7
33.78
Abs. Int.
1.21e7
6.06e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

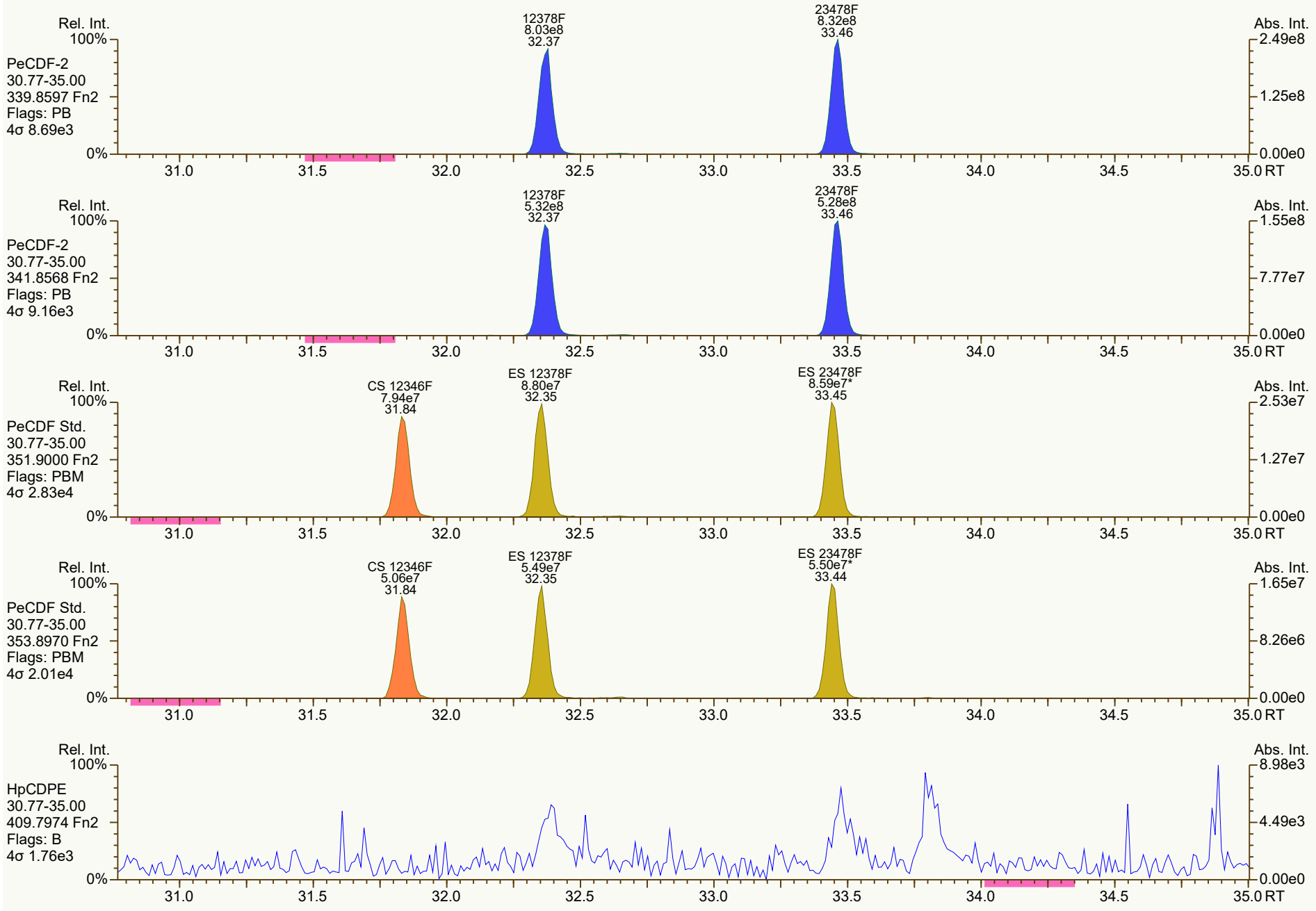

Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123478D 5.27e8 37.67
123678D 5.42e8 37.78
123789D 5.73e8 38.07
1.89e8
9.43e7
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123478D 4.25e8 37.67
123678D 4.33e8 37.78
123789D 4.58e8 38.07
1.48e8
7.38e7
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.46e3
FS 123468D 6.30e7 36.58
ES 123478D 5.03e7 37.65
ES 123678D 4.97e7 37.77
JS 123467D 2.41e7 37.96
ES 123789D 5.72e7 38.06
1.95e7
9.76e6
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.50e3
FS 123468D 4.84e7 36.58
ES 123478D 3.97e7 37.65
ES 123678D 3.92e7 37.77
JS 123467D 1.94e7 37.96
ES 123789D 4.49e7 38.06
1.50e7
7.51e6
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.54e7
7.71e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

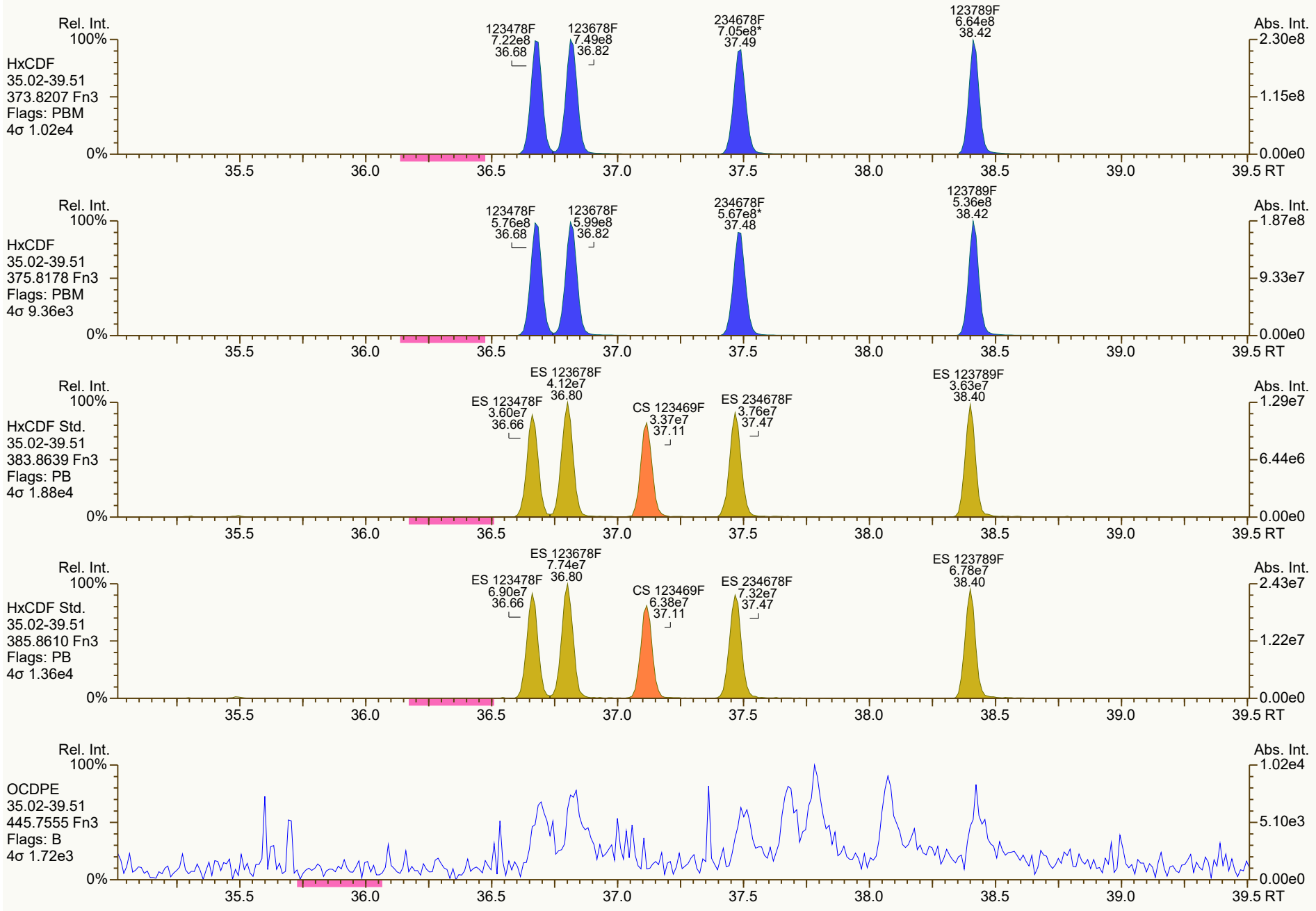

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
1234678D
4.56e8
40.66
Abs. Int.
1.79e8
8.96e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
1234678D
4.38e8
40.66
1.70e8
8.48e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
2.41e7
1.20e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
2.29e7
1.15e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.12e7
5.59e6

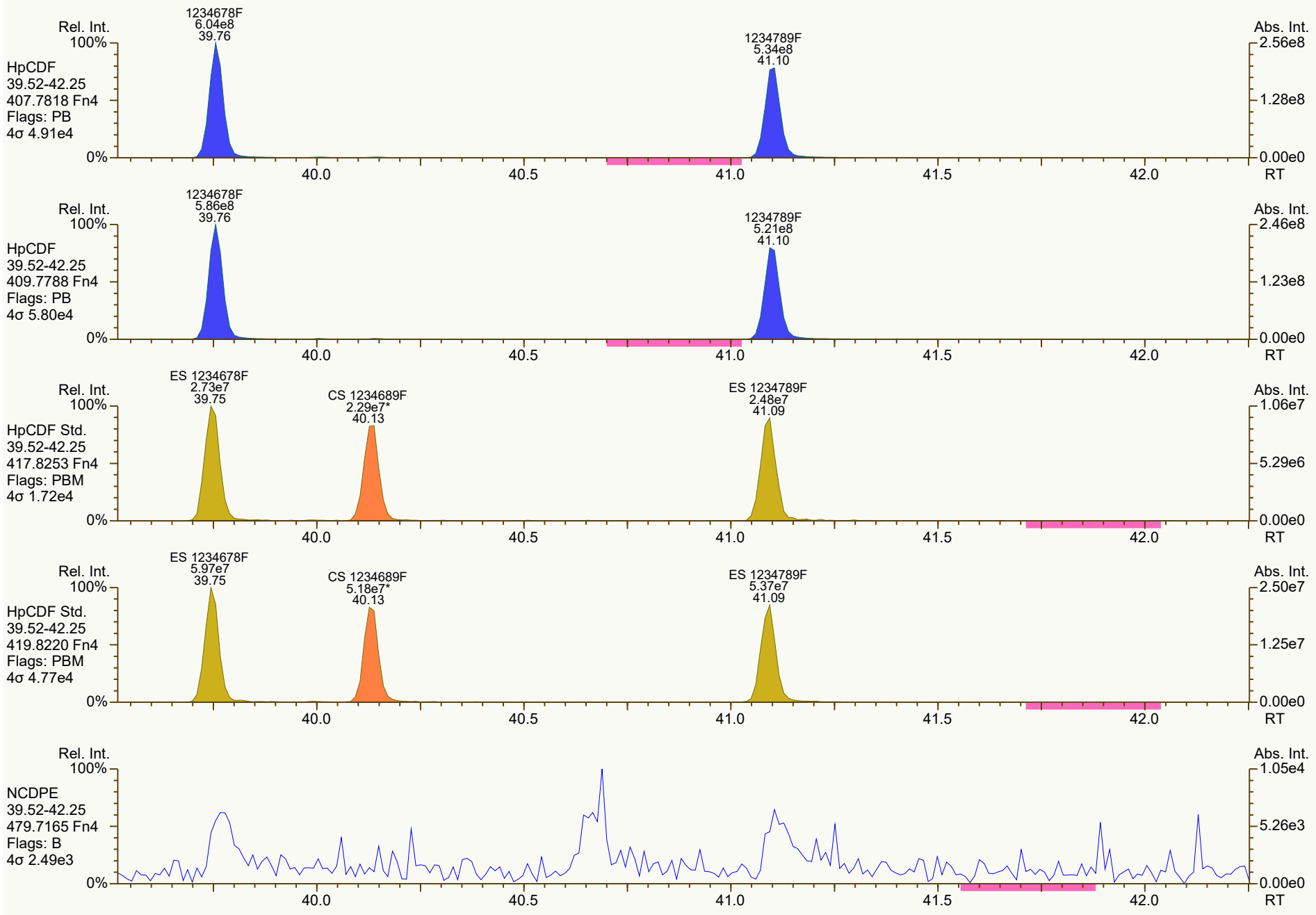

OCDD
7.34e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
2.52e8
1.26e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.31e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.52e3
0%
Abs. Int.
2.81e8
1.40e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.94e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 3.01e3
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.81e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.23e3
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

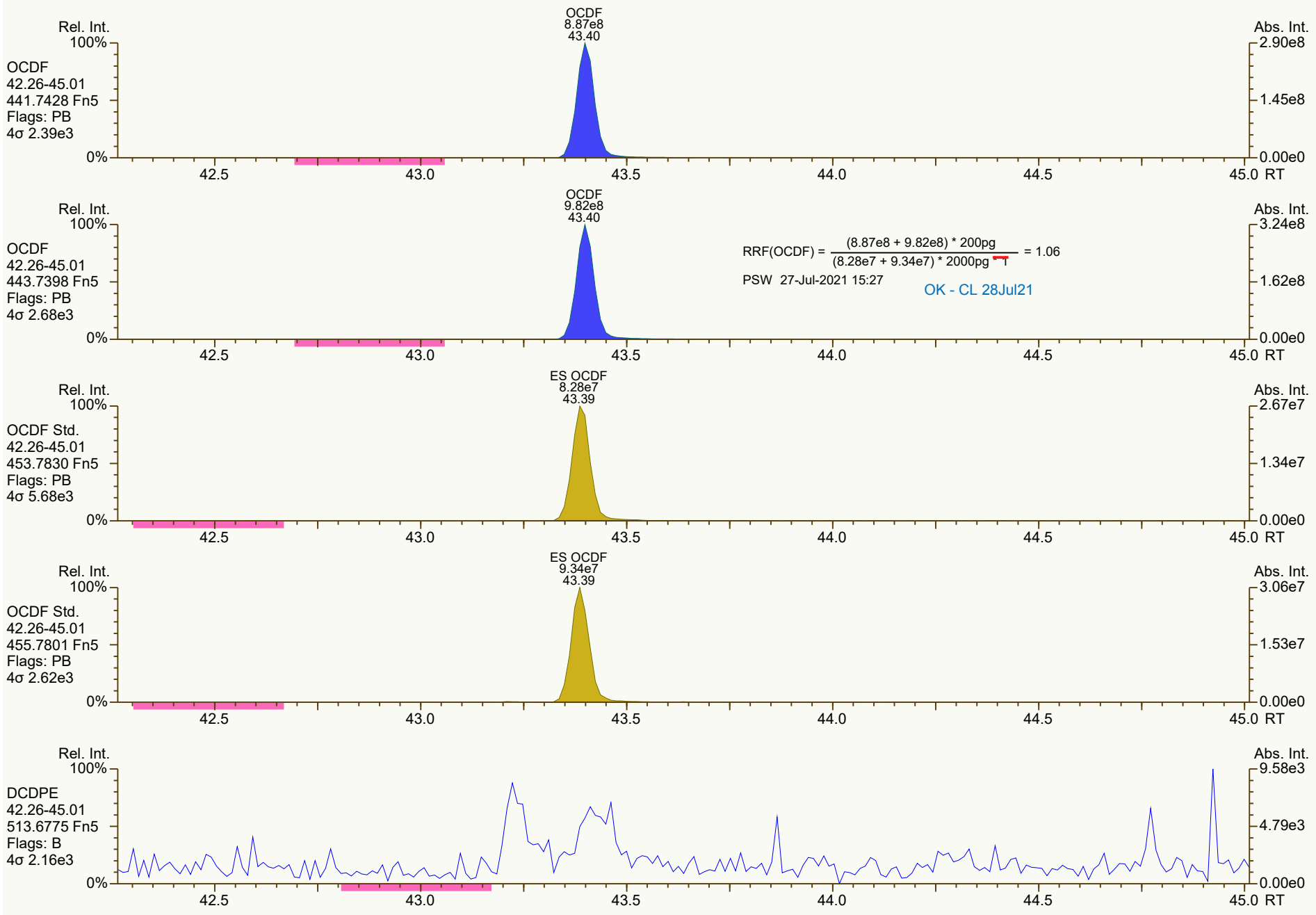

SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.39e3
2378F
1.39e8
27.66
3.30e7
1.65e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 1.93e3
2378F
1.81e8
27.66
4.26e7
2.13e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.93e4
AS 1368F
7.29e7
22.84
JS 1234F
6.68e7
26.32
ES 2378F
7.29e7
27.64
1.72e7
8.58e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 9.59e3
AS 1368F
9.33e7
22.84
JS 1234F
8.44e7
26.31
ES 2378F
9.11e7
27.64
2.15e7
1.08e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.69e3
1.28e4
6.39e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1711, 4954, 8949 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 1.94e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.68e3
1.16e4
5.81e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.08e6
1.04e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 8.69e3
12378F
8.03e8
32.37
23478F
8.32e8
33.46
Abs. Int.
2.49e8
1.25e8
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 9.16e3
12378F
5.32e8
32.37
23478F
5.28e8
33.46
Abs. Int.
1.55e8
7.77e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.83e4
CS 12346F
7.94e7
31.84
ES 12378F
8.80e7
32.35
ES 23478F
8.59e7*
33.45
Abs. Int.
2.53e7
1.27e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.01e4
CS 12346F
5.06e7
31.84
ES 12378F
5.49e7
32.35
ES 23478F
5.50e7*
33.44
Abs. Int.
1.65e7
8.26e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 1.76e3
Abs. Int.
8.98e3
4.49e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.02e4
0%
123478F
7.22e8
36.68
123678F
7.49e8
36.82
234678F
7.05e8*
37.49
123789F
6.64e8
38.42
Abs. Int.
2.30e8
1.15e8
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.36e3
0%
123478F
5.76e8
36.68
123678F
5.99e8
36.82
234678F
5.67e8*
37.48
123789F
5.36e8
38.42
Abs. Int.
1.87e8
9.33e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.88e4
0%
ES 123478F
3.60e7
36.66
ES 123678F
4.12e7
36.80
CS 123469F
3.37e7
37.11
ES 234678F
3.76e7
37.47
ES 123789F
3.63e7
38.40
Abs. Int.
1.29e7
6.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.36e4
0%
ES 123478F
6.90e7
36.66
ES 123678F
7.74e7
36.80
CS 123469F
6.38e7
37.11
ES 234678F
7.32e7
37.47
ES 123789F
6.78e7
38.40
Abs. Int.
2.43e7
1.22e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.72e3
0%
Abs. Int.
1.02e4
5.10e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e4
1234678F
6.04e8
39.76
1234789F
5.34e8
41.10
Abs. Int.
2.56e8
1.28e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.80e4
1234678F
5.86e8
39.76
1234789F
5.21e8
41.10
Abs. Int.
2.46e8
1.23e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 1.72e4
ES 1234678F
2.73e7
39.75
CS 1234689F
2.29e7*
40.13
ES 1234789F
2.48e7
41.09
Abs. Int.
1.06e7
5.29e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 4.77e4
ES 1234678F
5.97e7
39.75
CS 1234689F
5.18e7*
40.13
ES 1234789F
5.37e7
41.09
Abs. Int.
2.50e7
1.25e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.49e3
Abs. Int.
1.05e4
5.26e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.39e3
0%
OCDF
8.87e8
43.40
Abs. Int.
2.90e8
1.45e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.68e3
0%
OCDF
9.82e8
43.40
RRF(OCDF) = (8.87e8 + 9.82e8) * 200pg / (8.28e7 + 9.34e7) * 2000pg = 1.06
PSW 27-Jul-2021 15:27
OK - CL 28Jul21
Abs. Int.
3.24e8
1.62e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.68e3
0%
ES OCDF
8.28e7
43.39
Abs. Int.
2.67e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.62e3
0%
ES OCDF
9.34e7
43.39
Abs. Int.
3.06e7
1.53e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.16e3
0%
Abs. Int.
9.58e3
4.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

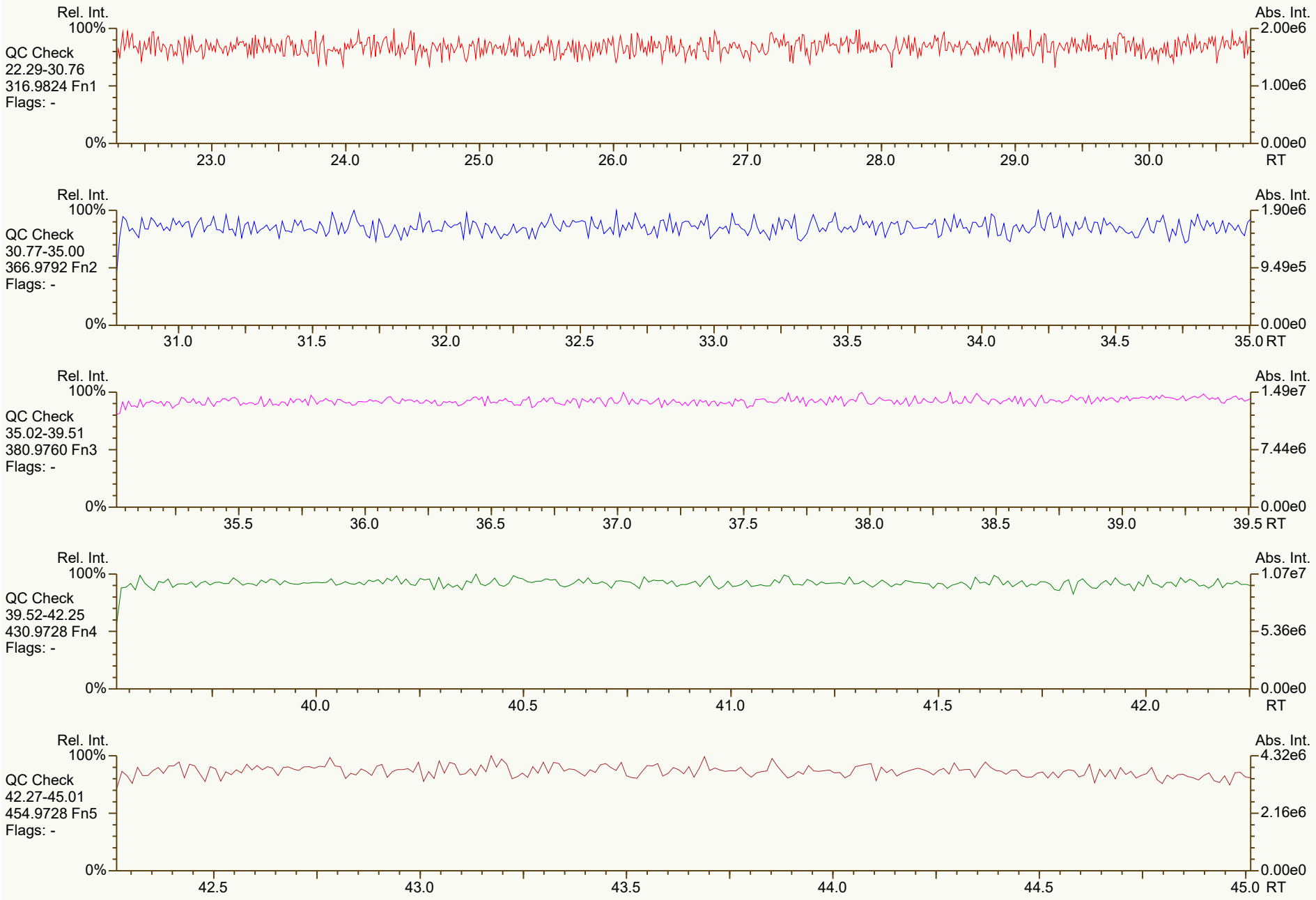
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

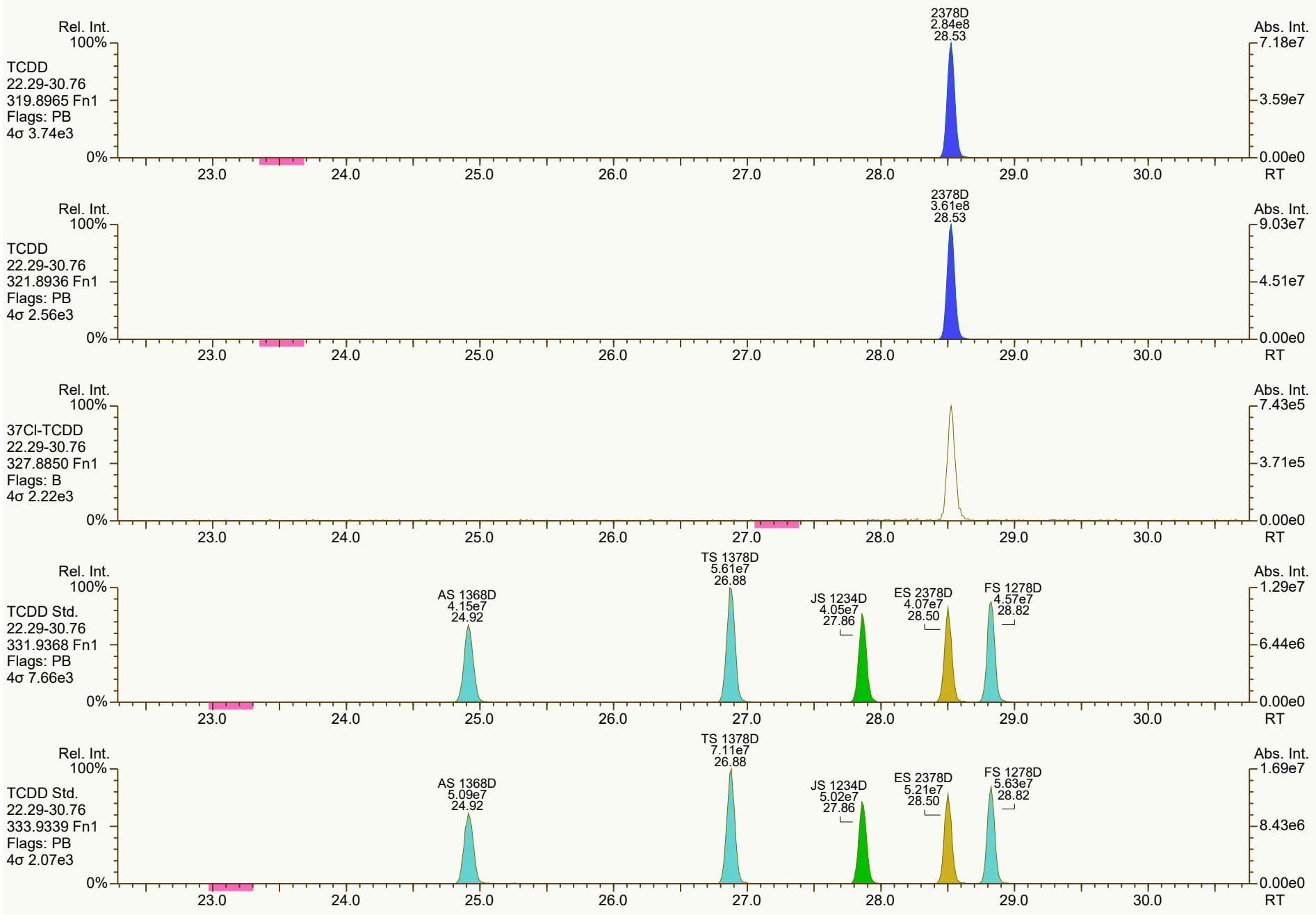
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD	40.66	2.28E+09	1.03	Y	0.97	1.00	2%
OCDD	43.24	4.13E+09	0.89	Y	1.07	1.08	1%
2378-TCDF	27.67	7.99E+08	0.77	Y	0.96	0.99	3%
12378-PeCDF	32.38	3.47E+09	1.57	Y	0.95	0.96	2%
23478-PeCDF	33.47	3.38E+09	1.55	Y	0.94	0.96	2%
123478-HxCDF	36.69	3.24E+09	1.24	Y	1.23	1.22	-1%
123678-HxCDF	36.83	3.36E+09	1.24	Y	1.13	1.14	0%
234678-HxCDF	37.49	3.14E+09	1.25	Y	1.15	1.15	0%
123789-HxCDF	38.43	3.10E+09	1.25	Y	1.14	1.16	2%
1234678-HpCDF	39.77	3.01E+09	1.04	Y	1.36	1.36	0%
1234789-HpCDF	41.11	2.70E+09	1.03	Y	1.30	1.33	2%
OCDF	43.42	4.91E+09	0.91	Y	1.03	1.08	5%
ES 2378-TCDD	28.50	9.29E+07	0.78	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.791	9.93E+07	1.63	Y	1.03	1.10	6%
ES 123478-HxCDD	37.663	9.19E+07	1.24	Y	0.99	1.07	7%
ES 123678-HxCDD	37.778	9.02E+07	1.27	Y	0.97	1.05	7%
ES 123789-HxCDD	38.067	1.05E+08	1.27	Y	1.12	1.22	8%
ES 1234678-HpCDD	40.65	9.14E+07	1.03	Y	0.99	1.06	7%
ES OCDD	43.227	1.53E+08	0.91	Y	0.78	0.89	14%
ES 2378-TCDF	27.65	1.62E+08	0.78	Y	1.08	1.10	2%
ES 12378-PeCDF	32.365	1.44E+08	1.56	Y	0.93	0.98	5%
ES 23478-PeCDF	33.455	1.42E+08	1.59	Y	0.92	0.96	4%
ES 123478-HxCDF	36.671	1.06E+08	0.53	Y	1.14	1.23	8%
ES 123678-HxCDF	36.81	1.18E+08	0.53	Y	1.30	1.37	6%
ES 234678-HxCDF	37.477	1.09E+08	0.52	Y	1.20	1.27	5%
ES 123789-HxCDF	38.411	1.07E+08	0.52	Y	1.14	1.24	9%
ES 1234678-HpCDF	39.757	8.85E+07	0.45	Y	0.95	1.03	8%
ES 1234789-HpCDF	41.1	8.15E+07	0.45	Y	0.85	0.94	12%
ES OCDF	43.407	1.83E+08	0.90	Y	0.93	1.06	14%

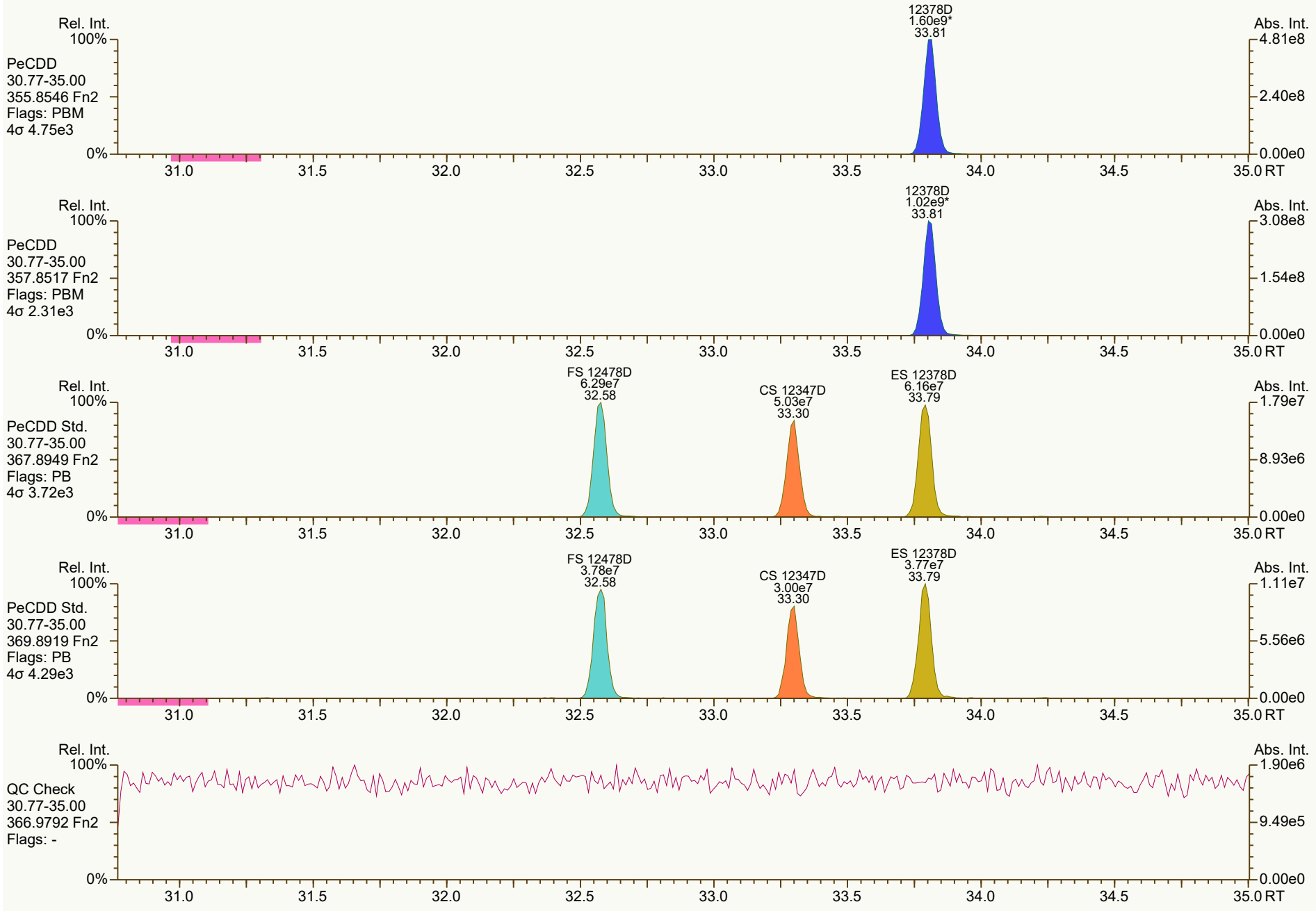
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

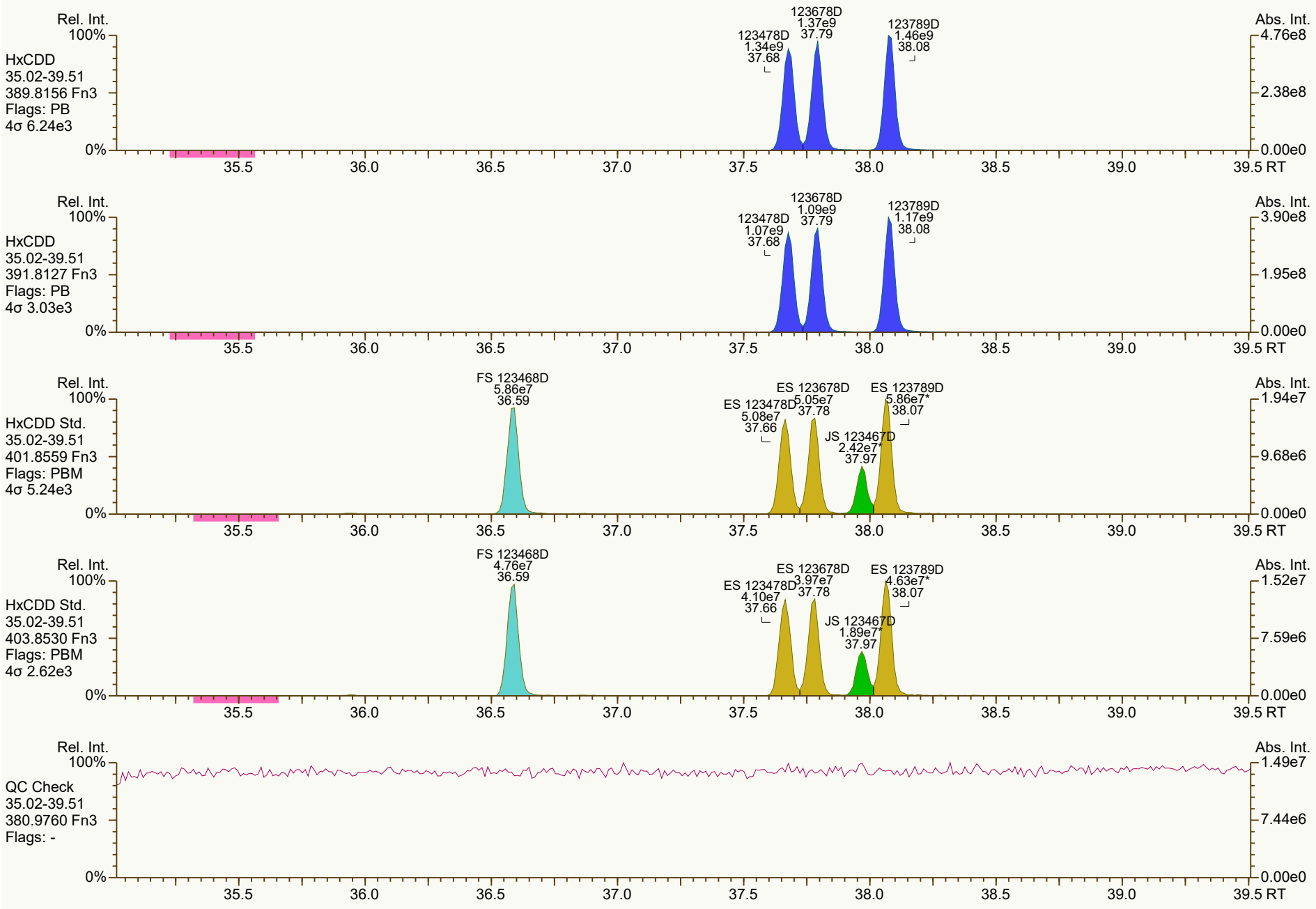
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.87	0.85	-2%
CS 123469-HxCDF	37.12	9.43E+07	0.51	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.86	0.84	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.86	0.81	-6%
SS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.93	0.87	-7%
SS 123469-HxCDF	37.12	9.43E+07	0.51	Y	0.84	0.80	-5%
SS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.91	0.81	-11%
AS 1368-TCDD	24.92	9.24E+07	0.82	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	1.58E+08	0.79	Y	1.08	1.07	0%
FS 1278-TCDD	28.83	1.02E+08	0.81	Y	1.08	1.10	1%
FS 12478-PeCDD	32.58	1.01E+08	1.67	Y	1.09	1.01	-7%
FS 123468-HxCDD	36.59	1.06E+08	1.23	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.99	1.12E+08	1.07	Y	1.36	1.23	-9%
TS 1378-TCDD	26.88	1.27E+08	0.79	Y	1.35	1.37	2%
~~OCDD-a~~	~~43.23~~	~~2.53E+08~~	~~2.47~~	~~Y~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~43.42~~	~~2.93E+08~~	~~2.57~~	~~Y~~	~~0.06~~	~~0.06~~	~~8%~~

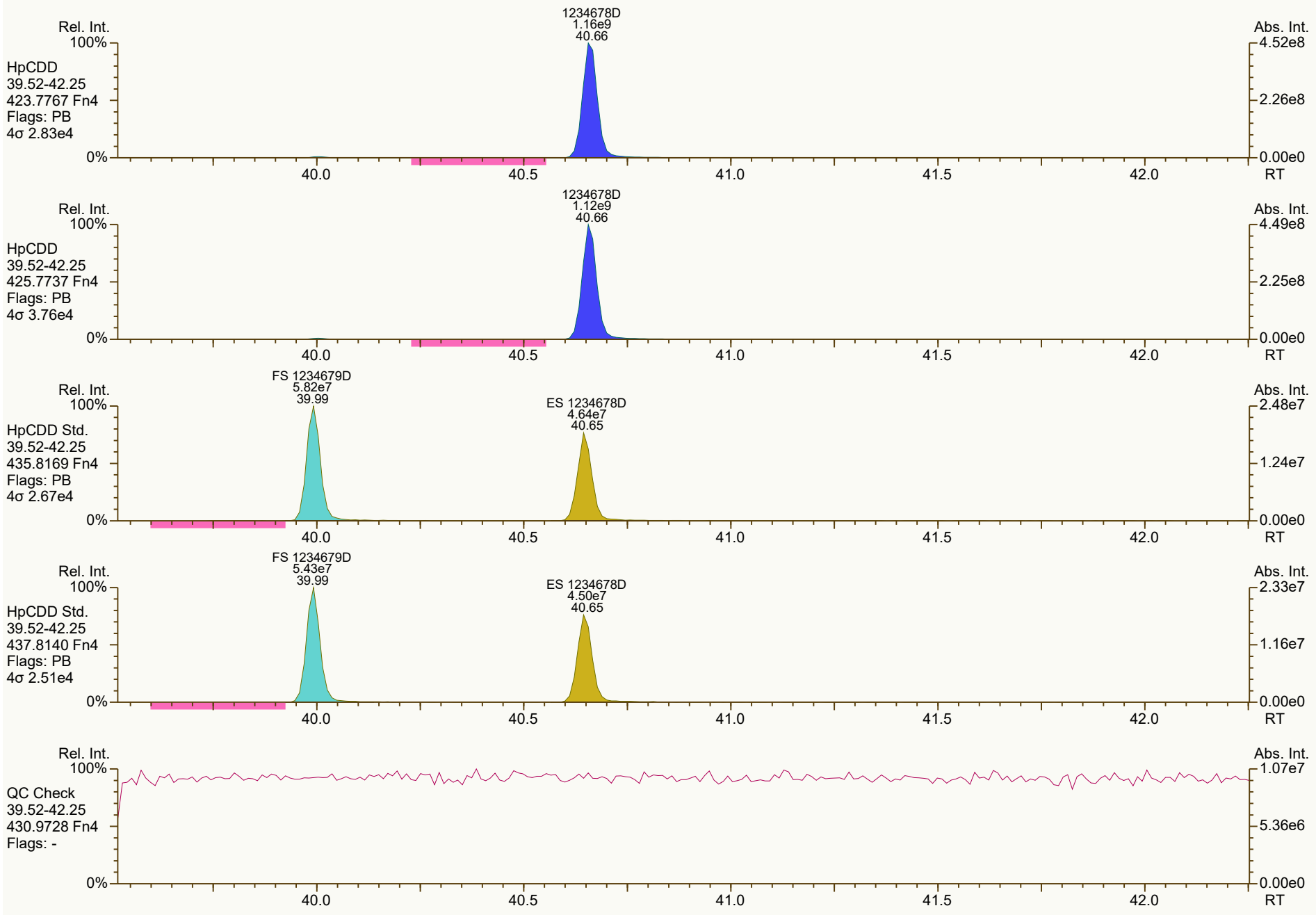
Not reported from this ICAL - CL 28Jul21

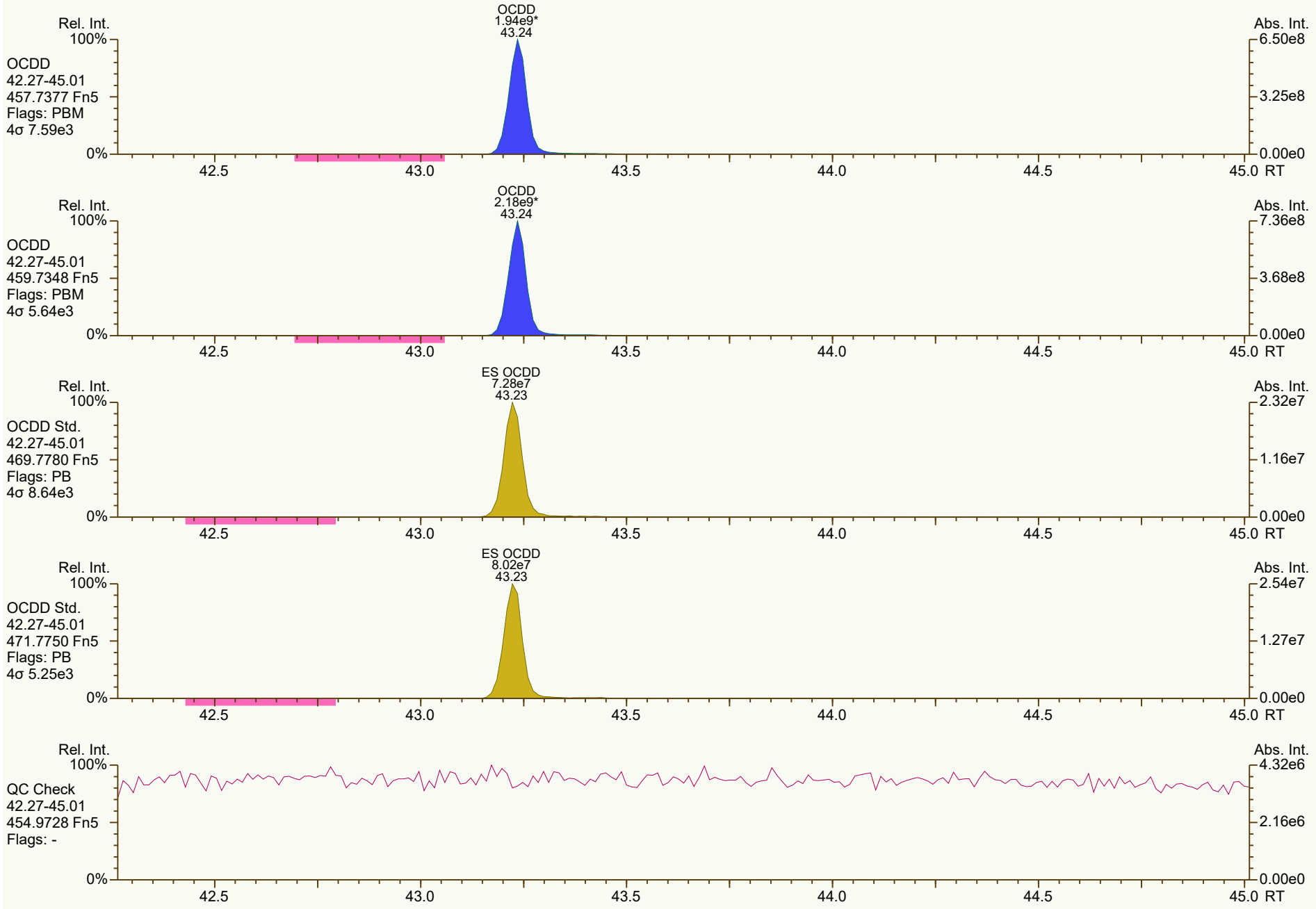

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.00e6
1.00e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.49e7
7.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.36e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.74e3
0%
2378D
2.84e8
28.53
Abs. Int.
7.18e7
3.59e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.56e3
0%
2378D
3.61e8
28.53
Abs. Int.
9.03e7
4.51e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
7.43e5
3.71e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.66e3
0%
AS 1368D
4.15e7
24.92
TS 1378D
5.61e7
26.88
JS 1234D
4.05e7
27.86
ES 2378D
4.07e7
28.50
FS 1278D
4.57e7
28.82
Abs. Int.
1.29e7
6.44e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.07e3
0%
AS 1368D
5.09e7
24.92
TS 1378D
7.11e7
26.88
JS 1234D
5.02e7
27.86
ES 2378D
5.21e7
28.50
FS 1278D
5.63e7
28.82
Abs. Int.
1.69e7
8.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 4.75e3
0%
12378D
1.60e9*
33.81
Abs. Int.
4.81e8
2.40e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.31e3
0%
12378D
1.02e9*
33.81
Abs. Int.
3.08e8
1.54e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.72e3
0%
FS 12478D
6.29e7
32.58
CS 12347D
5.03e7
33.30
ES 12378D
6.16e7
33.79
Abs. Int.
1.79e7
8.93e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.29e3
0%
FS 12478D
3.78e7
32.58
CS 12347D
3.00e7
33.30
ES 12378D
3.77e7
33.79
Abs. Int.
1.11e7
5.56e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

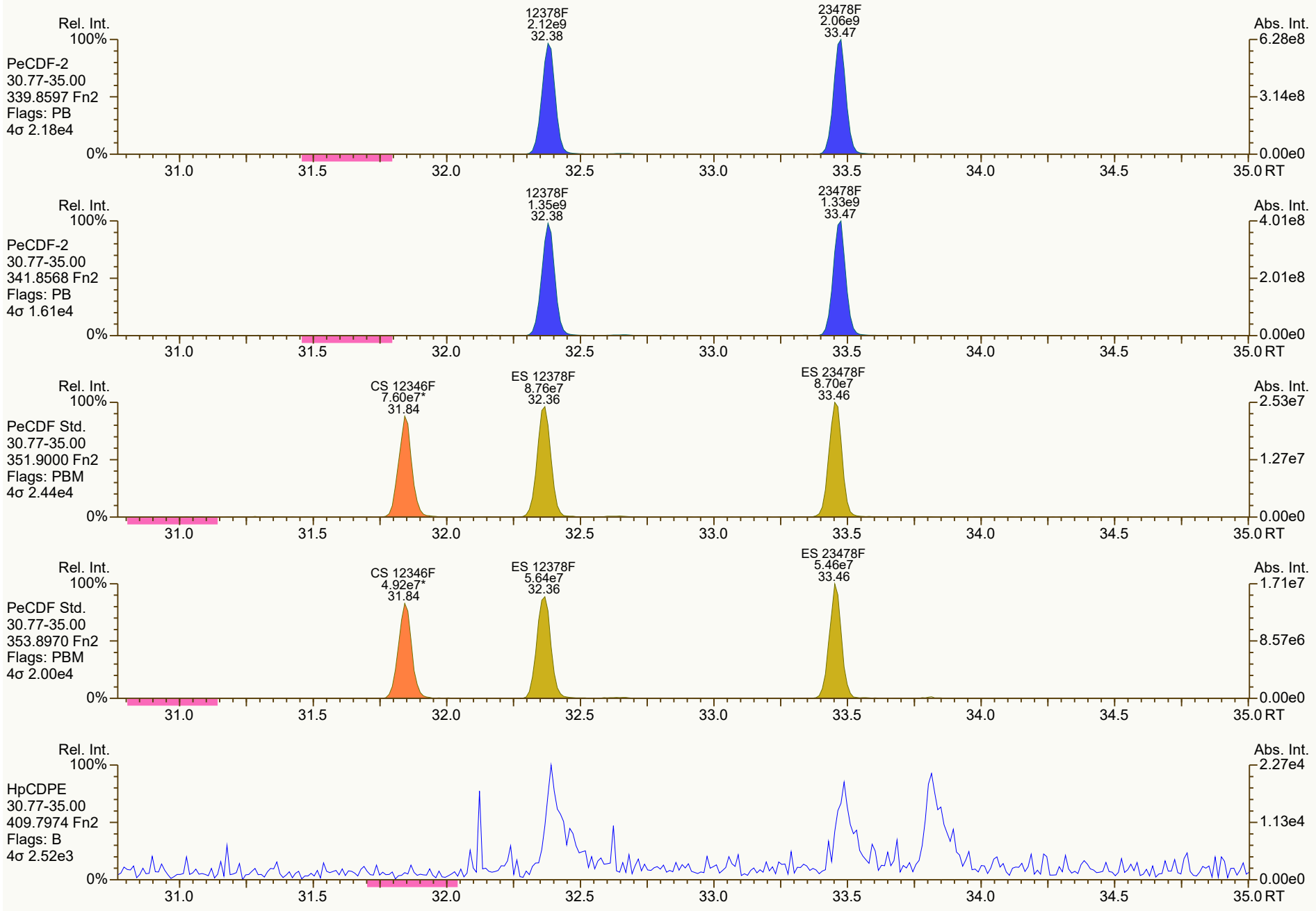

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 6.24e3
123478D
1.34e9
37.68
123678D
1.37e9
37.79
123789D
1.46e9
38.08
Abs. Int.
4.76e8
2.38e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 3.03e3
123478D
1.07e9
37.68
123678D
1.09e9
37.79
123789D
1.17e9
38.08
Abs. Int.
3.90e8
1.95e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 5.24e3
FS 123468D
5.86e7
36.59
ES 123478D
5.08e7
37.66
ES 123678D
5.05e7
37.78
JS 123467D
2.42e7*
37.97
ES 123789D
5.86e7*
38.07
Abs. Int.
1.94e7
9.68e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.62e3
FS 123468D
4.76e7
36.59
ES 123478D
4.10e7
37.66
ES 123678D
3.97e7
37.78
JS 123467D
1.89e7*
37.97
ES 123789D
4.63e7*
38.07
Abs. Int.
1.52e7
7.59e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.49e7
7.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

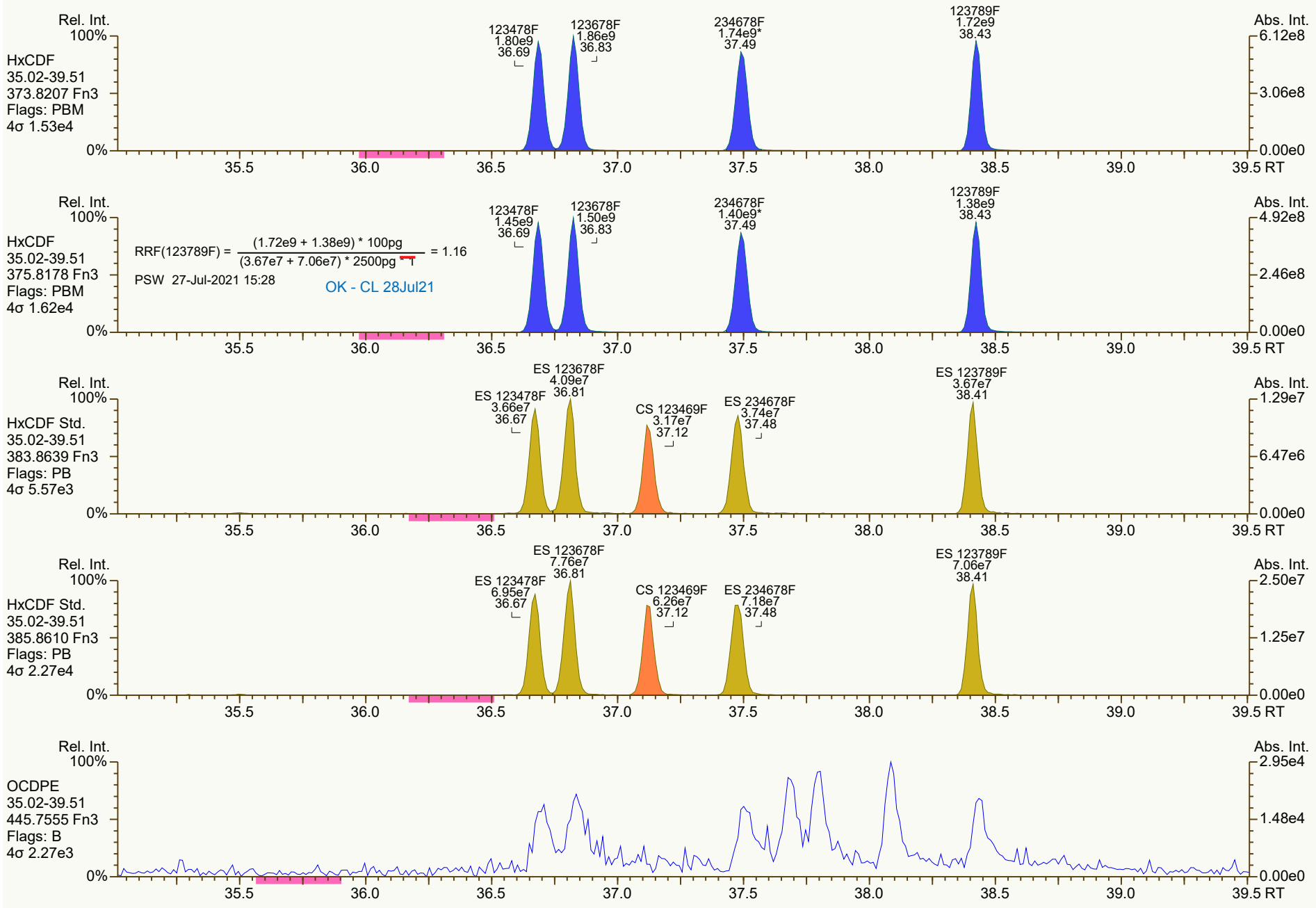

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.83e4
0%
1234678D
1.16e9
40.66
Abs. Int.
4.52e8
2.26e8
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.76e4
0%
1234678D
1.12e9
40.66
Abs. Int.
4.49e8
2.25e8
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.67e4
0%
FS 1234679D
5.82e7
39.99
ES 1234678D
4.64e7
40.65
Abs. Int.
2.48e7
1.24e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 2.51e4
0%
FS 1234679D
5.43e7
39.99
ES 1234678D
4.50e7
40.65
Abs. Int.
2.33e7
1.16e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.36e6
0.00e0
RT

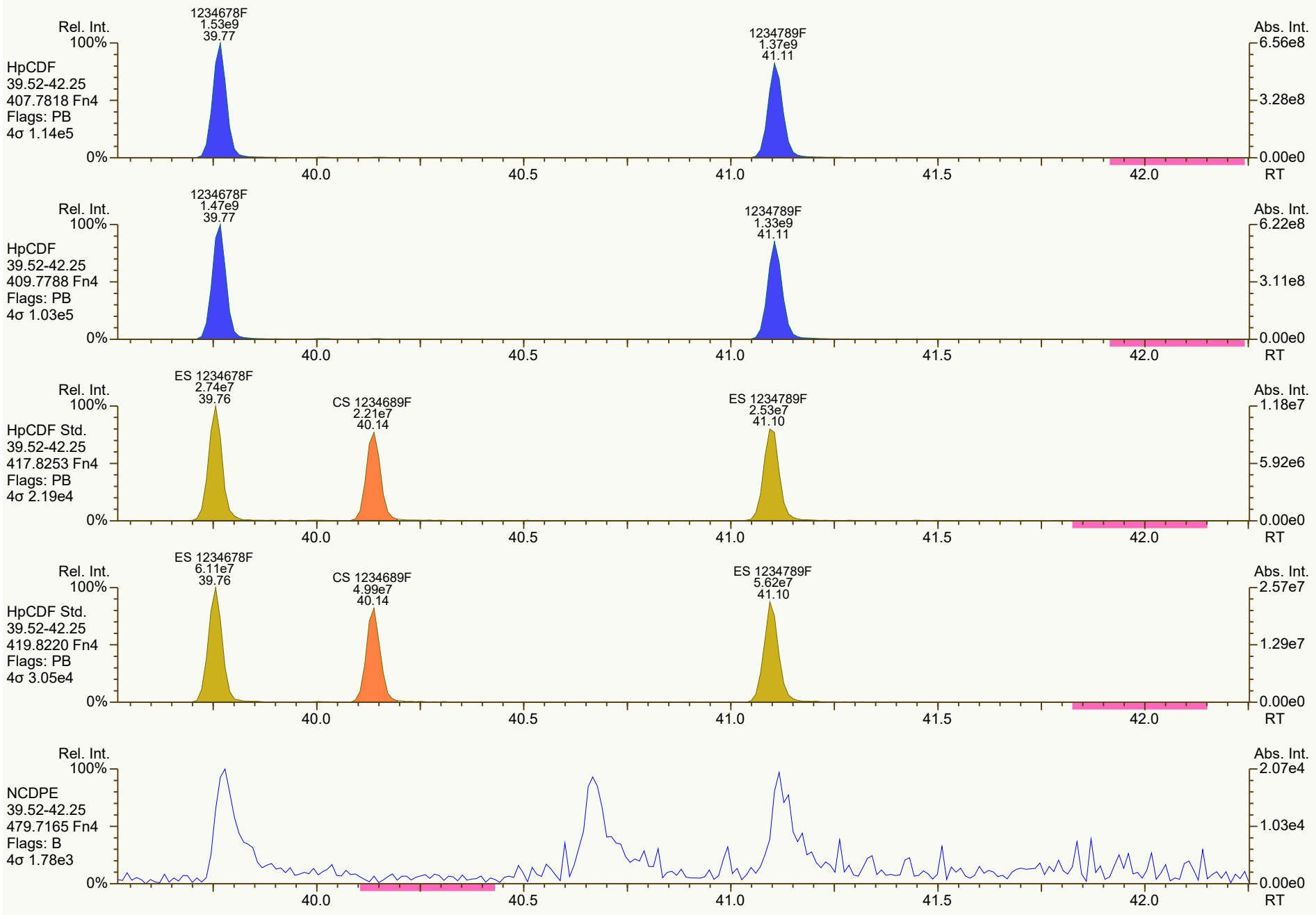

OCDD
1.94e9*
43.24
Rel. Int.
Abs. Int.
OCDD
42.27-45.01
457.7377 Fn5
Flags: PBM
4σ 7.59e3
OCDD
2.18e9*
43.24
OCDD
42.27-45.01
459.7348 Fn5
Flags: PBM
4σ 5.64e3
ES OCDD
7.28e7
43.23
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 8.64e3
ES OCDD
8.02e7
43.23
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 5.25e3
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
6.50e8
3.25e8
0.00e0
7.36e8
3.68e8
2.32e7
1.16e7
2.54e7
1.27e7
4.32e6
2.16e6

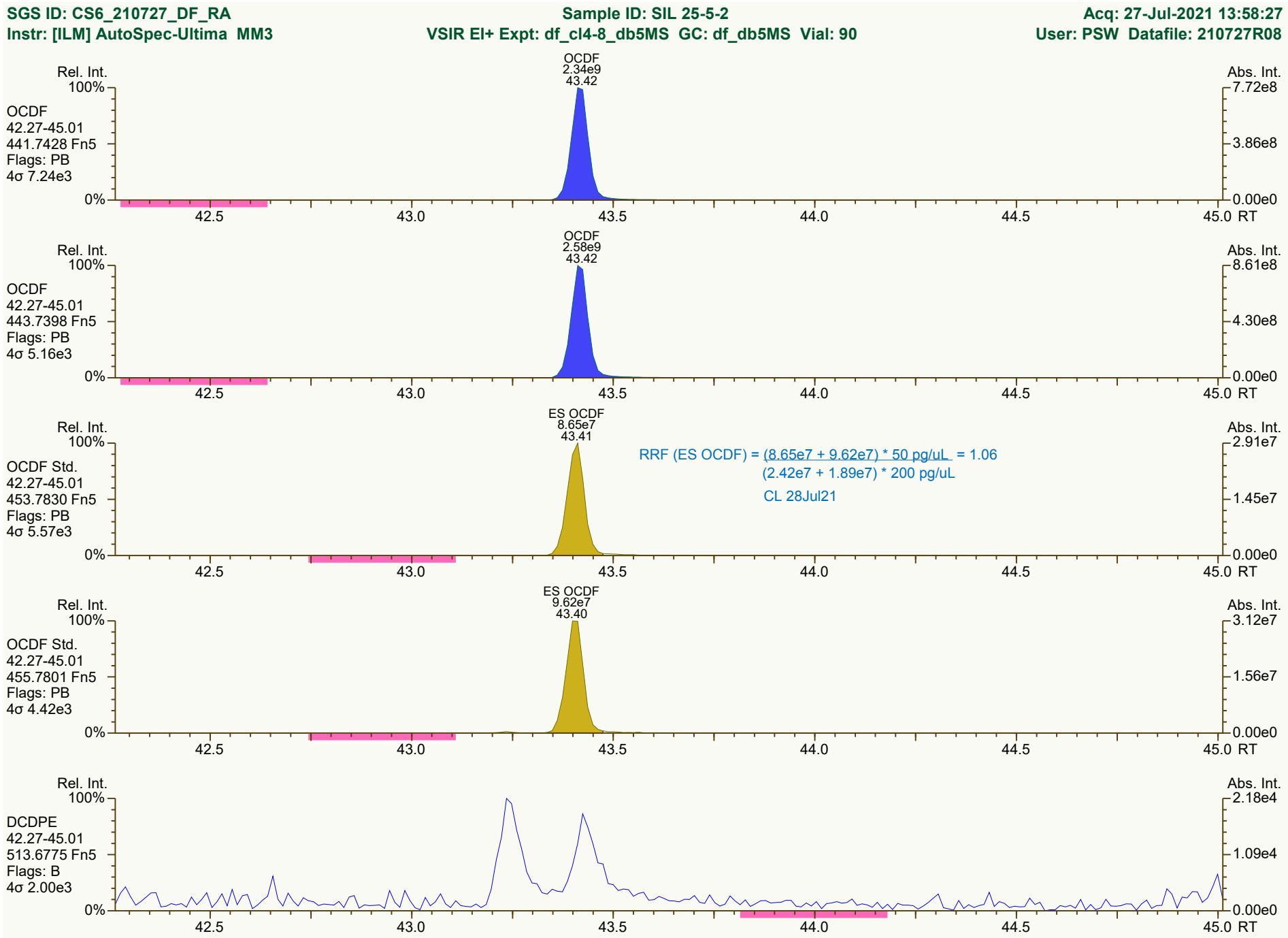

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
0%
2378F
3.47e8
27.67
Abs. Int.
8.18e7
4.09e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
0%
2378F
4.52e8
27.67
Abs. Int.
1.06e8
5.31e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
6.97e7
22.86
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
Abs. Int.
1.73e7
8.65e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
0%
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
Abs. Int.
2.19e7
1.09e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
0%
Abs. Int.
1.85e4
9.24e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.08e4
1.04e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.81e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 4.96e3
1.40e4
7.01e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.00e6
1.00e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.18e4
12378F
2.12e9
32.38
23478F
2.06e9
33.47
Abs. Int.
6.28e8
3.14e8
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 1.61e4
12378F
1.35e9
32.38
23478F
1.33e9
33.47
Abs. Int.
4.01e8
2.01e8
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.44e4
CS 12346F
7.60e7*
31.84
ES 12378F
8.76e7
32.36
ES 23478F
8.70e7
33.46
Abs. Int.
2.53e7
1.27e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.00e4
CS 12346F
4.92e7*
31.84
ES 12378F
5.64e7
32.36
ES 23478F
5.46e7
33.46
Abs. Int.
1.71e7
8.57e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.52e3
Abs. Int.
2.27e4
1.13e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.53e4
0%
123478F
1.80e9
36.69
123678F
1.86e9
36.83
234678F
1.74e9*
37.49
123789F
1.72e9
38.43
Abs. Int.
6.12e8
3.06e8
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 1.62e4
RRF(123789F) = (1.72e9 + 1.38e9) * 100pg / (3.67e7 + 7.06e7) * 2500pg = 1.16
PSW 27-Jul-2021 15:28
OK - CL 28Jul21
123478F
1.45e9
36.69
123678F
1.50e9
36.83
234678F
1.40e9*
37.49
123789F
1.38e9
38.43
4.92e8
2.46e8
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.57e3
ES 123678F
4.09e7
36.81
ES 123478F
3.66e7
36.67
CS 123469F
3.17e7
37.12
ES 234678F
3.74e7
37.48
ES 123789F
3.67e7
38.41
1.29e7
6.47e6
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.27e4
ES 123678F
7.76e7
36.81
ES 123478F
6.95e7
36.67
CS 123469F
6.26e7
37.12
ES 234678F
7.18e7
37.48
ES 123789F
7.06e7
38.41
2.50e7
1.25e7
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.27e3
2.95e4
1.48e4


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.14e5
1234678F
1.53e9
39.77
1234789F
1.37e9
41.11
Abs. Int.
6.56e8
3.28e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.03e5
1234678F
1.47e9
39.77
1234789F
1.33e9
41.11
Abs. Int.
6.22e8
3.11e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.19e4
ES 1234678F
2.74e7
39.76
CS 1234689F
2.21e7
40.14
ES 1234789F
2.53e7
41.10
Abs. Int.
1.18e7
5.92e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 3.05e4
ES 1234678F
6.11e7
39.76
CS 1234689F
4.99e7
40.14
ES 1234789F
5.62e7
41.10
Abs. Int.
2.57e7
1.29e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 1.78e3
Abs. Int.
2.07e4
1.03e4
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
OCDF
2.34e9
43.42
Rel. Int.
Abs. Int.
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
OCDF
2.58e9
43.42
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
ES OCDF
8.65e7
43.41
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
ES OCDF
9.62e7
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8670, 9652, 4309 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:32 Page 12 of 12

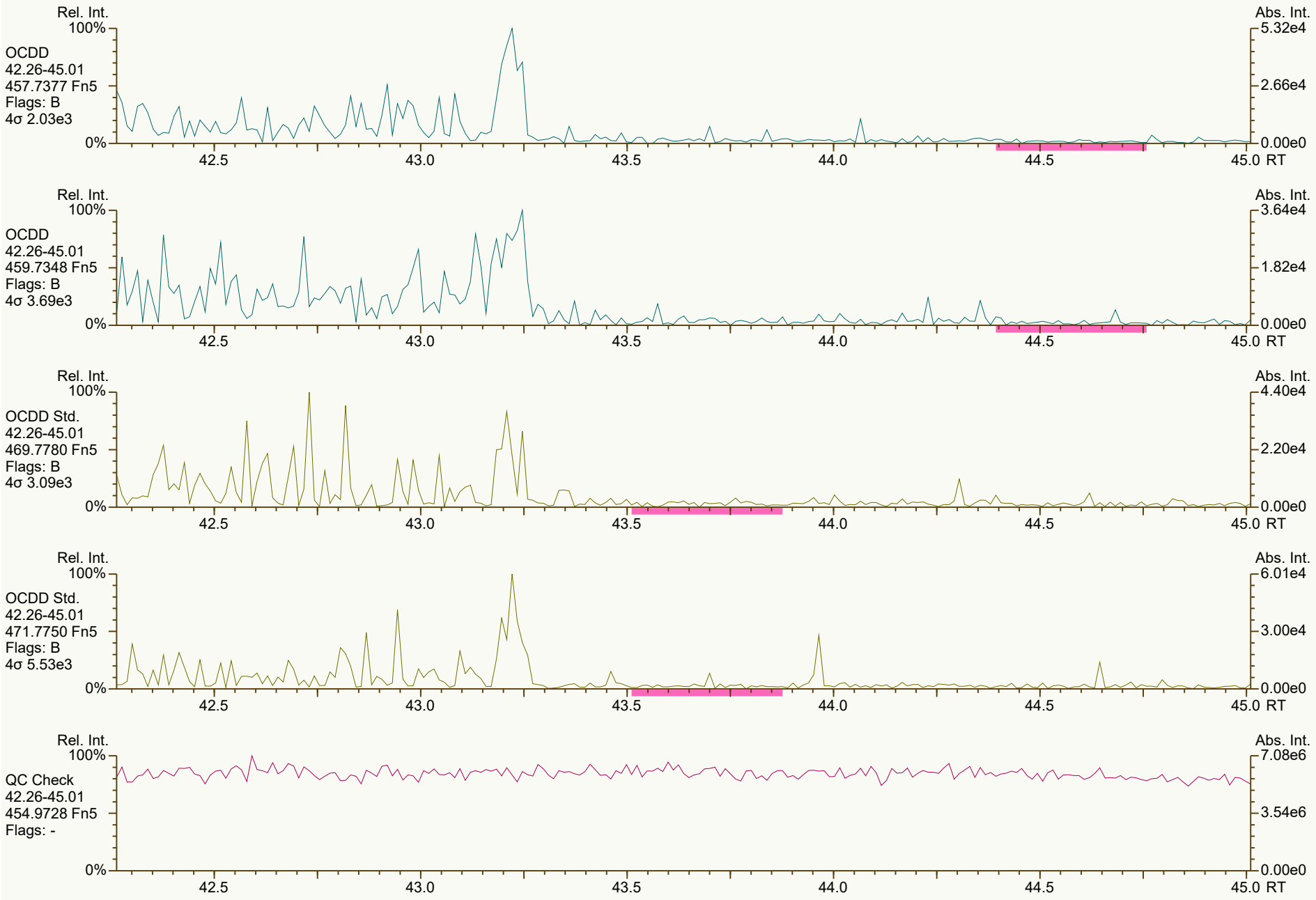

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

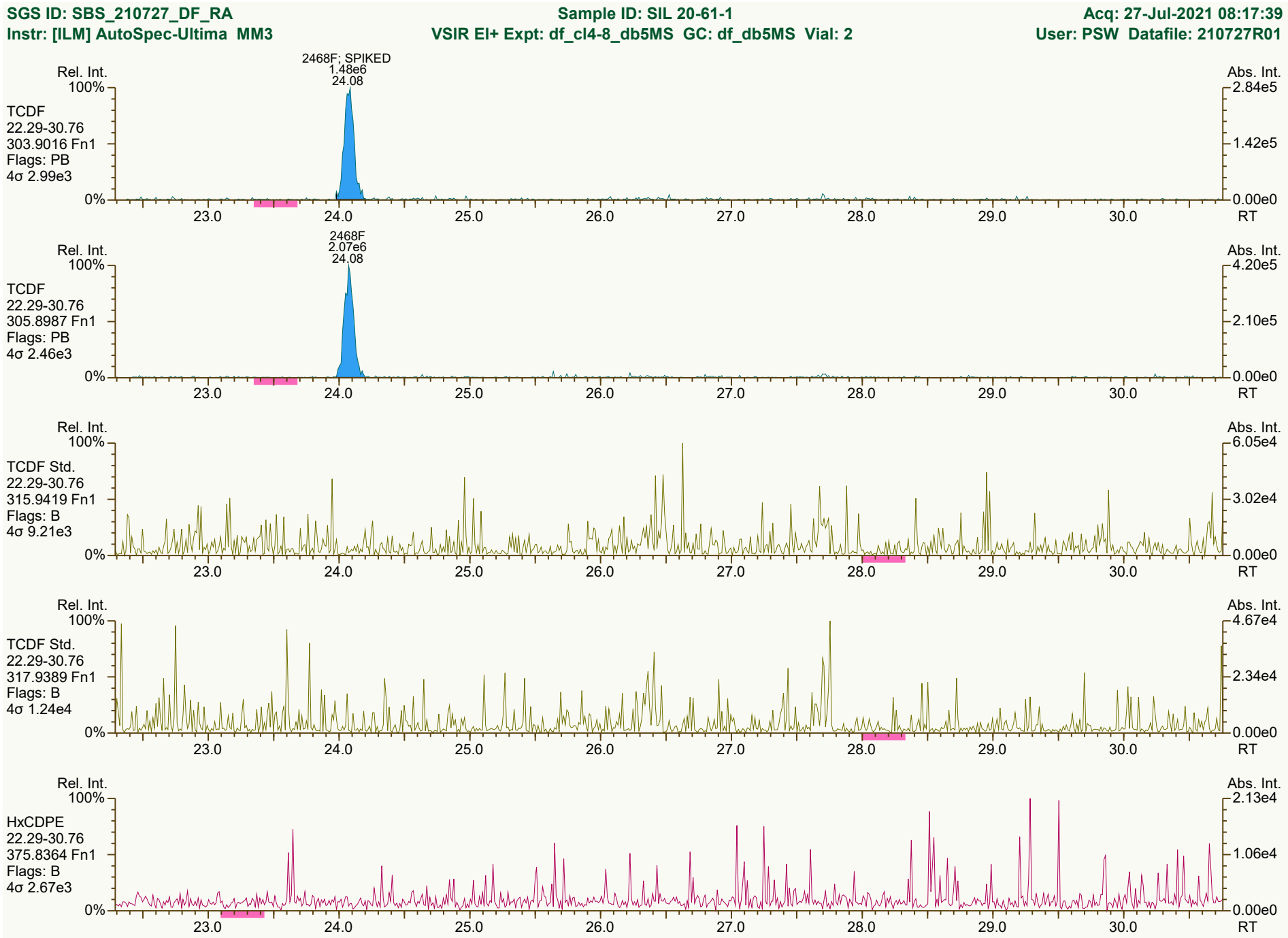

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: B
4σ 5.46e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.72e4
8.58e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.57e4
7.86e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: B
4σ 1.19e4
0%
Abs. Int.
4.60e4
2.30e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: B
4σ 4.18e3
0%
Abs. Int.
4.81e4
2.40e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: B
4σ 9.54e3
0%
Abs. Int.
3.89e4
1.94e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: B
4σ 5.05e3
0%
Abs. Int.
2.54e4
1.27e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: B
4σ 5.45e3
0%
Abs. Int.
6.36e4
3.18e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: B
4σ 4.94e3
0%
Abs. Int.
2.95e4
1.48e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: B
4σ 4.48e3
0%
Abs. Int.
4.12e4
2.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: B
4σ 3.42e3
0%
Abs. Int.
3.84e4
1.92e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: B
4σ 5.33e3
0%
Abs. Int.
4.48e4
2.24e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: B
4σ 6.09e3
0%
Abs. Int.
7.66e4
3.83e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: B
4σ 8.10e3
0%
Abs. Int.
5.65e4
2.82e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: B
4σ 9.20e3
0%
Abs. Int.
3.29e4
1.64e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: B
4σ 7.86e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: B
4σ 3.02e3
0%
Abs. Int.
6.85e4
3.43e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT

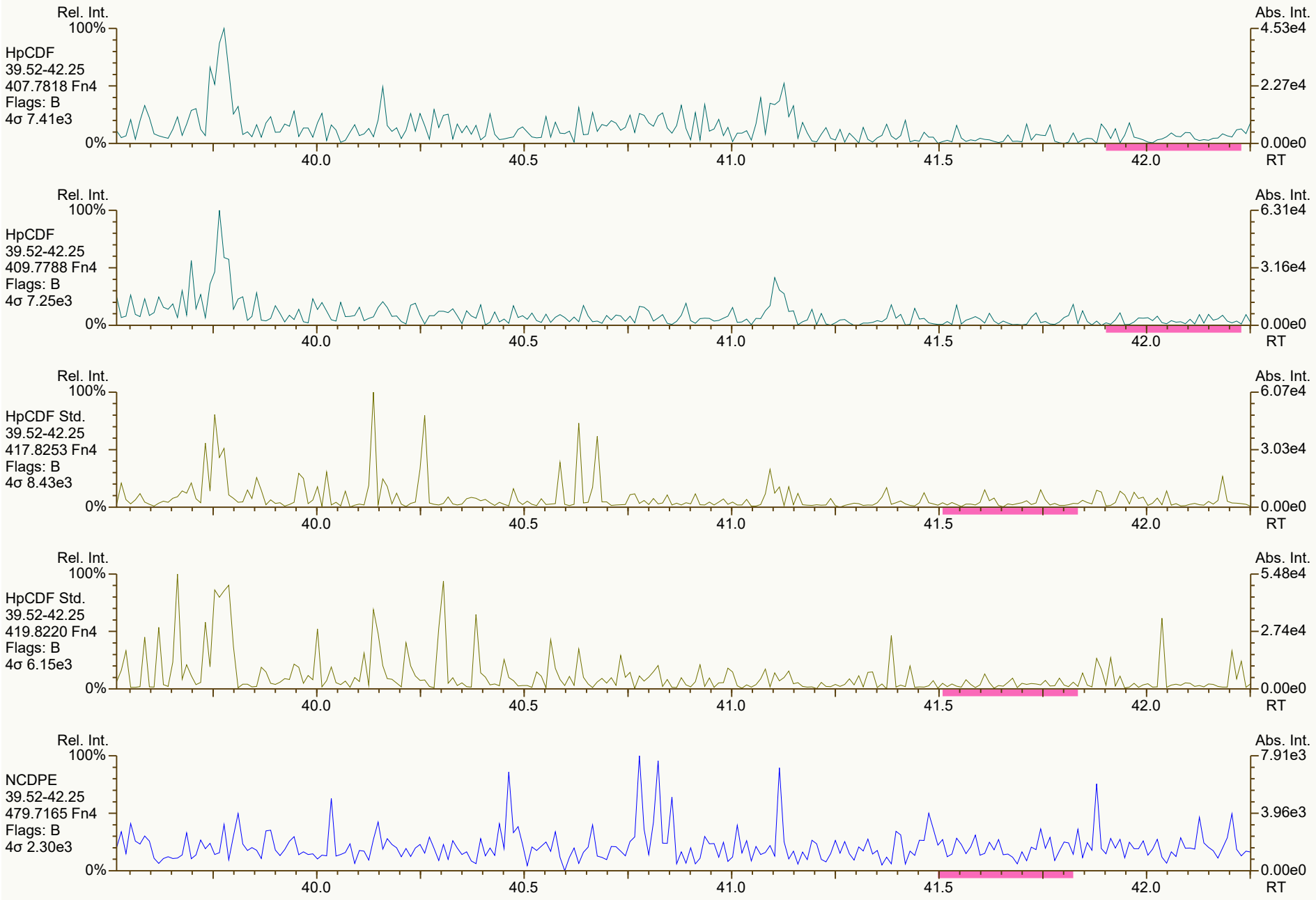

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: B
4σ 2.03e3
0%
Abs. Int.
5.32e4
2.66e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: B
4σ 3.69e3
0%
Abs. Int.
3.64e4
1.82e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: B
4σ 3.09e3
0%
Abs. Int.
4.40e4
2.20e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: B
4σ 5.53e3
0%
Abs. Int.
6.01e4
3.00e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
2468F; SPIKED
1.48e6
24.08
Rel. Int.
Abs. Int.
100%
0%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.99e3
2.84e5
1.42e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
2468F
2.07e6
24.08
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.46e3
4.20e5
2.10e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: B
4σ 9.21e3
6.05e4
3.02e4
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: B
4σ 1.24e4
4.67e4
2.34e4
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.67e3
2.13e4
1.06e4
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9293, 5161, 7483 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
3.87e4
1.94e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 6.47e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 6.41e3
3.57e4
1.78e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.23e6
1.61e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: B
4σ 6.52e3
0%
Abs. Int.
4.88e4
2.44e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: B
4σ 6.57e3
0%
Abs. Int.
3.28e4
1.64e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: B
4σ 2.11e3
0%
Abs. Int.
6.19e4
3.10e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: B
4σ 3.42e3
0%
Abs. Int.
5.42e4
2.71e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.38e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: B
4σ 6.81e3
0%
Abs. Int.
5.46e4
2.73e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: B
4σ 4.05e3
0%
Abs. Int.
3.51e4
1.76e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: B
4σ 6.70e3
0%
Abs. Int.
4.23e4
2.11e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: B
4σ 1.33e4
0%
Abs. Int.
8.19e4
4.10e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.51e3
0%
Abs. Int.
2.13e4
1.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: B
4σ 7.41e3
0%
Abs. Int.
4.53e4
2.27e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: B
4σ 7.25e3
0%
Abs. Int.
6.31e4
3.16e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: B
4σ 8.43e3
0%
Abs. Int.
6.07e4
3.03e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: B
4σ 6.15e3
0%
Abs. Int.
5.48e4
2.74e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.30e3
0%
Abs. Int.
7.91e3
3.96e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: B
4σ 2.18e3
0%
Abs. Int.
4.13e4
2.06e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
5.82e4
2.91e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: B
4σ 3.42e3
0%
Abs. Int.
6.44e4
3.22e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: B
4σ 2.75e3
0%
Abs. Int.
6.15e4
3.08e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 2.12e3
0%
Abs. Int.
5.85e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	210727R15	3	CS3_210727_DF_RB ✓	1.00	SIL 23-672-1	PSW	320-816	27-Jul-2021	19:43:55
16	210727R16	92	CS3_210727_DF_RC	1.00	ICV SIL 24-11-9 ✓	PSW	537-883	27-Jul-2021	20:31:28

REVIEWED
paul_walton , 7/28/2021, 8:29:53 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:21 PM

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 19:43 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RB	UTP: 28-Jul-2021 08:16:58 PSW	Checkcode: 320-816-PRY
Sample ID: SIL 23-672-1	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.67E+07	0.81	Y	1.34	1.35	0%
12378-PeCDD	33.81	6.38E+07	1.58	Y	1.06	1.06	0%
123478-HxCDD	37.68	5.49E+07	1.25	Y	1.06	1.06	1%
123678-HxCDD	37.79	5.63E+07	1.26	Y	1.08	1.10	2%
123789-HxCDD	38.08	5.86E+07	1.24	Y	1.02	1.00	-2%
1234678-HpCDD	40.66	4.96E+07	1.04	Y	0.97	0.98	0%
OCDD	43.23	8.27E+07	0.89	Y	1.07	1.07	0%
2378-TCDF	27.67	2.12E+07	0.80	Y	0.96	0.97	1%
12378-PeCDF	32.38	8.71E+07	1.57	Y	0.95	0.97	2%
23478-PeCDF	33.47	7.79E+07	1.46	Y	0.94	0.92	-2%
123478-HxCDF	36.69	7.88E+07	1.25	Y	1.23	1.25	2%
123678-HxCDF	36.83	8.26E+07	1.26	Y	1.13	1.13	0%
234678-HxCDF	37.49	7.73E+07	1.25	Y	1.15	1.18	2%
123789-HxCDF	38.43	6.95E+07	1.26	Y	1.14	1.13	0%
1234678-HpCDF	39.77	7.02E+07	1.03	Y	1.36	1.34	-2%
1234789-HpCDF	41.11	5.97E+07	1.05	Y	1.30	1.36	5%
OCDF	43.41	9.92E+07	0.91	Y	1.03	1.06	3%
ES 2378-TCDD	28.50	1.24E+08	0.80	Y	1.03	1.03	-1%
ES 12378-PeCDD	33.788	1.20E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.661	1.03E+08	1.29	Y	0.99	0.98	-1%
ES 123678-HxCDD	37.775	1.02E+08	1.32	Y	0.97	0.97	0%
ES 123789-HxCDD	38.065	1.17E+08	1.31	Y	1.12	1.12	-1%
ES 1234678-HpCDD	40.653	1.01E+08	1.07	Y	0.99	0.96	-3%
ES OCDD	43.218	1.54E+08	0.91	Y	0.78	0.73	-6%
ES 2378-TCDF	27.65	2.18E+08	0.77	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.362	1.80E+08	1.58	Y	0.93	0.89	-5%
ES 23478-PeCDF	33.452	1.68E+08	1.62	Y	0.92	0.83	-10%
ES 123478-HxCDF	36.669	1.26E+08	0.54	Y	1.14	1.19	4%
ES 123678-HxCDF	36.809	1.47E+08	0.50	Y	1.30	1.39	7%
ES 234678-HxCDF	37.476	1.31E+08	0.52	Y	1.20	1.25	4%
ES 123789-HxCDF	38.411	1.23E+08	0.52	Y	1.14	1.17	3%
ES 1234678-HpCDF	39.758	1.05E+08	0.47	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.102	8.75E+07	0.45	Y	0.85	0.83	-2%
ES OCDF	43.399	1.88E+08	0.89	Y	0.93	0.89	-4%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 19:43 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RB	UTP: 28-Jul-2021 08:16:58 PSW	Checkcode: 320-816-PRY
Sample ID: SIL 23-672-1	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.21E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.33	2.03E+08	0.78	Y	-	-	-
JS 123467-HxCDD	37.97	5.27E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.31	1.28	-2%
CS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.89	0.87	-3%
CS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.22E+08	0.52	Y	1.09	1.16	7%
CS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.86	0.90	4%
SS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.86	0.87	1%
SS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.22E+08	0.52	Y	0.84	0.83	-1%
SS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.91	0.90	-1%
~~OCDD-a~~	~~43.22~~	~~4.70E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.06~~	~~-8%~~
~~OCDF-a~~	~~43.41~~	~~5.40E+06~~	~~2.31~~	~~Y~~	~~0.06~~	~~0.06~~	~~-3%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	10	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	50.1	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	50.3	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	50.9	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	49.1	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	50.1	40	-	60	Y
OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	10.1	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	51.2	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32	-	1.78	Y	49.2	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	50.8	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	51.1	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.1	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88	-	1.20	Y	52.4	40	-	60	Y
OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	103	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	70	-	130	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	70	-	130	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	140	-	260	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32 - 1.78	Y	49.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52.4	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

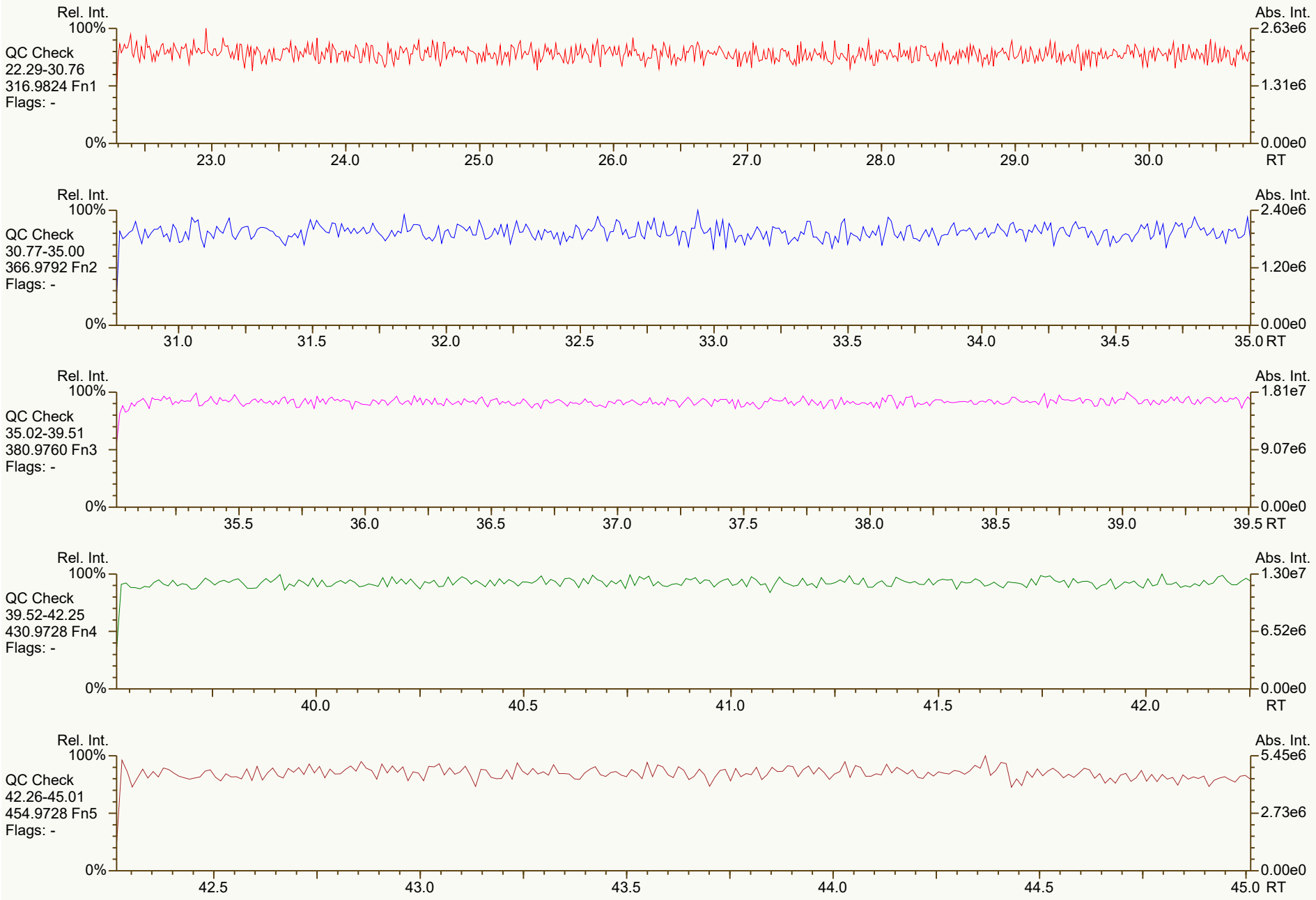
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

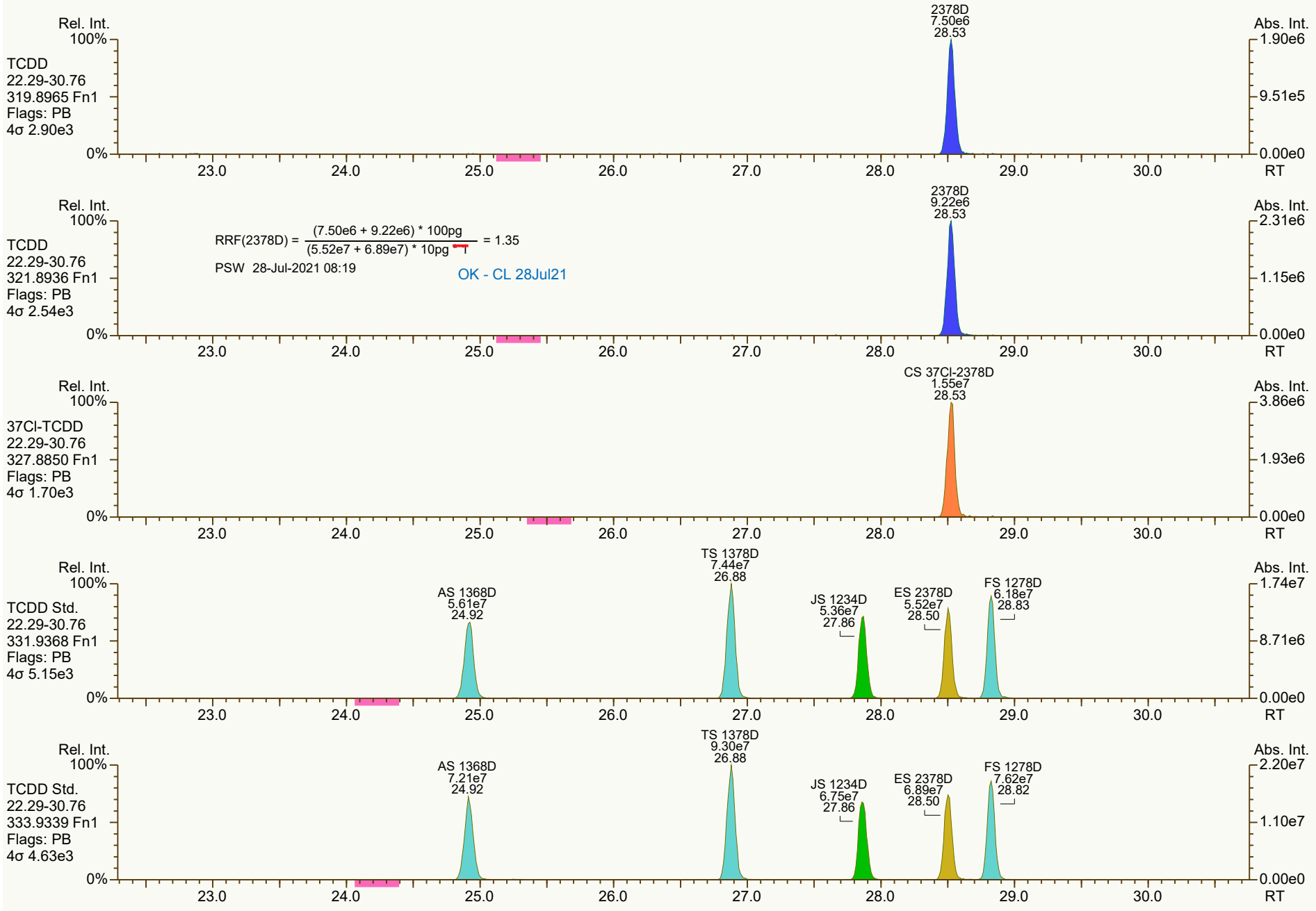
VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

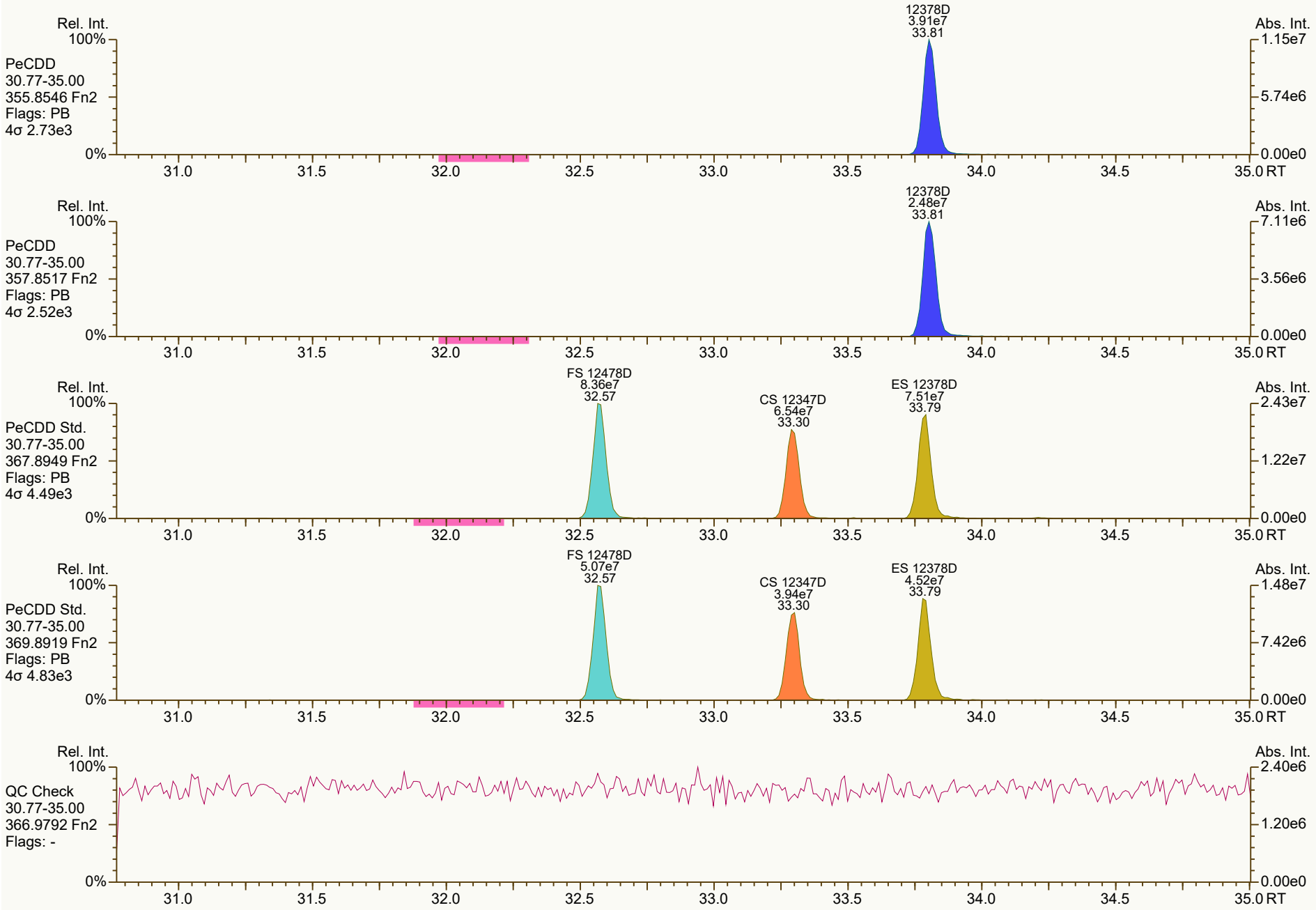
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	77	-	129	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

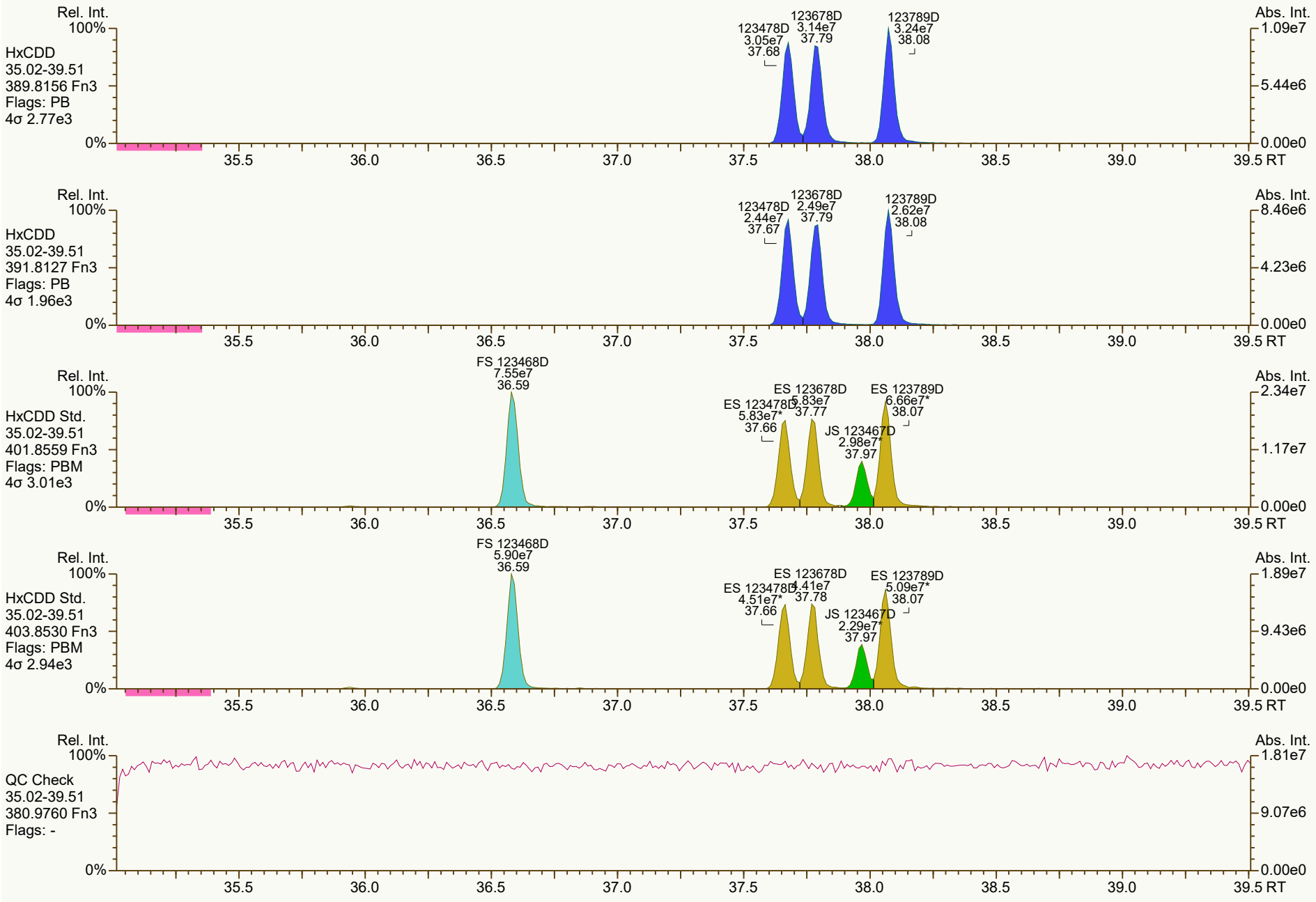
Processed: 28 Jul 2021 08:18 Analyst: pw

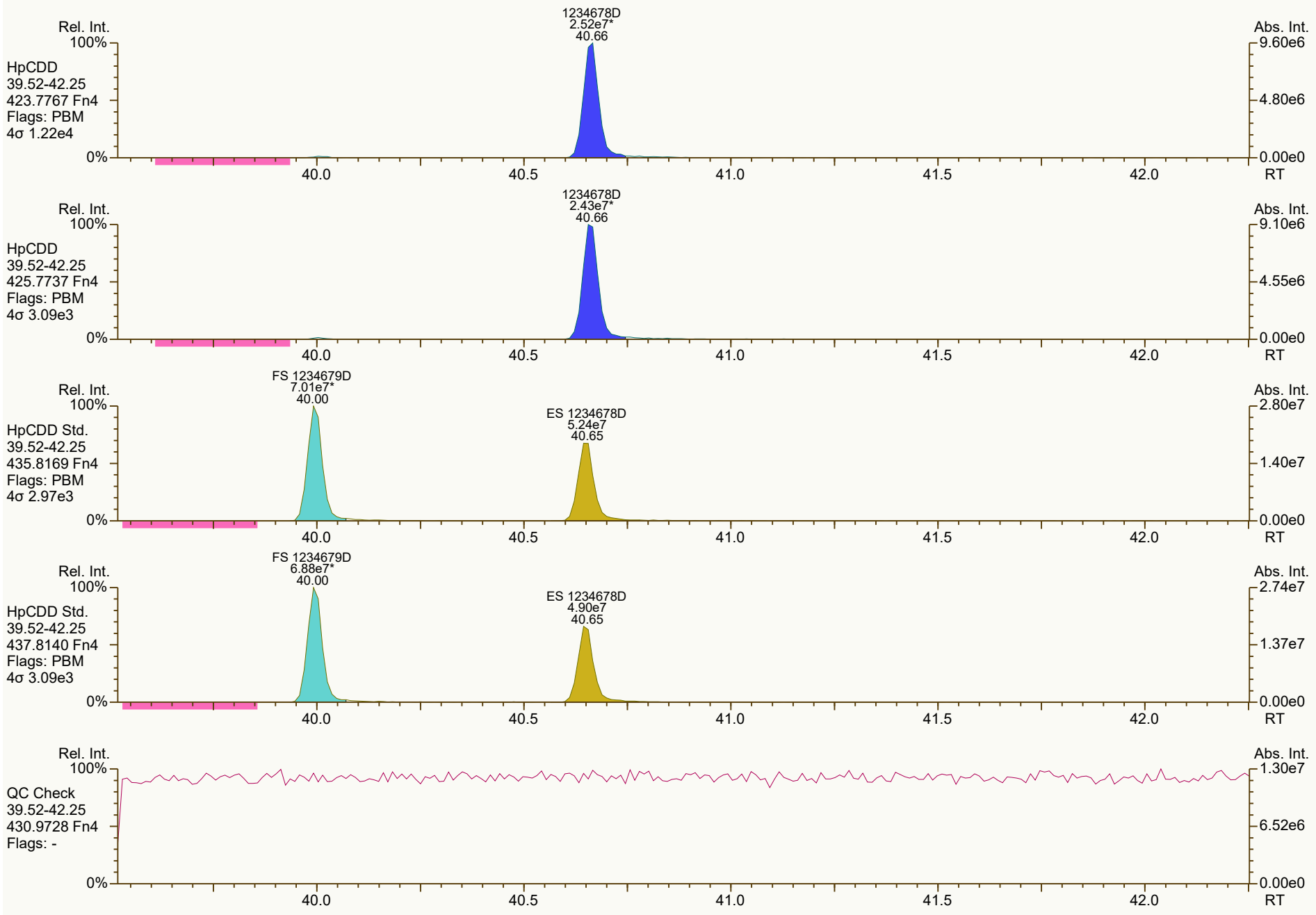


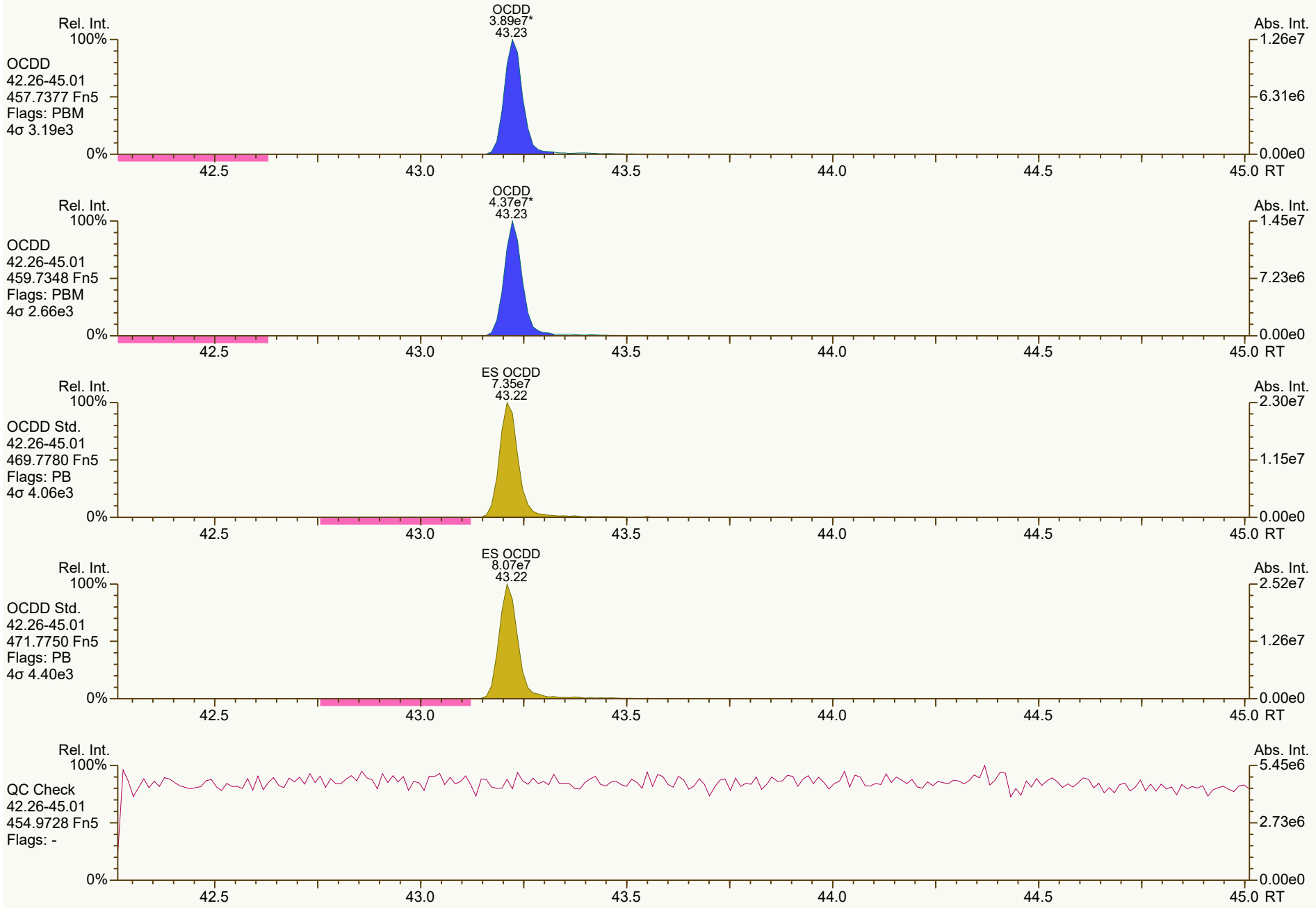
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 320-816
PKD: n/a Printed: 28-Jul-2021 08:20 Page 1 of 12

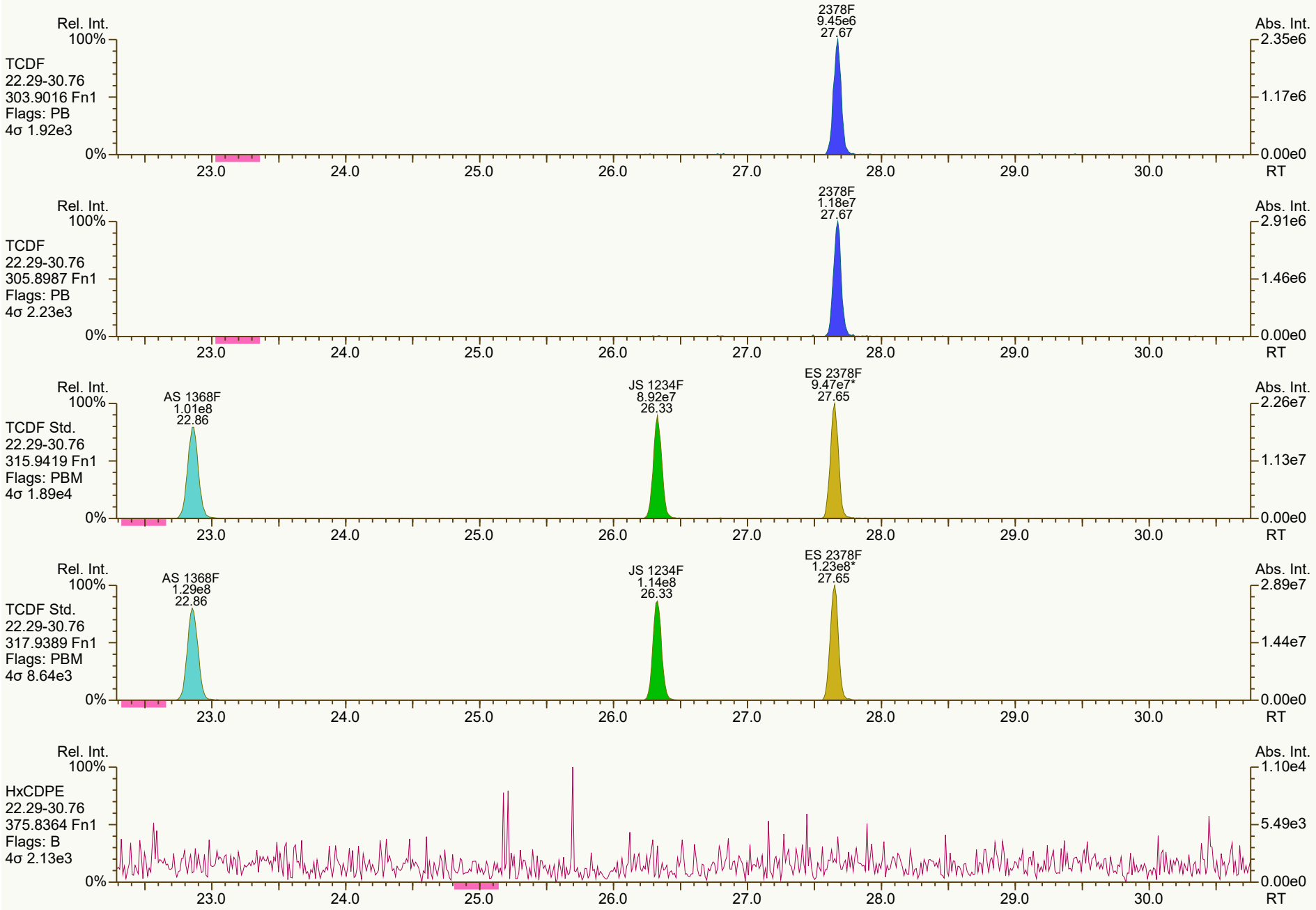

Rel. Int.
100%
0%
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
2378D
7.50e6
28.53
1.90e6
9.51e5
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
6.75e7
27.86
ES 2378D
6.89e7
28.50
FS 1278D
7.62e7
28.82
2.20e7
1.10e7


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.73e3
12378D
3.91e7
33.81
Abs. Int.
1.15e7
5.74e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.52e3
12378D
2.48e7
33.81
Abs. Int.
7.11e6
3.56e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 4.49e3
FS 12478D
8.36e7
32.57
CS 12347D
6.54e7
33.30
ES 12378D
7.51e7
33.79
Abs. Int.
2.43e7
1.22e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
5.07e7
32.57
CS 12347D
3.94e7
33.30
ES 12378D
4.52e7
33.79
Abs. Int.
1.48e7
7.42e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

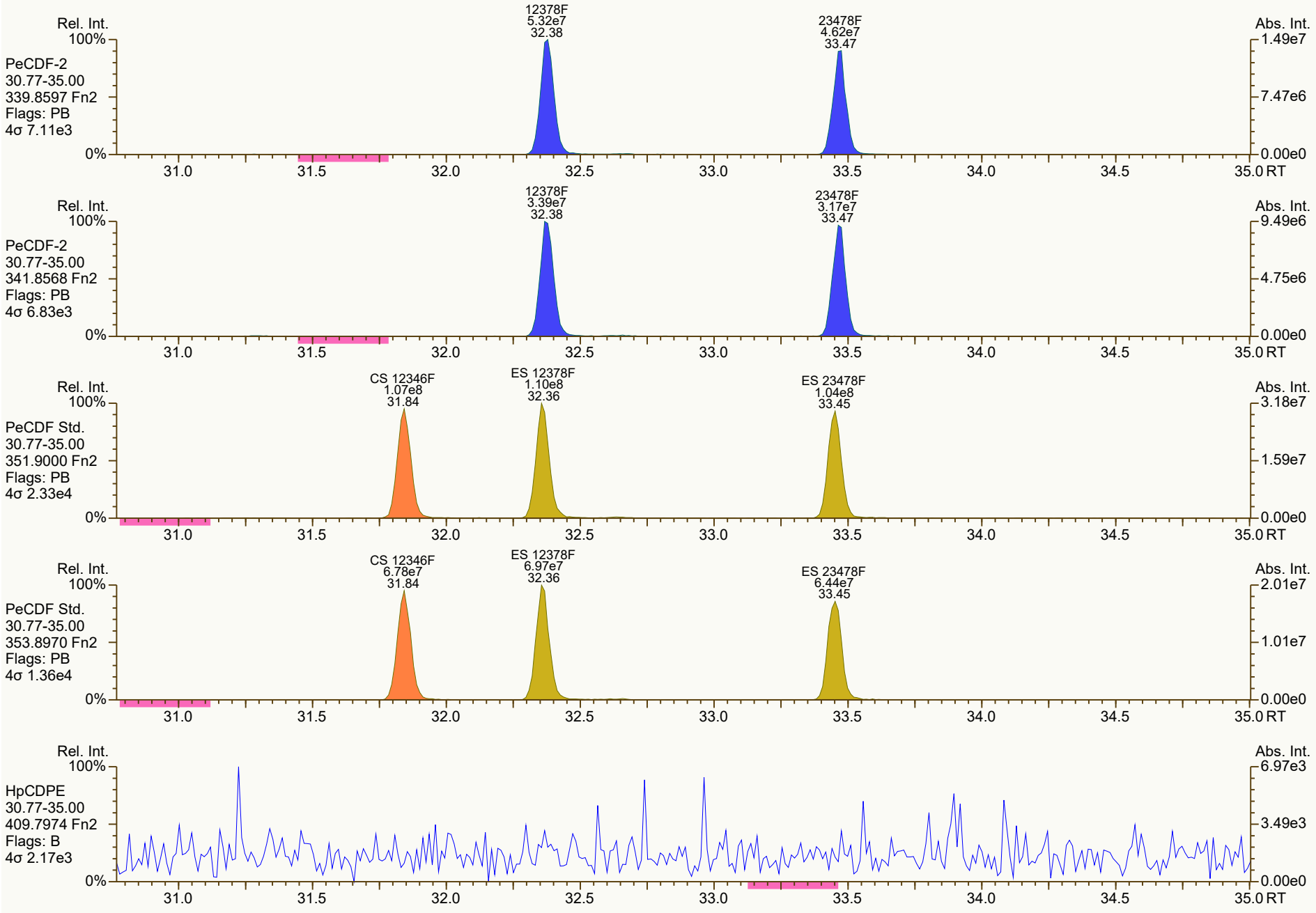

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.77e3
123478D 3.05e7 37.68
123678D 3.14e7 37.79
123789D 3.24e7 38.08
Abs. Int.
1.09e7
5.44e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.96e3
123478D 2.44e7 37.67
123678D 2.49e7 37.79
123789D 2.62e7 38.08
8.46e6
4.23e6
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.01e3
FS 123468D 7.55e7 36.59
ES 123478D 5.83e7* 37.66
ES 123678D 5.83e7 37.77
JS 123467D 2.98e7* 37.97
ES 123789D 6.66e7* 38.07
2.34e7
1.17e7
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.94e3
FS 123468D 5.90e7 36.59
ES 123478D 4.51e7* 37.66
ES 123678D 4.41e7 37.78
JS 123467D 2.29e7* 37.97
ES 123789D 5.09e7* 38.07
1.89e7
9.43e6
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
1.81e7
9.07e6

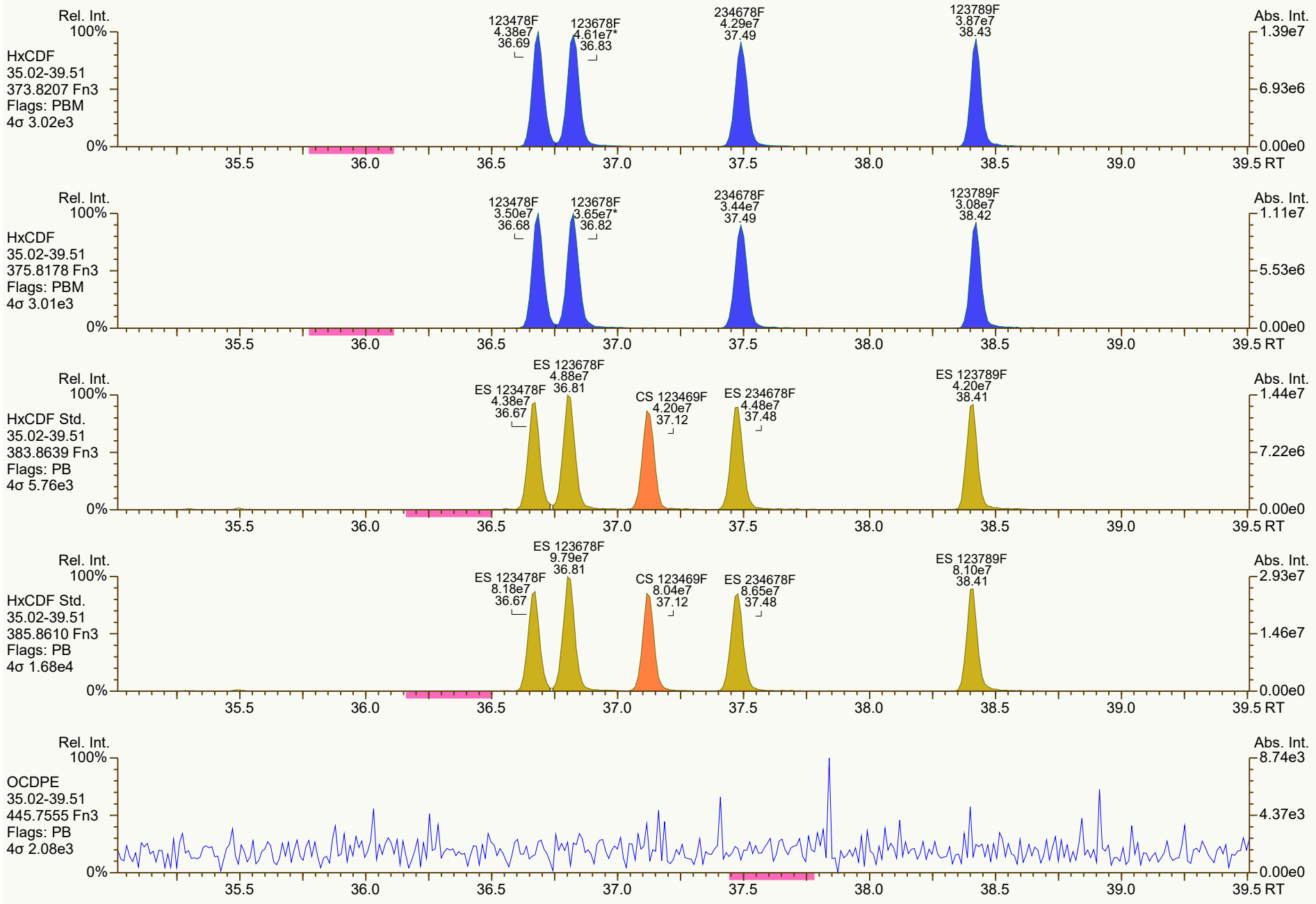

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 1.22e4
0%
1234678D
2.52e7*
40.66
Abs. Int.
9.60e6
4.80e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 3.09e3
0%
1234678D
2.43e7*
40.66
Abs. Int.
9.10e6
4.55e6
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 2.97e3
0%
FS 1234679D
7.01e7*
40.00
ES 1234678D
5.24e7
40.65
Abs. Int.
2.80e7
1.40e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 3.09e3
0%
FS 1234679D
6.88e7*
40.00
ES 1234678D
4.90e7
40.65
Abs. Int.
2.74e7
1.37e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.30e7
6.52e6
0.00e0
RT

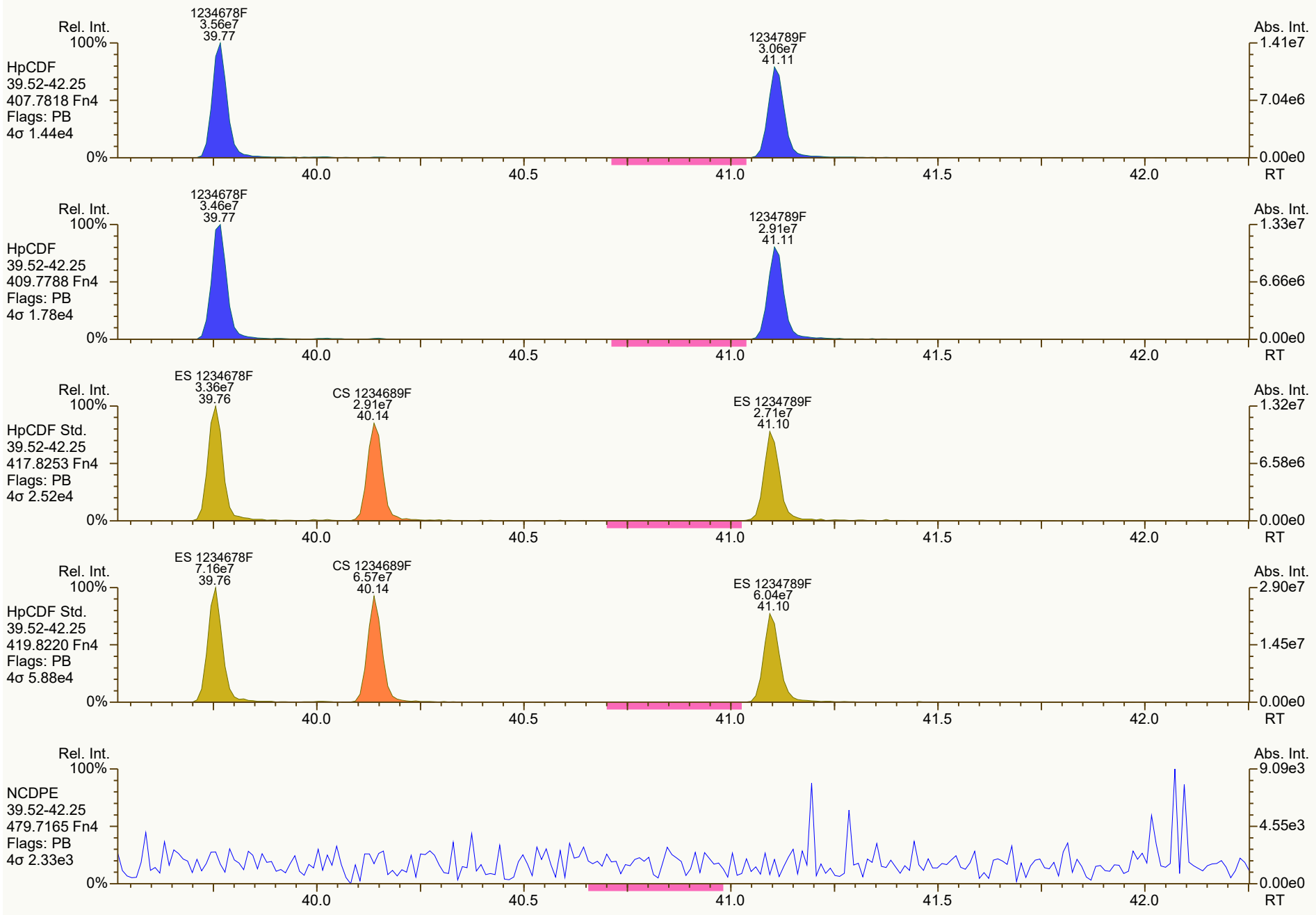

OCDD
3.89e7*
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.19e3
0%
Abs. Int.
1.26e7
6.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.37e7*
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.66e3
1.45e7
7.23e6
ES OCDD
7.35e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.06e3
2.30e7
1.15e7
ES OCDD
8.07e7
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
2.52e7
1.26e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
5.45e6
2.73e6

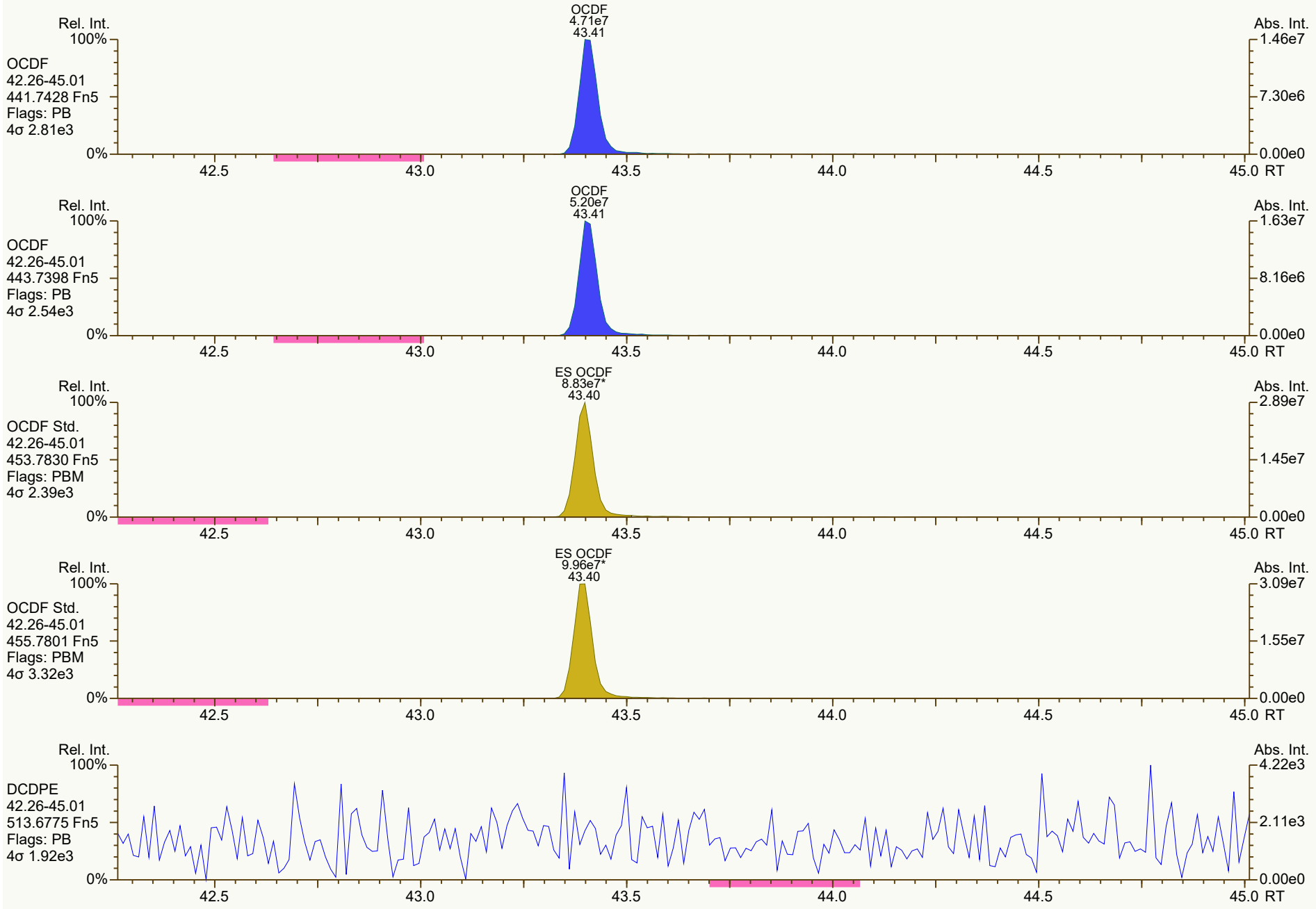

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 1.92e3
0%
2378F
9.45e6
27.67
Abs. Int.
2.35e6
1.17e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.23e3
0%
2378F
1.18e7
27.67
Abs. Int.
2.91e6
1.46e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PBM
4σ 1.89e4
0%
AS 1368F
1.01e8
22.86
JS 1234F
8.92e7
26.33
ES 2378F
9.47e7*
27.65
Abs. Int.
2.26e7
1.13e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PBM
4σ 8.64e3
0%
AS 1368F
1.29e8
22.86
JS 1234F
1.14e8
26.33
ES 2378F
1.23e8*
27.65
Abs. Int.
2.89e7
1.44e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.13e3
0%
Abs. Int.
1.10e4
5.49e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.78e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.25e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.56e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 7.11e3
0%
12378F
5.32e7
32.38
23478F
4.62e7
33.47
Abs. Int.
1.49e7
7.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 6.83e3
0%
12378F
3.39e7
32.38
23478F
3.17e7
33.47
Abs. Int.
9.49e6
4.75e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.33e4
0%
CS 12346F
1.07e8
31.84
ES 12378F
1.10e8
32.36
ES 23478F
1.04e8
33.45
Abs. Int.
3.18e7
1.59e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.36e4
0%
CS 12346F
6.78e7
31.84
ES 12378F
6.97e7
32.36
ES 23478F
6.44e7
33.45
Abs. Int.
2.01e7
1.01e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.17e3
0%
Abs. Int.
6.97e3
3.49e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
0%
123478F
4.38e7
36.69
123678F
4.61e7*
36.83
234678F
4.29e7
37.49
123789F
3.87e7
38.43
Abs. Int.
1.39e7
6.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
0%
123478F
3.50e7
36.68
123678F
3.65e7*
36.82
234678F
3.44e7
37.49
123789F
3.08e7
38.42
Abs. Int.
1.11e7
5.53e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
0%
ES 123478F
4.38e7
36.67
ES 123678F
4.88e7
36.81
CS 123469F
4.20e7
37.12
ES 234678F
4.48e7
37.48
ES 123789F
4.20e7
38.41
Abs. Int.
1.44e7
7.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
0%
ES 123478F
8.18e7
36.67
ES 123678F
9.79e7
36.81
CS 123469F
8.04e7
37.12
ES 234678F
8.65e7
37.48
ES 123789F
8.10e7
38.41
Abs. Int.
2.93e7
1.46e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
0%
Abs. Int.
RT
40.0
40.5
41.0
41.5
42.0
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.44e4
1234678F
3.56e7
39.77
1234789F
3.06e7
41.11
1.41e7
7.04e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.78e4
1234678F
3.46e7
39.77
1234789F
2.91e7
41.11
1.33e7
6.66e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.52e4
ES 1234678F
3.36e7
39.76
CS 1234689F
2.91e7
40.14
ES 1234789F
2.71e7
41.10
1.32e7
6.58e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.88e4
ES 1234678F
7.16e7
39.76
CS 1234689F
6.57e7
40.14
ES 1234789F
6.04e7
41.10
2.90e7
1.45e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.33e3
9.09e3
4.55e3
0.00e0


OCDF
4.71e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.81e3
0%
Abs. Int.
1.46e7
7.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.20e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
1.63e7
8.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.83e7*
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
2.89e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.96e7*
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PBM
4σ 3.32e3
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 1.92e3
0%
Abs. Int.
4.22e3
2.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 20:31 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RC		UTP: 28-Jul-2021 08:16:59 PSW				Checkcode: 537-883-PJZ	
Sample ID: ICV SIL 24-11-9		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R16	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	2.48E+07	0.79	Y	1.34	1.22	-9%
12378-PeCDD	33.81	9.55E+07	1.55	Y	1.06	0.98	-8%
123478-HxCDD	37.68	8.89E+07	1.25	Y	1.06	1.04	-1%
123678-HxCDD	37.80	9.70E+07	1.25	Y	1.08	1.14	5%
123789-HxCDD	38.09	9.52E+07	1.24	Y	1.02	0.95	-7%
1234678-HpCDD	40.67	8.40E+07	1.03	Y	0.97	0.99	1%
OCDD	43.24	1.45E+08	0.90	Y	1.07	1.07	0%
2378-TCDF	27.68	3.32E+07	0.79	Y	0.96	0.95	-1%
12378-PeCDF	32.38	1.28E+08	1.52	Y	0.95	0.87	-8%
23478-PeCDF	33.48	1.47E+08	1.58	Y	0.94	1.00	6%
123478-HxCDF	36.69	1.27E+08	1.27	Y	1.23	1.25	1%
123678-HxCDF	36.83	1.34E+08	1.26	Y	1.13	1.11	-2%
234678-HxCDF	37.50	1.26E+08	1.24	Y	1.15	1.17	1%
123789-HxCDF	38.43	1.13E+08	1.25	Y	1.14	1.10	-3%
1234678-HpCDF	39.77	1.18E+08	1.02	Y	1.36	1.34	-2%
1234789-HpCDF	41.12	9.93E+07	1.03	Y	1.30	1.29	-1%
OCDF	43.42	1.67E+08	0.90	Y	1.03	1.02	-1%
ES 2378-TCDD	28.51	2.04E+08	0.81	Y	1.03	0.96	-7%
ES 12378-PeCDD	33.795	1.95E+08	1.65	Y	1.03	0.92	-11%
ES 123478-HxCDD	37.667	1.70E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.781	1.70E+08	1.29	Y	0.97	0.97	0%
ES 123789-HxCDD	38.071	2.01E+08	1.25	Y	1.12	1.15	2%
ES 1234678-HpCDD	40.656	1.70E+08	1.05	Y	0.99	0.97	-2%
ES OCDD	43.225	2.69E+08	0.90	Y	0.78	0.77	-1%
ES 2378-TCDF	27.654	3.51E+08	0.77	Y	1.08	0.99	-9%
ES 12378-PeCDF	32.366	2.97E+08	1.58	Y	0.93	0.84	-10%
ES 23478-PeCDF	33.459	2.95E+08	1.56	Y	0.92	0.84	-9%
ES 123478-HxCDF	36.673	2.04E+08	0.52	Y	1.14	1.17	2%
ES 123678-HxCDF	36.814	2.41E+08	0.53	Y	1.30	1.38	7%
ES 234678-HxCDF	37.481	2.17E+08	0.52	Y	1.20	1.24	3%
ES 123789-HxCDF	38.414	2.06E+08	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.764	1.76E+08	0.46	Y	0.95	1.01	6%
ES 1234789-HpCDF	41.106	1.54E+08	0.45	Y	0.85	0.88	4%
ES OCDF	43.408	3.28E+08	0.88	Y	0.93	0.94	2%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	2.13E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	3.53E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	8.73E+07	1.21	Y	-	-	-
~~OCDD-a~~	~~43.23~~	~~9.07E+06~~	~~2.21~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~
~~OCDF-a~~	~~43.42~~	~~9.95E+06~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~2%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	9.05	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	46.2	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	49.4	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	52.7	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	46.7	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	50.7	40	-	60	Y
OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	9.87	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	45.8	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	53.1	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05	-	1.43	Y	50.5	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.2	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05	-	1.43	Y	50.6	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	48.4	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	49.2	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.7	40	-	60	Y
OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	99.5	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	70	-	130	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	70	-	130	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	140	-	260	Y
CLEANUP STANDARDS n/a - CL 28Jul21											
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	9.05	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	46.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	52.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	46.7	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.87	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	45.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	53.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	50.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.7	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	99.5	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

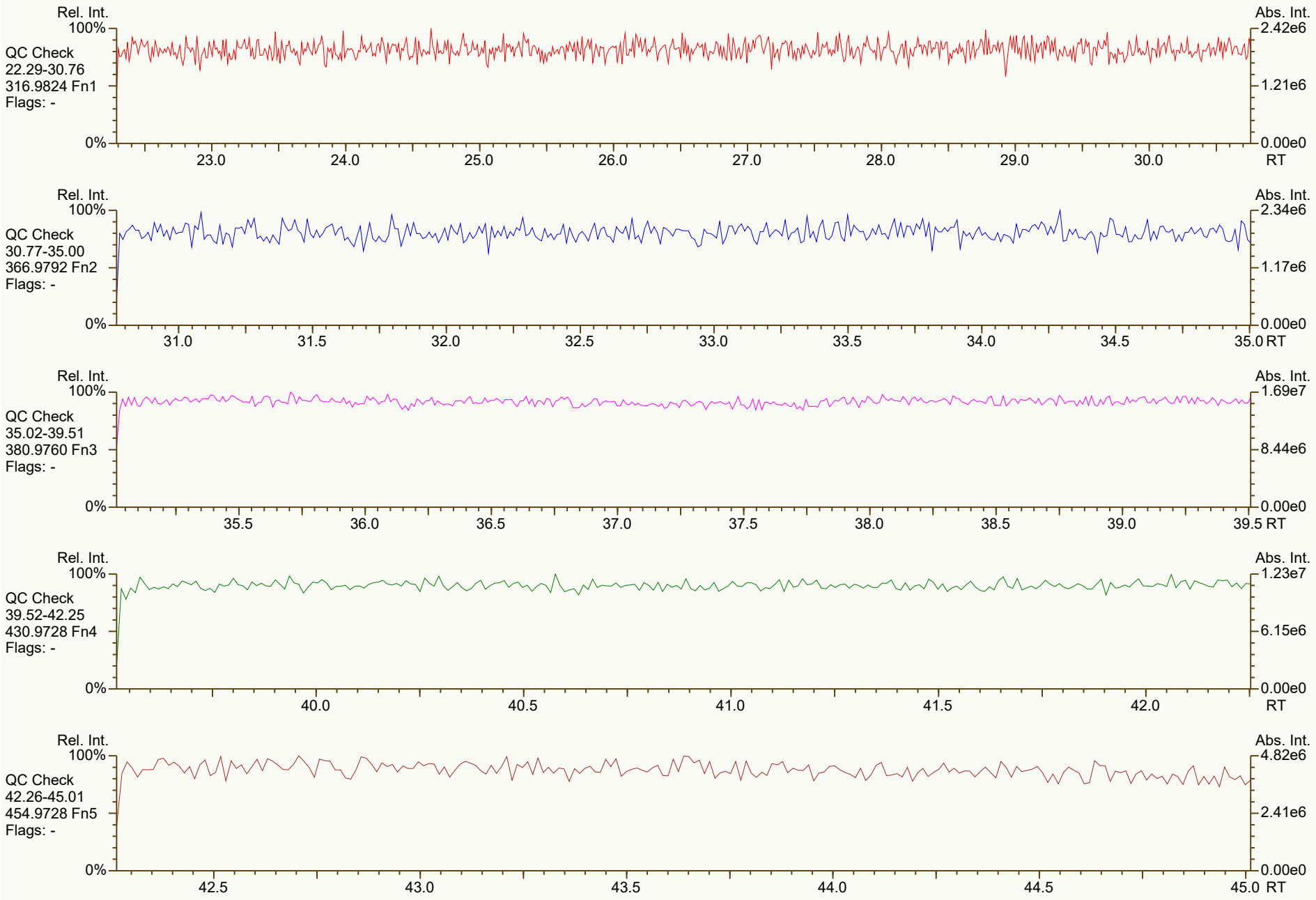
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

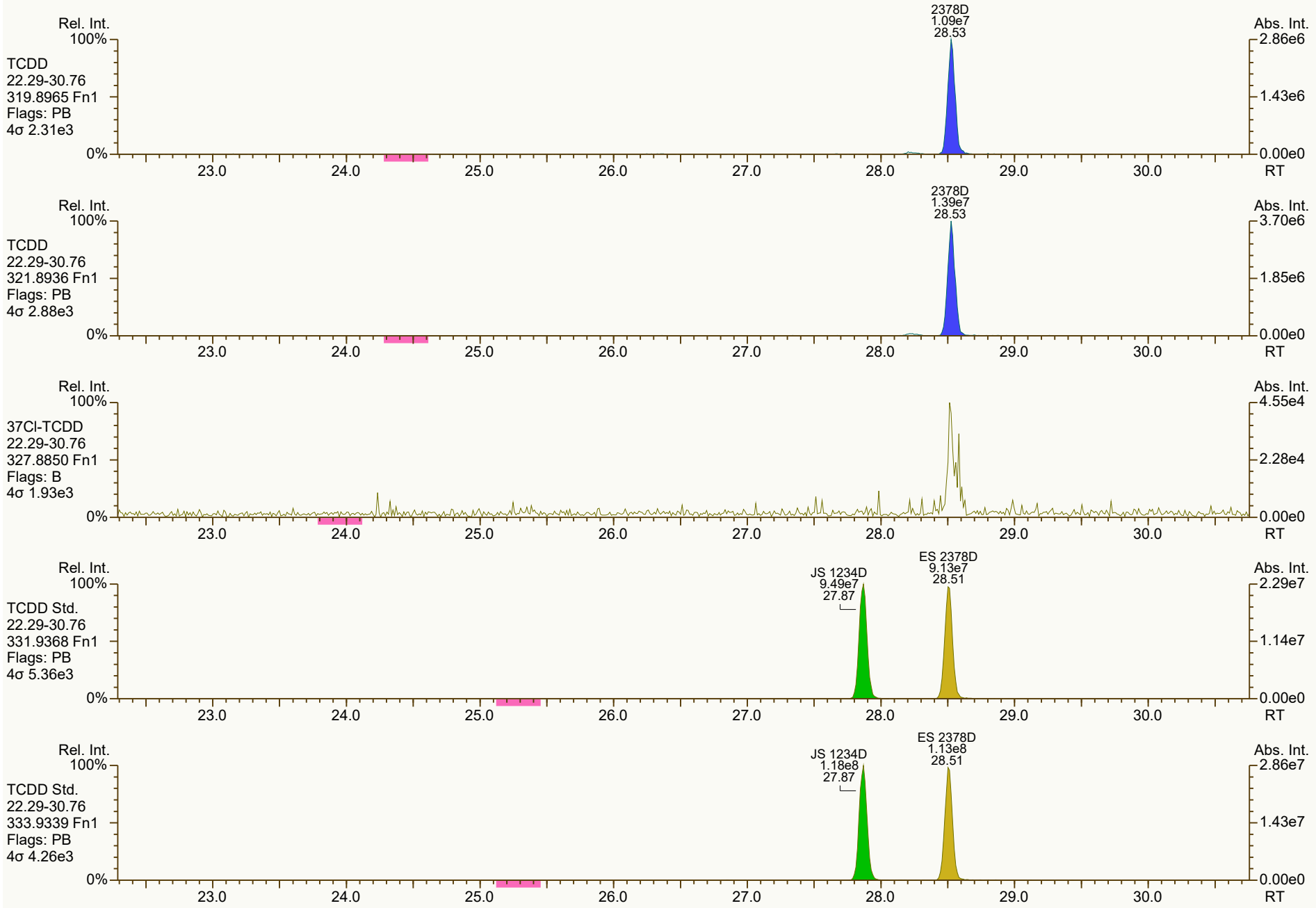
Instrument ID: MM3 GC Column ID: ZB-5ms

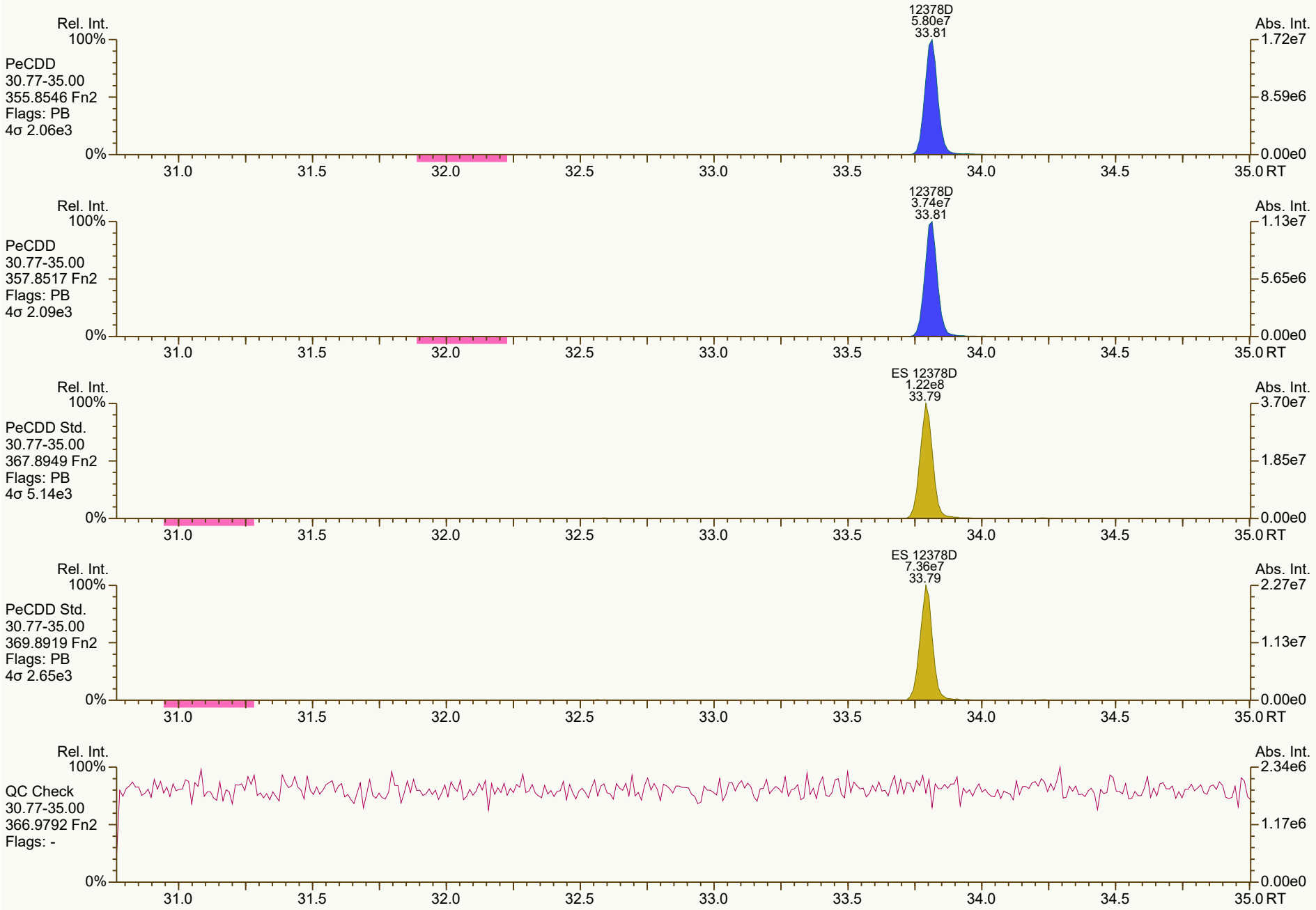
VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

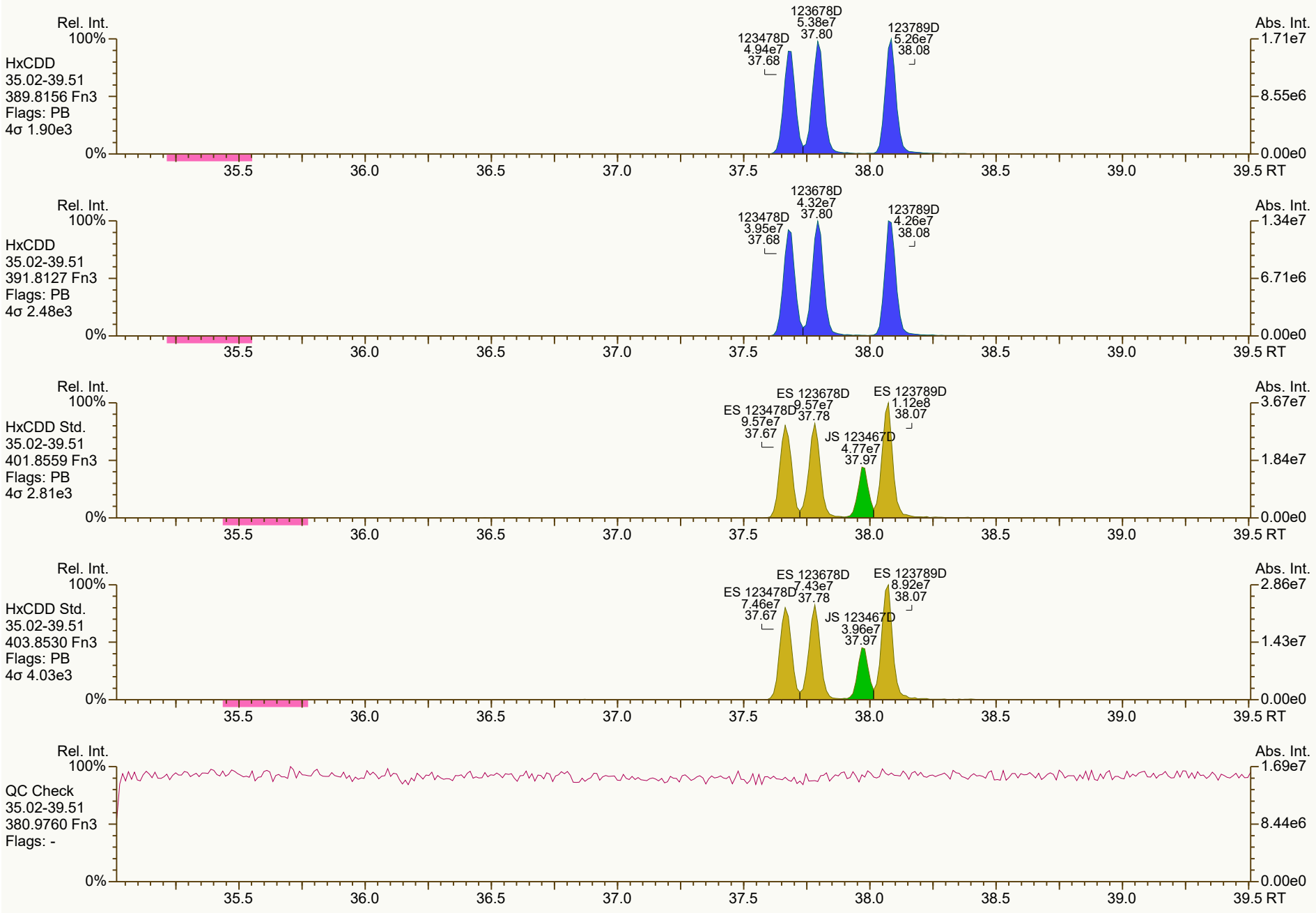
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	96	-	415	Y
CLEANUP STANDARDS	n/a - CL 28Jul21										
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

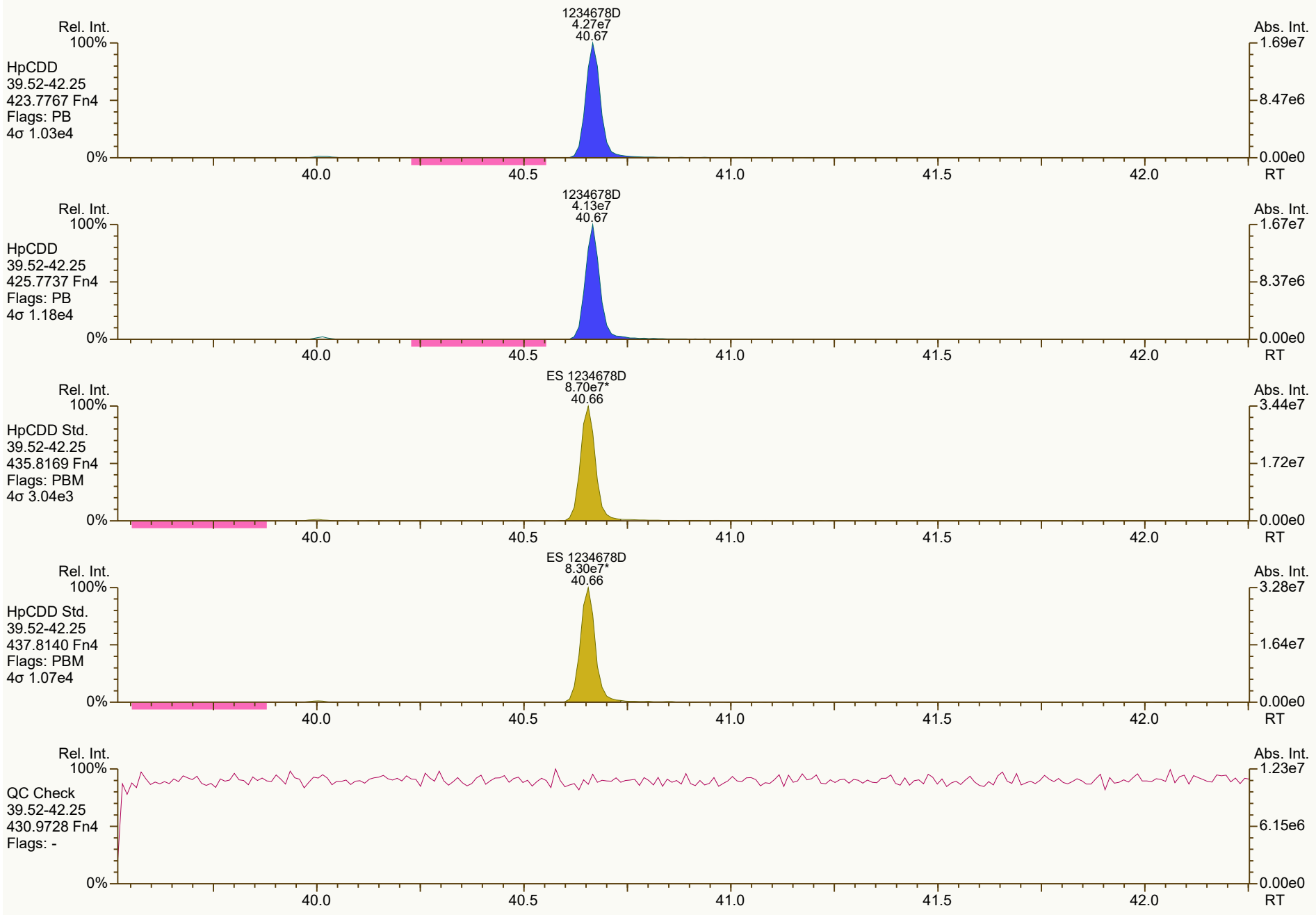
Processed: 28 Jul 2021 08:18 Analyst: pw


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

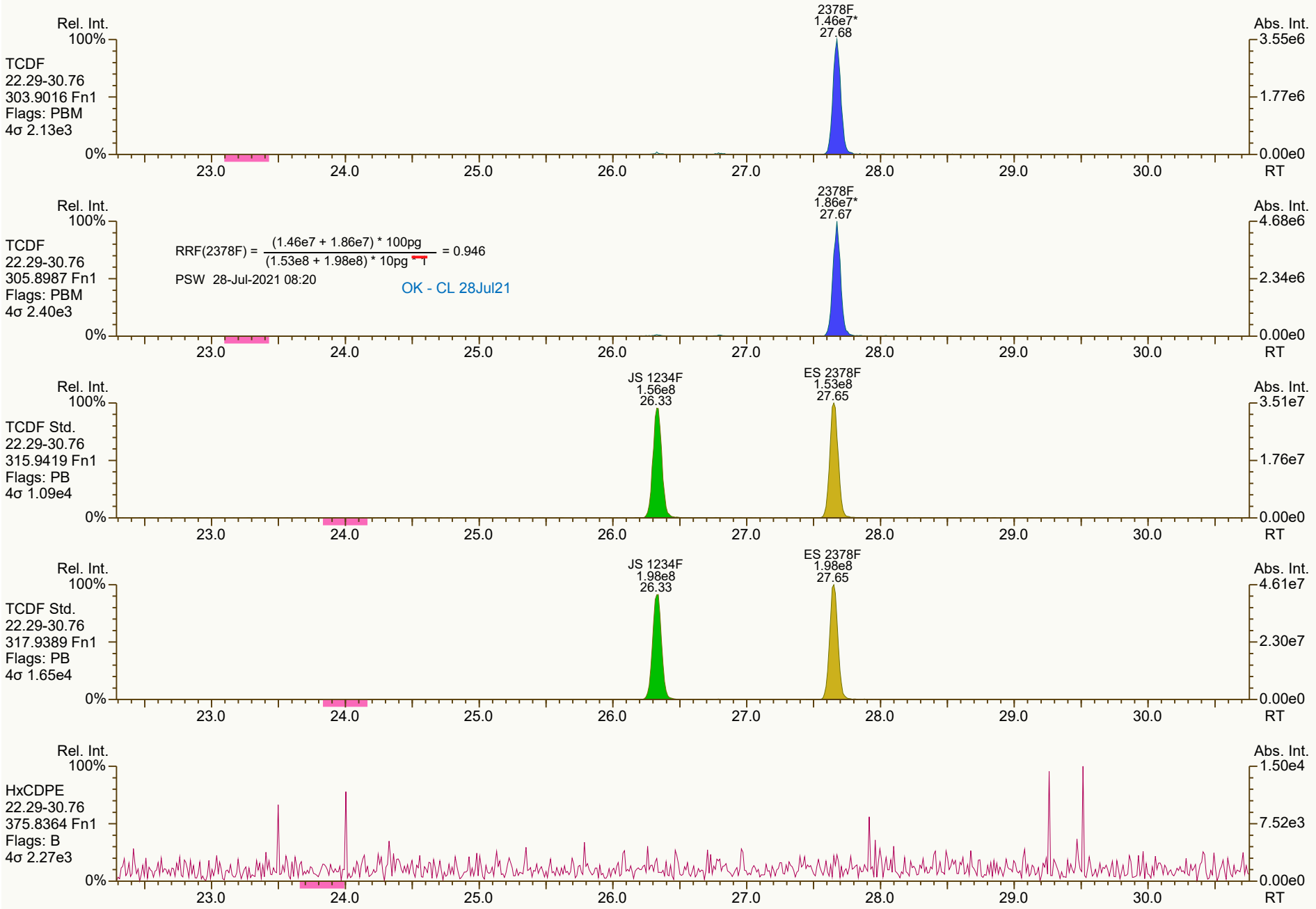

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.31e3
0%
2378D
1.09e7
28.53
Abs. Int.
2.86e6
1.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.88e3
0%
2378D
1.39e7
28.53
Abs. Int.
3.70e6
1.85e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
4.55e4
2.28e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.36e3
0%
JS 1234D
9.49e7
27.87
ES 2378D
9.13e7
28.51
Abs. Int.
2.29e7
1.14e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
1.18e8
27.87
ES 2378D
1.13e8
28.51
Abs. Int.
2.86e7
1.43e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.06e3
0%
12378D
5.80e7
33.81
Abs. Int.
1.72e7
8.59e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.09e3
0%
12378D
3.74e7
33.81
Abs. Int.
1.13e7
5.65e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 5.14e3
0%
ES 12378D
1.22e8
33.79
Abs. Int.
3.70e7
1.85e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 2.65e3
0%
ES 12378D
7.36e7
33.79
Abs. Int.
2.27e7
1.13e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

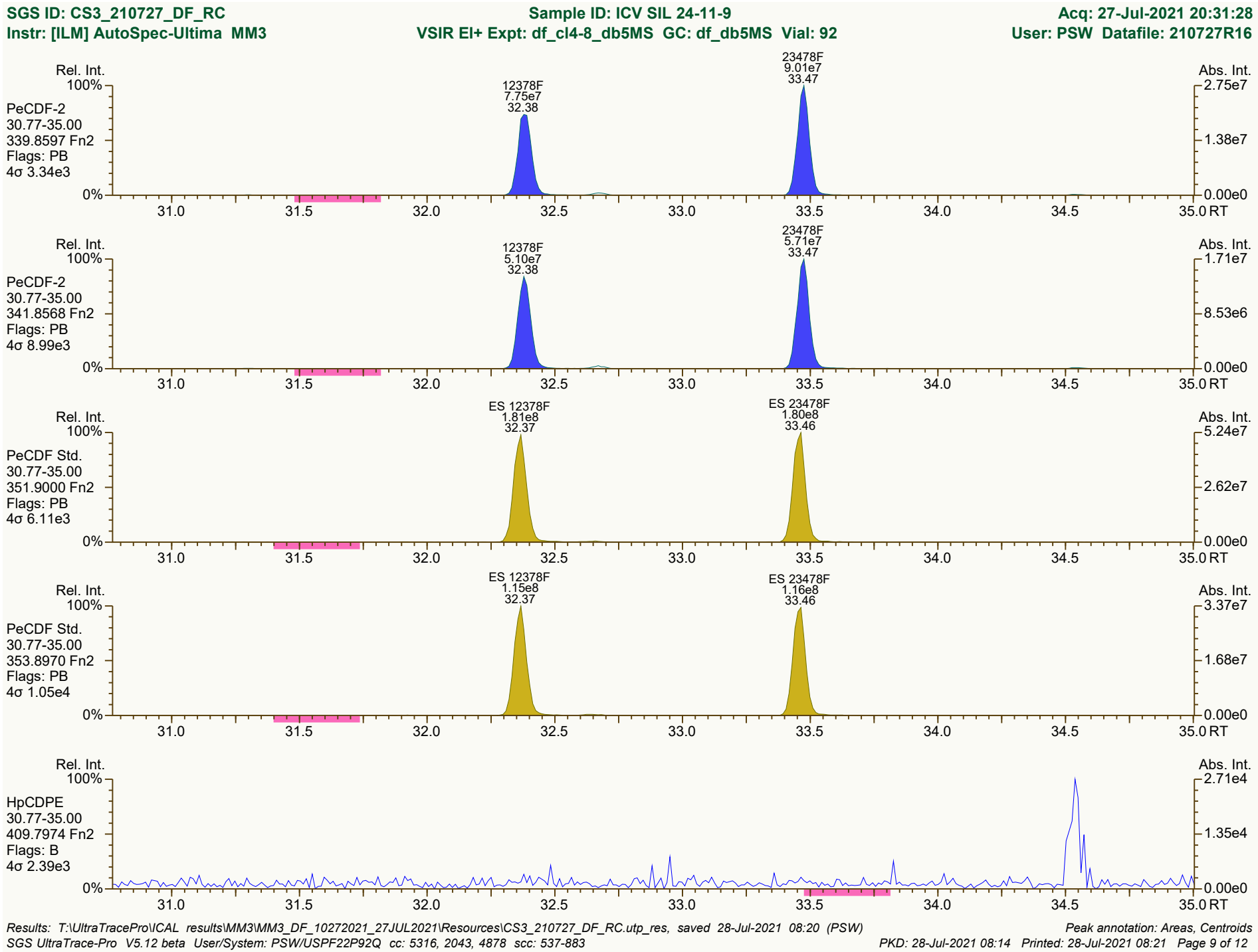

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 1.90e3
123678D
5.38e7
37.80
123478D
4.94e7
37.68
123789D
5.26e7
38.08
Abs. Int.
1.71e7
8.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.48e3
123678D
4.32e7
37.80
123478D
3.95e7
37.68
123789D
4.26e7
38.08
Abs. Int.
1.34e7
6.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
9.57e7
37.78
ES 123478D
9.57e7
37.67
ES 123789D
1.12e8
38.07
JS 123467D
4.77e7
37.97
Abs. Int.
3.67e7
1.84e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 4.03e3
ES 123678D
7.43e7
37.78
ES 123478D
7.46e7
37.67
ES 123789D
8.92e7
38.07
JS 123467D
3.96e7
37.97
Abs. Int.
2.86e7
1.43e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.69e7
8.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

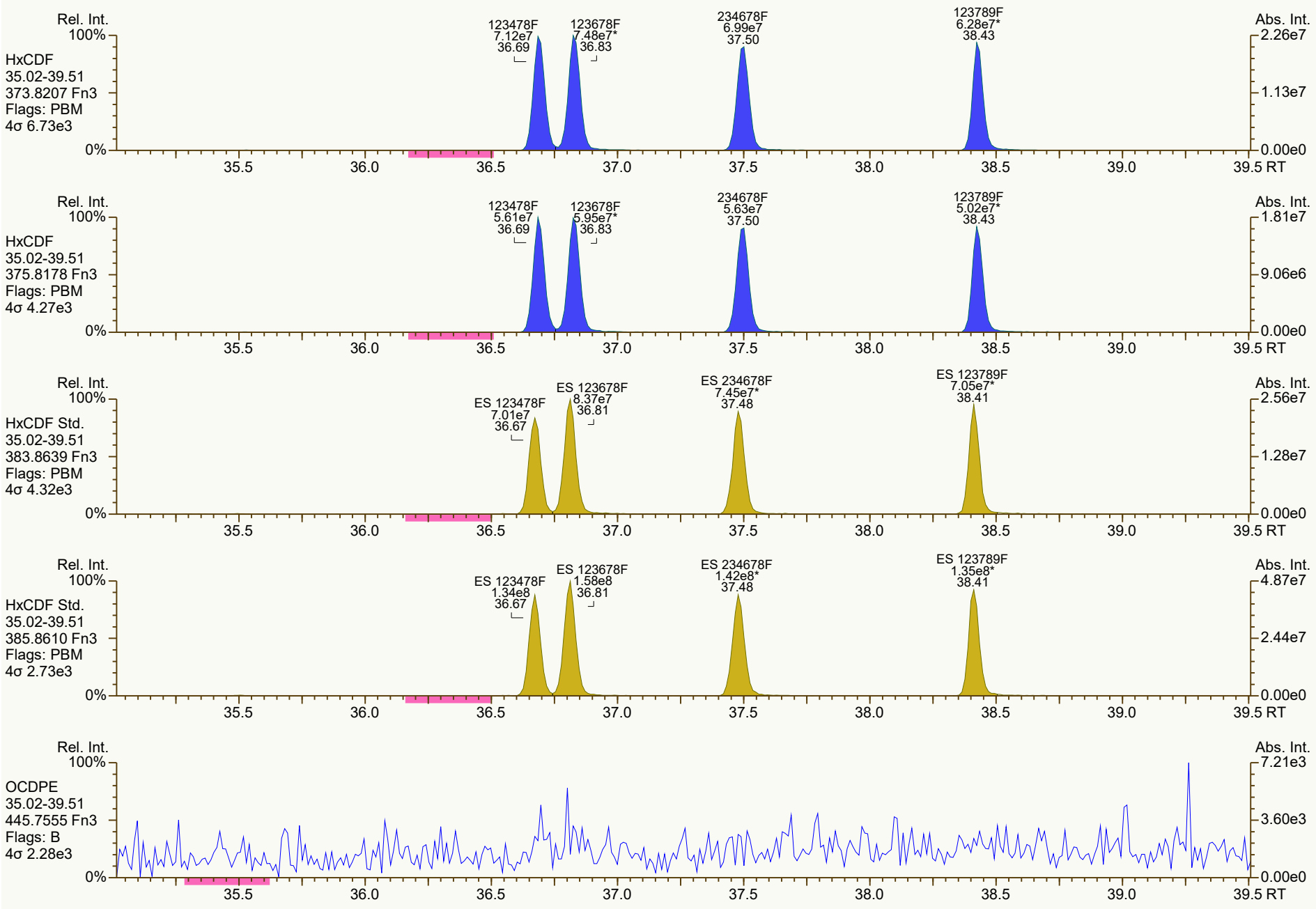

1234678D
4.27e7
40.67
Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.03e4
0%
Abs. Int.
1.69e7
8.47e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
1234678D
4.13e7
40.67
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.18e4
1.67e7
8.37e6
ES 1234678D
8.70e7*
40.66
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 3.04e3
3.44e7
1.72e7
ES 1234678D
8.30e7*
40.66
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 1.07e4
3.28e7
1.64e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.23e7
6.15e6

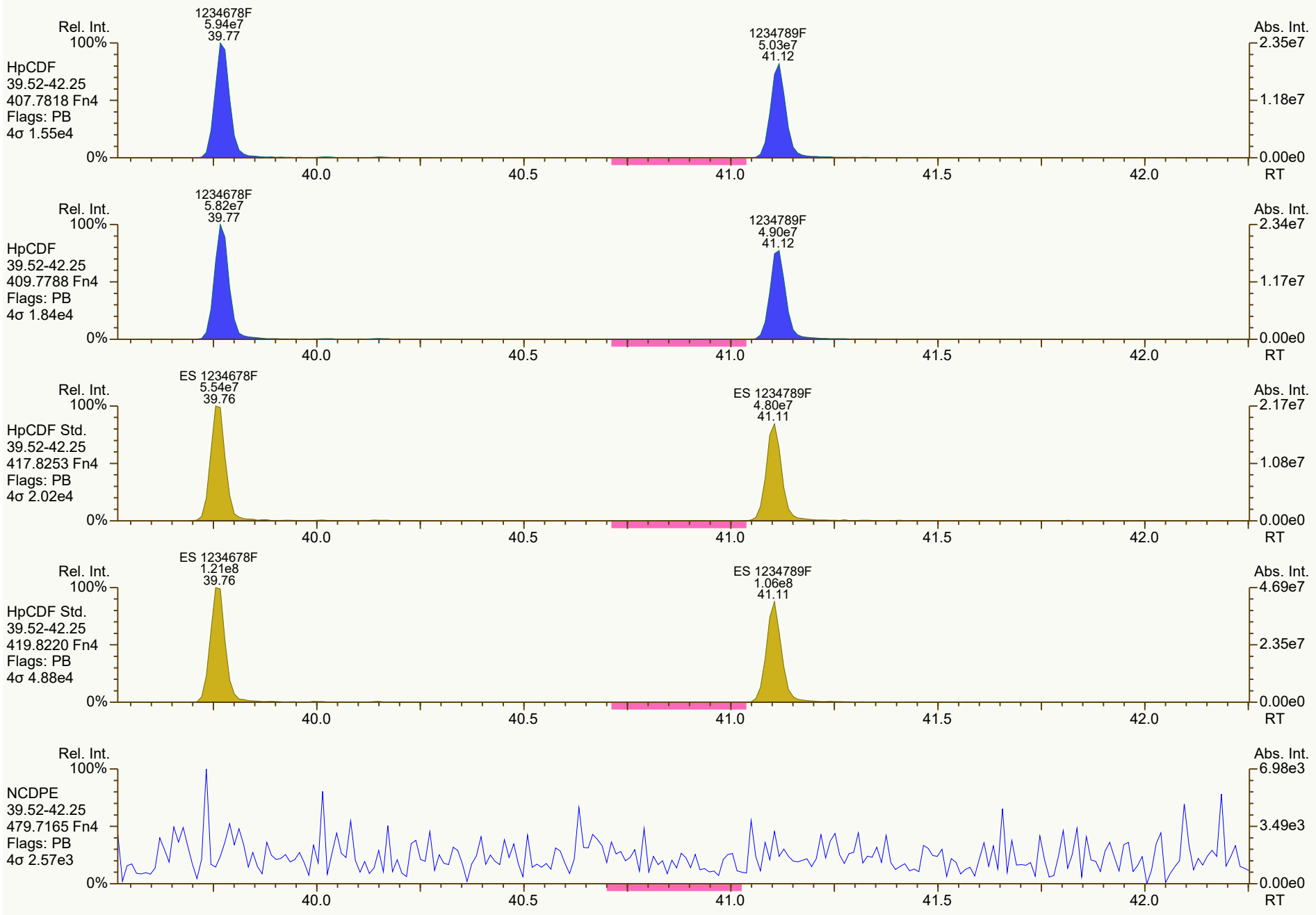

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
0%
OCDD
6.83e7*
43.24
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 4.65e3
0%
OCDD
7.63e7*
43.23
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 3.40e3
0%
ES OCDD
1.28e8*
43.22
Abs. Int.
4.34e7
2.17e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.30e3
0%
ES OCDD
1.41e8*
43.22
Abs. Int.
4.68e7
2.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

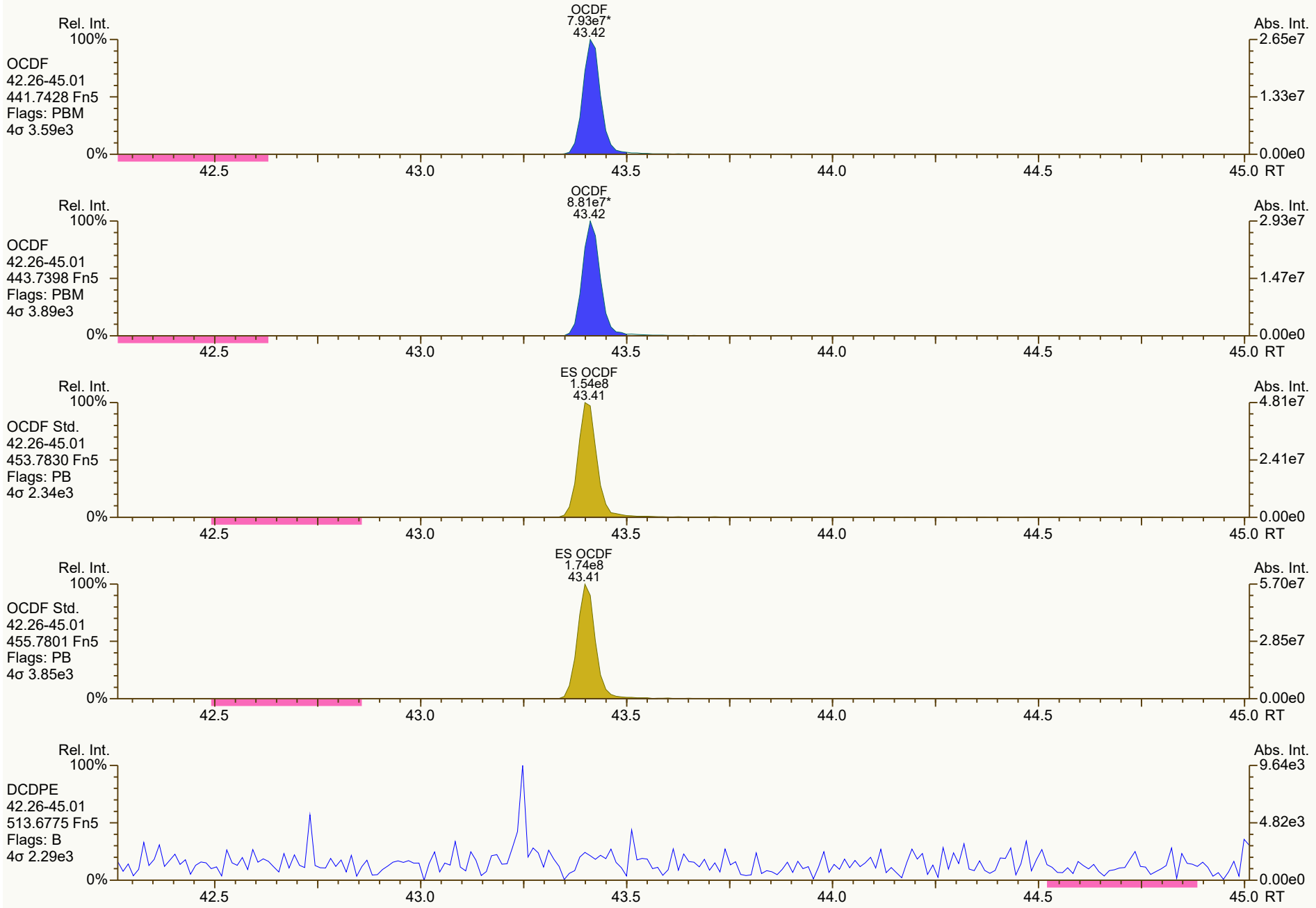

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
0%
2378F
1.46e7*
27.68
Abs. Int.
3.55e6
1.77e6
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
0%
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
2378F
1.86e7*
27.67
Abs. Int.
4.68e6
2.34e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
0%
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
Abs. Int.
3.51e7
1.76e7
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
0%
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
Abs. Int.
4.61e7
2.30e7
0.00e0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
0%
Abs. Int.
1.50e4
7.52e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.61e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.75e4
8.73e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.05e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.34e3
12378F
7.75e7
32.38
23478F
9.01e7
33.47
2.75e7
1.38e7
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 8.99e3
12378F
5.10e7
32.38
23478F
5.71e7
33.47
1.71e7
8.53e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 6.11e3
ES 12378F
1.81e8
32.37
ES 23478F
1.80e8
33.46
5.24e7
2.62e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.05e4
ES 12378F
1.15e8
32.37
ES 23478F
1.16e8
33.46
3.37e7
1.68e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.39e3
2.71e4
1.35e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5316, 2043, 4878 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 6.73e3
0%
123478F
7.12e7
36.69
123678F
7.48e7*
36.83
234678F
6.99e7
37.50
123789F
6.28e7*
38.43
Abs. Int.
2.26e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 4.27e3
0%
123478F
5.61e7
36.69
123678F
5.95e7*
36.83
234678F
5.63e7
37.50
123789F
5.02e7*
38.43
Abs. Int.
1.81e7
9.06e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 4.32e3
0%
ES 123478F
7.01e7
36.67
ES 123678F
8.37e7
36.81
ES 234678F
7.45e7*
37.48
ES 123789F
7.05e7*
38.41
Abs. Int.
2.56e7
1.28e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.73e3
0%
ES 123478F
1.34e8
36.67
ES 123678F
1.58e8
36.81
ES 234678F
1.42e8*
37.48
ES 123789F
1.35e8*
38.41
Abs. Int.
4.87e7
2.44e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.28e3
0%
Abs. Int.
7.21e3
3.60e3
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35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

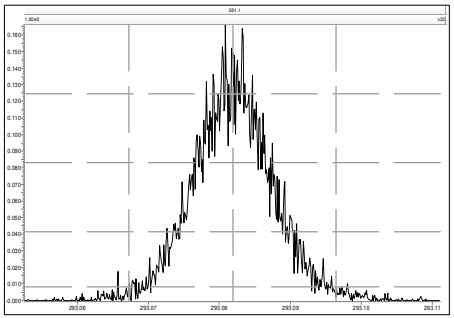

Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.55e4
1234678F
5.94e7
39.77
1234789F
5.03e7
41.12
Abs. Int.
2.35e7
1.18e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.84e4
1234678F
5.82e7
39.77
1234789F
4.90e7
41.12
Abs. Int.
2.34e7
1.17e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.02e4
ES 1234678F
5.54e7
39.76
ES 1234789F
4.80e7
41.11
Abs. Int.
2.17e7
1.08e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 4.88e4
ES 1234678F
1.21e8
39.76
ES 1234789F
1.06e8
41.11
Abs. Int.
4.69e7
2.35e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.57e3
Abs. Int.
6.98e3
3.49e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
0%
OCDF
7.93e7*
43.42
Abs. Int.
2.65e7
1.33e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
0%
OCDF
8.81e7*
43.42
Abs. Int.
2.93e7
1.47e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
0%
ES OCDF
1.54e8
43.41
Abs. Int.
4.81e7
2.41e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
0%
ES OCDF
1.74e8
43.41
Abs. Int.
5.70e7
2.85e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

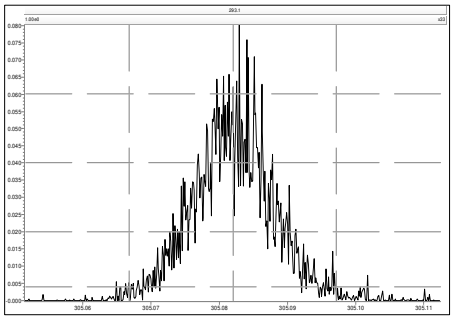
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

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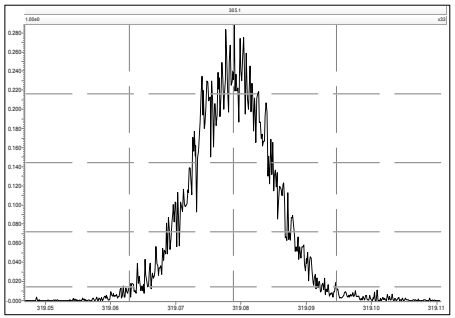
M 292.9824 R 12951



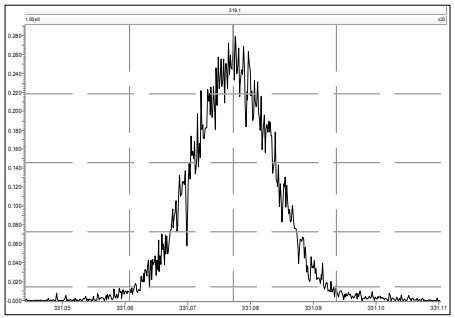
M 304.9824 R 13589



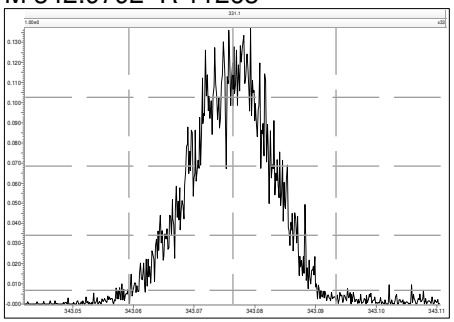
M 318.9792 R 11848



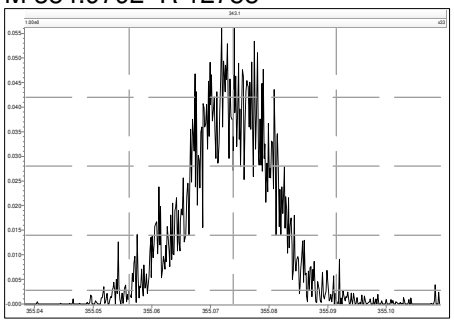
M 330.9792 R 11310



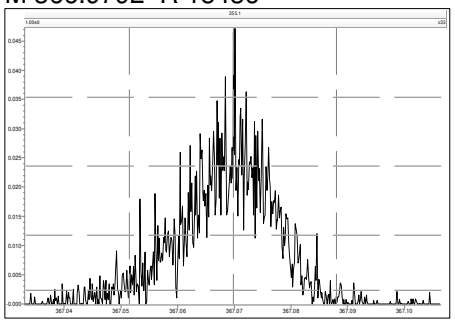
M 342.9792 R 11263



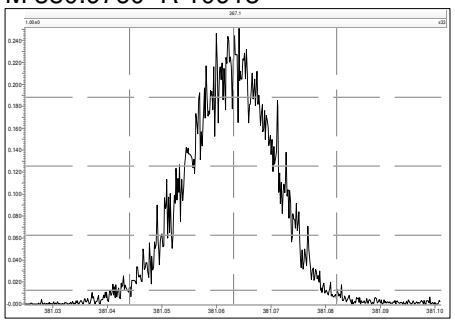
M 354.9792 R 12755



M 366.9792 R 15436



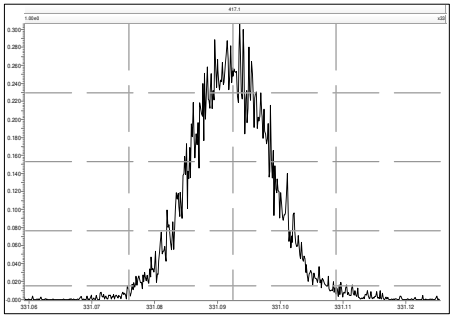
M 380.9760 R 10918



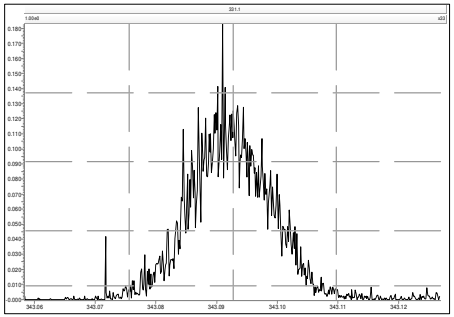
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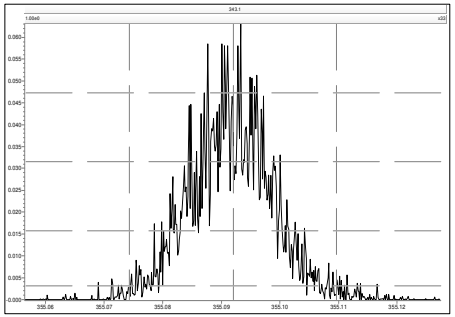
M 330.9792 R 11165



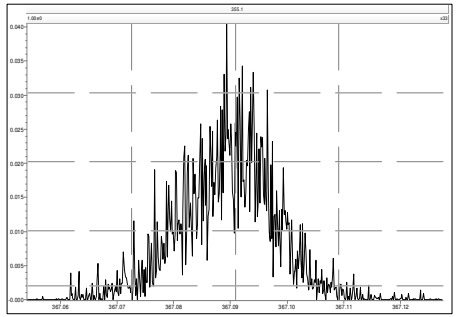
M 342.9792 R 12440



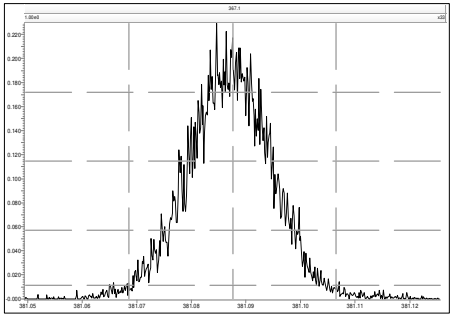
M 354.9792 R 12626



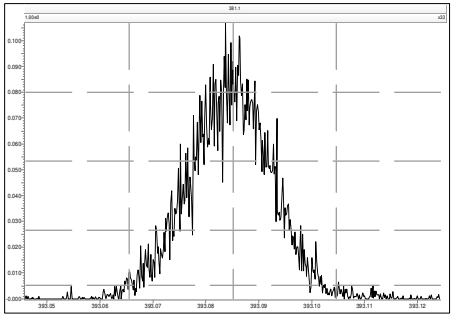
M 366.9792 R 12134



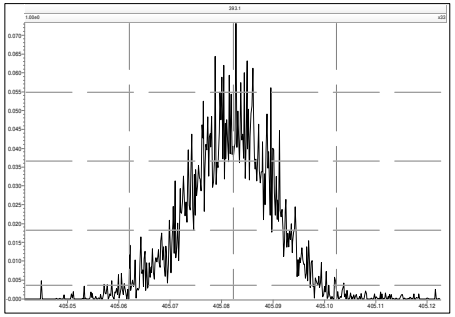
M 380.9760 R 10727



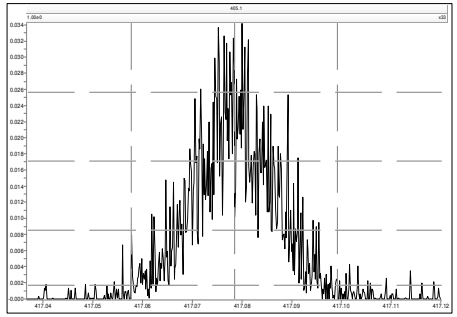
M 392.9760 R 12019



M 404.9760 R 11685



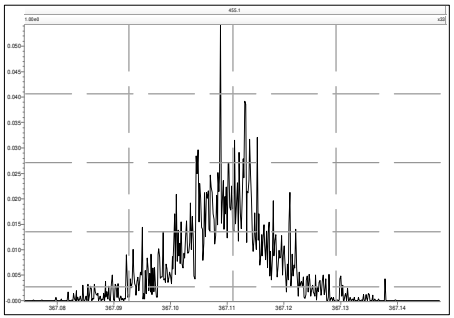
M 416.9760 R 14046



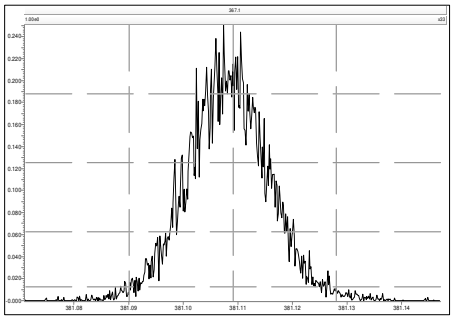
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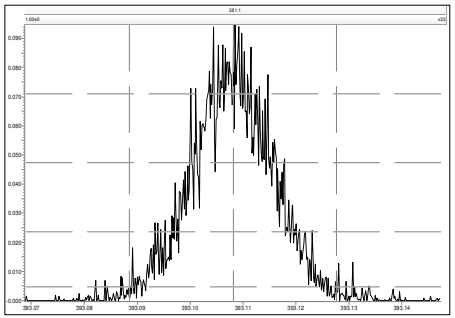
M 366.9792 R 13020



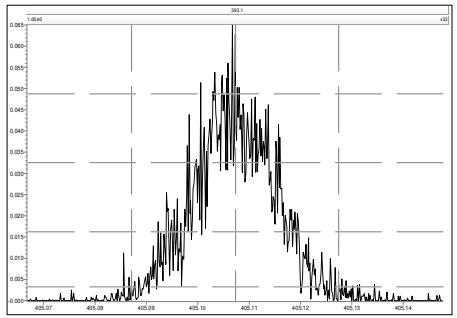
M 380.9760 R 11361



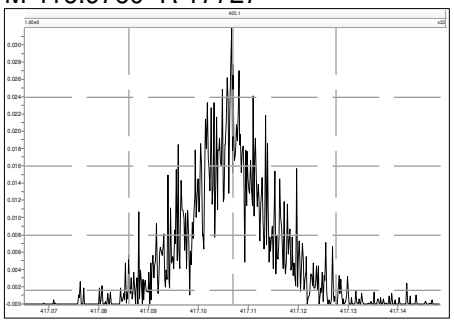
M 392.9760 R 11464



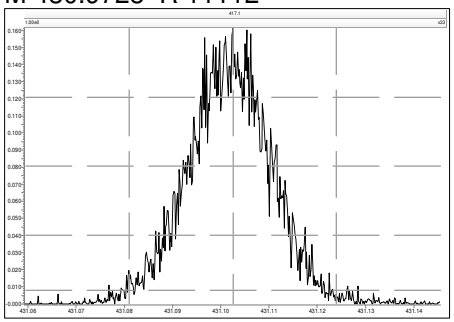
M 404.9760 R 12314



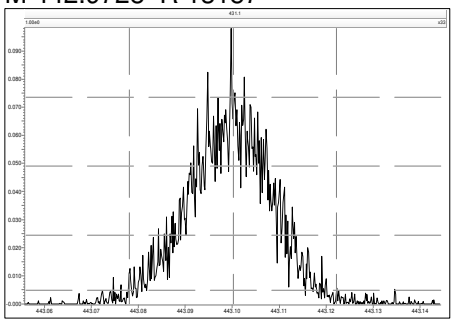
M 416.9760 R 17727



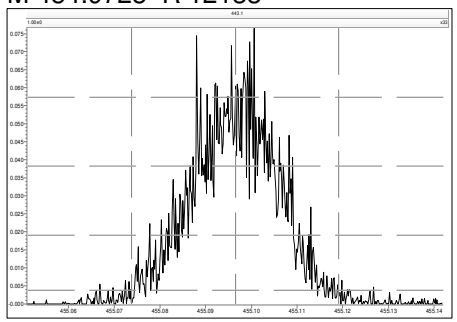
M 430.9728 R 11112



M 442.9728 R 13157



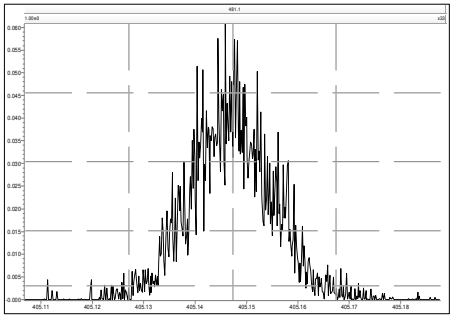
M 454.9728 R 12133



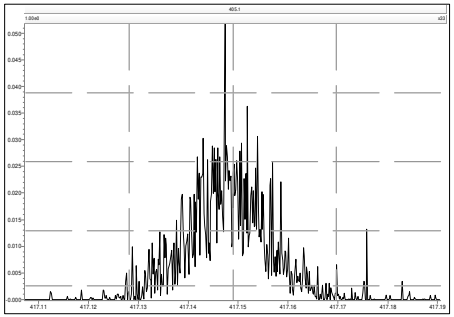
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Printed: Tuesday, July 27, 2021 08:16:47 Eastern Daylight Time

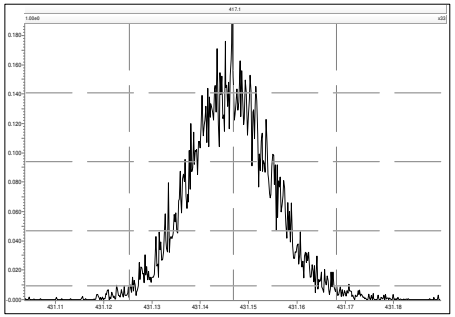
M 404.9760 R 12954



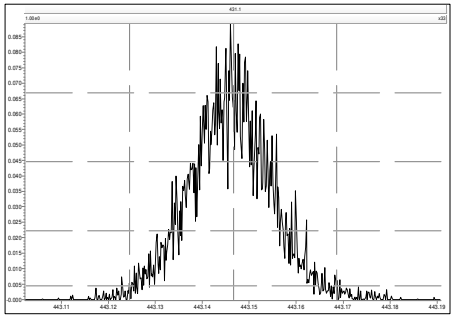
M 416.9760 R 17005



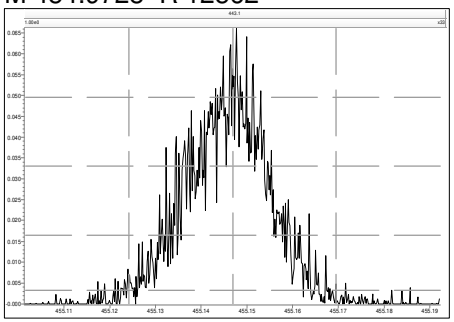
M 430.9728 R 11739



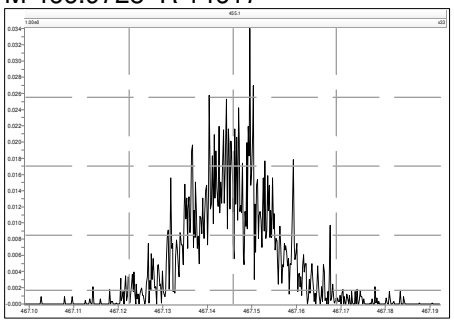
M 442.9728 R 11849



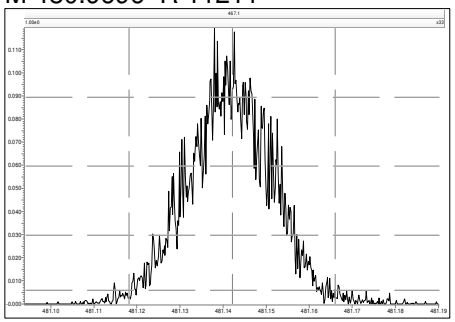
M 454.9728 R 12562



M 466.9728 R 14617



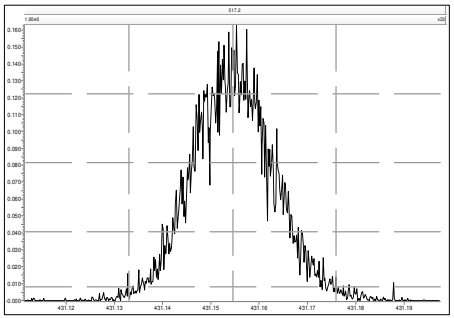
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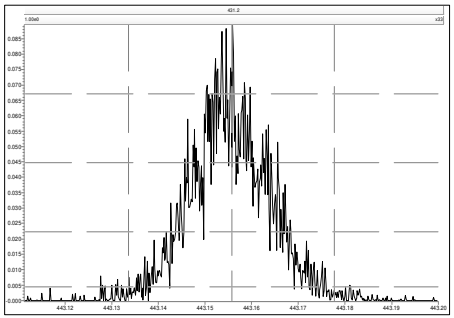
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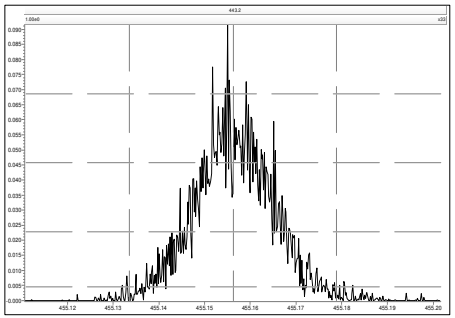
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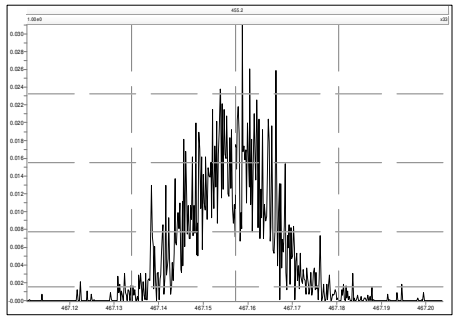
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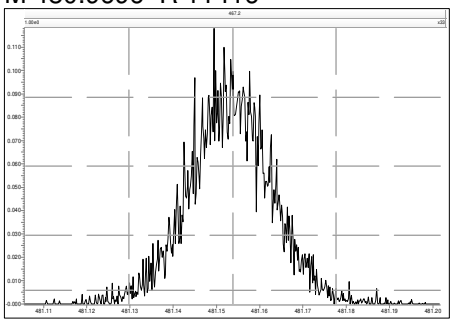
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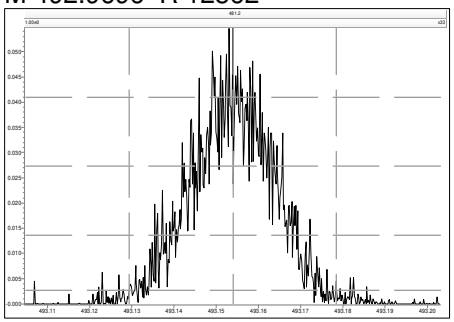
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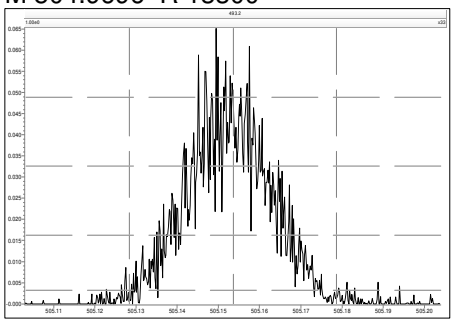
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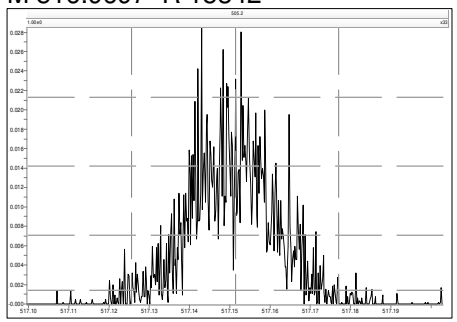
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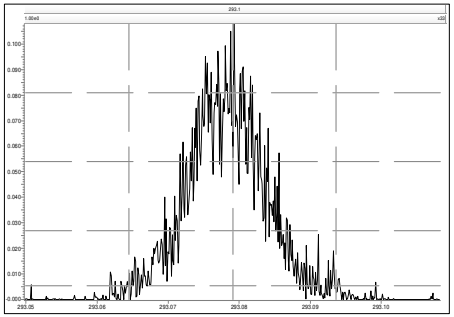


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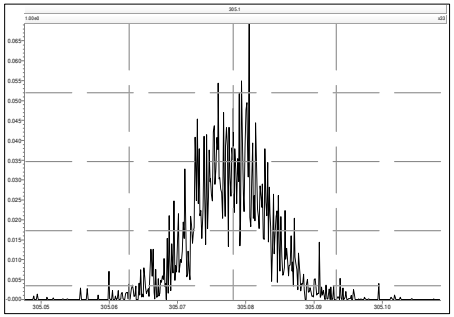


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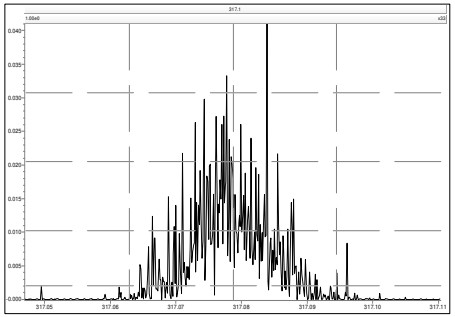
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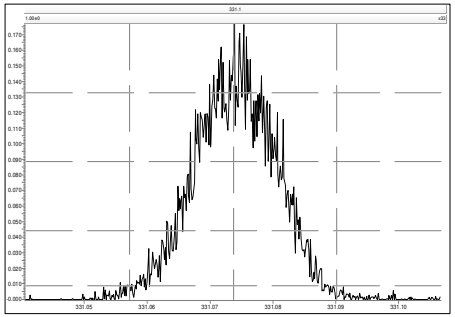
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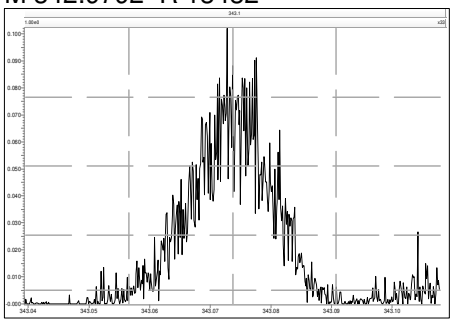
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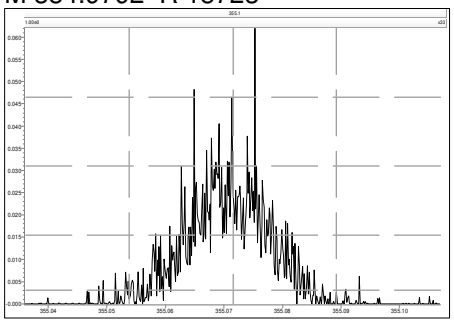
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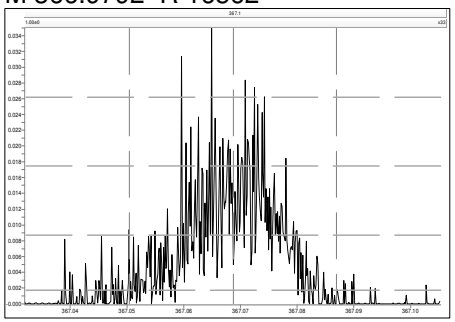
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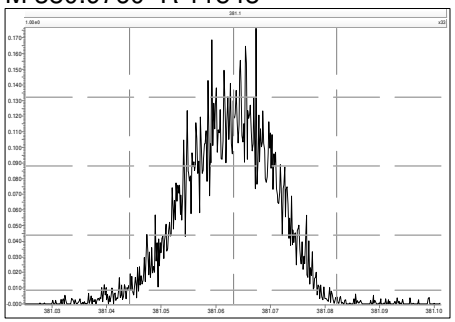
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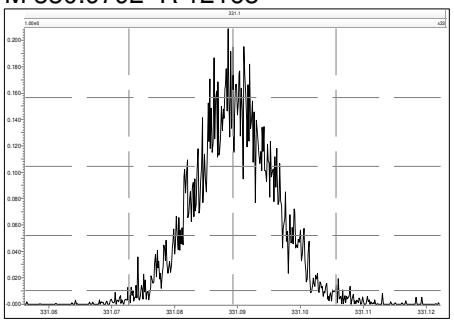
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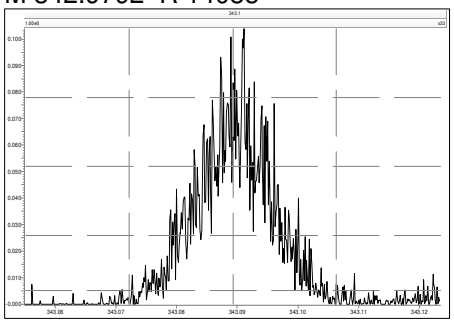
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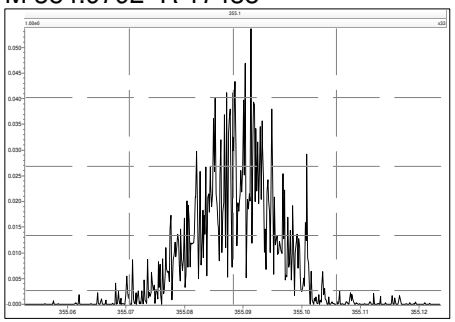
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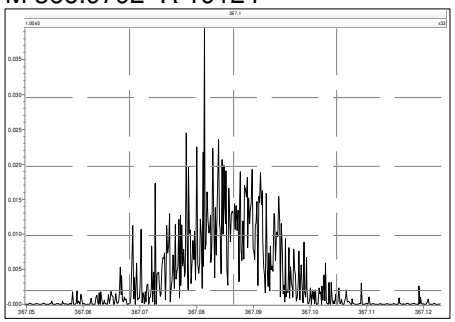
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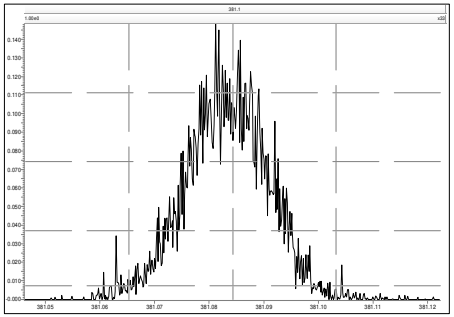
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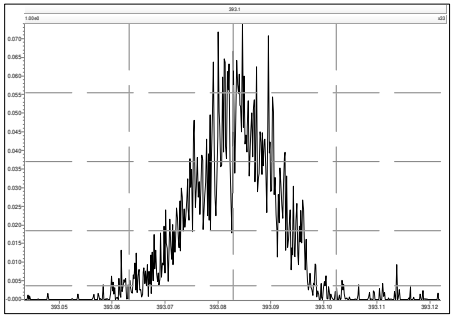
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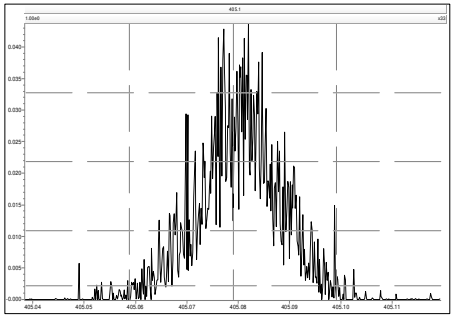
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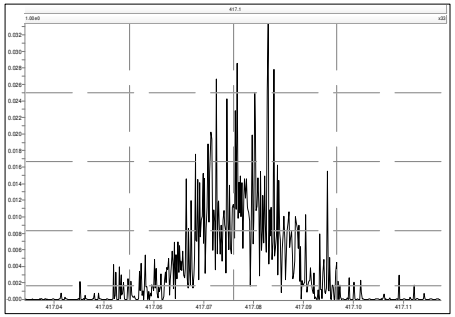
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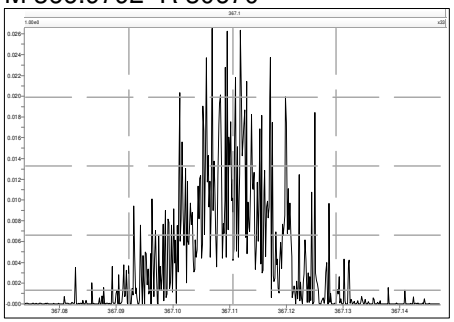
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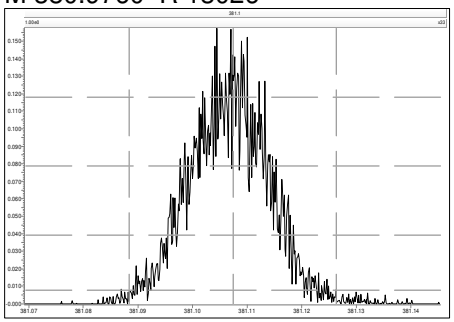
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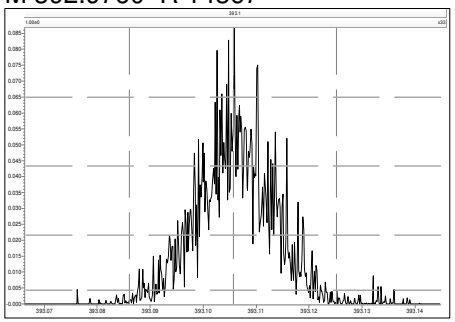
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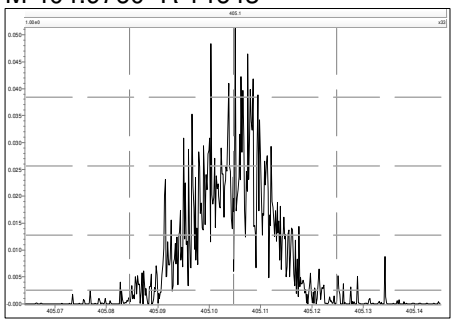
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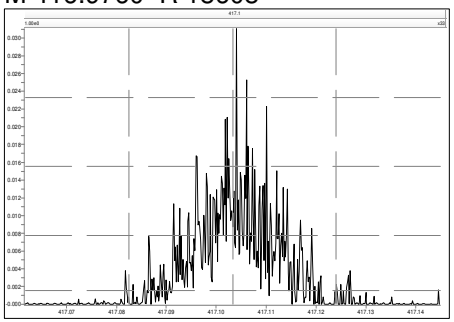
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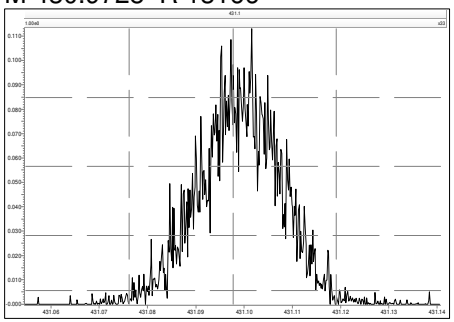
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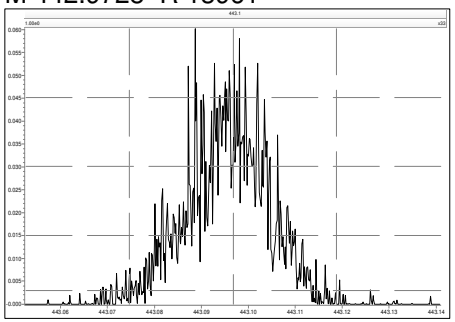
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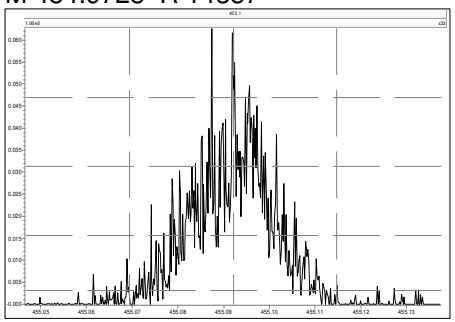
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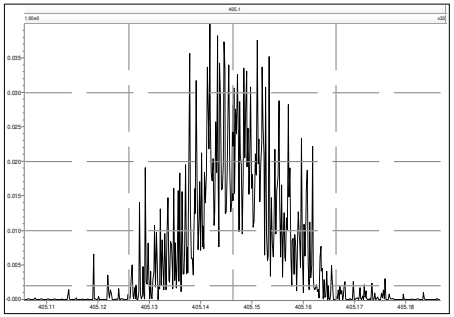
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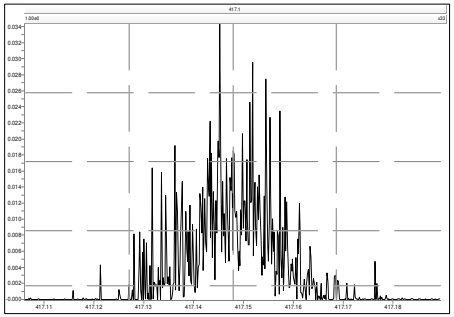
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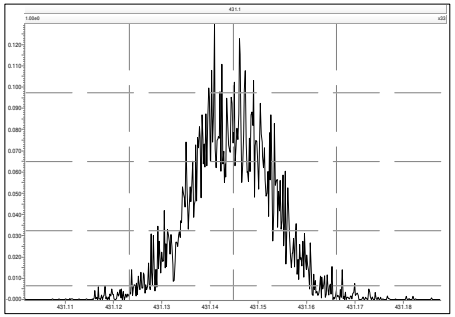
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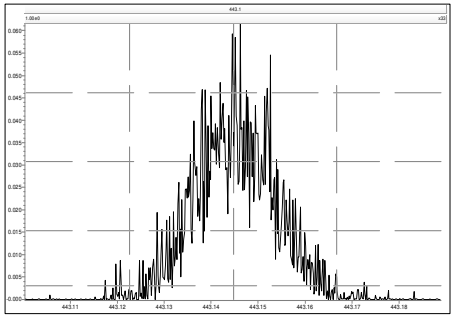
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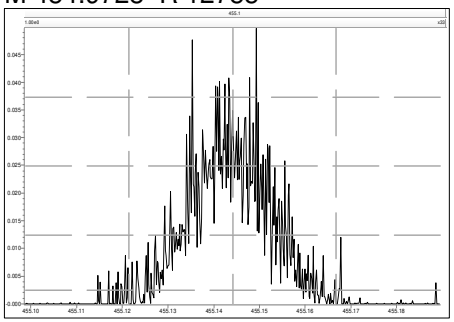
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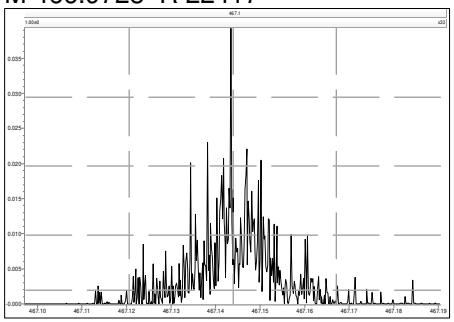
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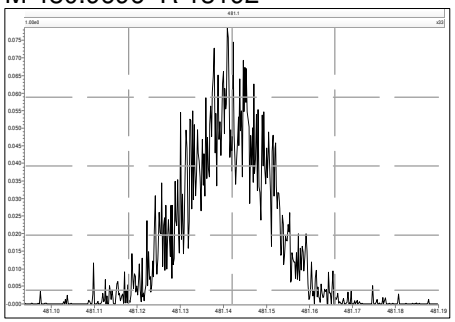
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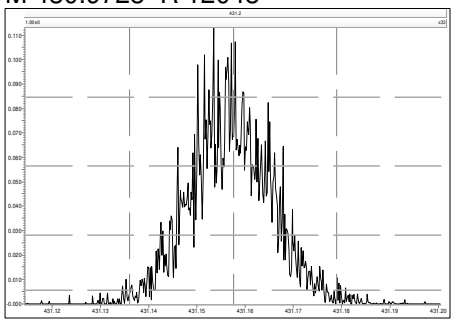
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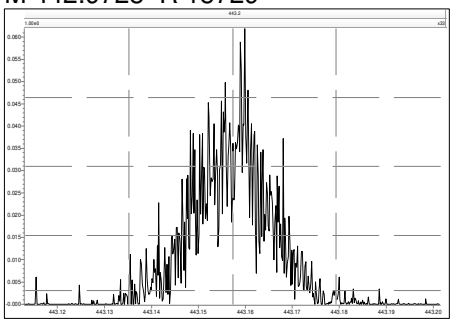
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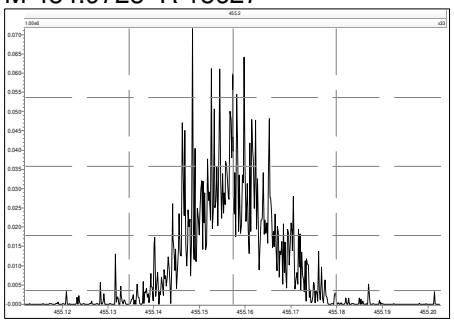
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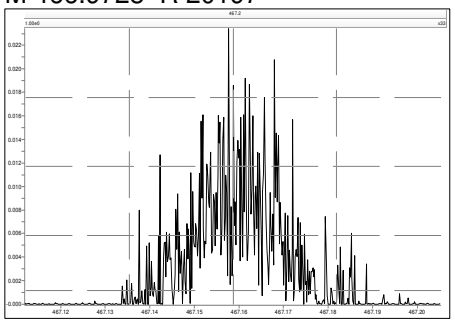
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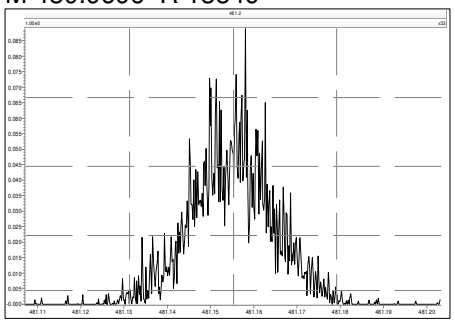
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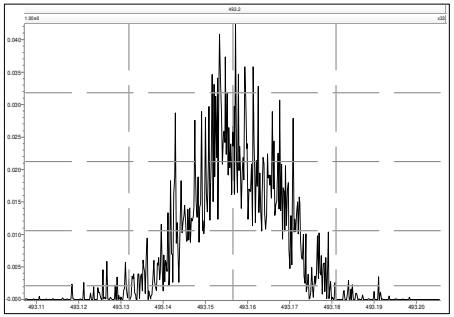
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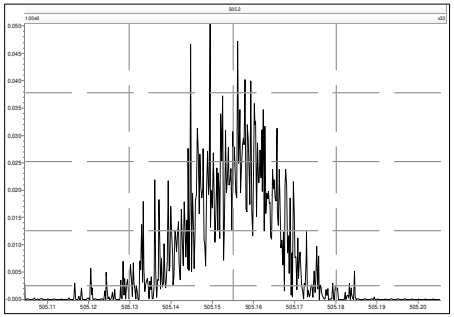
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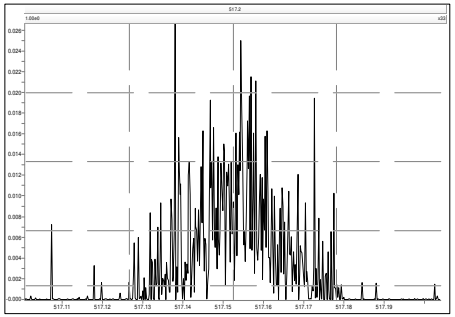
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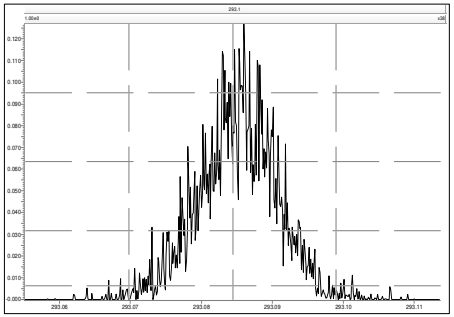


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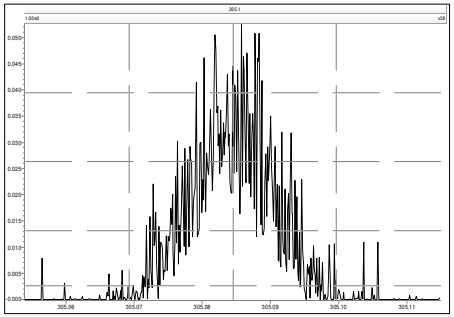


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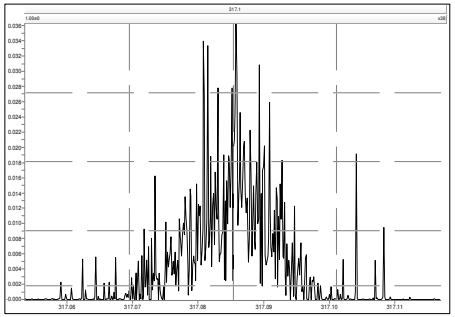
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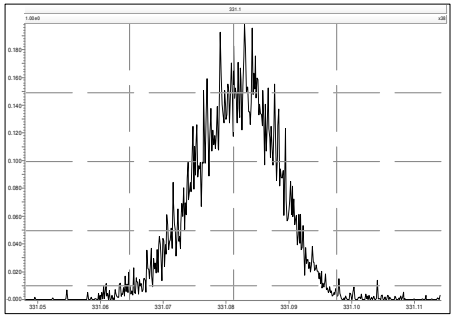
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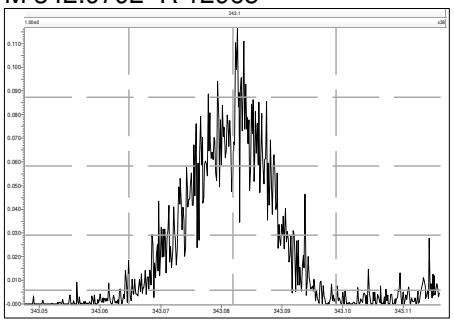
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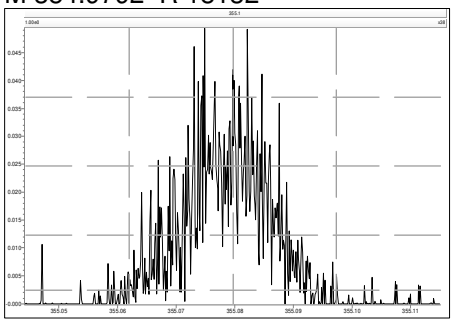
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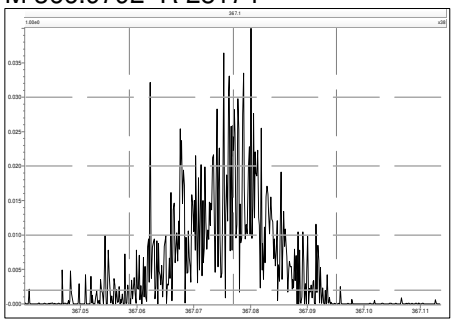
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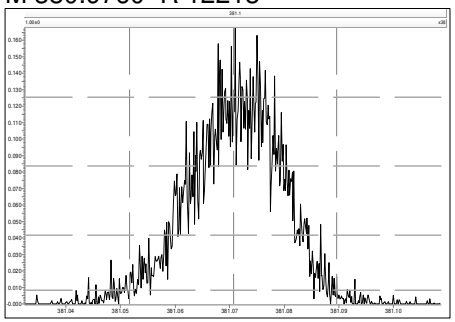
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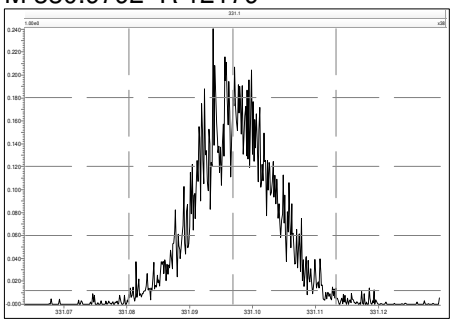
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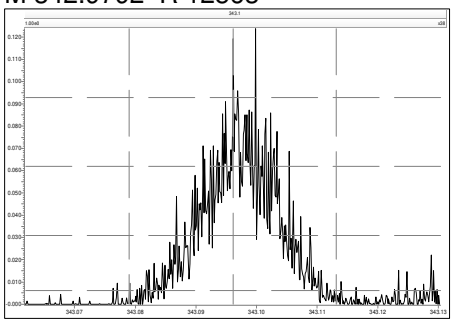
M 380.9760 R 12218



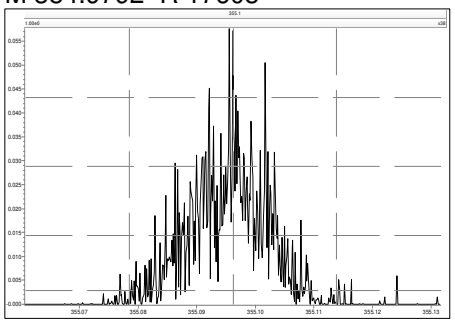
M 330.9792 R 12179



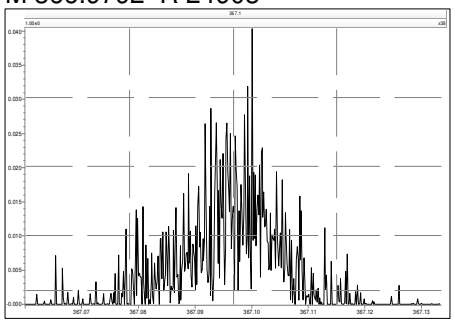
M 342.9792 R 12563



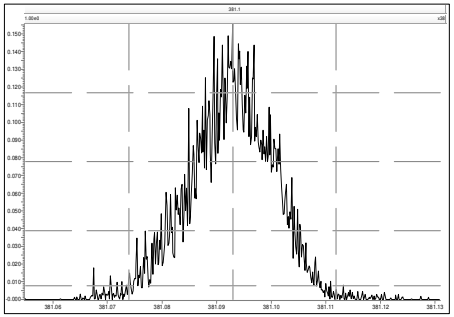
M 354.9792 R 17605



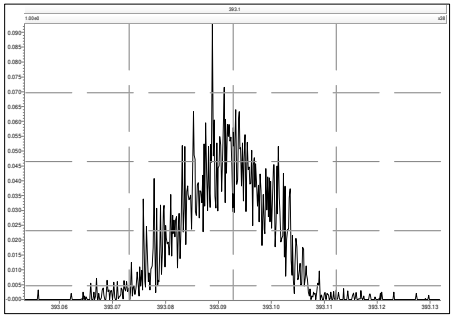
M 366.9792 R 24908



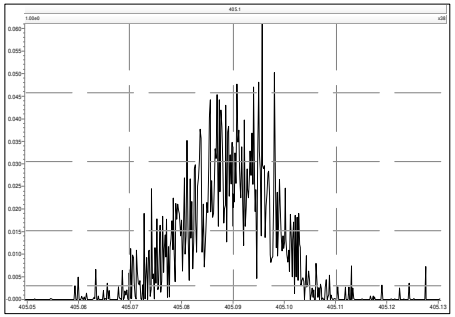
M 380.9760 R 11843



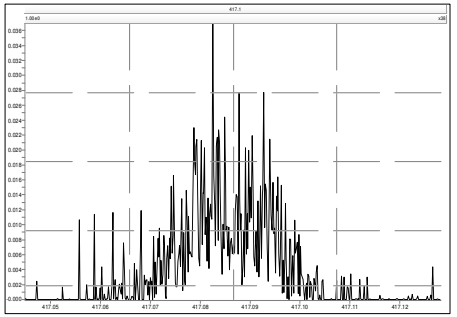
M 392.9760 R 13626



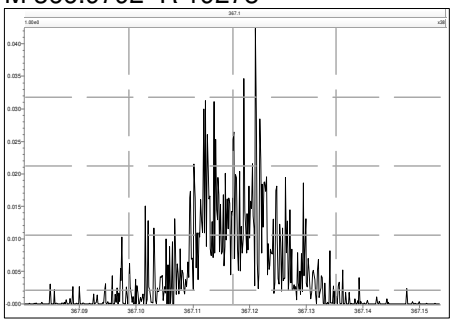
M 404.9760 R 14699



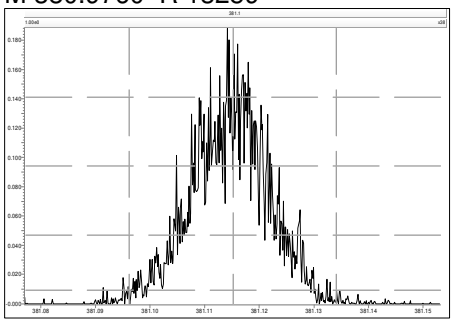
M 416.9760 R 19306



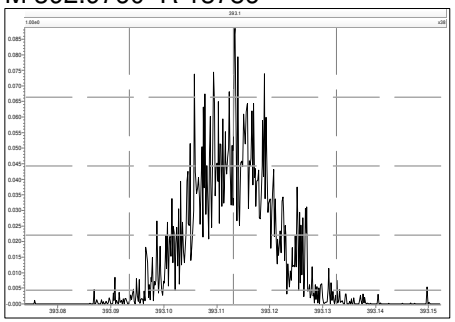
M 366.9792 R 19278



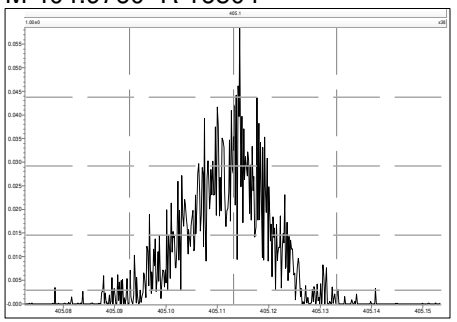
M 380.9760 R 13259



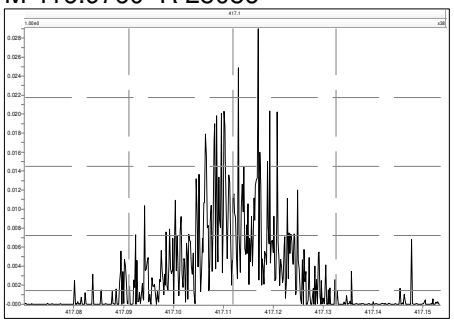
M 392.9760 R 13786



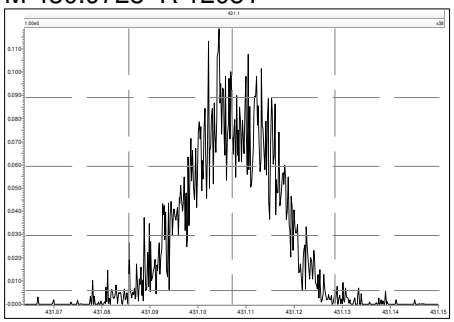
M 404.9760 R 16504



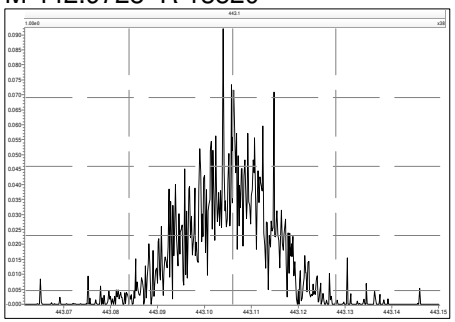
M 416.9760 R 25086



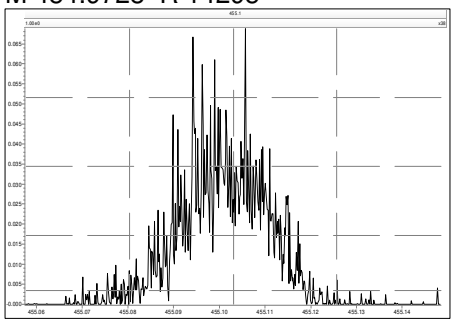
M 430.9728 R 12051



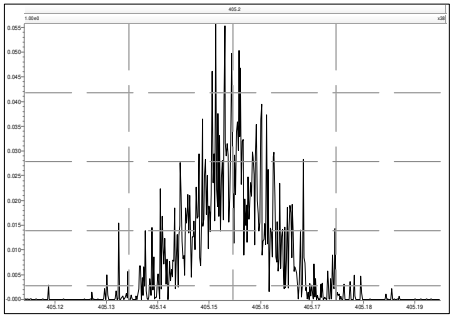
M 442.9728 R 13520



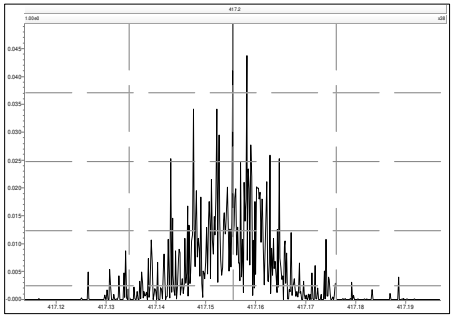
M 454.9728 R 14295



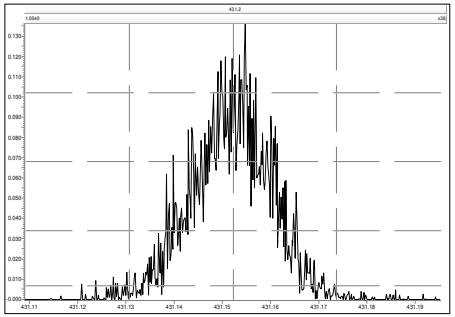
M 404.9760 R 19329



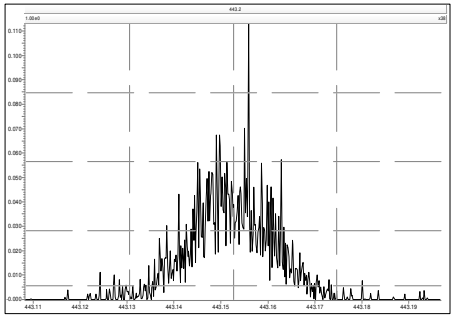
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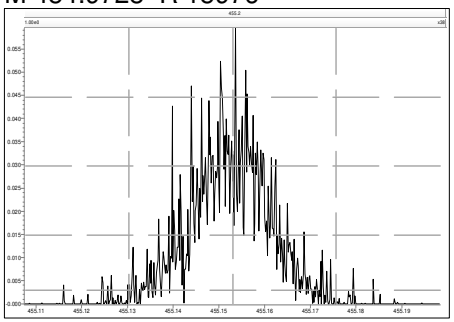
M 430.9728 R 13499



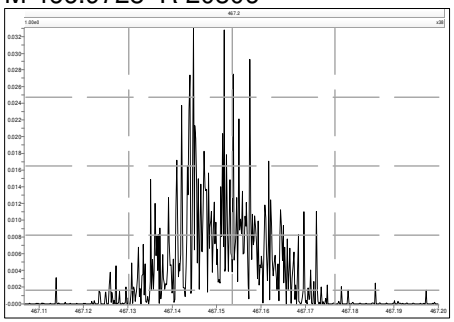
M 442.9728 R 14060



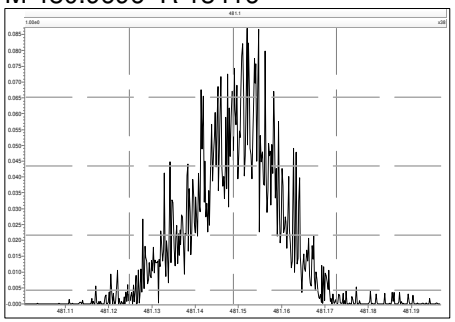
M 454.9728 R 15976



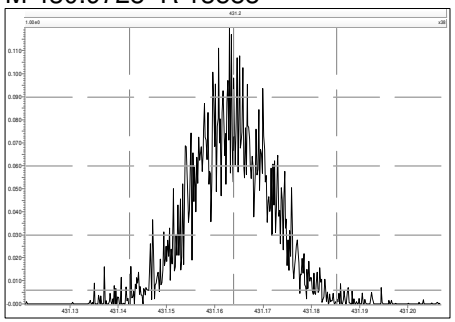
M 466.9728 R 20806



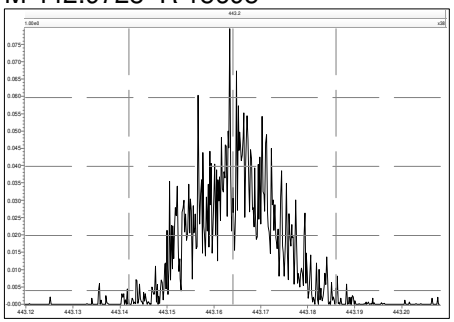
M 480.9696 R 13416



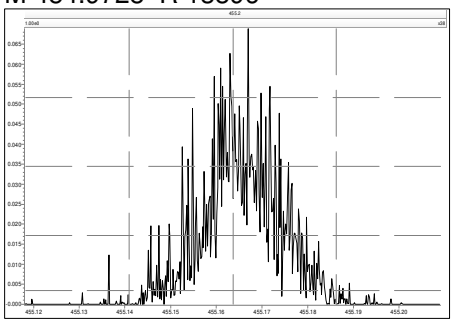
M 430.9728 R 13588



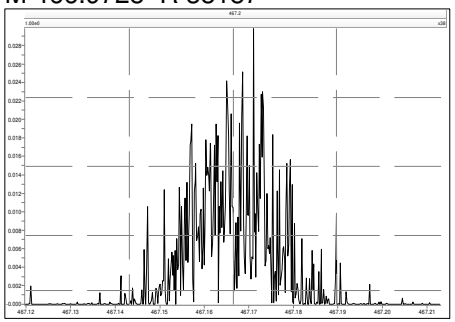
M 442.9728 R 15695



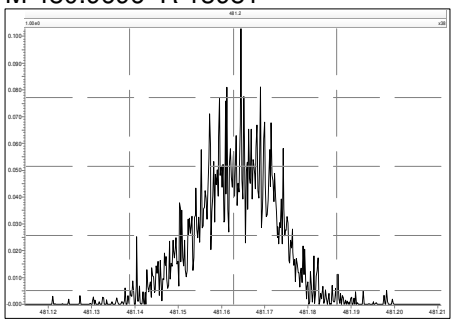
M 454.9728 R 13896



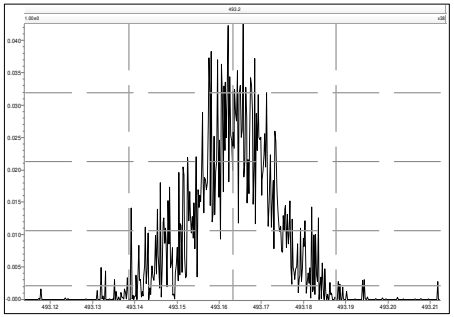
M 466.9728 R 38187



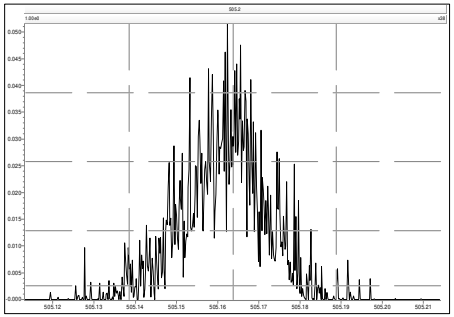
M 480.9696 R 13981



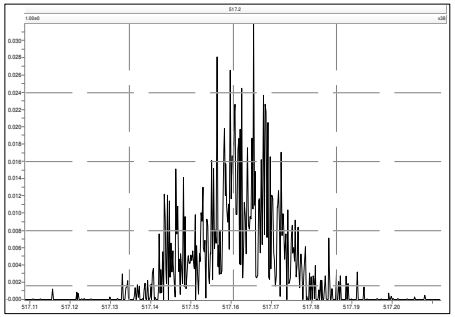
M 492.9696 R 16021



M 504.9696 R 14411



M 516.9697 R 27065



REVIEWED
Amber_Kornegay , 1/19/2022, 11:15:07 AM

Lab ID: OPR1_18838_DF | **Acq'd:** 18 Jan 2022 22:54 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18838_OPR001 | **UTP:** 19-Jan-2022 09:32:41 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 283-132-RQX

Datafile: 220118R16 | **Report:** 19 Jan 2022 09:33 gd | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.83		1.0008	1.0008	0	4.06E+06	0.74	Y	1.34	9.22	7163.212	0.188
12378-PeCDD	32.50		1.0006	1.0006	0	1.46E+07	1.55	Y	1.06	47.2	6643.645	0.196
123478-HxCDD	36.47		1.0004	1.0004	0	1.58E+07	1.27	Y	1.06	53.4	6907.788	0.175
123678-HxCDD	36.58		1.0035	1.0036	+0.2	1.72E+07	1.26	Y	1.08	54.1	6907.788	0.183
123789-HxCDD	36.87		1.0115	1.0116	+0.2	1.57E+07	1.25	Y	1.02	50.6	6907.788	0.204
1234678-HpCDD	39.81		1.0003	1.0003	0	1.39E+07	1.06	Y	0.97	56.5	9294.351	0.229
OCDD	42.23		1.0003	1.0003	0	1.91E+07	0.90	Y	1.07	107	12928.063	0.507
2378-TCDF	25.89		1.0008	1.0009	+0.2	5.90E+06	0.73	Y	0.96	12.3	8802.725	0.221
12378-PeCDF	30.98		1.0006	1.0006	0	2.31E+07	1.59	Y	0.95	53	10361.346	0.229
23478-PeCDF	32.14		1.0006	1.0005	-0.2	2.45E+07	1.59	Y	0.94	59.4	10361.346	0.237
123478-HxCDF	35.49		1.0005	1.0005	0	2.16E+07	1.28	Y	1.23	54	8750.681	0.179
123678-HxCDF	35.63		1.0005	1.0005	0	2.42E+07	1.28	Y	1.13	53.1	8750.681	0.16
234678-HxCDF	36.29		1.0004	1.0006	+0.4	1.49E+07	1.26	Y	1.15	50.8	8750.681	0.241
123789-HxCDF	37.25		1.0005	1.0004	-0.2	1.84E+07	1.25	Y	1.14	51.5	8750.681	0.215
1234678-HpCDF	38.85		1.0003	1.0003	0	2.30E+07	1.05	Y	1.36	53.5	6879.407	0.108
1234789-HpCDF	40.22		1.0002	1.0002	0	1.64E+07	1.04	Y	1.30	53.5	6879.407	0.142
OCDF	42.39		1.0003	1.0003	0	2.20E+07	0.90	Y	1.03	109	9397.423	0.335

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.81	1.0270	1.0272	+0.3	3.28E+07	0.79	Y	1.03	85.8
ES 12378-PeCDD	32.48	1.2424	1.2445	+4.1	2.93E+07	1.55	Y	1.03	76.6
ES 123478-HxCDD	36.45	0.9918	0.9917	-0.2	2.80E+07	1.32	Y	0.99	93.7
ES 123678-HxCDD	36.57	0.9948	0.9948	0	2.93E+07	1.25	Y	0.97	100
ES 123789-HxCDD	36.86	1.0028	1.0028	0	3.04E+07	1.29	Y	1.12	90.2
ES 1234678-HpCDD	39.80	1.0820	1.0827	+1.7	2.52E+07	1.07	Y	0.99	84.8
ES OCDD	42.21	1.1479	1.1485	+1.5	3.33E+07	0.89	Y	0.78	71.3
ES 2378-TCDF	25.87	1.0611	1.0620	+1.4	5.00E+07	0.79	Y	1.08	81.8
ES 12378-PeCDF	30.96	1.2682	1.2711	+5.4	4.61E+07	1.56	Y	0.93	87.6
ES 23478-PeCDF	32.13	1.3157	1.3190	+6.4	4.39E+07	1.55	Y	0.92	84.3
ES 123478-HxCDF	35.47	0.9650	0.9649	-0.2	3.24E+07	0.51	Y	1.14	94.6
ES 123678-HxCDF	35.61	0.9689	0.9688	-0.2	4.03E+07	0.52	Y	1.30	103
ES 234678-HxCDF	36.27	0.9869	0.9868	-0.2	2.55E+07	0.54	Y	1.20	70.7
ES 123789-HxCDF	37.24	1.0130	1.0130	0	3.14E+07	0.54	Y	1.14	92
ES 1234678-HpCDF	38.84	1.0563	1.0567	+0.9	3.16E+07	0.45	Y	0.95	111
ES 1234789-HpCDF	40.21	1.0933	1.0940	+1.7	2.35E+07	0.45	Y	0.85	92.6
ES OCDF	42.38	1.1522	1.1529	+1.8	3.91E+07	0.88	Y	0.93	70.4

Lab ID: OPR1_18838_DF | **Acq'd:** 18 Jan 2022 22:54 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18838_OPR001 | **UTP:** 19-Jan-2022 09:32:41 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 283-132-RQX

Datafile: 220118R16 | **Report:** 19 Jan 2022 09:33 gd | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.10		-	-	-	3.69E+07	0.77	Y	-	-
JS 1234-TCDF	24.36		-	-	-	5.64E+07	0.77	Y	-	-
JS 123467-HxCDD	36.76		-	-	-	1.50E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	26.83		1.0278	1.0281	+0.5	1.57E+07	n/a	-	1.31	80.9
CS 12347-PeCDD	31.96		1.2228	1.2247	+3.6	2.97E+07	1.56	Y	0.89	90
CS 12346-PeCDF	30.41		1.2457	1.2486	+5.3	4.53E+07	1.60	Y	0.87	92.4
CS 123469-HxCDF	35.92		0.9774	0.9773	-0.2	3.82E+07	0.54	Y	1.09	117
CS 1234689-HpCDF	39.27		1.0680	1.0685	+1.2	3.00E+07	0.45	Y	0.86	115
~~SS 37Cl-2378-TCDD~~	~~26.83~~		~~1.0278~~	~~1.0281~~	~~+0.5~~	~~1.57E+07~~	~~n/a~~		~~1.26~~	~~94.7~~
~~SS 12347-PeCDD~~	~~31.96~~		~~1.2228~~	~~1.2247~~	~~+3.6~~	~~2.97E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~30.41~~		~~1.2457~~	~~1.2486~~	~~+5.3~~	~~4.53E+07~~	~~1.60~~	~~Y~~	~~0.93~~	~~105~~
~~SS 123469-HxCDF~~	~~35.92~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~3.82E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~113~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0680~~	~~1.0685~~	~~+1.2~~	~~3.00E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~104~~

Totals	Conc	EMPC
Total TCDD	40.2	40.2
Total PeCDD	68.3	68.3
Total HxCDD	170	170
Total HpCDD	68.2	68.2
Total Tetra-Octa Dioxins	454	454
Total TCDF	62.2	62.2
Total PeCDF	223	223
Total HxCDF	343	343
Total HpCDF	107	107
Total Tetra-Octa Furans	844	844
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.733	0.74
Response	4.07E+06	4.06E+06

Lab ID: OPR1_18838_DF | **Acq'd: 18 Jan 2022 22:54 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR001 | **UTP: 19-Jan-2022 09:32:41 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 283-132-RQX**

Datafile: 220118R16 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.77		0.8514	0.8494	-2.7	5.01E+06	0.78	Y	1.34	11.4	7163.212	0.188
1379-TCDD	NotFnd		0.8665						1.34		7163.212	0.188
1369-TCDD	NotFnd		0.8845						1.34		7163.212	0.188
1469-TCDD	NotFnd		0.9165						1.34		7163.212	0.188
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		7163.212	0.188
1378-TCDD	NotFnd		0.9343						1.34		7163.212	0.188
1268-TCDD	NotFnd		0.9424						1.34		7163.212	0.188
1478-TCDD	NotFnd		0.9525						1.34		7163.212	0.188
1279-TCDD	NotFnd		0.9592						1.34		7163.212	0.188
1234/1269-TCDD	NotFnd		0.9735						1.34		7163.212	0.188
1236-TCDD	NotFnd		0.9790						1.34		7163.212	0.188
1237/1238-TCDD	NotFnd		0.9893						1.34		7163.212	0.188
1239-TCDD	26.66		0.9947	0.9945	-0.3	3.41E+06	0.79	Y	1.34	7.75	7163.212	0.188
2378-TCDD	**26.83**		**1.0008**	1.0008	**0**	4.06E+06	0.74	Y	**1.34**	**9.22**	**7163.212**	**0.188**
1278-TCDD	NotFnd		1.0140						1.34		7163.212	0.188
1267-TCDD	NotFnd		1.0196						1.34		7163.212	0.188
1289-TCDD	27.88		1.0396	1.0400	+0.7	5.23E+06	0.80	Y	1.34	11.9	7163.212	0.188
12479/12468-PeCDD	29.90		0.9208	0.9205	-0.5	3.04E+06	1.58	Y	1.06	9.81	6643.645	0.196
12469-PeCDD	NotFnd		0.9381						1.06		6643.645	0.196
12368-PeCDD	NotFnd		0.9557						1.06		6643.645	0.196
12478-PeCDD	NotFnd		0.9617						1.06		6643.645	0.196
12379-PeCDD	NotFnd		0.9648						1.06		6643.645	0.196
12369/12467/12489-PeCDD	NotFnd		0.9732						1.06		6643.645	0.196
12346/12347-PeCDD	NotFnd		0.9849						1.06		6643.645	0.196
12378-PeCDD	32.50		**1.0006**	**1.0006**	**0**	**1.46E+07**	**1.55**	**Y**	**1.06**	**47.2**	**6643.645**	**0.196**
12367-PeCDD	NotFnd		1.0037						1.06		6643.645	0.196
12389-PeCDD	32.95		1.0145	1.0146	+0.2	3.51E+06	1.59	Y	1.06	11.3	6643.645	0.196
124679/124689-HxCDD	34.75		0.9534	0.9533	-0.2	3.76E+06	1.20	Y	1.05	12.2	6907.788	0.187
123468-HxCDD	NotFnd		0.9715						1.05		6907.788	0.187
123679/123689-HxCDD	NotFnd		0.9797						1.05		6907.788	0.187
123469-HxCDD	NotFnd		0.9834						1.05		6907.788	0.187
123478-HxCDD	36.47		**1.0004**	**1.0004**	**0**	**1.58E+07**	**1.27**	**Y**	1.06	**53.4**	**6907.788**	**0.175**
123678-HxCDD	36.58		**1.0035**	**1.0036**	**+0.2**	**1.72E+07**	**1.26**	**Y**	1.08	**54.1**	**6907.788**	**0.183**
123467-HxCDD	NotFnd		1.0087						1.05		6907.788	0.187
123789-HxCDD	36.87		**1.0115**	**1.0116**	**+0.2**	**1.57E+07**	**1.25**	**Y**	1.02	**50.6**	**6907.788**	**0.204**

Lab ID: OPR1_18838_DF | **Acq'd: 18 Jan 2022 22:54 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR001 | **UTP: 19-Jan-2022 09:32:41 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 283-132-RQX**

Datafile: 220118R16 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.14		0.9835	0.9835	0	2.88E+06	1.06	Y	0.97	11.7	9294.351	0.229
1234678-HpCDD	**39.81**		**1.0003**	**1.0003**	**0**	**1.39E+07**	**1.06**	**Y**	**0.97**	**56.5**	**9294.351**	**0.229**
OCDD	**42.23**		**1.0003**	**1.0003**	**0**	**1.91E+07**	**0.90**	**Y**	**1.07**	**107**	**12928.063**	**0.507**
OCDD-a	42.22		1.0002	1.0001	-0.3	1.04E+06	2.34	Y	0.07	94.4	10423.864	6.63
1368-TCDF	20.55		0.7966	0.7946	-2.5	7.05E+06	0.80	Y	0.96	14.7	8802.725	0.221
1468-TCDF	NotFnd		0.8179						0.96		8802.725	0.221
2468-TCDF	21.76		0.8432	0.8412	-2.6	1.83E+06	0.82	Y	0.96	3.82	8802.725	0.221
1346/1246-TCDF	NotFnd		0.8572						0.96		8802.725	0.221
1347/1378/1247-TCDF	NotFnd		0.8641						0.96		8802.725	0.221
1348-TCDF	NotFnd		0.8764						0.96		8802.725	0.221
1248/1367/1379-TCDF	NotFnd		0.8820						0.96		8802.725	0.221
1268-TCDF	NotFnd		0.8986						0.96		8802.725	0.221
1467-TCDF	NotFnd		0.9044						0.96		8802.725	0.221
1478-TCDF	NotFnd		0.9117						0.96		8802.725	0.221
1369/1237-TCDF	NotFnd		0.9276						0.96		8802.725	0.221
2467-TCDF	NotFnd		0.9334						0.96		8802.725	0.221
2368-TCDF	NotFnd		0.9400						0.96		8802.725	0.221
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9436						0.96		8802.725	0.221
1278-TCDF	NotFnd		0.9628						0.96		8802.725	0.221
1349-TCDF	NotFnd		0.9678						0.96		8802.725	0.221
1267-TCDF	NotFnd		0.9745						0.96		8802.725	0.221
2346/1249-TCDF	NotFnd		0.9823						0.96		8802.725	0.221
2347/1279-TCDF	NotFnd		0.9916						0.96		8802.725	0.221
2348-TCDF	25.77		0.9964	0.9963	-0.2	6.78E+06	0.79	Y	0.96	14.1	8802.725	0.221
2378-TCDF	**25.89**		**1.0008**	**1.0009**	**+0.2**	**5.90E+06**	**0.73**	**Y**	**0.96**	**12.3**	**8802.725**	**0.221**
2367/3467-TCDF	NotFnd		1.0161						0.96		8802.725	0.221
1269-TCDF	NotFnd		1.0258						0.96		8802.725	0.221
1239-TCDF	NotFnd		1.0370						0.96		8802.725	0.221
1289-TCDF	28.05		1.0833	1.0845	+2.0	8.31E+06	0.76	Y	0.96	17.3	8802.725	0.221
13468/12468-PeCDF	28.00		0.9054	0.9044	-1.7	4.20E+07	1.60	Y	0.94	99.1	7506.068	0.169
13678/13467/12467-PeCDF	NotFnd		0.9578						0.94		10361.346	0.233
12368/13478/12478-PeCDF	NotFnd		0.9632						0.94		10361.346	0.233
14678-PeCDF	NotFnd		0.9666						0.94		10361.346	0.233
13479-PeCDF	NotFnd		0.9696						0.94		10361.346	0.233
13469/12479-PeCDF	NotFnd		0.9784						0.94		10361.346	0.233
12346-PeCDF	NotFnd		0.9828						0.94		10361.346	0.233

Lab ID: OPR1_18838_DF | **Acq'd: 18 Jan 2022 22:54 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR001 | **UTP: 19-Jan-2022 09:32:41 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 283-132-RQX**

Datafile: 220118R16 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9860						0.94		10361.346	0.233
12347-PeCDF	NotFnd		0.9884						0.94		10361.346	0.233
12348-PeCDF	NotFnd		0.9937						0.94		10361.346	0.233
12378-PeCDF	**30.98**		**1.0006**	**1.0006**	**0**	**2.31E+07**	**1.59**	**Y**	**0.95**	**53**	**10361.346**	**0.229**
12678/12367-PeCDF	NotFnd		1.0098						0.94		10361.346	0.233
12379-PeCDF	NotFnd		1.0155						0.94		10361.346	0.233
12679-PeCDF	NotFnd		0.9922						0.94		10361.346	0.233
23467/12369-PeCDF	NotFnd		0.9964						0.94		10361.346	0.233
23478-PeCDF	**32.14**		**1.0006**	**1.0005**	**-0.2**	**2.45E+07**	**1.59**	**Y**	**0.94**	**59.4**	**10361.346**	**0.237**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		10361.346	0.233
12349-PeCDF	NotFnd		1.0105						0.94		10361.346	0.233
12389-PeCDF	33.25		1.0346	1.0348	+0.4	4.87E+06	1.61	Y	0.94	11.5	10361.346	0.233
123468-HxCDF	34.08		0.9609	0.9607	-0.4	5.02E+07	1.25	Y	1.16	133	8750.681	0.194
124678/134678-HxCDF	NotFnd		0.9666						1.16		8750.681	0.194
134679-HxCDF	NotFnd		0.9731						1.16		8750.681	0.194
124679-HxCDF	NotFnd		0.9788						1.16		8750.681	0.194
124689-HxCDF	NotFnd		0.9852						1.16		8750.681	0.194
123467-HxCDF	NotFnd		0.9971						1.16		8750.681	0.194
123478-HxCDF	**35.49**		**1.0005**	**1.0005**	**0**	**2.16E+07**	**1.28**	**Y**	**1.23**	**54**	**8750.681**	**0.179**
123678-HxCDF	**35.63**		**1.0005**	**1.0005**	**0**	**2.42E+07**	**1.28**	**Y**	**1.13**	**53.1**	**8750.681**	**0.16**
123479-HxCDF	NotFnd		1.0050						1.16		8750.681	0.194
123469-HxCDF	NotFnd		1.0092						1.16		8750.681	0.194
123679-HxCDF	NotFnd		0.9942						1.16		8750.681	0.194
234678-HxCDF	**36.29**		**1.0004**	**1.0006**	**+0.4**	**1.49E+07**	**1.26**	**Y**	**1.15**	**50.8**	**8750.681**	**0.241**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8750.681	0.194
123789-HxCDF	**37.25**		**1.0005**	**1.0004**	**-0.2**	**1.84E+07**	**1.25**	**Y**	**1.14**	**51.5**	**8750.681**	**0.215**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		8750.681	0.194
1234678-HpCDF	**38.85**		**1.0003**	**1.0003**	**0**	**2.30E+07**	**1.05**	**Y**	**1.36**	**53.5**	**6879.407**	**0.108**
1234679-HpCDF	NotFnd		1.0074						1.33		6879.407	0.122
1234689-HpCDF	NotFnd		1.0112						1.33		6879.407	0.122
1234789-HpCDF	**40.22**		**1.0002**	**1.0002**	**0**	**1.64E+07**	**1.04**	**Y**	**1.30**	**53.5**	**6879.407**	**0.142**
OCDF	**42.39**		**1.0003**	**1.0003**	**0**	**2.20E+07**	**0.90**	**Y**	**1.03**	**109**	**9397.423**	**0.335**
OCDF-a	42.39	**EMPC**	1.0002	1.0002	0	1.05E+06	3.23	N	0.06	90.8	11828.236	7.29

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220118R16	Analysis Date:	18-JAN-2022 22:54:26
Lab ID:	OPR1_18838_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.22	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.1	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56.5	35	-	70	Y
OCDD	100	107	78	-	144	Y
2,3,7,8-TCDF	10	12.3	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	53	40	-	67	Y
2,3,4,7,8-PeCDF	50	59.4	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	54	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	51.5	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	53.5	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	53.5	39	-	69	Y
OCDF	100	109	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 19 Jan 2022 09:33 Analyst: gd

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220118R16 Analysis Date: 18-JAN-2022 22:54:26

Lab ID: OPR1_18838_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	85.8	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	76.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	93.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	100	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	90.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	84.8	26	-	166	Y
13C-OCDD	200	143	26	-	397	Y
13C-2,3,7,8-TCDF	100	81.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	87.6	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	84.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	94.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	103	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	70.7	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	92	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	111	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	92.6	20	-	186	Y
13C-OCDF	200	141	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	32.3	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 19 Jan 2022 09:33 Analyst: gd

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220118R16	Analysis Date:	18-JAN-2022 22:54:26
Lab ID:	OPR1_18838_DF		

Window Defining Standards Results

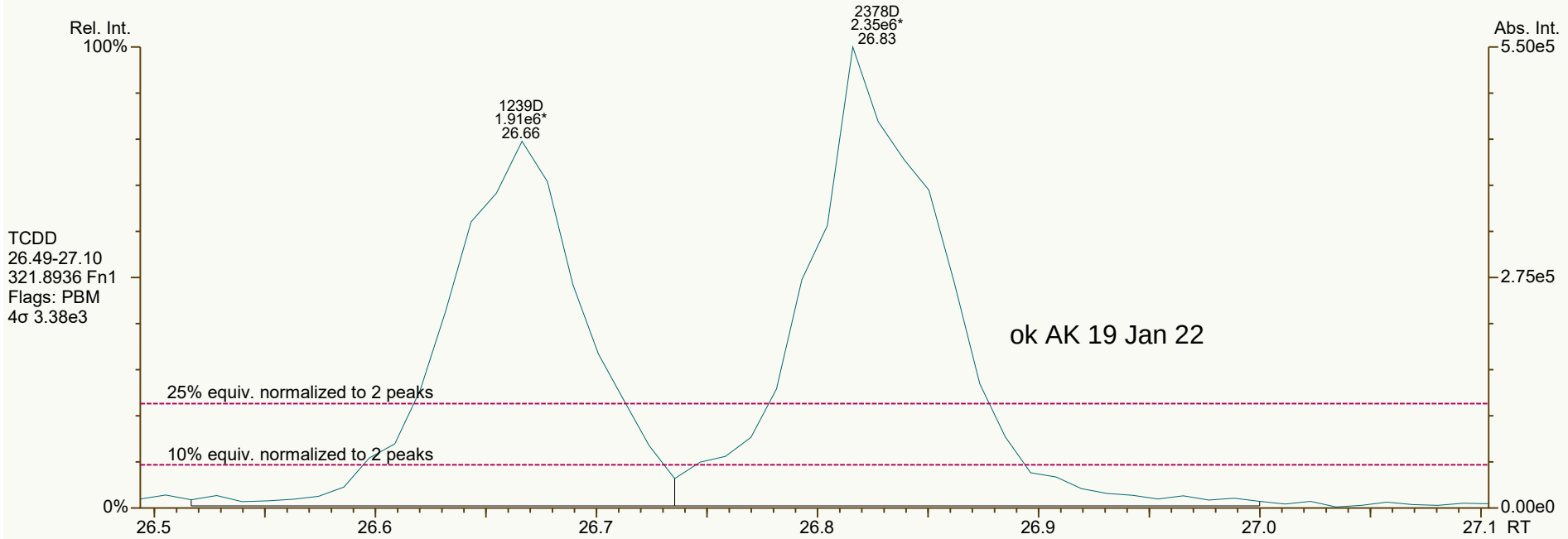
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	22.77	1289-TCDD	27.88
12479/12468-PeCDD	29.90	12389-PeCDD	32.95
124679/124689-HxCDD	34.75	123789-HxCDD	36.87
1234679-HpCDD	39.14	1234678-HpCDD	39.81
1368-TCDF	20.55	1289-TCDF	28.05
13468/12468-PeCDF	28.00	12389-PeCDF	33.25
123468-HxCDF	34.08	123789-HxCDF	37.25
1234678-HpCDF	38.85	1234789-HpCDF	40.22

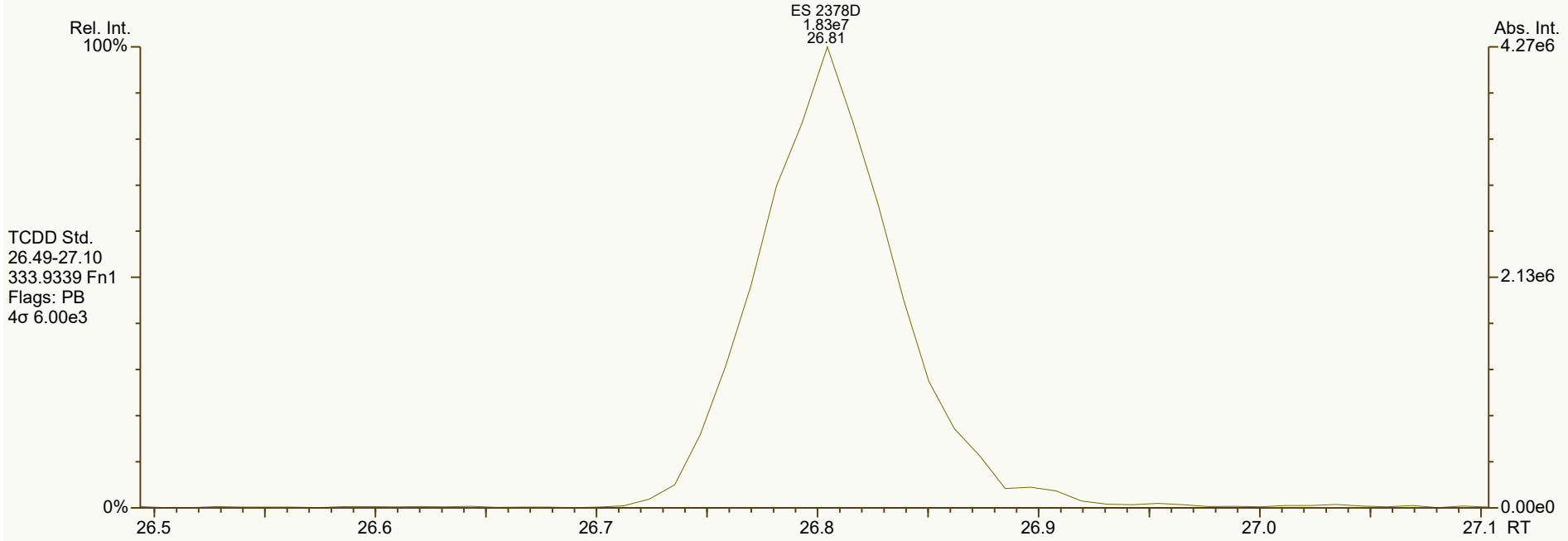
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	26.66	2378-TCDD	26.83
2348-TCDF	25.77	2378-TCDF	25.89

Processed: 19 Jan 2022 09:33 Analyst: gd

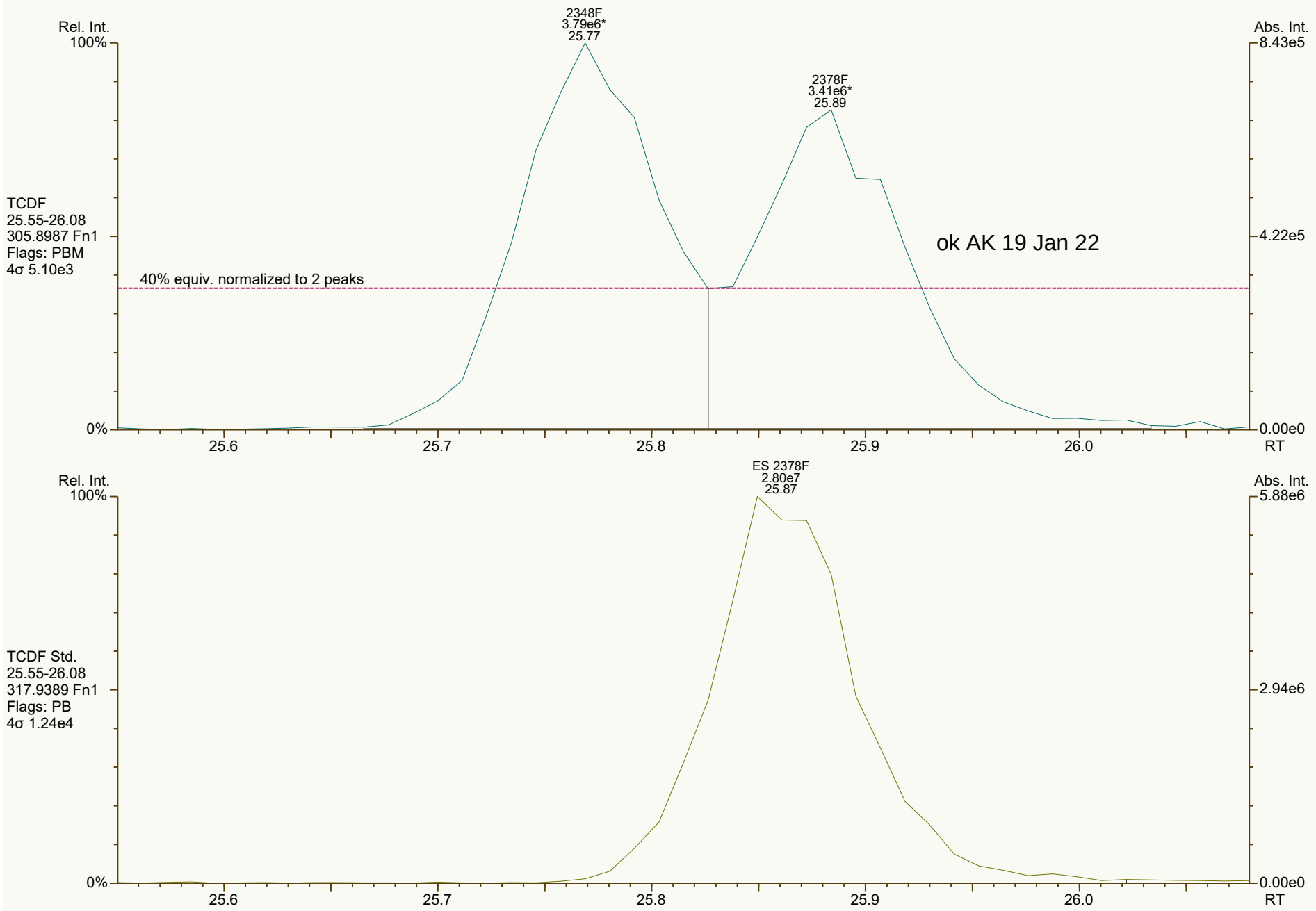
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Sample ID: 0_18838_OPR001
Acq: 18-Jan-2022 22:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16



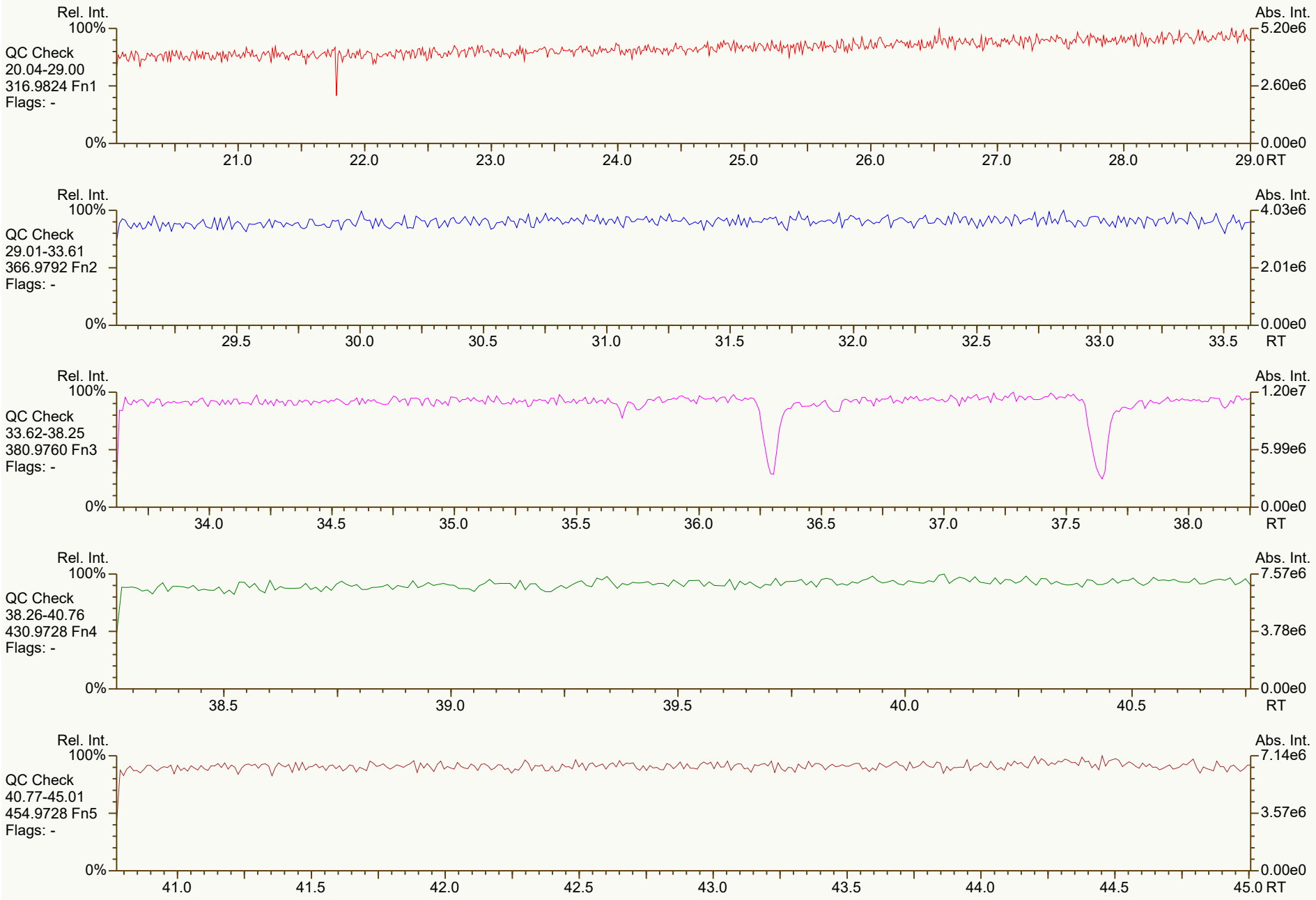


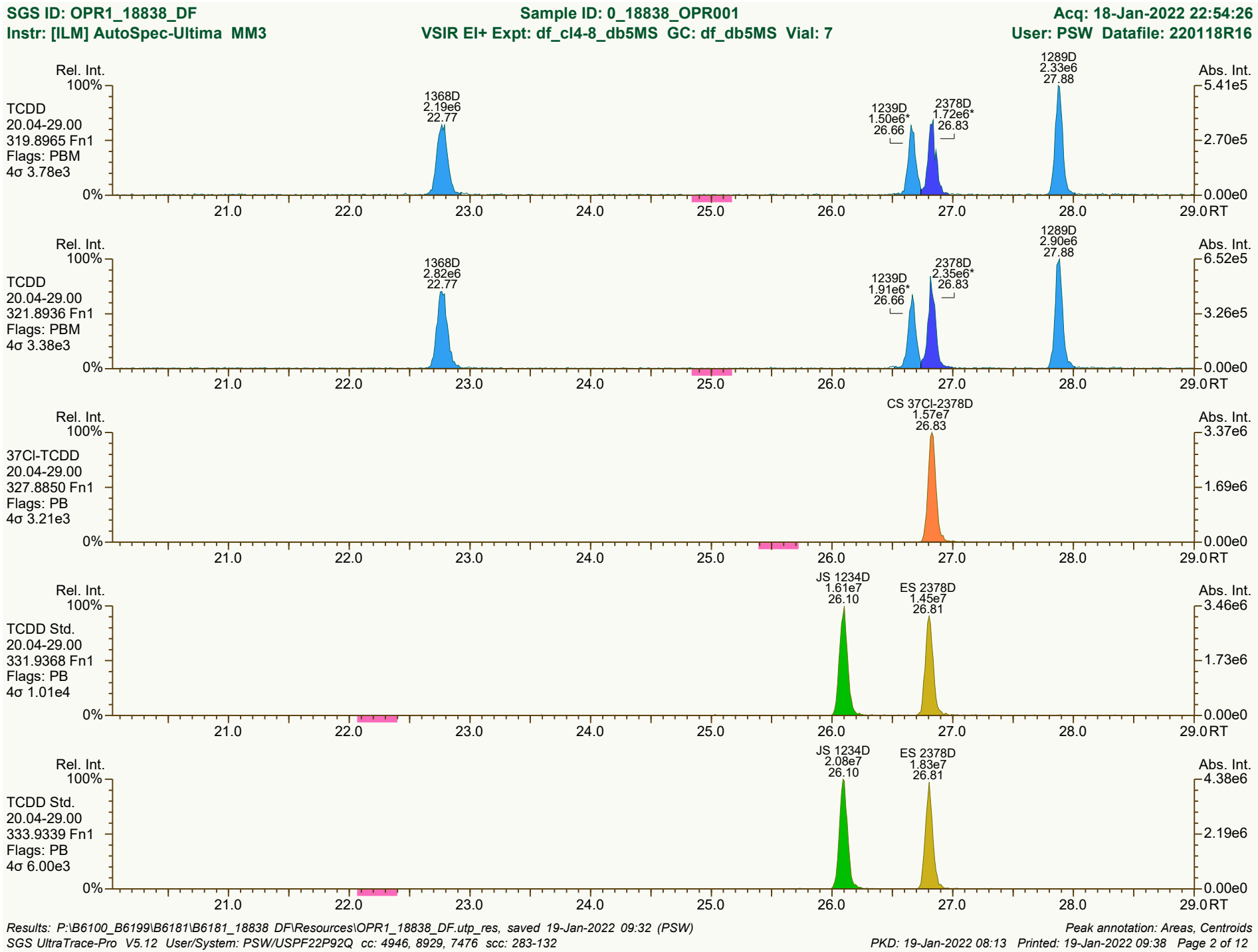
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 19-Jan-2022 08:13 Printed: 19-Jan-2022 09:38

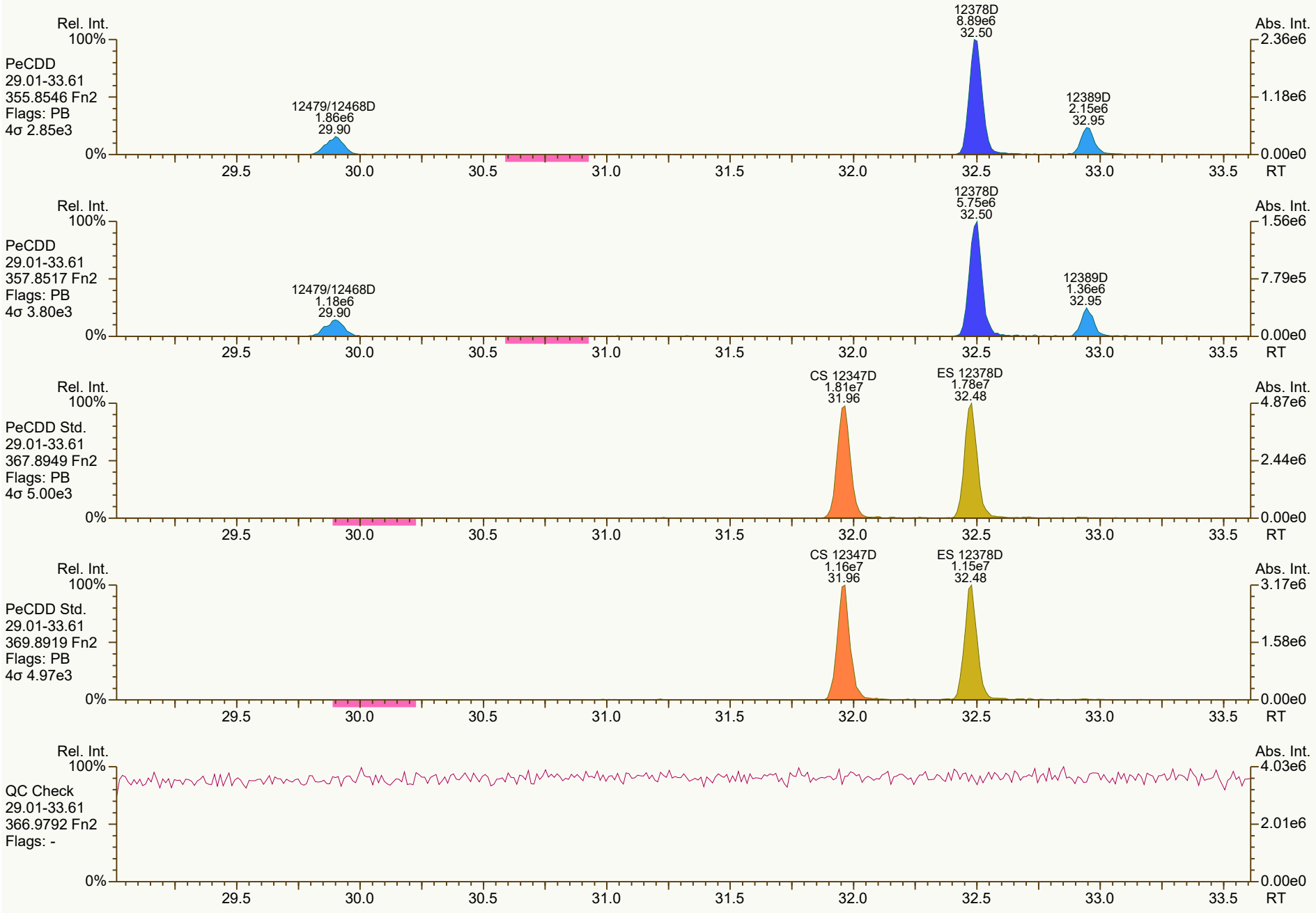
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Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16



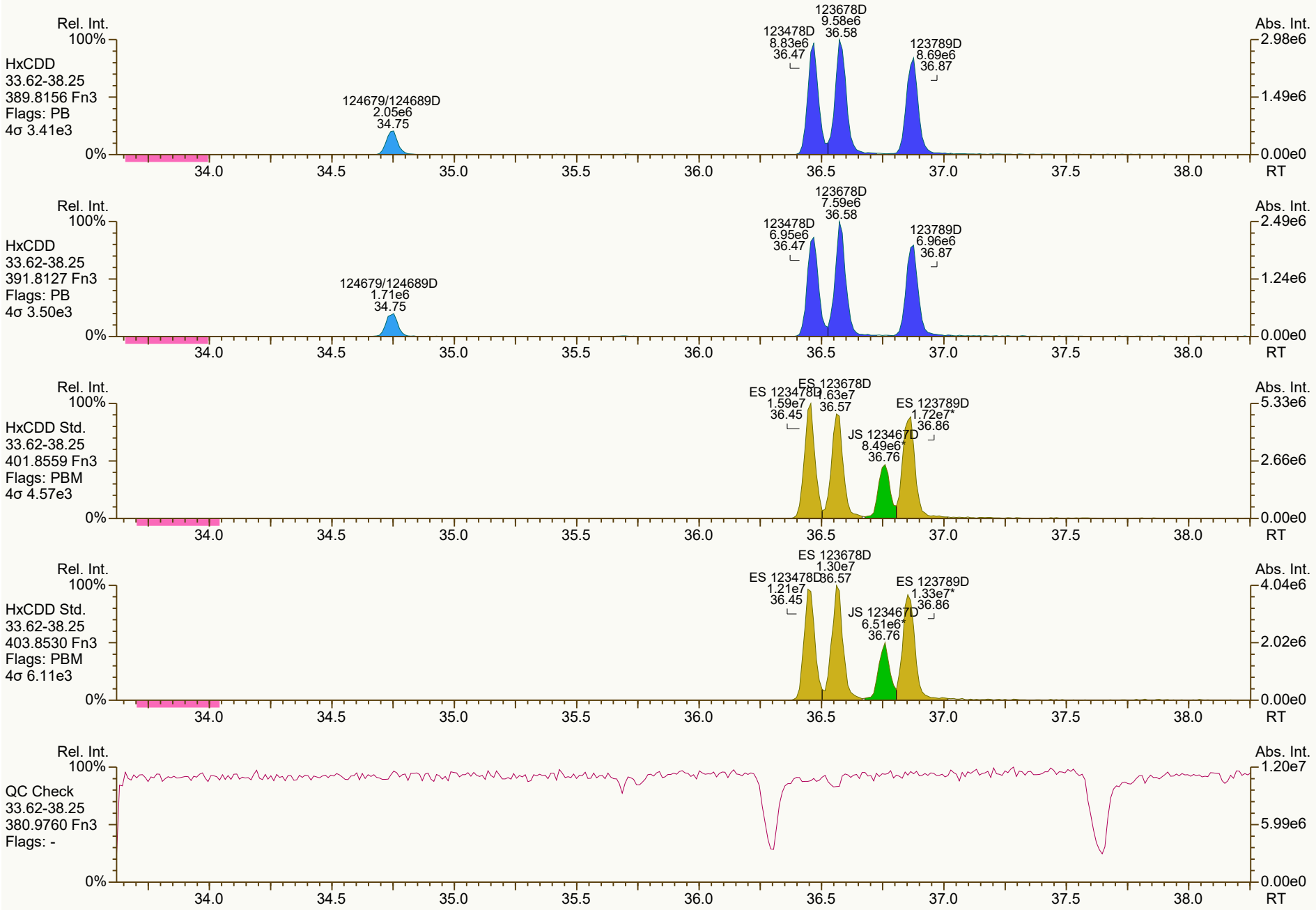
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 19-Jan-2022 08:13 (PSW) Printed: 19-Jan-2022 09:38


Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.20e6
2.60e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.03e6
2.01e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.20e7
5.99e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.26-40.76
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.57e6
3.78e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.14e6
3.57e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

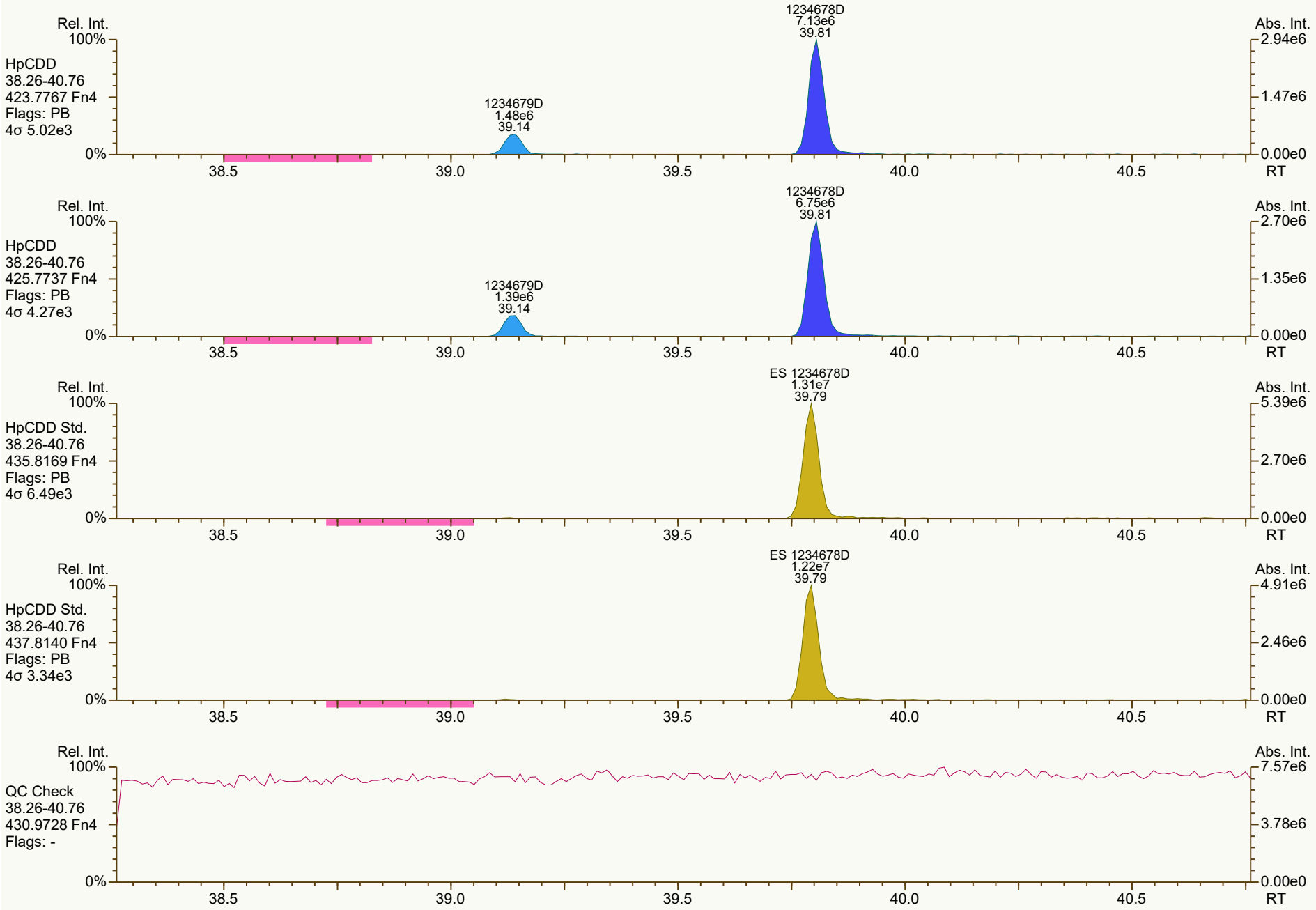

SGS ID: OPR1_18838_DF
Sample ID: 0_18838_OPR001
Acq: 18-Jan-2022 22:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 3.78e3
1368D
2.19e6
22.77
1239D
1.50e6*
26.66
2378D
1.72e6*
26.83
1289D
2.33e6
27.88
5.41e5
2.70e5
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 3.38e3
1368D
2.82e6
22.77
1239D
1.91e6*
26.66
2378D
2.35e6*
26.83
1289D
2.90e6
27.88
6.52e5
3.26e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 3.21e3
CS 37Cl-2378D
1.57e7
26.83
3.37e6
1.69e6
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 1.01e4
JS 1234D
1.61e7
26.10
ES 2378D
1.45e7
26.81
3.46e6
1.73e6
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 6.00e3
JS 1234D
2.08e7
26.10
ES 2378D
1.83e7
26.81
4.38e6
2.19e6
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4946, 8929, 7476 scc: 283-132
PKD: 19-Jan-2022 08:13 Printed: 19-Jan-2022 09:38 Page 2 of 12


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PB
4σ 2.85e3
12479/12468D
1.86e6
29.90
12378D
8.89e6
32.50
12389D
2.15e6
32.95
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PB
4σ 3.80e3
12479/12468D
1.18e6
29.90
12378D
5.75e6
32.50
12389D
1.36e6
32.95
Abs. Int.
1.56e6
7.79e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 5.00e3
CS 12347D
1.81e7
31.96
ES 12378D
1.78e7
32.48
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 4.97e3
CS 12347D
1.16e7
31.96
ES 12378D
1.15e7
32.48
Abs. Int.
3.17e6
1.58e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
Abs. Int.
4.03e6
2.01e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT

SGS ID: OPR1_18838_DF
Sample ID: 0_18838_OPR001
Acq: 18-Jan-2022 22:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16



Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0805, 9699 scc: 283-132
PKD: 19-Jan-2022 08:13 Printed: 19-Jan-2022 09:38 Page 4 of 12


Rel. Int.
100%
HpCDD
38.26-40.76
423.7767 Fn4
Flags: PB
4σ 5.02e3
1234678D
7.13e6
39.81
1234679D
1.48e6
39.14
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.26-40.76
425.7737 Fn4
Flags: PB
4σ 4.27e3
1234678D
6.75e6
39.81
1234679D
1.39e6
39.14
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.26-40.76
435.8169 Fn4
Flags: PB
4σ 6.49e3
ES 1234678D
1.31e7
39.79
Abs. Int.
5.39e6
2.70e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.26-40.76
437.8140 Fn4
Flags: PB
4σ 3.34e3
ES 1234678D
1.22e7
39.79
Abs. Int.
4.91e6
2.46e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.26-40.76
430.9728 Fn4
Flags: -
Abs. Int.
7.57e6
3.78e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT

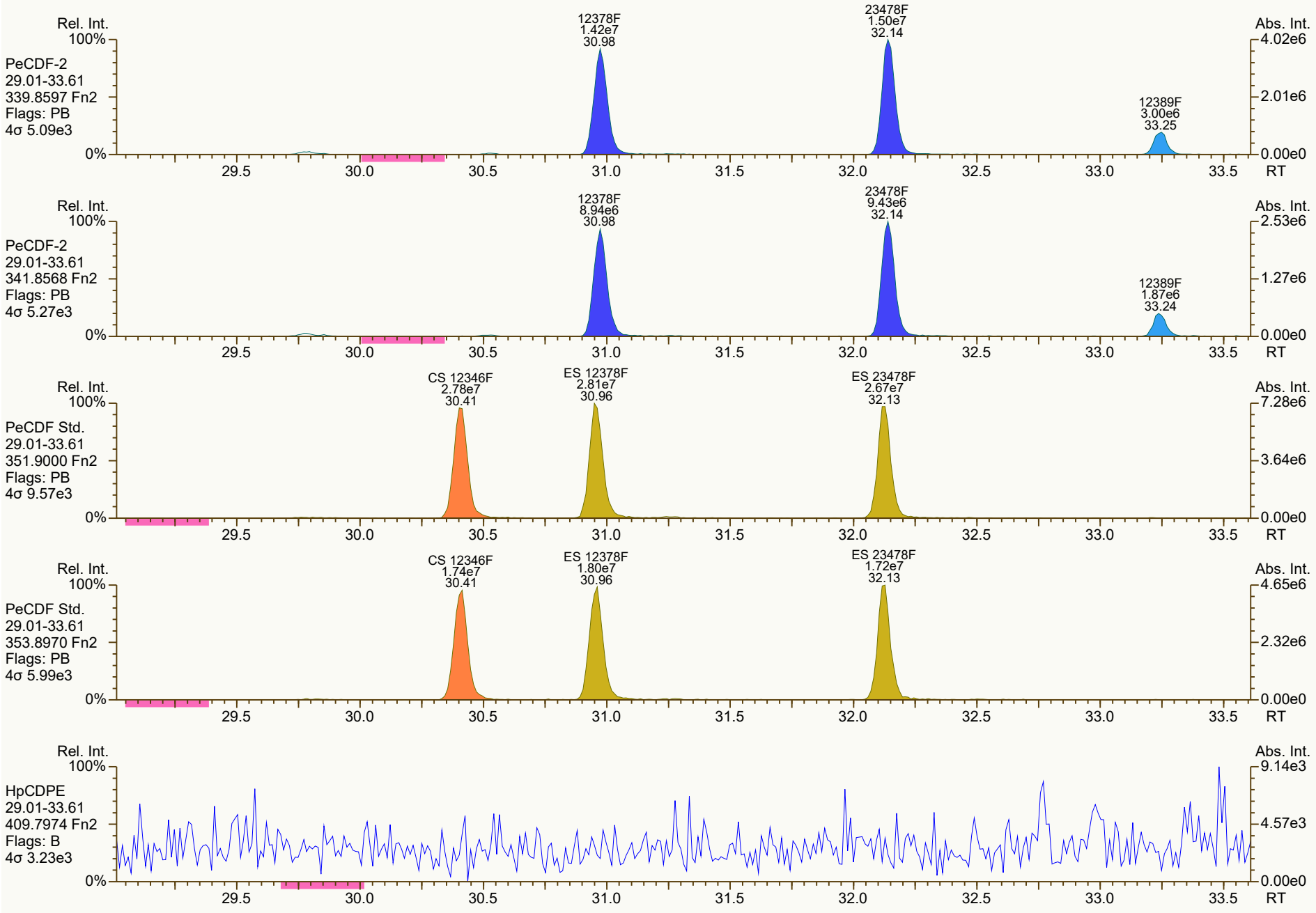

OCDD
9.06e6
42.23
Rel. Int.
100%
OCDD
40.77-45.01
457.7377 Fn5
Flags: PB
4σ 5.45e3
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.00e7
42.23
Rel. Int.
100%
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 7.47e3
0%
Abs. Int.
3.45e6
1.72e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.57e7
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 5.29e3
0%
Abs. Int.
5.62e6
2.81e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 7.94e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.14e6
3.57e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



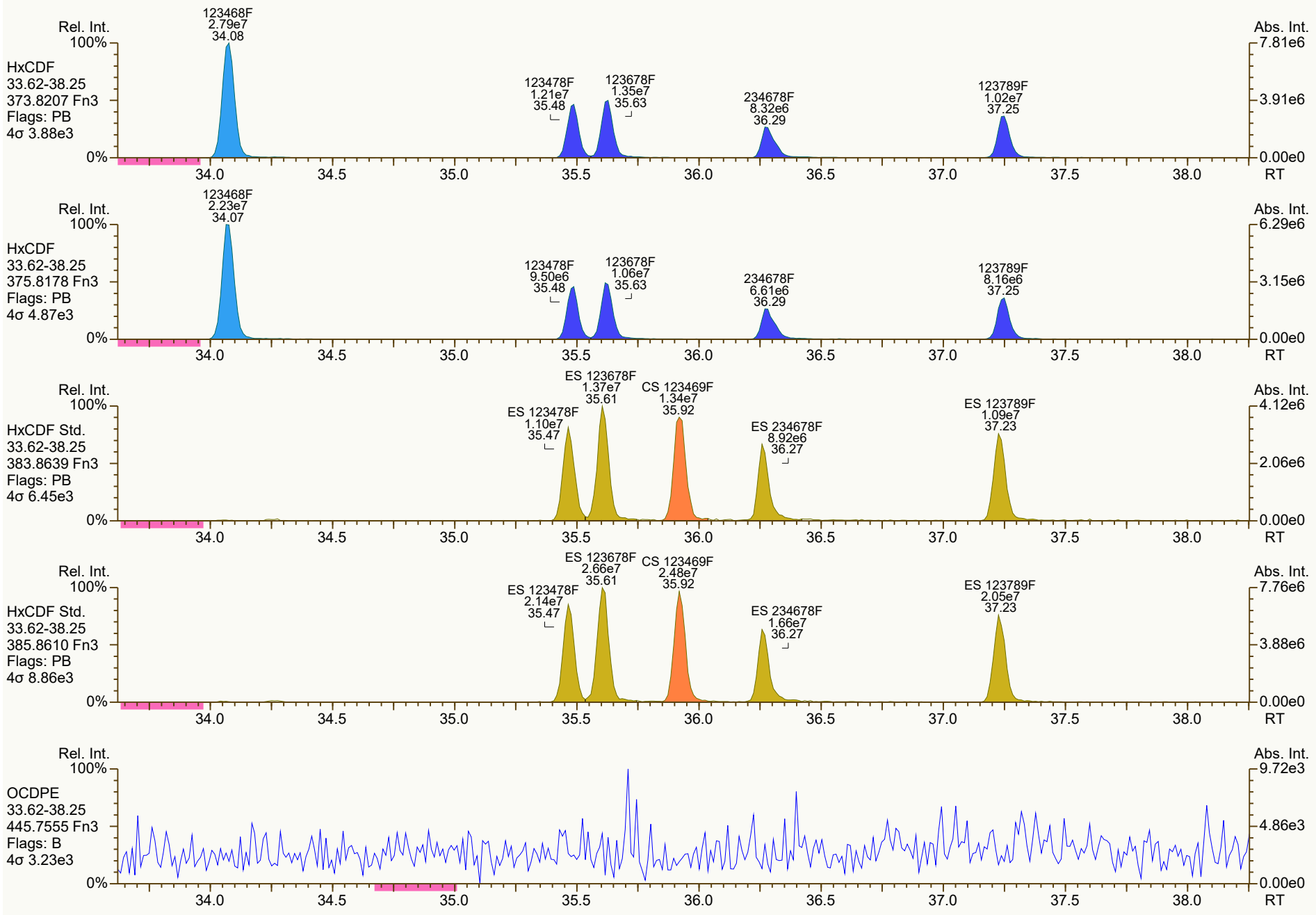
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4040, 5428, 4288 scc: 283-132 *Revised: 19-Jan-2022 08:13 (PSW) Printed: 19-Jan-2022 09:38 Page 7 of 12*

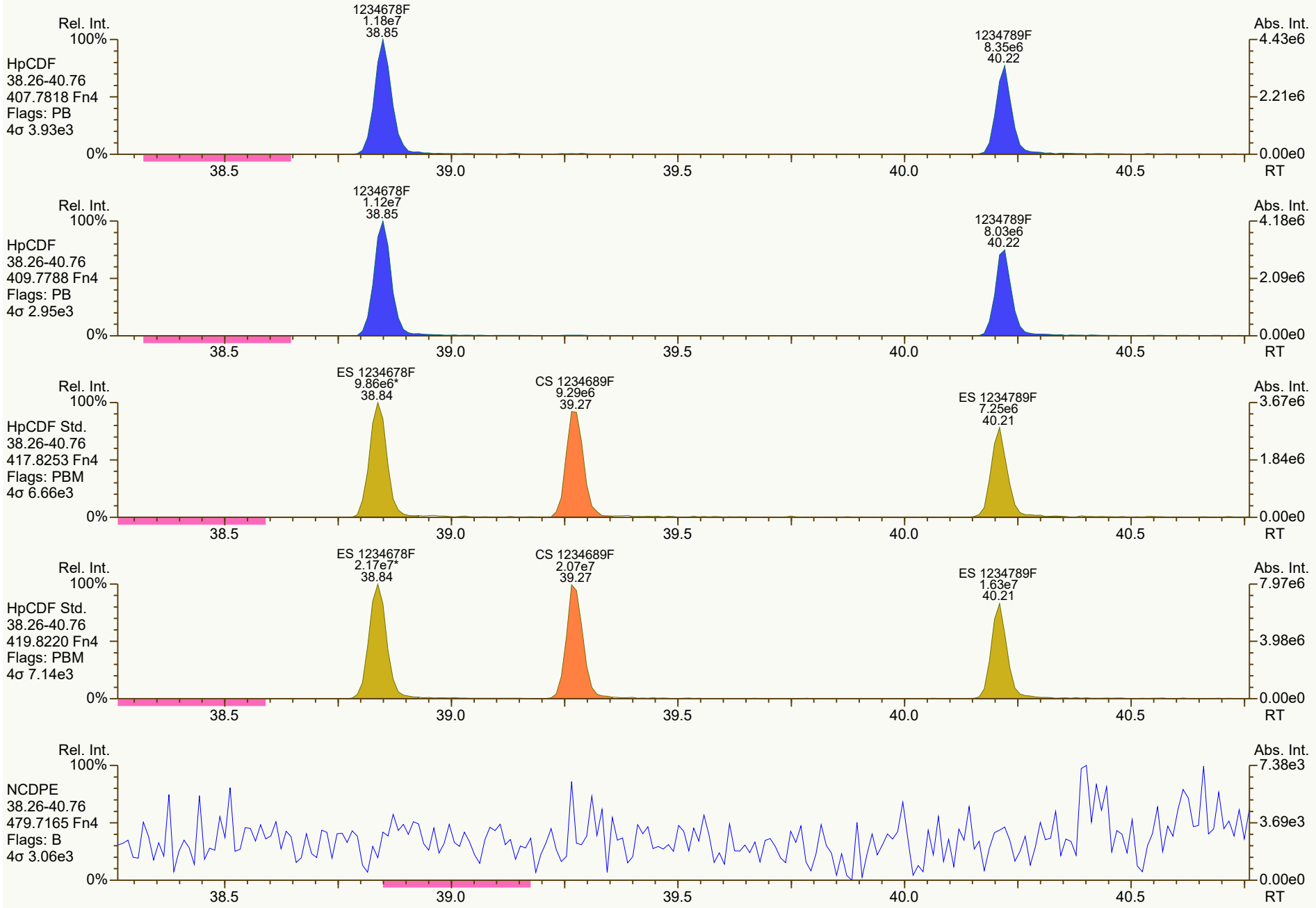

SGS ID: OPR1_18838_DF
Sample ID: 0_18838_OPR001
Acq: 18-Jan-2022 22:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 3.30e3
13468/12468F
2.59e7
28.00
Abs. Int.
5.93e6
2.97e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 4.21e3
13468/12468F
1.61e7
28.00
3.75e6
1.88e6
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
5.20e6
2.60e6
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8518 scc: 283-132
PKD: 19-Jan-2022 08:13 Printed: 19-Jan-2022 09:38 Page 8 of 12

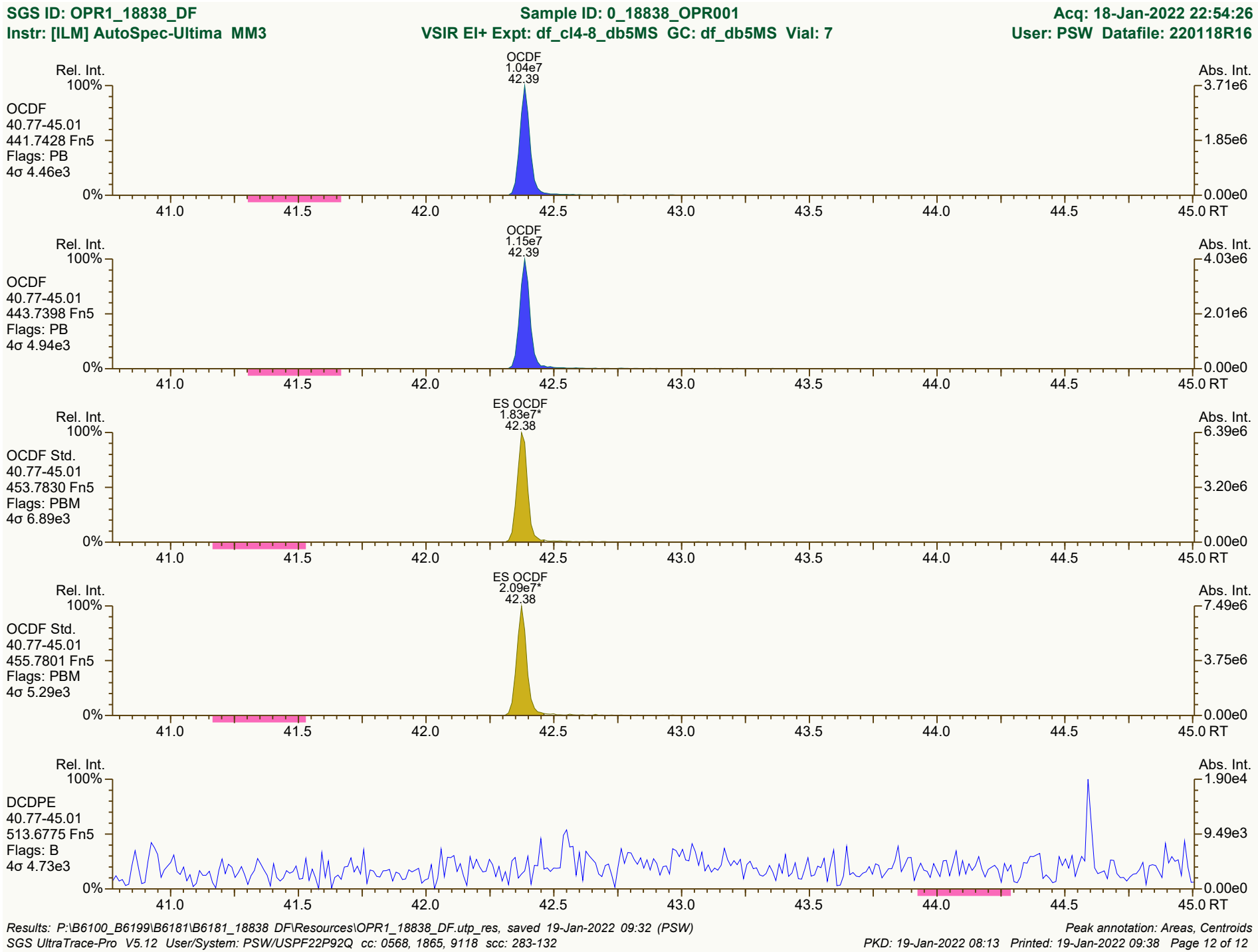

Rel. Int.
100%
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 5.09e3
0%
12378F
1.42e7
30.98
23478F
1.50e7
32.14
12389F
3.00e6
33.25
Abs. Int.
4.02e6
2.01e6
0.00e0
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Rel. Int.
100%
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 5.27e3
0%
12378F
8.94e6
30.98
23478F
9.43e6
32.14
12389F
1.87e6
33.24
Abs. Int.
2.53e6
1.27e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 9.57e3
0%
CS 12346F
2.78e7
30.41
ES 12378F
2.81e7
30.96
ES 23478F
2.67e7
32.13
Abs. Int.
7.28e6
3.64e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 5.99e3
0%
CS 12346F
1.74e7
30.41
ES 12378F
1.80e7
30.96
ES 23478F
1.72e7
32.13
Abs. Int.
4.65e6
2.32e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.23e3
0%
Abs. Int.
9.14e3
4.57e3
0.00e0
RT

SGS ID: OPR1_18838_DF
Sample ID: 0_18838_OPR001
Acq: 18-Jan-2022 22:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16



Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6880, 9478, 5793 scc: 283-132
PKD: 19-Jan-2022 08:13 Printed: 19-Jan-2022 09:38 Page 10 of 12


Rel. Int.
100%
HpCDF
38.26-40.76
407.7818 Fn4
Flags: PB
4σ 3.93e3
0%
1234678F
1.18e7
38.85
1234789F
8.35e6
40.22
Abs. Int.
4.43e6
2.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
HpCDF
38.26-40.76
409.7788 Fn4
Flags: PB
4σ 2.95e3
1234678F
1.12e7
38.85
1234789F
8.03e6
40.22
4.18e6
2.09e6
HpCDF Std.
38.26-40.76
417.8253 Fn4
Flags: PBM
4σ 6.66e3
ES 1234678F
9.86e6*
38.84
CS 1234689F
9.29e6
39.27
ES 1234789F
7.25e6
40.21
3.67e6
1.84e6
HpCDF Std.
38.26-40.76
419.8220 Fn4
Flags: PBM
4σ 7.14e3
ES 1234678F
2.17e7*
38.84
CS 1234689F
2.07e7
39.27
ES 1234789F
1.63e7
40.21
7.97e6
3.98e6
NCDPE
38.26-40.76
479.7165 Fn4
Flags: B
4σ 3.06e3
7.38e3
3.69e3


SGS ID: OPR1_18838_DF
Sample ID: 0_18838_OPR001
Acq: 18-Jan-2022 22:54:26
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220118R16
Rel. Int.
Abs. Int.
OCDF
1.04e7
42.39
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 4.46e3
3.71e6
1.85e6
0.00e0
OCDF
1.15e7
42.39
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 4.94e3
4.03e6
2.01e6
ES OCDF
1.83e7*
42.38
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PBM
4σ 6.89e3
6.39e6
3.20e6
ES OCDF
2.09e7*
42.38
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PBM
4σ 5.29e3
7.49e6
3.75e6
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 4.73e3
1.90e4
9.49e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR1_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0568, 1865, 9118 scc: 283-132
PKD: 19-Jan-2022 08:13 Printed: 19-Jan-2022 09:38 Page 12 of 12

Lab ID: OPR2_18838_DF **Acq'd: 18 Jan 2022 23:41 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR002 **UTP: 19-Jan-2022 09:32:42 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 650-262-JPV**

Datafile: 220118R17 **Report: 19 Jan 2022 09:33 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.83		1.0008	1.0010	+0.3	4.73E+06	0.80	Y	1.34	9.23	13363.822	0.299
12378-PeCDD	32.49		1.0006	1.0006	0	1.76E+07	1.58	Y	1.06	46.6	10334.233	0.257
123478-HxCDD	36.46		1.0004	1.0004	0	1.92E+07	1.31	Y	1.06	53.8	8537.755	0.193
123678-HxCDD	36.57		1.0035	1.0035	0	2.04E+07	1.27	Y	1.08	57.9	8537.755	0.204
123789-HxCDD	36.87		1.0115	1.0115	0	2.00E+07	1.27	Y	1.02	52	8537.755	0.193
1234678-HpCDD	39.80		1.0003	1.0003	0	1.71E+07	1.06	Y	0.97	55.5	10108.736	0.198
OCDD	42.22		1.0003	1.0003	0	2.21E+07	0.89	Y	1.07	110	13362.557	0.492
2378-TCDF	25.89		1.0008	1.0010	+0.3	6.57E+06	0.71	Y	0.96	11.8	10639.118	0.22
12378-PeCDF	30.97		1.0006	1.0006	0	2.92E+07	1.57	Y	0.95	54.9	13643.562	0.257
23478-PeCDF	32.14		1.0006	1.0006	0	3.06E+07	1.59	Y	0.94	60.5	13643.562	0.256
123478-HxCDF	35.48		1.0005	1.0005	0	2.73E+07	1.27	Y	1.23	56.4	12151.841	0.205
123678-HxCDF	35.62		1.0005	1.0005	0	3.08E+07	1.29	Y	1.13	55.6	12151.841	0.174
234678-HxCDF	36.28		1.0004	1.0006	+0.4	1.68E+07	1.29	Y	1.15	50.3	12151.841	0.316
123789-HxCDF	37.24		1.0005	1.0004	-0.2	2.36E+07	1.25	Y	1.14	54.2	12151.841	0.256
1234678-HpCDF	38.84		1.0003	1.0003	0	2.90E+07	1.06	Y	1.36	55.8	12045.67	0.157
1234789-HpCDF	40.21		1.0002	1.0003	+0.2	2.04E+07	1.03	Y	1.30	54.9	12045.67	0.195
OCDF	42.38		1.0003	1.0002	-0.3	2.57E+07	0.92	Y	1.03	111	11055.898	0.355

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.80	1.0270	1.0272	+0.3	3.81E+07	0.78	Y	1.03	91.6
ES 12378-PeCDD	32.47	1.2424	1.2444	+3.9	3.56E+07	1.65	Y	1.03	85.6
ES 123478-HxCDD	36.45	0.9918	0.9918	0	3.39E+07	1.25	Y	0.99	96.3
ES 123678-HxCDD	36.56	0.9948	0.9948	0	3.25E+07	1.26	Y	0.97	94.4
ES 123789-HxCDD	36.85	1.0028	1.0028	0	3.79E+07	1.26	Y	1.12	95.3
ES 1234678-HpCDD	39.79	1.0820	1.0827	+1.7	3.17E+07	1.05	Y	0.99	90.3
ES OCDD	42.21	1.1479	1.1486	+1.8	3.76E+07	0.89	Y	0.78	68.5
ES 2378-TCDF	25.87	1.0611	1.0619	+1.2	5.78E+07	0.79	Y	1.08	86.5
ES 12378-PeCDF	30.95	1.2682	1.2708	+4.8	5.61E+07	1.53	Y	0.93	97.5
ES 23478-PeCDF	32.12	1.3157	1.3186	+5.6	5.38E+07	1.57	Y	0.92	94.6
ES 123478-HxCDF	35.46	0.9650	0.9650	0	3.92E+07	0.52	Y	1.14	96.9
ES 123678-HxCDF	35.60	0.9689	0.9688	-0.2	4.90E+07	0.53	Y	1.30	107
ES 234678-HxCDF	36.26	0.9869	0.9868	-0.2	2.90E+07	0.53	Y	1.20	68.1
ES 123789-HxCDF	37.23	1.0130	1.0130	0	3.84E+07	0.53	Y	1.14	95.6
ES 1234678-HpCDF	38.83	1.0563	1.0567	+0.9	3.83E+07	0.45	Y	0.95	114
ES 1234789-HpCDF	40.20	1.0933	1.0939	+1.4	2.86E+07	0.46	Y	0.85	95.5
ES OCDF	42.37	1.1522	1.1530	+2.0	4.52E+07	0.89	Y	0.93	68.9

Lab ID: OPR2_18838_DF | Acq'd: 18 Jan 2022 23:41 PSW | Wt/Vol: 1 uL | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18838_OPR002 | UTP: 19-Jan-2022 09:32:42 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 650-262-JPV

Datafile: 220118R17 | Report: 19 Jan 2022 09:33 gd | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.09		-	-	-	4.02E+07	0.78	Y	-	-
JS 1234-TCDF	24.36		-	-	-	6.16E+07	0.77	Y	-	-
JS 123467-HxCDD	36.75		-	-	-	1.77E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	26.83		1.0278	1.0281	+0.5	1.86E+07	n/a	-	1.31	88.1
CS 12347-PeCDD	31.95		1.2228	1.2247	+3.6	3.51E+07	1.59	Y	0.89	97.9
CS 12346-PeCDF	30.40		1.2457	1.2482	+4.6	5.51E+07	1.53	Y	0.87	103
CS 123469-HxCDF	35.92		0.9774	0.9773	-0.2	4.63E+07	0.52	Y	1.09	120
CS 1234689-HpCDF	39.27		1.0680	1.0685	+1.2	3.69E+07	0.43	Y	0.86	121
~~SS 37Cl-2378-TCDD~~	~~26.83~~		~~1.0278~~	~~1.0281~~	~~+0.5~~	~~1.86E+07~~	~~n/a~~		~~1.26~~	~~96.7~~
~~SS 12347-PeCDD~~	~~31.95~~		~~1.2228~~	~~1.2247~~	~~+3.6~~	~~3.51E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~114~~
~~SS 12346-PeCDF~~	~~30.40~~		~~1.2457~~	~~1.2482~~	~~+4.6~~	~~5.51E+07~~	~~1.53~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~35.92~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~4.63E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~112~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0680~~	~~1.0685~~	~~+1.2~~	~~3.69E+07~~	~~0.43~~	~~Y~~	~~0.91~~	~~106~~

Totals	Conc	EMPC
Total TCDD	41.7	41.7
Total PeCDD	68.2	68.2
Total HxCDD	177	177
Total HpCDD	67.6	67.6
Total Tetra-Octa Dioxins	465	465
Total TCDF	63.2	63.2
Total PeCDF	221	221
Total HxCDF	358	358
Total HpCDF	111	111
Total Tetra-Octa Furans	864	864
Total Tetra-Octa Dioxins & Furans	1330	1330

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	4.74E+06	4.73E+06

Lab ID: OPR2_18838_DF | **Acq'd: 18 Jan 2022 23:41 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR002 | **UTP: 19-Jan-2022 09:32:42 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 650-262-JPV**

Datafile: 220118R17 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.78		0.8514	0.8498	-2.2	5.94E+06	0.77	Y	1.34	11.6	13363.822	0.299
1379-TCDD	NotFnd		0.8665						1.34		13363.822	0.299
1369-TCDD	NotFnd		0.8845						1.34		13363.822	0.299
1469-TCDD	NotFnd		0.9165						1.34		13363.822	0.299
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		13363.822	0.299
1378-TCDD	NotFnd		0.9343						1.34		13363.822	0.299
1268-TCDD	NotFnd		0.9424						1.34		13363.822	0.299
1478-TCDD	NotFnd		0.9525						1.34		13363.822	0.299
1279-TCDD	NotFnd		0.9592						1.34		13363.822	0.299
1234/1269-TCDD	NotFnd		0.9735						1.34		13363.822	0.299
1236-TCDD	NotFnd		0.9790						1.34		13363.822	0.299
1237/1238-TCDD	NotFnd		0.9893						1.34		13363.822	0.299
1239-TCDD	26.66		0.9947	0.9947	0	4.27E+06	0.79	Y	1.34	8.35	13363.822	0.299
2378-TCDD	**26.83**		**1.0008**	1.0010	**+0.3**	4.73E+06	0.80	Y	**1.34**	**9.23**	**13363.822**	**0.299**
1278-TCDD	NotFnd		1.0140						1.34		13363.822	0.299
1267-TCDD	NotFnd		1.0196						1.34		13363.822	0.299
1289-TCDD	27.88		1.0396	1.0400	+0.7	6.41E+06	0.81	Y	1.34	12.5	13363.822	0.299
12479/12468-PeCDD	29.89		0.9208	0.9206	-0.4	3.86E+06	1.61	Y	1.06	10.2	10334.233	0.257
12469-PeCDD	NotFnd		0.9381						1.06		10334.233	0.257
12368-PeCDD	NotFnd		0.9557						1.06		10334.233	0.257
12478-PeCDD	NotFnd		0.9617						1.06		10334.233	0.257
12379-PeCDD	NotFnd		0.9648						1.06		10334.233	0.257
12369/12467/12489-PeCDD	NotFnd		0.9732						1.06		10334.233	0.257
12346/12347-PeCDD	NotFnd		0.9849						1.06		10334.233	0.257
12378-PeCDD	32.49		**1.0006**	**1.0006**	**0**	**1.76E+07**	**1.58**	**Y**	**1.06**	**46.6**	**10334.233**	**0.257**
12367-PeCDD	NotFnd		1.0037						1.06		10334.233	0.257
12389-PeCDD	32.94		1.0145	1.0145	0	4.32E+06	1.63	Y	1.06	11.4	10334.233	0.257
124679/124689-HxCDD	34.74		0.9534	0.9532	-0.4	4.93E+06	1.27	Y	1.05	13.5	8537.755	0.196
123468-HxCDD	NotFnd		0.9715						1.05		8537.755	0.196
123679/123689-HxCDD	NotFnd		0.9797						1.05		8537.755	0.196
123469-HxCDD	NotFnd		0.9834						1.05		8537.755	0.196
123478-HxCDD	36.46		**1.0004**	**1.0004**	**0**	**1.92E+07**	**1.31**	**Y**	1.06	**53.8**	**8537.755**	**0.193**
123678-HxCDD	36.57		**1.0035**	**1.0035**	**0**	**2.04E+07**	**1.27**	**Y**	1.08	**57.9**	**8537.755**	**0.204**
123467-HxCDD	NotFnd		1.0087						1.05		8537.755	0.196
123789-HxCDD	36.87		**1.0115**	**1.0115**	**0**	**2.00E+07**	**1.27**	**Y**	1.02	**52**	**8537.755**	**0.193**

Lab ID: OPR2_18838_DF | **Acq'd: 18 Jan 2022 23:41 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR002 | **UTP: 19-Jan-2022 09:32:42 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 650-262-JPV**

Datafile: 220118R17 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.13		0.9835	0.9835	0	3.75E+06	0.99	Y	0.97	12.1	10108.736	0.198
1234678-HpCDD	**39.80**		**1.0003**	**1.0003**	**0**	**1.71E+07**	**1.06**	**Y**	**0.97**	**55.5**	**10108.736**	**0.198**
OCDD	**42.22**		**1.0003**	**1.0003**	**0**	**2.21E+07**	**0.89**	**Y**	**1.07**	**110**	**13362.557**	**0.492**
OCDD-a	42.21		1.0002	1.0001	-0.3	1.35E+06	2.25	Y	0.07	109	13236.8	7.89
1368-TCDF	20.56		0.7966	0.7949	-2.1	8.51E+06	0.77	Y	0.96	15.3	10639.118	0.22
1468-TCDF	NotFnd		0.8179						0.96		10639.118	0.22
2468-TCDF	21.77		0.8432	0.8415	-2.2	1.95E+06	0.73	Y	0.96	3.5	10639.118	0.22
1346/1246-TCDF	NotFnd		0.8572						0.96		10639.118	0.22
1347/1378/1247-TCDF	NotFnd		0.8641						0.96		10639.118	0.22
1348-TCDF	NotFnd		0.8764						0.96		10639.118	0.22
1248/1367/1379-TCDF	NotFnd		0.8820						0.96		10639.118	0.22
1268-TCDF	NotFnd		0.8986						0.96		10639.118	0.22
1467-TCDF	NotFnd		0.9044						0.96		10639.118	0.22
1478-TCDF	NotFnd		0.9117						0.96		10639.118	0.22
1369/1237-TCDF	NotFnd		0.9276						0.96		10639.118	0.22
2467-TCDF	NotFnd		0.9334						0.96		10639.118	0.22
2368-TCDF	NotFnd		0.9400						0.96		10639.118	0.22
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9436						0.96		10639.118	0.22
1278-TCDF	NotFnd		0.9628						0.96		10639.118	0.22
1349-TCDF	NotFnd		0.9678						0.96		10639.118	0.22
1267-TCDF	NotFnd		0.9745						0.96		10639.118	0.22
2346/1249-TCDF	NotFnd		0.9823						0.96		10639.118	0.22
2347/1279-TCDF	NotFnd		0.9916						0.96		10639.118	0.22
2348-TCDF	25.77		0.9964	0.9964	0	8.64E+06	0.82	Y	0.96	15.5	10639.118	0.22
2378-TCDF	**25.89**		**1.0008**	**1.0010**	**+0.3**	**6.57E+06**	**0.71**	**Y**	**0.96**	**11.8**	**10639.118**	**0.22**
2367/3467-TCDF	NotFnd		1.0161						0.96		10639.118	0.22
1269-TCDF	NotFnd		1.0258						0.96		10639.118	0.22
1239-TCDF	NotFnd		1.0370						0.96		10639.118	0.22
1289-TCDF	28.05		1.0833	1.0843	+1.7	9.44E+06	0.76	Y	0.96	17	10639.118	0.22
13468/12468-PeCDF	27.99		0.9054	0.9044	-1.7	4.86E+07	1.56	Y	0.94	93.9	10380.485	0.195
13678/13467/12467-PeCDF	NotFnd		0.9578						0.94		13643.562	0.256
12368/13478/12478-PeCDF	NotFnd		0.9632						0.94		13643.562	0.256
14678-PeCDF	NotFnd		0.9666						0.94		13643.562	0.256
13479-PeCDF	NotFnd		0.9696						0.94		13643.562	0.256
13469/12479-PeCDF	NotFnd		0.9784						0.94		13643.562	0.256
12346-PeCDF	NotFnd		0.9828						0.94		13643.562	0.256

Lab ID: OPR2_18838_DF | **Acq'd: 18 Jan 2022 23:41 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18838_OPR002 | **UTP: 19-Jan-2022 09:32:42 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 650-262-JPV**

Datafile: 220118R17 | **Report: 19 Jan 2022 09:33 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9860						0.94		13643.562	0.256
12347-PeCDF	NotFnd		0.9884						0.94		13643.562	0.256
12348-PeCDF	NotFnd		0.9937						0.94		13643.562	0.256
12378-PeCDF	**30.97**		**1.0006**	**1.0006**	**0**	**2.92E+07**	**1.57**	**Y**	**0.95**	**54.9**	**13643.562**	**0.257**
12678/12367-PeCDF	NotFnd		1.0098						0.94		13643.562	0.256
12379-PeCDF	NotFnd		1.0155						0.94		13643.562	0.256
12679-PeCDF	NotFnd		0.9922						0.94		13643.562	0.256
23467/12369-PeCDF	NotFnd		0.9964						0.94		13643.562	0.256
23478-PeCDF	**32.14**		**1.0006**	**1.0006**	**0**	**3.06E+07**	**1.59**	**Y**	**0.94**	**60.5**	**13643.562**	**0.256**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		13643.562	0.256
12349-PeCDF	NotFnd		1.0105						0.94		13643.562	0.256
12389-PeCDF	33.24		1.0346	1.0349	+0.6	6.04E+06	1.58	Y	0.94	11.7	13643.562	0.256
123468-HxCDF	34.07		0.9609	0.9607	-0.4	6.42E+07	1.25	Y	1.16	142	12151.841	0.228
124678/134678-HxCDF	NotFnd		0.9666						1.16		12151.841	0.228
134679-HxCDF	NotFnd		0.9731						1.16		12151.841	0.228
124679-HxCDF	NotFnd		0.9788						1.16		12151.841	0.228
124689-HxCDF	NotFnd		0.9852						1.16		12151.841	0.228
123467-HxCDF	NotFnd		0.9971						1.16		12151.841	0.228
123478-HxCDF	**35.48**		**1.0005**	**1.0005**	**0**	**2.73E+07**	**1.27**	**Y**	**1.23**	**56.4**	**12151.841**	**0.205**
123678-HxCDF	**35.62**		**1.0005**	**1.0005**	**0**	**3.08E+07**	**1.29**	**Y**	**1.13**	**55.6**	**12151.841**	**0.174**
123479-HxCDF	NotFnd		1.0050						1.16		12151.841	0.228
123469-HxCDF	NotFnd		1.0092						1.16		12151.841	0.228
123679-HxCDF	NotFnd		0.9942						1.16		12151.841	0.228
234678-HxCDF	**36.28**		**1.0004**	**1.0006**	**+0.4**	**1.68E+07**	**1.29**	**Y**	**1.15**	**50.3**	**12151.841**	**0.316**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12151.841	0.228
123789-HxCDF	**37.24**		**1.0005**	**1.0004**	**-0.2**	**2.36E+07**	**1.25**	**Y**	**1.14**	**54.2**	**12151.841**	**0.256**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0007						1.16		12151.841	0.228
1234678-HpCDF	**38.84**		**1.0003**	**1.0003**	**0**	**2.90E+07**	**1.06**	**Y**	**1.36**	**55.8**	**12045.67**	**0.157**
1234679-HpCDF	NotFnd		1.0074						1.33		12045.67	0.173
1234689-HpCDF	NotFnd		1.0112						1.33		12045.67	0.173
1234789-HpCDF	**40.21**		**1.0002**	**1.0003**	**+0.2**	**2.04E+07**	**1.03**	**Y**	**1.30**	**54.9**	**12045.67**	**0.195**
OCDF	**42.38**		**1.0003**	**1.0002**	**-0.3**	**2.57E+07**	**0.92**	**Y**	**1.03**	**111**	**11055.898**	**0.355**
OCDF-a	42.38		1.0002	1.0001	-0.3	1.25E+06	2.63	Y	0.06	93.4	11916.393	6.61

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220118R17	Analysis Date:	18-JAN-2022 23:41:58
Lab ID:	OPR2_18838_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.23	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.8	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.9	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	55.5	35	-	70	Y
OCDD	100	110	78	-	144	Y
2,3,7,8-TCDF	10	11.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	60.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	54.2	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	55.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54.9	39	-	69	Y
OCDF	100	111	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 19 Jan 2022 09:33 Analyst: gd

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

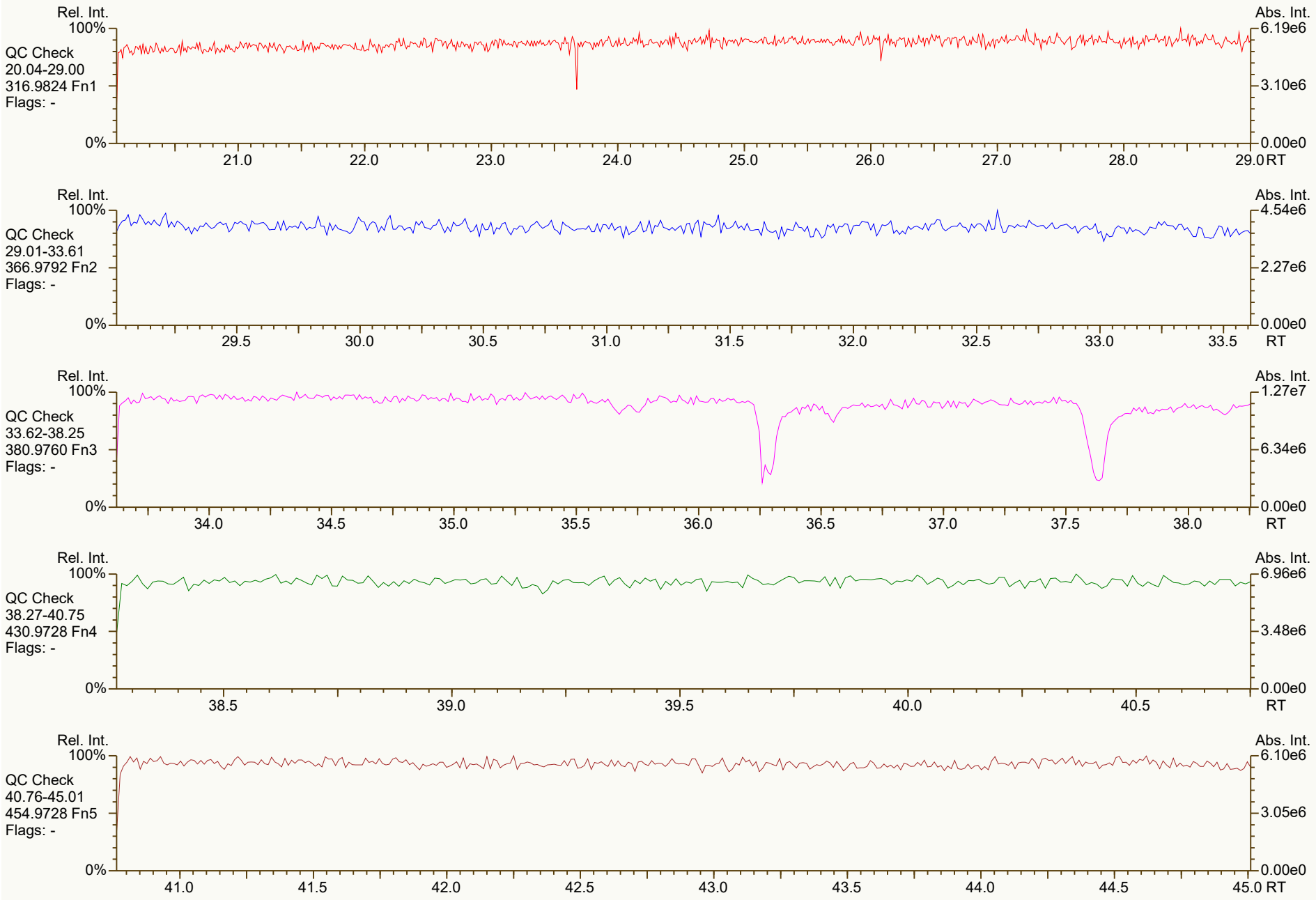
VER Data Filename: 220118R17 Analysis Date: 18-JAN-2022 23:41:58

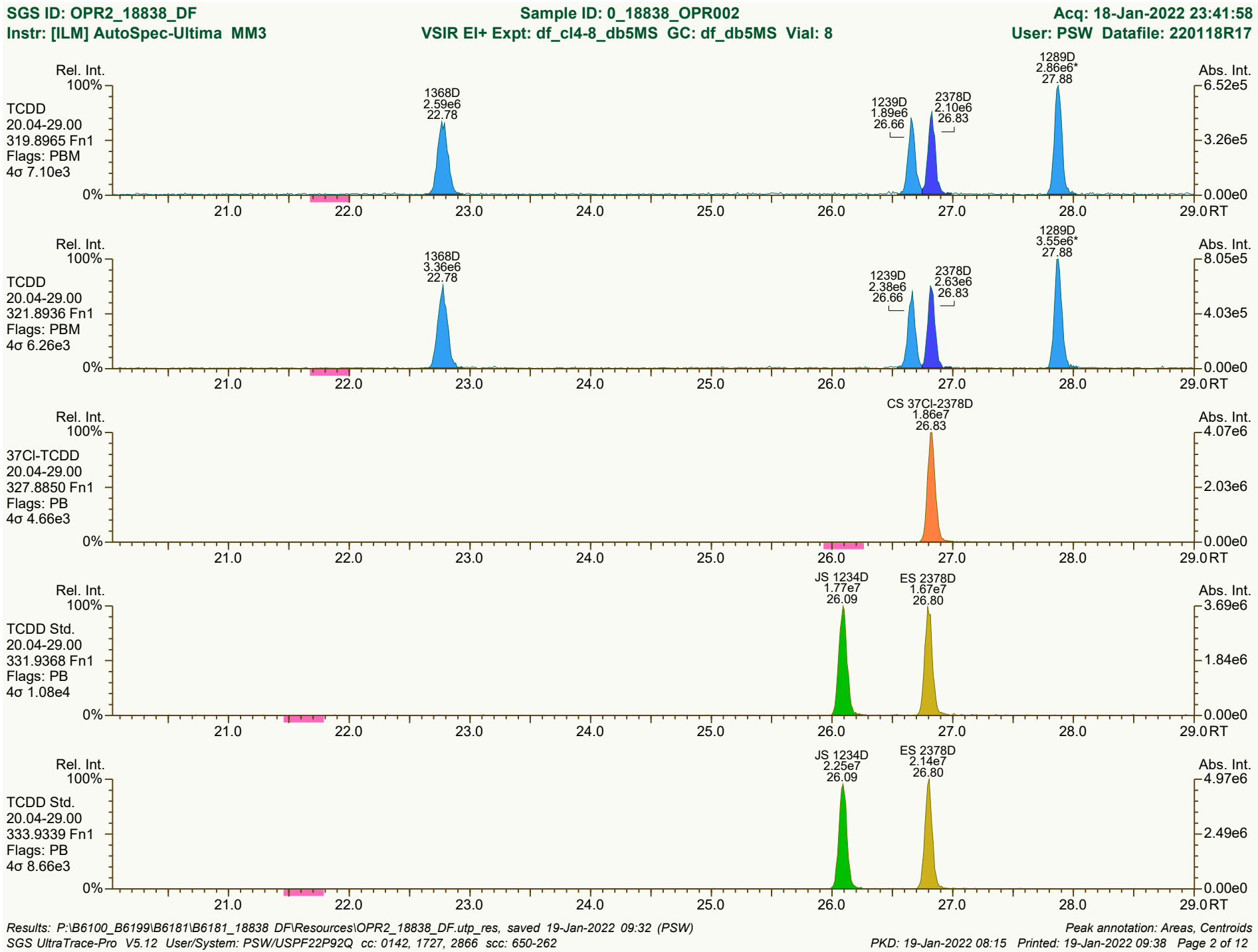
Lab ID: OPR2_18838_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	85.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	96.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	94.4	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	90.3	26	-	166	Y
13C-OCDD	200	137	26	-	397	Y
13C-2,3,7,8-TCDF	100	86.5	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	97.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	94.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	107	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	68.1	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	95.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	114	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.5	20	-	186	Y
13C-OCDF	200	138	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.2	12.4	-	76.4	Y

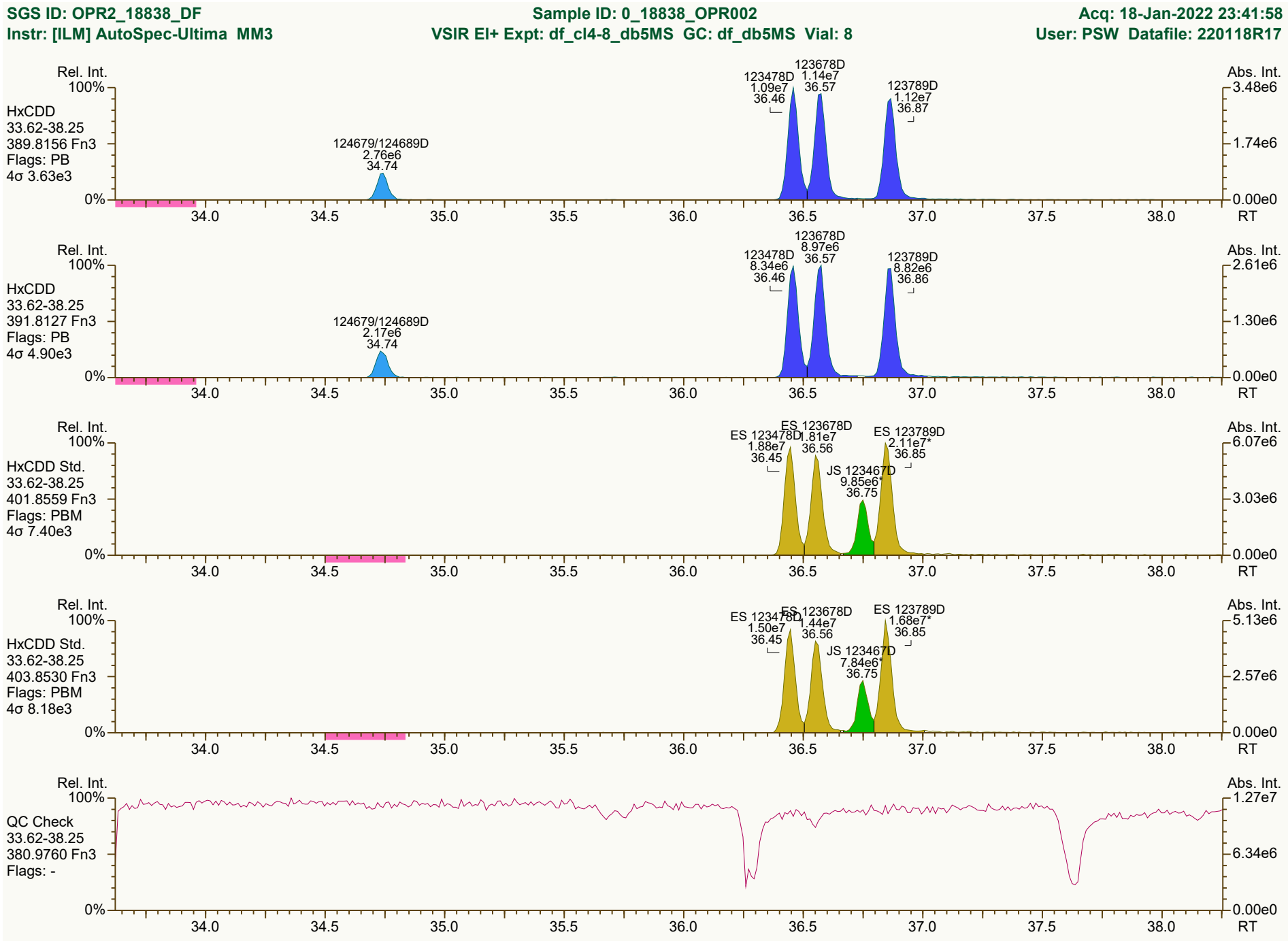
Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

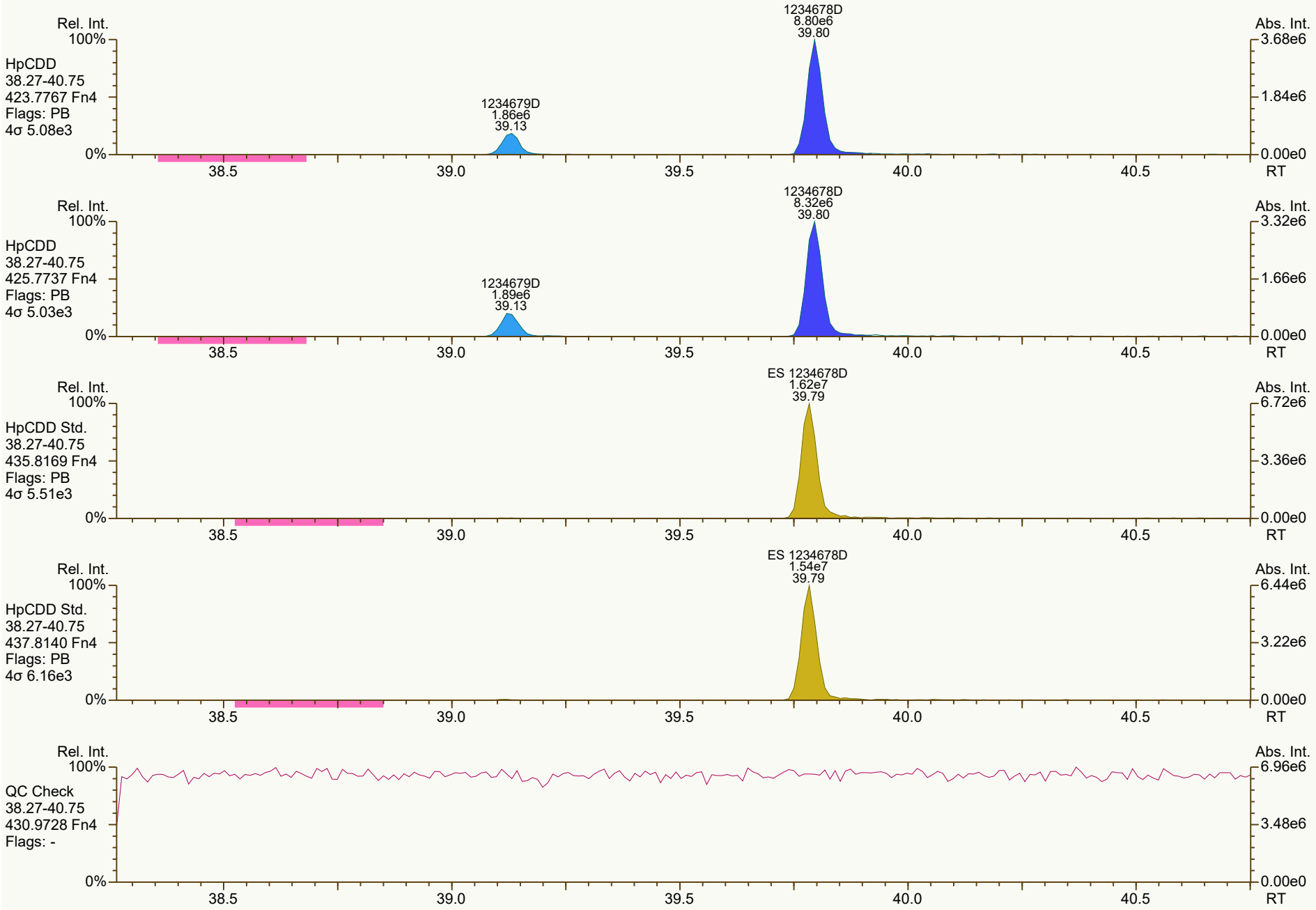
Processed: 19 Jan 2022 09:33 Analyst: gd

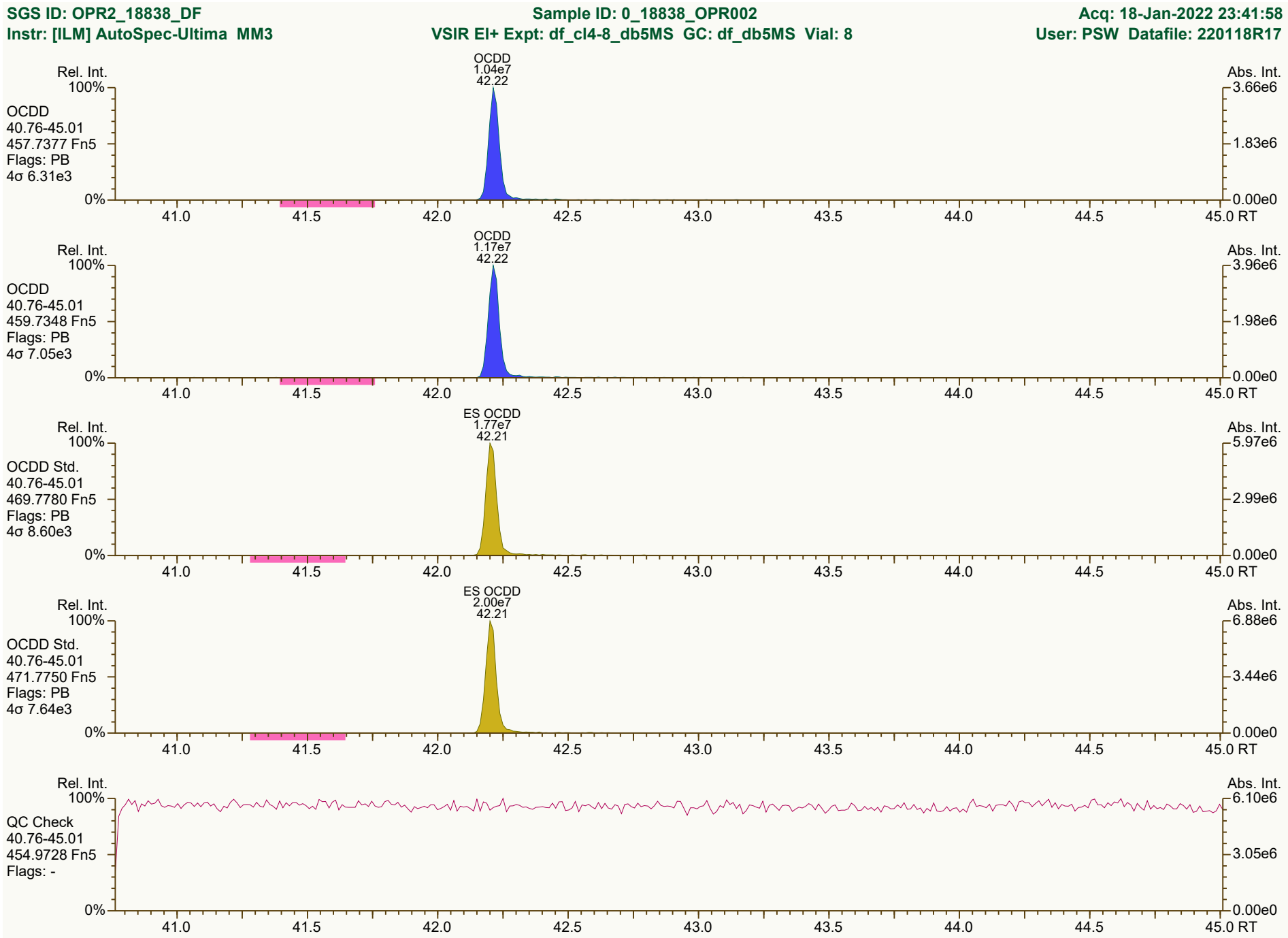

Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.19e6
3.10e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.54e6
2.27e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.27e7
6.34e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.96e6
3.48e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.10e6
3.05e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 7.10e3
1368D 2.59e6 22.78
1239D 1.89e6 26.66
2378D 2.10e6 26.83
1289D 2.86e6* 27.88
6.52e5
3.26e5
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 6.26e3
1368D 3.36e6 22.78
1239D 2.38e6 26.66
2378D 2.63e6 26.83
1289D 3.55e6* 27.88
8.05e5
4.03e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 4.66e3
CS 37Cl-2378D 1.86e7 26.83
4.07e6
2.03e6
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 1.08e4
JS 1234D 1.77e7 26.09
ES 2378D 1.67e7 26.80
3.69e6
1.84e6
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 8.66e3
JS 1234D 2.25e7 26.09
ES 2378D 2.14e7 26.80
4.97e6
2.49e6
0.00e0
0%
100%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0142, 1727, 2866 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:38 Page 2 of 12


Rel. Int.
100%
PeCDD
29.01-33.61
355.8546 Fn2
Flags: PB
4σ 4.19e3
12479/12468D
2.38e6
29.89
12378D
1.08e7
32.49
12389D
2.68e6
32.94
Abs. Int.
2.95e6
1.48e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.61
357.8517 Fn2
Flags: PB
4σ 6.14e3
12479/12468D
1.48e6
29.89
12378D
6.80e6
32.49
12389D
1.64e6
32.94
Abs. Int.
1.80e6
8.99e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
367.8949 Fn2
Flags: PB
4σ 6.40e3
CS 12347D
2.16e7
31.95
ES 12378D
2.22e7
32.47
Abs. Int.
6.17e6
3.08e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.61
369.8919 Fn2
Flags: PB
4σ 8.00e3
CS 12347D
1.36e7
31.95
ES 12378D
1.34e7
32.47
Abs. Int.
3.82e6
1.91e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.61
366.9792 Fn2
Flags: -
Abs. Int.
4.54e6
2.27e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17
Rel. Int.
Abs. Int.
HxCDD
33.62-38.25
389.8156 Fn3
Flags: PB
4σ 3.63e3
124679/124689D
2.76e6
34.74
123478D
1.09e7
36.46
123678D
1.14e7
36.57
123789D
1.12e7
36.87
3.48e6
1.74e6
0.00e0
RT
HxCDD
33.62-38.25
391.8127 Fn3
Flags: PB
4σ 4.90e3
124679/124689D
2.17e6
34.74
123478D
8.34e6
36.46
123678D
8.97e6
36.57
123789D
8.82e6
36.86
2.61e6
1.30e6
HxCDD Std.
33.62-38.25
401.8559 Fn3
Flags: PBM
4σ 7.40e3
ES 123478D
1.88e7
36.45
ES 123678D
1.81e7
36.56
JS 123467D
9.85e6*
36.75
ES 123789D
2.11e7*
36.85
6.07e6
3.03e6
HxCDD Std.
33.62-38.25
403.8530 Fn3
Flags: PBM
4σ 8.18e3
ES 123478D
1.50e7
36.45
ES 123678D
1.44e7
36.56
JS 123467D
7.84e6*
36.75
ES 123789D
1.68e7*
36.85
5.13e6
2.57e6
QC Check
33.62-38.25
380.9760 Fn3
Flags: -
1.27e7
6.34e6
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4886, 0484 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:38 Page 4 of 12


Rel. Int.
100%
HpCDD
38.27-40.75
423.7767 Fn4
Flags: PB
4σ 5.08e3
1234678D
8.80e6
39.80
1234679D
1.86e6
39.13
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.27-40.75
425.7737 Fn4
Flags: PB
4σ 5.03e3
1234678D
8.32e6
39.80
1234679D
1.89e6
39.13
Abs. Int.
3.32e6
1.66e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
435.8169 Fn4
Flags: PB
4σ 5.51e3
ES 1234678D
1.62e7
39.79
Abs. Int.
6.72e6
3.36e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.27-40.75
437.8140 Fn4
Flags: PB
4σ 6.16e3
ES 1234678D
1.54e7
39.79
Abs. Int.
6.44e6
3.22e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.27-40.75
430.9728 Fn4
Flags: -
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
RT


SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17
OCDD
1.04e7
42.22
Rel. Int.
Abs. Int.
OCDD
40.76-45.01
457.7377 Fn5
Flags: PB
4σ 6.31e3
OCDD
1.17e7
42.22
OCDD
40.76-45.01
459.7348 Fn5
Flags: PB
4σ 7.05e3
ES OCDD
1.77e7
42.21
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 8.60e3
ES OCDD
2.00e7
42.21
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 7.64e3
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7080, 3073 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 6 of 12



Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW) *Peak annotation: Areas, Centroids*

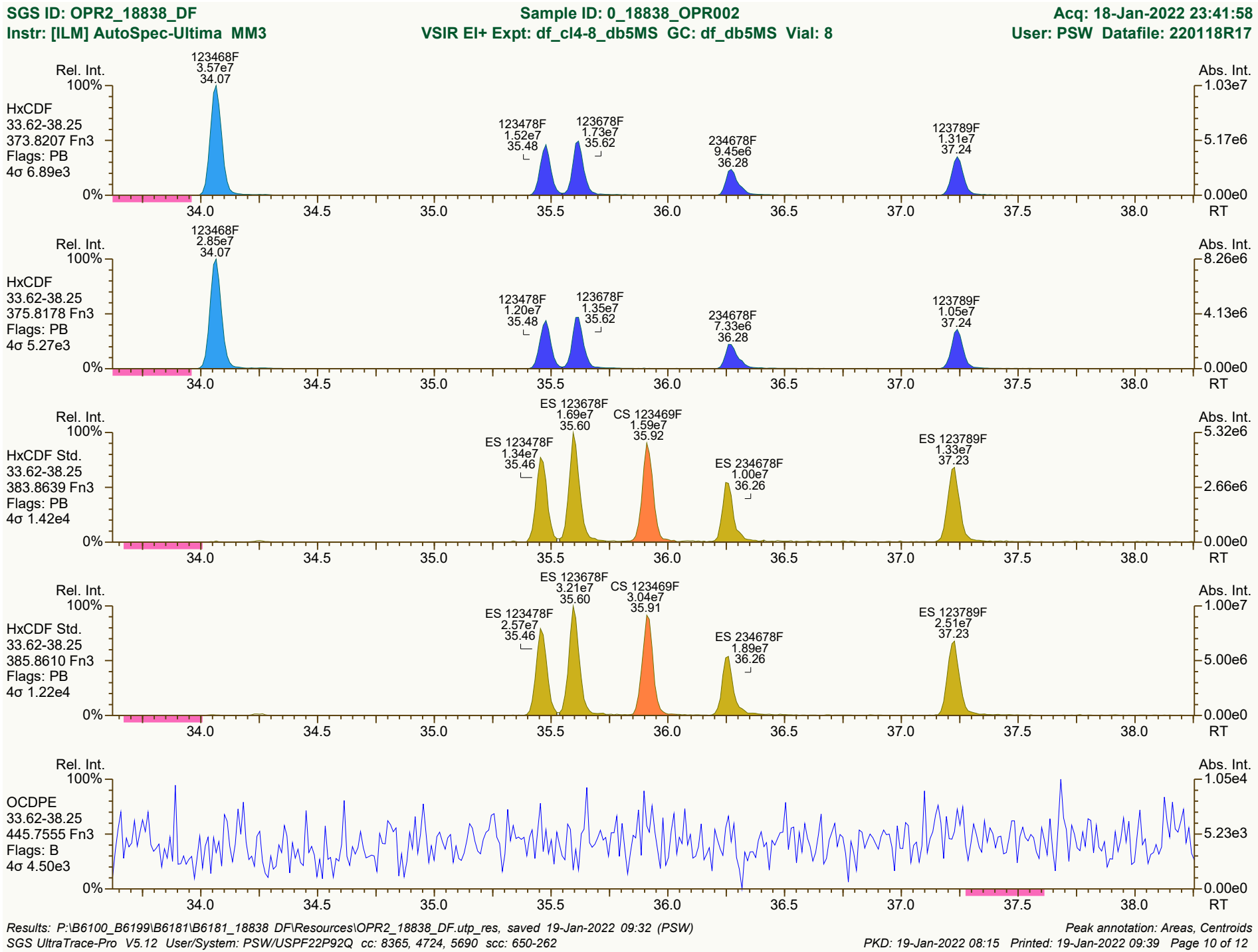
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6378, 0523, 3985 scc: 650-262 *PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 7 of 12*

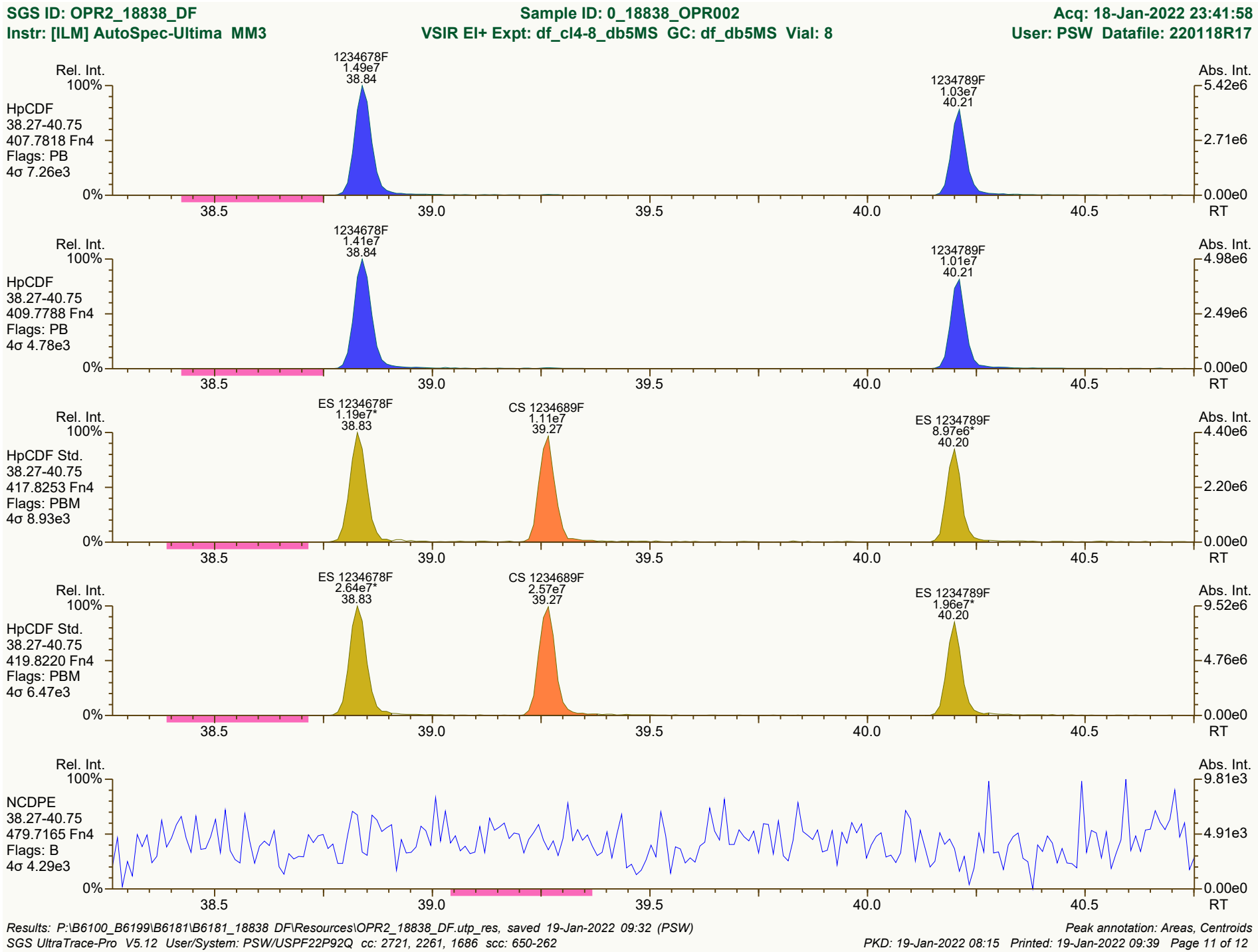
SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17

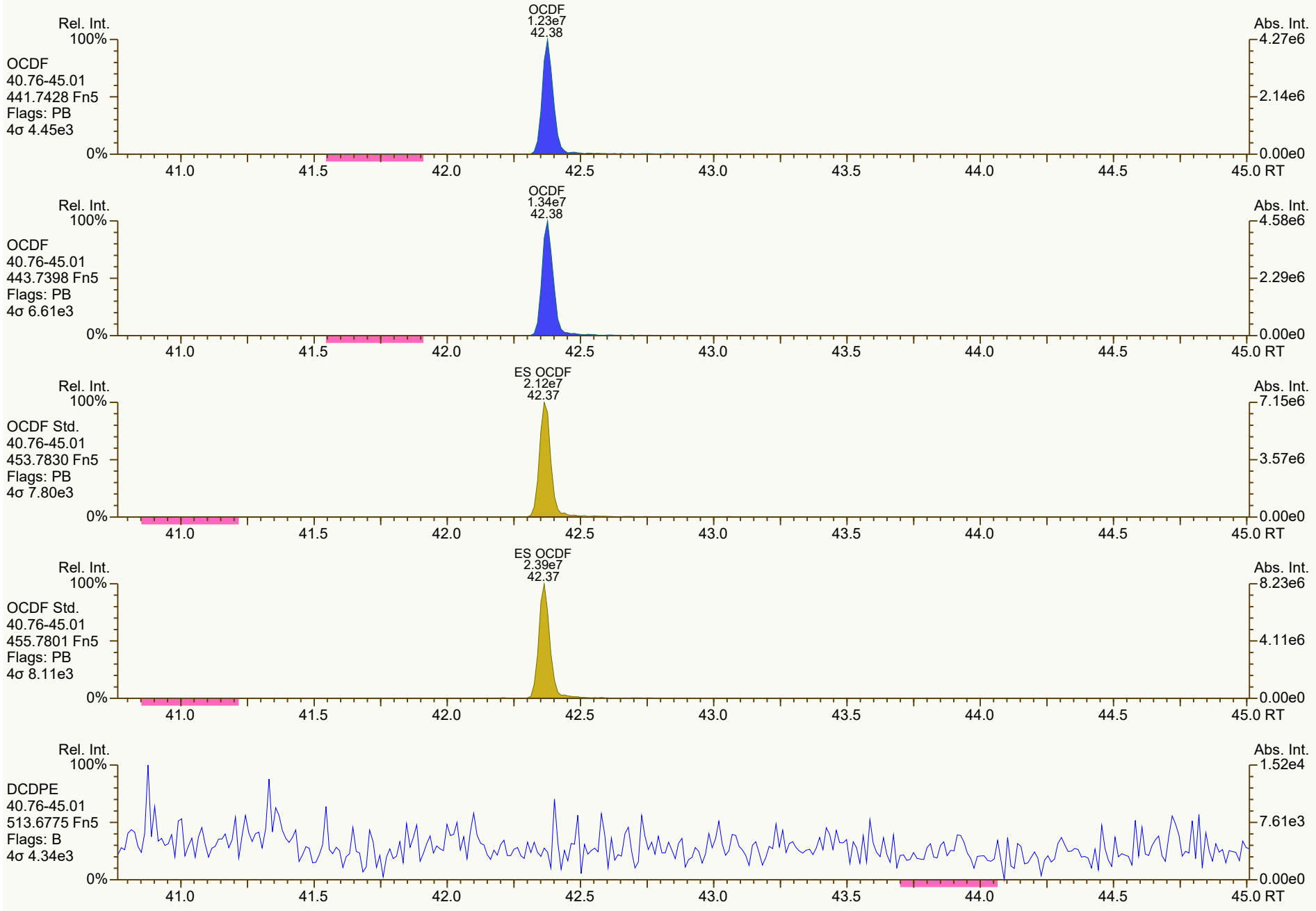


Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9904 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 8 of 12


SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.61
339.8597 Fn2
Flags: PB
4σ 7.26e3
12378F
1.78e7
30.97
23478F
1.88e7
32.14
12389F
3.70e6
33.24
4.99e6
2.50e6
0.00e0
RT
PeCDF-2
29.01-33.61
341.8568 Fn2
Flags: PB
4σ 6.39e3
12378F
1.14e7
30.97
23478F
1.18e7
32.13
12389F
2.34e6
33.24
3.18e6
1.59e6
PeCDF Std.
29.01-33.61
351.9000 Fn2
Flags: PB
4σ 9.81e3
CS 12346F
3.34e7
30.40
ES 12378F
3.39e7
30.95
ES 23478F
3.29e7
32.12
8.66e6
4.33e6
PeCDF Std.
29.01-33.61
353.8970 Fn2
Flags: PB
4σ 9.08e3
CS 12346F
2.18e7
30.40
ES 12378F
2.22e7
30.95
ES 23478F
2.09e7
32.12
5.81e6
2.91e6
HpCDPE
29.01-33.61
409.7974 Fn2
Flags: B
4σ 3.74e3
1.07e4
5.36e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6995, 9234, 9405 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 9 of 12


SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17
Rel. Int.
Abs. Int.
HxCDF
33.62-38.25
373.8207 Fn3
Flags: PB
4σ 6.89e3
123468F
3.57e7
34.07
123478F
1.52e7
35.48
123678F
1.73e7
35.62
234678F
9.45e6
36.28
123789F
1.31e7
37.24
1.03e7
5.17e6
0.00e0
HxCDF
33.62-38.25
375.8178 Fn3
Flags: PB
4σ 5.27e3
123468F
2.85e7
34.07
123478F
1.20e7
35.48
123678F
1.35e7
35.62
234678F
7.33e6
36.28
123789F
1.05e7
37.24
8.26e6
4.13e6
0.00e0
HxCDF Std.
33.62-38.25
383.8639 Fn3
Flags: PB
4σ 1.42e4
ES 123678F
1.69e7
35.60
CS 123469F
1.59e7
35.92
ES 123478F
1.34e7
35.46
ES 234678F
1.00e7
36.26
ES 123789F
1.33e7
37.23
5.32e6
2.66e6
0.00e0
HxCDF Std.
33.62-38.25
385.8610 Fn3
Flags: PB
4σ 1.22e4
ES 123678F
3.21e7
35.60
CS 123469F
3.04e7
35.91
ES 123478F
2.57e7
35.46
ES 234678F
1.89e7
36.26
ES 123789F
2.51e7
37.23
1.00e7
5.00e6
0.00e0
OCDPE
33.62-38.25
445.7555 Fn3
Flags: B
4σ 4.50e3
1.05e4
5.23e3
0.00e0
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8365, 4724, 5690 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 10 of 12


SGS ID: OPR2_18838_DF
Sample ID: 0_18838_OPR002
Acq: 18-Jan-2022 23:41:58
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220118R17
Rel. Int.
Abs. Int.
HpCDF
38.27-40.75
407.7818 Fn4
Flags: PB
4σ 7.26e3
1234678F
1.49e7
38.84
1234789F
1.03e7
40.21
5.42e6
2.71e6
0.00e0
HpCDF
38.27-40.75
409.7788 Fn4
Flags: PB
4σ 4.78e3
1234678F
1.41e7
38.84
1234789F
1.01e7
40.21
4.98e6
2.49e6
0.00e0
HpCDF Std.
38.27-40.75
417.8253 Fn4
Flags: PBM
4σ 8.93e3
ES 1234678F
1.19e7*
38.83
CS 1234689F
1.11e7
39.27
ES 1234789F
8.97e6*
40.20
4.40e6
2.20e6
0.00e0
HpCDF Std.
38.27-40.75
419.8220 Fn4
Flags: PBM
4σ 6.47e3
ES 1234678F
2.64e7*
38.83
CS 1234689F
2.57e7
39.27
ES 1234789F
1.96e7*
40.20
9.52e6
4.76e6
0.00e0
NCDPE
38.27-40.75
479.7165 Fn4
Flags: B
4σ 4.29e3
9.81e3
4.91e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6100_B6199\B6181\B6181_18838 DF\Resources\OPR2_18838_DF.utp_res, saved 19-Jan-2022 09:32 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2721, 2261, 1686 scc: 650-262
PKD: 19-Jan-2022 08:15 Printed: 19-Jan-2022 09:39 Page 11 of 12


OCDF
1.23e7
42.38
Rel. Int.
100%
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 4.45e3
0%
Abs. Int.
4.27e6
2.14e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.34e7
42.38
Rel. Int.
100%
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 6.61e3
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.12e7
42.37
Rel. Int.
100%
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PB
4σ 7.80e3
0%
Abs. Int.
7.15e6
3.57e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7
42.37
Rel. Int.
100%
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PB
4σ 8.11e3
0%
Abs. Int.
8.23e6
4.11e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
40.76-45.01
513.6775 Fn5
Flags: B
4σ 4.34e3
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6182

31-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
Phone: 713-907-3710
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This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6182
Analytical Protocol(s)	1613B
No. Samples Submitted	6
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	13-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.1
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

OPR1/OPR2_18851 meet accuracy and precision criteria, except for the following: RPD of 1,2,3,4,6,7,8-HpCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011222-S-BN-SC-O-14a — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6182_18851_DF_001	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	84.7 %	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:26:24

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.47			B	ES 2378-TCDD	90.1	
12378-PeCDD	ND	0.401			ES 12378-PeCDD	93.9	
123478-HxCDD	EMPC		0.634	J	ES 123478-HxCDD	94.1	
123678-HxCDD	1.36			J	ES 123678-HxCDD	114	
123789-HxCDD	EMPC		1.21	J	ES 123789-HxCDD	93.4	
1234678-HpCDD	38				ES 1234678-HpCDD	93.2	
OCDD	568				ES OCDD	74.8	
2378-TCDF	3.82			B	ES 2378-TCDF	87.8	
12378-PeCDF	ND	0.528			ES 12378-PeCDF	86.5	
23478-PeCDF	ND	0.483			ES 23478-PeCDF	87.2	
123478-HxCDF	1.33			J	ES 123478-HxCDF	92.5	
123678-HxCDF	ND	0.196			ES 123678-HxCDF	107	
234678-HxCDF	0.894			J	ES 234678-HxCDF	109	
123789-HxCDF	ND	0.244			ES 123789-HxCDF	90	
1234678-HpCDF	7.51				ES 1234678-HpCDF	110	
1234789-HpCDF	ND	0.449			ES 1234789-HpCDF	81.7	
OCDF	22				ES OCDF	75.5	

Totals					Standard	CS Recoveries	
					CS 37Cl-2378-TCDD	88.6	
Total TCDD	1.47		1.47		CS 12347-PeCDD	107	
Total PeCDD	ND	0.401	ND		CS 12346-PeCDF	92.2	
Total HxCDD	13.4		15.2		CS 123469-HxCDF	118	
Total HpCDD	91.4		91.4		CS 1234689-HpCDF	118	
Total TCDF	5.8		7.02				
Total PeCDF	1.65		1.65				
Total HxCDF	7.29		10.1				
Total HpCDF	19.8		19.8				
Total PCDD/Fs	**731**		**737**				
WHO-2005 TEQs							
TEQ: ND=0	2.85		3.03				
TEQ: ND=DL/2	3.15	0.595	3.34				
TEQ: ND=DL	3.46	1.19	3.64				

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Sample ID: 11215131-011222-S-BN-SC-O-14a — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6182_18851_DF_001	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	84.7 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:26:24

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.365)		12479/12468D	(0.401)		124679/124689D	5.67		1234679D	53.5	
1379D	(0.365)		12469D	(0.401)		123468D	0.98	J	1234678D	38	
1369D	(0.365)		12368D	(0.401)		123679/123689D	5.4				
1469D	(0.365)		12478D	(0.401)		123469D	(0.411)				
1247D...[4]	(0.365)		12379D	(0.401)		123478D	[0.634]	J			
1378D	(0.365)		12369D...[3]	(0.401)		123678D	1.36	J			
1268D	(0.365)		12346/12347D	(0.401)		123467D	(0.411)				
1478D	(0.365)		12378D	(0.401)		123789D	[1.21]	J	**Conc.**	91.4	
1279D	(0.365)		12367D	(0.401)					**EMPC**	91.4	
1234/1269D	(0.365)		12389D	(0.401)							
1236D	(0.365)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.365)									**(pg/g)**	
1239D	(0.365)								OCDD	568	
2378D	1.47	B									
1278D	(0.365)										
1267D	(0.365)										
1289D	(0.365)										
Conc.	1.47		**Conc.**	0		**Conc.**	13.4				
EMPC	1.47		**EMPC**	0		**EMPC**	15.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2.85	3.03
TEQ: ND=DL/2	3.15	3.34
TEQ: ND=DL	3.46	3.64

	Conc.	EMPC
Total PCDD/Fs	731	737

Checkcode: 576-441-SRV

Report Created: 27-Jan-2022 10:42 Analyst: TF

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Sample ID: 11215131-011222-S-BN-SC-O-14a — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6182_18851_DF_001	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	84.7 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:26:24

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.437)		13468/12468F	1.65	J	123468F	1.2	J	1234678F	7.51	
1468F	(0.437)		13678F...[3]	(0.506)		124678/134678F	3.86		1234679F	(0.33)	
2468F	0.94		12368F...[3]	(0.506)		134679F	(0.211)		1234689F	12.3	
1346/1246F	(0.437)		14678F	(0.506)		124679F	(0.211)		1234789F	(0.449)	
1347F...[3]	(0.437)		13479F	(0.506)		124689F	[2.8]				
1348F	(0.437)		13469/12479F	(0.506)		123467F	(0.211)				
1248F...[3]	(0.437)		12346F	(0.506)		123478F	1.33	J			
1268F	(0.437)		23468/12469F	(0.506)		123678F	(0.196)				
1467F	(0.437)		12347F	(0.506)		123479F	(0.211)				
1478F	(0.437)		12348F	(0.506)		123469F	(0.211)				
1369/1237F	(0.437)		12378F	(0.528)		123679F	(0.211)				
2467F	(0.437)		12678/12367F	(0.506)		234678F	0.894	J	**Conc.**	19.8	
2368F	[0.409]	J	12379F	(0.506)		234678/123689F	0		**EMPC**	19.8	
1238F...[5]	(0.437)		12679F	(0.506)		123689F	(0.211)				
1278F	1.04	B	23467/12369F	(0.506)		123789F	(0.244)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.437)		23478F	(0.483)		123789/123489F	0			**(pg/g)**	
1267F	(0.437)		23478/12489F	0		123489F	(0.211)		OCDF	22	
2346/1249F	(0.437)		12489F	(0.506)							
2347/1279F	(0.437)		12349F	(0.506)							
2348F	(0.437)		12389F	(0.506)							
2378F	3.82	B									
2367/3467F	[0.814]										
1269F	(0.437)										
1239F	(0.437)										
1289F	(0.437)										
Conc.	5.8		**Conc.**	1.65		**Conc.**	7.29				
EMPC	7.02		**EMPC**	1.65		**EMPC**	10.1				

Checkcode: 576-441-SRV

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-O-14a TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6182_18851_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	QC Batch No.:	18851
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 18:26
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.47	B	0.365	1.47	1.47	1.47
12378-PeCDD	(0.401)		0.401	(0.2)	(0.401)	(0.401)
123478-HxCDD	[0.634]	J	0.424	[0.0634]	[0.0634]	[0.0634]
123678-HxCDD	1.36	J	0.388	0.136	0.136	0.136
123789-HxCDD	[1.21]	J	0.425	[0.121]	[0.121]	[0.121]
1234678-HpCDD	38		0.352	0.38	0.38	0.38
OCDD	568		1.18	0.568	0.0568	0.17
2378-TCDF	3.82	B	0.437	0.382	0.382	0.382
12378-PeCDF	(0.528)		0.528	(0.0264)	(0.0264)	(0.0158)
23478-PeCDF	(0.483)		0.483	(0.242)	(0.242)	(0.145)
123478-HxCDF	1.33	J	0.188	0.133	0.133	0.133
123678-HxCDF	(0.196)		0.196	(0.0196)	(0.0196)	(0.0196)
234678-HxCDF	0.894	J	0.224	0.0894	0.0894	0.0894
123789-HxCDF	(0.244)		0.244	(0.0244)	(0.0244)	(0.0244)
1234678-HpCDF	7.51		0.253	0.0751	0.0751	0.0751
1234789-HpCDF	(0.449)		0.449	(0.00449)	(0.00449)	(0.00449)
OCDF	22		0.804	0.022	0.0022	0.0066

TEQ Summaries			
EMPC = 0, ND = 0	3.26	2.73	2.85
EMPC = 0, ND = DL / 2	3.52	3.09	3.15
EMPC = 0, ND = DL	3.78	3.45	3.46
EMPC = 0, < J-level = 0	2.9	2.37	2.49
EMPC = EMPC, ND = 0	3.44	2.91	3.03
EMPC = EMPC, ND = DL / 2	3.7	3.27	3.34
EMPC = EMPC, ND = DL	3.96	3.63	3.64
EMPC = EMPC, < J-level = 0	2.9	2.37	2.49

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Checkcode: 576-441-SRV

Sample ID: 11215131-011222-S-BN-SC-B-8a — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6182_18851_DF_002	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	74.5 %	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:12:46

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	7.15			B	ES 2378-TCDD	82.3	
12378-PeCDD	ND	0.52			ES 12378-PeCDD	90.6	
123478-HxCDD	EMPC		0.661	J	ES 123478-HxCDD	88.4	
123678-HxCDD	0.993			J	ES 123678-HxCDD	106	
123789-HxCDD	1.73			J	ES 123789-HxCDD	84.8	
1234678-HpCDD	30.5				ES 1234678-HpCDD	79.4	
OCDD	590				ES OCDD	64.1	
2378-TCDF	22.1			B	ES 2378-TCDF	76.9	
12378-PeCDF	EMPC		1.26	J	ES 12378-PeCDF	80.6	
23478-PeCDF	EMPC		0.875	J	ES 23478-PeCDF	80.8	
123478-HxCDF	EMPC		1.06	J	ES 123478-HxCDF	82.5	
123678-HxCDF	0.562			J	ES 123678-HxCDF	98	
234678-HxCDF	ND	0.287			ES 234678-HxCDF	92.9	
123789-HxCDF	ND	0.336			ES 123789-HxCDF	75.7	
1234678-HpCDF	0.815			J	ES 1234678-HpCDF	111	
1234789-HpCDF	ND	0.44			ES 1234789-HpCDF	67.7	
OCDF	EMPC		1.4	J	ES OCDF	58.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.8	
Total TCDD	7.15		9.97		CS 12347-PeCDD	103	
Total PeCDD	4.88		4.88		CS 12346-PeCDF	87.3	
Total HxCDD	25.3		26		CS 123469-HxCDF	108	
Total HpCDD	98.4		98.4		CS 1234689-HpCDF	105	
Total TCDF	64.7		68.5				
Total PeCDF	1.42		5.03				
Total HxCDF	0.562		2.3				
Total HpCDF	0.815		1.3				
Total PCDD/Fs	**793**		**808**				
WHO-2005 TEQs							
TEQ: ND=0	10.2		10.7				
TEQ: ND=DL/2	10.5	0.896	10.9				
TEQ: ND=DL	10.8	1.79	11.2				

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Sample ID: 11215131-011222-S-BN-SC-B-8a — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6182_18851_DF_002	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	74.5 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:12:46

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.812)		12479/12468D	1.1	J	124679/124689D	16.5		1234679D	67.9	
1379D	(0.812)		12469D	2.37	J	123468D	(0.652)		1234678D	30.5	
1369D	(0.812)		12368D	(0.52)		123679/123689D	6.11				
1469D	[2.81]		12478D	(0.52)		123469D	(0.652)				
1247D...[4]	(0.812)		12379D	(0.52)		123478D	[0.661]	J			
1378D	(0.812)		12369D...[3]	1.4	J	123678D	0.993	J			
1268D	(0.812)		12346/12347D	(0.52)		123467D	(0.652)				
1478D	(0.812)		12378D	(0.52)		123789D	1.73	J	**Conc.**	98.4	
1279D	(0.812)		12367D	(0.52)					**EMPC**	98.4	
1234/1269D	(0.812)		12389D	(0.52)							
1236D	(0.812)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.812)										
1239D	(0.812)								OCDD	590	
2378D	7.15	B									
1278D	(0.812)										
1267D	(0.812)										
1289D	(0.812)										
Conc.	7.15		**Conc.**	4.88		**Conc.**	25.3				
EMPC	9.97		**EMPC**	4.88		**EMPC**	26				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	10.2	10.7
TEQ: ND=DL/2	10.5	10.9
TEQ: ND=DL	10.8	11.2

	Conc.	EMPC
Total PCDD/Fs	793	808

Checkcode: 471-294-RBK

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-8a — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6182_18851_DF_002	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	74.5 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:12:46

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.3		13468/12468F	(0.295)		123468F	(0.274)		1234678F	0.815	J
1468F	0.644		13678F...[3]	0.661	J	124678/134678F	[0.673]	J	1234679F	(0.268)	
2468F	[2.11]		12368F...[3]	[1.47]	J	134679F	(0.274)		1234689F	[0.482]	J
1346/1246F	(0.282)		14678F	(0.338)		124679F	(0.274)		1234789F	(0.44)	
1347F...[3]	4.98		13479F	(0.338)		124689F	(0.274)				
1348F	(0.282)		13469/12479F	(0.338)		123467F	(0.274)				
1248F...[3]	4.06		12346F	(0.338)		123478F	[1.06]	J			
1268F	1.53		23468/12469F	(0.338)		123678F	0.562	J			
1467F	(0.282)		12347F	(0.338)		123479F	(0.274)				
1478F	1.72		12348F	(0.338)		123469F	(0.274)				
1369/1237F	[1.64]		12378F	[1.26]	J	123679F	(0.274)				
2467F	0.923		12678/12367F	0.756	J	234678F	(0.287)		**Conc.**	0.815	
2368F	5.56		12379F	(0.338)		234678/123689F	0		**EMPC**	1.3	
1238F...[5]	(0.282)		12679F	(0.338)		123689F	(0.274)				
1278F	11.4	B	23467/12369F	(0.338)		123789F	(0.336)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.282)		23478F	[0.875]	J	123789/123489F	0			**(pg/g)**	
1267F	1.49		23478/12489F	0		123489F	(0.274)		OCDF	[1.4]	J
2346/1249F	(0.282)		12489F	(0.338)							
2347/1279F	1.45		12349F	(0.338)							
2348F	2		12389F	(0.338)							
2378F	22.1	B									
2367/3467F	3.89										
1269F	(0.282)										
1239F	(0.282)										
1289F	1.64										
Conc.	64.7		**Conc.**	1.42		**Conc.**	0.562				
EMPC	68.5		**EMPC**	5.03		**EMPC**	2.3				

Checkcode: 471-294-RBK

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-8a TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6182_18851_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	QC Batch No.:	18851
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 19:12
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	7.15	B	0.812	7.15	7.15	7.15
12378-PeCDD	(0.52)		0.52	(0.26)	(0.52)	(0.52)
123478-HxCDD	[0.661]	J	0.677	[0.0661]	[0.0661]	[0.0661]
123678-HxCDD	0.993	J	0.581	0.0993	0.0993	0.0993
123789-HxCDD	1.73	J	0.708	0.173	0.173	0.173
1234678-HpCDD	30.5		0.504	0.305	0.305	0.305
OCDD	590		0.803	0.59	0.059	0.177
2378-TCDF	22.1	B	0.282	2.21	2.21	2.21
12378-PeCDF	[1.26]	J	0.343	[0.0632]	[0.0632]	[0.0379]
23478-PeCDF	[0.875]	J	0.334	[0.437]	[0.437]	[0.262]
123478-HxCDF	[1.06]	J	0.254	[0.106]	[0.106]	[0.106]
123678-HxCDF	0.562	J	0.24	0.0562	0.0562	0.0562
234678-HxCDF	(0.287)		0.287	(0.0287)	(0.0287)	(0.0287)
123789-HxCDF	(0.336)		0.336	(0.0336)	(0.0336)	(0.0336)
1234678-HpCDF	0.815	J	0.177	0.00815	0.00815	0.00815
1234789-HpCDF	(0.44)		0.44	(0.0044)	(0.0044)	(0.0044)
OCDF	[1.4]	J	0.603	[0.0014]	[0.00014]	[0.000419]

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TEQ Summaries			
EMPC = 0, ND = 0	10.6	10.1	10.2
EMPC = 0, ND = DL / 2	10.8	10.4	10.5
EMPC = 0, ND = DL	10.9	10.6	10.8
EMPC = 0, < J-level = 0	10.3	9.73	9.84
EMPC = EMPC, ND = 0	11.3	10.7	10.7
EMPC = EMPC, ND = DL / 2	11.4	11	10.9
EMPC = EMPC, ND = DL	11.6	11.3	11.2
EMPC = EMPC, < J-level = 0	10.3	9.73	9.84

Checkcode: 471-294-RBK

Sample ID: 11215131-011222-S-BN-SC-O-18 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID	B6182_18851_DF_003	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	80.0 %	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:59:07

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	22.9				ES 2378-TCDD	63.8	
12378-PeCDD	EMPC		1.91	J	ES 12378-PeCDD	69.1	
123478-HxCDD	4.64				ES 123478-HxCDD	74.5	
123678-HxCDD	14.2				ES 123678-HxCDD	84.3	
123789-HxCDD	9.33				ES 123789-HxCDD	71.7	
1234678-HpCDD	429				ES 1234678-HpCDD	66.9	
OCDD	5,500				ES OCDD	61.6	
2378-TCDF	80.8				ES 2378-TCDF	62.1	
12378-PeCDF	EMPC		5.1		ES 12378-PeCDF	64	
23478-PeCDF	7.82				ES 23478-PeCDF	63	
123478-HxCDF	13.4				ES 123478-HxCDF	74	
123678-HxCDF	6.39				ES 123678-HxCDF	81.9	
234678-HxCDF	6.34				ES 234678-HxCDF	76.6	
123789-HxCDF	ND	0.644			ES 123789-HxCDF	68.7	
1234678-HpCDF	69.4				ES 1234678-HpCDF	73.8	
1234789-HpCDF	6.54				ES 1234789-HpCDF	63.4	
OCDF	181				ES OCDF	65.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	68.2	
Total TCDD	24.4		28.8		CS 12347-PeCDD	82.7	
Total PeCDD	8.01		16.3		CS 12346-PeCDF	68.1	
Total HxCDD	123		125		CS 123469-HxCDF	89.2	
Total HpCDD	867		867		CS 1234689-HpCDF	94.3	
Total TCDF	166		179				
Total PeCDF	55.3		65.9				
Total HxCDF	107		108				
Total HpCDF	200		200				
Total PCDD/Fs	**7,240**		**7,280**				
WHO-2005 TEQs							
TEQ: ND=0	45.5		47.6				
TEQ: ND=DL/2	45.5	0.88	47.6				
TEQ: ND=DL	45.6	1.76	47.6				

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Sample ID: 11215131-011222-S-BN-SC-O-18 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6182_18851_DF_003	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	80.0 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:59:07

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.88]		12479/12468D	4.23		124679/124689D	33.7		1234679D	438	
1379D	(0.659)		12469D	[2.02]	J	123468D	5.71		1234678D	429	
1369D	(0.659)		12368D	[1.41]	J	123679/123689D	51.9				
1469D	1.48		12478D	2.75		123469D	3.81				
1247D...[4]	(0.659)		12379D	[1.02]	J	123478D	4.64				
1378D	(0.659)		12369D...[3]	[1.93]	J	123678D	14.2				
1268D	(0.659)		12346/12347D	1.04	J	123467D	[2.13]	J			
1478D	(0.659)		12378D	[1.91]	J	123789D	9.33		**Conc.**	867	
1279D	(0.659)		12367D	(0.521)					**EMPC**	867	
1234/1269D	(0.659)		12389D	(0.521)							
1236D	(0.659)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.659)										
1239D	(0.659)								OCDD	5500	
2378D	22.9										
1278D	[2.6]										
1267D	(0.659)										
1289D	(0.659)										
Conc.	24.4		**Conc.**	8.01		**Conc.**	123				
EMPC	28.8		**EMPC**	16.3		**EMPC**	125				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	45.5	47.6
TEQ: ND=DL/2	45.5	47.6
TEQ: ND=DL	45.6	47.6

	Conc.	EMPC
Total PCDD/Fs	7,240	7,280

Checkcode: 139-332-SZV

Report Created: 27-Jan-2022 10:42 Analyst: TF

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Sample ID: 11215131-011222-S-BN-SC-O-18 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6182_18851_DF_003	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	80.0 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:59:07

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.332)		13468/12468F	24.9		123468F	9.3		1234678F	69.4	
1468F	1.69		13678F...[3]	3.8		124678/134678F	38.6		1234679F	(0.394)	
2468F	[3.64]		12368F...[3]	13.9		134679F	(0.547)		1234689F	124	
1346/1246F	(0.332)		14678F	(0.403)		124679F	[1.43]	J	1234789F	6.54	
1347F...[3]	4.22		13479F	(0.403)		124689F	30.7				
1348F	(0.332)		13469/12479F	(0.403)		123467F	2.03	J			
1248F...[3]	6.15		12346F	(0.403)		123478F	13.4				
1268F	[3]		23468/12469F	3.88		123678F	6.39				
1467F	(0.332)		12347F	[0.602]	J	123479F	(0.547)				
1478F	5.02		12348F	0.958	J	123469F	(0.547)				
1369/1237F	1.79		12378F	[5.1]		123679F	(0.547)				
2467F	[1.08]		12678/12367F	[3.67]		234678F	6.34		**Conc.**	200	
2368F	7.16		12379F	(0.403)		234678/123689F	0		**EMPC**	200	
1238F...[5]	3.67		12679F	(0.403)		123689F	(0.547)				
1278F	31.3		23467/12369F	[1.19]	J	123789F	(0.644)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.332)		23478F	7.82		123789/123489F	0				
1267F	3.05		23478/12489F	0		123489F	(0.547)		OCDF	181	
2346/1249F	(0.332)		12489F	(0.403)							
2347/1279F	[1.66]		12349F	(0.403)							
2348F	[4.06]		12389F	(0.403)							
2378F	80.8										
2367/3467F	12.1										
1269F	2.3										
1239F	(0.332)										
1289F	6.34										
Conc.	166		**Conc.**	55.3		**Conc.**	107				
EMPC	179		**EMPC**	65.9		**EMPC**	108				

Checkcode: 139-332-SZV

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-O-18 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6182_18851_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	QC Batch No.:	18851
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 19:59
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	22.9		0.659	22.9	22.9	22.9
12378-PeCDD	[1.91]	J	0.521	[0.953]	[1.91]	[1.91]
123478-HxCDD	4.64		0.595	0.464	0.464	0.464
123678-HxCDD	14.2		0.549	1.42	1.42	1.42
123789-HxCDD	9.33		0.646	0.933	0.933	0.933
1234678-HpCDD	429		0.537	4.29	4.29	4.29
OCDD	5500		1.31	5.5	0.55	1.65
2378-TCDF	80.8		0.332	8.08	8.08	8.08
12378-PeCDF	[5.1]		0.404	[0.255]	[0.255]	[0.153]
23478-PeCDF	7.82		0.402	3.91	3.91	2.35
123478-HxCDF	13.4		0.483	1.34	1.34	1.34
123678-HxCDF	6.39		0.513	0.639	0.639	0.639
234678-HxCDF	6.34		0.574	0.634	0.634	0.634
123789-HxCDF	(0.644)		0.644	(0.0644)	(0.0644)	(0.0644)
1234678-HpCDF	69.4		0.31	0.694	0.694	0.694
1234789-HpCDF	6.54		0.508	0.0654	0.0654	0.0654
OCDF	181		0.777	0.181	0.0181	0.0544

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TEQ Summaries			
EMPC = 0, ND = 0	51.1	45.9	45.5
EMPC = 0, ND = DL / 2	51.1	46	45.5
EMPC = 0, ND = DL	51.1	46	45.6
EMPC = 0, < J-level = 0	51.1	45.9	45.5
EMPC = EMPC, ND = 0	52.3	48.1	47.6
EMPC = EMPC, ND = DL / 2	52.3	48.1	47.6
EMPC = EMPC, ND = DL	52.3	48.2	47.6
EMPC = EMPC, < J-level = 0	51.3	46.2	45.7

Checkcode: 139-332-SZV

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Sample ID: 11215131-011222-S-BN-SC-B-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6182_18851_DF_004	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	76.7 %	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:45:28

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.465			ES 2378-TCDD	88.5	
12378-PeCDD	ND	0.31			ES 12378-PeCDD	96.4	
123478-HxCDD	ND	0.33			ES 123478-HxCDD	91.5	
123678-HxCDD	ND	0.3			ES 123678-HxCDD	109	
123789-HxCDD	ND	0.353			ES 123789-HxCDD	90.1	
1234678-HpCDD	15				ES 1234678-HpCDD	82.9	
OCDD	345				ES OCDD	75	
2378-TCDF	1.39			B	ES 2378-TCDF	82.8	
12378-PeCDF	ND	0.361			ES 12378-PeCDF	83.5	
23478-PeCDF	ND	0.335			ES 23478-PeCDF	84.7	
123478-HxCDF	ND	0.24			ES 123478-HxCDF	86.3	
123678-HxCDF	ND	0.218			ES 123678-HxCDF	103	
234678-HxCDF	ND	0.238			ES 234678-HxCDF	106	
123789-HxCDF	ND	0.288			ES 123789-HxCDF	82.3	
1234678-HpCDF	ND	0.178			ES 1234678-HpCDF	108	
1234789-HpCDF	ND	0.314			ES 1234789-HpCDF	77.5	
OCDF	ND	0.851			ES OCDF	69.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.2	
Total TCDD	6.95		6.95		CS 12347-PeCDD	110	
Total PeCDD	3		3.99		CS 12346-PeCDF	89.5	
Total HxCDD	20		20		CS 123469-HxCDF	119	
Total HpCDD	61.7		61.7		CS 1234689-HpCDF	112	
Total TCDF	2.17		2.17				
Total PeCDF	ND	0.348	ND				
Total HxCDF	ND	0.242	ND				
Total HpCDF	ND	0.23	ND				
Total PCDD/Fs	**439**		**440**				
WHO-2005 TEQs							
TEQ: ND=0	0.393		0.393				
TEQ: ND=DL/2	0.937	0.574	0.937				
TEQ: ND=DL	1.48	1.15	1.48				

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Sample ID: 11215131-011222-S-BN-SC-B-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6182_18851_DF_004	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	76.7 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:45:28

Tetra-Dioxins	Conc. (pg/g)	Qualifiers
1368D	(0.465)	
1379D	(0.465)	
1369D	(0.465)	
1469D	6.95	
1247D...[4]	(0.465)	
1378D	(0.465)	
1268D	(0.465)	
1478D	(0.465)	
1279D	(0.465)	
1234/1269D	(0.465)	
1236D	(0.465)	
1237/1238D	(0.465)	
1239D	(0.465)	
2378D	(0.465)	
1278D	(0.465)	
1267D	(0.465)	
1289D	(0.465)	
Conc.	6.95	
EMPC	6.95	

Penta-Dioxins	Conc. (pg/g)	Qualifiers
12479/12468D	(0.31)	
12469D	3	
12368D	(0.31)	
12478D	(0.31)	
12379D	(0.31)	
12369D...[3]	[0.993]	J
12346/12347D	(0.31)	
12378D	(0.31)	
12367D	(0.31)	
12389D	(0.31)	
Conc.	3	
EMPC	3.99	

Hexa-Dioxins	Conc (pg/g)	Qualifiers
124679/124689D	16.1	
123468D	(0.326)	
123679/123689D	3.89	
123469D	(0.326)	
123478D	(0.33)	
123678D	(0.3)	
123467D	(0.326)	
123789D	(0.353)	
Conc.	20	
EMPC	20	

Hepta-Dioxins	Conc (pg/g)	Qualifiers
1234679D	46.7	
1234678D	15	
Conc.	61.7	
EMPC	61.7	

Octa-Dioxin	Conc (pg/g)	Qualifiers
OCDD	345	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.393	0.393
TEQ: ND=DL/2	0.937	0.937
TEQ: ND=DL	1.48	1.48

	Conc.	EMPC
Total PCDD/Fs	439	440

Checkcode: 024-057-TGD

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6182_18851_DF_004	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	76.7 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:45:28

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.555)		13468/12468F	(0.298)		123468F	(0.242)		1234678F	(0.178)	
1468F	(0.555)		13678F...[3]	(0.348)		124678/134678F	(0.242)		1234679F	(0.23)	
2468F	(0.555)		12368F...[3]	(0.348)		134679F	(0.242)		1234689F	(0.23)	
1346/1246F	(0.555)		14678F	(0.348)		124679F	(0.242)		1234789F	(0.314)	
1347F...[3]	(0.555)		13479F	(0.348)		124689F	(0.242)				
1348F	(0.555)		13469/12479F	(0.348)		123467F	(0.242)				
1248F...[3]	(0.555)		12346F	(0.348)		123478F	(0.24)				
1268F	(0.555)		23468/12469F	(0.348)		123678F	(0.218)				
1467F	(0.555)		12347F	(0.348)		123479F	(0.242)				
1478F	(0.555)		12348F	(0.348)		123469F	(0.242)				
1369/1237F	(0.555)		12378F	(0.361)		123679F	(0.242)				
2467F	(0.555)		12678/12367F	(0.348)		234678F	(0.238)		**Conc.**	0	
2368F	(0.555)		12379F	(0.348)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.555)		12679F	(0.348)		123689F	(0.242)				
1278F	0.786	B	23467/12369F	(0.348)		123789F	(0.288)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.555)		23478F	(0.335)		123789/123489F	0				
1267F	(0.555)		23478/12489F	0		123489F	(0.242)		OCDF	(0.851)	
2346/1249F	(0.555)		12489F	(0.348)							
2347/1279F	(0.555)		12349F	(0.348)							
2348F	(0.555)		12389F	(0.348)							
2378F	1.39	B									
2367/3467F	(0.555)										
1269F	(0.555)										
1239F	(0.555)										
1289F	(0.555)										
Conc.	2.17		**Conc.**	0		**Conc.**	0				
EMPC	2.17		**EMPC**	0		**EMPC**	0				

Checkcode: 024-057-TGD

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-12 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6182_18851_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18851
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 20:45
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.465)		0.465	(0.465)	(0.465)	(0.465)
12378-PeCDD	(0.31)		0.31	(0.155)	(0.31)	(0.31)
123478-HxCDD	(0.33)		0.33	(0.033)	(0.033)	(0.033)
123678-HxCDD	(0.3)		0.3	(0.03)	(0.03)	(0.03)
123789-HxCDD	(0.353)		0.353	(0.0353)	(0.0353)	(0.0353)
1234678-HpCDD	15		0.464	0.15	0.15	0.15
OCDD	345		0.864	0.345	0.0345	0.103
2378-TCDF	1.39	B	0.555	0.139	0.139	0.139
12378-PeCDF	(0.361)		0.361	(0.0181)	(0.0181)	(0.0108)
23478-PeCDF	(0.335)		0.335	(0.168)	(0.168)	(0.101)
123478-HxCDF	(0.24)		0.24	(0.024)	(0.024)	(0.024)
123678-HxCDF	(0.218)		0.218	(0.0218)	(0.0218)	(0.0218)
234678-HxCDF	(0.238)		0.238	(0.0238)	(0.0238)	(0.0238)
123789-HxCDF	(0.288)		0.288	(0.0288)	(0.0288)	(0.0288)
1234678-HpCDF	(0.178)		0.178	(0.00178)	(0.00178)	(0.00178)
1234789-HpCDF	(0.314)		0.314	(0.00314)	(0.00314)	(0.00314)
OCDF	(0.851)		0.851	(0.000851)	(0.0000851)	(0.000255)

TEQ Summaries			
EMPC = 0, ND = 0	0.634	0.324	0.393
EMPC = 0, ND = DL / 2	1.14	0.905	0.937
EMPC = 0, ND = DL	1.64	1.49	1.48
EMPC = 0, < J-level = 0	0.634	0.324	0.393
EMPC = EMPC, ND = 0	0.634	0.324	0.393
EMPC = EMPC, ND = DL / 2	1.14	0.905	0.937
EMPC = EMPC, ND = DL	1.64	1.49	1.48
EMPC = EMPC, < J-level = 0	0.634	0.324	0.393

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Checkcode: 024-057-TGD

Sample ID: 11215131-011222-S-BN-SC-O-19 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6182_18851_DF_005	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	71.8 %	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:31:48

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,940			E	ES 2378-TCDD	70.9	
12378-PeCDD	47.4				ES 12378-PeCDD	58.2	
123478-HxCDD	9.15				ES 123478-HxCDD	72.2	
123678-HxCDD	72.4				ES 123678-HxCDD	75.4	
123789-HxCDD	87.7				ES 123789-HxCDD	68.6	
1234678-HpCDD	1,860				ES 1234678-HpCDD	59.8	
OCDD	14,000			E	ES OCDD	64.4	
2378-TCDF	8,240			E	ES 2378-TCDF	64.6	
12378-PeCDF	383				ES 12378-PeCDF	52	
23478-PeCDF	265				ES 23478-PeCDF	50.7	
123478-HxCDF	777				ES 123478-HxCDF	86.7	
123678-HxCDF	198				ES 123678-HxCDF	89.5	
234678-HxCDF	43.8				ES 234678-HxCDF	67.5	
123789-HxCDF	ND	1.6			ES 123789-HxCDF	70.1	
1234678-HpCDF	306				ES 1234678-HpCDF	62.4	
1234789-HpCDF	90.4				ES 1234789-HpCDF	56.7	
OCDF	305				ES OCDF	60.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	68.2	
Total TCDD	3,310		3,320		CS 12347-PeCDD	67.4	
Total PeCDD	190		204		CS 12346-PeCDF	56.8	
Total HxCDD	1,780		1,780		CS 123469-HxCDF	97.8	
Total HpCDD	4,150		4,150		CS 1234689-HpCDF	61.1	
Total TCDF	16,300		16,300				
Total PeCDF	1,100		1,100				
Total HxCDF	1,290		1,290				
Total HpCDF	576		576				
Total PCDD/Fs	**43,100**		**43,100**				
WHO-2005 TEQs							
TEQ: ND=0	4050		4050				
TEQ: ND=DL/2	4050	1.85	4050				
TEQ: ND=DL	4050	3.7	4050				

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Sample ID: 11215131-011222-S-BN-SC-O-19 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6182_18851_DF_005	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	71.8 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:31:48

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	10.8		12479/12468D	50		124679/124689D	971		1234679D	2290	
1379D	6.16		12469D	[13.7]		123468D	26.1		1234678D	1860	
1369D	[1.38]		12368D	11.8		123679/123689D	586				
1469D	[2.02]		12478D	37.9		123469D	18.8				
1247D...[4]	7.72		12379D	13.4		123478D	9.15				
1378D	14.1		12369D...[3]	14.1		123678D	72.4				
1268D	1.37		12346/12347D	6.54		123467D	8.76				
1478D	8.71		12378D	47.4		123789D	87.7		**Conc.**	4,150	
1279D	[1.2]		12367D	3.72					**EMPC**	4,150	
1234/1269D	2.89		12389D	5.26							
1236D	(0.722)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	49.3									**(pg/g)**	
1239D	(0.722)								OCDD	14000	E
2378D	2940	E									
1278D	257										
1267D	8.28										
1289D	4.84										
Conc.	3,310		**Conc.**	190		**Conc.**	1,780				
EMPC	3,320		**EMPC**	204		**EMPC**	1,780				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	4,050	4,050
TEQ: ND=DL/2	4,050	4,050
TEQ: ND=DL	4,050	4,050

	Conc.	EMPC
Total PCDD/Fs	43,100	43,100

Checkcode: 226-711-KYS

Report Created: 27-Jan-2022 10:42 Analyst: TF

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Sample ID: 11215131-011222-S-BN-SC-O-19 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received: 13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6182_18851_DF_005	Date Extracted: 20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	71.8 %	QC Batch No.:	18851	Date Analyzed: 26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed: 21:31:48

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3.68		13468/12468F	32.5		123468F	15		1234678F	306	
1468F	14.6		13678F...[3]	12.3		124678/134678F	112		1234679F	9.69	
2468F	13.9		12368F...[3]	210		134679F	1.48	J	1234689F	170	
1346/1246F	(0.443)		14678F	(0.716)		124679F	7		1234789F	90.4	
1347F...[3]	103		13479F	(0.716)		124689F	77.6				
1348F	(0.443)		13469/12479F	3.26		123467F	7.18				
1248F...[3]	435		12346F	2.39	J	123478F	777				
1268F	146		23468/12469F	9.52		123678F	198				
1467F	20.7		12347F	10.2		123479F	(1.3)				
1478F	368		12348F	33.6		123469F	(1.3)				
1369/1237F	96.4		12378F	383		123679F	(1.3)				
2467F	13.5		12678/12367F	117		234678F	43.8		**Conc.**	576	
2368F	252		12379F	(0.716)		234678/123689F	0		**EMPC**	576	
1238F...[5]	437		12679F	1.53	J	123689F	(1.3)				
1278F	3850	E	23467/12369F	8.29		123789F	(1.6)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.443)		23478F	265		123789/123489F	0				
1267F	224		23478/12489F	0		123489F	52.7		OCDF	305	
2346/1249F	28.4		12489F	(0.716)							
2347/1279F	115		12349F	(0.716)							
2348F	609		12389F	14							
2378F	8240	E									
2367/3467F	689										
1269F	121										
1239F	(0.443)										
1289F	527										
Conc.	16,300		**Conc.**	1,100		**Conc.**	1,290				
EMPC	16,300		**EMPC**	1,100		**EMPC**	1,290				

Checkcode: 226-711-KYS

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-O-19 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6182_18851_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18851
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 21:31
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2940	E	0.722	2940	2940	2940
12378-PeCDD	47.4		1.68	23.7	47.4	47.4
123478-HxCDD	9.15		1.51	0.915	0.915	0.915
123678-HxCDD	72.4		1.46	7.24	7.24	7.24
123789-HxCDD	87.7		1.49	8.77	8.77	8.77
1234678-HpCDD	1860		1.39	18.6	18.6	18.6
OCDD	14000	E	3.22	14	1.4	4.21
2378-TCDF	8240	E	0.443	824	824	824
12378-PeCDF	383		0.708	19.2	19.2	11.5
23478-PeCDF	265		0.725	132	132	79.4
123478-HxCDF	777		1.1	77.7	77.7	77.7
123678-HxCDF	198		1.12	19.8	19.8	19.8
234678-HxCDF	43.8		1.52	4.38	4.38	4.38
123789-HxCDF	(1.6)		1.6	(0.16)	(0.16)	(0.16)
1234678-HpCDF	306		0.837	3.06	3.06	3.06
1234789-HpCDF	90.4		1.4	0.904	0.904	0.904
OCDF	305		2.94	0.305	0.0305	0.0915

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TEQ Summaries			
EMPC = 0, ND = 0	4100	4110	4050
EMPC = 0, ND = DL / 2	4100	4110	4050
EMPC = 0, ND = DL	4100	4110	4050
EMPC = 0, < J-level = 0	4100	4110	4050
EMPC = EMPC, ND = 0	4100	4110	4050
EMPC = EMPC, ND = DL / 2	4100	4110	4050
EMPC = EMPC, ND = DL	4100	4110	4050
EMPC = EMPC, < J-level = 0	4100	4110	4050

Checkcode: 226-711-KYS

SGS North America - DF v0.99

Sample ID: 11215131-011222-S-BN-SC-B-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6182_18851_DF_006	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	63.1 %	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:18:09

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	18,800			E	ES 2378-TCDD	73.3	
12378-PeCDD	185				ES 12378-PeCDD	77.1	
123478-HxCDD	3.98				ES 123478-HxCDD	73.7	
123678-HxCDD	20.9				ES 123678-HxCDD	73.8	
123789-HxCDD	7.13				ES 123789-HxCDD	71.7	
1234678-HpCDD	620				ES 1234678-HpCDD	71.2	
OCDD	9,620				ES OCDD	66.6	
2378-TCDF	49,700			E	ES 2378-TCDF	68.7	
12378-PeCDF	2,300				ES 12378-PeCDF	72.6	
23478-PeCDF	1,440				ES 23478-PeCDF	63.8	
123478-HxCDF	4,630				ES 123478-HxCDF	84.6	
123678-HxCDF	1,100				ES 123678-HxCDF	82.5	
234678-HxCDF	235				ES 234678-HxCDF	63.9	
123789-HxCDF	ND	1.07			ES 123789-HxCDF	78.6	
1234678-HpCDF	1,230				ES 1234678-HpCDF	79.8	
1234789-HpCDF	513				ES 1234789-HpCDF	69.4	
OCDF	1,340				ES OCDF	64.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	63.3	
Total TCDD	20,900		21,000		CS 12347-PeCDD	87.1	
Total PeCDD	229		231		CS 12346-PeCDF	77	
Total HxCDD	139		143		CS 123469-HxCDF	93.3	
Total HpCDD	1,240		1,240		CS 1234689-HpCDF	81.9	
Total TCDF	88,600		88,600				
Total PeCDF	5,910		5,910				
Total HxCDF	6,930		6,940				
Total HpCDF	2,140		2,140				
Total PCDD/Fs	**137,000**		**137,000**				
WHO-2005 TEQs							
TEQ: ND=0	25100		25100				
TEQ: ND=DL/2	25100	1.12	25100				
TEQ: ND=DL	25100	2.24	25100				

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Sample ID: 11215131-011222-S-BN-SC-B-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6182_18851_DF_006	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	63.1 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:18:09

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.85		12479/12468D	6.72		124679/124689D	48.2		1234679D	615	
1379D	4.69		12469D	[2.69]		123468D	7.38		1234678D	620	
1369D	(0.557)		12368D	11		123679/123689D	51.1				
1469D	3.67		12478D	11.2		123469D	[2.48]	J			
1247D...[4]	[18.9]		12379D	3.11		123478D	3.98				
1378D	47.8		12369D...[3]	2.77		123678D	20.9				
1268D	3.61		12346/12347D	4.78		123467D	[2.01]	J			
1478D	27.9		12378D	185		123789D	7.13		**Conc.**	1,240	
1279D	1.42		12367D	(0.611)					**EMPC**	1,240	
1234/1269D	5.08		12389D	3.77							
1236D	2.29								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	283									**(pg/g)**	
1239D	(0.557)								OCDD	9620	
2378D	18800	E									
1278D	1720	E									
1267D	(0.557)										
1289D	16.7										
Conc.	20,900		**Conc.**	229		**Conc.**	139				
EMPC	21,000		**EMPC**	231		**EMPC**	143				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	25,100	25,100
TEQ: ND=DL/2	25,100	25,100
TEQ: ND=DL	25,100	25,100

	Conc.	EMPC
Total PCDD/Fs	137,000	137,000

Checkcode: 857-046-VHX

Report Created: 27-Jan-2022 10:42 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6182_18851_DF_006	Date Extracted:	20-Jan-2022
Date Collected:	12-Jan-2022	% Solid:	63.1 %	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:18:09

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[2.77]		13468/12468F	41		123468F	37.2		1234678F	1230	
1468F	40.4		13678F...[3]	23		124678/134678F	362		1234679F	17.7	
2468F	41.9		12368F...[3]	1020		134679F	(1.1)		1234689F	376	
1346/1246F	(0.506)		14678F	(0.896)		124679F	[3.07]		1234789F	513	
1347F...[3]	171		13479F	(0.896)		124689F	190				
1348F	88.5		13469/12479F	2.8		123467F	18.2				
1248F...[3]	308		12346F	(0.896)		123478F	4630				
1268F	197		23468/12469F	34.6		123678F	1100				
1467F	108		12347F	42		123479F	(1.1)				
1478F	521		12348F	199		123469F	(1.1)				
1369/1237F	261		12378F	2300		123679F	(1.1)				
2467F	44.1		12678/12367F	679		234678F	235		**Conc.**	2,140	
2368F	2660	E	12379F	(0.896)		234678/123689F	0		**EMPC**	2,140	
1238F...[5]	(0.506)		12679F	5.42		123689F	(1.1)				
1278F	22500	E	23467/12369F	26.1		123789F	(1.07)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.506)		23478F	1440		123789/123489F	0				
1267F	556		23478/12489F	0		123489F	359		OCDF	1340	
2346/1249F	113		12489F	(0.896)							
2347/1279F	681		12349F	(0.896)							
2348F	2280	E	12389F	86.7							
2378F	49700	E									
2367/3467F	4310	E									
1269F	298										
1239F	53.6										
1289F	3790	E									
Conc.	88,600		**Conc.**	5,910		**Conc.**	6,930				
EMPC	88,600		**EMPC**	5,910		**EMPC**	6,940				

Checkcode: 857-046-VHX

Report Created: 27-Jan-2022 10:42 Analyst: TF

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Sample ID: 11215131-011222-S-BN-SC-B-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6182_18851_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18851
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	26-Jan-2022 22:18
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	18800	E	0.557	18800	18800	18800
12378-PeCDD	185		0.611	92.6	185	185
123478-HxCDD	3.98		0.685	0.398	0.398	0.398
123678-HxCDD	20.9		0.658	2.09	2.09	2.09
123789-HxCDD	7.13		0.627	0.713	0.713	0.713
1234678-HpCDD	620		0.706	6.2	6.2	6.2
OCDD	9620		1.79	9.62	0.962	2.89
2378-TCDF	49700	E	0.506	4970	4970	4970
12378-PeCDF	2300		0.723	115	115	69.1
23478-PeCDF	1440		1.1	721	721	432
123478-HxCDF	4630		0.971	463	463	463
123678-HxCDF	1100		0.972	110	110	110
234678-HxCDF	235		1.5	23.5	23.5	23.5
123789-HxCDF	(1.07)		1.07	(0.107)	(0.107)	(0.107)
1234678-HpCDF	1230		0.51	12.3	12.3	12.3
1234789-HpCDF	513		0.706	5.13	5.13	5.13
OCDF	1340		0.743	1.34	0.134	0.402

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TEQ Summaries			
EMPC = 0, ND = 0	25400	25400	25100
EMPC = 0, ND = DL / 2	25400	25400	25100
EMPC = 0, ND = DL	25400	25400	25100
EMPC = 0, < J-level = 0	25400	25400	25100
EMPC = EMPC, ND = 0	25400	25400	25100
EMPC = EMPC, ND = DL / 2	25400	25400	25100
EMPC = EMPC, ND = DL	25400	25400	25100
EMPC = EMPC, < J-level = 0	25400	25400	25100

Checkcode: 857-046-VHX

Sample ID: Method Blank B6182_18851 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18851_DF_SDS	Date Extracted:	20-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:53:42

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.13				ES 2378-TCDD	84.2	
12378-PeCDD	ND	0.353			ES 12378-PeCDD	93	
123478-HxCDD	ND	0.476			ES 123478-HxCDD	94.5	
123678-HxCDD	ND	0.431			ES 123678-HxCDD	114	
123789-HxCDD	ND	0.499			ES 123789-HxCDD	88	
1234678-HpCDD	ND	0.504			ES 1234678-HpCDD	85.1	
OCDD	ND	0.935			ES OCDD	66.5	
2378-TCDF	EMPC		2.55		ES 2378-TCDF	80.9	
12378-PeCDF	ND	0.348			ES 12378-PeCDF	82.4	
23478-PeCDF	ND	0.367			ES 23478-PeCDF	81.6	
123478-HxCDF	ND	0.284			ES 123478-HxCDF	87	
123678-HxCDF	ND	0.236			ES 123678-HxCDF	104	
234678-HxCDF	ND	0.254			ES 234678-HxCDF	102	
123789-HxCDF	ND	0.32			ES 123789-HxCDF	79.1	
1234678-HpCDF	ND	0.191			ES 1234678-HpCDF	107	
1234789-HpCDF	ND	0.423			ES 1234789-HpCDF	74.3	
OCDF	ND	0.878			ES OCDF	63.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.2	
Total TCDD	1.13		1.13		CS 12347-PeCDD	108	
Total PeCDD	ND	0.353	ND		CS 12346-PeCDF	94.8	
Total HxCDD	ND	0.467	ND		CS 123469-HxCDF	122	
Total HpCDD	ND	0.504	ND		CS 1234689-HpCDF	114	
Total TCDF	1.43		3.98				
Total PeCDF	ND	0.357	ND				
Total HxCDF	ND	0.268	ND				
Total HpCDF	ND	0.278	ND				
Total PCDD/Fs	**2.56**		**5.1**				
WHO-2005 TEQs							
TEQ: ND=0	1.13		1.38				
TEQ: ND=DL/2	1.49	0.642	1.75				
TEQ: ND=DL	1.86	1.28	2.12				

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Sample ID: Method Blank B6182_18851 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18851_DF_SDS	Date Extracted:	20-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:53:42

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.522)		12479/12468D	(0.353)		124679/124689D	(0.467)		1234679D	(0.504)	
1379D	(0.522)		12469D	(0.353)		123468D	(0.467)		1234678D	(0.504)	
1369D	(0.522)		12368D	(0.353)		123679/123689D	(0.467)				
1469D	(0.522)		12478D	(0.353)		123469D	(0.467)				
1247D...[4]	(0.522)		12379D	(0.353)		123478D	(0.476)				
1378D	(0.522)		12369D...[3]	(0.353)		123678D	(0.431)				
1268D	(0.522)		12346/12347D	(0.353)		123467D	(0.467)				
1478D	(0.522)		12378D	(0.353)		123789D	(0.499)		**Conc.**	0	
1279D	(0.522)		12367D	(0.353)					**EMPC**	0	
1234/1269D	(0.522)		12389D	(0.353)							
1236D	(0.522)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.522)									**(pg/g)**	
1239D	(0.522)								OCDD	(0.935)	
2378D	1.13										
1278D	(0.522)										
1267D	(0.522)										
1289D	(0.522)										
Conc.	1.13		**Conc.**	0		**Conc.**	0				
EMPC	1.13		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1.13	1.38
TEQ: ND=DL/2	1.49	1.75
TEQ: ND=DL	1.86	2.12

	Conc.	EMPC
Total PCDD/Fs	2.56	5.1

Checkcode: 603-670-ZSW

Report Created: 27-Jan-2022 10:41 Analyst: TF

Sample ID: Method Blank B6182_18851 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18851_DF_SDS	Date Extracted:	20-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:53:42

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.273)		13468/12468F	(0.311)		123468F	(0.268)		1234678F	(0.191)	
1468F	(0.273)		13678F...[3]	(0.357)		124678/134678F	(0.268)		1234679F	(0.278)	
2468F	(0.273)		12368F...[3]	(0.357)		134679F	(0.268)		1234689F	(0.278)	
1346/1246F	(0.273)		14678F	(0.357)		124679F	(0.268)		1234789F	(0.423)	
1347F...[3]	(0.273)		13479F	(0.357)		124689F	(0.268)				
1348F	(0.273)		13469/12479F	(0.357)		123467F	(0.268)				
1248F...[3]	(0.273)		12346F	(0.357)		123478F	(0.284)				
1268F	(0.273)		23468/12469F	(0.357)		123678F	(0.236)				
1467F	(0.273)		12347F	(0.357)		123479F	(0.268)				
1478F	(0.273)		12348F	(0.357)		123469F	(0.268)				
1369/1237F	(0.273)		12378F	(0.348)		123679F	(0.268)				
2467F	(0.273)		12678/12367F	(0.357)		234678F	(0.254)		**Conc.**	0	
2368F	(0.273)		12379F	(0.357)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.273)		12679F	(0.357)		123689F	(0.268)				
1278F	1.43		23467/12369F	(0.357)		123789F	(0.32)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.273)		23478F	(0.367)		123789/123489F	0			**(pg/g)**	
1267F	(0.273)		23478/12489F	0		123489F	(0.268)		OCDF	(0.878)	
2346/1249F	(0.273)		12489F	(0.357)							
2347/1279F	(0.273)		12349F	(0.357)							
2348F	(0.273)		12389F	(0.357)							
2378F	[2.55]										
2367/3467F	(0.273)										
1269F	(0.273)										
1239F	(0.273)										
1289F	(0.273)										
Conc.	1.43		**Conc.**	0		**Conc.**	0				
EMPC	3.98		**EMPC**	0		**EMPC**	0				

Checkcode: 603-670-ZSW

Report Created: 27-Jan-2022 10:41 Analyst: TF

Sample ID: Method Blank B6182_18851 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18851_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18851
Date Collected:	n/a	Split:	-	Date Extracted:	20-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	26-Jan-2022 16:53
Lab Project No:	B6182	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.13		0.522	1.13	1.13	1.13
12378-PeCDD	(0.353)		0.353	(0.176)	(0.353)	(0.353)
123478-HxCDD	(0.476)		0.476	(0.0476)	(0.0476)	(0.0476)
123678-HxCDD	(0.431)		0.431	(0.0431)	(0.0431)	(0.0431)
123789-HxCDD	(0.499)		0.499	(0.0499)	(0.0499)	(0.0499)
1234678-HpCDD	(0.504)		0.504	(0.00504)	(0.00504)	(0.00504)
OCDD	(0.935)		0.935	(0.000935)	(0.0000935)	(0.00028)
2378-TCDF	[2.55]		0.273	[0.255]	[0.255]	[0.255]
12378-PeCDF	(0.348)		0.348	(0.0174)	(0.0174)	(0.0104)
23478-PeCDF	(0.367)		0.367	(0.184)	(0.184)	(0.11)
123478-HxCDF	(0.284)		0.284	(0.0284)	(0.0284)	(0.0284)
123678-HxCDF	(0.236)		0.236	(0.0236)	(0.0236)	(0.0236)
234678-HxCDF	(0.254)		0.254	(0.0254)	(0.0254)	(0.0254)
123789-HxCDF	(0.32)		0.32	(0.032)	(0.032)	(0.032)
1234678-HpCDF	(0.191)		0.191	(0.00191)	(0.00191)	(0.00191)
1234789-HpCDF	(0.423)		0.423	(0.00423)	(0.00423)	(0.00423)
OCDF	(0.878)		0.878	(0.000878)	(0.0000878)	(0.000263)

TEQ Summaries			
EMPC = 0, ND = 0	1.13	1.13	1.13
EMPC = 0, ND = DL / 2	1.45	1.53	1.49
EMPC = 0, ND = DL	1.77	1.94	1.86
EMPC = 0, < J-level = 0	1.13	1.13	1.13
EMPC = EMPC, ND = 0	1.38	1.38	1.38
EMPC = EMPC, ND = DL / 2	1.7	1.79	1.75
EMPC = EMPC, ND = DL	2.02	2.2	2.12
EMPC = EMPC, < J-level = 0	1.38	1.38	1.38

5500 Business Drive
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Tel: +1 910 794-1613; Toll-Free 866 846-8290
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Checkcode: 603-670-ZSW

Sample ID: 0_18851_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18851_DF	Date Extracted:	20-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:04:11

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.7				ES 2378-TCDD	90.3	
12378-PeCDD	47.5				ES 12378-PeCDD	96.5	
123478-HxCDD	56.9				ES 123478-HxCDD	98.8	
123678-HxCDD	57.7				ES 123678-HxCDD	120	
123789-HxCDD	55.3				ES 123789-HxCDD	95.2	
1234678-HpCDD	54				ES 1234678-HpCDD	88.3	
OCDD	116				ES OCDD	74	
2378-TCDF	11.6				ES 2378-TCDF	84.6	
12378-PeCDF	49.4				ES 12378-PeCDF	85.5	
23478-PeCDF	52.8				ES 23478-PeCDF	84	
123478-HxCDF	55				ES 123478-HxCDF	91.2	
123678-HxCDF	54.3				ES 123678-HxCDF	114	
234678-HxCDF	55.3				ES 234678-HxCDF	107	
123789-HxCDF	53.4				ES 123789-HxCDF	82.2	
1234678-HpCDF	56				ES 1234678-HpCDF	111	
1234789-HpCDF	52.5				ES 1234789-HpCDF	76	
OCDF	108				ES OCDF	66.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.6	
Total TCDD	57.9		57.9		CS 12347-PeCDD	109	
Total PeCDD	73.4		73.4		CS 12346-PeCDF	93.6	
Total HxCDD	185		185		CS 123469-HxCDF	120	
Total HpCDD	69.1		69.1		CS 1234689-HpCDF	115	
Total TCDF	66.4		66.4				
Total PeCDF	224		224				
Total HxCDF	356		356				
Total HpCDF	109		109				
Total PCDD/Fs	**1,360**		**1,360**				
WHO-2005 TEQs							
TEQ: ND=0	118		118				
TEQ: ND=DL/2	118	0.367	118				
TEQ: ND=DL	118	0.734	118				

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Sample ID: 0_18851_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6182	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18851_DF	Date Extracted:	20-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18851	Date Analyzed:	26-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:50:26

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.5				ES 2378-TCDD	98.6	
12378-PeCDD	44.1				ES 12378-PeCDD	108	
123478-HxCDD	49.6				ES 123478-HxCDD	108	
123678-HxCDD	50.8				ES 123678-HxCDD	128	
123789-HxCDD	46.8				ES 123789-HxCDD	110	
1234678-HpCDD	46.4				ES 1234678-HpCDD	105	
OCDD	105				ES OCDD	81.7	
2378-TCDF	10				ES 2378-TCDF	85.9	
12378-PeCDF	42.6				ES 12378-PeCDF	93.7	
23478-PeCDF	44.9				ES 23478-PeCDF	90.1	
123478-HxCDF	47.6				ES 123478-HxCDF	104	
123678-HxCDF	48.7				ES 123678-HxCDF	126	
234678-HxCDF	48.4				ES 234678-HxCDF	116	
123789-HxCDF	45.3				ES 123789-HxCDF	98.3	
1234678-HpCDF	44.6				ES 1234678-HpCDF	131	
1234789-HpCDF	44.2				ES 1234789-HpCDF	90.8	
OCDF	98.5				ES OCDF	73.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	47.6		47.6		CS 12347-PeCDD	110	
Total PeCDD	65.5		65.5		CS 12346-PeCDF	90.9	
Total HxCDD	160		160		CS 123469-HxCDF	119	
Total HpCDD	58.4		58.4		CS 1234689-HpCDF	121	
Total TCDF	51.6		54.7				
Total PeCDF	182		182				
Total HxCDF	300		300				
Total HpCDF	88.7		88.7				
Total PCDD/Fs	**1,160**		**1,160**				
WHO-2005 TEQs							
TEQ: ND=0	105		105				
TEQ: ND=DL/2	105	0.276	105				
TEQ: ND=DL	105	0.551	105				

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Sample DUP

Method 1613B

Sample ID: 0_18851_OPR001

Analyte	OPR1_18851_DF pg/uL	OPR2_18851_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.7	10.5	11.1%
1,2,3,7,8-PeCDD	47.5	44.1	7.5%
1,2,3,4,7,8-HxCDD	56.9	49.6	13.7%
1,2,3,6,7,8-HxCDD	57.7	50.8	12.7%
1,2,3,7,8,9-HxCDD	55.3	46.8	16.5%
1,2,3,4,6,7,8-HpCDD	54	46.4	15.0%
OCDD	116	105	10.6%
2,3,7,8-TCDF	11.6	10	14.5%
1,2,3,7,8-PeCDF	49.4	42.6	14.9%
2,3,4,7,8-PeCDF	52.8	44.9	16.2%
1,2,3,4,7,8-HxCDF	55	47.6	14.3%
1,2,3,6,7,8-HxCDF	54.3	48.7	10.8%
2,3,4,6,7,8-HxCDF	55.3	48.4	13.2%
1,2,3,7,8,9-HxCDF	53.4	45.3	16.4%
1,2,3,4,6,7,8-HpCDF	56	44.6	22.8%
1,2,3,4,7,8,9-HpCDF	52.5	44.2	17.2%
OCDF	108	98.5	8.9%
Totals			
Total TCDD	57.9	47.6	19.6%
Total PeCDD	73.4	65.5	11.4%
Total HxCDD	185	160	14.8%
Total HpCDD	69.1	58.4	16.8%
Total TCDF	66.4	54.7	19.4%
Total PeCDF	224	182	20.5%
Total HxCDF	356	300	17.0%
Total HpCDF	109	88.7	20.0%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*13-Jan-22 at 11:09*
AP Project name:	*B6182*
Requested TAT:	*10 business days*
Projected due date:	*27-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011222-S-BN-SC-O-14a	B6182_001	SO	1	4oz Clear Glass	12-Jan-22	08:30	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-B-8a	B6182_002	SO	1	4oz Clear Glass	12-Jan-22	08:40	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-O-18	B6182_003	SO	1	4oz Clear Glass	12-Jan-22	09:10	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-B-12	B6182_004	SO	1	4oz Clear Glass	12-Jan-22	09:20	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-O-19	B6182_005	SO	1	4oz Clear Glass	12-Jan-22	14:05	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-B-13	B6182_006	SO	1	4oz Clear Glass	12-Jan-22	14:15	0.1	1	4905 2704 3973

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 14 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B0182

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS: SEESOW
11215131-011222-S-BN-SC-S-26	1-12-22	0820	C	S	4oz		X									1	RUSH
11215131-011222-S-BN-SC-S-[illegible] (0-Ha)		0830					X									1	~~RUSH~~ (BN) *
11215131-011222-S-BN-SC-B-[illegible] (B-Ba)		0840					X									1	*
11215131-011222-S-BN-SC-B-BaH		0850					X									1	HOLD
11215131-011222-S-BN-SC-S-29		0900					X									1	RUSH
11215131-011222-S-BN-SC-O-18		0910					X									1	*
11215131-011222-S-BN-SC-B-12		0920					X									1	*
11215131-011222-S-BN-SC-S-28		1345					X									1	RUSH
11215131-011222-S-BN-SC-S-29		1355					X									1	RUSH
11215131-011222-S-BN-SC-O-19	↓	1405	↓	↓	↓		X									1	*

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Breanna North	1-12-22	1525	
RELINQUISHED BY (2): FedEx	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:
[illegible] 1/13/2022 11:09
COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: FedEx TEMP: °C 0.1°
TRACKING #: 4905 2704 3973

* = samples in this project.

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BU182

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☐ Level II ☐ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☐ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☐ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~ (Bu)	~~HR-PAH~~	~~M1699~~	QC: MS	MSD	DUP	QTY	REMARKS
11215131-011222-S-BH-SC-B-13	1-12-22	1415	C	S	4oz		X									1	*
11215131-011222-S-BH-SC-B-13H	1-12-22	1425	C	S	4oz		X									1	HOLD

COLLECTED/RELINQUISHED BY (1):	DATE: 1-12-22	TIME: 1525	RECEIVED BY:
RELINQUISHED BY (2): FedEx	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1/13/2022 TIME: 11:09
COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C 0.1°
TRACKING #: 4905 2704 3973

*=Samples in this project.

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BU182

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 12JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/13/2022
11:09
0.1° (T.B.)

565C2/01EF/05A2

FedEx Express

J191219082001

THU - 13 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3973**

NL ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

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Project Initiation Form

Project Number: B6182

Initiation Date: 14-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: KE 1/20/22 JRH 1/20/22 TBS 1/24/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 14-Jan-2022

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST

Extraction Type: SDS / CLL | TALEX Carbon SPE

Solid | Final Volume: 20 µL

Batch# 18851 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 1/20/22 | Clean-up Initial/Date: 2003 1/24/22 | Transfer Init/Date: 2005 1/25/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6182_18851_001	11	11.93				brown, thick, clay-like
B6182_18851_002	12	13.53				gray, clay-like
B6182_18851_003	13	12.69				brown, crumbly, clay-like.
B6182_18851_004	14	13.23		TB 01/31/2022		gray, clay-like
B6182_18851_005	15	14.09				brown/gray, crumbly, clay-like
B6182_18851_006	16	15.98				gray, clay-like
MB1_18851	8	10.00				sodium sulfate
OPR1_18851	9	10.00				sodium sulfate
OPR2_18851	10	10.00				sodium sulfate

Supply IDs

Toluene	STL14-24
MeCHL	STL14.21
Florisil	SPLS.77
Hexane	STL14.22
Silica	SPLS.69
S Nitrate	N/A
Base Silica	SPLS.78
HydroMatrix	N/A
Tetradecane	SPLS-73P
H_2SO_4	N/A
A Silica	SPLS.79
Sodium Sulfate	SPLS-25C

Additional Cleanup

Acid Partition Date/Initial:

Mini-Acid Date/Initial:

Carbon Column Date/Initial: TB 01/31/2022

GPC Date/Initial:

Bond-Elute Date/Initial:

Cycle Time

TOL: Start: 1500 Stop: 0530

HEX: Start: Stop:

DCM: Start: TB 01/31/2022 Stop:

1/25/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18851

Inter-Department Communication Sheet

TB
01/31/2022

SGS

Wt. Volume Results

Batch #: 18851

Comments:

QAL 1/31/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6182_001	0.76	5.33	4.63	84.68%	84.68%			11.81	11.93	10.1
B6182_002	0.86	5.83	4.56	74.45%	74.45%			13.43	13.53	10.07
B6182_003	0.8	5	4.16	80.00%	80.00%			12.5	12.69	10.15
B6182_004	0.97	4.7	3.83	76.68%	76.68%		TB 01/31/2022	13.04	13.23	10.14
B6182_005	0.72	4.33	3.31	71.75%	71.75%			13.94	14.09	10.11
B6182_006	0.89	4.36	3.08	63.11%	63.11%			15.84	15.98	10.08

TB
01/31/2022

% Solid Determination WorkSheet

SGS

Batch: 18851

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWF	Comments
B6182_18851_001	0.76	5.33	4.63 / 4.63	11.81	
B6182_18851_002	0.86	5.83	4.56 / 4.56	13.43	
B6182_18851_003	0.80	5.00	4.16 / 4.16	12.50	
B6182_18851_004	0.97	4.70	3.83 / 3.83	13.04	
B6182_18851_005	0.72	4.33	3.31 / 3.31	13.94	
B6182_18851_006	0.89	4.36	3.08 / 3.08	15.84	

4/25/22

Date/Initials: 4/20/22 KE

SGS

Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18851

Lab Sample ID	Spiker Initials/Date: JRH 1/20/22	JRH 1/20/22	JRH 1/20/22	1/24/22	1/25/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6182_18851_001	—	—	KE	JRH	KE		
B6182_18851_002	—	—	KE	JRH	KE		
B6182_18851_003	—	—	KE	JRH	KE		
B6182_18851_004	—	—	KE	JRH	KE		
B6182_18851_005	—	—	KE	JRH	KE		
B6182_18851_006	—	—	KE	JRH	KE		
MB1_18851	—	—	KE	JRH	KE		
OPR1_18851	KE	KE	KE	JRH	KE		
OPR2_18851	KE	KE	KE	JRH	KE		

1/25/22

Standard Information						
Pipette ID						JRH3 1/25/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL#	26-2-8	25-187-2	26-2-9	25-338-1	25-309-1	
Concentration	1000/µL	1000/µL	1000pg/µL	100 PS/µL	100 PS/µL	
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	10/8/22	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220126C01	3	CS3_220126_DF_CA	1.00	SIL 25-347-1	DTF	522-966	26-Jan-2022	11:04:37
2	220126C02	77	OPR1_18851_DF	1.00	0_18851_OPR001	DTF	031-282	26-Jan-2022	12:04:11
3	220126C03	78	OPR2_18851_DF	1.00	0_18851_OPR002	DTF	081-837	26-Jan-2022	12:50:26
5	220126C05	2	SBS_220126_DF_CA	1.00	20-61-1	DTF	365-726	26-Jan-2022	14:23:09
6	220126C06	76	MB1_18851_DF_SDS	10.00	Method Blank	DTF	603-670	26-Jan-2022	16:53:42
7	220126C08	79	B6182_18851_DF_001	10.10	11215131-011222-S-BN-SC-O-14a	DTF	576-441	26-Jan-2022	18:26:24
8	220126C09	80	B6182_18851_DF_002	10.07	11215131-011222-S-BN-SC-B-8a	DTF	471-294	26-Jan-2022	19:12:46
9	220126C10	81	B6182_18851_DF_003	10.15	11215131-011222-S-BN-SC-O-18	DTF	139-332	26-Jan-2022	19:59:07
10	220126C11	82	B6182_18851_DF_004	10.14	11215131-011222-S-BN-SC-B-12	DTF	024-057	26-Jan-2022	20:45:28
11	220126C12	83	B6182_18851_DF_005	10.11	11215131-011222-S-BN-SC-O-19	DTF	226-711	26-Jan-2022	21:31:48
12	220126C13	84	B6182_18851_DF_006	10.08	11215131-011222-S-BN-SC-B-13	DTF	857-046	26-Jan-2022	22:18:09

Lab ID: MB1_18851_DF_SDS | **Acq'd:** 26 Jan 2022 16:53 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6182_18851 | **UTP:** 27-Jan-2022 10:38:14 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 603-670-ZSW

Datafile: 220126C06 | **Report:** 27 Jan 2022 10:42 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0006	-0.3	1.01E+05	0.68	Y	1.18	1.13	4130.766	0.522
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2812.999	0.353
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3726.523	0.476
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3726.523	0.431
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3726.523	0.499
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3122.323	0.504
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2669.049	0.935
2378-TCDF	27.79	EMPC	1.0008	1.0006	-0.3	3.22E+05	0.58	N	1.08	2.55	3217.645	0.273
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3871.844	0.348
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3871.844	0.367
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2819.925	0.284
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2819.925	0.236
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2819.925	0.254
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2819.925	0.32
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2557.453	0.191
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2557.453	0.423
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2935.506	0.878

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0236	+0.5	1.52E+07	0.78	Y	1.05	84.2
ES 12378-PeCDD	33.93	1.2121	1.2136	+3.1	1.41E+07	1.54	Y	0.88	93
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.27E+07	1.31	Y	0.97	94.5
ES 123678-HxCDD	37.95	0.9951	0.9952	+0.2	1.48E+07	1.27	Y	0.94	114
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.32E+07	1.27	Y	1.09	88
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	1.07E+07	1.07	Y	0.91	85.1
ES OCDD	43.53	1.1403	1.1414	+2.9	1.14E+07	0.90	Y	0.62	66.5
ES 2378-TCDF	27.77	1.0506	1.0512	+1.0	2.34E+07	0.82	Y	1.06	80.9
ES 12378-PeCDF	32.49	1.2281	1.2298	+3.3	2.05E+07	1.55	Y	0.91	82.4
ES 23478-PeCDF	33.60	1.2698	1.2718	+4.0	1.97E+07	1.51	Y	0.88	81.6
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.44E+07	0.52	Y	1.20	87
ES 123678-HxCDF	36.97	0.9695	0.9694	-0.2	1.93E+07	0.55	Y	1.35	104
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.74E+07	0.55	Y	1.24	102
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.26E+07	0.52	Y	1.16	79.1
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.43E+07	0.45	Y	0.97	107
ES 1234789-HpCDF	41.33	1.0830	1.0838	+2.0	8.73E+06	0.41	Y	0.85	74.3
ES OCDF	43.71	1.1451	1.1462	+2.9	1.41E+07	0.86	Y	0.81	63.2

Lab ID: MB1_18851_DF_SDS | **Acq'd:** 26 Jan 2022 16:53 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6182_18851 | **UTP:** 27-Jan-2022 10:38:14 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 603-670-ZSW

Datafile: 220126C06 | **Report:** 27 Jan 2022 10:42 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.96		-	-	-	1.73E+07	0.81	Y	-	-
JS 1234-TCDF	26.42		-	-	-	2.73E+07	0.80	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	6.89E+06	1.37	Y	-	-
CS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	7.65E+06	n/a	-	1.20	92.2
CS 12347-PeCDD	33.43		1.1943	1.1956	+2.6	1.40E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	2.20E+07	1.51	Y	0.85	94.8
CS 123469-HxCDF	37.29		0.9778	0.9778	0	1.87E+07	0.55	Y	1.12	122
CS 1234689-HpCDF	40.34		1.0571	1.0579	+1.9	1.40E+07	0.45	Y	0.89	114
SS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	7.65E+06	n/a	-	1.15	110
SS 12347-PeCDD	33.43		1.1943	1.1956	+2.6	1.40E+07	1.58	Y	0.86	116
SS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	2.20E+07	1.51	Y	0.94	115
SS 123469-HxCDF	37.29		0.9778	0.9778	0	1.87E+07	0.55	Y	0.83	117
SS 1234689-HpCDF	40.34		1.0571	1.0579	+1.9	1.40E+07	0.45	Y	0.92	107

Totals	Conc	EMPC
Total TCDD	1.13	1.13
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	1.13	1.13
Total TCDF	1.43	3.98
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	1.43	3.98
Total Tetra-Octa Dioxins & Furans	2.56	5.1

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.634	0.68
Response	1.06E+05	1.01E+05

Lab ID: MB1_18851_DF_SDS | **Acq'd: 26 Jan 2022 16:53 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6182_18851 | **UTP: 27-Jan-2022 10:38:14 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 603-670-ZSW**

Datafile: 220126C06 | **Report: 27 Jan 2022 10:42 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4130.766	0.522
1379-TCDD	NotFnd		0.8876						1.18		4130.766	0.522
1369-TCDD	NotFnd		0.9023						1.18		4130.766	0.522
1469-TCDD	NotFnd		0.9291						1.18		4130.766	0.522
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4130.766	0.522
1378-TCDD	NotFnd		0.9440						1.18		4130.766	0.522
1268-TCDD	NotFnd		0.9506						1.18		4130.766	0.522
1478-TCDD	NotFnd		0.9591						1.18		4130.766	0.522
1279-TCDD	NotFnd		0.9649						1.18		4130.766	0.522
1234/1269-TCDD	NotFnd		0.9771						1.18		4130.766	0.522
1236-TCDD	NotFnd		0.9820						1.18		4130.766	0.522
1237/1238-TCDD	NotFnd		0.9908						1.18		4130.766	0.522
1239-TCDD	NotFnd		0.9954						1.18		4130.766	0.522
2378-TCDD	**28.64**		**1.0008**	1.0006	**-0.3**	1.01E+05	0.68	Y	**1.18**	**1.13**	**4130.766**	**0.522**
1278-TCDD	NotFnd		1.0121						1.18		4130.766	0.522
1267-TCDD	NotFnd		1.0167						1.18		4130.766	0.522
1289-TCDD	NotFnd		1.0341						1.18		4130.766	0.522
12479/12468-PeCDD	NotFnd		0.9273						1.04		2812.999	0.353
12469-PeCDD	NotFnd		0.9430						1.04		2812.999	0.353
12368-PeCDD	NotFnd		0.9592						1.04		2812.999	0.353
12478-PeCDD	NotFnd		0.9647						1.04		2812.999	0.353
12379-PeCDD	NotFnd		0.9676						1.04		2812.999	0.353
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2812.999	0.353
12346/12347-PeCDD	NotFnd		0.9860						1.04		2812.999	0.353
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2812.999**	**0.353**
12367-PeCDD	NotFnd		1.0034						1.04		2812.999	0.353
12389-PeCDD	NotFnd		1.0134						1.04		2812.999	0.353
124679/124689-HxCDD	NotFnd		0.9545						1.10		3726.523	0.467
123468-HxCDD	NotFnd		0.9715						1.10		3726.523	0.467
123679/123689-HxCDD	NotFnd		0.9793						1.10		3726.523	0.467
123469-HxCDD	NotFnd		0.9829						1.10		3726.523	0.467
123478-HxCDD	NotFnd		**1.0004**						1.09		**3726.523**	**0.476**
123678-HxCDD	NotFnd		**1.0034**						1.15		**3726.523**	**0.431**
123467-HxCDD	NotFnd		1.0082						1.10		3726.523	0.467
123789-HxCDD	NotFnd		**1.0109**						1.05		**3726.523**	**0.499**

Lab ID: MB1_18851_DF_SDS | **Acq'd:** 26 Jan 2022 16:53 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6182_18851 | **UTP:** 27-Jan-2022 10:38:14 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 603-670-ZSW

Datafile: 220126C06 | **Report:** 27 Jan 2022 10:42 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		3122.323	0.504
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3122.323**	**0.504**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2669.049**	**0.935**
OCDD-a	NotFnd		1.0002						0.07		3203.917	17.6
1368-TCDF	NotFnd		0.8282						1.08		3217.645	0.273
1468-TCDF	NotFnd		0.8485						1.08		3217.645	0.273
2468-TCDF	NotFnd		0.8709						1.08		3217.645	0.273
1346/1246-TCDF	NotFnd		0.8829						1.08		3217.645	0.273
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3217.645	0.273
1348-TCDF	NotFnd		0.8980						1.08		3217.645	0.273
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3217.645	0.273
1268-TCDF	NotFnd		0.9158						1.08		3217.645	0.273
1467-TCDF	NotFnd		0.9206						1.08		3217.645	0.273
1478-TCDF	NotFnd		0.9266						1.08		3217.645	0.273
1369/1237-TCDF	NotFnd		0.9397						1.08		3217.645	0.273
2467-TCDF	NotFnd		0.9440						1.08		3217.645	0.273
2368-TCDF	NotFnd		0.9497						1.08		3217.645	0.273
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3217.645	0.273
1278-TCDF	26.90		0.9690	0.9686	-0.6	1.80E+05	0.73	Y	1.08	1.43	3217.645	0.273
1349-TCDF	NotFnd		0.9730						1.08		3217.645	0.273
1267-TCDF	NotFnd		0.9787						1.08		3217.645	0.273
2346/1249-TCDF	NotFnd		0.9850						1.08		3217.645	0.273
2347/1279-TCDF	NotFnd		0.9929						1.08		3217.645	0.273
2348-TCDF	NotFnd		0.9970						1.08		3217.645	0.273
2378-TCDF	**27.79**	EMPC	**1.0008**	**1.0006**	**-0.3**	**3.22E+05**	**0.58**	**N**	**1.08**	**2.55**	**3217.645**	**0.273**
2367/3467-TCDF	NotFnd		1.0136						1.08		3217.645	0.273
1269-TCDF	NotFnd		1.0221						1.08		3217.645	0.273
1239-TCDF	NotFnd		1.0319						1.08		3217.645	0.273
1289-TCDF	NotFnd		1.0740						1.08		3217.645	0.273
13468/12468-PeCDF	NotFnd		0.9145						1.02		3373.207	0.311
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		3871.844	0.357
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		3871.844	0.357
14678-PeCDF	NotFnd		0.9695						1.02		3871.844	0.357
13479-PeCDF	NotFnd		0.9724						1.02		3871.844	0.357
13469/12479-PeCDF	NotFnd		0.9801						1.02		3871.844	0.357
12346-PeCDF	NotFnd		0.9842						1.02		3871.844	0.357

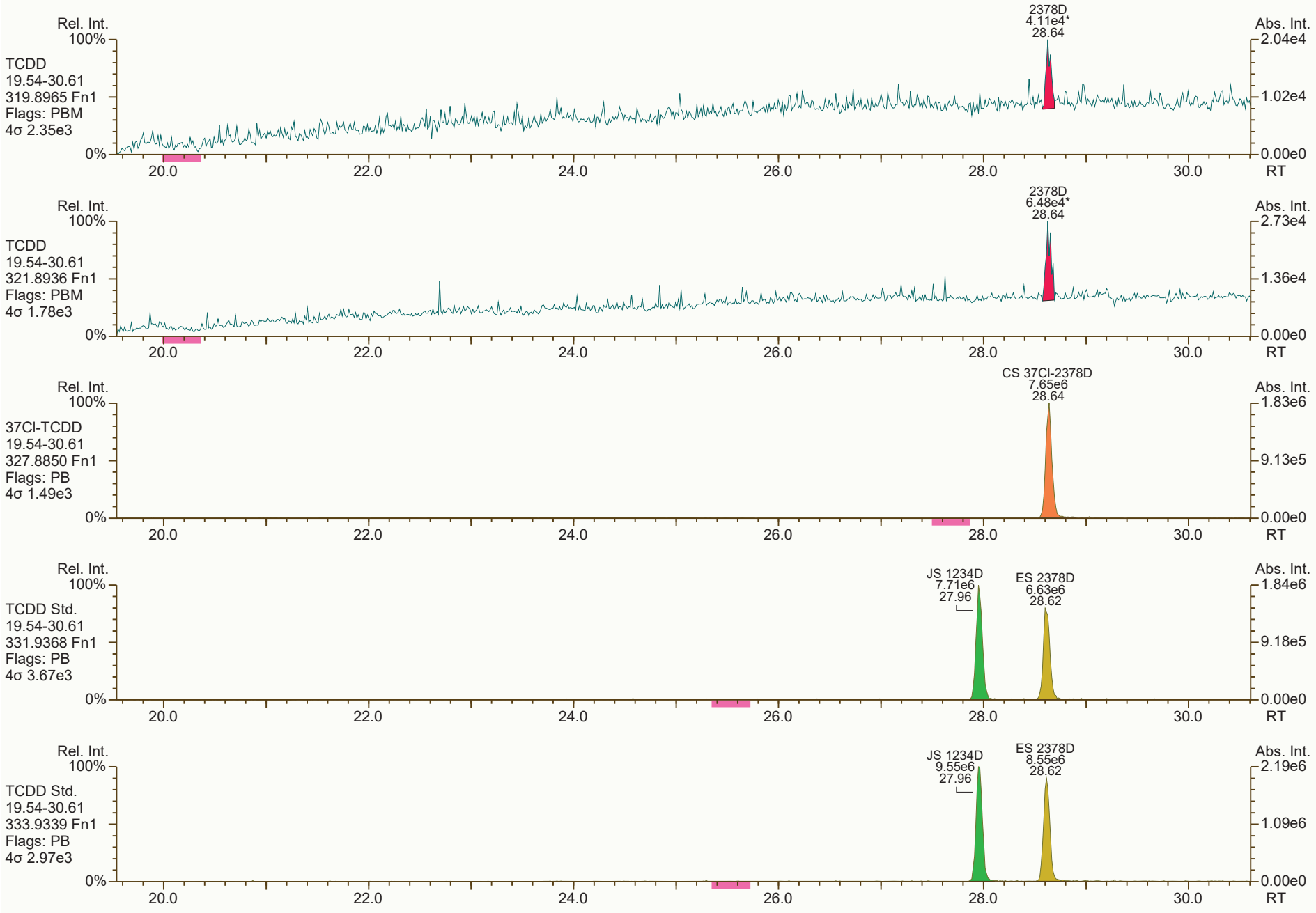
Lab ID: MB1_18851_DF_SDS | **Acq'd:** 26 Jan 2022 16:53 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

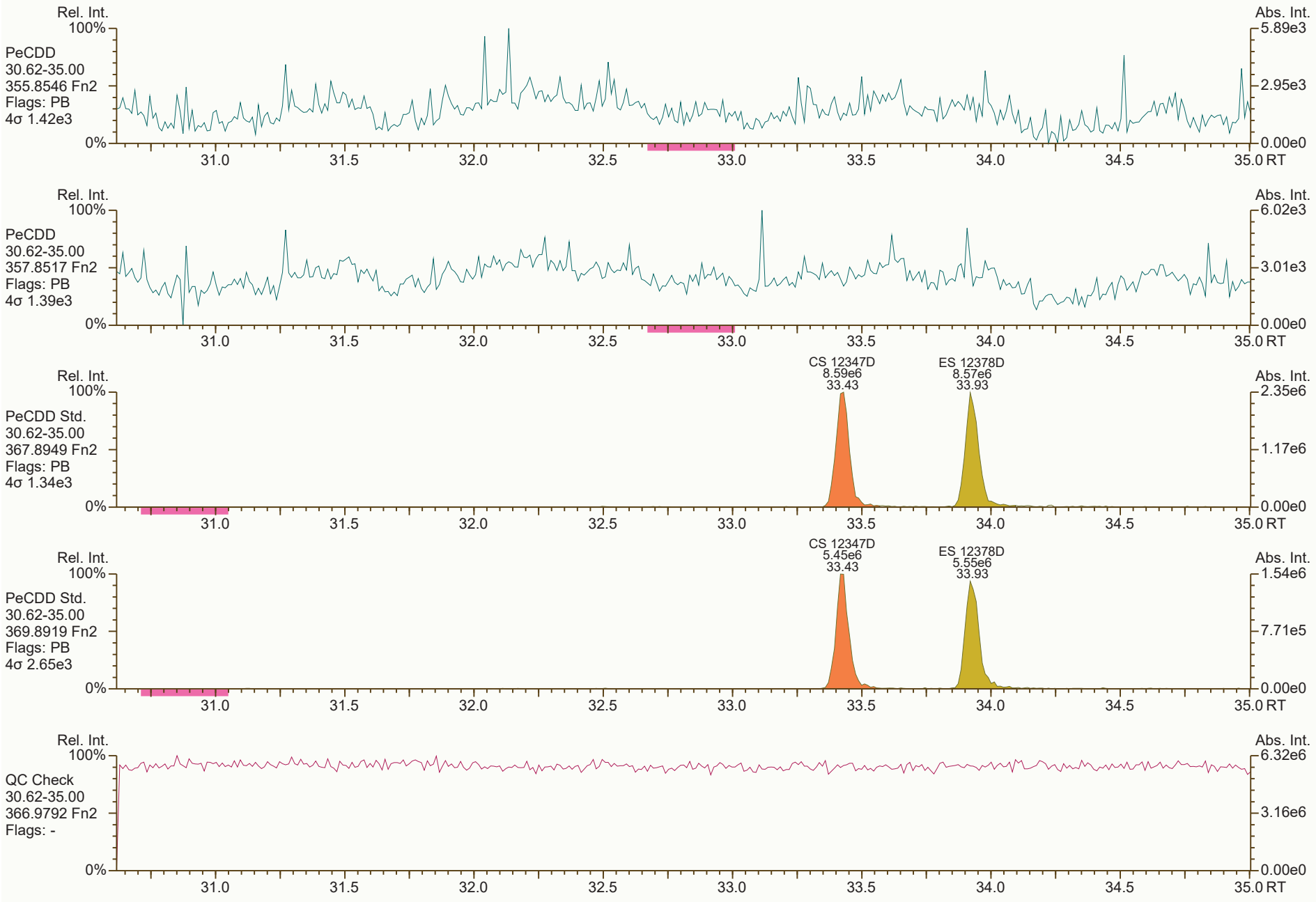
Client ID: Method Blank B6182_18851 | **UTP:** 27-Jan-2022 10:38:14 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 603-670-ZSW

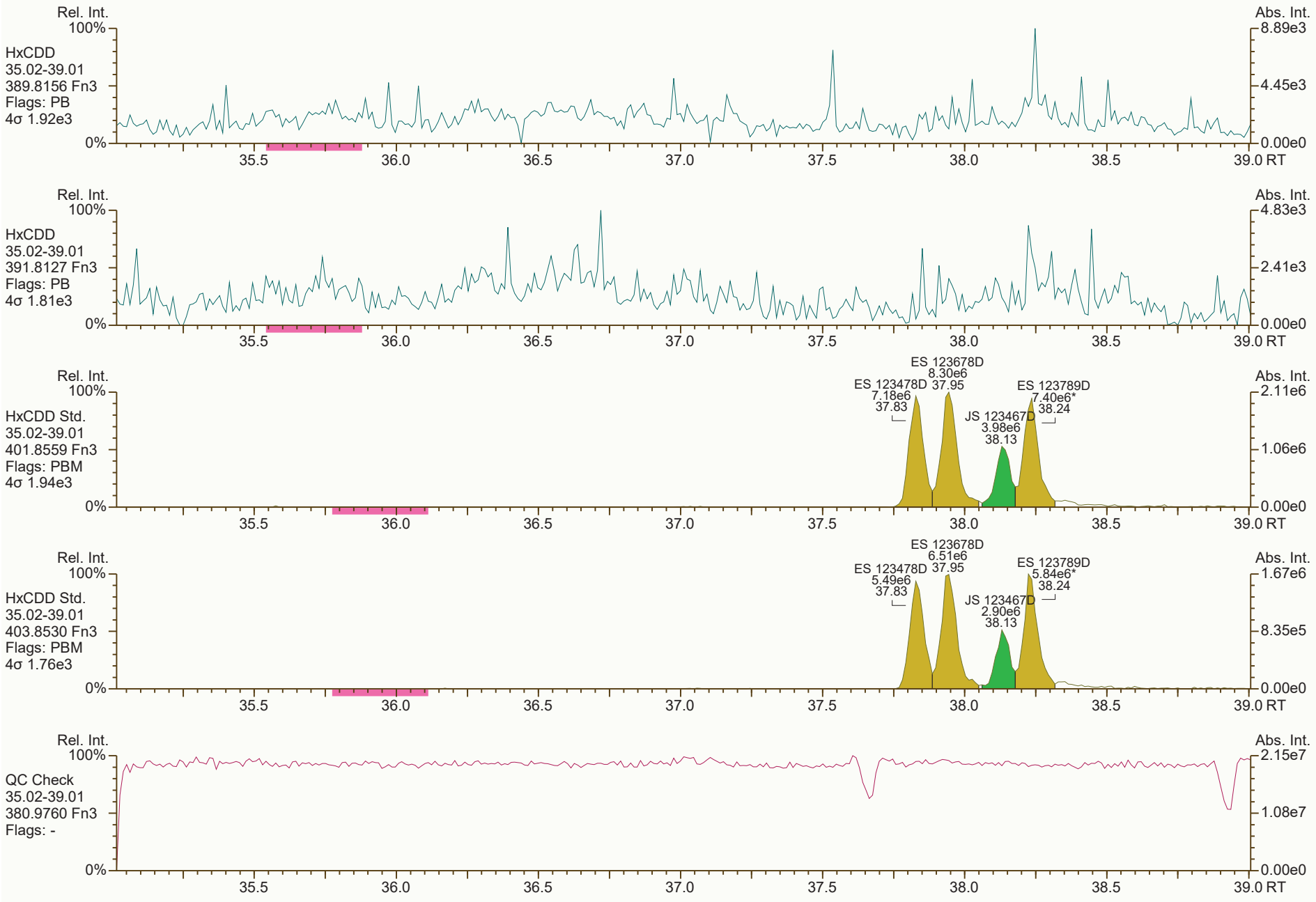
Datafile: 220126C06 | **Report:** 27 Jan 2022 10:42 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3871.844	0.357
12347-PeCDF	NotFnd		0.9895						1.02		3871.844	0.357
12348-PeCDF	NotFnd		0.9941						1.02		3871.844	0.357
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3871.844**	**0.348**
12678/12367-PeCDF	NotFnd		1.0090						1.02		3871.844	0.357
12379-PeCDF	NotFnd		1.0142						1.02		3871.844	0.357
12679-PeCDF	NotFnd		0.9931						1.02		3871.844	0.357
23467/12369-PeCDF	NotFnd		0.9966						1.02		3871.844	0.357
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3871.844**	**0.367**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3871.844	0.357
12349-PeCDF	NotFnd		1.0101						1.02		3871.844	0.357
12389-PeCDF	NotFnd		1.0322						1.02		3871.844	0.357
123468-HxCDF	NotFnd		0.9627						1.19		2819.925	0.268
124678/134678-HxCDF	NotFnd		0.9684						1.19		2819.925	0.268
134679-HxCDF	NotFnd		0.9747						1.19		2819.925	0.268
124679-HxCDF	NotFnd		0.9802						1.19		2819.925	0.268
124689-HxCDF	NotFnd		0.9858						1.19		2819.925	0.268
123467-HxCDF	NotFnd		0.9972						1.19		2819.925	0.268
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2819.925**	**0.284**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2819.925**	**0.236**
123479-HxCDF	NotFnd		1.0051						1.19		2819.925	0.268
123469-HxCDF	NotFnd		1.0091						1.19		2819.925	0.268
123679-HxCDF	NotFnd		0.9943						1.19		2819.925	0.268
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2819.925**	**0.254**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2819.925	0.268
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2819.925**	**0.32**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2819.925	0.268
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2557.453**	**0.191**
1234679-HpCDF	NotFnd		1.0067						1.34		2557.453	0.278
1234689-HpCDF	NotFnd		1.0101						1.34		2557.453	0.278
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2557.453**	**0.423**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2935.506**	**0.878**
OCDF-a	NotFnd		1.0002						0.07		3769.308	18.2


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.32e6
3.16e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.31e7
6.56e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.18e7
5.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

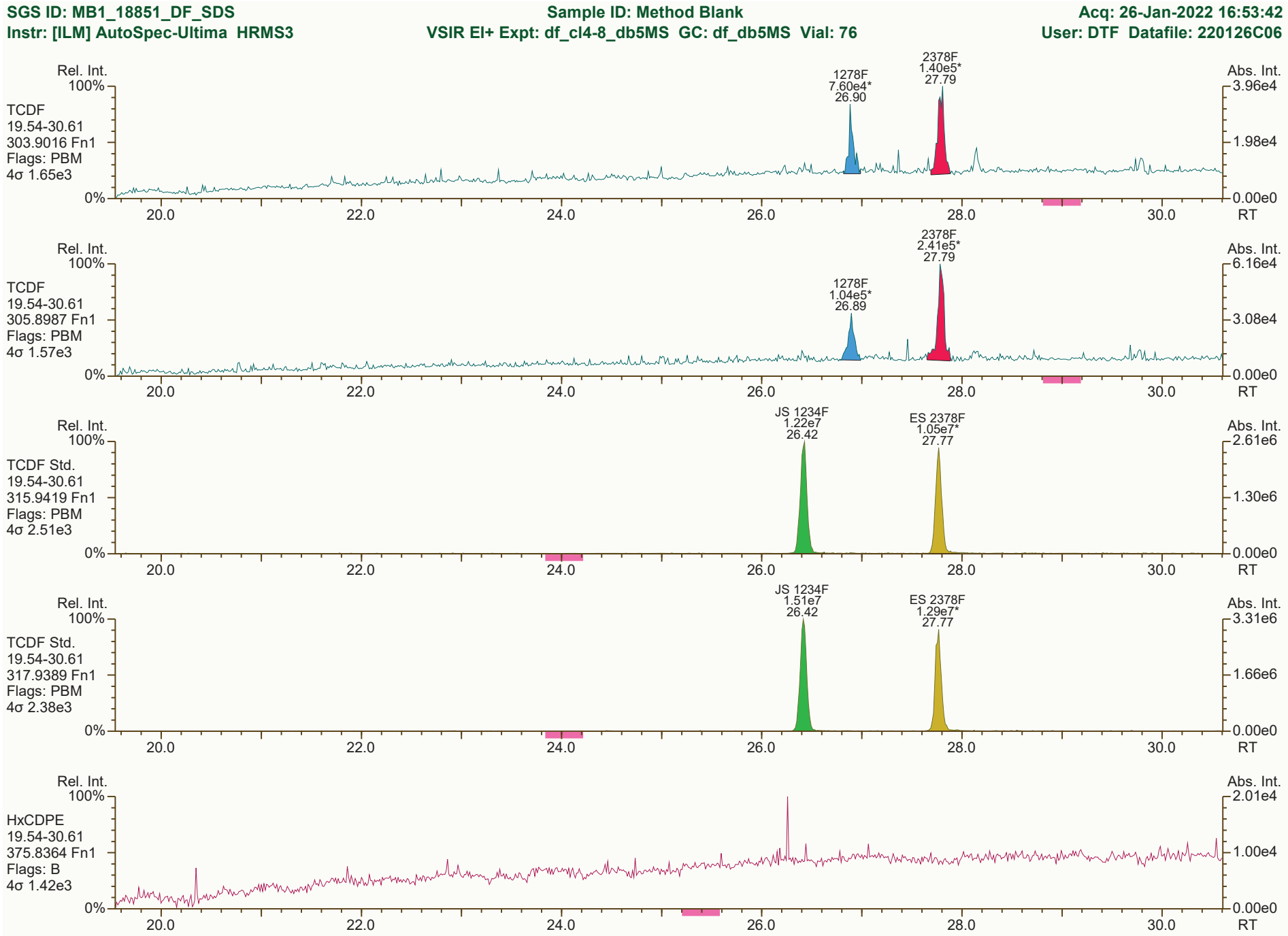

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.35e3
0%
2378D
4.11e4*
28.64
Abs. Int.
2.04e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.78e3
0%
2378D
6.48e4*
28.64
Abs. Int.
2.73e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
7.65e6
28.64
Abs. Int.
1.83e6
9.13e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 3.67e3
0%
JS 1234D
7.71e6
27.96
ES 2378D
6.63e6
28.62
Abs. Int.
1.84e6
9.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.97e3
0%
JS 1234D
9.55e6
27.96
ES 2378D
8.55e6
28.62
Abs. Int.
2.19e6
1.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.42e3
0%
Abs. Int.
5.89e3
2.95e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.02e3
3.01e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.34e3
CS 12347D
8.59e6
33.43
ES 12378D
8.57e6
33.93
0%
Abs. Int.
2.35e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.65e3
CS 12347D
5.45e6
33.43
ES 12378D
5.55e6
33.93
0%
Abs. Int.
1.54e6
7.71e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.32e6
3.16e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

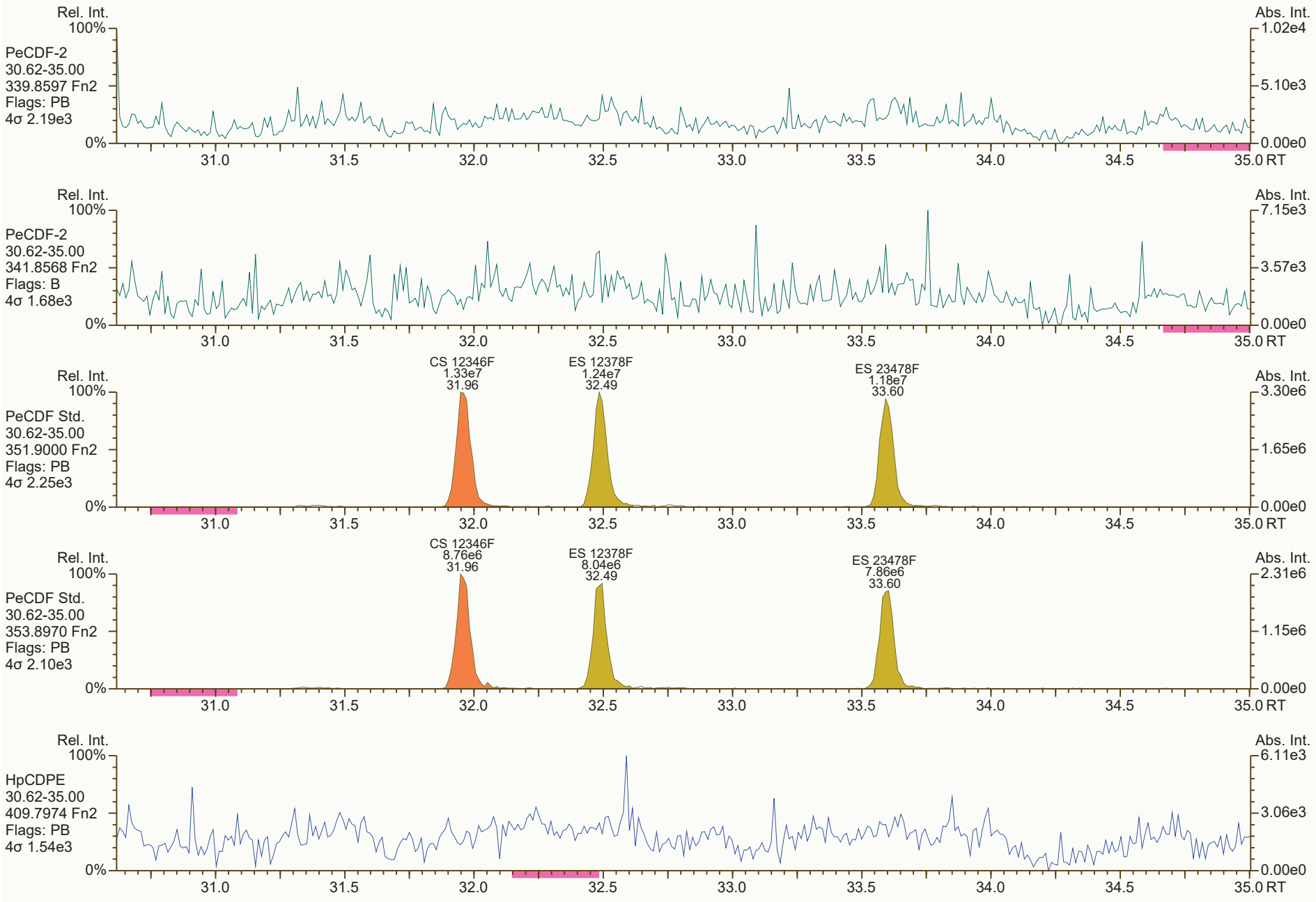

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.92e3
0%
Abs. Int.
8.89e3
4.45e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.81e3
0%
Abs. Int.
4.83e3
2.41e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.94e3
0%
ES 123678D
8.30e6
37.95
ES 123478D
7.18e6
37.83
ES 123789D
7.40e6*
38.24
JS 123467D
3.98e6
38.13
Abs. Int.
2.11e6
1.06e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.76e3
0%
ES 123678D
6.51e6
37.95
ES 123478D
5.49e6
37.83
ES 123789D
5.84e6*
38.24
JS 123467D
2.90e6
38.13
Abs. Int.
1.67e6
8.35e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

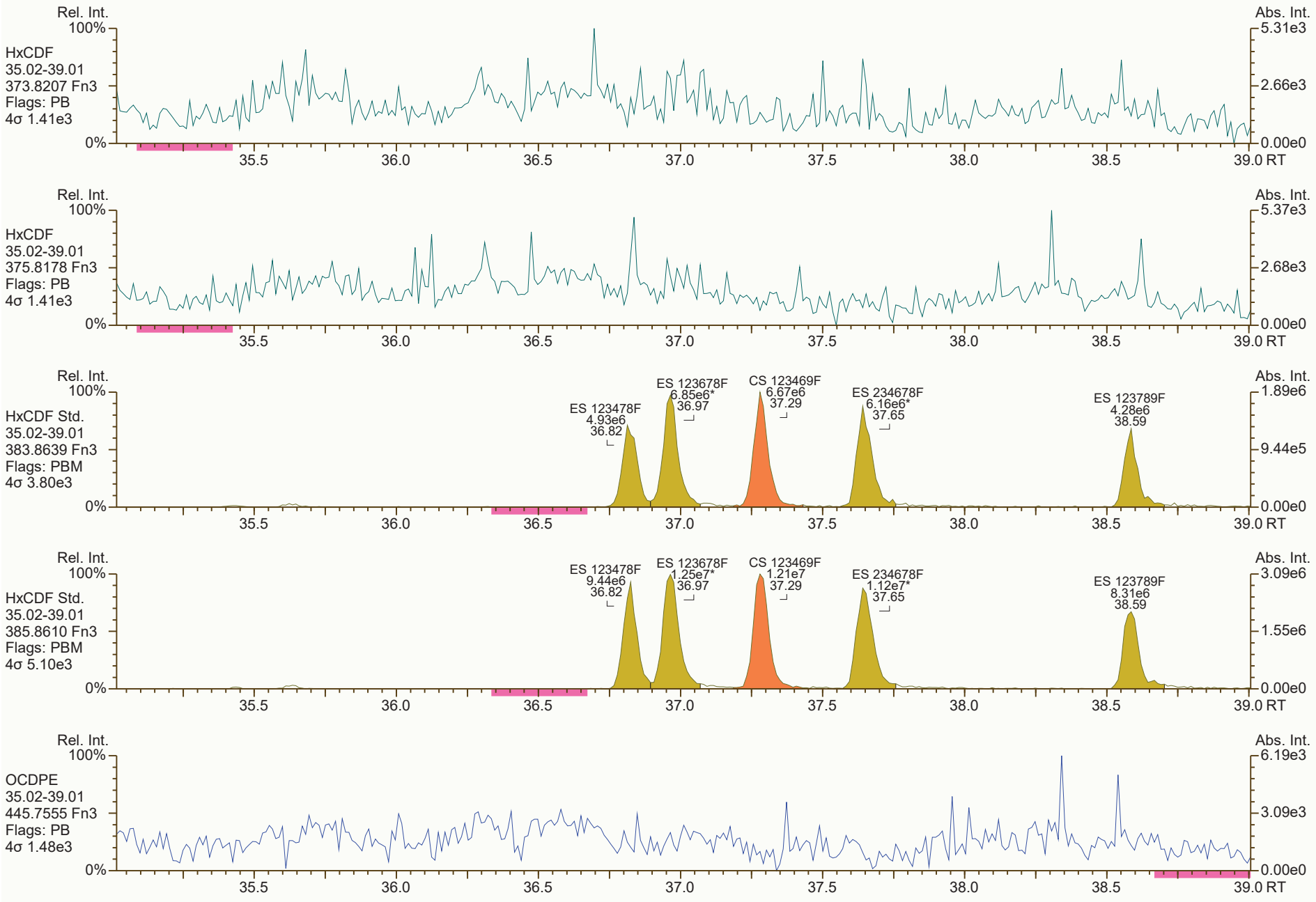

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.58e3
0%
Abs. Int.
5.49e3
2.74e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
8.83e3
4.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
5.53e6
40.87
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.06e3
0%
Abs. Int.
1.51e6
7.55e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
5.18e6
40.87
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.10e3
0%
Abs. Int.
1.32e6
6.61e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.31e7
6.56e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

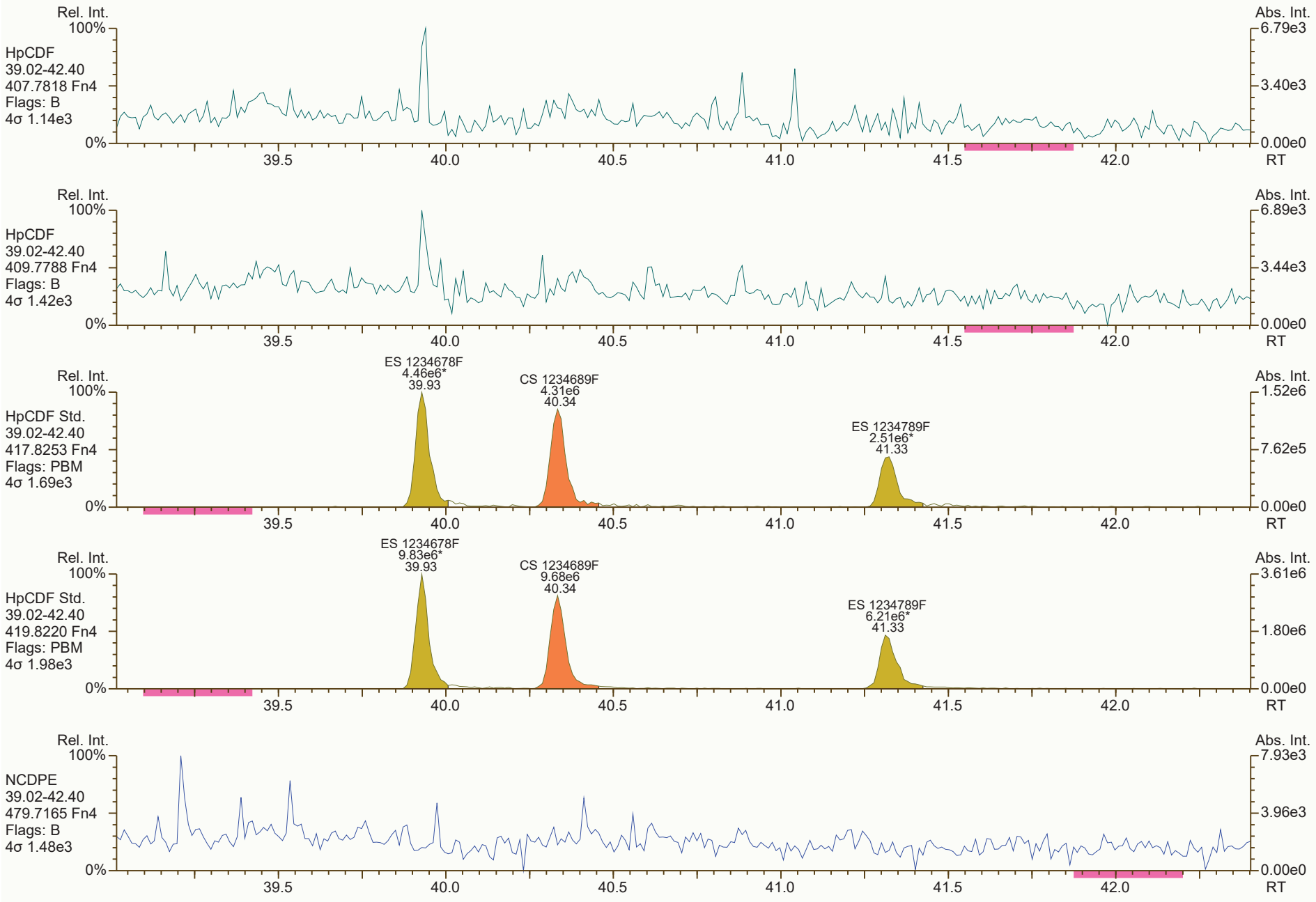

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
8.07e3
4.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.30e3
3.65e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.43e6*
43.53
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
1.20e6
6.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.01e6*
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.25e3
0%
Abs. Int.
1.28e6
6.41e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.18e7
5.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18851_DF_SDS
Sample ID: Method Blank
Acq: 26-Jan-2022 16:53:42
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220126C06
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.65e3
1278F
7.60e4*
26.90
2378F
1.40e5*
27.79
3.96e4
1.98e4
0.00e0
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 1.57e3
1278F
1.04e5*
26.89
2378F
2.41e5*
27.79
6.16e4
3.08e4
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 2.51e3
JS 1234F
1.22e7
26.42
ES 2378F
1.05e7*
27.77
2.61e6
1.30e6
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 2.38e3
JS 1234F
1.51e7
26.42
ES 2378F
1.29e7*
27.77
3.31e6
1.66e6
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.42e3
2.01e4
1.00e4
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\MB1_18851_DF_SDS.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7405, 6588, 2395 scc: 603-670
Revised: 27-Jan-2022 10:09 (DTF) Printed: 27-Jan-2022 10:47 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.54e4
7.69e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.49e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.59e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.88e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 2.19e3
0%
Abs. Int.
1.02e4
5.10e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
7.15e3
3.57e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.25e3
0%
CS 12346F
1.33e7
31.96
ES 12378F
1.24e7
32.49
ES 23478F
1.18e7
33.60
Abs. Int.
3.30e6
1.65e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.10e3
0%
CS 12346F
8.76e6
31.96
ES 12378F
8.04e6
32.49
ES 23478F
7.86e6
33.60
Abs. Int.
2.31e6
1.15e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.11e3
3.06e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
5.31e3
2.66e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
5.37e3
2.68e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.80e3
0%
ES 123478F
4.93e6
36.82
ES 123678F
6.85e6*
36.97
CS 123469F
6.67e6
37.29
ES 234678F
6.16e6*
37.65
ES 123789F
4.28e6
38.59
Abs. Int.
1.89e6
9.44e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.10e3
0%
ES 123478F
9.44e6
36.82
ES 123678F
1.25e7*
36.97
CS 123469F
1.21e7
37.29
ES 234678F
1.12e7*
37.65
ES 123789F
8.31e6
38.59
Abs. Int.
3.09e6
1.55e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.48e3
0%
Abs. Int.
6.19e3
3.09e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.14e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.42e3
0%
Abs. Int.
6.89e3
3.44e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.69e3
0%
ES 1234678F
4.46e6*
39.93
CS 1234689F
4.31e6
40.34
ES 1234789F
2.51e6*
41.33
Abs. Int.
1.52e6
7.62e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.98e3
0%
ES 1234678F
9.83e6*
39.93
CS 1234689F
9.68e6
40.34
ES 1234789F
6.21e6*
41.33
Abs. Int.
3.61e6
1.80e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.93e3
3.96e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.59e3
0%
Abs. Int.
5.35e3
2.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.13e3
4.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.50e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.27e3
0%
Abs. Int.
1.44e6
7.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.57e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
1.69e6
8.43e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
7.31e3
3.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6182_18851_DF_001 **Acq'd:** 26 Jan 2022 18:26 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-14a **UTP:** 27-Jan-2022 10:38:15 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 576-441-SRV

Datafile: 220126C08 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64	B	1.0008	1.0008	0	1.43E+05	0.83	Y	1.18	1.47	3320.351	0.365
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3311.161	0.401
123478-HxCDD	37.84	J EMPC	1.0004	1.0005	+0.2	4.50E+04	0.86	N	1.09	0.634	3551.969	0.424
123678-HxCDD	37.95	J	1.0034	1.0034	0	1.20E+05	1.17	Y	1.15	1.36	3551.969	0.388
123789-HxCDD	38.25	J EMPC	1.0109	1.0111	+0.5	9.17E+04	1.04	N	1.05	1.21	3551.969	0.425
1234678-HpCDD	40.87		1.0003	1.0002	-0.2	2.44E+06	0.98	Y	1.06	38	2779.857	0.352
OCDD	43.54		1.0002	1.0003	+0.3	2.13E+07	0.91	Y	1.13	568	3608.247	1.18
2378-TCDF	27.78	B	1.0008	1.0007	-0.2	5.19E+05	0.81	Y	1.08	3.82	5261.917	0.437
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	5844.089	0.528
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	5844.089	0.483
123478-HxCDF	36.83	J	1.0004	1.0004	0	1.34E+05	1.41	Y	1.27	1.33	2477.237	0.188
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2477.237	0.196
234678-HxCDF	37.66	J	1.0004	1.0002	-0.5	1.02E+05	1.31	Y	1.19	0.894	2477.237	0.224
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2477.237	0.244
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	7.81E+05	1.02	Y	1.37	7.51	3279.933	0.253
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3279.933	0.449
OCDF	43.72		1.0002	1.0002	0	1.02E+06	0.84	Y	1.07	22	3514.97	0.804

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.61	1.0233	1.0236	+0.5	1.62E+07	0.79	Y	1.05	90.1
ES 12378-PeCDD	33.93	1.2121	1.2137	+3.3	1.42E+07	1.60	Y	0.88	93.9
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.29E+07	1.31	Y	0.97	94.1
ES 123678-HxCDD	37.94	0.9951	0.9951	0	1.52E+07	1.17	Y	0.94	114
ES 123789-HxCDD	38.23	1.0025	1.0027	+0.5	1.44E+07	1.20	Y	1.09	93.4
ES 1234678-HpCDD	40.86	1.0709	1.0717	+2.0	1.20E+07	1.08	Y	0.91	93.2
ES OCDD	43.53	1.1403	1.1416	+3.4	1.32E+07	0.94	Y	0.62	74.8
ES 2378-TCDF	27.76	1.0506	1.0511	+0.8	2.50E+07	0.78	Y	1.06	87.8
ES 12378-PeCDF	32.48	1.2281	1.2299	+3.5	2.12E+07	1.55	Y	0.91	86.5
ES 23478-PeCDF	33.59	1.2698	1.2719	+4.2	2.07E+07	1.55	Y	0.88	87.2
ES 123478-HxCDF	36.82	0.9657	0.9656	-0.2	1.56E+07	0.54	Y	1.20	92.5
ES 123678-HxCDF	36.96	0.9695	0.9694	-0.2	2.04E+07	0.53	Y	1.35	107
ES 234678-HxCDF	37.65	0.9874	0.9875	+0.2	1.90E+07	0.52	Y	1.24	109
ES 123789-HxCDF	38.58	1.0116	1.0119	+0.7	1.47E+07	0.54	Y	1.16	90
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.50E+07	0.44	Y	0.97	110
ES 1234789-HpCDF	41.32	1.0830	1.0838	+2.0	9.82E+06	0.48	Y	0.85	81.7
ES OCDF	43.71	1.1451	1.1464	+3.4	1.72E+07	0.88	Y	0.81	75.5

Lab ID: B6182_18851_DF_001 **Acq'd:** 26 Jan 2022 18:26 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-14a **UTP:** 27-Jan-2022 10:38:15 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 576-441-SRV

Datafile: 220126C08 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.95		-	-	-	1.72E+07	0.82	Y	-	-
JS 1234-TCDF	26.41		-	-	-	2.69E+07	0.79	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	7.05E+06	1.36	Y	-	-
CS 37Cl-2378-TCDD	28.63		1.0241	1.0244	+0.5	7.33E+06	n/a	-	1.20	88.6
CS 12347-PeCDD	33.42		1.1943	1.1957	+2.8	1.39E+07	1.61	Y	0.75	107
CS 12346-PeCDF	31.96		1.2083	1.2099	+3.1	2.11E+07	1.53	Y	0.85	92.2
CS 123469-HxCDF	37.28		0.9778	0.9778	0	1.87E+07	0.54	Y	1.12	118
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.48E+07	0.44	Y	0.89	118
SS 37Cl-2378-TCDD	28.63		1.0241	1.0244	+0.5	7.33E+06	n/a	-	1.15	98.5
SS 12347-PeCDD	33.42		1.1943	1.1957	+2.8	1.39E+07	1.61	Y	0.86	114
SS 12346-PeCDF	31.96		1.2083	1.2099	+3.1	2.11E+07	1.53	Y	0.94	106
SS 123469-HxCDF	37.28		0.9778	0.9778	0	1.87E+07	0.54	Y	0.83	111
SS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.48E+07	0.44	Y	0.92	107

Totals	Conc	EMPC
Total TCDD	1.47	1.47
Total PeCDD	0	0
Total HxCDD	13.4	15.2
Total HpCDD	91.4	91.4
Total Tetra-Octa Dioxins	675	676
Total TCDF	5.8	7.02
Total PeCDF	1.65	1.65
Total HxCDF	7.29	10.1
Total HpCDF	19.8	19.8
Total Tetra-Octa Furans	56.6	60.6
Total Tetra-Octa Dioxins & Furans	731	737

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.783	0.83
Response	1.48E+05	1.43E+05

Lab ID: B6182_18851_DF_001 **Acq'd: 26 Jan 2022 18:26 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-O-14a **UTP: 27-Jan-2022 10:38:15 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 576-441-SRV**

Datafile: 220126C08 **Report: 27 Jan 2022 10:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		3320.351	0.365
1379-TCDD	NotFnd		0.8876						1.18		3320.351	0.365
1369-TCDD	NotFnd		0.9023						1.18		3320.351	0.365
1469-TCDD	NotFnd		0.9291						1.18		3320.351	0.365
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3320.351	0.365
1378-TCDD	NotFnd		0.9440						1.18		3320.351	0.365
1268-TCDD	NotFnd		0.9506						1.18		3320.351	0.365
1478-TCDD	NotFnd		0.9591						1.18		3320.351	0.365
1279-TCDD	NotFnd		0.9649						1.18		3320.351	0.365
1234/1269-TCDD	NotFnd		0.9771						1.18		3320.351	0.365
1236-TCDD	NotFnd		0.9820						1.18		3320.351	0.365
1237/1238-TCDD	NotFnd		0.9908						1.18		3320.351	0.365
1239-TCDD	NotFnd		0.9954						1.18		3320.351	0.365
2378-TCDD	**28.64**	B	**1.0008**	1.0008	**0**	1.43E+05	0.83	Y	**1.18**	**1.47**	**3320.351**	**0.365**
1278-TCDD	NotFnd		1.0121						1.18		3320.351	0.365
1267-TCDD	NotFnd		1.0167						1.18		3320.351	0.365
1289-TCDD	NotFnd		1.0341						1.18		3320.351	0.365
12479/12468-PeCDD	NotFnd		0.9273						1.04		3311.161	0.401
12469-PeCDD	NotFnd		0.9430						1.04		3311.161	0.401
12368-PeCDD	NotFnd		0.9592						1.04		3311.161	0.401
12478-PeCDD	NotFnd		0.9647						1.04		3311.161	0.401
12379-PeCDD	NotFnd		0.9676						1.04		3311.161	0.401
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3311.161	0.401
12346/12347-PeCDD	NotFnd		0.9860						1.04		3311.161	0.401
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3311.161**	**0.401**
12367-PeCDD	NotFnd		1.0034						1.04		3311.161	0.401
12389-PeCDD	NotFnd		1.0134						1.04		3311.161	0.401
124679/124689-HxCDD	36.09		0.9545	0.9541	-0.9	4.44E+05	1.20	Y	1.10	5.67	3551.969	0.411
123468-HxCDD	36.74	J	0.9715	0.9714	-0.2	7.68E+04	1.40	Y	1.10	0.98	3551.969	0.411
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	4.23E+05	1.33	Y	1.10	5.4	3551.969	0.411
123469-HxCDD	NotFnd		0.9829						1.10		3551.969	0.411
123478-HxCDD	37.84	J EMPC	**1.0004**	**1.0005**	**+0.2**	**4.50E+04**	**0.86**	**N**	1.09	**0.634**	**3551.969**	**0.424**
123678-HxCDD	37.95	J	**1.0034**	**1.0034**	**0**	**1.20E+05**	**1.17**	**Y**	1.15	**1.36**	**3551.969**	**0.388**
123467-HxCDD	NotFnd		1.0082						1.10		3551.969	0.411
123789-HxCDD	38.25	J EMPC	**1.0109**	**1.0111**	**+0.5**	**9.17E+04**	**1.04**	**N**	1.05	**1.21**	**3551.969**	**0.425**

Lab ID: B6182_18851_DF_001 **Acq'd:** 26 Jan 2022 18:26 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-14a **UTP:** 27-Jan-2022 10:38:15 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 576-441-SRV

Datafile: 220126C08 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

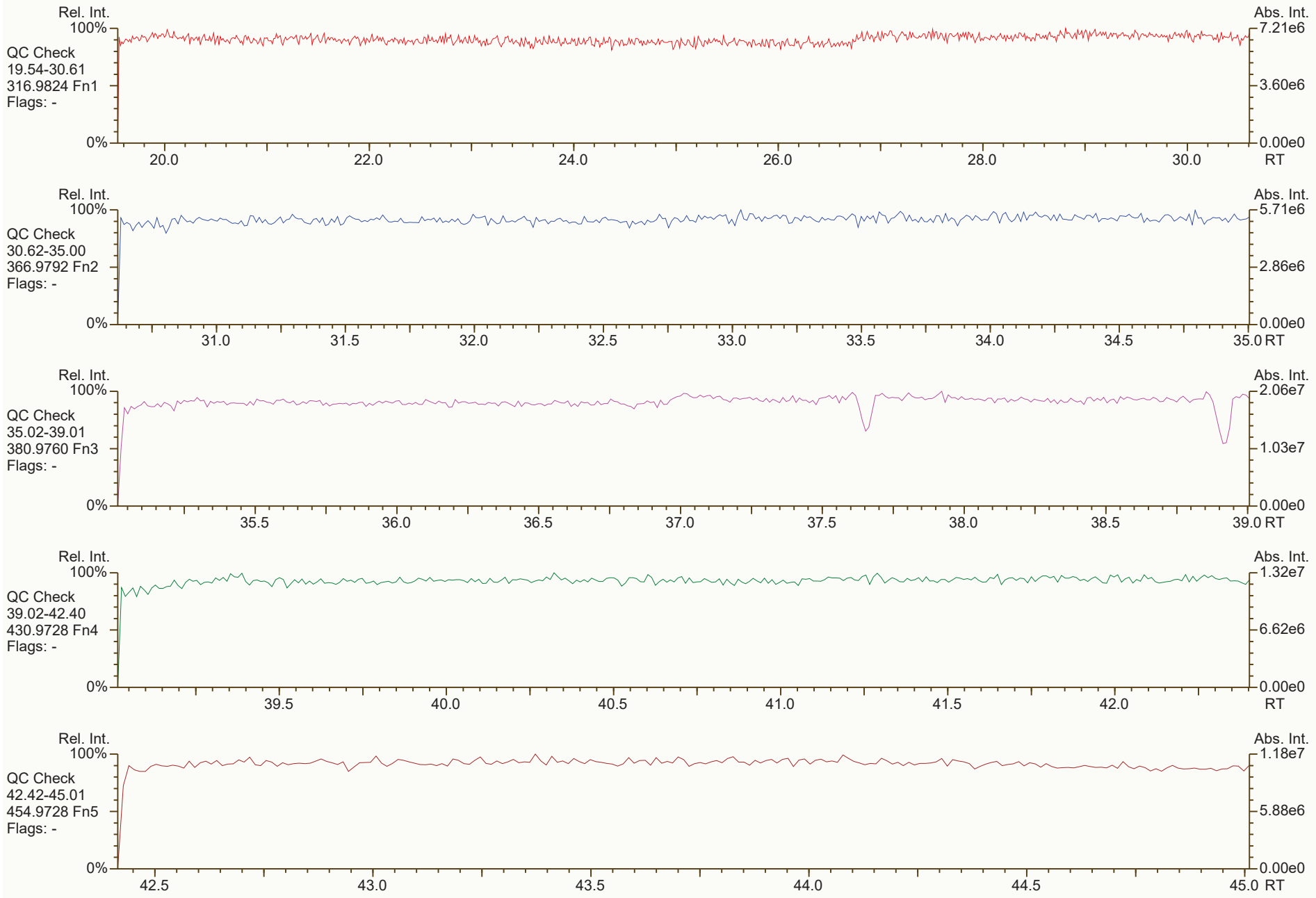
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	3.43E+06	1.08	Y	1.06	53.5	2779.857	0.352
1234678-HpCDD	**40.87**		**1.0003**	**1.0002**	**-0.2**	**2.44E+06**	**0.98**	**Y**	**1.06**	**38**	**2779.857**	**0.352**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.13E+07**	**0.91**	**Y**	**1.13**	**568**	**3608.247**	**1.18**
OCDD-a	43.53		1.0002	1.0002	0	1.22E+06	2.62	Y	0.07	509	3354.458	17.2
1368-TCDF	NotFnd		0.8282						1.08		5261.917	0.437
1468-TCDF	NotFnd		0.8485						1.08		5261.917	0.437
2468-TCDF	24.14		0.8709	0.8696	-1.9	1.28E+05	0.79	Y	1.08	0.94	5261.917	0.437
1346/1246-TCDF	NotFnd		0.8829						1.08		5261.917	0.437
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		5261.917	0.437
1348-TCDF	NotFnd		0.8980						1.08		5261.917	0.437
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		5261.917	0.437
1268-TCDF	NotFnd		0.9158						1.08		5261.917	0.437
1467-TCDF	NotFnd		0.9206						1.08		5261.917	0.437
1478-TCDF	NotFnd		0.9266						1.08		5261.917	0.437
1369/1237-TCDF	NotFnd		0.9397						1.08		5261.917	0.437
2467-TCDF	NotFnd		0.9440						1.08		5261.917	0.437
2368-TCDF	26.36	J EMPC	0.9497	0.9494	-0.5	5.56E+04	1.04	N	1.08	0.409	5261.917	0.437
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5261.917	0.437
1278-TCDF	26.89	B	0.9690	0.9685	-0.8	1.42E+05	0.66	Y	1.08	1.04	5261.917	0.437
1349-TCDF	NotFnd		0.9730						1.08		5261.917	0.437
1267-TCDF	NotFnd		0.9787						1.08		5261.917	0.437
2346/1249-TCDF	NotFnd		0.9850						1.08		5261.917	0.437
2347/1279-TCDF	NotFnd		0.9929						1.08		5261.917	0.437
2348-TCDF	NotFnd		0.9970						1.08		5261.917	0.437
2378-TCDF	**27.78**	B	**1.0008**	**1.0007**	**-0.2**	**5.19E+05**	**0.81**	**Y**	**1.08**	**3.82**	**5261.917**	**0.437**
2367/3467-TCDF	28.14	EMPC	1.0136	1.0137	+0.2	1.11E+05	0.65	N	1.08	0.814	5261.917	0.437
1269-TCDF	NotFnd		1.0221						1.08		5261.917	0.437
1239-TCDF	NotFnd		1.0319						1.08		5261.917	0.437
1289-TCDF	NotFnd		1.0740						1.08		5261.917	0.437
13468/12468-PeCDF	29.70	J	0.9145	0.9143	-0.4	1.78E+05	1.66	Y	1.02	1.65	6392.353	0.553
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		5844.089	0.506
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		5844.089	0.506
14678-PeCDF	NotFnd		0.9695						1.02		5844.089	0.506
13479-PeCDF	NotFnd		0.9724						1.02		5844.089	0.506
13469/12479-PeCDF	NotFnd		0.9801						1.02		5844.089	0.506
12346-PeCDF	NotFnd		0.9842						1.02		5844.089	0.506

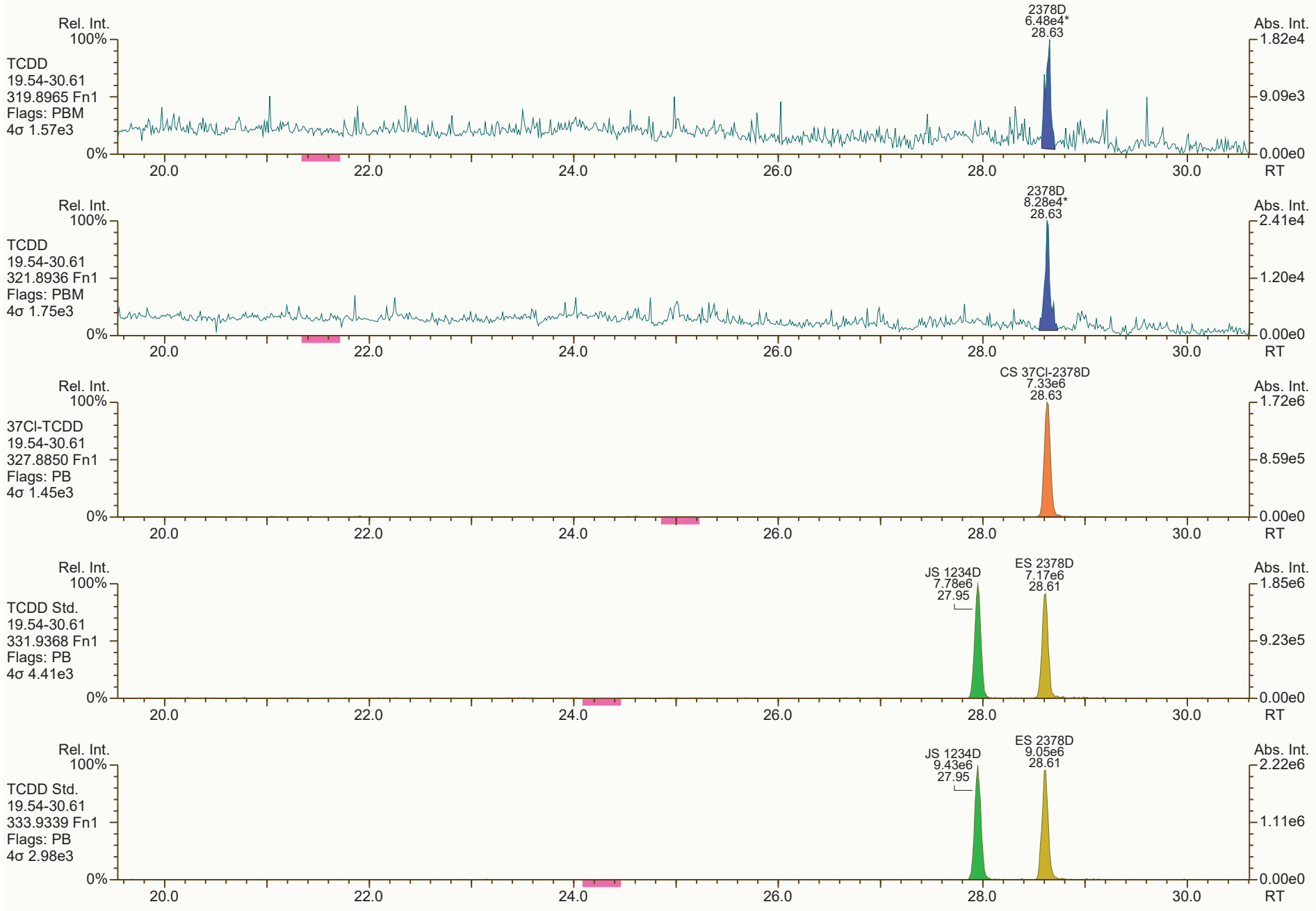
Lab ID: B6182_18851_DF_001 | Acq'd: 26 Jan 2022 18:26 DTF | Wt/Vol: 10.10 g | ICAL: HRMS3_DF_10272021 10NOV2021

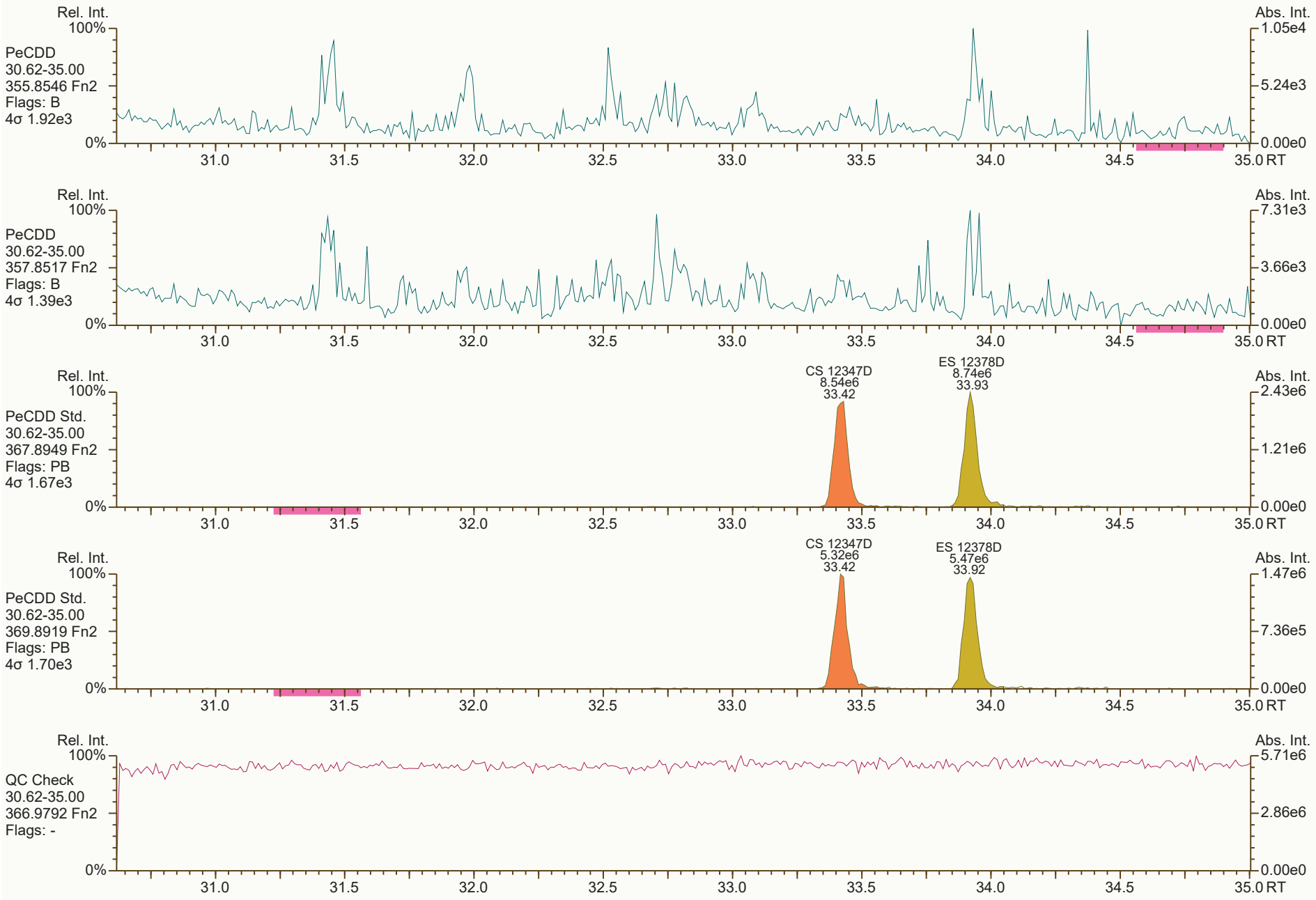
Client ID: 11215131-011222-S-BN-SC-O-14a | UTP: 27-Jan-2022 10:38:15 DTF | J-level: 0.495 pg/g | Split: 1 | Checkcode: 576-441-SRV

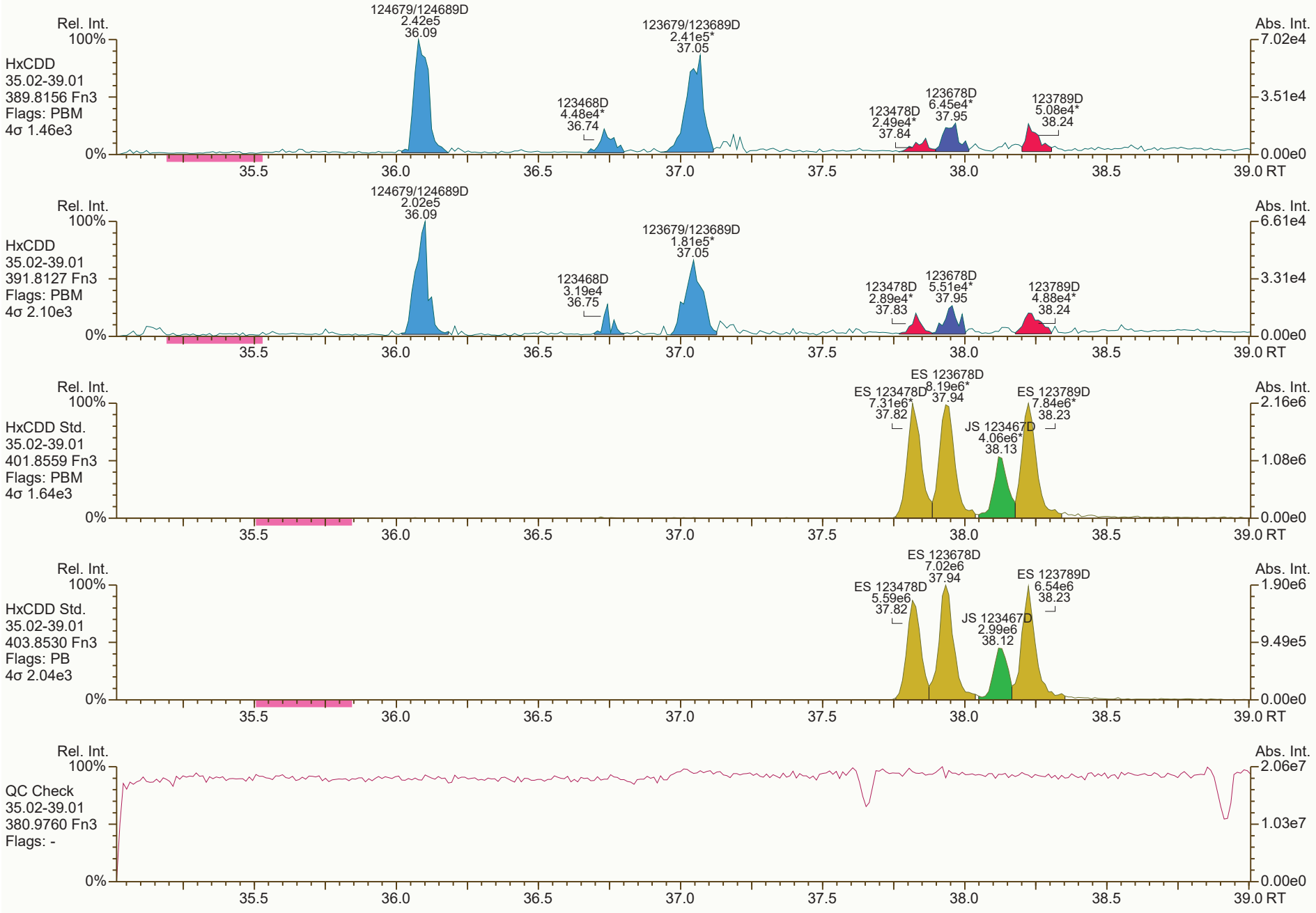
Datafile: 220126C08 | Report: 27 Jan 2022 10:42 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

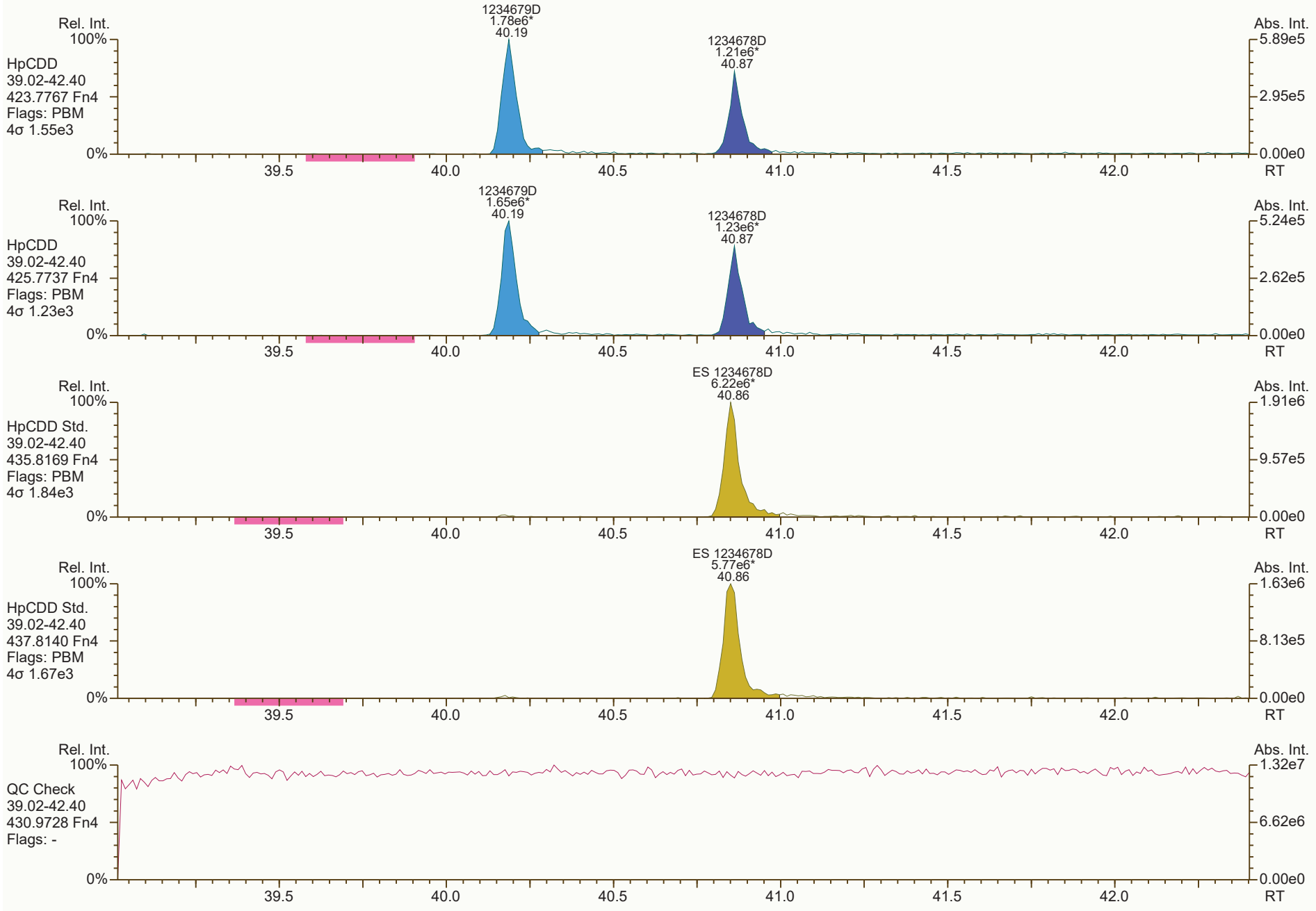
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5844.089	0.506
12347-PeCDF	NotFnd		0.9895						1.02		5844.089	0.506
12348-PeCDF	NotFnd		0.9941						1.02		5844.089	0.506
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**5844.089**	**0.528**
12678/12367-PeCDF	NotFnd		1.0090						1.02		5844.089	0.506
12379-PeCDF	NotFnd		1.0142						1.02		5844.089	0.506
12679-PeCDF	NotFnd		0.9931						1.02		5844.089	0.506
23467/12369-PeCDF	NotFnd		0.9966						1.02		5844.089	0.506
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**5844.089**	**0.483**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5844.089	0.506
12349-PeCDF	NotFnd		1.0101						1.02		5844.089	0.506
12389-PeCDF	NotFnd		1.0322						1.02		5844.089	0.506
123468-HxCDF	35.45	J	0.9627	0.9627	0	1.26E+05	1.32	Y	1.19	1.2	2477.237	0.211
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	4.05E+05	1.23	Y	1.19	3.86	2477.237	0.211
134679-HxCDF	NotFnd		0.9747						1.19		2477.237	0.211
124679-HxCDF	NotFnd		0.9802						1.19		2477.237	0.211
124689-HxCDF	36.29	EMPC	0.9858	0.9857	-0.2	2.94E+05	1.45	N	1.19	2.8	2477.237	0.211
123467-HxCDF	NotFnd		0.9972						1.19		2477.237	0.211
123478-HxCDF	**36.83**	J	**1.0004**	**1.0004**	**0**	**1.34E+05**	**1.41**	**Y**	**1.27**	**1.33**	**2477.237**	**0.188**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2477.237**	**0.196**
123479-HxCDF	NotFnd		1.0051						1.19		2477.237	0.211
123469-HxCDF	NotFnd		1.0091						1.19		2477.237	0.211
123679-HxCDF	NotFnd		0.9943						1.19		2477.237	0.211
234678-HxCDF	**37.66**	J	**1.0004**	**1.0002**	**-0.5**	**1.02E+05**	**1.31**	**Y**	**1.19**	**0.894**	**2477.237**	**0.224**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2477.237	0.211
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2477.237**	**0.244**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2477.237	0.211
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**7.81E+05**	**1.02**	**Y**	**1.37**	**7.51**	**3279.933**	**0.253**
1234679-HpCDF	NotFnd		1.0067						1.34		3279.933	0.33
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	1.03E+06	1.01	Y	1.34	12.3	3279.933	0.33
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3279.933**	**0.449**
OCDF	**43.72**		**1.0002**	**1.0002**	**0**	**1.02E+06**	**0.84**	**Y**	**1.07**	**22**	**3514.97**	**0.804**
OCDF-a	NotFnd		1.0002						0.07		3394.745	12.5

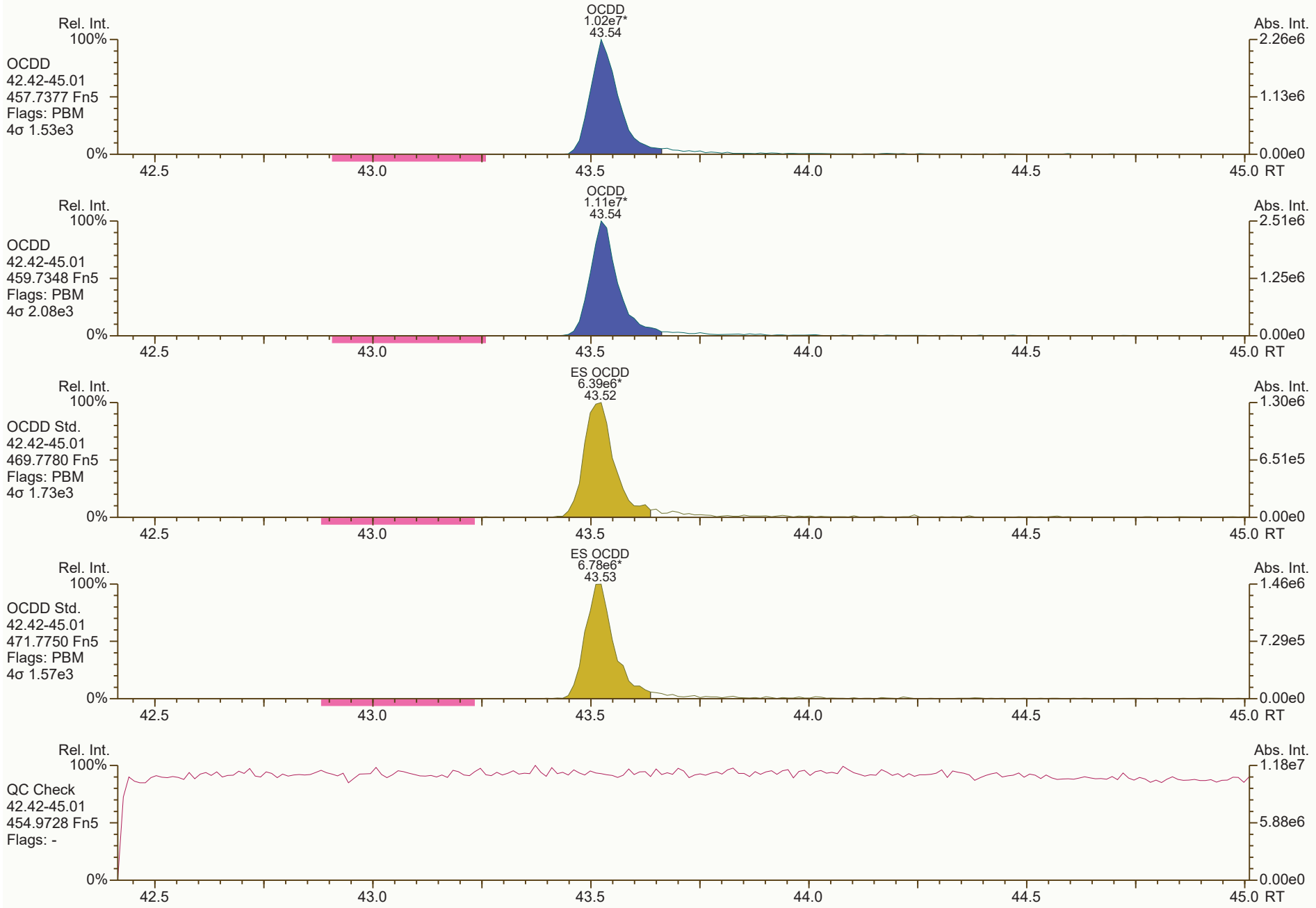

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.21e6
3.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.71e6
2.86e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.06e7
1.03e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 1.57e3
0%
2378D
6.48e4*
28.63
Abs. Int.
1.82e4
9.09e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.75e3
0%
2378D
8.28e4*
28.63
Abs. Int.
2.41e4
1.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.45e3
0%
CS 37Cl-2378D
7.33e6
28.63
Abs. Int.
1.72e6
8.59e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.41e3
0%
JS 1234D
7.78e6
27.95
ES 2378D
7.17e6
28.61
Abs. Int.
1.85e6
9.23e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.98e3
0%
JS 1234D
9.43e6
27.95
ES 2378D
9.05e6
28.61
Abs. Int.
2.22e6
1.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

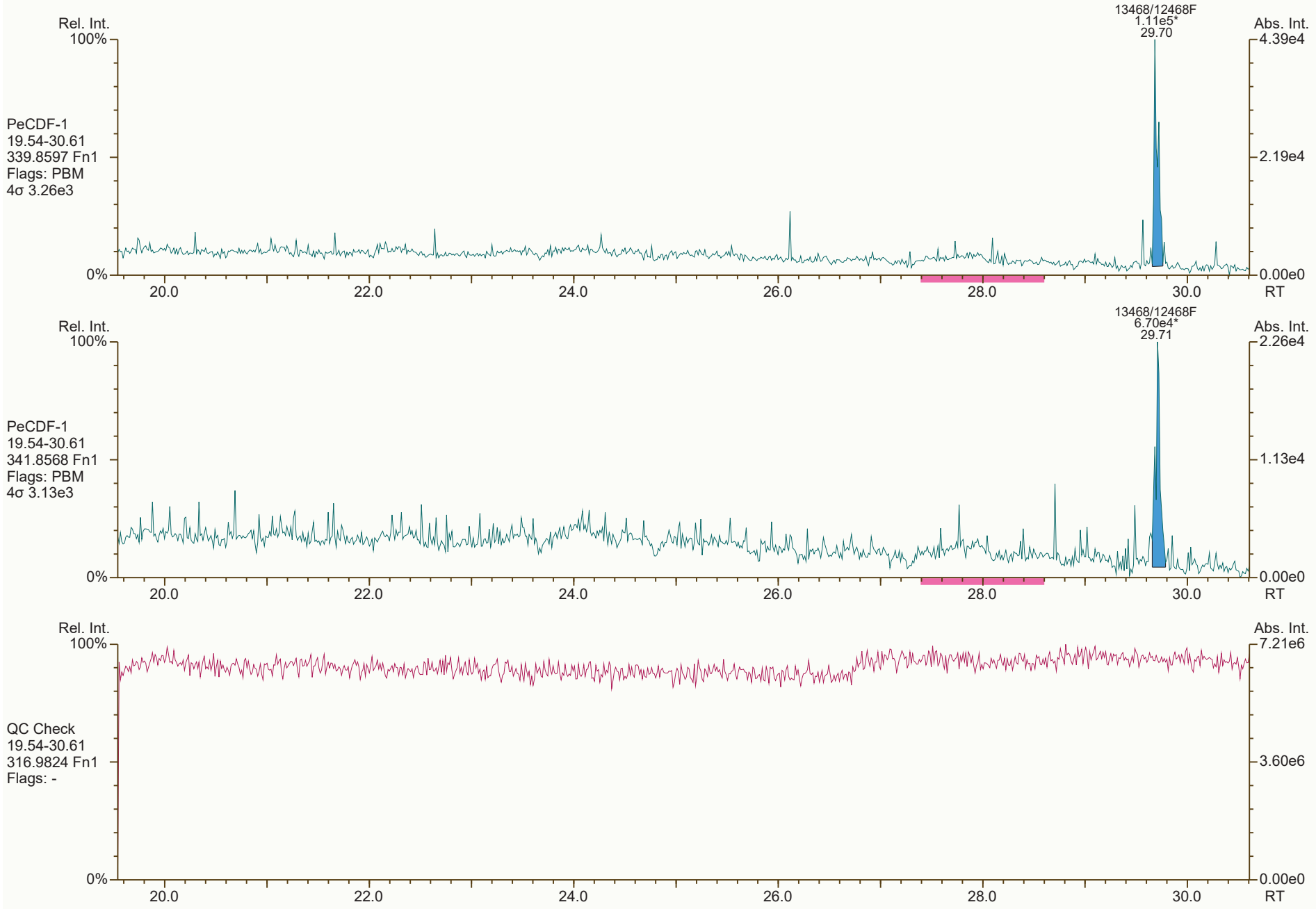

Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.05e4
5.24e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: B
4σ 1.39e3
0%
Abs. Int.
7.31e3
3.66e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.67e3
0%
CS 12347D
8.54e6
33.42
ES 12378D
8.74e6
33.93
Abs. Int.
2.43e6
1.21e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.70e3
0%
CS 12347D
5.32e6
33.42
ES 12378D
5.47e6
33.92
Abs. Int.
1.47e6
7.36e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.71e6
2.86e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

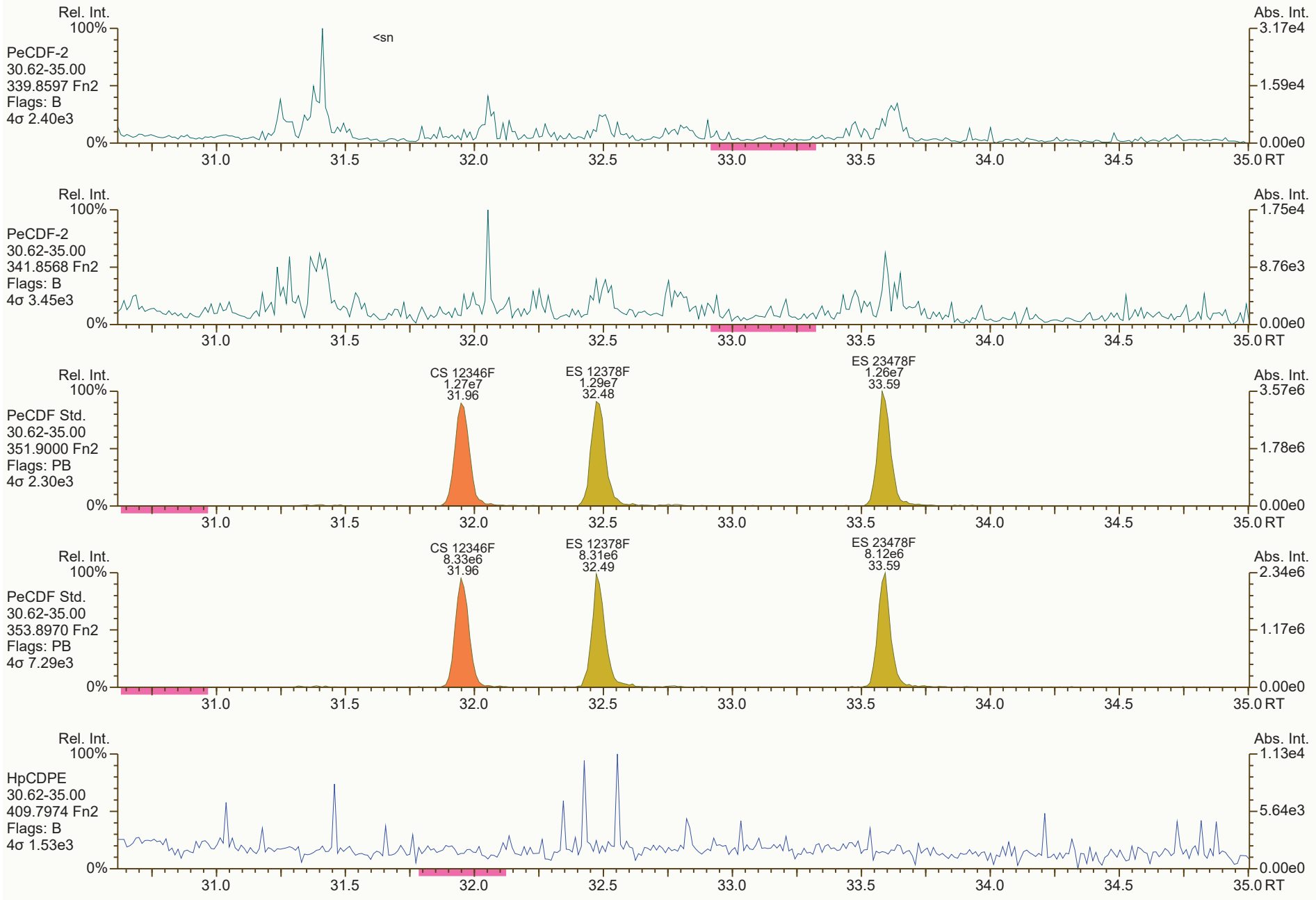

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.46e3
124679/124689D
2.42e5
36.09
123679/123689D
2.41e5*
37.05
123468D
4.48e4*
36.74
123478D
2.49e4*
37.84
123678D
6.45e4*
37.95
123789D
5.08e4*
38.24
Abs. Int.
7.02e4
3.51e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.10e3
124679/124689D
2.02e5
36.09
123679/123689D
1.81e5*
37.05
123468D
3.19e4
36.75
123478D
2.89e4*
37.83
123678D
5.51e4*
37.95
123789D
4.88e4*
38.24
Abs. Int.
6.61e4
3.31e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.64e3
ES 123678D
8.19e6*
37.94
ES 123478D
7.31e6*
37.82
ES 123789D
7.84e6*
38.23
JS 123467D
4.06e6*
38.13
Abs. Int.
2.16e6
1.08e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.04e3
ES 123678D
7.02e6
37.94
ES 123478D
5.59e6
37.82
ES 123789D
6.54e6
38.23
JS 123467D
2.99e6
38.12
Abs. Int.
1.90e6
9.49e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
2.06e7
1.03e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

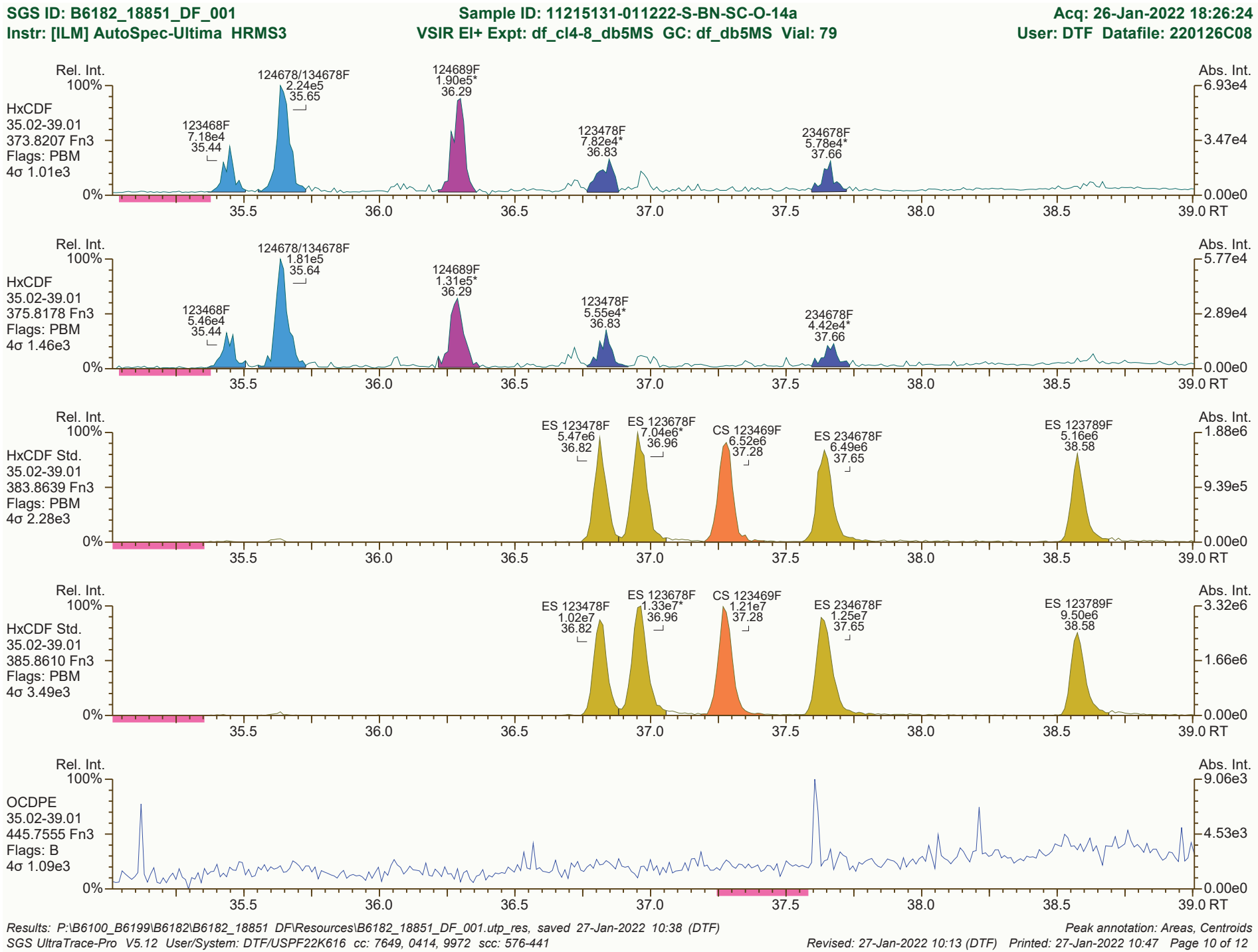

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.55e3
1234679D
1.78e6*
40.19
1234678D
1.21e6*
40.87
Abs. Int.
5.89e5
2.95e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.23e3
1234679D
1.65e6*
40.19
1234678D
1.23e6*
40.87
Abs. Int.
5.24e5
2.62e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.84e3
ES 1234678D
6.22e6*
40.86
Abs. Int.
1.91e6
9.57e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.67e3
ES 1234678D
5.77e6*
40.86
Abs. Int.
1.63e6
8.13e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.02e7*
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.53e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.11e7*
43.54
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.08e3
0%
Abs. Int.
2.51e6
1.25e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.39e6*
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.30e6
6.51e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.78e6*
43.53
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.57e3
0%
Abs. Int.
1.46e6
7.29e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

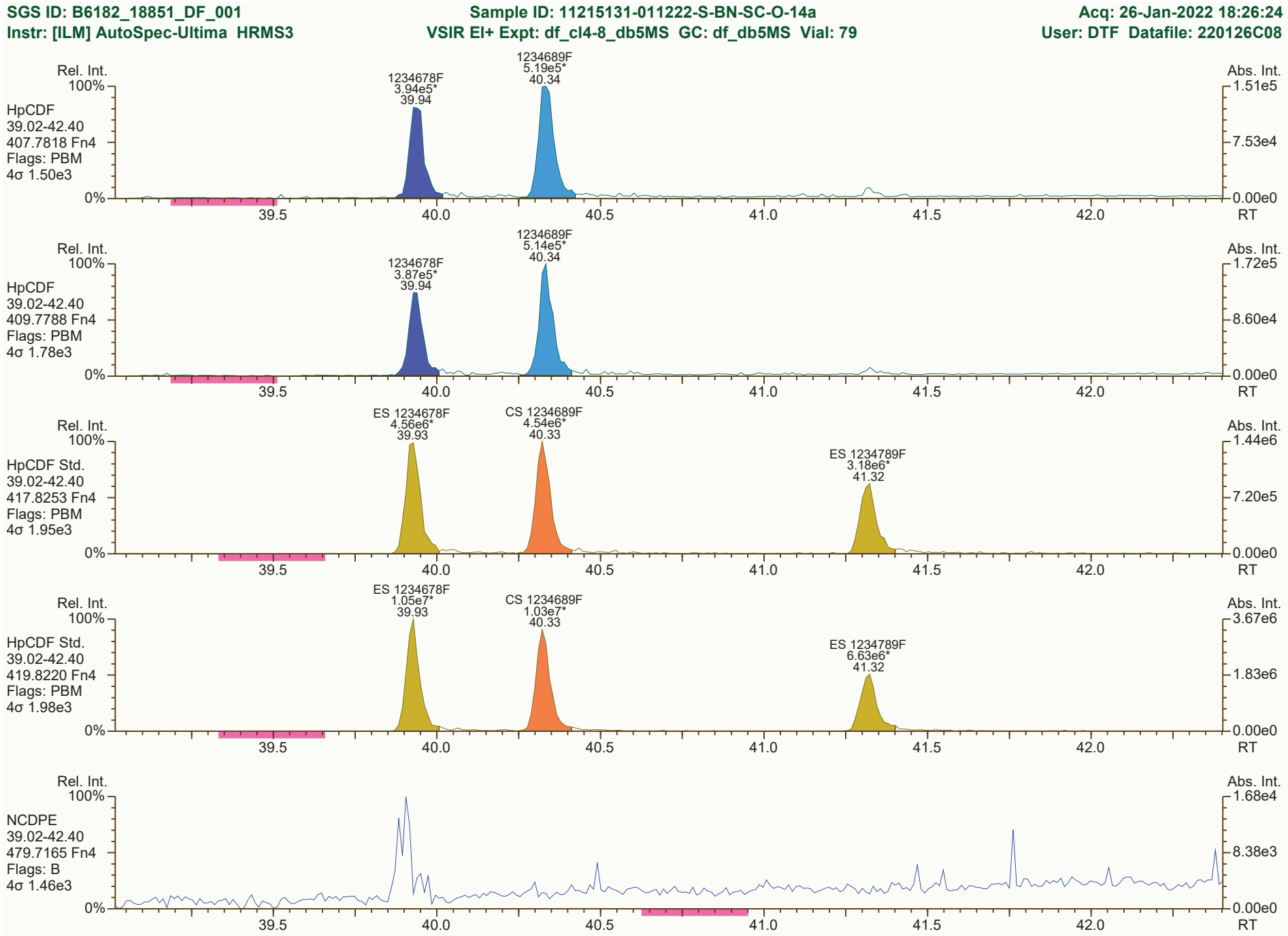

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.78e3
0%
2468F
5.64e4*
24.14
2368F
3.27e4*
26.36
1278F
5.66e4*
26.89
2378F
2.33e5*
27.78
2367/3467F
4.82e4*
28.14
Abs. Int.
5.28e4
2.64e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.48e3
0%
2468F
7.15e4*
24.14
2368F
3.14e4*
26.34
1278F
8.55e4*
26.89
2378F
2.87e5*
27.78
2367/3467F
7.47e4*
28.14
Abs. Int.
8.47e4
4.24e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.53e3
0%
JS 1234F
1.19e7
26.41
ES 2378F
1.10e7
27.76
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.77e3
0%
JS 1234F
1.50e7
26.41
ES 2378F
1.40e7
27.76
Abs. Int.
3.51e6
1.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
4.39e4
2.19e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.11e5*
29.70
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 3.26e3
13468/12468F
6.70e4*
29.71
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 3.13e3
Abs. Int.
7.21e6
3.60e6
QC Check
19.54-30.61
316.9824 Fn1
Flags: -


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 2.40e3
0%
<sn
Abs. Int.
3.17e4
1.59e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 3.45e3
0%
Abs. Int.
1.75e4
8.76e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.30e3
0%
CS 12346F
1.27e7
31.96
ES 12378F
1.29e7
32.48
ES 23478F
1.26e7
33.59
Abs. Int.
3.57e6
1.78e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 7.29e3
0%
CS 12346F
8.33e6
31.96
ES 12378F
8.31e6
32.49
ES 23478F
8.12e6
33.59
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT



Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_001.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7649, 0414, 9972 scc: 576-441
Revised: 27-Jan-2022 10:13 (DTF) Printed: 27-Jan-2022 10:47 Page 10 of 12


SGS ID: B6182_18851_DF_001
Sample ID: 11215131-011222-S-BN-SC-O-14a
Acq: 26-Jan-2022 18:26:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 79
User: DTF Datafile: 220126C08
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.50e3
1234678F
3.94e5*
39.94
1234689F
5.19e5*
40.34
1.51e5
7.53e4
0.00e0
RT
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.78e3
1234678F
3.87e5*
39.94
1234689F
5.14e5*
40.34
1.72e5
8.60e4
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.95e3
ES 1234678F
4.56e6*
39.93
CS 1234689F
4.54e6*
40.33
ES 1234789F
3.18e6*
41.32
1.44e6
7.20e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.98e3
ES 1234678F
1.05e7*
39.93
CS 1234689F
1.03e7*
40.33
ES 1234789F
6.63e6*
41.32
3.67e6
1.83e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.46e3
1.68e4
8.38e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_001.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8915, 2767, 6472 scc: 576-441
PKD: 27-Jan-2022 10:14 Printed: 27-Jan-2022 10:47 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.43e3
0%
OCDF
4.67e5*
43.72
Abs. Int.
1.24e5
6.22e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.08e3
0%
OCDF
5.57e5*
43.71
Abs. Int.
1.60e5
7.99e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.67e3
0%
ES OCDF
8.07e6*
43.71
Abs. Int.
1.89e6
9.47e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.06e3
0%
ES OCDF
9.13e6*
43.70
Abs. Int.
2.19e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
9.37e3
4.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6182_18851_DF_002 **Acq'd:** 26 Jan 2022 19:12 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-8a **UTP:** 27-Jan-2022 10:38:15 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 471-294-RBK

Datafile: 220126C09 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64	B	1.0008	1.0007	-0.2	7.05E+05	0.79	Y	1.18	7.15	7433.431	0.812
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	4652.905	0.52
123478-HxCDD	37.85	J EMPC	1.0004	1.0005	+0.2	5.08E+04	1.01	N	1.09	0.661	5817.82	0.677
123678-HxCDD	37.94	J	1.0034	1.0030	-0.9	9.35E+04	1.14	Y	1.15	0.993	5817.82	0.581
123789-HxCDD	38.24	J	1.0109	1.0109	0	1.38E+05	1.40	Y	1.05	1.73	5817.82	0.708
1234678-HpCDD	40.88		1.0003	1.0003	0	1.93E+06	1.07	Y	1.06	30.5	3771.52	0.504
OCDD	43.54		1.0002	1.0003	+0.3	2.18E+07	0.90	Y	1.13	590	2686.558	0.803
2378-TCDF	27.79	B	1.0008	1.0007	-0.2	2.98E+06	0.82	Y	1.08	22.1	3454.161	0.282
12378-PeCDF	32.50	J EMPC	1.0005	1.0003	-0.4	1.46E+05	1.15	N	1.02	1.26	4079.283	0.343
23478-PeCDF	33.61	J EMPC	1.0005	1.0005	0	9.78E+04	1.84	N	1.02	0.875	4079.283	0.334
123478-HxCDF	36.84	J EMPC	1.0004	1.0004	0	1.10E+05	1.76	N	1.27	1.06	3189.431	0.254
123678-HxCDF	36.99	J	1.0004	1.0007	+0.7	7.05E+04	1.42	Y	1.15	0.562	3189.431	0.24
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3189.431	0.287
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3189.431	0.336
1234678-HpCDF	39.94	J	1.0002	1.0002	0	9.85E+04	1.15	Y	1.37	0.815	2861.031	0.177
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2861.031	0.44
OCDF	43.71	J EMPC	1.0002	1.0000	-0.5	5.76E+04	1.33	N	1.07	1.4	2132.323	0.603

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62		1.0233	1.0236	+0.5	1.65E+07	0.81	Y	1.05	82.3
ES 12378-PeCDD	33.93		1.2121	1.2136	+3.1	1.53E+07	1.62	Y	0.88	90.6
ES 123478-HxCDD	37.83		0.9921	0.9921	0	1.40E+07	1.29	Y	0.97	88.4
ES 123678-HxCDD	37.94		0.9951	0.9951	0	1.63E+07	1.31	Y	0.94	106
ES 123789-HxCDD	38.23		1.0025	1.0027	+0.5	1.51E+07	1.23	Y	1.09	84.8
ES 1234678-HpCDD	40.87		1.0709	1.0717	+2.0	1.18E+07	1.09	Y	0.91	79.4
ES OCDD	43.52		1.1403	1.1414	+2.9	1.31E+07	0.91	Y	0.62	64.1
ES 2378-TCDF	27.77		1.0506	1.0511	+0.8	2.49E+07	0.81	Y	1.06	76.9
ES 12378-PeCDF	32.49		1.2281	1.2299	+3.5	2.24E+07	1.50	Y	0.91	80.6
ES 23478-PeCDF	33.60		1.2698	1.2718	+4.0	2.18E+07	1.55	Y	0.88	80.8
ES 123478-HxCDF	36.82		0.9657	0.9656	-0.2	1.62E+07	0.52	Y	1.20	82.5
ES 123678-HxCDF	36.96		0.9695	0.9694	-0.2	2.16E+07	0.53	Y	1.35	98
ES 234678-HxCDF	37.65		0.9874	0.9874	0	1.88E+07	0.54	Y	1.24	92.9
ES 123789-HxCDF	38.59		1.0116	1.0120	+0.9	1.43E+07	0.55	Y	1.16	75.7
ES 1234678-HpCDF	39.93		1.0467	1.0472	+1.2	1.75E+07	0.47	Y	0.97	111
ES 1234789-HpCDF	41.33		1.0830	1.0839	+2.2	9.41E+06	0.43	Y	0.85	67.7
ES OCDF	43.71		1.1451	1.1464	+3.4	1.53E+07	0.97	Y	0.81	58.1

Lab ID: B6182_18851_DF_002 **Acq'd:** 26 Jan 2022 19:12 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-8a **UTP:** 27-Jan-2022 10:38:15 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 471-294-RBK

Datafile: 220126C09 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.96		-	-	-	1.92E+07	0.79	Y	-	-
JS 1234-TCDF	26.42		-	-	-	3.05E+07	0.82	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	8.16E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.64		1.0241	1.0243	+0.3	7.82E+06	n/a	-	1.20	84.8
CS 12347-PeCDD	33.43		1.1943	1.1956	+2.6	1.49E+07	1.60	Y	0.75	103
CS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	2.27E+07	1.57	Y	0.85	87.3
CS 123469-HxCDF	37.28		0.9778	0.9778	0	1.97E+07	0.52	Y	1.12	108
CS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.52E+07	0.47	Y	0.89	105
SS 37Cl-2378-TCDD	28.64		1.0241	1.0243	+0.3	7.82E+06	n/a	-	1.15	103
SS 12347-PeCDD	33.43		1.1943	1.1956	+2.6	1.49E+07	1.60	Y	0.86	113
SS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	2.27E+07	1.57	Y	0.94	108
SS 123469-HxCDF	37.28		0.9778	0.9778	0	1.97E+07	0.52	Y	0.83	110
SS 1234689-HpCDF	40.33		1.0571	1.0578	+1.7	1.52E+07	0.47	Y	0.92	94.1

Totals	Conc	EMPC
Total TCDD	7.15	9.97
Total PeCDD	4.88	4.88
Total HxCDD	25.3	26
Total HpCDD	98.4	98.4
Total Tetra-Octa Dioxins	726	729
Total TCDF	64.7	68.5
Total PeCDF	1.42	5.03
Total HxCDF	0.562	2.3
Total HpCDF	0.815	1.3
Total Tetra-Octa Furans	67.5	78.5
Total Tetra-Octa Dioxins & Furans	793	808

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.785	0.79
Response	7.10E+05	7.05E+05

Lab ID: B6182_18851_DF_002 **Acq'd: 26 Jan 2022 19:12 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-B-8a **UTP: 27-Jan-2022 10:38:15 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 471-294-RBK**

Datafile: 220126C09 **Report: 27 Jan 2022 10:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		7433.431	0.812
1379-TCDD	NotFnd		0.8876						1.18		7433.431	0.812
1369-TCDD	NotFnd		0.9023						1.18		7433.431	0.812
1469-TCDD	26.57	EMPC	0.9291	0.9285	-1.0	2.77E+05	0.93	N	1.18	2.81	7433.431	0.812
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		7433.431	0.812
1378-TCDD	NotFnd		0.9440						1.18		7433.431	0.812
1268-TCDD	NotFnd		0.9506						1.18		7433.431	0.812
1478-TCDD	NotFnd		0.9591						1.18		7433.431	0.812
1279-TCDD	NotFnd		0.9649						1.18		7433.431	0.812
1234/1269-TCDD	NotFnd		0.9771						1.18		7433.431	0.812
1236-TCDD	NotFnd		0.9820						1.18		7433.431	0.812
1237/1238-TCDD	NotFnd		0.9908						1.18		7433.431	0.812
1239-TCDD	NotFnd		0.9954						1.18		7433.431	0.812
2378-TCDD	**28.64**	B	**1.0008**	1.0007	**-0.2**	7.05E+05	0.79	Y	**1.18**	**7.15**	**7433.431**	**0.812**
1278-TCDD	NotFnd		1.0121						1.18		7433.431	0.812
1267-TCDD	NotFnd		1.0167						1.18		7433.431	0.812
1289-TCDD	NotFnd		1.0341						1.18		7433.431	0.812
12479/12468-PeCDD	31.45	J	0.9273	0.9270	-0.6	8.77E+04	1.42	Y	1.04	1.1	4652.905	0.52
12469-PeCDD	31.98	J	0.9430	0.9426	-0.8	1.89E+05	1.34	Y	1.04	2.37	4652.905	0.52
12368-PeCDD	NotFnd		0.9592						1.04		4652.905	0.52
12478-PeCDD	NotFnd		0.9647						1.04		4652.905	0.52
12379-PeCDD	NotFnd		0.9676						1.04		4652.905	0.52
12369/12467/12489-PeCDD	33.09	J	0.9752	0.9751	-0.2	1.12E+05	1.34	Y	1.04	1.4	4652.905	0.52
12346/12347-PeCDD	NotFnd		0.9860						1.04		4652.905	0.52
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**4652.905**	**0.52**
12367-PeCDD	NotFnd		1.0034						1.04		4652.905	0.52
12389-PeCDD	NotFnd		1.0134						1.04		4652.905	0.52
124679/124689-HxCDD	36.09		0.9545	0.9541	-0.9	1.38E+06	1.29	Y	1.10	16.5	5817.82	0.652
123468-HxCDD	NotFnd		0.9715						1.10		5817.82	0.652
123679/123689-HxCDD	37.05		0.9793	0.9793	0	5.10E+05	1.20	Y	1.10	6.11	5817.82	0.652
123469-HxCDD	NotFnd		0.9829						1.10		5817.82	0.652
123478-HxCDD	37.85	J EMPC	**1.0004**	**1.0005**	**+0.2**	**5.08E+04**	**1.01**	**N**	1.09	**0.661**	**5817.82**	**0.677**
123678-HxCDD	37.94	J	**1.0034**	**1.0030**	**-0.9**	**9.35E+04**	**1.14**	**Y**	1.15	**0.993**	**5817.82**	**0.581**
123467-HxCDD	NotFnd		1.0082						1.10		5817.82	0.652
123789-HxCDD	38.24	J	**1.0109**	**1.0109**	**0**	**1.38E+05**	**1.40**	**Y**	1.05	**1.73**	**5817.82**	**0.708**

Lab ID: B6182_18851_DF_002 **Acq'd:** 26 Jan 2022 19:12 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-8a **UTP:** 27-Jan-2022 10:38:15 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 471-294-RBK

Datafile: 220126C09 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	4.29E+06	1.02	Y	1.06	67.9	3771.52	0.504
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.93E+06**	**1.07**	**Y**	**1.06**	**30.5**	**3771.52**	**0.504**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.18E+07**	**0.90**	**Y**	**1.13**	**590**	**2686.558**	**0.803**
OCDD-a	43.53		1.0002	1.0002	0	1.47E+06	2.15	Y	0.07	621	3023.33	14.1
1368-TCDF	22.96		0.8282	0.8270	-1.7	1.75E+05	0.83	Y	1.08	1.3	3454.161	0.282
1468-TCDF	23.53		0.8485	0.8474	-1.6	8.71E+04	0.71	Y	1.08	0.644	3454.161	0.282
2468-TCDF	24.15	EMPC	0.8709	0.8696	-1.9	2.85E+05	0.64	N	1.08	2.11	3454.161	0.282
1346/1246-TCDF	NotFnd		0.8829						1.08		3454.161	0.282
1347/1378/1247-TCDF	24.66		0.8884	0.8879	-0.7	6.72E+05	0.68	Y	1.08	4.98	3454.161	0.282
1348-TCDF	NotFnd		0.8980						1.08		3454.161	0.282
1248/1367/1379-TCDF	25.01		0.9026	0.9006	-3.0	5.49E+05	0.81	Y	1.08	4.06	3454.161	0.282
1268-TCDF	25.42		0.9158	0.9153	-0.8	2.06E+05	0.78	Y	1.08	1.53	3454.161	0.282
1467-TCDF	NotFnd		0.9206						1.08		3454.161	0.282
1478-TCDF	25.71		0.9266	0.9260	-0.9	2.32E+05	0.86	Y	1.08	1.72	3454.161	0.282
1369/1237-TCDF	26.08	EMPC	0.9397	0.9391	-0.9	2.22E+05	0.65	N	1.08	1.64	3454.161	0.282
2467-TCDF	26.21		0.9440	0.9440	0	1.25E+05	0.73	Y	1.08	0.923	3454.161	0.282
2368-TCDF	26.41		0.9497	0.9512	+2.4	7.52E+05	0.68	Y	1.08	5.56	3454.161	0.282
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3454.161	0.282
1278-TCDF	26.90	B	0.9690	0.9687	-0.5	1.55E+06	0.81	Y	1.08	11.4	3454.161	0.282
1349-TCDF	NotFnd		0.9730						1.08		3454.161	0.282
1267-TCDF	27.17		0.9787	0.9786	-0.2	2.02E+05	0.85	Y	1.08	1.49	3454.161	0.282
2346/1249-TCDF	NotFnd		0.9850						1.08		3454.161	0.282
2347/1279-TCDF	27.57		0.9929	0.9927	-0.3	1.96E+05	0.67	Y	1.08	1.45	3454.161	0.282
2348-TCDF	27.67		0.9970	0.9963	-1.2	2.70E+05	0.87	Y	1.08	2	3454.161	0.282
2378-TCDF	**27.79**	B	**1.0008**	**1.0007**	**-0.2**	**2.98E+06**	**0.82**	**Y**	**1.08**	**22.1**	**3454.161**	**0.282**
2367/3467-TCDF	28.14		1.0136	1.0133	-0.5	5.26E+05	0.74	Y	1.08	3.89	3454.161	0.282
1269-TCDF	NotFnd		1.0221						1.08		3454.161	0.282
1239-TCDF	NotFnd		1.0319						1.08		3454.161	0.282
1289-TCDF	29.78		1.0740	1.0724	-2.9	2.22E+05	0.74	Y	1.08	1.64	3454.161	0.282
13468/12468-PeCDF	NotFnd		0.9145						1.02		3553.191	0.295
13678/13467/12467-PeCDF	31.23	J	0.9619	0.9613	-1.1	7.51E+04	1.40	Y	1.02	0.661	4079.283	0.338
12368/13478/12478-PeCDF	31.39	J EMPC	0.9665	0.9662	-0.6	1.67E+05	1.82	N	1.02	1.47	4079.283	0.338
14678-PeCDF	NotFnd		0.9695						1.02		4079.283	0.338
13479-PeCDF	NotFnd		0.9724						1.02		4079.283	0.338
13469/12479-PeCDF	NotFnd		0.9801						1.02		4079.283	0.338
12346-PeCDF	NotFnd		0.9842						1.02		4079.283	0.338

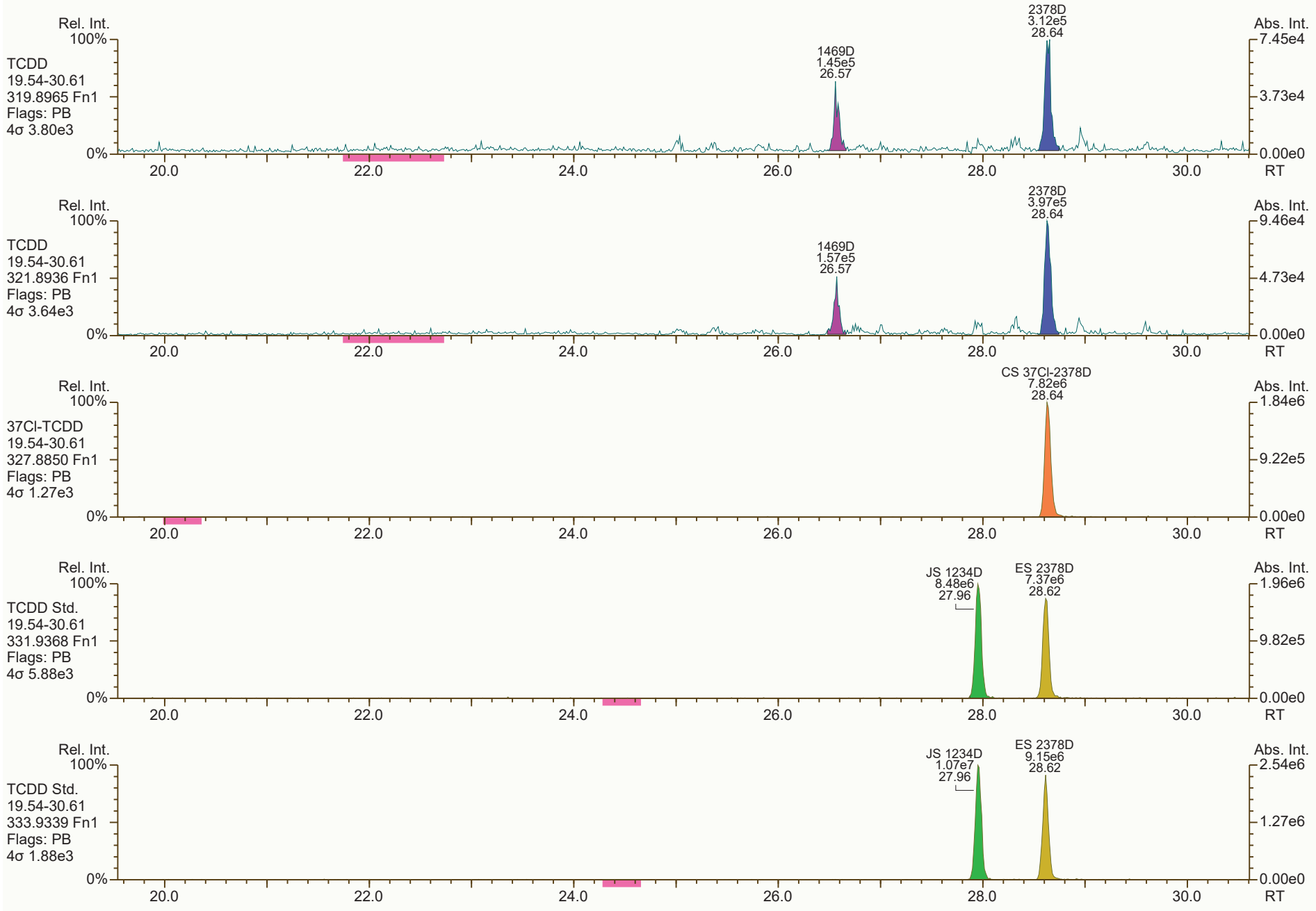
Lab ID: B6182_18851_DF_002 **Acq'd: 26 Jan 2022 19:12 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

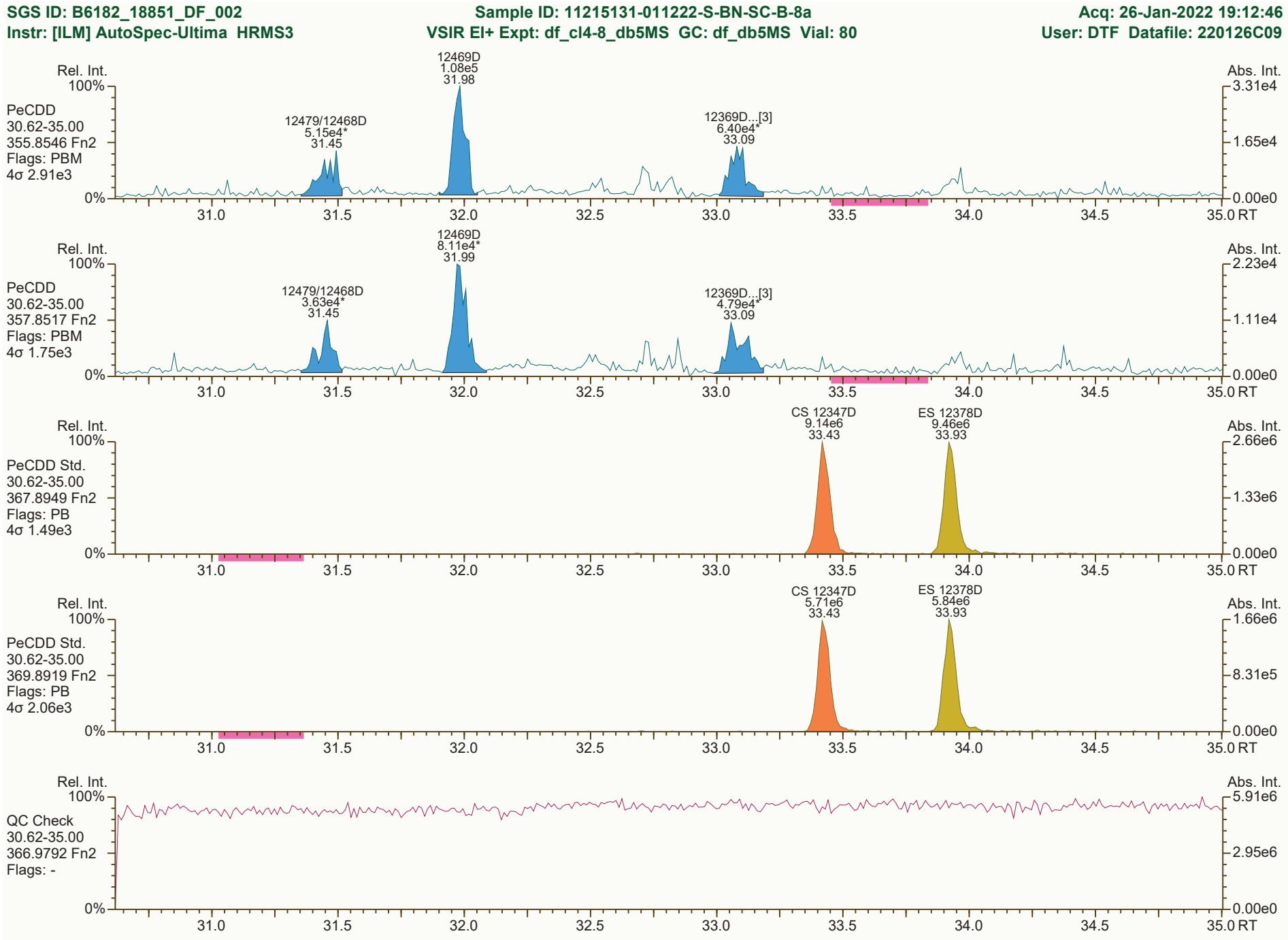
Client ID: 11215131-011222-S-BN-SC-B-8a **UTP: 27-Jan-2022 10:38:15 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 471-294-RBK**

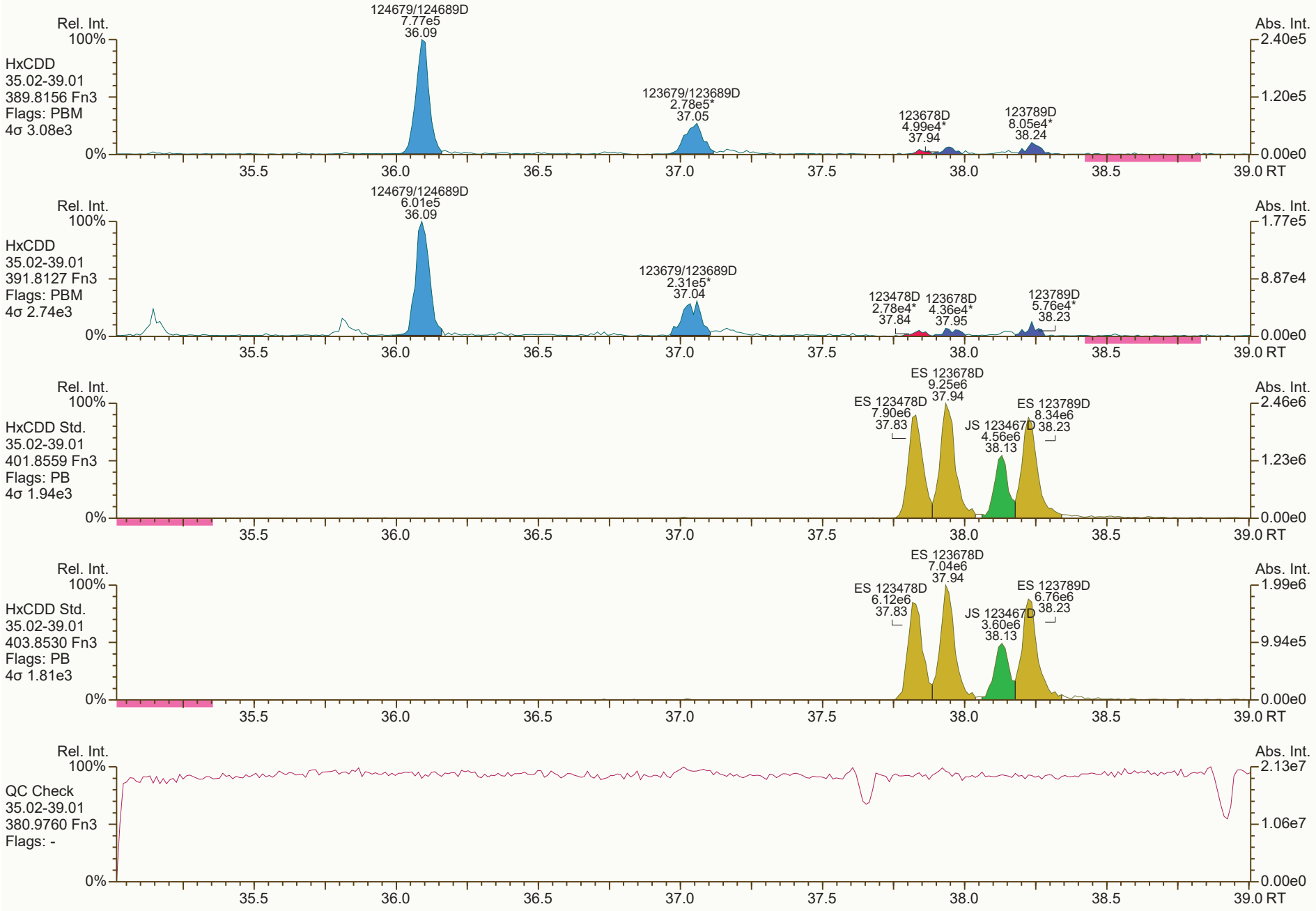
Datafile: 220126C09 **Report: 27 Jan 2022 10:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

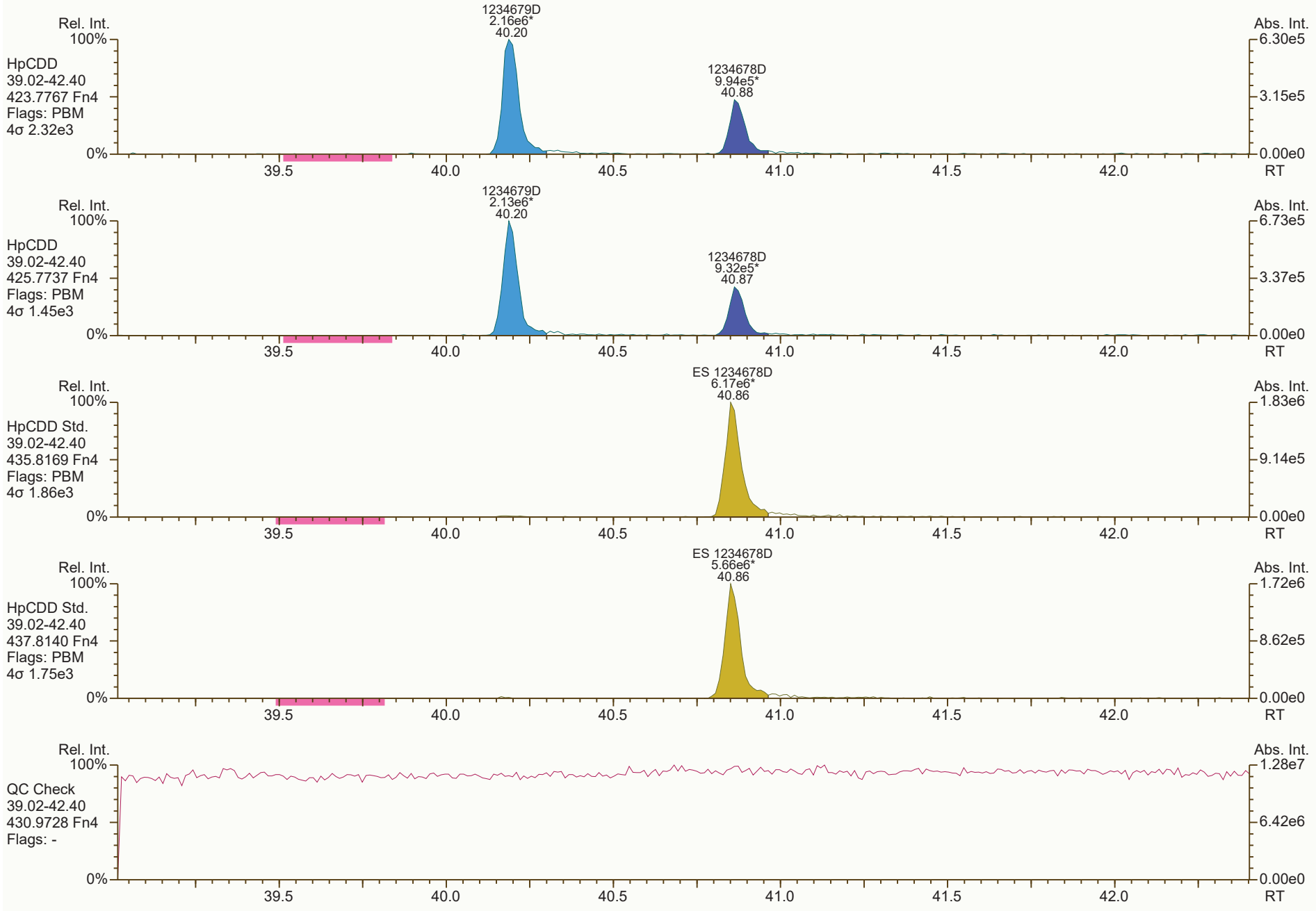
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4079.283	0.338
12347-PeCDF	NotFnd		0.9895						1.02		4079.283	0.338
12348-PeCDF	NotFnd		0.9941						1.02		4079.283	0.338
12378-PeCDF	**32.50**	J EMPC	**1.0005**	**1.0003**	**-0.4**	**1.46E+05**	**1.15**	**N**	**1.02**	**1.26**	**4079.283**	**0.343**
12678/12367-PeCDF	32.78	J	1.0090	1.0089	-0.2	8.60E+04	1.67	Y	1.02	0.756	4079.283	0.338
12379-PeCDF	NotFnd		1.0142						1.02		4079.283	0.338
12679-PeCDF	NotFnd		0.9931						1.02		4079.283	0.338
23467/12369-PeCDF	NotFnd		0.9966						1.02		4079.283	0.338
23478-PeCDF	**33.61**	J EMPC	**1.0005**	**1.0005**	**0**	**9.78E+04**	**1.84**	**N**	**1.02**	**0.875**	**4079.283**	**0.334**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4079.283	0.338
12349-PeCDF	NotFnd		1.0101						1.02		4079.283	0.338
12389-PeCDF	NotFnd		1.0322						1.02		4079.283	0.338
123468-HxCDF	NotFnd		0.9627						1.19		3189.431	0.274
124678/134678-HxCDF	35.65	J EMPC	0.9684	0.9682	-0.4	7.17E+04	0.96	N	1.19	0.673	3189.431	0.274
134679-HxCDF	NotFnd		0.9747						1.19		3189.431	0.274
124679-HxCDF	NotFnd		0.9802						1.19		3189.431	0.274
124689-HxCDF	NotFnd		0.9858						1.19		3189.431	0.274
123467-HxCDF	NotFnd		0.9972						1.19		3189.431	0.274
123478-HxCDF	**36.84**	J EMPC	**1.0004**	**1.0004**	**0**	**1.10E+05**	**1.76**	**N**	**1.27**	**1.06**	**3189.431**	**0.254**
123678-HxCDF	**36.99**	J	**1.0004**	**1.0007**	**+0.7**	**7.05E+04**	**1.42**	**Y**	**1.15**	**0.562**	**3189.431**	**0.24**
123479-HxCDF	NotFnd		1.0051						1.19		3189.431	0.274
123469-HxCDF	NotFnd		1.0091						1.19		3189.431	0.274
123679-HxCDF	NotFnd		0.9943						1.19		3189.431	0.274
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3189.431**	**0.287**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3189.431	0.274
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3189.431**	**0.336**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3189.431	0.274
1234678-HpCDF	**39.94**	**J**	**1.0002**	**1.0002**	**0**	**9.85E+04**	**1.15**	**Y**	**1.37**	**0.815**	**2861.031**	**0.177**
1234679-HpCDF	NotFnd		1.0067						1.34		2861.031	0.268
1234689-HpCDF	40.35	**J EMPC**	1.0101	1.0105	+1.0	4.38E+04	0.74	N	1.34	0.482	2861.031	0.268
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2861.031**	**0.44**
OCDF	**43.71**	**J EMPC**	**1.0002**	**1.0000**	**-0.5**	**5.76E+04**	**1.33**	**N**	**1.07**	**1.4**	**2132.323**	**0.603**
OCDF-a	NotFnd		1.0002						0.07		3638.395	16.6

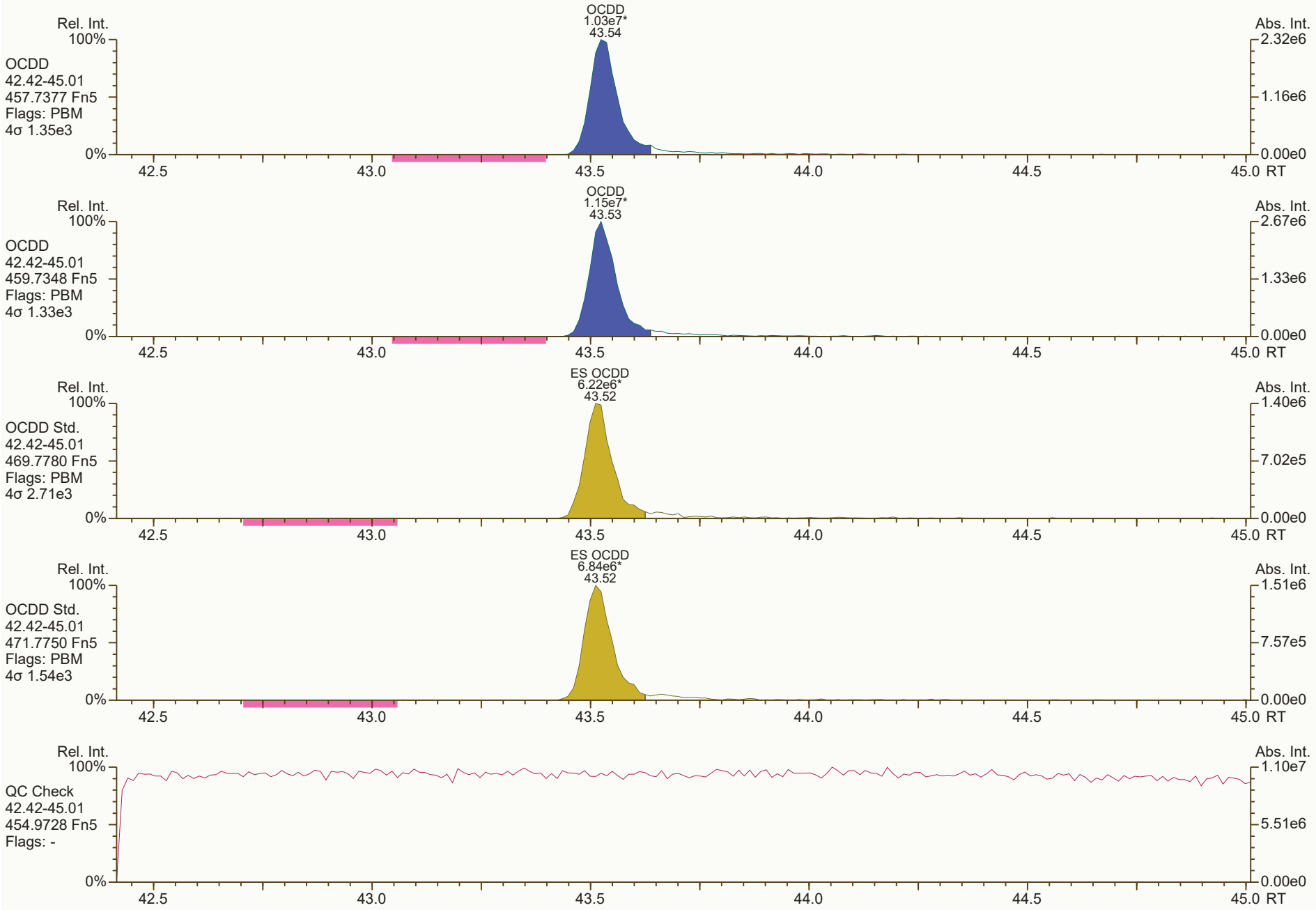

Rel. Int.
100%
0%
Abs. Int.
7.39e6
3.69e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
5.91e6
2.95e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
2.13e7
1.06e7
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.28e7
6.42e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.10e7
5.51e6
42.5
43.0
43.5
44.0
44.5
45.0

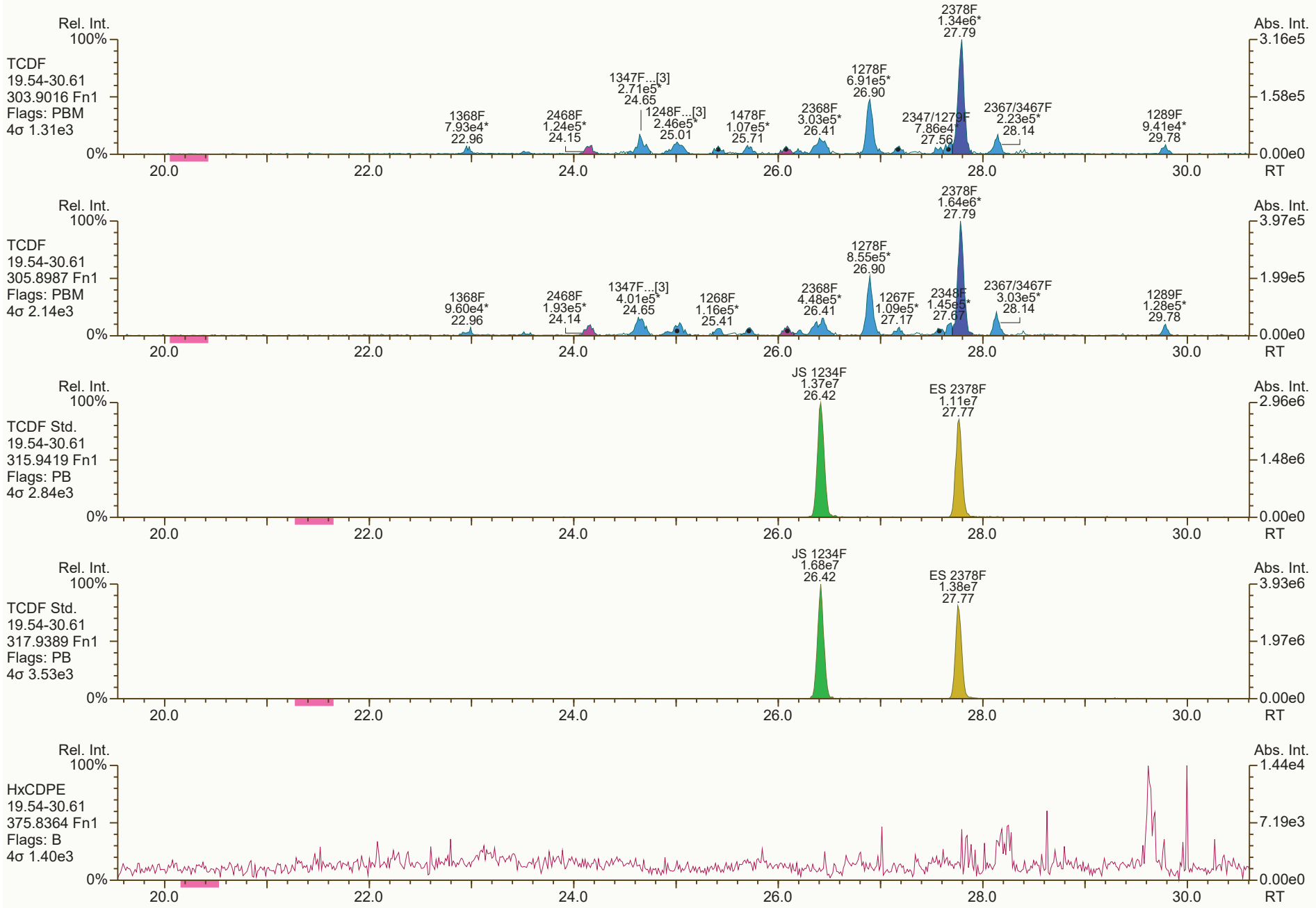

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 3.80e3
0%
1469D
1.45e5
26.57
2378D
3.12e5
28.64
Abs. Int.
7.45e4
3.73e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 3.64e3
0%
1469D
1.57e5
26.57
2378D
3.97e5
28.64
Abs. Int.
9.46e4
4.73e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.27e3
0%
CS 37Cl-2378D
7.82e6
28.64
Abs. Int.
1.84e6
9.22e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.88e3
0%
JS 1234D
8.48e6
27.96
ES 2378D
7.37e6
28.62
Abs. Int.
1.96e6
9.82e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 1.88e3
0%
JS 1234D
1.07e7
27.96
ES 2378D
9.15e6
28.62
Abs. Int.
2.54e6
1.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6182_18851_DF_002
Sample ID: 11215131-011222-S-BN-SC-B-8a
Acq: 26-Jan-2022 19:12:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80
User: DTF Datafile: 220126C09
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.91e3
12469D
1.08e5
31.98
12479/12468D
5.15e4*
31.45
12369D...[3]
6.40e4*
33.09
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.75e3
12469D
8.11e4*
31.99
12479/12468D
3.63e4*
31.45
12369D...[3]
4.79e4*
33.09
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.49e3
CS 12347D
9.14e6
33.43
ES 12378D
9.46e6
33.93
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.06e3
CS 12347D
5.71e6
33.43
ES 12378D
5.84e6
33.93
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_002.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5349, 7518 scc: 471-294
Revised: 27-Jan-2022 10:15 (DTF) Printed: 27-Jan-2022 10:47 Page 3 of 12

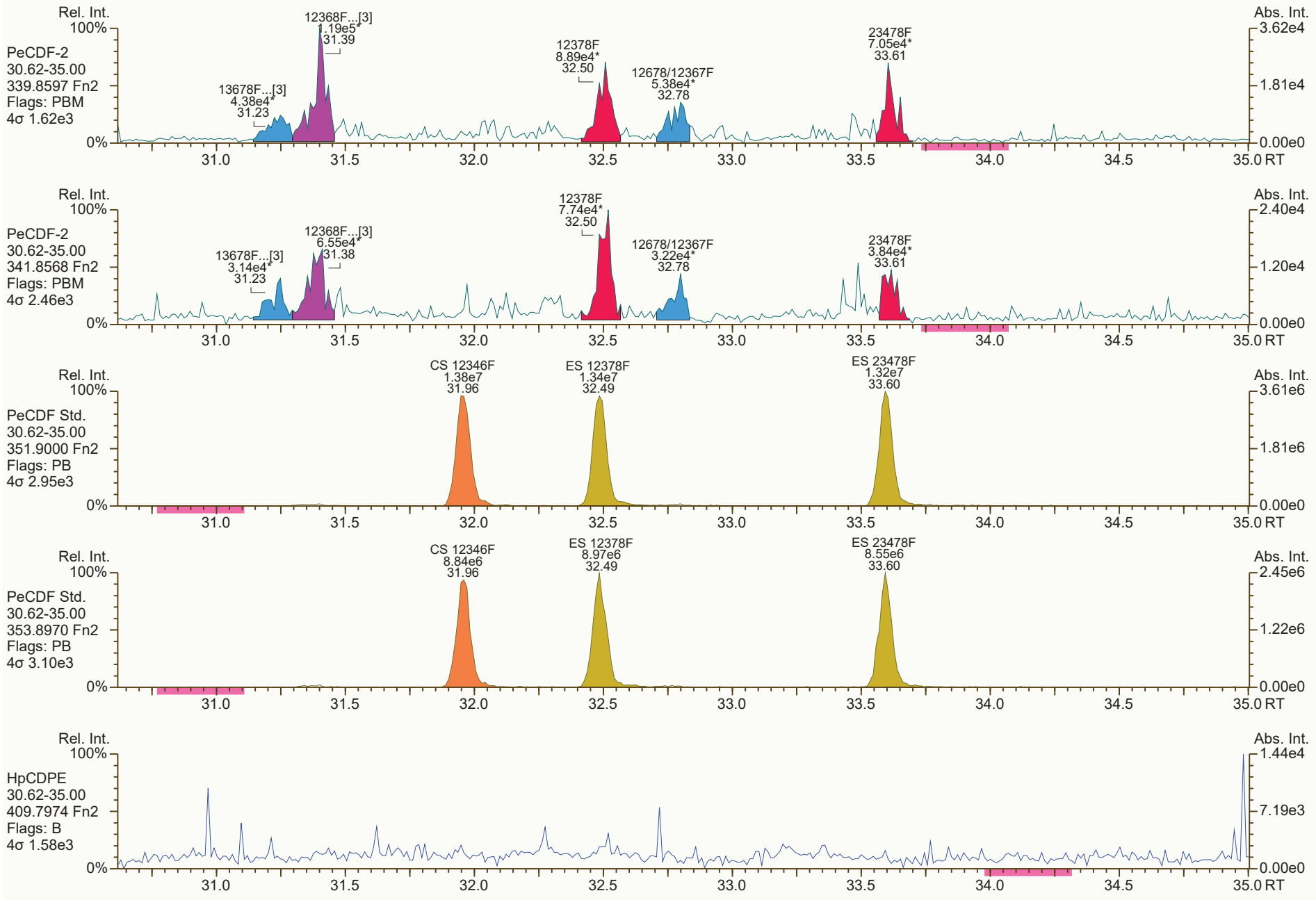

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 3.08e3
124679/124689D
7.77e5
36.09
123679/123689D
2.78e5*
37.05
123678D
4.99e4*
37.94
123789D
8.05e4*
38.24
Abs. Int.
2.40e5
1.20e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.74e3
124679/124689D
6.01e5
36.09
123679/123689D
2.31e5*
37.04
123478D
2.78e4*
37.84
123678D
4.36e4*
37.95
123789D
5.76e4*
38.23
Abs. Int.
1.77e5
8.87e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 1.94e3
ES 123678D
9.25e6
37.94
ES 123478D
7.90e6
37.83
JS 123467D
4.56e6
38.13
ES 123789D
8.34e6
38.23
Abs. Int.
2.46e6
1.23e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 1.81e3
ES 123678D
7.04e6
37.94
ES 123478D
6.12e6
37.83
JS 123467D
3.60e6
38.13
ES 123789D
6.76e6
38.23
Abs. Int.
1.99e6
9.94e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
2.13e7
1.06e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

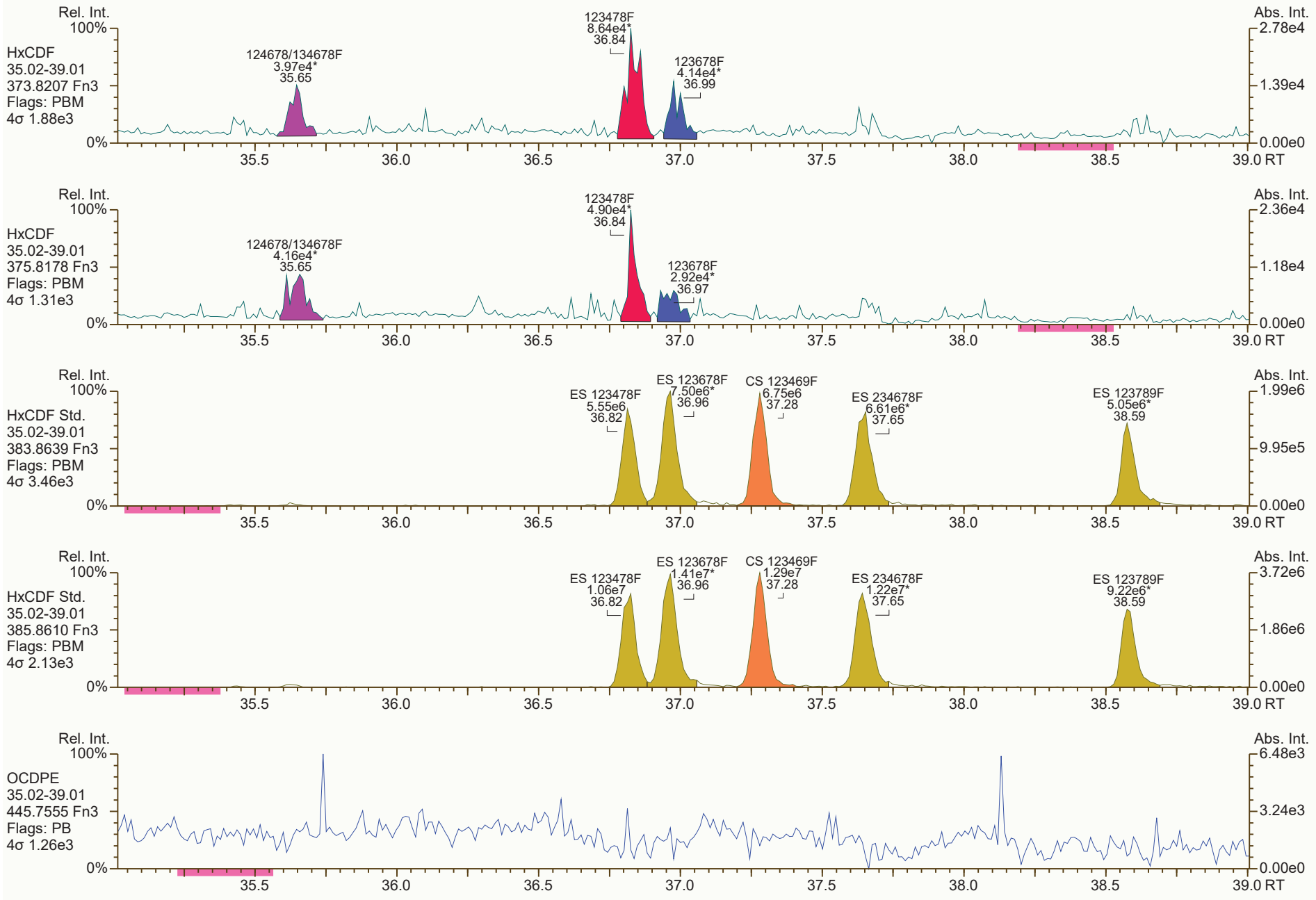

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.32e3
1234679D
2.16e6*
40.20
1234678D
9.94e5*
40.88
Abs. Int.
6.30e5
3.15e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.45e3
1234679D
2.13e6*
40.20
1234678D
9.32e5*
40.87
Abs. Int.
6.73e5
3.37e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.86e3
ES 1234678D
6.17e6*
40.86
Abs. Int.
1.83e6
9.14e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678D
5.66e6*
40.86
Abs. Int.
1.72e6
8.62e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.28e7
6.42e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

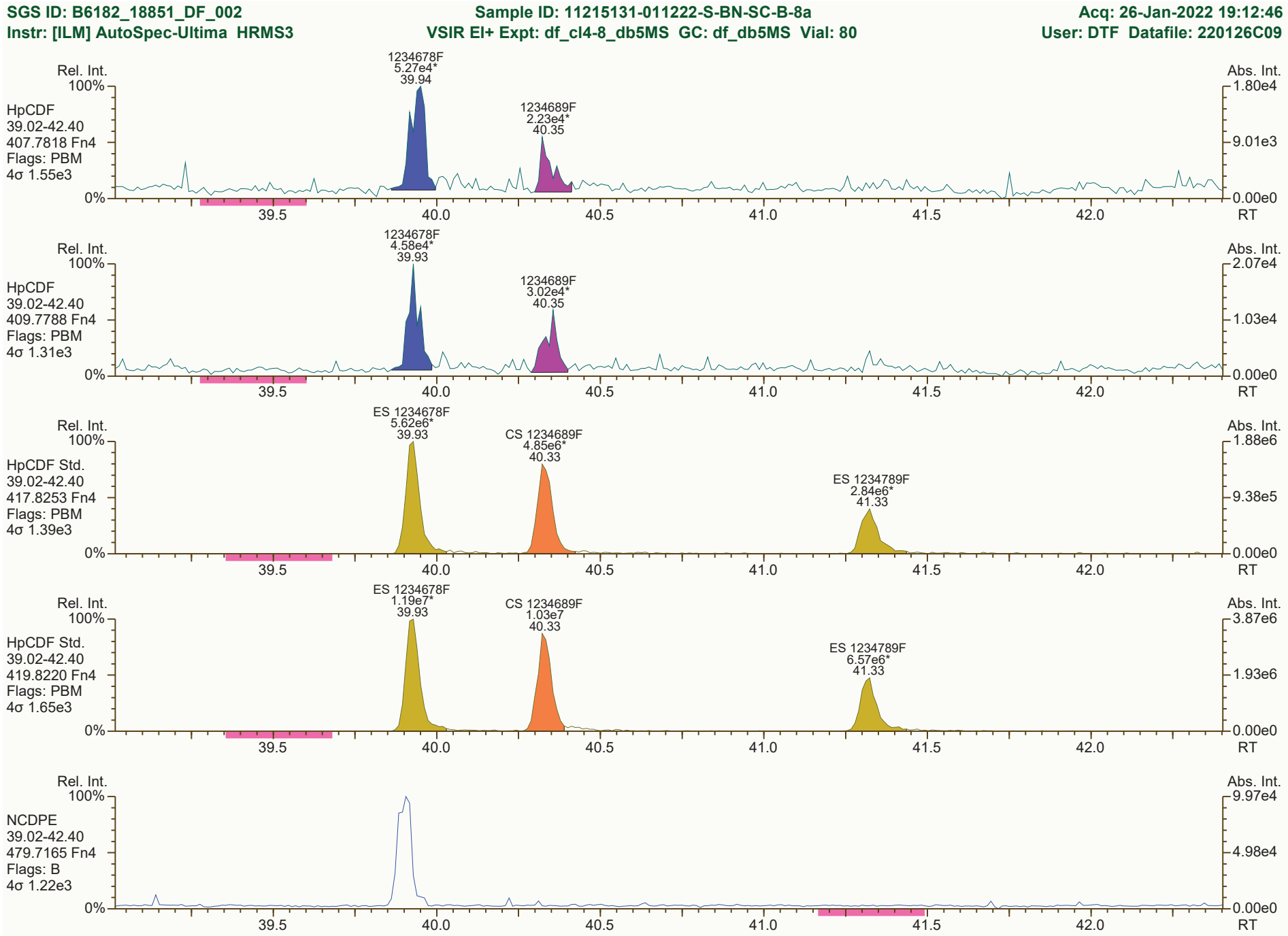

OCDD
1.03e7*
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.35e3
0%
Abs. Int.
2.32e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.15e7*
43.53
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.33e3
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.22e6*
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.71e3
0%
Abs. Int.
1.40e6
7.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.84e6*
43.52
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
1.51e6
7.57e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.10e7
5.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

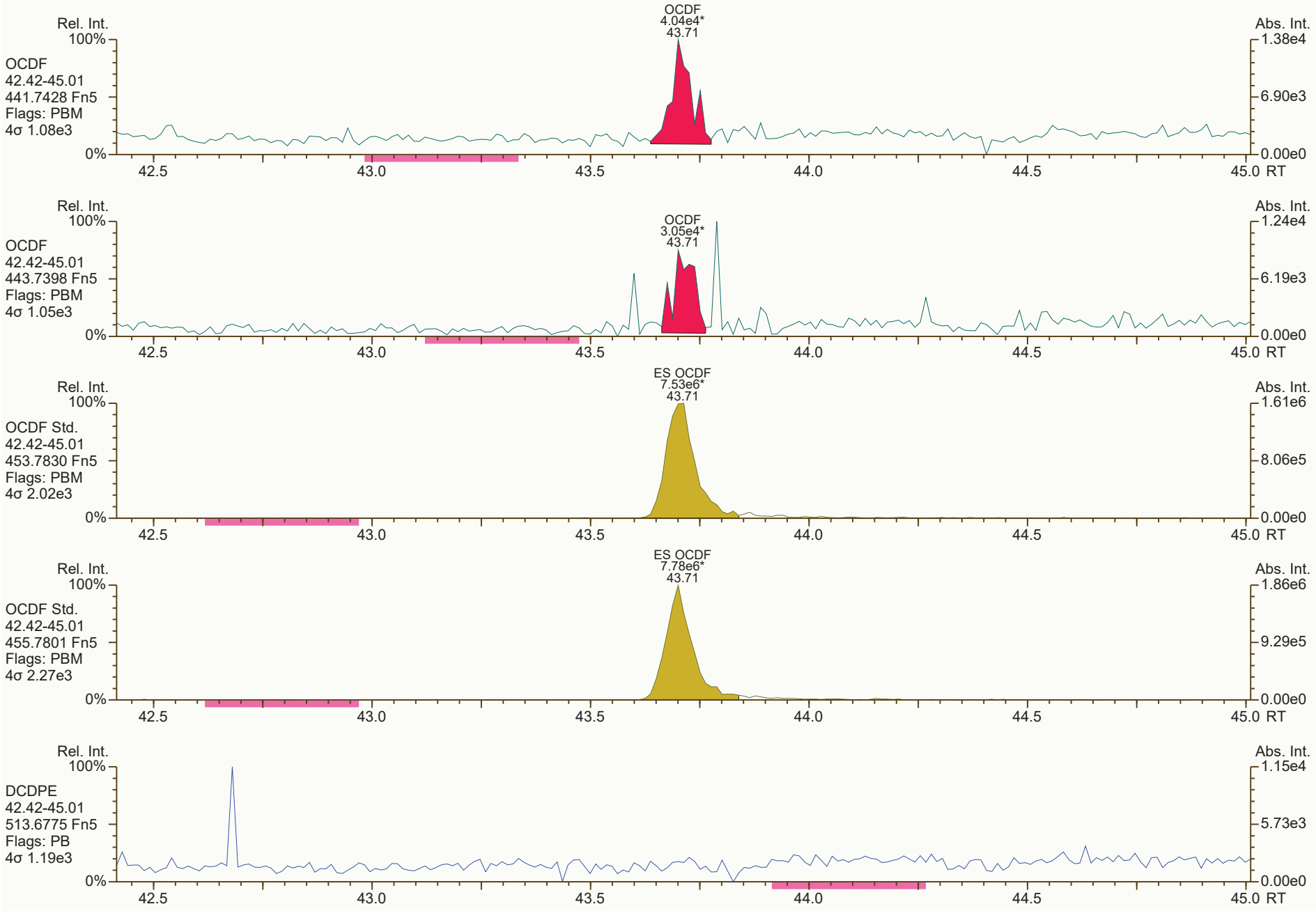

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.31e3
0%
Abs. Int.
3.16e5
1.58e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
1368F 7.93e4* 22.96
2468F 1.24e5* 24.15
1347F...[3] 2.71e5* 24.65
1248F...[3] 2.46e5* 25.01
1478F 1.07e5* 25.71
2368F 3.03e5* 26.41
1278F 6.91e5* 26.90
2347/1279F 7.86e4* 27.56
2378F 1.34e6* 27.79
2367/3467F 2.23e5* 28.14
1289F 9.41e4* 29.78
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
3.97e5
1.99e5
0.00e0
RT
1368F 9.60e4* 22.96
2468F 1.93e5* 24.14
1347F...[3] 4.01e5* 24.65
1268F 1.16e5* 25.41
2368F 4.48e5* 26.41
1278F 8.55e5* 26.90
1267F 1.09e5* 27.17
2348F 1.45e5* 27.67
2378F 1.64e6* 27.79
2367/3467F 3.03e5* 28.14
1289F 1.28e5* 29.78
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.84e3
0%
Abs. Int.
2.96e6
1.48e6
0.00e0
RT
JS 1234F 1.37e7 26.42
ES 2378F 1.11e7 27.77
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.53e3
0%
Abs. Int.
3.93e6
1.97e6
0.00e0
RT
JS 1234F 1.68e7 26.42
ES 2378F 1.38e7 27.77
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.89e4
9.44e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.14e4
5.72e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.39e6
3.69e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 1.62e3
0%
12368F...[3]
1.19e5*
31.39
13678F...[3]
4.38e4*
31.23
12378F
8.89e4*
32.50
12678/12367F
5.38e4*
32.78
23478F
7.05e4*
33.61
Abs. Int.
3.62e4
1.81e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 2.46e3
0%
12378F
7.74e4*
32.50
12368F...[3]
6.55e4*
31.38
13678F...[3]
3.14e4*
31.23
12678/12367F
3.22e4*
32.78
23478F
3.84e4*
33.61
Abs. Int.
2.40e4
1.20e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.95e3
0%
CS 12346F
1.38e7
31.96
ES 12378F
1.34e7
32.49
ES 23478F
1.32e7
33.60
Abs. Int.
3.61e6
1.81e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 3.10e3
0%
CS 12346F
8.84e6
31.96
ES 12378F
8.97e6
32.49
ES 23478F
8.55e6
33.60
Abs. Int.
2.45e6
1.22e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 1.88e3
124678/134678F
3.97e4*
35.65
123478F
8.64e4*
36.84
123678F
4.14e4*
36.99
0%
Abs. Int.
2.78e4
1.39e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.31e3
124678/134678F
4.16e4*
35.65
123478F
4.90e4*
36.84
123678F
2.92e4*
36.97
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.46e3
ES 123478F
5.55e6
36.82
ES 123678F
7.50e6*
36.96
CS 123469F
6.75e6
37.28
ES 234678F
6.61e6*
37.65
ES 123789F
5.05e6*
38.59
0%
Abs. Int.
1.99e6
9.95e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.13e3
ES 123478F
1.06e7
36.82
ES 123678F
1.41e7*
36.96
CS 123469F
1.29e7
37.28
ES 234678F
1.22e7*
37.65
ES 123789F
9.22e6*
38.59
0%
Abs. Int.
3.72e6
1.86e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.26e3
0%
Abs. Int.
6.48e3
3.24e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6182_18851_DF_002
Sample ID: 11215131-011222-S-BN-SC-B-8a
Acq: 26-Jan-2022 19:12:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 80
User: DTF Datafile: 220126C09
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.55e3
1234678F
5.27e4*
39.94
1234689F
2.23e4*
40.35
1.80e4
9.01e3
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.31e3
1234678F
4.58e4*
39.93
1234689F
3.02e4*
40.35
2.07e4
1.03e4
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.39e3
ES 1234678F
5.62e6*
39.93
CS 1234689F
4.85e6*
40.33
ES 1234789F
2.84e6*
41.33
1.88e6
9.38e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.65e3
ES 1234678F
1.19e7*
39.93
CS 1234689F
1.03e7
40.33
ES 1234789F
6.57e6*
41.33
3.87e6
1.93e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.22e3
9.97e4
4.98e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_002.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7074, 2070, 8489 scc: 471-294
PKD: 27-Jan-2022 10:19 Printed: 27-Jan-2022 10:47 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.08e3
0%
OCDF
4.04e4*
43.71
Abs. Int.
1.38e4
6.90e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.05e3
0%
OCDF
3.05e4*
43.71
Abs. Int.
1.24e4
6.19e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.02e3
0%
ES OCDF
7.53e6*
43.71
Abs. Int.
1.61e6
8.06e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
ES OCDF
7.78e6*
43.71
Abs. Int.
1.86e6
9.29e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.19e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6182_18851_DF_003 **Acq'd:** 26 Jan 2022 19:59 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-18 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 139-332-SZV

Datafile: 220126C10 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0008	0	1.63E+06	0.83	Y	1.18	22.9	4577.336	0.659
12378-PeCDD	33.95	J EMPC	1.0006	1.0004	-0.4	1.08E+05	1.04	N	1.04	1.91	3220.999	0.521
123478-HxCDD	37.85		1.0004	1.0003	-0.2	2.69E+05	1.16	Y	1.09	4.64	3953.945	0.595
123678-HxCDD	37.96		1.0034	1.0034	0	9.55E+05	1.38	Y	1.15	14.2	3953.945	0.549
123789-HxCDD	38.25		1.0109	1.0109	0	5.62E+05	1.19	Y	1.05	9.33	3953.945	0.646
1234678-HpCDD	40.89		1.0003	1.0004	+0.2	2.04E+07	1.06	Y	1.06	429	3189.44	0.537
OCDD	43.54		1.0002	1.0003	+0.3	1.75E+08	0.90	Y	1.13	5,500	4002.812	1.31
2378-TCDF	27.79		1.0008	1.0008	0	8.11E+06	0.79	Y	1.08	80.8	3317.706	0.332
12378-PeCDF	32.51	EMPC	1.0005	1.0005	0	4.30E+05	1.31	N	1.02	5.1	3373.438	0.404
23478-PeCDF	33.63		1.0005	1.0008	+0.6	6.27E+05	1.38	Y	1.02	7.82	3373.438	0.402
123478-HxCDF	36.84		1.0004	1.0004	0	1.11E+06	1.26	Y	1.27	13.4	4710.629	0.483
123678-HxCDF	36.99		1.0004	1.0004	0	6.00E+05	1.24	Y	1.15	6.39	4710.629	0.513
234678-HxCDF	37.67		1.0004	1.0004	0	5.27E+05	1.20	Y	1.19	6.34	4710.629	0.574
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4710.629	0.644
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	4.99E+06	0.98	Y	1.37	69.4	3337.983	0.31
1234789-HpCDF	41.34		1.0003	1.0003	0	3.40E+05	1.09	Y	1.31	6.54	3337.983	0.508
OCDF	43.73		1.0002	1.0003	+0.3	7.55E+06	0.93	Y	1.07	181	3113.1	0.777

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0236	+0.5	1.19E+07	0.88	Y	1.05	63.8
ES 12378-PeCDD	33.93	1.2121	1.2136	+3.1	1.08E+07	1.71	Y	0.88	69.1
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.05E+07	1.33	Y	0.97	74.5
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.15E+07	1.29	Y	0.94	84.3
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.13E+07	1.24	Y	1.09	71.7
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	8.84E+06	1.12	Y	0.91	66.9
ES OCDD	43.53	1.1403	1.1413	+2.6	1.11E+07	0.89	Y	0.62	61.6
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	1.83E+07	0.82	Y	1.06	62.1
ES 12378-PeCDF	32.49	1.2281	1.2299	+3.5	1.62E+07	1.44	Y	0.91	64
ES 23478-PeCDF	33.60	1.2698	1.2718	+4.0	1.55E+07	1.45	Y	0.88	63
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.29E+07	0.52	Y	1.20	74
ES 123678-HxCDF	36.97	0.9695	0.9694	-0.2	1.60E+07	0.52	Y	1.35	81.9
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.38E+07	0.54	Y	1.24	76.6
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.15E+07	0.53	Y	1.16	68.7
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	1.03E+07	0.43	Y	0.97	73.8
ES 1234789-HpCDF	41.33	1.0830	1.0837	+1.7	7.82E+06	0.43	Y	0.85	63.4
ES OCDF	43.71	1.1451	1.1463	+3.1	1.53E+07	0.92	Y	0.81	65.4

Lab ID: B6182_18851_DF_003 **Acq'd:** 26 Jan 2022 19:59 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-18 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 139-332-SZV

Datafile: 220126C10 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.96		-	-	-	1.78E+07	0.84	Y	-	-
JS 1234-TCDF	26.42		-	-	-	2.79E+07	0.79	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	7.24E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0245	+0.7	5.82E+06	n/a	-	1.20	68.2
CS 12347-PeCDD	33.43		1.1943	1.1957	+2.8	1.11E+07	1.70	Y	0.75	82.7
CS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	1.62E+07	1.52	Y	0.85	68.1
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.44E+07	0.54	Y	1.12	89.2
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.21E+07	0.46	Y	0.89	94.3
SS 37Cl-2378-TCDD	28.65		1.0241	1.0245	+0.7	5.82E+06	n/a	-	1.15	107
SS 12347-PeCDD	33.43		1.1943	1.1957	+2.8	1.11E+07	1.70	Y	0.86	119
SS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	1.62E+07	1.52	Y	0.94	106
SS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.44E+07	0.54	Y	0.83	109
SS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.21E+07	0.46	Y	0.92	128

Totals	Conc	EMPC
Total TCDD	24.4	28.8
Total PeCDD	8.01	16.3
Total HxCDD	123	125
Total HpCDD	867	867
Total Tetra-Octa Dioxins	6530	6540
Total TCDF	166	179
Total PeCDF	55.3	65.9
Total HxCDF	107	108
Total HpCDF	200	200
Total Tetra-Octa Furans	709	735
Total Tetra-Octa Dioxins & Furans	7240	7280

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.829	0.83
Response	1.64E+06	1.63E+06

Lab ID: B6182_18851_DF_003 **Acq'd: 26 Jan 2022 19:59 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-O-18 **UTP: 27-Jan-2022 10:38:16 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 139-332-SZV**

Datafile: 220126C10 **Report: 27 Jan 2022 10:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.03	EMPC	0.8755	0.8745	-1.5	1.34E+05	0.99	N	1.18	1.88	4577.336	0.659
1379-TCDD	NotFnd		0.8876						1.18		4577.336	0.659
1369-TCDD	NotFnd		0.9023						1.18		4577.336	0.659
1469-TCDD	26.57		0.9291	0.9282	-1.4	1.06E+05	0.86	Y	1.18	1.48	4577.336	0.659
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4577.336	0.659
1378-TCDD	NotFnd		0.9440						1.18		4577.336	0.659
1268-TCDD	NotFnd		0.9506						1.18		4577.336	0.659
1478-TCDD	NotFnd		0.9591						1.18		4577.336	0.659
1279-TCDD	NotFnd		0.9649						1.18		4577.336	0.659
1234/1269-TCDD	NotFnd		0.9771						1.18		4577.336	0.659
1236-TCDD	NotFnd		0.9820						1.18		4577.336	0.659
1237/1238-TCDD	NotFnd		0.9908						1.18		4577.336	0.659
1239-TCDD	NotFnd		0.9954						1.18		4577.336	0.659
2378-TCDD	**28.64**		**1.0008**	1.0008	**0**	1.63E+06	0.83	Y	**1.18**	**22.9**	**4577.336**	**0.659**
1278-TCDD	28.97	EMPC	1.0121	1.0120	-0.2	1.85E+05	0.91	N	1.18	2.6	4577.336	0.659
1267-TCDD	NotFnd		1.0167						1.18		4577.336	0.659
1289-TCDD	NotFnd		1.0341						1.18		4577.336	0.659
12479/12468-PeCDD	31.45		0.9273	0.9268	-0.9	2.40E+05	1.75	Y	1.04	4.23	3220.999	0.521
12469-PeCDD	31.98	J EMPC	0.9430	0.9425	-1.0	1.15E+05	1.85	N	1.04	2.02	3220.999	0.521
12368-PeCDD	32.53	J EMPC	0.9592	0.9587	-1.0	8.01E+04	2.20	N	1.04	1.41	3220.999	0.521
12478-PeCDD	32.73		0.9647	0.9644	-0.6	1.56E+05	1.37	Y	1.04	2.75	3220.999	0.521
12379-PeCDD	32.82	J EMPC	0.9676	0.9673	-0.6	5.81E+04	1.22	N	1.04	1.02	3220.999	0.521
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9752	0	1.10E+05	1.23	N	1.04	1.93	3220.999	0.521
12346/12347-PeCDD	33.46	J	0.9860	0.9861	+0.2	5.89E+04	1.44	Y	1.04	1.04	3220.999	0.521
12378-PeCDD	33.95	J EMPC	**1.0006**	**1.0004**	**-0.4**	**1.08E+05**	**1.04**	**N**	**1.04**	**1.91**	**3220.999**	**0.521**
12367-PeCDD	NotFnd		1.0034						1.04		3220.999	0.521
12389-PeCDD	NotFnd		1.0134						1.04		3220.999	0.521
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	2.08E+06	1.20	Y	1.10	33.7	3953.945	0.595
123468-HxCDD	36.75		0.9715	0.9714	-0.2	3.53E+05	1.25	Y	1.10	5.71	3953.945	0.595
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	3.21E+06	1.30	Y	1.10	51.9	3953.945	0.595
123469-HxCDD	37.19		0.9829	0.9828	-0.2	2.35E+05	1.11	Y	1.10	3.81	3953.945	0.595
123478-HxCDD	37.85		**1.0004**	**1.0003**	**-0.2**	**2.69E+05**	**1.16**	**Y**	1.09	**4.64**	**3953.945**	**0.595**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**9.55E+05**	**1.38**	**Y**	1.15	**14.2**	**3953.945**	**0.549**
123467-HxCDD	38.14	J EMPC	1.0082	1.0081	-0.2	1.32E+05	1.04	N	1.10	2.13	3953.945	0.595
123789-HxCDD	38.25		**1.0109**	**1.0109**	**0**	**5.62E+05**	**1.19**	**Y**	1.05	**9.33**	**3953.945**	**0.646**

Lab ID: B6182_18851_DF_003 **Acq'd:** 26 Jan 2022 19:59 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-18 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 139-332-SZV

Datafile: 220126C10 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9837	-0.2	2.08E+07	1.04	Y	1.06	438	3189.44	0.537
1234678-HpCDD	**40.89**		**1.0003**	**1.0004**	**+0.2**	**2.04E+07**	**1.06**	**Y**	**1.06**	**429**	**3189.44**	**0.537**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**1.75E+08**	**0.90**	**Y**	**1.13**	**5,500**	**4002.812**	**1.31**
OCDD-a	43.54		1.0002	1.0002	0	1.12E+07	2.57	Y	0.07	5,490	3315.554	17
1368-TCDF	NotFnd		0.8282						1.08		3317.706	0.332
1468-TCDF	23.53		0.8485	0.8472	-1.8	1.70E+05	0.68	Y	1.08	1.69	3317.706	0.332
2468-TCDF	24.16	EMPC	0.8709	0.8698	-1.6	3.66E+05	0.60	N	1.08	3.64	3317.706	0.332
1346/1246-TCDF	NotFnd		0.8829						1.08		3317.706	0.332
1347/1378/1247-TCDF	24.67		0.8884	0.8883	-0.1	4.23E+05	0.80	Y	1.08	4.22	3317.706	0.332
1348-TCDF	NotFnd		0.8980						1.08		3317.706	0.332
1248/1367/1379-TCDF	25.00		0.9026	0.9002	-3.6	6.17E+05	0.80	Y	1.08	6.15	3317.706	0.332
1268-TCDF	25.41	EMPC	0.9158	0.9151	-1.1	3.01E+05	0.64	N	1.08	3	3317.706	0.332
1467-TCDF	NotFnd		0.9206						1.08		3317.706	0.332
1478-TCDF	25.71		0.9266	0.9258	-1.2	5.04E+05	0.82	Y	1.08	5.02	3317.706	0.332
1369/1237-TCDF	26.09		0.9397	0.9395	-0.3	1.80E+05	0.75	Y	1.08	1.79	3317.706	0.332
2467-TCDF	26.21	EMPC	0.9440	0.9437	-0.5	1.08E+05	1.00	N	1.08	1.08	3317.706	0.332
2368-TCDF	26.38		0.9497	0.9498	+0.2	7.19E+05	0.84	Y	1.08	7.16	3317.706	0.332
1238/1234/1678/1469/1236-TCDF	26.46		0.9528	0.9529	+0.2	3.69E+05	0.73	Y	1.08	3.67	3317.706	0.332
1278-TCDF	26.90		0.9690	0.9688	-0.3	3.14E+06	0.82	Y	1.08	31.3	3317.706	0.332
1349-TCDF	NotFnd		0.9730						1.08		3317.706	0.332
1267-TCDF	27.18		0.9787	0.9787	0	3.06E+05	0.78	Y	1.08	3.05	3317.706	0.332
2346/1249-TCDF	NotFnd		0.9850						1.08		3317.706	0.332
2347/1279-TCDF	27.57	EMPC	0.9929	0.9929	0	1.67E+05	1.16	N	1.08	1.66	3317.706	0.332
2348-TCDF	27.67	EMPC	0.9970	0.9965	-0.8	4.07E+05	0.58	N	1.08	4.06	3317.706	0.332
2378-TCDF	**27.79**		**1.0008**	**1.0008**	**0**	**8.11E+06**	**0.79**	**Y**	**1.08**	**80.8**	**3317.706**	**0.332**
2367/3467-TCDF	28.14		1.0136	1.0134	-0.3	1.22E+06	0.82	Y	1.08	12.1	3317.706	0.332
1269-TCDF	28.39		1.0221	1.0224	+0.5	2.31E+05	0.79	Y	1.08	2.3	3317.706	0.332
1239-TCDF	NotFnd		1.0319						1.08		3317.706	0.332
1289-TCDF	29.79		1.0740	1.0725	-2.7	6.36E+05	0.82	Y	1.08	6.34	3317.706	0.332
13468/12468-PeCDF	29.72		0.9145	0.9145	0	2.05E+06	1.69	Y	1.02	24.9	3089.785	0.369
13678/13467/12467-PeCDF	31.27		0.9619	0.9622	+0.6	3.13E+05	1.46	Y	1.02	3.8	3373.438	0.403
12368/13478/12478-PeCDF	31.42		0.9665	0.9668	+0.6	1.15E+06	1.51	Y	1.02	13.9	3373.438	0.403
14678-PeCDF	NotFnd		0.9695						1.02		3373.438	0.403
13479-PeCDF	NotFnd		0.9724						1.02		3373.438	0.403
13469/12479-PeCDF	NotFnd		0.9801						1.02		3373.438	0.403
12346-PeCDF	NotFnd		0.9842						1.02		3373.438	0.403

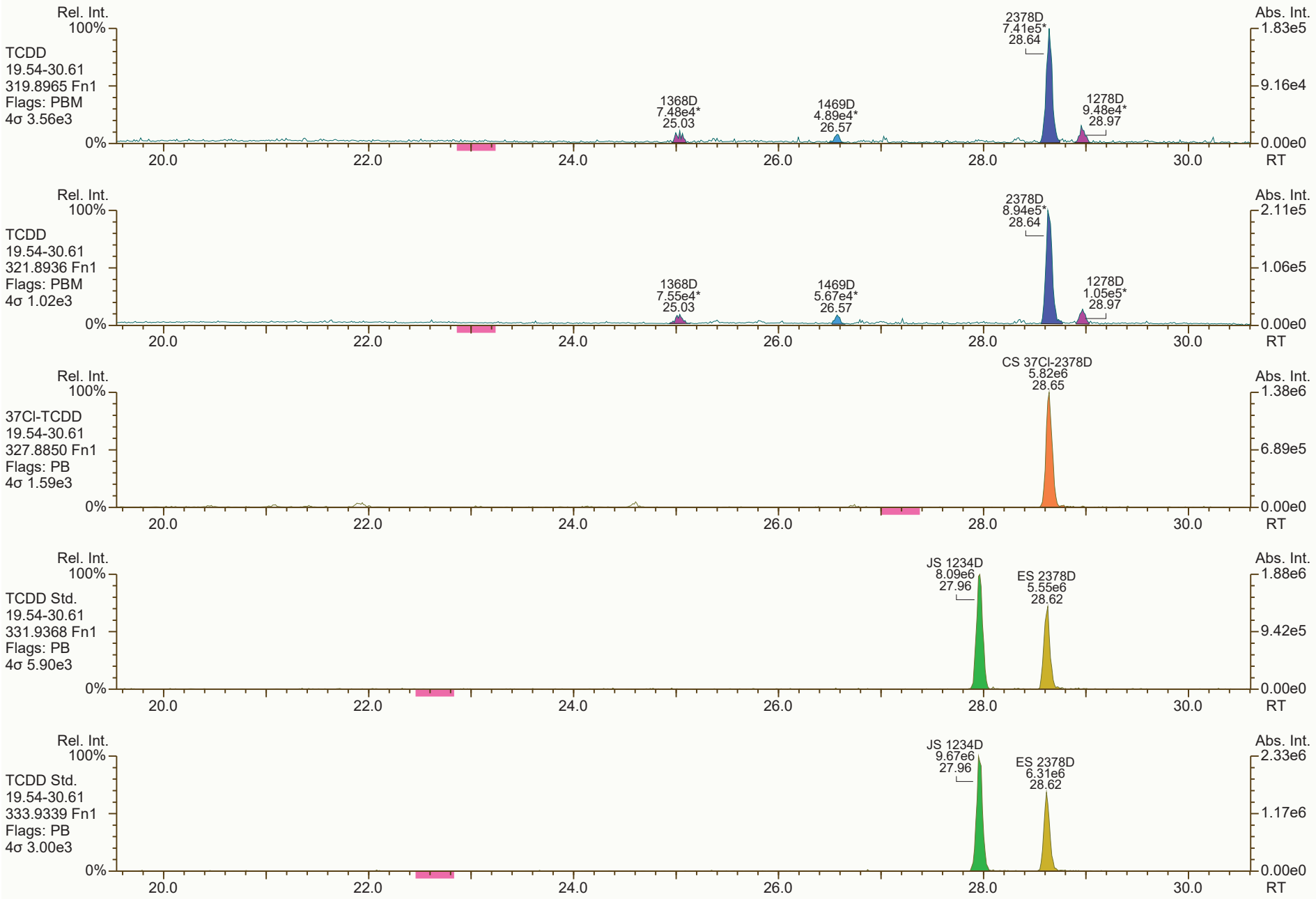
Lab ID: B6182_18851_DF_003 **Acq'd:** 26 Jan 2022 19:59 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

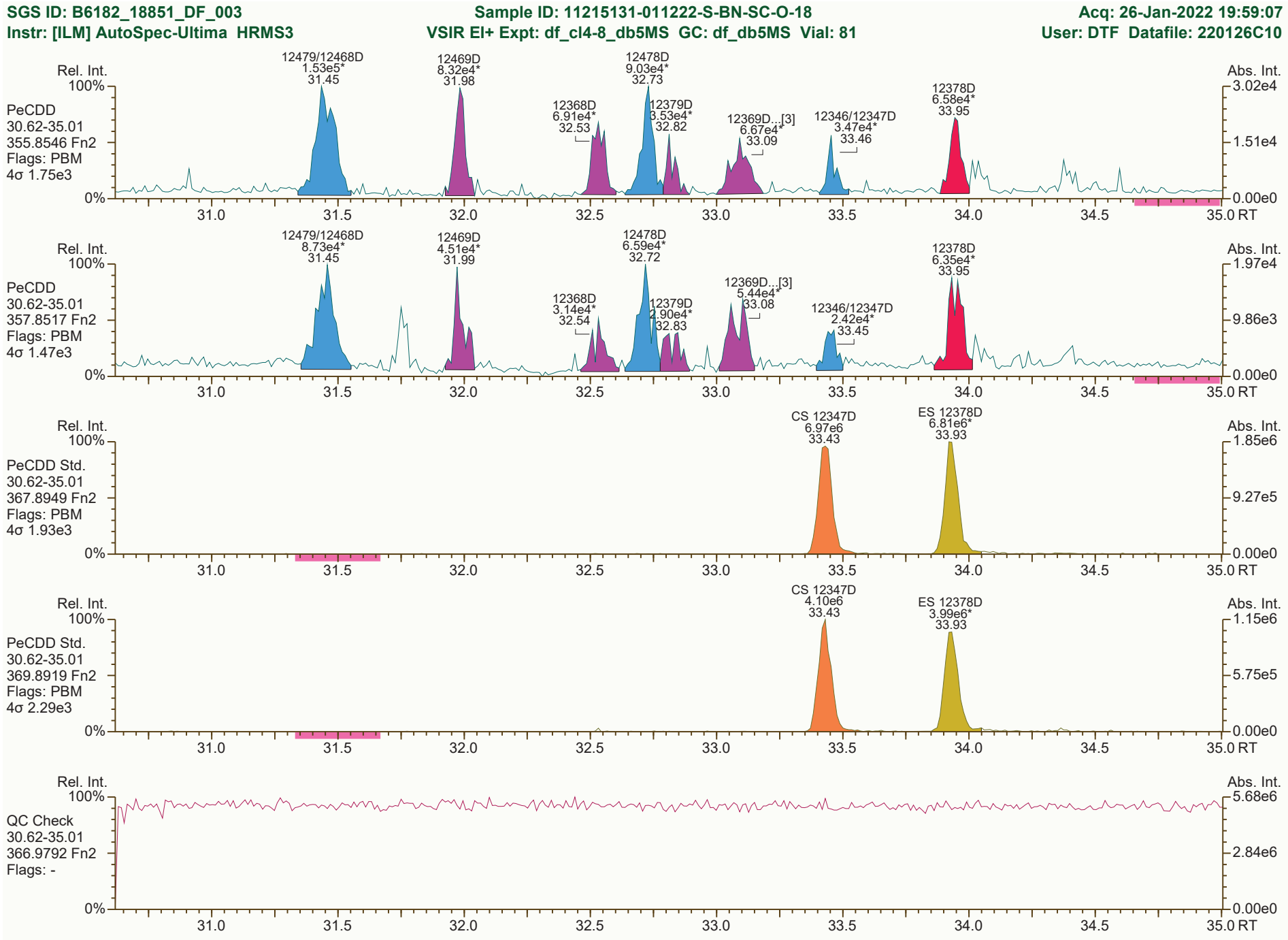
Client ID: 11215131-011222-S-BN-SC-O-18 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 139-332-SZV

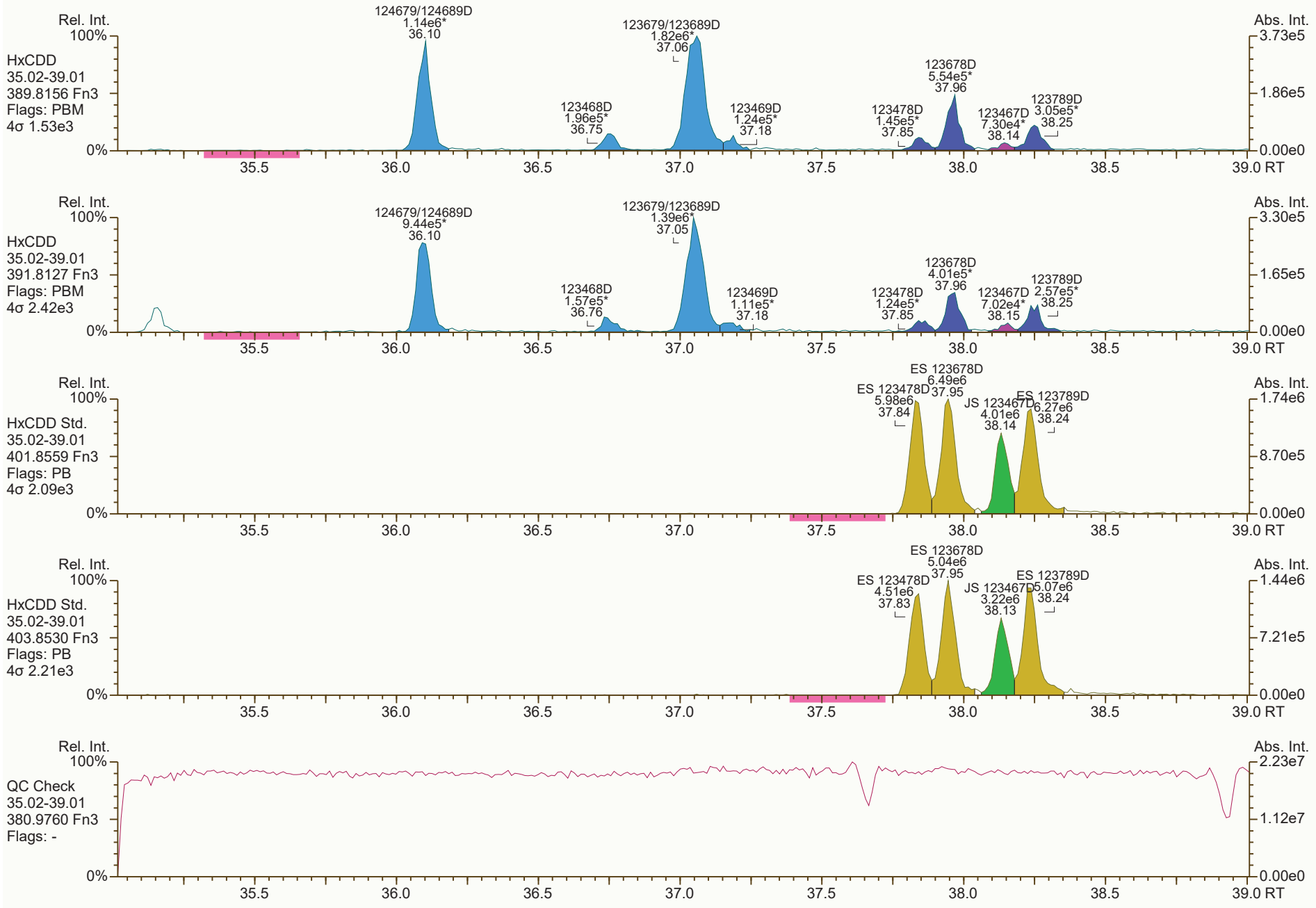
Datafile: 220126C10 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

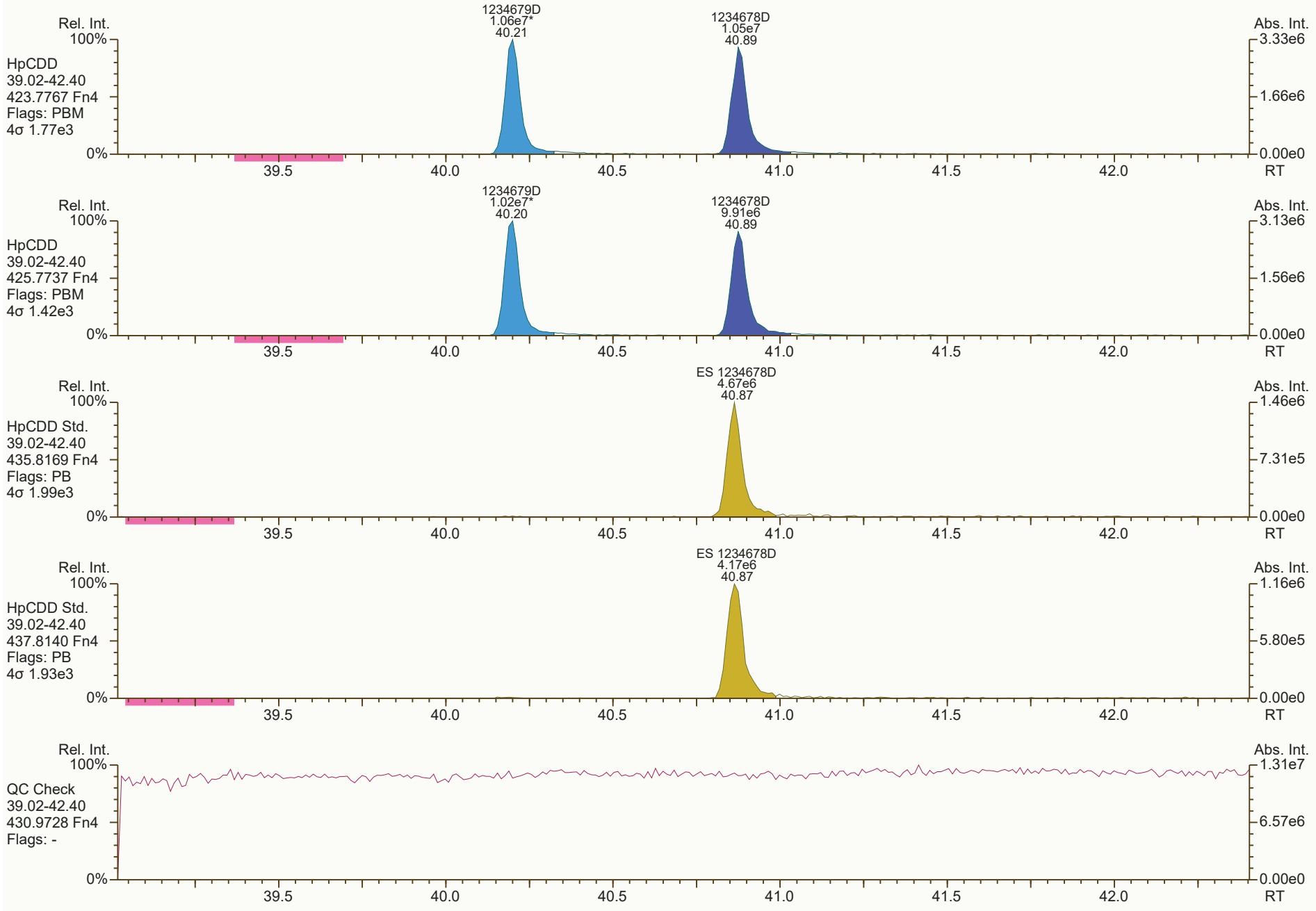
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06		0.9868	0.9868	0	3.19E+05	1.57	Y	1.02	3.88	3373.438	0.403
12347-PeCDF	32.15	J EMPC	0.9895	0.9894	-0.2	4.95E+04	1.06	N	1.02	0.602	3373.438	0.403
12348-PeCDF	32.29	J	0.9941	0.9938	-0.6	7.88E+04	1.59	Y	1.02	0.958	3373.438	0.403
12378-PeCDF	**32.51**	EMPC	**1.0005**	**1.0005**	**0**	**4.30E+05**	**1.31**	**N**	**1.02**	**5.1**	**3373.438**	**0.404**
12678/12367-PeCDF	32.80	EMPC	1.0090	1.0093	+0.6	3.02E+05	1.17	N	1.02	3.67	3373.438	0.403
12379-PeCDF	NotFnd		1.0142						1.02		3373.438	0.403
12679-PeCDF	NotFnd		0.9931						1.02		3373.438	0.403
23467/12369-PeCDF	33.49	J EMPC	0.9966	0.9968	+0.4	9.77E+04	1.84	N	1.02	1.19	3373.438	0.403
23478-PeCDF	**33.63**		**1.0005**	**1.0008**	**+0.6**	**6.27E+05**	**1.38**	**Y**	**1.02**	**7.82**	**3373.438**	**0.402**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3373.438	0.403
12349-PeCDF	NotFnd		1.0101						1.02		3373.438	0.403
12389-PeCDF	NotFnd		1.0322						1.02		3373.438	0.403
123468-HxCDF	35.45		0.9627	0.9627	0	7.63E+05	1.17	Y	1.19	9.3	4710.629	0.547
124678/134678-HxCDF	35.65		0.9684	0.9681	-0.6	3.17E+06	1.27	Y	1.19	38.6	4710.629	0.547
134679-HxCDF	NotFnd		0.9747						1.19		4710.629	0.547
124679-HxCDF	36.09	J EMPC	0.9802	0.9799	-0.6	1.17E+05	1.64	N	1.19	1.43	4710.629	0.547
124689-HxCDF	36.30		0.9858	0.9857	-0.2	2.52E+06	1.18	Y	1.19	30.7	4710.629	0.547
123467-HxCDF	36.72	J	0.9972	0.9971	-0.2	1.66E+05	1.37	Y	1.19	2.03	4710.629	0.547
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**1.11E+06**	**1.26**	**Y**	**1.27**	**13.4**	**4710.629**	**0.483**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**6.00E+05**	**1.24**	**Y**	**1.15**	**6.39**	**4710.629**	**0.513**
123479-HxCDF	NotFnd		1.0051						1.19		4710.629	0.547
123469-HxCDF	NotFnd		1.0091						1.19		4710.629	0.547
123679-HxCDF	NotFnd		0.9943						1.19		4710.629	0.547
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**5.27E+05**	**1.20**	**Y**	**1.19**	**6.34**	**4710.629**	**0.574**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4710.629	0.547
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4710.629**	**0.644**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4710.629	0.547
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**4.99E+06**	**0.98**	**Y**	**1.37**	**69.4**	**3337.983**	**0.31**
1234679-HpCDF	NotFnd		1.0067						1.34		3337.983	0.394
1234689-HpCDF	40.35		1.0101	1.0104	+0.7	7.67E+06	0.98	Y	1.34	124	3337.983	0.394
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**3.40E+05**	**1.09**	**Y**	**1.31**	**6.54**	**3337.983**	**0.508**
OCDF	**43.73**		**1.0002**	**1.0003**	**+0.3**	**7.55E+06**	**0.93**	**Y**	**1.07**	**181**	**3113.1**	**0.777**
OCDF-a	43.73		1.0002	1.0004	+0.5	4.25E+05	2.60	Y	0.07	165	3800.917	15.3

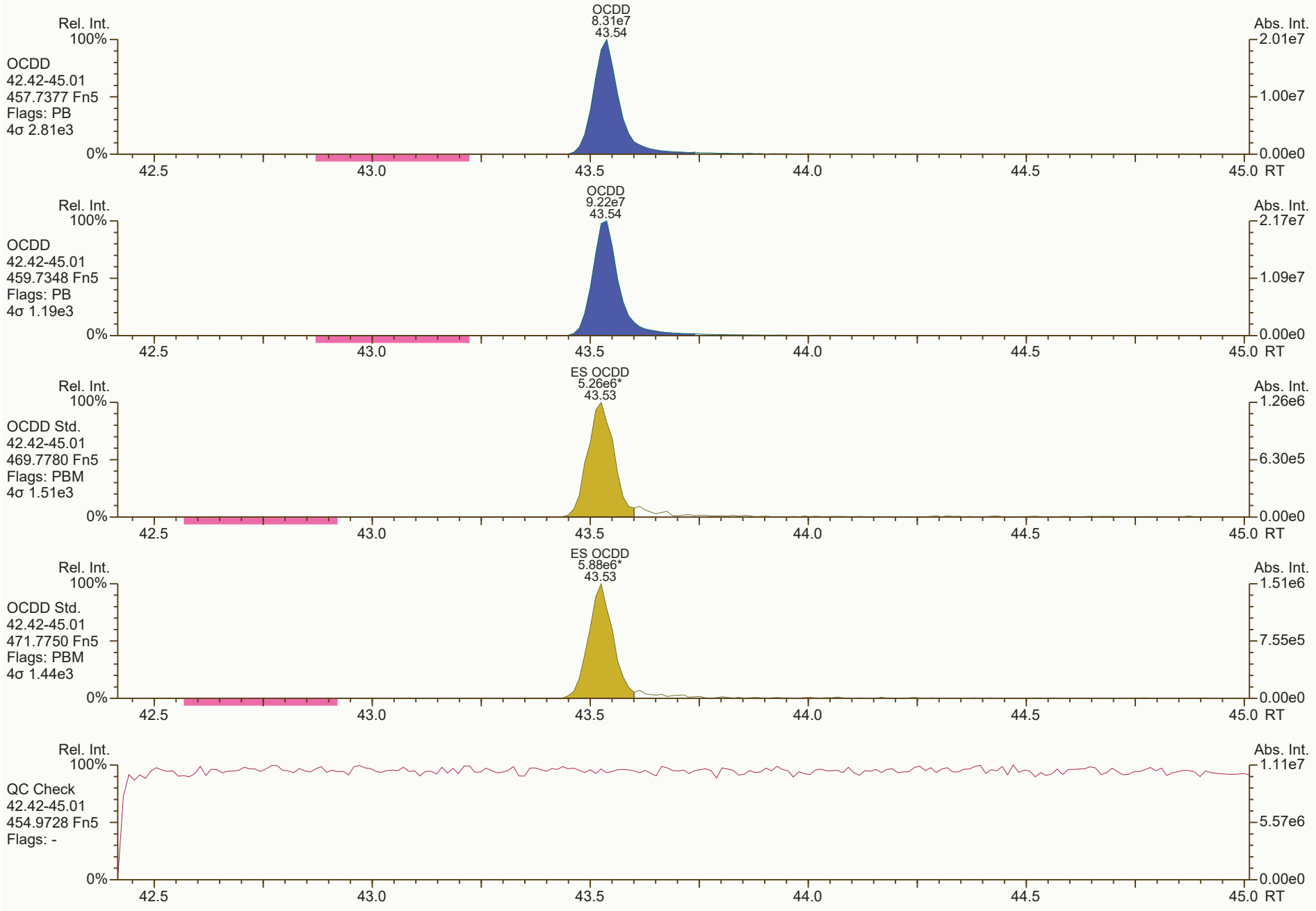

Rel. Int.
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QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.68e6
2.84e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.23e7
1.12e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.31e7
6.57e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.11e7
5.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.56e3
0%
2378D
7.41e5*
28.64
1368D
7.48e4*
25.03
1469D
4.89e4*
26.57
1278D
9.48e4*
28.97
Abs. Int.
1.83e5
9.16e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.02e3
0%
2378D
8.94e5*
28.64
1368D
7.55e4*
25.03
1469D
5.67e4*
26.57
1278D
1.05e5*
28.97
Abs. Int.
2.11e5
1.06e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.59e3
0%
CS 37Cl-2378D
5.82e6
28.65
Abs. Int.
1.38e6
6.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.90e3
0%
JS 1234D
8.09e6
27.96
ES 2378D
5.55e6
28.62
Abs. Int.
1.88e6
9.42e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.00e3
0%
JS 1234D
9.67e6
27.96
ES 2378D
6.31e6
28.62
Abs. Int.
2.33e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6182_18851_DF_003
Sample ID: 11215131-011222-S-BN-SC-O-18
Acq: 26-Jan-2022 19:59:07
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 81
User: DTF Datafile: 220126C10
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.75e3
12479/12468D 1.53e5* 31.45
12469D 8.32e4* 31.98
12368D 6.91e4* 32.53
12478D 9.03e4* 32.73
12379D 3.53e4* 32.82
12369D...[3] 6.67e4* 33.09
12346/12347D 3.47e4* 33.46
12378D 6.58e4* 33.95
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.47e3
12479/12468D 8.73e4* 31.45
12469D 4.51e4* 31.99
12368D 3.14e4* 32.54
12478D 6.59e4* 32.72
12379D 2.90e4* 32.83
12369D...[3] 5.44e4* 33.08
12346/12347D 2.42e4* 33.45
12378D 6.35e4* 33.95
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 1.93e3
CS 12347D 6.97e6 33.43
ES 12378D 6.81e6* 33.93
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 2.29e3
CS 12347D 4.10e6 33.43
ES 12378D 3.99e6* 33.93
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT

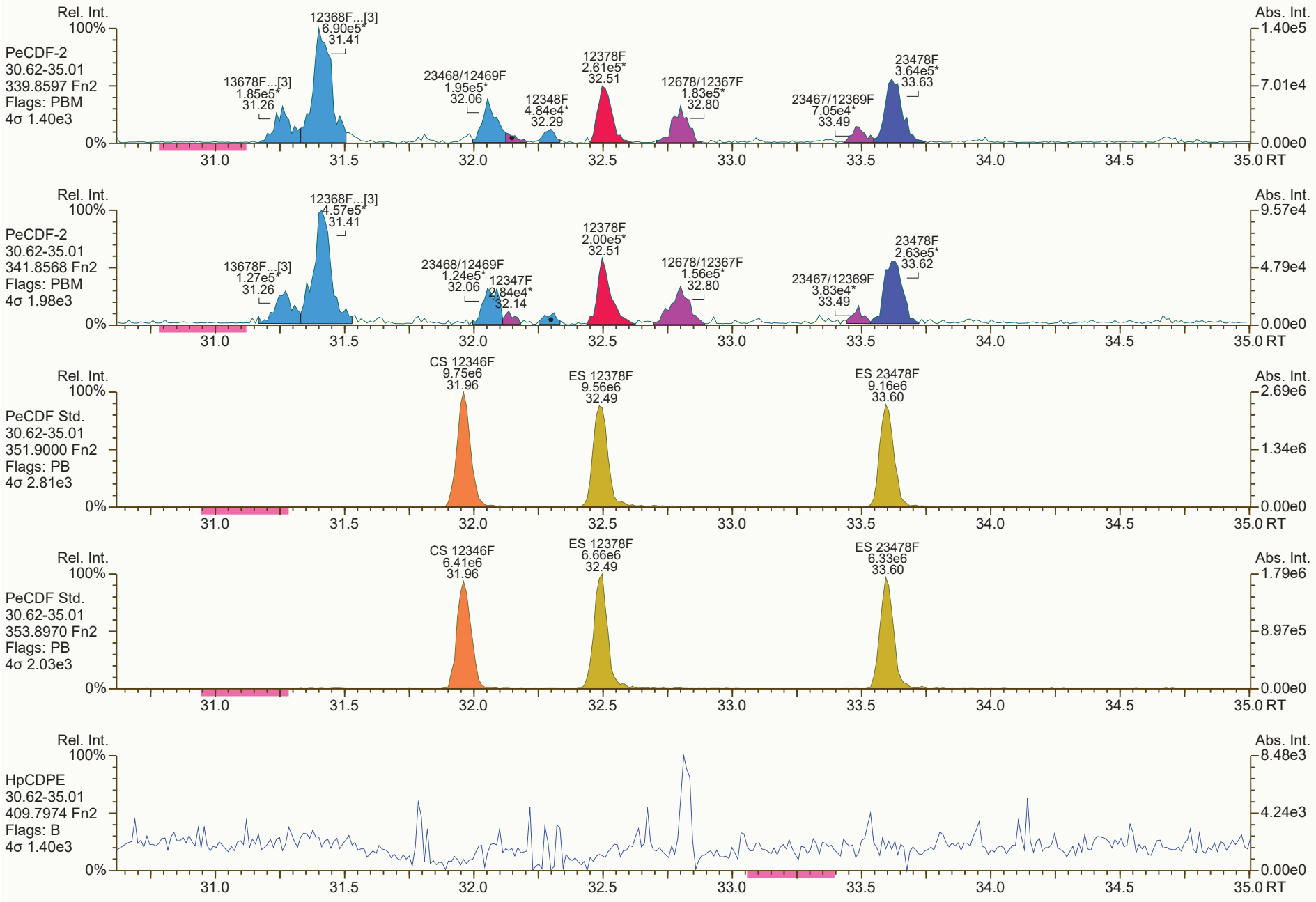

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.53e3
124679/124689D
1.14e6*
36.10
123679/123689D
1.82e6*
37.06
123468D
1.96e5*
36.75
123469D
1.24e5*
37.18
123678D
5.54e5*
37.96
123478D
1.45e5*
37.85
123467D
7.30e4*
38.14
123789D
3.05e5*
38.25
Abs. Int.
3.73e5
1.86e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.42e3
124679/124689D
9.44e5*
36.10
123679/123689D
1.39e6*
37.05
123468D
1.57e5*
36.76
123469D
1.11e5*
37.18
123678D
4.01e5*
37.96
123478D
1.24e5*
37.85
123467D
7.02e4*
38.15
123789D
2.57e5*
38.25
Abs. Int.
3.30e5
1.65e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 2.09e3
ES 123678D
6.49e6
37.95
ES 123478D
5.98e6
37.84
JS 123467D
4.01e6
38.14
ES 123789D
6.27e6
38.24
Abs. Int.
1.74e6
8.70e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.21e3
ES 123678D
5.04e6
37.95
ES 123478D
4.51e6
37.83
JS 123467D
3.22e6
38.13
ES 123789D
5.07e6
38.24
Abs. Int.
1.44e6
7.21e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
2.23e7
1.12e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

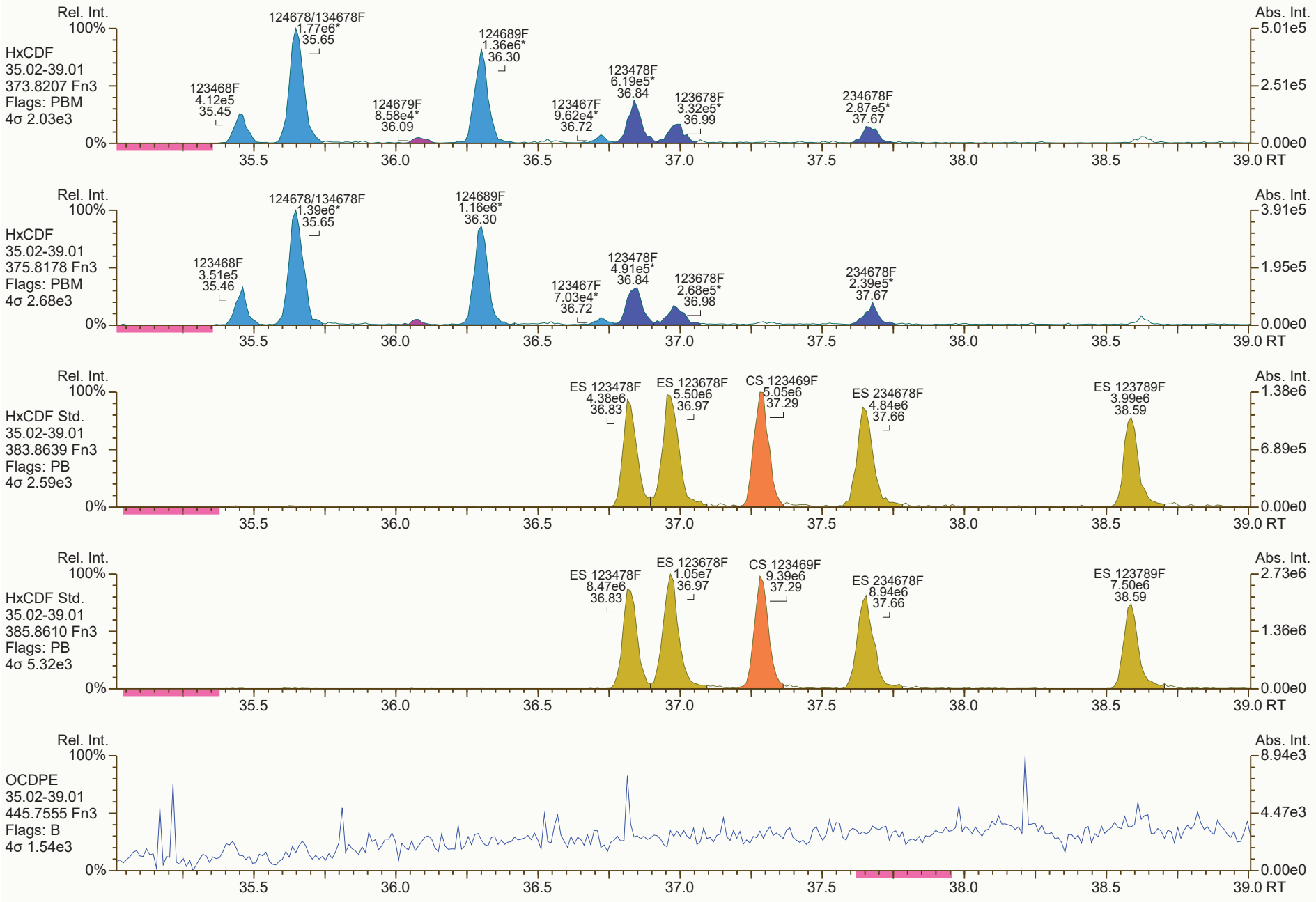

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.77e3
1234679D
1.06e7*
40.21
1234678D
1.05e7
40.89
Abs. Int.
3.33e6
1.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.42e3
1234679D
1.02e7*
40.20
1234678D
9.91e6
40.89
Abs. Int.
3.13e6
1.56e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.99e3
ES 1234678D
4.67e6
40.87
Abs. Int.
1.46e6
7.31e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.93e3
ES 1234678D
4.17e6
40.87
Abs. Int.
1.16e6
5.80e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.31e7
6.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

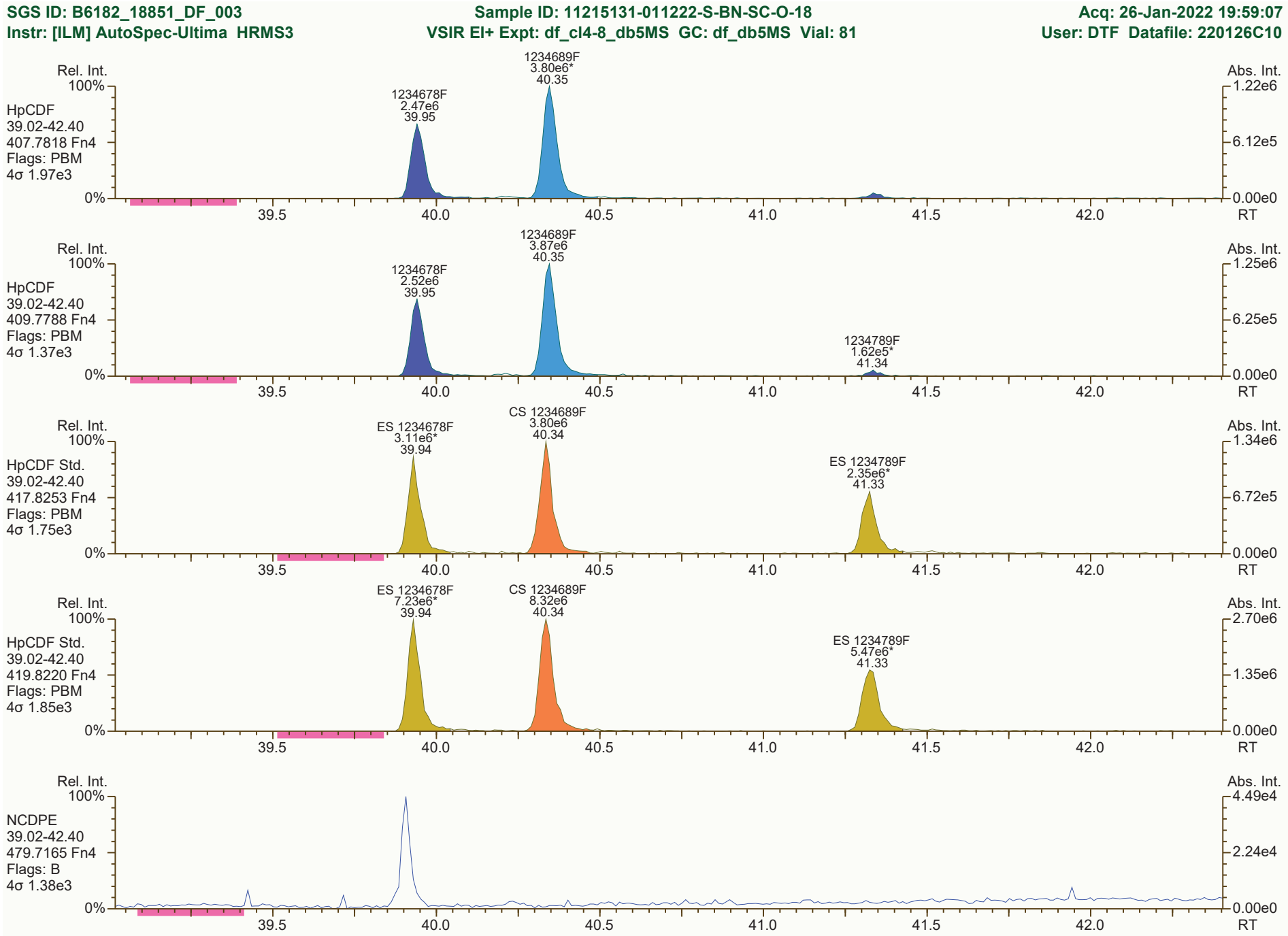

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.81e3
0%
OCDD
8.31e7
43.54
Abs. Int.
2.01e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.19e3
0%
OCDD
9.22e7
43.54
Abs. Int.
2.17e7
1.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.51e3
0%
ES OCDD
5.26e6*
43.53
Abs. Int.
1.26e6
6.30e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.44e3
0%
ES OCDD
5.88e6*
43.53
Abs. Int.
1.51e6
7.55e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.11e7
5.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

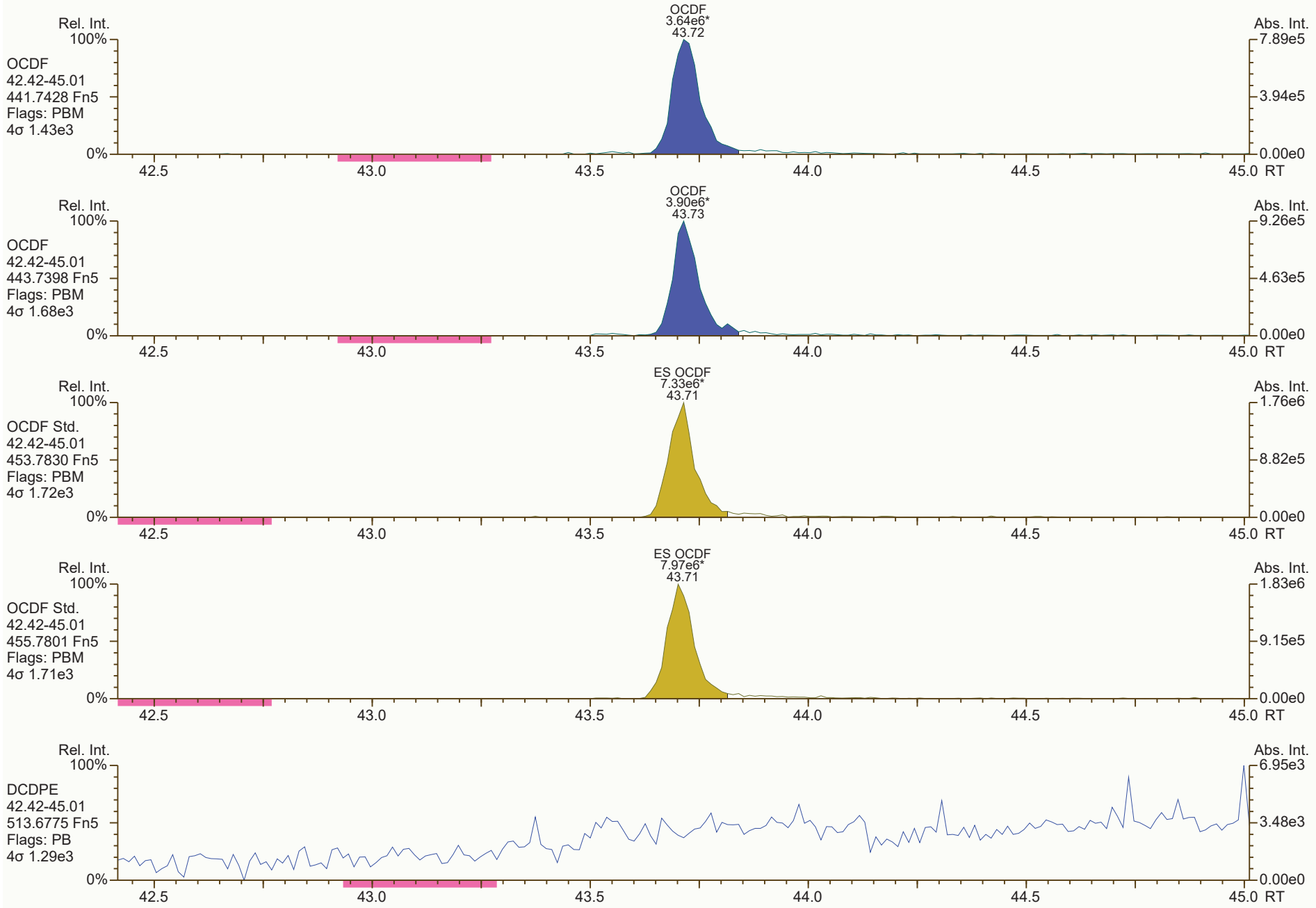

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.29e3
0%
2468F 1.59e5 24.16
1248F...[3] 2.75e5* 25.00
1478F 2.27e5* 25.71
2368F 3.29e5* 26.38
1238F...[5] 1.55e5* 26.46
1278F 1.42e6* 26.90
2378F 3.57e6* 27.79
2348F 1.77e5* 27.67
2367/3467F 5.49e5* 28.14
1289F 2.87e5* 29.79
Abs. Int.
7.89e5
3.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.03e3
0%
2468F 2.66e5* 24.15
1248F...[3] 3.42e5* 25.00
1478F 2.76e5* 25.71
2368F 3.90e5* 26.37
1238F...[5] 2.13e5* 26.46
1278F 1.73e6* 26.90
2378F 4.54e6* 27.79
2348F 3.05e5* 27.68
2367/3467F 6.70e5* 28.14
1289F 3.49e5* 29.78
Abs. Int.
9.84e5
4.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.39e3
0%
JS 1234F 1.23e7 26.42
ES 2378F 8.24e6 27.77
Abs. Int.
2.52e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.34e3
0%
JS 1234F 1.56e7 26.42
ES 2378F 1.01e7 27.77
Abs. Int.
3.33e6
1.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.41e3
13468/12468F
1.29e6*
29.72
Abs. Int.
3.61e5
1.81e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 1.68e3
13468/12468F
7.61e5*
29.72
Abs. Int.
1.88e5
9.41e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
7.40e6
3.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 1.40e3
12368F...[3]
6.90e5*
31.41
13678F...[3]
1.85e5*
31.26
23468/12469F
1.95e5*
32.06
12348F
4.84e4*
32.29
12378F
2.61e5*
32.51
12678/12367F
1.83e5*
32.80
23467/12369F
7.05e4*
33.49
23478F
3.64e5*
33.63
Abs. Int.
1.40e5
7.01e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 1.98e3
12368F...[3]
4.57e5*
31.41
13678F...[3]
1.27e5*
31.26
23468/12469F
1.24e5*
32.06
12347F
2.84e4*
32.14
12378F
2.00e5*
32.51
12678/12367F
1.56e5*
32.80
23467/12369F
3.83e4*
33.49
23478F
2.63e5*
33.62
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.81e3
CS 12346F
9.75e6
31.96
ES 12378F
9.56e6
32.49
ES 23478F
9.16e6
33.60
Abs. Int.
2.69e6
1.34e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.03e3
CS 12346F
6.41e6
31.96
ES 12378F
6.66e6
32.49
ES 23478F
6.33e6
33.60
Abs. Int.
1.79e6
8.97e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.40e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.03e3
123468F 4.12e5 35.45
124678/134678F 1.77e6* 35.65
124679F 8.58e4* 36.09
124689F 1.36e6* 36.30
123467F 9.62e4* 36.72
123478F 6.19e5* 36.84
123678F 3.32e5* 36.99
234678F 2.87e5* 37.67
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.68e3
123468F 3.51e5 35.46
124678/134678F 1.39e6* 35.65
124689F 1.16e6* 36.30
123467F 7.03e4* 36.72
123478F 4.91e5* 36.84
123678F 2.68e5* 36.98
234678F 2.39e5* 37.67
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.59e3
ES 123478F 4.38e6 36.83
ES 123678F 5.50e6 36.97
CS 123469F 5.05e6 37.29
ES 234678F 4.84e6 37.66
ES 123789F 3.99e6 38.59
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 5.32e3
ES 123478F 8.47e6 36.83
ES 123678F 1.05e7 36.97
CS 123469F 9.39e6 37.29
ES 234678F 8.94e6 37.66
ES 123789F 7.50e6 38.59
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.54e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6182_18851_DF_003
Sample ID: 11215131-011222-S-BN-SC-O-18
Acq: 26-Jan-2022 19:59:07
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 81
User: DTF Datafile: 220126C10
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.97e3
1234678F
2.47e6
39.95
1234689F
3.80e6*
40.35
1.22e6
6.12e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.37e3
1234678F
2.52e6
39.95
1234689F
3.87e6
40.35
1234789F
1.62e5*
41.34
1.25e6
6.25e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
3.11e6*
39.94
CS 1234689F
3.80e6
40.34
ES 1234789F
2.35e6*
41.33
1.34e6
6.72e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.85e3
ES 1234678F
7.23e6*
39.94
CS 1234689F
8.32e6
40.34
ES 1234789F
5.47e6*
41.33
2.70e6
1.35e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.38e3
4.49e4
2.24e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_003.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2657, 3802, 8480 scc: 139-332
Revised: 27-Jan-2022 10:25 (DTF) Printed: 27-Jan-2022 10:49 Page 11 of 12


OCDF
3.64e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
7.89e5
3.94e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.90e6*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
9.26e5
4.63e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.33e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.72e3
0%
Abs. Int.
1.76e6
8.82e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.97e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.71e3
0%
Abs. Int.
1.83e6
9.15e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.29e3
0%
Abs. Int.
6.95e3
3.48e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6182_18851_DF_004 **Acq'd:** 26 Jan 2022 20:45 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-12 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 024-057-TGD

Datafile: 220126C11 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4413.099	0.465
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2699.09	0.31
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2892.56	0.33
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2892.56	0.3
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2892.56	0.353
1234678-HpCDD	40.87		1.0003	1.0003	0	9.09E+05	1.04	Y	1.06	15	3435.611	0.464
OCDD	43.53		1.0002	1.0003	+0.3	1.37E+07	0.91	Y	1.13	345	3359.632	0.864
2378-TCDF	27.78	B	1.0008	1.0005	-0.5	1.84E+05	0.74	Y	1.08	1.39	6191.14	0.555
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3804.794	0.361
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3804.794	0.335
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2717.866	0.24
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2717.866	0.218
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2717.866	0.238
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2717.866	0.288
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2630.684	0.178
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2630.684	0.314
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3383.71	0.851

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.61	1.0233	1.0235	+0.3	1.57E+07	0.82	Y	1.05	88.5
ES 12378-PeCDD	33.92	1.2121	1.2137	+3.3	1.44E+07	1.59	Y	0.88	96.4
ES 123478-HxCDD	37.82	0.9921	0.9921	0	1.32E+07	1.31	Y	0.97	91.5
ES 123678-HxCDD	37.94	0.9951	0.9951	0	1.52E+07	1.30	Y	0.94	109
ES 123789-HxCDD	38.23	1.0025	1.0028	+0.7	1.46E+07	1.23	Y	1.09	90.1
ES 1234678-HpCDD	40.86	1.0709	1.0717	+2.0	1.12E+07	1.06	Y	0.91	82.9
ES OCDD	43.52	1.1403	1.1415	+3.1	1.39E+07	0.89	Y	0.62	75
ES 2378-TCDF	27.76	1.0506	1.0512	+1.0	2.43E+07	0.76	Y	1.06	82.8
ES 12378-PeCDF	32.49	1.2281	1.2300	+3.7	2.10E+07	1.55	Y	0.91	83.5
ES 23478-PeCDF	33.59	1.2698	1.2719	+4.2	2.07E+07	1.47	Y	0.88	84.7
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.54E+07	0.55	Y	1.20	86.3
ES 123678-HxCDF	36.96	0.9695	0.9695	0	2.08E+07	0.52	Y	1.35	103
ES 234678-HxCDF	37.65	0.9874	0.9875	+0.2	1.96E+07	0.54	Y	1.24	106
ES 123789-HxCDF	38.58	1.0116	1.0121	+1.2	1.41E+07	0.53	Y	1.16	82.3
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.55E+07	0.45	Y	0.97	108
ES 1234789-HpCDF	41.32	1.0830	1.0839	+2.2	9.80E+06	0.46	Y	0.85	77.5
ES OCDF	43.71	1.1451	1.1465	+3.7	1.66E+07	0.92	Y	0.81	69.2

Lab ID: B6182_18851_DF_004 **Acq'd:** 26 Jan 2022 20:45 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-12 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 024-057-TGD

Datafile: 220126C11 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.95		-	-	-	1.70E+07	0.85	Y	-	-
JS 1234-TCDF	26.41		-	-	-	2.77E+07	0.86	Y	-	-
JS 123467-HxCDD	38.12		-	-	-	7.42E+06	1.15	Y	-	-
CS 37Cl-2378-TCDD	28.63		1.0241	1.0244	+0.5	7.53E+06	n/a	-	1.20	92.2
CS 12347-PeCDD	33.42		1.1943	1.1957	+2.8	1.40E+07	1.67	Y	0.75	110
CS 12346-PeCDF	31.96		1.2083	1.2100	+3.3	2.11E+07	1.47	Y	0.85	89.5
CS 123469-HxCDF	37.27		0.9778	0.9777	-0.2	1.98E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.33		1.0571	1.0579	+1.9	1.48E+07	0.44	Y	0.89	112
SS 37Cl-2378-TCDD	28.63		1.0241	1.0244	+0.5	7.53E+06	n/a	-	1.15	104
SS 12347-PeCDD	33.42		1.1943	1.1957	+2.8	1.40E+07	1.67	Y	0.86	114
SS 12346-PeCDF	31.96		1.2083	1.2100	+3.3	2.11E+07	1.47	Y	0.94	107
SS 123469-HxCDF	37.27		0.9778	0.9777	-0.2	1.98E+07	0.53	Y	0.83	115
SS 1234689-HpCDF	40.33		1.0571	1.0579	+1.9	1.48E+07	0.44	Y	0.92	104

Totals	Conc	EMPC
Total TCDD	6.95	6.95
Total PeCDD	3	3.99
Total HxCDD	20	20
Total HpCDD	61.7	61.7
Total Tetra-Octa Dioxins	437	438
Total TCDF	2.17	2.17
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	2.17	2.17
Total Tetra-Octa Dioxins & Furans	439	440

Lab ID: B6182_18851_DF_004 **Acq'd:** 26 Jan 2022 20:45 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-12 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 024-057-TGD

Datafile: 220126C11 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4413.099	0.465
1379-TCDD	NotFnd		0.8876						1.18		4413.099	0.465
1369-TCDD	NotFnd		0.9023						1.18		4413.099	0.465
1469-TCDD	26.57		0.9291	0.9286	-0.8	6.56E+05	0.77	Y	1.18	6.95	4413.099	0.465
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4413.099	0.465
1378-TCDD	NotFnd		0.9440						1.18		4413.099	0.465
1268-TCDD	NotFnd		0.9506						1.18		4413.099	0.465
1478-TCDD	NotFnd		0.9591						1.18		4413.099	0.465
1279-TCDD	NotFnd		0.9649						1.18		4413.099	0.465
1234/1269-TCDD	NotFnd		0.9771						1.18		4413.099	0.465
1236-TCDD	NotFnd		0.9820						1.18		4413.099	0.465
1237/1238-TCDD	NotFnd		0.9908						1.18		4413.099	0.465
1239-TCDD	NotFnd		0.9954						1.18		4413.099	0.465
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4413.099**	**0.465**
1278-TCDD	NotFnd		1.0121						1.18		4413.099	0.465
1267-TCDD	NotFnd		1.0167						1.18		4413.099	0.465
1289-TCDD	NotFnd		1.0341						1.18		4413.099	0.465
12479/12468-PeCDD	NotFnd		0.9273						1.04		2699.09	0.31
12469-PeCDD	31.98		0.9430	0.9426	-0.8	2.27E+05	1.54	Y	1.04	3	2699.09	0.31
12368-PeCDD	NotFnd		0.9592						1.04		2699.09	0.31
12478-PeCDD	NotFnd		0.9647						1.04		2699.09	0.31
12379-PeCDD	NotFnd		0.9676						1.04		2699.09	0.31
12369/12467/12489-PeCDD	33.08	J EMPC	0.9752	0.9751	-0.2	7.51E+04	1.14	N	1.04	0.993	2699.09	0.31
12346/12347-PeCDD	NotFnd		0.9860						1.04		2699.09	0.31
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2699.09**	**0.31**
12367-PeCDD	NotFnd		1.0034						1.04		2699.09	0.31
12389-PeCDD	NotFnd		1.0134						1.04		2699.09	0.31
124679/124689-HxCDD	36.09		0.9545	0.9541	-0.9	1.28E+06	1.27	Y	1.10	16.1	2892.56	0.326
123468-HxCDD	NotFnd		0.9715						1.10		2892.56	0.326
123679/123689-HxCDD	37.04		0.9793	0.9792	-0.2	3.10E+05	1.23	Y	1.10	3.89	2892.56	0.326
123469-HxCDD	NotFnd		0.9829						1.10		2892.56	0.326
123478-HxCDD	NotFnd		**1.0004**						1.09		**2892.56**	**0.33**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2892.56**	**0.3**
123467-HxCDD	NotFnd		1.0082						1.10		2892.56	0.326
123789-HxCDD	NotFnd		**1.0109**						1.05		**2892.56**	**0.353**

Lab ID: B6182_18851_DF_004 **Acq'd:** 26 Jan 2022 20:45 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-12 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 024-057-TGD

Datafile: 220126C11 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

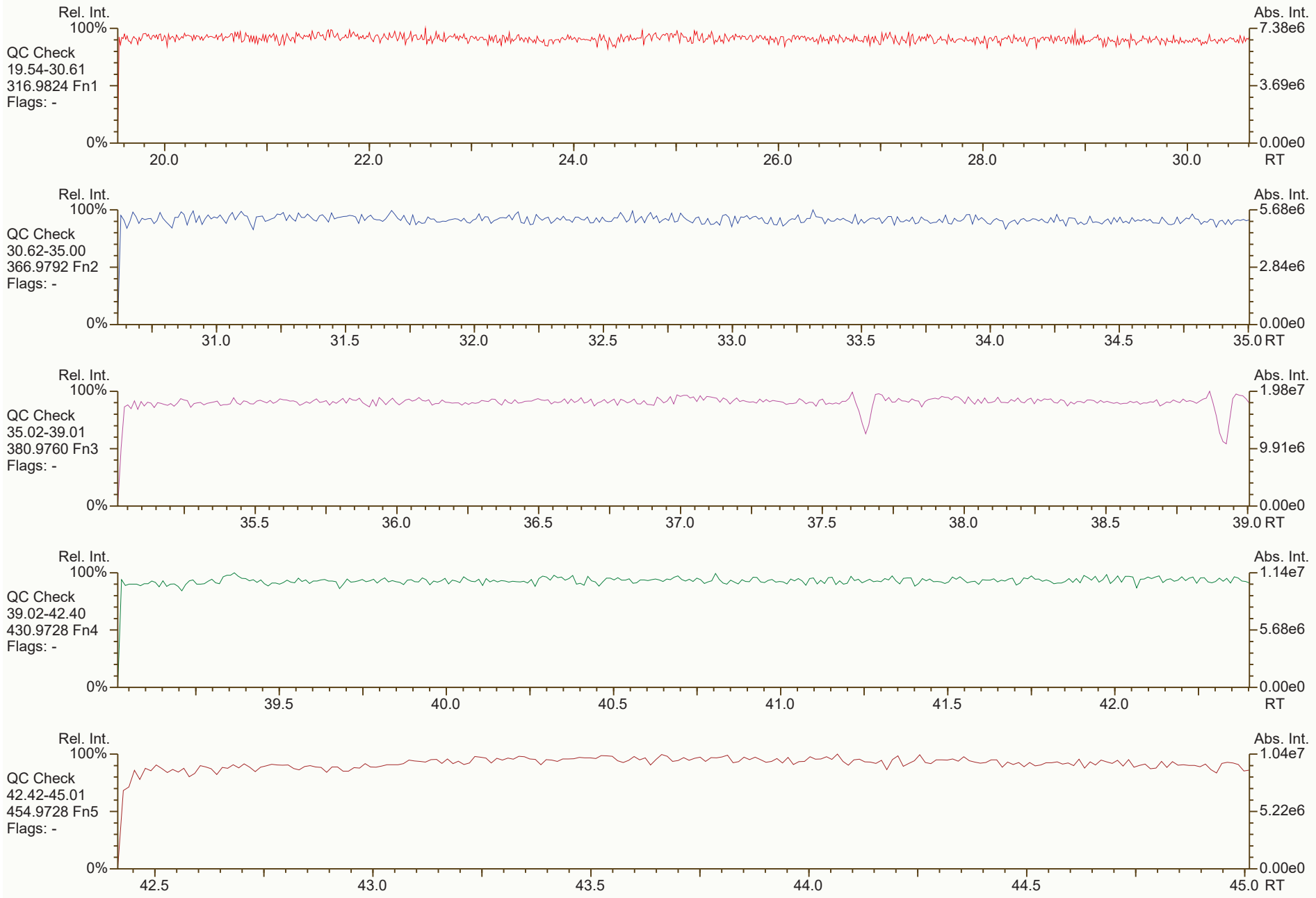
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9837	-0.2	2.82E+06	0.99	Y	1.06	46.7	3435.611	0.464
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**9.09E+05**	**1.04**	**Y**	**1.06**	**15**	**3435.611**	**0.464**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.37E+07**	**0.91**	**Y**	**1.13**	**345**	**3359.632**	**0.864**
OCDD-a	43.52		1.0002	1.0000	-0.5	8.24E+05	2.82	Y	0.07	324	3408.043	13.7
1368-TCDF	NotFnd		0.8282						1.08		6191.14	0.555
1468-TCDF	NotFnd		0.8485						1.08		6191.14	0.555
2468-TCDF	NotFnd		0.8709						1.08		6191.14	0.555
1346/1246-TCDF	NotFnd		0.8829						1.08		6191.14	0.555
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		6191.14	0.555
1348-TCDF	NotFnd		0.8980						1.08		6191.14	0.555
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		6191.14	0.555
1268-TCDF	NotFnd		0.9158						1.08		6191.14	0.555
1467-TCDF	NotFnd		0.9206						1.08		6191.14	0.555
1478-TCDF	NotFnd		0.9266						1.08		6191.14	0.555
1369/1237-TCDF	NotFnd		0.9397						1.08		6191.14	0.555
2467-TCDF	NotFnd		0.9440						1.08		6191.14	0.555
2368-TCDF	NotFnd		0.9497						1.08		6191.14	0.555
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		6191.14	0.555
1278-TCDF	26.89	B	0.9690	0.9686	-0.6	1.04E+05	0.74	Y	1.08	0.786	6191.14	0.555
1349-TCDF	NotFnd		0.9730						1.08		6191.14	0.555
1267-TCDF	NotFnd		0.9787						1.08		6191.14	0.555
2346/1249-TCDF	NotFnd		0.9850						1.08		6191.14	0.555
2347/1279-TCDF	NotFnd		0.9929						1.08		6191.14	0.555
2348-TCDF	NotFnd		0.9970						1.08		6191.14	0.555
2378-TCDF	**27.78**	B	**1.0008**	**1.0005**	**-0.5**	**1.84E+05**	**0.74**	**Y**	**1.08**	**1.39**	**6191.14**	**0.555**
2367/3467-TCDF	NotFnd		1.0136						1.08		6191.14	0.555
1269-TCDF	NotFnd		1.0221						1.08		6191.14	0.555
1239-TCDF	NotFnd		1.0319						1.08		6191.14	0.555
1289-TCDF	NotFnd		1.0740						1.08		6191.14	0.555
13468/12468-PeCDF	NotFnd		0.9145						1.02		3252.33	0.298
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		3804.794	0.348
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		3804.794	0.348
14678-PeCDF	NotFnd		0.9695						1.02		3804.794	0.348
13479-PeCDF	NotFnd		0.9724						1.02		3804.794	0.348
13469/12479-PeCDF	NotFnd		0.9801						1.02		3804.794	0.348
12346-PeCDF	NotFnd		0.9842						1.02		3804.794	0.348

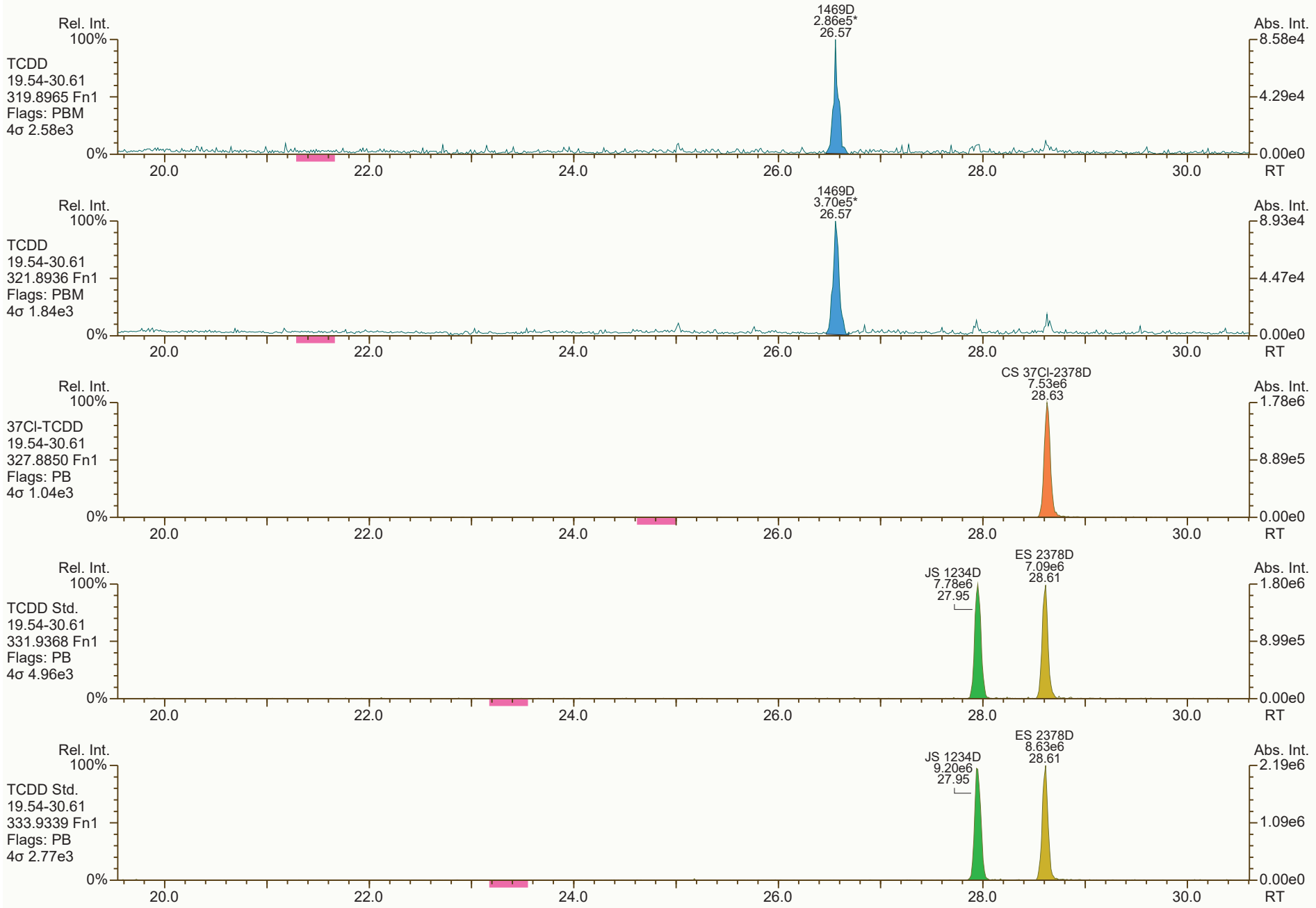
Lab ID: B6182_18851_DF_004 **Acq'd:** 26 Jan 2022 20:45 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

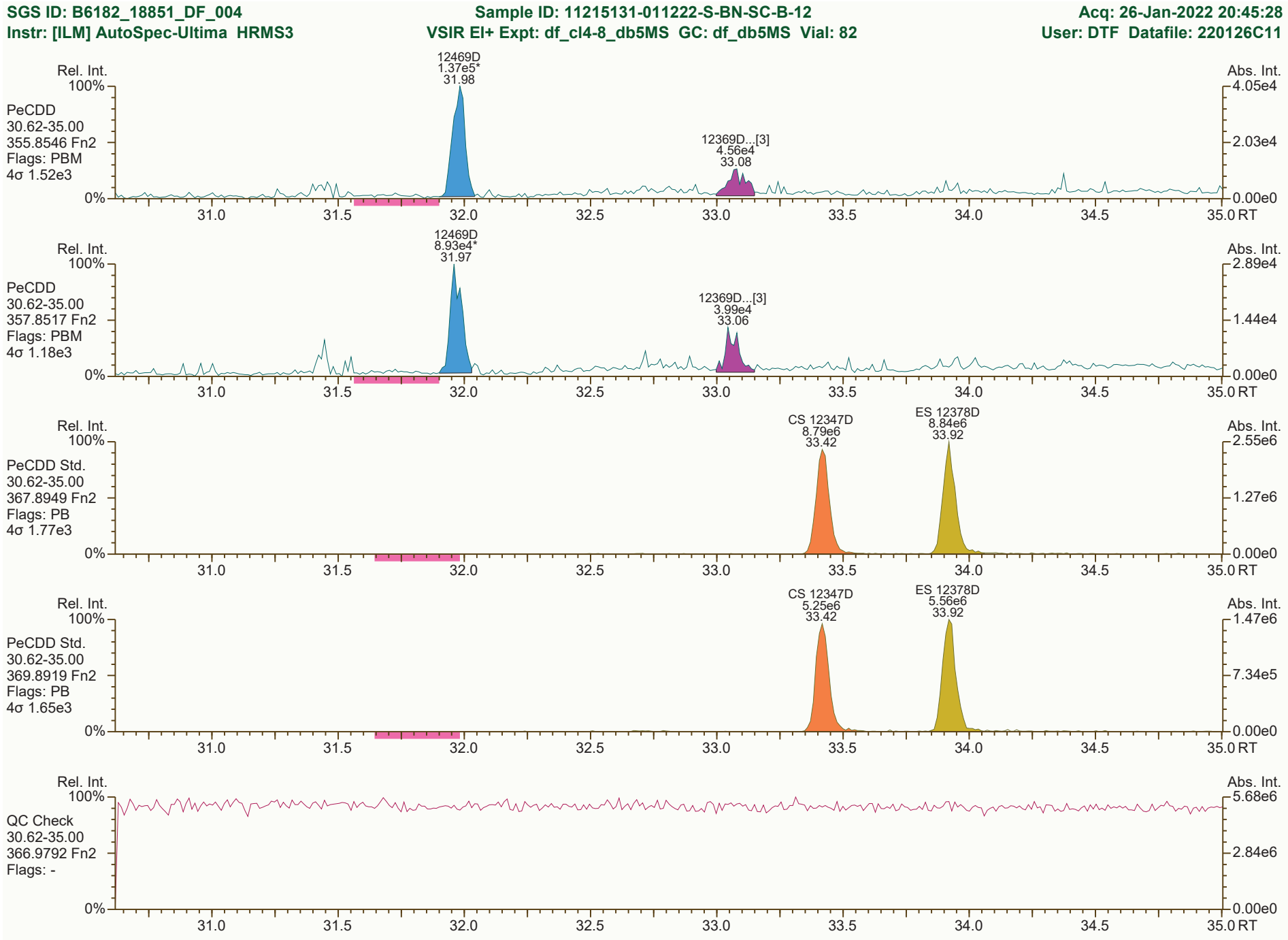
Client ID: 11215131-011222-S-BN-SC-B-12 **UTP:** 27-Jan-2022 10:38:16 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 024-057-TGD

Datafile: 220126C11 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3804.794	0.348
12347-PeCDF	NotFnd		0.9895						1.02		3804.794	0.348
12348-PeCDF	NotFnd		0.9941						1.02		3804.794	0.348
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3804.794**	**0.361**
12678/12367-PeCDF	NotFnd		1.0090						1.02		3804.794	0.348
12379-PeCDF	NotFnd		1.0142						1.02		3804.794	0.348
12679-PeCDF	NotFnd		0.9931						1.02		3804.794	0.348
23467/12369-PeCDF	NotFnd		0.9966						1.02		3804.794	0.348
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3804.794**	**0.335**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3804.794	0.348
12349-PeCDF	NotFnd		1.0101						1.02		3804.794	0.348
12389-PeCDF	NotFnd		1.0322						1.02		3804.794	0.348
123468-HxCDF	NotFnd		0.9627						1.19		2717.866	0.242
124678/134678-HxCDF	NotFnd		0.9684						1.19		2717.866	0.242
134679-HxCDF	NotFnd		0.9747						1.19		2717.866	0.242
124679-HxCDF	NotFnd		0.9802						1.19		2717.866	0.242
124689-HxCDF	NotFnd		0.9858						1.19		2717.866	0.242
123467-HxCDF	NotFnd		0.9972						1.19		2717.866	0.242
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2717.866**	**0.24**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2717.866**	**0.218**
123479-HxCDF	NotFnd		1.0051						1.19		2717.866	0.242
123469-HxCDF	NotFnd		1.0091						1.19		2717.866	0.242
123679-HxCDF	NotFnd		0.9943						1.19		2717.866	0.242
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2717.866**	**0.238**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2717.866	0.242
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2717.866**	**0.288**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2717.866	0.242
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2630.684**	**0.178**
1234679-HpCDF	NotFnd		1.0067						1.34		2630.684	0.23
1234689-HpCDF	NotFnd		1.0101						1.34		2630.684	0.23
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2630.684**	**0.314**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3383.71**	**0.851**
OCDF-a	NotFnd		1.0002						0.07		3375.933	13.7

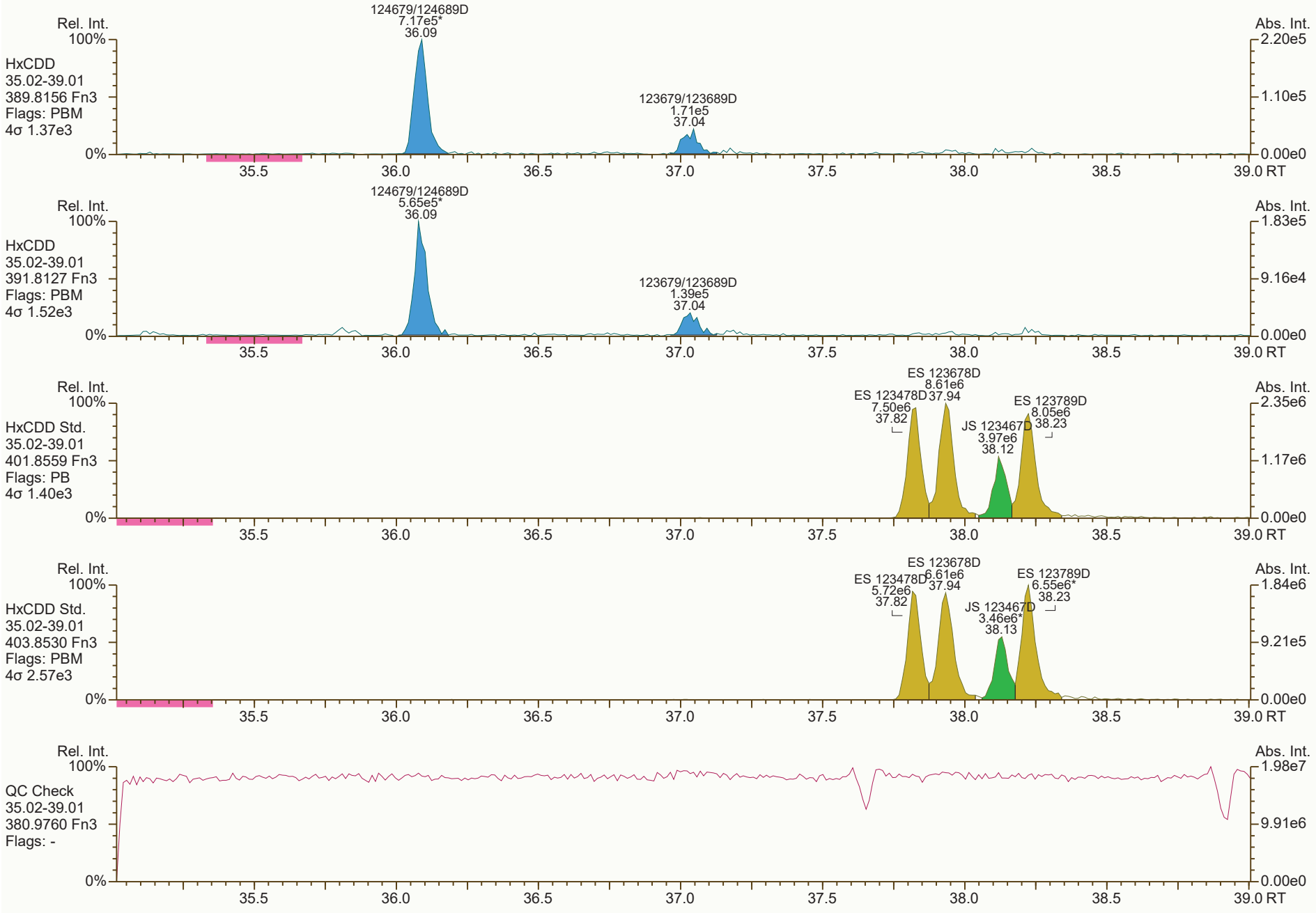

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.38e6
3.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.68e6
2.84e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.98e7
9.91e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.14e7
5.68e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.04e7
5.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.58e3
1469D
2.86e5*
26.57
Abs. Int.
8.58e4
4.29e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.84e3
1469D
3.70e5*
26.57
Abs. Int.
8.93e4
4.47e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.04e3
CS 37Cl-2378D
7.53e6
28.63
Abs. Int.
1.78e6
8.89e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.96e3
JS 1234D
7.78e6
27.95
ES 2378D
7.09e6
28.61
Abs. Int.
1.80e6
8.99e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.77e3
JS 1234D
9.20e6
27.95
ES 2378D
8.63e6
28.61
Abs. Int.
2.19e6
1.09e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6182_18851_DF_004
Sample ID: 11215131-011222-S-BN-SC-B-12
Acq: 26-Jan-2022 20:45:28
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 82
User: DTF Datafile: 220126C11
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.52e3
12469D
1.37e5*
31.98
12369D...[3]
4.56e4
33.08
4.05e4
2.03e4
0.00e0
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.18e3
12469D
8.93e4*
31.97
12369D...[3]
3.99e4
33.06
2.89e4
1.44e4
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.77e3
CS 12347D
8.79e6
33.42
ES 12378D
8.84e6
33.92
2.55e6
1.27e6
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.65e3
CS 12347D
5.25e6
33.42
ES 12378D
5.56e6
33.92
1.47e6
7.34e5
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
5.68e6
2.84e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_004.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9444, 1662 scc: 024-057
Revised: 27-Jan-2022 10:27 (DTF) Printed: 27-Jan-2022 10:49 Page 3 of 12

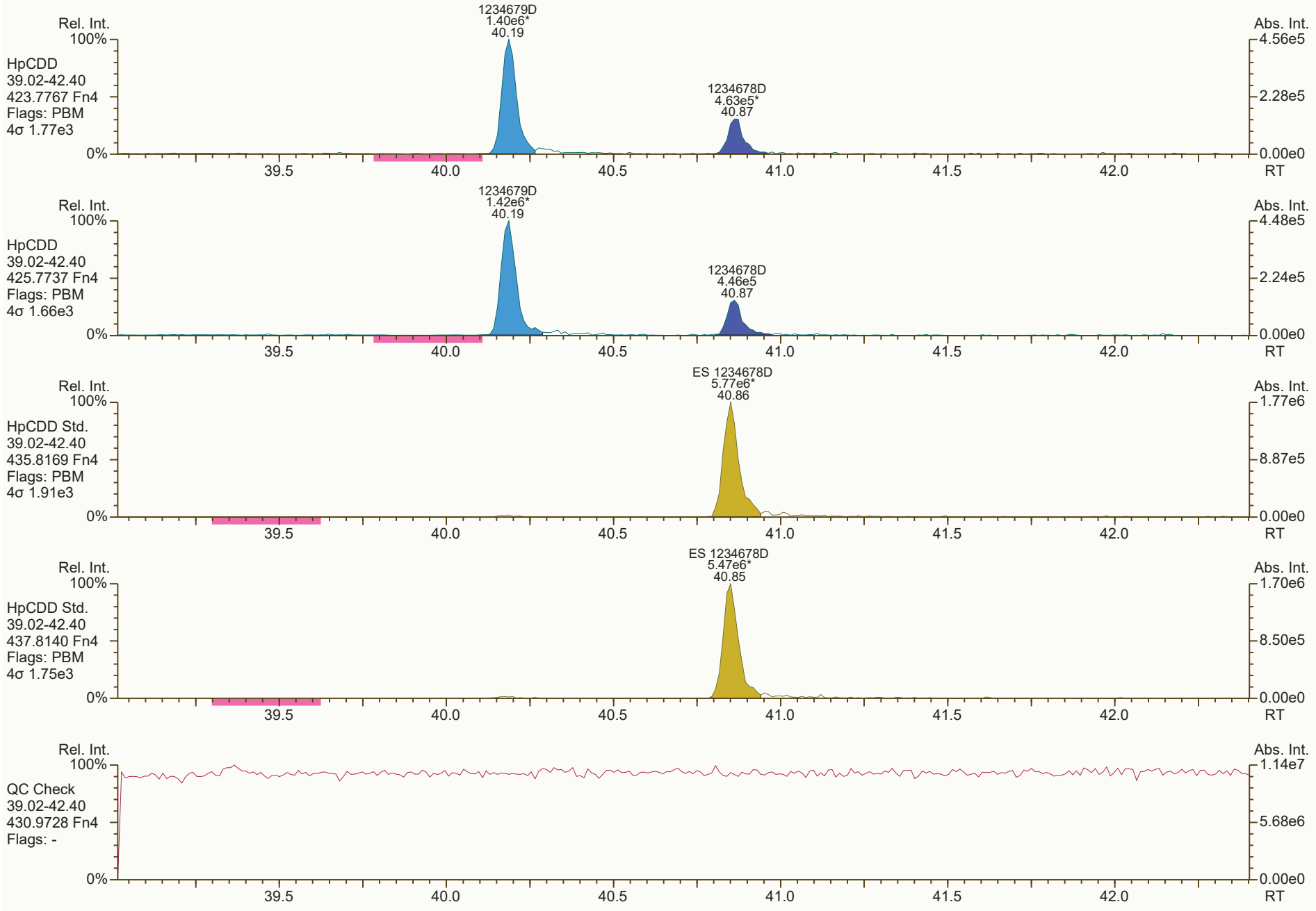
SGS ID: B6182_18851_DF_004 | Sample ID: 11215131-011222-S-BN-SC-B-12 | Acq: 26-Jan-2022 20:45:28

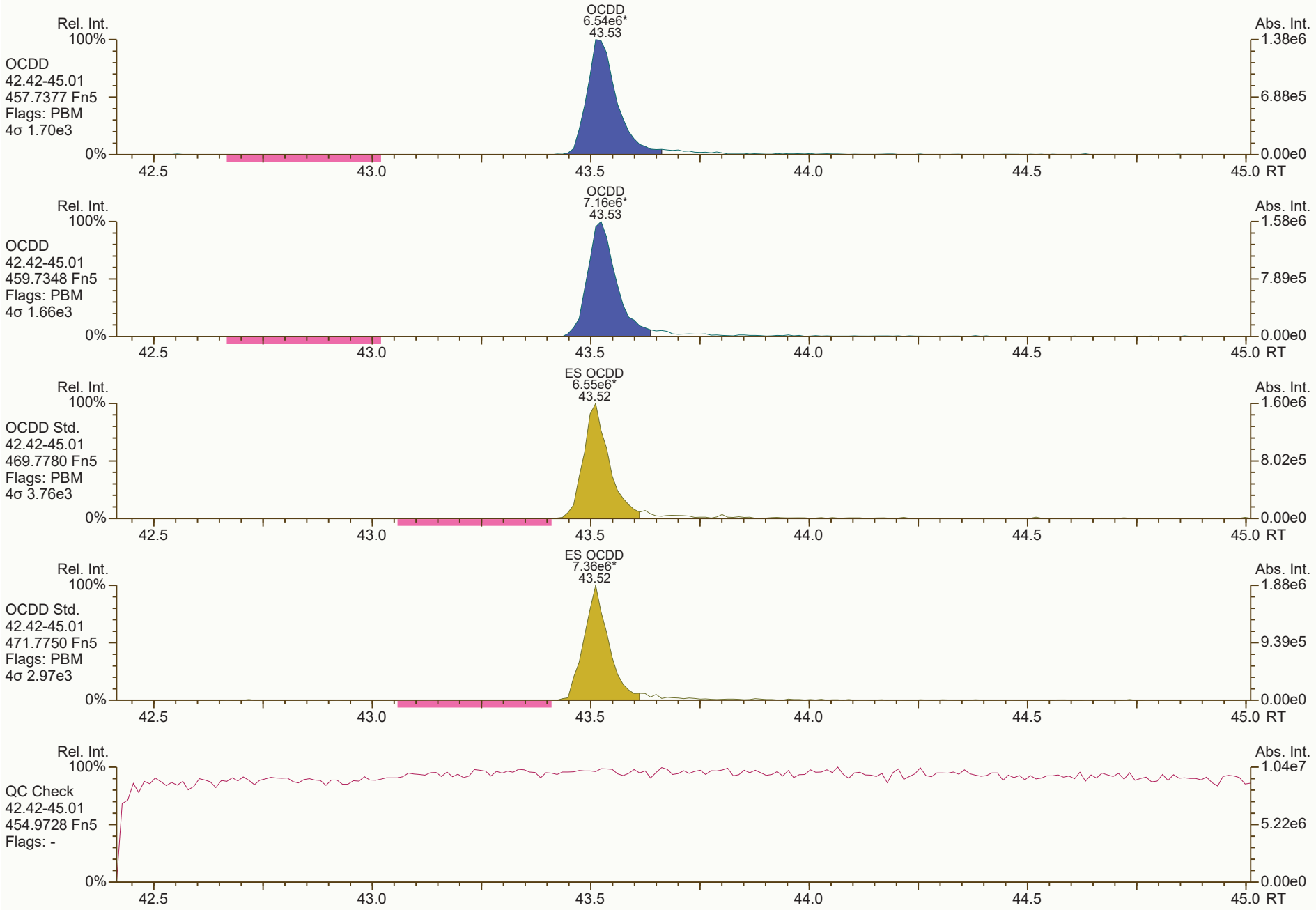
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 82 | User: DTF Datafile: 220126C11

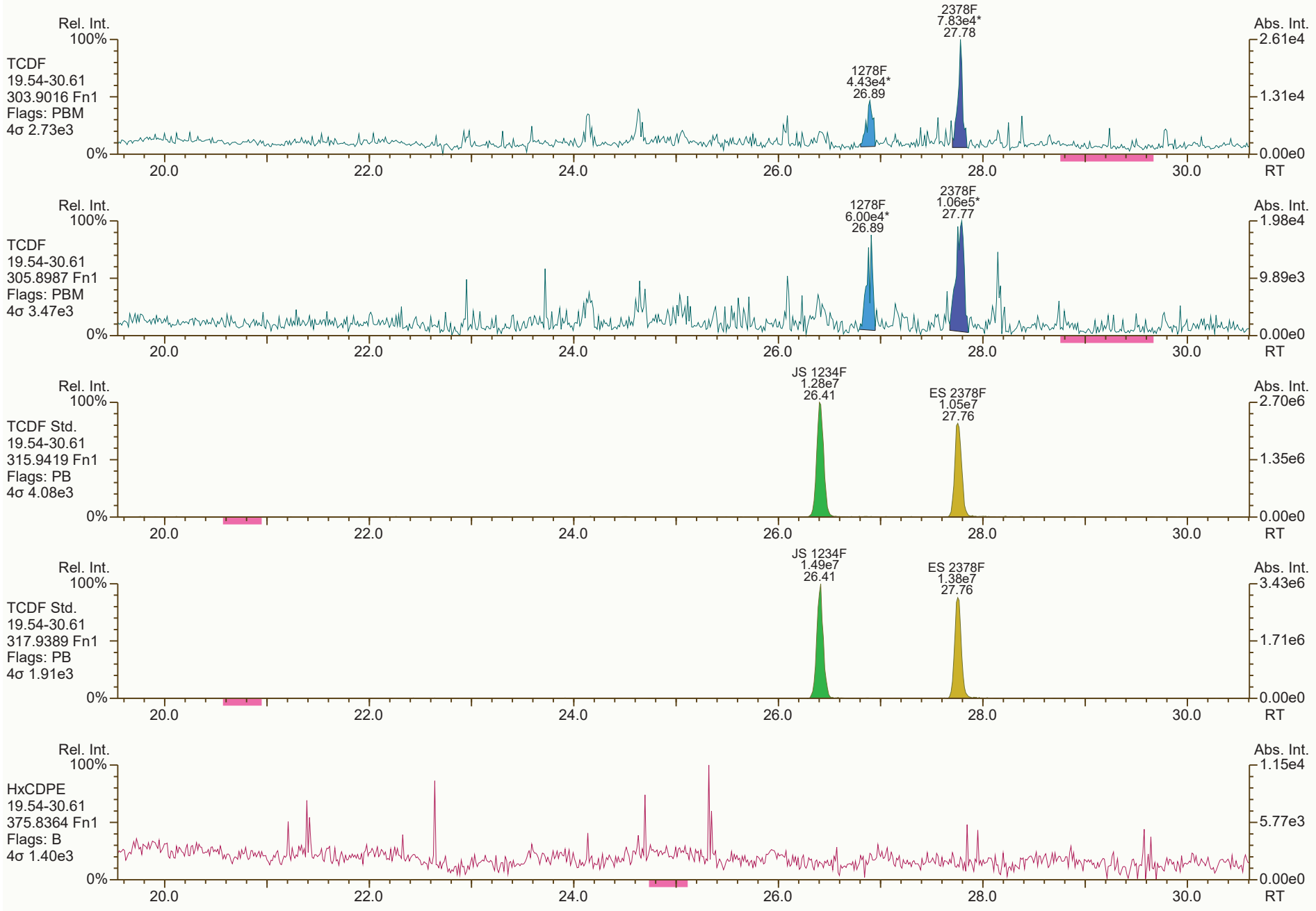


Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_004.utp_res, saved 27-Jan-2022 10:38 (DTF) | *Peak annotation: Areas, Centroids*

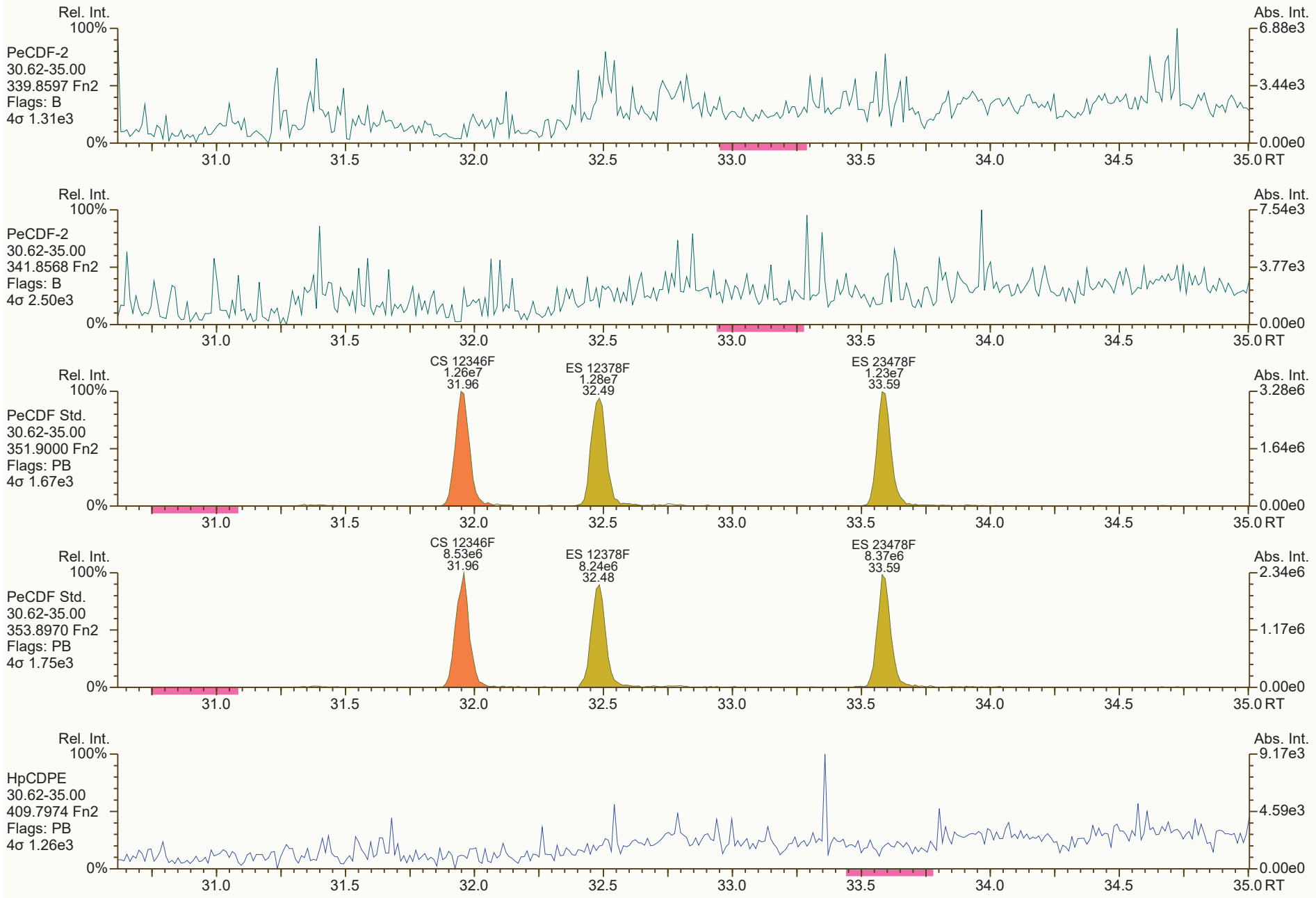
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9848, 4149 scc: 024-057 | *Revised: 27-Jan-2022 10:27 (DTF) Printed: 27-Jan-2022 10:49 Page 4 of 12*


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.77e3
1234679D
1.40e6*
40.19
1234678D
4.63e5*
40.87
Abs. Int.
4.56e5
2.28e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.66e3
1234679D
1.42e6*
40.19
1234678D
4.46e5
40.87
Abs. Int.
4.48e5
2.24e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678D
5.77e6*
40.86
Abs. Int.
1.77e6
8.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678D
5.47e6*
40.85
Abs. Int.
1.70e6
8.50e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.14e7
5.68e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.70e3
0%
OCDD
6.54e6*
43.53
Abs. Int.
1.38e6
6.88e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.66e3
0%
OCDD
7.16e6*
43.53
Abs. Int.
1.58e6
7.89e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 3.76e3
0%
ES OCDD
6.55e6*
43.52
Abs. Int.
1.60e6
8.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.97e3
0%
ES OCDD
7.36e6*
43.52
Abs. Int.
1.88e6
9.39e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.04e7
5.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

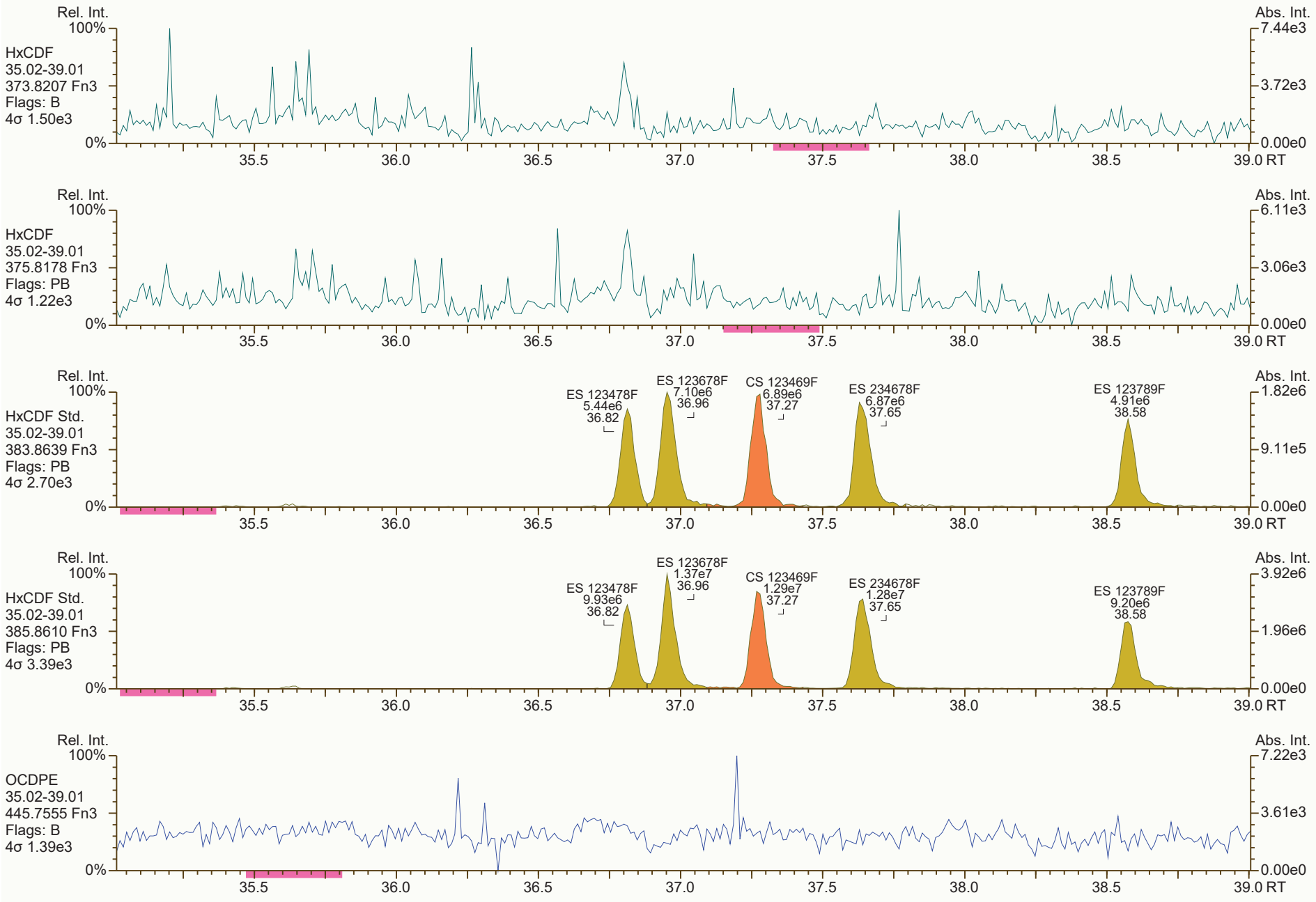

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.73e3
0%
1278F
4.43e4*
26.89
2378F
7.83e4*
27.78
Abs. Int.
2.61e4
1.31e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.47e3
0%
1278F
6.00e4*
26.89
2378F
1.06e5*
27.77
Abs. Int.
1.98e4
9.89e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 4.08e3
0%
JS 1234F
1.28e7
26.41
ES 2378F
1.05e7
27.76
Abs. Int.
2.70e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 1.91e3
0%
JS 1234F
1.49e7
26.41
ES 2378F
1.38e7
27.76
Abs. Int.
3.43e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.79e3
4.90e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.01e4
1.51e4
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.71e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.38e6
3.69e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 1.31e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.50e3
0%
Abs. Int.
7.54e3
3.77e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 1.67e3
0%
CS 12346F
1.26e7
31.96
ES 12378F
1.28e7
32.49
ES 23478F
1.23e7
33.59
Abs. Int.
3.28e6
1.64e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.75e3
0%
CS 12346F
8.53e6
31.96
ES 12378F
8.24e6
32.48
ES 23478F
8.37e6
33.59
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
9.17e3
4.59e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

SGS ID: B6182_18851_DF_004 | Sample ID: 11215131-011222-S-BN-SC-B-12 | Acq: 26-Jan-2022 20:45:28

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 82 | User: DTF Datafile: 220126C11



Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_004.utp_res, saved 27-Jan-2022 10:38 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0378, 1141, 5642 scc: 024-057 *PKD: 27-Jan-2022 10:26 Printed: 27-Jan-2022 10:49 Page 10 of 12*


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.05e3
0%
Abs. Int.
2.17e4
1.08e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.63e3
0%
ES 1234678F
4.79e6
39.93
CS 1234689F
4.51e6
40.33
ES 1234789F
3.09e6*
41.32
Abs. Int.
1.64e6
8.22e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.78e3
0%
ES 1234678F
1.07e7
39.93
CS 1234689F
1.03e7
40.33
ES 1234789F
6.71e6*
41.32
Abs. Int.
3.52e6
1.76e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.28e3
0%
Abs. Int.
2.43e4
1.21e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
8.75e3
4.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.93e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.25e3
0%
Abs. Int.
1.75e6
8.75e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.67e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
1.78e6
8.92e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.11e3
0%
Abs. Int.
6.95e3
3.47e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6182_18851_DF_005 **Acq'd:** 26 Jan 2022 21:31 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-19 **UTP:** 27-Jan-2022 10:38:17 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 226-711-KYS

Datafile: 220126C12 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.74	E	1.0008	1.0008	0	2.24E+08	0.80	Y	1.18	2,940	5082.961	0.722
12378-PeCDD	34.03		1.0006	1.0005	-0.2	2.18E+06	1.65	Y	1.04	47.4	7709.661	1.68
123478-HxCDD	37.93		1.0004	1.0003	-0.2	3.13E+05	1.23	Y	1.09	9.15	5943.791	1.51
123678-HxCDD	38.05		1.0034	1.0034	0	2.64E+06	1.33	Y	1.15	72.4	5943.791	1.46
123789-HxCDD	38.33		1.0109	1.0109	0	3.08E+06	1.23	Y	1.05	87.7	5943.791	1.49
1234678-HpCDD	40.96		1.0003	1.0004	+0.2	4.82E+07	1.05	Y	1.06	1,860	4610.187	1.39
OCDD	43.65	E	1.0002	1.0003	+0.3	2.84E+08	0.91	Y	1.13	14,000	5867.393	3.22
2378-TCDF	27.89	E	1.0008	1.0008	0	8.66E+08	0.79	Y	1.08	8,240	4077.351	0.443
12378-PeCDF	32.60		1.0005	1.0005	0	2.65E+07	1.53	Y	1.02	383	4751.03	0.708
23478-PeCDF	33.71		1.0005	1.0007	+0.4	1.72E+07	1.56	Y	1.02	265	4751.03	0.725
123478-HxCDF	36.93		1.0004	1.0005	+0.2	4.59E+07	1.26	Y	1.27	777	7253.013	1.1
123678-HxCDF	37.07		1.0004	1.0005	+0.2	1.23E+07	1.30	Y	1.15	198	7253.013	1.12
234678-HxCDF	37.76		1.0004	1.0005	+0.2	1.95E+06	1.20	Y	1.19	43.8	7253.013	1.52
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7253.013	1.6
1234678-HpCDF	40.02		1.0002	1.0003	+0.2	1.13E+07	0.99	Y	1.37	306	4129.74	0.837
1234789-HpCDF	41.42		1.0003	1.0003	0	2.55E+06	1.08	Y	1.31	90.4	4129.74	1.4
OCDF	43.83		1.0002	1.0003	+0.3	7.13E+06	0.91	Y	1.07	305	6804.323	2.94

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.71	1.0233	1.0231	-0.3	1.27E+07	0.82	Y	1.05	70.9
ES 12378-PeCDD	34.01	1.2121	1.2120	-0.2	8.77E+06	1.60	Y	0.88	58.2
ES 123478-HxCDD	37.92	0.9921	0.9922	+0.2	6.21E+06	1.40	Y	0.97	72.2
ES 123678-HxCDD	38.03	0.9951	0.9952	+0.2	6.30E+06	1.25	Y	0.94	75.4
ES 123789-HxCDD	38.31	1.0025	1.0026	+0.2	6.62E+06	1.28	Y	1.09	68.6
ES 1234678-HpCDD	40.94	1.0709	1.0714	+1.2	4.83E+06	1.11	Y	0.91	59.8
ES OCDD	43.63	1.1403	1.1418	+3.9	7.11E+06	0.90	Y	0.62	64.4
ES 2378-TCDF	27.86	1.0506	1.0506	0	1.93E+07	0.84	Y	1.06	64.6
ES 12378-PeCDF	32.58	1.2281	1.2284	+0.6	1.33E+07	1.61	Y	0.91	52
ES 23478-PeCDF	33.68	1.2698	1.2700	+0.4	1.26E+07	1.62	Y	0.88	50.7
ES 123478-HxCDF	36.91	0.9657	0.9660	+0.7	9.19E+06	0.51	Y	1.20	86.7
ES 123678-HxCDF	37.05	0.9695	0.9696	+0.2	1.07E+07	0.50	Y	1.35	89.5
ES 234678-HxCDF	37.74	0.9874	0.9875	+0.2	7.42E+06	0.52	Y	1.24	67.5
ES 123789-HxCDF	38.67	1.0116	1.0118	+0.5	7.16E+06	0.53	Y	1.16	70.1
ES 1234678-HpCDF	40.01	1.0467	1.0470	+0.7	5.34E+06	0.47	Y	0.97	62.4
ES 1234789-HpCDF	41.41	1.0830	1.0836	+1.5	4.27E+06	0.45	Y	0.85	56.7
ES OCDF	43.82	1.1451	1.1467	+4.2	8.62E+06	0.94	Y	0.81	60.4

Lab ID: B6182_18851_DF_005 **Acq'd:** 26 Jan 2022 21:31 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-19 **UTP:** 27-Jan-2022 10:38:17 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 226-711-KYS

Datafile: 220126C12 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	28.06		-	-	-	1.71E+07	0.80	Y	-	-
JS 1234-TCDF	26.52		-	-	-	2.82E+07	0.82	Y	-	-
JS 123467-HxCDD	38.21		-	-	-	4.42E+06	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.73		1.0241	1.0239	-0.3	5.62E+06	n/a	-	1.20	68.2
CS 12347-PeCDD	33.52		1.1943	1.1943	0	8.71E+06	1.63	Y	0.75	67.4
CS 12346-PeCDF	32.06		1.2083	1.2086	+0.6	1.36E+07	1.58	Y	0.85	56.8
CS 123469-HxCDF	37.38		0.9778	0.9781	+0.7	9.67E+06	0.56	Y	1.12	97.8
CS 1234689-HpCDF	40.41		1.0571	1.0576	+1.2	4.79E+06	0.48	Y	0.89	61.1
SS 37Cl-2378-TCDD	28.73		1.0241	1.0239	-0.3	5.62E+06	n/a	-	1.15	96.3
SS 12347-PeCDD	33.52		1.1943	1.1943	0	8.71E+06	1.63	Y	0.86	116
SS 12346-PeCDF	32.06		1.2083	1.2086	+0.6	1.36E+07	1.58	Y	0.94	109
SS 123469-HxCDF	37.38		0.9778	0.9781	+0.7	9.67E+06	0.56	Y	0.83	109
SS 1234689-HpCDF	40.41		1.0571	1.0576	+1.2	4.79E+06	0.48	Y	0.92	97.7

Totals	Conc	EMPC
Total TCDD	3310	3320
Total PeCDD	190	204
Total HxCDD	1780	1780
Total HpCDD	4150	4150
Total Tetra-Octa Dioxins	23500	23500
Total TCDF	16,300	16300
Total PeCDF	1,100	1100
Total HxCDF	1,290	1290
Total HpCDF	576	576
Total Tetra-Octa Furans	19,600	19600
Total Tetra-Octa Dioxins & Furans	43100	43100

Lab ID: B6182_18851_DF_005 **Acq'd: 26 Jan 2022 21:31 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-O-19 **UTP: 27-Jan-2022 10:38:17 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 226-711-KYS**

Datafile: 220126C12 **Report: 27 Jan 2022 10:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.15		0.8755	0.8758	+0.5	8.25E+05	0.74	Y	1.18	10.8	5082.961	0.722
1379-TCDD	25.49		0.8876	0.8879	+0.5	4.69E+05	0.76	Y	1.18	6.16	5082.961	0.722
1369-TCDD	25.92	EMPC	0.9023	0.9026	+0.5	1.05E+05	1.04	N	1.18	1.38	5082.961	0.722
1469-TCDD	26.67	EMPC	0.9291	0.9288	-0.5	1.54E+05	0.90	N	1.18	2.02	5082.961	0.722
1247/1246/1248/1249-TCDD	26.91		0.9373	0.9373	0	5.88E+05	0.83	Y	1.18	7.72	5082.961	0.722
1378-TCDD	27.10		0.9440	0.9439	-0.2	1.07E+06	0.79	Y	1.18	14.1	5082.961	0.722
1268-TCDD	27.29		0.9506	0.9505	-0.2	1.05E+05	0.68	Y	1.18	1.37	5082.961	0.722
1478-TCDD	27.55		0.9591	0.9594	+0.5	6.64E+05	0.79	Y	1.18	8.71	5082.961	0.722
1279-TCDD	27.71	EMPC	0.9649	0.9650	+0.2	9.12E+04	0.89	N	1.18	1.2	5082.961	0.722
1234/1269-TCDD	28.07		0.9771	0.9777	+1.0	2.20E+05	0.71	Y	1.18	2.89	5082.961	0.722
1236-TCDD	NotFnd		0.9820						1.18		5082.961	0.722
1237/1238-TCDD	28.44		0.9908	0.9906	-0.3	3.75E+06	0.73	Y	1.18	49.3	5082.961	0.722
1239-TCDD	NotFnd		0.9954						1.18		5082.961	0.722
2378-TCDD	**28.74**	E	**1.0008**	1.0008	**0**	2.24E+08	0.80	Y	**1.18**	**2,940**	**5082.961**	**0.722**
1278-TCDD	29.05		1.0121	1.0119	-0.3	1.96E+07	0.82	Y	1.18	257	5082.961	0.722
1267-TCDD	29.20		1.0167	1.0170	+0.5	6.30E+05	0.78	Y	1.18	8.28	5082.961	0.722
1289-TCDD	29.68		1.0341	1.0339	-0.4	3.69E+05	0.73	Y	1.18	4.84	5082.961	0.722
12479/12468-PeCDD	31.55		0.9273	0.9276	+0.6	2.30E+06	1.69	Y	1.04	50	7709.661	1.68
12469-PeCDD	32.08	EMPC	0.9430	0.9431	+0.2	6.27E+05	0.67	N	1.04	13.7	7709.661	1.68
12368-PeCDD	32.63		0.9592	0.9592	0	5.44E+05	1.34	Y	1.04	11.8	7709.661	1.68
12478-PeCDD	32.82		0.9647	0.9648	+0.2	1.74E+06	1.41	Y	1.04	37.9	7709.661	1.68
12379-PeCDD	32.92		0.9676	0.9678	+0.4	6.14E+05	1.45	Y	1.04	13.4	7709.661	1.68
12369/12467/12489-PeCDD	33.17		0.9752	0.9751	-0.2	6.47E+05	1.72	Y	1.04	14.1	7709.661	1.68
12346/12347-PeCDD	33.55		0.9860	0.9863	+0.6	3.00E+05	1.44	Y	1.04	6.54	7709.661	1.68
12378-PeCDD	34.03		**1.0006**	**1.0005**	**-0.2**	**2.18E+06**	**1.65**	**Y**	**1.04**	**47.4**	**7709.661**	**1.68**
12367-PeCDD	34.12		1.0034	1.0032	-0.4	1.71E+05	1.48	Y	1.04	3.72	7709.661	1.68
12389-PeCDD	34.47		1.0134	1.0133	-0.2	2.42E+05	1.55	Y	1.04	5.26	7709.661	1.68
124679/124689-HxCDD	36.19		0.9545	0.9544	-0.2	3.43E+07	1.27	Y	1.10	971	5943.791	1.49
123468-HxCDD	36.84		0.9715	0.9716	+0.2	9.20E+05	1.25	Y	1.10	26.1	5943.791	1.49
123679/123689-HxCDD	37.14		0.9793	0.9795	+0.4	2.07E+07	1.24	Y	1.10	586	5943.791	1.49
123469-HxCDD	37.28		0.9829	0.9833	+0.9	6.62E+05	1.34	Y	1.10	18.8	5943.791	1.49
123478-HxCDD	37.93		**1.0004**	**1.0003**	**-0.2**	**3.13E+05**	**1.23**	**Y**	1.09	**9.15**	**5943.791**	**1.51**
123678-HxCDD	38.05		**1.0034**	**1.0034**	**0**	**2.64E+06**	**1.33**	**Y**	1.15	**72.4**	**5943.791**	**1.46**
123467-HxCDD	38.23		1.0082	1.0081	-0.2	3.09E+05	1.11	Y	1.10	8.76	5943.791	1.49
123789-HxCDD	38.33		**1.0109**	**1.0109**	**0**	**3.08E+06**	**1.23**	**Y**	1.05	**87.7**	**5943.791**	**1.49**

Lab ID: B6182_18851_DF_005 | Acq'd: 26 Jan 2022 21:31 DTF | Wt/Vol: 10.11 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-O-19 | UTP: 27-Jan-2022 10:38:17 DTF | J-level: 0.495 pg/g | Split: 1 | Checkcode: 226-711-KYS

Datafile: 220126C12 | Report: 27 Jan 2022 10:42 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

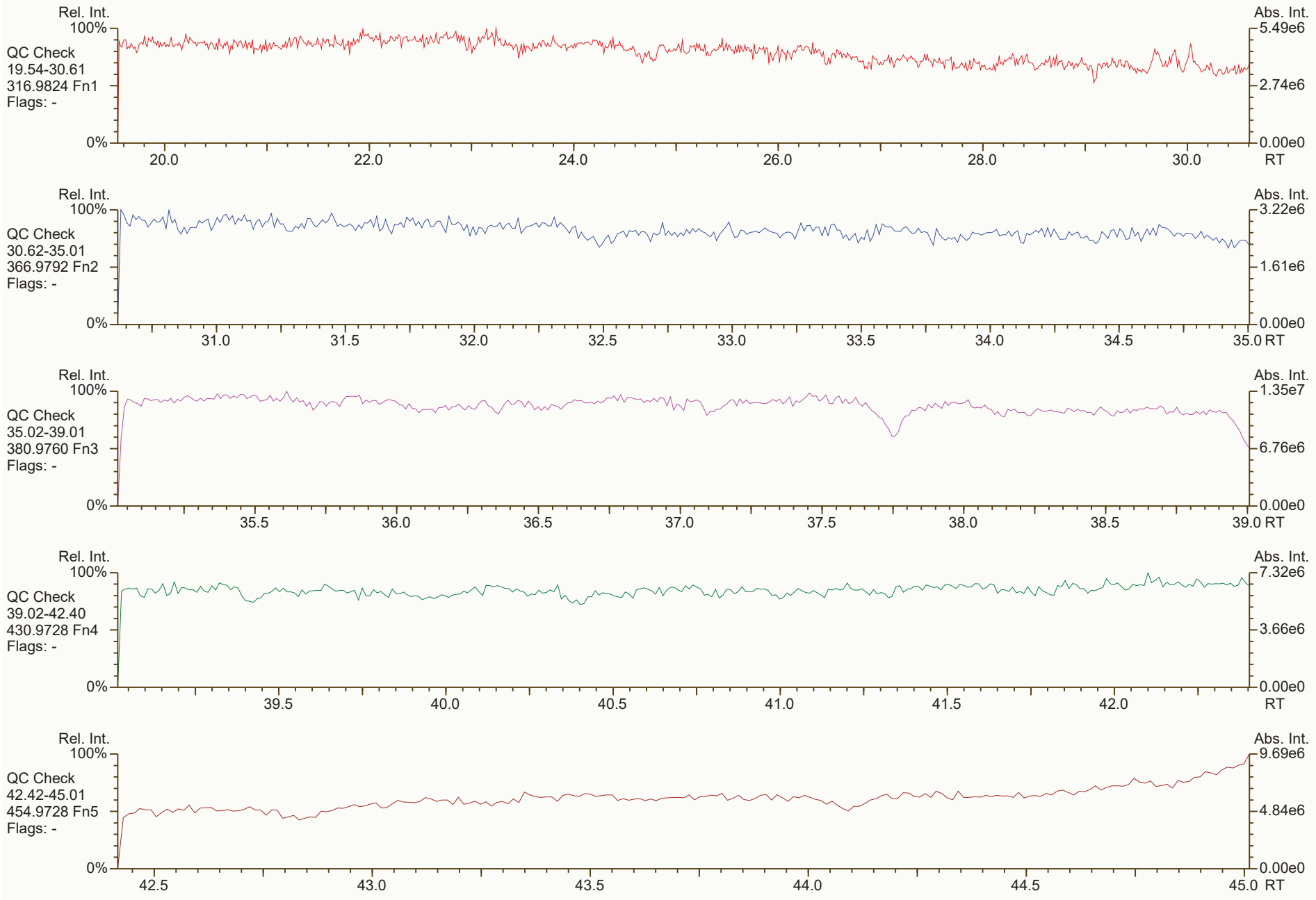
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.28		0.9838	0.9838	0	5.92E+07	1.03	Y	1.06	2,290	4610.187	1.39
1234678-HpCDD	**40.96**		**1.0003**	**1.0004**	**+0.2**	**4.82E+07**	**1.05**	**Y**	**1.06**	**1,860**	**4610.187**	**1.39**
OCDD	**43.65**	**E**	**1.0002**	**1.0003**	**+0.3**	**2.84E+08**	**0.91**	**Y**	**1.13**	**14,000**	**5867.393**	**3.22**
OCDD-a	43.64	E	1.0002	1.0002	0	1.75E+07	2.54	Y	0.07	13,600	7419.48	63.7
1368-TCDF	23.09		0.8282	0.8288	+0.8	3.87E+05	0.80	Y	1.08	3.68	4077.351	0.443
1468-TCDF	23.65		0.8485	0.8489	+0.6	1.53E+06	0.76	Y	1.08	14.6	4077.351	0.443
2468-TCDF	24.27		0.8709	0.8711	+0.3	1.46E+06	0.74	Y	1.08	13.9	4077.351	0.443
1346/1246-TCDF	NotFnd		0.8829						1.08		4077.351	0.443
1347/1378/1247-TCDF	24.79		0.8884	0.8898	+2.1	1.08E+07	0.76	Y	1.08	103	4077.351	0.443
1348-TCDF	NotFnd		0.8980						1.08		4077.351	0.443
1248/1367/1379-TCDF	25.12		0.9026	0.9015	-1.7	4.57E+07	0.81	Y	1.08	435	4077.351	0.443
1268-TCDF	25.53		0.9158	0.9161	+0.5	1.53E+07	0.80	Y	1.08	146	4077.351	0.443
1467-TCDF	25.66		0.9206	0.9208	+0.3	2.17E+06	0.79	Y	1.08	20.7	4077.351	0.443
1478-TCDF	25.82		0.9266	0.9267	+0.2	3.87E+07	0.78	Y	1.08	368	4077.351	0.443
1369/1237-TCDF	26.20		0.9397	0.9402	+0.8	1.01E+07	0.76	Y	1.08	96.4	4077.351	0.443
2467-TCDF	26.31		0.9440	0.9441	+0.2	1.42E+06	0.86	Y	1.08	13.5	4077.351	0.443
2368-TCDF	26.46		0.9497	0.9496	-0.2	2.64E+07	0.81	Y	1.08	252	4077.351	0.443
1238/1234/1678/1469/1236-TCDF	26.54		0.9528	0.9524	-0.6	4.59E+07	0.77	Y	1.08	437	4077.351	0.443
1278-TCDF	27.00	E	0.9690	0.9688	-0.3	4.04E+08	0.79	Y	1.08	3,850	4077.351	0.443
1349-TCDF	NotFnd		0.9730						1.08		4077.351	0.443
1267-TCDF	27.27		0.9787	0.9786	-0.2	2.36E+07	0.80	Y	1.08	224	4077.351	0.443
2346/1249-TCDF	27.46		0.9850	0.9855	+0.8	2.99E+06	0.77	Y	1.08	28.4	4077.351	0.443
2347/1279-TCDF	27.66		0.9929	0.9928	-0.2	1.21E+07	0.78	Y	1.08	115	4077.351	0.443
2348-TCDF	27.77		0.9970	0.9966	-0.7	6.39E+07	0.79	Y	1.08	609	4077.351	0.443
2378-TCDF	**27.89**	E	**1.0008**	**1.0008**	**0**	**8.66E+08**	**0.79**	**Y**	**1.08**	**8,240**	**4077.351**	**0.443**
2367/3467-TCDF	28.23		1.0136	1.0133	-0.5	7.24E+07	0.79	Y	1.08	689	4077.351	0.443
1269-TCDF	28.48		1.0221	1.0221	0	1.27E+07	0.81	Y	1.08	121	4077.351	0.443
1239-TCDF	NotFnd		1.0319						1.08		4077.351	0.443
1289-TCDF	29.87		1.0740	1.0721	-3.4	5.53E+07	0.79	Y	1.08	527	4077.351	0.443
13468/12468-PeCDF	29.82		0.9145	0.9152	+1.3	2.18E+06	1.67	Y	1.02	32.5	3878.303	0.585
13678/13467/12467-PeCDF	31.35		0.9619	0.9623	+0.8	8.28E+05	1.50	Y	1.02	12.3	4751.03	0.716
12368/13478/12478-PeCDF	31.51		0.9665	0.9672	+1.3	1.41E+07	1.53	Y	1.02	210	4751.03	0.716
14678-PeCDF	NotFnd		0.9695						1.02		4751.03	0.716
13479-PeCDF	NotFnd		0.9724						1.02		4751.03	0.716
13469/12479-PeCDF	31.90		0.9801	0.9791	-1.9	2.19E+05	1.56	Y	1.02	3.26	4751.03	0.716
12346-PeCDF	32.07	J	0.9842	0.9843	+0.2	1.60E+05	1.48	Y	1.02	2.39	4751.03	0.716

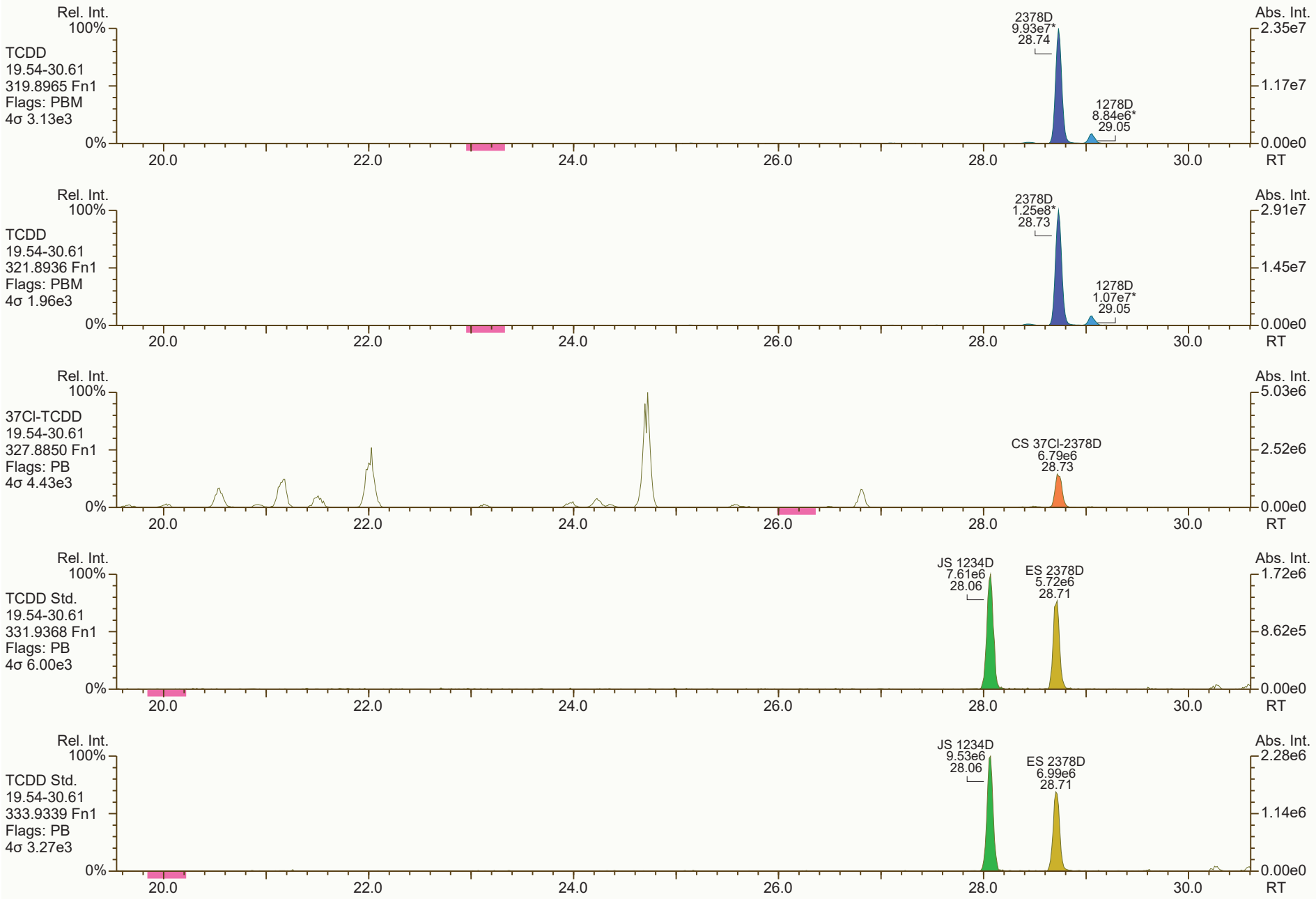
Lab ID: B6182_18851_DF_005 **Acq'd:** 26 Jan 2022 21:31 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

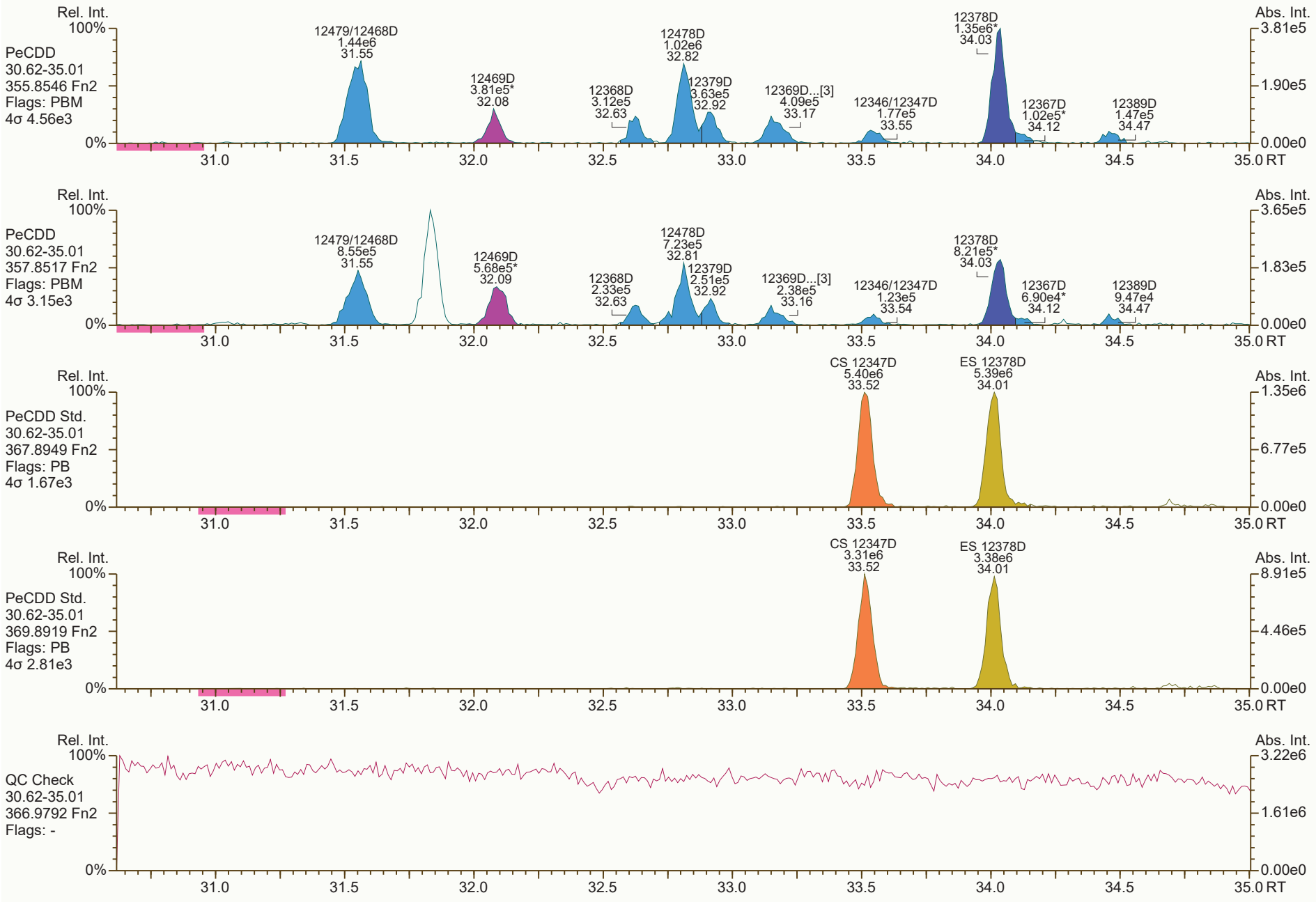
Client ID: 11215131-011222-S-BN-SC-O-19 **UTP:** 27-Jan-2022 10:38:17 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 226-711-KYS

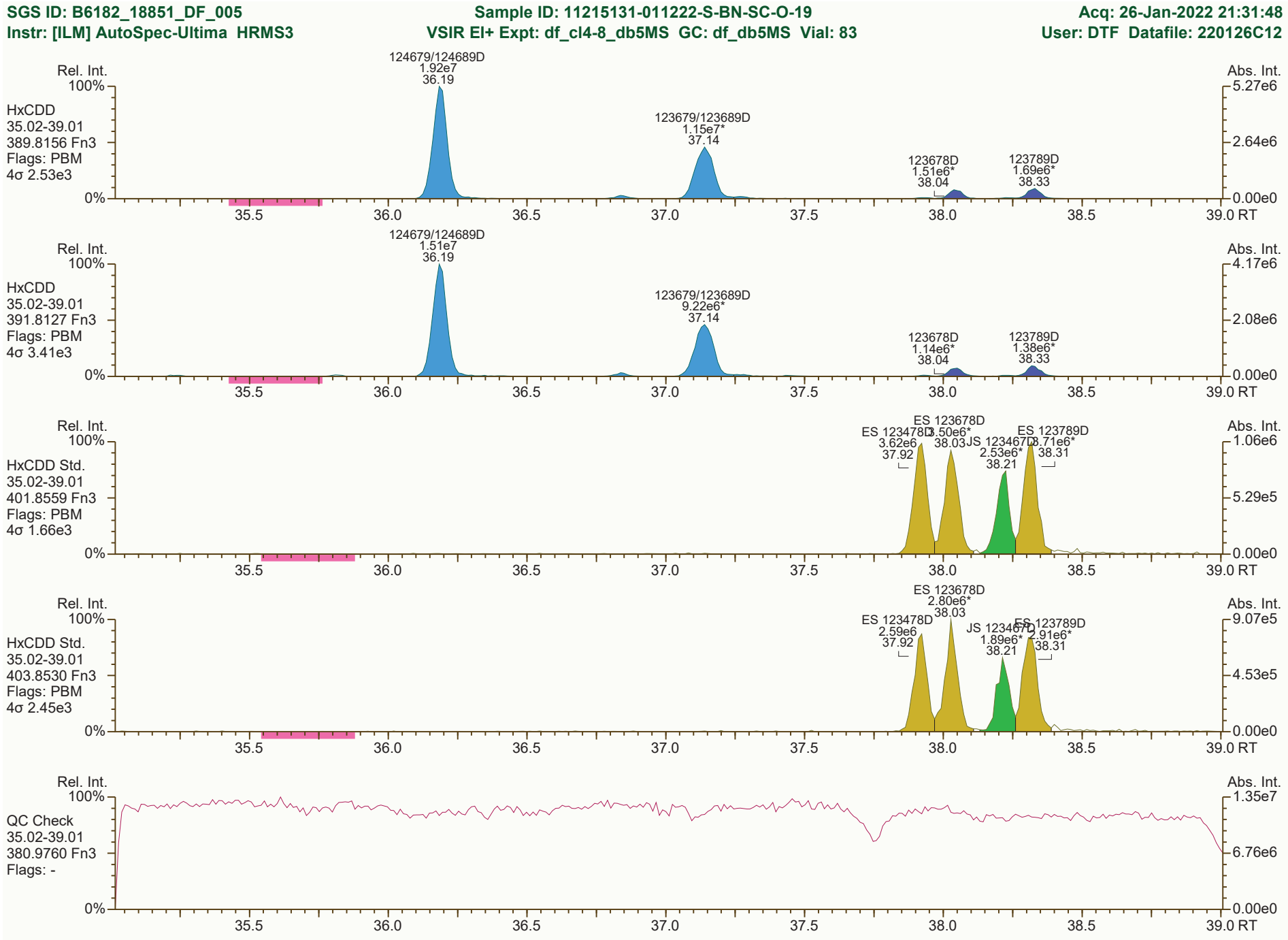
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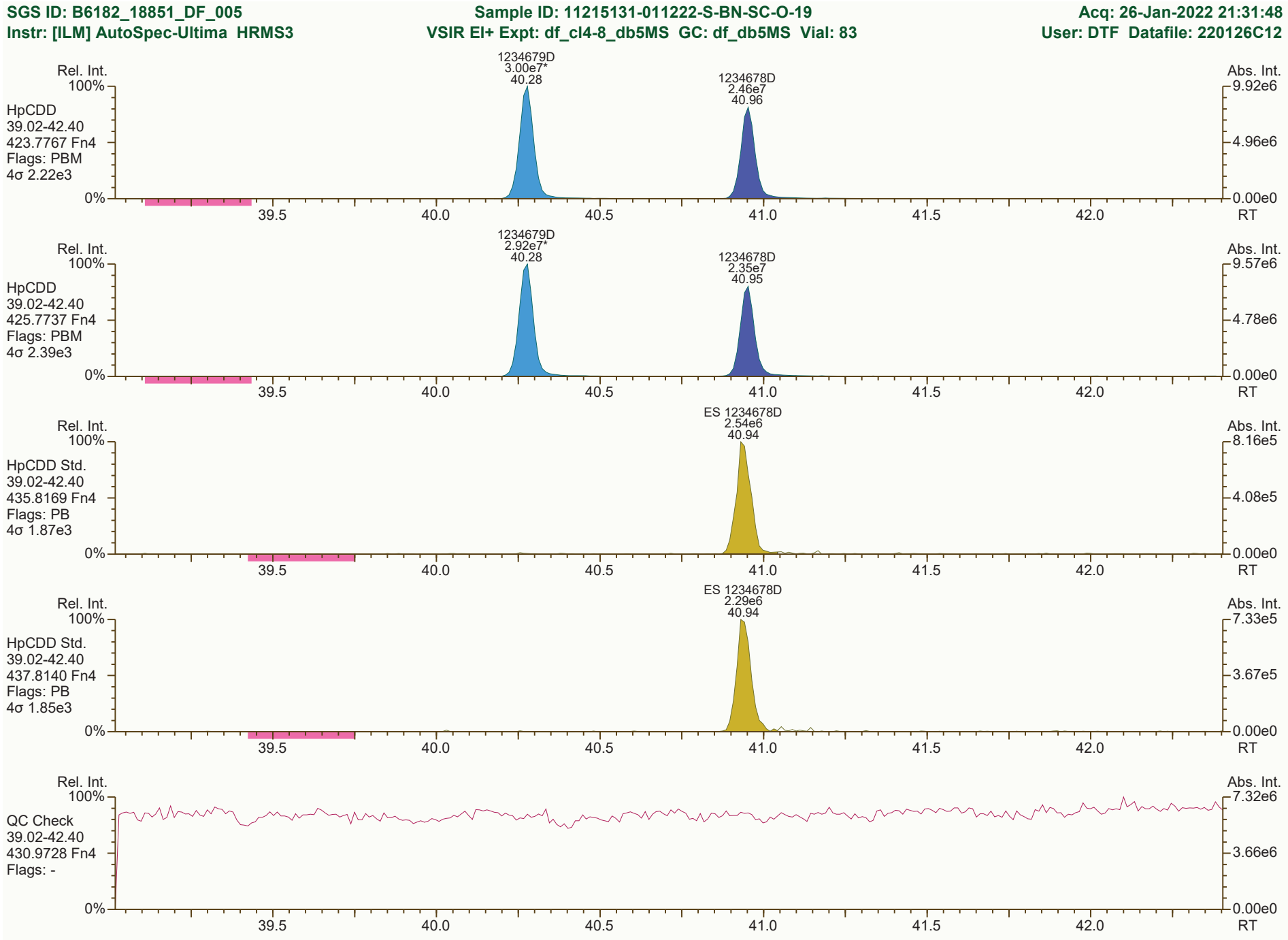
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.15		0.9868	0.9866	-0.4	6.38E+05	1.39	Y	1.02	9.52	4751.03	0.716
12347-PeCDF	32.23		0.9895	0.9892	-0.6	6.85E+05	1.41	Y	1.02	10.2	4751.03	0.716
12348-PeCDF	32.39		0.9941	0.9940	-0.2	2.25E+06	1.58	Y	1.02	33.6	4751.03	0.716
12378-PeCDF	**32.60**		**1.0005**	**1.0005**	**0**	**2.65E+07**	**1.53**	**Y**	**1.02**	**383**	**4751.03**	**0.708**
12678/12367-PeCDF	32.89		1.0090	1.0093	+0.6	7.85E+06	1.52	Y	1.02	117	4751.03	0.716
12379-PeCDF	NotFnd		1.0142						1.02		4751.03	0.716
12679-PeCDF	33.45	J	0.9931	0.9930	-0.2	1.02E+05	1.36	Y	1.02	1.53	4751.03	0.716
23467/12369-PeCDF	33.57		0.9966	0.9965	-0.2	5.56E+05	1.68	Y	1.02	8.29	4751.03	0.716
23478-PeCDF	**33.71**		**1.0005**	**1.0007**	**+0.4**	**1.72E+07**	**1.56**	**Y**	**1.02**	**265**	**4751.03**	**0.725**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4751.03	0.716
12349-PeCDF	NotFnd		1.0101						1.02		4751.03	0.716
12389-PeCDF	34.76		1.0322	1.0321	-0.2	9.38E+05	1.41	Y	1.02	14	4751.03	0.716
123468-HxCDF	35.54		0.9627	0.9629	+0.4	7.81E+05	1.29	Y	1.19	15	7253.013	1.3
124678/134678-HxCDF	35.74		0.9684	0.9682	-0.4	5.80E+06	1.19	Y	1.19	112	7253.013	1.3
134679-HxCDF	35.97	J	0.9747	0.9744	-0.6	7.67E+04	1.16	Y	1.19	1.48	7253.013	1.3
124679-HxCDF	36.17		0.9802	0.9799	-0.7	3.64E+05	1.18	Y	1.19	7	7253.013	1.3
124689-HxCDF	36.39		0.9858	0.9859	+0.2	4.03E+06	1.23	Y	1.19	77.6	7253.013	1.3
123467-HxCDF	36.80		0.9972	0.9969	-0.7	3.73E+05	1.29	Y	1.19	7.18	7253.013	1.3
123478-HxCDF	**36.93**		**1.0004**	**1.0005**	**+0.2**	**4.59E+07**	**1.26**	**Y**	**1.27**	**777**	**7253.013**	**1.1**
123678-HxCDF	**37.07**		**1.0004**	**1.0005**	**+0.2**	**1.23E+07**	**1.30**	**Y**	**1.15**	**198**	**7253.013**	**1.12**
123479-HxCDF	NotFnd		1.0051						1.19		7253.013	1.3
123469-HxCDF	NotFnd		1.0091						1.19		7253.013	1.3
123679-HxCDF	NotFnd		0.9943						1.19		7253.013	1.3
234678-HxCDF	**37.76**		**1.0004**	**1.0005**	**+0.2**	**1.95E+06**	**1.20**	**Y**	**1.19**	**43.8**	**7253.013**	**1.52**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7253.013	1.3
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7253.013**	**1.6**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.70		1.0007	1.0010	+0.7	2.74E+06	1.22	Y	1.19	52.7	7253.013	1.3
1234678-HpCDF	**40.02**		**1.0002**	**1.0003**	**+0.2**	**1.13E+07**	**0.99**	**Y**	**1.37**	**306**	**4129.74**	**0.837**
1234679-HpCDF	40.28		1.0067	1.0068	+0.2	3.15E+05	1.17	Y	1.34	9.69	4129.74	1.08
1234689-HpCDF	40.43		1.0101	1.0104	+0.7	5.53E+06	1.02	Y	1.34	170	4129.74	1.08
1234789-HpCDF	**41.42**		**1.0003**	**1.0003**	**0**	**2.55E+06**	**1.08**	**Y**	**1.31**	**90.4**	**4129.74**	**1.4**
OCDF	**43.83**		**1.0002**	**1.0003**	**+0.3**	**7.13E+06**	**0.91**	**Y**	**1.07**	**305**	**6804.323**	**2.94**
OCDF-a	NotFnd		1.0002						0.07		7938.615	55.5

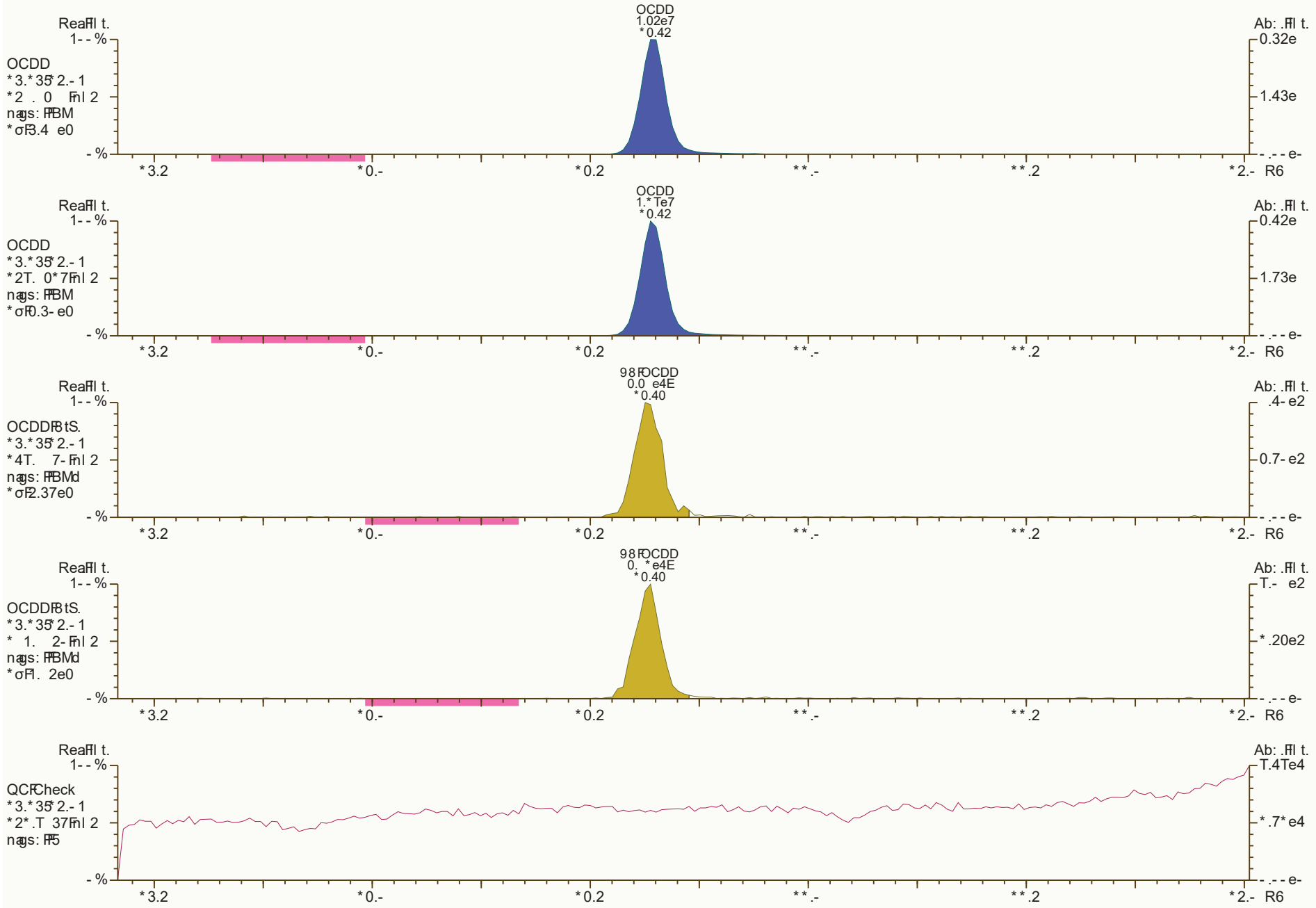

Rel. Int.
100%
0%
Abs. Int.
5.49e6
2.74e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.22e6
1.61e6
0.00e0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.35e7
6.76e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
7.32e6
3.66e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.69e6
4.84e6
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

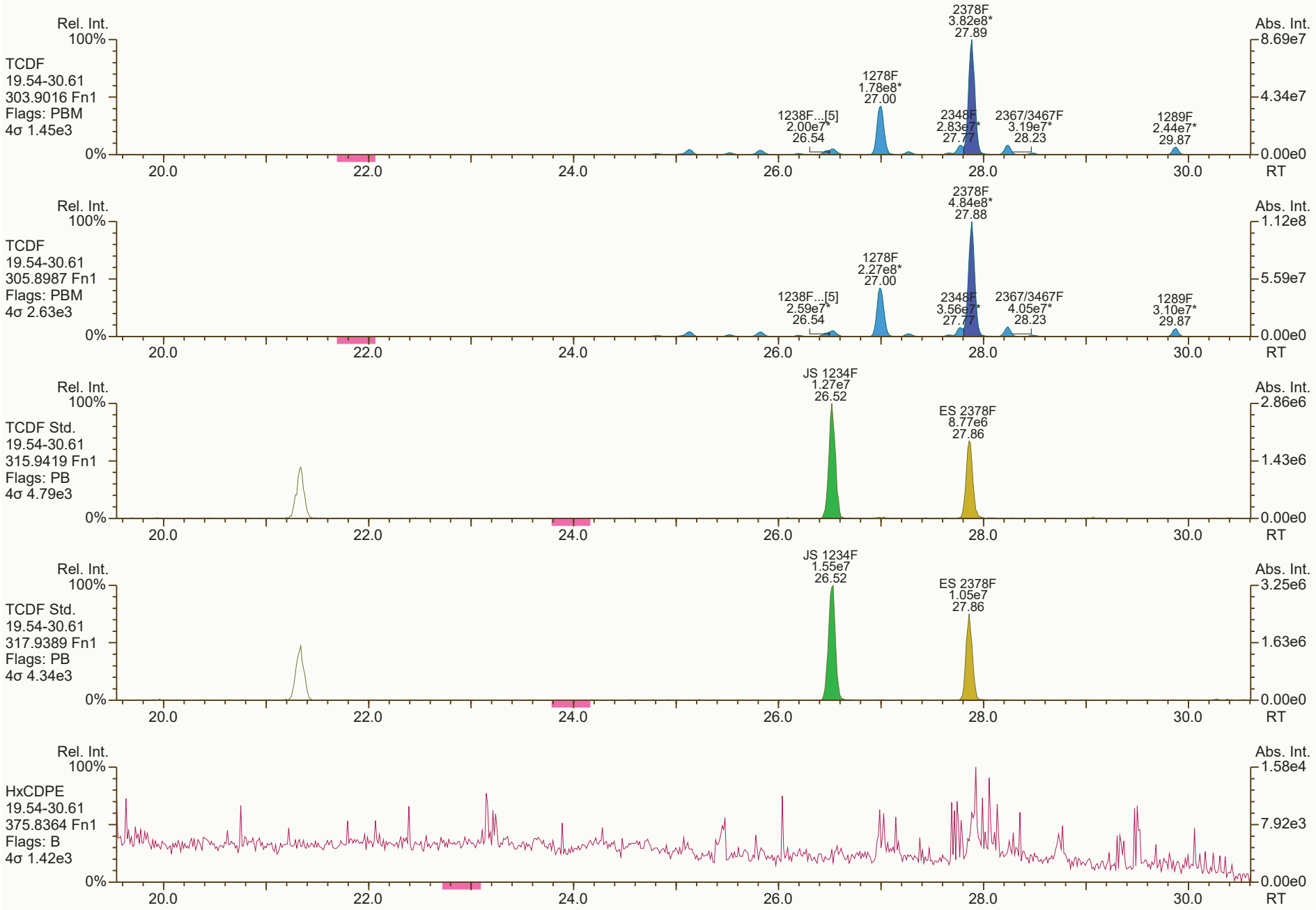

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.13e3
0%
2378D
9.93e7*
28.74
1278D
8.84e6*
29.05
Abs. Int.
2.35e7
1.17e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.96e3
0%
2378D
1.25e8*
28.73
1278D
1.07e7*
29.05
Abs. Int.
2.91e7
1.45e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 4.43e3
0%
CS 37Cl-2378D
6.79e6
28.73
Abs. Int.
5.03e6
2.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.00e3
0%
JS 1234D
7.61e6
28.06
ES 2378D
5.72e6
28.71
Abs. Int.
1.72e6
8.62e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.27e3
0%
JS 1234D
9.53e6
28.06
ES 2378D
6.99e6
28.71
Abs. Int.
2.28e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

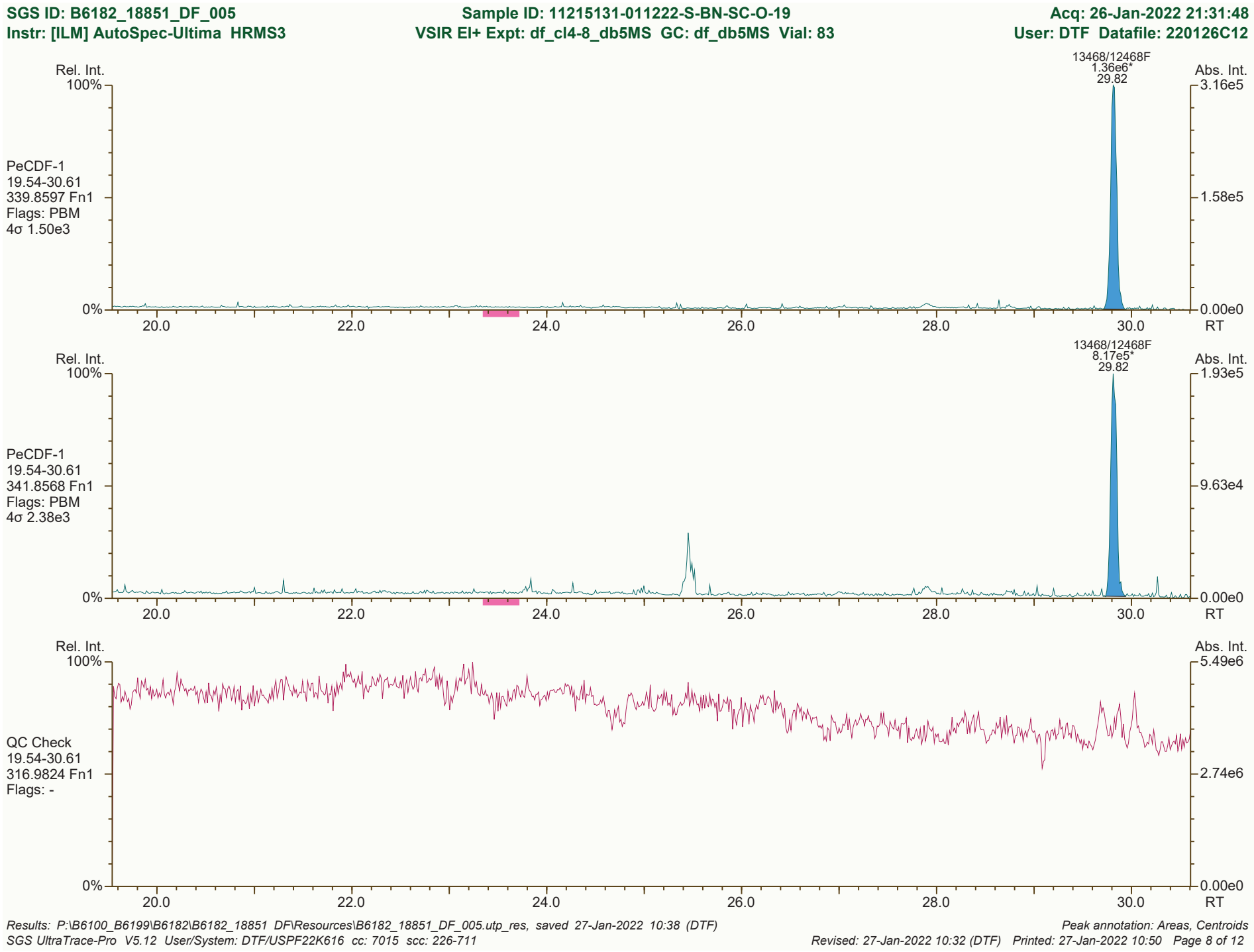

Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 4.56e3
12479/12468D
1.44e6
31.55
12469D
3.81e5*
32.08
12368D
3.12e5
32.63
12478D
1.02e6
32.82
12379D
3.63e5
32.92
12369D...[3]
4.09e5
33.17
12346/12347D
1.77e5
33.55
12378D
1.35e6*
34.03
12367D
1.02e5*
34.12
12389D
1.47e5
34.47
Abs. Int.
3.81e5
1.90e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
8.55e5
31.55
12469D
5.68e5*
32.09
12368D
2.33e5
32.63
12478D
7.23e5
32.81
12379D
2.51e5
32.92
12369D...[3]
2.38e5
33.16
12346/12347D
1.23e5
33.54
12378D
8.21e5*
34.03
12367D
6.90e4*
34.12
12389D
9.47e4
34.47
Abs. Int.
3.65e5
1.83e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 1.67e3
CS 12347D
5.40e6
33.52
ES 12378D
5.39e6
34.01
Abs. Int.
1.35e6
6.77e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 2.81e3
CS 12347D
3.31e6
33.52
ES 12378D
3.38e6
34.01
Abs. Int.
8.91e5
4.46e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
Abs. Int.
3.22e6
1.61e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

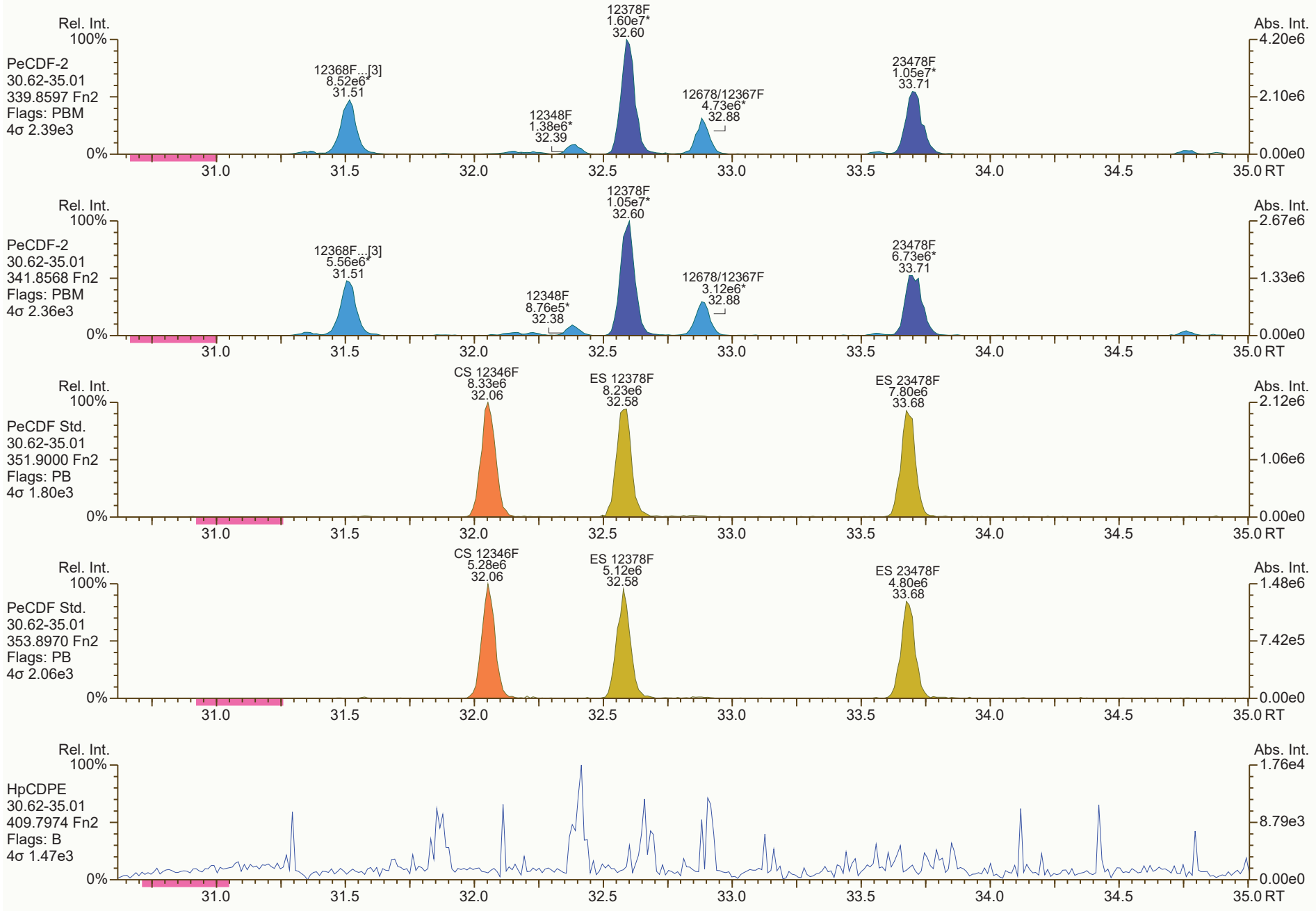

SGS ID: B6182_18851_DF_005
Sample ID: 11215131-011222-S-BN-SC-O-19
Acq: 26-Jan-2022 21:31:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220126C12
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.53e3
124679/124689D
1.92e7
36.19
123679/123689D
1.15e7*
37.14
123678D
1.51e6*
38.04
123789D
1.69e6*
38.33
5.27e6
2.64e6
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.41e3
124679/124689D
1.51e7
36.19
123679/123689D
9.22e6*
37.14
123678D
1.14e6*
38.04
123789D
1.38e6*
38.33
4.17e6
2.08e6
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.66e3
ES 123678D
3.50e6*
38.03
ES 123478D
3.62e6
37.92
JS 123467D
2.53e6*
38.21
ES 123789D
3.71e6*
38.31
1.06e6
5.29e5
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.45e3
ES 123678D
2.80e6*
38.03
ES 123478D
2.59e6
37.92
JS 123467D
1.89e6*
38.21
ES 123789D
2.91e6*
38.31
9.07e5
4.53e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
1.35e7
6.76e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_005.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3385, 3829 scc: 226-711
Revised: 27-Jan-2022 10:30 (DTF) Printed: 27-Jan-2022 10:50 Page 4 of 12

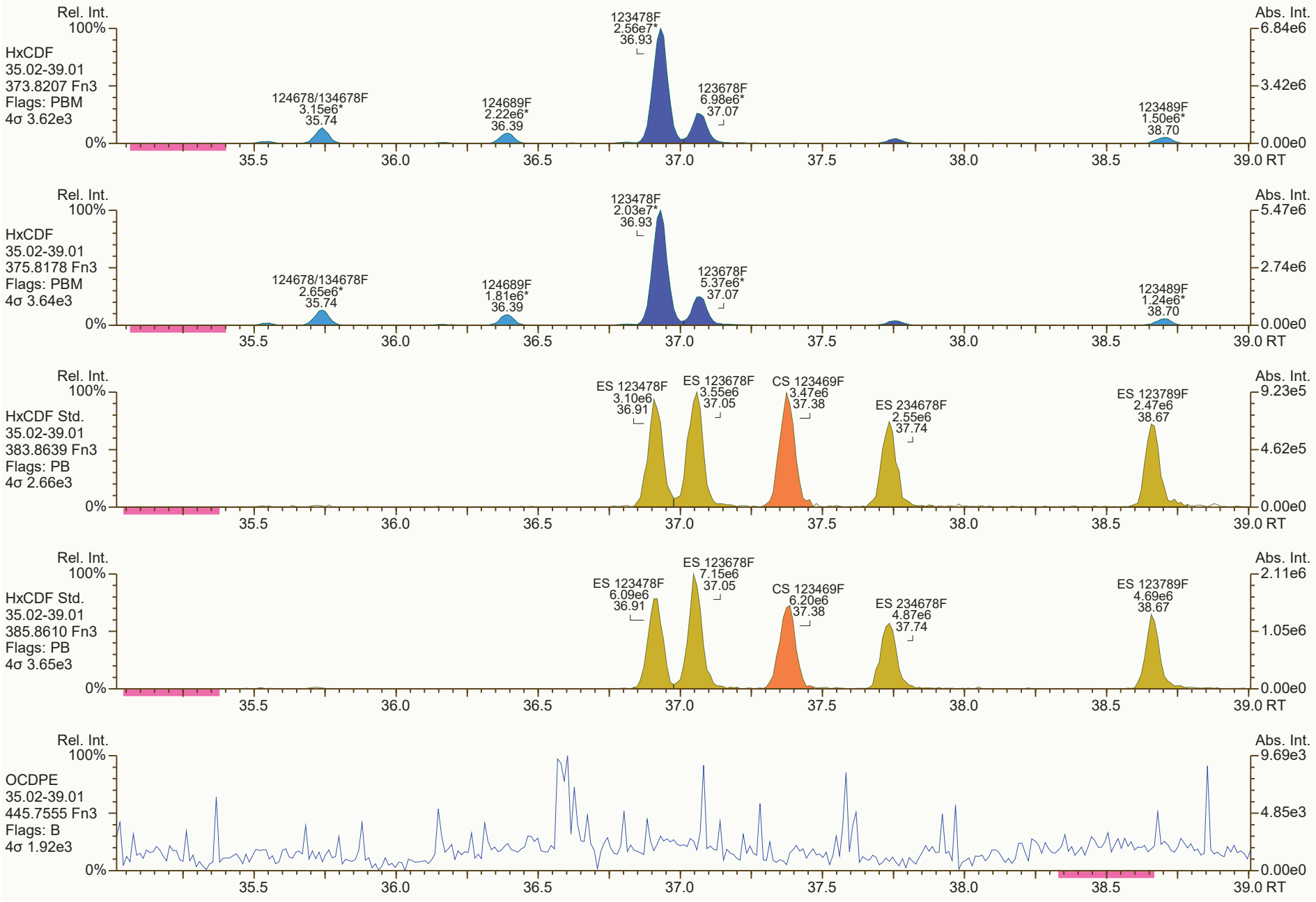

SGS ID: B6182_18851_DF_005
Sample ID: 11215131-011222-S-BN-SC-O-19
Acq: 26-Jan-2022 21:31:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220126C12
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.22e3
1234679D
3.00e7*
40.28
1234678D
2.46e7
40.96
9.92e6
4.96e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.39e3
1234679D
2.92e7*
40.28
1234678D
2.35e7
40.95
9.57e6
4.78e6
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.87e3
ES 1234678D
2.54e6
40.94
8.16e5
4.08e5
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.85e3
ES 1234678D
2.29e6
40.94
7.33e5
3.67e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
7.32e6
3.66e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_005.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4384, 8535 scc: 226-711
Revised: 27-Jan-2022 10:31 (DTF) Printed: 27-Jan-2022 10:50 Page 5 of 12

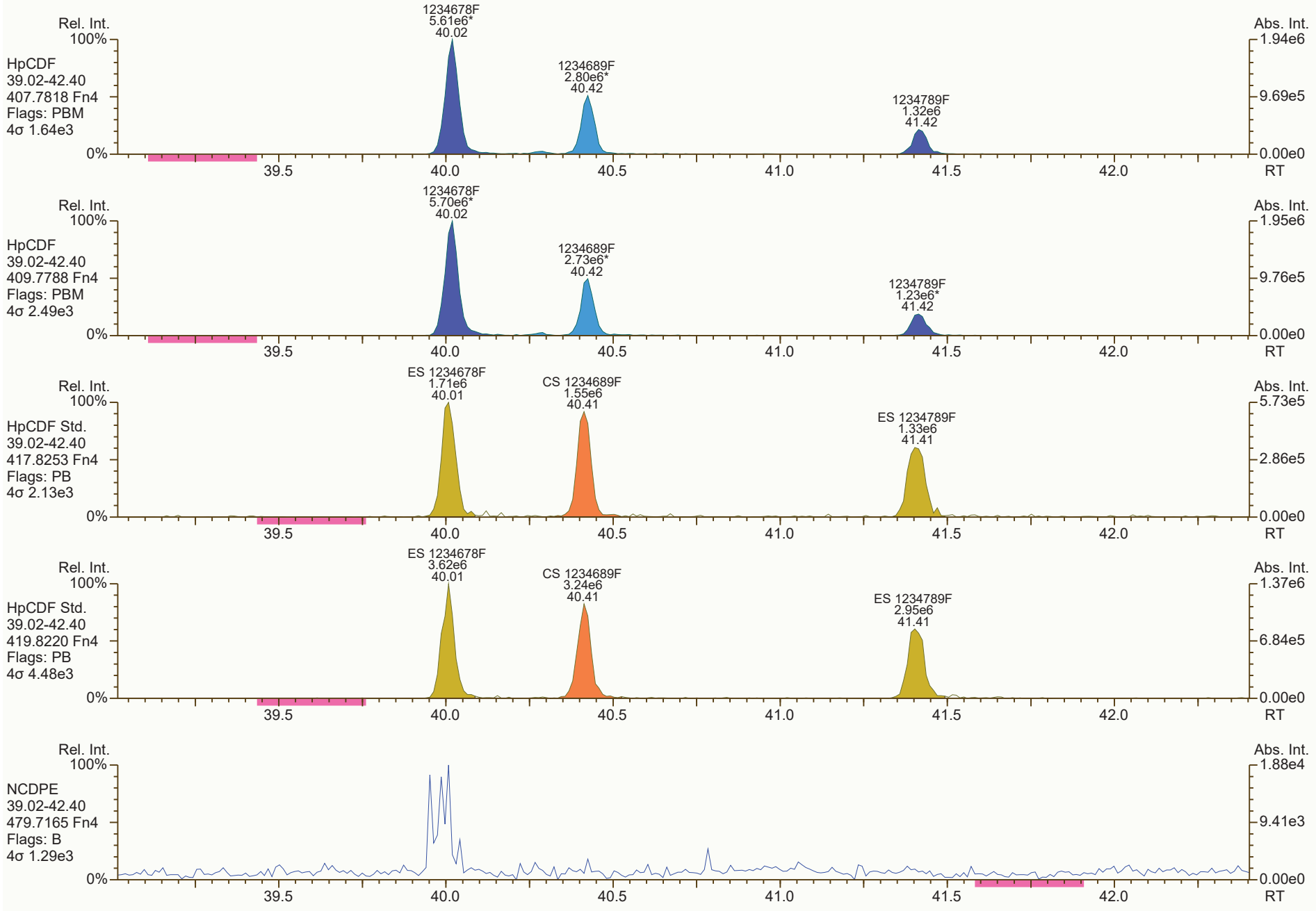

OCDD
1.02e7
*0.42
OCDD
1.*Te7
*0.42
OCDD
0.0 e4E
*0.40
OCDD
0. *e4E
*0.40
QCFCheck
*3.2
*0.-
*0.2
**.-
**.2
*2.- R6

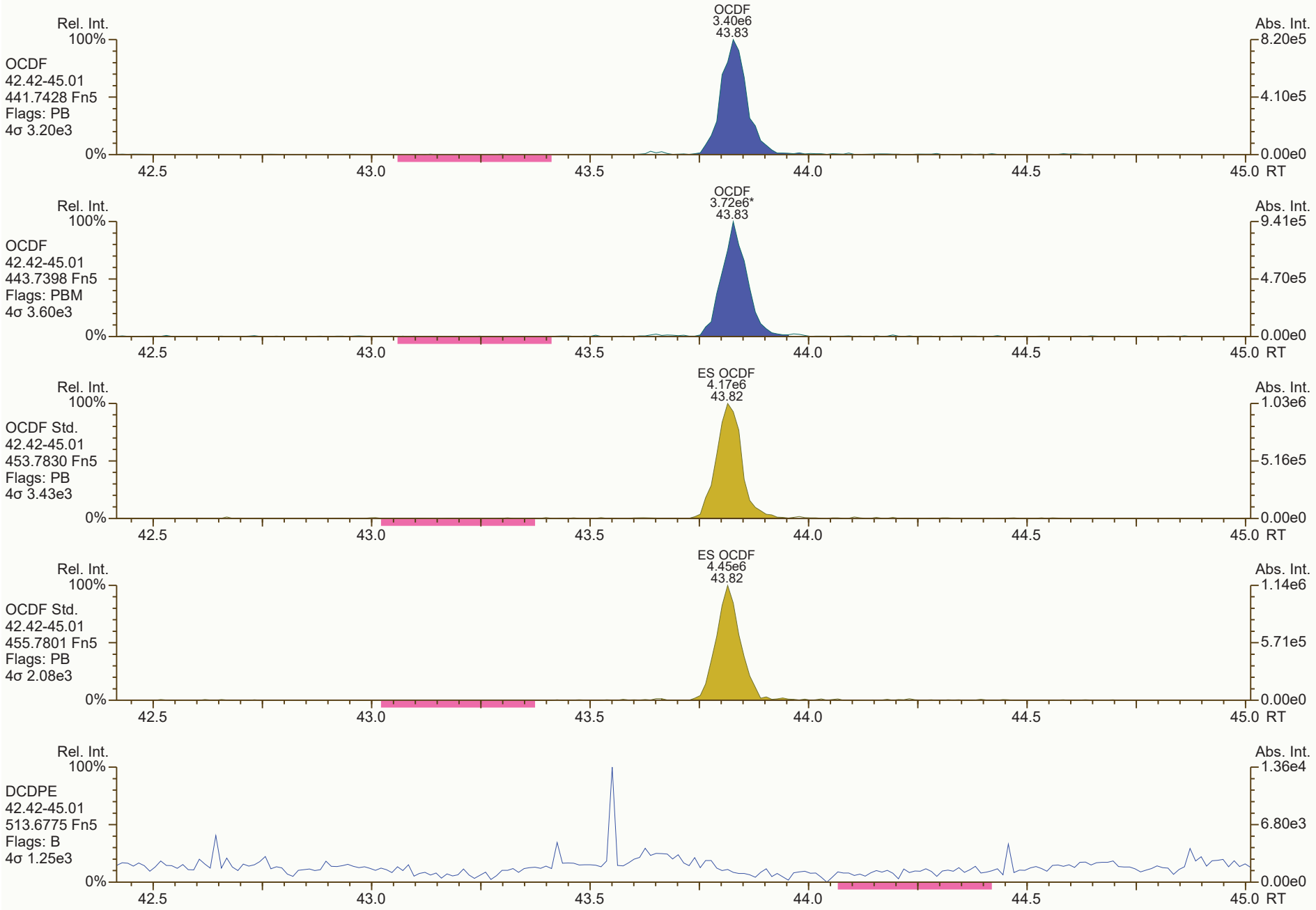

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.45e3
0%
2378F
3.82e8*
27.89
1278F
1.78e8*
27.00
1238F...[5]
2.00e7*
26.54
2348F
2.83e7*
27.77
2367/3467F
3.19e7*
28.23
1289F
2.44e7*
29.87
Abs. Int.
8.69e7
4.34e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.63e3
0%
2378F
4.84e8*
27.88
1278F
2.27e8*
27.00
1238F...[5]
2.59e7*
26.54
2348F
3.56e7*
27.77
2367/3467F
4.05e7*
28.23
1289F
3.10e7*
29.87
Abs. Int.
1.12e8
5.59e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 4.79e3
0%
JS 1234F
1.27e7
26.52
ES 2378F
8.77e6
27.86
Abs. Int.
2.86e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.34e3
0%
JS 1234F
1.55e7
26.52
ES 2378F
1.05e7
27.86
Abs. Int.
3.25e6
1.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.58e4
7.92e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6182_18851_DF_005
Sample ID: 11215131-011222-S-BN-SC-O-19
Acq: 26-Jan-2022 21:31:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 83
User: DTF Datafile: 220126C12
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.50e3
13468/12468F
1.36e6*
29.82
Abs. Int.
3.16e5
1.58e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 2.38e3
13468/12468F
8.17e5*
29.82
1.93e5
9.63e4
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
5.49e6
2.74e6
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_005.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7015 scc: 226-711
Revised: 27-Jan-2022 10:32 (DTF) Printed: 27-Jan-2022 10:50 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 2.39e3
12368F...[3]
8.52e6*
31.51
12348F
1.38e6*
32.39
12378F
1.60e7*
32.60
12678/12367F
4.73e6*
32.88
23478F
1.05e7*
33.71
Abs. Int.
4.20e6
2.10e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.36e3
12368F...[3]
5.56e6*
31.51
12348F
8.76e5*
32.38
12378F
1.05e7*
32.60
12678/12367F
3.12e6*
32.88
23478F
6.73e6*
33.71
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 1.80e3
CS 12346F
8.33e6
32.06
ES 12378F
8.23e6
32.58
ES 23478F
7.80e6
33.68
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.06e3
CS 12346F
5.28e6
32.06
ES 12378F
5.12e6
32.58
ES 23478F
4.80e6
33.68
Abs. Int.
1.48e6
7.42e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.47e3
Abs. Int.
1.76e4
8.79e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.62e3
0%
123478F
2.56e7*
36.93
124678/134678F
3.15e6*
35.74
124689F
2.22e6*
36.39
123678F
6.98e6*
37.07
123489F
1.50e6*
38.70
Abs. Int.
6.84e6
3.42e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 3.64e3
0%
123478F
2.03e7*
36.93
124678/134678F
2.65e6*
35.74
124689F
1.81e6*
36.39
123678F
5.37e6*
37.07
123489F
1.24e6*
38.70
Abs. Int.
5.47e6
2.74e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.66e3
0%
ES 123478F
3.10e6
36.91
ES 123678F
3.55e6
37.05
CS 123469F
3.47e6
37.38
ES 234678F
2.55e6
37.74
ES 123789F
2.47e6
38.67
Abs. Int.
9.23e5
4.62e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 3.65e3
0%
ES 123478F
6.09e6
36.91
ES 123678F
7.15e6
37.05
CS 123469F
6.20e6
37.38
ES 234678F
4.87e6
37.74
ES 123789F
4.69e6
38.67
Abs. Int.
2.11e6
1.05e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.92e3
0%
Abs. Int.
9.69e3
4.85e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.64e3
1234678F
5.61e6*
40.02
1234689F
2.80e6*
40.42
1234789F
1.32e6
41.42
Abs. Int.
1.94e6
9.69e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.49e3
1234678F
5.70e6*
40.02
1234689F
2.73e6*
40.42
1234789F
1.23e6*
41.42
Abs. Int.
1.95e6
9.76e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 2.13e3
ES 1234678F
1.71e6
40.01
CS 1234689F
1.55e6
40.41
ES 1234789F
1.33e6
41.41
Abs. Int.
5.73e5
2.86e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 4.48e3
ES 1234678F
3.62e6
40.01
CS 1234689F
3.24e6
40.41
ES 1234789F
2.95e6
41.41
Abs. Int.
1.37e6
6.84e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.29e3
Abs. Int.
1.88e4
9.41e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
3.40e6
43.83
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
8.20e5
4.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.72e6*
43.83
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 3.60e3
0%
Abs. Int.
9.41e5
4.70e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
4.17e6
43.82
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 3.43e3
0%
Abs. Int.
1.03e6
5.16e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
4.45e6
43.82
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
1.14e6
5.71e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
1.36e4
6.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6182_18851_DF_006 **Acq'd:** 26 Jan 2022 22:18 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-13 **UTP:** 27-Jan-2022 10:38:18 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 857-046-VHX

Datafile: 220126C13 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.70	E	1.0008	1.0007	-0.2	1.94E+09	0.80	Y	1.18	18,800	5450.146	0.557
12378-PeCDD	34.01		1.0006	1.0006	0	1.48E+07	1.58	Y	1.04	185	5330.774	0.611
123478-HxCDD	37.88		1.0004	1.0003	-0.2	2.89E+05	1.22	Y	1.09	3.98	5745.312	0.685
123678-HxCDD	38.00		1.0034	1.0033	-0.2	1.56E+06	1.39	Y	1.15	20.9	5745.312	0.658
123789-HxCDD	38.29		1.0109	1.0110	+0.2	5.42E+05	1.36	Y	1.05	7.13	5745.312	0.627
1234678-HpCDD	40.91		1.0003	1.0003	0	3.97E+07	1.01	Y	1.06	620	5834.551	0.706
OCDD	43.59		1.0002	1.0003	+0.3	4.18E+08	0.91	Y	1.13	9,620	7302.297	1.79
2378-TCDF	27.85	E	1.0008	1.0006	-0.3	6.63E+09	0.79	Y	1.08	49,700	5521.485	0.506
12378-PeCDF	32.58		1.0005	1.0006	+0.2	2.65E+08	1.54	Y	1.02	2,300	9362.853	0.723
23478-PeCDF	33.70		1.0005	1.0008	+0.6	1.41E+08	1.57	Y	1.02	1,440	9362.853	1.1
123478-HxCDF	36.89		1.0004	1.0004	0	5.54E+08	1.26	Y	1.27	4,630	13404.294	0.971
123678-HxCDF	37.03		1.0004	1.0005	+0.2	1.32E+08	1.25	Y	1.15	1,100	13404.294	0.972
234678-HxCDF	37.72		1.0004	1.0005	+0.2	2.06E+07	1.28	Y	1.19	235	13404.294	1.5
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	13404.294	1.07
1234678-HpCDF	39.97		1.0002	1.0003	+0.2	1.21E+08	1.02	Y	1.37	1,230	6702.95	0.51
1234789-HpCDF	41.37		1.0003	1.0003	0	3.68E+07	1.01	Y	1.31	513	6702.95	0.706
OCDF	43.77		1.0002	1.0003	+0.3	6.98E+07	0.88	Y	1.07	1,340	3471.333	0.743

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.68	1.0233	1.0234	+0.2	1.73E+07	0.77	Y	1.05	73.3
ES 12378-PeCDD	33.99	1.2121	1.2129	+1.6	1.53E+07	1.62	Y	0.88	77.1
ES 123478-HxCDD	37.87	0.9921	0.9921	0	1.32E+07	1.27	Y	0.97	73.7
ES 123678-HxCDD	37.98	0.9951	0.9951	0	1.28E+07	1.30	Y	0.94	73.8
ES 123789-HxCDD	38.27	1.0025	1.0026	+0.2	1.44E+07	1.30	Y	1.09	71.7
ES 1234678-HpCDD	40.90	1.0709	1.0714	+1.2	1.20E+07	1.08	Y	0.91	71.2
ES OCDD	43.57	1.1403	1.1415	+3.1	1.53E+07	0.91	Y	0.62	66.6
ES 2378-TCDF	27.83	1.0506	1.0511	+0.8	2.45E+07	0.86	Y	1.06	68.7
ES 12378-PeCDF	32.56	1.2281	1.2298	+3.3	2.23E+07	1.51	Y	0.91	72.6
ES 23478-PeCDF	33.67	1.2698	1.2716	+3.6	1.90E+07	1.51	Y	0.88	63.8
ES 123478-HxCDF	36.87	0.9657	0.9659	+0.4	1.87E+07	0.54	Y	1.20	84.6
ES 123678-HxCDF	37.01	0.9695	0.9696	+0.2	2.05E+07	0.57	Y	1.35	82.5
ES 234678-HxCDF	37.70	0.9874	0.9876	+0.5	1.46E+07	0.55	Y	1.24	63.9
ES 123789-HxCDF	38.62	1.0116	1.0117	+0.2	1.67E+07	0.53	Y	1.16	78.6
ES 1234678-HpCDF	39.96	1.0467	1.0469	+0.5	1.42E+07	0.44	Y	0.97	79.8
ES 1234789-HpCDF	41.36	1.0830	1.0835	+1.2	1.09E+07	0.43	Y	0.85	69.4
ES OCDF	43.76	1.1451	1.1463	+3.2	1.93E+07	0.92	Y	0.81	64.9

Lab ID: B6182_18851_DF_006 **Acq'd:** 26 Jan 2022 22:18 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-13 **UTP:** 27-Jan-2022 10:38:18 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 857-046-VHX

Datafile: 220126C13 **Report:** 27 Jan 2022 10:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	28.03		-	-	-	2.25E+07	0.80	Y	-	-
JS 1234-TCDF	26.48		-	-	-	3.37E+07	0.80	Y	-	-
JS 123467-HxCDD	38.17		-	-	-	9.20E+06	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.70		1.0241	1.0241	0	6.86E+06	n/a	-	1.20	63.3
CS 12347-PeCDD	33.50		1.1943	1.1953	+2.0	1.48E+07	1.63	Y	0.75	87.1
CS 12346-PeCDF	32.05		1.2083	1.2102	+3.7	2.21E+07	1.49	Y	0.85	77
CS 123469-HxCDF	37.34		0.9778	0.9781	+0.7	1.92E+07	0.53	Y	1.12	93.3
CS 1234689-HpCDF	40.37		1.0571	1.0575	+1.0	1.34E+07	0.48	Y	0.89	81.9
SS 37Cl-2378-TCDD	28.70		1.0241	1.0241	0	6.86E+06	n/a	-	1.15	86.6
SS 12347-PeCDD	33.50		1.1943	1.1953	+2.0	1.48E+07	1.63	Y	0.86	113
SS 12346-PeCDF	32.05		1.2083	1.2102	+3.7	2.21E+07	1.49	Y	0.94	106
SS 123469-HxCDF	37.34		0.9778	0.9781	+0.7	1.92E+07	0.53	Y	0.83	113
SS 1234689-HpCDF	40.37		1.0571	1.0575	+1.0	1.34E+07	0.48	Y	0.92	102

Totals	Conc	EMPC
Total TCDD	20900	21000
Total PeCDD	229	231
Total HxCDD	139	143
Total HpCDD	1240	1240
Total Tetra-Octa Dioxins	32200	32200
Total TCDF	88,600	88600
Total PeCDF	5,910	5910
Total HxCDF	6,930	6940
Total HpCDF	2,140	2140
Total Tetra-Octa Furans	105,000	105000
Total Tetra-Octa Dioxins & Furans	137000	137000

Lab ID: B6182_18851_DF_006 | **Acq'd: 26 Jan 2022 22:18 DTF** | **Wt/Vol: 10.08 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-B-13 | **UTP: 27-Jan-2022 10:38:18 DTF** | **J-level: 0.496 pg/g** | **Split: 1** | **Checkcode: 857-046-VHX**

Datafile: 220126C13 | **Report: 27 Jan 2022 10:42 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.12		0.8755	0.8760	+0.8	3.97E+05	0.74	Y	1.18	3.85	5450.146	0.557
1379-TCDD	25.45		0.8876	0.8875	-0.2	4.83E+05	0.84	Y	1.18	4.69	5450.146	0.557
1369-TCDD	NotFnd		0.9023						1.18		5450.146	0.557
1469-TCDD	26.64		0.9291	0.9288	-0.5	3.78E+05	0.74	Y	1.18	3.67	5450.146	0.557
1247/1246/1248/1249-TCDD	26.86	EMPC	0.9373	0.9365	-1.3	1.95E+06	0.89	N	1.18	18.9	5450.146	0.557
1378-TCDD	27.05		0.9440	0.9432	-1.3	4.92E+06	0.84	Y	1.18	47.8	5450.146	0.557
1268-TCDD	27.25		0.9506	0.9502	-0.7	3.72E+05	0.68	Y	1.18	3.61	5450.146	0.557
1478-TCDD	27.50		0.9591	0.9589	-0.3	2.87E+06	0.83	Y	1.18	27.9	5450.146	0.557
1279-TCDD	27.67		0.9649	0.9648	-0.2	1.46E+05	0.67	Y	1.18	1.42	5450.146	0.557
1234/1269-TCDD	28.02		0.9771	0.9770	-0.2	5.23E+05	0.84	Y	1.18	5.08	5450.146	0.557
1236-TCDD	28.18		0.9820	0.9824	+0.7	2.36E+05	0.87	Y	1.18	2.29	5450.146	0.557
1237/1238-TCDD	28.41		0.9908	0.9906	-0.3	2.91E+07	0.81	Y	1.18	283	5450.146	0.557
1239-TCDD	NotFnd		0.9954						1.18		5450.146	0.557
2378-TCDD	**28.70**	E	**1.0008**	1.0007	**-0.2**	1.94E+09	0.80	Y	**1.18**	**18,800**	**5450.146**	**0.557**
1278-TCDD	29.04	E	1.0121	1.0124	+0.5	1.77E+08	0.80	Y	1.18	1,720	5450.146	0.557
1267-TCDD	NotFnd		1.0167						1.18		5450.146	0.557
1289-TCDD	29.70		1.0341	1.0355	+2.5	1.72E+06	0.82	Y	1.18	16.7	5450.146	0.557
12479/12468-PeCDD	31.54		0.9273	0.9278	+0.9	5.36E+05	1.56	Y	1.04	6.72	5330.774	0.611
12469-PeCDD	32.06	EMPC	0.9430	0.9433	+0.6	2.14E+05	1.14	N	1.04	2.69	5330.774	0.611
12368-PeCDD	32.60		0.9592	0.9591	-0.2	8.76E+05	1.55	Y	1.04	11	5330.774	0.611
12478-PeCDD	32.80		0.9647	0.9648	+0.2	8.95E+05	1.52	Y	1.04	11.2	5330.774	0.611
12379-PeCDD	32.91		0.9676	0.9681	+1.0	2.48E+05	1.53	Y	1.04	3.11	5330.774	0.611
12369/12467/12489-PeCDD	33.15		0.9752	0.9753	+0.2	2.21E+05	1.40	Y	1.04	2.77	5330.774	0.611
12346/12347-PeCDD	33.52		0.9860	0.9862	+0.4	3.81E+05	1.63	Y	1.04	4.78	5330.774	0.611
12378-PeCDD	34.01		**1.0006**	**1.0006**	**0**	**1.48E+07**	**1.58**	**Y**	**1.04**	**185**	**5330.774**	**0.611**
12367-PeCDD	NotFnd		1.0034						1.04		5330.774	0.611
12389-PeCDD	34.45		1.0134	1.0134	0	3.00E+05	1.77	Y	1.04	3.77	5330.774	0.611
124679/124689-HxCDD	36.15		0.9545	0.9546	+0.2	3.59E+06	1.31	Y	1.10	48.2	5745.312	0.655
123468-HxCDD	36.80		0.9715	0.9717	+0.4	5.49E+05	1.29	Y	1.10	7.38	5745.312	0.655
123679/123689-HxCDD	37.10		0.9793	0.9795	+0.4	3.80E+06	1.25	Y	1.10	51.1	5745.312	0.655
123469-HxCDD	37.24	J EMPC	0.9829	0.9832	+0.7	1.84E+05	1.60	N	1.10	2.48	5745.312	0.655
123478-HxCDD	37.88		**1.0004**	**1.0003**	**-0.2**	**2.89E+05**	**1.22**	**Y**	1.09	**3.98**	**5745.312**	**0.685**
123678-HxCDD	38.00		**1.0034**	**1.0033**	**-0.2**	**1.56E+06**	**1.39**	**Y**	1.15	**20.9**	**5745.312**	**0.658**
123467-HxCDD	38.17	J EMPC	1.0082	1.0080	-0.5	1.49E+05	1.46	N	1.10	2.01	5745.312	0.655
123789-HxCDD	38.29		**1.0109**	**1.0110**	**+0.2**	**5.42E+05**	**1.36**	**Y**	1.05	**7.13**	**5745.312**	**0.627**

Lab ID: B6182_18851_DF_006 | Acq'd: 26 Jan 2022 22:18 DTF | Wt/Vol: 10.08 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-13 | UTP: 27-Jan-2022 10:38:18 DTF | J-level: 0.496 pg/g | Split: 1 | Checkcode: 857-046-VHX

Datafile: 220126C13 | Report: 27 Jan 2022 10:42 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

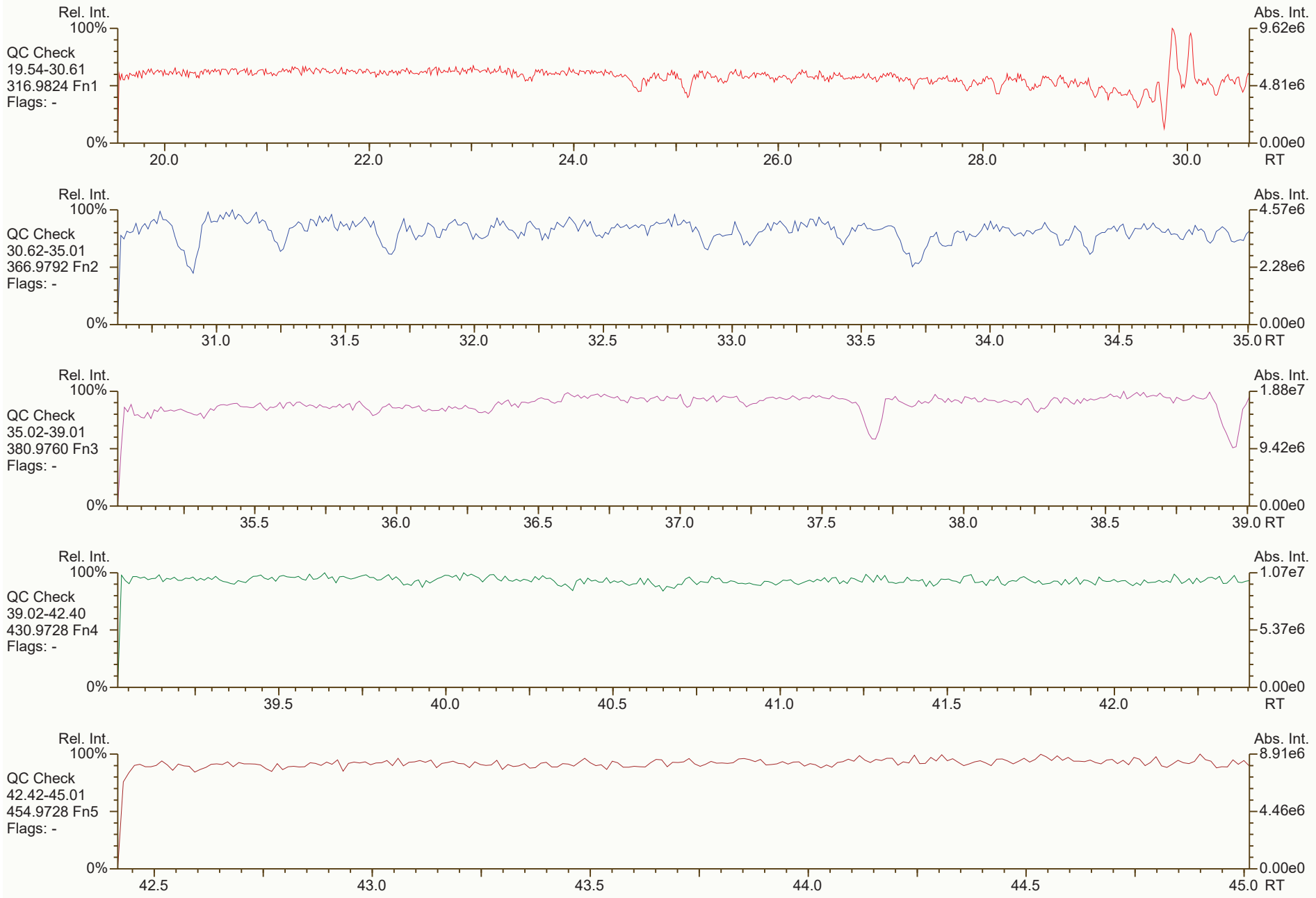
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.23		0.9838	0.9838	0	3.93E+07	1.05	Y	1.06	615	5834.551	0.706
1234678-HpCDD	**40.91**		**1.0003**	**1.0003**	**0**	**3.97E+07**	**1.01**	**Y**	**1.06**	**620**	**5834.551**	**0.706**
OCDD	**43.59**		**1.0002**	**1.0003**	**+0.3**	**4.18E+08**	**0.91**	**Y**	**1.13**	**9,620**	**7302.297**	**1.79**
OCDD-a	43.58		1.0002	1.0002	0	2.56E+07	2.44	Y	0.07	9,210	4508.03	17.3
1368-TCDF	23.01	EMPC	0.8282	0.8267	-2.1	3.70E+05	0.90	N	1.08	2.77	5521.485	0.506
1468-TCDF	23.60		0.8485	0.8478	-1.0	5.40E+06	0.80	Y	1.08	40.4	5521.485	0.506
2468-TCDF	24.22		0.8709	0.8702	-1.0	5.59E+06	0.82	Y	1.08	41.9	5521.485	0.506
1346/1246-TCDF	NotFnd		0.8829						1.08		5521.485	0.506
1347/1378/1247-TCDF	24.73		0.8884	0.8884	0	2.28E+07	0.78	Y	1.08	171	5521.485	0.506
1348-TCDF	25.01		0.8980	0.8984	+0.6	1.18E+07	0.77	Y	1.08	88.5	5521.485	0.506
1248/1367/1379-TCDF	25.11		0.9026	0.9021	-0.8	4.10E+07	0.80	Y	1.08	308	5521.485	0.506
1268-TCDF	25.49		0.9158	0.9158	0	2.63E+07	0.81	Y	1.08	197	5521.485	0.506
1467-TCDF	25.61		0.9206	0.9201	-0.8	1.45E+07	0.79	Y	1.08	108	5521.485	0.506
1478-TCDF	25.78		0.9266	0.9261	-0.8	6.95E+07	0.79	Y	1.08	521	5521.485	0.506
1369/1237-TCDF	26.16		0.9397	0.9400	+0.5	3.48E+07	0.81	Y	1.08	261	5521.485	0.506
2467-TCDF	26.27		0.9440	0.9439	-0.2	5.88E+06	0.81	Y	1.08	44.1	5521.485	0.506
2368-TCDF	26.47	E	0.9497	0.9509	+1.9	3.55E+08	0.80	Y	1.08	2,660	5521.485	0.506
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5521.485	0.506
1278-TCDF	26.96	E	0.9690	0.9684	-1.0	3.00E+09	0.78	Y	1.08	22,500	5521.485	0.506
1349-TCDF	NotFnd		0.9730						1.08		5521.485	0.506
1267-TCDF	27.22		0.9787	0.9780	-1.1	7.41E+07	0.80	Y	1.08	556	5521.485	0.506
2346/1249-TCDF	27.41		0.9850	0.9847	-0.5	1.51E+07	0.81	Y	1.08	113	5521.485	0.506
2347/1279-TCDF	27.62		0.9929	0.9924	-0.8	9.08E+07	0.76	Y	1.08	681	5521.485	0.506
2348-TCDF	27.73	E	0.9970	0.9961	-1.5	3.04E+08	0.78	Y	1.08	2,280	5521.485	0.506
2378-TCDF	**27.85**	E	**1.0008**	**1.0006**	**-0.3**	**6.63E+09**	**0.79**	**Y**	**1.08**	**49,700**	**5521.485**	**0.506**
2367/3467-TCDF	28.21	E	1.0136	1.0134	-0.3	5.75E+08	0.80	Y	1.08	4,310	5521.485	0.506
1269-TCDF	28.45		1.0221	1.0222	+0.2	3.98E+07	0.76	Y	1.08	298	5521.485	0.506
1239-TCDF	28.71		1.0319	1.0314	-0.9	7.15E+06	0.79	Y	1.08	53.6	5521.485	0.506
1289-TCDF	29.88	E	1.0740	1.0734	-1.1	5.05E+08	0.78	Y	1.08	3,790	5521.485	0.506
13468/12468-PeCDF	29.82		0.9145	0.9158	+2.3	4.36E+06	1.64	Y	1.02	41	3796.527	0.363
13678/13467/12467-PeCDF	31.35		0.9619	0.9626	+1.3	2.44E+06	1.44	Y	1.02	23	9362.853	0.896
12368/13478/12478-PeCDF	31.50		0.9665	0.9674	+1.7	1.09E+08	1.58	Y	1.02	1,020	9362.853	0.896
14678-PeCDF	NotFnd		0.9695						1.02		9362.853	0.896
13479-PeCDF	NotFnd		0.9724						1.02		9362.853	0.896
13469/12479-PeCDF	31.86		0.9801	0.9783	-3.4	2.98E+05	1.64	Y	1.02	2.8	9362.853	0.896
12346-PeCDF	NotFnd		0.9842						1.02		9362.853	0.896

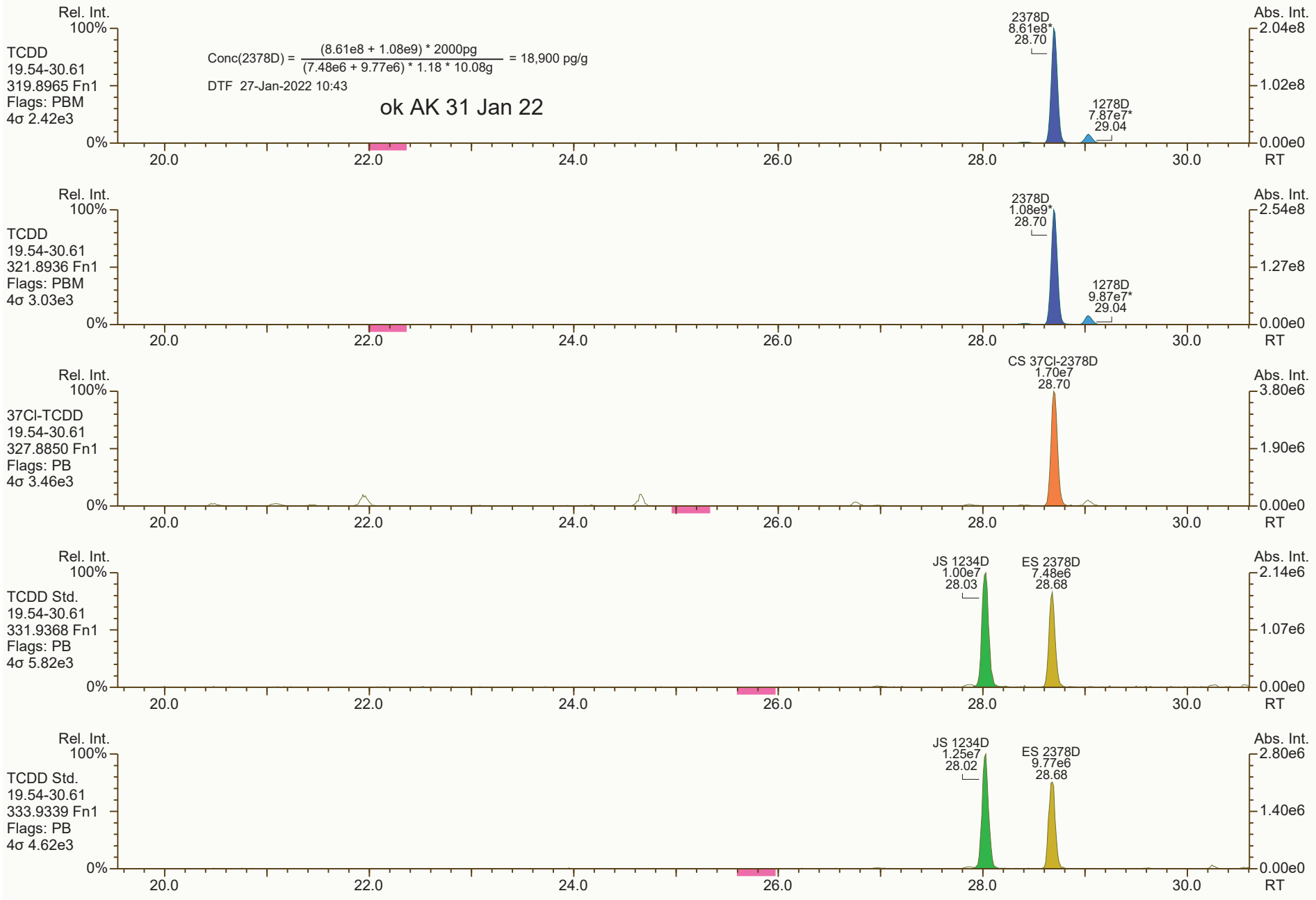
Lab ID: B6182_18851_DF_006 **Acq'd: 26 Jan 2022 22:18 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-B-13 **UTP: 27-Jan-2022 10:38:18 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 857-046-VHX**

Datafile: 220126C13 **Report: 27 Jan 2022 10:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.13		0.9868	0.9866	-0.4	3.68E+06	1.48	Y	1.02	34.6	9362.853	0.896
12347-PeCDF	32.22		0.9895	0.9893	-0.4	4.47E+06	1.54	Y	1.02	42	9362.853	0.896
12348-PeCDF	32.37		0.9941	0.9941	0	2.12E+07	1.54	Y	1.02	199	9362.853	0.896
12378-PeCDF	**32.58**		**1.0005**	**1.0006**	**+0.2**	**2.65E+08**	**1.54**	**Y**	**1.02**	**2,300**	**9362.853**	**0.723**
12678/12367-PeCDF	32.87		1.0090	1.0092	+0.4	7.22E+07	1.56	Y	1.02	679	9362.853	0.896
12379-PeCDF	NotFnd		1.0142						1.02		9362.853	0.896
12679-PeCDF	33.42		0.9931	0.9927	-0.8	5.76E+05	1.76	Y	1.02	5.42	9362.853	0.896
23467/12369-PeCDF	33.55		0.9966	0.9964	-0.4	2.77E+06	1.50	Y	1.02	26.1	9362.853	0.896
23478-PeCDF	**33.70**		**1.0005**	**1.0008**	**+0.6**	**1.41E+08**	**1.57**	**Y**	**1.02**	**1,440**	**9362.853**	**1.1**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9362.853	0.896
12349-PeCDF	NotFnd		1.0101						1.02		9362.853	0.896
12389-PeCDF	34.74		1.0322	1.0318	-0.8	9.22E+06	1.48	Y	1.02	86.7	9362.853	0.896
123468-HxCDF	35.53		0.9627	0.9635	+1.7	3.95E+06	1.25	Y	1.19	37.2	13404.294	1.1
124678/134678-HxCDF	35.72		0.9684	0.9686	+0.4	3.84E+07	1.26	Y	1.19	362	13404.294	1.1
134679-HxCDF	NotFnd		0.9747						1.19		13404.294	1.1
124679-HxCDF	36.13	EMPC	0.9802	0.9799	-0.7	3.26E+05	1.04	N	1.19	3.07	13404.294	1.1
124689-HxCDF	36.36		0.9858	0.9861	+0.7	2.02E+07	1.23	Y	1.19	190	13404.294	1.1
123467-HxCDF	36.76		0.9972	0.9969	-0.7	1.93E+06	1.22	Y	1.19	18.2	13404.294	1.1
123478-HxCDF	**36.89**		**1.0004**	**1.0004**	**0**	**5.54E+08**	**1.26**	**Y**	**1.27**	**4,630**	**13404.294**	**0.971**
123678-HxCDF	**37.03**		**1.0004**	**1.0005**	**+0.2**	**1.32E+08**	**1.25**	**Y**	**1.15**	**1,100**	**13404.294**	**0.972**
123479-HxCDF	NotFnd		1.0051						1.19		13404.294	1.1
123469-HxCDF	NotFnd		1.0091						1.19		13404.294	1.1
123679-HxCDF	NotFnd		0.9943						1.19		13404.294	1.1
234678-HxCDF	**37.72**		**1.0004**	**1.0005**	**+0.2**	**2.06E+07**	**1.28**	**Y**	**1.19**	**235**	**13404.294**	**1.5**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		13404.294	1.1
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**13404.294**	**1.07**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.66		1.0007	1.0010	+0.7	3.81E+07	1.25	Y	1.19	359	13404.294	1.1
1234678-HpCDF	**39.97**		**1.0002**	**1.0003**	**+0.2**	**1.21E+08**	**1.02**	**Y**	**1.37**	**1,230**	**6702.95**	**0.51**
1234679-HpCDF	40.23		1.0067	1.0067	0	1.50E+06	1.03	Y	1.34	17.7	6702.95	0.594
1234689-HpCDF	40.38		1.0101	1.0104	+0.7	3.19E+07	1.00	Y	1.34	376	6702.95	0.594
1234789-HpCDF	**41.37**		**1.0003**	**1.0003**	**0**	**3.68E+07**	**1.01**	**Y**	**1.31**	**513**	**6702.95**	**0.706**
OCDF	**43.77**		**1.0002**	**1.0003**	**+0.3**	**6.98E+07**	**0.88**	**Y**	**1.07**	**1,340**	**3471.333**	**0.743**
OCDF-a	43.77		1.0002	1.0002	0	4.47E+06	2.58	Y	0.07	1,390	5282.108	18.3


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
9.62e6
4.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.57e6
2.28e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.88e7
9.42e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.37e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.91e6
4.46e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.42e3
0%
Conc(2378D) = (8.61e8 + 1.08e9) * 2000pg / (7.48e6 + 9.77e6) * 1.18 * 10.08g = 18,900 pg/g
DTF 27-Jan-2022 10:43
ok AK 31 Jan 22
2378D
8.61e8*
28.70
1278D
7.87e7*
29.04
Abs. Int.
2.04e8
1.02e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 3.03e3
0%
2378D
1.08e9*
28.70
1278D
9.87e7*
29.04
Abs. Int.
2.54e8
1.27e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 3.46e3
0%
CS 37Cl-2378D
1.70e7
28.70
Abs. Int.
3.80e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.82e3
0%
JS 1234D
1.00e7
28.03
ES 2378D
7.48e6
28.68
Abs. Int.
2.14e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.62e3
0%
JS 1234D
1.25e7
28.02
ES 2378D
9.77e6
28.68
Abs. Int.
2.80e6
1.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

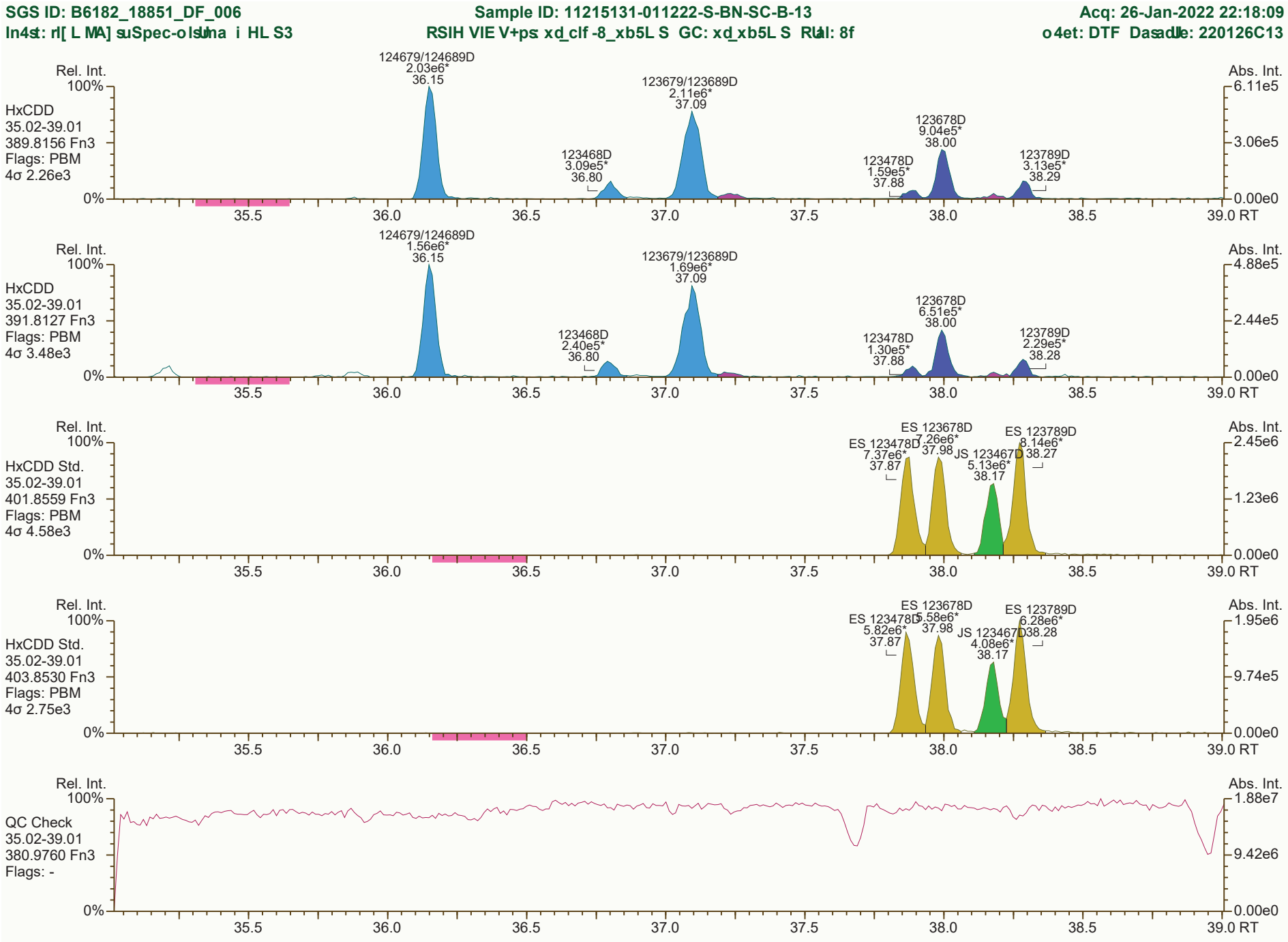
SGS ID: B6182_18851_DF_006 | Sample ID: 11215131-011222-S-BN-SC-B-13 | Acq: 26-Jan-2022 22:18:09

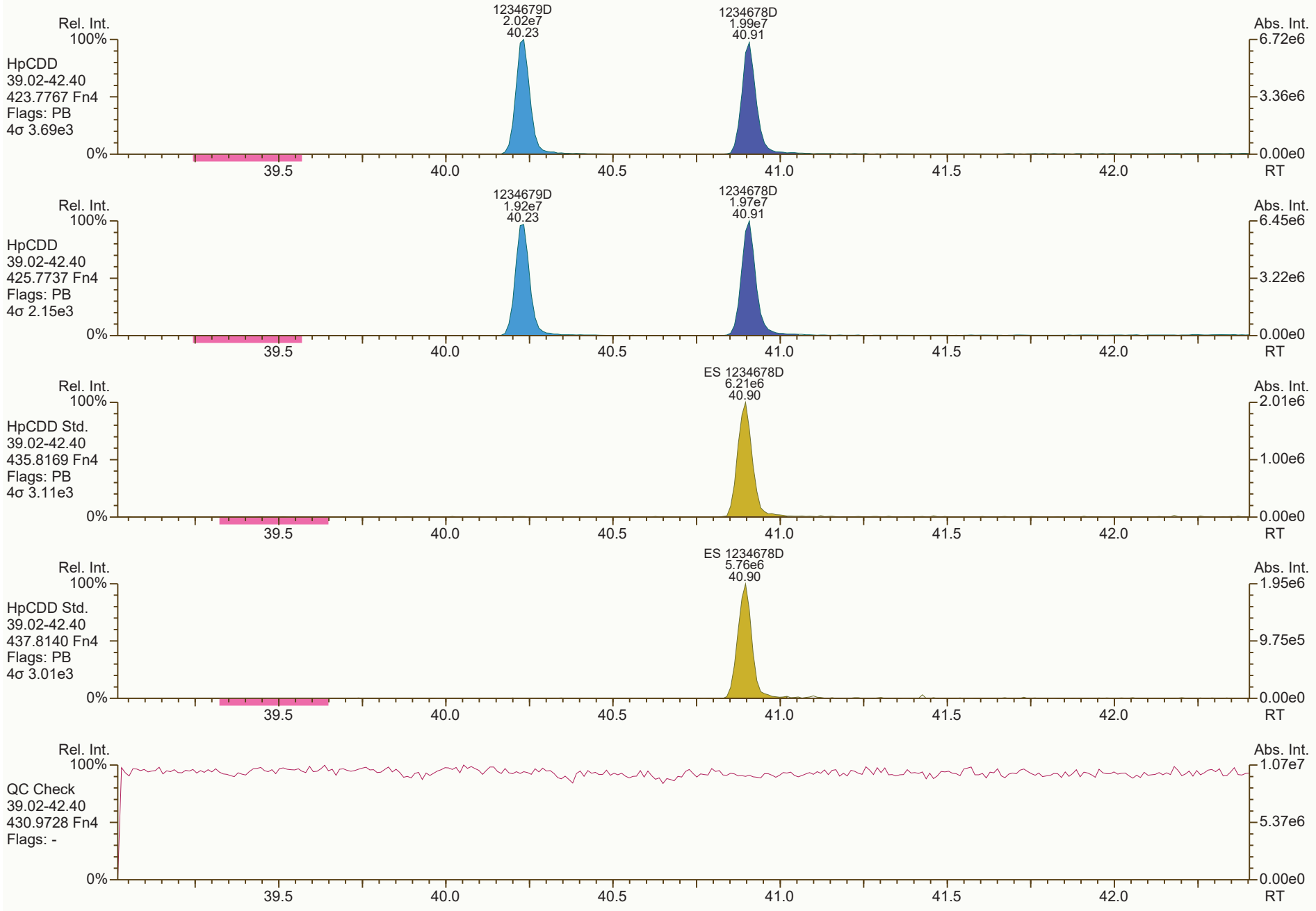
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84 | User: DTF Datafile: 220126C13

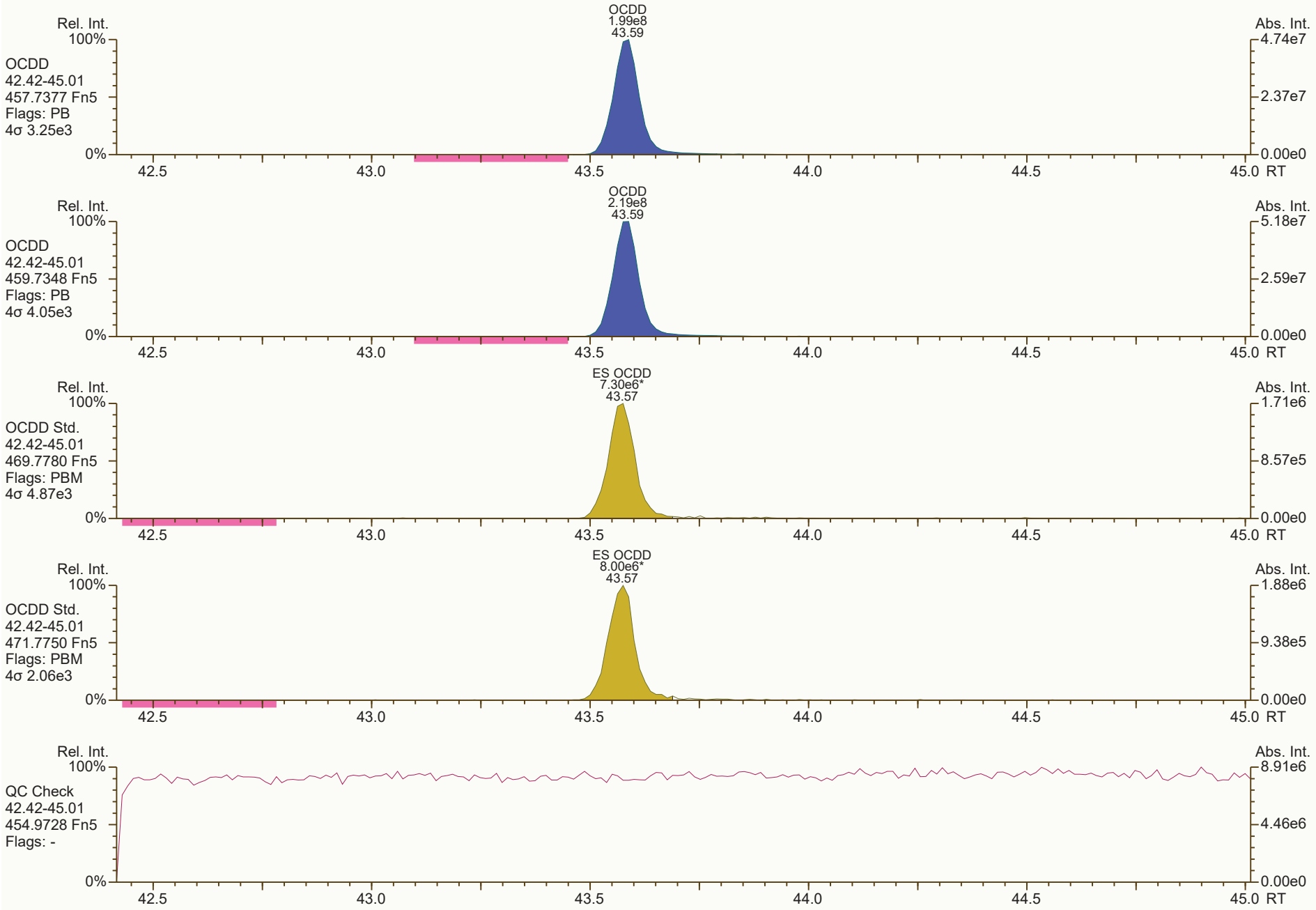


Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_006.utp_res, saved 27-Jan-2022 10:43 (DTF) | *Peak annotation: Areas, Centroids*

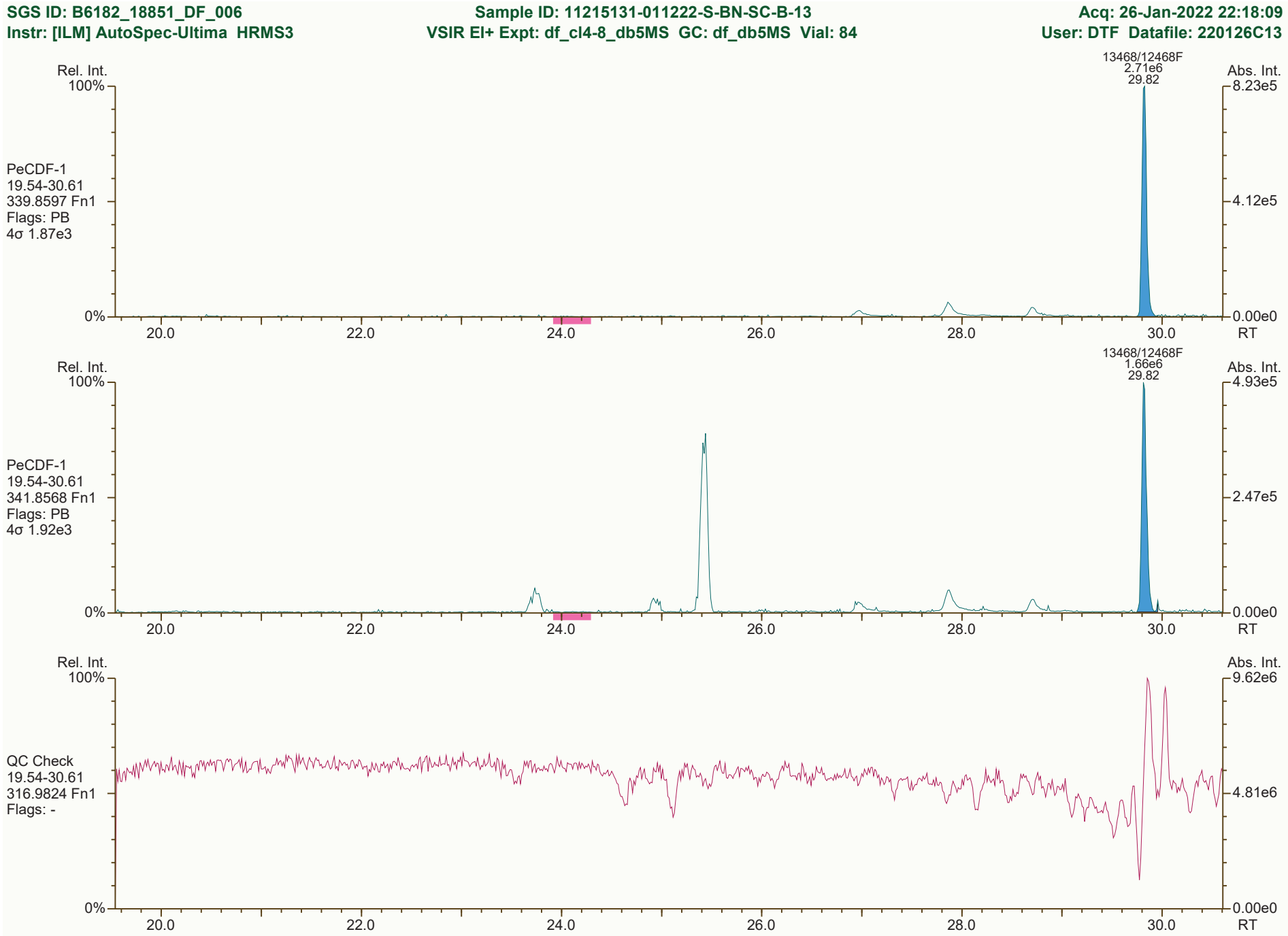
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4141, 1344 scc: 857-046 | *Revised: 27-Jan-2022 10:36 (DTF) Printed: 27-Jan-2022 10:50 Page 3 of 12*

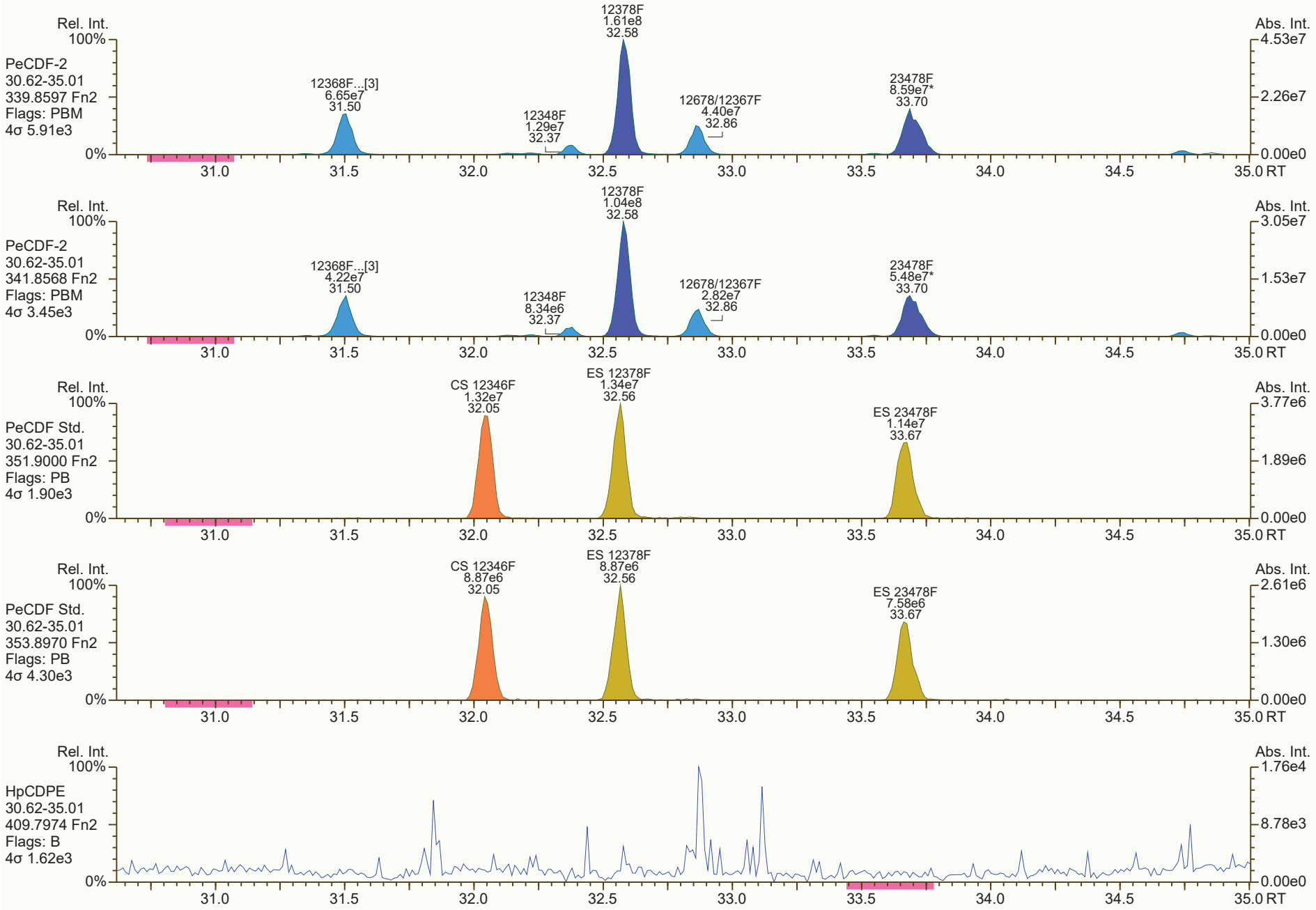

SGS ID: B6182_18851_DF_006
Sample ID: 11215131-011222-S-BN-SC-B-13
Acq: 26-Jan-2022 22:18:09
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.26e3
124679/124689D
2.03e6*
36.15
123679/123689D
2.11e6*
37.09
123678D
9.04e5*
38.00
123468D
3.09e5*
36.80
123478D
1.59e5*
37.88
123789D
3.13e5*
38.29
6.11e5
3.06e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.48e3
124679/124689D
1.56e6*
36.15
123679/123689D
1.69e6*
37.09
123678D
6.51e5*
38.00
123468D
2.40e5*
36.80
123478D
1.30e5*
37.88
123789D
2.29e5*
38.28
4.88e5
2.44e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.58e3
ES 123678D
7.26e6*
37.98
ES 123478D
7.37e6*
37.87
JS 123467D
5.13e6*
38.17
ES 123789D
8.14e6*
38.27
2.45e6
1.23e6
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.75e3
ES 123678D
5.58e6*
37.98
ES 123478D
5.82e6*
37.87
JS 123467D
4.08e6*
38.17
ES 123789D
6.28e6*
38.28
1.95e6
9.74e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
1.88e7
9.42e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

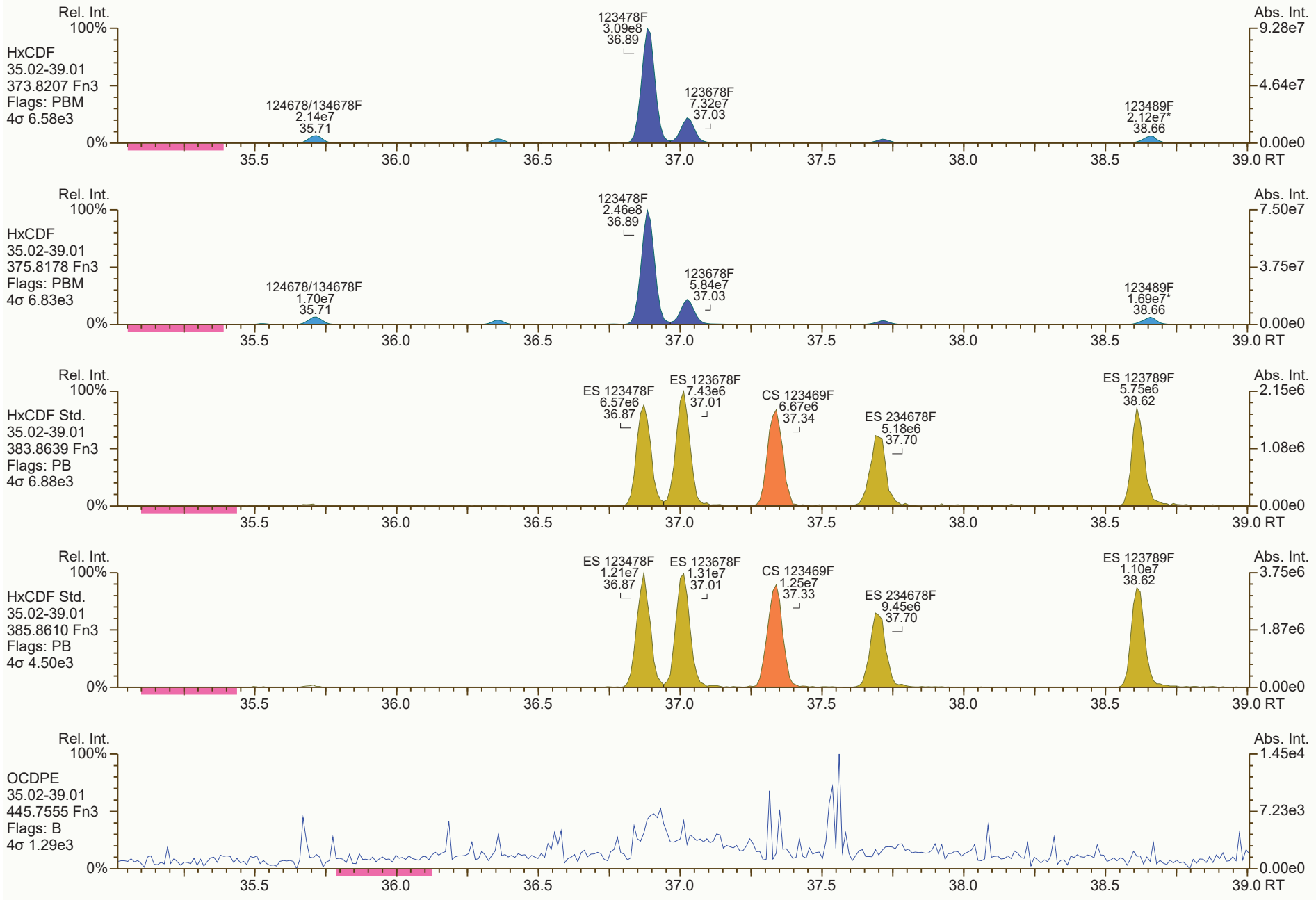

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 3.69e3
1234679D
2.02e7
40.23
1234678D
1.99e7
40.91
Abs. Int.
6.72e6
3.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.15e3
1234679D
1.92e7
40.23
1234678D
1.97e7
40.91
Abs. Int.
6.45e6
3.22e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 3.11e3
ES 1234678D
6.21e6
40.90
Abs. Int.
2.01e6
1.00e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 3.01e3
ES 1234678D
5.76e6
40.90
Abs. Int.
1.95e6
9.75e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.07e7
5.37e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

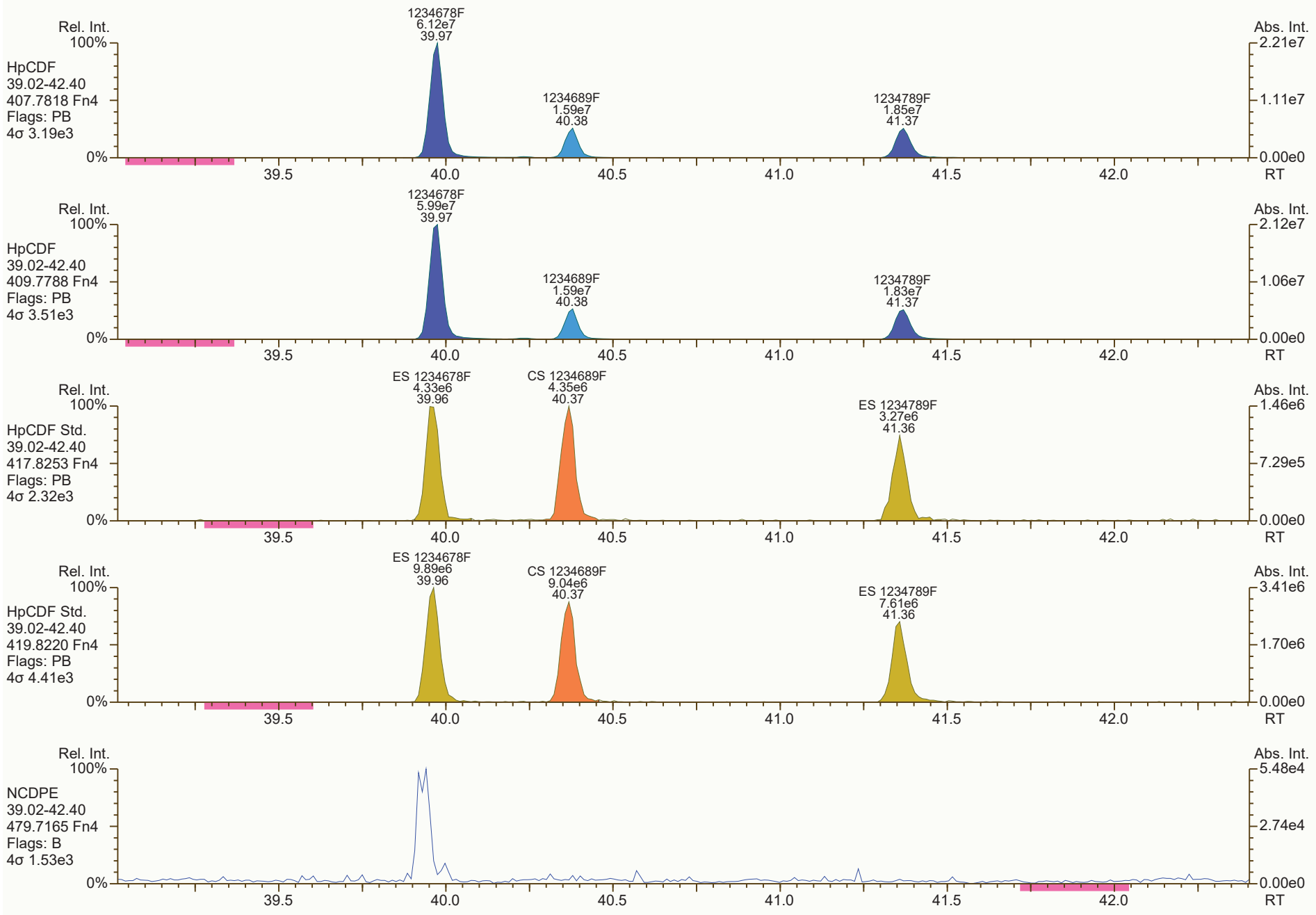

OCDD
1.99e8
43.59
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 3.25e3
OCDD
2.19e8
43.59
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 4.05e3
ES OCDD
7.30e6*
43.57
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 4.87e3
ES OCDD
8.00e6*
43.57
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.06e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.62e3
0%
2378F
2.93e9*
27.85
1278F
1.31e9*
26.95
2348F
1.33e8*
27.72
2367/3467F
2.55e8*
28.21
1289F
2.21e8*
29.88
Abs. Int.
6.56e8
3.28e8
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.90e3
0%
2378F
3.69e9*
27.85
1278F
1.69e9*
26.95
2348F
1.71e8*
27.72
2367/3467F
3.20e8*
28.20
1289F
2.85e8*
29.87
Abs. Int.
8.38e8
4.19e8
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 5.72e3
0%
JS 1234F
1.50e7
26.48
ES 2378F
1.13e7
27.83
Abs. Int.
3.17e6
1.59e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.60e3
0%
JS 1234F
1.87e7
26.48
ES 2378F
1.32e7
27.83
Abs. Int.
4.27e6
2.13e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.61e3
0%
Abs. Int.
4.91e4
2.45e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0

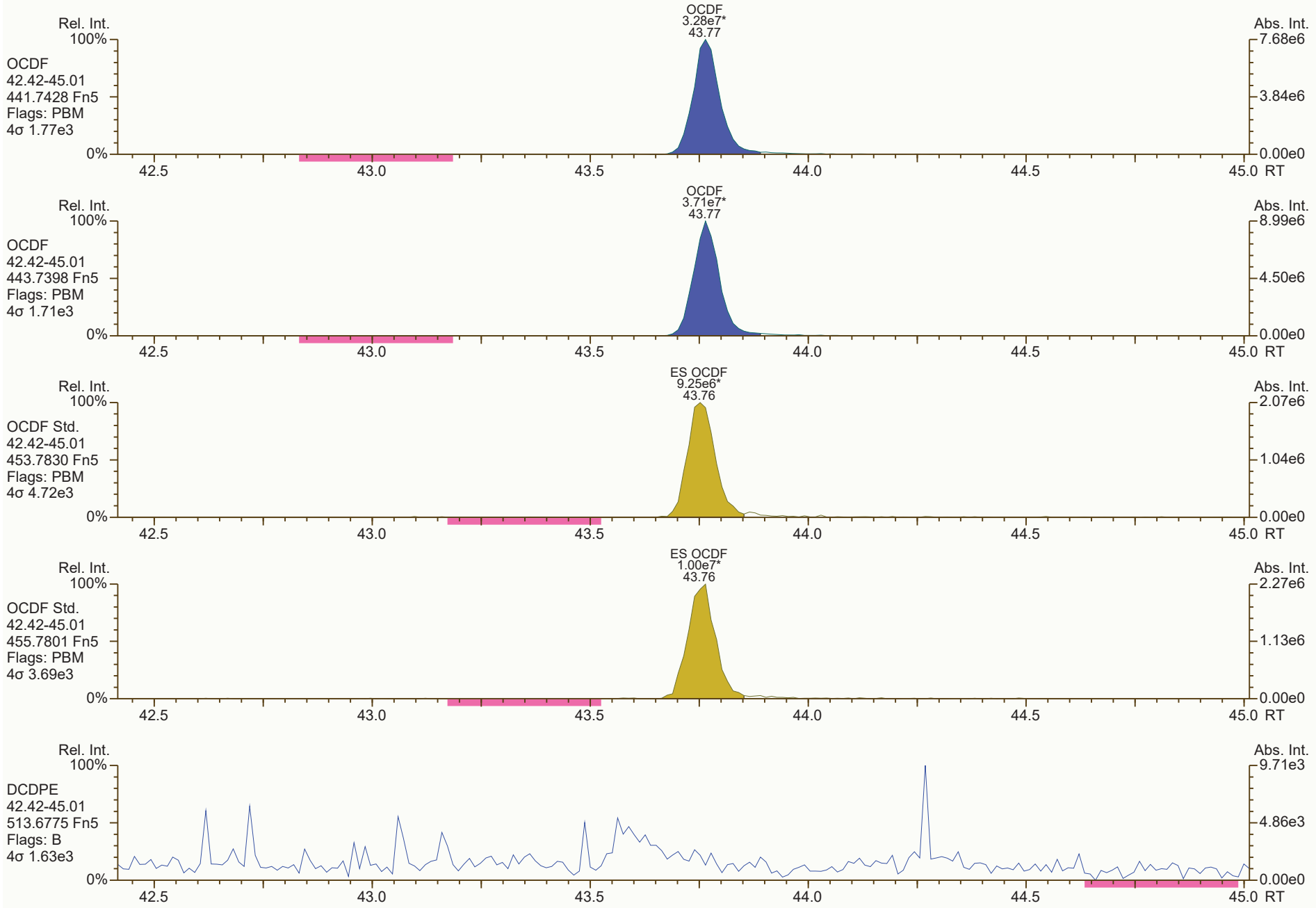

SGS ID: B6182_18851_DF_006
Sample ID: 11215131-011222-S-BN-SC-B-13
Acq: 26-Jan-2022 22:18:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84
User: DTF Datafile: 220126C13
Rel. Int.
100%
0%
Abs. Int.
8.23e5
4.12e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.87e3
13468/12468F
2.71e6
29.82
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.92e3
13468/12468F
1.66e6
29.82
4.93e5
2.47e5
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
9.62e6
4.81e6


Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 5.91e3
12368F...[3]
6.65e7
31.50
12348F
1.29e7
32.37
12378F
1.61e8
32.58
12678/12367F
4.40e7
32.86
23478F
8.59e7*
33.70
4.53e7
2.26e7
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 3.45e3
12368F...[3]
4.22e7
31.50
12348F
8.34e6
32.37
12378F
1.04e8
32.58
12678/12367F
2.82e7
32.86
23478F
5.48e7*
33.70
3.05e7
1.53e7
0.00e0
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 1.90e3
CS 12346F
1.32e7
32.05
ES 12378F
1.34e7
32.56
ES 23478F
1.14e7
33.67
3.77e6
1.89e6
0.00e0
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 4.30e3
CS 12346F
8.87e6
32.05
ES 12378F
8.87e6
32.56
ES 23478F
7.58e6
33.67
2.61e6
1.30e6
0.00e0
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.62e3
1.76e4
8.78e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 6.58e3
123478F
3.09e8
36.89
123678F
7.32e7
37.03
124678/134678F
2.14e7
35.71
123489F
2.12e7*
38.66
Abs. Int.
9.28e7
4.64e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 6.83e3
123478F
2.46e8
36.89
123678F
5.84e7
37.03
124678/134678F
1.70e7
35.71
123489F
1.69e7*
38.66
7.50e7
3.75e7
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 6.88e3
ES 123478F
6.57e6
36.87
ES 123678F
7.43e6
37.01
CS 123469F
6.67e6
37.34
ES 234678F
5.18e6
37.70
ES 123789F
5.75e6
38.62
2.15e6
1.08e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 4.50e3
ES 123478F
1.21e7
36.87
ES 123678F
1.31e7
37.01
CS 123469F
1.25e7
37.33
ES 234678F
9.45e6
37.70
ES 123789F
1.10e7
38.62
3.75e6
1.87e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.29e3
1.45e4
7.23e3


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 3.19e3
0%
1234678F
6.12e7
39.97
1234689F
1.59e7
40.38
1234789F
1.85e7
41.37
Abs. Int.
2.21e7
1.11e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 3.51e3
0%
1234678F
5.99e7
39.97
1234689F
1.59e7
40.38
1234789F
1.83e7
41.37
Abs. Int.
2.12e7
1.06e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 2.32e3
0%
ES 1234678F
4.33e6
39.96
CS 1234689F
4.35e6
40.37
ES 1234789F
3.27e6
41.36
Abs. Int.
1.46e6
7.29e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 4.41e3
0%
ES 1234678F
9.89e6
39.96
CS 1234689F
9.04e6
40.37
ES 1234789F
7.61e6
41.36
Abs. Int.
3.41e6
1.70e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.53e3
0%
Abs. Int.
5.48e4
2.74e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6182_18851_DF_006 Sample ID: 11215131-011222-S-BN-SC-B-13 Acq: 26-Jan-2022 22:18:09
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 84 User: DTF Datafile: 220126C13



Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\B6182_18851_DF_0063ut. _resp s, aev 2d7-, J72022 10:n(TD) Fk
GUG Vltr,) r, ce7Pro / 5312 VseryGnsteK: D) FyVGPF224616 cc: ((09p9282pd6d6 scc: 85d70n6
Pe, i , JJot, tA J: Cre, spSeJtroAvs
P4D: 2d7-, J72022 10:(8 PrAtev: 2d7-, J72022 10:50 P, ge 12 of 12

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220126C01	3	CS3_220126_DF_CA	1.00	SIL 25-347-1	DTF	522-966	26-Jan-2022	11:04:37
2	220126C02	77	OPR1_18851_DF	1.00	0_18851_OPR001	DTF	031-282	26-Jan-2022	12:04:11
3	220126C03	78	OPR2_18851_DF	1.00	0_18851_OPR002	DTF	081-837	26-Jan-2022	12:50:26
5	220126C05	2	SBS_220126_DF_CA	1.00	20-61-1	DTF	365-726	26-Jan-2022	14:23:09
6	220126C06	76	MB1_18851_DF_SDS	10.00	Method Blank	DTF	603-670	26-Jan-2022	16:53:42
7	220126C08	79	B6182_18851_DF_001	10.10	11215131-011222-S-BN-SC-O-14a	DTF	576-441	26-Jan-2022	18:26:24
8	220126C09	80	B6182_18851_DF_002	10.07	11215131-011222-S-BN-SC-B-8a	DTF	471-294	26-Jan-2022	19:12:46
9	220126C10	81	B6182_18851_DF_003	10.15	11215131-011222-S-BN-SC-O-18	DTF	139-332	26-Jan-2022	19:59:07
10	220126C11	82	B6182_18851_DF_004	10.14	11215131-011222-S-BN-SC-B-12	DTF	024-057	26-Jan-2022	20:45:28
11	220126C12	83	B6182_18851_DF_005	10.11	11215131-011222-S-BN-SC-O-19	DTF	226-711	26-Jan-2022	21:31:48
12	220126C13	84	B6182_18851_DF_006	10.08	11215131-011222-S-BN-SC-B-13	DTF	857-046	26-Jan-2022	22:18:09

Dioxin/Furan QC Summary	Acq'd: 26 Jan 2022 11:04 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220126_DF_CA	UTP: 27-Jan-2022 10:38:13 DTF	Checkcode: 522-966-SVF
Sample ID: SIL 25-347-1	Report: 27 Jan 2022 10:40 TF	Datafile: 220126C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.65	2.32E+06	0.78	Y	1.18	1.12	-6%
12378-PeCDD	33.96	8.38E+06	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.85	8.26E+06	1.22	Y	1.09	1.17	8%
123678-HxCDD	37.97	8.39E+06	1.32	Y	1.15	1.12	-3%
123789-HxCDD	38.25	8.65E+06	1.28	Y	1.05	1.07	2%
1234678-HpCDD	40.88	6.77E+06	1.07	Y	1.06	1.00	-5%
OCDD	43.55	1.04E+07	0.92	Y	1.13	1.17	4%
2378-TCDF	27.80	3.35E+06	0.82	Y	1.08	1.04	-3%
12378-PeCDF	32.52	1.18E+07	1.57	Y	1.02	0.95	-8%
23478-PeCDF	33.62	1.20E+07	1.47	Y	1.02	0.94	-8%
123478-HxCDF	36.85	1.26E+07	1.25	Y	1.27	1.25	-2%
123678-HxCDF	36.99	1.37E+07	1.22	Y	1.15	1.16	1%
234678-HxCDF	37.67	1.24E+07	1.23	Y	1.19	1.17	-2%
123789-HxCDF	38.61	1.04E+07	1.27	Y	1.16	1.13	-3%
1234678-HpCDF	39.95	1.04E+07	1.03	Y	1.37	1.32	-4%
1234789-HpCDF	41.34	7.86E+06	1.00	Y	1.31	1.17	-11%
OCDF	43.73	1.33E+07	0.92	Y	1.07	1.05	-2%
ES 2378-TCDD	28.63	2.07E+07	0.82	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.94	1.71E+07	1.59	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.836	1.41E+07	1.23	Y	0.97	0.94	-3%
ES 123678-HxCDD	37.95	1.50E+07	1.32	Y	0.94	1.01	7%
ES 123789-HxCDD	38.238	1.62E+07	1.25	Y	1.09	1.09	-1%
ES 1234678-HpCDD	40.866	1.35E+07	1.04	Y	0.91	0.91	-1%
ES OCDD	43.535	1.78E+07	0.93	Y	0.62	0.60	-4%
ES 2378-TCDF	27.783	3.21E+07	0.82	Y	1.06	1.00	-5%
ES 12378-PeCDF	32.5	2.49E+07	1.52	Y	0.91	0.78	-15%
ES 23478-PeCDF	33.607	2.56E+07	1.49	Y	0.88	0.80	-9%
ES 123478-HxCDF	36.83	2.03E+07	0.56	Y	1.20	1.36	13%
ES 123678-HxCDF	36.97	2.37E+07	0.54	Y	1.35	1.59	17%
ES 234678-HxCDF	37.655	2.12E+07	0.55	Y	1.24	1.42	14%
ES 123789-HxCDF	38.592	1.85E+07	0.54	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.936	1.57E+07	0.44	Y	0.97	1.05	9%
ES 1234789-HpCDF	41.336	1.34E+07	0.44	Y	0.85	0.90	6%
ES OCDF	43.723	2.52E+07	0.89	Y	0.81	0.85	5%

Dioxin/Furan QC Summary	Acq'd: 26 Jan 2022 11:04 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220126_DF_CA	UTP: 27-Jan-2022 10:38:13 DTF	Checkcode: 522-966-SVF
Sample ID: SIL 25-347-1	Report: 27 Jan 2022 10:40 TF	Datafile: 220126C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.97	2.02E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.44	3.20E+07	0.77	Y	-	-	-
JS 123467-HxCDD	38.14	7.45E+06	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.66	2.67E+06	n/a	-	1.20	1.32	10%
CS 12347-PeCDD	33.44	1.57E+07	1.65	Y	0.75	0.78	3%
CS 12346-PeCDF	31.97	2.58E+07	1.51	Y	0.85	0.81	-5%
CS 123469-HxCDF	37.29	2.09E+07	0.55	Y	1.12	1.41	26%
CS 1234689-HpCDF	40.33	1.63E+07	0.43	Y	0.89	1.09	23%
SS 37Cl-2378-TCDD	28.66	2.67E+06	n/a	-	1.15	1.29	12%
SS 12347-PeCDD	33.44	1.57E+07	1.65	Y	0.86	0.92	7%
SS 12346-PeCDF	31.97	2.58E+07	1.51	Y	0.94	1.04	11%
SS 123469-HxCDF	37.29	2.09E+07	0.55	Y	0.83	0.88	7%
SS 1234689-HpCDF	40.33	1.63E+07	0.43	Y	0.92	1.04	13%
OCDD-a	43.53	5.44E+05	2.78	Y	0.07	0.06	-15%
OCDF-a	43.73	6.74E+05	2.98	N	0.07	0.05	-19%

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220126C01 Analysis Date: 26-JAN-2022 11:04:37

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.78	0.65 - 0.89	Y	9.44	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32 - 1.78	Y	47.3	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05 - 1.43	Y	53.9	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	48.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	51	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	47.3	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	104	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.82	0.65 - 0.89	Y	9.68	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	46.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.47	1.32 - 1.78	Y	45.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	50.4	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	49.2	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	48.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88 - 1.20	Y	44.7	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	98.3	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 27 Jan 2022 10:40 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

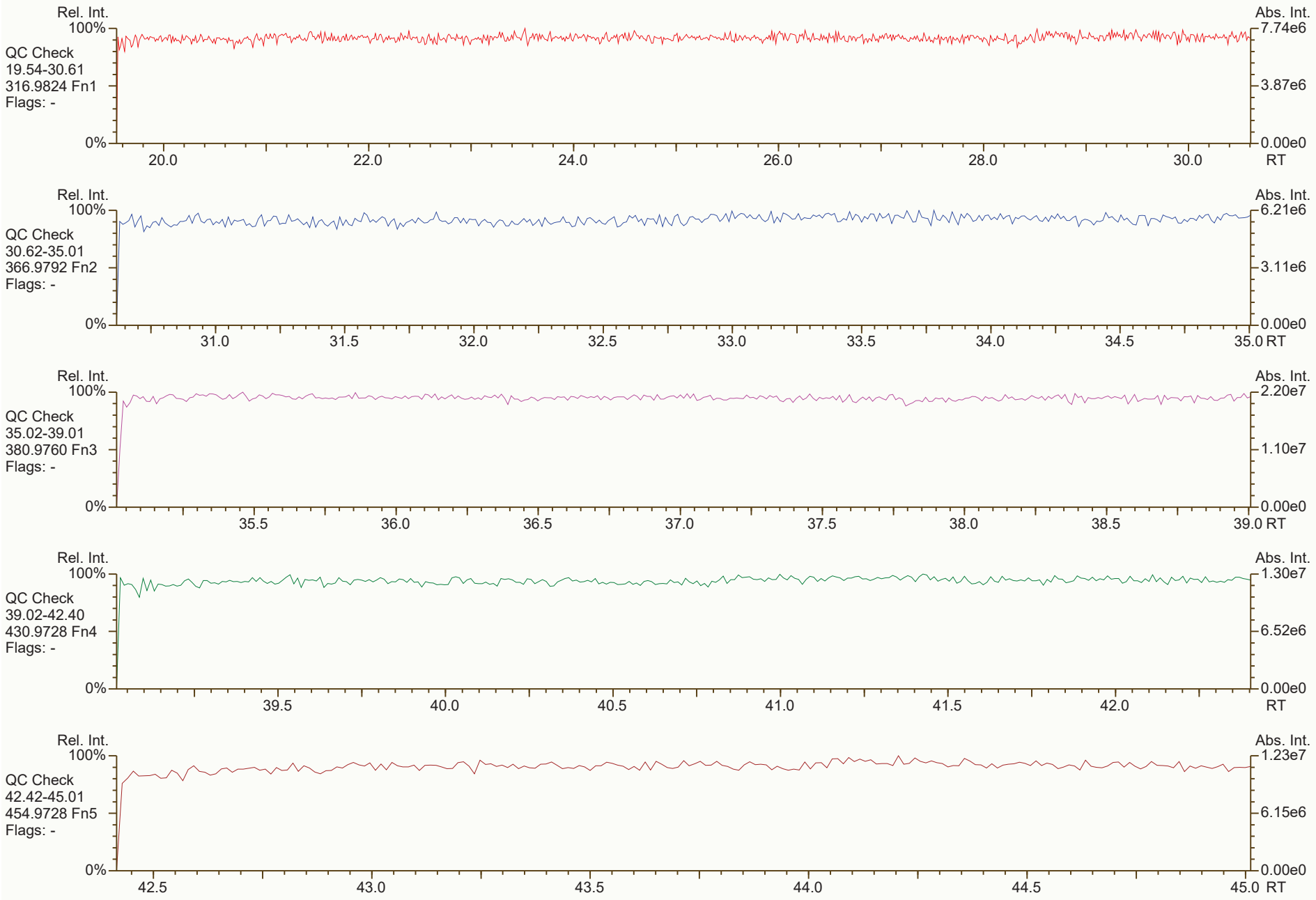
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

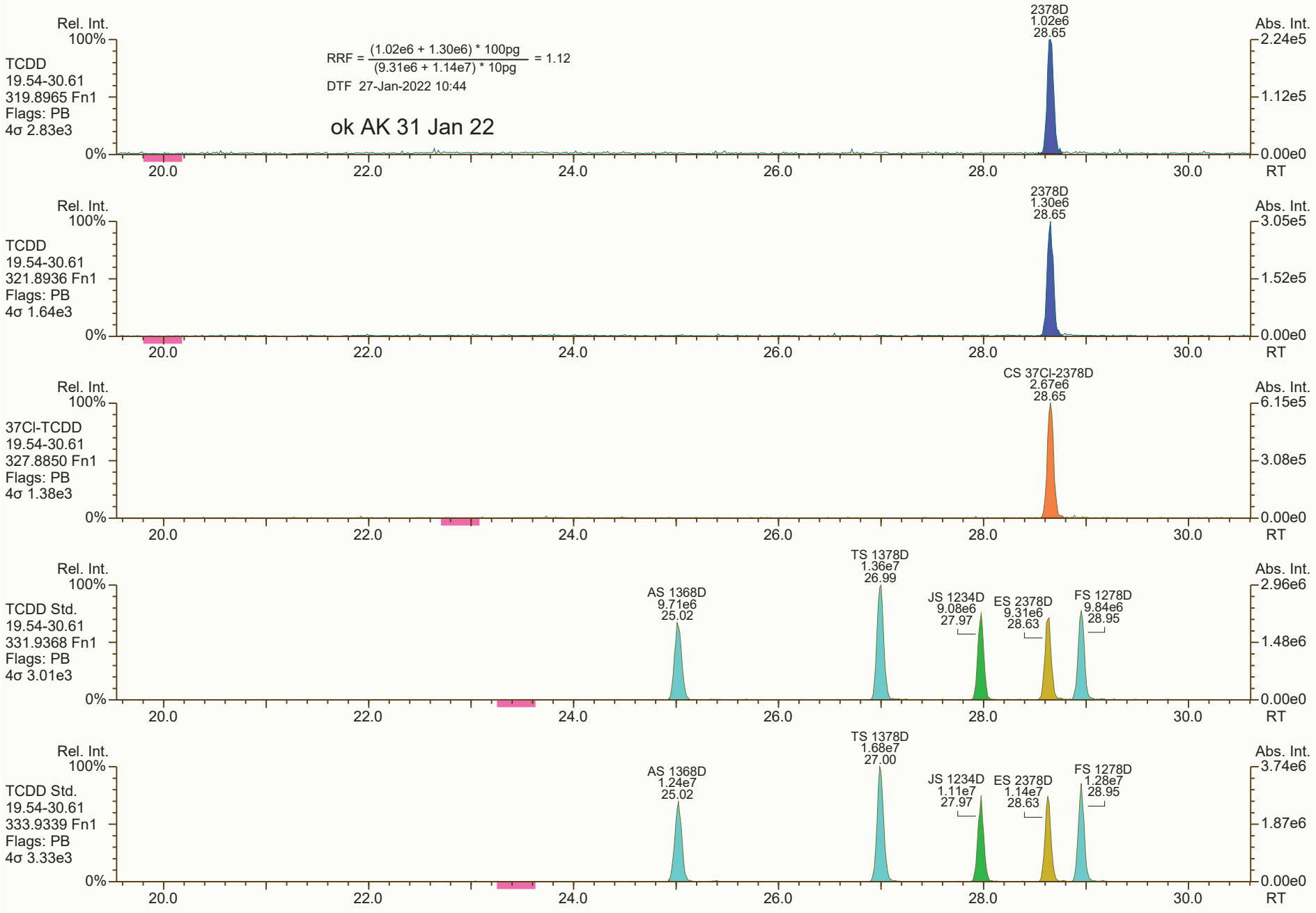
Instrument ID: HRMS3 GC Column ID: ZB-5ms

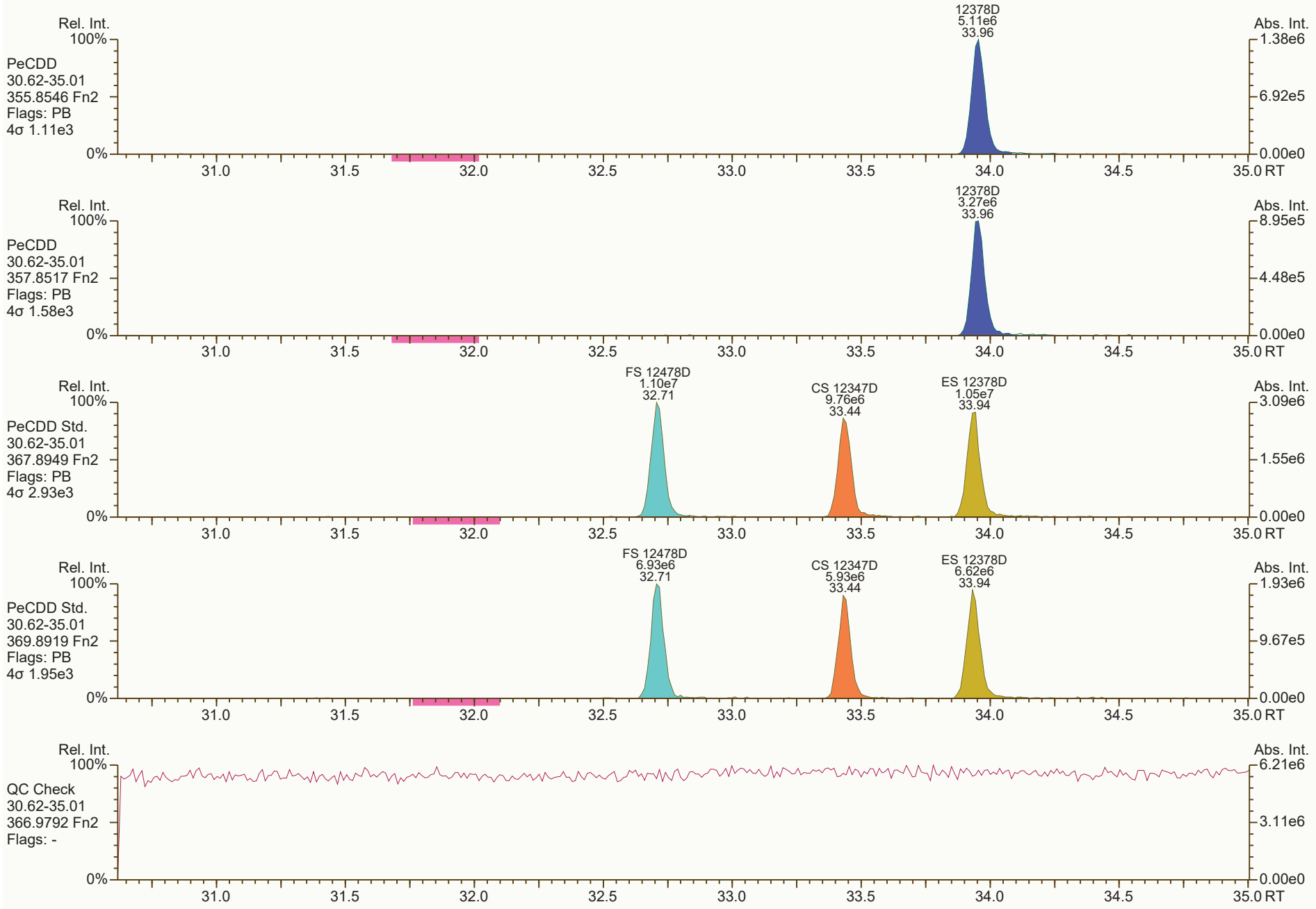
VER Data Filename: 220126C01 Analysis Date: 26-JAN-2022 11:04:37

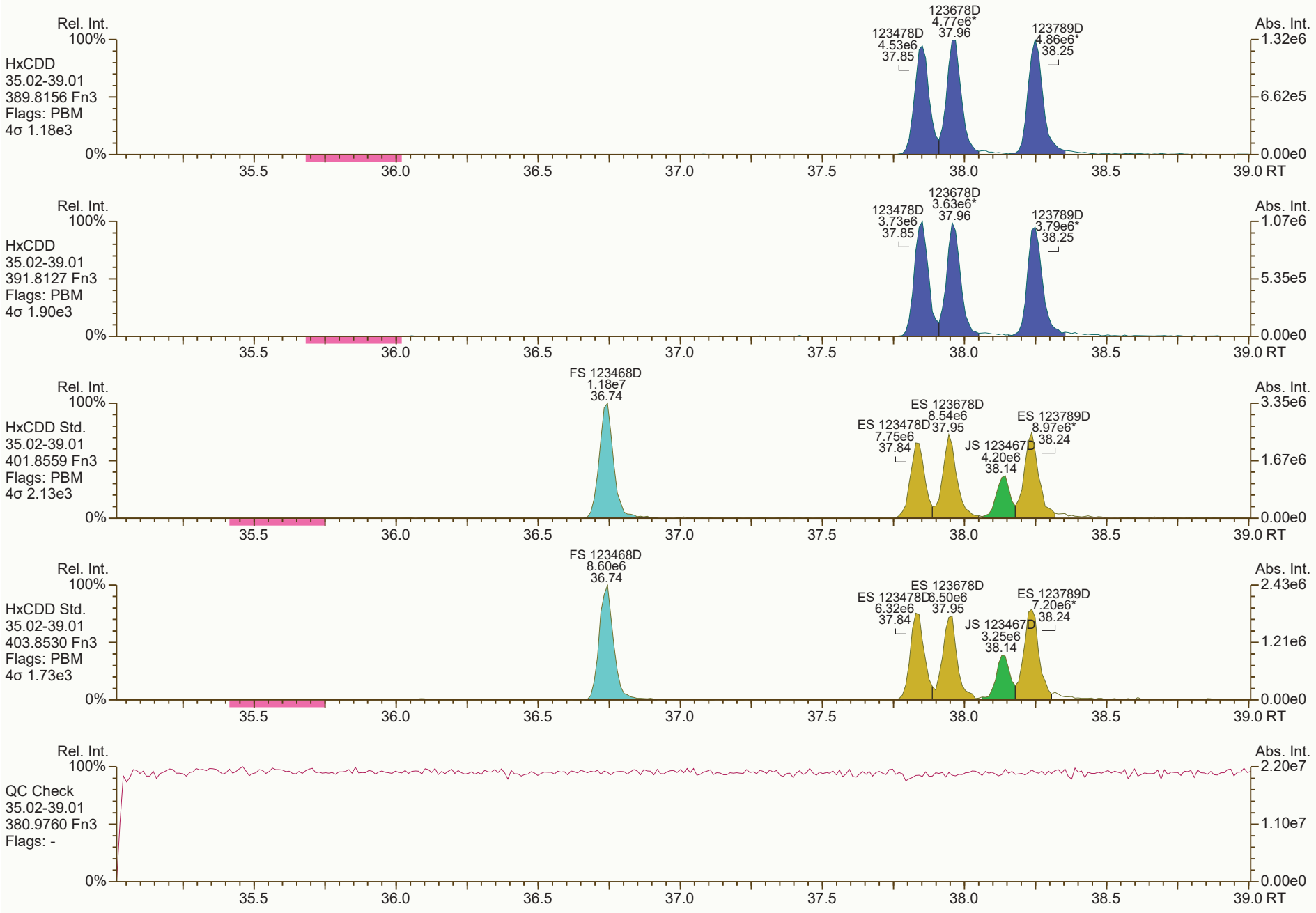
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	98.3	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	96.4	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	97.1	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	107	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	99.4	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	99.2	72 - 138	Y
13C-OCDD	M+2/M+4	0.93	0.76 - 1.02	Y	191	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65 - 0.89	Y	94.5	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	85.4	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.49	1.32 - 1.78	Y	90.6	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43 - 0.59	Y	113	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	117	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	114	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	107	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	109	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	106	77 - 129	Y
13C-OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	209	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	103	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	94.8	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	126	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.43	0.37 - 0.51	Y	123	70 - 130	Y

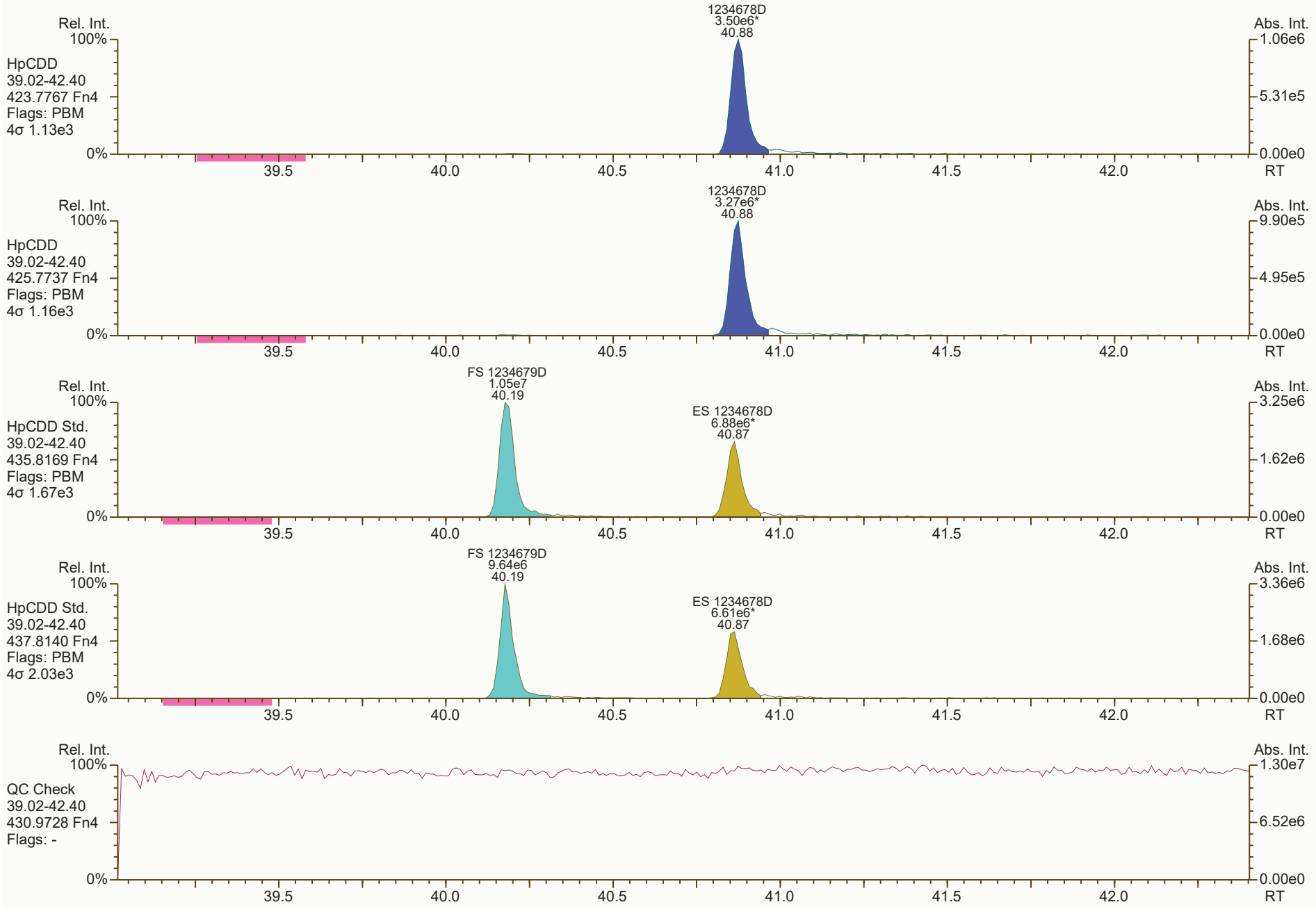
Processed: 27 Jan 2022 10:40 Analyst: TF

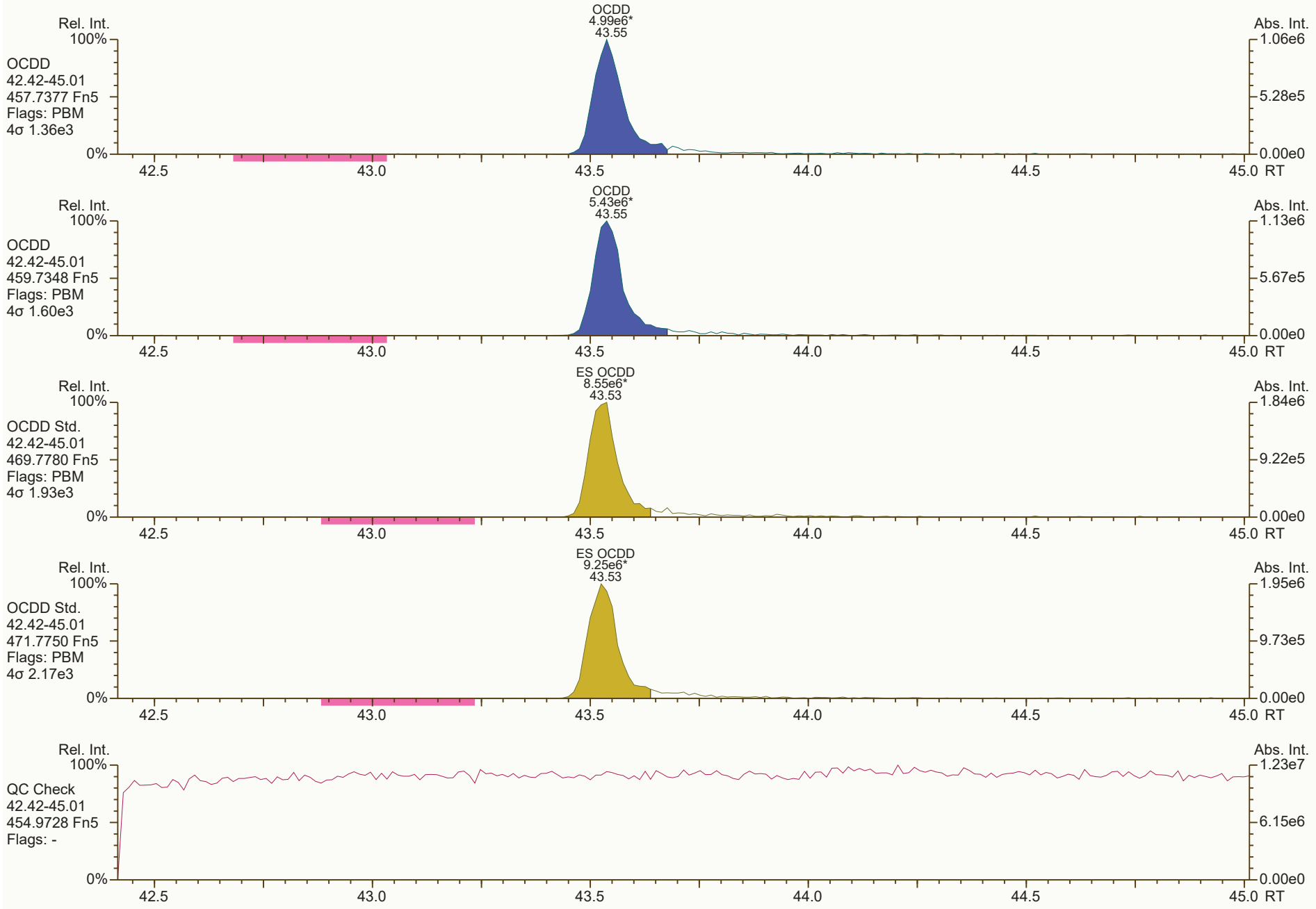

Rel. Int.
100%
0%
Abs. Int.
7.74e6
3.87e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
6.21e6
3.11e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
2.20e7
1.10e7
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.30e7
6.52e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.23e7
6.15e6
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 2.83e3
0%
RRF = (1.02e6 + 1.30e6) * 100pg / (9.31e6 + 1.14e7) * 10pg = 1.12
DTF 27-Jan-2022 10:44
ok AK 31 Jan 22
2378D
1.02e6
28.65
Abs. Int.
2.24e5
1.12e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 1.64e3
2378D
1.30e6
28.65
3.05e5
1.52e5
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.38e3
CS 37Cl-2378D
2.67e6
28.65
6.15e5
3.08e5
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 3.01e3
AS 1368D
9.71e6
25.02
TS 1378D
1.36e7
26.99
JS 1234D
9.08e6
27.97
ES 2378D
9.31e6
28.63
FS 1278D
9.84e6
28.95
2.96e6
1.48e6
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.33e3
AS 1368D
1.24e7
25.02
TS 1378D
1.68e7
27.00
JS 1234D
1.11e7
27.97
ES 2378D
1.14e7
28.63
FS 1278D
1.28e7
28.95
3.74e6
1.87e6


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.11e3
0%
12378D
5.11e6
33.96
Abs. Int.
1.38e6
6.92e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.58e3
0%
12378D
3.27e6
33.96
Abs. Int.
8.95e5
4.48e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 2.93e3
0%
FS 12478D
1.10e7
32.71
CS 12347D
9.76e6
33.44
ES 12378D
1.05e7
33.94
Abs. Int.
3.09e6
1.55e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 1.95e3
0%
FS 12478D
6.93e6
32.71
CS 12347D
5.93e6
33.44
ES 12378D
6.62e6
33.94
Abs. Int.
1.93e6
9.67e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.21e6
3.11e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

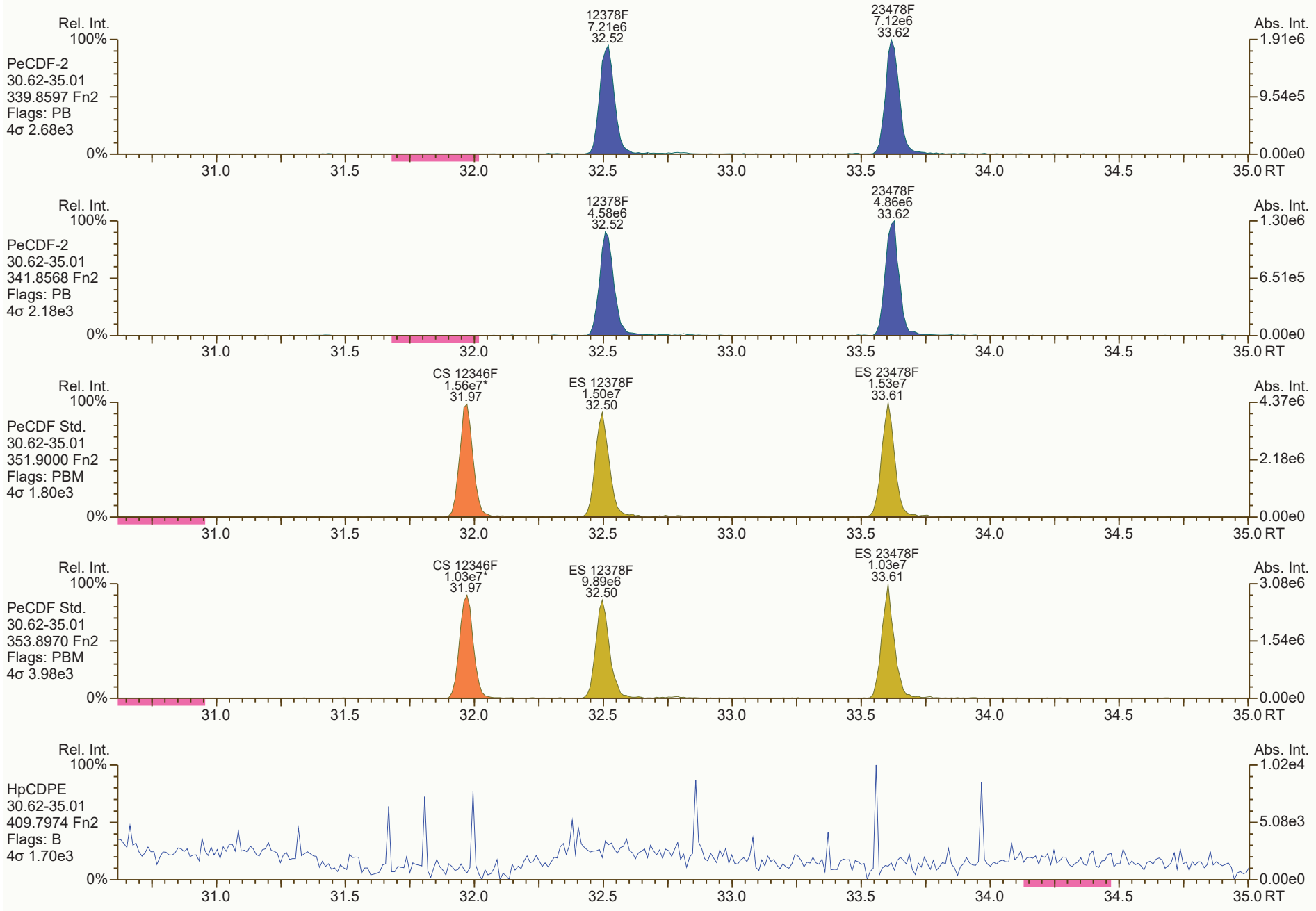

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.18e3
123478D
4.53e6
37.85
123678D
4.77e6*
37.96
123789D
4.86e6*
38.25
Abs. Int.
1.32e6
6.62e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.90e3
123478D
3.73e6
37.85
123678D
3.63e6*
37.96
123789D
3.79e6*
38.25
Abs. Int.
1.07e6
5.35e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.13e3
FS 123468D
1.18e7
36.74
ES 123678D
8.54e6
37.95
ES 123478D
7.75e6
37.84
JS 123467D
4.20e6
38.14
ES 123789D
8.97e6*
38.24
Abs. Int.
3.35e6
1.67e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.73e3
FS 123468D
8.60e6
36.74
ES 123678D
6.50e6
37.95
ES 123478D
6.32e6
37.84
JS 123467D
3.25e6
38.14
ES 123789D
7.20e6*
38.24
Abs. Int.
2.43e6
1.21e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
2.20e7
1.10e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

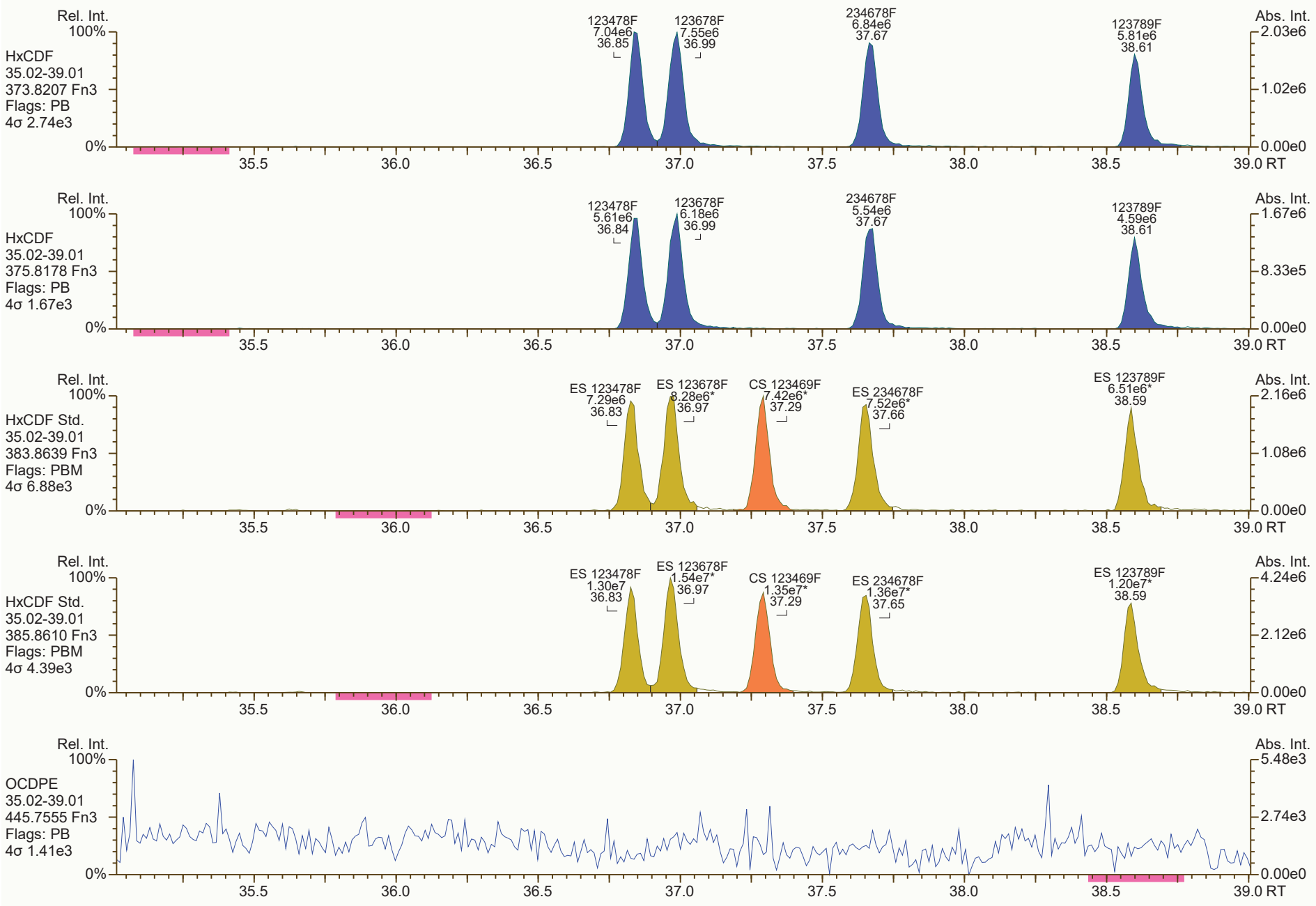

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.13e3
1234678D
3.50e6*
40.88
Abs. Int.
1.06e6
5.31e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.16e3
1234678D
3.27e6*
40.88
Abs. Int.
9.90e5
4.95e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.67e3
FS 1234679D
1.05e7
40.19
ES 1234678D
6.88e6*
40.87
Abs. Int.
3.25e6
1.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.03e3
FS 1234679D
9.64e6
40.19
ES 1234678D
6.61e6*
40.87
Abs. Int.
3.36e6
1.68e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.30e7
6.52e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

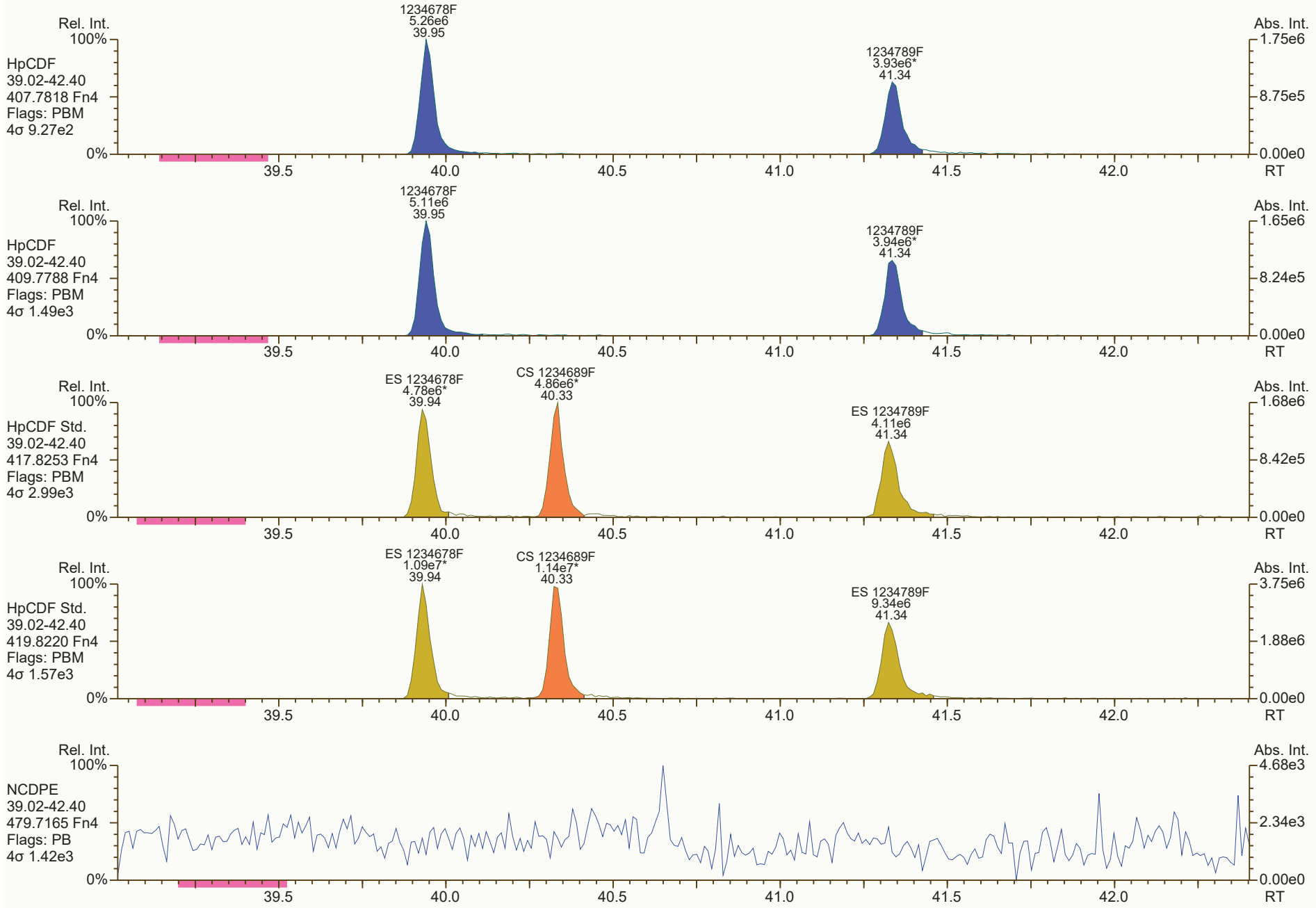

OCDD
4.99e6*
43.55
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.36e3
OCDD
5.43e6*
43.55
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.60e3
ES OCDD
8.55e6*
43.53
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.93e3
ES OCDD
9.25e6*
43.53
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.17e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

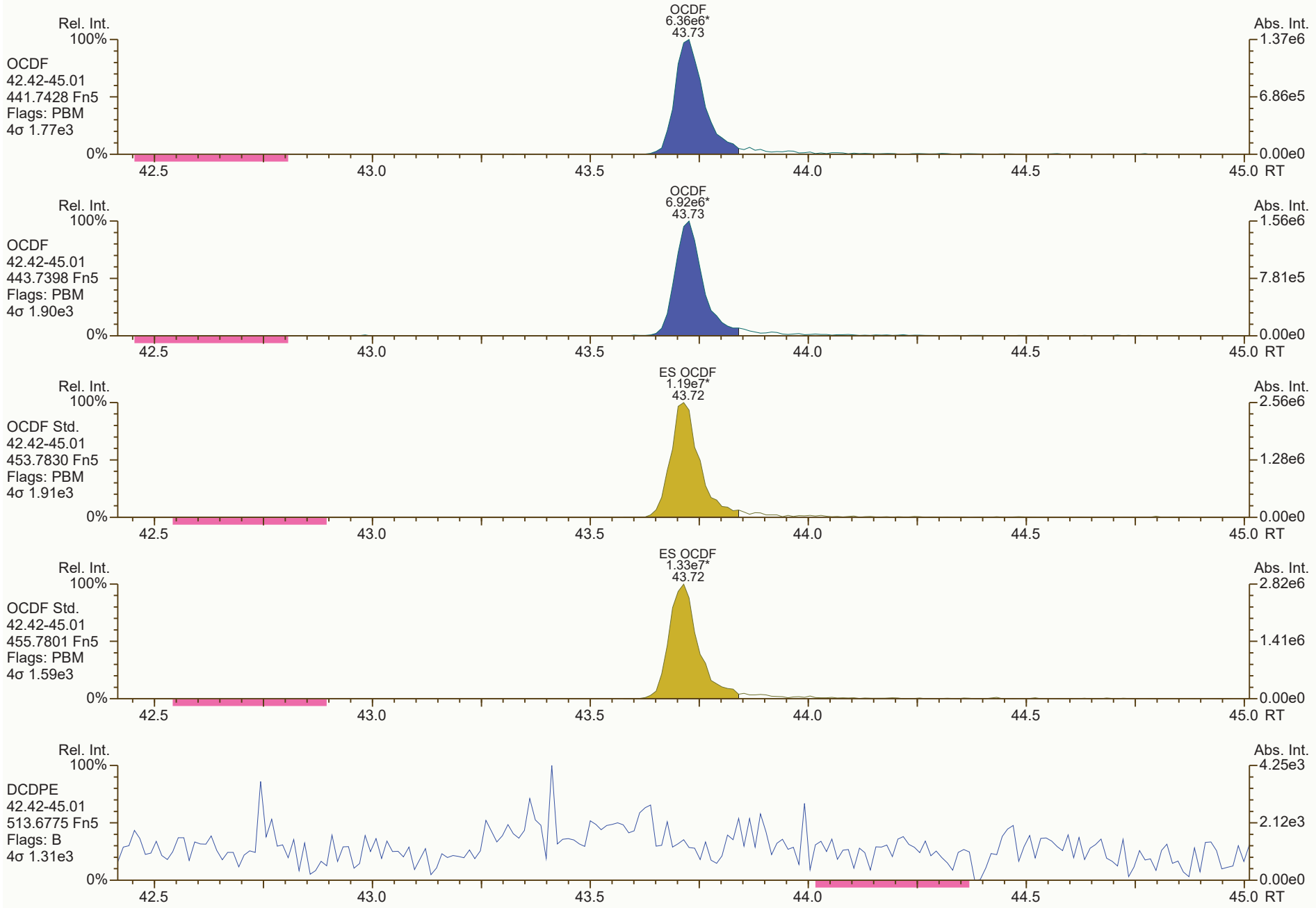

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.61e3
0%
2378F
1.51e6
27.80
Abs. Int.
3.71e5
1.86e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 2.29e3
0%
2378F
1.84e6
27.80
Abs. Int.
4.34e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 1.66e3
0%
AS 1368F
1.67e7
22.95
JS 1234F
1.39e7
26.44
ES 2378F
1.45e7
27.78
Abs. Int.
3.20e6
1.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.33e3
0%
AS 1368F
2.06e7
22.95
JS 1234F
1.81e7
26.43
ES 2378F
1.76e7
27.78
Abs. Int.
3.85e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.36e4
6.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

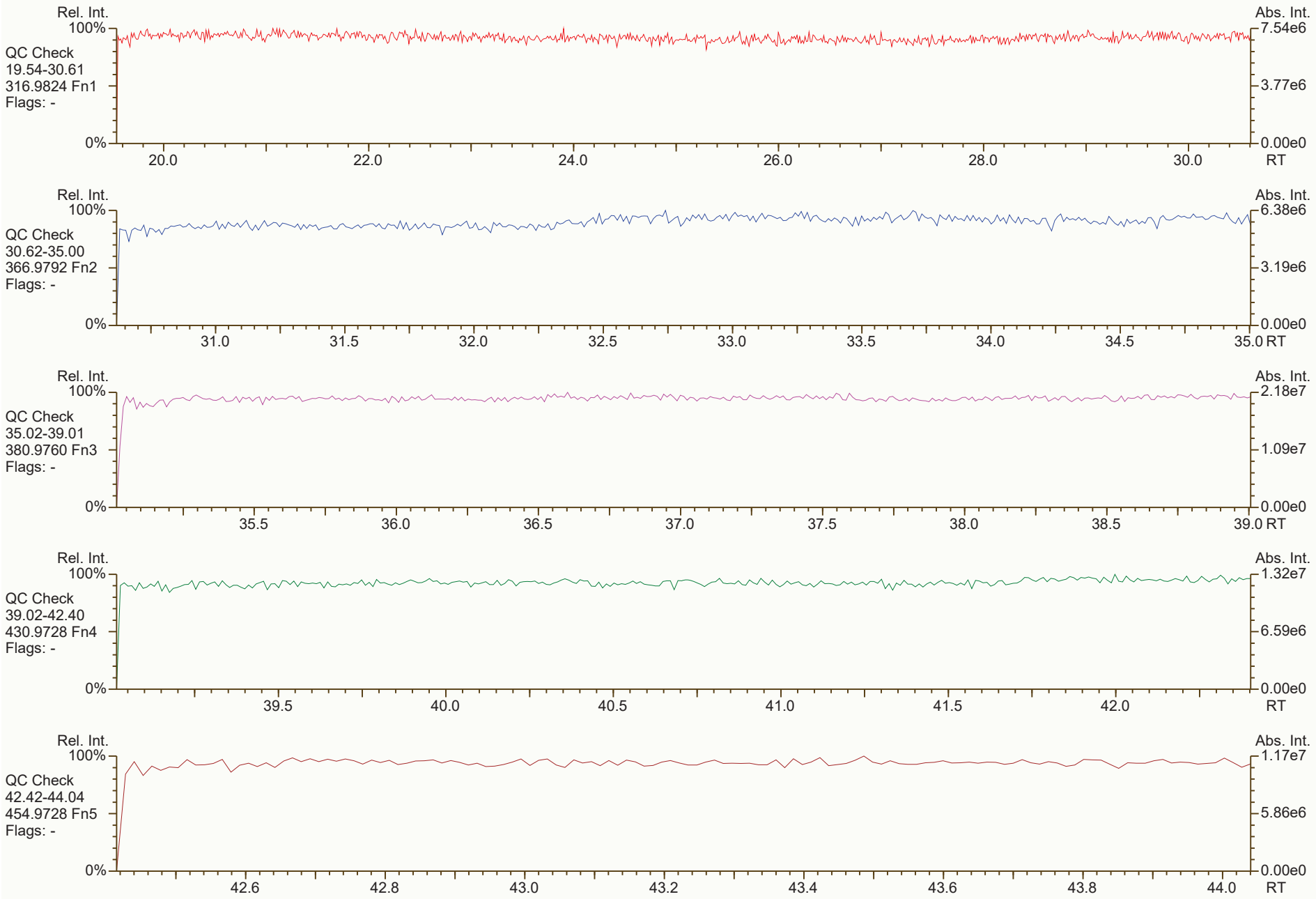

Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
RT
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.27e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
1.50e4
7.51e3
0.00e0
RT
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 2.03e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
7.74e6
3.87e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 2.68e3
0%
12378F
7.21e6
32.52
23478F
7.12e6
33.62
Abs. Int.
1.91e6
9.54e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 2.18e3
0%
12378F
4.58e6
32.52
23478F
4.86e6
33.62
Abs. Int.
1.30e6
6.51e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PBM
4σ 1.80e3
0%
CS 12346F
1.56e7*
31.97
ES 12378F
1.50e7
32.50
ES 23478F
1.53e7
33.61
Abs. Int.
4.37e6
2.18e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PBM
4σ 3.98e3
0%
CS 12346F
1.03e7*
31.97
ES 12378F
9.89e6
32.50
ES 23478F
1.03e7
33.61
Abs. Int.
3.08e6
1.54e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 2.74e3
123478F
7.04e6
36.85
123678F
7.55e6
36.99
234678F
6.84e6
37.67
123789F
5.81e6
38.61
Abs. Int.
2.03e6
1.02e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.67e3
123478F
5.61e6
36.84
123678F
6.18e6
36.99
234678F
5.54e6
37.67
123789F
4.59e6
38.61
Abs. Int.
1.67e6
8.33e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 6.88e3
ES 123478F
7.29e6
36.83
ES 123678F
8.28e6*
36.97
CS 123469F
7.42e6*
37.29
ES 234678F
7.52e6*
37.66
ES 123789F
6.51e6*
38.59
Abs. Int.
2.16e6
1.08e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.39e3
ES 123478F
1.30e7
36.83
ES 123678F
1.54e7*
36.97
CS 123469F
1.35e7*
37.29
ES 234678F
1.36e7*
37.65
ES 123789F
1.20e7*
38.59
Abs. Int.
4.24e6
2.12e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.41e3
Abs. Int.
5.48e3
2.74e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 9.27e2
1234678F
5.26e6
39.95
1234789F
3.93e6*
41.34
Abs. Int.
1.75e6
8.75e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
5.11e6
39.95
1234789F
3.94e6*
41.34
Abs. Int.
1.65e6
8.24e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.99e3
ES 1234678F
4.78e6*
39.94
CS 1234689F
4.86e6*
40.33
ES 1234789F
4.11e6
41.34
Abs. Int.
1.68e6
8.42e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.57e3
ES 1234678F
1.09e7*
39.94
CS 1234689F
1.14e7*
40.33
ES 1234789F
9.34e6
41.34
Abs. Int.
3.75e6
1.88e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.42e3
Abs. Int.
4.68e3
2.34e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.77e3
0%
OCDF
6.36e6*
43.73
Abs. Int.
1.37e6
6.86e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.90e3
0%
OCDF
6.92e6*
43.73
Abs. Int.
1.56e6
7.81e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.91e3
0%
ES OCDF
1.19e7*
43.72
Abs. Int.
2.56e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.59e3
0%
ES OCDF
1.33e7*
43.72
Abs. Int.
2.82e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.31e3
0%
Abs. Int.
4.25e3
2.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.54e6
3.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.38e6
3.19e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.59e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-44.04
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.17e7
5.86e6
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT

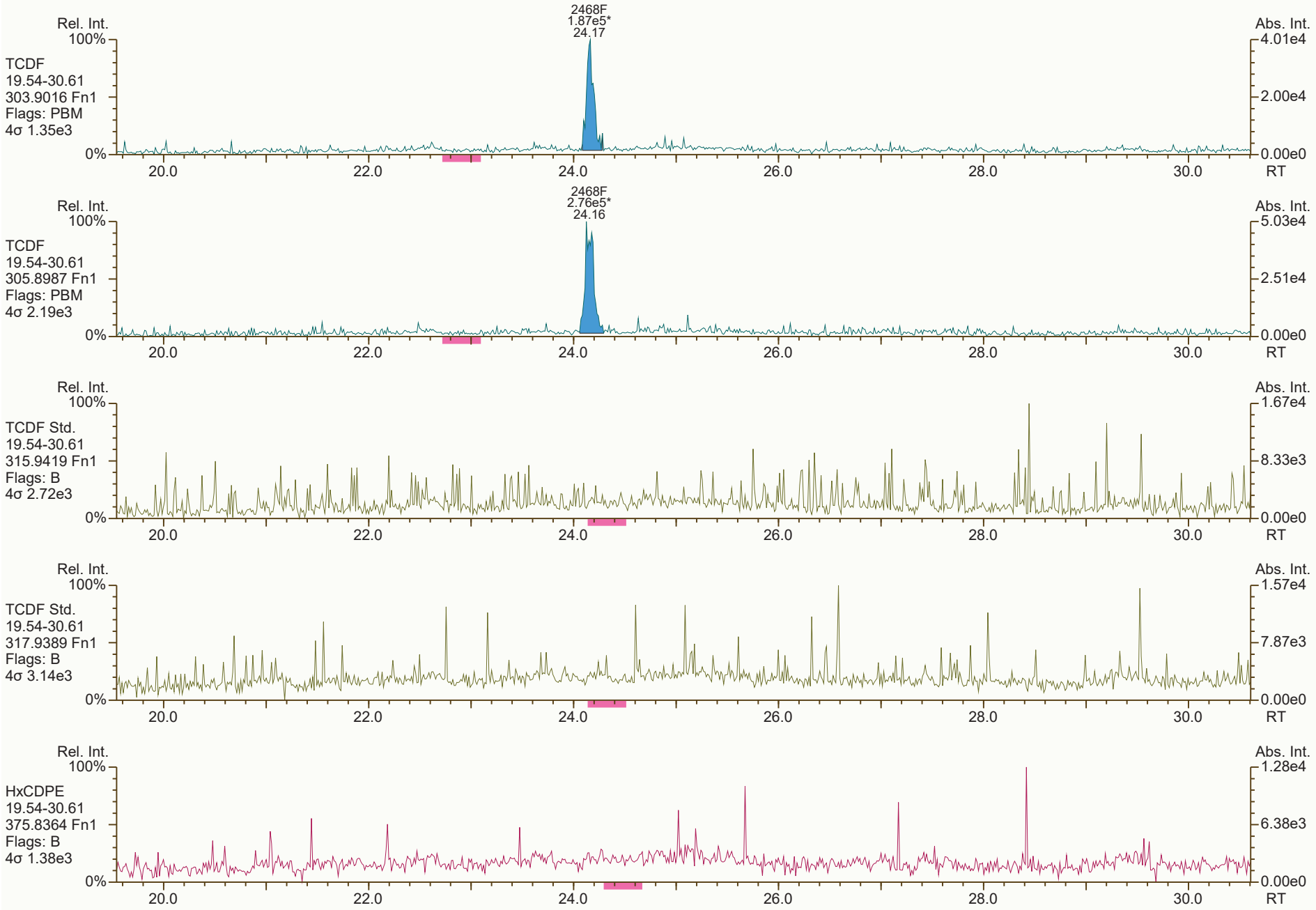

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 1.76e3
0%
Abs. Int.
7.49e3
3.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
7.64e3
3.82e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.32e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 4.68e3
0%
Abs. Int.
2.11e4
1.05e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.91e4
9.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 9.39e2
0%
Abs. Int.
5.61e3
2.81e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.32e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.82e4
9.12e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.67e4
8.34e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.38e6
3.19e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

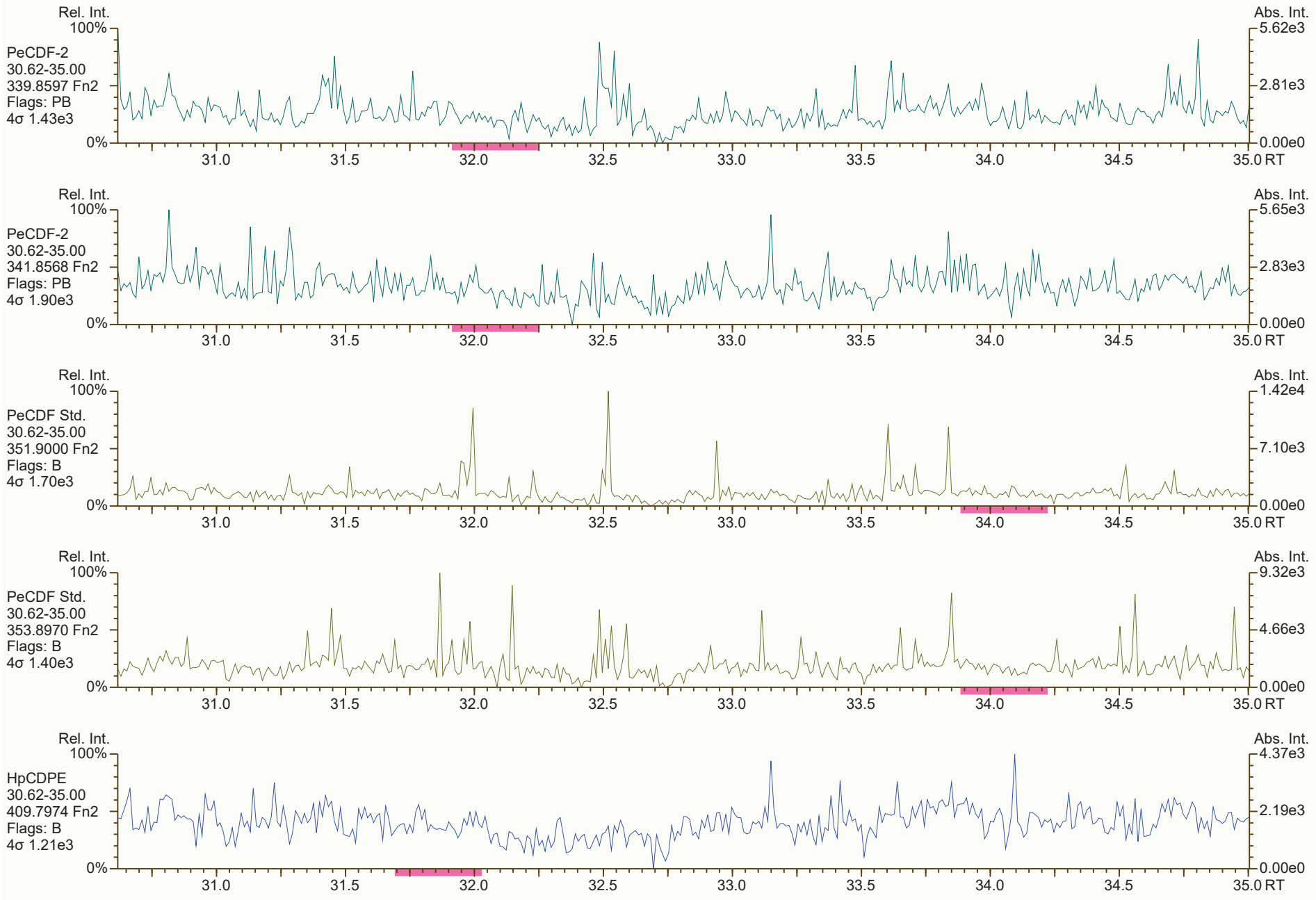

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.24e3
2.62e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
6.75e3
3.38e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 1.81e3
0%
Abs. Int.
1.54e4
7.69e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 2.44e3
0%
Abs. Int.
8.90e3
4.45e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

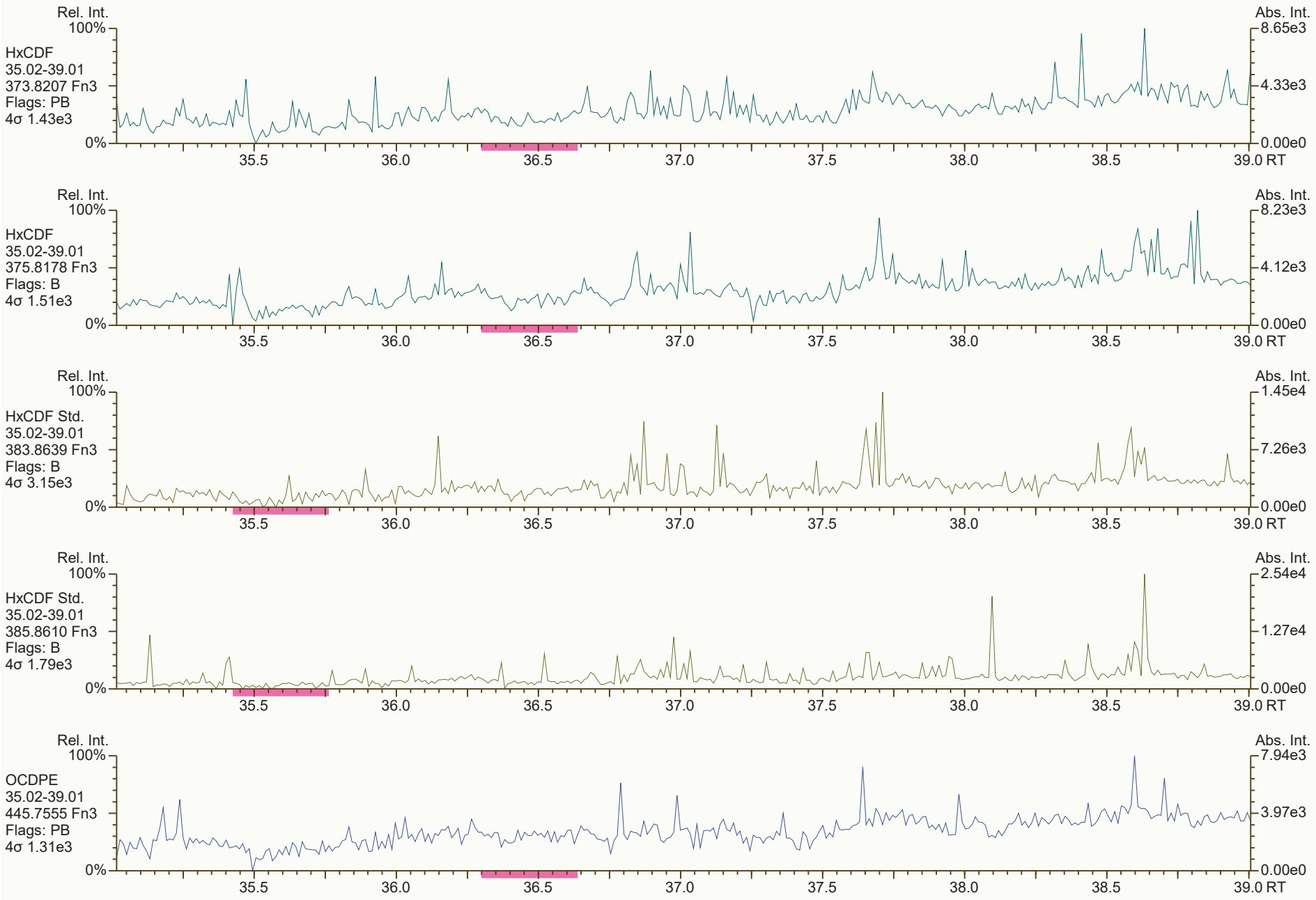

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
7.97e3
3.99e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 9.47e2
0%
Abs. Int.
4.42e3
2.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.51e4
7.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.59e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-44.04
457.7377 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
7.05e3
3.53e3
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
OCDD
42.42-44.04
459.7348 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
3.94e3
1.97e3
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
OCDD Std.
42.42-44.04
469.7780 Fn5
Flags: B
4σ 1.89e3
0%
Abs. Int.
9.46e3
4.73e3
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
OCDD Std.
42.42-44.04
471.7750 Fn5
Flags: B
4σ 1.57e3
0%
Abs. Int.
7.57e3
3.79e3
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
QC Check
42.42-44.04
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.17e7
5.86e6
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2468F
1.87e5*
24.17
Abs. Int.
4.01e4
2.00e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.19e3
2468F
2.76e5*
24.16
Abs. Int.
5.03e4
2.51e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 2.72e3
Abs. Int.
1.67e4
8.33e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 3.14e3
Abs. Int.
1.57e4
7.87e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.38e3
Abs. Int.
1.28e4
6.38e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.79e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.62e4
8.10e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.48e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.54e6
3.77e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
5.62e3
2.81e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 1.90e3
0%
Abs. Int.
5.65e3
2.83e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: B
4σ 1.40e3
0%
Abs. Int.
9.32e3
4.66e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.21e3
0%
Abs. Int.
4.37e3
2.19e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

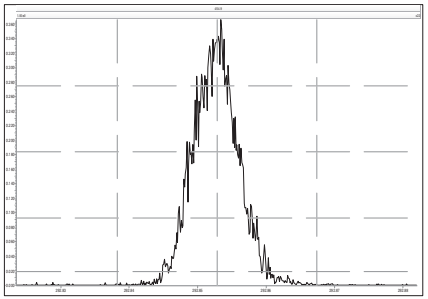

Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
8.65e3
4.33e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.51e3
0%
Abs. Int.
8.23e3
4.12e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 3.15e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 1.79e3
0%
Abs. Int.
2.54e4
1.27e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.52e3
0%
Abs. Int.
7.26e3
3.63e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.04e3
0%
Abs. Int.
5.93e3
2.97e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 2.35e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 2.18e3
0%
Abs. Int.
1.86e4
9.32e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
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3.46e3
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42.0
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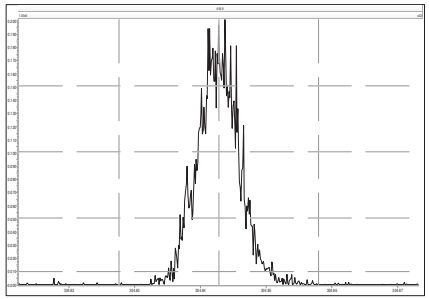

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100%
OCDF
42.42-44.04
441.7428 Fn5
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1.43e4
7.17e3
0.00e0
42.6
42.8
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43.4
43.6
43.8
44.0
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Rel. Int.
100%
OCDF
42.42-44.04
443.7398 Fn5
Flags: PB
4σ 9.38e2
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Abs. Int.
6.40e3
3.20e3
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
OCDF Std.
42.42-44.04
453.7830 Fn5
Flags: B
4σ 1.88e3
0%
Abs. Int.
6.74e3
3.37e3
0.00e0
42.6
42.8
43.0
43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
OCDF Std.
42.42-44.04
455.7801 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
2.58e4
1.29e4
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43.2
43.4
43.6
43.8
44.0
RT
Rel. Int.
100%
DCDPE
42.42-44.04
513.6775 Fn5
Flags: B
4σ 1.10e3
0%
Abs. Int.
8.50e3
4.25e3
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RT

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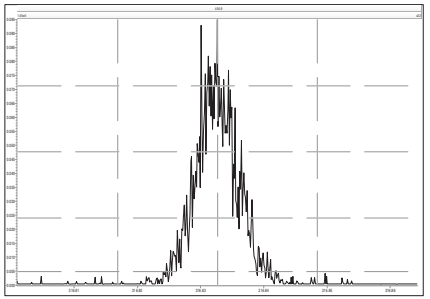
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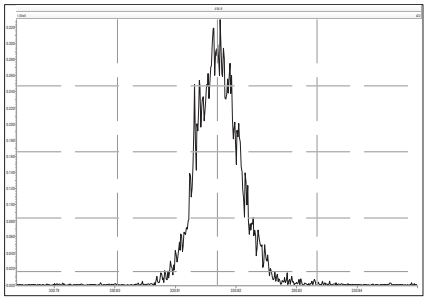
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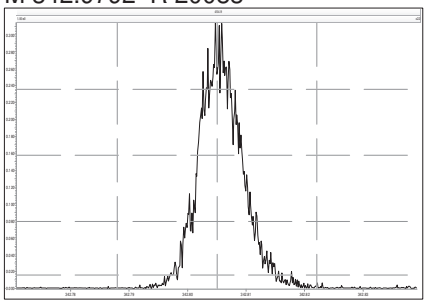
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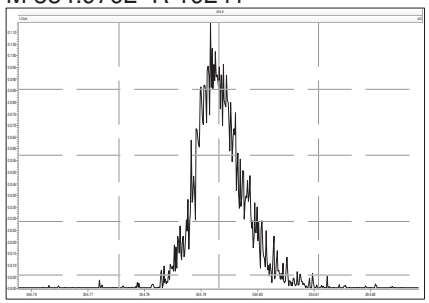
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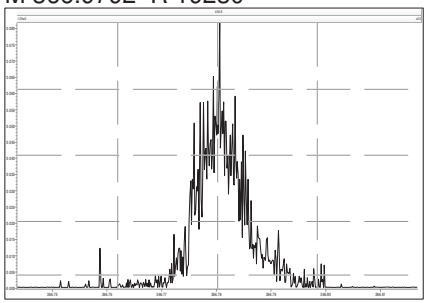
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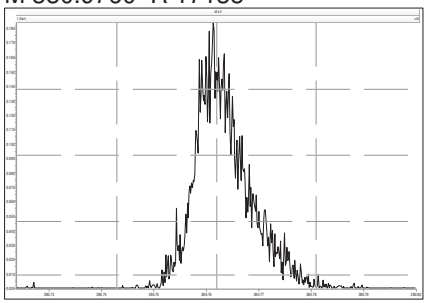
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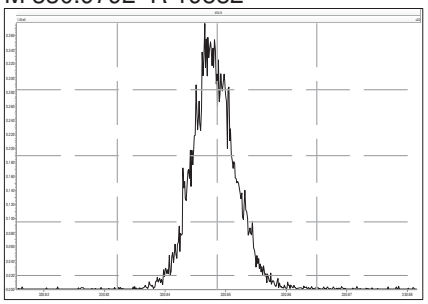
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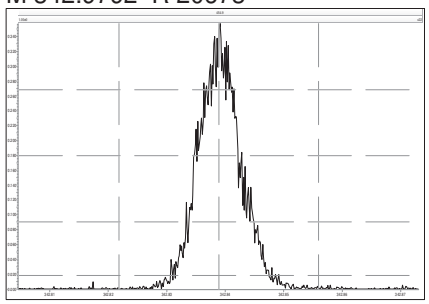
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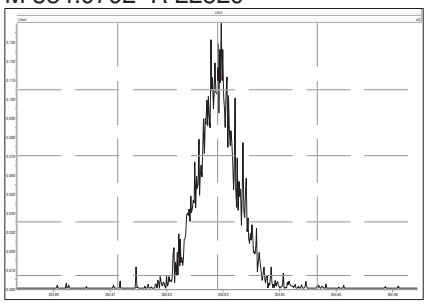
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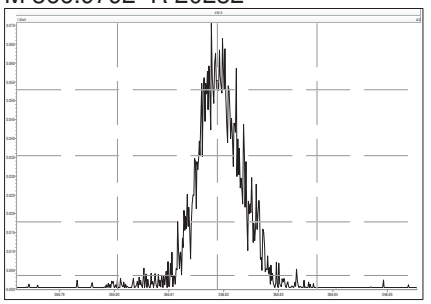
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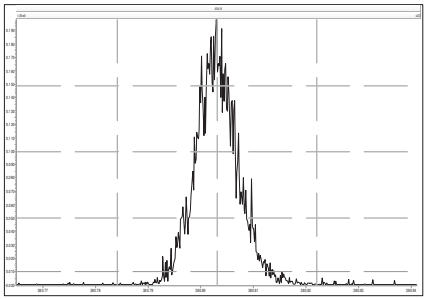
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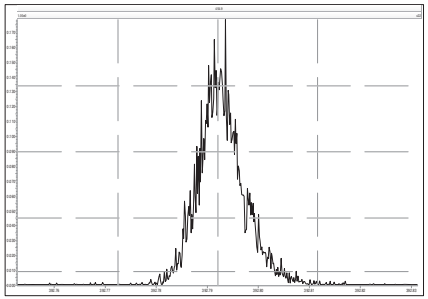
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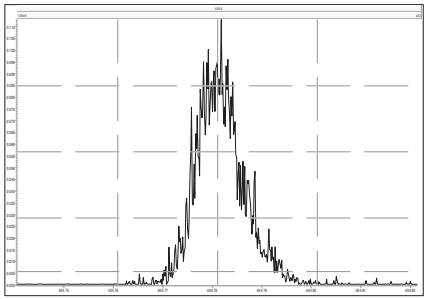
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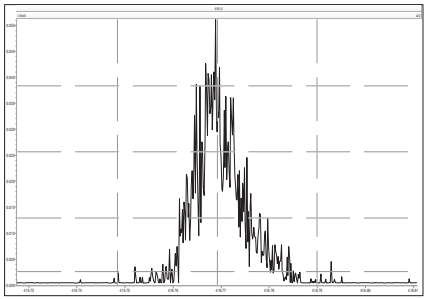
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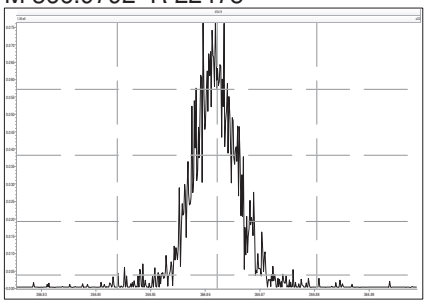
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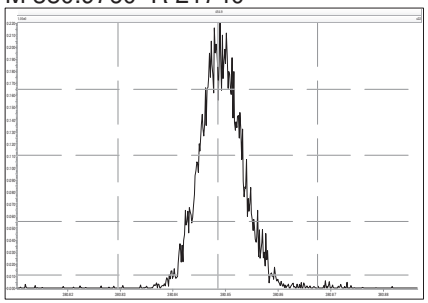
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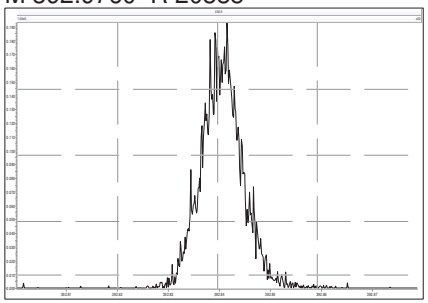
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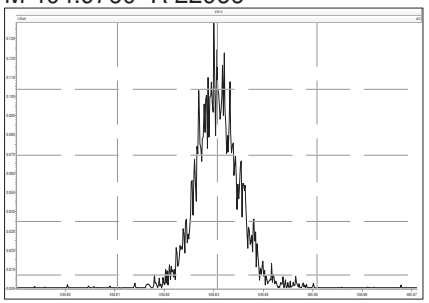
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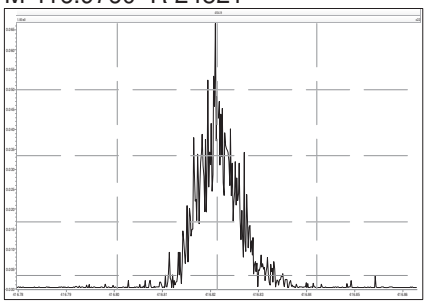
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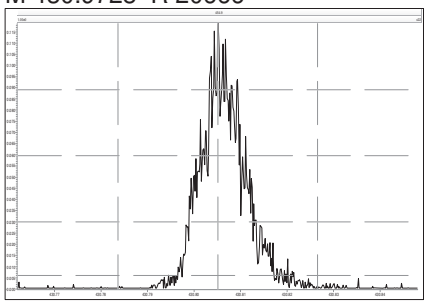
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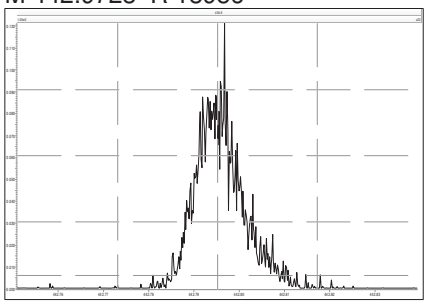
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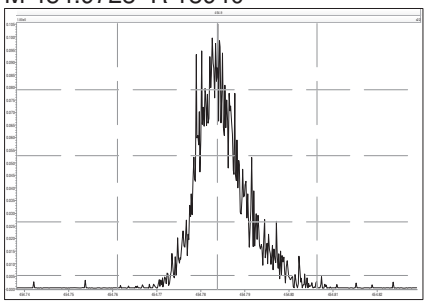
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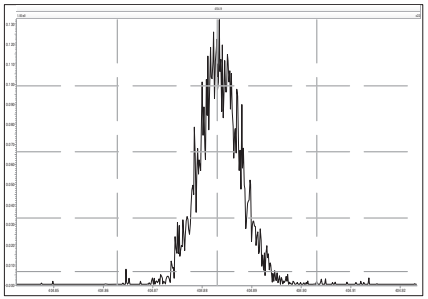
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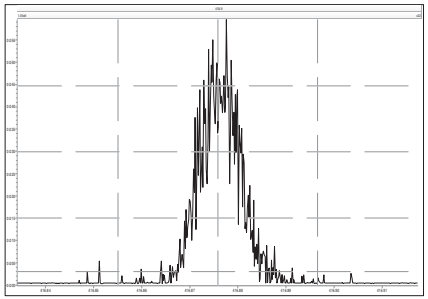
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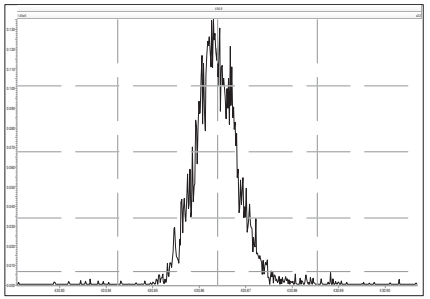
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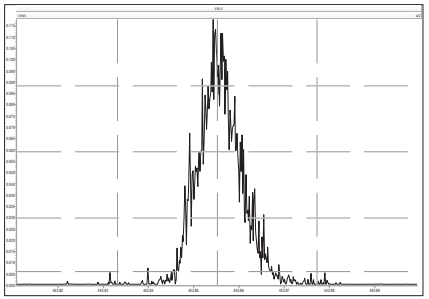
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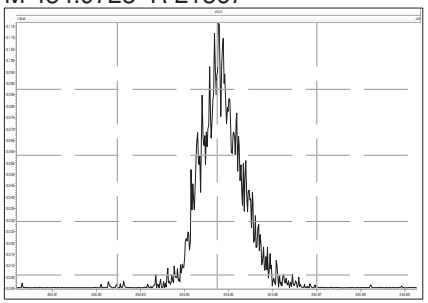
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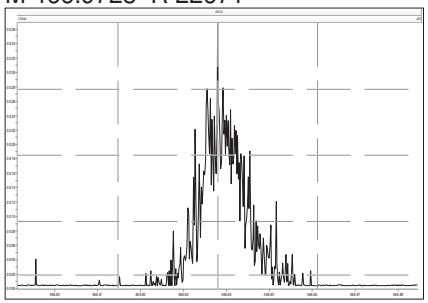
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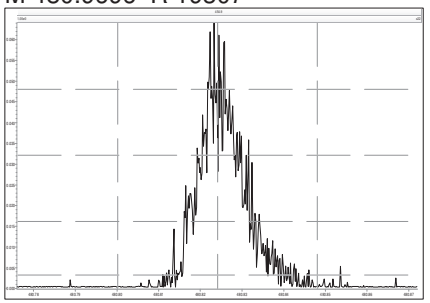
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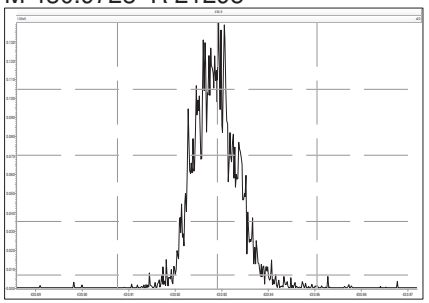
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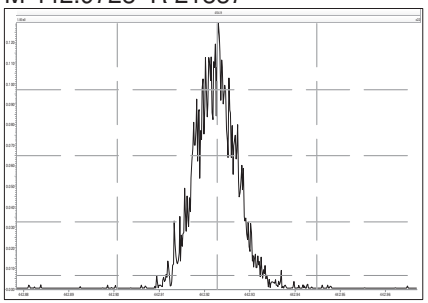
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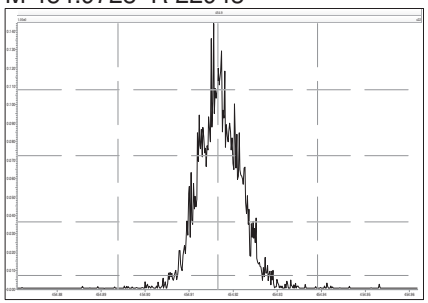
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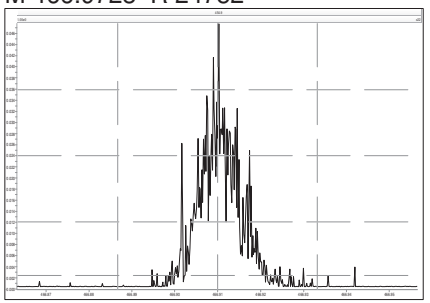
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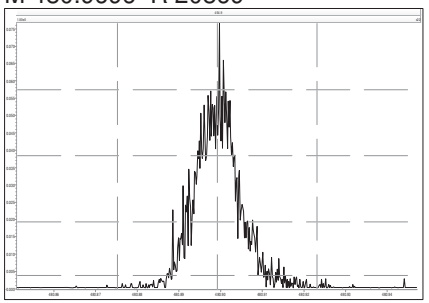
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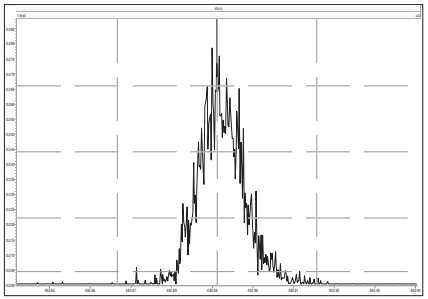
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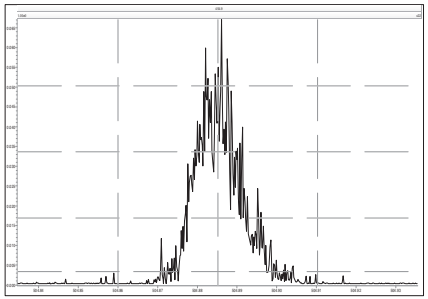
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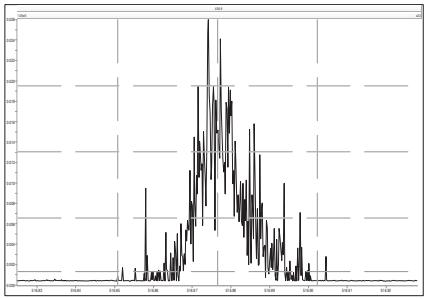
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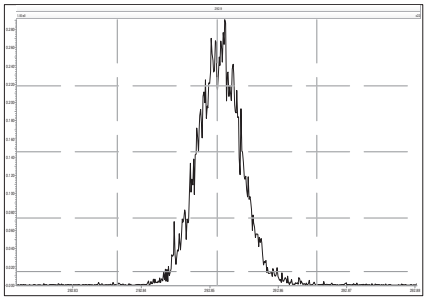


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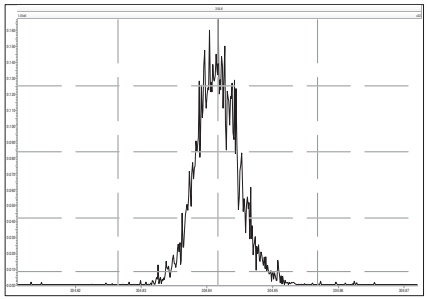


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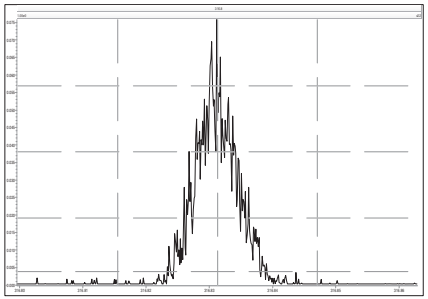
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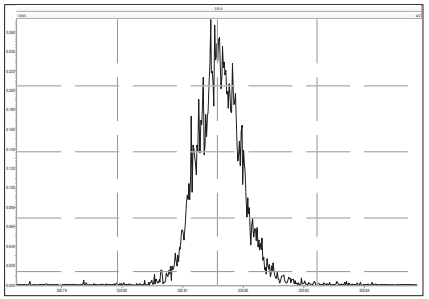
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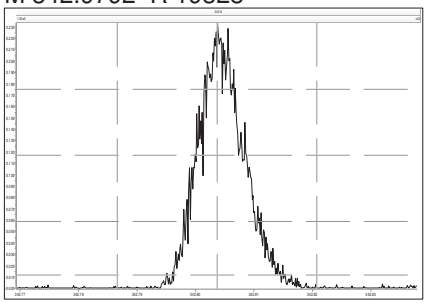
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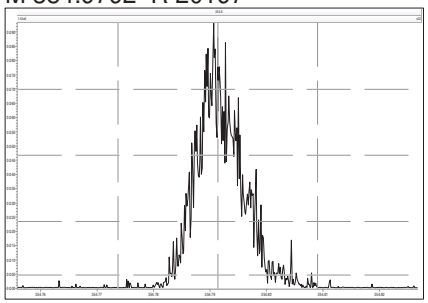
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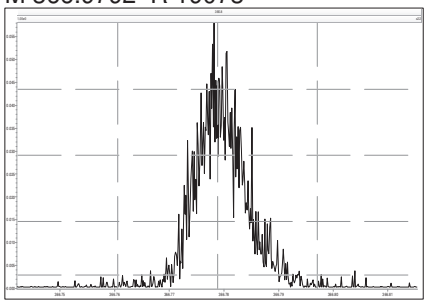
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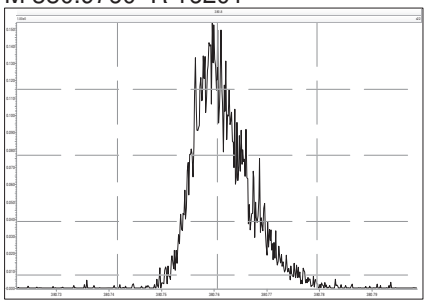
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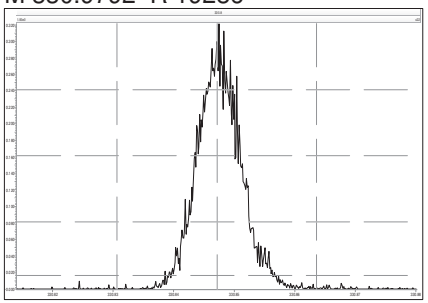
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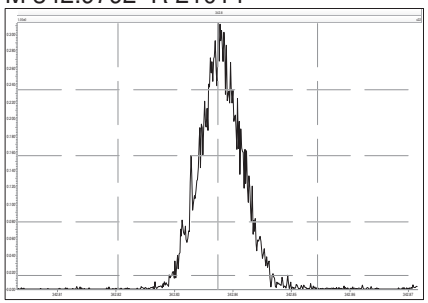
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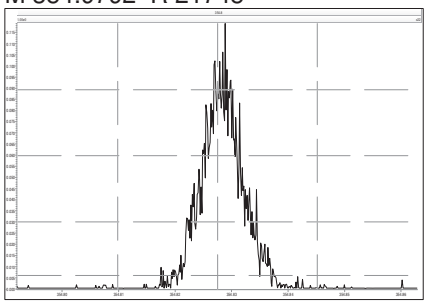
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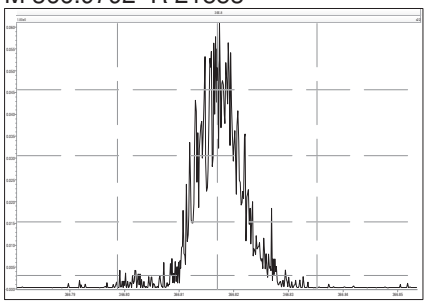
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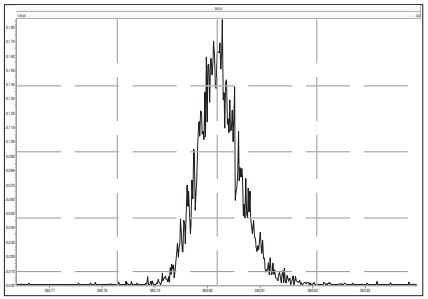
M 354.9792 R 21745



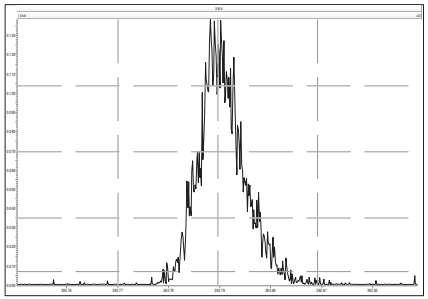
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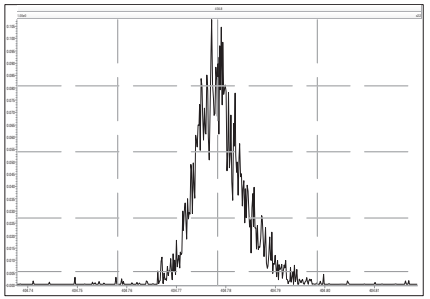
M 380.9760 R 20673



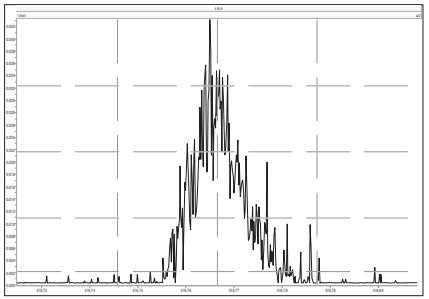
M 392.9760 R 18398



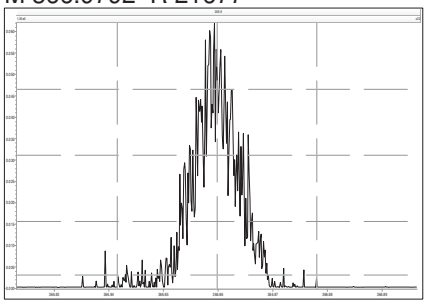
M 404.9760 R 19013



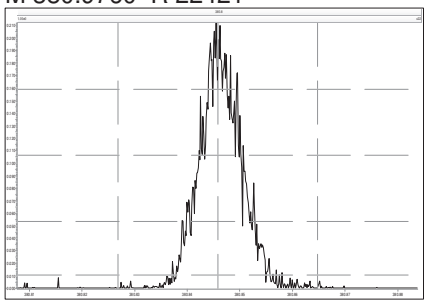
M 416.9760 R 19842



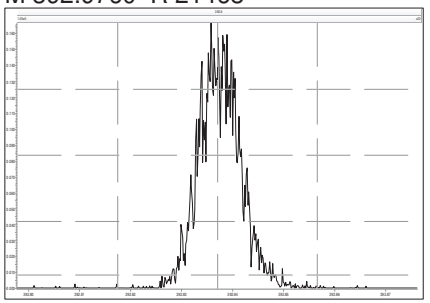
M 366.9792 R 21677



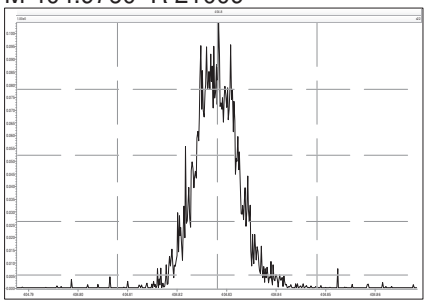
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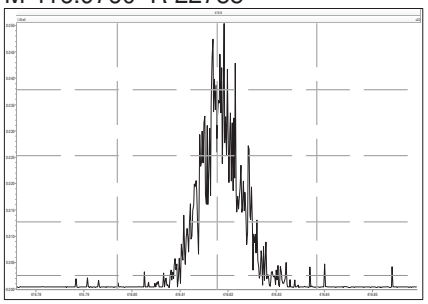
M 392.9760 R 21468



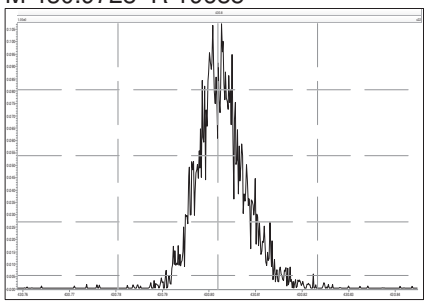
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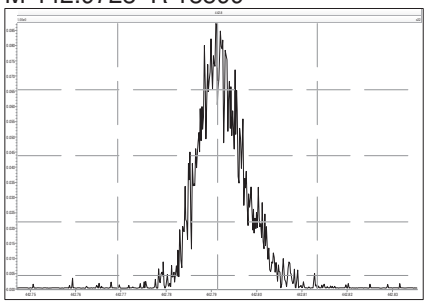
M 416.9760 R 22755



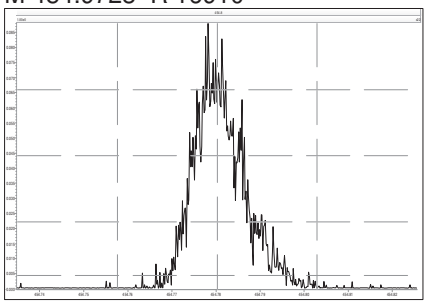
M 430.9728 R 19685



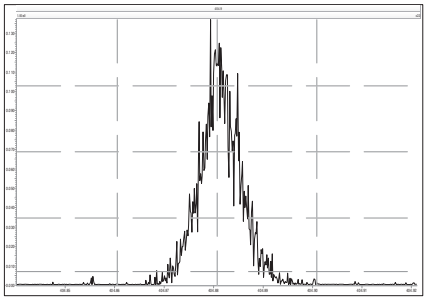
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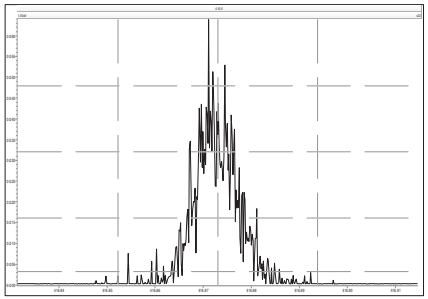
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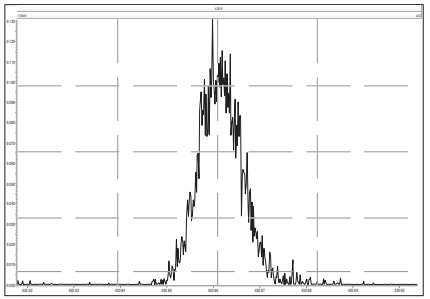
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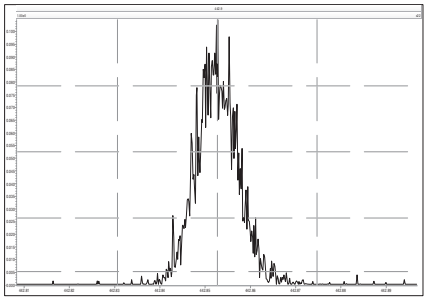
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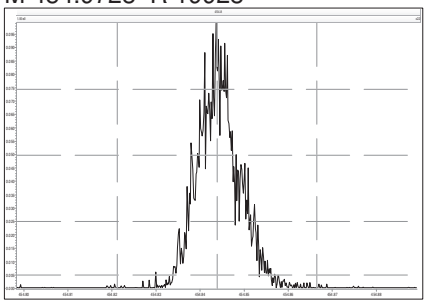
M 430.9728 R 21837



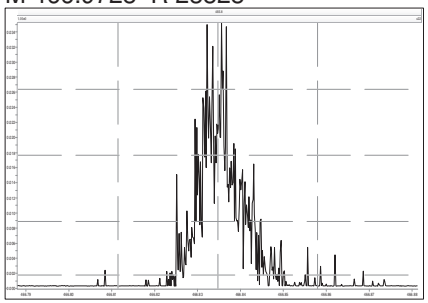
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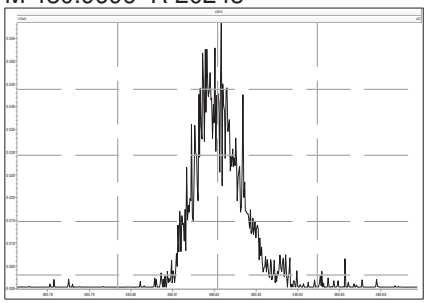
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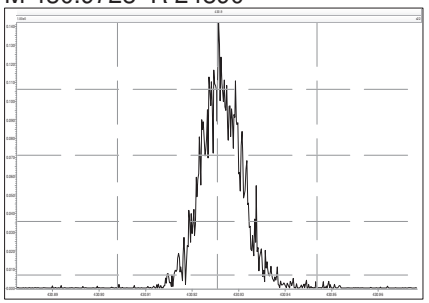
M 466.9728 R 23828



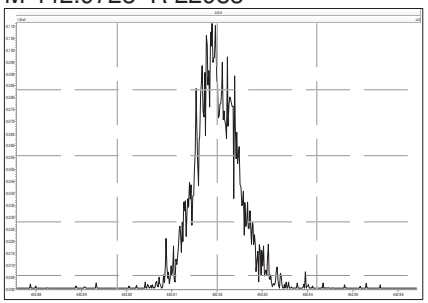
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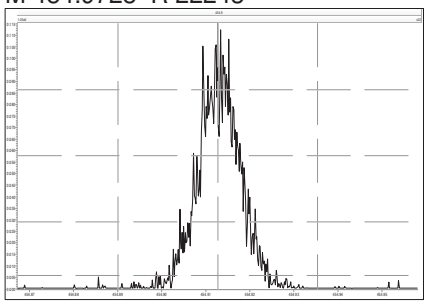
M 430.9728 R 24890



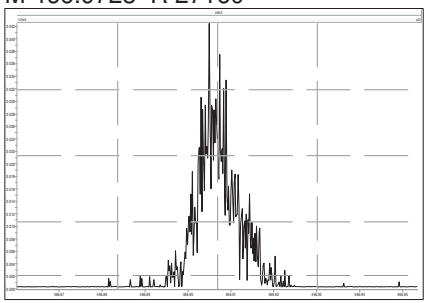
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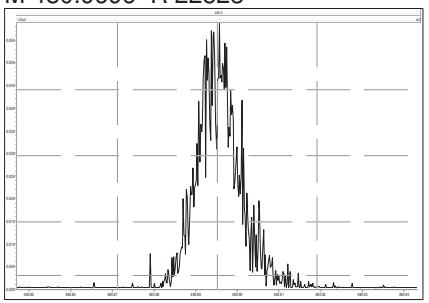
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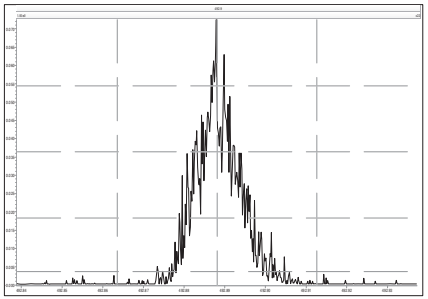
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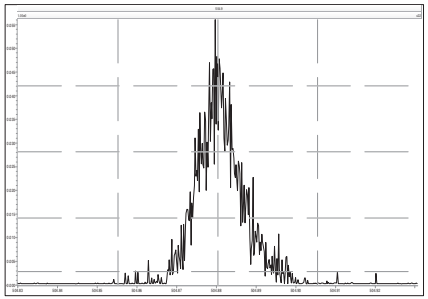
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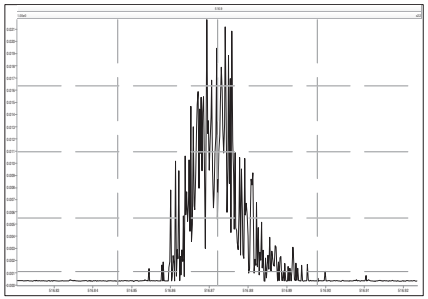
M 492.9696 R 21736



M 504.9696 R 20408



M 516.9697 R 23887



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

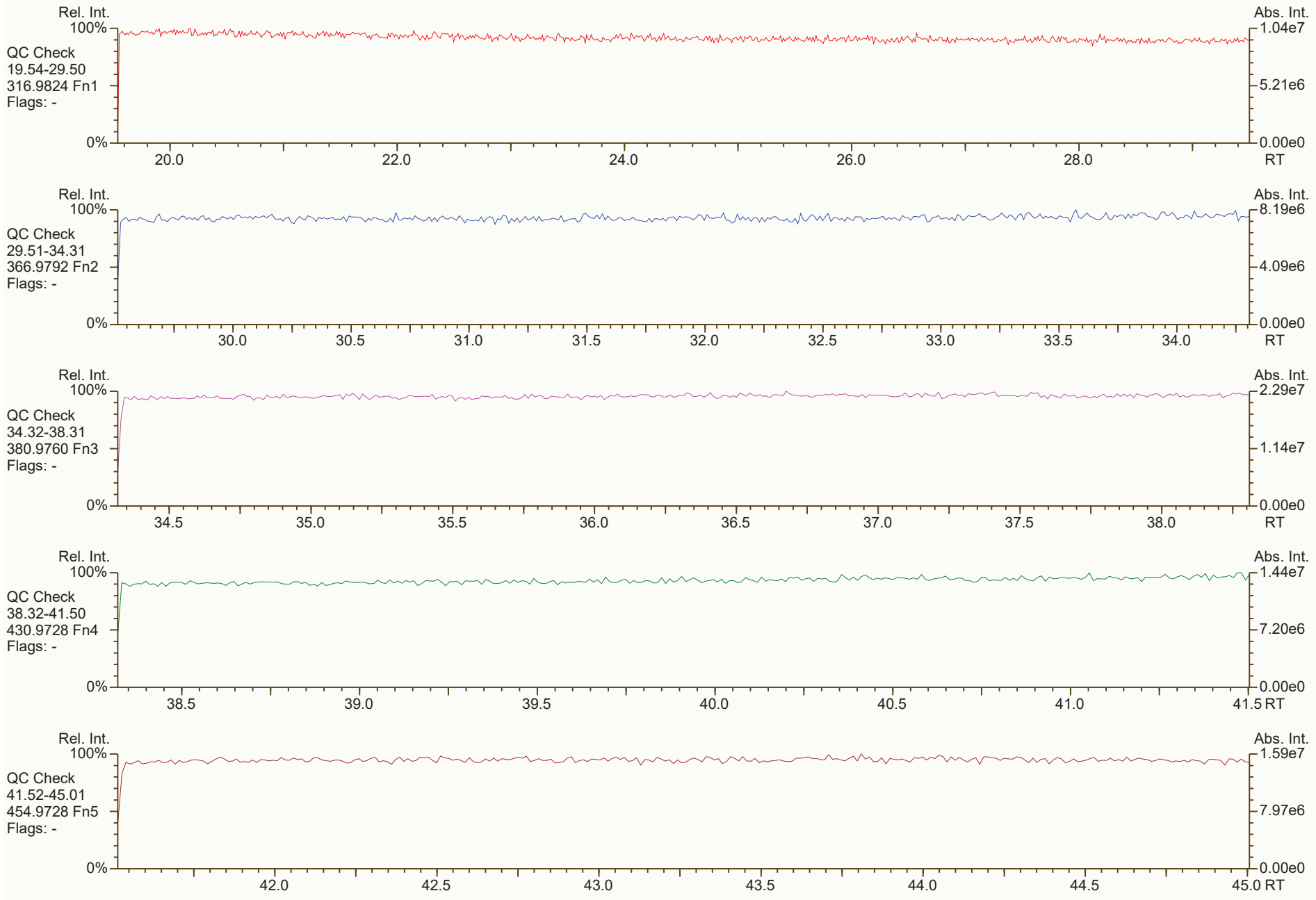
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

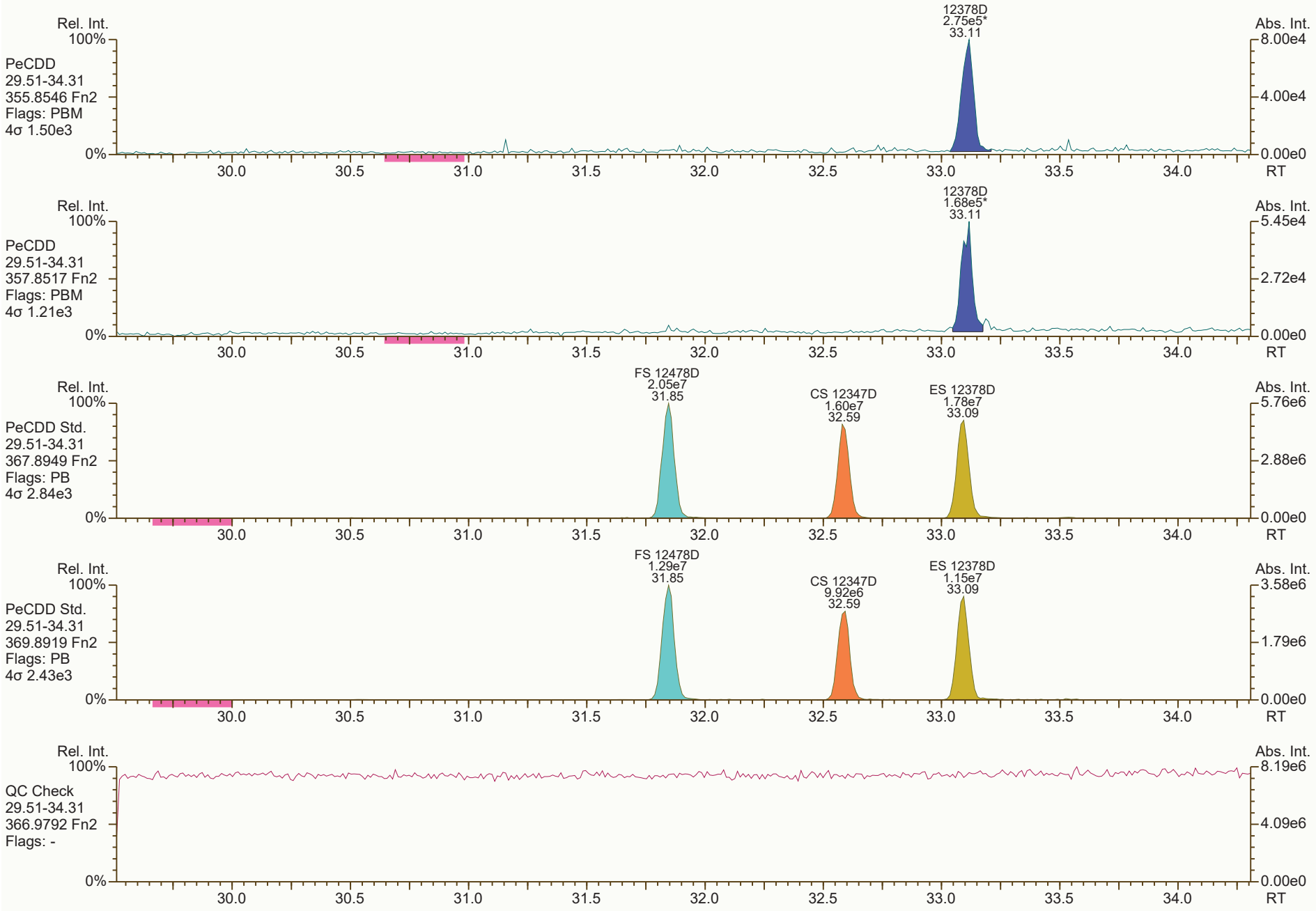
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

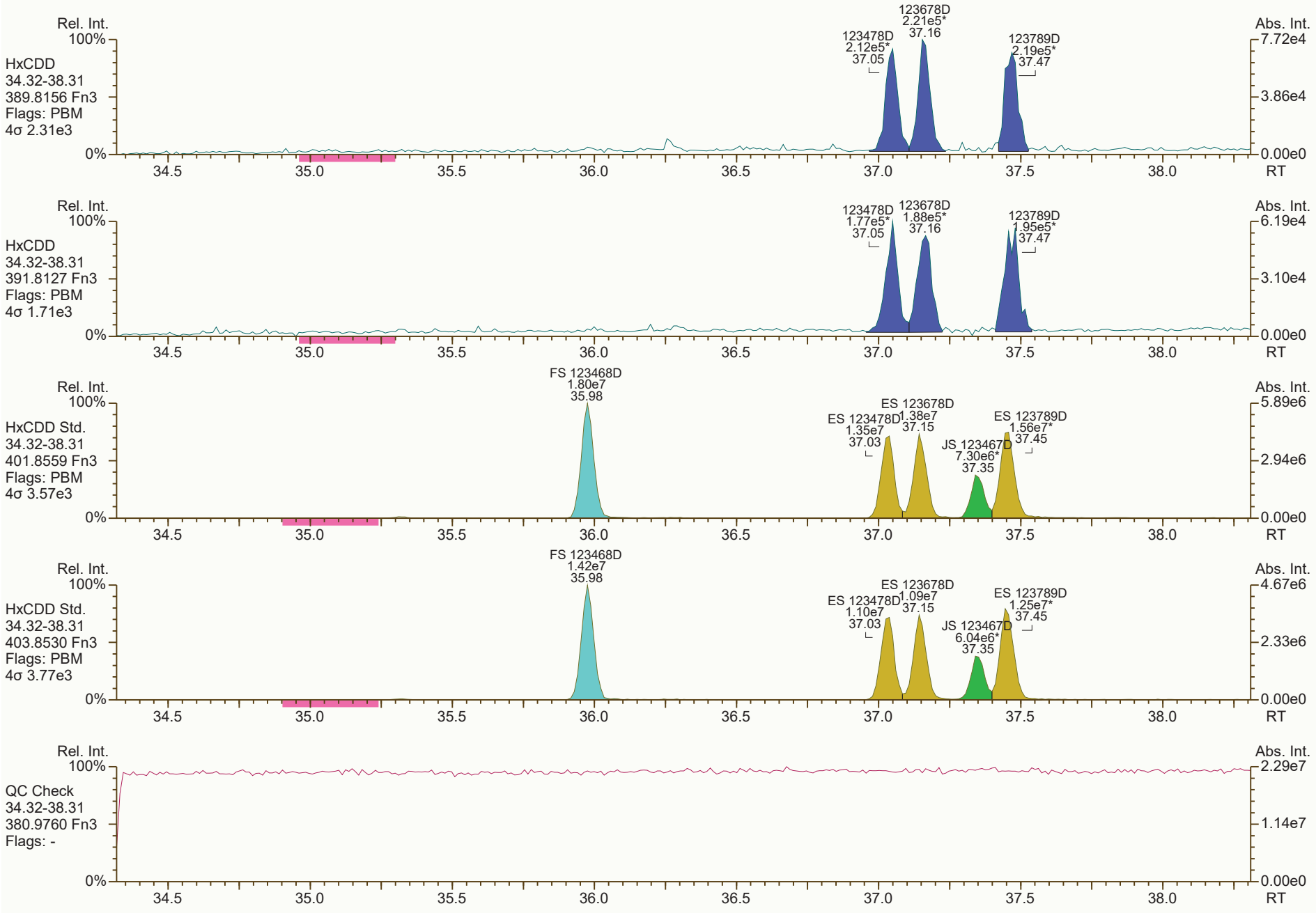
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

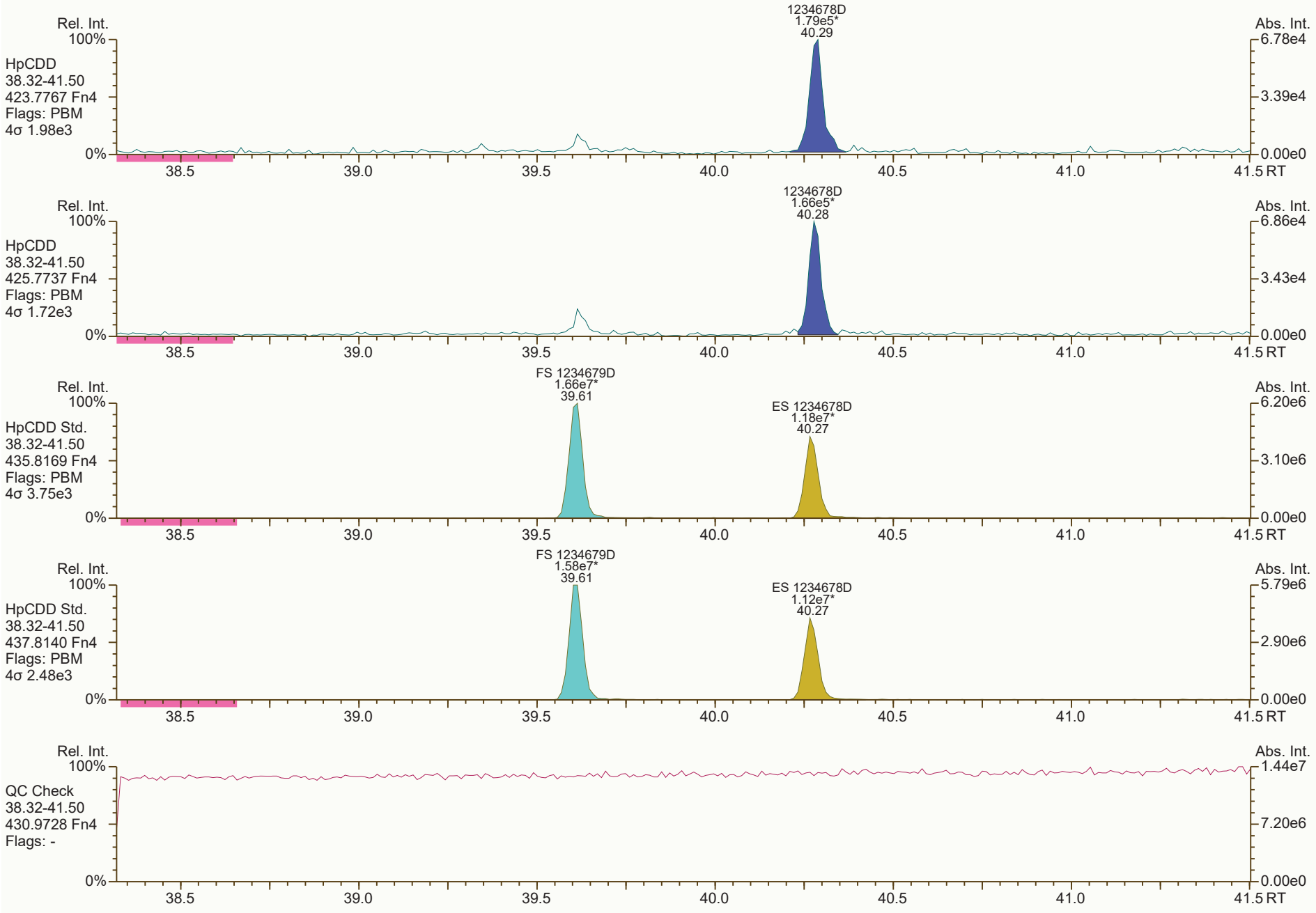
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

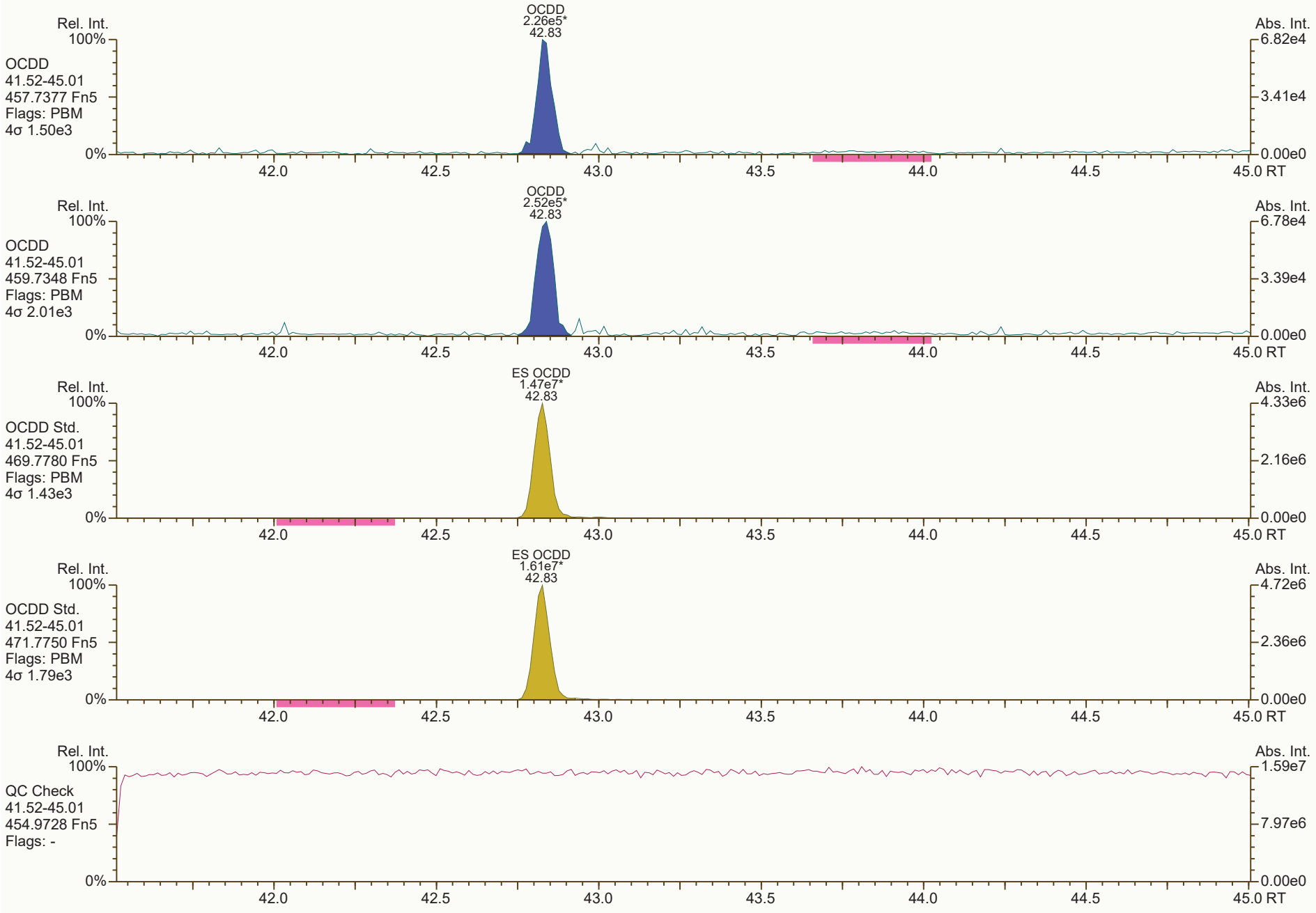

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.19e6
4.09e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.29e7
1.14e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.44e7
7.20e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.59e7
7.97e6
0.00e0
RT

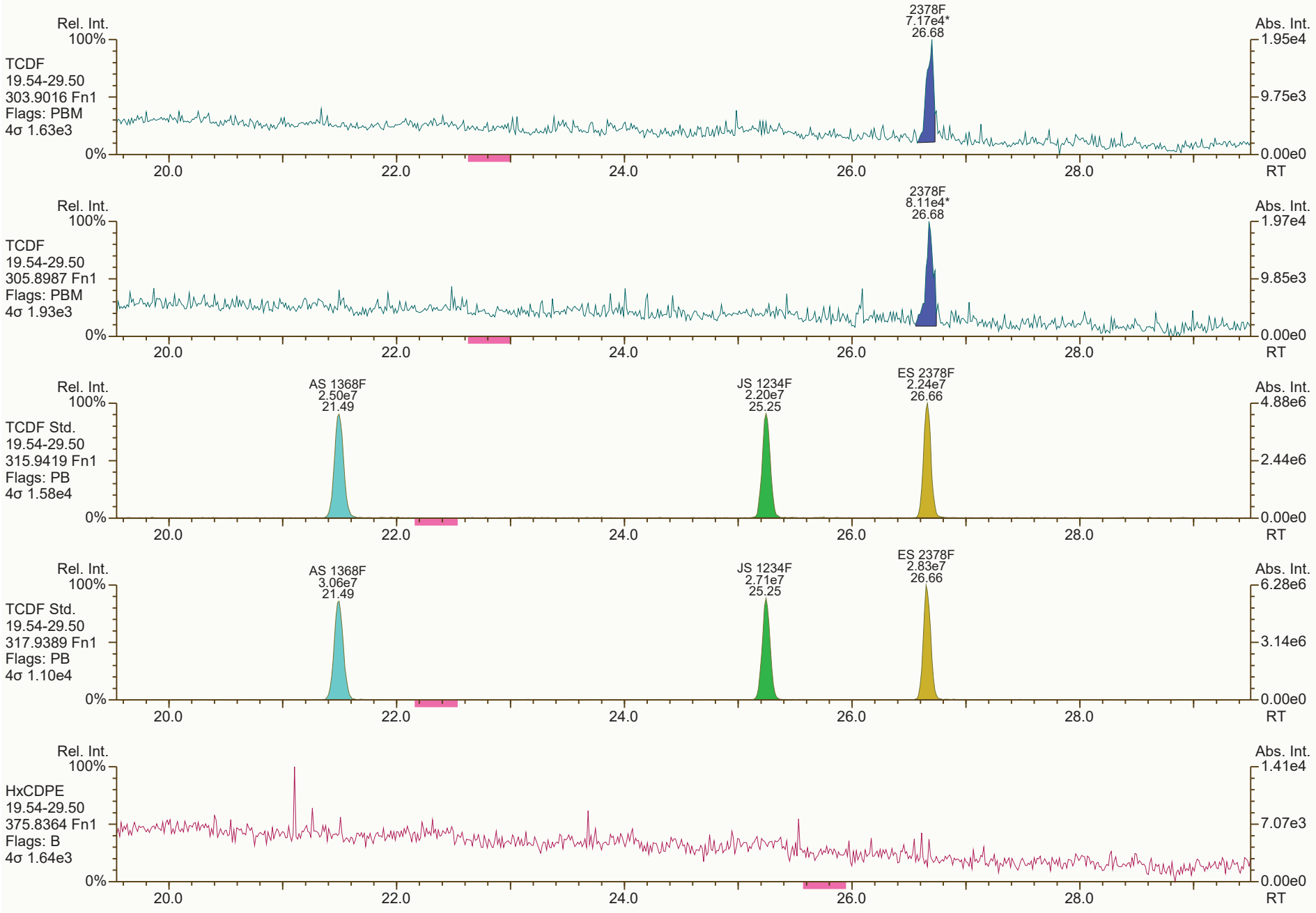

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
0%
2378D
6.64e4*
27.59
Abs. Int.
2.13e4
1.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.73e3
4.86e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
0%
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
Abs. Int.
4.65e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
0%
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
Abs. Int.
5.85e6
2.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

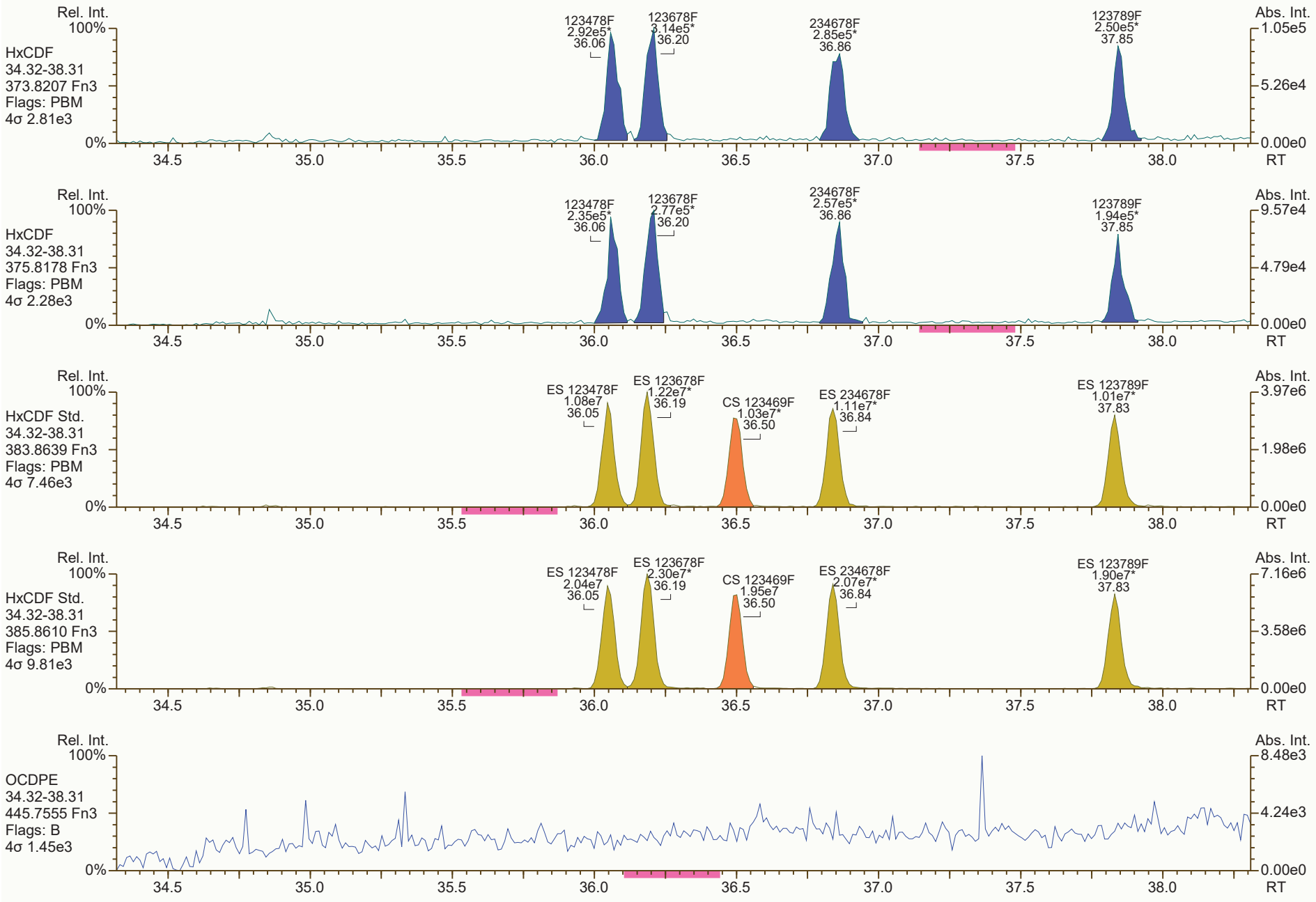

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

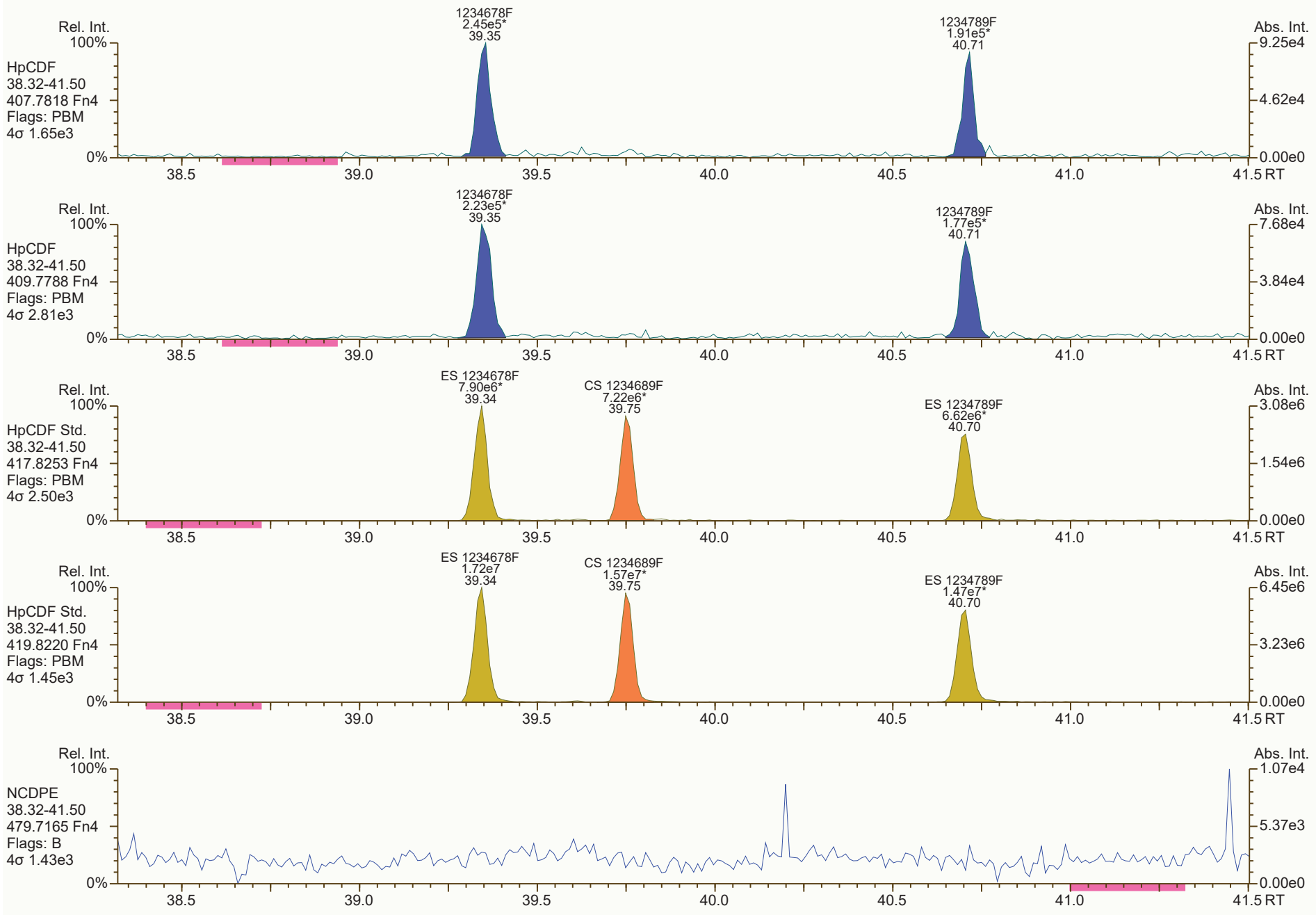

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
T.37e6
0.00e0
PeCDF-1
19.54-39.50
669.8597 Fn1
Flags: PB
4σ 3.44e6
30.0
33.0
34.0
3T.0
38.0
R2
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e6
0.00e0
PeCDF-1
19.54-39.50
641.85T8 Fn1
Flags: B
4σ 1.85e6
30.0
33.0
34.0
3T.0
38.0
R2
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.31eT
0.00e0
QC Check
19.54-39.50
61T.9834 Fn1
Flags: -
30.0
33.0
34.0
3T.0
38.0
R2


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

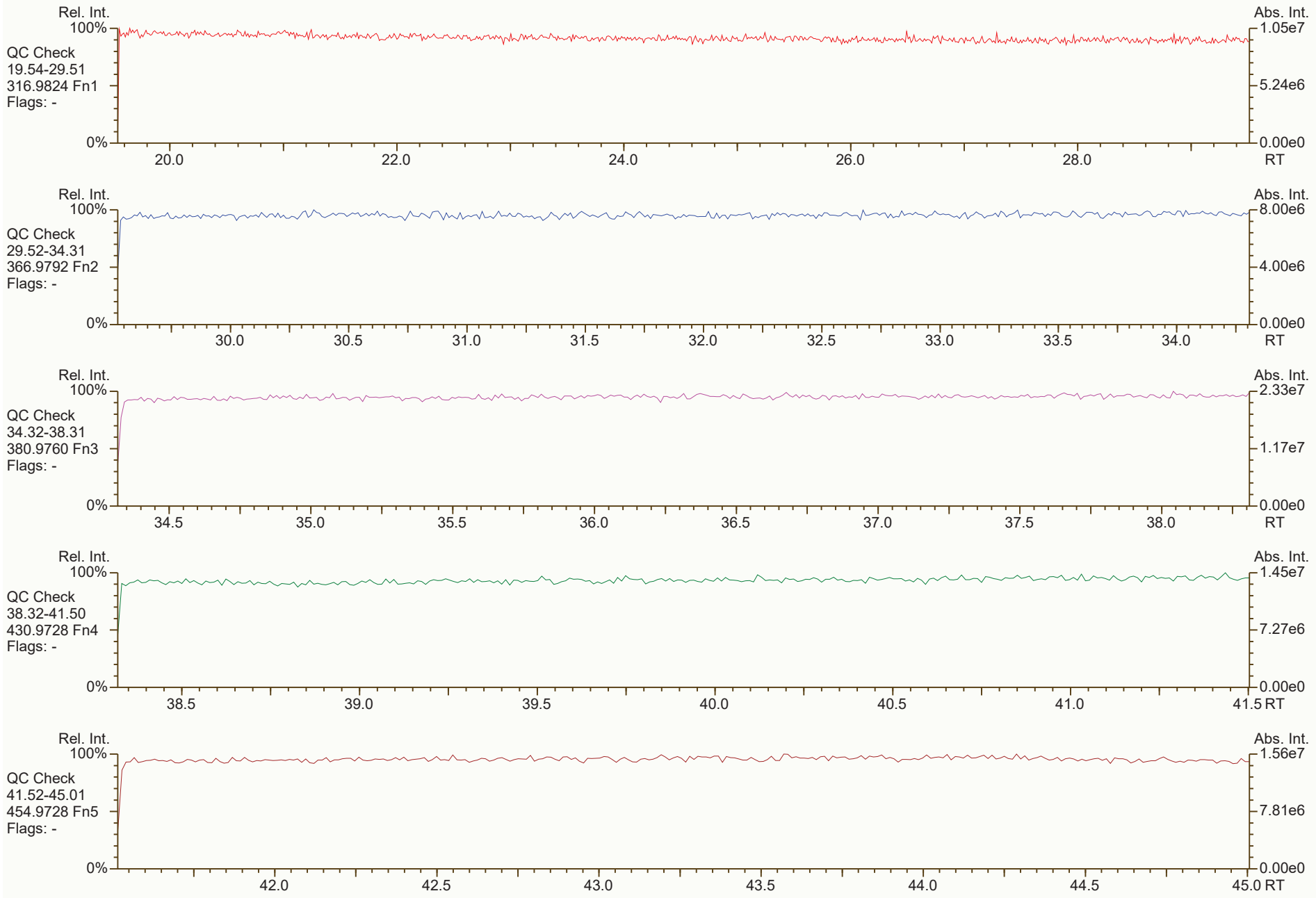

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

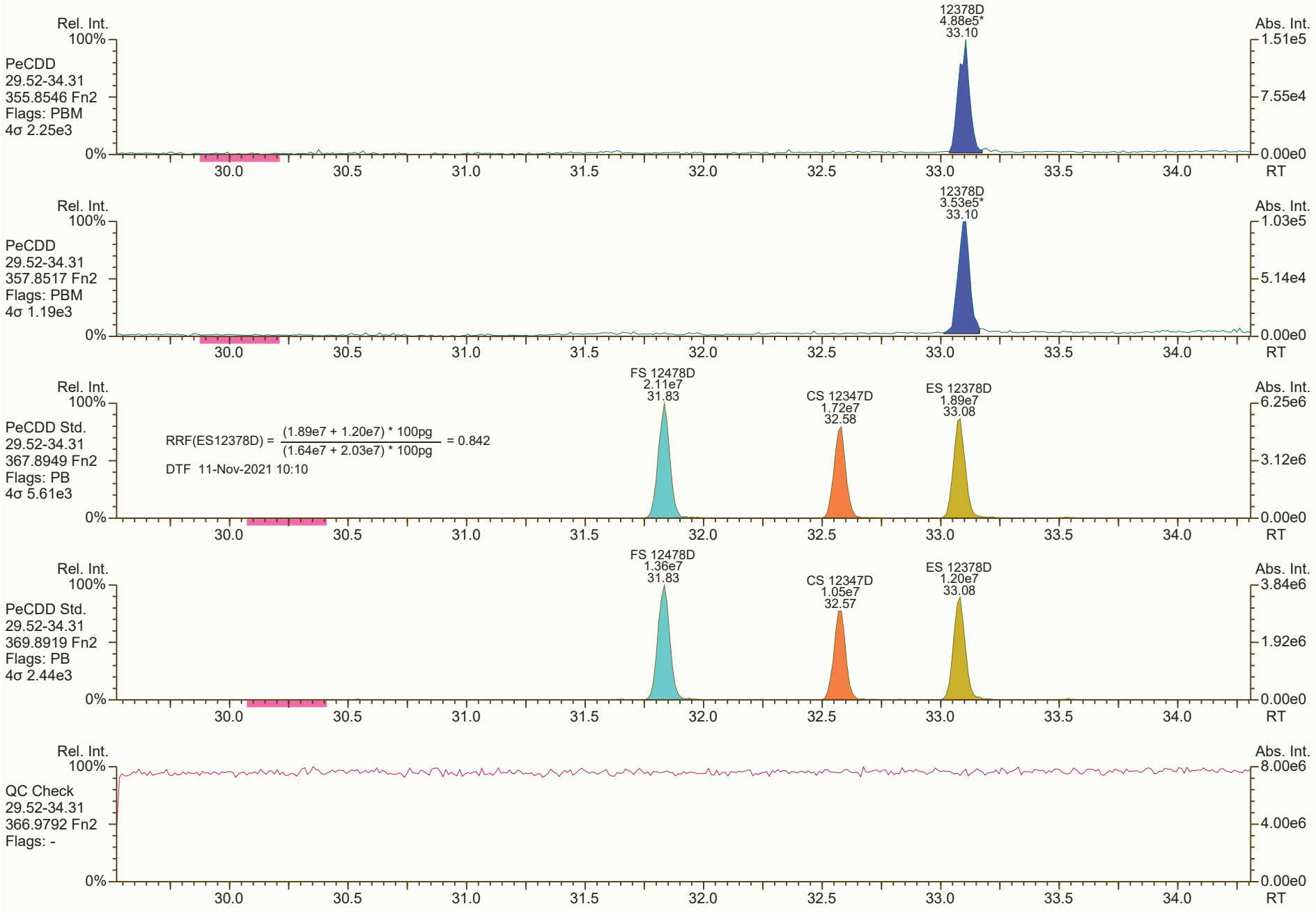
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

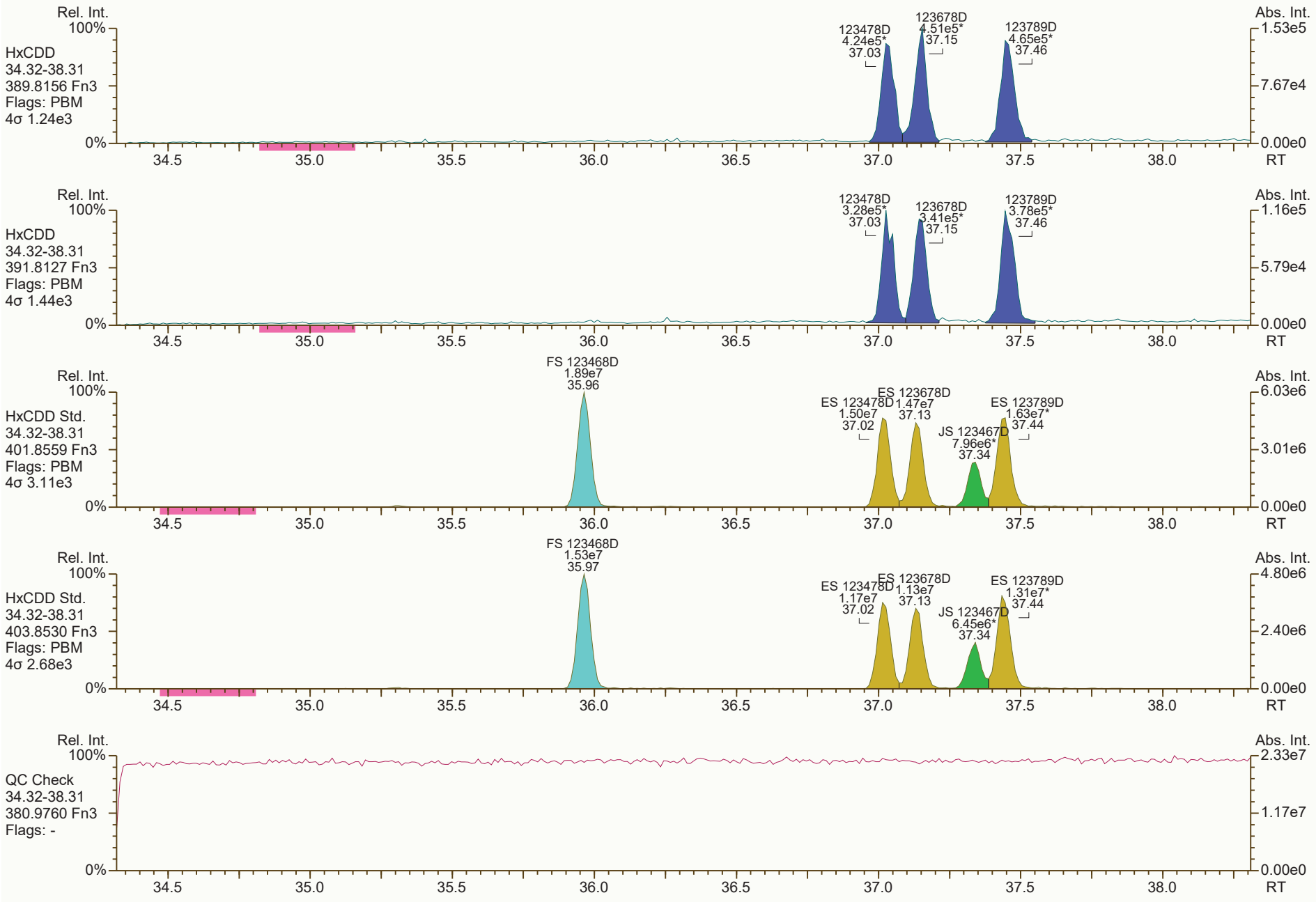
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

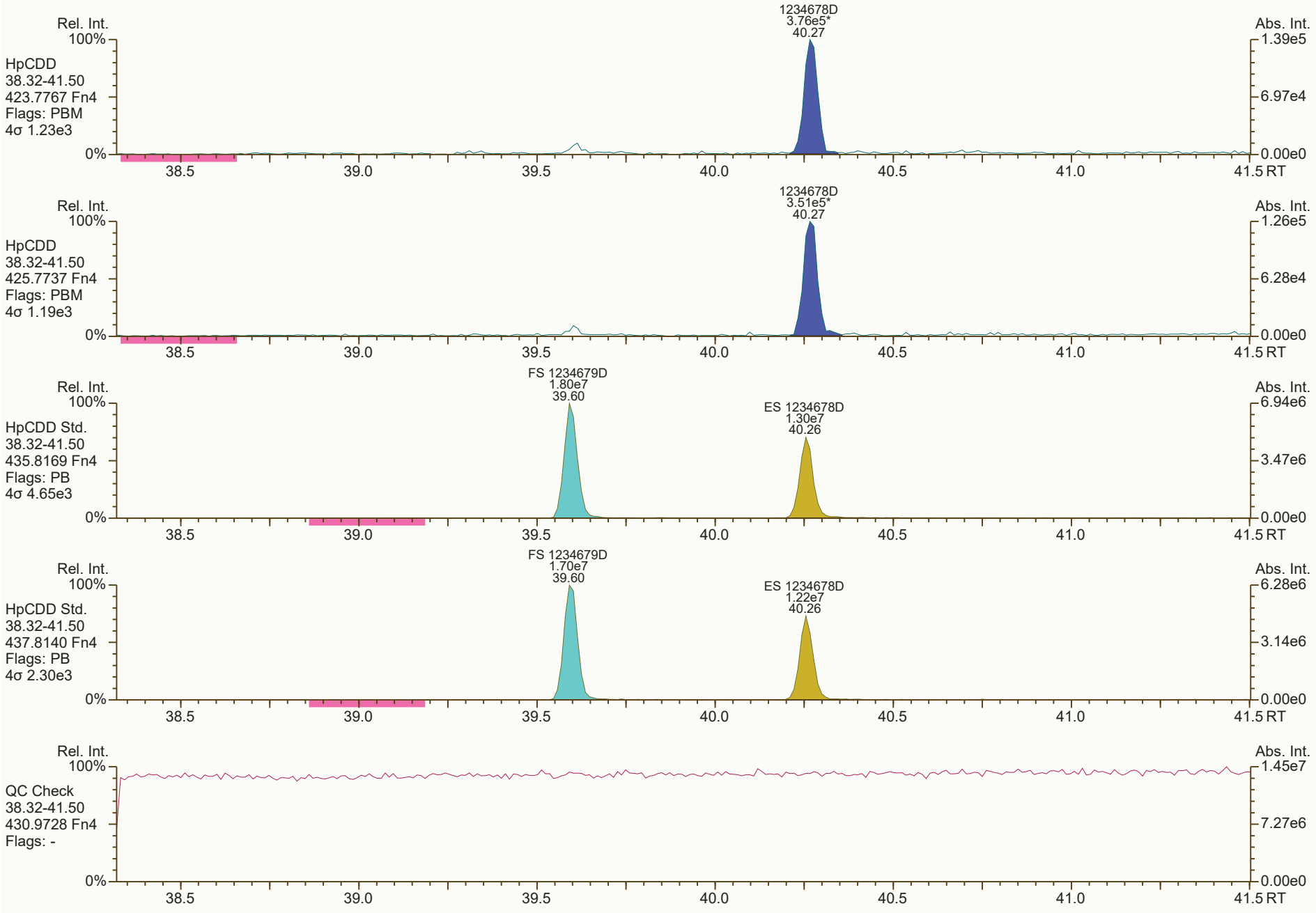
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

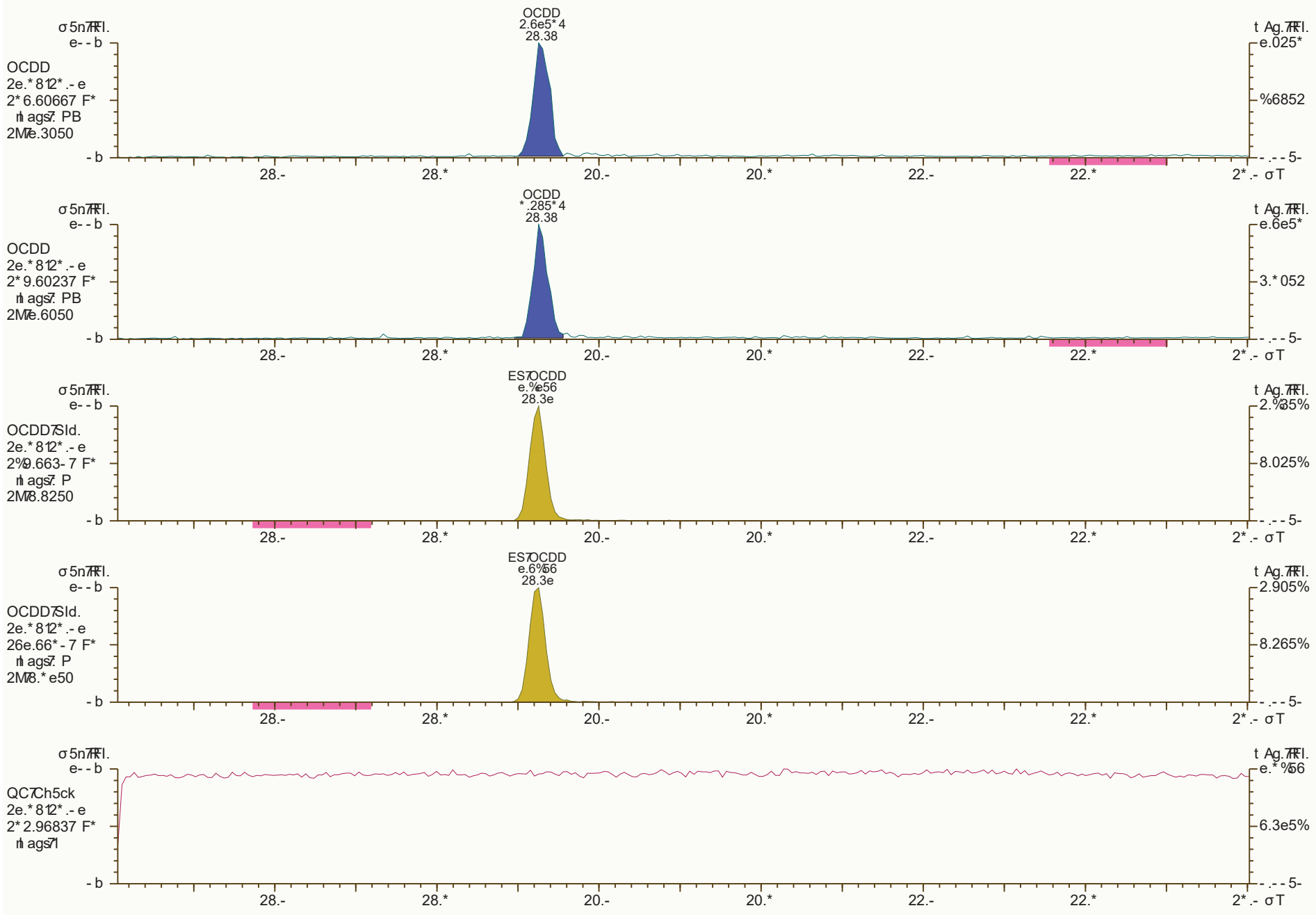

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

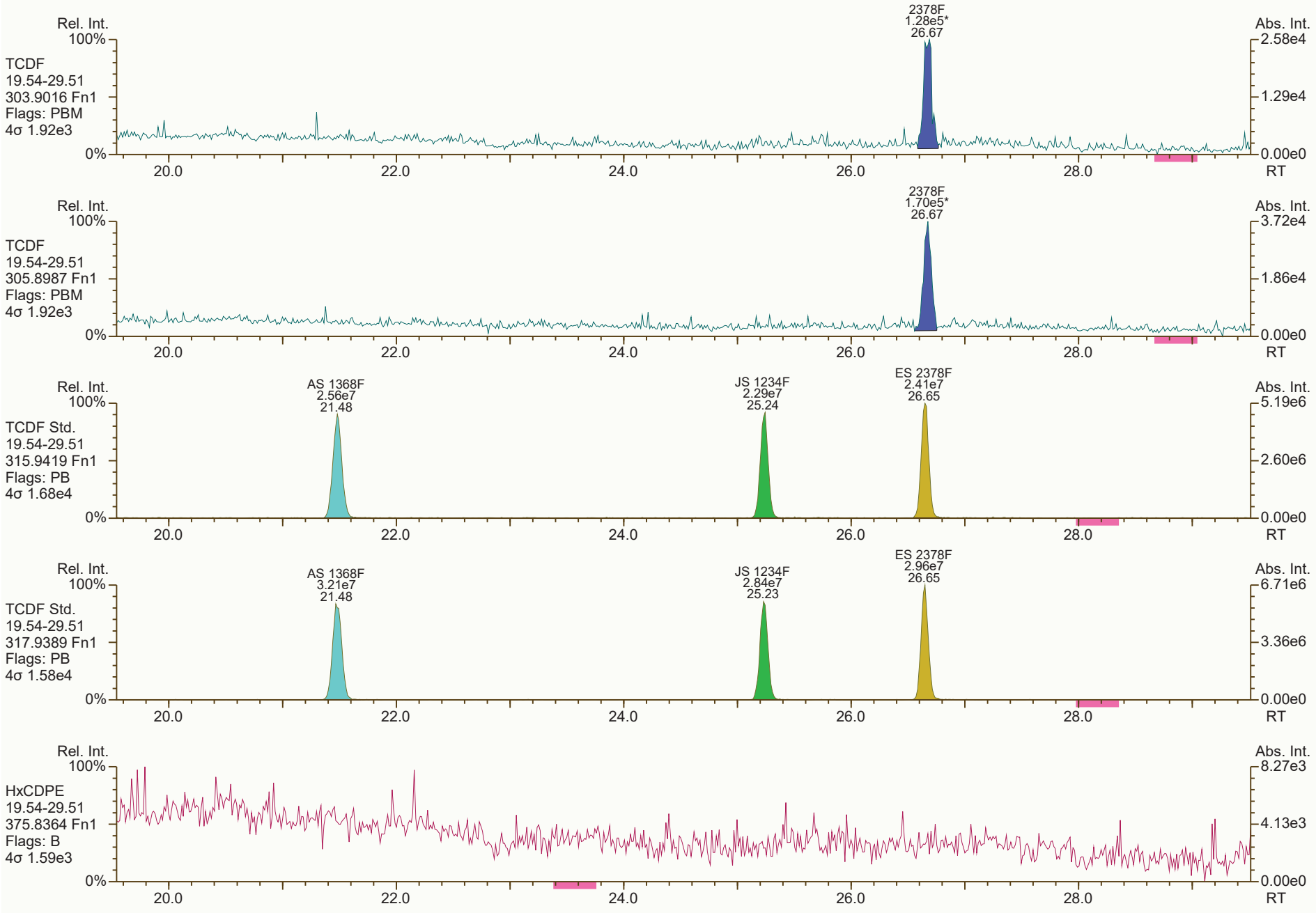

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

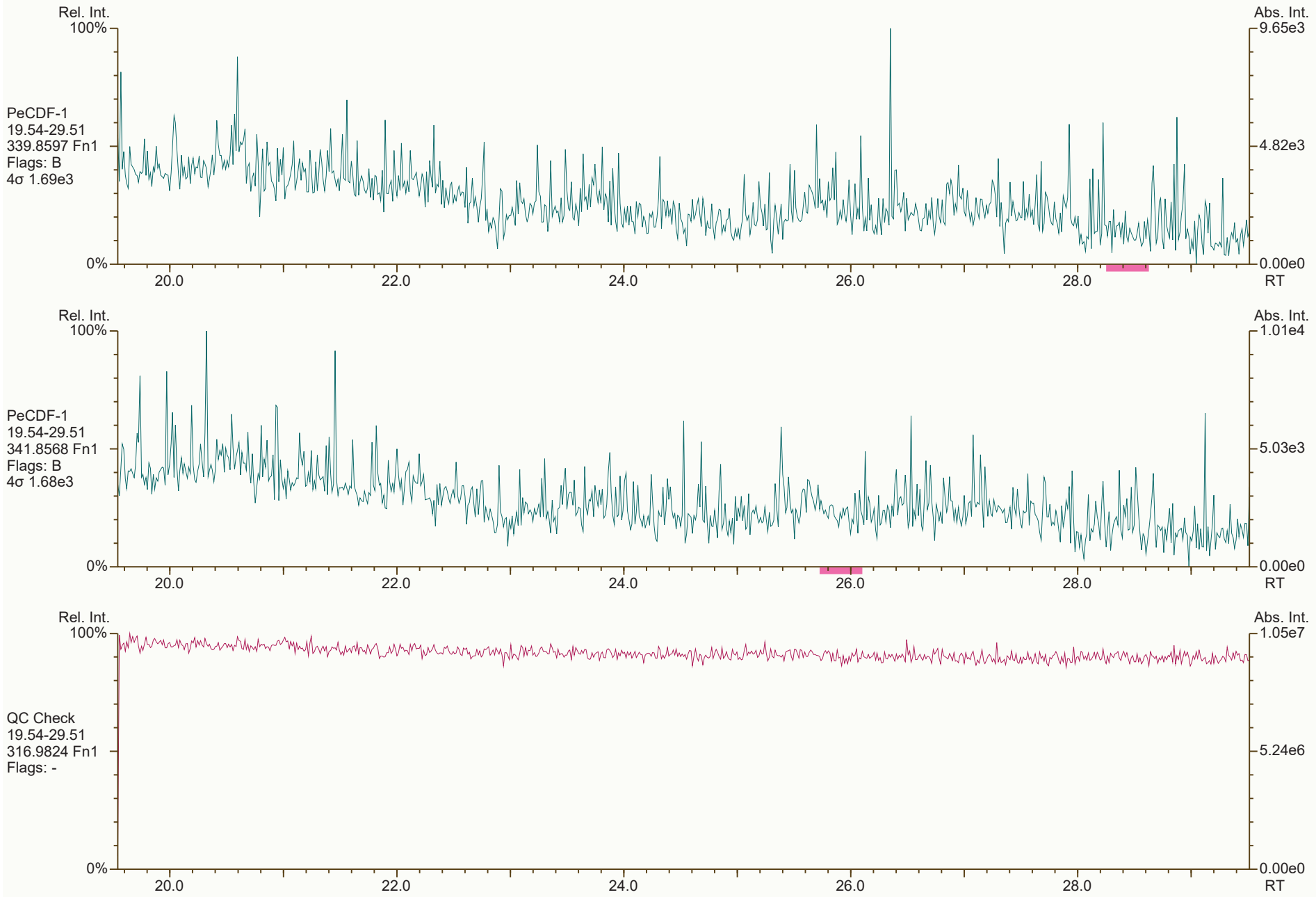

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

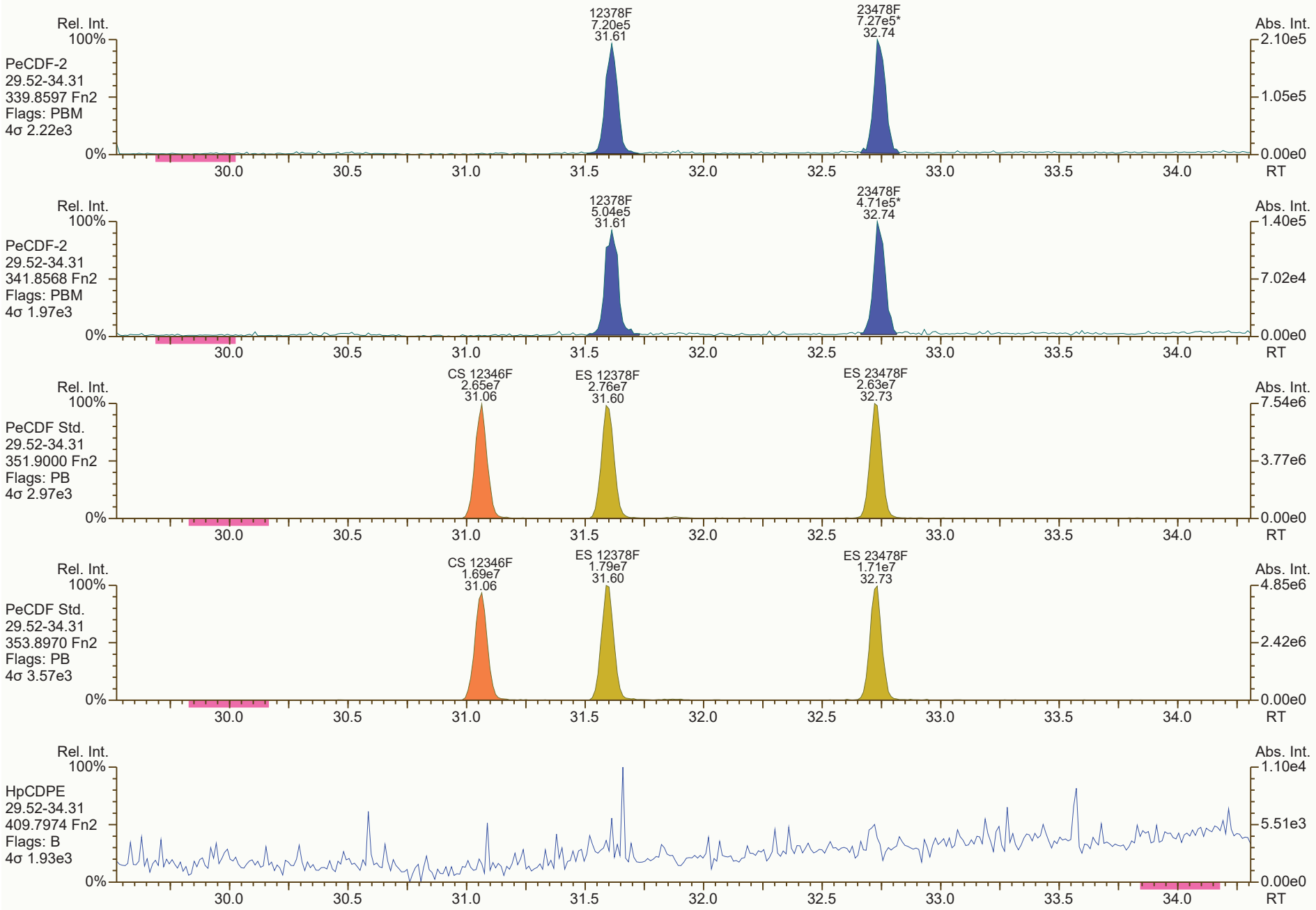

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

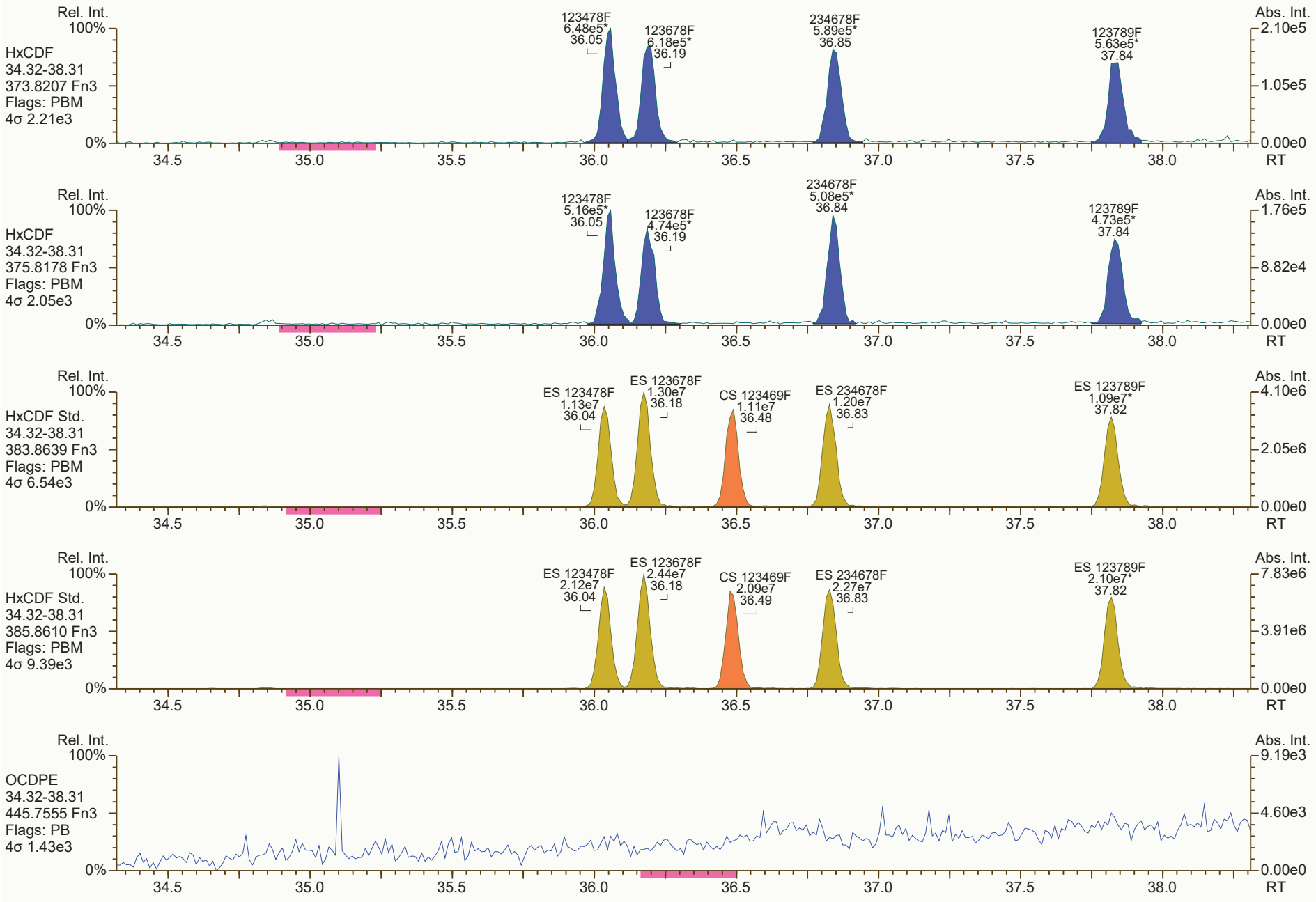

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

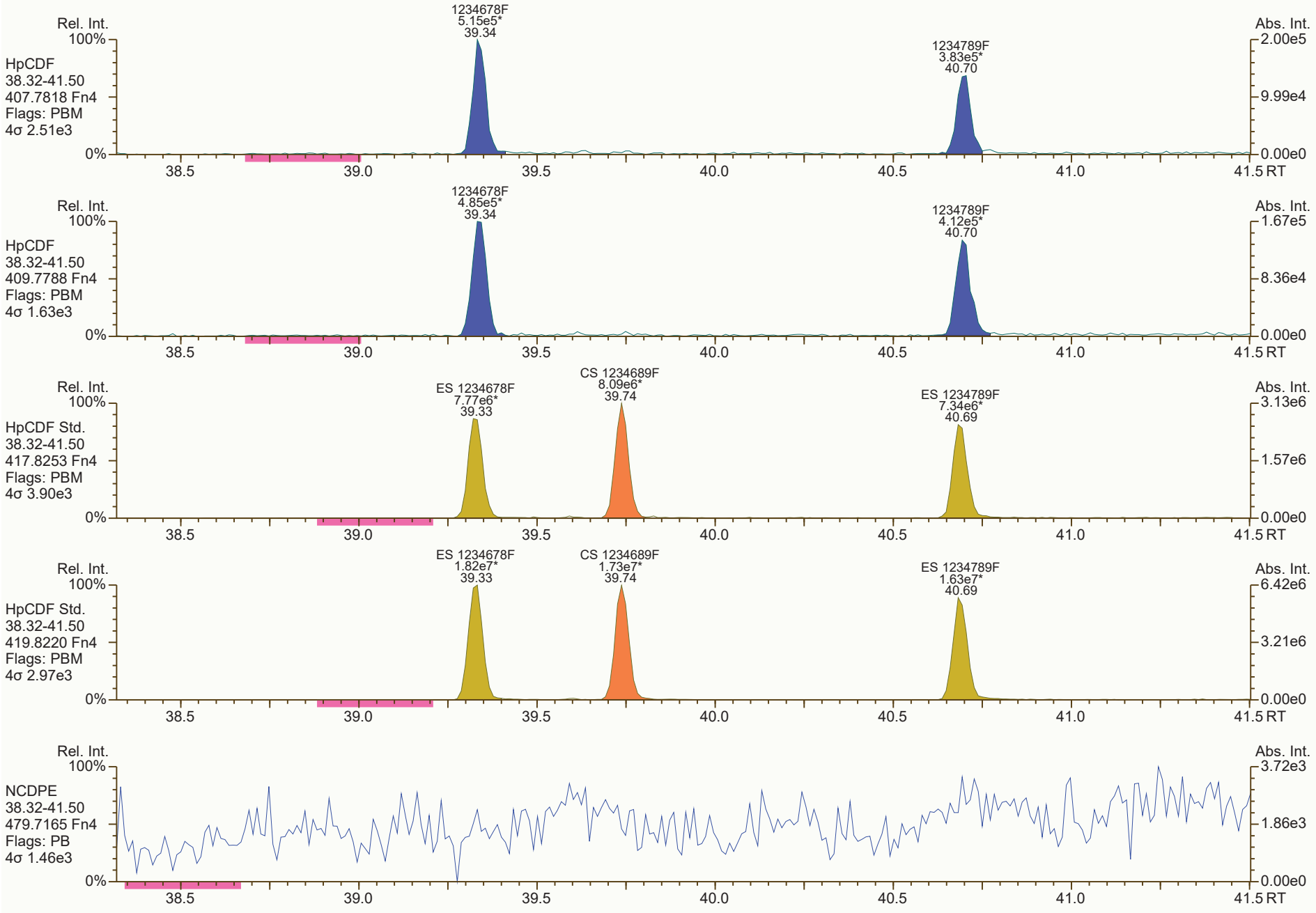

OCDD
2.6e5* 4
28.38
OCDD
2e.* 812* .- e
2* 6.60667 F*
m ags7. PB
2M7e.3050
%6852
28.-
28.*
20.-
20.*
22.-
22.*
OCDD
.285 4
28.38
OCDD
2e.* 812* .- e
2* 9.60237 F*
m ags7. PB
2M7e.6050
3.* 052
ES7OCDD
28.3e
OCDD7SId.
2e.* 812* .- e
2%9.663- 7 F*
m ags7. P
2M78.8250
8.025%
ES7OCDD
28.3e
OCDD7SId.
2e.* 812* .- e
26e.66* - 7 F*
m ags7. P
2M78.* e50
2.905%
8.265%
QC7Ch5ck
2e.* 812* .- e
2* 2.96837 F*
m ags71
6.3e5%

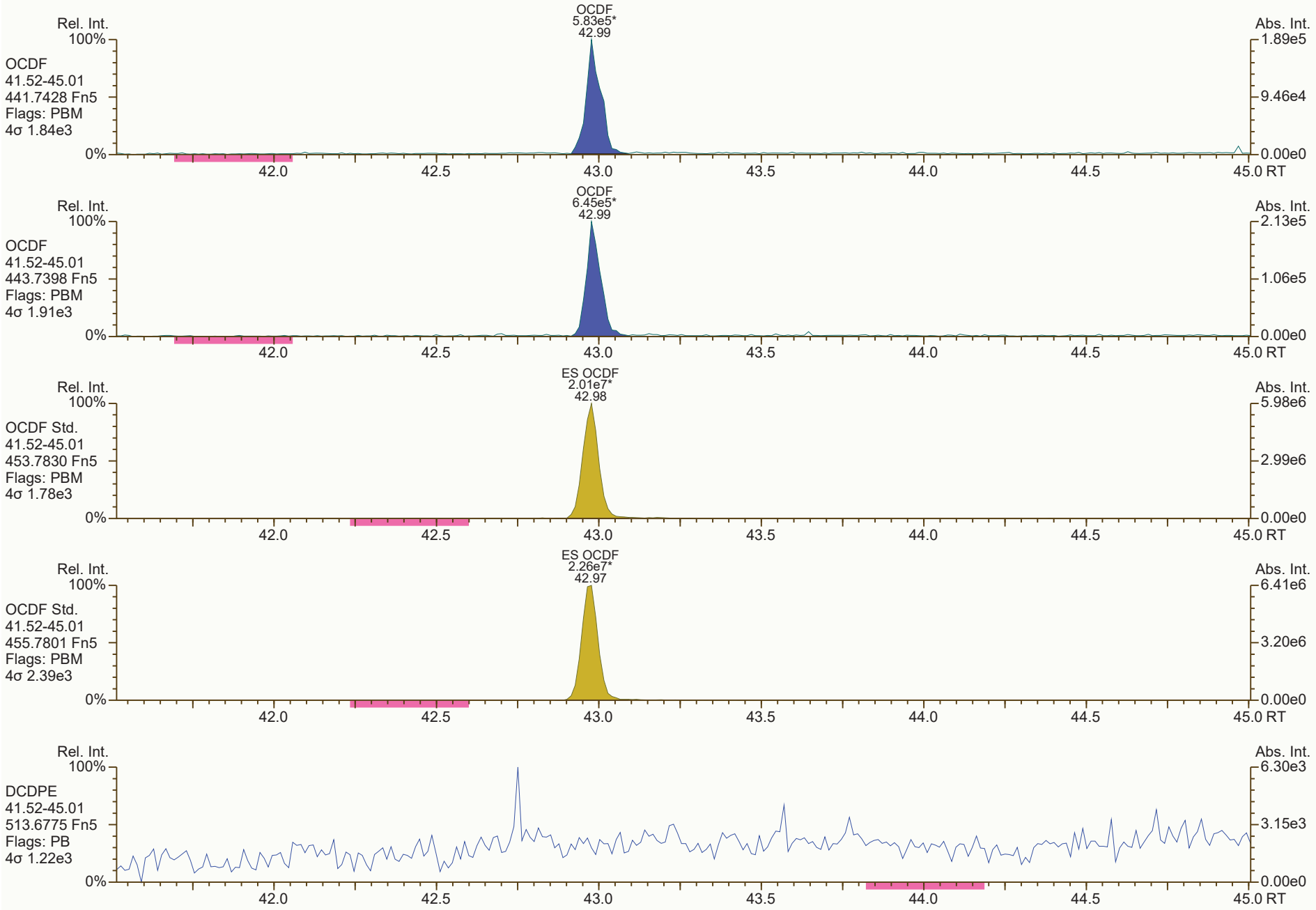

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

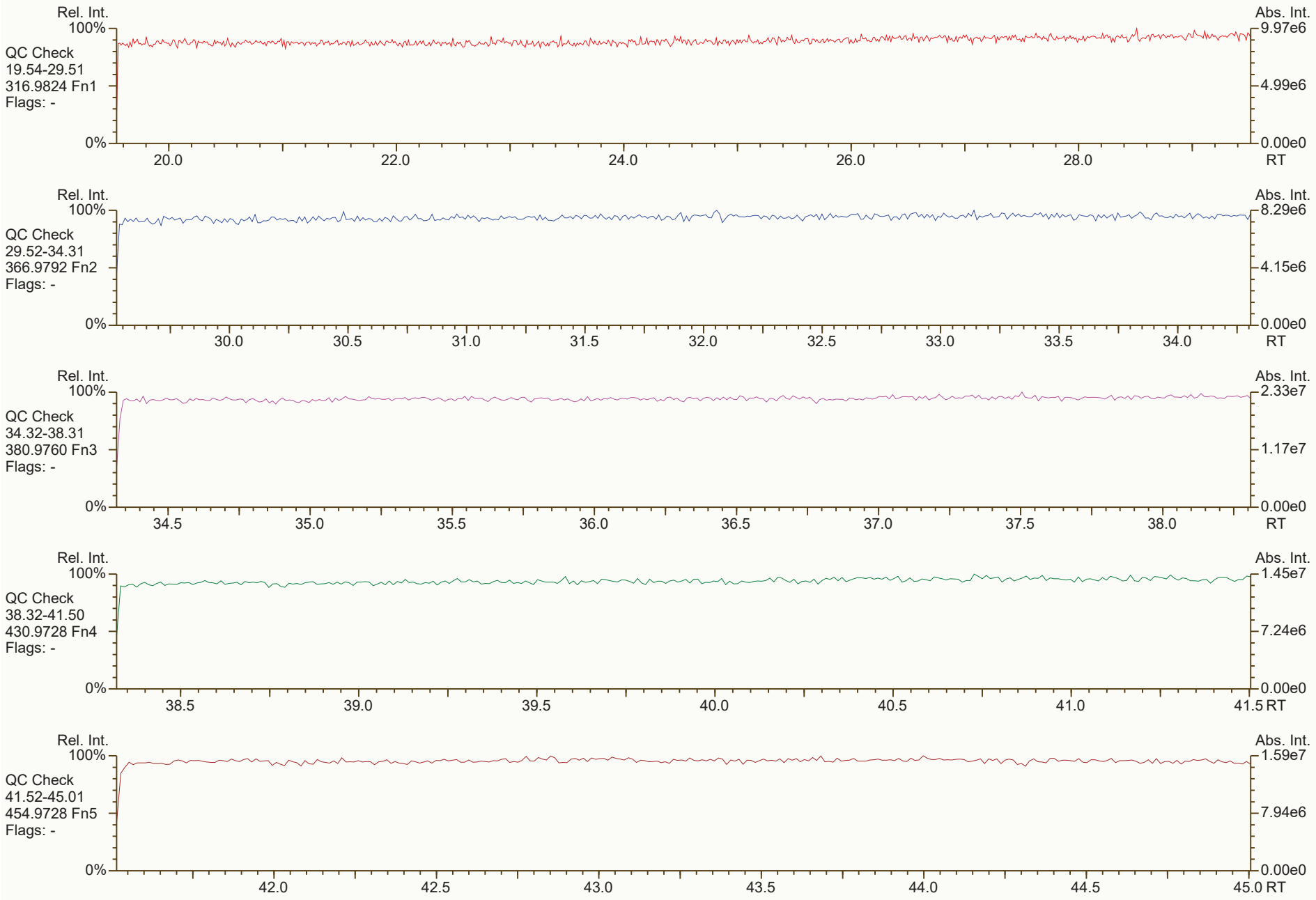

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

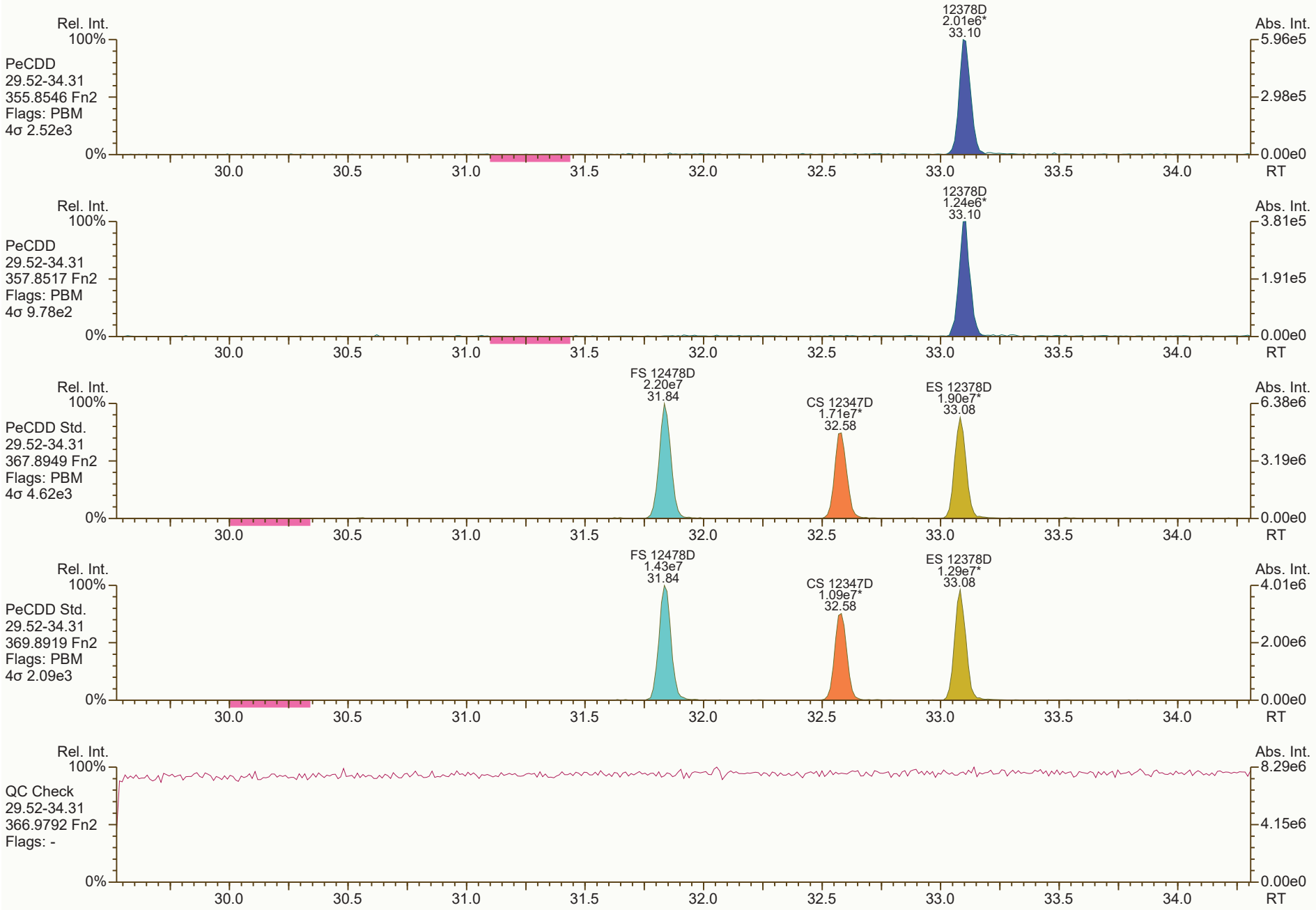
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

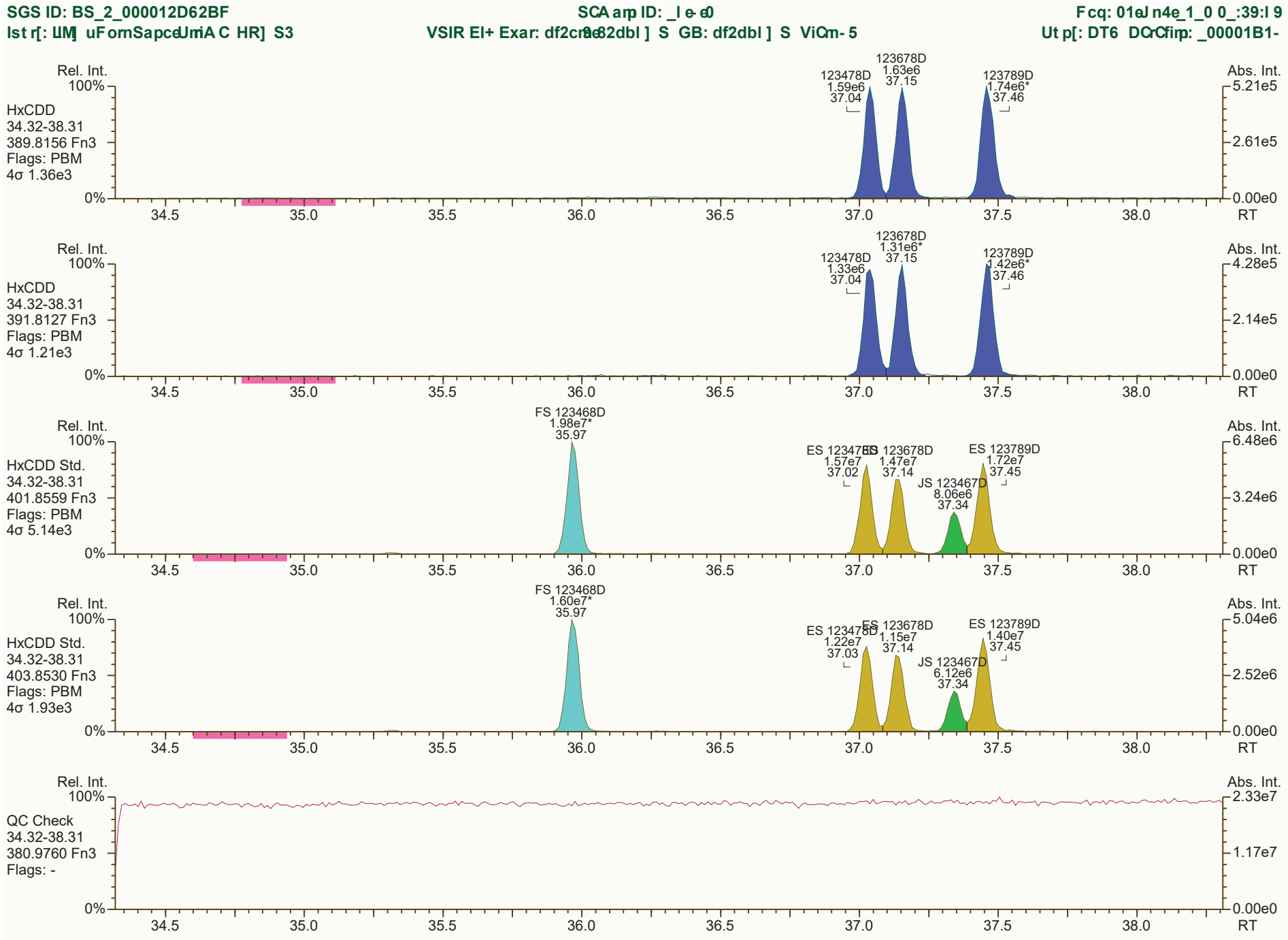
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

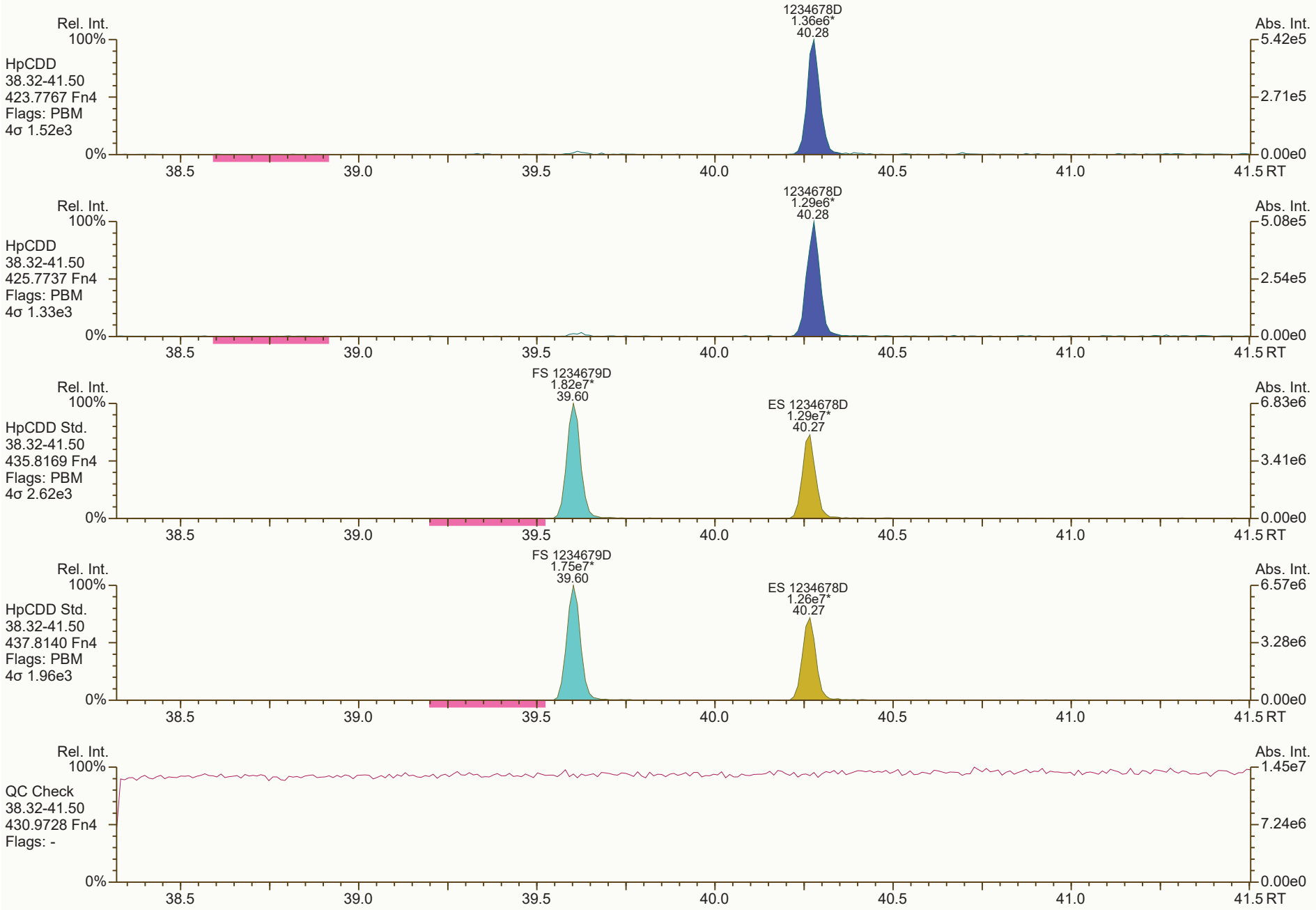
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

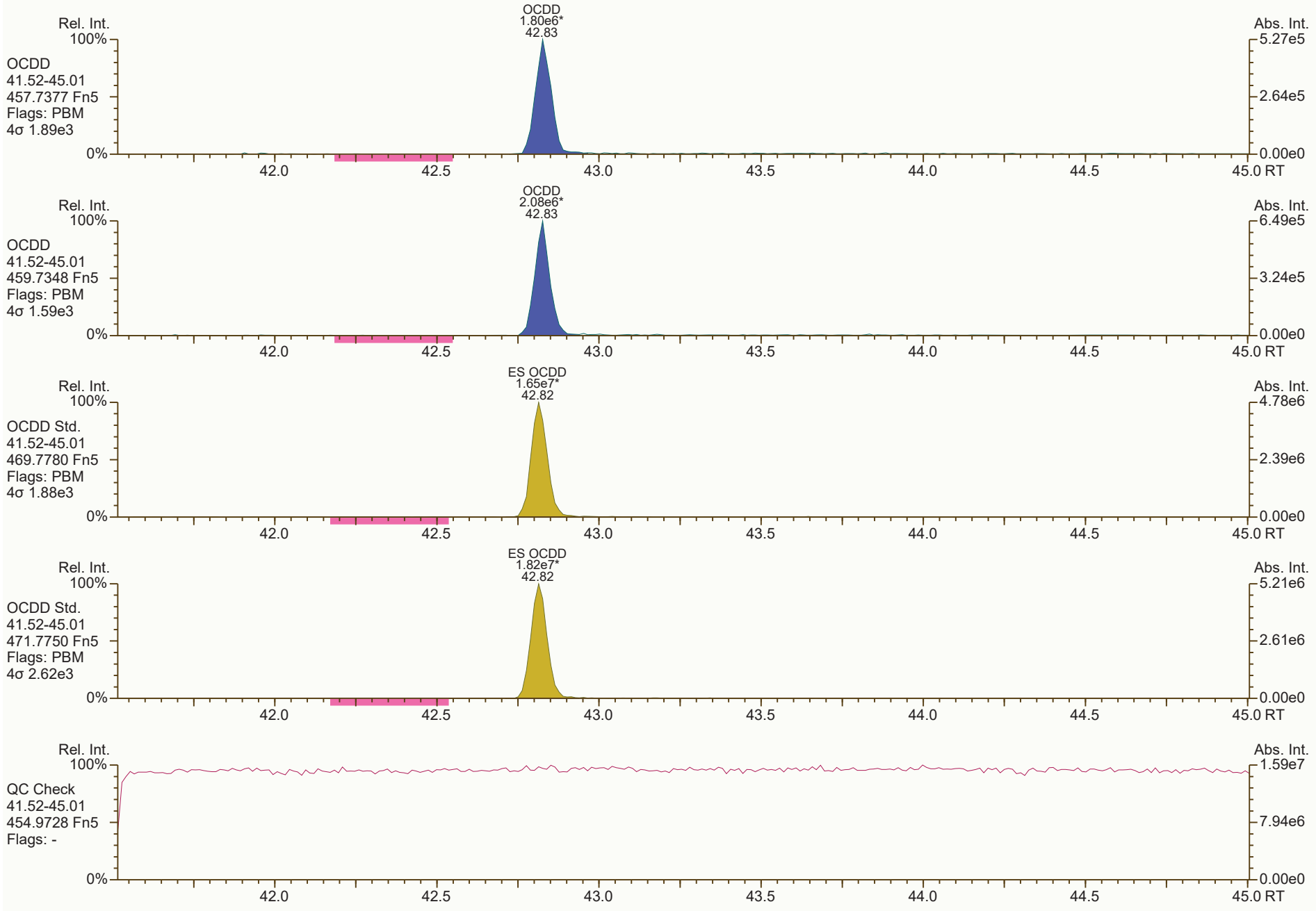

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.97e6
4.99e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.29e6
4.15e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.33e7
1.17e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.45e7
7.24e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.59e7
7.94e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: BS_2_000012D62BF
Ist r[: LIM] uFornSapceJmiA C HR] S3
SCA amp ID: _I e- e0
VSIR EI+ Exar: df2cr1e82dbl] S GB: df2dbl] S ViCm- 5
Fcq: 01eJ n4e_1_0 0_:39:I 9
Ut p[: DT6 DCrCfimp: _00001B1-
Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D 1.59e6 37.04
123678D 1.63e6 37.15
123789D 1.74e6* 37.46
5.21e5
2.61e5
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D 1.33e6 37.04
123678D 1.31e6* 37.15
123789D 1.42e6* 37.46
4.28e5
2.14e5
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D 1.98e7* 35.97
ES 123478D 1.57e7 37.02
ES 123678D 1.47e7 37.14
JS 123467D 8.06e6 37.34
ES 123789D 1.72e7 37.45
6.48e6
3.24e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D 1.60e7* 35.97
ES 123478D 1.22e7 37.03
ES 123678D 1.15e7 37.14
JS 123467D 6.12e6 37.34
ES 123789D 1.40e7 37.45
5.04e6
2.52e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 8050, 4638 scc: 385-758
Revised: 10-Nov-2021 13:50 (DTF) Printed: 11-Nov-2021 10:40 Page 4 of 12

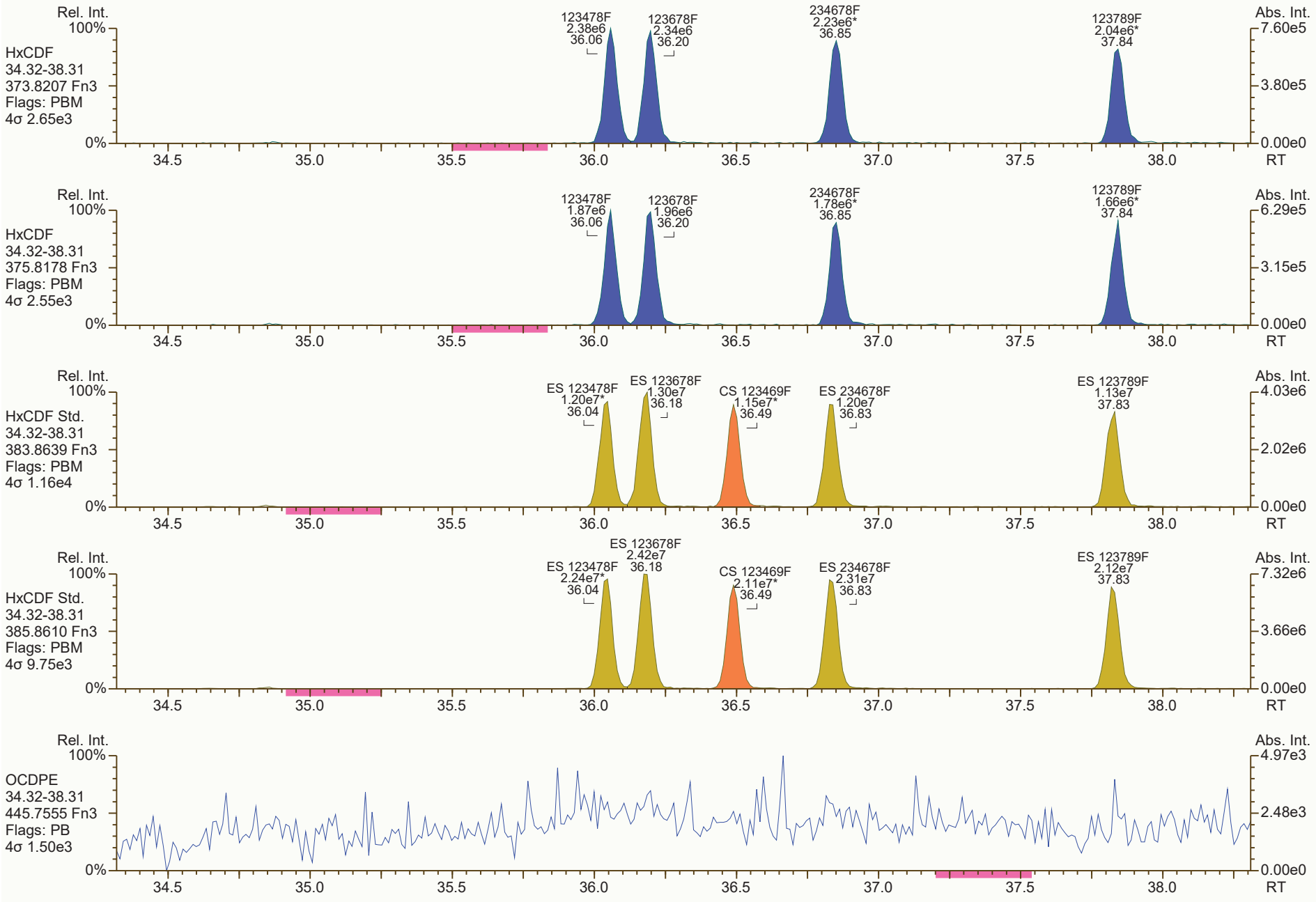

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
0%
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
0%
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
0%
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
0%
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.24e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

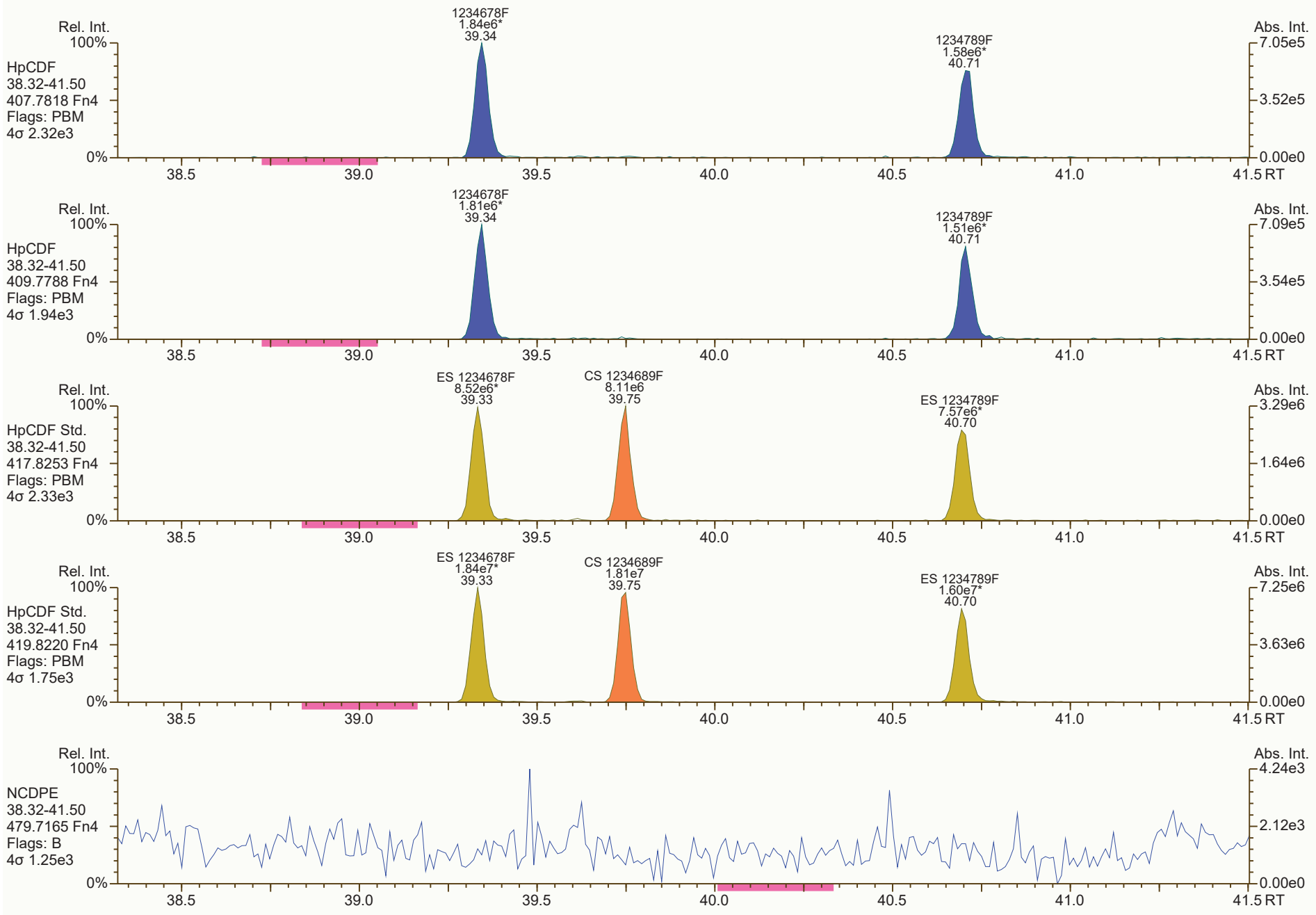

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

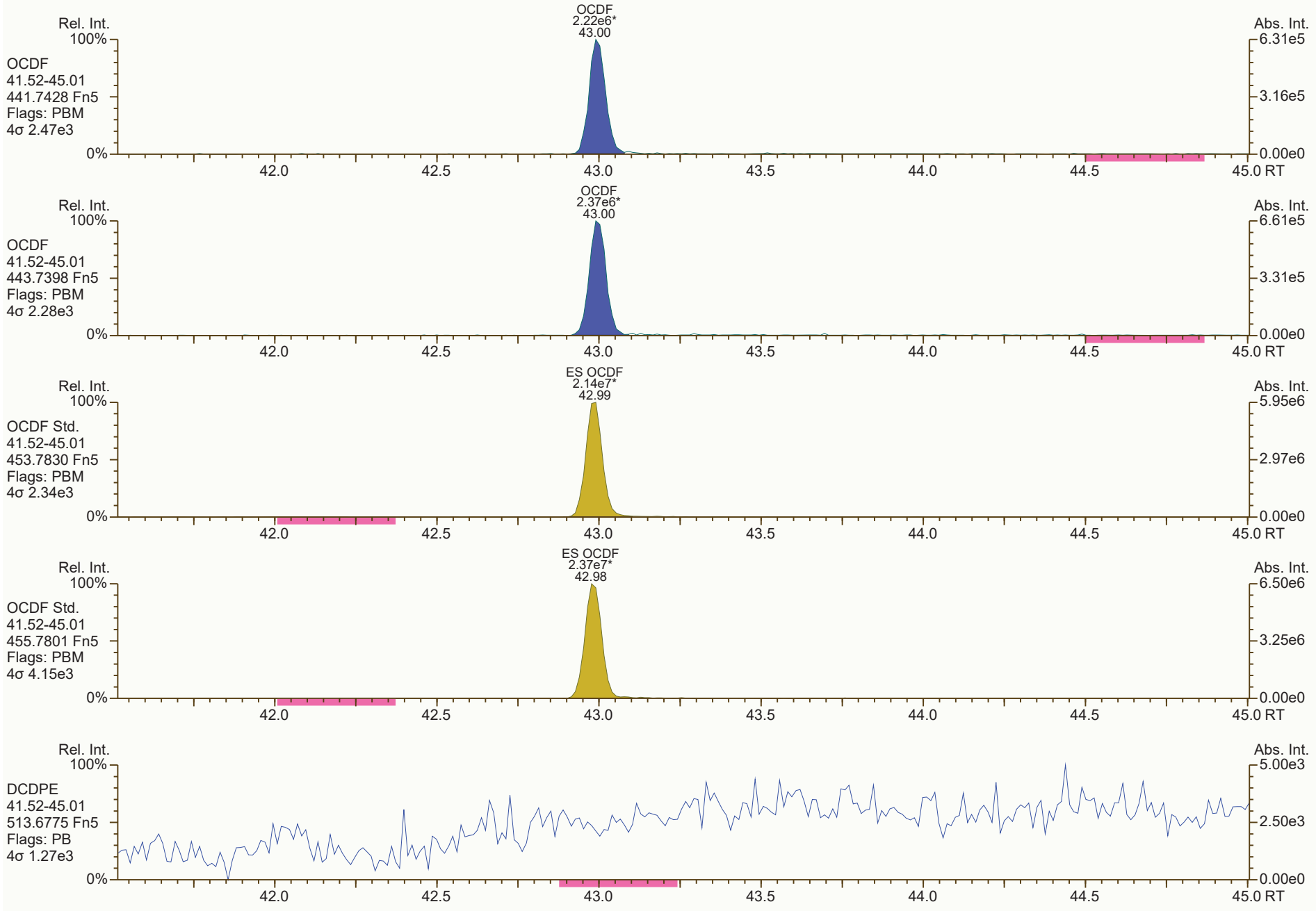

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
0%
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
Abs. Int.
6.29e5
3.15e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
0%
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
Abs. Int.
4.03e6
2.02e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
0%
ES 123678F
2.42e7
36.18
ES 123478F
2.24e7*
36.04
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
Abs. Int.
7.32e6
3.66e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

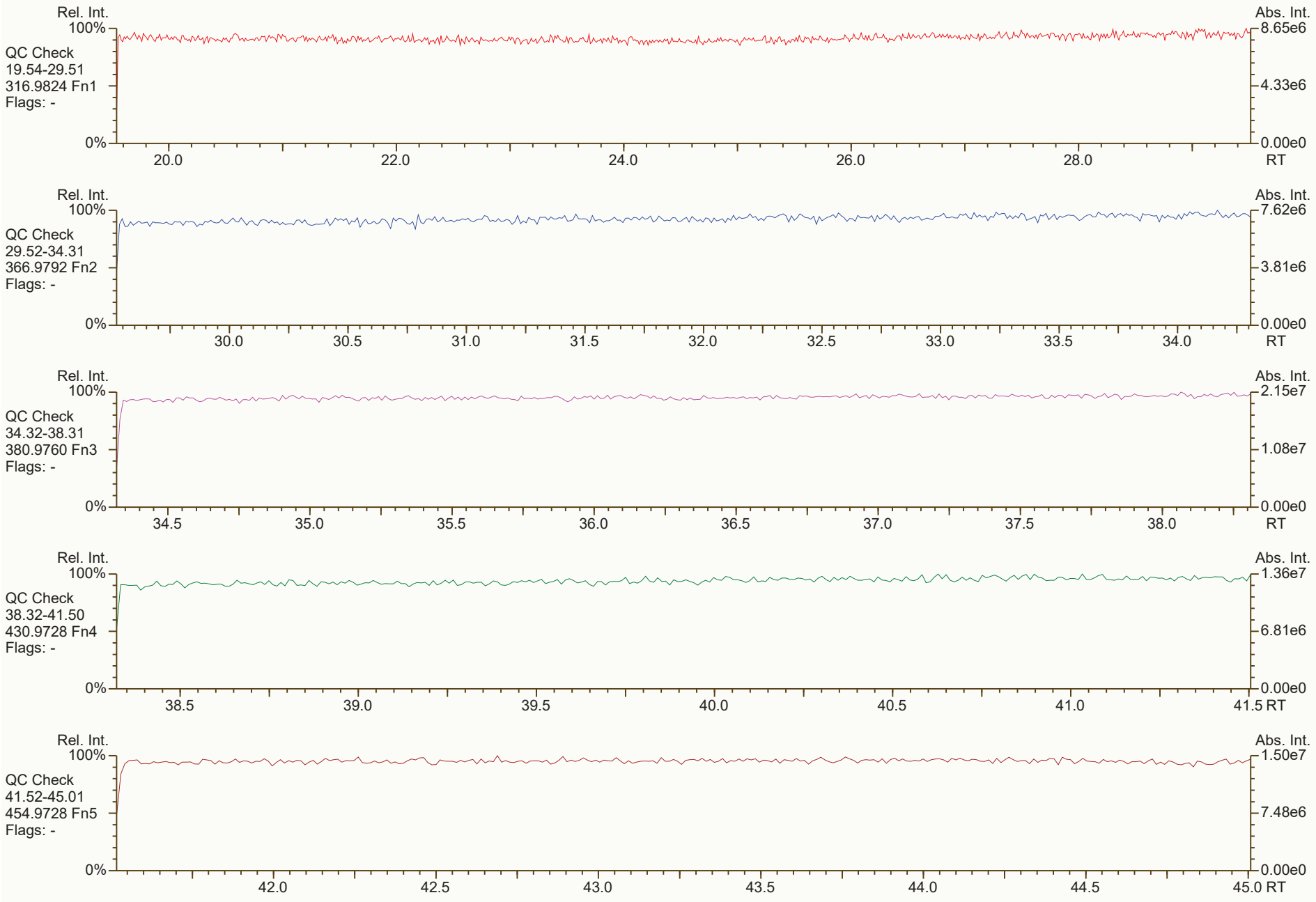

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
OCDF
2.22e6*
43.00
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
OCDF
2.37e6*
43.00
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
ES OCDF
2.14e7*
42.99
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
ES OCDF
2.37e7*
42.98
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

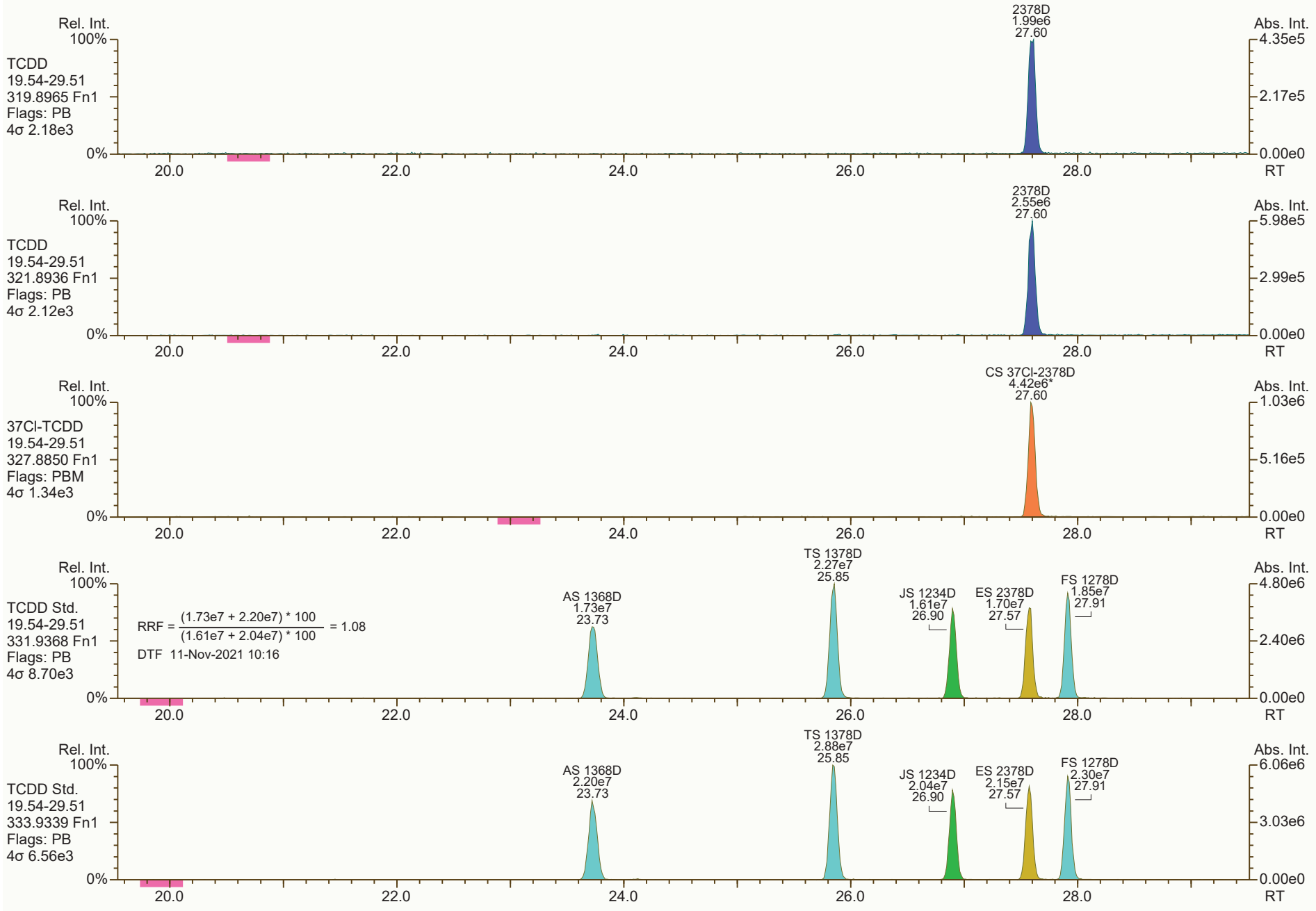
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

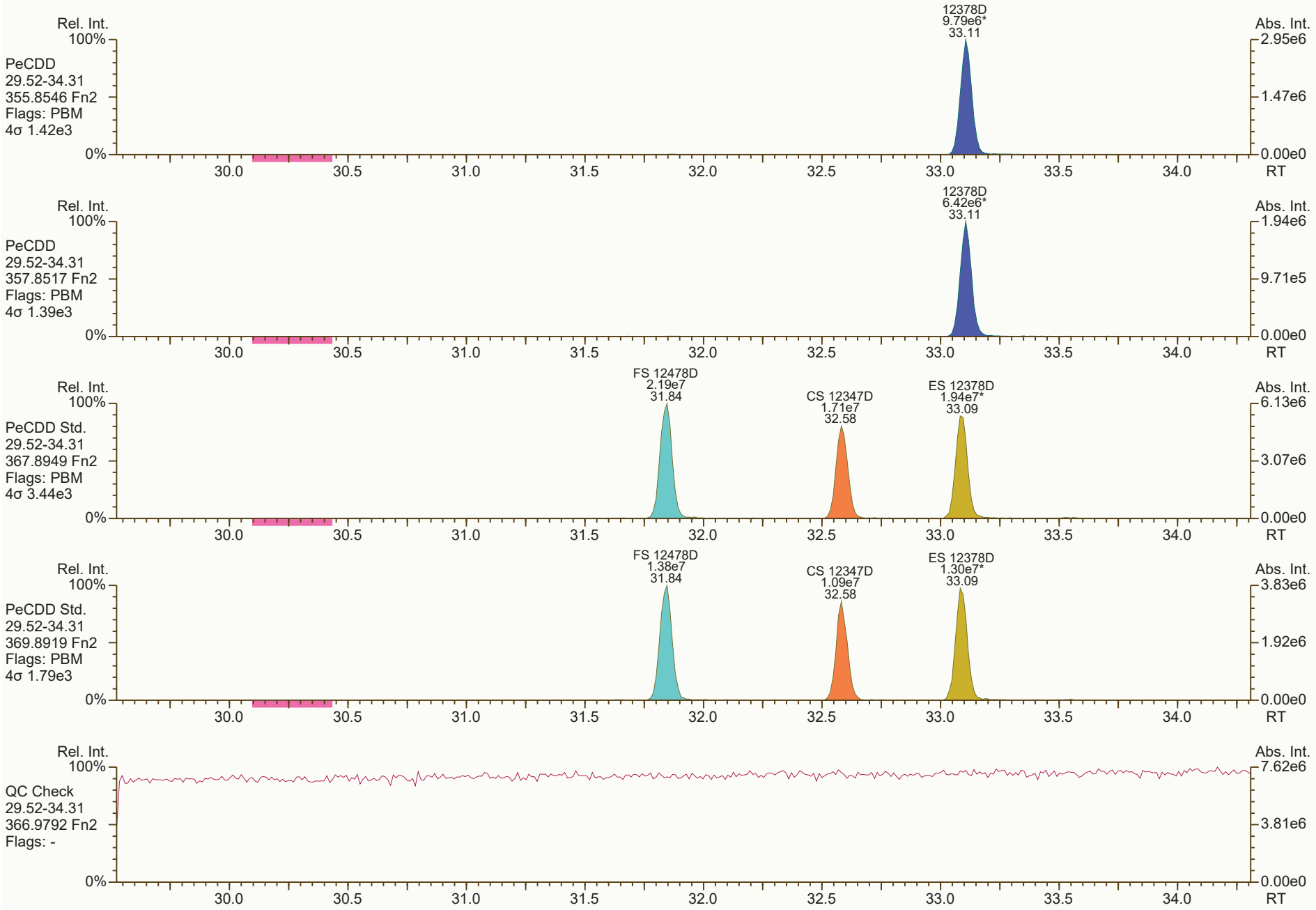
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

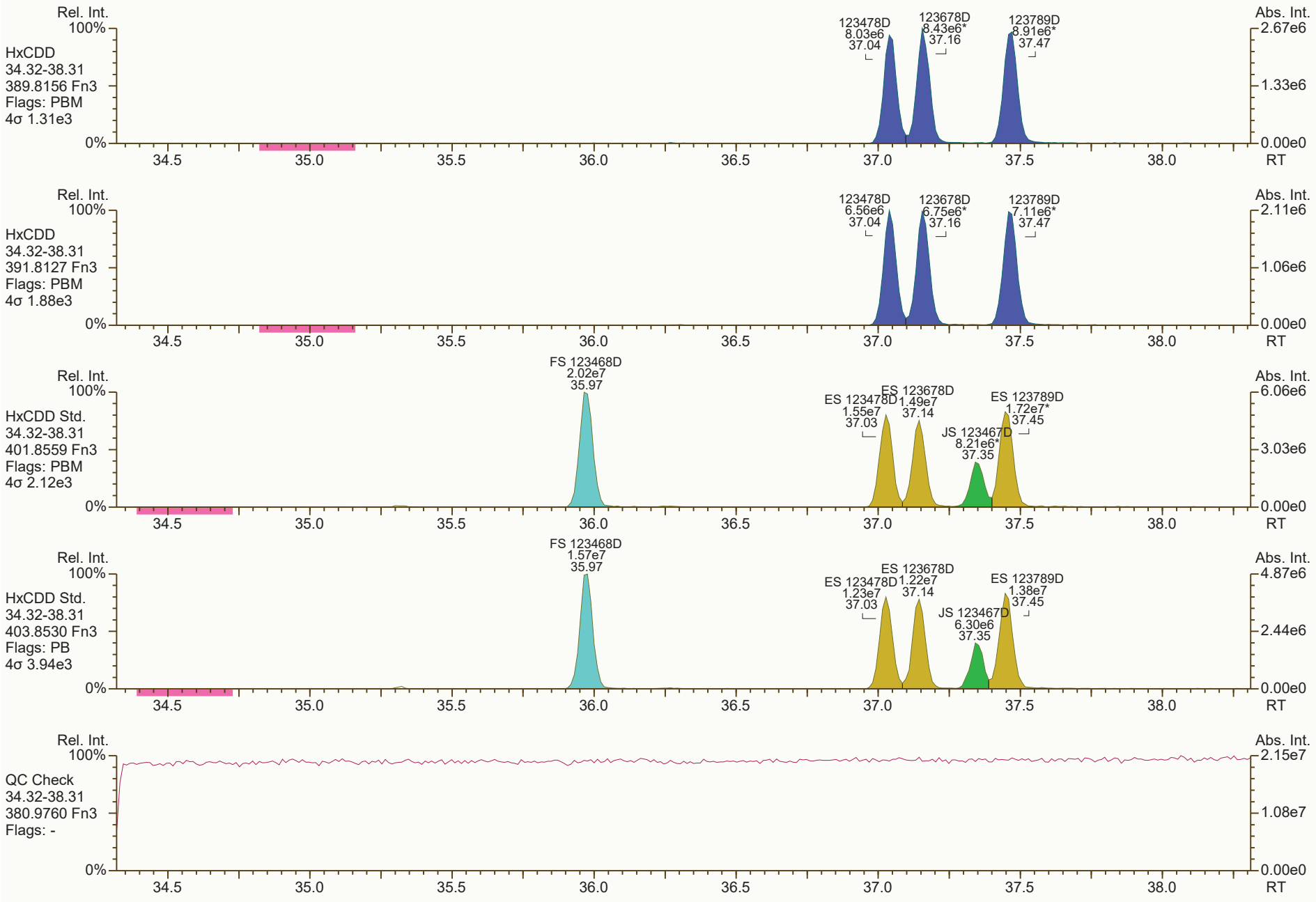
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

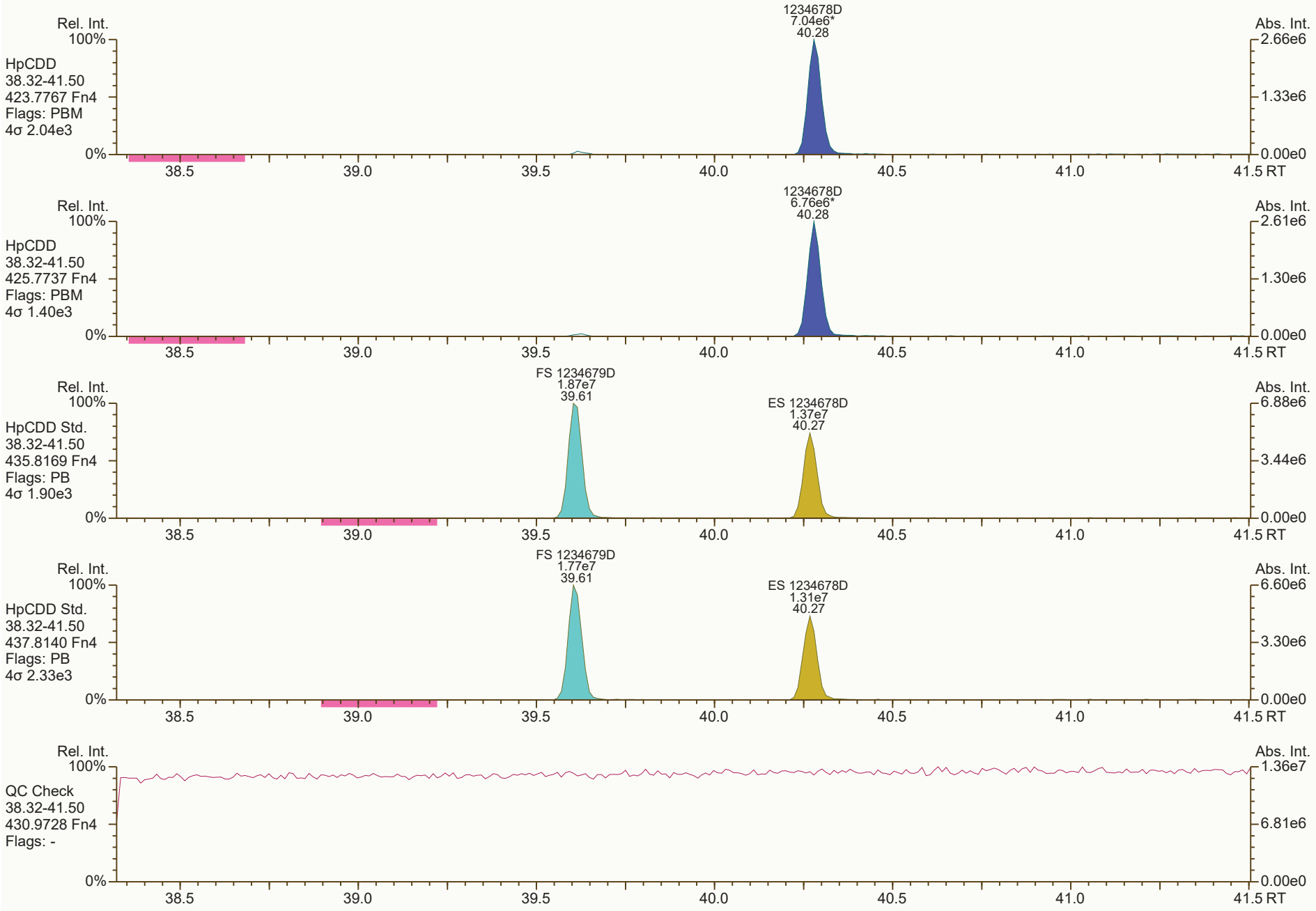
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

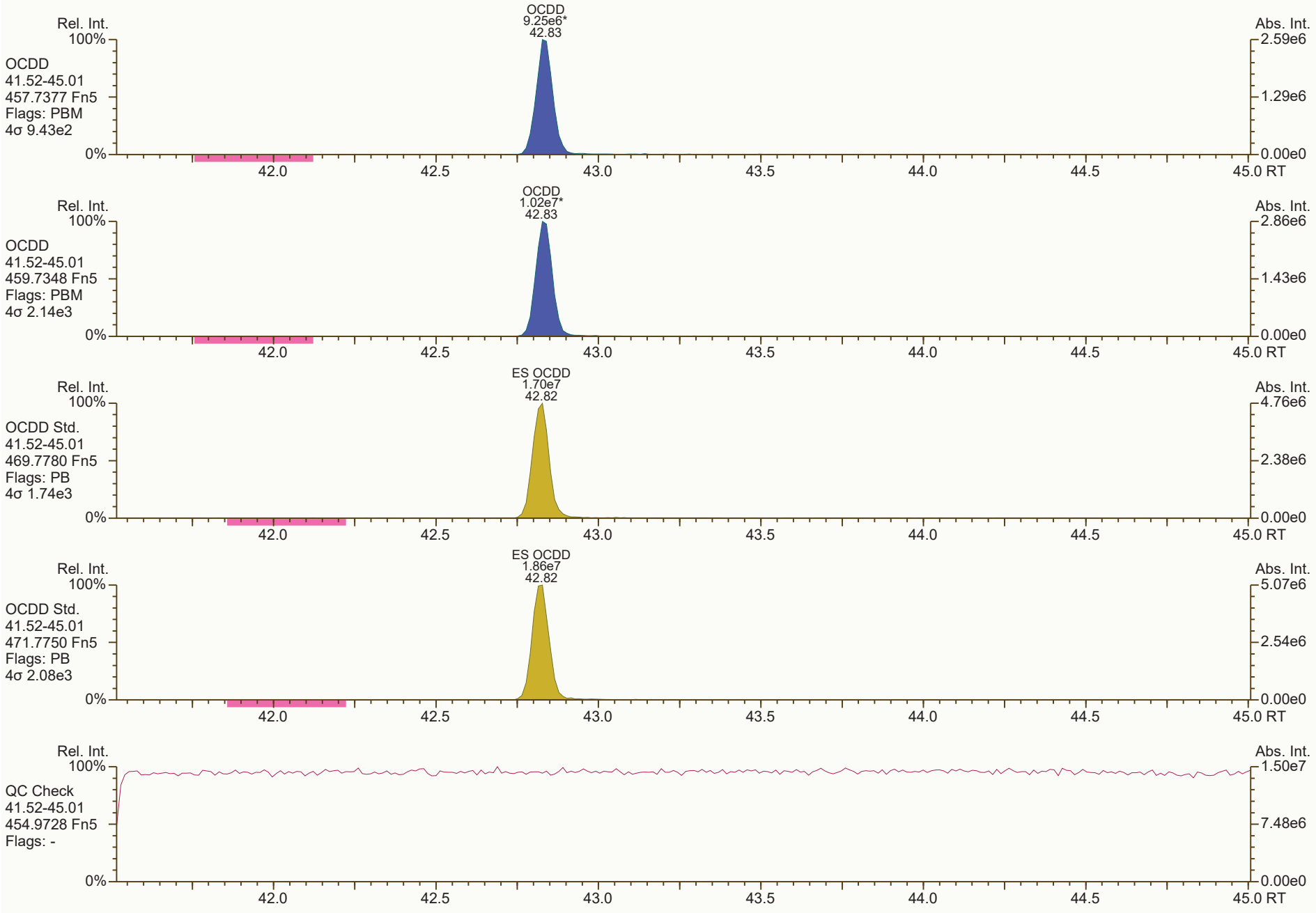

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

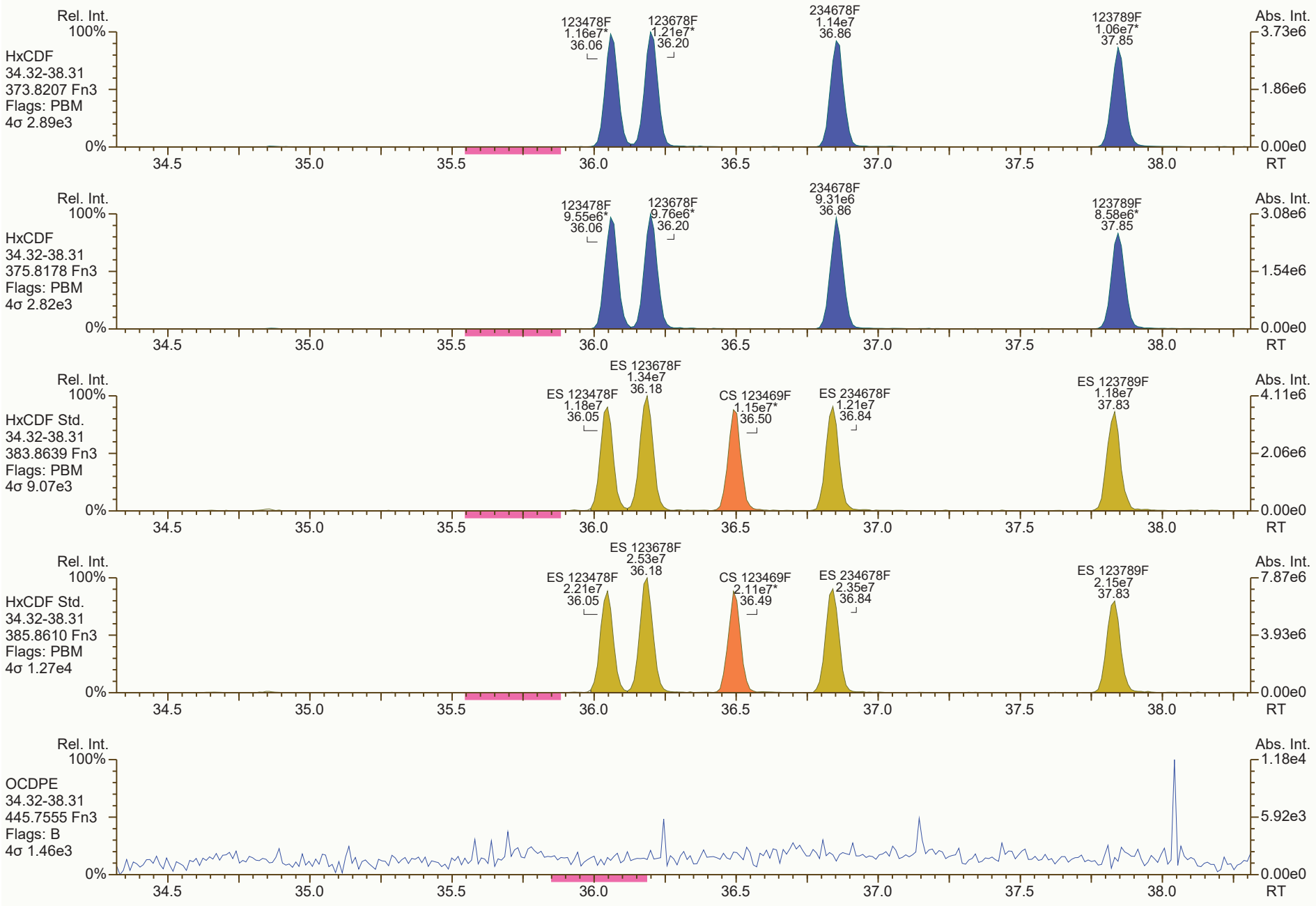

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
0%
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
0%
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
0%
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

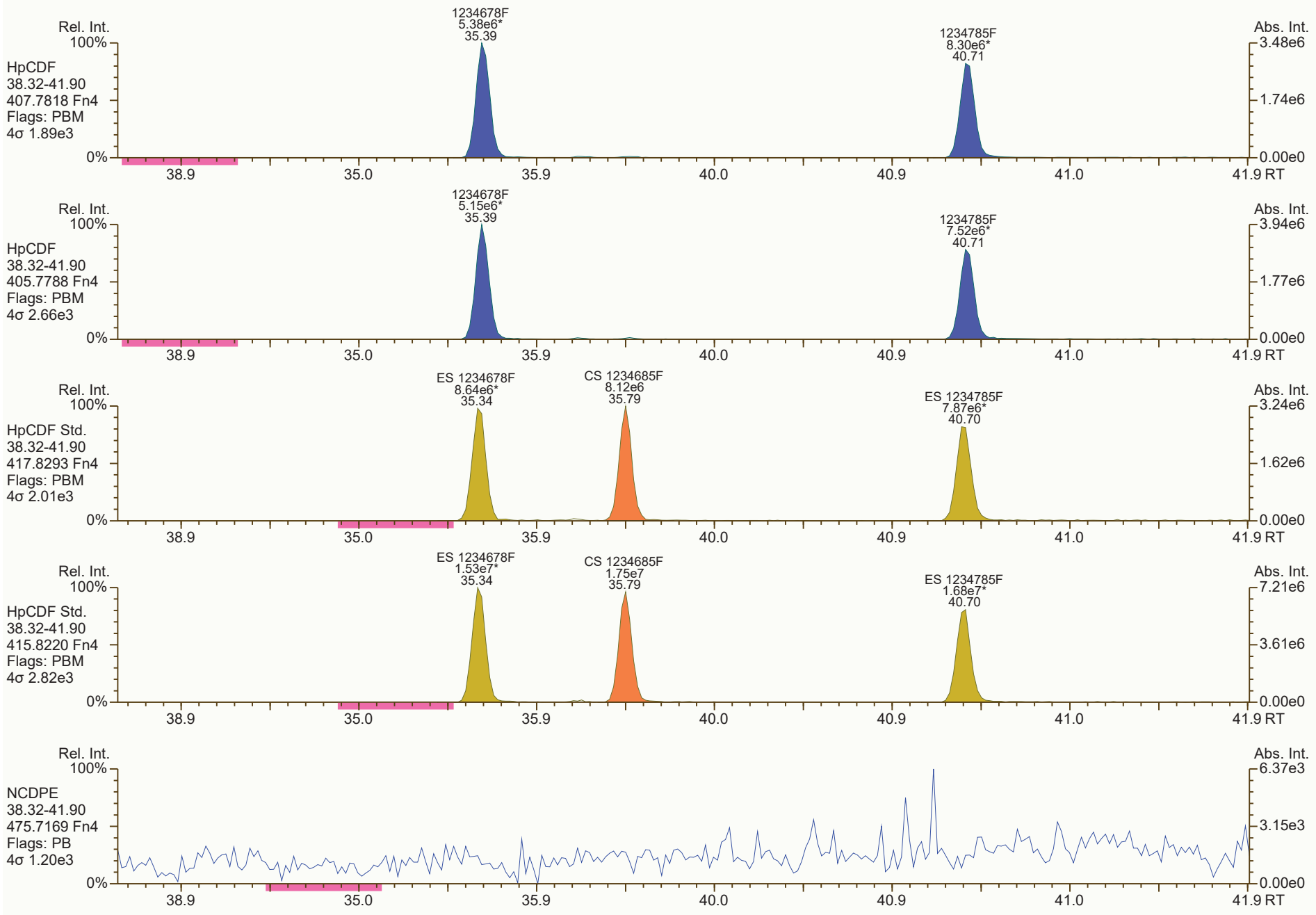

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

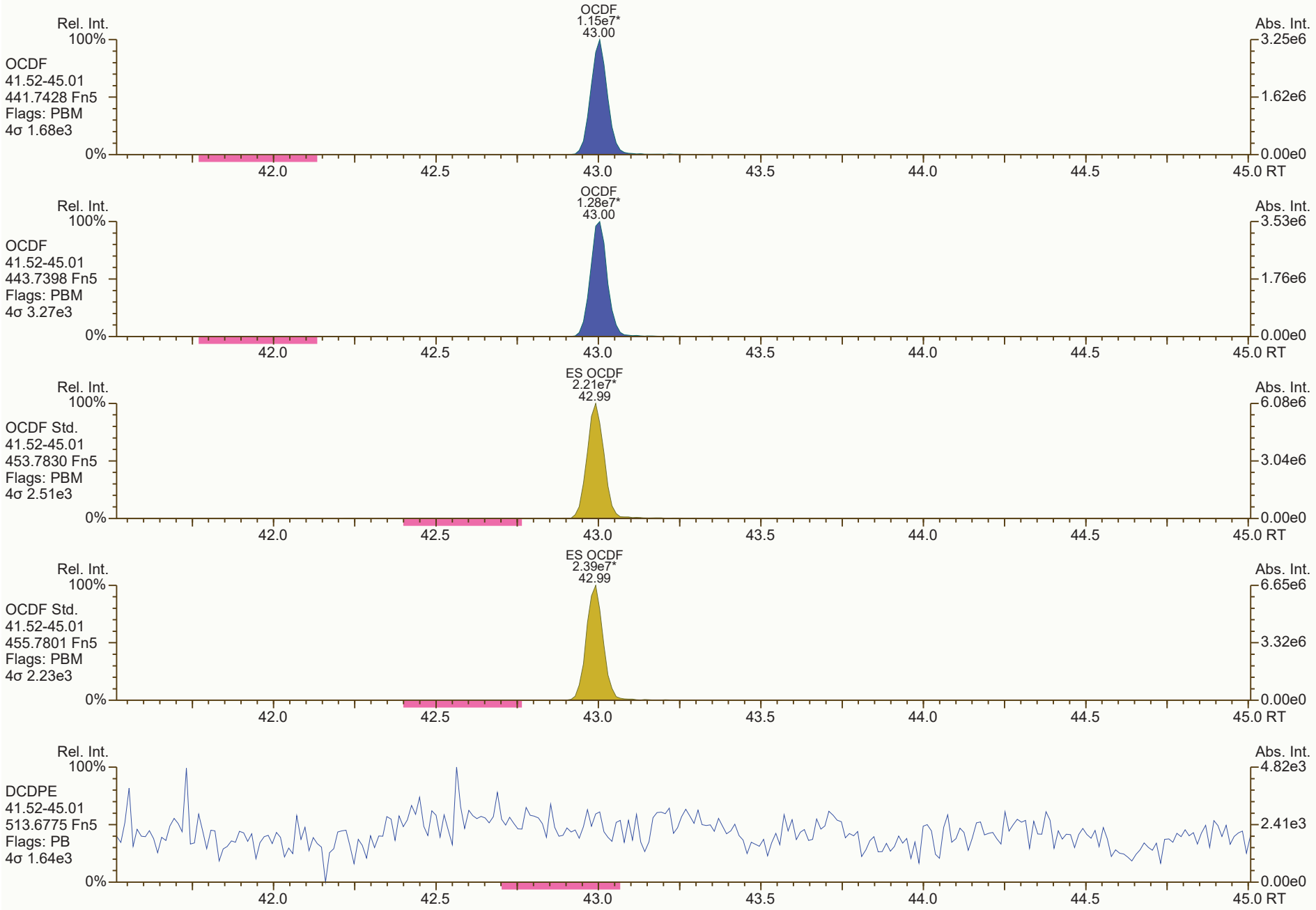

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
3.08e6
1.54e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123678F
1.34e7
36.18
ES 123478F
1.18e7
36.05
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
4.11e6
2.06e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123678F
2.53e7
36.18
ES 123478F
2.21e7
36.05
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
7.87e6
3.93e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3


Rel. Int.
100%
HpCDF
38.32-41.90
407.7818 Fn4
Flags: PBM
4σ 1.89e3
0%
1234678F
5.38e6*
35.39
1234785F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF
38.32-41.90
405.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
5.15e6*
35.39
1234785F
7.52e6*
40.71
Abs. Int.
3.94e6
1.77e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
417.8293 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
35.34
CS 1234685F
8.12e6
35.79
ES 1234785F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
415.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.53e7*
35.34
CS 1234685F
1.75e7
35.79
ES 1234785F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
NCDPE
38.32-41.90
475.7169 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.15e3
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT

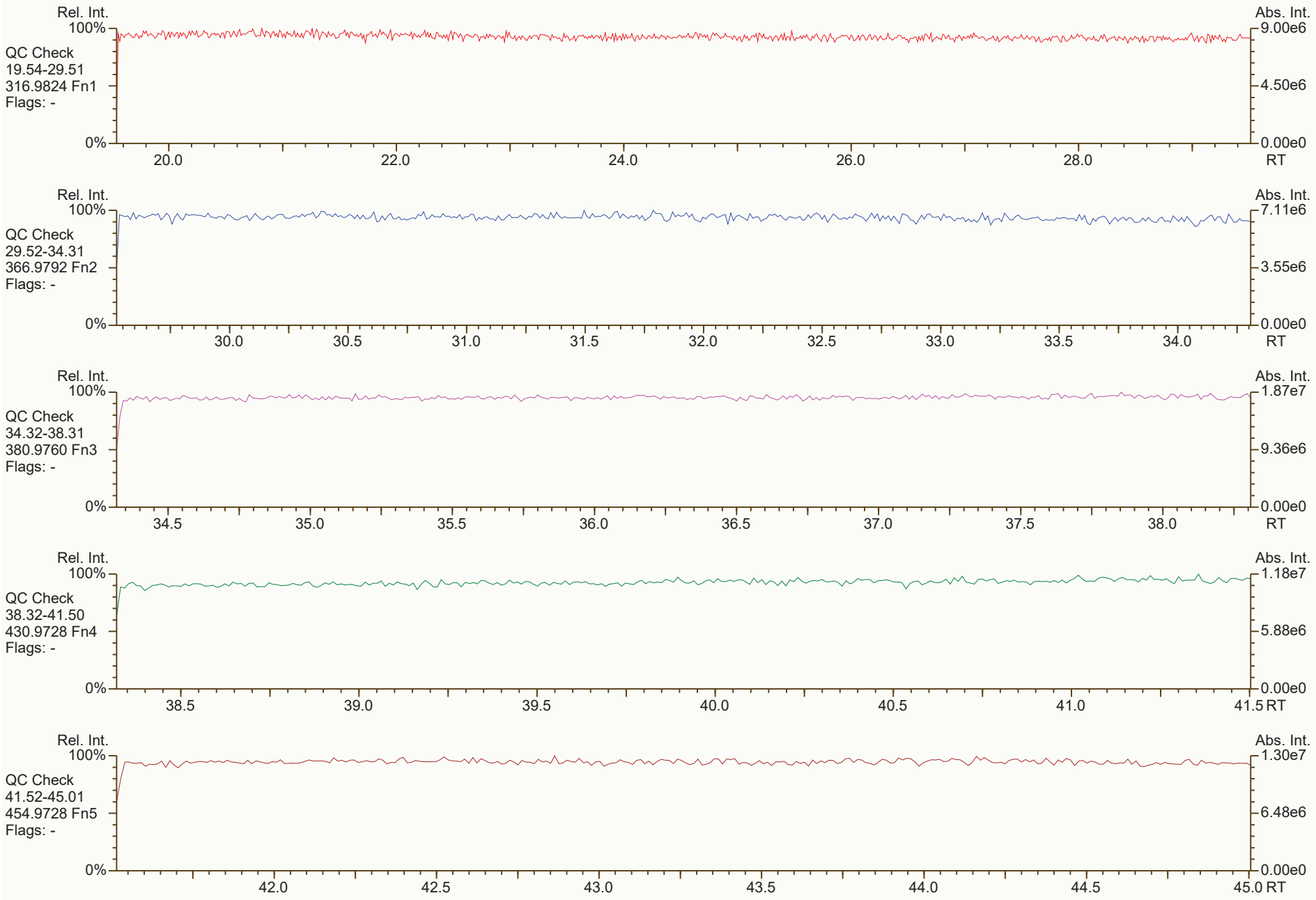

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

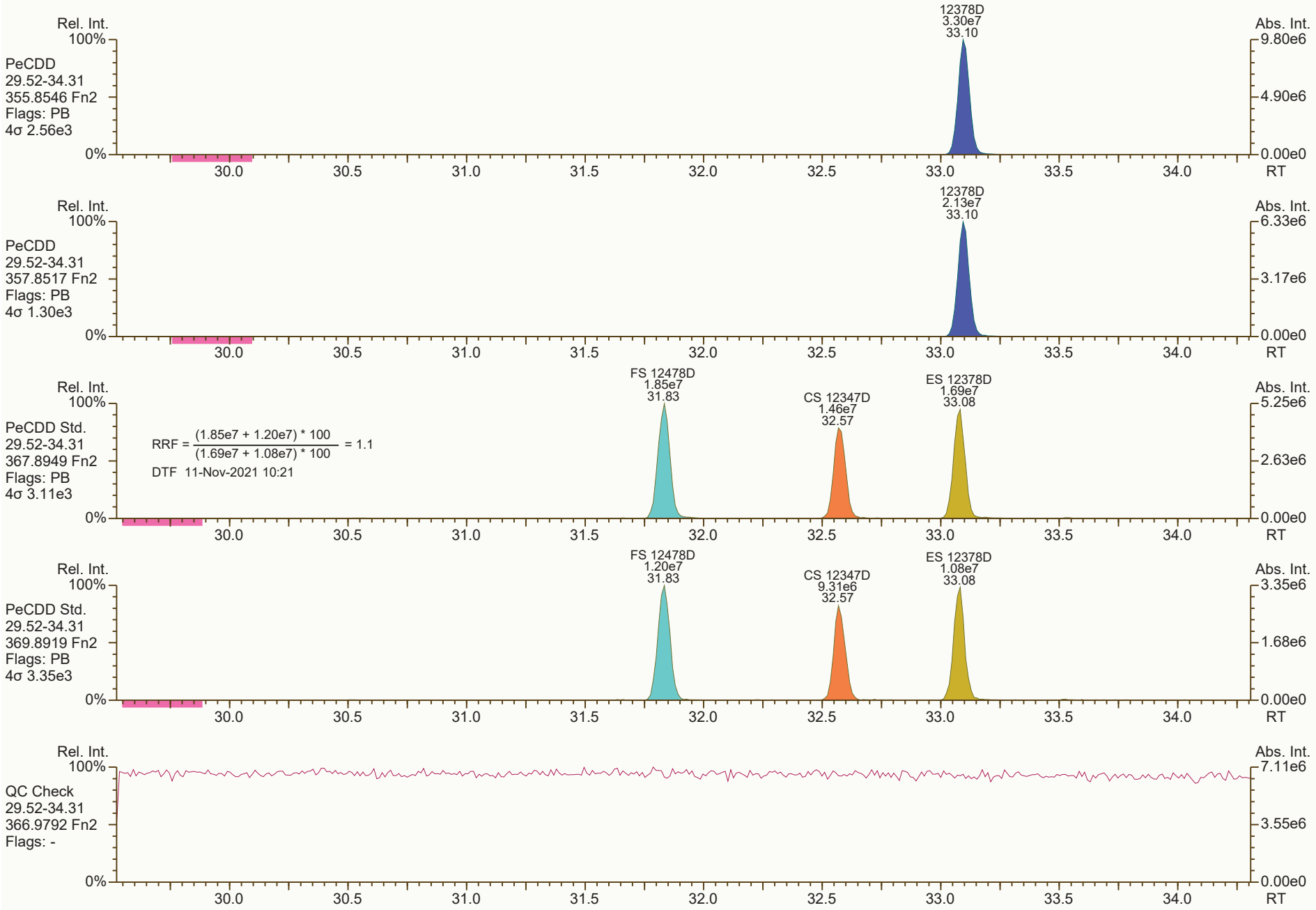
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

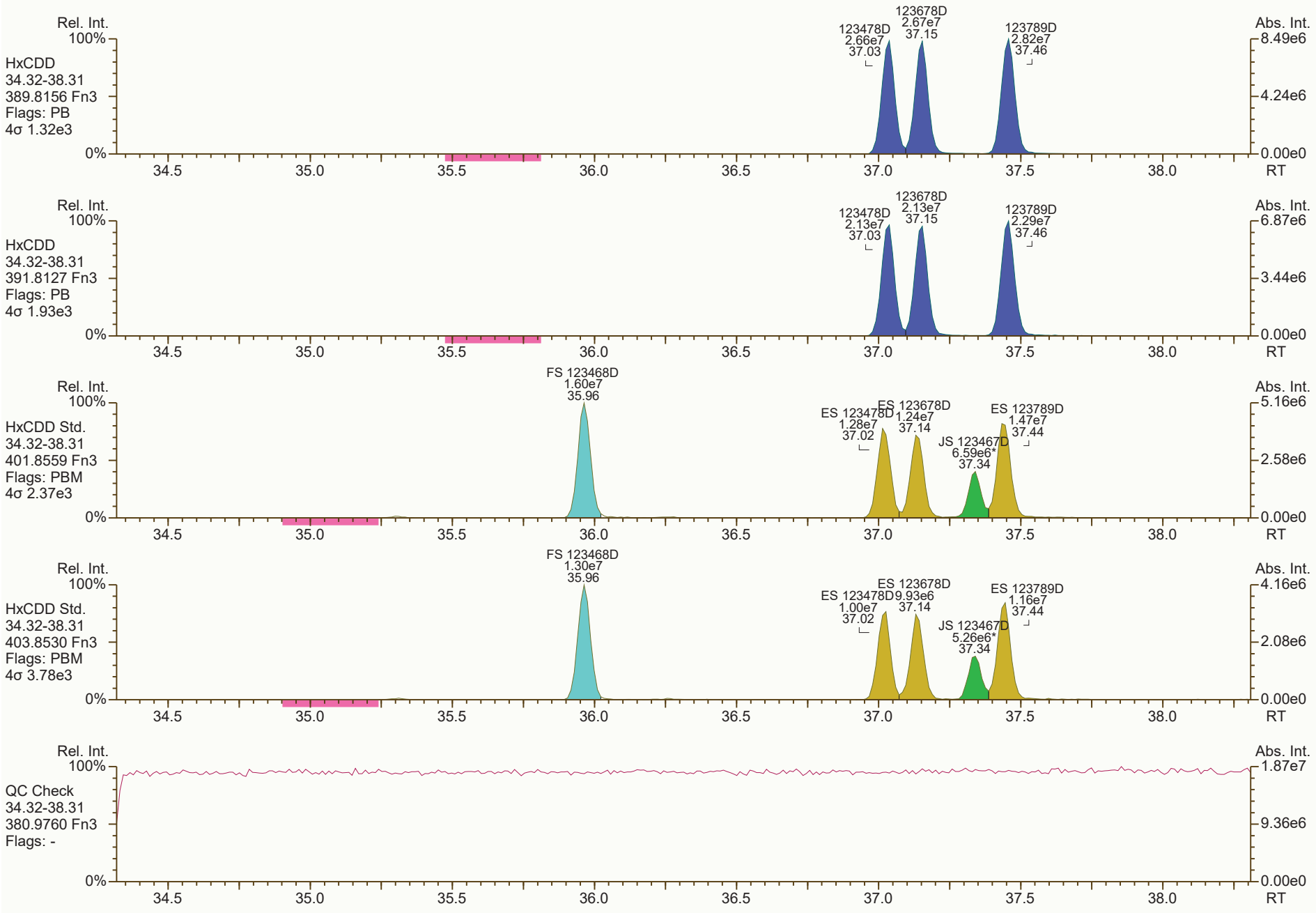
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

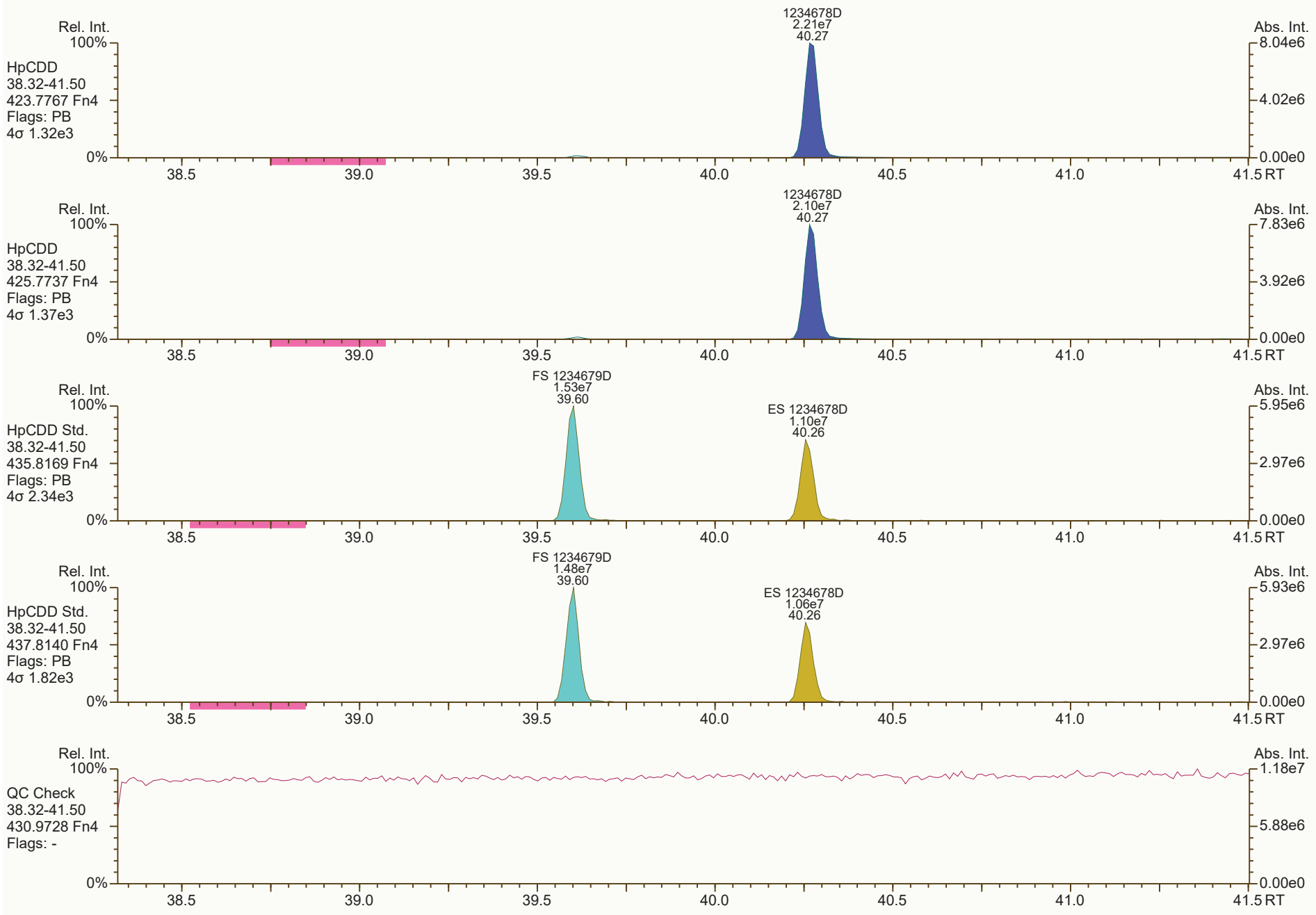
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

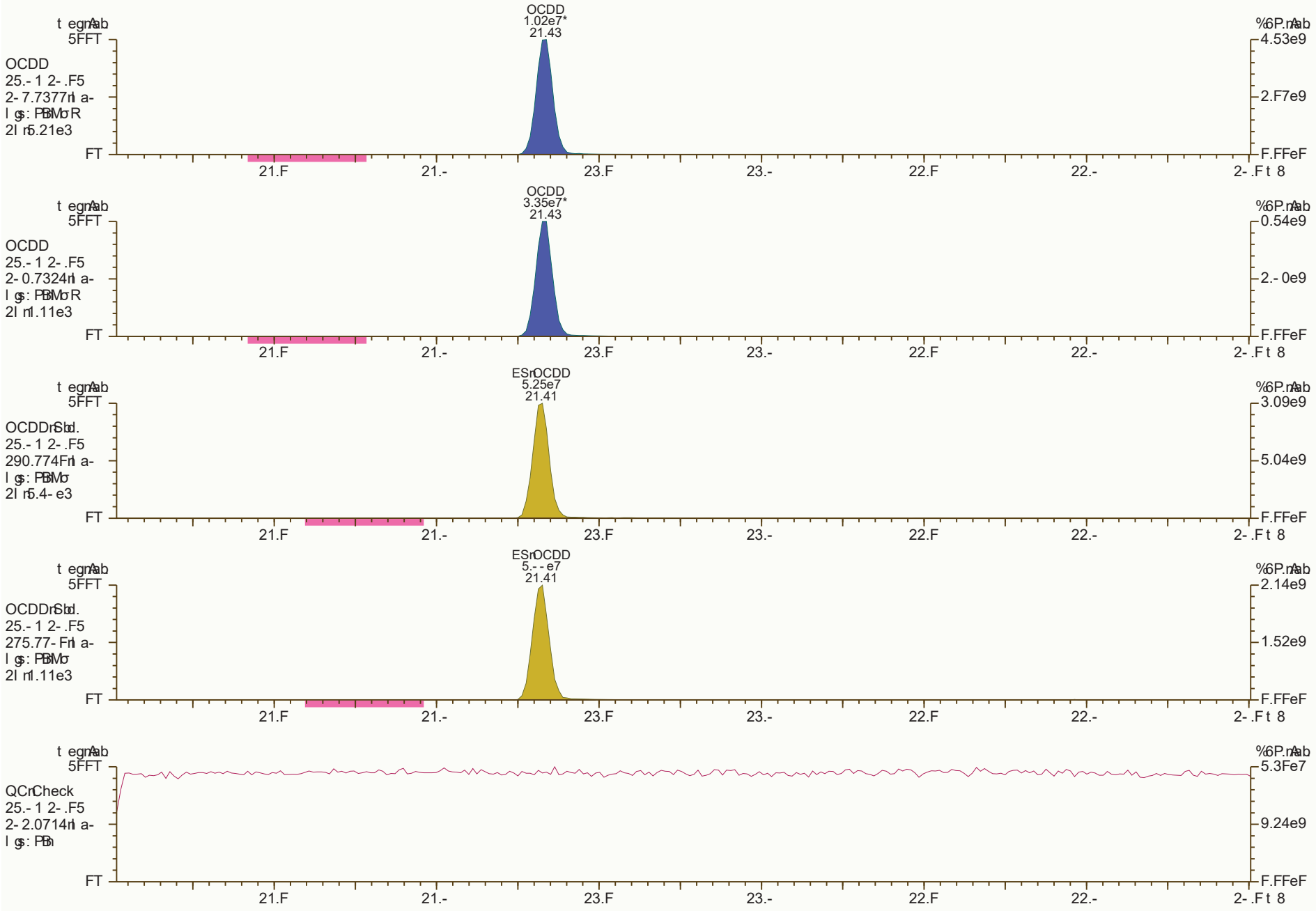

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
0%
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

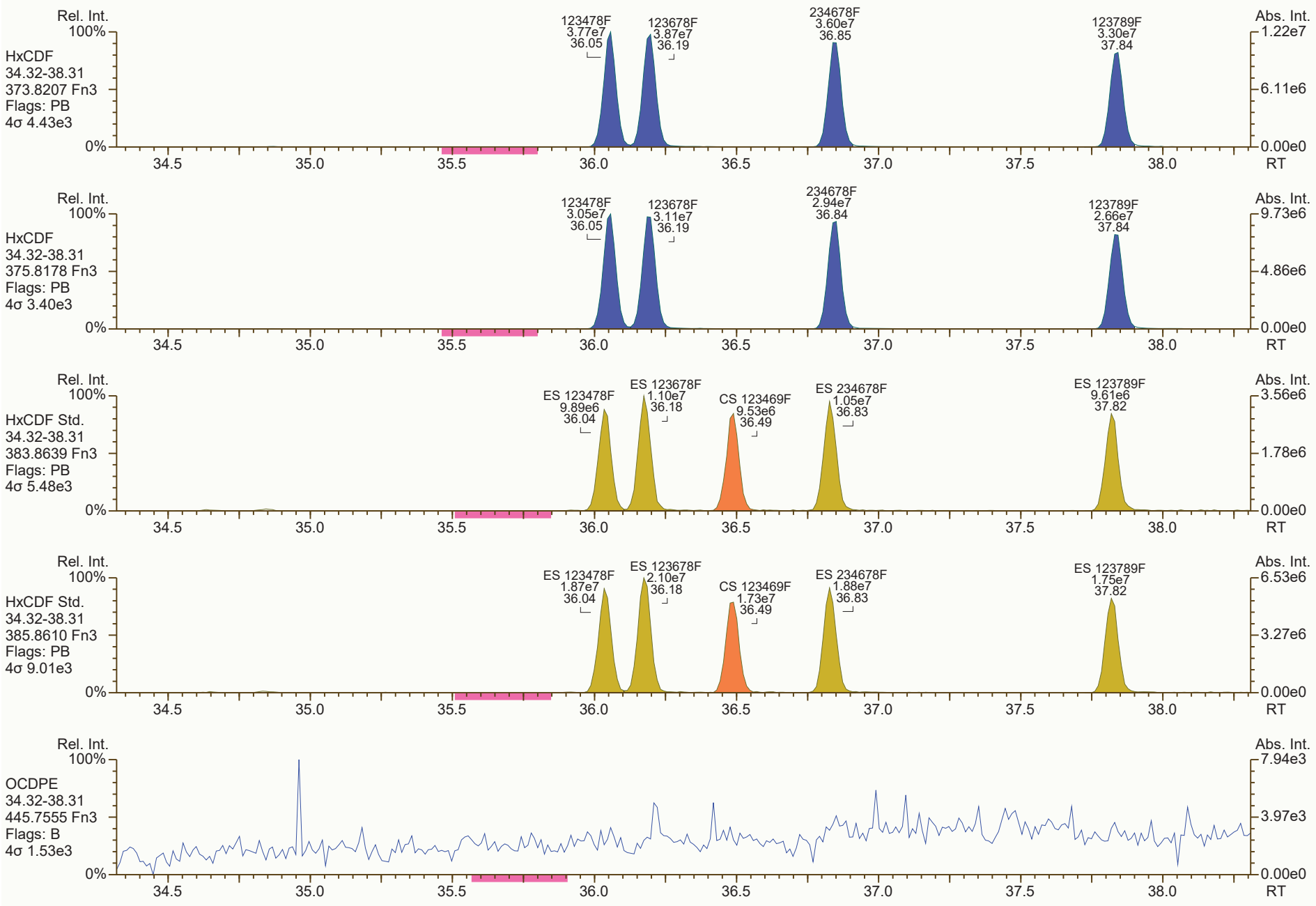

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

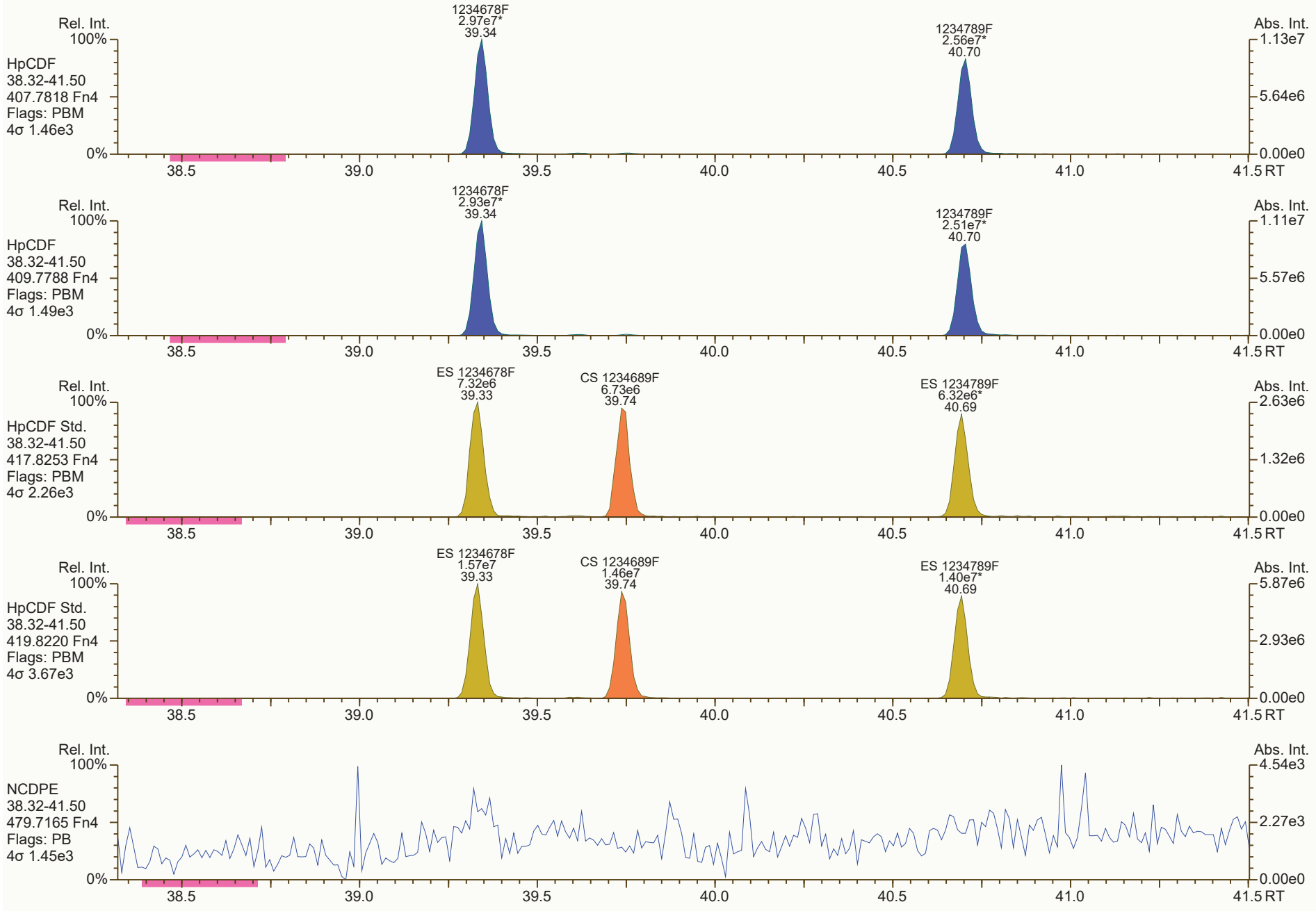

OCDD
1.02e7*
21.43
OCDD
3.35e7*
21.43
ESnOCDD
5.25e7
21.41
ESnOCDD
21.41
21.F
21.-
23.F
23.-
22.F
22.-


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
0%
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
Abs. Int.
9.73e6
4.86e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
0%
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
Abs. Int.
3.56e6
1.78e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
0%
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
Abs. Int.
6.53e6
3.27e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

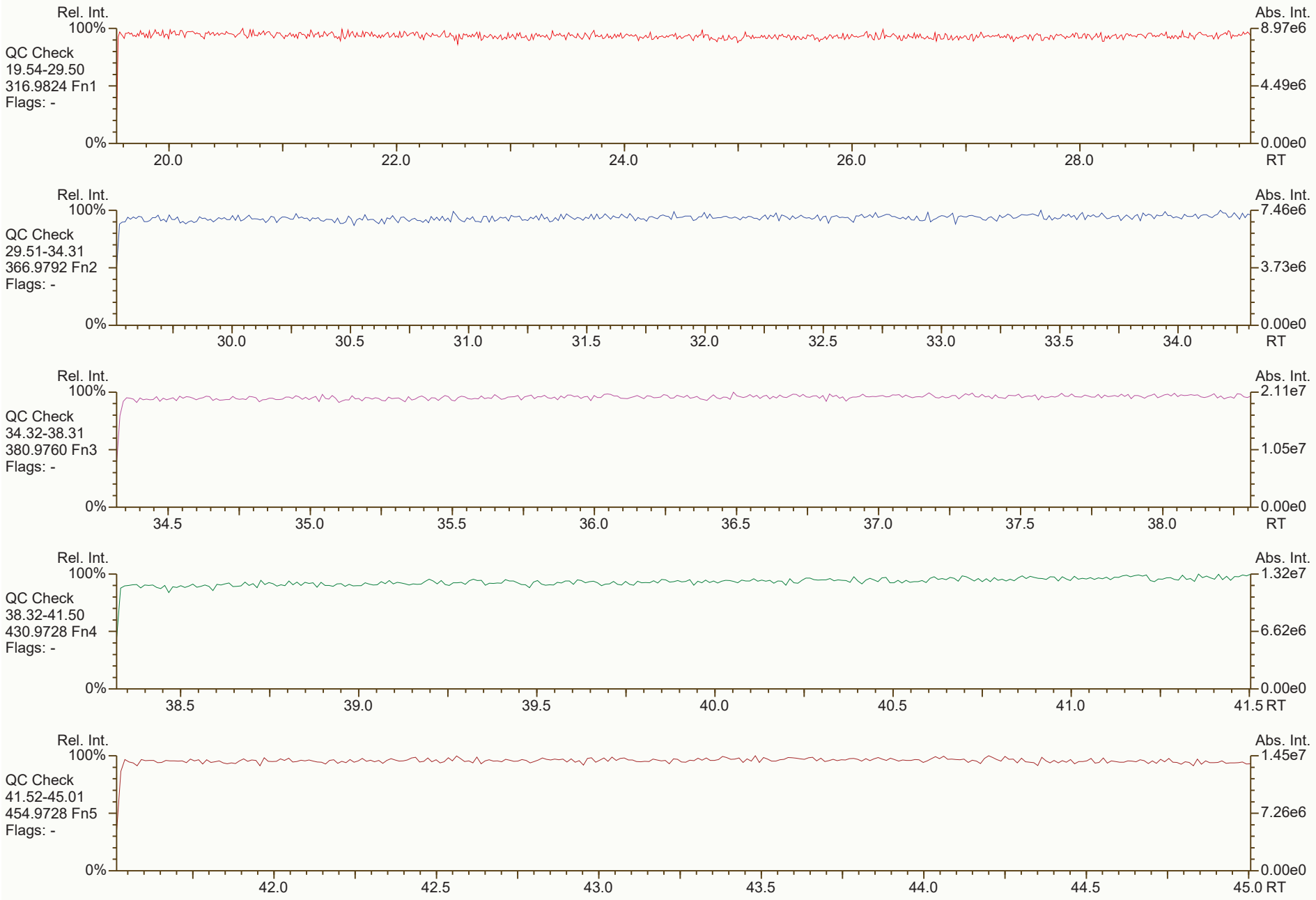

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
OCDF
3.65e7*
42.99
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
OCDF
4.04e7*
42.99
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDF
1.75e7
42.98
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
ES OCDF
2.01e7
42.98
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

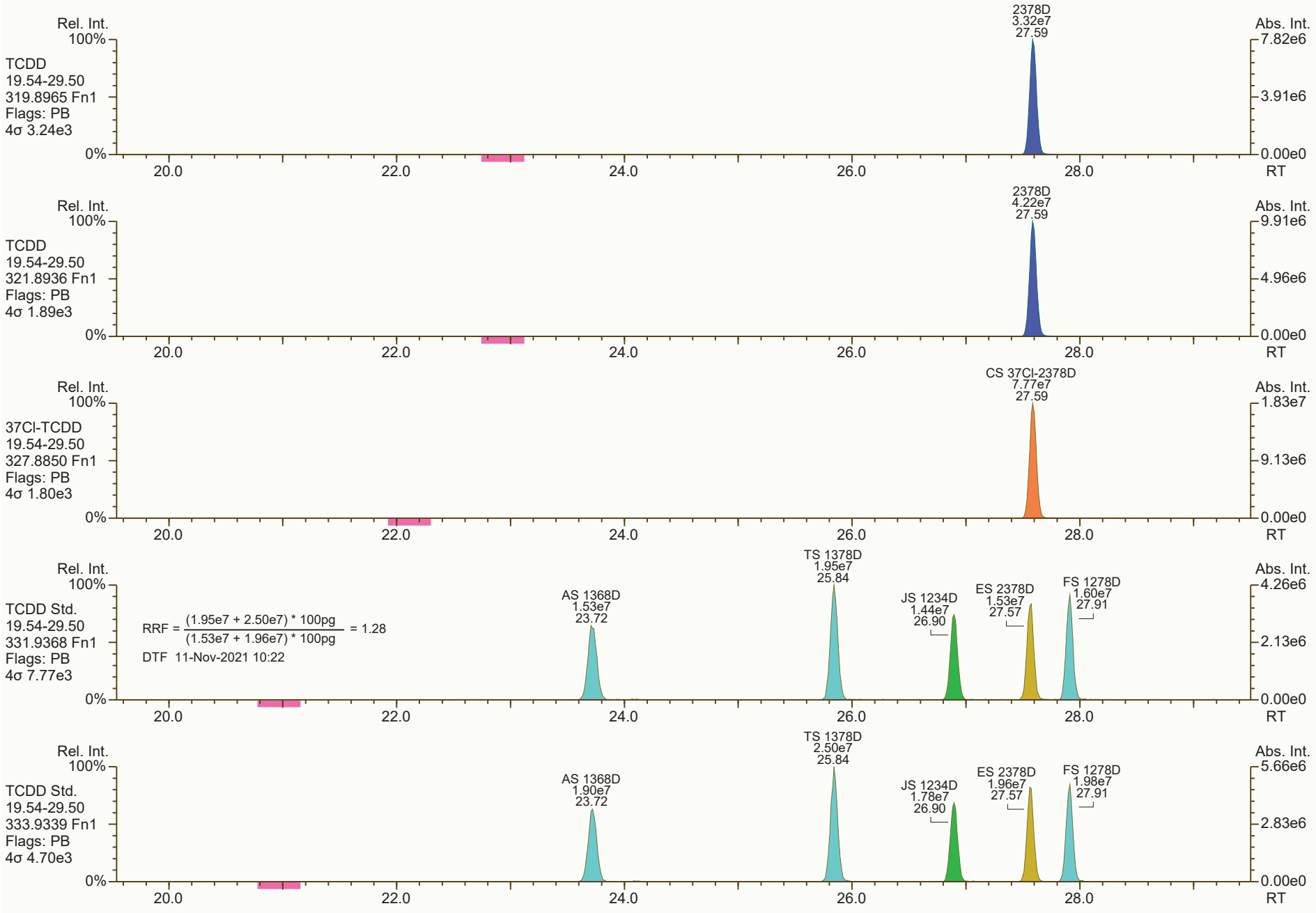
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

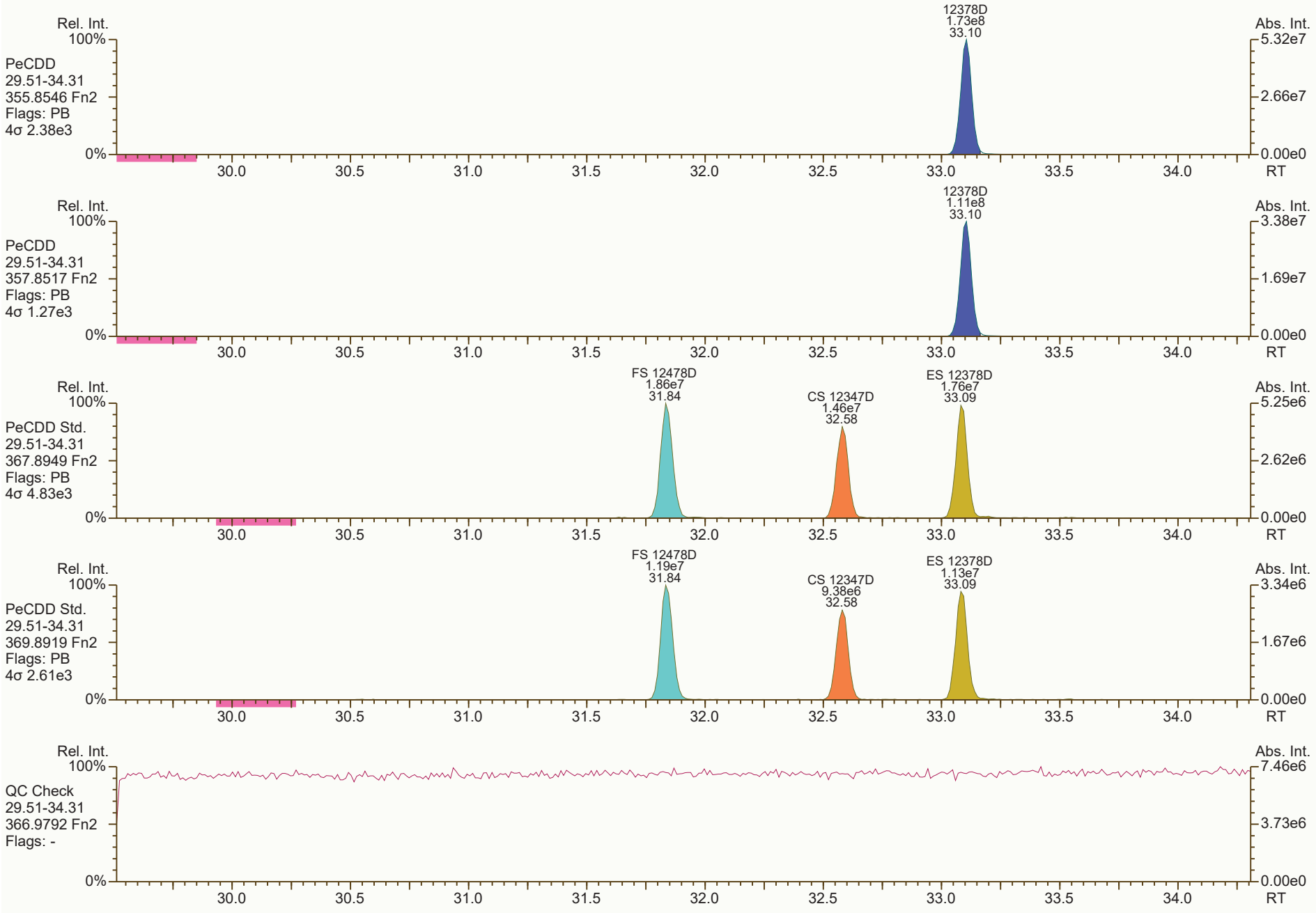
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

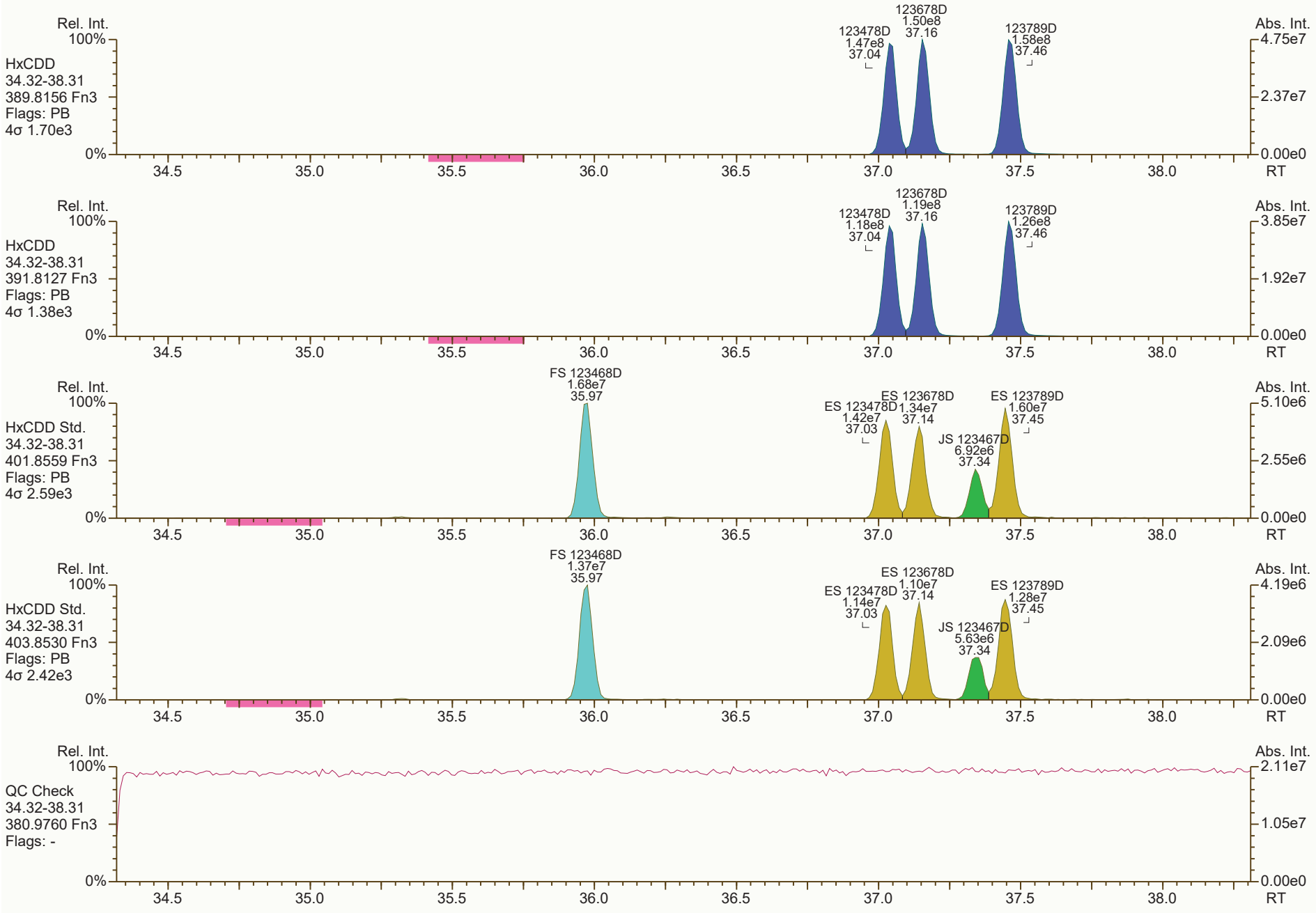
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

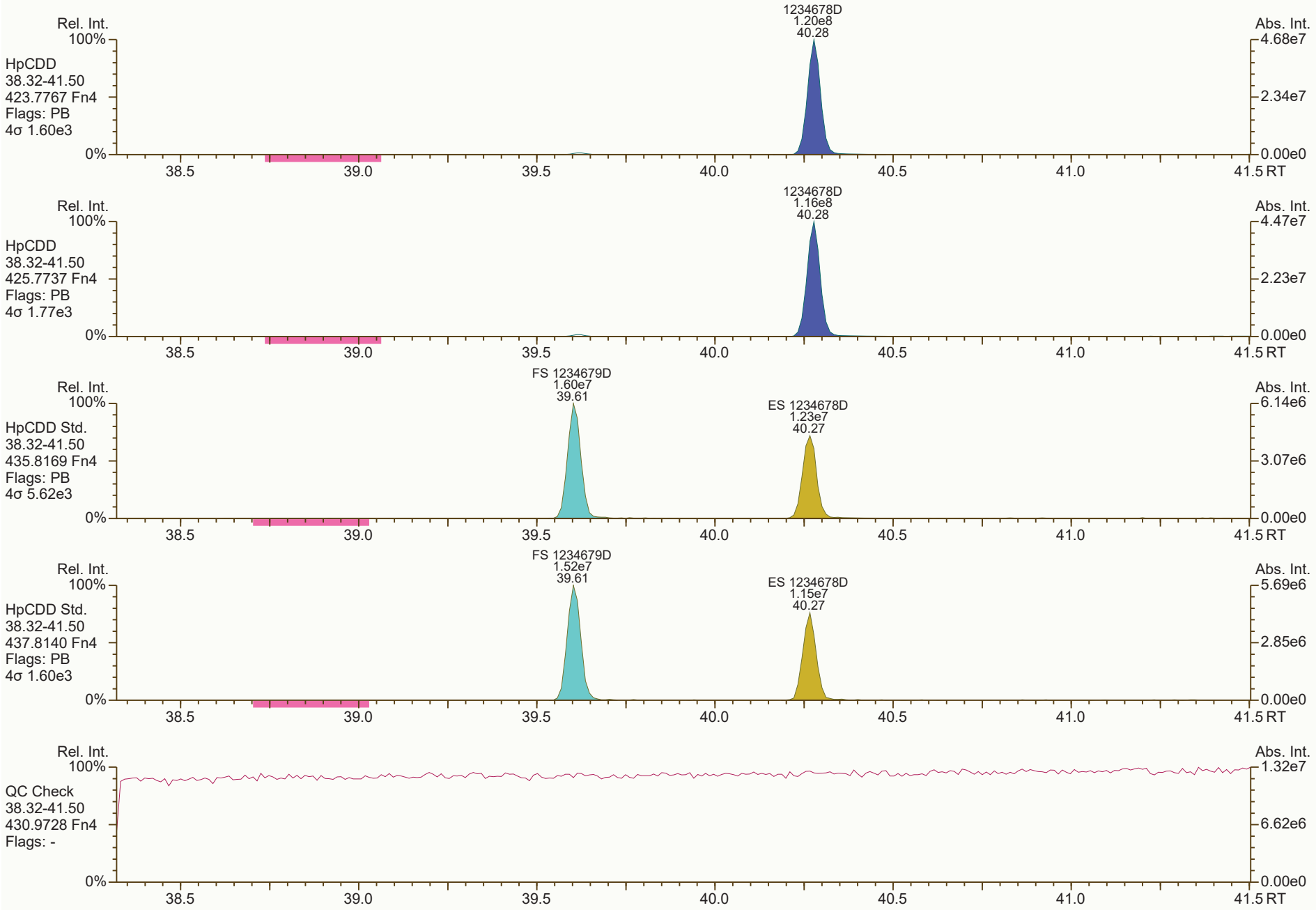
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

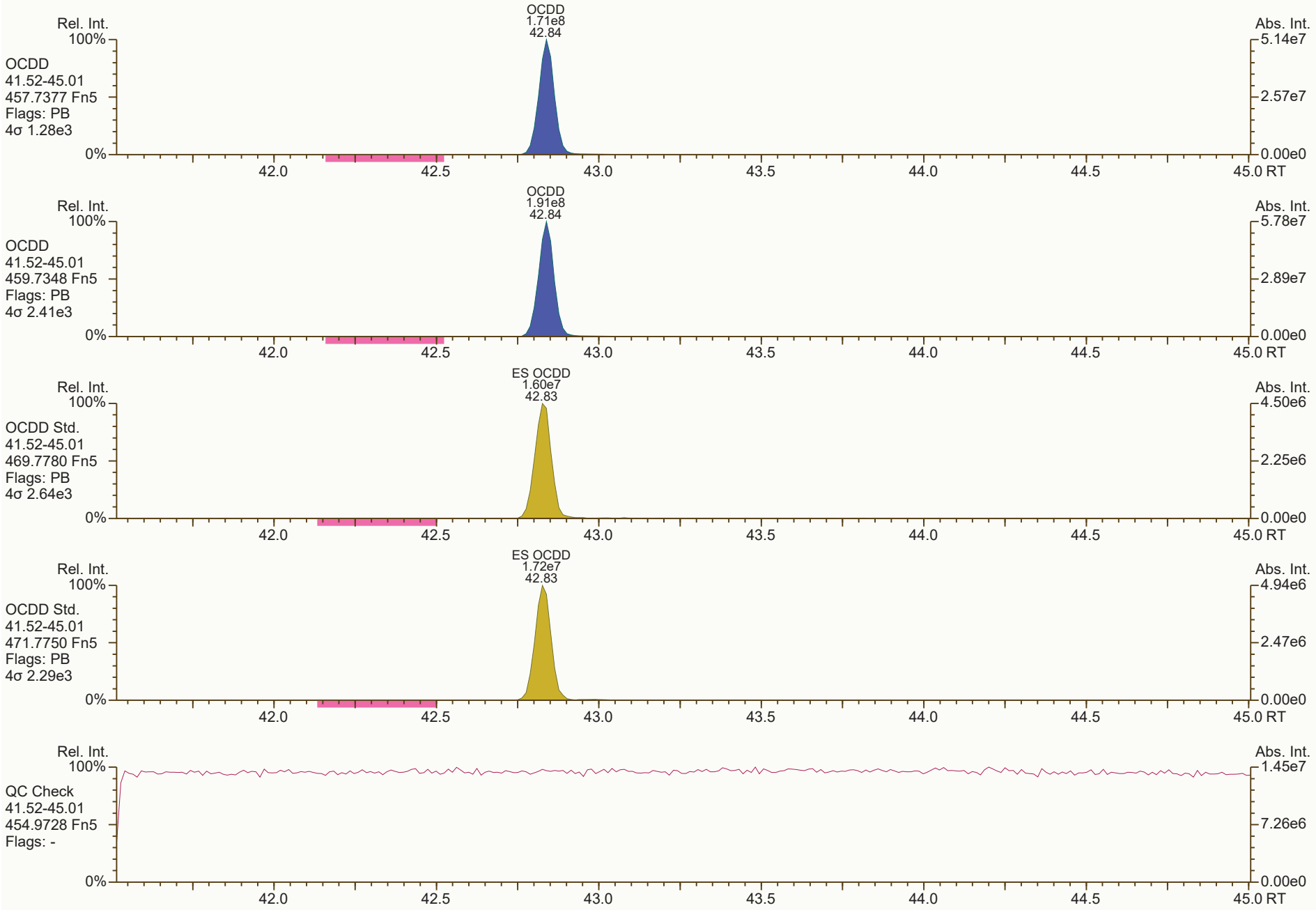

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

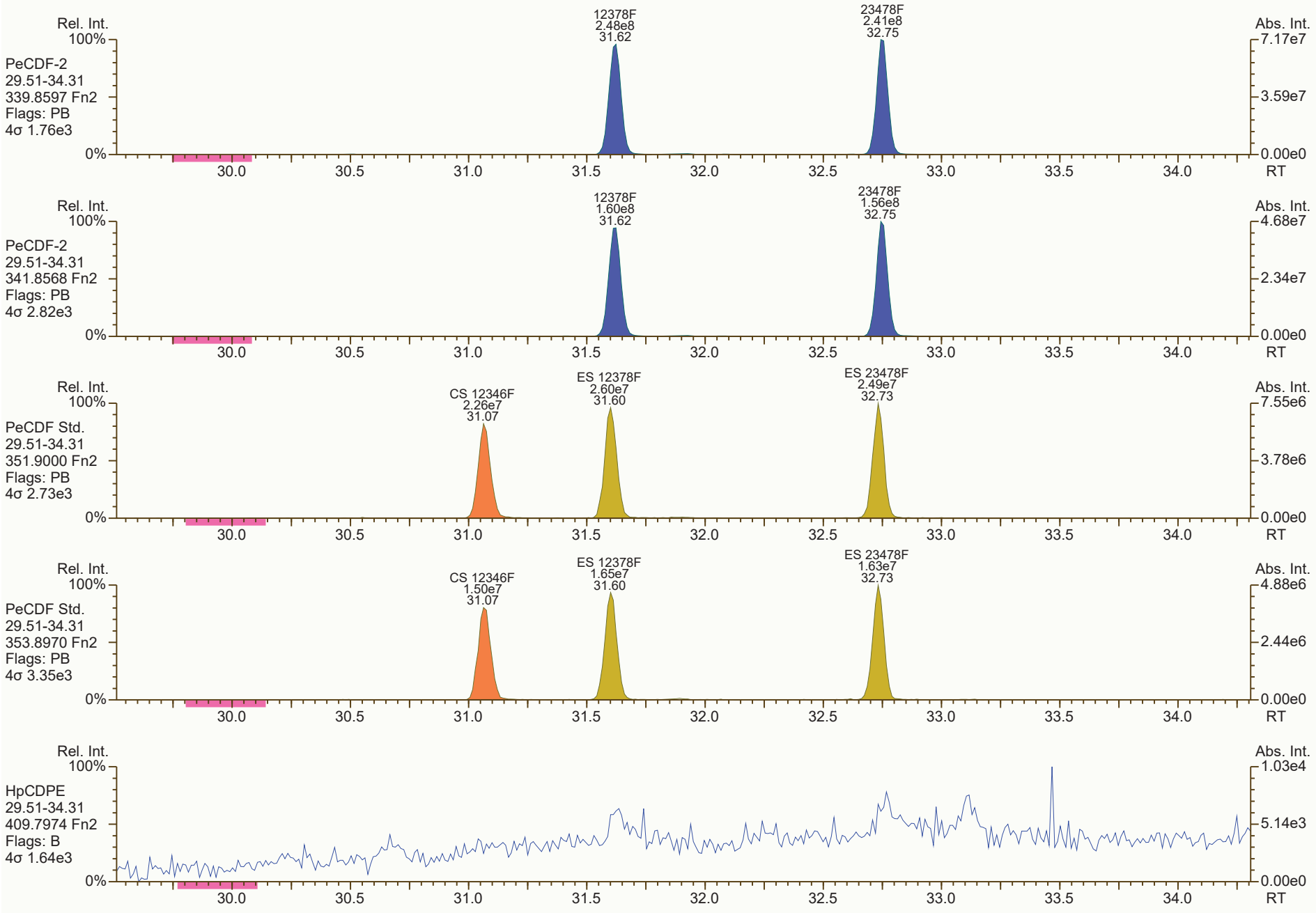

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

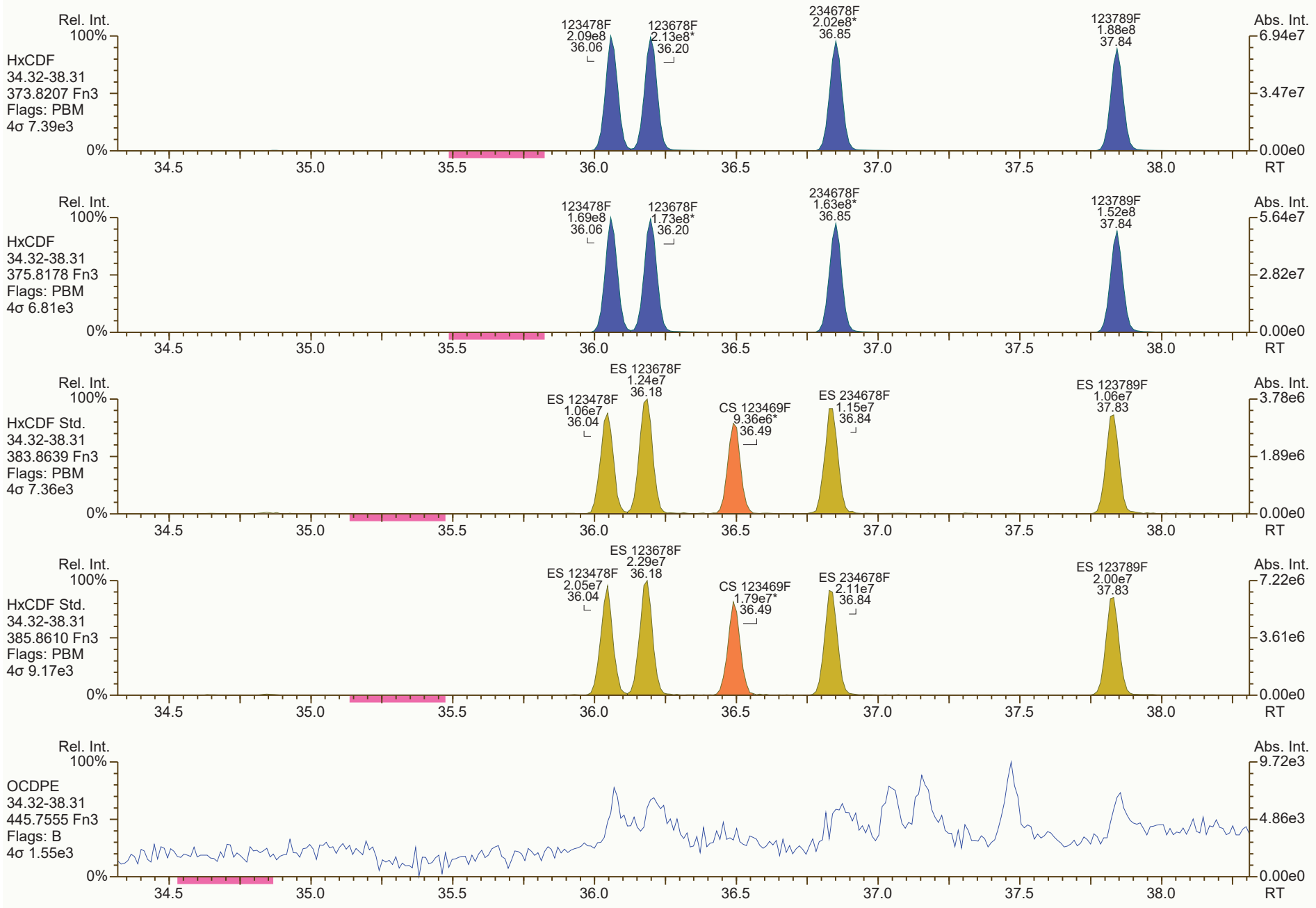

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
0%
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
0%
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
0%
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
0%
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

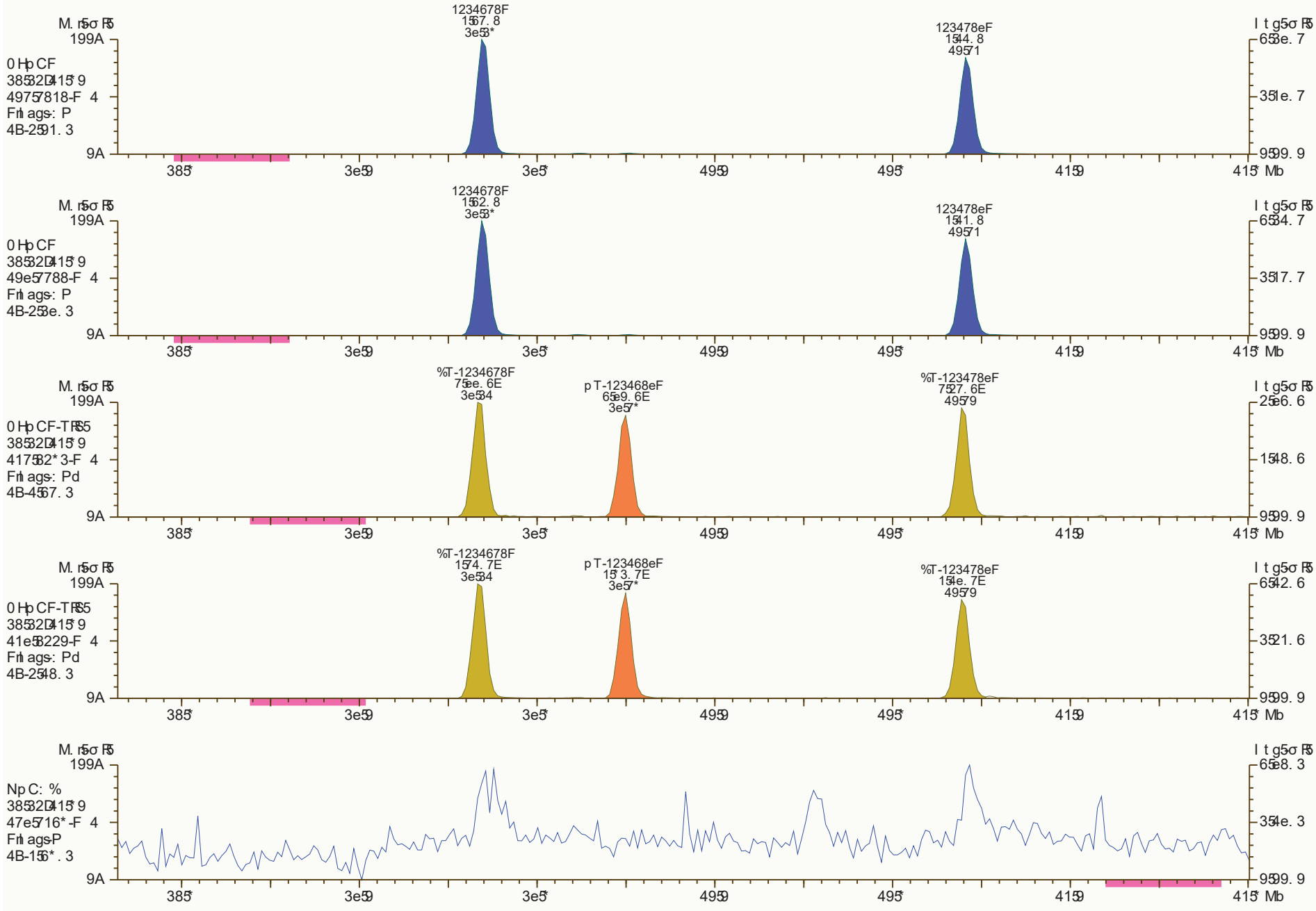

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


1234678F
123478eF
%T-1234678F
pT-123468eF
%T-123478eF
385
3e59
3e5
495
415
Mb

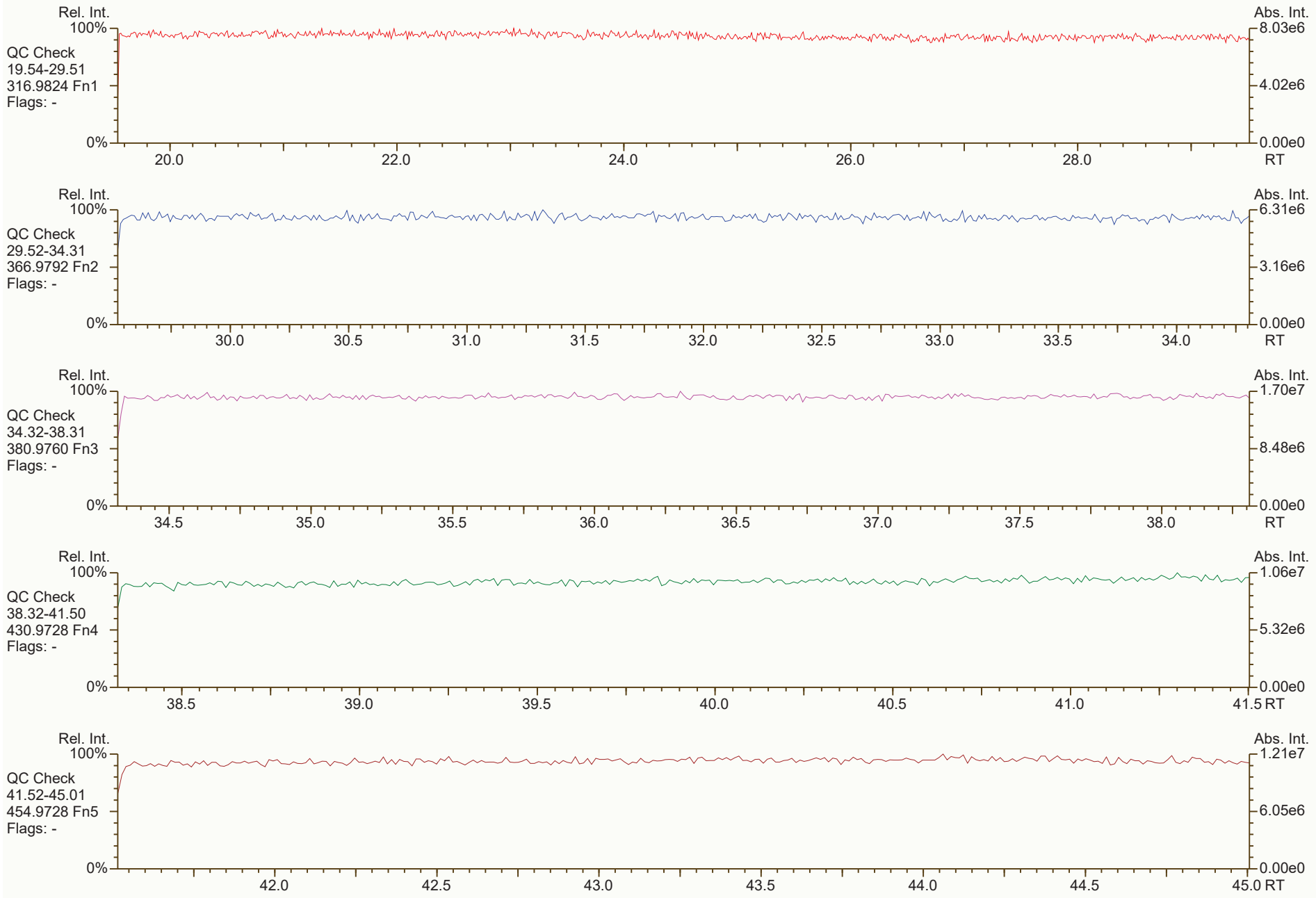

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

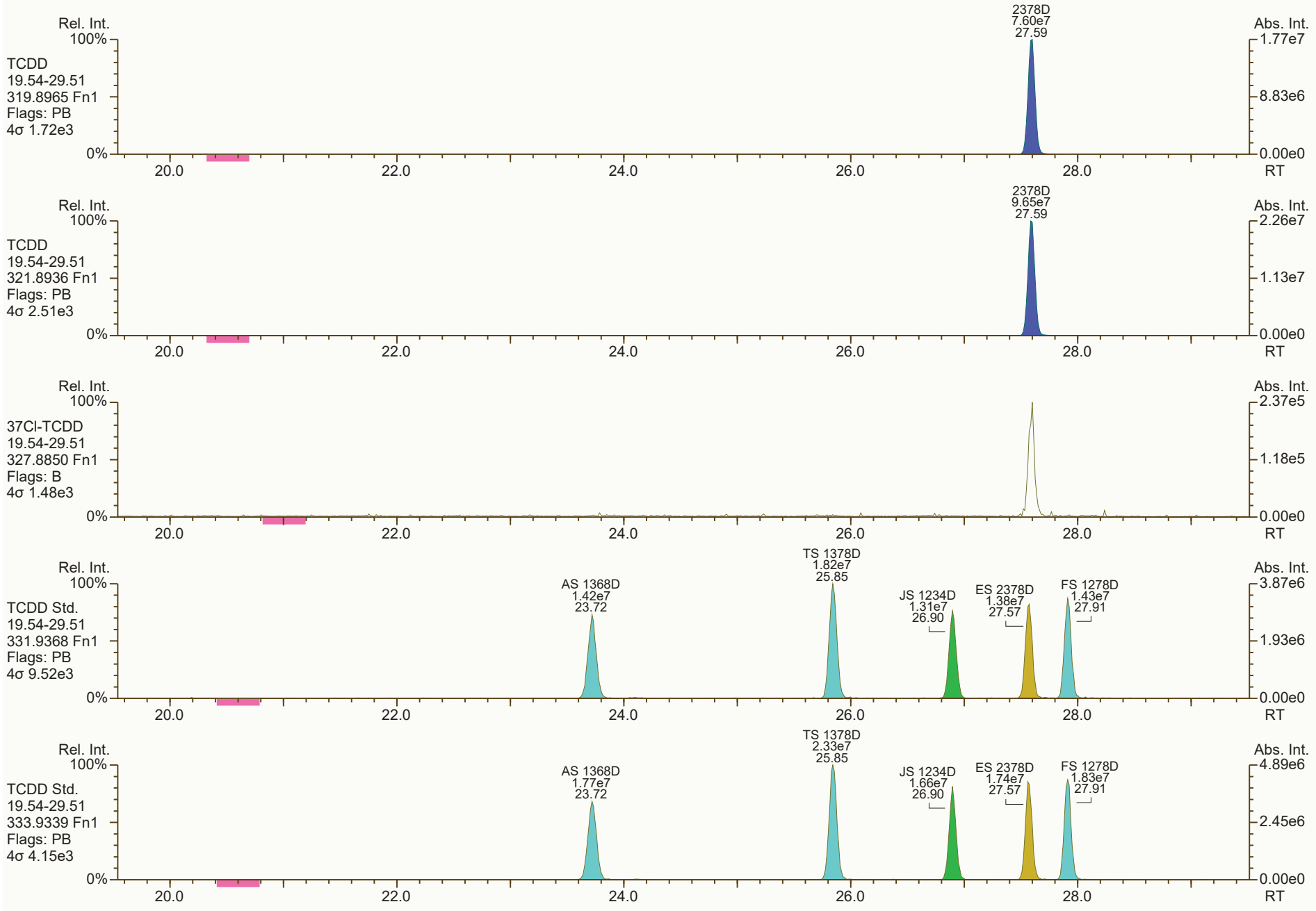
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

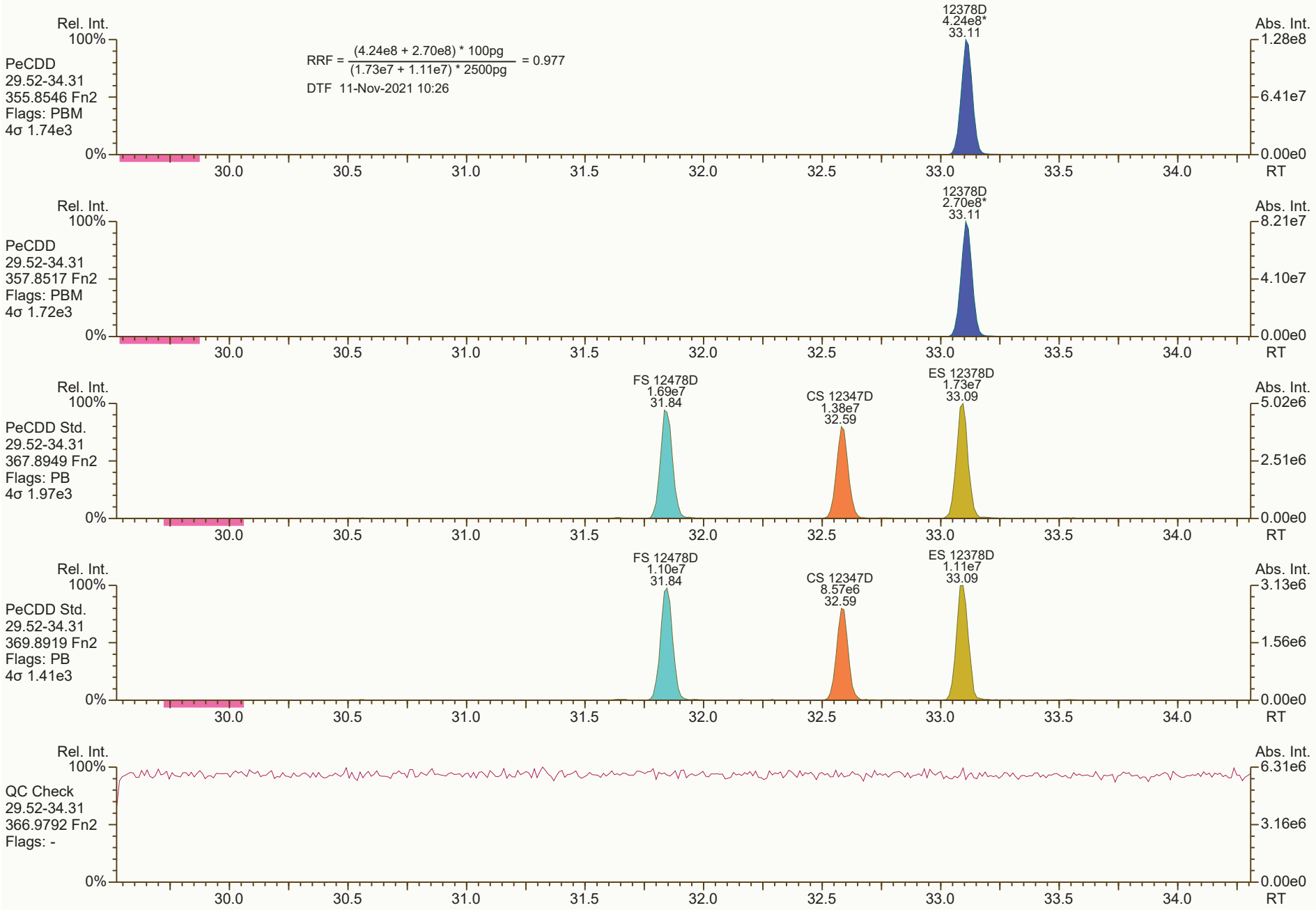
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

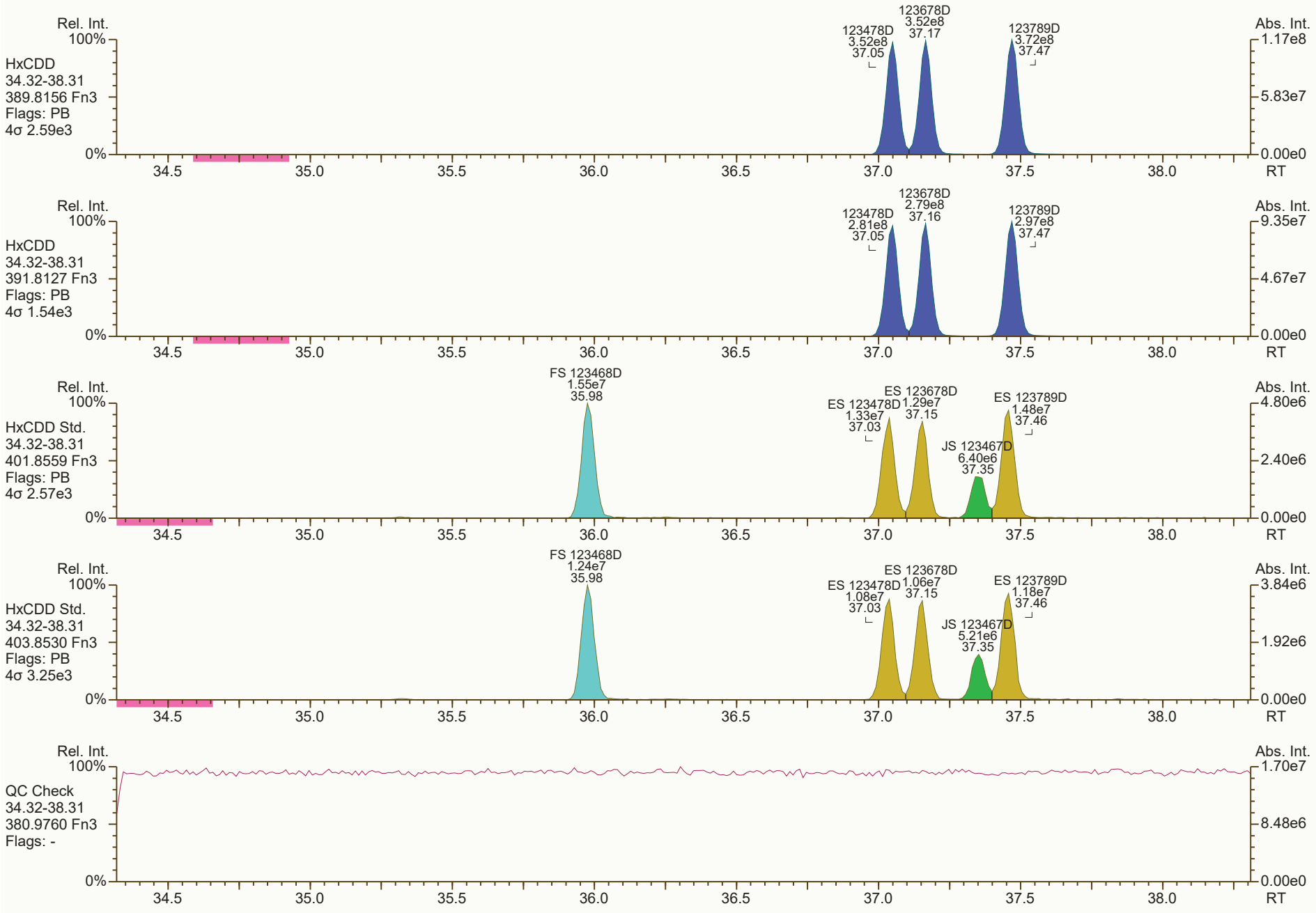
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

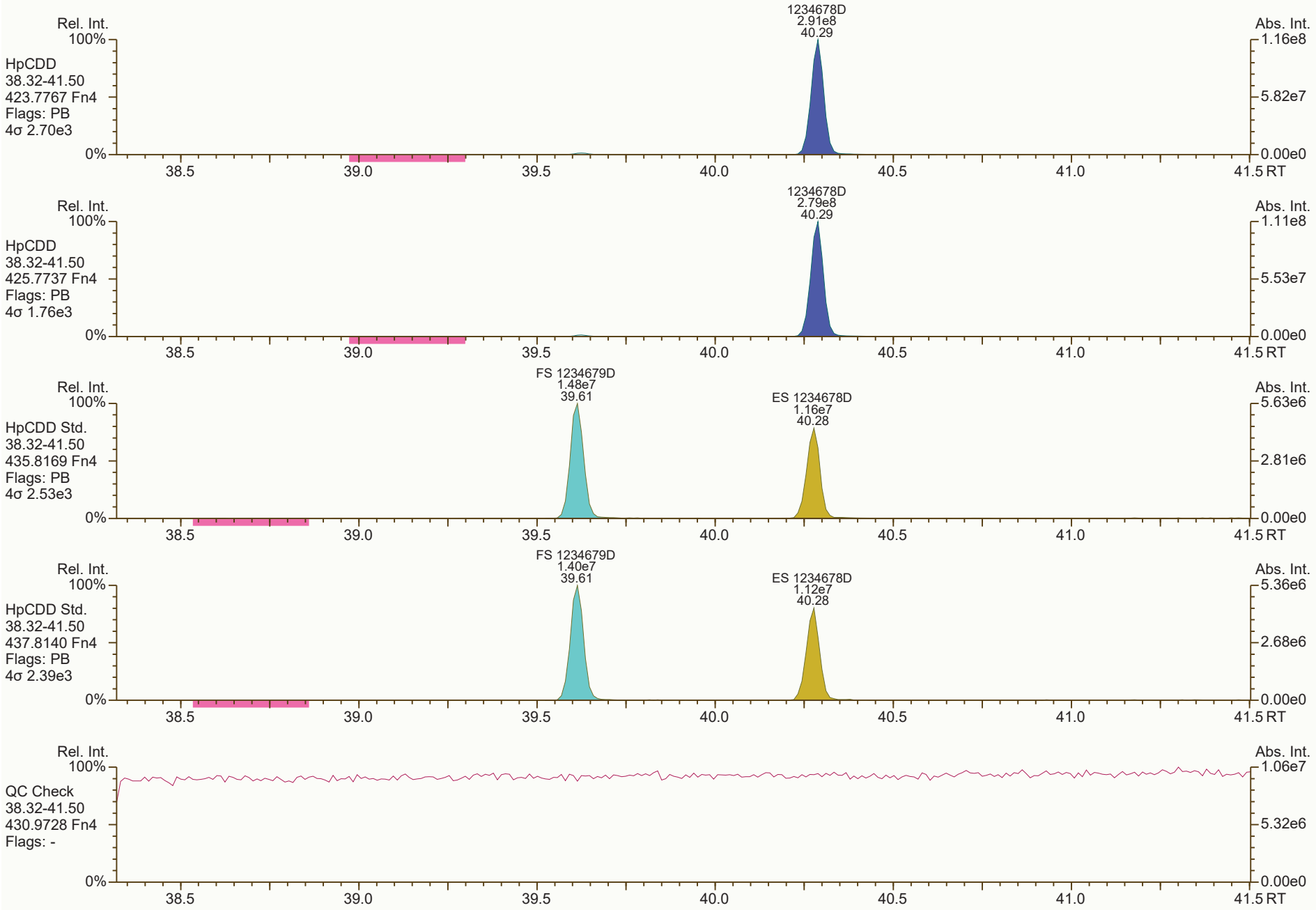
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

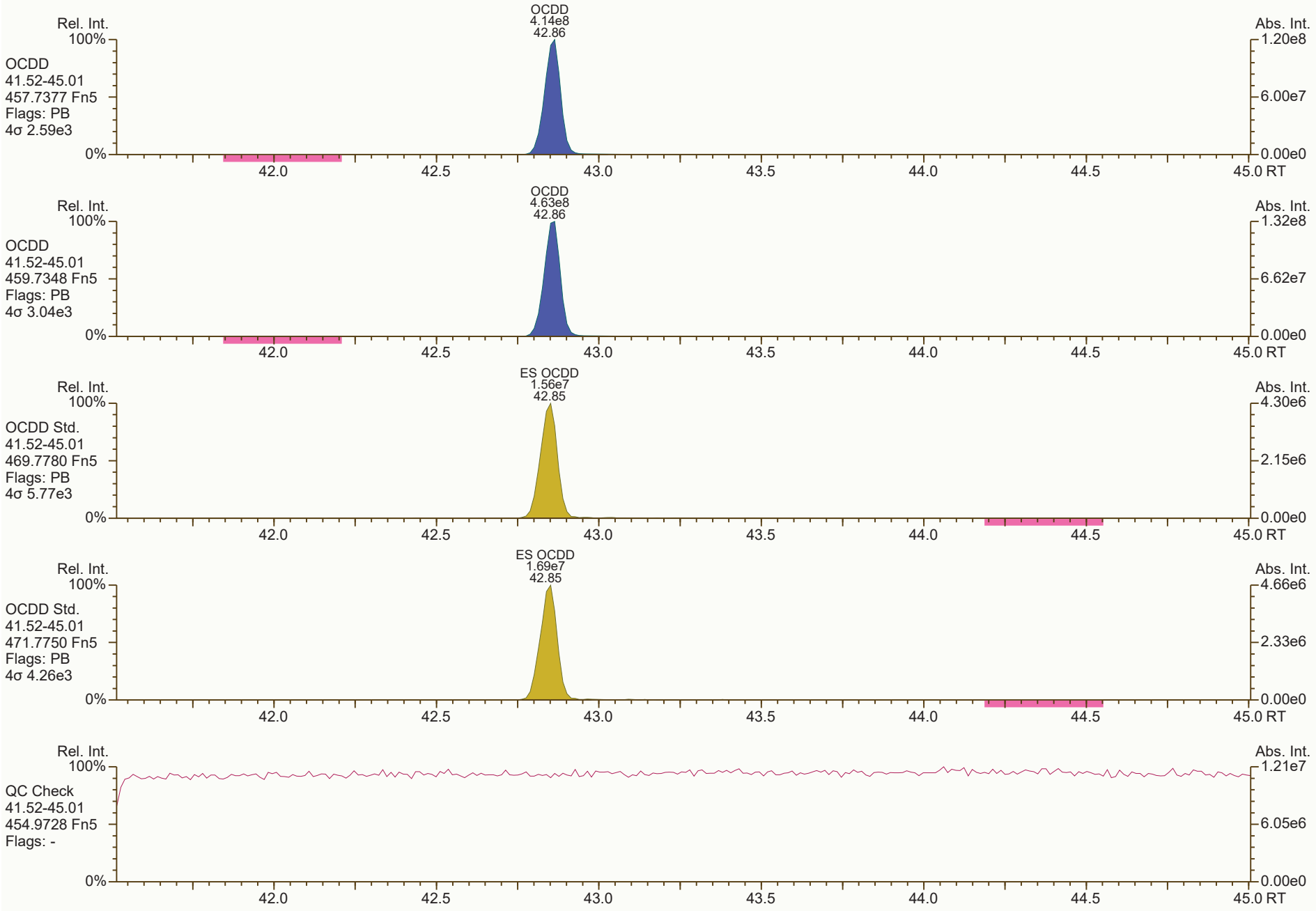

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
12378D
2.70e8*
33.11
8.21e7
4.10e7
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
5.02e6
2.51e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
3.13e6
1.56e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
6.31e6
3.16e6

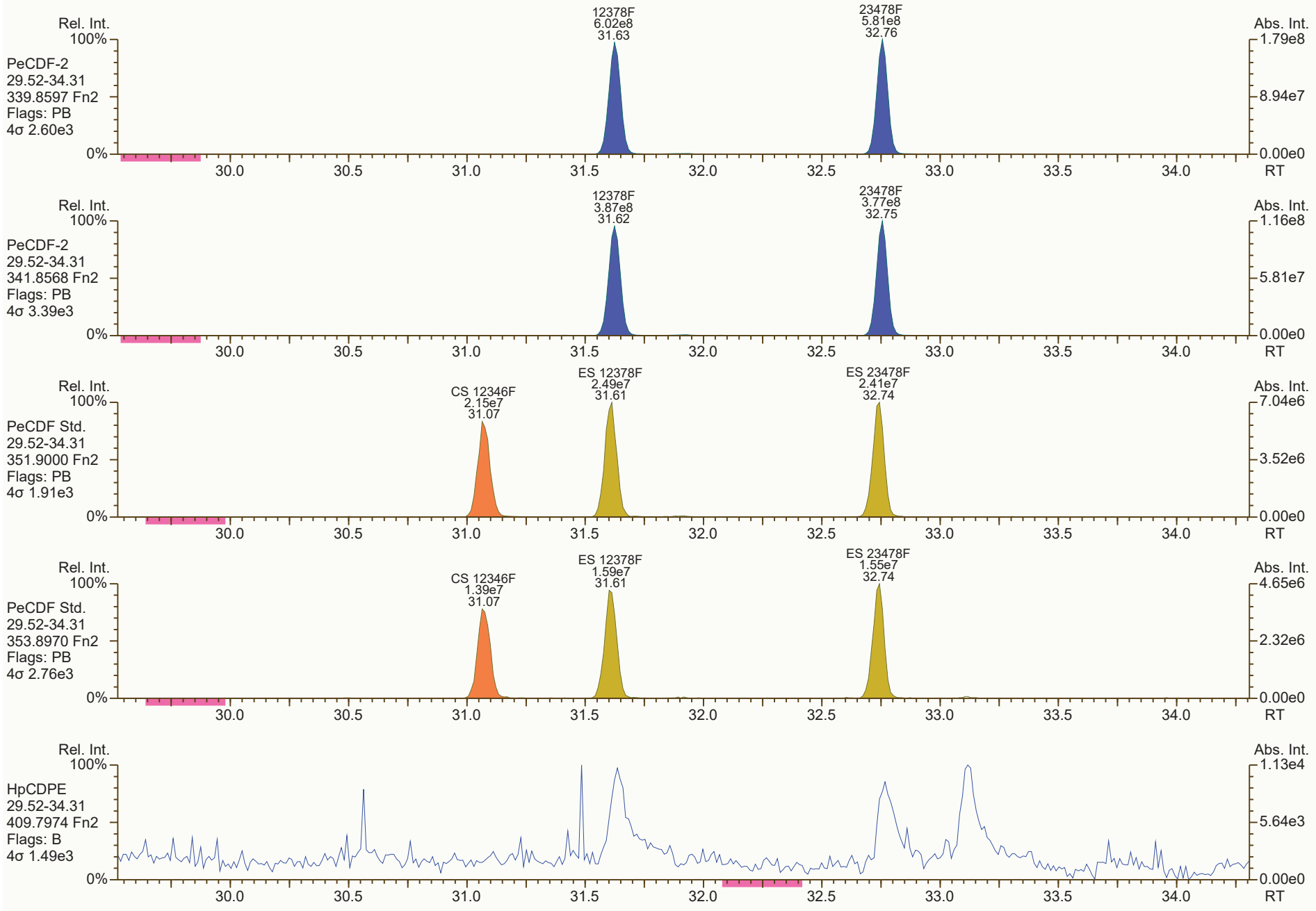

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

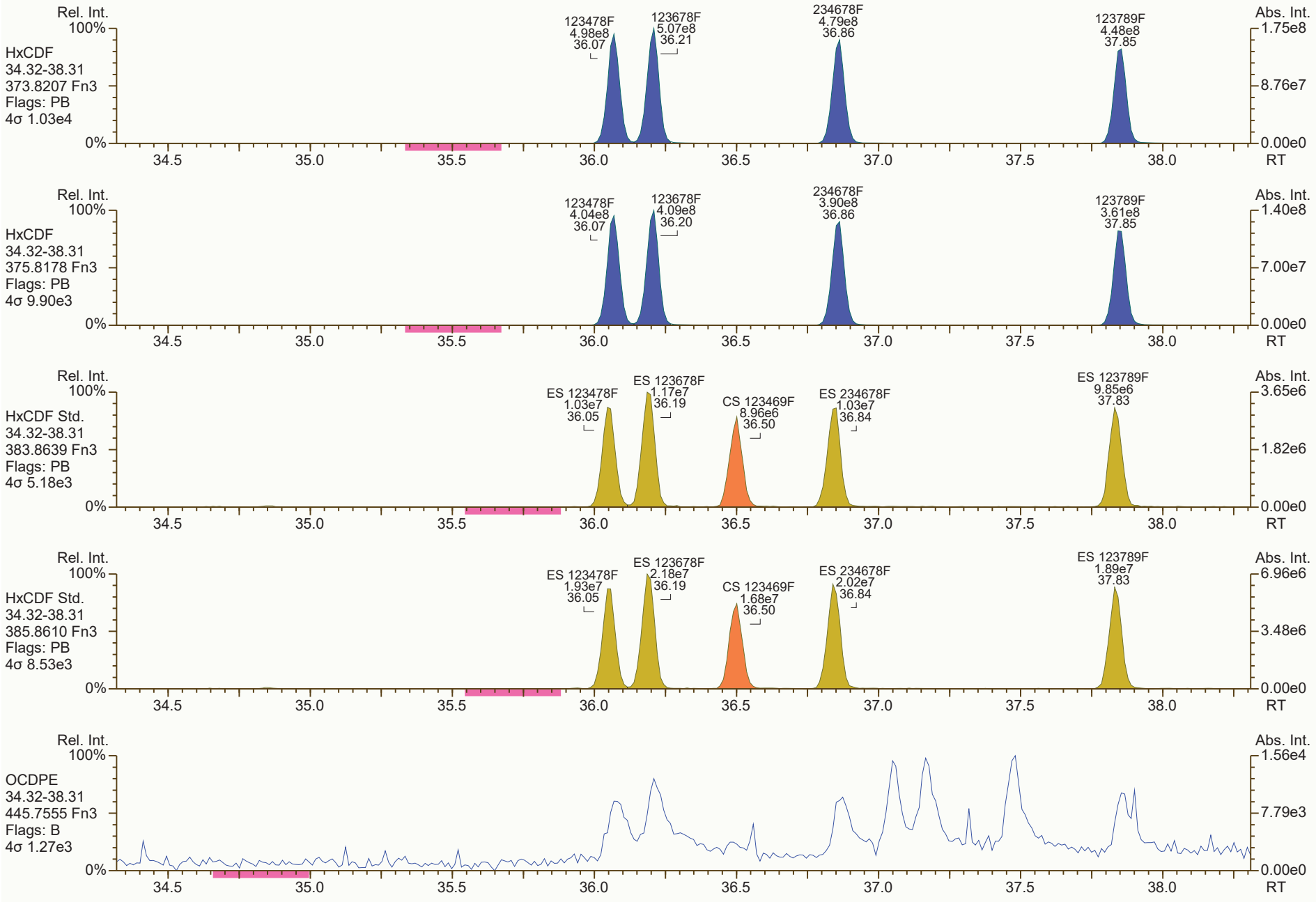

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

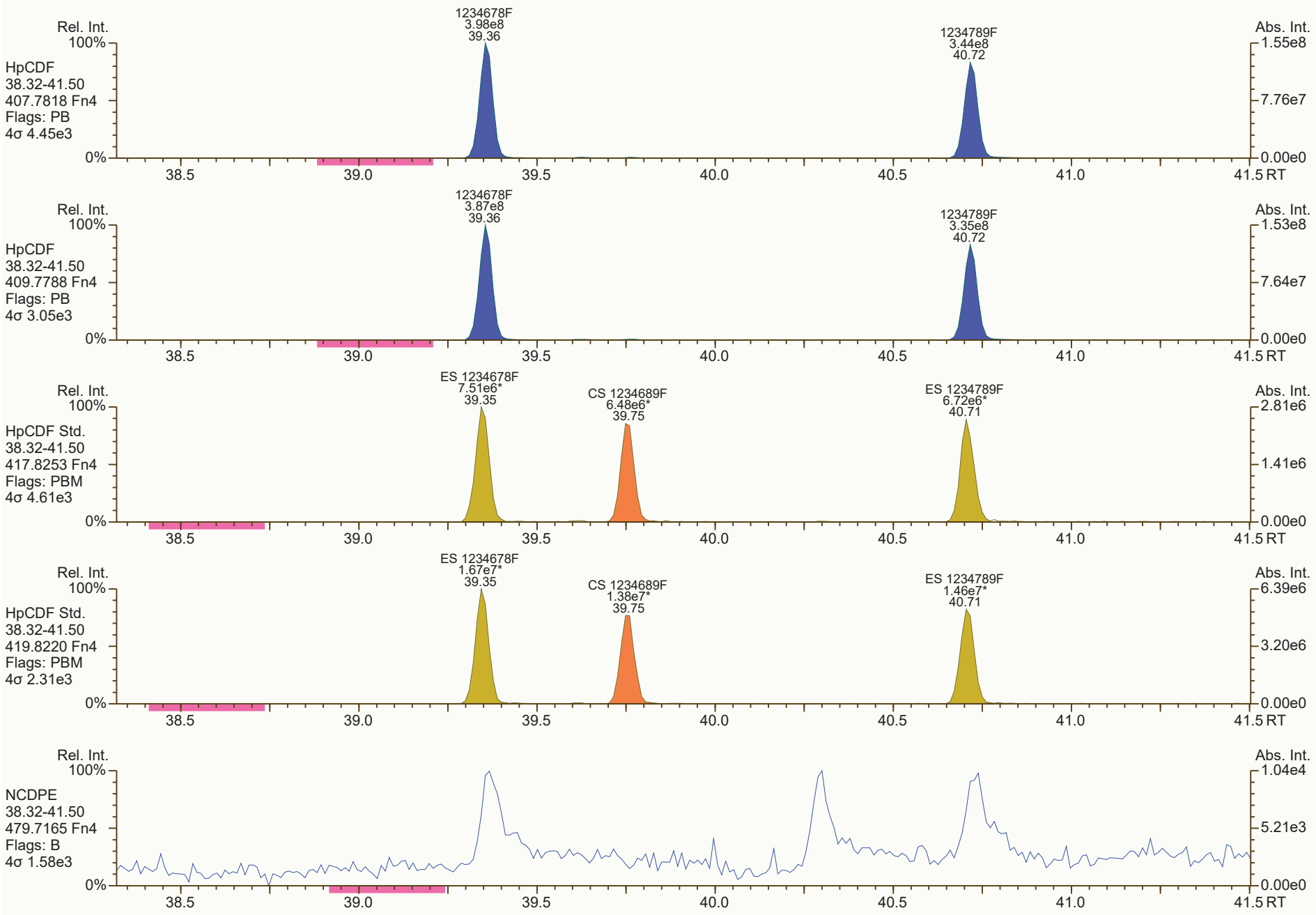

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

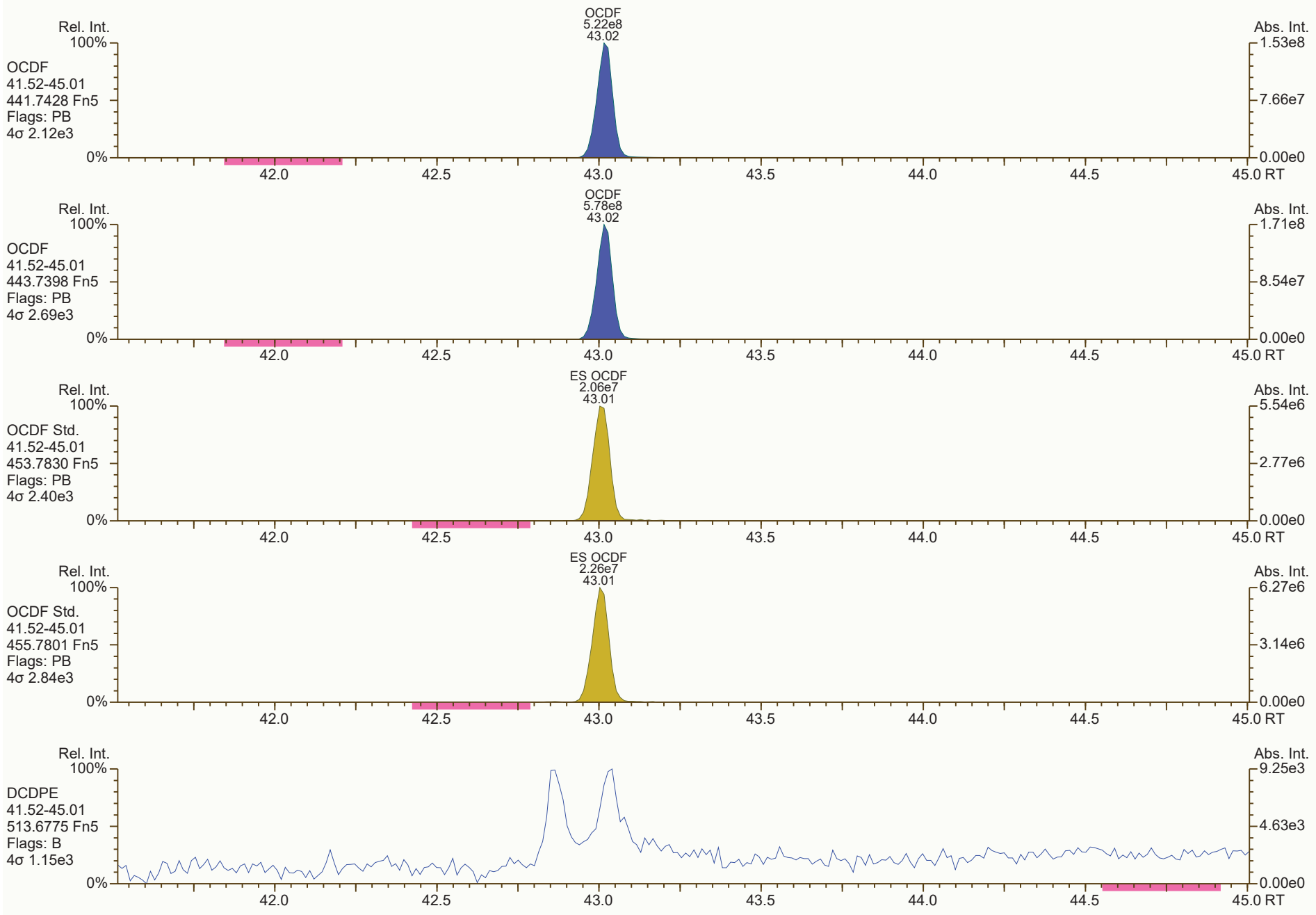

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

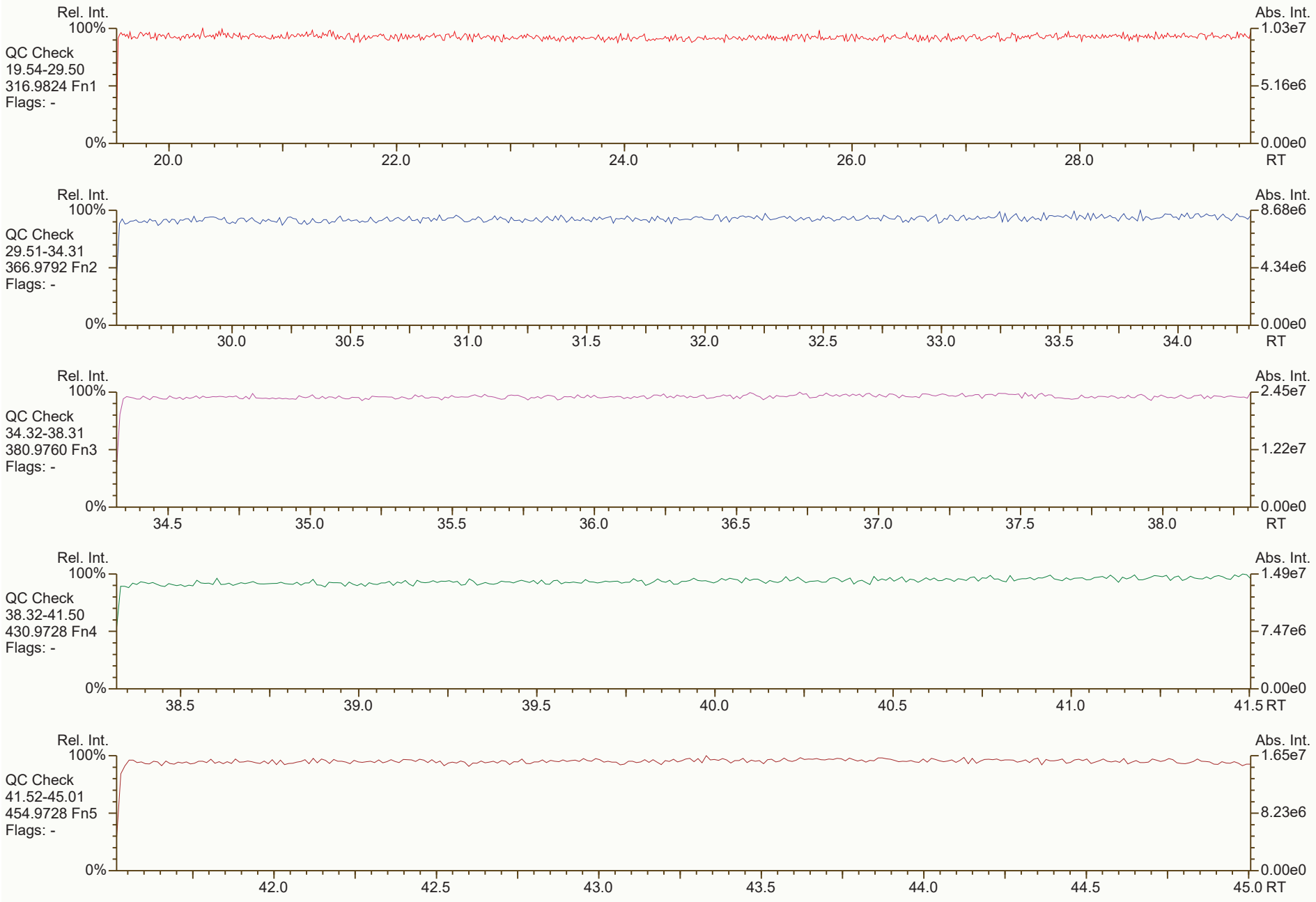

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

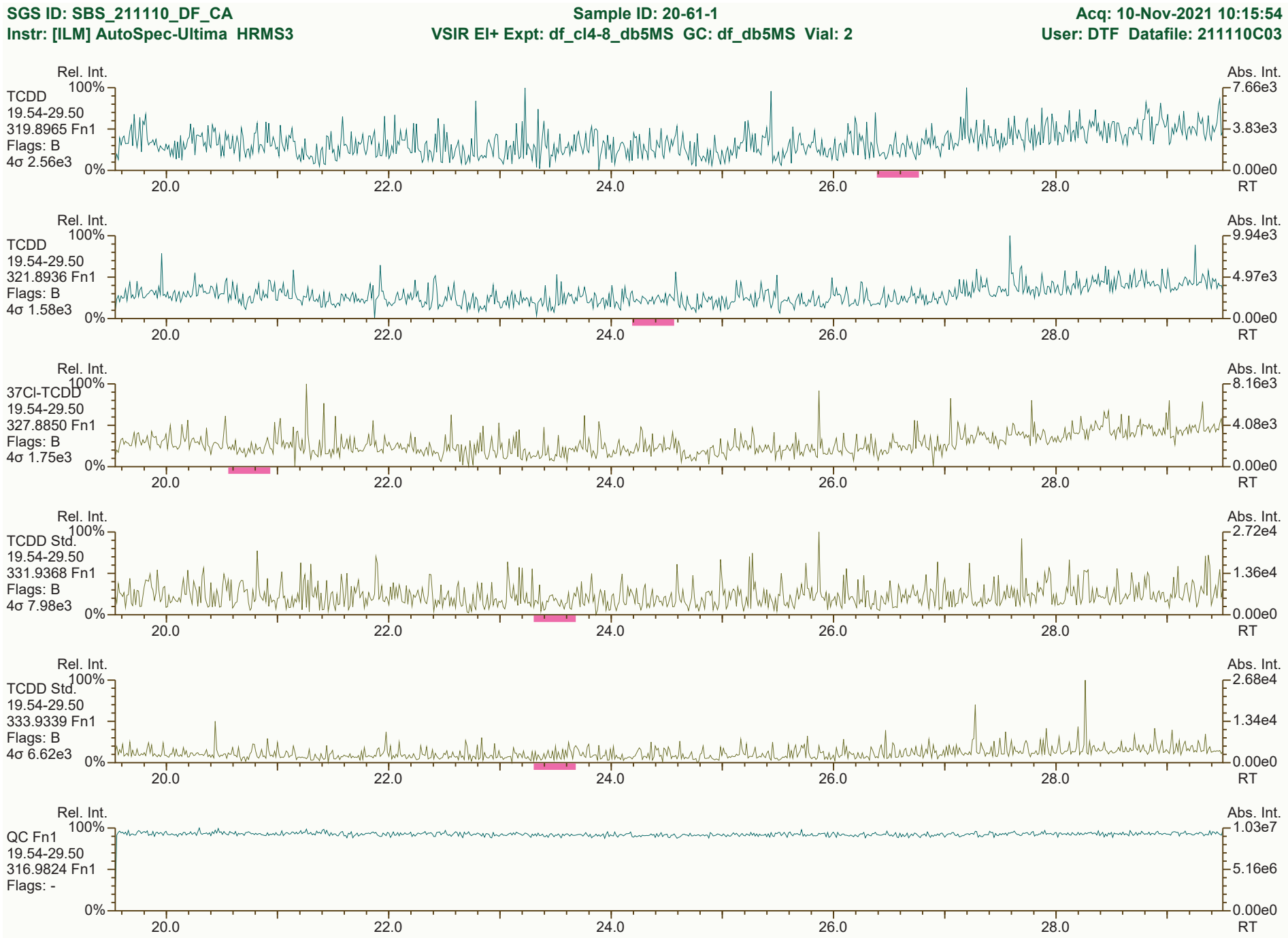

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

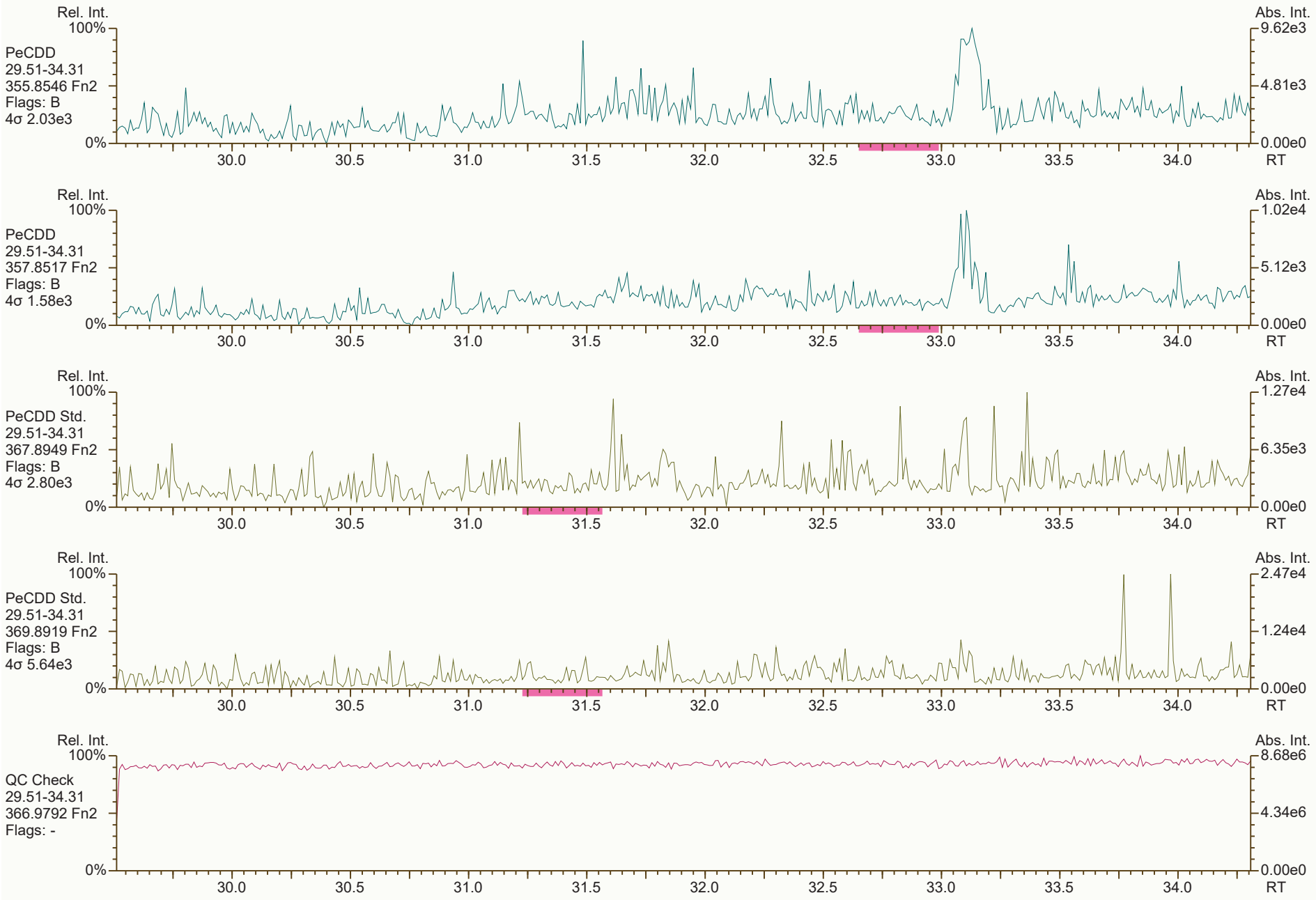

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
0%
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
0%
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
0%
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
0%
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.03e7
5.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.68e6
4.34e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.45e7
1.22e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.49e7
7.47e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.65e7
8.23e6
0.00e0
RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

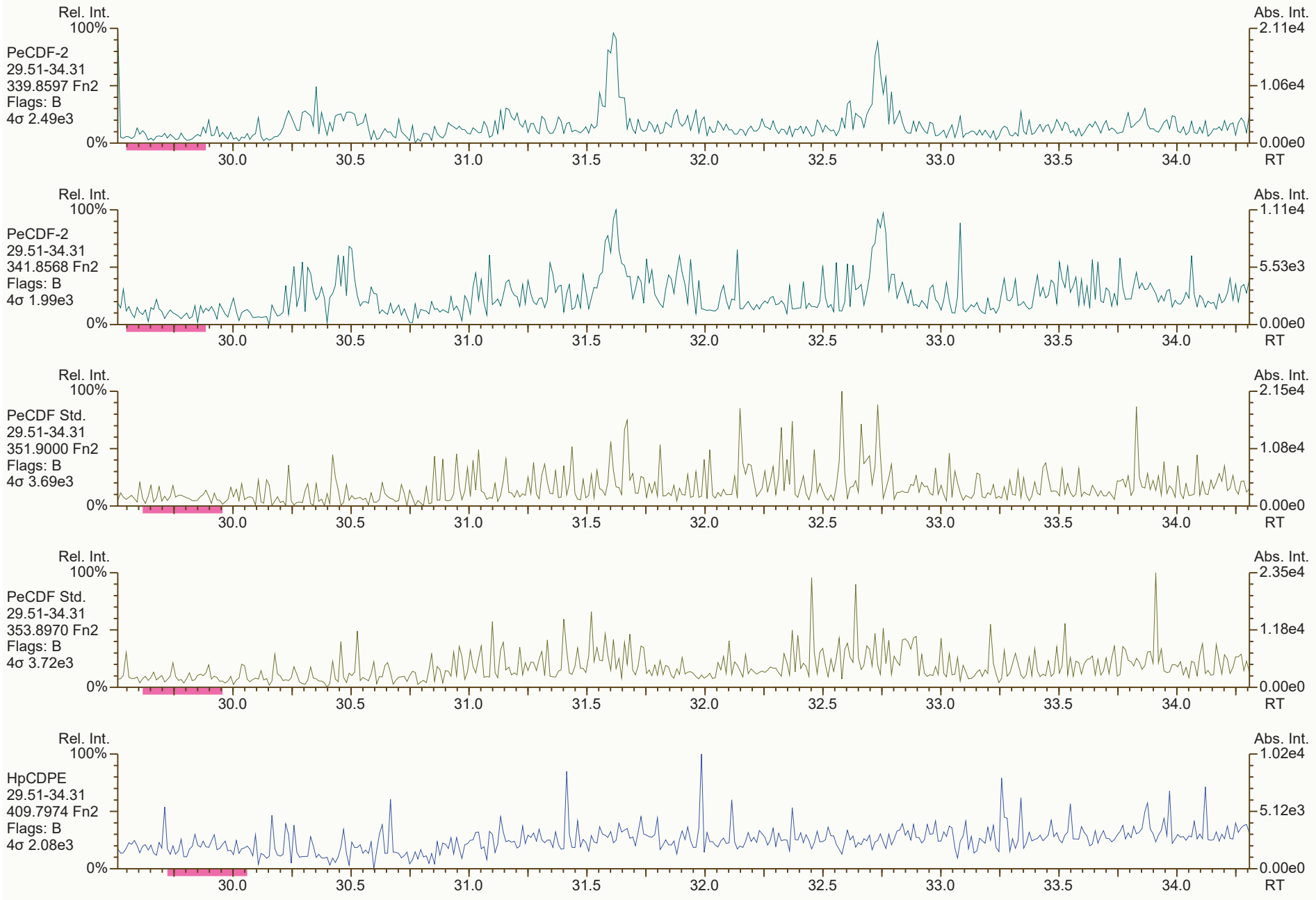

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

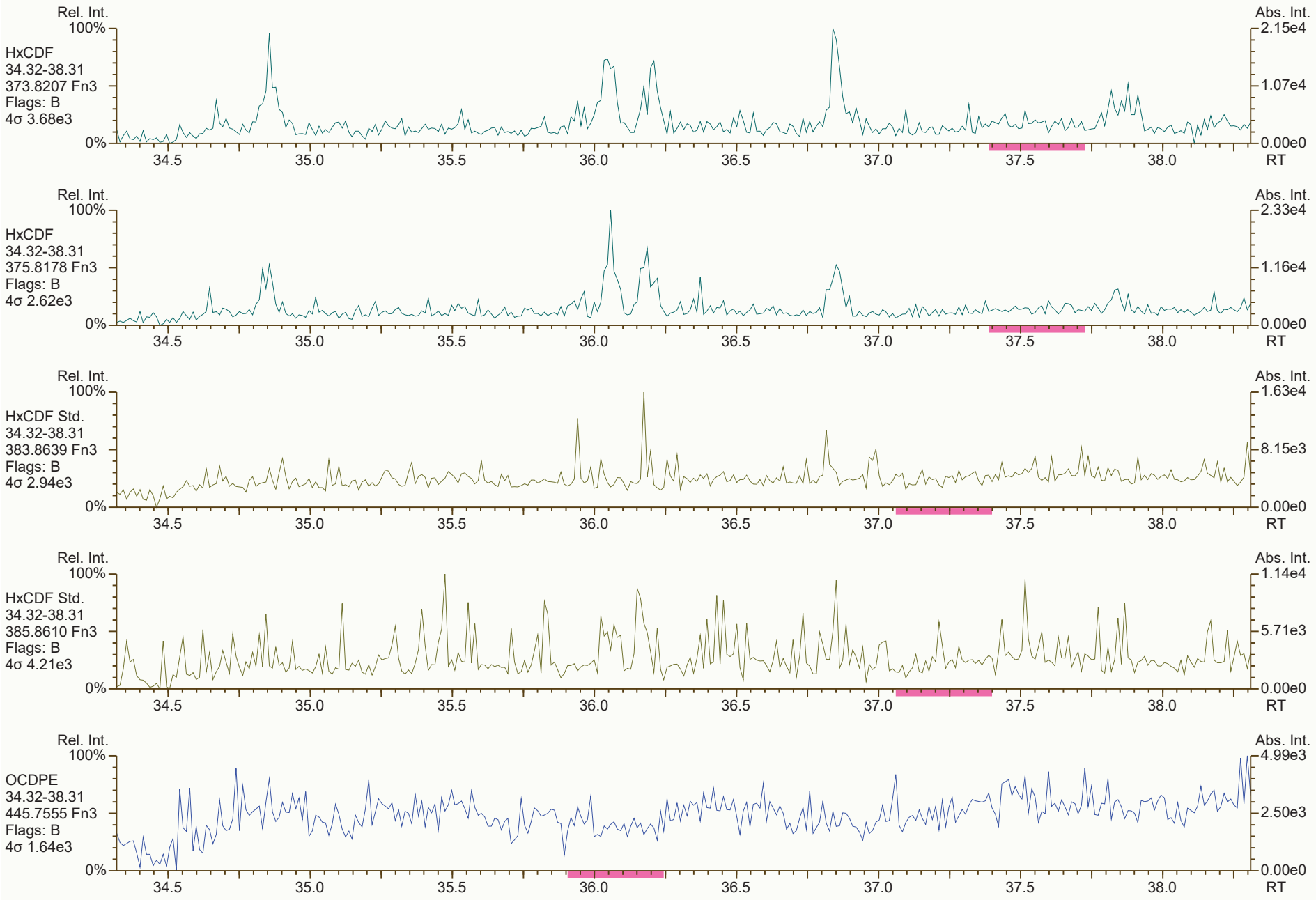

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

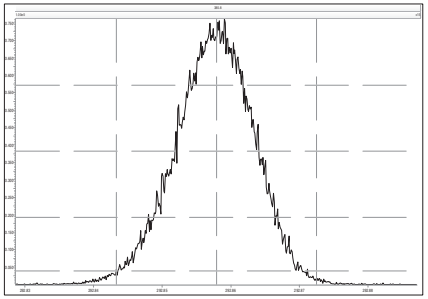

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
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42.5
43.0
43.5
44.0
44.5
45.0 RT

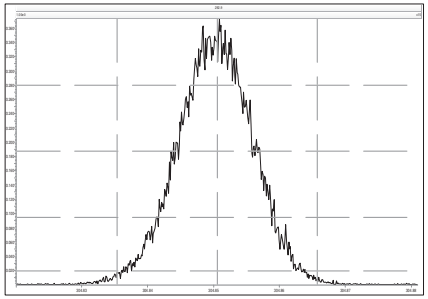
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

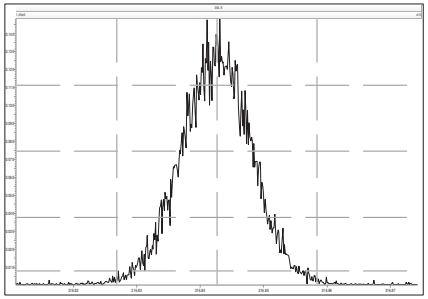
M 292.9824 R 10731



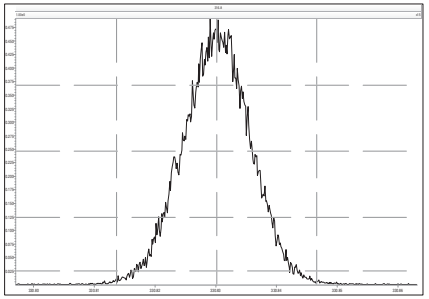
M 304.9824 R 11311



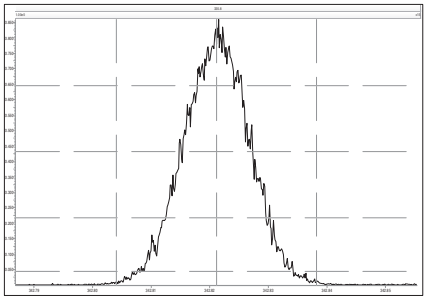
M 316.9824 R 12373



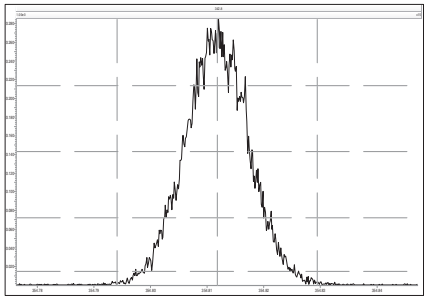
M 330.9792 R 12887



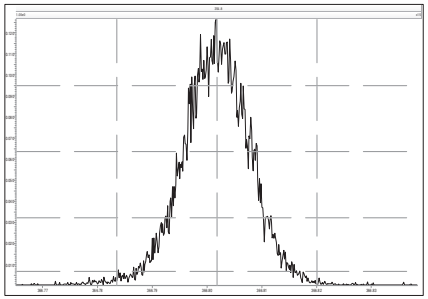
M 342.9792 R 12818



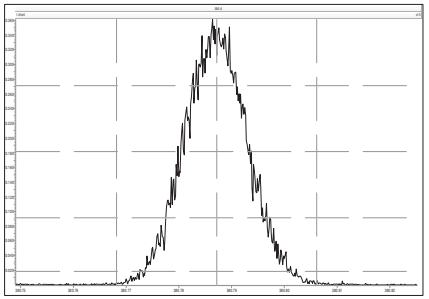
M 354.9792 R 12882



M 366.9792 R 13368



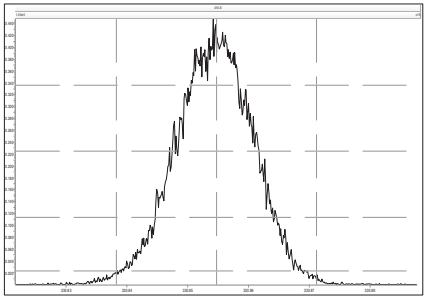
M 380.9760 R 13658



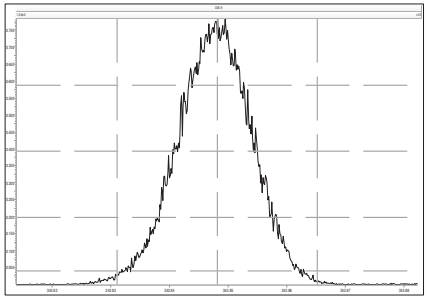
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

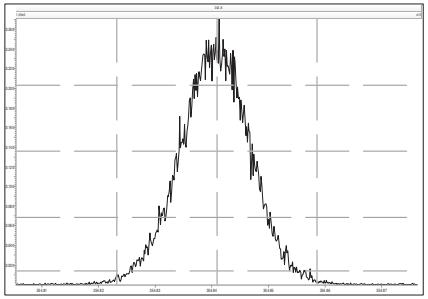
M 330.9792 R 11112



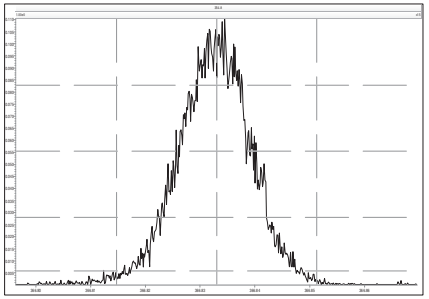
M 342.9792 R 11909



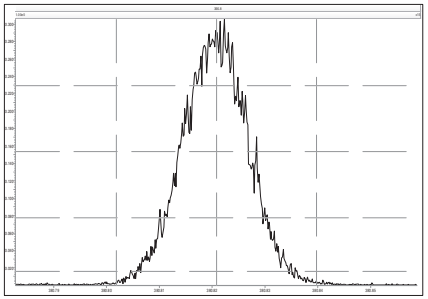
M 354.9792 R 11684



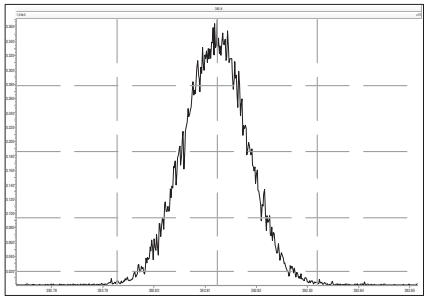
M 366.9792 R 11962



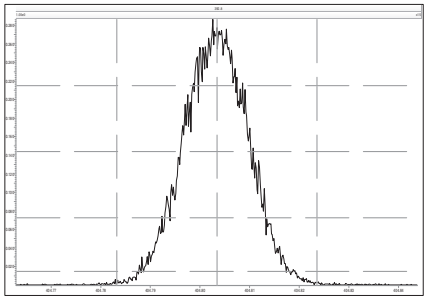
M 380.9760 R 13161



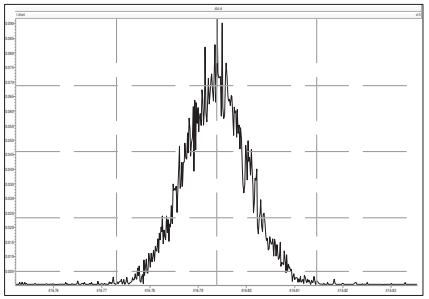
M 392.9760 R 13968



M 404.9760 R 13227



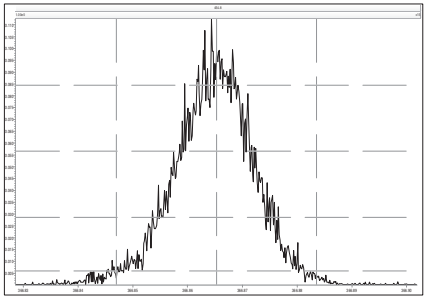
M 416.9760 R 13663



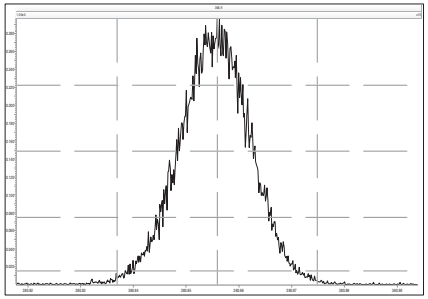
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

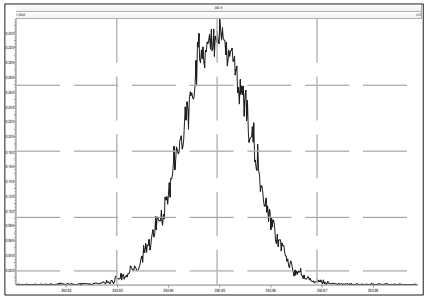
M 366.9792 R 10680



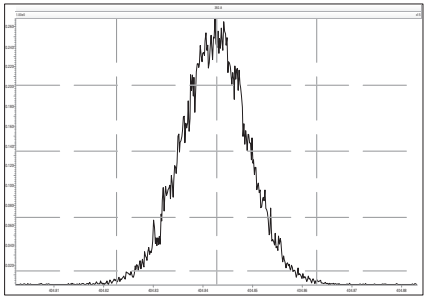
M 380.9760 R 12315



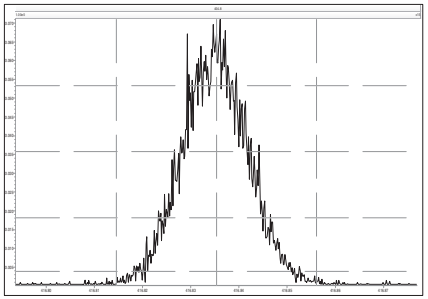
M 392.9760 R 12197



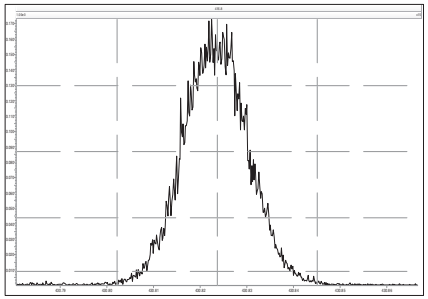
M 404.9760 R 12433



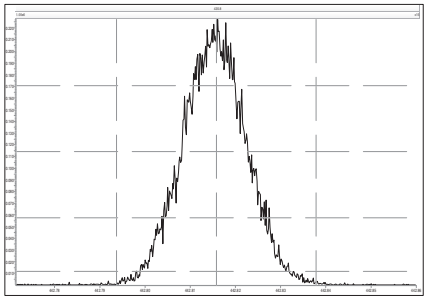
M 416.9760 R 13660



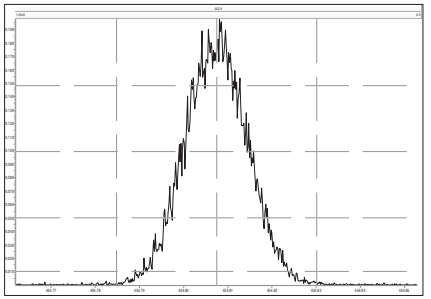
M 430.9728 R 13295



M 442.9728 R 13364



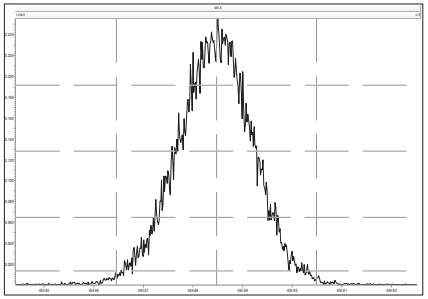
M 454.9728 R 13810



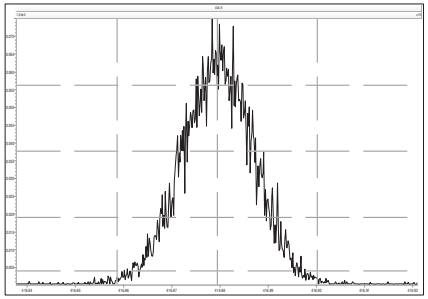
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

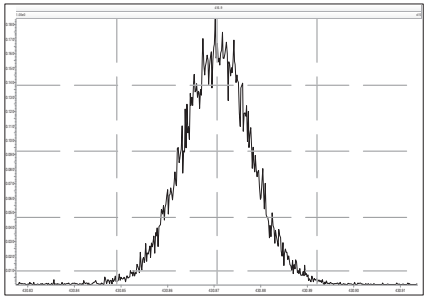
M 404.9760 R 11679



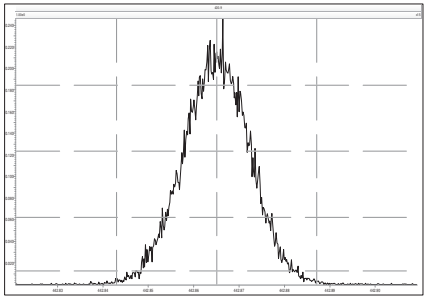
M 416.9760 R 12886



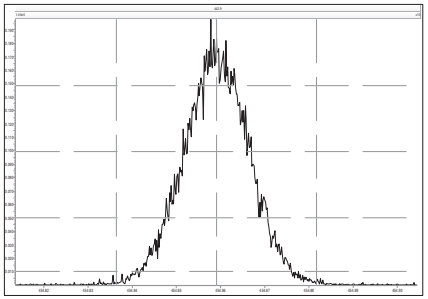
M 430.9728 R 12253



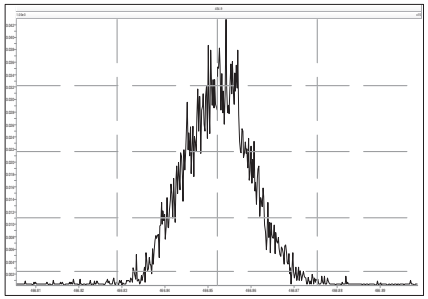
M 442.9728 R 12756



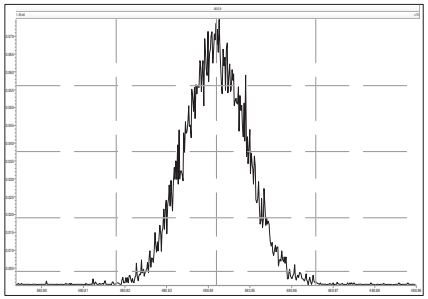
M 454.9728 R 13157



M 466.9728 R 13810



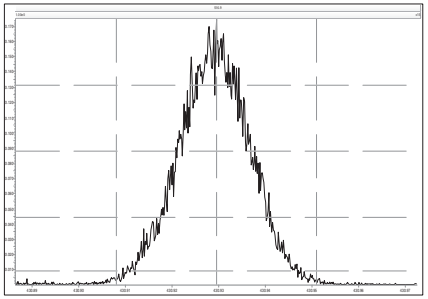
M 480.9696 R 14046



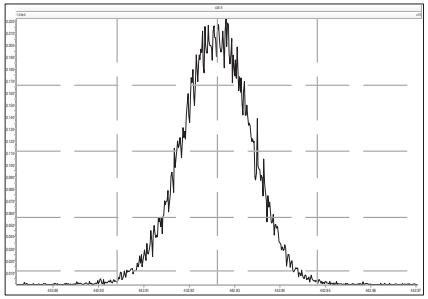
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

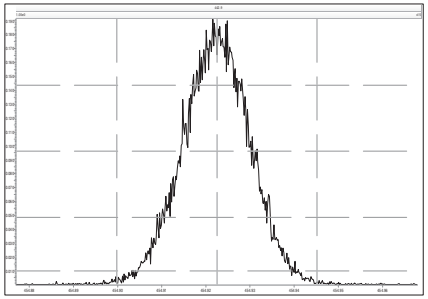
M 430.9728 R 11574



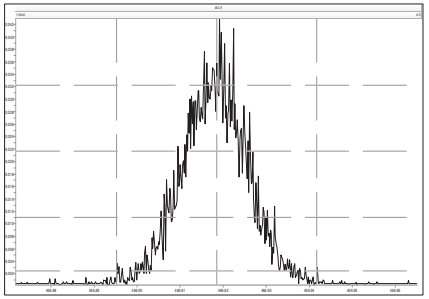
M 442.9728 R 12198



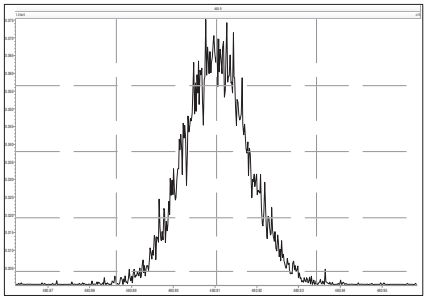
M 454.9728 R 12950



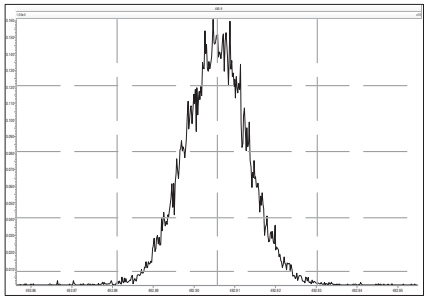
M 466.9728 R 13088



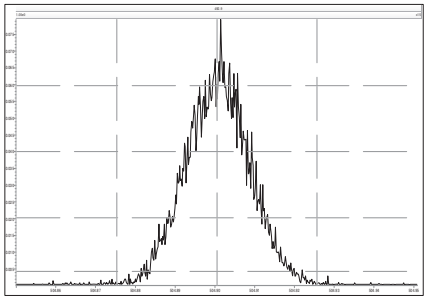
M 480.9696 R 13156



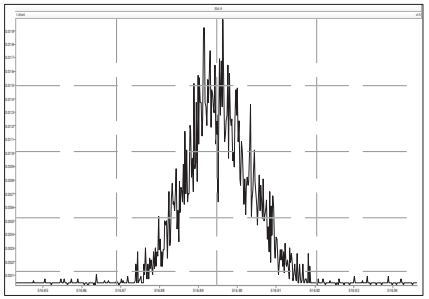
M 492.9696 R 13228



M 504.9696 R 13227



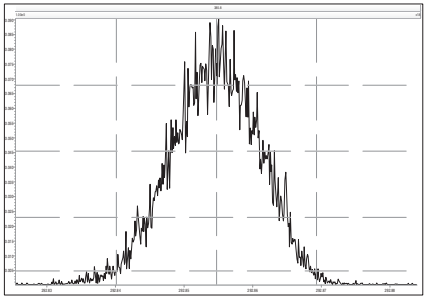
M 516.9697 R 13019



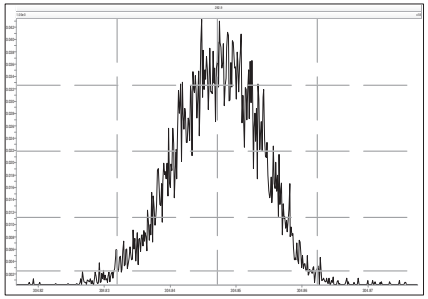
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

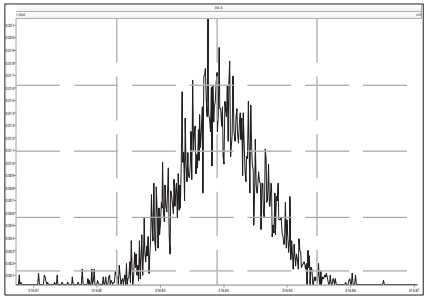
M 292.9824 R 10122



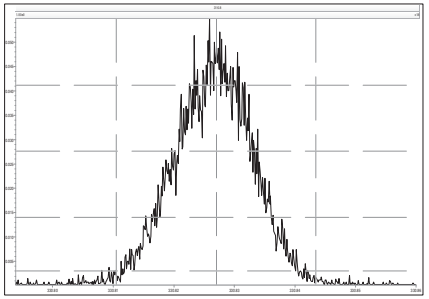
M 304.9824 R 10329



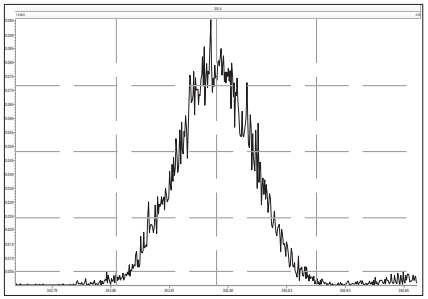
M 316.9824 R 11964



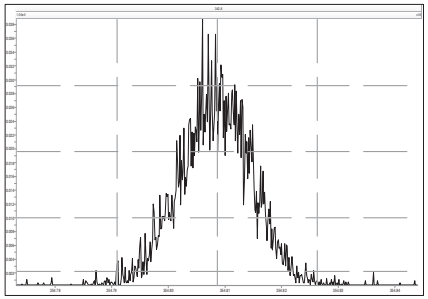
M 330.9792 R 11062



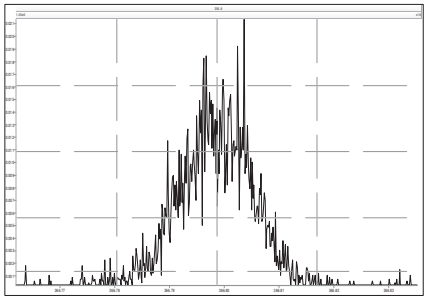
M 342.9792 R 12075



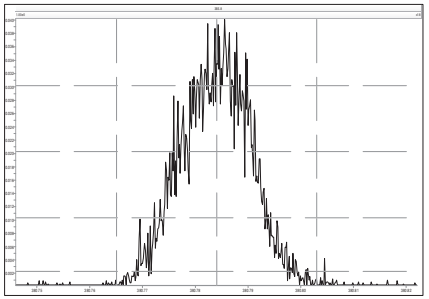
M 354.9792 R 12439



M 366.9792 R 12694



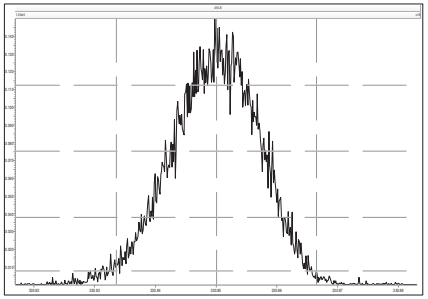
M 380.9760 R 13224



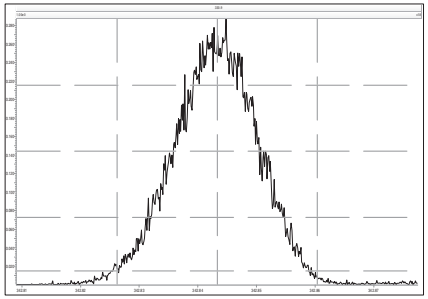
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

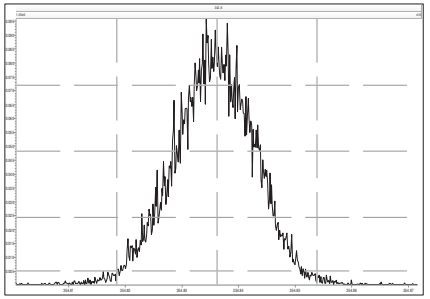
M 330.9792 R 10730



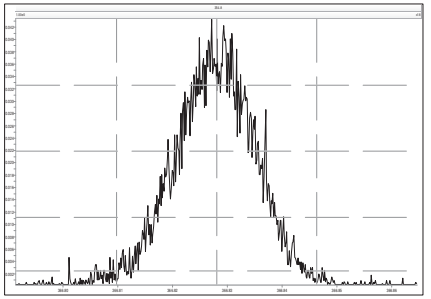
M 342.9792 R 10039



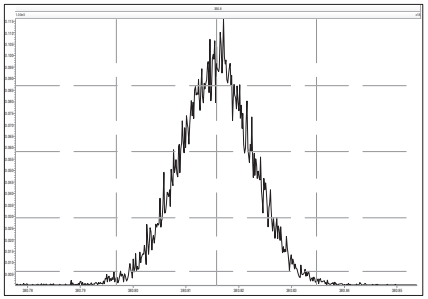
M 354.9792 R 11108



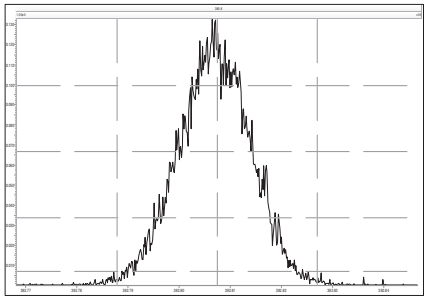
M 366.9792 R 11520



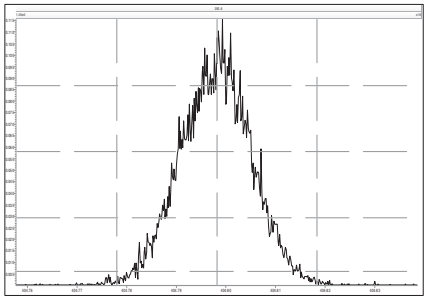
M 380.9760 R 12080



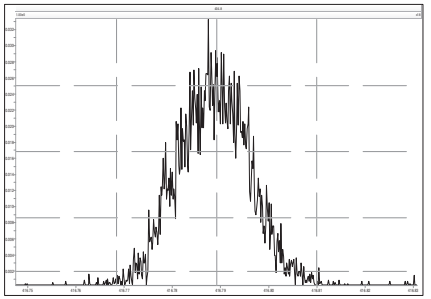
M 392.9760 R 12377



M 404.9760 R 12375



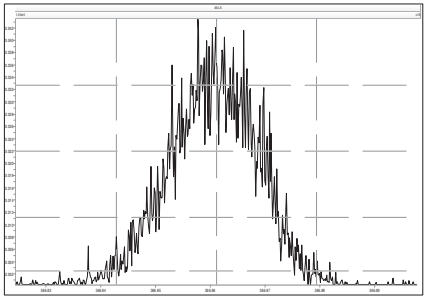
M 416.9760 R 13515



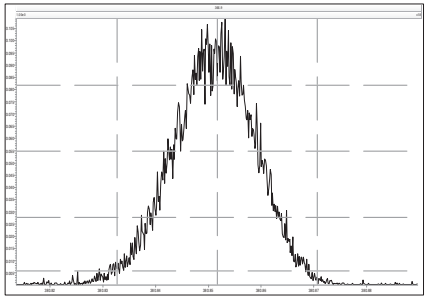
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

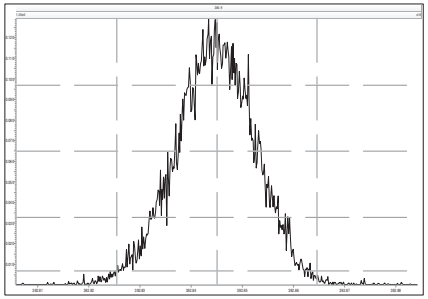
M 366.9792 R 10866



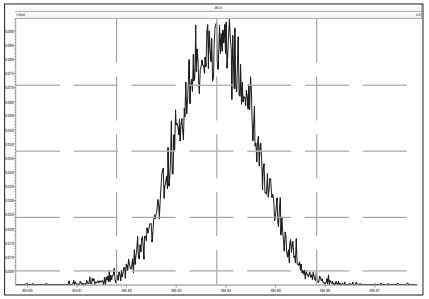
M 380.9760 R 10416



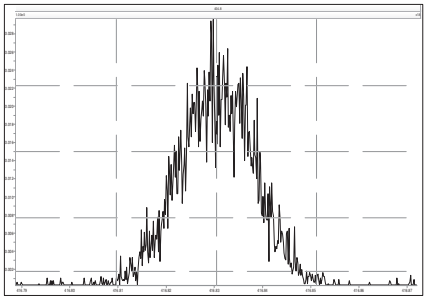
M 392.9760 R 10640



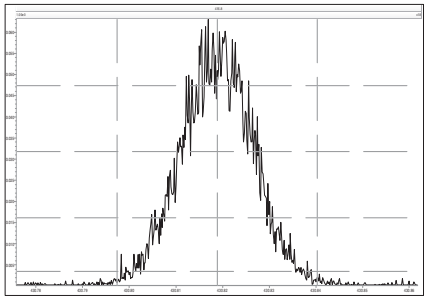
M 404.9760 R 11957



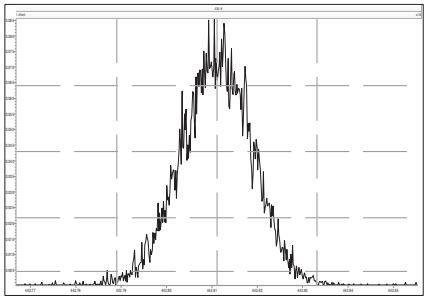
M 416.9760 R 12076



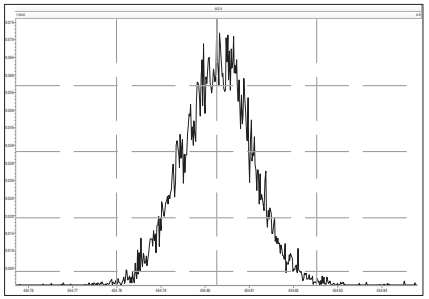
M 430.9728 R 11629



M 442.9728 R 12820



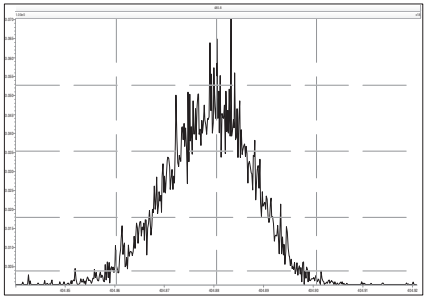
M 454.9728 R 12317



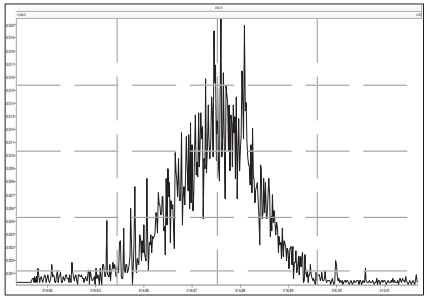
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

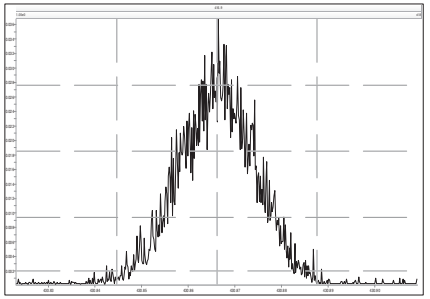
M 404.9760 R 10505



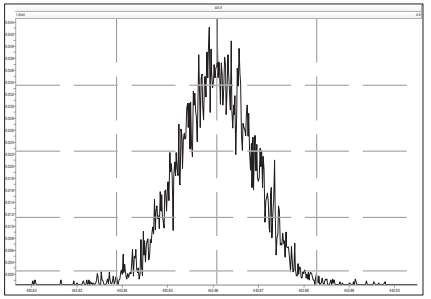
M 416.9760 R 12500



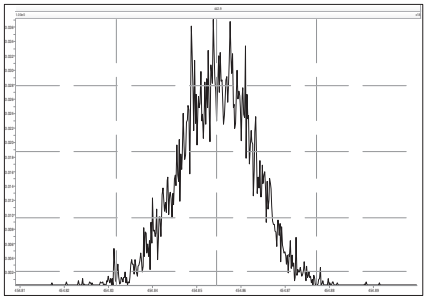
M 430.9728 R 11362



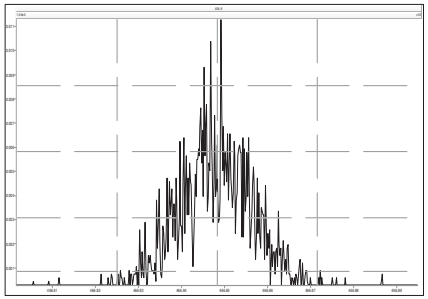
M 442.9728 R 12756



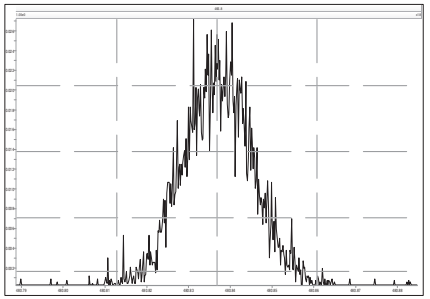
M 454.9728 R 12194



M 466.9728 R 12313



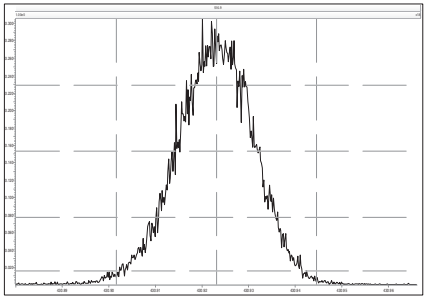
M 480.9696 R 13294



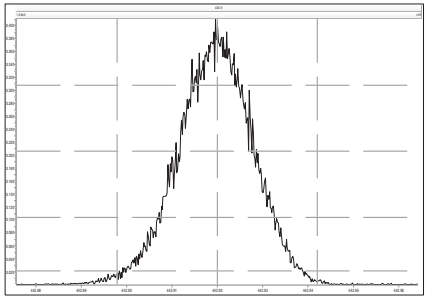
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

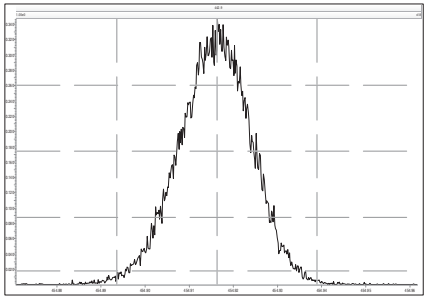
M 430.9728 R 11312



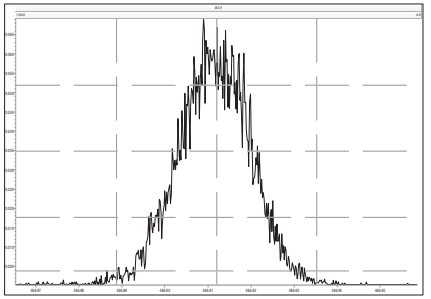
M 442.9728 R 11110



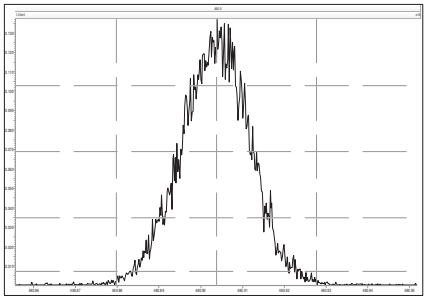
M 454.9728 R 11906



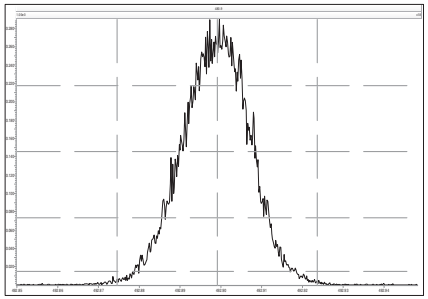
M 466.9728 R 12562



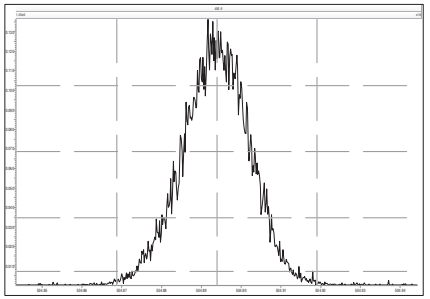
M 480.9696 R 12561



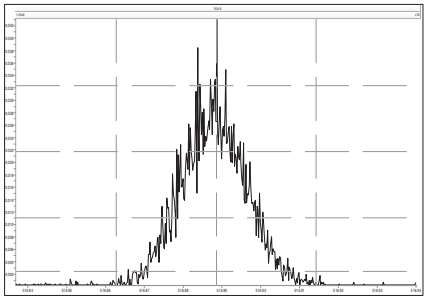
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18851_DF | **Acq'd:** 26 Jan 2022 12:04 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18851_OPR001 | **UTP:** 27-Jan-2022 10:38:13 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 031-282-SXN

Datafile: 220126C02 | **Report:** 27 Jan 2022 10:40 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	2.20E+06	0.79	Y	1.18	11.7	3760.806	0.224
12378-PeCDD	33.95		1.0006	1.0005	-0.2	7.00E+06	1.57	Y	1.04	47.5	3861.413	0.236
123478-HxCDD	37.85		1.0004	1.0004	0	8.29E+06	1.28	Y	1.09	56.9	2711.1361	0.172
123678-HxCDD	37.96		1.0034	1.0035	+0.2	1.04E+07	1.24	Y	1.15	57.7	2711.1361	0.144
123789-HxCDD	38.25		1.0109	1.0111	+0.5	8.38E+06	1.27	Y	1.05	55.3	2711.1361	0.154
1234678-HpCDD	40.88		1.0003	1.0003	0	6.42E+06	1.05	Y	1.06	54	2642.9755	0.168
OCDD	43.54		1.0002	1.0003	+0.3	8.42E+06	0.89	Y	1.13	116	4332.831	0.658
2378-TCDF	27.80		1.0008	1.0007	-0.2	3.02E+06	0.80	Y	1.08	11.6	4028.778	0.174
12378-PeCDF	32.51		1.0005	1.0005	0	1.07E+07	1.50	Y	1.02	49.4	7940.708	0.357
23478-PeCDF	33.62		1.0005	1.0005	0	1.08E+07	1.44	Y	1.02	52.8	7940.708	0.338
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.06E+07	1.27	Y	1.27	55	4900.48	0.217
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.35E+07	1.23	Y	1.15	54.3	4900.48	0.195
234678-HxCDF	37.67		1.0004	1.0004	0	1.22E+07	1.26	Y	1.19	55.3	4900.48	0.229
123789-HxCDF	38.60		1.0004	1.0004	0	8.22E+06	1.27	Y	1.16	53.4	4900.48	0.282
1234678-HpCDF	39.94		1.0002	1.0004	+0.5	1.15E+07	1.03	Y	1.37	56	3170.596	0.112
1234789-HpCDF	41.34		1.0003	1.0003	0	6.18E+06	0.99	Y	1.31	52.5	3170.596	0.242
OCDF	43.72		1.0002	1.0003	+0.3	8.66E+06	0.98	Y	1.07	108	4099.201	0.567

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0235	+0.3	1.58E+07	0.83	Y	1.05	90.3
ES 12378-PeCDD	33.94	1.2121	1.2134	+2.6	1.42E+07	1.66	Y	0.88	96.5
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.34E+07	1.25	Y	0.97	98.8
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.57E+07	1.21	Y	0.94	120
ES 123789-HxCDD	38.23	1.0025	1.0027	+0.5	1.45E+07	1.29	Y	1.09	95.2
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.12E+07	1.08	Y	0.91	88.3
ES OCDD	43.53	1.1403	1.1414	+2.9	1.29E+07	0.90	Y	0.62	74
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.42E+07	0.78	Y	1.06	84.6
ES 12378-PeCDF	32.50	1.2281	1.2296	+2.9	2.10E+07	1.55	Y	0.91	85.5
ES 23478-PeCDF	33.60	1.2698	1.2715	+3.4	2.00E+07	1.54	Y	0.88	84
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.52E+07	0.53	Y	1.20	91.2
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.15E+07	0.52	Y	1.35	114
ES 234678-HxCDF	37.66	0.9874	0.9875	+0.2	1.86E+07	0.53	Y	1.24	107
ES 123789-HxCDF	38.59	1.0116	1.0119	+0.7	1.32E+07	0.51	Y	1.16	82.2
ES 1234678-HpCDF	39.93	1.0467	1.0471	+1.0	1.50E+07	0.44	Y	0.97	111
ES 1234789-HpCDF	41.33	1.0830	1.0838	+2.0	9.01E+06	0.43	Y	0.85	76
ES OCDF	43.71	1.1451	1.1463	+3.1	1.50E+07	0.89	Y	0.81	66.8

Lab ID: OPR1_18851_DF | **Acq'd:** 26 Jan 2022 12:04 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18851_OPR001 | **UTP:** 27-Jan-2022 10:38:13 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 031-282-SXN

Datafile: 220126C02 | **Report:** 27 Jan 2022 10:40 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.97		-	-	-	1.67E+07	0.83	Y	-	-
JS 1234-TCDF	26.43		-	-	-	2.70E+07	0.82	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	6.96E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	7.29E+06	n/a	-	1.20	90.6
CS 12347-PeCDD	33.43		1.1943	1.1954	+2.2	1.38E+07	1.67	Y	0.75	109
CS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	2.15E+07	1.50	Y	0.85	93.6
CS 123469-HxCDF	37.29		0.9778	0.9778	0	1.86E+07	0.54	Y	1.12	120
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.42E+07	0.43	Y	0.89	115
SS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	7.29E+06	n/a	-	1.15	101
SS 12347-PeCDD	33.43		1.1943	1.1954	+2.2	1.38E+07	1.67	Y	0.86	113
SS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	2.15E+07	1.50	Y	0.94	109
SS 123469-HxCDF	37.29		0.9778	0.9778	0	1.86E+07	0.54	Y	0.83	105
SS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.42E+07	0.43	Y	0.92	103

Totals	Conc	EMPC
Total TCDD	57.9	57.9
Total PeCDD	73.4	73.4
Total HxCDD	185	185
Total HpCDD	69.1	69.1
Total Tetra-Octa Dioxins	502	502
Total TCDF	66.4	66.4
Total PeCDF	224	224
Total HxCDF	356	356
Total HpCDF	109	109
Total Tetra-Octa Furans	862	862
Total Tetra-Octa Dioxins & Furans	1360	1360

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.79	0.79
Response	2.20E+06	2.20E+06

Lab ID: OPR1_18851_DF | **Acq'd: 26 Jan 2022 12:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18851_OPR001 | **UTP: 27-Jan-2022 10:38:13 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 031-282-SXN**

Datafile: 220126C02 | **Report: 27 Jan 2022 10:40 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8748	-1.1	3.16E+06	0.80	Y	1.18	16.9	3760.806	0.224
1379-TCDD	NotFnd		0.8876						1.18		3760.806	0.224
1369-TCDD	NotFnd		0.9023						1.18		3760.806	0.224
1469-TCDD	NotFnd		0.9291						1.18		3760.806	0.224
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3760.806	0.224
1378-TCDD	NotFnd		0.9440						1.18		3760.806	0.224
1268-TCDD	NotFnd		0.9506						1.18		3760.806	0.224
1478-TCDD	NotFnd		0.9591						1.18		3760.806	0.224
1279-TCDD	NotFnd		0.9649						1.18		3760.806	0.224
1234/1269-TCDD	NotFnd		0.9771						1.18		3760.806	0.224
1236-TCDD	NotFnd		0.9820						1.18		3760.806	0.224
1237/1238-TCDD	NotFnd		0.9908						1.18		3760.806	0.224
1239-TCDD	28.49		0.9954	0.9952	-0.3	2.21E+06	0.84	Y	1.18	11.8	3760.806	0.224
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	2.20E+06	0.79	Y	**1.18**	**11.7**	**3760.806**	**0.224**
1278-TCDD	NotFnd		1.0121						1.18		3760.806	0.224
1267-TCDD	NotFnd		1.0167						1.18		3760.806	0.224
1289-TCDD	29.61		1.0341	1.0344	+0.5	3.29E+06	0.83	Y	1.18	17.5	3760.806	0.224
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	1.80E+06	1.53	Y	1.04	12.2	3861.413	0.236
12469-PeCDD	NotFnd		0.9430						1.04		3861.413	0.236
12368-PeCDD	NotFnd		0.9592						1.04		3861.413	0.236
12478-PeCDD	NotFnd		0.9647						1.04		3861.413	0.236
12379-PeCDD	NotFnd		0.9676						1.04		3861.413	0.236
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3861.413	0.236
12346/12347-PeCDD	NotFnd		0.9860						1.04		3861.413	0.236
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**7.00E+06**	**1.57**	**Y**	**1.04**	**47.5**	**3861.413**	**0.236**
12367-PeCDD	NotFnd		1.0034						1.04		3861.413	0.236
12389-PeCDD	34.39		1.0134	1.0134	0	2.02E+06	1.56	Y	1.04	13.7	3861.413	0.236
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.43E+06	1.28	Y	1.10	15.3	2711.1361	0.156
123468-HxCDD	NotFnd		0.9715						1.10		2711.1361	0.156
123679/123689-HxCDD	NotFnd		0.9793						1.10		2711.1361	0.156
123469-HxCDD	NotFnd		0.9829						1.10		2711.1361	0.156
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**8.29E+06**	**1.28**	**Y**	1.09	**56.9**	**2711.1361**	**0.172**
123678-HxCDD	37.96		**1.0034**	**1.0035**	**+0.2**	**1.04E+07**	**1.24**	**Y**	1.15	**57.7**	**2711.1361**	**0.144**
123467-HxCDD	NotFnd		1.0082						1.10		2711.1361	0.156
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**8.38E+06**	**1.27**	**Y**	1.05	**55.3**	**2711.1361**	**0.154**

Lab ID: OPR1_18851_DF | **Acq'd: 26 Jan 2022 12:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18851_OPR001 | **UTP: 27-Jan-2022 10:38:13 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 031-282-SXN**

Datafile: 220126C02 | **Report: 27 Jan 2022 10:40 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9838	0	1.81E+06	1.07	Y	1.06	15.2	2642.9755	0.168
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**6.42E+06**	**1.05**	**Y**	**1.06**	**54**	**2642.9755**	**0.168**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**8.42E+06**	**0.89**	**Y**	**1.13**	**116**	**4332.831**	**0.658**
OCDD-a	43.54	**EMPC**	1.0002	1.0003	+0.3	5.02E+05	2.95	N	0.07	108	2807.803	6.67
1368-TCDF	22.97		0.8282	0.8270	-1.7	4.18E+06	0.77	Y	1.08	16	4028.778	0.174
1468-TCDF	NotFnd		0.8485						1.08		4028.778	0.174
2468-TCDF	24.16		0.8709	0.8699	-1.4	1.17E+06	0.77	Y	1.08	4.49	4028.778	0.174
1346/1246-TCDF	NotFnd		0.8829						1.08		4028.778	0.174
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4028.778	0.174
1348-TCDF	NotFnd		0.8980						1.08		4028.778	0.174
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4028.778	0.174
1268-TCDF	NotFnd		0.9158						1.08		4028.778	0.174
1467-TCDF	NotFnd		0.9206						1.08		4028.778	0.174
1478-TCDF	NotFnd		0.9266						1.08		4028.778	0.174
1369/1237-TCDF	NotFnd		0.9397						1.08		4028.778	0.174
2467-TCDF	NotFnd		0.9440						1.08		4028.778	0.174
2368-TCDF	NotFnd		0.9497						1.08		4028.778	0.174
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4028.778	0.174
1278-TCDF	NotFnd		0.9690						1.08		4028.778	0.174
1349-TCDF	NotFnd		0.9730						1.08		4028.778	0.174
1267-TCDF	NotFnd		0.9787						1.08		4028.778	0.174
2346/1249-TCDF	NotFnd		0.9850						1.08		4028.778	0.174
2347/1279-TCDF	NotFnd		0.9929						1.08		4028.778	0.174
2348-TCDF	27.69		0.9970	0.9968	-0.3	4.14E+06	0.79	Y	1.08	15.9	4028.778	0.174
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**3.02E+06**	**0.80**	**Y**	**1.08**	**11.6**	**4028.778**	**0.174**
2367/3467-TCDF	NotFnd		1.0136						1.08		4028.778	0.174
1269-TCDF	NotFnd		1.0221						1.08		4028.778	0.174
1239-TCDF	NotFnd		1.0319						1.08		4028.778	0.174
1289-TCDF	29.79		1.0740	1.0723	-3.0	4.83E+06	0.81	Y	1.08	18.5	4028.778	0.174
13468/12468-PeCDF	29.69		0.9145	0.9137	-1.4	2.33E+07	1.58	Y	1.02	111	3705.473	0.162
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7940.708	0.347
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7940.708	0.347
14678-PeCDF	NotFnd		0.9695						1.02		7940.708	0.347
13479-PeCDF	NotFnd		0.9724						1.02		7940.708	0.347
13469/12479-PeCDF	NotFnd		0.9801						1.02		7940.708	0.347
12346-PeCDF	NotFnd		0.9842						1.02		7940.708	0.347

Lab ID: OPR1_18851_DF | **Acq'd: 26 Jan 2022 12:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18851_OPR001 | **UTP: 27-Jan-2022 10:38:13 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 031-282-SXN**

Datafile: 220126C02 | **Report: 27 Jan 2022 10:40 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7940.708	0.347
12347-PeCDF	NotFnd		0.9895						1.02		7940.708	0.347
12348-PeCDF	NotFnd		0.9941						1.02		7940.708	0.347
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**1.07E+07**	**1.50**	**Y**	**1.02**	**49.4**	**7940.708**	**0.357**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7940.708	0.347
12379-PeCDF	NotFnd		1.0142						1.02		7940.708	0.347
12679-PeCDF	NotFnd		0.9931						1.02		7940.708	0.347
23467/12369-PeCDF	NotFnd		0.9966						1.02		7940.708	0.347
23478-PeCDF	**33.62**		**1.0005**	**1.0005**	**0**	**1.08E+07**	**1.44**	**Y**	**1.02**	**52.8**	**7940.708**	**0.338**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7940.708	0.347
12349-PeCDF	NotFnd		1.0101						1.02		7940.708	0.347
12389-PeCDF	34.69		1.0322	1.0324	+0.4	2.23E+06	1.46	Y	1.02	10.6	7940.708	0.347
123468-HxCDF	35.46		0.9627	0.9629	+0.4	2.82E+07	1.24	Y	1.19	138	4900.48	0.225
124678/134678-HxCDF	NotFnd		0.9684						1.19		4900.48	0.225
134679-HxCDF	NotFnd		0.9747						1.19		4900.48	0.225
124679-HxCDF	NotFnd		0.9802						1.19		4900.48	0.225
124689-HxCDF	NotFnd		0.9858						1.19		4900.48	0.225
123467-HxCDF	NotFnd		0.9972						1.19		4900.48	0.225
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.06E+07**	**1.27**	**Y**	**1.27**	**55**	**4900.48**	**0.217**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.35E+07**	**1.23**	**Y**	**1.15**	**54.3**	**4900.48**	**0.195**
123479-HxCDF	NotFnd		1.0051						1.19		4900.48	0.225
123469-HxCDF	NotFnd		1.0091						1.19		4900.48	0.225
123679-HxCDF	NotFnd		0.9943						1.19		4900.48	0.225
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.26**	**Y**	**1.19**	**55.3**	**4900.48**	**0.229**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4900.48	0.225
123789-HxCDF	**38.60**		**1.0004**	**1.0004**	**0**	**8.22E+06**	**1.27**	**Y**	**1.16**	**53.4**	**4900.48**	**0.282**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4900.48	0.225
1234678-HpCDF	**39.94**		**1.0002**	**1.0004**	**+0.5**	**1.15E+07**	**1.03**	**Y**	**1.37**	**56**	**3170.596**	**0.112**
1234679-HpCDF	NotFnd		1.0067						1.34		3170.596	0.161
1234689-HpCDF	NotFnd		1.0101						1.34		3170.596	0.161
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**6.18E+06**	**0.99**	**Y**	**1.31**	**52.5**	**3170.596**	**0.242**
OCDF	**43.72**		**1.0002**	**1.0003**	**+0.3**	**8.66E+06**	**0.98**	**Y**	**1.07**	**108**	**4099.201**	**0.567**
OCDF-a	43.71	**EMPC**	1.0002	1.0000	-0.5	3.89E+05	2.02	N	0.07	77.9	3329.837	7.44

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220126C02	Analysis Date:	26-JAN-2022 12:04:11
Lab ID:	OPR1_18851_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.7	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	55.3	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54	35	-	70	Y
OCDD	100	116	78	-	144	Y
2,3,7,8-TCDF	10	11.6	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.4	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	54.3	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	55.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	53.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	56	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.5	39	-	69	Y
OCDF	100	108	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 27 Jan 2022 10:40 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220126C02 Analysis Date: 26-JAN-2022 12:04:11
Lab ID: OPR1_18851_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	90.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	96.5	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.8	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	120	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	88.3	26	-	166	Y
13C-OCDD	200	148	26	-	397	Y
13C-2,3,7,8-TCDF	100	84.6	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	85.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	84	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	114	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	107	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	82.2	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	111	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	76	20	-	186	Y
13C-OCDF	200	134	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 27 Jan 2022 10:40 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220126C02	Analysis Date:	26-JAN-2022 12:04:11
Lab ID:	OPR1_18851_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.04	1289-TCDD	29.61
12479/12468-PeCDD	31.46	12389-PeCDD	34.39
124679/124689-HxCDD	36.10	123789-HxCDD	38.25
1234679-HpCDD	40.20	1234678-HpCDD	40.88
1368-TCDF	22.97	1289-TCDF	29.79
13468/12468-PeCDF	29.69	12389-PeCDF	34.69
123468-HxCDF	35.46	123789-HxCDF	38.60
1234678-HpCDF	39.94	1234789-HpCDF	41.34

Isomer Specificity Test Standard Results

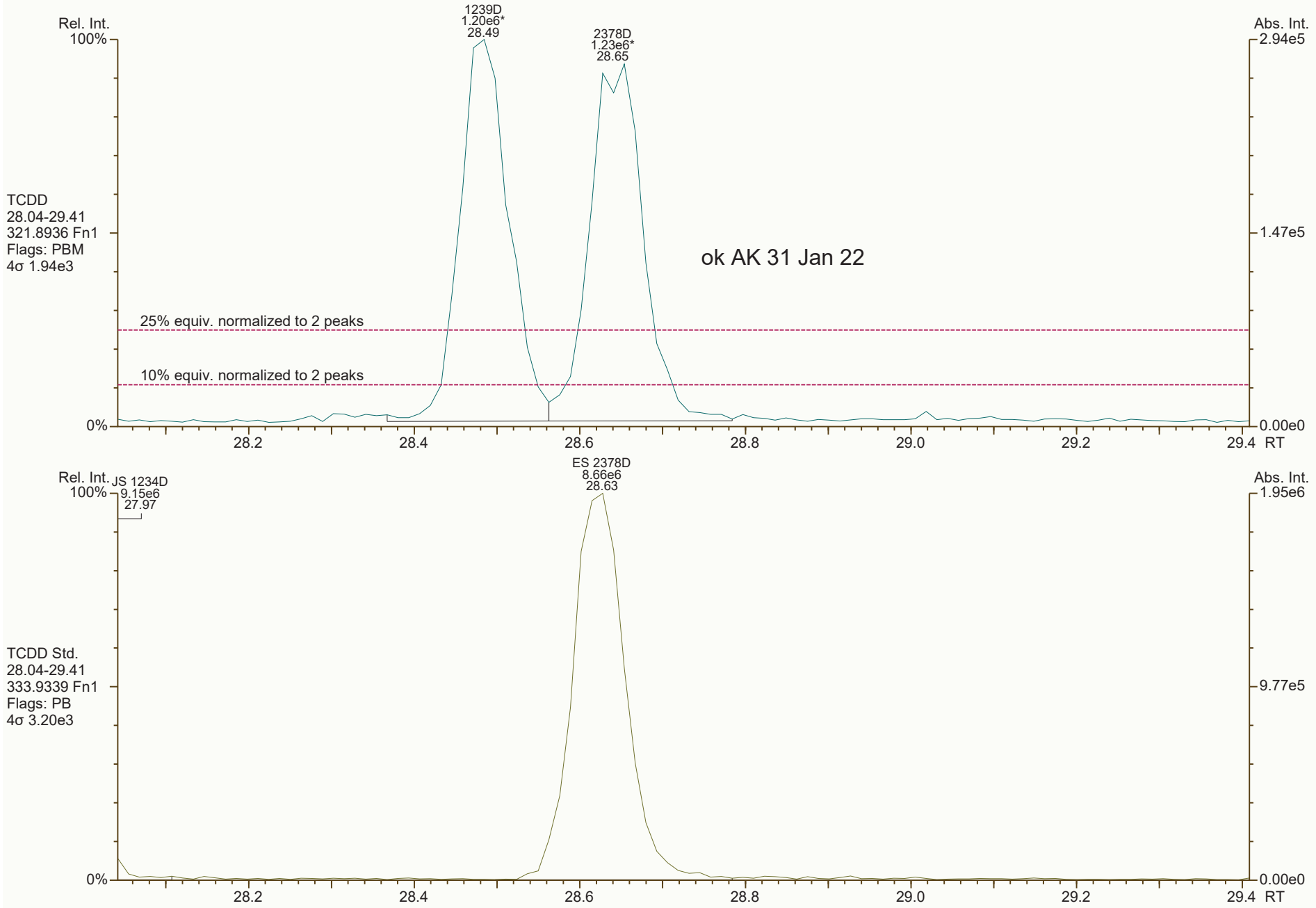
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.49	2378-TCDD	28.65
2348-TCDF	27.69	2378-TCDF	27.80

Processed: 27 Jan 2022 10:40 Analyst: TF

SGS ID: OPR1_18851_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18851_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77

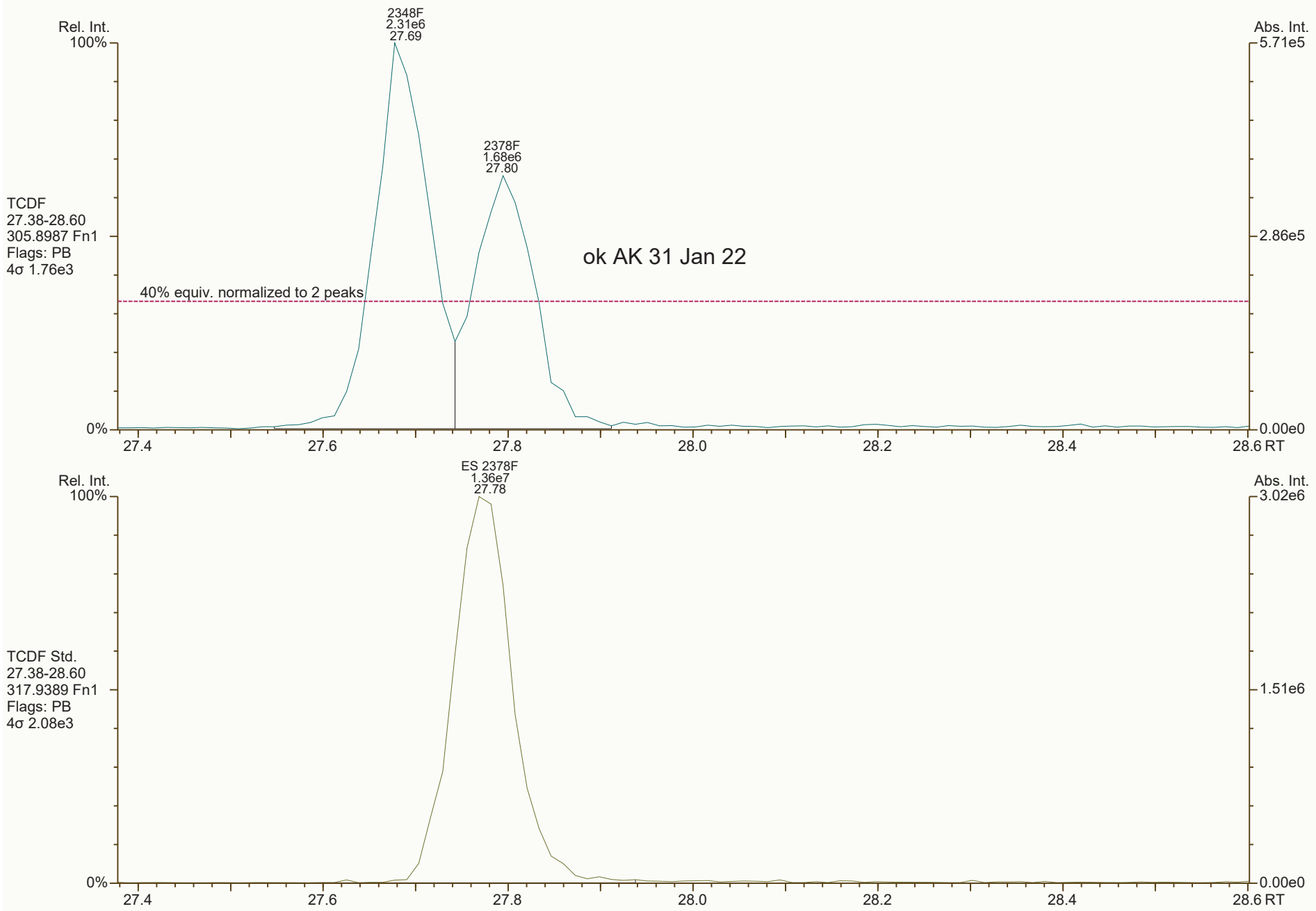
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User: DTF Datafile: 220126C02



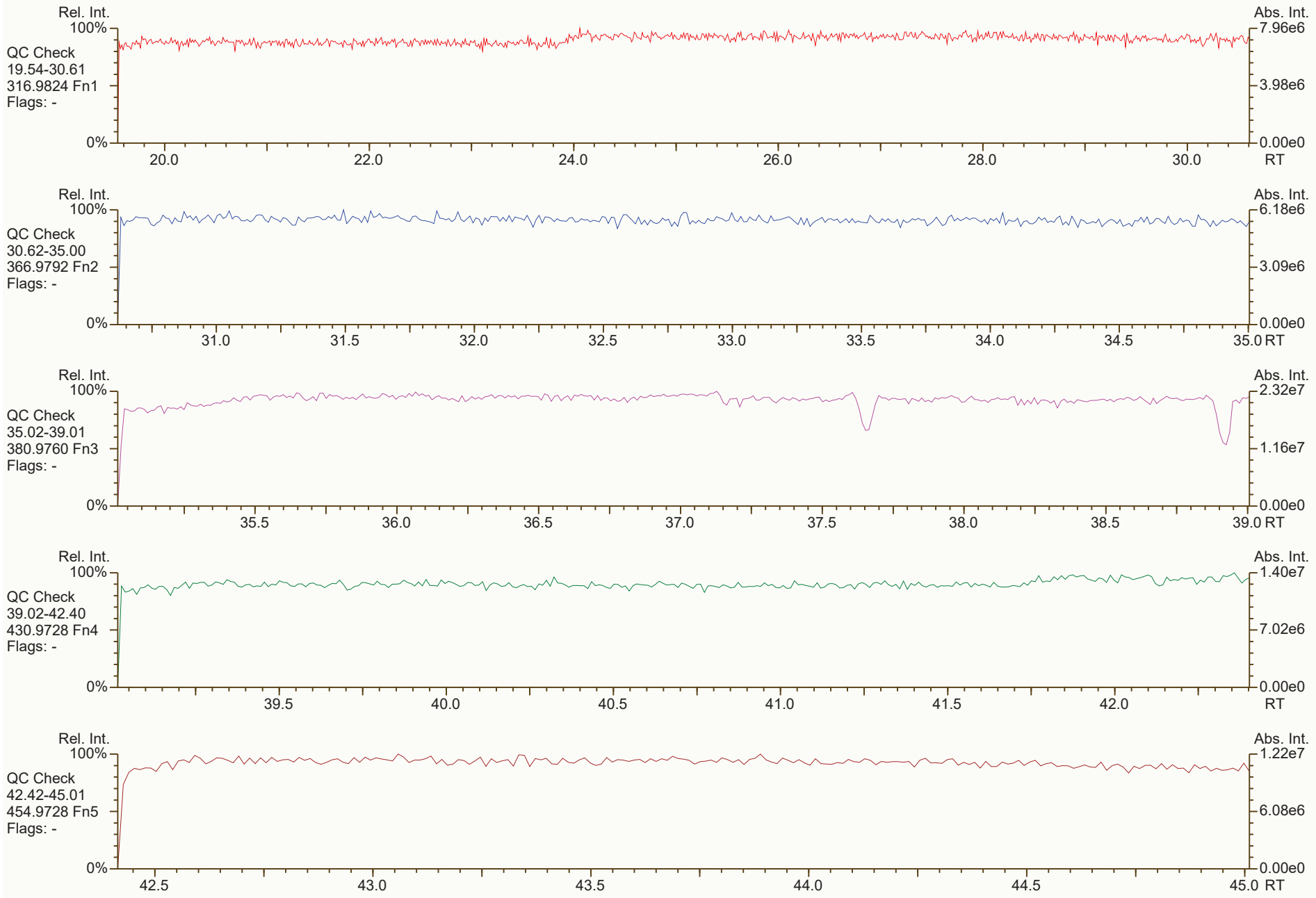
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR1_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

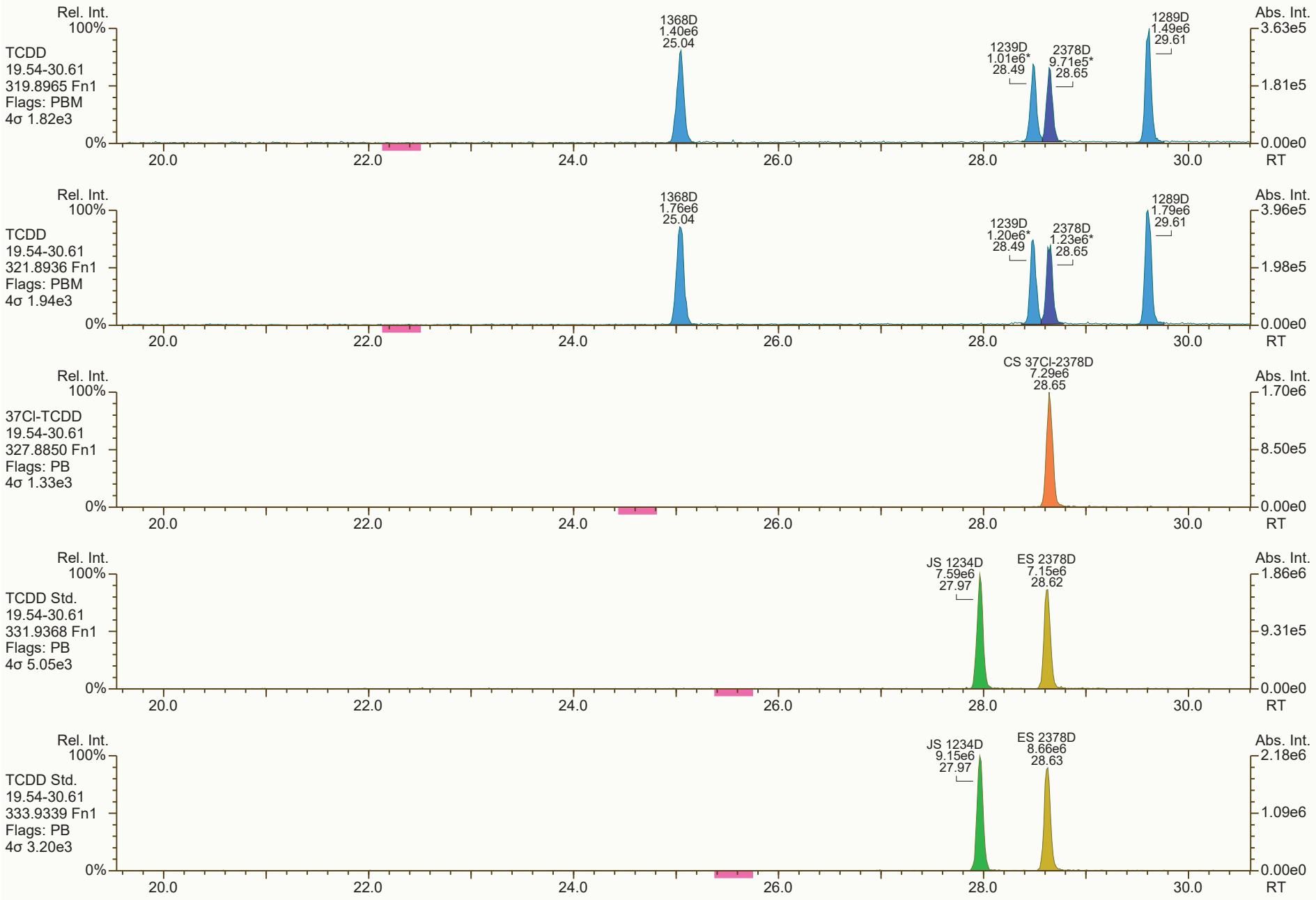
Peak annotation: Areas, Centroids
Revised: 27-Jan-2022 10:05 (DTF) Printed: 27-Jan-2022 10:44

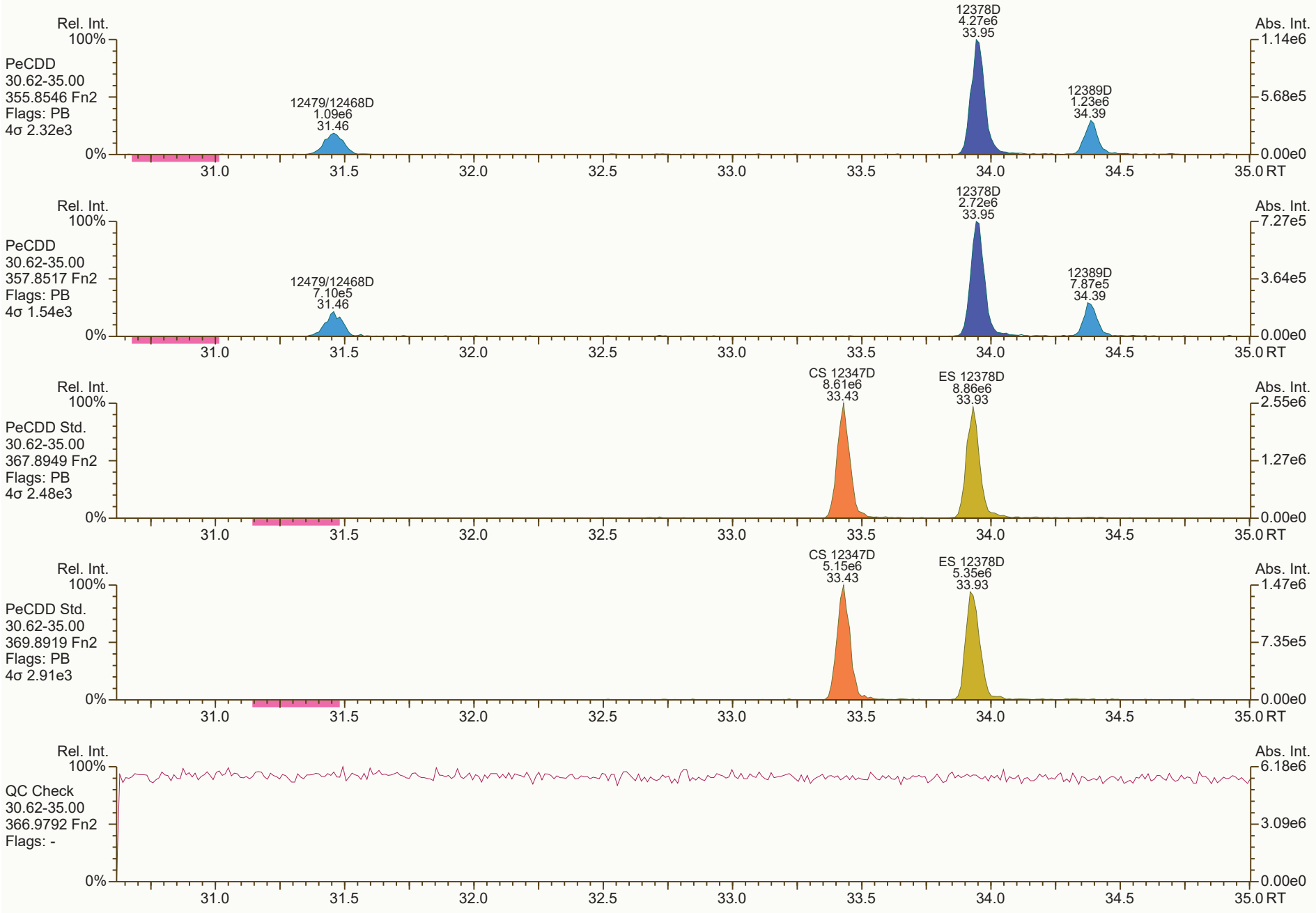
SGS ID: OPR1_18851_DF | Sample ID: 0_18851_OPR001 | Acq: 26-Jan-2022 12:04:11
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220126C02

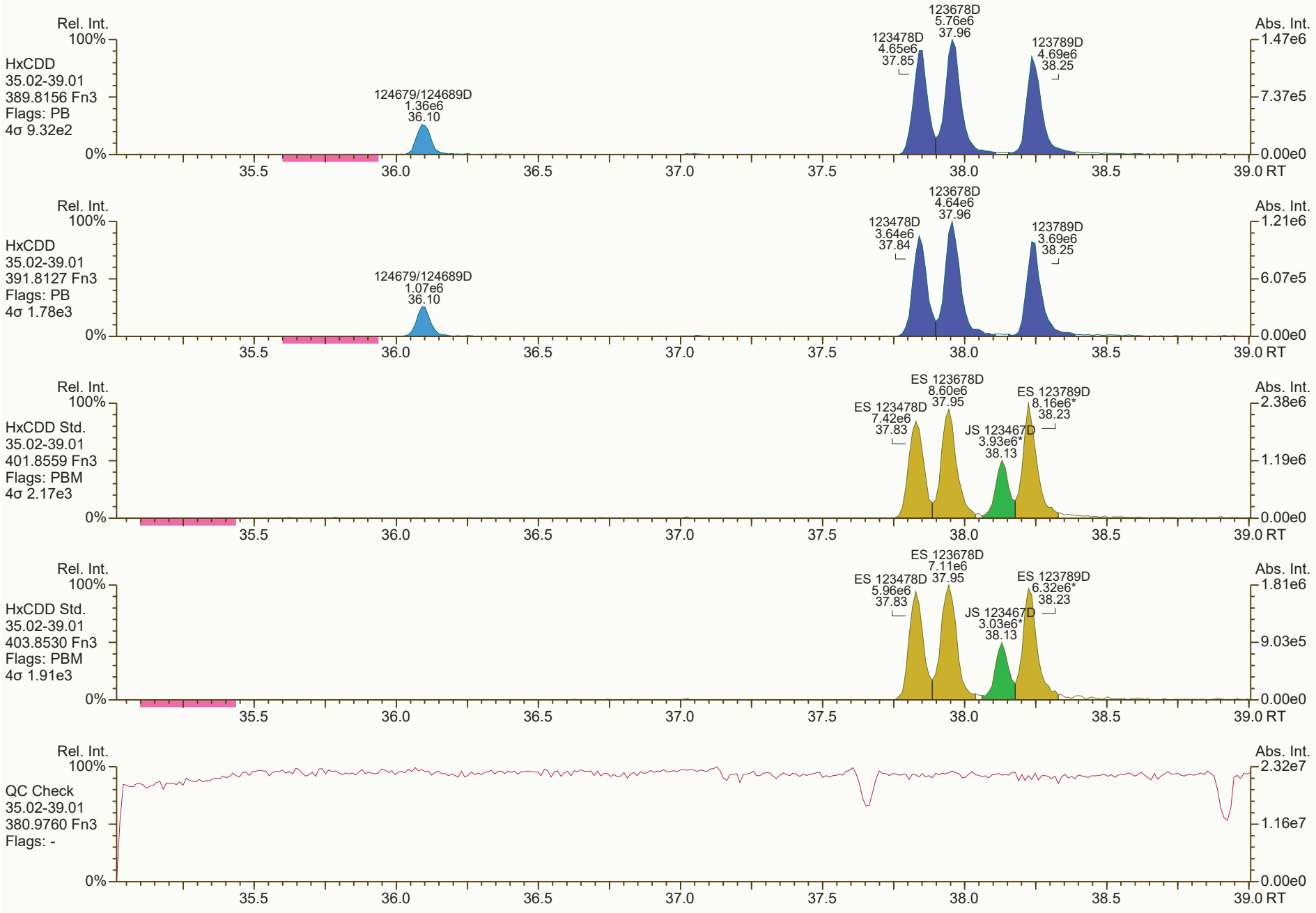


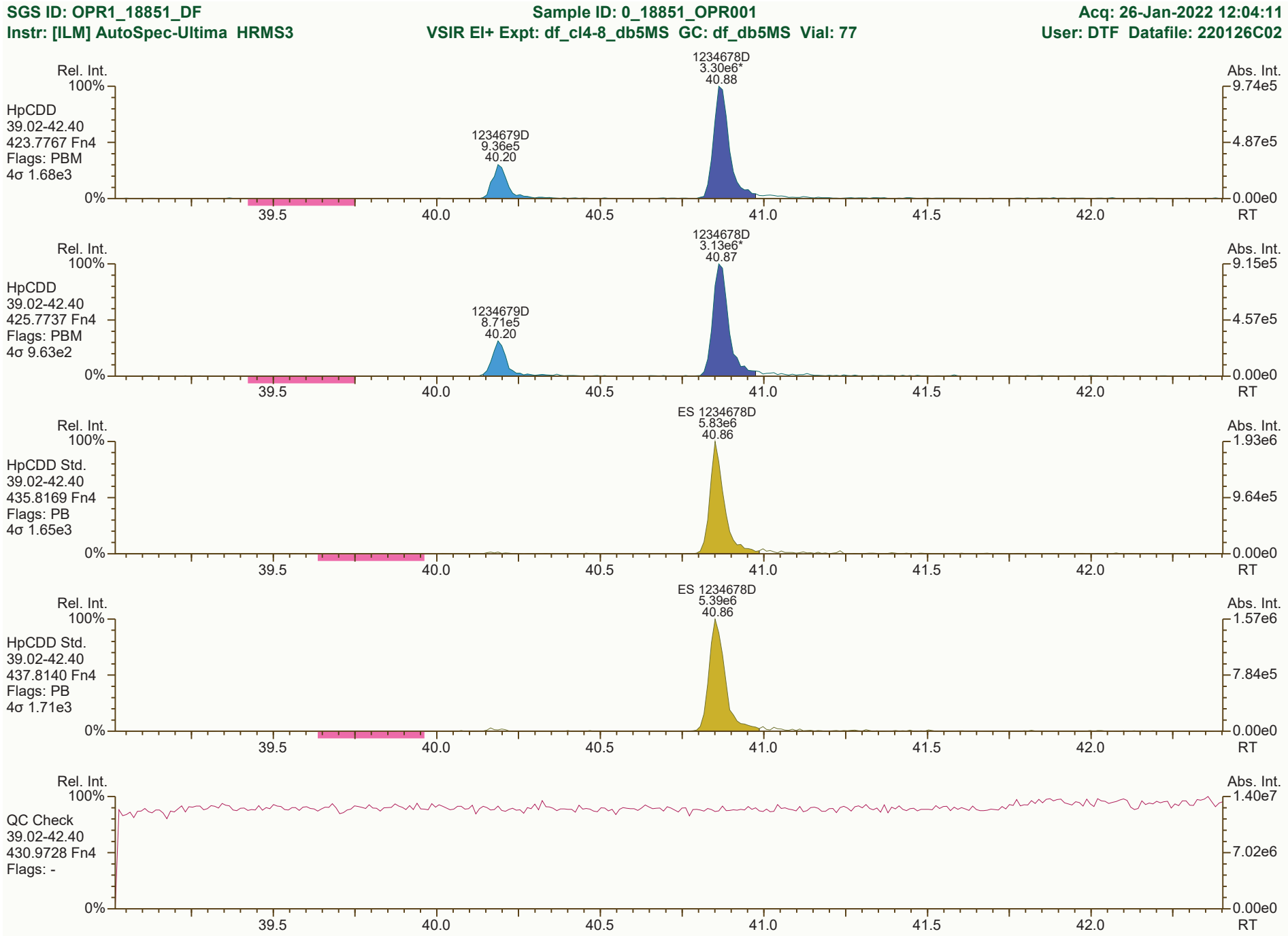
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR1_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 27-Jan-2022 10:05 (DTF) Printed: 27-Jan-2022 10:44

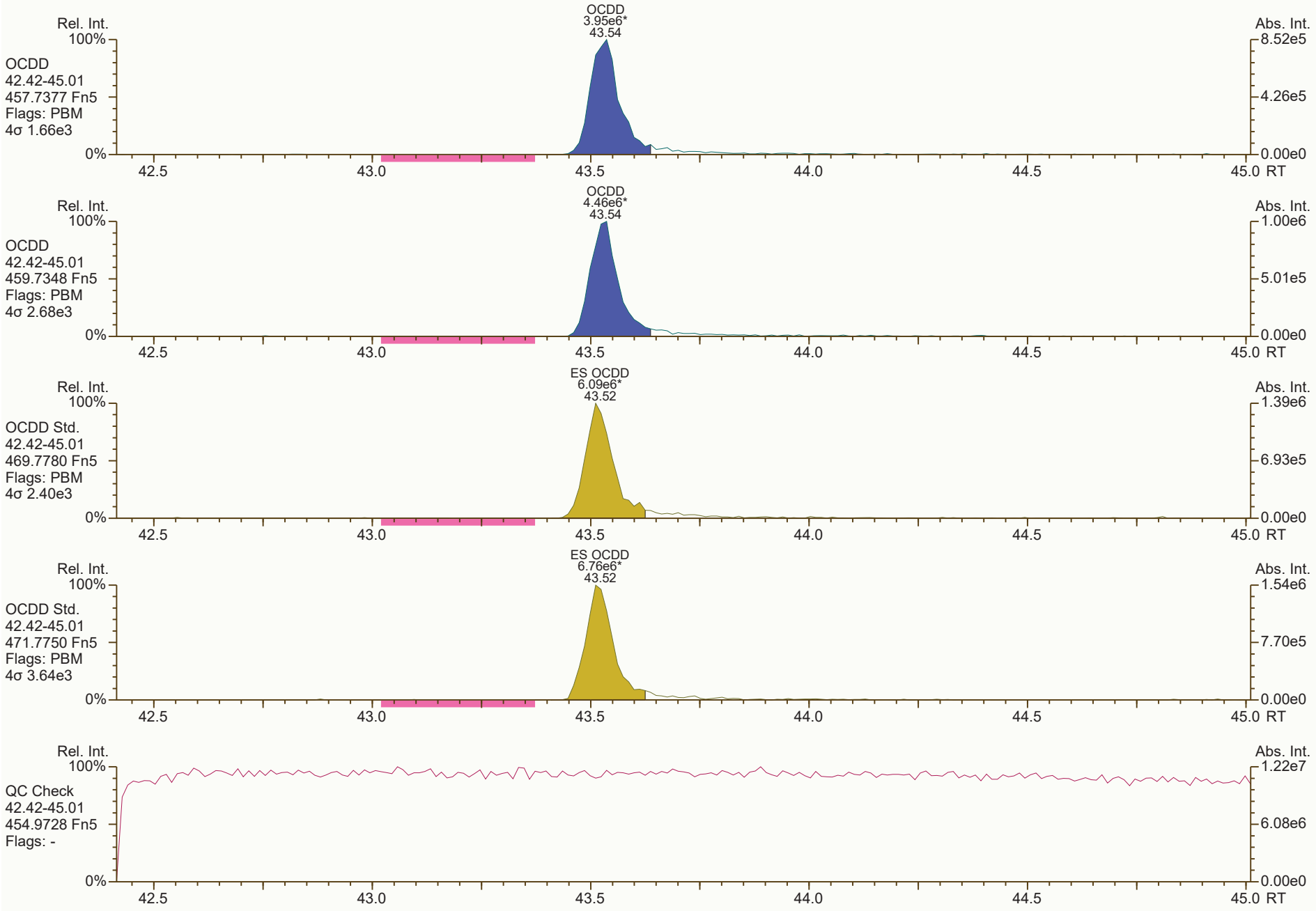

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.96e6
3.98e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.18e6
3.09e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.32e7
1.16e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.40e7
7.02e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.22e7
6.08e6
0.00e0

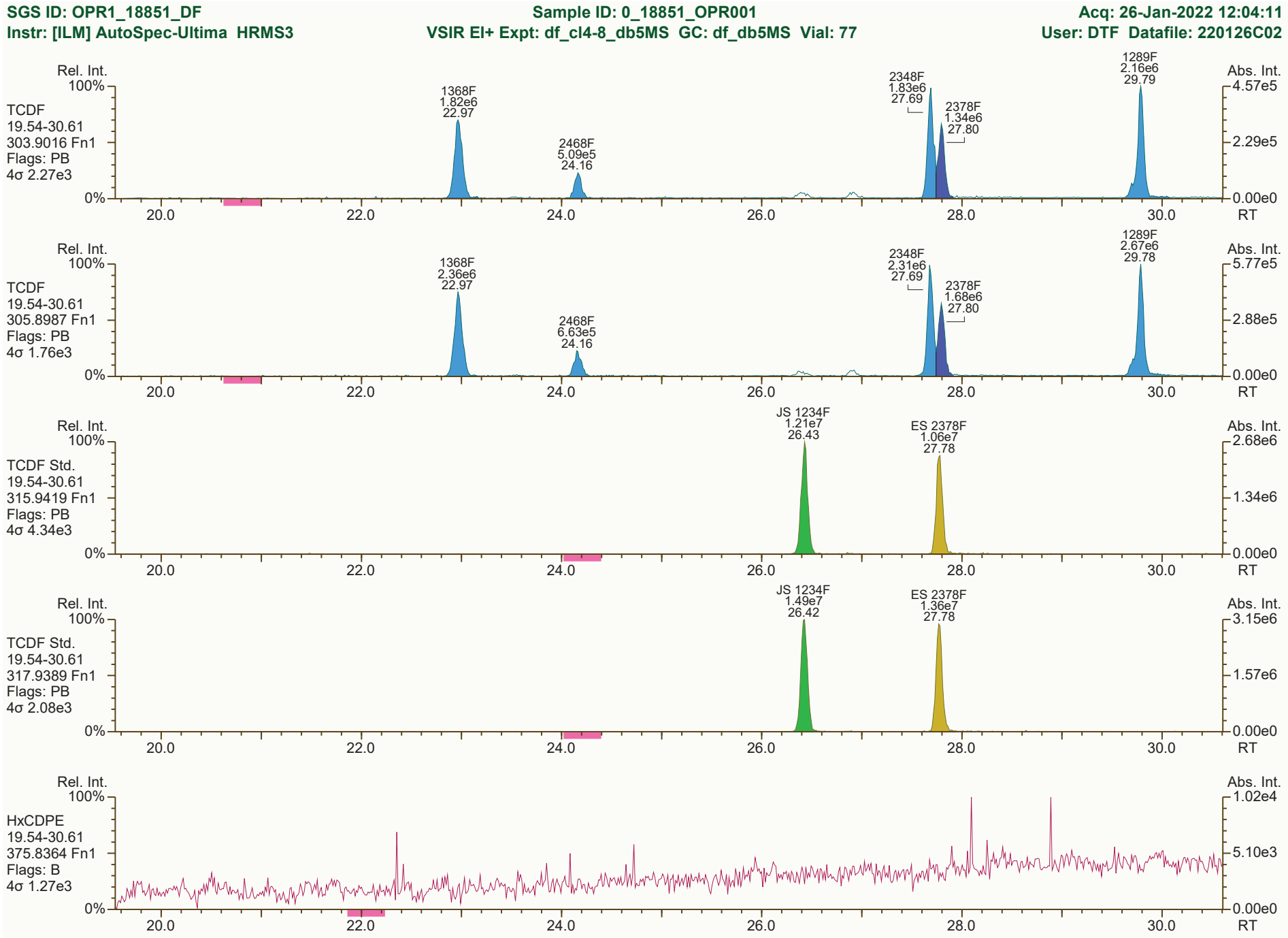

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 1.82e3
1368D
1.40e6
25.04
1239D
1.01e6*
28.49
2378D
9.71e5*
28.65
1289D
1.49e6
29.61
Abs. Int.
3.63e5
1.81e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.94e3
1368D
1.76e6
25.04
1239D
1.20e6*
28.49
2378D
1.23e6*
28.65
1289D
1.79e6
29.61
Abs. Int.
3.96e5
1.98e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.33e3
CS 37Cl-2378D
7.29e6
28.65
Abs. Int.
1.70e6
8.50e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.05e3
JS 1234D
7.59e6
27.97
ES 2378D
7.15e6
28.62
Abs. Int.
1.86e6
9.31e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.20e3
JS 1234D
9.15e6
27.97
ES 2378D
8.66e6
28.63
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 2.32e3
12479/12468D
1.09e6
31.46
12378D
4.27e6
33.95
12389D
1.23e6
34.39
Abs. Int.
1.14e6
5.68e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.54e3
12479/12468D
7.10e5
31.46
12378D
2.72e6
33.95
12389D
7.87e5
34.39
Abs. Int.
7.27e5
3.64e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.48e3
CS 12347D
8.61e6
33.43
ES 12378D
8.86e6
33.93
Abs. Int.
2.55e6
1.27e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.91e3
CS 12347D
5.15e6
33.43
ES 12378D
5.35e6
33.93
Abs. Int.
1.47e6
7.35e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
6.18e6
3.09e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 9.32e2
0%
124679/124689D
1.36e6
36.10
123478D
4.65e6
37.85
123678D
5.76e6
37.96
123789D
4.69e6
38.25
Abs. Int.
1.47e6
7.37e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.78e3
0%
124679/124689D
1.07e6
36.10
123478D
3.64e6
37.84
123678D
4.64e6
37.96
123789D
3.69e6
38.25
Abs. Int.
1.21e6
6.07e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.17e3
0%
ES 123478D
7.42e6
37.83
ES 123678D
8.60e6
37.95
JS 123467D
3.93e6*
38.13
ES 123789D
8.16e6*
38.23
Abs. Int.
2.38e6
1.19e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.91e3
0%
ES 123478D
5.96e6
37.83
ES 123678D
7.11e6
37.95
JS 123467D
3.03e6*
38.13
ES 123789D
6.32e6*
38.23
Abs. Int.
1.81e6
9.03e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR1_18851_DF
Sample ID: 0_18851_OPR001
Acq: 26-Jan-2022 12:04:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77
User: DTF Datafile: 220126C02
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.68e3
1234678D
3.30e6*
40.88
1234679D
9.36e5
40.20
9.74e5
4.87e5
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 9.63e2
1234678D
3.13e6*
40.87
1234679D
8.71e5
40.20
9.15e5
4.57e5
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.65e3
ES 1234678D
5.83e6
40.86
1.93e6
9.64e5
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.71e3
ES 1234678D
5.39e6
40.86
1.57e6
7.84e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.40e7
7.02e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR1_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9172, 8134 scc: 031-282
Revised: 27-Jan-2022 10:05 (DTF) Printed: 27-Jan-2022 10:46 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.66e3
0%
OCDD
3.95e6*
43.54
Abs. Int.
8.52e5
4.26e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.68e3
0%
OCDD
4.46e6*
43.54
Abs. Int.
1.00e6
5.01e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.40e3
0%
ES OCDD
6.09e6*
43.52
Abs. Int.
1.39e6
6.93e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 3.64e3
0%
ES OCDD
6.76e6*
43.52
Abs. Int.
1.54e6
7.70e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.22e7
6.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

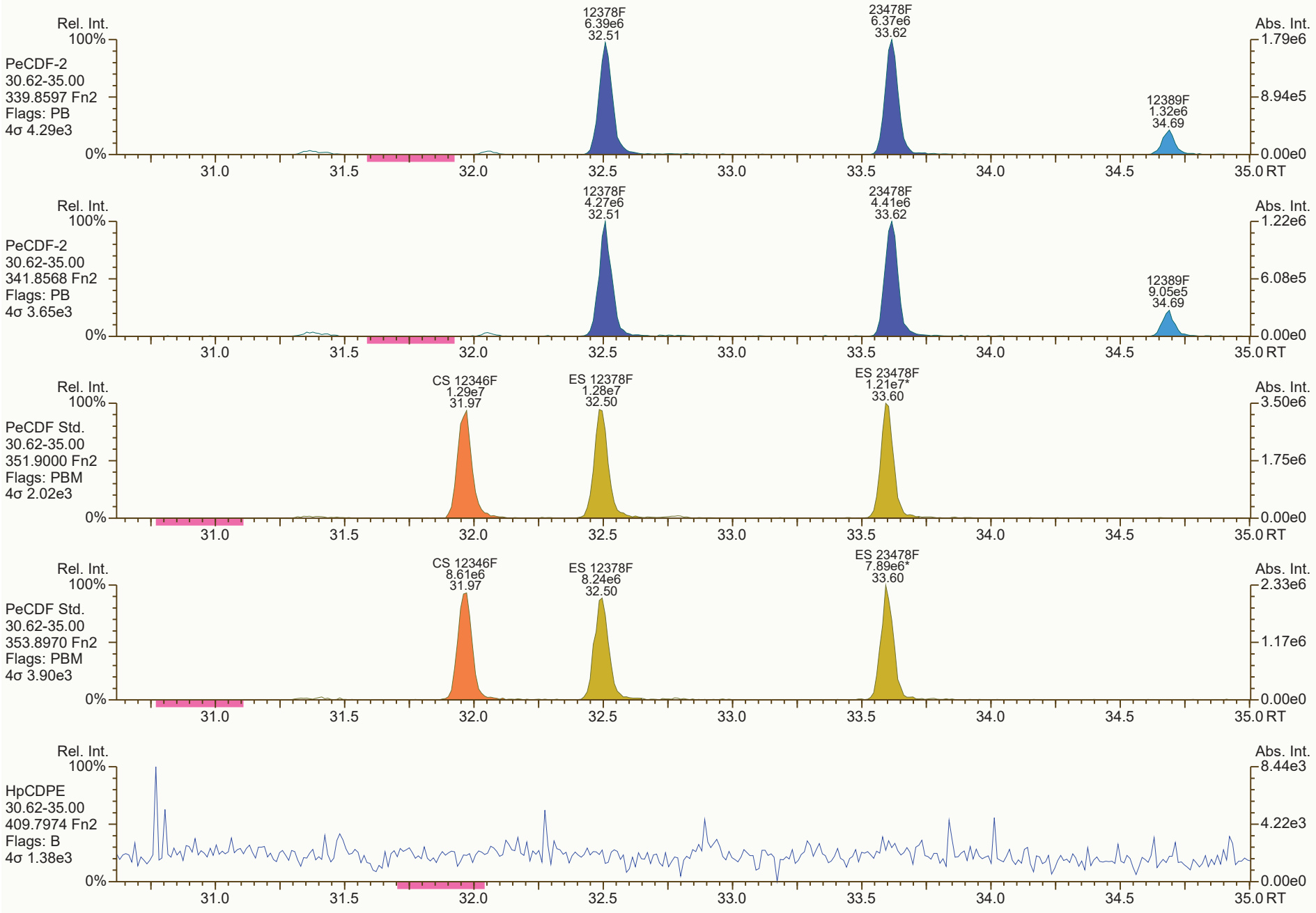


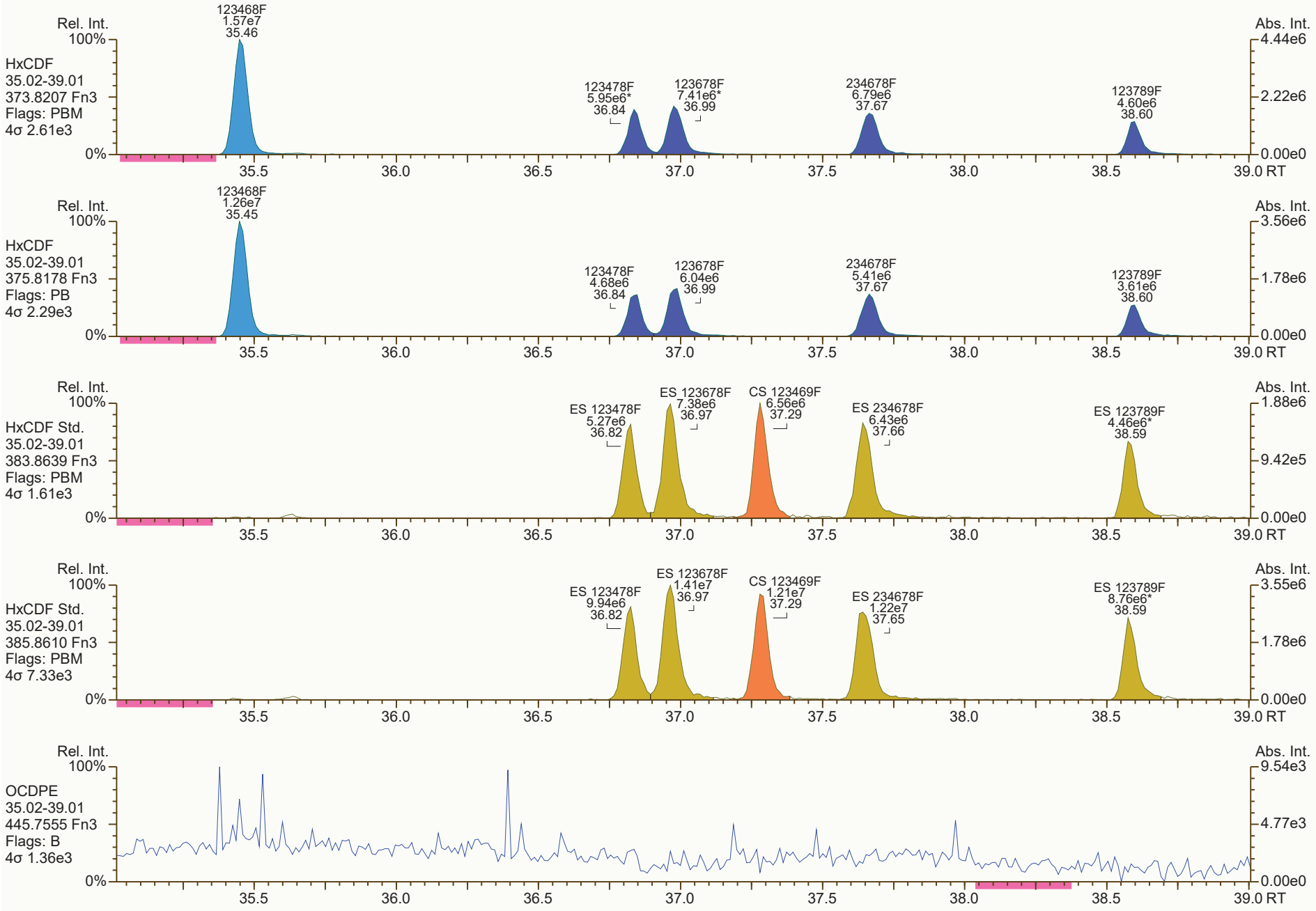
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR1_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8008, 5688, 5628 scc: 031-282
Revised: 27-Jan-2022 10:05 (DTF) Printed: 27-Jan-2022 10:46 Page 7 of 12

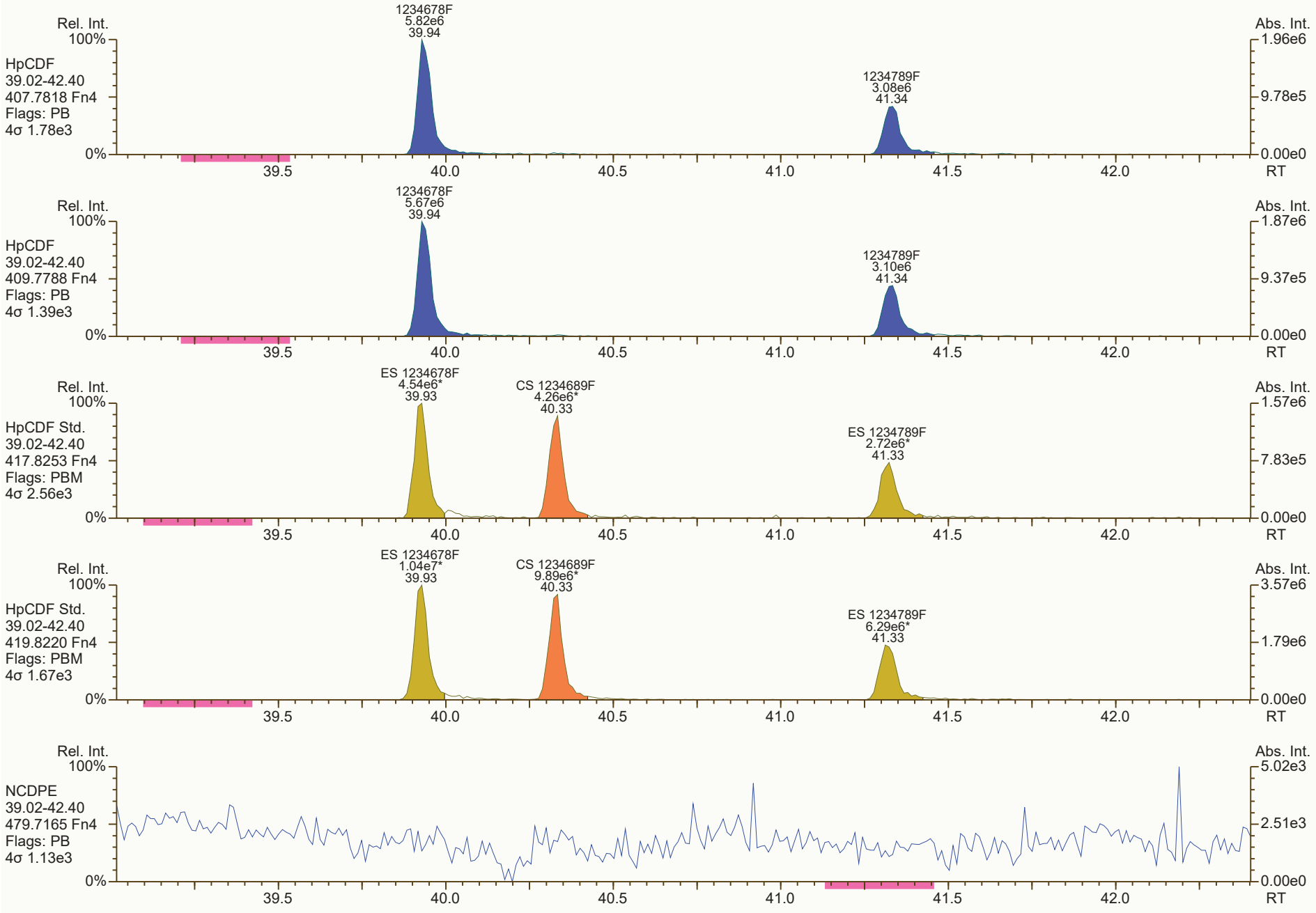
SGS ID: OPR1_18851_DF
Sample ID: 0_18851_OPR001
Acq: 26-Jan-2022 12:04:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77
User: DTF Datafile: 220126C02

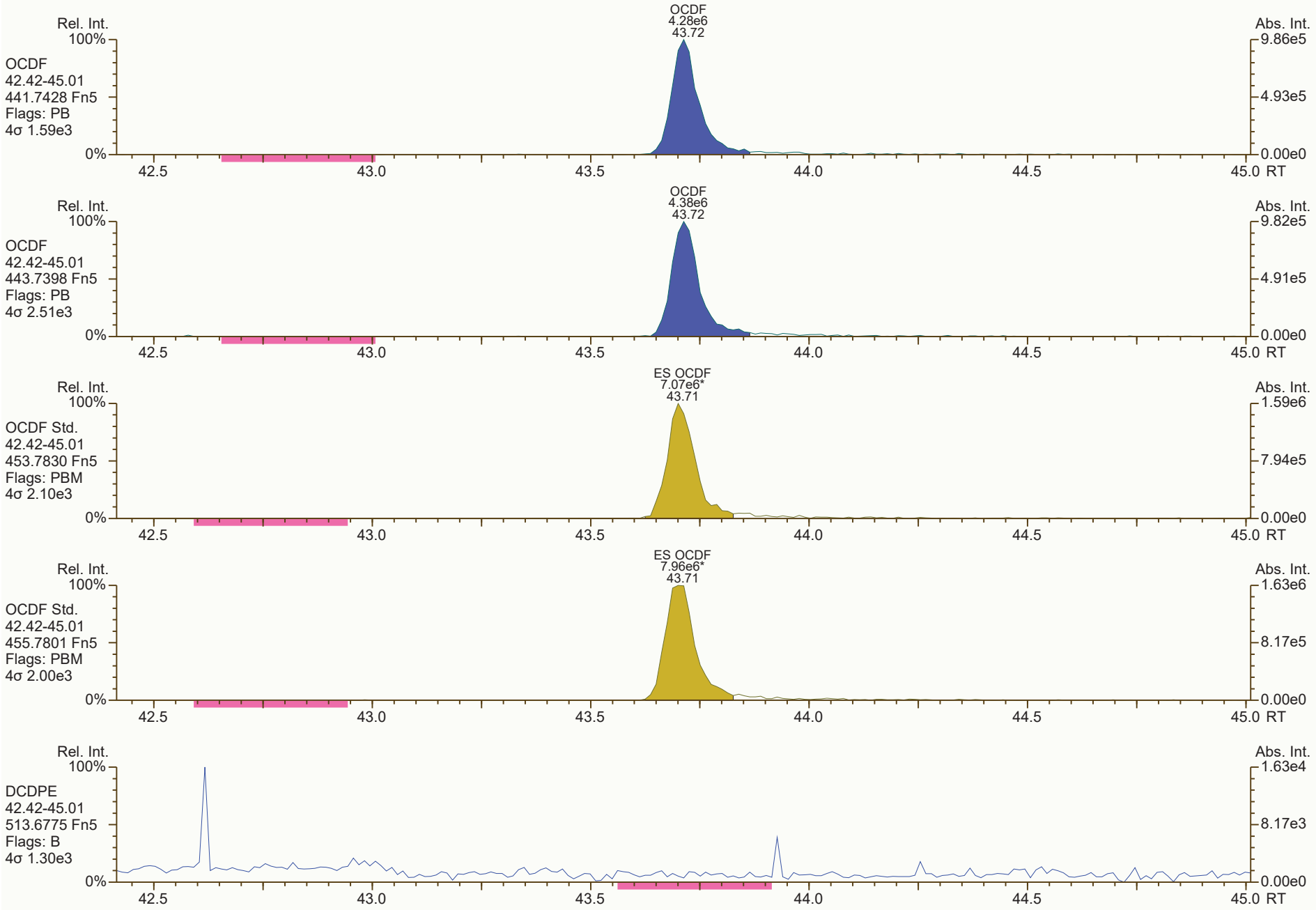


Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR1_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1734 scc: 031-282
PKD: 27-Jan-2022 10:02 Printed: 27-Jan-2022 10:46 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 4.29e3
0%
12378F
6.39e6
32.51
23478F
6.37e6
33.62
12389F
1.32e6
34.69
Abs. Int.
1.79e6
8.94e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 3.65e3
0%
12378F
4.27e6
32.51
23478F
4.41e6
33.62
12389F
9.05e5
34.69
Abs. Int.
1.22e6
6.08e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 2.02e3
0%
CS 12346F
1.29e7
31.97
ES 12378F
1.28e7
32.50
ES 23478F
1.21e7*
33.60
Abs. Int.
3.50e6
1.75e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 3.90e3
0%
CS 12346F
8.61e6
31.97
ES 12378F
8.24e6
32.50
ES 23478F
7.89e6*
33.60
Abs. Int.
2.33e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.44e3
4.22e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
0%
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.61e3
123468F
1.57e7
35.46
123478F
5.95e6*
36.84
123678F
7.41e6*
36.99
234678F
6.79e6
37.67
123789F
4.60e6
38.60
4.44e6
2.22e6
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 2.29e3
123468F
1.26e7
35.45
123478F
4.68e6
36.84
123678F
6.04e6
36.99
234678F
5.41e6
37.67
123789F
3.61e6
38.60
3.56e6
1.78e6
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 1.61e3
ES 123478F
5.27e6
36.82
ES 123678F
7.38e6
36.97
CS 123469F
6.56e6
37.29
ES 234678F
6.43e6
37.66
ES 123789F
4.46e6*
38.59
1.88e6
9.42e5
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 7.33e3
ES 123478F
9.94e6
36.82
ES 123678F
1.41e7
36.97
CS 123469F
1.21e7
37.29
ES 234678F
1.22e7
37.65
ES 123789F
8.76e6*
38.59
3.55e6
1.78e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.36e3
9.54e3
4.77e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.78e3
1234678F
5.82e6
39.94
1234789F
3.08e6
41.34
Abs. Int.
1.96e6
9.78e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.39e3
1234678F
5.67e6
39.94
1234789F
3.10e6
41.34
Abs. Int.
1.87e6
9.37e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.56e3
ES 1234678F
4.54e6*
39.93
CS 1234689F
4.26e6*
40.33
ES 1234789F
2.72e6*
41.33
Abs. Int.
1.57e6
7.83e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.67e3
ES 1234678F
1.04e7*
39.93
CS 1234689F
9.89e6*
40.33
ES 1234789F
6.29e6*
41.33
Abs. Int.
3.57e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.13e3
Abs. Int.
5.02e3
2.51e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
4.28e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.59e3
0%
Abs. Int.
9.86e5
4.93e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.38e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
9.82e5
4.91e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.07e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.10e3
0%
Abs. Int.
1.59e6
7.94e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.96e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.00e3
0%
Abs. Int.
1.63e6
8.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.63e4
8.17e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18851_DF **Acq'd:** 26 Jan 2022 12:50 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18851_OPR002 **UTP:** 27-Jan-2022 10:38:14 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 081-837-BPZ

Datafile: 220126C03 **Report:** 27 Jan 2022 10:40 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0007	-0.2	2.47E+06	0.76	Y	1.18	10.5	3555.436	0.174
12378-PeCDD	33.95		1.0006	1.0006	0	8.33E+06	1.52	Y	1.04	44.1	3363.797	0.168
123478-HxCDD	37.85		1.0004	1.0003	-0.2	9.15E+06	1.25	Y	1.09	49.6	3943.81	0.188
123678-HxCDD	37.97		1.0034	1.0034	0	1.14E+07	1.28	Y	1.15	50.8	3943.81	0.163
123789-HxCDD	38.25		1.0109	1.0111	+0.5	9.44E+06	1.27	Y	1.05	46.8	3943.81	0.181
1234678-HpCDD	40.88		1.0003	1.0003	0	7.56E+06	1.02	Y	1.06	46.4	3596.088	0.183
OCDD	43.54		1.0002	1.0003	+0.3	9.65E+06	0.93	Y	1.13	105	3173.744	0.398
2378-TCDF	27.79		1.0008	1.0006	-0.3	3.20E+06	0.88	Y	1.08	10	3901.341	0.142
12378-PeCDF	32.51		1.0005	1.0005	0	1.22E+07	1.56	Y	1.02	42.6	6704.861	0.212
23478-PeCDF	33.62		1.0005	1.0005	0	1.19E+07	1.64	Y	1.02	44.9	6704.861	0.227
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.22E+07	1.18	Y	1.27	47.6	4457.242	0.15
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.54E+07	1.24	Y	1.15	48.7	4457.242	0.134
234678-HxCDF	37.68		1.0004	1.0006	+0.5	1.34E+07	1.26	Y	1.19	48.4	4457.242	0.159
123789-HxCDF	38.61		1.0004	1.0004	0	9.63E+06	1.25	Y	1.16	45.3	4457.242	0.183
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	1.24E+07	0.99	Y	1.37	44.6	3514.114	0.0919
1234789-HpCDF	41.34		1.0003	1.0003	0	7.18E+06	1.00	Y	1.31	44.2	3514.114	0.182
OCDF	43.73		1.0002	1.0003	+0.3	1.00E+07	0.87	Y	1.07	98.5	3170.099	0.334

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0236	+0.5	1.99E+07	0.83	Y	1.05	98.6
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.82E+07	1.54	Y	0.88	108
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.69E+07	1.32	Y	0.97	108
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.95E+07	1.23	Y	0.94	128
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.92E+07	1.29	Y	1.09	110
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	1.54E+07	1.07	Y	0.91	105
ES OCDD	43.53	1.1403	1.1415	+3.1	1.64E+07	0.90	Y	0.62	81.7
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	2.97E+07	0.80	Y	1.06	85.9
ES 12378-PeCDF	32.50	1.2281	1.2298	+3.3	2.78E+07	1.60	Y	0.91	93.7
ES 23478-PeCDF	33.60	1.2698	1.2717	+3.8	2.60E+07	1.55	Y	0.88	90.1
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.01E+07	0.52	Y	1.20	104
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.75E+07	0.55	Y	1.35	126
ES 234678-HxCDF	37.65	0.9874	0.9874	0	2.32E+07	0.52	Y	1.24	116
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.83E+07	0.52	Y	1.16	98.3
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	2.04E+07	0.42	Y	0.97	131
ES 1234789-HpCDF	41.33	1.0830	1.0839	+2.2	1.24E+07	0.44	Y	0.85	90.8
ES OCDF	43.72	1.1451	1.1464	+3.4	1.90E+07	0.88	Y	0.81	73.3

Lab ID: OPR2_18851_DF | **Acq'd:** 26 Jan 2022 12:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18851_OPR002 | **UTP:** 27-Jan-2022 10:38:14 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 081-837-BPZ

Datafile: 220126C03 | **Report:** 27 Jan 2022 10:40 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.97		-	-	-	1.93E+07	0.83	Y	-	-
JS 1234-TCDF	26.42		-	-	-	3.26E+07	0.79	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	8.04E+06	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0243	+0.3	8.54E+06	n/a	-	1.20	92.1
CS 12347-PeCDD	33.43		1.1943	1.1955	+2.4	1.60E+07	1.60	Y	0.75	110
CS 12346-PeCDF	31.97		1.2083	1.2098	+2.9	2.52E+07	1.50	Y	0.85	90.9
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.14E+07	0.51	Y	1.12	119
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.72E+07	0.46	Y	0.89	121
SS 37Cl-2378-TCDD	28.65		1.0241	1.0243	+0.3	8.54E+06	n/a	-	1.15	93.6
SS 12347-PeCDD	33.43		1.1943	1.1955	+2.4	1.60E+07	1.60	Y	0.86	102
SS 12346-PeCDF	31.97		1.2083	1.2098	+2.9	2.52E+07	1.50	Y	0.94	96.9
SS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.14E+07	0.51	Y	0.83	94.1
SS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.72E+07	0.46	Y	0.92	92

Totals	Conc	EMPC
Total TCDD	47.6	47.6
Total PeCDD	65.5	65.5
Total HxCDD	160	160
Total HpCDD	58.4	58.4
Total Tetra-Octa Dioxins	436	436
Total TCDF	51.6	54.7
Total PeCDF	182	182
Total HxCDF	300	300
Total HpCDF	88.7	88.7
Total Tetra-Octa Furans	721	724
Total Tetra-Octa Dioxins & Furans	1160	1160

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.754	0.76
Response	2.48E+06	2.47E+06

Lab ID: OPR2_18851_DF | **Acq'd:** 26 Jan 2022 12:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18851_OPR002 | **UTP:** 27-Jan-2022 10:38:14 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 081-837-BPZ

Datafile: 220126C03 | **Report:** 27 Jan 2022 10:40 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8747	-1.2	3.17E+06	0.83	Y	1.18	13.4	3555.436	0.174
1379-TCDD	NotFnd		0.8876						1.18		3555.436	0.174
1369-TCDD	NotFnd		0.9023						1.18		3555.436	0.174
1469-TCDD	NotFnd		0.9291						1.18		3555.436	0.174
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3555.436	0.174
1378-TCDD	NotFnd		0.9440						1.18		3555.436	0.174
1268-TCDD	NotFnd		0.9506						1.18		3555.436	0.174
1478-TCDD	NotFnd		0.9591						1.18		3555.436	0.174
1279-TCDD	NotFnd		0.9649						1.18		3555.436	0.174
1234/1269-TCDD	NotFnd		0.9771						1.18		3555.436	0.174
1236-TCDD	NotFnd		0.9820						1.18		3555.436	0.174
1237/1238-TCDD	NotFnd		0.9908						1.18		3555.436	0.174
1239-TCDD	28.48		0.9954	0.9951	-0.5	2.24E+06	0.79	Y	1.18	9.5	3555.436	0.174
2378-TCDD	**28.65**		**1.0008**	1.0007	**-0.2**	2.47E+06	0.76	Y	**1.18**	**10.5**	**3555.436**	**0.174**
1278-TCDD	NotFnd		1.0121						1.18		3555.436	0.174
1267-TCDD	NotFnd		1.0167						1.18		3555.436	0.174
1289-TCDD	29.61		1.0341	1.0344	+0.5	3.33E+06	0.78	Y	1.18	14.1	3555.436	0.174
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	1.95E+06	1.69	Y	1.04	10.3	3363.797	0.168
12469-PeCDD	NotFnd		0.9430						1.04		3363.797	0.168
12368-PeCDD	NotFnd		0.9592						1.04		3363.797	0.168
12478-PeCDD	NotFnd		0.9647						1.04		3363.797	0.168
12379-PeCDD	NotFnd		0.9676						1.04		3363.797	0.168
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3363.797	0.168
12346/12347-PeCDD	NotFnd		0.9860						1.04		3363.797	0.168
12378-PeCDD	33.95		**1.0006**	**1.0006**	**0**	**8.33E+06**	**1.52**	**Y**	**1.04**	**44.1**	**3363.797**	**0.168**
12367-PeCDD	NotFnd		1.0034						1.04		3363.797	0.168
12389-PeCDD	34.39		1.0134	1.0133	-0.2	2.08E+06	1.54	Y	1.04	11	3363.797	0.168
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	2.52E+06	1.32	Y	1.10	12.4	3943.81	0.176
123468-HxCDD	NotFnd		0.9715						1.10		3943.81	0.176
123679/123689-HxCDD	NotFnd		0.9793						1.10		3943.81	0.176
123469-HxCDD	NotFnd		0.9829						1.10		3943.81	0.176
123478-HxCDD	37.85		**1.0004**	**1.0003**	**-0.2**	**9.15E+06**	**1.25**	**Y**	1.09	**49.6**	**3943.81**	**0.188**
123678-HxCDD	37.97		**1.0034**	**1.0034**	**0**	**1.14E+07**	**1.28**	**Y**	1.15	**50.8**	**3943.81**	**0.163**
123467-HxCDD	NotFnd		1.0082						1.10		3943.81	0.176
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**9.44E+06**	**1.27**	**Y**	1.05	**46.8**	**3943.81**	**0.181**

Lab ID: OPR2_18851_DF | **Acq'd: 26 Jan 2022 12:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18851_OPR002 | **UTP: 27-Jan-2022 10:38:14 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 081-837-BPZ**

Datafile: 220126C03 | **Report: 27 Jan 2022 10:40 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9838	0	1.95E+06	0.95	Y	1.06	12	3596.088	0.183
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**7.56E+06**	**1.02**	**Y**	**1.06**	**46.4**	**3596.088**	**0.183**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**9.65E+06**	**0.93**	**Y**	**1.13**	**105**	**3173.744**	**0.398**
OCDD-a	43.54	**EMPC**	1.0002	1.0002	0	4.95E+05	3.42	N	0.07	83.9	3451.158	6.76
1368-TCDF	22.97		0.8282	0.8270	-1.7	4.35E+06	0.77	Y	1.08	13.6	3901.341	0.142
1468-TCDF	NotFnd		0.8485						1.08		3901.341	0.142
2468-TCDF	24.16	EMPC	0.8709	0.8698	-1.6	9.88E+05	0.89	N	1.08	3.08	3901.341	0.142
1346/1246-TCDF	NotFnd		0.8829						1.08		3901.341	0.142
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3901.341	0.142
1348-TCDF	NotFnd		0.8980						1.08		3901.341	0.142
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3901.341	0.142
1268-TCDF	NotFnd		0.9158						1.08		3901.341	0.142
1467-TCDF	NotFnd		0.9206						1.08		3901.341	0.142
1478-TCDF	NotFnd		0.9266						1.08		3901.341	0.142
1369/1237-TCDF	NotFnd		0.9397						1.08		3901.341	0.142
2467-TCDF	NotFnd		0.9440						1.08		3901.341	0.142
2368-TCDF	NotFnd		0.9497						1.08		3901.341	0.142
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3901.341	0.142
1278-TCDF	NotFnd		0.9690						1.08		3901.341	0.142
1349-TCDF	NotFnd		0.9730						1.08		3901.341	0.142
1267-TCDF	NotFnd		0.9787						1.08		3901.341	0.142
2346/1249-TCDF	NotFnd		0.9850						1.08		3901.341	0.142
2347/1279-TCDF	NotFnd		0.9929						1.08		3901.341	0.142
2348-TCDF	27.68		0.9970	0.9966	-0.7	4.01E+06	0.72	Y	1.08	12.5	3901.341	0.142
2378-TCDF	**27.79**		**1.0008**	**1.0006**	**-0.3**	**3.20E+06**	**0.88**	**Y**	**1.08**	**10**	**3901.341**	**0.142**
2367/3467-TCDF	NotFnd		1.0136						1.08		3901.341	0.142
1269-TCDF	NotFnd		1.0221						1.08		3901.341	0.142
1239-TCDF	NotFnd		1.0319						1.08		3901.341	0.142
1289-TCDF	29.78		1.0740	1.0722	-3.2	4.97E+06	0.74	Y	1.08	15.5	3901.341	0.142
13468/12468-PeCDF	29.69		0.9145	0.9137	-1.4	2.37E+07	1.60	Y	1.02	86.2	3020.792	0.0989
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		6704.861	0.219
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		6704.861	0.219
14678-PeCDF	NotFnd		0.9695						1.02		6704.861	0.219
13479-PeCDF	NotFnd		0.9724						1.02		6704.861	0.219
13469/12479-PeCDF	NotFnd		0.9801						1.02		6704.861	0.219
12346-PeCDF	NotFnd		0.9842						1.02		6704.861	0.219

Lab ID: OPR2_18851_DF | **Acq'd: 26 Jan 2022 12:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18851_OPR002 | **UTP: 27-Jan-2022 10:38:14 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 081-837-BPZ**

Datafile: 220126C03 | **Report: 27 Jan 2022 10:40 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6704.861	0.219
12347-PeCDF	NotFnd		0.9895						1.02		6704.861	0.219
12348-PeCDF	NotFnd		0.9941						1.02		6704.861	0.219
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**1.22E+07**	**1.56**	**Y**	**1.02**	**42.6**	**6704.861**	**0.212**
12678/12367-PeCDF	NotFnd		1.0090						1.02		6704.861	0.219
12379-PeCDF	NotFnd		1.0142						1.02		6704.861	0.219
12679-PeCDF	NotFnd		0.9931						1.02		6704.861	0.219
23467/12369-PeCDF	NotFnd		0.9966						1.02		6704.861	0.219
23478-PeCDF	**33.62**		**1.0005**	**1.0005**	**0**	**1.19E+07**	**1.64**	**Y**	**1.02**	**44.9**	**6704.861**	**0.227**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6704.861	0.219
12349-PeCDF	NotFnd		1.0101						1.02		6704.861	0.219
12389-PeCDF	34.69		1.0322	1.0325	+0.6	2.31E+06	1.74	Y	1.02	8.41	6704.861	0.219
123468-HxCDF	35.46		0.9627	0.9628	+0.2	2.93E+07	1.25	Y	1.19	110	4457.242	0.154
124678/134678-HxCDF	NotFnd		0.9684						1.19		4457.242	0.154
134679-HxCDF	NotFnd		0.9747						1.19		4457.242	0.154
124679-HxCDF	NotFnd		0.9802						1.19		4457.242	0.154
124689-HxCDF	NotFnd		0.9858						1.19		4457.242	0.154
123467-HxCDF	NotFnd		0.9972						1.19		4457.242	0.154
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.22E+07**	**1.18**	**Y**	**1.27**	**47.6**	**4457.242**	**0.15**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.54E+07**	**1.24**	**Y**	**1.15**	**48.7**	**4457.242**	**0.134**
123479-HxCDF	NotFnd		1.0051						1.19		4457.242	0.154
123469-HxCDF	NotFnd		1.0091						1.19		4457.242	0.154
123679-HxCDF	NotFnd		0.9943						1.19		4457.242	0.154
234678-HxCDF	**37.68**		**1.0004**	**1.0006**	**+0.5**	**1.34E+07**	**1.26**	**Y**	**1.19**	**48.4**	**4457.242**	**0.159**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4457.242	0.154
123789-HxCDF	**38.61**		**1.0004**	**1.0004**	**0**	**9.63E+06**	**1.25**	**Y**	**1.16**	**45.3**	**4457.242**	**0.183**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4457.242	0.154
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**1.24E+07**	**0.99**	**Y**	**1.37**	**44.6**	**3514.114**	**0.0919**
1234679-HpCDF	NotFnd		1.0067						1.34		3514.114	0.126
1234689-HpCDF	NotFnd		1.0101						1.34		3514.114	0.126
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**7.18E+06**	**1.00**	**Y**	**1.31**	**44.2**	**3514.114**	**0.182**
OCDF	**43.73**		**1.0002**	**1.0003**	**+0.3**	**1.00E+07**	**0.87**	**Y**	**1.07**	**98.5**	**3170.099**	**0.334**
OCDF-a	43.73	**EMPC**	1.0002	1.0002	0	4.71E+05	1.99	N	0.07	74.6	3653.213	6.2

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220126C03	Analysis Date:	26-JAN-2022 12:50:26
Lab ID:	O4R2_1PP51_DF		

NA. IVE ANALT. ES	S4I8E CONCK	CONCK FOYND	RANGE (ng/mL)			O8
2U3U7UP-. CDD	10	10K5	6K7	-	15KP	T
1U2U3U7UP-4eCDD	50	, , K1	35	-	71	T
1U2U3U,U7UP-HxCDD	50	, 9K6	35	-	P2	T
1U2U3U6U7UP-HxCDD	50	50KP	3P	-	67	T
1U2U3U7UP9-HxCDD	50	, 6KP	32	-	P1	T
1U2U3U,U6U7UP-HpCDD	50	, 6K,	35	-	70	T
OCDD	100	105	7P	-	1, ,	T
2U3U7UP-. CDF	10	10	7K5	-	15KP	T
1U2U3U7UP-4eCDF	50	, 2K6	, 0	-	67	T
2U3U,U7UP-4eCDF	50	, , K9	3,	-	P0	T
1U2U3U,U7UP-HxCDF	50	, 7K6	36	-	67	T
1U2U3U6U7UP-HxCDF	50	, PK7	, 2	-	65	T
2U3U,U6U7UP-HxCDF	50	, PK,	35	-	7P	T
1U2U3U7UP9-HxCDF	50	, 5K3	39	-	65	T
1U2U3U,U6U7UP-HpCDF	50	, , K6	, 1	-	61	T
1U2U3U,U7UP9-HpCDF	50	, , K2	39	-	69	T
OCDF	100	9PK5	63	-	170	T

Contract-required concentration limits for O4R as specified in . able 6U
Method 1613K 10/9,

4rocessed: 27 Jan 2022 10:, 0 Analyst: . F

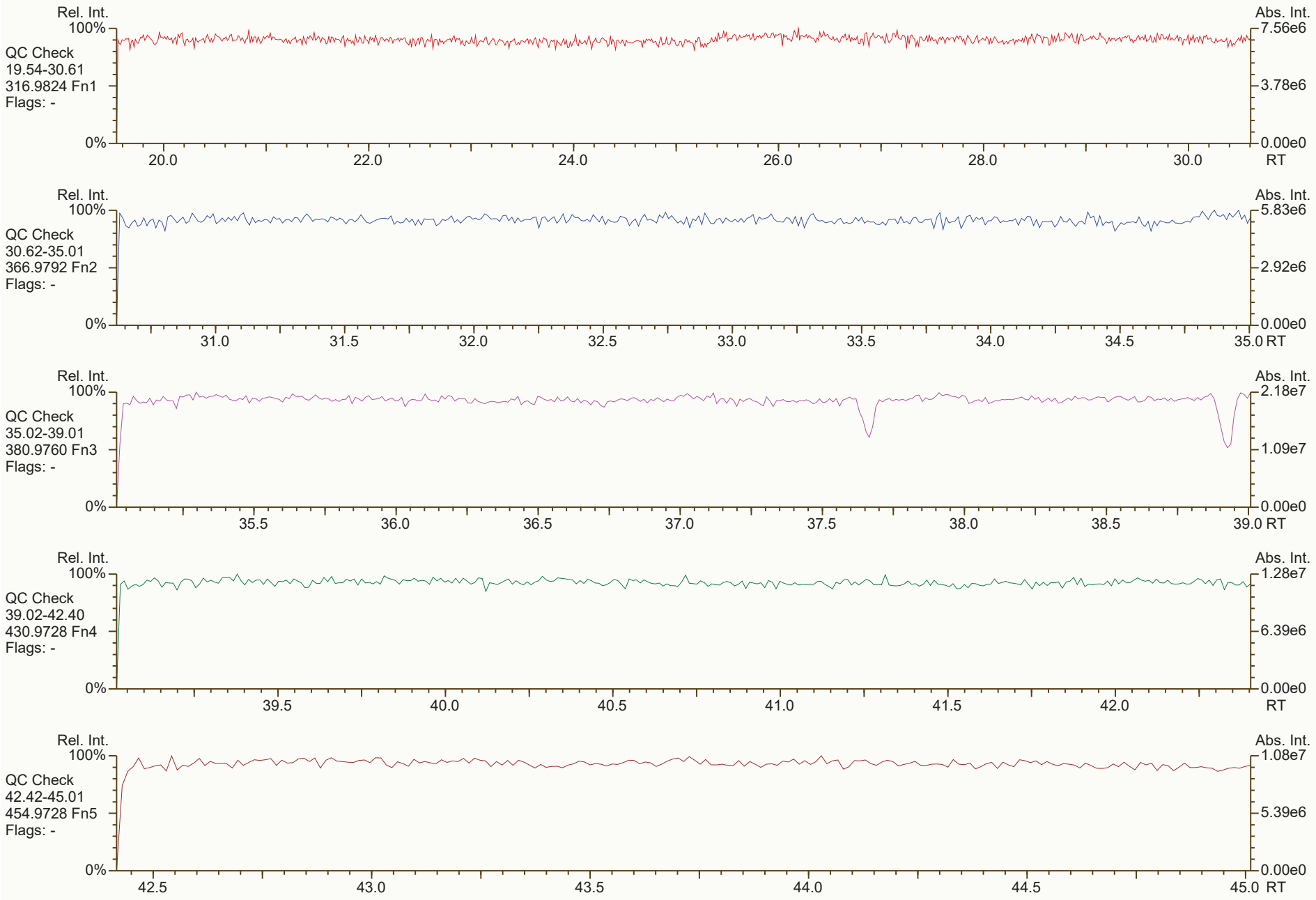
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

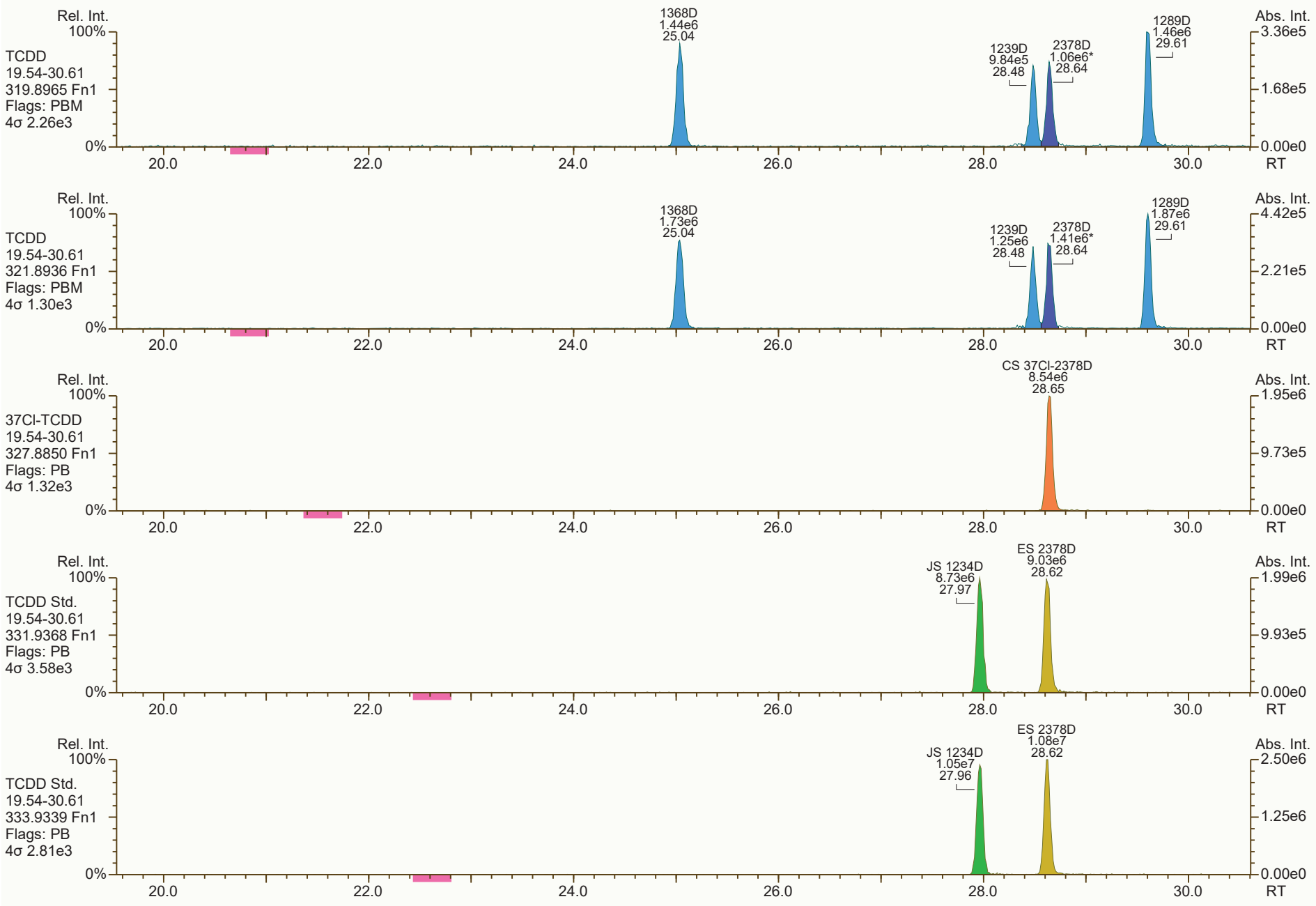
Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220126C03 Analysis Date: 26-JAN-2022 12:50:26
Lab ID: O4R2_1PP51_DF

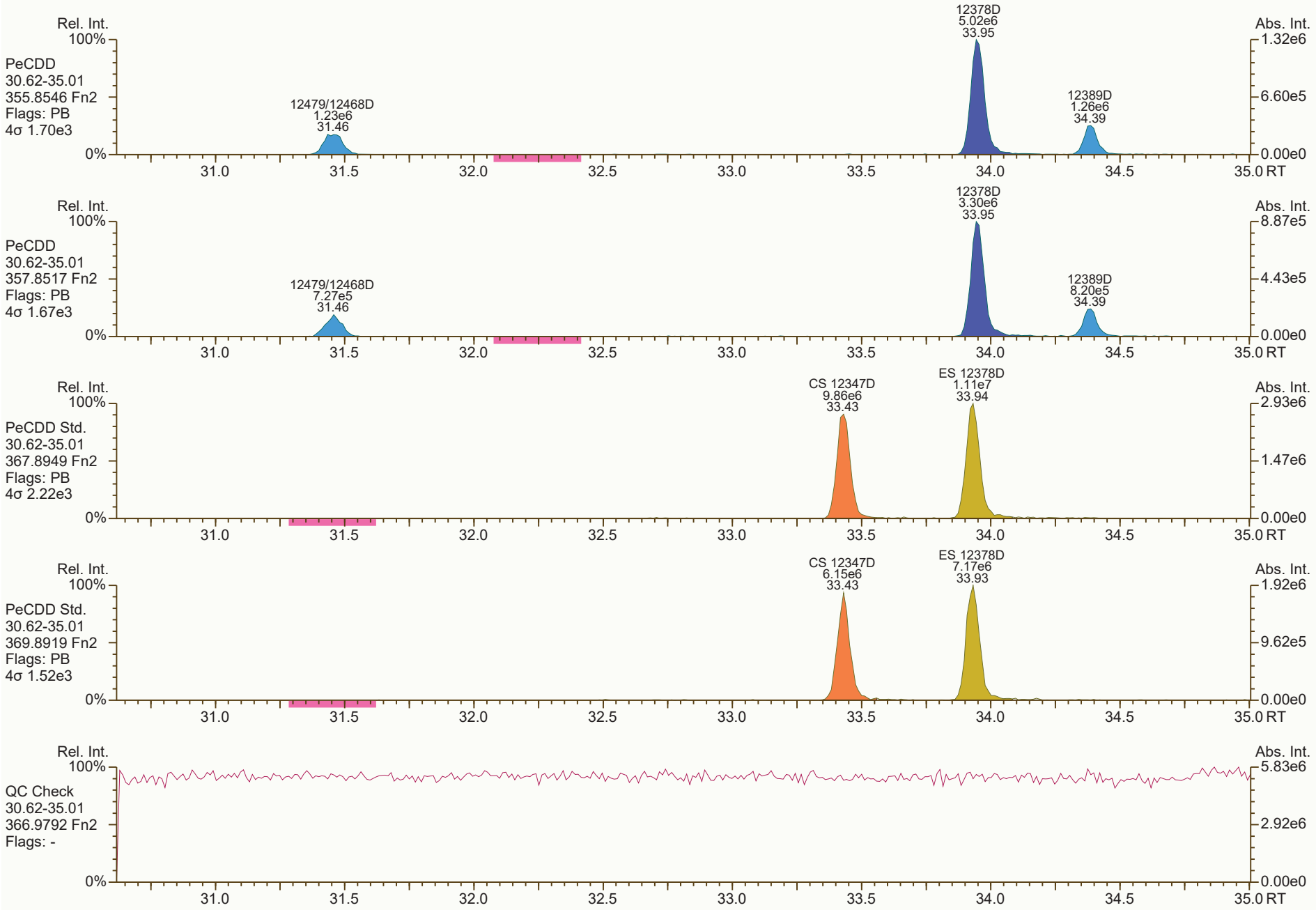
LABELED ANALT. ES	S4I8E CONCK	CONCK FOYND	RANGE (ng/mL)			O8
13C-2U3U7UP-. CDD	100	9PK6	20	-	175	T
13C-1U2U3U7UP-4eCDD	100	10P	21	-	227	T
13C-1U2U3U,U7UP-HxCDD	100	10P	21	-	193	T
13C-1U2U3U6U7UP-HxCDD	100	12P	25	-	163	T
13C-1U2U3U7UP89-HxCDD	100	110	26	-	166	T
13C-1U2U3U,U6U7UP-HpCDD	100	105	26	-	166	T
13C-OCDD	200	163	26	-	397	T
13C-2U3U7UP-. CDF	100	P5K9	22	-	152	T
13C-1U2U3U7UP-4eCDF	100	93K7	21	-	192	T
13C-2U3U,U7UP-4eCDF	100	90K1	13	-	32P	T
13C-1U2U3U,U7UP-HxCDF	100	10,,	19	-	202	T
13C-1U2U3U6U7UP-HxCDF	100	126	21	-	159	T
13C-2U3U,U6U7UP-HxCDF	100	116	22	-	176	T
13C-1U2U3U7UP89-HxCDF	100	9PK3	17	-	205	T
13C-1U2U3U,U6U7UP-HpCDF	100	131	21	-	15P	T
13C-1U2U3U,U7UP89-HpCDF	100	90KP	20	-	1P6	T
13C-OCDF	200	1,7	26	-	397	T
CLEANY4 S. ANDARD						
37Cl-2U3U7UP-. CDD	,0	36K9	12K,	-	76K,	T

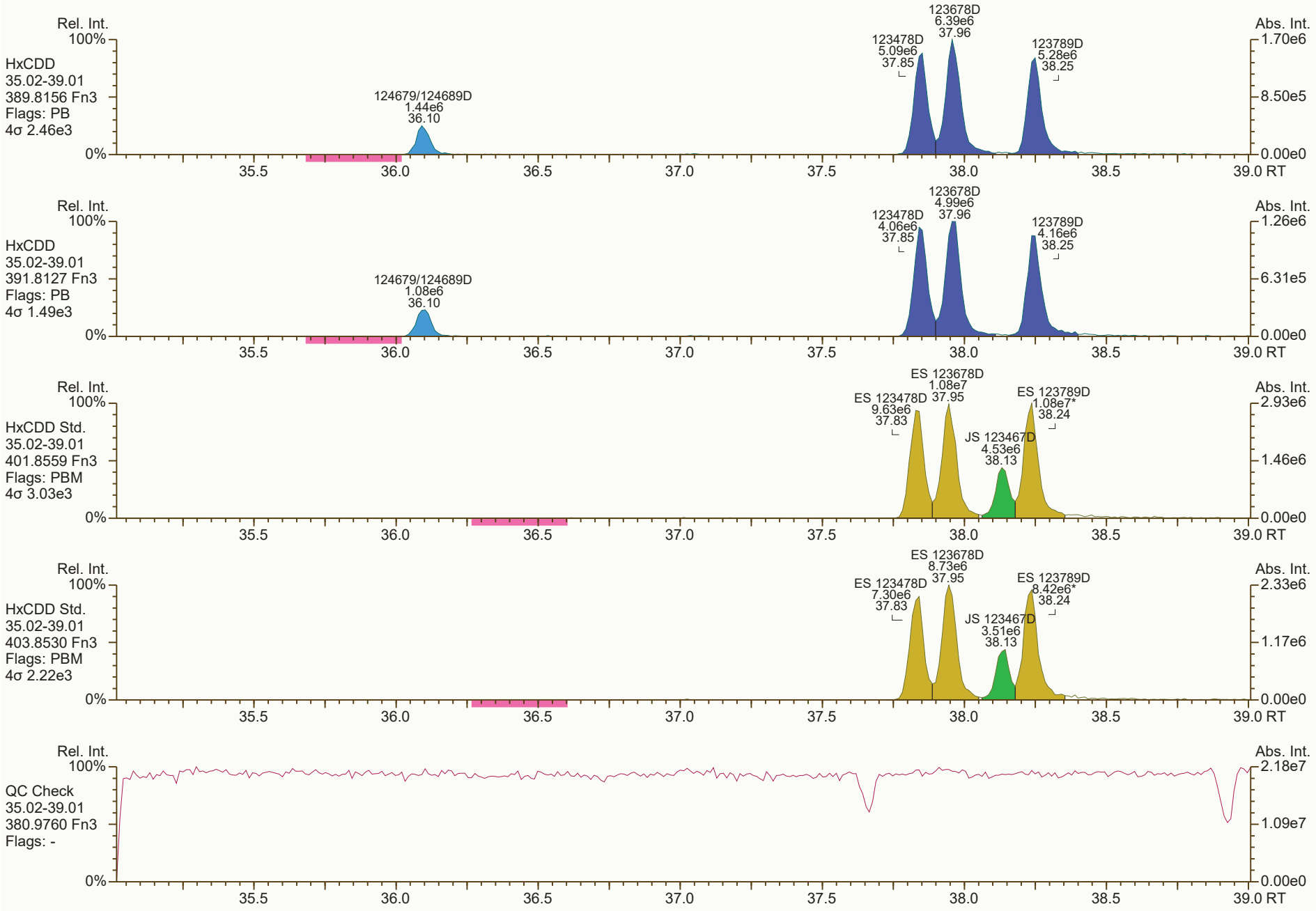
Contract-required concentration limits for O4R as specified in . able 6U
Method 1613K 10/9,

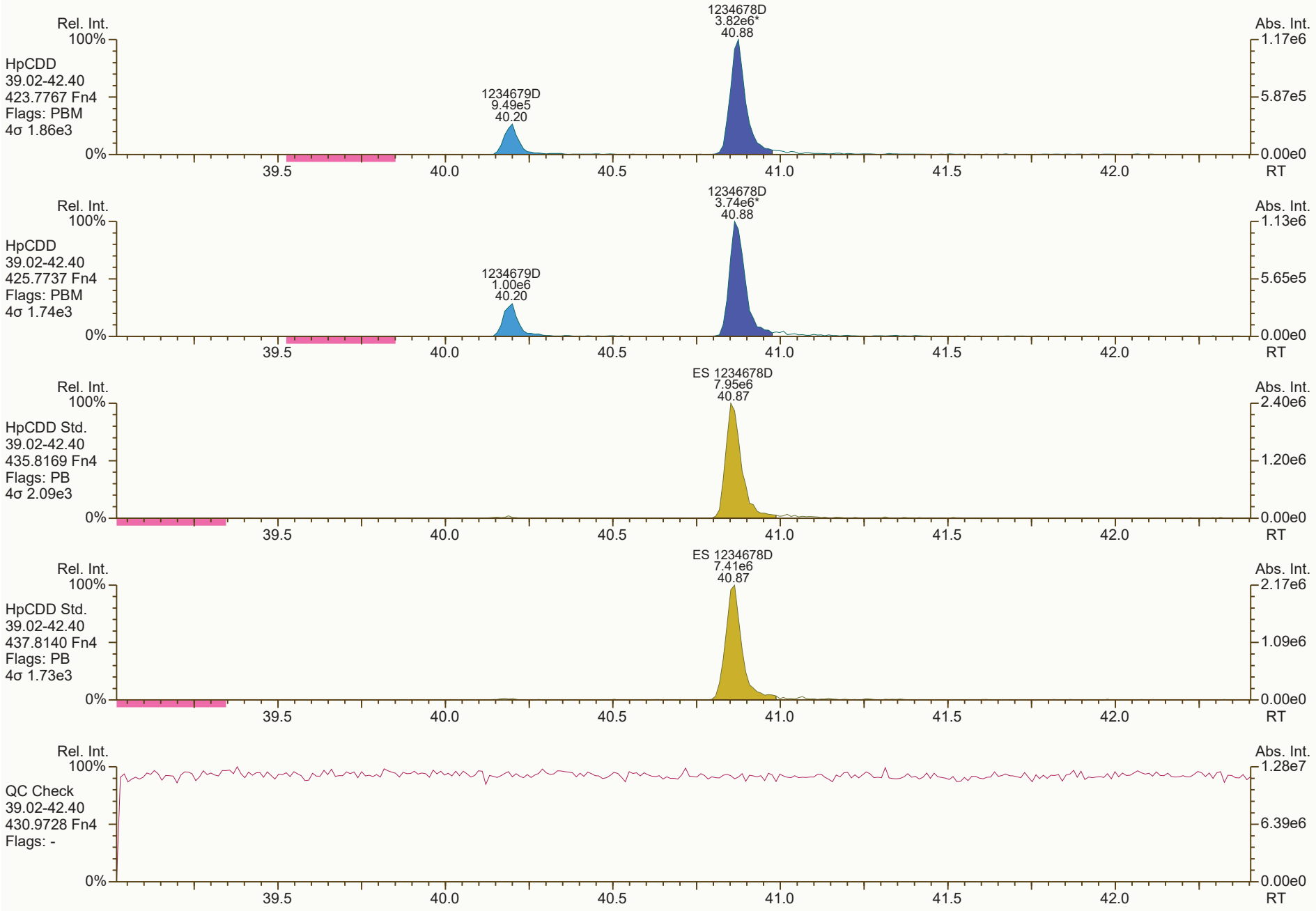
4rocessed: 27 Jan 2022 10:,0 Analyst: . F

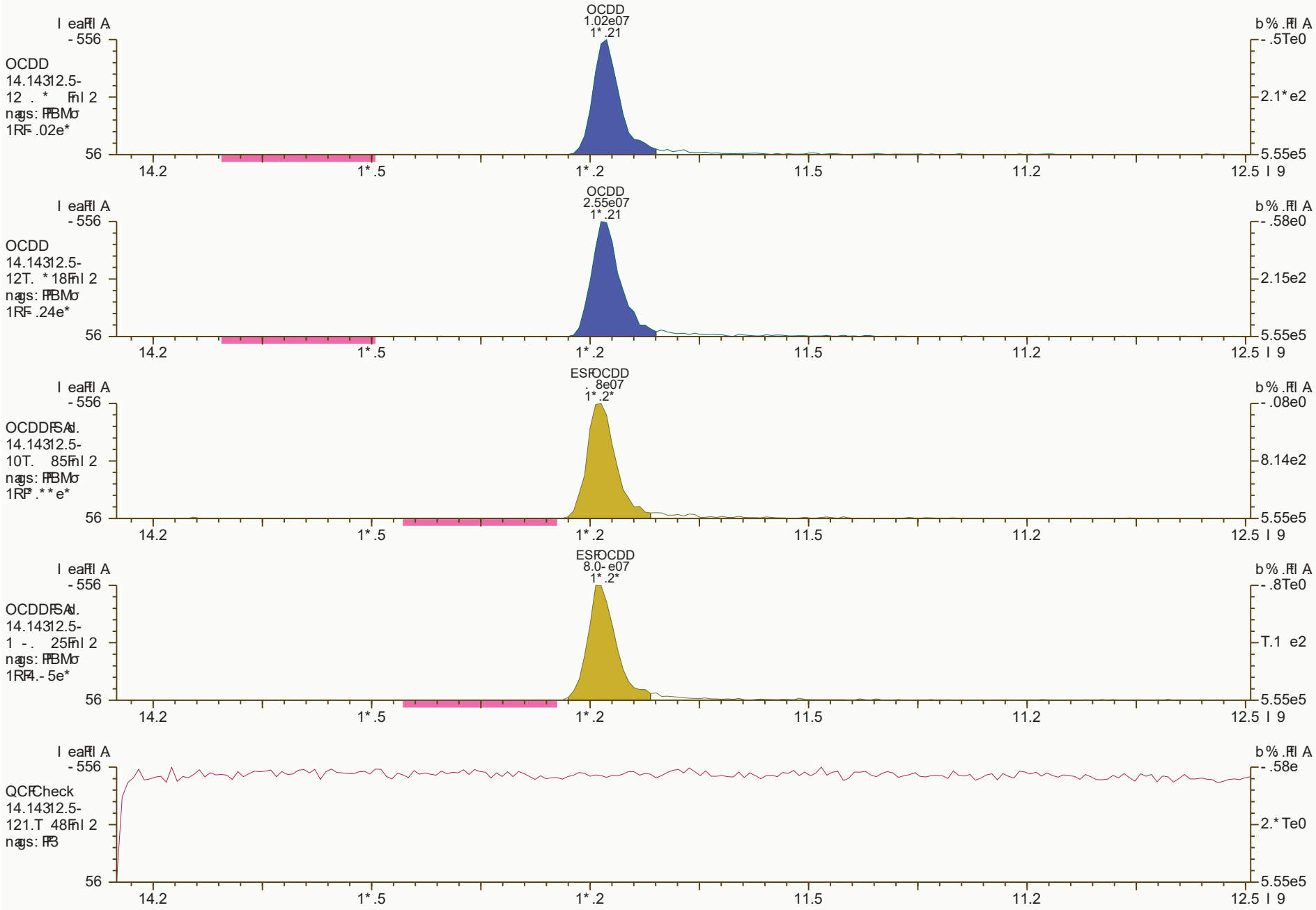

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.56e6
3.78e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.83e6
2.92e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.18e7
1.09e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.28e7
6.39e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.08e7
5.39e6
0.00e0

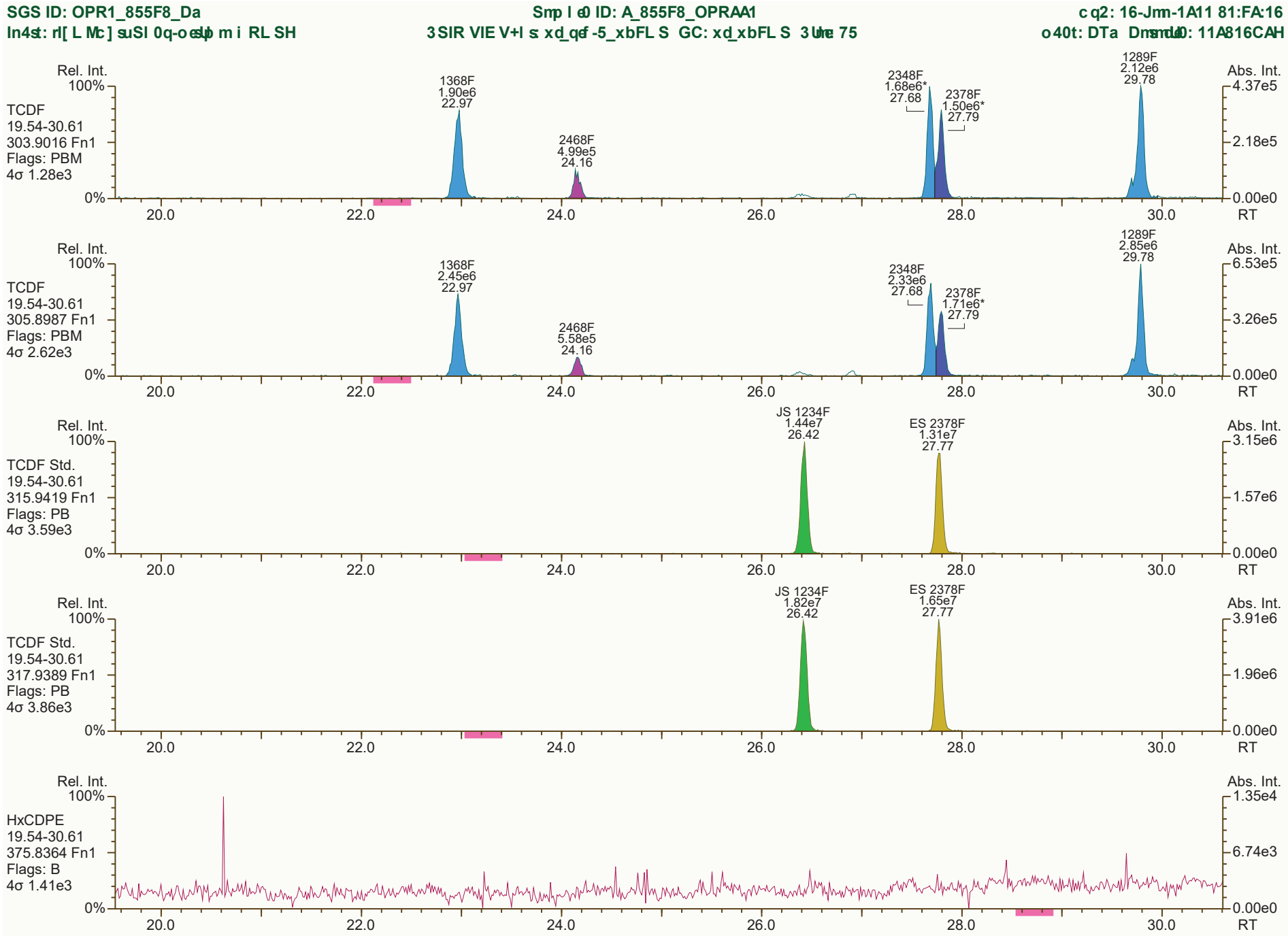

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.26e3
0%
1368D
1.44e6
25.04
1239D
9.84e5
28.48
2378D
1.06e6*
28.64
1289D
1.46e6
29.61
Abs. Int.
3.36e5
1.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.30e3
0%
1368D
1.73e6
25.04
1239D
1.25e6
28.48
2378D
1.41e6*
28.64
1289D
1.87e6
29.61
Abs. Int.
4.42e5
2.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.32e3
0%
CS 37Cl-2378D
8.54e6
28.65
Abs. Int.
1.95e6
9.73e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 3.58e3
0%
JS 1234D
8.73e6
27.97
ES 2378D
9.03e6
28.62
Abs. Int.
1.99e6
9.93e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.81e3
0%
JS 1234D
1.05e7
27.96
ES 2378D
1.08e7
28.62
Abs. Int.
2.50e6
1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.70e3
12479/12468D
1.23e6
31.46
12378D
5.02e6
33.95
12389D
1.26e6
34.39
Abs. Int.
1.32e6
6.60e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.67e3
12479/12468D
7.27e5
31.46
12378D
3.30e6
33.95
12389D
8.20e5
34.39
Abs. Int.
8.87e5
4.43e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 2.22e3
CS 12347D
9.86e6
33.43
ES 12378D
1.11e7
33.94
Abs. Int.
2.93e6
1.47e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 1.52e3
CS 12347D
6.15e6
33.43
ES 12378D
7.17e6
33.93
Abs. Int.
1.92e6
9.62e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
Abs. Int.
5.83e6
2.92e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

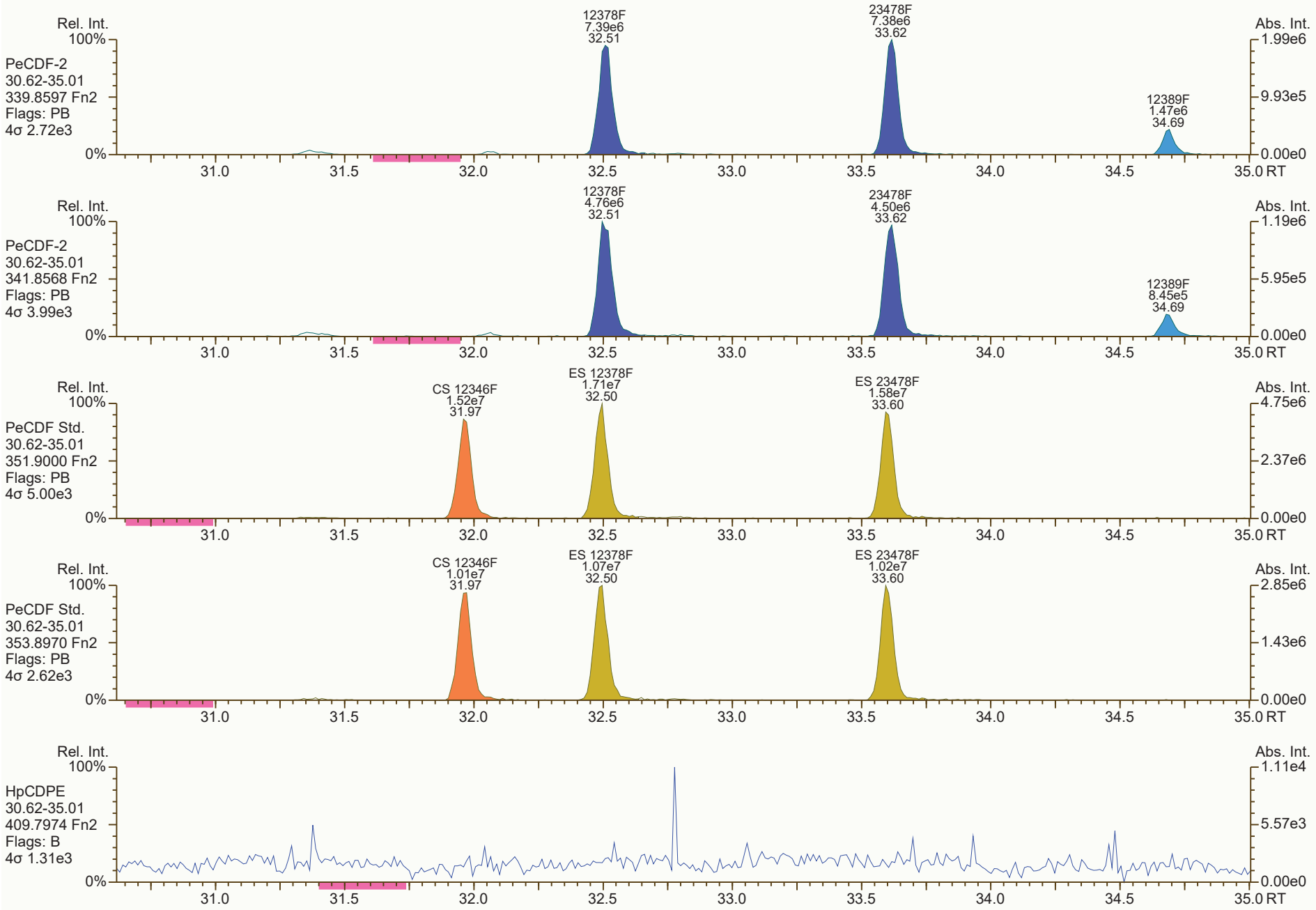

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 2.46e3
0%
124679/124689D
1.44e6
36.10
123478D
5.09e6
37.85
123678D
6.39e6
37.96
123789D
5.28e6
38.25
Abs. Int.
1.70e6
8.50e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.49e3
0%
124679/124689D
1.08e6
36.10
123478D
4.06e6
37.85
123678D
4.99e6
37.96
123789D
4.16e6
38.25
Abs. Int.
1.26e6
6.31e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.03e3
0%
ES 123478D
9.63e6
37.83
ES 123678D
1.08e7
37.95
JS 123467D
4.53e6
38.13
ES 123789D
1.08e7*
38.24
Abs. Int.
2.93e6
1.46e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.22e3
0%
ES 123478D
7.30e6
37.83
ES 123678D
8.73e6
37.95
JS 123467D
3.51e6
38.13
ES 123789D
8.42e6*
38.24
Abs. Int.
2.33e6
1.17e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

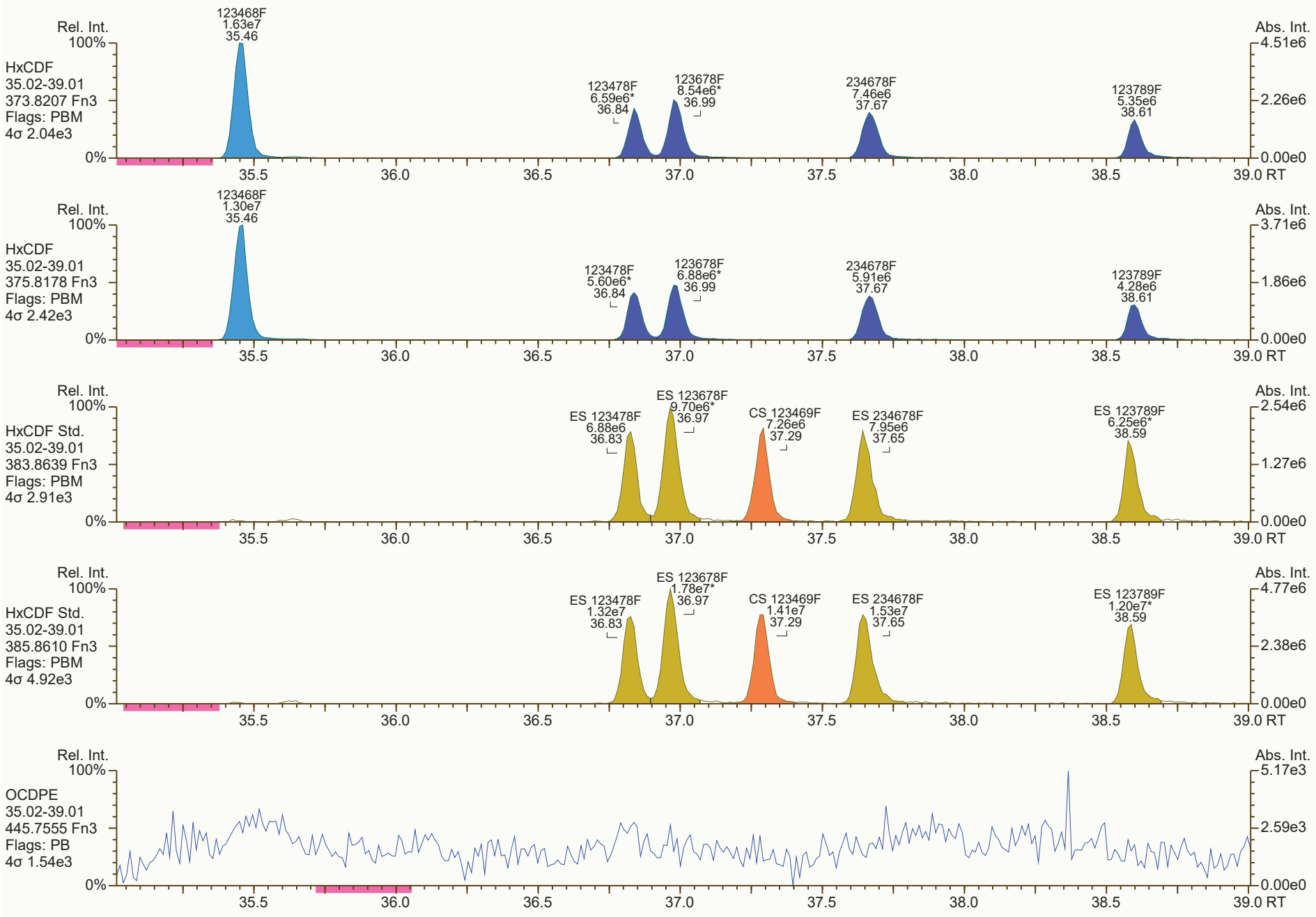

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.86e3
1234678D
3.82e6*
40.88
1234679D
9.49e5
40.20
Abs. Int.
1.17e6
5.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.74e3
1234678D
3.74e6*
40.88
1234679D
1.00e6
40.20
Abs. Int.
1.13e6
5.65e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.09e3
ES 1234678D
7.95e6
40.87
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.73e3
ES 1234678D
7.41e6
40.87
Abs. Int.
2.17e6
1.09e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.28e7
6.39e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

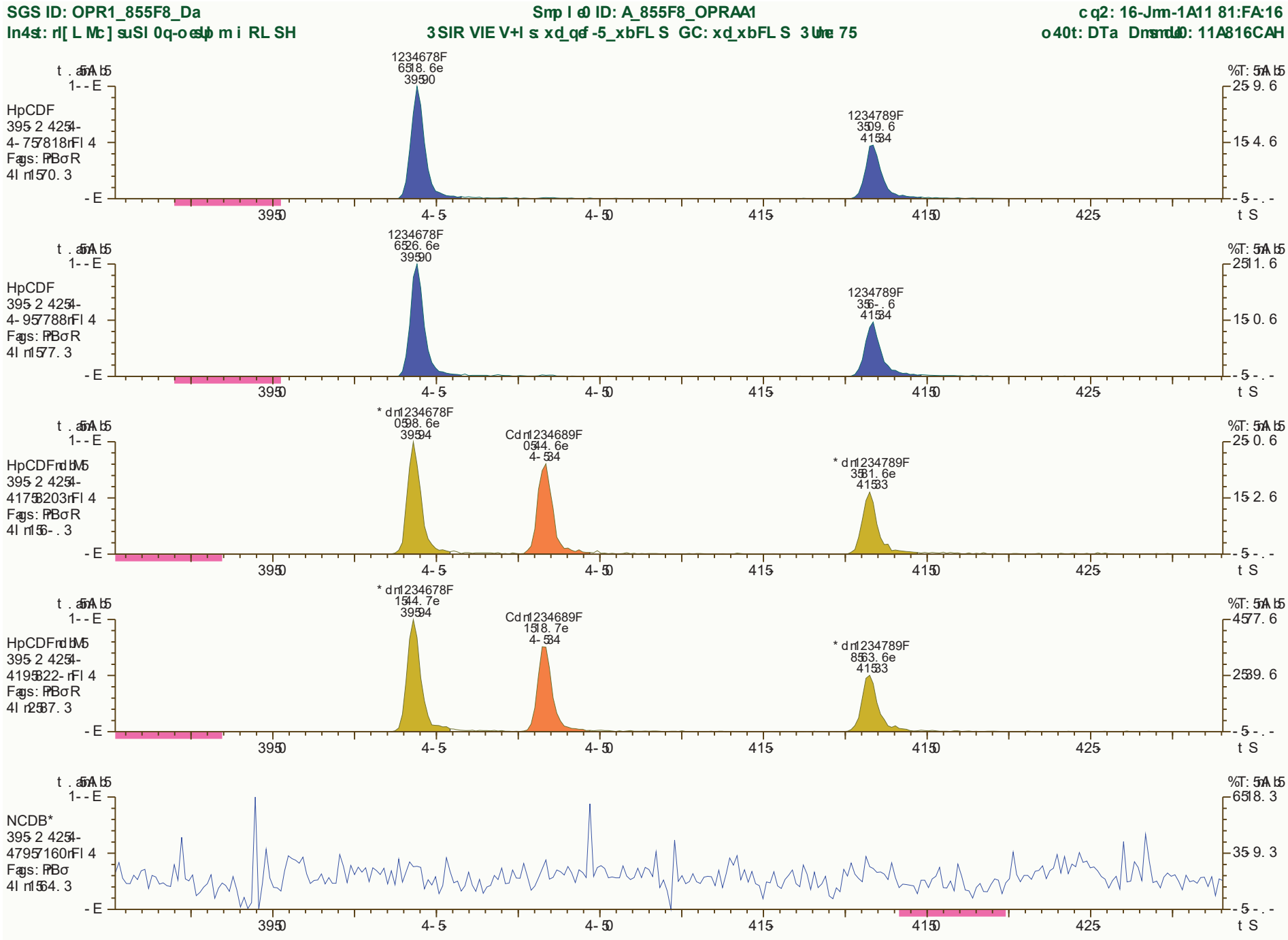

OCDD
1.02e07
1*.21
OCDD
2.55e07
1*.21
ESFOCDD
. 8e07
1*.2*
ESFOCDD
8.0- e07
1*.2*
QCFCheck
14.14312.5-
121.T 48Fnl 2
nags: FP3
14.2
1*.5
1*.2
11.5
11.2
12.5 I 9
56
5.55e5


SGS ID: OPR1_855F8_Da
In4st: rl[L Mc] suSI 0q-oesup m i RL SH
Smp l e0 ID: A_855F8_OPRAA1
3SIR VIE V+l s: xd_qef -5_xbFL S GC: xd_xbFL S 3 Une 75
cq2: 16-Jmn-1A11 81:FA:16
o40t: DTa Dmsmd0: 11A816CAH
Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.28e3
1368F
1.90e6
22.97
2468F
4.99e5
24.16
2348F
1.68e6*
27.68
2378F
1.50e6*
27.79
1289F
2.12e6
29.78
Abs. Int.
4.37e5
2.18e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.62e3
1368F
2.45e6
22.97
2468F
5.58e5
24.16
2348F
2.33e6
27.68
2378F
1.71e6*
27.79
1289F
2.85e6
29.78
Abs. Int.
6.53e5
3.26e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 3.59e3
JS 1234F
1.44e7
26.42
ES 2378F
1.31e7
27.77
Abs. Int.
3.15e6
1.57e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.86e3
JS 1234F
1.82e7
26.42
ES 2378F
1.65e7
27.77
Abs. Int.
3.91e6
1.96e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.41e3
Abs. Int.
1.35e4
6.74e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR2_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4131, 0014, 3816 scc: 081-837
PKD: 27-Jan-2022 10:07 Printed: 27-Jan-2022 10:46 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.53e3
13468/12468F
1.46e7
29.69
Abs. Int.
3.58e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.49e3
13468/12468F
9.11e6
29.69
Abs. Int.
2.30e6
1.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
7.56e6
3.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 2.72e3
12378F
7.39e6
32.51
23478F
7.38e6
33.62
12389F
1.47e6
34.69
Abs. Int.
1.99e6
9.93e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 3.99e3
12378F
4.76e6
32.51
23478F
4.50e6
33.62
12389F
8.45e5
34.69
Abs. Int.
1.19e6
5.95e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 5.00e3
CS 12346F
1.52e7
31.97
ES 12378F
1.71e7
32.50
ES 23478F
1.58e7
33.60
Abs. Int.
4.75e6
2.37e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.62e3
CS 12346F
1.01e7
31.97
ES 12378F
1.07e7
32.50
ES 23478F
1.02e7
33.60
Abs. Int.
2.85e6
1.43e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.31e3
Abs. Int.
1.11e4
5.57e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.04e3
123468F 1.63e7 35.46
123478F 6.59e6* 36.84
123678F 8.54e6* 36.99
234678F 7.46e6 37.67
123789F 5.35e6 38.61
4.51e6
2.26e6
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.42e3
123468F 1.30e7 35.46
123478F 5.60e6* 36.84
123678F 6.88e6* 36.99
234678F 5.91e6 37.67
123789F 4.28e6 38.61
3.71e6
1.86e6
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.91e3
ES 123478F 6.88e6 36.83
ES 123678F 9.70e6* 36.97
CS 123469F 7.26e6 37.29
ES 234678F 7.95e6 37.65
ES 123789F 6.25e6* 38.59
2.54e6
1.27e6
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.92e3
ES 123478F 1.32e7 36.83
ES 123678F 1.78e7* 36.97
CS 123469F 1.41e7 37.29
ES 234678F 1.53e7 37.65
ES 123789F 1.20e7* 38.59
4.77e6
2.38e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.54e3
5.17e3
2.59e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR1_855F8_Da
In4st: rl[L Mc] suSI 0q-oesup m i RL SH
Smp l e0 ID: A_855F8_OPRAA1
3SIR VIE V+l s: xd_qef -5_xbFL S GC: xd_xbFL S 3 Ume 75
cq2: 16-Jmn-1A11 81:FA:16
o40t: DTa Dmsmd0: 11A816CAH
HpCDF
HpCDFndbM5
NCDB*
1234678F
1234789F
* dn1234678F
Cdn1234689F
* dn1234789F
Results: P:\B6100_B6199\B6182\B6182_18851 DF\Resources\OPR2_18851_DF.utp_res, saved 27-Jan-2022 10:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1056, 4248, 6208 scc: 081-837
Revised: 27-Jan-2022 10:07 (DTF) Printed: 27-Jan-2022 10:46 Page 11 of 12


OCDF
4.28e26
43.73
OCDF
0.32e26
43.73
43.1
43.0
44.1
44.0



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011222-S-BN-SC-B-8aH — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	Lab Sample ID	B6183_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	12-Jan-2022	% Solid:	77.5 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:38:29

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		1.13		ES 2378-TCDD	95.1	
12378-PeCDD	EMPC		0.401	J	ES 12378-PeCDD	118	
123478-HxCDD	EMPC		0.411	J	ES 123478-HxCDD	93.8	
123678-HxCDD	EMPC		0.774	J	ES 123678-HxCDD	101	
123789-HxCDD	1.45			J	ES 123789-HxCDD	90	
1234678-HpCDD	22.7				ES 1234678-HpCDD	101	
OCDD	450				ES OCDD	85.3	
2378-TCDF	2.58				ES 2378-TCDF	83.4	
12378-PeCDF	EMPC		0.321	J	ES 12378-PeCDF	94	
23478-PeCDF	ND	0.228			ES 23478-PeCDF	96.4	
123478-HxCDF	0.232			J	ES 123478-HxCDF	94.4	
123678-HxCDF	ND	0.146			ES 123678-HxCDF	101	
234678-HxCDF	ND	0.146			ES 234678-HxCDF	109	
123789-HxCDF	ND	0.164			ES 123789-HxCDF	93.6	
1234678-HpCDF	ND	0.0992			ES 1234678-HpCDF	107	
1234789-HpCDF	ND	0.147			ES 1234789-HpCDF	96.6	
OCDF	ND	0.349			ES OCDF	83.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.2	
Total TCDD	4.08		5.21		CS 12347-PeCDD	121	
Total PeCDD	4.13		4.53		CS 12346-PeCDF	101	
Total HxCDD	24.7		26.4		CS 123469-HxCDF	115	
Total HpCDD	72.7		72.7		CS 1234689-HpCDF	120	
Total TCDF	7.49		8.67				
Total PeCDF	ND		0.321				
Total HxCDF	0.232		0.232				
Total HpCDF	ND	0.12	ND				
Total PCDD/Fs	**563**		**568**				
WHO-2005 TEQs							
TEQ: ND=0	0.789		2.45				
TEQ: ND=DL/2	0.847	0.362	2.51				
TEQ: ND=DL	0.905	0.724	2.57				

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Sample ID: 11215131-011222-S-BN-SC-B-8aH — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	Lab Sample ID:	B6183_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	12-Jan-2022	% Solid:	77.5 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:38:29

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.265)		12479/12468D	0.633	J	124679/124689D	17.2		1234679D	49.9	
1379D	(0.265)		12469D	2.45		123468D	0.514	J	1234678D	22.7	
1369D	(0.265)		12368D	(0.212)		123679/123689D	4.71				
1469D	3.4		12478D	(0.212)		123469D	0.826	J			
1247D...[4]	(0.265)		12379D	(0.212)		123478D	[0.411]	J			
1378D	(0.265)		12369D...[3]	1.05	J	123678D	[0.774]	J			
1268D	(0.265)		12346/12347D	(0.212)		123467D	[0.515]	J			
1478D	(0.265)		12378D	[0.401]	J	123789D	1.45	J	**Conc.**	72.7	
1279D	(0.265)		12367D	(0.212)					**EMPC**	72.7	
1234/1269D	0.684		12389D	(0.212)							
1236D	(0.265)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.265)										
1239D	(0.265)								OCDD	450	
2378D	[1.13]										
1278D	(0.265)										
1267D	(0.265)										
1289D	(0.265)										
Conc.	4.08		**Conc.**	4.13		**Conc.**	24.7				
EMPC	5.21		**EMPC**	4.53		**EMPC**	26.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.789	2.45
TEQ: ND=DL/2	0.847	2.51
TEQ: ND=DL	0.905	2.57

	Conc.	EMPC
Total PCDD/Fs	563	568

Checkcode: 924-978-GNY

Report Created: 16-Feb-2022 15:39 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-8aH — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	Lab Sample ID:	B6183_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	12-Jan-2022	% Solid:	77.5 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:38:29

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.222)		13468/12468F	(0.0972)		123468F	(0.152)		1234678F	(0.0992)	
1468F	(0.222)		13678F...[3]	(0.223)		124678/134678F	(0.152)		1234679F	(0.12)	
2468F	[0.799]		12368F...[3]	(0.223)		134679F	(0.152)		1234689F	(0.12)	
1346/1246F	(0.222)		14678F	(0.223)		124679F	(0.152)		1234789F	(0.147)	
1347F...[3]	0.722		13479F	(0.223)		124689F	(0.152)				
1348F	(0.222)		13469/12479F	(0.223)		123467F	(0.152)				
1248F...[3]	[0.385]	J	12346F	(0.223)		123478F	0.232	J			
1268F	(0.222)		23468/12469F	(0.223)		123678F	(0.146)				
1467F	(0.222)		12347F	(0.223)		123479F	(0.152)				
1478F	0.37	J	12348F	(0.223)		123469F	(0.152)				
1369/1237F	0.408	J	12378F	[0.321]	J	123679F	(0.152)				
2467F	(0.222)		12678/12367F	(0.223)		234678F	(0.146)		**Conc.**	0	
2368F	0.536		12379F	(0.223)		234678/123689F	0		**EMPC**	0	
1238F...[5]	0.649		12679F	(0.223)		123689F	(0.152)				
1278F	1.52		23467/12369F	(0.223)		123789F	(0.164)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.222)		23478F	(0.228)		123789/123489F	0				
1267F	(0.222)		23478/12489F	0		123489F	(0.152)		OCDF	(0.349)	
2346/1249F	(0.222)		12489F	(0.223)							
2347/1279F	(0.222)		12349F	(0.223)							
2348F	(0.222)		12389F	(0.223)							
2378F	2.58										
2367/3467F	0.697										
1269F	(0.222)										
1239F	(0.222)										
1289F	(0.222)										
Conc.	7.49		**Conc.**	0		**Conc.**	0.232				
EMPC	8.67		**EMPC**	0.321		**EMPC**	0.232				

Checkcode: 924-978-GNY

Report Created: 16-Feb-2022 15:39 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-8aH TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6183_18913_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.45 g	QC Batch No.:	18913
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 14:38
Lab Project No:	B6183	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	[1.13]		0.265	[1.13]	[1.13]	[1.13]
12378-PeCDD	[0.401]	J	0.212	[0.2]	[0.401]	[0.401]
123478-HxCDD	[0.411]	J	0.293	[0.0411]	[0.0411]	[0.0411]
123678-HxCDD	[0.774]	J	0.261	[0.0774]	[0.0774]	[0.0774]
123789-HxCDD	1.45	J	0.276	0.145	0.145	0.145
1234678-HpCDD	22.7		0.281	0.227	0.227	0.227
OCDD	450		0.521	0.45	0.045	0.135
2378-TCDF	2.58		0.222	0.258	0.258	0.258
12378-PeCDF	[0.321]	J	0.219	[0.016]	[0.016]	[0.00962]
23478-PeCDF	(0.228)		0.228	(0.114)	(0.114)	(0.0683)
123478-HxCDF	0.232	J	0.156	0.0232	0.0232	0.0232
123678-HxCDF	(0.146)		0.146	(0.0146)	(0.0146)	(0.0146)
234678-HxCDF	(0.146)		0.146	(0.0146)	(0.0146)	(0.0146)
123789-HxCDF	(0.164)		0.164	(0.0164)	(0.0164)	(0.0164)
1234678-HpCDF	(0.0992)		0.0992	(0.000992)	(0.000992)	(0.000992)
1234789-HpCDF	(0.147)		0.147	(0.00147)	(0.00147)	(0.00147)
OCDF	(0.349)		0.349	(0.000349)	(0.0000349)	(0.000105)

TEQ Summaries			
EMPC = 0, ND = 0	1.1	0.699	0.789
EMPC = 0, ND = DL / 2	1.19	0.78	0.847
EMPC = 0, ND = DL	1.27	0.861	0.905
EMPC = 0, < J-level = 0	0.936	0.53	0.62
EMPC = EMPC, ND = 0	2.57	2.37	2.45
EMPC = EMPC, ND = DL / 2	2.65	2.45	2.51
EMPC = EMPC, ND = DL	2.73	2.53	2.57
EMPC = EMPC, < J-level = 0	2.07	1.66	1.75

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Checkcode: 924-978-GNY

Sample ID: 11215131-011222-S-BN-SC-B-13H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.60 g	Lab Sample ID	B6183_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	12-Jan-2022	% Solid:	77.0 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:24:50

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	289				ES 2378-TCDD	79.3	
12378-PeCDD	3.74				ES 12378-PeCDD	94	
123478-HxCDD	1.66			J	ES 123478-HxCDD	80.3	
123678-HxCDD	6.75				ES 123678-HxCDD	81.5	
123789-HxCDD	3.67				ES 123789-HxCDD	77.2	
1234678-HpCDD	173				ES 1234678-HpCDD	89.3	
OCDD	2,390				ES OCDD	80	
2378-TCDF	765				ES 2378-TCDF	73.9	
12378-PeCDF	31.1				ES 12378-PeCDF	83.1	
23478-PeCDF	23.6				ES 23478-PeCDF	82.2	
123478-HxCDF	86.2				ES 123478-HxCDF	85.3	
123678-HxCDF	21.5				ES 123678-HxCDF	92	
234678-HxCDF	5.43				ES 234678-HxCDF	86.7	
123789-HxCDF	ND	0.308			ES 123789-HxCDF	87.9	
1234678-HpCDF	94.1				ES 1234678-HpCDF	93	
1234789-HpCDF	18.5				ES 1234789-HpCDF	92.1	
OCDF	2,210				ES OCDF	84.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.3	
Total TCDD	331		332		CS 12347-PeCDD	95.6	
Total PeCDD	14.3		16.7		CS 12346-PeCDF	86.1	
Total HxCDD	78.6		82.8		CS 123469-HxCDF	95.8	
Total HpCDD	436		436		CS 1234689-HpCDF	105	
Total TCDF	1,550		1,550				
Total PeCDF	109		110				
Total HxCDF	166		168				
Total HpCDF	206		206				
Total PCDD/Fs	**7,490**		**7,500**				
WHO-2005 TEQs							
TEQ: ND=0	394		394				
TEQ: ND=DL/2	394	0.466	394				
TEQ: ND=DL	394	0.933	394				

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Sample ID: 11215131-011222-S-BN-SC-B-13H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.60 g	Lab Sample ID:	B6183_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	12-Jan-2022	% Solid:	77.0 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:24:50

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.77		12479/12468D	4.17		124679/124689D	37.6		1234679D	263	
1379D	0.986		12469D	2.74		123468D	4.65		1234678D	173	
1369D	0.465	J	12368D	[1.73]	J	123679/123689D	24.3				
1469D	3.13		12478D	1.49	J	123469D	[2.5]				
1247D...[4]	[0.868]		12379D	[0.648]	J	123478D	1.66	J			
1378D	1.44		12369D...[3]	2.2	J	123678D	6.75				
1268D	(0.315)		12346/12347D	(0.269)		123467D	[1.65]	J			
1478D	0.818		12378D	3.74		123789D	3.67		**Conc.**	436	
1279D	(0.315)		12367D	(0.269)					**EMPC**	436	
1234/1269D	[0.634]		12389D	(0.269)							
1236D	(0.315)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	4.55										
1239D	(0.315)								OCDD	2390	
2378D	289										
1278D	26.7										
1267D	(0.315)										
1289D	0.633										
Conc.	331		**Conc.**	14.3		**Conc.**	78.6				
EMPC	332		**EMPC**	16.7		**EMPC**	82.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	394	394
TEQ: ND=DL/2	394	394
TEQ: ND=DL	394	394

	Conc.	EMPC
Total PCDD/Fs	7,490	7,500

Checkcode: 446-180-BGQ

Report Created: 16-Feb-2022 15:40 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-13H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	13-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.60 g	Lab Sample ID:	B6183_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	12-Jan-2022	% Solid:	77.0 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:24:50

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.956		13468/12468F	11.8		123468F	5.75		1234678F	94.1	
1468F	2.84		13678F...[3]	2.06	J	124678/134678F	19.9		1234679F	6.73	
2468F	5.43		12368F...[3]	21		134679F	(0.28)		1234689F	86.4	
1346/1246F	(0.135)		14678F	(0.289)		124679F	1.03	J	1234789F	18.5	
1347F...[3]	12.1		13479F	(0.289)		124689F	20.3				
1348F	(0.135)		13469/12479F	[0.555]	J	123467F	[1.32]	J			
1248F...[3]	44.7		12346F	(0.289)		123478F	86.2				
1268F	15.1		23468/12469F	4.66		123678F	21.5				
1467F	2.83		12347F	(0.289)		123479F	(0.28)				
1478F	35.8		12348F	3.46		123469F	[1.14]	J			
1369/1237F	9.68		12378F	31.1		123679F	(0.28)				
2467F	1.42		12678/12367F	10		234678F	5.43		**Conc.**	206	
2368F	66.7		12379F	(0.289)		234678/123689F	0		**EMPC**	206	
1238F...[5]	(0.135)		12679F	(0.289)		123689F	(0.28)				
1278F	355		23467/12369F	[0.747]	J	123789F	(0.308)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.135)		23478F	23.6		123789/123489F	0				
1267F	22.3		23478/12489F	0		123489F	5.98		OCDF	2210	
2346/1249F	[2.03]		12489F	(0.289)							
2347/1279F	9.75		12349F	(0.289)							
2348F	54.9		12389F	1.46	J						
2378F	765										
2367/3467F	65.4										
1269F	12.5										
1239F	(0.135)										
1289F	62.7										
Conc.	1,550		**Conc.**	109		**Conc.**	166				
EMPC	1,550		**EMPC**	110		**EMPC**	168				

Checkcode: 446-180-BGQ

Report Created: 16-Feb-2022 15:40 Analyst: TF

Sample ID: 11215131-011222-S-BN-SC-B-13H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6183_18913_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.60 g	QC Batch No.:	18913
Date Collected:	12-Jan-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	13-Jan-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 15:24
Lab Project No:	B6183	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	289		0.315	289	289	289
12378-PeCDD	3.74		0.269	1.87	3.74	3.74
123478-HxCDD	1.66	J	0.399	0.166	0.166	0.166
123678-HxCDD	6.75		0.403	0.675	0.675	0.675
123789-HxCDD	3.67		0.421	0.367	0.367	0.367
1234678-HpCDD	173		0.224	1.73	1.73	1.73
OCDD	2390		0.417	2.39	0.239	0.716
2378-TCDF	765		0.135	76.5	76.5	76.5
12378-PeCDF	31.1		0.29	1.55	1.55	0.932
23478-PeCDF	23.6		0.289	11.8	11.8	7.09
123478-HxCDF	86.2		0.269	8.62	8.62	8.62
123678-HxCDF	21.5		0.264	2.15	2.15	2.15
234678-HxCDF	5.43		0.287	0.543	0.543	0.543
123789-HxCDF	(0.308)		0.308	(0.0308)	(0.0308)	(0.0308)
1234678-HpCDF	94.1		0.118	0.941	0.941	0.941
1234789-HpCDF	18.5		0.149	0.185	0.185	0.185
OCDF	2210		0.596	2.21	0.221	0.664

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TEQ Summaries			
EMPC = 0, ND = 0	401	399	394
EMPC = 0, ND = DL / 2	401	399	394
EMPC = 0, ND = DL	401	399	394
EMPC = 0, < J-level = 0	401	399	394
EMPC = EMPC, ND = 0	401	399	394
EMPC = EMPC, ND = DL / 2	401	399	394
EMPC = EMPC, ND = DL	401	399	394
EMPC = EMPC, < J-level = 0	401	399	394

Checkcode: 446-180-BGQ

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Sample ID: Method Blank B6183_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.28			ES 2378-TCDD	94	
12378-PeCDD	ND	0.184			ES 12378-PeCDD	107	
123478-HxCDD	ND	0.143			ES 123478-HxCDD	97.8	
123678-HxCDD	ND	0.129			ES 123678-HxCDD	105	
123789-HxCDD	ND	0.132			ES 123789-HxCDD	92.9	
1234678-HpCDD	ND	0.187			ES 1234678-HpCDD	98.7	
OCDD	ND	0.42			ES OCDD	78	
2378-TCDF	ND	0.156			ES 2378-TCDF	79.5	
12378-PeCDF	ND	0.142			ES 12378-PeCDF	98.6	
23478-PeCDF	ND	0.153			ES 23478-PeCDF	93.1	
123478-HxCDF	ND	0.116			ES 123478-HxCDF	101	
123678-HxCDF	ND	0.104			ES 123678-HxCDF	118	
234678-HxCDF	ND	0.117			ES 234678-HxCDF	109	
123789-HxCDF	ND	0.141			ES 123789-HxCDF	100	
1234678-HpCDF	ND	0.0785			ES 1234678-HpCDF	106	
1234789-HpCDF	ND	0.118			ES 1234789-HpCDF	94.7	
OCDF	ND	0.349			ES OCDF	81.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.1	
Total TCDD	ND	0.28	ND		CS 12347-PeCDD	115	
Total PeCDD	ND	0.184	ND		CS 12346-PeCDF	107	
Total HxCDD	ND	0.134	ND		CS 123469-HxCDF	119	
Total HpCDD	ND	0.187	ND		CS 1234689-HpCDF	112	
Total TCDF	ND	0.156	ND				
Total PeCDF	ND	0.147	ND				
Total HxCDF	ND	0.118	ND				
Total HpCDF	ND	0.0956	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.311	0.311	0.311				
TEQ: ND=DL	0.621	0.621	0.621				

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Sample ID: Method Blank B6183_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.28)		12479/12468D	(0.184)		124679/124689D	(0.134)		1234679D	(0.187)	
1379D	(0.28)		12469D	(0.184)		123468D	(0.134)		1234678D	(0.187)	
1369D	(0.28)		12368D	(0.184)		123679/123689D	(0.134)				
1469D	(0.28)		12478D	(0.184)		123469D	(0.134)				
1247D...[4]	(0.28)		12379D	(0.184)		123478D	(0.143)				
1378D	(0.28)		12369D...[3]	(0.184)		123678D	(0.129)				
1268D	(0.28)		12346/12347D	(0.184)		123467D	(0.134)				
1478D	(0.28)		12378D	(0.184)		123789D	(0.132)		**Conc.**	0	
1279D	(0.28)		12367D	(0.184)					**EMPC**	0	
1234/1269D	(0.28)		12389D	(0.184)							
1236D	(0.28)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.28)									**(pg/g)**	
1239D	(0.28)								OCDD	(0.42)	
2378D	(0.28)										
1278D	(0.28)										
1267D	(0.28)										
1289D	(0.28)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.311	0.311
TEQ: ND=DL	0.621	0.621

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 341-051-BYV

Report Created: 16-Feb-2022 15:39 Analyst: TF

Sample ID: Method Blank B6183_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.156)		13468/12468F	(0.121)		123468F	(0.118)		1234678F	(0.0785)	
1468F	(0.156)		13678F...[3]	(0.147)		124678/134678F	(0.118)		1234679F	(0.0956)	
2468F	(0.156)		12368F...[3]	(0.147)		134679F	(0.118)		1234689F	(0.0956)	
1346/1246F	(0.156)		14678F	(0.147)		124679F	(0.118)		1234789F	(0.118)	
1347F...[3]	(0.156)		13479F	(0.147)		124689F	(0.118)				
1348F	(0.156)		13469/12479F	(0.147)		123467F	(0.118)				
1248F...[3]	(0.156)		12346F	(0.147)		123478F	(0.116)				
1268F	(0.156)		23468/12469F	(0.147)		123678F	(0.104)				
1467F	(0.156)		12347F	(0.147)		123479F	(0.118)				
1478F	(0.156)		12348F	(0.147)		123469F	(0.118)				
1369/1237F	(0.156)		12378F	(0.142)		123679F	(0.118)				
2467F	(0.156)		12678/12367F	(0.147)		234678F	(0.117)		**Conc.**	0	
2368F	(0.156)		12379F	(0.147)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.156)		12679F	(0.147)		123689F	(0.118)				
1278F	(0.156)		23467/12369F	(0.147)		123789F	(0.141)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.156)		23478F	(0.153)		123789/123489F	0				
1267F	(0.156)		23478/12489F	0		123489F	(0.118)		OCDF	(0.349)	
2346/1249F	(0.156)		12489F	(0.147)							
2347/1279F	(0.156)		12349F	(0.147)							
2348F	(0.156)		12389F	(0.147)							
2378F	(0.156)										
2367/3467F	(0.156)										
1269F	(0.156)										
1239F	(0.156)										
1289F	(0.156)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 341-051-BYV

Report Created: 16-Feb-2022 15:39 Analyst: TF

Sample ID: Method Blank B6183_18913 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18913_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18913
Date Collected:	n/a	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	15-Feb-2022 13:52
Lab Project No:	B6183	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.28)		0.28	(0.28)	(0.28)	(0.28)
12378-PeCDD	(0.184)		0.184	(0.0918)	(0.184)	(0.184)
123478-HxCDD	(0.143)		0.143	(0.0143)	(0.0143)	(0.0143)
123678-HxCDD	(0.129)		0.129	(0.0129)	(0.0129)	(0.0129)
123789-HxCDD	(0.132)		0.132	(0.0132)	(0.0132)	(0.0132)
1234678-HpCDD	(0.187)		0.187	(0.00187)	(0.00187)	(0.00187)
OCDD	(0.42)		0.42	(0.00042)	(0.000042)	(0.000126)
2378-TCDF	(0.156)		0.156	(0.0156)	(0.0156)	(0.0156)
12378-PeCDF	(0.142)		0.142	(0.00712)	(0.00712)	(0.00427)
23478-PeCDF	(0.153)		0.153	(0.0764)	(0.0764)	(0.0458)
123478-HxCDF	(0.116)		0.116	(0.0116)	(0.0116)	(0.0116)
123678-HxCDF	(0.104)		0.104	(0.0104)	(0.0104)	(0.0104)
234678-HxCDF	(0.117)		0.117	(0.0117)	(0.0117)	(0.0117)
123789-HxCDF	(0.141)		0.141	(0.0141)	(0.0141)	(0.0141)
1234678-HpCDF	(0.0785)		0.0785	(0.000785)	(0.000785)	(0.000785)
1234789-HpCDF	(0.118)		0.118	(0.00118)	(0.00118)	(0.00118)
OCDF	(0.349)		0.349	(0.000349)	(0.0000349)	(0.000105)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.282	0.327	0.311
EMPC = 0, ND = DL	0.563	0.654	0.621
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.282	0.327	0.311
EMPC = EMPC, ND = DL	0.563	0.654	0.621
EMPC = EMPC, < J-level = 0	0	0	0

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613; Toll-Free 866 846-8290
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Checkcode: 341-051-BYV

Sample ID: 0_18913_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18913_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:33:15

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.1				ES 2378-TCDD	87.3	
12378-PeCDD	50.2				ES 12378-PeCDD	103	
123478-HxCDD	55.4				ES 123478-HxCDD	95.4	
123678-HxCDD	55.4				ES 123678-HxCDD	102	
123789-HxCDD	52				ES 123789-HxCDD	91.3	
1234678-HpCDD	55.6				ES 1234678-HpCDD	93.7	
OCDD	112				ES OCDD	80.2	
2378-TCDF	11				ES 2378-TCDF	78.9	
12378-PeCDF	50.3				ES 12378-PeCDF	97.5	
23478-PeCDF	55.2				ES 23478-PeCDF	92.1	
123478-HxCDF	53				ES 123478-HxCDF	96.5	
123678-HxCDF	52.9				ES 123678-HxCDF	113	
234678-HxCDF	51.2				ES 234678-HxCDF	108	
123789-HxCDF	49.4				ES 123789-HxCDF	94.8	
1234678-HpCDF	51				ES 1234678-HpCDF	106	
1234789-HpCDF	50.7				ES 1234789-HpCDF	93.3	
OCDF	105				ES OCDF	84.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.5	
Total TCDD	58.4		58.4		CS 12347-PeCDD	116	
Total PeCDD	78.4		78.4		CS 12346-PeCDF	107	
Total HxCDD	180		180		CS 123469-HxCDF	118	
Total HpCDD	69.1		69.1		CS 1234689-HpCDF	113	
Total TCDF	65.7		65.7				
Total PeCDF	195		195				
Total HxCDF	330		330				
Total HpCDF	102		102				
Total PCDD/Fs	**1,290**		**1,290**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.26	120				
TEQ: ND=DL	120	0.521	120				

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Sample ID: 0_18913_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6183	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18913_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:19:29

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.5				ES 2378-TCDD	88.3	
12378-PeCDD	52.4				ES 12378-PeCDD	105	
123478-HxCDD	57.3				ES 123478-HxCDD	95.9	
123678-HxCDD	57.8				ES 123678-HxCDD	103	
123789-HxCDD	54.7				ES 123789-HxCDD	93.4	
1234678-HpCDD	57.7				ES 1234678-HpCDD	94	
OCDD	113				ES OCDD	78.7	
2378-TCDF	11.2				ES 2378-TCDF	81.8	
12378-PeCDF	52.6				ES 12378-PeCDF	99.4	
23478-PeCDF	56.3				ES 23478-PeCDF	96.5	
123478-HxCDF	53.6				ES 123478-HxCDF	99.5	
123678-HxCDF	52.2				ES 123678-HxCDF	119	
234678-HxCDF	52.5				ES 234678-HxCDF	113	
123789-HxCDF	52				ES 123789-HxCDF	96.3	
1234678-HpCDF	52.4				ES 1234678-HpCDF	109	
1234789-HpCDF	54				ES 1234789-HpCDF	92.3	
OCDF	108				ES OCDF	80.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.3	
Total TCDD	57.1		57.1		CS 12347-PeCDD	118	
Total PeCDD	80.7		80.7		CS 12346-PeCDF	113	
Total HxCDD	187		187		CS 123469-HxCDF	120	
Total HpCDD	72.5		72.5		CS 1234689-HpCDF	114	
Total TCDF	66		66				
Total PeCDF	200		200				
Total HxCDF	331		331				
Total HpCDF	106		106				
Total PCDD/Fs	**1,320**		**1,320**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.263	124				
TEQ: ND=DL	124	0.527	124				

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Sample DUP

Method 1613B

Sample ID: 0_18913_OPR001

Analyte	OPR1_18913_DF pg/uL	OPR2_18913_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.1	12.5	3.0%
1,2,3,7,8-PeCDD	50.2	52.4	4.2%
1,2,3,4,7,8-HxCDD	55.4	57.3	3.4%
1,2,3,6,7,8-HxCDD	55.4	57.8	4.2%
1,2,3,7,8,9-HxCDD	52	54.7	5.0%
1,2,3,4,6,7,8-HpCDD	55.6	57.7	3.8%
OCDD	112	113	1.6%
2,3,7,8-TCDF	11	11.2	2.3%
1,2,3,7,8-PeCDF	50.3	52.6	4.4%
2,3,4,7,8-PeCDF	55.2	56.3	2.0%
1,2,3,4,7,8-HxCDF	53	53.6	1.0%
1,2,3,6,7,8-HxCDF	52.9	52.2	1.3%
2,3,4,6,7,8-HxCDF	51.2	52.5	2.6%
1,2,3,7,8,9-HxCDF	49.4	52	5.0%
1,2,3,4,6,7,8-HpCDF	51	52.4	2.7%
1,2,3,4,7,8,9-HpCDF	50.7	54	6.4%
OCDF	105	108	2.5%
Totals			
Total TCDD	58.4	57.1	2.3%
Total PeCDD	78.4	80.7	2.9%
Total HxCDD	180	187	4.3%
Total HpCDD	69.1	72.5	4.8%
Total TCDF	65.7	66	0.4%
Total PeCDF	195	200	2.5%
Total HxCDF	330	331	0.3%
Total HpCDF	102	106	4.5%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*13-Jan-22 at 11:09*
AP Project name:	*B6183*
Requested TAT:	*10 business days*
Projected due date:	*21-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011222-S-BN-SC-B-8aH	B6183_001**	SO	1	4oz Clear Glass	12-Jan-22	08:50	0.1	1	4905 2704 3973
11215131-011222-S-BN-SC-B-13H	B6183_002*	SO	1	4oz Clear Glass	12-Jan-22	14:25	0.1	1	4905 2704 3973

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact; * sample taken off HOLD per email dated 1/31/2022 **sample taken off HOLD per email dated 2/4/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* TB 02/07/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BU183

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE

None	

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~ (BJ)	HR-PAH	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS (SEESSOW)
11215131-011222-S-BN-SC-S-26	1-12-22	0820	C	S	4oz	X									1	RUSH
11215131-011222-S-BN-SC-D-14a		0830				X									1	~~RUSH~~ (BJ)
11215131-011222-S-BN-SC-B-8a		0840				X									1	
11215131-011222-S-BN-SC-R-8		0850				X									1	HOLD *
11215131-011222-S-BN-SC-S-23		0900				X									1	RUSH
11215131-011222-S-BN-SC-D-18		0910				X									1	
11215131-011222-S-BN-SC-B-12		0920				X									1	
11215131-011222-S-BN-SC-S-28		1345				X									1	RUSH
11215131-011222-S-BN-SC-S-29		1355				X									1	RUSH
11215131-011222-S-BN-SC-D-19		1405				X									1	

COLLECTED/RELINQUISHED BY (1): North	DATE: 1-12-22	TIME: 1525	RECEIVED BY:	RECEIVED BY LABORATORY: DATE: 1/13/2022 TIME: 11:09
RELINQUISHED BY (2): Fedex	DATE:	TIME:	RECEIVED BY:	COOLER SEAL ☐ INTACT ☐ BROKEN ☐ ABSENT
				CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx TEMP: °C 0.1°
				TRACKING #: 4905 2704 3573

*=Samples in this project.

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SGS CHAIN OF CUSTODY

BU183

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☐ Level II ☐ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☐ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400, Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (☐ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C	HRPAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS	SEE SSOW
11215131-011222-S-BH-SC-B-13	1-12-22	1415	C	S	4oz		X									1		
11215131-011222-S-BH-SC-B-13H	1-12-22	1425	C	S	4oz		X									1	HOLD	*

COLLECTED/RELINQUISHED BY (1):	DATE: 1-12-22	TIME: 1525	RECEIVED BY:
RELINQUISHED BY (2): FedEx	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1/13/2022 TIME: 11:09
COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C 0.1°
TRACKING #: 4905 2704 3073

*=samples in this project.

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Member of the SGS Group (SGS SA)

1BU183

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 12JAN22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/13/2022
11:09
0.1° (T.B.)

SGSC2/01EF/05A2

FedEx Express

J191219082001uv

THU - 13 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4905 2704 3973**

NL ILMA

28405
NC-US **RDU**

Part # 1561 42-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6183

Initiation Date: 31-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: JRH 2/9/22 2/9/22 2/11/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: tburkamper Date: 31-Jan2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CCL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18913 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 2/9/22 | Clean-up Initial/Date: RJB 2/11/22 | Transfer Init/Date: RJB 2/12/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6183_18913_001	4	13.48				black, clay-like
B6183_18913_002	5	13.76				black, clay-like, fuel smell
B6277_18913_001	6	13.77				brown, clay-like
B6277_18913_002	7	13.65				black/gray, clay-like, moist
B6277_18913_003	8	13.70				brown/red, clay-like
B6277_18913_004	9	~~16.04~~ 16.63 JRH 2/10/22				black, clay-like, fuel smell
B6280_18913_001	10	15.02				black, moist, clay-like
B6280_18913_002	11	13.59				brown/red, clay-like
B6280_18913_003	12	13.04				brown/gray, clay-like
MB1_18913	1	10.00				Sodium sulfate
OPR1_18913	2	10.06				Sodium sulfate
OPR2_18913	3	10.00				Sodium sulfate

TB 2/21/2022

RJB 2/12/22

Supply IDs

Toluene	STL14-24
MeCHL	STL14-17
Florisil	SPLS-77
Hexane	STL14-28
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-87
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/21/2022
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1600	
	Stop: 0900	
HEX	Start:	
	Stop:	TB 2/21/2022
DCM	Start:	
	Stop:	

SGS

Methods: PCB (PCDD/F) QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18913

Inter-Department Communication Sheet

TB
2/21/2022

SGS

Wt. Volume Results

Batch #: 18913

Comments:

QK 2/21/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6183_001	2.35	5.42	4.73	77.52%	77.52%			12.9	13.48	10.45
B6183_002	2.35	5.66	4.9	77.04%	77.04%			12.98	13.76	10.6
B6277_001	2.37	5.11	4.51	78.10%	78.10%			12.8	13.77	10.75
B6277_002	2.37	5.29	4.62	77.05%	77.05%			12.98	13.65	10.52
B6277_003	2.43	4.8	4.25	76.79%	76.79%			13.02	13.7	10.52
B6277_004	2.39	5.03	4.12	65.53%	65.53%			15.26	16.08	10.9
B6280_001	2.34	4.84	3.77	57.20%	57.20%			17.48	18.02	10.31
B6280_002	2.42	5.05	4.41	75.67%	75.67%			13.22	13.59	10.28
B6280_003	2.33	4.91	4.35	78.29%	78.29%			12.77	13.04	10.21

TB 2/21/2022

TB 2/21/2022

% Solid Determination WorkSheet

SGS

Batch: 18913

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DNE	Comments
B6183_18913_001	2.35	5.42	4.73 /4.74	12.90	
B6183_18913_002	2.35	5.66	4.90 /4.90	12.98	
B6277_18913_001	2.37	5.11	4.51 /4.51	12.80	
B6277_18913_002	2.37	5.29	4.62 /4.62	12.98	
B6277_18913_003	2.43	4.80	4.25 /4.25	13.03	
B6277_18913_004	2.39	5.03	4.12 /4.12	15.26	
B6280_18913_001	2.34	4.84	3.77 /3.77	17.48	
B6280_18913_002	2.42	5.06	4.41 /4.41	13.22	
B6280_18913_003	2.33	4.91	4.36 /4.30	12.77	

RB3
4/12/22

Date/Initials:

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST [Solid]

Batch # 18913

Lab Sample ID	Spiker Initials/Date: JRH 2/9/22	JRH 2/9/22	JRH 2/9/22	2/11/22	2/12/22		
	DIFAx-A	DIFAx-B	DIFES	DIFCS	DIFJS		
	Amount: 20µl	Amount: 20µl	Amount: 20µl	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6183_18913_001	—	—	VE	VE	Ce		
B6183_18913_002	—	—	VE	VE	Ce		
B6277_18913_001	—	—	VE	VE	Ce		
B6277_18913_002	—	—	VE	VE	Ce		
B6277_18913_003	—	—	VE	VE	Ce		
B6277_18913_004	—	—	VE	VE	Ce		
B6280_18913_001	—	—	VE	VE	Ce		
B6280_18913_002	—	—	VE	VE	Ce		
B6280_18913_003	—	—	VE	VE	Ce Ce 2/12/22		
MB1_18913	—	—	VE	VE	Ce		
OPR1_18913	VE	VE	VE	VE	Ce		
OPR2_18913	VE	VE	VE	VE	Ce		

7/2/22

Standard Information

Pipette ID						RDB 2/12/22
Spike ID	DIFAx-A	DIFAx-B	DIFES	DIFCS	DIFJS	
SIL#	26-2-8	25-187-2	26-2-9	25-338-1	25-384-1	
Concentration	10 pg/µl	10 pg/µl	1000 pg/µl	100 pg/µL	100 pg/µL	
Expiration Date	7/9/22	6/22/22	3/2022	11/16/22	1/28/23	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220215C01	3	CS3_220215_DF_CA	1.00	25-347-1	DTF	059-393	15-Feb-2022	10:30:50
2	220215C02	45	OPR1_18913_DF	1.00	0_18913_OPR001	DTF	247-990	15-Feb-2022	11:33:15
3	220215C03	46	OPR2_18913_DF	1.00	0_18913_OPR002	DTF	443-398	15-Feb-2022	12:19:29
4	220215C04	2	SBS_220215_DF_CA	1.00	30-61-1	DTF	808-304	15-Feb-2022	13:05:49
5	220215C05	44	MB1_18913_DF_SDS	10.00	Method Blank	DTF	341-051	15-Feb-2022	13:52:08
6	220215C06	47	B6183_18913_DF_001	10.45	11215131-011222-S-BN-SC-B-8aH	DTF	924-978	15-Feb-2022	14:38:29
7	220215C07	48	B6183_18913_DF_002	10.60	11215131-011222-S-BN-SC-B-13H	DTF	446-180	15-Feb-2022	15:24:50

REVIEWED
Tyler_Fritz , 2/16/2022, 3:53:11 PM

REVIEWED
Amber_Kornegay , 2/21/2022, 9:26:28 AM

Lab ID: MB1_18913_DF_SDS **Acq'd:** 15 Feb 2022 13:52 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6183_18913 **UTP:** 16-Feb-2022 15:38:31 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 341-051-BYV

Datafile: 220215C05 **Report:** 16 Feb 2022 15:39 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5251.116	0.28
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3466.669	0.184
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2445.291	0.143
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2445.291	0.129
123789-HxCDD	NotFnd		1.0115	-		-	-	-	1.05	-	2445.291	0.132
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2958.93	0.187
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2771.878	0.42
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3738.205	0.156
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4063.818	0.142
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	4063.818	0.153
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3258.977	0.116
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3258.977	0.104
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3258.977	0.117
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3258.977	0.141
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2098.8674	0.0785
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2098.8674	0.118
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2844.287	0.349

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	3.38E+07	0.79	Y	1.05	94
ES 12378-PeCDD	33.72	1.2174	1.2181	+1.4	3.25E+07	1.60	Y	0.88	107
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.80E+07	1.31	Y	0.97	97.8
ES 123678-HxCDD	37.77	0.9948	0.9948	0	2.91E+07	1.29	Y	0.94	105
ES 123789-HxCDD	38.07	1.0027	1.0027	0	2.98E+07	1.29	Y	1.09	92.9
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.65E+07	1.04	Y	0.91	98.7
ES OCDD	43.47	1.1449	1.1450	+0.3	2.86E+07	0.93	Y	0.62	78
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.95E+07	0.79	Y	1.06	79.5
ES 12378-PeCDF	32.27	1.2346	1.2355	+1.7	5.27E+07	1.58	Y	0.91	98.6
ES 23478-PeCDF	33.39	1.2774	1.2783	+1.8	4.83E+07	1.61	Y	0.88	93.1
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	3.57E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.79	0.9688	0.9689	+0.2	4.71E+07	0.53	Y	1.35	118
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	3.99E+07	0.52	Y	1.24	109
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	3.41E+07	0.54	Y	1.16	100
ES 1234678-HpCDF	39.83	1.0491	1.0491	0	3.02E+07	0.46	Y	0.97	106
ES 1234789-HpCDF	41.23	1.0858	1.0859	+0.2	2.37E+07	0.47	Y	0.85	94.7
ES OCDF	43.65	1.1495	1.1496	+0.3	3.89E+07	0.90	Y	0.81	81.7

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6183_18913 | **UTP:** 16-Feb-2022 15:38:31 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 16 Feb 2022 15:39 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	3.43E+07	0.81	Y	-	-
JS 1234-TCDF	26.12		-	-	-	5.88E+07	0.82	Y	-	-
JS 123467-HxCDD	37.97		-	-	-	1.47E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.59E+07	n/a	-	1.20	96.1
CS 12347-PeCDD	33.22		1.1993	1.1999	+1.2	2.97E+07	1.57	Y	0.75	115
CS 12346-PeCDF	31.74		1.2144	1.2151	+1.3	5.34E+07	1.68	Y	0.85	107
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.92E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.24		1.0597	1.0598	+0.2	2.92E+07	0.46	Y	0.89	112
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.59E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1999~~	~~+1.2~~	~~2.97E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2151~~	~~+1.3~~	~~5.34E+07~~	~~1.68~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.92E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~100~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~2.92E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18913_DF_SDS **Acq'd: 15 Feb 2022 13:52 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6183_18913 **UTP: 16-Feb-2022 15:38:31 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 341-051-BYV**

Datafile: 220215C05 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8719						1.18		5251.116	0.28
1379-TCDD	NotFnd		0.8845						1.18		5251.116	0.28
1369-TCDD	NotFnd		0.8996						1.18		5251.116	0.28
1469-TCDD	NotFnd		0.9271						1.18		5251.116	0.28
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		5251.116	0.28
1378-TCDD	NotFnd		0.9425						1.18		5251.116	0.28
1268-TCDD	NotFnd		0.9494						1.18		5251.116	0.28
1478-TCDD	NotFnd		0.9581						1.18		5251.116	0.28
1279-TCDD	NotFnd		0.9640						1.18		5251.116	0.28
1234/1269-TCDD	NotFnd		0.9765						1.18		5251.116	0.28
1236-TCDD	NotFnd		0.9816						1.18		5251.116	0.28
1237/1238-TCDD	NotFnd		0.9906						1.18		5251.116	0.28
1239-TCDD	NotFnd		0.9952						1.18		5251.116	0.28
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**5251.116**	**0.28**
1278-TCDD	NotFnd		1.0123						1.18		5251.116	0.28
1267-TCDD	NotFnd		1.0170						1.18		5251.116	0.28
1289-TCDD	NotFnd		1.0351						1.18		5251.116	0.28
12479/12468-PeCDD	NotFnd		0.9261						1.04		3466.669	0.184
12469-PeCDD	NotFnd		0.9420						1.04		3466.669	0.184
12368-PeCDD	NotFnd		0.9584						1.04		3466.669	0.184
12478-PeCDD	NotFnd		0.9641						1.04		3466.669	0.184
12379-PeCDD	NotFnd		0.9670						1.04		3466.669	0.184
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		3466.669	0.184
12346/12347-PeCDD	NotFnd		0.9857						1.04		3466.669	0.184
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3466.669**	**0.184**
12367-PeCDD	NotFnd		1.0034						1.04		3466.669	0.184
12389-PeCDD	NotFnd		1.0136						1.04		3466.669	0.184
124679/124689-HxCDD	NotFnd		0.9540						1.10		2445.291	0.134
123468-HxCDD	NotFnd		0.9714						1.10		2445.291	0.134
123679/123689-HxCDD	NotFnd		0.9792						1.10		2445.291	0.134
123469-HxCDD	NotFnd		0.9828						1.10		2445.291	0.134
123478-HxCDD	NotFnd		**1.0004**						1.09		**2445.291**	**0.143**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2445.291**	**0.129**
123467-HxCDD	NotFnd		1.0087						1.10		2445.291	0.134
123789-HxCDD	NotFnd		**1.0115**						1.05		**2445.291**	**0.132**

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6183_18913 | **UTP:** 16-Feb-2022 15:38:31 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 16 Feb 2022 15:39 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

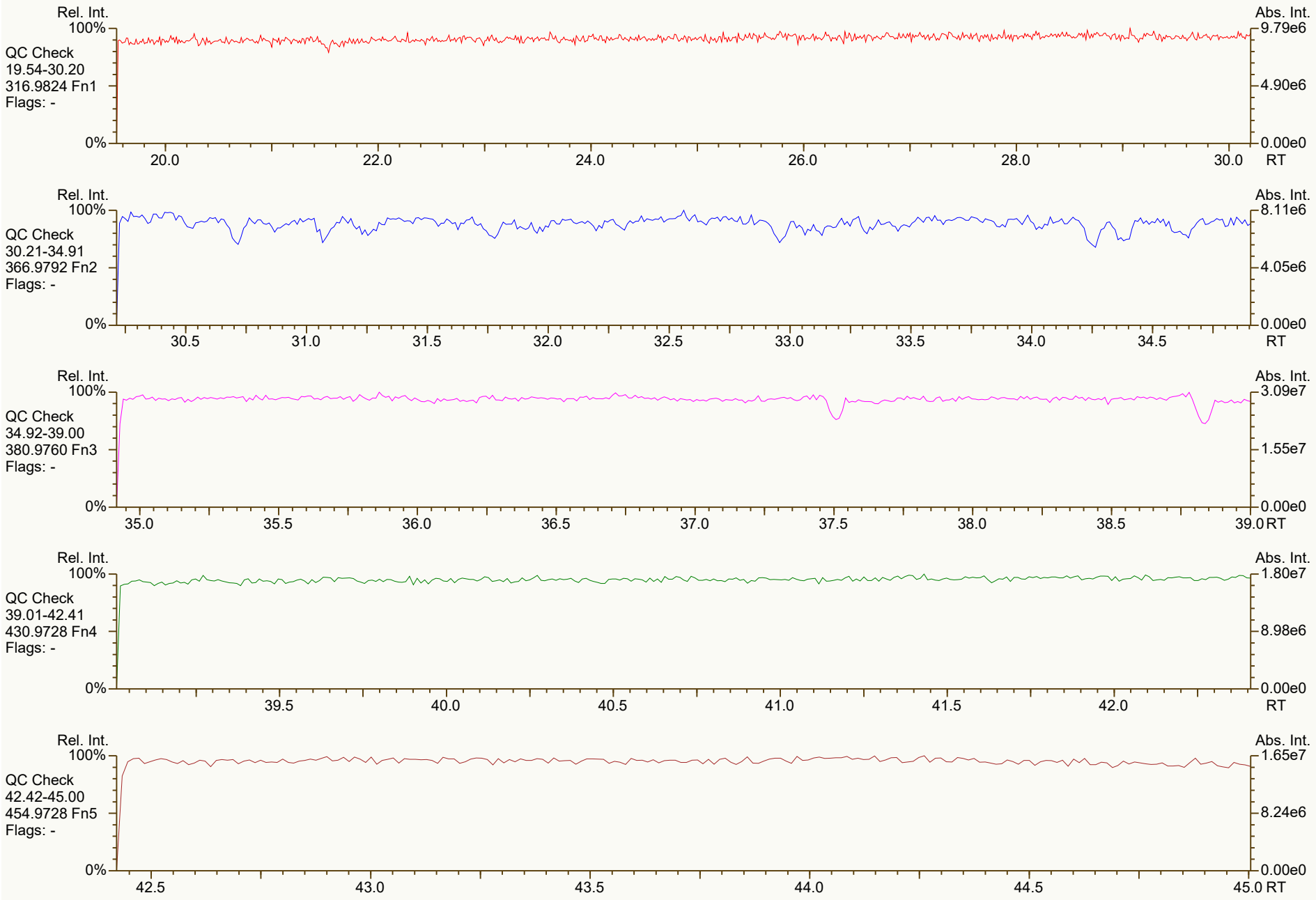
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2958.93	0.187
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2958.93**	**0.187**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2771.878**	**0.42**
OCDD-a	NotFnd		1.0002						0.07		3930.484	9.31
1368-TCDF	NotFnd		0.8222						1.08		3738.205	0.156
1468-TCDF	NotFnd		0.8434						1.08		3738.205	0.156
2468-TCDF	NotFnd		0.8666						1.08		3738.205	0.156
1346/1246-TCDF	NotFnd		0.8789						1.08		3738.205	0.156
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		3738.205	0.156
1348-TCDF	NotFnd		0.8947						1.08		3738.205	0.156
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		3738.205	0.156
1268-TCDF	NotFnd		0.9131						1.08		3738.205	0.156
1467-TCDF	NotFnd		0.9181						1.08		3738.205	0.156
1478-TCDF	NotFnd		0.9244						1.08		3738.205	0.156
1369/1237-TCDF	NotFnd		0.9379						1.08		3738.205	0.156
2467-TCDF	NotFnd		0.9425						1.08		3738.205	0.156
2368-TCDF	NotFnd		0.9483						1.08		3738.205	0.156
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		3738.205	0.156
1278-TCDF	NotFnd		0.9681						1.08		3738.205	0.156
1349-TCDF	NotFnd		0.9722						1.08		3738.205	0.156
1267-TCDF	NotFnd		0.9780						1.08		3738.205	0.156
2346/1249-TCDF	NotFnd		0.9845						1.08		3738.205	0.156
2347/1279-TCDF	NotFnd		0.9927						1.08		3738.205	0.156
2348-TCDF	NotFnd		0.9970						1.08		3738.205	0.156
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3738.205**	**0.156**
2367/3467-TCDF	NotFnd		1.0140						1.08		3738.205	0.156
1269-TCDF	NotFnd		1.0226						1.08		3738.205	0.156
1239-TCDF	NotFnd		1.0325						1.08		3738.205	0.156
1289-TCDF	NotFnd		1.0732						1.08		3738.205	0.156
13468/12468-PeCDF	NotFnd		0.9130						1.02		3336.466	0.121
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		4063.818	0.147
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		4063.818	0.147
14678-PeCDF	NotFnd		0.9688						1.02		4063.818	0.147
13479-PeCDF	NotFnd		0.9719						1.02		4063.818	0.147
13469/12479-PeCDF	NotFnd		0.9797						1.02		4063.818	0.147
12346-PeCDF	NotFnd		0.9841						1.02		4063.818	0.147

Lab ID: MB1_18913_DF_SDS | **Acq'd: 15 Feb 2022 13:52 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

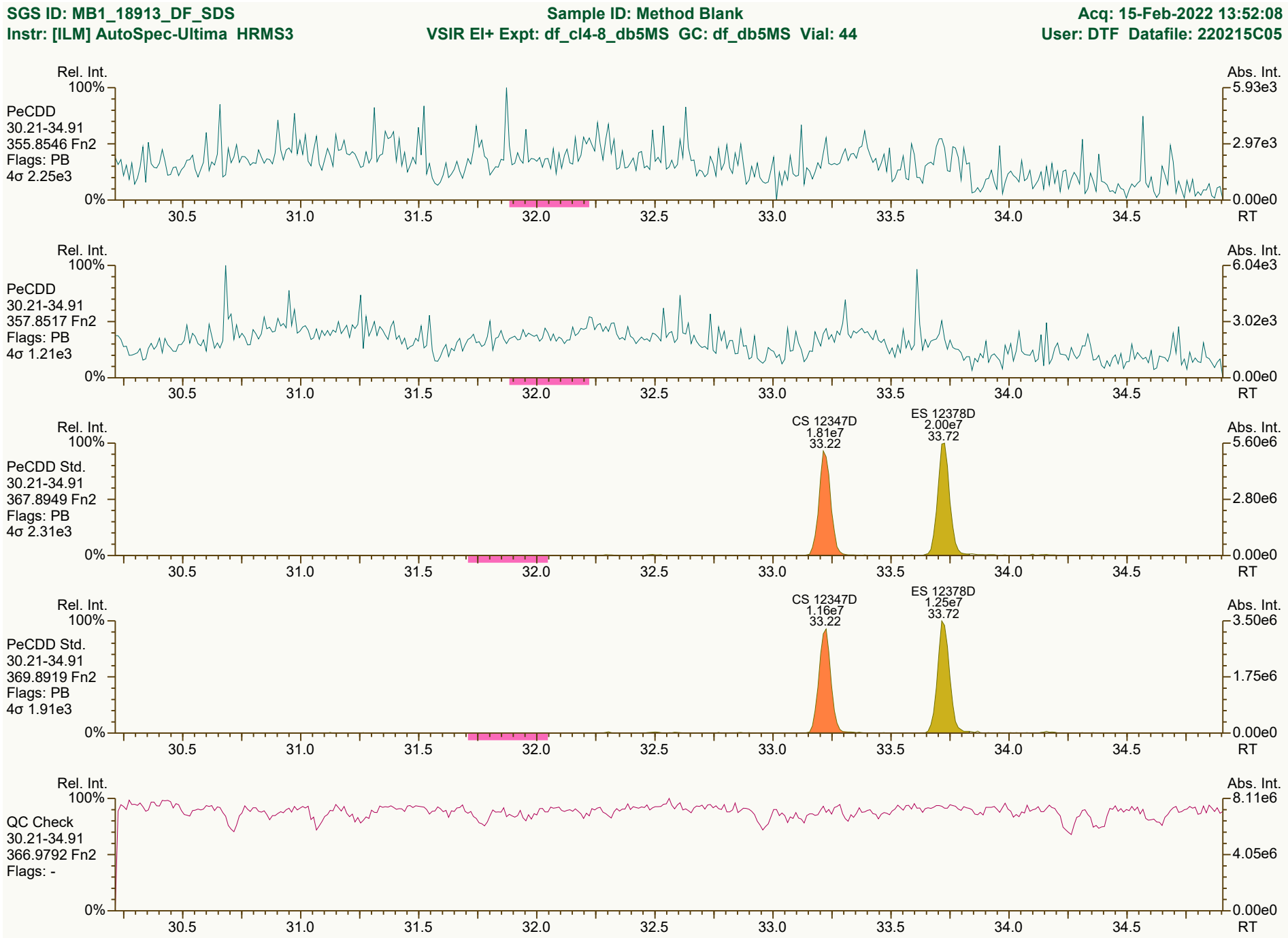
Client ID: Method Blank B6183_18913 | **UTP: 16-Feb-2022 15:38:31 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 341-051-BYV**

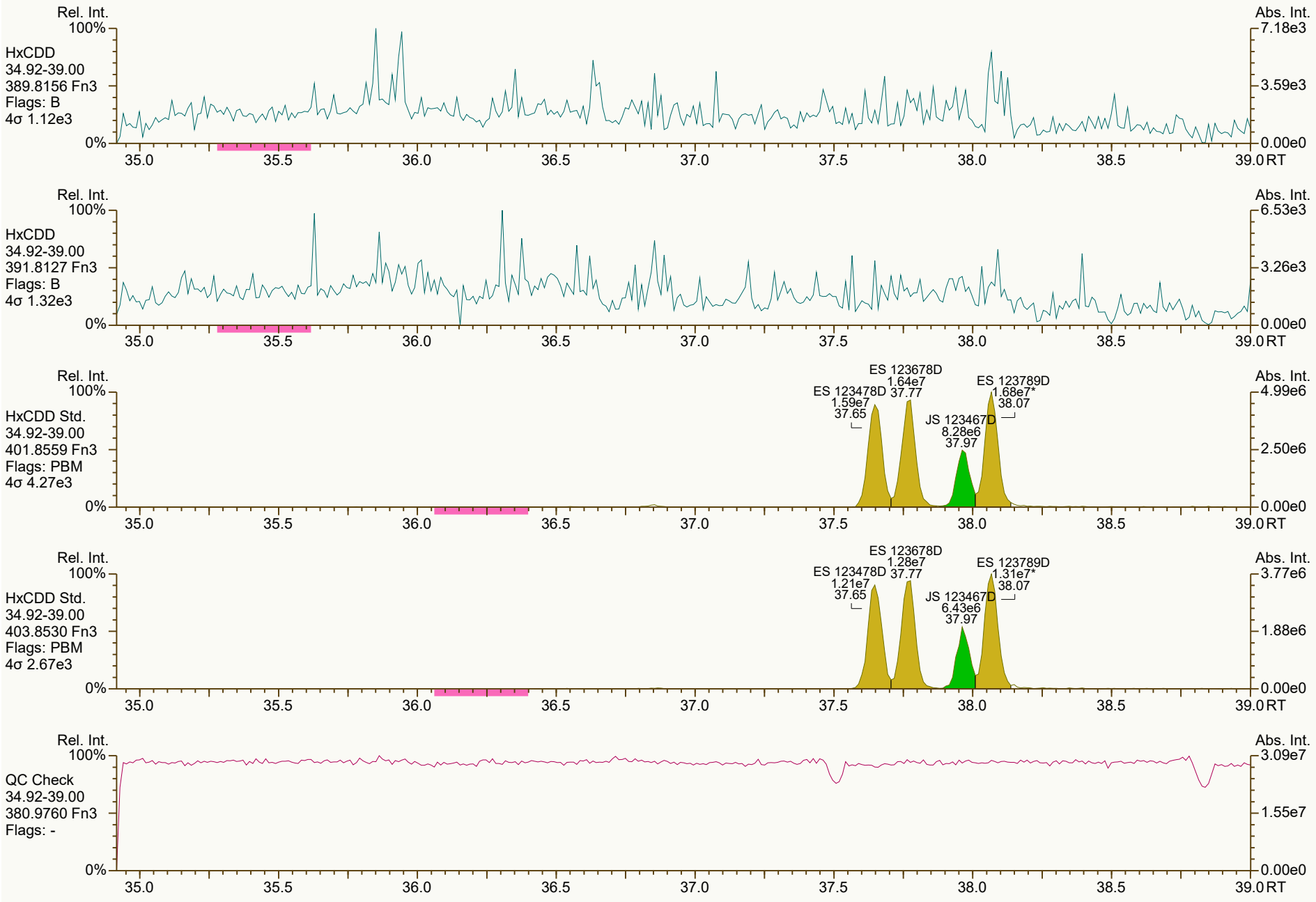
Datafile: 220215C05 | **Report: 16 Feb 2022 15:39 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		4063.818	0.147
12347-PeCDF	NotFnd		0.9892						1.02		4063.818	0.147
12348-PeCDF	NotFnd		0.9940						1.02		4063.818	0.147
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4063.818**	**0.142**
12678/12367-PeCDF	NotFnd		1.0091						1.02		4063.818	0.147
12379-PeCDF	NotFnd		1.0144						1.02		4063.818	0.147
12679-PeCDF	NotFnd		0.9928						1.02		4063.818	0.147
23467/12369-PeCDF	NotFnd		0.9966						1.02		4063.818	0.147
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**4063.818**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4063.818	0.147
12349-PeCDF	NotFnd		1.0101						1.02		4063.818	0.147
12389-PeCDF	NotFnd		1.0327						1.02		4063.818	0.147
123468-HxCDF	NotFnd		0.9624						1.19		3258.977	0.118
124678/134678-HxCDF	NotFnd		0.9679						1.19		3258.977	0.118
134679-HxCDF	NotFnd		0.9741						1.19		3258.977	0.118
124679-HxCDF	NotFnd		0.9796						1.19		3258.977	0.118
124689-HxCDF	NotFnd		0.9856						1.19		3258.977	0.118
123467-HxCDF	NotFnd		0.9972						1.19		3258.977	0.118
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3258.977**	**0.116**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3258.977**	**0.104**
123479-HxCDF	NotFnd		1.0049						1.19		3258.977	0.118
123469-HxCDF	NotFnd		1.0090						1.19		3258.977	0.118
123679-HxCDF	NotFnd		0.9942						1.19		3258.977	0.118
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3258.977**	**0.117**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3258.977	0.118
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3258.977**	**0.141**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3258.977	0.118
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2098.8674**	**0.0785**
1234679-HpCDF	NotFnd		1.0069						1.34		2098.8674	0.0956
1234689-HpCDF	NotFnd		1.0104						1.34		2098.8674	0.0956
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2098.8674**	**0.118**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2844.287**	**0.349**
OCDF-a	NotFnd		1.0002						0.07		3408.209	6.75


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.79e6
4.90e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
8.11e6
4.05e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.09e7
1.55e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.80e7
8.98e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.24e6
0.00e0

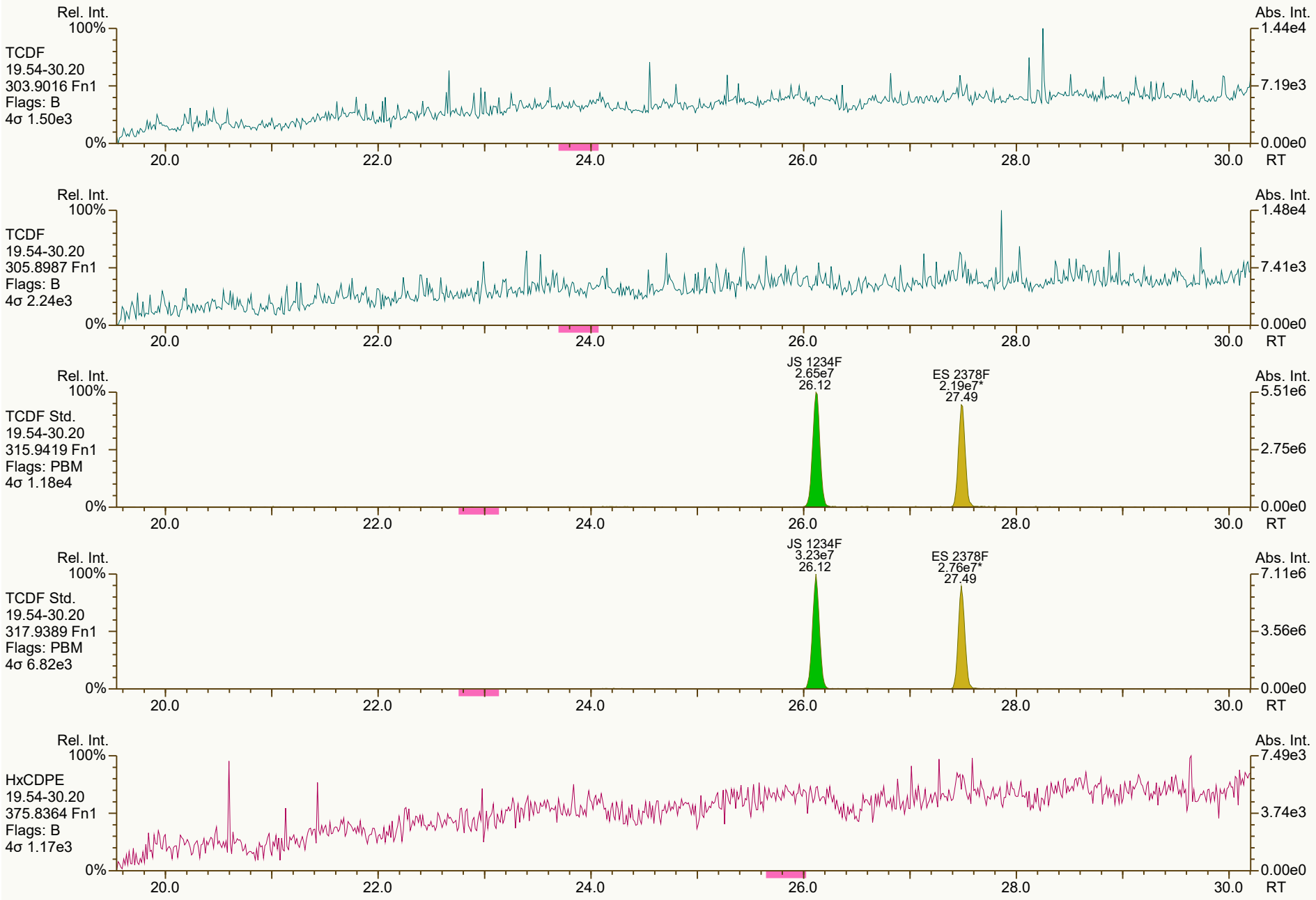

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.33e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.09e4
5.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.41e3
0%
CS 37Cl-2378D
1.59e7
28.37
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.53e3
0%
JS 1234D
1.53e7
27.69
ES 2378D
1.49e7
28.35
Abs. Int.
3.55e6
1.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.69e3
0%
JS 1234D
1.90e7
27.68
ES 2378D
1.88e7
28.35
Abs. Int.
4.43e6
2.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: MB1_18913_DF_SDS
Sample ID: Method Blank
Acq: 15-Feb-2022 13:52:08
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220215C05
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 2.25e3
5.93e3
2.97e3
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.21e3
6.04e3
3.02e3
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.31e3
CS 12347D
1.81e7
33.22
ES 12378D
2.00e7
33.72
5.60e6
2.80e6
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
1.16e7
33.22
ES 12378D
1.25e7
33.72
3.50e6
1.75e6
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
8.11e6
4.05e6
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9042, 6848 scc: 341-051
PKD: 15-Feb-2022 15:44 Printed: 16-Feb-2022 15:43 Page 3 of 12

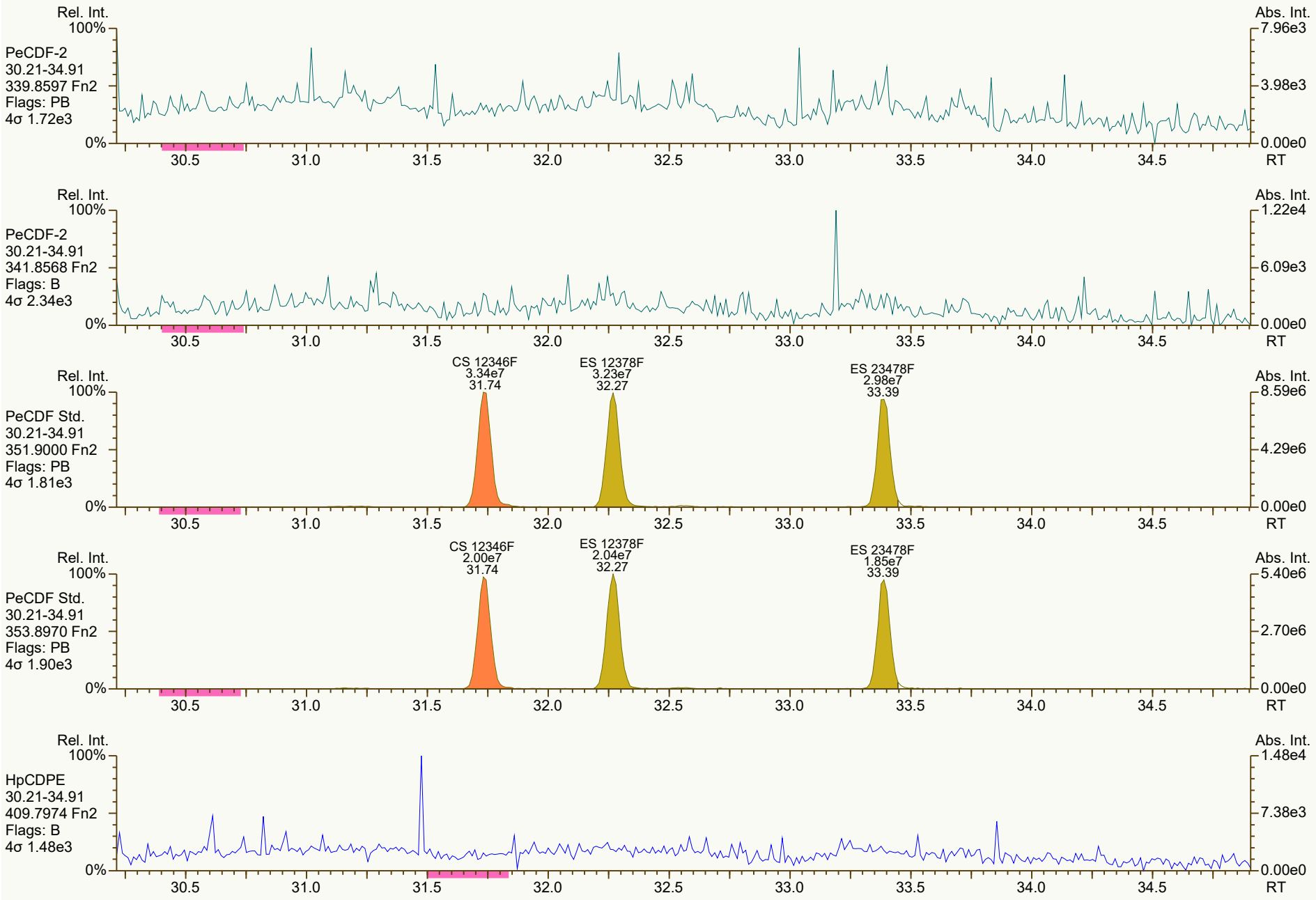

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.12e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
6.53e3
3.26e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.27e3
0%
ES 123678D
1.64e7
37.77
ES 123478D
1.59e7
37.65
ES 123789D
1.68e7*
38.07
JS 123467D
8.28e6
37.97
Abs. Int.
4.99e6
2.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.67e3
0%
ES 123678D
1.28e7
37.77
ES 123478D
1.21e7
37.65
ES 123789D
1.31e7*
38.07
JS 123467D
6.43e6
37.97
Abs. Int.
3.77e6
1.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

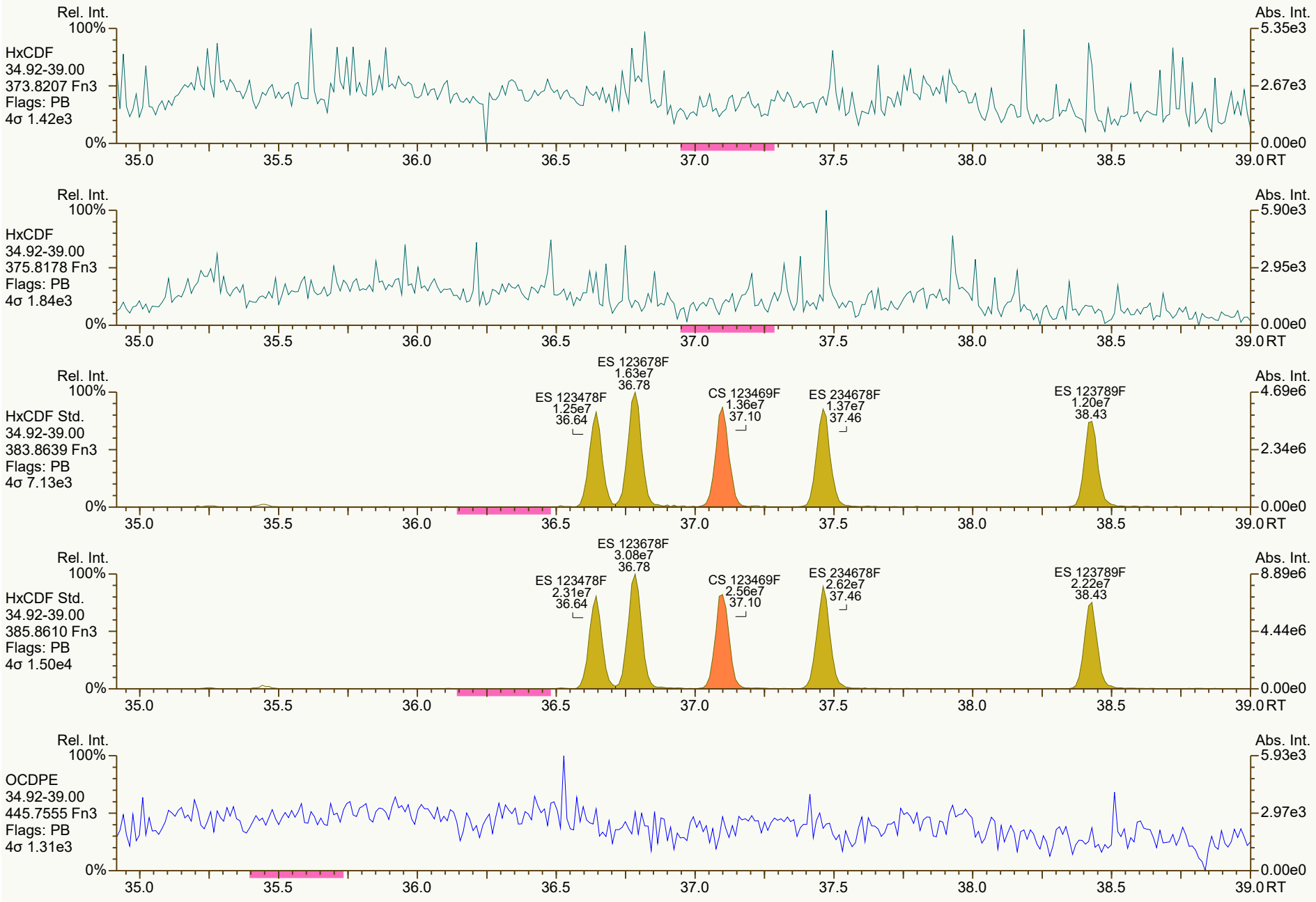

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
6.85e3
3.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.35e7*
40.77
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.08e3
0%
Abs. Int.
3.80e6
1.90e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.30e7*
40.77
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.99e3
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
8.98e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

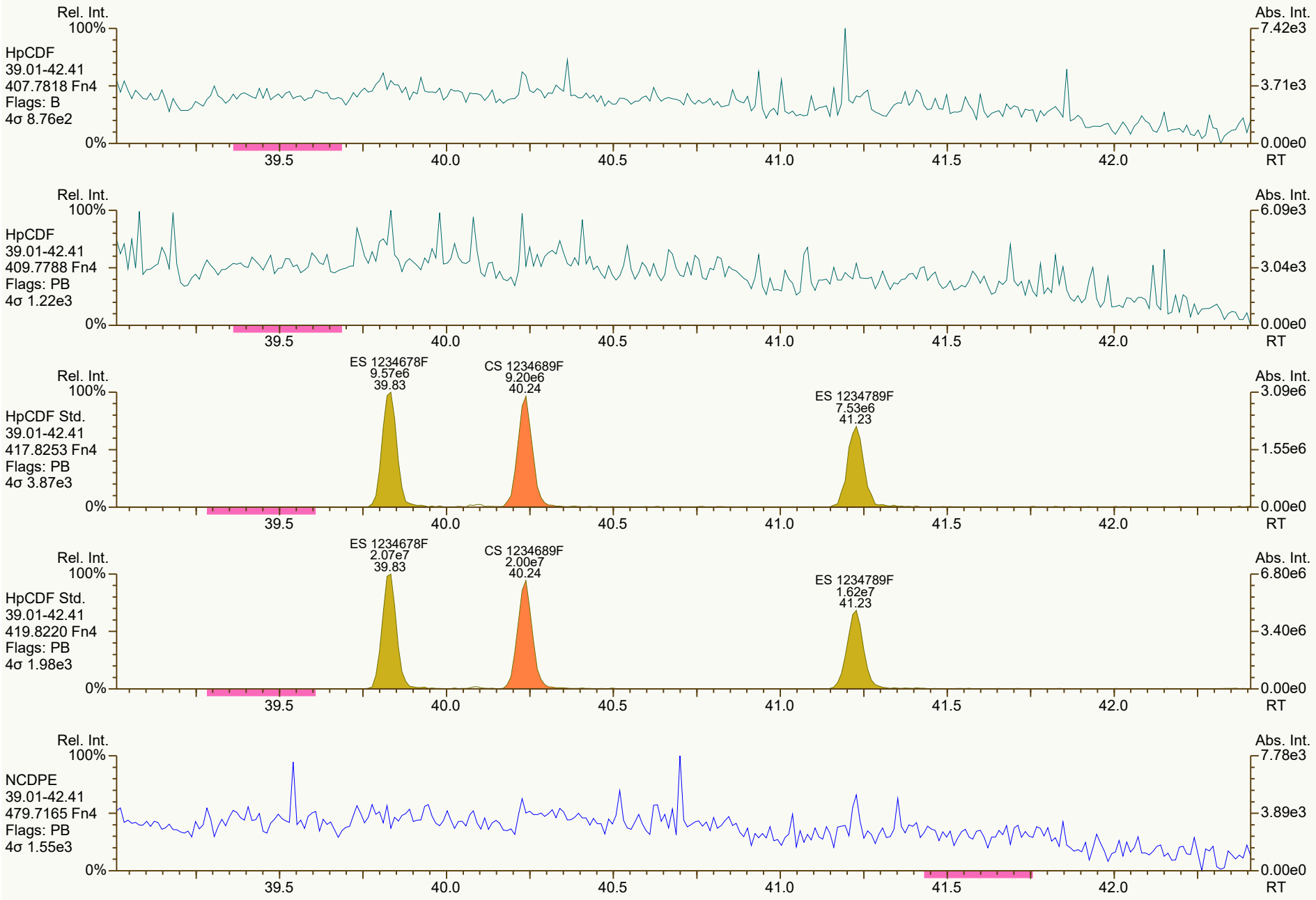

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
6.70e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.48e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

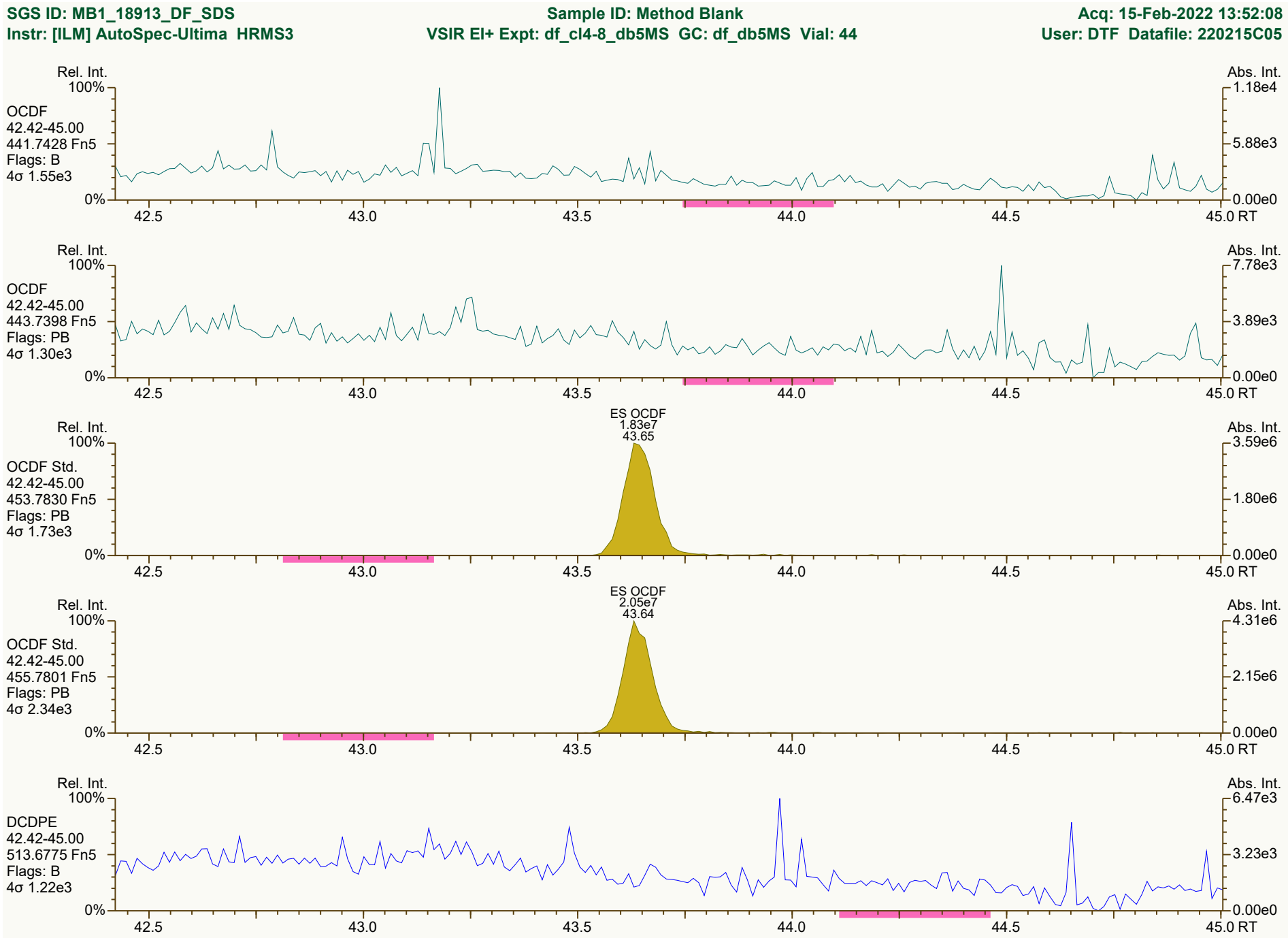

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.48e4
7.41e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 1.18e4
0%
JS 1234F
2.65e7
26.12
ES 2378F
2.19e7*
27.49
Abs. Int.
5.51e6
2.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 6.82e3
0%
JS 1234F
3.23e7
26.12
ES 2378F
2.76e7*
27.49
Abs. Int.
7.11e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.17e3
0%
Abs. Int.
7.49e3
3.74e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.51e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.79e6
4.90e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.72e3
0%
Abs. Int.
7.96e3
3.98e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 2.34e3
1.22e4
6.09e3
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.81e3
CS 12346F
3.34e7
31.74
ES 12378F
3.23e7
32.27
ES 23478F
2.98e7
33.39
8.59e6
4.29e6
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.90e3
CS 12346F
2.00e7
31.74
ES 12378F
2.04e7
32.27
ES 23478F
1.85e7
33.39
5.40e6
2.70e6
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.48e3
1.48e4
7.38e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.42e3
0%
Abs. Int.
5.35e3
2.67e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.84e3
0%
Abs. Int.
5.90e3
2.95e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 7.13e3
0%
ES 123678F
1.63e7
36.78
ES 123478F
1.25e7
36.64
CS 123469F
1.36e7
37.10
ES 234678F
1.37e7
37.46
ES 123789F
1.20e7
38.43
Abs. Int.
4.69e6
2.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.50e4
0%
ES 123678F
3.08e7
36.78
ES 123478F
2.31e7
36.64
CS 123469F
2.56e7
37.10
ES 234678F
2.62e7
37.46
ES 123789F
2.22e7
38.43
Abs. Int.
8.89e6
4.44e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.93e3
2.97e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 8.76e2
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.09e3
3.04e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.87e3
0%
ES 1234678F
9.57e6
39.83
CS 1234689F
9.20e6
40.24
ES 1234789F
7.53e6
41.23
Abs. Int.
3.09e6
1.55e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.98e3
0%
ES 1234678F
2.07e7
39.83
CS 1234689F
2.00e7
40.24
ES 1234789F
1.62e7
41.23
Abs. Int.
6.80e6
3.40e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.55e3
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: MB1_18913_DF_SDS
Sample ID: Method Blank
Acq: 15-Feb-2022 13:52:08
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220215C05
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.55e3
1.18e4
5.88e3
0.00e0
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.30e3
7.78e3
3.89e3
ES OCDF
1.83e7
43.65
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.73e3
3.59e6
1.80e6
ES OCDF
2.05e7
43.64
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.34e3
4.31e6
2.15e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.22e3
6.47e3
3.23e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4603, 2442, 2572 scc: 341-051
PKD: 15-Feb-2022 15:44 Printed: 16-Feb-2022 15:43 Page 12 of 12

Lab ID: B6183_18913_DF_001 **Acq'd:** 15 Feb 2022 14:38 DTF **Wt/Vol:** 10.45 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-8aH **UTP:** 16-Feb-2022 15:38:32 DTF **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 924-978-GNY

Datafile: 220215C06 **Report:** 16 Feb 2022 15:39 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.38	EMPC	1.0008	1.0010	+0.3	2.28E+05	0.95	N	1.18	1.13	4912.144	0.265
12378-PeCDD	33.73	J EMPC	1.0006	1.0002	-0.8	7.32E+04	1.22	N	1.04	0.401	4165.364	0.212
123478-HxCDD	37.67	J EMPC	1.0004	1.0006	+0.5	6.60E+04	1.50	N	1.09	0.411	5313.68	0.293
123678-HxCDD	37.78	J EMPC	1.0036	1.0036	0	1.37E+05	1.43	N	1.15	0.774	5313.68	0.261
123789-HxCDD	38.08	J	1.0115	1.0113	-0.5	2.42E+05	1.06	Y	1.05	1.45	5313.68	0.276
1234678-HpCDD	40.78		1.0003	1.0003	0	3.60E+06	1.00	Y	1.06	22.7	5191.568	0.281
OCDD	43.49		1.0003	1.0003	0	4.37E+07	0.91	Y	1.13	450	4142.215	0.521
2378-TCDF	27.52		1.0008	1.0008	0	7.30E+05	0.78	Y	1.08	2.58	5955.771	0.222
12378-PeCDF	32.29	J EMPC	1.0005	1.0006	+0.2	8.34E+04	1.15	N	1.02	0.321	6484.811	0.219
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	6484.811	0.228
123478-HxCDF	36.66	J	1.0004	1.0005	+0.2	5.39E+04	1.18	Y	1.27	0.232	4295.139	0.156
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	4295.139	0.146
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	4295.139	0.146
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4295.139	0.164
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3040.58	0.0992
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3040.58	0.147
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3391.467	0.349

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.36	1.0239	1.0240	+0.2	3.25E+07	0.81	Y	1.05	95.1
ES 12378-PeCDD	33.72	1.2174	1.2178	+0.8	3.37E+07	1.58	Y	0.88	118
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.82E+07	1.31	Y	0.97	93.8
ES 123678-HxCDD	37.77	0.9948	0.9949	+0.2	2.94E+07	1.28	Y	0.94	101
ES 123789-HxCDD	38.07	1.0027	1.0027	0	3.04E+07	1.27	Y	1.09	90
ES 1234678-HpCDD	40.77	1.0738	1.0740	+0.5	2.86E+07	1.09	Y	0.91	101
ES OCDD	43.47	1.1449	1.1451	+0.5	3.30E+07	0.90	Y	0.62	85.3
ES 2378-TCDF	27.50	1.0523	1.0524	+0.2	5.01E+07	0.81	Y	1.06	83.4
ES 12378-PeCDF	32.27	1.2346	1.2350	+0.8	4.86E+07	1.57	Y	0.91	94
ES 23478-PeCDF	33.39	1.2774	1.2777	+0.6	4.83E+07	1.60	Y	0.88	96.4
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	3.50E+07	0.53	Y	1.20	94.4
ES 123678-HxCDF	36.78	0.9688	0.9689	+0.2	4.24E+07	0.53	Y	1.35	101
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	4.21E+07	0.54	Y	1.24	109
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	3.35E+07	0.52	Y	1.16	93.6
ES 1234678-HpCDF	39.83	1.0491	1.0492	+0.2	3.20E+07	0.46	Y	0.97	107
ES 1234789-HpCDF	41.23	1.0858	1.0861	+0.7	2.55E+07	0.46	Y	0.85	96.6
ES OCDF	43.65	1.1495	1.1497	+0.5	4.16E+07	0.93	Y	0.81	83.1

Lab ID: B6183_18913_DF_001 **Acq'd:** 15 Feb 2022 14:38 DTF **Wt/Vol:** 10.45 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-8aH **UTP:** 16-Feb-2022 15:38:32 DTF **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 924-978-GNY

Datafile: 220215C06 **Report:** 16 Feb 2022 15:39 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	3.27E+07	0.83	Y	-	-
JS 1234-TCDF	26.13		-	-	-	5.68E+07	0.80	Y	-	-
JS 123467-HxCDD	37.96		-	-	-	1.55E+07	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.38		1.0247	1.0247	0	1.53E+07	n/a	-	1.20	97.2
CS 12347-PeCDD	33.22		1.1993	1.1995	+0.4	2.99E+07	1.63	Y	0.75	121
CS 12346-PeCDF	31.73		1.2144	1.2146	+0.4	4.87E+07	1.58	Y	0.85	101
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.97E+07	0.53	Y	1.12	115
CS 1234689-HpCDF	40.24		1.0597	1.0599	+0.5	3.29E+07	0.46	Y	0.89	120
~~SS 37Cl-2378-TCDD~~	~~28.38~~		~~1.0247~~	~~1.0247~~	~~0~~	~~1.53E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1995~~	~~+0.4~~	~~2.99E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.73~~		~~1.2144~~	~~1.2146~~	~~+0.4~~	~~4.87E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.97E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~113~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0599~~	~~+0.5~~	~~3.29E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~112~~

Totals	Conc	EMPC
Total TCDD	4.08	5.21
Total PeCDD	4.13	4.53
Total HxCDD	24.7	26.4
Total HpCDD	72.7	72.7
Total Tetra-Octa Dioxins	556	559
Total TCDF	7.49	8.67
Total PeCDF	0	0.321
Total HxCDF	0.232	0.232
Total HpCDF	0	0
Total Tetra-Octa Furans	7.72	9.22
Total Tetra-Octa Dioxins & Furans	563	568

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.889	0.95
Response	2.60E+05	2.51E+05

Lab ID: B6183_18913_DF_001 **Acq'd: 15 Feb 2022 14:38 DTF** **Wt/Vol: 10.45 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-B-8aH **UTP: 16-Feb-2022 15:38:32 DTF** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 924-978-GNY**

Datafile: 220215C06 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8719						1.18		4912.144	0.265
1379-TCDD	NotFnd		0.8845						1.18		4912.144	0.265
1369-TCDD	NotFnd		0.8996						1.18		4912.144	0.265
1469-TCDD	26.29		0.9271	0.9271	0	6.83E+05	0.86	Y	1.18	3.4	4912.144	0.265
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		4912.144	0.265
1378-TCDD	NotFnd		0.9425						1.18		4912.144	0.265
1268-TCDD	NotFnd		0.9494						1.18		4912.144	0.265
1478-TCDD	NotFnd		0.9581						1.18		4912.144	0.265
1279-TCDD	NotFnd		0.9640						1.18		4912.144	0.265
1234/1269-TCDD	27.68		0.9765	0.9763	-0.3	1.38E+05	0.80	Y	1.18	0.684	4912.144	0.265
1236-TCDD	NotFnd		0.9816						1.18		4912.144	0.265
1237/1238-TCDD	NotFnd		0.9906						1.18		4912.144	0.265
1239-TCDD	NotFnd		0.9952						1.18		4912.144	0.265
2378-TCDD	**28.38**	EMPC	**1.0008**	1.0010	**+0.3**	2.28E+05	0.95	N	**1.18**	**1.13**	**4912.144**	**0.265**
1278-TCDD	NotFnd		1.0123						1.18		4912.144	0.265
1267-TCDD	NotFnd		1.0170						1.18		4912.144	0.265
1289-TCDD	NotFnd		1.0351						1.18		4912.144	0.265
12479/12468-PeCDD	31.24	J	0.9261	0.9262	+0.2	1.16E+05	1.34	Y	1.04	0.633	4165.364	0.212
12469-PeCDD	31.76		0.9420	0.9418	-0.4	4.47E+05	1.52	Y	1.04	2.45	4165.364	0.212
12368-PeCDD	NotFnd		0.9584						1.04		4165.364	0.212
12478-PeCDD	NotFnd		0.9641						1.04		4165.364	0.212
12379-PeCDD	NotFnd		0.9670						1.04		4165.364	0.212
12369/12467/12489-PeCDD	32.87	J	0.9747	0.9748	+0.2	1.91E+05	1.65	Y	1.04	1.05	4165.364	0.212
12346/12347-PeCDD	NotFnd		0.9857						1.04		4165.364	0.212
12378-PeCDD	33.73	J EMPC	**1.0006**	**1.0002**	**-0.8**	**7.32E+04**	**1.22**	**N**	**1.04**	**0.401**	**4165.364**	**0.212**
12367-PeCDD	NotFnd		1.0034						1.04		4165.364	0.212
12389-PeCDD	NotFnd		1.0136						1.04		4165.364	0.212
124679/124689-HxCDD	35.92		0.9540	0.9540	0	2.88E+06	1.28	Y	1.10	17.2	5313.68	0.276
123468-HxCDD	36.57	J	0.9714	0.9713	-0.2	8.64E+04	1.28	Y	1.10	0.514	5313.68	0.276
123679/123689-HxCDD	36.87		0.9792	0.9792	0	7.91E+05	1.22	Y	1.10	4.71	5313.68	0.276
123469-HxCDD	37.00	J	0.9828	0.9828	0	1.39E+05	1.26	Y	1.10	0.826	5313.68	0.276
123478-HxCDD	37.67	J EMPC	**1.0004**	**1.0006**	**+0.5**	**6.60E+04**	**1.50**	**N**	1.09	**0.411**	**5313.68**	**0.293**
123678-HxCDD	37.78	J EMPC	**1.0036**	**1.0036**	**0**	**1.37E+05**	**1.43**	**N**	1.15	**0.774**	**5313.68**	**0.261**
123467-HxCDD	37.98	J EMPC	1.0087	1.0086	-0.2	8.65E+04	1.64	N	1.10	0.515	5313.68	0.276
123789-HxCDD	38.08	J	**1.0115**	**1.0113**	**-0.5**	**2.42E+05**	**1.06**	**Y**	1.05	**1.45**	**5313.68**	**0.276**

Lab ID: B6183_18913_DF_001 **Acq'd: 15 Feb 2022 14:38 DTF** **Wt/Vol: 10.45 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-B-8aH **UTP: 16-Feb-2022 15:38:32 DTF** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 924-978-GNY**

Datafile: 220215C06 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

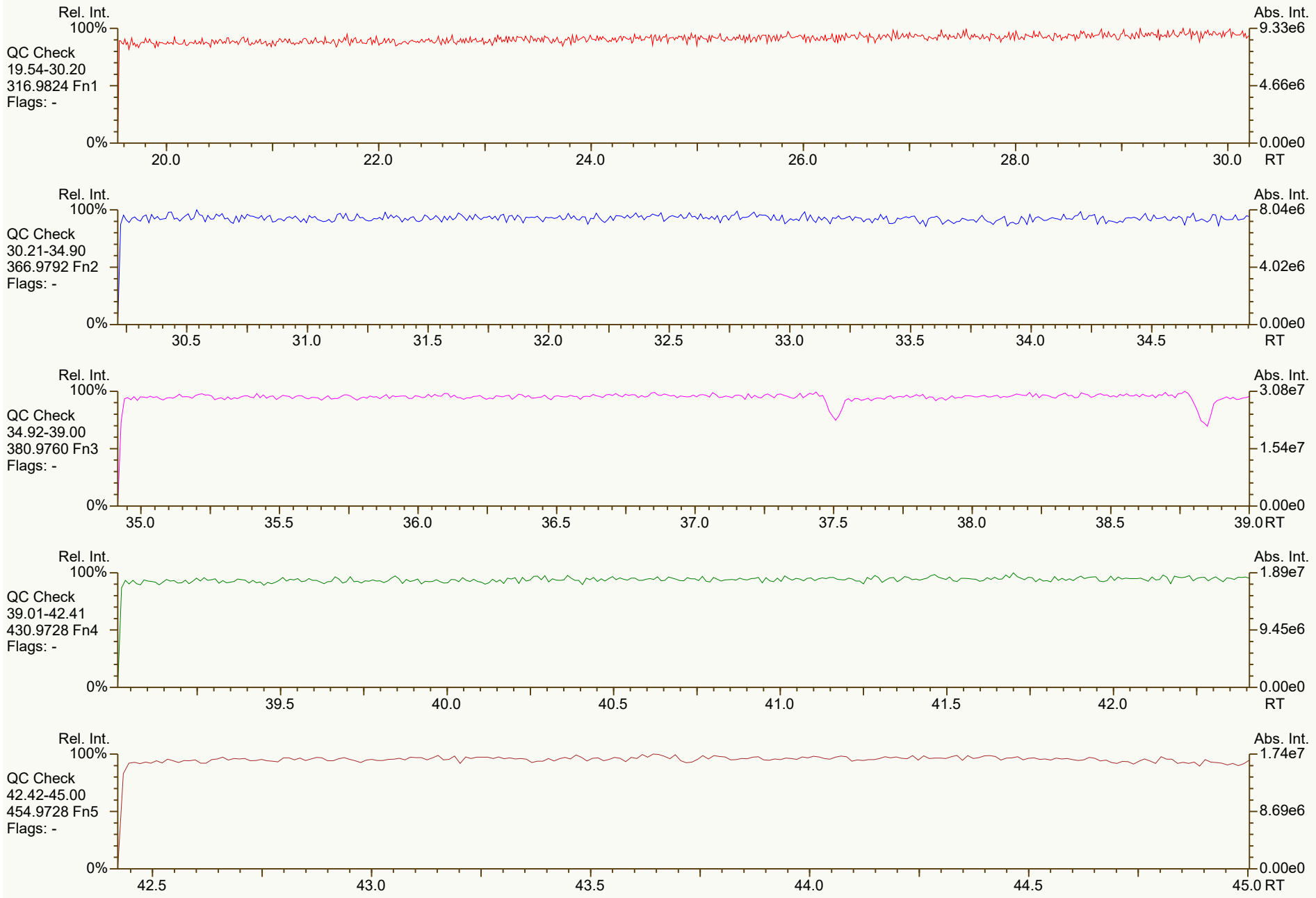
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9836	0	7.91E+06	1.00	Y	1.06	49.9	5191.568	0.281
1234678-HpCDD	**40.78**		**1.0003**	**1.0003**	**0**	**3.60E+06**	**1.00**	**Y**	**1.06**	**22.7**	**5191.568**	**0.281**
OCDD	**43.49**		**1.0003**	**1.0003**	**0**	**4.37E+07**	**0.91**	**Y**	**1.13**	**450**	**4142.215**	**0.521**
OCDD-a	43.49		1.0002	1.0002	0	2.94E+06	2.67	Y	0.07	474	4393.346	8.64
1368-TCDF	NotFnd		0.8222						1.08		5955.771	0.222
1468-TCDF	NotFnd		0.8434						1.08		5955.771	0.222
2468-TCDF	23.83	EMPC	0.8666	0.8665	-0.1	2.26E+05	0.61	N	1.08	0.799	5955.771	0.222
1346/1246-TCDF	NotFnd		0.8789						1.08		5955.771	0.222
1347/1378/1247-TCDF	24.34		0.8848	0.8851	+0.4	2.04E+05	0.78	Y	1.08	0.722	5955.771	0.222
1348-TCDF	NotFnd		0.8947						1.08		5955.771	0.222
1248/1367/1379-TCDF	24.73	J EMPC	0.8995	0.8993	-0.3	1.09E+05	0.55	N	1.08	0.385	5955.771	0.222
1268-TCDF	NotFnd		0.9131						1.08		5955.771	0.222
1467-TCDF	NotFnd		0.9181						1.08		5955.771	0.222
1478-TCDF	25.42	J	0.9244	0.9244	0	1.05E+05	0.78	Y	1.08	0.37	5955.771	0.222
1369/1237-TCDF	25.81	J	0.9379	0.9386	+1.1	1.15E+05	0.71	Y	1.08	0.408	5955.771	0.222
2467-TCDF	NotFnd		0.9425						1.08		5955.771	0.222
2368-TCDF	26.08		0.9483	0.9483	0	1.52E+05	0.72	Y	1.08	0.536	5955.771	0.222
1238/1234/1678/1469/1236-TCDF	26.16		0.9514	0.9514	0	1.83E+05	0.69	Y	1.08	0.649	5955.771	0.222
1278-TCDF	26.62		0.9681	0.9679	-0.3	4.30E+05	0.87	Y	1.08	1.52	5955.771	0.222
1349-TCDF	NotFnd		0.9722						1.08		5955.771	0.222
1267-TCDF	NotFnd		0.9780						1.08		5955.771	0.222
2346/1249-TCDF	NotFnd		0.9845						1.08		5955.771	0.222
2347/1279-TCDF	NotFnd		0.9927						1.08		5955.771	0.222
2348-TCDF	NotFnd		0.9970						1.08		5955.771	0.222
2378-TCDF	**27.52**		**1.0008**	**1.0008**	**0**	**7.30E+05**	**0.78**	**Y**	**1.08**	**2.58**	**5955.771**	**0.222**
2367/3467-TCDF	27.88		1.0140	1.0138	-0.3	1.97E+05	0.82	Y	1.08	0.697	5955.771	0.222
1269-TCDF	NotFnd		1.0226						1.08		5955.771	0.222
1239-TCDF	NotFnd		1.0325						1.08		5955.771	0.222
1289-TCDF	NotFnd		1.0732						1.08		5955.771	0.222
13468/12468-PeCDF	NotFnd		0.9130						1.02		2820.006	0.0972
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		6484.811	0.223
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		6484.811	0.223
14678-PeCDF	NotFnd		0.9688						1.02		6484.811	0.223
13479-PeCDF	NotFnd		0.9719						1.02		6484.811	0.223
13469/12479-PeCDF	NotFnd		0.9797						1.02		6484.811	0.223
12346-PeCDF	NotFnd		0.9841						1.02		6484.811	0.223

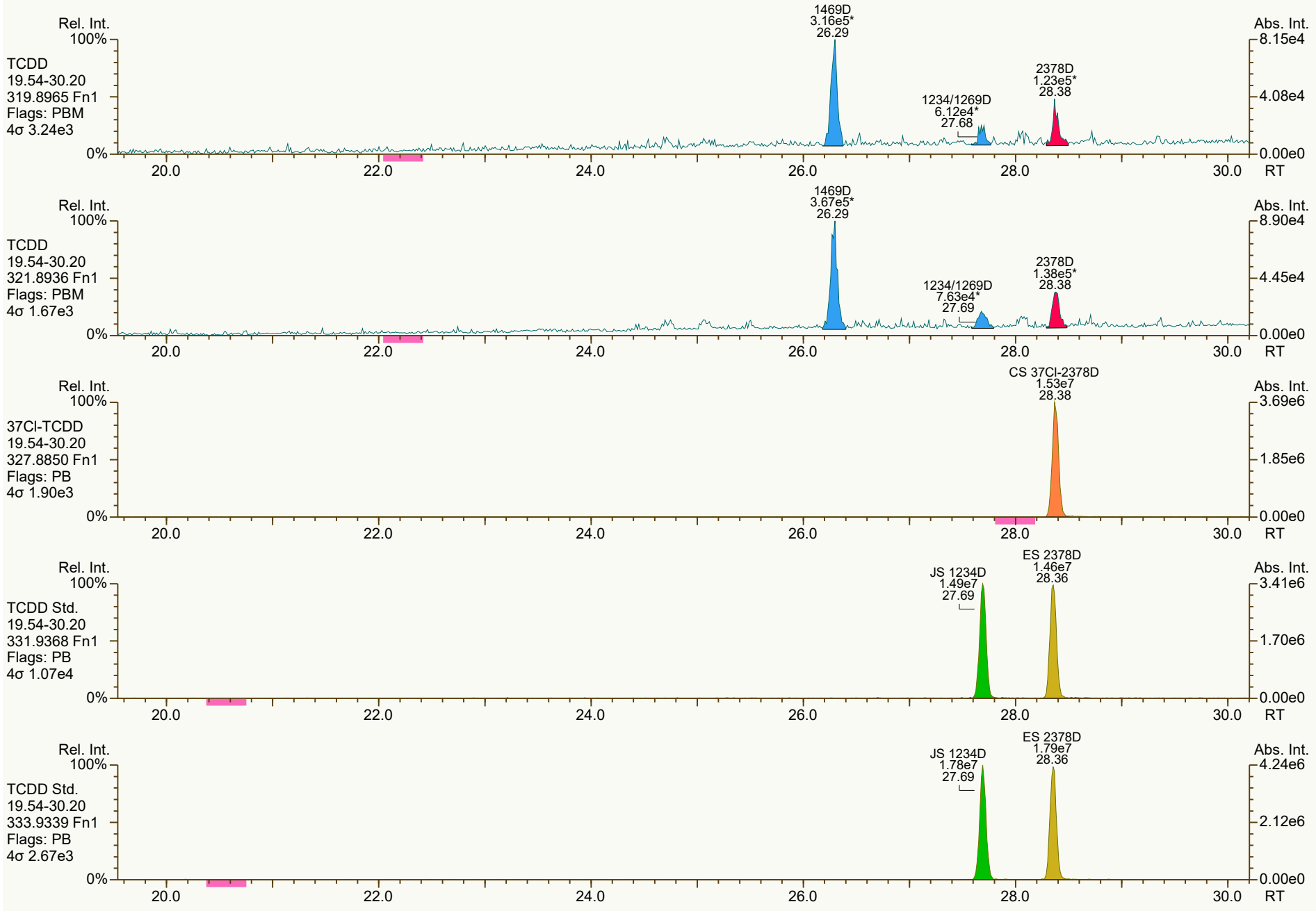
Lab ID: B6183_18913_DF_001 **Acq'd: 15 Feb 2022 14:38 DTF** **Wt/Vol: 10.45 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

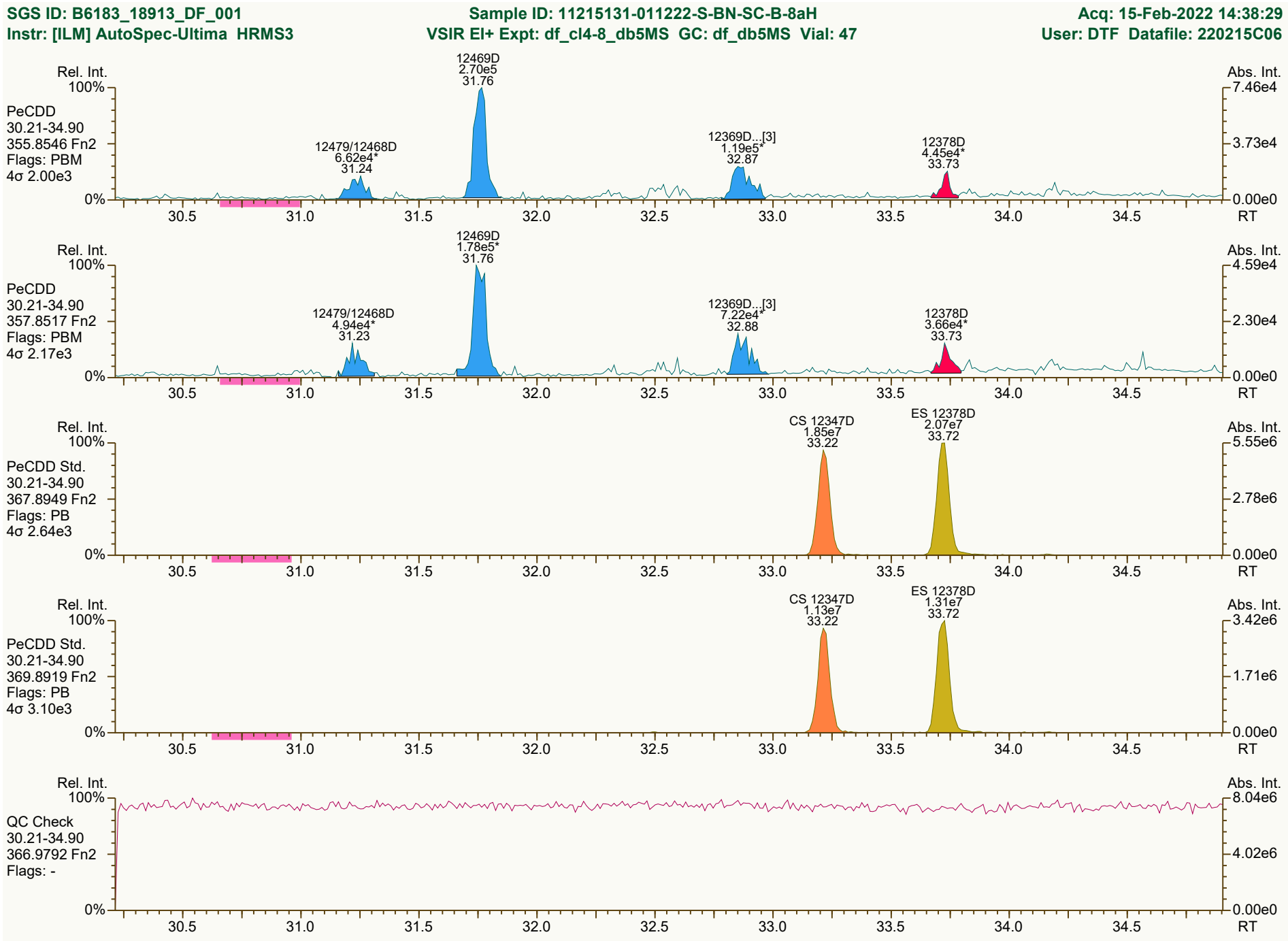
Client ID: 11215131-011222-S-BN-SC-B-8aH **UTP: 16-Feb-2022 15:38:32 DTF** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 924-978-GNY**

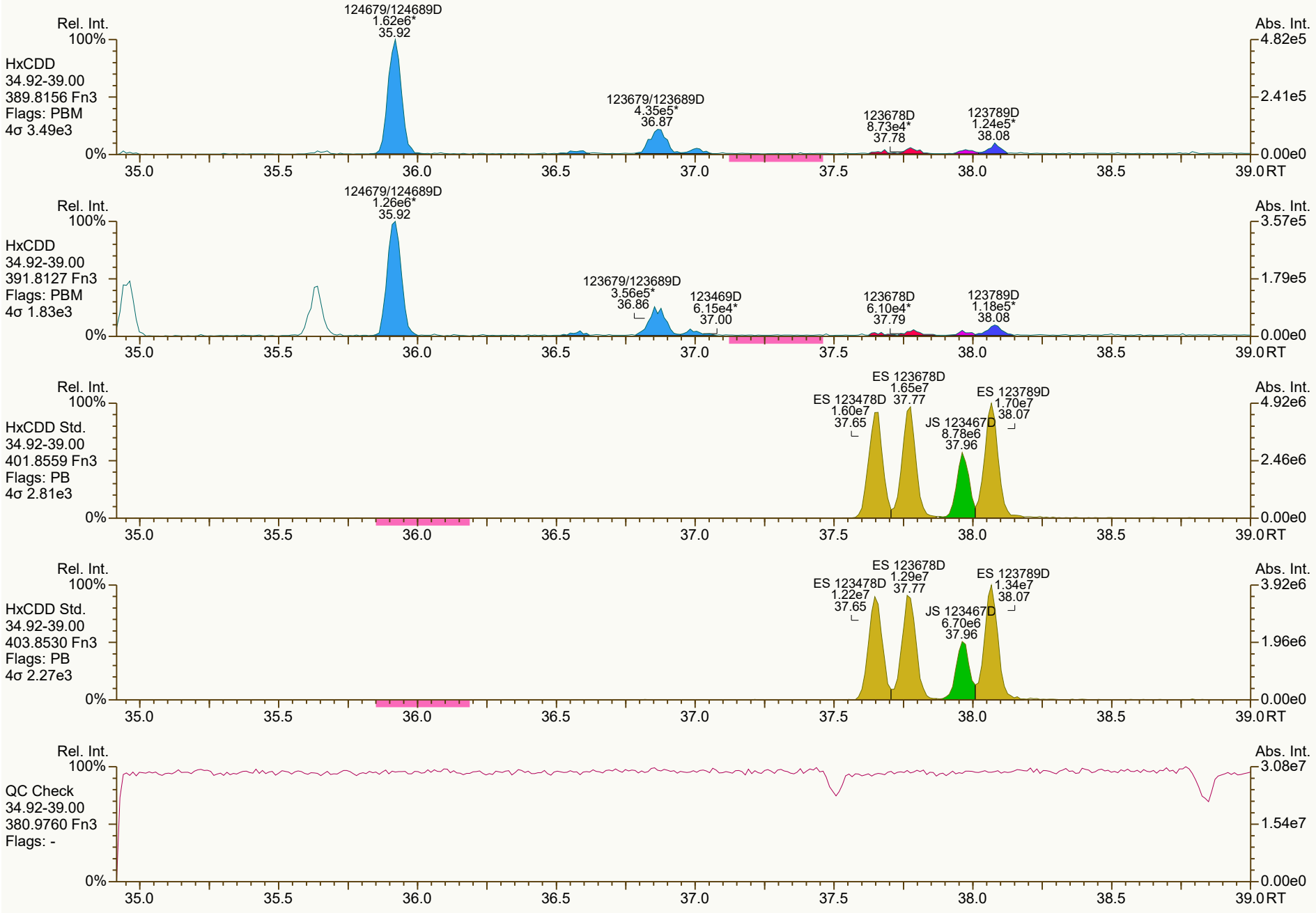
Datafile: 220215C06 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

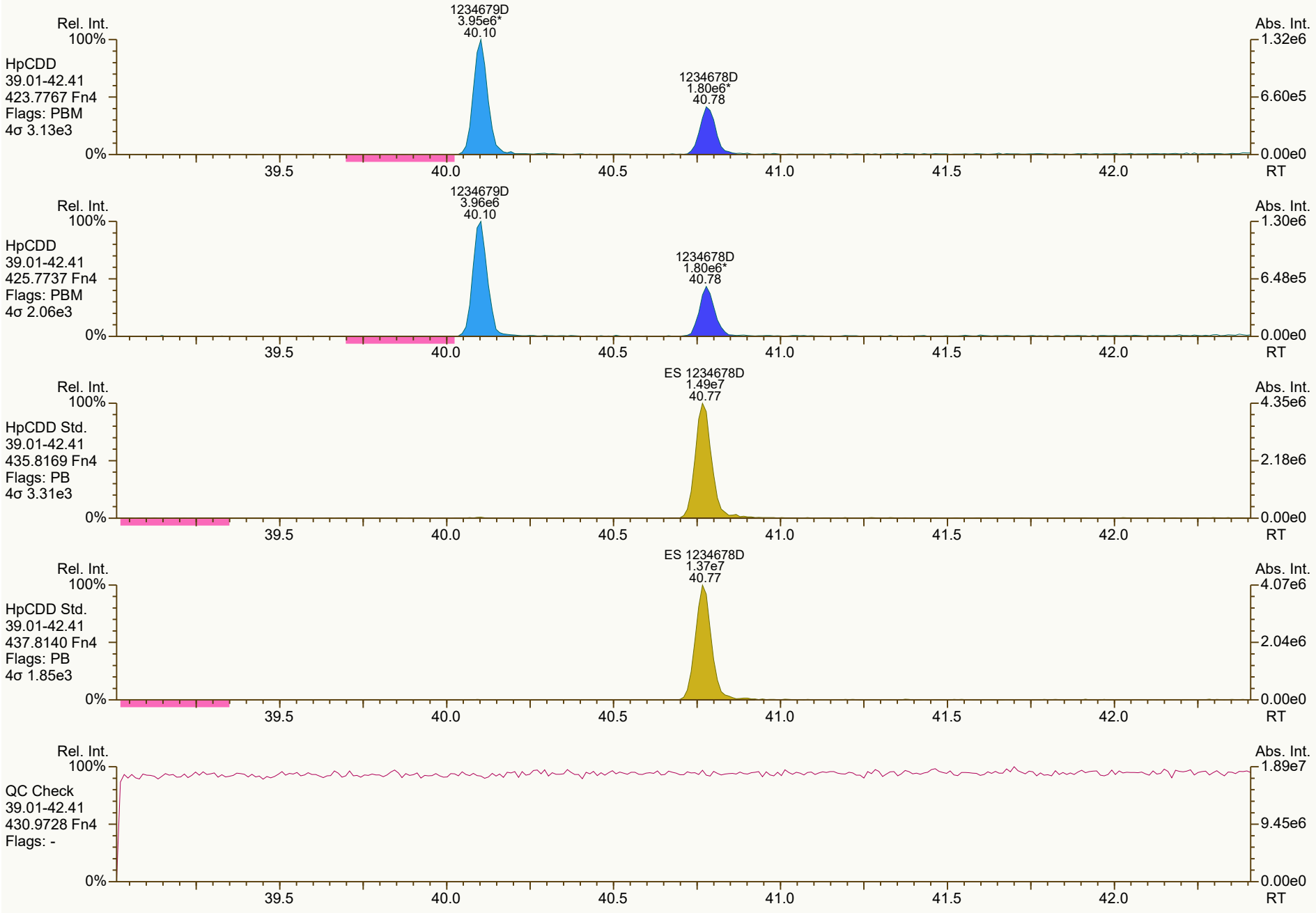
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		6484.811	0.223
12347-PeCDF	NotFnd		0.9892						1.02		6484.811	0.223
12348-PeCDF	NotFnd		0.9940						1.02		6484.811	0.223
12378-PeCDF	**32.29**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**8.34E+04**	**1.15**	**N**	**1.02**	**0.321**	**6484.811**	**0.219**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6484.811	0.223
12379-PeCDF	NotFnd		1.0144						1.02		6484.811	0.223
12679-PeCDF	NotFnd		0.9928						1.02		6484.811	0.223
23467/12369-PeCDF	NotFnd		0.9966						1.02		6484.811	0.223
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**6484.811**	**0.228**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6484.811	0.223
12349-PeCDF	NotFnd		1.0101						1.02		6484.811	0.223
12389-PeCDF	NotFnd		1.0327						1.02		6484.811	0.223
123468-HxCDF	NotFnd		0.9624						1.19		4295.139	0.152
124678/134678-HxCDF	NotFnd		0.9679						1.19		4295.139	0.152
134679-HxCDF	NotFnd		0.9741						1.19		4295.139	0.152
124679-HxCDF	NotFnd		0.9796						1.19		4295.139	0.152
124689-HxCDF	NotFnd		0.9856						1.19		4295.139	0.152
123467-HxCDF	NotFnd		0.9972						1.19		4295.139	0.152
123478-HxCDF	**36.66**	J	**1.0004**	**1.0005**	**+0.2**	**5.39E+04**	**1.18**	**Y**	**1.27**	**0.232**	**4295.139**	**0.156**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**4295.139**	**0.146**
123479-HxCDF	NotFnd		1.0049						1.19		4295.139	0.152
123469-HxCDF	NotFnd		1.0090						1.19		4295.139	0.152
123679-HxCDF	NotFnd		0.9942						1.19		4295.139	0.152
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**4295.139**	**0.146**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4295.139	0.152
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4295.139**	**0.164**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4295.139	0.152
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3040.58**	**0.0992**
1234679-HpCDF	NotFnd		1.0069						1.34		3040.58	0.12
1234689-HpCDF	NotFnd		1.0104						1.34		3040.58	0.12
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3040.58**	**0.147**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3391.467**	**0.349**
OCDF-a	NotFnd		1.0002						0.07		3645.749	6.05

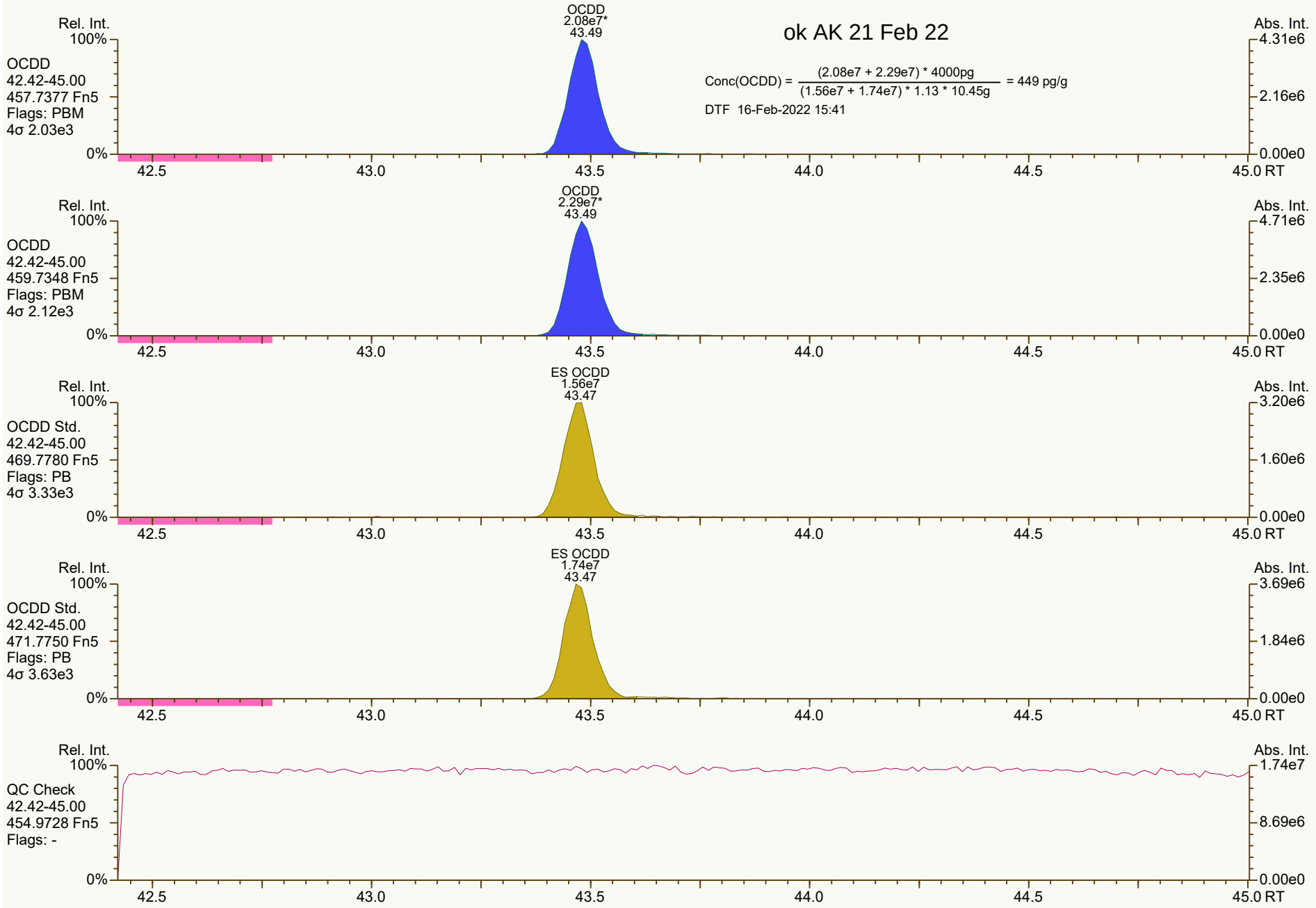

Rel. Int.
100%
0%
Abs. Int.
9.33e6
4.66e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
8.04e6
4.02e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
3.08e7
1.54e7
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
1.89e7
9.45e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
1.74e7
8.69e6
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.24e3
0%
1469D
3.16e5*
26.29
1234/1269D
6.12e4*
27.68
2378D
1.23e5*
28.38
Abs. Int.
8.15e4
4.08e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.67e3
0%
1469D
3.67e5*
26.29
1234/1269D
7.63e4*
27.69
2378D
1.38e5*
28.38
Abs. Int.
8.90e4
4.45e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.90e3
0%
CS 37Cl-2378D
1.53e7
28.38
Abs. Int.
3.69e6
1.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.07e4
0%
JS 1234D
1.49e7
27.69
ES 2378D
1.46e7
28.36
Abs. Int.
3.41e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.67e3
0%
JS 1234D
1.78e7
27.69
ES 2378D
1.79e7
28.36
Abs. Int.
4.24e6
2.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

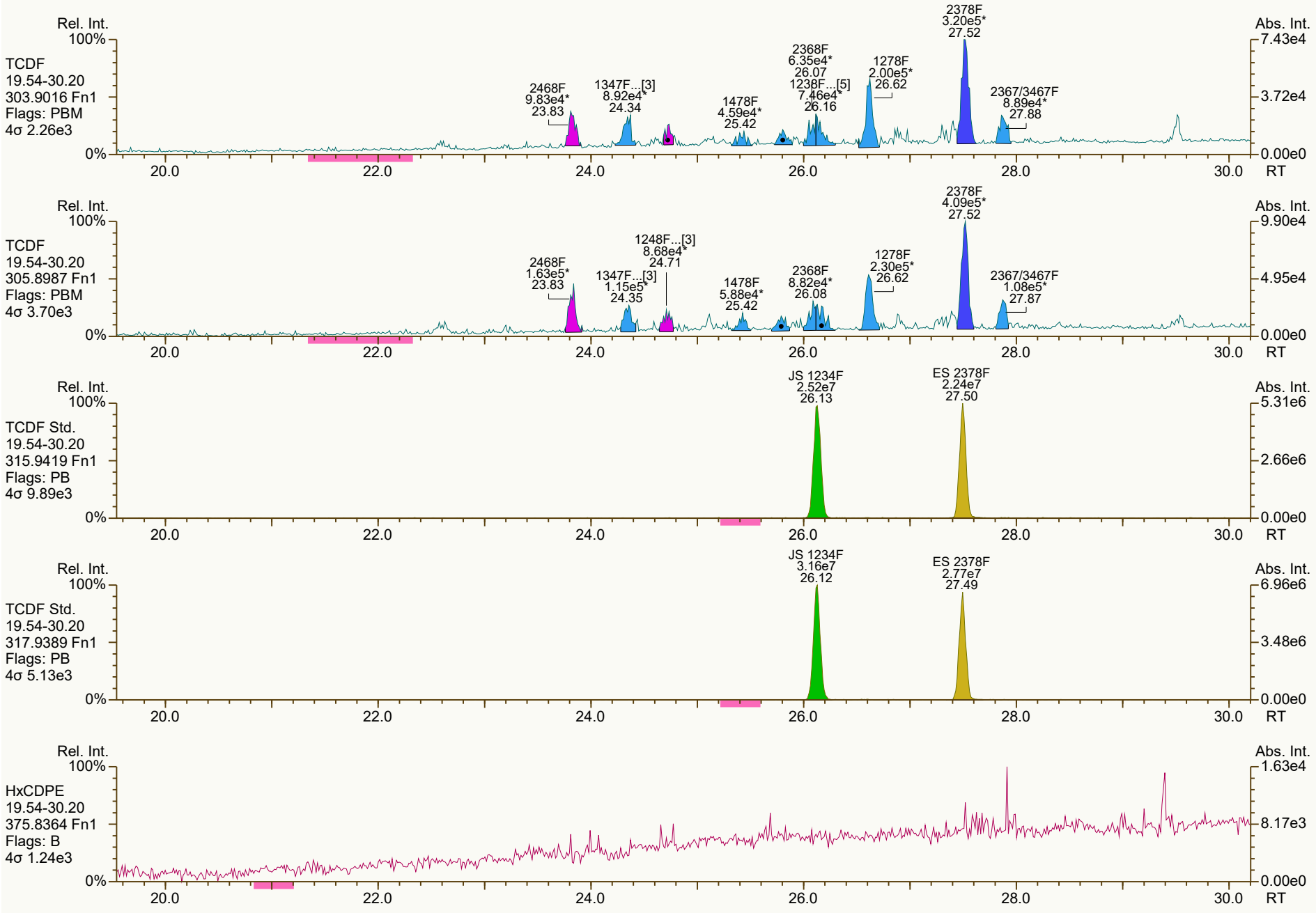

SGS ID: B6183_18913_DF_001
Sample ID: 11215131-011222-S-BN-SC-B-8aH
Acq: 15-Feb-2022 14:38:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220215C06
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.00e3
12469D
2.70e5
31.76
12479/12468D
6.62e4*
31.24
12369D...[3]
1.19e5*
32.87
12378D
4.45e4*
33.73
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.17e3
12469D
1.78e5*
31.76
12479/12468D
4.94e4*
31.23
12369D...[3]
7.22e4*
32.88
12378D
3.66e4*
33.73
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.64e3
CS 12347D
1.85e7
33.22
ES 12378D
2.07e7
33.72
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 3.10e3
CS 12347D
1.13e7
33.22
ES 12378D
1.31e7
33.72
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_001.utp_res, saved 16-Feb-2022 15:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1066, 2540 scc: 924-978
Revised: 15-Feb-2022 15:46 (DTF) Printed: 16-Feb-2022 15:44 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 3.49e3
124679/124689D
1.62e6*
35.92
123679/123689D
4.35e5*
36.87
123678D
8.73e4*
37.78
123789D
1.24e5*
38.08
Abs. Int.
4.82e5
2.41e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.83e3
124679/124689D
1.26e6*
35.92
123679/123689D
3.56e5*
36.86
123469D
6.15e4*
37.00
123678D
6.10e4*
37.79
123789D
1.18e5*
38.08
Abs. Int.
3.57e5
1.79e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
1.65e7
37.77
ES 123478D
1.60e7
37.65
ES 123789D
1.70e7
38.07
JS 123467D
8.78e6
37.96
Abs. Int.
4.92e6
2.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.27e3
ES 123678D
1.29e7
37.77
ES 123478D
1.22e7
37.65
ES 123789D
1.34e7
38.07
JS 123467D
6.70e6
37.96
Abs. Int.
3.92e6
1.96e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
3.08e7
1.54e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.13e3
1234679D
3.95e6*
40.10
1234678D
1.80e6*
40.78
Abs. Int.
1.32e6
6.60e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.06e3
1234679D
3.96e6
40.10
1234678D
1.80e6*
40.78
Abs. Int.
1.30e6
6.48e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 3.31e3
ES 1234678D
1.49e7
40.77
Abs. Int.
4.35e6
2.18e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.85e3
ES 1234678D
1.37e7
40.77
Abs. Int.
4.07e6
2.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.89e7
9.45e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

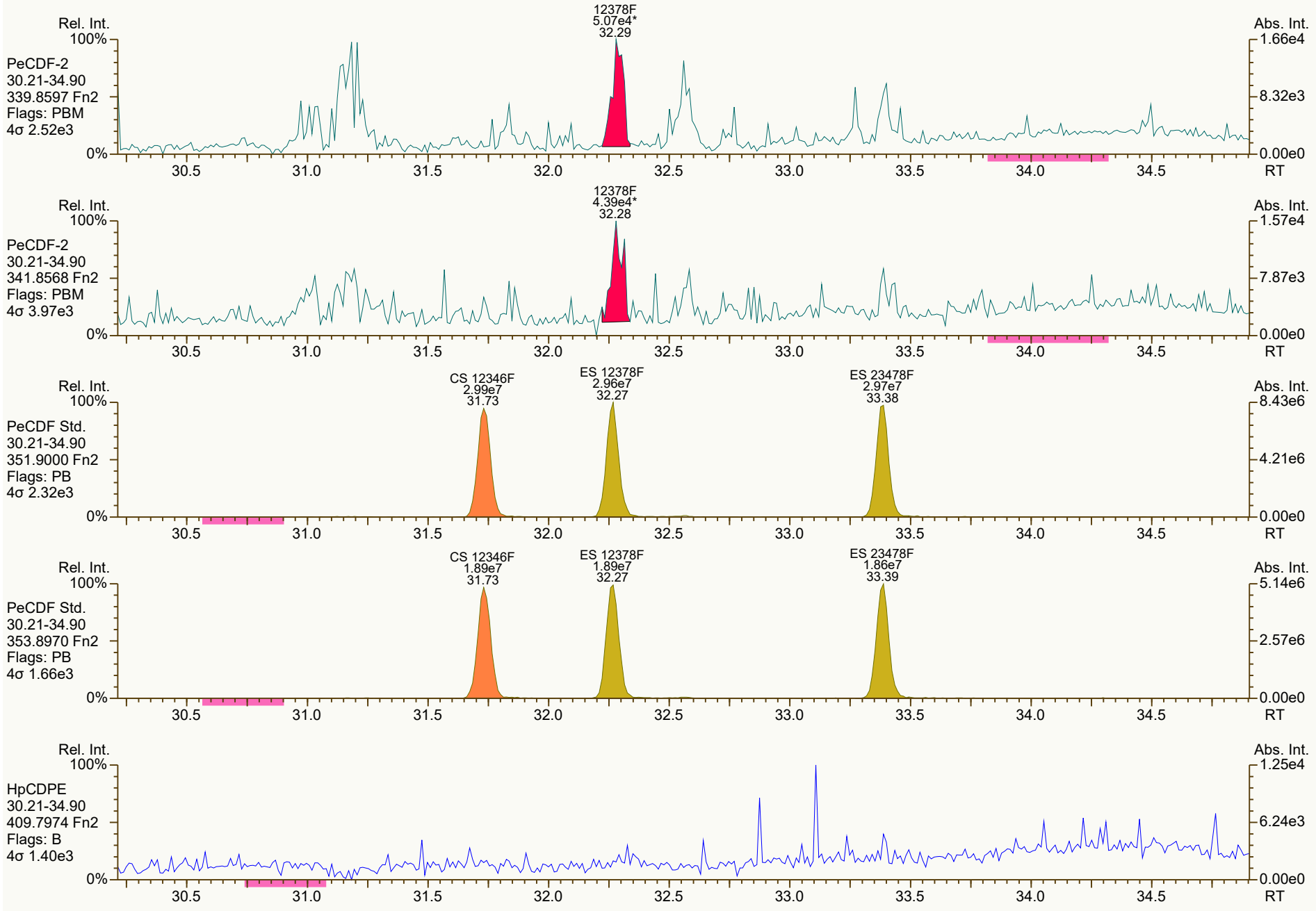

OCDD
2.08e7*
43.49
ok AK 21 Feb 22
Conc(OCDD) = (2.08e7 + 2.29e7) * 4000pg / (1.56e7 + 1.74e7) * 1.13 * 10.45g = 449 pg/g
DTF 16-Feb-2022 15:41
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.03e3
OCDD
2.29e7*
43.49
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.12e3
ES OCDD
1.56e7
43.47
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 3.33e3
ES OCDD
1.74e7
43.47
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 3.63e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

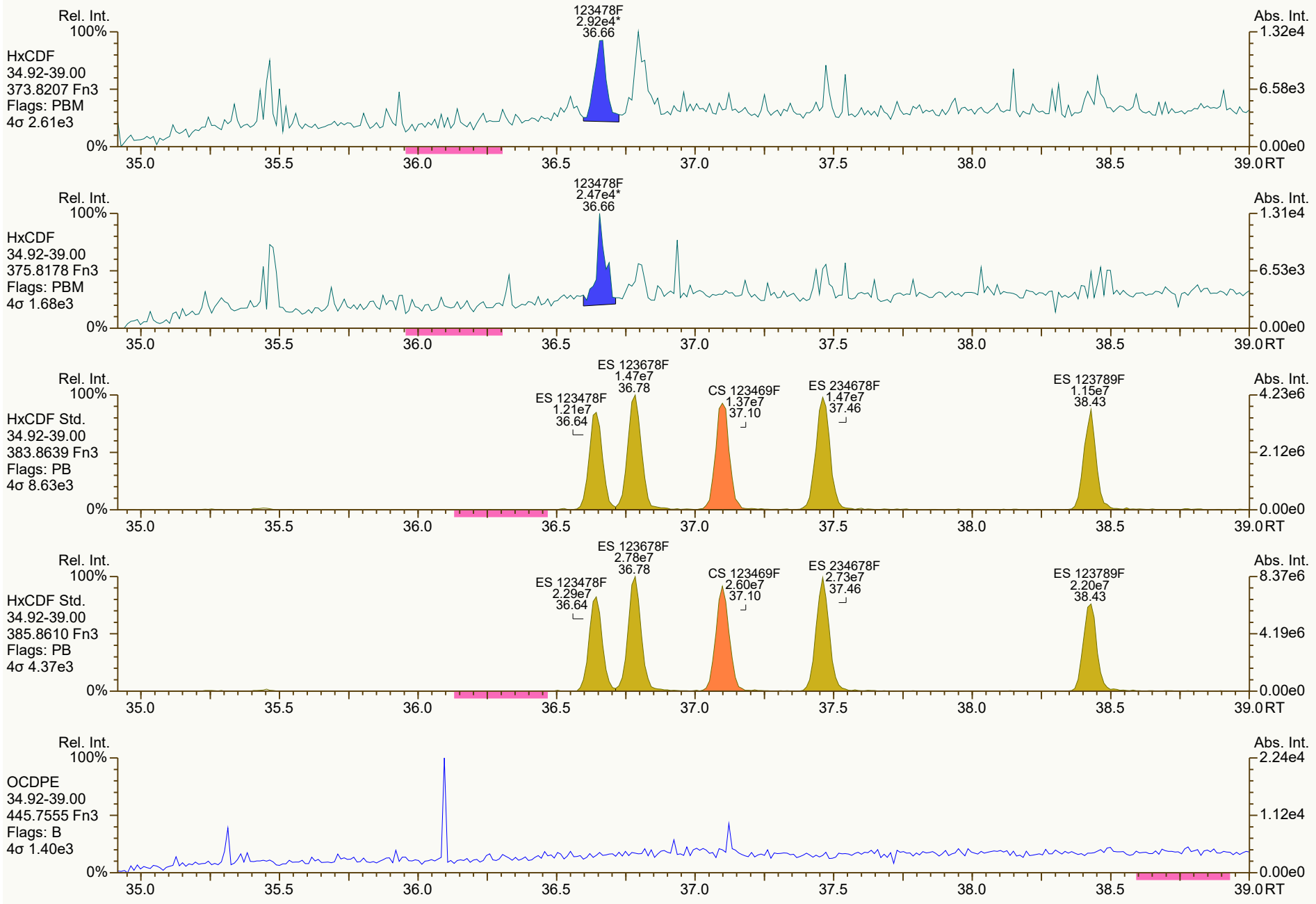
SGS ID: B6183_18913_DF_001 Sample ID: 11215131-011222-S-BN-SC-B-8aH Acq: 15-Feb-2022 14:38:29
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47 User: DTF Datafile: 220215C06



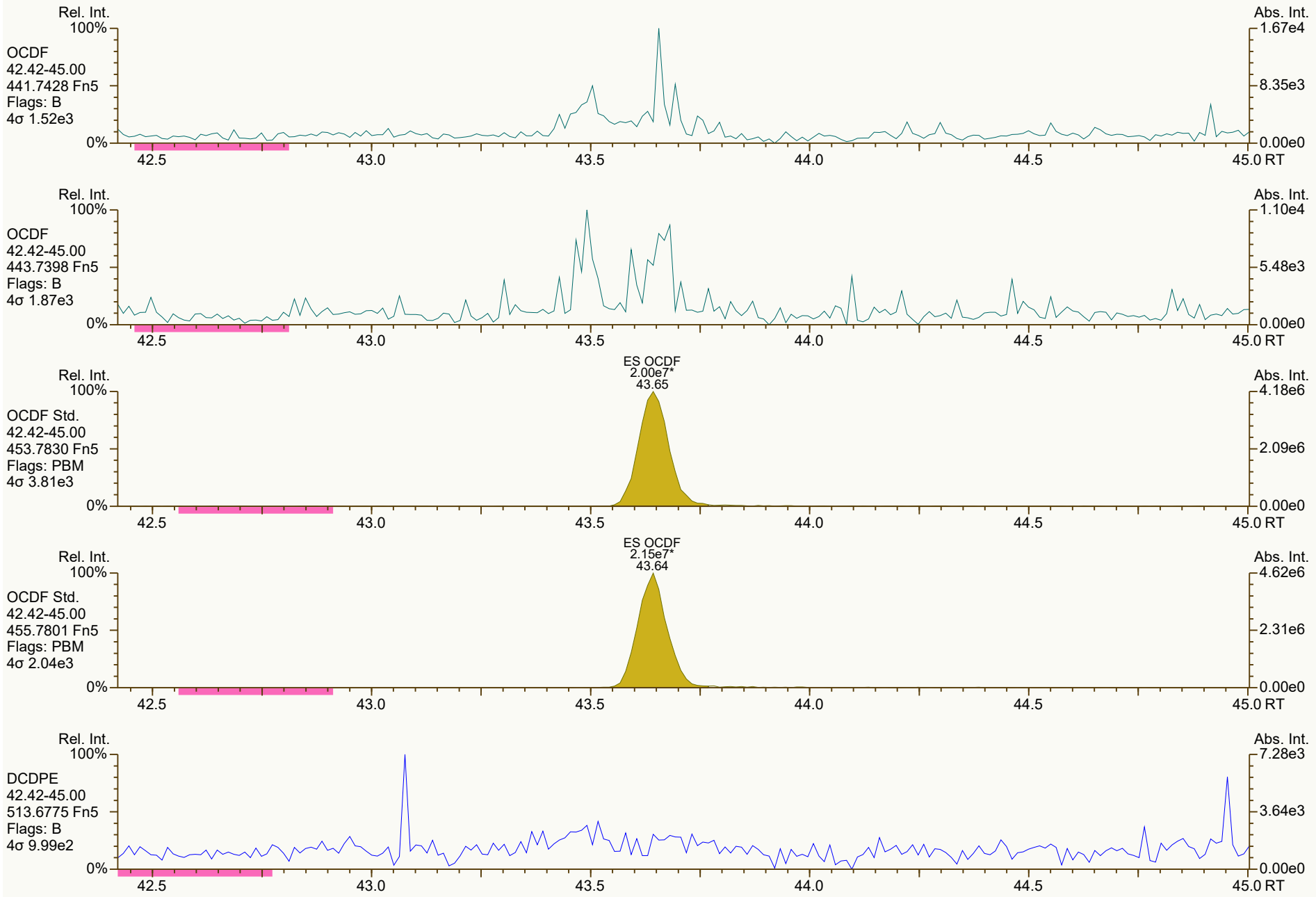
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_001.utp_res, saved 16-Feb-2022 15:41 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7363, 0042, 6407 scc: 924-978 *Revised: 15-Feb-2022 15:48 (DTF) Printed: 16-Feb-2022 15:44 Page 7 of 12*


Rel. Int.
100%
0%
Abs. Int.
1.48e4
7.41e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.41e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.42e4
1.21e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.41e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.33e6
4.66e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.52e3
0%
12378F
5.07e4*
32.29
Abs. Int.
1.66e4
8.32e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 3.97e3
0%
12378F
4.39e4*
32.28
Abs. Int.
1.57e4
7.87e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.32e3
0%
CS 12346F
2.99e7
31.73
ES 12378F
2.96e7
32.27
ES 23478F
2.97e7
33.38
Abs. Int.
8.43e6
4.21e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.66e3
0%
CS 12346F
1.89e7
31.73
ES 12378F
1.89e7
32.27
ES 23478F
1.86e7
33.39
Abs. Int.
5.14e6
2.57e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.25e4
6.24e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.61e3
123478F
2.92e4*
36.66
Abs. Int.
1.32e4
6.58e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.68e3
123478F
2.47e4*
36.66
Abs. Int.
1.31e4
6.53e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 8.63e3
ES 123678F
1.47e7
36.78
ES 123478F
1.21e7
36.64
CS 123469F
1.37e7
37.10
ES 234678F
1.47e7
37.46
ES 123789F
1.15e7
38.43
Abs. Int.
4.23e6
2.12e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.37e3
ES 123678F
2.78e7
36.78
ES 123478F
2.29e7
36.64
CS 123469F
2.60e7
37.10
ES 234678F
2.73e7
37.46
ES 123789F
2.20e7
38.43
Abs. Int.
8.37e6
4.19e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.40e3
Abs. Int.
2.24e4
1.12e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.16e4
5.79e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.69e3
0%
Abs. Int.
7.21e3
3.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.59e3
0%
ES 1234678F
1.01e7
39.83
CS 1234689F
1.03e7
40.24
ES 1234789F
7.99e6*
41.23
Abs. Int.
3.38e6
1.69e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.46e3
0%
ES 1234678F
2.19e7
39.83
CS 1234689F
2.26e7
40.24
ES 1234789F
1.75e7*
41.23
Abs. Int.
7.16e6
3.58e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.50e3
0%
RT
Abs. Int.
1.18e5
5.88e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.67e4
8.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.10e4
5.48e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.00e7*
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 3.81e3
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.15e7*
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.04e3
0%
Abs. Int.
4.62e6
2.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 9.99e2
0%
Abs. Int.
7.28e3
3.64e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6183_18913_DF_002 **Acq'd:** 15 Feb 2022 15:24 DTF **Wt/Vol:** 10.60 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-13H **UTP:** 16-Feb-2022 15:38:33 DTF **J-level:** 0.472 pg/g **Split:** 1 **Checkcode:** 446-180-BGQ

Datafile: 220215C07 **Report:** 16 Feb 2022 15:40 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.40		1.0008	1.0008	0	6.06E+07	0.80	Y	1.18	289	6117.72	0.315
12378-PeCDD	33.76		1.0006	1.0005	-0.2	6.83E+05	1.52	Y	1.04	3.74	5427.762	0.269
123478-HxCDD	37.69	J	1.0004	1.0004	0	2.67E+05	1.32	Y	1.09	1.66	7932.833	0.399
123678-HxCDD	37.80		1.0036	1.0035	-0.2	1.13E+06	1.15	Y	1.15	6.75	7932.833	0.403
123789-HxCDD	38.10		1.0115	1.0114	-0.2	6.11E+05	1.17	Y	1.05	3.67	7932.833	0.421
1234678-HpCDD	40.80		1.0003	1.0003	0	2.82E+07	1.04	Y	1.06	173	4356.593	0.224
OCDD	43.50		1.0003	1.0003	0	2.54E+08	0.91	Y	1.13	2,390	3527.778	0.417
2378-TCDF	27.54		1.0008	1.0008	0	2.24E+08	0.78	Y	1.08	765	3549.513	0.135
12378-PeCDF	32.31		1.0005	1.0005	0	8.34E+06	1.57	Y	1.02	31.1	8305.644	0.29
23478-PeCDF	33.43		1.0006	1.0008	+0.4	6.06E+06	1.52	Y	1.02	23.6	8305.644	0.289
123478-HxCDF	36.68		1.0004	1.0004	0	2.12E+07	1.22	Y	1.27	86.2	8045.728	0.269
123678-HxCDF	36.82		1.0004	1.0005	+0.2	5.81E+06	1.26	Y	1.15	21.5	8045.728	0.264
234678-HxCDF	37.50		1.0005	1.0004	-0.2	1.31E+06	1.23	Y	1.19	5.43	8045.728	0.287
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8045.728	0.308
1234678-HpCDF	39.86		1.0003	1.0002	-0.2	2.19E+07	1.03	Y	1.37	94.1	3582.528	0.118
1234789-HpCDF	41.25		1.0003	1.0003	0	3.59E+06	0.99	Y	1.31	18.5	3582.528	0.149
OCDF	43.67		1.0002	1.0003	+0.3	3.06E+08	0.89	Y	1.07	2,210	6748.804	0.596

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.38	1.0239	1.0241	+0.3	3.34E+07	0.79	Y	1.05	79.3
ES 12378-PeCDD	33.74	1.2174	1.2177	+0.6	3.33E+07	1.61	Y	0.88	94
ES 123478-HxCDD	37.67	0.9917	0.9917	0	2.78E+07	1.28	Y	0.97	80.3
ES 123678-HxCDD	37.79	0.9948	0.9948	0	2.74E+07	1.37	Y	0.94	81.5
ES 123789-HxCDD	38.09	1.0027	1.0027	0	3.00E+07	1.34	Y	1.09	77.2
ES 1234678-HpCDD	40.78	1.0738	1.0737	-0.2	2.91E+07	1.08	Y	0.91	89.3
ES OCDD	43.49	1.1449	1.1450	+0.3	3.56E+07	0.90	Y	0.62	80
ES 2378-TCDF	27.51	1.0523	1.0525	+0.3	5.11E+07	0.79	Y	1.06	73.9
ES 12378-PeCDF	32.29	1.2346	1.2351	+1.0	4.94E+07	1.57	Y	0.91	83.1
ES 23478-PeCDF	33.41	1.2774	1.2779	+1.0	4.74E+07	1.61	Y	0.88	82.2
ES 123478-HxCDF	36.67	0.9651	0.9653	+0.4	3.65E+07	0.52	Y	1.20	85.3
ES 123678-HxCDF	36.81	0.9688	0.9690	+0.4	4.44E+07	0.53	Y	1.35	92
ES 234678-HxCDF	37.49	0.9867	0.9869	+0.4	3.84E+07	0.56	Y	1.24	86.7
ES 123789-HxCDF	38.44	1.0121	1.0121	0	3.62E+07	0.54	Y	1.16	87.9
ES 1234678-HpCDF	39.85	1.0491	1.0490	-0.2	3.21E+07	0.45	Y	0.97	93
ES 1234789-HpCDF	41.24	1.0858	1.0857	-0.2	2.80E+07	0.48	Y	0.85	92.1
ES OCDF	43.66	1.1495	1.1494	-0.3	4.87E+07	0.90	Y	0.81	84.6

Lab ID: B6183_18913_DF_002 | Acq'd: 15 Feb 2022 15:24 DTF | Wt/Vol: 10.60 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-13H | UTP: 16-Feb-2022 15:38:33 DTF | J-level: 0.472 pg/g | Split: 1 | Checkcode: 446-180-BGQ

Datafile: 220215C07 | Report: 16 Feb 2022 15:40 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.71		-	-	-	4.02E+07	0.80	Y	-	-
JS 1234-TCDF	26.14		-	-	-	6.53E+07	0.78	Y	-	-
JS 123467-HxCDD	37.98		-	-	-	1.78E+07	1.37	Y	-	-
CS 37Cl-2378-TCDD	28.40		1.0247	1.0248	+0.2	1.53E+07	n/a	-	1.20	79.3
CS 12347-PeCDD	33.24		1.1993	1.1995	+0.4	2.90E+07	1.58	Y	0.75	95.6
CS 12346-PeCDF	31.76		1.2144	1.2148	+0.8	4.78E+07	1.53	Y	0.85	86.1
CS 123469-HxCDF	37.12		0.9772	0.9774	+0.4	3.81E+07	0.55	Y	1.12	95.8
CS 1234689-HpCDF	40.25		1.0597	1.0597	0	3.32E+07	0.49	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.40~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.53E+07~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1995~~	~~+0.4~~	~~2.90E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2148~~	~~+0.8~~	~~4.78E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.12~~		~~0.9772~~	~~0.9774~~	~~+0.4~~	~~3.81E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.25~~		~~1.0597~~	~~1.0597~~	~~0~~	~~3.32E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~113~~

Totals	Conc	EMPC
Total TCDD	331	332
Total PeCDD	14.3	16.7
Total HxCDD	78.6	82.8
Total HpCDD	436	436
Total Tetra-Octa Dioxins	3250	3260
Total TCDF	1,550	1550
Total PeCDF	109	110
Total HxCDF	166	168
Total HpCDF	206	206
Total Tetra-Octa Furans	4,240	4250
Total Tetra-Octa Dioxins & Furans	7490	7500

Lab ID: B6183_18913_DF_002 **Acq'd: 15 Feb 2022 15:24 DTF** **Wt/Vol: 10.60 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011222-S-BN-SC-B-13H **UTP: 16-Feb-2022 15:38:33 DTF** **J-level: 0.472 pg/g** **Split: 1** **Checkcode: 446-180-BGQ**

Datafile: 220215C07 **Report: 16 Feb 2022 15:40 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.73		0.8719	0.8716	-0.4	5.80E+05	0.71	Y	1.18	2.77	6117.72	0.315
1379-TCDD	25.10		0.8845	0.8844	-0.2	2.07E+05	0.81	Y	1.18	0.986	6117.72	0.315
1369-TCDD	25.52	J	0.8996	0.8994	-0.3	9.75E+04	0.73	Y	1.18	0.465	6117.72	0.315
1469-TCDD	26.30		0.9271	0.9268	-0.5	6.55E+05	0.81	Y	1.18	3.13	6117.72	0.315
1247/1246/1248/1249-TCDD	26.53	EMPC	0.9357	0.9349	-1.3	1.82E+05	0.98	N	1.18	0.868	6117.72	0.315
1378-TCDD	26.74		0.9425	0.9423	-0.3	3.02E+05	0.87	Y	1.18	1.44	6117.72	0.315
1268-TCDD	NotFnd		0.9494						1.18		6117.72	0.315
1478-TCDD	27.19		0.9581	0.9582	+0.2	1.71E+05	0.86	Y	1.18	0.818	6117.72	0.315
1279-TCDD	NotFnd		0.9640						1.18		6117.72	0.315
1234/1269-TCDD	27.70	EMPC	0.9765	0.9762	-0.5	1.33E+05	0.97	N	1.18	0.634	6117.72	0.315
1236-TCDD	NotFnd		0.9816						1.18		6117.72	0.315
1237/1238-TCDD	28.10		0.9906	0.9903	-0.5	9.53E+05	0.85	Y	1.18	4.55	6117.72	0.315
1239-TCDD	NotFnd		0.9952						1.18		6117.72	0.315
2378-TCDD	**28.40**		**1.0008**	1.0008	**0**	6.06E+07	0.80	Y	**1.18**	**289**	**6117.72**	**0.315**
1278-TCDD	28.73		1.0123	1.0123	0	5.60E+06	0.78	Y	1.18	26.7	6117.72	0.315
1267-TCDD	NotFnd		1.0170						1.18		6117.72	0.315
1289-TCDD	29.37		1.0351	1.0351	0	1.33E+05	0.68	Y	1.18	0.633	6117.72	0.315
12479/12468-PeCDD	31.24		0.9261	0.9259	-0.4	7.62E+05	1.48	Y	1.04	4.17	5427.762	0.269
12469-PeCDD	31.78		0.9420	0.9419	-0.2	4.99E+05	1.65	Y	1.04	2.74	5427.762	0.269
12368-PeCDD	32.34	J EMPC	0.9584	0.9584	0	3.15E+05	1.30	N	1.04	1.73	5427.762	0.269
12478-PeCDD	32.53	J	0.9641	0.9640	-0.2	2.72E+05	1.50	Y	1.04	1.49	5427.762	0.269
12379-PeCDD	32.63	J EMPC	0.9670	0.9670	0	1.18E+05	2.00	N	1.04	0.648	5427.762	0.269
12369/12467/12489-PeCDD	32.89	J	0.9747	0.9748	+0.2	4.01E+05	1.72	Y	1.04	2.2	5427.762	0.269
12346/12347-PeCDD	NotFnd		0.9857						1.04		5427.762	0.269
12378-PeCDD	33.76		**1.0006**	**1.0005**	**-0.2**	**6.83E+05**	**1.52**	**Y**	**1.04**	**3.74**	**5427.762**	**0.269**
12367-PeCDD	NotFnd		1.0034						1.04		5427.762	0.269
12389-PeCDD	NotFnd		1.0136						1.04		5427.762	0.269
124679/124689-HxCDD	35.94		0.9540	0.9542	+0.4	6.20E+06	1.27	Y	1.10	37.6	7932.833	0.407
123468-HxCDD	36.60		0.9714	0.9716	+0.4	7.68E+05	1.10	Y	1.10	4.65	7932.833	0.407
123679/123689-HxCDD	36.89		0.9792	0.9794	+0.4	4.01E+06	1.28	Y	1.10	24.3	7932.833	0.407
123469-HxCDD	37.03	EMPC	0.9828	0.9830	+0.4	4.13E+05	1.47	N	1.10	2.5	7932.833	0.407
123478-HxCDD	37.69	J	**1.0004**	**1.0004**	**0**	**2.67E+05**	**1.32**	**Y**	1.09	**1.66**	**7932.833**	**0.399**
123678-HxCDD	37.80		**1.0036**	**1.0035**	**-0.2**	**1.13E+06**	**1.15**	**Y**	1.15	**6.75**	**7932.833**	**0.403**
123467-HxCDD	38.00	J EMPC	1.0087	1.0088	+0.2	2.72E+05	1.05	N	1.10	1.65	7932.833	0.407
123789-HxCDD	38.10		**1.0115**	**1.0114**	**-0.2**	**6.11E+05**	**1.17**	**Y**	1.05	**3.67**	**7932.833**	**0.421**

Lab ID: B6183_18913_DF_002 **Acq'd:** 15 Feb 2022 15:24 DTF **Wt/Vol:** 10.60 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011222-S-BN-SC-B-13H **UTP:** 16-Feb-2022 15:38:33 DTF **J-level:** 0.472 pg/g **Split:** 1 **Checkcode:** 446-180-BGQ

Datafile: 220215C07 **Report:** 16 Feb 2022 15:40 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

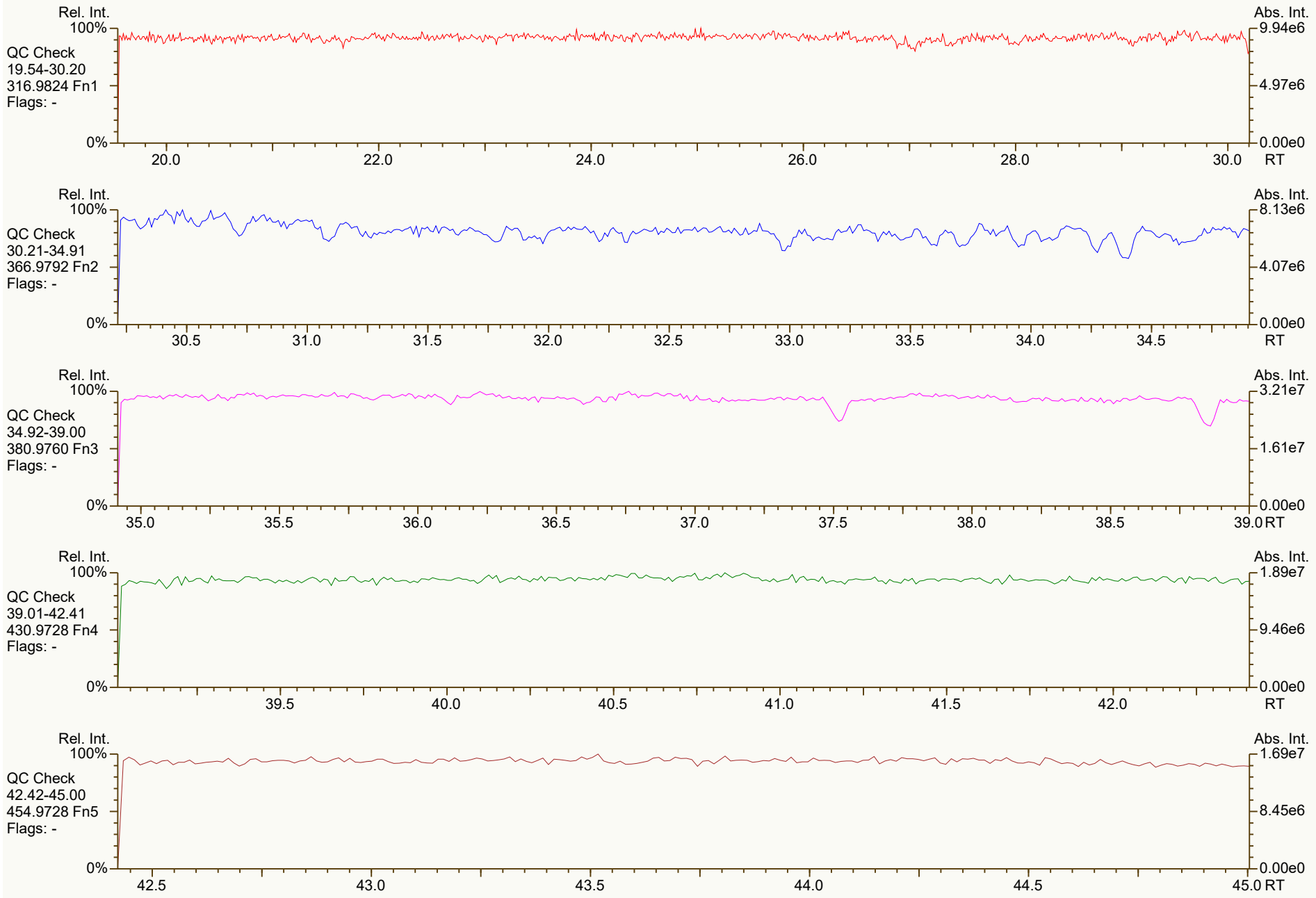
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.12		0.9836	0.9836	0	4.30E+07	1.04	Y	1.06	263	4356.593	0.224
1234678-HpCDD	**40.80**		**1.0003**	**1.0003**	**0**	**2.82E+07**	**1.04**	**Y**	**1.06**	**173**	**4356.593**	**0.224**
OCDD	**43.50**		**1.0003**	**1.0003**	**0**	**2.54E+08**	**0.91**	**Y**	**1.13**	**2,390**	**3527.778**	**0.417**
OCDD-a	43.50		1.0002	1.0002	0	1.56E+07	2.43	Y	0.07	2,300	5526.496	10.2
1368-TCDF	22.62		0.8222	0.8220	-0.3	2.79E+05	0.77	Y	1.08	0.956	3549.513	0.135
1468-TCDF	23.20		0.8434	0.8432	-0.3	8.30E+05	0.68	Y	1.08	2.84	3549.513	0.135
2468-TCDF	23.84		0.8666	0.8663	-0.4	1.59E+06	0.81	Y	1.08	5.43	3549.513	0.135
1346/1246-TCDF	NotFnd		0.8789						1.08		3549.513	0.135
1347/1378/1247-TCDF	24.35		0.8848	0.8849	+0.1	3.55E+06	0.79	Y	1.08	12.1	3549.513	0.135
1348-TCDF	NotFnd		0.8947						1.08		3549.513	0.135
1248/1367/1379-TCDF	24.70		0.8995	0.8978	-2.5	1.31E+07	0.80	Y	1.08	44.7	3549.513	0.135
1268-TCDF	25.12		0.9131	0.9131	0	4.42E+06	0.78	Y	1.08	15.1	3549.513	0.135
1467-TCDF	25.26		0.9181	0.9180	-0.2	8.27E+05	0.78	Y	1.08	2.83	3549.513	0.135
1478-TCDF	25.43		0.9244	0.9242	-0.3	1.05E+07	0.78	Y	1.08	35.8	3549.513	0.135
1369/1237-TCDF	25.81		0.9379	0.9380	+0.2	2.83E+06	0.76	Y	1.08	9.68	3549.513	0.135
2467-TCDF	25.93		0.9425	0.9424	-0.2	4.17E+05	0.82	Y	1.08	1.42	3549.513	0.135
2368-TCDF	26.13		0.9483	0.9498	+2.4	1.95E+07	0.78	Y	1.08	66.7	3549.513	0.135
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		3549.513	0.135
1278-TCDF	26.63		0.9681	0.9678	-0.5	1.04E+08	0.78	Y	1.08	355	3549.513	0.135
1349-TCDF	NotFnd		0.9722						1.08		3549.513	0.135
1267-TCDF	26.91		0.9780	0.9779	-0.2	6.52E+06	0.78	Y	1.08	22.3	3549.513	0.135
2346/1249-TCDF	27.11	EMPC	0.9845	0.9852	+1.1	5.95E+05	0.95	N	1.08	2.03	3549.513	0.135
2347/1279-TCDF	27.31		0.9927	0.9926	-0.2	2.85E+06	0.76	Y	1.08	9.75	3549.513	0.135
2348-TCDF	27.42		0.9970	0.9966	-0.7	1.60E+07	0.79	Y	1.08	54.9	3549.513	0.135
2378-TCDF	**27.54**		**1.0008**	**1.0008**	**0**	**2.24E+08**	**0.78**	**Y**	**1.08**	**765**	**3549.513**	**0.135**
2367/3467-TCDF	27.89		1.0140	1.0137	-0.5	1.91E+07	0.79	Y	1.08	65.4	3549.513	0.135
1269-TCDF	28.14		1.0226	1.0229	+0.5	3.66E+06	0.76	Y	1.08	12.5	3549.513	0.135
1239-TCDF	NotFnd		1.0325						1.08		3549.513	0.135
1289-TCDF	29.55		1.0732	1.0741	+1.6	1.83E+07	0.78	Y	1.08	62.7	3549.513	0.135
13468/12468-PeCDF	29.49		0.9130	0.9134	+0.7	3.09E+06	1.54	Y	1.02	11.8	3476.571	0.121
13678/13467/12467-PeCDF	31.04	J	0.9610	0.9614	+0.7	5.41E+05	1.51	Y	1.02	2.06	8305.644	0.289
12368/13478/12478-PeCDF	31.21		0.9658	0.9665	+1.3	5.50E+06	1.69	Y	1.02	21	8305.644	0.289
14678-PeCDF	NotFnd		0.9688						1.02		8305.644	0.289
13479-PeCDF	NotFnd		0.9719						1.02		8305.644	0.289
13469/12479-PeCDF	31.61	J EMPC	0.9797	0.9789	-1.5	1.46E+05	1.81	N	1.02	0.555	8305.644	0.289
12346-PeCDF	NotFnd		0.9841						1.02		8305.644	0.289

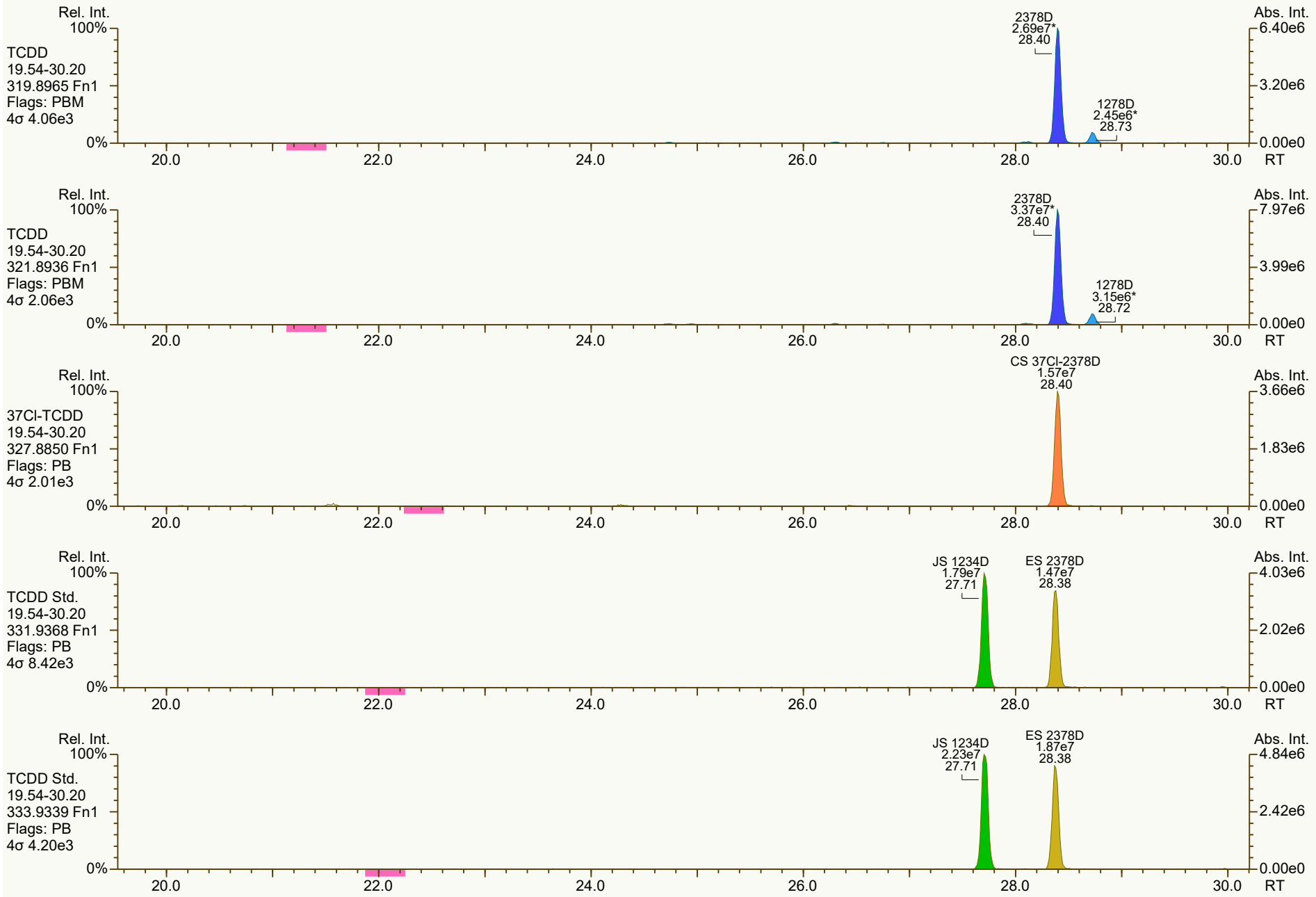
Lab ID: B6183_18913_DF_002 **Acq'd: 15 Feb 2022 15:24 DTF** **Wt/Vol: 10.60 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

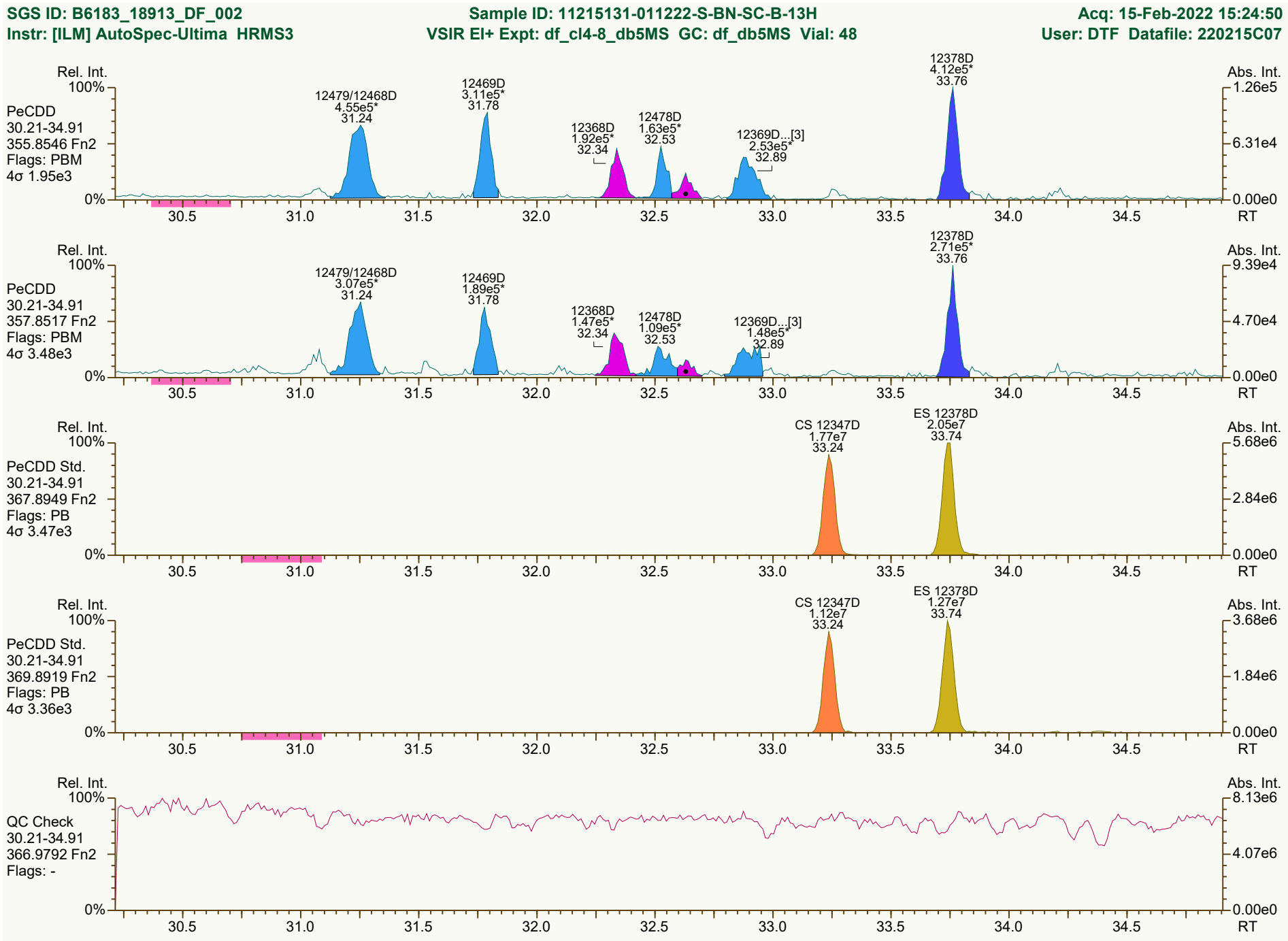
Client ID: 11215131-011222-S-BN-SC-B-13H **UTP: 16-Feb-2022 15:38:33 DTF** **J-level: 0.472 pg/g** **Split: 1** **Checkcode: 446-180-BGQ**

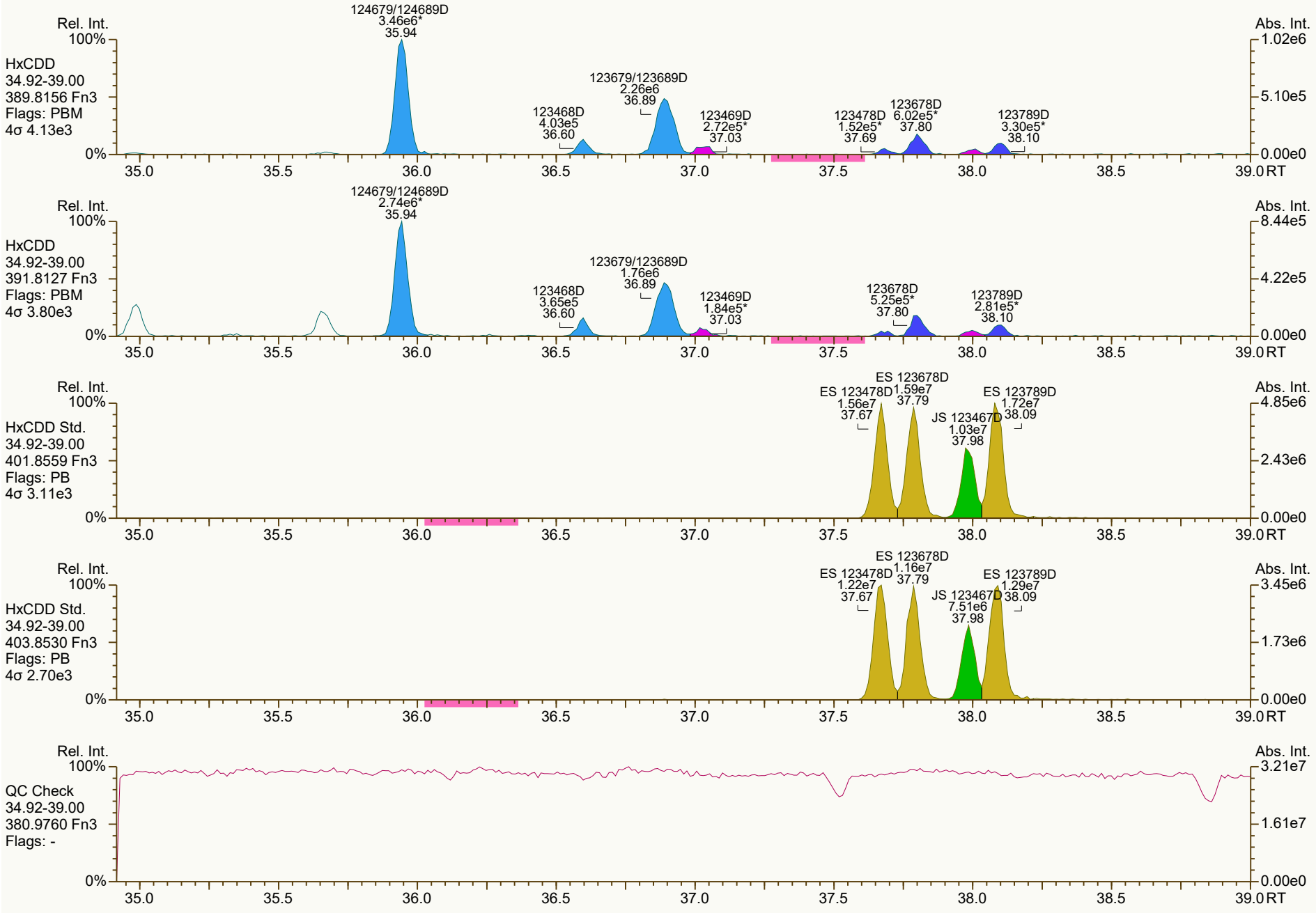
Datafile: 220215C07 **Report: 16 Feb 2022 15:40 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

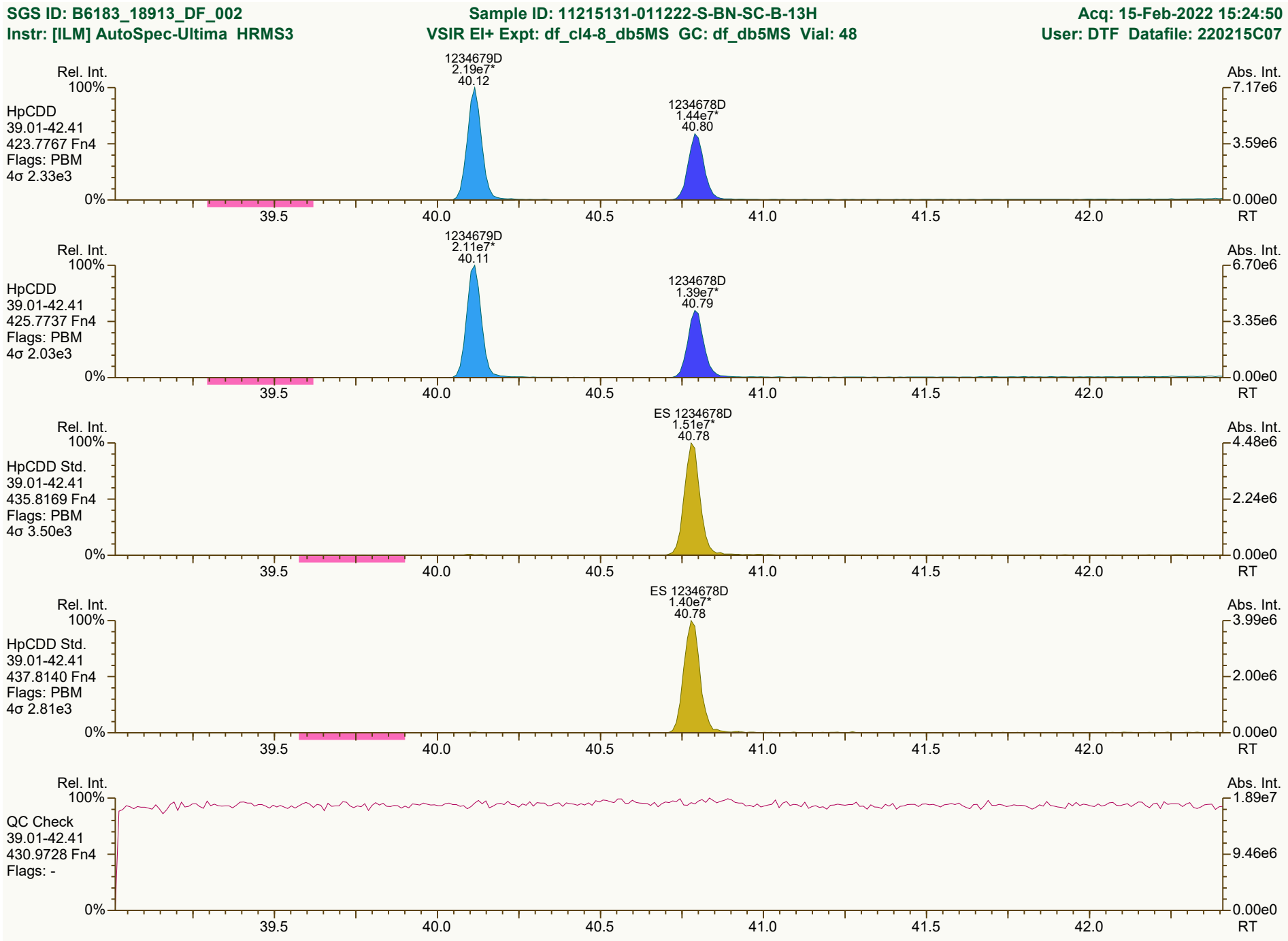
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.87		0.9867	0.9872	+1.0	1.22E+06	1.56	Y	1.02	4.66	8305.644	0.289
12347-PeCDF	NotFnd		0.9892						1.02		8305.644	0.289
12348-PeCDF	32.10		0.9940	0.9940	0	9.07E+05	1.52	Y	1.02	3.46	8305.644	0.289
12378-PeCDF	**32.31**		**1.0005**	**1.0005**	**0**	**8.34E+06**	**1.57**	**Y**	**1.02**	**31.1**	**8305.644**	**0.29**
12678/12367-PeCDF	32.60		1.0091	1.0097	+1.2	2.63E+06	1.50	Y	1.02	10	8305.644	0.289
12379-PeCDF	NotFnd		1.0144						1.02		8305.644	0.289
12679-PeCDF	NotFnd		0.9928						1.02		8305.644	0.289
23467/12369-PeCDF	33.30	J EMPC	0.9966	0.9968	+0.4	1.96E+05	1.90	N	1.02	0.747	8305.644	0.289
23478-PeCDF	**33.43**		**1.0006**	**1.0008**	**+0.4**	**6.06E+06**	**1.52**	**Y**	**1.02**	**23.6**	**8305.644**	**0.289**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8305.644	0.289
12349-PeCDF	NotFnd		1.0101						1.02		8305.644	0.289
12389-PeCDF	34.51	J	1.0327	1.0329	+0.4	3.83E+05	1.39	Y	1.02	1.46	8305.644	0.289
123468-HxCDF	35.30		0.9624	0.9627	+0.6	1.41E+06	1.21	Y	1.19	5.75	8045.728	0.28
124678/134678-HxCDF	35.49		0.9679	0.9680	+0.2	4.88E+06	1.23	Y	1.19	19.9	8045.728	0.28
134679-HxCDF	NotFnd		0.9741						1.19		8045.728	0.28
124679-HxCDF	35.92	J	0.9796	0.9797	+0.2	2.53E+05	1.07	Y	1.19	1.03	8045.728	0.28
124689-HxCDF	36.15		0.9856	0.9858	+0.4	4.99E+06	1.21	Y	1.19	20.3	8045.728	0.28
123467-HxCDF	36.56	J EMPC	0.9972	0.9971	-0.2	3.24E+05	1.04	N	1.19	1.32	8045.728	0.28
123478-HxCDF	**36.68**		**1.0004**	**1.0004**	**0**	**2.12E+07**	**1.22**	**Y**	**1.27**	**86.2**	**8045.728**	**0.269**
123678-HxCDF	**36.82**		**1.0004**	**1.0005**	**+0.2**	**5.81E+06**	**1.26**	**Y**	**1.15**	**21.5**	**8045.728**	**0.264**
123479-HxCDF	NotFnd		1.0049						1.19		8045.728	0.28
123469-HxCDF	37.14	J EMPC	1.0090	1.0090	0	2.80E+05	1.43	N	1.19	1.14	8045.728	0.28
123679-HxCDF	NotFnd		0.9942						1.19		8045.728	0.28
234678-HxCDF	**37.50**		**1.0005**	**1.0004**	**-0.2**	**1.31E+06**	**1.23**	**Y**	**1.19**	**5.43**	**8045.728**	**0.287**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8045.728	0.28
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8045.728**	**0.308**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.48		1.0007	1.0011	+0.9	1.47E+06	1.20	Y	1.19	5.98	8045.728	0.28
1234678-HpCDF	**39.86**		**1.0003**	**1.0002**	**-0.2**	**2.19E+07**	**1.03**	**Y**	**1.37**	**94.1**	**3582.528**	**0.118**
1234679-HpCDF	40.12		1.0069	1.0068	-0.2	1.43E+06	1.03	Y	1.34	6.73	3582.528	0.132
1234689-HpCDF	40.26		1.0104	1.0104	0	1.84E+07	1.04	Y	1.34	86.4	3582.528	0.132
1234789-HpCDF	**41.25**		**1.0003**	**1.0003**	**0**	**3.59E+06**	**0.99**	**Y**	**1.31**	**18.5**	**3582.528**	**0.149**
OCDF	**43.67**		**1.0002**	**1.0003**	**+0.3**	**3.06E+08**	**0.89**	**Y**	**1.07**	**2,210**	**6748.804**	**0.596**
OCDF-a	43.67		1.0002	1.0002	0	1.95E+07	2.33	Y	0.07	2,270	2813.274	4.01


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.94e6
4.97e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
8.13e6
4.07e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.21e7
1.61e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.89e7
9.46e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.69e7
8.45e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 4.06e3
0%
2378D
2.69e7*
28.40
1278D
2.45e6*
28.73
Abs. Int.
6.40e6
3.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
3.37e7*
28.40
1278D
3.15e6*
28.72
Abs. Int.
7.97e6
3.99e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.01e3
0%
CS 37Cl-2378D
1.57e7
28.40
Abs. Int.
3.66e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.42e3
0%
JS 1234D
1.79e7
27.71
ES 2378D
1.47e7
28.38
Abs. Int.
4.03e6
2.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.20e3
0%
JS 1234D
2.23e7
27.71
ES 2378D
1.87e7
28.38
Abs. Int.
4.84e6
2.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

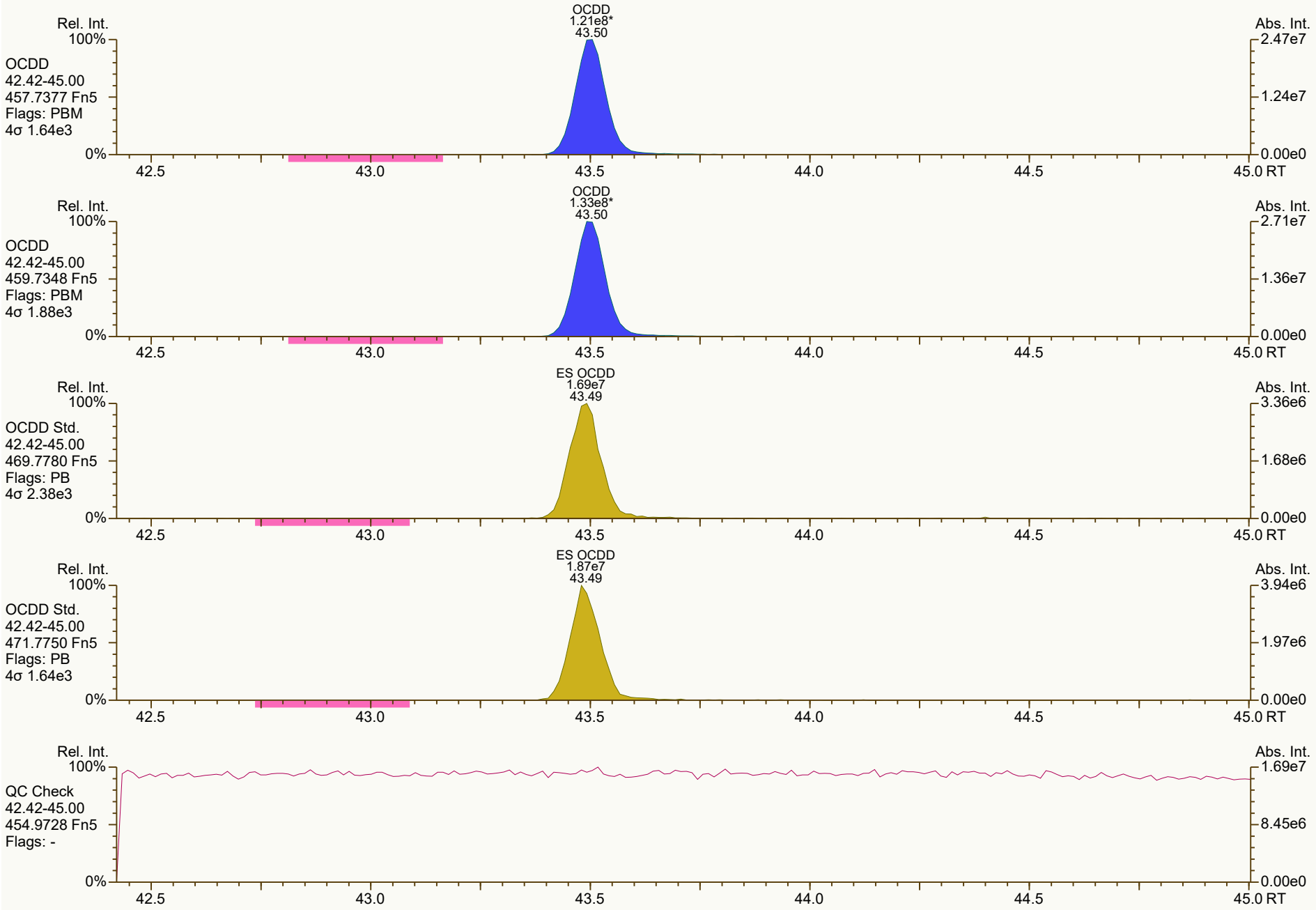

SGS ID: B6183_18913_DF_002
Sample ID: 11215131-011222-S-BN-SC-B-13H
Acq: 15-Feb-2022 15:24:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
User: DTF Datafile: 220215C07
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.95e3
12479/12468D
4.55e5*
31.24
12469D
3.11e5*
31.78
12368D
1.92e5*
32.34
12478D
1.63e5*
32.53
12369D...[3]
2.53e5*
32.89
12378D
4.12e5*
33.76
1.26e5
6.31e4
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 3.48e3
12479/12468D
3.07e5*
31.24
12469D
1.89e5*
31.78
12368D
1.47e5*
32.34
12478D
1.09e5*
32.53
12369D...[3]
1.48e5*
32.89
12378D
2.71e5*
33.76
9.39e4
4.70e4
0.00e0
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.47e3
CS 12347D
1.77e7
33.24
ES 12378D
2.05e7
33.74
5.68e6
2.84e6
0.00e0
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.36e3
CS 12347D
1.12e7
33.24
ES 12378D
1.27e7
33.74
3.68e6
1.84e6
0.00e0
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
8.13e6
4.07e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_002.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0927, 4752 scc: 446-180
PKD: 16-Feb-2022 15:36 Printed: 16-Feb-2022 15:44 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 4.13e3
0%
124679/124689D
3.46e6*
35.94
123468D
4.03e5
36.60
123679/123689D
2.26e6
36.89
123469D
2.72e5*
37.03
123478D
1.52e5*
37.69
123678D
6.02e5*
37.80
123789D
3.30e5*
38.10
Abs. Int.
1.02e6
5.10e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.80e3
0%
124679/124689D
2.74e6*
35.94
123468D
3.65e5
36.60
123679/123689D
1.76e6
36.89
123469D
1.84e5*
37.03
123678D
5.25e5*
37.80
123789D
2.81e5*
38.10
Abs. Int.
8.44e5
4.22e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 3.11e3
0%
ES 123678D
1.59e7
37.79
ES 123478D
1.56e7
37.67
ES 123789D
1.72e7
38.09
JS 123467D
1.03e7
37.98
Abs. Int.
4.85e6
2.43e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.70e3
0%
ES 123678D
1.16e7
37.79
ES 123478D
1.22e7
37.67
ES 123789D
1.29e7
38.09
JS 123467D
7.51e6
37.98
Abs. Int.
3.45e6
1.73e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.21e7
1.61e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6183_18913_DF_002
Sample ID: 11215131-011222-S-BN-SC-B-13H
Acq: 15-Feb-2022 15:24:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
User: DTF Datafile: 220215C07
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.33e3
1234679D
2.19e7*
40.12
1234678D
1.44e7*
40.80
7.17e6
3.59e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.03e3
1234679D
2.11e7*
40.11
1234678D
1.39e7*
40.79
6.70e6
3.35e6
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.50e3
ES 1234678D
1.51e7*
40.78
4.48e6
2.24e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.81e3
ES 1234678D
1.40e7*
40.78
3.99e6
2.00e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
1.89e7
9.46e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_002.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0707, 6633 scc: 446-180
Revised: 16-Feb-2022 15:33 (DTF) Printed: 16-Feb-2022 15:44 Page 5 of 12

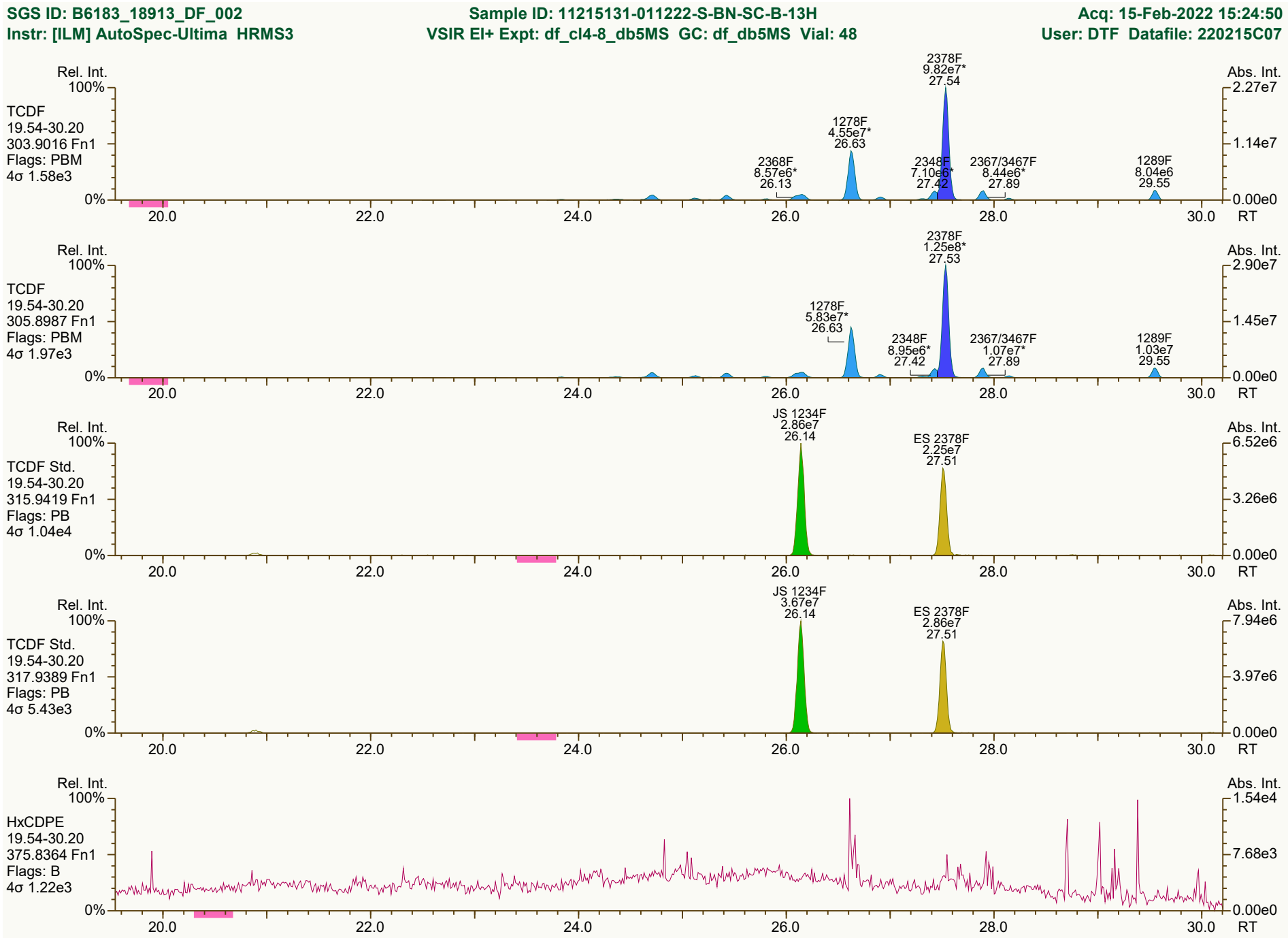
SGS ID: B6183_18913_DF_002 | Sample ID: 11215131-011222-S-BN-SC-B-13H | Acq: 15-Feb-2022 15:24:50

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48 | User: DTF Datafile: 220215C07



Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_002.utp_res, saved 16-Feb-2022 15:38 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3598, 7948 scc: 446-180 *Revised: 16-Feb-2022 15:33 (DTF) Printed: 16-Feb-2022 15:44 Page 6 of 12*


SGS ID: B6183_18913_DF_002
Sample ID: 11215131-011222-S-BN-SC-B-13H
Acq: 15-Feb-2022 15:24:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
User: DTF Datafile: 220215C07
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.58e3
2378F
9.82e7*
27.54
1278F
4.55e7*
26.63
2368F
8.57e6*
26.13
2348F
7.10e6*
27.42
2367/3467F
8.44e6*
27.89
1289F
8.04e6
29.55
2.27e7
1.14e7
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.97e3
2378F
1.25e8*
27.53
1278F
5.83e7*
26.63
2348F
8.95e6*
27.42
2367/3467F
1.07e7*
27.89
1289F
1.03e7
29.55
2.90e7
1.45e7
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.04e4
JS 1234F
2.86e7
26.14
ES 2378F
2.25e7
27.51
6.52e6
3.26e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.43e3
JS 1234F
3.67e7
26.14
ES 2378F
2.86e7
27.51
7.94e6
3.97e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.22e3
1.54e4
7.68e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_002.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6387, 4664, 9671 scc: 446-180
Revised: 16-Feb-2022 15:33 (DTF) Printed: 16-Feb-2022 15:44 Page 7 of 12

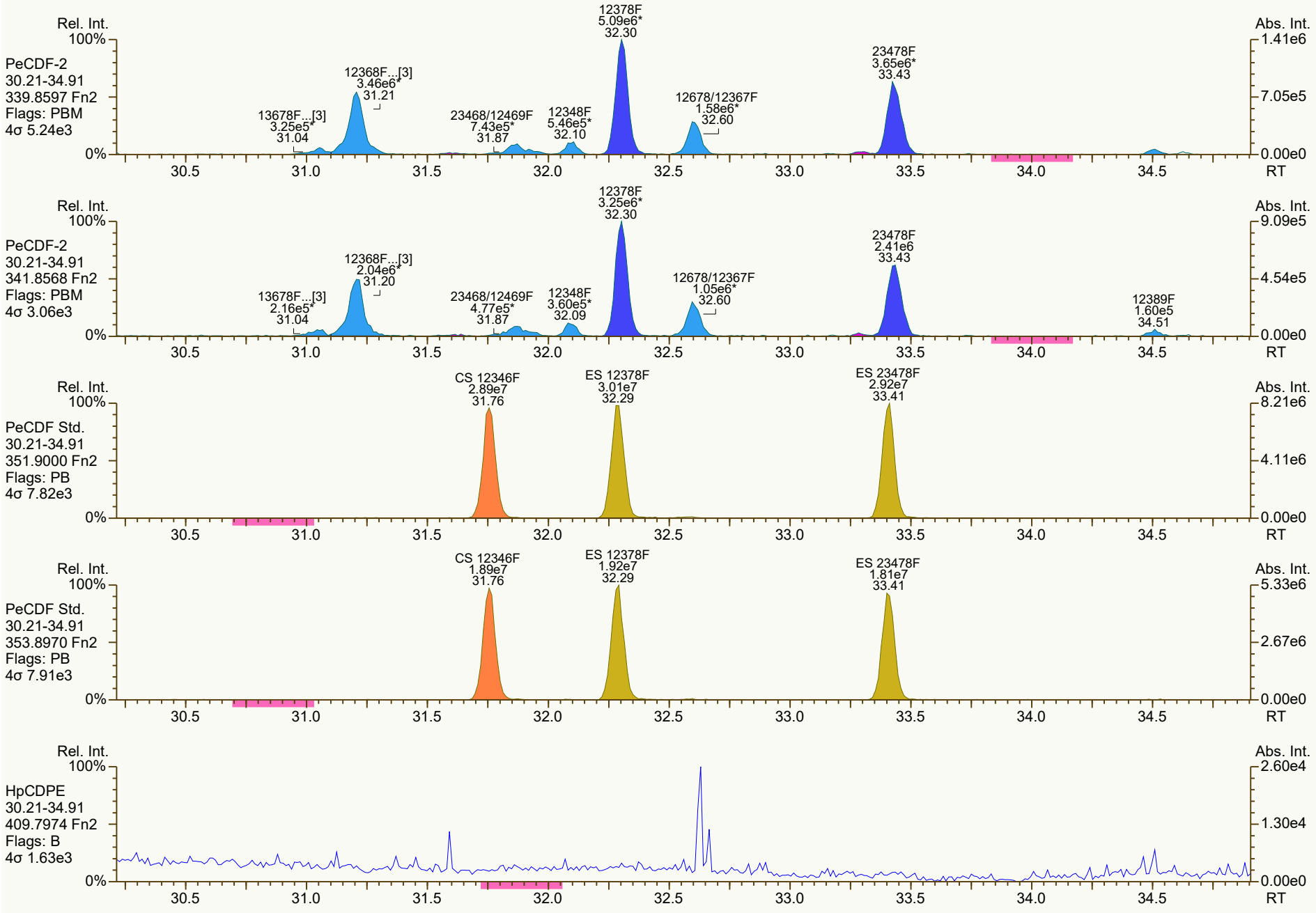
SGS ID: B6183_18913_DF_002 | Sample ID: 11215131-011222-S-BN-SC-B-13H | Acq: 15-Feb-2022 15:24:50

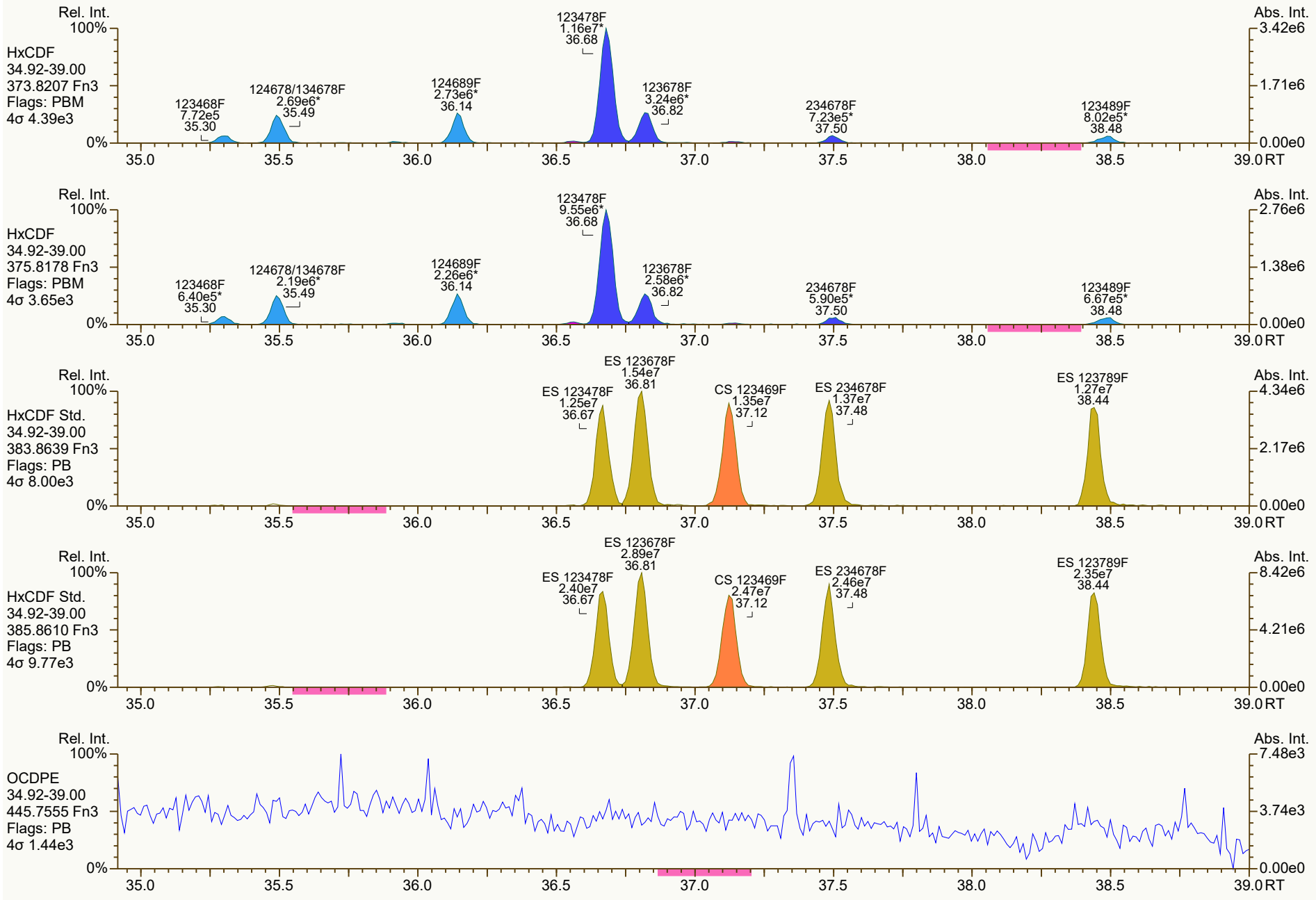
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48 | User: DTF Datafile: 220215C07

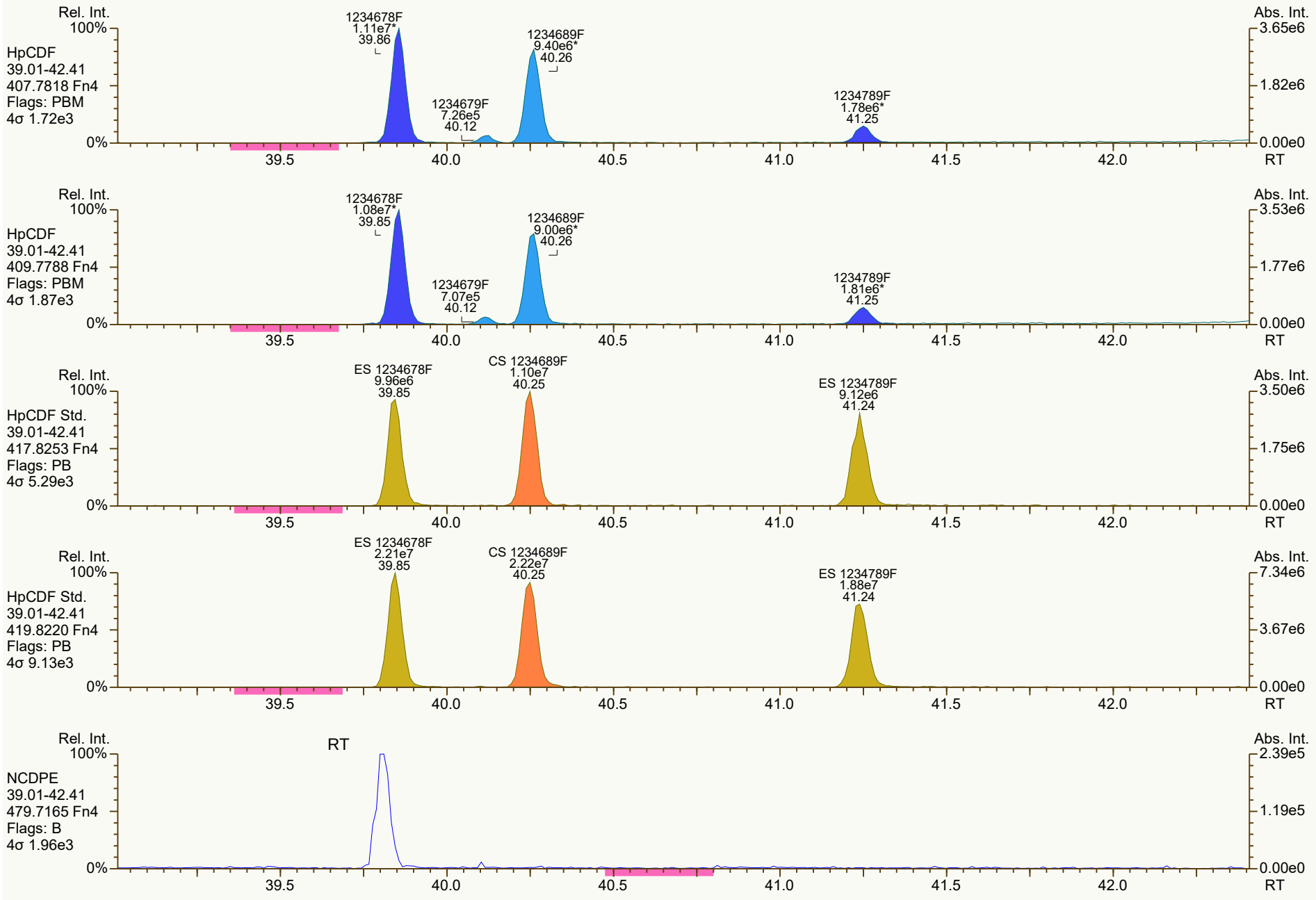


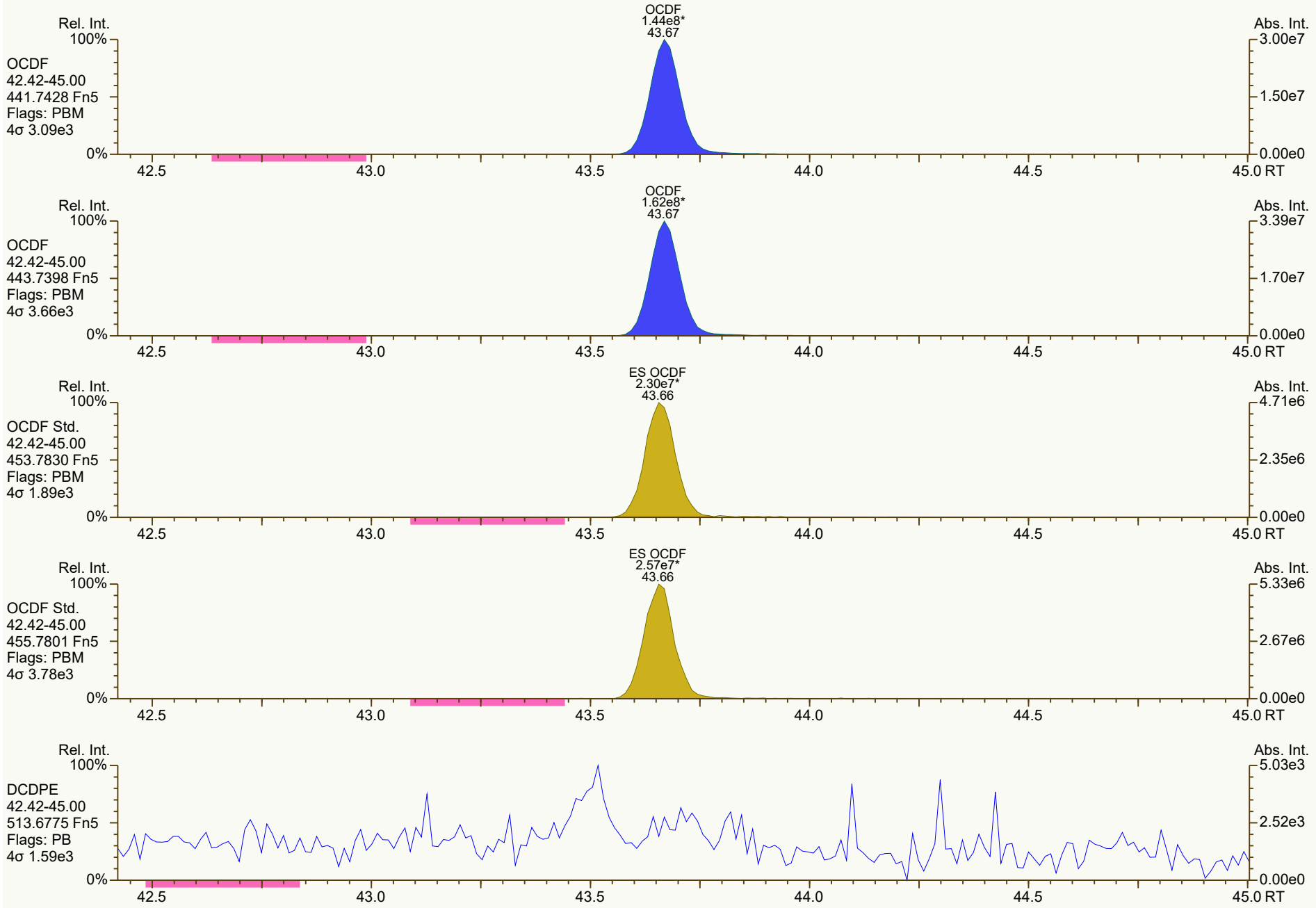
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\B6183_18913_DF_002.utp_res, saved 16-Feb-2022 15:38 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4586 scc: 446-180 *Revised: 16-Feb-2022 15:34 (DTF) Printed: 16-Feb-2022 15:44 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 5.24e3
0%
13678F...[3]
3.25e5*
31.04
12368F...[3]
3.46e6*
31.21
23468/12469F
7.43e5*
31.87
12348F
5.46e5*
32.10
12378F
5.09e6*
32.30
12678/12367F
1.58e6*
32.60
23478F
3.65e6*
33.43
Abs. Int.
1.41e6
7.05e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 3.06e3
0%
13678F...[3]
2.16e5*
31.04
12368F...[3]
2.04e6*
31.20
23468/12469F
4.77e5*
31.87
12348F
3.60e5*
32.09
12378F
3.25e6*
32.30
12678/12367F
1.05e6*
32.60
23478F
2.41e6
33.43
12389F
1.60e5
34.51
Abs. Int.
9.09e5
4.54e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 7.82e3
0%
CS 12346F
2.89e7
31.76
ES 12378F
3.01e7
32.29
ES 23478F
2.92e7
33.41
Abs. Int.
8.21e6
4.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 7.91e3
0%
CS 12346F
1.89e7
31.76
ES 12378F
1.92e7
32.29
ES 23478F
1.81e7
33.41
Abs. Int.
5.33e6
2.67e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.60e4
1.30e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 4.39e3
123468F 7.72e5 35.30
124678/134678F 2.69e6* 35.49
124689F 2.73e6* 36.14
123478F 1.16e7* 36.68
123678F 3.24e6* 36.82
234678F 7.23e5* 37.50
123489F 8.02e5* 38.48
Abs. Int.
3.42e6
1.71e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.65e3
123468F 6.40e5* 35.30
124678/134678F 2.19e6* 35.49
124689F 2.26e6* 36.14
123478F 9.55e6* 36.68
123678F 2.58e6* 36.82
234678F 5.90e5* 37.50
123489F 6.67e5* 38.48
Abs. Int.
2.76e6
1.38e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 8.00e3
ES 123478F 1.25e7 36.67
ES 123678F 1.54e7 36.81
CS 123469F 1.35e7 37.12
ES 234678F 1.37e7 37.48
ES 123789F 1.27e7 38.44
Abs. Int.
4.34e6
2.17e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 9.77e3
ES 123478F 2.40e7 36.67
ES 123678F 2.89e7 36.81
CS 123469F 2.47e7 37.12
ES 234678F 2.46e7 37.48
ES 123789F 2.35e7 38.44
Abs. Int.
8.42e6
4.21e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.44e3
Abs. Int.
7.48e3
3.74e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.72e3
1234678F
1.11e7*
39.86
1234679F
7.26e5
40.12
1234689F
9.40e6*
40.26
1234789F
1.78e6*
41.25
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.65e6
1.82e6
0.00e0
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.87e3
1234678F
1.08e7*
39.85
1234679F
7.07e5
40.12
1234689F
9.00e6*
40.26
1234789F
1.81e6*
41.25
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.53e6
1.77e6
0.00e0
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 5.29e3
ES 1234678F
9.96e6
39.85
CS 1234689F
1.10e7
40.25
ES 1234789F
9.12e6
41.24
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.50e6
1.75e6
0.00e0
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 9.13e3
ES 1234678F
2.21e7
39.85
CS 1234689F
2.22e7
40.25
ES 1234789F
1.88e7
41.24
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.34e6
3.67e6
0.00e0
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.96e3
RT
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.39e5
1.19e5
0.00e0


OCDF
1.44e8*
43.67
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 3.09e3
0%
Abs. Int.
3.00e7
1.50e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.62e8*
43.67
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 3.66e3
0%
Abs. Int.
3.39e7
1.70e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.30e7*
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
4.71e6
2.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.57e7*
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 3.78e3
0%
Abs. Int.
5.33e6
2.67e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.59e3
0%
Abs. Int.
5.03e3
2.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220215C01	3	CS3_220215_DF_CA	1.00	25-347-1	DTF	059-393	15-Feb-2022	10:30:50
2	220215C02	45	OPR1_18913_DF	1.00	0_18913_OPR001	DTF	247-990	15-Feb-2022	11:33:15
3	220215C03	46	OPR2_18913_DF	1.00	0_18913_OPR002	DTF	443-398	15-Feb-2022	12:19:29
4	220215C04	2	SBS_220215_DF_CA	1.00	30-61-1	DTF	808-304	15-Feb-2022	13:05:49
5	220215C05	44	MB1_18913_DF_SDS	10.00	Method Blank	DTF	341-051	15-Feb-2022	13:52:08
6	220215C06	47	B6183_18913_DF_001	10.45	11215131-011222-S-BN-SC-B-8aH	DTF	924-978	15-Feb-2022	14:38:29
7	220215C07	48	B6183_18913_DF_002	10.60	11215131-011222-S-BN-SC-B-13H	DTF	446-180	15-Feb-2022	15:24:50

REVIEWED
Tyler_Fritz , 2/16/2022, 3:53:11 PM

REVIEWED
Amber_Kornegay , 2/21/2022, 9:13:16 AM

Dioxin/Furan QC Summary	Acq'd: 15 Feb 2022 10:30 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220215_DF_CA	UTP: 16-Feb-2022 15:38:29 DTF	Checkcode: 059-393-TLK
Sample ID: 25-347-1	Report: 16 Feb 2022 15:39 TF	Datafile: 220215C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.39	4.06E+06	0.80	Y	1.18	1.23	4%
12378-PeCDD	33.75	1.62E+07	1.58	Y	1.04	1.08	4%
123478-HxCDD	37.67	1.50E+07	1.28	Y	1.09	1.09	1%
123678-HxCDD	37.79	1.52E+07	1.27	Y	1.15	1.16	1%
123789-HxCDD	38.09	1.60E+07	1.28	Y	1.05	1.06	1%
1234678-HpCDD	40.79	1.44E+07	1.07	Y	1.06	1.05	-1%
OCDD	43.49	2.29E+07	0.92	Y	1.13	1.16	3%
2378-TCDF	27.53	6.11E+06	0.80	Y	1.08	1.14	6%
12378-PeCDF	32.29	2.47E+07	1.52	Y	1.02	1.03	1%
23478-PeCDF	33.41	2.45E+07	1.53	Y	1.02	1.03	1%
123478-HxCDF	36.66	2.31E+07	1.26	Y	1.27	1.27	0%
123678-HxCDF	36.80	2.40E+07	1.25	Y	1.15	1.15	0%
234678-HxCDF	37.48	2.24E+07	1.24	Y	1.19	1.15	-3%
123789-HxCDF	38.45	2.05E+07	1.24	Y	1.16	1.16	0%
1234678-HpCDF	39.85	2.10E+07	1.04	Y	1.37	1.34	-2%
1234789-HpCDF	41.24	1.80E+07	1.03	Y	1.31	1.30	-1%
OCDF	43.66	2.97E+07	0.92	Y	1.07	1.08	1%
ES 2378-TCDD	28.36	3.29E+07	0.84	Y	1.05	1.02	-2%
ES 12378-PeCDD	33.728	3.00E+07	1.57	Y	0.88	0.93	6%
ES 123478-HxCDD	37.654	2.74E+07	1.28	Y	0.97	1.00	3%
ES 123678-HxCDD	37.773	2.63E+07	1.30	Y	0.94	0.96	2%
ES 123789-HxCDD	38.073	3.03E+07	1.24	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.772	2.74E+07	1.13	Y	0.91	1.00	9%
ES OCDD	43.478	3.96E+07	0.94	Y	0.62	0.72	16%
ES 2378-TCDF	27.502	5.37E+07	0.82	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.274	4.79E+07	1.60	Y	0.91	0.91	0%
ES 23478-PeCDF	33.391	4.74E+07	1.57	Y	0.88	0.90	2%
ES 123478-HxCDF	36.644	3.63E+07	0.54	Y	1.20	1.33	11%
ES 123678-HxCDF	36.785	4.17E+07	0.55	Y	1.35	1.52	13%
ES 234678-HxCDF	37.465	3.88E+07	0.55	Y	1.24	1.42	14%
ES 123789-HxCDF	38.432	3.53E+07	0.53	Y	1.16	1.29	12%
ES 1234678-HpCDF	39.836	3.14E+07	0.44	Y	0.97	1.15	18%
ES 1234789-HpCDF	41.233	2.77E+07	0.46	Y	0.85	1.01	19%
ES OCDF	43.651	5.51E+07	0.90	Y	0.81	1.01	25%

Dioxin/Furan QC Summary	Acq'd: 15 Feb 2022 10:30 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220215_DF_CA	UTP: 16-Feb-2022 15:38:29 DTF	Checkcode: 059-393-TLK
Sample ID: 25-347-1	Report: 16 Feb 2022 15:39 TF	Datafile: 220215C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.70	3.22E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.13	5.28E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.97	1.37E+07	1.34	Y	-	-	-
CS 37Cl-2378-TCDD	28.38	4.40E+06	n/a	-	1.20	1.37	14%
CS 12347-PeCDD	33.22	2.72E+07	1.65	Y	0.75	0.85	12%
CS 12346-PeCDF	31.74	4.65E+07	1.63	Y	0.85	0.88	4%
CS 123469-HxCDF	37.10	3.75E+07	0.55	Y	1.12	1.37	23%
CS 1234689-HpCDF	40.24	3.12E+07	0.46	Y	0.89	1.14	29%
~~SS 37Cl-2378-TCDD~~	~~28.38~~	~~4.40E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.34~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.22~~	~~2.72E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.74~~	~~4.65E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~0.97~~	~~4%~~
~~SS 123469-HxCDF~~	~~37.10~~	~~3.75E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.24~~	~~3.12E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~0.99~~	~~8%~~
~~OCDD-a~~	~~43.49~~	~~1.38E+06~~	~~2.57~~	~~Y~~	~~0.07~~	~~0.07~~	~~-4%~~
~~OCDF-a~~	~~43.66~~	~~1.90E+06~~	~~2.12~~	~~Y~~	~~0.07~~	~~0.07~~	~~4%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220215C01 Analysis Date: 15-FEB-2022 10:30:50

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	10.4	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	52.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	49.7	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	103	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.6	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	50.3	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	50.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	50.1	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.9	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.6	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	101	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 16 Feb 2022 15:39 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

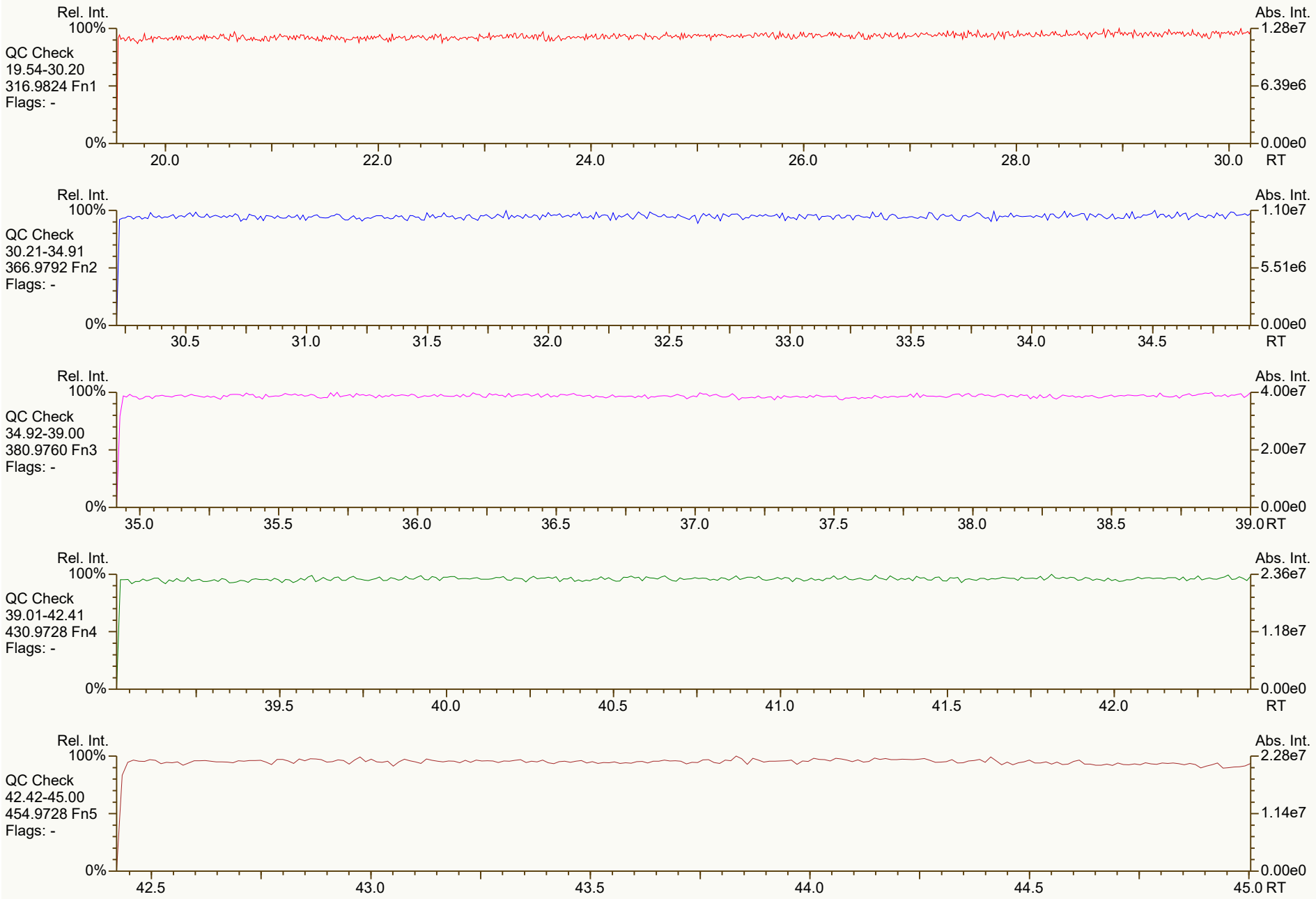
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

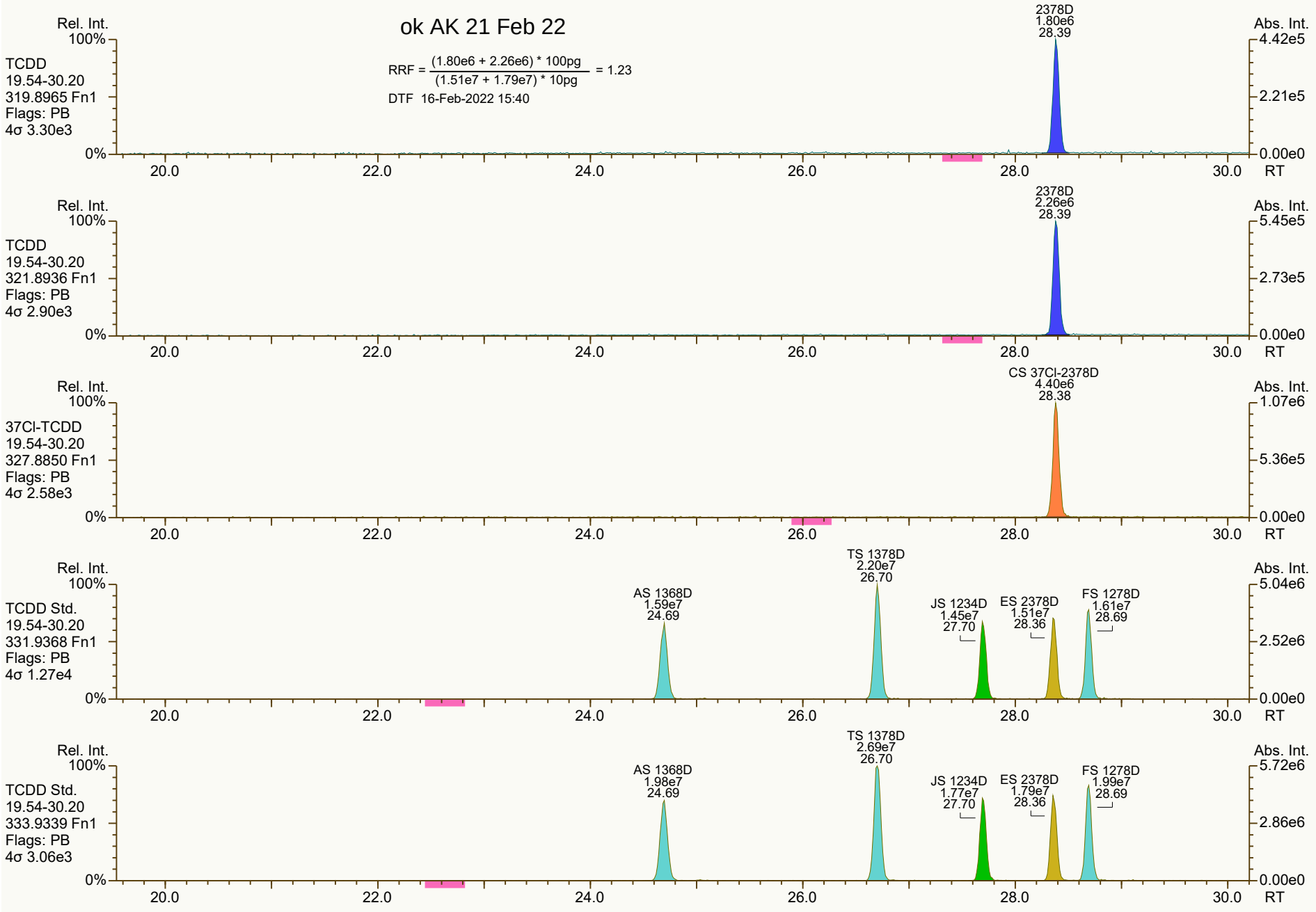
Instrument ID: HRMS3 GC Column ID: ZB-5ms

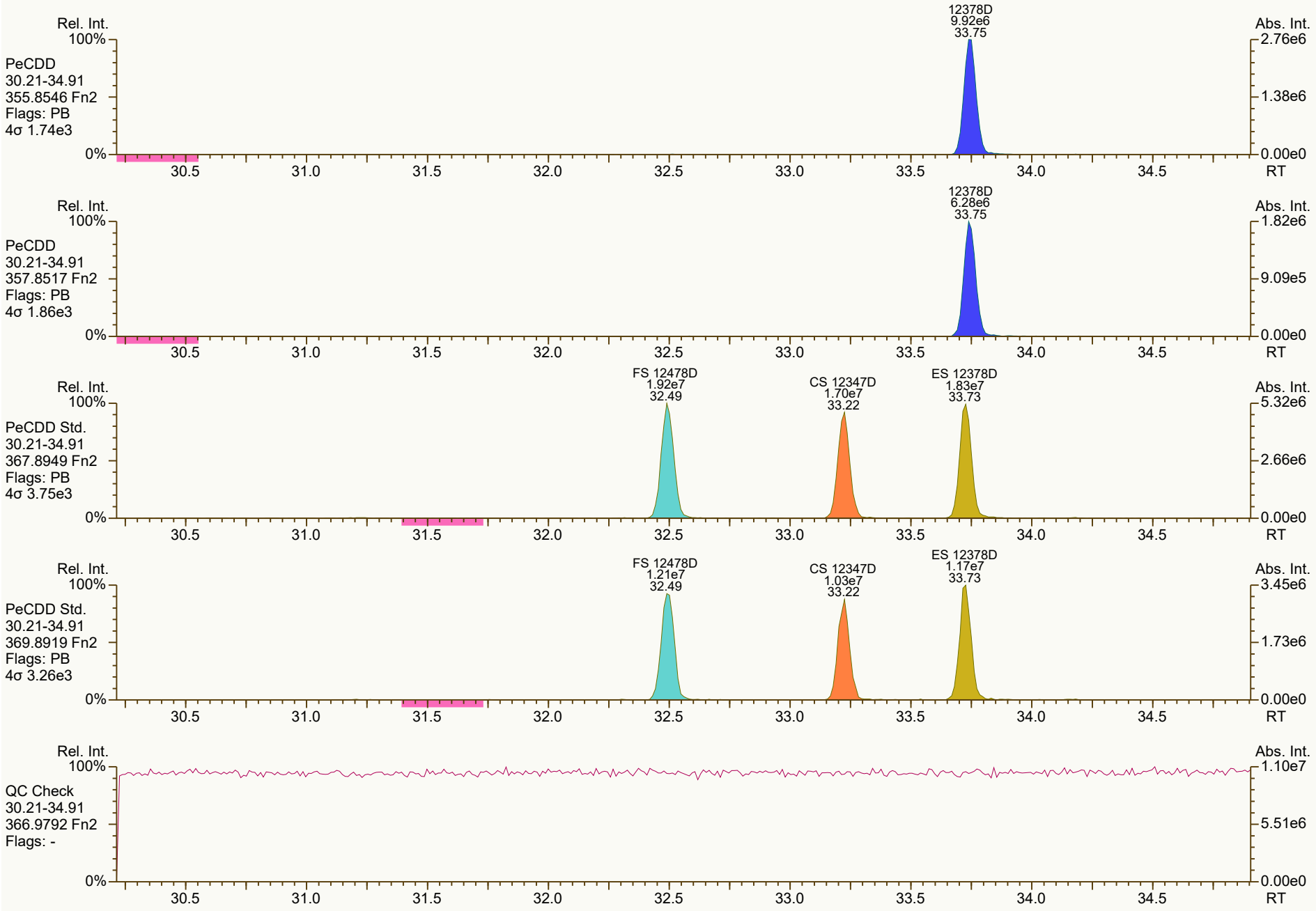
VER Data Filename: 220215C01 Analysis Date: 15-FEB-2022 10:30:50

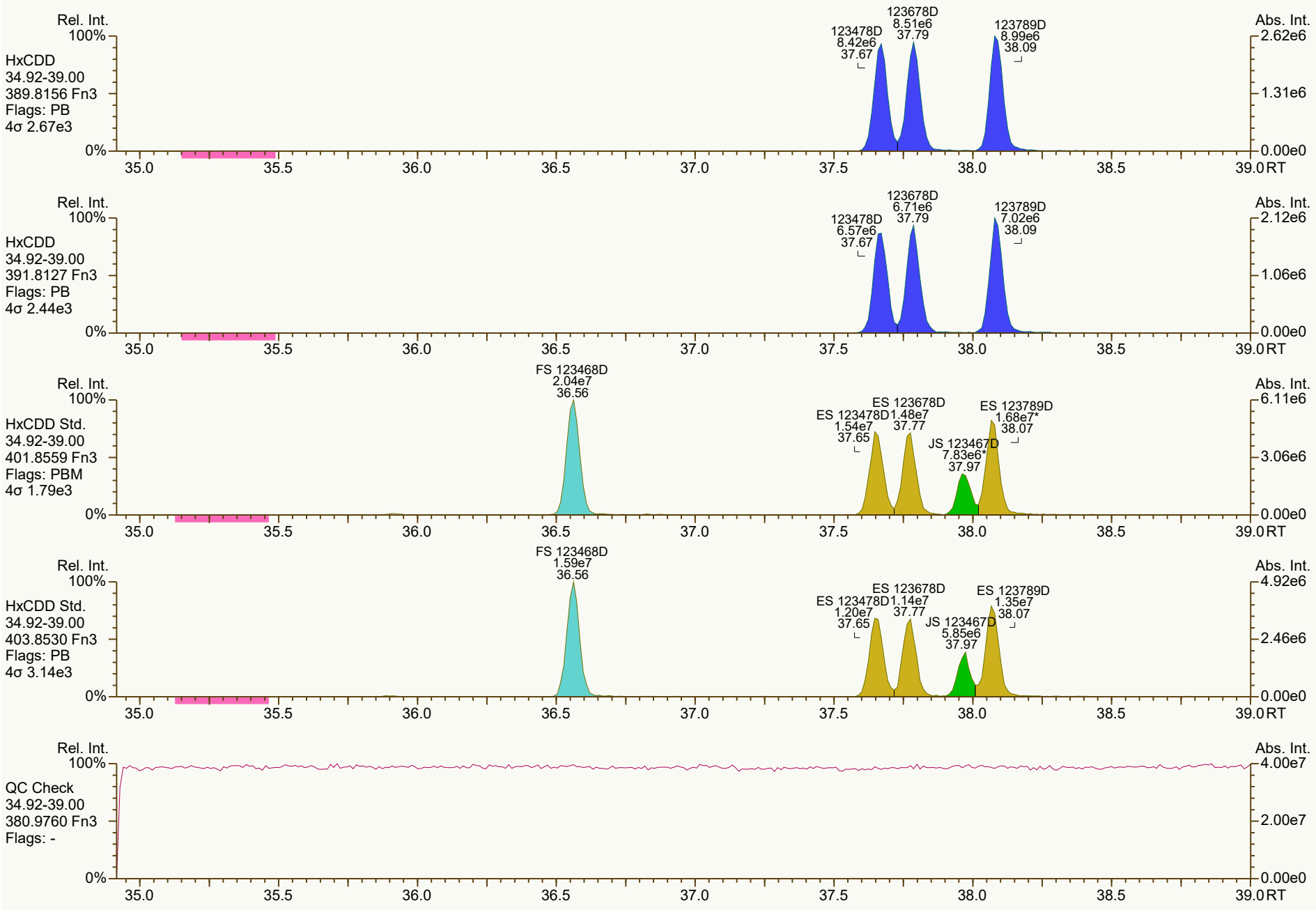
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.84	0.65 - 0.89	Y	97.9	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	106	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	103	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	101	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.13	0.88 - 1.20	Y	109	72 - 138	Y
13C-OCDD	M+2/M+4	0.94	0.76 - 1.02	Y	232	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65 - 0.89	Y	96.1	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	99.6	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	102	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	111	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	113	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	114	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	112	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	118	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	119	77 - 129	Y
13C-OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	249	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.4	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	112	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.63	1.32 - 1.78	Y	104	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	123	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	129	70 - 130	Y

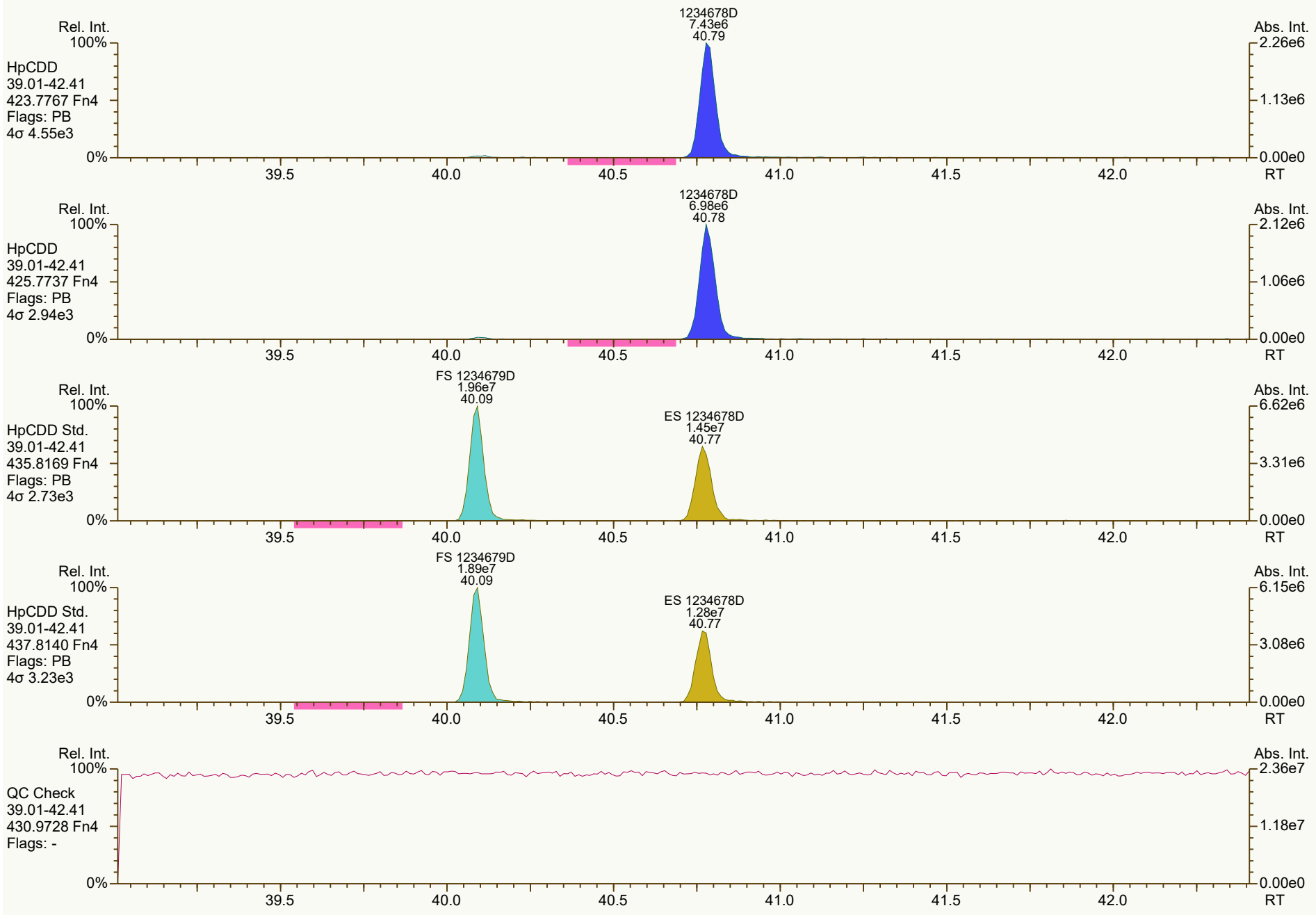
Processed: 16 Feb 2022 15:39 Analyst: TF

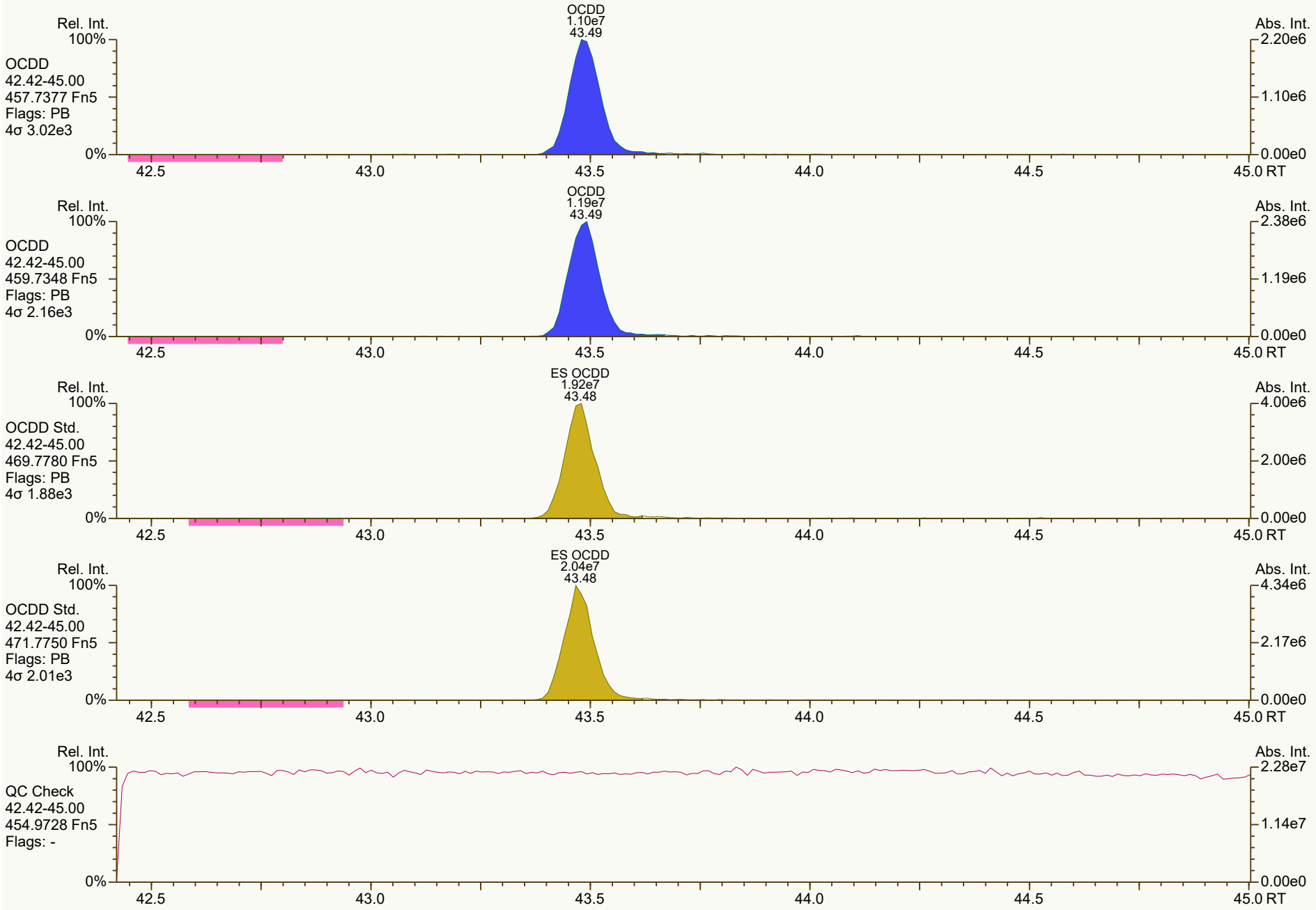

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.28e7
6.39e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.10e7
5.51e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
4.00e7
2.00e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.36e7
1.18e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
2.28e7
1.14e7
0.00e0

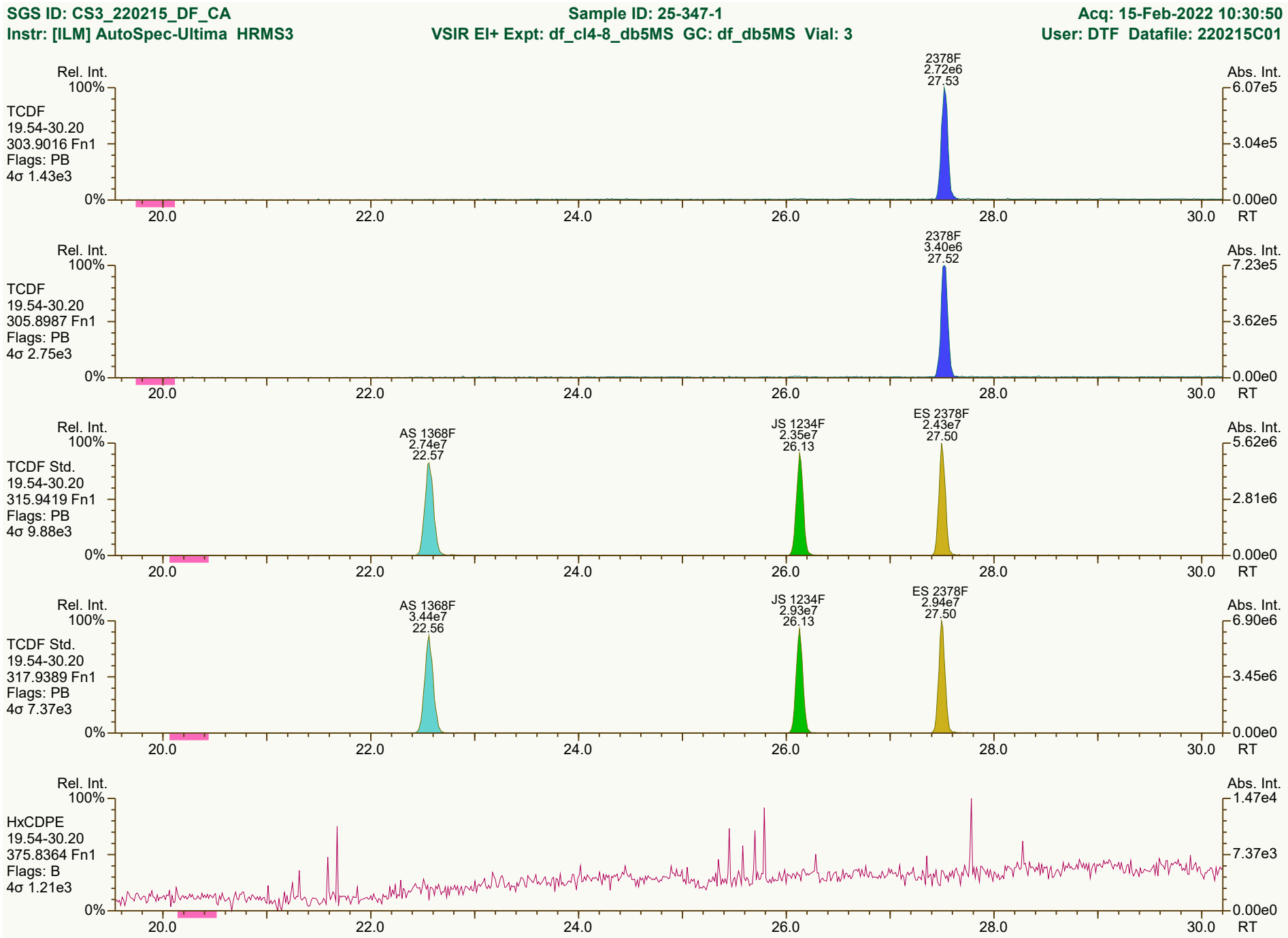

ok AK 21 Feb 22
RRF = (1.80e6 + 2.26e6) * 100pg / (1.51e7 + 1.79e7) * 10pg = 1.23
DTF 16-Feb-2022 15:40
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 3.30e3
2378D
1.80e6
28.39
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.90e3
2378D
2.26e6
28.39
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.58e3
CS 37Cl-2378D
4.40e6
28.38
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.27e4
AS 1368D
1.59e7
24.69
TS 1378D
2.20e7
26.70
JS 1234D
1.45e7
27.70
ES 2378D
1.51e7
28.36
FS 1278D
1.61e7
28.69
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.06e3
AS 1368D
1.98e7
24.69
TS 1378D
2.69e7
26.70
JS 1234D
1.77e7
27.70
ES 2378D
1.79e7
28.36
FS 1278D
1.99e7
28.69
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.74e3
0%
12378D
9.92e6
33.75
Abs. Int.
2.76e6
1.38e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.86e3
0%
12378D
6.28e6
33.75
Abs. Int.
1.82e6
9.09e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.75e3
0%
FS 12478D
1.92e7
32.49
CS 12347D
1.70e7
33.22
ES 12378D
1.83e7
33.73
Abs. Int.
5.32e6
2.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.26e3
0%
FS 12478D
1.21e7
32.49
CS 12347D
1.03e7
33.22
ES 12378D
1.17e7
33.73
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.10e7
5.51e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 2.67e3
123478D
8.42e6
37.67
123678D
8.51e6
37.79
123789D
8.99e6
38.09
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 2.44e3
123478D
6.57e6
37.67
123678D
6.71e6
37.79
123789D
7.02e6
38.09
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.79e3
FS 123468D
2.04e7
36.56
ES 123478D
1.54e7
37.65
ES 123678D
1.48e7
37.77
JS 123467D
7.83e6*
37.97
ES 123789D
1.68e7*
38.07
Abs. Int.
6.11e6
3.06e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.14e3
FS 123468D
1.59e7
36.56
ES 123478D
1.20e7
37.65
ES 123678D
1.14e7
37.77
JS 123467D
5.85e6
37.97
ES 123789D
1.35e7
38.07
Abs. Int.
4.92e6
2.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
4.00e7
2.00e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.55e3
1234678D
7.43e6
40.79
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.94e3
1234678D
6.98e6
40.78
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.73e3
FS 1234679D
1.96e7
40.09
ES 1234678D
1.45e7
40.77
Abs. Int.
6.62e6
3.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.23e3
FS 1234679D
1.89e7
40.09
ES 1234678D
1.28e7
40.77
Abs. Int.
6.15e6
3.08e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
2.36e7
1.18e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

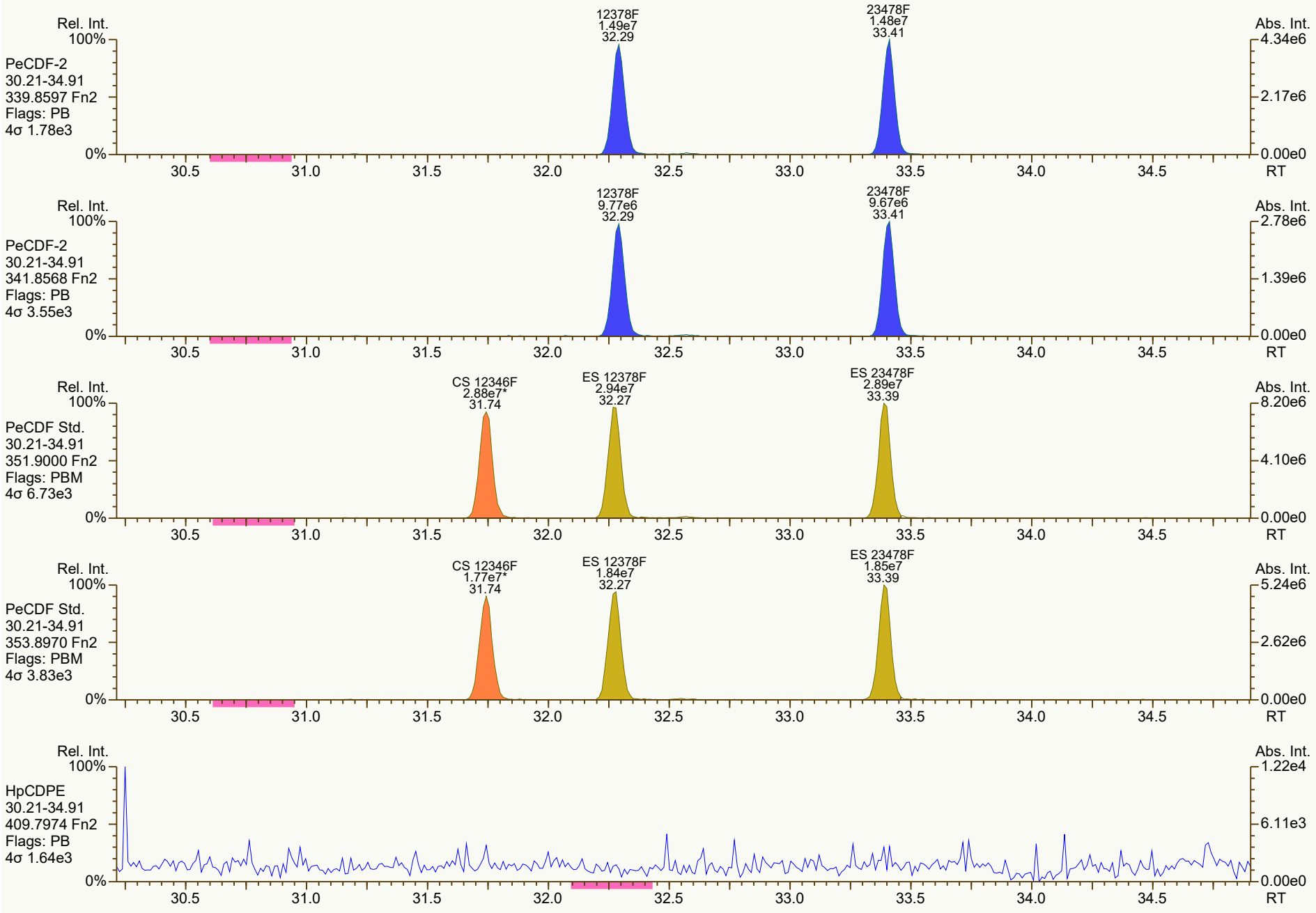

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.02e3
0%
OCDD
1.10e7
43.49
Abs. Int.
2.20e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.16e3
0%
OCDD
1.19e7
43.49
Abs. Int.
2.38e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.88e3
0%
ES OCDD
1.92e7
43.48
Abs. Int.
4.00e6
2.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.01e3
0%
ES OCDD
2.04e7
43.48
Abs. Int.
4.34e6
2.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.28e7
1.14e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

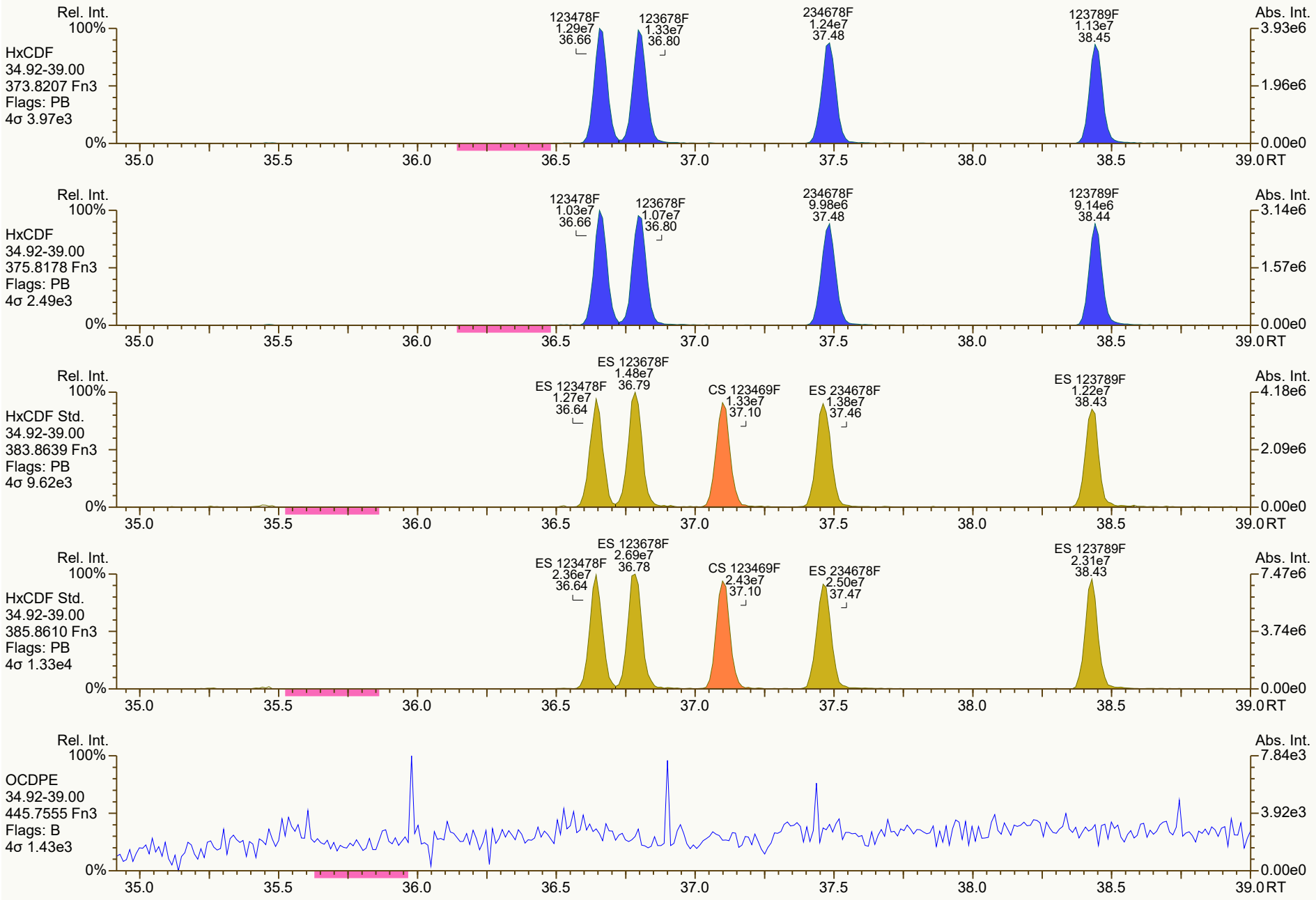

SGS ID: CS3_220215_DF_CA
Sample ID: 25-347-1
Acq: 15-Feb-2022 10:30:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220215C01
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.43e3
2378F
2.72e6
27.53
6.07e5
3.04e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.75e3
2378F
3.40e6
27.52
7.23e5
3.62e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.88e3
AS 1368F
2.74e7
22.57
JS 1234F
2.35e7
26.13
ES 2378F
2.43e7
27.50
5.62e6
2.81e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.37e3
AS 1368F
3.44e7
22.56
JS 1234F
2.93e7
26.13
ES 2378F
2.94e7
27.50
6.90e6
3.45e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
1.47e4
7.37e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\CS3_220215_DF_CA.utp_res, saved 16-Feb-2022 15:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7054, 9668, 2978 scc: 059-393
PKD: 15-Feb-2022 11:26 Printed: 16-Feb-2022 15:42 Page 7 of 12

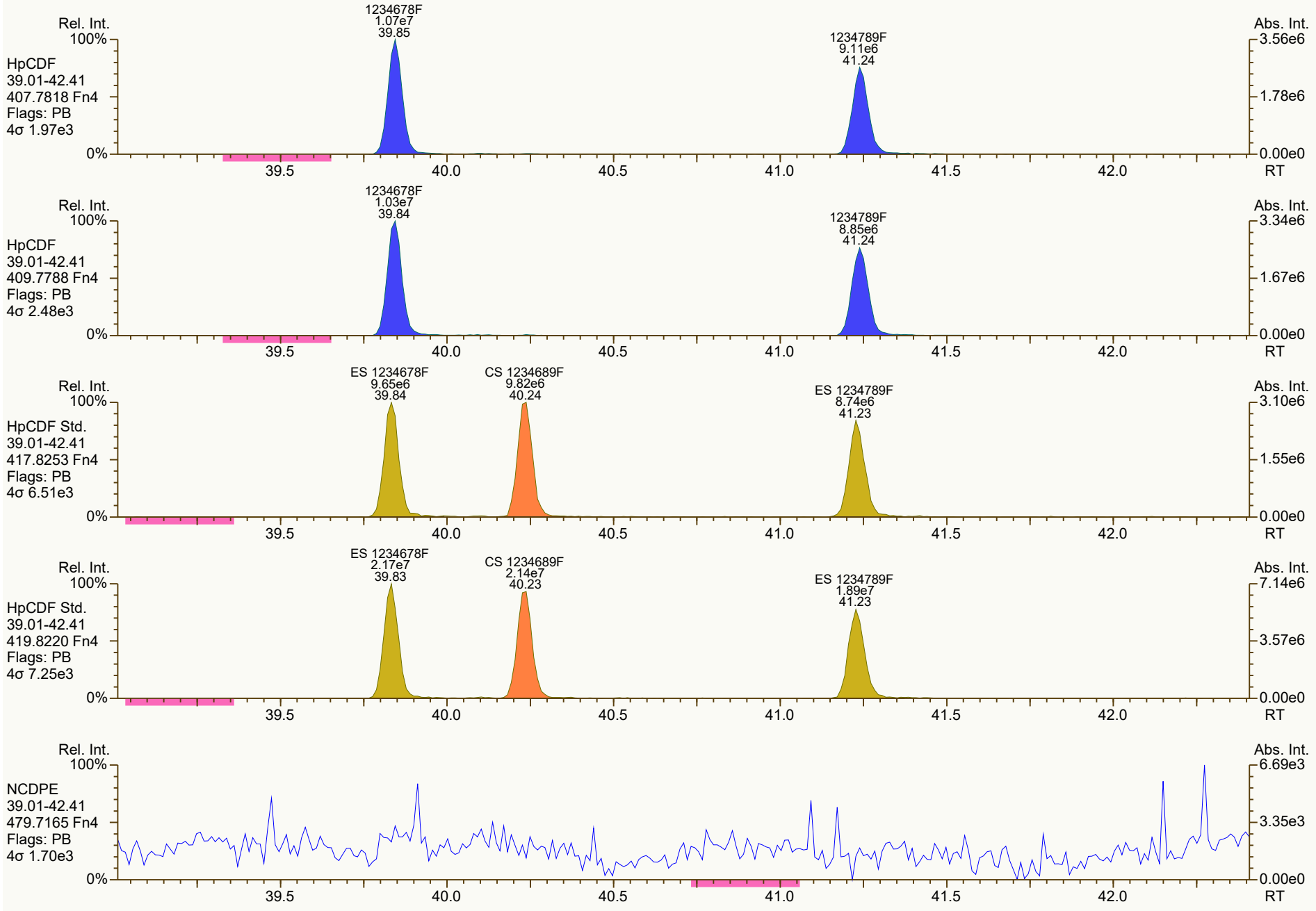
SGS ID: CS3_220215_DF_CA
Sample ID: 25-347-1
Acq: 15-Feb-2022 10:30:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220215C01

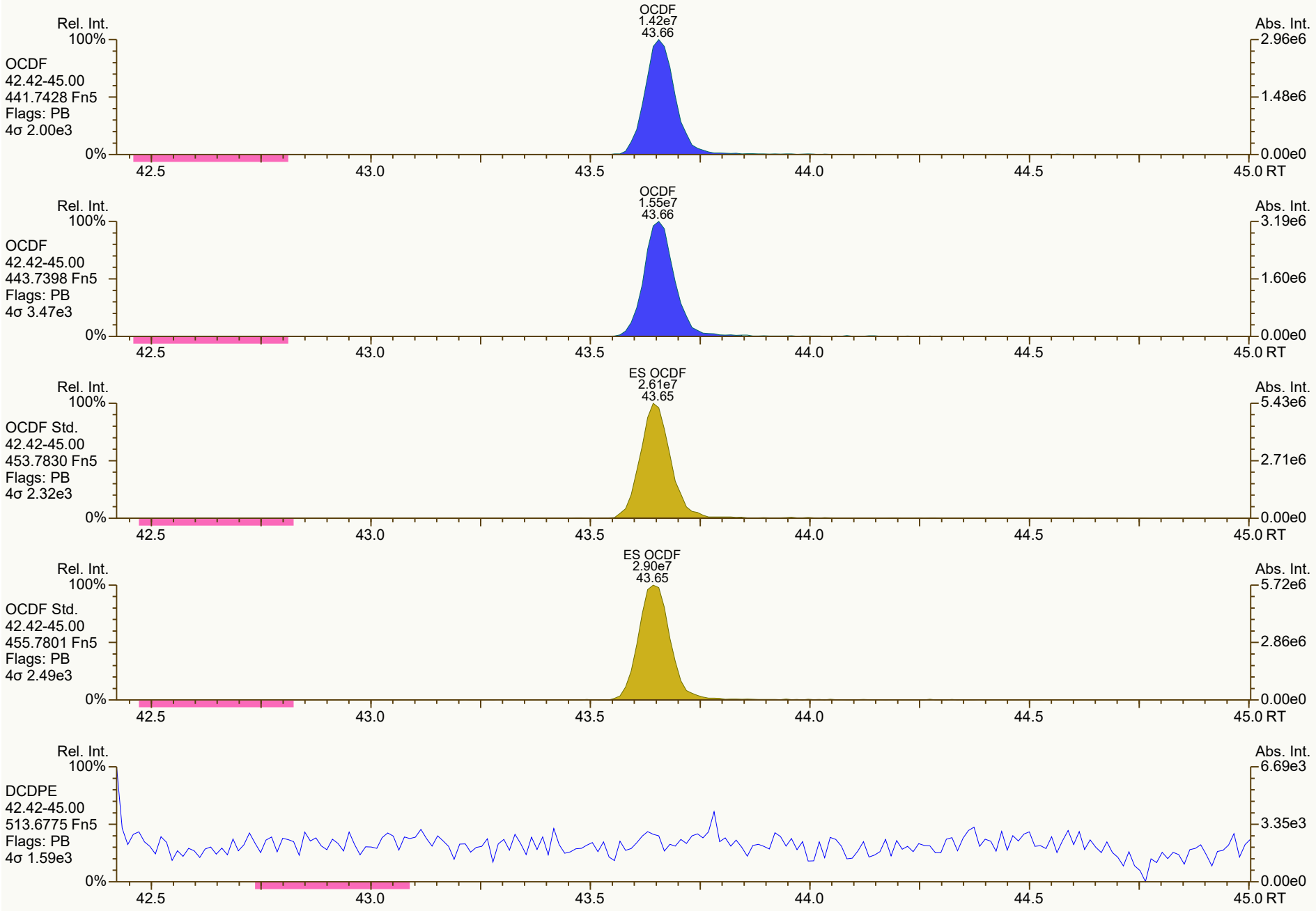


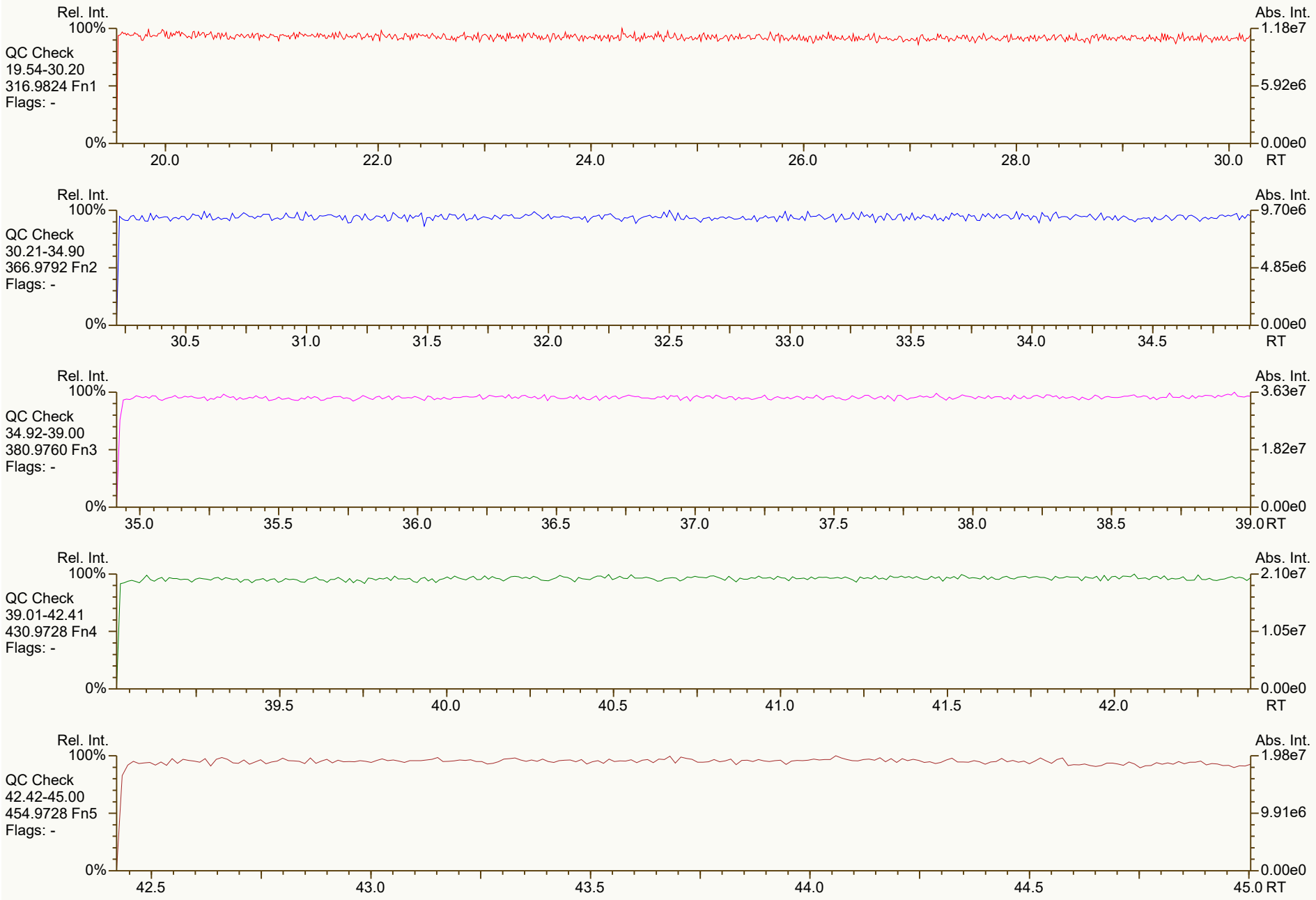
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\CS3_220215_DF_CA.utp_res, saved 16-Feb-2022 15:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8242 scc: 059-393
PKD: 15-Feb-2022 11:26 Printed: 16-Feb-2022 15:42 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.78e3
12378F
1.49e7
32.29
23478F
1.48e7
33.41
Abs. Int.
4.34e6
2.17e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 3.55e3
12378F
9.77e6
32.29
23478F
9.67e6
33.41
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 6.73e3
CS 12346F
2.88e7*
31.74
ES 12378F
2.94e7
32.27
ES 23478F
2.89e7
33.39
Abs. Int.
8.20e6
4.10e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 3.83e3
CS 12346F
1.77e7*
31.74
ES 12378F
1.84e7
32.27
ES 23478F
1.85e7
33.39
Abs. Int.
5.24e6
2.62e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.64e3
Abs. Int.
1.22e4
6.11e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 3.97e3
0%
123478F
1.29e7
36.66
123678F
1.33e7
36.80
234678F
1.24e7
37.48
123789F
1.13e7
38.45
Abs. Int.
3.93e6
1.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 2.49e3
0%
123478F
1.03e7
36.66
123678F
1.07e7
36.80
234678F
9.98e6
37.48
123789F
9.14e6
38.44
Abs. Int.
3.14e6
1.57e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 9.62e3
0%
ES 123678F
1.48e7
36.79
ES 123478F
1.27e7
36.64
CS 123469F
1.33e7
37.10
ES 234678F
1.38e7
37.46
ES 123789F
1.22e7
38.43
Abs. Int.
4.18e6
2.09e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.33e4
0%
ES 123678F
2.69e7
36.78
ES 123478F
2.36e7
36.64
CS 123469F
2.43e7
37.10
ES 234678F
2.50e7
37.47
ES 123789F
2.31e7
38.43
Abs. Int.
7.47e6
3.74e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.43e3
0%
Abs. Int.
7.84e3
3.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.97e3
1234678F
1.07e7
39.85
1234789F
9.11e6
41.24
Abs. Int.
3.56e6
1.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.48e3
1234678F
1.03e7
39.84
1234789F
8.85e6
41.24
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 6.51e3
ES 1234678F
9.65e6
39.84
CS 1234689F
9.82e6
40.24
ES 1234789F
8.74e6
41.23
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 7.25e3
ES 1234678F
2.17e7
39.83
CS 1234689F
2.14e7
40.23
ES 1234789F
1.89e7
41.23
Abs. Int.
7.14e6
3.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.70e3
Abs. Int.
6.69e3
3.35e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

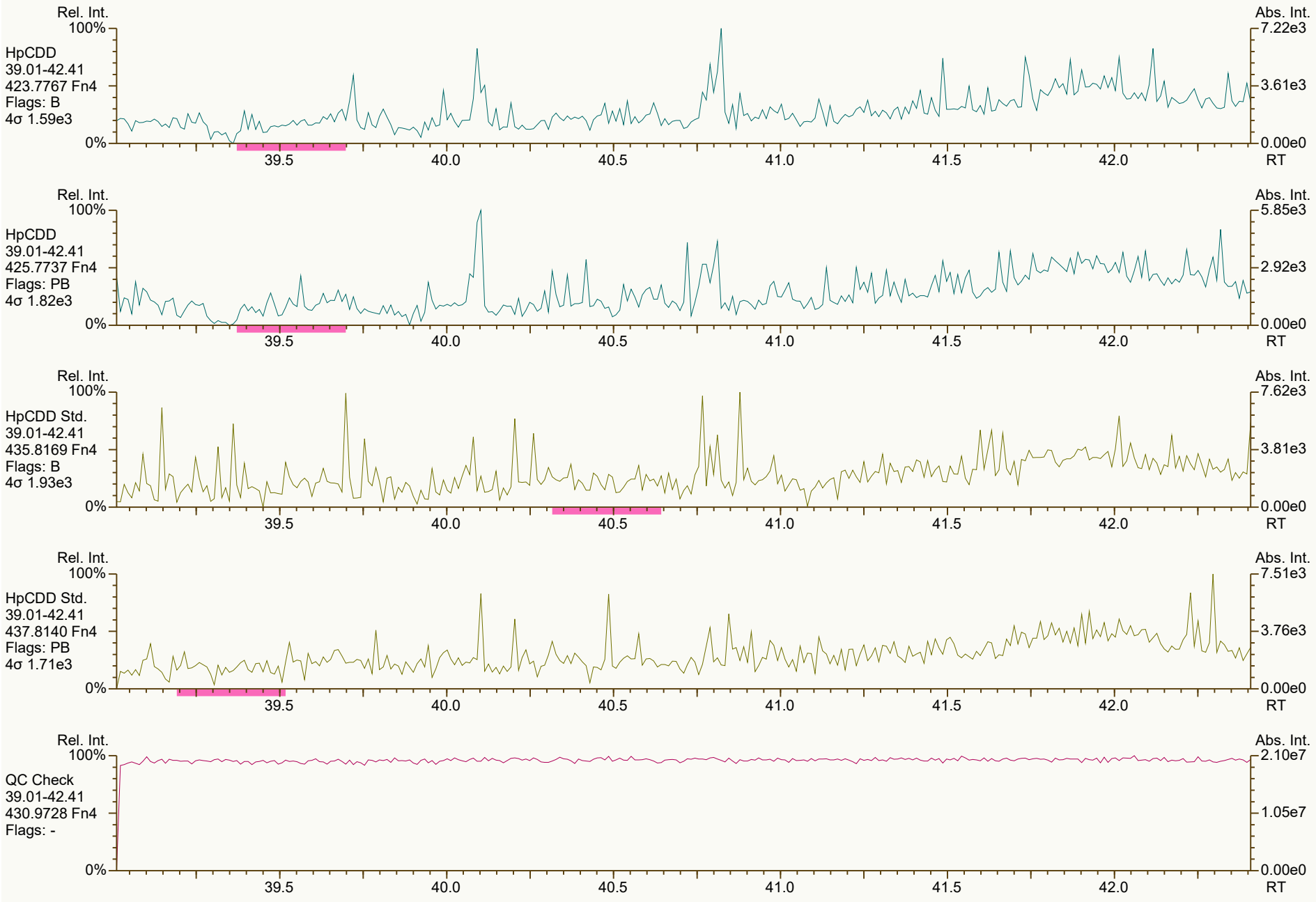

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.00e3
0%
OCDF
1.42e7
43.66
Abs. Int.
2.96e6
1.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 3.47e3
0%
OCDF
1.55e7
43.66
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.32e3
0%
ES OCDF
2.61e7
43.65
Abs. Int.
5.43e6
2.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.49e3
0%
ES OCDF
2.90e7
43.65
Abs. Int.
5.72e6
2.86e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.59e3
0%
Abs. Int.
6.69e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.18e7
5.92e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
9.70e6
4.85e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.63e7
1.82e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.10e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.98e7
9.91e6
0.00e0

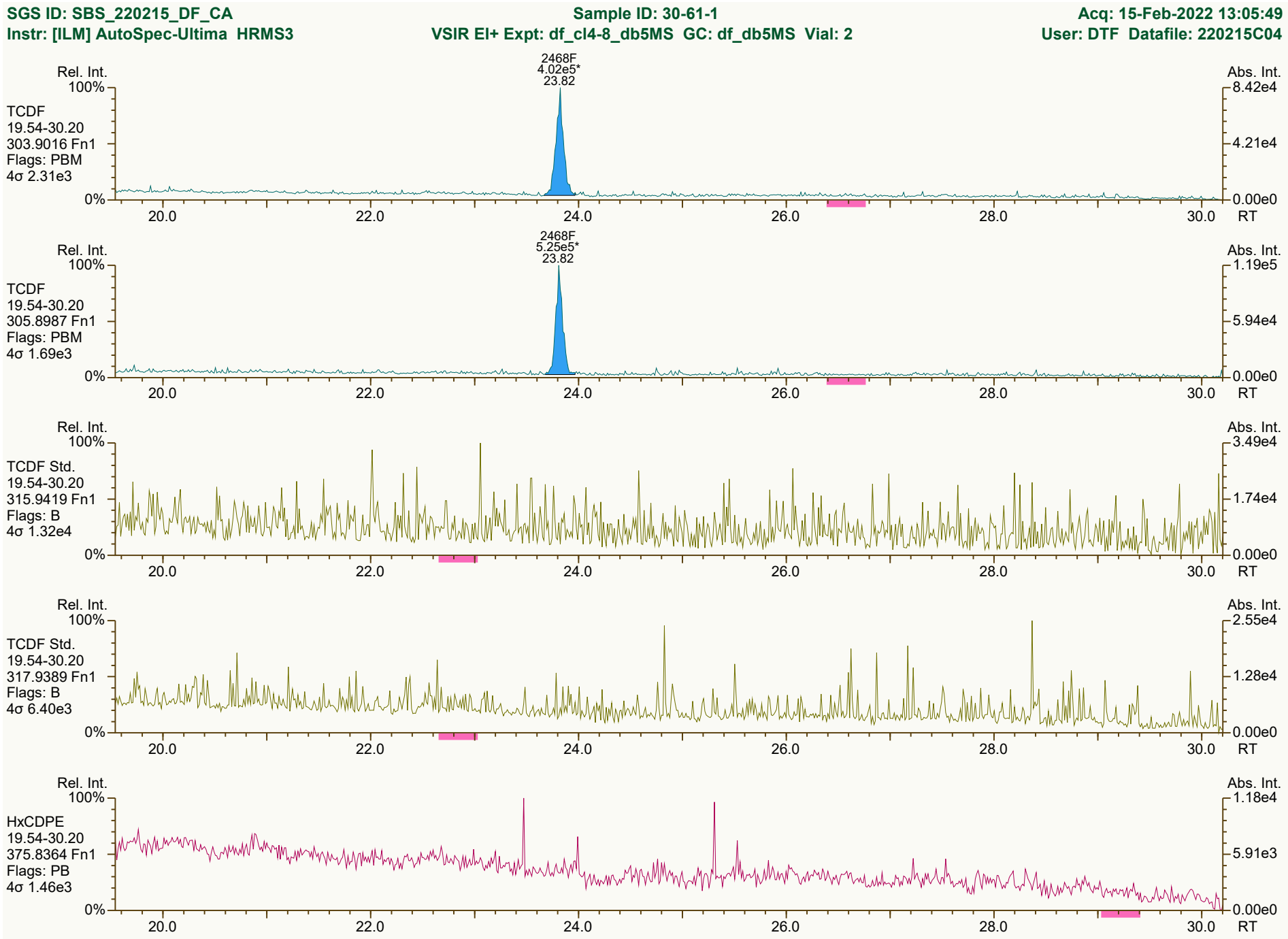

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.83e3
0%
Abs. Int.
1.26e4
6.31e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.90e3
0%
Abs. Int.
2.88e4
1.44e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 8.20e3
0%
Abs. Int.
3.61e4
1.81e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.91e3
0%
Abs. Int.
3.38e4
1.69e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.81e3
0%
Abs. Int.
9.29e3
4.65e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.20e3
0%
Abs. Int.
5.10e3
2.55e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.89e4
9.47e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.58e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.70e6
4.85e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
8.49e3
4.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.50e4
7.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 2.61e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.63e7
1.82e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

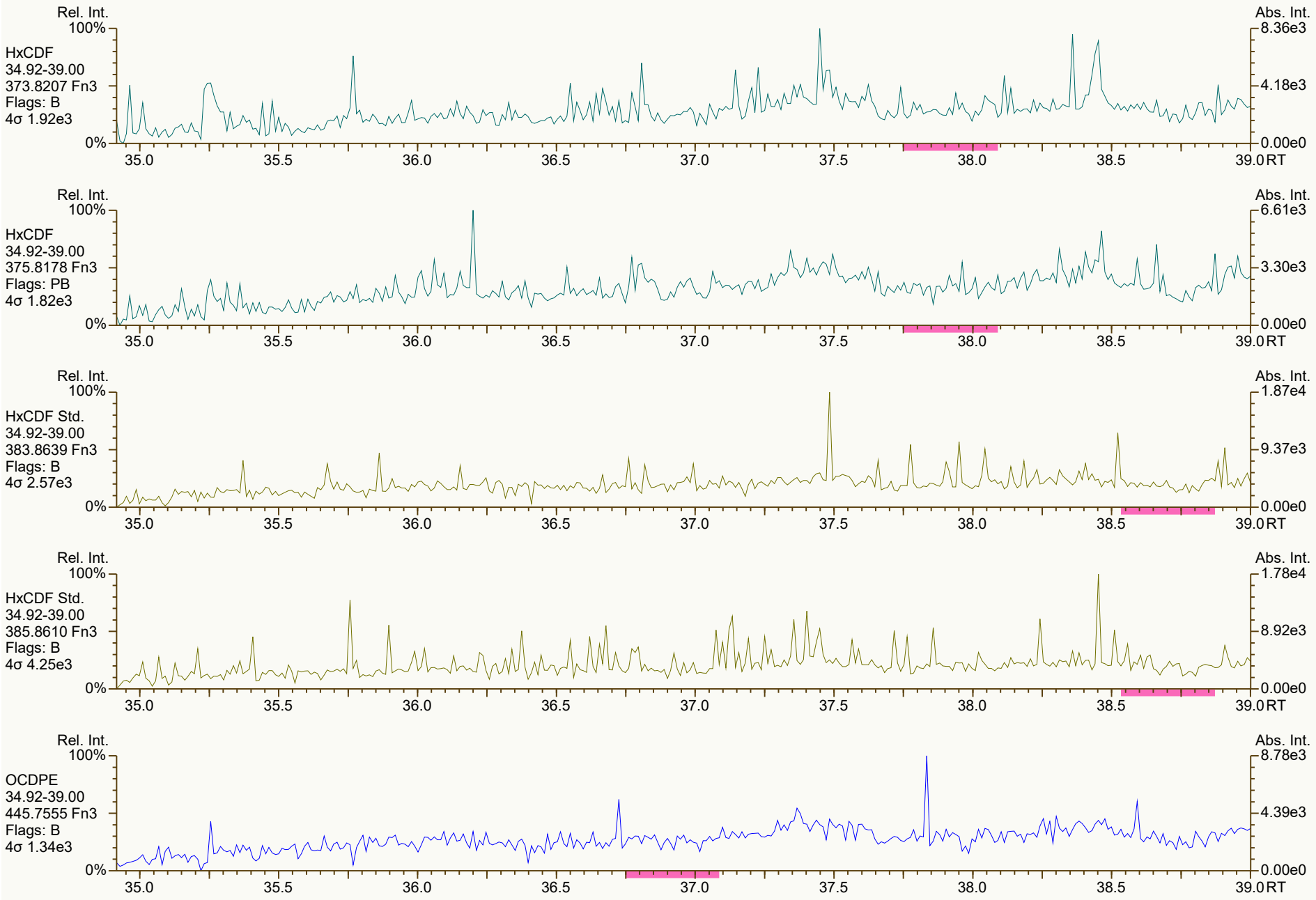

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
7.22e3
3.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.82e3
0%
Abs. Int.
5.85e3
2.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.71e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.10e7
1.05e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.39e4
6.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 2.58e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.82e4
9.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 2.46e3
0%
Abs. Int.
1.40e4
7.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.98e7
9.91e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220215_DF_CA
Sample ID: 30-61-1
Acq: 15-Feb-2022 13:05:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220215C04
2468F
4.02e5*
23.82
Rel. Int.
100%
Abs. Int.
8.42e4
4.21e4
0.00e0
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.31e3
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.25e5*
23.82
Rel. Int.
100%
Abs. Int.
1.19e5
5.94e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.69e3
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
Abs. Int.
3.49e4
1.74e4
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 1.32e4
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
Abs. Int.
2.55e4
1.28e4
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 6.40e3
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
Abs. Int.
1.18e4
5.91e3
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.46e3
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\SBS_220215_DF_CA.utp_res, saved 15-Feb-2022 15:43 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8349, 7191, 5018 scc: 808-304
Revised: 15-Feb-2022 15:43 (DTF) Printed: 16-Feb-2022 15:43 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.77e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.61e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.92e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.36e4
6.82e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.70e4
8.49e3
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
RT

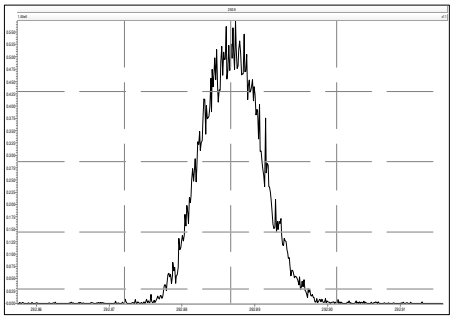

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.82e3
0%
Abs. Int.
6.61e3
3.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.57e3
0%
Abs. Int.
1.87e4
9.37e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 4.25e3
0%
Abs. Int.
1.78e4
8.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.78e3
4.39e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.86e3
0%
Abs. Int.
7.82e3
3.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.18e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 2.18e3
0%
Abs. Int.
1.84e4
9.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 2.24e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.53e3
0%
Abs. Int.
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2.81e3
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39.5
40.0
40.5
41.0
41.5
42.0
RT

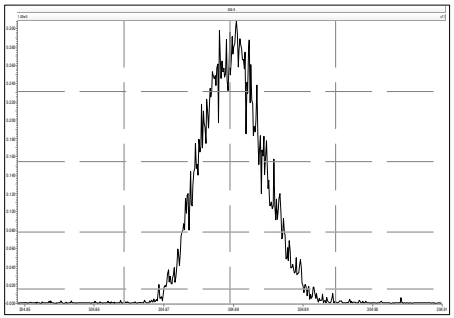

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.73e3
2.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.43e4
7.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 2.41e3
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.45e3
0%
Abs. Int.
1.94e4
9.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
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43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, February 15, 2022 09:46:21 Eastern Standard Time

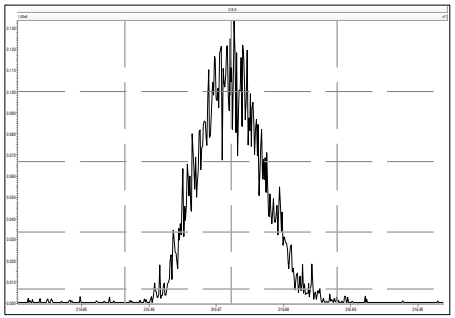
M 292.9824 R 15556



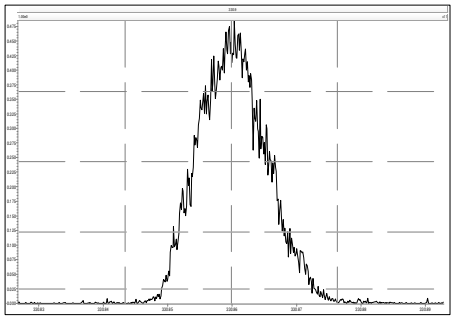
M 304.9824 R 15197



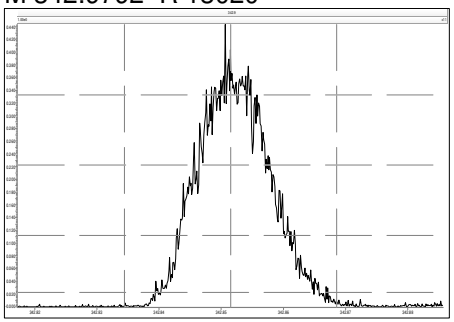
M 316.9824 R 15337



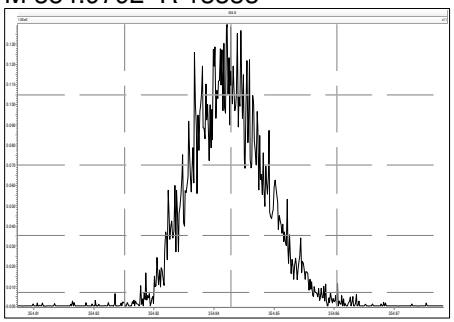
M 330.9792 R 14124



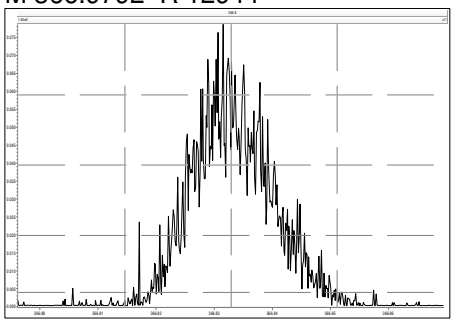
M 342.9792 R 13020



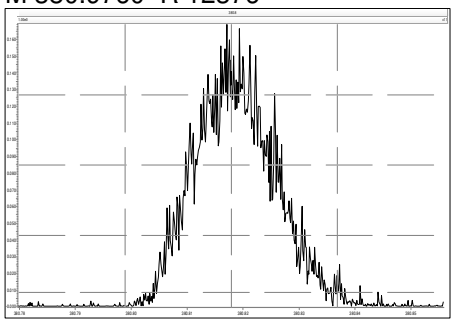
M 354.9792 R 13333



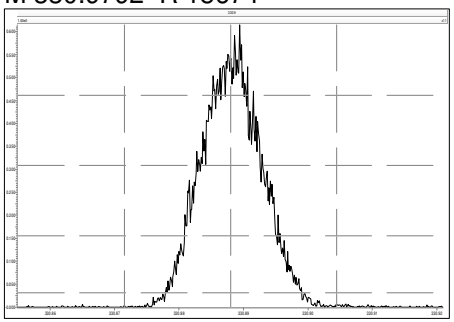
M 366.9792 R 12944



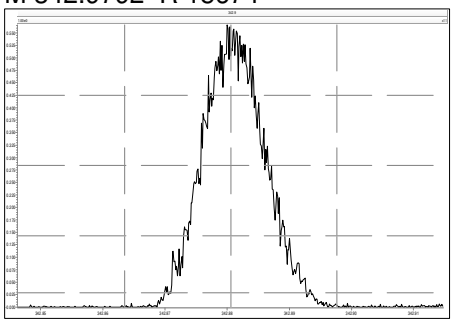
M 380.9760 R 12376



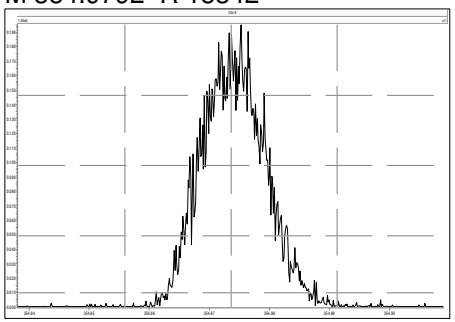
M 330.9792 R 15674



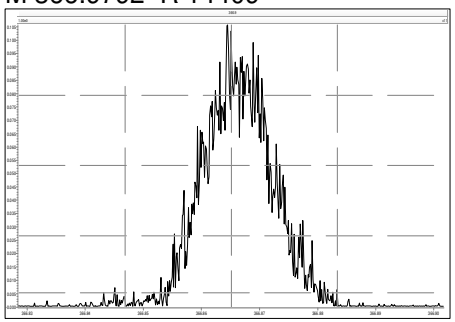
M 342.9792 R 15674



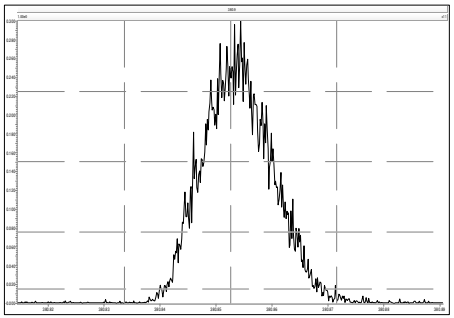
M 354.9792 R 15342



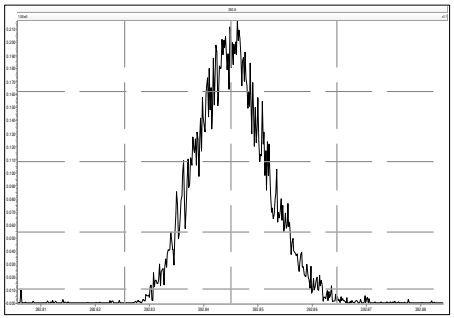
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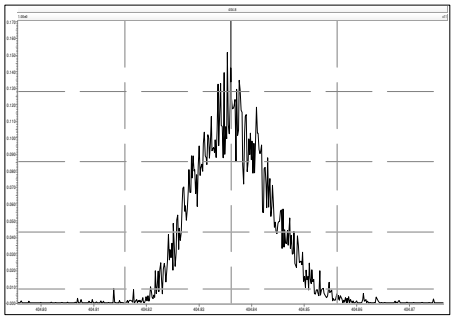
M 380.9760 R 13550



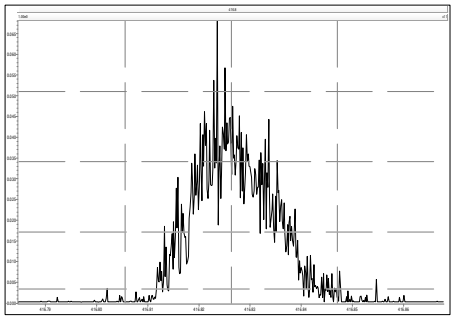
M 392.9760 R 13703



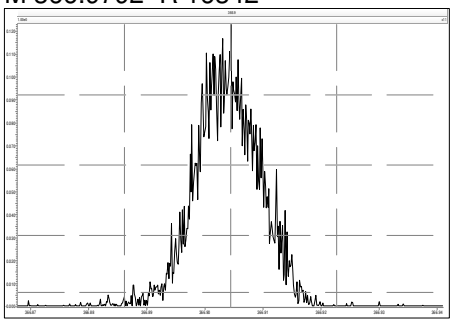
M 404.9760 R 13703



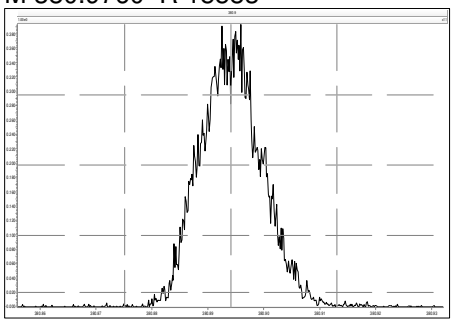
M 416.9760 R 14367



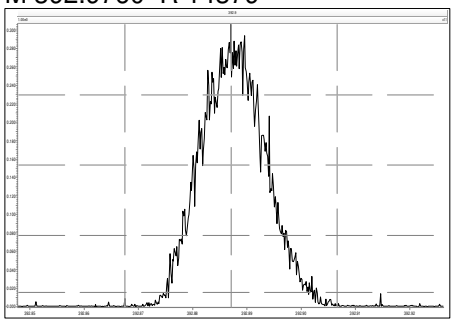
M 366.9792 R 16342



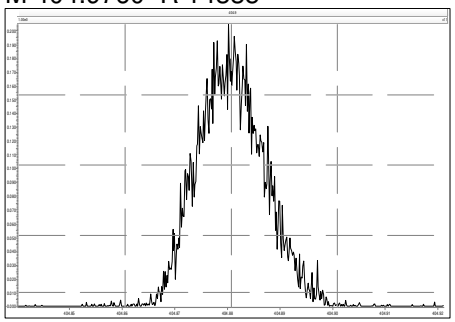
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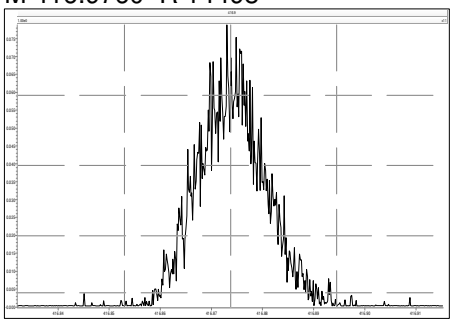
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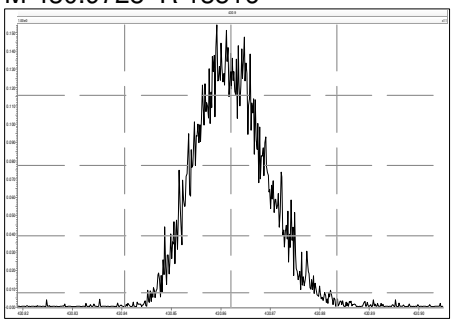
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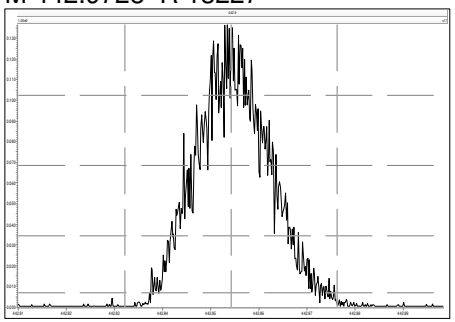
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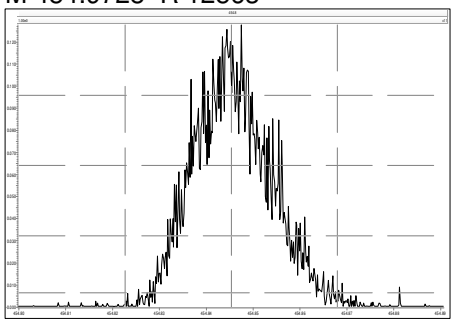
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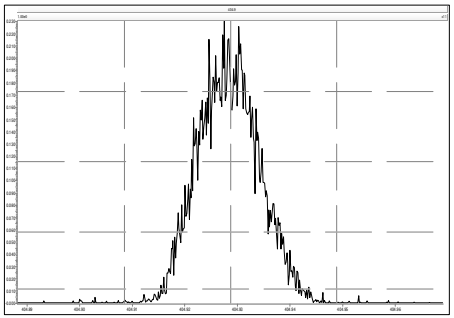
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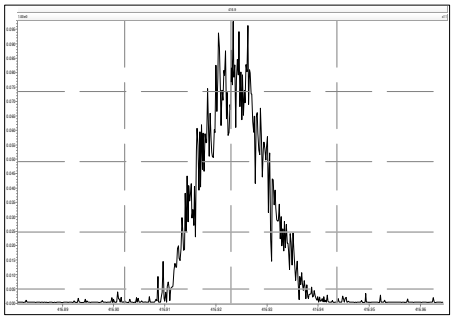
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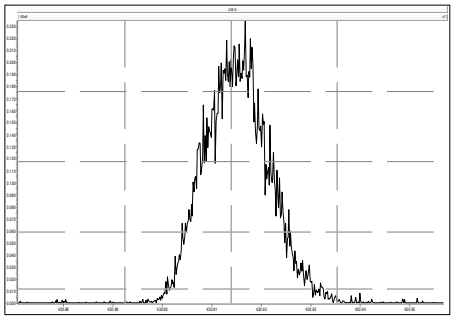
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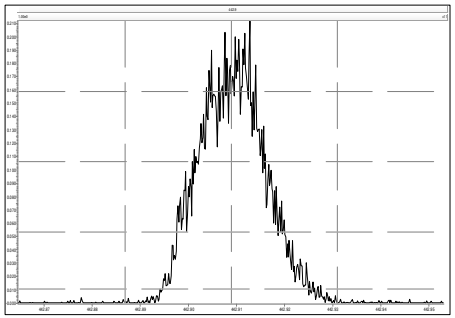
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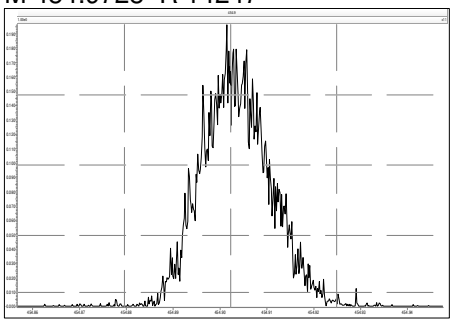
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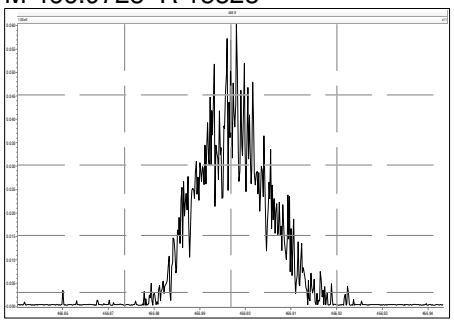
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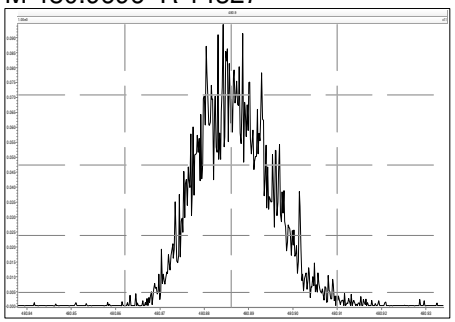
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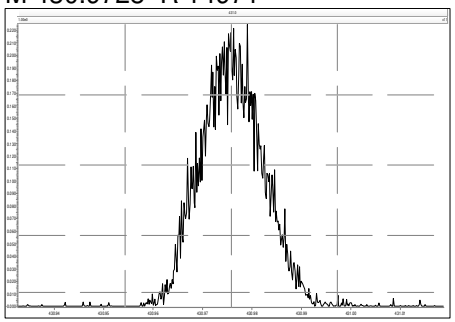
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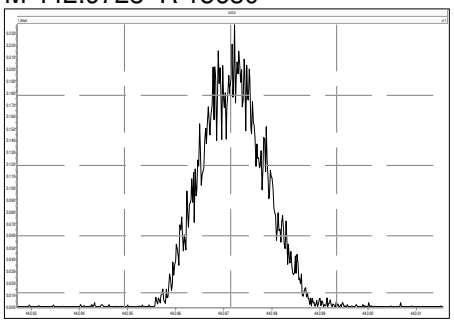
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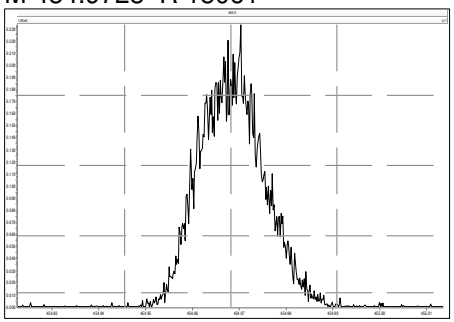
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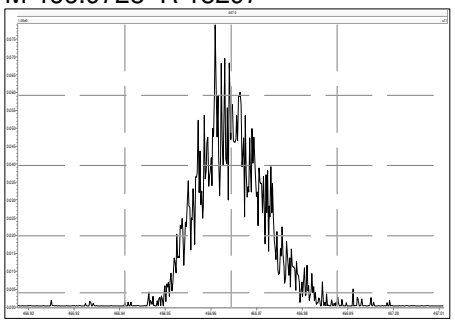
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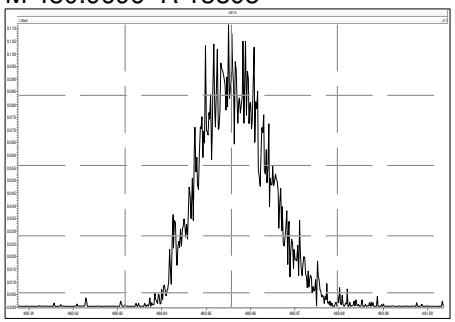
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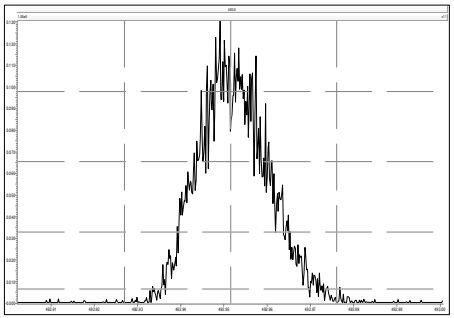
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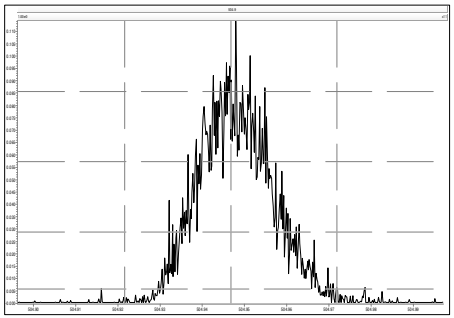
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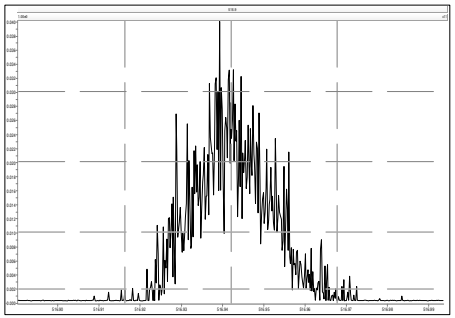
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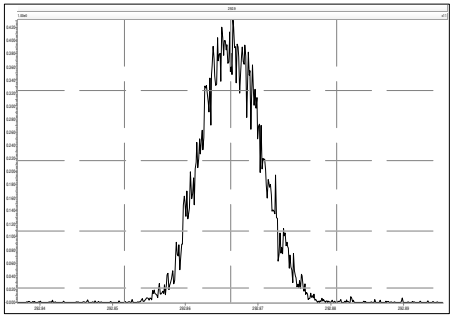


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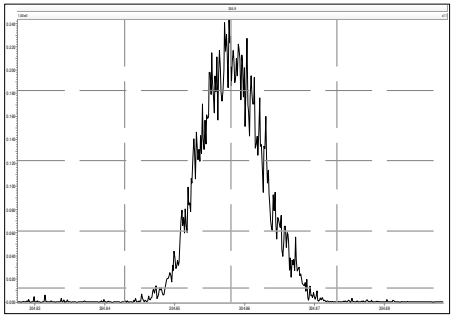


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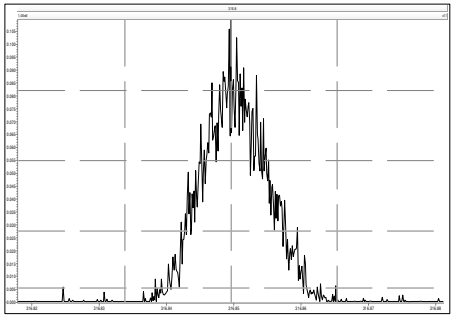
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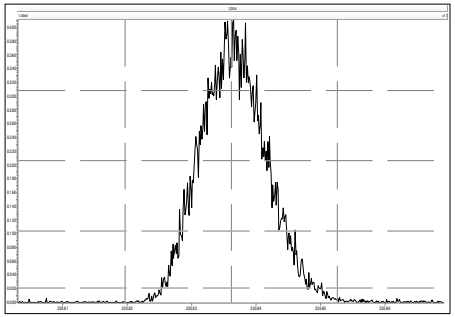
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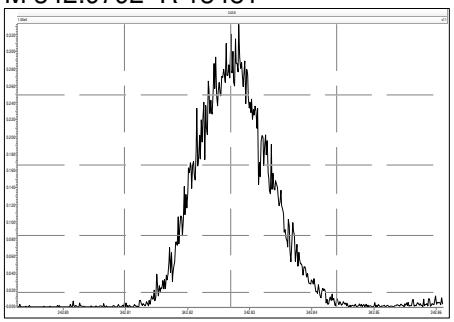
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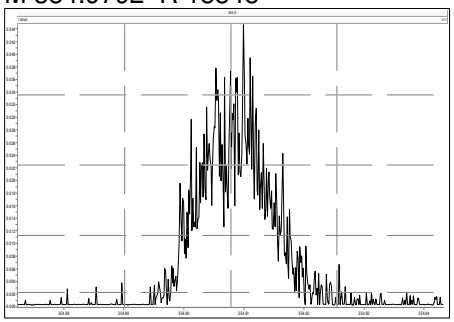
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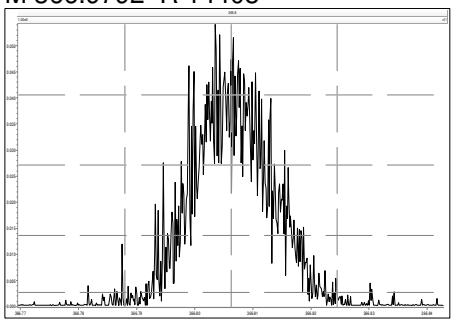
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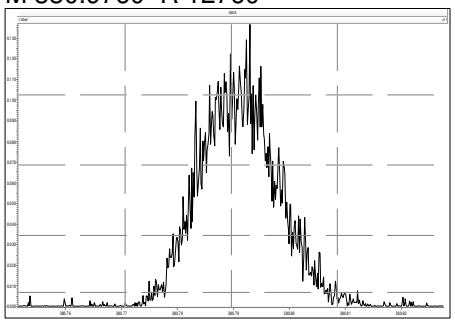
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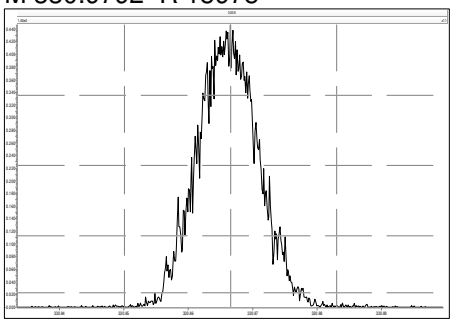
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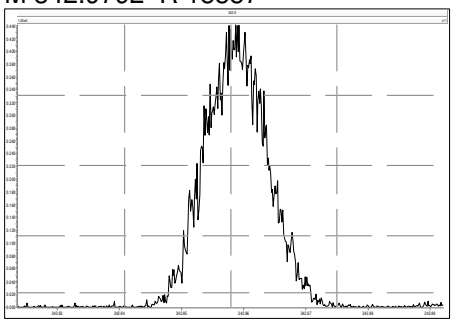
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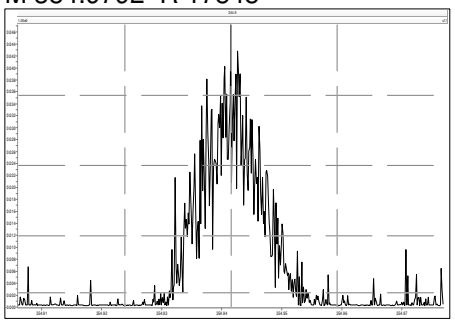
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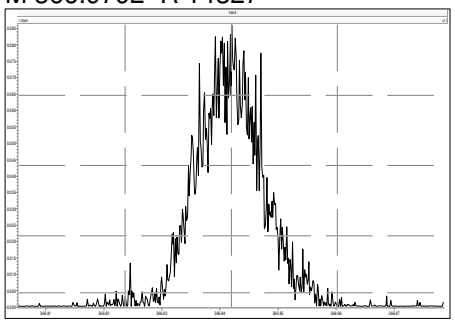
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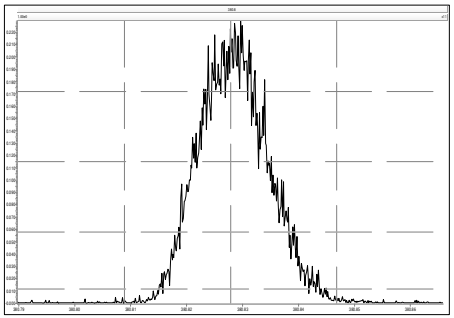
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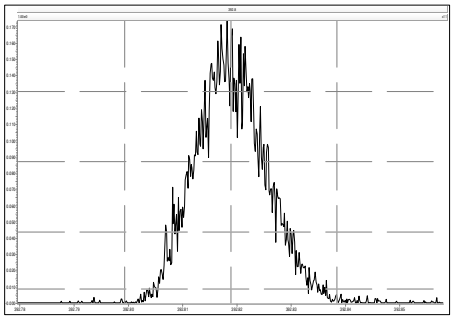
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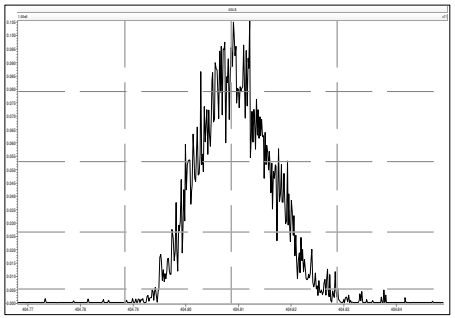
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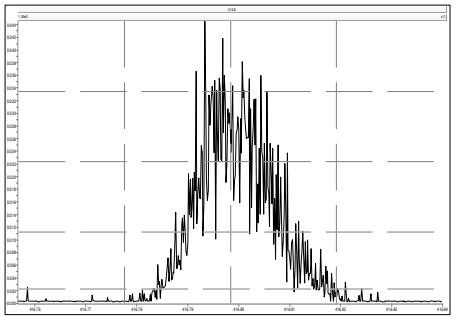
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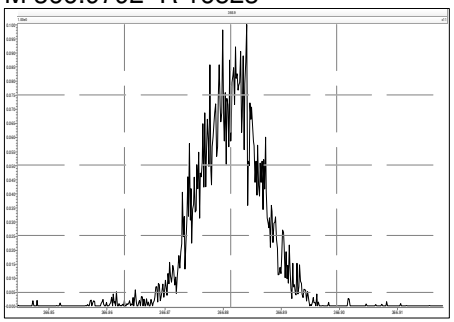
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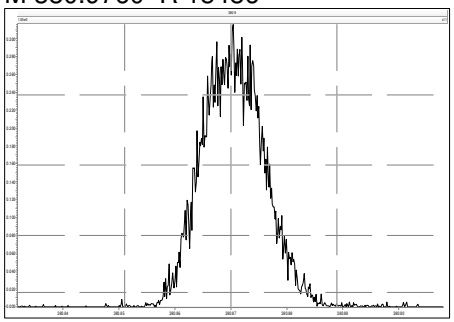
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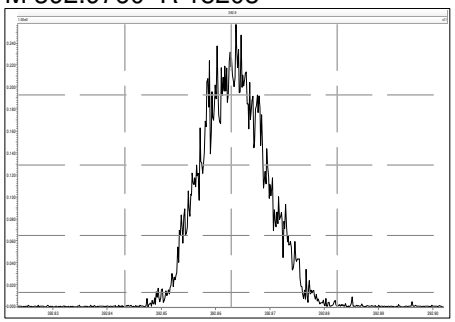
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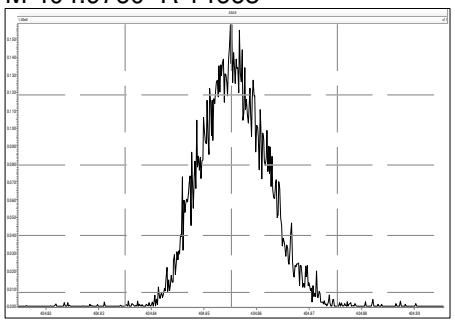
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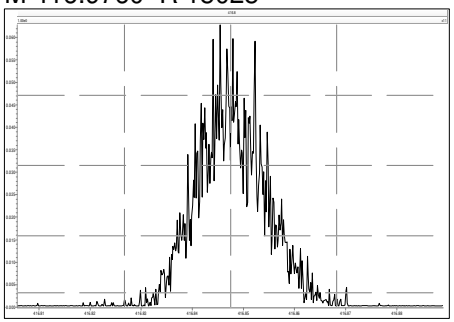
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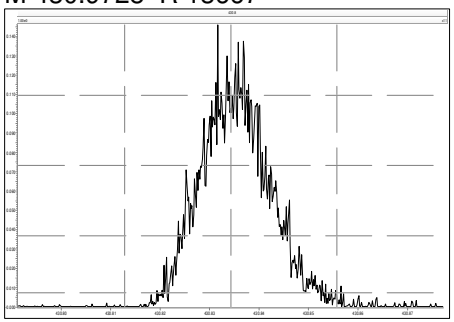
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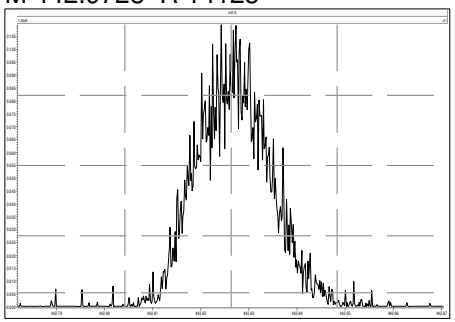
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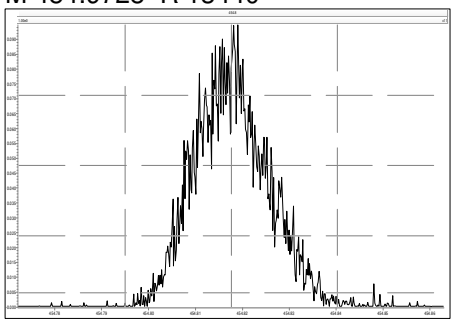
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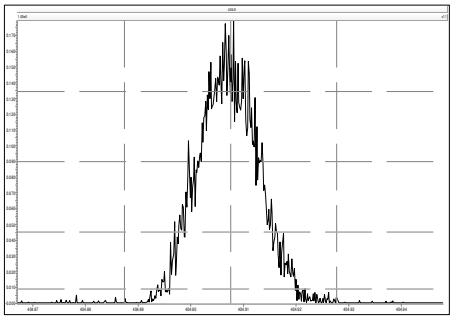
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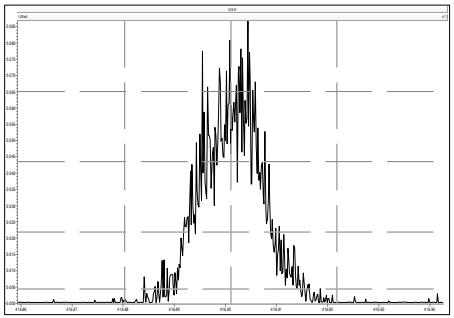
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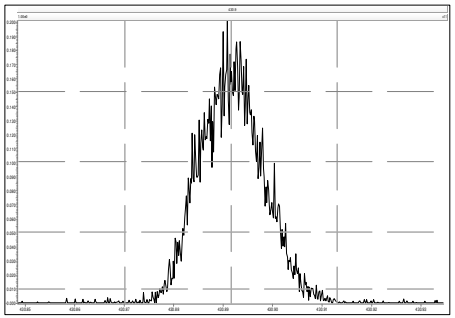
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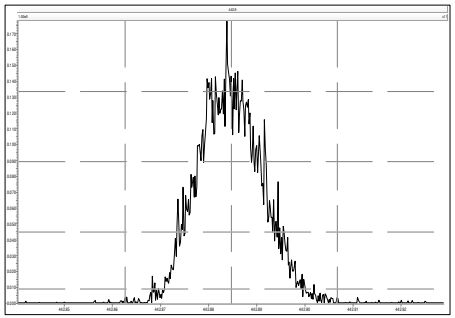
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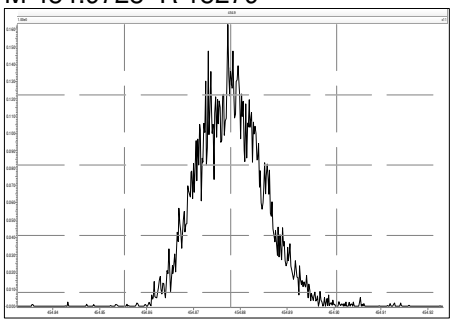
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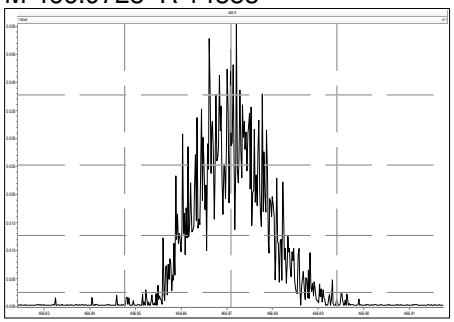
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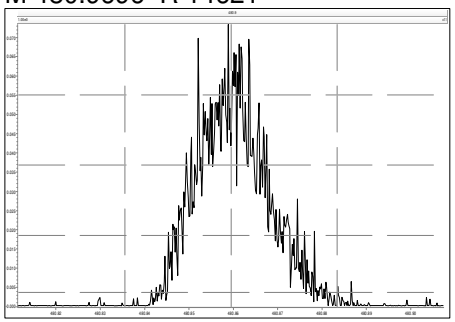
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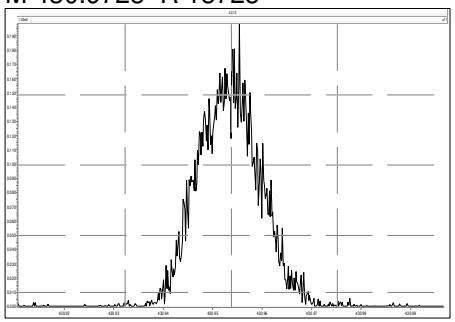
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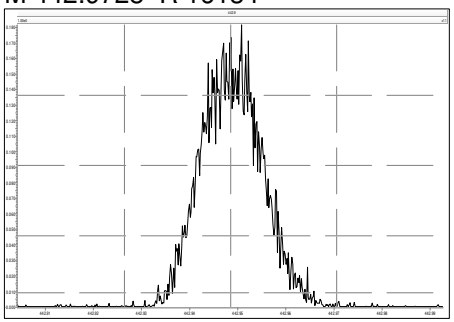
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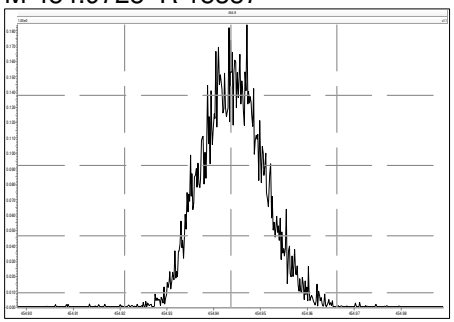
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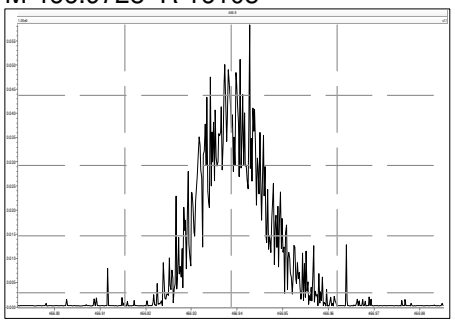
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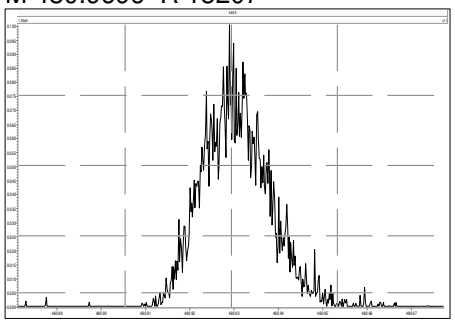
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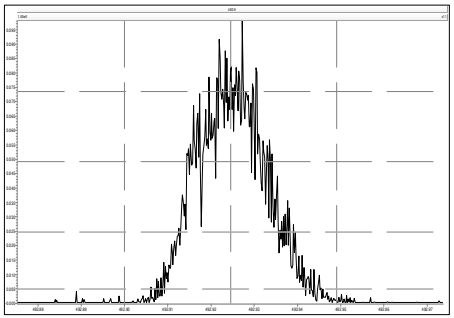
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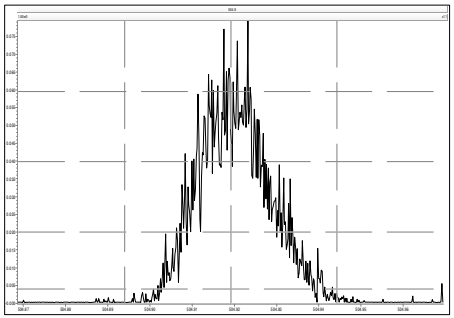
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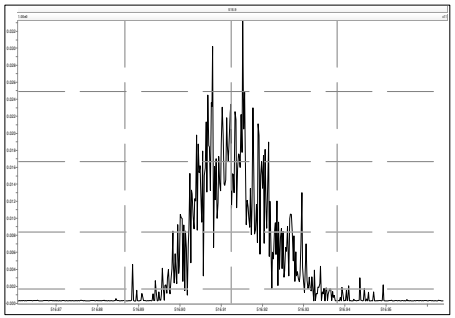
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M 504.9696 R 13550



M 516.9697 R 17187



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

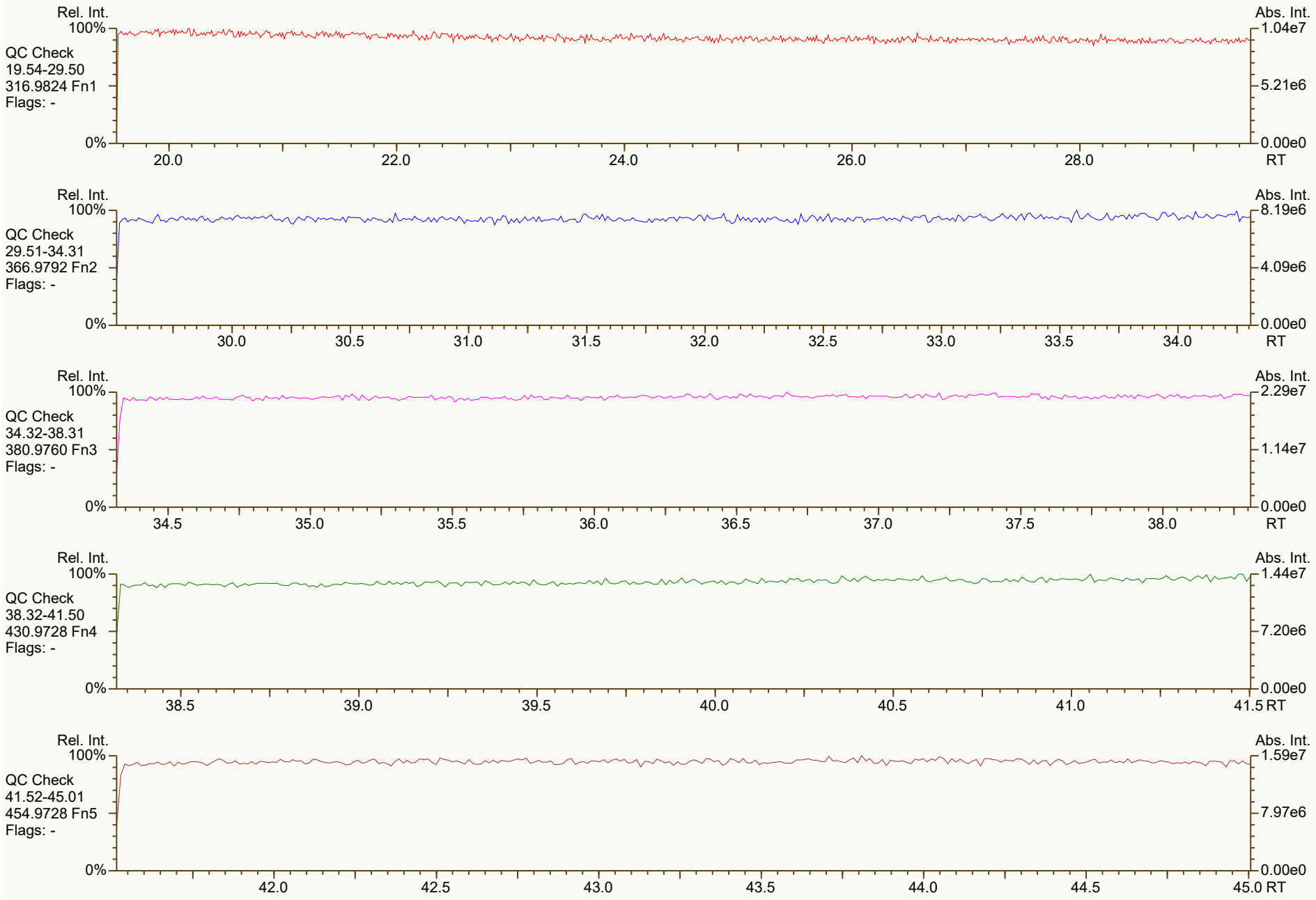
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

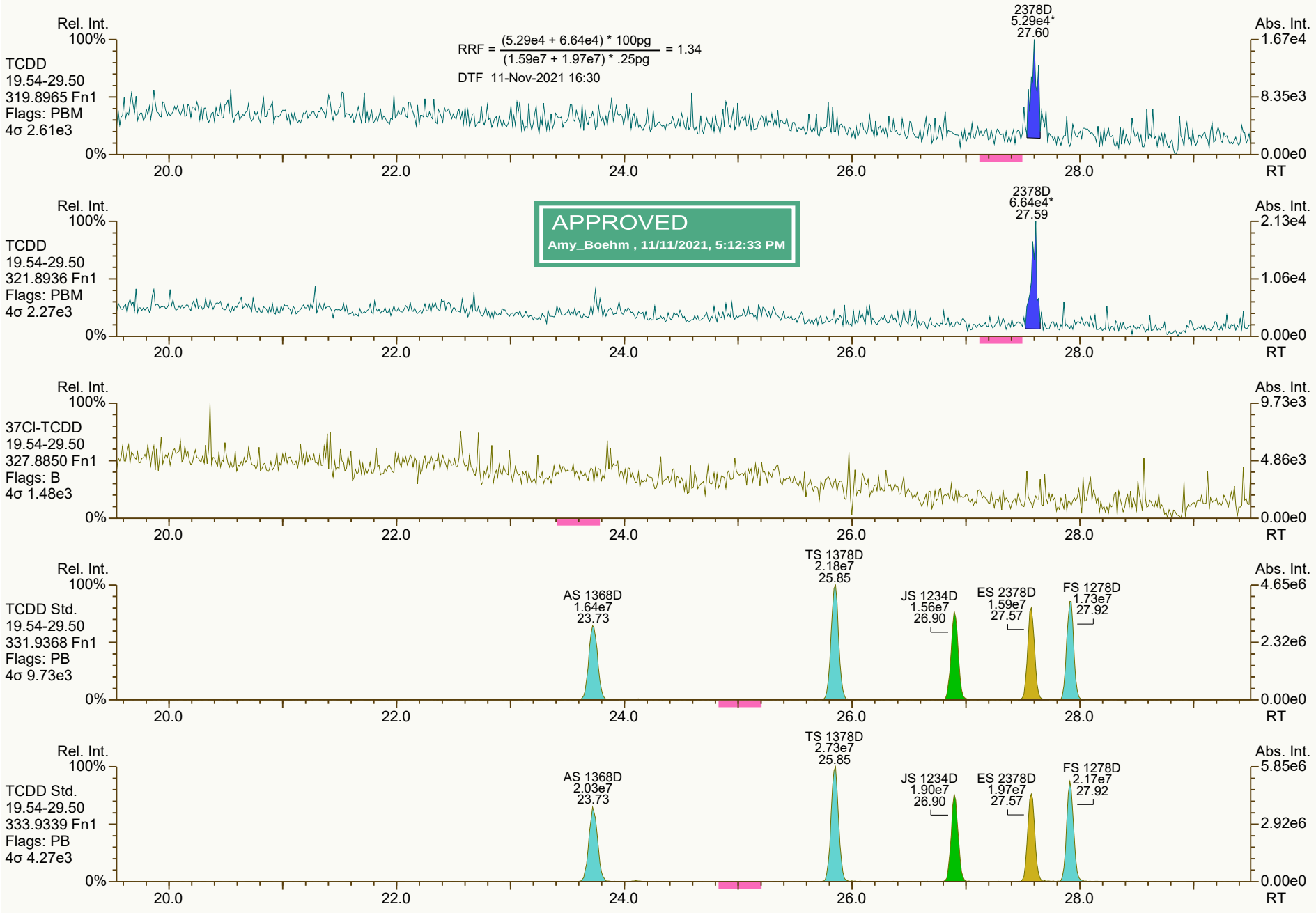
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

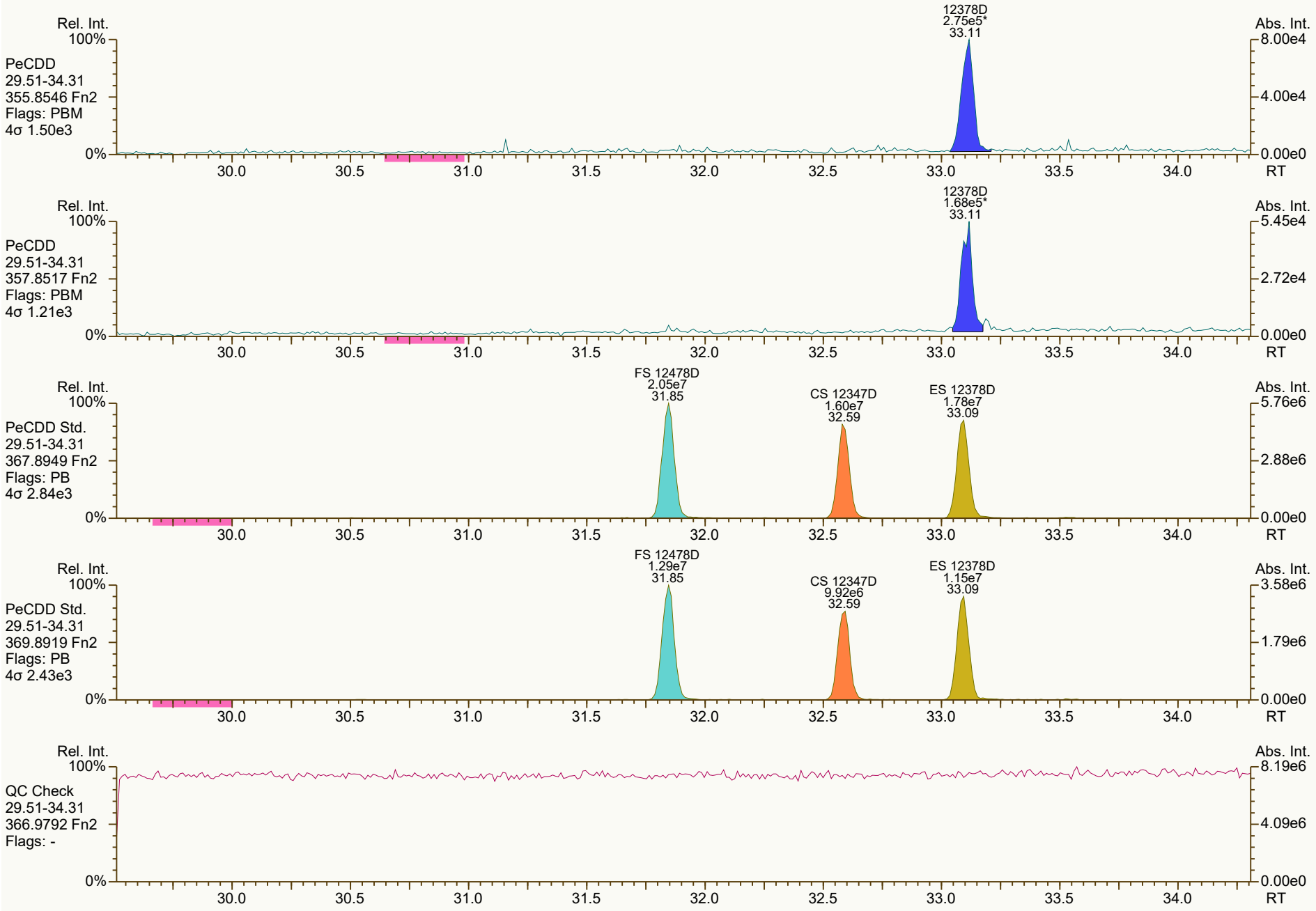
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

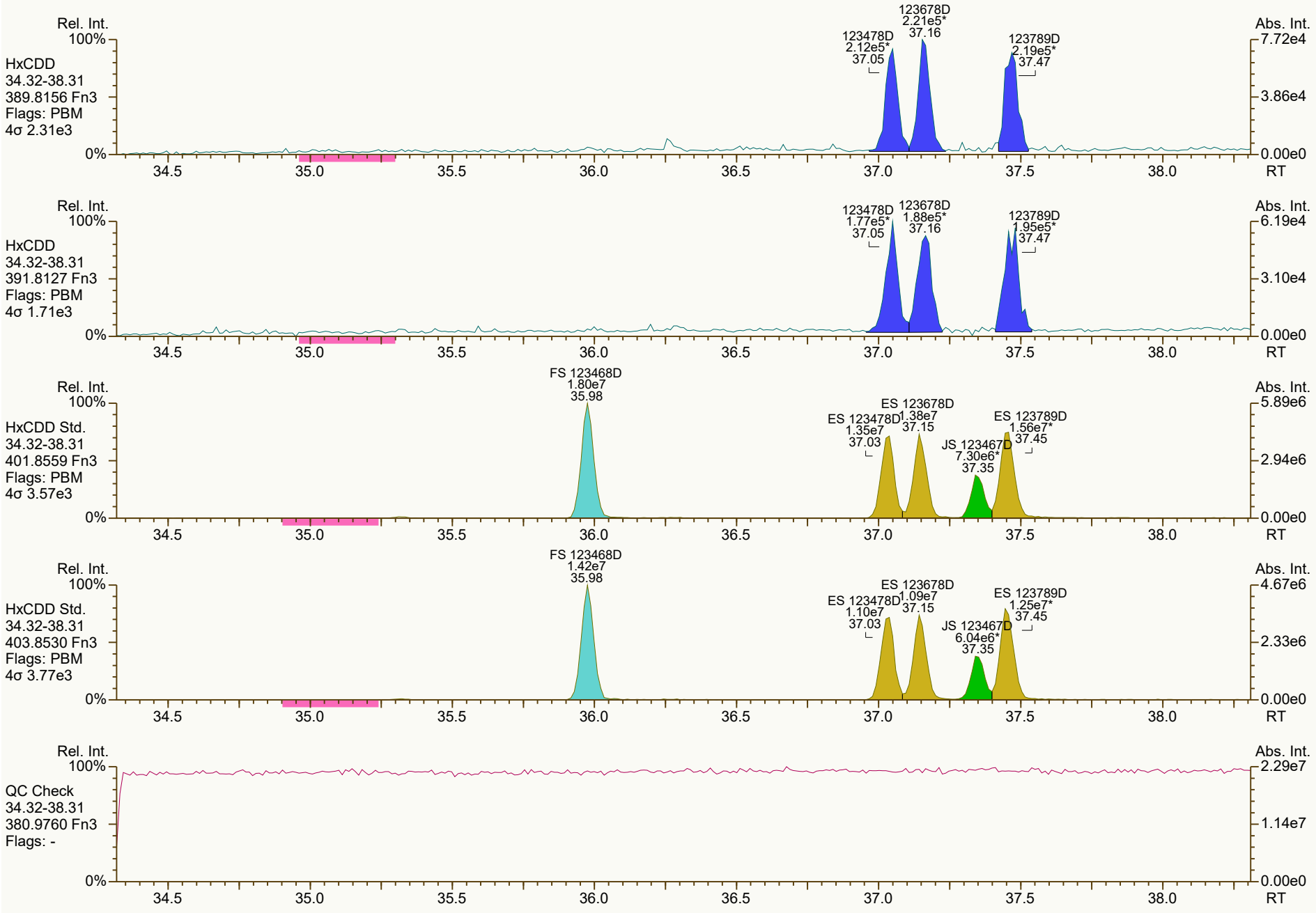
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

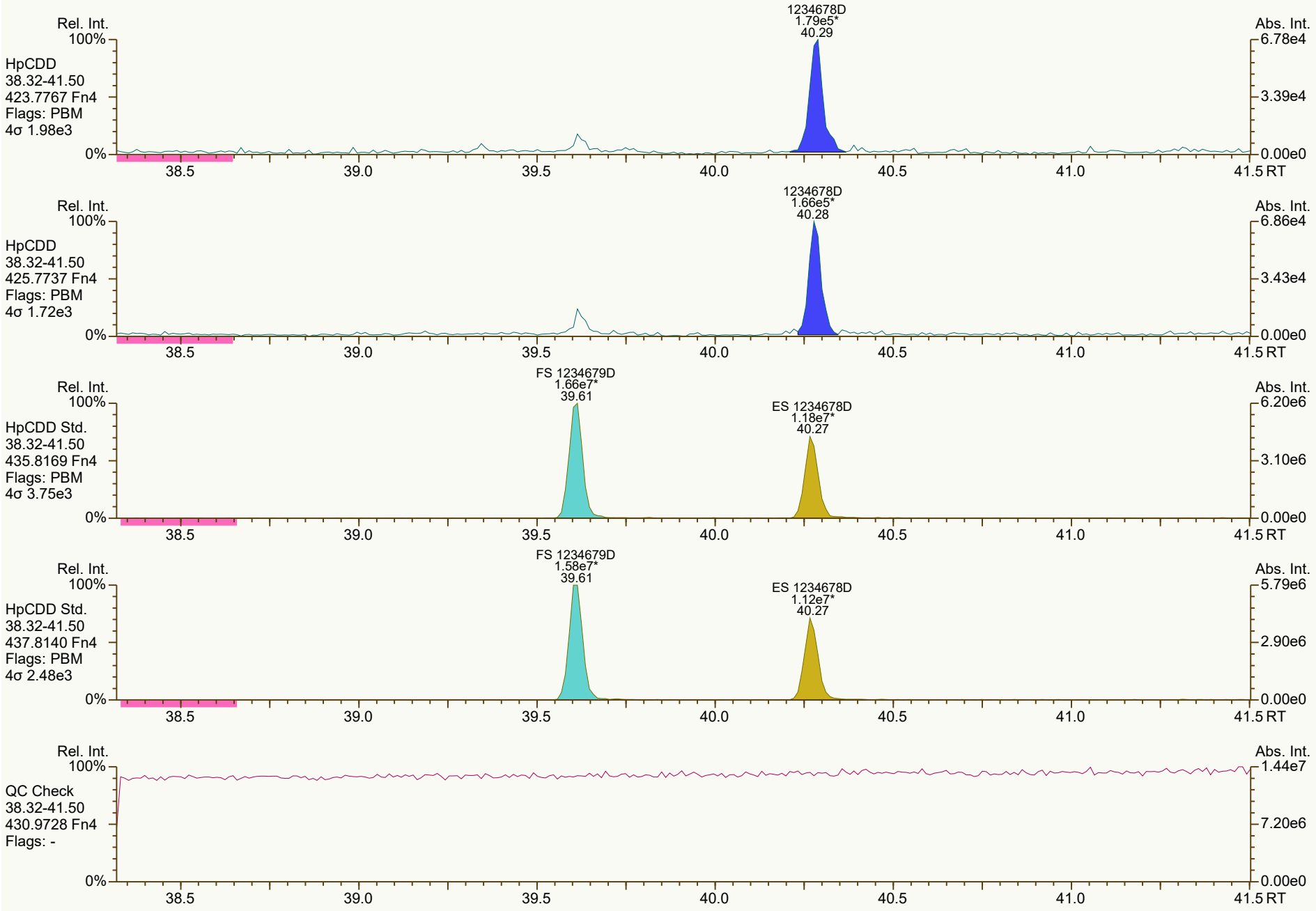
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

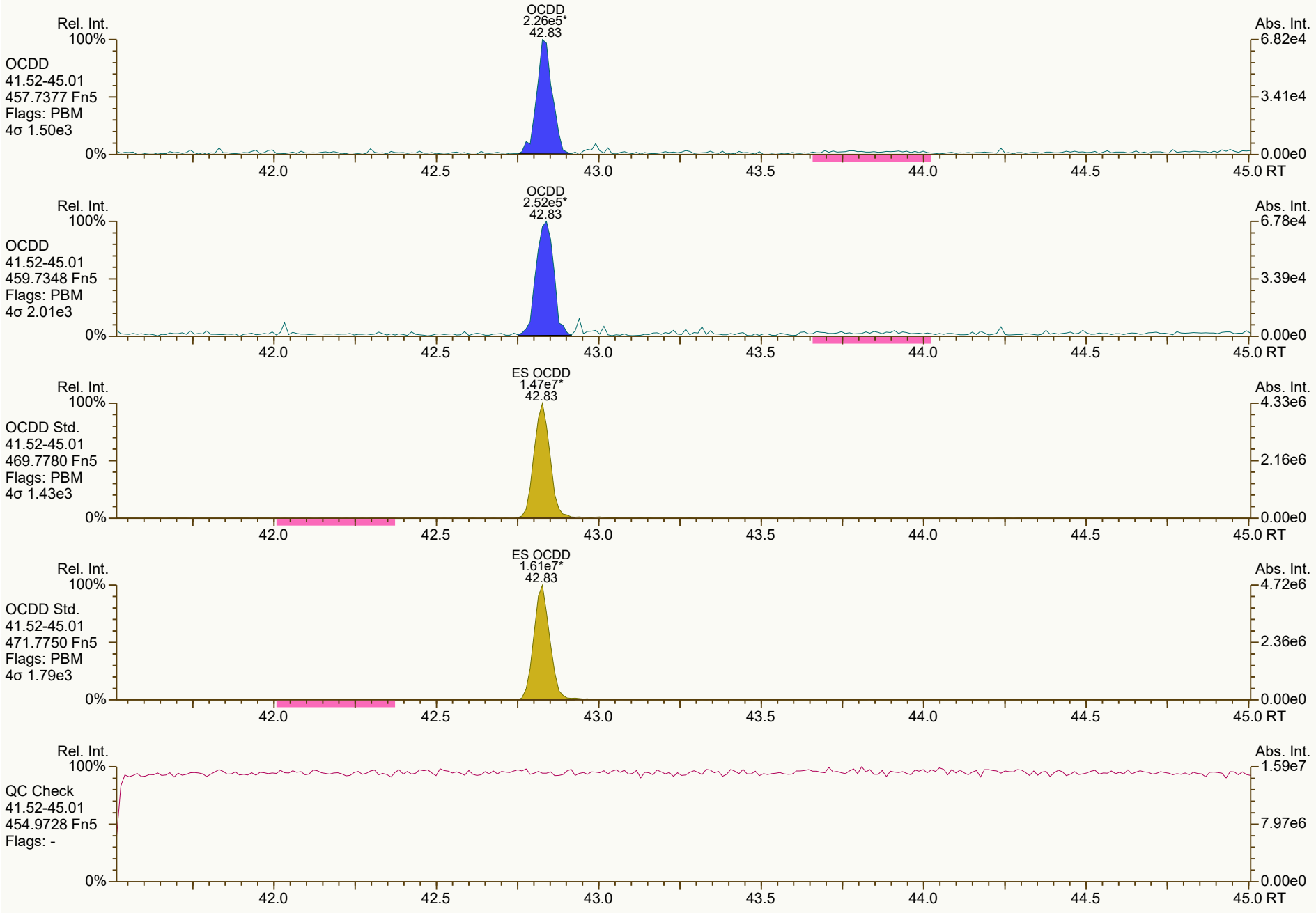

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

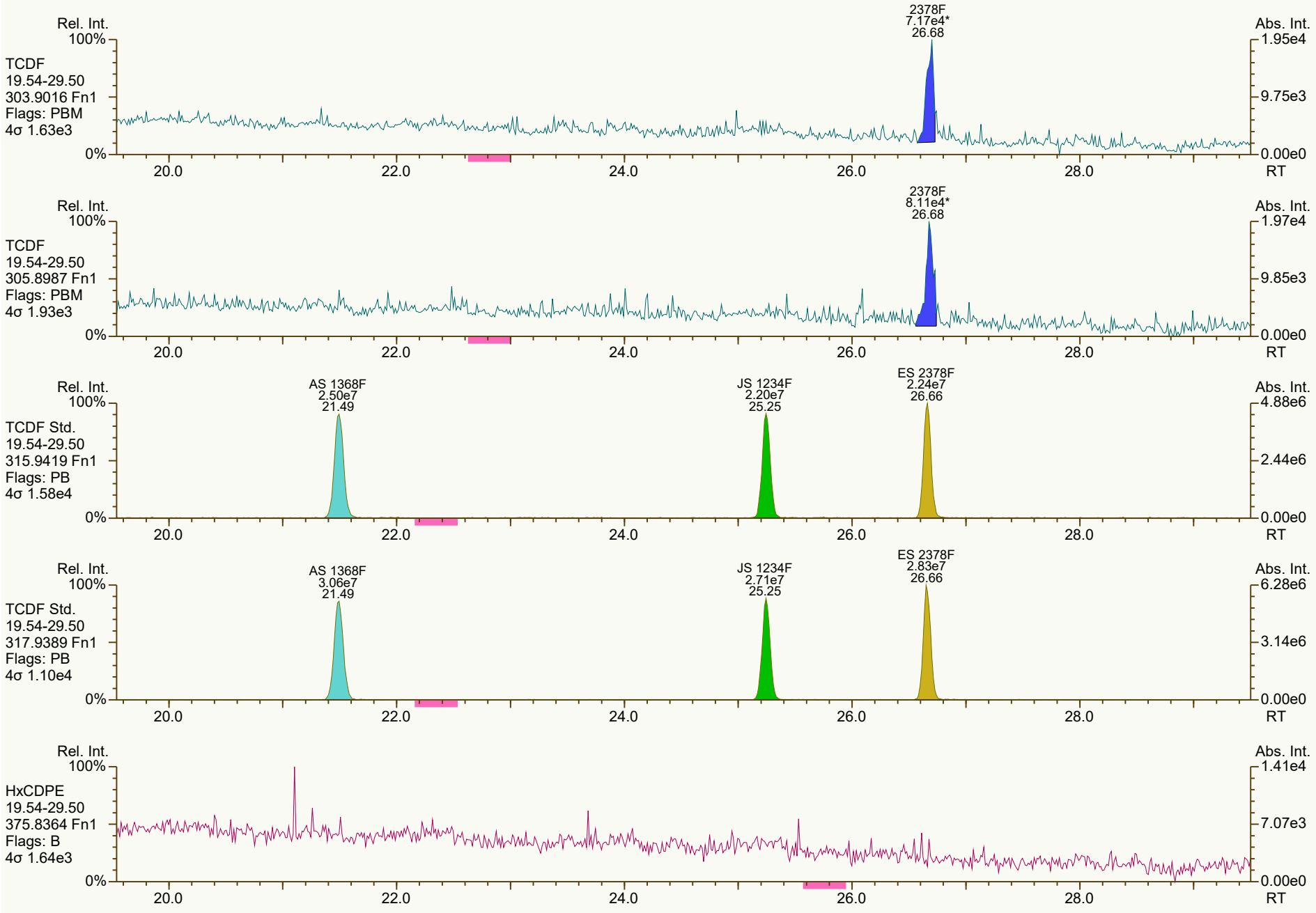

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

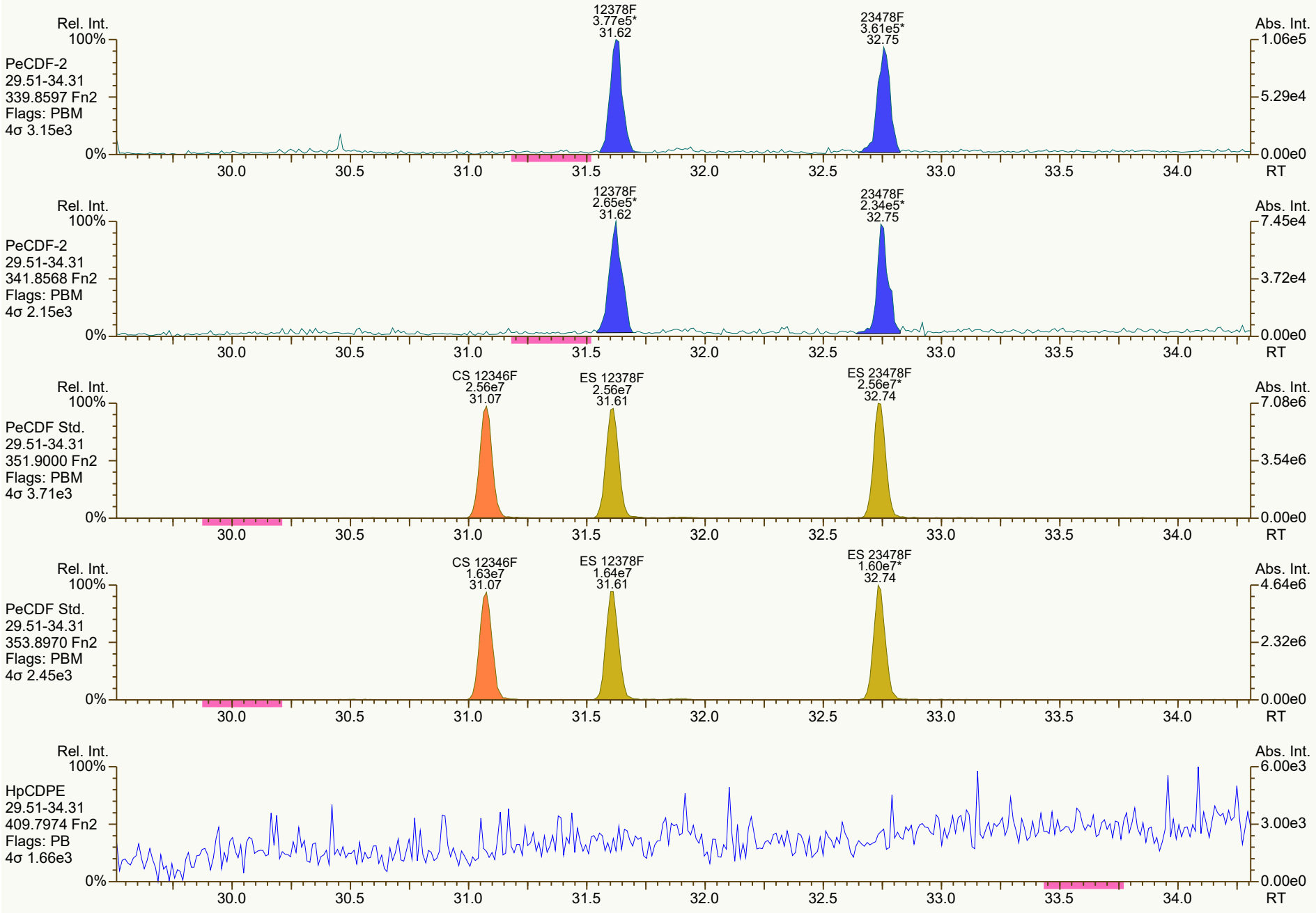

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

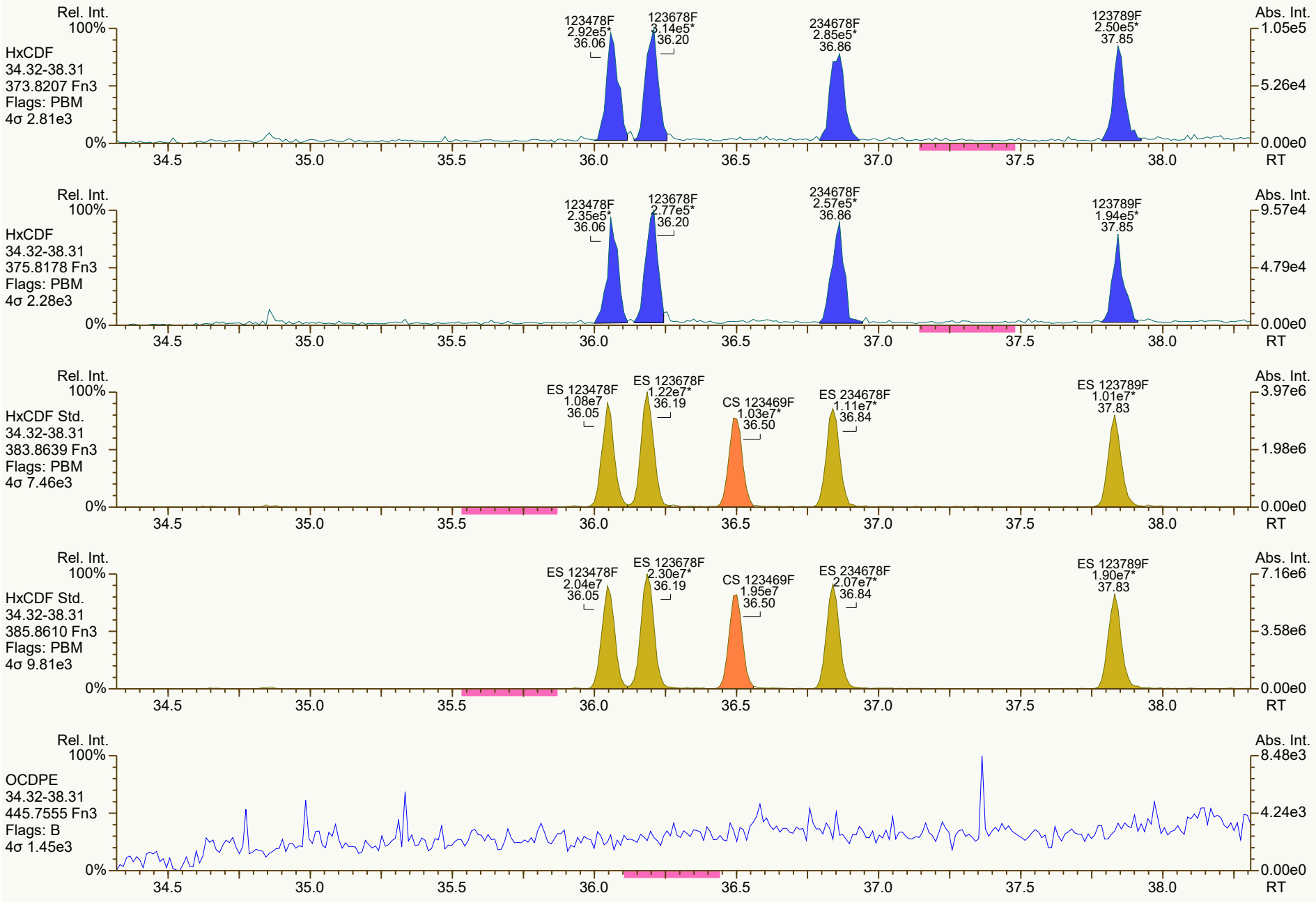

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

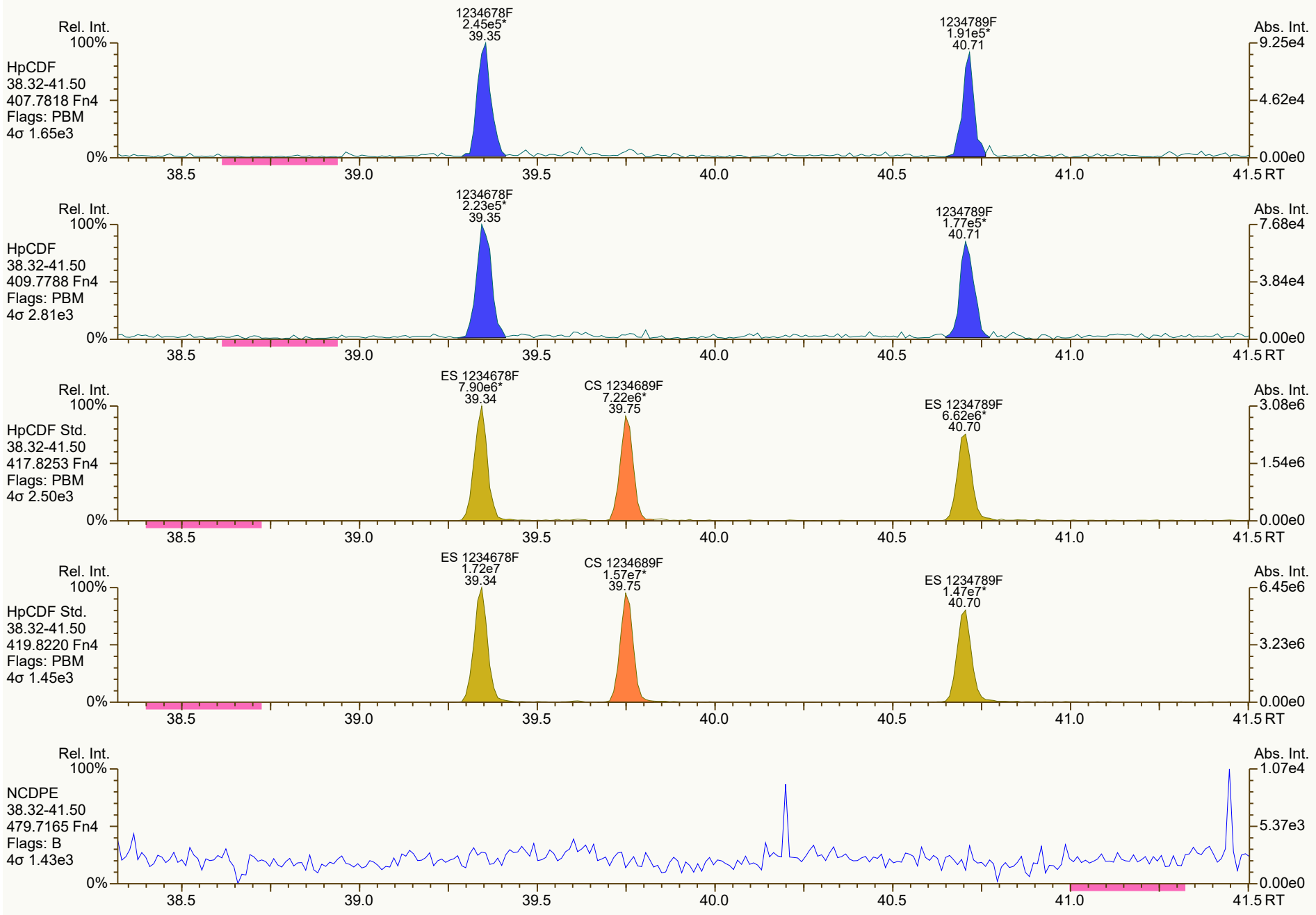

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

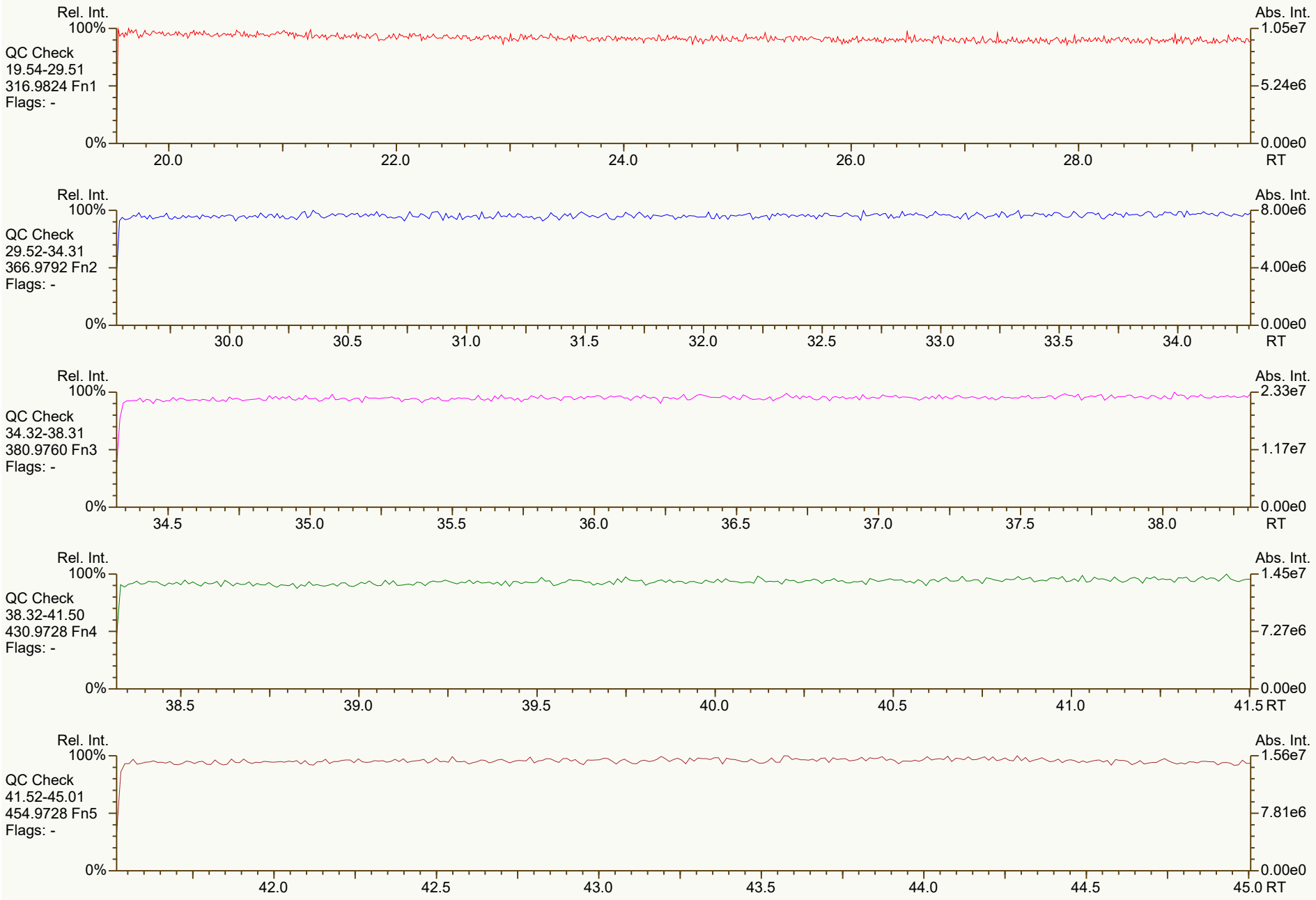

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

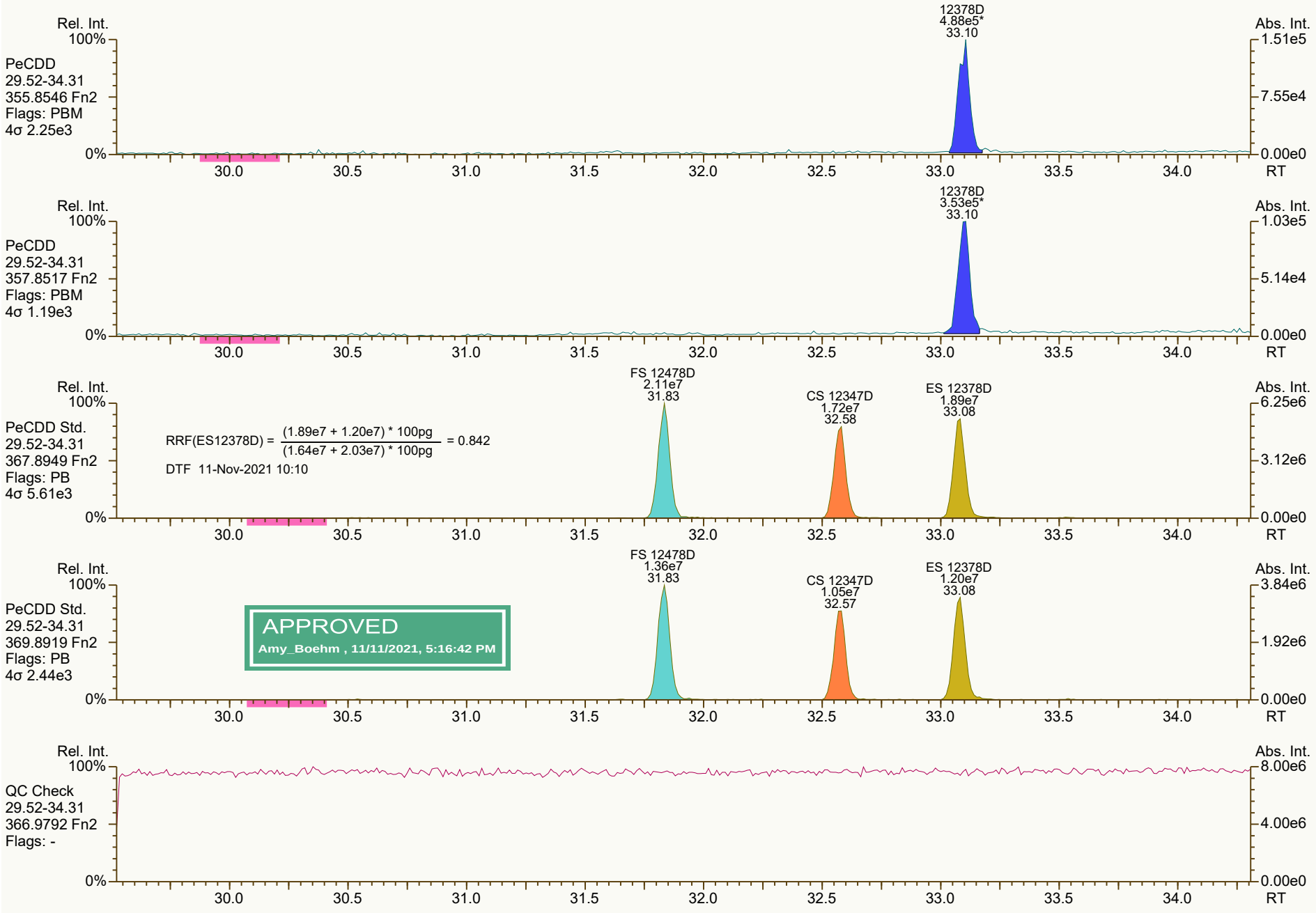
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

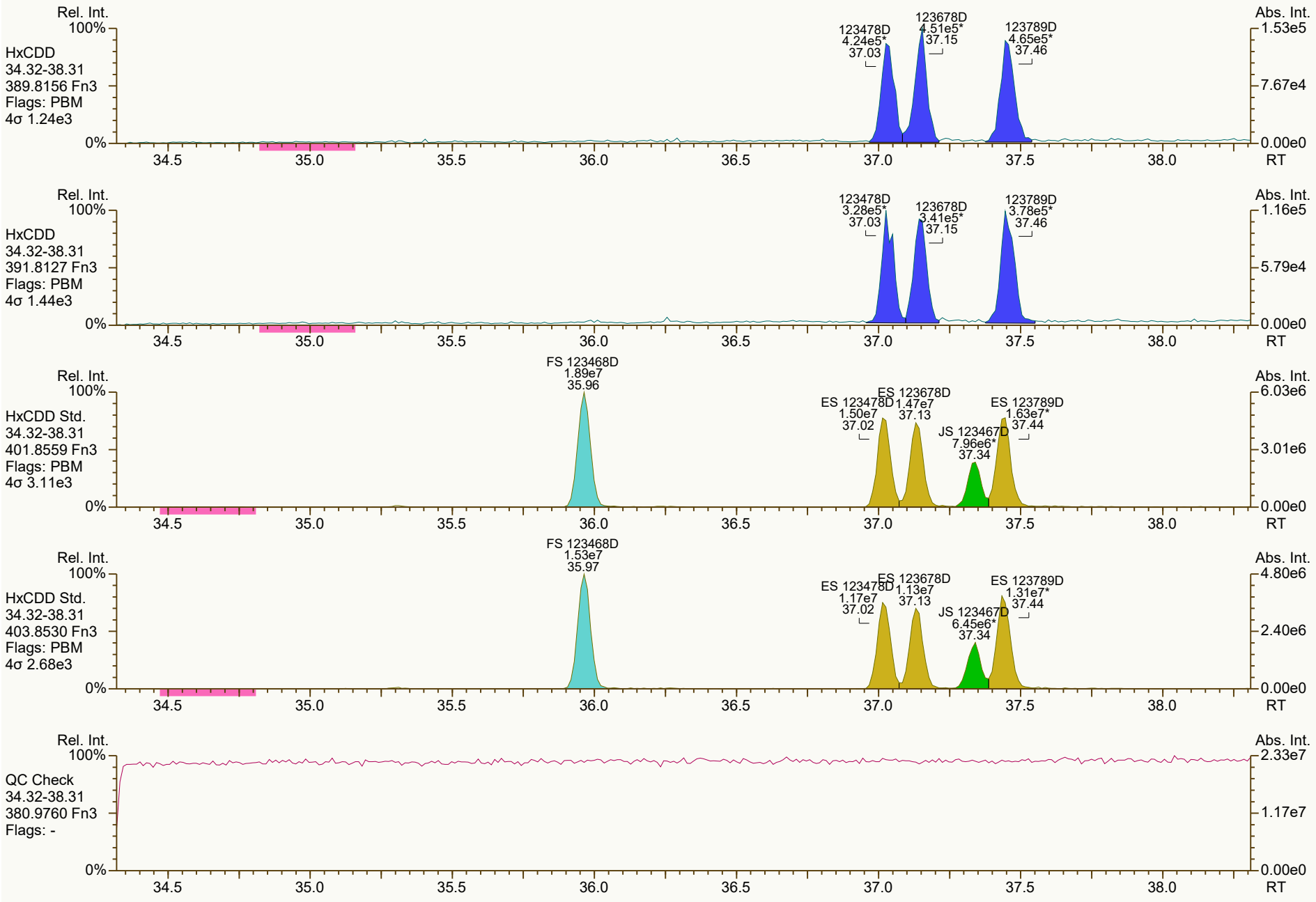
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

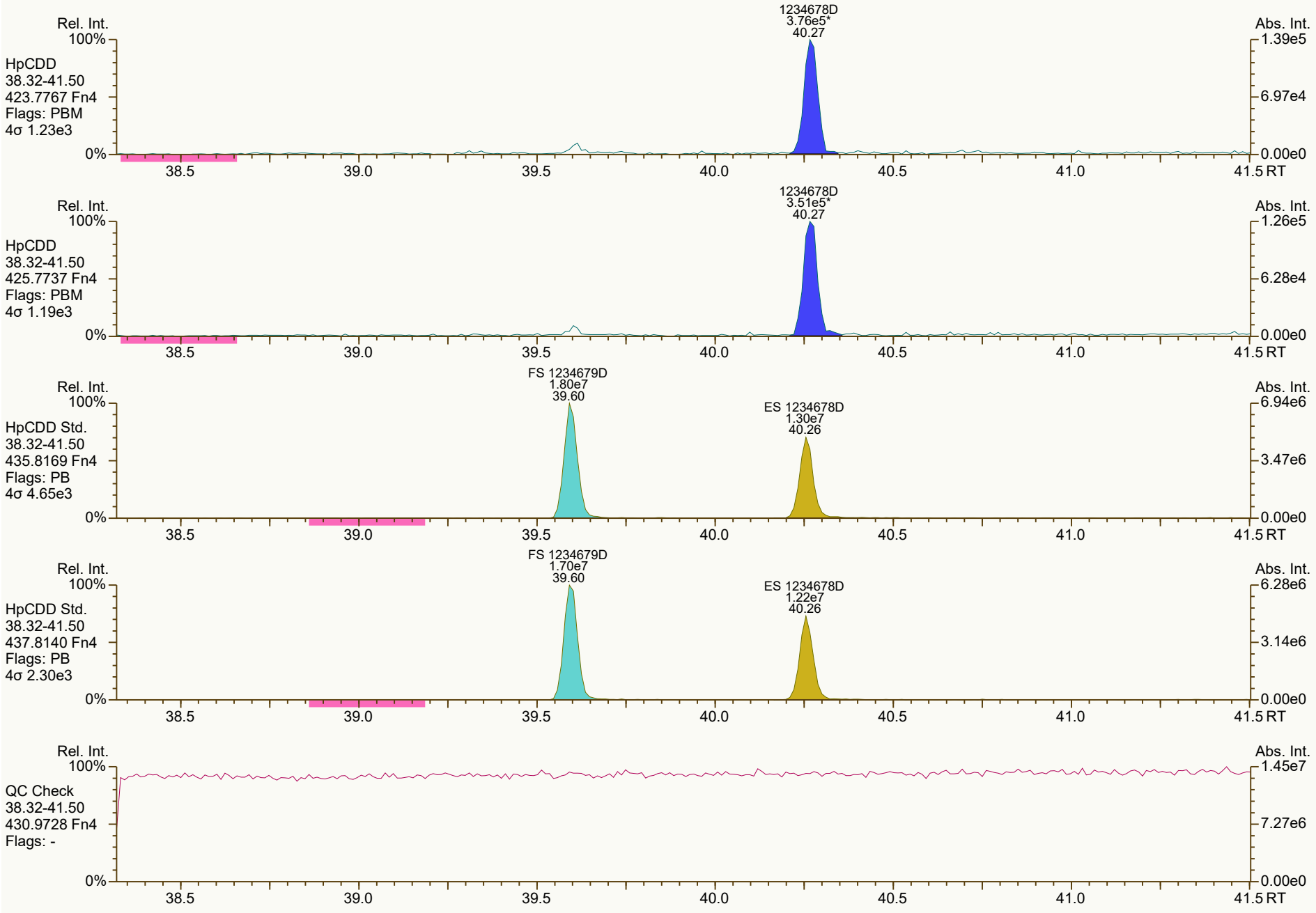


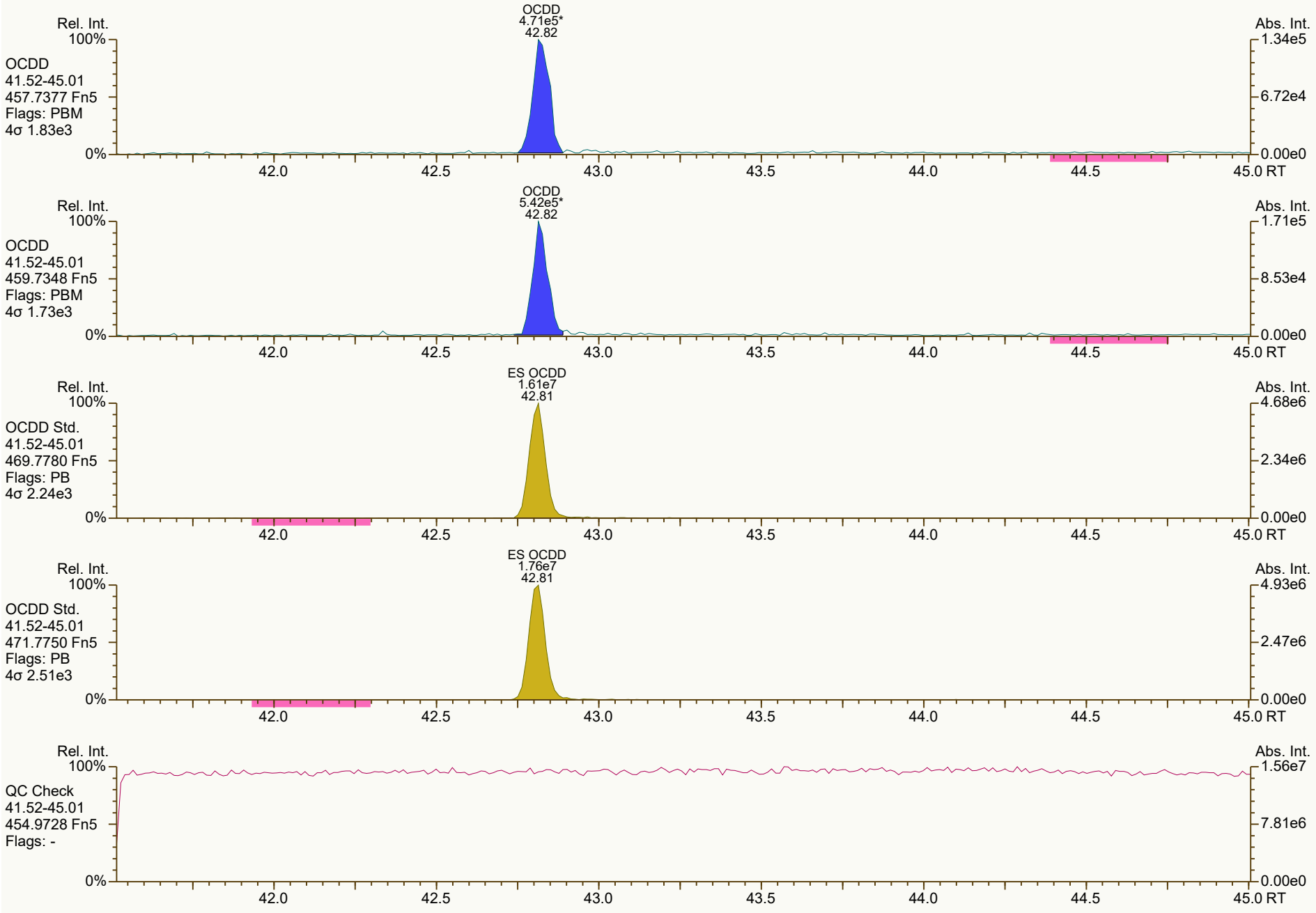
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

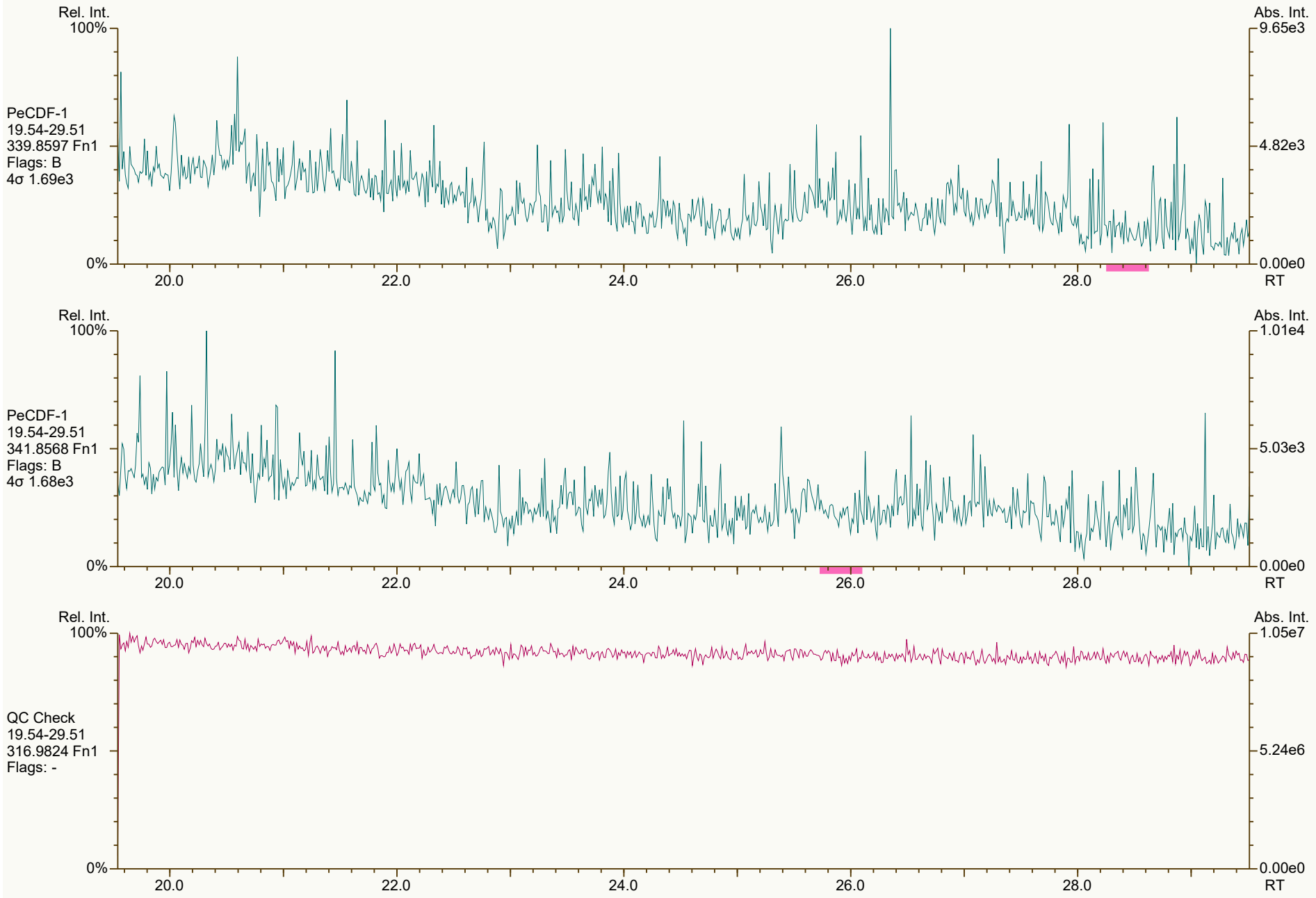

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

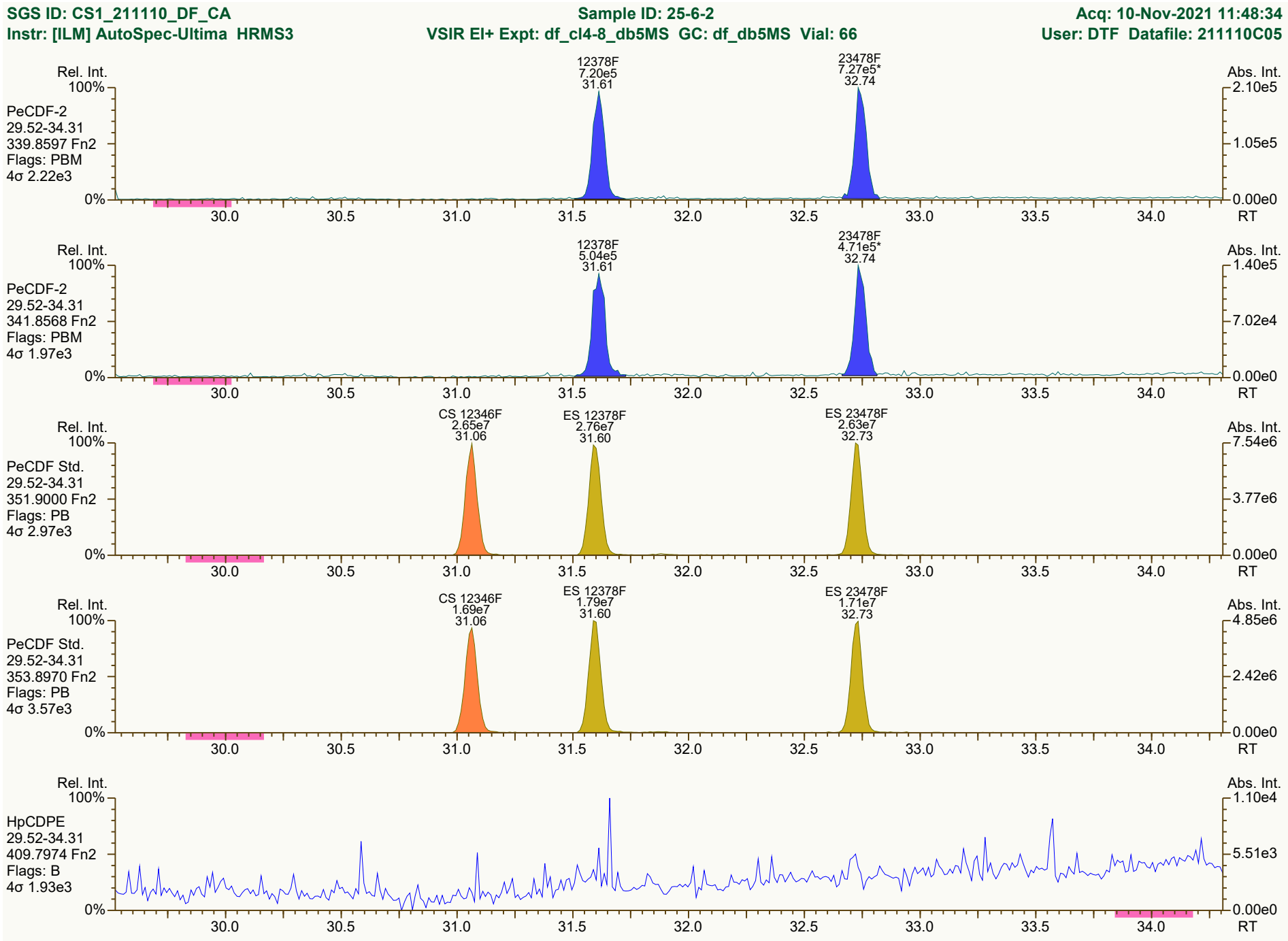

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

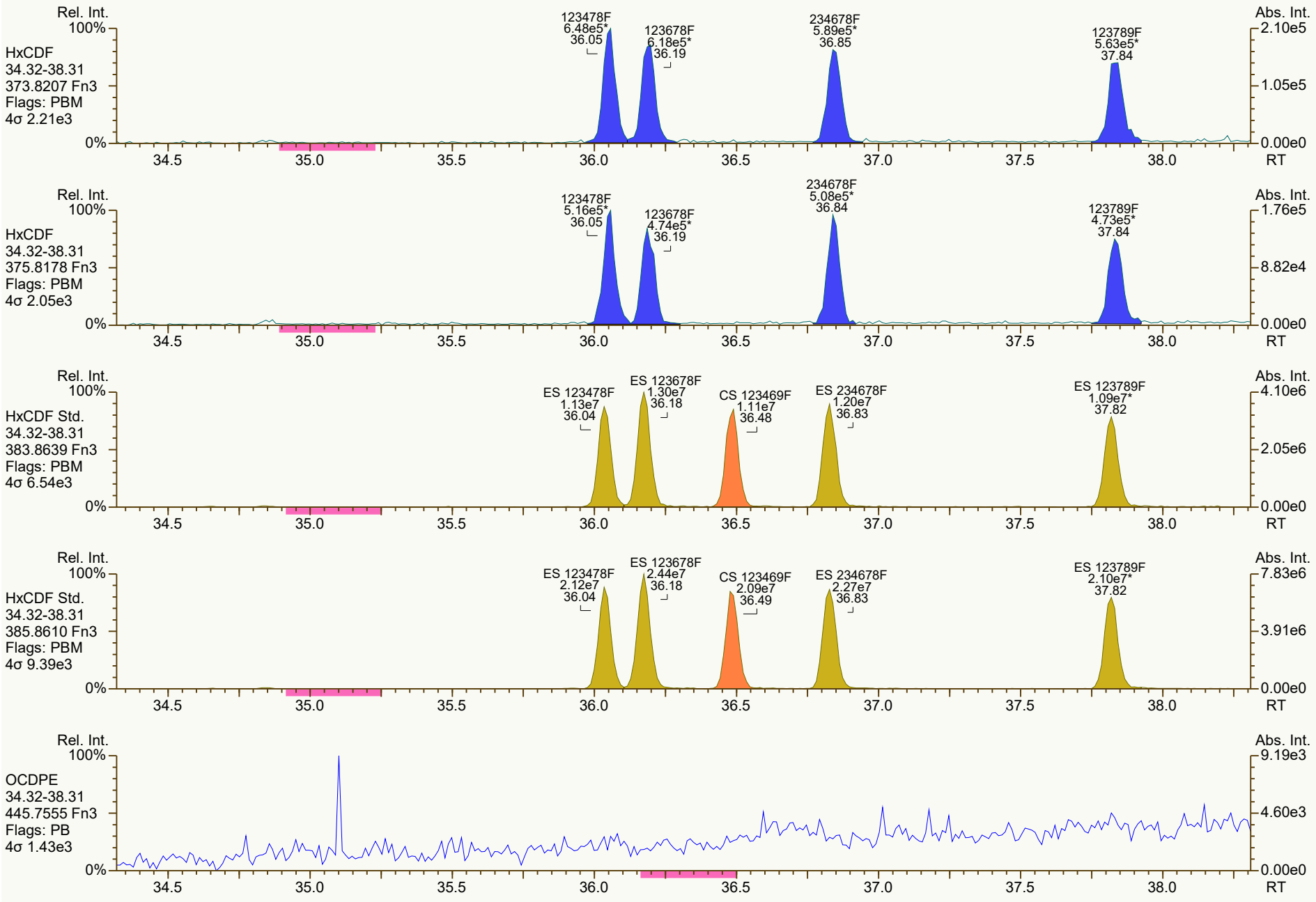

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

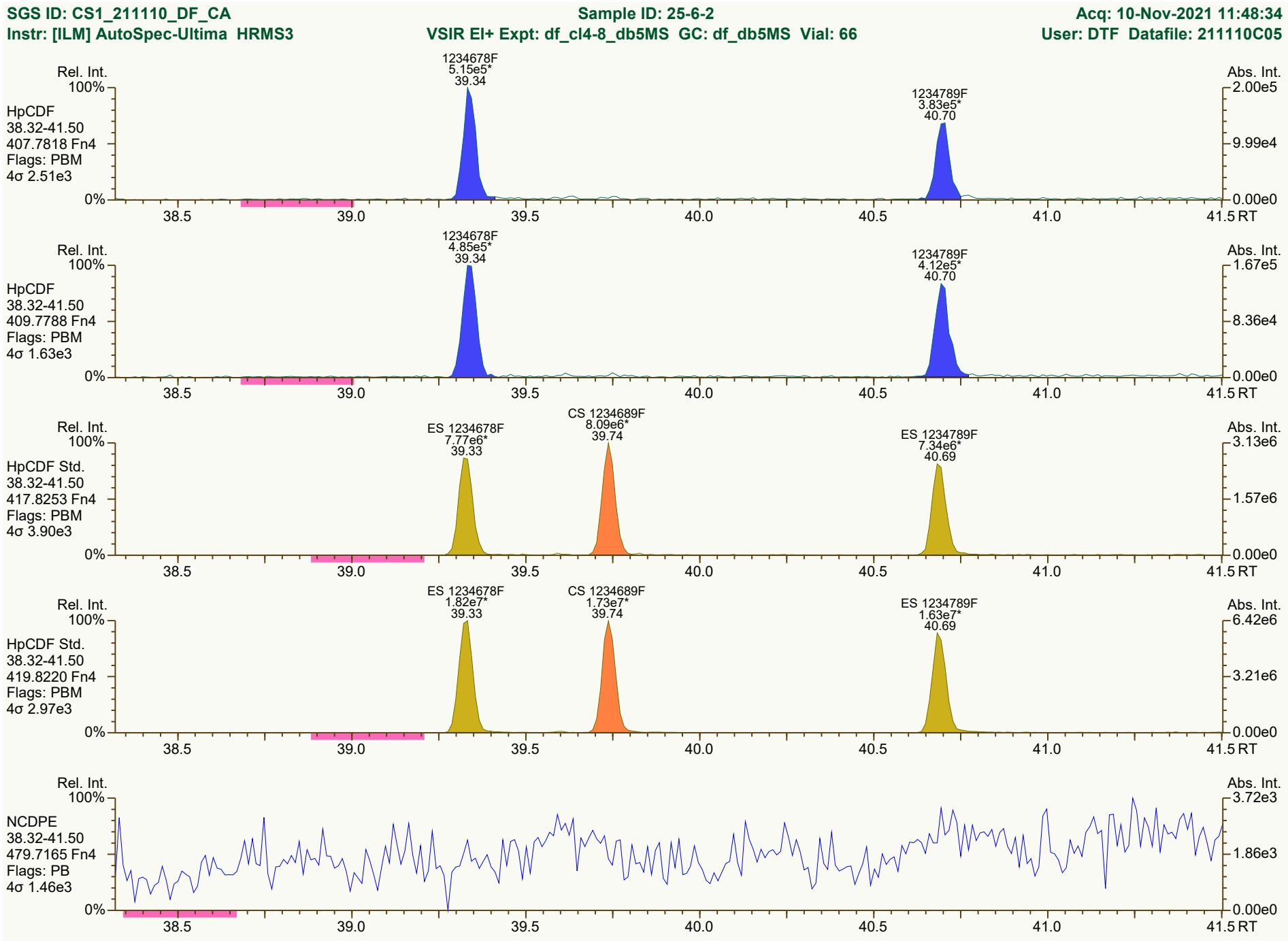

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

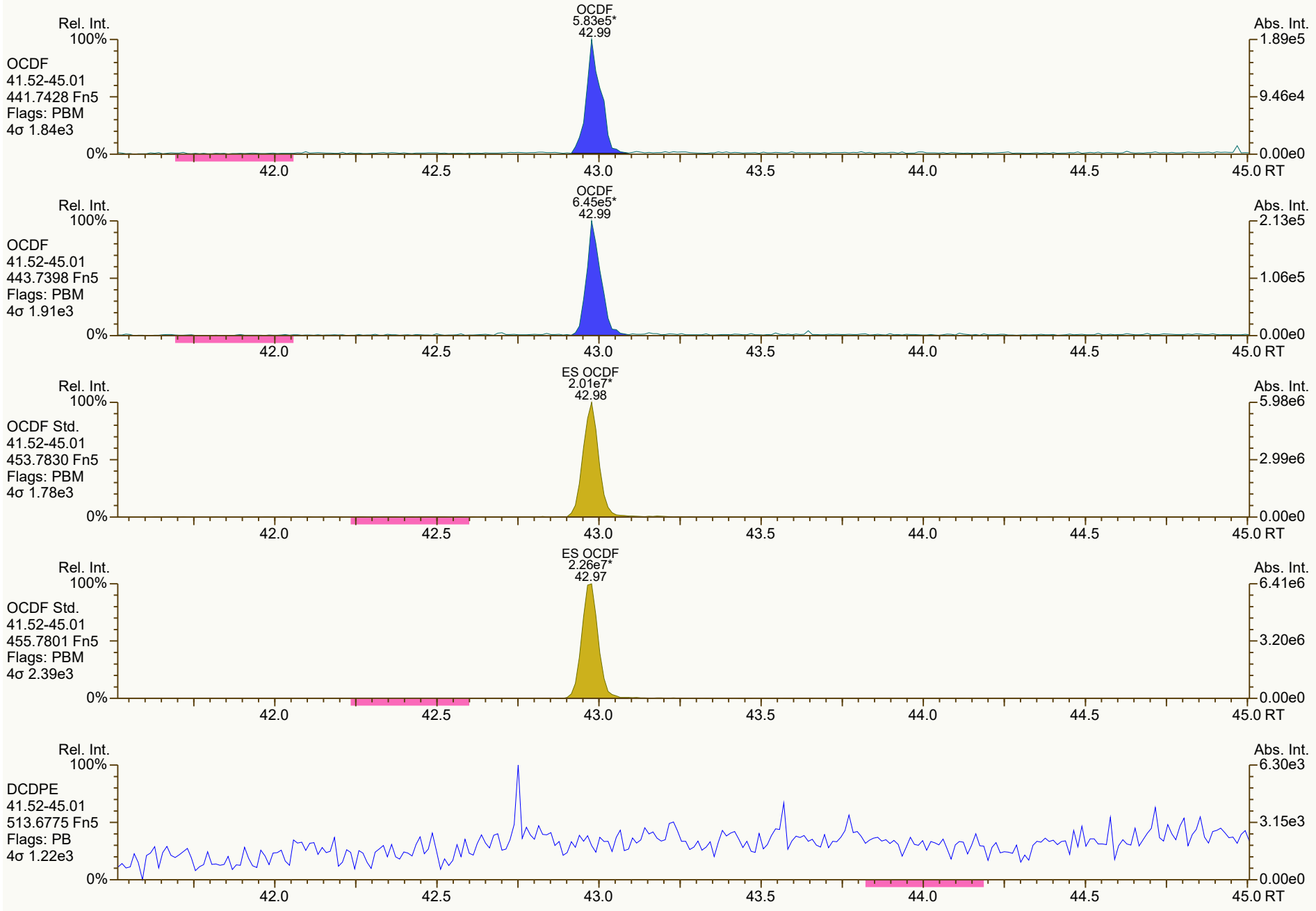

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.28e5*
26.67
2.58e4
1.29e4
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.70e5*
26.67
3.72e4
1.86e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
5.19e6
2.60e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
6.71e6
3.36e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
8.27e3
4.13e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6036, 5912, 9463 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

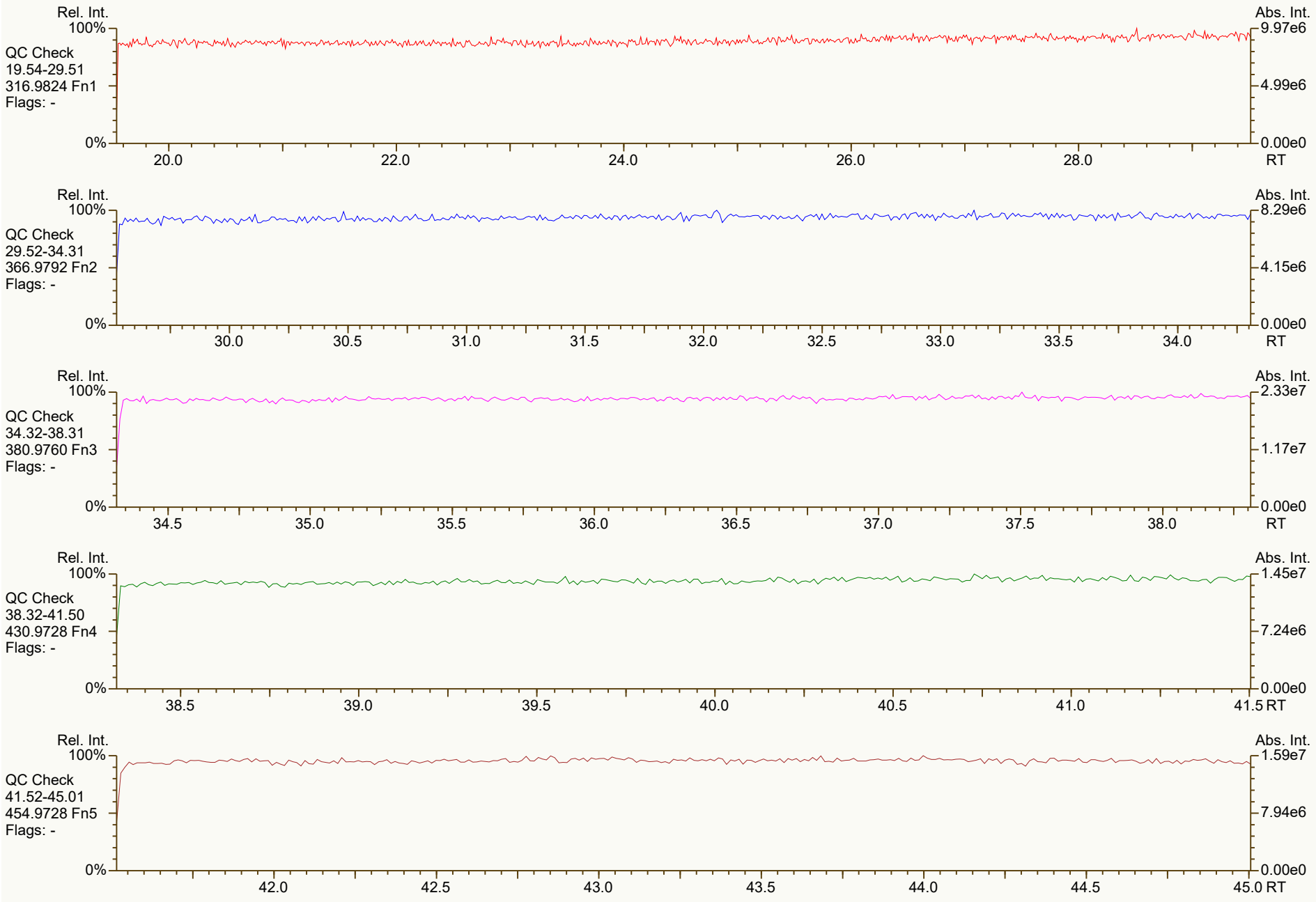

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

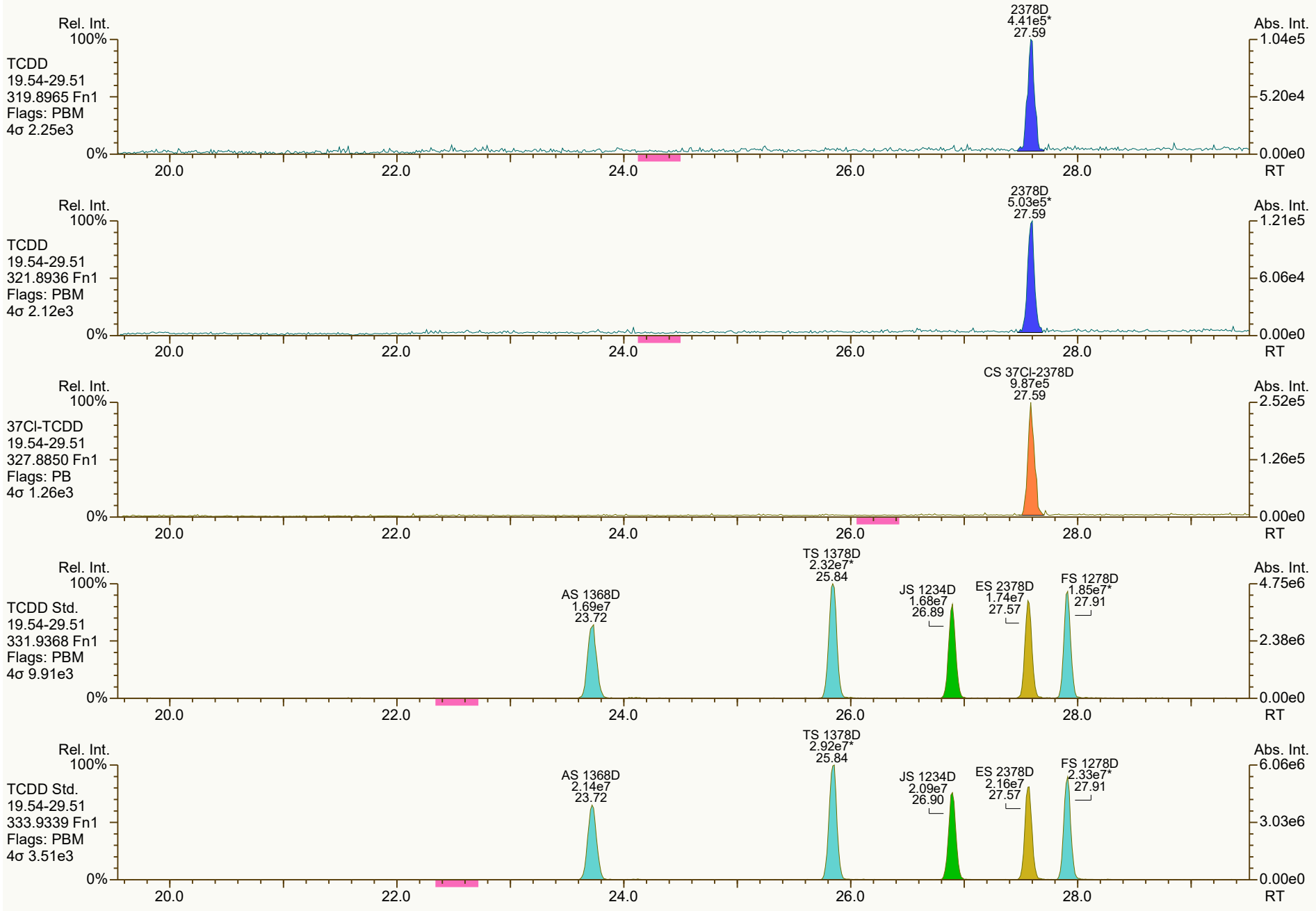
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

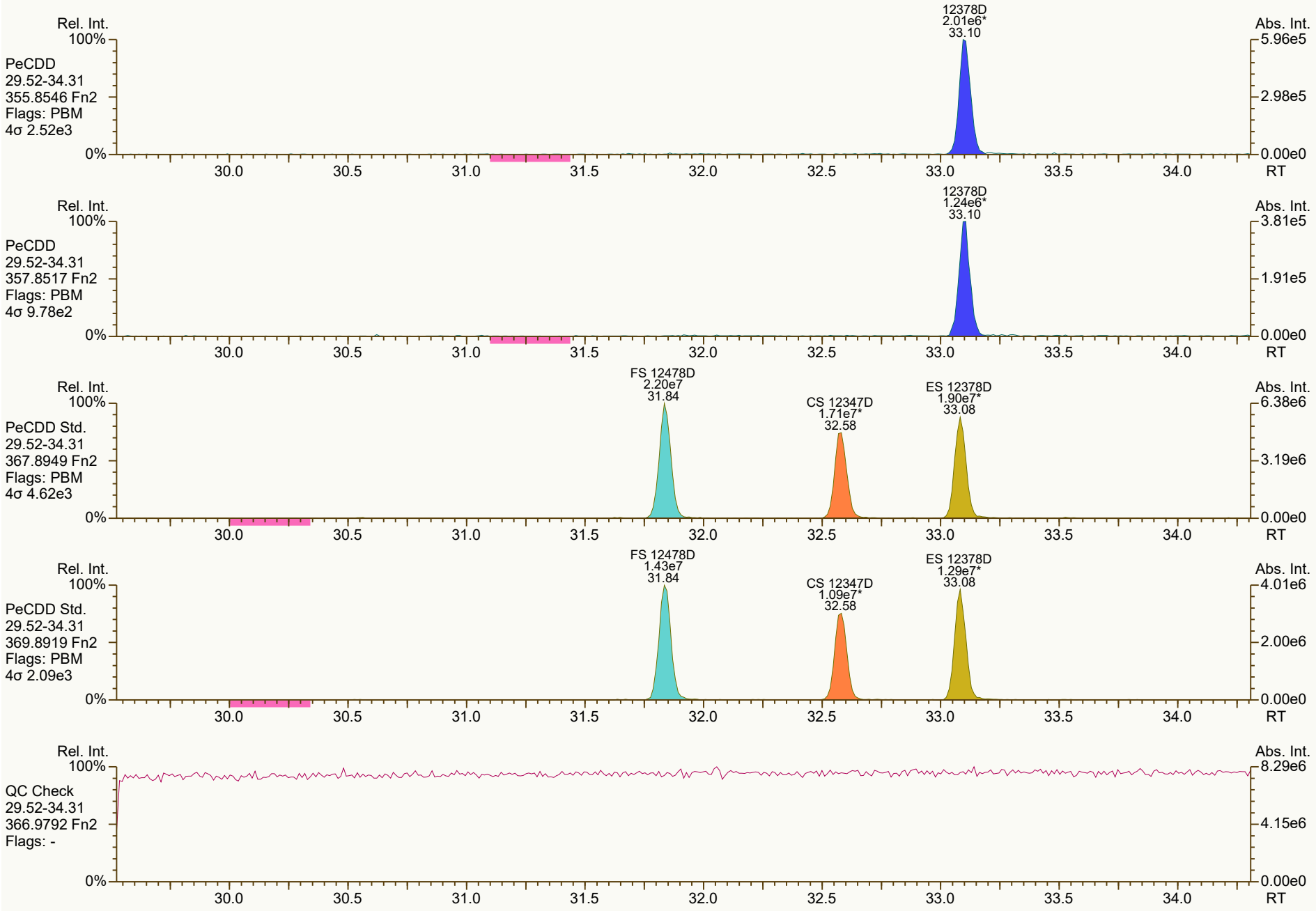
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

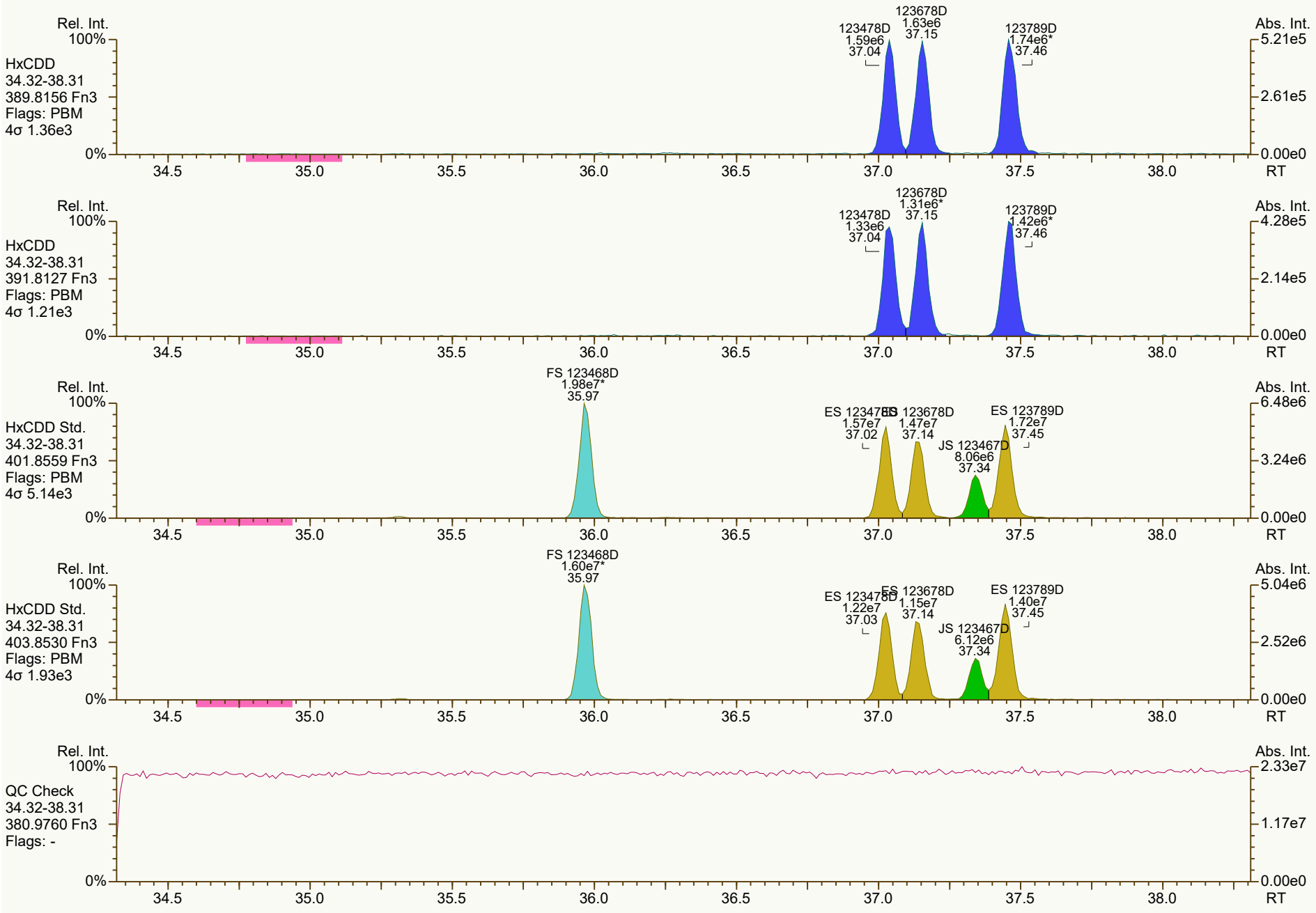
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

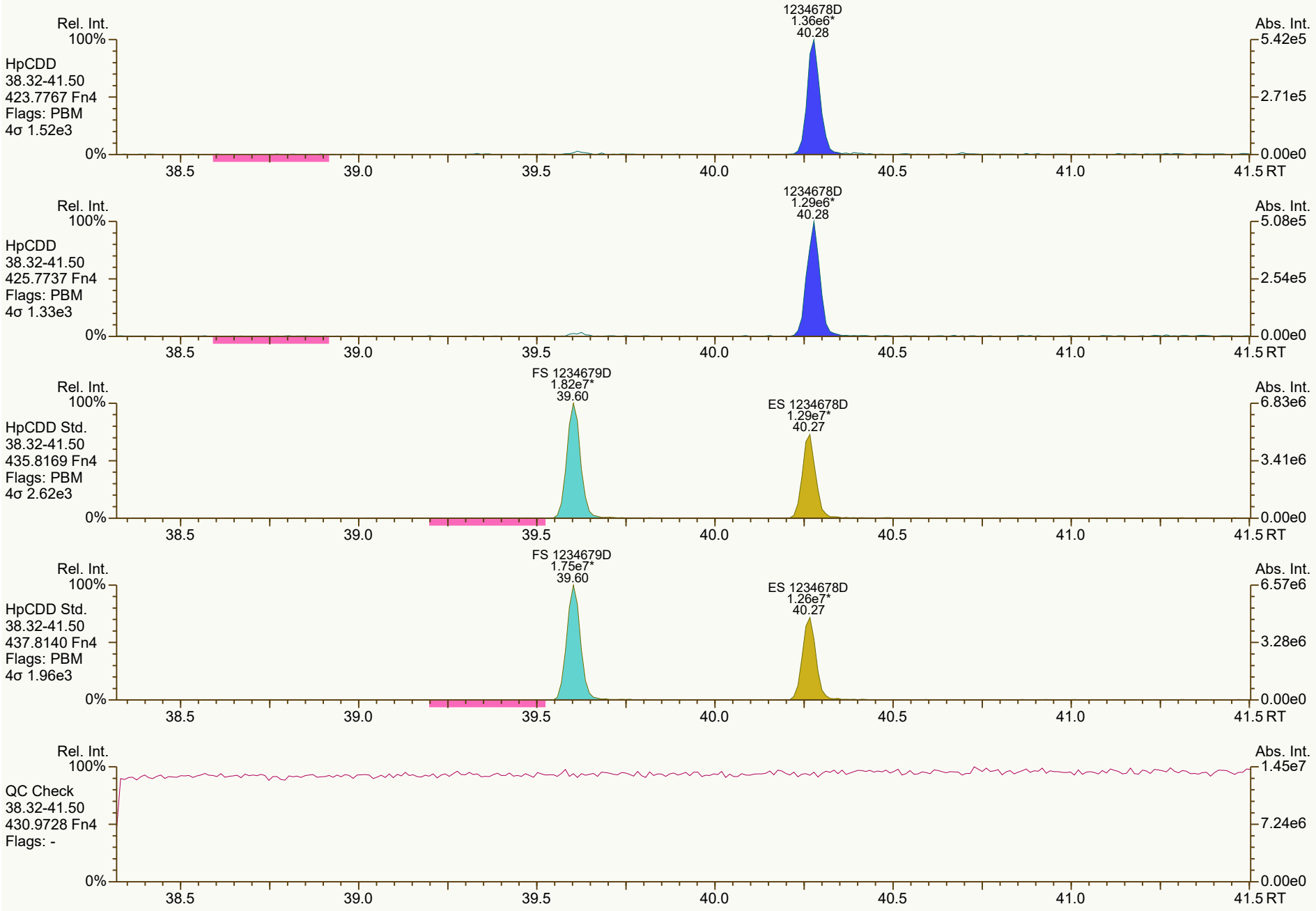
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

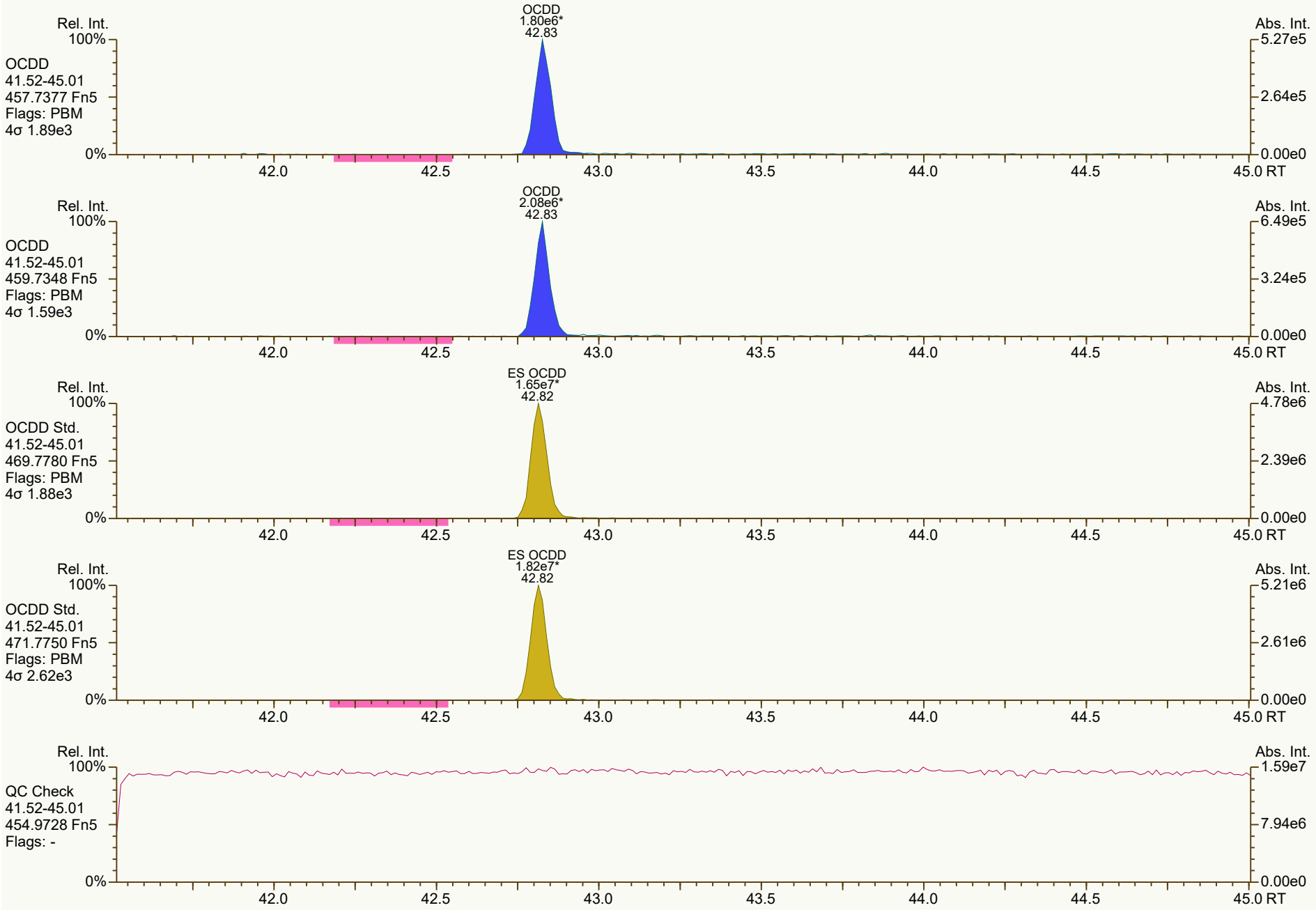

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

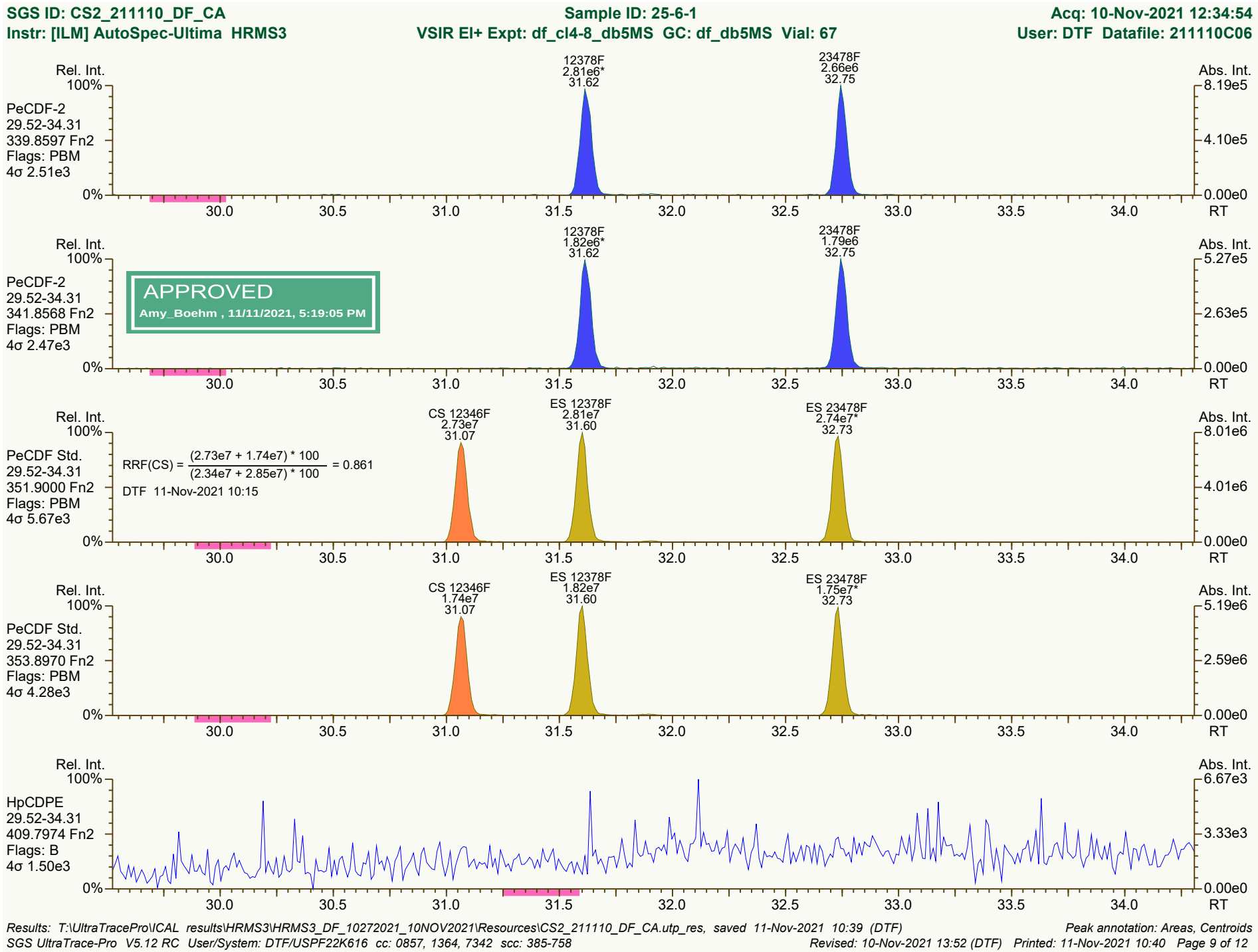

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

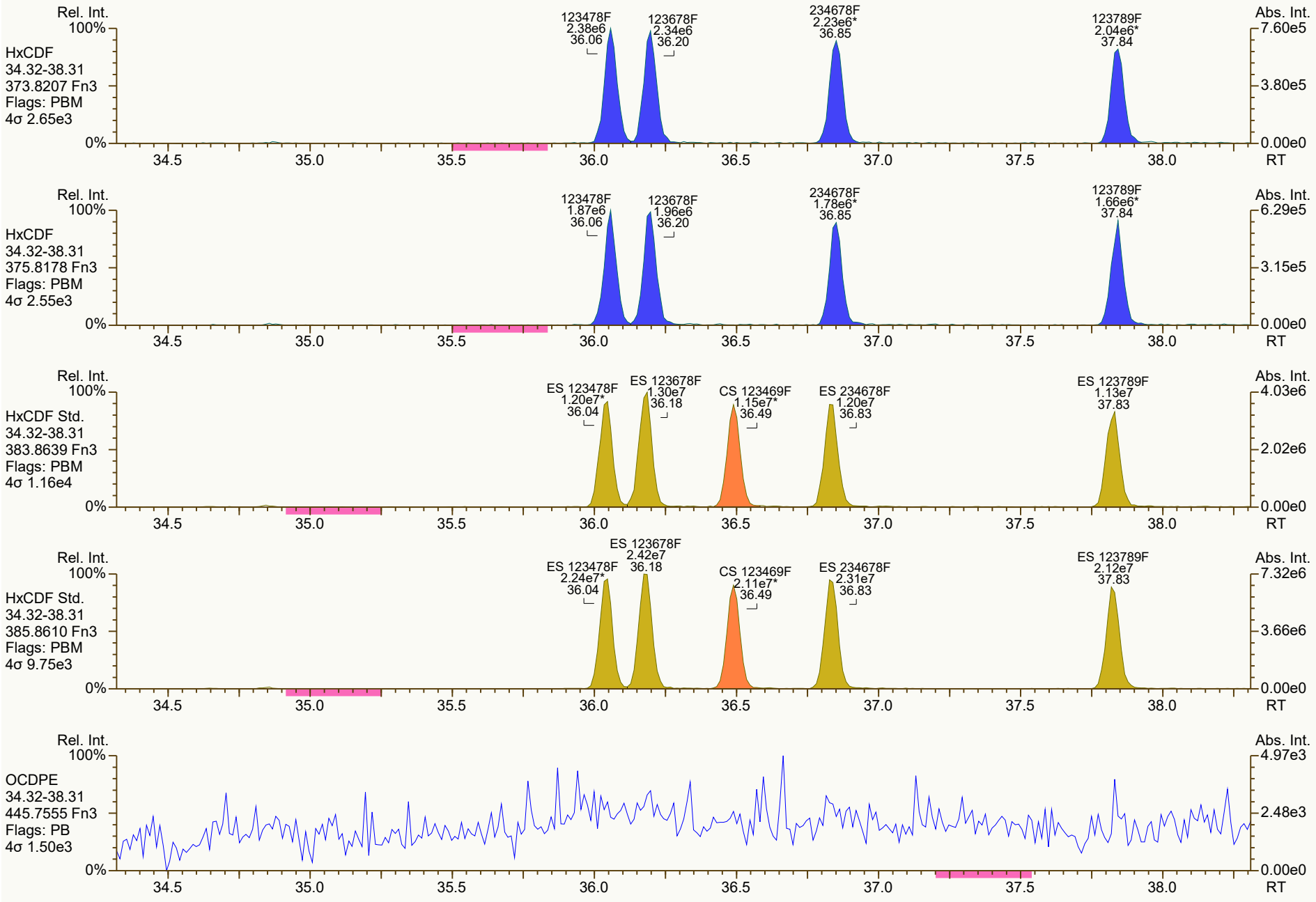

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

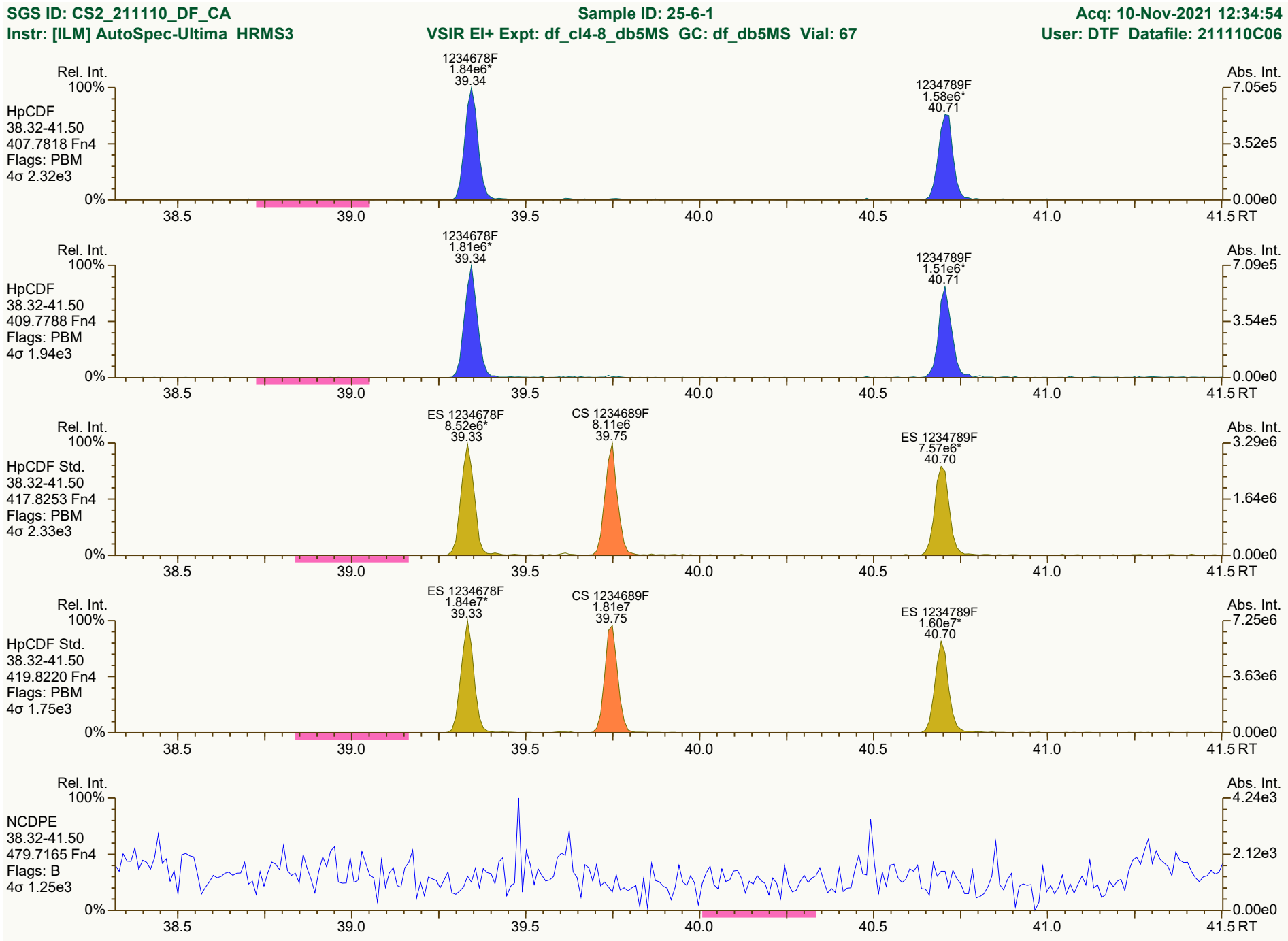

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

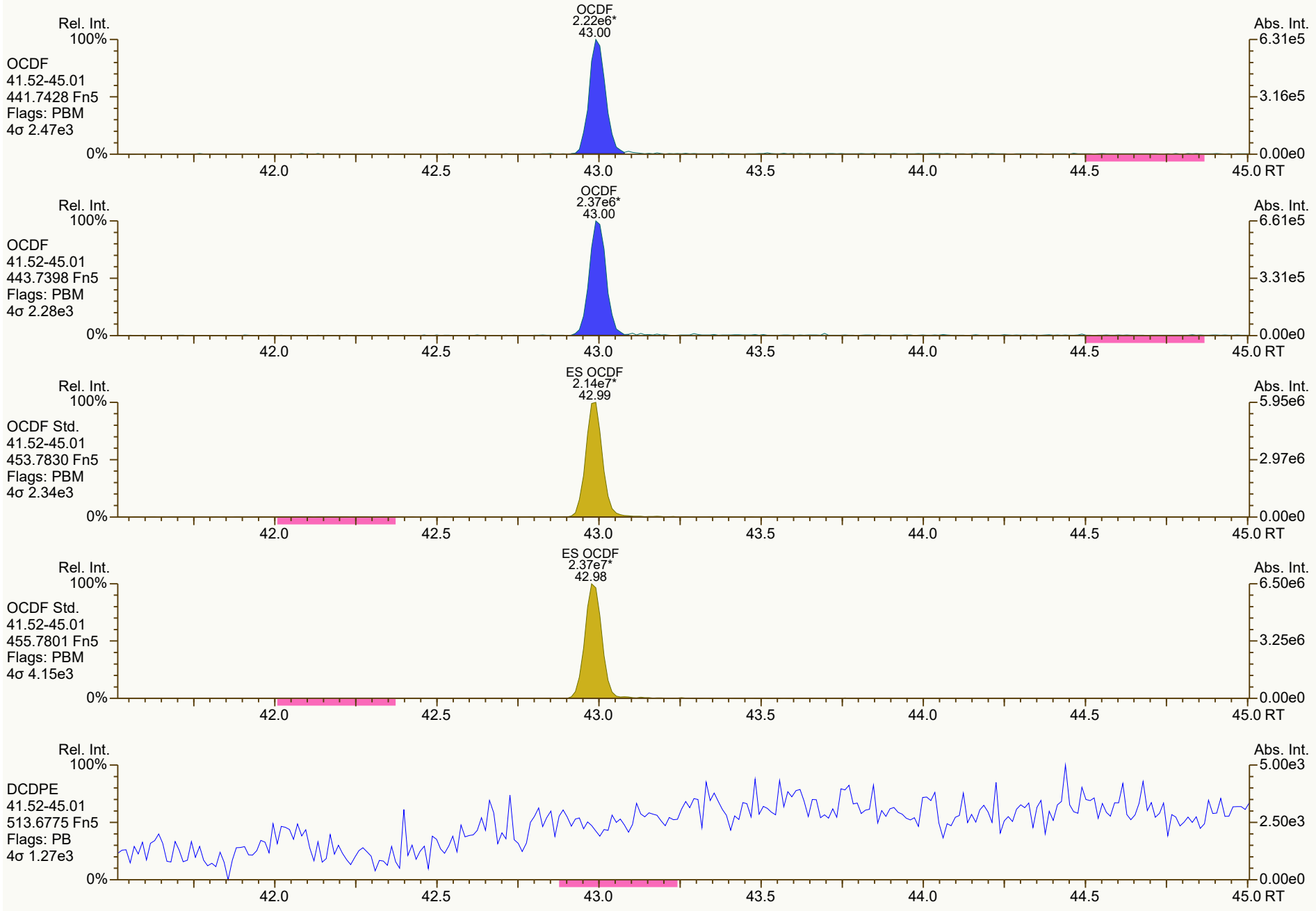

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

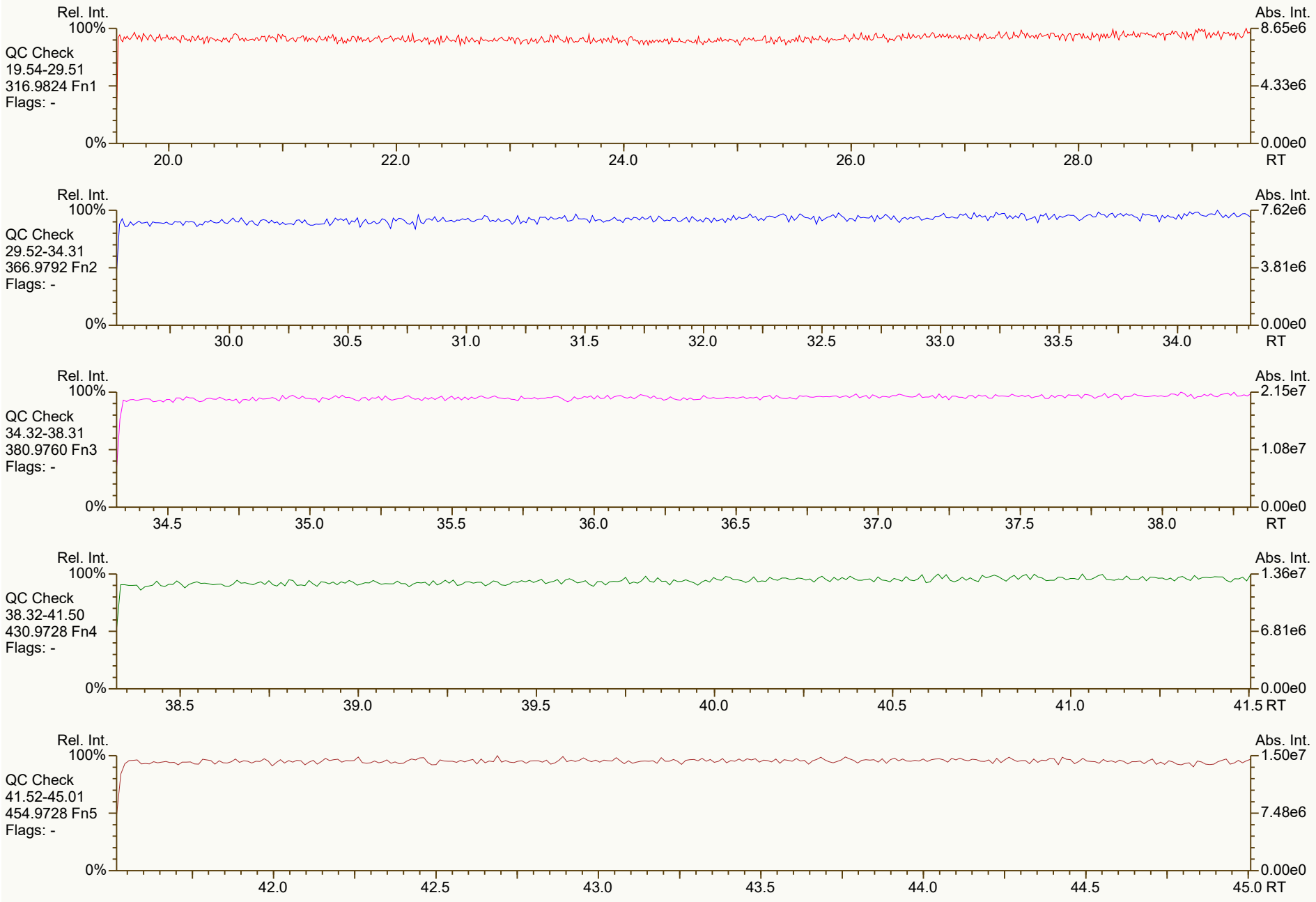

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

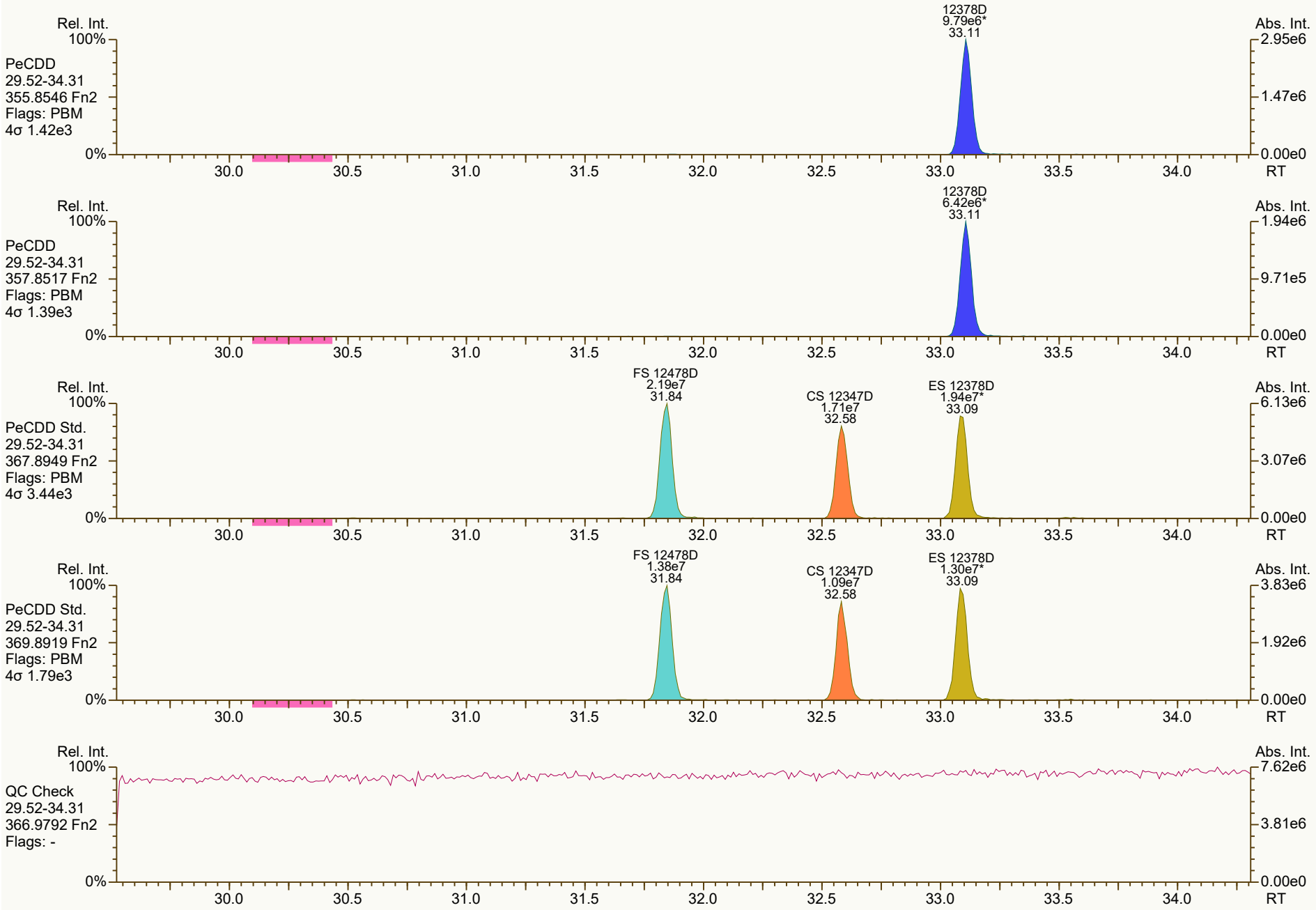
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

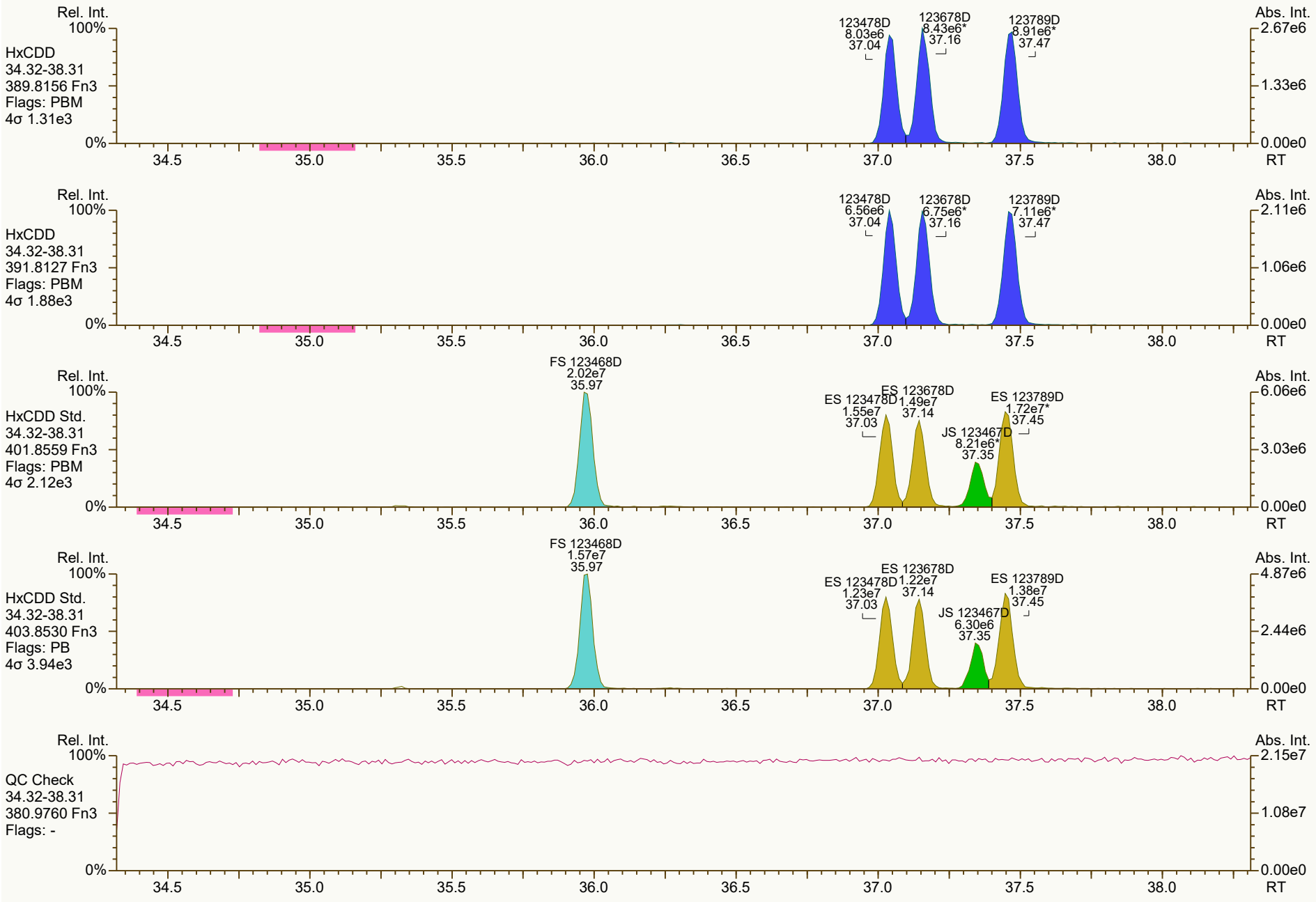
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

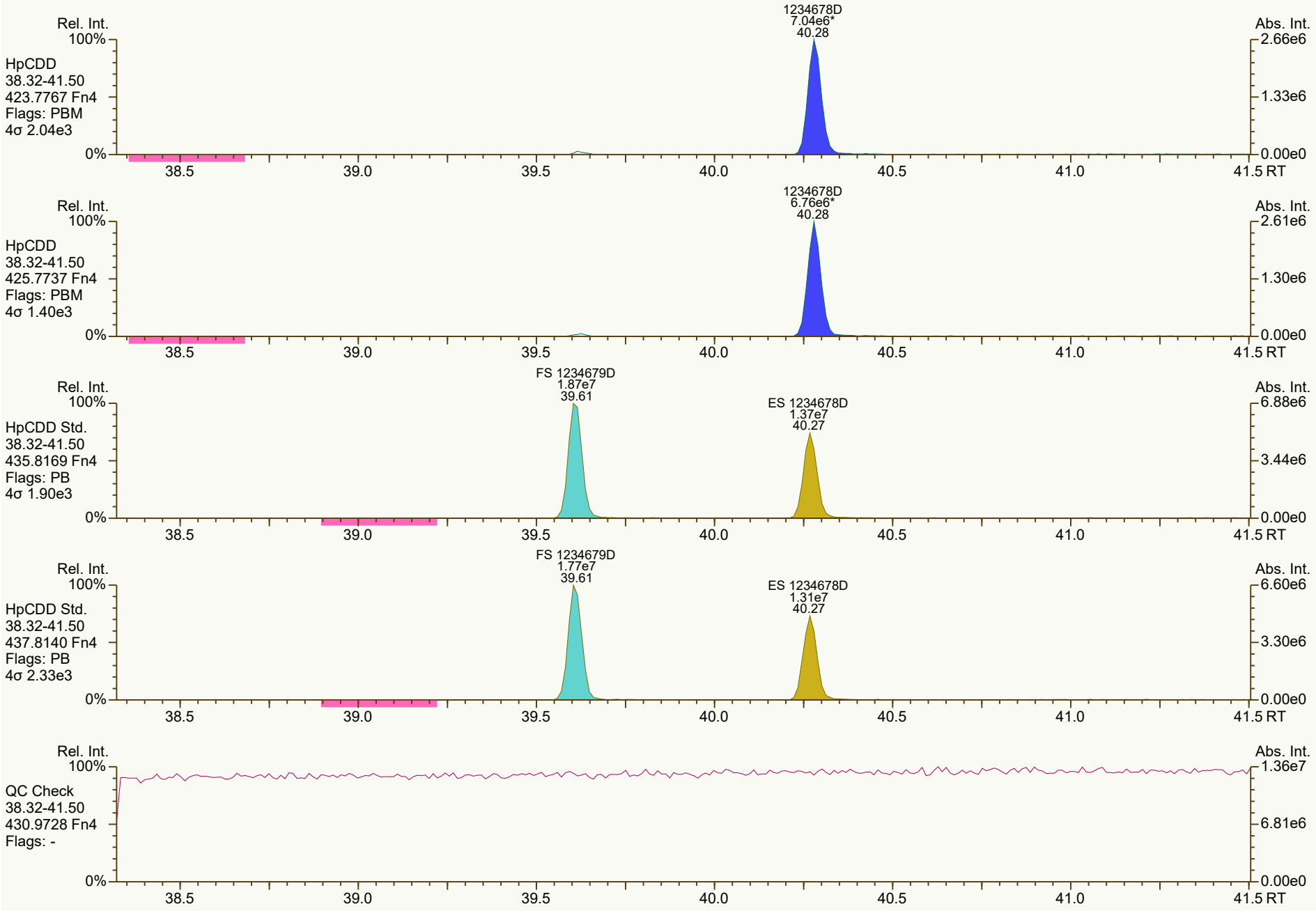
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

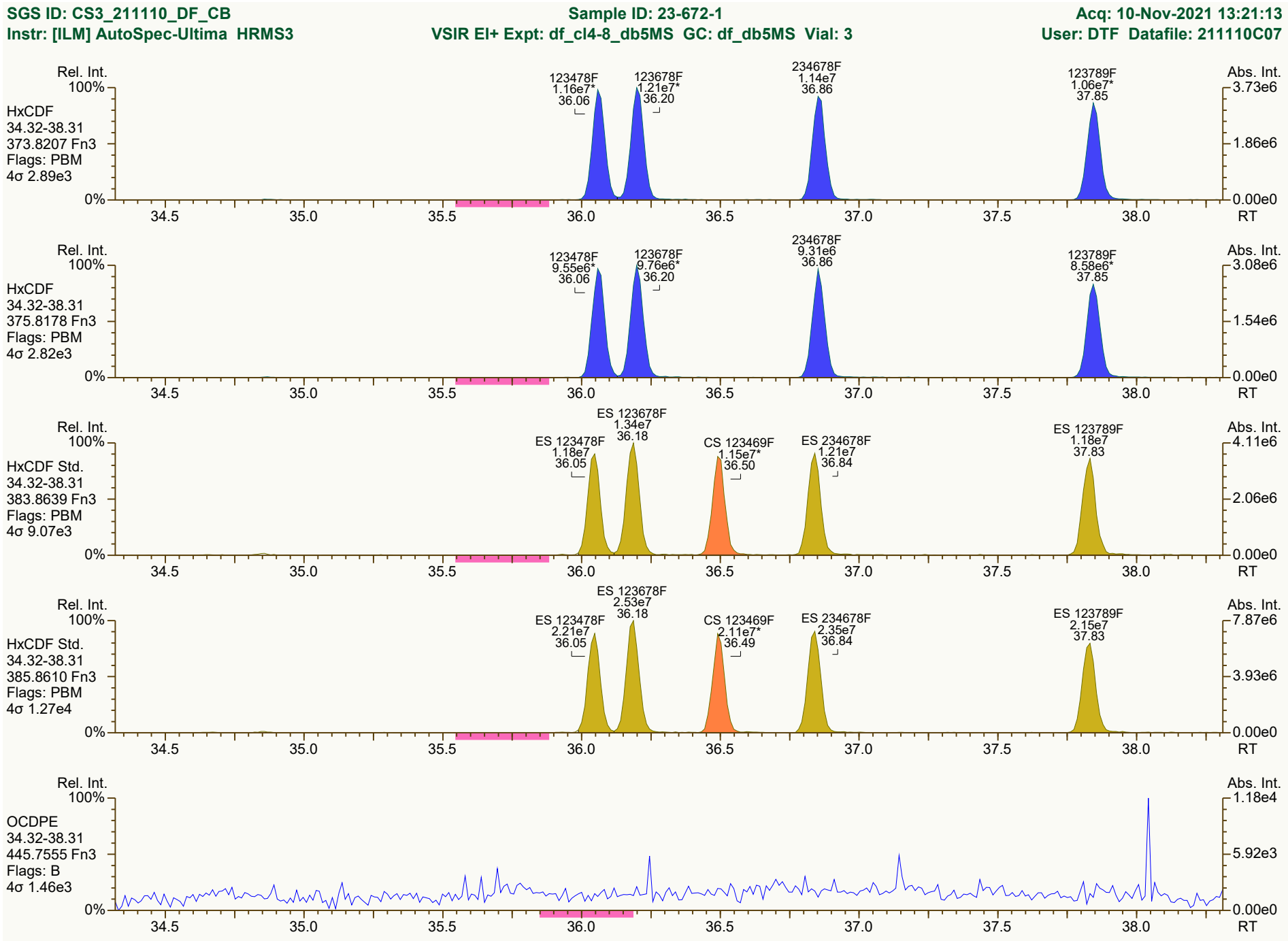

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

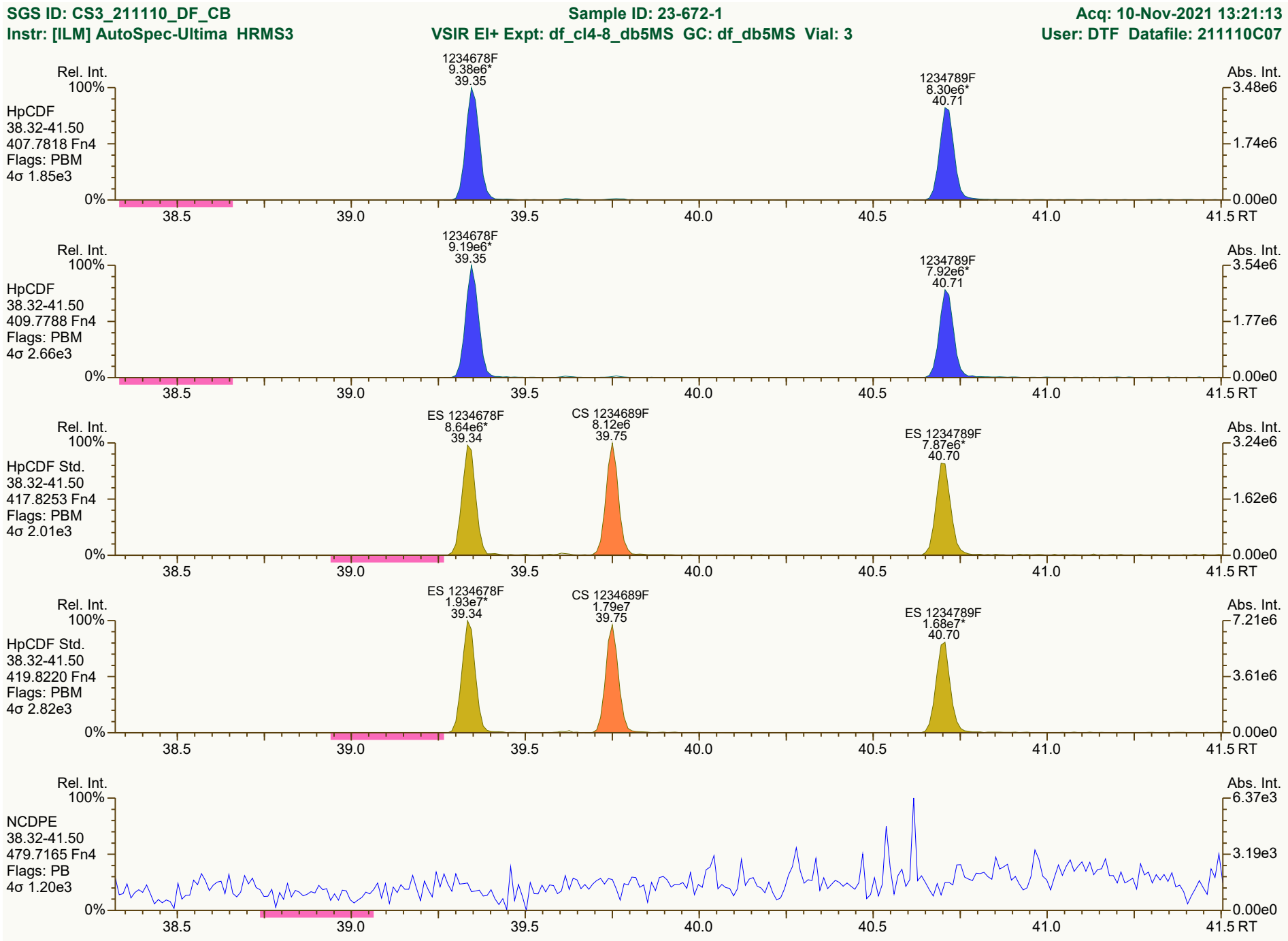

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

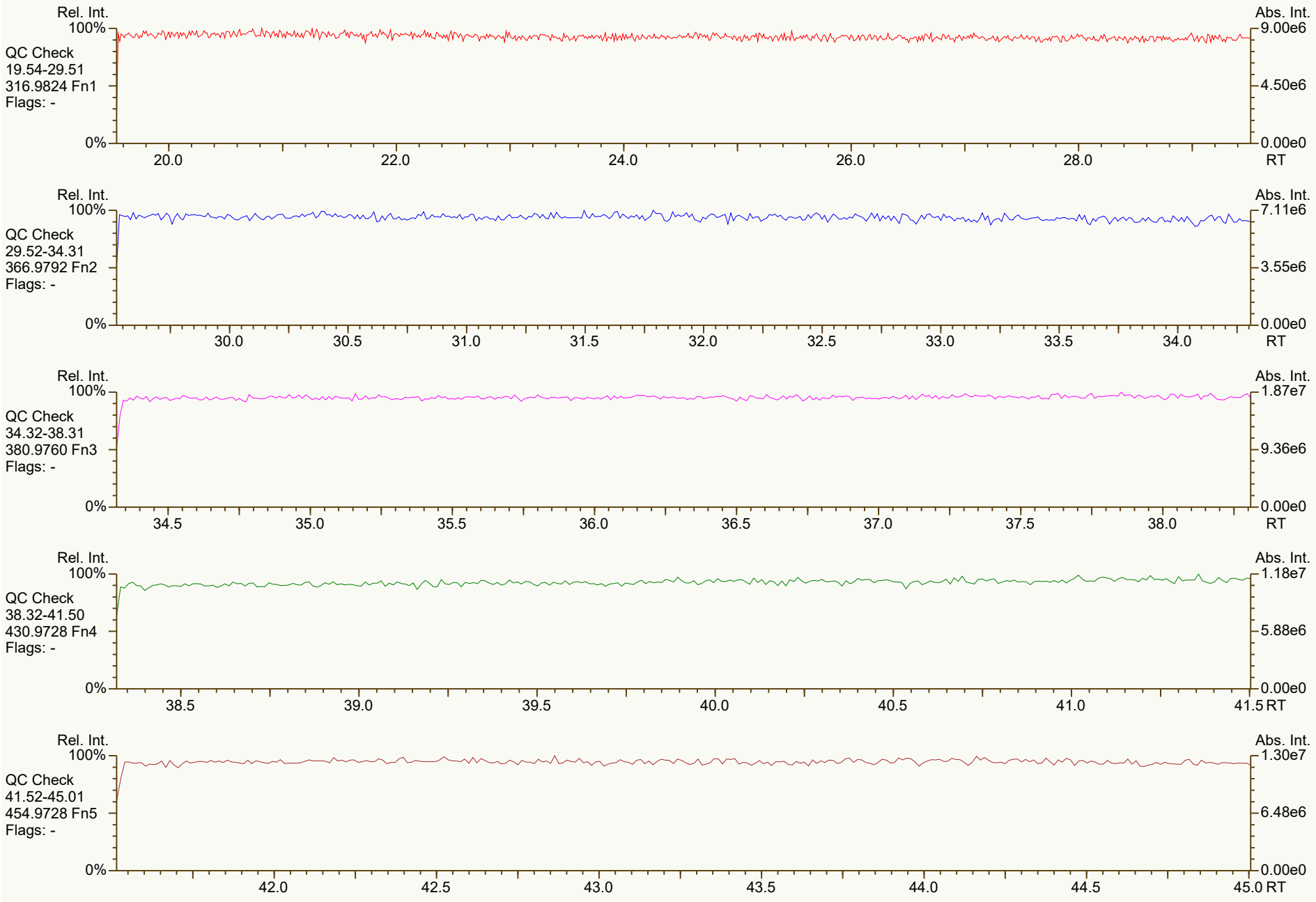

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

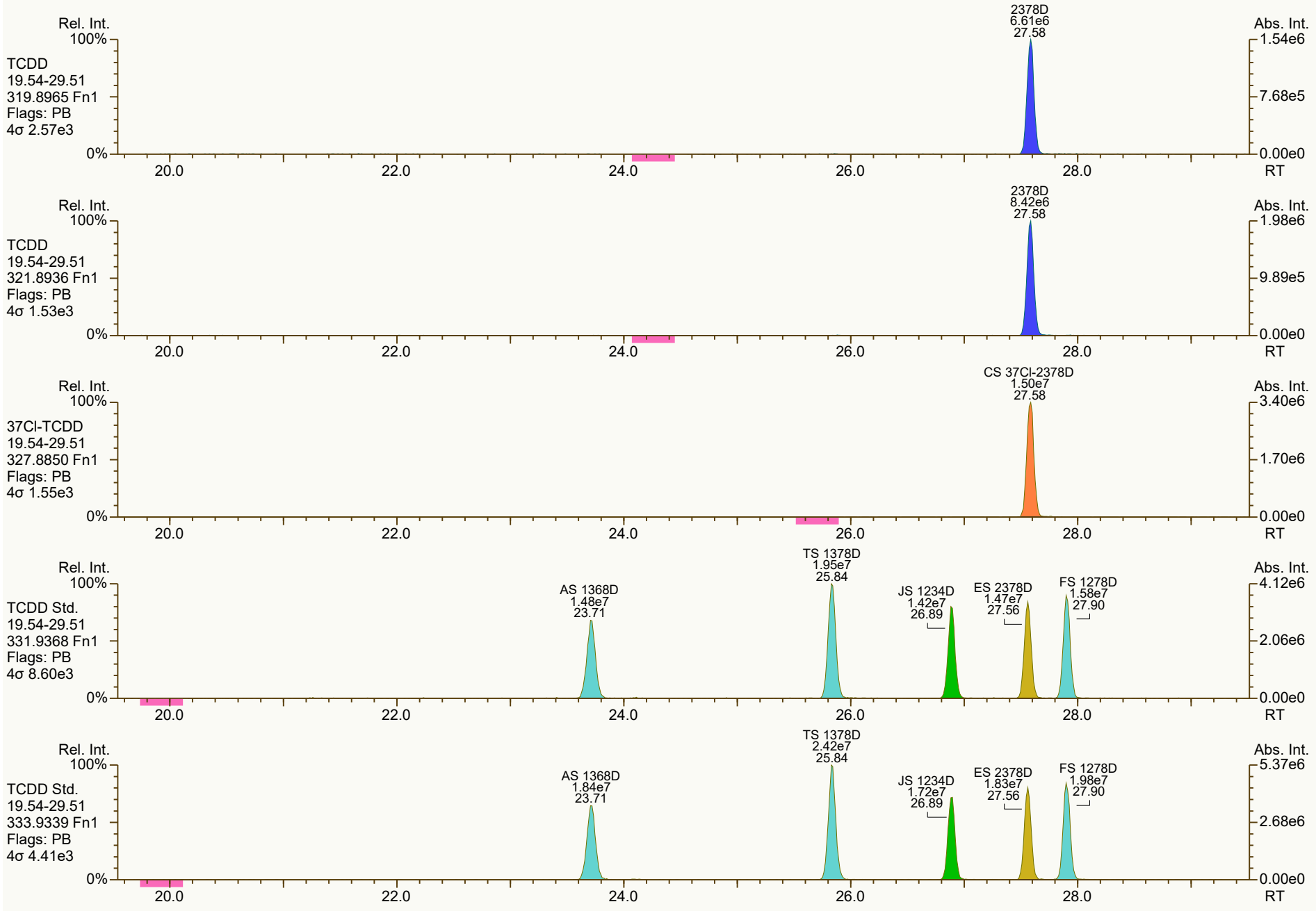
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

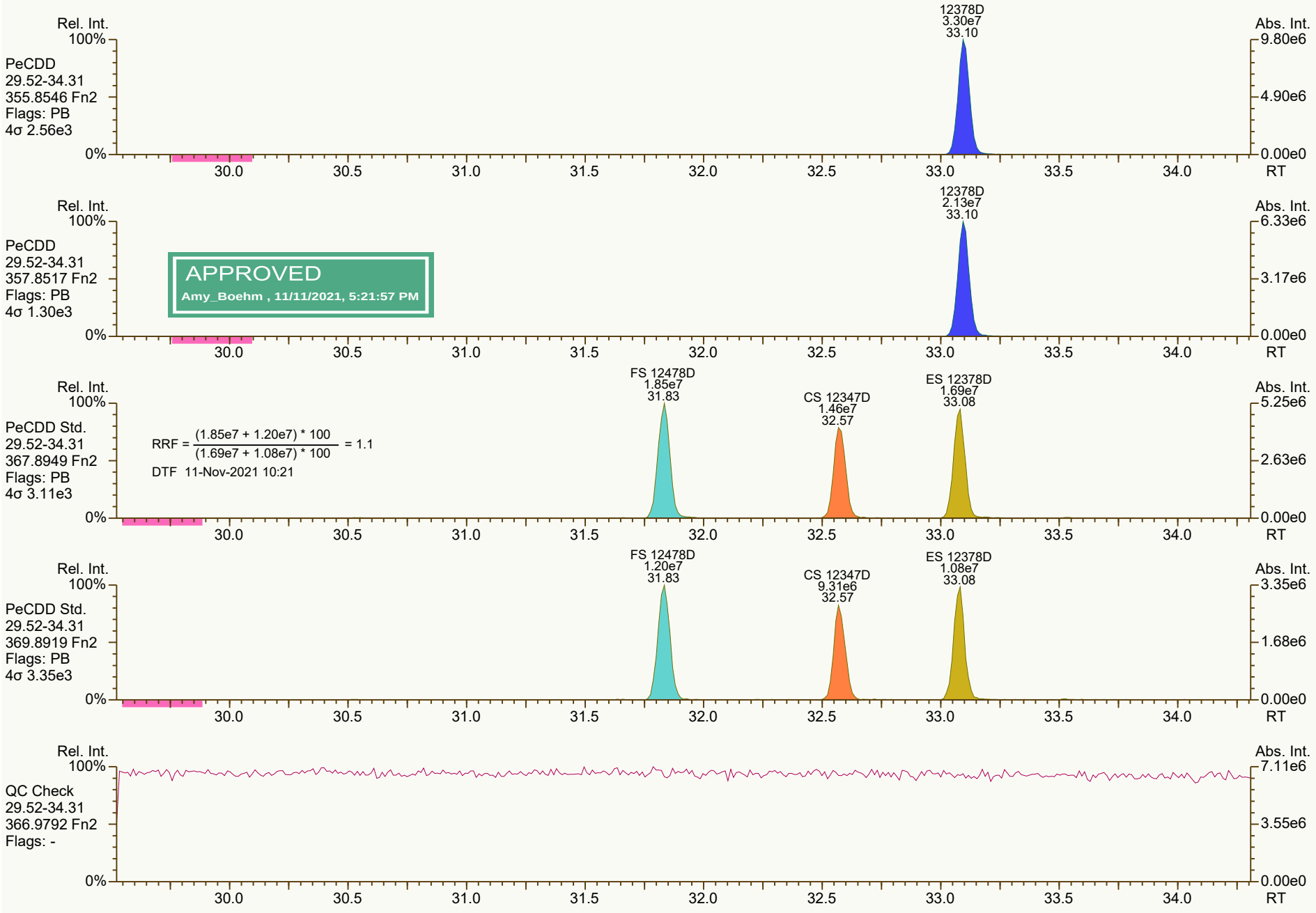
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

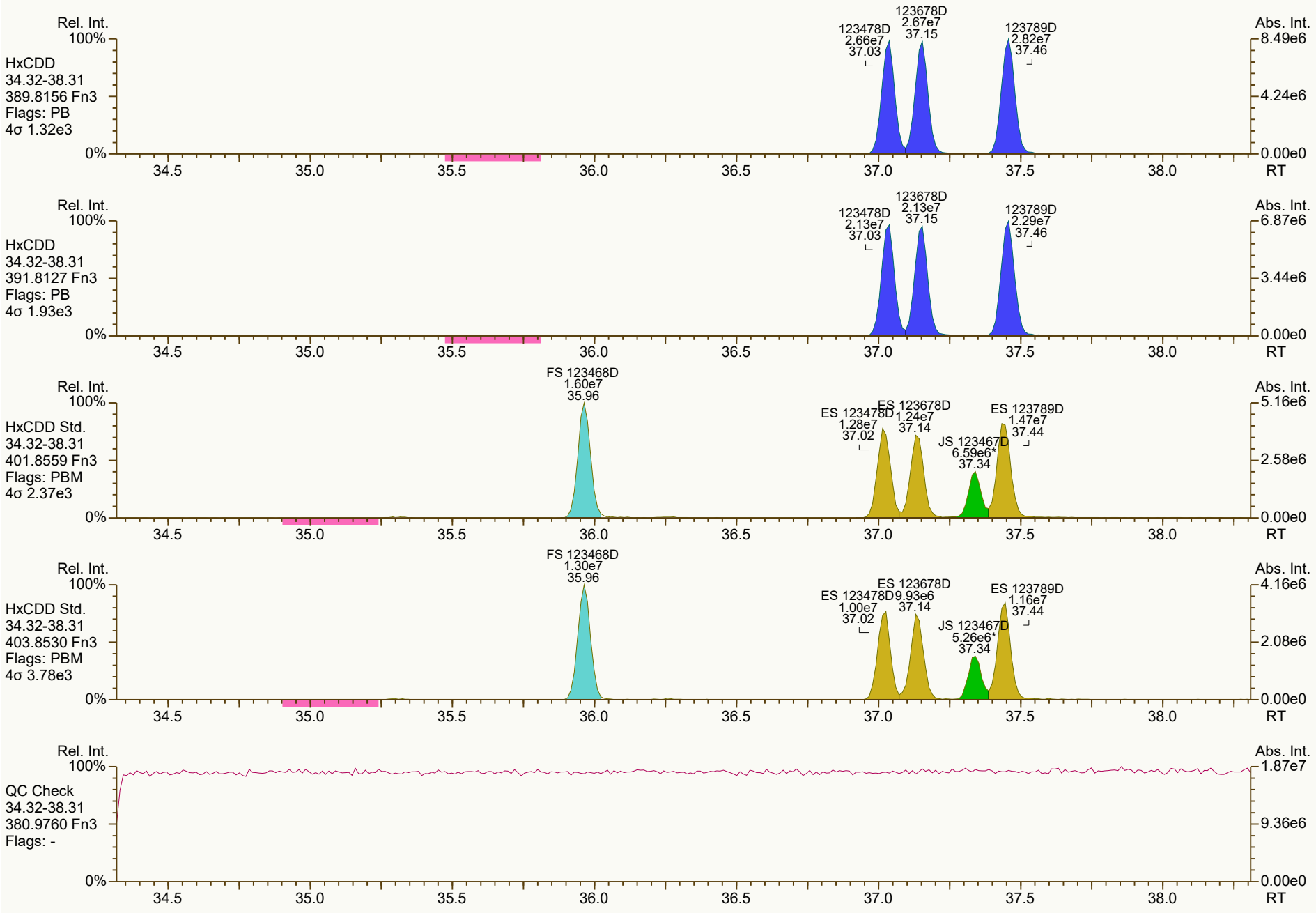
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

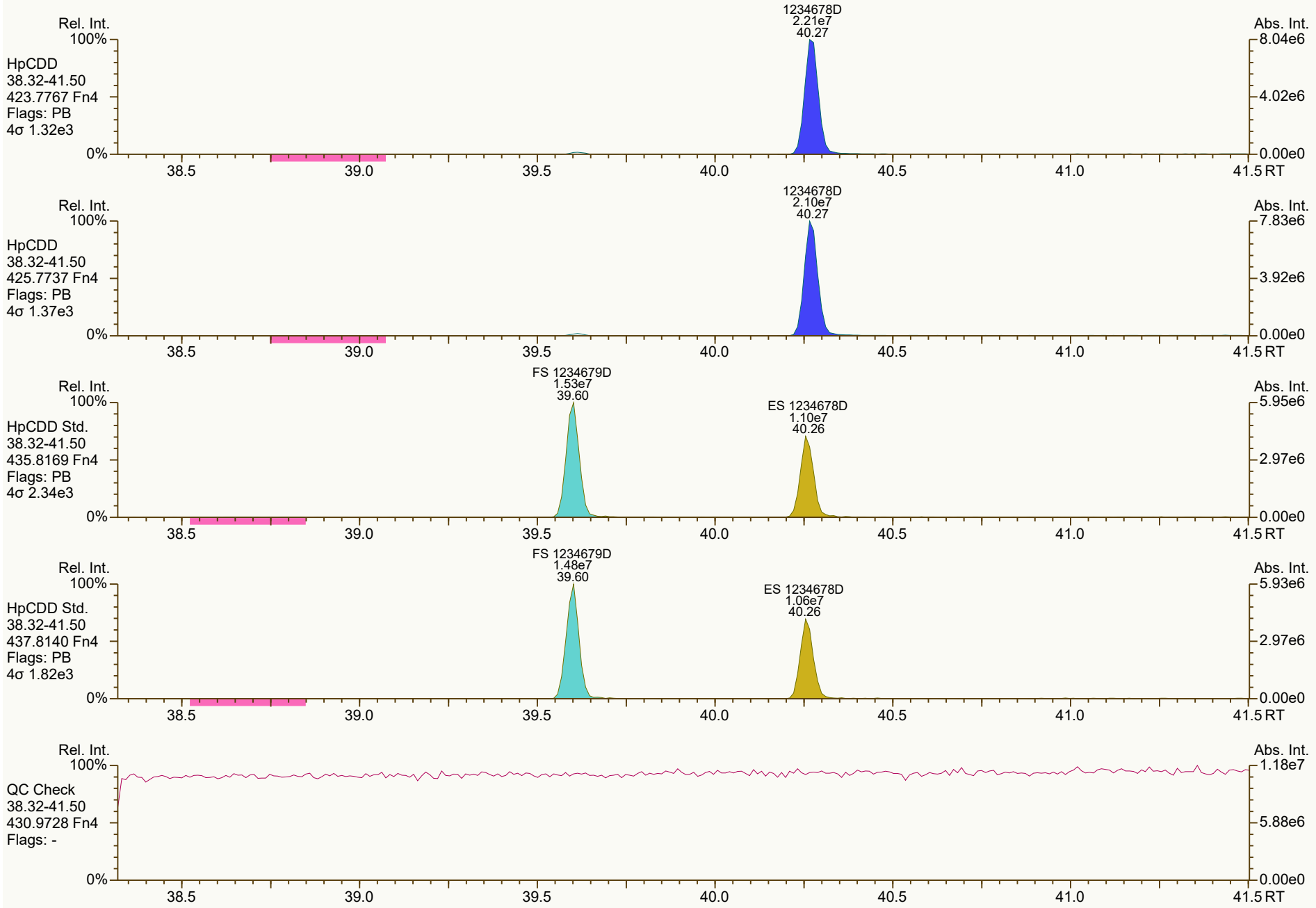
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

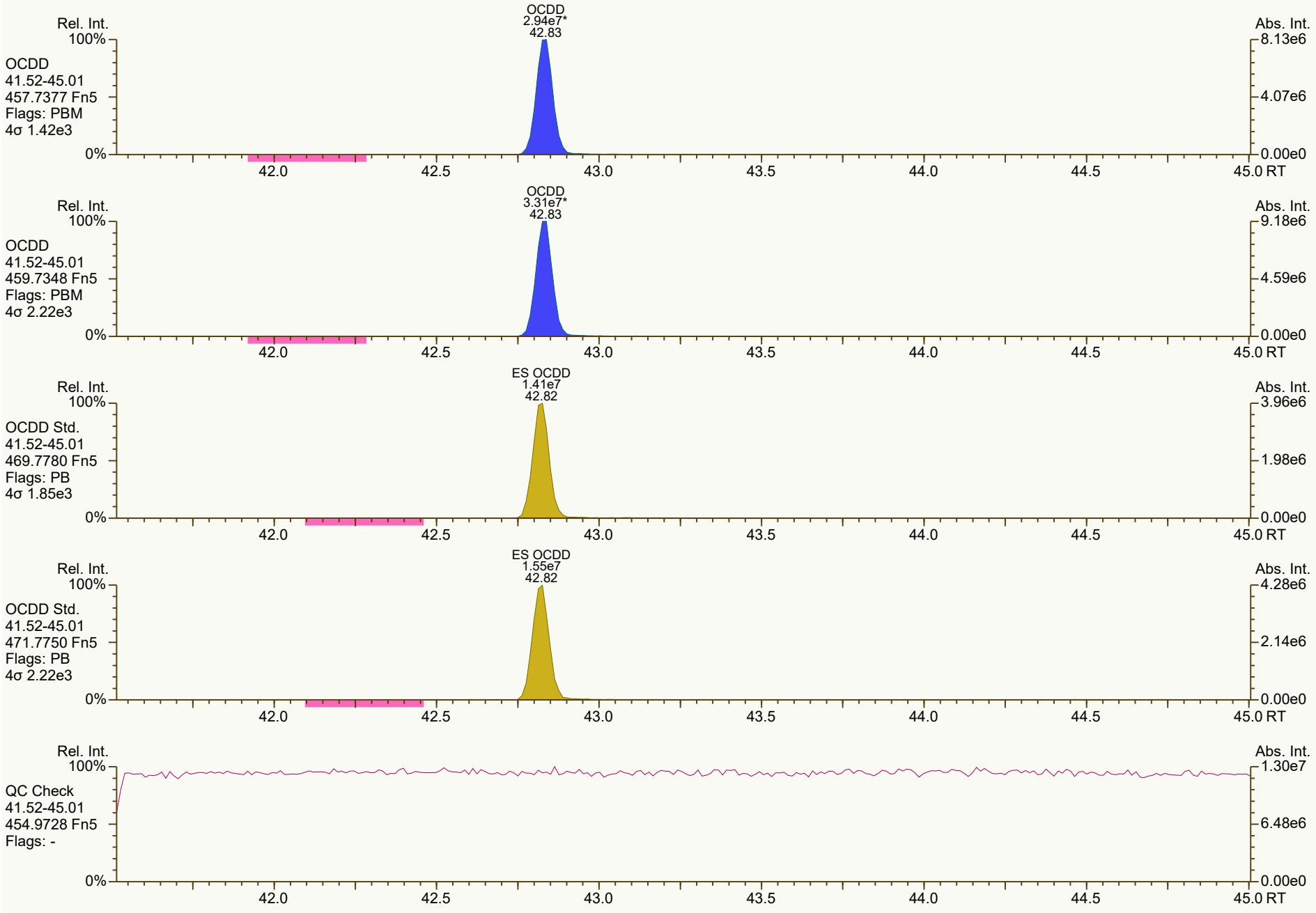

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

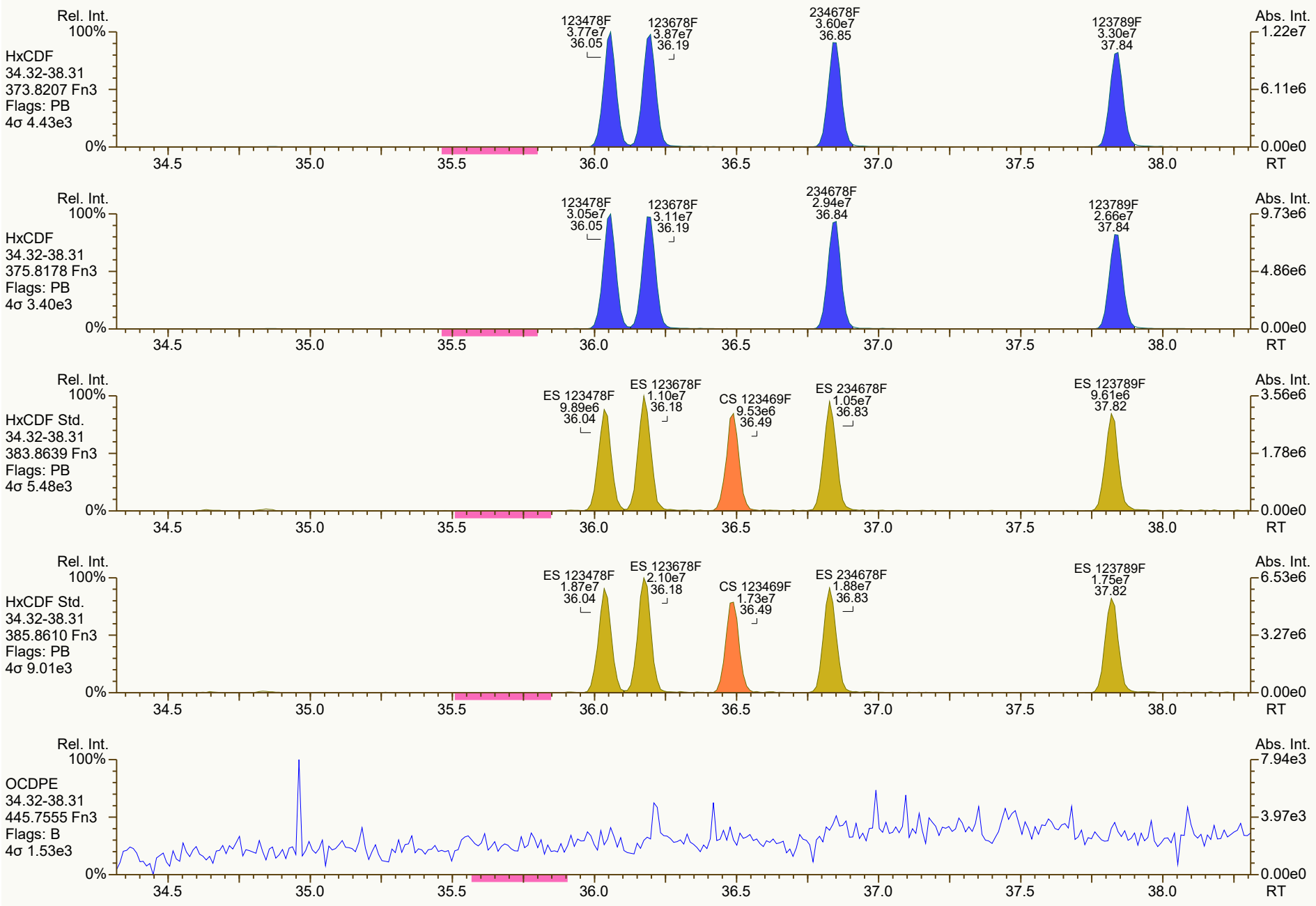

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

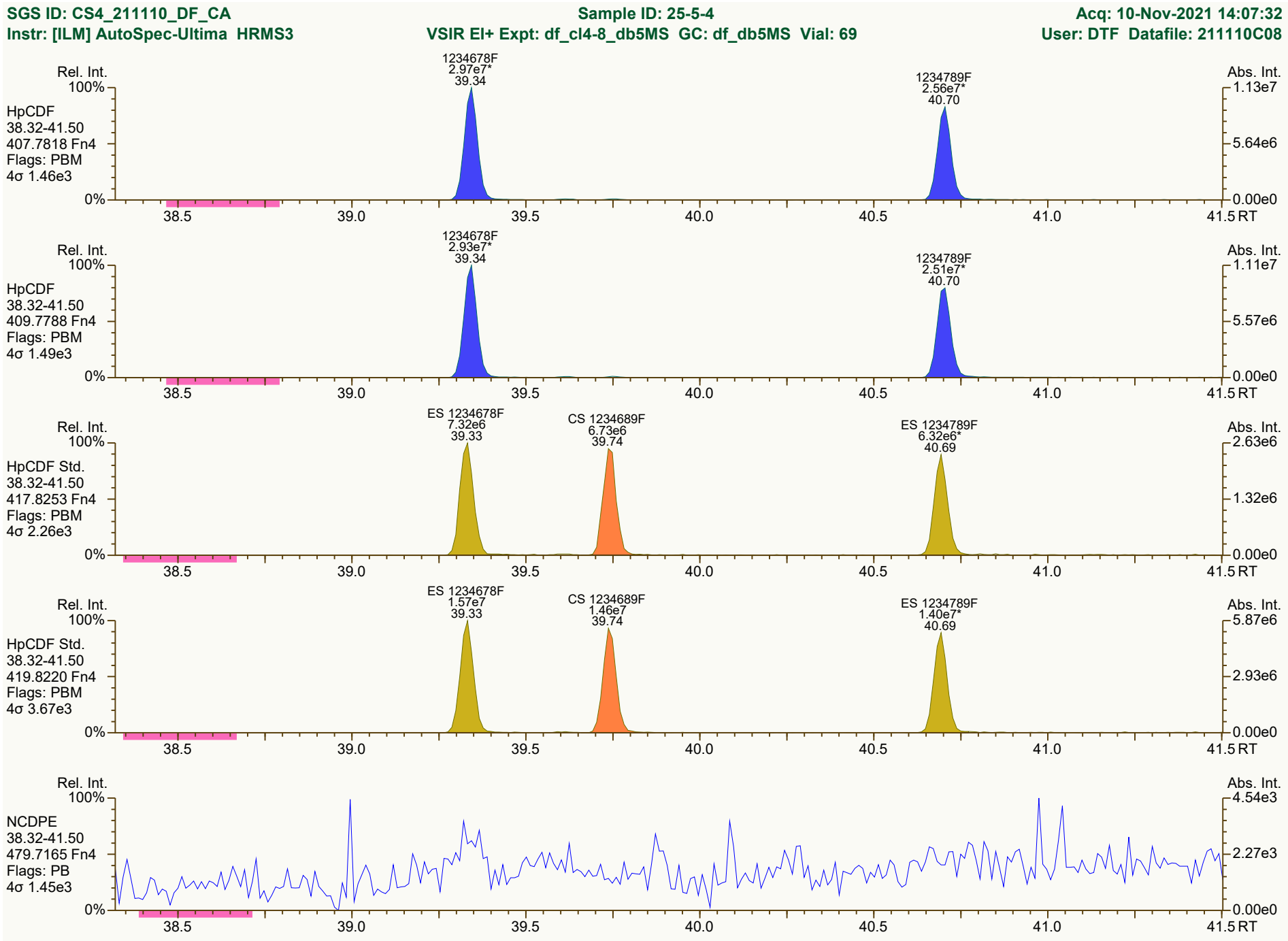

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

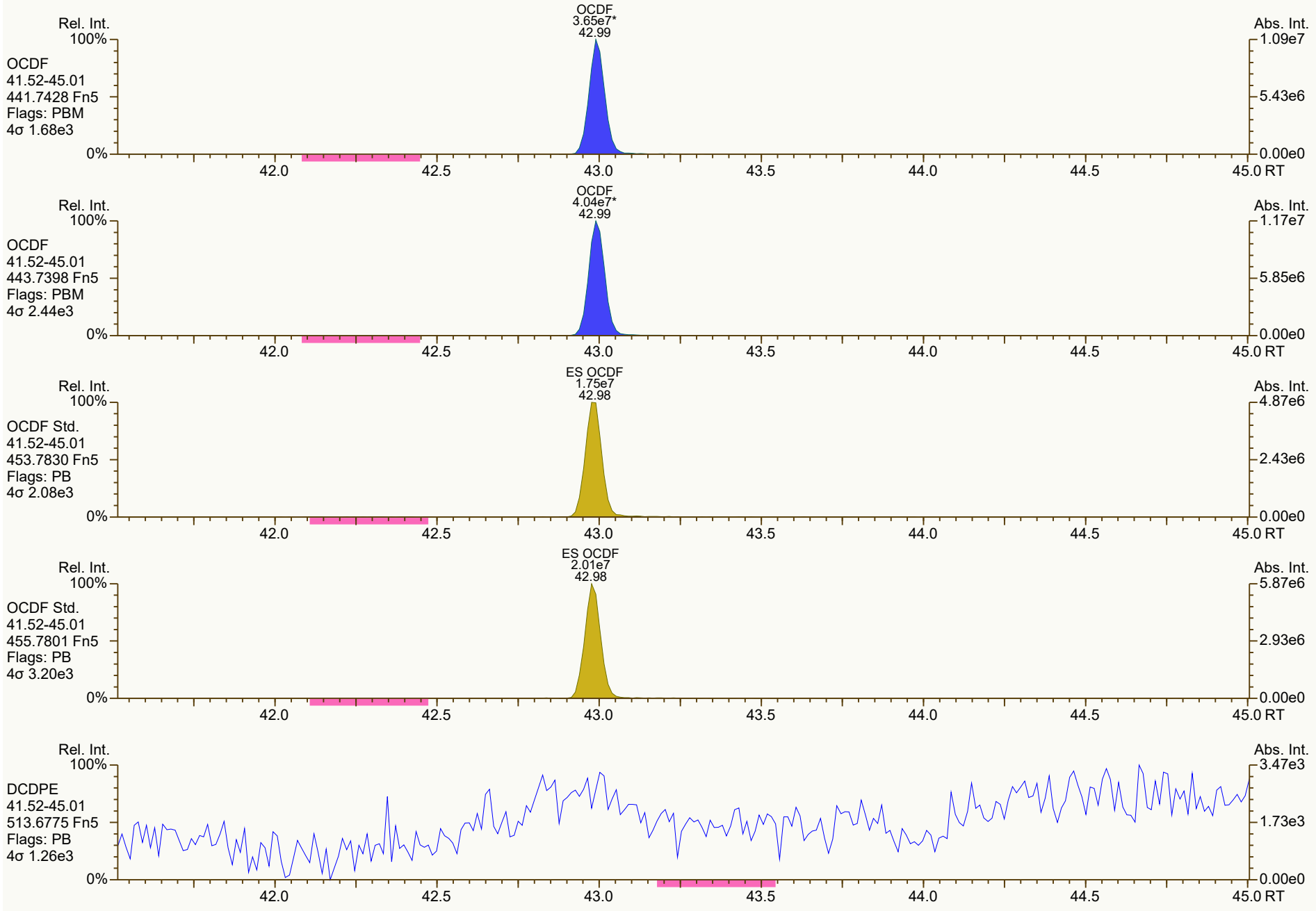

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
0%
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
0%
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
0%
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
0%
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

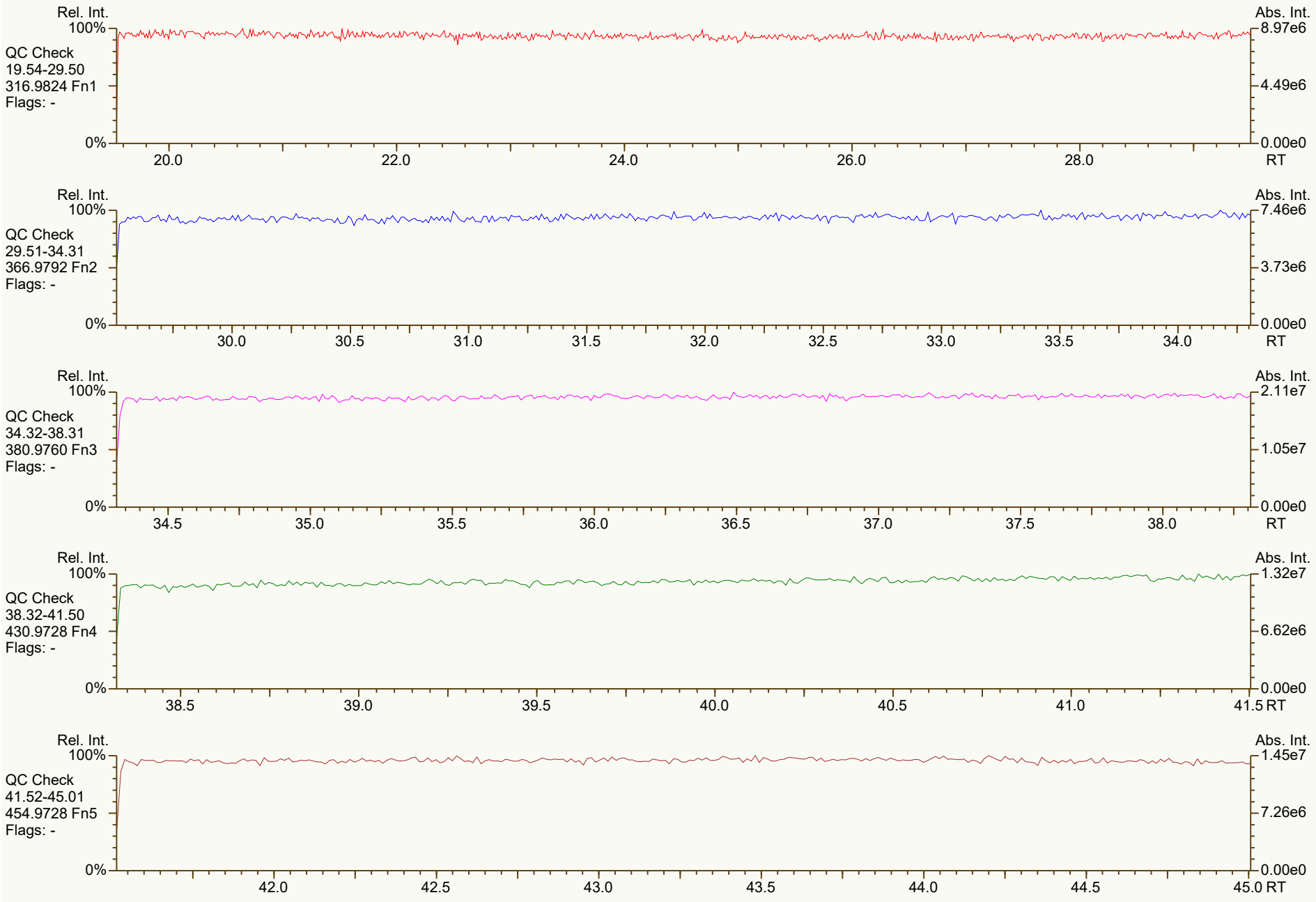

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

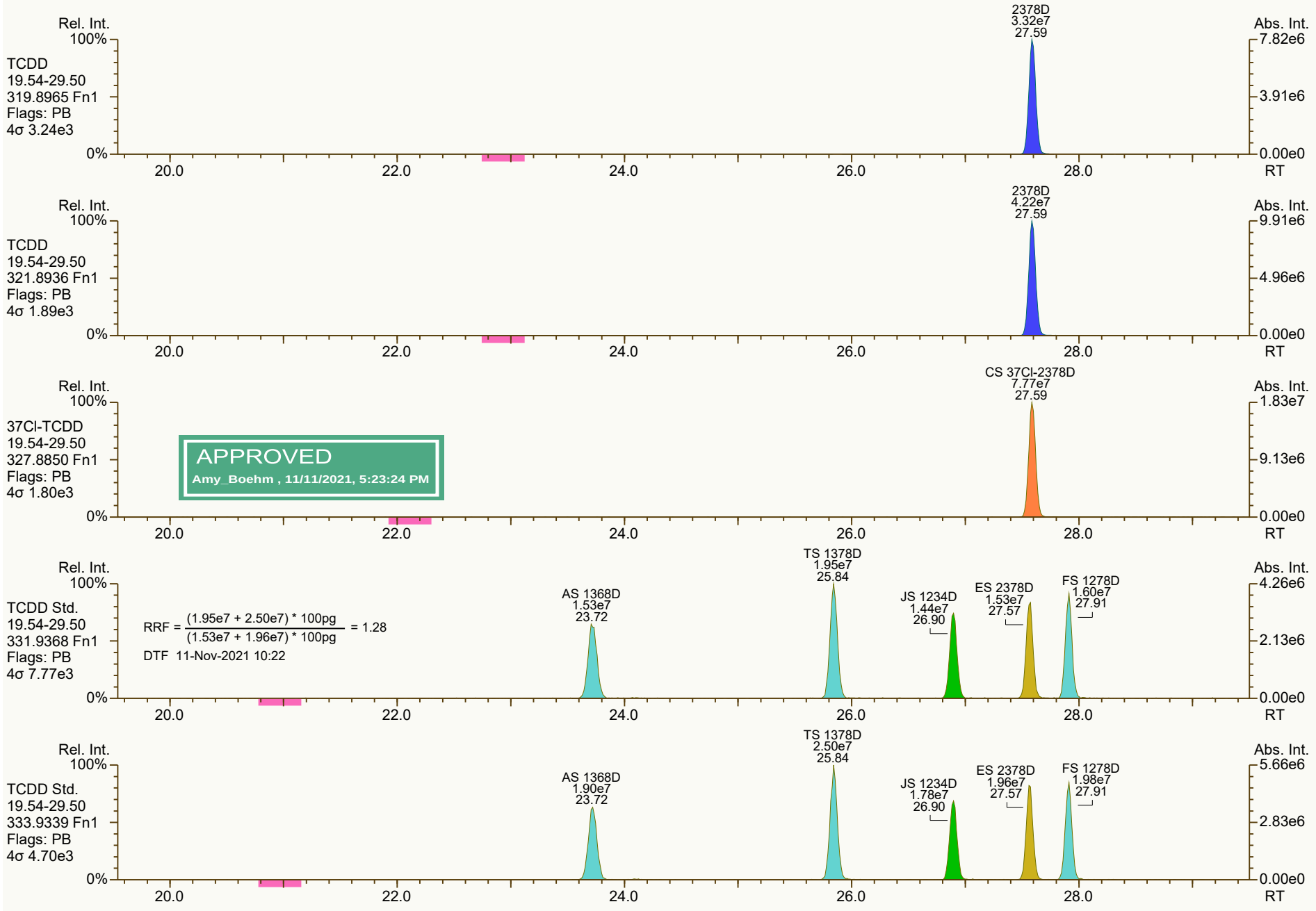
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

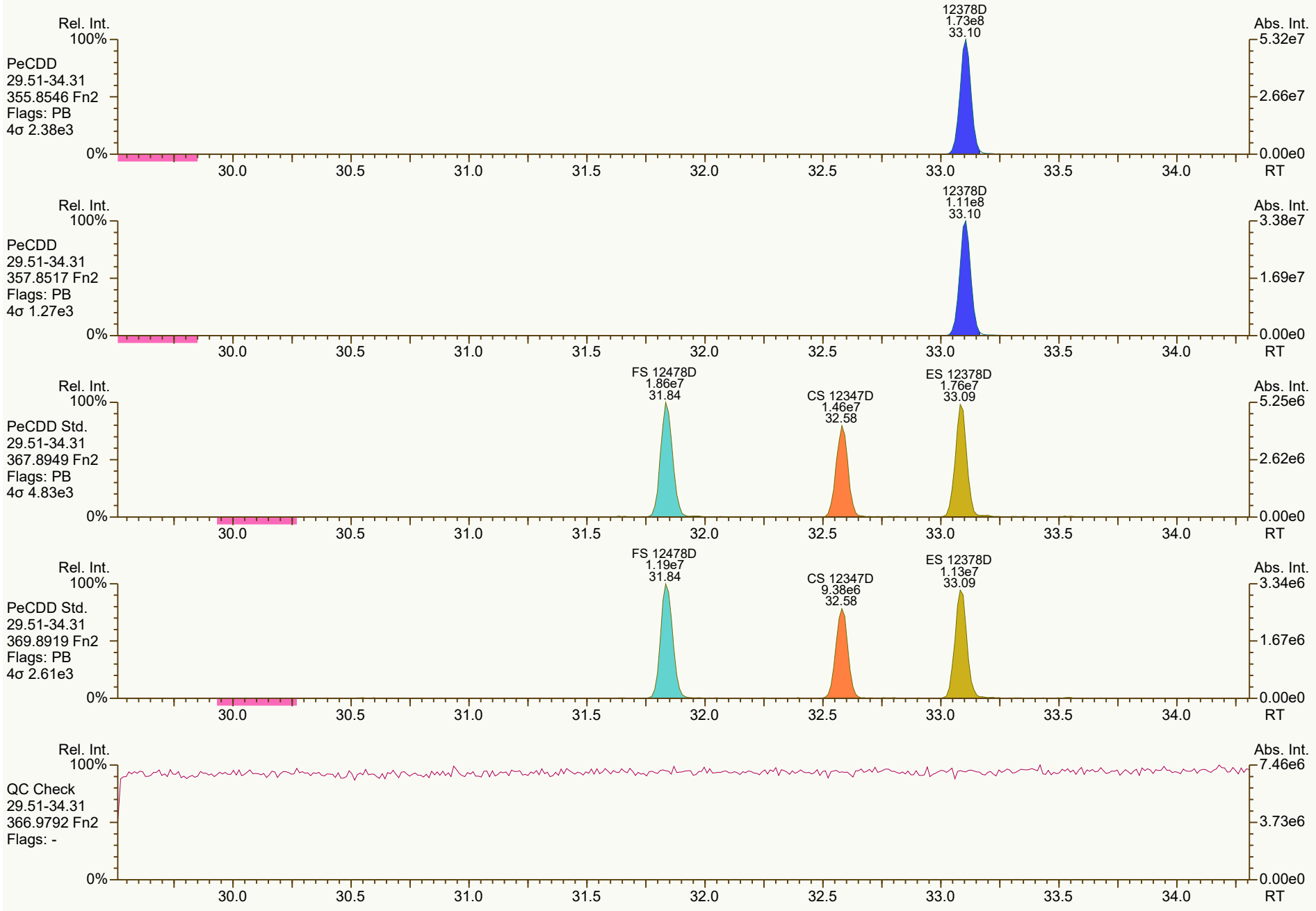
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

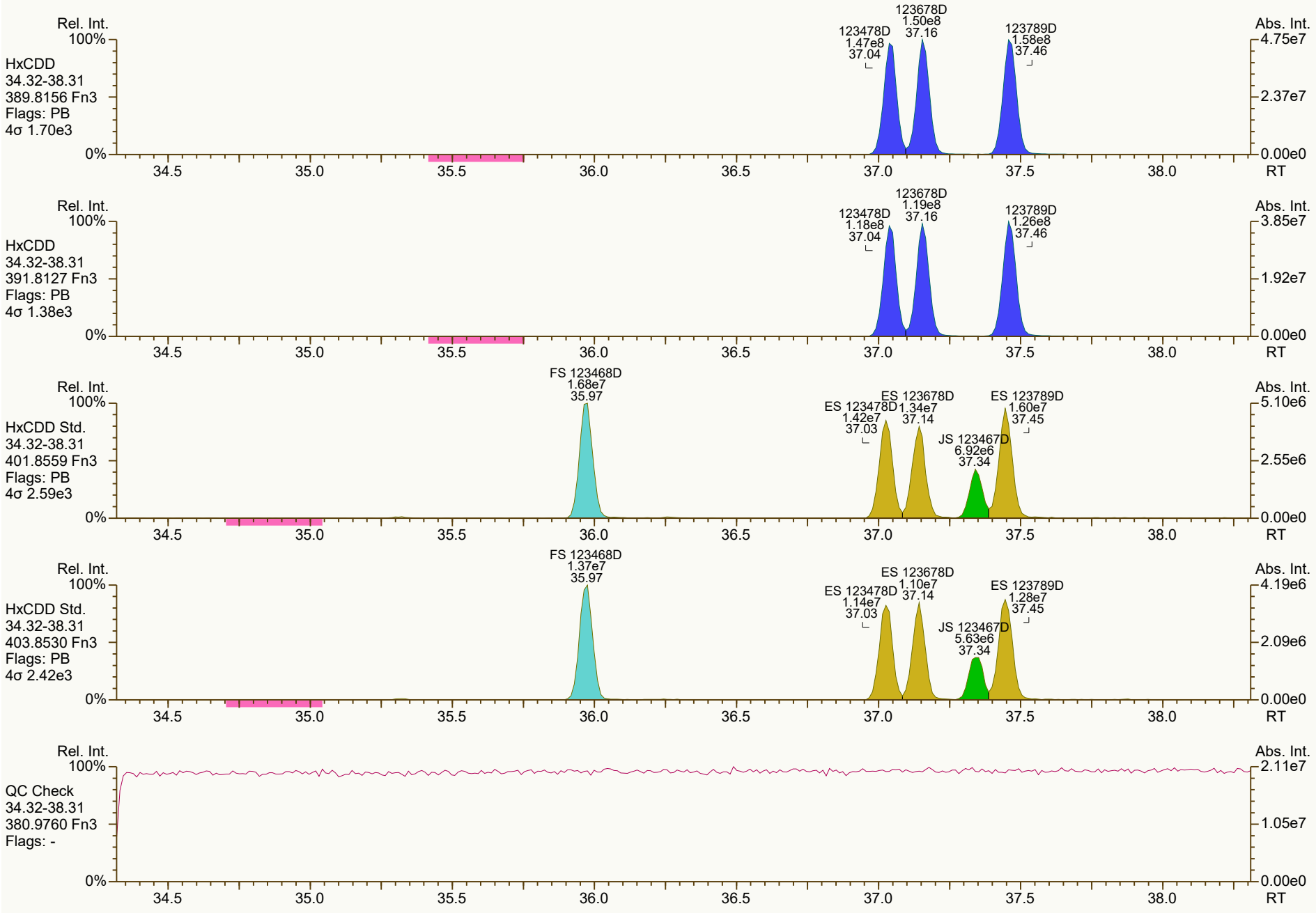
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

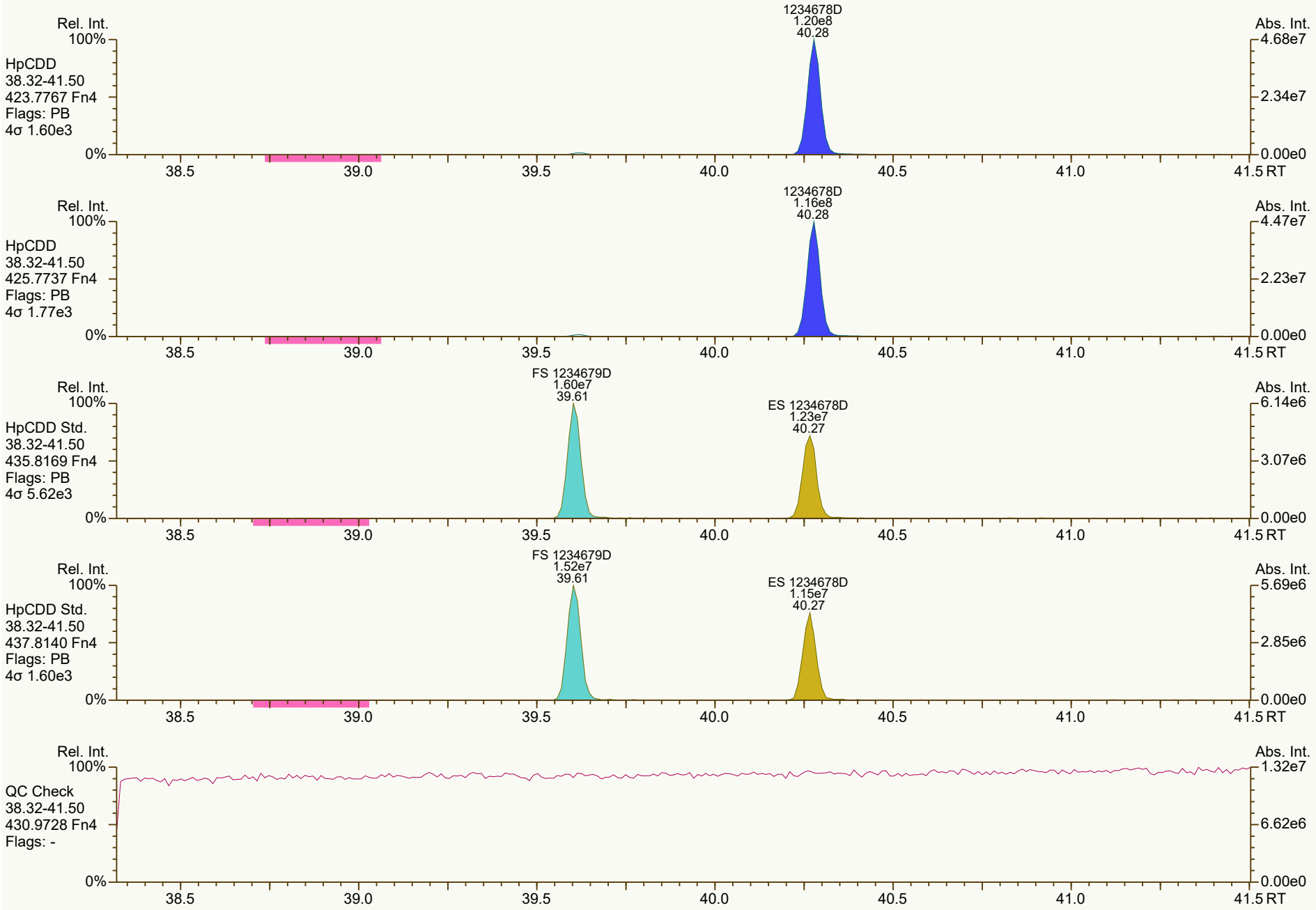
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

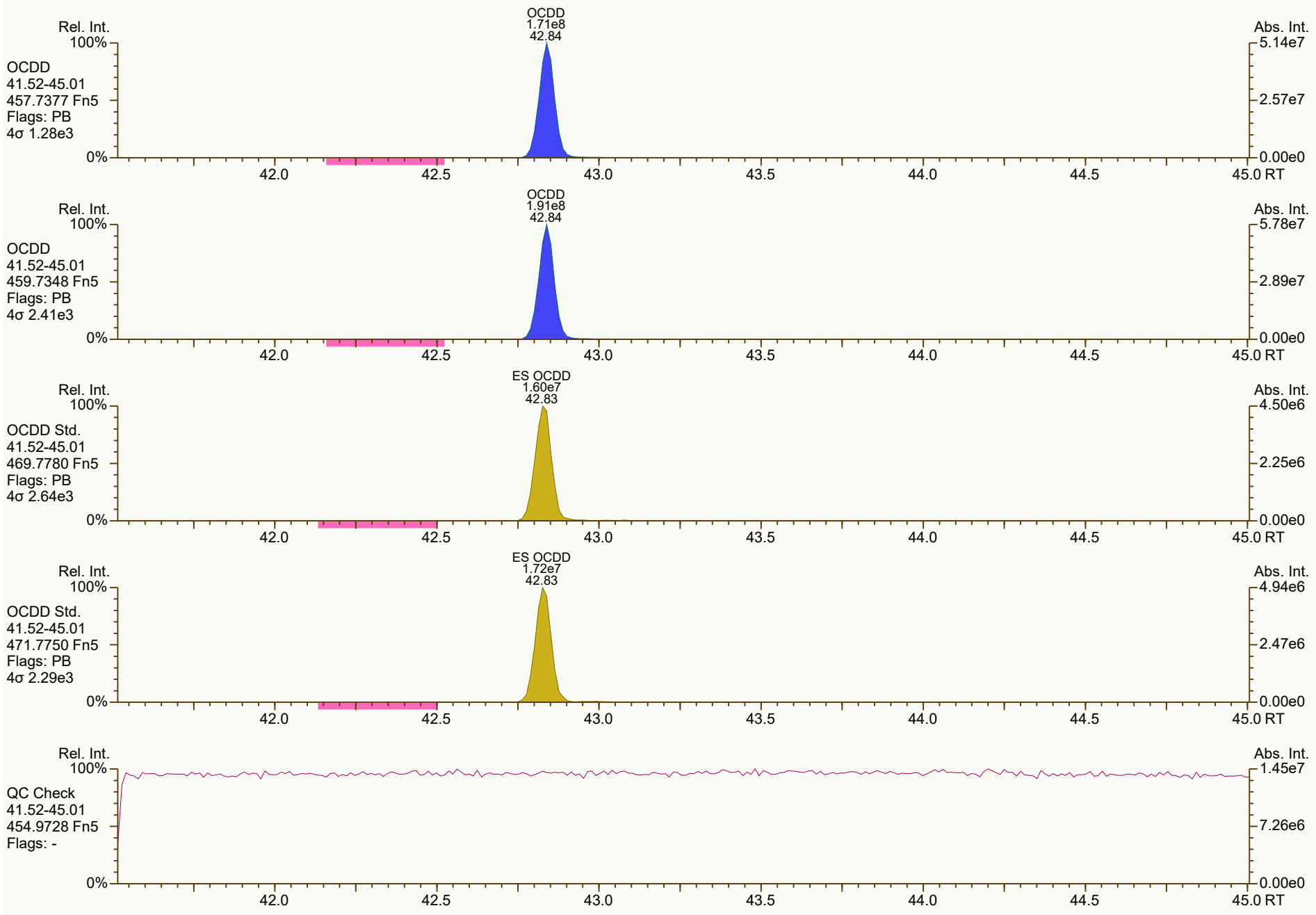

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

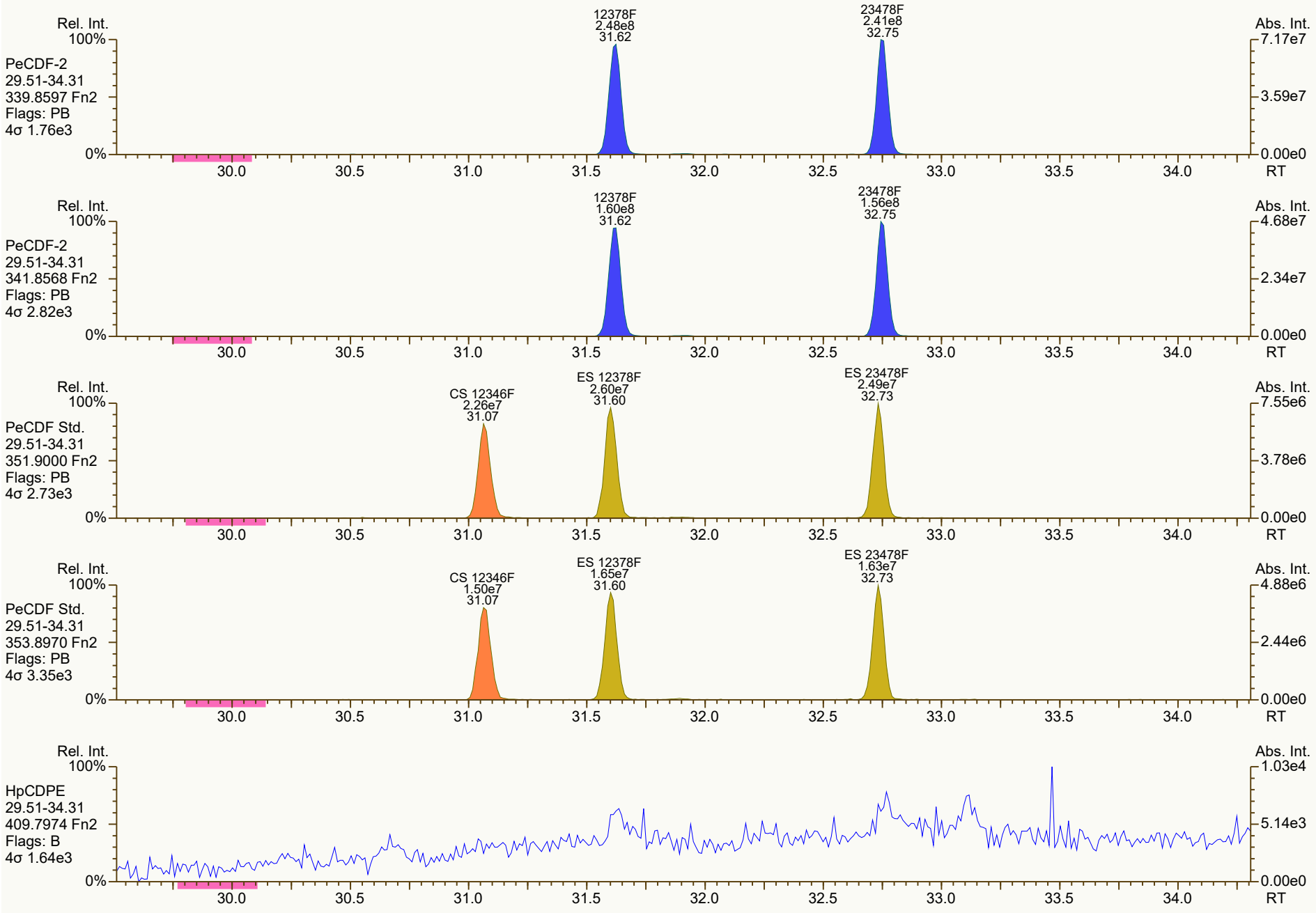

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

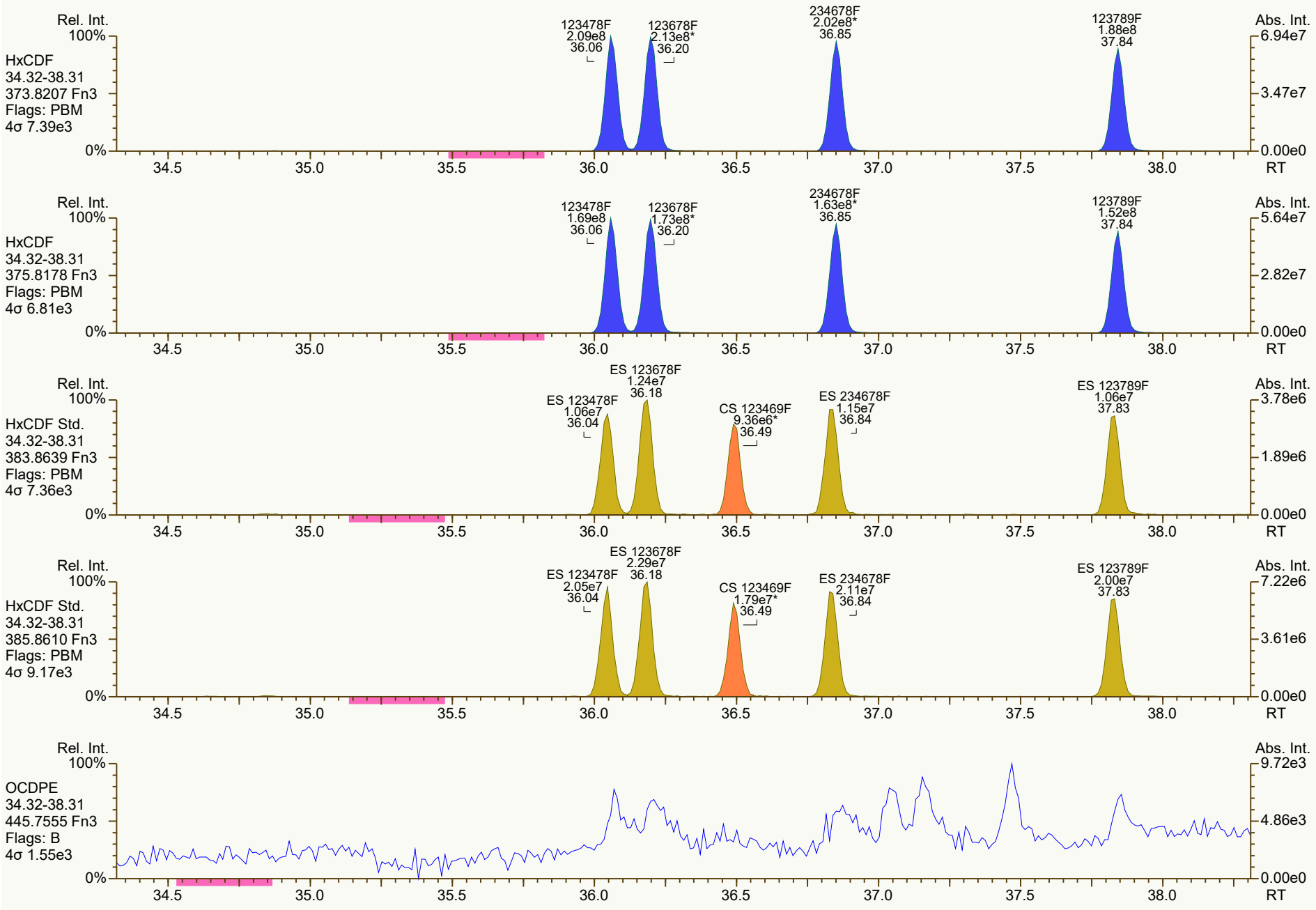

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

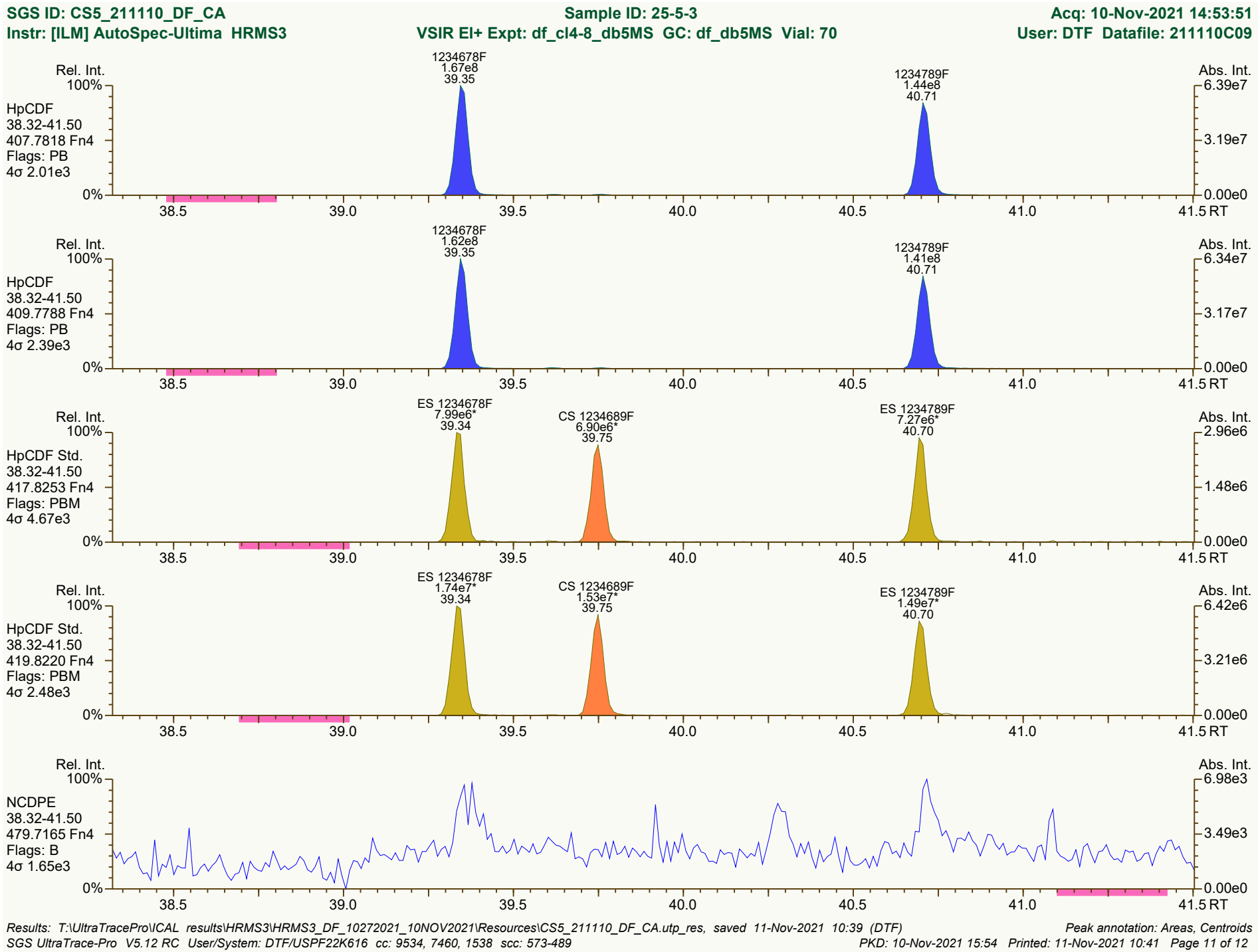

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

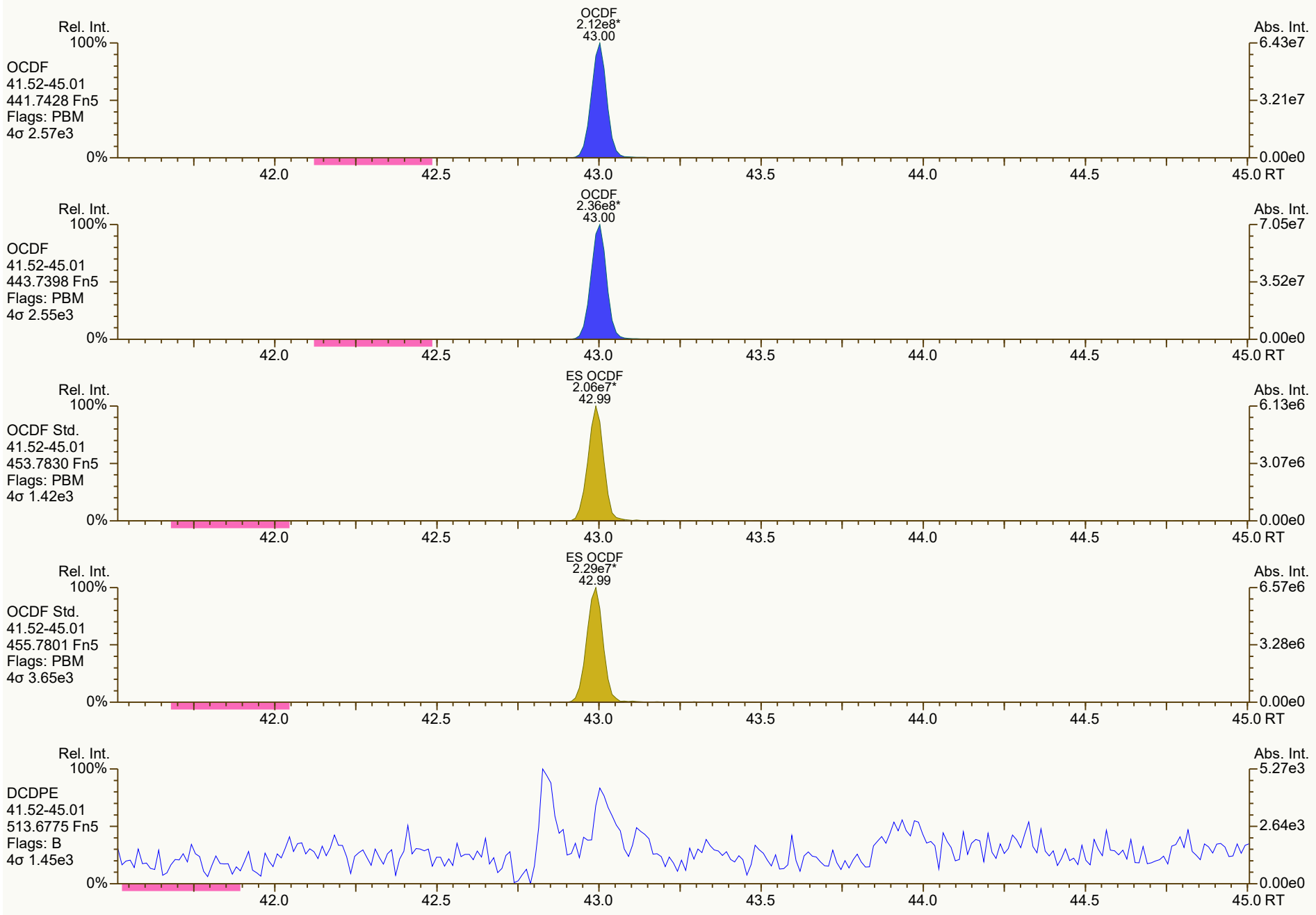

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

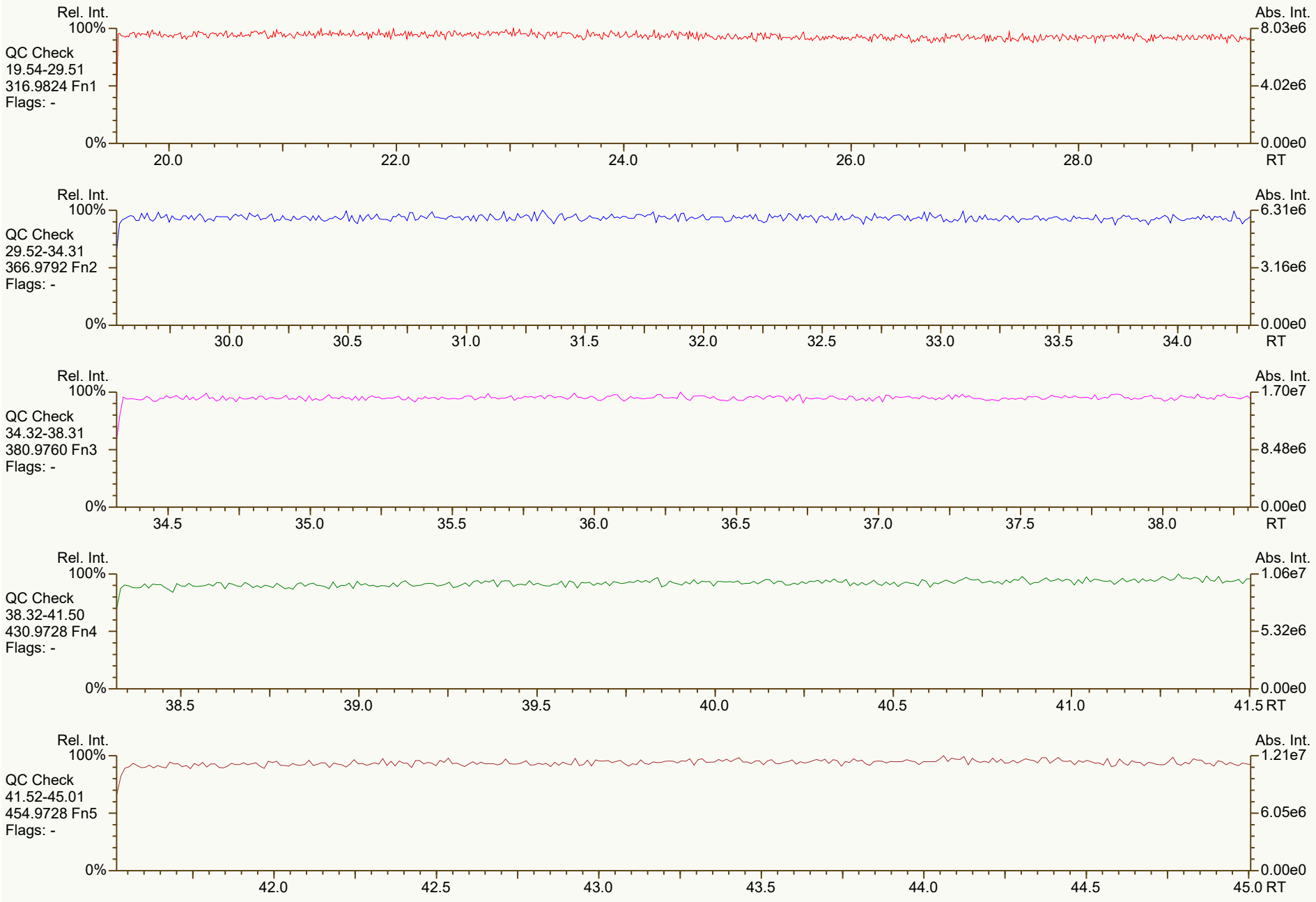

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

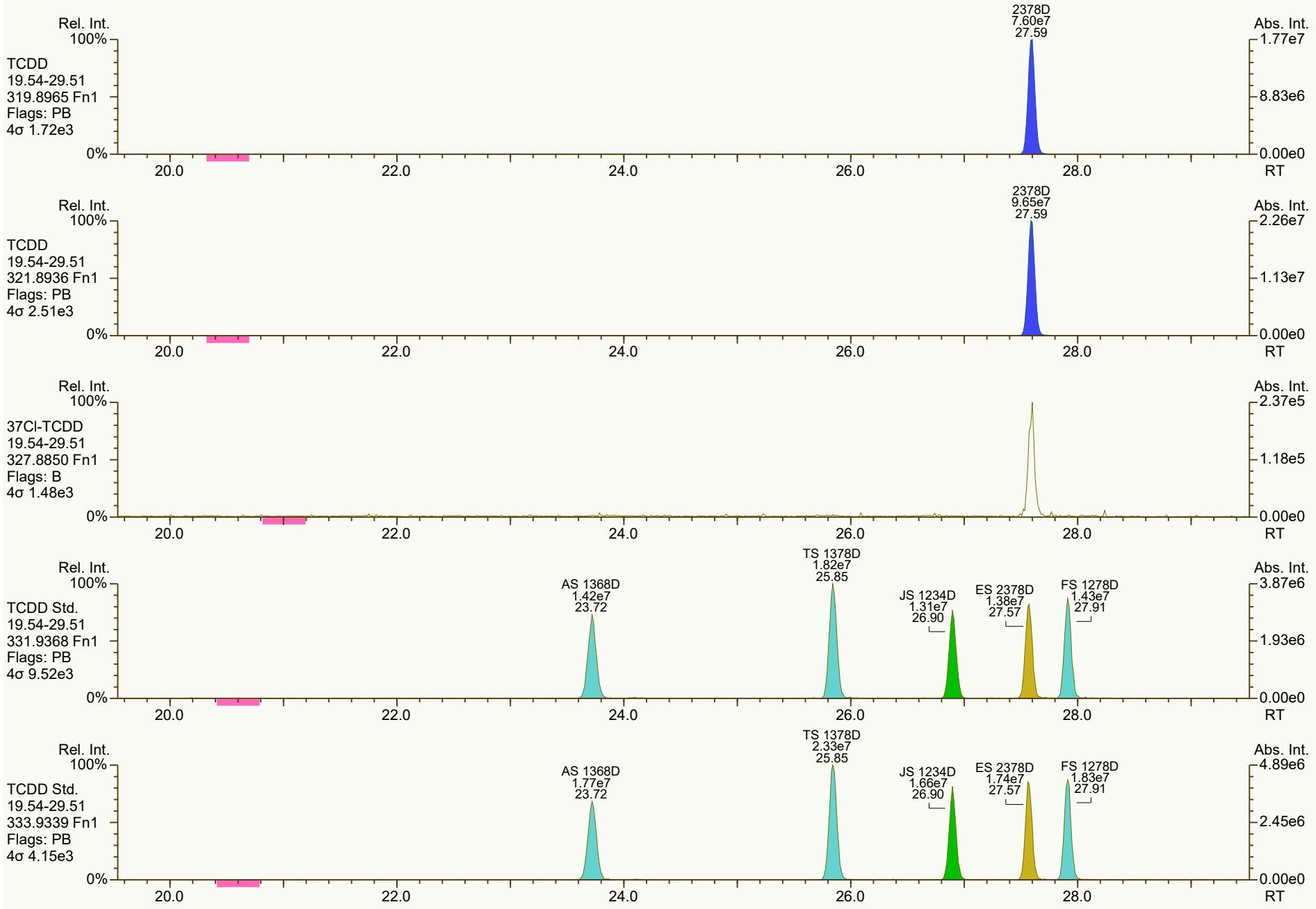

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

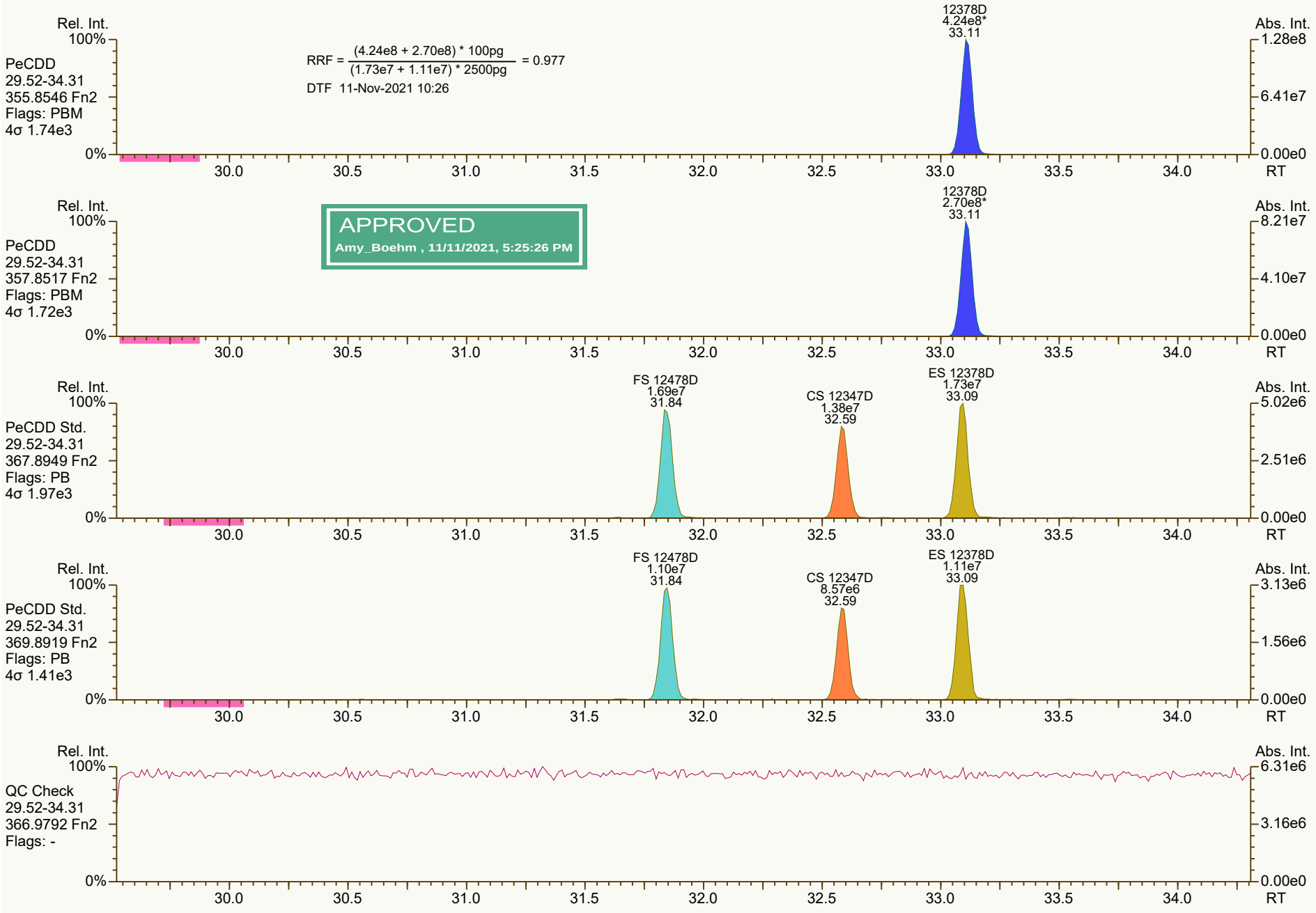

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

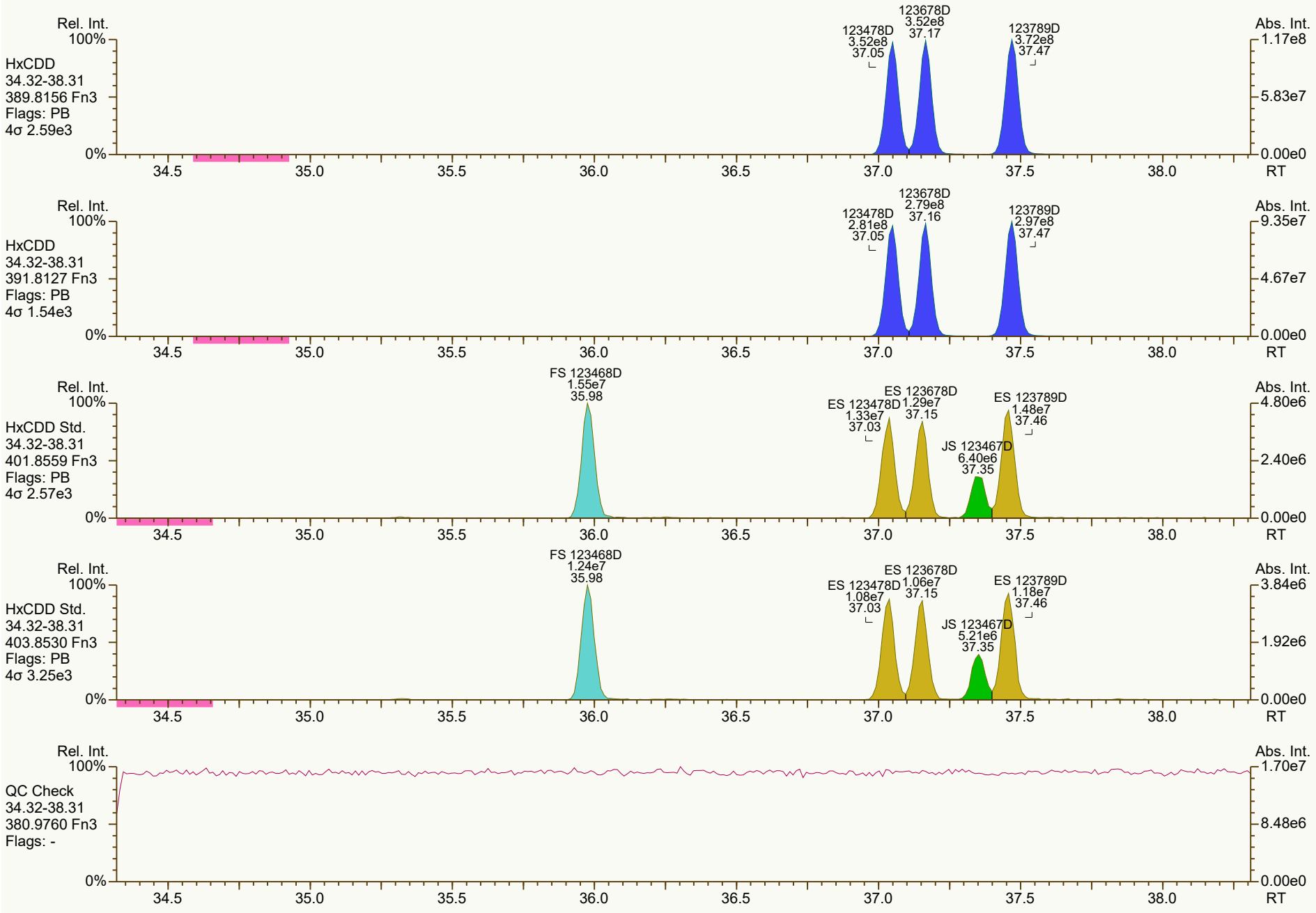
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

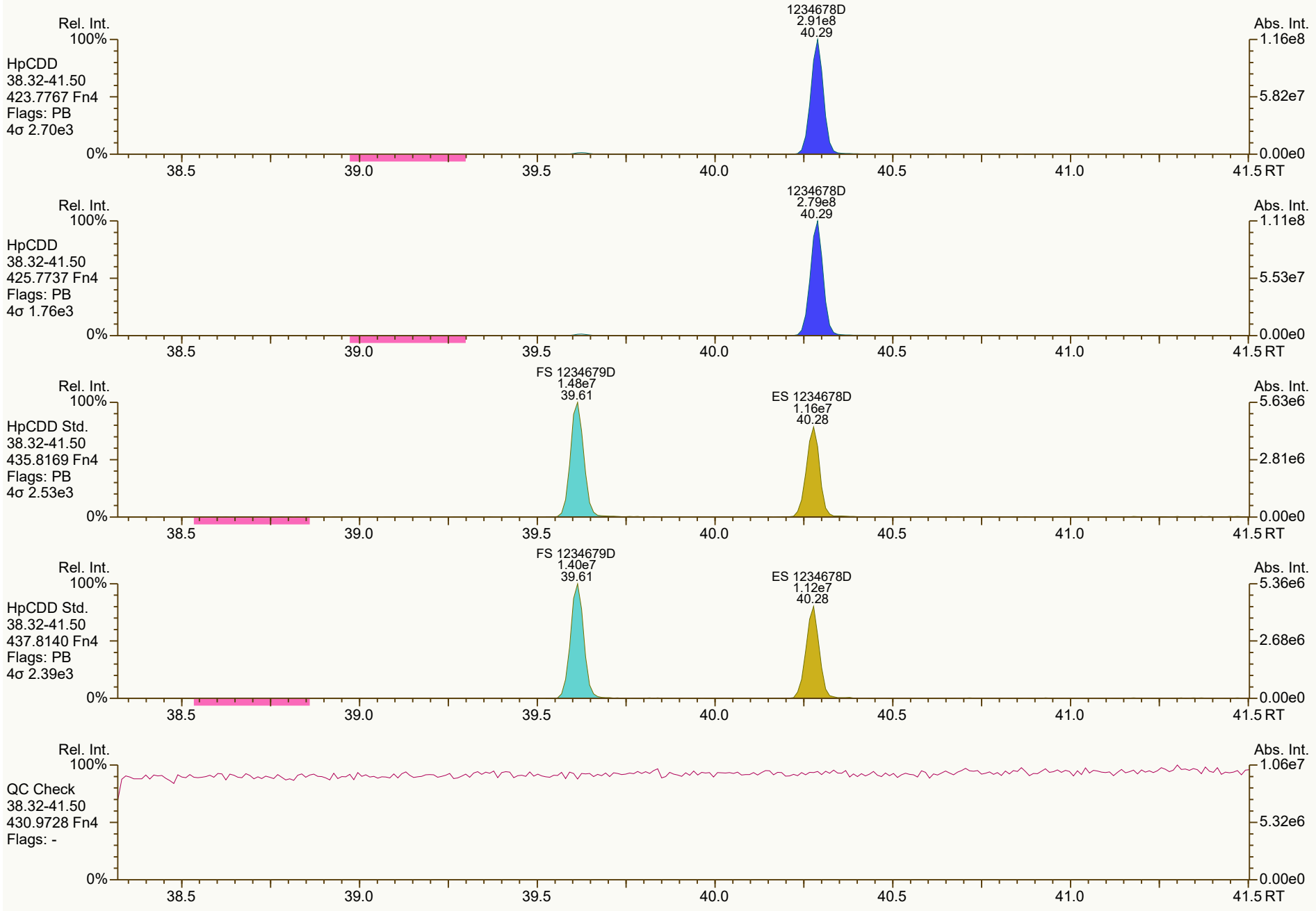
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

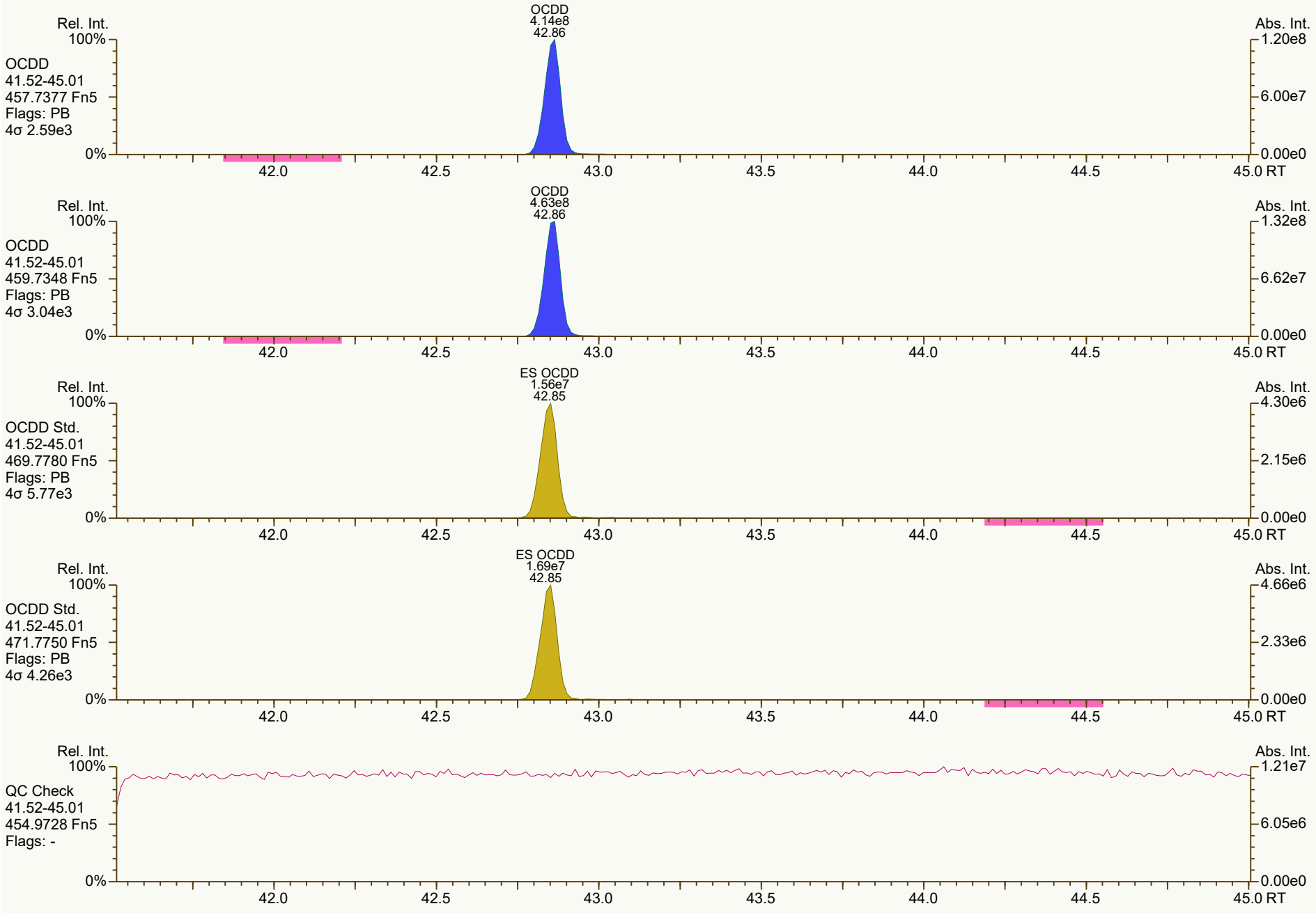

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0

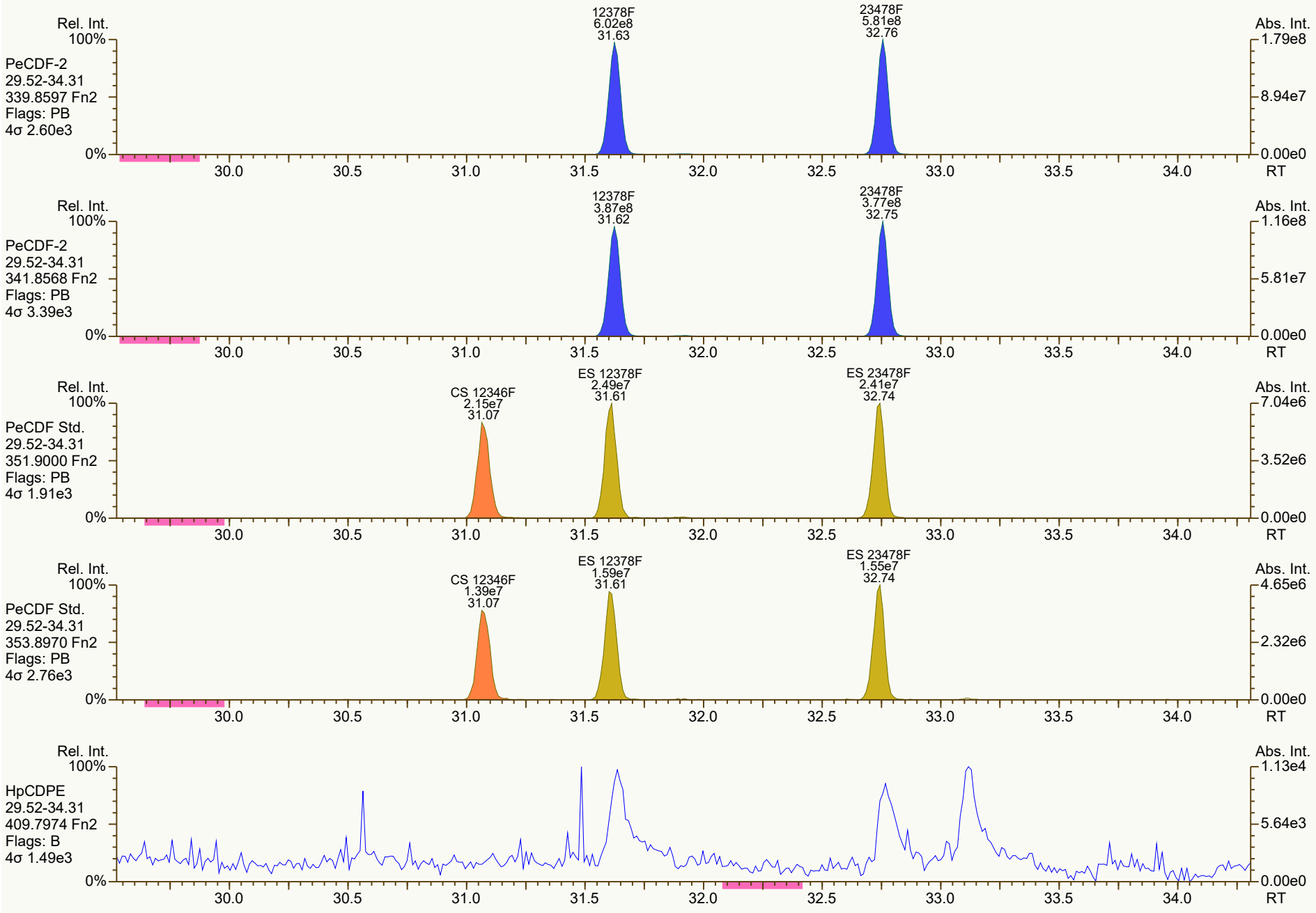

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

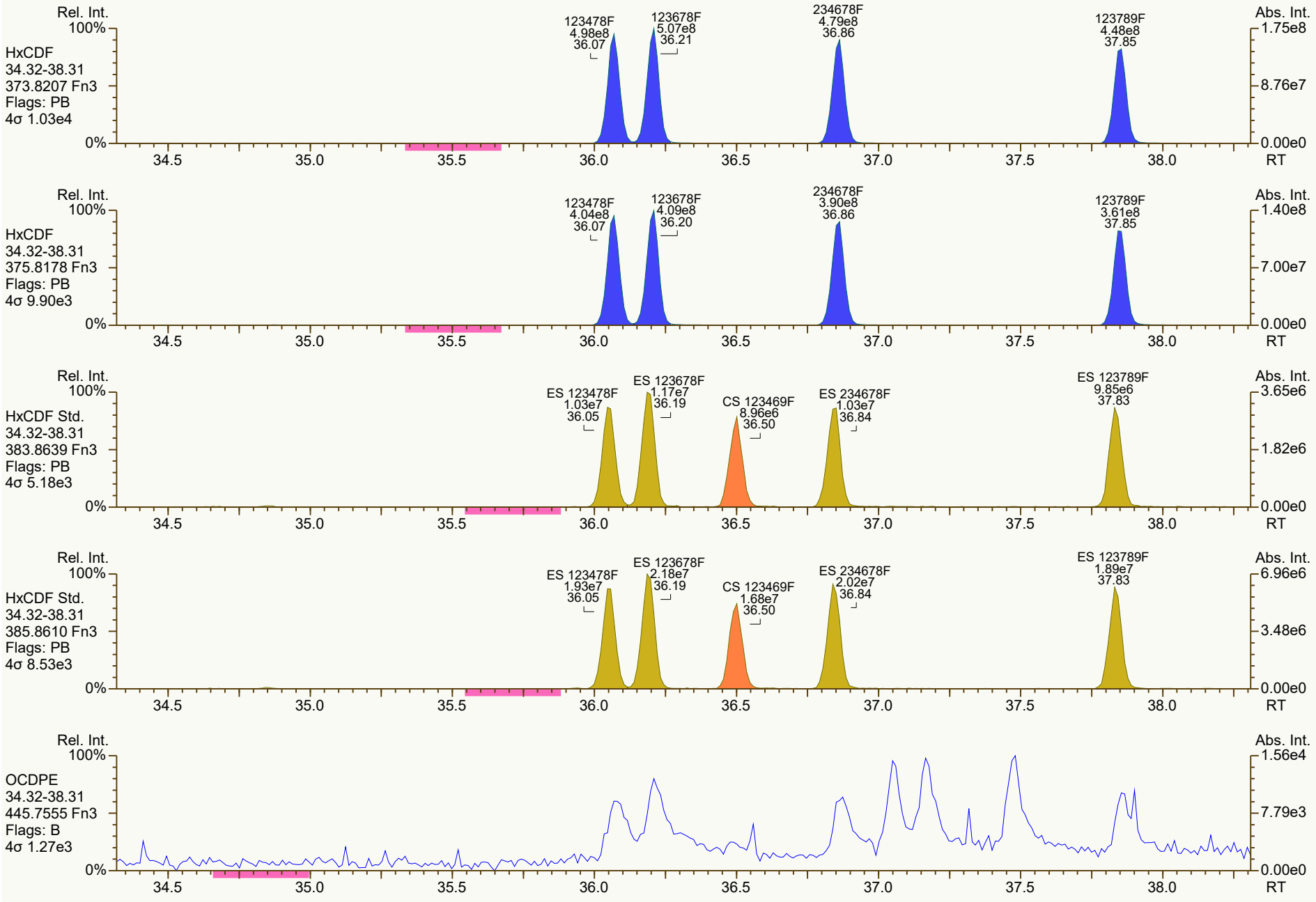

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

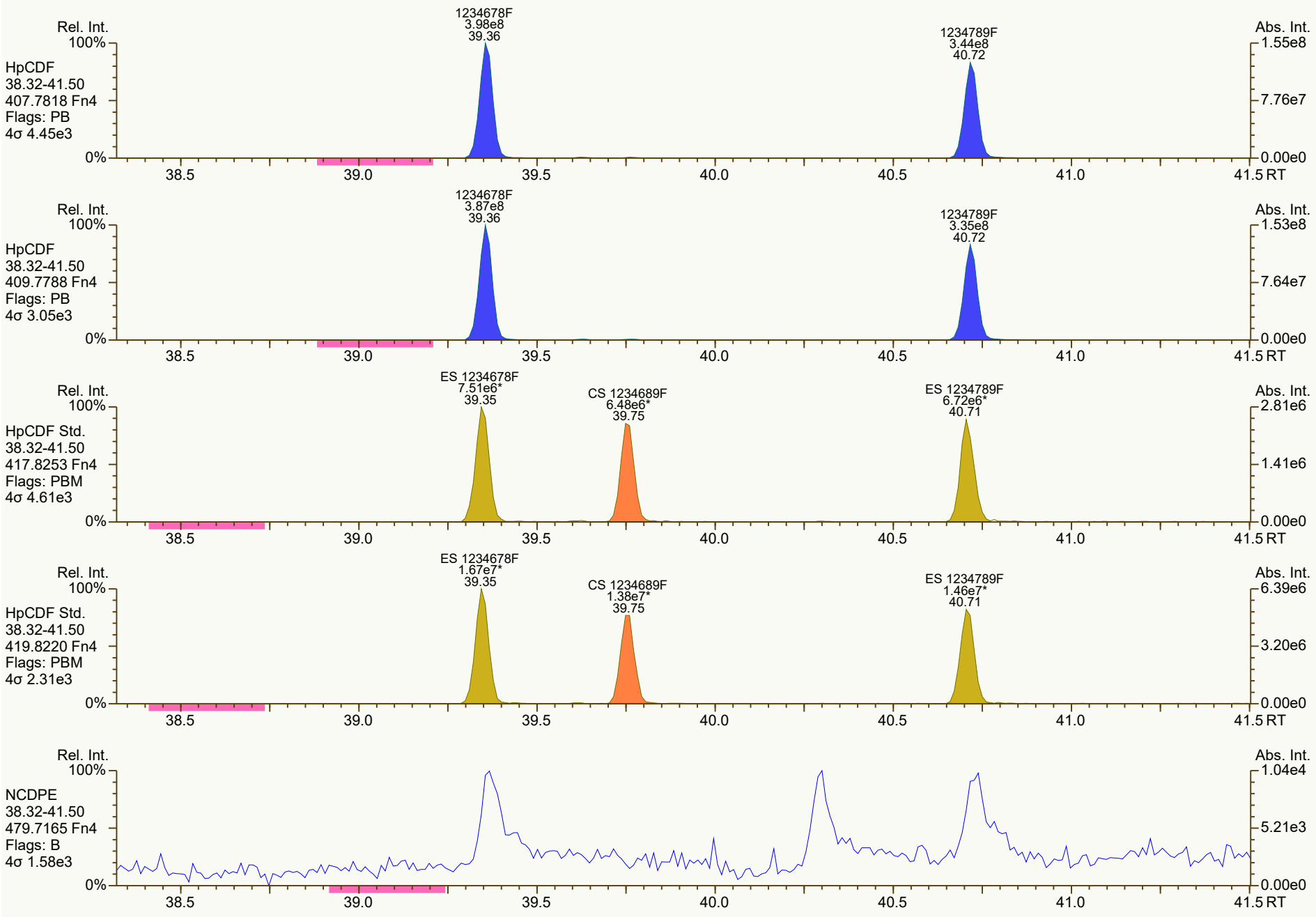

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

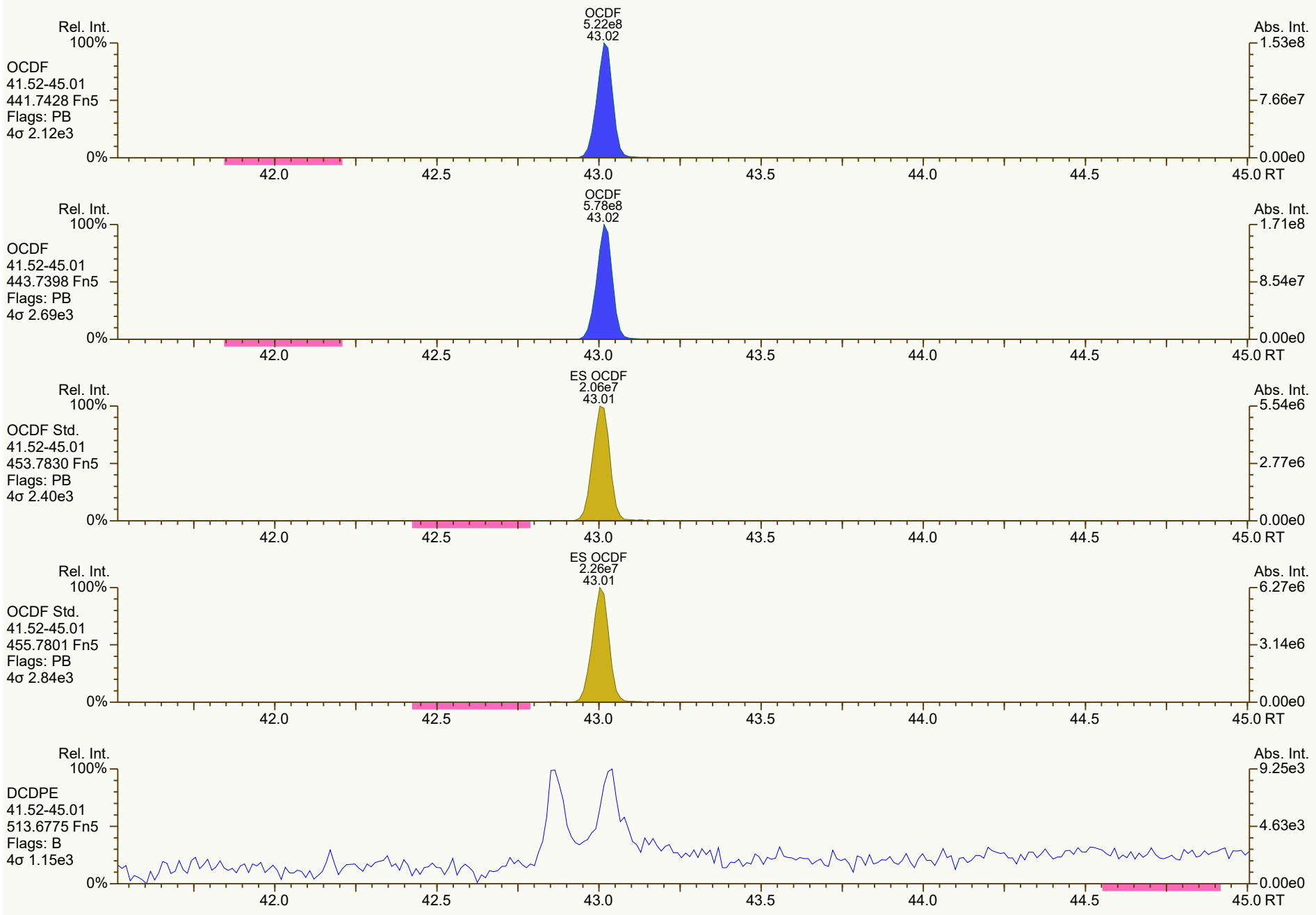

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

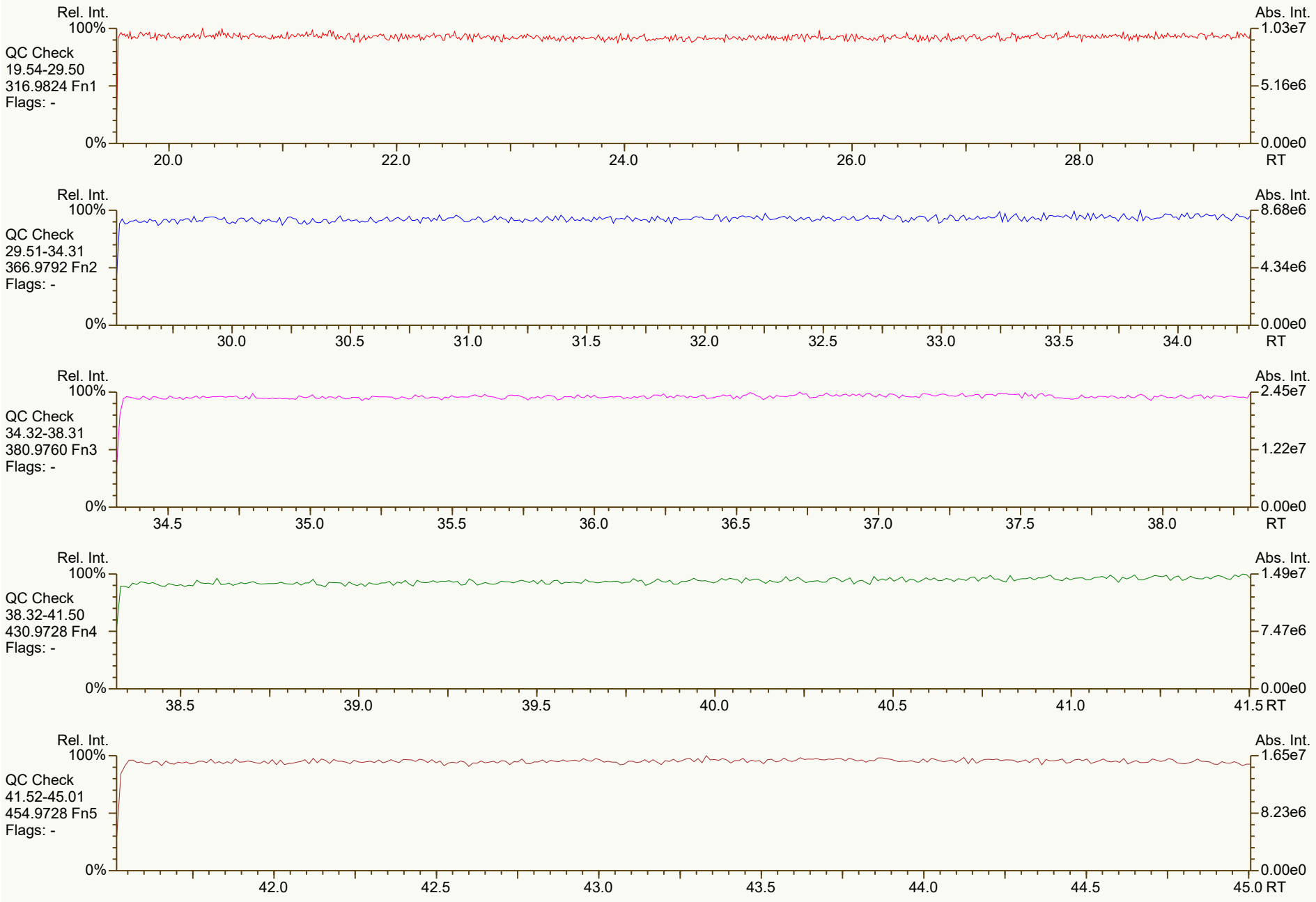

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

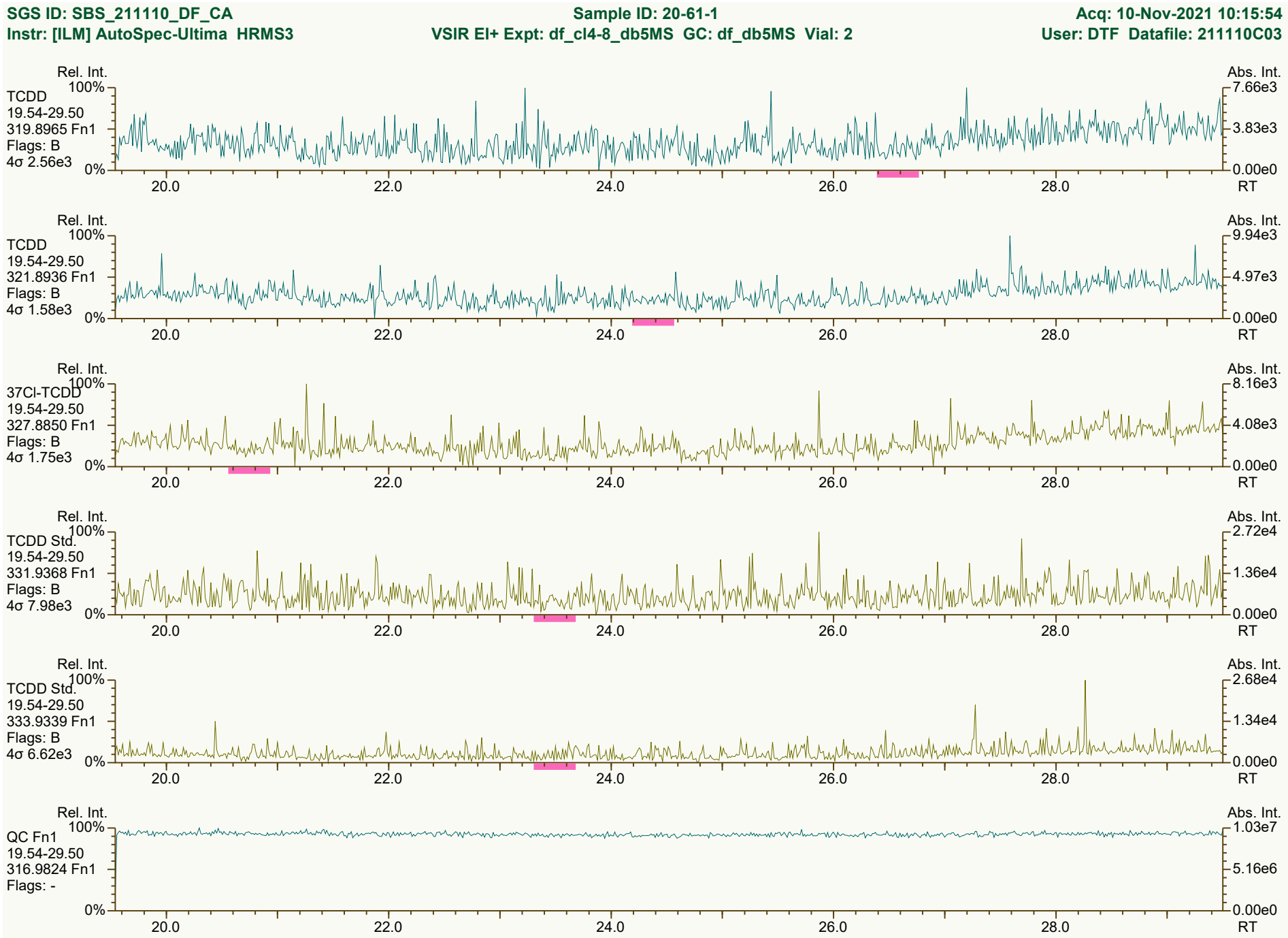

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

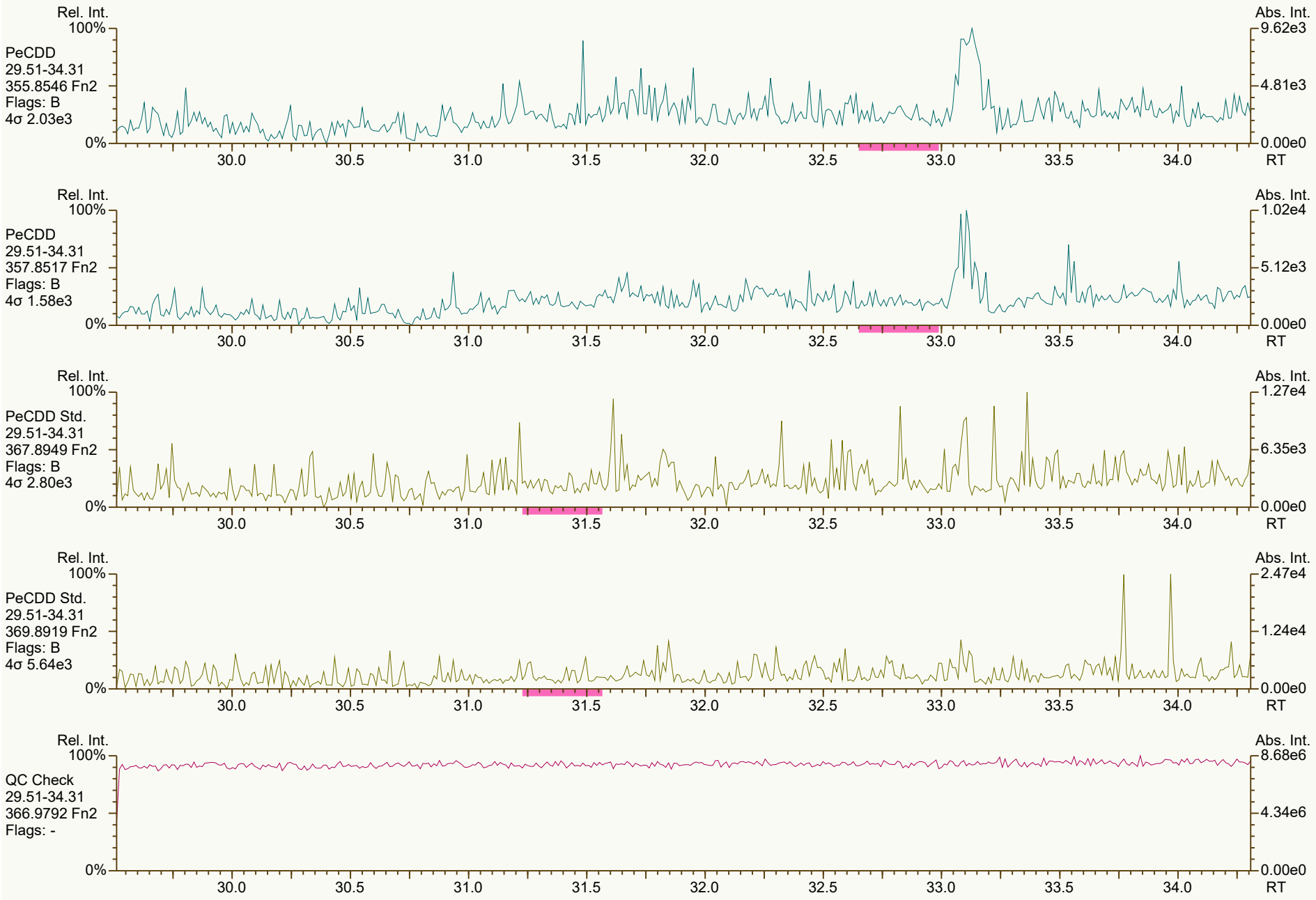

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

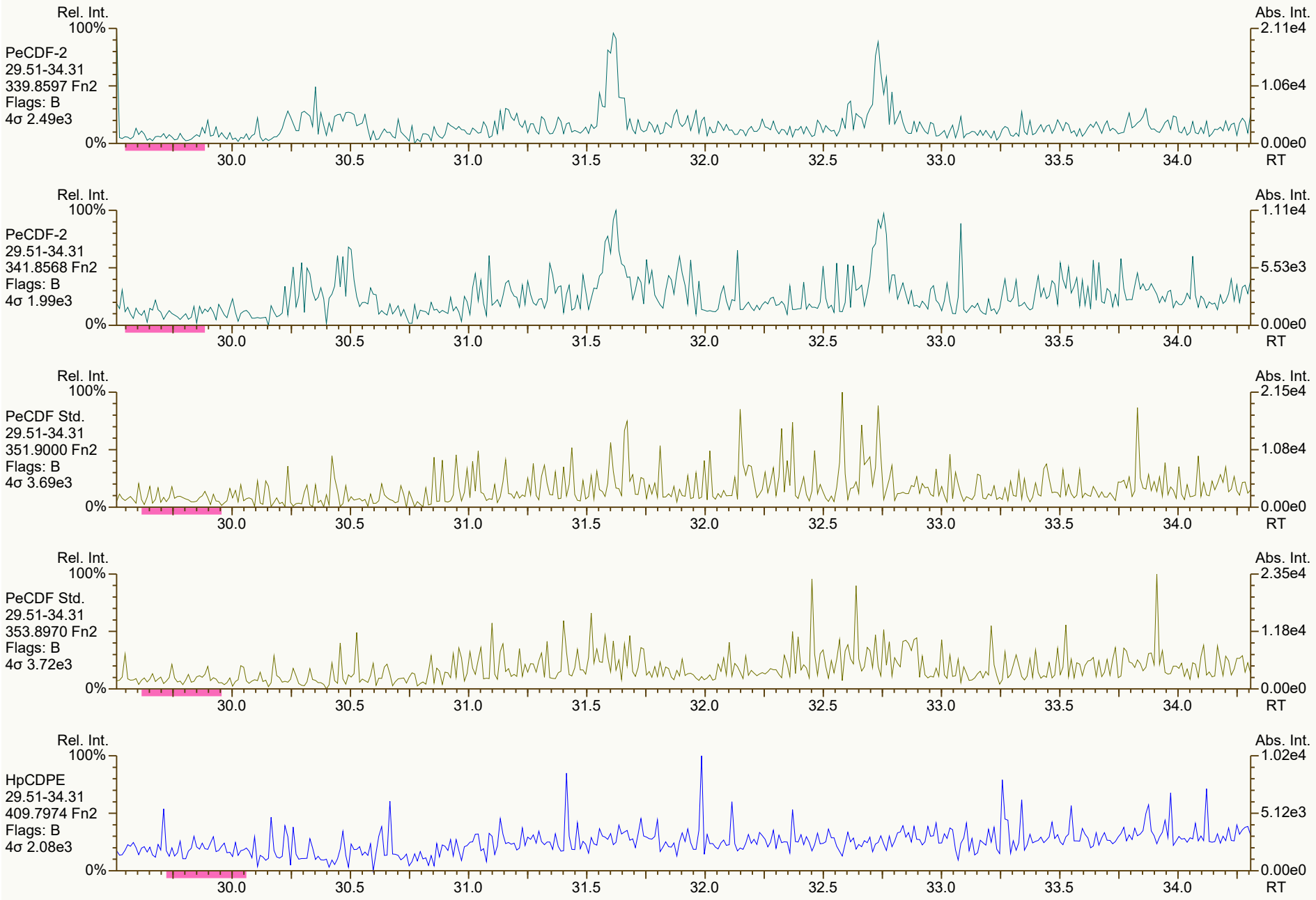
SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

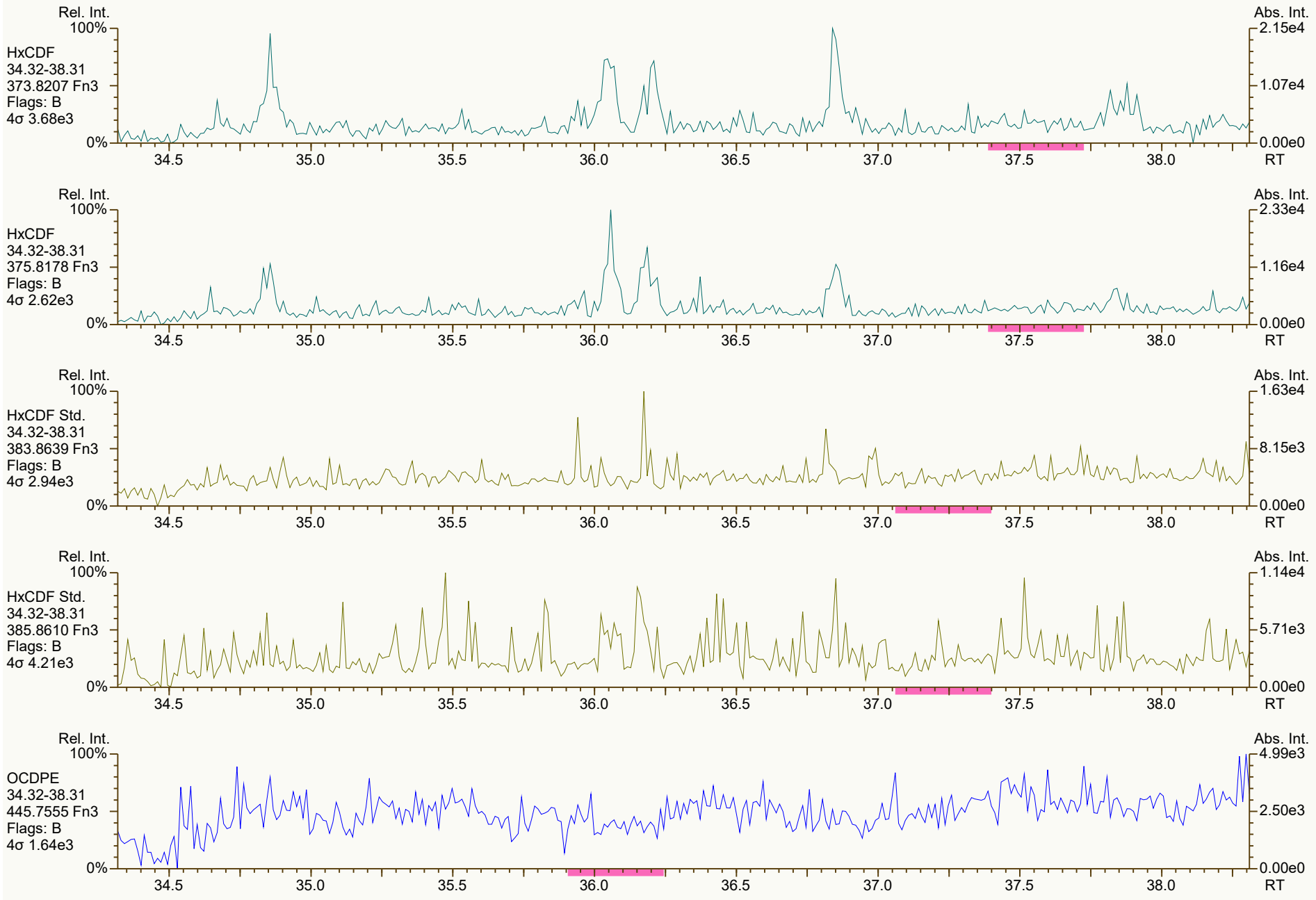
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4115 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:39 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

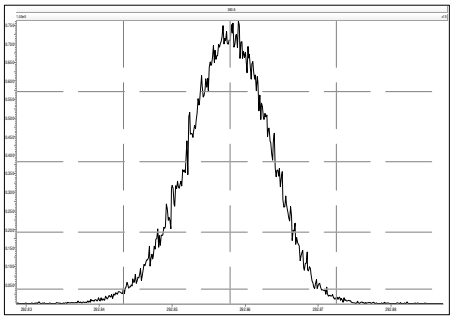

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

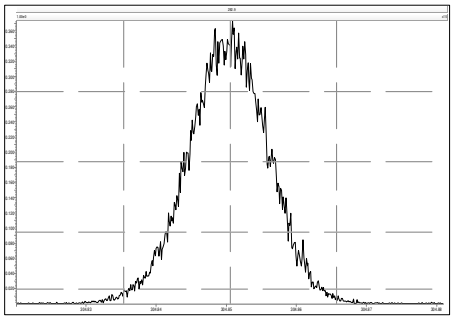
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

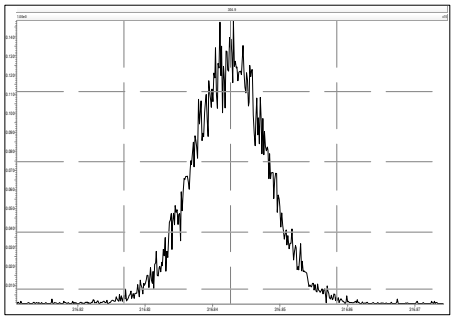
M 292.9824 R 10731



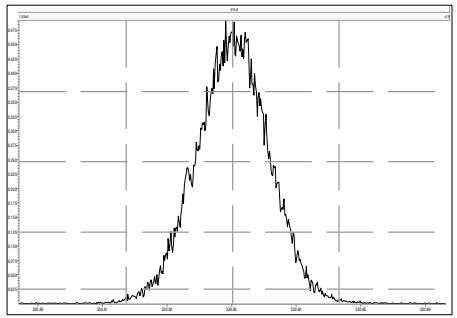
M 304.9824 R 11311



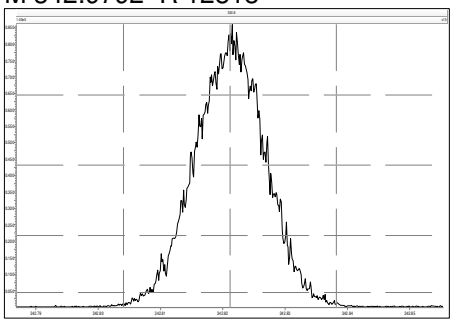
M 316.9824 R 12373



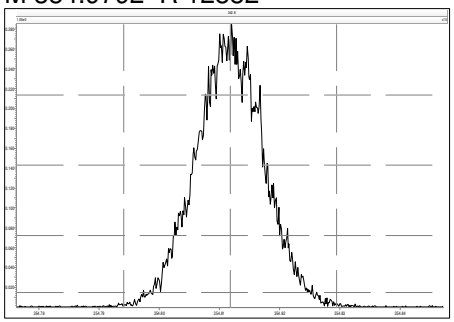
M 330.9792 R 12887



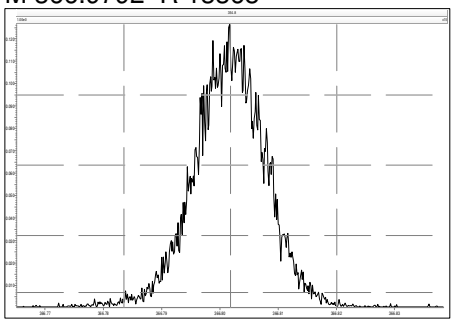
M 342.9792 R 12818



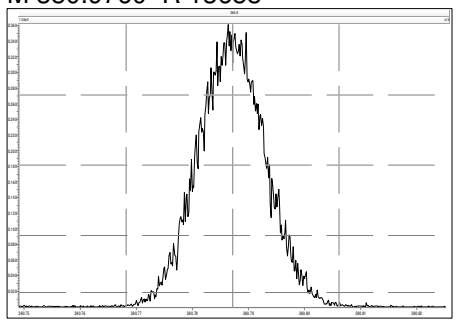
M 354.9792 R 12882



M 366.9792 R 13368



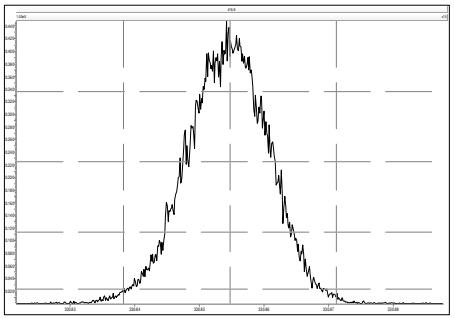
M 380.9760 R 13658



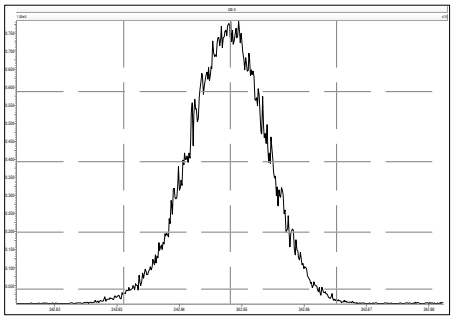
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

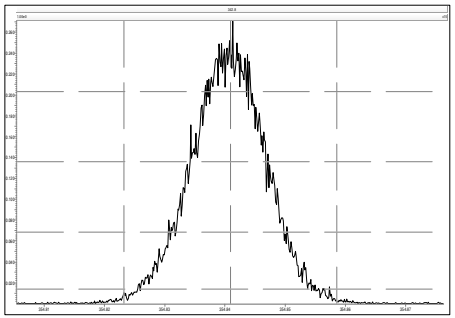
M 330.9792 R 11112



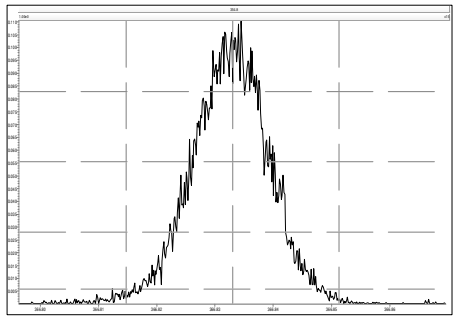
M 342.9792 R 11909



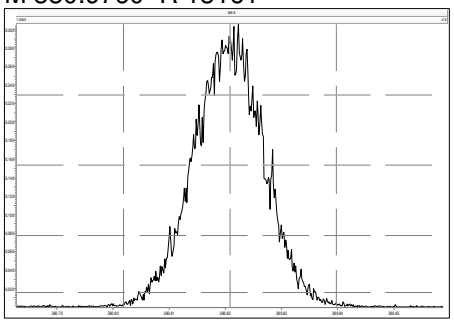
M 354.9792 R 11684



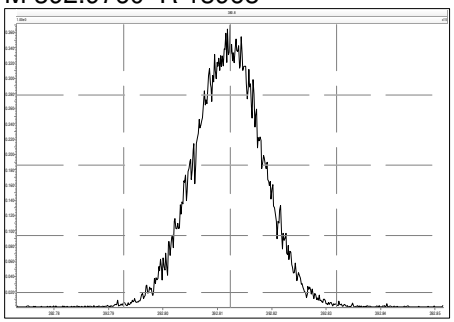
M 366.9792 R 11962



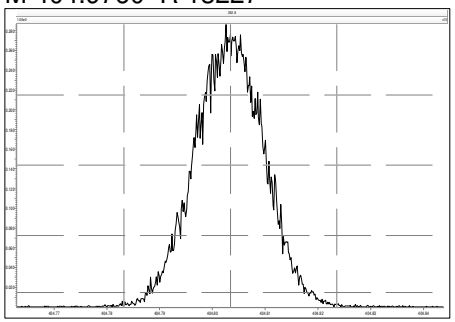
M 380.9760 R 13161



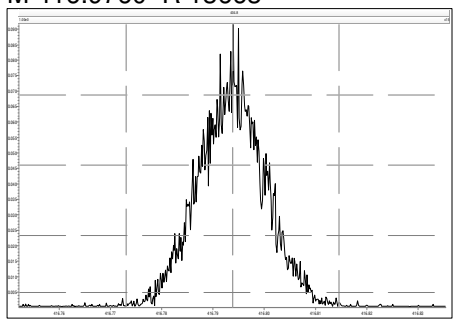
M 392.9760 R 13968



M 404.9760 R 13227



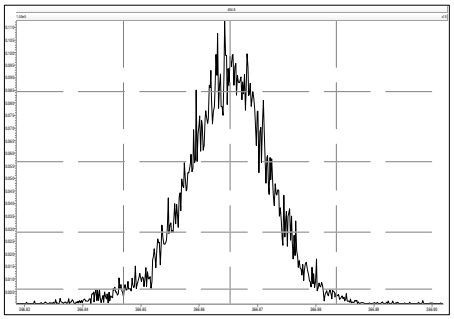
M 416.9760 R 13663



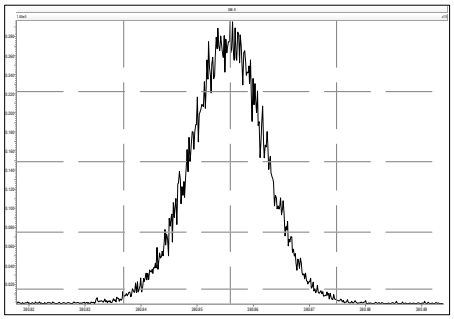
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

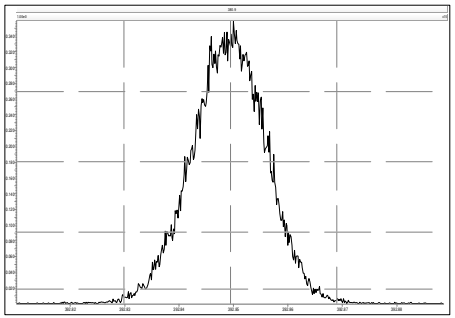
M 366.9792 R 10680



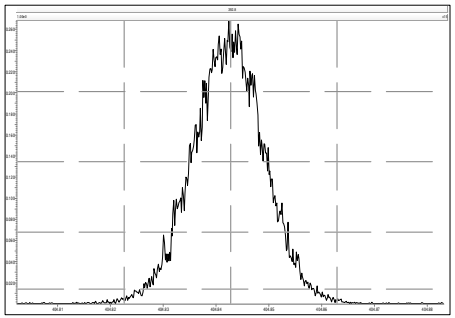
M 380.9760 R 12315



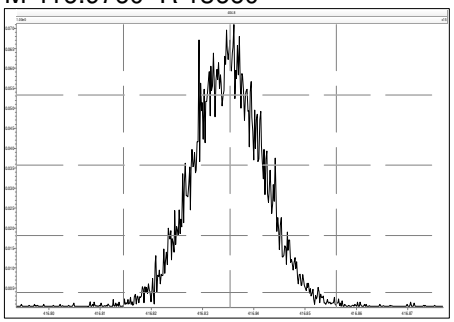
M 392.9760 R 12197



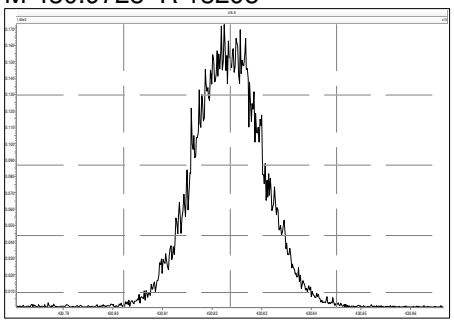
M 404.9760 R 12433



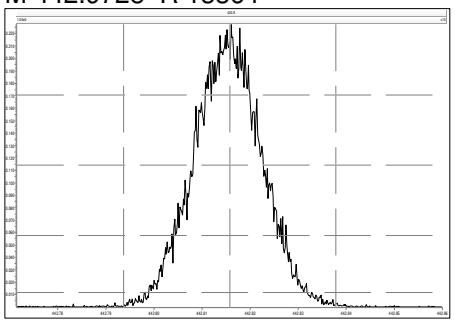
M 416.9760 R 13660



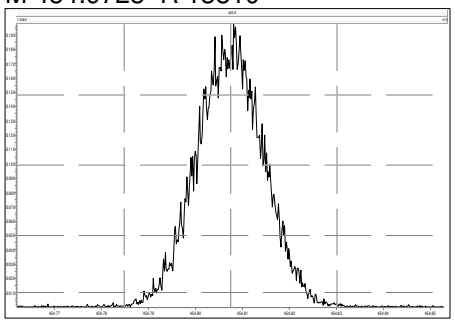
M 430.9728 R 13295



M 442.9728 R 13364



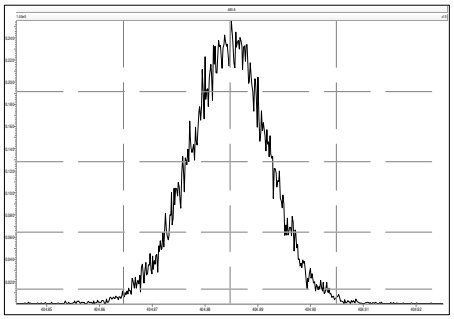
M 454.9728 R 13810



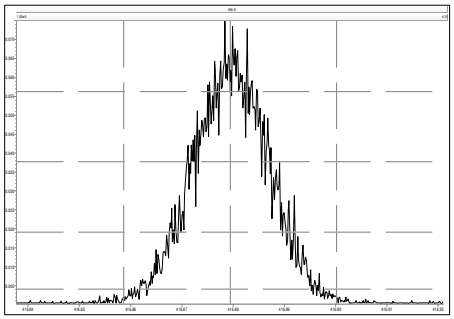
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

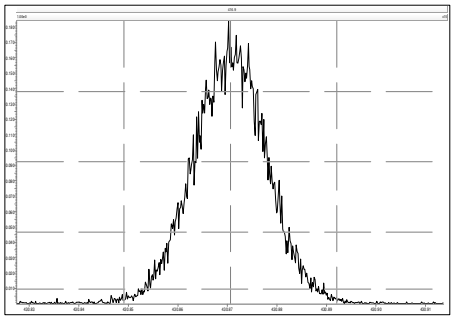
M 404.9760 R 11679



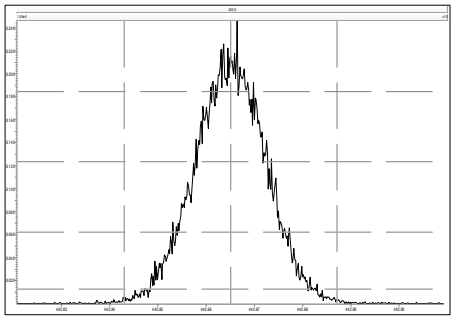
M 416.9760 R 12886



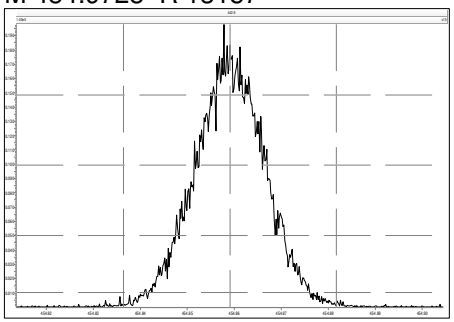
M 430.9728 R 12253



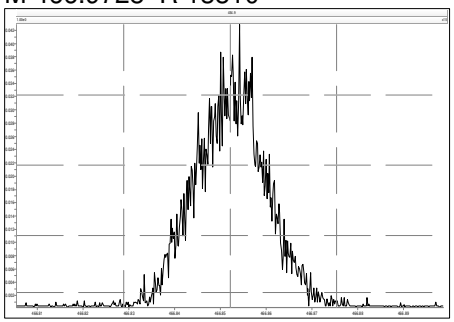
M 442.9728 R 12756



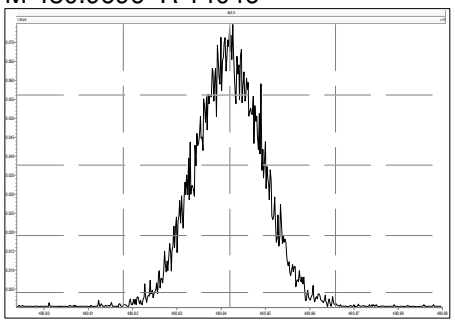
M 454.9728 R 13157



M 466.9728 R 13810



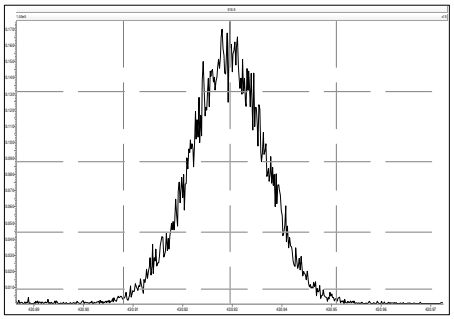
M 480.9696 R 14046



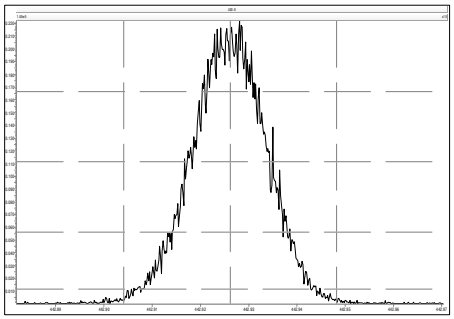
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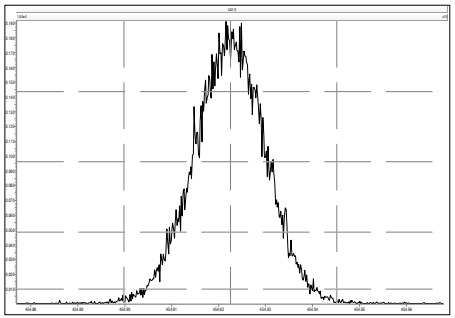
M 430.9728 R 11574



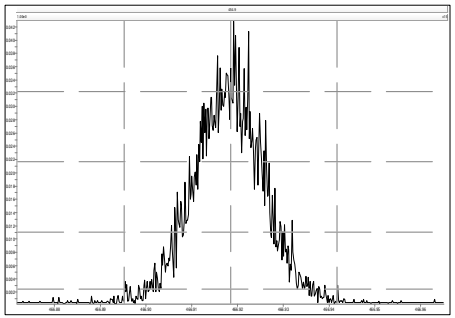
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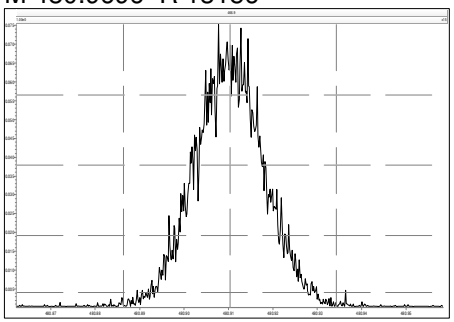
M 454.9728 R 12950



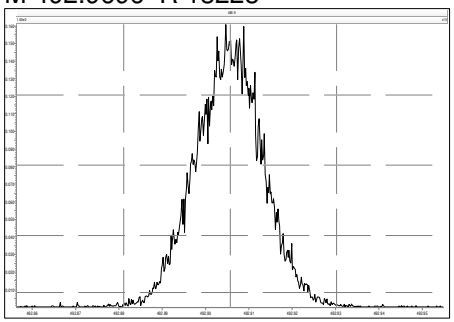
M 466.9728 R 13088



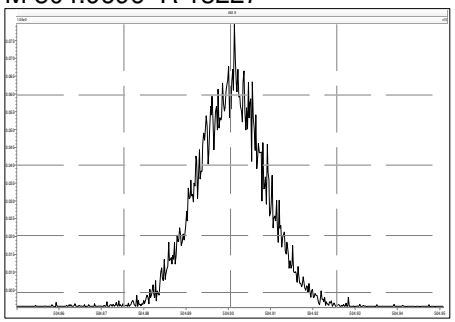
M 480.9696 R 13156



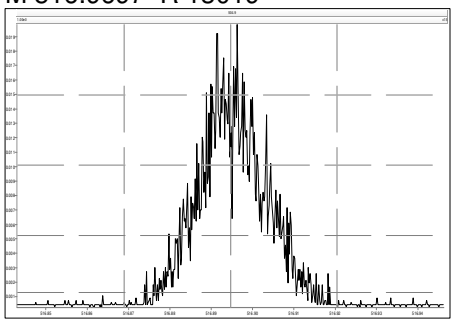
M 492.9696 R 13228



M 504.9696 R 13227



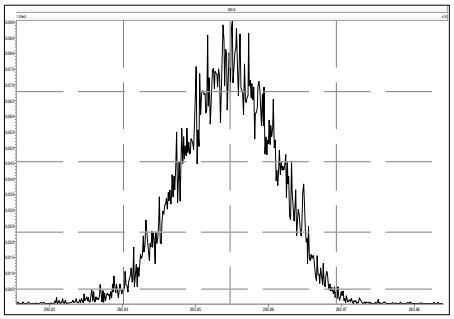
M 516.9697 R 13019



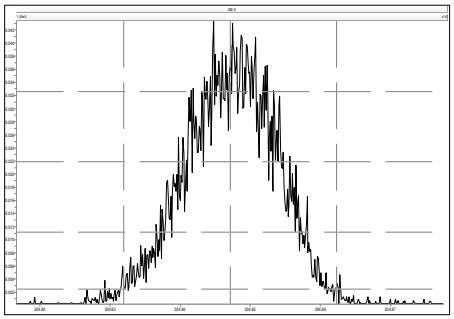
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

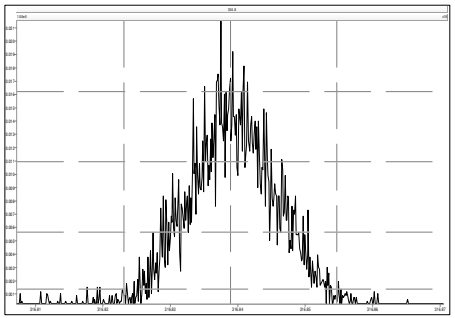
M 292.9824 R 10122



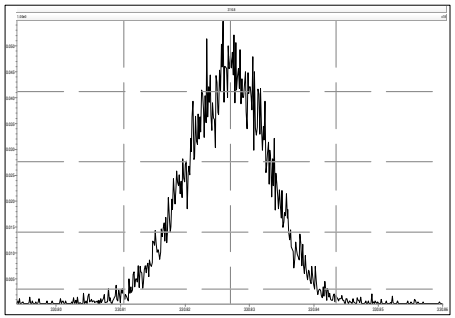
M 304.9824 R 10329



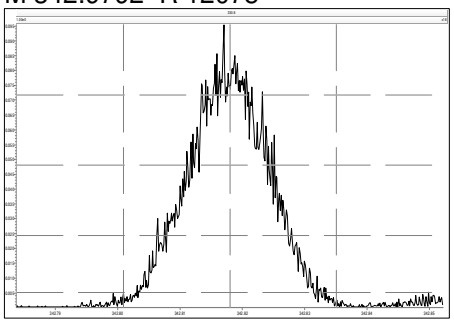
M 316.9824 R 11964



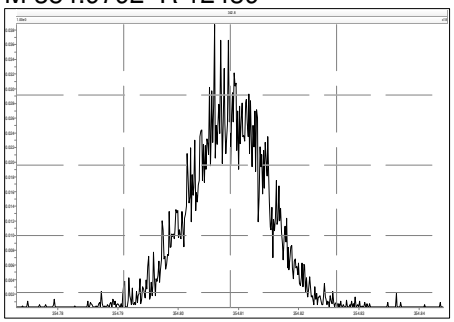
M 330.9792 R 11062



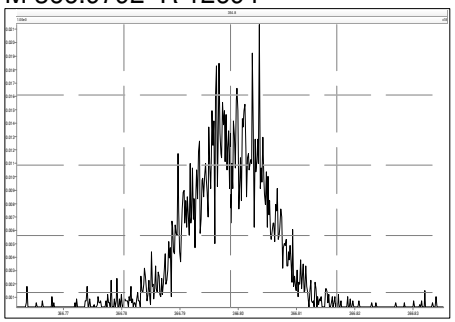
M 342.9792 R 12075



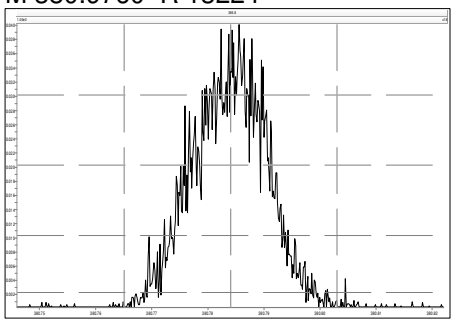
M 354.9792 R 12439



M 366.9792 R 12694



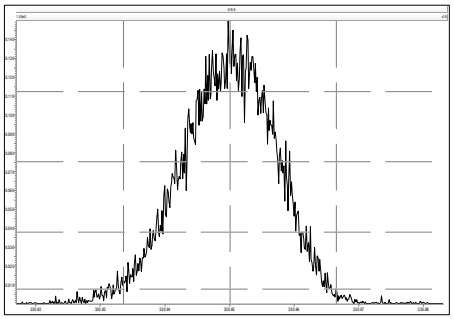
M 380.9760 R 13224



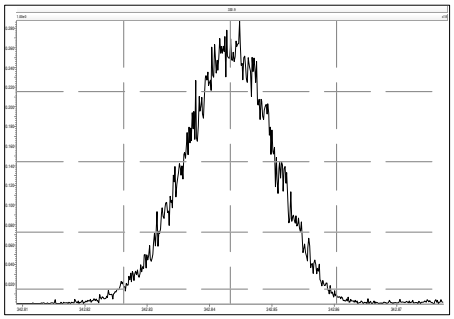
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

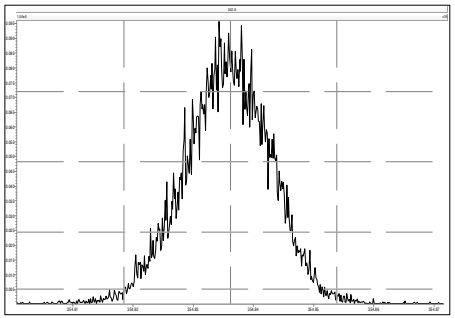
M 330.9792 R 10730



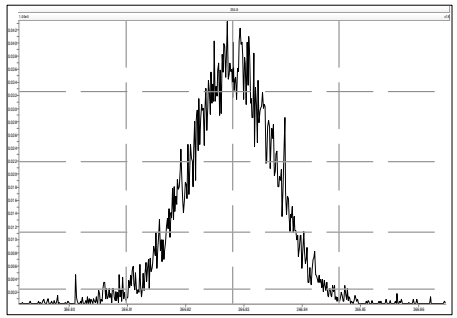
M 342.9792 R 10039



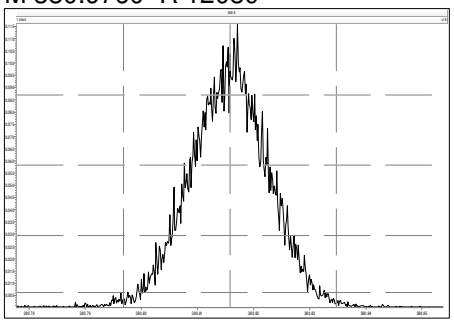
M 354.9792 R 11108



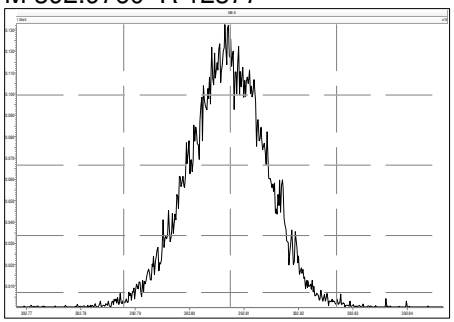
M 366.9792 R 11520



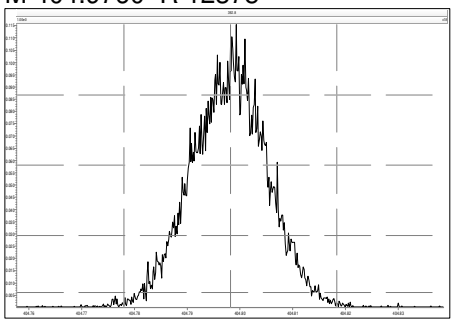
M 380.9760 R 12080



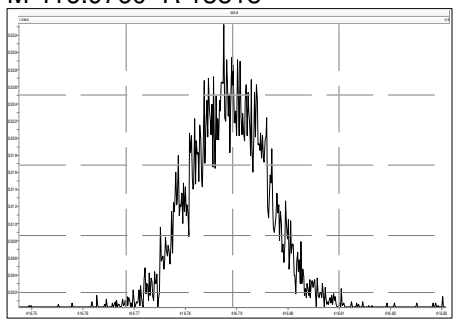
M 392.9760 R 12377



M 404.9760 R 12375



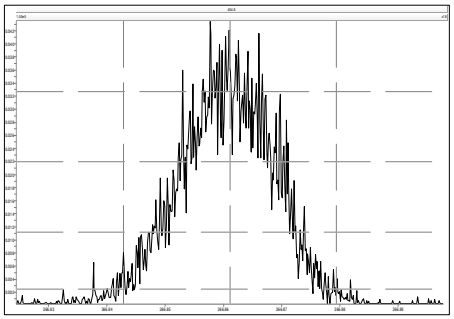
M 416.9760 R 13515



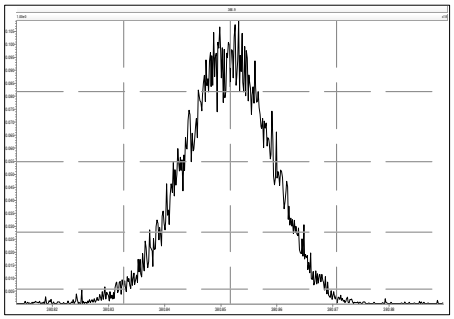
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

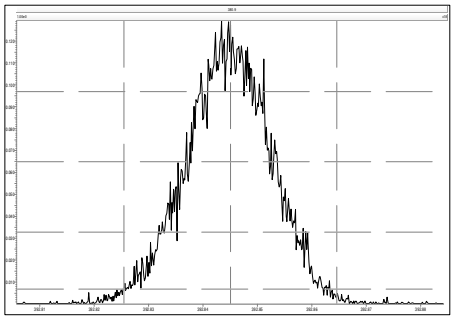
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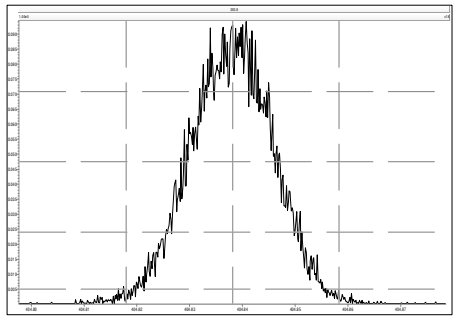
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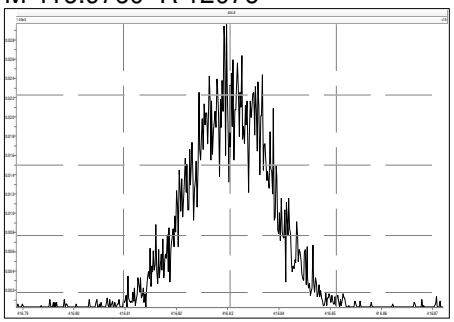
M 392.9760 R 10640



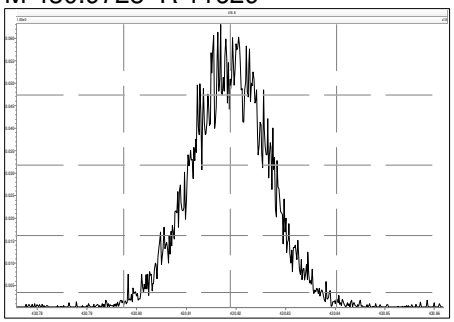
M 404.9760 R 11957



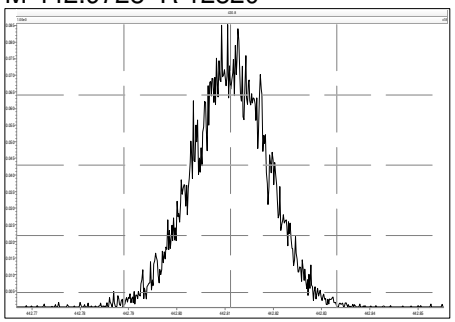
M 416.9760 R 12076



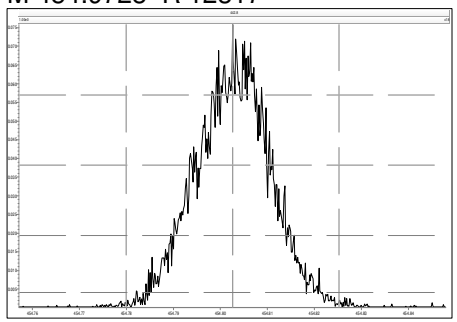
M 430.9728 R 11629



M 442.9728 R 12820



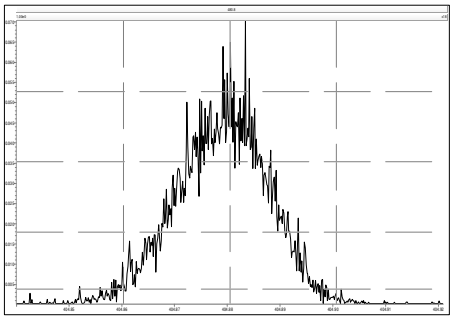
M 454.9728 R 12317



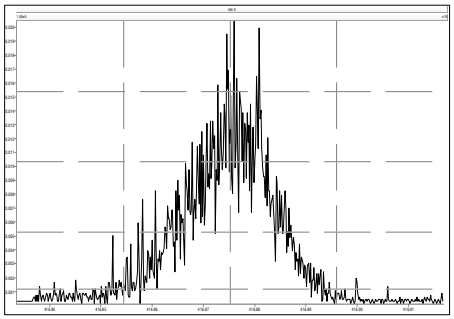
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

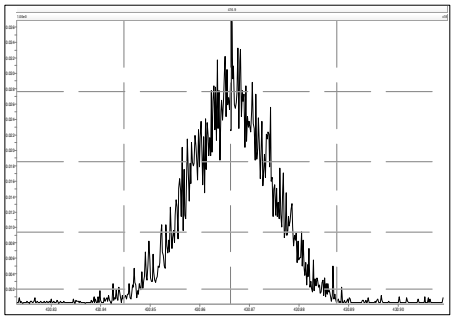
M 404.9760 R 10505



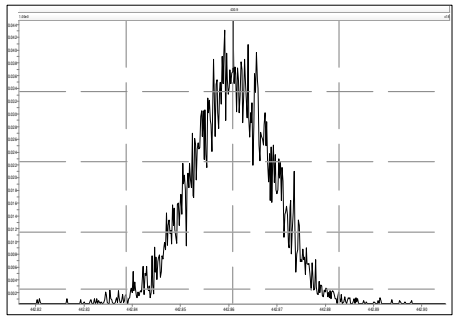
M 416.9760 R 12500



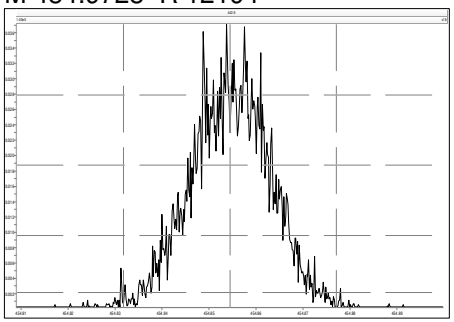
M 430.9728 R 11362



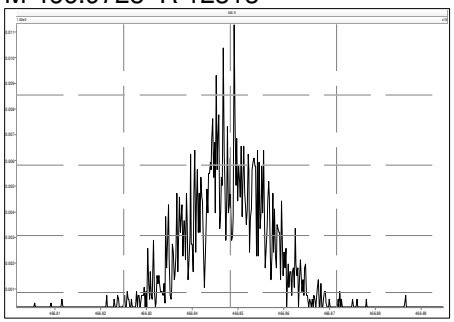
M 442.9728 R 12756



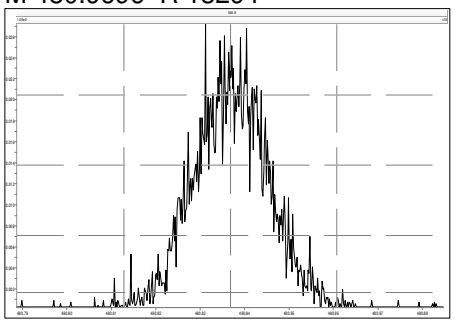
M 454.9728 R 12194



M 466.9728 R 12313



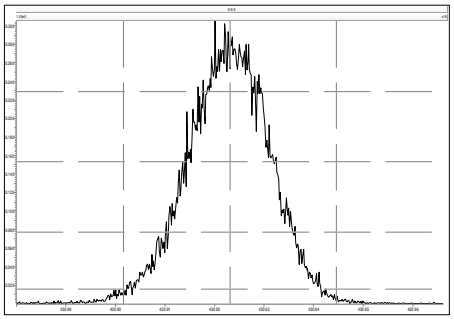
M 480.9696 R 13294



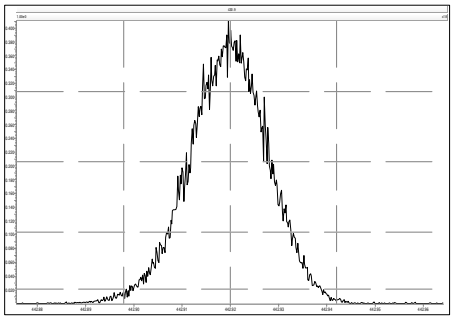
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

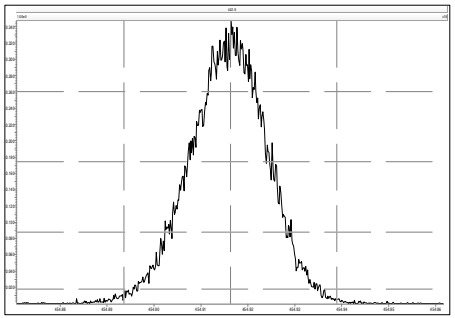
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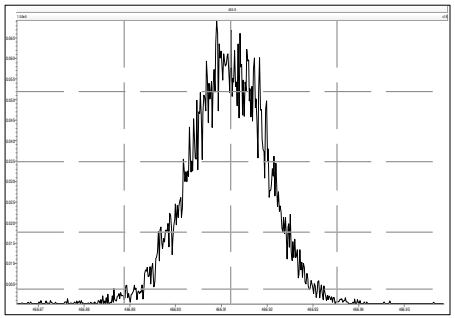
M 442.9728 R 11110



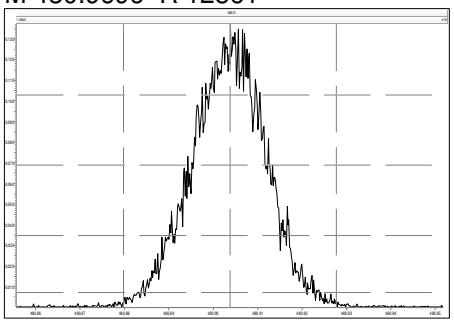
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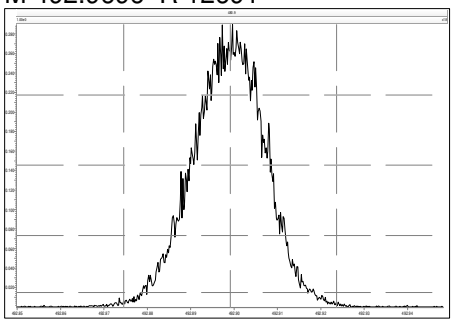
M 466.9728 R 12562



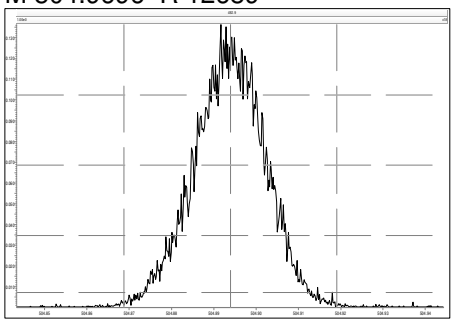
M 480.9696 R 12561



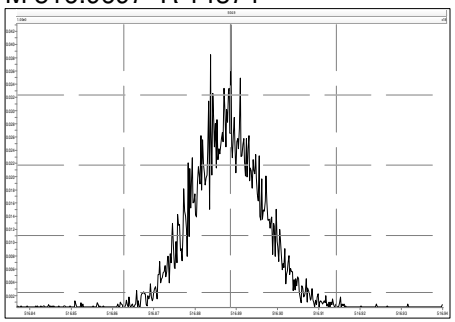
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 2/21/2022, 9:18:35 AM

Lab ID: OPR1_18913_DF **Acq'd:** 15 Feb 2022 11:33 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR001 **UTP:** 16-Feb-2022 15:38:30 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 247-990-DTM

Datafile: 220215C02 **Report:** 16 Feb 2022 15:39 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.39		1.0008	1.0008	0	4.18E+06	0.80	Y	1.18	12.1	6942.248	0.207
12378-PeCDD	33.76		1.0006	1.0006	0	1.50E+07	1.53	Y	1.04	50.2	3829.816	0.111
123478-HxCDD	37.68		1.0004	1.0004	0	1.55E+07	1.31	Y	1.09	55.4	4678.223	0.147
123678-HxCDD	37.80		1.0036	1.0036	0	1.69E+07	1.23	Y	1.15	55.4	4678.223	0.134
123789-HxCDD	38.09		1.0115	1.0115	0	1.51E+07	1.26	Y	1.05	52	4678.223	0.14
1234678-HpCDD	40.79		1.0003	1.0004	+0.2	1.40E+07	1.07	Y	1.06	55.6	3876.7	0.129
OCDD	43.48		1.0003	1.0003	0	1.74E+07	0.91	Y	1.13	112	3200.554	0.243
2378-TCDF	27.53		1.0008	1.0008	0	5.41E+06	0.79	Y	1.08	11	4755.5	0.104
12378-PeCDF	32.31		1.0005	1.0005	0	2.50E+07	1.53	Y	1.02	50.3	9546.594	0.179
23478-PeCDF	33.42		1.0006	1.0005	-0.2	2.50E+07	1.52	Y	1.02	55.2	9546.594	0.198
123478-HxCDF	36.67		1.0004	1.0005	+0.2	2.16E+07	1.25	Y	1.27	53	10303.761	0.211
123678-HxCDF	36.81		1.0004	1.0005	+0.2	2.58E+07	1.23	Y	1.15	52.9	10303.761	0.176
234678-HxCDF	37.49		1.0005	1.0004	-0.2	2.25E+07	1.19	Y	1.19	51.2	10303.761	0.195
123789-HxCDF	38.45		1.0004	1.0004	0	1.75E+07	1.23	Y	1.16	49.4	10303.761	0.239
1234678-HpCDF	39.85		1.0003	1.0003	0	1.98E+07	1.03	Y	1.37	51	4071.159	0.0777
1234789-HpCDF	41.25		1.0003	1.0003	0	1.46E+07	1.05	Y	1.31	50.7	4071.159	0.125
OCDF	43.66		1.0002	1.0002	0	2.13E+07	0.94	Y	1.07	105	3463.95	0.212

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.37	1.0239	1.0240	+0.2	2.91E+07	0.78	Y	1.05	87.3
ES 12378-PeCDD	33.74	1.2174	1.2178	+0.8	2.89E+07	1.55	Y	0.88	103
ES 123478-HxCDD	37.66	0.9917	0.9917	0	2.57E+07	1.31	Y	0.97	95.4
ES 123678-HxCDD	37.78	0.9948	0.9949	+0.2	2.66E+07	1.29	Y	0.94	102
ES 123789-HxCDD	38.08	1.0027	1.0027	0	2.76E+07	1.28	Y	1.09	91.3
ES 1234678-HpCDD	40.77	1.0738	1.0737	-0.2	2.37E+07	1.08	Y	0.91	93.7
ES OCDD	43.47	1.1449	1.1447	-0.5	2.78E+07	0.91	Y	0.62	80.2
ES 2378-TCDF	27.51	1.0523	1.0524	+0.2	4.56E+07	0.79	Y	1.06	78.9
ES 12378-PeCDF	32.29	1.2346	1.2352	+1.2	4.85E+07	1.61	Y	0.91	97.5
ES 23478-PeCDF	33.41	1.2774	1.2780	+1.2	4.44E+07	1.61	Y	0.88	92.1
ES 123478-HxCDF	36.66	0.9651	0.9653	+0.4	3.21E+07	0.54	Y	1.20	96.5
ES 123678-HxCDF	36.80	0.9688	0.9689	+0.2	4.23E+07	0.53	Y	1.35	113
ES 234678-HxCDF	37.47	0.9867	0.9868	+0.2	3.70E+07	0.54	Y	1.24	108
ES 123789-HxCDF	38.44	1.0121	1.0122	+0.2	3.04E+07	0.52	Y	1.16	94.8
ES 1234678-HpCDF	39.84	1.0491	1.0490	-0.2	2.84E+07	0.46	Y	0.97	106
ES 1234789-HpCDF	41.23	1.0858	1.0858	0	2.20E+07	0.46	Y	0.85	93.3
ES OCDF	43.65	1.1495	1.1494	-0.3	3.78E+07	0.93	Y	0.81	84.3

Lab ID: OPR1_18913_DF | Acq'd: 15 Feb 2022 11:33 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR001 | UTP: 16-Feb-2022 15:38:30 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 247-990-DTM

Datafile: 220215C02 | Report: 16 Feb 2022 15:39 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.71		-	-	-	3.19E+07	0.83	Y	-	-
JS 1234-TCDF	26.14		-	-	-	5.46E+07	0.81	Y	-	-
JS 123467-HxCDD	37.98		-	-	-	1.39E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.39		1.0247	1.0248	+0.2	1.43E+07	n/a	-	1.20	93.5
CS 12347-PeCDD	33.24		1.1993	1.1997	+0.8	2.79E+07	1.57	Y	0.75	116
CS 12346-PeCDF	31.76		1.2144	1.2148	+0.8	4.98E+07	1.66	Y	0.85	107
CS 123469-HxCDF	37.11		0.9772	0.9773	+0.2	3.65E+07	0.54	Y	1.12	118
CS 1234689-HpCDF	40.24		1.0597	1.0597	0	2.77E+07	0.46	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.39~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.43E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1997~~	~~+0.8~~	~~2.79E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2148~~	~~+0.8~~	~~4.98E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~110~~
~~SS 123469-HxCDF~~	~~37.11~~		~~0.9772~~	~~0.9773~~	~~+0.2~~	~~3.65E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0597~~	~~0~~	~~2.77E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	58.4	58.4
Total PeCDD	78.4	78.4
Total HxCDD	180	180
Total HpCDD	69.1	69.1
Total Tetra-Octa Dioxins	497	497
Total TCDF	65.7	65.7
Total PeCDF	195	195
Total HxCDF	330	330
Total HpCDF	102	102
Total Tetra-Octa Furans	798	798
Total Tetra-Octa Dioxins & Furans	1290	1290

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	4.19E+06	4.18E+06

Lab ID: OPR1_18913_DF **Acq'd: 15 Feb 2022 11:33 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 **UTP: 16-Feb-2022 15:38:30 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 247-990-DTM**

Datafile: 220215C02 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.73		0.8719	0.8718	-0.1	5.81E+06	0.77	Y	1.18	16.9	6942.248	0.207
1379-TCDD	NotFnd		0.8845						1.18		6942.248	0.207
1369-TCDD	NotFnd		0.8996						1.18		6942.248	0.207
1469-TCDD	NotFnd		0.9271						1.18		6942.248	0.207
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		6942.248	0.207
1378-TCDD	NotFnd		0.9425						1.18		6942.248	0.207
1268-TCDD	NotFnd		0.9494						1.18		6942.248	0.207
1478-TCDD	NotFnd		0.9581						1.18		6942.248	0.207
1279-TCDD	NotFnd		0.9640						1.18		6942.248	0.207
1234/1269-TCDD	NotFnd		0.9765						1.18		6942.248	0.207
1236-TCDD	NotFnd		0.9816						1.18		6942.248	0.207
1237/1238-TCDD	NotFnd		0.9906						1.18		6942.248	0.207
1239-TCDD	28.23		0.9952	0.9952	0	4.22E+06	0.78	Y	1.18	12.3	6942.248	0.207
2378-TCDD	**28.39**		**1.0008**	1.0008	**0**	4.18E+06	0.80	Y	**1.18**	**12.1**	**6942.248**	**0.207**
1278-TCDD	NotFnd		1.0123						1.18		6942.248	0.207
1267-TCDD	NotFnd		1.0170						1.18		6942.248	0.207
1289-TCDD	29.37		1.0351	1.0351	0	5.91E+06	0.78	Y	1.18	17.2	6942.248	0.207
12479/12468-PeCDD	31.25		0.9261	0.9261	0	4.19E+06	1.65	Y	1.04	14	3829.816	0.111
12469-PeCDD	NotFnd		0.9420						1.04		3829.816	0.111
12368-PeCDD	NotFnd		0.9584						1.04		3829.816	0.111
12478-PeCDD	NotFnd		0.9641						1.04		3829.816	0.111
12379-PeCDD	NotFnd		0.9670						1.04		3829.816	0.111
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		3829.816	0.111
12346/12347-PeCDD	NotFnd		0.9857						1.04		3829.816	0.111
12378-PeCDD	33.76		**1.0006**	**1.0006**	**0**	**1.50E+07**	**1.53**	**Y**	**1.04**	**50.2**	**3829.816**	**0.111**
12367-PeCDD	NotFnd		1.0034						1.04		3829.816	0.111
12389-PeCDD	34.20		1.0136	1.0136	0	4.26E+06	1.59	Y	1.04	14.2	3829.816	0.111
124679/124689-HxCDD	35.93		0.9540	0.9541	+0.2	4.89E+06	1.24	Y	1.10	16.8	4678.223	0.14
123468-HxCDD	NotFnd		0.9714						1.10		4678.223	0.14
123679/123689-HxCDD	NotFnd		0.9792						1.10		4678.223	0.14
123469-HxCDD	NotFnd		0.9828						1.10		4678.223	0.14
123478-HxCDD	37.68		**1.0004**	**1.0004**	**0**	**1.55E+07**	**1.31**	**Y**	1.09	**55.4**	**4678.223**	**0.147**
123678-HxCDD	37.80		**1.0036**	**1.0036**	**0**	**1.69E+07**	**1.23**	**Y**	1.15	**55.4**	**4678.223**	**0.134**
123467-HxCDD	NotFnd		1.0087						1.10		4678.223	0.14
123789-HxCDD	38.09		**1.0115**	**1.0115**	**0**	**1.51E+07**	**1.26**	**Y**	1.05	**52**	**4678.223**	**0.14**

Lab ID: OPR1_18913_DF **Acq'd: 15 Feb 2022 11:33 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 **UTP: 16-Feb-2022 15:38:30 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 247-990-DTM**

Datafile: 220215C02 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.11		0.9836	0.9837	+0.2	3.40E+06	1.07	Y	1.06	13.5	3876.7	0.129
1234678-HpCDD	**40.79**		**1.0003**	**1.0004**	**+0.2**	**1.40E+07**	**1.07**	**Y**	**1.06**	**55.6**	**3876.7**	**0.129**
OCDD	**43.48**		**1.0003**	**1.0003**	**0**	**1.74E+07**	**0.91**	**Y**	**1.13**	**112**	**3200.554**	**0.243**
OCDD-a	43.48		1.0002	1.0002	0	1.09E+06	2.69	Y	0.07	109	3704.925	4.39
1368-TCDF	22.61		0.8222	0.8219	-0.4	7.75E+06	0.77	Y	1.08	15.7	4755.5	0.104
1468-TCDF	NotFnd		0.8434						1.08		4755.5	0.104
2468-TCDF	23.83		0.8666	0.8663	-0.4	2.10E+06	0.81	Y	1.08	4.27	4755.5	0.104
1346/1246-TCDF	NotFnd		0.8789						1.08		4755.5	0.104
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		4755.5	0.104
1348-TCDF	NotFnd		0.8947						1.08		4755.5	0.104
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		4755.5	0.104
1268-TCDF	NotFnd		0.9131						1.08		4755.5	0.104
1467-TCDF	NotFnd		0.9181						1.08		4755.5	0.104
1478-TCDF	NotFnd		0.9244						1.08		4755.5	0.104
1369/1237-TCDF	NotFnd		0.9379						1.08		4755.5	0.104
2467-TCDF	NotFnd		0.9425						1.08		4755.5	0.104
2368-TCDF	NotFnd		0.9483						1.08		4755.5	0.104
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4755.5	0.104
1278-TCDF	NotFnd		0.9681						1.08		4755.5	0.104
1349-TCDF	NotFnd		0.9722						1.08		4755.5	0.104
1267-TCDF	NotFnd		0.9780						1.08		4755.5	0.104
2346/1249-TCDF	NotFnd		0.9845						1.08		4755.5	0.104
2347/1279-TCDF	NotFnd		0.9927						1.08		4755.5	0.104
2348-TCDF	27.42		0.9970	0.9968	-0.3	8.09E+06	0.75	Y	1.08	16.4	4755.5	0.104
2378-TCDF	**27.53**		**1.0008**	**1.0008**	**0**	**5.41E+06**	**0.79**	**Y**	**1.08**	**11**	**4755.5**	**0.104**
2367/3467-TCDF	NotFnd		1.0140						1.08		4755.5	0.104
1269-TCDF	NotFnd		1.0226						1.08		4755.5	0.104
1239-TCDF	NotFnd		1.0325						1.08		4755.5	0.104
1289-TCDF	29.54		1.0732	1.0737	+0.9	9.01E+06	0.78	Y	1.08	18.3	4755.5	0.104
13468/12468-PeCDF	29.46		0.9130	0.9123	-1.2	3.72E+07	1.52	Y	1.02	78.3	3419.891	0.0673
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		9546.594	0.188
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		9546.594	0.188
14678-PeCDF	NotFnd		0.9688						1.02		9546.594	0.188
13479-PeCDF	NotFnd		0.9719						1.02		9546.594	0.188
13469/12479-PeCDF	NotFnd		0.9797						1.02		9546.594	0.188
12346-PeCDF	NotFnd		0.9841						1.02		9546.594	0.188

Lab ID: OPR1_18913_DF | **Acq'd: 15 Feb 2022 11:33 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 | **UTP: 16-Feb-2022 15:38:30 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 247-990-DTM**

Datafile: 220215C02 | **Report: 16 Feb 2022 15:39 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		9546.594	0.188
12347-PeCDF	NotFnd		0.9892						1.02		9546.594	0.188
12348-PeCDF	NotFnd		0.9940						1.02		9546.594	0.188
12378-PeCDF	**32.31**		**1.0005**	**1.0005**	**0**	**2.50E+07**	**1.53**	**Y**	**1.02**	**50.3**	**9546.594**	**0.179**
12678/12367-PeCDF	NotFnd		1.0091						1.02		9546.594	0.188
12379-PeCDF	NotFnd		1.0144						1.02		9546.594	0.188
12679-PeCDF	NotFnd		0.9928						1.02		9546.594	0.188
23467/12369-PeCDF	NotFnd		0.9966						1.02		9546.594	0.188
23478-PeCDF	**33.42**		**1.0006**	**1.0005**	**-0.2**	**2.50E+07**	**1.52**	**Y**	**1.02**	**55.2**	**9546.594**	**0.198**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9546.594	0.188
12349-PeCDF	NotFnd		1.0101						1.02		9546.594	0.188
12389-PeCDF	34.50		1.0327	1.0327	0	5.36E+06	1.65	Y	1.02	11.3	9546.594	0.188
123468-HxCDF	35.28		0.9624	0.9625	+0.2	5.24E+07	1.23	Y	1.19	124	10303.761	0.202
124678/134678-HxCDF	NotFnd		0.9679						1.19		10303.761	0.202
134679-HxCDF	NotFnd		0.9741						1.19		10303.761	0.202
124679-HxCDF	NotFnd		0.9796						1.19		10303.761	0.202
124689-HxCDF	NotFnd		0.9856						1.19		10303.761	0.202
123467-HxCDF	NotFnd		0.9972						1.19		10303.761	0.202
123478-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**2.16E+07**	**1.25**	**Y**	**1.27**	**53**	**10303.761**	**0.211**
123678-HxCDF	**36.81**		**1.0004**	**1.0005**	**+0.2**	**2.58E+07**	**1.23**	**Y**	**1.15**	**52.9**	**10303.761**	**0.176**
123479-HxCDF	NotFnd		1.0049						1.19		10303.761	0.202
123469-HxCDF	NotFnd		1.0090						1.19		10303.761	0.202
123679-HxCDF	NotFnd		0.9942						1.19		10303.761	0.202
234678-HxCDF	**37.49**		**1.0005**	**1.0004**	**-0.2**	**2.25E+07**	**1.19**	**Y**	**1.19**	**51.2**	**10303.761**	**0.195**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10303.761	0.202
123789-HxCDF	**38.45**		**1.0004**	**1.0004**	**0**	**1.75E+07**	**1.23**	**Y**	**1.16**	**49.4**	**10303.761**	**0.239**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		10303.761	0.202
1234678-HpCDF	**39.85**		**1.0003**	**1.0003**	**0**	**1.98E+07**	**1.03**	**Y**	**1.37**	**51**	**4071.159**	**0.0777**
1234679-HpCDF	NotFnd		1.0069						1.34		4071.159	0.098
1234689-HpCDF	NotFnd		1.0104						1.34		4071.159	0.098
1234789-HpCDF	**41.25**		**1.0003**	**1.0003**	**0**	**1.46E+07**	**1.05**	**Y**	**1.31**	**50.7**	**4071.159**	**0.125**
OCDF	**43.66**		**1.0002**	**1.0002**	**0**	**2.13E+07**	**0.94**	**Y**	**1.07**	**105**	**3463.95**	**0.212**
OCDF-a	43.66		1.0002	1.0002	0	1.31E+06	2.72	Y	0.07	104	4210.794	4.16

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	55.6	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	11	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.7	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 16 Feb 2022 15:39 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220215C02 Analysis Date: 15-FEB-2022 11:33:15
Lab ID: OPR1_18913_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	87.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	93.7	26	-	166	Y
13C-OCDD	200	160	26	-	397	Y
13C-2,3,7,8-TCDF	100	78.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	97.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	108	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	106	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	93.3	20	-	186	Y
13C-OCDF	200	169	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.4	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 16 Feb 2022 15:39 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

Window Defining Standards Results

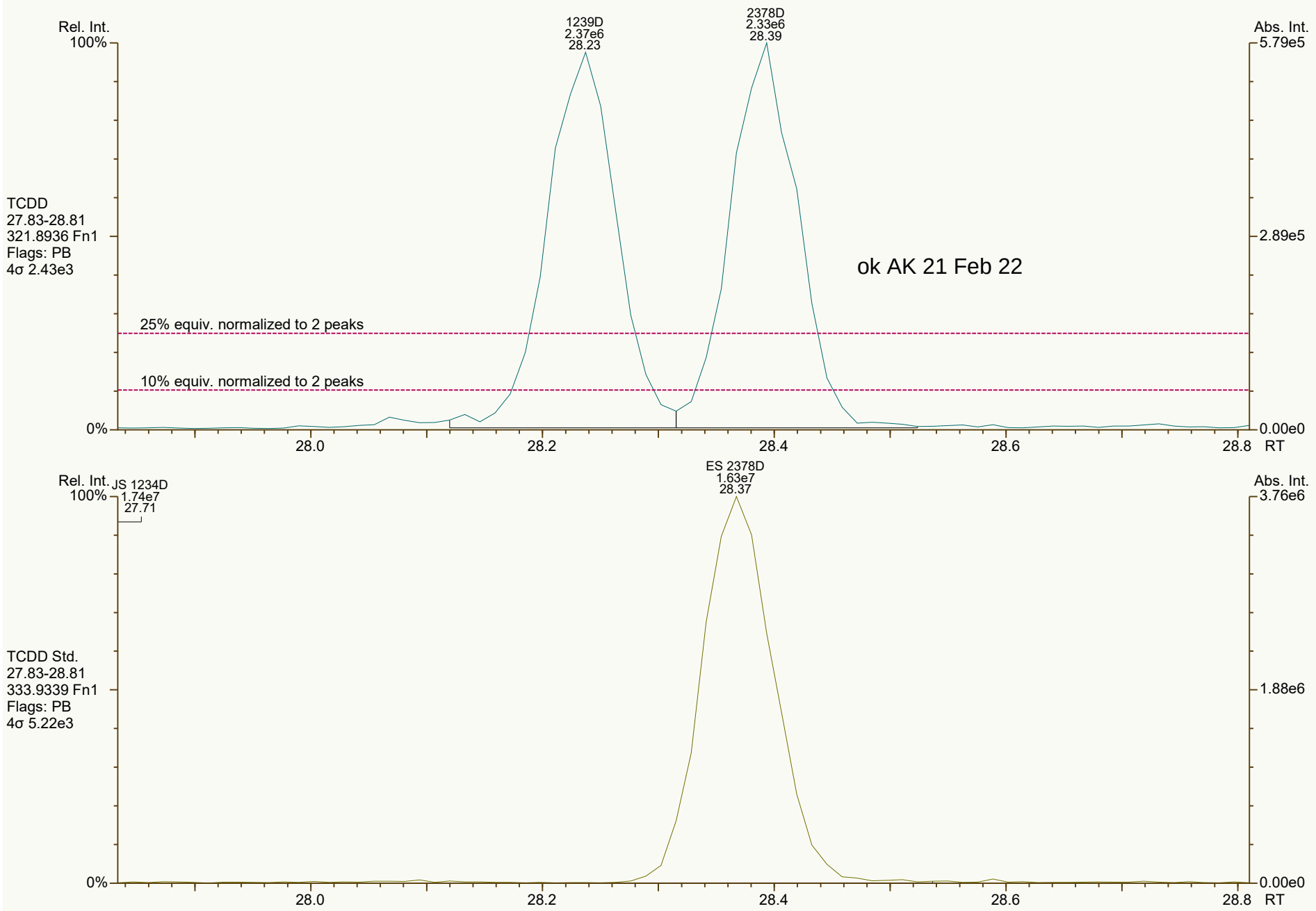
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.73	1289-TCDD	29.37
12479/12468-PeCDD	31.25	12389-PeCDD	34.20
124679/124689-HxCDD	35.93	123789-HxCDD	38.09
1234679-HpCDD	40.11	1234678-HpCDD	40.79
1368-TCDF	22.61	1289-TCDF	29.54
13468/12468-PeCDF	29.46	12389-PeCDF	34.50
123468-HxCDF	35.28	123789-HxCDF	38.45
1234678-HpCDF	39.85	1234789-HpCDF	41.25

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.23	2378-TCDD	28.39
2348-TCDF	27.42	2378-TCDF	27.53

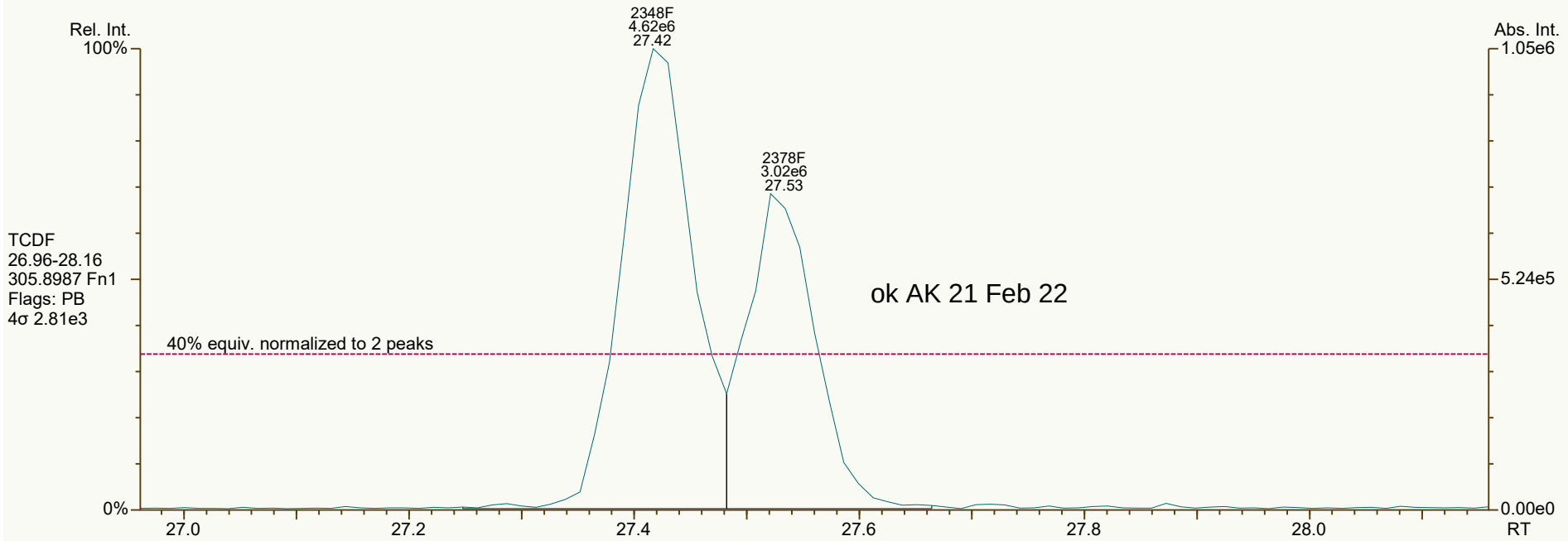
Processed: 16 Feb 2022 15:39 Analyst: TF

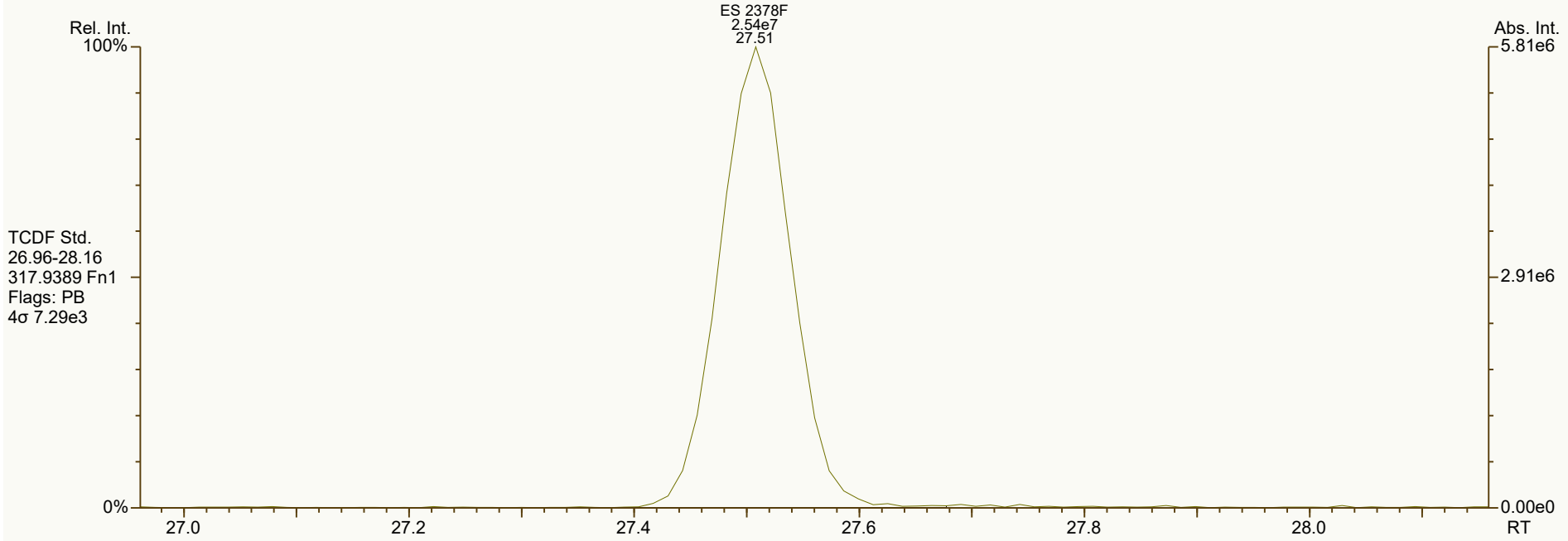
SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02



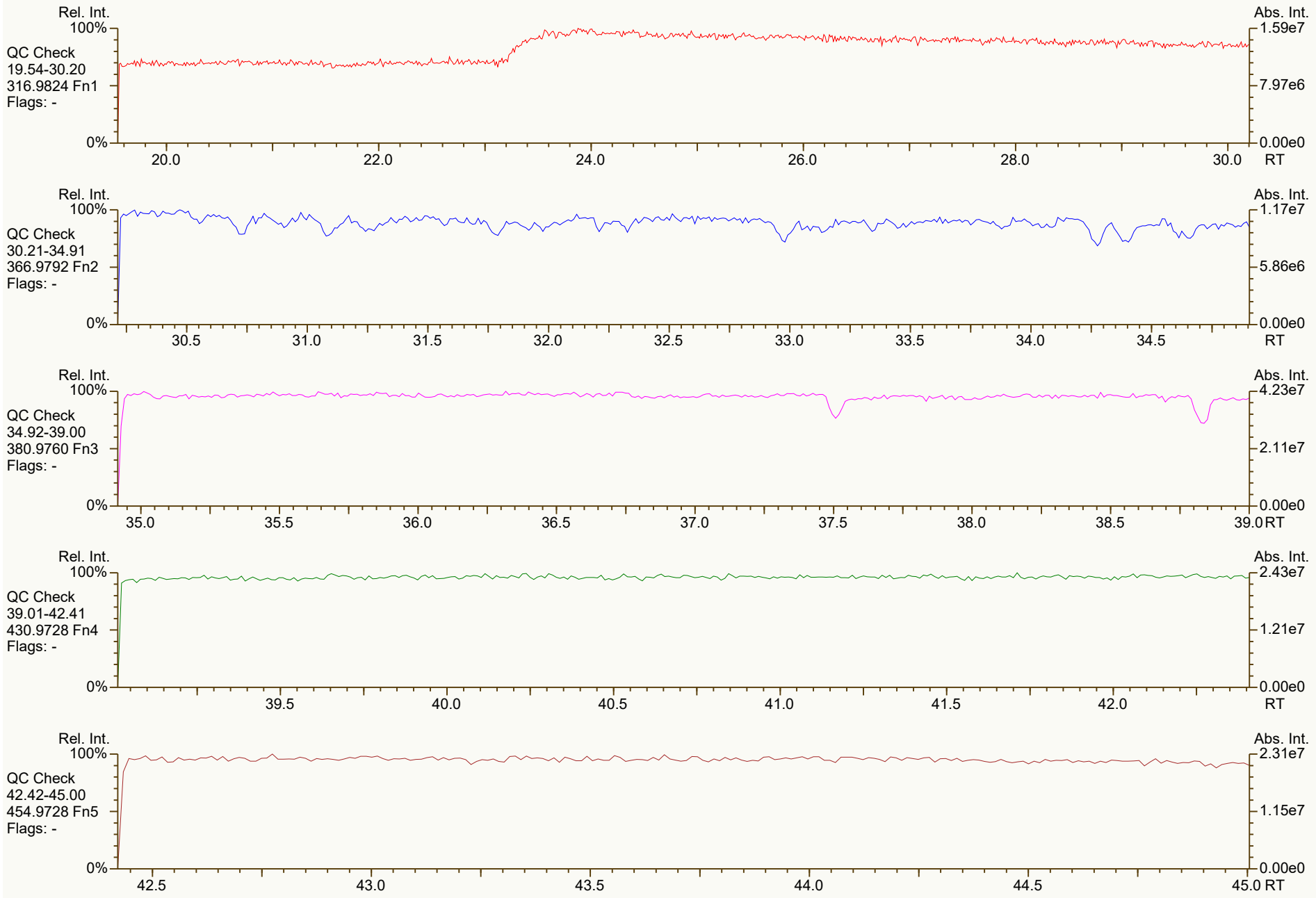
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:41

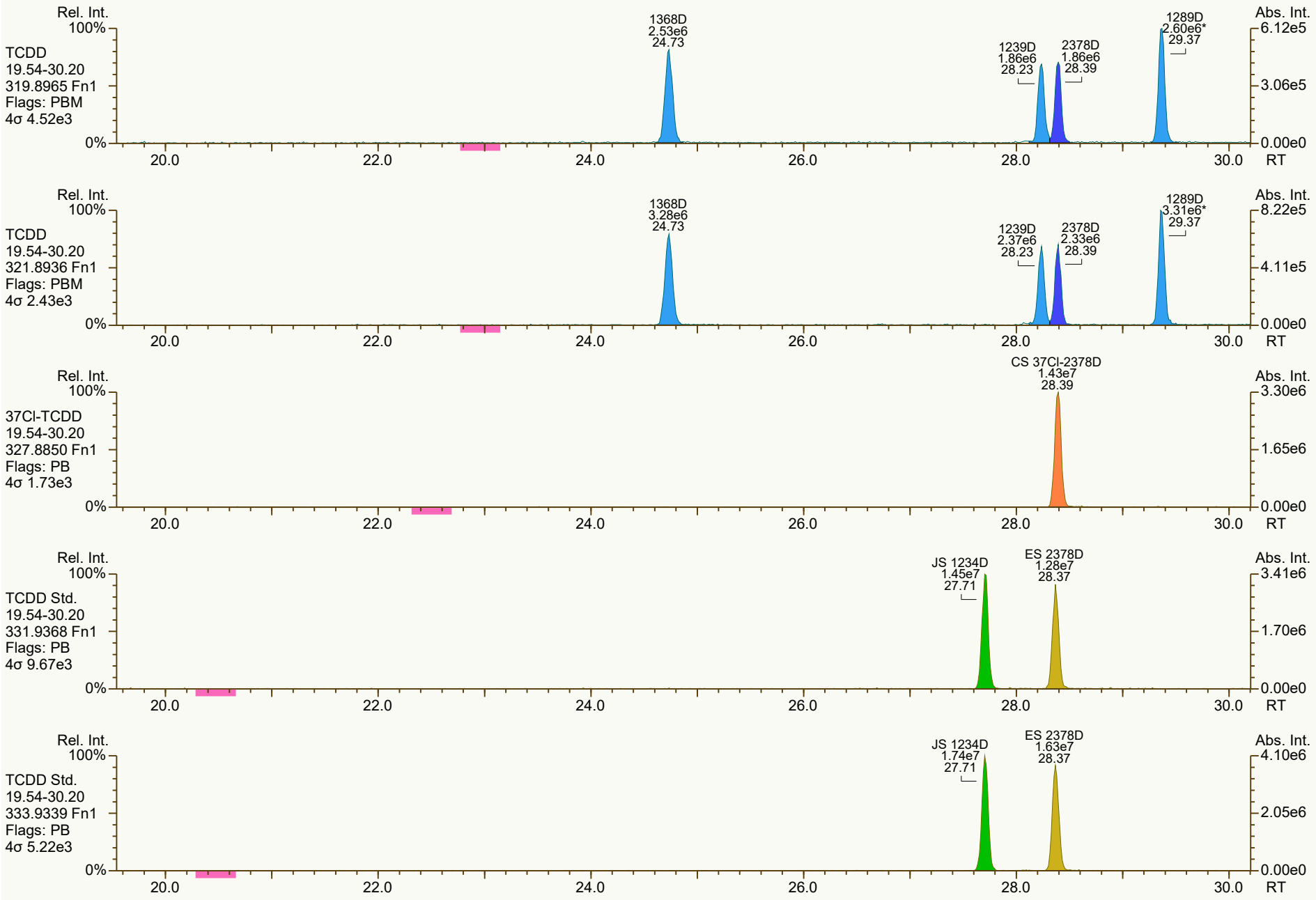
SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02

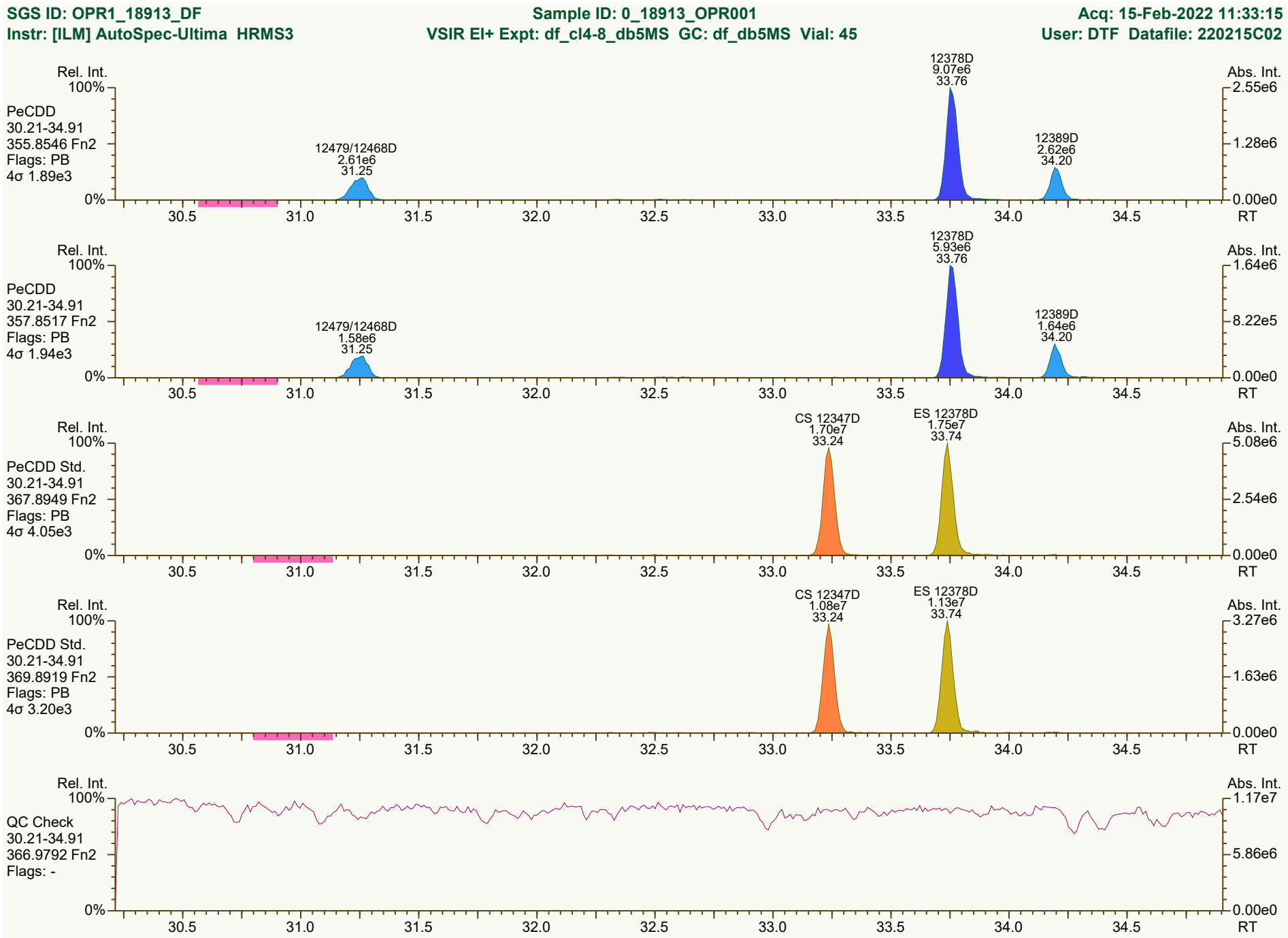




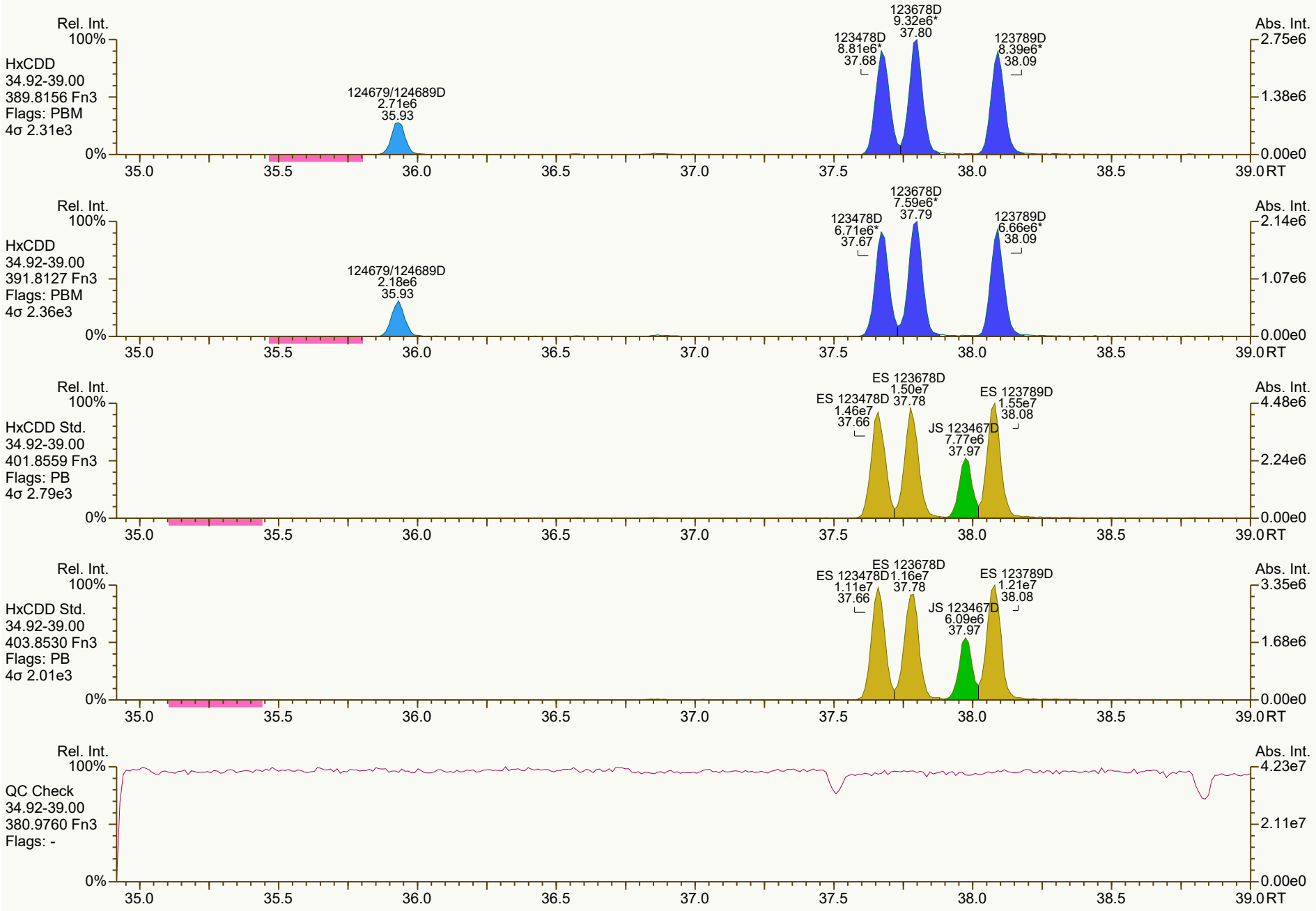
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:41

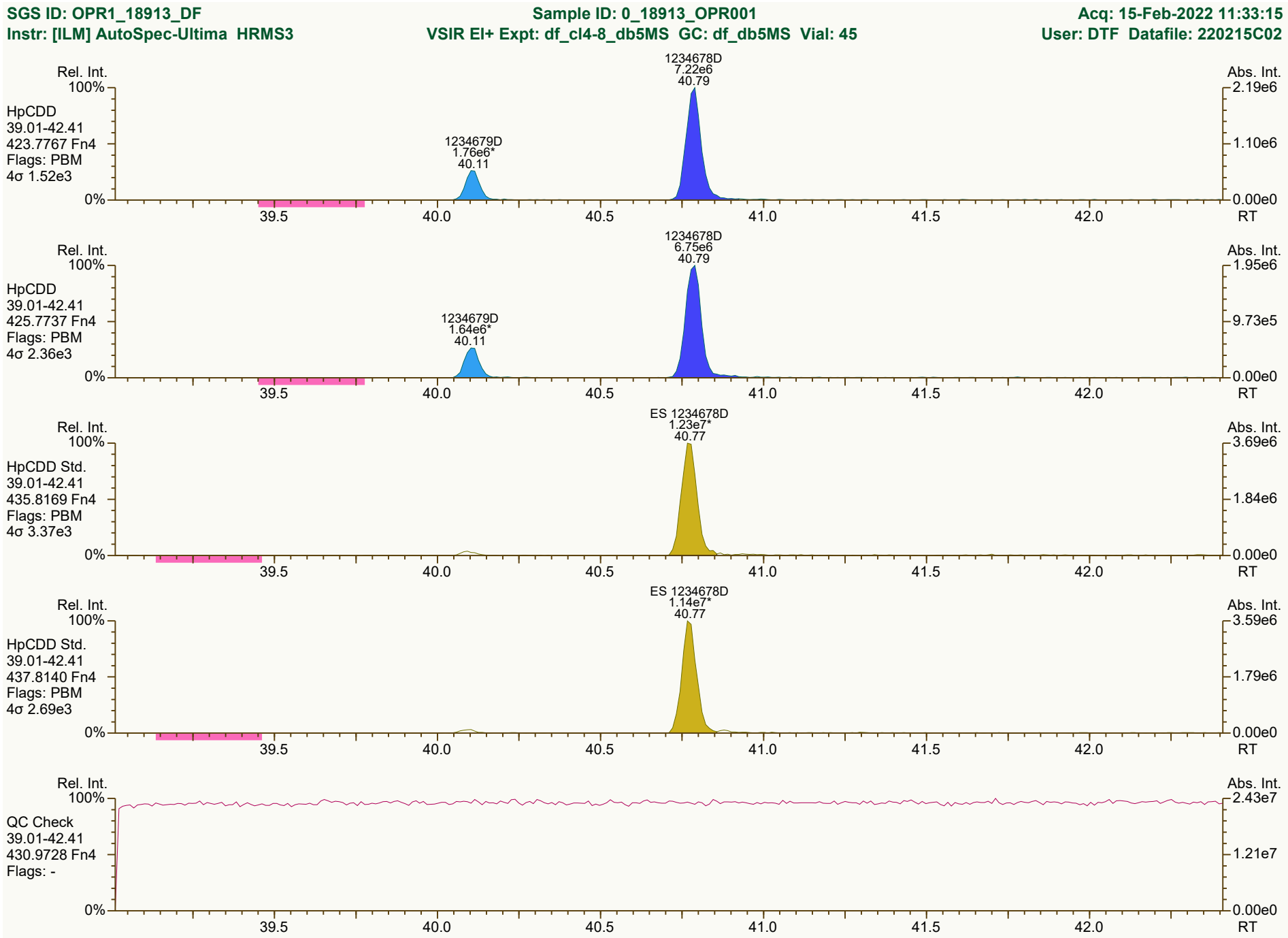

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.59e7
7.97e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.17e7
5.86e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
4.23e7
2.11e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.43e7
1.21e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
2.31e7
1.15e7
0.00e0

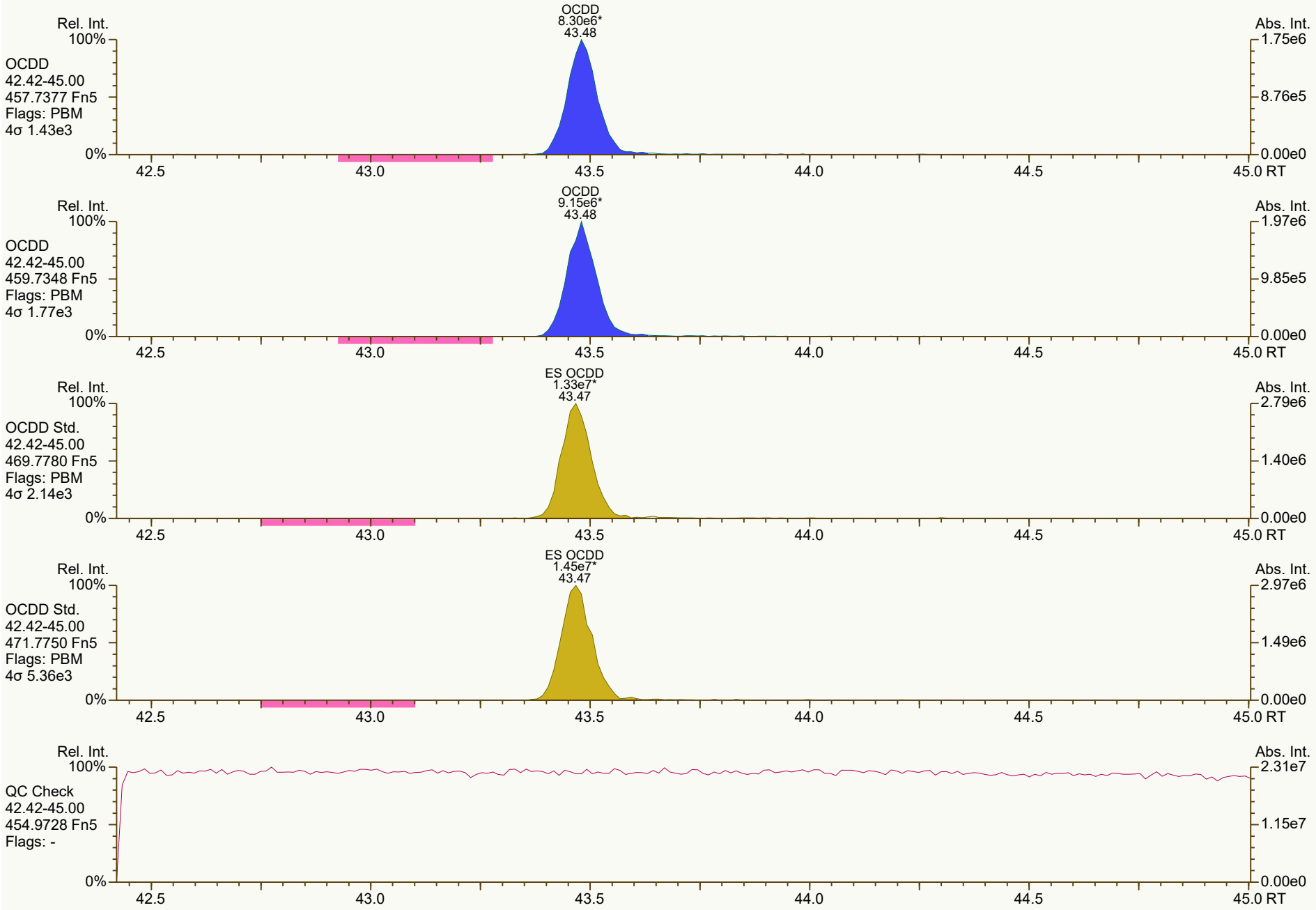

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 4.52e3
1368D
2.53e6
24.73
1239D
1.86e6
28.23
2378D
1.86e6
28.39
1289D
2.60e6*
29.37
Abs. Int.
6.12e5
3.06e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.43e3
1368D
3.28e6
24.73
1239D
2.37e6
28.23
2378D
2.33e6
28.39
1289D
3.31e6*
29.37
Abs. Int.
8.22e5
4.11e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.73e3
CS 37Cl-2378D
1.43e7
28.39
Abs. Int.
3.30e6
1.65e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.67e3
JS 1234D
1.45e7
27.71
ES 2378D
1.28e7
28.37
Abs. Int.
3.41e6
1.70e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.22e3
JS 1234D
1.74e7
27.71
ES 2378D
1.63e7
28.37
Abs. Int.
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0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

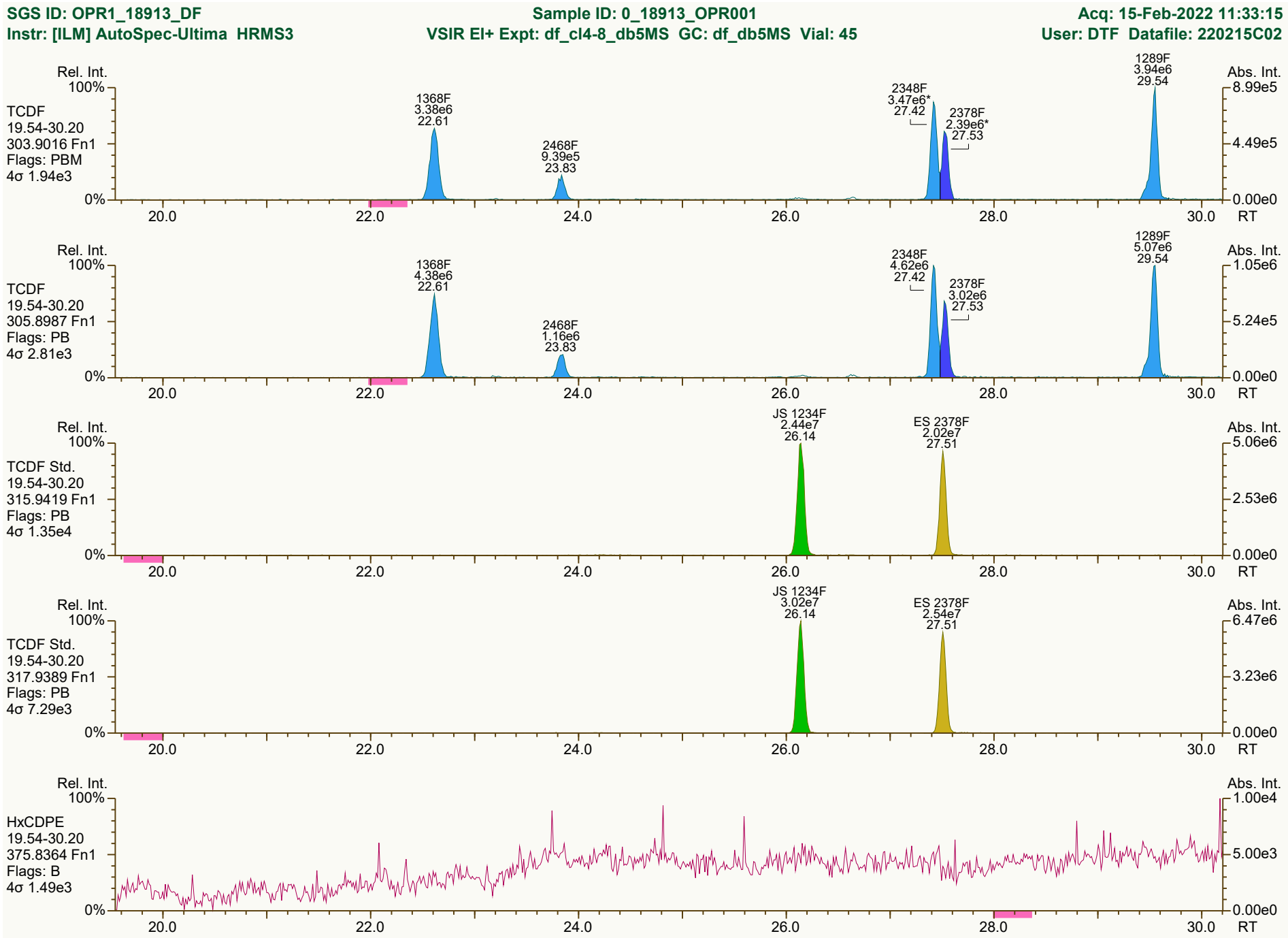


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1755, 2652 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:42 Page 3 of 12

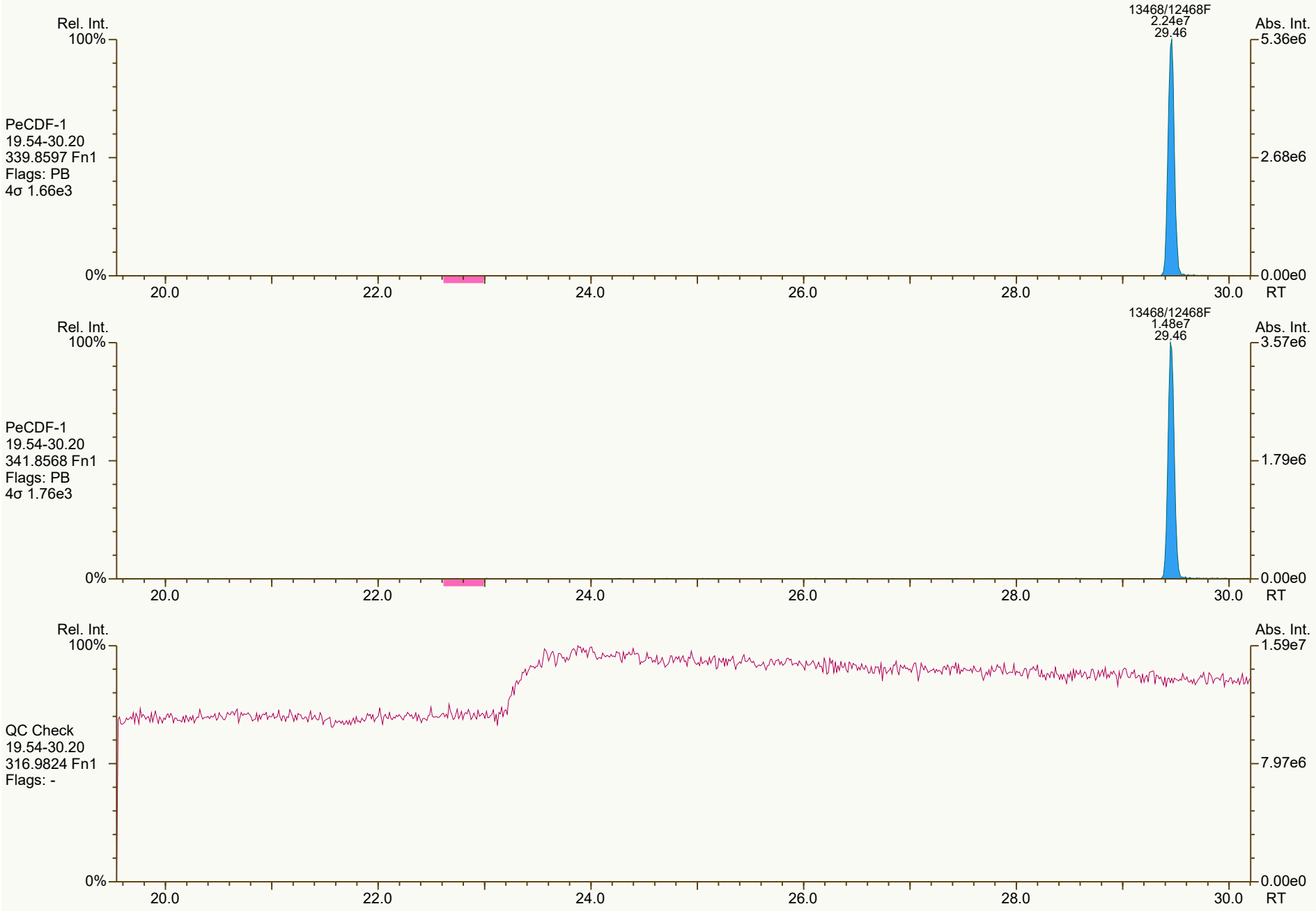

Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.31e3
124679/124689D
2.71e6
35.93
123478D
8.81e6*
37.68
123678D
9.32e6*
37.80
123789D
8.39e6*
38.09
2.75e6
1.38e6
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.36e3
124679/124689D
2.18e6
35.93
123478D
6.71e6*
37.67
123678D
7.59e6*
37.79
123789D
6.66e6*
38.09
2.14e6
1.07e6
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.79e3
ES 123478D
1.46e7
37.66
ES 123678D
1.50e7
37.78
JS 123467D
7.77e6
37.97
ES 123789D
1.55e7
38.08
4.48e6
2.24e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.01e3
ES 123478D
1.11e7
37.66
ES 123678D
1.16e7
37.78
JS 123467D
6.09e6
37.97
ES 123789D
1.21e7
38.08
3.35e6
1.68e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
4.23e7
2.11e7
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT

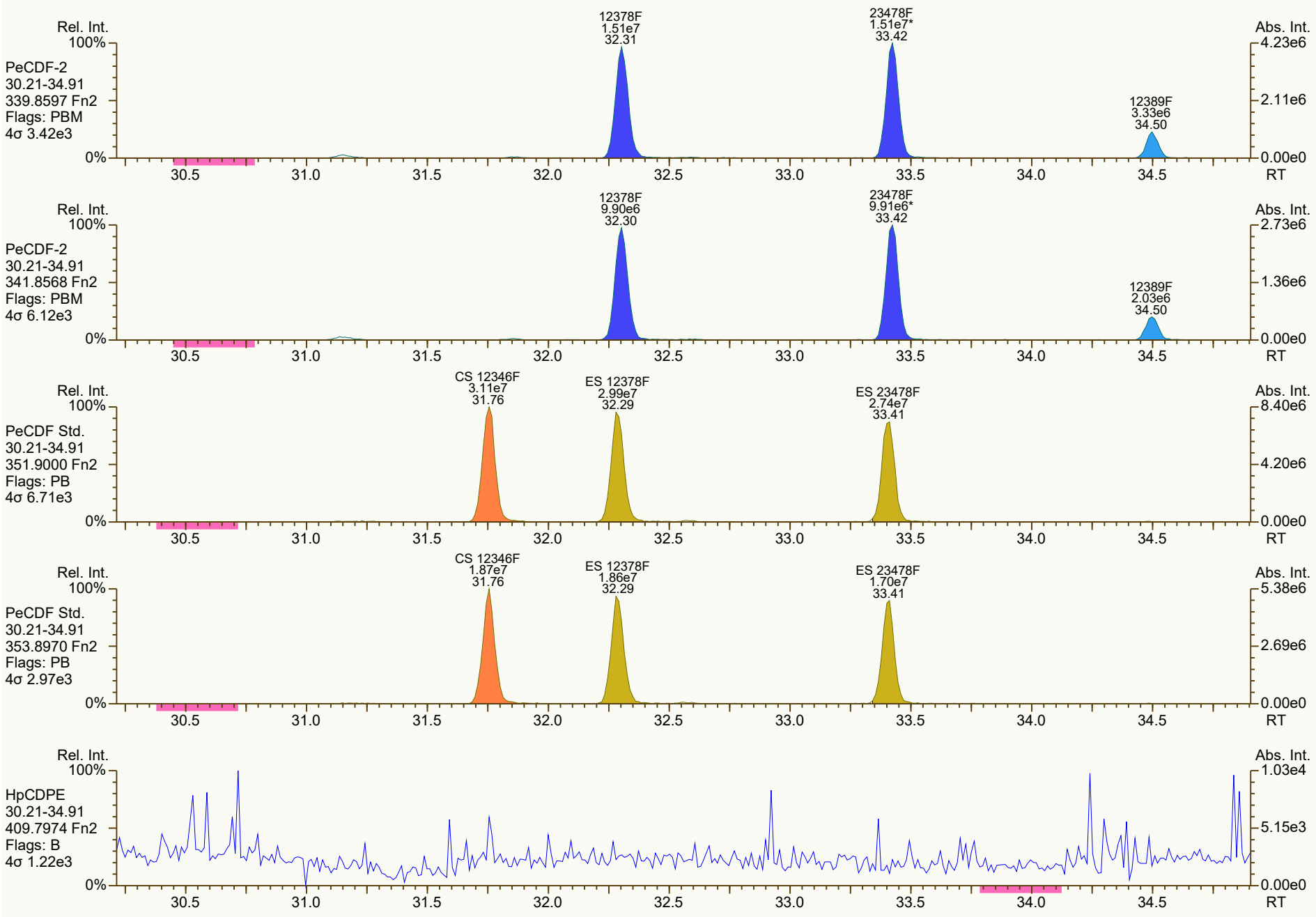

SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
7.22e6
40.79
1234679D
1.76e6*
40.11
2.19e6
1.10e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.36e3
1234678D
6.75e6
40.79
1234679D
1.64e6*
40.11
1.95e6
9.73e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.37e3
ES 1234678D
1.23e7*
40.77
3.69e6
1.84e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.69e3
ES 1234678D
1.14e7*
40.77
3.59e6
1.79e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
2.43e7
1.21e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0726, 5104 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 16-Feb-2022 15:42 Page 5 of 12

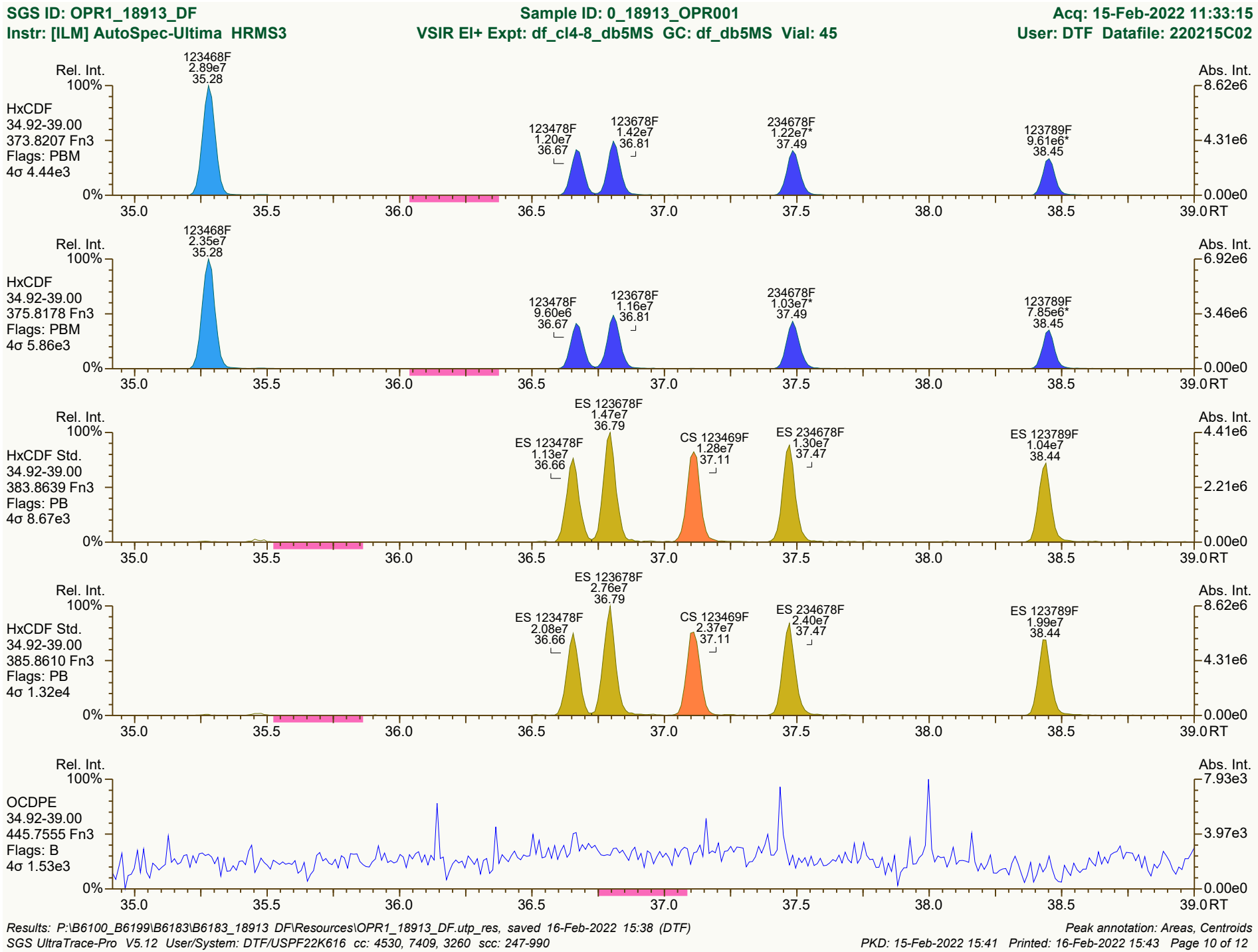

OCDD
8.30e6*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
1.75e6
8.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.15e6*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.77e3
0%
Abs. Int.
1.97e6
9.85e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.33e7*
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.79e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.45e7*
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 5.36e3
0%
Abs. Int.
2.97e6
1.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.31e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



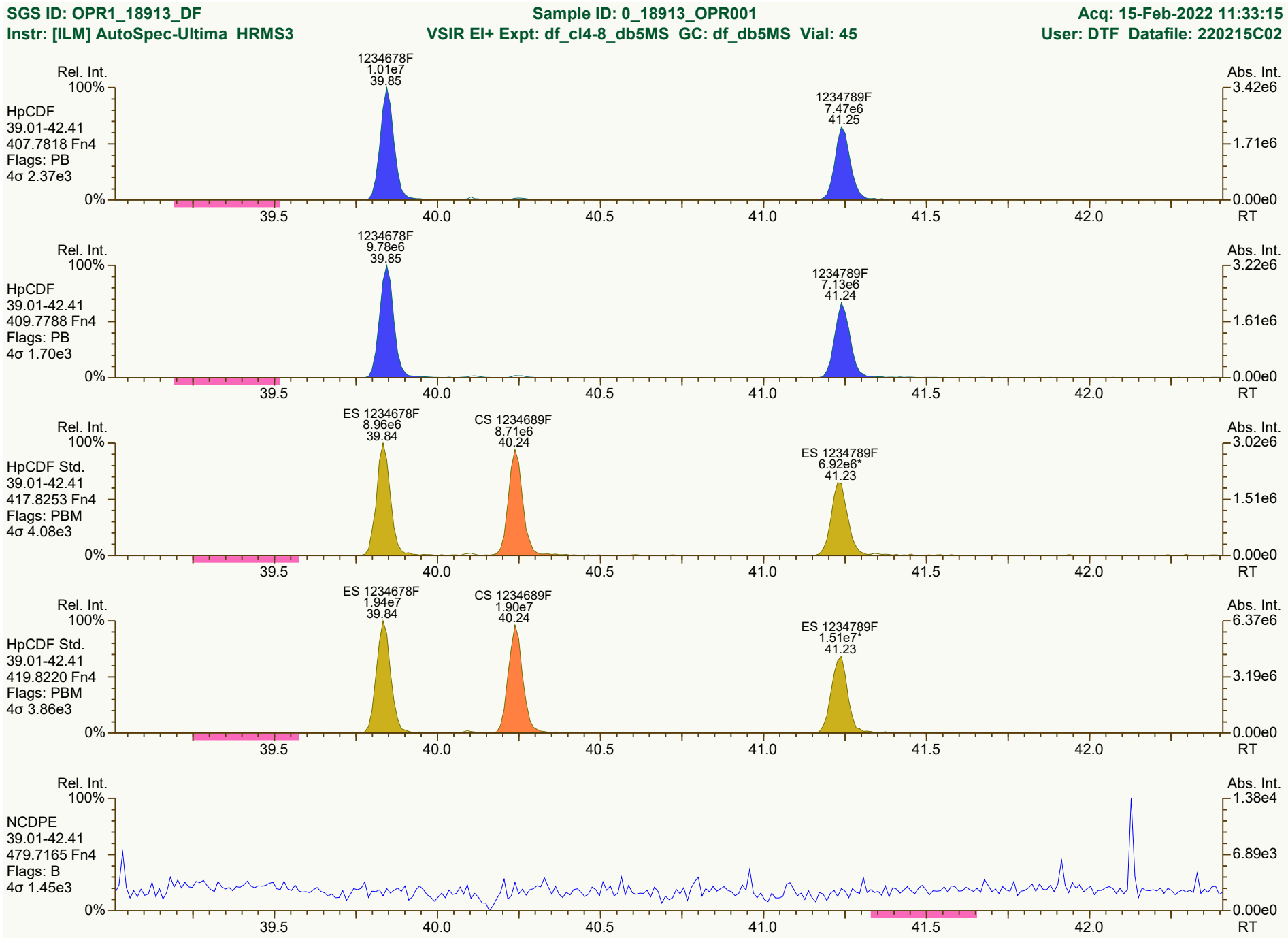
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2408, 6386, 1162 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:43 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
5.36e6
2.68e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
2.24e7
29.46
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.66e3
13468/12468F
1.48e7
29.46
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.76e3
Abs. Int.
3.57e6
1.79e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
1.59e7
7.97e6

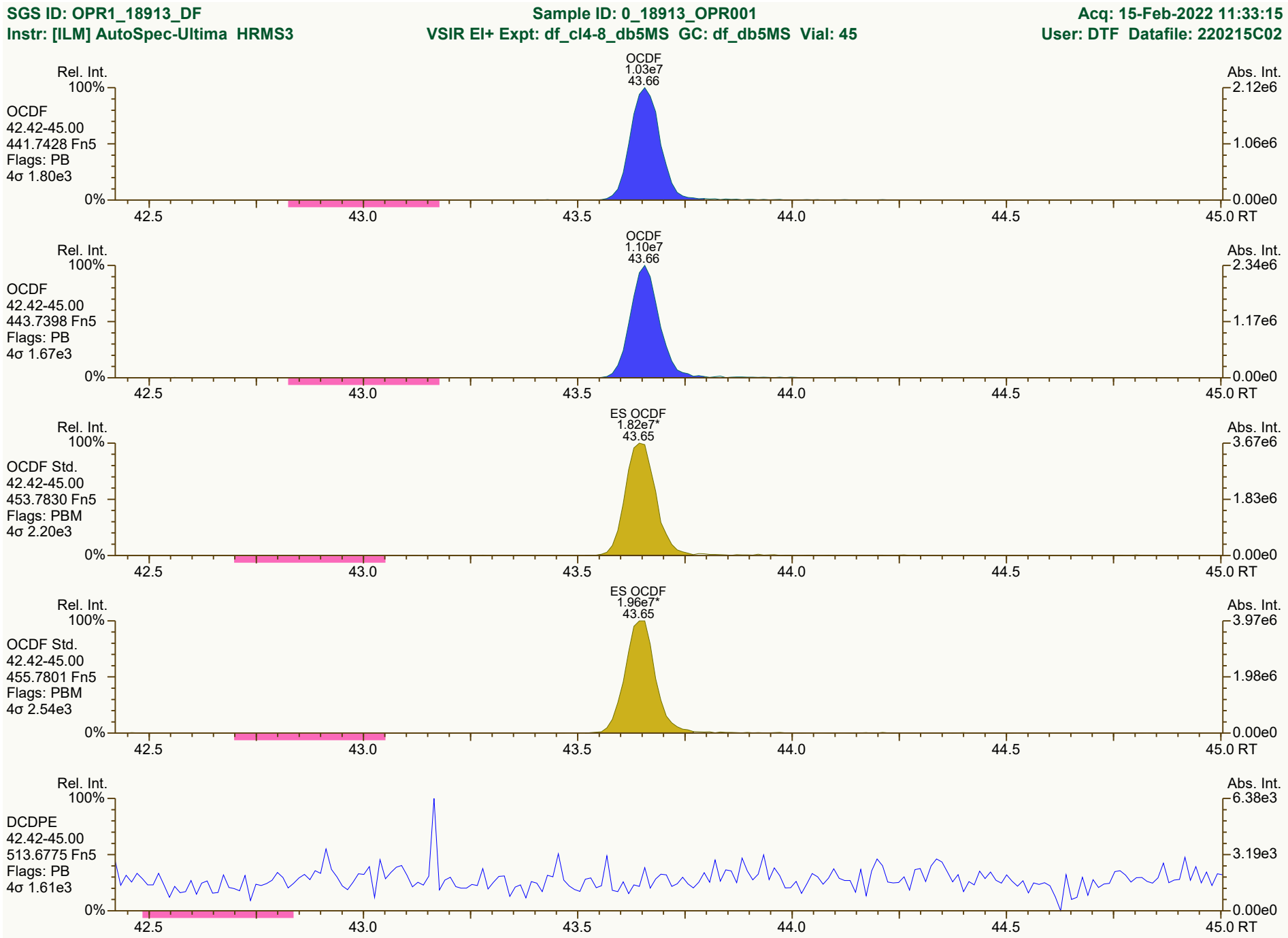

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.42e3
0%
12378F
1.51e7
32.31
23478F
1.51e7*
33.42
12389F
3.33e6
34.50
Abs. Int.
4.23e6
2.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 6.12e3
0%
12378F
9.90e6
32.30
23478F
9.91e6*
33.42
12389F
2.03e6
34.50
Abs. Int.
2.73e6
1.36e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 6.71e3
0%
CS 12346F
3.11e7
31.76
ES 12378F
2.99e7
32.29
ES 23478F
2.74e7
33.41
Abs. Int.
8.40e6
4.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
1.87e7
31.76
ES 12378F
1.86e7
32.29
ES 23478F
1.70e7
33.41
Abs. Int.
5.38e6
2.69e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4530, 7409, 3260 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:43 Page 10 of 12



Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1679, 5020, 9556 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 16-Feb-2022 15:43 Page 11 of 12


SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
OCDF
1.03e7
43.66
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.80e3
OCDF
1.10e7
43.66
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.67e3
ES OCDF
1.82e7*
43.65
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.20e3
ES OCDF
1.96e7*
43.65
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.54e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.61e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7034, 6266, 9288 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 16-Feb-2022 15:43 Page 12 of 12

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 16-Feb-2022 15:38:31 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.37		1.0008	1.0008	0	3.87E+06	0.80	Y	1.18	12.5	5654.625	0.185
12378-PeCDD	33.75		1.0006	1.0006	0	1.42E+07	1.58	Y	1.04	52.4	4969.355	0.149
123478-HxCDD	37.67		1.0004	1.0004	0	1.40E+07	1.30	Y	1.09	57.3	3259.466	0.111
123678-HxCDD	37.79		1.0036	1.0037	+0.2	1.55E+07	1.27	Y	1.15	57.8	3259.466	0.105
123789-HxCDD	38.08		1.0115	1.0115	0	1.41E+07	1.30	Y	1.05	54.7	3259.466	0.112
1234678-HpCDD	40.78		1.0003	1.0003	0	1.27E+07	1.06	Y	1.06	57.7	3511.956	0.136
OCDD	43.49		1.0003	1.0002	-0.3	1.51E+07	0.93	Y	1.13	113	3518.807	0.316
2378-TCDF	27.51		1.0008	1.0009	+0.2	5.03E+06	0.72	Y	1.08	11.2	4549.941	0.118
12378-PeCDF	32.29		1.0005	1.0005	0	2.34E+07	1.57	Y	1.02	52.6	10072.458	0.214
23478-PeCDF	33.41		1.0006	1.0005	-0.2	2.34E+07	1.53	Y	1.02	56.3	10072.458	0.217
123478-HxCDF	36.66		1.0004	1.0005	+0.2	1.96E+07	1.24	Y	1.27	53.6	8153.461	0.192
123678-HxCDF	36.80		1.0004	1.0005	+0.2	2.33E+07	1.27	Y	1.15	52.2	8153.461	0.152
234678-HxCDF	37.48		1.0005	1.0004	-0.2	2.11E+07	1.23	Y	1.19	52.5	8153.461	0.178
123789-HxCDF	38.44		1.0004	1.0004	0	1.62E+07	1.27	Y	1.16	52	8153.461	0.214
1234678-HpCDF	39.84		1.0003	1.0003	0	1.83E+07	1.06	Y	1.37	52.4	2485.012	0.0515
1234789-HpCDF	41.24		1.0003	1.0003	0	1.34E+07	1.03	Y	1.31	54	2485.012	0.0872
OCDF	43.66		1.0002	1.0003	+0.3	1.81E+07	0.88	Y	1.07	108	3252.803	0.233

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	2.62E+07	0.81	Y	1.05	88.3
ES 12378-PeCDD	33.73	1.2174	1.2181	+1.4	2.63E+07	1.55	Y	0.88	105
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.25E+07	1.29	Y	0.97	95.9
ES 123678-HxCDD	37.77	0.9948	0.9949	+0.2	2.34E+07	1.28	Y	0.94	103
ES 123789-HxCDD	38.07	1.0027	1.0027	0	2.46E+07	1.26	Y	1.09	93.4
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.07E+07	1.08	Y	0.91	94
ES OCDD	43.48	1.1449	1.1452	+0.8	2.37E+07	0.91	Y	0.62	78.7
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.15E+07	0.81	Y	1.06	81.8
ES 12378-PeCDF	32.27	1.2346	1.2355	+1.7	4.33E+07	1.53	Y	0.91	99.4
ES 23478-PeCDF	33.39	1.2774	1.2783	+1.8	4.08E+07	1.58	Y	0.88	96.5
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	2.87E+07	0.56	Y	1.20	99.5
ES 123678-HxCDF	36.78	0.9688	0.9689	+0.2	3.86E+07	0.55	Y	1.35	119
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	3.38E+07	0.53	Y	1.24	113
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	2.68E+07	0.52	Y	1.16	96.3
ES 1234678-HpCDF	39.83	1.0491	1.0491	0	2.54E+07	0.47	Y	0.97	109
ES 1234789-HpCDF	41.23	1.0858	1.0859	+0.2	1.89E+07	0.48	Y	0.85	92.3
ES OCDF	43.65	1.1495	1.1497	+0.5	3.14E+07	0.94	Y	0.81	80.6

Lab ID: OPR2_18913_DF | **Acq'd:** 15 Feb 2022 12:19 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR002 | **UTP:** 16-Feb-2022 15:38:31 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 443-398-HTR

Datafile: 220215C03 | **Report:** 16 Feb 2022 15:39 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	2.83E+07	0.83	Y	-	-
JS 1234-TCDF	26.12		-	-	-	4.79E+07	0.81	Y	-	-
JS 123467-HxCDD	37.96		-	-	-	1.20E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.31E+07	n/a	-	1.20	96.3
CS 12347-PeCDD	33.22		1.1993	1.1999	+1.2	2.52E+07	1.63	Y	0.75	118
CS 12346-PeCDF	31.74		1.2144	1.2151	+1.3	4.59E+07	1.57	Y	0.85	113
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.23E+07	0.54	Y	1.12	120
CS 1234689-HpCDF	40.23		1.0597	1.0598	+0.2	2.43E+07	0.48	Y	0.89	114
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.31E+07~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1999~~	~~+1.2~~	~~2.52E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2151~~	~~+1.3~~	~~4.59E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.23E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~101~~
~~SS 1234689-HpCDF~~	~~40.23~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~2.43E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~104~~

Totals	Conc	EMPC
Total TCDD	57.1	57.1
Total PeCDD	80.7	80.7
Total HxCDD	187	187
Total HpCDD	72.5	72.5
Total Tetra-Octa Dioxins	511	511
Total TCDF	66	66
Total PeCDF	200	200
Total HxCDF	331	331
Total HpCDF	106	106
Total Tetra-Octa Furans	812	812
Total Tetra-Octa Dioxins & Furans	1320	1320

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.799	0.80
Response	3.88E+06	3.87E+06

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 16-Feb-2022 15:38:31 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.71		0.8719	0.8715	-0.6	5.04E+06	0.78	Y	1.18	16.2	5654.625	0.185
1379-TCDD	NotFnd		0.8845						1.18		5654.625	0.185
1369-TCDD	NotFnd		0.8996						1.18		5654.625	0.185
1469-TCDD	NotFnd		0.9271						1.18		5654.625	0.185
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		5654.625	0.185
1378-TCDD	NotFnd		0.9425						1.18		5654.625	0.185
1268-TCDD	NotFnd		0.9494						1.18		5654.625	0.185
1478-TCDD	NotFnd		0.9581						1.18		5654.625	0.185
1279-TCDD	NotFnd		0.9640						1.18		5654.625	0.185
1234/1269-TCDD	NotFnd		0.9765						1.18		5654.625	0.185
1236-TCDD	NotFnd		0.9816						1.18		5654.625	0.185
1237/1238-TCDD	NotFnd		0.9906						1.18		5654.625	0.185
1239-TCDD	28.22		0.9952	0.9952	0	3.57E+06	0.76	Y	1.18	11.5	5654.625	0.185
2378-TCDD	**28.37**		**1.0008**	1.0008	**0**	3.87E+06	0.80	Y	**1.18**	**12.5**	**5654.625**	**0.185**
1278-TCDD	NotFnd		1.0123						1.18		5654.625	0.185
1267-TCDD	NotFnd		1.0170						1.18		5654.625	0.185
1289-TCDD	29.35		1.0351	1.0352	+0.2	5.22E+06	0.80	Y	1.18	16.8	5654.625	0.185
12479/12468-PeCDD	31.23		0.9261	0.9260	-0.2	3.82E+06	1.60	Y	1.04	14.1	4969.355	0.149
12469-PeCDD	NotFnd		0.9420						1.04		4969.355	0.149
12368-PeCDD	NotFnd		0.9584						1.04		4969.355	0.149
12478-PeCDD	NotFnd		0.9641						1.04		4969.355	0.149
12379-PeCDD	NotFnd		0.9670						1.04		4969.355	0.149
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		4969.355	0.149
12346/12347-PeCDD	NotFnd		0.9857						1.04		4969.355	0.149
12378-PeCDD	33.75		**1.0006**	**1.0006**	**0**	**1.42E+07**	**1.58**	**Y**	**1.04**	**52.4**	**4969.355**	**0.149**
12367-PeCDD	NotFnd		1.0034						1.04		4969.355	0.149
12389-PeCDD	34.19		1.0136	1.0137	+0.2	3.89E+06	1.62	Y	1.04	14.3	4969.355	0.149
124679/124689-HxCDD	35.92		0.9540	0.9541	+0.2	4.54E+06	1.37	Y	1.10	17.6	3259.466	0.109
123468-HxCDD	NotFnd		0.9714						1.10		3259.466	0.109
123679/123689-HxCDD	NotFnd		0.9792						1.10		3259.466	0.109
123469-HxCDD	NotFnd		0.9828						1.10		3259.466	0.109
123478-HxCDD	37.67		**1.0004**	**1.0004**	**0**	**1.40E+07**	**1.30**	**Y**	1.09	**57.3**	**3259.466**	**0.111**
123678-HxCDD	37.79		**1.0036**	**1.0037**	**+0.2**	**1.55E+07**	**1.27**	**Y**	1.15	**57.8**	**3259.466**	**0.105**
123467-HxCDD	NotFnd		1.0087						1.10		3259.466	0.109
123789-HxCDD	38.08		**1.0115**	**1.0115**	**0**	**1.41E+07**	**1.30**	**Y**	1.05	**54.7**	**3259.466**	**0.112**

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 16-Feb-2022 15:38:31 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 16 Feb 2022 15:39 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9836	0	3.24E+06	1.05	Y	1.06	14.8	3511.956	0.136
1234678-HpCDD	**40.78**		**1.0003**	**1.0003**	**0**	**1.27E+07**	**1.06**	**Y**	**1.06**	**57.7**	**3511.956**	**0.136**
OCDD	**43.49**		**1.0003**	**1.0002**	**-0.3**	**1.51E+07**	**0.93**	**Y**	**1.13**	**113**	**3518.807**	**0.316**
OCDD-a	43.48		1.0002	1.0002	0	9.82E+05	2.84	Y	0.07	115	3261.774	4.58
1368-TCDF	22.59		0.8222	0.8216	-0.8	7.29E+06	0.79	Y	1.08	16.3	4549.941	0.118
1468-TCDF	NotFnd		0.8434						1.08		4549.941	0.118
2468-TCDF	23.81		0.8666	0.8662	-0.6	1.75E+06	0.79	Y	1.08	3.92	4549.941	0.118
1346/1246-TCDF	NotFnd		0.8789						1.08		4549.941	0.118
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		4549.941	0.118
1348-TCDF	NotFnd		0.8947						1.08		4549.941	0.118
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		4549.941	0.118
1268-TCDF	NotFnd		0.9131						1.08		4549.941	0.118
1467-TCDF	NotFnd		0.9181						1.08		4549.941	0.118
1478-TCDF	NotFnd		0.9244						1.08		4549.941	0.118
1369/1237-TCDF	NotFnd		0.9379						1.08		4549.941	0.118
2467-TCDF	NotFnd		0.9425						1.08		4549.941	0.118
2368-TCDF	NotFnd		0.9483						1.08		4549.941	0.118
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4549.941	0.118
1278-TCDF	NotFnd		0.9681						1.08		4549.941	0.118
1349-TCDF	NotFnd		0.9722						1.08		4549.941	0.118
1267-TCDF	NotFnd		0.9780						1.08		4549.941	0.118
2346/1249-TCDF	NotFnd		0.9845						1.08		4549.941	0.118
2347/1279-TCDF	NotFnd		0.9927						1.08		4549.941	0.118
2348-TCDF	27.40		0.9970	0.9969	-0.2	7.21E+06	0.80	Y	1.08	16.1	4549.941	0.118
2378-TCDF	**27.51**		**1.0008**	**1.0009**	**+0.2**	**5.03E+06**	**0.72**	**Y**	**1.08**	**11.2**	**4549.941**	**0.118**
2367/3467-TCDF	NotFnd		1.0140						1.08		4549.941	0.118
1269-TCDF	NotFnd		1.0226						1.08		4549.941	0.118
1239-TCDF	NotFnd		1.0325						1.08		4549.941	0.118
1289-TCDF	29.52		1.0732	1.0738	+1.1	8.25E+06	0.79	Y	1.08	18.4	4549.941	0.118
13468/12468-PeCDF	29.44		0.9130	0.9123	-1.2	3.43E+07	1.53	Y	1.02	79.7	2903.155	0.0622
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		10072.458	0.216
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		10072.458	0.216
14678-PeCDF	NotFnd		0.9688						1.02		10072.458	0.216
13479-PeCDF	NotFnd		0.9719						1.02		10072.458	0.216
13469/12479-PeCDF	NotFnd		0.9797						1.02		10072.458	0.216
12346-PeCDF	NotFnd		0.9841						1.02		10072.458	0.216

Lab ID: OPR2_18913_DF | **Acq'd: 15 Feb 2022 12:19 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 | **UTP: 16-Feb-2022 15:38:31 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 443-398-HTR**

Datafile: 220215C03 | **Report: 16 Feb 2022 15:39 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		10072.458	0.216
12347-PeCDF	NotFnd		0.9892						1.02		10072.458	0.216
12348-PeCDF	NotFnd		0.9940						1.02		10072.458	0.216
12378-PeCDF	**32.29**		**1.0005**	**1.0005**	**0**	**2.34E+07**	**1.57**	**Y**	**1.02**	**52.6**	**10072.458**	**0.214**
12678/12367-PeCDF	NotFnd		1.0091						1.02		10072.458	0.216
12379-PeCDF	NotFnd		1.0144						1.02		10072.458	0.216
12679-PeCDF	NotFnd		0.9928						1.02		10072.458	0.216
23467/12369-PeCDF	NotFnd		0.9966						1.02		10072.458	0.216
23478-PeCDF	**33.41**		**1.0006**	**1.0005**	**-0.2**	**2.34E+07**	**1.53**	**Y**	**1.02**	**56.3**	**10072.458**	**0.217**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10072.458	0.216
12349-PeCDF	NotFnd		1.0101						1.02		10072.458	0.216
12389-PeCDF	34.48		1.0327	1.0328	+0.2	4.94E+06	1.57	Y	1.02	11.5	10072.458	0.216
123468-HxCDF	35.27		0.9624	0.9625	+0.2	4.62E+07	1.25	Y	1.19	121	8153.461	0.181
124678/134678-HxCDF	NotFnd		0.9679						1.19		8153.461	0.181
134679-HxCDF	NotFnd		0.9741						1.19		8153.461	0.181
124679-HxCDF	NotFnd		0.9796						1.19		8153.461	0.181
124689-HxCDF	NotFnd		0.9856						1.19		8153.461	0.181
123467-HxCDF	NotFnd		0.9972						1.19		8153.461	0.181
123478-HxCDF	**36.66**		**1.0004**	**1.0005**	**+0.2**	**1.96E+07**	**1.24**	**Y**	**1.27**	**53.6**	**8153.461**	**0.192**
123678-HxCDF	**36.80**		**1.0004**	**1.0005**	**+0.2**	**2.33E+07**	**1.27**	**Y**	**1.15**	**52.2**	**8153.461**	**0.152**
123479-HxCDF	NotFnd		1.0049						1.19		8153.461	0.181
123469-HxCDF	NotFnd		1.0090						1.19		8153.461	0.181
123679-HxCDF	NotFnd		0.9942						1.19		8153.461	0.181
234678-HxCDF	**37.48**		**1.0005**	**1.0004**	**-0.2**	**2.11E+07**	**1.23**	**Y**	**1.19**	**52.5**	**8153.461**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8153.461	0.181
123789-HxCDF	**38.44**		**1.0004**	**1.0004**	**0**	**1.62E+07**	**1.27**	**Y**	**1.16**	**52**	**8153.461**	**0.214**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		8153.461	0.181
1234678-HpCDF	**39.84**		**1.0003**	**1.0003**	**0**	**1.83E+07**	**1.06**	**Y**	**1.37**	**52.4**	**2485.012**	**0.0515**
1234679-HpCDF	NotFnd		1.0069						1.34		2485.012	0.0666
1234689-HpCDF	NotFnd		1.0104						1.34		2485.012	0.0666
1234789-HpCDF	**41.24**		**1.0003**	**1.0003**	**0**	**1.34E+07**	**1.03**	**Y**	**1.31**	**54**	**2485.012**	**0.0872**
OCDF	**43.66**		**1.0002**	**1.0003**	**+0.3**	**1.81E+07**	**0.88**	**Y**	**1.07**	**108**	**3252.803**	**0.233**
OCDF-a	43.65		1.0002	1.0001	-0.3	1.12E+06	2.84	Y	0.07	107	4074.167	4.7

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C03	Analysis Date:	15-FEB-2022 12:19:29
Lab ID:	OPR2_18913_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.5	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	52.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	57.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.7	35	-	70	Y
OCDD	100	113	78	-	144	Y
2,3,7,8-TCDF	10	11.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	56.3	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	52	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54	39	-	69	Y
OCDF	100	108	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 16 Feb 2022 15:39 Analyst: TF

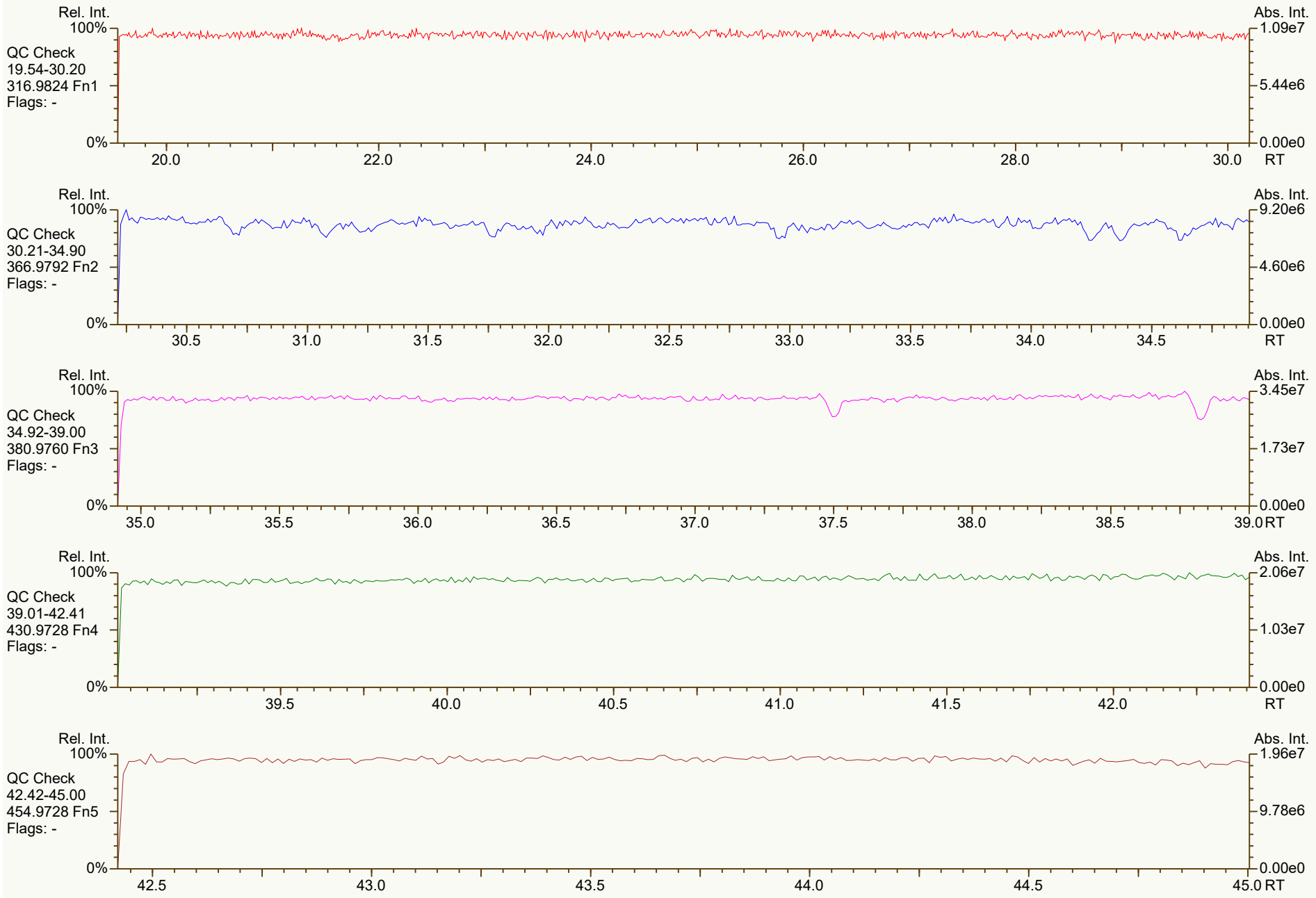
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

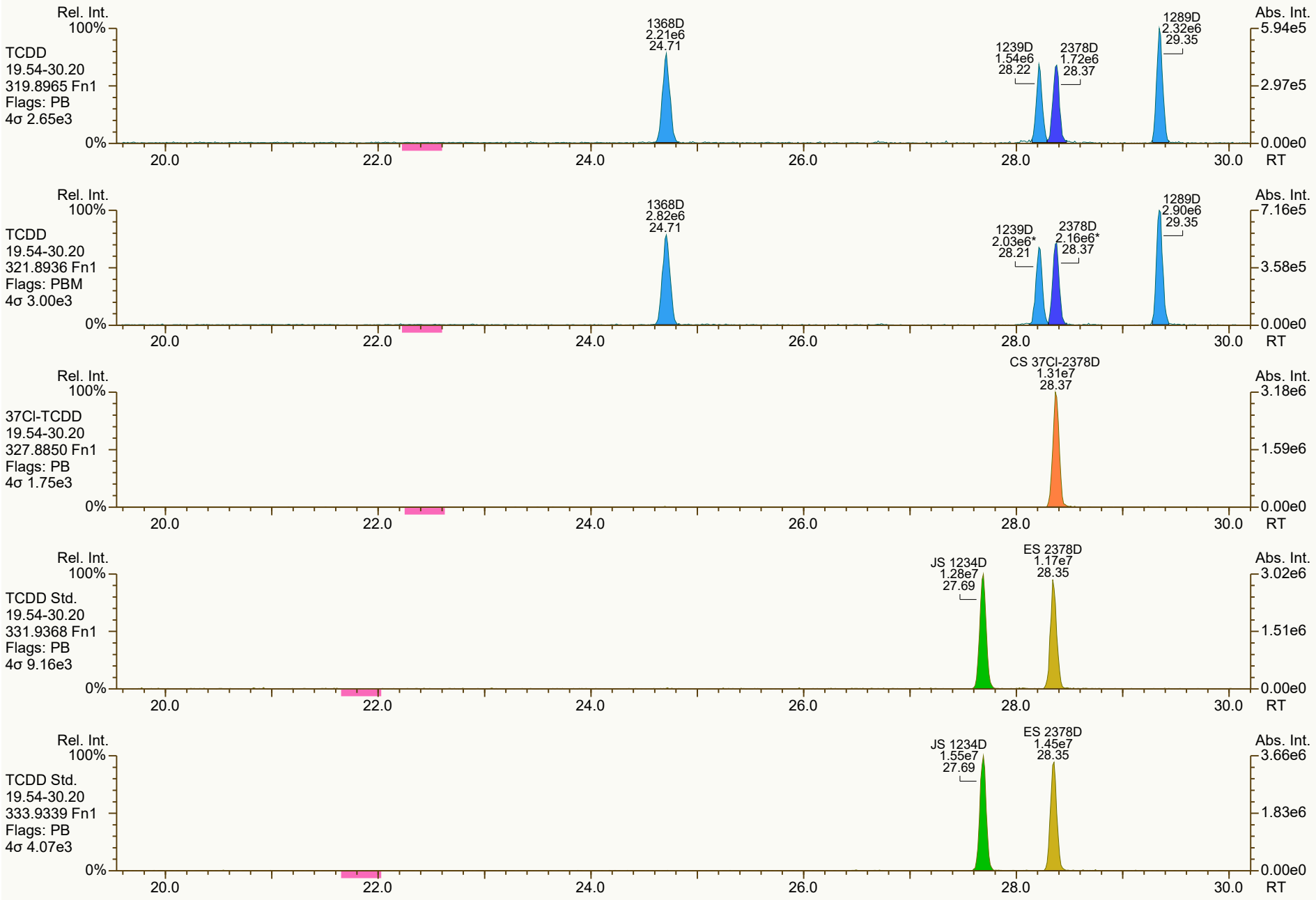
Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220215C03 Analysis Date: 15-FEB-2022 12:19:29
Lab ID: OPR2_18913_DF

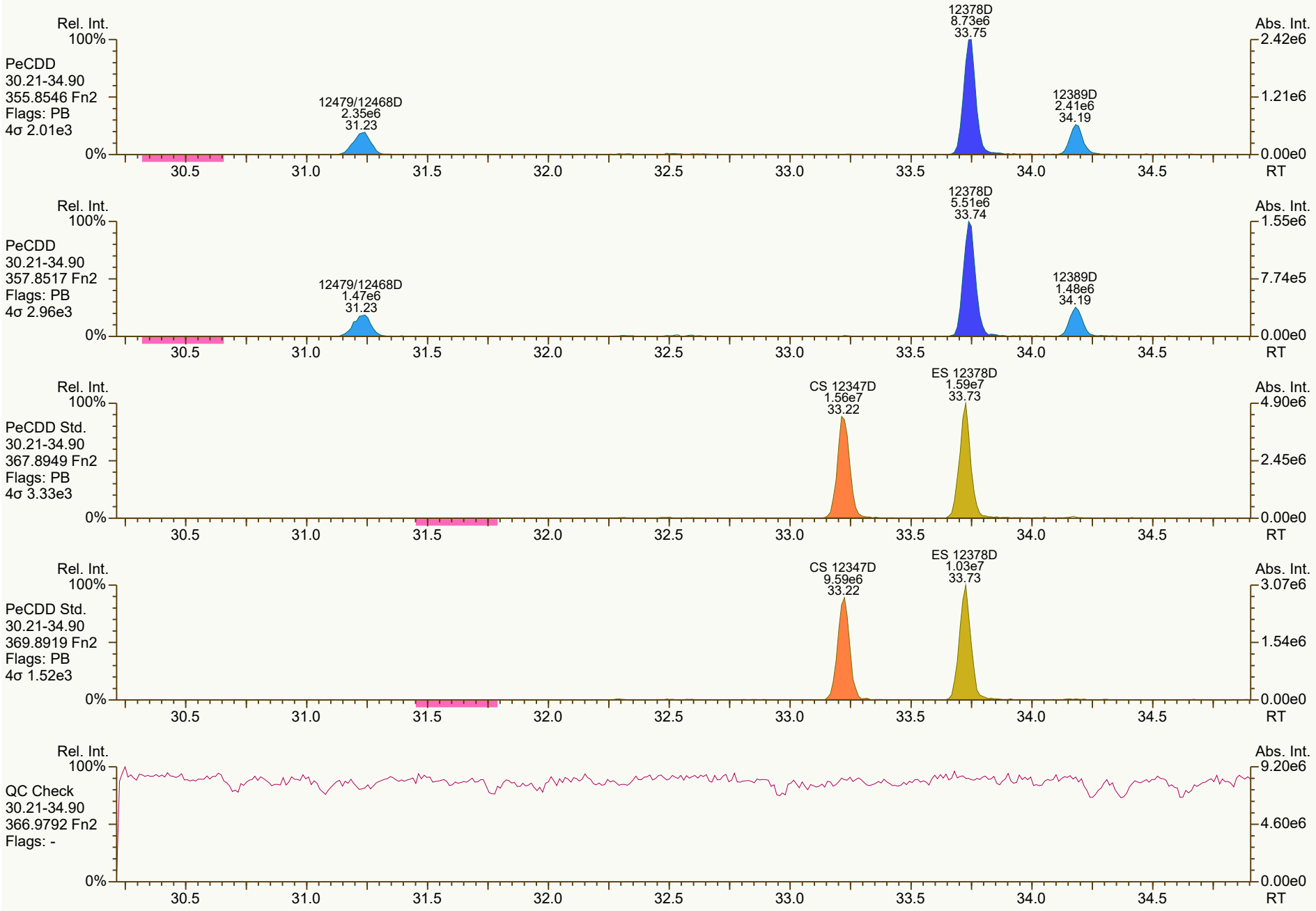
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	88.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	105	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.9	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	103	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.4	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	94	26	-	166	Y
13C-OCDD	200	157	26	-	397	Y
13C-2,3,7,8-TCDF	100	81.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	99.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	96.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	99.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	119	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	113	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	96.3	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	109	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	92.3	20	-	186	Y
13C-OCDF	200	161	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.5	12.4	-	76.4	Y

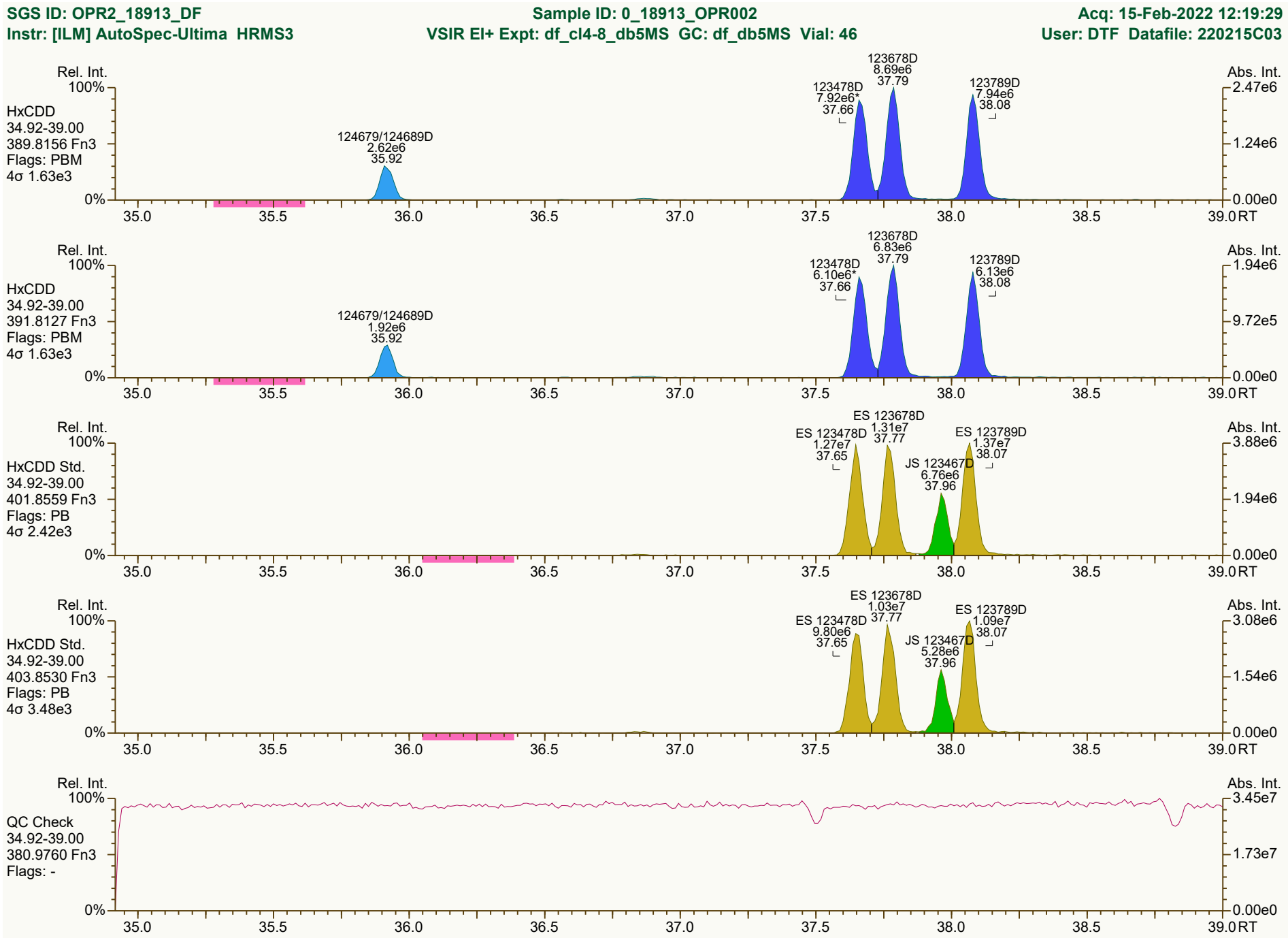
Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

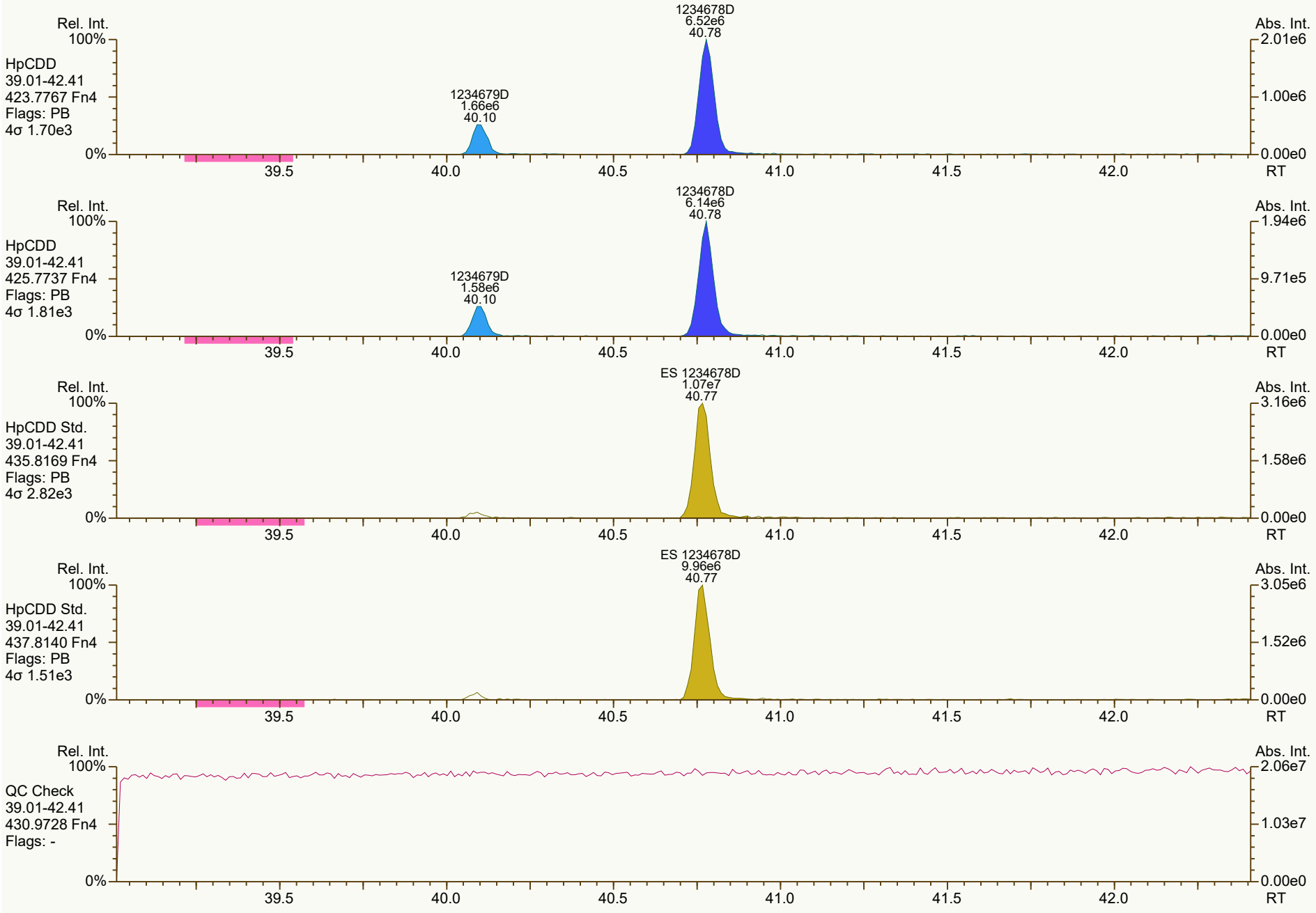
Processed: 16 Feb 2022 15:39 Analyst: TF

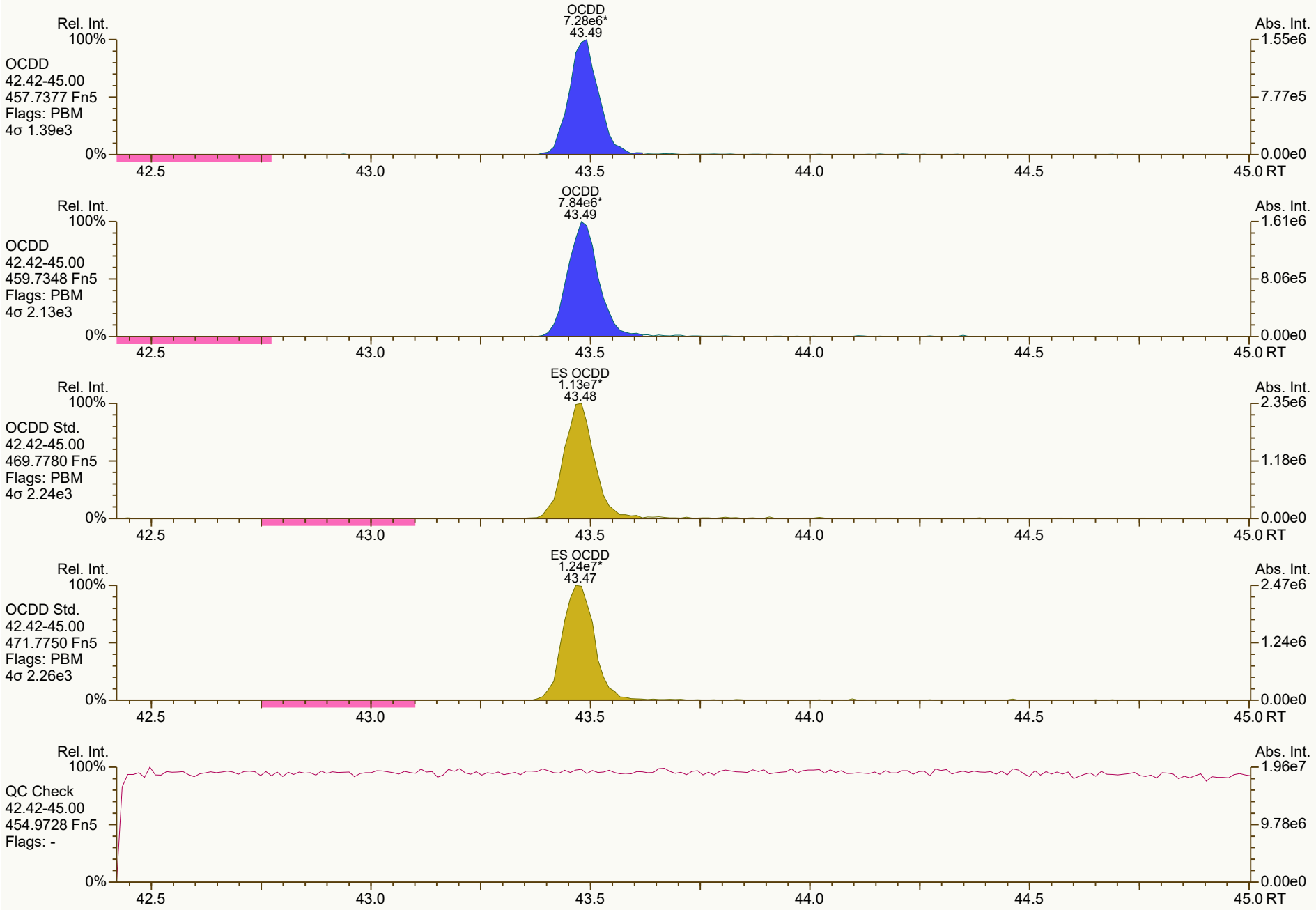

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.09e7
5.44e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
9.20e6
4.60e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.45e7
1.73e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.06e7
1.03e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.96e7
9.78e6
0.00e0

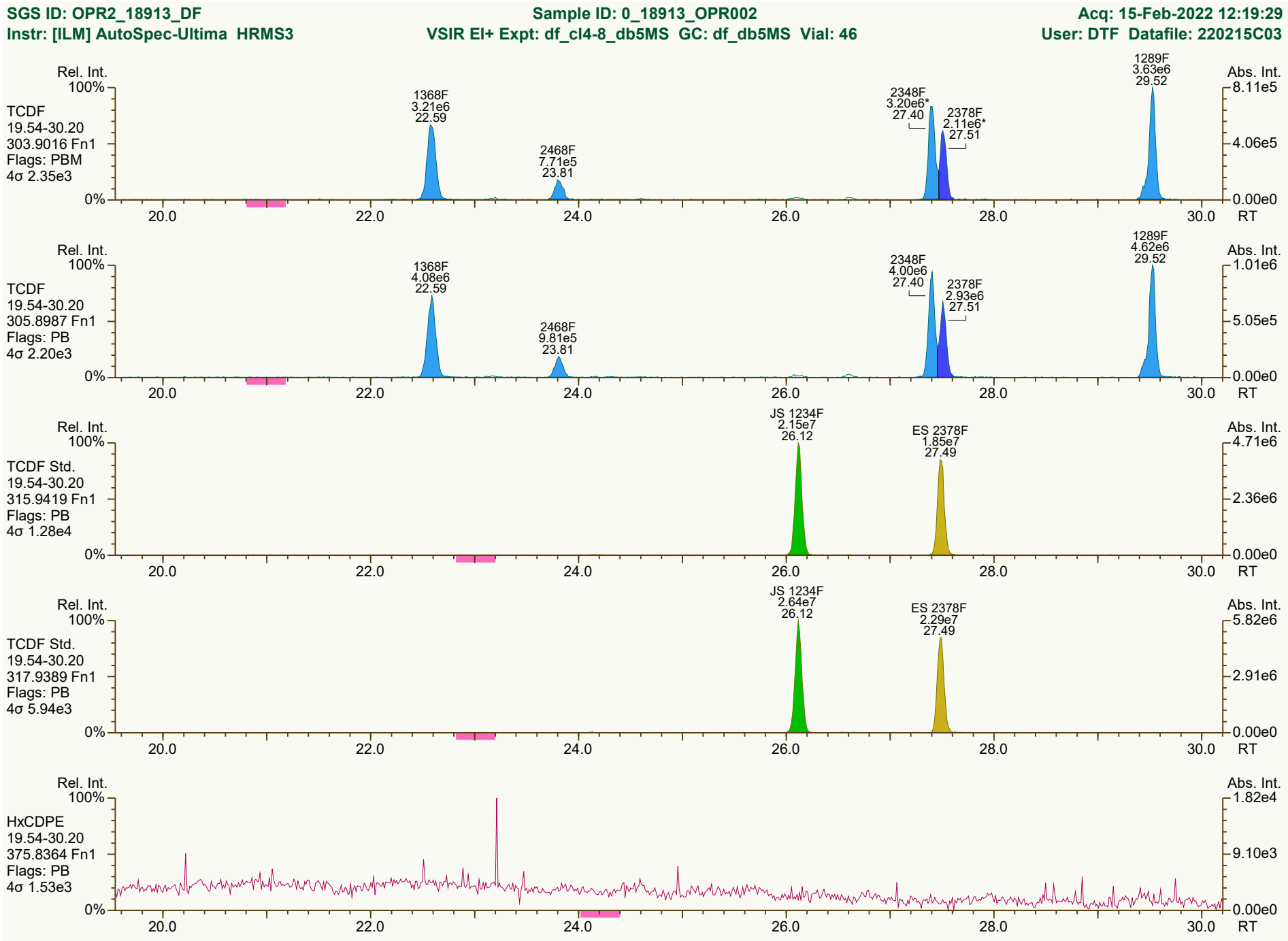

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.65e3
0%
1368D
2.21e6
24.71
1239D
1.54e6
28.22
2378D
1.72e6
28.37
1289D
2.32e6
29.35
Abs. Int.
5.94e5
2.97e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 3.00e3
0%
1368D
2.82e6
24.71
1239D
2.03e6*
28.21
2378D
2.16e6*
28.37
1289D
2.90e6
29.35
Abs. Int.
7.16e5
3.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.75e3
0%
CS 37Cl-2378D
1.31e7
28.37
Abs. Int.
3.18e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.16e3
0%
JS 1234D
1.28e7
27.69
ES 2378D
1.17e7
28.35
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.07e3
0%
JS 1234D
1.55e7
27.69
ES 2378D
1.45e7
28.35
Abs. Int.
3.66e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 2.01e3
12479/12468D
2.35e6
31.23
12378D
8.73e6
33.75
12389D
2.41e6
34.19
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 2.96e3
12479/12468D
1.47e6
31.23
12378D
5.51e6
33.74
12389D
1.48e6
34.19
Abs. Int.
1.55e6
7.74e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.33e3
CS 12347D
1.56e7
33.22
ES 12378D
1.59e7
33.73
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.52e3
CS 12347D
9.59e6
33.22
ES 12378D
1.03e7
33.73
Abs. Int.
3.07e6
1.54e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
9.20e6
4.60e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR2_18913_DF
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.63e3
124679/124689D
2.62e6
35.92
123478D
7.92e6*
37.66
123678D
8.69e6
37.79
123789D
7.94e6
38.08
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.63e3
124679/124689D
1.92e6
35.92
123478D
6.10e6*
37.66
123678D
6.83e6
37.79
123789D
6.13e6
38.08
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.42e3
ES 123478D
1.27e7
37.65
ES 123678D
1.31e7
37.77
JS 123467D
6.76e6
37.96
ES 123789D
1.37e7
38.07
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.48e3
ES 123478D
9.80e6
37.65
ES 123678D
1.03e7
37.77
JS 123467D
5.28e6
37.96
ES 123789D
1.09e7
38.07
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7623, 1066 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 16-Feb-2022 15:43 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.70e3
1234678D
6.52e6
40.78
1234679D
1.66e6
40.10
Abs. Int.
2.01e6
1.00e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.81e3
1234678D
6.14e6
40.78
1234679D
1.58e6
40.10
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.82e3
ES 1234678D
1.07e7
40.77
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.51e3
ES 1234678D
9.96e6
40.77
Abs. Int.
3.05e6
1.52e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
2.06e7
1.03e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.28e6*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.39e3
0%
Abs. Int.
1.55e6
7.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.84e6*
43.49
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.13e3
1.61e6
8.06e5
ES OCDD
1.13e7*
43.48
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.24e3
2.35e6
1.18e6
ES OCDD
1.24e7*
43.47
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.26e3
2.47e6
1.24e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
1.96e7
9.78e6



Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6168, 4933, 5567 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 16-Feb-2022 15:43 Page 7 of 12

SGS ID: OPR2_18913_DF | Sample ID: 0_18913_OPR002 | Acq: 15-Feb-2022 12:19:29

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46 | User: DTF Datafile: 220215C03

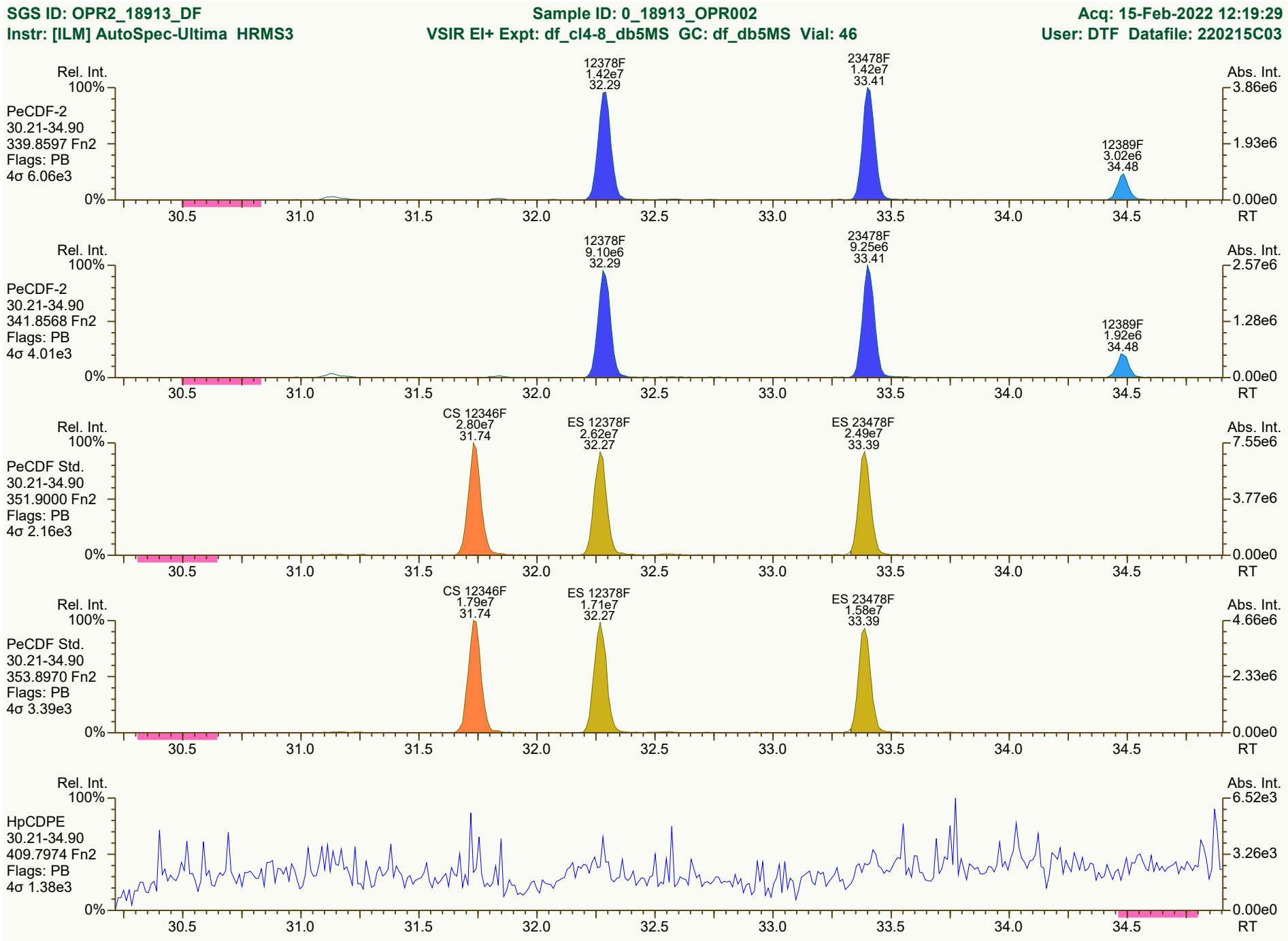


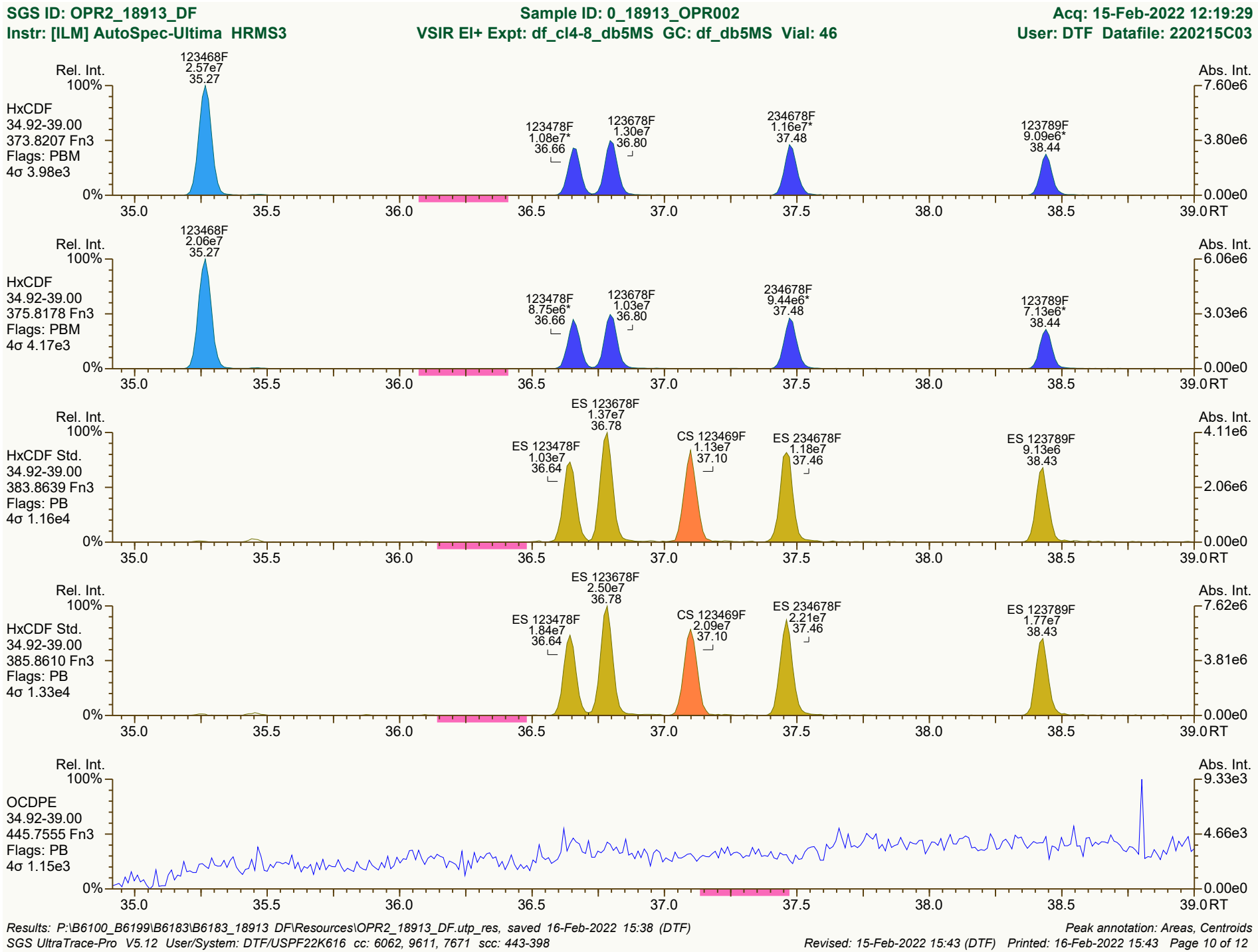
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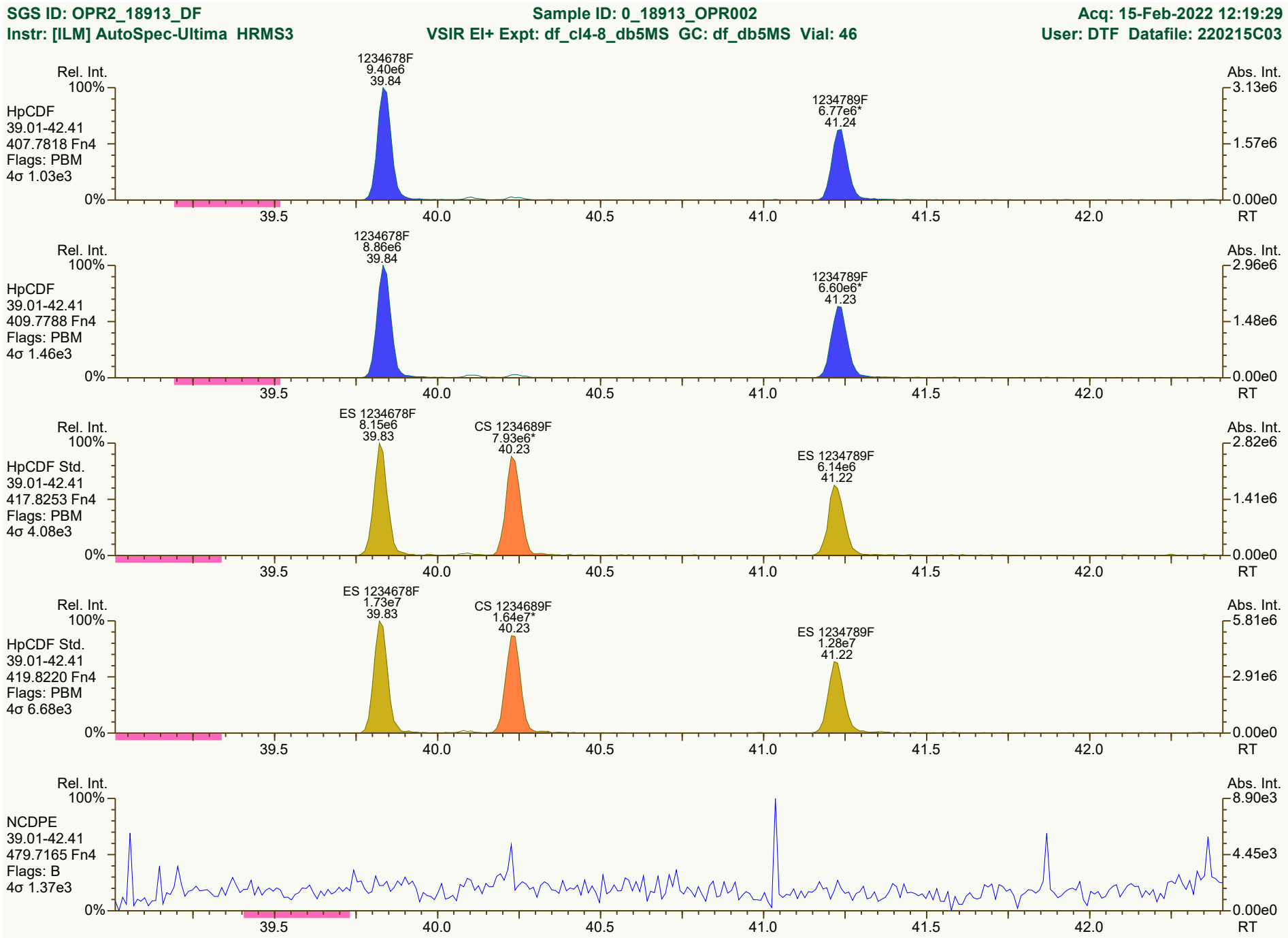
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2215 scc: 443-398

PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:43 Page 8 of 12


SGS ID: OPR2_18913_DF
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 6.06e3
12378F 1.42e7 32.29
23478F 1.42e7 33.41
12389F 3.02e6 34.48
3.86e6
1.93e6
0.00e0
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 4.01e3
12378F 9.10e6 32.29
23478F 9.25e6 33.41
12389F 1.92e6 34.48
2.57e6
1.28e6
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.16e3
CS 12346F 2.80e7 31.74
ES 12378F 2.62e7 32.27
ES 23478F 2.49e7 33.39
7.55e6
3.77e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.39e3
CS 12346F 1.79e7 31.74
ES 12378F 1.71e7 32.27
ES 23478F 1.58e7 33.39
4.66e6
2.33e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.38e3
6.52e3
3.26e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2526, 8207, 1805 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 16-Feb-2022 15:43 Page 9 of 12

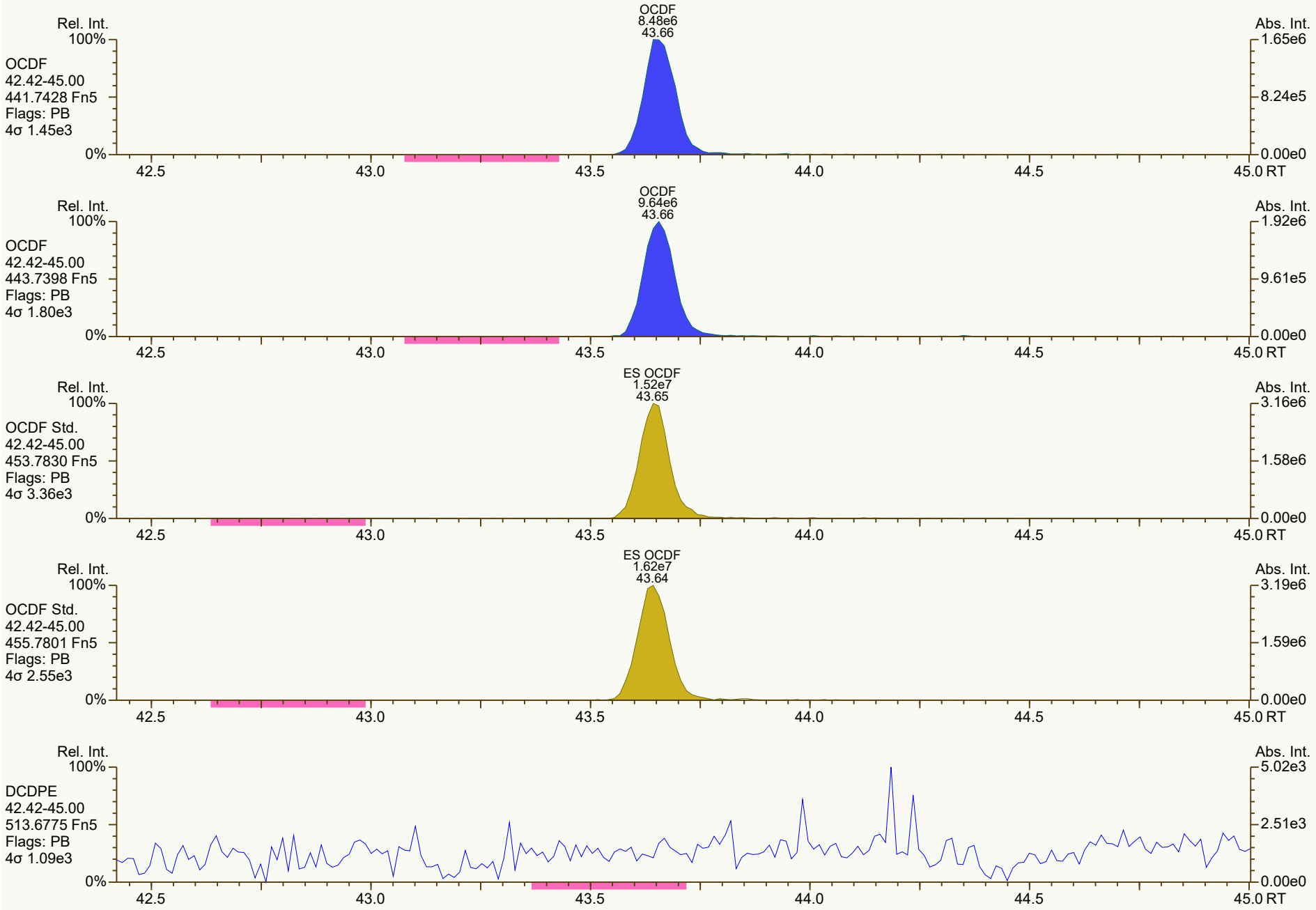

SGS ID: OPR2_18913_DF
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.98e3
123468F
2.57e7
35.27
123478F
1.08e7*
36.66
123678F
1.30e7
36.80
234678F
1.16e7*
37.48
123789F
9.09e6*
38.44
7.60e6
3.80e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.17e3
123468F
2.06e7
35.27
123478F
8.75e6*
36.66
123678F
1.03e7
36.80
234678F
9.44e6*
37.48
123789F
7.13e6*
38.44
6.06e6
3.03e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.16e4
ES 123678F
1.37e7
36.78
ES 123478F
1.03e7
36.64
CS 123469F
1.13e7
37.10
ES 234678F
1.18e7
37.46
ES 123789F
9.13e6
38.43
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.33e4
ES 123678F
2.50e7
36.78
ES 123478F
1.84e7
36.64
CS 123469F
2.09e7
37.10
ES 234678F
2.21e7
37.46
ES 123789F
1.77e7
38.43
7.62e6
3.81e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.15e3
9.33e3
4.66e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6062, 9611, 7671 scc: 443-398
Revised: 15-Feb-2022 15:43 (DTF) Printed: 16-Feb-2022 15:43 Page 10 of 12



Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6486, 3017, 4338 scc: 443-398
Revised: 15-Feb-2022 15:43 (DTF) Printed: 16-Feb-2022 15:43 Page 11 of 12

SGS ID: OPR2_18913_DF | Sample ID: 0_18913_OPR002 | Acq: 15-Feb-2022 12:19:29

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46 | User: DTF Datafile: 220215C03



Results: P:\B6100_B6199\B6183\B6183_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 15:38 (DTF)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3462, 5764, 4716 scc: 443-398

PKD: 15-Feb-2022 15:41 Printed: 16-Feb-2022 15:43 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-012022-S-BN-SW-S-44 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	Lab Sample ID	B6206_18863_DF_001	Date Extracted:	24-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	81.1 %	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:49:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,360			E	ES 2378-TCDD	89.5	
12378-PeCDD	13.2				ES 12378-PeCDD	96.5	
123478-HxCDD	EMPC		0.853	J	ES 123478-HxCDD	93.6	
123678-HxCDD	4.19				ES 123678-HxCDD	107	
123789-HxCDD	2.69				ES 123789-HxCDD	93.9	
1234678-HpCDD	167				ES 1234678-HpCDD	94.3	
OCDD	2,490				ES OCDD	84.7	
2378-TCDF	3,970			E	ES 2378-TCDF	93.5	
12378-PeCDF	123				ES 12378-PeCDF	93.4	
23478-PeCDF	111				ES 23478-PeCDF	98.9	
123478-HxCDF	258				ES 123478-HxCDF	95.2	
123678-HxCDF	71.3				ES 123678-HxCDF	110	
234678-HxCDF	12.2				ES 234678-HxCDF	107	
123789-HxCDF	ND	0.436			ES 123789-HxCDF	87.4	
1234678-HpCDF	86.7				ES 1234678-HpCDF	125	
1234789-HpCDF	35.2				ES 1234789-HpCDF	79.5	
OCDF	65.7				ES OCDF	75.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.9	
Total TCDD	1,530		1,530	E	CS 12347-PeCDD	108	
Total PeCDD	21.1		25.5		CS 12346-PeCDF	98.7	
Total HxCDD	49.9		52.2		CS 123469-HxCDF	121	
Total HpCDD	340		340		CS 1234689-HpCDF	123	
Total TCDF	7,600		7,600	E			
Total PeCDF	366		366				
Total HxCDF	397		398				
Total HpCDF	159		159				
Total PCDD/Fs	**13,000**		**13,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	1840		1840				
TEQ: ND=DL/2	1840	0.657	1840				
TEQ: ND=DL	1840	1.31	1840				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-012022-S-BN-SW-S-44 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	Lab Sample ID:	B6206_18863_DF_001	Date Extracted:	24-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	81.1 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:49:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.54		12479/12468D	2	J	124679/124689D	29.1		1234679D	172	
1379D	[1.29]		12469D	3.1		123468D	[1.46]	J	1234678D	167	
1369D	(0.499)		12368D	[3.12]		123679/123689D	14				
1469D	[3.44]		12478D	1.03	J	123469D	(0.345)				
1247D...[4]	2.23		12379D	1.2	J	123478D	[0.853]	J			
1378D	4.29		12369D...[3]	[1.31]	J	123678D	4.19				
1268D	(0.499)		12346/12347D	(0.4)		123467D	(0.345)				
1478D	4.13		12378D	13.2		123789D	2.69		**Conc.**	340	
1279D	(0.499)		12367D	0.585	J				**EMPC**	340	
1234/1269D	(0.499)		12389D	(0.4)							
1236D	(0.499)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	22.3										
1239D	(0.499)								OCDD	2490	
2378D	1360	E									
1278D	131										
1267D	(0.499)										
1289D	(0.499)										
Conc.	1,530		**Conc.**	21.1		**Conc.**	49.9				
EMPC	1,530		**EMPC**	25.5		**EMPC**	52.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,840	1,840
TEQ: ND=DL/2	1,840	1,840
TEQ: ND=DL	1,840	1,840

	Conc.	EMPC
Total PCDD/Fs	13,000	13,000

Checkcode: 852-968-RGT

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-S-44 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	Lab Sample ID:	B6206_18863_DF_001	Date Extracted:	24-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	81.1 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:49:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.778]		13468/12468F	4.27		123468F	4.43	B	1234678F	86.7	
1468F	6.2		13678F...[3]	1.64	J	124678/134678F	24.6		1234679F	(0.218)	
2468F	4.04		12368F...[3]	59.4		134679F	(0.362)		1234689F	36.7	
1346/1246F	(0.209)		14678F	(0.417)		124679F	(0.362)		1234789F	35.2	
1347F...[3]	48.2		13479F	(0.417)		124689F	10.2				
1348F	(0.209)		13469/12479F	(0.417)		123467F	[1.01]	J			
1248F...[3]	198		12346F	(0.417)		123478F	258				
1268F	64.5		23468/12469F	2.77		123678F	71.3				
1467F	7.82		12347F	2.55		123479F	(0.362)				
1478F	156		12348F	13.2		123469F	(0.362)				
1369/1237F	40.5		12378F	123		123679F	(0.362)				
2467F	3.81		12678/12367F	41		234678F	12.2		**Conc.**	159	
2368F	(0.209)		12379F	(0.417)		234678/123689F	0		**EMPC**	159	
1238F...[5]	295		12679F	(0.417)		123689F	(0.362)				
1278F	1730	E	23467/12369F	1.64	J	123789F	(0.436)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.209)		23478F	111		123789/123489F	0				
1267F	95.4		23478/12489F	0		123489F	16		OCDF	65.7	
2346/1249F	14.2		12489F	(0.417)							
2347/1279F	45.2		12349F	(0.417)							
2348F	264		12389F	5.33							
2378F	3970	E									
2367/3467F	305										
1269F	56.9										
1239F	5.06										
1289F	298										
Conc.	7,600		**Conc.**	366		**Conc.**	397				
EMPC	7,600		**EMPC**	366		**EMPC**	398				

Checkcode: 852-968-RGT

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-S-44 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6206_18863_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.25 g	QC Batch No.:	18863
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	24-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 19:49
Lab Project No:	B6206	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1360	E	0.499	1360	1360	1360
12378-PeCDD	13.2		0.4	6.59	13.2	13.2
123478-HxCDD	[0.853]	J	0.367	[0.0853]	[0.0853]	[0.0853]
123678-HxCDD	4.19		0.318	0.419	0.419	0.419
123789-HxCDD	2.69		0.353	0.269	0.269	0.269
1234678-HpCDD	167		0.369	1.67	1.67	1.67
OCDD	2490		0.715	2.49	0.249	0.747
2378-TCDF	3970	E	0.209	397	397	397
12378-PeCDF	123		0.429	6.17	6.17	3.7
23478-PeCDF	111		0.405	55.4	55.4	33.2
123478-HxCDF	258		0.321	25.8	25.8	25.8
123678-HxCDF	71.3		0.348	7.13	7.13	7.13
234678-HxCDF	12.2		0.363	1.22	1.22	1.22
123789-HxCDF	(0.436)		0.436	(0.0436)	(0.0436)	(0.0436)
1234678-HpCDF	86.7		0.146	0.867	0.867	0.867
1234789-HpCDF	35.2		0.35	0.352	0.352	0.352
OCDF	65.7		0.524	0.0657	0.00657	0.0197

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TEQ Summaries			
EMPC = 0, ND = 0	1860	1870	1840
EMPC = 0, ND = DL / 2	1860	1870	1840
EMPC = 0, ND = DL	1860	1870	1840
EMPC = 0, < J-level = 0	1860	1870	1840
EMPC = EMPC, ND = 0	1860	1870	1840
EMPC = EMPC, ND = DL / 2	1860	1870	1840
EMPC = EMPC, ND = DL	1860	1870	1840
EMPC = EMPC, < J-level = 0	1860	1870	1840

Checkcode: 852-968-RGT

SGS North America - DF v0.99

Sample ID: 11215131-012022-S-BN-SW-S-45 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6206_18863_DF_002	Date Extracted:	24-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	78.7 %	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:36:18

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,560			E	ES 2378-TCDD	88	
12378-PeCDD	14.8				ES 12378-PeCDD	94.1	
123478-HxCDD	1.28			J	ES 123478-HxCDD	100	
123678-HxCDD	5.51				ES 123678-HxCDD	108	
123789-HxCDD	3.12				ES 123789-HxCDD	109	
1234678-HpCDD	186				ES 1234678-HpCDD	100	
OCDD	2,550				ES OCDD	88.1	
2378-TCDF	4,450			E	ES 2378-TCDF	84.6	
12378-PeCDF	145				ES 12378-PeCDF	86.6	
23478-PeCDF	122				ES 23478-PeCDF	86.4	
123478-HxCDF	248				ES 123478-HxCDF	103	
123678-HxCDF	65.5				ES 123678-HxCDF	116	
234678-HxCDF	14.3				ES 234678-HxCDF	98.8	
123789-HxCDF	ND	0.352			ES 123789-HxCDF	95.8	
1234678-HpCDF	79.3				ES 1234678-HpCDF	126	
1234789-HpCDF	30.3				ES 1234789-HpCDF	91.8	
OCDF	123				ES OCDF	83.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.7	
Total TCDD	1,760		1,760	E	CS 12347-PeCDD	106	
Total PeCDD	22.8		25.5		CS 12346-PeCDF	92.5	
Total HxCDD	51		52.8		CS 123469-HxCDF	122	
Total HpCDD	383		383		CS 1234689-HpCDF	102	
Total TCDF	8,650		8,650	E			
Total PeCDF	424		426				
Total HxCDF	397		399				
Total HpCDF	145		145				
Total PCDD/Fs	**14,500**		**14,500**	E			
WHO-2005 TEQs							
TEQ: ND=0	2100		2100				
TEQ: ND=DL/2	2100	0.581	2100				
TEQ: ND=DL	2100	1.16	2100				

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Sample ID: 11215131-012022-S-BN-SW-S-45 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6206_18863_DF_002	Date Extracted:	24-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	78.7 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:36:18

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.45		12479/12468D	1.76	J	124679/124689D	24.6		1234679D	197	
1379D	1.52		12469D	2.13	J	123468D	2.16	J	1234678D	186	
1369D	(0.328)		12368D	2.84		123679/123689D	14.3				
1469D	2.78		12478D	1.3	J	123469D	[1.2]	J			
1247D...[4]	2.87		12379D	[0.848]	J	123478D	1.28	J			
1378D	4.78		12369D...[3]	[0.988]	J	123678D	5.51				
1268D	(0.328)		12346/12347D	(0.385)		123467D	[0.671]	J			
1478D	4.4		12378D	14.8		123789D	3.12		**Conc.**	383	
1279D	(0.328)		12367D	[0.845]	J				**EMPC**	383	
1234/1269D	1.04		12389D	(0.385)							
1236D	(0.328)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	24.8										
1239D	(0.328)								OCDD	2550	
2378D	1560	E									
1278D	150										
1267D	(0.328)										
1289D	[1.9]										
Conc.	1,760		**Conc.**	22.8		**Conc.**	51				
EMPC	1,760		**EMPC**	25.5		**EMPC**	52.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,100	2,100
TEQ: ND=DL/2	2,100	2,100
TEQ: ND=DL	2,100	2,100

	Conc.	EMPC
Total PCDD/Fs	14,500	14,500

Checkcode: 097-537-JZV

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-S-45 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6206_18863_DF_002	Date Extracted:	24-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	78.7 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:36:18

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.56		13468/12468F	6.38		123468F	5.33	B	1234678F	79.3	
1468F	7.33		13678F...[3]	2.07	J	124678/134678F	28.2		1234679F	(0.359)	
2468F	5.56		12368F...[3]	70.3		134679F	(0.295)		1234689F	34.9	
1346/1246F	(0.31)		14678F	(0.532)		124679F	(0.295)		1234789F	30.3	
1347F...[3]	52.6		13479F	(0.532)		124689F	16.8				
1348F	(0.31)		13469/12479F	(0.532)		123467F	[1.46]	J			
1248F...[3]	220		12346F	(0.532)		123478F	248				
1268F	71.7		23468/12469F	3.31		123678F	65.5				
1467F	10.2		12347F	3.67		123479F	(0.295)				
1478F	175		12348F	15.6		123469F	(0.295)				
1369/1237F	45.6		12378F	145		123679F	(0.295)				
2467F	5.68		12678/12367F	49.6		234678F	14.3		**Conc.**	145	
2368F	386		12379F	(0.532)		234678/123689F	0		**EMPC**	145	
1238F...[5]	(0.31)		12679F	(0.532)		123689F	(0.295)				
1278F	2000	E	23467/12369F	[2.25]	J	123789F	(0.352)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.31)		23478F	122		123789/123489F	0				
1267F	112		23478/12489F	0		123489F	19.5		OCDF	123	
2346/1249F	15.5		12489F	(0.532)							
2347/1279F	43.1		12349F	(0.532)							
2348F	291		12389F	6.32							
2378F	4450	E									
2367/3467F	341										
1269F	67.6										
1239F	6.13										
1289F	346										
Conc.	8,650		**Conc.**	424		**Conc.**	397				
EMPC	8,650		**EMPC**	426		**EMPC**	399				

Checkcode: 097-537-JZV

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-S-45 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6206_18863_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18863
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	24-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 20:36
Lab Project No:	B6206	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1560	E	0.328	1560	1560	1560
12378-PeCDD	14.8		0.385	7.38	14.8	14.8
123478-HxCDD	1.28	J	0.382	0.128	0.128	0.128
123678-HxCDD	5.51		0.407	0.551	0.551	0.551
123789-HxCDD	3.12		0.344	0.312	0.312	0.312
1234678-HpCDD	186		0.488	1.86	1.86	1.86
OCDD	2550		0.927	2.55	0.255	0.765
2378-TCDF	4450	E	0.31	445	445	445
12378-PeCDF	145		0.545	7.26	7.26	4.35
23478-PeCDF	122		0.518	60.9	60.9	36.5
123478-HxCDF	248		0.271	24.8	24.8	24.8
123678-HxCDF	65.5		0.252	6.55	6.55	6.55
234678-HxCDF	14.3		0.327	1.43	1.43	1.43
123789-HxCDF	(0.352)		0.352	(0.0352)	(0.0352)	(0.0352)
1234678-HpCDF	79.3		0.281	0.793	0.793	0.793
1234789-HpCDF	30.3		0.482	0.303	0.303	0.303
OCDF	123		0.88	0.123	0.0123	0.0369

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TEQ Summaries			
EMPC = 0, ND = 0	2120	2130	2100
EMPC = 0, ND = DL / 2	2120	2130	2100
EMPC = 0, ND = DL	2120	2130	2100
EMPC = 0, < J-level = 0	2120	2130	2100
EMPC = EMPC, ND = 0	2120	2130	2100
EMPC = EMPC, ND = DL / 2	2120	2130	2100
EMPC = EMPC, ND = DL	2120	2130	2100
EMPC = EMPC, < J-level = 0	2120	2130	2100

Checkcode: 097-537-JZV

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Sample ID: 11215131-011922-S-BN-SW-S-46 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.44 g	Lab Sample ID	B6206_18863_DF_003	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	81.0 %	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:22:39

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	443				ES 2378-TCDD	95.7	
12378-PeCDD	5.62				ES 12378-PeCDD	112	
123478-HxCDD	ND	0.455			ES 123478-HxCDD	93.2	
123678-HxCDD	1.22			J	ES 123678-HxCDD	102	
123789-HxCDD	1.23			J	ES 123789-HxCDD	90.8	
1234678-HpCDD	48.7				ES 1234678-HpCDD	89.4	
OCDD	2,590				ES OCDD	87.6	
2378-TCDF	1,280			E	ES 2378-TCDF	87.5	
12378-PeCDF	60.3				ES 12378-PeCDF	92	
23478-PeCDF	44.8				ES 23478-PeCDF	106	
123478-HxCDF	117				ES 123478-HxCDF	97.1	
123678-HxCDF	32				ES 123678-HxCDF	102	
234678-HxCDF	5.45				ES 234678-HxCDF	94.2	
123789-HxCDF	ND	0.355			ES 123789-HxCDF	92.2	
1234678-HpCDF	32.3				ES 1234678-HpCDF	116	
1234789-HpCDF	14.5				ES 1234789-HpCDF	81.4	
OCDF	EMPC		29.5		ES OCDF	86.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.4	
Total TCDD	497		498		CS 12347-PeCDD	119	
Total PeCDD	8.99		9.42		CS 12346-PeCDF	100	
Total HxCDD	31.6		31.6		CS 123469-HxCDF	114	
Total HpCDD	170		170		CS 1234689-HpCDF	118	
Total TCDF	2,500		2,500	E			
Total PeCDF	160		161				
Total HxCDF	180		180				
Total HpCDF	60.9		60.9				
Total PCDD/Fs	**6,200**		**6,230**	E			
WHO-2005 TEQs							
TEQ: ND=0	610		610				
TEQ: ND=DL/2	610	0.551	610				
TEQ: ND=DL	610	1.1	610				

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Sample ID: 11215131-011922-S-BN-SW-S-46 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.44 g	Lab Sample ID:	B6206_18863_DF_003	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	81.0 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:22:39

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.831		12479/12468D	[0.429]	J	124679/124689D	21.8		1234679D	122	
1379D	(0.405)		12469D	2.72		123468D	(0.427)		1234678D	48.7	
1369D	(0.405)		12368D	0.649	J	123679/123689D	5.39				
1469D	4.08		12478D	(0.3)		123469D	1.28	J			
1247D...[4]	(0.405)		12379D	(0.3)		123478D	(0.455)				
1378D	1.4		12369D...[3]	(0.3)		123678D	1.22	J			
1268D	(0.405)		12346/12347D	(0.3)		123467D	0.677	J			
1478D	1.39		12378D	5.62		123789D	1.23	J	**Conc.**	170	
1279D	(0.405)		12367D	(0.3)					**EMPC**	170	
1234/1269D	[0.526]		12389D	(0.3)							
1236D	(0.405)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	6.34										
1239D	(0.405)								OCDD	2590	
2378D	443										
1278D	39.7										
1267D	(0.405)										
1289D	(0.405)										
Conc.	497		**Conc.**	8.99		**Conc.**	31.6				
EMPC	498		**EMPC**	9.42		**EMPC**	31.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	610	610
TEQ: ND=DL/2	610	610
TEQ: ND=DL	610	610

	Conc.	EMPC
Total PCDD/Fs	6,200	6,230

Checkcode: 146-499-ZHZ

Report Created: 26-Jan-2022 11:28 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-S-46 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.44 g	Lab Sample ID:	B6206_18863_DF_003	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	81.0 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:22:39

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.288)		13468/12468F	1.43	J	123468F	1.57	J	1234678F	32.3	
1468F	2.21		13678F...[3]	[0.702]	J	124678/134678F	9.92		1234679F	(0.218)	
2468F	1.54		12368F...[3]	25.2		134679F	(0.313)		1234689F	14.1	
1346/1246F	(0.288)		14678F	(0.345)		124679F	(0.313)		1234789F	14.5	
1347F...[3]	14.4		13479F	(0.345)		124689F	4.57				
1348F	(0.288)		13469/12479F	(0.345)		123467F	[0.597]	J			
1248F...[3]	65.1		12346F	(0.345)		123478F	117				
1268F	20.1		23468/12469F	1.22	J	123678F	32				
1467F	3.05		12347F	0.937	J	123479F	(0.313)				
1478F	51.3		12348F	5.74		123469F	(0.313)				
1369/1237F	13.1		12378F	60.3		123679F	(0.313)				
2467F	[1.6]		12678/12367F	17.3		234678F	5.45		**Conc.**	60.9	
2368F	107		12379F	(0.345)		234678/123689F	0		**EMPC**	60.9	
1238F...[5]	(0.288)		12679F	(0.345)		123689F	(0.313)				
1278F	570		23467/12369F	1.15	J	123789F	(0.355)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.288)		23478F	44.8		123789/123489F	0				
1267F	31.4		23478/12489F	0		123489F	8.77		OCDF	[29.5]	
2346/1249F	4.24		12489F	(0.345)							
2347/1279F	15.1		12349F	(0.345)							
2348F	93.2		12389F	2.34	J						
2378F	1280	E									
2367/3467F	101										
1269F	21.5										
1239F	2.14										
1289F	98										
Conc.	2,500		**Conc.**	160		**Conc.**	180				
EMPC	2,500		**EMPC**	161		**EMPC**	180				

Checkcode: 146-499-ZHZ

Report Created: 26-Jan-2022 11:28 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-S-46 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6206_18863_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.44 g	QC Batch No.:	18863
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	24-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 21:22
Lab Project No:	B6206	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	443		0.405	443	443	443
12378-PeCDD	5.62		0.3	2.81	5.62	5.62
123478-HxCDD	(0.455)		0.455	(0.0455)	(0.0455)	(0.0455)
123678-HxCDD	1.22	J	0.408	0.122	0.122	0.122
123789-HxCDD	1.23	J	0.422	0.123	0.123	0.123
1234678-HpCDD	48.7		0.367	0.487	0.487	0.487
OCDD	2590		1.01	2.59	0.259	0.778
2378-TCDF	1280	E	0.288	128	128	128
12378-PeCDF	60.3		0.38	3.01	3.01	1.81
23478-PeCDF	44.8		0.314	22.4	22.4	13.4
123478-HxCDF	117		0.274	11.7	11.7	11.7
123678-HxCDF	32		0.279	3.2	3.2	3.2
234678-HxCDF	5.45		0.356	0.545	0.545	0.545
123789-HxCDF	(0.355)		0.355	(0.0355)	(0.0355)	(0.0355)
1234678-HpCDF	32.3		0.166	0.323	0.323	0.323
1234789-HpCDF	14.5		0.303	0.145	0.145	0.145
OCDF	[29.5]		0.597	[0.0295]	[0.00295]	[0.00886]

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TEQ Summaries			
EMPC = 0, ND = 0	619	620	610
EMPC = 0, ND = DL / 2	619	620	610
EMPC = 0, ND = DL	619	620	610
EMPC = 0, < J-level = 0	619	619	610
EMPC = EMPC, ND = 0	619	620	610
EMPC = EMPC, ND = DL / 2	619	620	610
EMPC = EMPC, ND = DL	619	620	610
EMPC = EMPC, < J-level = 0	619	619	610

Checkcode: 146-499-ZHZ

Sample ID: 11215131-011922-S-BN-SW-S-43 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6206_18863_DF_004	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	77.7 %	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:08:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,860			E	ES 2378-TCDD	90.4	
12378-PeCDD	20.6				ES 12378-PeCDD	95.5	
123478-HxCDD	EMPC		1.8	J	ES 123478-HxCDD	92.5	
123678-HxCDD	6.92				ES 123678-HxCDD	103	
123789-HxCDD	4.16				ES 123789-HxCDD	94.6	
1234678-HpCDD	225				ES 1234678-HpCDD	95.2	
OCDD	8,140				ES OCDD	110	
2378-TCDF	5,540			E	ES 2378-TCDF	94.9	
12378-PeCDF	950				ES 12378-PeCDF	95	
23478-PeCDF	477				ES 23478-PeCDF	99.9	
123478-HxCDF	1,070				ES 123478-HxCDF	103	
123678-HxCDF	265				ES 123678-HxCDF	109	
234678-HxCDF	62.6				ES 234678-HxCDF	98.9	
123789-HxCDF	ND	0.642			ES 123789-HxCDF	94.3	
1234678-HpCDF	281				ES 1234678-HpCDF	121	
1234789-HpCDF	87.6				ES 1234789-HpCDF	95.8	
OCDF	1,670				ES OCDF	103	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.1	
Total TCDD	2,070		2,070	E	CS 12347-PeCDD	106	
Total PeCDD	29.7		34.6		CS 12346-PeCDF	105	
Total HxCDD	64.3		68.8		CS 123469-HxCDF	123	
Total HpCDD	552		552		CS 1234689-HpCDF	122	
Total TCDF	10,400		10,400	E			
Total PeCDF	2,200		2,200				
Total HxCDF	1,670		1,670				
Total HpCDF	469		469				
Total PCDD/Fs	**27,200**		**27,200**	E			
WHO-2005 TEQs							
TEQ: ND=0	2760		2760				
TEQ: ND=DL/2	2760	0.765	2760				
TEQ: ND=DL	2760	1.53	2760				

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Sample ID: 11215131-011922-S-BN-SW-S-43 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6206_18863_DF_004	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	77.7 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:08:59

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.47		12479/12468D	[2.37]	J	124679/124689D	27.5		1234679D	327	
1379D	(0.452)		12469D	2.29	J	123468D	3.19		1234678D	225	
1369D	(0.452)		12368D	2.52		123679/123689D	22.5				
1469D	3.08		12478D	2.23	J	123469D	[1.63]	J			
1247D...[4]	2.97		12379D	[1.07]	J	123478D	[1.8]	J			
1378D	5.26		12369D...[3]	2.05	J	123678D	6.92				
1268D	(0.452)		12346/12347D	(0.434)		123467D	[1.12]	J			
1478D	4.59		12378D	20.6		123789D	4.16		**Conc.**	552	
1279D	(0.452)		12367D	[0.765]	J				**EMPC**	552	
1234/1269D	1.26		12389D	[0.644]	J						
1236D	(0.452)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	26.2										
1239D	(0.452)								OCDD	8140	
2378D	1860	E									
1278D	163										
1267D	(0.452)										
1289D	3.37										
Conc.	2,070		**Conc.**	29.7		**Conc.**	64.3				
EMPC	2,070		**EMPC**	34.6		**EMPC**	68.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,760	2,760
TEQ: ND=DL/2	2,760	2,760
TEQ: ND=DL	2,760	2,760

	Conc.	EMPC
Total PCDD/Fs	27,200	27,200

Checkcode: 092-057-MKV

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-S-43 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6206_18863_DF_004	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	77.7 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:08:59

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.73		13468/12468F	23.5		123468F	14		1234678F	281	
1468F	[9.08]		13678F...[3]	6.69		124678/134678F	102		1234679F	8.2	
2468F	7.39		12368F...[3]	392		134679F	(0.56)		1234689F	92.3	
1346/1246F	(0.274)		14678F	(0.531)		124679F	1.36	J	1234789F	87.6	
1347F...[3]	59.9		13479F	(0.531)		124689F	45.4				
1348F	(0.274)		13469/12479F	(0.531)		123467F	9.19				
1248F...[3]	268		12346F	(0.531)		123478F	1070				
1268F	81.4		23468/12469F	6.68		123678F	265				
1467F	11.3		12347F	4.71		123479F	(0.56)				
1478F	201		12348F	62.5		123469F	(0.56)				
1369/1237F	51		12378F	950		123679F	(0.56)				
2467F	5.84		12678/12367F	252		234678F	62.6		**Conc.**	469	
2368F	381		12379F	(0.531)		234678/123689F	0		**EMPC**	469	
1238F...[5]	(0.274)		12679F	(0.531)		123689F	(0.56)				
1278F	2370	E	23467/12369F	4.59		123789F	(0.642)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.274)		23478F	477		123789/123489F	0				
1267F	121		23478/12489F	0		123489F	105		OCDF	1670	
2346/1249F	16.6		12489F	(0.531)							
2347/1279F	58.6		12349F	(0.531)							
2348F	326		12389F	24.4							
2378F	5540	E									
2367/3467F	397										
1269F	75.5										
1239F	7.56										
1289F	375										
Conc.	10,400		**Conc.**	2,200		**Conc.**	1,670				
EMPC	10,400		**EMPC**	2,200		**EMPC**	1,670				

Checkcode: 092-057-MKV

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-S-43 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6206_18863_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18863
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	24-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 22:08
Lab Project No:	B6206	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1860	E	0.452	1860	1860	1860
12378-PeCDD	20.6		0.434	10.3	20.6	20.6
123478-HxCDD	[1.8]	J	0.776	[0.18]	[0.18]	[0.18]
123678-HxCDD	6.92		0.672	0.692	0.692	0.692
123789-HxCDD	4.16		0.695	0.416	0.416	0.416
1234678-HpCDD	225		0.538	2.25	2.25	2.25
OCDD	8140		0.724	8.14	0.814	2.44
2378-TCDF	5540	E	0.274	554	554	554
12378-PeCDF	950		0.57	47.5	47.5	28.5
23478-PeCDF	477		0.493	238	238	143
123478-HxCDF	1070		0.511	107	107	107
123678-HxCDF	265		0.488	26.5	26.5	26.5
234678-HxCDF	62.6		0.626	6.26	6.26	6.26
123789-HxCDF	(0.642)		0.642	(0.0642)	(0.0642)	(0.0642)
1234678-HpCDF	281		0.133	2.81	2.81	2.81
1234789-HpCDF	87.6		0.242	0.876	0.876	0.876
OCDF	1670		0.611	1.67	0.167	0.5

TEQ Summaries			
EMPC = 0, ND = 0	2870	2870	2760
EMPC = 0, ND = DL / 2	2870	2870	2760
EMPC = 0, ND = DL	2870	2870	2760
EMPC = 0, < J-level = 0	2870	2870	2760
EMPC = EMPC, ND = 0	2870	2870	2760
EMPC = EMPC, ND = DL / 2	2870	2870	2760
EMPC = EMPC, ND = DL	2870	2870	2760
EMPC = EMPC, < J-level = 0	2870	2870	2760

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Checkcode: 092-057-MKV

Sample ID: 11215131-011922-S-BN-SW-S-42 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	Lab Sample ID	B6206_18863_DF_005	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	76.9 %	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:55:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	3,950			E	ES 2378-TCDD	93.9	
12378-PeCDD	38.3				ES 12378-PeCDD	102	
123478-HxCDD	EMPC		1.8	J	ES 123478-HxCDD	99.6	
123678-HxCDD	EMPC		7.99		ES 123678-HxCDD	103	
123789-HxCDD	4.55				ES 123789-HxCDD	105	
1234678-HpCDD	322				ES 1234678-HpCDD	101	
OCDD	4,060				ES OCDD	93.3	
2378-TCDF	11,400			E	ES 2378-TCDF	99.8	
12378-PeCDF	412				ES 12378-PeCDF	98.5	
23478-PeCDF	307				ES 23478-PeCDF	98.2	
123478-HxCDF	812				ES 123478-HxCDF	107	
123678-HxCDF	206				ES 123678-HxCDF	112	
234678-HxCDF	38.4				ES 234678-HxCDF	95.1	
123789-HxCDF	ND	0.534			ES 123789-HxCDF	100	
1234678-HpCDF	287				ES 1234678-HpCDF	112	
1234789-HpCDF	93.3				ES 1234789-HpCDF	103	
OCDF	898				ES OCDF	98.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91	
Total TCDD	4,460		4,470	E	CS 12347-PeCDD	109	
Total PeCDD	55.7		60		CS 12346-PeCDF	106	
Total HxCDD	78.6		91		CS 123469-HxCDF	122	
Total HpCDD	643		643		CS 1234689-HpCDF	121	
Total TCDF	21,500		21,500	E			
Total PeCDF	1,130		1,130				
Total HxCDF	1,240		1,240				
Total HpCDF	491		491				
Total PCDD/Fs	**34,600**		**34,600**	E			
WHO-2005 TEQs							
TEQ: ND=0	5340		5340				
TEQ: ND=DL/2	5340	0.734	5340				
TEQ: ND=DL	5340	1.47	5340				

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Sample ID: 11215131-011922-S-BN-SW-S-42 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	Lab Sample ID:	B6206_18863_DF_005	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:55:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.58		12479/12468D	3.79		124679/124689D	37.5		1234679D	321	
1379D	[1.84]		12469D	3.05		123468D	3.71		1234678D	322	
1369D	0.647		12368D	4.31		123679/123689D	32.8				
1469D	5.24		12478D	[2.3]	J	123469D	[1.53]	J			
1247D...[4]	7.15		12379D	1.56	J	123478D	[1.8]	J			
1378D	12.8		12369D...[3]	2.49		123678D	[7.99]				
1268D	(0.461)		12346/12347D	[1.25]	J	123467D	[1.09]	J			
1478D	11.5		12378D	38.3		123789D	4.55		**Conc.**	643	
1279D	(0.461)		12367D	2.16	J				**EMPC**	643	
1234/1269D	2.78		12389D	[0.802]	J						
1236D	(0.461)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	64.7										
1239D	(0.461)								OCDD	4060	
2378D	3950	E									
1278D	387										
1267D	13										
1289D	7.36										
Conc.	4,460		**Conc.**	55.7		**Conc.**	78.6				
EMPC	4,470		**EMPC**	60		**EMPC**	91				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	5,340	5,340
TEQ: ND=DL/2	5,340	5,340
TEQ: ND=DL	5,340	5,340

	Conc.	EMPC
Total PCDD/Fs	34,600	34,600

Checkcode: 076-945-RBV

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-S-42 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	Lab Sample ID:	B6206_18863_DF_005	Date Extracted:	24-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:55:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	2.78		13468/12468F	16.3		123468F	9.76		1234678F	287	
1468F	15.2		13678F...[3]	5.7		124678/134678F	72.4		1234679F	6.1	
2468F	11.3		12368F...[3]	185		134679F	(0.469)		1234689F	104	
1346/1246F	(0.271)		14678F	(0.594)		124679F	1.25	J	1234789F	93.3	
1347F...[3]	102		13479F	(0.594)		124689F	40				
1348F	(0.271)		13469/12479F	(0.594)		123467F	4.78				
1248F...[3]	432		12346F	(0.594)		123478F	812				
1268F	156		23468/12469F	9.79		123678F	206				
1467F	22.2		12347F	8.19		123479F	(0.469)				
1478F	396		12348F	38.4		123469F	(0.469)				
1369/1237F	111		12378F	412		123679F	(0.469)				
2467F	11		12678/12367F	125		234678F	38.4		**Conc.**	491	
2368F	792		12379F	(0.594)		234678/123689F	0		**EMPC**	491	
1238F...[5]	(0.271)		12679F	1.24	J	123689F	(0.469)				
1278F	5140	E	23467/12369F	5.97		123789F	(0.534)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.271)		23478F	307		123789/123489F	0				
1267F	255		23478/12489F	0		123489F	58.8		OCDF	898	
2346/1249F	30.4		12489F	(0.594)							
2347/1279F	132		12349F	(0.594)							
2348F	646		12389F	17.1							
2378F	11400	E									
2367/3467F	850										
1269F	157										
1239F	12.4										
1289F	854										
Conc.	21,500		**Conc.**	1,130		**Conc.**	1,240				
EMPC	21,500		**EMPC**	1,130		**EMPC**	1,240				

Checkcode: 076-945-RBV

Report Created: 26-Jan-2022 09:20 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-S-42 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6206_18863_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	QC Batch No.:	18863
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	24-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	25-Jan-2022 22:55
Lab Project No:	B6206	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	3950	E	0.461	3950	3950	3950
12378-PeCDD	38.3		0.455	19.2	38.3	38.3
123478-HxCDD	[1.8]	J	0.392	[0.18]	[0.18]	[0.18]
123678-HxCDD	[7.99]		0.41	[0.799]	[0.799]	[0.799]
123789-HxCDD	4.55		0.353	0.455	0.455	0.455
1234678-HpCDD	322		0.516	3.22	3.22	3.22
OCDD	4060		0.986	4.06	0.406	1.22
2378-TCDF	11400	E	0.271	1140	1140	1140
12378-PeCDF	412		0.558	20.6	20.6	12.3
23478-PeCDF	307		0.632	154	154	92.2
123478-HxCDF	812		0.441	81.2	81.2	81.2
123678-HxCDF	206		0.399	20.6	20.6	20.6
234678-HxCDF	38.4		0.529	3.84	3.84	3.84
123789-HxCDF	(0.534)		0.534	(0.0534)	(0.0534)	(0.0534)
1234678-HpCDF	287		0.279	2.87	2.87	2.87
1234789-HpCDF	93.3		0.455	0.933	0.933	0.933
OCDF	898		0.706	0.898	0.0898	0.269

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TEQ Summaries			
EMPC = 0, ND = 0	5400	5410	5340
EMPC = 0, ND = DL / 2	5400	5410	5340
EMPC = 0, ND = DL	5400	5410	5340
EMPC = 0, < J-level = 0	5400	5410	5340
EMPC = EMPC, ND = 0	5400	5410	5340
EMPC = EMPC, ND = DL / 2	5400	5410	5340
EMPC = EMPC, ND = DL	5400	5410	5340
EMPC = EMPC, < J-level = 0	5400	5410	5340

Checkcode: 076-945-RBV

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Sample ID: Method Blank B6206_18863 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18863_DF_SDS	Date Extracted:	24-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:17:18

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.419			ES 2378-TCDD	90.9	
12378-PeCDD	ND	0.356			ES 12378-PeCDD	96.6	
123478-HxCDD	ND	0.433			ES 123478-HxCDD	93.4	
123678-HxCDD	ND	0.353			ES 123678-HxCDD	119	
123789-HxCDD	ND	0.459			ES 123789-HxCDD	97.2	
1234678-HpCDD	ND	0.51			ES 1234678-HpCDD	85.4	
OCDD	ND	1.35			ES OCDD	66	
2378-TCDF	ND	0.286			ES 2378-TCDF	90.3	
12378-PeCDF	ND	0.309			ES 12378-PeCDF	90.8	
23478-PeCDF	ND	0.303			ES 23478-PeCDF	94.5	
123478-HxCDF	ND	0.296			ES 123478-HxCDF	92.9	
123678-HxCDF	ND	0.277			ES 123678-HxCDF	112	
234678-HxCDF	ND	0.288			ES 234678-HxCDF	112	
123789-HxCDF	ND	0.355			ES 123789-HxCDF	86.5	
1234678-HpCDF	ND	0.229			ES 1234678-HpCDF	106	
1234789-HpCDF	ND	0.433			ES 1234789-HpCDF	73.4	
OCDF	ND	0.884			ES OCDF	68.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.7	
Total TCDD	ND	0.419	ND		CS 12347-PeCDD	111	
Total PeCDD	ND	0.356	ND		CS 12346-PeCDF	96.4	
Total HxCDD	ND	0.411	ND		CS 123469-HxCDF	122	
Total HpCDD	ND	0.51	ND		CS 1234689-HpCDF	114	
Total TCDF	ND	0.286	ND				
Total PeCDF	ND	0.306	ND				
Total HxCDF	0.685		0.685				
Total HpCDF	ND	0.305	ND				
Total PCDD/Fs	**0.685**		**0.685**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.581	0.581	0.581				
TEQ: ND=DL	1.16	1.16	1.16				

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Sample ID: Method Blank B6206_18863 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18863_DF_SDS	Date Extracted:	24-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:17:18

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.419)		12479/12468D	(0.356)		124679/124689D	(0.411)		1234679D	(0.51)	
1379D	(0.419)		12469D	(0.356)		123468D	(0.411)		1234678D	(0.51)	
1369D	(0.419)		12368D	(0.356)		123679/123689D	(0.411)				
1469D	(0.419)		12478D	(0.356)		123469D	(0.411)				
1247D...[4]	(0.419)		12379D	(0.356)		123478D	(0.433)				
1378D	(0.419)		12369D...[3]	(0.356)		123678D	(0.353)				
1268D	(0.419)		12346/12347D	(0.356)		123467D	(0.411)				
1478D	(0.419)		12378D	(0.356)		123789D	(0.459)		**Conc.**	0	
1279D	(0.419)		12367D	(0.356)					**EMPC**	0	
1234/1269D	(0.419)		12389D	(0.356)							
1236D	(0.419)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.419)										
1239D	(0.419)								OCDD	(1.35)	
2378D	(0.419)										
1278D	(0.419)										
1267D	(0.419)										
1289D	(0.419)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.581	0.581
TEQ: ND=DL	1.16	1.16

	Conc.	EMPC
Total PCDD/Fs	0.685	0.685

Checkcode: 660-125-BZB

Report Created: 26-Jan-2022 09:19 Analyst: TF

Sample ID: Method Blank B6206_18863 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18863_DF_SDS	Date Extracted:	24-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:17:18

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.286)		13468/12468F	(0.287)		123468F	0.685	J	1234678F	(0.229)	
1468F	(0.286)		13678F...[3]	(0.306)		124678/134678F	(0.299)		1234679F	(0.305)	
2468F	(0.286)		12368F...[3]	(0.306)		134679F	(0.299)		1234689F	(0.305)	
1346/1246F	(0.286)		14678F	(0.306)		124679F	(0.299)		1234789F	(0.433)	
1347F...[3]	(0.286)		13479F	(0.306)		124689F	(0.299)				
1348F	(0.286)		13469/12479F	(0.306)		123467F	(0.299)				
1248F...[3]	(0.286)		12346F	(0.306)		123478F	(0.296)				
1268F	(0.286)		23468/12469F	(0.306)		123678F	(0.277)				
1467F	(0.286)		12347F	(0.306)		123479F	(0.299)				
1478F	(0.286)		12348F	(0.306)		123469F	(0.299)				
1369/1237F	(0.286)		12378F	(0.309)		123679F	(0.299)				
2467F	(0.286)		12678/12367F	(0.306)		234678F	(0.288)		**Conc.**	0	
2368F	(0.286)		12379F	(0.306)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.286)		12679F	(0.306)		123689F	(0.299)				
1278F	(0.286)		23467/12369F	(0.306)		123789F	(0.355)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.286)		23478F	(0.303)		123789/123489F	0				
1267F	(0.286)		23478/12489F	0		123489F	(0.299)		OCDF	(0.884)	
2346/1249F	(0.286)		12489F	(0.306)							
2347/1279F	(0.286)		12349F	(0.306)							
2348F	(0.286)		12389F	(0.306)							
2378F	(0.286)										
2367/3467F	(0.286)										
1269F	(0.286)										
1239F	(0.286)										
1289F	(0.286)										
Conc.	0		**Conc.**	0		**Conc.**	0.685				
EMPC	0		**EMPC**	0		**EMPC**	0.685				

Checkcode: 660-125-BZB

Report Created: 26-Jan-2022 09:19 Analyst: TF

Sample ID: Method Blank B6206_18863 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18863_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18863
Date Collected:	n/a	Split:	-	Date Extracted:	24-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	25-Jan-2022 18:17
Lab Project No:	B6206	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.419)		0.419	(0.419)	(0.419)	(0.419)
12378-PeCDD	(0.356)		0.356	(0.178)	(0.356)	(0.356)
123478-HxCDD	(0.433)		0.433	(0.0433)	(0.0433)	(0.0433)
123678-HxCDD	(0.353)		0.353	(0.0353)	(0.0353)	(0.0353)
123789-HxCDD	(0.459)		0.459	(0.0459)	(0.0459)	(0.0459)
1234678-HpCDD	(0.51)		0.51	(0.0051)	(0.0051)	(0.0051)
OCDD	(1.35)		1.35	(0.00135)	(0.000135)	(0.000406)
2378-TCDF	(0.286)		0.286	(0.0286)	(0.0286)	(0.0286)
12378-PeCDF	(0.309)		0.309	(0.0154)	(0.0154)	(0.00927)
23478-PeCDF	(0.303)		0.303	(0.151)	(0.151)	(0.0908)
123478-HxCDF	(0.296)		0.296	(0.0296)	(0.0296)	(0.0296)
123678-HxCDF	(0.277)		0.277	(0.0277)	(0.0277)	(0.0277)
234678-HxCDF	(0.288)		0.288	(0.0288)	(0.0288)	(0.0288)
123789-HxCDF	(0.355)		0.355	(0.0355)	(0.0355)	(0.0355)
1234678-HpCDF	(0.229)		0.229	(0.00229)	(0.00229)	(0.00229)
1234789-HpCDF	(0.433)		0.433	(0.00433)	(0.00433)	(0.00433)
OCDF	(0.884)		0.884	(0.000884)	(0.0000884)	(0.000265)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.526	0.614	0.581
EMPC = 0, ND = DL	1.05	1.23	1.16
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.526	0.614	0.581
EMPC = EMPC, ND = DL	1.05	1.23	1.16
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 660-125-BZB

Sample ID: 0_18863_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18863_DF	Date Extracted:	24-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:58:21

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.1				ES 2378-TCDD	86.3	
12378-PeCDD	48.7				ES 12378-PeCDD	92.3	
123478-HxCDD	57.2				ES 123478-HxCDD	102	
123678-HxCDD	54.4				ES 123678-HxCDD	125	
123789-HxCDD	49.6				ES 123789-HxCDD	108	
1234678-HpCDD	59.3				ES 1234678-HpCDD	81.7	
OCDD	124				ES OCDD	66.2	
2378-TCDF	11.9				ES 2378-TCDF	85.7	
12378-PeCDF	50.2				ES 12378-PeCDF	85.6	
23478-PeCDF	54.8				ES 23478-PeCDF	85.6	
123478-HxCDF	55.1				ES 123478-HxCDF	94.7	
123678-HxCDF	61.1				ES 123678-HxCDF	112	
234678-HxCDF	54.9				ES 234678-HxCDF	125	
123789-HxCDF	51				ES 123789-HxCDF	98.8	
1234678-HpCDF	54.1				ES 1234678-HpCDF	121	
1234789-HpCDF	50				ES 1234789-HpCDF	79.3	
OCDF	108				ES OCDF	66.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.3	
Total TCDD	54.2		54.2		CS 12347-PeCDD	110	
Total PeCDD	71.8		71.8		CS 12346-PeCDF	99.5	
Total HxCDD	175		175		CS 123469-HxCDF	136	
Total HpCDD	73.8		73.8		CS 1234689-HpCDF	128	
Total TCDF	61.9		61.9				
Total PeCDF	212		212				
Total HxCDF	350		350				
Total HpCDF	104		104				
Total PCDD/Fs	**1,330**		**1,330**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.596	120				
TEQ: ND=DL	120	1.19	120				

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Sample ID: 0_18863_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6206	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18863_DF	Date Extracted:	24-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18863	Date Analyzed:	25-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:44:37

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.7				ES 2378-TCDD	89.3	
12378-PeCDD	46.3				ES 12378-PeCDD	97.2	
123478-HxCDD	53.9				ES 123478-HxCDD	98.3	
123678-HxCDD	55.2				ES 123678-HxCDD	120	
123789-HxCDD	51.7				ES 123789-HxCDD	98.5	
1234678-HpCDD	56				ES 1234678-HpCDD	86.2	
OCDD	116				ES OCDD	66.1	
2378-TCDF	10.8				ES 2378-TCDF	84.2	
12378-PeCDF	47.9				ES 12378-PeCDF	88.3	
23478-PeCDF	52.2				ES 23478-PeCDF	89.2	
123478-HxCDF	53.9				ES 123478-HxCDF	91.5	
123678-HxCDF	54.5				ES 123678-HxCDF	113	
234678-HxCDF	53.7				ES 234678-HxCDF	118	
123789-HxCDF	53.4				ES 123789-HxCDF	86	
1234678-HpCDF	52				ES 1234678-HpCDF	118	
1234789-HpCDF	53				ES 1234789-HpCDF	74.6	
OCDF	99.7				ES OCDF	68.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.3	
Total TCDD	53.3		53.3		CS 12347-PeCDD	104	
Total PeCDD	68.9		68.9		CS 12346-PeCDF	89.6	
Total HxCDD	174		174		CS 123469-HxCDF	121	
Total HpCDD	68.4		68.4		CS 1234689-HpCDF	108	
Total TCDF	59.6		59.6				
Total PeCDF	201		201				
Total HxCDF	338		338				
Total HpCDF	105		105				
Total PCDD/Fs	**1,280**		**1,280**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.414	116				
TEQ: ND=DL	116	0.829	116				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample DUP

Method 1613B

Sample ID: 0_18863_OPR001

Analyte	OPR1_18863_DF pg/uL	OPR2_18863_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.1	11.7	3.1%
1,2,3,7,8-PeCDD	48.7	46.3	5.1%
1,2,3,4,7,8-HxCDD	57.2	53.9	6.0%
1,2,3,6,7,8-HxCDD	54.4	55.2	1.5%
1,2,3,7,8,9-HxCDD	49.6	51.7	4.1%
1,2,3,4,6,7,8-HpCDD	59.3	56	5.8%
OCDD	124	116	6.8%
2,3,7,8-TCDF	11.9	10.8	9.2%
1,2,3,7,8-PeCDF	50.2	47.9	4.8%
2,3,4,7,8-PeCDF	54.8	52.2	4.9%
1,2,3,4,7,8-HxCDF	55.1	53.9	2.2%
1,2,3,6,7,8-HxCDF	61.1	54.5	11.4%
2,3,4,6,7,8-HxCDF	54.9	53.7	2.2%
1,2,3,7,8,9-HxCDF	51	53.4	4.7%
1,2,3,4,6,7,8-HpCDF	54.1	52	3.9%
1,2,3,4,7,8,9-HpCDF	50	53	5.7%
OCDF	108	99.7	7.9%
Totals			
Total TCDD	54.2	53.3	1.8%
Total PeCDD	71.8	68.9	4.0%
Total HxCDD	175	174	0.2%
Total HpCDD	73.8	68.4	7.7%
Total TCDF	61.9	59.6	3.8%
Total PeCDF	212	201	5.2%
Total HxCDF	350	338	3.6%
Total HpCDF	104	105	0.8%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*21-Jan-22 at 12:25*
AP Project name:	*B6206*
Requested TAT:	*3 business days*
Projected due date:	*26-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012022-S-BN-SW-S-44	B6206_001	Solid	1	4oz Clear Glass	20-Jan-22	10:20	-0.3	1	4905 2704 4590
11215131-012022-S-BN-SW-S-45	B6206_002	Solid	1	4oz Clear Glass	20-Jan-22	10:30	-0.3	1	4905 2704 4590
11215131-011922-S-BN-SW-S-46	B6206_003	Solid	1	4oz Clear Glass	19-Jan-22	09:00	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-S-43	B6206_004	Solid	1	4oz Clear Glass	19-Jan-22	09:50	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-S-42	B6206_005	Solid	1	4oz Clear Glass	19-Jan-22	13:00	0.1	2	4905 2704 4465

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Samples were not received frozen.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 24 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BL0206 1/3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

none

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	M8290A	M1668A	M1668C	M1699	QC MS	QC MSD	QC DUP	QTY	REMARKS	SEE SOW
11215131-012022-S-BN-SW-S-44	1-20-22	1020	C	S	402	X								1	RUSH	*
11215131-012022-S-BN-SW-S-45		1030												1	RUSH	*
11215131-012022-S-BN-SW-0-20		1040												1		
11215131-012022-S-BN-SW-B-22		1050												1		

	DATE:	TIME:			
COLLECTED/RELINQUISHED BY (1): Breanna North	1-20-22	1543	RECEIVED BY: Eddie Custo	RECEIVED BY LABORATORY:	DATE: 1/21/22 TIME: 1103
RELINQUISHED BY (2): Eddie Custo	1-20-2022	1640	RECEIVED BY:	1/20/21 1641	COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
RELINQUISHED BY (3):	DATE: 1/20/21	TIME: 1640	RECEIVED BY:		CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
				CARRIER:	TEMP: °C -0.3
				TRACKING #: 4905 2704 4530	

*=Samples in this project.

SGS NORTH AMERICA INC. ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

BU2006 2|3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE

NONE

ANALYSIS & METHOD

M1613B | ~~M8290A~~ | ~~M1668A~~ | ~~M1668C~~ | HR-PAH | ~~M1699~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS	SEE SSOW
11215131-011922-S-BN-SW-S-46	1-19-22	0900	C	S	4oz				1	RUSH	*
11215131-011922-S-BN-SW-O-21		0910							1		
11215131-011922-S-BN-SW-B-23		0920							1		
11215131-011922-S-BN-SW-B23H		0930							1	HOLD	
11215131-011922-S-BN-SW-S-43		0950							1	RUSH	*
11215131-011922-S-BN-SW-O-19		1000							1		
11215131-011922-S-BN-SW-R-21		1010				X	X		1	MS/MSD	
11215131-011922-S-BN-SW-B-21H		1020							1	HOLD	
11215131-011922-S-BN-SW-B-21HR		1030							1	HOLD	
11215131-011922-S-BN-SW-S-42		1300							1	RUSH	*

COLLECTED/RELINQUISHED BY (1):		DATE: 1-19-22	TIME: 14:52	RECEIVED BY:
RELINQUISHED BY (2):		DATE: 1-19-22	TIME: 16:34	RECEIVED BY:
RELINQUISHED BY (3):		DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 1/20/22 TIME: 12:45

COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C 0.1

TRACKING #: 4905 2704 4465

* = samples in this project.

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY | 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

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SGS CHAIN OF CUSTODY

B6206 3/3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston,

PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	HR-PAH	~~M1699~~	QC: MS	MSD	DUP	QTY	REMARKS
11215131-011922-S-BN-SW-D-18	1-19-22	1310	C	S	402		X									1	
11215131-011922-S-BN-SW-B-20		1320					X									1	
11215131-011922-S-BN-SW-B-20H		1330					X									1	HOLD
11215131-011922-S-BN-DUP-13		—					X									1	

SEE SSOW

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
	1-19-22	14:52	
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
	1-19-22	16:34	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:

1/20/22 1225

COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C 0.1

TRACKING #: 4905 2704 4405

BL62066 1/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 20.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903

INV:
PO:
REF:
DEPT:

1/21
12:25pm
-0.3°

SSSC4/F289/0562

FedEx Express

J191219032001sv

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2701 4590

NL ILMA

28405
NC-US RDU

Part # 156143-434 MTW EXP 07/22

BL0206 2/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 19JAN22
ACTWGT: 25.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

565C4/FE28/05A2

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES 0.10

1/21
12:25PM

FedEx Express

J191219082001sv

TRK# 0201 **4905 2704 4465**

THU - 20 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US **RDU**

Part # 156149-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6206

Initiation Date: 24-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: 1/24/22 1/25/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 24-Jan-2022

SGS

Methods: PCB / PAH; (PCDD/F) WHO-2; QUANTICS USV; DoD PCDD/F PEST; Extraction Type: (SDS) CLL; TALEX Carbon SPE; [Solid]; Final Volume: 20 µL

Batch# 18863 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 1/24/22 | Clean-up Initial/Date: RAB 1/25/22 | Transfer Init/Date: RAB 1/25/22

Lab Sample ID	Extraction Position (Solvent: DCM)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B5971_18863_001	12	13.12				dark gray, soft clay-like
B6206_18863_001	13	12.64				gray, clay-like
B6206_18863_002	14	12.94				gray, clay-like
B6206_18863_003	15	12.89				gray, clay-like
B6206_18863_004	16	13.03				gray, clay-like
B6206_18863_005	17	13.41				gray, clay-like
MB1_18863	9	10.00				Sodium sulfate
OPR1_18863	10	10.00				Sodium Sulfate
OPR2_18863	11	10.00				Sodium sulfate

TB 1/26/22

RAB 1/25/22

Supply IDs

Toluene	STL14-2824 JRH 1/24/22
MeCHL	STL14.21
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-78
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-79
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 1/26/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1430
	Stop: 0845
HEX	Start:
	Stop:
DCM	Start:
	Stop:

TB 1/26/22

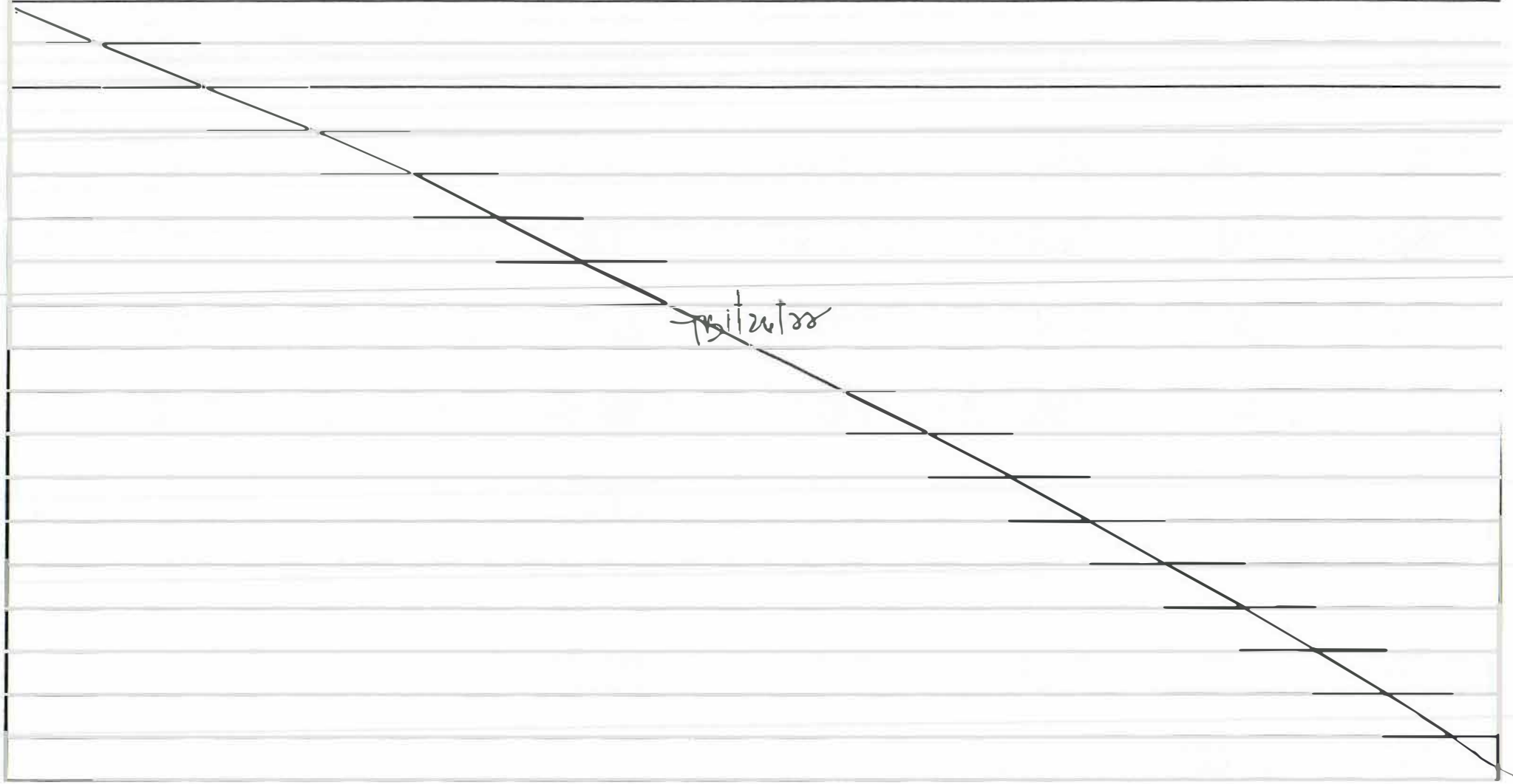
SGS

Methods: PCB (PCDD/F) QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18863

Inter-Department Communication Sheet



SGS

Wt. Volume Results

Batch#: 18863 Comments:

AK 11/28/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample+ Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B5971_001	0.96	4.79	3.97	78.59%	78.59%			12.72	13.12	10.31
B6206_001	0.95	5.19	4.39	81.13%	81.13%			12.33	12.64	10.25
B6206_002	0.62	4.57	3.73	78.73%	78.73%			12.7	12.94	10.19
B6206_003	0.68	5	4.18	81.02% 83.37%	83.37%			11.99	12.89	10.05 10.44
B6206_004	0.92	5.44	4.43	77.65%	77.65%			12.88	13.03	10.12
B6206_005	0.91	5.63	4.54	76.91%	76.91%			13	13.41	10.31

AK 11/28/22

11/28/22

% Solid Determination WorkSheet

SGS

Batch: 18863

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g SME	Comments
B597I_18863_001	0.96	4.79 JRH 1/24/22	~~4.39~~ 3.97	12.72.	
B6206_18863_001	0.95	5.19	4.39	12.33	
B6206_18863_002	0.62	4.57	3.73	12.70	
B6206_18863_003	0.68	5.00	4.18	11.99	
B6206_18863_004	0.92	5.44	4.43	12.88	
B6206_18863_005	0.91	5.63	4.54	13.00	

1/25/22

Date/Initials: JRH 1/24/22

SGS Methods: PCB / PAH; PCDD/F / WHO-2; QUANTICS / USV; DoD PCDD/F / PEST; Solid

Batch# 18863

Lab Sample ID	Spiker Initials/Date: JRH 1/24/22 DIF A2-H Amount: 20 µL Observer Initials	JRH 1/24/22 DIF A2-B Amount: 20 µL Observer Initials	JRH 1/24/22 DIF ES Amount: 20 µL Observer Initials	1/25/22 DIF CS Amount: 20 µL Observer Initials	1/25/22 DIF JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B5971_18863_001	—	—	VE	VE	JRH		
B6206_18863_001	—	—	VE	VE	JRH		
B6206_18863_002	—	—	VE	VE	JRH		
B6206_18863_003	—	—	VE	VE	JRH		
B6206_18863_004	—	—	VE	VE	JRH		
B6206_18863_005	—	—	VE	VE	JRH		
MBI_18863	—	—	VE	VE	JRH		
OPR1_18863	VE	VE	VE	VE	JRH		
OPR2_18863	VE	VE	VE	VE	JRH		

1/25/22

Standard Information

Pipette ID							JRH 1/25/22
Spike ID	DIF A2-H	DIF A2-B	DIF ES	DIF CS	DIF JS		
SIL#	36-2-8	85157-2	36-2-9	25-338-1	25-309-1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/6/28	6/22/22	5/2025	11/16/22	10/8/22		

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
32	220124C32	3	CS3_220124_DF_CD	1.00	SIL 25-347-1	DTF	192-921	25-Jan-2022	13:07:51
33	220125C01	57	OPR1_18863_DF	1.00	0_18863_OPR001	DTF	343-081	25-Jan-2022	15:58:21
34	220125C02	58	OPR2_18863_DF	1.00	0_18863_OPR002	DTF	226-320	25-Jan-2022	16:44:37
3	220125C03	2	SBS_220125_DF_CA	1.00	30-61-1	DTF	475-390	25-Jan-2022	17:30:57
4	220125C04	56	MB1_18863_DF_SDS	10.00	Method Blank	DTF	660-125	25-Jan-2022	18:17:18
5	220125C06	60	B6206_18863_DF_001	10.25	11215131-012022-S-BN-SW-S-44	DTF	852-968	25-Jan-2022	19:49:58
6	220125C07	61	B6206_18863_DF_002	10.19	11215131-012022-S-BN-SW-S-45	DTF	097-537	25-Jan-2022	20:36:18
7	220125C08	62	B6206_18863_DF_003	10.44 ~~10.75~~	11215131-011922-S-BN-SW-S-46	DTF	146-499	25-Jan-2022	21:22:39
8	220125C09	63	B6206_18863_DF_004	10.12	11215131-011922-S-BN-SW-S-43	DTF	092-057	25-Jan-2022	22:08:59
9	220125C10	64	B6206_18863_DF_005	10.31	11215131-011922-S-BN-SW-S-42	DTF	076-945	25-Jan-2022	22:55:20

REVIEWED
Tyler_Fritz , 1/26/2022, 9:30:14 AM

REVIEWED
Amber_Kornegay , 1/26/2022, 12:04:56 PM

Lab ID: MB1_18863_DF_SDS **Acq'd:** 25 Jan 2022 18:17 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6206_18863 **UTP:** 26-Jan-2022 09:14:30 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 660-125-BZB

Datafile: 220125C04 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3466.044	0.419
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2708.155	0.356
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3248.667	0.433
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	3248.667	0.353
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	3248.667	0.459
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2986.311	0.51
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	3223.546	1.35
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3415.544	0.286
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3421.499	0.309
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3421.499	0.303
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2865.065	0.296
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2865.065	0.277
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2865.065	0.288
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2865.065	0.355
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2837.053	0.229
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2837.053	0.433
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3041.755	0.884

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0236	+0.5	1.48E+07	0.82	Y	1.05	90.9
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.33E+07	1.59	Y	0.88	96.6
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.17E+07	1.28	Y	0.97	93.4
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.45E+07	1.25	Y	0.94	119
ES 123789-HxCDD	38.24	1.0025	1.0028	+0.7	1.37E+07	1.27	Y	1.09	97.2
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	1.01E+07	1.06	Y	0.91	85.4
ES OCDD	43.53	1.1403	1.1415	+3.1	1.07E+07	0.90	Y	0.62	66
ES 2378-TCDF	27.78	1.0506	1.0512	+1.0	2.34E+07	0.83	Y	1.06	90.3
ES 12378-PeCDF	32.50	1.2281	1.2300	+3.7	2.02E+07	1.57	Y	0.91	90.8
ES 23478-PeCDF	33.61	1.2698	1.2718	+4.0	2.04E+07	1.54	Y	0.88	94.5
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.44E+07	0.52	Y	1.20	92.9
ES 123678-HxCDF	36.97	0.9695	0.9695	0	1.95E+07	0.52	Y	1.35	112
ES 234678-HxCDF	37.66	0.9874	0.9875	+0.2	1.81E+07	0.54	Y	1.24	112
ES 123789-HxCDF	38.60	1.0116	1.0120	+0.9	1.29E+07	0.51	Y	1.16	86.5
ES 1234678-HpCDF	39.94	1.0467	1.0472	+1.2	1.33E+07	0.43	Y	0.97	106
ES 1234789-HpCDF	41.33	1.0830	1.0838	+2.0	8.08E+06	0.43	Y	0.85	73.4
ES OCDF	43.72	1.1451	1.1464	+3.4	1.43E+07	0.95	Y	0.81	68.3

Lab ID: MB1_18863_DF_SDS | **Acq'd:** 25 Jan 2022 18:17 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6206_18863 | **UTP:** 26-Jan-2022 09:14:30 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 660-125-BZB

Datafile: 220125C04 | **Report:** 26 Jan 2022 09:20 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.97		-	-	-	1.56E+07	0.81	Y	-	-
JS 1234-TCDF	26.42		-	-	-	2.44E+07	0.79	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	6.46E+06	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0243	+0.3	6.73E+06	n/a	-	1.20	89.7
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.30E+07	1.57	Y	0.75	111
CS 12346-PeCDF	31.97		1.2083	1.2098	+2.9	2.01E+07	1.56	Y	0.85	96.4
CS 123469-HxCDF	37.29		0.9778	0.9778	0	1.77E+07	0.55	Y	1.12	122
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.31E+07	0.48	Y	0.89	114
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~6.73E+06~~	~~n/a~~		~~1.15~~	~~98.9~~
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.30E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~114~~
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~2.01E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.77E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.31E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0.685	0.685
Total HpCDF	0	0
Total Tetra-Octa Furans	0.685	0.685
Total Tetra-Octa Dioxins & Furans	0.685	0.685

Lab ID: MB1_18863_DF_SDS **Acq'd: 25 Jan 2022 18:17 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6206_18863 **UTP: 26-Jan-2022 09:14:30 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 660-125-BZB**

Datafile: 220125C04 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		3466.044	0.419
1379-TCDD	NotFnd		0.8876						1.18		3466.044	0.419
1369-TCDD	NotFnd		0.9023						1.18		3466.044	0.419
1469-TCDD	NotFnd		0.9291						1.18		3466.044	0.419
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3466.044	0.419
1378-TCDD	NotFnd		0.9440						1.18		3466.044	0.419
1268-TCDD	NotFnd		0.9506						1.18		3466.044	0.419
1478-TCDD	NotFnd		0.9591						1.18		3466.044	0.419
1279-TCDD	NotFnd		0.9649						1.18		3466.044	0.419
1234/1269-TCDD	NotFnd		0.9771						1.18		3466.044	0.419
1236-TCDD	NotFnd		0.9820						1.18		3466.044	0.419
1237/1238-TCDD	NotFnd		0.9908						1.18		3466.044	0.419
1239-TCDD	NotFnd		0.9954						1.18		3466.044	0.419
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3466.044**	**0.419**
1278-TCDD	NotFnd		1.0121						1.18		3466.044	0.419
1267-TCDD	NotFnd		1.0167						1.18		3466.044	0.419
1289-TCDD	NotFnd		1.0341						1.18		3466.044	0.419
12479/12468-PeCDD	NotFnd		0.9273						1.04		2708.155	0.356
12469-PeCDD	NotFnd		0.9430						1.04		2708.155	0.356
12368-PeCDD	NotFnd		0.9592						1.04		2708.155	0.356
12478-PeCDD	NotFnd		0.9647						1.04		2708.155	0.356
12379-PeCDD	NotFnd		0.9676						1.04		2708.155	0.356
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2708.155	0.356
12346/12347-PeCDD	NotFnd		0.9860						1.04		2708.155	0.356
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2708.155**	**0.356**
12367-PeCDD	NotFnd		1.0034						1.04		2708.155	0.356
12389-PeCDD	NotFnd		1.0134						1.04		2708.155	0.356
124679/124689-HxCDD	NotFnd		0.9545						1.10		3248.667	0.411
123468-HxCDD	NotFnd		0.9715						1.10		3248.667	0.411
123679/123689-HxCDD	NotFnd		0.9793						1.10		3248.667	0.411
123469-HxCDD	NotFnd		0.9829						1.10		3248.667	0.411
123478-HxCDD	NotFnd		**1.0004**						1.09		**3248.667**	**0.433**
123678-HxCDD	NotFnd		**1.0034**						1.15		**3248.667**	**0.353**
123467-HxCDD	NotFnd		1.0082						1.10		3248.667	0.411
123789-HxCDD	NotFnd		**1.0109**						1.05		**3248.667**	**0.459**

Lab ID: MB1_18863_DF_SDS | **Acq'd:** 25 Jan 2022 18:17 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6206_18863 | **UTP:** 26-Jan-2022 09:14:30 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 660-125-BZB

Datafile: 220125C04 | **Report:** 26 Jan 2022 09:20 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

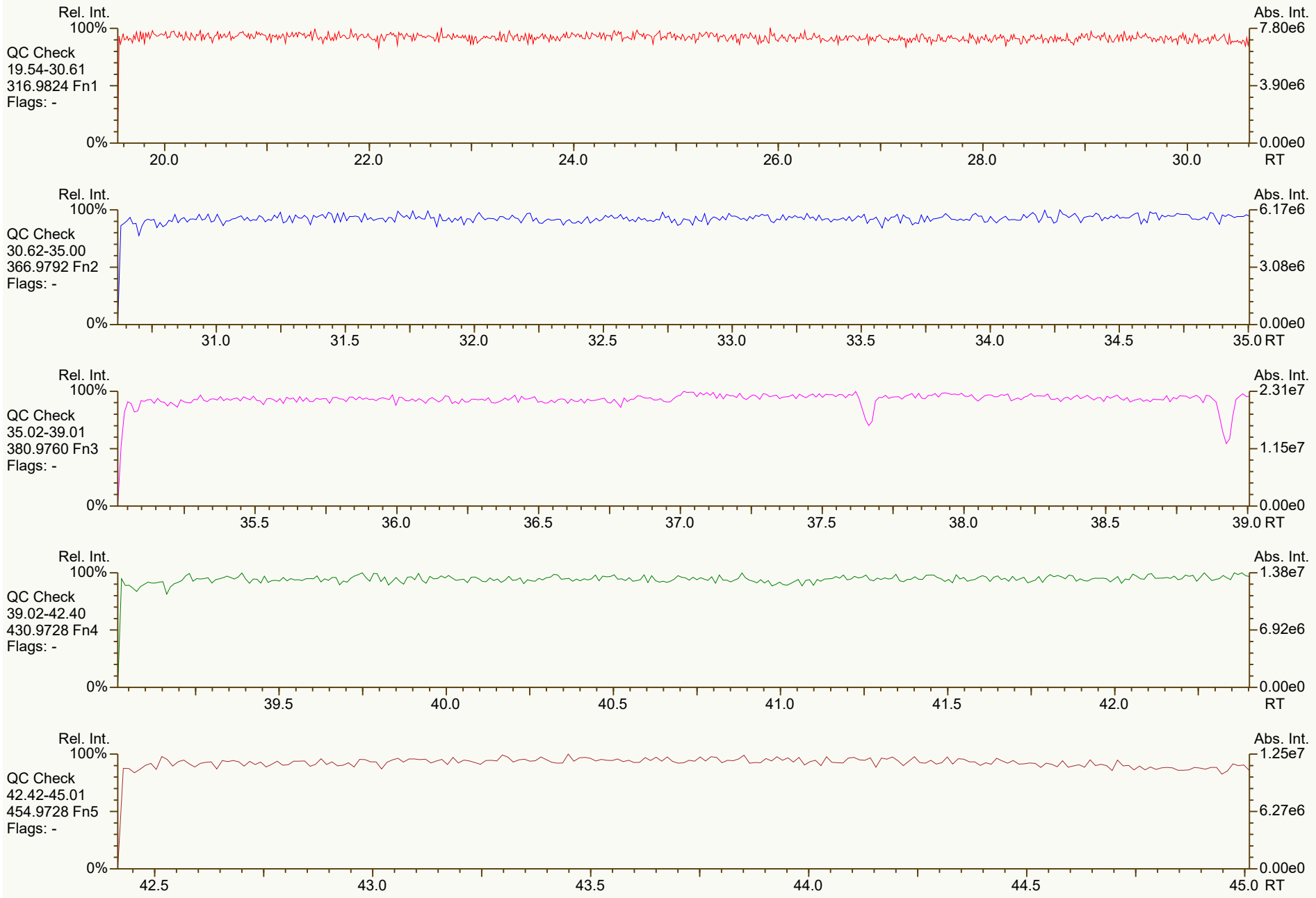
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		2986.311	0.51
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2986.311**	**0.51**
OCDD	**NotFnd**		**1.0002**						**1.13**		**3223.546**	**1.35**
OCDD-a	NotFnd		1.0002						0.07		3805.351	25
1368-TCDF	NotFnd		0.8282						1.08		3415.544	0.286
1468-TCDF	NotFnd		0.8485						1.08		3415.544	0.286
2468-TCDF	NotFnd		0.8709						1.08		3415.544	0.286
1346/1246-TCDF	NotFnd		0.8829						1.08		3415.544	0.286
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3415.544	0.286
1348-TCDF	NotFnd		0.8980						1.08		3415.544	0.286
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3415.544	0.286
1268-TCDF	NotFnd		0.9158						1.08		3415.544	0.286
1467-TCDF	NotFnd		0.9206						1.08		3415.544	0.286
1478-TCDF	NotFnd		0.9266						1.08		3415.544	0.286
1369/1237-TCDF	NotFnd		0.9397						1.08		3415.544	0.286
2467-TCDF	NotFnd		0.9440						1.08		3415.544	0.286
2368-TCDF	NotFnd		0.9497						1.08		3415.544	0.286
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3415.544	0.286
1278-TCDF	NotFnd		0.9690						1.08		3415.544	0.286
1349-TCDF	NotFnd		0.9730						1.08		3415.544	0.286
1267-TCDF	NotFnd		0.9787						1.08		3415.544	0.286
2346/1249-TCDF	NotFnd		0.9850						1.08		3415.544	0.286
2347/1279-TCDF	NotFnd		0.9929						1.08		3415.544	0.286
2348-TCDF	NotFnd		0.9970						1.08		3415.544	0.286
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3415.544**	**0.286**
2367/3467-TCDF	NotFnd		1.0136						1.08		3415.544	0.286
1269-TCDF	NotFnd		1.0221						1.08		3415.544	0.286
1239-TCDF	NotFnd		1.0319						1.08		3415.544	0.286
1289-TCDF	NotFnd		1.0740						1.08		3415.544	0.286
13468/12468-PeCDF	NotFnd		0.9145						1.02		3215.291	0.287
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		3421.499	0.306
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		3421.499	0.306
14678-PeCDF	NotFnd		0.9695						1.02		3421.499	0.306
13479-PeCDF	NotFnd		0.9724						1.02		3421.499	0.306
13469/12479-PeCDF	NotFnd		0.9801						1.02		3421.499	0.306
12346-PeCDF	NotFnd		0.9842						1.02		3421.499	0.306

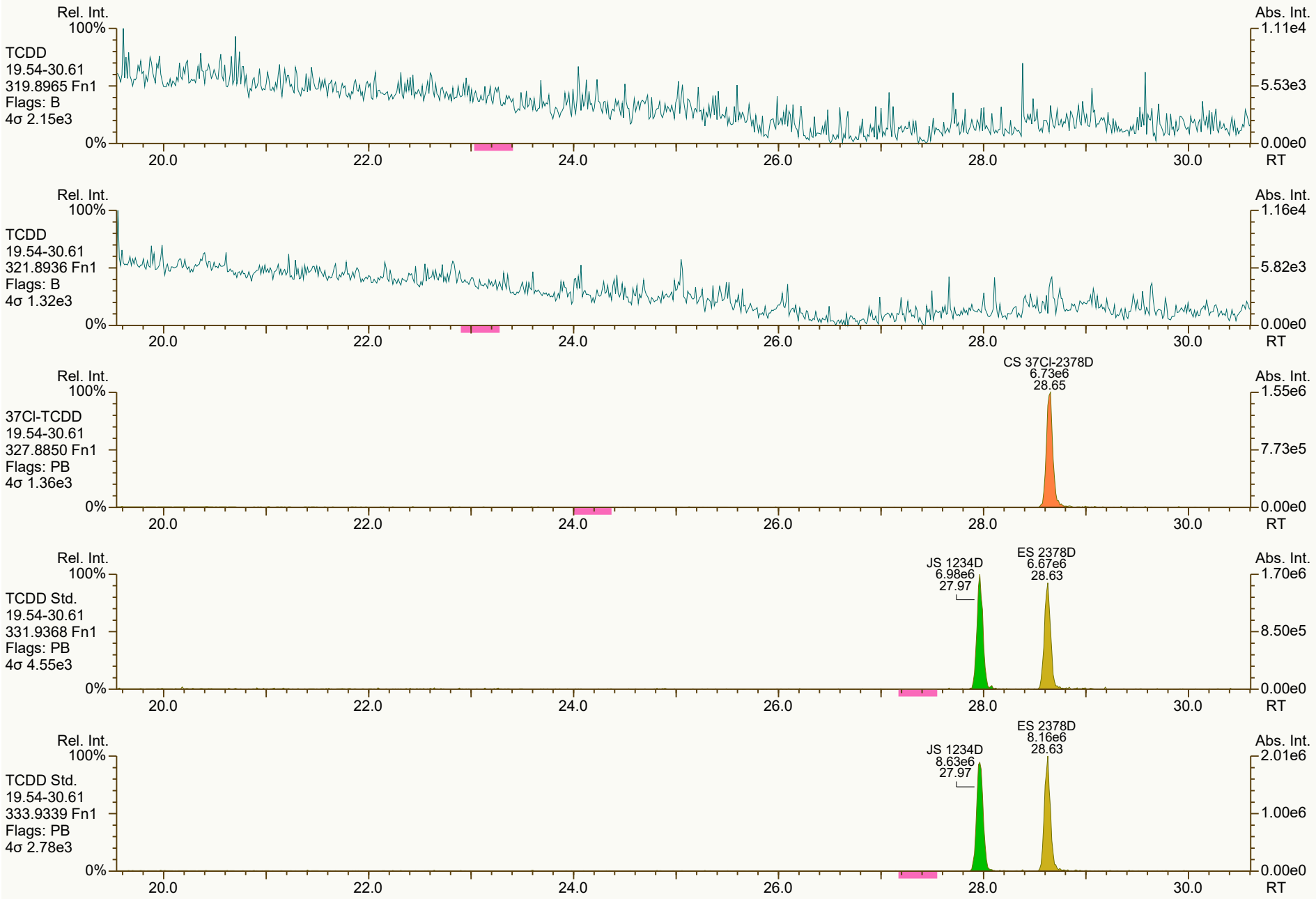
Lab ID: MB1_18863_DF_SDS | **Acq'd:** 25 Jan 2022 18:17 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6206_18863 | **UTP:** 26-Jan-2022 09:14:30 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 660-125-BZB

Datafile: 220125C04 | **Report:** 26 Jan 2022 09:20 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3421.499	0.306
12347-PeCDF	NotFnd		0.9895						1.02		3421.499	0.306
12348-PeCDF	NotFnd		0.9941						1.02		3421.499	0.306
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3421.499**	**0.309**
12678/12367-PeCDF	NotFnd		1.0090						1.02		3421.499	0.306
12379-PeCDF	NotFnd		1.0142						1.02		3421.499	0.306
12679-PeCDF	NotFnd		0.9931						1.02		3421.499	0.306
23467/12369-PeCDF	NotFnd		0.9966						1.02		3421.499	0.306
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3421.499**	**0.303**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3421.499	0.306
12349-PeCDF	NotFnd		1.0101						1.02		3421.499	0.306
12389-PeCDF	NotFnd		1.0322						1.02		3421.499	0.306
123468-HxCDF	35.46	J	0.9627	0.9628	+0.2	6.64E+04	1.32	Y	1.19	0.685	2865.065	0.299
124678/134678-HxCDF	NotFnd		0.9684						1.19		2865.065	0.299
134679-HxCDF	NotFnd		0.9747						1.19		2865.065	0.299
124679-HxCDF	NotFnd		0.9802						1.19		2865.065	0.299
124689-HxCDF	NotFnd		0.9858						1.19		2865.065	0.299
123467-HxCDF	NotFnd		0.9972						1.19		2865.065	0.299
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2865.065**	**0.296**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2865.065**	**0.277**
123479-HxCDF	NotFnd		1.0051						1.19		2865.065	0.299
123469-HxCDF	NotFnd		1.0091						1.19		2865.065	0.299
123679-HxCDF	NotFnd		0.9943						1.19		2865.065	0.299
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2865.065**	**0.288**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2865.065	0.299
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2865.065**	**0.355**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2865.065	0.299
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2837.053**	**0.229**
1234679-HpCDF	NotFnd		1.0067						1.34		2837.053	0.305
1234689-HpCDF	NotFnd		1.0101						1.34		2837.053	0.305
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2837.053**	**0.433**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3041.755**	**0.884**
OCDF-a	NotFnd		1.0002						0.07		3380.655	15.9


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.80e6
3.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.17e6
3.08e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.31e7
1.15e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.38e7
6.92e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.25e7
6.27e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

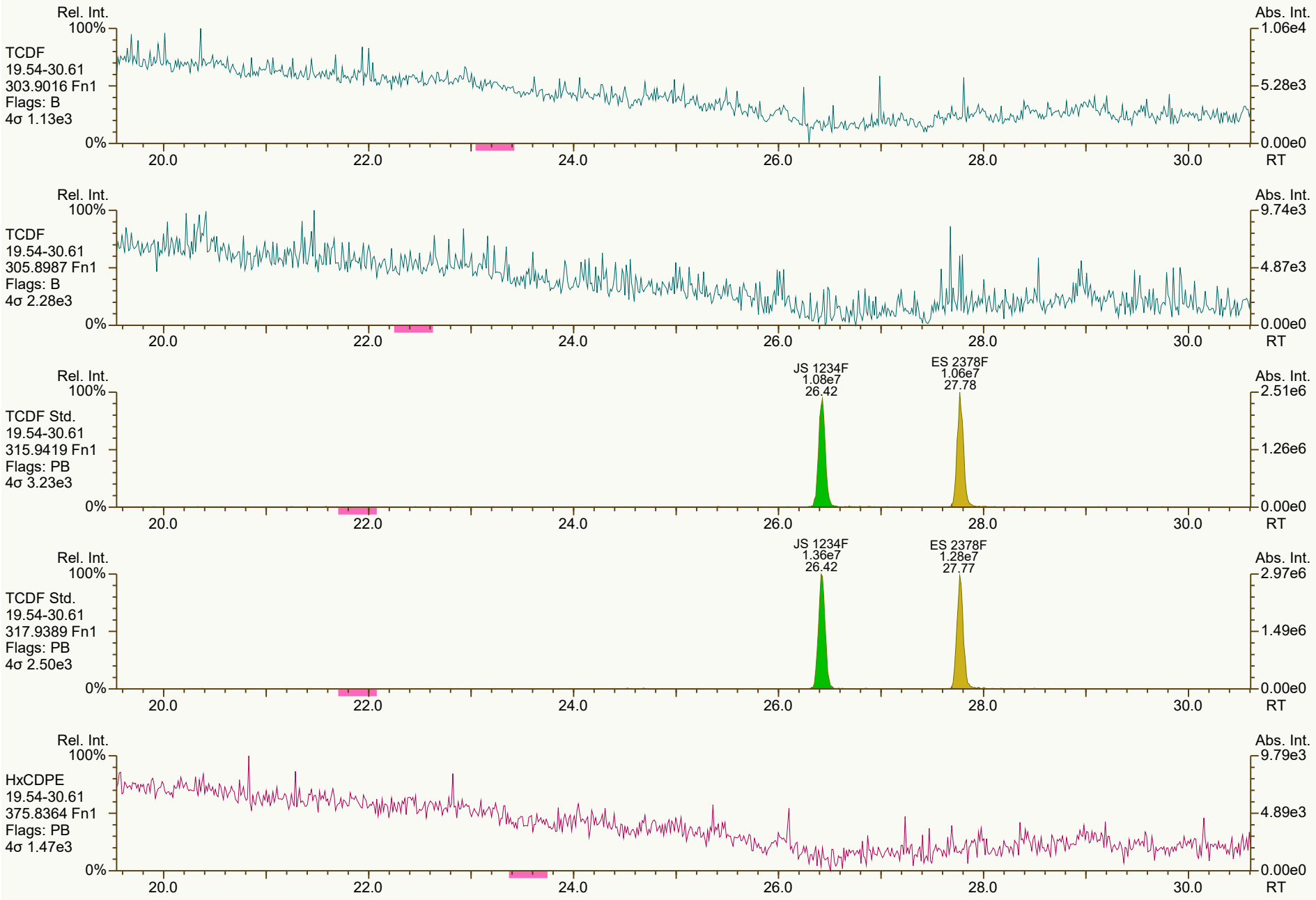

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.32e3
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.36e3
0%
CS 37Cl-2378D
6.73e6
28.65
Abs. Int.
1.55e6
7.73e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.55e3
0%
JS 1234D
6.98e6
27.97
ES 2378D
6.67e6
28.63
Abs. Int.
1.70e6
8.50e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.78e3
0%
JS 1234D
8.63e6
27.97
ES 2378D
8.16e6
28.63
Abs. Int.
2.01e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.40e3
0%
Abs. Int.
5.96e3
2.98e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: B
4σ 1.30e3
0%
Abs. Int.
5.74e3
2.87e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12347D
7.93e6
33.44
ES 12378D
8.13e6
33.94
Abs. Int.
2.26e6
1.13e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 3.14e3
0%
CS 12347D
5.07e6
33.43
ES 12378D
5.12e6
33.94
Abs. Int.
1.50e6
7.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.17e6
3.08e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

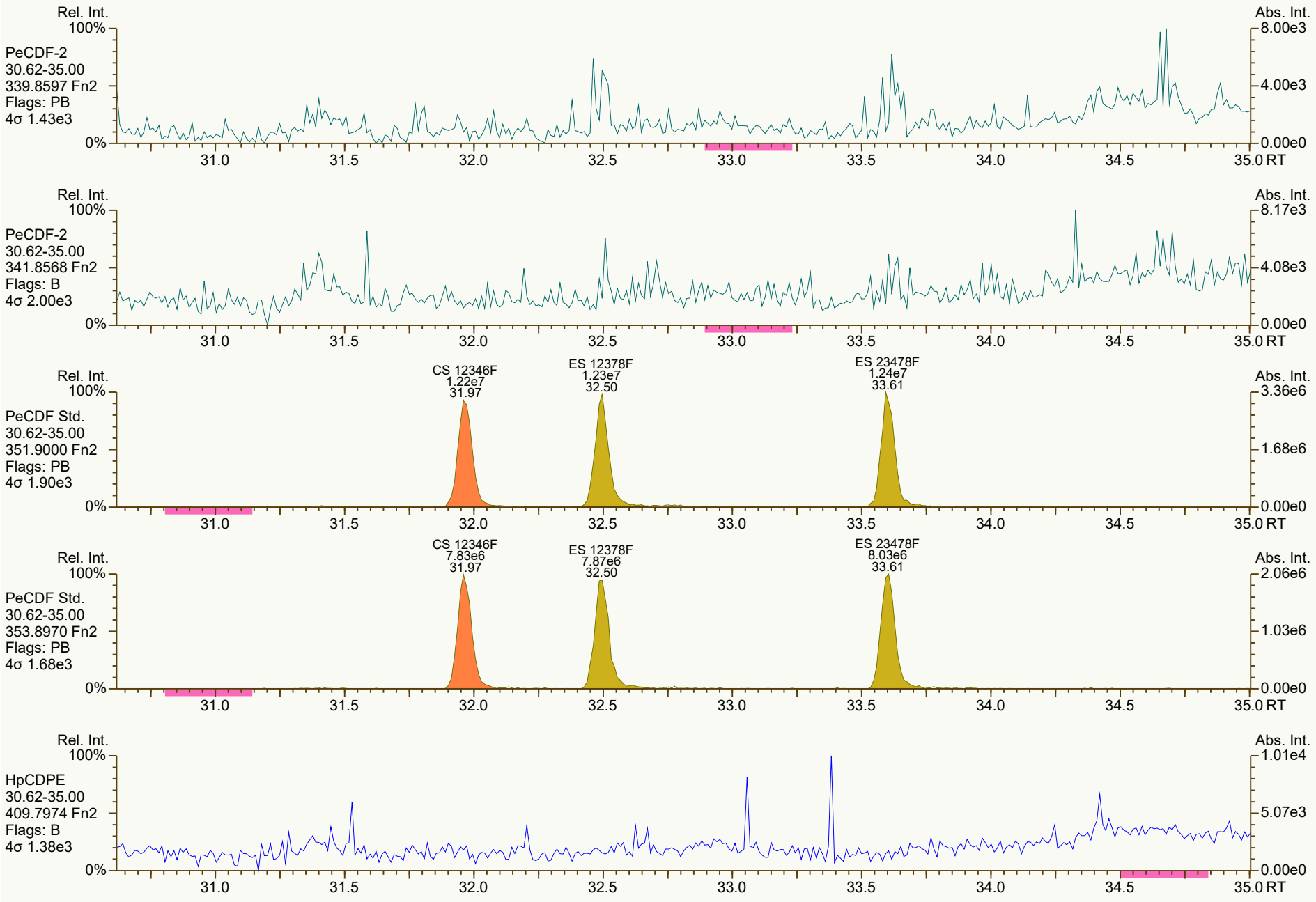

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.79e3
0%
Abs. Int.
7.04e3
3.52e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.32e3
0%
ES 123678D
8.08e6
37.95
ES 123478D
6.59e6
37.83
ES 123789D
7.67e6*
38.24
JS 123467D
3.63e6*
38.14
Abs. Int.
2.23e6
1.12e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.35e3
0%
ES 123678D
6.45e6
37.95
ES 123478D
5.15e6
37.83
ES 123789D
6.05e6*
38.24
JS 123467D
2.83e6*
38.14
Abs. Int.
1.59e6
7.95e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.31e7
1.15e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.23e3
0%
Abs. Int.
4.75e3
2.38e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.75e3
0%
Abs. Int.
5.09e3
2.54e3
0.00e0
RT
ES 1234678D
5.18e6*
40.87
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.42e6
7.09e5
0.00e0
RT
ES 1234678D
4.91e6*
40.87
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
1.41e6
7.07e5
0.00e0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.38e7
6.92e6
0.00e0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 2.02e3
0%
Abs. Int.
9.82e3
4.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.20e3
0%
Abs. Int.
5.83e3
2.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.04e6*
43.53
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.71e3
0%
Abs. Int.
1.00e6
5.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.61e6*
43.53
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.95e3
0%
Abs. Int.
1.19e6
5.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.25e7
6.27e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

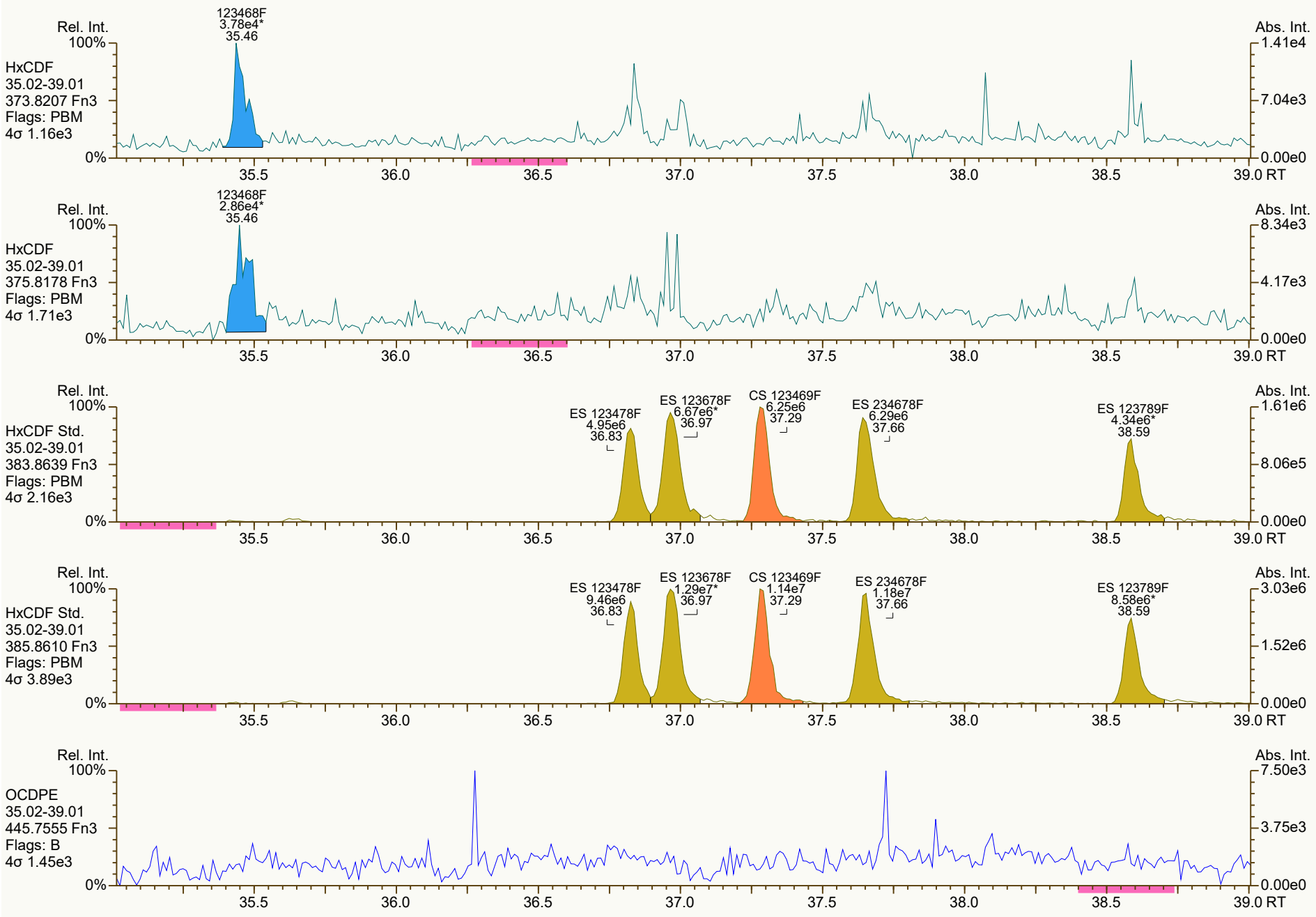

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.06e4
5.28e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 2.28e3
0%
Abs. Int.
9.74e3
4.87e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 3.23e3
0%
JS 1234F
1.08e7
26.42
ES 2378F
1.06e7
27.78
Abs. Int.
2.51e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.50e3
0%
JS 1234F
1.36e7
26.42
ES 2378F
1.28e7
27.77
Abs. Int.
2.97e6
1.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: PB
4σ 1.47e3
0%
Abs. Int.
9.79e3
4.89e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.73e4
8.64e3
0.00e0
RT
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.62e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
1.94e4
9.70e3
0.00e0
RT
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.60e3
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
0%
Abs. Int.
7.80e6
3.90e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
8.00e3
4.00e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.00e3
0%
Abs. Int.
8.17e3
4.08e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 1.90e3
0%
CS 12346F
1.22e7
31.97
ES 12378F
1.23e7
32.50
ES 23478F
1.24e7
33.61
Abs. Int.
3.36e6
1.68e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.68e3
0%
CS 12346F
7.83e6
31.97
ES 12378F
7.87e6
32.50
ES 23478F
8.03e6
33.61
Abs. Int.
2.06e6
1.03e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.01e4
5.07e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

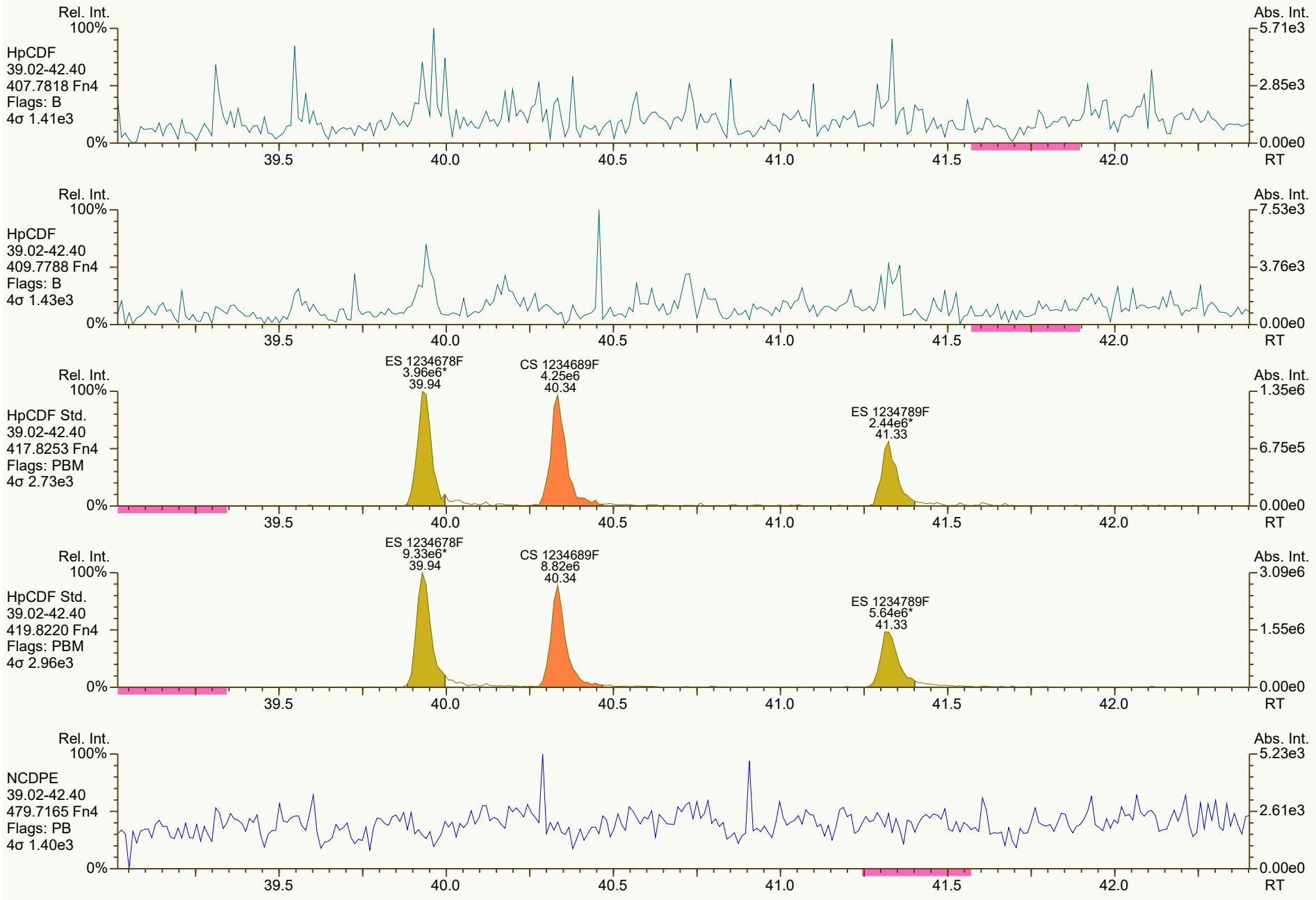
SGS ID: MB1_18863_DF_SDS | Sample ID: Method Blank | Acq: 25-Jan-2022 18:17:18

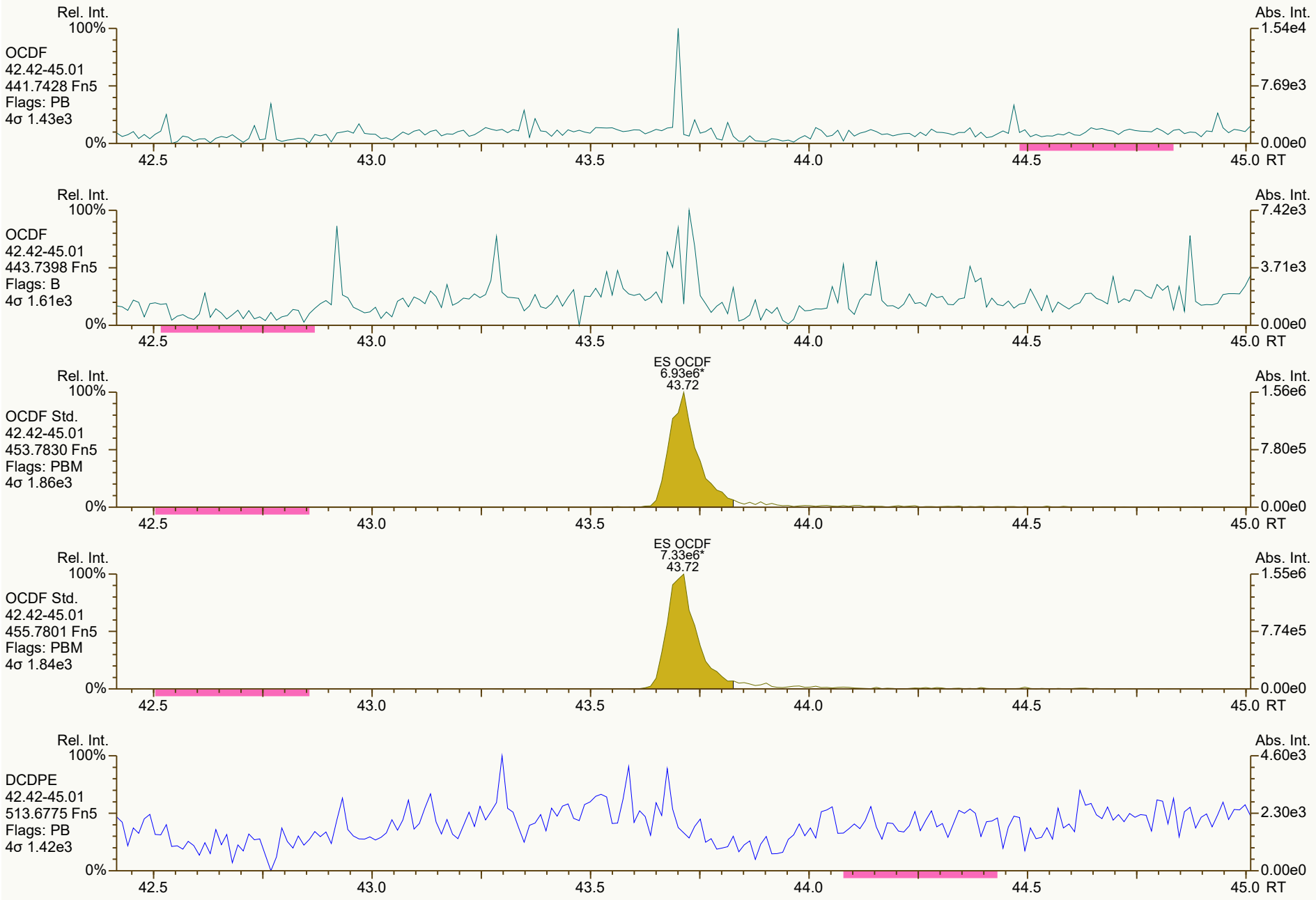
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56 | User: DTF Datafile: 220125C04



Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\MB1_18863_DF_SDS.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3195, 8299, 8625 scc: 660-125 *Revised: 26-Jan-2022 08:28 (DTF) Printed: 26-Jan-2022 09:24 Page 10 of 12*


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.41e3
0%
Abs. Int.
5.71e3
2.85e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.43e3
0%
Abs. Int.
7.53e3
3.76e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.73e3
0%
ES 1234678F
3.96e6*
39.94
CS 1234689F
4.25e6
40.34
ES 1234789F
2.44e6*
41.33
Abs. Int.
1.35e6
6.75e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.96e3
0%
ES 1234678F
9.33e6*
39.94
CS 1234689F
8.82e6
40.34
ES 1234789F
5.64e6*
41.33
Abs. Int.
3.09e6
1.55e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.40e3
0%
Abs. Int.
5.23e3
2.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
1.54e4
7.69e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.61e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.93e6*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.86e3
0%
Abs. Int.
1.56e6
7.80e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.33e6*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.55e6
7.74e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.42e3
0%
Abs. Int.
4.60e3
2.30e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6206_18863_DF_001 **Acq'd:** 25 Jan 2022 19:49 DTF **Wt/Vol:** 10.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-S-44 **UTP:** 26-Jan-2022 09:14:31 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 852-968-RGT

Datafile: 220125C06 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65	E	1.0008	1.0008	0	1.49E+08	0.80	Y	1.18	1,360	5070.152	0.499
12378-PeCDD	33.95		1.0006	1.0005	-0.2	1.15E+06	1.69	Y	1.04	13.2	3600.242	0.4
123478-HxCDD	37.85	J EMPC	1.0004	1.0004	0	7.08E+04	1.63	N	1.09	0.853	3364.675	0.367
123678-HxCDD	37.96		1.0034	1.0034	0	4.06E+05	1.33	Y	1.15	4.19	3364.675	0.318
123789-HxCDD	38.24		1.0109	1.0109	0	2.42E+05	1.31	Y	1.05	2.69	3364.675	0.353
1234678-HpCDD	40.87		1.0003	1.0002	-0.2	1.28E+07	1.03	Y	1.06	167	3401.326	0.369
OCDD	43.54		1.0002	1.0004	+0.5	1.24E+08	0.91	Y	1.13	2,490	3477.354	0.715
2378-TCDF	27.80	E	1.0008	1.0007	-0.2	6.46E+08	0.78	Y	1.08	3,970	3365.773	0.209
12378-PeCDF	32.52		1.0005	1.0005	0	1.64E+07	1.55	Y	1.02	123	6072.956	0.429
23478-PeCDF	33.63		1.0005	1.0006	+0.2	1.50E+07	1.59	Y	1.02	111	6072.956	0.405
123478-HxCDF	36.84		1.0004	1.0004	0	3.14E+07	1.26	Y	1.27	258	5078.498	0.321
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.02E+07	1.24	Y	1.15	71.3	5078.498	0.348
234678-HxCDF	37.67		1.0004	1.0005	+0.2	1.62E+06	1.23	Y	1.19	12.2	5078.498	0.363
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5078.498	0.436
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	1.20E+07	0.99	Y	1.37	86.7	2890.869	0.146
1234789-HpCDF	41.33		1.0003	1.0003	0	2.61E+06	1.04	Y	1.31	35.2	2890.869	0.35
OCDF	43.71		1.0002	1.0002	0	3.59E+06	0.92	Y	1.07	65.7	2538.704	0.524

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0234	+0.2	1.81E+07	0.82	Y	1.05	89.5
ES 12378-PeCDD	33.94	1.2121	1.2131	+2.0	1.64E+07	1.59	Y	0.88	96.5
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.49E+07	1.24	Y	0.97	93.6
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.65E+07	1.26	Y	0.94	107
ES 123789-HxCDD	38.23	1.0025	1.0027	+0.5	1.67E+07	1.30	Y	1.09	93.9
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.41E+07	1.02	Y	0.91	94.3
ES OCDD	43.52	1.1403	1.1413	+2.6	1.73E+07	0.89	Y	0.62	84.7
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.95E+07	0.79	Y	1.06	93.5
ES 12378-PeCDF	32.50	1.2281	1.2296	+2.9	2.53E+07	1.54	Y	0.91	93.4
ES 23478-PeCDF	33.61	1.2698	1.2715	+3.4	2.60E+07	1.54	Y	0.88	98.9
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.86E+07	0.52	Y	1.20	95.2
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	2.42E+07	0.55	Y	1.35	110
ES 234678-HxCDF	37.65	0.9874	0.9874	0	2.17E+07	0.54	Y	1.24	107
ES 123789-HxCDF	38.59	1.0116	1.0119	+0.7	1.65E+07	0.55	Y	1.16	87.4
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.97E+07	0.46	Y	0.97	125
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.11E+07	0.42	Y	0.85	79.5
ES OCDF	43.70	1.1451	1.1461	+2.6	1.99E+07	0.88	Y	0.81	75.4

Lab ID: B6206_18863_DF_001 **Acq'd:** 25 Jan 2022 19:49 DTF **Wt/Vol:** 10.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-S-44 **UTP:** 26-Jan-2022 09:14:31 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 852-968-RGT

Datafile: 220125C06 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.97		-	-	-	1.93E+07	0.82	Y	-	-
JS 1234-TCDF	26.43		-	-	-	2.97E+07	0.80	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	8.16E+06	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	8.54E+06	n/a	-	1.20	91.9
CS 12347-PeCDD	33.43		1.1943	1.1952	+1.8	1.57E+07	1.59	Y	0.75	108
CS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	2.50E+07	1.56	Y	0.85	98.7
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.21E+07	0.55	Y	1.12	121
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.78E+07	0.45	Y	0.89	123
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~8.54E+06~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1952~~	~~+1.8~~	~~1.57E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2097~~	~~+2.7~~	~~2.50E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.21E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.78E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~97.9~~

Totals	Conc	EMPC
Total TCDD	1530	1530
Total PeCDD	21.1	25.5
Total HxCDD	49.9	52.2
Total HpCDD	340	340
Total Tetra-Octa Dioxins	4430	4440
Total TCDF	7,600	7600
Total PeCDF	366	366
Total HxCDF	397	398
Total HpCDF	159	159
Total Tetra-Octa Furans	8,590	8590
Total Tetra-Octa Dioxins & Furans	13000	13000

Lab ID: B6206_18863_DF_001 **Acq'd: 25 Jan 2022 19:49 DTF** **Wt/Vol: 10.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-S-BN-SW-S-44 **UTP: 26-Jan-2022 09:14:31 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 852-968-RGT**

Datafile: 220125C06 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8748	-1.1	3.88E+05	0.74	Y	1.18	3.54	5070.152	0.499
1379-TCDD	25.39	EMPC	0.8876	0.8867	-1.4	1.42E+05	1.03	N	1.18	1.29	5070.152	0.499
1369-TCDD	NotFnd		0.9023						1.18		5070.152	0.499
1469-TCDD	26.58	EMPC	0.9291	0.9286	-0.8	3.78E+05	0.90	N	1.18	3.44	5070.152	0.499
1247/1246/1248/1249-TCDD	26.81		0.9373	0.9366	-1.1	2.44E+05	0.88	Y	1.18	2.23	5070.152	0.499
1378-TCDD	27.01		0.9440	0.9435	-0.8	4.71E+05	0.86	Y	1.18	4.29	5070.152	0.499
1268-TCDD	NotFnd		0.9506						1.18		5070.152	0.499
1478-TCDD	27.46		0.9591	0.9592	+0.2	4.53E+05	0.82	Y	1.18	4.13	5070.152	0.499
1279-TCDD	NotFnd		0.9649						1.18		5070.152	0.499
1234/1269-TCDD	NotFnd		0.9771						1.18		5070.152	0.499
1236-TCDD	NotFnd		0.9820						1.18		5070.152	0.499
1237/1238-TCDD	28.36		0.9908	0.9905	-0.5	2.44E+06	0.86	Y	1.18	22.3	5070.152	0.499
1239-TCDD	NotFnd		0.9954						1.18		5070.152	0.499
2378-TCDD	**28.65**	E	**1.0008**	1.0008	**0**	1.49E+08	0.80	Y	**1.18**	**1,360**	**5070.152**	**0.499**
1278-TCDD	28.97		1.0121	1.0121	0	1.44E+07	0.81	Y	1.18	131	5070.152	0.499
1267-TCDD	NotFnd		1.0167						1.18		5070.152	0.499
1289-TCDD	NotFnd		1.0341						1.18		5070.152	0.499
12479/12468-PeCDD	31.46	J	0.9273	0.9269	-0.8	1.74E+05	1.56	Y	1.04	2	3600.242	0.4
12469-PeCDD	31.99		0.9430	0.9426	-0.8	2.70E+05	1.54	Y	1.04	3.1	3600.242	0.4
12368-PeCDD	32.54	EMPC	0.9592	0.9589	-0.6	2.72E+05	1.92	N	1.04	3.12	3600.242	0.4
12478-PeCDD	32.74	J	0.9647	0.9646	-0.2	8.99E+04	1.60	Y	1.04	1.03	3600.242	0.4
12379-PeCDD	32.84	J	0.9676	0.9676	0	1.04E+05	1.64	Y	1.04	1.2	3600.242	0.4
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9751	-0.2	1.14E+05	1.28	N	1.04	1.31	3600.242	0.4
12346/12347-PeCDD	NotFnd		0.9860						1.04		3600.242	0.4
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**1.15E+06**	**1.69**	**Y**	**1.04**	**13.2**	**3600.242**	**0.4**
12367-PeCDD	34.05	J	1.0034	1.0032	-0.4	5.09E+04	1.72	Y	1.04	0.585	3600.242	0.4
12389-PeCDD	NotFnd		1.0134						1.04		3600.242	0.4
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.61E+06	1.22	Y	1.10	29.1	3364.675	0.345
123468-HxCDD	36.76	J EMPC	0.9715	0.9716	+0.2	1.31E+05	1.62	N	1.10	1.46	3364.675	0.345
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	1.26E+06	1.25	Y	1.10	14	3364.675	0.345
123469-HxCDD	NotFnd		0.9829						1.10		3364.675	0.345
123478-HxCDD	37.85	J EMPC	**1.0004**	**1.0004**	**0**	**7.08E+04**	**1.63**	**N**	1.09	**0.853**	**3364.675**	**0.367**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**4.06E+05**	**1.33**	**Y**	1.15	**4.19**	**3364.675**	**0.318**
123467-HxCDD	NotFnd		1.0082						1.10		3364.675	0.345
123789-HxCDD	38.24		**1.0109**	**1.0109**	**0**	**2.42E+05**	**1.31**	**Y**	1.05	**2.69**	**3364.675**	**0.353**

Lab ID: B6206_18863_DF_001 **Acq'd:** 25 Jan 2022 19:49 DTF **Wt/Vol:** 10.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-S-44 **UTP:** 26-Jan-2022 09:14:31 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 852-968-RGT

Datafile: 220125C06 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

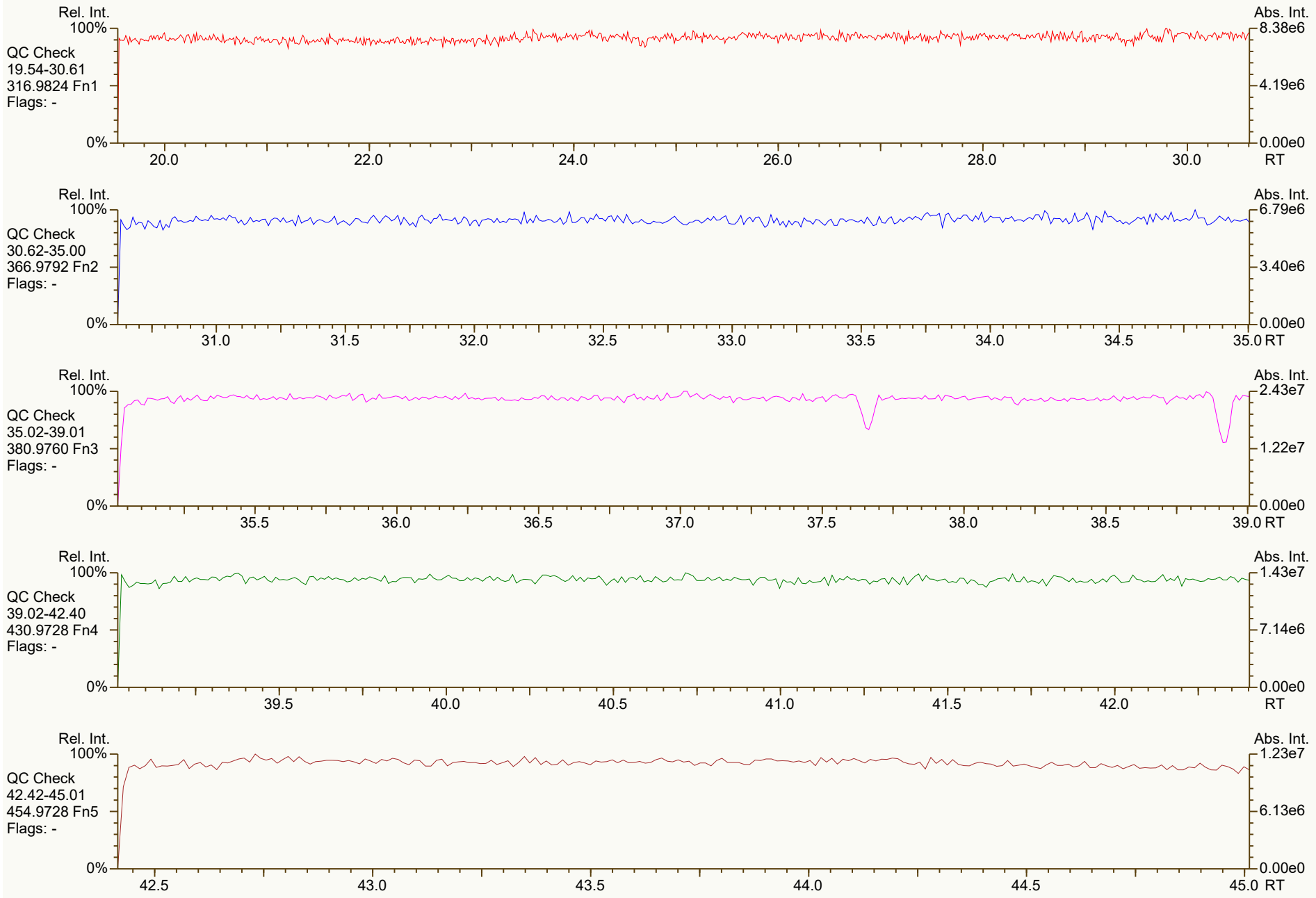
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.19		0.9838	0.9836	-0.5	1.32E+07	1.04	Y	1.06	172	3401.326	0.369
1234678-HpCDD	**40.87**		**1.0003**	**1.0002**	**-0.2**	**1.28E+07**	**1.03**	**Y**	**1.06**	**167**	**3401.326**	**0.369**
OCDD	**43.54**		**1.0002**	**1.0004**	**+0.5**	**1.24E+08**	**0.91**	**Y**	**1.13**	**2,490**	**3477.354**	**0.715**
OCDD-a	43.53		1.0002	1.0003	+0.3	8.04E+06	2.45	Y	0.07	2,520	3230.617	10.4
1368-TCDF	22.98	EMPC	0.8282	0.8272	-1.4	1.27E+05	0.56	N	1.08	0.778	3365.773	0.209
1468-TCDF	23.54		0.8485	0.8474	-1.6	1.01E+06	0.72	Y	1.08	6.2	3365.773	0.209
2468-TCDF	24.17		0.8709	0.8700	-1.3	6.58E+05	0.82	Y	1.08	4.04	3365.773	0.209
1346/1246-TCDF	NotFnd		0.8829						1.08		3365.773	0.209
1347/1378/1247-TCDF	24.69		0.8884	0.8887	+0.4	7.85E+06	0.84	Y	1.08	48.2	3365.773	0.209
1348-TCDF	NotFnd		0.8980						1.08		3365.773	0.209
1248/1367/1379-TCDF	25.02		0.9026	0.9006	-3.0	3.22E+07	0.77	Y	1.08	198	3365.773	0.209
1268-TCDF	25.43		0.9158	0.9154	-0.6	1.05E+07	0.77	Y	1.08	64.5	3365.773	0.209
1467-TCDF	25.57		0.9206	0.9203	-0.5	1.27E+06	0.88	Y	1.08	7.82	3365.773	0.209
1478-TCDF	25.73		0.9266	0.9261	-0.8	2.55E+07	0.80	Y	1.08	156	3365.773	0.209
1369/1237-TCDF	26.10		0.9397	0.9396	-0.2	6.59E+06	0.80	Y	1.08	40.5	3365.773	0.209
2467-TCDF	26.22		0.9440	0.9438	-0.3	6.21E+05	0.72	Y	1.08	3.81	3365.773	0.209
2368-TCDF	NotFnd		0.9497						1.08		3365.773	0.209
1238/1234/1678/1469/1236-TCDF	26.42		0.9528	0.9510	-2.9	4.80E+07	0.80	Y	1.08	295	3365.773	0.209
1278-TCDF	26.91	E	0.9690	0.9686	-0.6	2.81E+08	0.79	Y	1.08	1,730	3365.773	0.209
1349-TCDF	NotFnd		0.9730						1.08		3365.773	0.209
1267-TCDF	27.18		0.9787	0.9785	-0.3	1.55E+07	0.79	Y	1.08	95.4	3365.773	0.209
2346/1249-TCDF	27.38		0.9850	0.9856	+1.0	2.31E+06	0.74	Y	1.08	14.2	3365.773	0.209
2347/1279-TCDF	27.57		0.9929	0.9926	-0.5	7.35E+06	0.78	Y	1.08	45.2	3365.773	0.209
2348-TCDF	27.68		0.9970	0.9965	-0.8	4.31E+07	0.79	Y	1.08	264	3365.773	0.209
2378-TCDF	**27.80**	E	**1.0008**	**1.0007**	**-0.2**	**6.46E+08**	**0.78**	**Y**	**1.08**	**3,970**	**3365.773**	**0.209**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	4.96E+07	0.77	Y	1.08	305	3365.773	0.209
1269-TCDF	28.40		1.0221	1.0221	0	9.26E+06	0.79	Y	1.08	56.9	3365.773	0.209
1239-TCDF	28.66		1.0319	1.0315	-0.7	8.23E+05	0.84	Y	1.08	5.06	3365.773	0.209
1289-TCDF	29.80		1.0740	1.0725	-2.7	4.85E+07	0.79	Y	1.08	298	3365.773	0.209
13468/12468-PeCDF	29.73		0.9145	0.9147	+0.4	5.73E+05	1.70	Y	1.02	4.27	3351.643	0.23
13678/13467/12467-PeCDF	31.26	J	0.9619	0.9618	-0.2	2.20E+05	1.34	Y	1.02	1.64	6072.956	0.417
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	7.97E+06	1.52	Y	1.02	59.4	6072.956	0.417
14678-PeCDF	NotFnd		0.9695						1.02		6072.956	0.417
13479-PeCDF	NotFnd		0.9724						1.02		6072.956	0.417
13469/12479-PeCDF	NotFnd		0.9801						1.02		6072.956	0.417
12346-PeCDF	NotFnd		0.9842						1.02		6072.956	0.417

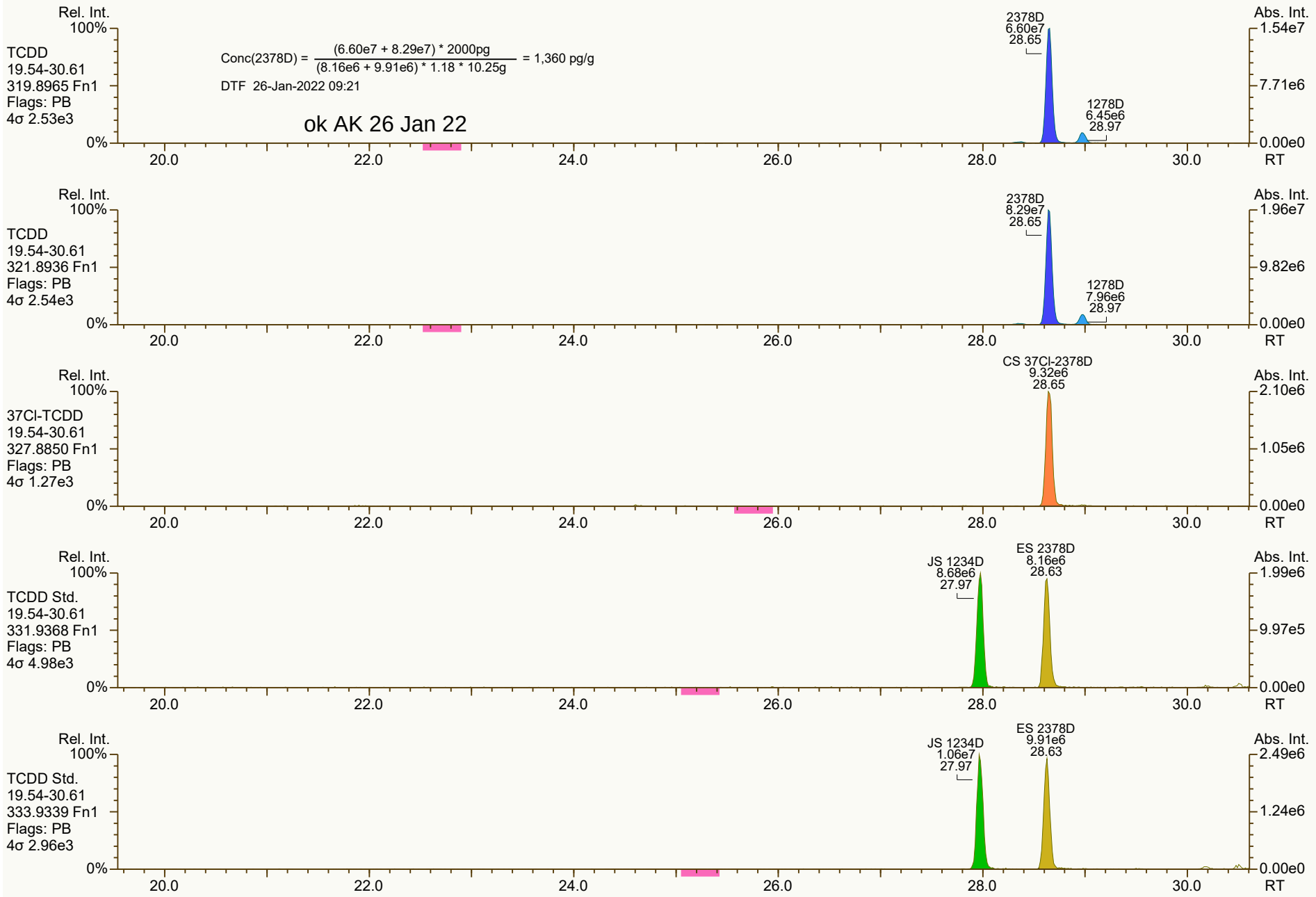
Lab ID: B6206_18863_DF_001 **Acq'd: 25 Jan 2022 19:49 DTF** **Wt/Vol: 10.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

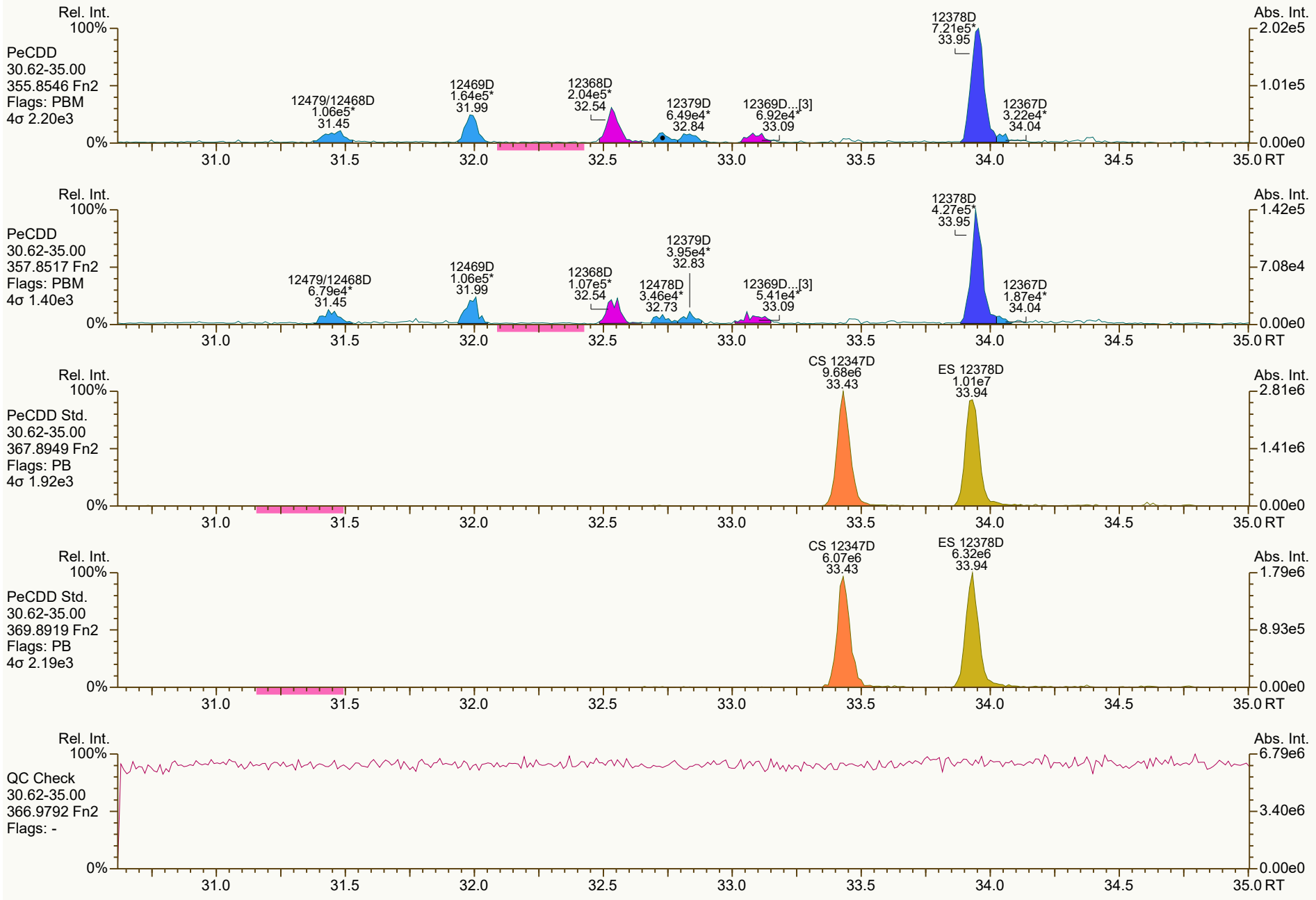
Client ID: 11215131-012022-S-BN-SW-S-44 **UTP: 26-Jan-2022 09:14:31 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 852-968-RGT**

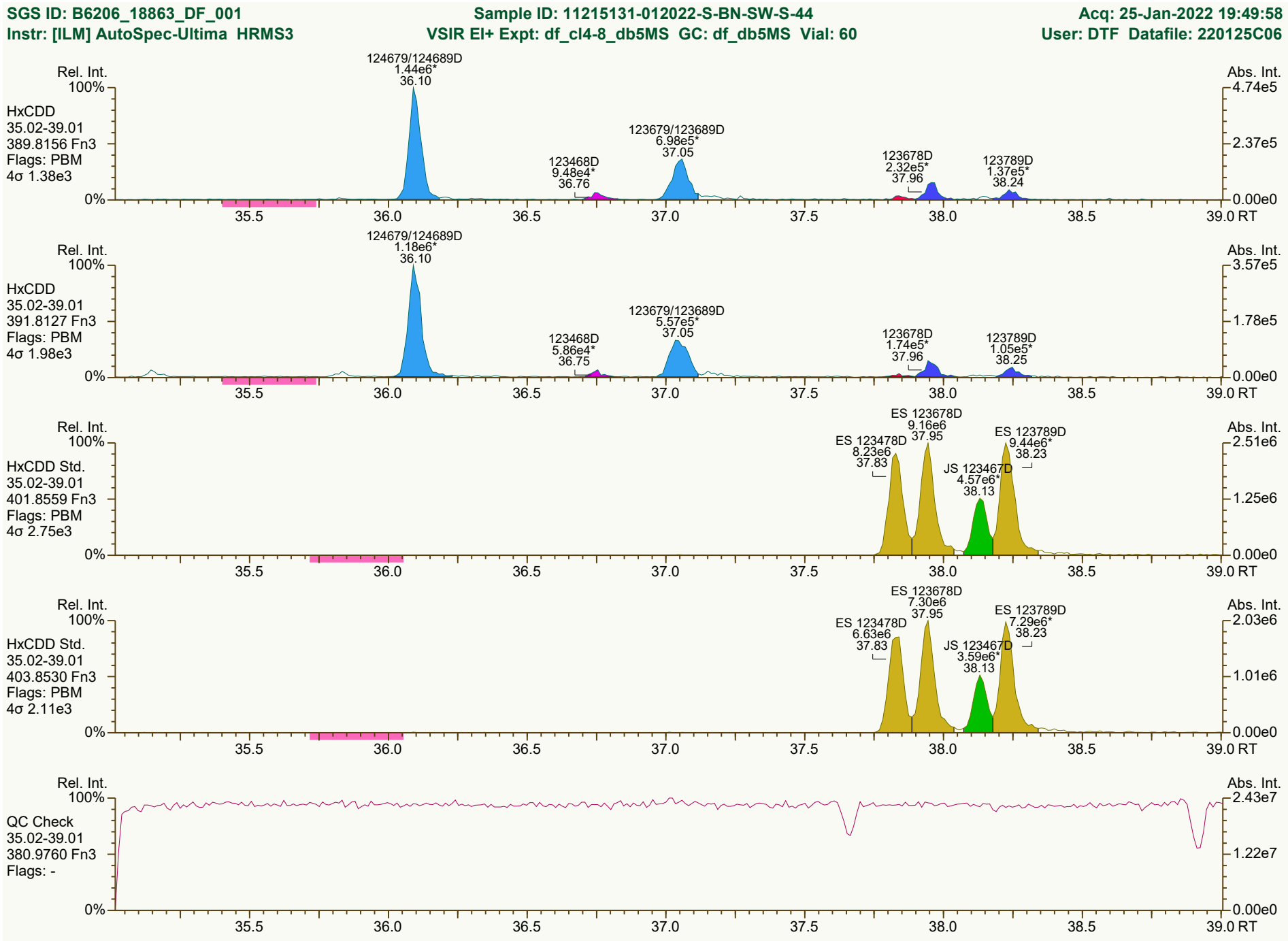
Datafile: 220125C06 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

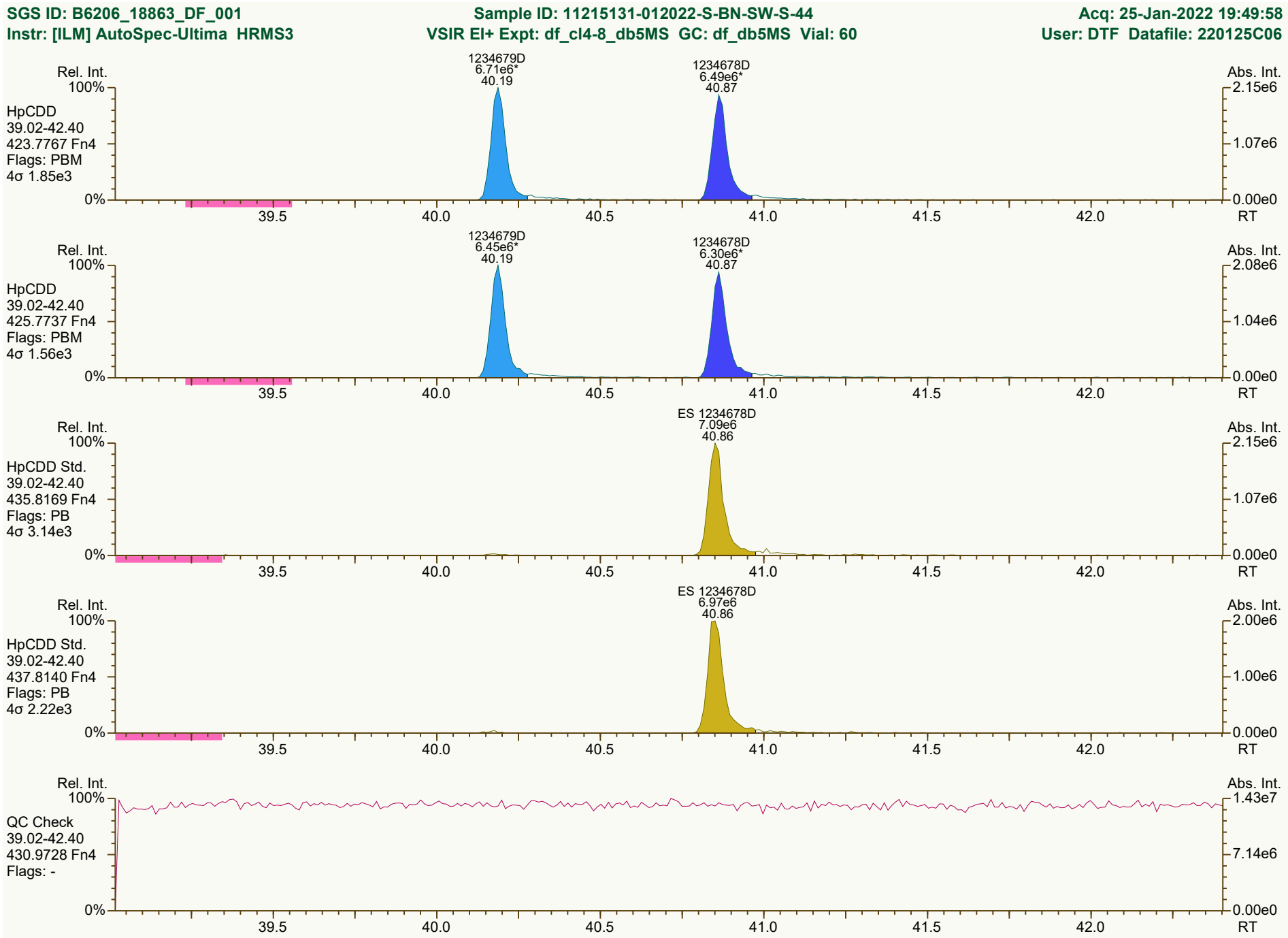
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06		0.9868	0.9865	-0.6	3.71E+05	1.33	Y	1.02	2.77	6072.956	0.417
12347-PeCDF	32.14		0.9895	0.9889	-1.2	3.42E+05	1.58	Y	1.02	2.55	6072.956	0.417
12348-PeCDF	32.30		0.9941	0.9940	-0.2	1.77E+06	1.56	Y	1.02	13.2	6072.956	0.417
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.64E+07**	**1.55**	**Y**	**1.02**	**123**	**6072.956**	**0.429**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	5.51E+06	1.54	Y	1.02	41	6072.956	0.417
12379-PeCDF	NotFnd		1.0142						1.02		6072.956	0.417
12679-PeCDF	NotFnd		0.9931						1.02		6072.956	0.417
23467/12369-PeCDF	33.48	J	0.9966	0.9963	-0.6	2.20E+05	1.60	Y	1.02	1.64	6072.956	0.417
23478-PeCDF	**33.63**		**1.0005**	**1.0006**	**+0.2**	**1.50E+07**	**1.59**	**Y**	**1.02**	**111**	**6072.956**	**0.405**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6072.956	0.417
12349-PeCDF	NotFnd		1.0101						1.02		6072.956	0.417
12389-PeCDF	34.69		1.0322	1.0323	+0.2	7.15E+05	1.62	Y	1.02	5.33	6072.956	0.417
123468-HxCDF	35.46	B	0.9627	0.9628	+0.2	5.50E+05	1.23	Y	1.19	4.43	5078.498	0.362
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	3.05E+06	1.24	Y	1.19	24.6	5078.498	0.362
134679-HxCDF	NotFnd		0.9747						1.19		5078.498	0.362
124679-HxCDF	NotFnd		0.9802						1.19		5078.498	0.362
124689-HxCDF	36.30		0.9858	0.9857	-0.2	1.26E+06	1.29	Y	1.19	10.2	5078.498	0.362
123467-HxCDF	36.72	J EMPC	0.9972	0.9970	-0.4	1.25E+05	1.51	N	1.19	1.01	5078.498	0.362
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**3.14E+07**	**1.26**	**Y**	**1.27**	**258**	**5078.498**	**0.321**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.02E+07**	**1.24**	**Y**	**1.15**	**71.3**	**5078.498**	**0.348**
123479-HxCDF	NotFnd		1.0051						1.19		5078.498	0.362
123469-HxCDF	NotFnd		1.0091						1.19		5078.498	0.362
123679-HxCDF	NotFnd		0.9943						1.19		5078.498	0.362
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**1.62E+06**	**1.23**	**Y**	**1.19**	**12.2**	**5078.498**	**0.363**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5078.498	0.362
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5078.498**	**0.436**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62		1.0007	1.0010	+0.7	1.99E+06	1.28	Y	1.19	16	5078.498	0.362
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**1.20E+07**	**0.99**	**Y**	**1.37**	**86.7**	**2890.869**	**0.146**
1234679-HpCDF	NotFnd		1.0067						1.34		2890.869	0.218
1234689-HpCDF	40.34		1.0101	1.0102	+0.2	3.88E+06	1.04	Y	1.34	36.7	2890.869	0.218
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**2.61E+06**	**1.04**	**Y**	**1.31**	**35.2**	**2890.869**	**0.35**
OCDF	**43.71**		**1.0002**	**1.0002**	**0**	**3.59E+06**	**0.92**	**Y**	**1.07**	**65.7**	**2538.704**	**0.524**
OCDF-a	43.69	**EMPC**	1.0002	0.9996	-1.6	7.38E+04	3.41	N	0.07	21.8	3353.059	11.2

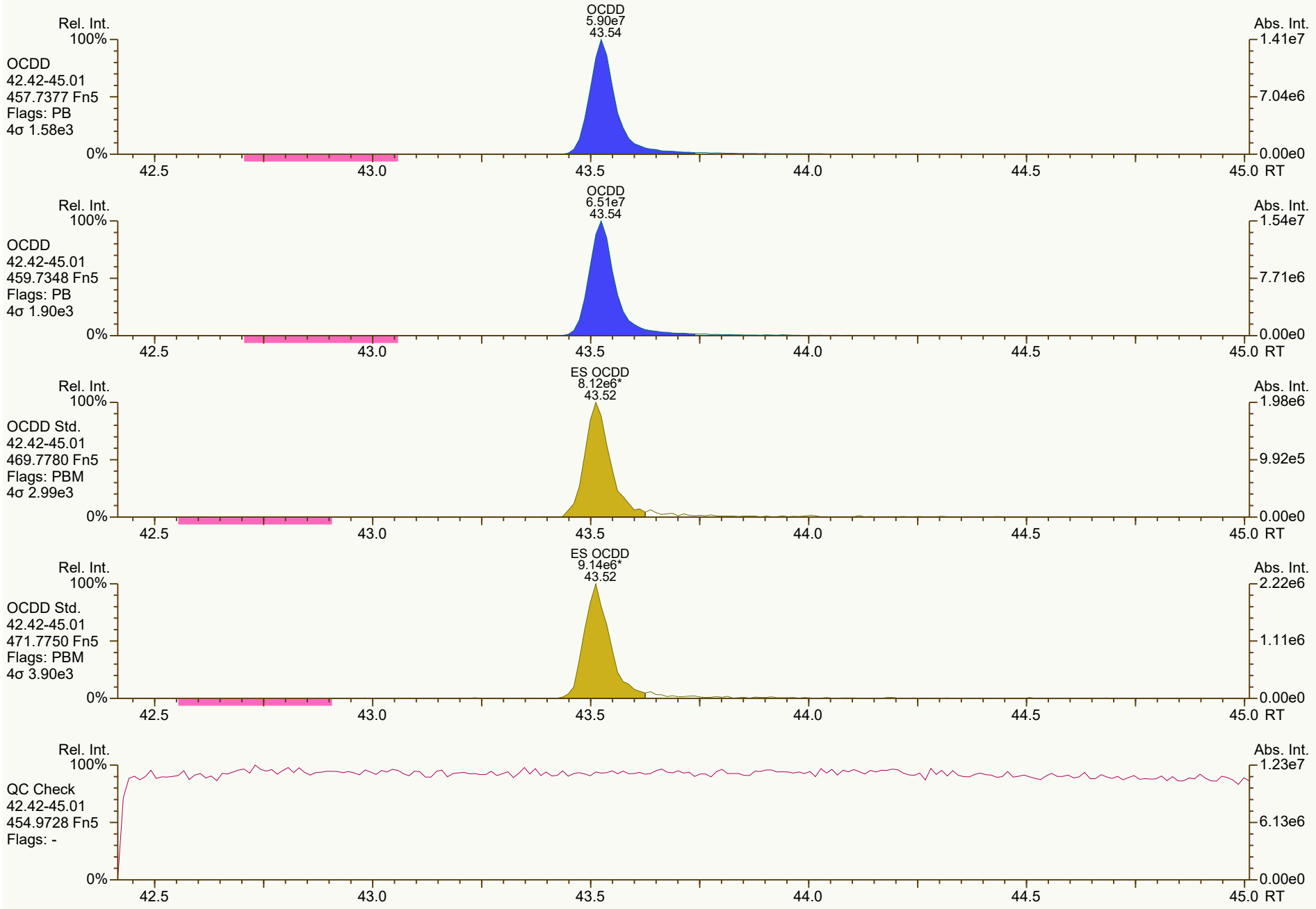

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.38e6
4.19e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.79e6
3.40e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.43e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.43e7
7.14e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.23e7
6.13e6
0.00e0

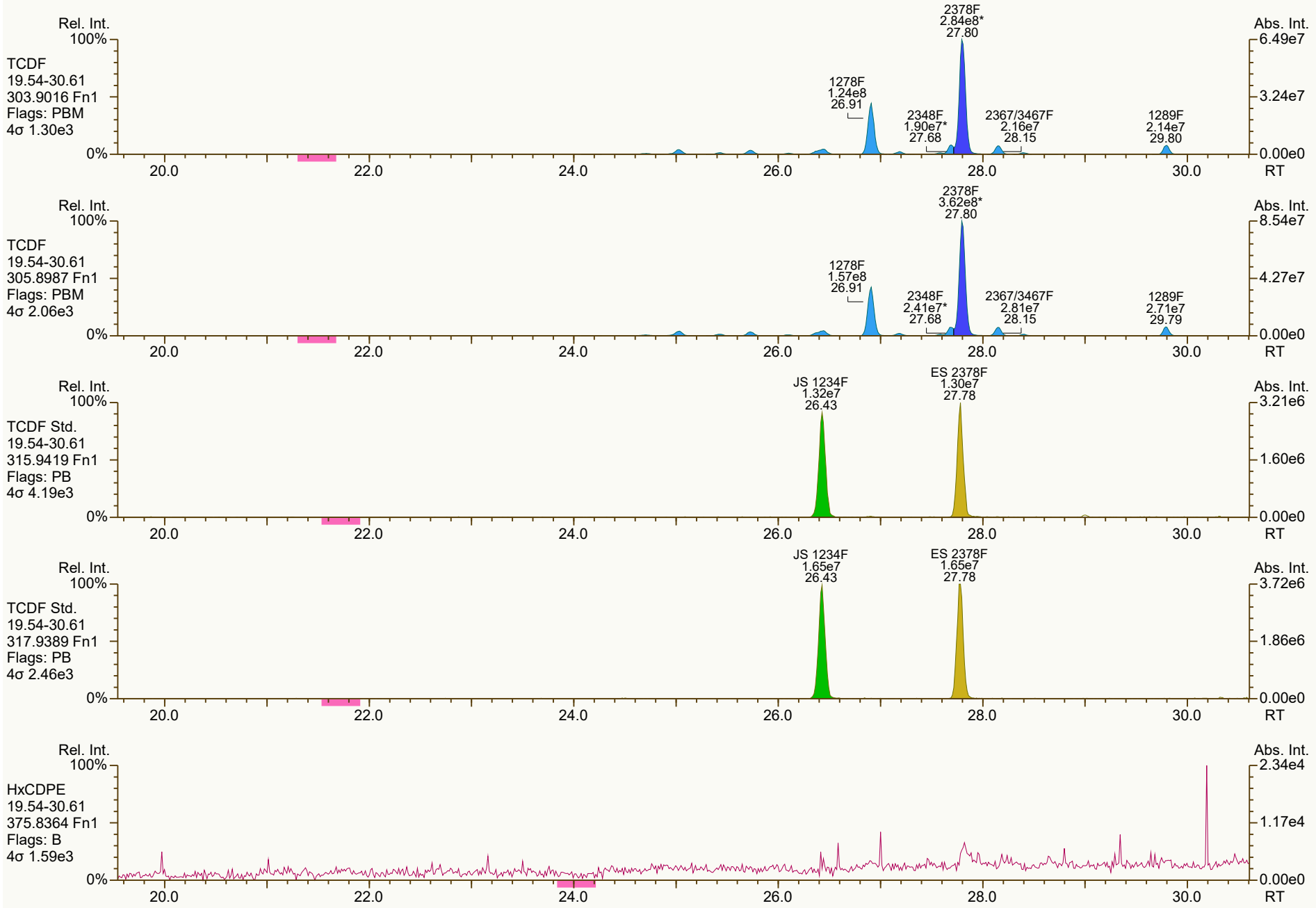

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 2.53e3
0%
Conc(2378D) = (6.60e7 + 8.29e7) * 2000pg / (8.16e6 + 9.91e6) * 1.18 * 10.25g = 1,360 pg/g
DTF 26-Jan-2022 09:21
ok AK 26 Jan 22
2378D
6.60e7
28.65
1278D
6.45e6
28.97
Abs. Int.
1.54e7
7.71e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.54e3
0%
2378D
8.29e7
28.65
1278D
7.96e6
28.97
Abs. Int.
1.96e7
9.82e6
0.00e0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.27e3
0%
CS 37Cl-2378D
9.32e6
28.65
Abs. Int.
2.10e6
1.05e6
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.98e3
0%
JS 1234D
8.68e6
27.97
ES 2378D
8.16e6
28.63
Abs. Int.
1.99e6
9.97e5
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.96e3
0%
JS 1234D
1.06e7
27.97
ES 2378D
9.91e6
28.63
Abs. Int.
2.49e6
1.24e6
0.00e0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.20e3
0%
12479/12468D
1.06e5*
31.45
12469D
1.64e5*
31.99
12368D
2.04e5*
32.54
12379D
6.49e4*
32.84
12369D...[3]
6.92e4*
33.09
12378D
7.21e5*
33.95
12367D
3.22e4*
34.04
Abs. Int.
2.02e5
1.01e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.40e3
0%
12479/12468D
6.79e4*
31.45
12469D
1.06e5*
31.99
12368D
1.07e5*
32.54
12379D
3.95e4*
32.83
12478D
3.46e4*
32.73
12369D...[3]
5.41e4*
33.09
12378D
4.27e5*
33.95
12367D
1.87e4*
34.04
Abs. Int.
1.42e5
7.08e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.92e3
0%
CS 12347D
9.68e6
33.43
ES 12378D
1.01e7
33.94
Abs. Int.
2.81e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12347D
6.07e6
33.43
ES 12378D
6.32e6
33.94
Abs. Int.
1.79e6
8.93e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.79e6
3.40e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: B6206_18863_DF_001
Sample ID: 11215131-012022-S-BN-SW-S-44
Acq: 25-Jan-2022 19:49:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220125C06
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.38e3
124679/124689D
1.44e6*
36.10
123468D
9.48e4*
36.76
123679/123689D
6.98e5*
37.05
123678D
2.32e5*
37.96
123789D
1.37e5*
38.24
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.98e3
124679/124689D
1.18e6*
36.10
123468D
5.86e4*
36.75
123679/123689D
5.57e5*
37.05
123678D
1.74e5*
37.96
123789D
1.05e5*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.75e3
ES 123678D
9.16e6
37.95
ES 123478D
8.23e6
37.83
ES 123789D
9.44e6*
38.23
JS 123467D
4.57e6*
38.13
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.11e3
ES 123678D
7.30e6
37.95
ES 123478D
6.63e6
37.83
ES 123789D
7.29e6*
38.23
JS 123467D
3.59e6*
38.13
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
4.74e5
2.37e5
0.00e0
3.57e5
1.78e5
2.51e6
1.25e6
2.03e6
1.01e6
2.43e7
1.22e7
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_001.utp_res, saved 26-Jan-2022 09:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5461, 6130 scc: 852-968
Revised: 26-Jan-2022 08:42 (DTF) Printed: 26-Jan-2022 09:25 Page 4 of 12


SGS ID: B6206_18863_DF_001
Sample ID: 11215131-012022-S-BN-SW-S-44
Acq: 25-Jan-2022 19:49:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220125C06
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.85e3
1234679D
6.71e6*
40.19
1234678D
6.49e6*
40.87
2.15e6
1.07e6
0.00e0
RT
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.56e3
1234679D
6.45e6*
40.19
1234678D
6.30e6*
40.87
2.08e6
1.04e6
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 3.14e3
ES 1234678D
7.09e6
40.86
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.22e3
ES 1234678D
6.97e6
40.86
2.00e6
1.00e6
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.43e7
7.14e6
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_001.utp_res, saved 26-Jan-2022 09:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5069, 9232 scc: 852-968
Revised: 26-Jan-2022 08:42 (DTF) Printed: 26-Jan-2022 09:25 Page 5 of 12


OCDD
5.90e7
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
1.41e7
7.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.51e7
43.54
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.90e3
1.54e7
7.71e6
ES OCDD
8.12e6*
43.52
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.99e3
1.98e6
9.92e5
ES OCDD
9.14e6*
43.52
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 3.90e3
2.22e6
1.11e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.23e7
6.13e6

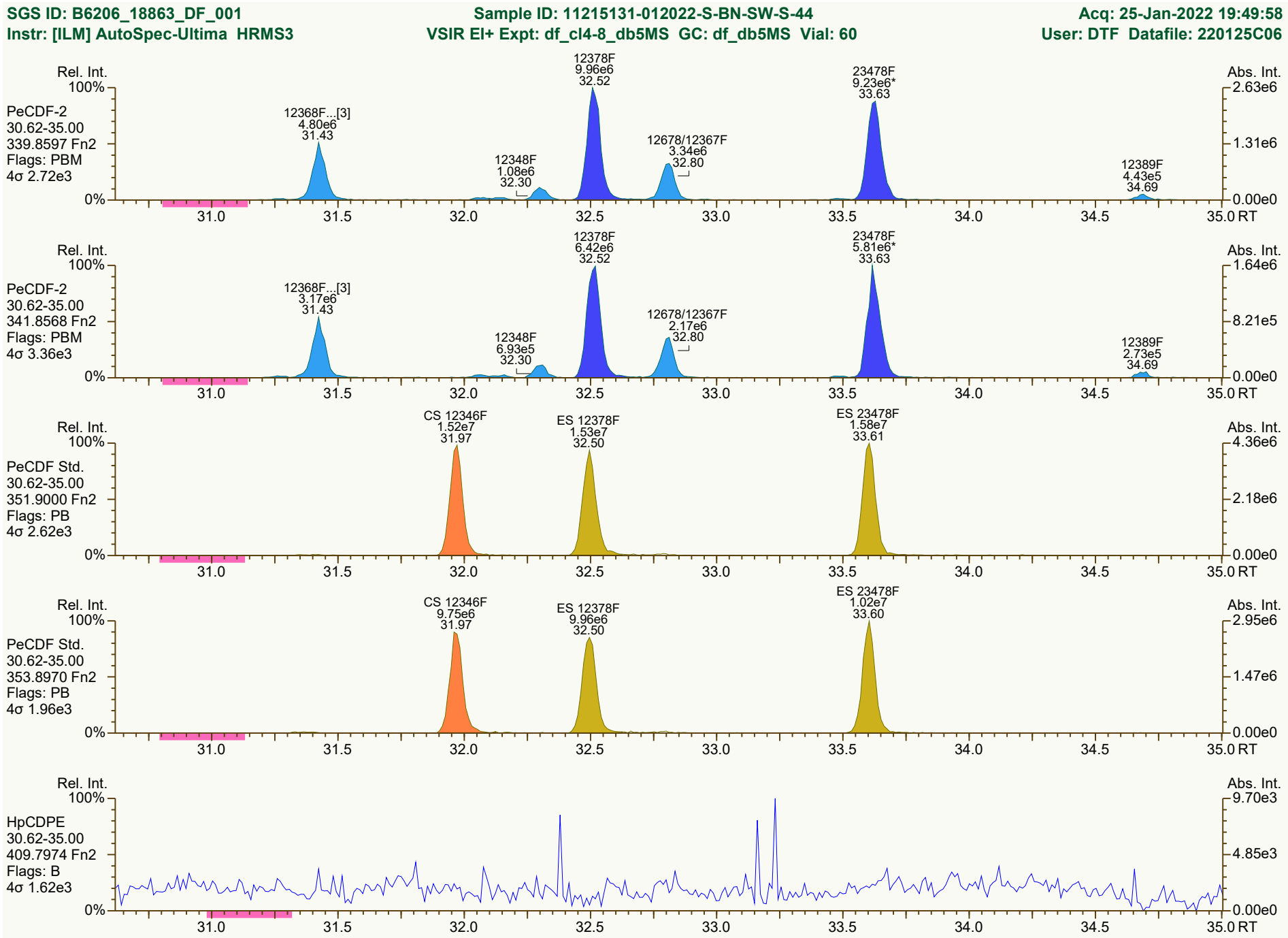

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.30e3
0%
2378F
2.84e8*
27.80
1278F
1.24e8
26.91
2348F
1.90e7*
27.68
2367/3467F
2.16e7
28.15
1289F
2.14e7
29.80
Abs. Int.
6.49e7
3.24e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.06e3
0%
2378F
3.62e8*
27.80
1278F
1.57e8
26.91
2348F
2.41e7*
27.68
2367/3467F
2.81e7
28.15
1289F
2.71e7
29.79
Abs. Int.
8.54e7
4.27e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 4.19e3
0%
JS 1234F
1.32e7
26.43
ES 2378F
1.30e7
27.78
Abs. Int.
3.21e6
1.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.46e3
0%
JS 1234F
1.65e7
26.43
ES 2378F
1.65e7
27.78
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
2.34e4
1.17e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

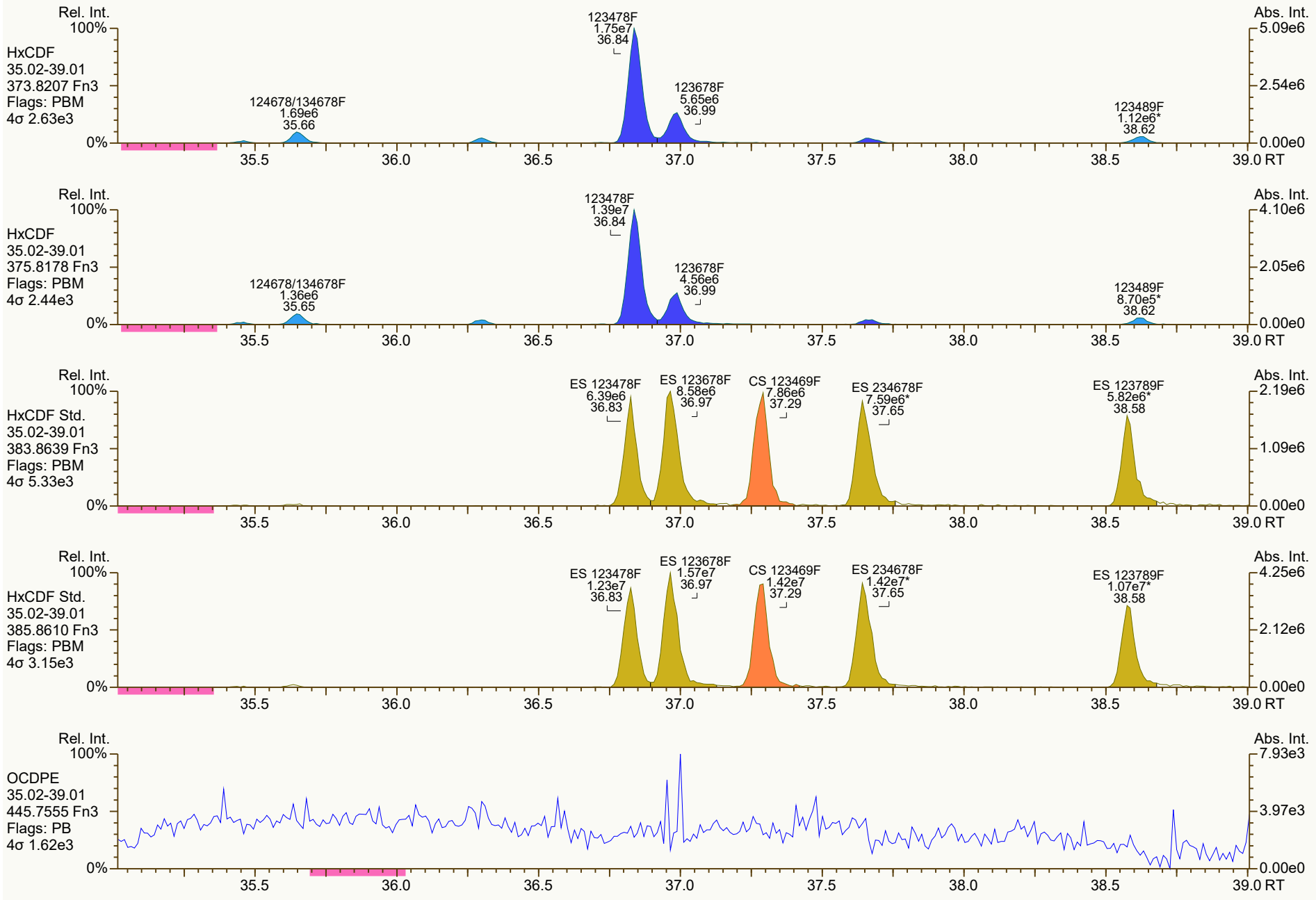
SGS ID: B6206_18863_DF_001 | Sample ID: 11215131-012022-S-BN-SW-S-44 | Acq: 25-Jan-2022 19:49:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60 | User: DTF Datafile: 220125C06

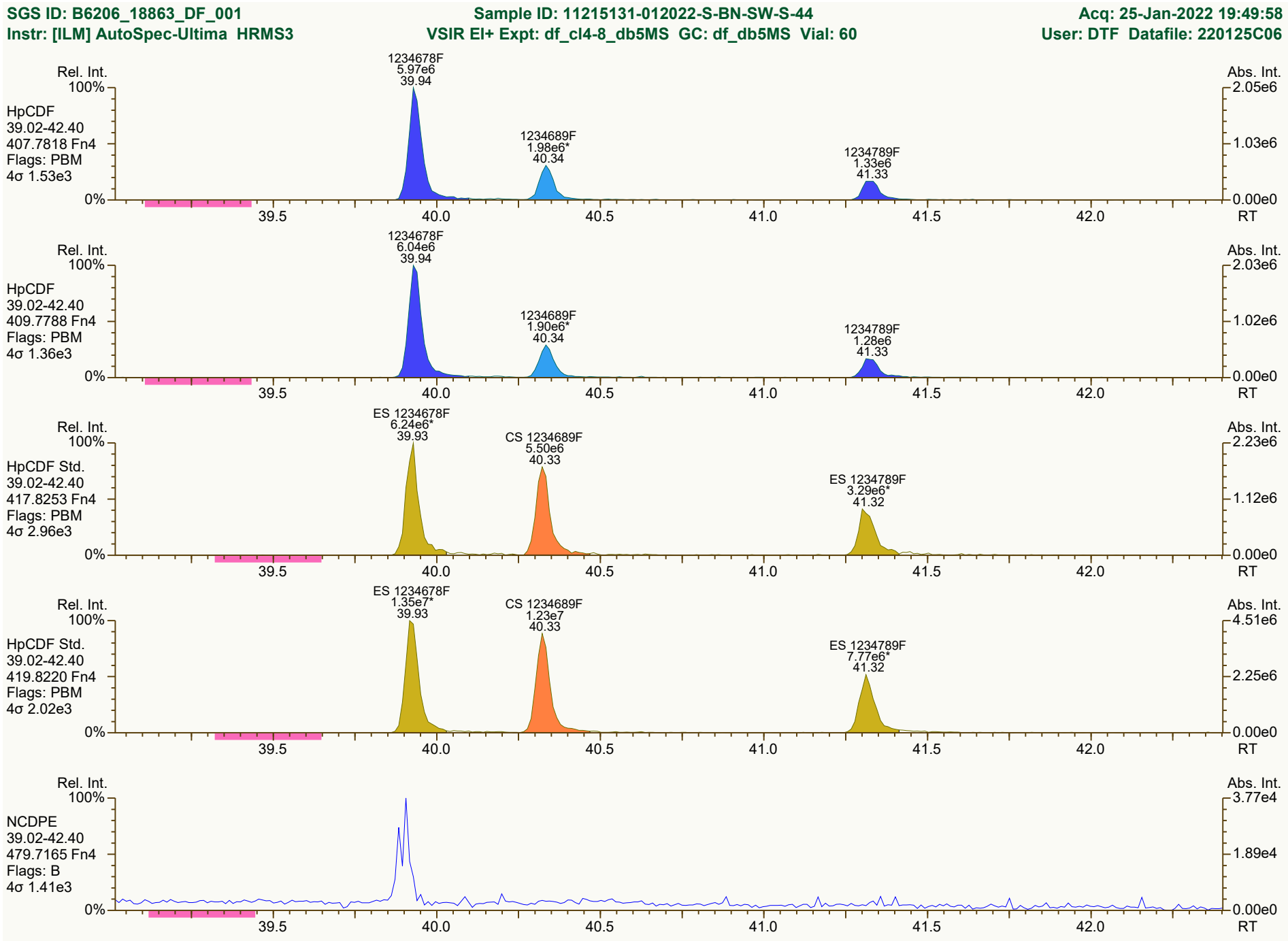


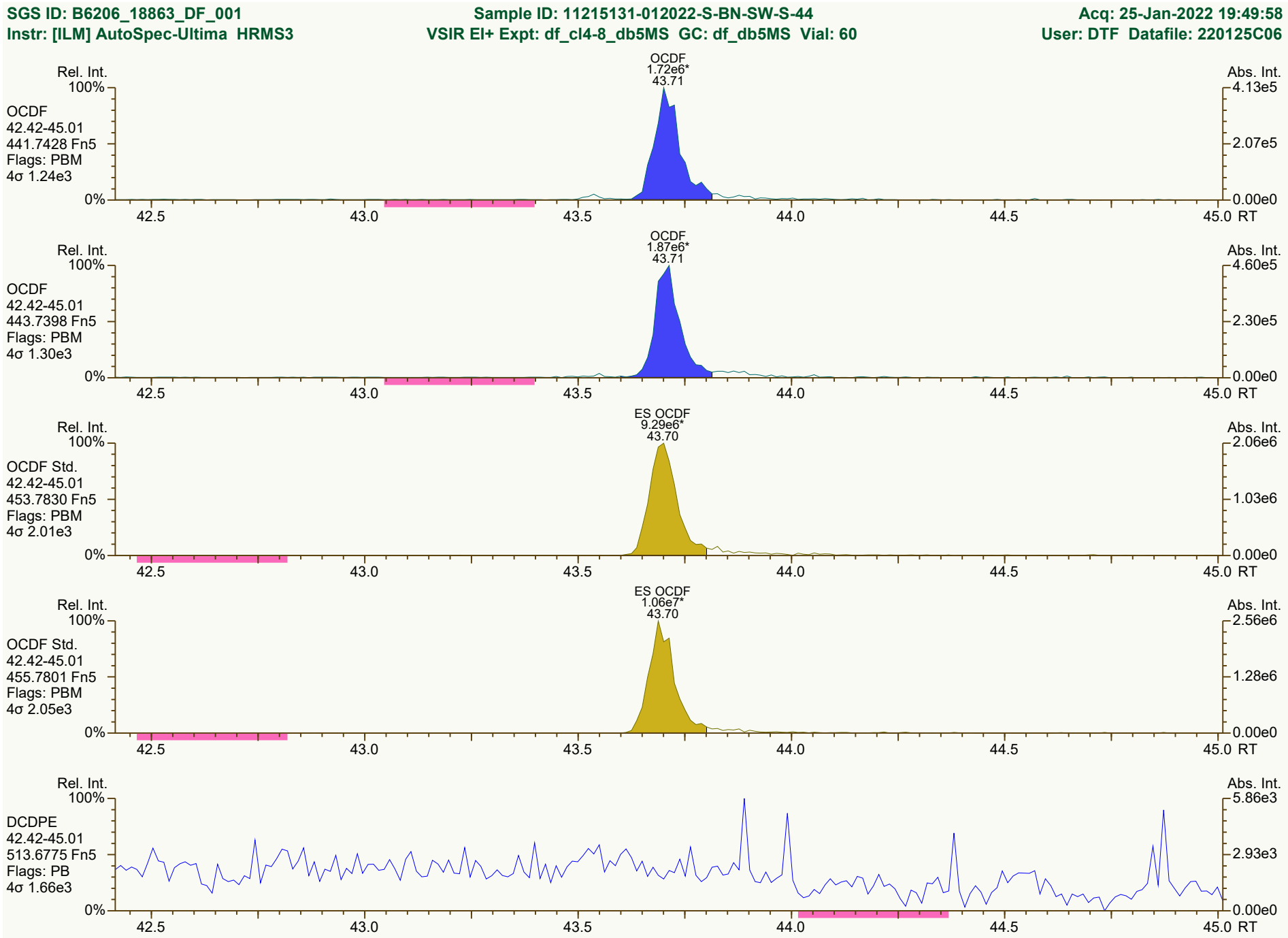
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_001.utp_res, saved 26-Jan-2022 09:22 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0544 scc: 852-968 | *PKD: 26-Jan-2022 08:44 Printed: 26-Jan-2022 09:25 Page 8 of 12*


SGS ID: B6206_18863_DF_001
Sample ID: 11215131-012022-S-BN-SW-S-44
Acq: 25-Jan-2022 19:49:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220125C06
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 2.72e3
12368F...[3] 4.80e6 31.43
12348F 1.08e6 32.30
12378F 9.96e6 32.52
12678/12367F 3.34e6 32.80
23478F 9.23e6* 33.63
12389F 4.43e5 34.69
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 3.36e3
12368F...[3] 3.17e6 31.43
12348F 6.93e5 32.30
12378F 6.42e6 32.52
12678/12367F 2.17e6 32.80
23478F 5.81e6* 33.63
12389F 2.73e5 34.69
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.62e3
CS 12346F 1.52e7 31.97
ES 12378F 1.53e7 32.50
ES 23478F 1.58e7 33.61
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.96e3
CS 12346F 9.75e6 31.97
ES 12378F 9.96e6 32.50
ES 23478F 1.02e7 33.60
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.62e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
2.63e6
1.31e6
0.00e0
1.64e6
8.21e5
4.36e6
2.18e6
2.95e6
1.47e6
9.70e3
4.85e3


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.63e3
123478F
1.75e7
36.84
123678F
5.65e6
36.99
124678/134678F
1.69e6
35.66
123489F
1.12e6*
38.62
Abs. Int.
5.09e6
2.54e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.44e3
123478F
1.39e7
36.84
123678F
4.56e6
36.99
124678/134678F
1.36e6
35.65
123489F
8.70e5*
38.62
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 5.33e3
ES 123478F
6.39e6
36.83
ES 123678F
8.58e6
36.97
CS 123469F
7.86e6
37.29
ES 234678F
7.59e6*
37.65
ES 123789F
5.82e6*
38.58
Abs. Int.
2.19e6
1.09e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.15e3
ES 123478F
1.23e7
36.83
ES 123678F
1.57e7
36.97
CS 123469F
1.42e7
37.29
ES 234678F
1.42e7*
37.65
ES 123789F
1.07e7*
38.58
Abs. Int.
4.25e6
2.12e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.62e3
Abs. Int.
7.93e3
3.97e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6206_18863_DF_001
Sample ID: 11215131-012022-S-BN-SW-S-44
Acq: 25-Jan-2022 19:49:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220125C06
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.53e3
1234678F
5.97e6
39.94
1234689F
1.98e6*
40.34
1234789F
1.33e6
41.33
2.05e6
1.03e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.36e3
1234678F
6.04e6
39.94
1234689F
1.90e6*
40.34
1234789F
1.28e6
41.33
2.03e6
1.02e6
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.96e3
ES 1234678F
6.24e6*
39.93
CS 1234689F
5.50e6
40.33
ES 1234789F
3.29e6*
41.32
2.23e6
1.12e6
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.02e3
ES 1234678F
1.35e7*
39.93
CS 1234689F
1.23e7
40.33
ES 1234789F
7.77e6*
41.32
4.51e6
2.25e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
3.77e4
1.89e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
0.00e0
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_001.utp_res, saved 26-Jan-2022 09:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7134, 3918, 7099 scc: 852-968
Revised: 26-Jan-2022 08:44 (DTF) Printed: 26-Jan-2022 09:25 Page 11 of 12


SGS ID: B6206_18863_DF_001
Sample ID: 11215131-012022-S-BN-SW-S-44
Acq: 25-Jan-2022 19:49:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220125C06
OCDF
1.72e6*
43.71
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.24e3
OCDF
1.87e6*
43.71
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.30e3
ES OCDF
9.29e6*
43.70
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.01e3
ES OCDF
1.06e7*
43.70
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.05e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.66e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_001.utp_res, saved 26-Jan-2022 09:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8037, 5575, 5271 scc: 852-968
Revised: 26-Jan-2022 08:44 (DTF) Printed: 26-Jan-2022 09:25 Page 12 of 12

Lab ID: B6206_18863_DF_002 **Acq'd:** 25 Jan 2022 20:36 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-S-45 **UTP:** 26-Jan-2022 09:14:32 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 097-537-JZV

Datafile: 220125C07 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65	E	1.0008	1.0008	0	1.85E+08	0.80	Y	1.18	1,560	3674.222	0.328
12378-PeCDD	33.96		1.0006	1.0005	-0.2	1.38E+06	1.58	Y	1.04	14.8	3606.313	0.385
123478-HxCDD	37.86	J	1.0004	1.0005	+0.2	1.14E+05	1.16	Y	1.09	1.28	4085.464	0.382
123678-HxCDD	37.97		1.0034	1.0033	-0.2	5.37E+05	1.29	Y	1.15	5.51	4085.464	0.407
123789-HxCDD	38.25		1.0109	1.0108	-0.2	3.23E+05	1.06	Y	1.05	3.12	4085.464	0.344
1234678-HpCDD	40.88		1.0003	1.0003	0	1.51E+07	1.08	Y	1.06	186	4653.147	0.488
OCDD	43.55		1.0002	1.0003	+0.3	1.32E+08	0.90	Y	1.13	2,550	4356.887	0.927
2378-TCDF	27.81	E	1.0008	1.0008	0	7.53E+08	0.79	Y	1.08	4,450	4608.507	0.31
12378-PeCDF	32.52		1.0005	1.0005	0	2.05E+07	1.44	Y	1.02	145	7839.639	0.545
23478-PeCDF	33.64		1.0005	1.0007	+0.4	1.66E+07	1.48	Y	1.02	122	7839.639	0.518
123478-HxCDF	36.85		1.0004	1.0005	+0.2	3.24E+07	1.25	Y	1.27	248	4108.82	0.271
123678-HxCDF	36.99		1.0004	1.0005	+0.2	9.84E+06	1.24	Y	1.15	65.5	4108.82	0.252
234678-HxCDF	37.68		1.0004	1.0005	+0.2	1.74E+06	1.27	Y	1.19	14.3	4108.82	0.327
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4108.82	0.352
1234678-HpCDF	39.95		1.0002	1.0004	+0.5	1.11E+07	1.00	Y	1.37	79.3	5136.764	0.281
1234789-HpCDF	41.34		1.0003	1.0003	0	2.58E+06	1.07	Y	1.31	30.3	5136.764	0.482
OCDF	43.74		1.0002	1.0003	+0.3	7.40E+06	0.88	Y	1.07	123	4750.82	0.88

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0233	0	1.96E+07	0.79	Y	1.05	88
ES 12378-PeCDD	33.94	1.2121	1.2132	+2.2	1.76E+07	1.60	Y	0.88	94.1
ES 123478-HxCDD	37.84	0.9921	0.9922	+0.2	1.60E+07	1.31	Y	0.97	100
ES 123678-HxCDD	37.96	0.9951	0.9952	+0.2	1.67E+07	1.22	Y	0.94	108
ES 123789-HxCDD	38.25	1.0025	1.0028	+0.7	1.94E+07	1.27	Y	1.09	109
ES 1234678-HpCDD	40.87	1.0709	1.0716	+1.7	1.50E+07	1.10	Y	0.91	100
ES OCDD	43.54	1.1403	1.1416	+3.4	1.80E+07	0.87	Y	0.62	88.1
ES 2378-TCDF	27.79	1.0506	1.0513	+1.2	3.08E+07	0.78	Y	1.06	84.6
ES 12378-PeCDF	32.51	1.2281	1.2299	+3.5	2.71E+07	1.54	Y	0.91	86.6
ES 23478-PeCDF	33.61	1.2698	1.2718	+4.0	2.62E+07	1.49	Y	0.88	86.4
ES 123478-HxCDF	36.84	0.9657	0.9658	+0.2	2.02E+07	0.53	Y	1.20	103
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.56E+07	0.54	Y	1.35	116
ES 234678-HxCDF	37.66	0.9874	0.9874	0	2.01E+07	0.54	Y	1.24	98.8
ES 123789-HxCDF	38.60	1.0116	1.0121	+1.2	1.81E+07	0.54	Y	1.16	95.8
ES 1234678-HpCDF	39.94	1.0467	1.0472	+1.2	2.00E+07	0.44	Y	0.97	126
ES 1234789-HpCDF	41.33	1.0830	1.0837	+1.7	1.28E+07	0.45	Y	0.85	91.8
ES OCDF	43.72	1.1451	1.1464	+3.4	2.21E+07	0.92	Y	0.81	83.4

Lab ID: B6206_18863_DF_002 **Acq'd:** 25 Jan 2022 20:36 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-S-45 **UTP:** 26-Jan-2022 09:14:32 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 097-537-JZV

Datafile: 220125C07 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.98		-	-	-	2.13E+07	0.77	Y	-	-
JS 1234-TCDF	26.43		-	-	-	3.44E+07	0.80	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	8.19E+06	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0241	0	8.99E+06	n/a	-	1.20	87.7
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.70E+07	1.59	Y	0.75	106
CS 12346-PeCDF	31.98		1.2083	1.2100	+3.3	2.71E+07	1.57	Y	0.85	92.5
CS 123469-HxCDF	37.30		0.9778	0.9780	+0.4	2.23E+07	0.56	Y	1.12	122
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.48E+07	0.43	Y	0.89	102
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0241~~	~~0~~	~~8.99E+06~~	~~n/a~~		~~1.15~~	~~99.9~~
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.70E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2100~~	~~+3.3~~	~~2.71E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9780~~	~~+0.4~~	~~2.23E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.48E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~80.6~~

Totals	Conc	EMPC
Total TCDD	1760	1760
Total PeCDD	22.8	25.5
Total HxCDD	51	52.8
Total HpCDD	383	383
Total Tetra-Octa Dioxins	4770	4770
Total TCDF	8,650	8650
Total PeCDF	424	426
Total HxCDF	397	399
Total HpCDF	145	145
Total Tetra-Octa Furans	9,740	9740
Total Tetra-Octa Dioxins & Furans	14500	14500

Lab ID: B6206_18863_DF_002 **Acq'd: 25 Jan 2022 20:36 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-S-BN-SW-S-45 **UTP: 26-Jan-2022 09:14:32 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 097-537-JZV**

Datafile: 220125C07 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8747	-1.2	4.08E+05	0.73	Y	1.18	3.45	3674.222	0.328
1379-TCDD	25.39		0.8876	0.8869	-1.1	1.81E+05	0.73	Y	1.18	1.52	3674.222	0.328
1369-TCDD	NotFnd		0.9023						1.18		3674.222	0.328
1469-TCDD	26.59		0.9291	0.9288	-0.5	3.29E+05	0.71	Y	1.18	2.78	3674.222	0.328
1247/1246/1248/1249-TCDD	26.82		0.9373	0.9369	-0.6	3.40E+05	0.87	Y	1.18	2.87	3674.222	0.328
1378-TCDD	27.02		0.9440	0.9436	-0.6	5.66E+05	0.87	Y	1.18	4.78	3674.222	0.328
1268-TCDD	NotFnd		0.9506						1.18		3674.222	0.328
1478-TCDD	27.47		0.9591	0.9593	+0.3	5.21E+05	0.84	Y	1.18	4.4	3674.222	0.328
1279-TCDD	NotFnd		0.9649						1.18		3674.222	0.328
1234/1269-TCDD	27.97		0.9771	0.9771	0	1.23E+05	0.86	Y	1.18	1.04	3674.222	0.328
1236-TCDD	NotFnd		0.9820						1.18		3674.222	0.328
1237/1238-TCDD	28.36		0.9908	0.9906	-0.3	2.94E+06	0.86	Y	1.18	24.8	3674.222	0.328
1239-TCDD	NotFnd		0.9954						1.18		3674.222	0.328
2378-TCDD	**28.65**	E	**1.0008**	1.0008	**0**	1.85E+08	0.80	Y	**1.18**	**1,560**	**3674.222**	**0.328**
1278-TCDD	28.98		1.0121	1.0121	0	1.78E+07	0.79	Y	1.18	150	3674.222	0.328
1267-TCDD	NotFnd		1.0167						1.18		3674.222	0.328
1289-TCDD	29.62	EMPC	1.0341	1.0346	+0.9	2.26E+05	1.13	N	1.18	1.9	3674.222	0.328
12479/12468-PeCDD	31.47	J	0.9273	0.9270	-0.6	1.64E+05	1.45	Y	1.04	1.76	3606.313	0.385
12469-PeCDD	32.00	J	0.9430	0.9426	-0.8	1.99E+05	1.50	Y	1.04	2.13	3606.313	0.385
12368-PeCDD	32.55		0.9592	0.9588	-0.8	2.65E+05	1.60	Y	1.04	2.84	3606.313	0.385
12478-PeCDD	32.74	J	0.9647	0.9644	-0.6	1.21E+05	1.61	Y	1.04	1.3	3606.313	0.385
12379-PeCDD	32.84	J EMPC	0.9676	0.9673	-0.6	7.90E+04	2.50	N	1.04	0.848	3606.313	0.385
12369/12467/12489-PeCDD	33.10	J EMPC	0.9752	0.9751	-0.2	9.20E+04	1.89	N	1.04	0.988	3606.313	0.385
12346/12347-PeCDD	NotFnd		0.9860						1.04		3606.313	0.385
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**1.38E+06**	**1.58**	**Y**	**1.04**	**14.8**	**3606.313**	**0.385**
12367-PeCDD	34.06	J EMPC	1.0034	1.0033	-0.2	7.87E+04	1.80	N	1.04	0.845	3606.313	0.385
12389-PeCDD	NotFnd		1.0134						1.04		3606.313	0.385
124679/124689-HxCDD	36.11		0.9545	0.9543	-0.4	2.38E+06	1.24	Y	1.10	24.6	4085.464	0.376
123468-HxCDD	36.76	J	0.9715	0.9714	-0.2	2.09E+05	1.30	Y	1.10	2.16	4085.464	0.376
123679/123689-HxCDD	37.07		0.9793	0.9795	+0.4	1.39E+06	1.24	Y	1.10	14.3	4085.464	0.376
123469-HxCDD	37.19	J EMPC	0.9829	0.9828	-0.2	1.17E+05	0.97	N	1.10	1.2	4085.464	0.376
123478-HxCDD	37.86	J	**1.0004**	**1.0005**	**+0.2**	**1.14E+05**	**1.16**	**Y**	1.09	**1.28**	**4085.464**	**0.382**
123678-HxCDD	37.97		**1.0034**	**1.0033**	**-0.2**	**5.37E+05**	**1.29**	**Y**	1.15	**5.51**	**4085.464**	**0.407**
123467-HxCDD	38.16	J EMPC	1.0082	1.0083	+0.2	6.50E+04	1.93	N	1.10	0.671	4085.464	0.376
123789-HxCDD	38.25		**1.0109**	**1.0108**	**-0.2**	**3.23E+05**	**1.06**	**Y**	1.05	**3.12**	**4085.464**	**0.344**

Lab ID: B6206_18863_DF_002 | Acq'd: 25 Jan 2022 20:36 DTF | Wt/Vol: 10.19 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-S-45 | UTP: 26-Jan-2022 09:14:32 DTF | J-level: 0.491 pg/g | Split: 1 | Checkcode: 097-537-JZV

Datafile: 220125C07 | Report: 26 Jan 2022 09:20 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

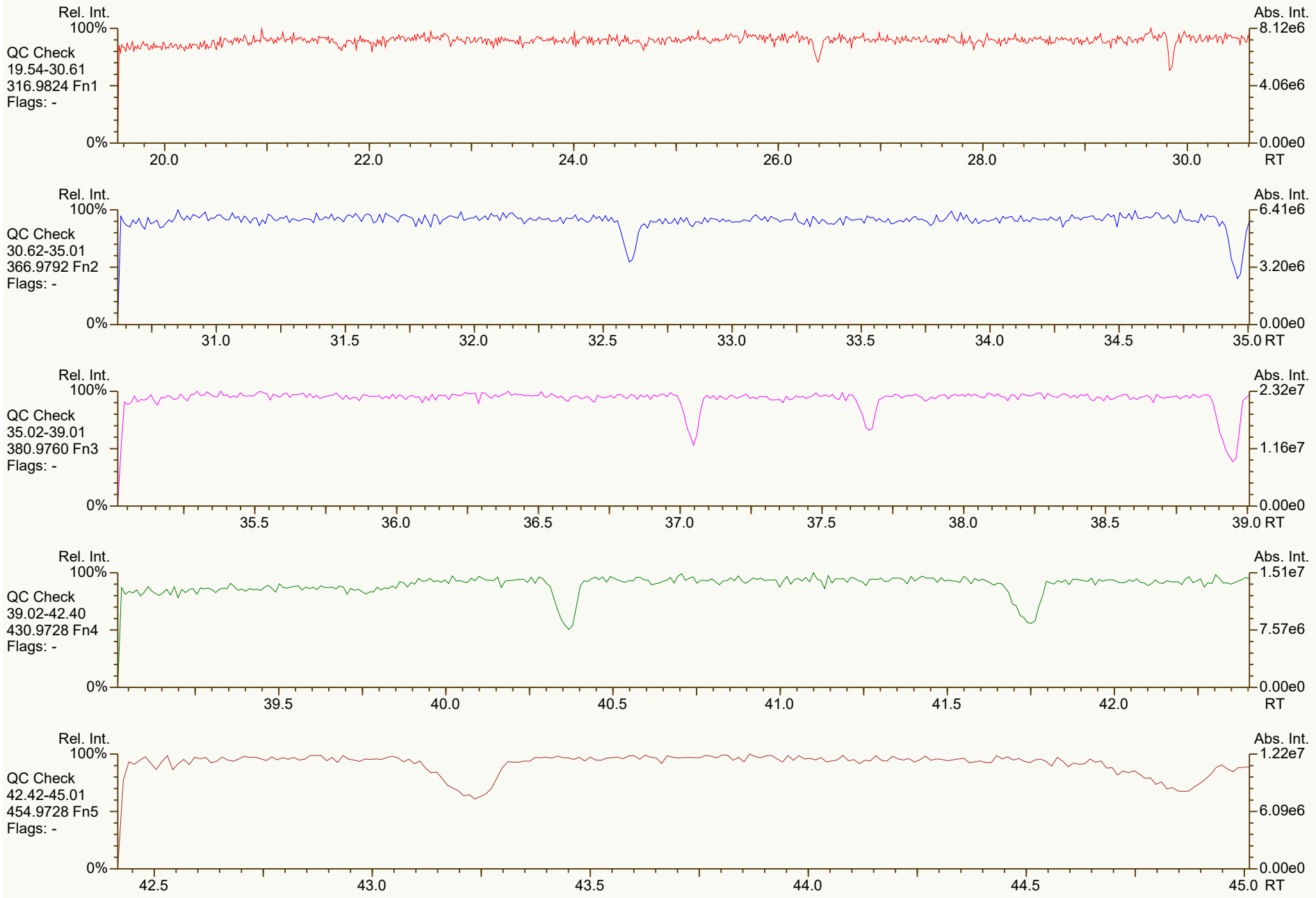
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9837	-0.2	1.59E+07	1.05	Y	1.06	197	4653.147	0.488
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.51E+07**	**1.08**	**Y**	**1.06**	**186**	**4653.147**	**0.488**
OCDD	**43.55**		**1.0002**	**1.0003**	**+0.3**	**1.32E+08**	**0.90**	**Y**	**1.13**	**2,550**	**4356.887**	**0.927**
OCDD-a	43.55		1.0002	1.0004	+0.5	8.33E+06	2.52	Y	0.07	2,520	3667.939	12.2
1368-TCDF	22.96		0.8282	0.8264	-2.5	2.64E+05	0.81	Y	1.08	1.56	4608.507	0.31
1468-TCDF	23.54		0.8485	0.8473	-1.7	1.24E+06	0.79	Y	1.08	7.33	4608.507	0.31
2468-TCDF	24.17		0.8709	0.8700	-1.3	9.42E+05	0.74	Y	1.08	5.56	4608.507	0.31
1346/1246-TCDF	NotFnd		0.8829						1.08		4608.507	0.31
1347/1378/1247-TCDF	24.69		0.8884	0.8886	+0.3	8.90E+06	0.79	Y	1.08	52.6	4608.507	0.31
1348-TCDF	NotFnd		0.8980						1.08		4608.507	0.31
1248/1367/1379-TCDF	25.02		0.9026	0.9004	-3.3	3.73E+07	0.78	Y	1.08	220	4608.507	0.31
1268-TCDF	25.43		0.9158	0.9151	-1.1	1.21E+07	0.78	Y	1.08	71.7	4608.507	0.31
1467-TCDF	25.56		0.9206	0.9200	-0.9	1.73E+06	0.79	Y	1.08	10.2	4608.507	0.31
1478-TCDF	25.73		0.9266	0.9260	-0.9	2.97E+07	0.79	Y	1.08	175	4608.507	0.31
1369/1237-TCDF	26.10		0.9397	0.9395	-0.3	7.73E+06	0.76	Y	1.08	45.6	4608.507	0.31
2467-TCDF	26.22		0.9440	0.9435	-0.8	9.61E+05	0.79	Y	1.08	5.68	4608.507	0.31
2368-TCDF	26.42		0.9497	0.9508	+1.7	6.52E+07	0.80	Y	1.08	386	4608.507	0.31
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4608.507	0.31
1278-TCDF	26.91	E	0.9690	0.9686	-0.6	3.38E+08	0.80	Y	1.08	2,000	4608.507	0.31
1349-TCDF	NotFnd		0.9730						1.08		4608.507	0.31
1267-TCDF	27.19		0.9787	0.9784	-0.5	1.90E+07	0.76	Y	1.08	112	4608.507	0.31
2346/1249-TCDF	27.38		0.9850	0.9854	+0.7	2.62E+06	0.71	Y	1.08	15.5	4608.507	0.31
2347/1279-TCDF	27.57		0.9929	0.9923	-1.0	7.29E+06	0.75	Y	1.08	43.1	4608.507	0.31
2348-TCDF	27.68		0.9970	0.9963	-1.2	4.93E+07	0.79	Y	1.08	291	4608.507	0.31
2378-TCDF	**27.81**	E	**1.0008**	**1.0008**	**0**	**7.53E+08**	**0.79**	**Y**	**1.08**	**4,450**	**4608.507**	**0.31**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	5.77E+07	0.83	Y	1.08	341	4608.507	0.31
1269-TCDF	28.40		1.0221	1.0222	+0.2	1.14E+07	0.81	Y	1.08	67.6	4608.507	0.31
1239-TCDF	28.66		1.0319	1.0314	-0.9	1.04E+06	0.84	Y	1.08	6.13	4608.507	0.31
1289-TCDF	29.80		1.0740	1.0725	-2.7	5.86E+07	0.81	Y	1.08	346	4608.507	0.31
13468/12468-PeCDF	29.73		0.9145	0.9146	+0.2	8.86E+05	1.55	Y	1.02	6.38	3207.566	0.218
13678/13467/12467-PeCDF	31.27	J	0.9619	0.9620	+0.2	2.88E+05	1.37	Y	1.02	2.07	7839.639	0.532
12368/13478/12478-PeCDF	31.44		0.9665	0.9671	+1.1	9.76E+06	1.48	Y	1.02	70.3	7839.639	0.532
14678-PeCDF	NotFnd		0.9695						1.02		7839.639	0.532
13479-PeCDF	NotFnd		0.9724						1.02		7839.639	0.532
13469/12479-PeCDF	NotFnd		0.9801						1.02		7839.639	0.532
12346-PeCDF	NotFnd		0.9842						1.02		7839.639	0.532

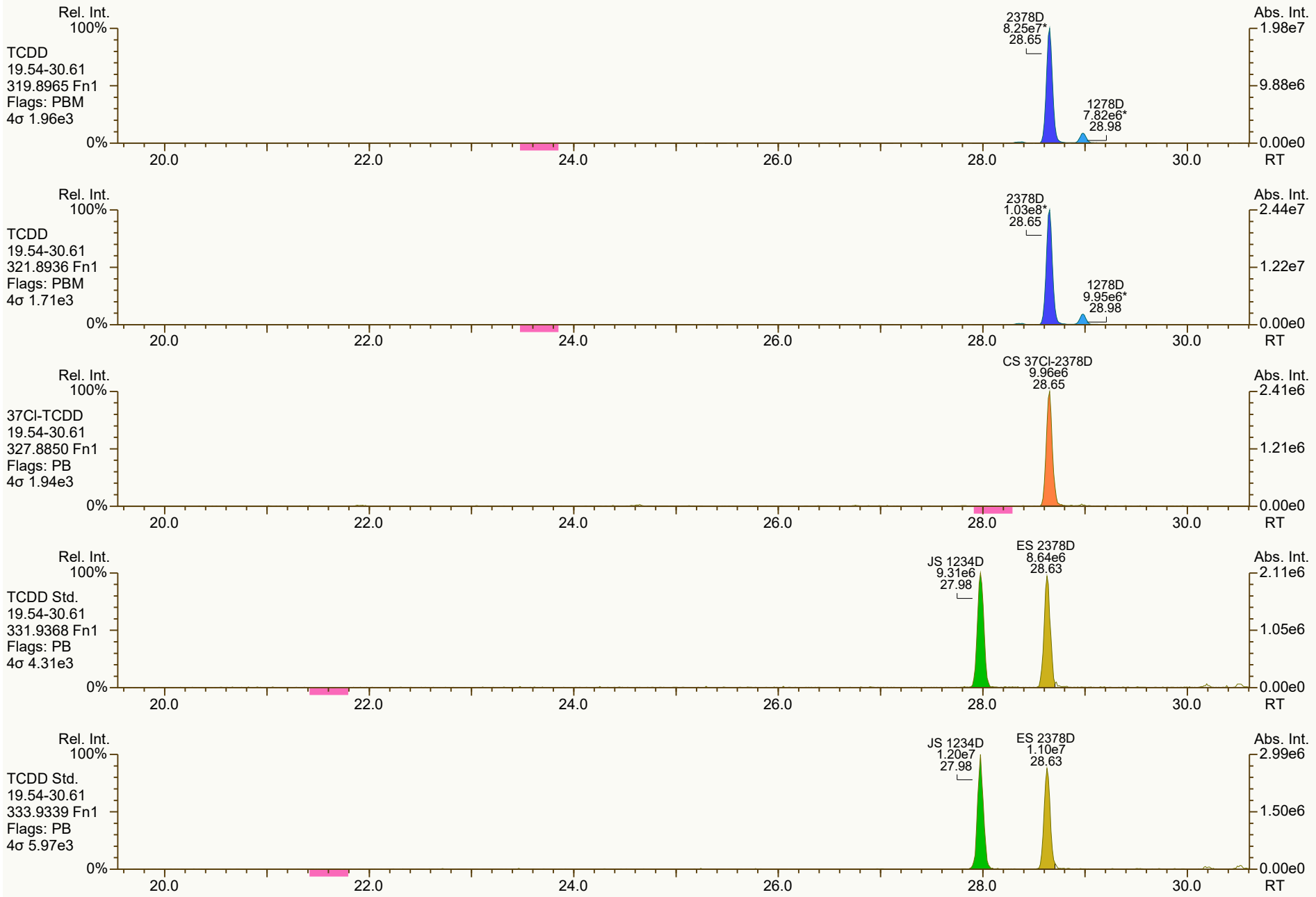
Lab ID: B6206_18863_DF_002 **Acq'd: 25 Jan 2022 20:36 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

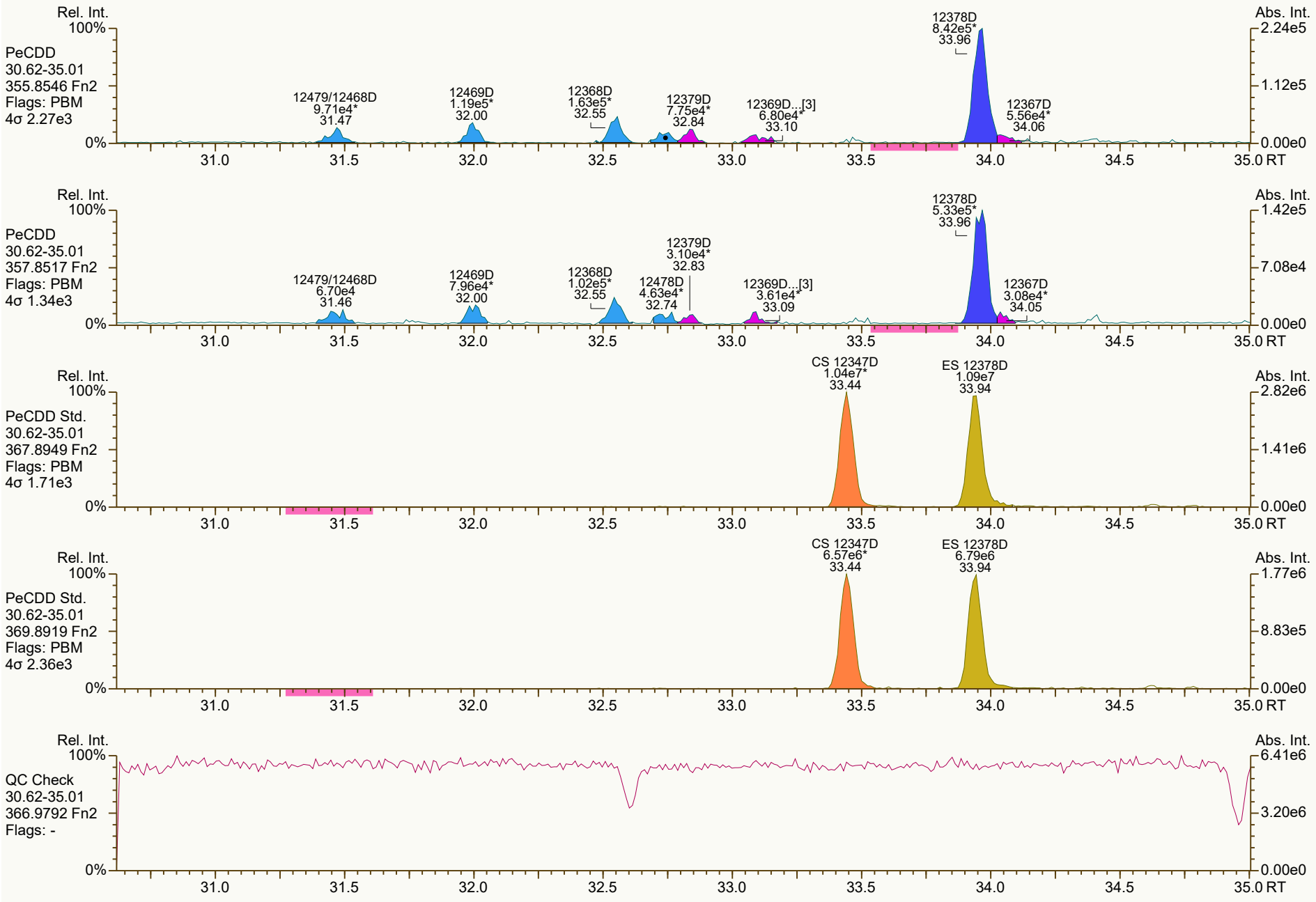
Client ID: 11215131-012022-S-BN-SW-S-45 **UTP: 26-Jan-2022 09:14:32 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 097-537-JZV**

Datafile: 220125C07 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

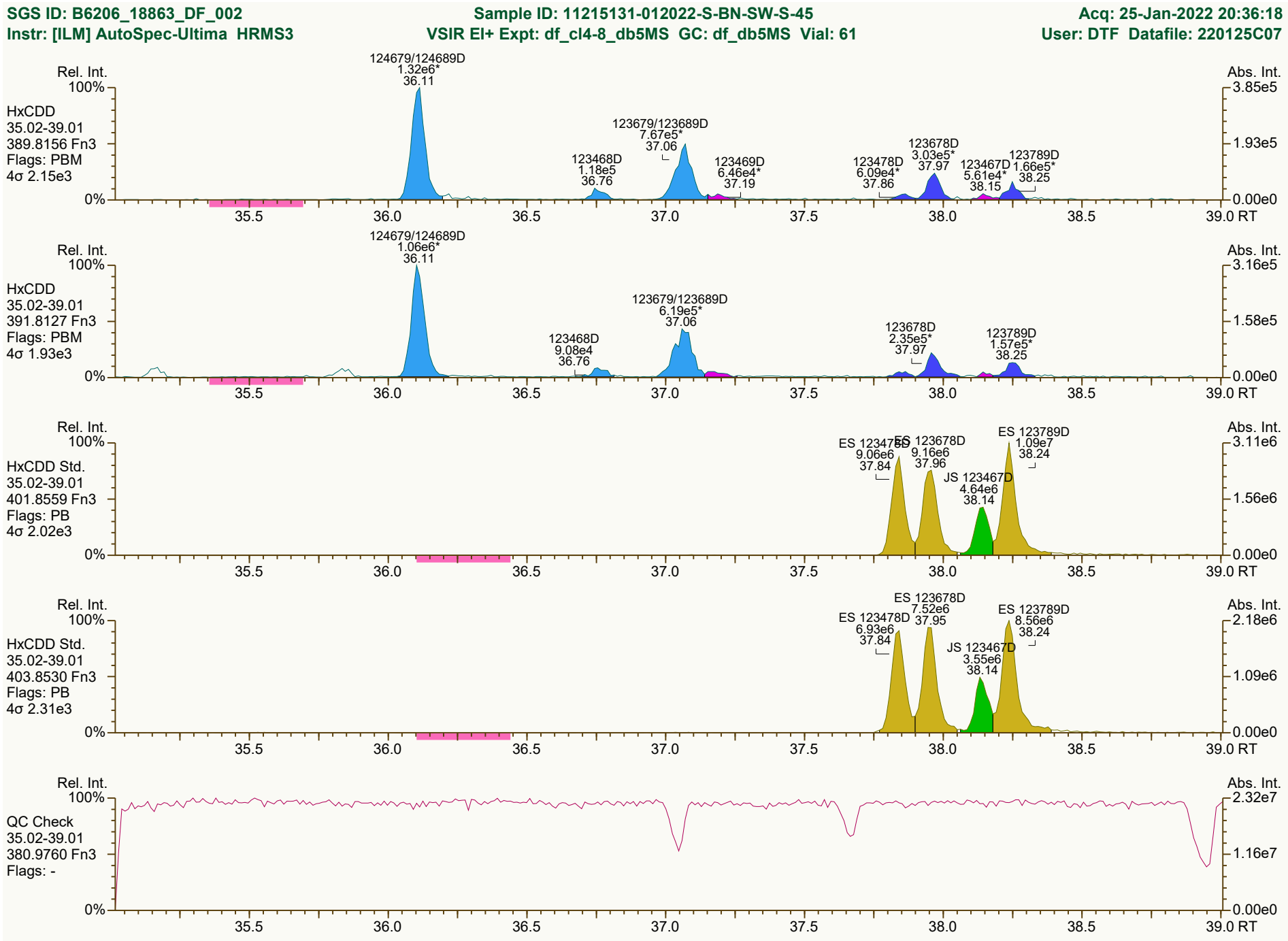
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07		0.9868	0.9867	-0.2	4.59E+05	1.55	Y	1.02	3.31	7839.639	0.532
12347-PeCDF	32.15		0.9895	0.9891	-0.8	5.09E+05	1.69	Y	1.02	3.67	7839.639	0.532
12348-PeCDF	32.31		0.9941	0.9940	-0.2	2.17E+06	1.59	Y	1.02	15.6	7839.639	0.532
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**2.05E+07**	**1.44**	**Y**	**1.02**	**145**	**7839.639**	**0.545**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	6.89E+06	1.50	Y	1.02	49.6	7839.639	0.532
12379-PeCDF	NotFnd		1.0142						1.02		7839.639	0.532
12679-PeCDF	NotFnd		0.9931						1.02		7839.639	0.532
23467/12369-PeCDF	33.49	J EMPC	0.9966	0.9964	-0.4	3.13E+05	1.26	N	1.02	2.25	7839.639	0.532
23478-PeCDF	**33.64**		**1.0005**	**1.0007**	**+0.4**	**1.66E+07**	**1.48**	**Y**	**1.02**	**122**	**7839.639**	**0.518**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7839.639	0.532
12349-PeCDF	NotFnd		1.0101						1.02		7839.639	0.532
12389-PeCDF	34.70		1.0322	1.0322	0	8.78E+05	1.51	Y	1.02	6.32	7839.639	0.532
123468-HxCDF	35.47	B	0.9627	0.9628	+0.2	6.81E+05	1.18	Y	1.19	5.33	4108.82	0.295
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	3.60E+06	1.30	Y	1.19	28.2	4108.82	0.295
134679-HxCDF	NotFnd		0.9747						1.19		4108.82	0.295
124679-HxCDF	NotFnd		0.9802						1.19		4108.82	0.295
124689-HxCDF	36.31		0.9858	0.9858	0	2.15E+06	1.26	Y	1.19	16.8	4108.82	0.295
123467-HxCDF	36.73	J EMPC	0.9972	0.9971	-0.2	1.87E+05	0.94	N	1.19	1.46	4108.82	0.295
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**3.24E+07**	**1.25**	**Y**	**1.27**	**248**	**4108.82**	**0.271**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**9.84E+06**	**1.24**	**Y**	**1.15**	**65.5**	**4108.82**	**0.252**
123479-HxCDF	NotFnd		1.0051						1.19		4108.82	0.295
123469-HxCDF	NotFnd		1.0091						1.19		4108.82	0.295
123679-HxCDF	NotFnd		0.9943						1.19		4108.82	0.295
234678-HxCDF	**37.68**		**1.0004**	**1.0005**	**+0.2**	**1.74E+06**	**1.27**	**Y**	**1.19**	**14.3**	**4108.82**	**0.327**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4108.82	0.295
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4108.82**	**0.352**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.64		1.0007	1.0010	+0.7	2.49E+06	1.24	Y	1.19	19.5	4108.82	0.295
1234678-HpCDF	**39.95**		**1.0002**	**1.0004**	**+0.5**	**1.11E+07**	**1.00**	**Y**	**1.37**	**79.3**	**5136.764**	**0.281**
1234679-HpCDF	NotFnd		1.0067						1.34		5136.764	0.359
1234689-HpCDF	40.35		1.0101	1.0103	+0.5	3.91E+06	0.98	Y	1.34	34.9	5136.764	0.359
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**2.58E+06**	**1.07**	**Y**	**1.31**	**30.3**	**5136.764**	**0.482**
OCDF	**43.74**		**1.0002**	**1.0003**	**+0.3**	**7.40E+06**	**0.88**	**Y**	**1.07**	**123**	**4750.82**	**0.88**
OCDF-a	43.73	**EMPC**	1.0002	1.0002	0	4.10E+05	1.77	N	0.07	110	3911.294	11.7

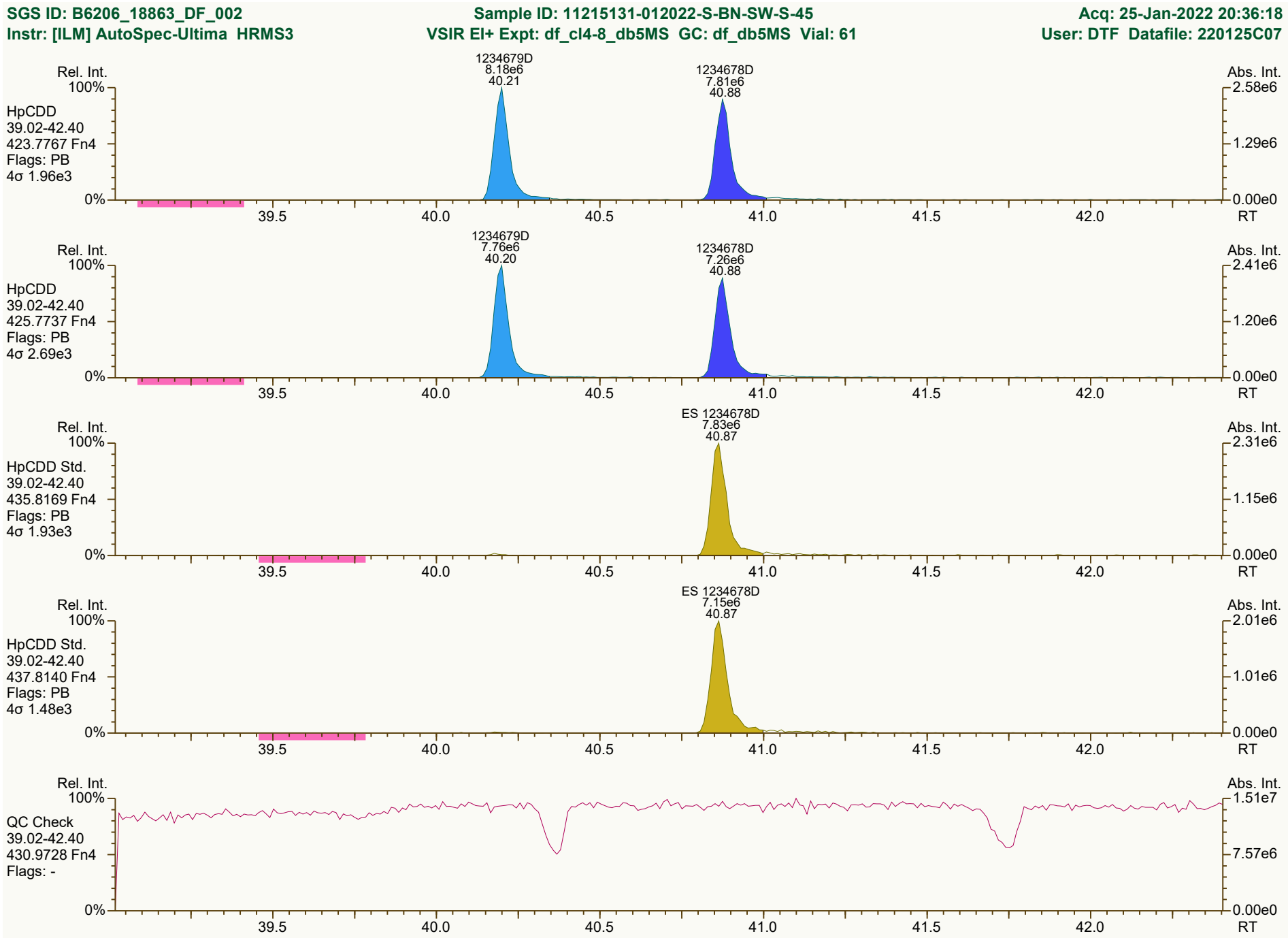

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.12e6
4.06e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.41e6
3.20e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.32e7
1.16e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.51e7
7.57e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.22e7
6.09e6
0.00e0

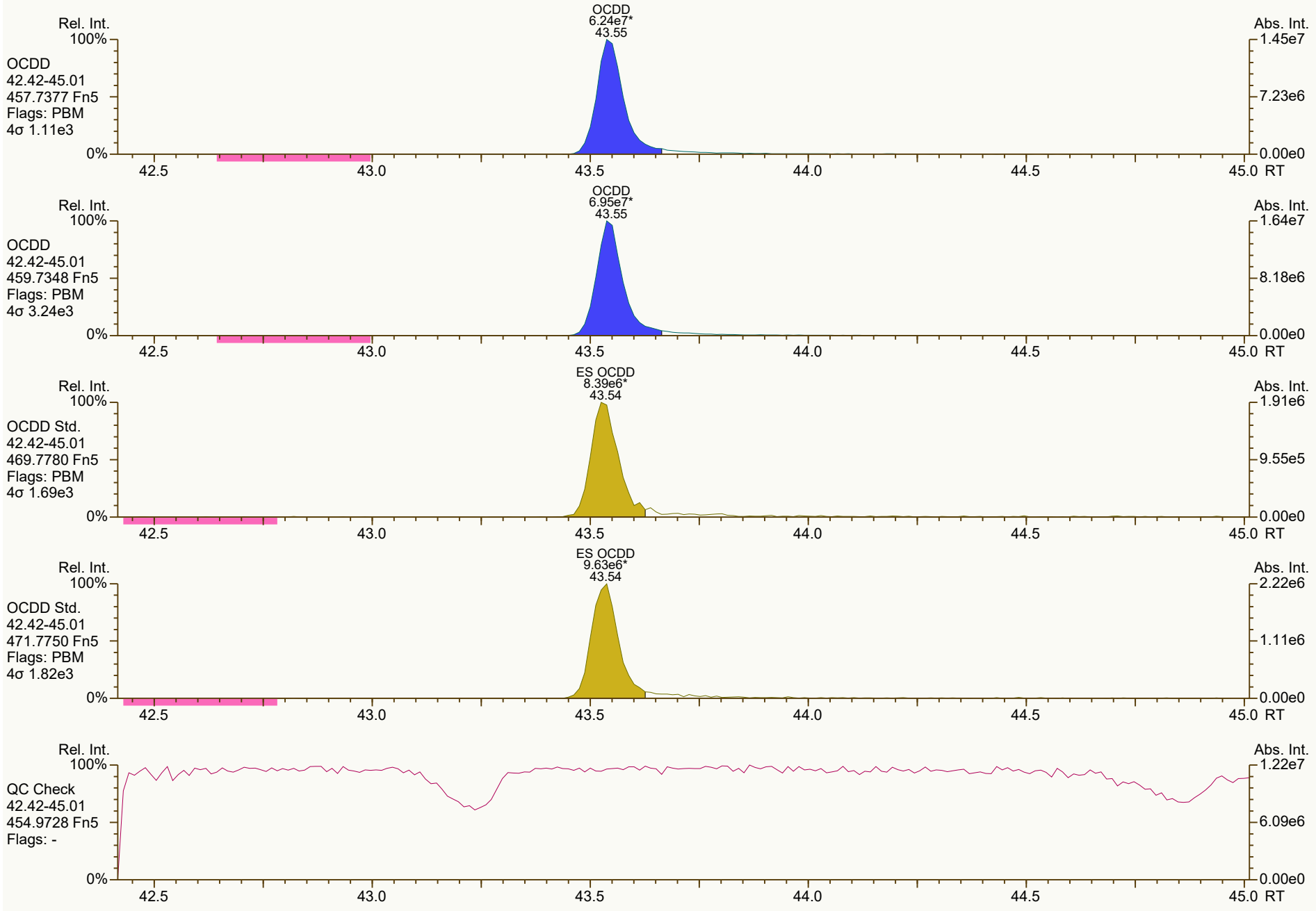

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 1.96e3
0%
2378D
8.25e7*
28.65
1278D
7.82e6*
28.98
Abs. Int.
1.98e7
9.88e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.71e3
0%
2378D
1.03e8*
28.65
1278D
9.95e6*
28.98
Abs. Int.
2.44e7
1.22e7
0.00e0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.94e3
0%
CS 37Cl-2378D
9.96e6
28.65
Abs. Int.
2.41e6
1.21e6
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.31e3
0%
JS 1234D
9.31e6
27.98
ES 2378D
8.64e6
28.63
Abs. Int.
2.11e6
1.05e6
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.97e3
0%
JS 1234D
1.20e7
27.98
ES 2378D
1.10e7
28.63
Abs. Int.
2.99e6
1.50e6
0.00e0
RT

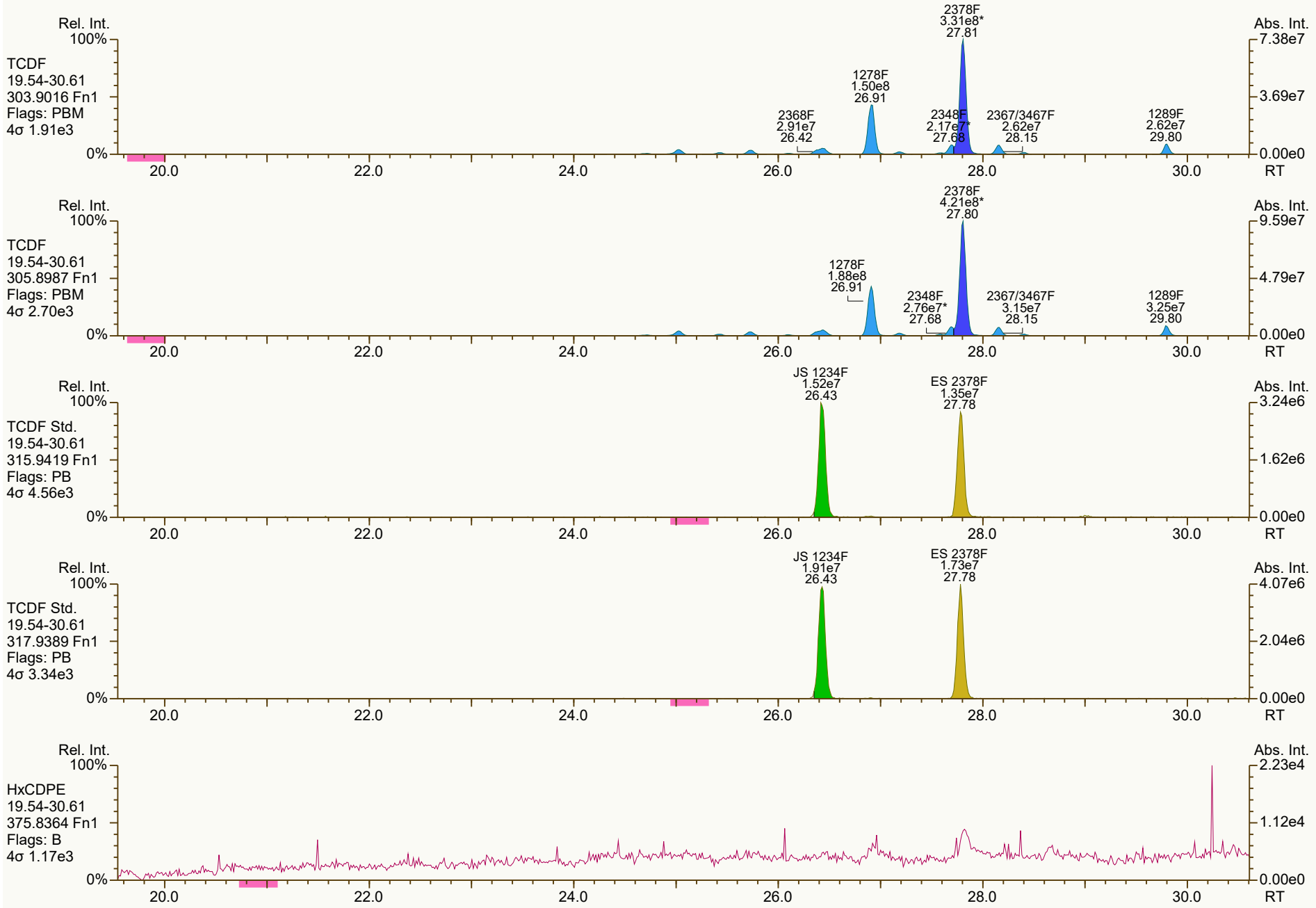


Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_002.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9370, 1905 scc: 097-537 *Revised: 26-Jan-2022 08:46 (DTF) Printed: 26-Jan-2022 09:25 Page 3 of 12*


SGS ID: B6206_18863_DF_002
Sample ID: 11215131-012022-S-BN-SW-S-45
Acq: 25-Jan-2022 20:36:18
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61
User: DTF Datafile: 220125C07
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.15e3
124679/124689D
1.32e6*
36.11
123468D
1.18e5
36.76
123679/123689D
7.67e5*
37.06
123469D
6.46e4*
37.19
123478D
6.09e4*
37.86
123678D
3.03e5*
37.97
123467D
5.61e4*
38.15
123789D
1.66e5*
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.93e3
124679/124689D
1.06e6*
36.11
123468D
9.08e4
36.76
123679/123689D
6.19e5*
37.06
123678D
2.35e5*
37.97
123789D
1.57e5*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 2.02e3
ES 123478D
9.06e6
37.84
ES 123678D
9.16e6
37.96
JS 123467D
4.64e6
38.14
ES 123789D
1.09e7
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.31e3
ES 123678D
7.52e6
37.95
ES 123478D
6.93e6
37.84
JS 123467D
3.55e6
38.14
ES 123789D
8.56e6
38.24
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
RT


SGS ID: B6206_18863_DF_002
Sample ID: 11215131-012022-S-BN-SW-S-45
Acq: 25-Jan-2022 20:36:18
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61
User: DTF Datafile: 220125C07
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.96e3
1234679D
8.18e6
40.21
1234678D
7.81e6
40.88
2.58e6
1.29e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.69e3
1234679D
7.76e6
40.20
1234678D
7.26e6
40.88
2.41e6
1.20e6
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.93e3
ES 1234678D
7.83e6
40.87
2.31e6
1.15e6
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.48e3
ES 1234678D
7.15e6
40.87
2.01e6
1.01e6
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.51e7
7.57e6
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_002.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0669, 9786 scc: 097-537
PKD: 26-Jan-2022 08:44 Printed: 26-Jan-2022 09:25 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.11e3
OCDD
6.24e7*
43.55
Abs. Int.
1.45e7
7.23e6
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 3.24e3
OCDD
6.95e7*
43.55
Abs. Int.
1.64e7
8.18e6
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.69e3
ES OCDD
8.39e6*
43.54
Abs. Int.
1.91e6
9.55e5
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.82e3
ES OCDD
9.63e6*
43.54
Abs. Int.
2.22e6
1.11e6
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
Abs. Int.
1.22e7
6.09e6
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.91e3
0%
2368F
2.91e7
26.42
1278F
1.50e8
26.91
2348F
2.17e7*
27.68
2378F
3.31e8*
27.81
2367/3467F
2.62e7
28.15
1289F
2.62e7
29.80
Abs. Int.
7.38e7
3.69e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.70e3
0%
1278F
1.88e8
26.91
2348F
2.76e7*
27.68
2378F
4.21e8*
27.80
2367/3467F
3.15e7
28.15
1289F
3.25e7
29.80
Abs. Int.
9.59e7
4.79e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 4.56e3
0%
JS 1234F
1.52e7
26.43
ES 2378F
1.35e7
27.78
Abs. Int.
3.24e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.34e3
0%
JS 1234F
1.91e7
26.43
ES 2378F
1.73e7
27.78
Abs. Int.
4.07e6
2.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.17e3
0%
Abs. Int.
2.23e4
1.12e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

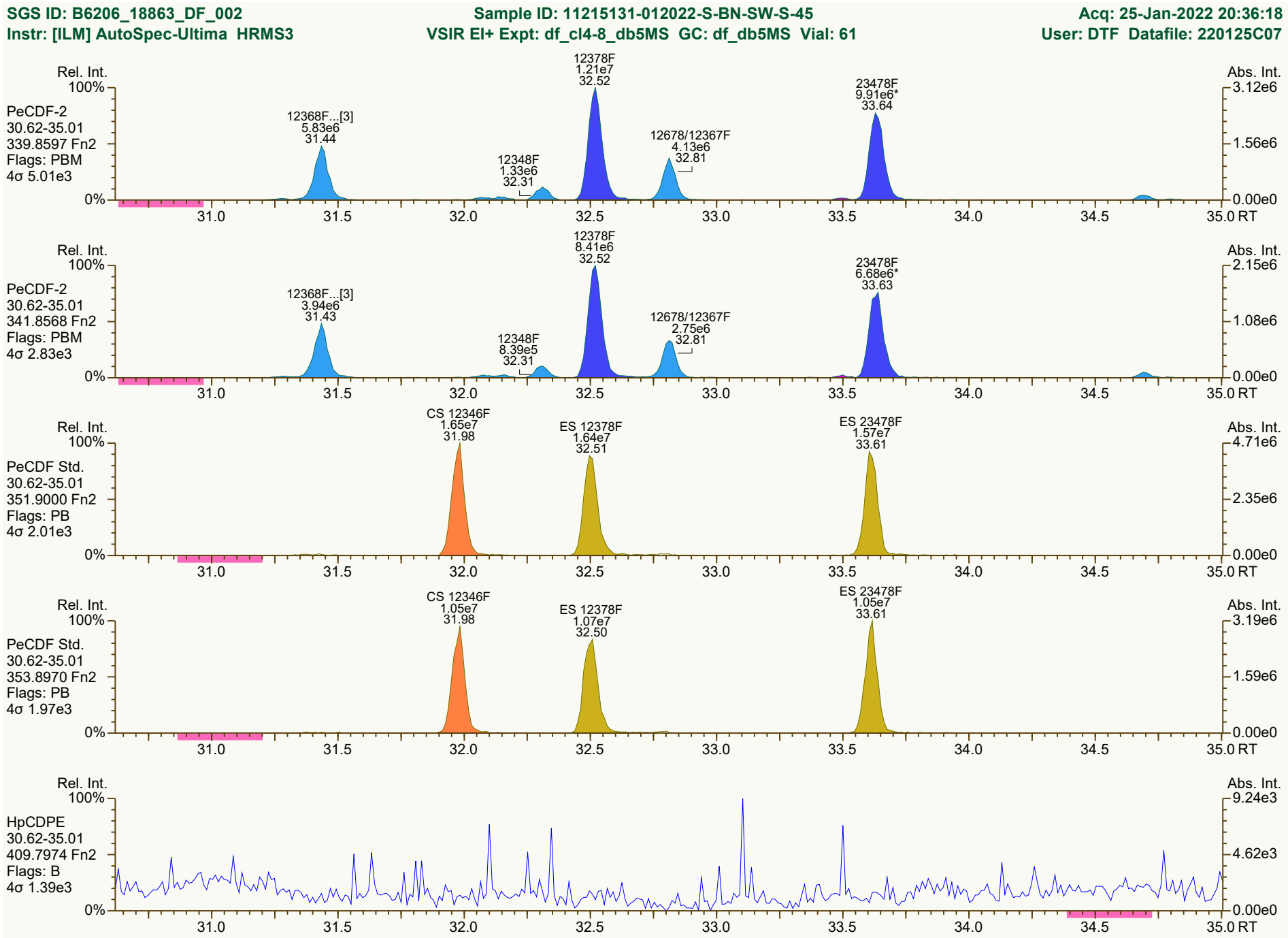
SGS ID: B6206_18863_DF_002 | Sample ID: 11215131-012022-S-BN-SW-S-45 | Acq: 25-Jan-2022 20:36:18

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61 | User: DTF Datafile: 220125C07



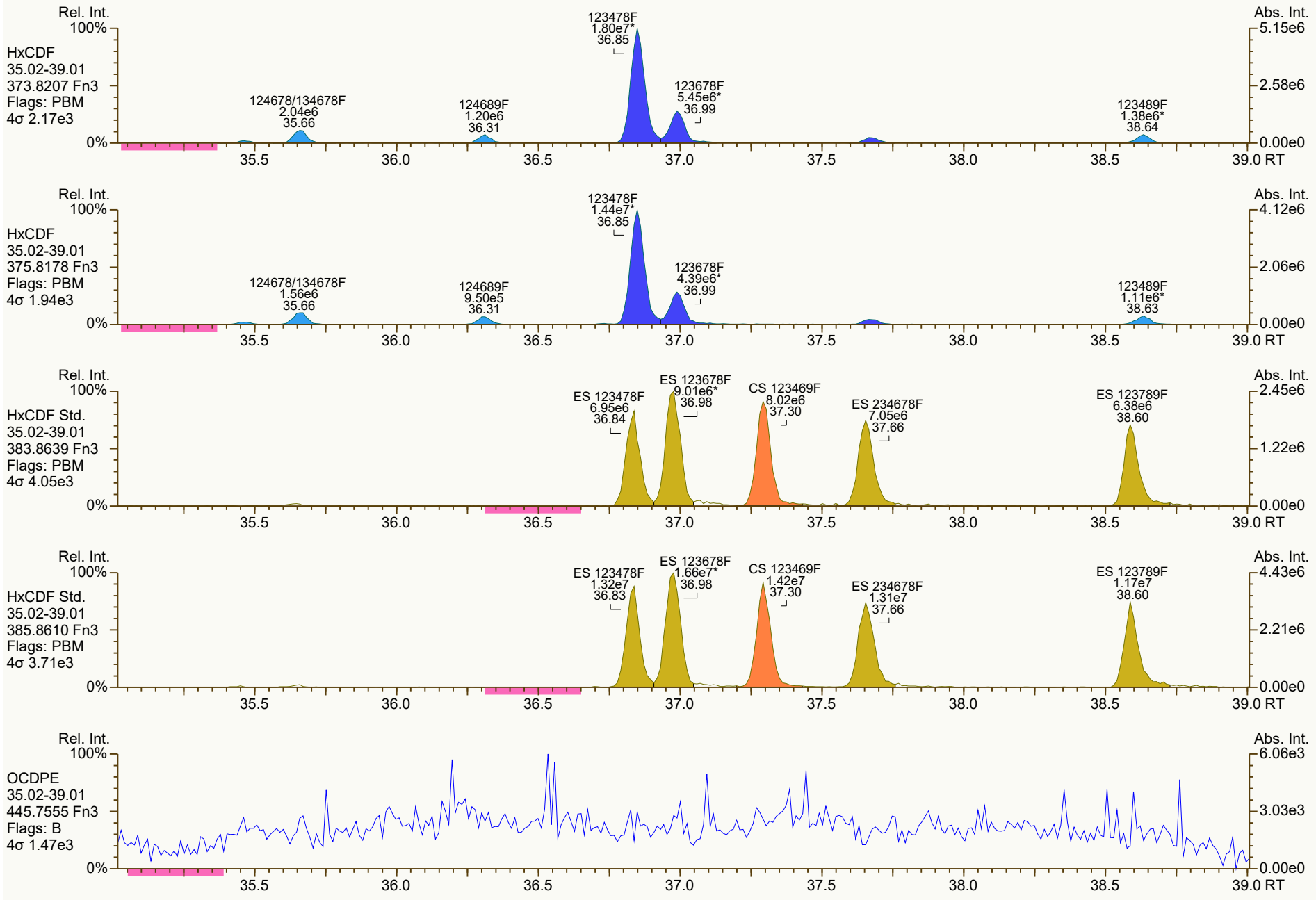
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_002.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*

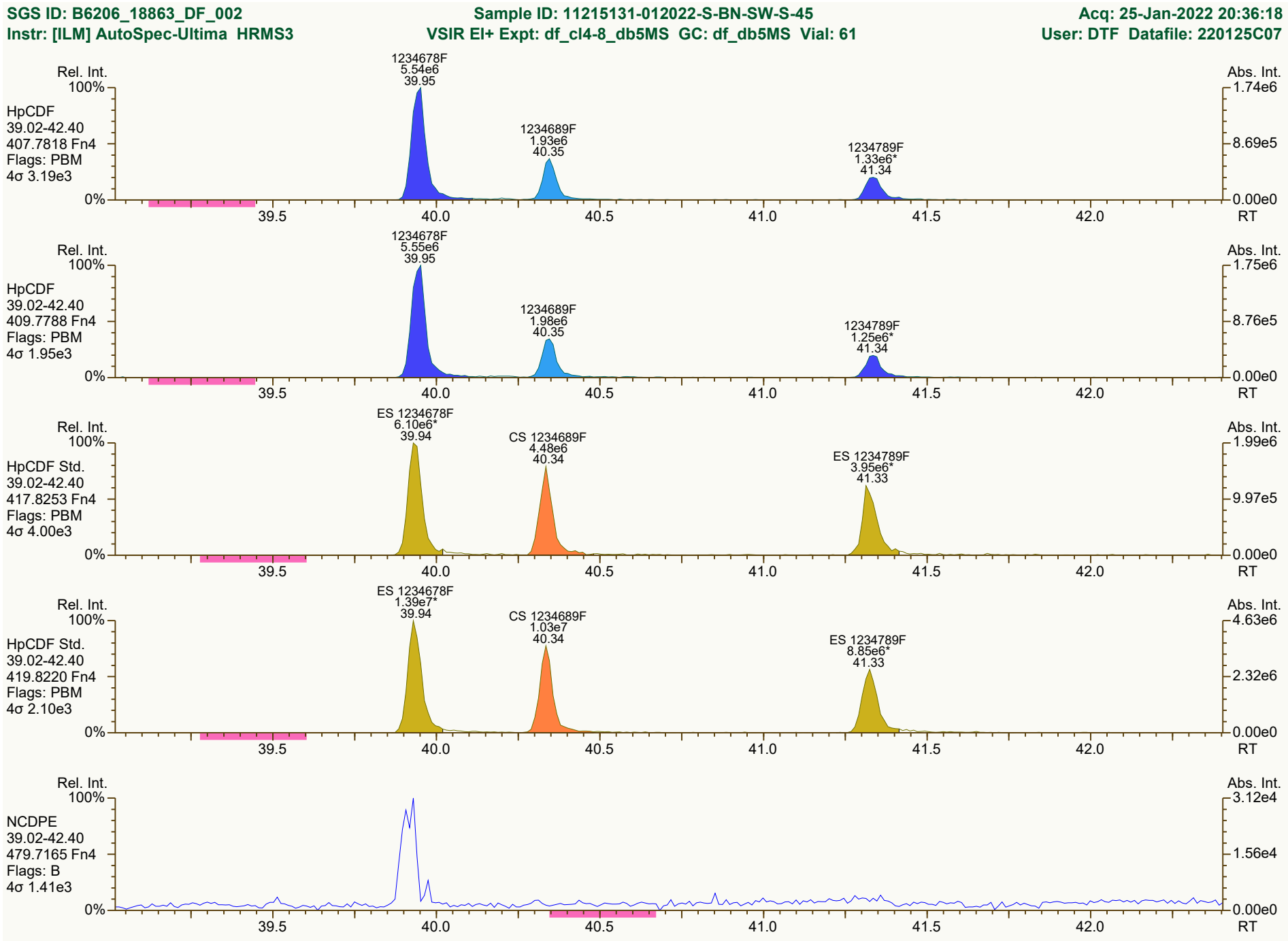
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7377 scc: 097-537 *Revised: 26-Jan-2022 08:47 (DTF) Printed: 26-Jan-2022 09:25 Page 8 of 12*

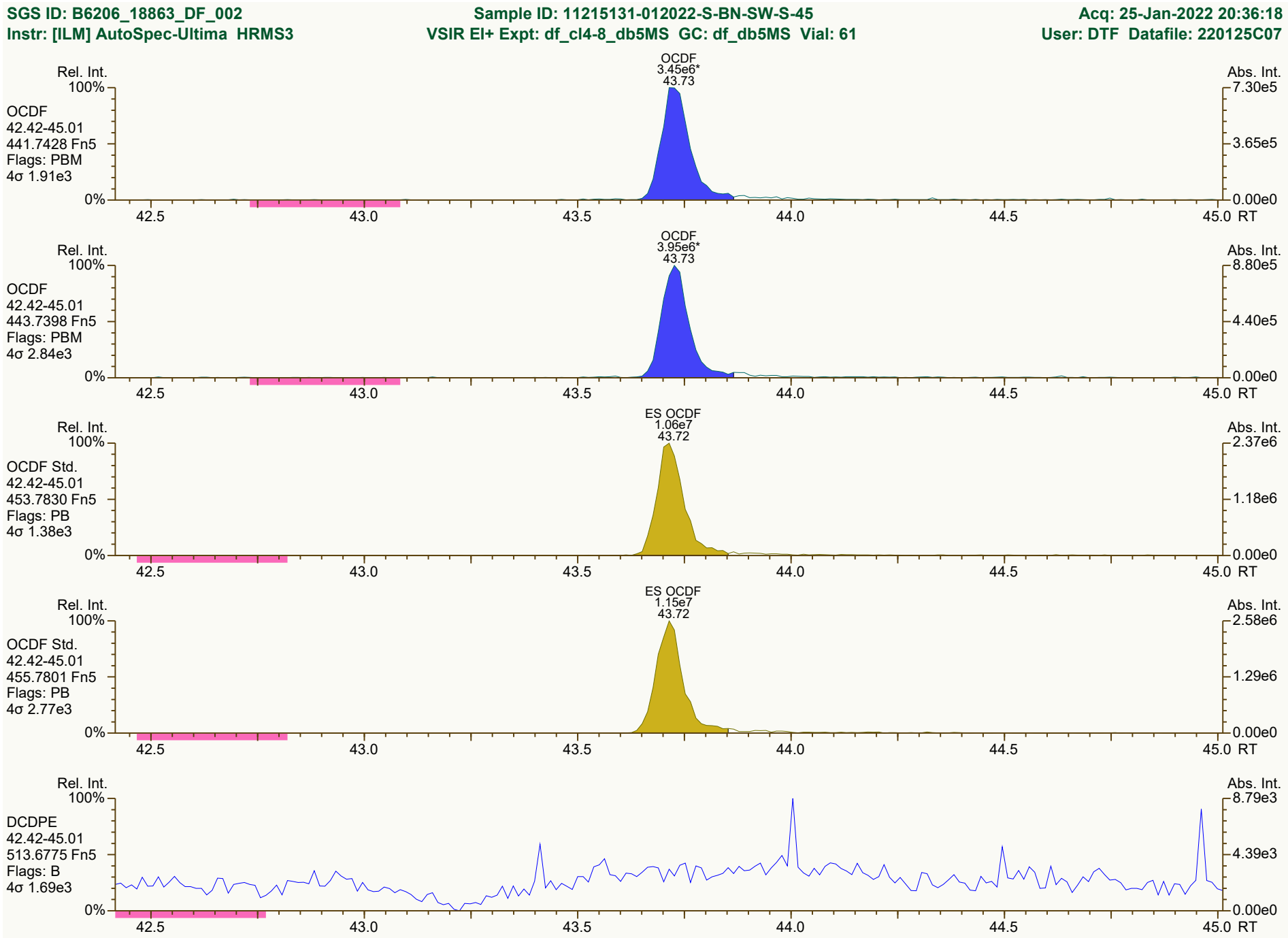


Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_002.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6067, 0266, 1297 scc: 097-537 *Revised: 26-Jan-2022 08:48 (DTF) Printed: 26-Jan-2022 09:25 Page 9 of 12*


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.17e3
124678/134678F
2.04e6
35.66
124689F
1.20e6
36.31
123478F
1.80e7*
36.85
123678F
5.45e6*
36.99
123489F
1.38e6*
38.64
Abs. Int.
5.15e6
2.58e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.94e3
124678/134678F
1.56e6
35.66
124689F
9.50e5
36.31
123478F
1.44e7*
36.85
123678F
4.39e6*
36.99
123489F
1.11e6*
38.63
Abs. Int.
4.12e6
2.06e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 4.05e3
ES 123478F
6.95e6
36.84
ES 123678F
9.01e6*
36.98
CS 123469F
8.02e6
37.30
ES 234678F
7.05e6
37.66
ES 123789F
6.38e6
38.60
Abs. Int.
2.45e6
1.22e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.71e3
ES 123478F
1.32e7
36.83
ES 123678F
1.66e7*
36.98
CS 123469F
1.42e7
37.30
ES 234678F
1.31e7
37.66
ES 123789F
1.17e7
38.60
Abs. Int.
4.43e6
2.21e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.47e3
Abs. Int.
6.06e3
3.03e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6206_18863_DF_002
Sample ID: 11215131-012022-S-BN-SW-S-45
Acq: 25-Jan-2022 20:36:18
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61
User: DTF Datafile: 220125C07
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 3.19e3
1234678F
5.54e6
39.95
1234689F
1.93e6
40.35
1234789F
1.33e6*
41.34
1.74e6
8.69e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.95e3
1234678F
5.55e6
39.95
1234689F
1.98e6
40.35
1234789F
1.25e6*
41.34
1.75e6
8.76e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 4.00e3
ES 1234678F
6.10e6*
39.94
CS 1234689F
4.48e6
40.34
ES 1234789F
3.95e6*
41.33
1.99e6
9.97e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.10e3
ES 1234678F
1.39e7*
39.94
CS 1234689F
1.03e7
40.34
ES 1234789F
8.85e6*
41.33
4.63e6
2.32e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
3.12e4
1.56e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_002.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3991, 3782, 5073 scc: 097-537
Revised: 26-Jan-2022 08:48 (DTF) Printed: 26-Jan-2022 09:25 Page 11 of 12


SGS ID: B6206_18863_DF_002
Sample ID: 11215131-012022-S-BN-SW-S-45
Acq: 25-Jan-2022 20:36:18
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61
User: DTF Datafile: 220125C07
OCDF
3.45e6*
43.73
Rel. Int.
Abs. Int.
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.91e3
OCDF
3.95e6*
43.73
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.84e3
ES OCDF
1.06e7
43.72
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.38e3
ES OCDF
1.15e7
43.72
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.77e3
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.69e3
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_002.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8024, 5336, 5162 scc: 097-537
Revised: 26-Jan-2022 08:49 (DTF) Printed: 26-Jan-2022 09:25 Page 12 of 12

Lab ID: B6206_18863_DF_003 **Acq'd:** 25 Jan 2022 21:22 DTF **Wt/Vol:** 10.44 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-46 **UTP:** 26-Jan-2022 09:14:32 DTF **J-level:** 0.479 pg/g **Split:** 1 **Checkcode:** 146-499-ZHZ

Datafile: 220125C08 **Report:** 26 Jan 2022 11:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0008	0	5.17E+07	0.79	Y	1.18	443	4657.88	0.405
12378-PeCDD	33.96		1.0006	1.0004	-0.4	5.62E+05	1.49	Y	1.04	5.62	3447.075	0.3
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	4462.446	0.455
123678-HxCDD	37.97	J	1.0034	1.0034	0	1.20E+05	1.36	Y	1.15	1.22	4462.446	0.408
123789-HxCDD	38.25	J	1.0109	1.0108	-0.2	1.13E+05	1.29	Y	1.05	1.23	4462.446	0.422
1234678-HpCDD	40.88		1.0003	1.0002	-0.2	3.75E+06	1.02	Y	1.06	48.7	3367.42	0.367
OCDD	43.56		1.0002	1.0003	+0.3	1.42E+08	0.91	Y	1.13	2,590	5472.974	1.01
2378-TCDF	27.81	E	1.0008	1.0008	0	1.95E+08	0.80	Y	1.08	1,280	4153.479	0.288
12378-PeCDF	32.52		1.0005	1.0005	0	7.86E+06	1.56	Y	1.02	60.3	5187.333	0.38
23478-PeCDF	33.63		1.0005	1.0006	+0.2	6.52E+06	1.62	Y	1.02	44.8	5187.333	0.314
123478-HxCDF	36.85		1.0004	1.0005	+0.2	1.54E+07	1.23	Y	1.27	117	4338.466	0.274
123678-HxCDF	37.00		1.0004	1.0005	+0.2	4.53E+06	1.28	Y	1.15	32	4338.466	0.279
234678-HxCDF	37.68		1.0004	1.0004	0	6.74E+05	1.38	Y	1.19	5.45	4338.466	0.356
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4338.466	0.355
1234678-HpCDF	39.95		1.0002	1.0002	0	4.42E+06	0.99	Y	1.37	32.3	3123.689	0.166
1234789-HpCDF	41.34		1.0003	1.0002	-0.2	1.17E+06	1.05	Y	1.31	14.5	3123.689	0.303
OCDF	43.74	EMPC	1.0002	1.0003	+0.3	1.97E+06	1.03	N	1.07	29.5	3689.982	0.597

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63		1.0233	1.0235	+0.3	1.89E+07	0.79	Y	1.05	95.7
ES 12378-PeCDD	33.94		1.2121	1.2132	+2.2	1.85E+07	1.66	Y	0.88	112
ES 123478-HxCDD	37.84		0.9921	0.9921	0	1.55E+07	1.29	Y	0.97	93.2
ES 123678-HxCDD	37.96		0.9951	0.9951	0	1.64E+07	1.29	Y	0.94	102
ES 123789-HxCDD	38.24		1.0025	1.0027	+0.5	1.69E+07	1.33	Y	1.09	90.8
ES 1234678-HpCDD	40.87		1.0709	1.0716	+1.7	1.39E+07	1.00	Y	0.91	89.4
ES OCDD	43.54		1.1403	1.1416	+3.4	1.86E+07	0.96	Y	0.62	87.6
ES 2378-TCDF	27.79		1.0506	1.0511	+0.8	2.70E+07	0.78	Y	1.06	87.5
ES 12378-PeCDF	32.50		1.2281	1.2296	+2.9	2.44E+07	1.42	Y	0.91	92
ES 23478-PeCDF	33.61		1.2698	1.2715	+3.4	2.73E+07	1.45	Y	0.88	106
ES 123478-HxCDF	36.83		0.9657	0.9657	0	1.98E+07	0.55	Y	1.20	97.1
ES 123678-HxCDF	36.98		0.9695	0.9694	-0.2	2.35E+07	0.51	Y	1.35	102
ES 234678-HxCDF	37.66		0.9874	0.9874	0	2.00E+07	0.52	Y	1.24	94.2
ES 123789-HxCDF	38.60		1.0116	1.0120	+0.9	1.81E+07	0.56	Y	1.16	92.2
ES 1234678-HpCDF	39.94		1.0467	1.0472	+1.2	1.91E+07	0.42	Y	0.97	116
ES 1234789-HpCDF	41.34		1.0830	1.0837	+1.7	1.18E+07	0.42	Y	0.85	81.4
ES OCDF	43.72		1.1451	1.1463	+3.1	2.38E+07	0.88	Y	0.81	86.5

Lab ID: B6206_18863_DF_003 **Acq'd:** 25 Jan 2022 21:22 DTF **Wt/Vol:** 10.44 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-46 **UTP:** 26-Jan-2022 09:14:32 DTF **J-level:** 0.479 pg/g **Split:** 1 **Checkcode:** 146-499-ZHZ

Datafile: 220125C08 **Report:** 26 Jan 2022 11:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.98		-	-	-	1.88E+07	0.84	Y	-	-
JS 1234-TCDF	26.43		-	-	-	2.91E+07	0.76	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	8.52E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	8.74E+06	n/a	-	1.20	96.4
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.69E+07	1.57	Y	0.75	119
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.48E+07	1.49	Y	0.85	100
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.18E+07	0.55	Y	1.12	114
CS 1234689-HpCDF	40.34		1.0571	1.0577	+1.5	1.78E+07	0.45	Y	0.89	118
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~8.74E+06~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.69E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.48E+07~~	~~1.49~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.18E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~112~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.78E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~101~~

Totals	Conc	EMPC
Total TCDD	497	498
Total PeCDD	8.99	9.42
Total HxCDD	31.6	31.6
Total HpCDD	170	170
Total Tetra-Octa Dioxins	3300	3300
Total TCDF	2,500	2500
Total PeCDF	160	161
Total HxCDF	180	180
Total HpCDF	60.9	60.9
Total Tetra-Octa Furans	2,900	2930
Total Tetra-Octa Dioxins & Furans	6200	6230

Lab ID: B6206_18863_DF_003 **Acq'd: 25 Jan 2022 21:22 DTF** **Wt/Vol: 10.44 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-S-46 **UTP: 26-Jan-2022 09:14:32 DTF** **J-level: 0.479 pg/g** **Split: 1** **Checkcode: 146-499-ZHZ**

Datafile: 220125C08 **Report: 26 Jan 2022 11:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8748	-1.1	9.69E+04	0.80	Y	1.18	0.831	4657.88	0.405
1379-TCDD	NotFnd		0.8876						1.18		4657.88	0.405
1369-TCDD	NotFnd		0.9023						1.18		4657.88	0.405
1469-TCDD	26.59		0.9291	0.9287	-0.6	4.76E+05	0.82	Y	1.18	4.08	4657.88	0.405
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4657.88	0.405
1378-TCDD	27.02		0.9440	0.9438	-0.3	1.63E+05	0.86	Y	1.18	1.4	4657.88	0.405
1268-TCDD	NotFnd		0.9506						1.18		4657.88	0.405
1478-TCDD	27.46		0.9591	0.9589	-0.3	1.62E+05	0.79	Y	1.18	1.39	4657.88	0.405
1279-TCDD	NotFnd		0.9649						1.18		4657.88	0.405
1234/1269-TCDD	27.96	EMPC	0.9771	0.9765	-1.0	6.13E+04	1.09	N	1.18	0.526	4657.88	0.405
1236-TCDD	NotFnd		0.9820						1.18		4657.88	0.405
1237/1238-TCDD	28.36		0.9908	0.9904	-0.7	7.39E+05	0.82	Y	1.18	6.34	4657.88	0.405
1239-TCDD	NotFnd		0.9954						1.18		4657.88	0.405
2378-TCDD	**28.66**		**1.0008**	1.0008	**0**	5.17E+07	0.79	Y	**1.18**	**443**	**4657.88**	**0.405**
1278-TCDD	28.98		1.0121	1.0120	-0.2	4.63E+06	0.83	Y	1.18	39.7	4657.88	0.405
1267-TCDD	NotFnd		1.0167						1.18		4657.88	0.405
1289-TCDD	NotFnd		1.0341						1.18		4657.88	0.405
12479/12468-PeCDD	31.47	J EMPC	0.9273	0.9273	0	4.29E+04	2.01	N	1.04	0.429	3447.075	0.3
12469-PeCDD	31.99		0.9430	0.9426	-0.8	2.72E+05	1.62	Y	1.04	2.72	3447.075	0.3
12368-PeCDD	32.55	J	0.9592	0.9591	-0.2	6.49E+04	1.56	Y	1.04	0.649	3447.075	0.3
12478-PeCDD	NotFnd		0.9647						1.04		3447.075	0.3
12379-PeCDD	NotFnd		0.9676						1.04		3447.075	0.3
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3447.075	0.3
12346/12347-PeCDD	NotFnd		0.9860						1.04		3447.075	0.3
12378-PeCDD	33.96		**1.0006**	**1.0004**	**-0.4**	**5.62E+05**	**1.49**	**Y**	**1.04**	**5.62**	**3447.075**	**0.3**
12367-PeCDD	NotFnd		1.0034						1.04		3447.075	0.3
12389-PeCDD	NotFnd		1.0134						1.04		3447.075	0.3
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.6	2.03E+06	1.30	Y	1.10	21.8	4462.446	0.427
123468-HxCDD	NotFnd		0.9715						1.10		4462.446	0.427
123679/123689-HxCDD	37.06		0.9793	0.9793	0	5.01E+05	1.11	Y	1.10	5.39	4462.446	0.427
123469-HxCDD	37.19	J	0.9829	0.9827	-0.4	1.18E+05	1.26	Y	1.10	1.28	4462.446	0.427
123478-HxCDD	NotFnd		**1.0004**						1.09		**4462.446**	**0.455**
123678-HxCDD	37.97	J	**1.0034**	**1.0034**	**0**	**1.20E+05**	**1.36**	**Y**	1.15	**1.22**	**4462.446**	**0.408**
123467-HxCDD	38.15	J	1.0082	1.0082	0	6.29E+04	1.13	Y	1.10	0.677	4462.446	0.427
123789-HxCDD	38.25	J	**1.0109**	**1.0108**	**-0.2**	**1.13E+05**	**1.29**	**Y**	1.05	**1.23**	**4462.446**	**0.422**

Lab ID: B6206_18863_DF_003 | **Acq'd: 25 Jan 2022 21:22 DTF** | **Wt/Vol: 10.44 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-S-46 | **UTP: 26-Jan-2022 09:14:32 DTF** | **J-level: 0.479 pg/g** | **Split: 1** | **Checkcode: 146-499-ZHZ**

Datafile: 220125C08 | **Report: 26 Jan 2022 11:28 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

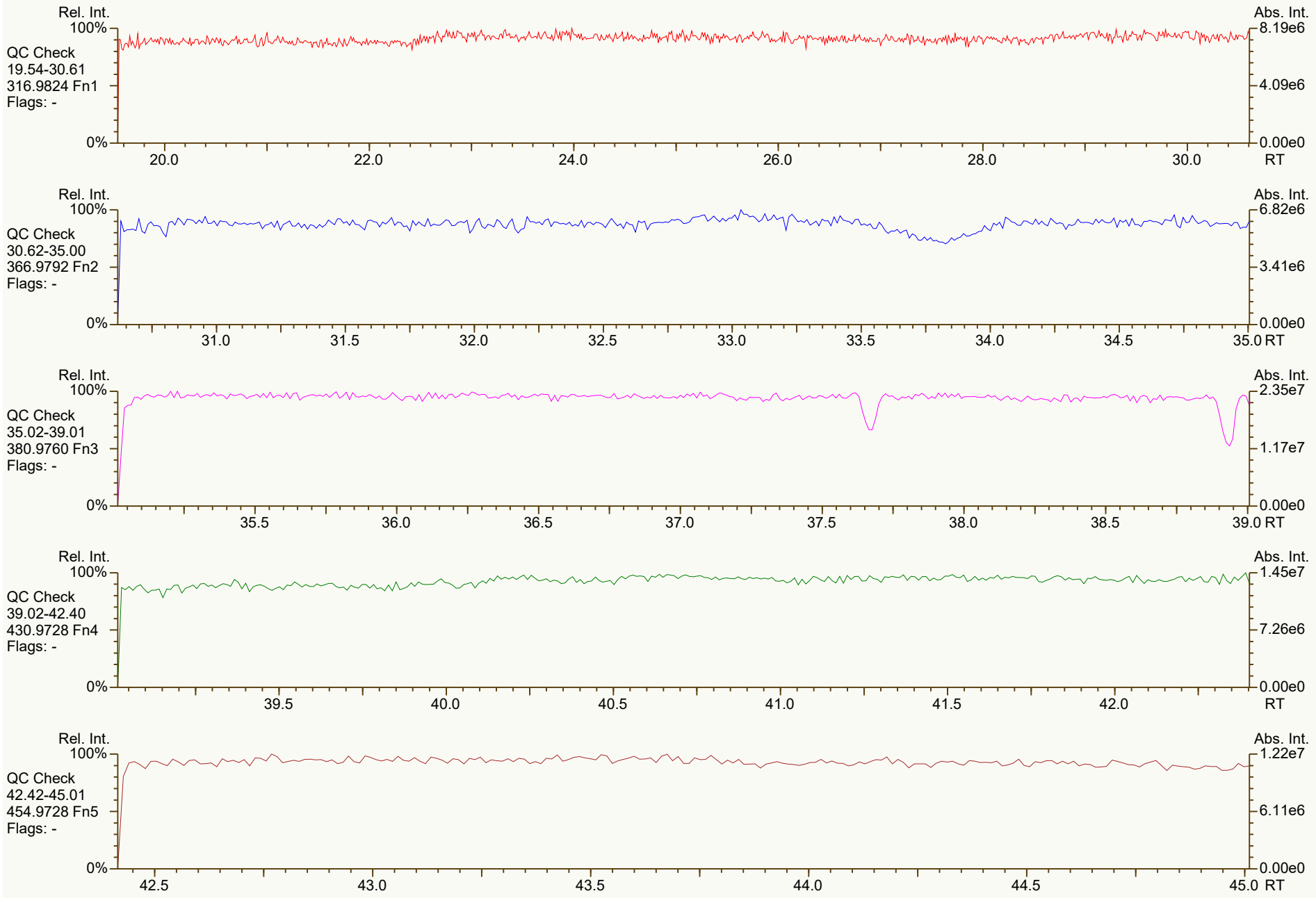
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9837	-0.2	9.37E+06	1.04	Y	1.06	122	3367.42	0.367
1234678-HpCDD	**40.88**		**1.0003**	**1.0002**	**-0.2**	**3.75E+06**	**1.02**	**Y**	**1.06**	**48.7**	**3367.42**	**0.367**
OCDD	**43.56**		**1.0002**	**1.0003**	**+0.3**	**1.42E+08**	**0.91**	**Y**	**1.13**	**2,590**	**5472.974**	**1.01**
OCDD-a	43.55		1.0002	1.0003	+0.3	8.79E+06	2.46	Y	0.07	2,510	4786.911	13.8
1368-TCDF	NotFnd		0.8282						1.08		4153.479	0.288
1468-TCDF	23.55		0.8485	0.8475	-1.4	3.35E+05	0.76	Y	1.08	2.21	4153.479	0.288
2468-TCDF	24.17		0.8709	0.8699	-1.5	2.34E+05	0.75	Y	1.08	1.54	4153.479	0.288
1346/1246-TCDF	NotFnd		0.8829						1.08		4153.479	0.288
1347/1378/1247-TCDF	24.68		0.8884	0.8883	-0.1	2.19E+06	0.79	Y	1.08	14.4	4153.479	0.288
1348-TCDF	NotFnd		0.8980						1.08		4153.479	0.288
1248/1367/1379-TCDF	25.02		0.9026	0.9004	-3.3	9.89E+06	0.79	Y	1.08	65.1	4153.479	0.288
1268-TCDF	25.43		0.9158	0.9154	-0.6	3.06E+06	0.77	Y	1.08	20.1	4153.479	0.288
1467-TCDF	25.56		0.9206	0.9201	-0.8	4.64E+05	0.80	Y	1.08	3.05	4153.479	0.288
1478-TCDF	25.73		0.9266	0.9261	-0.8	7.79E+06	0.77	Y	1.08	51.3	4153.479	0.288
1369/1237-TCDF	26.11		0.9397	0.9396	-0.2	1.99E+06	0.78	Y	1.08	13.1	4153.479	0.288
2467-TCDF	26.22	EMPC	0.9440	0.9437	-0.5	2.42E+05	0.99	N	1.08	1.6	4153.479	0.288
2368-TCDF	26.43		0.9497	0.9511	+2.2	1.63E+07	0.76	Y	1.08	107	4153.479	0.288
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4153.479	0.288
1278-TCDF	26.92		0.9690	0.9687	-0.5	8.66E+07	0.79	Y	1.08	570	4153.479	0.288
1349-TCDF	NotFnd		0.9730						1.08		4153.479	0.288
1267-TCDF	27.19		0.9787	0.9784	-0.5	4.77E+06	0.79	Y	1.08	31.4	4153.479	0.288
2346/1249-TCDF	27.39		0.9850	0.9858	+1.3	6.44E+05	0.74	Y	1.08	4.24	4153.479	0.288
2347/1279-TCDF	27.58		0.9929	0.9927	-0.3	2.30E+06	0.87	Y	1.08	15.1	4153.479	0.288
2348-TCDF	27.69		0.9970	0.9967	-0.5	1.42E+07	0.77	Y	1.08	93.2	4153.479	0.288
2378-TCDF	**27.81**	E	**1.0008**	**1.0008**	**0**	**1.95E+08**	**0.80**	**Y**	**1.08**	**1,280**	**4153.479**	**0.288**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	1.53E+07	0.80	Y	1.08	101	4153.479	0.288
1269-TCDF	28.40		1.0221	1.0222	+0.2	3.27E+06	0.80	Y	1.08	21.5	4153.479	0.288
1239-TCDF	28.67		1.0319	1.0318	-0.2	3.25E+05	0.86	Y	1.08	2.14	4153.479	0.288
1289-TCDF	29.80		1.0740	1.0724	-2.9	1.49E+07	0.77	Y	1.08	98	4153.479	0.288
13468/12468-PeCDF	29.73	J	0.9145	0.9146	+0.2	1.97E+05	1.43	Y	1.02	1.43	3332.853	0.222
13678/13467/12467-PeCDF	31.27	J EMPC	0.9619	0.9621	+0.4	9.68E+04	1.91	N	1.02	0.702	5187.333	0.345
12368/13478/12478-PeCDF	31.43		0.9665	0.9669	+0.8	3.47E+06	1.60	Y	1.02	25.2	5187.333	0.345
14678-PeCDF	NotFnd		0.9695						1.02		5187.333	0.345
13479-PeCDF	NotFnd		0.9724						1.02		5187.333	0.345
13469/12479-PeCDF	NotFnd		0.9801						1.02		5187.333	0.345
12346-PeCDF	NotFnd		0.9842						1.02		5187.333	0.345

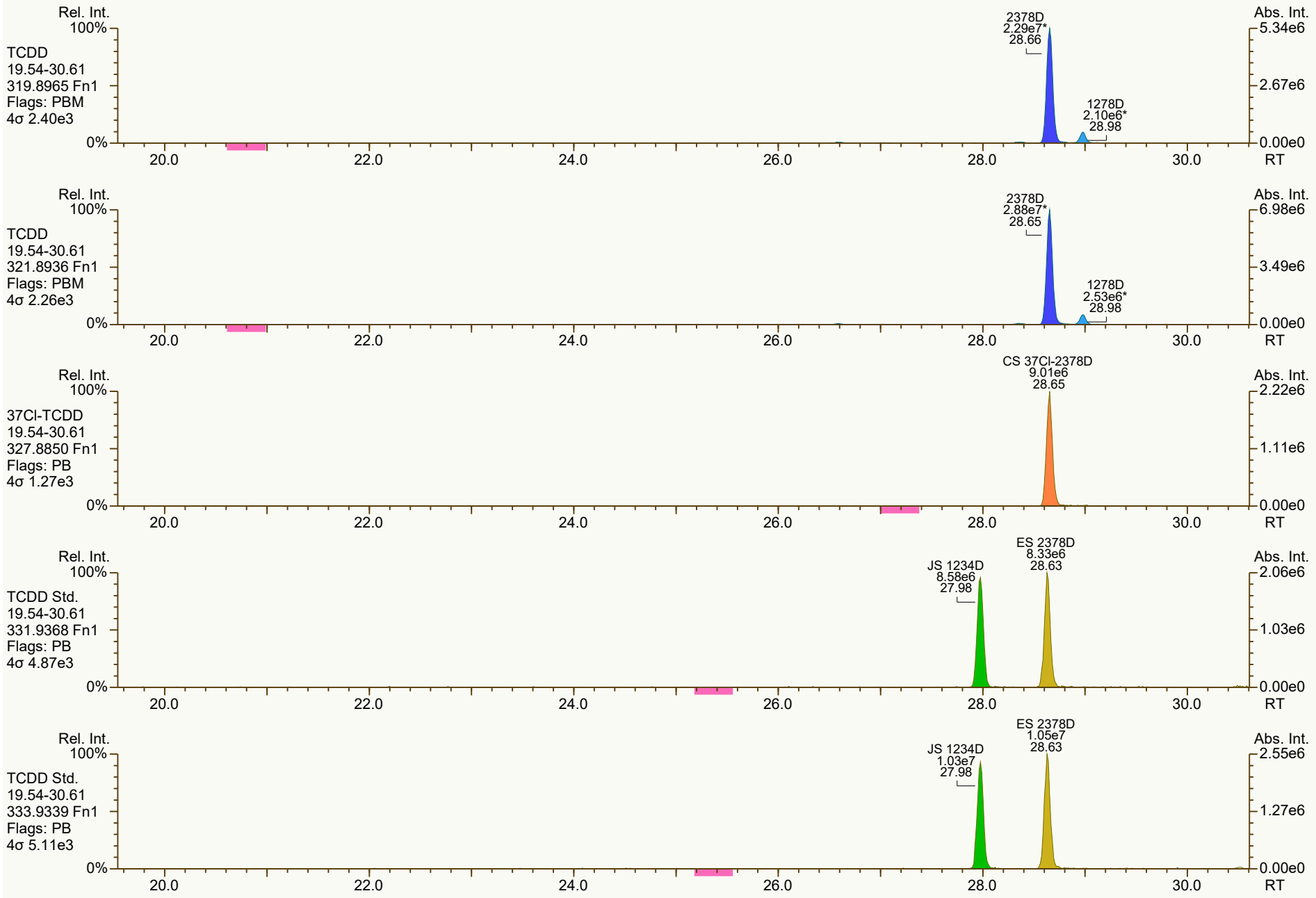
Lab ID: B6206_18863_DF_003 **Acq'd: 25 Jan 2022 21:22 DTF** **Wt/Vol: 10.44 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

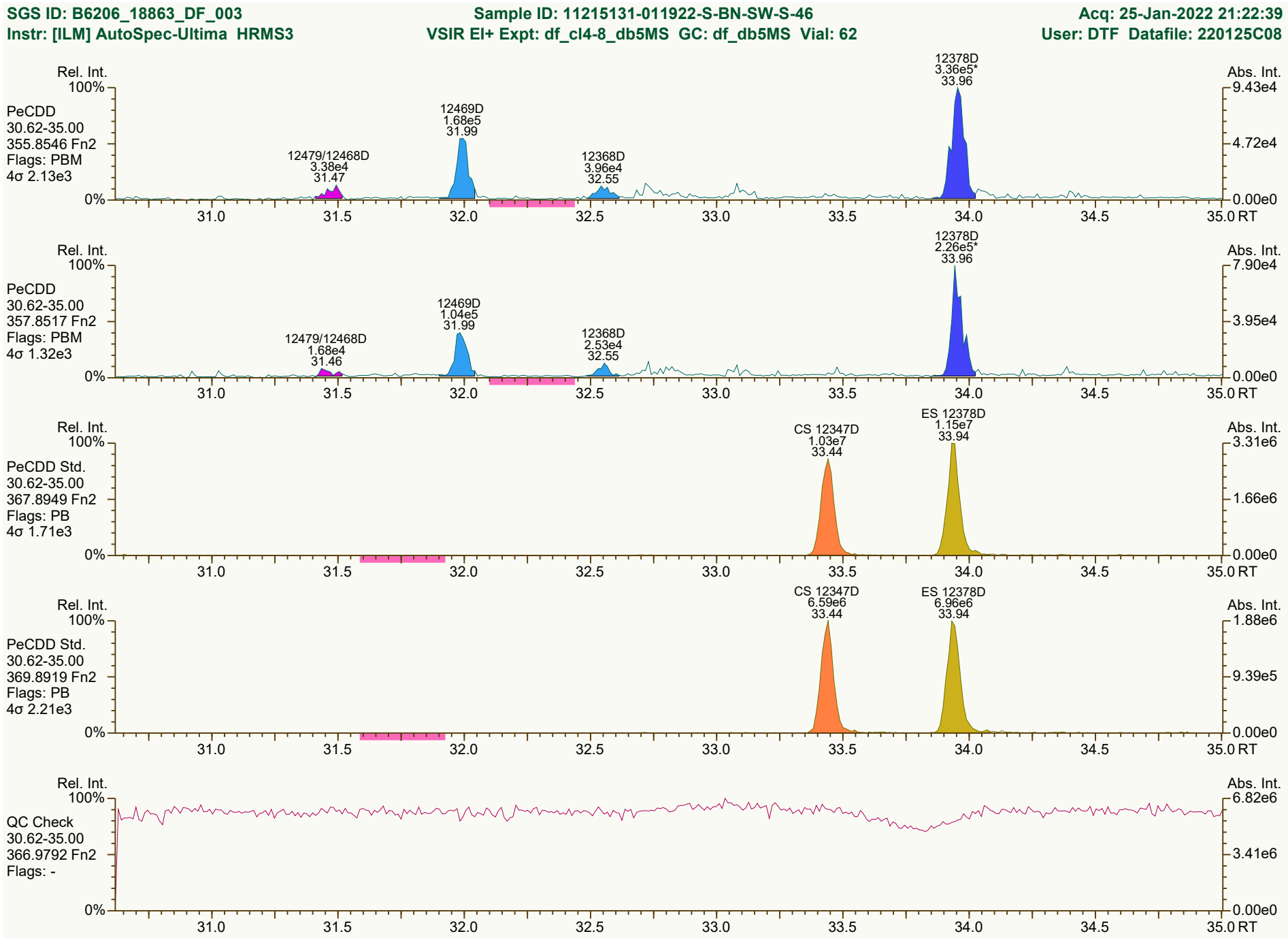
Client ID: 11215131-011922-S-BN-SW-S-46 **UTP: 26-Jan-2022 09:14:32 DTF** **J-level: 0.479 pg/g** **Split: 1** **Checkcode: 146-499-ZHZ**

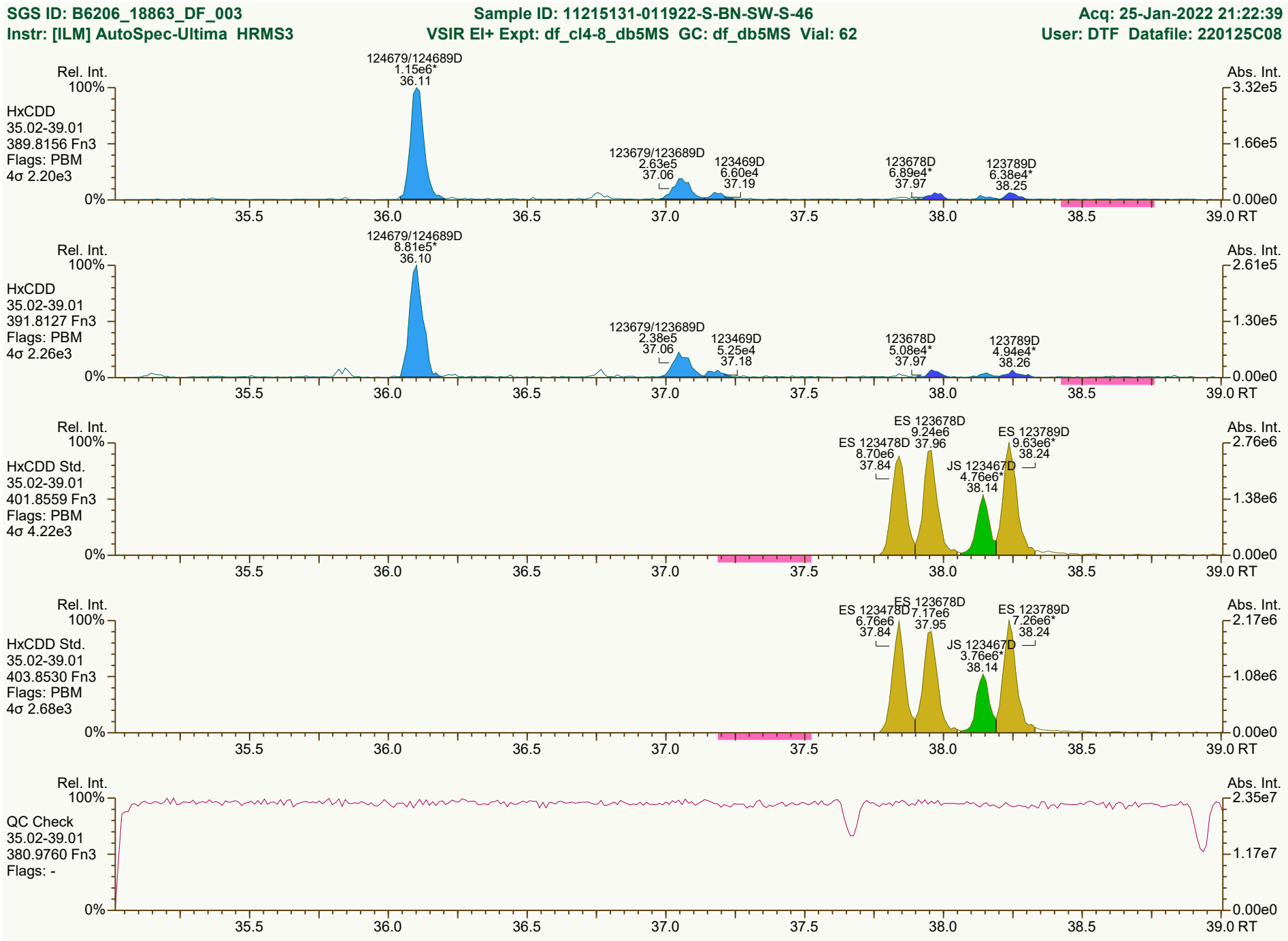
Datafile: 220125C08 **Report: 26 Jan 2022 11:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

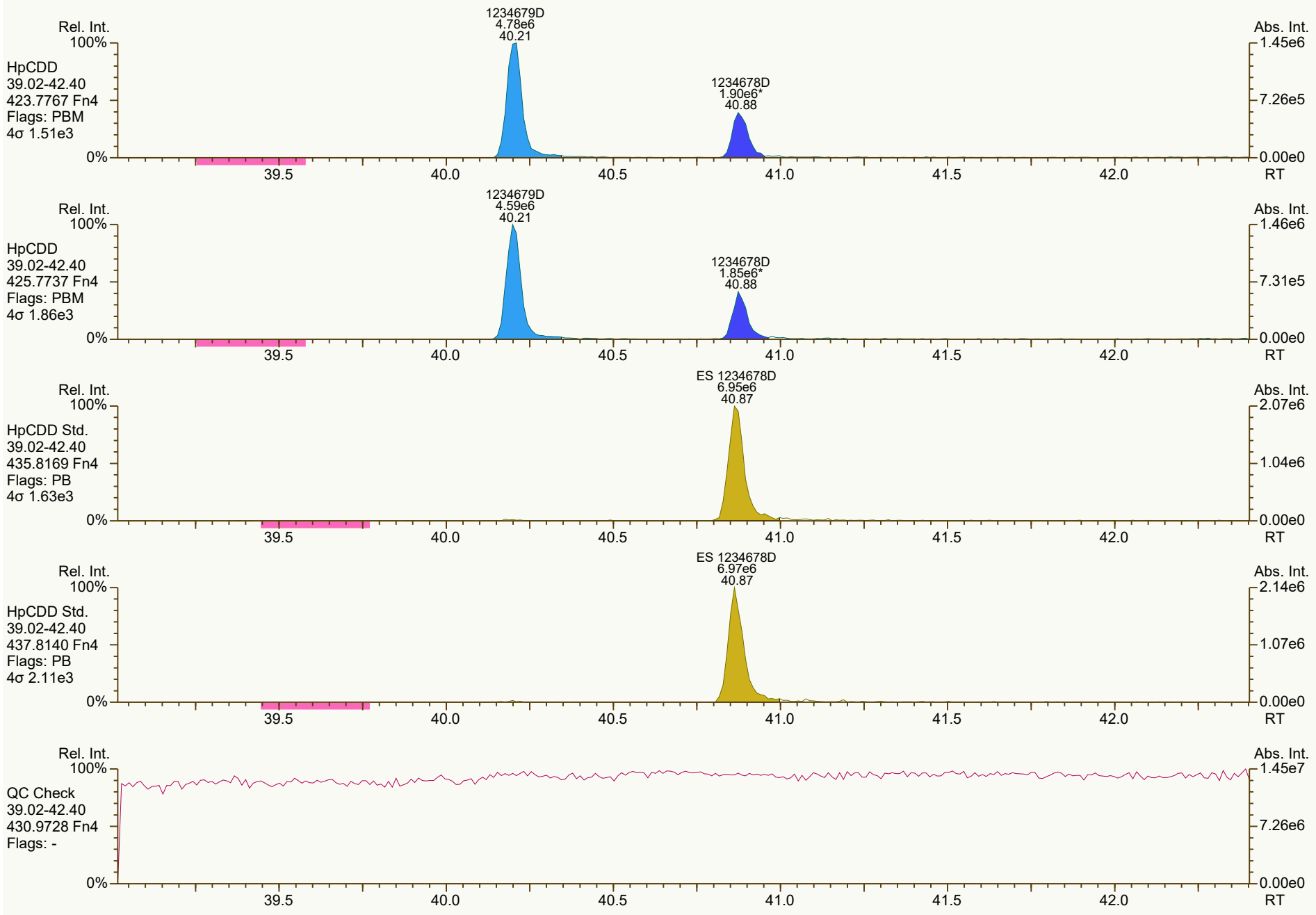
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07	J	0.9868	0.9865	-0.6	1.69E+05	1.39	Y	1.02	1.22	5187.333	0.345
12347-PeCDF	32.16	J	0.9895	0.9893	-0.4	1.29E+05	1.37	Y	1.02	0.937	5187.333	0.345
12348-PeCDF	32.31		0.9941	0.9940	-0.2	7.92E+05	1.70	Y	1.02	5.74	5187.333	0.345
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**7.86E+06**	**1.56**	**Y**	**1.02**	**60.3**	**5187.333**	**0.38**
12678/12367-PeCDF	32.81		1.0090	1.0095	+1.0	2.38E+06	1.50	Y	1.02	17.3	5187.333	0.345
12379-PeCDF	NotFnd		1.0142						1.02		5187.333	0.345
12679-PeCDF	NotFnd		0.9931						1.02		5187.333	0.345
23467/12369-PeCDF	33.50	J	0.9966	0.9966	0	1.58E+05	1.33	Y	1.02	1.15	5187.333	0.345
23478-PeCDF	**33.63**		**1.0005**	**1.0006**	**+0.2**	**6.52E+06**	**1.62**	**Y**	**1.02**	**44.8**	**5187.333**	**0.314**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5187.333	0.345
12349-PeCDF	NotFnd		1.0101						1.02		5187.333	0.345
12389-PeCDF	34.71	J	1.0322	1.0326	+0.8	3.23E+05	1.65	Y	1.02	2.34	5187.333	0.345
123468-HxCDF	35.46	J	0.9627	0.9627	0	1.99E+05	1.23	Y	1.19	1.57	4338.466	0.313
124678/134678-HxCDF	35.66		0.9684	0.9681	-0.6	1.26E+06	1.34	Y	1.19	9.92	4338.466	0.313
134679-HxCDF	NotFnd		0.9747						1.19		4338.466	0.313
124679-HxCDF	NotFnd		0.9802						1.19		4338.466	0.313
124689-HxCDF	36.31		0.9858	0.9857	-0.2	5.80E+05	1.11	Y	1.19	4.57	4338.466	0.313
123467-HxCDF	36.72	J EMPC	0.9972	0.9969	-0.7	7.57E+04	1.44	N	1.19	0.597	4338.466	0.313
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**1.54E+07**	**1.23**	**Y**	**1.27**	**117**	**4338.466**	**0.274**
123678-HxCDF	**37.00**		**1.0004**	**1.0005**	**+0.2**	**4.53E+06**	**1.28**	**Y**	**1.15**	**32**	**4338.466**	**0.279**
123479-HxCDF	NotFnd		1.0051						1.19		4338.466	0.313
123469-HxCDF	NotFnd		1.0091						1.19		4338.466	0.313
123679-HxCDF	NotFnd		0.9943						1.19		4338.466	0.313
234678-HxCDF	**37.68**		**1.0004**	**1.0004**	**0**	**6.74E+05**	**1.38**	**Y**	**1.19**	**5.45**	**4338.466**	**0.356**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4338.466	0.313
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4338.466**	**0.355**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.64		1.0007	1.0010	+0.7	1.11E+06	1.34	Y	1.19	8.77	4338.466	0.313
1234678-HpCDF	**39.95**		**1.0002**	**1.0002**	**0**	**4.42E+06**	**0.99**	**Y**	**1.37**	**32.3**	**3123.689**	**0.166**
1234679-HpCDF	NotFnd		1.0067						1.34		3123.689	0.218
1234689-HpCDF	40.35		1.0101	1.0102	+0.2	1.53E+06	1.00	Y	1.34	14.1	3123.689	0.218
1234789-HpCDF	**41.34**		**1.0003**	**1.0002**	**-0.2**	**1.17E+06**	**1.05**	**Y**	**1.31**	**14.5**	**3123.689**	**0.303**
OCDF	**43.74**	**EMPC**	**1.0002**	**1.0003**	**+0.3**	**1.97E+06**	**1.03**	**N**	**1.07**	**29.5**	**3689.982**	**0.597**
OCDF-a	43.73		1.0002	1.0000	-0.5	1.30E+05	2.29	Y	0.07	31.5	3660.164	9.57

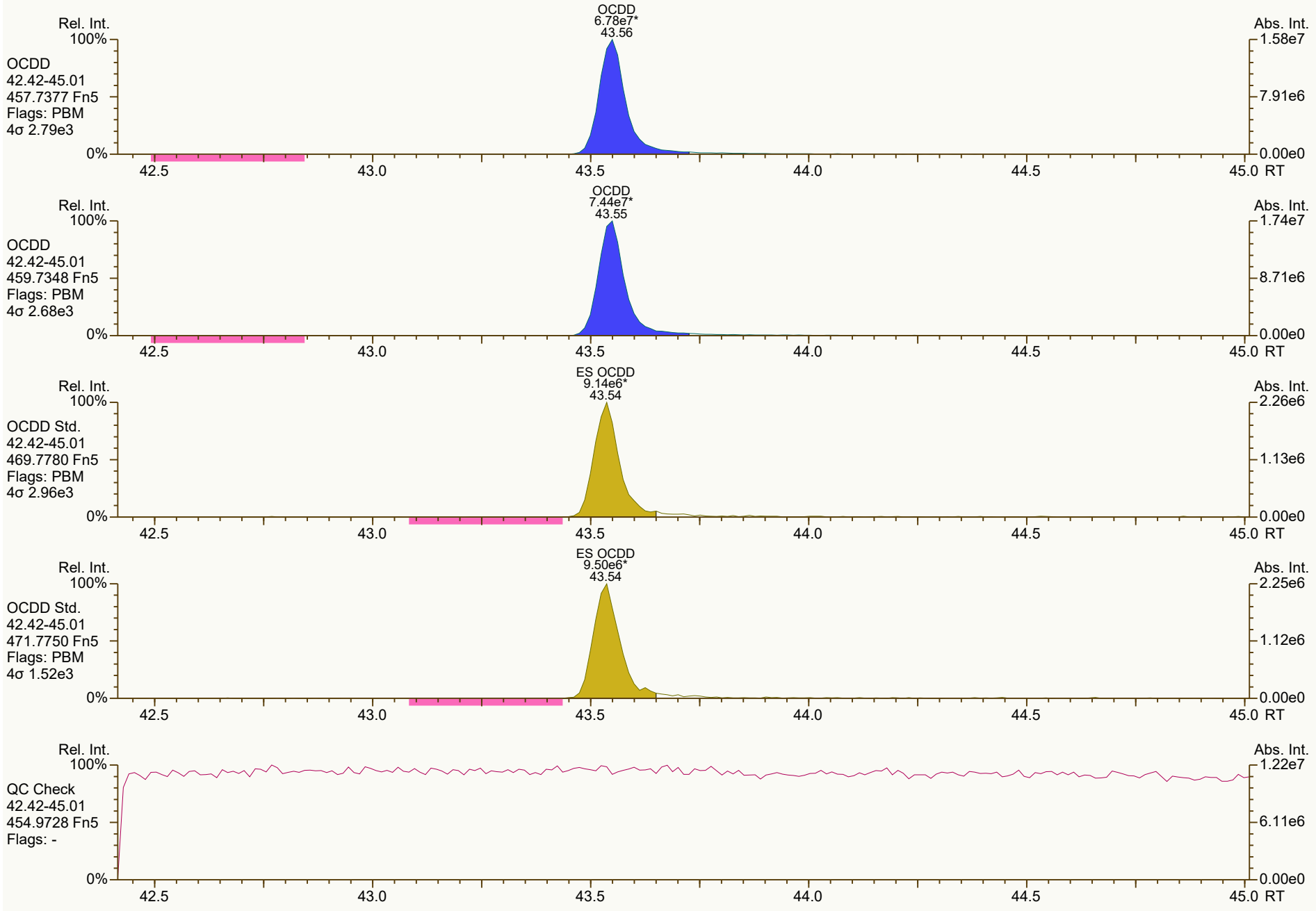

Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.82e6
3.41e6
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
2.35e7
1.17e7
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.22e7
6.11e6
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

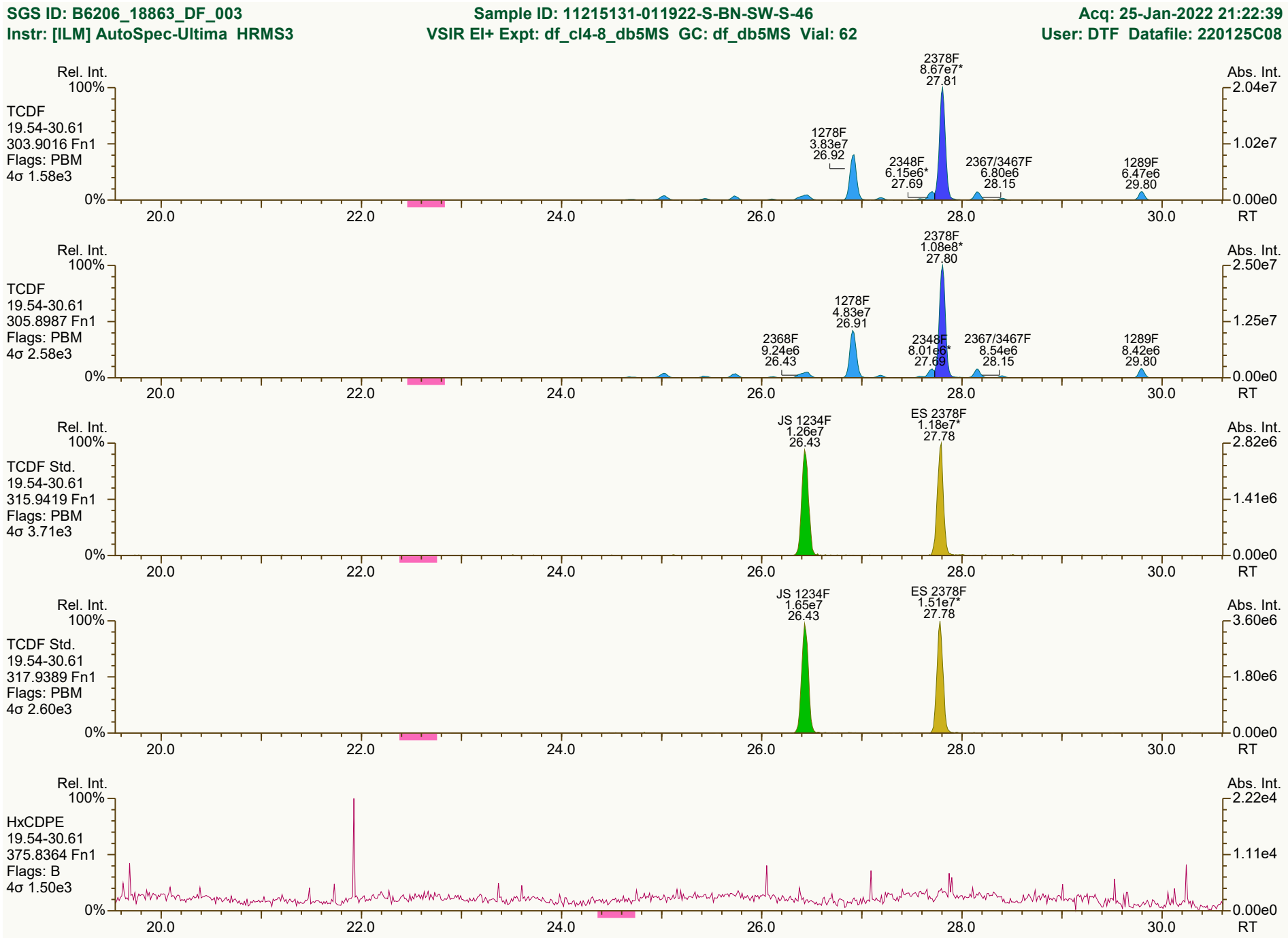

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.40e3
0%
2378D
2.29e7*
28.66
1278D
2.10e6*
28.98
Abs. Int.
5.34e6
2.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.26e3
0%
2378D
2.88e7*
28.65
1278D
2.53e6*
28.98
Abs. Int.
6.98e6
3.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.27e3
0%
CS 37Cl-2378D
9.01e6
28.65
Abs. Int.
2.22e6
1.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.87e3
0%
JS 1234D
8.58e6
27.98
ES 2378D
8.33e6
28.63
Abs. Int.
2.06e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 5.11e3
0%
JS 1234D
1.03e7
27.98
ES 2378D
1.05e7
28.63
Abs. Int.
2.55e6
1.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6206_18863_DF_003
Sample ID: 11215131-011922-S-BN-SW-S-46
Acq: 25-Jan-2022 21:22:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220125C08
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.13e3
12479/12468D
3.38e4
31.47
12469D
1.68e5
31.99
12368D
3.96e4
32.55
12378D
3.36e5*
33.96
9.43e4
4.72e4
0.00e0
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.32e3
12479/12468D
1.68e4
31.46
12469D
1.04e5
31.99
12368D
2.53e4
32.55
12378D
2.26e5*
33.96
7.90e4
3.95e4
0.00e0
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.71e3
CS 12347D
1.03e7
33.44
ES 12378D
1.15e7
33.94
3.31e6
1.66e6
0.00e0
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.21e3
CS 12347D
6.59e6
33.44
ES 12378D
6.96e6
33.94
1.88e6
9.39e5
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
6.82e6
3.41e6
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_003.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4376, 4069 scc: 146-499
Revised: 26-Jan-2022 08:52 (DTF) Printed: 26-Jan-2022 09:25 Page 3 of 12

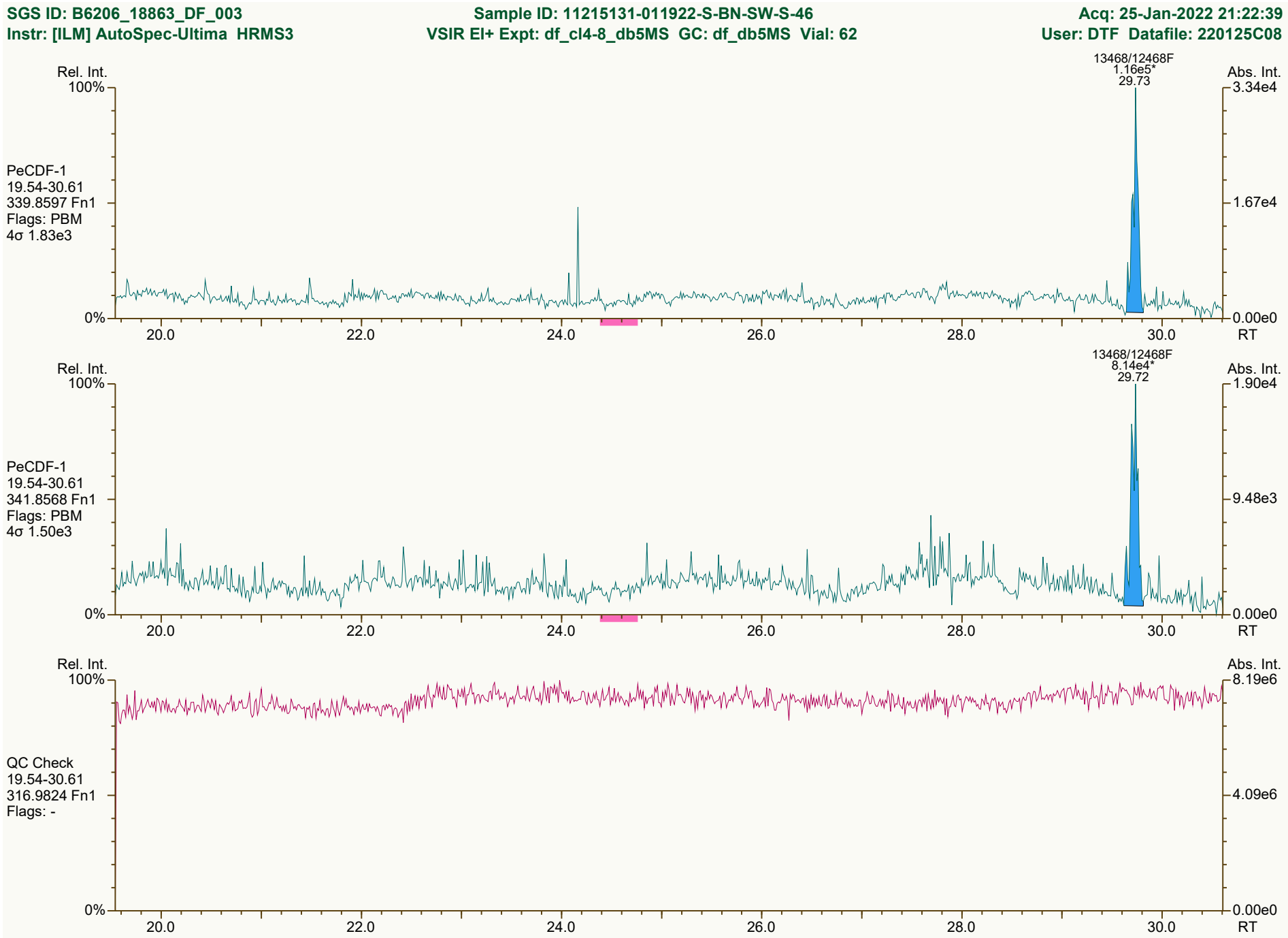

SGS ID: B6206_18863_DF_003
Sample ID: 11215131-011922-S-BN-SW-S-46
Acq: 25-Jan-2022 21:22:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220125C08
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.20e3
124679/124689D
1.15e6*
36.11
123679/123689D
2.63e5
37.06
123469D
6.60e4
37.19
123678D
6.89e4*
37.97
123789D
6.38e4*
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.26e3
124679/124689D
8.81e5*
36.10
123679/123689D
2.38e5
37.06
123469D
5.25e4
37.18
123678D
5.08e4*
37.97
123789D
4.94e4*
38.26
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.22e3
ES 123678D
9.24e6
37.96
ES 123478D
8.70e6
37.84
JS 123467D
4.76e6*
38.14
ES 123789D
9.63e6*
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.68e3
ES 123678D
7.17e6
37.95
ES 123478D
6.76e6
37.84
JS 123467D
3.76e6*
38.14
ES 123789D
7.26e6*
38.24
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
100%
0%
3.32e5
1.66e5
0.00e0
2.61e5
1.30e5
2.76e6
1.38e6
2.17e6
1.08e6
2.35e7
1.17e7
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_003.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6558, 5027 scc: 146-499
Revised: 26-Jan-2022 08:54 (DTF) Printed: 26-Jan-2022 09:25 Page 4 of 12

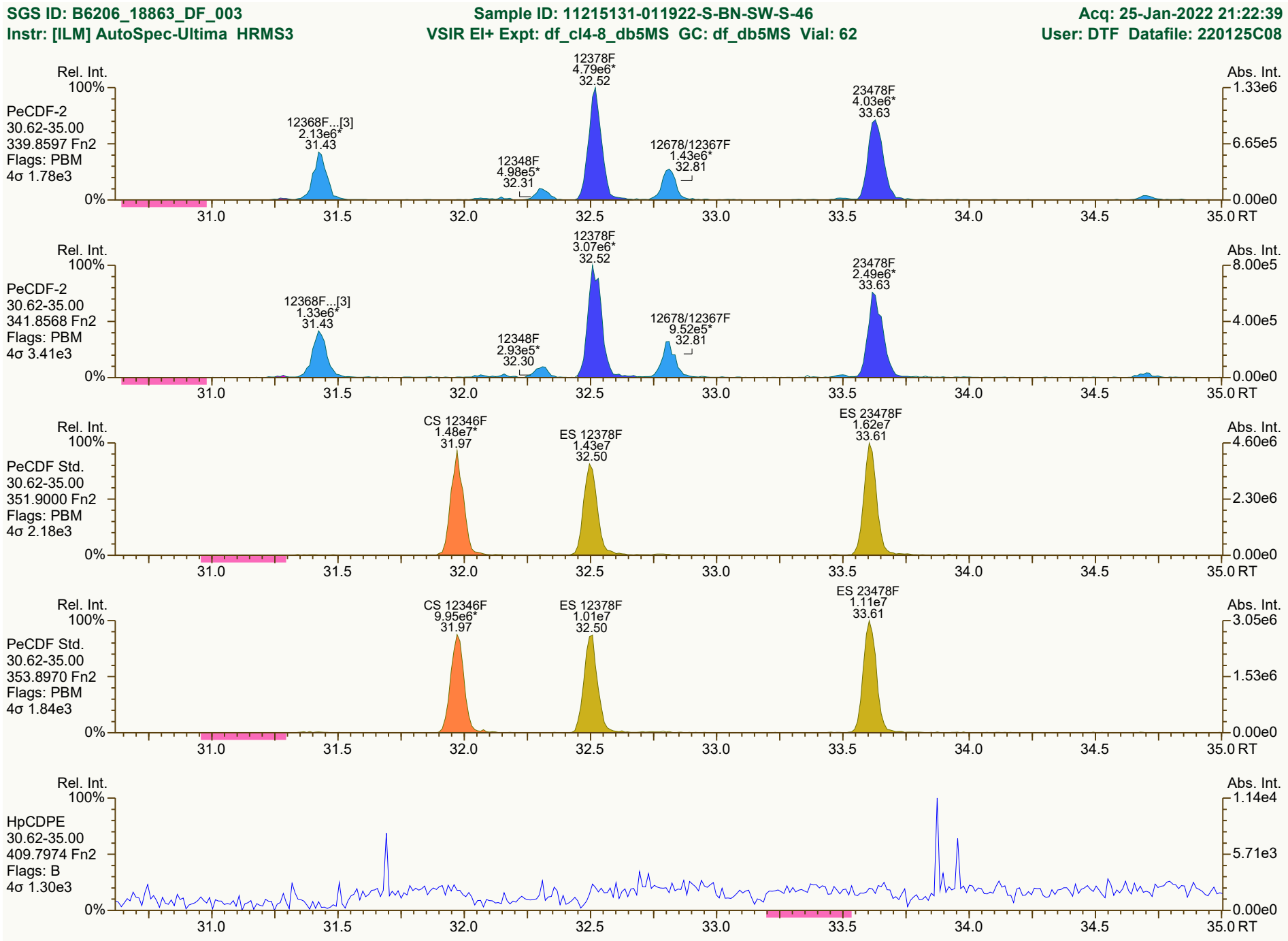

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.51e3
1234679D
4.78e6
40.21
1234678D
1.90e6*
40.88
Abs. Int.
1.45e6
7.26e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.86e3
1234679D
4.59e6
40.21
1234678D
1.85e6*
40.88
Abs. Int.
1.46e6
7.31e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.63e3
ES 1234678D
6.95e6
40.87
Abs. Int.
2.07e6
1.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.11e3
ES 1234678D
6.97e6
40.87
Abs. Int.
2.14e6
1.07e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.26e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
6.78e7*
43.56
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 2.79e3
0%
Abs. Int.
1.58e7
7.91e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.44e7*
43.55
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.68e3
0%
Abs. Int.
1.74e7
8.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.14e6*
43.54
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.96e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.50e6*
43.54
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
2.25e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.22e7
6.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



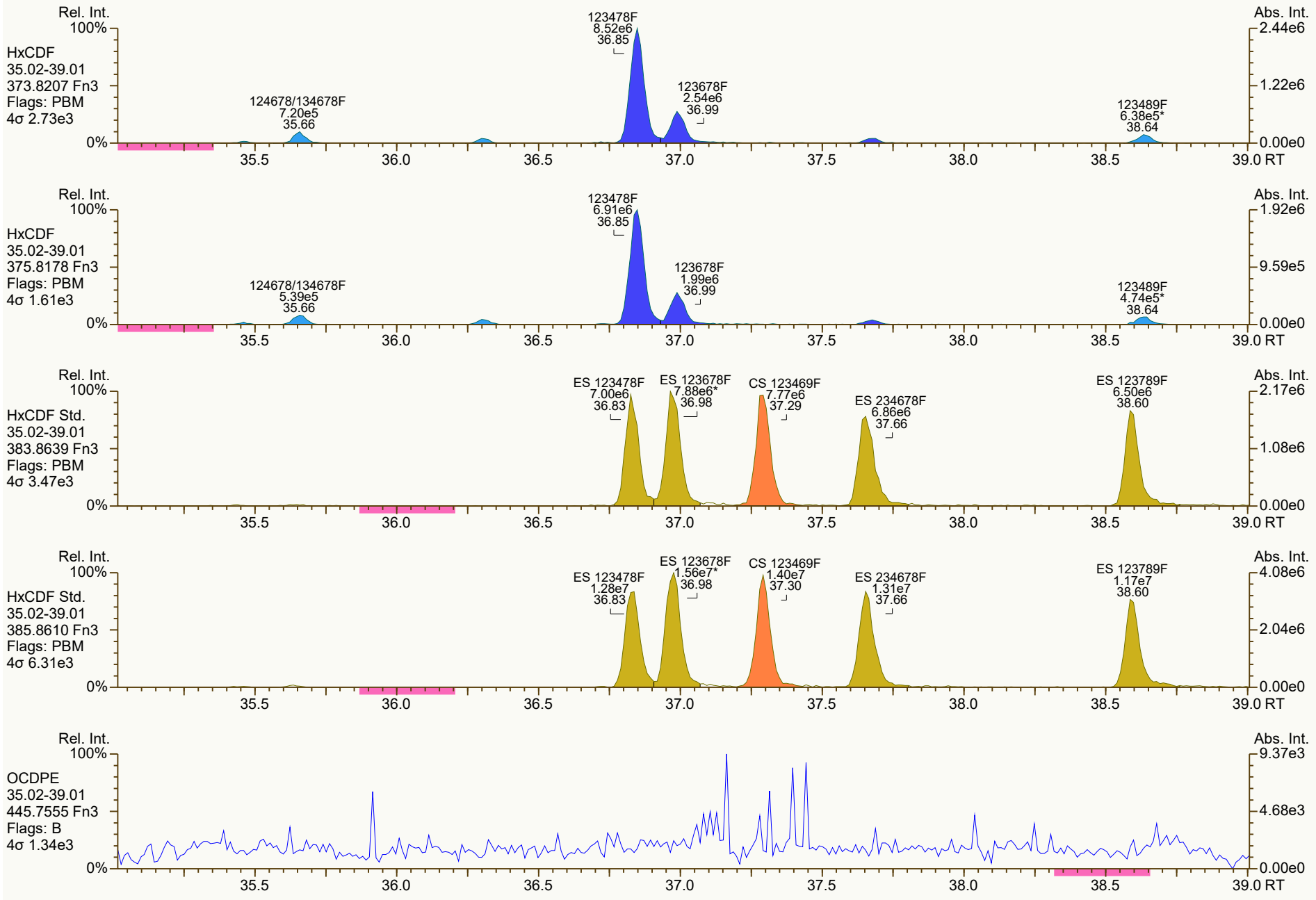
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_003.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4810, 7303, 5745 scc: 146-499
Revised: 26-Jan-2022 08:55 (DTF) Printed: 26-Jan-2022 09:25 Page 7 of 12

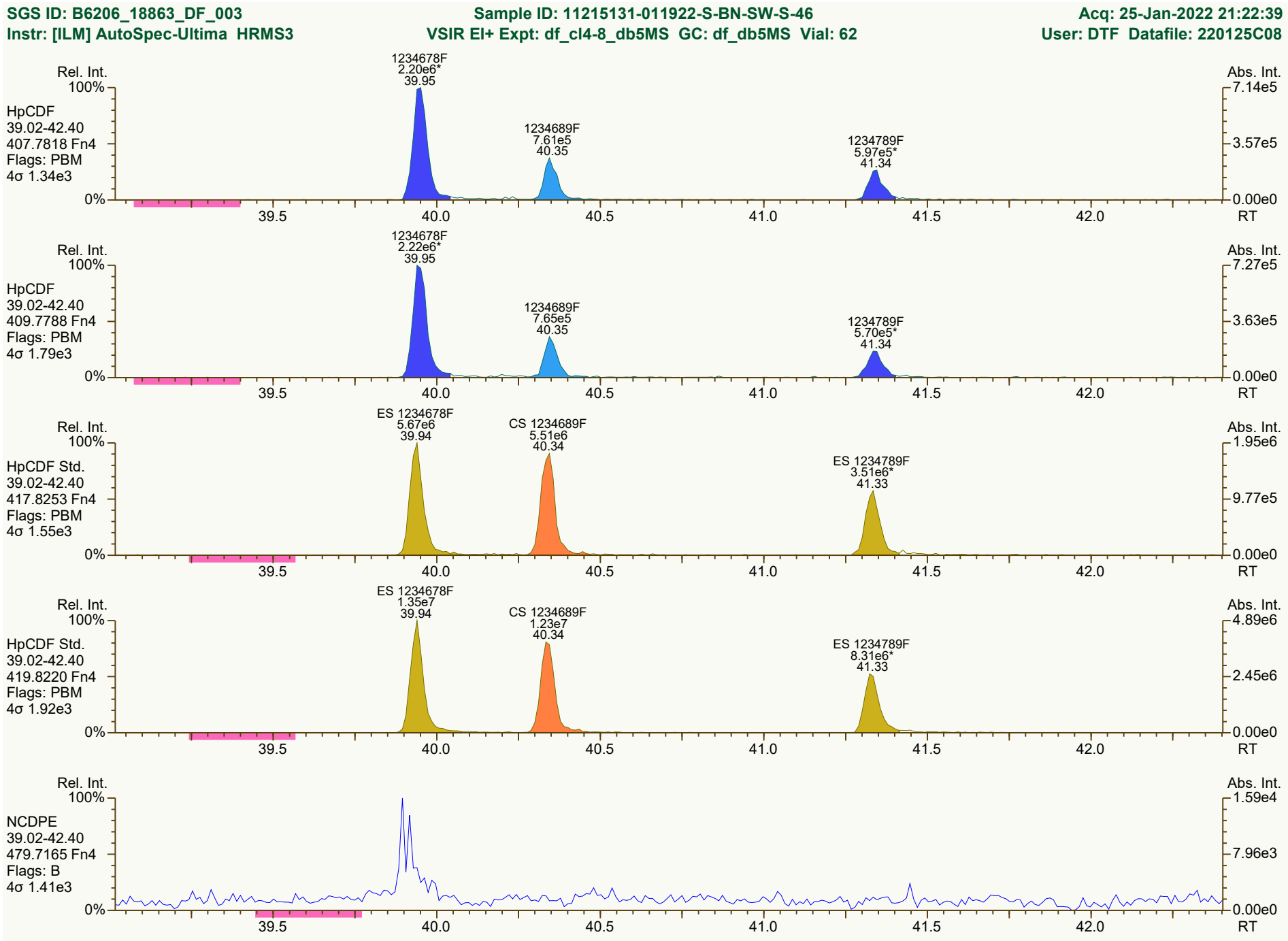

SGS ID: B6206_18863_DF_003
Sample ID: 11215131-011922-S-BN-SW-S-46
Acq: 25-Jan-2022 21:22:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220125C08
Rel. Int.
100%
0%
Abs. Int.
3.34e4
1.67e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.83e3
13468/12468F
1.16e5*
29.73
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 1.50e3
13468/12468F
8.14e4*
29.72
1.90e4
9.48e3
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
8.19e6
4.09e6
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_003.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2415 scc: 146-499
Revised: 26-Jan-2022 08:55 (DTF) Printed: 26-Jan-2022 09:25 Page 8 of 12



Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_003.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0042, 7711, 9150 scc: 146-499 *Revised: 26-Jan-2022 08:55 (DTF) Printed: 26-Jan-2022 09:25 Page 9 of 12*


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.73e3
0%
123478F
8.52e6
36.85
123678F
2.54e6
36.99
124678/134678F
7.20e5
35.66
123489F
6.38e5*
38.64
Abs. Int.
2.44e6
1.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.61e3
0%
123478F
6.91e6
36.85
123678F
1.99e6
36.99
124678/134678F
5.39e5
35.66
123489F
4.74e5*
38.64
Abs. Int.
1.92e6
9.59e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.47e3
0%
ES 123478F
7.00e6
36.83
ES 123678F
7.88e6*
36.98
CS 123469F
7.77e6
37.29
ES 234678F
6.86e6
37.66
ES 123789F
6.50e6
38.60
Abs. Int.
2.17e6
1.08e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 6.31e3
0%
ES 123478F
1.28e7
36.83
ES 123678F
1.56e7*
36.98
CS 123469F
1.40e7
37.30
ES 234678F
1.31e7
37.66
ES 123789F
1.17e7
38.60
Abs. Int.
4.08e6
2.04e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
9.37e3
4.68e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6206_18863_DF_003
Sample ID: 11215131-011922-S-BN-SW-S-46
Acq: 25-Jan-2022 21:22:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220125C08
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.34e3
1234678F
2.20e6*
39.95
1234689F
7.61e5
40.35
1234789F
5.97e5*
41.34
7.14e5
3.57e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.79e3
1234678F
2.22e6*
39.95
1234689F
7.65e5
40.35
1234789F
5.70e5*
41.34
7.27e5
3.63e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.55e3
ES 1234678F
5.67e6
39.94
CS 1234689F
5.51e6
40.34
ES 1234789F
3.51e6*
41.33
1.95e6
9.77e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.92e3
ES 1234678F
1.35e7
39.94
CS 1234689F
1.23e7
40.34
ES 1234789F
8.31e6*
41.33
4.89e6
2.45e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
1.59e4
7.96e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_003.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8931, 4023, 0618 scc: 146-499
Revised: 26-Jan-2022 08:56 (DTF) Printed: 26-Jan-2022 09:25 Page 11 of 12


OCDF
1.07e6*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.06e3
0%
Abs. Int.
2.49e5
1.25e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.04e6*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
2.43e5
1.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.12e7*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.53e3
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.27e7*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
3.11e6
1.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
5.69e3
2.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6206_18863_DF_004 **Acq'd:** 25 Jan 2022 22:08 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-43 **UTP:** 26-Jan-2022 09:14:33 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 092-057-MKV

Datafile: 220125C09 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65	E	1.0008	1.0008	0	1.98E+08	0.80	Y	1.18	1,860	4876.278	0.452
12378-PeCDD	33.95		1.0006	1.0006	0	1.70E+06	1.64	Y	1.04	20.6	4162.002	0.434
123478-HxCDD	37.84	J EMPC	1.0004	1.0003	-0.2	1.36E+05	0.90	N	1.09	1.8	6777.879	0.776
123678-HxCDD	37.96		1.0034	1.0034	0	5.96E+05	1.22	Y	1.15	6.92	6777.879	0.672
123789-HxCDD	38.24		1.0109	1.0108	-0.2	3.48E+05	1.34	Y	1.05	4.16	6777.879	0.695
1234678-HpCDD	40.87		1.0003	1.0003	0	1.60E+07	1.02	Y	1.06	225	4582.561	0.538
OCDD	43.54		1.0002	1.0003	+0.3	4.87E+08	0.91	Y	1.13	8,140	4416.758	0.724
2378-TCDF	27.80	E	1.0008	1.0008	0	8.36E+08	0.79	Y	1.08	5,540	3628.42	0.274
12378-PeCDF	32.52		1.0005	1.0005	0	1.17E+08	1.61	Y	1.02	950	7497.586	0.57
23478-PeCDF	33.63		1.0005	1.0007	+0.4	5.98E+07	1.46	Y	1.02	477	7497.586	0.493
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.29E+08	1.27	Y	1.27	1,070	7034.708	0.511
123678-HxCDF	36.99		1.0004	1.0005	+0.2	3.47E+07	1.27	Y	1.15	265	7034.708	0.488
234678-HxCDF	37.67		1.0004	1.0004	0	7.05E+06	1.29	Y	1.19	62.6	7034.708	0.626
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7034.708	0.642
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	3.48E+07	1.00	Y	1.37	281	2497.239	0.133
1234789-HpCDF	41.33		1.0003	1.0003	0	7.22E+06	0.96	Y	1.31	87.6	2497.239	0.242
OCDF	43.73		1.0002	1.0003	+0.3	1.14E+08	0.89	Y	1.07	1,670	4048.118	0.611

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0234	+0.2	1.77E+07	0.80	Y	1.05	90.4
ES 12378-PeCDD	33.93	1.2121	1.2131	+2.0	1.57E+07	1.55	Y	0.88	95.5
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.37E+07	1.24	Y	0.97	92.5
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.48E+07	1.26	Y	0.94	103
ES 123789-HxCDD	38.23	1.0025	1.0026	+0.2	1.58E+07	1.28	Y	1.09	94.6
ES 1234678-HpCDD	40.86	1.0709	1.0716	+1.7	1.33E+07	1.10	Y	0.91	95.2
ES OCDD	43.53	1.1403	1.1414	+2.9	2.10E+07	0.95	Y	0.62	110
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	2.77E+07	0.78	Y	1.06	94.9
ES 12378-PeCDF	32.50	1.2281	1.2296	+2.9	2.38E+07	1.57	Y	0.91	95
ES 23478-PeCDF	33.60	1.2698	1.2714	+3.2	2.43E+07	1.50	Y	0.88	99.9
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.88E+07	0.54	Y	1.20	103
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.25E+07	0.54	Y	1.35	109
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.87E+07	0.54	Y	1.24	98.9
ES 123789-HxCDF	38.59	1.0116	1.0119	+0.7	1.66E+07	0.56	Y	1.16	94.3
ES 1234678-HpCDF	39.93	1.0467	1.0472	+1.2	1.79E+07	0.45	Y	0.97	121
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.24E+07	0.42	Y	0.85	95.8
ES OCDF	43.71	1.1451	1.1463	+3.1	2.53E+07	0.88	Y	0.81	103

Lab ID: B6206_18863_DF_004 **Acq'd:** 25 Jan 2022 22:08 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-43 **UTP:** 26-Jan-2022 09:14:33 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 092-057-MKV

Datafile: 220125C09 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.97		-	-	-	1.87E+07	0.81	Y	-	-
JS 1234-TCDF	26.43		-	-	-	2.75E+07	0.83	Y	-	-
JS 123467-HxCDD	38.13		-	-	-	7.63E+06	1.39	Y	-	-
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	8.47E+06	n/a	-	1.20	94.1
CS 12347-PeCDD	33.43		1.1943	1.1953	+2.0	1.50E+07	1.63	Y	0.75	106
CS 12346-PeCDF	31.97		1.2083	1.2096	+2.5	2.47E+07	1.49	Y	0.85	105
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.10E+07	0.54	Y	1.12	123
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.65E+07	0.44	Y	0.89	122
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~8.47E+06~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.50E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.47E+07~~	~~1.49~~	~~Y~~	~~0.94~~	~~111~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.10E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~113~~
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.65E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~101~~

Totals	Conc	EMPC
Total TCDD	2070	2070
Total PeCDD	29.7	34.6
Total HxCDD	64.3	68.8
Total HpCDD	552	552
Total Tetra-Octa Dioxins	10900	10900
Total TCDF	10,400	10400
Total PeCDF	2,200	2200
Total HxCDF	1,670	1670
Total HpCDF	469	469
Total Tetra-Octa Furans	16,400	16400
Total Tetra-Octa Dioxins & Furans	27200	27200

Lab ID: B6206_18863_DF_004 **Acq'd: 25 Jan 2022 22:08 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-S-43 **UTP: 26-Jan-2022 09:14:33 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 092-057-MKV**

Datafile: 220125C09 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8748	-1.1	2.62E+05	0.75	Y	1.18	2.47	4876.278	0.452
1379-TCDD	NotFnd		0.8876						1.18		4876.278	0.452
1369-TCDD	NotFnd		0.9023						1.18		4876.278	0.452
1469-TCDD	26.58		0.9291	0.9284	-1.1	3.27E+05	0.81	Y	1.18	3.08	4876.278	0.452
1247/1246/1248/1249-TCDD	26.80		0.9373	0.9362	-1.8	3.16E+05	0.77	Y	1.18	2.97	4876.278	0.452
1378-TCDD	27.01		0.9440	0.9435	-0.8	5.59E+05	0.77	Y	1.18	5.26	4876.278	0.452
1268-TCDD	NotFnd		0.9506						1.18		4876.278	0.452
1478-TCDD	27.46		0.9591	0.9591	0	4.88E+05	0.82	Y	1.18	4.59	4876.278	0.452
1279-TCDD	NotFnd		0.9649						1.18		4876.278	0.452
1234/1269-TCDD	27.96		0.9771	0.9768	-0.5	1.34E+05	0.78	Y	1.18	1.26	4876.278	0.452
1236-TCDD	NotFnd		0.9820						1.18		4876.278	0.452
1237/1238-TCDD	28.36		0.9908	0.9905	-0.5	2.78E+06	0.79	Y	1.18	26.2	4876.278	0.452
1239-TCDD	NotFnd		0.9954						1.18		4876.278	0.452
2378-TCDD	**28.65**	E	**1.0008**	1.0008	**0**	1.98E+08	0.80	Y	**1.18**	**1,860**	**4876.278**	**0.452**
1278-TCDD	28.97		1.0121	1.0121	0	1.73E+07	0.78	Y	1.18	163	4876.278	0.452
1267-TCDD	NotFnd		1.0167						1.18		4876.278	0.452
1289-TCDD	29.61		1.0341	1.0343	+0.4	3.58E+05	0.75	Y	1.18	3.37	4876.278	0.452
12479/12468-PeCDD	31.45	J EMPC	0.9273	0.9268	-0.9	1.95E+05	1.27	N	1.04	2.37	4162.002	0.434
12469-PeCDD	31.99	J	0.9430	0.9427	-0.6	1.89E+05	1.65	Y	1.04	2.29	4162.002	0.434
12368-PeCDD	32.54		0.9592	0.9588	-0.8	2.08E+05	1.52	Y	1.04	2.52	4162.002	0.434
12478-PeCDD	32.73	J	0.9647	0.9646	-0.2	1.84E+05	1.68	Y	1.04	2.23	4162.002	0.434
12379-PeCDD	32.83	J EMPC	0.9676	0.9675	-0.2	8.84E+04	1.19	N	1.04	1.07	4162.002	0.434
12369/12467/12489-PeCDD	33.08	J	0.9752	0.9750	-0.4	1.70E+05	1.39	Y	1.04	2.05	4162.002	0.434
12346/12347-PeCDD	NotFnd		0.9860						1.04		4162.002	0.434
12378-PeCDD	33.95		**1.0006**	**1.0006**	**0**	**1.70E+06**	**1.64**	**Y**	**1.04**	**20.6**	**4162.002**	**0.434**
12367-PeCDD	34.05	J EMPC	1.0034	1.0036	+0.4	6.32E+04	2.31	N	1.04	0.765	4162.002	0.434
12389-PeCDD	34.38	J EMPC	1.0134	1.0132	-0.4	5.31E+04	1.90	N	1.04	0.644	4162.002	0.434
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	2.25E+06	1.25	Y	1.10	27.5	6777.879	0.711
123468-HxCDD	36.75		0.9715	0.9715	0	2.61E+05	1.09	Y	1.10	3.19	6777.879	0.711
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	1.84E+06	1.20	Y	1.10	22.5	6777.879	0.711
123469-HxCDD	37.18	J EMPC	0.9829	0.9827	-0.4	1.33E+05	1.03	N	1.10	1.63	6777.879	0.711
123478-HxCDD	37.84	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.36E+05**	**0.90**	**N**	1.09	**1.8**	**6777.879**	**0.776**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**5.96E+05**	**1.22**	**Y**	1.15	**6.92**	**6777.879**	**0.672**
123467-HxCDD	38.14	J EMPC	1.0082	1.0081	-0.2	9.15E+04	0.97	N	1.10	1.12	6777.879	0.711
123789-HxCDD	38.24		**1.0109**	**1.0108**	**-0.2**	**3.48E+05**	**1.34**	**Y**	1.05	**4.16**	**6777.879**	**0.695**

Lab ID: B6206_18863_DF_004 **Acq'd: 25 Jan 2022 22:08 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-S-43 **UTP: 26-Jan-2022 09:14:33 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 092-057-MKV**

Datafile: 220125C09 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

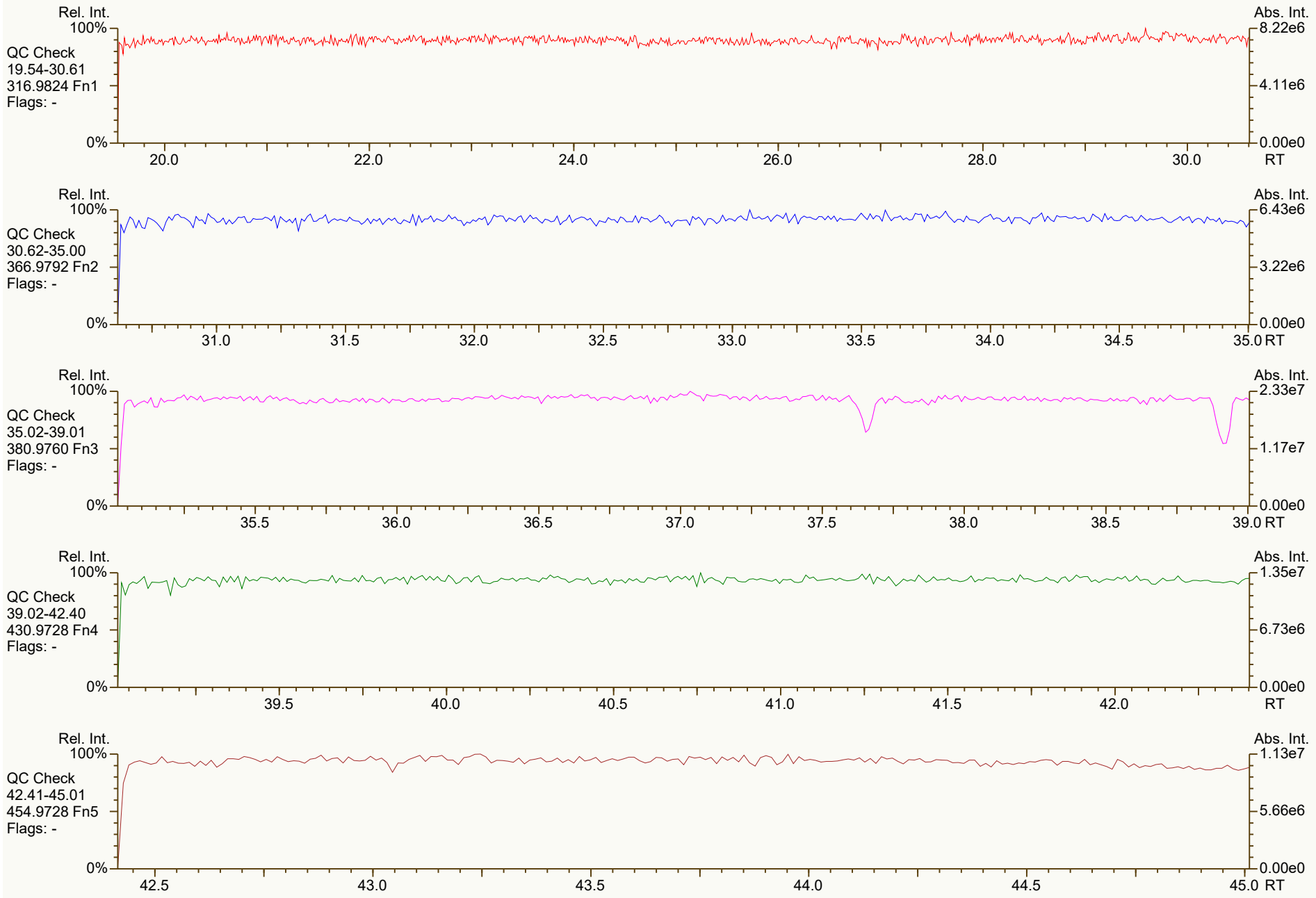
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	2.32E+07	1.02	Y	1.06	327	4582.561	0.538
1234678-HpCDD	**40.87**		**1.0003**	**1.0003**	**0**	**1.60E+07**	**1.02**	**Y**	**1.06**	**225**	**4582.561**	**0.538**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**4.87E+08**	**0.91**	**Y**	**1.13**	**8,140**	**4416.758**	**0.724**
OCDD-a	43.54		1.0002	1.0003	+0.3	2.99E+07	2.39	Y	0.07	7,820	3736.612	9.58
1368-TCDF	22.97		0.8282	0.8270	-1.7	2.61E+05	0.67	Y	1.08	1.73	3628.42	0.274
1468-TCDF	23.54	EMPC	0.8485	0.8474	-1.6	1.37E+06	0.91	N	1.08	9.08	3628.42	0.274
2468-TCDF	24.17		0.8709	0.8699	-1.4	1.12E+06	0.81	Y	1.08	7.39	3628.42	0.274
1346/1246-TCDF	NotFnd		0.8829						1.08		3628.42	0.274
1347/1378/1247-TCDF	24.68		0.8884	0.8885	+0.1	9.04E+06	0.75	Y	1.08	59.9	3628.42	0.274
1348-TCDF	NotFnd		0.8980						1.08		3628.42	0.274
1248/1367/1379-TCDF	25.01		0.9026	0.9004	-3.3	4.05E+07	0.80	Y	1.08	268	3628.42	0.274
1268-TCDF	25.43		0.9158	0.9152	-0.9	1.23E+07	0.78	Y	1.08	81.4	3628.42	0.274
1467-TCDF	25.56		0.9206	0.9200	-0.9	1.70E+06	0.80	Y	1.08	11.3	3628.42	0.274
1478-TCDF	25.73		0.9266	0.9261	-0.8	3.03E+07	0.80	Y	1.08	201	3628.42	0.274
1369/1237-TCDF	26.10		0.9397	0.9395	-0.3	7.71E+06	0.74	Y	1.08	51	3628.42	0.274
2467-TCDF	26.22		0.9440	0.9439	-0.2	8.82E+05	0.78	Y	1.08	5.84	3628.42	0.274
2368-TCDF	26.42		0.9497	0.9510	+2.1	5.76E+07	0.80	Y	1.08	381	3628.42	0.274
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3628.42	0.274
1278-TCDF	26.91	E	0.9690	0.9686	-0.6	3.58E+08	0.78	Y	1.08	2,370	3628.42	0.274
1349-TCDF	NotFnd		0.9730						1.08		3628.42	0.274
1267-TCDF	27.18		0.9787	0.9784	-0.5	1.82E+07	0.79	Y	1.08	121	3628.42	0.274
2346/1249-TCDF	27.37		0.9850	0.9853	+0.5	2.51E+06	0.75	Y	1.08	16.6	3628.42	0.274
2347/1279-TCDF	27.57		0.9929	0.9926	-0.5	8.85E+06	0.81	Y	1.08	58.6	3628.42	0.274
2348-TCDF	27.68		0.9970	0.9965	-0.8	4.92E+07	0.78	Y	1.08	326	3628.42	0.274
2378-TCDF	**27.80**	E	**1.0008**	**1.0008**	**0**	**8.36E+08**	**0.79**	**Y**	**1.08**	**5,540**	**3628.42**	**0.274**
2367/3467-TCDF	28.15		1.0136	1.0132	-0.7	6.00E+07	0.79	Y	1.08	397	3628.42	0.274
1269-TCDF	28.39		1.0221	1.0221	0	1.14E+07	0.78	Y	1.08	75.5	3628.42	0.274
1239-TCDF	28.66		1.0319	1.0316	-0.5	1.14E+06	0.75	Y	1.08	7.56	3628.42	0.274
1289-TCDF	29.79		1.0740	1.0725	-2.7	5.66E+07	0.78	Y	1.08	375	3628.42	0.274
13468/12468-PeCDF	29.73		0.9145	0.9147	+0.4	2.93E+06	1.64	Y	1.02	23.5	3382.93	0.24
13678/13467/12467-PeCDF	31.27		0.9619	0.9621	+0.4	8.33E+05	1.59	Y	1.02	6.69	7497.586	0.531
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	4.88E+07	1.51	Y	1.02	392	7497.586	0.531
14678-PeCDF	NotFnd		0.9695						1.02		7497.586	0.531
13479-PeCDF	NotFnd		0.9724						1.02		7497.586	0.531
13469/12479-PeCDF	NotFnd		0.9801						1.02		7497.586	0.531
12346-PeCDF	NotFnd		0.9842						1.02		7497.586	0.531

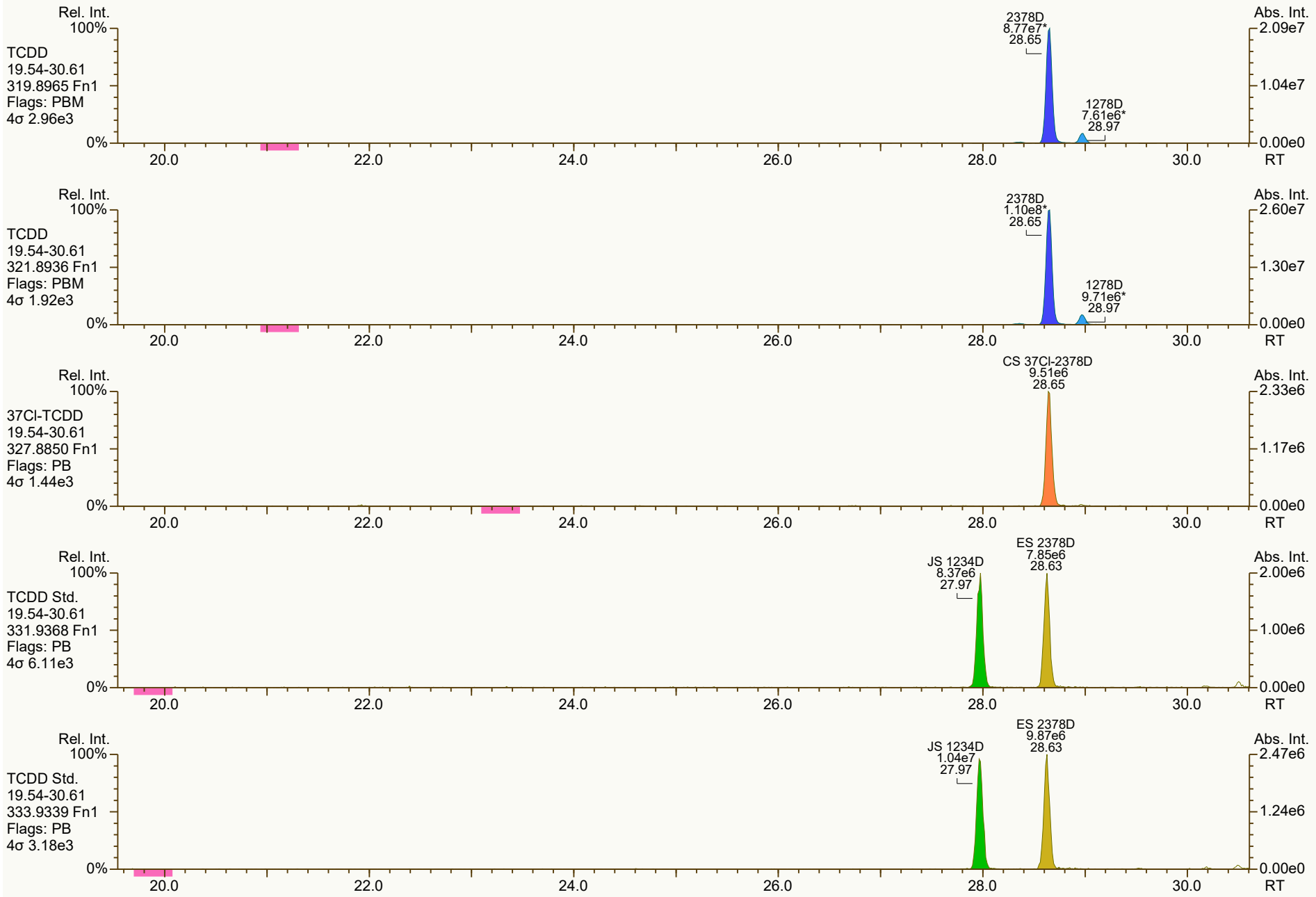
Lab ID: B6206_18863_DF_004 **Acq'd: 25 Jan 2022 22:08 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

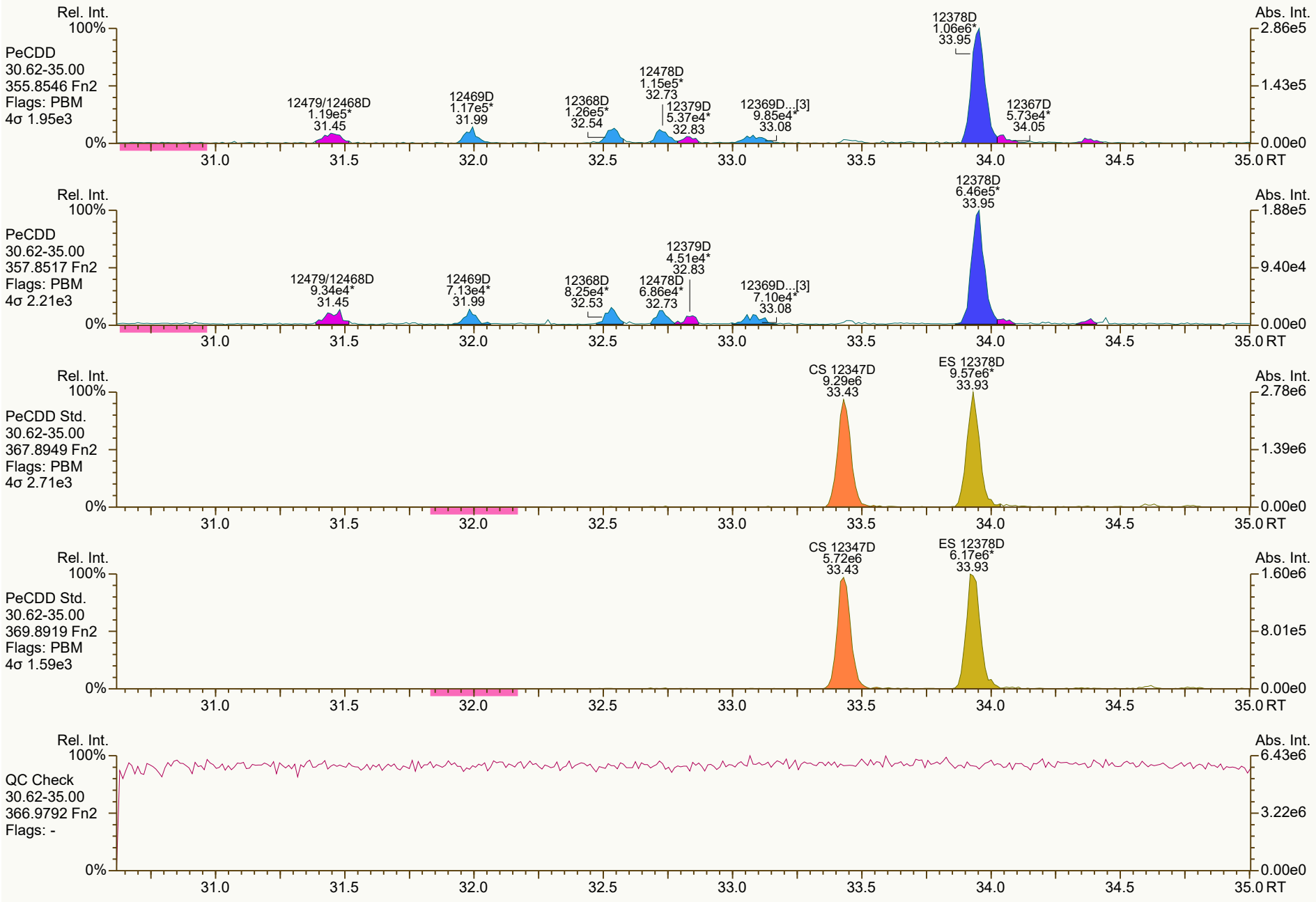
Client ID: 11215131-011922-S-BN-SW-S-43 **UTP: 26-Jan-2022 09:14:33 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 092-057-MKV**

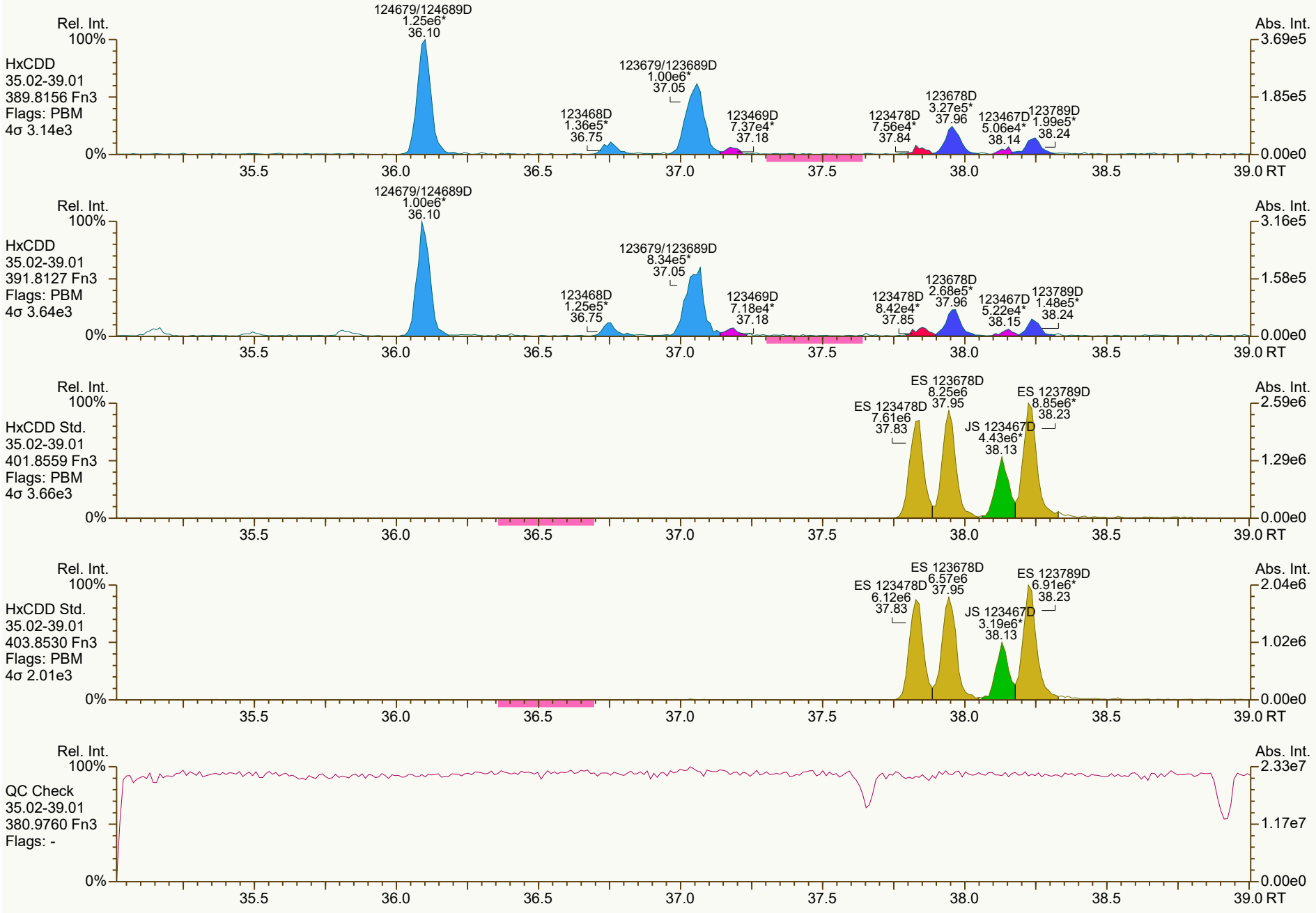
Datafile: 220125C09 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

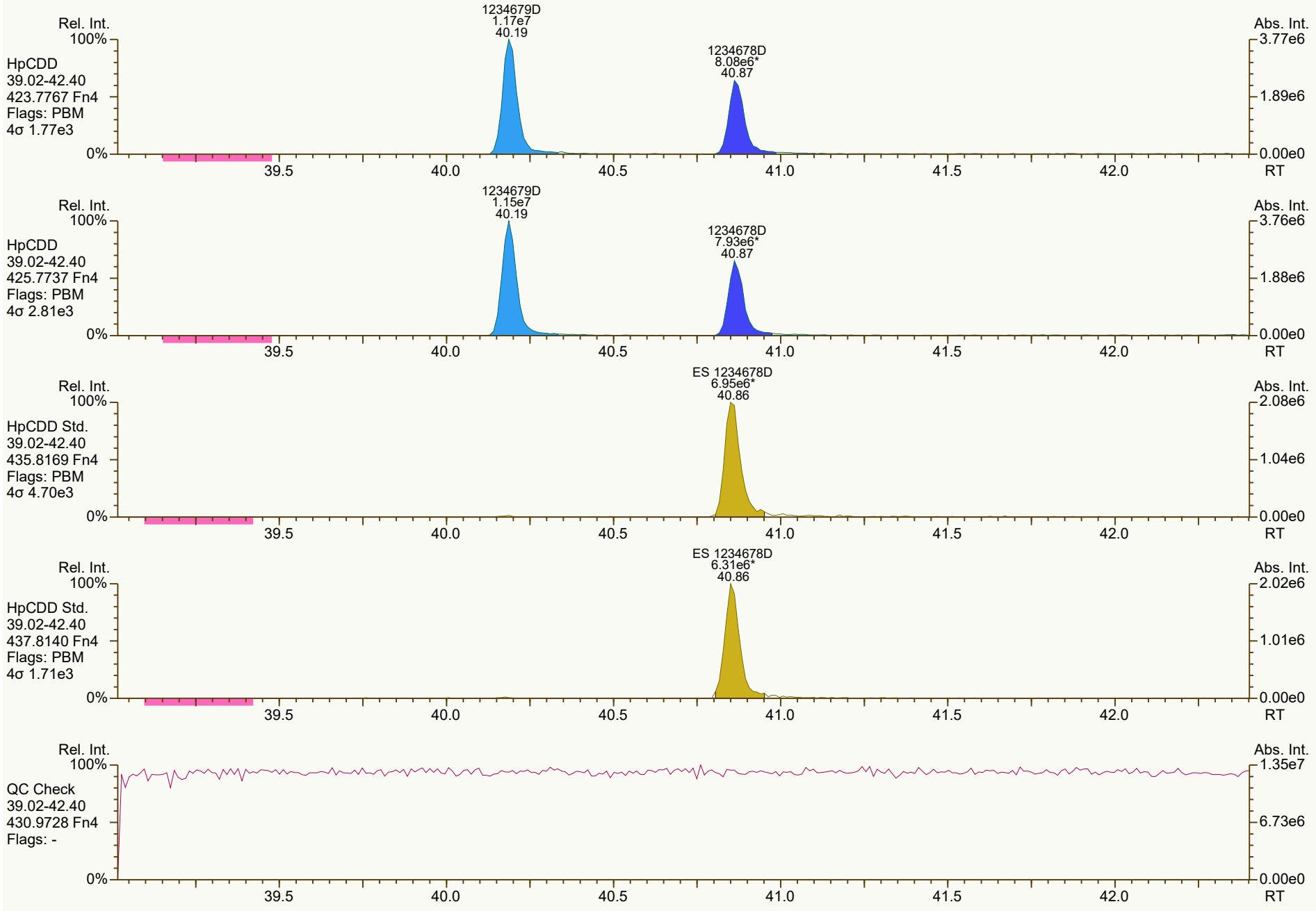
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07		0.9868	0.9868	0	8.31E+05	1.54	Y	1.02	6.68	7497.586	0.531
12347-PeCDF	32.15		0.9895	0.9891	-0.8	5.86E+05	1.59	Y	1.02	4.71	7497.586	0.531
12348-PeCDF	32.30		0.9941	0.9940	-0.2	7.78E+06	1.57	Y	1.02	62.5	7497.586	0.531
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.17E+08**	**1.61**	**Y**	**1.02**	**950**	**7497.586**	**0.57**
12678/12367-PeCDF	32.81		1.0090	1.0095	+1.0	3.13E+07	1.57	Y	1.02	252	7497.586	0.531
12379-PeCDF	NotFnd		1.0142						1.02		7497.586	0.531
12679-PeCDF	NotFnd		0.9931						1.02		7497.586	0.531
23467/12369-PeCDF	33.48		0.9966	0.9965	-0.2	5.71E+05	1.43	Y	1.02	4.59	7497.586	0.531
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**5.98E+07**	**1.46**	**Y**	**1.02**	**477**	**7497.586**	**0.493**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7497.586	0.531
12349-PeCDF	NotFnd		1.0101						1.02		7497.586	0.531
12389-PeCDF	34.69		1.0322	1.0323	+0.2	3.04E+06	1.54	Y	1.02	24.4	7497.586	0.531
123468-HxCDF	35.46		0.9627	0.9628	+0.2	1.62E+06	1.24	Y	1.19	14	7034.708	0.56
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	1.18E+07	1.28	Y	1.19	102	7034.708	0.56
134679-HxCDF	NotFnd		0.9747						1.19		7034.708	0.56
124679-HxCDF	36.08	J	0.9802	0.9798	-0.9	1.57E+05	1.11	Y	1.19	1.36	7034.708	0.56
124689-HxCDF	36.30		0.9858	0.9858	0	5.25E+06	1.21	Y	1.19	45.4	7034.708	0.56
123467-HxCDF	36.72		0.9972	0.9971	-0.2	1.06E+06	1.13	Y	1.19	9.19	7034.708	0.56
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.29E+08**	**1.27**	**Y**	**1.27**	**1,070**	**7034.708**	**0.511**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**3.47E+07**	**1.27**	**Y**	**1.15**	**265**	**7034.708**	**0.488**
123479-HxCDF	NotFnd		1.0051						1.19		7034.708	0.56
123469-HxCDF	NotFnd		1.0091						1.19		7034.708	0.56
123679-HxCDF	NotFnd		0.9943						1.19		7034.708	0.56
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**7.05E+06**	**1.29**	**Y**	**1.19**	**62.6**	**7034.708**	**0.626**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7034.708	0.56
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7034.708**	**0.642**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0011	+0.9	1.22E+07	1.24	Y	1.19	105	7034.708	0.56
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**3.48E+07**	**1.00**	**Y**	**1.37**	**281**	**2497.239**	**0.133**
1234679-HpCDF	40.20		1.0067	1.0067	0	8.42E+05	1.10	Y	1.34	8.2	2497.239	0.177
1234689-HpCDF	40.34		1.0101	1.0103	+0.5	9.48E+06	0.98	Y	1.34	92.3	2497.239	0.177
1234789-HpCDF	**41.33**		**1.0003**	**1.0003**	**0**	**7.22E+06**	**0.96**	**Y**	**1.31**	**87.6**	**2497.239**	**0.242**
OCDF	**43.73**		**1.0002**	**1.0003**	**+0.3**	**1.14E+08**	**0.89**	**Y**	**1.07**	**1,670**	**4048.118**	**0.611**
OCDF-a	43.72		1.0002	1.0003	+0.3	7.33E+06	2.47	Y	0.07	1,720	3996.992	9.74

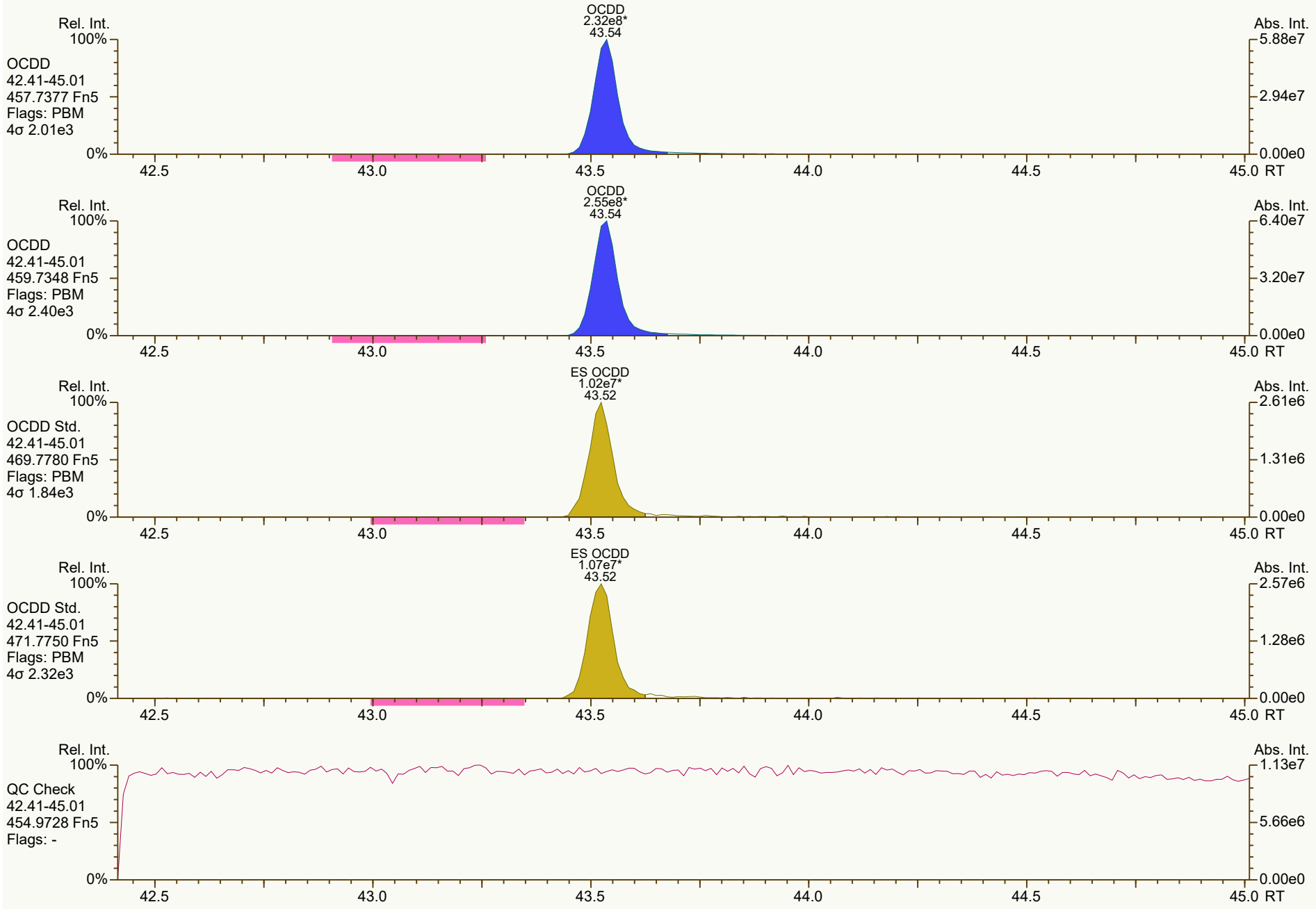

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.22e6
4.11e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.43e6
3.22e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.35e7
6.73e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.13e7
5.66e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.96e3
0%
2378D
8.77e7*
28.65
1278D
7.61e6*
28.97
Abs. Int.
2.09e7
1.04e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.92e3
0%
2378D
1.10e8*
28.65
1278D
9.71e6*
28.97
Abs. Int.
2.60e7
1.30e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.44e3
0%
CS 37Cl-2378D
9.51e6
28.65
Abs. Int.
2.33e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.11e3
0%
JS 1234D
8.37e6
27.97
ES 2378D
7.85e6
28.63
Abs. Int.
2.00e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.18e3
0%
JS 1234D
1.04e7
27.97
ES 2378D
9.87e6
28.63
Abs. Int.
2.47e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.95e3
12479/12468D
1.19e5*
31.45
12469D
1.17e5*
31.99
12368D
1.26e5*
32.54
12478D
1.15e5*
32.73
12379D
5.37e4*
32.83
12369D...[3]
9.85e4*
33.08
12378D
1.06e6*
33.95
12367D
5.73e4*
34.05
Abs. Int.
2.86e5
1.43e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 2.21e3
12479/12468D
9.34e4*
31.45
12469D
7.13e4*
31.99
12368D
8.25e4*
32.53
12379D
4.51e4*
32.83
12478D
6.86e4*
32.73
12369D...[3]
7.10e4*
33.08
12378D
6.46e5*
33.95
Abs. Int.
1.88e5
9.40e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 2.71e3
CS 12347D
9.29e6
33.43
ES 12378D
9.57e6*
33.93
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 1.59e3
CS 12347D
5.72e6
33.43
ES 12378D
6.17e6*
33.93
Abs. Int.
1.60e6
8.01e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
6.43e6
3.22e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 3.14e3
124679/124689D
1.25e6*
36.10
123679/123689D
1.00e6*
37.05
123468D
1.36e5*
36.75
123469D
7.37e4*
37.18
123478D
7.56e4*
37.84
123678D
3.27e5*
37.96
123467D
5.06e4*
38.14
123789D
1.99e5*
38.24
Abs. Int.
3.69e5
1.85e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.64e3
124679/124689D
1.00e6*
36.10
123679/123689D
8.34e5*
37.05
123468D
1.25e5*
36.75
123469D
7.18e4*
37.18
123478D
8.42e4*
37.85
123678D
2.68e5*
37.96
123467D
5.22e4*
38.15
123789D
1.48e5*
38.24
Abs. Int.
3.16e5
1.58e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 3.66e3
ES 123678D
8.25e6
37.95
ES 123478D
7.61e6
37.83
JS 123467D
4.43e6*
38.13
ES 123789D
8.85e6*
38.23
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.01e3
ES 123678D
6.57e6
37.95
ES 123478D
6.12e6
37.83
JS 123467D
3.19e6*
38.13
ES 123789D
6.91e6*
38.23
Abs. Int.
2.04e6
1.02e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.77e3
1234679D
1.17e7
40.19
1234678D
8.08e6*
40.87
Abs. Int.
3.77e6
1.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.81e3
1234679D
1.15e7
40.19
1234678D
7.93e6*
40.87
Abs. Int.
3.76e6
1.88e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 4.70e3
ES 1234678D
6.95e6*
40.86
Abs. Int.
2.08e6
1.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.71e3
ES 1234678D
6.31e6*
40.86
Abs. Int.
2.02e6
1.01e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.35e7
6.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
2.32e8*
43.54
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
5.88e7
2.94e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.55e8*
43.54
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.40e3
0%
Abs. Int.
6.40e7
3.20e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.02e7*
43.52
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
2.61e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.07e7*
43.52
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.32e3
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.13e7
5.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.81e3
0%
2378F
3.69e8*
27.80
1278F
1.57e8
26.91
2348F
2.15e7*
27.68
2367/3467F
2.64e7
28.15
1289F
2.48e7
29.79
Abs. Int.
8.59e7
4.29e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 1.81e3
0%
2378F
4.67e8*
27.80
1278F
2.02e8
26.91
2348F
2.77e7*
27.68
2367/3467F
3.36e7
28.15
1289F
3.18e7
29.79
Abs. Int.
1.11e8
5.56e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.29e3
0%
JS 1234F
1.25e7
26.43
ES 2378F
1.21e7
27.78
Abs. Int.
2.65e6
1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.50e3
0%
JS 1234F
1.51e7
26.43
ES 2378F
1.56e7
27.78
Abs. Int.
3.48e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.08e4
5.40e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

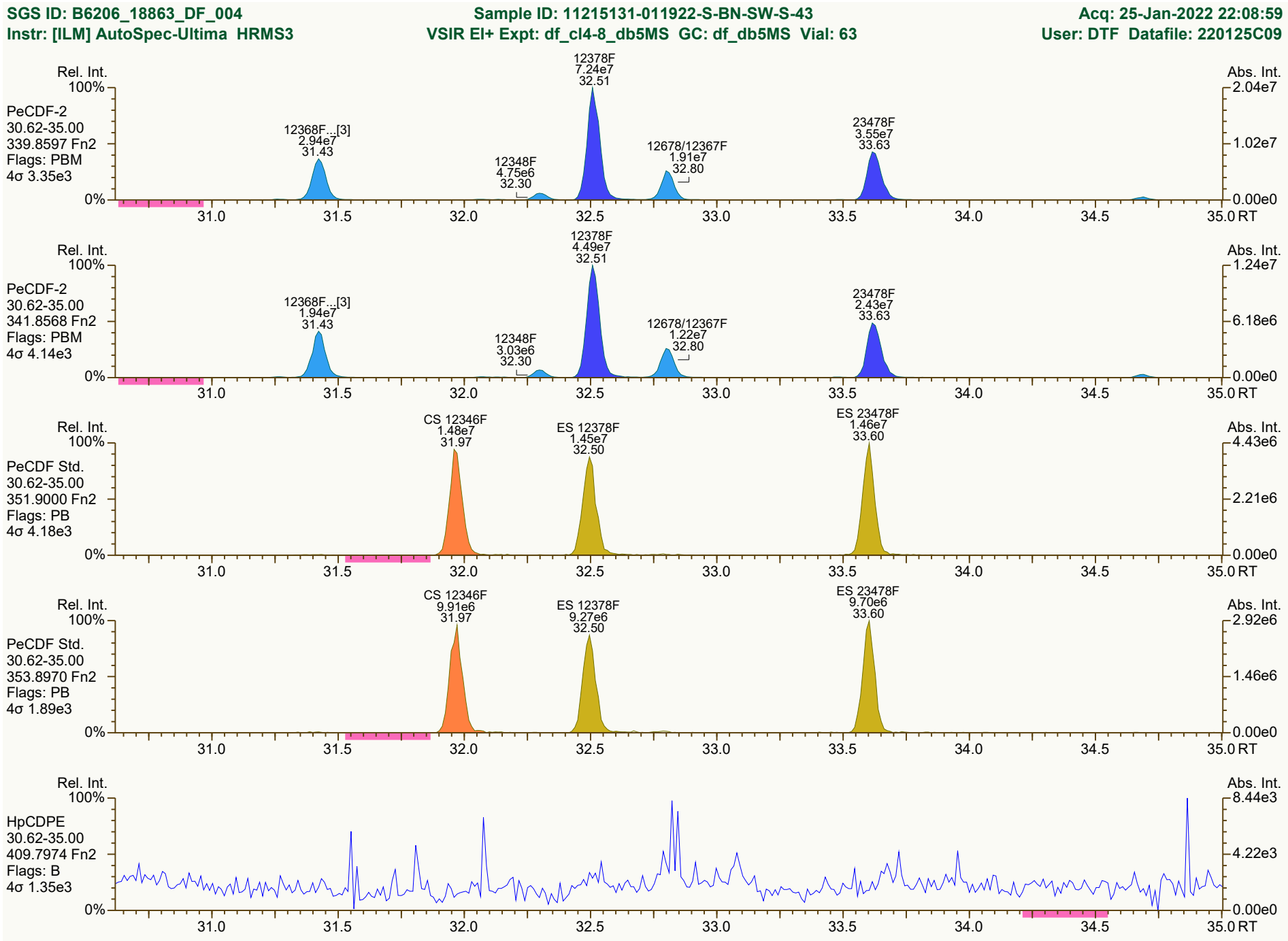
SGS ID: B6206_18863_DF_004 | Sample ID: 11215131-011922-S-BN-SW-S-43 | Acq: 25-Jan-2022 22:08:59

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63 | User: DTF Datafile: 220125C09

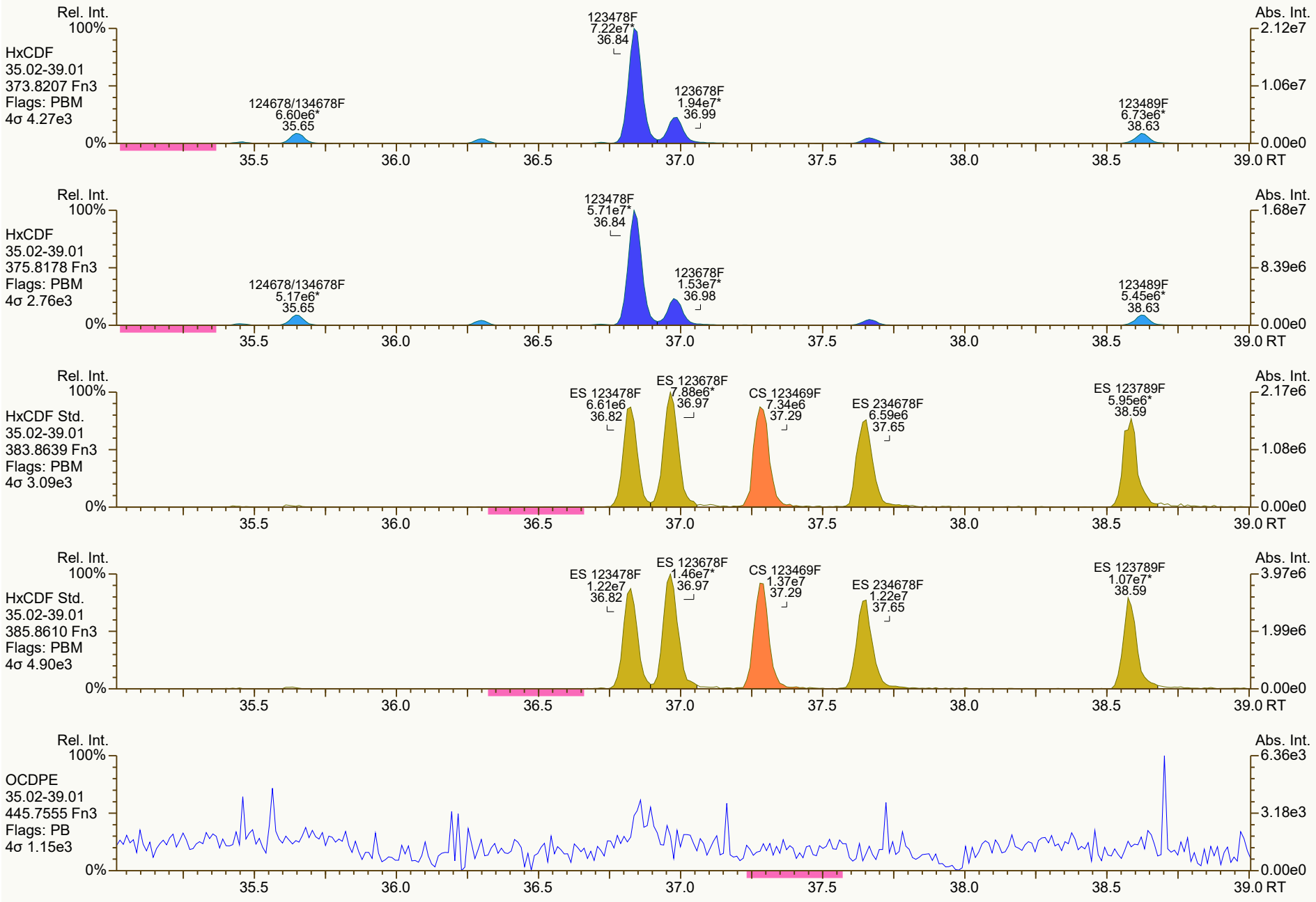


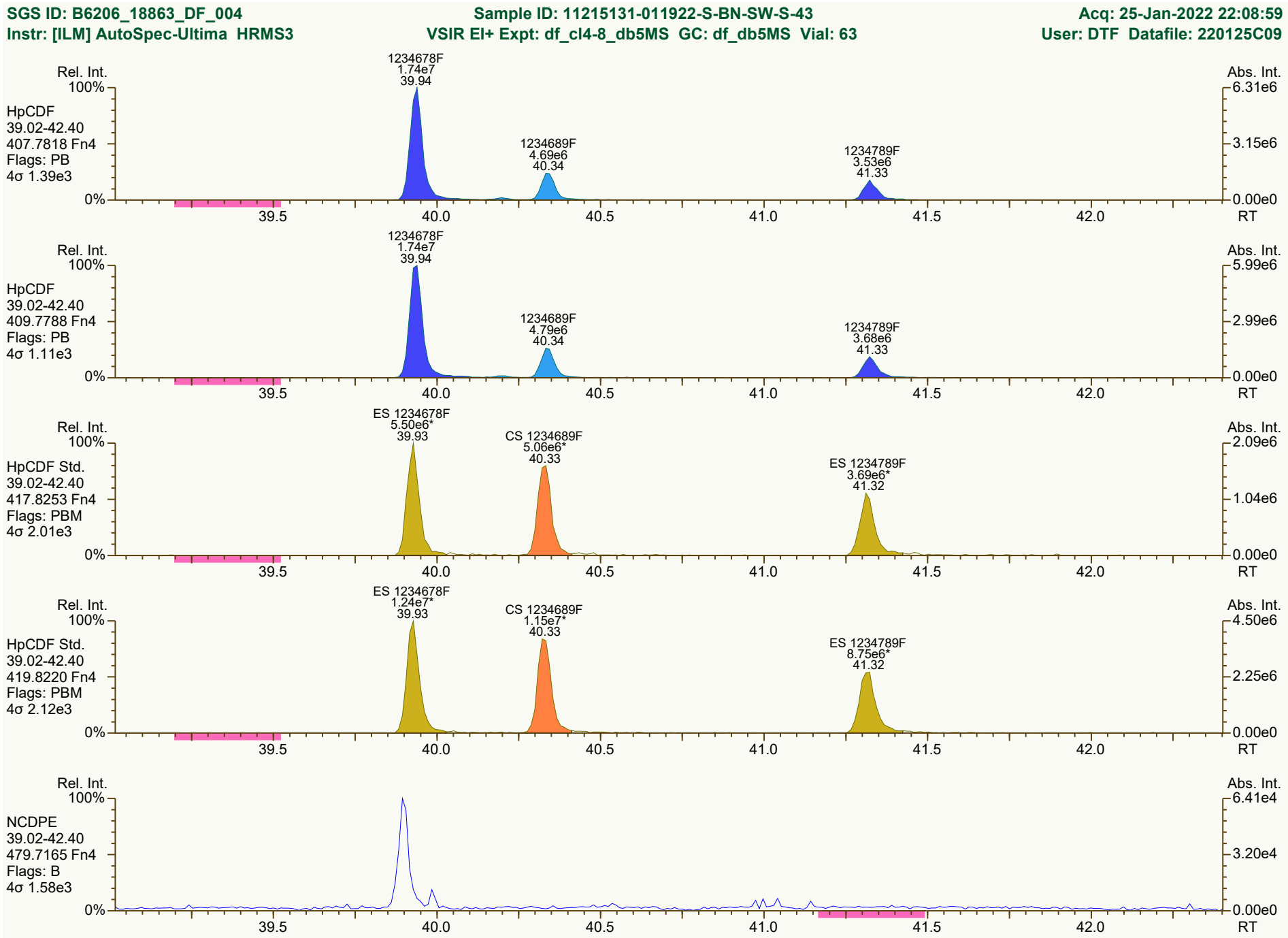
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_004.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8479 scc: 092-057 *PKD: 26-Jan-2022 08:57 Printed: 26-Jan-2022 09:26 Page 8 of 12*

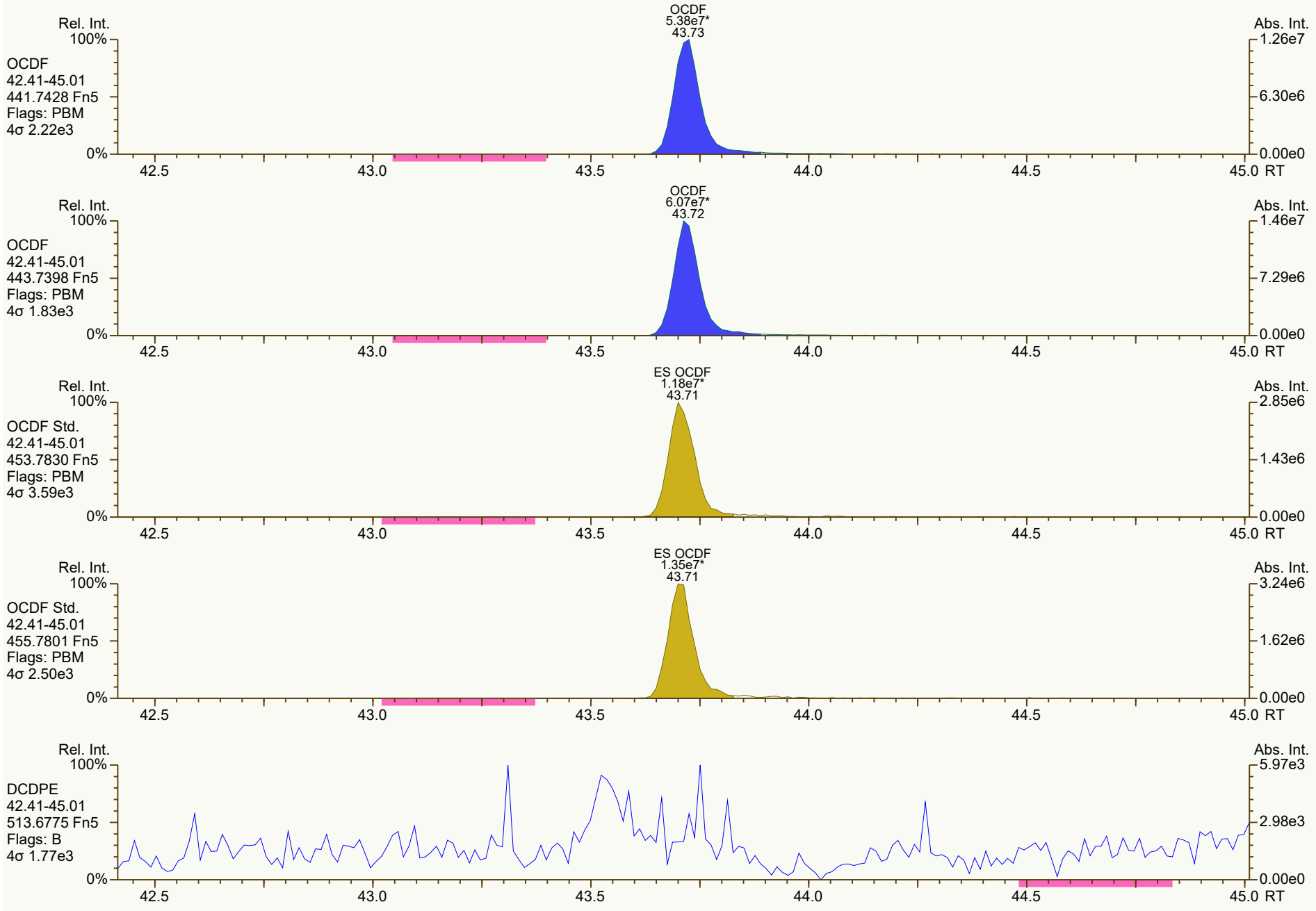


Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_004.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3562, 2998, 3161 scc: 092-057
Revised: 26-Jan-2022 09:01 (DTF) Printed: 26-Jan-2022 09:26 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 4.27e3
123478F
7.22e7*
36.84
123678F
1.94e7*
36.99
124678/134678F
6.60e6*
35.65
123489F
6.73e6*
38.63
Abs. Int.
2.12e7
1.06e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.76e3
123478F
5.71e7*
36.84
123678F
1.53e7*
36.98
124678/134678F
5.17e6*
35.65
123489F
5.45e6*
38.63
Abs. Int.
1.68e7
8.39e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.09e3
ES 123478F
6.61e6
36.82
ES 123678F
7.88e6*
36.97
CS 123469F
7.34e6
37.29
ES 234678F
6.59e6
37.65
ES 123789F
5.95e6*
38.59
Abs. Int.
2.17e6
1.08e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.90e3
ES 123478F
1.22e7
36.82
ES 123678F
1.46e7*
36.97
CS 123469F
1.37e7
37.29
ES 234678F
1.22e7
37.65
ES 123789F
1.07e7*
38.59
Abs. Int.
3.97e6
1.99e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.15e3
Abs. Int.
6.36e3
3.18e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_004.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8474, 1827, 1798 scc: 092-057
PKD: 26-Jan-2022 09:02 Printed: 26-Jan-2022 09:26 Page 11 of 12


OCDF
5.38e7*
43.73
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
1.26e7
6.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.07e7*
43.72
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.46e7
7.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.18e7*
43.71
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 3.59e3
0%
Abs. Int.
2.85e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.35e7*
43.71
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.50e3
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.77e3
0%
Abs. Int.
5.97e3
2.98e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6206_18863_DF_005 **Acq'd:** 25 Jan 2022 22:55 DTF **Wt/Vol:** 10.31 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-42 **UTP:** 26-Jan-2022 09:14:33 DTF **J-level:** 0.485 pg/g **Split:** 1 **Checkcode:** 076-945-RBV

Datafile: 220125C10 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.67	E	1.0008	1.0008	0	4.71E+08	0.80	Y	1.18	3,950	5153.543	0.461
12378-PeCDD	33.97		1.0006	1.0005	-0.2	3.64E+06	1.71	Y	1.04	38.3	4465.352	0.455
123478-HxCDD	37.85	J EMPC	1.0004	1.0003	-0.2	1.62E+05	1.46	N	1.09	1.8	4278.846	0.392
123678-HxCDD	37.97	EMPC	1.0034	1.0034	0	7.61E+05	1.51	N	1.15	7.99	4278.846	0.41
123789-HxCDD	38.26		1.0109	1.0110	+0.2	4.65E+05	1.15	Y	1.05	4.55	4278.846	0.353
1234678-HpCDD	40.88		1.0003	1.0003	0	2.68E+07	1.04	Y	1.06	322	5527.25	0.516
OCDD	43.55		1.0002	1.0003	+0.3	2.28E+08	0.90	Y	1.13	4,060	5485.089	0.986
2378-TCDF	27.82	E	1.0008	1.0007	-0.2	1.97E+09	0.79	Y	1.08	11,400	4340.166	0.271
12378-PeCDF	32.54		1.0005	1.0005	0	5.76E+07	1.54	Y	1.02	412	8661.48	0.558
23478-PeCDF	33.65		1.0005	1.0007	+0.4	4.14E+07	1.56	Y	1.02	307	8661.48	0.632
123478-HxCDF	36.85		1.0004	1.0005	+0.2	1.13E+08	1.25	Y	1.27	812	6794.589	0.441
123678-HxCDF	37.00		1.0004	1.0005	+0.2	3.05E+07	1.23	Y	1.15	206	6794.589	0.399
234678-HxCDF	37.68		1.0004	1.0004	0	4.60E+06	1.27	Y	1.19	38.4	6794.589	0.529
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6794.589	0.534
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	3.65E+07	0.98	Y	1.37	287	5321.946	0.279
1234789-HpCDF	41.34		1.0003	1.0002	-0.2	9.16E+06	0.99	Y	1.31	93.3	5321.946	0.455
OCDF	43.73		1.0002	1.0003	+0.3	6.52E+07	0.89	Y	1.07	898	5004.799	0.706

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.65	1.0233	1.0232	-0.2	1.95E+07	0.80	Y	1.05	93.9
ES 12378-PeCDD	33.95	1.2121	1.2126	+1.0	1.78E+07	1.52	Y	0.88	102
ES 123478-HxCDD	37.84	0.9921	0.9920	-0.2	1.60E+07	1.22	Y	0.97	99.6
ES 123678-HxCDD	37.96	0.9951	0.9950	-0.2	1.61E+07	1.26	Y	0.94	103
ES 123789-HxCDD	38.25	1.0025	1.0026	+0.2	1.89E+07	1.30	Y	1.09	105
ES 1234678-HpCDD	40.87	1.0709	1.0714	+1.2	1.52E+07	1.10	Y	0.91	101
ES OCDD	43.53	1.1403	1.1412	+2.4	1.93E+07	0.94	Y	0.62	93.3
ES 2378-TCDF	27.80	1.0506	1.0510	+0.7	3.12E+07	0.81	Y	1.06	99.8
ES 12378-PeCDF	32.52	1.2281	1.2295	+2.7	2.65E+07	1.46	Y	0.91	98.5
ES 23478-PeCDF	33.63	1.2698	1.2713	+3.0	2.56E+07	1.49	Y	0.88	98.2
ES 123478-HxCDF	36.84	0.9657	0.9657	0	2.12E+07	0.55	Y	1.20	107
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.50E+07	0.55	Y	1.35	112
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.96E+07	0.55	Y	1.24	95.1
ES 123789-HxCDF	38.60	1.0116	1.0118	+0.5	1.91E+07	0.55	Y	1.16	100
ES 1234678-HpCDF	39.94	1.0467	1.0471	+1.0	1.80E+07	0.43	Y	0.97	112
ES 1234789-HpCDF	41.33	1.0830	1.0836	+1.5	1.46E+07	0.44	Y	0.85	103
ES OCDF	43.72	1.1451	1.1460	+2.4	2.63E+07	0.93	Y	0.81	98.2

Lab ID: B6206_18863_DF_005 **Acq'd:** 25 Jan 2022 22:55 DTF **Wt/Vol:** 10.31 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-42 **UTP:** 26-Jan-2022 09:14:33 DTF **J-level:** 0.485 pg/g **Split:** 1 **Checkcode:** 076-945-RBV

Datafile: 220125C10 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	28.00		-	-	-	1.99E+07	0.82	Y	-	-
JS 1234-TCDF	26.45		-	-	-	2.95E+07	0.81	Y	-	-
JS 123467-HxCDD	38.15		-	-	-	8.28E+06	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.67		1.0241	1.0239	-0.3	8.70E+06	n/a	-	1.20	91
CS 12347-PeCDD	33.45		1.1943	1.1948	+1.0	1.63E+07	1.52	Y	0.75	109
CS 12346-PeCDF	31.99		1.2083	1.2096	+2.5	2.66E+07	1.49	Y	0.85	106
CS 123469-HxCDF	37.30		0.9778	0.9778	0	2.25E+07	0.51	Y	1.12	122
CS 1234689-HpCDF	40.34		1.0571	1.0576	+1.2	1.78E+07	0.45	Y	0.89	121
~~SS 37Cl-2378-TCDD~~	~~28.67~~		~~1.0241~~	~~1.0239~~	~~-0.3~~	~~8.70E+06~~	~~n/a~~		~~1.15~~	~~97.1~~
~~SS 12347-PeCDD~~	~~33.45~~		~~1.1943~~	~~1.1948~~	~~+1.0~~	~~1.63E+07~~	~~1.52~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.99~~		~~1.2083~~	~~1.2096~~	~~+2.5~~	~~2.66E+07~~	~~1.49~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.25E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.78E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	4460	4470
Total PeCDD	55.7	60
Total HxCDD	78.6	91
Total HpCDD	643	643
Total Tetra-Octa Dioxins	9300	9320
Total TCDF	21,500	21500
Total PeCDF	1,130	1130
Total HxCDF	1,240	1240
Total HpCDF	491	491
Total Tetra-Octa Furans	25,300	25300
Total Tetra-Octa Dioxins & Furans	34600	34600

Lab ID: B6206_18863_DF_005 **Acq'd:** 25 Jan 2022 22:55 DTF **Wt/Vol:** 10.31 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-42 **UTP:** 26-Jan-2022 09:14:33 DTF **J-level:** 0.485 pg/g **Split:** 1 **Checkcode:** 076-945-RBV

Datafile: 220125C10 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.07		0.8755	0.8751	-0.6	5.45E+05	0.83	Y	1.18	4.58	5153.543	0.461
1379-TCDD	25.41	EMPC	0.8876	0.8870	-0.9	2.19E+05	0.90	N	1.18	1.84	5153.543	0.461
1369-TCDD	25.86		0.9023	0.9028	+0.8	7.72E+04	0.85	Y	1.18	0.647	5153.543	0.461
1469-TCDD	26.60		0.9291	0.9287	-0.6	6.25E+05	0.77	Y	1.18	5.24	5153.543	0.461
1247/1246/1248/1249-TCDD	26.83		0.9373	0.9366	-1.1	8.52E+05	0.80	Y	1.18	7.15	5153.543	0.461
1378-TCDD	27.03		0.9440	0.9434	-1.0	1.53E+06	0.83	Y	1.18	12.8	5153.543	0.461
1268-TCDD	NotFnd		0.9506						1.18		5153.543	0.461
1478-TCDD	27.48		0.9591	0.9591	0	1.37E+06	0.76	Y	1.18	11.5	5153.543	0.461
1279-TCDD	NotFnd		0.9649						1.18		5153.543	0.461
1234/1269-TCDD	27.99		0.9771	0.9771	0	3.32E+05	0.82	Y	1.18	2.78	5153.543	0.461
1236-TCDD	NotFnd		0.9820						1.18		5153.543	0.461
1237/1238-TCDD	28.38		0.9908	0.9908	0	7.72E+06	0.80	Y	1.18	64.7	5153.543	0.461
1239-TCDD	NotFnd		0.9954						1.18		5153.543	0.461
2378-TCDD	**28.67**	E	**1.0008**	1.0008	**0**	4.71E+08	0.80	Y	**1.18**	**3,950**	**5153.543**	**0.461**
1278-TCDD	29.00		1.0121	1.0122	+0.2	4.61E+07	0.81	Y	1.18	387	5153.543	0.461
1267-TCDD	29.14		1.0167	1.0173	+1.0	1.55E+06	0.78	Y	1.18	13	5153.543	0.461
1289-TCDD	29.65		1.0341	1.0349	+1.4	8.77E+05	0.79	Y	1.18	7.36	5153.543	0.461
12479/12468-PeCDD	31.48		0.9273	0.9272	-0.2	3.59E+05	1.59	Y	1.04	3.79	4465.352	0.455
12469-PeCDD	32.02		0.9430	0.9430	0	2.90E+05	1.42	Y	1.04	3.05	4465.352	0.455
12368-PeCDD	32.56		0.9592	0.9590	-0.4	4.09E+05	1.55	Y	1.04	4.31	4465.352	0.455
12478-PeCDD	32.76	J EMPC	0.9647	0.9648	+0.2	2.18E+05	1.98	N	1.04	2.3	4465.352	0.455
12379-PeCDD	32.85	J	0.9676	0.9677	+0.2	1.48E+05	1.60	Y	1.04	1.56	4465.352	0.455
12369/12467/12489-PeCDD	33.11		0.9752	0.9752	0	2.37E+05	1.53	Y	1.04	2.49	4465.352	0.455
12346/12347-PeCDD	33.48	J EMPC	0.9860	0.9860	0	1.18E+05	1.17	N	1.04	1.25	4465.352	0.455
12378-PeCDD	33.97		**1.0006**	**1.0005**	**-0.2**	**3.64E+06**	**1.71**	**Y**	**1.04**	**38.3**	**4465.352**	**0.455**
12367-PeCDD	34.06	J	1.0034	1.0033	-0.2	2.05E+05	1.58	Y	1.04	2.16	4465.352	0.455
12389-PeCDD	34.40	J EMPC	1.0134	1.0133	-0.2	7.61E+04	0.92	N	1.04	0.802	4465.352	0.455
124679/124689-HxCDD	36.11		0.9545	0.9543	-0.4	3.60E+06	1.33	Y	1.10	37.5	4278.846	0.383
123468-HxCDD	36.76		0.9715	0.9715	0	3.56E+05	1.31	Y	1.10	3.71	4278.846	0.383
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	3.15E+06	1.32	Y	1.10	32.8	4278.846	0.383
123469-HxCDD	37.20	J EMPC	0.9829	0.9829	0	1.47E+05	1.64	N	1.10	1.53	4278.846	0.383
123478-HxCDD	37.85	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.62E+05**	**1.46**	**N**	1.09	**1.8**	**4278.846**	**0.392**
123678-HxCDD	37.97	EMPC	**1.0034**	**1.0034**	**0**	**7.61E+05**	**1.51**	**N**	1.15	**7.99**	**4278.846**	**0.41**
123467-HxCDD	38.16	J EMPC	1.0082	1.0085	+0.7	1.05E+05	1.97	N	1.10	1.09	4278.846	0.383
123789-HxCDD	38.26		**1.0109**	**1.0110**	**+0.2**	**4.65E+05**	**1.15**	**Y**	1.05	**4.55**	**4278.846**	**0.353**

Lab ID: B6206_18863_DF_005 **Acq'd:** 25 Jan 2022 22:55 DTF **Wt/Vol:** 10.31 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-S-42 **UTP:** 26-Jan-2022 09:14:33 DTF **J-level:** 0.485 pg/g **Split:** 1 **Checkcode:** 076-945-RBV

Datafile: 220125C10 **Report:** 26 Jan 2022 09:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

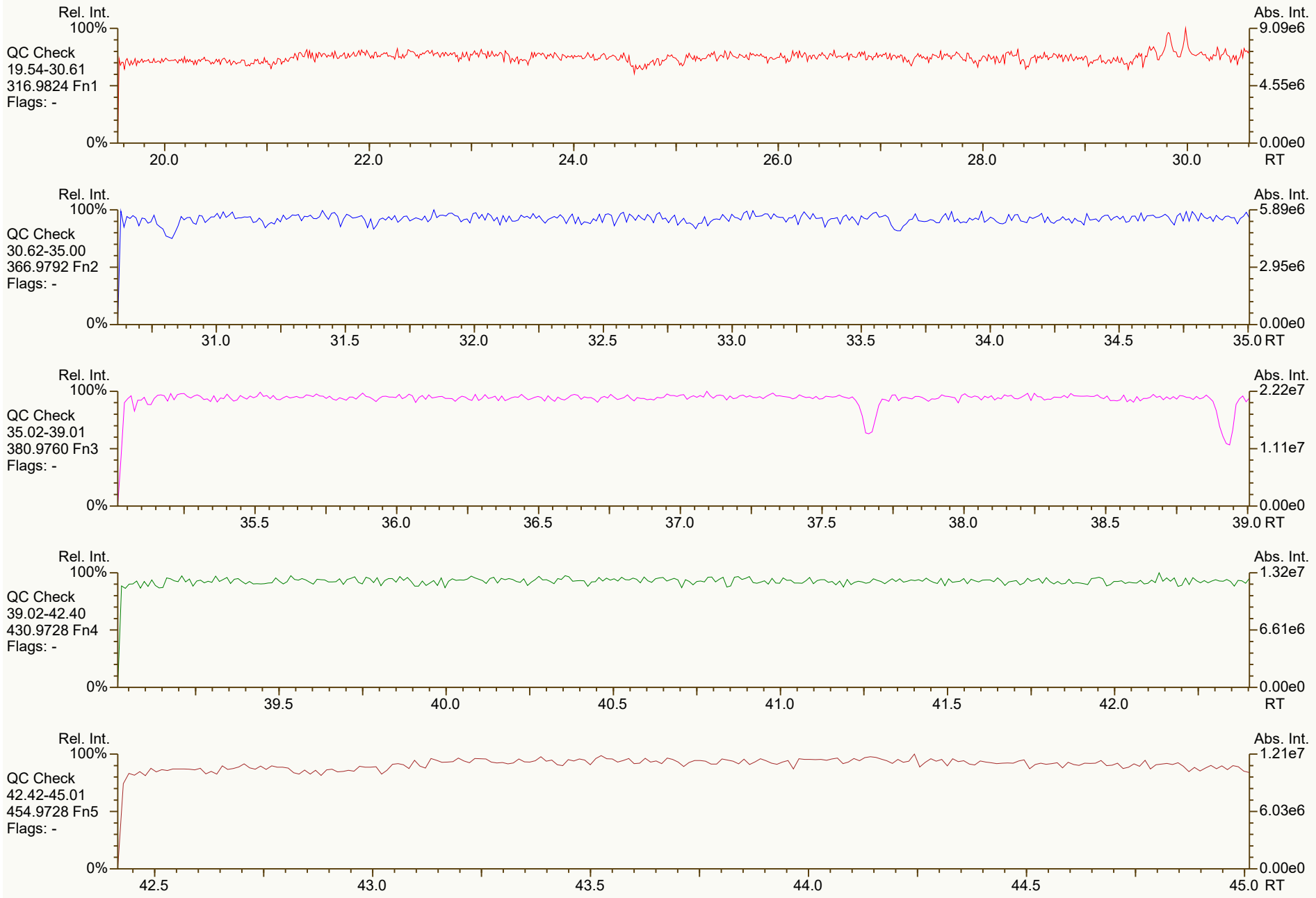
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9836	-0.5	2.67E+07	1.02	Y	1.06	321	5527.25	0.516
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**2.68E+07**	**1.04**	**Y**	**1.06**	**322**	**5527.25**	**0.516**
OCDD	**43.55**		**1.0002**	**1.0003**	**+0.3**	**2.28E+08**	**0.90**	**Y**	**1.13**	**4,060**	**5485.089**	**0.986**
OCDD-a	43.54		1.0002	1.0001	-0.3	1.38E+07	2.42	Y	0.07	3,860	7149.844	20.1
1368-TCDF	22.99		0.8282	0.8269	-1.8	4.82E+05	0.88	Y	1.08	2.78	4340.166	0.271
1468-TCDF	23.57		0.8485	0.8478	-1.0	2.65E+06	0.87	Y	1.08	15.2	4340.166	0.271
2468-TCDF	24.19		0.8709	0.8703	-0.9	1.96E+06	0.81	Y	1.08	11.3	4340.166	0.271
1346/1246-TCDF	NotFnd		0.8829						1.08		4340.166	0.271
1347/1378/1247-TCDF	24.72		0.8884	0.8892	+1.2	1.78E+07	0.80	Y	1.08	102	4340.166	0.271
1348-TCDF	NotFnd		0.8980						1.08		4340.166	0.271
1248/1367/1379-TCDF	25.05		0.9026	0.9010	-2.4	7.50E+07	0.78	Y	1.08	432	4340.166	0.271
1268-TCDF	25.45		0.9158	0.9155	-0.5	2.71E+07	0.80	Y	1.08	156	4340.166	0.271
1467-TCDF	25.58		0.9206	0.9203	-0.5	3.86E+06	0.78	Y	1.08	22.2	4340.166	0.271
1478-TCDF	25.75		0.9266	0.9263	-0.5	6.88E+07	0.80	Y	1.08	396	4340.166	0.271
1369/1237-TCDF	26.13		0.9397	0.9398	+0.2	1.93E+07	0.79	Y	1.08	111	4340.166	0.271
2467-TCDF	26.24		0.9440	0.9439	-0.2	1.92E+06	0.86	Y	1.08	11	4340.166	0.271
2368-TCDF	26.44		0.9497	0.9510	+2.1	1.37E+08	0.79	Y	1.08	792	4340.166	0.271
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4340.166	0.271
1278-TCDF	26.93	E	0.9690	0.9686	-0.6	8.92E+08	0.78	Y	1.08	5,140	4340.166	0.271
1349-TCDF	NotFnd		0.9730						1.08		4340.166	0.271
1267-TCDF	27.20		0.9787	0.9784	-0.5	4.42E+07	0.81	Y	1.08	255	4340.166	0.271
2346/1249-TCDF	27.39		0.9850	0.9851	+0.2	5.27E+06	0.82	Y	1.08	30.4	4340.166	0.271
2347/1279-TCDF	27.60		0.9929	0.9927	-0.3	2.29E+07	0.79	Y	1.08	132	4340.166	0.271
2348-TCDF	27.70		0.9970	0.9964	-1.0	1.12E+08	0.79	Y	1.08	646	4340.166	0.271
2378-TCDF	**27.82**	E	**1.0008**	**1.0007**	**-0.2**	**1.97E+09**	**0.79**	**Y**	**1.08**	**11,400**	**4340.166**	**0.271**
2367/3467-TCDF	28.17		1.0136	1.0134	-0.3	1.48E+08	0.81	Y	1.08	850	4340.166	0.271
1269-TCDF	28.42		1.0221	1.0224	+0.5	2.73E+07	0.80	Y	1.08	157	4340.166	0.271
1239-TCDF	28.67		1.0319	1.0314	-0.9	2.15E+06	0.80	Y	1.08	12.4	4340.166	0.271
1289-TCDF	29.82		1.0740	1.0728	-2.1	1.48E+08	0.79	Y	1.08	854	4340.166	0.271
13468/12468-PeCDF	29.76		0.9145	0.9150	+0.9	2.24E+06	1.66	Y	1.02	16.3	4079.9214	0.28
13678/13467/12467-PeCDF	31.29		0.9619	0.9623	+0.8	7.82E+05	1.45	Y	1.02	5.7	8661.48	0.594
12368/13478/12478-PeCDF	31.45		0.9665	0.9672	+1.3	2.54E+07	1.55	Y	1.02	185	8661.48	0.594
14678-PeCDF	NotFnd		0.9695						1.02		8661.48	0.594
13479-PeCDF	NotFnd		0.9724						1.02		8661.48	0.594
13469/12479-PeCDF	NotFnd		0.9801						1.02		8661.48	0.594
12346-PeCDF	NotFnd		0.9842						1.02		8661.48	0.594

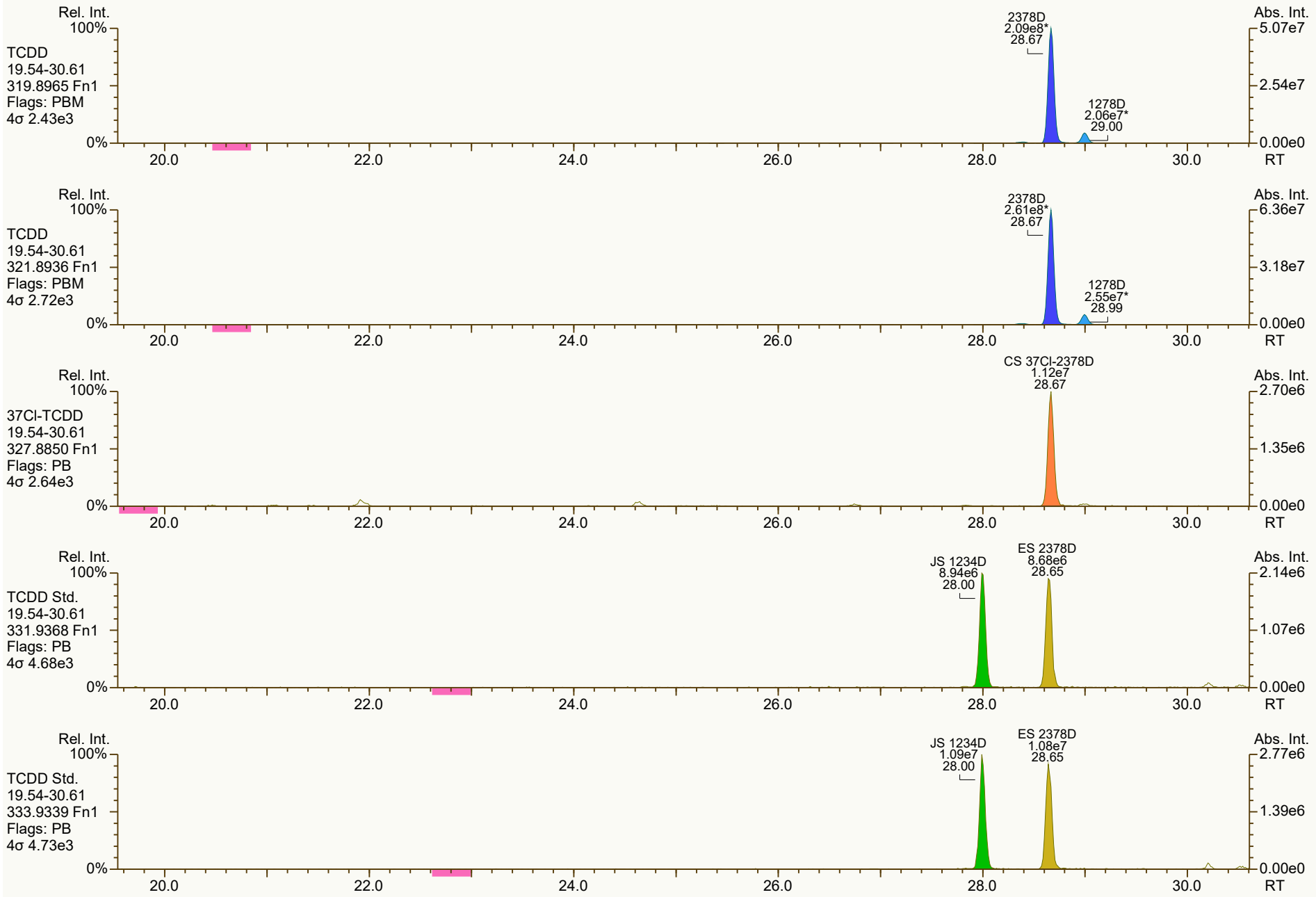
Lab ID: B6206_18863_DF_005 **Acq'd: 25 Jan 2022 22:55 DTF** **Wt/Vol: 10.31 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

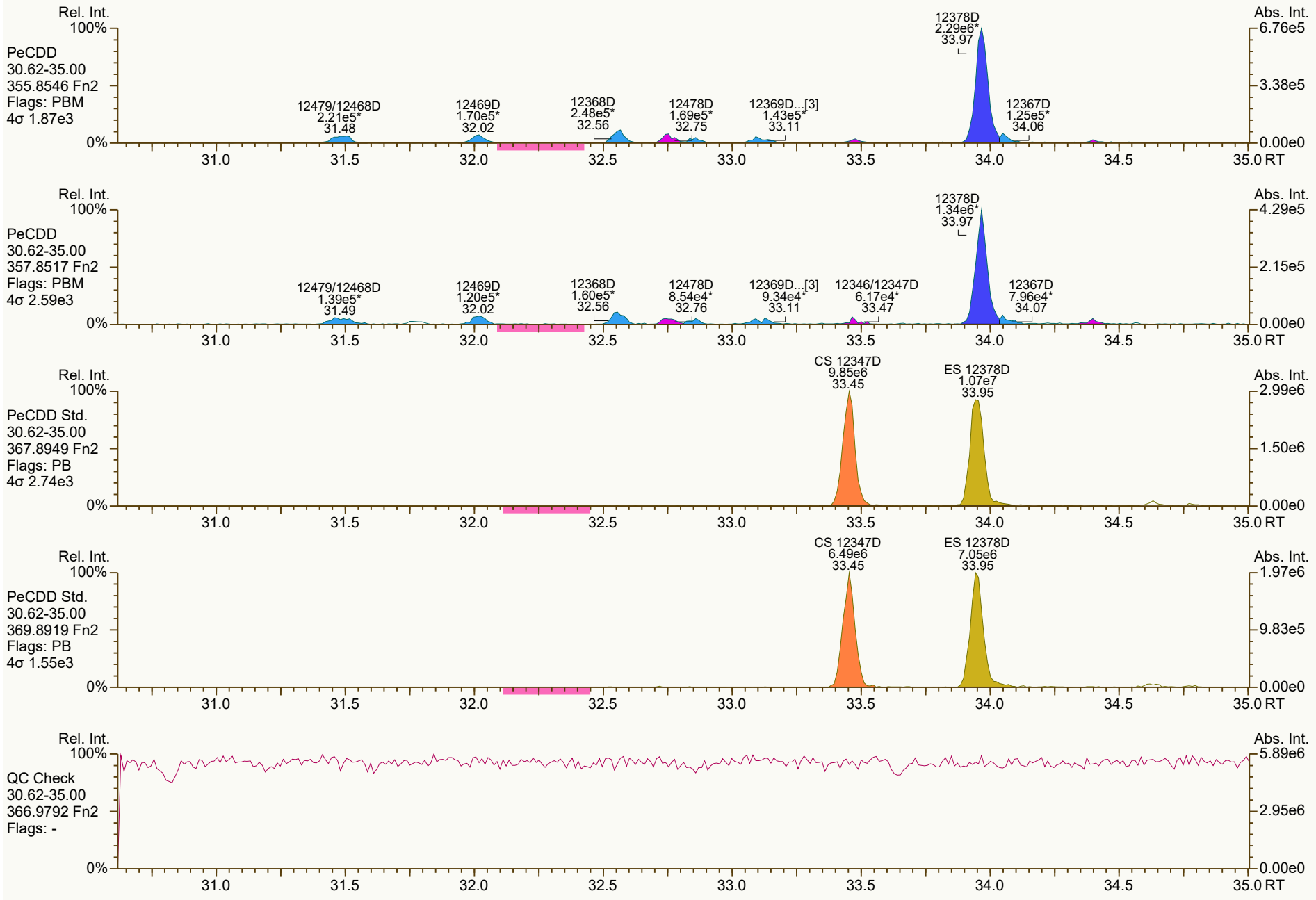
Client ID: 11215131-011922-S-BN-SW-S-42 **UTP: 26-Jan-2022 09:14:33 DTF** **J-level: 0.485 pg/g** **Split: 1** **Checkcode: 076-945-RBV**

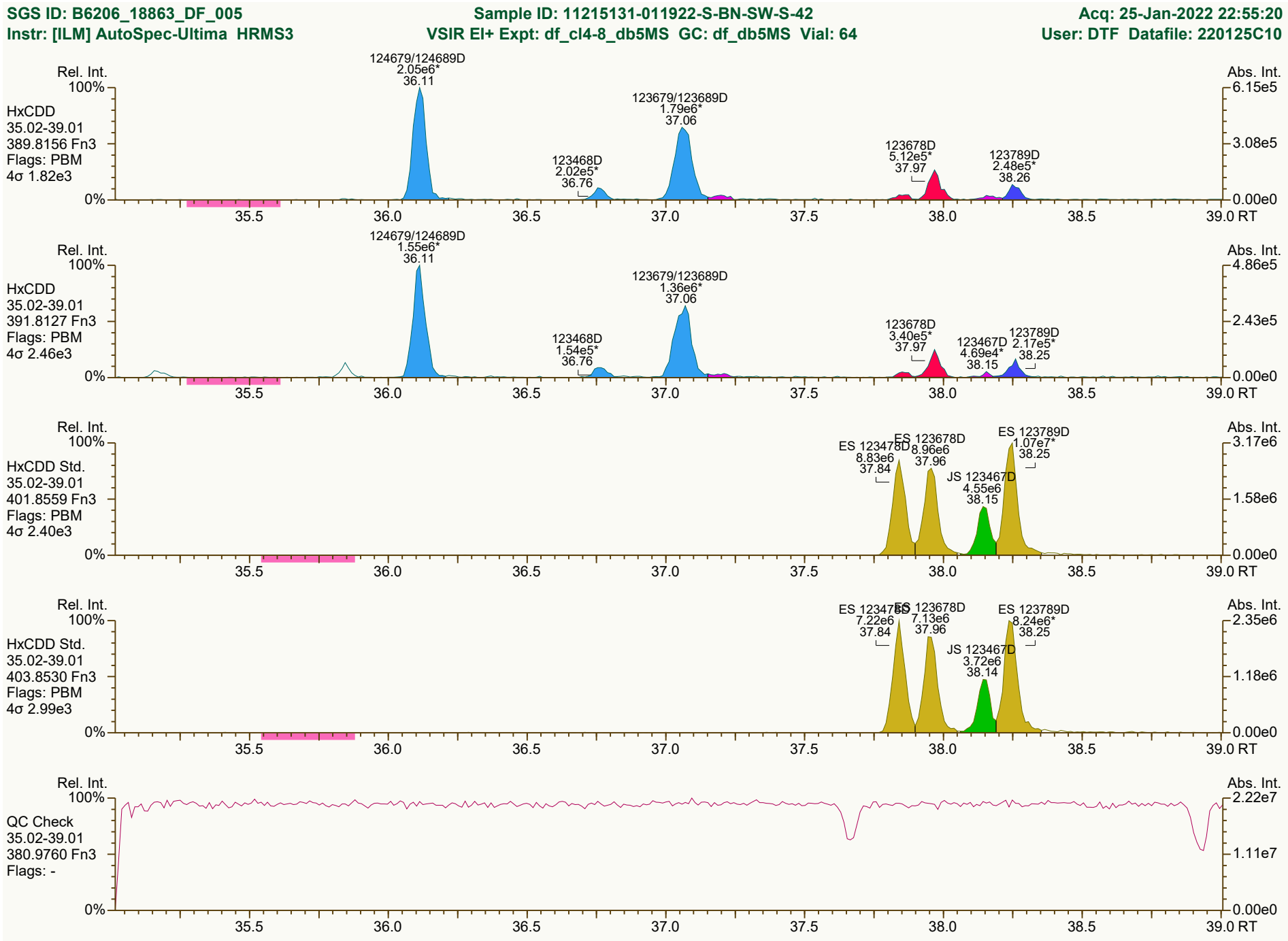
Datafile: 220125C10 **Report: 26 Jan 2022 09:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

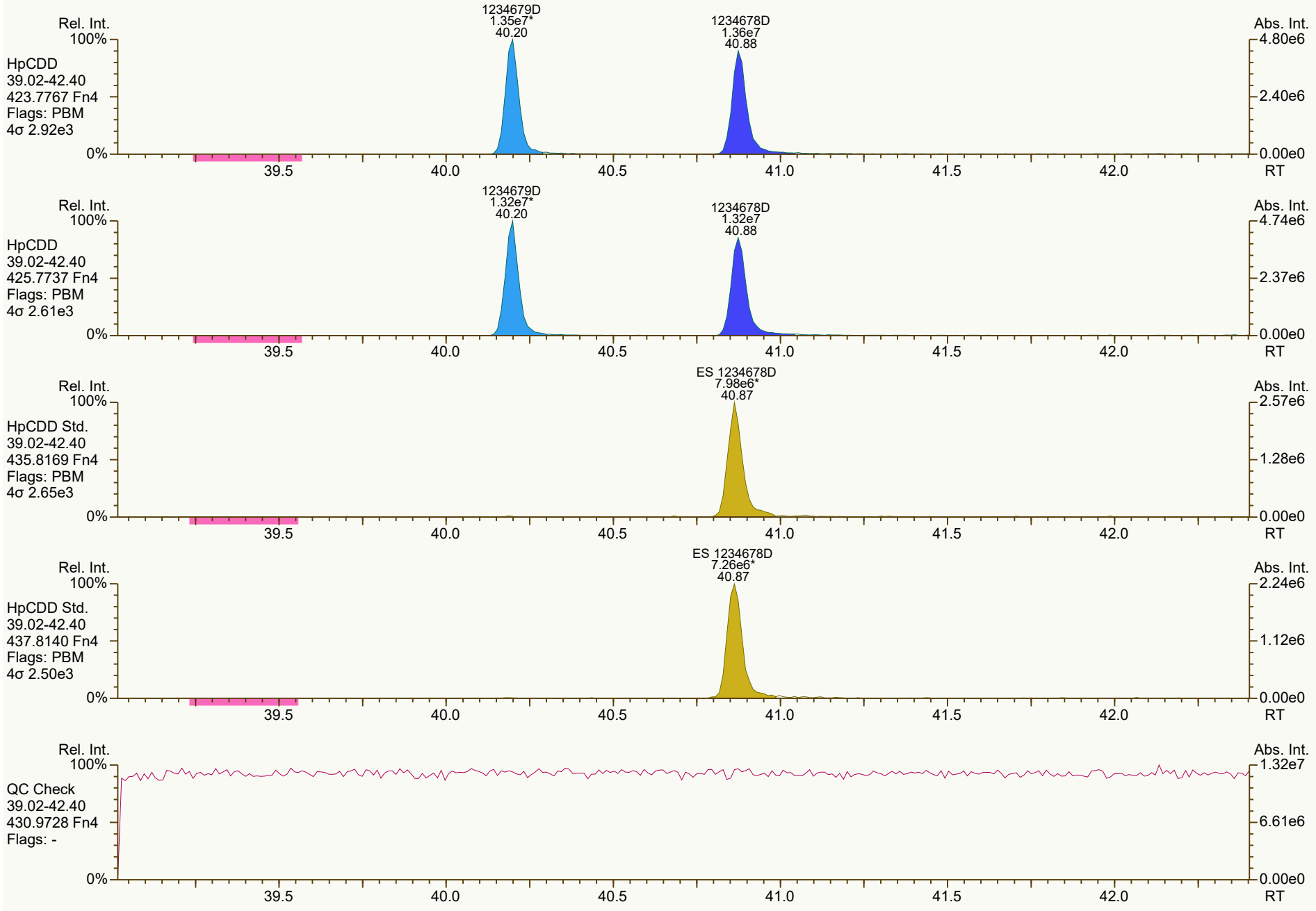
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08		0.9868	0.9866	-0.4	1.34E+06	1.41	Y	1.02	9.79	8661.48	0.594
12347-PeCDF	32.17		0.9895	0.9893	-0.4	1.12E+06	1.50	Y	1.02	8.19	8661.48	0.594
12348-PeCDF	32.33		0.9941	0.9941	0	5.27E+06	1.53	Y	1.02	38.4	8661.48	0.594
12378-PeCDF	**32.54**		**1.0005**	**1.0005**	**0**	**5.76E+07**	**1.54**	**Y**	**1.02**	**412**	**8661.48**	**0.558**
12678/12367-PeCDF	32.83		1.0090	1.0095	+1.0	1.72E+07	1.50	Y	1.02	125	8661.48	0.594
12379-PeCDF	NotFnd		1.0142						1.02		8661.48	0.594
12679-PeCDF	33.38	J	0.9931	0.9927	-0.8	1.70E+05	1.70	Y	1.02	1.24	8661.48	0.594
23467/12369-PeCDF	33.50		0.9966	0.9964	-0.4	8.20E+05	1.46	Y	1.02	5.97	8661.48	0.594
23478-PeCDF	**33.65**		**1.0005**	**1.0007**	**+0.4**	**4.14E+07**	**1.56**	**Y**	**1.02**	**307**	**8661.48**	**0.632**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8661.48	0.594
12349-PeCDF	NotFnd		1.0101						1.02		8661.48	0.594
12389-PeCDF	34.70		1.0322	1.0321	-0.2	2.35E+06	1.52	Y	1.02	17.1	8661.48	0.594
123468-HxCDF	35.47		0.9627	0.9630	+0.6	1.27E+06	1.26	Y	1.19	9.76	6794.589	0.469
124678/134678-HxCDF	35.67		0.9684	0.9684	0	9.46E+06	1.24	Y	1.19	72.4	6794.589	0.469
134679-HxCDF	NotFnd		0.9747						1.19		6794.589	0.469
124679-HxCDF	36.09	J	0.9802	0.9798	-0.9	1.63E+05	1.13	Y	1.19	1.25	6794.589	0.469
124689-HxCDF	36.32		0.9858	0.9859	+0.2	5.22E+06	1.31	Y	1.19	40	6794.589	0.469
123467-HxCDF	36.73		0.9972	0.9971	-0.2	6.25E+05	1.32	Y	1.19	4.78	6794.589	0.469
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**1.13E+08**	**1.25**	**Y**	**1.27**	**812**	**6794.589**	**0.441**
123678-HxCDF	**37.00**		**1.0004**	**1.0005**	**+0.2**	**3.05E+07**	**1.23**	**Y**	**1.15**	**206**	**6794.589**	**0.399**
123479-HxCDF	NotFnd		1.0051						1.19		6794.589	0.469
123469-HxCDF	NotFnd		1.0091						1.19		6794.589	0.469
123679-HxCDF	NotFnd		0.9943						1.19		6794.589	0.469
234678-HxCDF	**37.68**		**1.0004**	**1.0004**	**0**	**4.60E+06**	**1.27**	**Y**	**1.19**	**38.4**	**6794.589**	**0.529**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6794.589	0.469
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6794.589**	**0.534**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.64		1.0007	1.0010	+0.7	7.69E+06	1.25	Y	1.19	58.8	6794.589	0.469
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**3.65E+07**	**0.98**	**Y**	**1.37**	**287**	**5321.946**	**0.279**
1234679-HpCDF	40.20		1.0067	1.0066	-0.2	6.85E+05	1.01	Y	1.34	6.1	5321.946	0.356
1234689-HpCDF	40.35		1.0101	1.0102	+0.2	1.17E+07	1.03	Y	1.34	104	5321.946	0.356
1234789-HpCDF	**41.34**		**1.0003**	**1.0002**	**-0.2**	**9.16E+06**	**0.99**	**Y**	**1.31**	**93.3**	**5321.946**	**0.455**
OCDF	**43.73**		**1.0002**	**1.0003**	**+0.3**	**6.52E+07**	**0.89**	**Y**	**1.07**	**898**	**5004.799**	**0.706**
OCDF-a	43.72		1.0002	1.0001	-0.3	4.52E+06	2.75	Y	0.07	1,010	3715.941	8.47

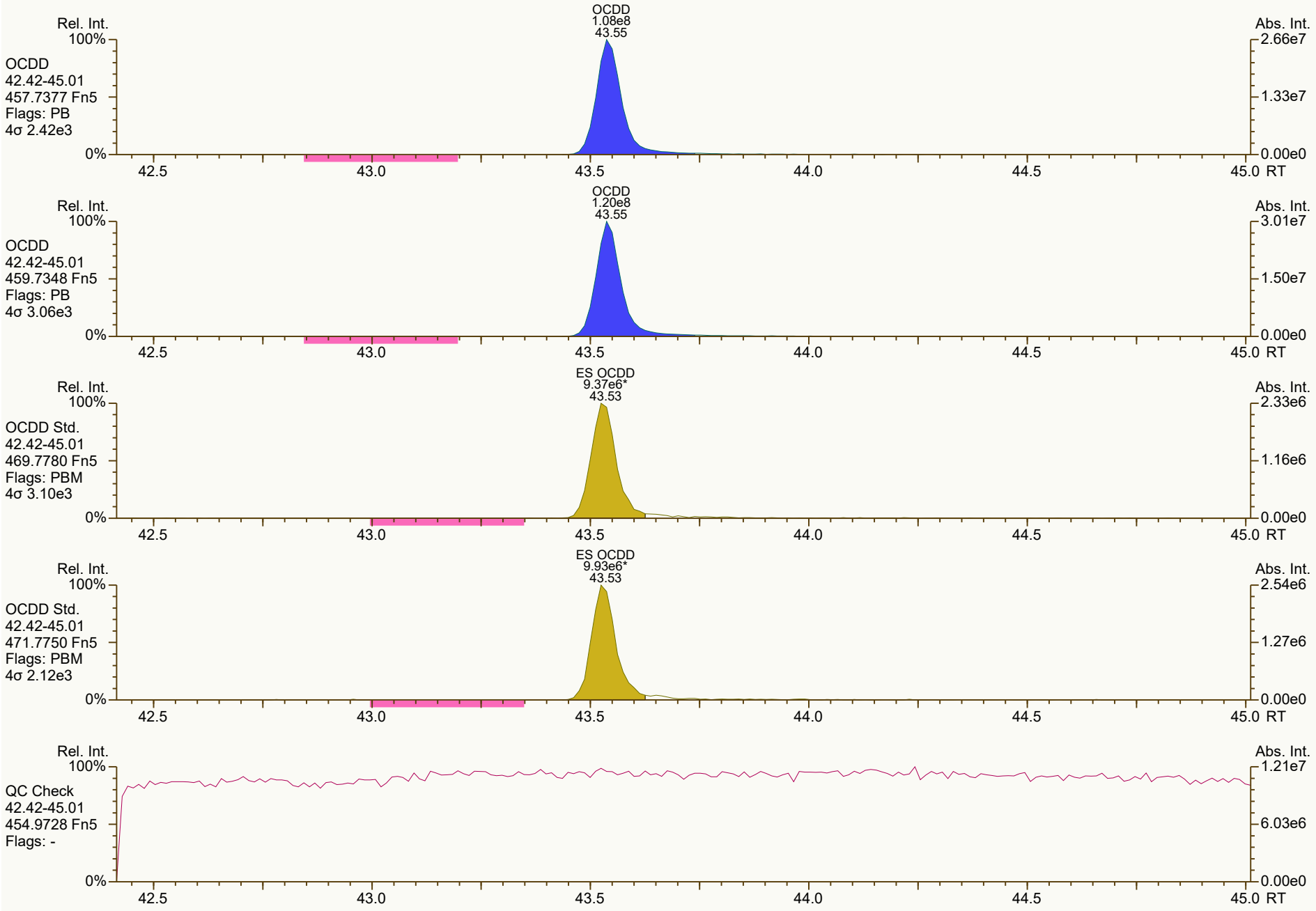

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.09e6
4.55e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.89e6
2.95e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.22e7
1.11e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.32e7
6.61e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.03e6
0.00e0

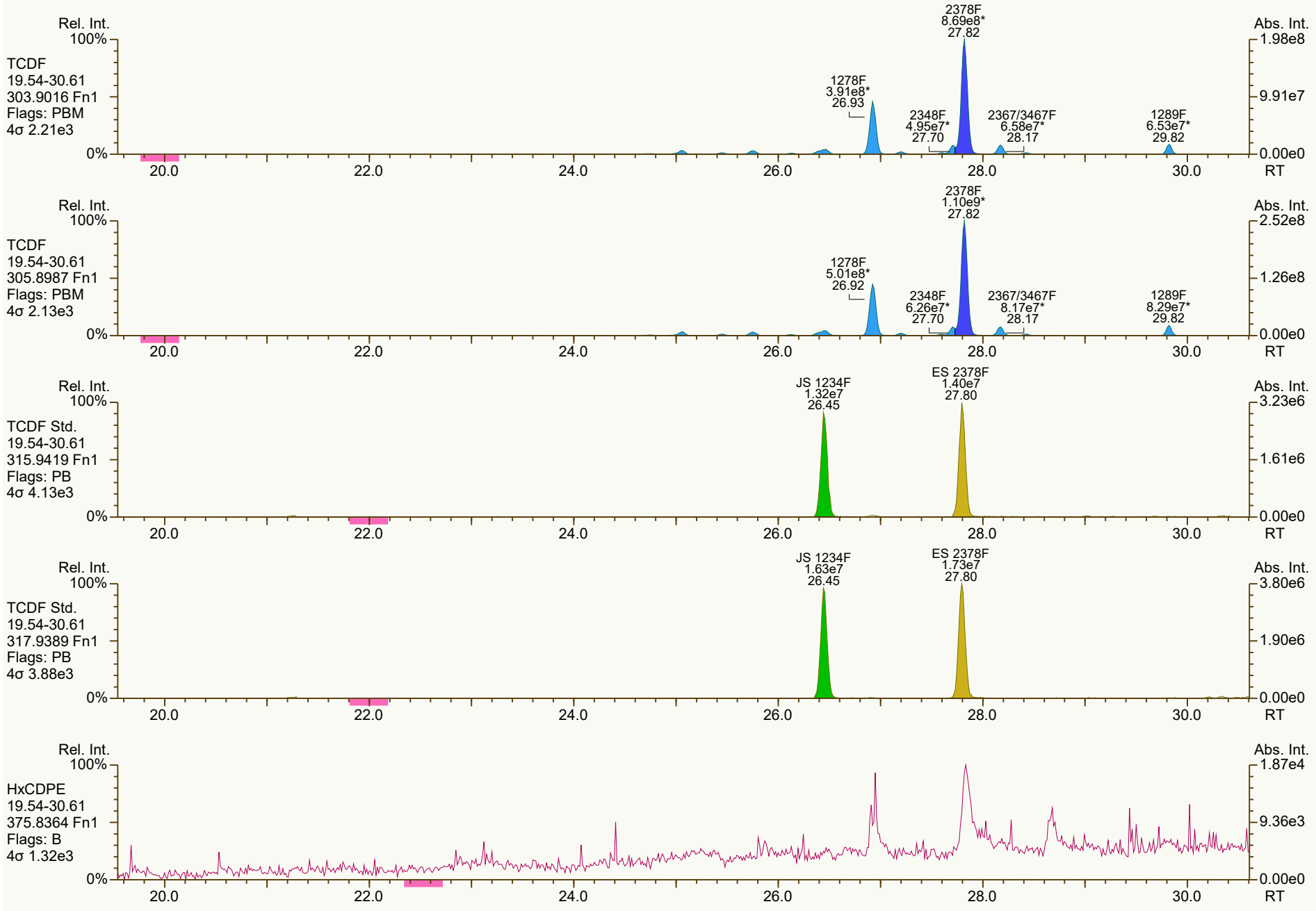

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.43e3
0%
2378D
2.09e8*
28.67
1278D
2.06e7*
29.00
Abs. Int.
5.07e7
2.54e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.72e3
0%
2378D
2.61e8*
28.67
1278D
2.55e7*
28.99
Abs. Int.
6.36e7
3.18e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 2.64e3
0%
CS 37Cl-2378D
1.12e7
28.67
Abs. Int.
2.70e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.68e3
0%
JS 1234D
8.94e6
28.00
ES 2378D
8.68e6
28.65
Abs. Int.
2.14e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.73e3
0%
JS 1234D
1.09e7
28.00
ES 2378D
1.08e7
28.65
Abs. Int.
2.77e6
1.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.87e3
12479/12468D
2.21e5*
31.48
12469D
1.70e5*
32.02
12368D
2.48e5*
32.56
12478D
1.69e5*
32.75
12369D...[3]
1.43e5*
33.11
12378D
2.29e6*
33.97
12367D
1.25e5*
34.06
0%
Abs. Int.
6.76e5
3.38e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 2.59e3
12479/12468D
1.39e5*
31.49
12469D
1.20e5*
32.02
12368D
1.60e5*
32.56
12478D
8.54e4*
32.76
12369D...[3]
9.34e4*
33.11
12346/12347D
6.17e4*
33.47
12378D
1.34e6*
33.97
12367D
7.96e4*
34.07
0%
Abs. Int.
4.29e5
2.15e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.74e3
CS 12347D
9.85e6
33.45
ES 12378D
1.07e7
33.95
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.55e3
CS 12347D
6.49e6
33.45
ES 12378D
7.05e6
33.95
0%
Abs. Int.
1.97e6
9.83e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.89e6
2.95e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: B6206_18863_DF_005
Sample ID: 11215131-011922-S-BN-SW-S-42
Acq: 25-Jan-2022 22:55:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: DTF Datafile: 220125C10
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.82e3
124679/124689D
2.05e6*
36.11
123679/123689D
1.79e6*
37.06
123468D
2.02e5*
36.76
123678D
5.12e5*
37.97
123789D
2.48e5*
38.26
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.46e3
124679/124689D
1.55e6*
36.11
123679/123689D
1.36e6*
37.06
123468D
1.54e5*
36.76
123678D
3.40e5*
37.97
123467D
4.69e4*
38.15
123789D
2.17e5*
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.40e3
ES 123478D
8.83e6
37.84
ES 123678D
8.96e6
37.96
JS 123467D
4.55e6
38.15
ES 123789D
1.07e7*
38.25
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.99e3
ES 123678D
7.13e6
37.96
JS 123467D
3.72e6
38.14
ES 123789D
8.24e6*
38.25
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
6.15e5
3.08e5
0.00e0
4.86e5
2.43e5
3.17e6
1.58e6
2.35e6
1.18e6
2.22e7
1.11e7


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.92e3
1234679D
1.35e7*
40.20
1234678D
1.36e7
40.88
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 2.61e3
1234679D
1.32e7*
40.20
1234678D
1.32e7
40.88
Abs. Int.
4.74e6
2.37e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.65e3
ES 1234678D
7.98e6*
40.87
Abs. Int.
2.57e6
1.28e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678D
7.26e6*
40.87
Abs. Int.
2.24e6
1.12e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.61e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.08e8
43.55
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.42e3
0%
Abs. Int.
2.66e7
1.33e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.20e8
43.55
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 3.06e3
3.01e7
1.50e7
ES OCDD
9.37e6*
43.53
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 3.10e3
2.33e6
1.16e6
ES OCDD
9.93e6*
43.53
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.12e3
2.54e6
1.27e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.21e7
6.03e6


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.21e3
0%
2378F
8.69e8*
27.82
1278F
3.91e8*
26.93
2348F
4.95e7*
27.70
2367/3467F
6.58e7*
28.17
1289F
6.53e7*
29.82
Abs. Int.
1.98e8
9.91e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.13e3
0%
2378F
1.10e9*
27.82
1278F
5.01e8*
26.92
2348F
6.26e7*
27.70
2367/3467F
8.17e7*
28.17
1289F
8.29e7*
29.82
Abs. Int.
2.52e8
1.26e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 4.13e3
0%
JS 1234F
1.32e7
26.45
ES 2378F
1.40e7
27.80
Abs. Int.
3.23e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.88e3
0%
JS 1234F
1.63e7
26.45
ES 2378F
1.73e7
27.80
Abs. Int.
3.80e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.32e3
0%
Abs. Int.
1.87e4
9.36e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6206_18863_DF_005 | Sample ID: 11215131-011922-S-BN-SW-S-42 | Acq: 25-Jan-2022 22:55:20

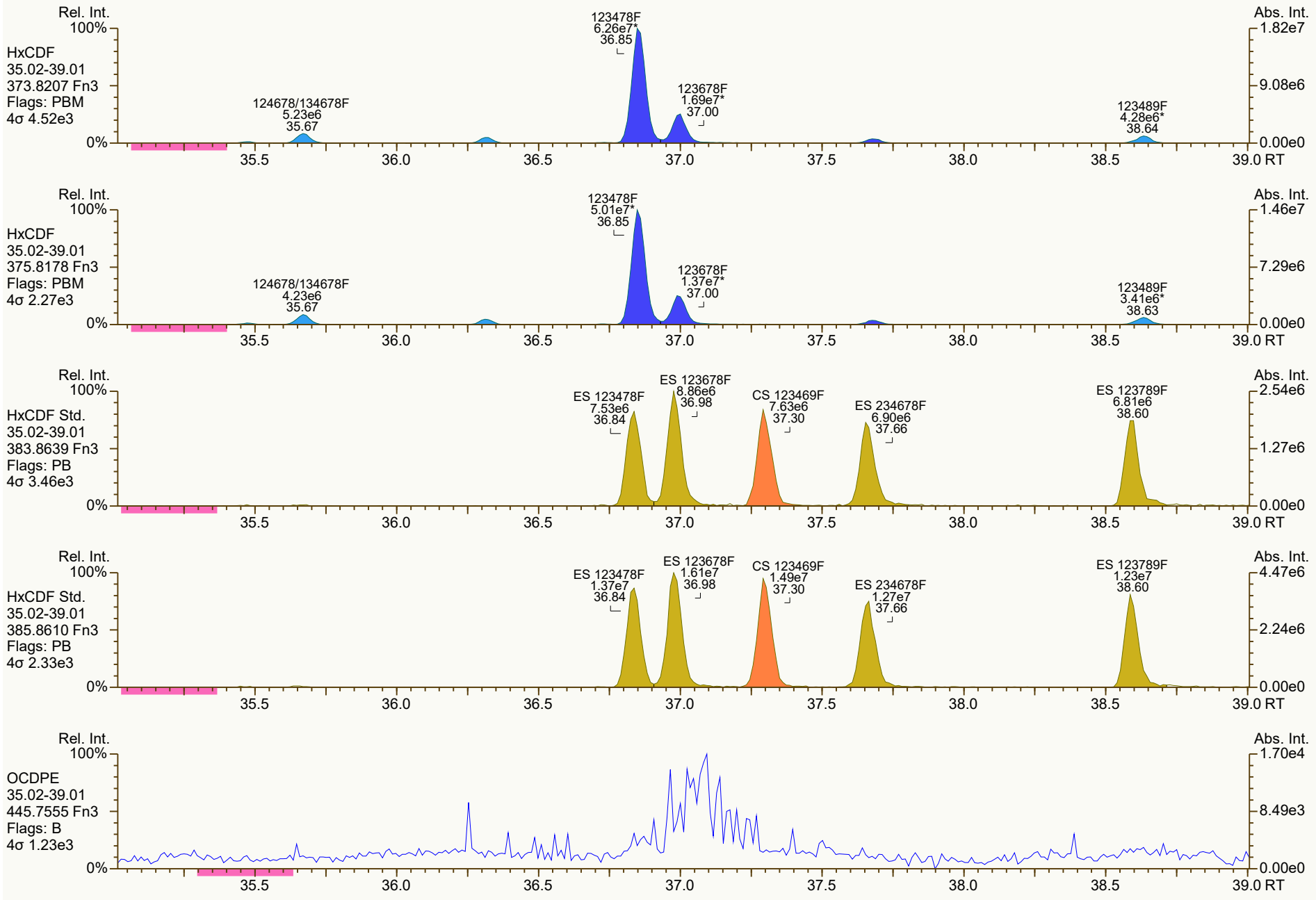
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64 | User: DTF Datafile: 220125C10

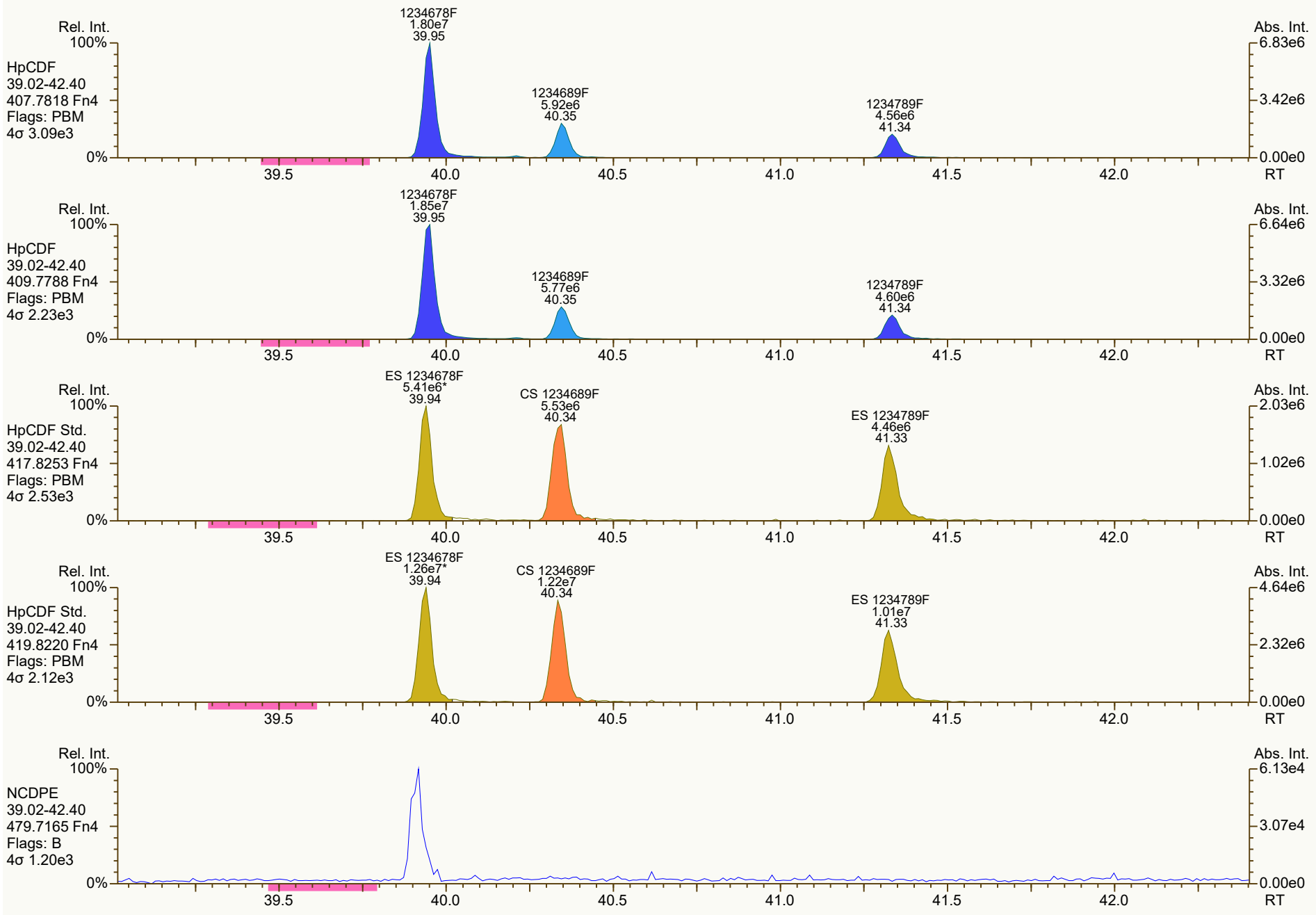


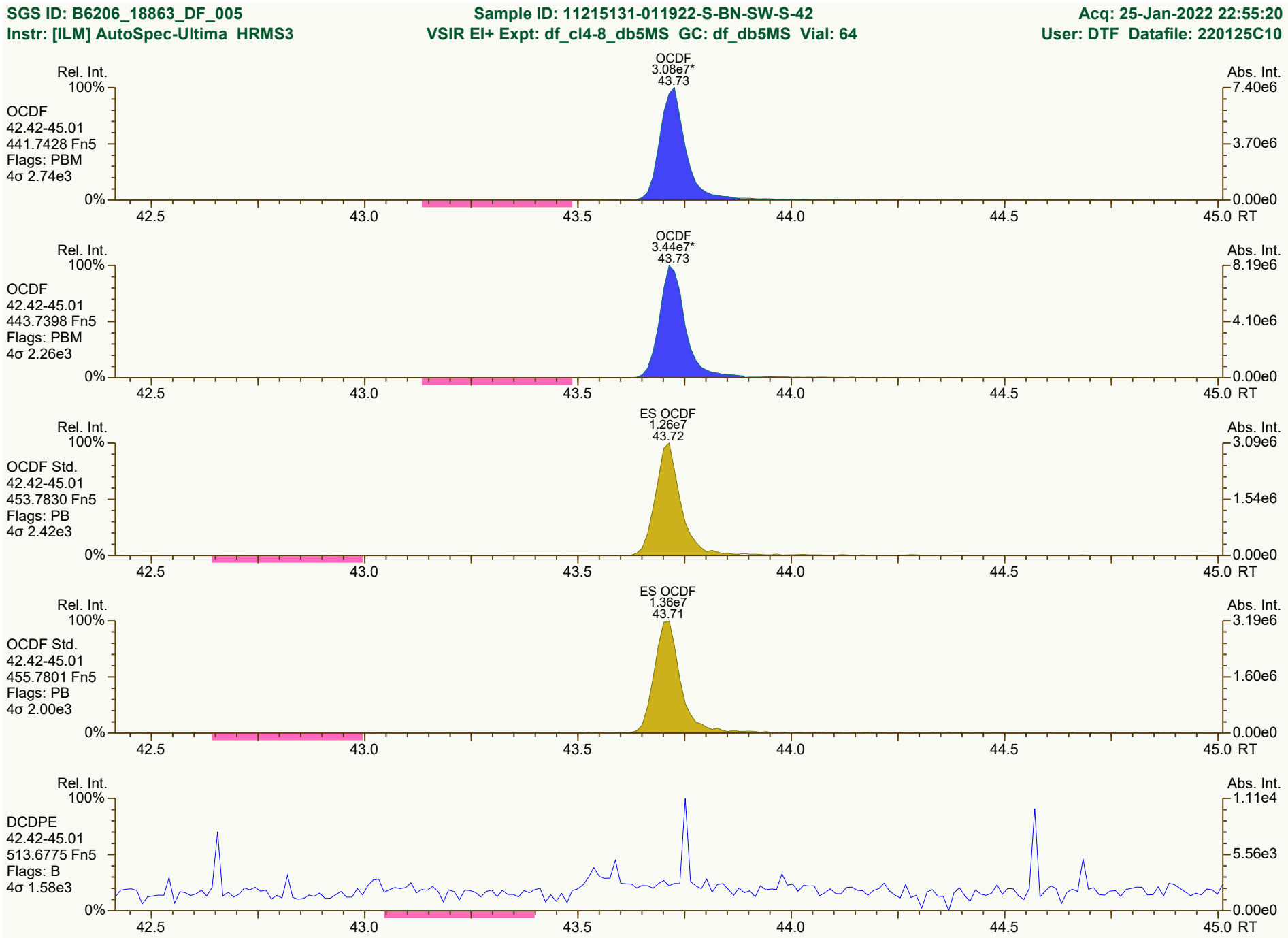
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_005.utp_res, saved 26-Jan-2022 09:14 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5100 scc: 076-945 *Revised: 26-Jan-2022 09:07 (DTF) Printed: 26-Jan-2022 09:26 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 2.72e3
0%
12368F...[3]
1.54e7*
31.45
12348F
3.19e6*
32.33
12378F
3.49e7
32.54
12678/12367F
1.03e7
32.83
23478F
2.52e7
33.65
Abs. Int.
1.00e7
5.00e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 5.94e3
0%
12368F...[3]
9.97e6*
31.45
12348F
2.09e6*
32.33
12378F
2.27e7
32.53
12678/12367F
6.88e6
32.83
23478F
1.62e7
33.65
Abs. Int.
6.06e6
3.03e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 2.04e3
0%
CS 12346F
1.59e7*
31.99
ES 12378F
1.57e7
32.52
ES 23478F
1.53e7
33.62
Abs. Int.
4.36e6
2.18e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 2.12e3
0%
CS 12346F
1.07e7*
31.99
ES 12378F
1.08e7
32.52
ES 23478F
1.03e7
33.62
Abs. Int.
3.12e6
1.56e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 4.52e3
0%
123478F
6.26e7*
36.85
123678F
1.69e7*
37.00
124678/134678F
5.23e6
35.67
123489F
4.28e6*
38.64
Abs. Int.
1.82e7
9.08e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.27e3
0%
123478F
5.01e7*
36.85
123678F
1.37e7*
37.00
124678/134678F
4.23e6
35.67
123489F
3.41e6*
38.63
Abs. Int.
1.46e7
7.29e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 3.46e3
0%
ES 123478F
7.53e6
36.84
ES 123678F
8.86e6
36.98
CS 123469F
7.63e6
37.30
ES 234678F
6.90e6
37.66
ES 123789F
6.81e6
38.60
Abs. Int.
2.54e6
1.27e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 2.33e3
0%
ES 123478F
1.37e7
36.84
ES 123678F
1.61e7
36.98
CS 123469F
1.49e7
37.30
ES 234678F
1.27e7
37.66
ES 123789F
1.23e7
38.60
Abs. Int.
4.47e6
2.24e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
1.70e4
8.49e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 3.09e3
1234678F
1.80e7
39.95
1234689F
5.92e6
40.35
1234789F
4.56e6
41.34
Abs. Int.
6.83e6
3.42e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.23e3
1234678F
1.85e7
39.95
1234689F
5.77e6
40.35
1234789F
4.60e6
41.34
Abs. Int.
6.64e6
3.32e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.53e3
ES 1234678F
5.41e6*
39.94
CS 1234689F
5.53e6
40.34
ES 1234789F
4.46e6
41.33
Abs. Int.
2.03e6
1.02e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.12e3
ES 1234678F
1.26e7*
39.94
CS 1234689F
1.22e7
40.34
ES 1234789F
1.01e7
41.33
Abs. Int.
4.64e6
2.32e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.20e3
Abs. Int.
6.13e4
3.07e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: B6206_18863_DF_005
Sample ID: 11215131-011922-S-BN-SW-S-42
Acq: 25-Jan-2022 22:55:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: DTF Datafile: 220125C10
OCDF
3.08e7*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.74e3
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.44e7*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.26e3
0%
Abs. Int.
8.19e6
4.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.26e7
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 2.42e3
0%
Abs. Int.
3.09e6
1.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.00e3
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.11e4
5.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\B6206_18863_DF_005.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3464, 3105, 7293 scc: 076-945
Revised: 26-Jan-2022 09:09 (DTF) Printed: 26-Jan-2022 09:26 Page 12 of 12

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
32	220124C32	3	CS3_220124_DF_CD	1.00	SIL 25-347-1	DTF	192-921	25-Jan-2022	13:07:51
33	220125C01	57	OPR1_18863_DF	1.00	0_18863_OPR001	DTF	343-081	25-Jan-2022	15:58:21
34	220125C02	58	OPR2_18863_DF	1.00	0_18863_OPR002	DTF	226-320	25-Jan-2022	16:44:37
3	220125C03	2	SBS_220125_DF_CA	1.00	30-61-1	DTF	475-390	25-Jan-2022	17:30:57
4	220125C04	56	MB1_18863_DF_SDS	10.00	Method Blank	DTF	660-125	25-Jan-2022	18:17:18
5	220125C06	60	B6206_18863_DF_001	10.25	11215131-012022-S-BN-SW-S-44	DTF	852-968	25-Jan-2022	19:49:58
6	220125C07	61	B6206_18863_DF_002	10.19	11215131-012022-S-BN-SW-S-45	DTF	097-537	25-Jan-2022	20:36:18
7	220125C08	62	B6206_18863_DF_003	10.44 ~~10.75~~	11215131-011922-S-BN-SW-S-46	DTF	146-499	25-Jan-2022	21:22:39
8	220125C09	63	B6206_18863_DF_004	10.12	11215131-011922-S-BN-SW-S-43	DTF	092-057	25-Jan-2022	22:08:59
9	220125C10	64	B6206_18863_DF_005	10.31	11215131-011922-S-BN-SW-S-42	DTF	076-945	25-Jan-2022	22:55:20

REVIEWED
Tyler_Fritz , 1/26/2022, 9:30:14 AM

REVIEWED
Amber_Kornegay , 1/26/2022, 11:02:22 AM

Dioxin/Furan QC Summary	Acq'd: 25 Jan 2022 13:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220124_DF_CD	UTP: 26-Jan-2022 09:14:29 DTF	Checkcode: 192-921-JSS
Sample ID: SIL 25-347-1	Report: 26 Jan 2022 09:15 TF	Datafile: 220124C32

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.64	2.51E+06	0.80	Y	1.18	1.16	-2%
12378-PeCDD	33.95	9.05E+06	1.54	Y	1.04	0.99	-4%
123478-HxCDD	37.84	8.45E+06	1.26	Y	1.09	1.13	4%
123678-HxCDD	37.95	9.18E+06	1.24	Y	1.15	1.16	1%
123789-HxCDD	38.25	9.12E+06	1.27	Y	1.05	1.03	-2%
1234678-HpCDD	40.87	7.28E+06	1.04	Y	1.06	1.00	-6%
OCDD	43.54	1.15E+07	0.93	Y	1.13	1.17	4%
2378-TCDF	27.79	3.53E+06	0.77	Y	1.08	1.02	-5%
12378-PeCDF	32.50	1.34E+07	1.55	Y	1.02	0.96	-6%
23478-PeCDF	33.61	1.29E+07	1.58	Y	1.02	0.94	-7%
123478-HxCDF	36.83	1.35E+07	1.27	Y	1.27	1.26	-1%
123678-HxCDF	36.98	1.47E+07	1.25	Y	1.15	1.13	-2%
234678-HxCDF	37.66	1.29E+07	1.20	Y	1.19	1.15	-3%
123789-HxCDF	38.60	1.11E+07	1.24	Y	1.16	1.15	-2%
1234678-HpCDF	39.94	1.10E+07	1.01	Y	1.37	1.32	-4%
1234789-HpCDF	41.34	8.85E+06	1.00	Y	1.31	1.33	2%
OCDF	43.72	1.46E+07	0.89	Y	1.07	1.06	-1%
ES 2378-TCDD	28.61	2.17E+07	0.82	Y	1.05	0.98	-7%
ES 12378-PeCDD	33.925	1.83E+07	1.57	Y	0.88	0.82	-6%
ES 123478-HxCDD	37.823	1.49E+07	1.25	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.938	1.58E+07	1.23	Y	0.94	1.01	7%
ES 123789-HxCDD	38.229	1.77E+07	1.32	Y	1.09	1.13	4%
ES 1234678-HpCDD	40.858	1.45E+07	1.15	Y	0.91	0.93	2%
ES OCDD	43.523	1.97E+07	0.93	Y	0.62	0.63	1%
ES 2378-TCDF	27.766	3.45E+07	0.81	Y	1.06	0.99	-6%
ES 12378-PeCDF	32.487	2.78E+07	1.48	Y	0.91	0.80	-12%
ES 23478-PeCDF	33.592	2.73E+07	1.55	Y	0.88	0.79	-11%
ES 123478-HxCDF	36.817	2.14E+07	0.53	Y	1.20	1.37	14%
ES 123678-HxCDF	36.963	2.60E+07	0.54	Y	1.35	1.67	24%
ES 234678-HxCDF	37.646	2.23E+07	0.51	Y	1.24	1.43	15%
ES 123789-HxCDF	38.583	1.93E+07	0.54	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.927	1.68E+07	0.46	Y	0.97	1.08	11%
ES 1234789-HpCDF	41.321	1.33E+07	0.45	Y	0.85	0.85	0%
ES OCDF	43.713	2.75E+07	0.90	Y	0.81	0.88	9%

Dioxin/Furan QC Summary	Acq'd: 25 Jan 2022 13:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220124_DF_CD	UTP: 26-Jan-2022 09:14:29 DTF	Checkcode: 192-921-JSS
Sample ID: SIL 25-347-1	Report: 26 Jan 2022 09:15 TF	Datafile: 220124C32

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.96	2.22E+07	0.83	Y	-	-	-
JS 1234-TCDF	26.42	3.48E+07	0.80	Y	-	-	-
JS 123467-HxCDD	38.13	7.79E+06	1.24	Y	-	-	-
CS 37Cl-2378-TCDD	28.63	2.71E+06	n/a	-	1.20	1.22	2%
CS 12347-PeCDD	33.42	1.67E+07	1.54	Y	0.75	0.75	0%
CS 12346-PeCDF	31.96	2.74E+07	1.62	Y	0.85	0.79	-7%
CS 123469-HxCDF	37.28	2.20E+07	0.54	Y	1.12	1.41	27%
CS 1234689-HpCDF	40.33	1.77E+07	0.49	Y	0.89	1.14	28%
~~SS 37Cl-2378-TCDD~~	~~28.63~~	~~2.71E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.25~~	~~9%~~
~~SS 12347-PeCDD~~	~~33.42~~	~~1.67E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.96~~	~~2.74E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~0.90~~	~~5%~~
~~SS 123469-HxCDF~~	~~37.28~~	~~2.20E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.85~~	~~2%~~
~~SS 1234689-HpCDF~~	~~40.33~~	~~1.77E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~1.06~~	~~15%~~
~~OCDD-a~~	~~43.53~~	~~3.30E+05~~	~~4.62~~	~~N~~	~~0.07~~	~~0.03~~	~~-53%~~
~~OCDF-a~~	~~43.70~~	~~5.86E+05~~	~~1.98~~	~~N~~	~~0.07~~	~~0.04~~	~~-36%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220124C32 Analysis Date: 25-JAN-2022 13:07:51

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	9.76	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	47.8	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	52	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	50.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	49.2	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	47.2	43 - 58	Y
OCDD	M+2/M+4	0.93	0.76 - 1.02	Y	104	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	9.46	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	47.1	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	46.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	49.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.1	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05 - 1.43	Y	48.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.2	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	48.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88 - 1.20	Y	50.9	43 - 58	Y
OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	99.3	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 26 Jan 2022 09:15 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

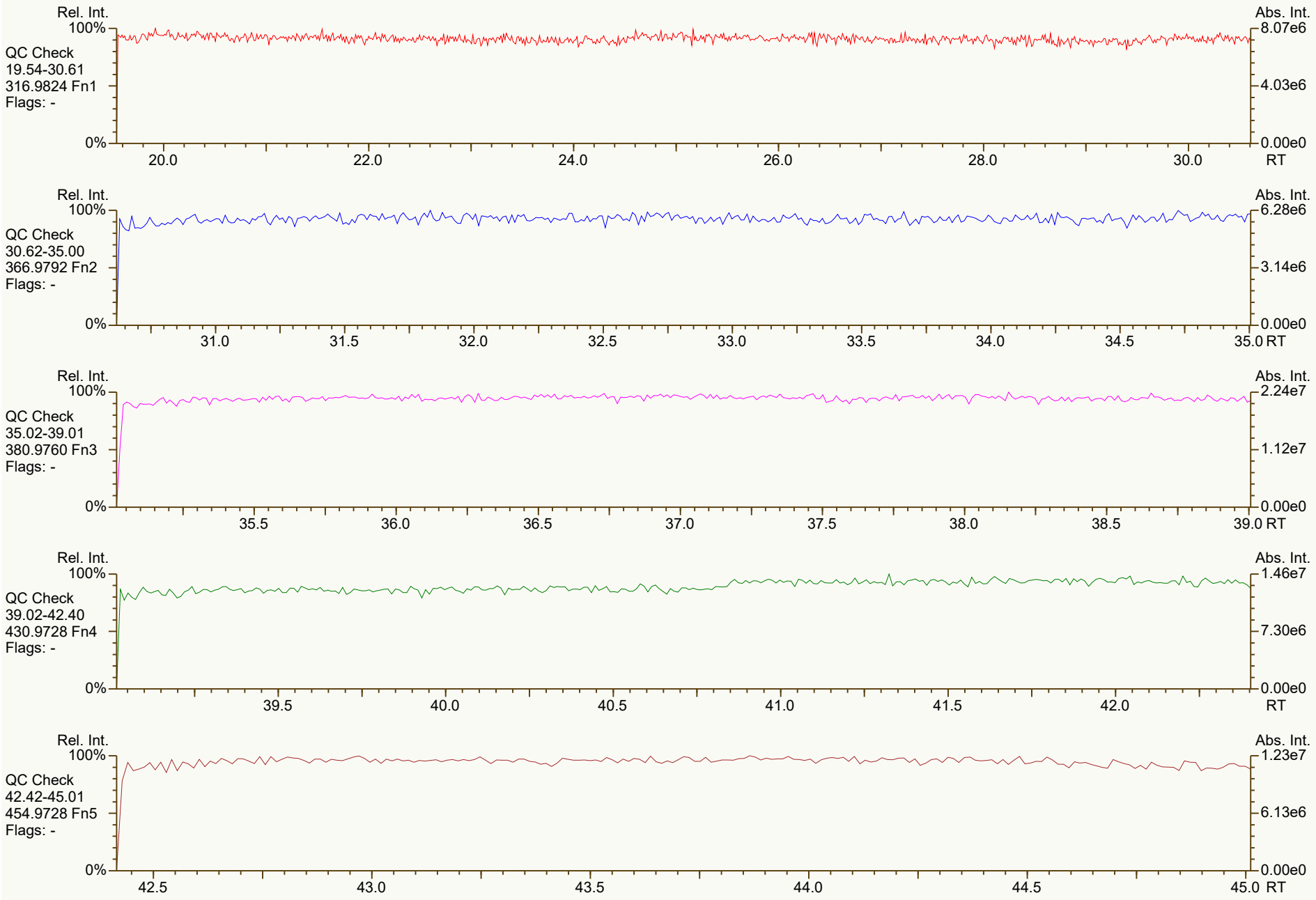
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

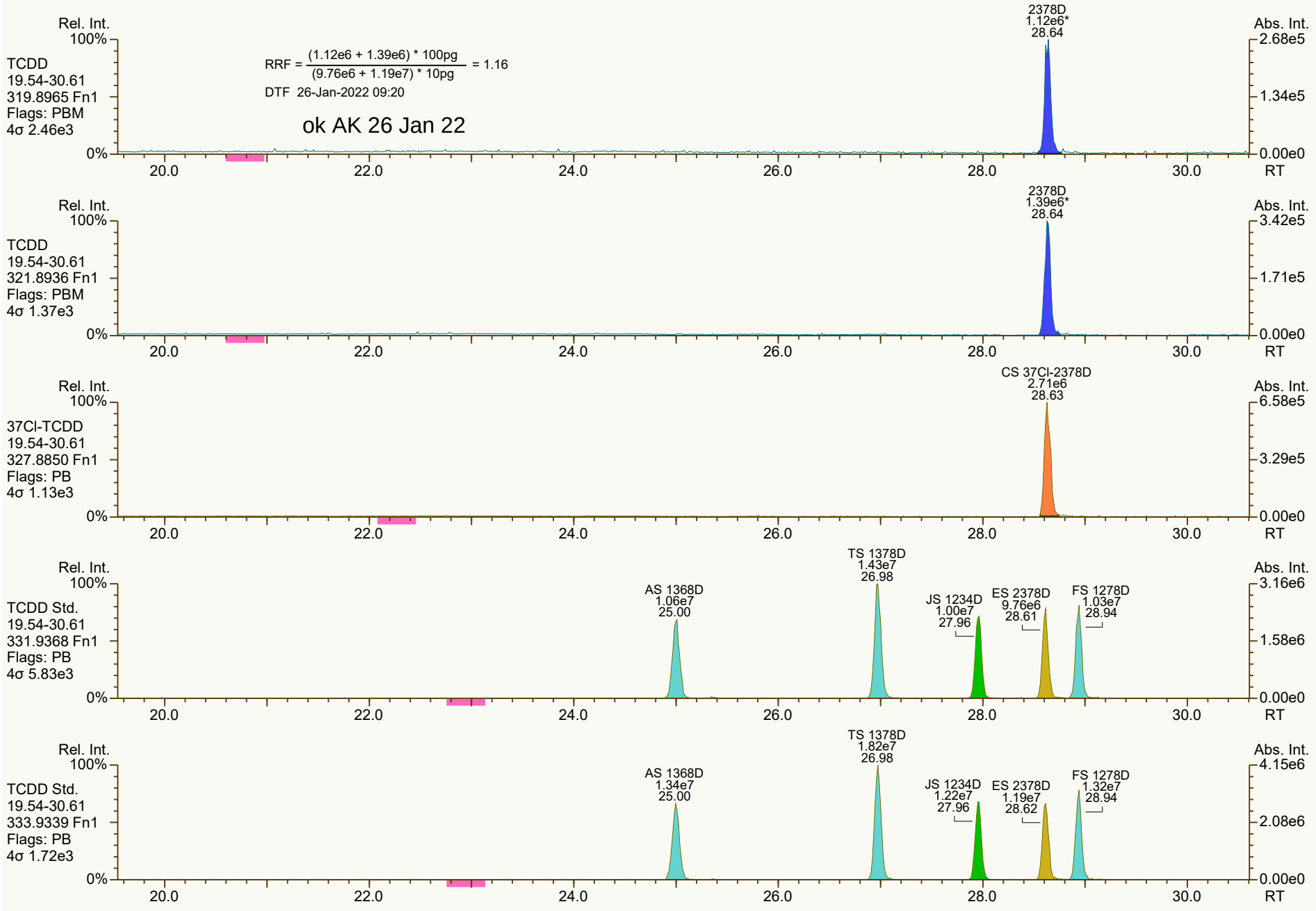
Instrument ID: HRMS3 GC Column ID: ZB-5ms

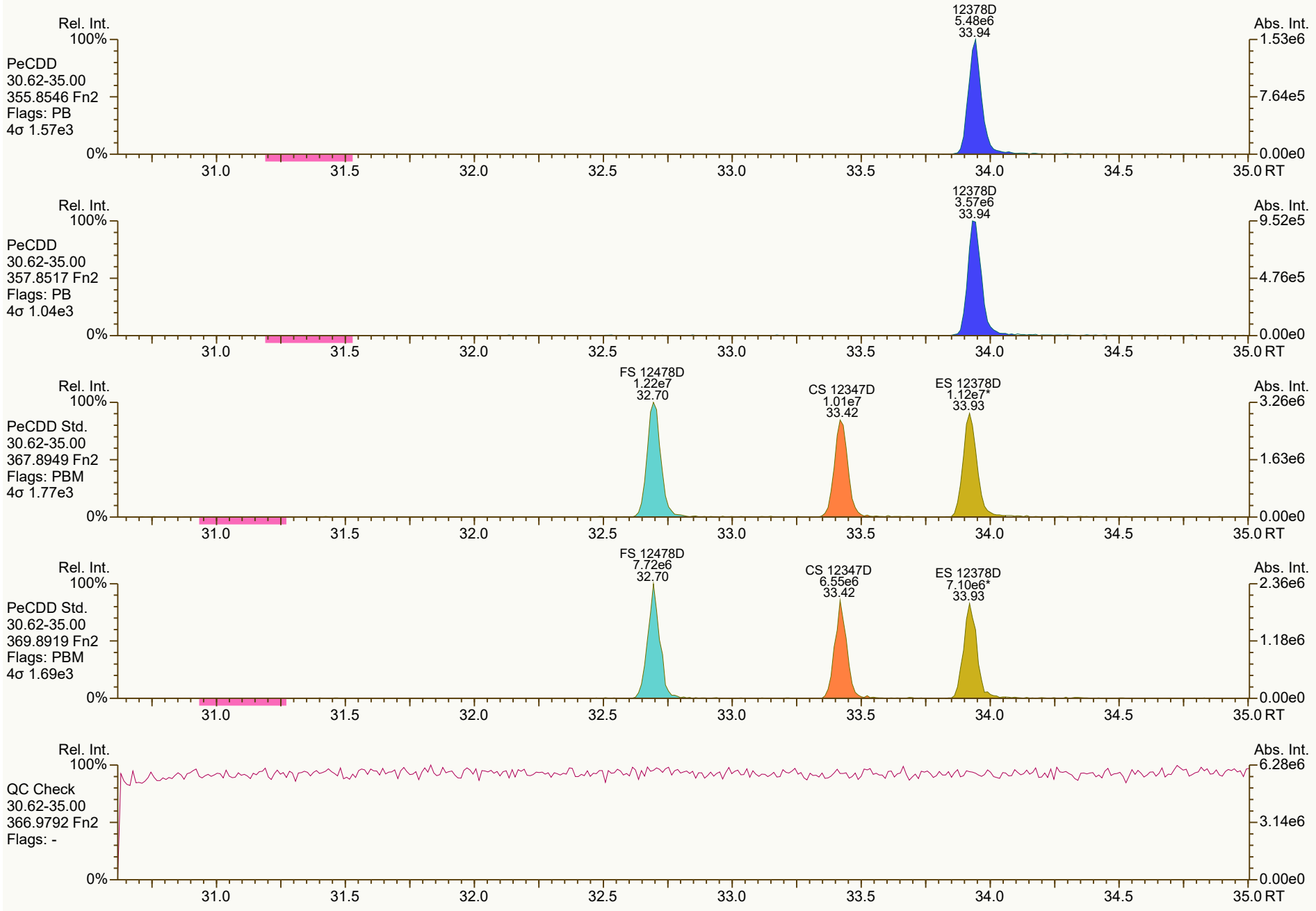
VER Data Filename: 220124C32 Analysis Date: 25-JAN-2022 13:07:51

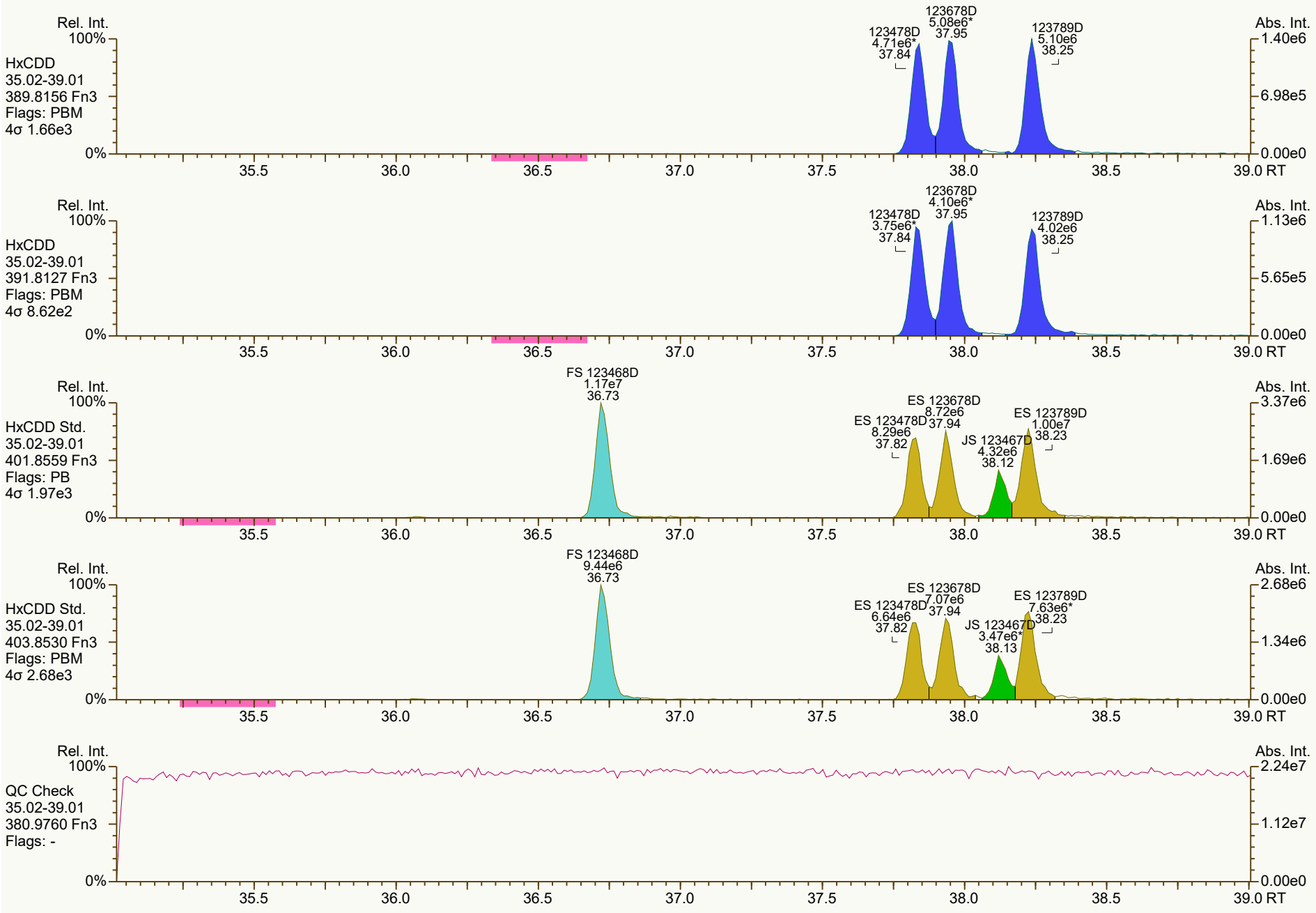
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	93.3	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	93.6	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	98.6	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	107	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.32	1.05 - 1.43	Y	104	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.15	0.88 - 1.20	Y	102	72 - 138	Y
13C-OCDD	M+2/M+4	0.93	0.76 - 1.02	Y	202	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	93.8	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.48	1.32 - 1.78	Y	88	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	89	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	114	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	124	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43 - 0.59	Y	115	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	107	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	111	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	100	77 - 129	Y
13C-OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	219	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.2	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	99.5	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	92.6	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	127	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.49	0.37 - 0.51	Y	128	70 - 130	Y

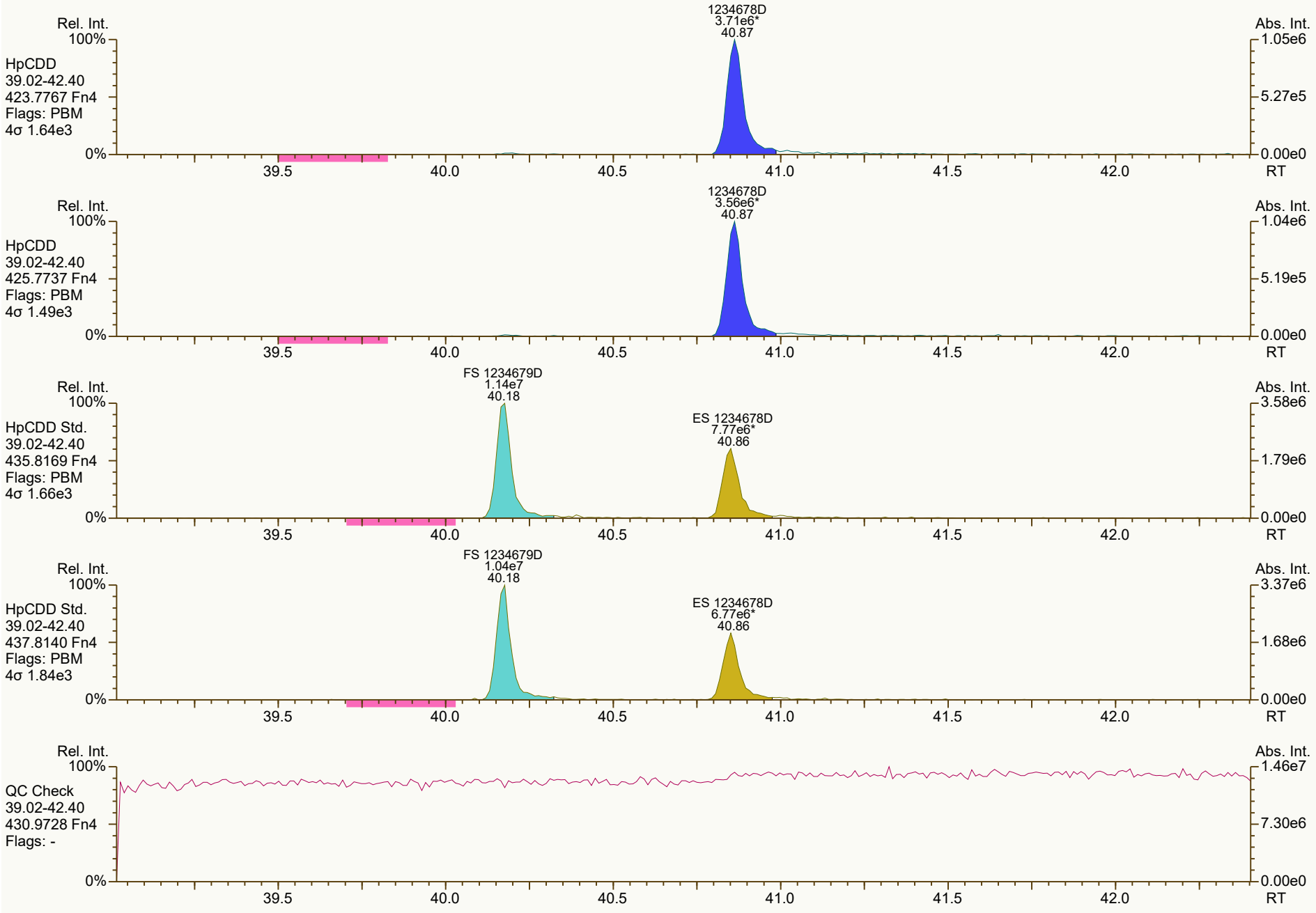
Processed: 26 Jan 2022 09:15 Analyst: TF

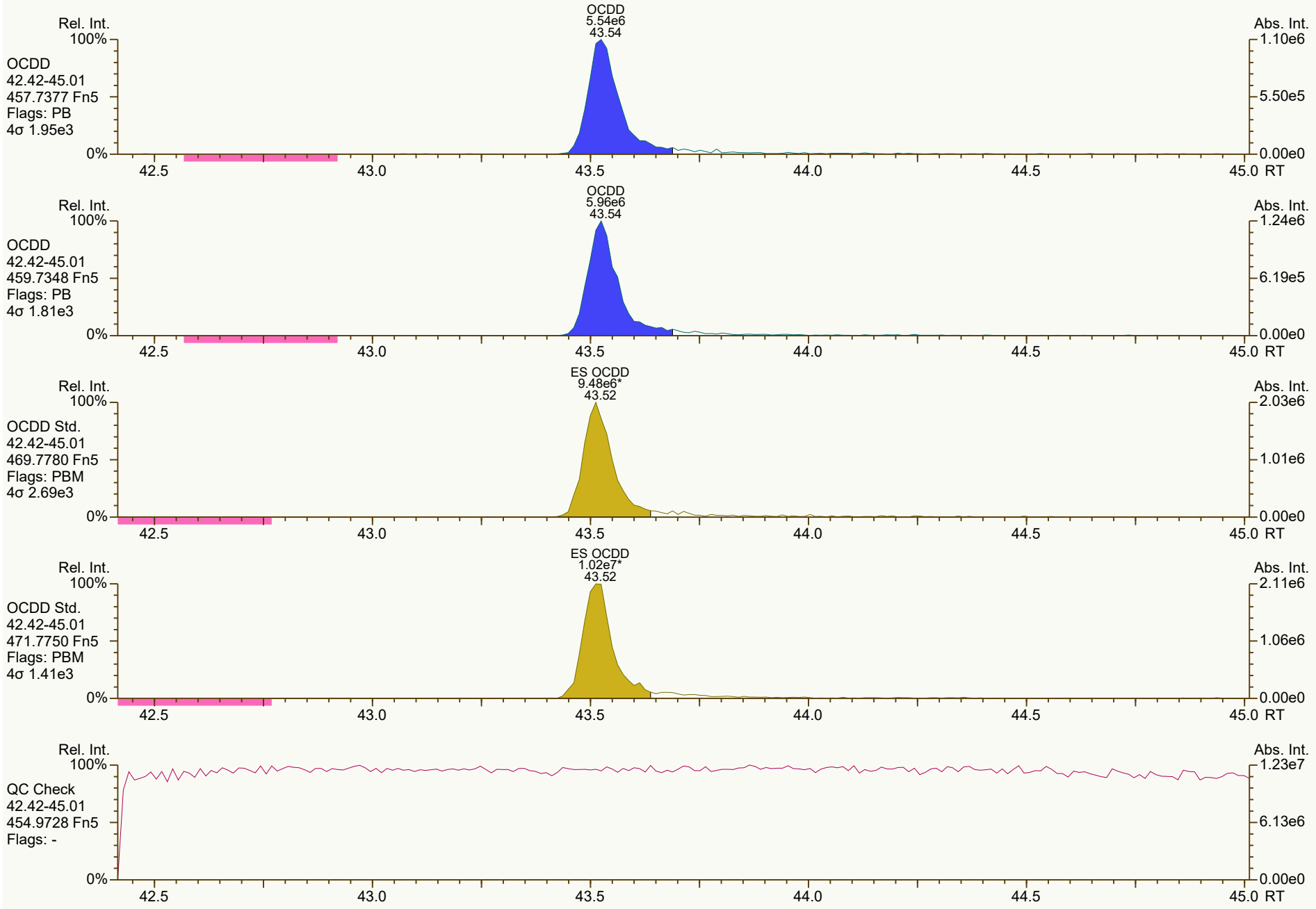

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.07e6
4.03e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.28e6
3.14e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.24e7
1.12e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.46e7
7.30e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.23e7
6.13e6
0.00e0

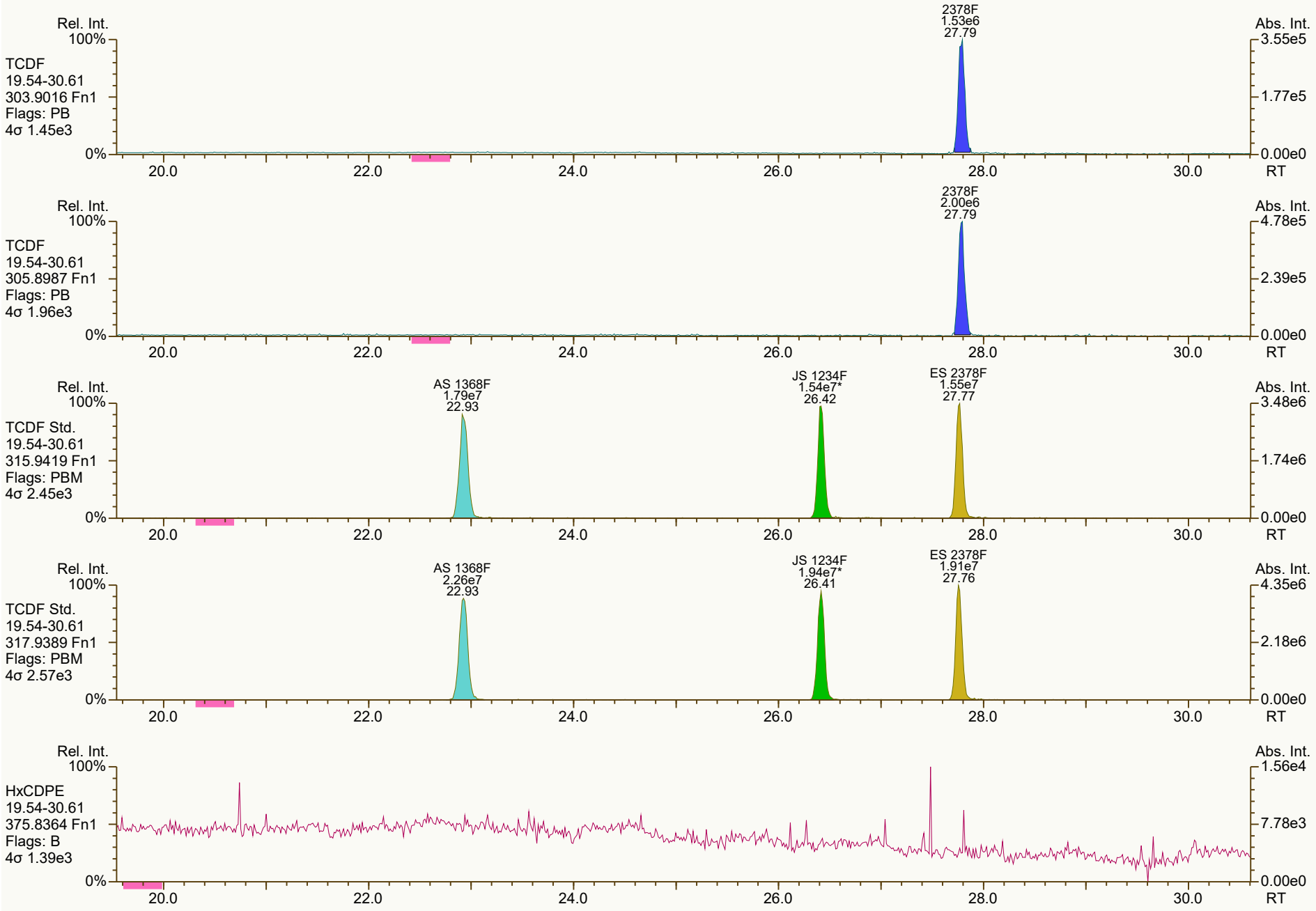

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.46e3
RRF = (1.12e6 + 1.39e6) * 100pg / (9.76e6 + 1.19e7) * 10pg = 1.16
DTF 26-Jan-2022 09:20
ok AK 26 Jan 22
2378D
1.12e6*
28.64
Abs. Int.
2.68e5
1.34e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.37e3
2378D
1.39e6*
28.64
3.42e5
1.71e5
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.13e3
CS 37Cl-2378D
2.71e6
28.63
6.58e5
3.29e5
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.83e3
AS 1368D
1.06e7
25.00
TS 1378D
1.43e7
26.98
JS 1234D
1.00e7
27.96
ES 2378D
9.76e6
28.61
FS 1278D
1.03e7
28.94
3.16e6
1.58e6
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 1.72e3
AS 1368D
1.34e7
25.00
TS 1378D
1.82e7
26.98
JS 1234D
1.22e7
27.96
ES 2378D
1.19e7
28.62
FS 1278D
1.32e7
28.94
4.15e6
2.08e6


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.57e3
0%
12378D
5.48e6
33.94
Abs. Int.
1.53e6
7.64e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.04e3
0%
12378D
3.57e6
33.94
Abs. Int.
9.52e5
4.76e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 1.77e3
0%
FS 12478D
1.22e7
32.70
CS 12347D
1.01e7
33.42
ES 12378D
1.12e7*
33.93
Abs. Int.
3.26e6
1.63e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 1.69e3
0%
FS 12478D
7.72e6
32.70
CS 12347D
6.55e6
33.42
ES 12378D
7.10e6*
33.93
Abs. Int.
2.36e6
1.18e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.28e6
3.14e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

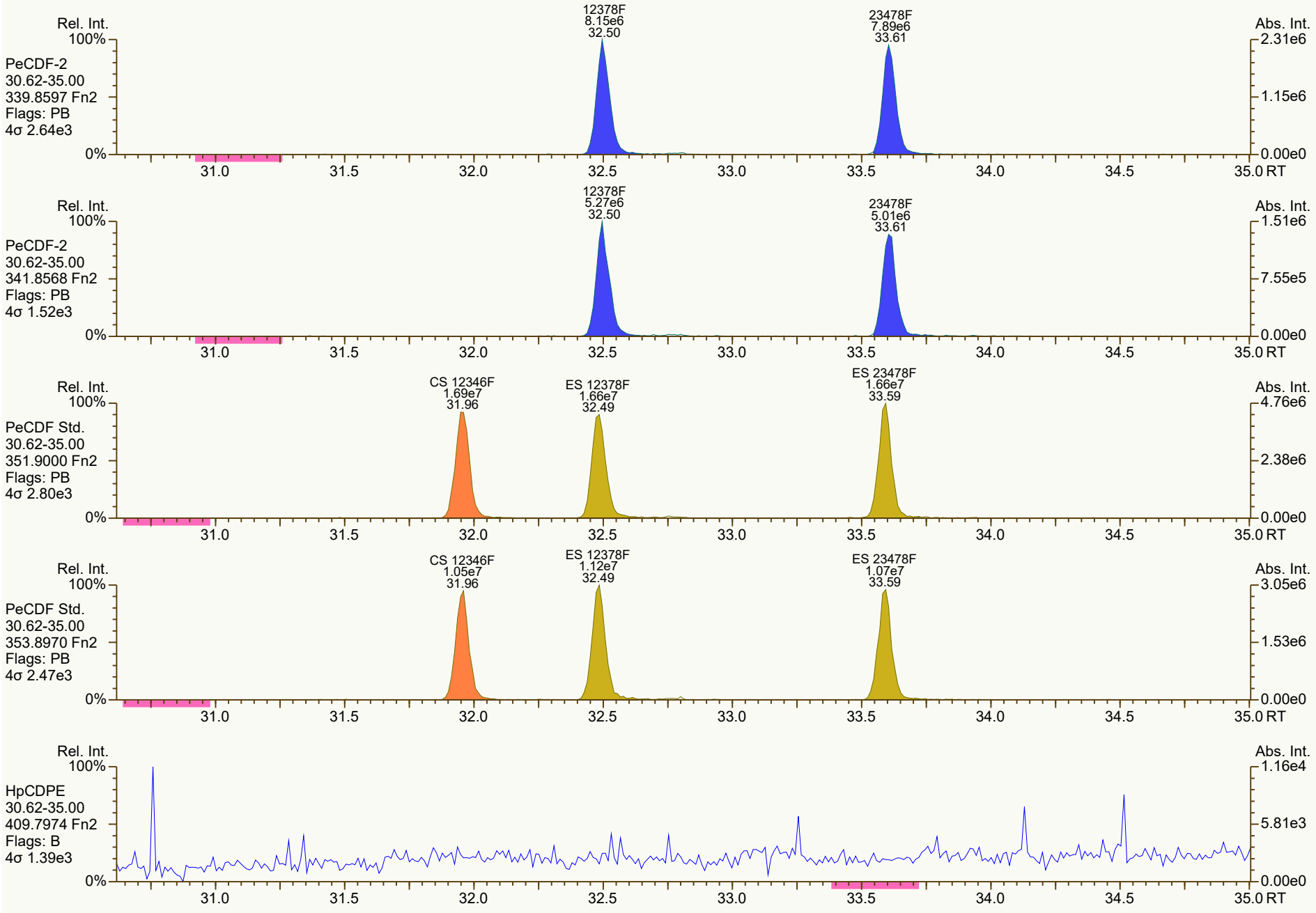

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.66e3
123678D
5.08e6*
37.95
123478D
4.71e6*
37.84
123789D
5.10e6
38.25
Abs. Int.
1.40e6
6.98e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 8.62e2
123678D
4.10e6*
37.95
123478D
3.75e6*
37.84
123789D
4.02e6
38.25
Abs. Int.
1.13e6
5.65e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 1.97e3
FS 123468D
1.17e7
36.73
ES 123678D
8.72e6
37.94
ES 123478D
8.29e6
37.82
ES 123789D
1.00e7
38.23
JS 123467D
4.32e6
38.12
Abs. Int.
3.37e6
1.69e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
9.44e6
36.73
ES 123678D
7.07e6
37.94
ES 123478D
6.64e6
37.82
ES 123789D
7.63e6*
38.23
JS 123467D
3.47e6*
38.13
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
2.24e7
1.12e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

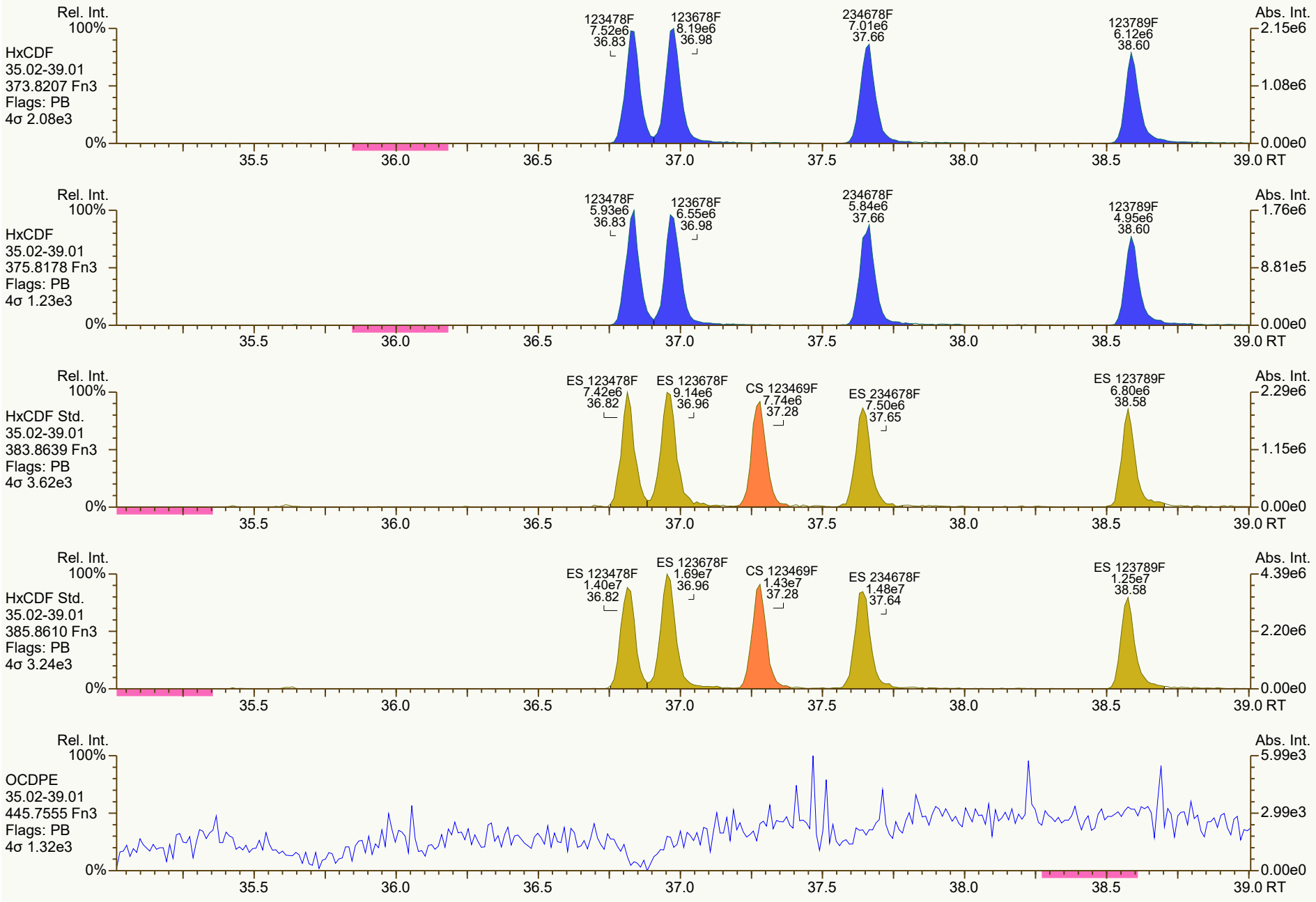

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.64e3
1234678D
3.71e6*
40.87
Abs. Int.
1.05e6
5.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.49e3
1234678D
3.56e6*
40.87
Abs. Int.
1.04e6
5.19e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.66e3
FS 1234679D
1.14e7
40.18
ES 1234678D
7.77e6*
40.86
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.84e3
FS 1234679D
1.04e7
40.18
ES 1234678D
6.77e6*
40.86
Abs. Int.
3.37e6
1.68e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.46e7
7.30e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

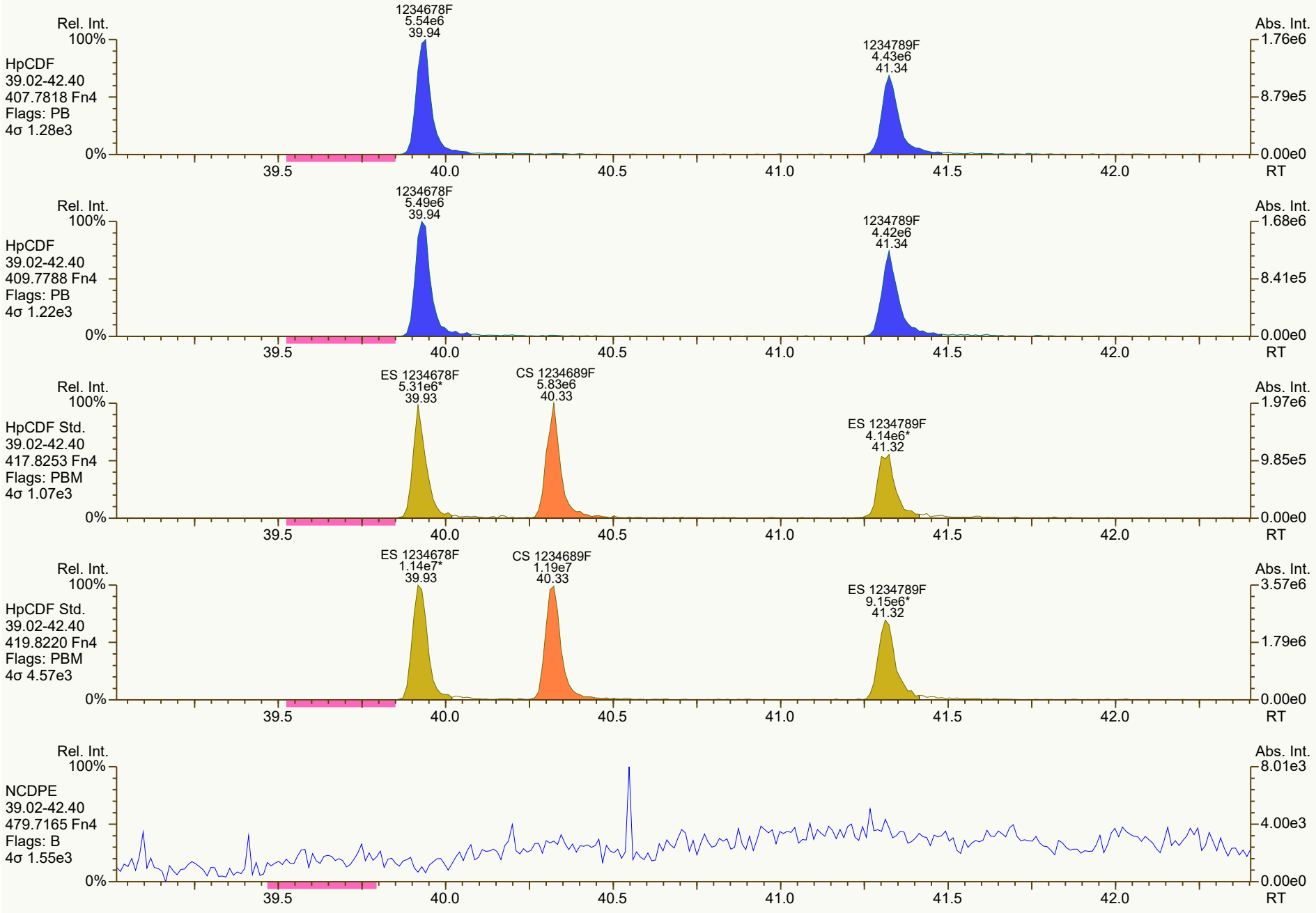

OCDD
5.54e6
43.54
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.95e3
OCDD
5.96e6
43.54
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.81e3
ES OCDD
9.48e6*
43.52
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.69e3
ES OCDD
1.02e7*
43.52
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.41e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

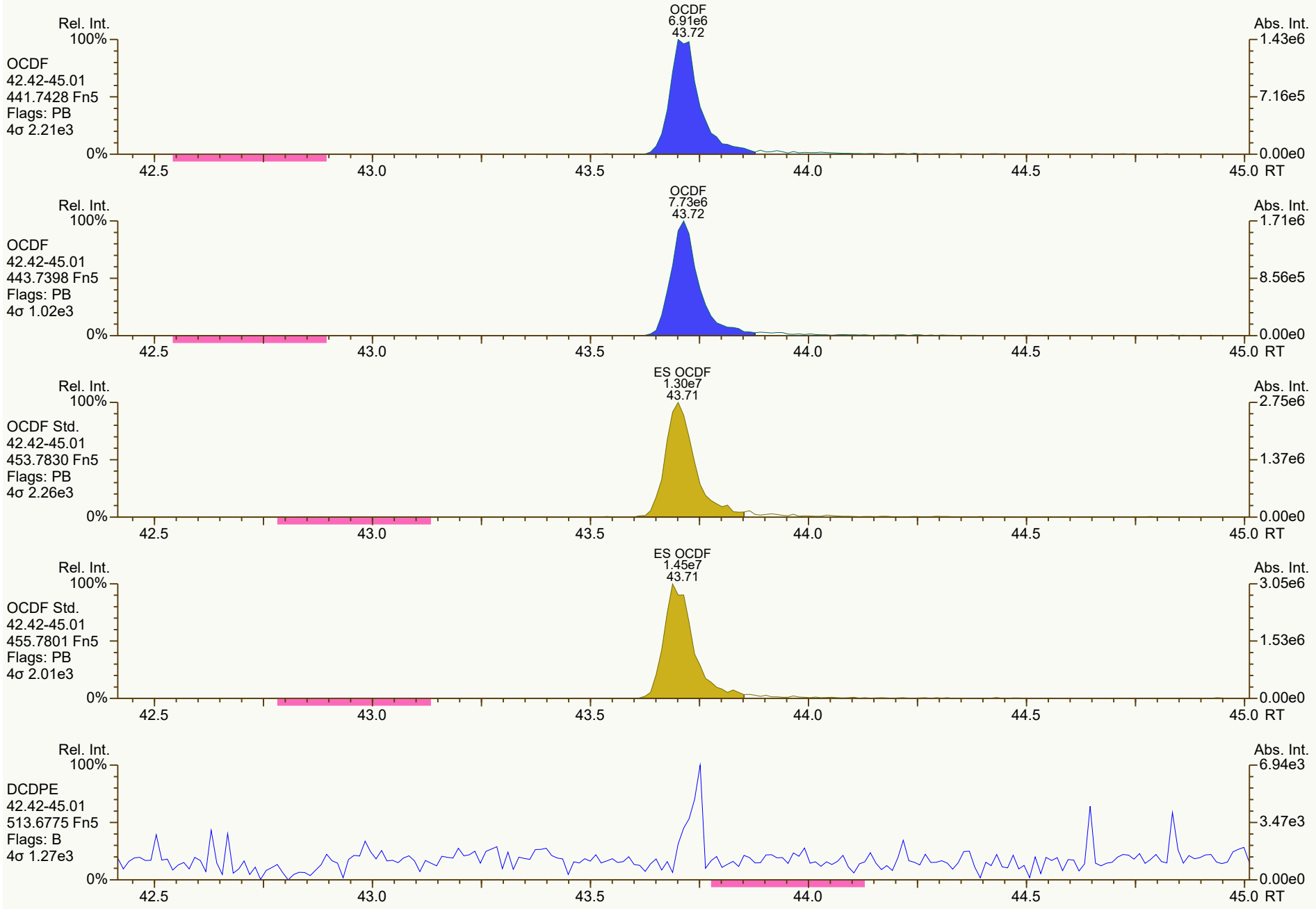

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.45e3
0%
2378F
1.53e6
27.79
Abs. Int.
3.55e5
1.77e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.96e3
0%
2378F
2.00e6
27.79
Abs. Int.
4.78e5
2.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 2.45e3
0%
AS 1368F
1.79e7
22.93
JS 1234F
1.54e7*
26.42
ES 2378F
1.55e7
27.77
Abs. Int.
3.48e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 2.57e3
0%
AS 1368F
2.26e7
22.93
JS 1234F
1.94e7*
26.41
ES 2378F
1.91e7
27.76
Abs. Int.
4.35e6
2.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

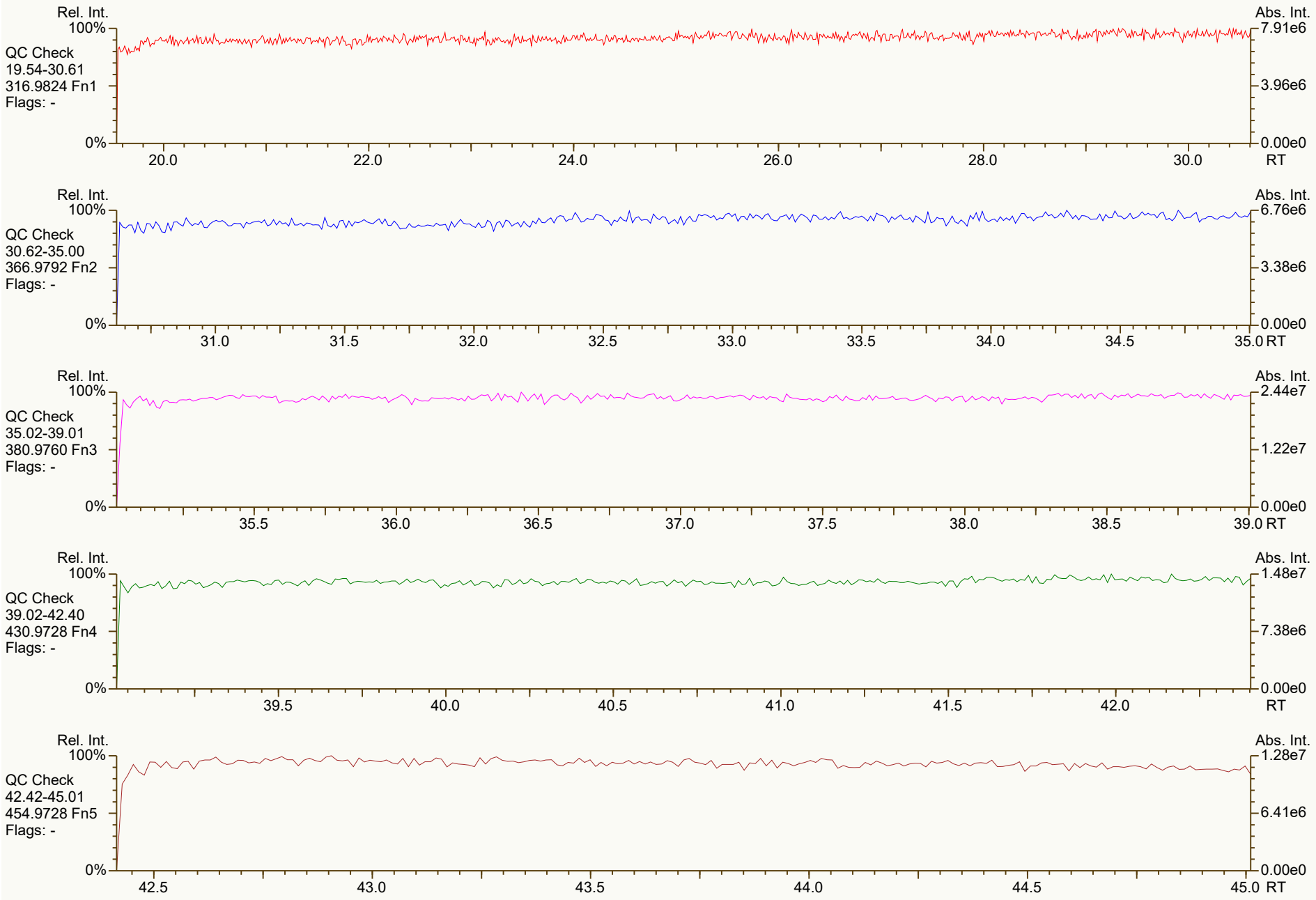

Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.40e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.56e4
7.82e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.67e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.07e6
4.03e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 2.64e3
0%
12378F
8.15e6
32.50
23478F
7.89e6
33.61
Abs. Int.
2.31e6
1.15e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 1.52e3
0%
12378F
5.27e6
32.50
23478F
5.01e6
33.61
Abs. Int.
1.51e6
7.55e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.80e3
0%
CS 12346F
1.69e7
31.96
ES 12378F
1.66e7
32.49
ES 23478F
1.66e7
33.59
Abs. Int.
4.76e6
2.38e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.47e3
0%
CS 12346F
1.05e7
31.96
ES 12378F
1.12e7
32.49
ES 23478F
1.07e7
33.59
Abs. Int.
3.05e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.16e4
5.81e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 2.08e3
0%
123478F
7.52e6
36.83
123678F
8.19e6
36.98
234678F
7.01e6
37.66
123789F
6.12e6
38.60
Abs. Int.
2.15e6
1.08e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.23e3
0%
123478F
5.93e6
36.83
123678F
6.55e6
36.98
234678F
5.84e6
37.66
123789F
4.95e6
38.60
Abs. Int.
1.76e6
8.81e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 3.62e3
0%
ES 123478F
7.42e6
36.82
ES 123678F
9.14e6
36.96
CS 123469F
7.74e6
37.28
ES 234678F
7.50e6
37.65
ES 123789F
6.80e6
38.58
Abs. Int.
2.29e6
1.15e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 3.24e3
0%
ES 123478F
1.40e7
36.82
ES 123678F
1.69e7
36.96
CS 123469F
1.43e7
37.28
ES 234678F
1.48e7
37.64
ES 123789F
1.25e7
38.58
Abs. Int.
4.39e6
2.20e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.32e3
0%
Abs. Int.
5.99e3
2.99e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.28e3
1234678F
5.54e6
39.94
1234789F
4.43e6
41.34
Abs. Int.
1.76e6
8.79e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.22e3
1234678F
5.49e6
39.94
1234789F
4.42e6
41.34
Abs. Int.
1.68e6
8.41e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.07e3
ES 1234678F
5.31e6*
39.93
CS 1234689F
5.83e6
40.33
ES 1234789F
4.14e6*
41.32
Abs. Int.
1.97e6
9.85e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 4.57e3
ES 1234678F
1.14e7*
39.93
CS 1234689F
1.19e7
40.33
ES 1234789F
9.15e6*
41.32
Abs. Int.
3.57e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.55e3
Abs. Int.
8.01e3
4.00e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
6.91e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.21e3
0%
Abs. Int.
1.43e6
7.16e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.73e6
43.72
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.02e3
0%
Abs. Int.
1.71e6
8.56e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.30e7
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 2.26e3
0%
Abs. Int.
2.75e6
1.37e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.45e7
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
3.05e6
1.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.94e3
3.47e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.91e6
3.96e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
6.76e6
3.38e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.44e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.48e7
7.38e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.28e7
6.41e6
0.00e0

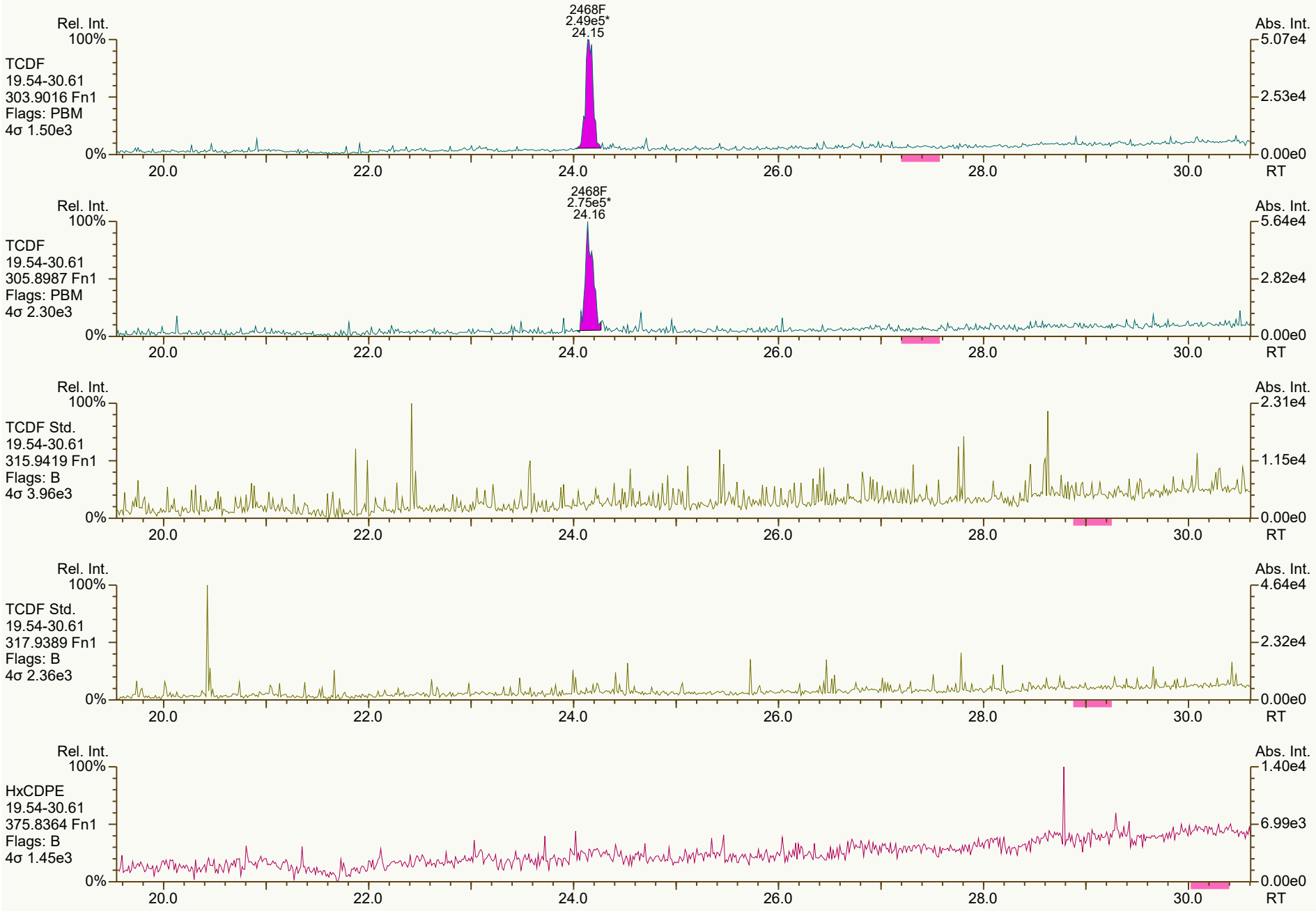

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 2.39e3
0%
Abs. Int.
1.23e4
6.14e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.16e3
0%
Abs. Int.
8.38e3
4.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.42e3
0%
Abs. Int.
2.66e4
1.33e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 4.70e3
0%
Abs. Int.
2.08e4
1.04e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 2.27e3
0%
Abs. Int.
2.35e4
1.17e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.17e3
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
6.15e3
3.07e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: B
4σ 2.01e3
0%
Abs. Int.
9.86e3
4.93e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.60e4
8.02e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.76e6
3.38e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

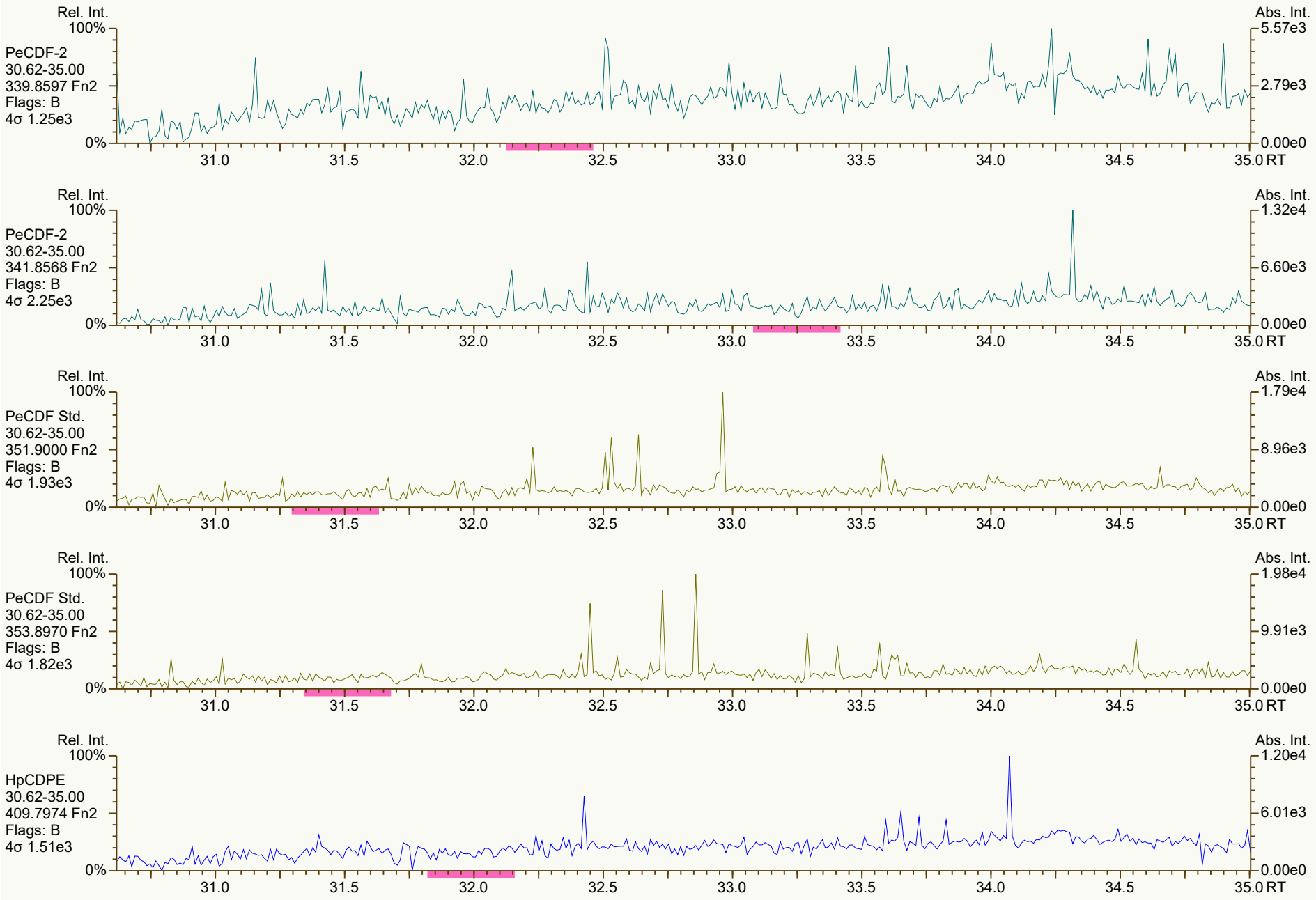

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
6.56e3
3.28e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.67e3
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 2.34e3
0%
Abs. Int.
1.11e4
5.57e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.45e4
7.24e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.44e7
1.22e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

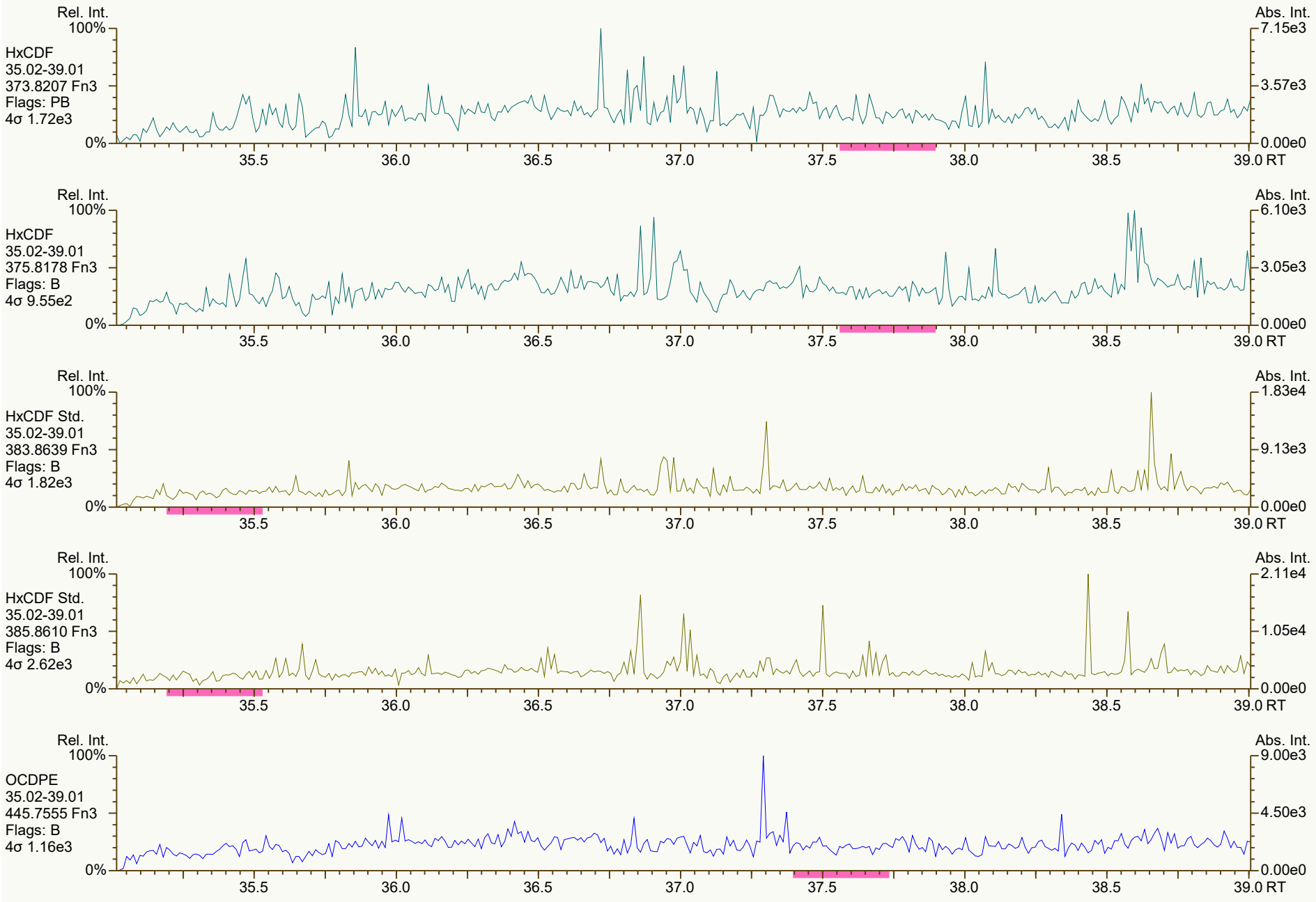

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.56e3
0%
Abs. Int.
3.85e3
1.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.17e3
0%
Abs. Int.
7.21e3
3.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
1.31e4
6.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.41e3
0%
Abs. Int.
9.68e3
4.84e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.48e7
7.38e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
5.11e3
2.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.09e3
0%
Abs. Int.
6.77e3
3.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.01e4
5.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
4.27e4
2.14e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.28e7
6.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
2.49e5*
24.15
Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
5.07e4
2.53e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
2.75e5*
24.16
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.30e3
0%
Abs. Int.
5.64e4
2.82e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 3.96e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 2.36e3
0%
Abs. Int.
4.64e4
2.32e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.40e4
6.99e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.46e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.22e4
6.08e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.62e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.91e6
3.96e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 1.25e3
0%
Abs. Int.
5.57e3
2.79e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 2.25e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.79e4
8.96e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: B
4σ 1.82e3
0%
Abs. Int.
1.98e4
9.91e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

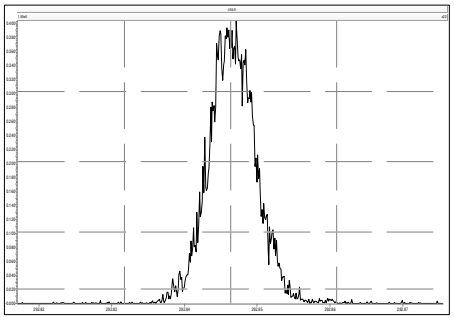

Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.72e3
0%
Abs. Int.
7.15e3
3.57e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 9.55e2
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 1.82e3
0%
Abs. Int.
1.83e4
9.13e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.11e4
1.05e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.16e3
0%
Abs. Int.
9.00e3
4.50e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.29e3
0%
Abs. Int.
6.33e3
3.16e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.68e3
0%
Abs. Int.
1.26e4
6.32e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.69e3
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.24e3
0%
Abs. Int.
9.30e3
4.65e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

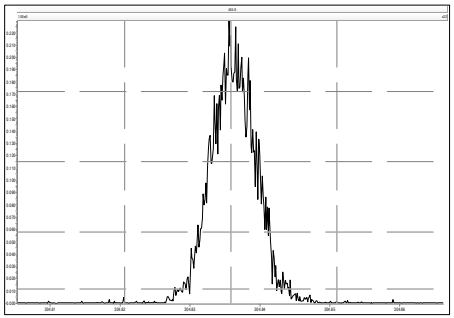

Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.84e3
0%
Abs. Int.
6.74e3
3.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
6.69e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: B
4σ 1.84e3
0%
Abs. Int.
1.51e4
7.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.09e4
5.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.55e3
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Abs. Int.
6.11e3
3.05e3
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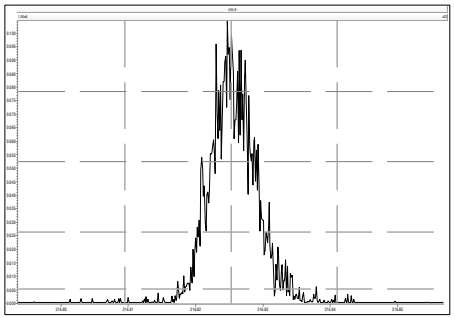
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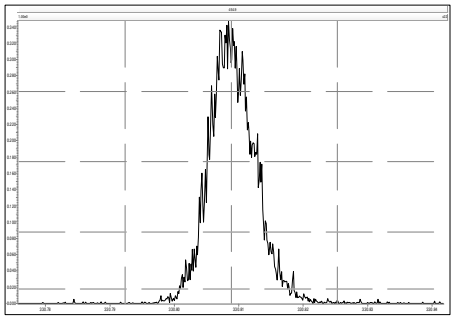
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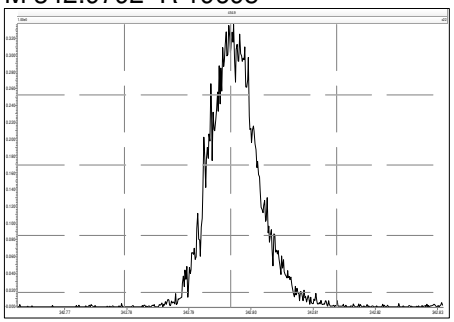
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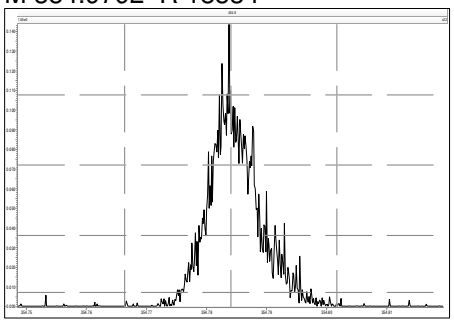
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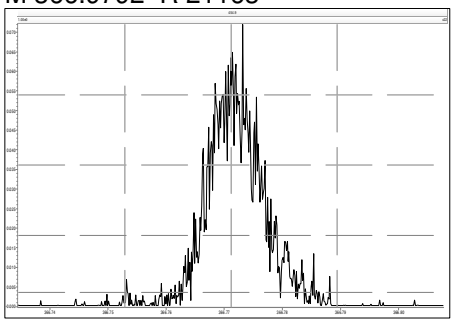
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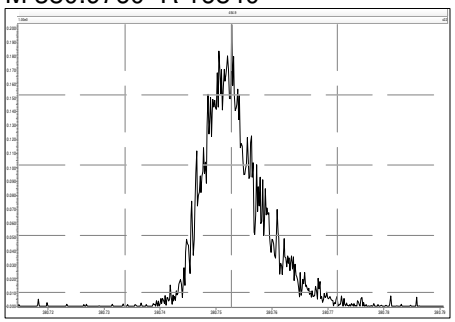
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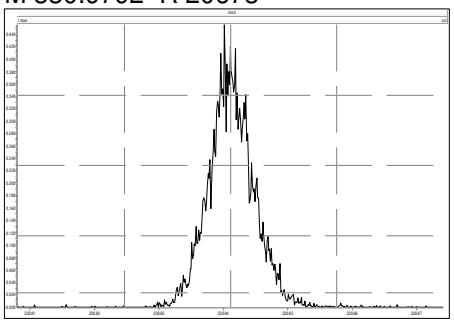
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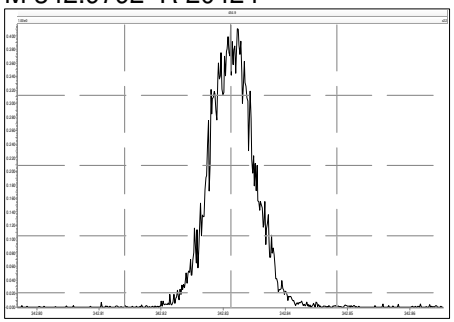
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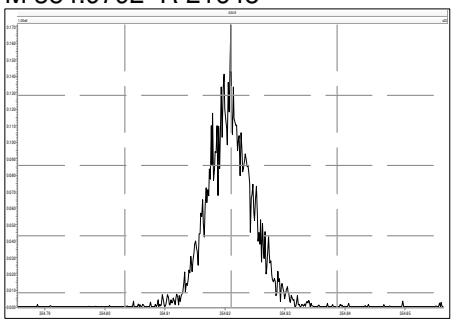
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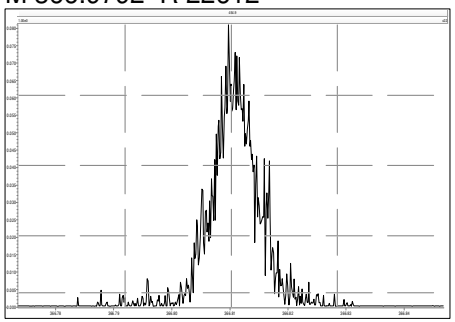
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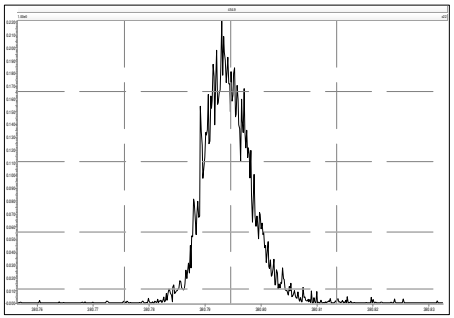
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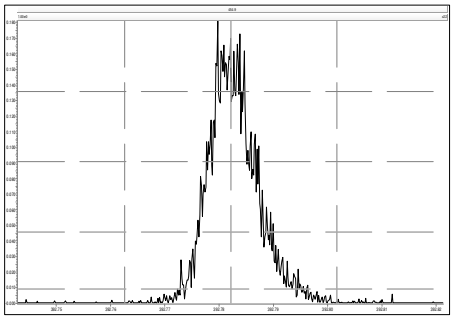
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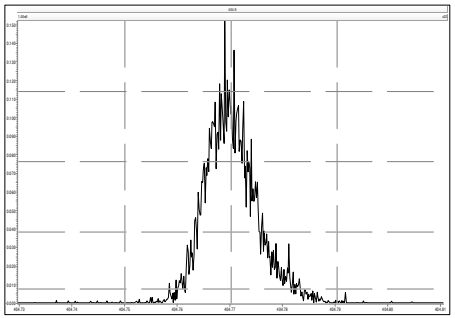
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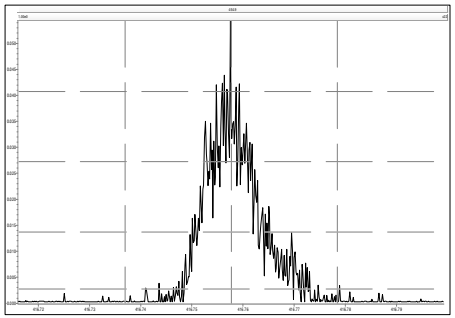
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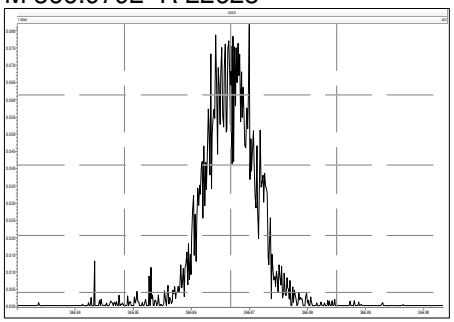
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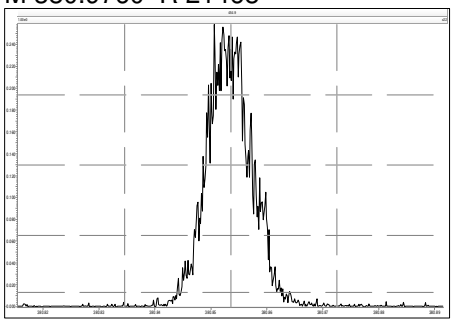
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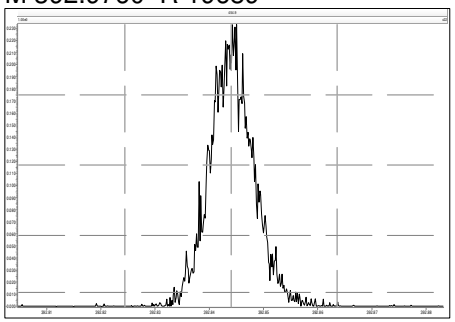
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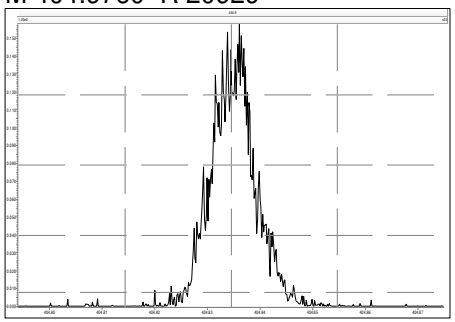
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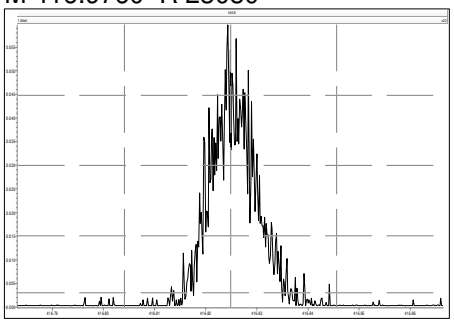
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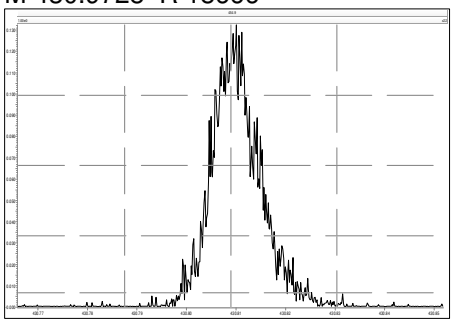
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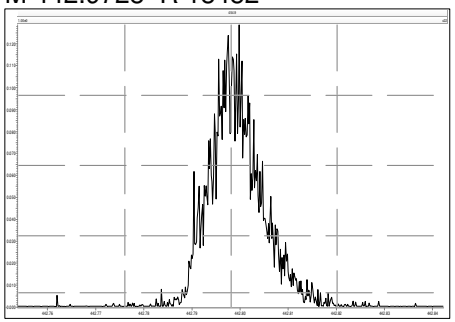
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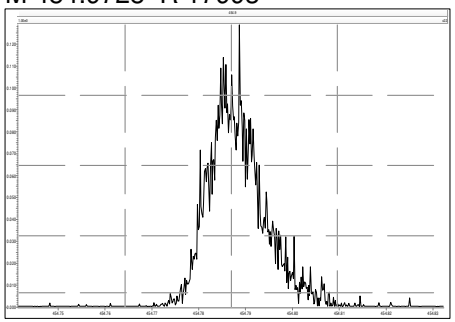
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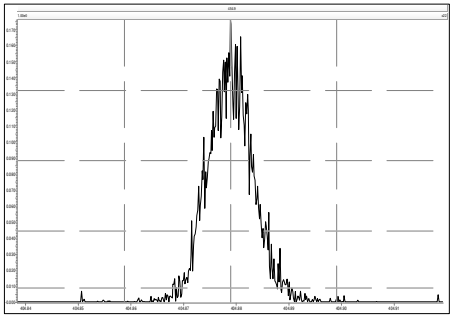
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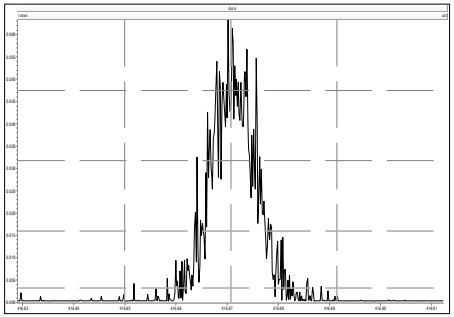
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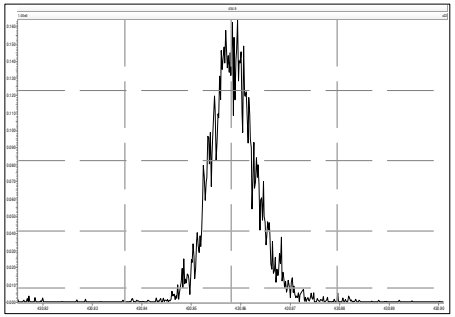
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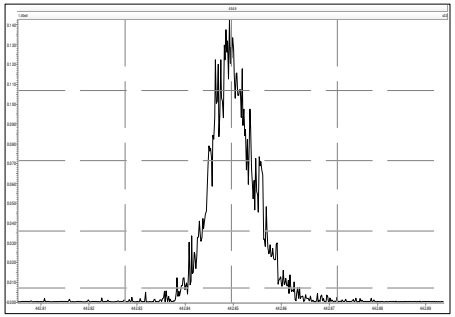
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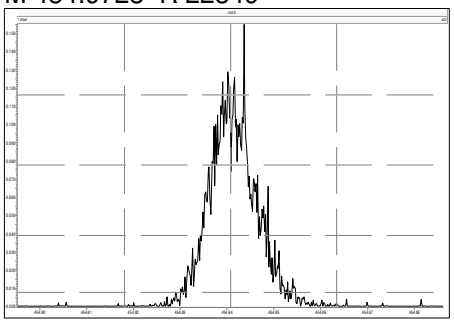
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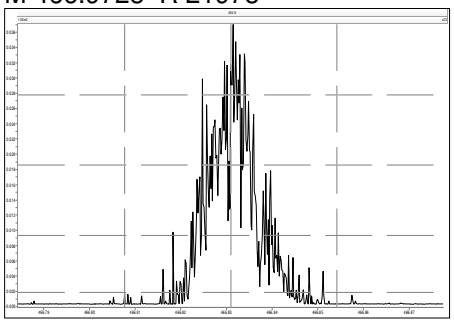
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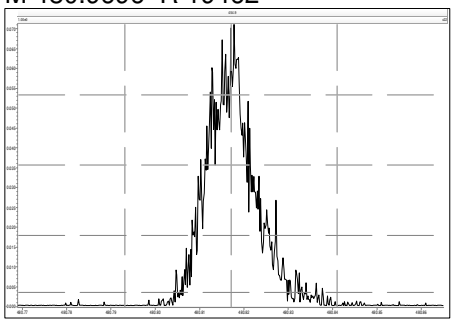
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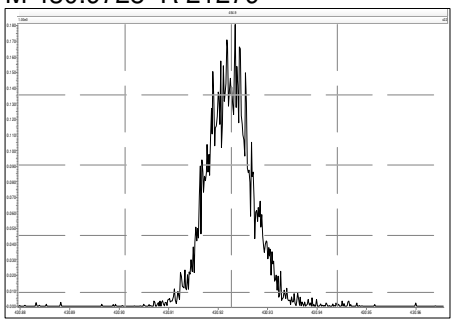
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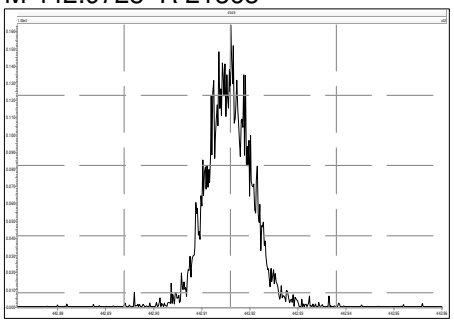
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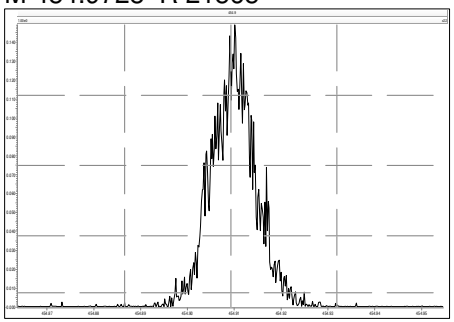
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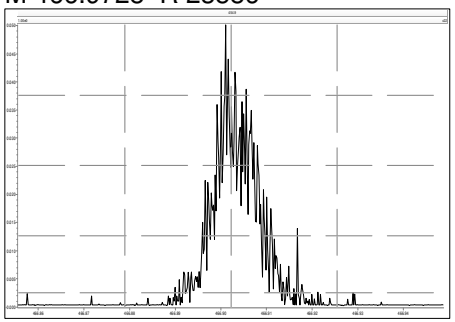
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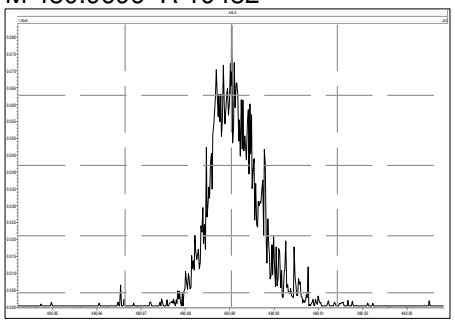
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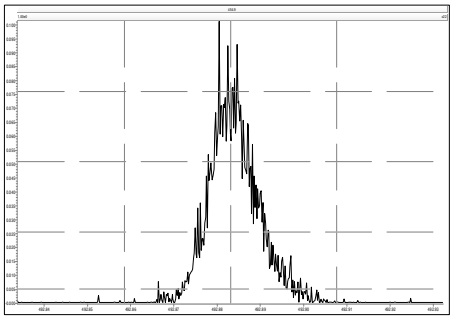
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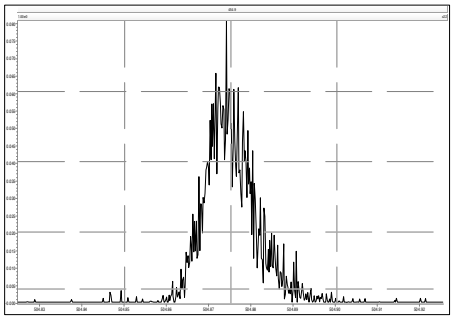
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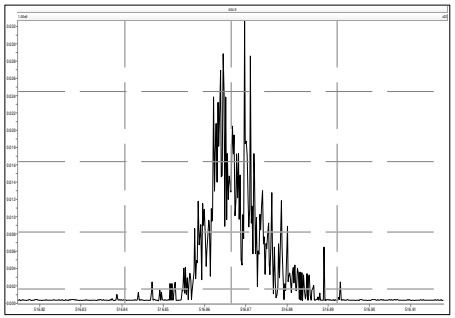
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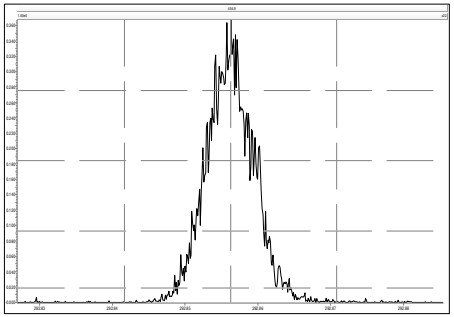


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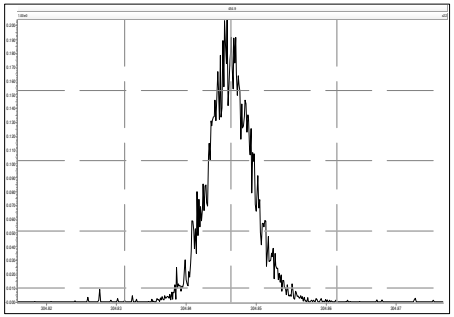


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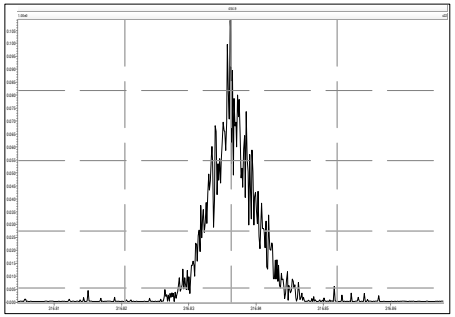
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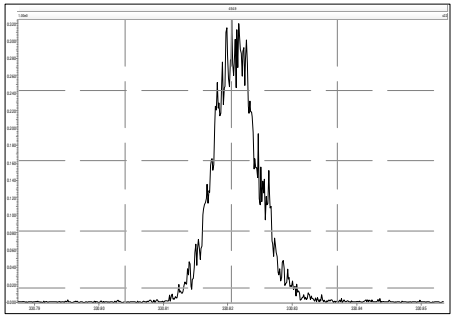
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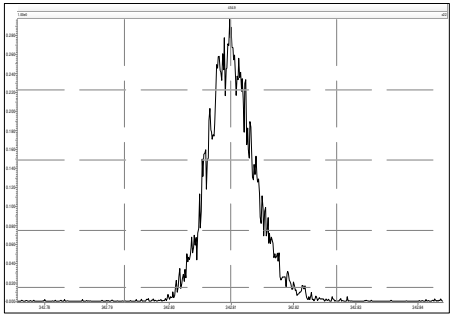
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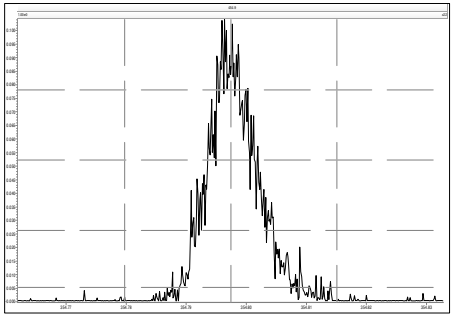
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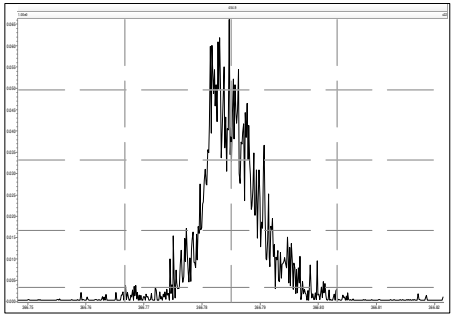
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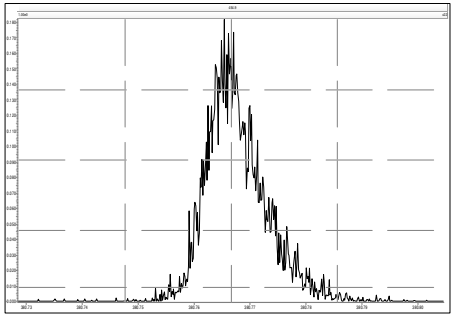
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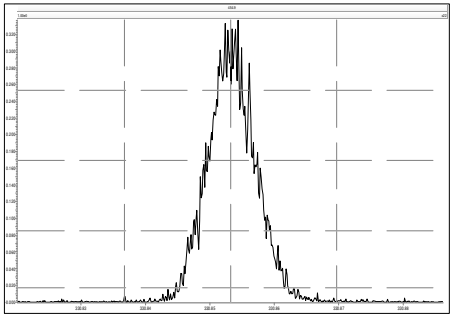
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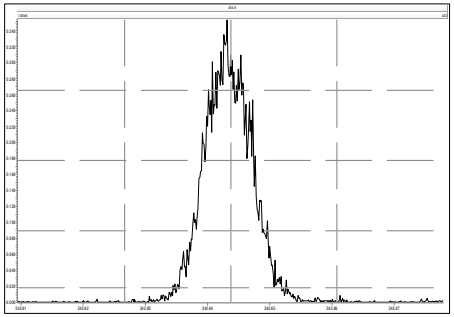
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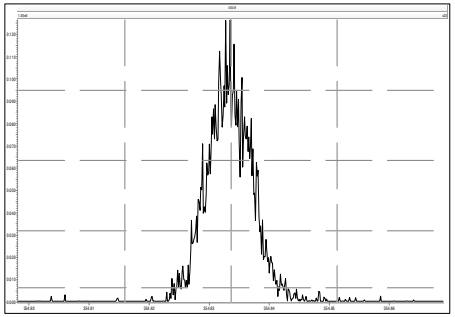
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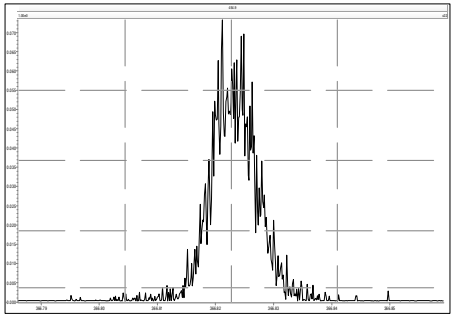
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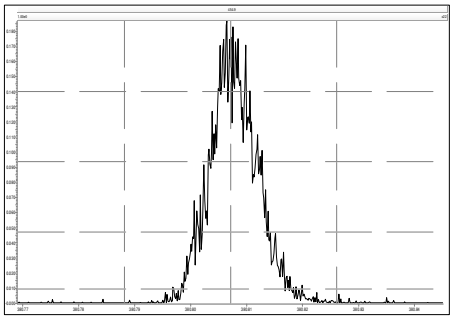
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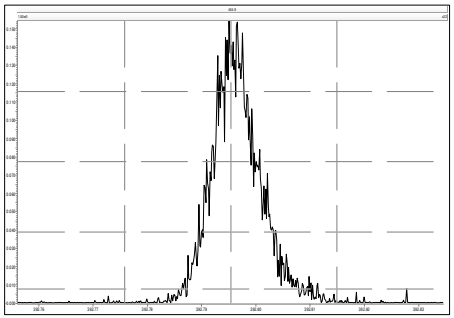
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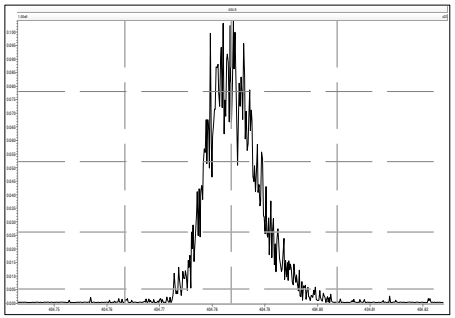
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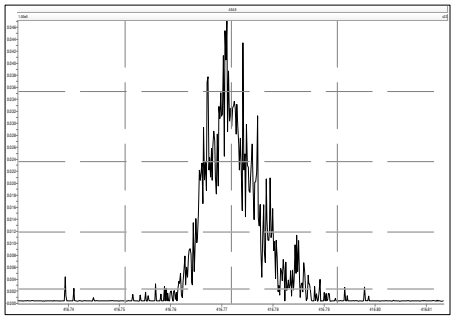
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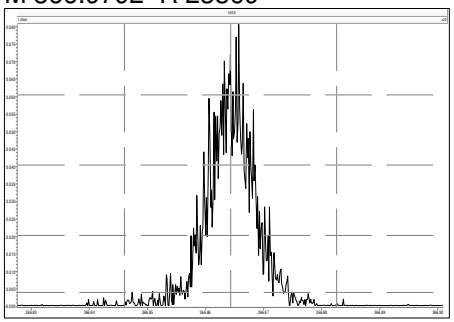
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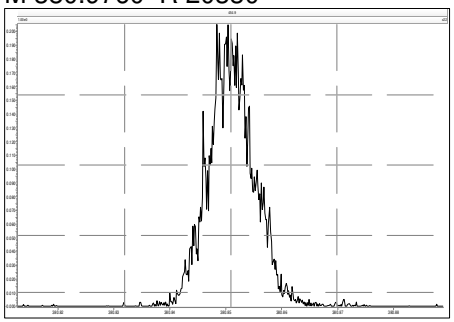
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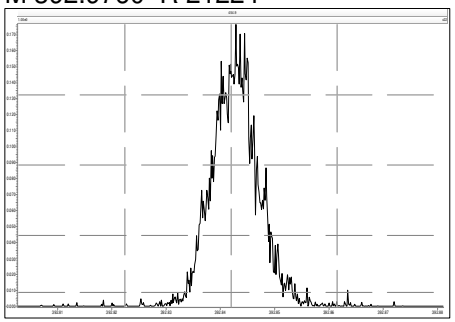
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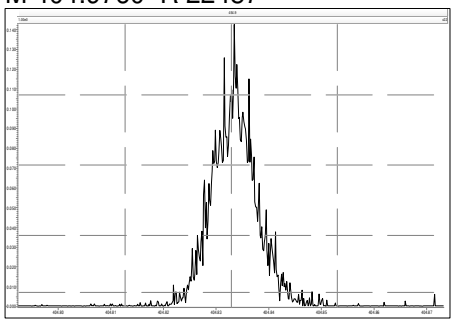
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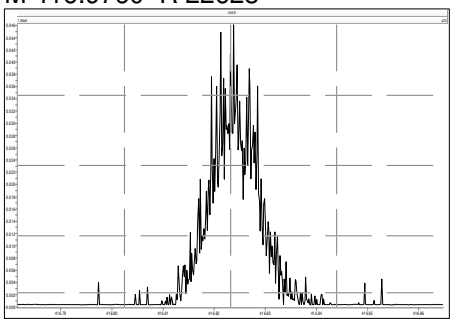
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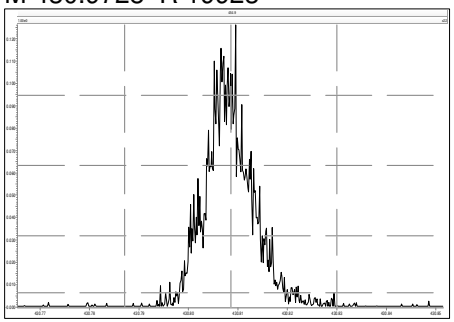
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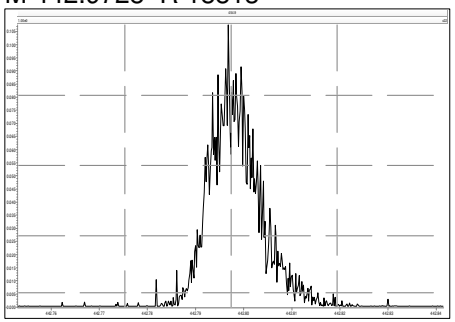
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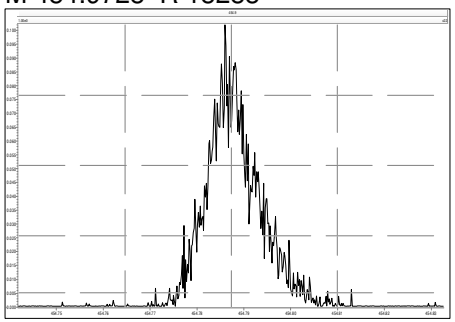
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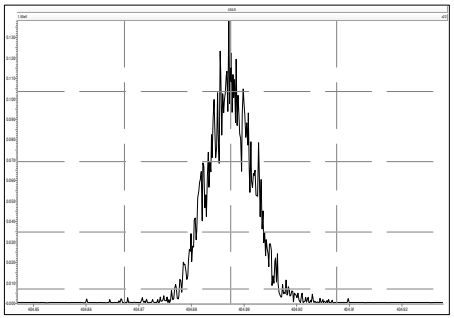
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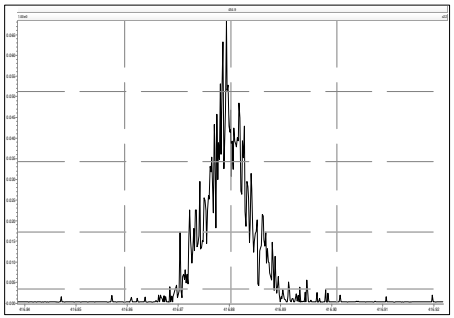
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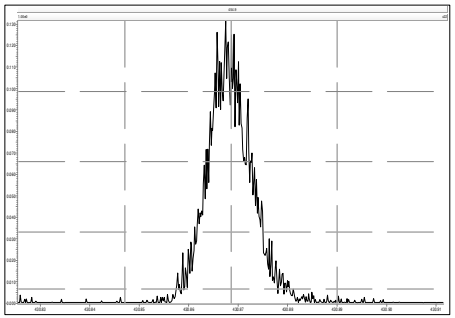
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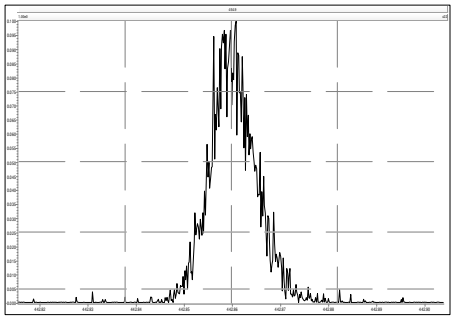
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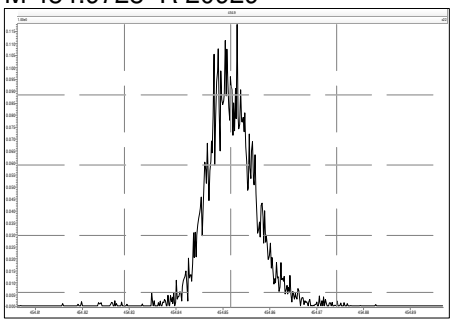
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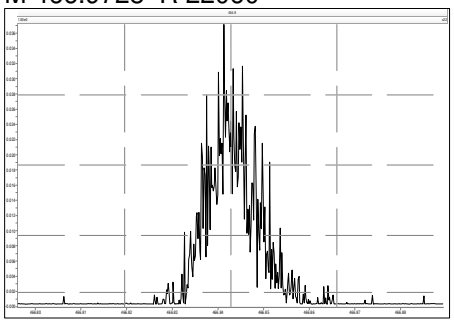
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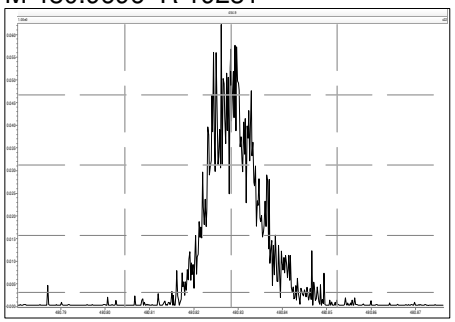
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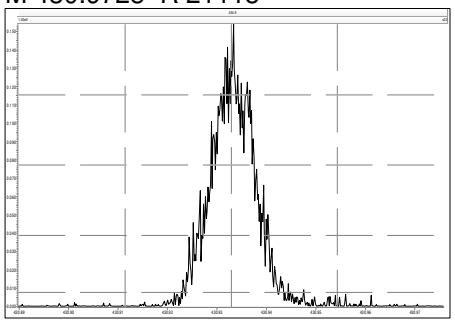
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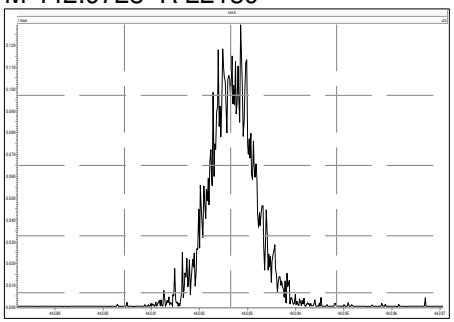
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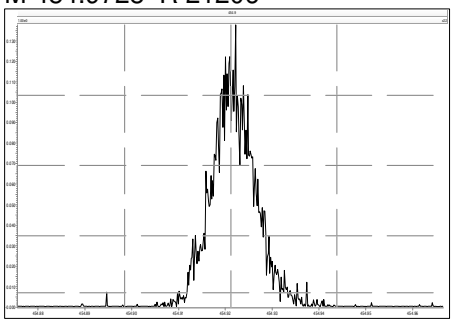
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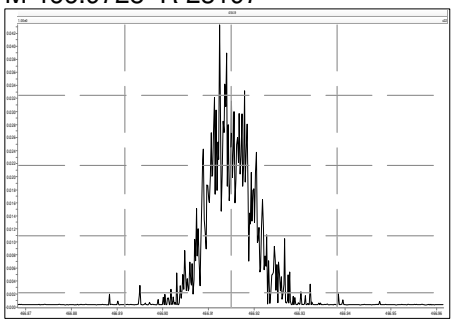
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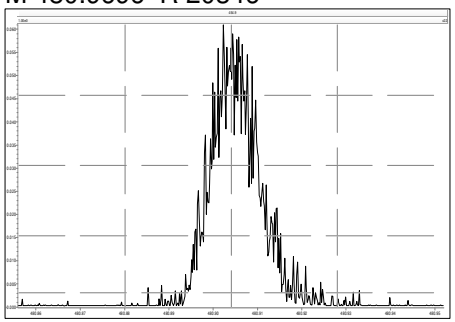
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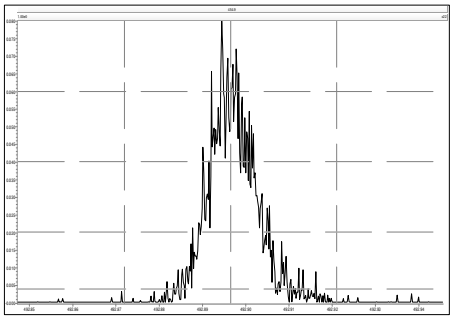
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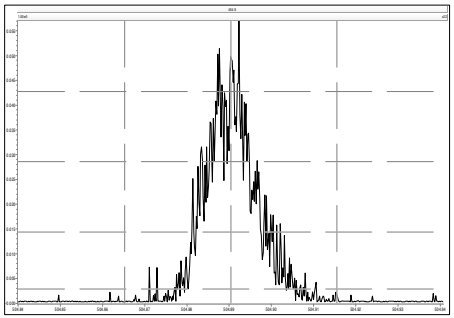
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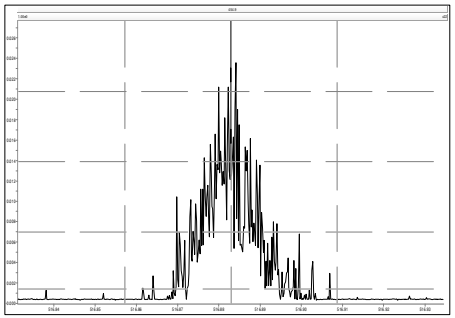
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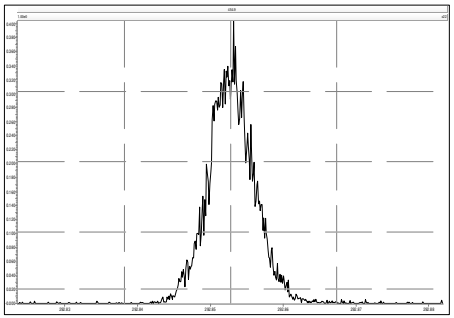


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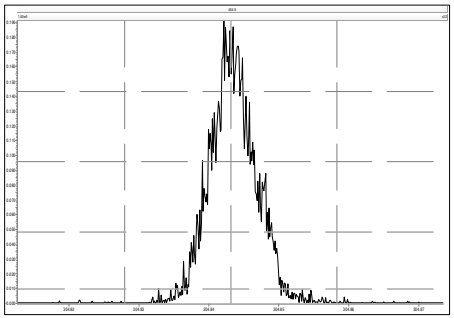


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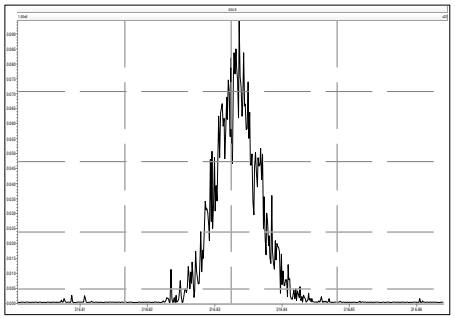
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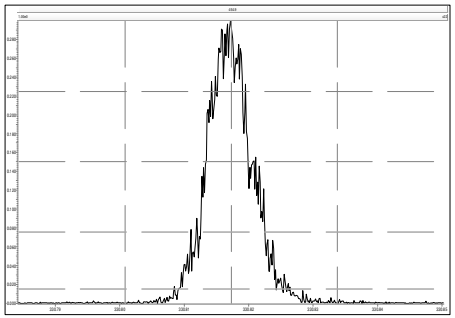
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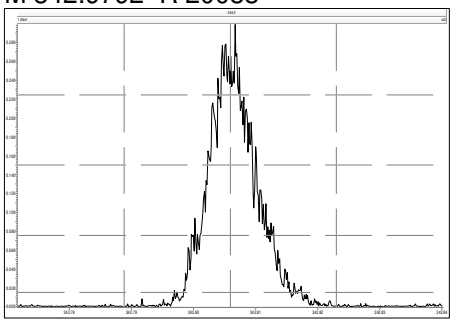
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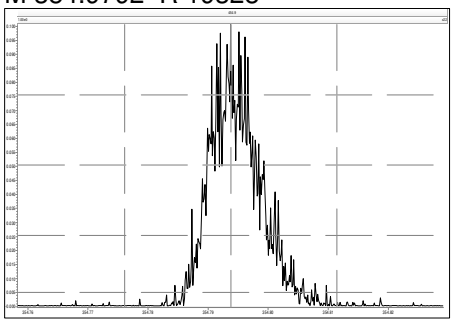
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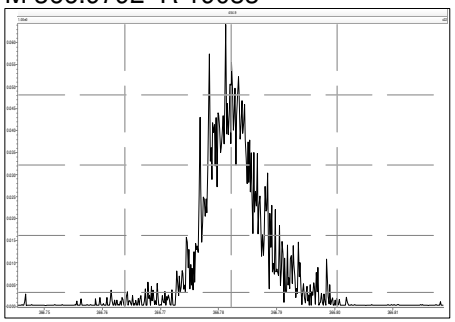
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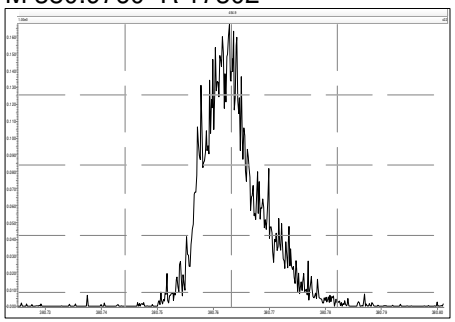
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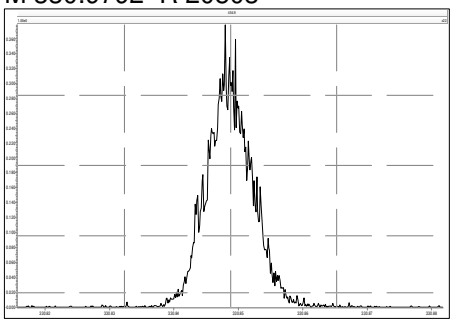
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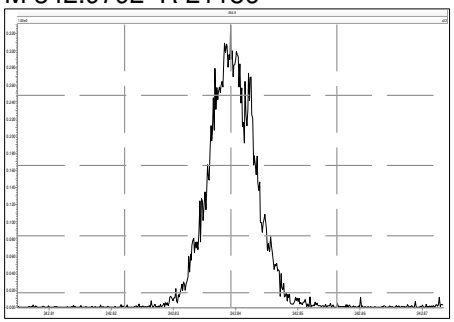
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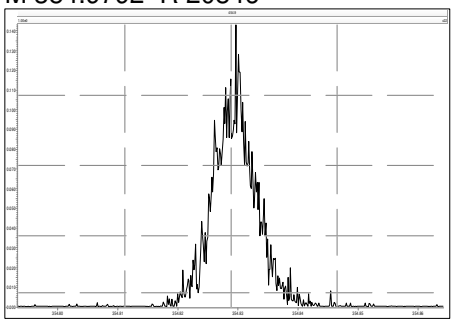
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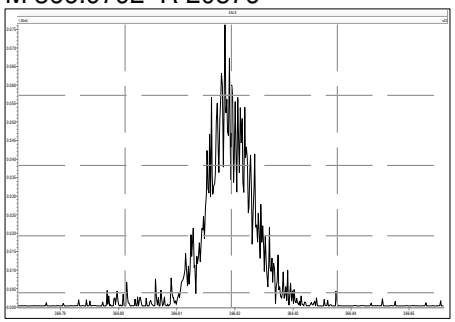
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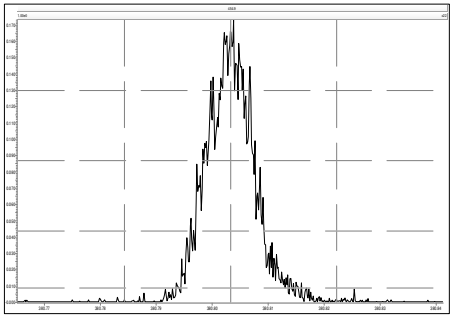
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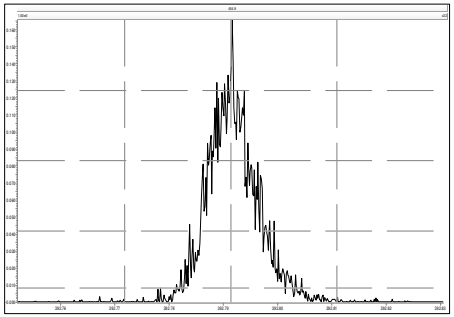
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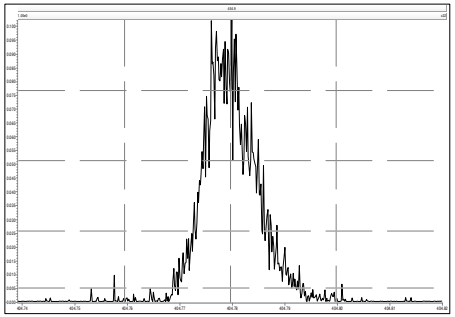
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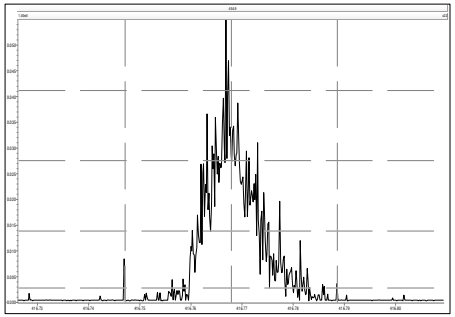
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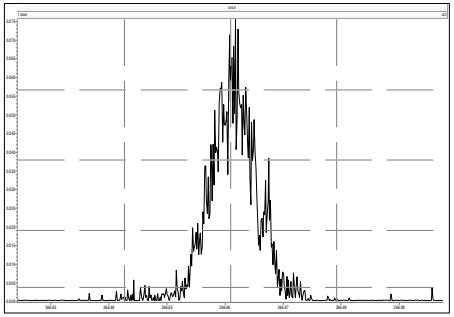
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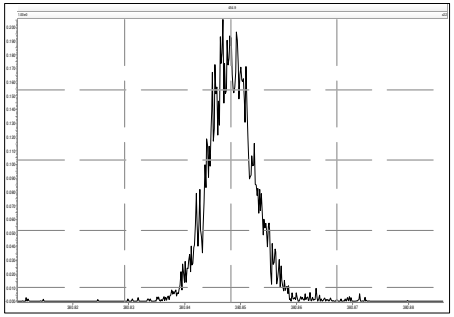
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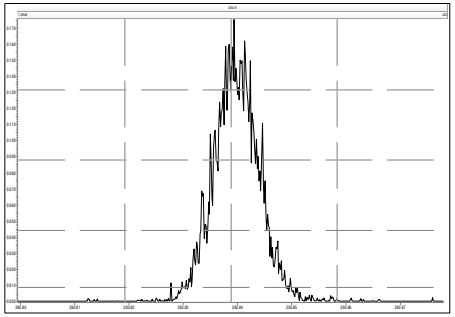
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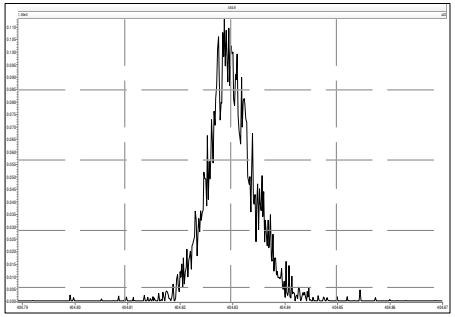
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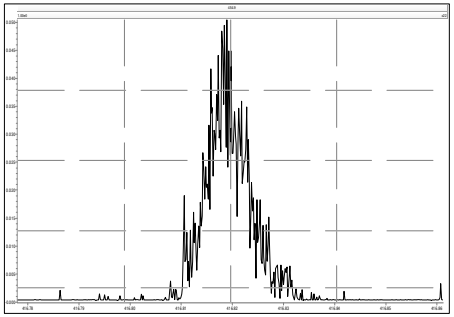
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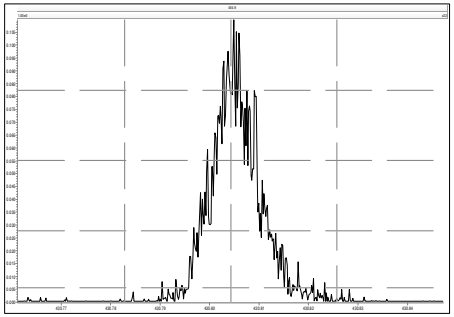
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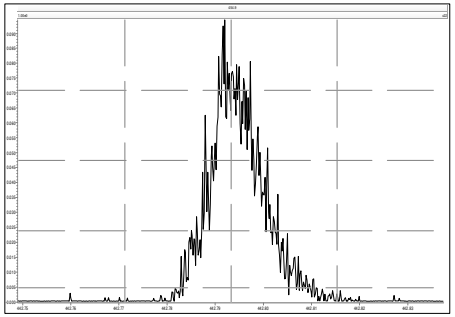
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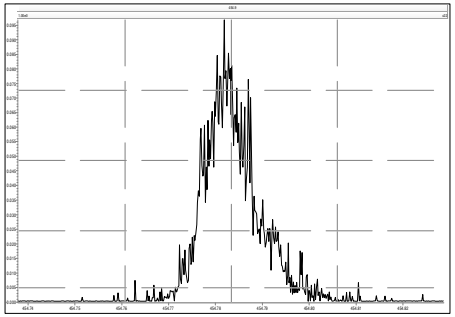
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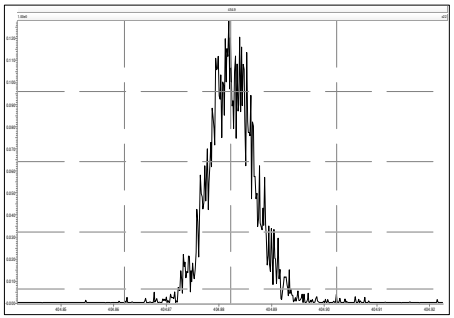
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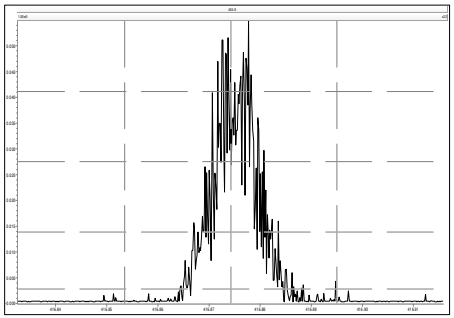
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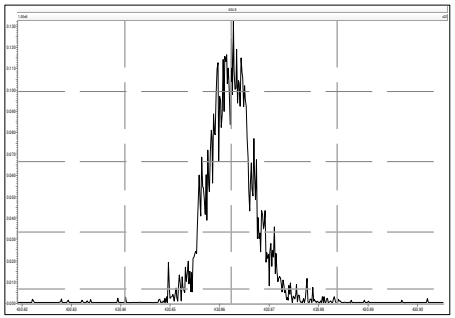
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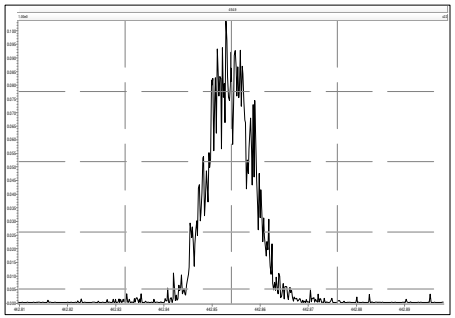
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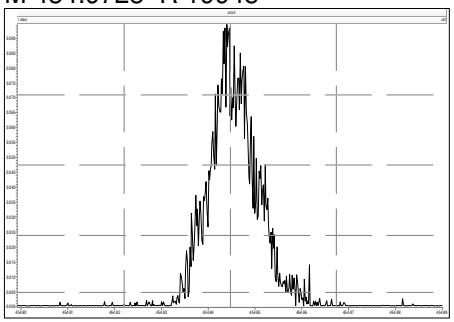
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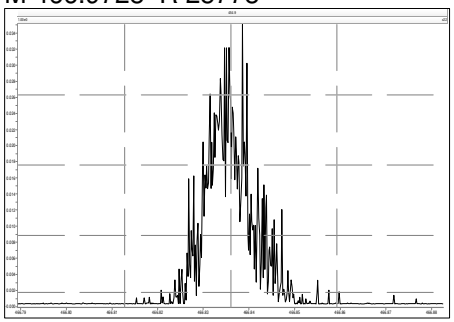
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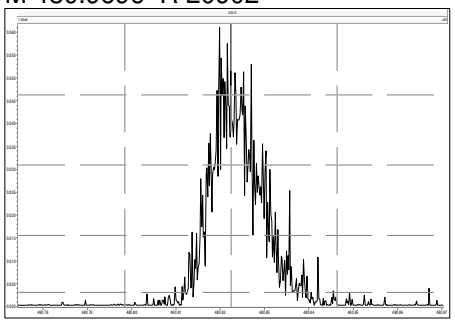
M 454.9728 R 19945



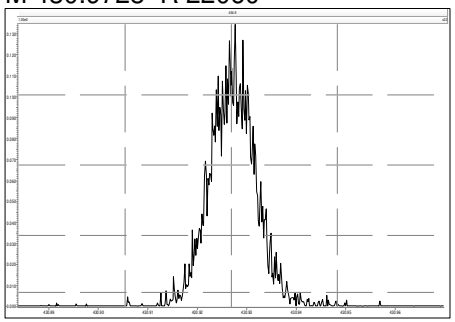
M 466.9728 R 25778



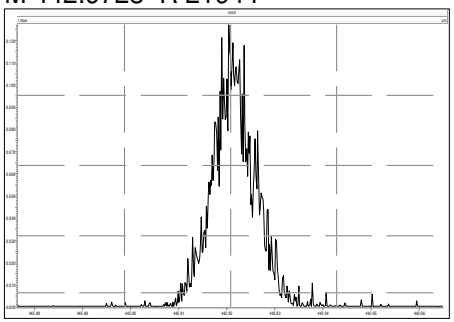
M 480.9696 R 20902



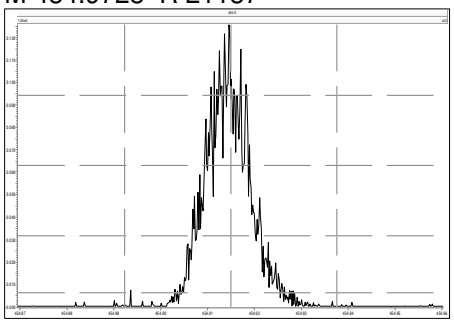
M 430.9728 R 22060



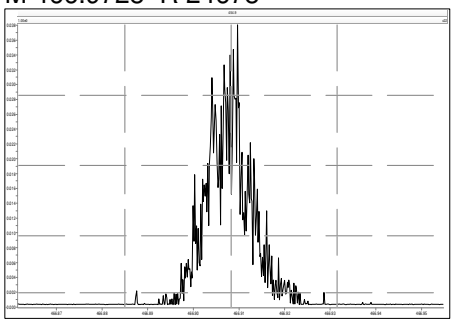
M 442.9728 R 21944



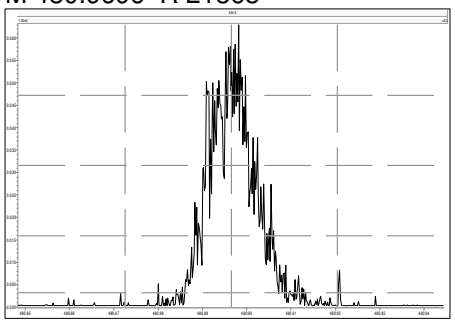
M 454.9728 R 21187



M 466.9728 R 24678

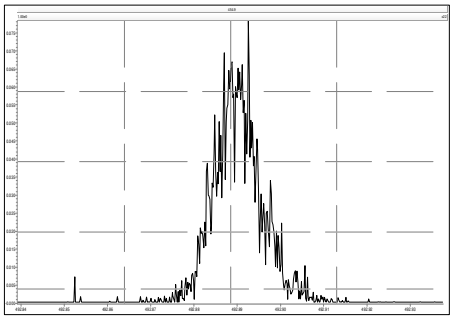


M 480.9696 R 21368

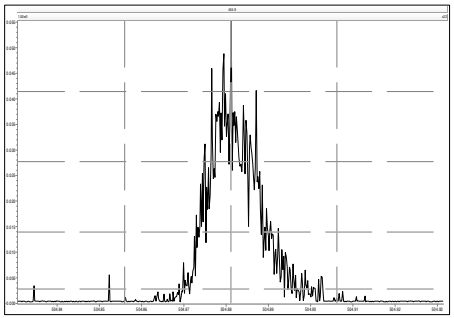


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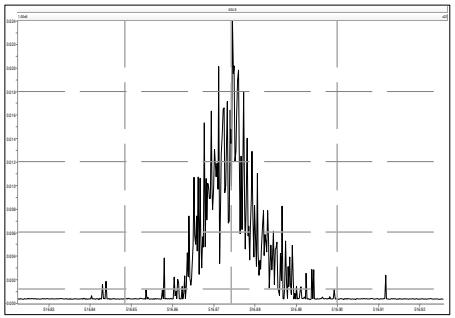
M 492.9696 R 21082



M 504.9696 R 20292



M 516.9697 R 19809



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

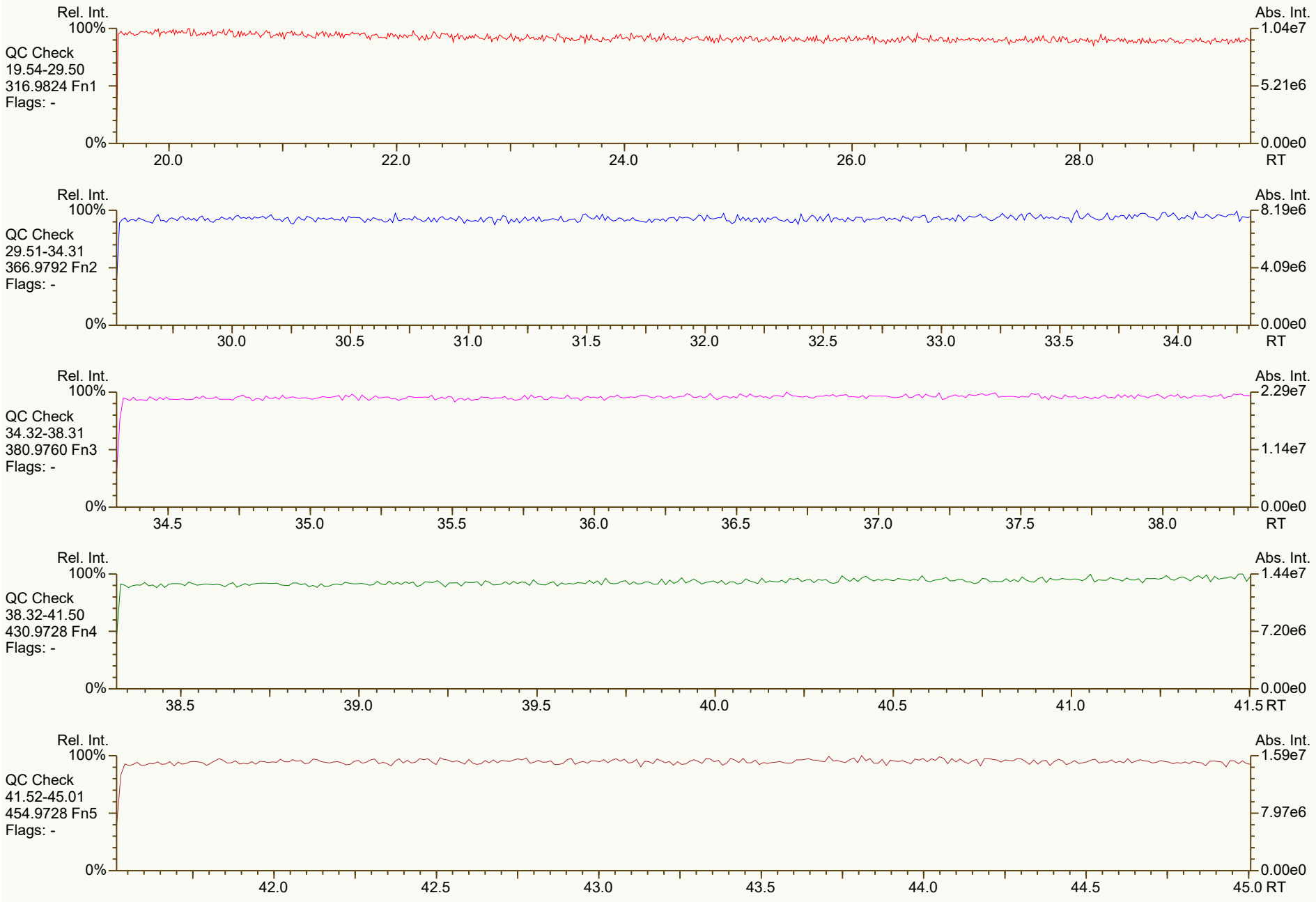
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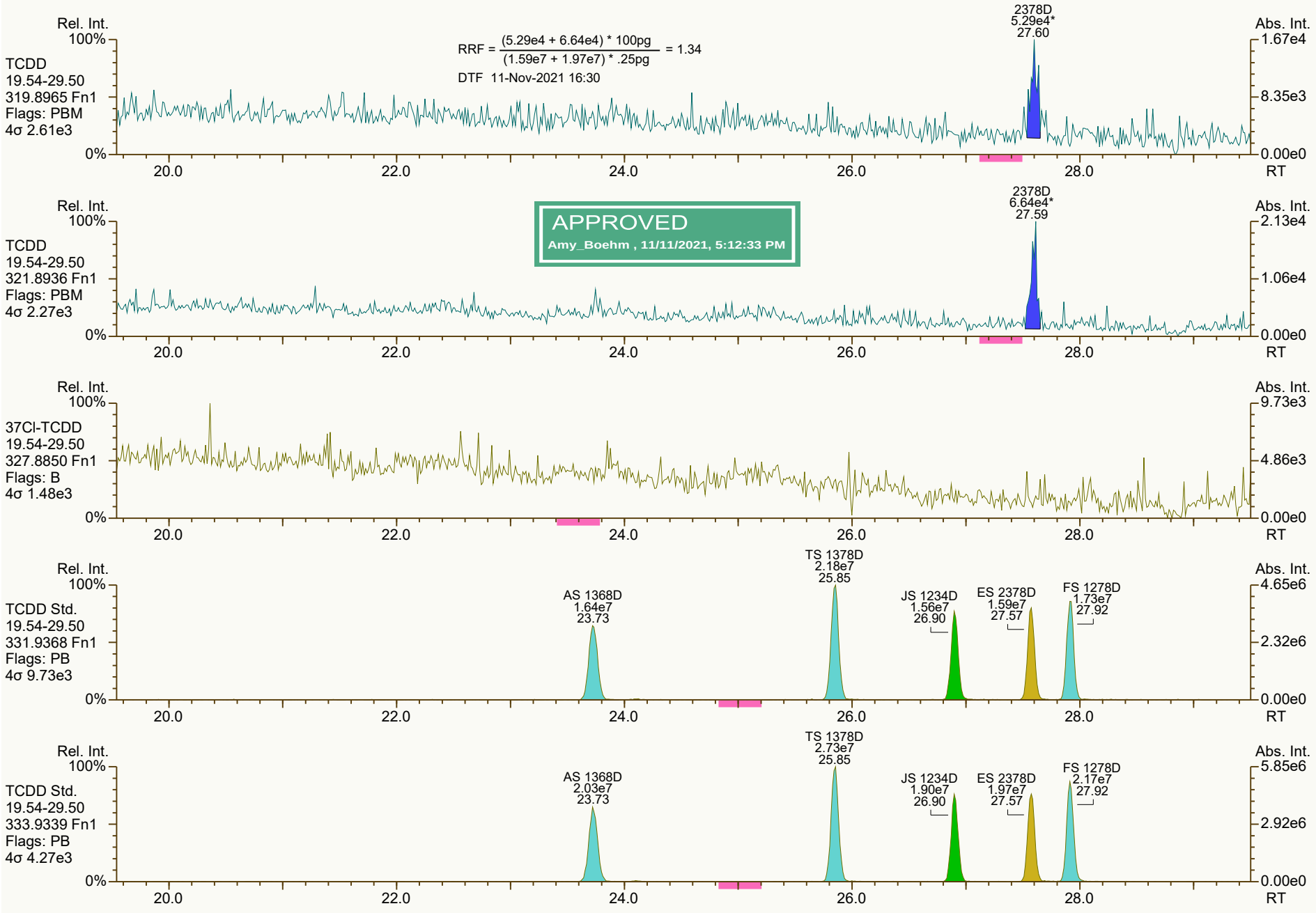
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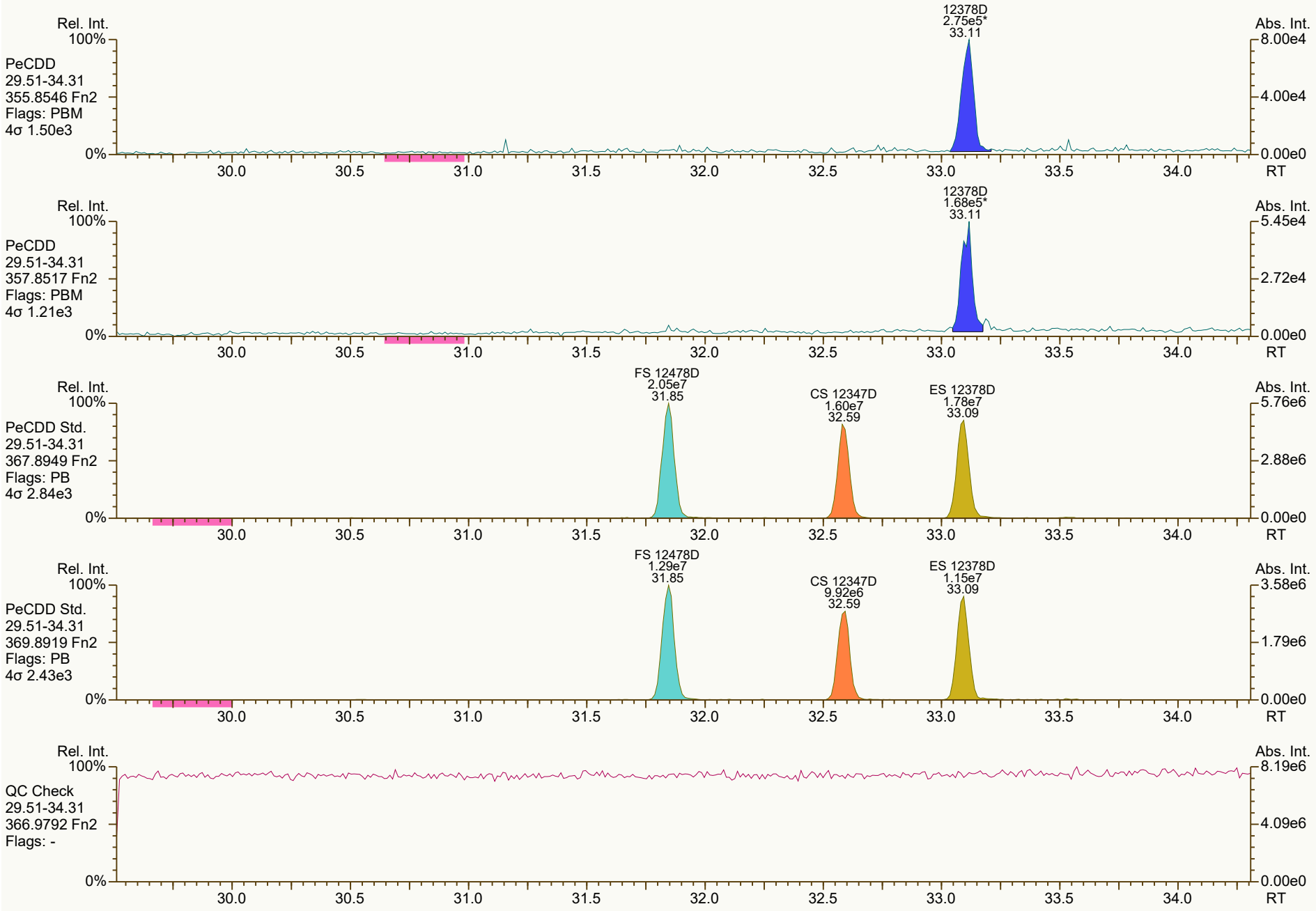
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

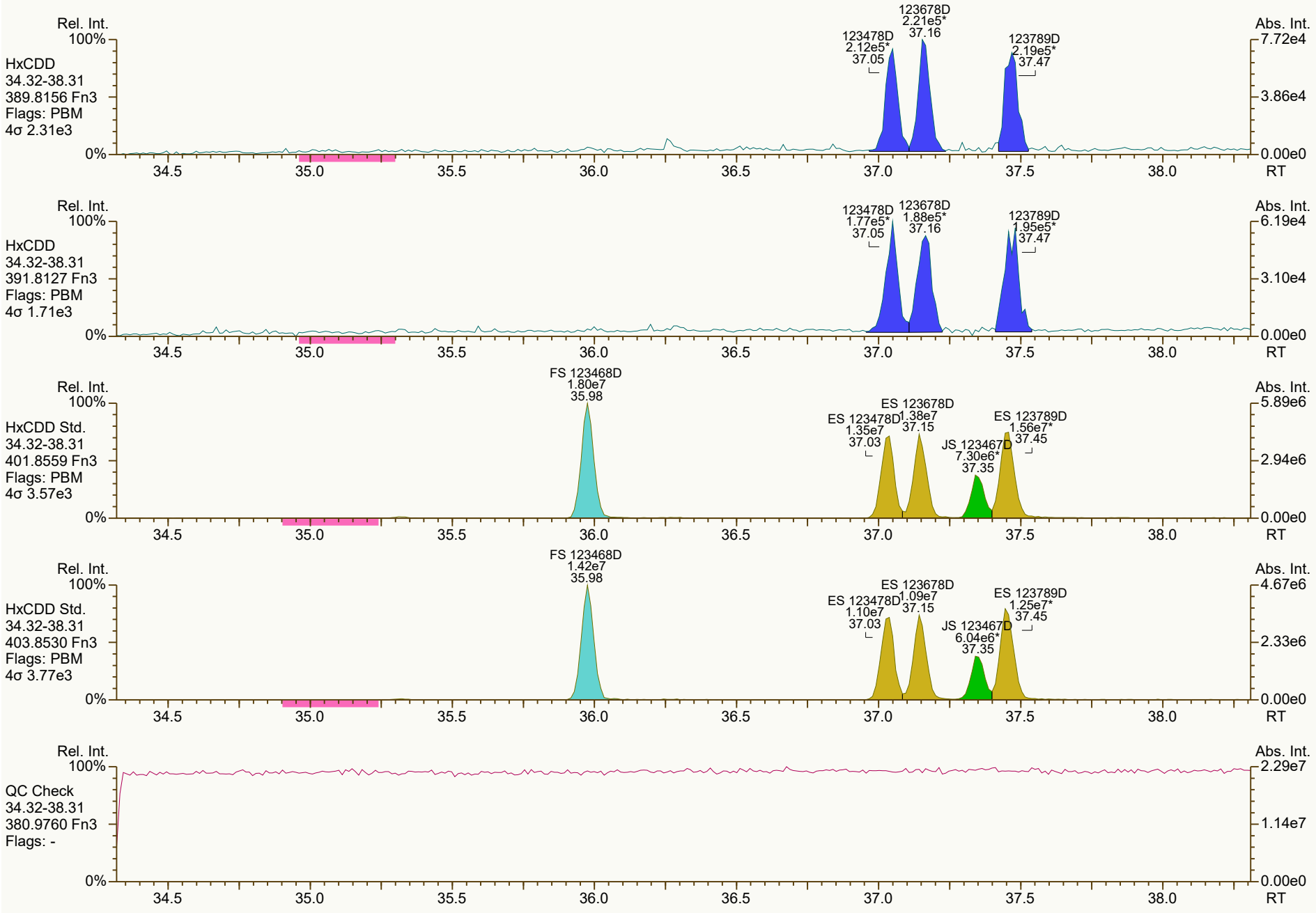
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

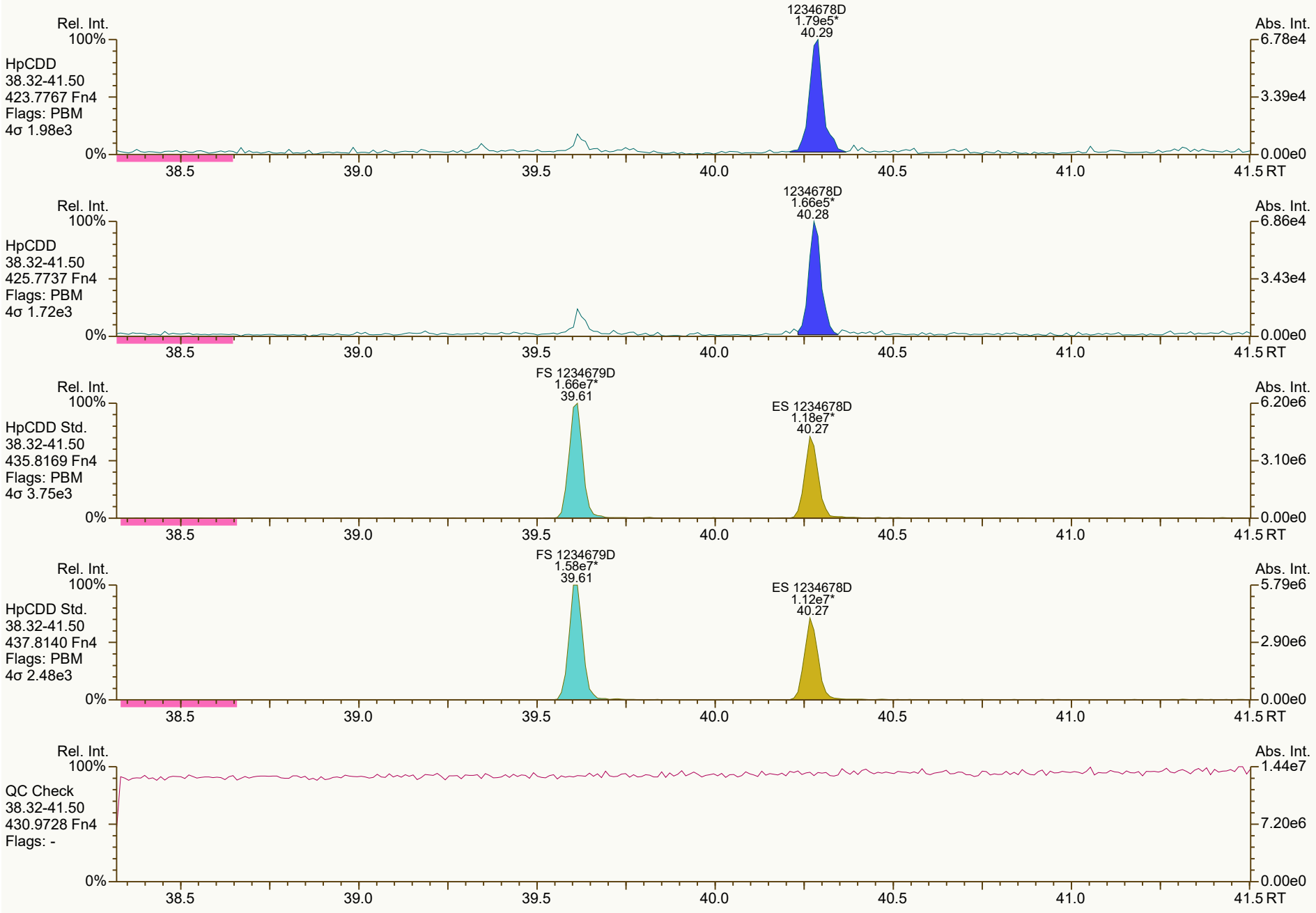
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

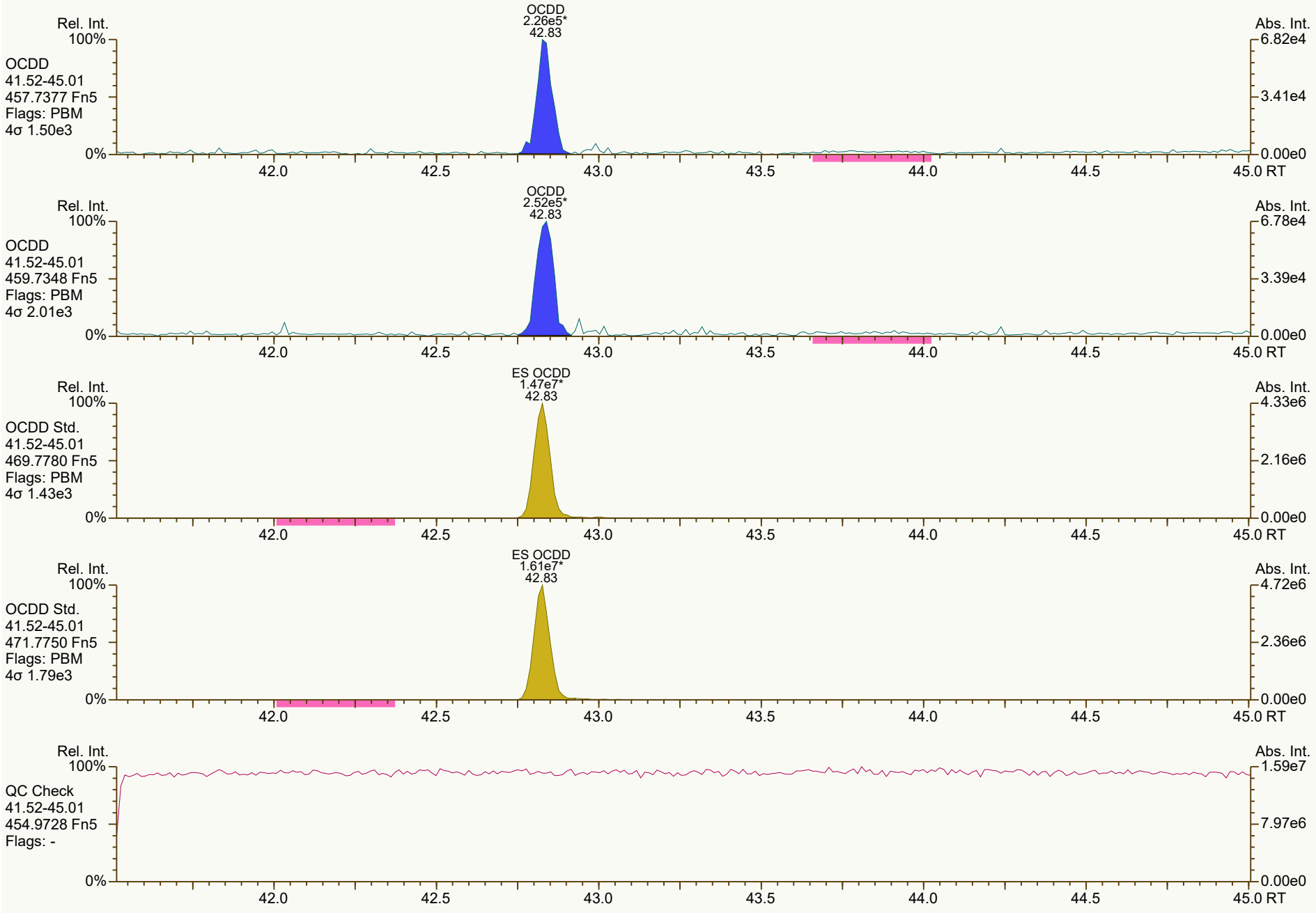

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

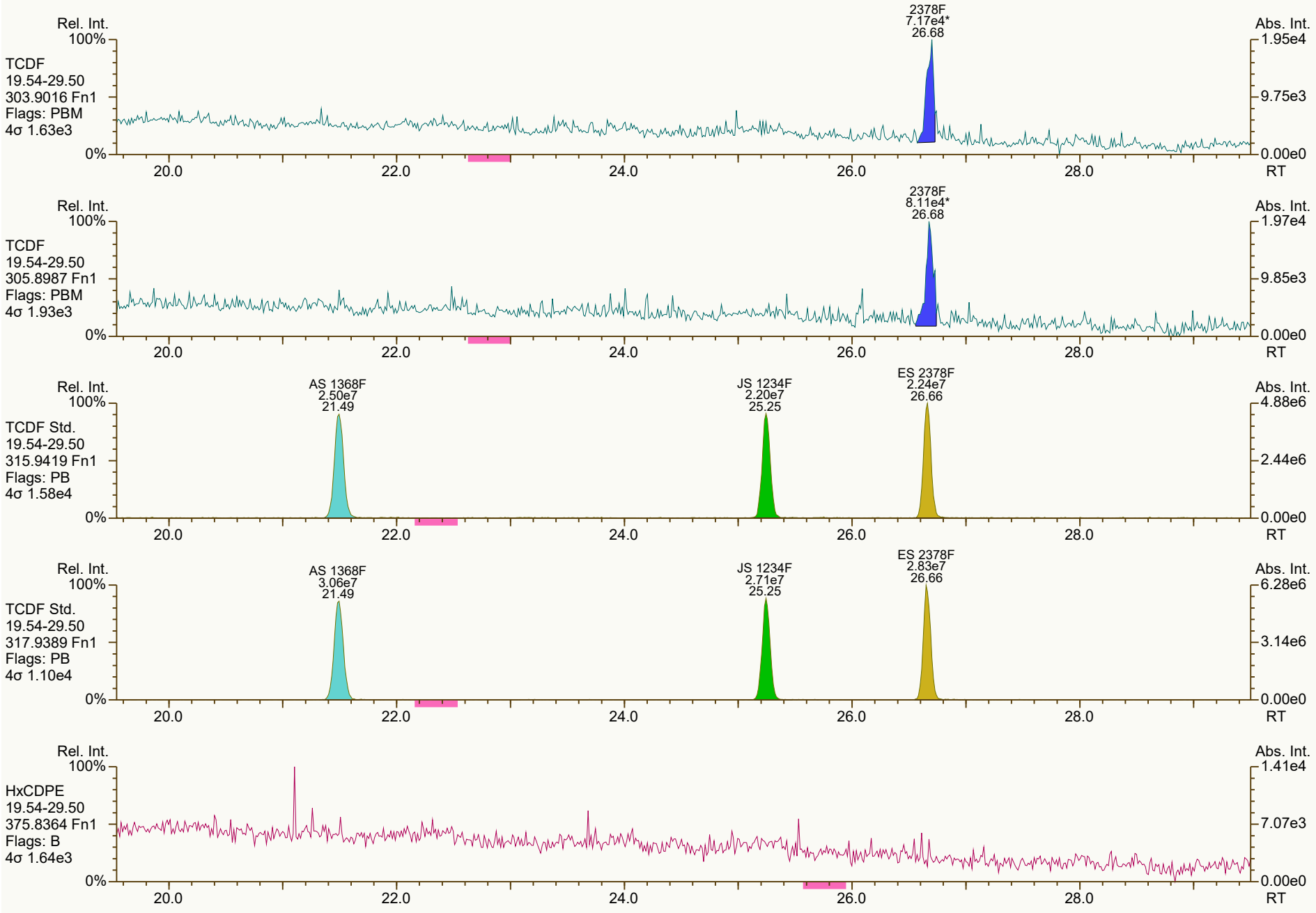

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

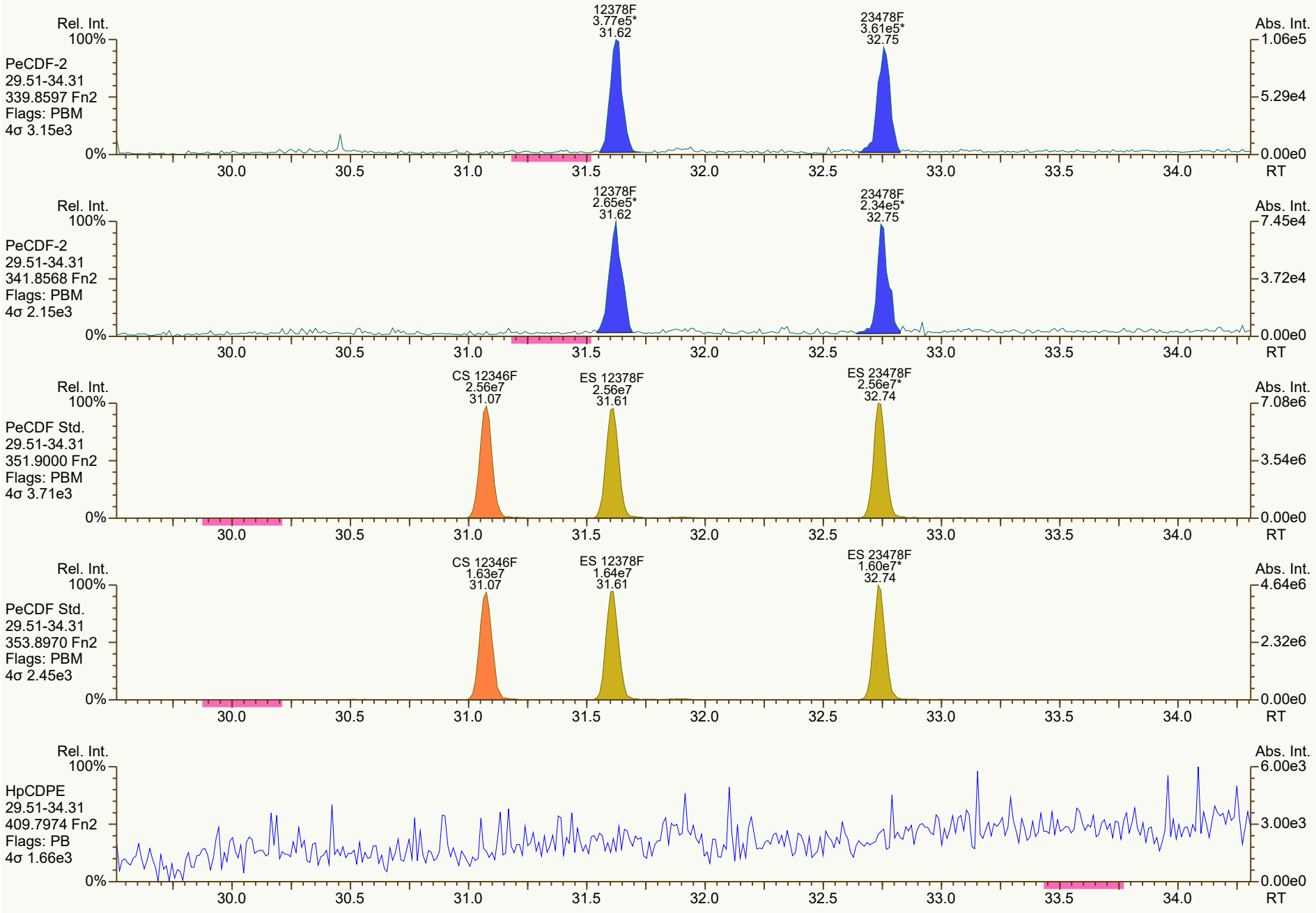

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

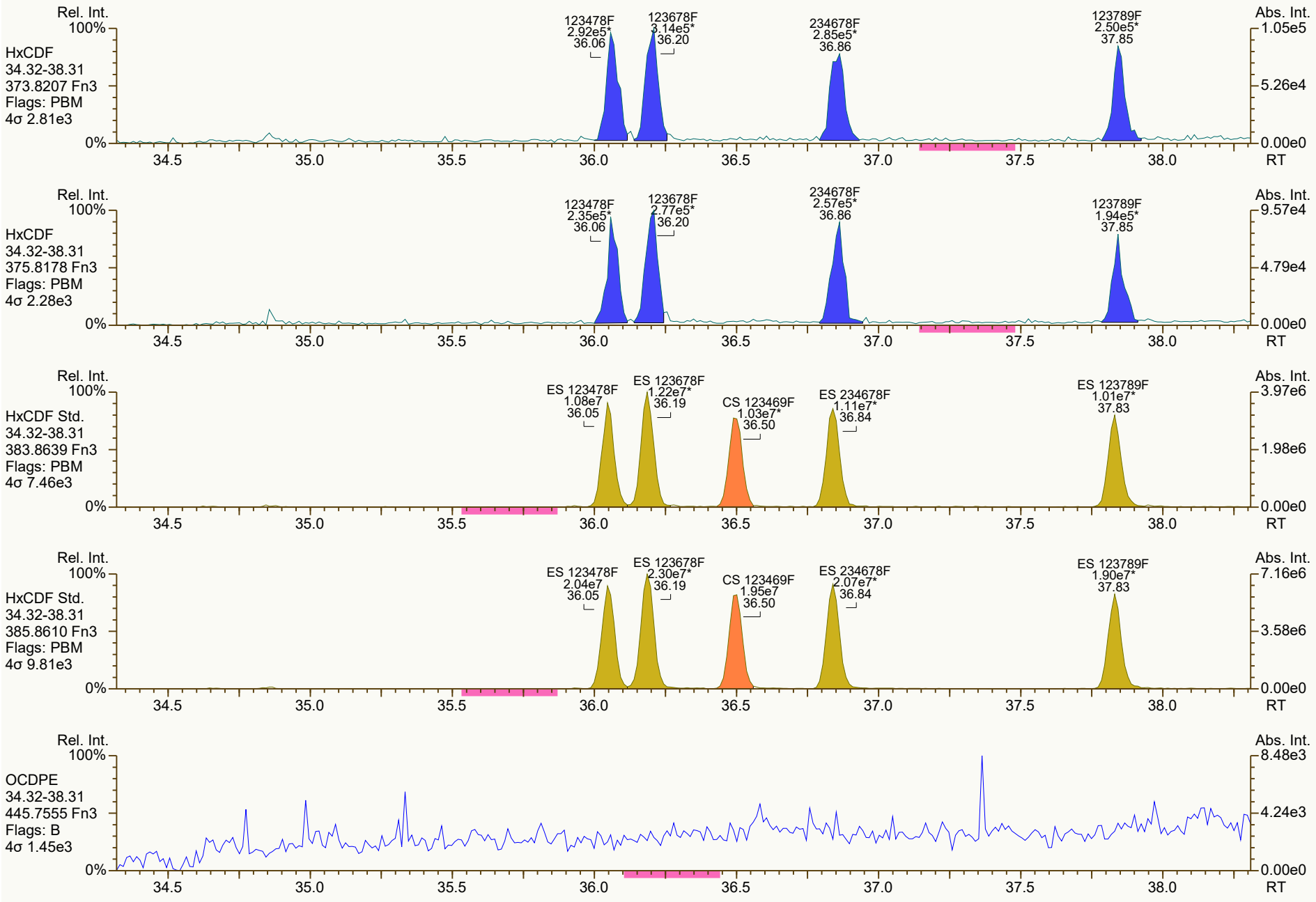

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

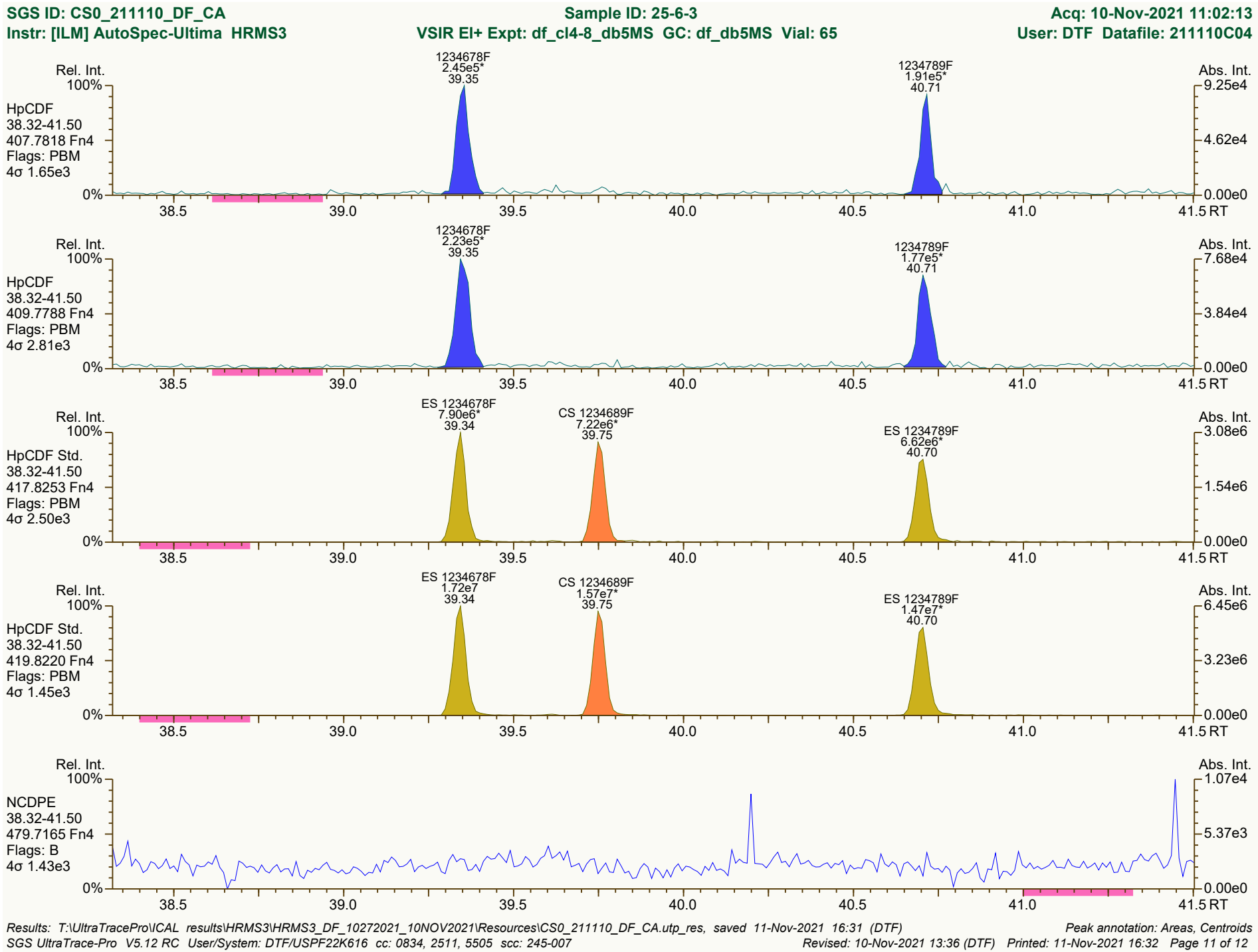
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

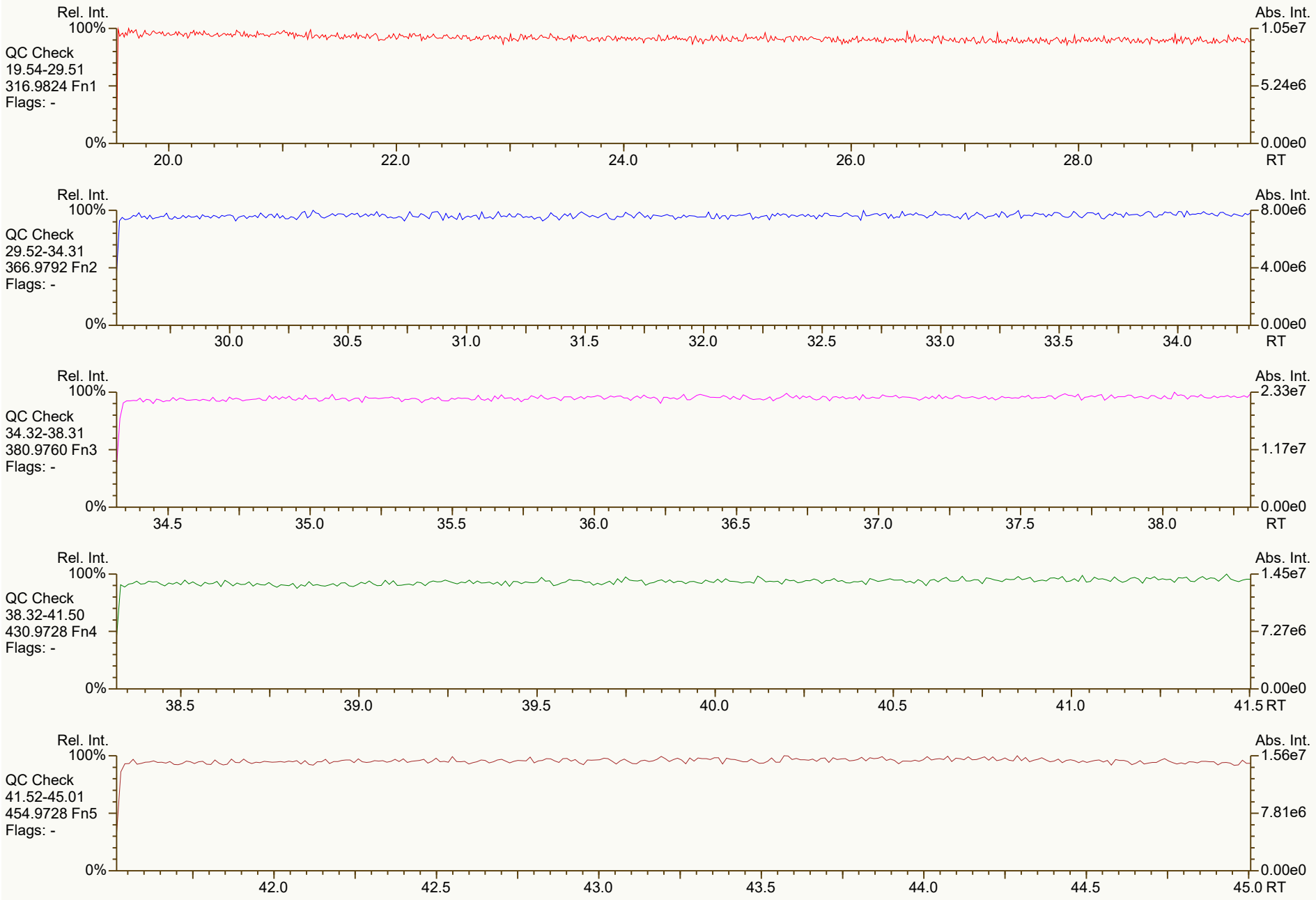

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

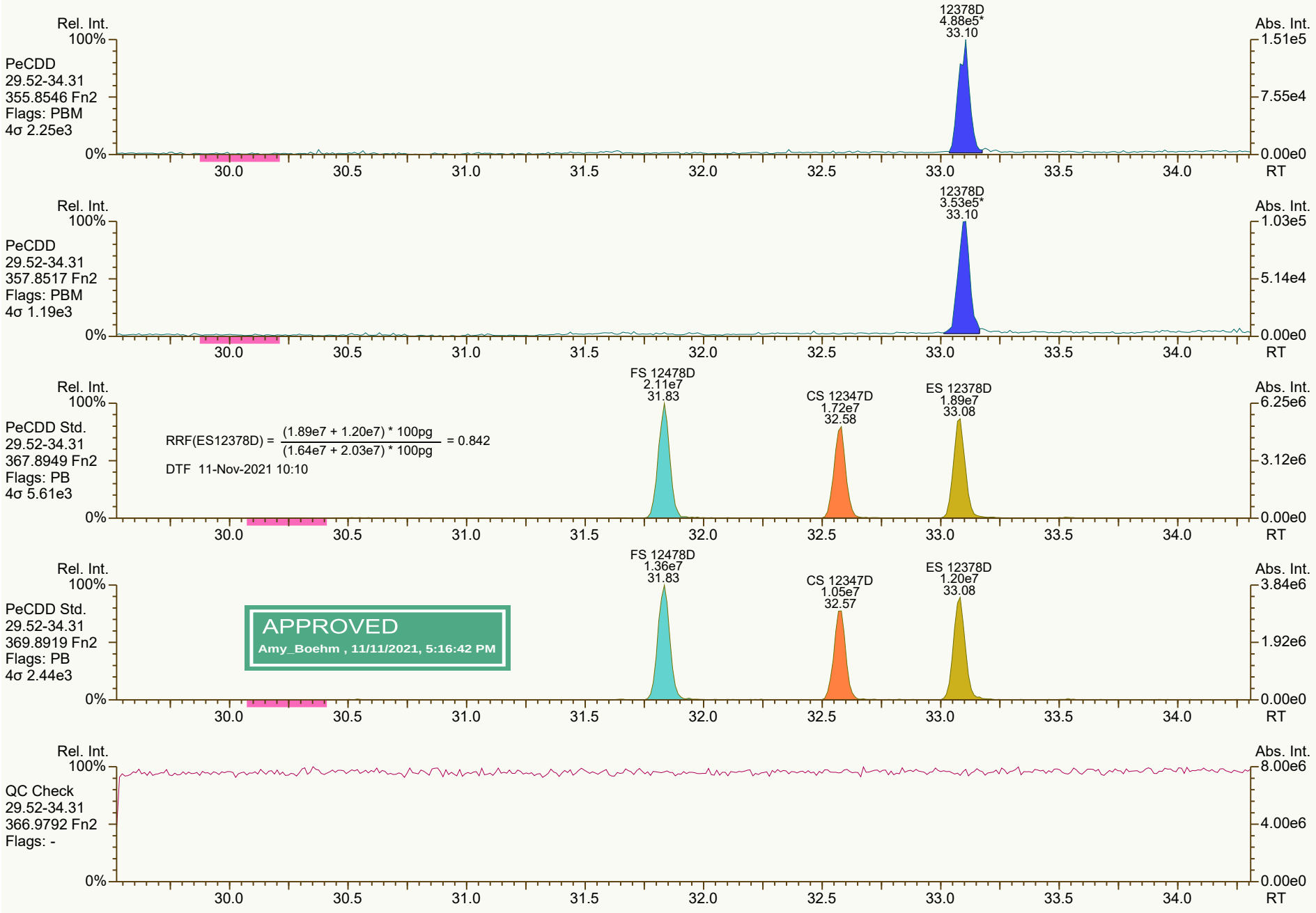
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

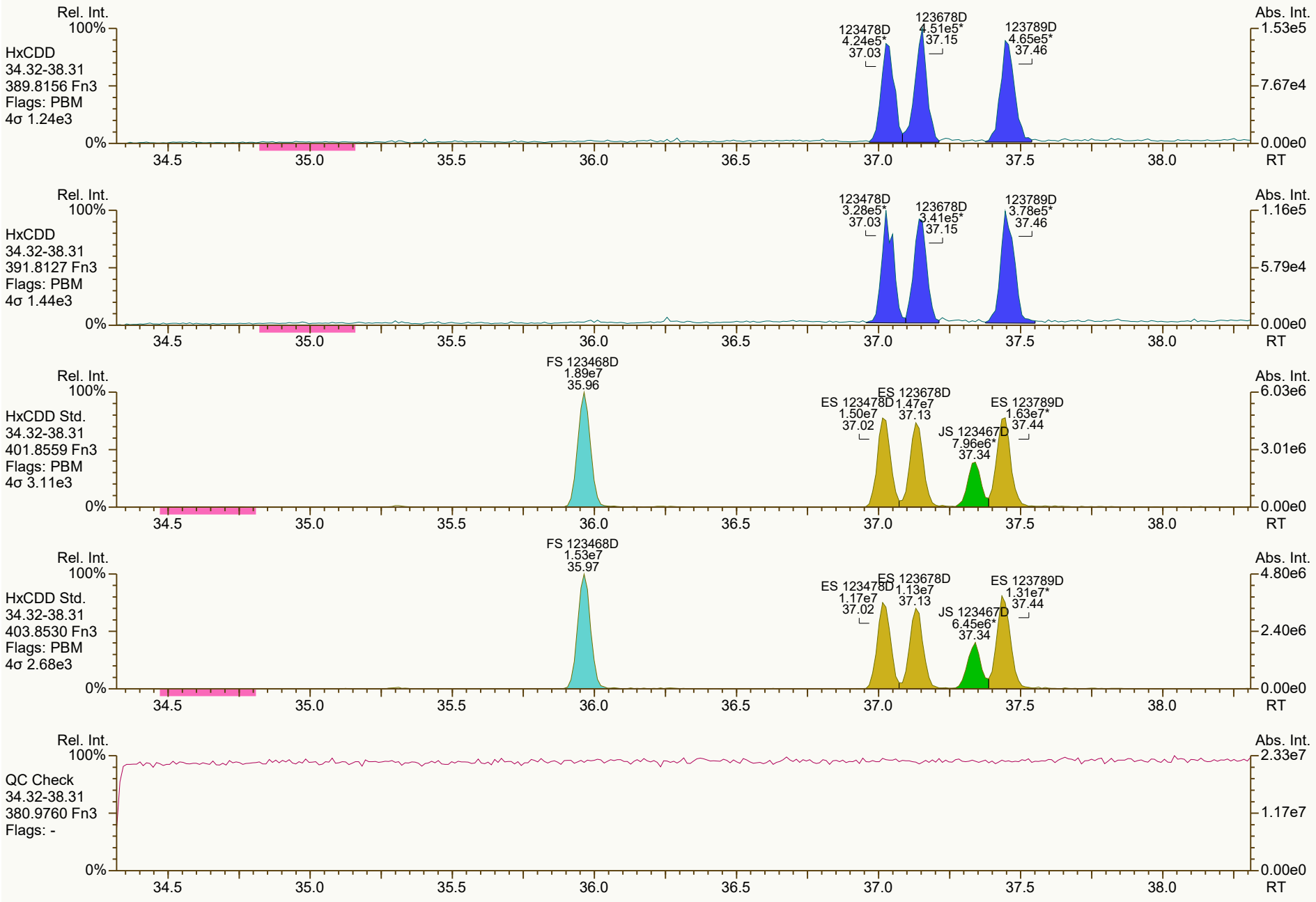
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

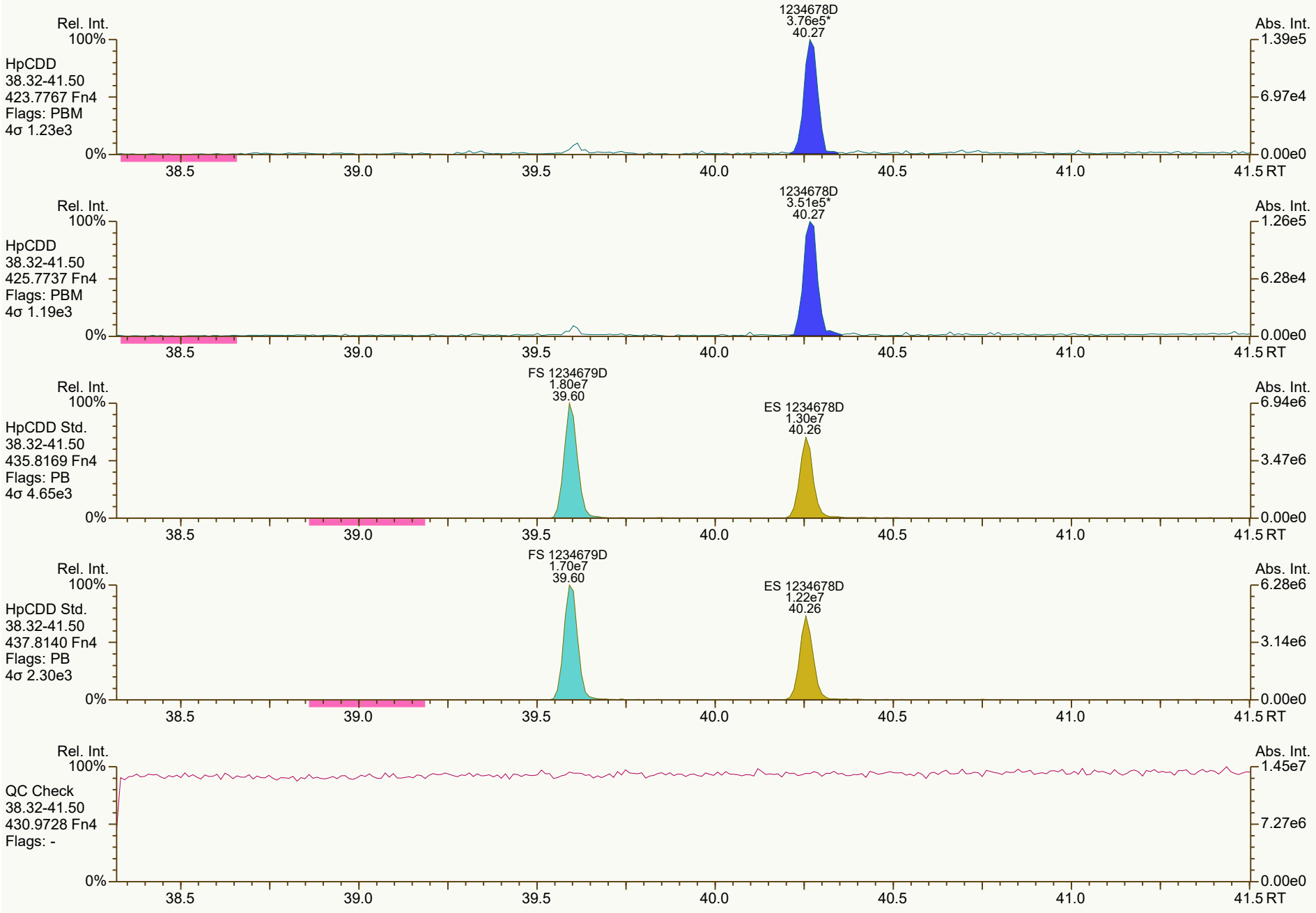


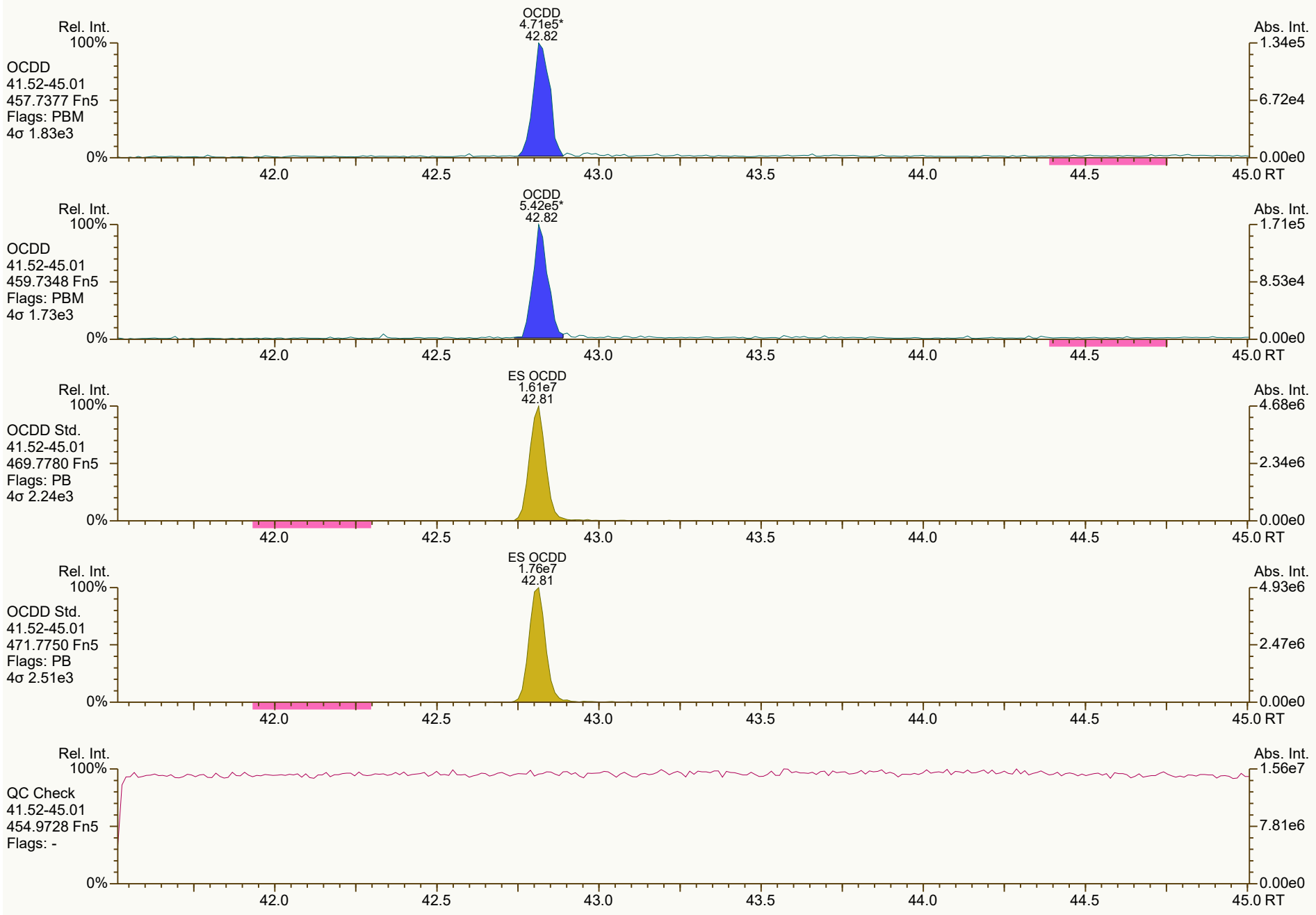
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

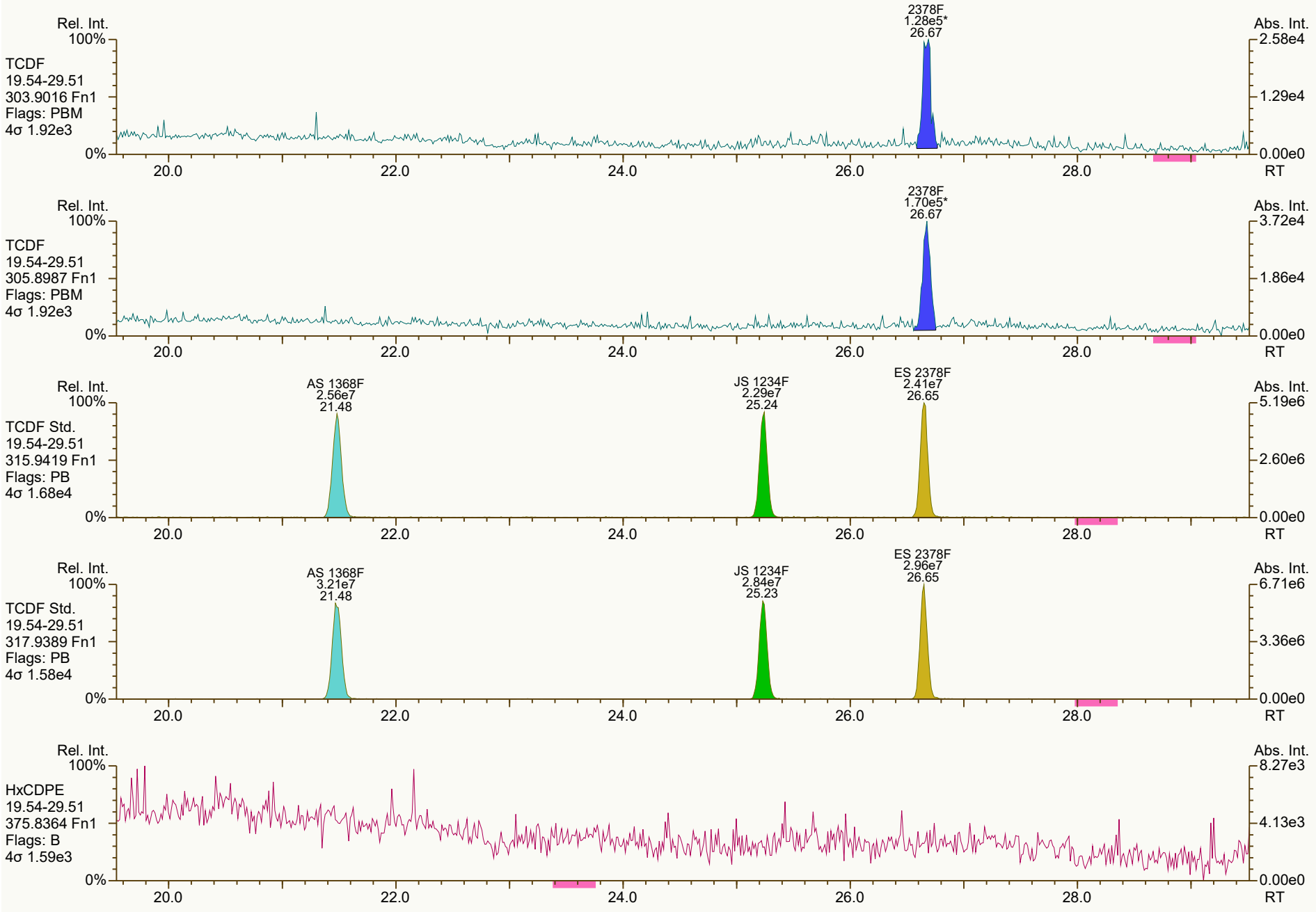

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

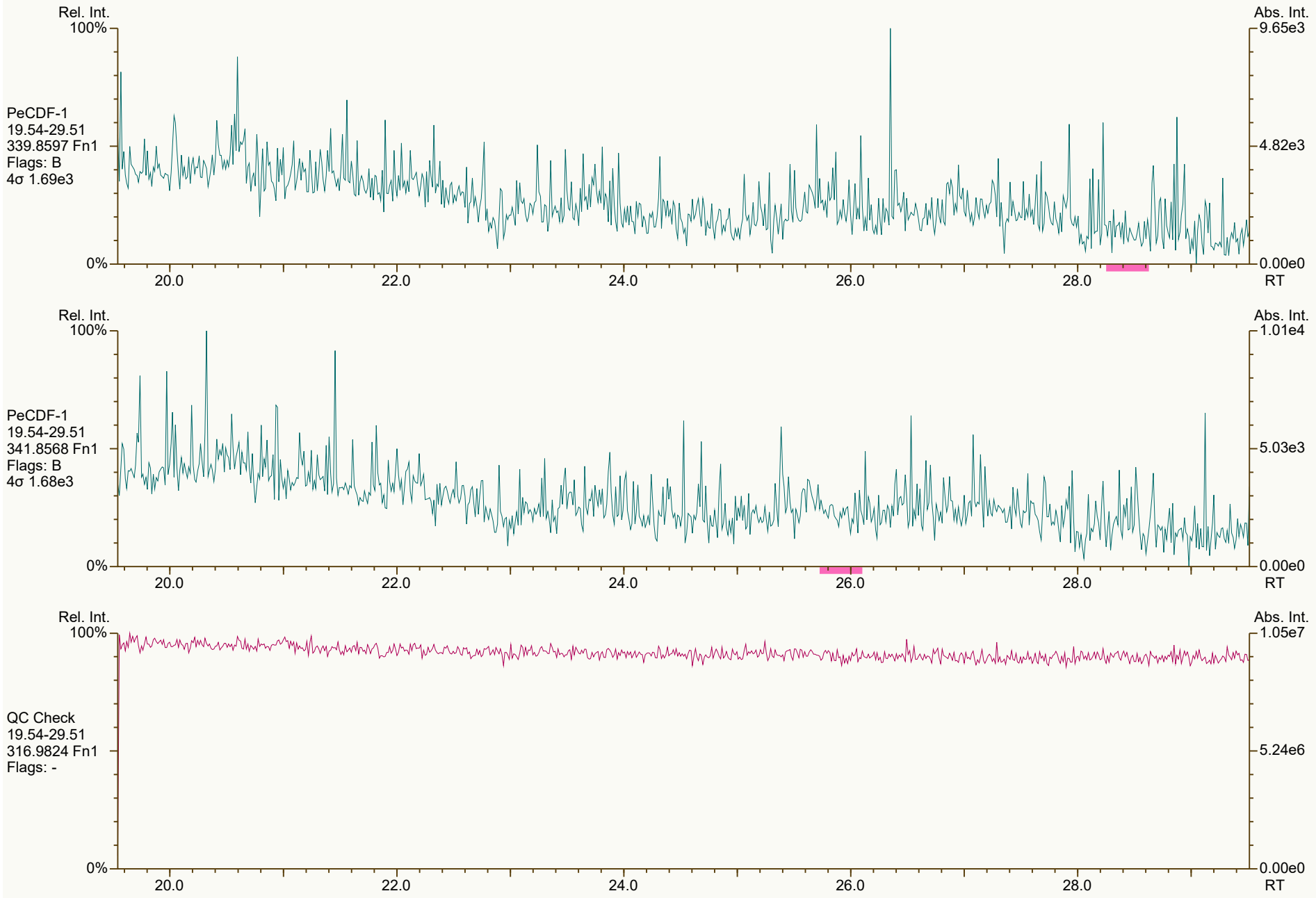

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

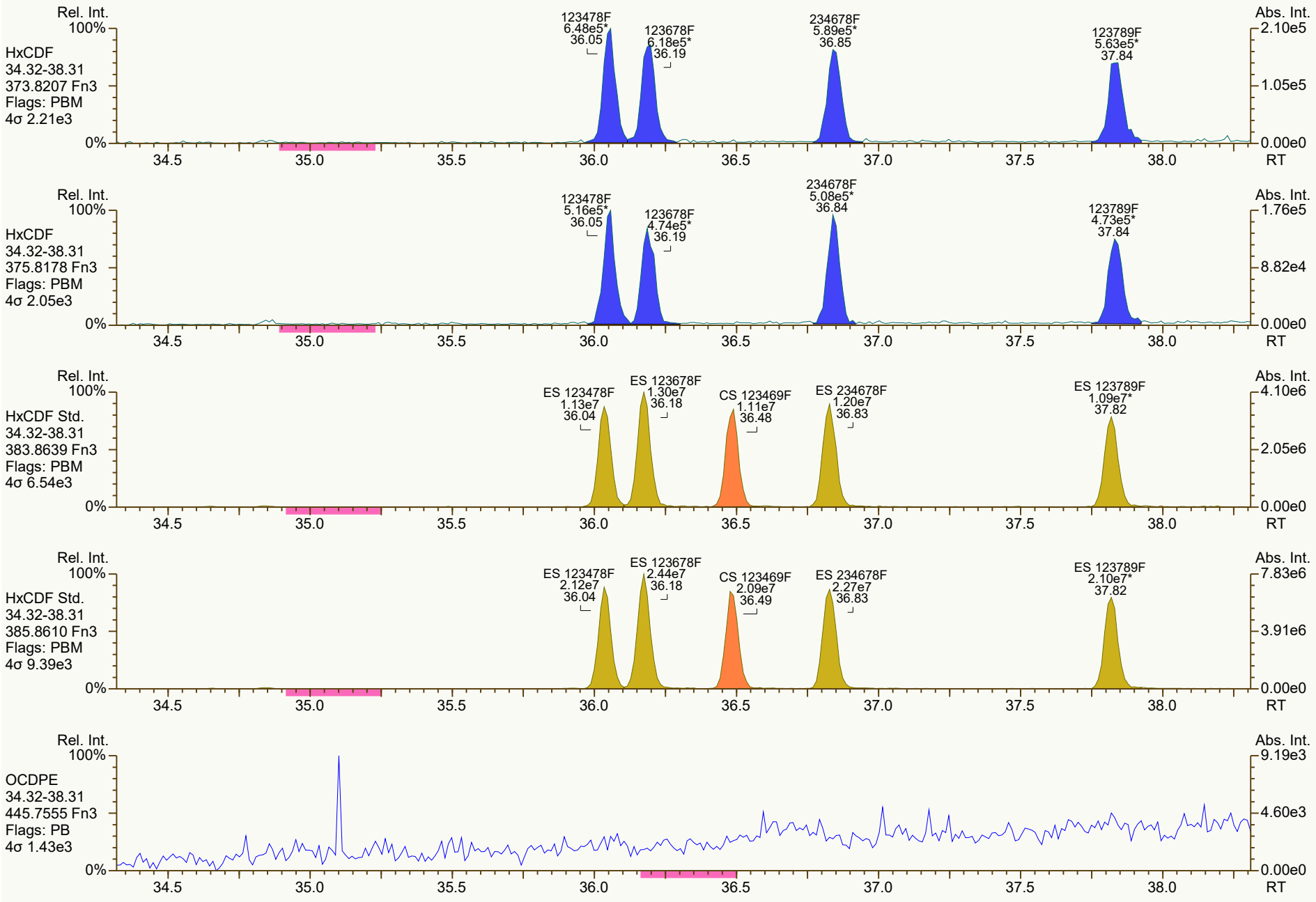

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.27e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

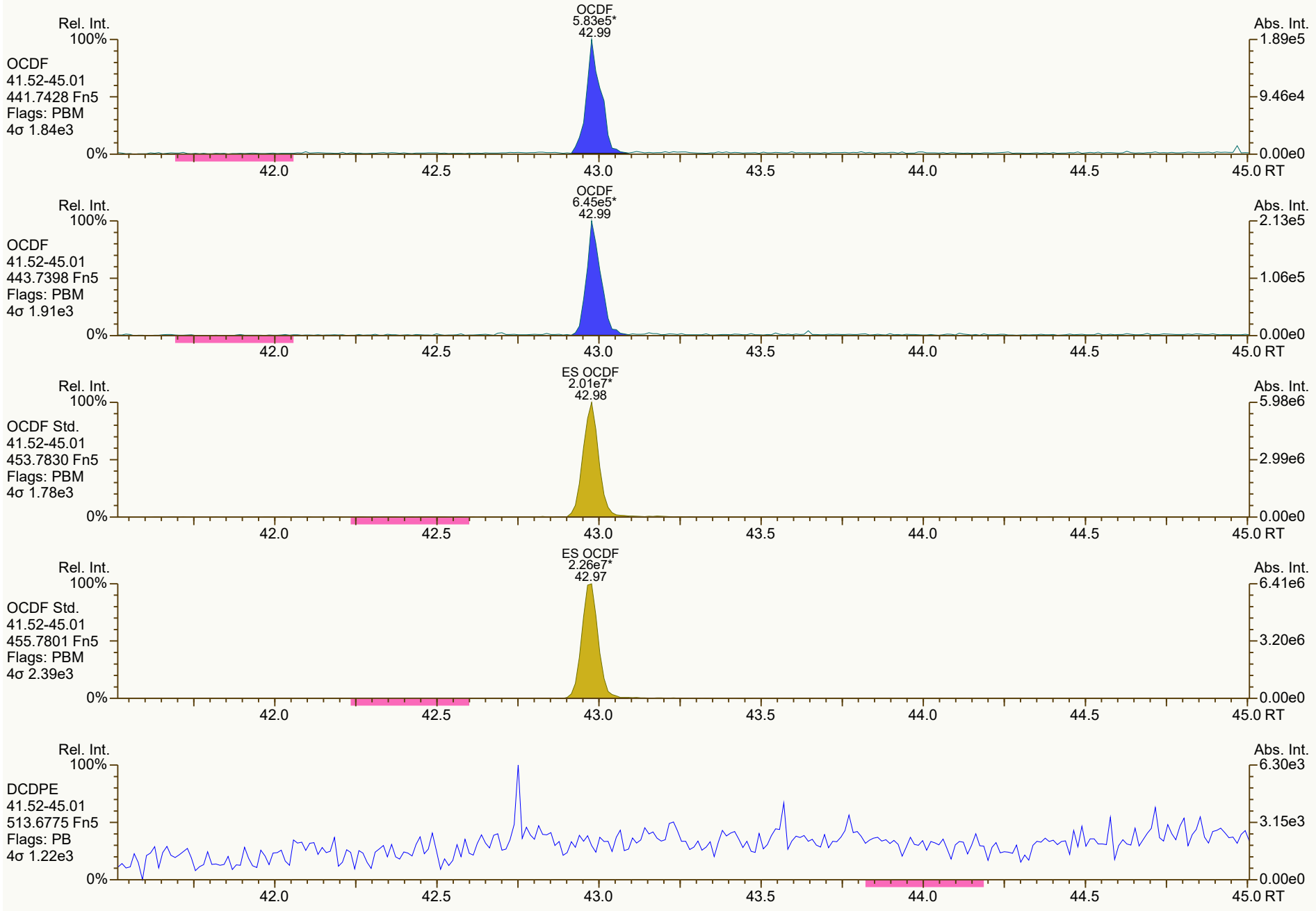

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

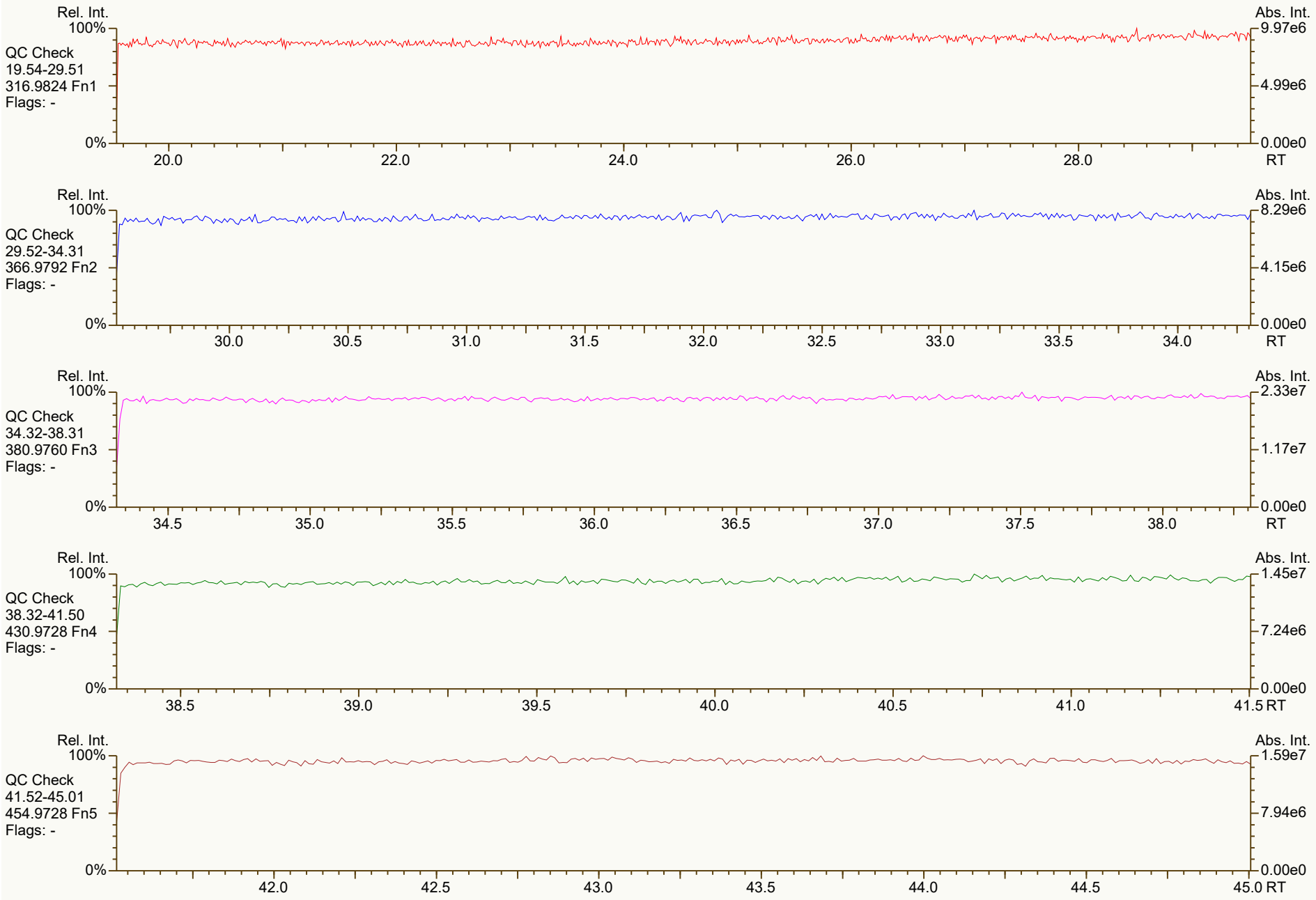

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

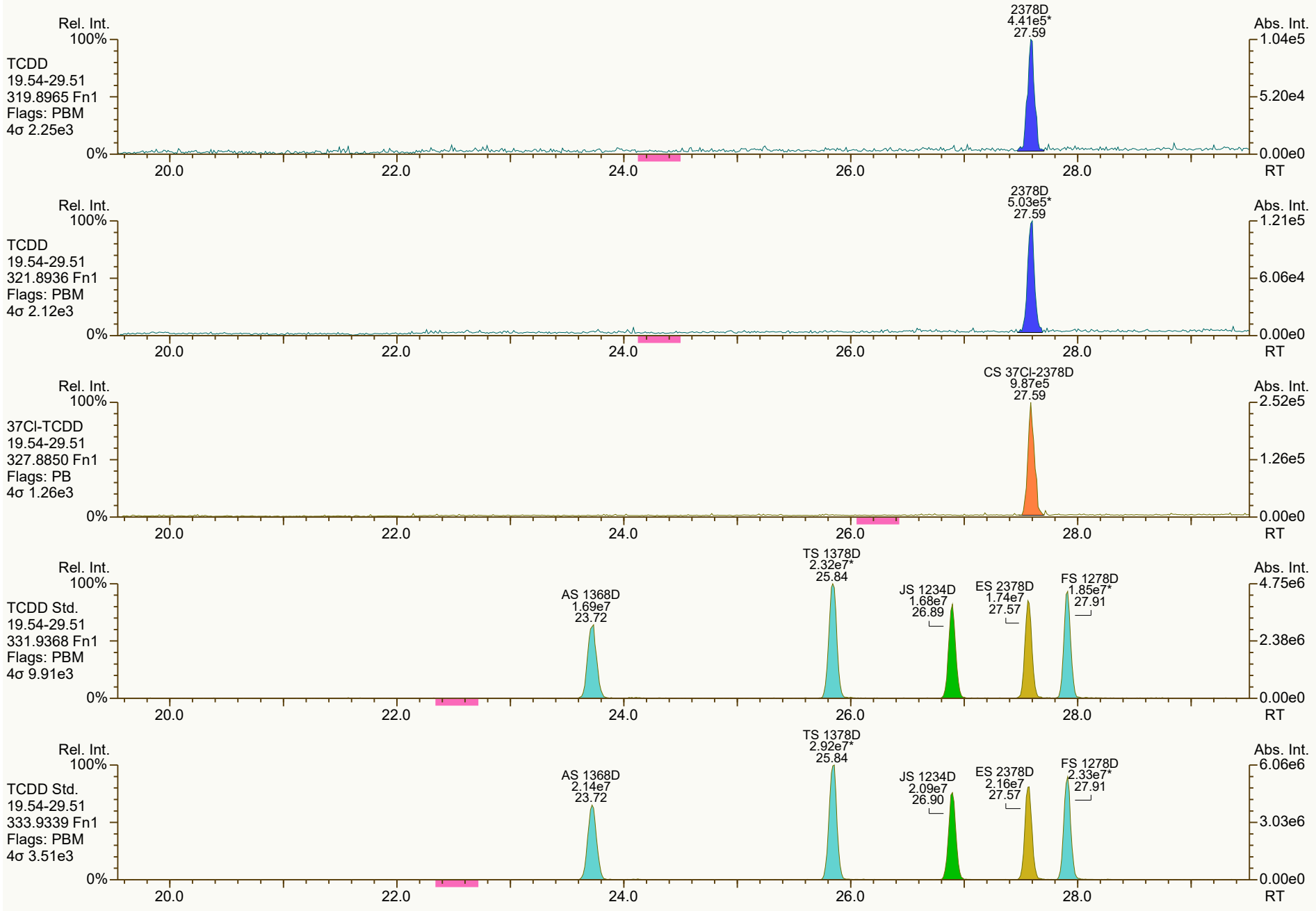

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

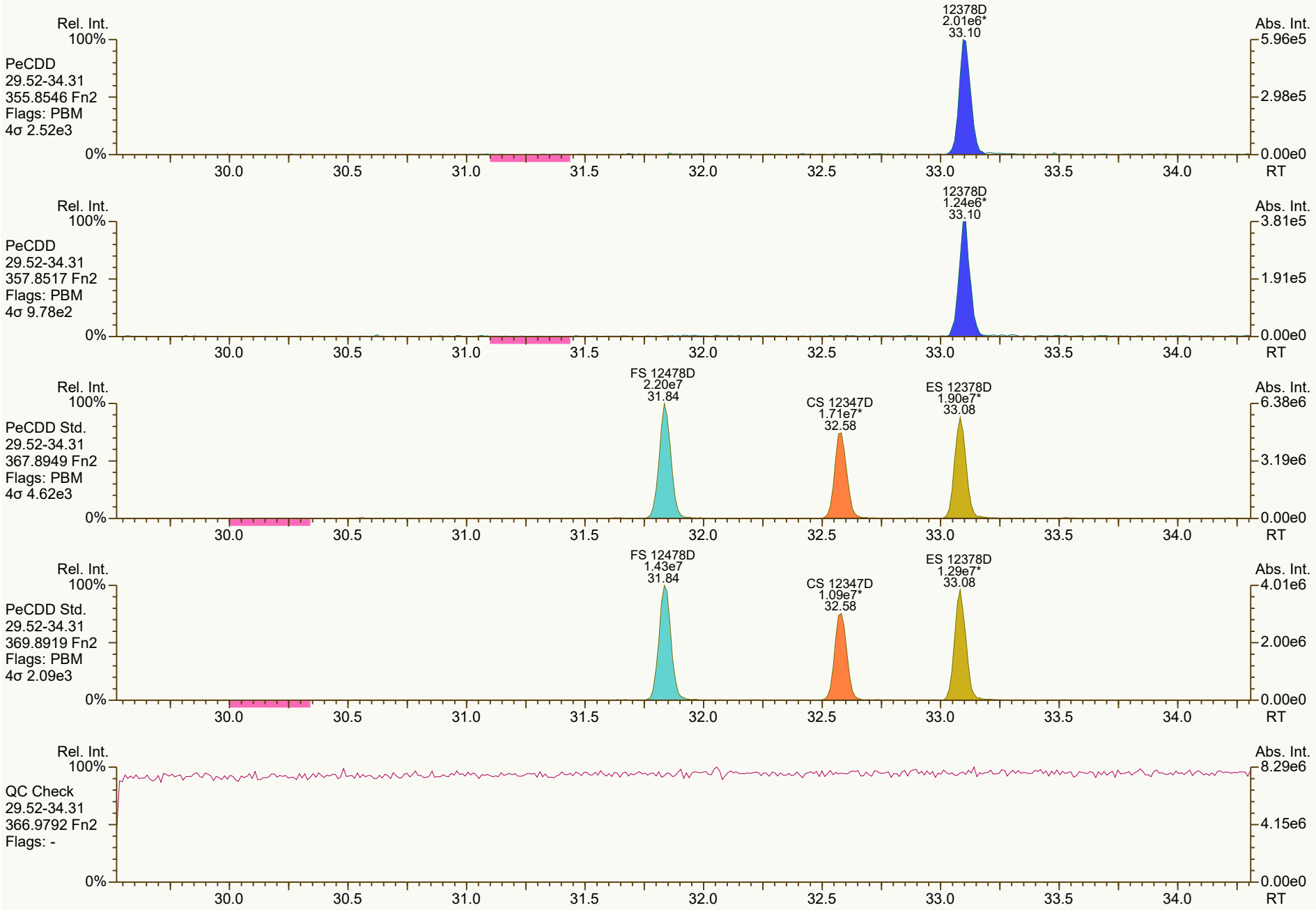
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

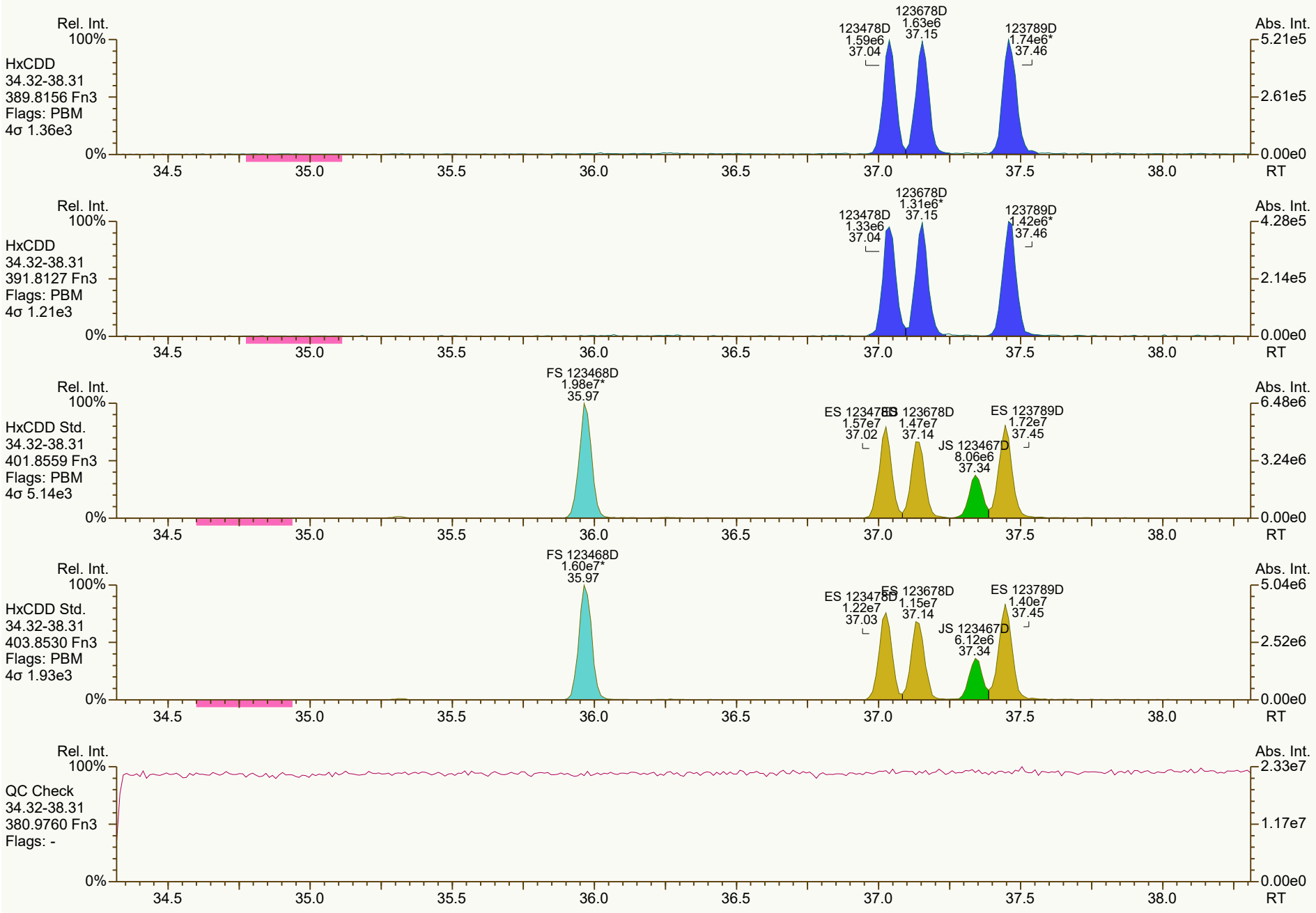
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

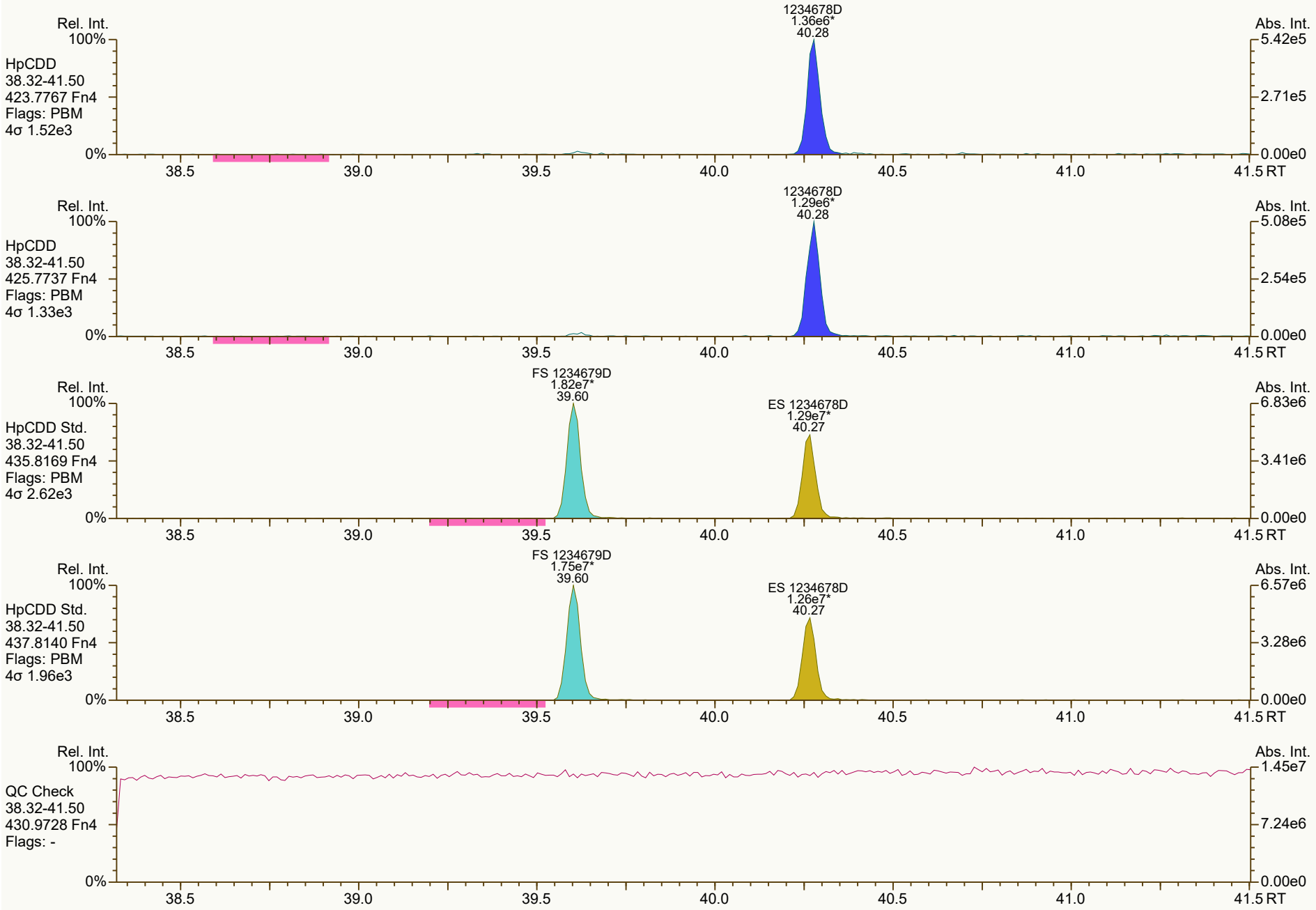
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

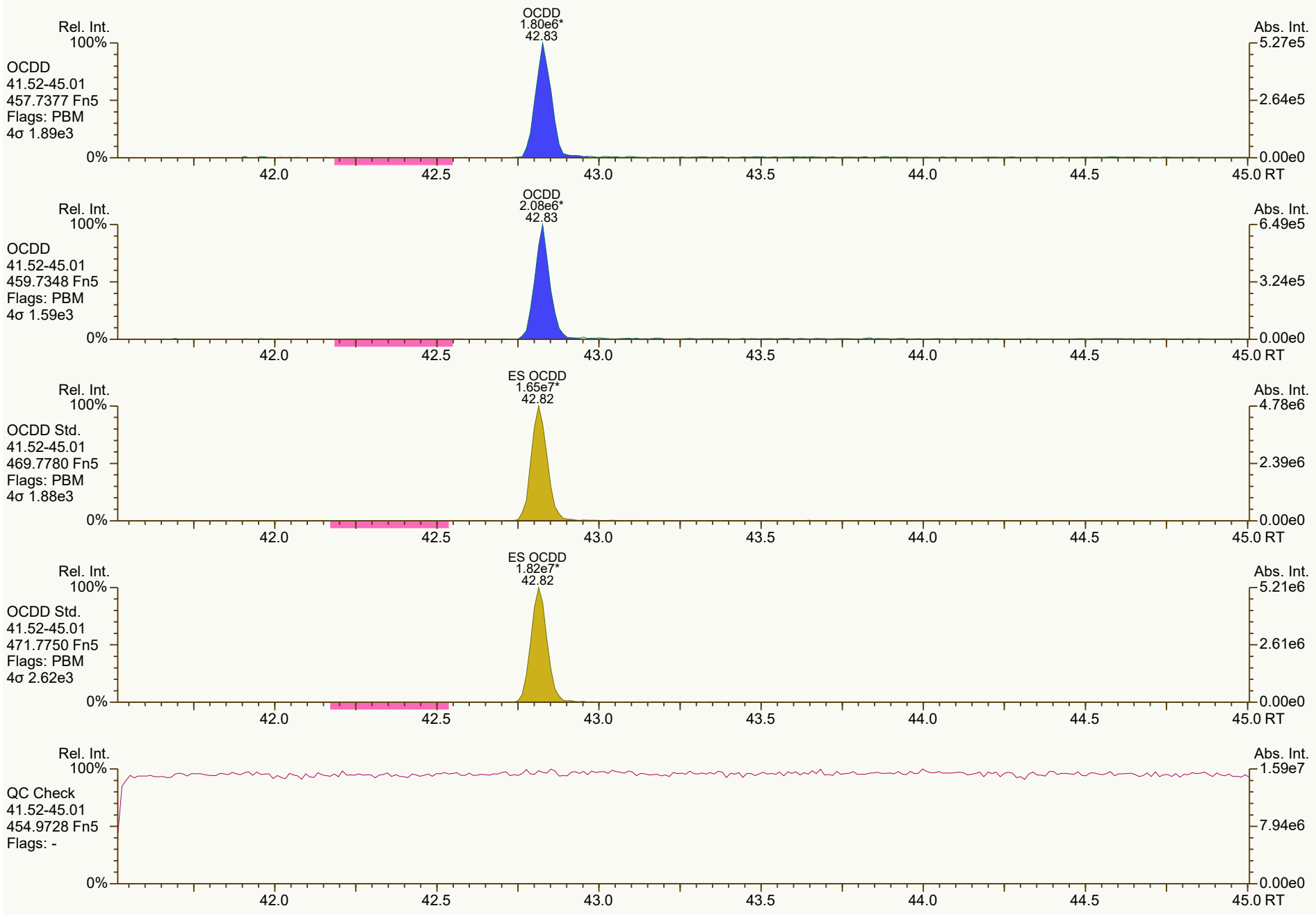

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

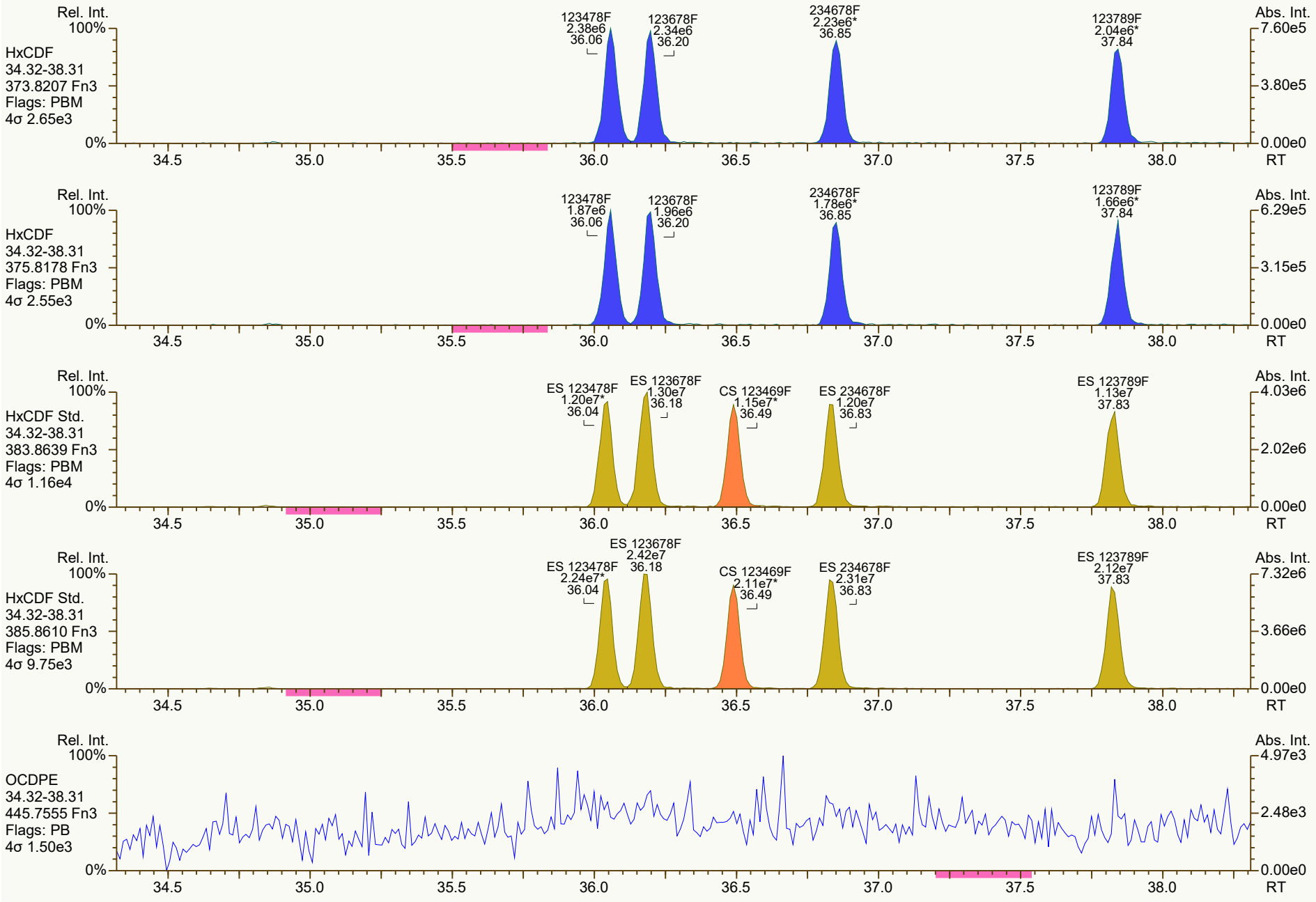

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

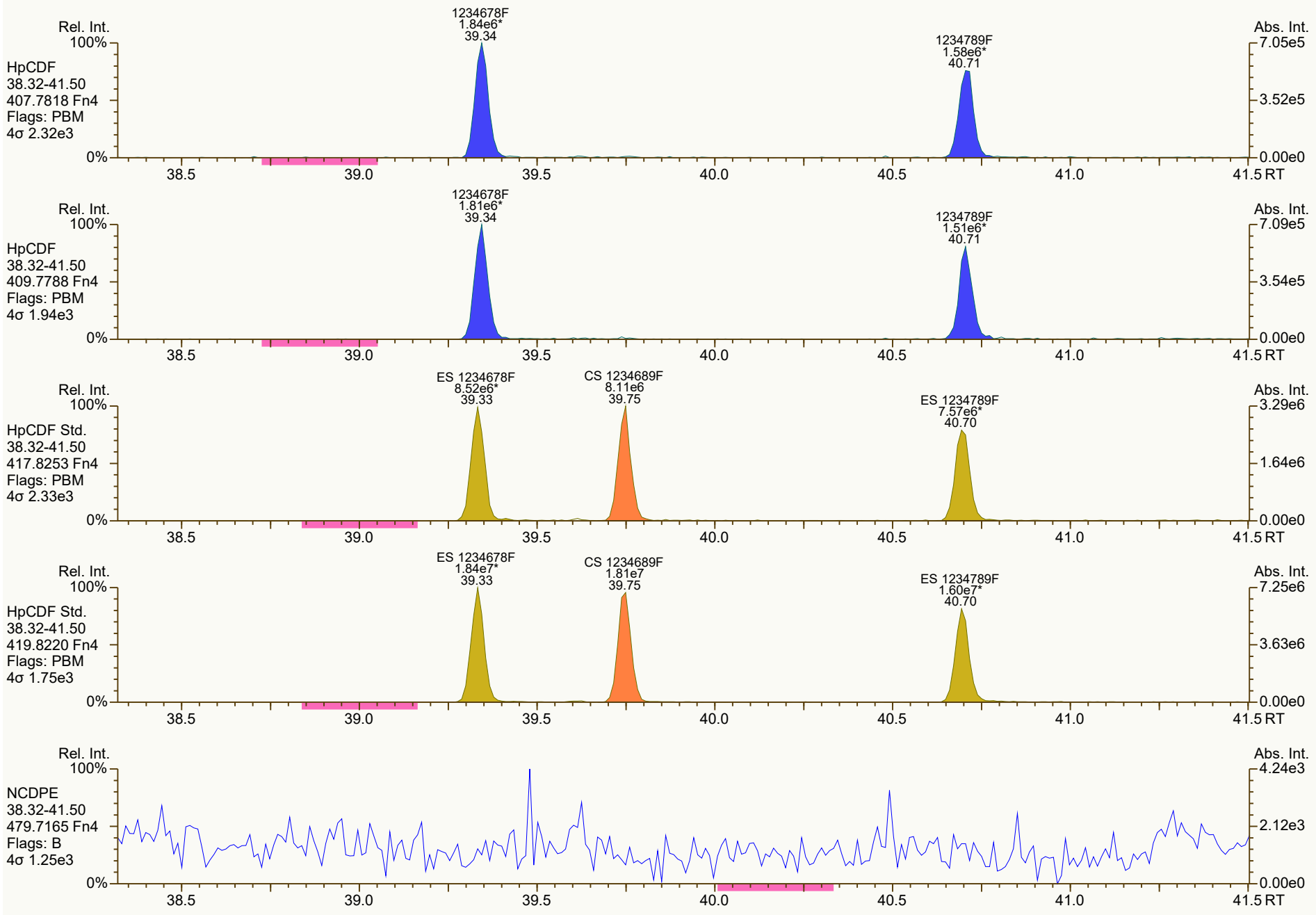

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

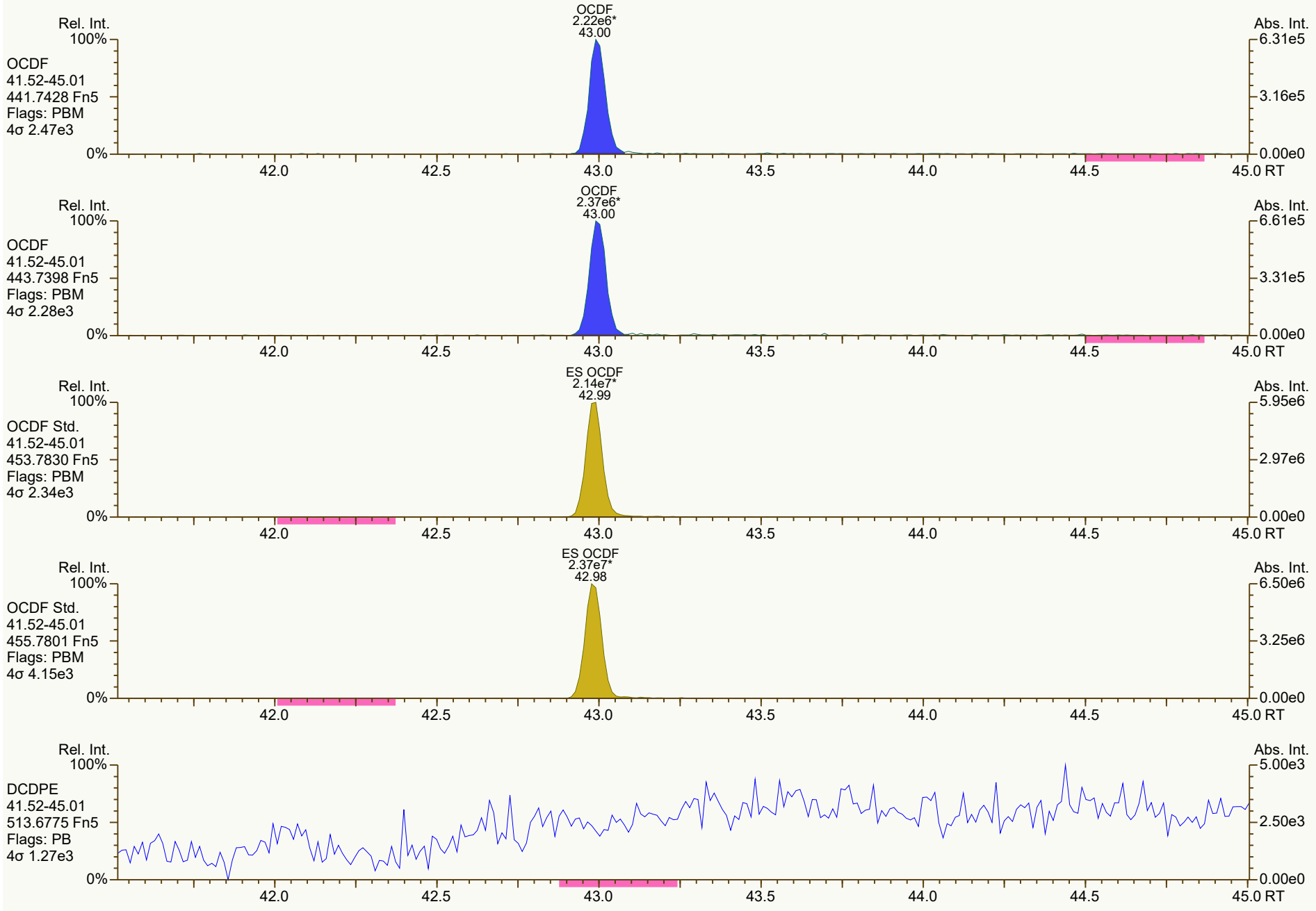

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

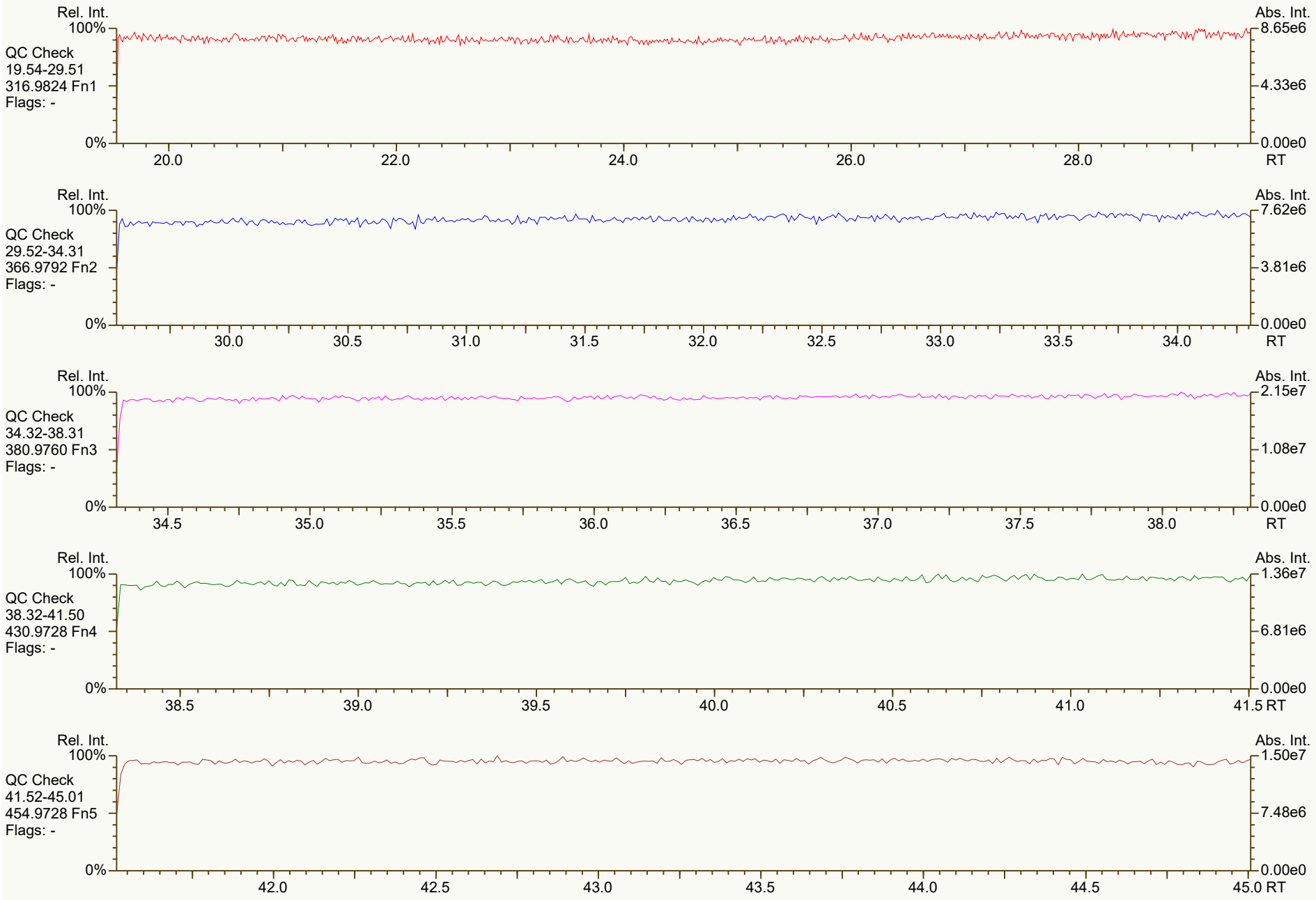

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

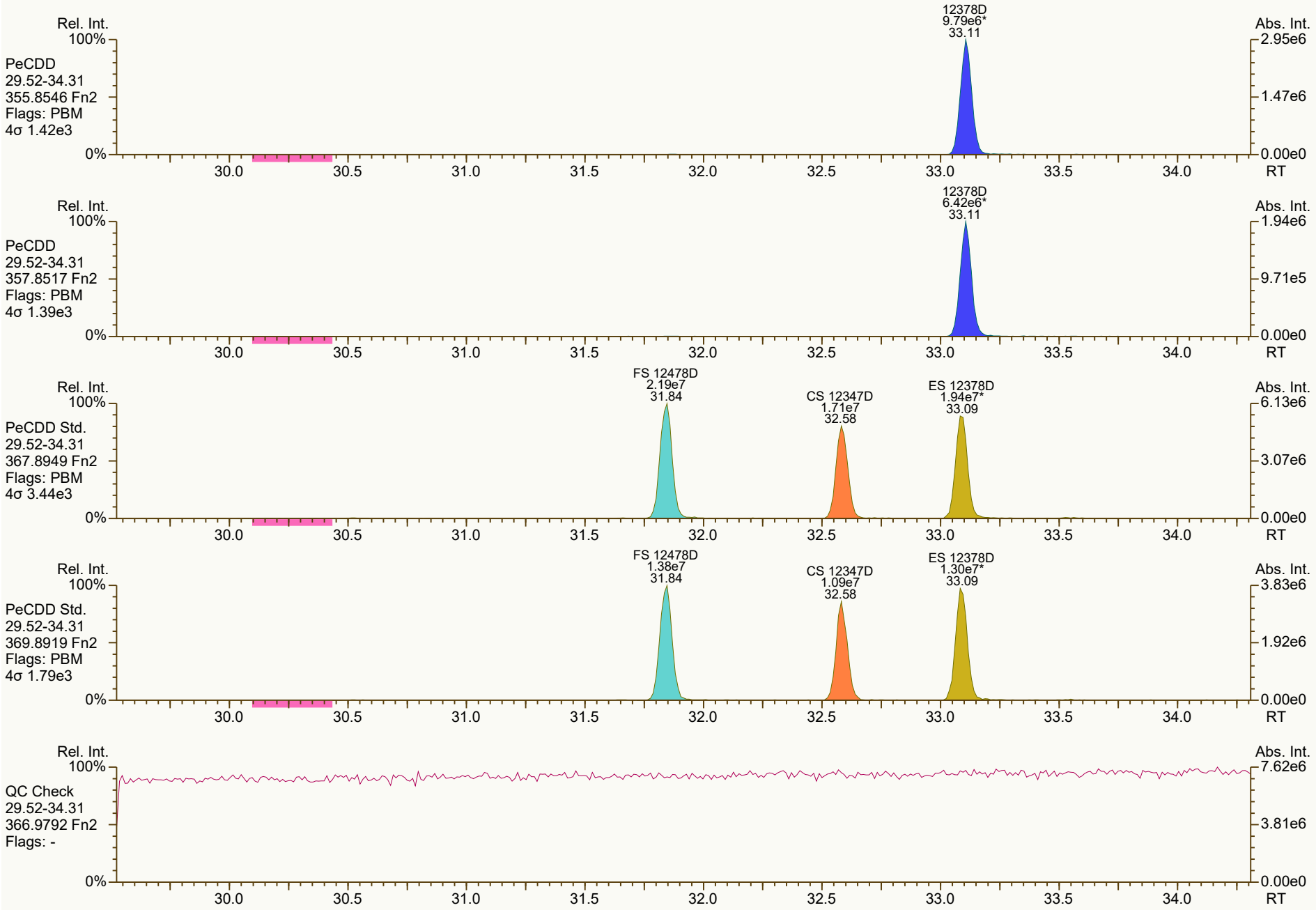
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

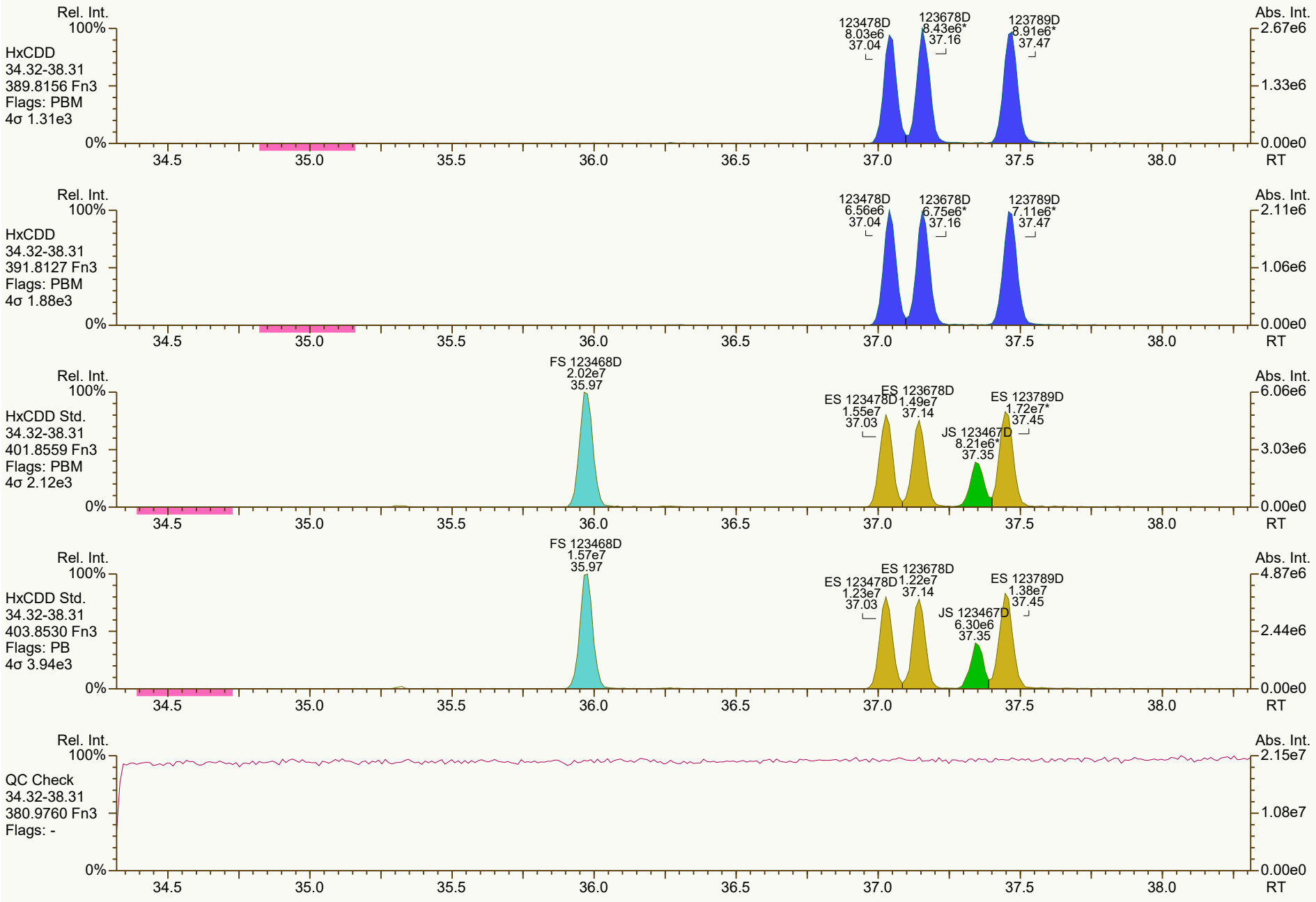
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

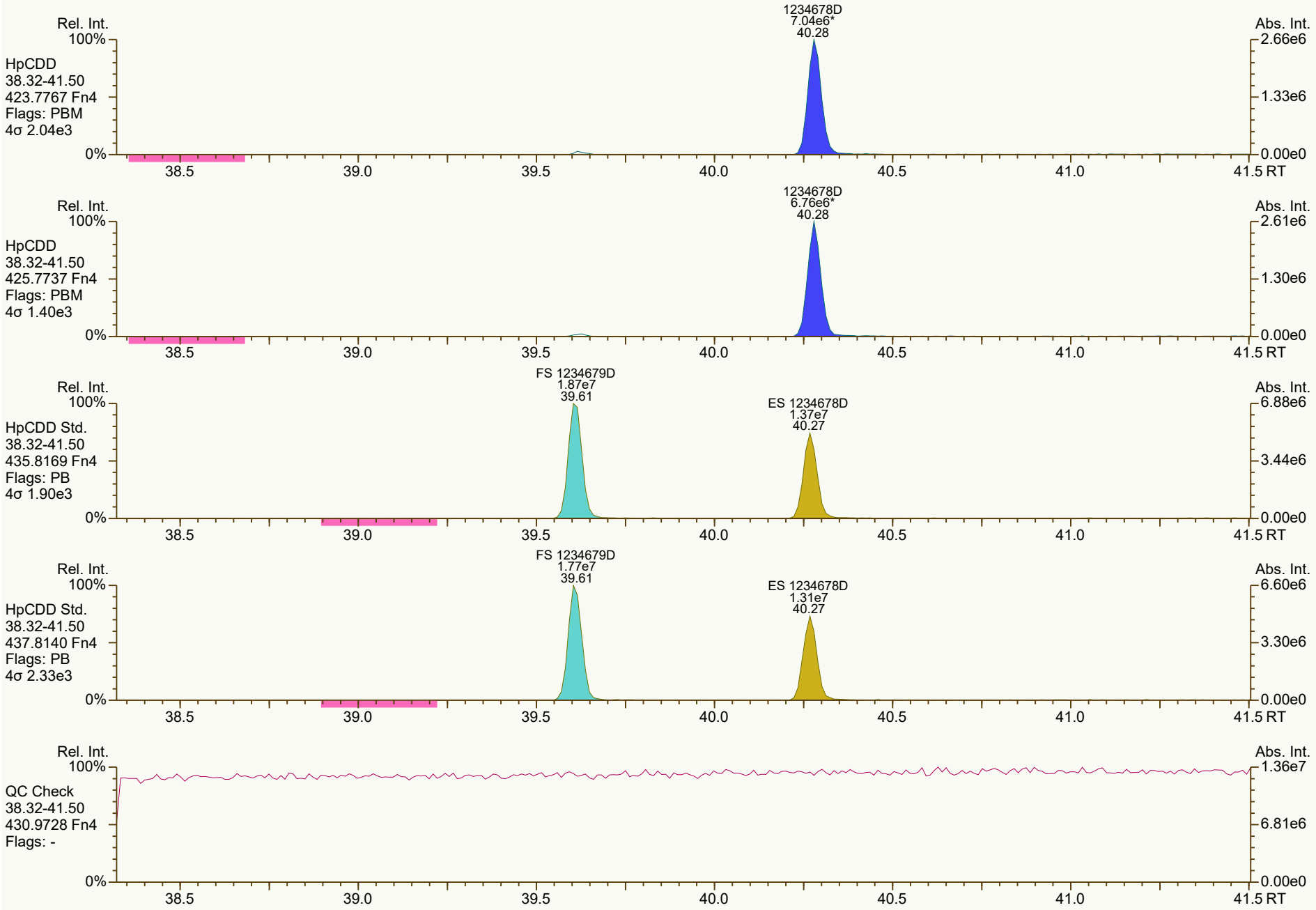
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

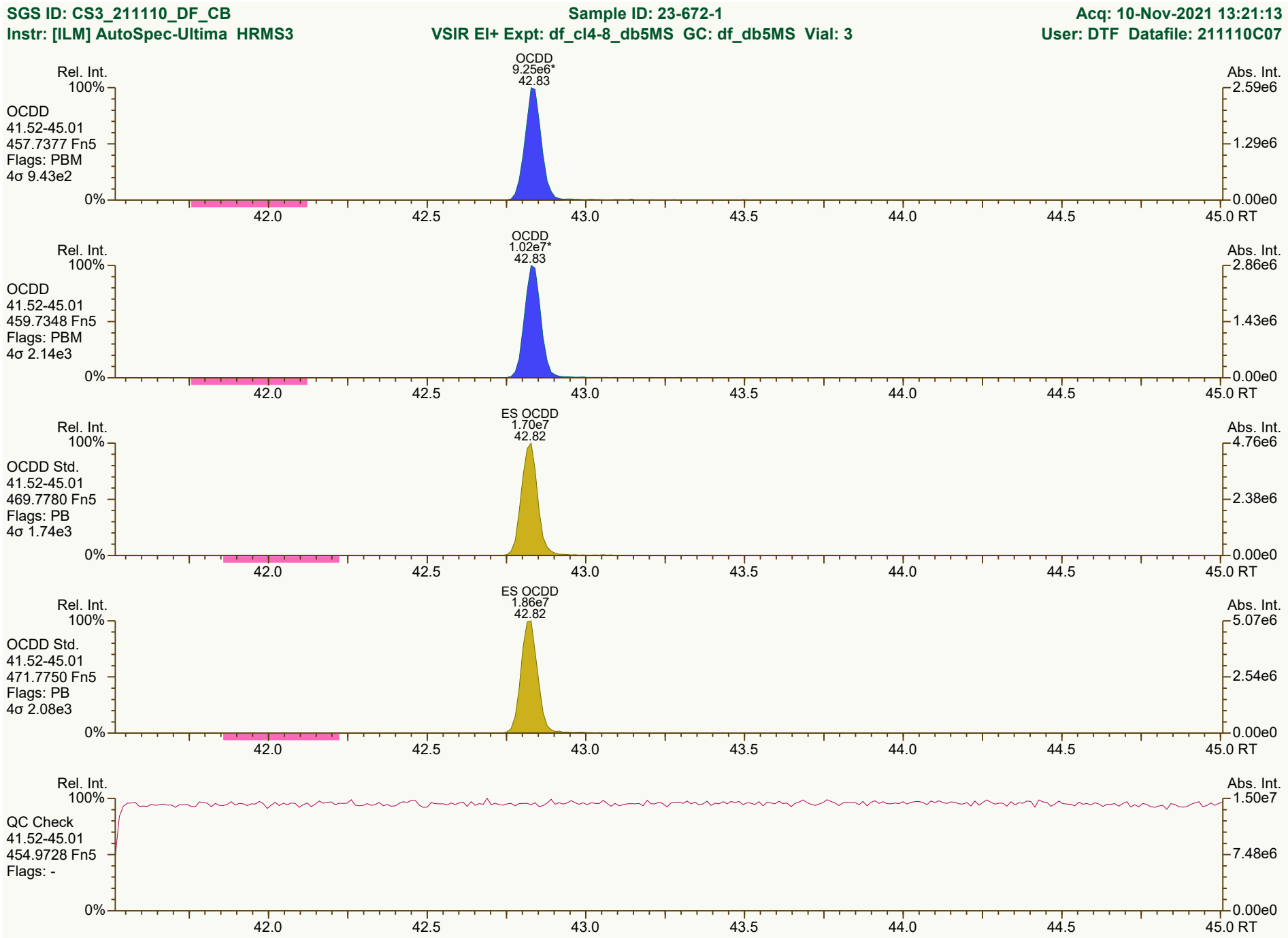

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

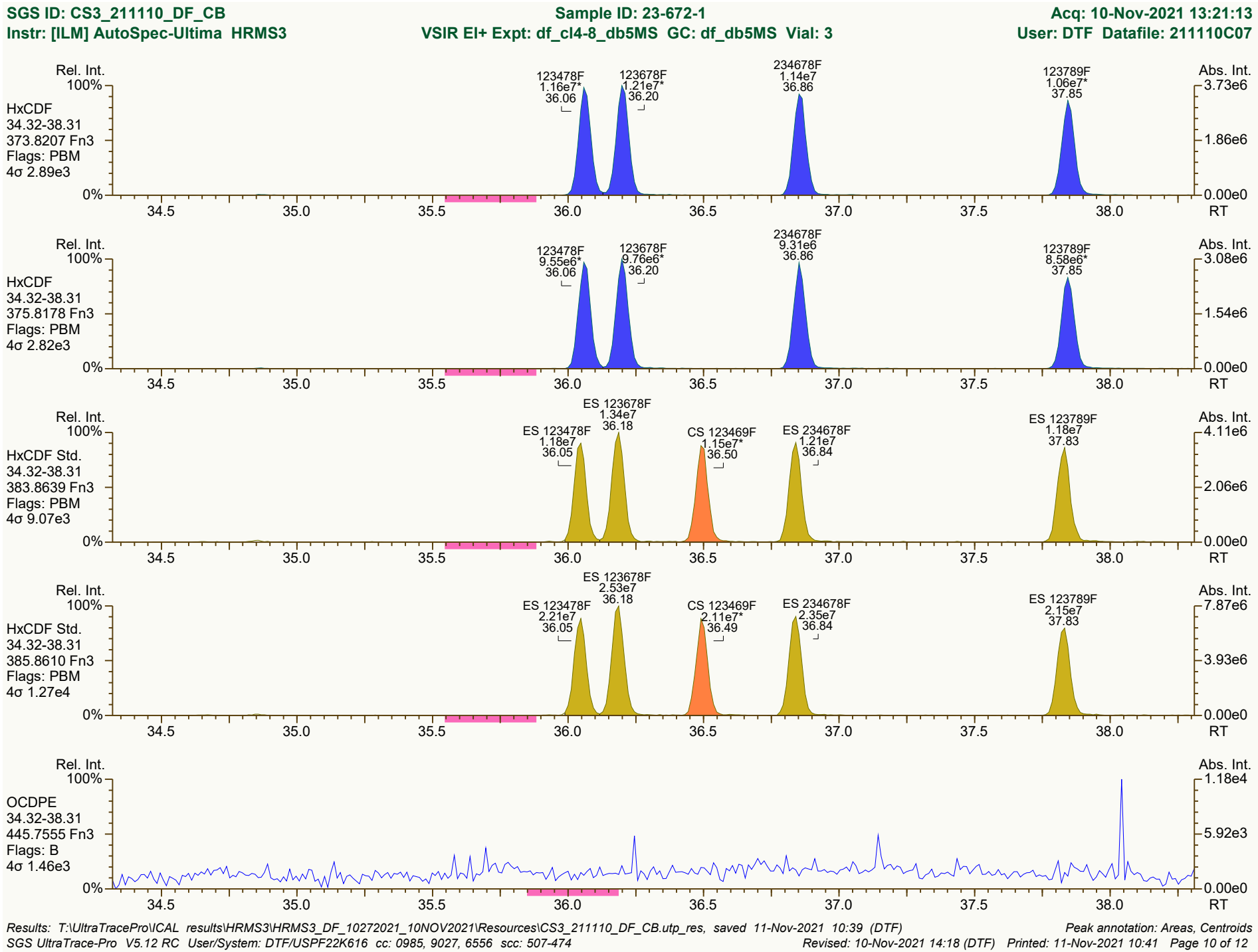

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

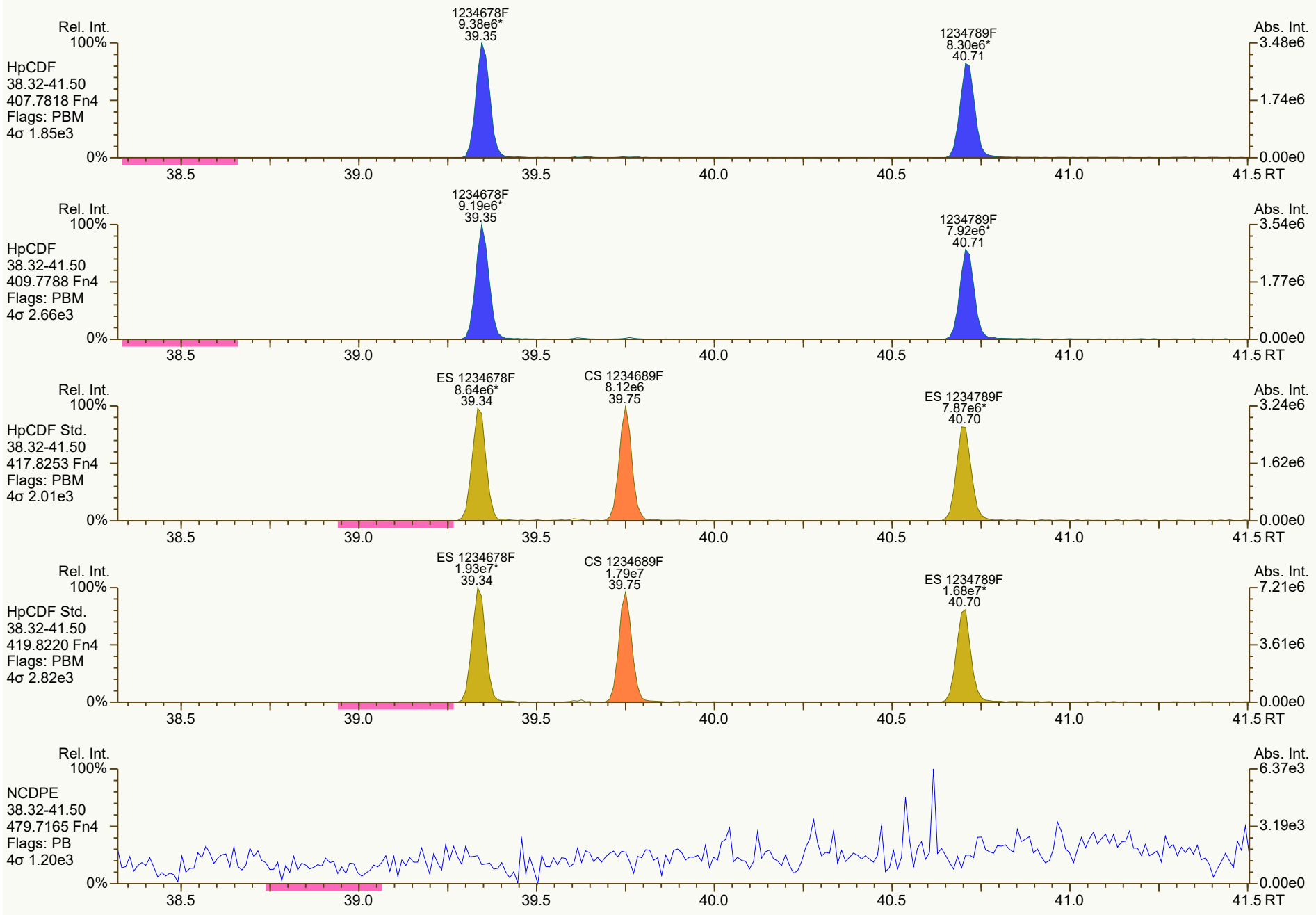

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
OCDD
9.25e6*
42.83
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0870, 6216 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:40 Page 6 of 12


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

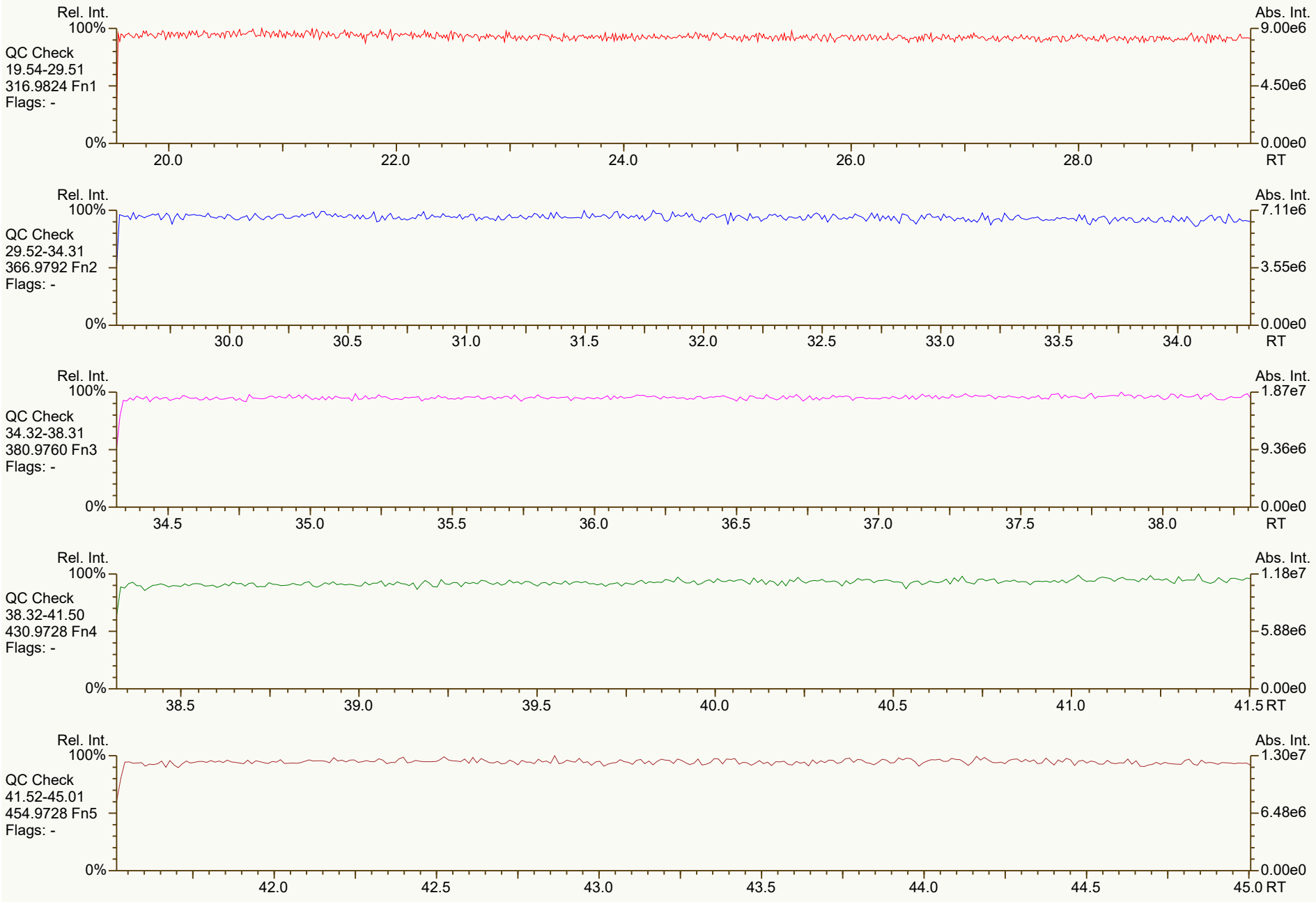

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

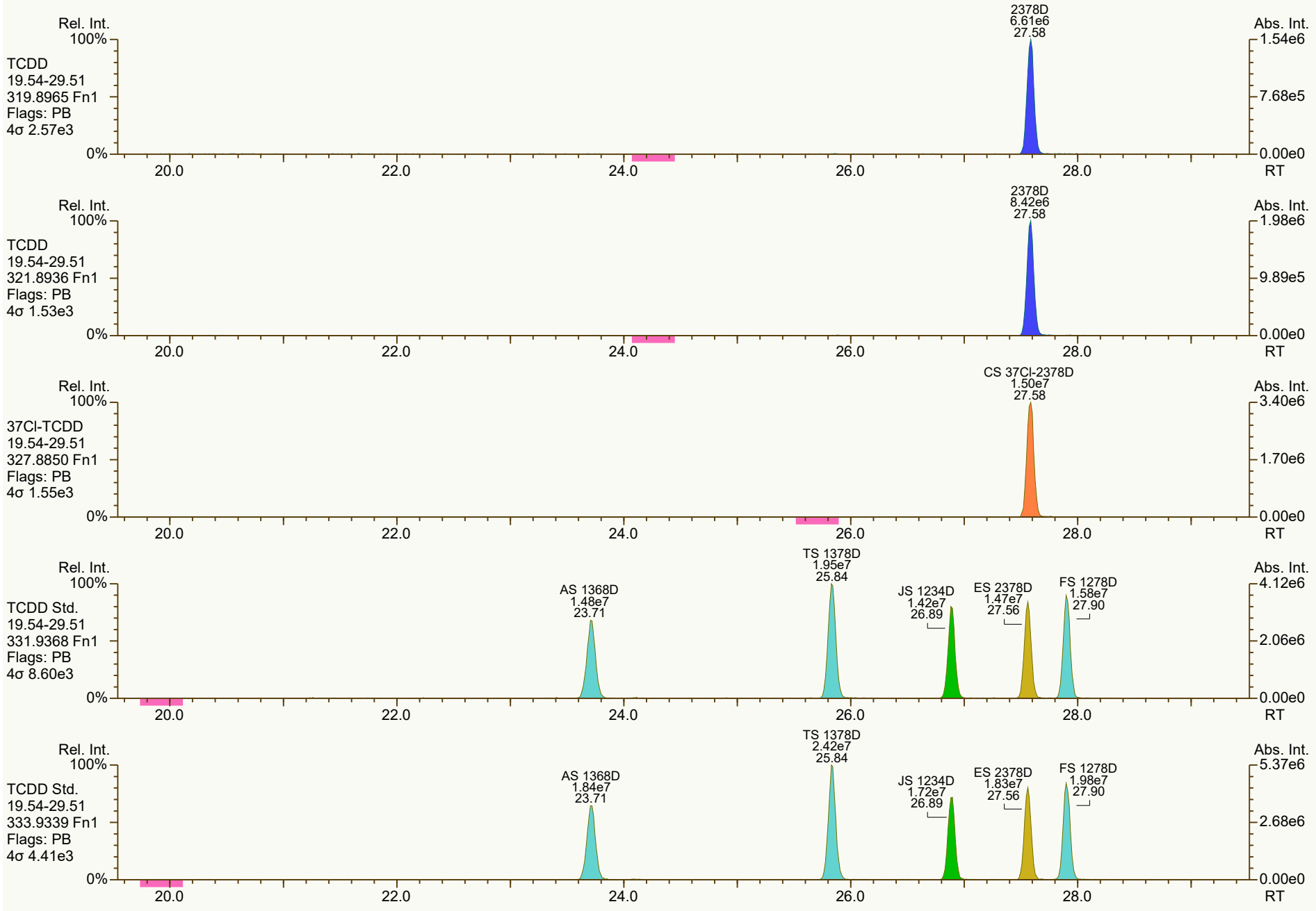
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

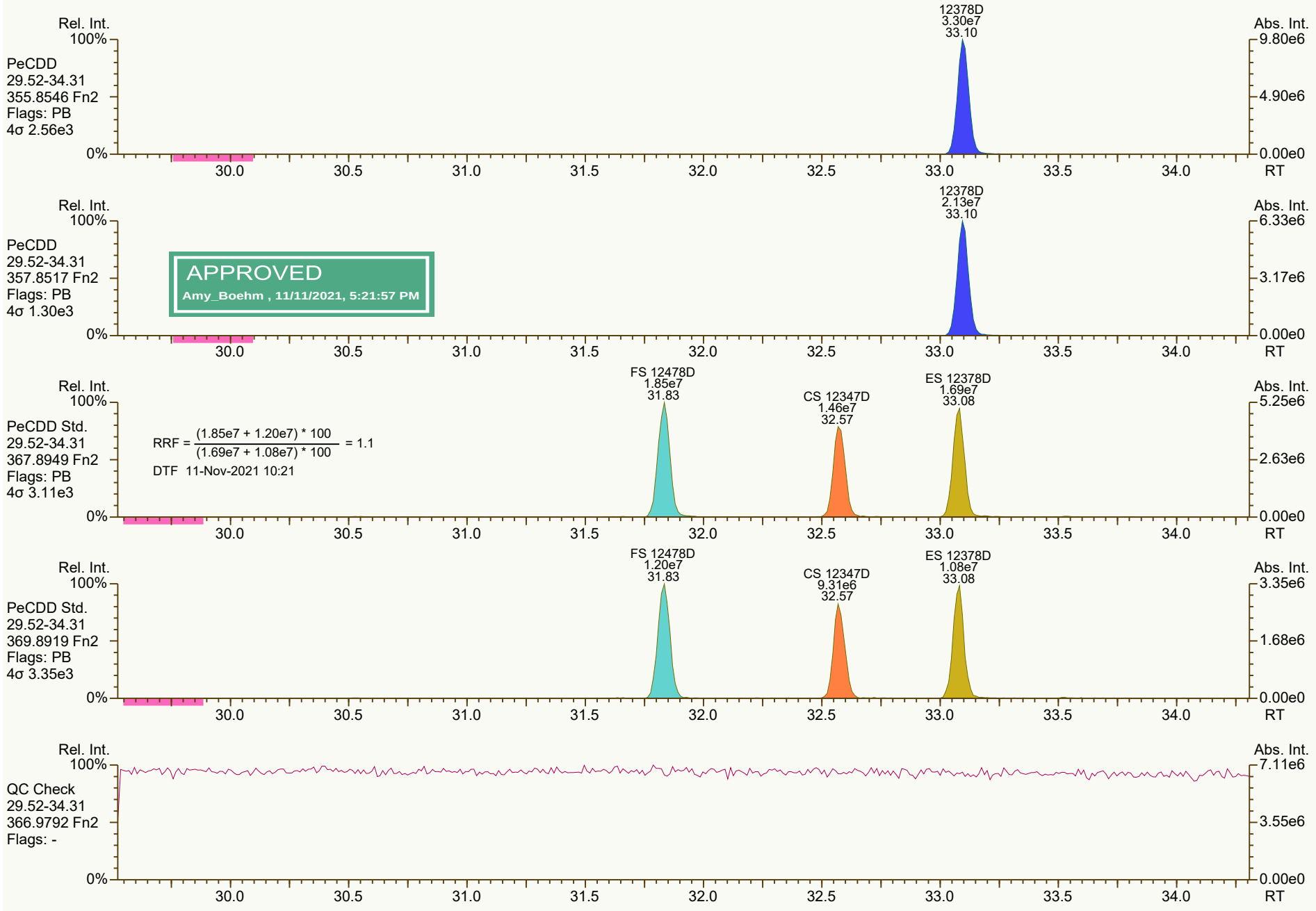
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

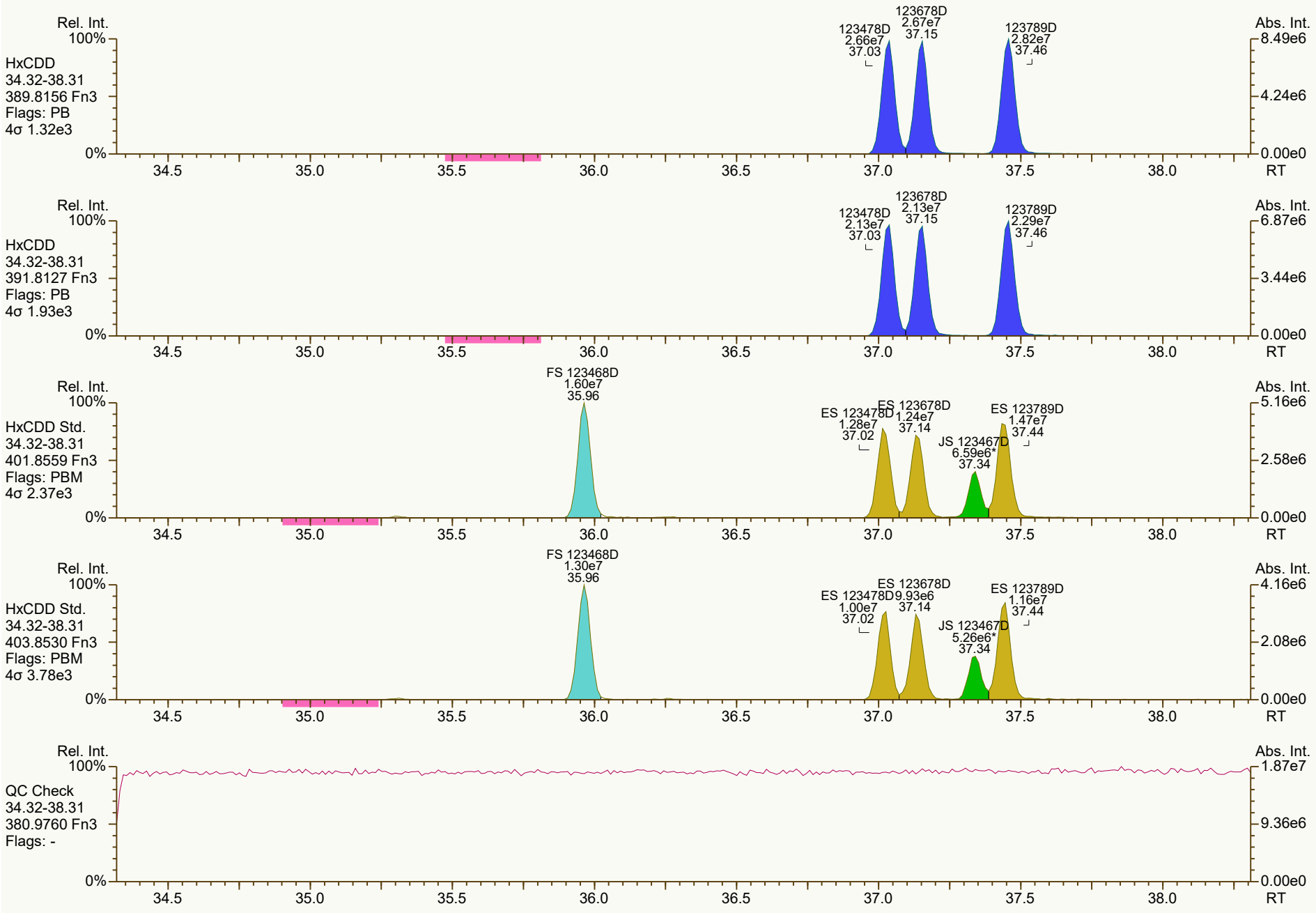
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

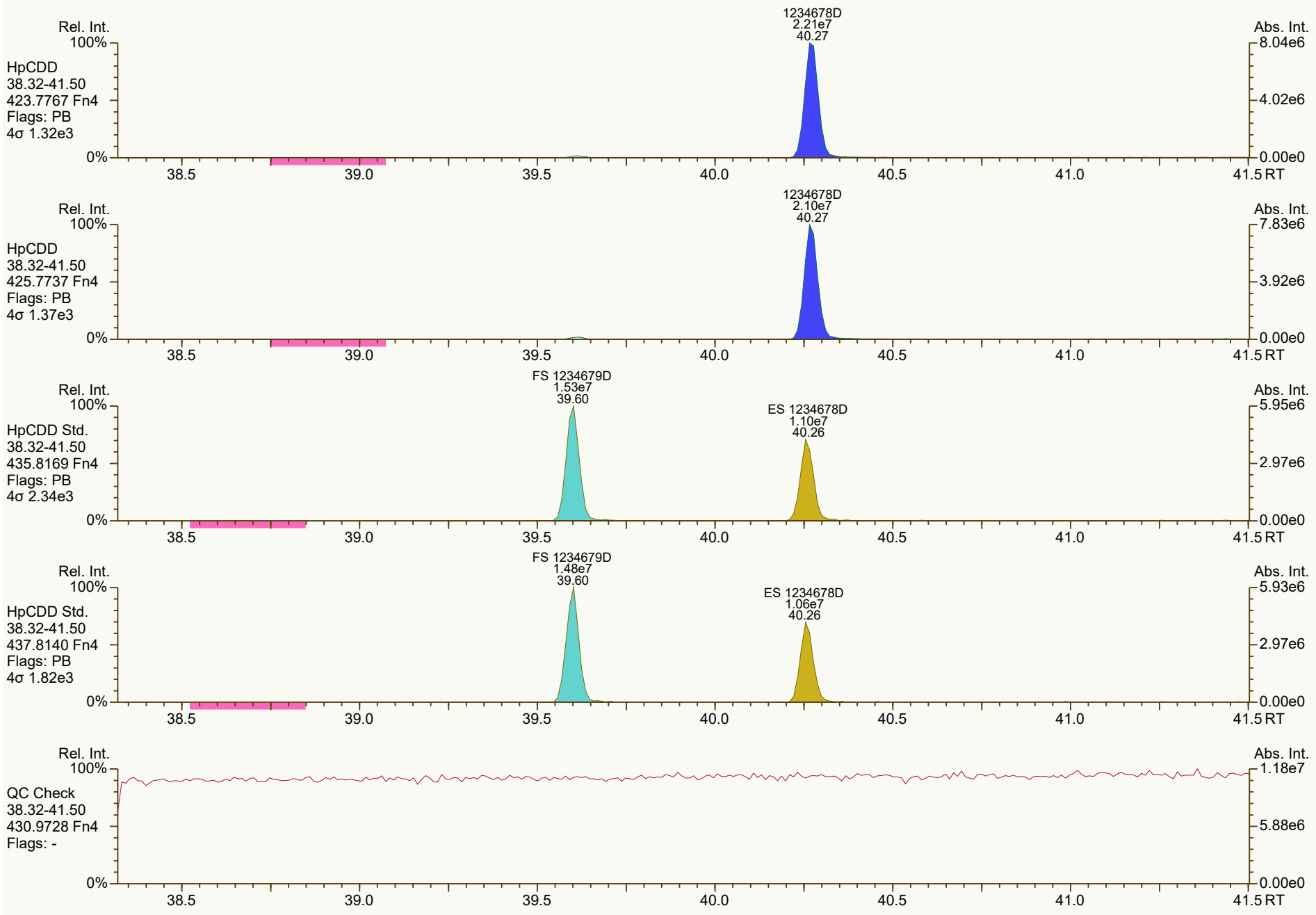
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

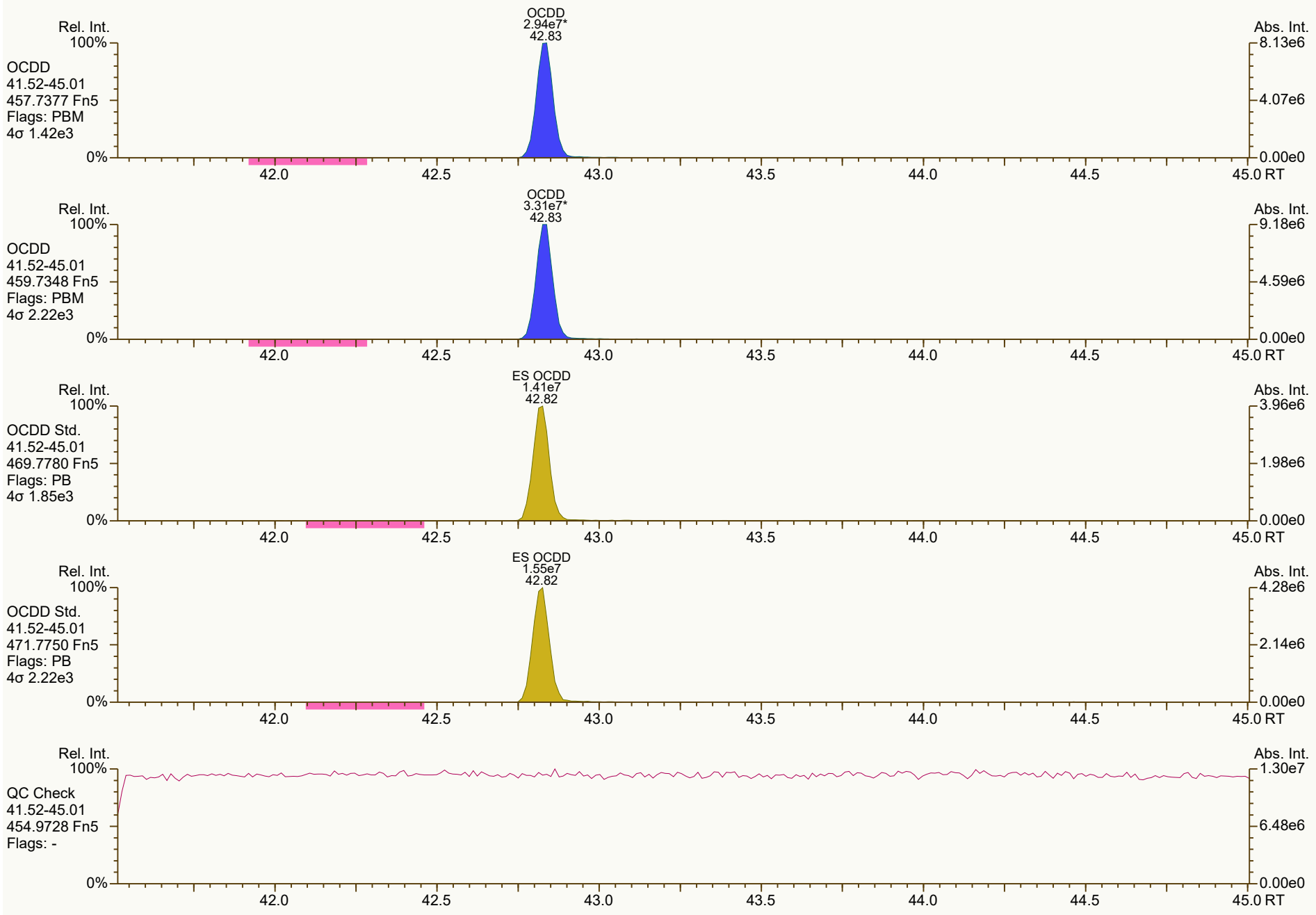

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

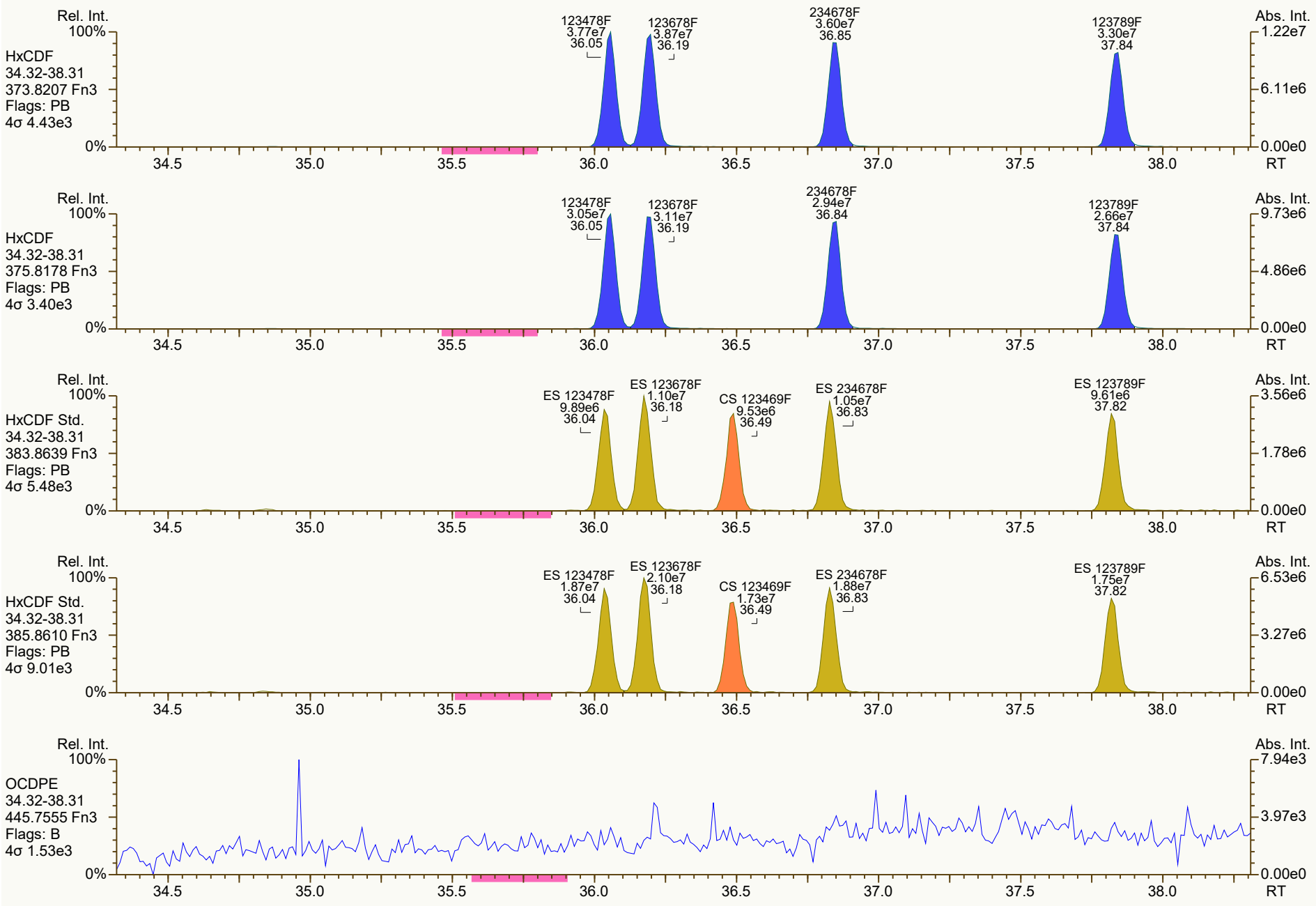

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

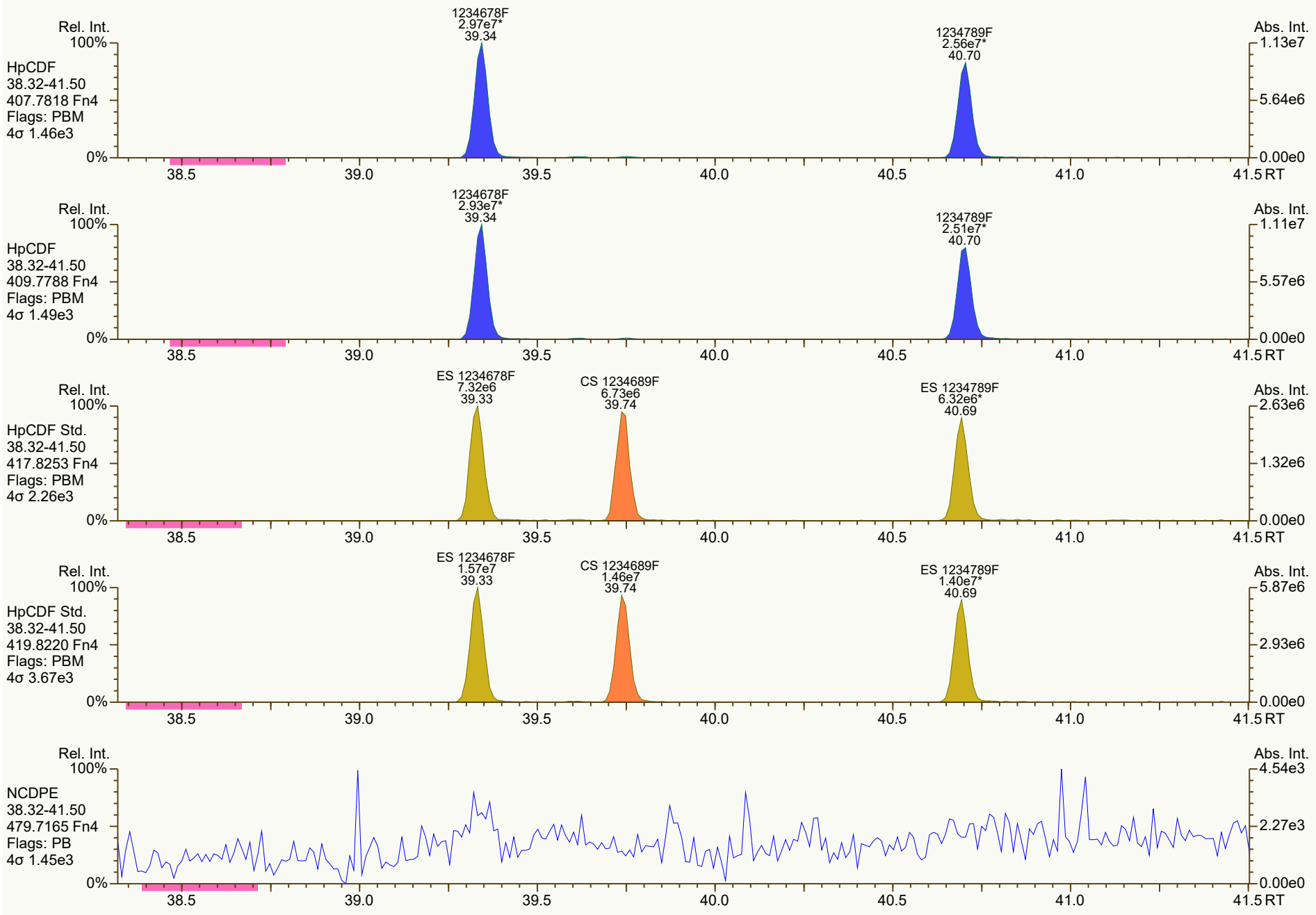

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

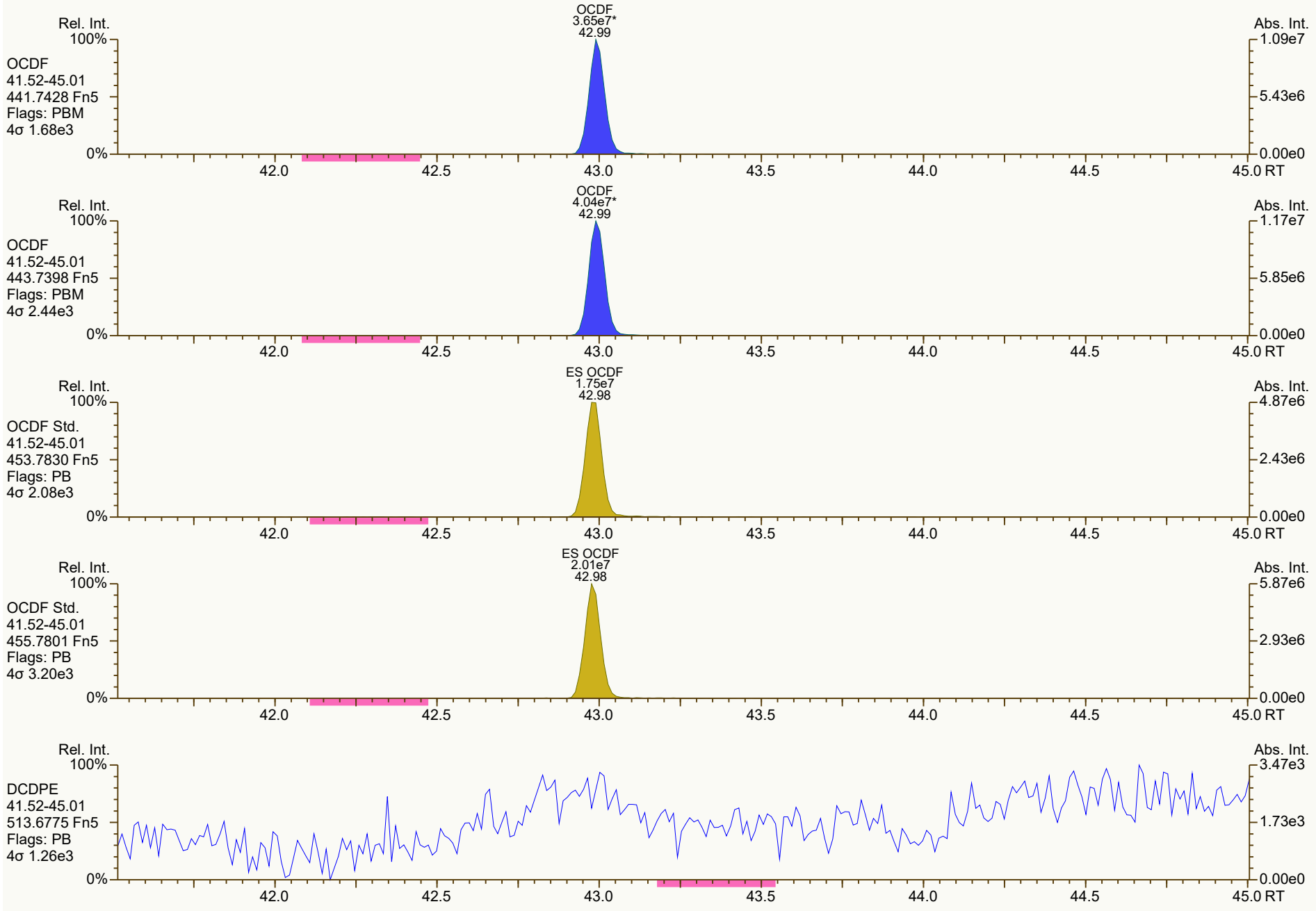

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
0%
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
Abs. Int.
9.73e6
4.86e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
0%
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
Abs. Int.
3.56e6
1.78e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
0%
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
Abs. Int.
6.53e6
3.27e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

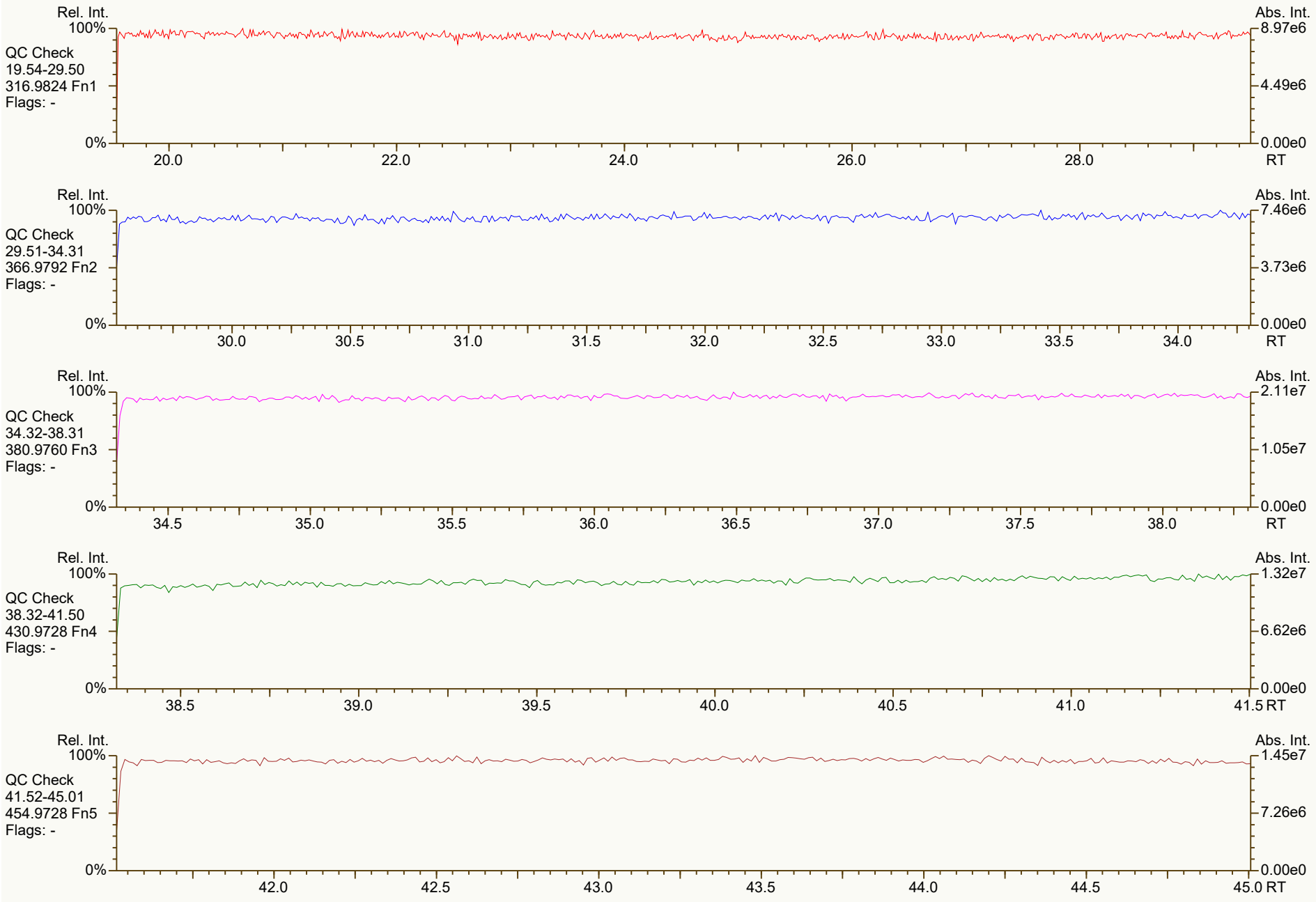

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

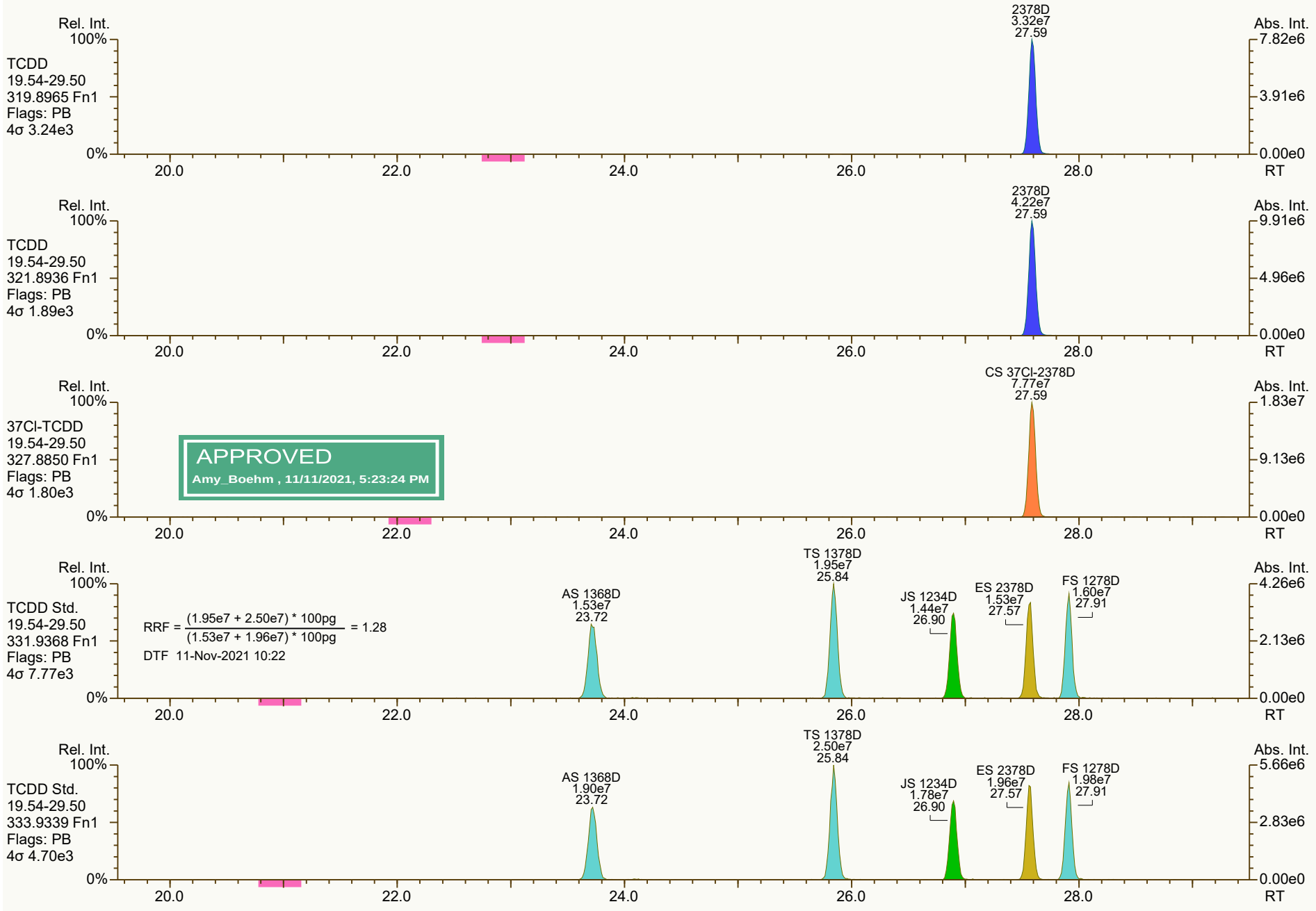
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

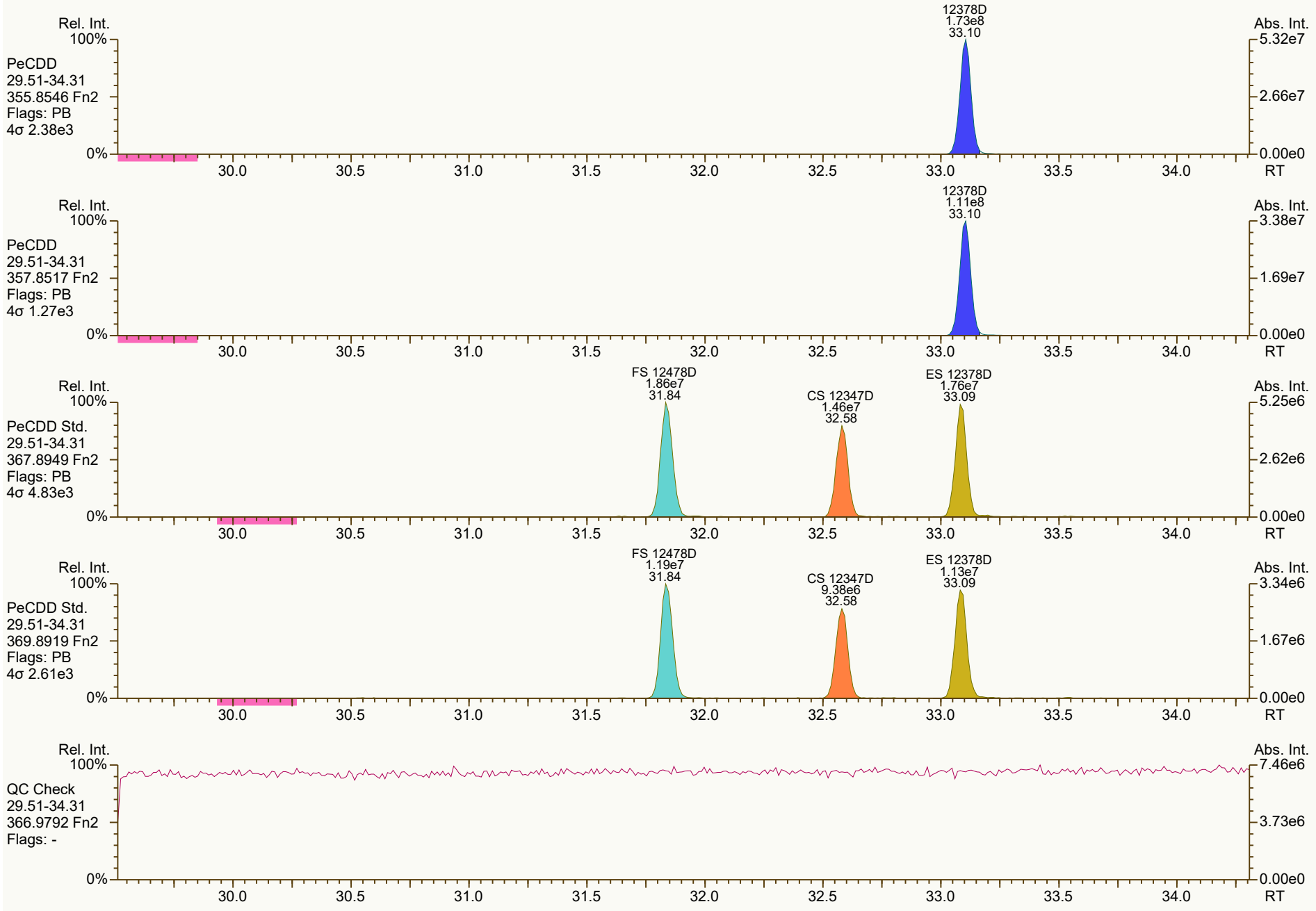
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

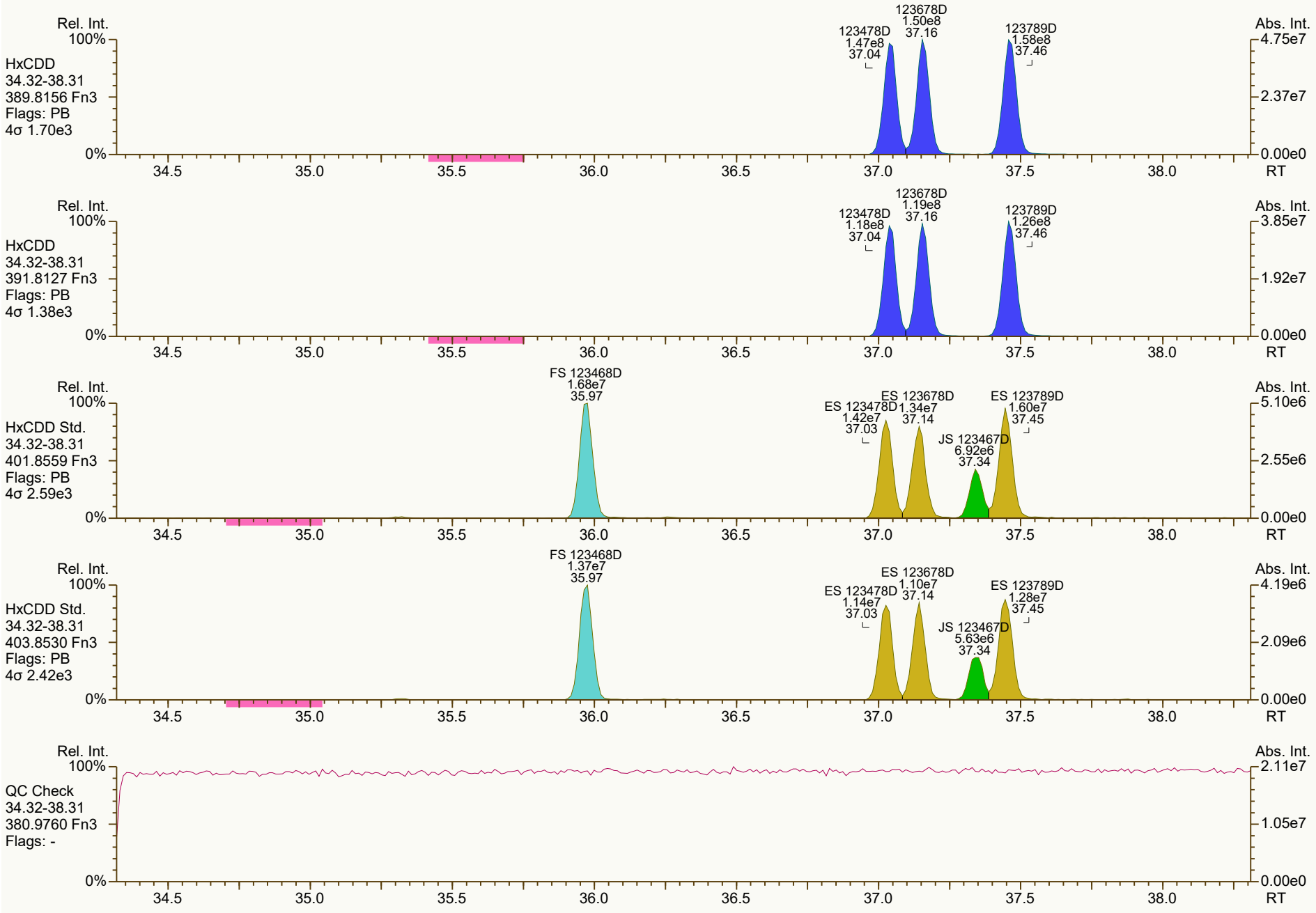
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

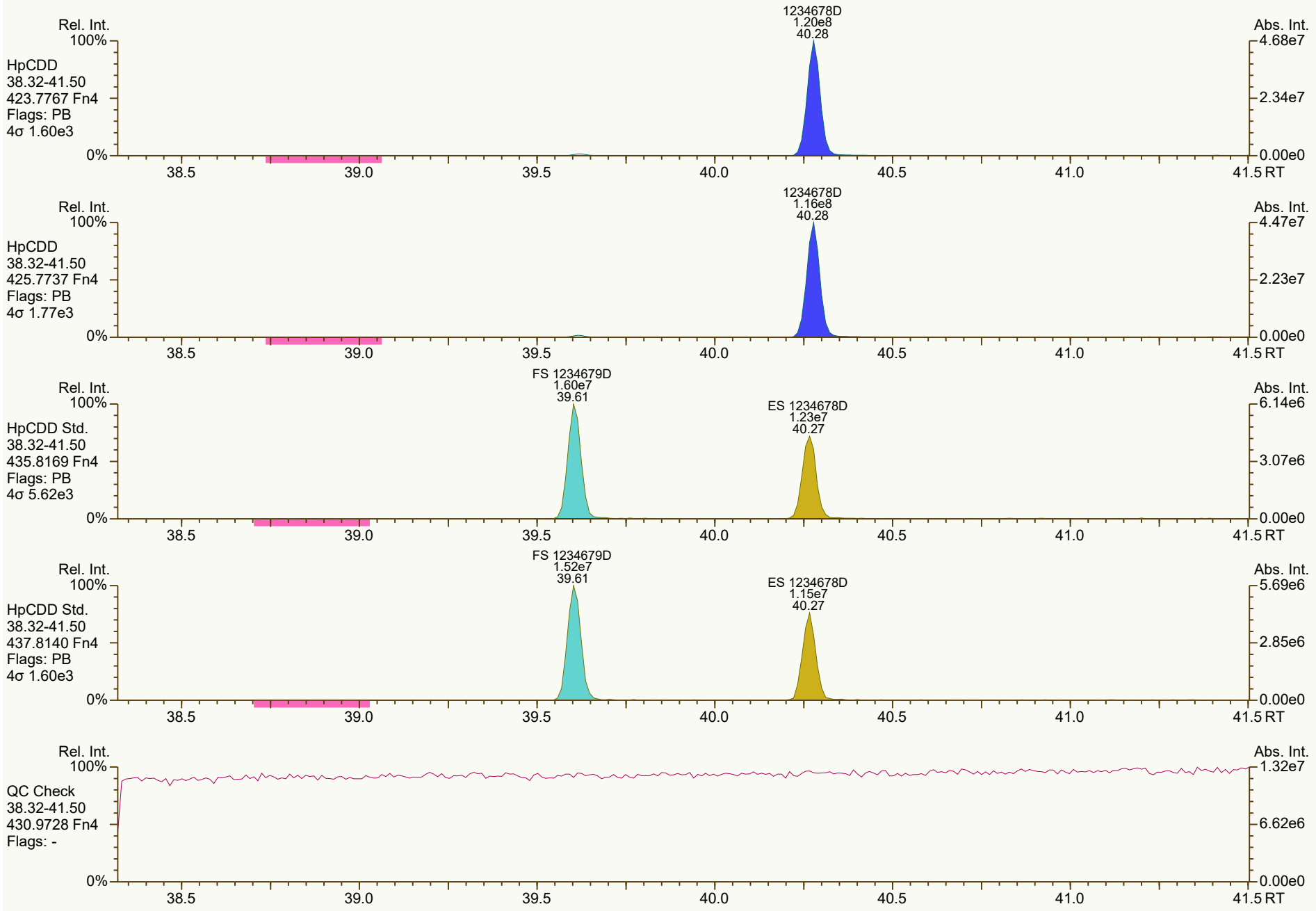
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

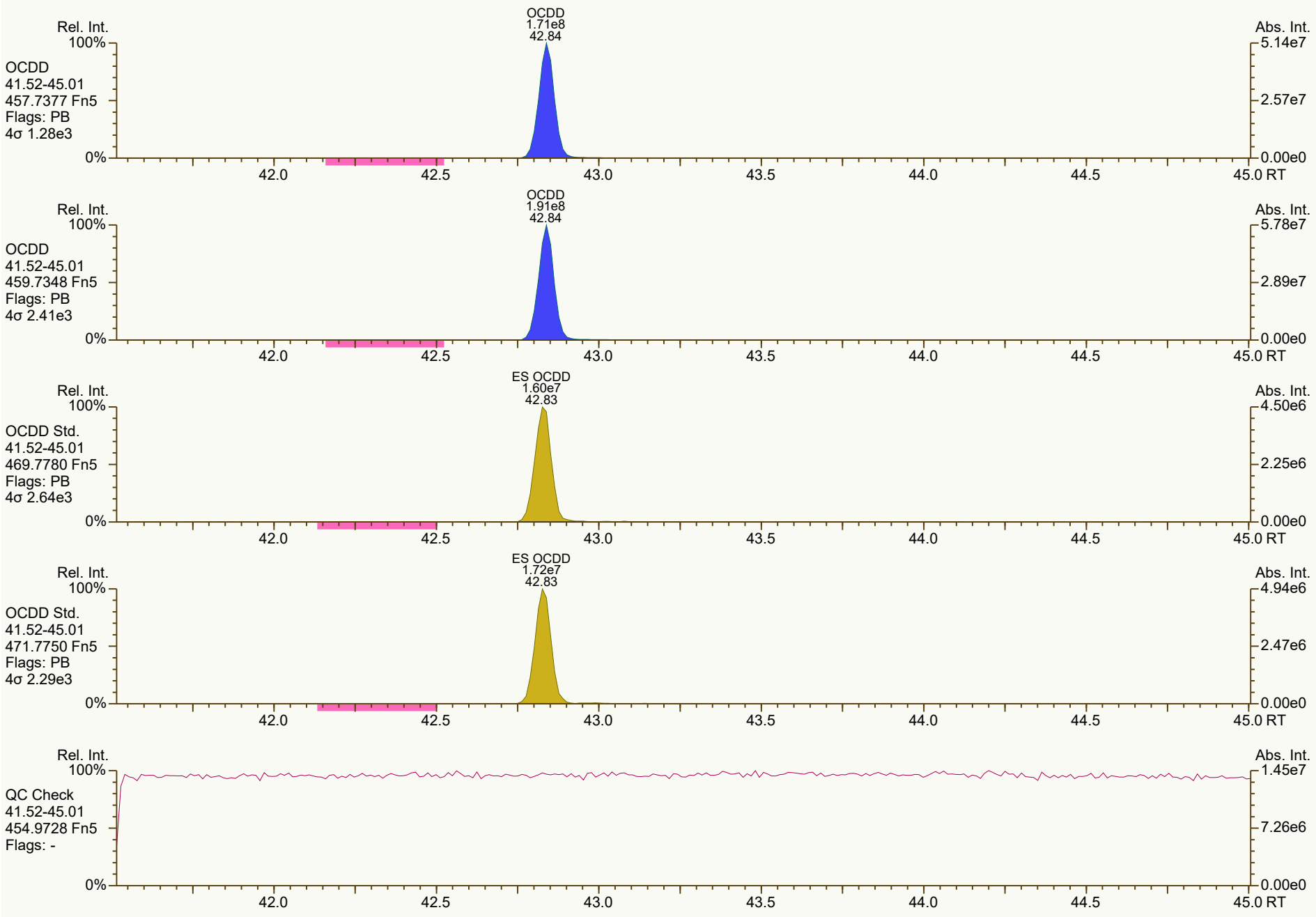

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.46e6
3.73e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.32e7
6.62e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.45e7
7.26e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

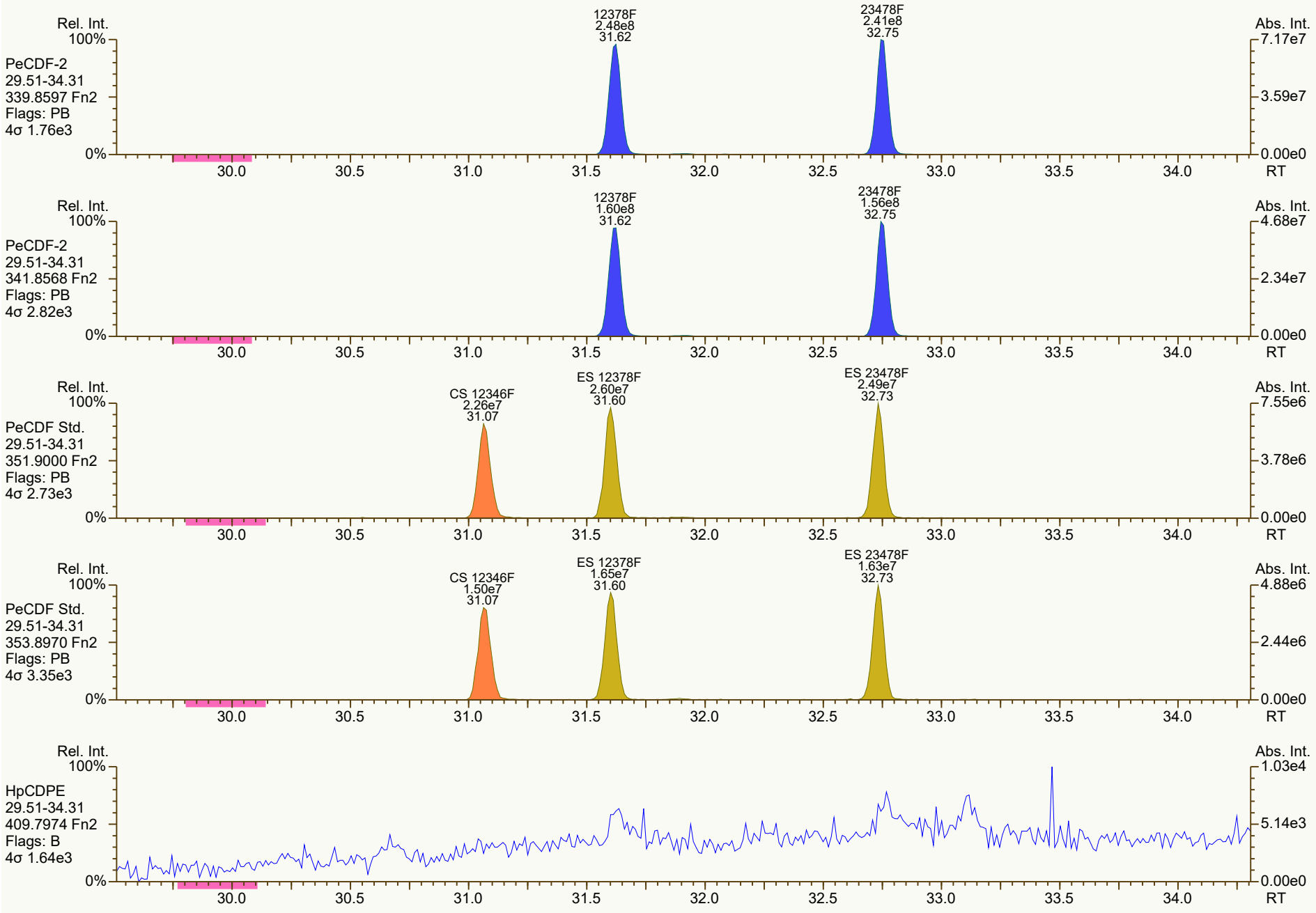

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

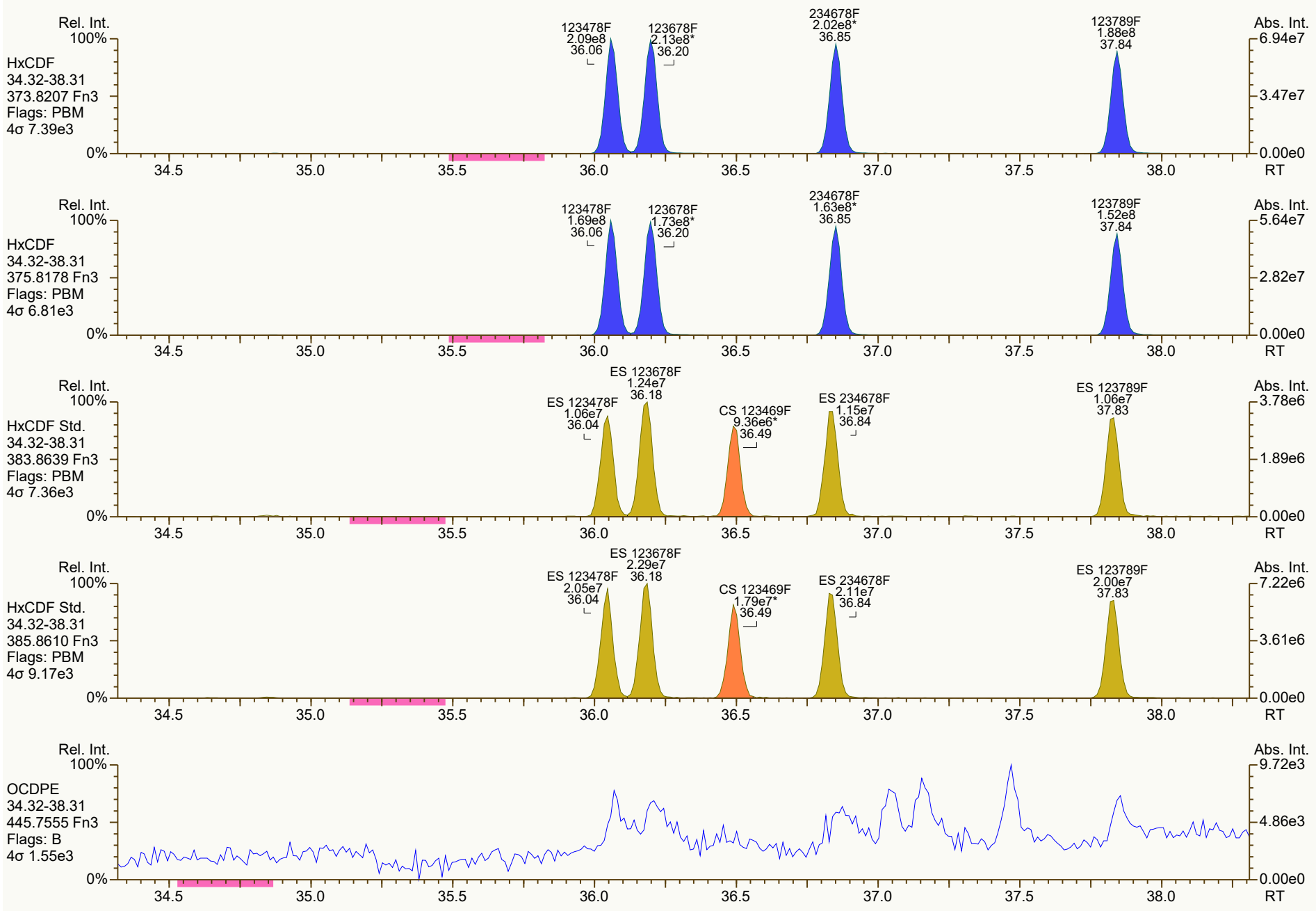

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

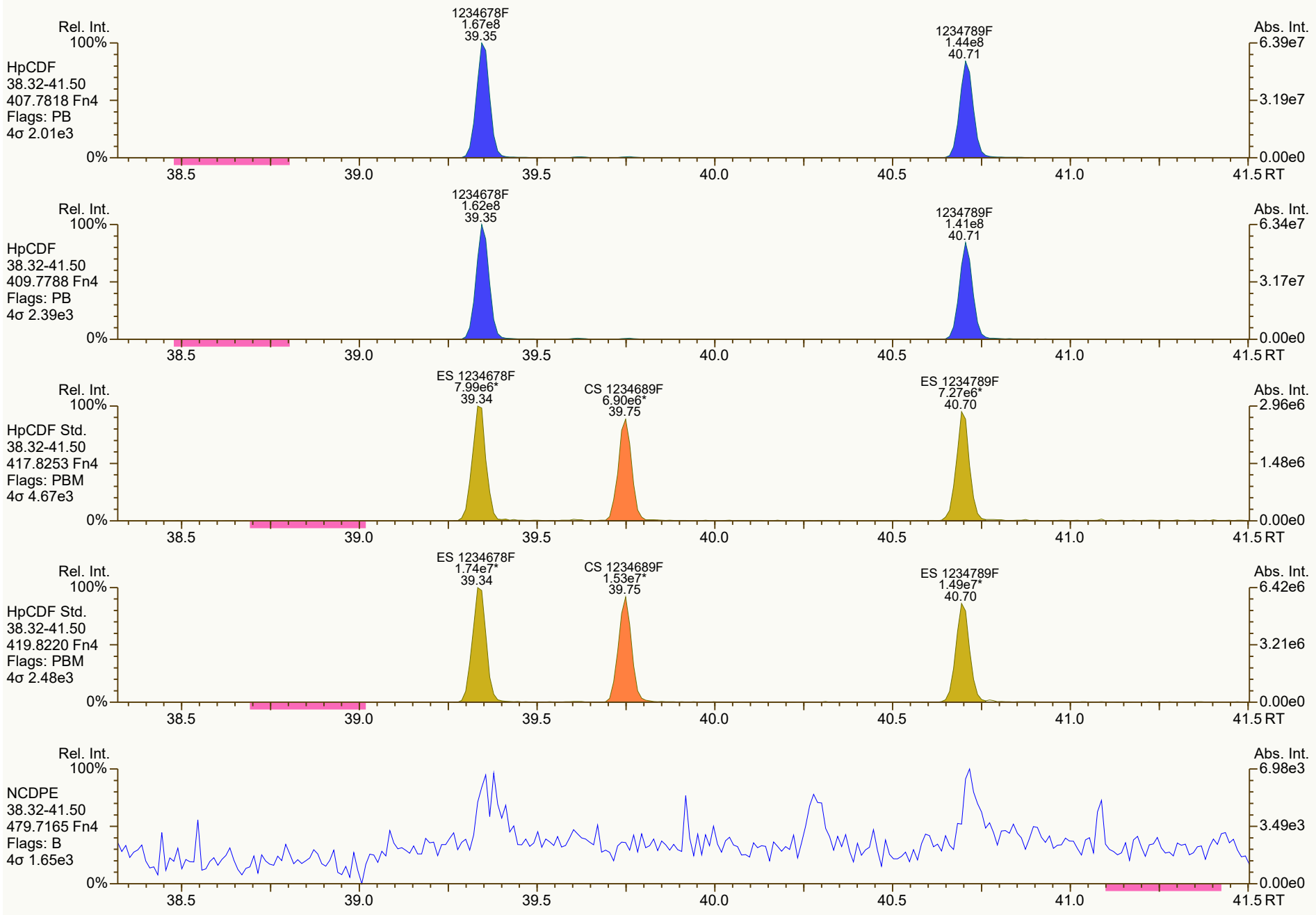

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

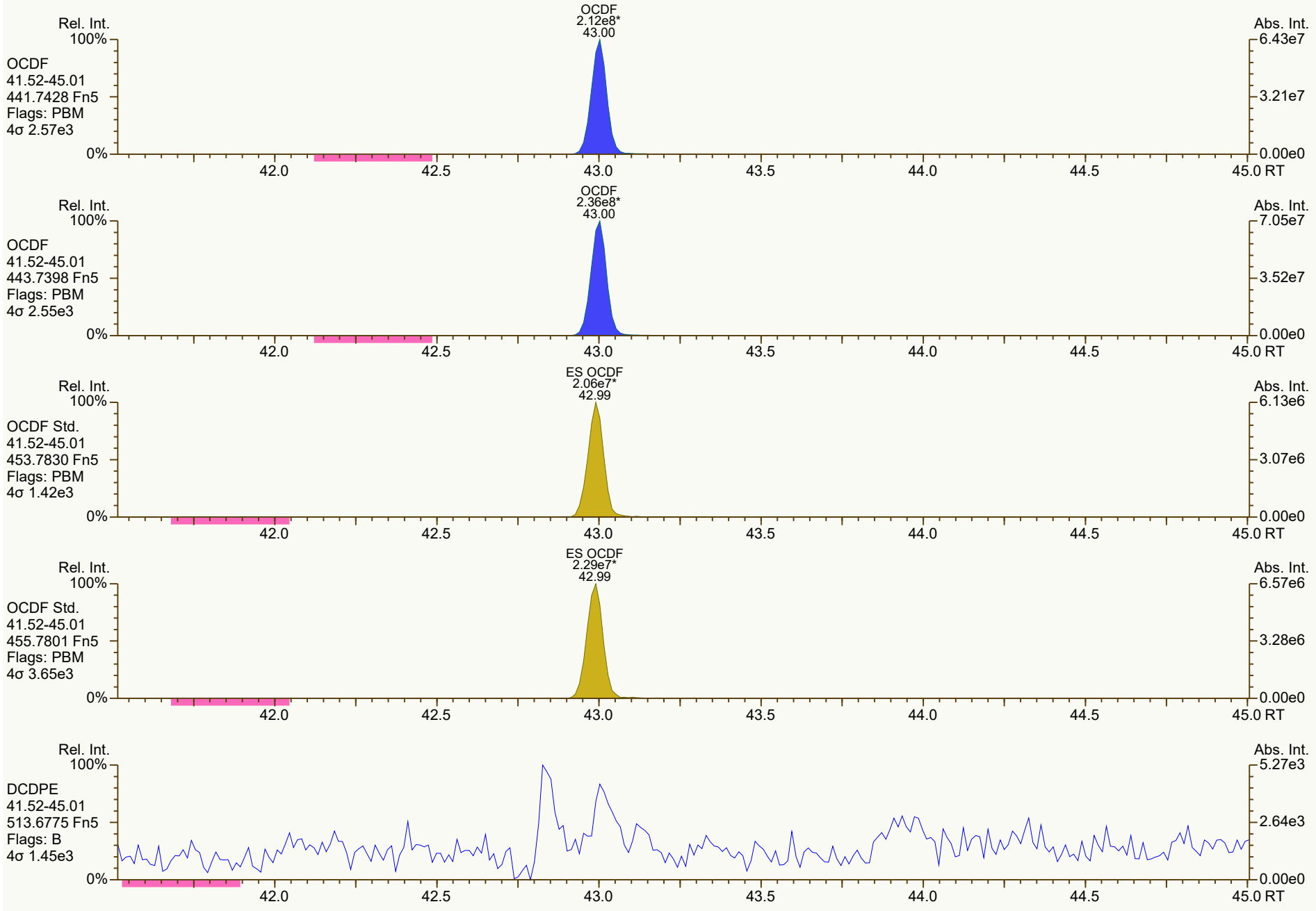

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

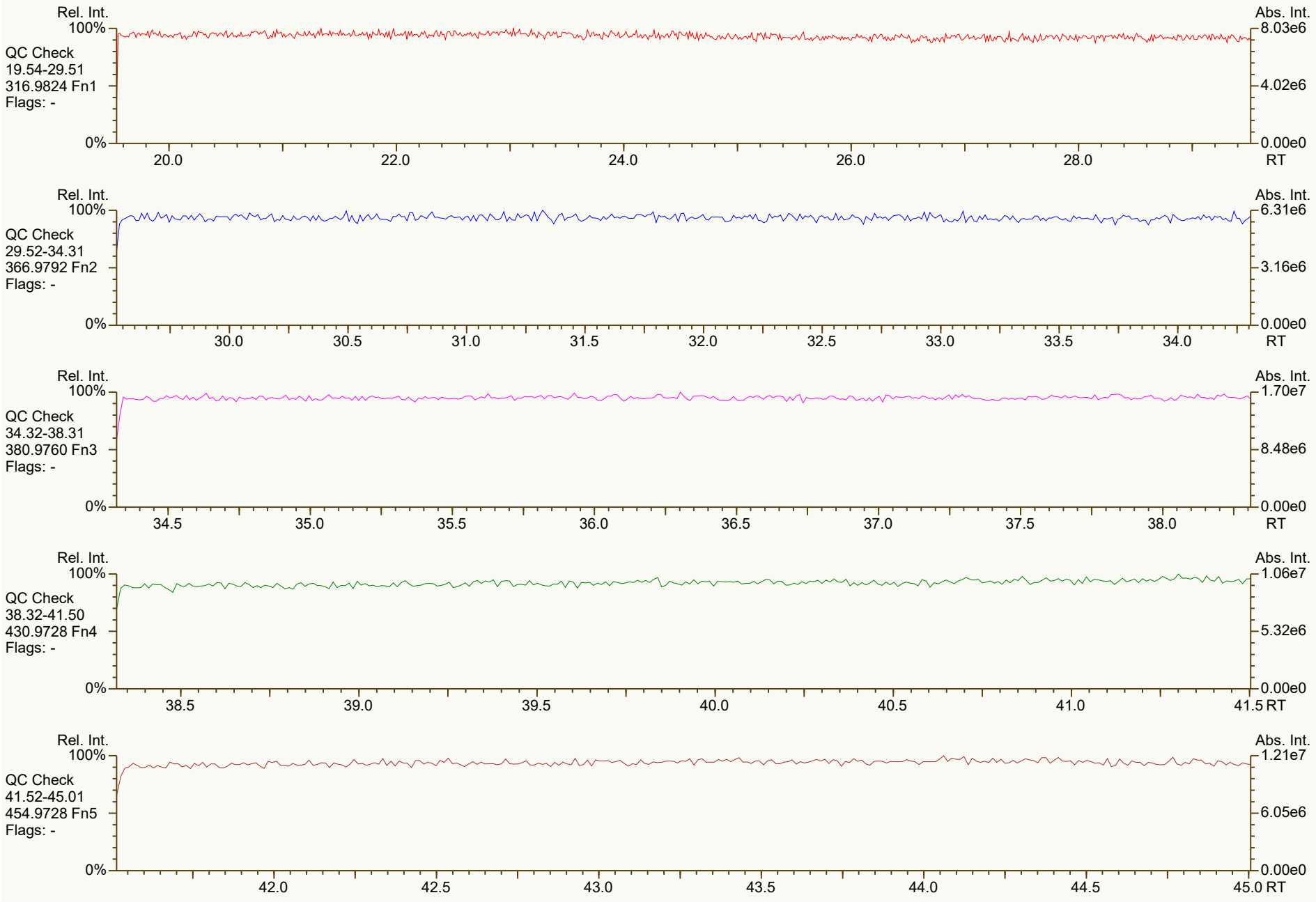

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

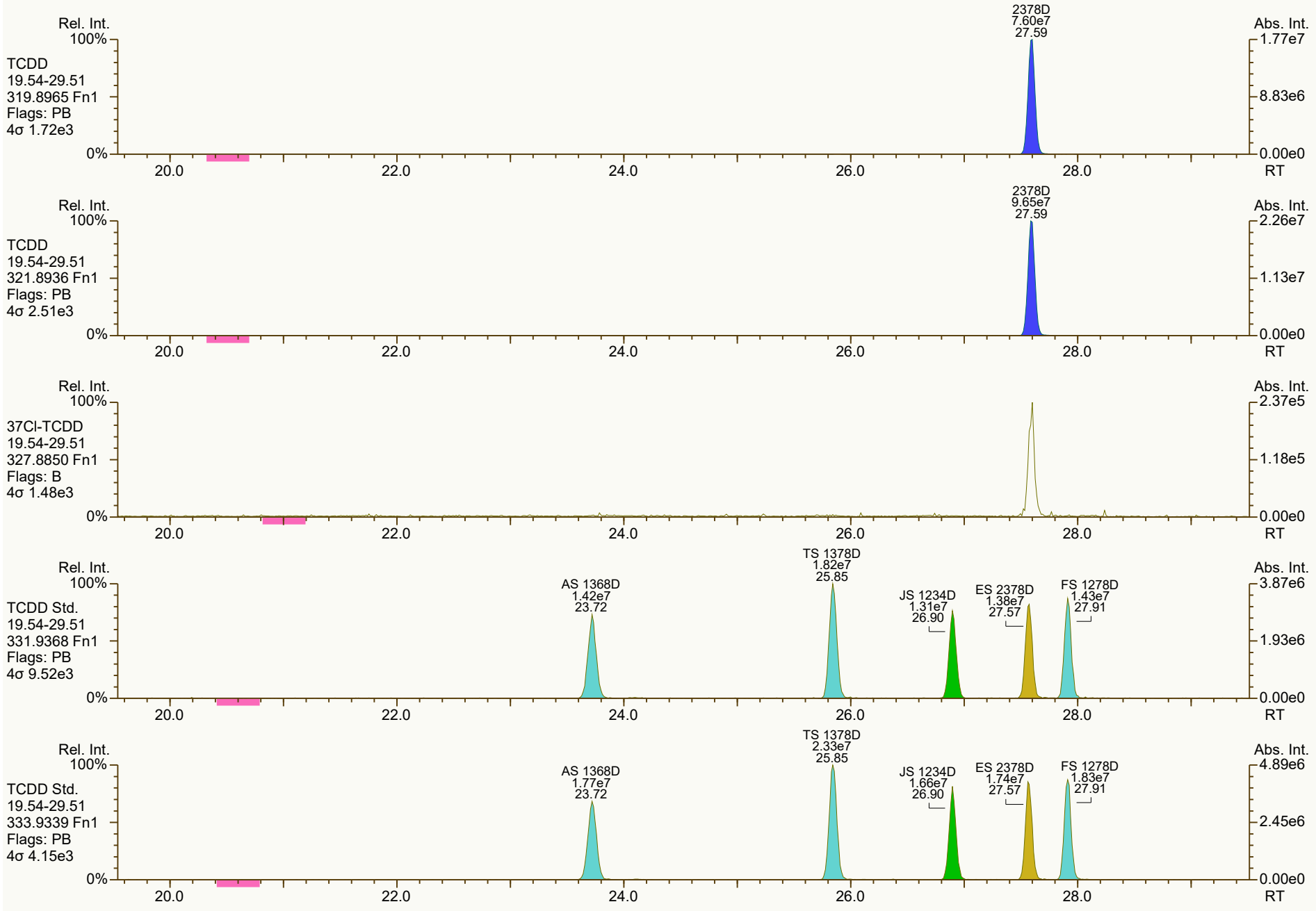

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

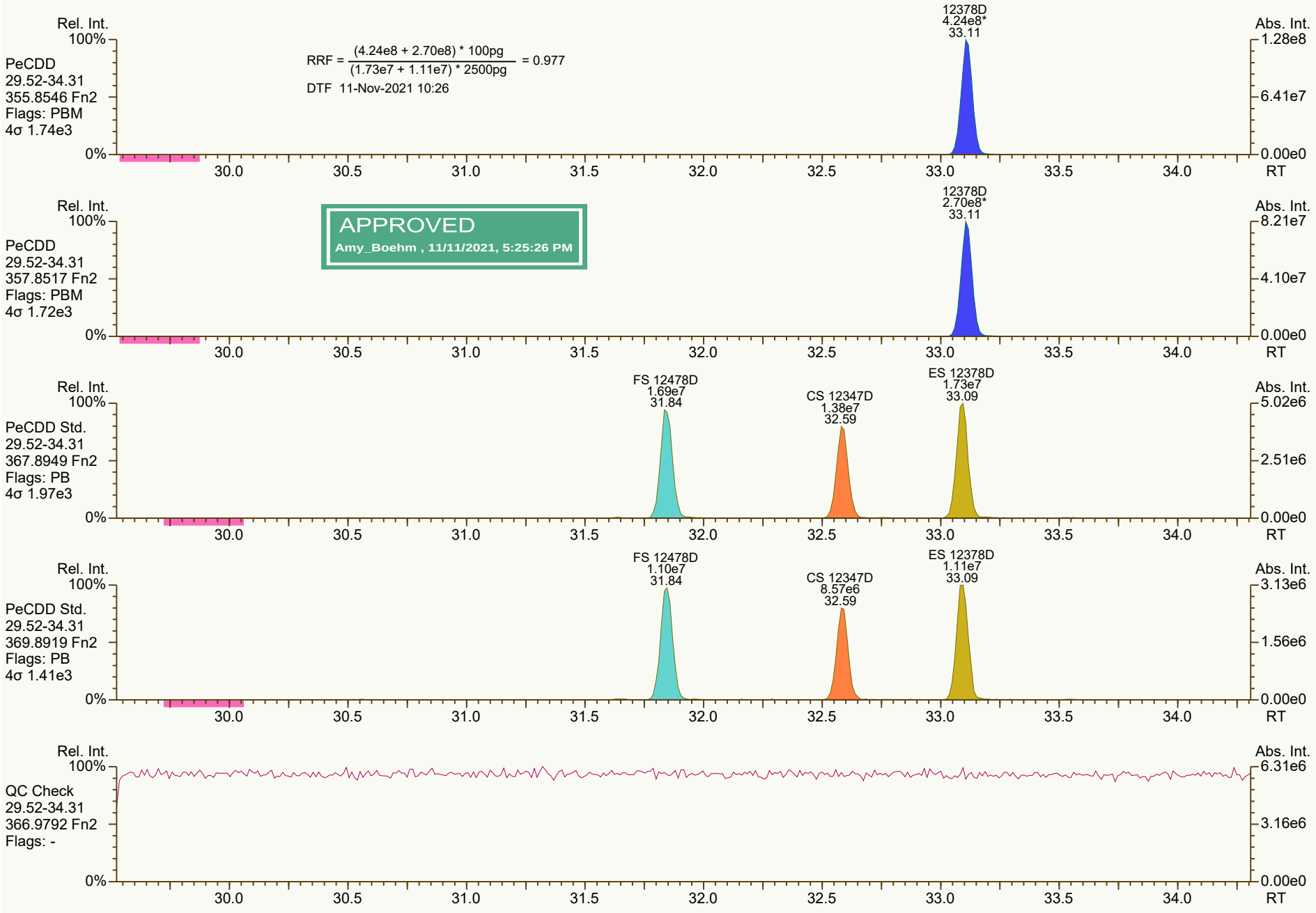
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

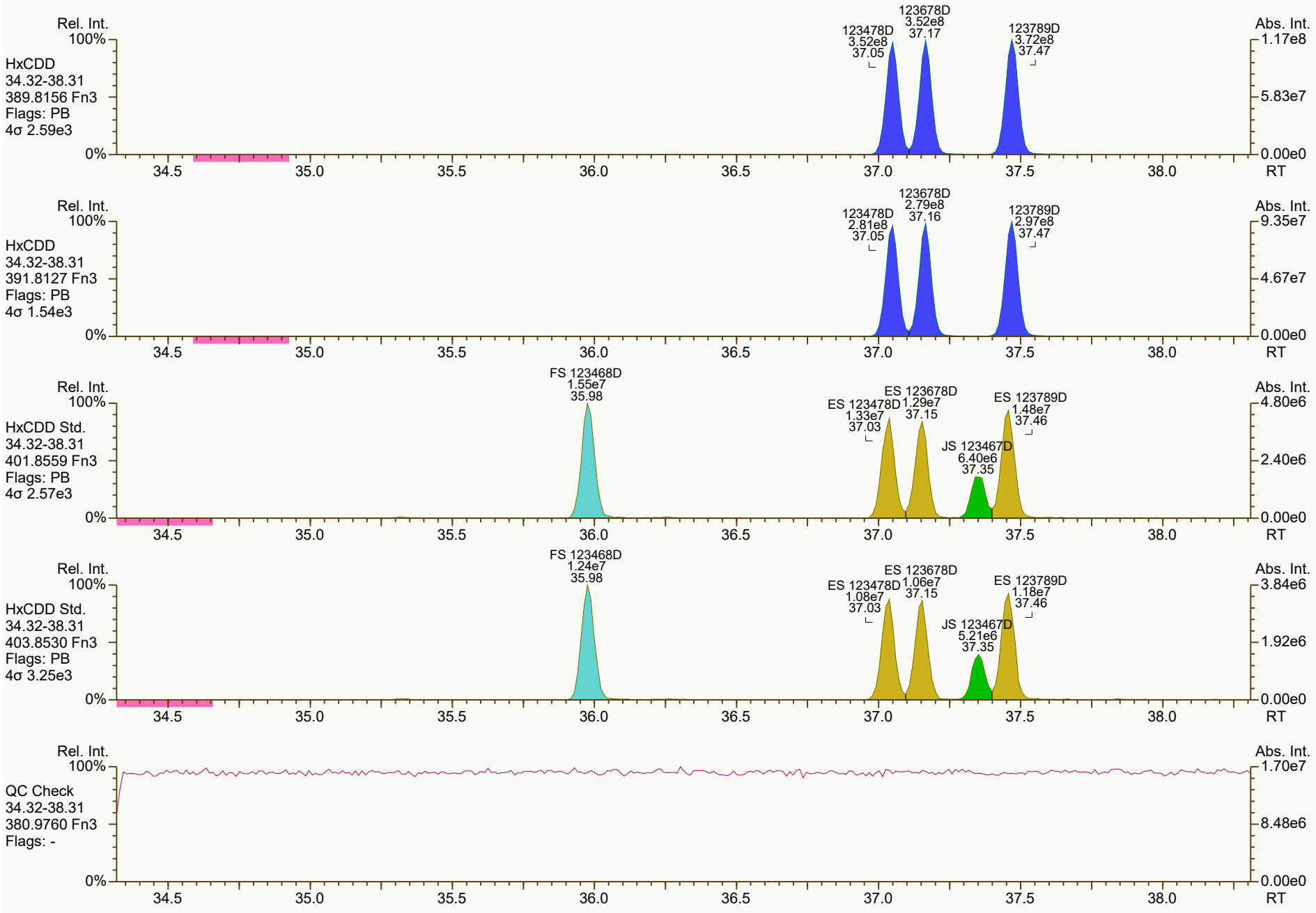
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

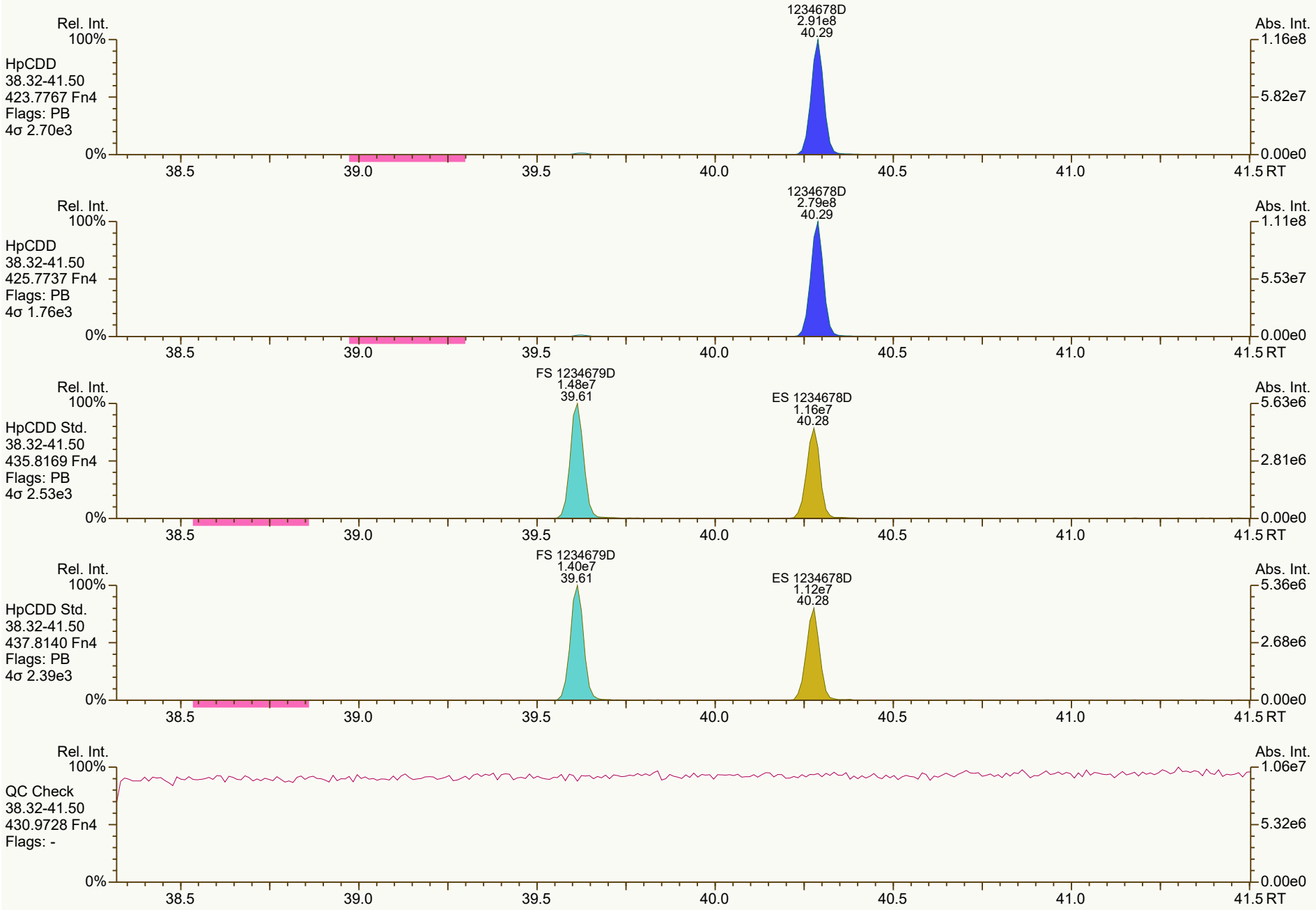
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

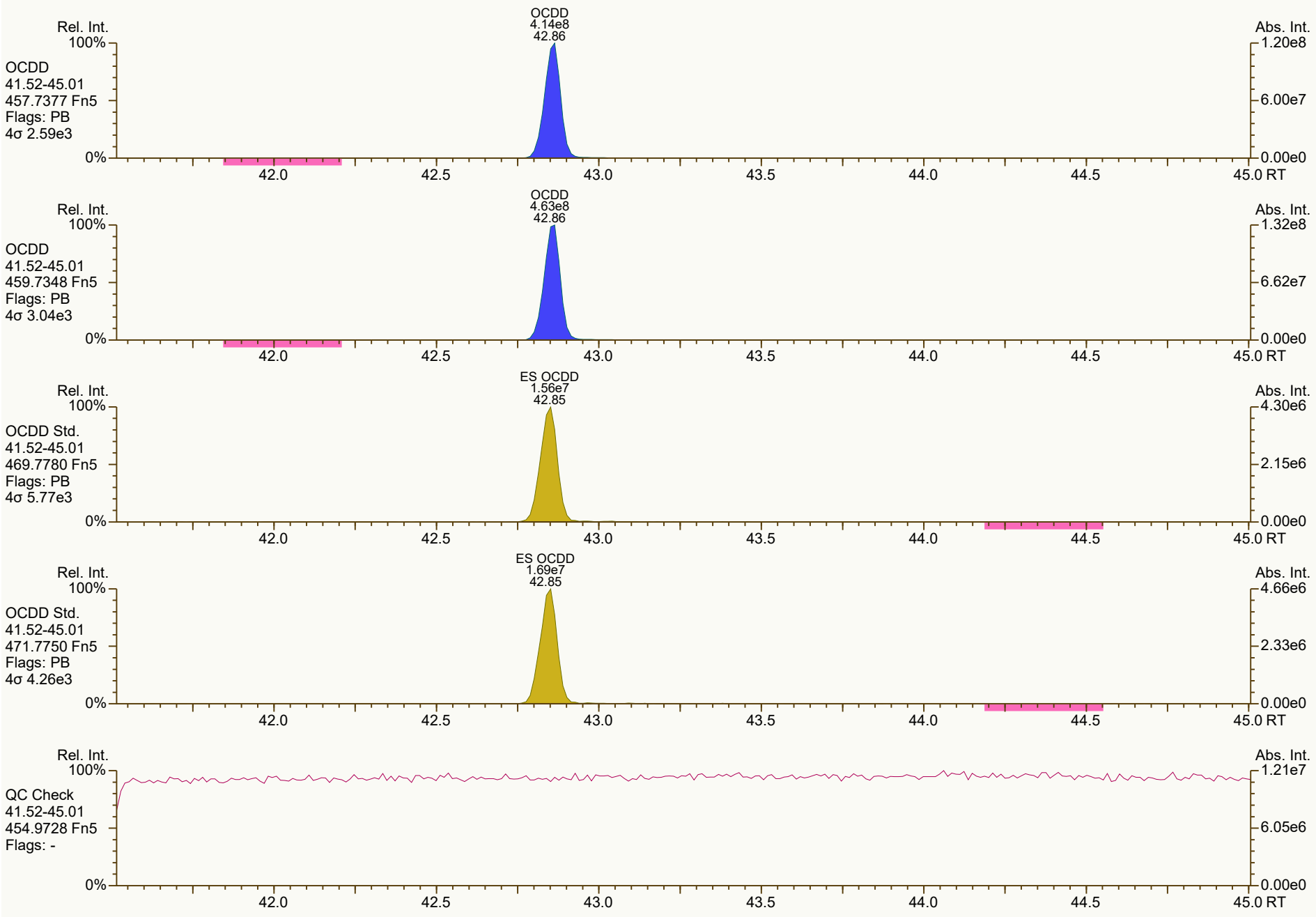

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.03e6
4.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
6.31e6
3.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.70e7
8.48e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.06e7
5.32e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.21e7
6.05e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0

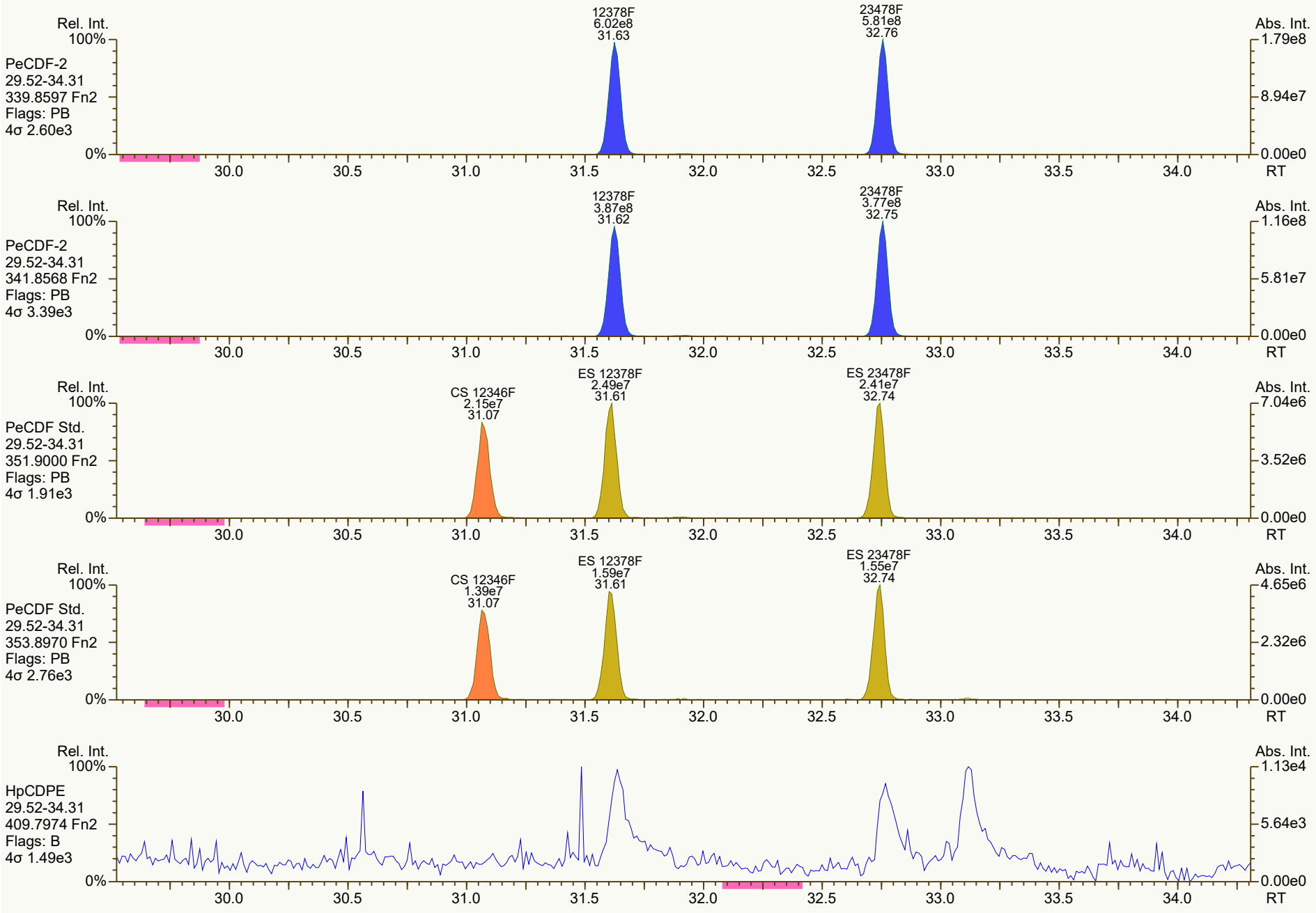

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

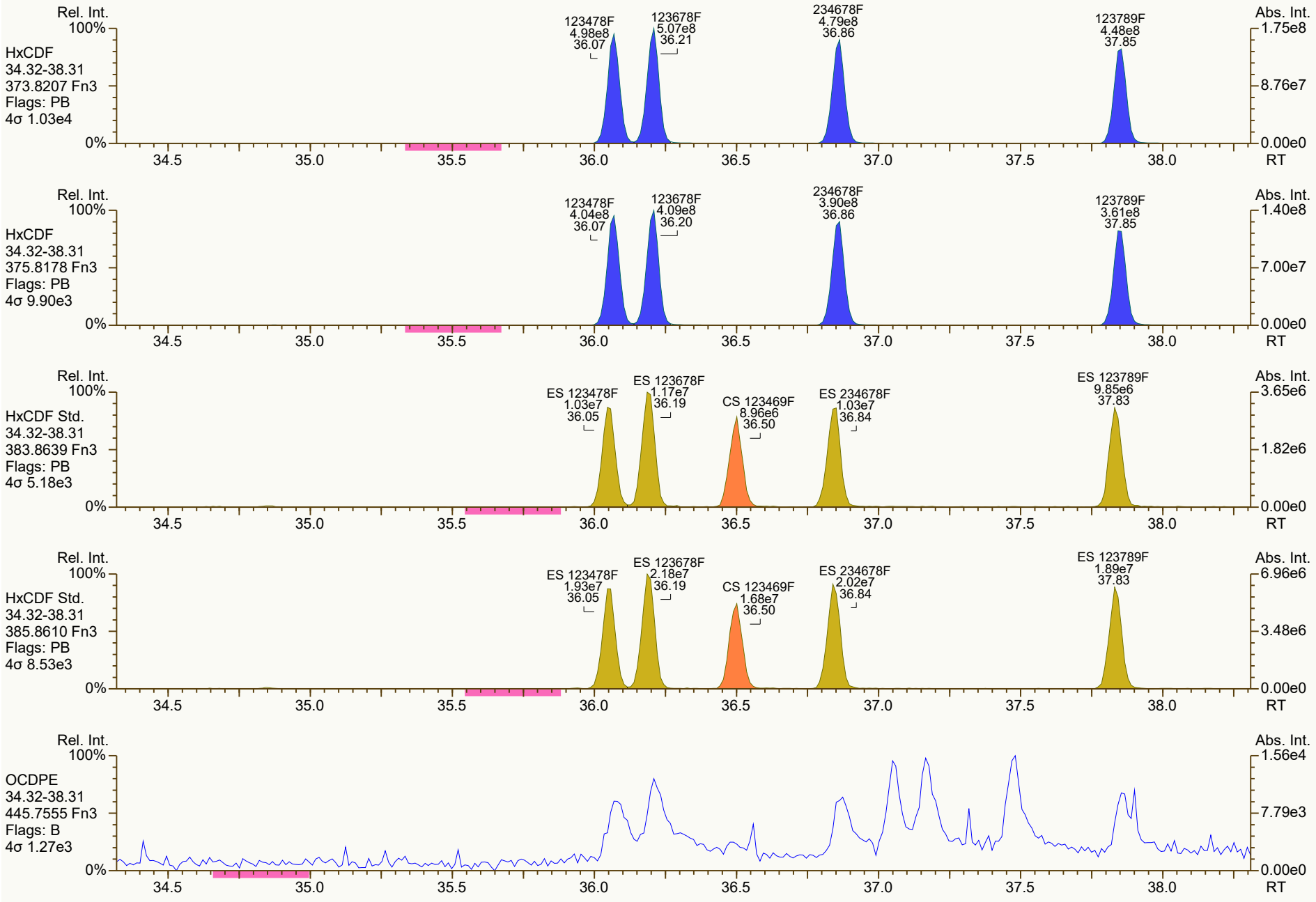

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

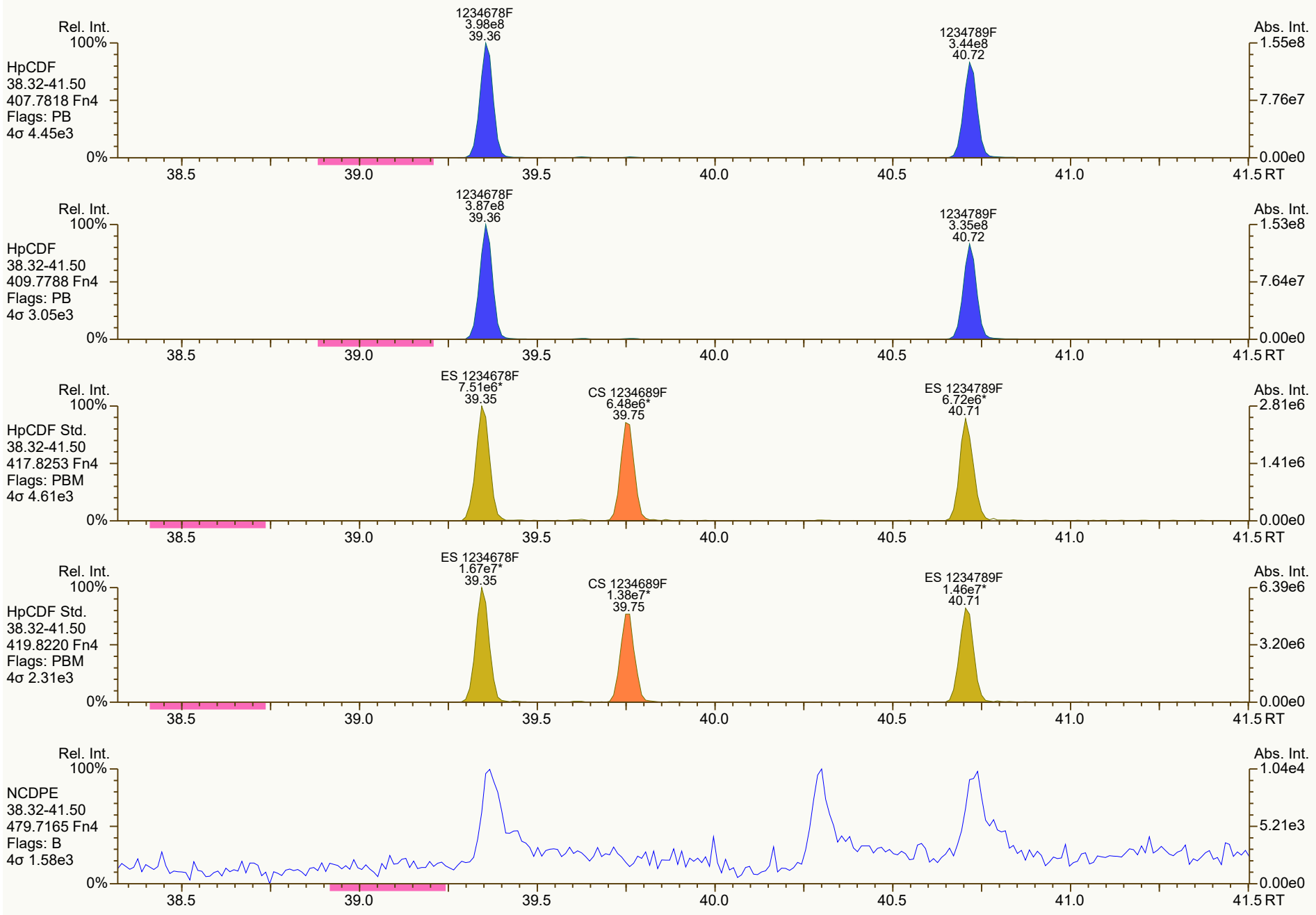

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

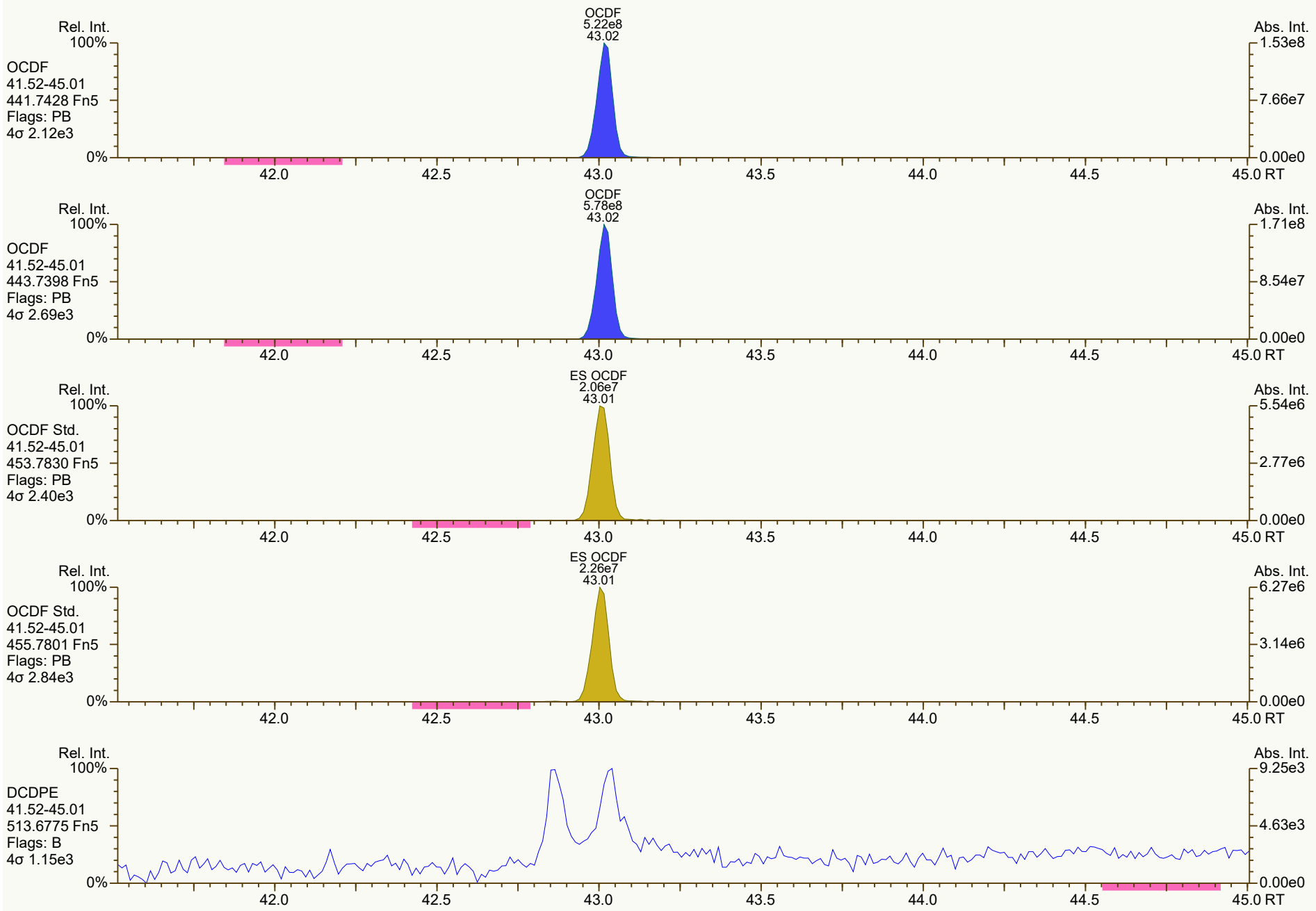

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

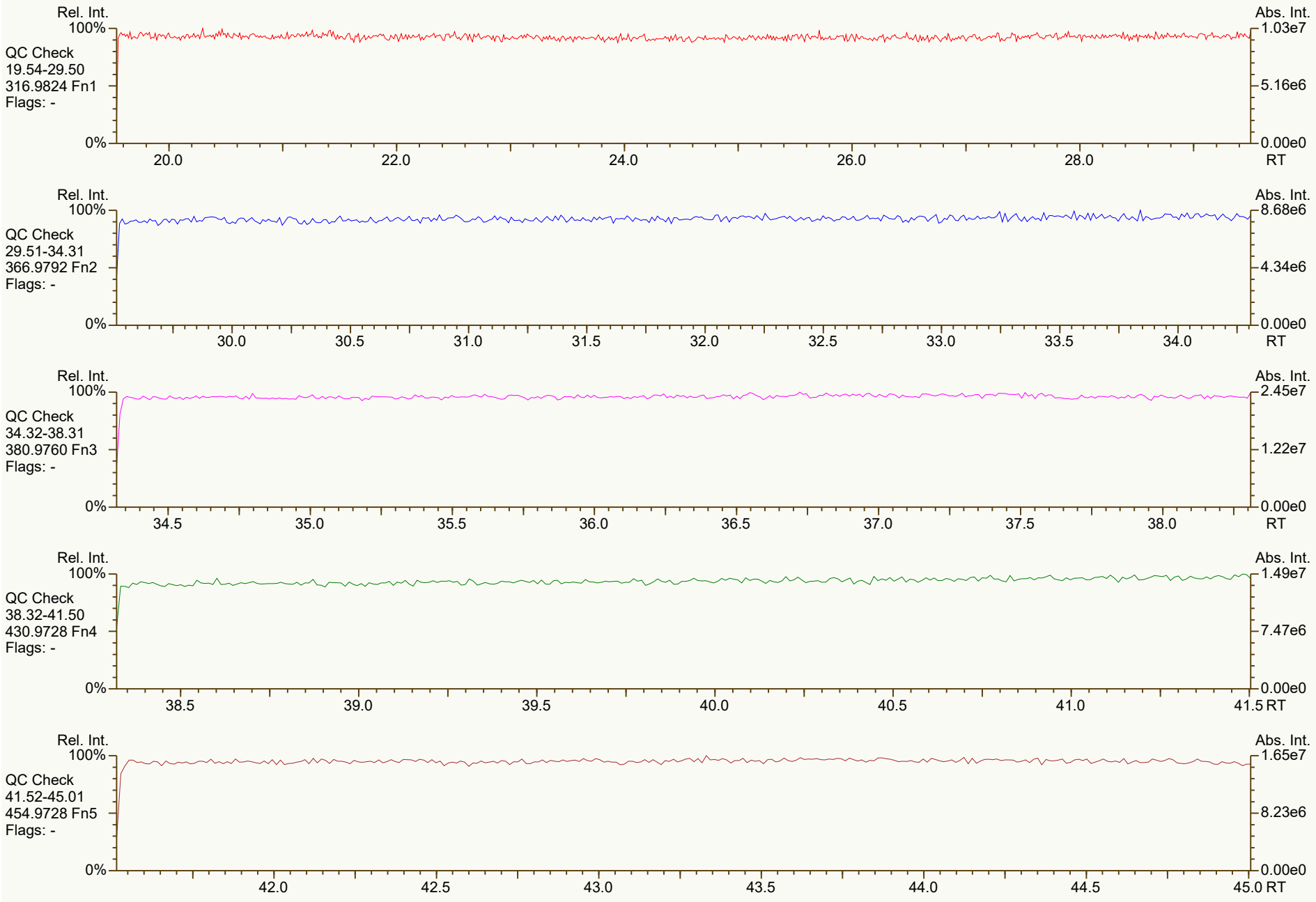

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

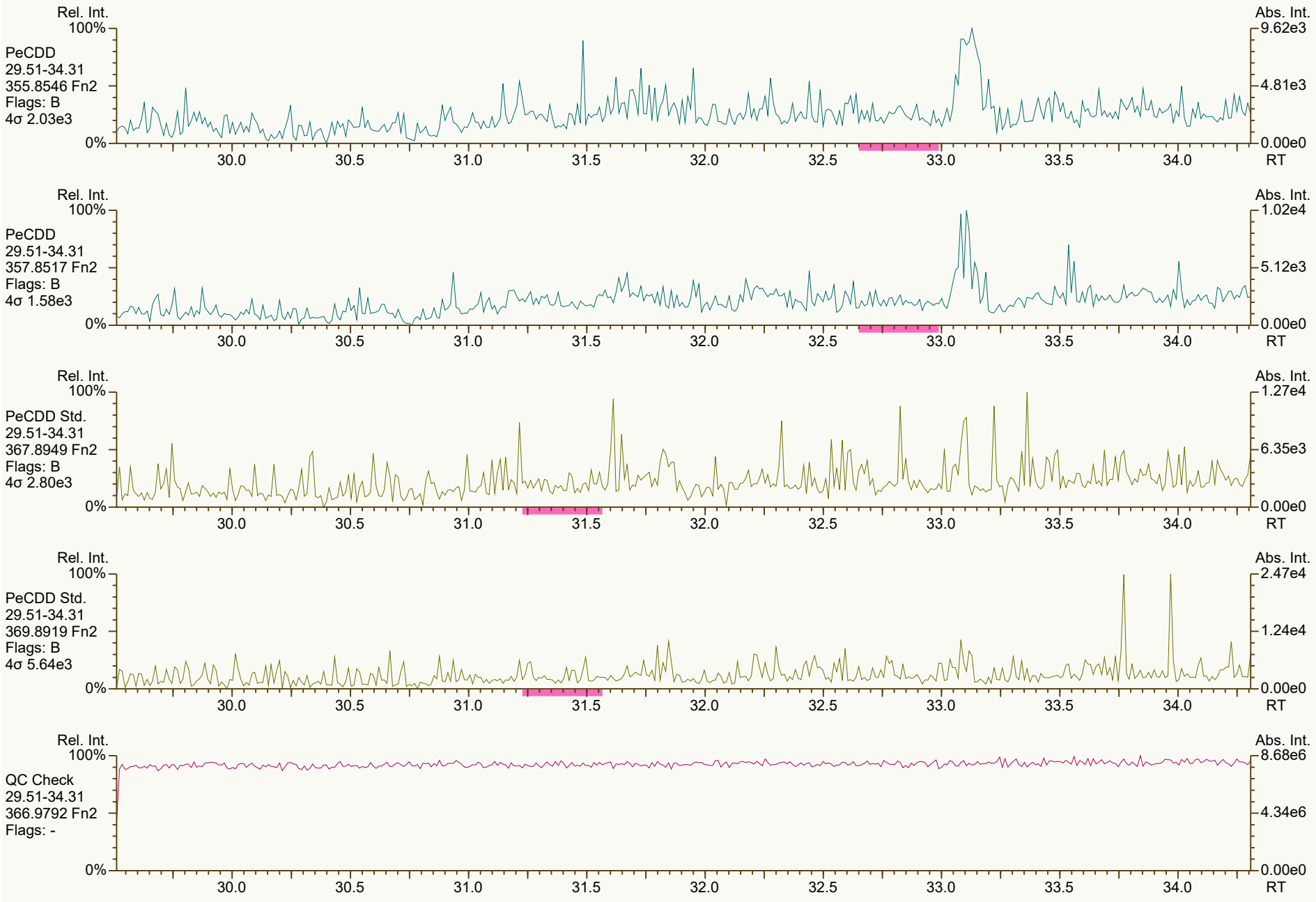
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

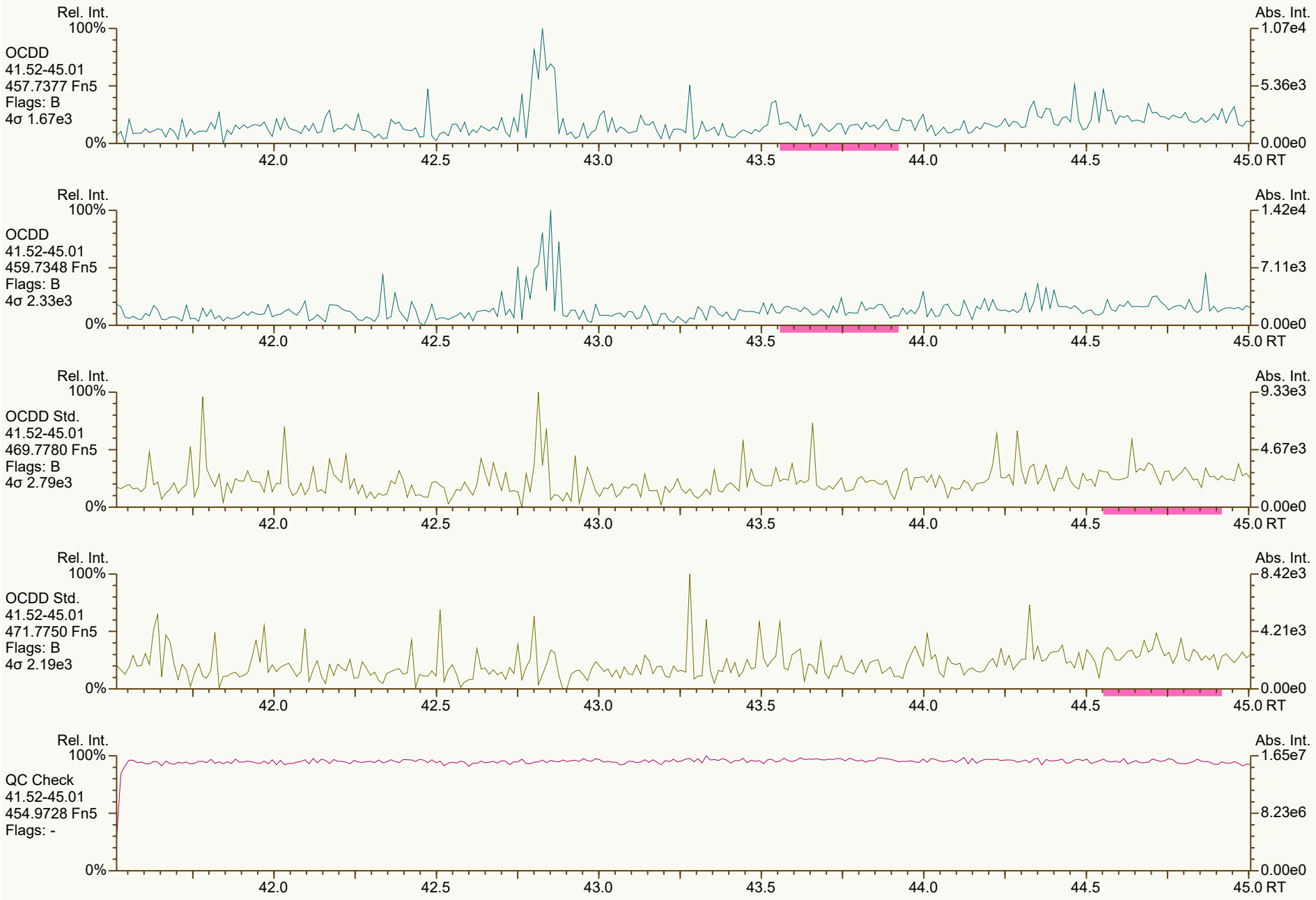
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*

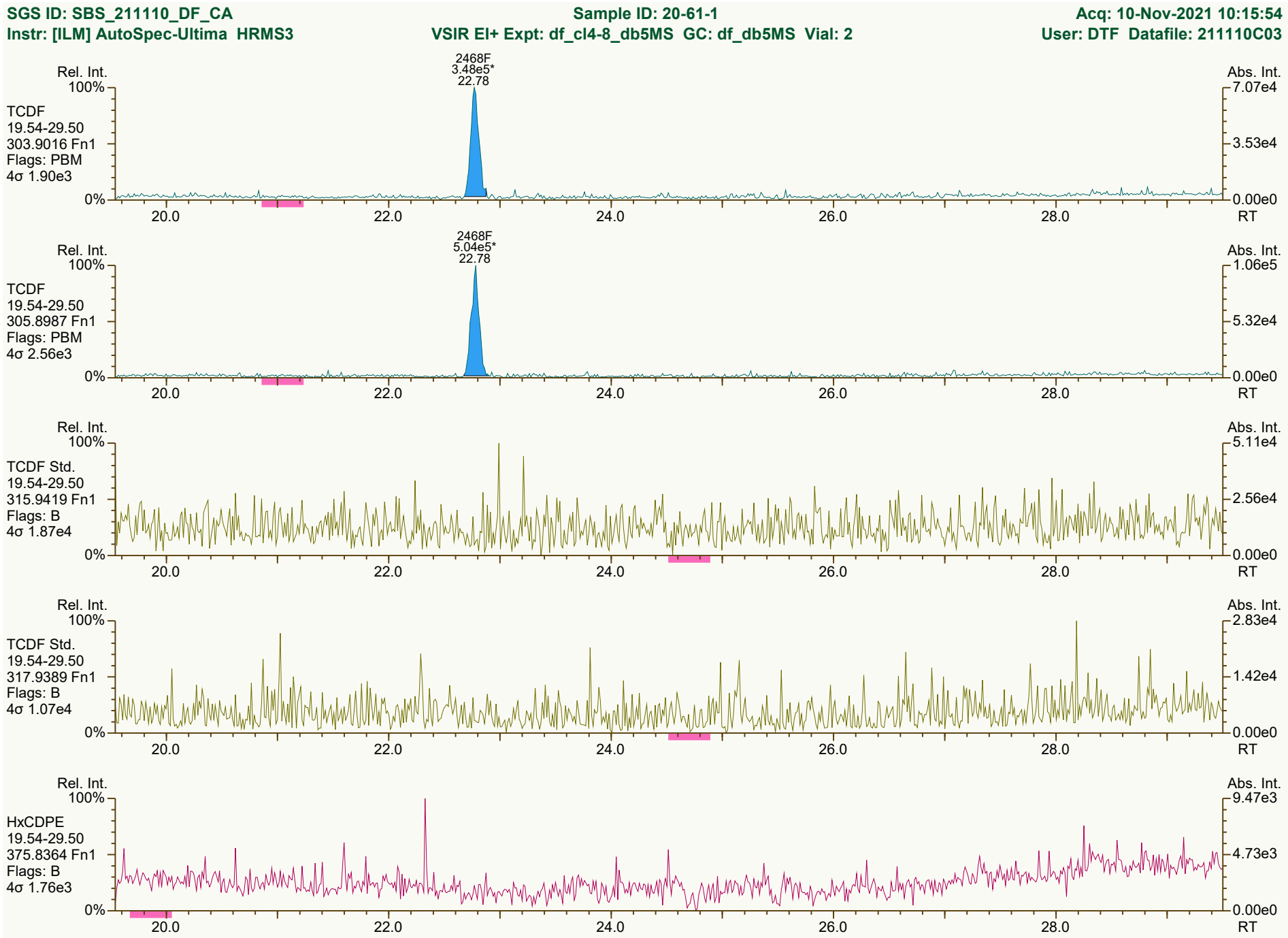

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

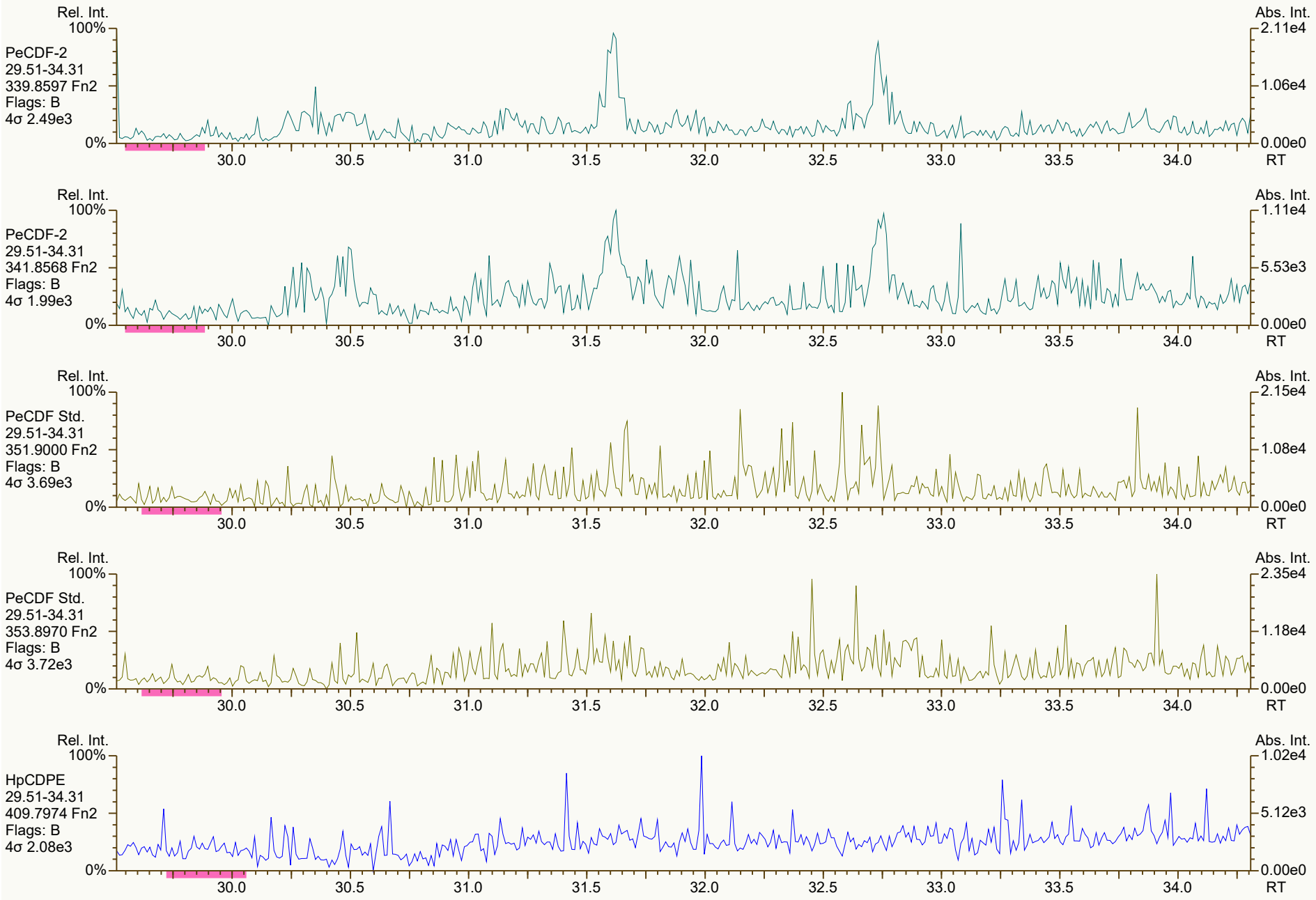

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

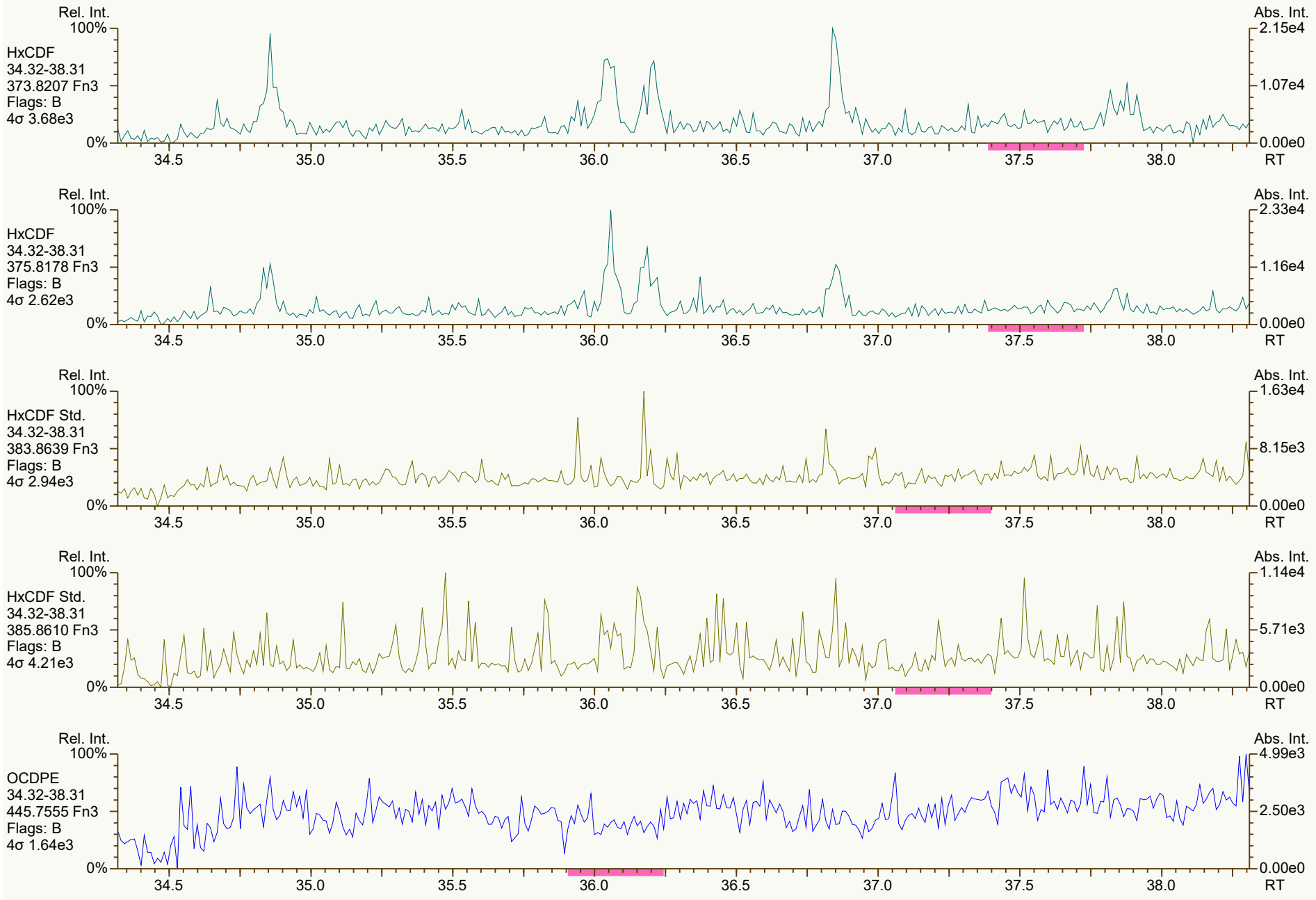

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
7.07e4
3.53e4
0.00e0
RT
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

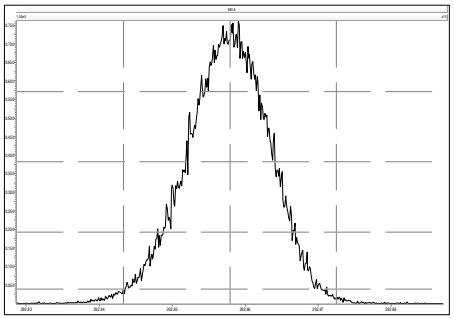

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

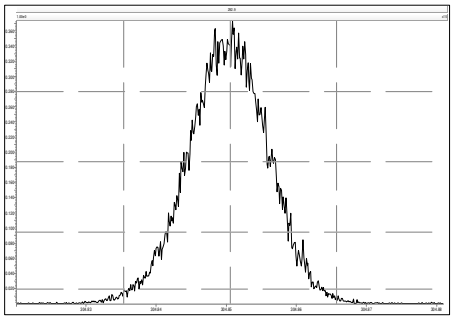
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

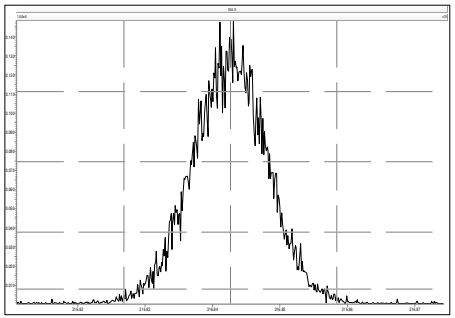
M 292.9824 R 10731



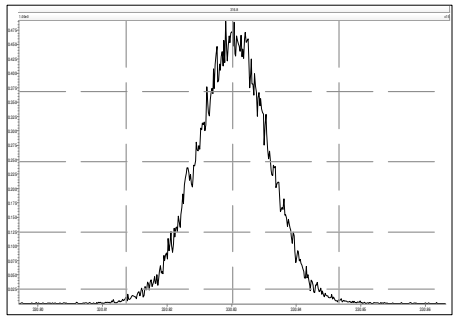
M 304.9824 R 11311



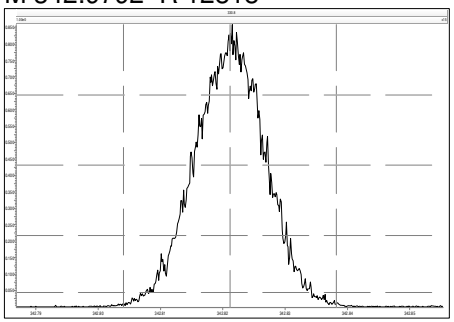
M 316.9824 R 12373



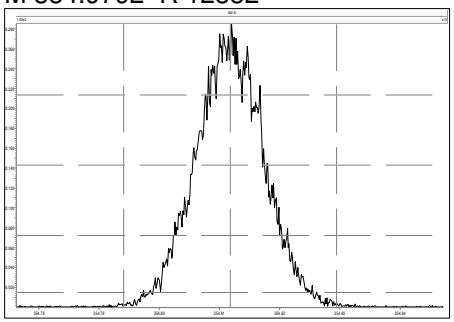
M 330.9792 R 12887



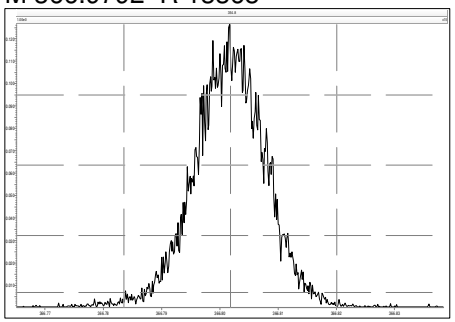
M 342.9792 R 12818



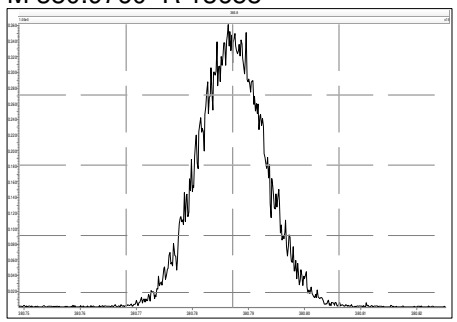
M 354.9792 R 12882



M 366.9792 R 13368



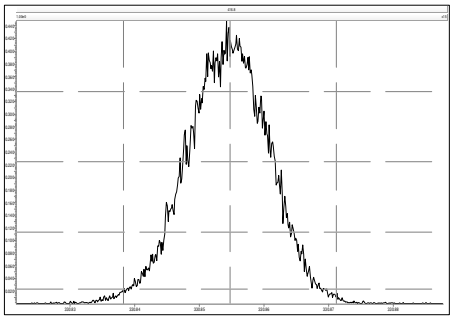
M 380.9760 R 13658



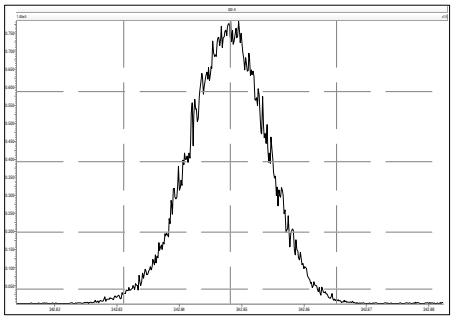
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

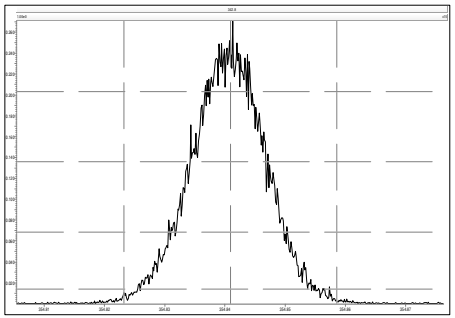
M 330.9792 R 11112



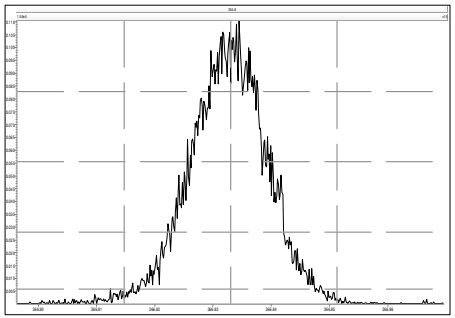
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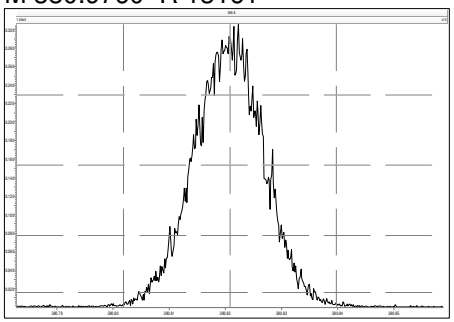
M 354.9792 R 11684



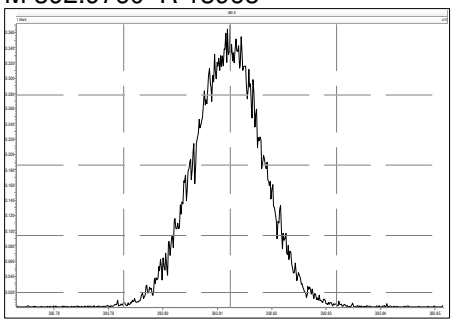
M 366.9792 R 11962



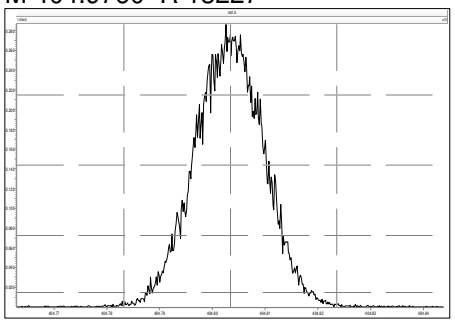
M 380.9760 R 13161



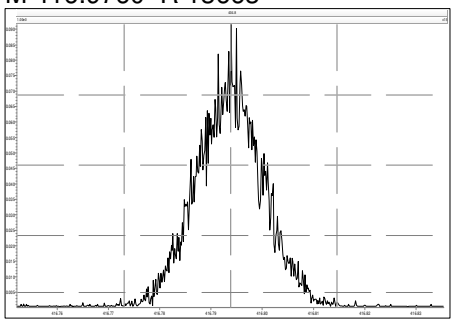
M 392.9760 R 13968



M 404.9760 R 13227



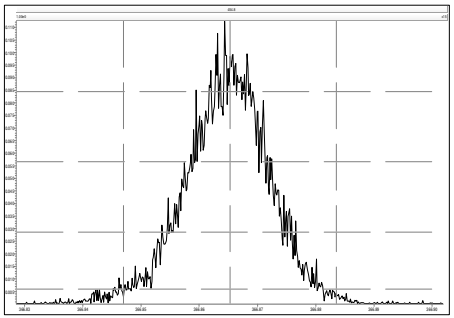
M 416.9760 R 13663



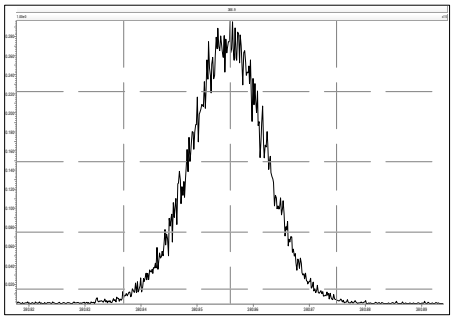
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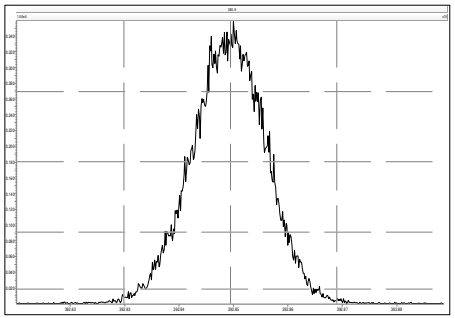
M 366.9792 R 10680



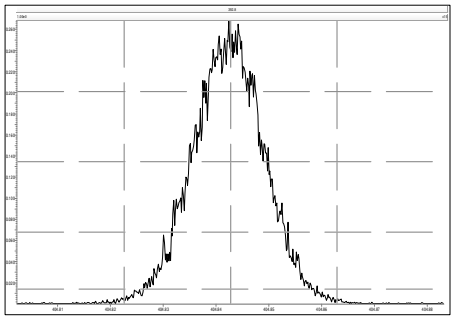
M 380.9760 R 12315



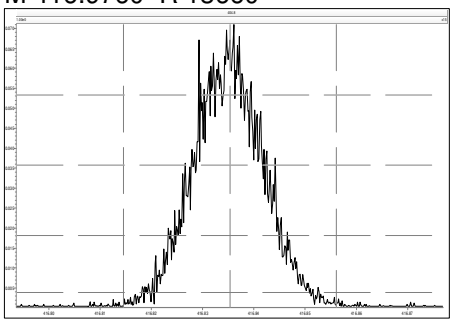
M 392.9760 R 12197



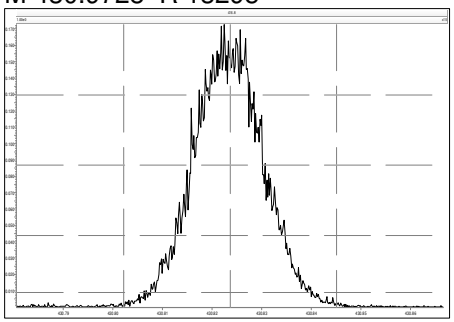
M 404.9760 R 12433



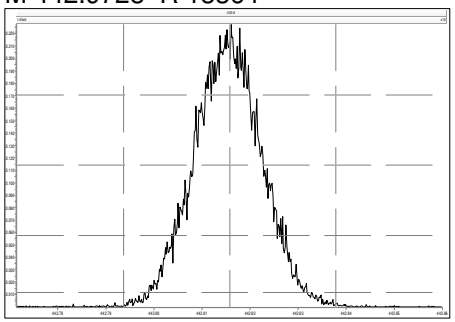
M 416.9760 R 13660



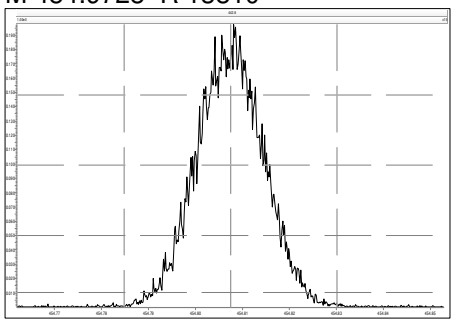
M 430.9728 R 13295



M 442.9728 R 13364



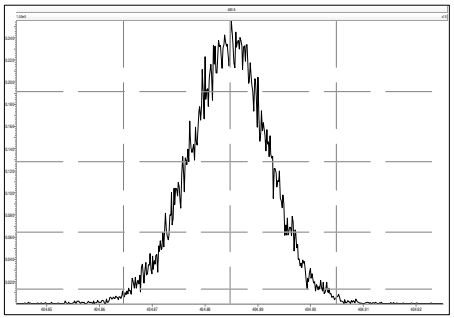
M 454.9728 R 13810



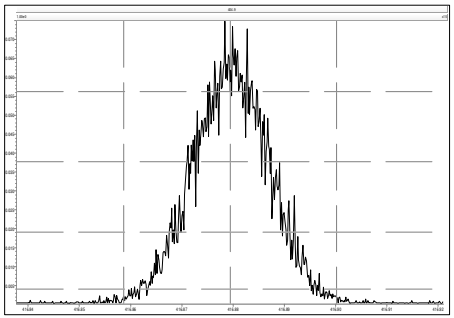
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

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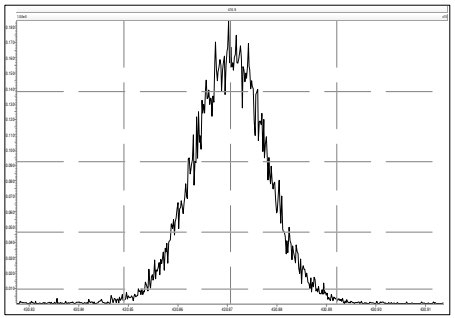
M 404.9760 R 11679



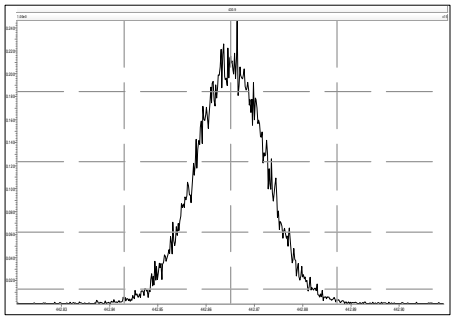
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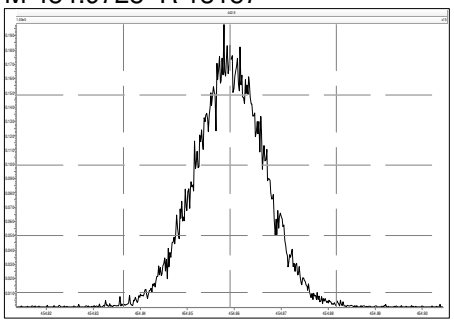
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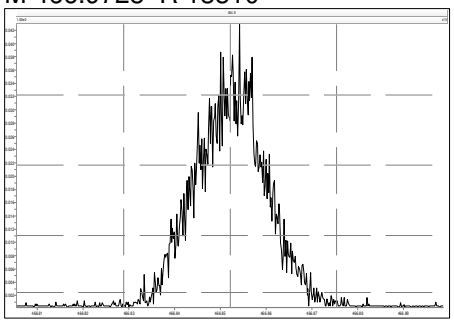
M 442.9728 R 12756



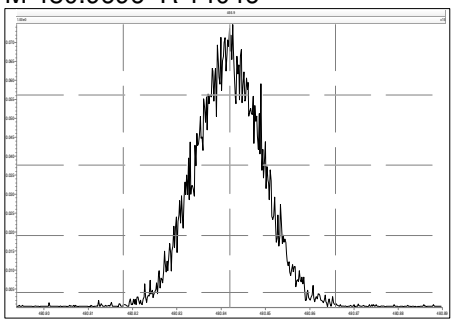
M 454.9728 R 13157



M 466.9728 R 13810



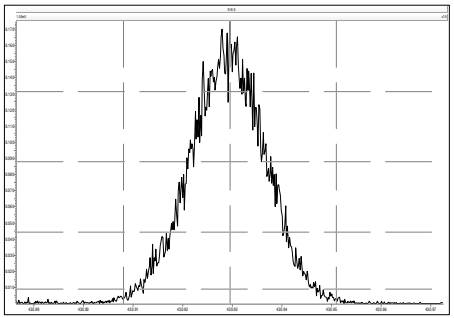
M 480.9696 R 14046



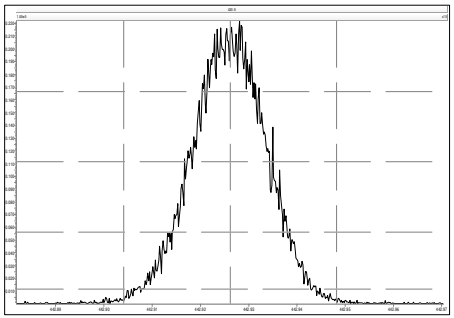
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

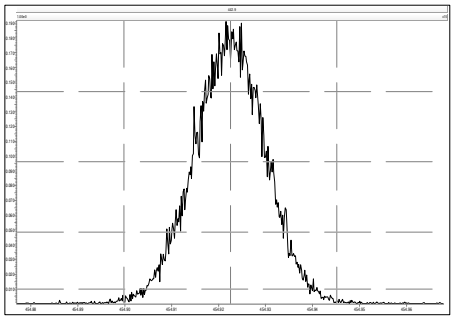
M 430.9728 R 11574



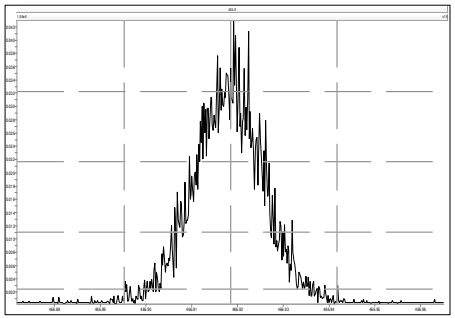
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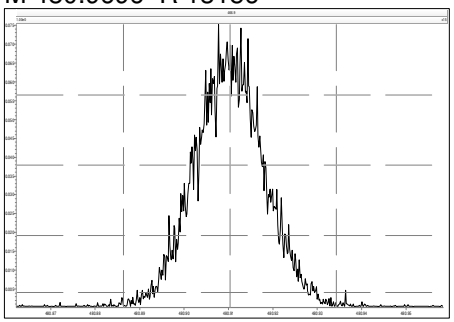
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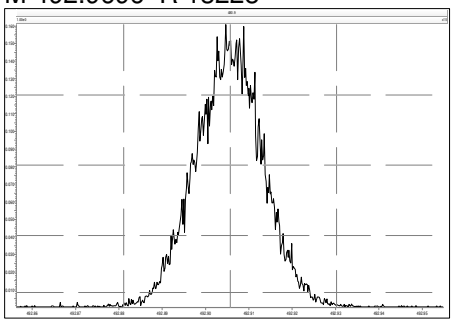
M 466.9728 R 13088



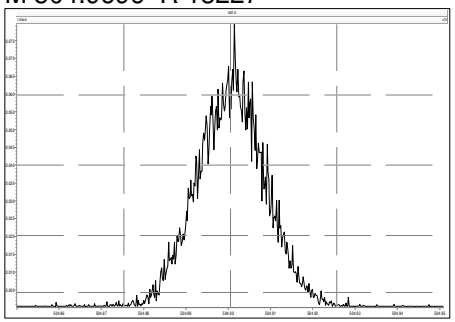
M 480.9696 R 13156



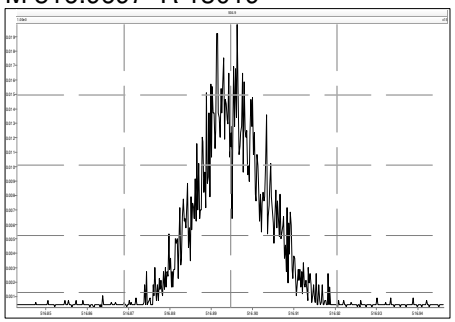
M 492.9696 R 13228



M 504.9696 R 13227



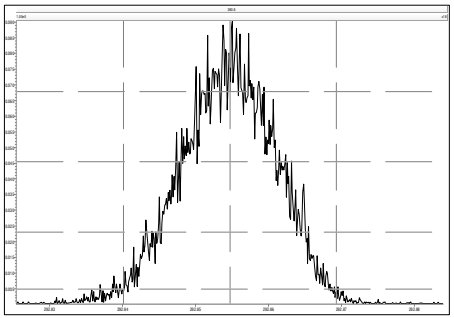
M 516.9697 R 13019



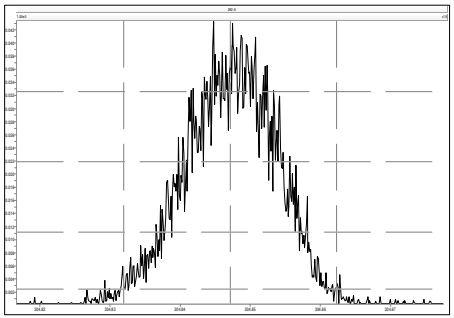
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

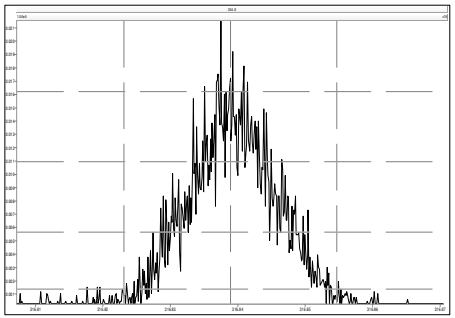
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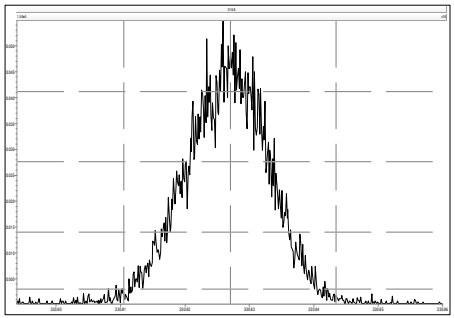
M 304.9824 R 10329



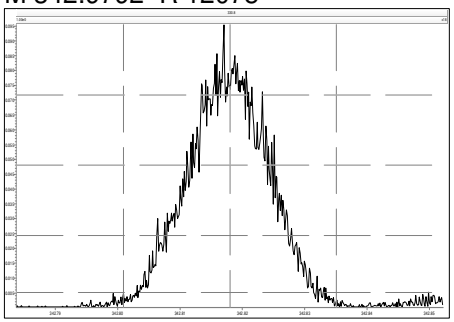
M 316.9824 R 11964



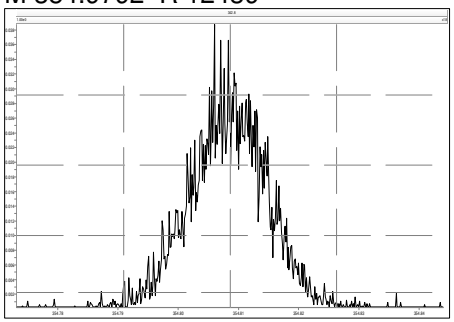
M 330.9792 R 11062



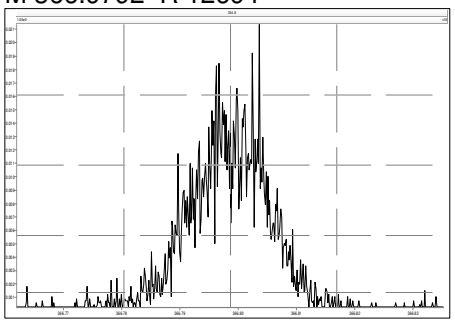
M 342.9792 R 12075



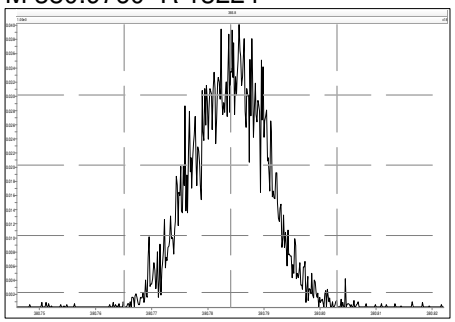
M 354.9792 R 12439



M 366.9792 R 12694



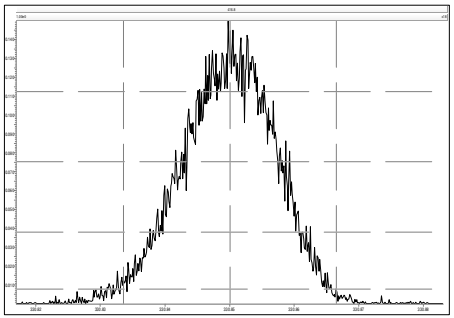
M 380.9760 R 13224



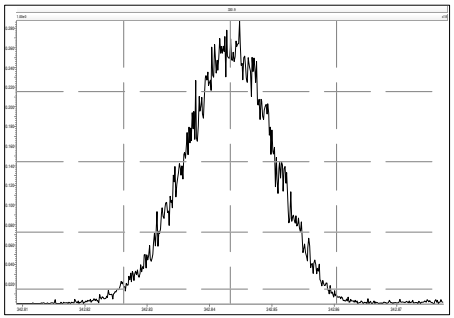
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

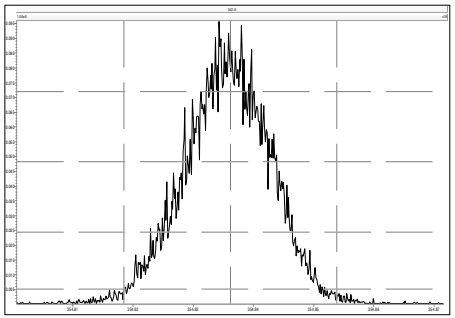
M 330.9792 R 10730



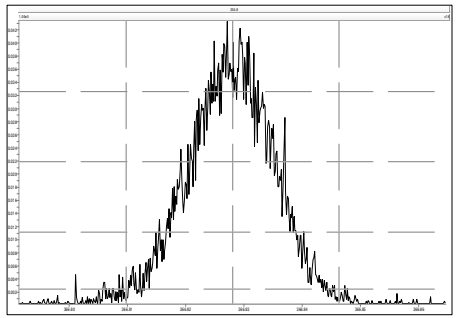
M 342.9792 R 10039



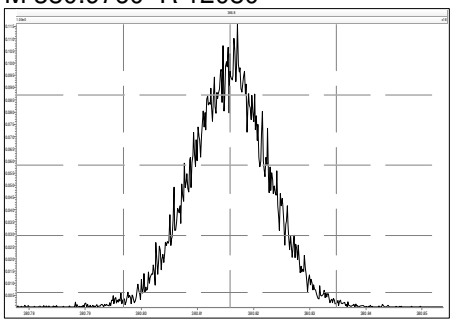
M 354.9792 R 11108



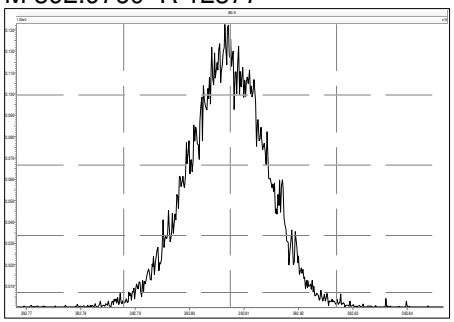
M 366.9792 R 11520



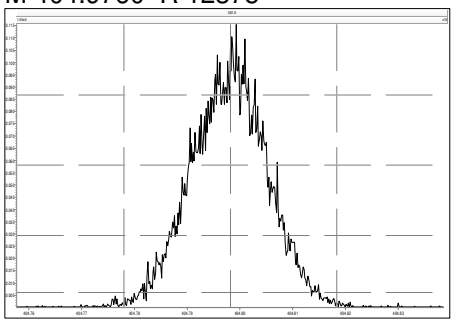
M 380.9760 R 12080



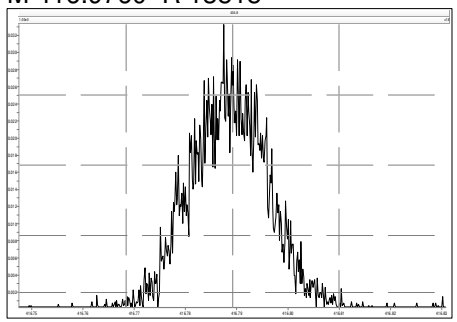
M 392.9760 R 12377



M 404.9760 R 12375



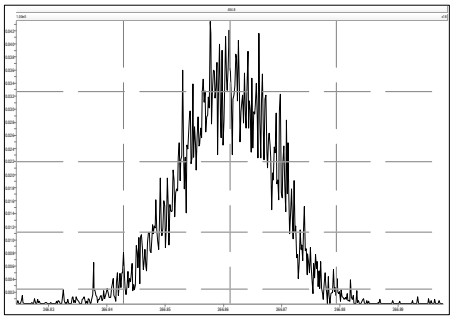
M 416.9760 R 13515



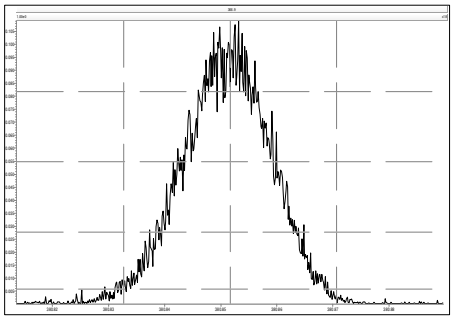
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

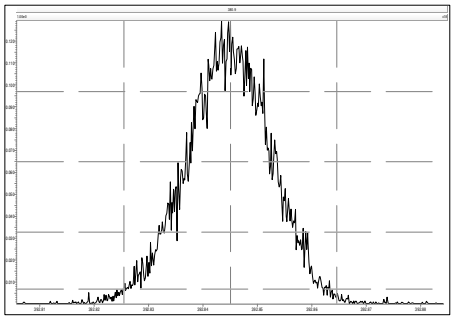
M 366.9792 R 10866



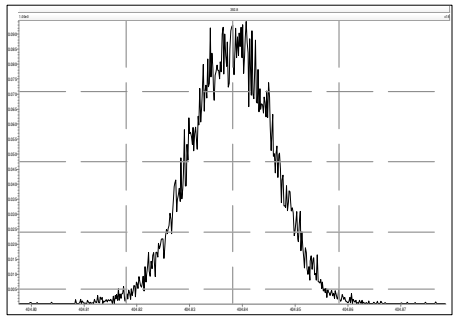
M 380.9760 R 10416



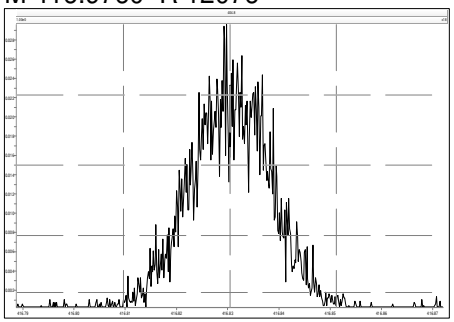
M 392.9760 R 10640



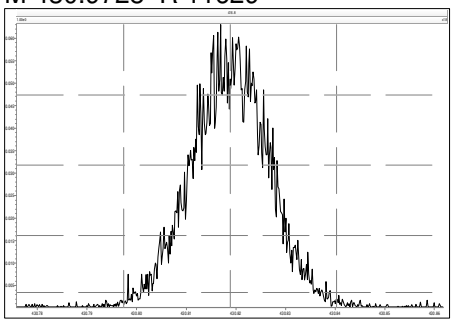
M 404.9760 R 11957



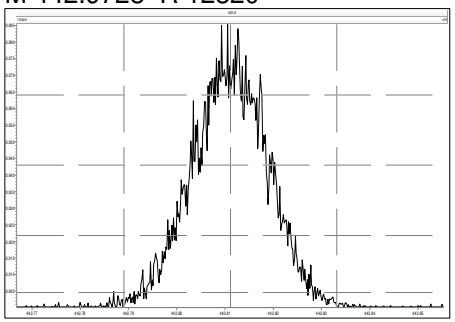
M 416.9760 R 12076



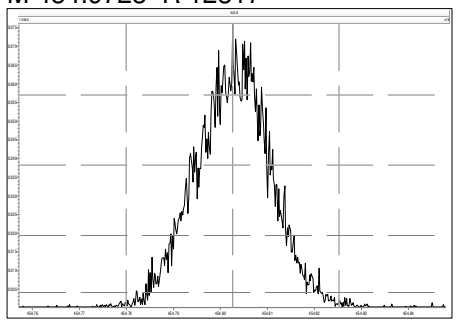
M 430.9728 R 11629



M 442.9728 R 12820



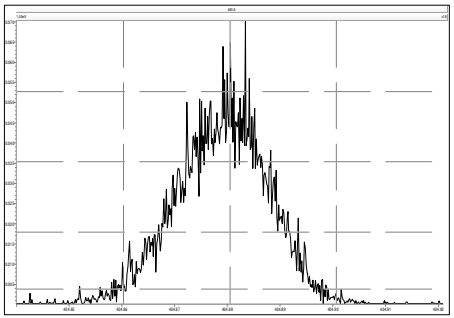
M 454.9728 R 12317



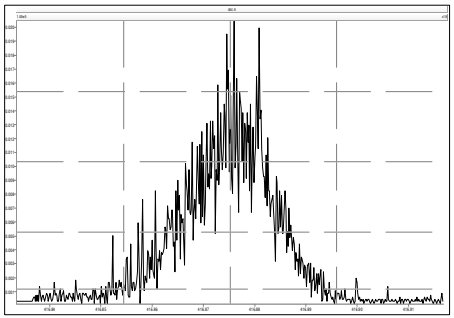
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Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

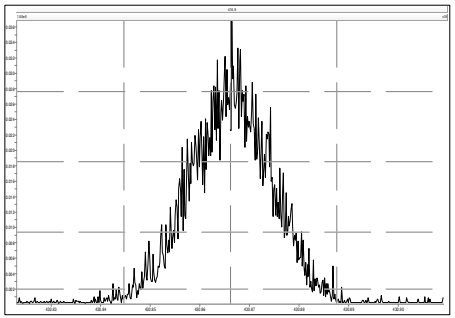
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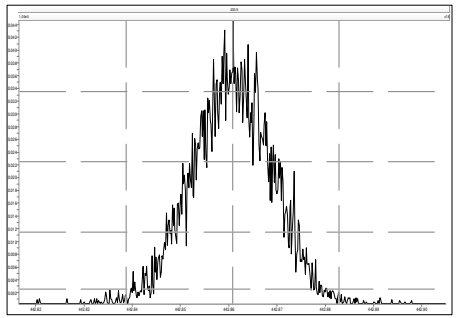
M 416.9760 R 12500



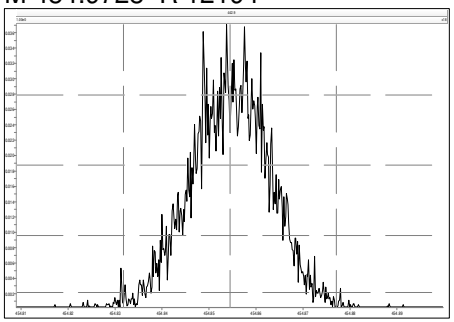
M 430.9728 R 11362



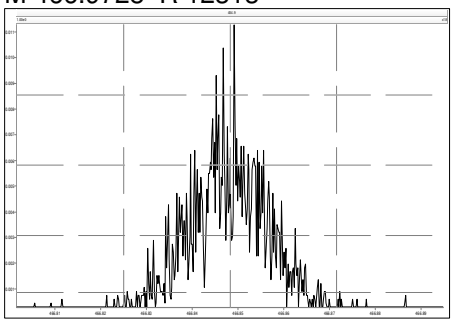
M 442.9728 R 12756



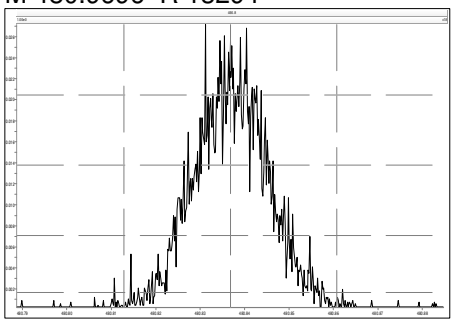
M 454.9728 R 12194



M 466.9728 R 12313



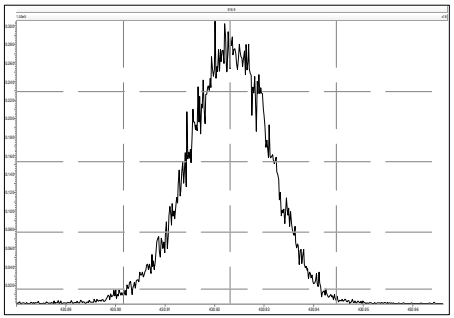
M 480.9696 R 13294



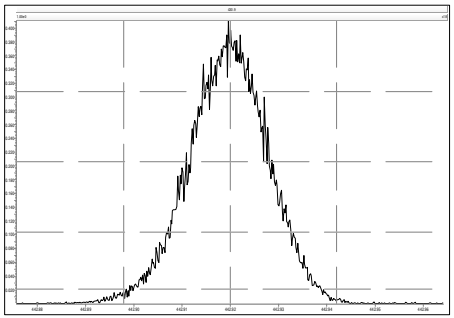
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

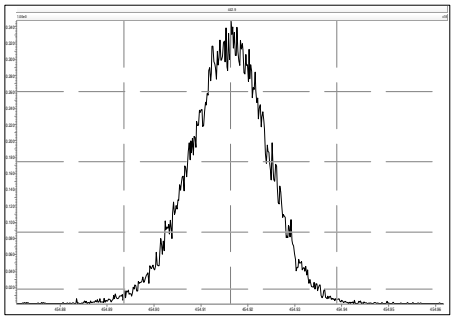
M 430.9728 R 11312



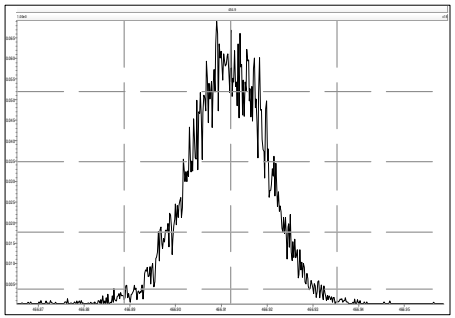
M 442.9728 R 11110



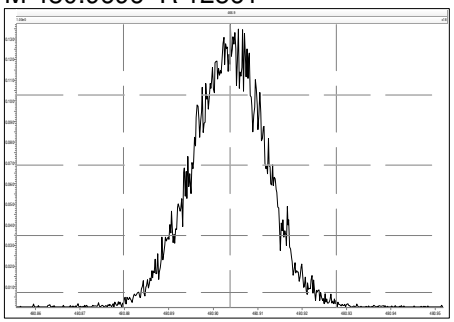
M 454.9728 R 11906



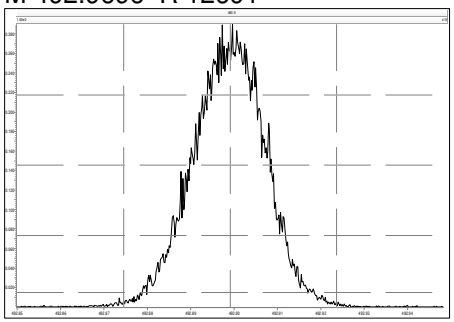
M 466.9728 R 12562



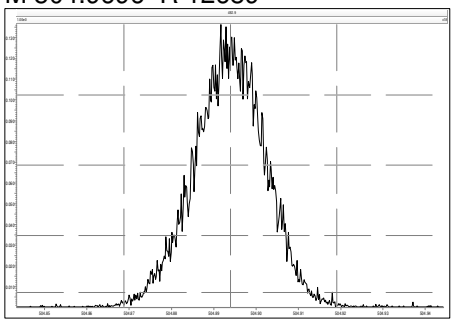
M 480.9696 R 12561



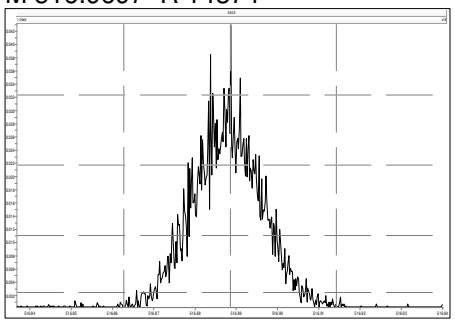
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 1/26/2022, 11:30:24 AM

Lab ID: OPR1_18863_DF **Acq'd:** 25 Jan 2022 15:58 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18863_OPR001 **UTP:** 26-Jan-2022 09:14:29 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 343-081-LKQ

Datafile: 220125C01 **Report:** 26 Jan 2022 09:17 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0008	0	1.71E+06	0.79	Y	1.18	12.1	4934.788	0.389
12378-PeCDD	33.97		1.0006	1.0006	0	5.42E+06	1.58	Y	1.04	48.7	3571.229	0.327
123478-HxCDD	37.86		1.0004	1.0004	0	5.87E+06	1.25	Y	1.09	57.2	4302.672	0.357
123678-HxCDD	37.97		1.0034	1.0034	0	7.02E+06	1.25	Y	1.15	54.4	4302.672	0.352
123789-HxCDD	38.26		1.0109	1.0112	+0.7	5.84E+06	1.27	Y	1.05	49.6	4302.672	0.418
1234678-HpCDD	40.88		1.0003	1.0004	+0.2	4.47E+06	1.03	Y	1.06	59.3	7056.663	0.853
OCDD	43.54		1.0002	1.0002	0	5.49E+06	0.92	Y	1.13	124	11977.562	3.23
2378-TCDF	27.81		1.0008	1.0009	+0.2	2.39E+06	0.67	Y	1.08	11.9	4309.85	0.239
12378-PeCDF	32.53		1.0005	1.0005	0	8.24E+06	1.58	Y	1.02	50.2	7089.949	0.473
23478-PeCDF	33.63		1.0005	1.0005	0	8.68E+06	1.51	Y	1.02	54.8	7089.949	0.453
123478-HxCDF	36.85		1.0004	1.0004	0	7.57E+06	1.28	Y	1.27	55.1	6576.314	0.439
123678-HxCDF	37.00		1.0004	1.0006	+0.4	1.01E+07	1.25	Y	1.15	61.1	6576.314	0.371
234678-HxCDF	37.68		1.0004	1.0004	0	9.65E+06	1.20	Y	1.19	54.9	6576.314	0.375
123789-HxCDF	38.62		1.0004	1.0005	+0.2	6.44E+06	1.29	Y	1.16	51	6576.314	0.523
1234678-HpCDF	39.96		1.0002	1.0004	+0.5	8.26E+06	0.99	Y	1.37	54.1	5414.425	0.271
1234789-HpCDF	41.34		1.0003	1.0002	-0.2	4.21E+06	0.99	Y	1.31	50	5414.425	0.562
OCDF	43.72		1.0002	1.0002	0	5.91E+06	0.85	Y	1.07	108	8851.459	1.9

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0236	+0.5	1.19E+07	0.78	Y	1.05	86.3
ES 12378-PeCDD	33.95	1.2121	1.2134	+2.6	1.07E+07	1.59	Y	0.88	92.3
ES 123478-HxCDD	37.84	0.9921	0.9922	+0.2	9.42E+06	1.25	Y	0.97	102
ES 123678-HxCDD	37.96	0.9951	0.9953	+0.5	1.12E+07	1.27	Y	0.94	125
ES 123789-HxCDD	38.25	1.0025	1.0029	+0.9	1.12E+07	1.24	Y	1.09	108
ES 1234678-HpCDD	40.87	1.0709	1.0715	+1.5	7.10E+06	1.04	Y	0.91	81.7
ES OCDD	43.53	1.1403	1.1412	+2.4	7.87E+06	0.91	Y	0.62	66.2
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	1.87E+07	0.83	Y	1.06	85.7
ES 12378-PeCDF	32.51	1.2281	1.2299	+3.5	1.60E+07	1.59	Y	0.91	85.6
ES 23478-PeCDF	33.61	1.2698	1.2718	+4.0	1.55E+07	1.51	Y	0.88	85.6
ES 123478-HxCDF	36.84	0.9657	0.9658	+0.2	1.08E+07	0.55	Y	1.20	94.7
ES 123678-HxCDF	36.98	0.9695	0.9695	0	1.44E+07	0.52	Y	1.35	112
ES 234678-HxCDF	37.67	0.9874	0.9876	+0.5	1.48E+07	0.54	Y	1.24	125
ES 123789-HxCDF	38.60	1.0116	1.0121	+1.2	1.09E+07	0.53	Y	1.16	98.8
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	1.12E+07	0.42	Y	0.97	121
ES 1234789-HpCDF	41.33	1.0830	1.0837	+1.7	6.43E+06	0.39	Y	0.85	79.3
ES OCDF	43.71	1.1451	1.1461	+2.6	1.02E+07	0.91	Y	0.81	66.4

Lab ID: OPR1_18863_DF | **Acq'd:** 25 Jan 2022 15:58 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18863_OPR001 | **UTP:** 26-Jan-2022 09:14:29 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 343-081-LKQ

Datafile: 220125C01 | **Report:** 26 Jan 2022 09:17 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.98		-	-	-	1.32E+07	0.77	Y	-	-
JS 1234-TCDF	26.43		-	-	-	2.06E+07	0.78	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	4.76E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	5.74E+06	n/a	-	1.20	90.3
CS 12347-PeCDD	33.44		1.1943	1.1955	+2.4	1.10E+07	1.49	Y	0.75	110
CS 12346-PeCDF	31.98		1.2083	1.2099	+3.1	1.74E+07	1.50	Y	0.85	99.5
CS 123469-HxCDF	37.30		0.9778	0.9779	+0.2	1.45E+07	0.55	Y	1.12	136
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.08E+07	0.42	Y	0.89	128
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~5.74E+06~~	~~n/a~~		~~1.15~~	~~105~~
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1955~~	~~+2.4~~	~~1.10E+07~~	~~1.49~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2099~~	~~+3.1~~	~~1.74E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~116~~
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~1.45E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~122~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.08E+07~~	~~0.42~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	54.2	54.2
Total PeCDD	71.8	71.8
Total HxCDD	175	175
Total HpCDD	73.8	73.8
Total Tetra-Octa Dioxins	498	498
Total TCDF	61.9	61.9
Total PeCDF	212	212
Total HxCDF	350	350
Total HpCDF	104	104
Total Tetra-Octa Furans	836	836
Total Tetra-Octa Dioxins & Furans	1330	1330

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.785	0.79
Response	1.71E+06	1.71E+06

Lab ID: OPR1_18863_DF | **Acq'd: 25 Jan 2022 15:58 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR001 | **UTP: 26-Jan-2022 09:14:29 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 343-081-LKQ**

Datafile: 220125C01 | **Report: 26 Jan 2022 09:17 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8746	-1.4	2.10E+06	0.80	Y	1.18	14.8	4934.788	0.389
1379-TCDD	NotFnd		0.8876						1.18		4934.788	0.389
1369-TCDD	NotFnd		0.9023						1.18		4934.788	0.389
1469-TCDD	NotFnd		0.9291						1.18		4934.788	0.389
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4934.788	0.389
1378-TCDD	NotFnd		0.9440						1.18		4934.788	0.389
1268-TCDD	NotFnd		0.9506						1.18		4934.788	0.389
1478-TCDD	NotFnd		0.9591						1.18		4934.788	0.389
1279-TCDD	NotFnd		0.9649						1.18		4934.788	0.389
1234/1269-TCDD	NotFnd		0.9771						1.18		4934.788	0.389
1236-TCDD	NotFnd		0.9820						1.18		4934.788	0.389
1237/1238-TCDD	NotFnd		0.9908						1.18		4934.788	0.389
1239-TCDD	28.50		0.9954	0.9952	-0.3	1.59E+06	0.80	Y	1.18	11.3	4934.788	0.389
2378-TCDD	**28.66**		**1.0008**	1.0008	**0**	1.71E+06	0.79	Y	**1.18**	**12.1**	**4934.788**	**0.389**
1278-TCDD	NotFnd		1.0121						1.18		4934.788	0.389
1267-TCDD	NotFnd		1.0167						1.18		4934.788	0.389
1289-TCDD	29.62		1.0341	1.0343	+0.4	2.27E+06	0.83	Y	1.18	16.1	4934.788	0.389
12479/12468-PeCDD	31.47		0.9273	0.9271	-0.4	1.23E+06	1.59	Y	1.04	11.1	3571.229	0.327
12469-PeCDD	NotFnd		0.9430						1.04		3571.229	0.327
12368-PeCDD	NotFnd		0.9592						1.04		3571.229	0.327
12478-PeCDD	NotFnd		0.9647						1.04		3571.229	0.327
12379-PeCDD	NotFnd		0.9676						1.04		3571.229	0.327
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3571.229	0.327
12346/12347-PeCDD	NotFnd		0.9860						1.04		3571.229	0.327
12378-PeCDD	33.97		**1.0006**	**1.0006**	**0**	**5.42E+06**	**1.58**	**Y**	**1.04**	**48.7**	**3571.229**	**0.327**
12367-PeCDD	NotFnd		1.0034						1.04		3571.229	0.327
12389-PeCDD	34.40		1.0134	1.0135	+0.2	1.33E+06	1.45	Y	1.04	12	3571.229	0.327
124679/124689-HxCDD	36.11		0.9545	0.9543	-0.4	1.58E+06	1.22	Y	1.10	13.6	4302.672	0.376
123468-HxCDD	NotFnd		0.9715						1.10		4302.672	0.376
123679/123689-HxCDD	NotFnd		0.9793						1.10		4302.672	0.376
123469-HxCDD	NotFnd		0.9829						1.10		4302.672	0.376
123478-HxCDD	37.86		**1.0004**	**1.0004**	**0**	**5.87E+06**	**1.25**	**Y**	1.09	**57.2**	**4302.672**	**0.357**
123678-HxCDD	37.97		**1.0034**	**1.0034**	**0**	**7.02E+06**	**1.25**	**Y**	1.15	**54.4**	**4302.672**	**0.352**
123467-HxCDD	NotFnd		1.0082						1.10		4302.672	0.376
123789-HxCDD	38.26		**1.0109**	**1.0112**	**+0.7**	**5.84E+06**	**1.27**	**Y**	1.05	**49.6**	**4302.672**	**0.418**

Lab ID: OPR1_18863_DF | **Acq'd: 25 Jan 2022 15:58 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR001 | **UTP: 26-Jan-2022 09:14:29 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 343-081-LKQ**

Datafile: 220125C01 | **Report: 26 Jan 2022 09:17 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	1.09E+06	1.01	Y	1.06	14.5	7056.663	0.853
1234678-HpCDD	**40.88**		**1.0003**	**1.0004**	**+0.2**	**4.47E+06**	**1.03**	**Y**	**1.06**	**59.3**	**7056.663**	**0.853**
OCDD	**43.54**		**1.0002**	**1.0002**	**0**	**5.49E+06**	**0.92**	**Y**	**1.13**	**124**	**11977.562**	**3.23**
OCDD-a	43.51		1.0002	0.9995	-1.8	2.21E+05	2.35	Y	0.07	78	3514.844	14.8
1368-TCDF	22.97		0.8282	0.8268	-1.9	3.05E+06	0.76	Y	1.08	15.2	4309.85	0.239
1468-TCDF	NotFnd		0.8485						1.08		4309.85	0.239
2468-TCDF	24.16		0.8709	0.8696	-1.9	7.74E+05	0.78	Y	1.08	3.84	4309.85	0.239
1346/1246-TCDF	NotFnd		0.8829						1.08		4309.85	0.239
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		4309.85	0.239
1348-TCDF	NotFnd		0.8980						1.08		4309.85	0.239
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		4309.85	0.239
1268-TCDF	NotFnd		0.9158						1.08		4309.85	0.239
1467-TCDF	NotFnd		0.9206						1.08		4309.85	0.239
1478-TCDF	NotFnd		0.9266						1.08		4309.85	0.239
1369/1237-TCDF	NotFnd		0.9397						1.08		4309.85	0.239
2467-TCDF	NotFnd		0.9440						1.08		4309.85	0.239
2368-TCDF	NotFnd		0.9497						1.08		4309.85	0.239
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4309.85	0.239
1278-TCDF	NotFnd		0.9690						1.08		4309.85	0.239
1349-TCDF	NotFnd		0.9730						1.08		4309.85	0.239
1267-TCDF	NotFnd		0.9787						1.08		4309.85	0.239
2346/1249-TCDF	NotFnd		0.9850						1.08		4309.85	0.239
2347/1279-TCDF	NotFnd		0.9929						1.08		4309.85	0.239
2348-TCDF	27.69		0.9970	0.9968	-0.3	2.93E+06	0.83	Y	1.08	14.6	4309.85	0.239
2378-TCDF	**27.81**		**1.0008**	**1.0009**	**+0.2**	**2.39E+06**	**0.67**	**Y**	**1.08**	**11.9**	**4309.85**	**0.239**
2367/3467-TCDF	NotFnd		1.0136						1.08		4309.85	0.239
1269-TCDF	NotFnd		1.0221						1.08		4309.85	0.239
1239-TCDF	NotFnd		1.0319						1.08		4309.85	0.239
1289-TCDF	29.79		1.0740	1.0724	-2.9	3.31E+06	0.80	Y	1.08	16.5	4309.85	0.239
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	1.56E+07	1.56	Y	1.02	96.6	3555.024	0.232
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		7089.949	0.463
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		7089.949	0.463
14678-PeCDF	NotFnd		0.9695						1.02		7089.949	0.463
13479-PeCDF	NotFnd		0.9724						1.02		7089.949	0.463
13469/12479-PeCDF	NotFnd		0.9801						1.02		7089.949	0.463
12346-PeCDF	NotFnd		0.9842						1.02		7089.949	0.463

Lab ID: OPR1_18863_DF | **Acq'd: 25 Jan 2022 15:58 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR001 | **UTP: 26-Jan-2022 09:14:29 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 343-081-LKQ**

Datafile: 220125C01 | **Report: 26 Jan 2022 09:17 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7089.949	0.463
12347-PeCDF	NotFnd		0.9895						1.02		7089.949	0.463
12348-PeCDF	NotFnd		0.9941						1.02		7089.949	0.463
12378-PeCDF	**32.53**		**1.0005**	**1.0005**	**0**	**8.24E+06**	**1.58**	**Y**	**1.02**	**50.2**	**7089.949**	**0.473**
12678/12367-PeCDF	NotFnd		1.0090						1.02		7089.949	0.463
12379-PeCDF	NotFnd		1.0142						1.02		7089.949	0.463
12679-PeCDF	NotFnd		0.9931						1.02		7089.949	0.463
23467/12369-PeCDF	NotFnd		0.9966						1.02		7089.949	0.463
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**8.68E+06**	**1.51**	**Y**	**1.02**	**54.8**	**7089.949**	**0.453**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7089.949	0.463
12349-PeCDF	NotFnd		1.0101						1.02		7089.949	0.463
12389-PeCDF	34.70		1.0322	1.0324	+0.4	1.63E+06	1.57	Y	1.02	10.1	7089.949	0.463
123468-HxCDF	35.47		0.9627	0.9628	+0.2	1.94E+07	1.23	Y	1.19	128	6576.314	0.418
124678/134678-HxCDF	NotFnd		0.9684						1.19		6576.314	0.418
134679-HxCDF	NotFnd		0.9747						1.19		6576.314	0.418
124679-HxCDF	NotFnd		0.9802						1.19		6576.314	0.418
124689-HxCDF	NotFnd		0.9858						1.19		6576.314	0.418
123467-HxCDF	NotFnd		0.9972						1.19		6576.314	0.418
123478-HxCDF	**36.85**		**1.0004**	**1.0004**	**0**	**7.57E+06**	**1.28**	**Y**	**1.27**	**55.1**	**6576.314**	**0.439**
123678-HxCDF	**37.00**		**1.0004**	**1.0006**	**+0.4**	**1.01E+07**	**1.25**	**Y**	**1.15**	**61.1**	**6576.314**	**0.371**
123479-HxCDF	NotFnd		1.0051						1.19		6576.314	0.418
123469-HxCDF	NotFnd		1.0091						1.19		6576.314	0.418
123679-HxCDF	NotFnd		0.9943						1.19		6576.314	0.418
234678-HxCDF	**37.68**		**1.0004**	**1.0004**	**0**	**9.65E+06**	**1.20**	**Y**	**1.19**	**54.9**	**6576.314**	**0.375**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6576.314	0.418
123789-HxCDF	**38.62**		**1.0004**	**1.0005**	**+0.2**	**6.44E+06**	**1.29**	**Y**	**1.16**	**51**	**6576.314**	**0.523**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		6576.314	0.418
1234678-HpCDF	**39.96**		**1.0002**	**1.0004**	**+0.5**	**8.26E+06**	**0.99**	**Y**	**1.37**	**54.1**	**5414.425**	**0.271**
1234679-HpCDF	NotFnd		1.0067						1.34		5414.425	0.377
1234689-HpCDF	NotFnd		1.0101						1.34		5414.425	0.377
1234789-HpCDF	**41.34**		**1.0003**	**1.0002**	**-0.2**	**4.21E+06**	**0.99**	**Y**	**1.31**	**50**	**5414.425**	**0.562**
OCDF	**43.72**		**1.0002**	**1.0002**	**0**	**5.91E+06**	**0.85**	**Y**	**1.07**	**108**	**8851.459**	**1.9**
OCDF-a	43.71	**EMPC**	1.0002	1.0000	-0.5	2.68E+05	3.05	N	0.07	79	3559.558	12.3

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220125C01	Analysis Date:	25-JAN-2022 15:58:21
Lab ID:	OPR1_18863_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	57.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	49.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	59.3	35	-	70	Y
OCDD	100	124	78	-	144	Y
2,3,7,8-TCDF	10	11.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55.1	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	61.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	51	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.1	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50	39	-	69	Y
OCDF	100	108	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 26 Jan 2022 09:17 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220125C01 Analysis Date: 25-JAN-2022 15:58:21
Lab ID: OPR1_18863_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	86.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	92.3	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	102	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	125	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	108	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	81.7	26	-	166	Y
13C-OCDD	200	132	26	-	397	Y
13C-2,3,7,8-TCDF	100	85.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	85.6	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	85.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	94.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	112	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	125	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	98.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	121	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	79.3	20	-	186	Y
13C-OCDF	200	133	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 26 Jan 2022 09:17 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220125C01	Analysis Date:	25-JAN-2022 15:58:21
Lab ID:	OPR1_18863_DF		

Window Defining Standards Results

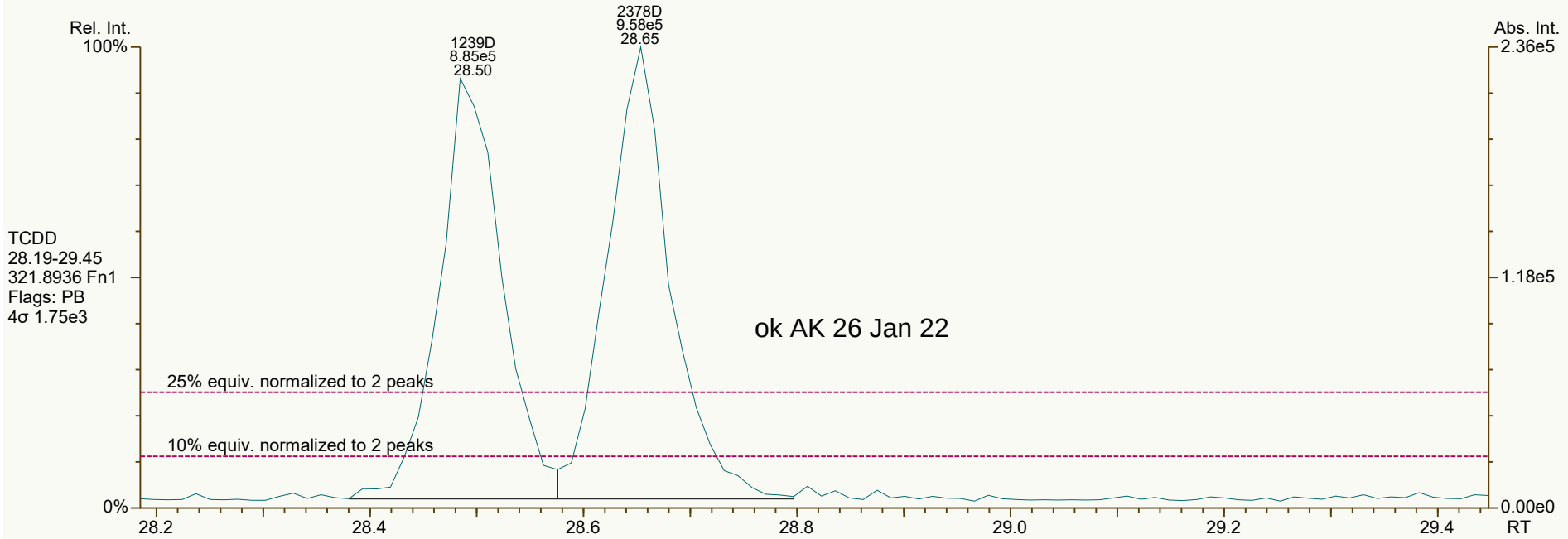
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.04	1289-TCDD	29.62
12479/12468-PeCDD	31.47	12389-PeCDD	34.40
124679/124689-HxCDD	36.11	123789-HxCDD	38.26
1234679-HpCDD	40.20	1234678-HpCDD	40.88
1368-TCDF	22.97	1289-TCDF	29.79
13468/12468-PeCDF	29.70	12389-PeCDF	34.70
123468-HxCDF	35.47	123789-HxCDF	38.62
1234678-HpCDF	39.96	1234789-HpCDF	41.34

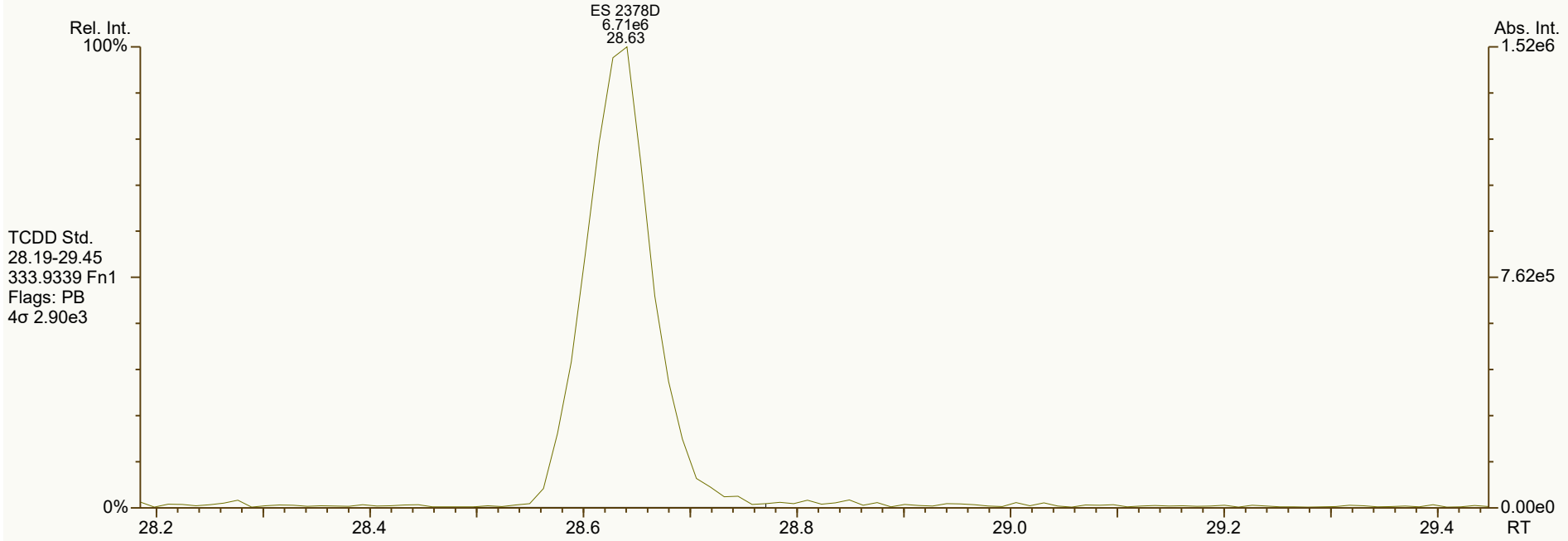
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.50	2378-TCDD	28.66
2348-TCDF	27.69	2378-TCDF	27.81

Processed: 26 Jan 2022 09:17 Analyst: TF

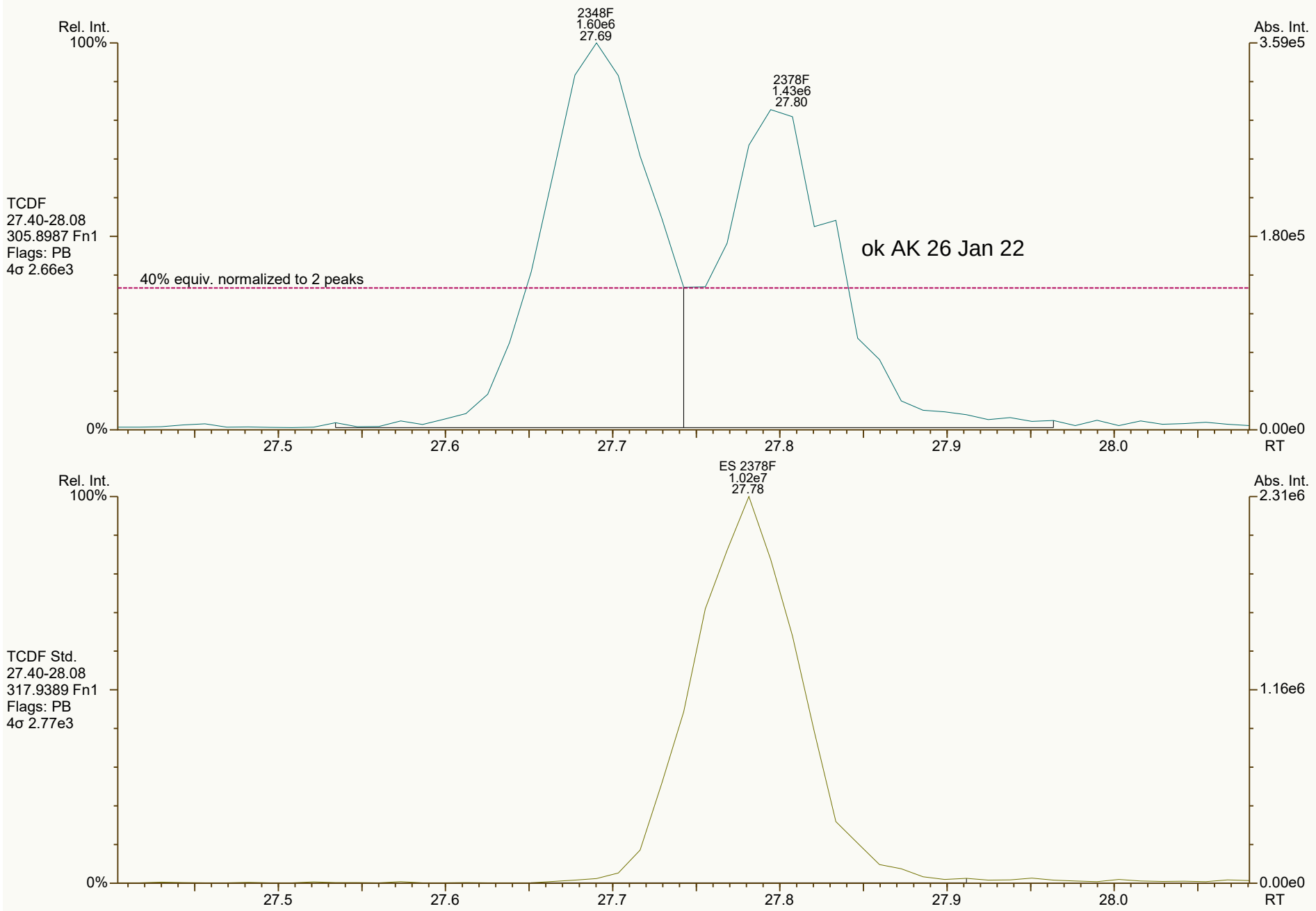
SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01



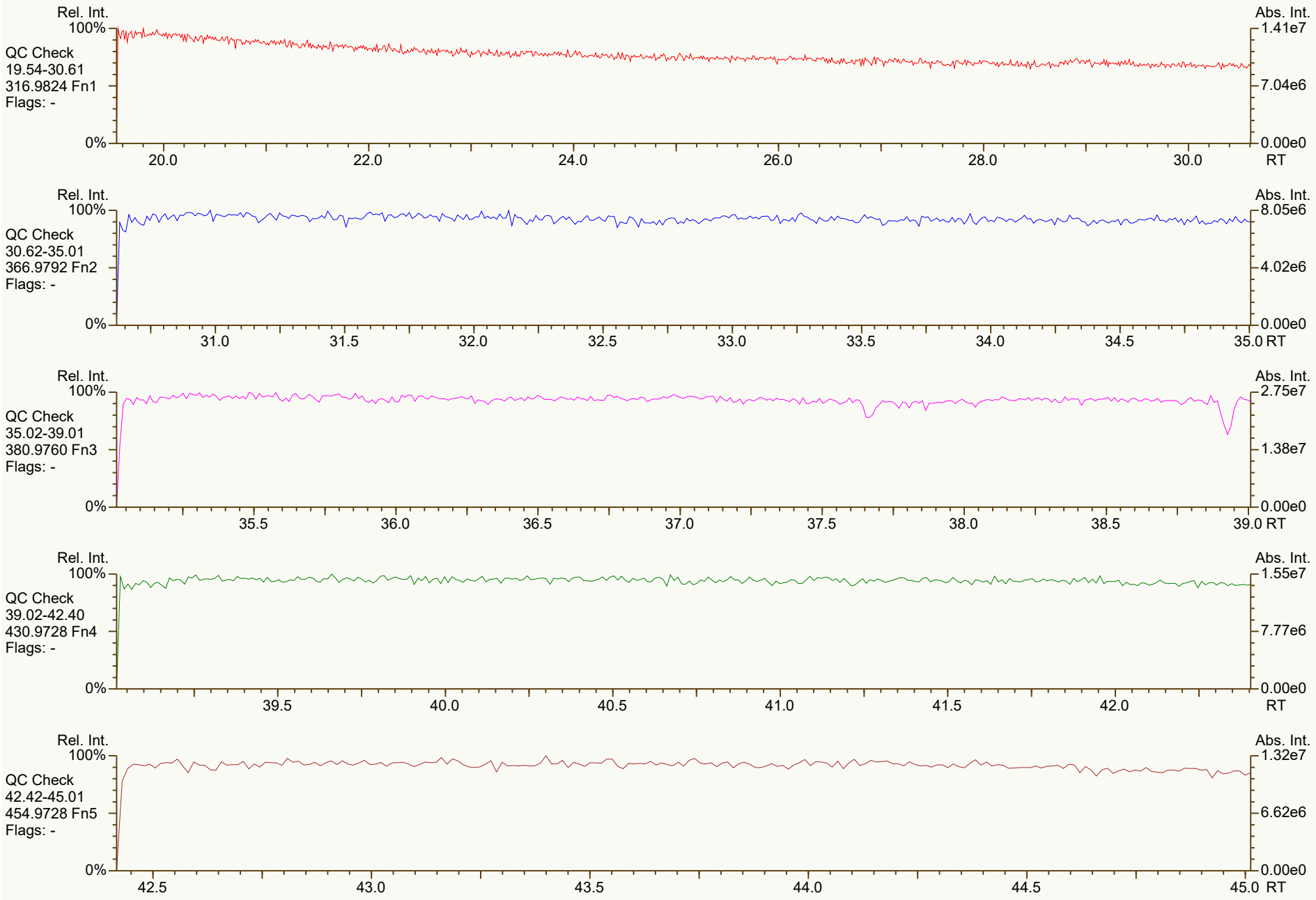


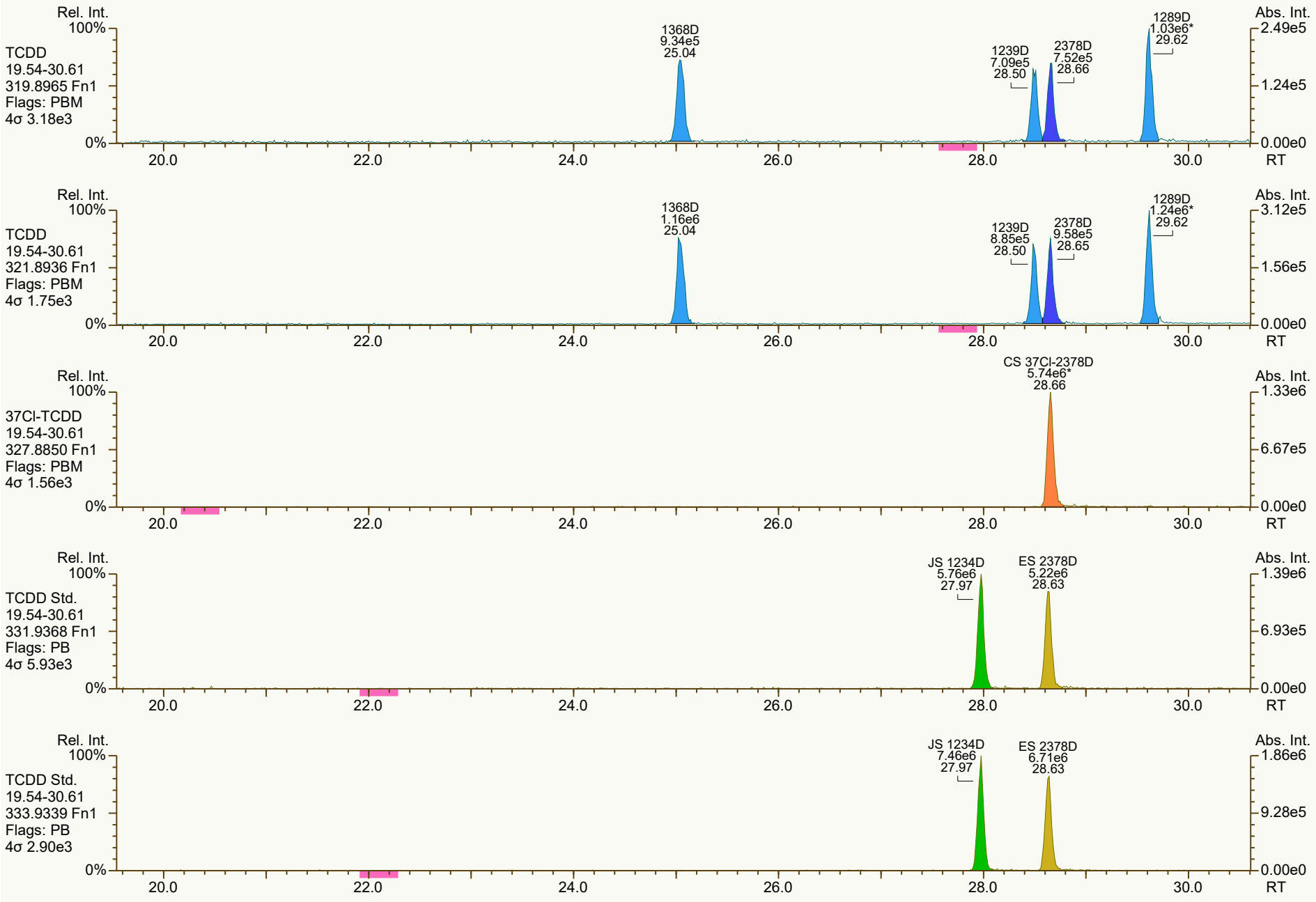
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:22

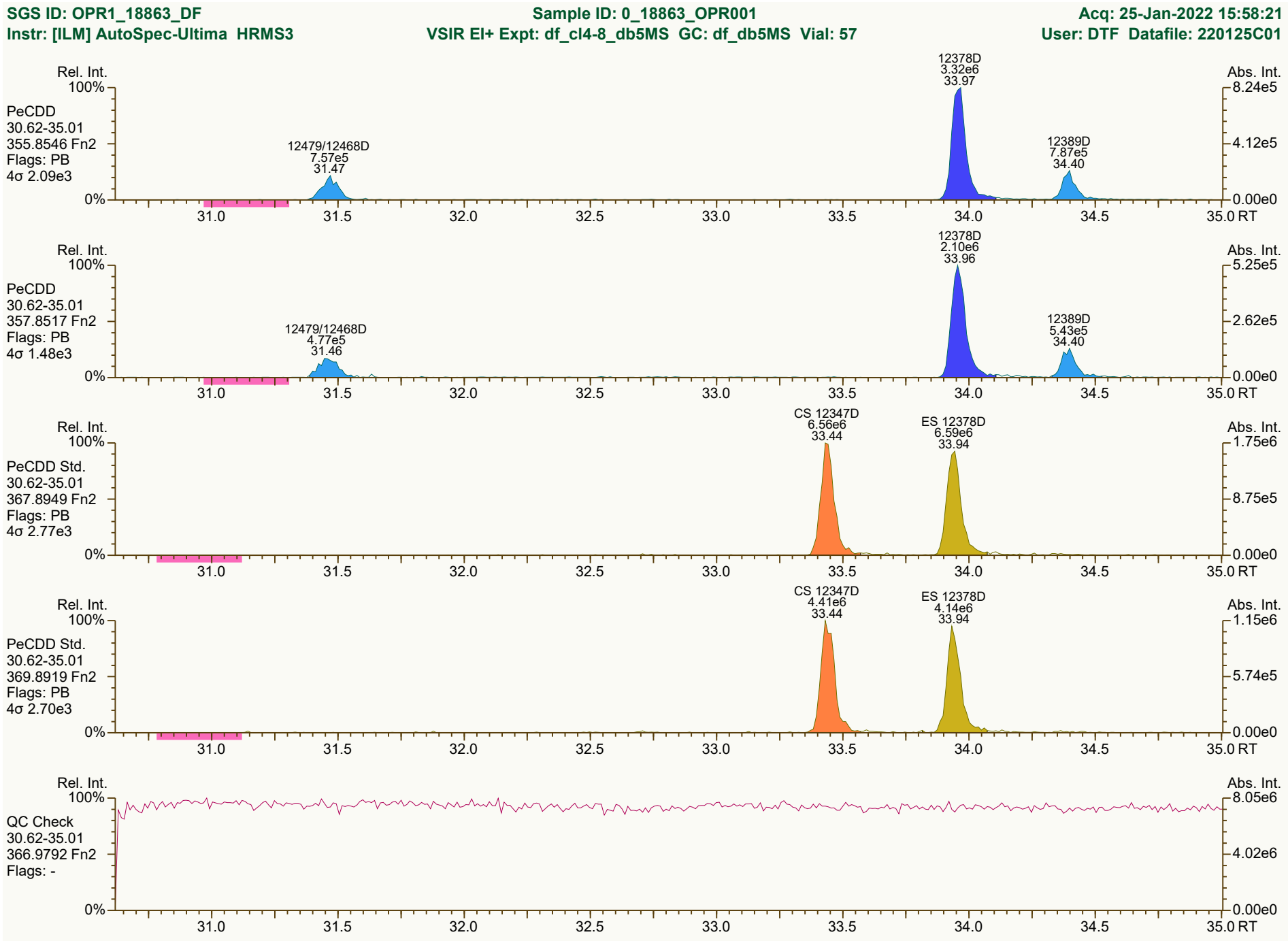
SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01



Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:22


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.41e7
7.04e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
8.05e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.75e7
1.38e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.55e7
7.77e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.32e7
6.62e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 3.18e3
1368D
9.34e5
25.04
1239D
7.09e5
28.50
2378D
7.52e5
28.66
1289D
1.03e6*
29.62
Abs. Int.
2.49e5
1.24e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.75e3
1368D
1.16e6
25.04
1239D
8.85e5
28.50
2378D
9.58e5
28.65
1289D
1.24e6*
29.62
Abs. Int.
3.12e5
1.56e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PBM
4σ 1.56e3
CS 37Cl-2378D
5.74e6*
28.66
Abs. Int.
1.33e6
6.67e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.93e3
JS 1234D
5.76e6
27.97
ES 2378D
5.22e6
28.63
Abs. Int.
1.39e6
6.93e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.90e3
JS 1234D
7.46e6
27.97
ES 2378D
6.71e6
28.63
Abs. Int.
1.86e6
9.28e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

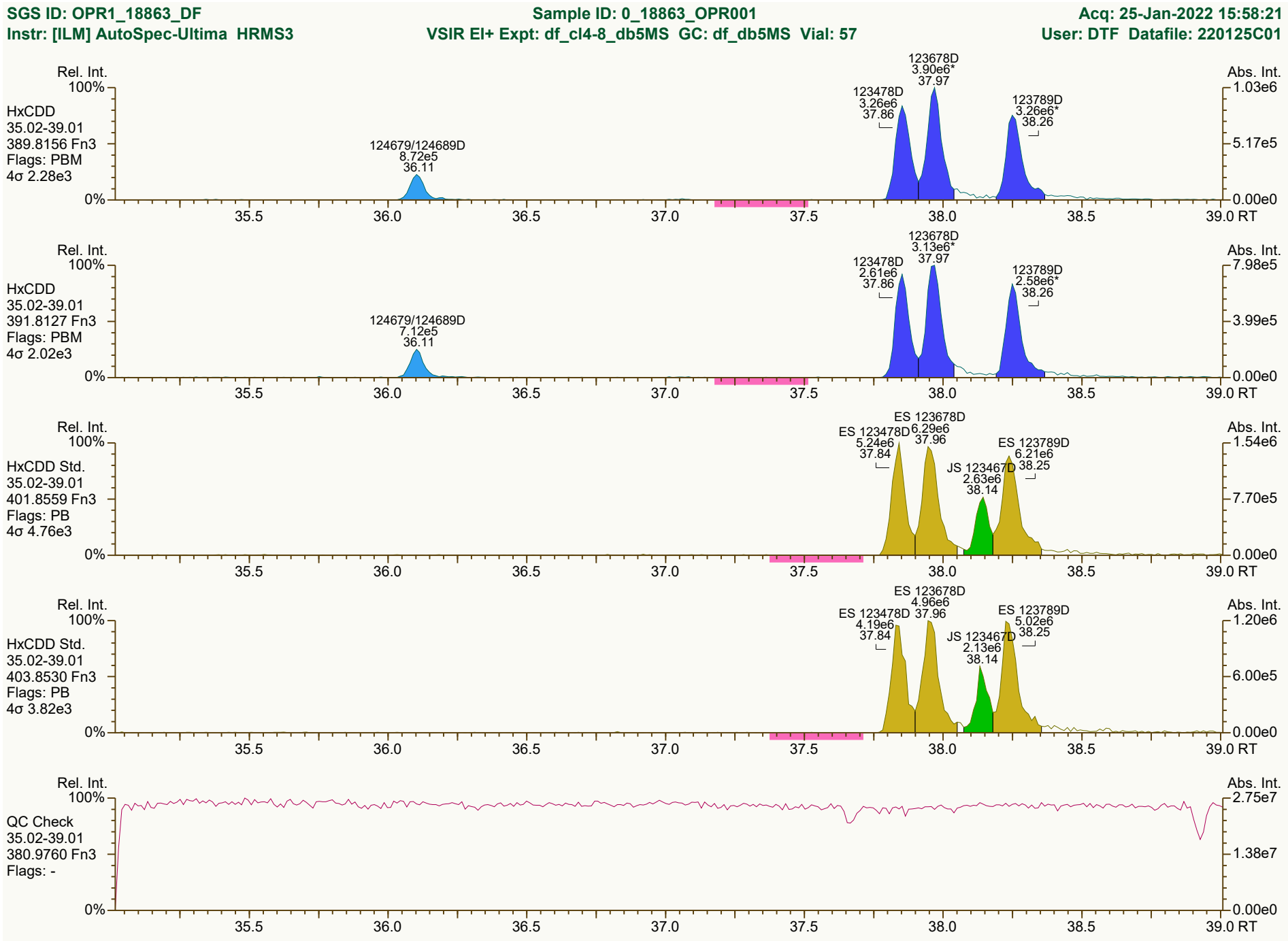


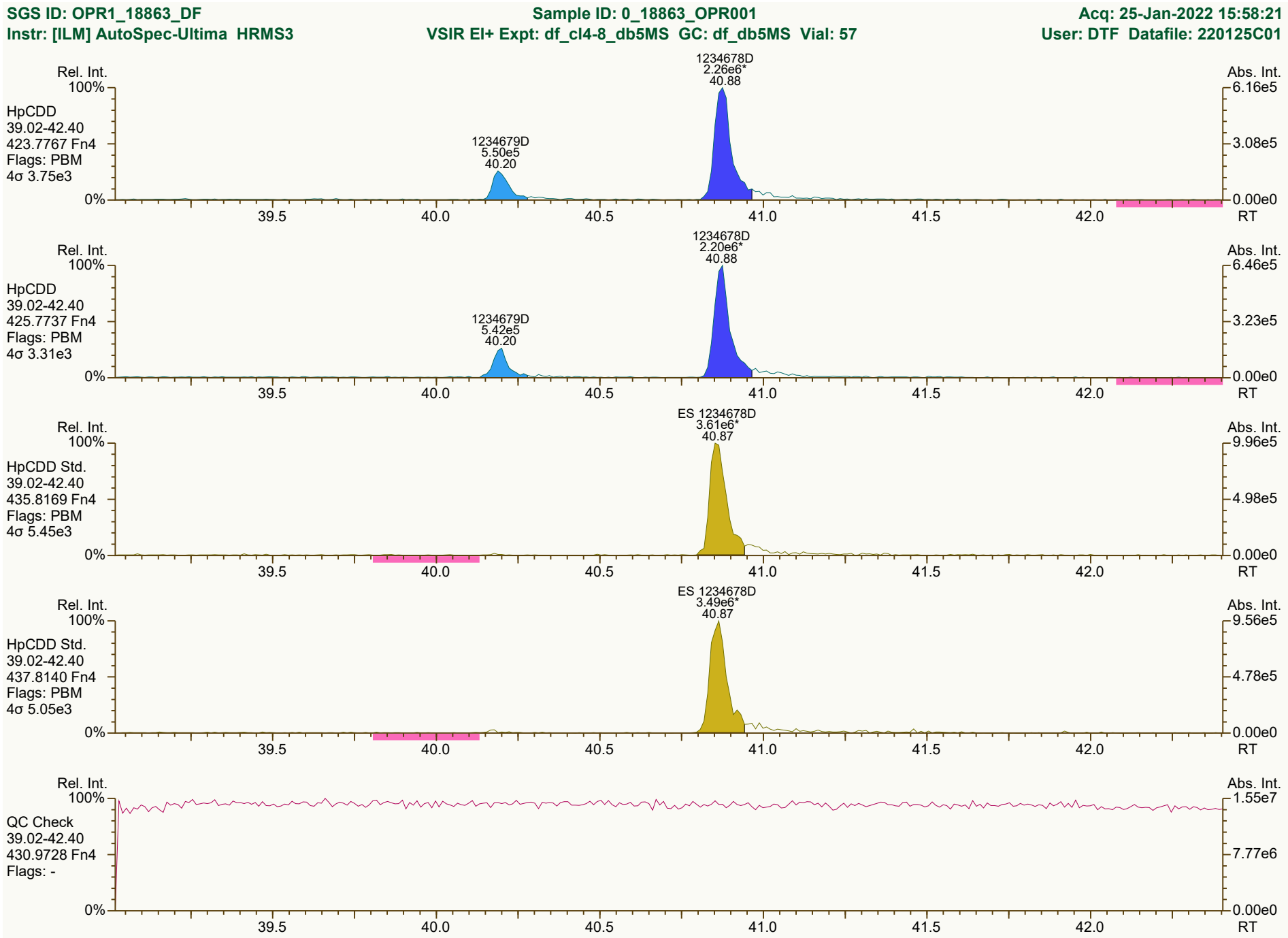
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)

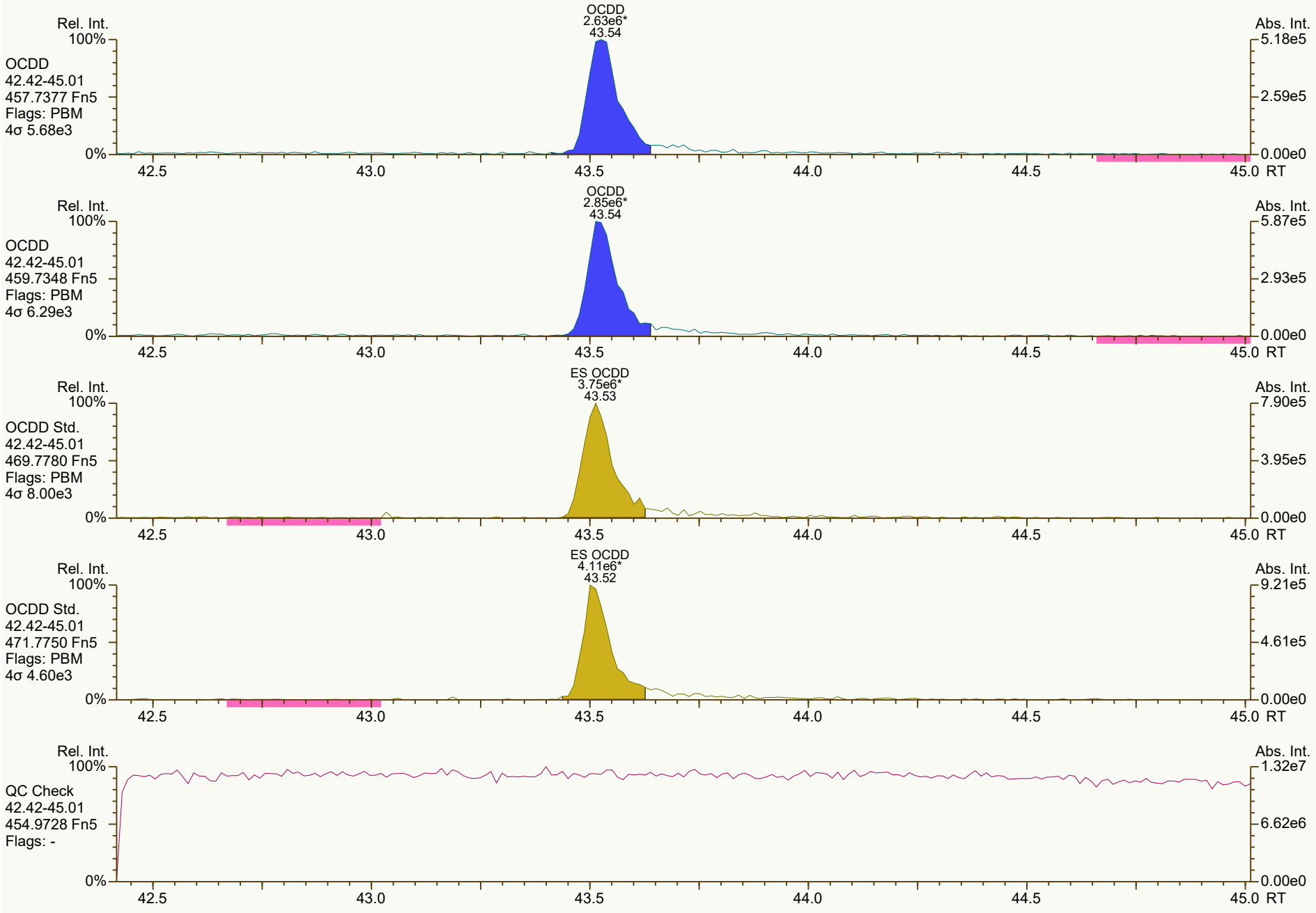
Peak annotation: Areas, Centroids

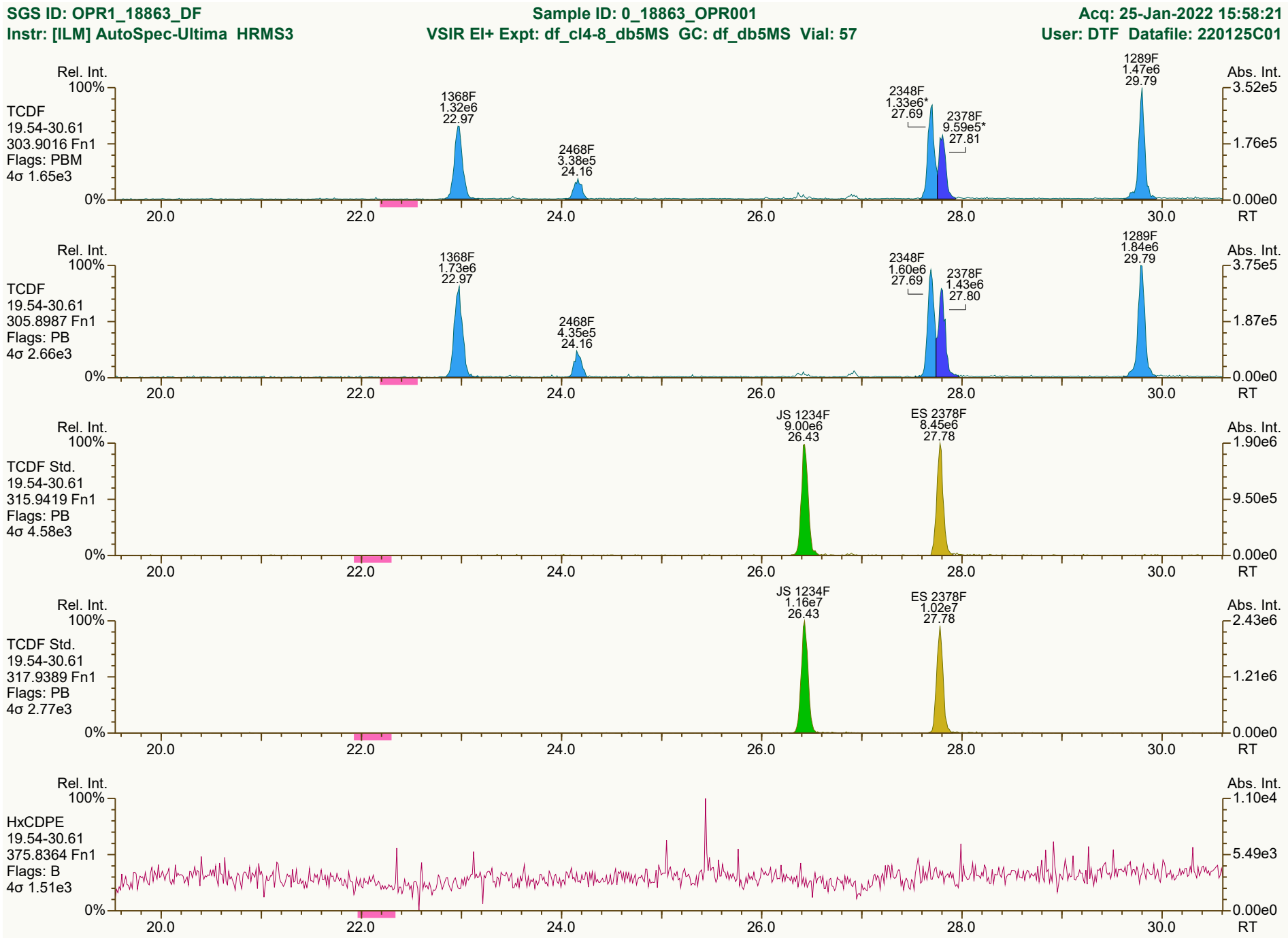
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7025, 7132 scc: 343-081

PKD: 26-Jan-2022 08:22 Printed: 26-Jan-2022 09:24 Page 3 of 12


SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.28e3
124679/124689D
8.72e5
36.11
123478D
3.26e6
37.86
123678D
3.90e6*
37.97
123789D
3.26e6*
38.26
1.03e6
5.17e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.02e3
124679/124689D
7.12e5
36.11
123478D
2.61e6
37.86
123678D
3.13e6*
37.97
123789D
2.58e6*
38.26
7.98e5
3.99e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 4.76e3
ES 123478D
5.24e6
37.84
ES 123678D
6.29e6
37.96
JS 123467D
2.63e6
38.14
ES 123789D
6.21e6
38.25
1.54e6
7.70e5
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 3.82e3
ES 123478D
4.19e6
37.84
ES 123678D
4.96e6
37.96
JS 123467D
2.13e6
38.14
ES 123789D
5.02e6
38.25
1.20e6
6.00e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
2.75e7
1.38e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1582, 5279 scc: 343-081
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:24 Page 4 of 12


SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 3.75e3
1234678D
2.26e6*
40.88
1234679D
5.50e5
40.20
6.16e5
3.08e5
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 3.31e3
1234678D
2.20e6*
40.88
1234679D
5.42e5
40.20
6.46e5
3.23e5
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 5.45e3
ES 1234678D
3.61e6*
40.87
9.96e5
4.98e5
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 5.05e3
ES 1234678D
3.49e6*
40.87
9.56e5
4.78e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.55e7
7.77e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9887, 6777 scc: 343-081
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:24 Page 5 of 12


OCDD
2.63e6*
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 5.68e3
0%
Abs. Int.
5.18e5
2.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.85e6*
43.54
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 6.29e3
5.87e5
2.93e5
ES OCDD
3.75e6*
43.53
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 8.00e3
7.90e5
3.95e5
ES OCDD
4.11e6*
43.52
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 4.60e3
9.21e5
4.61e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.32e7
6.62e6

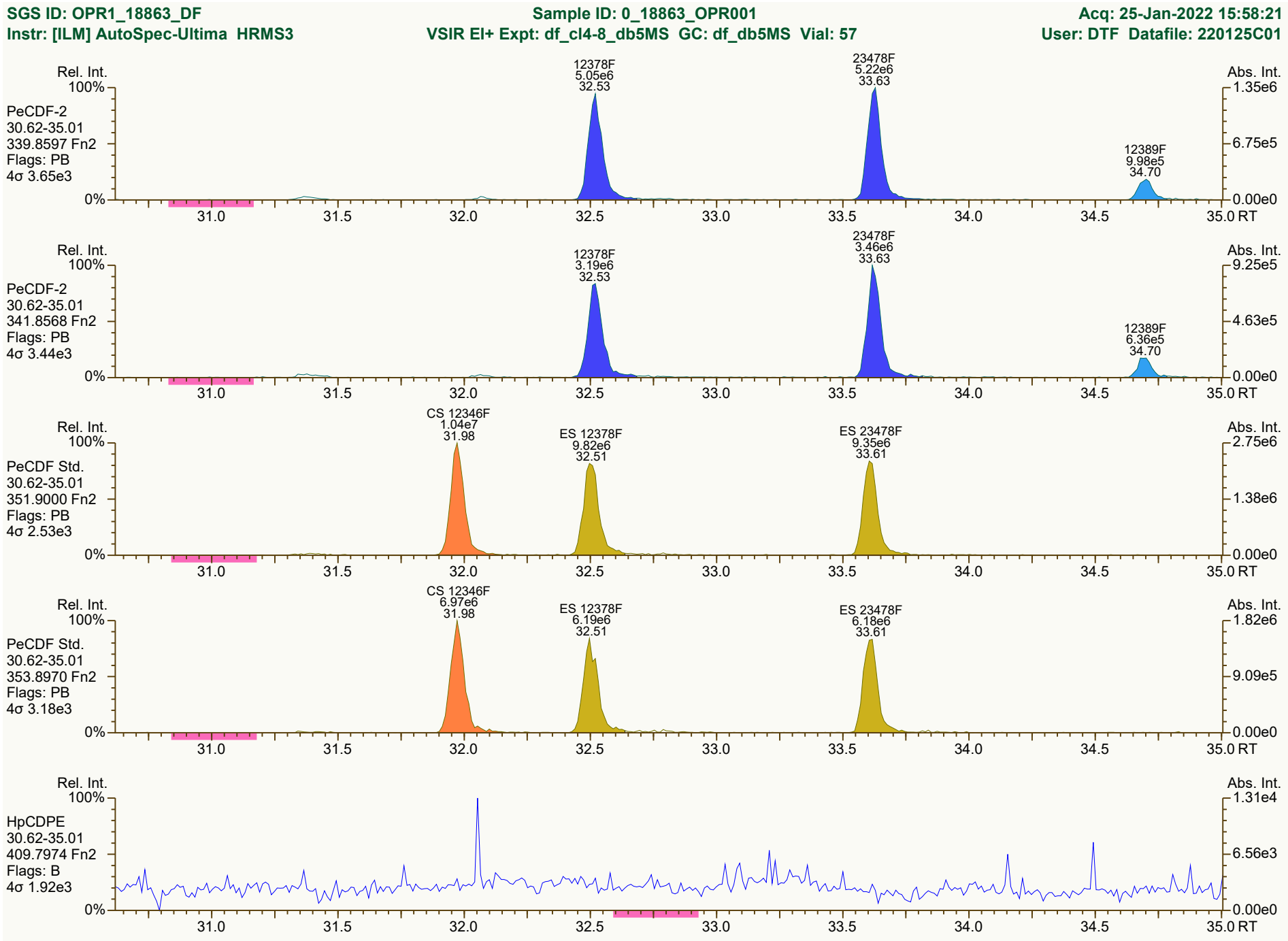


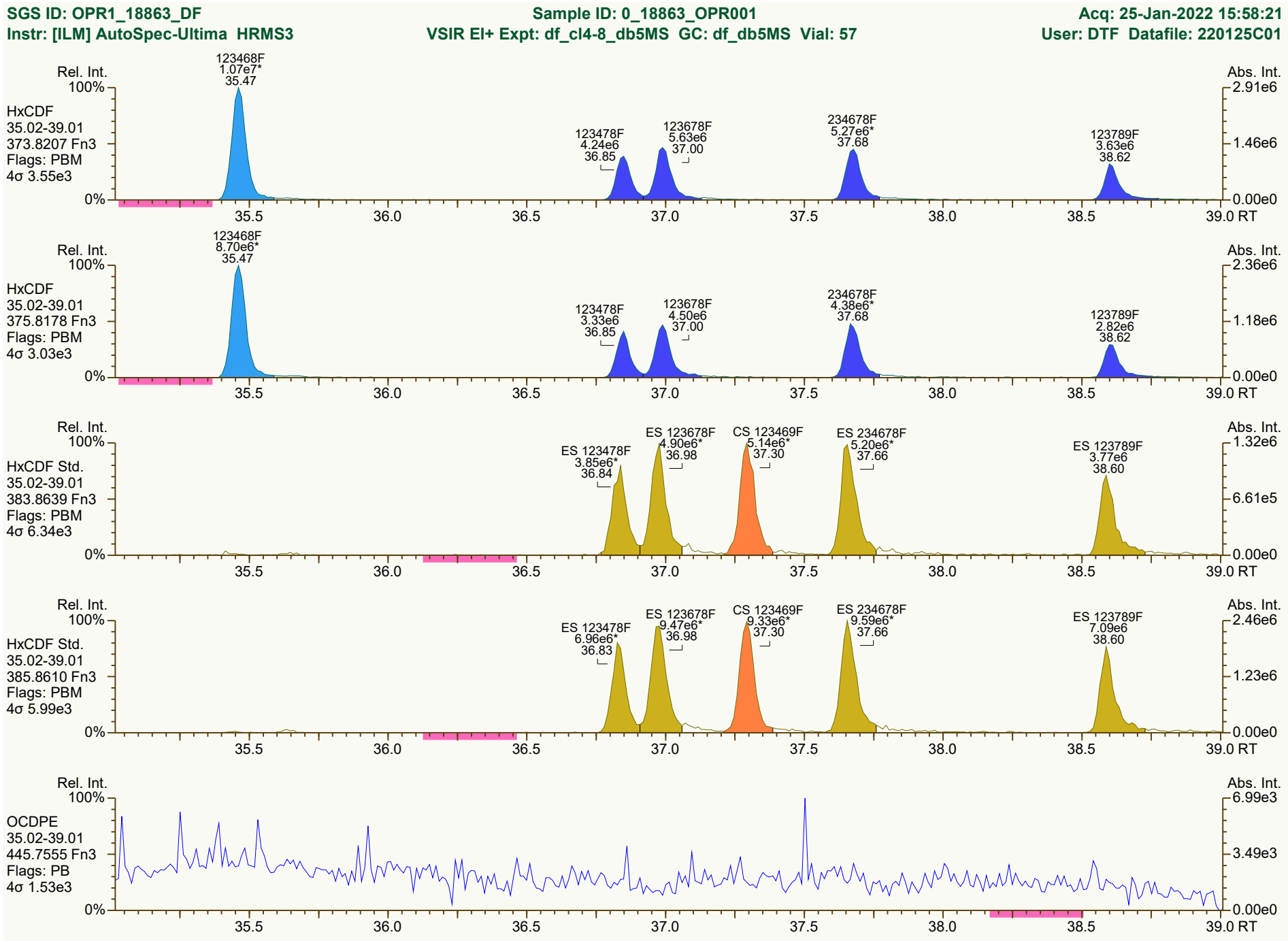
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8574, 9771, 0596 scc: 343-081
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:24 Page 7 of 12

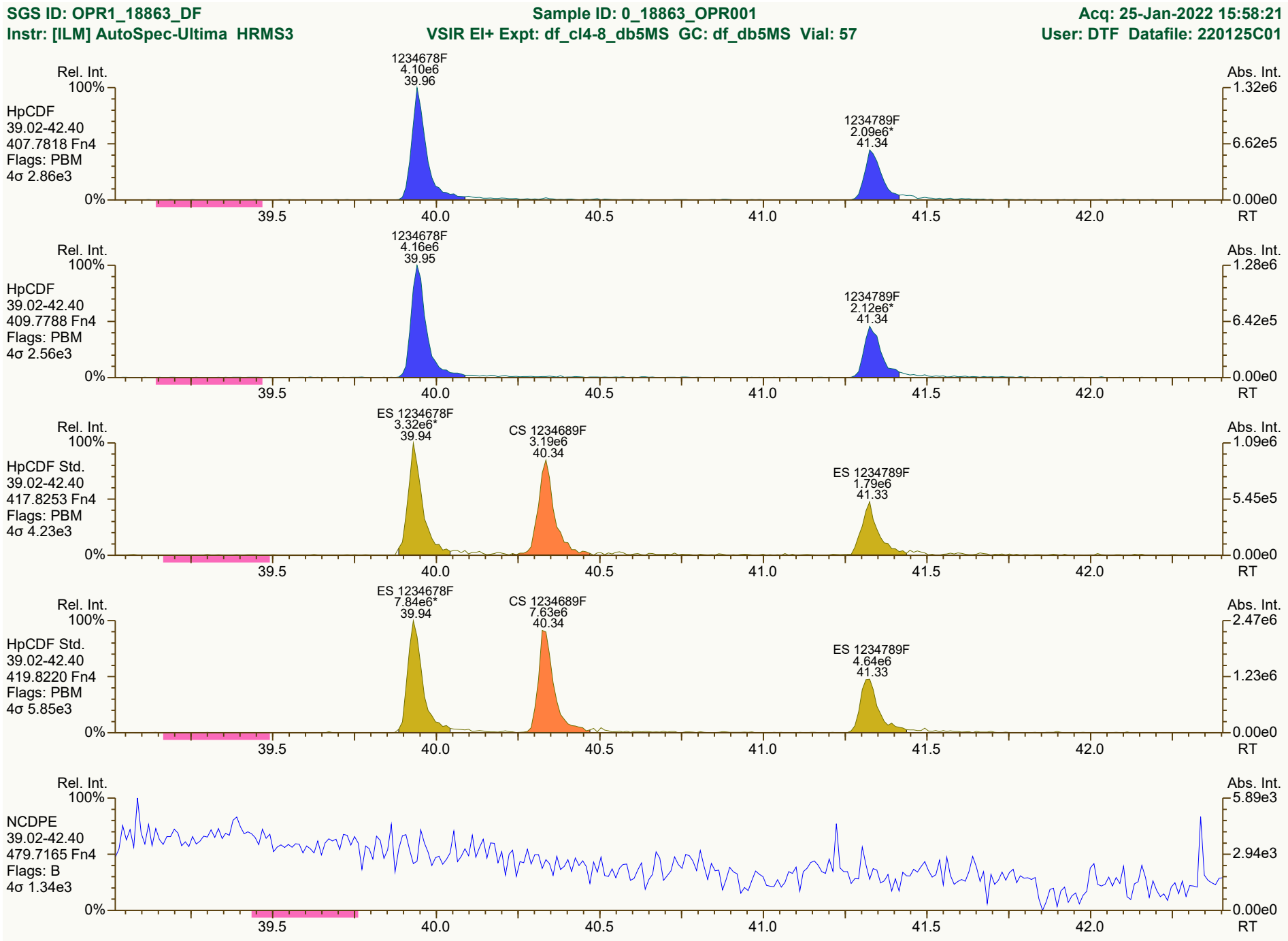
SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01

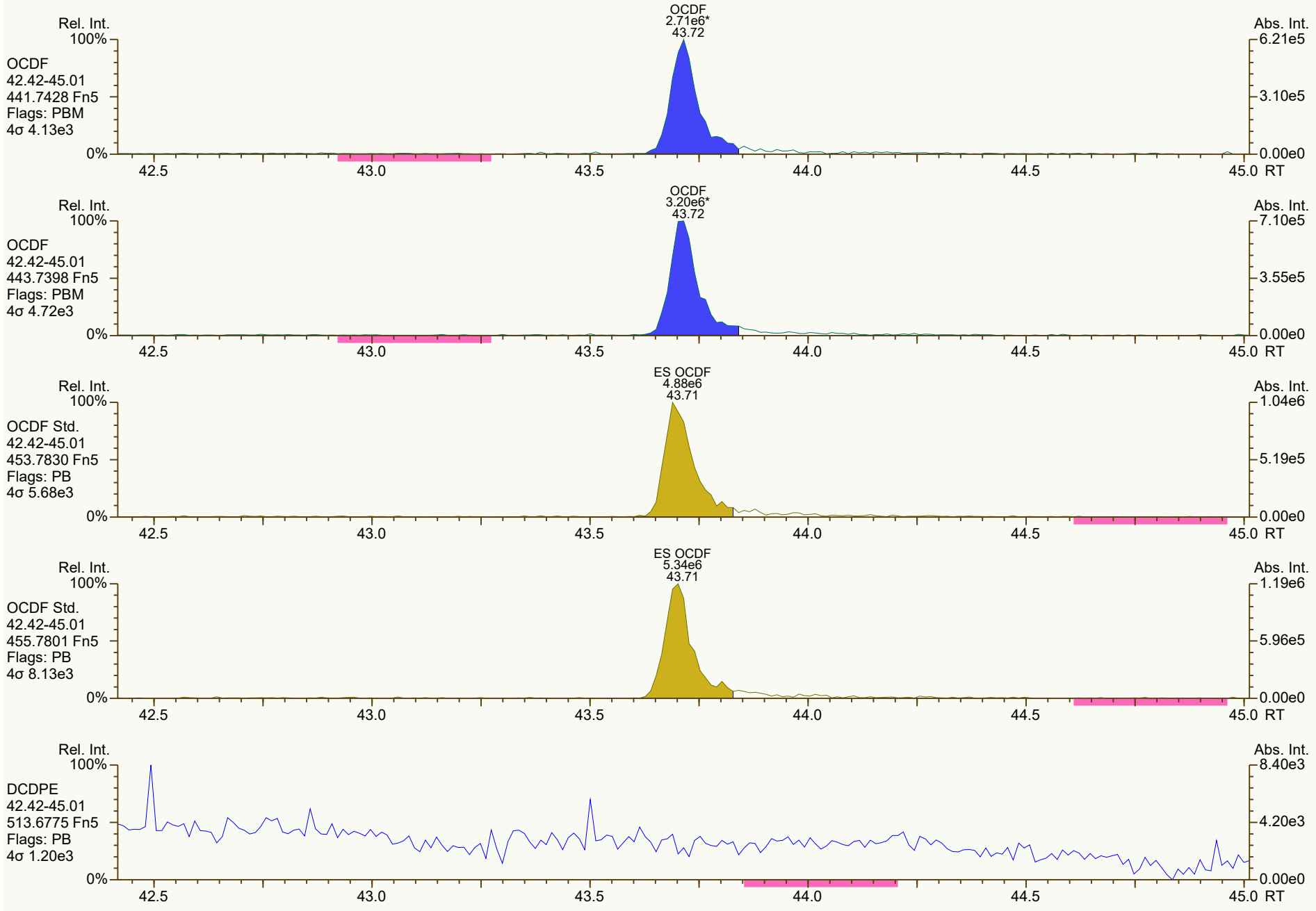


Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7378 scc: 343-081
Revised: 26-Jan-2022 08:22 (DTF) Printed: 26-Jan-2022 09:24 Page 8 of 12


SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 3.65e3
12378F
5.05e6
32.53
23478F
5.22e6
33.63
12389F
9.98e5
34.70
1.35e6
6.75e5
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 3.44e3
12378F
3.19e6
32.53
23478F
3.46e6
33.63
12389F
6.36e5
34.70
9.25e5
4.63e5
0.00e0
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.53e3
CS 12346F
1.04e7
31.98
ES 12378F
9.82e6
32.51
ES 23478F
9.35e6
33.61
2.75e6
1.38e6
0.00e0
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.18e3
CS 12346F
6.97e6
31.98
ES 12378F
6.19e6
32.51
ES 23478F
6.18e6
33.61
1.82e6
9.09e5
0.00e0
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.92e3
1.31e4
6.56e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5739, 5254, 8518 scc: 343-081
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:24 Page 9 of 12


SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01
Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.55e3
123468F 1.07e7* 35.47
123478F 4.24e6 36.85
123678F 5.63e6 37.00
234678F 5.27e6* 37.68
123789F 3.63e6 38.62
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 3.03e3
123468F 8.70e6* 35.47
123478F 3.33e6 36.85
123678F 4.50e6 37.00
234678F 4.38e6* 37.68
123789F 2.82e6 38.62
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 6.34e3
ES 123478F 3.85e6* 36.84
ES 123678F 4.90e6* 36.98
CS 123469F 5.14e6* 37.30
ES 234678F 5.20e6* 37.66
ES 123789F 3.77e6 38.60
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 5.99e3
ES 123478F 6.96e6* 36.83
ES 123678F 9.47e6* 36.98
CS 123469F 9.33e6* 37.30
ES 234678F 9.59e6* 37.66
ES 123789F 7.09e6 38.60
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.53e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
2.91e6
1.46e6
0.00e0
2.36e6
1.18e6
1.32e6
6.61e5
2.46e6
1.23e6
6.99e3
3.49e3
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8916, 9634, 0903 scc: 343-081
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:24 Page 10 of 12


SGS ID: OPR1_18863_DF
Sample ID: 0_18863_OPR001
Acq: 25-Jan-2022 15:58:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220125C01
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.86e3
1234678F
4.10e6
39.96
1234789F
2.09e6*
41.34
1.32e6
6.62e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.56e3
1234678F
4.16e6
39.95
1234789F
2.12e6*
41.34
1.28e6
6.42e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 4.23e3
ES 1234678F
3.32e6*
39.94
CS 1234689F
3.19e6
40.34
ES 1234789F
1.79e6
41.33
1.09e6
5.45e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 5.85e3
ES 1234678F
7.84e6*
39.94
CS 1234689F
7.63e6
40.34
ES 1234789F
4.64e6
41.33
2.47e6
1.23e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.34e3
5.89e3
2.94e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR1_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6108, 6278, 3890 scc: 343-081
Revised: 26-Jan-2022 08:24 (DTF) Printed: 26-Jan-2022 09:24 Page 11 of 12


OCDF
2.71e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 4.13e3
0%
Abs. Int.
6.21e5
3.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.20e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 4.72e3
0%
Abs. Int.
7.10e5
3.55e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
4.88e6
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 5.68e3
0%
Abs. Int.
1.04e6
5.19e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
5.34e6
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 8.13e3
0%
Abs. Int.
1.19e6
5.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.20e3
0%
Abs. Int.
8.40e3
4.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18863_DF **Acq'd: 25 Jan 2022 16:44 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR002 **UTP: 26-Jan-2022 09:14:30 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 226-320-TSN**

Datafile: 220125C02 **Report: 26 Jan 2022 09:17 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66		1.0008	1.0007	-0.2	1.99E+06	0.85	Y	1.18	11.7	4670.341	0.295
12378-PeCDD	33.97		1.0006	1.0006	0	6.29E+06	1.52	Y	1.04	46.3	4173.01	0.288
123478-HxCDD	37.86		1.0004	1.0004	0	6.80E+06	1.24	Y	1.09	53.9	3657.544	0.263
123678-HxCDD	37.98		1.0034	1.0034	0	8.69E+06	1.29	Y	1.15	55.2	3657.544	0.228
123789-HxCDD	38.27		1.0109	1.0112	+0.7	7.06E+06	1.29	Y	1.05	51.7	3657.544	0.254
1234678-HpCDD	40.89		1.0003	1.0004	+0.2	5.66E+06	1.01	Y	1.06	56	3182.649	0.273
OCDD	43.56		1.0002	1.0003	+0.3	6.52E+06	0.92	Y	1.13	116	3561.534	0.709
2378-TCDF	27.81		1.0008	1.0008	0	2.59E+06	0.78	Y	1.08	10.8	3710.756	0.179
12378-PeCDF	32.53		1.0005	1.0006	+0.2	9.77E+06	1.50	Y	1.02	47.9	5975.775	0.306
23478-PeCDF	33.64		1.0005	1.0006	+0.2	1.04E+07	1.54	Y	1.02	52.2	5975.775	0.279
123478-HxCDF	36.85		1.0004	1.0004	0	9.11E+06	1.25	Y	1.27	53.9	2556.909	0.139
123678-HxCDF	37.00		1.0004	1.0004	0	1.16E+07	1.25	Y	1.15	54.5	2556.909	0.121
234678-HxCDF	37.69		1.0004	1.0006	+0.5	1.13E+07	1.23	Y	1.19	53.7	2556.909	0.108
123789-HxCDF	38.63		1.0004	1.0005	+0.2	7.49E+06	1.27	Y	1.16	53.4	2556.909	0.162
1234678-HpCDF	39.96		1.0002	1.0003	+0.2	9.87E+06	0.99	Y	1.37	52	3799.385	0.163
1234789-HpCDF	41.36		1.0003	1.0004	+0.2	5.34E+06	0.94	Y	1.31	53	3799.385	0.359
OCDF	43.74		1.0002	1.0003	+0.3	7.14E+06	0.83	Y	1.07	99.7	3493.966	0.537

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0236	+0.5	1.43E+07	0.82	Y	1.05	89.3
ES 12378-PeCDD	33.95	1.2121	1.2135	+2.9	1.31E+07	1.60	Y	0.88	97.2
ES 123478-HxCDD	37.85	0.9921	0.9921	0	1.16E+07	1.27	Y	0.97	98.3
ES 123678-HxCDD	37.96	0.9951	0.9952	+0.2	1.37E+07	1.29	Y	0.94	120
ES 123789-HxCDD	38.25	1.0025	1.0028	+0.7	1.30E+07	1.32	Y	1.09	98.5
ES 1234678-HpCDD	40.88	1.0709	1.0717	+2.0	9.55E+06	1.04	Y	0.91	86.2
ES OCDD	43.55	1.1403	1.1415	+3.1	1.00E+07	1.00	Y	0.62	66.1
ES 2378-TCDF	27.79	1.0506	1.0513	+1.2	2.21E+07	0.79	Y	1.06	84.2
ES 12378-PeCDF	32.51	1.2281	1.2299	+3.5	1.99E+07	1.55	Y	0.91	88.3
ES 23478-PeCDF	33.61	1.2698	1.2717	+3.8	1.95E+07	1.55	Y	0.88	89.2
ES 123478-HxCDF	36.84	0.9657	0.9657	0	1.33E+07	0.50	Y	1.20	91.5
ES 123678-HxCDF	36.99	0.9695	0.9696	+0.2	1.85E+07	0.56	Y	1.35	113
ES 234678-HxCDF	37.67	0.9874	0.9875	+0.2	1.77E+07	0.58	Y	1.24	118
ES 123789-HxCDF	38.61	1.0116	1.0121	+1.2	1.20E+07	0.55	Y	1.16	86
ES 1234678-HpCDF	39.95	1.0467	1.0473	+1.4	1.39E+07	0.46	Y	0.97	118
ES 1234789-HpCDF	41.34	1.0830	1.0838	+2.0	7.71E+06	0.46	Y	0.85	74.6
ES OCDF	43.73	1.1451	1.1463	+3.1	1.34E+07	0.93	Y	0.81	68.2

Lab ID: OPR2_18863_DF | Acq'd: 25 Jan 2022 16:44 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18863_OPR002 | UTP: 26-Jan-2022 09:14:30 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 226-320-TSN

Datafile: 220125C02 | Report: 26 Jan 2022 09:17 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.98		-	-	-	1.53E+07	0.77	Y	-	-
JS 1234-TCDF	26.43		-	-	-	2.48E+07	0.80	Y	-	-
JS 123467-HxCDD	38.15		-	-	-	6.06E+06	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.66		1.0241	1.0244	+0.5	6.58E+06	n/a	-	1.20	89.3
CS 12347-PeCDD	33.45		1.1943	1.1955	+2.4	1.20E+07	1.55	Y	0.75	104
CS 12346-PeCDF	31.98		1.2083	1.2098	+2.9	1.89E+07	1.60	Y	0.85	89.6
CS 123469-HxCDF	37.30		0.9778	0.9778	0	1.64E+07	0.54	Y	1.12	121
CS 1234689-HpCDF	40.34		1.0571	1.0576	+1.2	1.16E+07	0.46	Y	0.89	108
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~6.58E+06~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.45~~		~~1.1943~~	~~1.1955~~	~~+2.4~~	~~1.20E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~1.89E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.64E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~108~~
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0576~~	~~+1.2~~	~~1.16E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~91.1~~

Totals	Conc	EMPC
Total TCDD	53.3	53.3
Total PeCDD	68.9	68.9
Total HxCDD	174	174
Total HpCDD	68.4	68.4
Total Tetra-Octa Dioxins	481	481
Total TCDF	59.6	59.6
Total PeCDF	201	201
Total HxCDF	338	338
Total HpCDF	105	105
Total Tetra-Octa Furans	803	803
Total Tetra-Octa Dioxins & Furans	1280	1280

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.848	0.85
Response	1.99E+06	1.99E+06

Lab ID: OPR2_18863_DF | **Acq'd: 25 Jan 2022 16:44 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR002 | **UTP: 26-Jan-2022 09:14:30 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 226-320-TSN**

Datafile: 220125C02 | **Report: 26 Jan 2022 09:17 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.05		0.8755	0.8746	-1.4	2.55E+06	0.79	Y	1.18	15	4670.341	0.295
1379-TCDD	NotFnd		0.8876						1.18		4670.341	0.295
1369-TCDD	NotFnd		0.9023						1.18		4670.341	0.295
1469-TCDD	NotFnd		0.9291						1.18		4670.341	0.295
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4670.341	0.295
1378-TCDD	NotFnd		0.9440						1.18		4670.341	0.295
1268-TCDD	NotFnd		0.9506						1.18		4670.341	0.295
1478-TCDD	NotFnd		0.9591						1.18		4670.341	0.295
1279-TCDD	NotFnd		0.9649						1.18		4670.341	0.295
1234/1269-TCDD	NotFnd		0.9771						1.18		4670.341	0.295
1236-TCDD	NotFnd		0.9820						1.18		4670.341	0.295
1237/1238-TCDD	NotFnd		0.9908						1.18		4670.341	0.295
1239-TCDD	28.50		0.9954	0.9952	-0.3	1.81E+06	0.81	Y	1.18	10.7	4670.341	0.295
2378-TCDD	**28.66**		**1.0008**	1.0007	**-0.2**	1.99E+06	0.85	Y	**1.18**	**11.7**	**4670.341**	**0.295**
1278-TCDD	NotFnd		1.0121						1.18		4670.341	0.295
1267-TCDD	NotFnd		1.0167						1.18		4670.341	0.295
1289-TCDD	29.62		1.0341	1.0344	+0.5	2.69E+06	0.79	Y	1.18	15.9	4670.341	0.295
12479/12468-PeCDD	31.47		0.9273	0.9269	-0.8	1.47E+06	1.49	Y	1.04	10.8	4173.01	0.288
12469-PeCDD	NotFnd		0.9430						1.04		4173.01	0.288
12368-PeCDD	NotFnd		0.9592						1.04		4173.01	0.288
12478-PeCDD	NotFnd		0.9647						1.04		4173.01	0.288
12379-PeCDD	NotFnd		0.9676						1.04		4173.01	0.288
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		4173.01	0.288
12346/12347-PeCDD	NotFnd		0.9860						1.04		4173.01	0.288
12378-PeCDD	33.97		**1.0006**	**1.0006**	**0**	**6.29E+06**	**1.52**	**Y**	**1.04**	**46.3**	**4173.01**	**0.288**
12367-PeCDD	NotFnd		1.0034						1.04		4173.01	0.288
12389-PeCDD	34.40		1.0134	1.0134	0	1.61E+06	1.54	Y	1.04	11.8	4173.01	0.288
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.7	1.92E+06	1.24	Y	1.10	13.7	3657.544	0.247
123468-HxCDD	NotFnd		0.9715						1.10		3657.544	0.247
123679/123689-HxCDD	NotFnd		0.9793						1.10		3657.544	0.247
123469-HxCDD	NotFnd		0.9829						1.10		3657.544	0.247
123478-HxCDD	37.86		**1.0004**	**1.0004**	**0**	**6.80E+06**	**1.24**	**Y**	1.09	**53.9**	**3657.544**	**0.263**
123678-HxCDD	37.98		**1.0034**	**1.0034**	**0**	**8.69E+06**	**1.29**	**Y**	1.15	**55.2**	**3657.544**	**0.228**
123467-HxCDD	NotFnd		1.0082						1.10		3657.544	0.247
123789-HxCDD	38.27		**1.0109**	**1.0112**	**+0.7**	**7.06E+06**	**1.29**	**Y**	1.05	**51.7**	**3657.544**	**0.254**

Lab ID: OPR2_18863_DF **Acq'd: 25 Jan 2022 16:44 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR002 **UTP: 26-Jan-2022 09:14:30 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 226-320-TSN**

Datafile: 220125C02 **Report: 26 Jan 2022 09:17 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.22		0.9838	0.9837	-0.2	1.26E+06	1.01	Y	1.06	12.4	3182.649	0.273
1234678-HpCDD	**40.89**		**1.0003**	**1.0004**	**+0.2**	**5.66E+06**	**1.01**	**Y**	**1.06**	**56**	**3182.649**	**0.273**
OCDD	**43.56**		**1.0002**	**1.0003**	**+0.3**	**6.52E+06**	**0.92**	**Y**	**1.13**	**116**	**3561.534**	**0.709**
OCDD-a	NotFnd		1.0002						0.07		3883.188	12.1
1368-TCDF	22.97		0.8282	0.8267	-2.1	3.37E+06	0.78	Y	1.08	14.1	3710.756	0.179
1468-TCDF	NotFnd		0.8485						1.08		3710.756	0.179
2468-TCDF	24.17		0.8709	0.8697	-1.7	9.29E+05	0.73	Y	1.08	3.89	3710.756	0.179
1346/1246-TCDF	NotFnd		0.8829						1.08		3710.756	0.179
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3710.756	0.179
1348-TCDF	NotFnd		0.8980						1.08		3710.756	0.179
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3710.756	0.179
1268-TCDF	NotFnd		0.9158						1.08		3710.756	0.179
1467-TCDF	NotFnd		0.9206						1.08		3710.756	0.179
1478-TCDF	NotFnd		0.9266						1.08		3710.756	0.179
1369/1237-TCDF	NotFnd		0.9397						1.08		3710.756	0.179
2467-TCDF	NotFnd		0.9440						1.08		3710.756	0.179
2368-TCDF	NotFnd		0.9497						1.08		3710.756	0.179
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3710.756	0.179
1278-TCDF	NotFnd		0.9690						1.08		3710.756	0.179
1349-TCDF	NotFnd		0.9730						1.08		3710.756	0.179
1267-TCDF	NotFnd		0.9787						1.08		3710.756	0.179
2346/1249-TCDF	NotFnd		0.9850						1.08		3710.756	0.179
2347/1279-TCDF	NotFnd		0.9929						1.08		3710.756	0.179
2348-TCDF	27.70		0.9970	0.9967	-0.5	3.47E+06	0.75	Y	1.08	14.6	3710.756	0.179
2378-TCDF	**27.81**		**1.0008**	**1.0008**	**0**	**2.59E+06**	**0.78**	**Y**	**1.08**	**10.8**	**3710.756**	**0.179**
2367/3467-TCDF	NotFnd		1.0136						1.08		3710.756	0.179
1269-TCDF	NotFnd		1.0221						1.08		3710.756	0.179
1239-TCDF	NotFnd		1.0319						1.08		3710.756	0.179
1289-TCDF	29.79		1.0740	1.0720	-3.6	3.86E+06	0.81	Y	1.08	16.2	3710.756	0.179
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	1.84E+07	1.55	Y	1.02	91.3	3711.644	0.182
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		5975.775	0.293
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		5975.775	0.293
14678-PeCDF	NotFnd		0.9695						1.02		5975.775	0.293
13479-PeCDF	NotFnd		0.9724						1.02		5975.775	0.293
13469/12479-PeCDF	NotFnd		0.9801						1.02		5975.775	0.293
12346-PeCDF	NotFnd		0.9842						1.02		5975.775	0.293

Lab ID: OPR2_18863_DF | **Acq'd: 25 Jan 2022 16:44 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18863_OPR002 | **UTP: 26-Jan-2022 09:14:30 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 226-320-TSN**

Datafile: 220125C02 | **Report: 26 Jan 2022 09:17 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5975.775	0.293
12347-PeCDF	NotFnd		0.9895						1.02		5975.775	0.293
12348-PeCDF	NotFnd		0.9941						1.02		5975.775	0.293
12378-PeCDF	**32.53**		**1.0005**	**1.0006**	**+0.2**	**9.77E+06**	**1.50**	**Y**	**1.02**	**47.9**	**5975.775**	**0.306**
12678/12367-PeCDF	NotFnd		1.0090						1.02		5975.775	0.293
12379-PeCDF	NotFnd		1.0142						1.02		5975.775	0.293
12679-PeCDF	NotFnd		0.9931						1.02		5975.775	0.293
23467/12369-PeCDF	NotFnd		0.9966						1.02		5975.775	0.293
23478-PeCDF	**33.64**		**1.0005**	**1.0006**	**+0.2**	**1.04E+07**	**1.54**	**Y**	**1.02**	**52.2**	**5975.775**	**0.279**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5975.775	0.293
12349-PeCDF	NotFnd		1.0101						1.02		5975.775	0.293
12389-PeCDF	34.71		1.0322	1.0325	+0.6	1.95E+06	1.41	Y	1.02	9.66	5975.775	0.293
123468-HxCDF	35.47		0.9627	0.9629	+0.4	2.24E+07	1.25	Y	1.19	122	2556.909	0.129
124678/134678-HxCDF	NotFnd		0.9684						1.19		2556.909	0.129
134679-HxCDF	NotFnd		0.9747						1.19		2556.909	0.129
124679-HxCDF	NotFnd		0.9802						1.19		2556.909	0.129
124689-HxCDF	NotFnd		0.9858						1.19		2556.909	0.129
123467-HxCDF	NotFnd		0.9972						1.19		2556.909	0.129
123478-HxCDF	**36.85**		**1.0004**	**1.0004**	**0**	**9.11E+06**	**1.25**	**Y**	**1.27**	**53.9**	**2556.909**	**0.139**
123678-HxCDF	**37.00**		**1.0004**	**1.0004**	**0**	**1.16E+07**	**1.25**	**Y**	**1.15**	**54.5**	**2556.909**	**0.121**
123479-HxCDF	NotFnd		1.0051						1.19		2556.909	0.129
123469-HxCDF	NotFnd		1.0091						1.19		2556.909	0.129
123679-HxCDF	NotFnd		0.9943						1.19		2556.909	0.129
234678-HxCDF	**37.69**		**1.0004**	**1.0006**	**+0.5**	**1.13E+07**	**1.23**	**Y**	**1.19**	**53.7**	**2556.909**	**0.108**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2556.909	0.129
123789-HxCDF	**38.63**		**1.0004**	**1.0005**	**+0.2**	**7.49E+06**	**1.27**	**Y**	**1.16**	**53.4**	**2556.909**	**0.162**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2556.909	0.129
1234678-HpCDF	**39.96**		**1.0002**	**1.0003**	**+0.2**	**9.87E+06**	**0.99**	**Y**	**1.37**	**52**	**3799.385**	**0.163**
1234679-HpCDF	NotFnd		1.0067						1.34		3799.385	0.232
1234689-HpCDF	NotFnd		1.0101						1.34		3799.385	0.232
1234789-HpCDF	**41.36**		**1.0003**	**1.0004**	**+0.2**	**5.34E+06**	**0.94**	**Y**	**1.31**	**53**	**3799.385**	**0.359**
OCDF	**43.74**		**1.0002**	**1.0003**	**+0.3**	**7.14E+06**	**0.83**	**Y**	**1.07**	**99.7**	**3493.966**	**0.537**
OCDF-a	43.72		1.0002	0.9998	-1.0	2.47E+05	2.39	Y	0.07	55.6	4001.537	9.93

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220125C02	Analysis Date:	25-JAN-2022 16:44:37
Lab ID:	OPR2_18863_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	56	35	-	70	Y
OCDD	100	116	78	-	144	Y
2,3,7,8-TCDF	10	10.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	47.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.9	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	54.5	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	53.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	53	39	-	69	Y
OCDF	100	99.7	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 26 Jan 2022 09:17 Analyst: TF

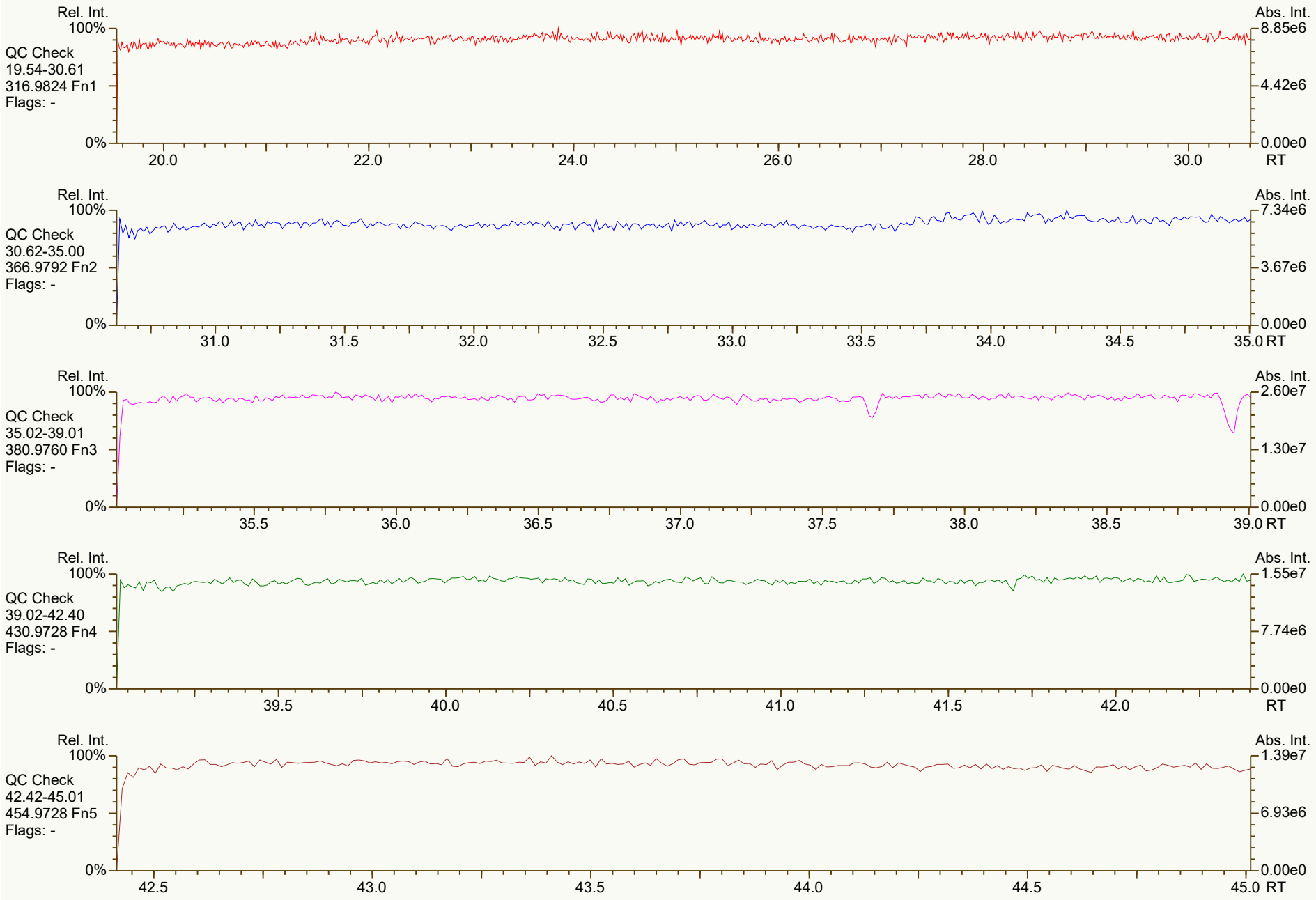
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

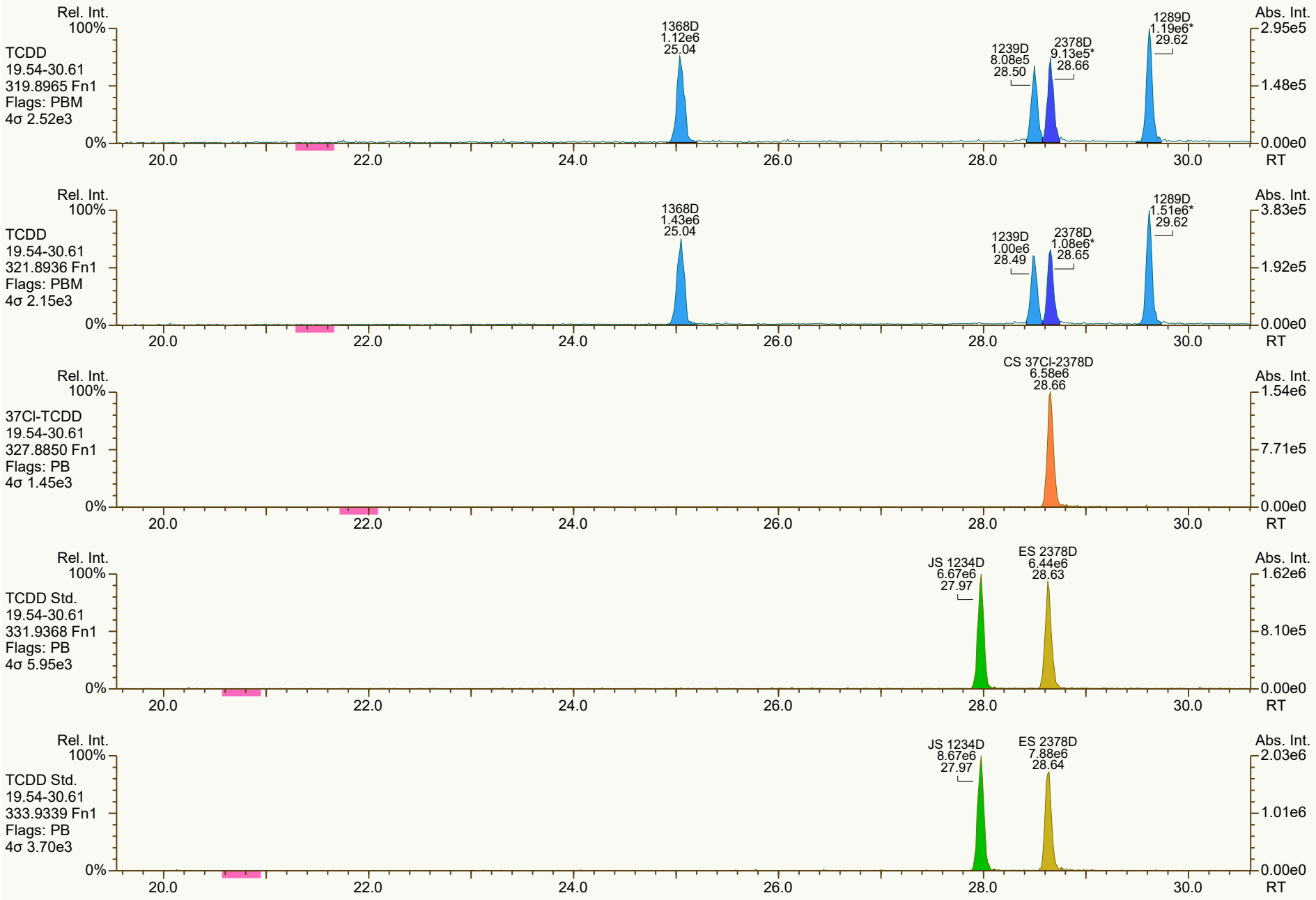
Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220125C02 Analysis Date: 25-JAN-2022 16:44:37
Lab ID: OPR2_18863_DF

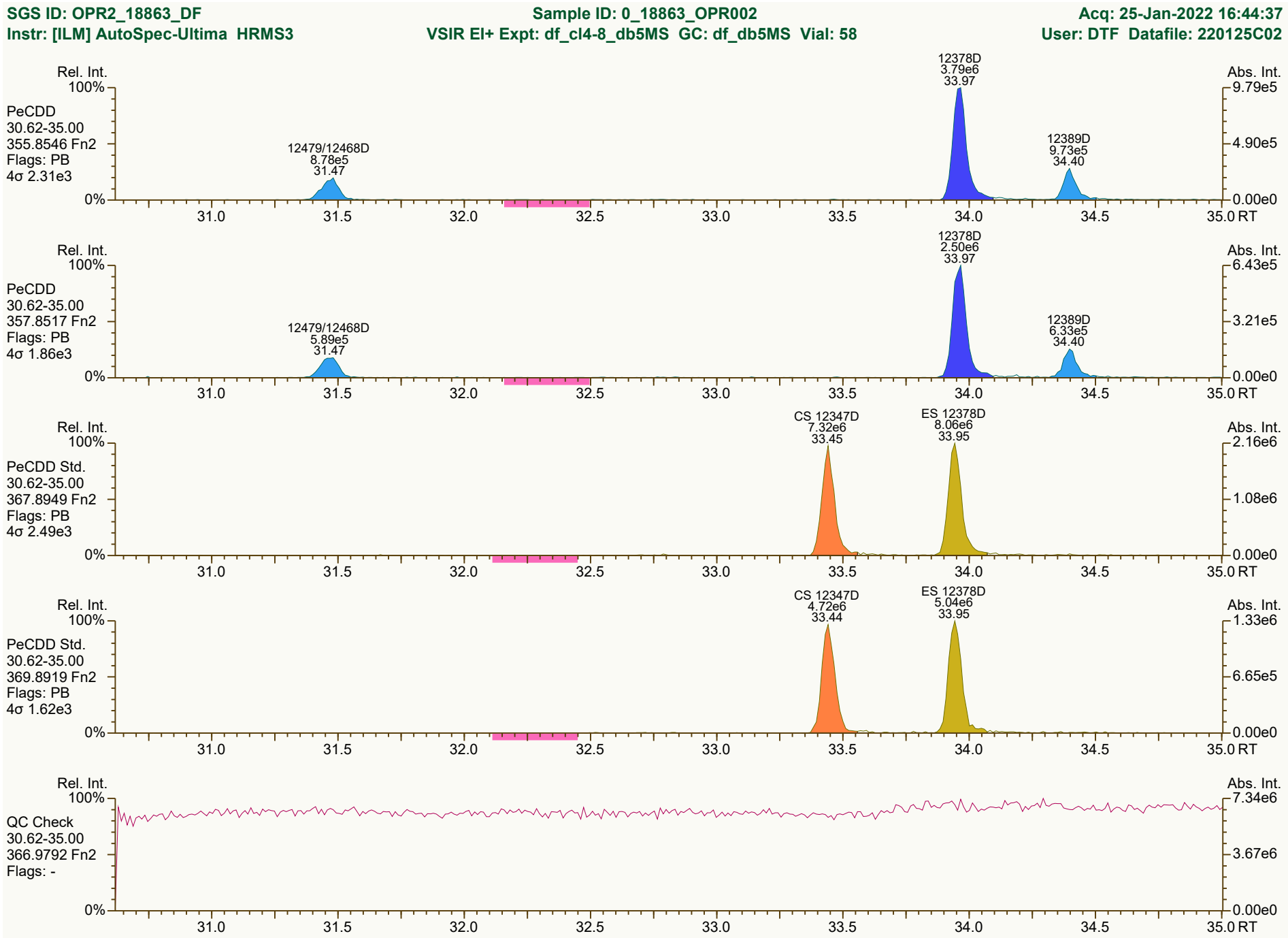
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	89.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	97.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	120	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	98.5	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	86.2	26	-	166	Y
13C-OCDD	200	132	26	-	397	Y
13C-2,3,7,8-TCDF	100	84.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	88.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	89.2	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	118	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	86	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	118	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	74.6	20	-	186	Y
13C-OCDF	200	136	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.7	12.4	-	76.4	Y

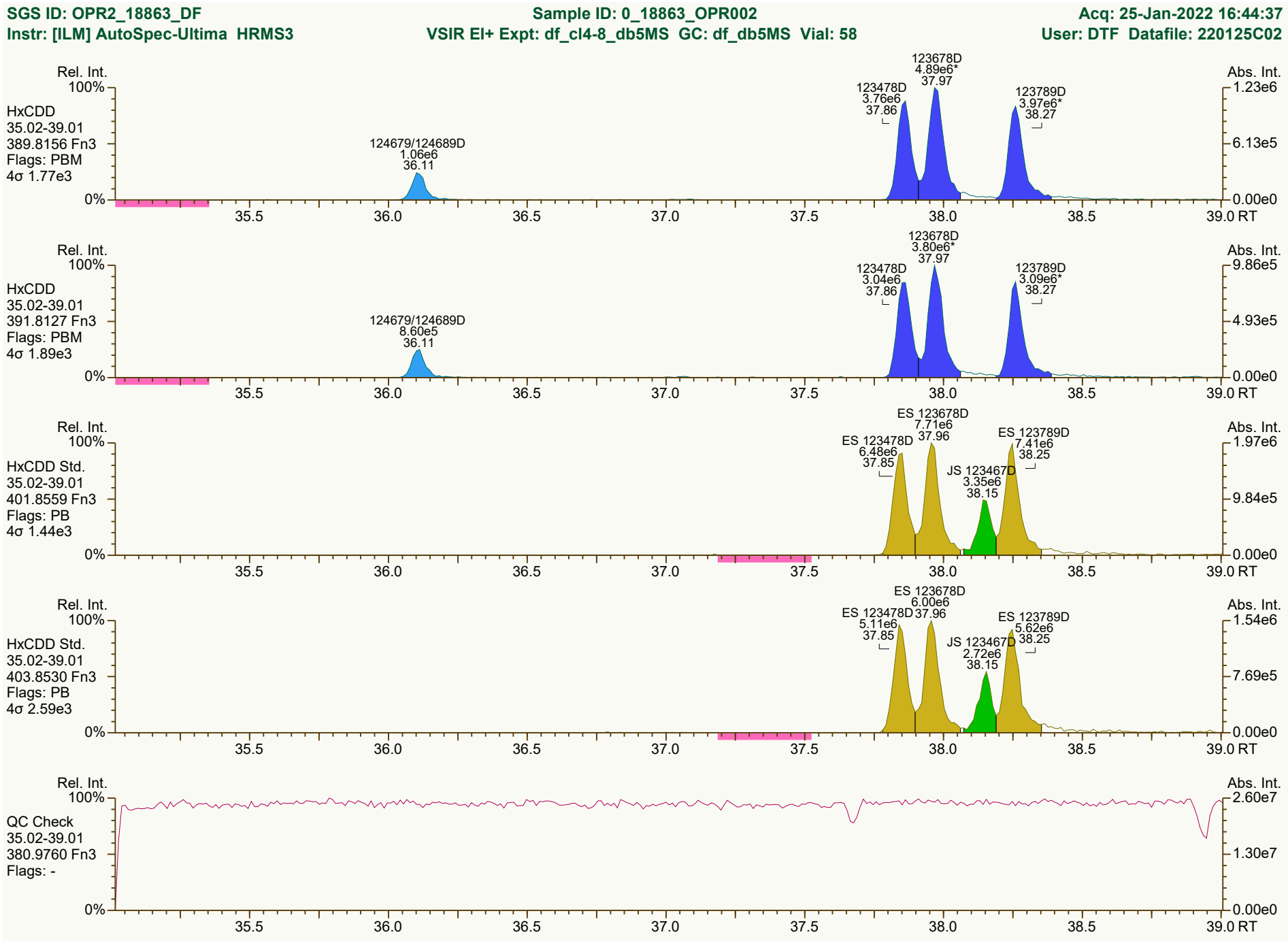
Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 26 Jan 2022 09:17 Analyst: TF

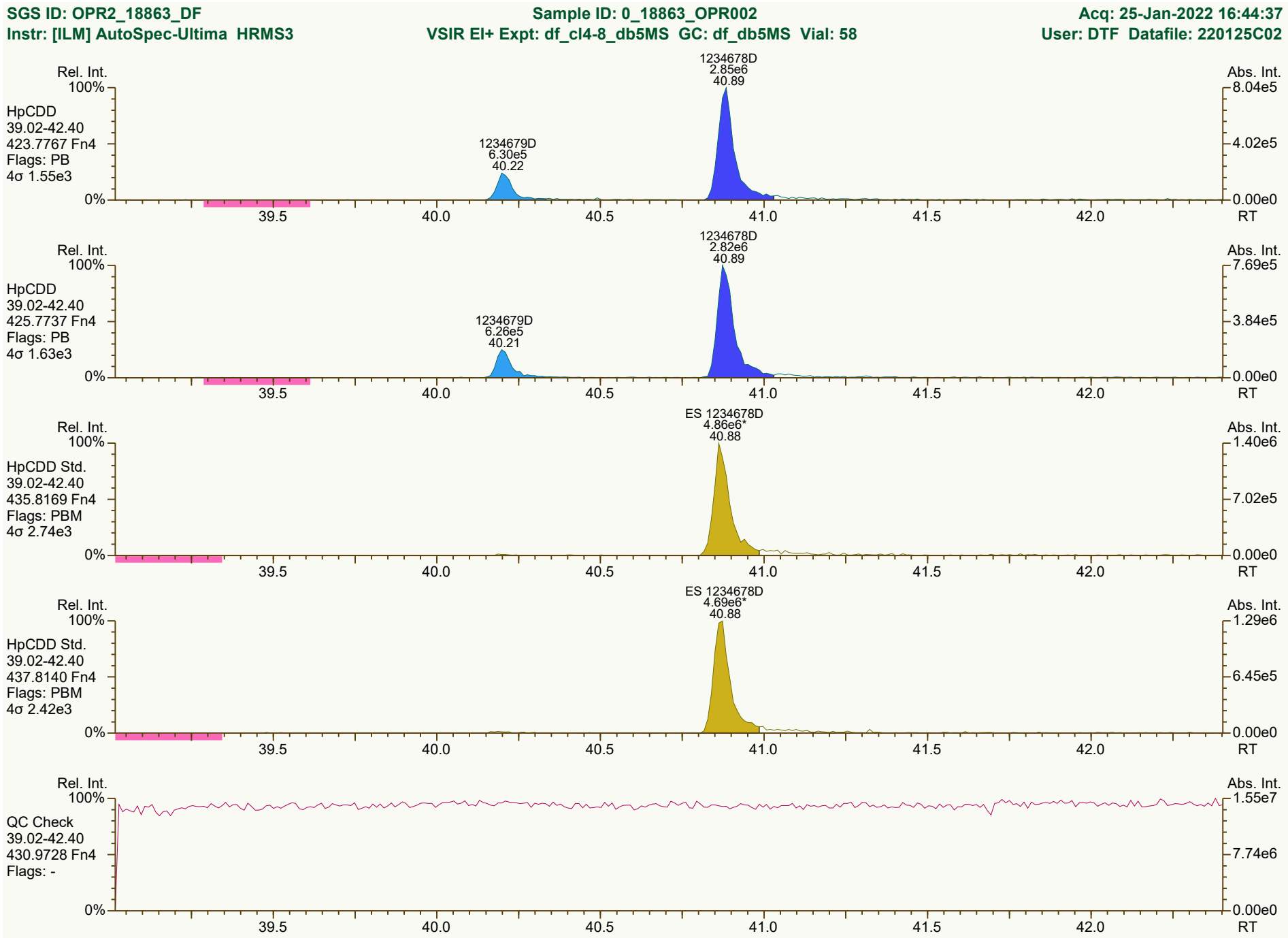

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.85e6
4.42e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
7.34e6
3.67e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.60e7
1.30e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.55e7
7.74e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.39e7
6.93e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.52e3
1368D
1.12e6
25.04
1239D
8.08e5
28.50
2378D
9.13e5*
28.66
1289D
1.19e6*
29.62
Abs. Int.
2.95e5
1.48e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.15e3
1368D
1.43e6
25.04
1239D
1.00e6
28.49
2378D
1.08e6*
28.65
1289D
1.51e6*
29.62
Abs. Int.
3.83e5
1.92e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.45e3
CS 37Cl-2378D
6.58e6
28.66
Abs. Int.
1.54e6
7.71e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.95e3
JS 1234D
6.67e6
27.97
ES 2378D
6.44e6
28.63
Abs. Int.
1.62e6
8.10e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.70e3
JS 1234D
8.67e6
27.97
ES 2378D
7.88e6
28.64
Abs. Int.
2.03e6
1.01e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

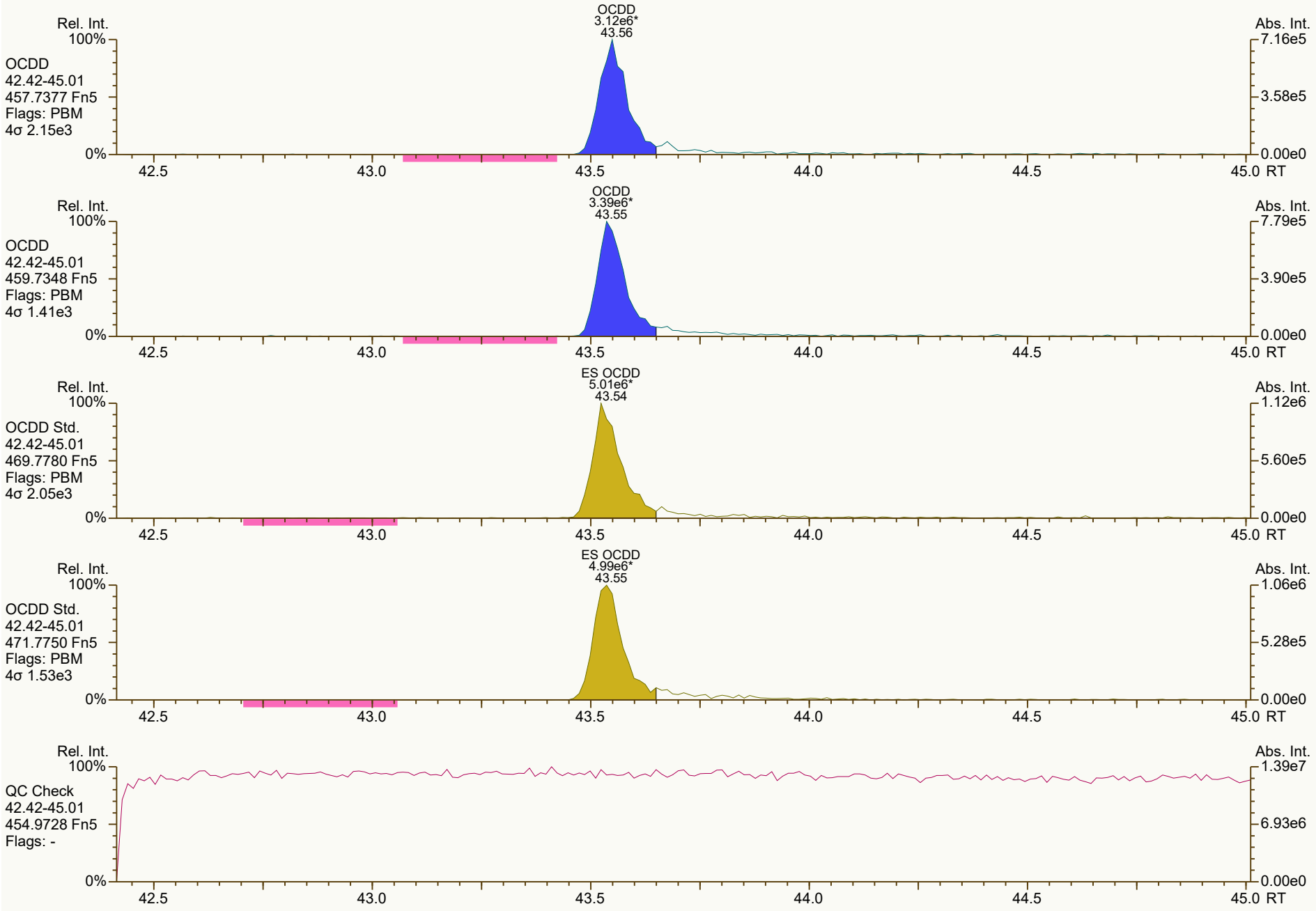

SGS ID: OPR2_18863_DF
Sample ID: 0_18863_OPR002
Acq: 25-Jan-2022 16:44:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220125C02
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 2.31e3
12479/12468D
8.78e5
31.47
12378D
3.79e6
33.97
12389D
9.73e5
34.40
9.79e5
4.90e5
0.00e0
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.86e3
12479/12468D
5.89e5
31.47
12378D
2.50e6
33.97
12389D
6.33e5
34.40
6.43e5
3.21e5
0.00e0
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.49e3
CS 12347D
7.32e6
33.45
ES 12378D
8.06e6
33.95
2.16e6
1.08e6
0.00e0
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.62e3
CS 12347D
4.72e6
33.44
ES 12378D
5.04e6
33.95
1.33e6
6.65e5
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
7.34e6
3.67e6
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9673, 3033 scc: 226-320
PKD: 26-Jan-2022 08:25 Printed: 26-Jan-2022 09:24 Page 3 of 12

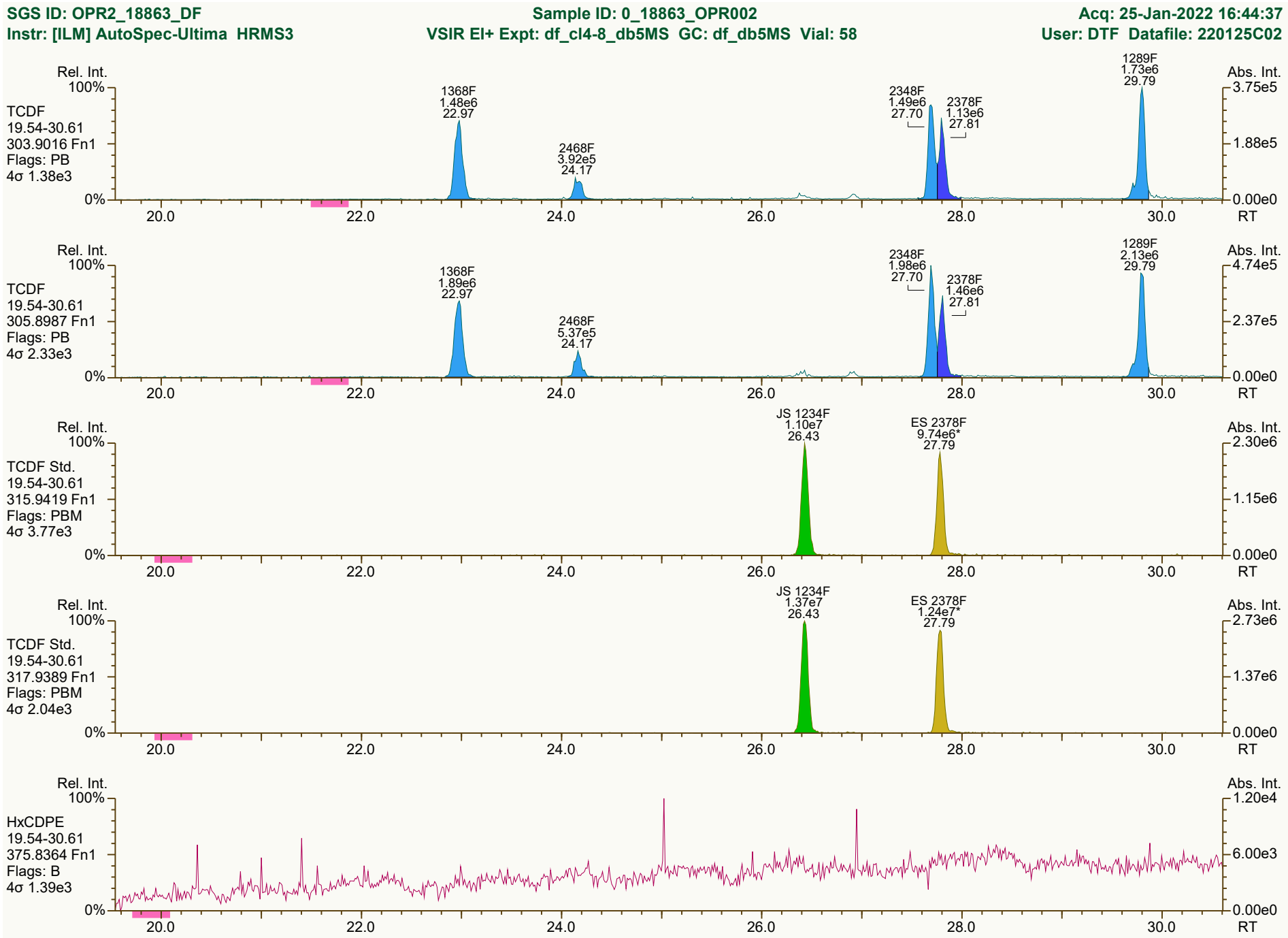


Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8808, 2726 scc: 226-320
PKD: 26-Jan-2022 08:26 Printed: 26-Jan-2022 09:24 Page 4 of 12



Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6868, 4885 scc: 226-320
Revised: 26-Jan-2022 08:25 (DTF) Printed: 26-Jan-2022 09:24 Page 5 of 12

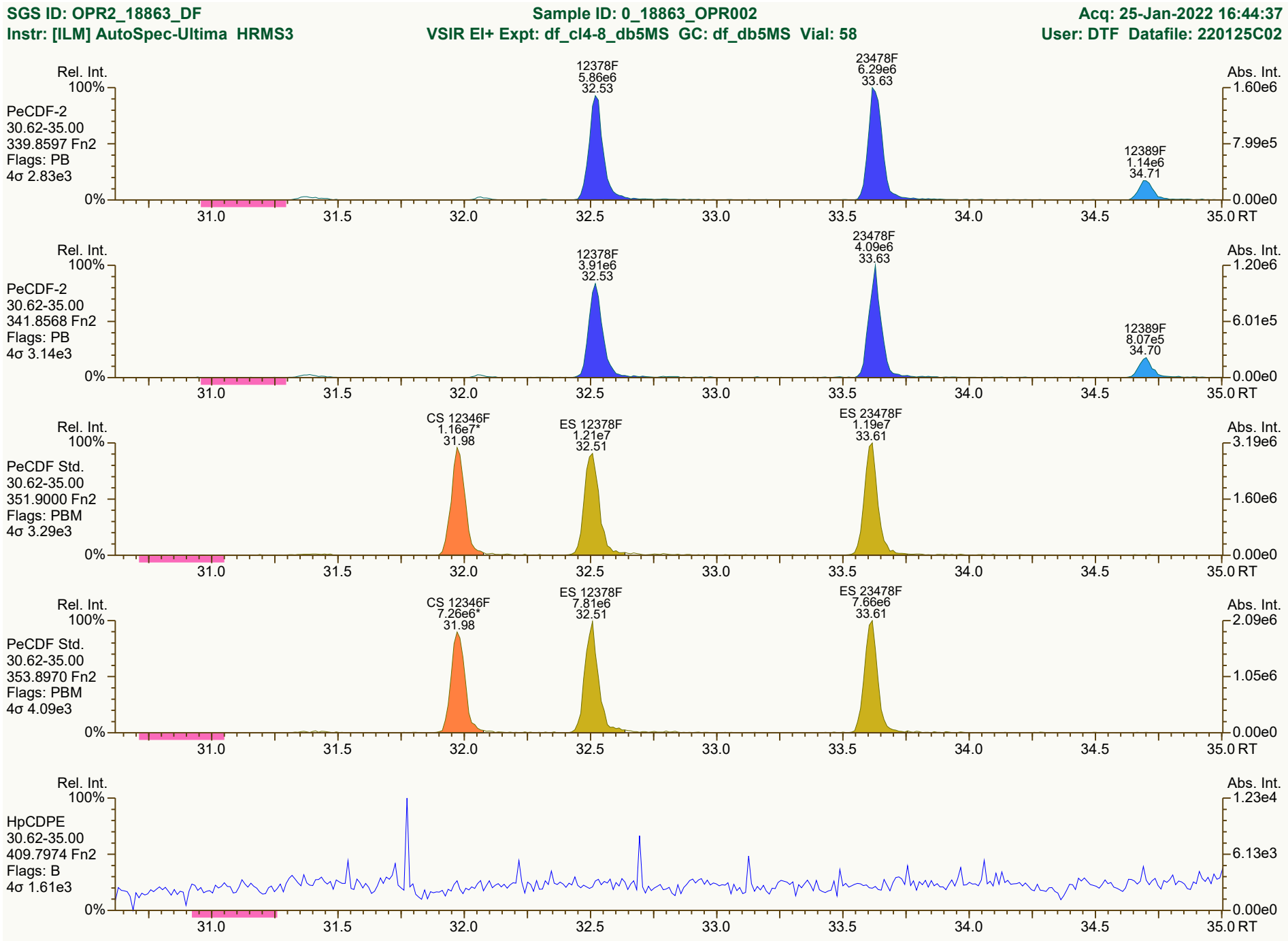

OCDD
3.12e6*
43.56
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 2.15e3
0%
Abs. Int.
7.16e5
3.58e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.39e6*
43.55
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.41e3
0%
Abs. Int.
7.79e5
3.90e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.01e6*
43.54
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 2.05e3
0%
Abs. Int.
1.12e6
5.60e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
4.99e6*
43.55
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.53e3
0%
Abs. Int.
1.06e6
5.28e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.39e7
6.93e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR2_18863_DF
Sample ID: 0_18863_OPR002
Acq: 25-Jan-2022 16:44:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220125C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.38e3
1368F 1.48e6 22.97
2468F 3.92e5 24.17
2348F 1.49e6 27.70
2378F 1.13e6 27.81
1289F 1.73e6 29.79
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 2.33e3
1368F 1.89e6 22.97
2468F 5.37e5 24.17
2348F 1.98e6 27.70
2378F 1.46e6 27.81
1289F 2.13e6 29.79
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 3.77e3
JS 1234F 1.10e7 26.43
ES 2378F 9.74e6* 27.79
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 2.04e3
JS 1234F 1.37e7 26.43
ES 2378F 1.24e7* 27.79
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.39e3
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8666, 4527, 5964 scc: 226-320
Revised: 26-Jan-2022 08:26 (DTF) Printed: 26-Jan-2022 09:24 Page 7 of 12

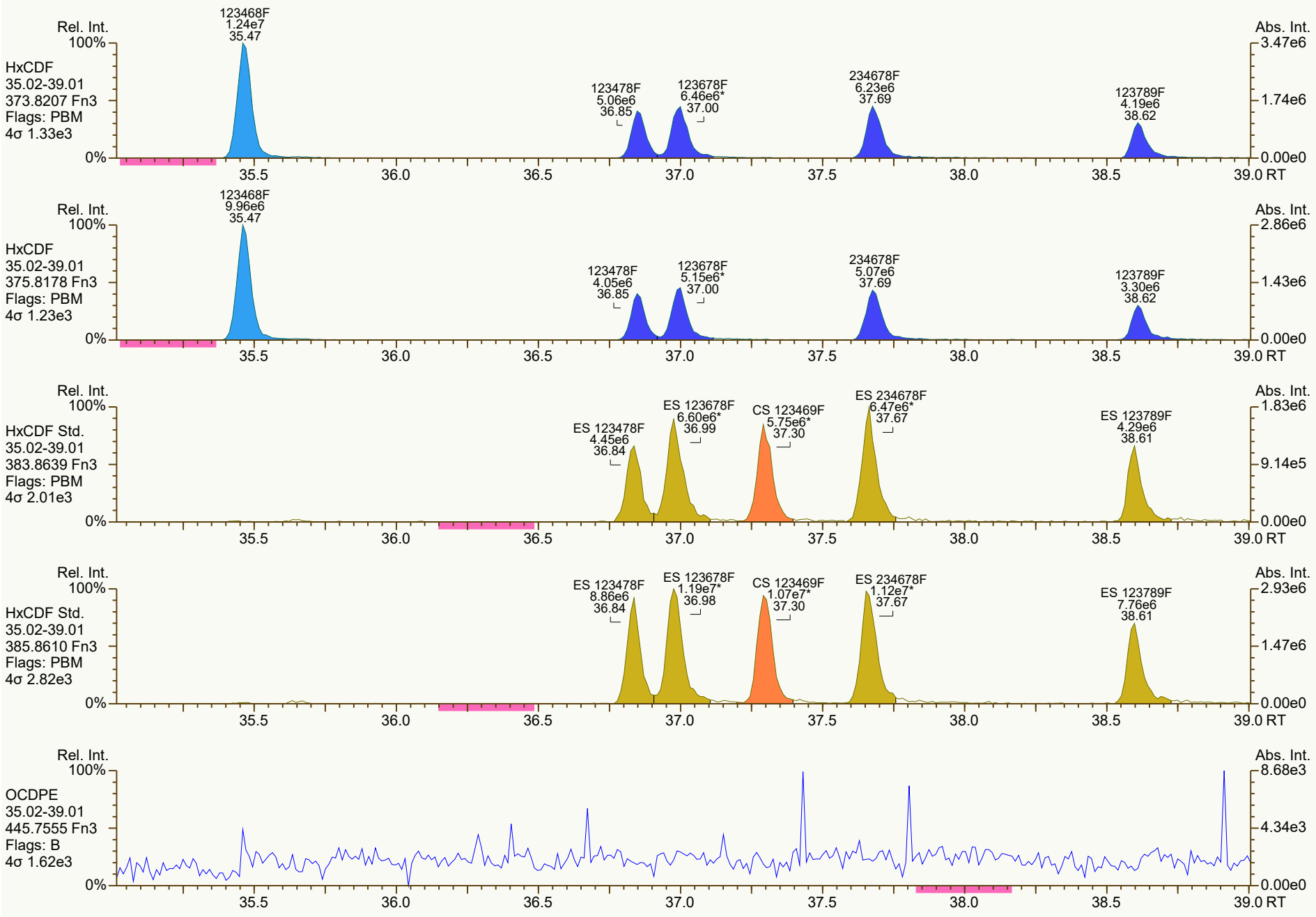
SGS ID: OPR2_18863_DF
Sample ID: 0_18863_OPR002
Acq: 25-Jan-2022 16:44:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220125C02

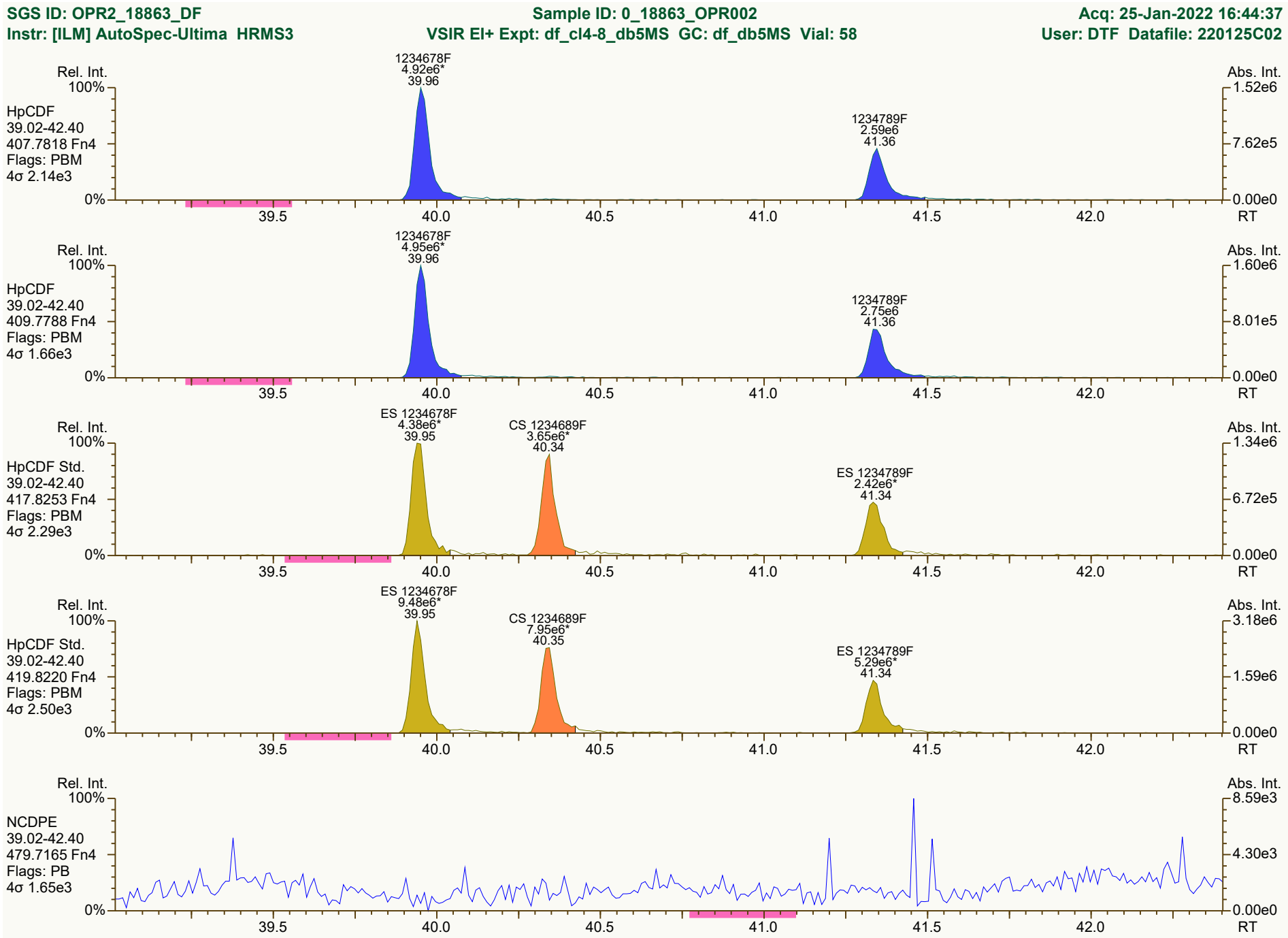


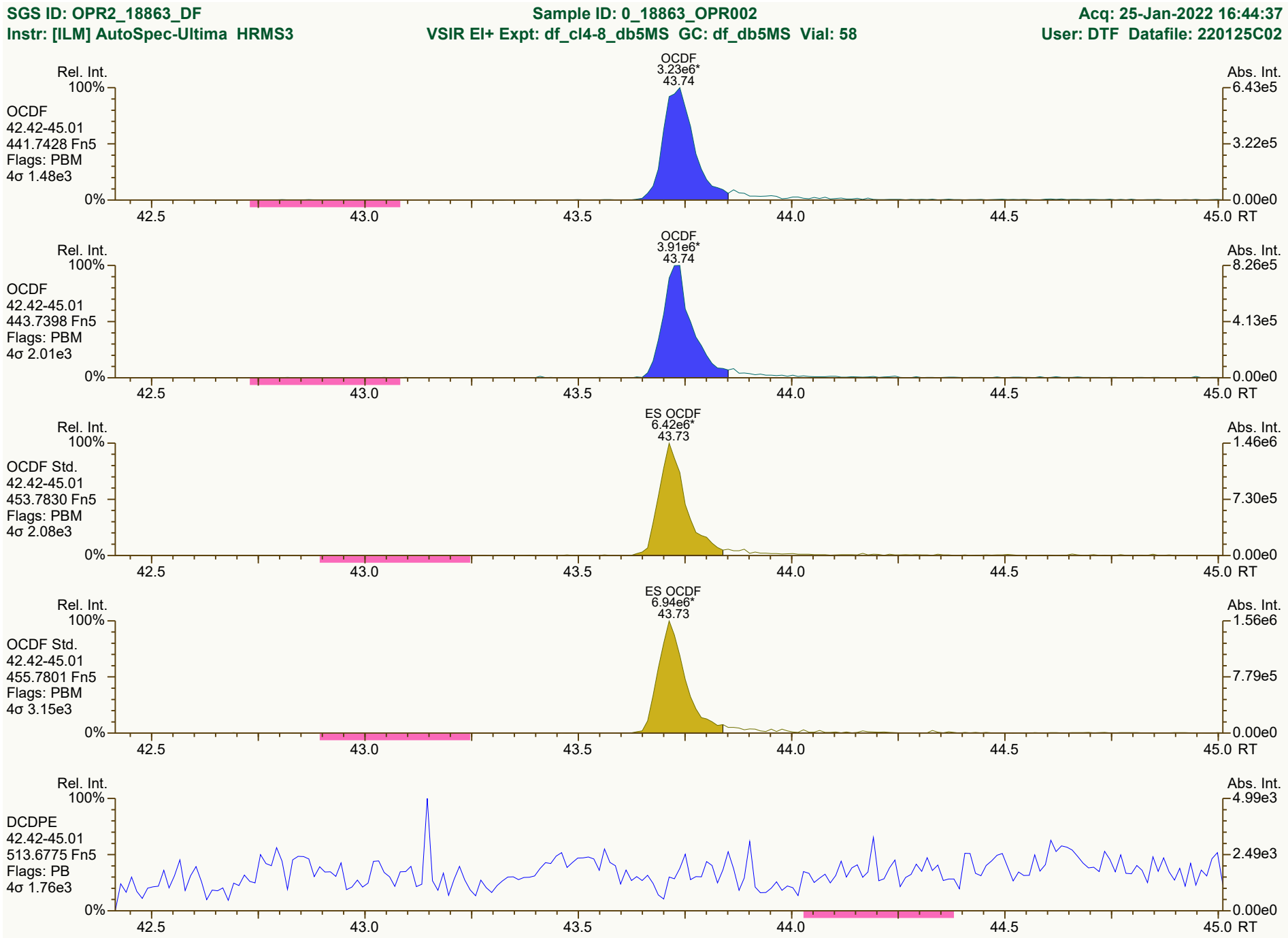
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3480 scc: 226-320
PKD: 26-Jan-2022 08:25 Printed: 26-Jan-2022 09:24 Page 8 of 12



Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1468, 0563, 1927 scc: 226-320
PKD: 26-Jan-2022 08:26 Printed: 26-Jan-2022 09:24 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 1.33e3
123468F
1.24e7
35.47
123478F
5.06e6
36.85
123678F
6.46e6*
37.00
234678F
6.23e6
37.69
123789F
4.19e6
38.62
Abs. Int.
3.47e6
1.74e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.23e3
123468F
9.96e6
35.47
123478F
4.05e6
36.85
123678F
5.15e6*
37.00
234678F
5.07e6
37.69
123789F
3.30e6
38.62
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.01e3
ES 123478F
4.45e6
36.84
ES 123678F
6.60e6*
36.99
CS 123469F
5.75e6*
37.30
ES 234678F
6.47e6*
37.67
ES 123789F
4.29e6
38.61
Abs. Int.
1.83e6
9.14e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.82e3
ES 123478F
8.86e6
36.84
ES 123678F
1.19e7*
36.98
CS 123469F
1.07e7*
37.30
ES 234678F
1.12e7*
37.67
ES 123789F
7.76e6
38.61
Abs. Int.
2.93e6
1.47e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.62e3
Abs. Int.
8.68e3
4.34e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR2_18863_DF
Sample ID: 0_18863_OPR002
Acq: 25-Jan-2022 16:44:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220125C02
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.14e3
1234678F
4.92e6*
39.96
1234789F
2.59e6
41.36
1.52e6
7.62e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.66e3
1234678F
4.95e6*
39.96
1234789F
2.75e6
41.36
1.60e6
8.01e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.29e3
ES 1234678F
4.38e6*
39.95
CS 1234689F
3.65e6*
40.34
ES 1234789F
2.42e6*
41.34
1.34e6
6.72e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
9.48e6*
39.95
CS 1234689F
7.95e6*
40.35
ES 1234789F
5.29e6*
41.34
3.18e6
1.59e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.65e3
8.59e3
4.30e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5694, 0933, 4055 scc: 226-320
Revised: 26-Jan-2022 08:26 (DTF) Printed: 26-Jan-2022 09:24 Page 11 of 12


SGS ID: OPR2_18863_DF
Sample ID: 0_18863_OPR002
Acq: 25-Jan-2022 16:44:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220125C02
Rel. Int.
Abs. Int.
OCDF
3.23e6*
43.74
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.48e3
6.43e5
3.22e5
0.00e0
OCDF
3.91e6*
43.74
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.01e3
8.26e5
4.13e5
0.00e0
ES OCDF
6.42e6*
43.73
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.08e3
1.46e6
7.30e5
0.00e0
ES OCDF
6.94e6*
43.73
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.15e3
1.56e6
7.79e5
0.00e0
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.76e3
4.99e3
2.49e3
0.00e0
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6206\B6206_18863 DF\Resources\OPR2_18863_DF.utp_res, saved 26-Jan-2022 09:14 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8234, 4839, 0881 scc: 226-320
Revised: 26-Jan-2022 08:26 (DTF) Printed: 26-Jan-2022 09:24 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-012022-S-BN-SW-O-20 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID	B6207_18874_DF_001	Date Extracted:	31-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	84.7 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:25:37

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		1.1		ES 2378-TCDD	87.7	
12378-PeCDD	ND	0.461			ES 12378-PeCDD	93.3	
123478-HxCDD	ND	0.491			ES 123478-HxCDD	93.1	
123678-HxCDD	3.45				ES 123678-HxCDD	106	
123789-HxCDD	1.39			J	ES 123789-HxCDD	87.1	
1234678-HpCDD	76.7				ES 1234678-HpCDD	94.1	
OCDD	1,150				ES OCDD	90.9	
2378-TCDF	EMPC		2.13		ES 2378-TCDF	81.8	
12378-PeCDF	EMPC		0.586	J	ES 12378-PeCDF	85.7	
23478-PeCDF	0.944			J	ES 23478-PeCDF	87.4	
123478-HxCDF	3.44				ES 123478-HxCDF	88.2	
123678-HxCDF	1.78			J	ES 123678-HxCDF	102	
234678-HxCDF	2.33			J	ES 234678-HxCDF	122	
123789-HxCDF	ND	0.327			ES 123789-HxCDF	92.1	
1234678-HpCDF	29.4				ES 1234678-HpCDF	116	
1234789-HpCDF	EMPC		3.06		ES 1234789-HpCDF	91.6	
OCDF	61.6				ES OCDF	92.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91	
Total TCDD	ND		1.1		CS 12347-PeCDD	113	
Total PeCDD	ND	0.461	ND		CS 12346-PeCDF	99	
Total HxCDD	13.8		13.8		CS 123469-HxCDF	111	
Total HpCDD	140		140		CS 1234689-HpCDF	122	
Total TCDF	ND		2.9				
Total PeCDF	7.16		7.75				
Total HxCDF	48.5		52.7				
Total HpCDF	94.7		97.8				
Total PCDD/Fs	**1,520**		**1,530**				
WHO-2005 TEQs							
TEQ: ND=0	2.95		4.31				
TEQ: ND=DL/2	3.22	0.701	4.58				
TEQ: ND=DL	3.49	1.4	4.86				

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Sample ID: 11215131-012022-S-BN-SW-O-20 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6207_18874_DF_001	Date Extracted:	31-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	84.7 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:25:37

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.542)		12479/12468D	(0.461)		124679/124689D	3.51		1234679D	62.9	
1379D	(0.542)		12469D	(0.461)		123468D	(0.486)		1234678D	76.7	
1369D	(0.542)		12368D	(0.461)		123679/123689D	5.44				
1469D	(0.542)		12478D	(0.461)		123469D	(0.486)				
1247D...[4]	(0.542)		12379D	(0.461)		123478D	(0.491)				
1378D	(0.542)		12369D...[3]	(0.461)		123678D	3.45				
1268D	(0.542)		12346/12347D	(0.461)		123467D	(0.486)				
1478D	(0.542)		12378D	(0.461)		123789D	1.39	J	**Conc.**	140	
1279D	(0.542)		12367D	(0.461)					**EMPC**	140	
1234/1269D	(0.542)		12389D	(0.461)							
1236D	(0.542)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.542)										
1239D	(0.542)								OCDD	1150	
2378D	[1.1]										
1278D	(0.542)										
1267D	(0.542)										
1289D	(0.542)										
Conc.	0		**Conc.**	0		**Conc.**	13.8				
EMPC	1.1		**EMPC**	0		**EMPC**	13.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2.95	4.31
TEQ: ND=DL/2	3.22	4.58
TEQ: ND=DL	3.49	4.86

	Conc.	EMPC
Total PCDD/Fs	1,520	1,530

Checkcode: 341-058-QXS

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-O-20 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6207_18874_DF_001	Date Extracted:	31-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	84.7 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:25:37

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.314)		13468/12468F	4.34		123468F	[4.18]		1234678F	29.4	
1468F	(0.314)		13678F...[3]	(0.32)		124678/134678F	17.8		1234679F	(0.197)	
2468F	(0.314)		12368F...[3]	1.87	J	134679F	(0.265)		1234689F	65.3	
1346/1246F	(0.314)		14678F	(0.32)		124679F	(0.265)		1234789F	[3.06]	
1347F...[3]	(0.314)		13479F	(0.32)		124689F	21.9				
1348F	(0.314)		13469/12479F	(0.32)		123467F	(0.265)				
1248F...[3]	(0.314)		12346F	(0.32)		123478F	3.44				
1268F	(0.314)		23468/12469F	(0.32)		123678F	1.78	J			
1467F	(0.314)		12347F	(0.32)		123479F	(0.265)				
1478F	(0.314)		12348F	(0.32)		123469F	(0.265)				
1369/1237F	(0.314)		12378F	[0.586]	J	123679F	(0.265)				
2467F	(0.314)		12678/12367F	(0.32)		234678F	2.33	J	**Conc.**	94.7	
2368F	(0.314)		12379F	(0.32)		234678/123689F	0		**EMPC**	97.8	
1238F...[5]	(0.314)		12679F	(0.32)		123689F	(0.265)				
1278F	[0.771]		23467/12369F	(0.32)		123789F	(0.327)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.314)		23478F	0.944	J	123789/123489F	0			**(pg/g)**	
1267F	(0.314)		23478/12489F	0		123489F	1.21	J	OCDF	61.6	
2346/1249F	(0.314)		12489F	(0.32)							
2347/1279F	(0.314)		12349F	(0.32)							
2348F	(0.314)		12389F	(0.32)							
2378F	[2.13]										
2367/3467F	(0.314)										
1269F	(0.314)										
1239F	(0.314)										
1289F	(0.314)										
Conc.	0		**Conc.**	7.16		**Conc.**	48.5				
EMPC	2.9		**EMPC**	7.75		**EMPC**	52.7				

Checkcode: 341-058-QXS

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-O-20 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	QC Batch No.:	18874
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 00:25
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	[1.1]		0.542	[1.1]	[1.1]	[1.1]
12378-PeCDD	(0.461)		0.461	(0.231)	(0.461)	(0.461)
123478-HxCDD	(0.491)		0.491	(0.0491)	(0.0491)	(0.0491)
123678-HxCDD	3.45		0.458	0.345	0.345	0.345
123789-HxCDD	1.39	J	0.513	0.139	0.139	0.139
1234678-HpCDD	76.7		0.348	0.767	0.767	0.767
OCDD	1150		1.21	1.15	0.115	0.346
2378-TCDF	[2.13]		0.314	[0.213]	[0.213]	[0.213]
12378-PeCDF	[0.586]	J	0.329	[0.0293]	[0.0293]	[0.0176]
23478-PeCDF	0.944	J	0.312	0.472	0.472	0.283
123478-HxCDF	3.44		0.289	0.344	0.344	0.344
123678-HxCDF	1.78	J	0.251	0.178	0.178	0.178
234678-HxCDF	2.33	J	0.219	0.233	0.233	0.233
123789-HxCDF	(0.327)		0.327	(0.0327)	(0.0327)	(0.0327)
1234678-HpCDF	29.4		0.15	0.294	0.294	0.294
1234789-HpCDF	[3.06]		0.267	[0.0306]	[0.0306]	[0.0306]
OCDF	61.6		0.647	0.0616	0.00616	0.0185

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TEQ Summaries			
EMPC = 0, ND = 0	3.99	2.9	2.95
EMPC = 0, ND = DL / 2	4.15	3.17	3.22
EMPC = 0, ND = DL	4.3	3.44	3.49
EMPC = 0, < J-level = 0	2.97	1.87	2.12
EMPC = EMPC, ND = 0	5.36	4.27	4.31
EMPC = EMPC, ND = DL / 2	5.52	4.54	4.58
EMPC = EMPC, ND = DL	5.68	4.81	4.86
EMPC = EMPC, < J-level = 0	4.31	3.22	3.46

Checkcode: 341-058-QXS

Sample ID: 11215131-012022-S-BN-SW-B-22 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6207_18874_DF_002	Date Extracted:	31-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	76.8 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:11:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	0.815				ES 2378-TCDD	92.4	
12378-PeCDD	ND	0.414			ES 12378-PeCDD	103	
123478-HxCDD	ND	0.493			ES 123478-HxCDD	98	
123678-HxCDD	EMPC		0.558	J	ES 123678-HxCDD	114	
123789-HxCDD	EMPC		1.09	J	ES 123789-HxCDD	93.1	
1234678-HpCDD	21.6				ES 1234678-HpCDD	97.5	
OCDD	439				ES OCDD	95.1	
2378-TCDF	2.14				ES 2378-TCDF	86.6	
12378-PeCDF	ND	0.278			ES 12378-PeCDF	97.8	
23478-PeCDF	ND	0.298			ES 23478-PeCDF	93	
123478-HxCDF	ND	0.288			ES 123478-HxCDF	92.5	
123678-HxCDF	ND	0.267			ES 123678-HxCDF	106	
234678-HxCDF	ND	0.246			ES 234678-HxCDF	126	
123789-HxCDF	ND	0.346			ES 123789-HxCDF	88.9	
1234678-HpCDF	ND	0.17			ES 1234678-HpCDF	133	
1234789-HpCDF	ND	0.358			ES 1234789-HpCDF	90.6	
OCDF	ND	0.807			ES OCDF	84	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.3	
Total TCDD	7.1		7.1		CS 12347-PeCDD	126	
Total PeCDD	3.21		3.21		CS 12346-PeCDF	111	
Total HxCDD	20.2		26.2		CS 123469-HxCDF	116	
Total HpCDD	74.7		74.7		CS 1234689-HpCDF	126	
Total TCDF	2.14		3.88				
Total PeCDF	ND	0.288	ND				
Total HxCDF	ND	0.28	ND				
Total HpCDF	ND	0.24	ND				
Total PCDD/Fs	**546**		**554**				
WHO-2005 TEQs							
TEQ: ND=0	1.38		1.54				
TEQ: ND=DL/2	1.72	0.899	1.88				
TEQ: ND=DL	2.06	1.8	2.22				

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Sample ID: 11215131-012022-S-BN-SW-B-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6207_18874_DF_002	Date Extracted:	31-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	76.8 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:11:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.981)		12479/12468D	(0.414)		124679/124689D	20.2		1234679D	53.2	
1379D	(0.981)		12469D	3.21		123468D	(0.494)		1234678D	21.6	
1369D	(0.981)		12368D	(0.414)		123679/123689D	[4.41]				
1469D	6.28		12478D	(0.414)		123469D	(0.494)				
1247D...[4]	(0.981)		12379D	(0.414)		123478D	(0.493)				
1378D	(0.981)		12369D...[3]	(0.414)		123678D	[0.558]	J			
1268D	(0.981)		12346/12347D	(0.414)		123467D	(0.494)				
1478D	(0.981)		12378D	(0.414)		123789D	[1.09]	J	**Conc.**	74.7	
1279D	(0.981)		12367D	(0.414)					**EMPC**	74.7	
1234/1269D	(0.981)		12389D	(0.414)							
1236D	(0.981)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.981)										
1239D	(0.981)								OCDD	439	
2378D	0.815										
1278D	(0.981)										
1267D	(0.981)										
1289D	(0.981)										
Conc.	7.1		**Conc.**	3.21		**Conc.**	20.2				
EMPC	7.1		**EMPC**	3.21		**EMPC**	26.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1.38	1.54
TEQ: ND=DL/2	1.72	1.88
TEQ: ND=DL	2.06	2.22

	Conc.	EMPC
Total PCDD/Fs	546	554

Checkcode: 691-815-RDP

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-B-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6207_18874_DF_002	Date Extracted:	31-Jan-2022
Date Collected:	20-Jan-2022	% Solid:	76.8 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:11:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.295)		13468/12468F	(0.309)		123468F	(0.28)		1234678F	(0.17)	
1468F	(0.295)		13678F...[3]	(0.288)		124678/134678F	(0.28)		1234679F	(0.24)	
2468F	[0.472]	J	12368F...[3]	(0.288)		134679F	(0.28)		1234689F	(0.24)	
1346/1246F	(0.295)		14678F	(0.288)		124679F	(0.28)		1234789F	(0.358)	
1347F...[3]	(0.295)		13479F	(0.288)		124689F	(0.28)				
1348F	(0.295)		13469/12479F	(0.288)		123467F	(0.28)				
1248F...[3]	(0.295)		12346F	(0.288)		123478F	(0.288)				
1268F	(0.295)		23468/12469F	(0.288)		123678F	(0.267)				
1467F	(0.295)		12347F	(0.288)		123479F	(0.28)				
1478F	(0.295)		12348F	(0.288)		123469F	(0.28)				
1369/1237F	(0.295)		12378F	(0.278)		123679F	(0.28)				
2467F	(0.295)		12678/12367F	(0.288)		234678F	(0.246)		**Conc.**	0	
2368F	(0.295)		12379F	(0.288)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.295)		12679F	(0.288)		123689F	(0.28)				
1278F	[1.26]		23467/12369F	(0.288)		123789F	(0.346)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.295)		23478F	(0.298)		123789/123489F	0			**(pg/g)**	
1267F	(0.295)		23478/12489F	0		123489F	(0.28)		OCDF	(0.807)	
2346/1249F	(0.295)		12489F	(0.288)							
2347/1279F	(0.295)		12349F	(0.288)							
2348F	(0.295)		12389F	(0.288)							
2378F	2.14										
2367/3467F	(0.295)										
1269F	(0.295)										
1239F	(0.295)										
1289F	(0.295)										
Conc.	2.14		**Conc.**	0		**Conc.**	0				
EMPC	3.88		**EMPC**	0		**EMPC**	0				

Checkcode: 691-815-RDP

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-012022-S-BN-SW-B-22 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18874
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 01:11
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	0.815		0.981	0.815	0.815	0.815
12378-PeCDD	(0.414)		0.414	(0.207)	(0.414)	(0.414)
123478-HxCDD	(0.493)		0.493	(0.0493)	(0.0493)	(0.0493)
123678-HxCDD	[0.558]	J	0.487	[0.0558]	[0.0558]	[0.0558]
123789-HxCDD	[1.09]	J	0.503	[0.109]	[0.109]	[0.109]
1234678-HpCDD	21.6		0.609	0.216	0.216	0.216
OCDD	439		1.03	0.439	0.0439	0.132
2378-TCDF	2.14		0.295	0.214	0.214	0.214
12378-PeCDF	(0.278)		0.278	(0.0139)	(0.0139)	(0.00835)
23478-PeCDF	(0.298)		0.298	(0.149)	(0.149)	(0.0895)
123478-HxCDF	(0.288)		0.288	(0.0288)	(0.0288)	(0.0288)
123678-HxCDF	(0.267)		0.267	(0.0267)	(0.0267)	(0.0267)
234678-HxCDF	(0.246)		0.246	(0.0246)	(0.0246)	(0.0246)
123789-HxCDF	(0.346)		0.346	(0.0346)	(0.0346)	(0.0346)
1234678-HpCDF	(0.17)		0.17	(0.0017)	(0.0017)	(0.0017)
1234789-HpCDF	(0.358)		0.358	(0.00358)	(0.00358)	(0.00358)
OCDF	(0.807)		0.807	(0.000807)	(0.0000807)	(0.000242)

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TEQ Summaries			
EMPC = 0, ND = 0	1.68	1.29	1.38
EMPC = 0, ND = DL / 2	1.95	1.66	1.72
EMPC = 0, ND = DL	2.22	2.03	2.06
EMPC = 0, < J-level = 0	1.68	1.29	1.38
EMPC = EMPC, ND = 0	1.85	1.45	1.54
EMPC = EMPC, ND = DL / 2	2.12	1.83	1.88
EMPC = EMPC, ND = DL	2.39	2.2	2.22
EMPC = EMPC, < J-level = 0	1.68	1.29	1.38

Checkcode: 691-815-RDP

Sample ID: 11215131-011922-S-BN-SW-O-21 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6207_18874_DF_003	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	83.6 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:58:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	4,940			E	ES 2378-TCDD	70.7	
12378-PeCDD	49.4				ES 12378-PeCDD	72.4	
123478-HxCDD	2.23			J	ES 123478-HxCDD	85.2	
123678-HxCDD	10.7				ES 123678-HxCDD	93.8	
123789-HxCDD	4.62				ES 123789-HxCDD	81.6	
1234678-HpCDD	440				ES 1234678-HpCDD	80.3	
OCDD	6,440				ES OCDD	85.2	
2378-TCDF	11,600			E	ES 2378-TCDF	85.4	
12378-PeCDF	470				ES 12378-PeCDF	77.1	
23478-PeCDF	371				ES 23478-PeCDF	83.7	
123478-HxCDF	777				ES 123478-HxCDF	86.4	
123678-HxCDF	208				ES 123678-HxCDF	93.5	
234678-HxCDF	40.2				ES 234678-HxCDF	110	
123789-HxCDF	ND	0.418			ES 123789-HxCDF	86.4	
1234678-HpCDF	267				ES 1234678-HpCDF	88.1	
1234789-HpCDF	96.7				ES 1234789-HpCDF	84.5	
OCDF	208				ES OCDF	91.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	65.9	
Total TCDD	5,470		5,480	E	CS 12347-PeCDD	81.5	
Total PeCDD	65.6		71		CS 12346-PeCDF	79.2	
Total HxCDD	117		117		CS 123469-HxCDF	99.2	
Total HpCDD	1,160		1,160		CS 1234689-HpCDF	102	
Total TCDF	22,500		22,500	E			
Total PeCDF	1,320		1,320				
Total HxCDF	1,190		1,190				
Total HpCDF	501		501				
Total PCDD/Fs	**39,000**		**39,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	6390		6390				
TEQ: ND=DL/2	6390	0.891	6390				
TEQ: ND=DL	6390	1.78	6390				

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Sample ID: 11215131-011922-S-BN-SW-O-21 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6207_18874_DF_003	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	83.6 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:58:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	7.06		12479/12468D	3.71		124679/124689D	42.2		1234679D	722	
1379D	[2.64]		12469D	[2.39]	J	123468D	7.03		1234678D	440	
1369D	(0.585)		12368D	6.99		123679/123689D	36.8				
1469D	2.61		12478D	3.36		123469D	11				
1247D...[4]	7.67		12379D	2.2	J	123478D	2.23	J			
1378D	14.5		12369D...[3]	[1.15]	J	123678D	10.7				
1268D	(0.585)		12346/12347D	[0.881]	J	123467D	2.33	J			
1478D	12		12378D	49.4		123789D	4.62		**Conc.**	1,160	
1279D	(0.585)		12367D	[0.933]	J				**EMPC**	1,160	
1234/1269D	(0.585)		12389D	(0.669)							
1236D	(0.585)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	68.9										
1239D	(0.585)								OCDD	6440	
2378D	4940	E									
1278D	405										
1267D	12.7										
1289D	6.6										
Conc.	5,470		**Conc.**	65.6		**Conc.**	117				
EMPC	5,480		**EMPC**	71		**EMPC**	117				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	6,390	6,390
TEQ: ND=DL/2	6,390	6,390
TEQ: ND=DL	6,390	6,390

	Conc.	EMPC
Total PCDD/Fs	39,000	39,000

Checkcode: 690-051-YNY

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-O-21 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6207_18874_DF_003	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	83.6 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:58:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3		13468/12468F	10.2		123468F	8.84		1234678F	267	
1468F	22.2		13678F...[3]	6.73		124678/134678F	63.3		1234679F	(0.611)	
2468F	11		12368F...[3]	213		134679F	(0.393)		1234689F	138	
1346/1246F	(0.213)		14678F	(0.422)		124679F	(0.393)		1234789F	96.7	
1347F...[3]	153		13479F	(0.422)		124689F	34.5				
1348F	(0.213)		13469/12479F	(0.422)		123467F	4.61				
1248F...[3]	610		12346F	1.16	J	123478F	777				
1268F	188		23468/12469F	10.5		123678F	208				
1467F	24.1		12347F	9.94		123479F	(0.393)				
1478F	464		12348F	49.5		123469F	(0.393)				
1369/1237F	113		12378F	470		123679F	(0.393)				
2467F	13.4		12678/12367F	148		234678F	40.2		**Conc.**	501	
2368F	355		12379F	(0.422)		234678/123689F	0		**EMPC**	501	
1238F...[5]	527		12679F	[0.879]	J	123689F	(0.393)				
1278F	5280	E	23467/12369F	7.21		123789F	(0.418)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.213)		23478F	371		123789/123489F	0				
1267F	268		23478/12489F	0		123489F	53.3		OCDF	208	
2346/1249F	35.6		12489F	(0.422)							
2347/1279F	107		12349F	(0.422)							
2348F	850		12389F	18.2							
2378F	11600	E									
2367/3467F	831										
1269F	191										
1239F	14.8										
1289F	799										
Conc.	22,500		**Conc.**	1,320		**Conc.**	1,190				
EMPC	22,500		**EMPC**	1,320		**EMPC**	1,190				

Checkcode: 690-051-YNY

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-O-21 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 01:58
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	4940	E	0.585	4940	4940	4940
12378-PeCDD	49.4		0.669	24.7	49.4	49.4
123478-HxCDD	2.23	J	0.686	0.223	0.223	0.223
123678-HxCDD	10.7		0.611	1.07	1.07	1.07
123789-HxCDD	4.62		0.647	0.462	0.462	0.462
1234678-HpCDD	440		0.678	4.4	4.4	4.4
OCDD	6440		0.859	6.44	0.644	1.93
2378-TCDF	11600	E	0.213	1160	1160	1160
12378-PeCDF	470		0.445	23.5	23.5	14.1
23478-PeCDF	371		0.399	185	185	111
123478-HxCDF	777		0.401	77.7	77.7	77.7
123678-HxCDF	208		0.401	20.8	20.8	20.8
234678-HxCDF	40.2		0.366	4.02	4.02	4.02
123789-HxCDF	(0.418)		0.418	(0.0418)	(0.0418)	(0.0418)
1234678-HpCDF	267		0.496	2.67	2.67	2.67
1234789-HpCDF	96.7		0.752	0.967	0.967	0.967
OCDF	208		0.967	0.208	0.0208	0.0625

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TEQ Summaries			
EMPC = 0, ND = 0	6450	6470	6390
EMPC = 0, ND = DL / 2	6450	6470	6390
EMPC = 0, ND = DL	6450	6470	6390
EMPC = 0, < J-level = 0	6450	6470	6390
EMPC = EMPC, ND = 0	6450	6470	6390
EMPC = EMPC, ND = DL / 2	6450	6470	6390
EMPC = EMPC, ND = DL	6450	6470	6390
EMPC = EMPC, < J-level = 0	6450	6470	6390

Checkcode: 690-051-YNY

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Sample ID: 11215131-011922-S-BN-SW-B-23 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID	B6207_18874_DF_004	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	80.2 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:44:40

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		3.86		ES 2378-TCDD	84.3	
12378-PeCDD	ND	0.757			ES 12378-PeCDD	96.7	
123478-HxCDD	ND	0.483			ES 123478-HxCDD	93.8	
123678-HxCDD	ND	0.421			ES 123678-HxCDD	108	
123789-HxCDD	1.34			J	ES 123789-HxCDD	86.6	
1234678-HpCDD	18.6				ES 1234678-HpCDD	94.4	
OCDD	525				ES OCDD	90.4	
2378-TCDF	10.4				ES 2378-TCDF	79.5	
12378-PeCDF	ND	0.385			ES 12378-PeCDF	87.1	
23478-PeCDF	0.68			J	ES 23478-PeCDF	81.8	
123478-HxCDF	0.986			J	ES 123478-HxCDF	85.5	
123678-HxCDF	ND	0.251			ES 123678-HxCDF	99.9	
234678-HxCDF	ND	0.229			ES 234678-HxCDF	121	
123789-HxCDF	ND	0.324			ES 123789-HxCDF	84.1	
1234678-HpCDF	0.403			J	ES 1234678-HpCDF	122	
1234789-HpCDF	ND	0.665			ES 1234789-HpCDF	81.9	
OCDF	ND	0.557			ES OCDF	79.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.5	
Total TCDD	ND		6.49		CS 12347-PeCDD	103	
Total PeCDD	1.96		3.16		CS 12346-PeCDF	92.6	
Total HxCDD	20.6		20.6		CS 123469-HxCDF	106	
Total HpCDD	67.1		67.1		CS 1234689-HpCDF	114	
Total TCDF	20.4		22.7				
Total PeCDF	0.68		0.68				
Total HxCDF	0.986		0.986				
Total HpCDF	0.403		0.403				
Total PCDD/Fs	**637**		**647**				
WHO-2005 TEQs							
TEQ: ND=0	1.82		5.69				
TEQ: ND=DL/2	2.3	0.882	6.16				
TEQ: ND=DL	2.77	1.76	6.63				

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Sample ID: 11215131-011922-S-BN-SW-B-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6207_18874_DF_004	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	80.2 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:44:40

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.537)		12479/12468D	(0.757)		124679/124689D	15.5		1234679D	48.5	
1379D	(0.537)		12469D	1.96	J	123468D	(0.468)		1234678D	18.6	
1369D	(0.537)		12368D	(0.757)		123679/123689D	3.75				
1469D	[2.63]		12478D	(0.757)		123469D	(0.468)				
1247D...[4]	(0.537)		12379D	[1.2]	J	123478D	(0.483)				
1378D	(0.537)		12369D...[3]	(0.757)		123678D	(0.421)				
1268D	(0.537)		12346/12347D	(0.757)		123467D	(0.468)				
1478D	(0.537)		12378D	(0.757)		123789D	1.34	J	**Conc.**	67.1	
1279D	(0.537)		12367D	(0.757)					**EMPC**	67.1	
1234/1269D	(0.537)		12389D	(0.757)							
1236D	(0.537)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.537)										
1239D	(0.537)								OCDD	525	
2378D	[3.86]										
1278D	(0.537)										
1267D	(0.537)										
1289D	(0.537)										
Conc.	0		**Conc.**	1.96		**Conc.**	20.6				
EMPC	6.49		**EMPC**	3.16		**EMPC**	20.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1.82	5.69
TEQ: ND=DL/2	2.3	6.16
TEQ: ND=DL	2.77	6.63

	Conc.	EMPC
Total PCDD/Fs	637	647

Checkcode: 023-780-HCQ

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-B-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6207_18874_DF_004	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	80.2 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:44:40

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.57)		13468/12468F	(0.364)		123468F	(0.264)		1234678F	0.403	J
1468F	(0.57)		13678F...[3]	(0.416)		124678/134678F	(0.264)		1234679F	(0.476)	
2468F	[1.38]		12368F...[3]	(0.416)		134679F	(0.264)		1234689F	(0.476)	
1346/1246F	(0.57)		14678F	(0.416)		124679F	(0.264)		1234789F	(0.665)	
1347F...[3]	(0.57)		13479F	(0.416)		124689F	(0.264)				
1348F	(0.57)		13469/12479F	(0.416)		123467F	(0.264)				
1248F...[3]	(0.57)		12346F	(0.416)		123478F	0.986	J			
1268F	(0.57)		23468/12469F	(0.416)		123678F	(0.251)				
1467F	(0.57)		12347F	(0.416)		123479F	(0.264)				
1478F	(0.57)		12348F	(0.416)		123469F	(0.264)				
1369/1237F	(0.57)		12378F	(0.385)		123679F	(0.264)				
2467F	(0.57)		12678/12367F	(0.416)		234678F	(0.229)		**Conc.**	0.403	
2368F	(0.57)		12379F	(0.416)		234678/123689F	0		**EMPC**	0.403	
1238F...[5]	1.42		12679F	(0.416)		123689F	(0.264)				
1278F	5		23467/12369F	(0.416)		123789F	(0.324)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.57)		23478F	0.68	J	123789/123489F	0				
1267F	(0.57)		23478/12489F	0		123489F	(0.264)		OCDF	(0.557)	
2346/1249F	(0.57)		12489F	(0.416)							
2347/1279F	(0.57)		12349F	(0.416)							
2348F	2.44		12389F	(0.416)							
2378F	10.4										
2367/3467F	1.14										
1269F	(0.57)										
1239F	(0.57)										
1289F	[0.877]										
Conc.	20.4		**Conc.**	0.68		**Conc.**	0.986				
EMPC	22.7		**EMPC**	0.68		**EMPC**	0.986				

Checkcode: 023-780-HCQ

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-B-23 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 02:44
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	[3.86]		0.537	[3.86]	[3.86]	[3.86]
12378-PeCDD	(0.757)		0.757	(0.379)	(0.757)	(0.757)
123478-HxCDD	(0.483)		0.483	(0.0483)	(0.0483)	(0.0483)
123678-HxCDD	(0.421)		0.421	(0.0421)	(0.0421)	(0.0421)
123789-HxCDD	1.34	J	0.507	0.134	0.134	0.134
1234678-HpCDD	18.6		0.584	0.186	0.186	0.186
OCDD	525		0.874	0.525	0.0525	0.158
2378-TCDF	10.4		0.57	1.04	1.04	1.04
12378-PeCDF	(0.385)		0.385	(0.0193)	(0.0193)	(0.0116)
23478-PeCDF	0.68	J	0.449	0.34	0.34	0.204
123478-HxCDF	0.986	J	0.28	0.0986	0.0986	0.0986
123678-HxCDF	(0.251)		0.251	(0.0251)	(0.0251)	(0.0251)
234678-HxCDF	(0.229)		0.229	(0.0229)	(0.0229)	(0.0229)
123789-HxCDF	(0.324)		0.324	(0.0324)	(0.0324)	(0.0324)
1234678-HpCDF	0.403	J	0.365	0.00403	0.00403	0.00403
1234789-HpCDF	(0.665)		0.665	(0.00665)	(0.00665)	(0.00665)
OCDF	(0.557)		0.557	(0.000557)	(0.0000557)	(0.000167)

TEQ Summaries			
EMPC = 0, ND = 0	2.33	1.85	1.82
EMPC = 0, ND = DL / 2	2.62	2.33	2.3
EMPC = 0, ND = DL	2.9	2.81	2.77
EMPC = 0, < J-level = 0	1.75	1.28	1.38
EMPC = EMPC, ND = 0	6.19	5.72	5.69
EMPC = EMPC, ND = DL / 2	6.48	6.2	6.16
EMPC = EMPC, ND = DL	6.77	6.67	6.63
EMPC = EMPC, < J-level = 0	5.61	5.14	5.25

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Checkcode: 023-780-HCQ

Sample ID: 11215131-011922-S-BN-SW-O-19 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6207_18874_DF_005	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	80.5 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:31:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	330				ES 2378-TCDD	86.9	
12378-PeCDD	4.39				ES 12378-PeCDD	94	
123478-HxCDD	1.63			J	ES 123478-HxCDD	99.5	
123678-HxCDD	EMPC		2.07	J	ES 123678-HxCDD	114	
123789-HxCDD	EMPC		1.96	J	ES 123789-HxCDD	90.6	
1234678-HpCDD	186				ES 1234678-HpCDD	96.6	
OCDD	17,000			E	ES OCDD	135	
2378-TCDF	906				ES 2378-TCDF	87.5	
12378-PeCDF	43.7				ES 12378-PeCDF	87.4	
23478-PeCDF	32.2				ES 23478-PeCDF	92.9	
123478-HxCDF	88.2				ES 123478-HxCDF	91.5	
123678-HxCDF	21.9				ES 123678-HxCDF	107	
234678-HxCDF	EMPC		4.12		ES 234678-HxCDF	125	
123789-HxCDF	ND	0.298			ES 123789-HxCDF	90.5	
1234678-HpCDF	29.1				ES 1234678-HpCDF	124	
1234789-HpCDF	9.42				ES 1234789-HpCDF	97.4	
OCDF	42.3				ES OCDF	100	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.9	
Total TCDD	358		366		CS 12347-PeCDD	105	
Total PeCDD	5.68		8.47		CS 12346-PeCDF	95.8	
Total HxCDD	23.1		28.8		CS 123469-HxCDF	117	
Total HpCDD	459		459		CS 1234689-HpCDF	127	
Total TCDF	1,700		1,720				
Total PeCDF	114		120				
Total HxCDF	125		134				
Total HpCDF	53.8		53.8				
Total PCDD/Fs	**19,900**		**20,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	454		455				
TEQ: ND=DL/2	454	0.634	455				
TEQ: ND=DL	454	1.27	455				

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Sample ID: 11215131-011922-S-BN-SW-O-19 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6207_18874_DF_005	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	80.5 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:31:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.7]		12479/12468D	[1.2]	J	124679/124689D	11.1		1234679D	274	
1379D	(0.466)		12469D	1.3	J	123468D	[1.06]	J	1234678D	186	
1369D	(0.466)		12368D	[0.769]	J	123679/123689D	10.4				
1469D	[0.797]		12478D	(0.486)		123469D	(0.298)				
1247D...[4]	[0.489]	J	12379D	(0.486)		123478D	1.63	J			
1378D	[1.02]		12369D...[3]	[0.817]	J	123678D	[2.07]	J			
1268D	(0.466)		12346/12347D	(0.486)		123467D	[0.575]	J			
1478D	[0.5]		12378D	4.39		123789D	[1.96]	J	**Conc.**	459	
1279D	(0.466)		12367D	(0.486)					**EMPC**	459	
1234/1269D	(0.466)		12389D	(0.486)							
1236D	(0.466)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	[4.43]									**(pg/g)**	
1239D	(0.466)								OCDD	17000	E
2378D	330										
1278D	28.4										
1267D	(0.466)										
1289D	(0.466)										
Conc.	358		**Conc.**	5.68		**Conc.**	23.1				
EMPC	366		**EMPC**	8.47		**EMPC**	28.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	454	455
TEQ: ND=DL/2	454	455
TEQ: ND=DL	454	455

	Conc.	EMPC
Total PCDD/Fs	19,900	20,000

Checkcode: 624-922-YFV

Report Created: 04-Feb-2022 08:12 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-O-19 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received: 21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6207_18874_DF_005	Date Extracted: 31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	80.5 %	QC Batch No.:	18874	Date Analyzed: 03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 3:31:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.323)		13468/12468F	2.33	J	123468F	1.74	J	1234678F	29.1	
1468F	1.72		13678F...[3]	[0.631]	J	124678/134678F	9.03		1234679F	0.823	J
2468F	2.45		12368F...[3]	20.3		134679F	(0.247)		1234689F	14.5	
1346/1246F	(0.323)		14678F	(0.269)		124679F	(0.247)		1234789F	9.42	
1347F...[3]	10.7		13479F	(0.269)		124689F	3.63				
1348F	(0.323)		13469/12479F	(0.269)		123467F	(0.247)				
1248F...[3]	42.8		12346F	(0.269)		123478F	88.2				
1268F	[12.3]		23468/12469F	[0.847]	J	123678F	21.9				
1467F	2.09		12347F	1.17	J	123479F	(0.247)				
1478F	34.8		12348F	[3.29]		123469F	(0.247)				
1369/1237F	10.4		12378F	43.7		123679F	(0.247)				
2467F	0.817		12678/12367F	13.1		234678F	[4.12]		**Conc.**	53.8	
2368F	(0.323)		12379F	(0.269)		234678/123689F	0		**EMPC**	53.8	
1238F...[5]	71.9		12679F	(0.269)		123689F	(0.247)				
1278F	380		23467/12369F	[0.666]	J	123789F	(0.298)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.323)		23478F	32.2		123789/123489F	0				
1267F	21.2		23478/12489F	0		123489F	[5.24]		OCDF	42.3	
2346/1249F	2.43		12489F	(0.269)							
2347/1279F	11.6		12349F	(0.269)							
2348F	52.3		12389F	1.54	J						
2378F	906										
2367/3467F	72.5										
1269F	13.5										
1239F	(0.323)										
1289F	65.8										
Conc.	1,700		**Conc.**	114		**Conc.**	125				
EMPC	1,720		**EMPC**	120		**EMPC**	134				

Checkcode: 624-922-YFV

Report Created: 04-Feb-2022 08:12 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-O-19 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 03:31
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	330		0.466	330	330	330
12378-PeCDD	4.39		0.486	2.19	4.39	4.39
123478-HxCDD	1.63	J	0.319	0.163	0.163	0.163
123678-HxCDD	[2.07]	J	0.273	[0.207]	[0.207]	[0.207]
123789-HxCDD	[1.96]	J	0.306	[0.196]	[0.196]	[0.196]
1234678-HpCDD	186		0.353	1.86	1.86	1.86
OCDD	17000	E	0.588	17	1.7	5.11
2378-TCDF	906		0.323	90.6	90.6	90.6
12378-PeCDF	43.7		0.286	2.18	2.18	1.31
23478-PeCDF	32.2		0.253	16.1	16.1	9.67
123478-HxCDF	88.2		0.258	8.82	8.82	8.82
123678-HxCDF	21.9		0.233	2.19	2.19	2.19
234678-HxCDF	[4.12]		0.22	[0.412]	[0.412]	[0.412]
123789-HxCDF	(0.298)		0.298	(0.0298)	(0.0298)	(0.0298)
1234678-HpCDF	29.1		0.18	0.291	0.291	0.291
1234789-HpCDF	9.42		0.318	0.0942	0.0942	0.0942
OCDF	42.3		0.596	0.0423	0.00423	0.0127

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TEQ Summaries			
EMPC = 0, ND = 0	471	458	454
EMPC = 0, ND = DL / 2	471	458	454
EMPC = 0, ND = DL	471	458	454
EMPC = 0, < J-level = 0	471	458	454
EMPC = EMPC, ND = 0	472	459	455
EMPC = EMPC, ND = DL / 2	472	459	455
EMPC = EMPC, ND = DL	472	459	455
EMPC = EMPC, < J-level = 0	472	459	455

Checkcode: 624-922-YFV

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Sample ID: 11215131-011922-S-BN-SW-B-21 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6207_18874_DF_006	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	70.2 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:17:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	4,450			E	ES 2378-TCDD	92	
12378-PeCDD	45.9				ES 12378-PeCDD	99.5	
123478-HxCDD	3.64				ES 123478-HxCDD	98.5	
123678-HxCDD	14.1				ES 123678-HxCDD	108	
123789-HxCDD	7.4				ES 123789-HxCDD	100	
1234678-HpCDD	372				ES 1234678-HpCDD	106	
OCDD	5,770				ES OCDD	109	
2378-TCDF	12,300			E	ES 2378-TCDF	101	
12378-PeCDF	1,000				ES 12378-PeCDF	100	
23478-PeCDF	512				ES 23478-PeCDF	116	
123478-HxCDF	2,040				ES 123478-HxCDF	109	
123678-HxCDF	545				ES 123678-HxCDF	108	
234678-HxCDF	111				ES 234678-HxCDF	117	
123789-HxCDF	ND	0.854			ES 123789-HxCDF	101	
1234678-HpCDF	595				ES 1234678-HpCDF	113	
1234789-HpCDF	218				ES 1234789-HpCDF	110	
OCDF	4,980				ES OCDF	121	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.3	
Total TCDD	5,010		5,020	E	CS 12347-PeCDD	101	
Total PeCDD	78		82.4		CS 12346-PeCDF	104	
Total HxCDD	150		150		CS 123469-HxCDF	109	
Total HpCDD	794		794		CS 1234689-HpCDF	117	
Total TCDF	23,500		23,500	E			
Total PeCDF	2,330		2,330				
Total HxCDF	3,210		3,210				
Total HpCDF	1,080		1,080				
Total PCDD/Fs	**46,900**		**46,900**	E			
WHO-2005 TEQs							
TEQ: ND=0	6200		6200				
TEQ: ND=DL/2	6200	0.848	6200				
TEQ: ND=DL	6200	1.7	6200				

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Sample ID: 11215131-011922-S-BN-SW-B-21 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6207_18874_DF_006	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	70.2 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:17:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	8.22		12479/12468D	10.2		124679/124689D	62.1		1234679D	423	
1379D	[2.48]		12469D	[3.53]		123468D	8.45		1234678D	372	
1369D	(0.475)		12368D	7.93		123679/123689D	49				
1469D	4.12		12478D	4.16		123469D	3.02				
1247D...[4]	7.54		12379D	2.69		123478D	3.64				
1378D	14.4		12369D...[3]	3.85		123678D	14.1				
1268D	[1.29]		12346/12347D	1.23	J	123467D	2.67				
1478D	12.5		12378D	45.9		123789D	7.4		**Conc.**	794	
1279D	(0.475)		12367D	1.96	J				**EMPC**	794	
1234/1269D	3.75		12389D	[0.855]	J						
1236D	(0.475)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	70									**(pg/g)**	
1239D	(0.475)								OCDD	5770	
2378D	4450	E									
1278D	424										
1267D	12.8										
1289D	6.22										
Conc.	5,010		**Conc.**	78		**Conc.**	150				
EMPC	5,020		**EMPC**	82.4		**EMPC**	150				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	6,200	6,200
TEQ: ND=DL/2	6,200	6,200
TEQ: ND=DL	6,200	6,200

	Conc.	EMPC
Total PCDD/Fs	46,900	46,900

Checkcode: 172-253-WDW

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-B-21 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received: 21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6207_18874_DF_006	Date Extracted: 31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	70.2 %	QC Batch No.:	18874	Date Analyzed: 03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 4:17:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3.26		13468/12468F	37.6		123468F	22		1234678F	595	
1468F	20.2		13678F...[3]	8.9		124678/134678F	186		1234679F	17.8	
2468F	18		12368F...[3]	392		134679F	(0.742)		1234689F	253	
1346/1246F	(0.281)		14678F	(0.465)		124679F	2.57		1234789F	218	
1347F...[3]	124		13479F	(0.465)		124689F	113				
1348F	(0.281)		13469/12479F	2.5		123467F	11.2				
1248F...[3]	486		12346F	(0.465)		123478F	2040				
1268F	171		23468/12469F	14.2		123678F	545				
1467F	28		12347F	10.6		123479F	(0.742)				
1478F	426		12348F	51.8		123469F	(0.742)				
1369/1237F	126		12378F	1000		123679F	(0.742)				
2467F	12.3		12678/12367F	264		234678F	111		**Conc.**	1,080	
2368F	872		12379F	(0.465)		234678/123689F	0		**EMPC**	1,080	
1238F...[5]	(0.281)		12679F	[1.64]	J	123689F	(0.742)				
1278F	5620	E	23467/12369F	7.31		123789F	(0.854)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.281)		23478F	512		123789/123489F	0				
1267F	280		23478/12489F	0		123489F	177		OCDF	4980	
2346/1249F	34		12489F	(0.465)							
2347/1279F	126		12349F	(0.465)							
2348F	807		12389F	26.3							
2378F	12300	E									
2367/3467F	952										
1269F	179										
1239F	14.3										
1289F	887										
Conc.	23,500		**Conc.**	2,330		**Conc.**	3,210				
EMPC	23,500		**EMPC**	2,330		**EMPC**	3,210				

Checkcode: 172-253-WDW

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-B-21 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 04:17
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	4450	E	0.475	4450	4450	4450
12378-PeCDD	45.9		0.519	23	45.9	45.9
123478-HxCDD	3.64		0.802	0.364	0.364	0.364
123678-HxCDD	14.1		0.698	1.41	1.41	1.41
123789-HxCDD	7.4		0.703	0.74	0.74	0.74
1234678-HpCDD	372		0.588	3.72	3.72	3.72
OCDD	5770		1.06	5.77	0.577	1.73
2378-TCDF	12300	E	0.281	1230	1230	1230
12378-PeCDF	1000		0.525	50.2	50.2	30.1
23478-PeCDF	512		0.412	256	256	154
123478-HxCDF	2040		0.713	204	204	204
123678-HxCDF	545		0.68	54.5	54.5	54.5
234678-HxCDF	111		0.743	11.1	11.1	11.1
123789-HxCDF	(0.854)		0.854	(0.0854)	(0.0854)	(0.0854)
1234678-HpCDF	595		0.332	5.95	5.95	5.95
1234789-HpCDF	218		0.514	2.18	2.18	2.18
OCDF	4980		0.589	4.98	0.498	1.49

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TEQ Summaries			
EMPC = 0, ND = 0	6310	6320	6200
EMPC = 0, ND = DL / 2	6310	6320	6200
EMPC = 0, ND = DL	6310	6320	6200
EMPC = 0, < J-level = 0	6310	6320	6200
EMPC = EMPC, ND = 0	6310	6320	6200
EMPC = EMPC, ND = DL / 2	6310	6320	6200
EMPC = EMPC, ND = DL	6310	6320	6200
EMPC = EMPC, < J-level = 0	6310	6320	6200

Checkcode: 172-253-WDW

Sample ID: 11215131-011922-S-BN-SW-B-21-MS

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID	B6207_18874_DF_006MS	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	70.2 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:03:39

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	3,220			E	ES 2378-TCDD	84.9	
12378-PeCDD	125				ES 12378-PeCDD	89.9	
123478-HxCDD	107				ES 123478-HxCDD	82.7	
123678-HxCDD	120				ES 123678-HxCDD	85.3	
123789-HxCDD	107				ES 123789-HxCDD	83.4	
1234678-HpCDD	467				ES 1234678-HpCDD	88	
OCDD	6,160				ES OCDD	90.7	
2378-TCDF	8,990			E	ES 2378-TCDF	87.6	
12378-PeCDF	840				ES 12378-PeCDF	91.3	
23478-PeCDF	561				ES 23478-PeCDF	93.2	
123478-HxCDF	1,680				ES 123478-HxCDF	93	
123678-HxCDF	500				ES 123678-HxCDF	92.2	
234678-HxCDF	193				ES 234678-HxCDF	82.9	
123789-HxCDF	240				ES 123789-HxCDF	91.6	
1234678-HpCDF	621				ES 1234678-HpCDF	101	
1234789-HpCDF	273				ES 1234789-HpCDF	94.1	
OCDF	6,710				ES OCDF	99.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	71.9	
Total TCDD	3,670		3,690	E	CS 12347-PeCDD	90	
Total PeCDD	206		209		CS 12346-PeCDF	88.5	
Total HxCDD	504		504		CS 123469-HxCDF	92.3	
Total HpCDD	970		970		CS 1234689-HpCDF	101	
Total TCDF	17,200		17,200	E			
Total PeCDF	2,290		2,290				
Total HxCDF	3,160		3,160				
Total HpCDF	1,140		1,140				
Total PCDD/Fs	**42,100**		**42,100**	E			
WHO-2005 TEQs							
TEQ: ND=0	4750		4750				
TEQ: ND=DL/2	4750	0.885	4750				
TEQ: ND=DL	4750	1.77	4750				

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Sample ID: 11215131-011922-S-BN-SW-B-21-MSD

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6207_18874_DF_006MSD	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	70.2 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:49:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	4,000			E	ES 2378-TCDD	81.7	
12378-PeCDD	131				ES 12378-PeCDD	89.2	
123478-HxCDD	110				ES 123478-HxCDD	84.1	
123678-HxCDD	120				ES 123678-HxCDD	91.9	
123789-HxCDD	107				ES 123789-HxCDD	85.9	
1234678-HpCDD	471				ES 1234678-HpCDD	88.4	
OCDD	5,640				ES OCDD	95.6	
2378-TCDF	11,100			E	ES 2378-TCDF	83.3	
12378-PeCDF	755				ES 12378-PeCDF	89.1	
23478-PeCDF	511				ES 23478-PeCDF	94.7	
123478-HxCDF	1,420				ES 123478-HxCDF	91.1	
123678-HxCDF	428				ES 123678-HxCDF	96	
234678-HxCDF	172				ES 234678-HxCDF	93.2	
123789-HxCDF	213				ES 123789-HxCDF	87.4	
1234678-HpCDF	556				ES 1234678-HpCDF	102	
1234789-HpCDF	264				ES 1234789-HpCDF	96.2	
OCDF	4,330				ES OCDF	106	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.3	
Total TCDD	4,560		4,580	E	CS 12347-PeCDD	94.6	
Total PeCDD	214		217		CS 12346-PeCDF	90.3	
Total HxCDD	482		482		CS 123469-HxCDF	99.3	
Total HpCDD	913		913		CS 1234689-HpCDF	111	
Total TCDF	21,400		21,400	E			
Total PeCDF	2,090		2,090				
Total HxCDF	2,720		2,720				
Total HpCDF	1,030		1,030				
Total PCDD/Fs	**43,400**		**43,400**	E			
WHO-2005 TEQs							
TEQ: ND=0	5690		5690				
TEQ: ND=DL/2	5690	0.788	5690				
TEQ: ND=DL	5690	1.58	5690				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-011922-S-BN-SW-B-21

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	4450	20	3220	-6130	19.8	4000	-2270	*
1,2,3,7,8-PeCDD	45.9	99.9	125	78.7	99	131	85.7	9%
1,2,3,4,7,8-HxCDD	3.64	99.9	107	103	99	110	108	5%
1,2,3,6,7,8-HxCDD	14.1	99.9	120	106	99	120	107	1%
1,2,3,7,8,9-HxCDD	7.4	99.9	107	99.6	99	107	100	0%
1,2,3,4,6,7,8-HpCDD	372	99.9	467	95.7	99	471	101	5%
OCDD	5770	200	6160	191	198	5640	-69.9	*
2,3,7,8-TCDF	12300	20	8990	-16700	19.8	11100	-6210	*
1,2,3,7,8-PeCDF	1000	99.9	840	-164	99	755	-251	*
2,3,4,7,8-PeCDF	512	99.9	561	48.6	99	511	-0.845	*
1,2,3,4,7,8-HxCDF	2040	99.9	1680	-356	99	1420	-623	*
1,2,3,6,7,8-HxCDF	545	99.9	500	-44.4	99	428	-118	*
2,3,4,6,7,8-HxCDF	111	99.9	193	81.7	99	172	61.8	28%
1,2,3,7,8,9-HxCDF	0	99.9	240	241	99	213	215	11%
1,2,3,4,6,7,8-HpCDF	595	99.9	621	25.2	99	556	-39.4	*
1,2,3,4,7,8,9-HpCDF	218	99.9	273	55.1	99	264	46.4	17%
OCDF	4980	200	6710	863	198	4330	-331	*

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-011922-S-BN-SW-O-18 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID	B6207_18874_DF_007	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	86.2 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:36:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	7.97				ES 2378-TCDD	82	
12378-PeCDD	EMPC		1.29	J	ES 12378-PeCDD	96.7	
123478-HxCDD	2.17			J	ES 123478-HxCDD	90	
123678-HxCDD	10.7				ES 123678-HxCDD	98.6	
123789-HxCDD	6.73				ES 123789-HxCDD	86.1	
1234678-HpCDD	483				ES 1234678-HpCDD	97.7	
OCDD	4,260				ES OCDD	109	
2378-TCDF	68.3				ES 2378-TCDF	80.2	
12378-PeCDF	EMPC		3.26		ES 12378-PeCDF	87.7	
23478-PeCDF	8.49				ES 23478-PeCDF	89.7	
123478-HxCDF	6.5				ES 123478-HxCDF	96.2	
123678-HxCDF	3.76				ES 123678-HxCDF	101	
234678-HxCDF	3.88				ES 234678-HxCDF	102	
123789-HxCDF	ND	0.516			ES 123789-HxCDF	95.3	
1234678-HpCDF	31.9				ES 1234678-HpCDF	104	
1234789-HpCDF	3.78				ES 1234789-HpCDF	107	
OCDF	102				ES OCDF	114	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.8	
Total TCDD	9.24		9.24		CS 12347-PeCDD	104	
Total PeCDD	5.75		9.34		CS 12346-PeCDF	94.1	
Total HxCDD	103		103		CS 123469-HxCDF	111	
Total HpCDD	937		937		CS 1234689-HpCDF	125	
Total TCDF	120		132				
Total PeCDF	37.5		42.5				
Total HxCDF	53.2		54.5				
Total HpCDF	103		103				
Total PCDD/Fs	**5,730**		**5,750**				
WHO-2005 TEQs							
TEQ: ND=0	27.2		28.6				
TEQ: ND=DL/2	27.2	0.665	28.6				
TEQ: ND=DL	27.3	1.33	28.7				

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Sample ID: 11215131-011922-S-BN-SW-O-18 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6207_18874_DF_007	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	86.2 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:36:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.27		12479/12468D	[2.31]	J	124679/124689D	28.7		1234679D	454	
1379D	(0.41)		12469D	1.73	J	123468D	4.06		1234678D	483	
1369D	(0.41)		12368D	1.19	J	123679/123689D	47.1				
1469D	(0.41)		12478D	1.28	J	123469D	2.63				
1247D...[4]	(0.41)		12379D	(0.446)		123478D	2.17	J			
1378D	(0.41)		12369D...[3]	1.55	J	123678D	10.7				
1268D	(0.41)		12346/12347D	(0.446)		123467D	1.26	J			
1478D	(0.41)		12378D	[1.29]	J	123789D	6.73		**Conc.**	937	
1279D	(0.41)		12367D	(0.446)					**EMPC**	937	
1234/1269D	(0.41)		12389D	(0.446)							
1236D	(0.41)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.41)										
1239D	(0.41)								OCDD	4260	
2378D	7.97										
1278D	(0.41)										
1267D	(0.41)										
1289D	(0.41)										
Conc.	9.24		**Conc.**	5.75		**Conc.**	103				
EMPC	9.24		**EMPC**	9.34		**EMPC**	103				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	27.2	28.6
TEQ: ND=DL/2	27.2	28.6
TEQ: ND=DL	27.3	28.7

	Conc.	EMPC
Total PCDD/Fs	5,730	5,750

Checkcode: 703-404-QGW

Report Created: 03-Feb-2022 13:45 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-O-18 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6207_18874_DF_007	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	86.2 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:36:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.42)		13468/12468F	11.2		123468F	4.17		1234678F	31.9	
1468F	[1.13]		13678F...[3]	2.5		124678/134678F	18.2		1234679F	2.04	J
2468F	2.87		12368F...[3]	9.89		134679F	(0.449)		1234689F	65.2	
1346/1246F	(0.42)		14678F	(0.307)		124679F	1.07	J	1234789F	3.78	
1347F...[3]	3.06		13479F	(0.307)		124689F	14.7				
1348F	(0.42)		13469/12479F	(0.307)		123467F	[1.33]	J			
1248F...[3]	[2.2]		12346F	(0.307)		123478F	6.5				
1268F	2.11		23468/12469F	2.69		123678F	3.76				
1467F	[0.867]		12347F	[0.518]	J	123479F	(0.449)				
1478F	2.17		12348F	(0.307)		123469F	(0.449)				
1369/1237F	1.13		12378F	[3.26]		123679F	(0.449)				
2467F	1.19		12678/12367F	2.7		234678F	3.88		**Conc.**	103	
2368F	6.13		12379F	(0.307)		234678/123689F	0		**EMPC**	103	
1238F...[5]	(0.42)		12679F	(0.307)		123689F	(0.449)				
1278F	11.2		23467/12369F	[1.2]	J	123789F	(0.516)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.42)		23478F	8.49		123789/123489F	0				
1267F	1.47		23478/12489F	0		123489F	0.982	J	OCDF	102	
2346/1249F	(0.42)		12489F	(0.307)							
2347/1279F	[2.41]		12349F	(0.307)							
2348F	[3.23]		12389F	(0.307)							
2378F	68.3										
2367/3467F	20.1										
1269F	(0.42)										
1239F	(0.42)										
1289F	[2]										
Conc.	120		**Conc.**	37.5		**Conc.**	53.2				
EMPC	132		**EMPC**	42.5		**EMPC**	54.5				

Checkcode: 703-404-QGW

Report Created: 03-Feb-2022 13:45 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-O-18 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 06:36
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	7.97		0.41	7.97	7.97	7.97
12378-PeCDD	[1.29]	J	0.446	[0.643]	[1.29]	[1.29]
123478-HxCDD	2.17	J	0.475	0.217	0.217	0.217
123678-HxCDD	10.7		0.467	1.07	1.07	1.07
123789-HxCDD	6.73		0.471	0.673	0.673	0.673
1234678-HpCDD	483		0.391	4.83	4.83	4.83
OCDD	4260		0.705	4.26	0.426	1.28
2378-TCDF	68.3		0.42	6.83	6.83	6.83
12378-PeCDF	[3.26]		0.323	[0.163]	[0.163]	[0.0979]
23478-PeCDF	8.49		0.291	4.24	4.24	2.55
123478-HxCDF	6.5		0.435	0.65	0.65	0.65
123678-HxCDF	3.76		0.415	0.376	0.376	0.376
234678-HxCDF	3.88		0.443	0.388	0.388	0.388
123789-HxCDF	(0.516)		0.516	(0.0516)	(0.0516)	(0.0516)
1234678-HpCDF	31.9		0.285	0.319	0.319	0.319
1234789-HpCDF	3.78		0.466	0.0378	0.0378	0.0378
OCDF	102		0.499	0.102	0.0102	0.0307

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TEQ Summaries			
EMPC = 0, ND = 0	32	28	27.2
EMPC = 0, ND = DL / 2	32	28.1	27.2
EMPC = 0, ND = DL	32	28.1	27.3
EMPC = 0, < J-level = 0	31.8	27.8	27
EMPC = EMPC, ND = 0	32.8	29.5	28.6
EMPC = EMPC, ND = DL / 2	32.8	29.5	28.6
EMPC = EMPC, ND = DL	32.8	29.5	28.7
EMPC = EMPC, < J-level = 0	31.9	28	27.1

Checkcode: 703-404-QGW

Sample ID: 11215131-011922-S-BN-SW-B-20 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID	B6207_18874_DF_008	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	61.9 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:22:40

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	20,100			E	ES 2378-TCDD	79.6	
12378-PeCDD	196				ES 12378-PeCDD	92.2	
123478-HxCDD	5.19				ES 123478-HxCDD	83.4	
123678-HxCDD	27.2				ES 123678-HxCDD	85.1	
123789-HxCDD	8.06				ES 123789-HxCDD	85.8	
1234678-HpCDD	965				ES 1234678-HpCDD	88.6	
OCDD	15,900			E	ES OCDD	92.9	
2378-TCDF	53,700			E	ES 2378-TCDF	68.4	
12378-PeCDF	3,060				ES 12378-PeCDF	88.5	
23478-PeCDF	1,880			PR	ES 23478-PeCDF	87.5	
123478-HxCDF	4,830				ES 123478-HxCDF	92.5	
123678-HxCDF	1,150				ES 123678-HxCDF	93.8	
234678-HxCDF	257				ES 234678-HxCDF	81.8	
123789-HxCDF	ND	1.12			ES 123789-HxCDF	91.4	
1234678-HpCDF	1,250				ES 1234678-HpCDF	100	
1234789-HpCDF	493				ES 1234789-HpCDF	92.5	
OCDF	1,820				ES OCDF	93.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	65.2	
Total TCDD	22,500		22,500	E	CS 12347-PeCDD	98.5	
Total PeCDD	264		267		CS 12346-PeCDF	92.6	
Total HxCDD	235		235		CS 123469-HxCDF	99.6	
Total HpCDD	2,030		2,030		CS 1234689-HpCDF	105	
Total TCDF	91,400		91,400	E			
Total PeCDF	7,530		7,530				
Total HxCDF	7,290		7,290				
Total HpCDF	2,200		2,200				
Total PCDD/Fs	**151,000**		**151,000**	E			
WHO-2005 TEQs							
TEQ: ND=0	27000		27000				
TEQ: ND=DL/2	27000	1.05	27000				
TEQ: ND=DL	27000	2.1	27000				

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Sample ID: 11215131-011922-S-BN-SW-B-20 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6207_18874_DF_008	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	61.9 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:22:40

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[2.42]		12479/12468D	11.4		124679/124689D	92.8		1234679D	1070	
1379D	[4.73]		12469D	5.09		123468D	14.2		1234678D	965	
1369D	(0.429)		12368D	18		123679/123689D	73.8				
1469D	(0.429)		12478D	11.6		123469D	10.1				
1247D...[4]	13.7		12379D	5.57		123478D	5.19				
1378D	39		12369D...[3]	[2.91]		123678D	27.2				
1268D	2.86		12346/12347D	5.69		123467D	4.19				
1478D	19.2		12378D	196		123789D	8.06		**Conc.**	2,030	
1279D	(0.429)		12367D	7.04					**EMPC**	2,030	
1234/1269D	5.55		12389D	3.66							
1236D	1.99								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	286										
1239D	(0.429)								OCDD	15900	E
2378D	20100	E									
1278D	1940	E									
1267D	54.6										
1289D	21.2										
Conc.	22,500		**Conc.**	264		**Conc.**	235				
EMPC	22,500		**EMPC**	267		**EMPC**	235				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	27,000	27,000
TEQ: ND=DL/2	27,000	27,000
TEQ: ND=DL	27,000	27,000

	Conc.	EMPC
Total PCDD/Fs	151,000	151,000

Checkcode: 821-680-FGY

Report Created: 03-Feb-2022 13:45 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-B-20 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received: 21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6207_18874_DF_008	Date Extracted: 31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	61.9 %	QC Batch No.:	18874	Date Analyzed: 03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 7:22:40

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.63		13468/12468F	42.8		123468F	42.5		1234678F	1250	
1468F	26.5		13678F...[3]	27.3		124678/134678F	383		1234679F	18.1	
2468F	38.1		12368F...[3]	1240		134679F	(1.15)		1234689F	445	
1346/1246F	(0.501)		14678F	(0.746)		124679F	3.71		1234789F	493	
1347F...[3]	116		13479F	(0.746)		124689F	203				
1348F	47.4		13469/12479F	(0.746)		123467F	27.9				
1248F...[3]	213		12346F	(0.746)		123478F	4830				
1268F	128		23468/12469F	44.1		123678F	1150				
1467F	92.4		12347F	40.9		123479F	(1.15)				
1478F	301		12348F	228		123469F	(1.15)				
1369/1237F	165		12378F	3060		123679F	(1.15)				
2467F	66.1		12678/12367F	819		234678F	257		**Conc.**	2,200	
2368F	2090	E	12379F	(0.746)		234678/123689F	0		**EMPC**	2,200	
1238F...[5]	(0.501)		12679F	6.08		123689F	(1.15)				
1278F	21400	E	23467/12369F	28.2		123789F	(1.12)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.501)		23478F	1880	PR	123789/123489F	0				
1267F	362		23478/12489F	0		123489F	392		OCDF	1820	
2346/1249F	125		12489F	(0.746)							
2347/1279F	729		12349F	(0.746)							
2348F	1880	E	12389F	107							
2378F	53700	E									
2367/3467F	5120	E									
1269F	233										
1239F	60.2										
1289F	4430	E									
Conc.	91,400		**Conc.**	7,530		**Conc.**	7,290				
EMPC	91,400		**EMPC**	7,530		**EMPC**	7,290				

Checkcode: 821-680-FGY

Report Created: 03-Feb-2022 13:45 Analyst: TF

Sample ID: 11215131-011922-S-BN-SW-B-20 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 07:22
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	20100	E	0.429	20100	20100	20100
12378-PeCDD	196		0.598	97.8	196	196
123478-HxCDD	5.19		0.939	0.519	0.519	0.519
123678-HxCDD	27.2		0.979	2.72	2.72	2.72
123789-HxCDD	8.06		0.818	0.806	0.806	0.806
1234678-HpCDD	965		0.69	9.65	9.65	9.65
OCDD	15900	E	0.914	15.9	1.59	4.78
2378-TCDF	53700	E	0.501	5370	5370	5370
12378-PeCDF	3060		0.654	153	153	91.9
23478-PeCDF	1880	PR	0.843	942	942	565
123478-HxCDF	4830		1.04	483	483	483
123678-HxCDF	1150		1.11	115	115	115
234678-HxCDF	257		1.35	25.7	25.7	25.7
123789-HxCDF	(1.12)		1.12	(0.112)	(0.112)	(0.112)
1234678-HpCDF	1250		0.504	12.5	12.5	12.5
1234789-HpCDF	493		0.715	4.93	4.93	4.93
OCDF	1820		0.608	1.82	0.182	0.546

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TEQ Summaries			
EMPC = 0, ND = 0	27300	27400	27000
EMPC = 0, ND = DL / 2	27300	27400	27000
EMPC = 0, ND = DL	27300	27400	27000
EMPC = 0, < J-level = 0	27300	27400	27000
EMPC = EMPC, ND = 0	27300	27400	27000
EMPC = EMPC, ND = DL / 2	27300	27400	27000
EMPC = EMPC, ND = DL	27300	27400	27000
EMPC = EMPC, < J-level = 0	27300	27400	27000

Checkcode: 821-680-FGY

Sample ID: 11215131-011922-S-BN-DUP-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6207_18874_DF_009	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	75.3 %	QC Batch No:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:09:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	6,040			E	ES 2378-TCDD	87.8	
12378-PeCDD	62.6				ES 12378-PeCDD	94.3	
123478-HxCDD	4.22				ES 123478-HxCDD	80.4	
123678-HxCDD	19.1				ES 123678-HxCDD	80.6	
123789-HxCDD	9.71				ES 123789-HxCDD	80.8	
1234678-HpCDD	535				ES 1234678-HpCDD	88.6	
OCDD	7,360				ES OCDD	94	
2378-TCDF	16,600			E	ES 2378-TCDF	87.6	
12378-PeCDF	831				ES 12378-PeCDF	84.2	
23478-PeCDF	543			PR	ES 23478-PeCDF	87.2	
123478-HxCDF	1,370				ES 123478-HxCDF	91.4	
123678-HxCDF	360				ES 123678-HxCDF	90.7	
234678-HxCDF	77.1				ES 234678-HxCDF	79	
123789-HxCDF	ND	0.724			ES 123789-HxCDF	86.1	
1234678-HpCDF	621				ES 1234678-HpCDF	94.3	
1234789-HpCDF	159				ES 1234789-HpCDF	95.6	
OCDF	4,450				ES OCDF	100	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	77	
Total TCDD	6,760		6,780	E	CS 12347-PeCDD	98.4	
Total PeCDD	104		113		CS 12346-PeCDF	87.3	
Total HxCDD	197		197		CS 123469-HxCDF	92.8	
Total HpCDD	1,120		1,120		CS 1234689-HpCDF	102	
Total TCDF	31,400		31,400	E			
Total PeCDF	2,190		2,190				
Total HxCDF	2,200		2,200				
Total HpCDF	1,030		1,030				
Total PCDD/Fs	**56,800**		**56,800**	E			
WHO-2005 TEQs							
TEQ: ND=0	8150		8150				
TEQ: ND=DL/2	8150	0.781	8150				
TEQ: ND=DL	8150	1.56	8150				

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Sample ID: 11215131-011922-S-BN-DUP-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6207_18874_DF_009	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	75.3 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:09:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	10.9		12479/12468D	12.4		124679/124689D	81.7		1234679D	584	
1379D	4.25		12469D	4.34		123468D	11		1234678D	535	
1369D	[1.19]		12368D	11.5		123679/123689D	64				
1469D	3.94		12478D	5.76		123469D	4.27				
1247D...[4]	[9.94]		12379D	4.59		123478D	4.22				
1378D	18.6		12369D...[3]	[4.06]		123678D	19.1				
1268D	(0.354)		12346/12347D	2.51		123467D	3.32				
1478D	14.7		12378D	62.6		123789D	9.71		**Conc.**	1,120	
1279D	[0.937]		12367D	[2.73]					**EMPC**	1,120	
1234/1269D	3.45		12389D	[2.07]	J						
1236D	1.45								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	95.6										
1239D	(0.354)								OCDD	7360	
2378D	6040	E									
1278D	555										
1267D	14										
1289D	8.07										
Conc.	6,760		**Conc.**	104		**Conc.**	197				
EMPC	6,780		**EMPC**	113		**EMPC**	197				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	8,150	8,150
TEQ: ND=DL/2	8,150	8,150
TEQ: ND=DL	8,150	8,150

	Conc.	EMPC
Total PCDD/Fs	56,800	56,800

Checkcode: 803-062-BWK

Report Created: 03-Feb-2022 13:45 Analyst: TF

Sample ID: 11215131-011922-S-BN-DUP-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6207_18874_DF_009	Date Extracted:	31-Jan-2022
Date Collected:	19-Jan-2022	% Solid:	75.3 %	QC Batch No.:	18874	Date Analyzed:	03-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:09:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	4.61		13468/12468F	49.6		123468F	25		1234678F	621	
1468F	26.3		13678F...[3]	13.3		124678/134678F	149		1234679F	16.2	
2468F	24.4		12368F...[3]	366		134679F	(0.708)		1234689F	233	
1346/1246F	(0.485)		14678F	(0.573)		124679F	[2.57]		1234789F	159	
1347F...[3]	133		13479F	(0.573)		124689F	90.1				
1348F	(0.485)		13469/12479F	3.33		123467F	11.8				
1248F...[3]	469		12346F	(0.573)		123478F	1370				
1268F	193		23468/12469F	22.6		123678F	360				
1467F	39.1		12347F	13.8		123479F	(0.708)				
1478F	475		12348F	69.4		123469F	5.91				
1369/1237F	160		12378F	831		123679F	(0.708)				
2467F	18.3		12678/12367F	232		234678F	77.1		**Conc.**	1,030	
2368F	461		12379F	(0.573)		234678/123689F	0		**EMPC**	1,030	
1238F...[5]	730		12679F	[2.15]	J	123689F	(0.708)				
1278F	7730	E	23467/12369F	10.6		123789F	(0.724)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.485)		23478F	543	PR	123789/123489F	0				
1267F	340		23478/12489F	0		123489F	113		OCDF	4450	
2346/1249F	39.8		12489F	(0.573)							
2347/1279F	152		12349F	(0.573)							
2348F	1220	E	12389F	31.7							
2378F	16600	E									
2367/3467F	1250	E									
1269F	203										
1239F	19.5										
1289F	1090	E									
Conc.	31,400		**Conc.**	2,190		**Conc.**	2,200				
EMPC	31,400		**EMPC**	2,190		**EMPC**	2,200				

Checkcode: 803-062-BWK

Report Created: 03-Feb-2022 13:45 Analyst: TF

Sample ID: 11215131-011922-S-BN-DUP-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6207_18874_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18874
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	03-Feb-2022 08:09
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	6040	E	0.354	6040	6040	6040
12378-PeCDD	62.6		0.446	31.3	62.6	62.6
123478-HxCDD	4.22		0.742	0.422	0.422	0.422
123678-HxCDD	19.1		0.761	1.91	1.91	1.91
123789-HxCDD	9.71		0.697	0.971	0.971	0.971
1234678-HpCDD	535		0.622	5.35	5.35	5.35
OCDD	7360		0.901	7.36	0.736	2.21
2378-TCDF	16600	E	0.485	1660	1660	1660
12378-PeCDF	831		0.551	41.5	41.5	24.9
23478-PeCDF	543	PR	0.594	271	271	163
123478-HxCDF	1370		0.649	137	137	137
123678-HxCDF	360		0.665	36	36	36
234678-HxCDF	77.1		0.818	7.71	7.71	7.71
123789-HxCDF	(0.724)		0.724	(0.0724)	(0.0724)	(0.0724)
1234678-HpCDF	621		0.276	6.21	6.21	6.21
1234789-HpCDF	159		0.361	1.59	1.59	1.59
OCDF	4450		0.79	4.45	0.445	1.33

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TEQ Summaries			
EMPC = 0, ND = 0	8250	8270	8150
EMPC = 0, ND = DL / 2	8250	8270	8150
EMPC = 0, ND = DL	8250	8270	8150
EMPC = 0, < J-level = 0	8250	8270	8150
EMPC = EMPC, ND = 0	8250	8270	8150
EMPC = EMPC, ND = DL / 2	8250	8270	8150
EMPC = EMPC, ND = DL	8250	8270	8150
EMPC = EMPC, < J-level = 0	8250	8270	8150

Checkcode: 803-062-BWK

SGS North America - DF v0.99

Sample ID: Method Blank B6207_18874 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18874_DF_SDS	Date Extracted:	31-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18874	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:39:16

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.35			ES 2378-TCDD	89.6	
12378-PeCDD	ND	0.362			ES 12378-PeCDD	98.4	
123478-HxCDD	ND	0.298			ES 123478-HxCDD	90.4	
123678-HxCDD	ND	0.257			ES 123678-HxCDD	109	
123789-HxCDD	ND	0.301			ES 123789-HxCDD	90.1	
1234678-HpCDD	ND	0.416			ES 1234678-HpCDD	90.8	
OCDD	ND	0.764			ES OCDD	84.3	
2378-TCDF	ND	0.251			ES 2378-TCDF	86.8	
12378-PeCDF	ND	0.239			ES 12378-PeCDF	92.3	
23478-PeCDF	ND	0.251			ES 23478-PeCDF	94	
123478-HxCDF	ND	0.241			ES 123478-HxCDF	86	
123678-HxCDF	ND	0.231			ES 123678-HxCDF	102	
234678-HxCDF	ND	0.2			ES 234678-HxCDF	119	
123789-HxCDF	ND	0.267			ES 123789-HxCDF	89.4	
1234678-HpCDF	ND	0.189			ES 1234678-HpCDF	116	
1234789-HpCDF	ND	0.333			ES 1234789-HpCDF	91.4	
OCDF	ND	0.552			ES OCDF	82.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.3	
Total TCDD	ND	0.35	ND		CS 12347-PeCDD	114	
Total PeCDD	ND	0.362	ND		CS 12346-PeCDF	102	
Total HxCDD	ND	0.284	ND		CS 123469-HxCDF	114	
Total HpCDD	ND	0.416	ND		CS 1234689-HpCDF	120	
Total TCDF	ND	0.251	ND				
Total PeCDF	ND	0.245	ND				
Total HxCDF	ND	0.231	ND				
Total HpCDF	ND	0.247	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.504	0.504	0.504				
TEQ: ND=DL	1.01	1.01	1.01				

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Sample ID: Method Blank B6207_18874 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18874_DF_SDS	Date Extracted:	31-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18874	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:39:16

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.35)		12479/12468D	(0.362)		124679/124689D	(0.284)		1234679D	(0.416)	
1379D	(0.35)		12469D	(0.362)		123468D	(0.284)		1234678D	(0.416)	
1369D	(0.35)		12368D	(0.362)		123679/123689D	(0.284)				
1469D	(0.35)		12478D	(0.362)		123469D	(0.284)				
1247D...[4]	(0.35)		12379D	(0.362)		123478D	(0.298)				
1378D	(0.35)		12369D...[3]	(0.362)		123678D	(0.257)				
1268D	(0.35)		12346/12347D	(0.362)		123467D	(0.284)				
1478D	(0.35)		12378D	(0.362)		123789D	(0.301)		**Conc.**	0	
1279D	(0.35)		12367D	(0.362)					**EMPC**	0	
1234/1269D	(0.35)		12389D	(0.362)							
1236D	(0.35)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.35)									**(pg/g)**	
1239D	(0.35)								OCDD	(0.764)	
2378D	(0.35)										
1278D	(0.35)										
1267D	(0.35)										
1289D	(0.35)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.504	0.504
TEQ: ND=DL	1.01	1.01

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 922-399-GHW

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: Method Blank B6207_18874 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18874_DF_SDS	Date Extracted:	31-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18874	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:39:16

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.251)		13468/12468F	(0.246)		123468F	(0.231)		1234678F	(0.189)	
1468F	(0.251)		13678F...[3]	(0.245)		124678/134678F	(0.231)		1234679F	(0.247)	
2468F	(0.251)		12368F...[3]	(0.245)		134679F	(0.231)		1234689F	(0.247)	
1346/1246F	(0.251)		14678F	(0.245)		124679F	(0.231)		1234789F	(0.333)	
1347F...[3]	(0.251)		13479F	(0.245)		124689F	(0.231)				
1348F	(0.251)		13469/12479F	(0.245)		123467F	(0.231)				
1248F...[3]	(0.251)		12346F	(0.245)		123478F	(0.241)				
1268F	(0.251)		23468/12469F	(0.245)		123678F	(0.231)				
1467F	(0.251)		12347F	(0.245)		123479F	(0.231)				
1478F	(0.251)		12348F	(0.245)		123469F	(0.231)				
1369/1237F	(0.251)		12378F	(0.239)		123679F	(0.231)				
2467F	(0.251)		12678/12367F	(0.245)		234678F	(0.2)		**Conc.**	0	
2368F	(0.251)		12379F	(0.245)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.251)		12679F	(0.245)		123689F	(0.231)				
1278F	(0.251)		23467/12369F	(0.245)		123789F	(0.267)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.251)		23478F	(0.251)		123789/123489F	0				
1267F	(0.251)		23478/12489F	0		123489F	(0.231)		OCDF	(0.552)	
2346/1249F	(0.251)		12489F	(0.245)							
2347/1279F	(0.251)		12349F	(0.245)							
2348F	(0.251)		12389F	(0.245)							
2378F	(0.251)										
2367/3467F	(0.251)										
1269F	(0.251)										
1239F	(0.251)										
1289F	(0.251)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 922-399-GHW

Report Created: 03-Feb-2022 13:44 Analyst: TF

Sample ID: Method Blank B6207_18874 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18874_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18874
Date Collected:	n/a	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	02-Feb-2022 23:39
Lab Project No:	B6207	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.35)		0.35	(0.35)	(0.35)	(0.35)
12378-PeCDD	(0.362)		0.362	(0.181)	(0.362)	(0.362)
123478-HxCDD	(0.298)		0.298	(0.0298)	(0.0298)	(0.0298)
123678-HxCDD	(0.257)		0.257	(0.0257)	(0.0257)	(0.0257)
123789-HxCDD	(0.301)		0.301	(0.0301)	(0.0301)	(0.0301)
1234678-HpCDD	(0.416)		0.416	(0.00416)	(0.00416)	(0.00416)
OCDD	(0.764)		0.764	(0.000764)	(0.0000764)	(0.000229)
2378-TCDF	(0.251)		0.251	(0.0251)	(0.0251)	(0.0251)
12378-PeCDF	(0.239)		0.239	(0.012)	(0.012)	(0.00718)
23478-PeCDF	(0.251)		0.251	(0.126)	(0.126)	(0.0754)
123478-HxCDF	(0.241)		0.241	(0.0241)	(0.0241)	(0.0241)
123678-HxCDF	(0.231)		0.231	(0.0231)	(0.0231)	(0.0231)
234678-HxCDF	(0.2)		0.2	(0.02)	(0.02)	(0.02)
123789-HxCDF	(0.267)		0.267	(0.0267)	(0.0267)	(0.0267)
1234678-HpCDF	(0.189)		0.189	(0.00189)	(0.00189)	(0.00189)
1234789-HpCDF	(0.333)		0.333	(0.00333)	(0.00333)	(0.00333)
OCDF	(0.552)		0.552	(0.000552)	(0.0000552)	(0.000166)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.442	0.532	0.504
EMPC = 0, ND = DL	0.884	1.06	1.01
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.442	0.532	0.504
EMPC = EMPC, ND = DL	0.884	1.06	1.01
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 922-399-GHW

SGS North America - DF v0.99

Sample ID: 0_18874_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6207	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18874_DF	Date Extracted:	31-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18874	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:06:39

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11				ES 2378-TCDD	98.7	
12378-PeCDD	45.8				ES 12378-PeCDD	112	
123478-HxCDD	50.5				ES 123478-HxCDD	110	
123678-HxCDD	51				ES 123678-HxCDD	129	
123789-HxCDD	48.3				ES 123789-HxCDD	106	
1234678-HpCDD	50.6				ES 1234678-HpCDD	108	
OCDD	103				ES OCDD	106	
2378-TCDF	10.5				ES 2378-TCDF	94.8	
12378-PeCDF	44.4				ES 12378-PeCDF	108	
23478-PeCDF	50.6				ES 23478-PeCDF	99.3	
123478-HxCDF	49				ES 123478-HxCDF	101	
123678-HxCDF	49.6				ES 123678-HxCDF	121	
234678-HxCDF	51.5				ES 234678-HxCDF	142	
123789-HxCDF	46.5				ES 123789-HxCDF	99.4	
1234678-HpCDF	48.8				ES 1234678-HpCDF	141	
1234789-HpCDF	48.4				ES 1234789-HpCDF	96.6	
OCDF	103				ES OCDF	90.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.6	
Total TCDD	51.4		51.4		CS 12347-PeCDD	118	
Total PeCDD	69.1		69.1		CS 12346-PeCDF	104	
Total HxCDD	162		162		CS 123469-HxCDF	121	
Total HpCDD	62.7		62.7		CS 1234689-HpCDF	124	
Total TCDF	58.2		58.2				
Total PeCDF	185		185				
Total HxCDF	306		306				
Total HpCDF	97.3		97.3				
Total PCDD/Fs	**1,200**		**1,200**				
WHO-2005 TEQs							
TEQ: ND=0	111		111				
TEQ: ND=DL/2	111	0.329	111				
TEQ: ND=DL	111	0.657	111				

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Sample Receipt Notification

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Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*21-Jan-22 at 12:25*
AP Project name:	*B6207*
Requested TAT:	*10 business days*
Projected due date:	*4-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012022-S-BN-SW-O-20	B6207_001	Solid	1	4oz Clear Glass	20-Jan-22	10:40	-0.3	1	4905 2704 4590
11215131-012022-S-BN-SW-B-22	B6207_002	Solid	1	4oz Clear Glass	20-Jan-22	10:50	-0.3	1	4905 2704 4590
11215131-011922-S-BN-SW-O-21	B6207_003	Solid	1	4oz Clear Glass	19-Jan-22	09:10	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-B-23	B6207_004	Solid	1	4oz Clear Glass	19-Jan-22	09:20	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-O-19	B6207_005	Solid	1	4oz Clear Glass	19-Jan-22	10:00	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-B-21	B6207_006	Solid - MS/MSD	1	4oz Clear Glass	19-Jan-22	10:10	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-O-18	B6207_007	Solid	1	4oz Clear Glass	19-Jan-22	13:10	0.1	2	4905 2704 4465
11215131-011922-S-BN-SW-B-20	B6207_008	Solid	1	4oz Clear Glass	19-Jan-22	13:20	0.1	2	4905 2704 4465
11215131-011922-S-BN-DUP-13	B6207_009	Solid	1	4oz Clear Glass	19-Jan-22	n/a	0.1	2	4905 2704 4465

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 24 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B6207 1 of 3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE

none

ANALYSIS & METHOD

M1613B | M8290A | M1668A | M1668C | HR-PAH | M4600

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS SEE SSOW
11215131-012022-S-BN-SW-S-4S	1-20-22	1020	C	S	4oz				1	RUSH
11215131-012022-S-BN-SW-S-4S		1030							1	RUSH
11215131-012022-S-BN-SW-D-22		1040							1	*
11215131-012022-S-BN-SW-R-22	↓	1050	↓	↓	↓				1	*

	DATE:	TIME:		
COLLECTED/RELINQUISHED BY (1): Brianna North	1-20-22	1543	RECEIVED BY: Eddie Cruz	
RELINQUISHED BY (2): Eddie Cruz	1-20-22	1640	RECEIVED BY:	1/20/21 1640
RELINQUISHED BY (3):	1/20/21	1640	RECEIVED BY:	

RECEIVED BY LABORATORY: DATE: TIME:

COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C -0.3

TRACKING #: 4906 2704 4590

*=samples in this project.

SGS CHAIN OF CUSTODY

BL0207 2/3

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
NONE

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	M9290A	M1668A	M1668C (BN)	HR-PAH	M1699	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-011922-S-BN-SW-S-46	1-19-22	0900	C	S	4oz	X									1	RUSH
11215131-011922-S-BN-SW-O-21		0910				X									1	*
11215131-011922-S-BN-SW-B-23		0920				X									1	*
11215131-011922-S-BN-SW-B23H		0930				X									1	HOLD
11215131-011922-S-BN-SW-S-43		0950				X									1	RUSH
11215131-011922-S-BN-SW-O-19		1000				X									1	*
11215131-011922-S-BN-SW-B-21		1010				X						X	X		1	MS/MSD *
11215131-011922-S-BN-SW-B-21HI		1020				X									1	HOLD
11215131-011922-S-BN-SW-B-21HZ		1030				X									1	HOLD
11215131-011922-S-BN-SW-S-42		1300				X									1	RUSH

COLLECTED/RELINQUISHED BY (1): Breanna Nordh (BN)	DATE: 1-19-22	TIME: 14:52	RECEIVED BY:
RELINQUISHED BY (2): 1-19-22	DATE:	TIME: 16:34	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME: 1/20 12:5
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 0.1
TRACKING #: 4905 2704 44465

*= samples in this project.

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

B16207 3/3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV

SPECIAL DELIVERABLES:

☐ DoD ☒ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston,

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INVOICE TO (☒ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE

None

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	M8290A	M1668A	M1668C (BW)	HRPAH	M1699	QC MS	QC MSD	QC DUP	QTY	REMARKS (SEE SSOW)
11215131-011922-S-BN-SW-B-19	1-1922	1310	C	S	4oz	X									1	*
11215131-011922-S-BN-SW-B-20		1320	1	1	1	X									1	*
11215131-011922-S-BN-SW-B-20H		1330	↓	↓	↓	X									1	HOLD
11215131-011922-S-BN-DUP-13	↓	—	↓	↓	↓	X									1	*

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
	1-19-22	14:52	
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
	1-19-22	16:34	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:

COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C 1.0

TRACKING #: 4905 2304 4405

BL0207 1/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 20.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903

REF:
INV:
PO:
DEPT:

1/21
12:25pm
-0.3°

565C4/F289/05A2

FedEx Express

J191216082001ur

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 4590

NL ILMA

28405
NC-US RDU

Part # 1551-49-424 HTW EXP 07/22

BU207 2/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 19JAN22
ACTWGT: 25.00 LB MAN
CAD: 0917565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/21
12:25PM

0.1°

565C4/F289/05A2

FedEx Express

J191215082001uv

TRK# 0201 4905 2704 4465

THU - 20 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 155142-454 MTW EXP 07/22

Project Initiation Form

Project Number: B6207

Initiation Date: 24-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

10 g DWE extraction

Sample 006 is MS/MSD

Read and understood, initial and date: Prep Lab: JRH 1/31/22 VE 1/31/22 RAB 2/2/22 HRMS Lab:

Reporting Instructions

M1613B

Full Report

Sample 006 is MS/MSD summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 24-Jan-2022

SGS

Methods: PCB / PAH; (PCDD/F) WHO-2; QUANTICS USV; DoD PCDD/F PEST; Extraction Type: (SDS) CLL; TALEX Carbon SPE

Solid

Final Volume: 20 mL 2/2/22

Batch# 18874

Split: ~~1/3~~ ~~1/4~~

Extract Initial/Date: [illegible] 1/31/22

Clean-up Initial/Date: [illegible] 2/2/22

Transfer Init/Date: [illegible] 2/2/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6207_18874_001	11	12.10				brown/orange, clay-like, sandy
B6207_18874_002	12	13.18				gray, clay-like
B6207_18874_003	13	12.02				brown/gray, clay-like
B6207_18874_004	14	12.50				gray, clay-like
B6207_18874_005	15	12.52		04Feb22		gray, clay-like
B6207_18874_006	16	14.35			CL	gray, clay-like, oil smell
B6207_18874_006MS	17	14.26				see 006
B6207_18874_006MSD	18	14.38				see 006
B6207_18874_007	19	11.78				brown, sandy/clumpy, dry
B6207_18874_008	20	16.18				gray, wet, clay-like
B6207_18874_009	21	13.43				gray, clay-like
MB1_18874	9	10.00				sodium sulfate
OPR1_18874	10	10.00				sodium sulfate

Supply IDs

Toluene	STL14-24
MeCHL	STL14.17
Florisil	SPLS-77
Hexane	STL14-12
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-83
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-82
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	CL
Carbon Column Date/Initial:	04Feb22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1500 Stop: 0545
HEX	Start: Stop: CL
DCM	Start: 04Feb22 Stop:

2/2/22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18874

Inter-Department Communication Sheet

04Feb22

CL

SGS

Wt. Volume Results

Batch #: 18874 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6207_001	1.1	5.53	4.85	84.65%	84.65%			11.81	12.1	10.24
B6207_002	1.1	5.23	4.27	76.76%	76.76%			13.03	13.18	10.12
B6207_003	1.12	5.58	CL 4.85	83.63%	83.63%			11.96	12.02	10.05
B6207_004	1.09	5.88	04Feb22 4.93	80.17%	80.17%			12.47	12.5	10.02
B6207_005	1.1	5.72	4.82	80.74%	80.74%	80.52		12.39	12.52	10.11 10.08
B6207_006	1.11	4.4	3.42	70.21%	70.21%	04Feb22		14.24	14.35	10.08 CL
B6207_006MS	1.11	4.4	3.42	70.21%	70.21%		CL	14.24	14.26	10.01 04Feb22
B6207_006MSD	1.11	4.4	3.42	70.21%	70.21%			14.24	14.38	10.1
B6207_007	1.1	4.58	4.1	86.21%	86.21%			11.6	11.78	10.16
B6207_008	1.11	5.07	3.56	61.87%	61.87%			16.16	16.18	10.01
B6207_009	1.1	5.51	4.42	75.28%	75.28%			13.28	13.43	10.11

04Feb22

CL

% Solid Determination WorkSheet

SGS

Batch: 18874

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6207_18874_001	1.10	5.53	4.85/4.85	11.81	
B6207_18874_002	1.10	5.23	4.27/4.27	13.03	
B6207_18874_003	1.12	5.58	4.85/4.85	11.96	
B6207_18874_004	1.09	5.88	4.93/4.93	12.47	
B6207_18874_005	1.10	5.72	4.83/4.82	12.39	
B6207_18874_006	1.11	4.40	3.42/3.42	14.24	
B6207_18874_006MS	-	-	-	-	
B6207_18874_006MSD	-	-	-	-	
B6207_18874_007	1.10	4.58	4.10/4.10	11.60	
B6207_18874_008	1.11	5.07	3.56/3.56	16.16	
B6207_18874_009	1.10	5.51	4.42/4.42	13.28	

2/2/22

Date/Initials: 1/28/22 KE

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18874

Spiker Initials/Date:	JKH 1/31/22	JKH 1/31/22	JKH 1/31/22	RES 2/2/22	TPP 2/2/22		
Lab Sample ID	D/F A-A Amount: 20 µL Observer Initials	D/F A-B Amount: 20 µL Observer Initials	D/F ES Amount: 20 µL Observer Initials	D/F CS Amount: 20 µL Observer Initials	D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6207_18874_001	–	–	KE	KE	KE		
B6207_18874_002	–	–	KE	KE	KE		
B6207_18874_003	–	–	KE	KE	KE		
B6207_18874_004	–	–	KE	KE	KE		
B6207_18874_005	–	–	KE	KE	KE		
B6207_18874_006	–	–	KE	KE	KE		
B6207_18874_006MS	KE	KE	KE	KE	KE		
B6207_18874_006MSD	KE	KE	KE	KE	KE		
B6207_18874_007	–	–	KE	KE	KE		
B6207_18874_008	–	–	KE	KE	KE		
B6207_18874_009	–	–	KE	KE	KE		
MB1_18874	–	–	KE	KE	KE		
OPR1_18874	KE	KE	KE	KE	KE		

2/2/22

Standard Information

Pipette ID						TPP 2/2/22
Spike ID	D/F A-A	D/F A-B	D/F ES	D/F CS	D/F JS	
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	25.384.1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/mL	100 pg/mL	
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	1/28/23	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
8	220202C08	3	CS3_220202_DF_CB	1.00	25-347-1	DTF	590-393	02-Feb-2022	21:12:14
9	220202C09	11	OPR1_18874_DF	1.00	0_18874_OPR001	DTF	406-630	02-Feb-2022	22:06:39
10	220202C10	2	SBS_220202_DF_CC	1.00	20-61-1	DTF	989-846	02-Feb-2022	22:52:58
11	220202C11	10	MB1_18874_DF_SDS	10.00	Method Blank	DTF	922-399	02-Feb-2022	23:39:16
12	220202C12	12	B6207_18874_DF_001	10.24	11215131-012022-S-BN-SW-O-20	DTF	341-058	03-Feb-2022	00:25:37
13	220202C13	13	B6207_18874_DF_002	10.12	11215131-012022-S-BN-SW-B-22	DTF	691-815	03-Feb-2022	01:11:58
14	220202C14	14	B6207_18874_DF_003 CL	10.05	11215131-011922-S-BN-SW-O-21	DTF	690-051	03-Feb-2022	01:58:19
15	220202C15	15	B6207_18874_DF_004 04Feb22	10.02	11215131-011922-S-BN-SW-B-23	DTF	023-780	03-Feb-2022	02:44:40
16	220202C16	16	B6207_18874_DF_005 10.08	~~10.11~~	11215131-011922-S-BN-SW-O-19	DTF	624-922	03-Feb-2022	03:31:00
17	220202C17	17	B6207_18874_DF_006	10.08	11215131-011922-S-BN-SW-B-21	DTF	172-253	03-Feb-2022	04:17:20
18	220202C18	18	B6207_18874_DF_006MS	10.01	11215131-011922-S-BN-SW-B-21-MS	DTF	152-625	03-Feb-2022	05:03:39
19	220202C19	19	B6207_18874_DF_006MSD	10.10	11215131-011922-S-BN-SW-B-21-MSD	DTF	244-146	03-Feb-2022	05:49:59
20	220202C20	20	B6207_18874_DF_007	10.16	11215131-011922-S-BN-SW-O-18	DTF	703-404	03-Feb-2022	06:36:19
21	220202C21	21	B6207_18874_DF_008	10.01	11215131-011922-S-BN-SW-B-20	DTF	821-680	03-Feb-2022	07:22:40
22	220202C22	22	B6207_18874_DF_009	10.11	11215131-011922-S-BN-DUP-13	DTF	803-062	03-Feb-2022	08:09:00

REVIEWED
Tyler_Fritz , 2/4/2022, 8:14:32 AM

APPROVED
Carla_Lyon , 2/4/2022, 10:31:00 AM

Lab ID: MB1_18874_DF_SDS **Acq'd:** 02 Feb 2022 23:39 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6207_18874 **UTP:** 03-Feb-2022 13:42:29 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 922-399-GHW

Datafile: 220202C11 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2567.782	0.35
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2498.309	0.362
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2222.5673	0.298
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2222.5673	0.257
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2222.5673	0.301
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2766.613	0.416
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	2964.054	0.764
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2480.037	0.251
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2658.095	0.239
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2658.095	0.251
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2514.742	0.241
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2514.742	0.231
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2514.742	0.2
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2514.742	0.267
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2641.957	0.189
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2641.957	0.333
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2535.954	0.552

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0236	0	1.24E+07	0.77	Y	1.05	89.6
ES 12378-PeCDD	33.85	1.2144	1.2152	+1.6	1.14E+07	1.54	Y	0.88	98.4
ES 123478-HxCDD	37.76	0.9920	0.9919	-0.2	1.14E+07	1.26	Y	0.97	90.4
ES 123678-HxCDD	37.87	0.9951	0.9950	-0.2	1.33E+07	1.24	Y	0.94	109
ES 123789-HxCDD	38.17	1.0027	1.0026	-0.2	1.28E+07	1.26	Y	1.09	90.1
ES 1234678-HpCDD	40.82	1.0724	1.0724	0	1.08E+07	1.08	Y	0.91	90.8
ES OCDD	43.49	1.1428	1.1425	-0.8	1.37E+07	0.88	Y	0.62	84.3
ES 2378-TCDF	27.66	1.0516	1.0517	+0.2	2.01E+07	0.82	Y	1.06	86.8
ES 12378-PeCDF	32.40	1.2312	1.2320	+1.6	1.84E+07	1.51	Y	0.91	92.3
ES 23478-PeCDF	33.51	1.2733	1.2742	+1.8	1.82E+07	1.53	Y	0.88	94
ES 123478-HxCDF	36.75	0.9655	0.9654	-0.2	1.34E+07	0.55	Y	1.20	86
ES 123678-HxCDF	36.89	0.9692	0.9692	0	1.79E+07	0.51	Y	1.35	102
ES 234678-HxCDF	37.57	0.9871	0.9870	-0.2	1.92E+07	0.55	Y	1.24	119
ES 123789-HxCDF	38.52	1.0121	1.0120	-0.2	1.34E+07	0.50	Y	1.16	89.4
ES 1234678-HpCDF	39.89	1.0479	1.0479	0	1.46E+07	0.47	Y	0.97	116
ES 1234789-HpCDF	41.28	1.0845	1.0844	-0.2	1.01E+07	0.46	Y	0.85	91.4
ES OCDF	43.68	1.1477	1.1474	-0.8	1.74E+07	0.95	Y	0.81	82.8

Lab ID: MB1_18874_DF_SDS | **Acq'd:** 02 Feb 2022 23:39 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6207_18874 | **UTP:** 03-Feb-2022 13:42:29 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 922-399-GHW

Datafile: 220202C11 | **Report:** 03 Feb 2022 13:44 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.85		-	-	-	1.32E+07	0.76	Y	-	-	
JS 1234-TCDF	26.30		-	-	-	2.19E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	6.50E+06	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	5.73E+06	n/a	-	1.20	90.3	
CS 12347-PeCDD	33.34		1.1964	1.1971	+1.4	1.14E+07	1.71	Y	0.75	114	
CS 12346-PeCDF	31.87		1.2112	1.2119	+1.3	1.91E+07	1.54	Y	0.85	102	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	1.65E+07	0.53	Y	1.12	114	
CS 1234689-HpCDF	40.29		1.0584	1.0584	0	1.39E+07	0.47	Y	0.89	120	
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~5.73E+06~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1971~~	~~+1.4~~	~~1.14E+07~~	~~1.71~~	~~Y~~	~~0.86~~	~~116~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~1.91E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~111~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.65E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~112~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0584~~	~~1.0584~~	~~0~~	~~1.39E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~104~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18874_DF_SDS **Acq'd: 02 Feb 2022 23:39 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6207_18874 **UTP: 03-Feb-2022 13:42:29 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 922-399-GHW**

Datafile: 220202C11 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		2567.782	0.35
1379-TCDD	NotFnd		0.8860						1.18		2567.782	0.35
1369-TCDD	NotFnd		0.9009						1.18		2567.782	0.35
1469-TCDD	NotFnd		0.9281						1.18		2567.782	0.35
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		2567.782	0.35
1378-TCDD	NotFnd		0.9432						1.18		2567.782	0.35
1268-TCDD	NotFnd		0.9500						1.18		2567.782	0.35
1478-TCDD	NotFnd		0.9586						1.18		2567.782	0.35
1279-TCDD	NotFnd		0.9645						1.18		2567.782	0.35
1234/1269-TCDD	NotFnd		0.9770						1.18		2567.782	0.35
1236-TCDD	NotFnd		0.9817						1.18		2567.782	0.35
1237/1238-TCDD	NotFnd		0.9905						1.18		2567.782	0.35
1239-TCDD	NotFnd		0.9952						1.18		2567.782	0.35
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2567.782**	**0.35**
1278-TCDD	NotFnd		1.0121						1.18		2567.782	0.35
1267-TCDD	NotFnd		1.0167						1.18		2567.782	0.35
1289-TCDD	NotFnd		1.0345						1.18		2567.782	0.35
12479/12468-PeCDD	NotFnd		0.9267						1.04		2498.309	0.362
12469-PeCDD	NotFnd		0.9425						1.04		2498.309	0.362
12368-PeCDD	NotFnd		0.9588						1.04		2498.309	0.362
12478-PeCDD	NotFnd		0.9643						1.04		2498.309	0.362
12379-PeCDD	NotFnd		0.9673						1.04		2498.309	0.362
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2498.309	0.362
12346/12347-PeCDD	NotFnd		0.9858						1.04		2498.309	0.362
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2498.309**	**0.362**
12367-PeCDD	NotFnd		1.0033						1.04		2498.309	0.362
12389-PeCDD	NotFnd		1.0134						1.04		2498.309	0.362
124679/124689-HxCDD	NotFnd		0.9542						1.10		2222.5673	0.284
123468-HxCDD	NotFnd		0.9715						1.10		2222.5673	0.284
123679/123689-HxCDD	NotFnd		0.9793						1.10		2222.5673	0.284
123469-HxCDD	NotFnd		0.9828						1.10		2222.5673	0.284
123478-HxCDD	NotFnd		**1.0004**						1.09		**2222.5673**	**0.298**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2222.5673**	**0.257**
123467-HxCDD	NotFnd		1.0085						1.10		2222.5673	0.284
123789-HxCDD	NotFnd		**1.0112**						1.05		**2222.5673**	**0.301**

Lab ID: MB1_18874_DF_SDS **Acq'd:** 02 Feb 2022 23:39 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6207_18874 **UTP:** 03-Feb-2022 13:42:29 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 922-399-GHW

Datafile: 220202C11 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

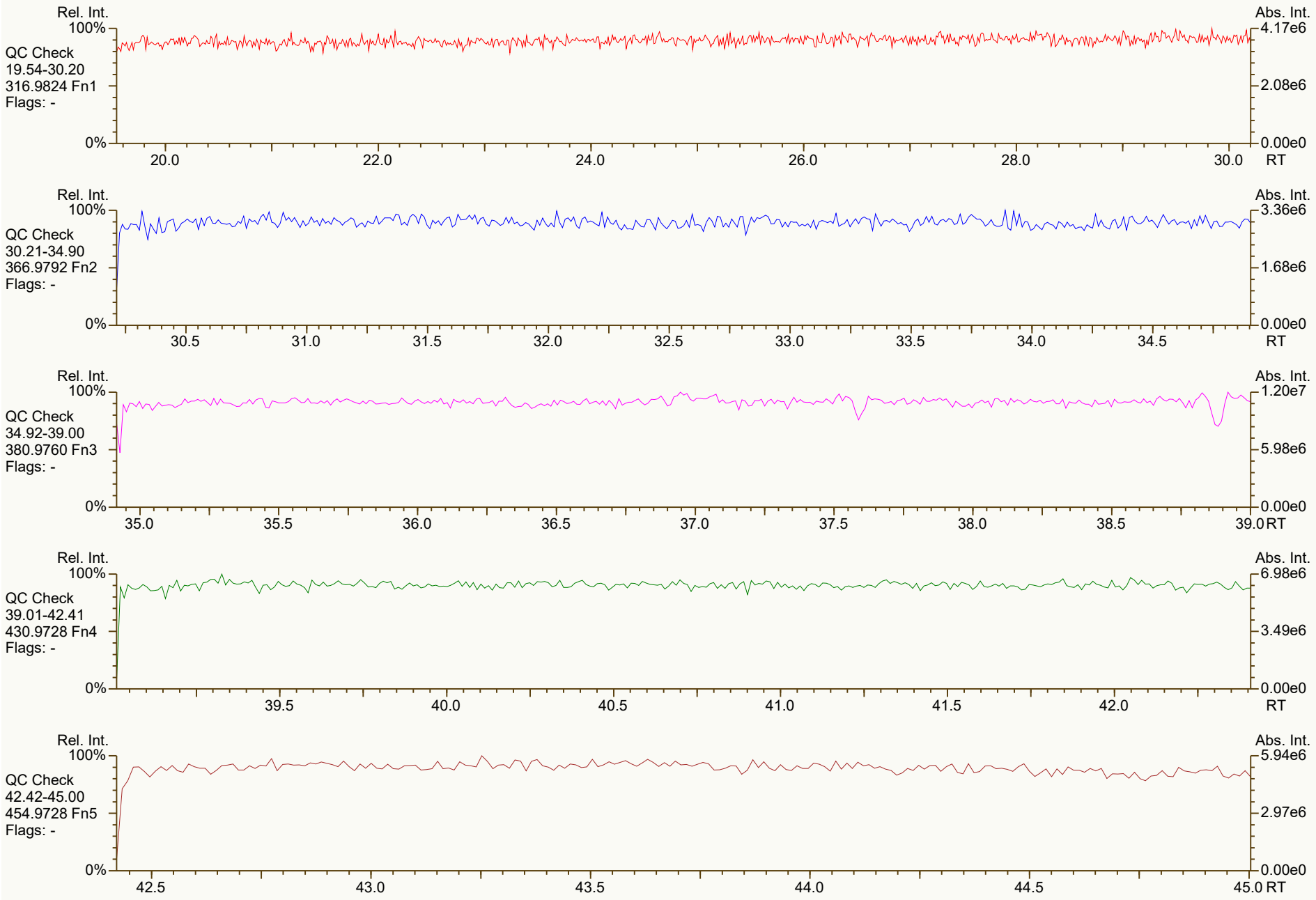
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2766.613	0.416
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2766.613**	**0.416**
OCDD	**NotFnd**		**1.0004**						**1.13**		**2964.054**	**0.764**
OCDD-a	NotFnd		1.0003						0.07		2749.52	11.1
1368-TCDF	NotFnd		0.8251						1.08		2480.037	0.251
1468-TCDF	NotFnd		0.8458						1.08		2480.037	0.251
2468-TCDF	NotFnd		0.8686						1.08		2480.037	0.251
1346/1246-TCDF	NotFnd		0.8814						1.08		2480.037	0.251
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2480.037	0.251
1348-TCDF	NotFnd		0.8962						1.08		2480.037	0.251
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2480.037	0.251
1268-TCDF	NotFnd		0.9145						1.08		2480.037	0.251
1467-TCDF	NotFnd		0.9193						1.08		2480.037	0.251
1478-TCDF	NotFnd		0.9254						1.08		2480.037	0.251
1369/1237-TCDF	NotFnd		0.9387						1.08		2480.037	0.251
2467-TCDF	NotFnd		0.9433						1.08		2480.037	0.251
2368-TCDF	NotFnd		0.9489						1.08		2480.037	0.251
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2480.037	0.251
1278-TCDF	NotFnd		0.9683						1.08		2480.037	0.251
1349-TCDF	NotFnd		0.9722						1.08		2480.037	0.251
1267-TCDF	NotFnd		0.9783						1.08		2480.037	0.251
2346/1249-TCDF	NotFnd		0.9850						1.08		2480.037	0.251
2347/1279-TCDF	NotFnd		0.9926						1.08		2480.037	0.251
2348-TCDF	NotFnd		0.9967						1.08		2480.037	0.251
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2480.037**	**0.251**
2367/3467-TCDF	NotFnd		1.0137						1.08		2480.037	0.251
1269-TCDF	NotFnd		1.0223						1.08		2480.037	0.251
1239-TCDF	NotFnd		1.0321						1.08		2480.037	0.251
1289-TCDF	NotFnd		1.0722						1.08		2480.037	0.251
13468/12468-PeCDF	NotFnd		0.9139						1.02		2666.053	0.246
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2658.095	0.245
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2658.095	0.245
14678-PeCDF	NotFnd		0.9692						1.02		2658.095	0.245
13479-PeCDF	NotFnd		0.9723						1.02		2658.095	0.245
13469/12479-PeCDF	NotFnd		0.9797						1.02		2658.095	0.245
12346-PeCDF	NotFnd		0.9840						1.02		2658.095	0.245

Lab ID: MB1_18874_DF_SDS **Acq'd: 02 Feb 2022 23:39 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6207_18874 **UTP: 03-Feb-2022 13:42:29 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 922-399-GHW**

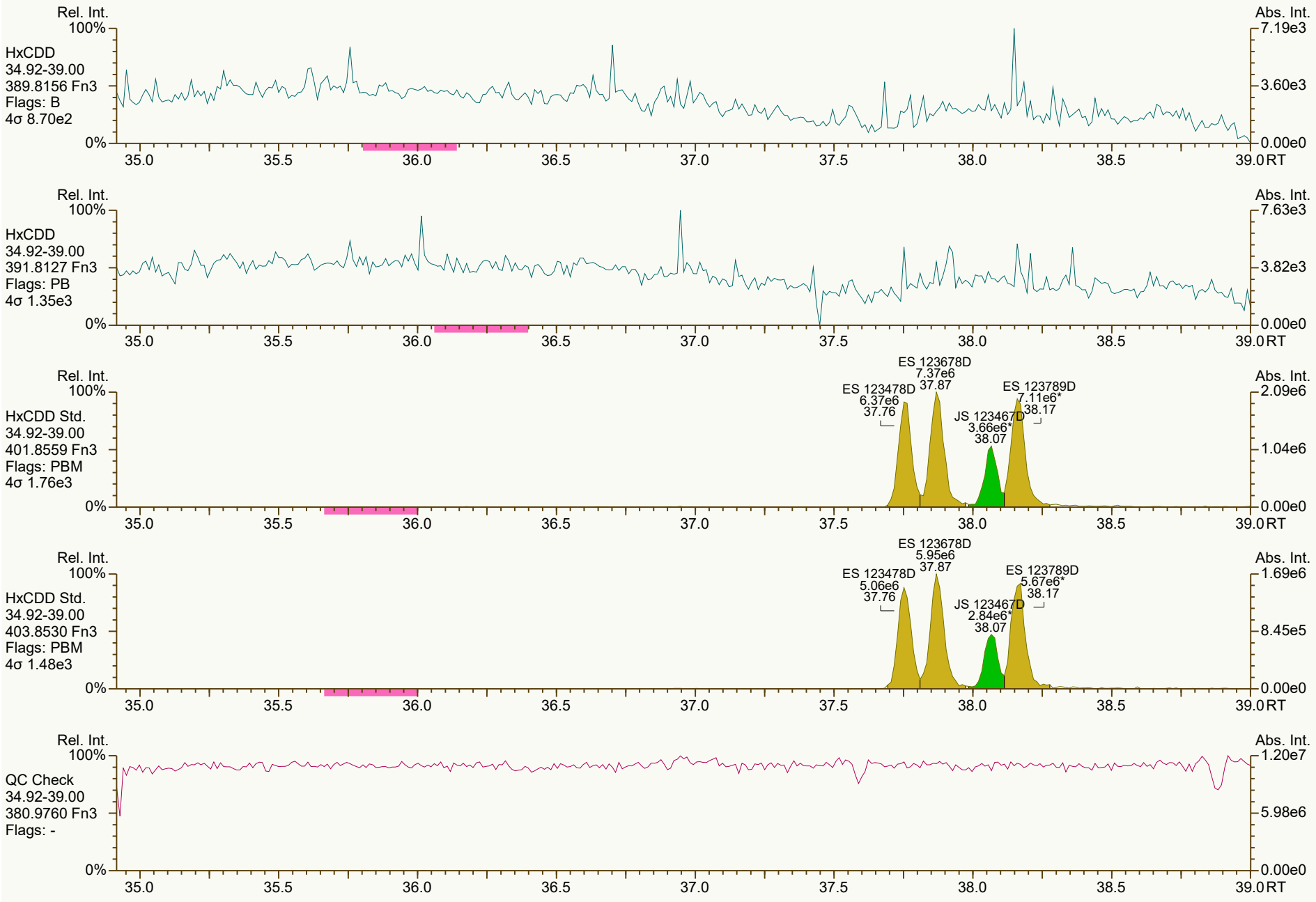
Datafile: 220202C11 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

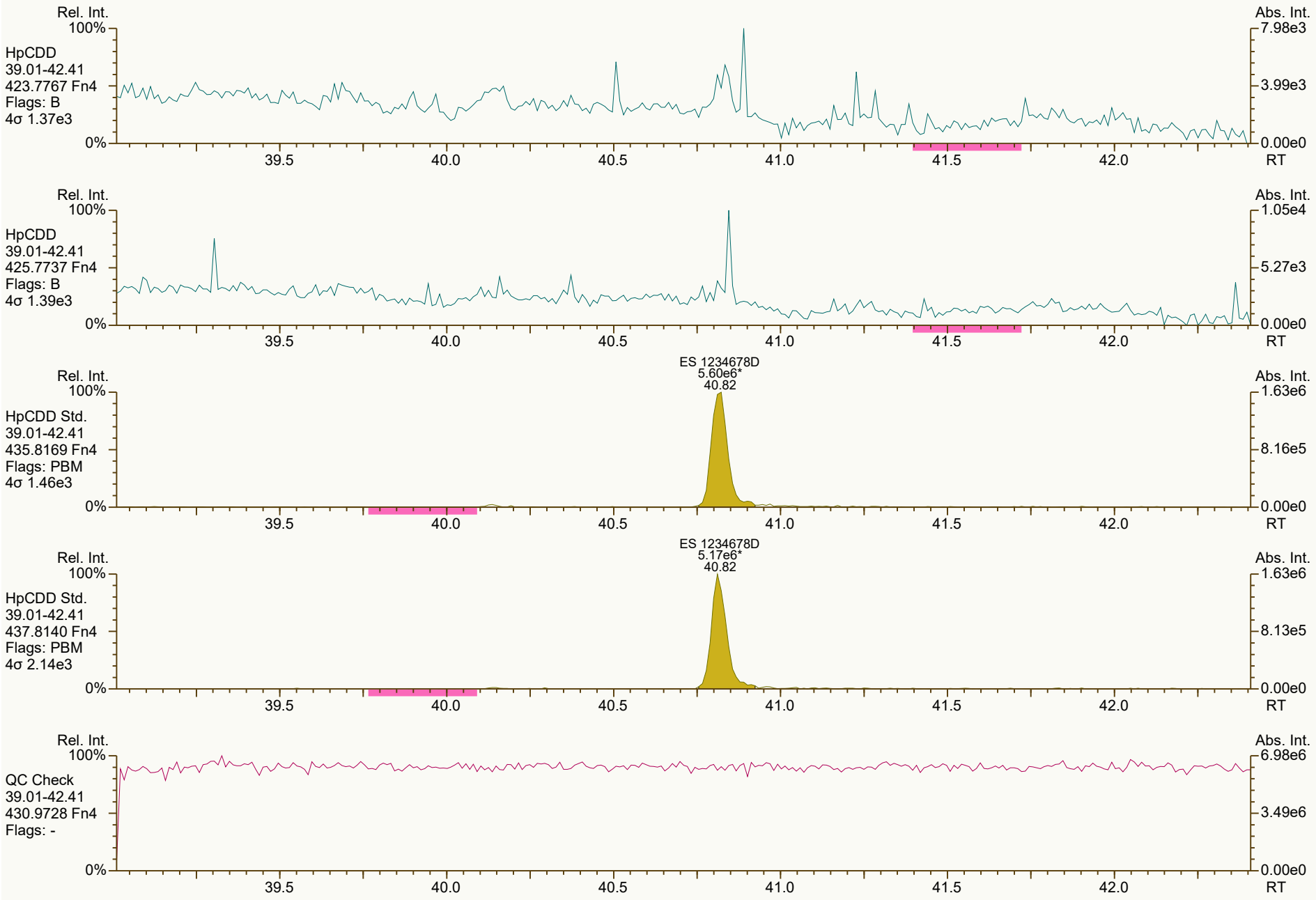
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2658.095	0.245
12347-PeCDF	NotFnd		0.9894						1.02		2658.095	0.245
12348-PeCDF	NotFnd		0.9940						1.02		2658.095	0.245
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2658.095**	**0.239**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2658.095	0.245
12379-PeCDF	NotFnd		1.0142						1.02		2658.095	0.245
12679-PeCDF	NotFnd		0.9929						1.02		2658.095	0.245
23467/12369-PeCDF	NotFnd		0.9967						1.02		2658.095	0.245
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2658.095**	**0.251**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2658.095	0.245
12349-PeCDF	NotFnd		1.0100						1.02		2658.095	0.245
12389-PeCDF	NotFnd		1.0324						1.02		2658.095	0.245
123468-HxCDF	NotFnd		0.9627						1.19		2514.742	0.231
124678/134678-HxCDF	NotFnd		0.9682						1.19		2514.742	0.231
134679-HxCDF	NotFnd		0.9744						1.19		2514.742	0.231
124679-HxCDF	NotFnd		0.9798						1.19		2514.742	0.231
124689-HxCDF	NotFnd		0.9858						1.19		2514.742	0.231
123467-HxCDF	NotFnd		0.9972						1.19		2514.742	0.231
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2514.742**	**0.241**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2514.742**	**0.231**
123479-HxCDF	NotFnd		1.0049						1.19		2514.742	0.231
123469-HxCDF	NotFnd		1.0090						1.19		2514.742	0.231
123679-HxCDF	NotFnd		0.9942						1.19		2514.742	0.231
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2514.742**	**0.2**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2514.742	0.231
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2514.742**	**0.267**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2514.742	0.231
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2641.957**	**0.189**
1234679-HpCDF	NotFnd		1.0068						1.34		2641.957	0.247
1234689-HpCDF	NotFnd		1.0103						1.34		2641.957	0.247
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2641.957**	**0.333**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2535.954**	**0.552**
OCDF-a	NotFnd		1.0002						0.07		3006.988	10.6

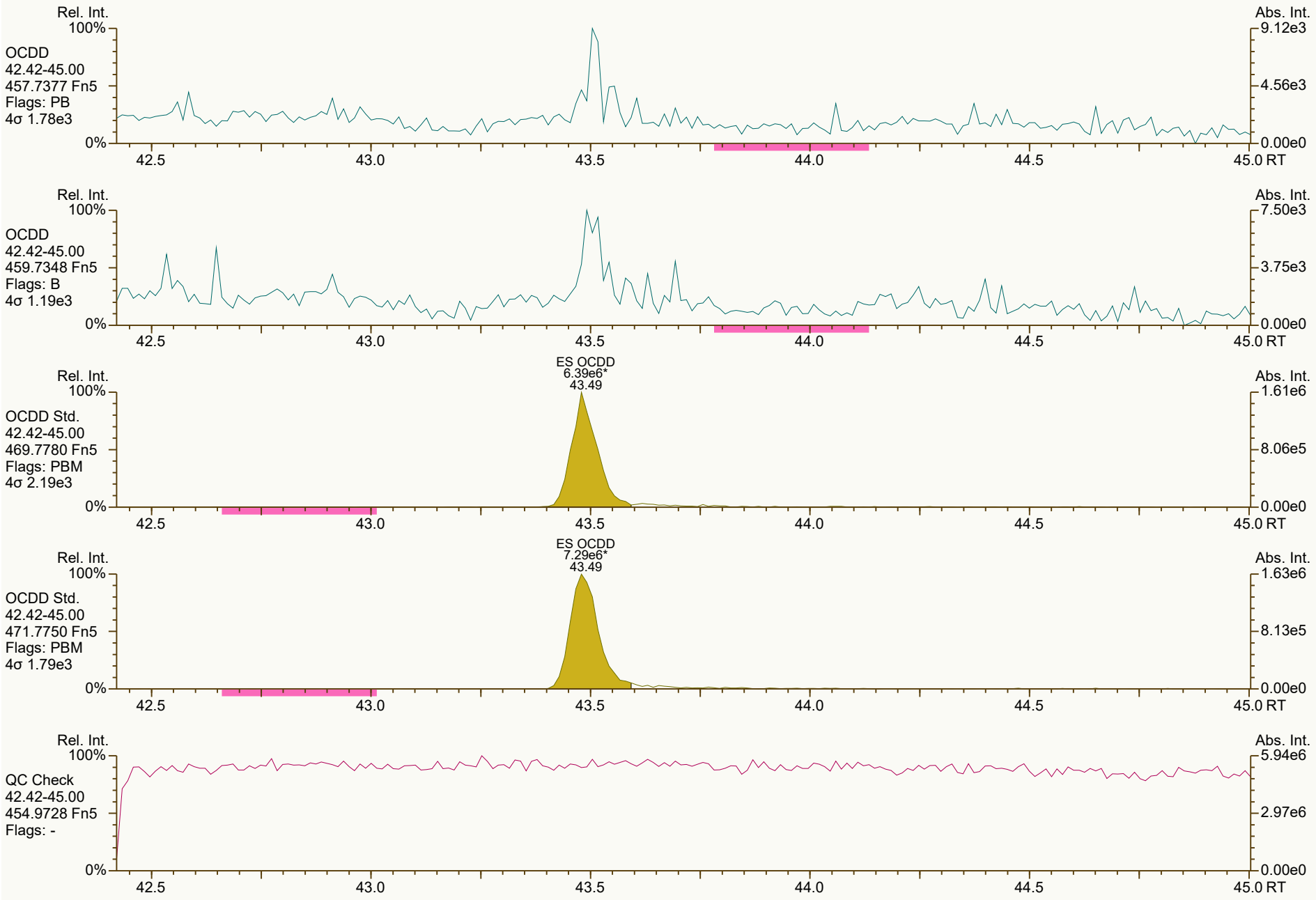

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.17e6
2.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.36e6
1.68e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.20e7
5.98e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.98e6
3.49e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.94e6
2.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

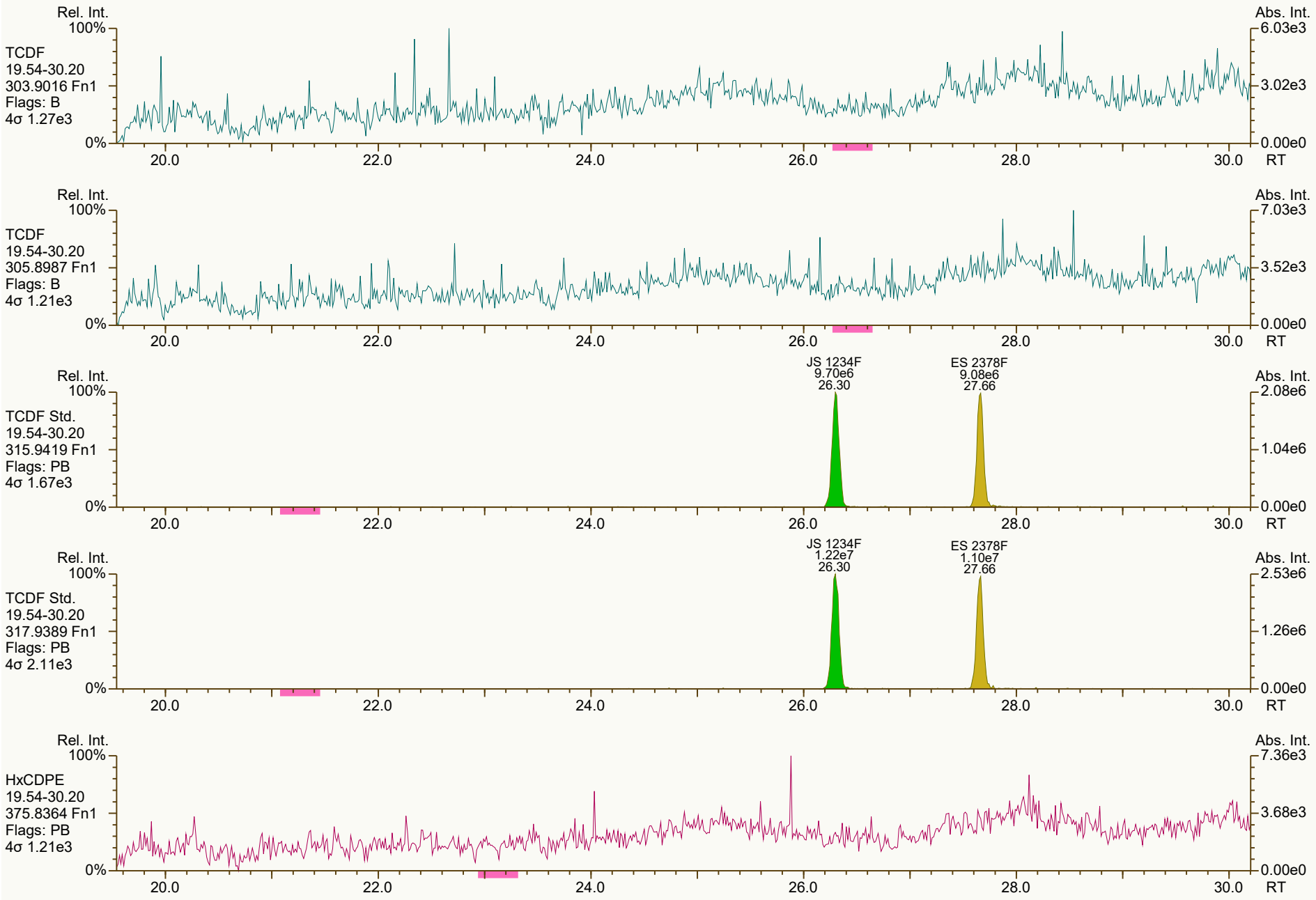

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.31e3
0%
Abs. Int.
8.52e3
4.26e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
6.75e3
3.38e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.31e3
0%
CS 37Cl-2378D
5.73e6
28.54
Abs. Int.
1.46e6
7.31e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.77e3
0%
JS 1234D
5.68e6
27.85
ES 2378D
5.36e6
28.51
Abs. Int.
1.34e6
6.72e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.57e3
0%
JS 1234D
7.51e6
27.85
ES 2378D
7.00e6
28.51
Abs. Int.
1.78e6
8.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.24e3
0%
Abs. Int.
6.41e3
3.20e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
4.46e3
2.23e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12347D
7.16e6
33.34
ES 12378D
6.91e6
33.85
Abs. Int.
2.02e6
1.01e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12347D
4.20e6
33.34
ES 12378D
4.49e6
33.84
Abs. Int.
1.26e6
6.32e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.36e6
1.68e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

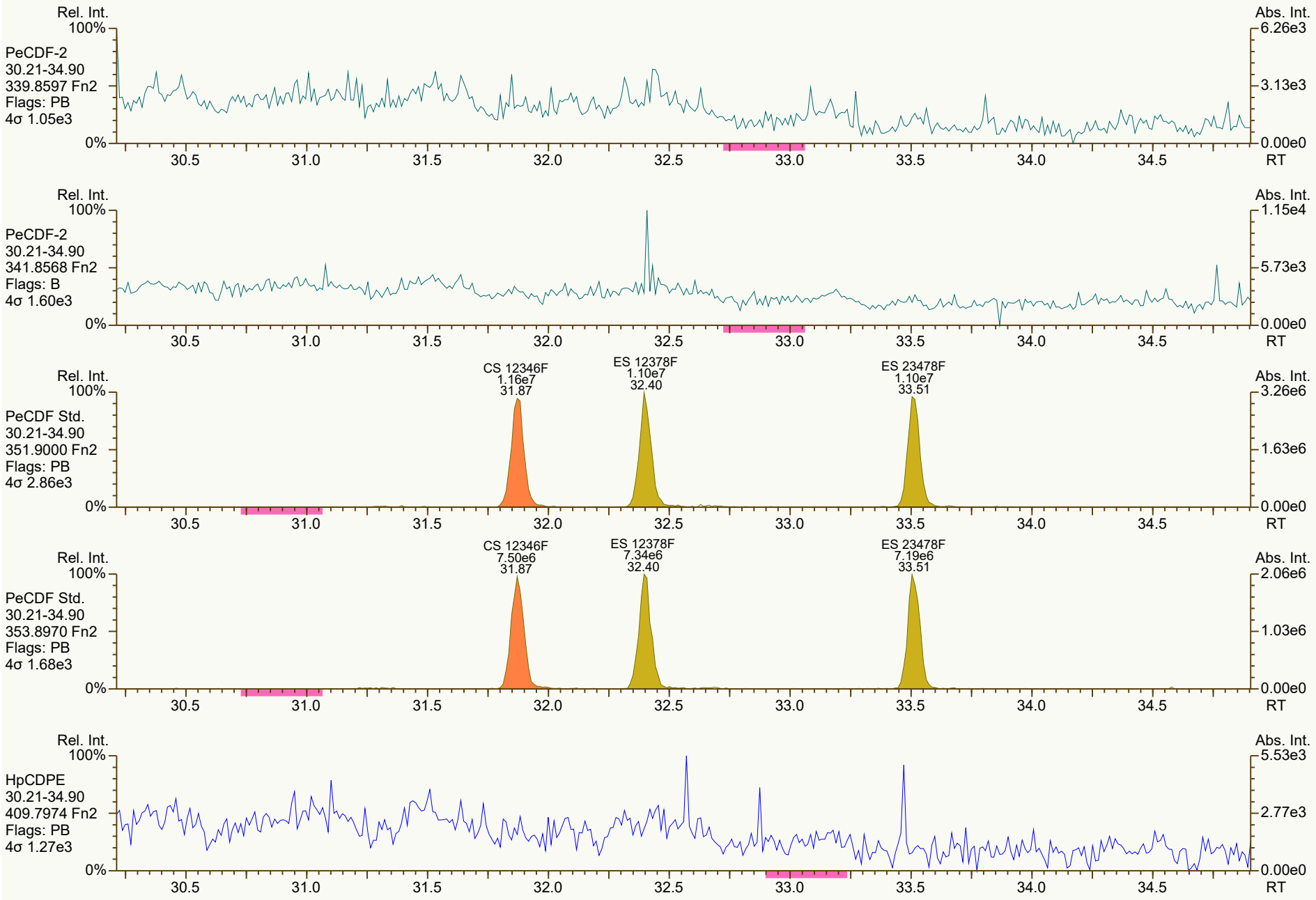

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 8.70e2
0%
Abs. Int.
7.19e3
3.60e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.35e3
0%
Abs. Int.
7.63e3
3.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.76e3
0%
ES 123678D
7.37e6
37.87
ES 123478D
6.37e6
37.76
ES 123789D
7.11e6*
38.17
JS 123467D
3.66e6*
38.07
Abs. Int.
2.09e6
1.04e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.48e3
0%
ES 123678D
5.95e6
37.87
ES 123478D
5.06e6
37.76
ES 123789D
5.67e6*
38.17
JS 123467D
2.84e6*
38.07
Abs. Int.
1.69e6
8.45e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.20e7
5.98e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

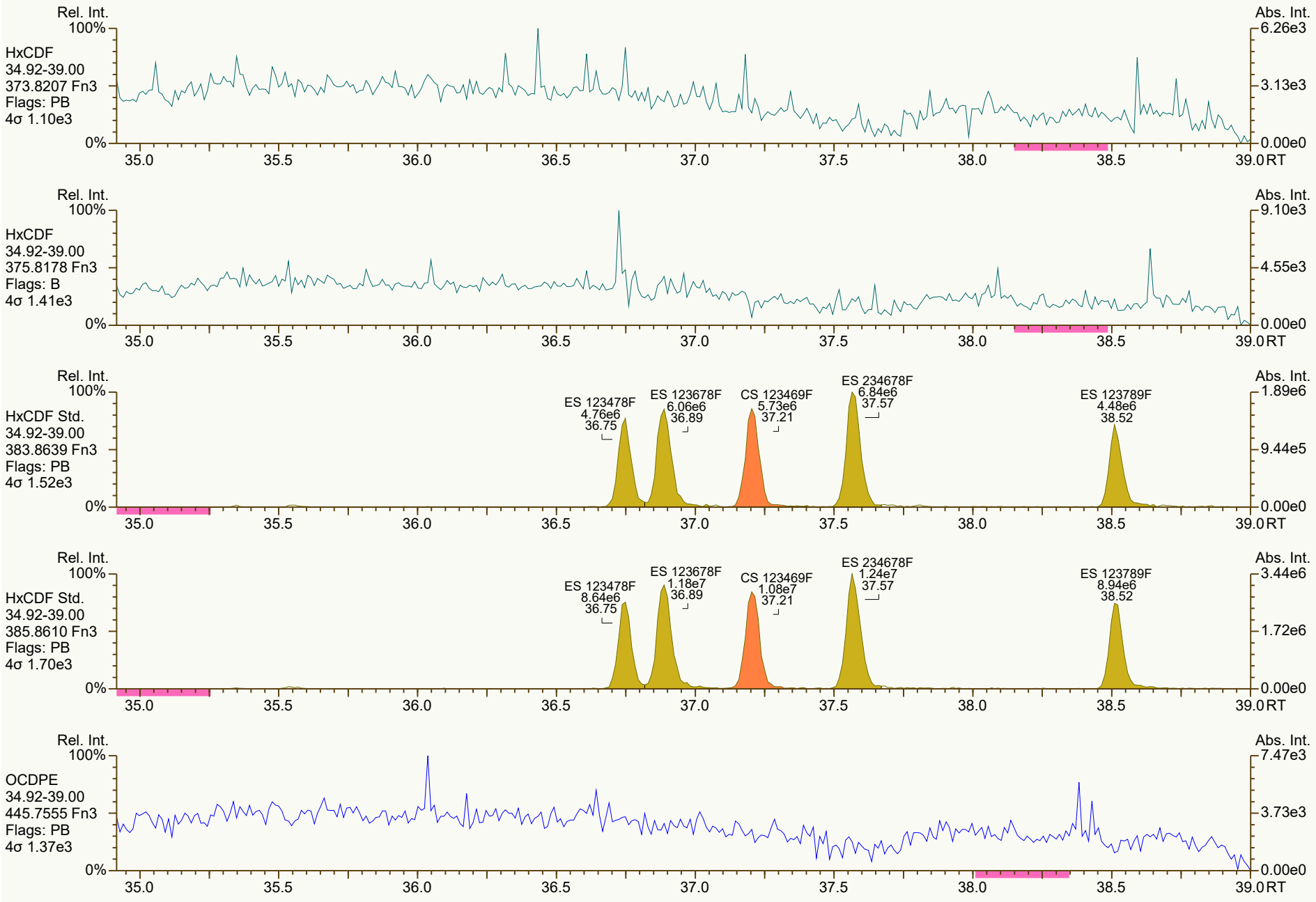

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
7.98e3
3.99e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.05e4
5.27e3
0.00e0
RT
ES 1234678D
5.60e6*
40.82
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.46e3
0%
Abs. Int.
1.63e6
8.16e5
0.00e0
RT
ES 1234678D
5.17e6*
40.82
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
1.63e6
8.13e5
0.00e0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.98e6
3.49e6
0.00e0
RT

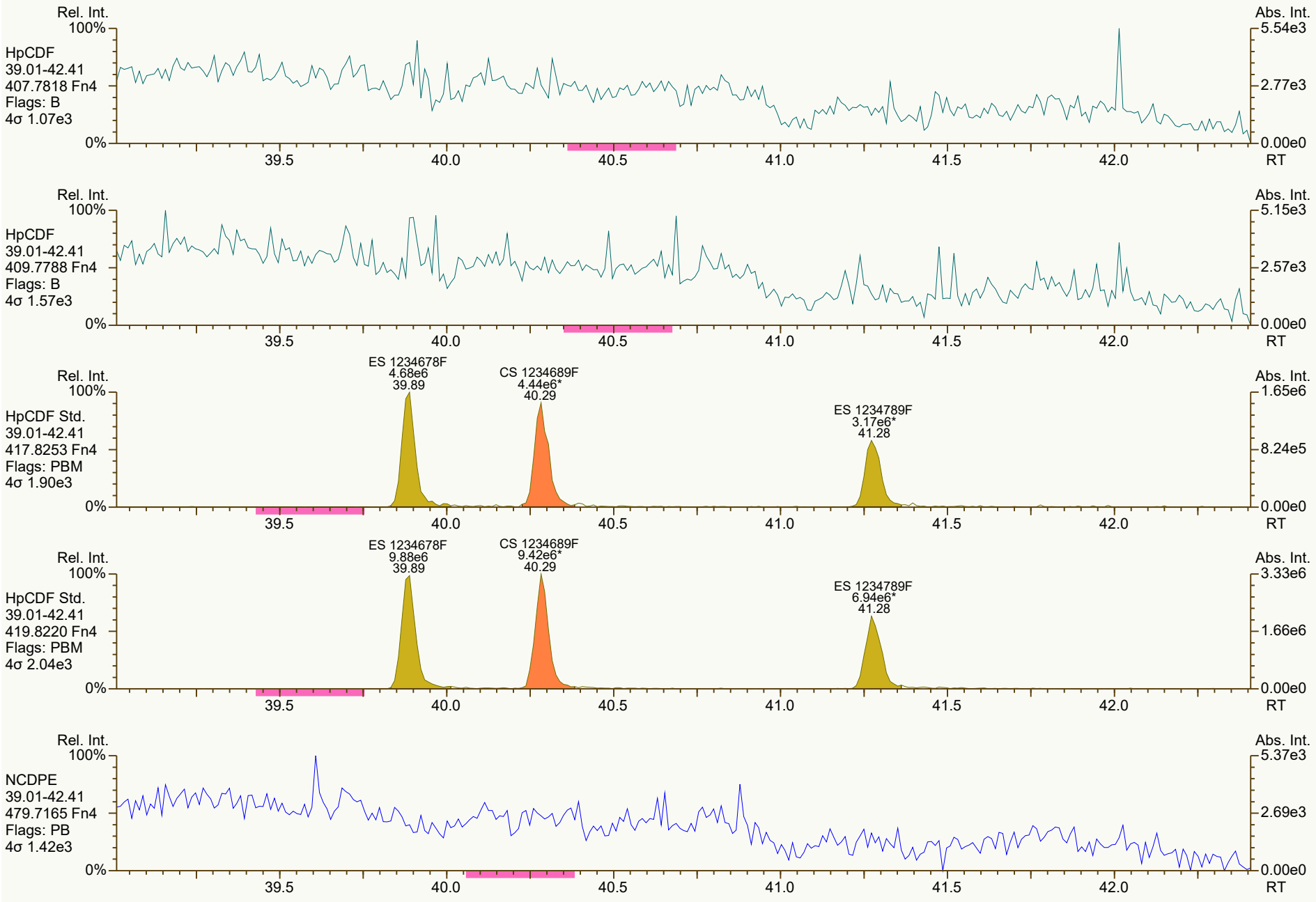

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.78e3
0%
Abs. Int.
9.12e3
4.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.19e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.19e3
0%
ES OCDD
6.39e6*
43.49
Abs. Int.
1.61e6
8.06e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
ES OCDD
7.29e6*
43.49
Abs. Int.
1.63e6
8.13e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.94e6
2.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.03e3
3.02e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
7.03e3
3.52e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.67e3
0%
JS 1234F
9.70e6
26.30
ES 2378F
9.08e6
27.66
Abs. Int.
2.08e6
1.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.11e3
0%
JS 1234F
1.22e7
26.30
ES 2378F
1.10e7
27.66
Abs. Int.
2.53e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.21e3
0%
Abs. Int.
7.36e3
3.68e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
7.90e3
3.95e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.57e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.37e3
3.69e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.10e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.17e6
2.08e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.05e3
0%
Abs. Int.
6.26e3
3.13e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.86e3
0%
CS 12346F
1.16e7
31.87
ES 12378F
1.10e7
32.40
ES 23478F
1.10e7
33.51
Abs. Int.
3.26e6
1.63e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.68e3
0%
CS 12346F
7.50e6
31.87
ES 12378F
7.34e6
32.40
ES 23478F
7.19e6
33.51
Abs. Int.
2.06e6
1.03e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.53e3
2.77e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.10e3
0%
Abs. Int.
6.26e3
3.13e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.41e3
0%
Abs. Int.
9.10e3
4.55e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.52e3
0%
ES 123478F
4.76e6
36.75
ES 123678F
6.06e6
36.89
CS 123469F
5.73e6
37.21
ES 234678F
6.84e6
37.57
ES 123789F
4.48e6
38.52
Abs. Int.
1.89e6
9.44e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.70e3
0%
ES 123478F
8.64e6
36.75
ES 123678F
1.18e7
36.89
CS 123469F
1.08e7
37.21
ES 234678F
1.24e7
37.57
ES 123789F
8.94e6
38.52
Abs. Int.
3.44e6
1.72e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.37e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.07e3
0%
Abs. Int.
5.54e3
2.77e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.57e3
0%
Abs. Int.
5.15e3
2.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.90e3
0%
ES 1234678F
4.68e6
39.89
CS 1234689F
4.44e6*
40.29
ES 1234789F
3.17e6*
41.28
Abs. Int.
1.65e6
8.24e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.04e3
0%
ES 1234678F
9.88e6
39.89
CS 1234689F
9.42e6*
40.29
ES 1234789F
6.94e6*
41.28
Abs. Int.
3.33e6
1.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.42e3
0%
Abs. Int.
5.37e3
2.69e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.07e3
0%
Abs. Int.
5.71e3
2.86e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.40e3
1.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.48e6*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.12e3
0%
Abs. Int.
2.09e6
1.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.89e6*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
2.01e6
1.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
5.07e3
2.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_001 **Acq'd:** 03 Feb 2022 00:25 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-O-20 **UTP:** 03-Feb-2022 13:42:30 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 341-058-QXS

Datafile: 220202C12 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.54	EMPC	1.0008	1.0006	-0.3	7.17E+04	0.96	N	1.18	1.1	3350.593	0.542
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2663.037	0.461
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3223.929	0.491
123678-HxCDD	37.90		1.0035	1.0036	+0.2	2.21E+05	1.10	Y	1.15	3.45	3223.929	0.458
123789-HxCDD	38.18	J	1.0112	1.0110	-0.5	7.74E+04	1.17	Y	1.05	1.39	3223.929	0.513
1234678-HpCDD	40.84		1.0003	1.0003	0	3.90E+06	1.05	Y	1.06	76.7	2255.624	0.348
OCDD	43.51		1.0004	1.0003	-0.3	4.12E+07	0.92	Y	1.13	1,150	3885.012	1.21
2378-TCDF	27.68	EMPC	1.0008	1.0005	-0.5	2.04E+05	0.90	N	1.08	2.13	2616.501	0.314
12378-PeCDF	32.42	J EMPC	1.0005	1.0003	-0.4	4.80E+04	1.28	N	1.02	0.586	2943.548	0.329
23478-PeCDF	33.55	J	1.0005	1.0009	+0.8	7.62E+04	1.52	Y	1.02	0.944	2943.548	0.312
123478-HxCDF	36.77		1.0004	1.0004	0	2.59E+05	1.37	Y	1.27	3.44	2640.688	0.289
123678-HxCDF	36.92	J	1.0004	1.0006	+0.4	1.58E+05	1.21	Y	1.15	1.78	2640.688	0.251
234678-HxCDF	37.60	J	1.0005	1.0005	0	2.34E+05	1.15	Y	1.19	2.33	2640.688	0.219
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2640.688	0.327
1234678-HpCDF	39.91		1.0003	1.0003	0	2.53E+06	1.01	Y	1.37	29.4	2002.8137	0.15
1234789-HpCDF	41.30	EMPC	1.0002	1.0003	+0.2	1.74E+05	1.20	N	1.31	3.06	2002.8137	0.267
OCDF	43.69		1.0003	1.0003	0	2.76E+06	0.86	Y	1.07	61.6	2852.48	0.647

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52		1.0236	1.0238	+0.3	1.07E+07	0.88	Y	1.05	87.7
ES 12378-PeCDD	33.85		1.2144	1.2153	+1.8	9.59E+06	1.58	Y	0.88	93.3
ES 123478-HxCDD	37.76		0.9920	0.9919	-0.2	9.88E+06	1.22	Y	0.97	93.1
ES 123678-HxCDD	37.88		0.9951	0.9950	-0.2	1.09E+07	1.26	Y	0.94	106
ES 123789-HxCDD	38.17		1.0027	1.0026	-0.2	1.04E+07	1.24	Y	1.09	87.1
ES 1234678-HpCDD	40.83		1.0724	1.0725	+0.2	9.37E+06	1.07	Y	0.91	94.1
ES OCDD	43.50		1.1428	1.1425	-0.8	1.24E+07	0.87	Y	0.62	90.9
ES 2378-TCDF	27.67		1.0516	1.0517	+0.2	1.73E+07	0.79	Y	1.06	81.8
ES 12378-PeCDF	32.41		1.2312	1.2319	+1.4	1.56E+07	1.53	Y	0.91	85.7
ES 23478-PeCDF	33.52		1.2733	1.2742	+1.8	1.55E+07	1.51	Y	0.88	87.4
ES 123478-HxCDF	36.75		0.9655	0.9654	-0.2	1.15E+07	0.53	Y	1.20	88.2
ES 123678-HxCDF	36.90		0.9692	0.9692	0	1.50E+07	0.55	Y	1.35	102
ES 234678-HxCDF	37.58		0.9871	0.9871	0	1.65E+07	0.52	Y	1.24	122
ES 123789-HxCDF	38.53		1.0121	1.0120	-0.2	1.16E+07	0.54	Y	1.16	92.1
ES 1234678-HpCDF	39.90		1.0479	1.0479	0	1.23E+07	0.46	Y	0.97	116
ES 1234789-HpCDF	41.29		1.0845	1.0844	-0.2	8.51E+06	0.44	Y	0.85	91.6
ES OCDF	43.68		1.1477	1.1473	-1.0	1.64E+07	0.89	Y	0.81	92.8

Lab ID: B6207_18874_DF_001 **Acq'd:** 03 Feb 2022 00:25 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-O-20 **UTP:** 03-Feb-2022 13:42:30 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 341-058-QXS

Datafile: 220202C12 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.86		-	-	-	1.17E+07	0.81	Y	-	-	
JS 1234-TCDF	26.31		-	-	-	2.00E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	5.45E+06	1.22	Y	-	-	
CS 37Cl-2378-TCDD	28.54		1.0244	1.0246	+0.3	5.11E+06	n/a	-	1.20	91	
CS 12347-PeCDD	33.35		1.1964	1.1972	+1.6	9.93E+06	1.63	Y	0.75	113	
CS 12346-PeCDF	31.88		1.2112	1.2119	+1.3	1.69E+07	1.59	Y	0.85	99	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	1.35E+07	0.52	Y	1.12	111	
CS 1234689-HpCDF	40.30		1.0584	1.0585	+0.2	1.18E+07	0.45	Y	0.89	122	
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~5.11E+06~~	~~n/a~~		~~1.15~~	~~104~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1972~~	~~+1.6~~	~~9.93E+06~~	~~1.63~~	~~Y~~	~~0.86~~	~~121~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~1.69E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~115~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.35E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~109~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0585~~	~~+0.2~~	~~1.18E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~105~~	

Totals	Conc	EMPC
Total TCDD	0	1.1
Total PeCDD	0	0
Total HxCDD	13.8	13.8
Total HpCDD	140	140
Total Tetra-Octa Dioxins	1310	1310
Total TCDF	0	2.9
Total PeCDF	7.16	7.75
Total HxCDF	48.5	52.7
Total HpCDF	94.7	97.8
Total Tetra-Octa Furans	212	223
Total Tetra-Octa Dioxins & Furans	1520	1530

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.888	0.96
Response	8.23E+04	7.92E+04

Lab ID: B6207_18874_DF_001 **Acq'd: 03 Feb 2022 00:25 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-S-BN-SW-O-20 **UTP: 03-Feb-2022 13:42:30 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 341-058-QXS**

Datafile: 220202C12 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3350.593	0.542
1379-TCDD	NotFnd		0.8860						1.18		3350.593	0.542
1369-TCDD	NotFnd		0.9009						1.18		3350.593	0.542
1469-TCDD	NotFnd		0.9281						1.18		3350.593	0.542
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3350.593	0.542
1378-TCDD	NotFnd		0.9432						1.18		3350.593	0.542
1268-TCDD	NotFnd		0.9500						1.18		3350.593	0.542
1478-TCDD	NotFnd		0.9586						1.18		3350.593	0.542
1279-TCDD	NotFnd		0.9645						1.18		3350.593	0.542
1234/1269-TCDD	NotFnd		0.9770						1.18		3350.593	0.542
1236-TCDD	NotFnd		0.9817						1.18		3350.593	0.542
1237/1238-TCDD	NotFnd		0.9905						1.18		3350.593	0.542
1239-TCDD	NotFnd		0.9952						1.18		3350.593	0.542
2378-TCDD	**28.54**	EMPC	**1.0008**	1.0006	**-0.3**	7.17E+04	0.96	N	**1.18**	**1.1**	**3350.593**	**0.542**
1278-TCDD	NotFnd		1.0121						1.18		3350.593	0.542
1267-TCDD	NotFnd		1.0167						1.18		3350.593	0.542
1289-TCDD	NotFnd		1.0345						1.18		3350.593	0.542
12479/12468-PeCDD	NotFnd		0.9267						1.04		2663.037	0.461
12469-PeCDD	NotFnd		0.9425						1.04		2663.037	0.461
12368-PeCDD	NotFnd		0.9588						1.04		2663.037	0.461
12478-PeCDD	NotFnd		0.9643						1.04		2663.037	0.461
12379-PeCDD	NotFnd		0.9673						1.04		2663.037	0.461
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2663.037	0.461
12346/12347-PeCDD	NotFnd		0.9858						1.04		2663.037	0.461
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2663.037**	**0.461**
12367-PeCDD	NotFnd		1.0033						1.04		2663.037	0.461
12389-PeCDD	NotFnd		1.0134						1.04		2663.037	0.461
124679/124689-HxCDD	36.03		0.9542	0.9541	-0.2	2.04E+05	1.24	Y	1.10	3.51	3223.929	0.486
123468-HxCDD	NotFnd		0.9715						1.10		3223.929	0.486
123679/123689-HxCDD	36.98		0.9793	0.9794	+0.2	3.17E+05	1.39	Y	1.10	5.44	3223.929	0.486
123469-HxCDD	NotFnd		0.9828						1.10		3223.929	0.486
123478-HxCDD	NotFnd		**1.0004**						1.09		**3223.929**	**0.491**
123678-HxCDD	37.90		**1.0035**	**1.0036**	**+0.2**	**2.21E+05**	**1.10**	**Y**	1.15	**3.45**	**3223.929**	**0.458**
123467-HxCDD	NotFnd		1.0085						1.10		3223.929	0.486
123789-HxCDD	38.18	J	**1.0112**	**1.0110**	**-0.5**	**7.74E+04**	**1.17**	**Y**	1.05	**1.39**	**3223.929**	**0.513**

Lab ID: B6207_18874_DF_001 **Acq'd: 03 Feb 2022 00:25 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-S-BN-SW-O-20 **UTP: 03-Feb-2022 13:42:30 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 341-058-QXS**

Datafile: 220202C12 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

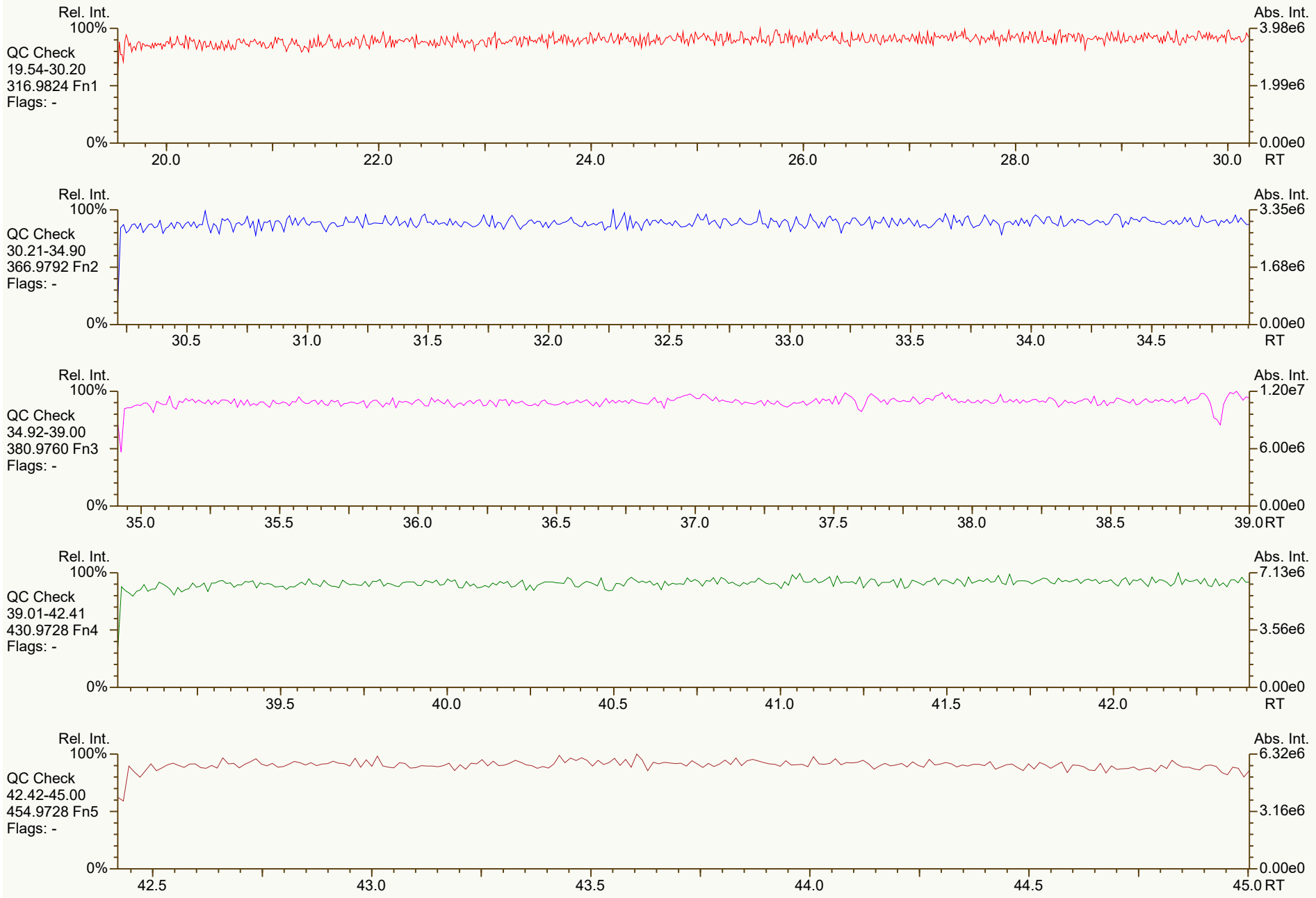
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	3.20E+06	1.04	Y	1.06	62.9	2255.624	0.348
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**3.90E+06**	**1.05**	**Y**	**1.06**	**76.7**	**2255.624**	**0.348**
OCDD	**43.51**		**1.0004**	**1.0003**	**-0.3**	**4.12E+07**	**0.92**	**Y**	**1.13**	**1,150**	**3885.012**	**1.21**
OCDD-a	43.51		1.0003	1.0002	-0.3	2.54E+06	2.45	Y	0.07	1,110	3824.652	18.6
1368-TCDF	NotFnd		0.8251						1.08		2616.501	0.314
1468-TCDF	NotFnd		0.8458						1.08		2616.501	0.314
2468-TCDF	NotFnd		0.8686						1.08		2616.501	0.314
1346/1246-TCDF	NotFnd		0.8814						1.08		2616.501	0.314
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2616.501	0.314
1348-TCDF	NotFnd		0.8962						1.08		2616.501	0.314
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2616.501	0.314
1268-TCDF	NotFnd		0.9145						1.08		2616.501	0.314
1467-TCDF	NotFnd		0.9193						1.08		2616.501	0.314
1478-TCDF	NotFnd		0.9254						1.08		2616.501	0.314
1369/1237-TCDF	NotFnd		0.9387						1.08		2616.501	0.314
2467-TCDF	NotFnd		0.9433						1.08		2616.501	0.314
2368-TCDF	NotFnd		0.9489						1.08		2616.501	0.314
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2616.501	0.314
1278-TCDF	26.79	EMPC	0.9683	0.9683	0	7.39E+04	0.94	N	1.08	0.771	2616.501	0.314
1349-TCDF	NotFnd		0.9722						1.08		2616.501	0.314
1267-TCDF	NotFnd		0.9783						1.08		2616.501	0.314
2346/1249-TCDF	NotFnd		0.9850						1.08		2616.501	0.314
2347/1279-TCDF	NotFnd		0.9926						1.08		2616.501	0.314
2348-TCDF	NotFnd		0.9967						1.08		2616.501	0.314
2378-TCDF	**27.68**	EMPC	**1.0008**	**1.0005**	**-0.5**	**2.04E+05**	**0.90**	**N**	**1.08**	**2.13**	**2616.501**	**0.314**
2367/3467-TCDF	NotFnd		1.0137						1.08		2616.501	0.314
1269-TCDF	NotFnd		1.0223						1.08		2616.501	0.314
1239-TCDF	NotFnd		1.0321						1.08		2616.501	0.314
1289-TCDF	NotFnd		1.0722						1.08		2616.501	0.314
13468/12468-PeCDF	29.63		0.9139	0.9141	+0.4	3.53E+05	1.56	Y	1.02	4.34	2699.681	0.294
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2943.548	0.32
12368/13478/12478-PeCDF	31.32	J	0.9662	0.9665	+0.6	1.52E+05	1.71	Y	1.02	1.87	2943.548	0.32
14678-PeCDF	NotFnd		0.9692						1.02		2943.548	0.32
13479-PeCDF	NotFnd		0.9723						1.02		2943.548	0.32
13469/12479-PeCDF	NotFnd		0.9797						1.02		2943.548	0.32
12346-PeCDF	NotFnd		0.9840						1.02		2943.548	0.32

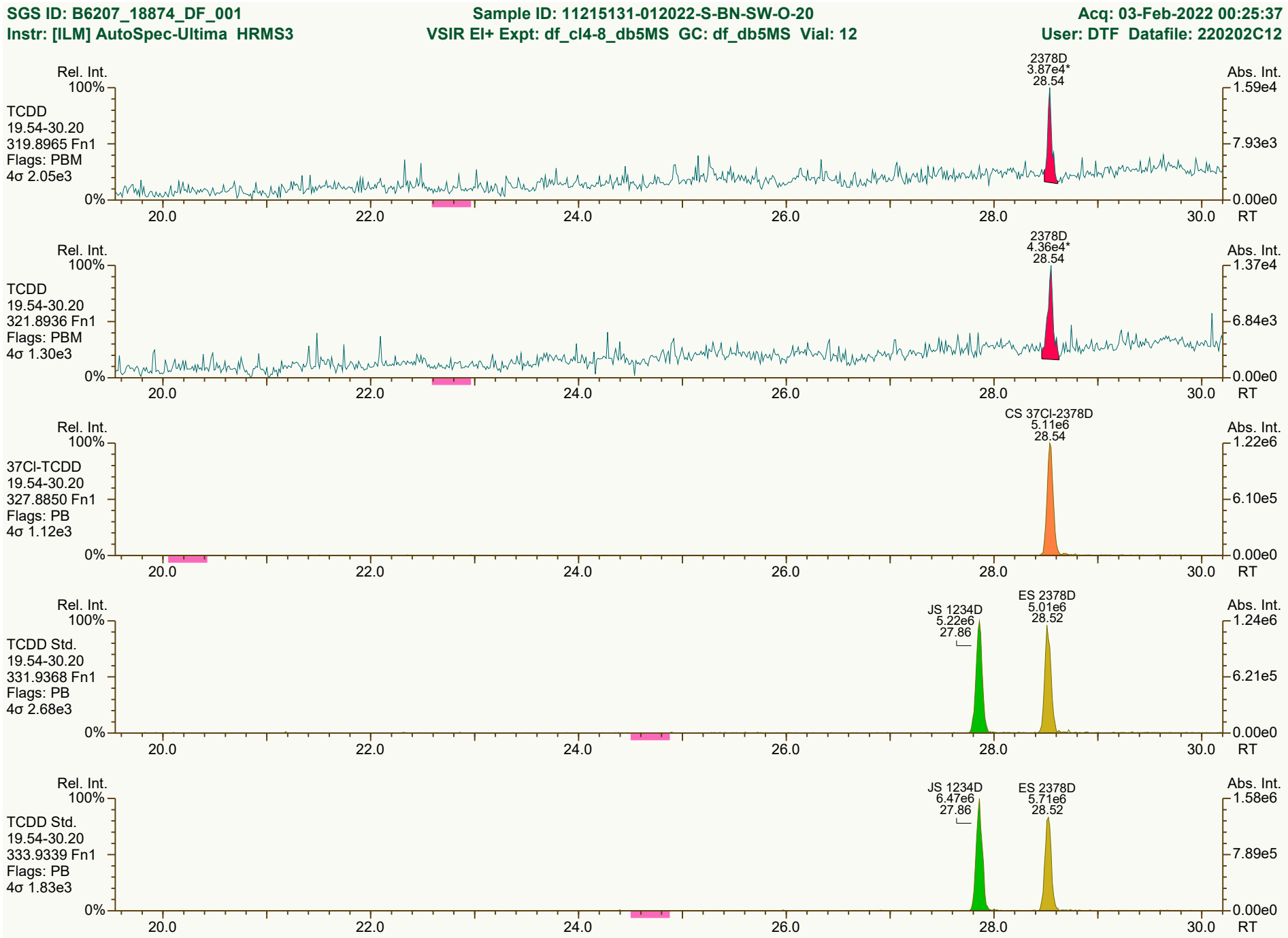
Lab ID: B6207_18874_DF_001 **Acq'd: 03 Feb 2022 00:25 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-S-BN-SW-O-20 **UTP: 03-Feb-2022 13:42:30 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 341-058-QXS**

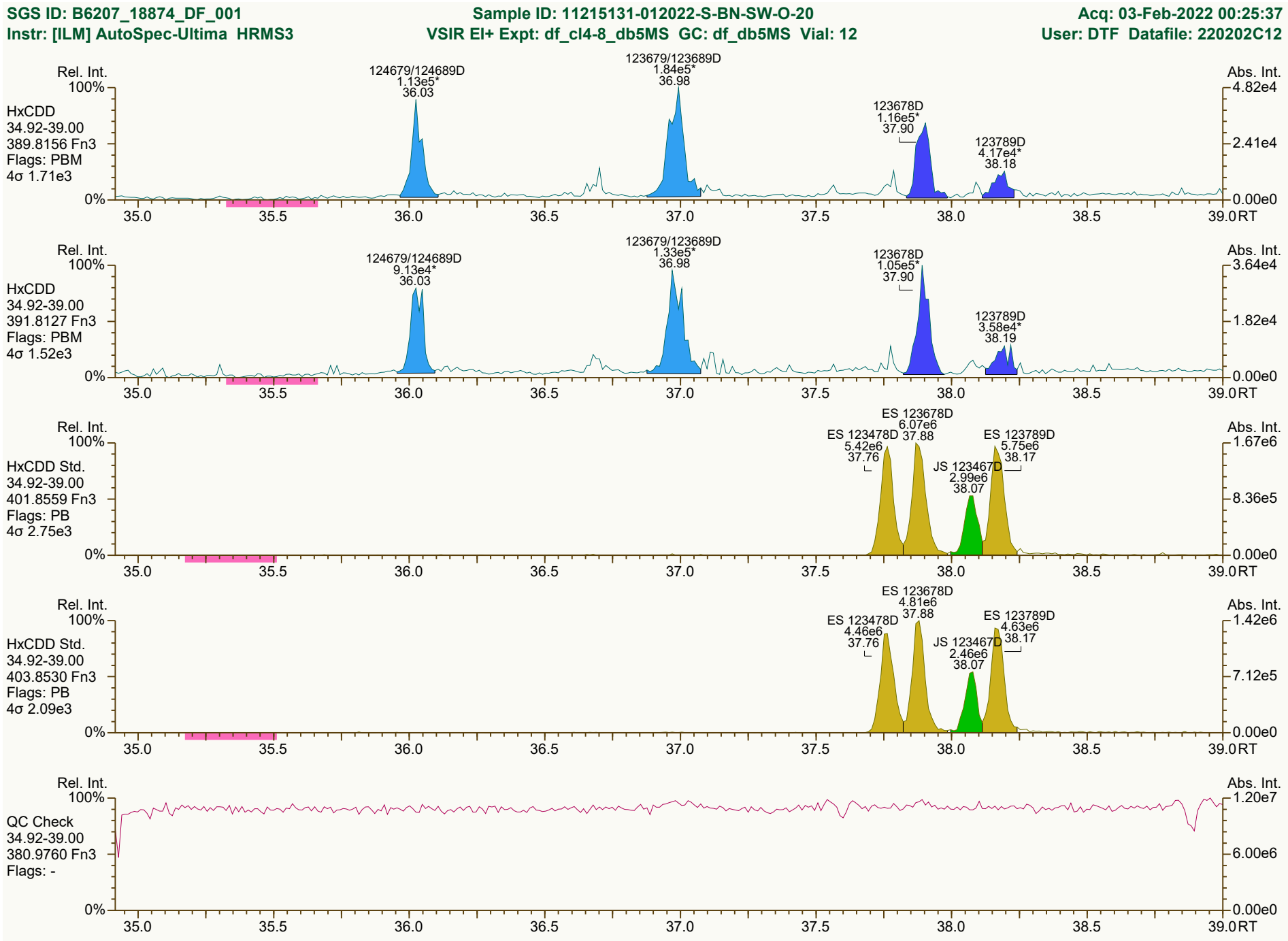
Datafile: 220202C12 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

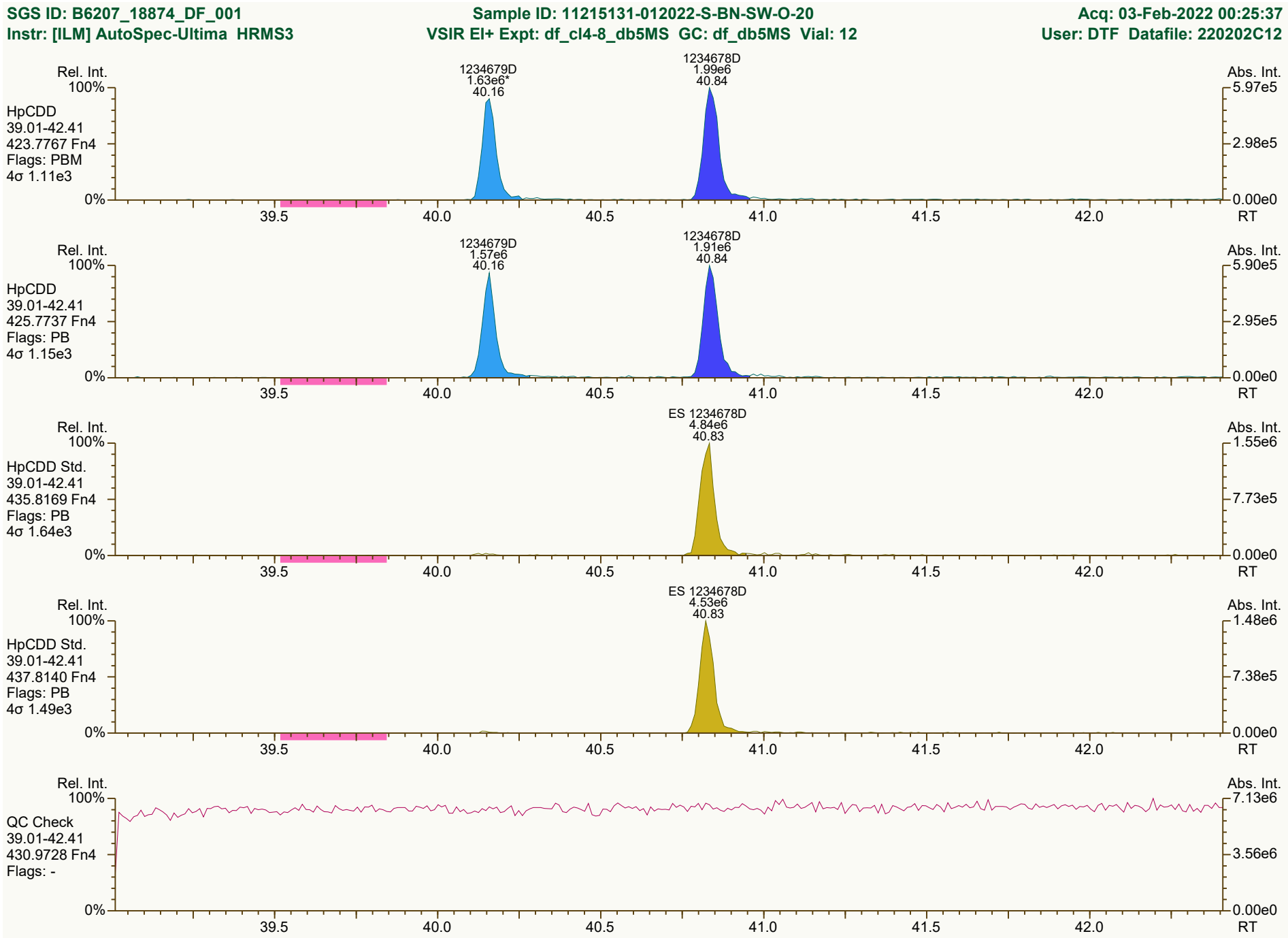
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2943.548	0.32
12347-PeCDF	NotFnd		0.9894						1.02		2943.548	0.32
12348-PeCDF	NotFnd		0.9940						1.02		2943.548	0.32
12378-PeCDF	**32.42**	J EMPC	**1.0005**	**1.0003**	**-0.4**	**4.80E+04**	**1.28**	**N**	**1.02**	**0.586**	**2943.548**	**0.329**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2943.548	0.32
12379-PeCDF	NotFnd		1.0142						1.02		2943.548	0.32
12679-PeCDF	NotFnd		0.9929						1.02		2943.548	0.32
23467/12369-PeCDF	NotFnd		0.9967						1.02		2943.548	0.32
23478-PeCDF	**33.55**	J	**1.0005**	**1.0009**	**+0.8**	**7.62E+04**	**1.52**	**Y**	**1.02**	**0.944**	**2943.548**	**0.312**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2943.548	0.32
12349-PeCDF	NotFnd		1.0100						1.02		2943.548	0.32
12389-PeCDF	NotFnd		1.0324						1.02		2943.548	0.32
123468-HxCDF	35.38	EMPC	0.9627	0.9626	-0.2	3.49E+05	1.02	N	1.19	4.18	2640.688	0.265
124678/134678-HxCDF	35.58		0.9682	0.9681	-0.2	1.49E+06	1.23	Y	1.19	17.8	2640.688	0.265
134679-HxCDF	NotFnd		0.9744						1.19		2640.688	0.265
124679-HxCDF	NotFnd		0.9798						1.19		2640.688	0.265
124689-HxCDF	36.23		0.9858	0.9858	0	1.83E+06	1.31	Y	1.19	21.9	2640.688	0.265
123467-HxCDF	NotFnd		0.9972						1.19		2640.688	0.265
123478-HxCDF	**36.77**		**1.0004**	**1.0004**	**0**	**2.59E+05**	**1.37**	**Y**	**1.27**	**3.44**	**2640.688**	**0.289**
123678-HxCDF	**36.92**	J	**1.0004**	**1.0006**	**+0.4**	**1.58E+05**	**1.21**	**Y**	**1.15**	**1.78**	**2640.688**	**0.251**
123479-HxCDF	NotFnd		1.0049						1.19		2640.688	0.265
123469-HxCDF	NotFnd		1.0090						1.19		2640.688	0.265
123679-HxCDF	NotFnd		0.9942						1.19		2640.688	0.265
234678-HxCDF	**37.60**	J	**1.0005**	**1.0005**	**0**	**2.34E+05**	**1.15**	**Y**	**1.19**	**2.33**	**2640.688**	**0.219**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2640.688	0.265
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2640.688**	**0.327**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.57	J	1.0009	1.0011	+0.5	1.01E+05	1.08	Y	1.19	1.21	2640.688	0.265
1234678-HpCDF	**39.91**		**1.0003**	**1.0003**	**0**	**2.53E+06**	**1.01**	**Y**	**1.37**	**29.4**	**2002.8137**	**0.15**
1234679-HpCDF	NotFnd		1.0068						1.34		2002.8137	0.197
1234689-HpCDF	40.31		1.0103	1.0104	+0.2	4.65E+06	1.01	Y	1.34	65.3	2002.8137	0.197
1234789-HpCDF	**41.30**	**EMPC**	**1.0002**	**1.0003**	**+0.2**	**1.74E+05**	**1.20**	**N**	**1.31**	**3.06**	**2002.8137**	**0.267**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**2.76E+06**	**0.86**	**Y**	**1.07**	**61.6**	**2852.48**	**0.647**
OCDF-a	43.68	**EMPC**	1.0002	1.0000	-0.5	7.01E+04	5.18	N	0.07	25.2	3274.314	12

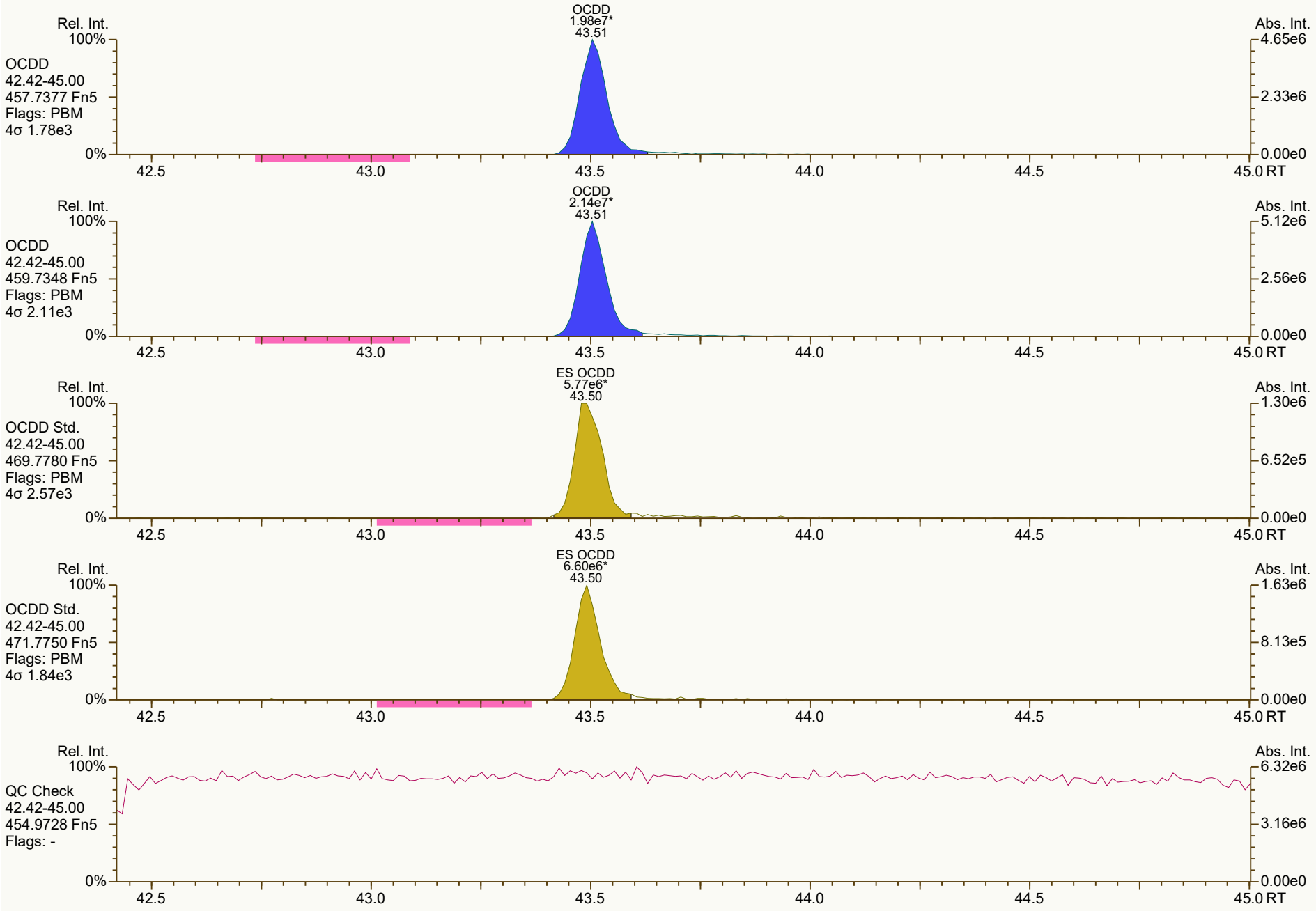

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.98e6
1.99e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.35e6
1.68e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.20e7
6.00e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.13e6
3.56e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.32e6
3.16e6
0.00e0

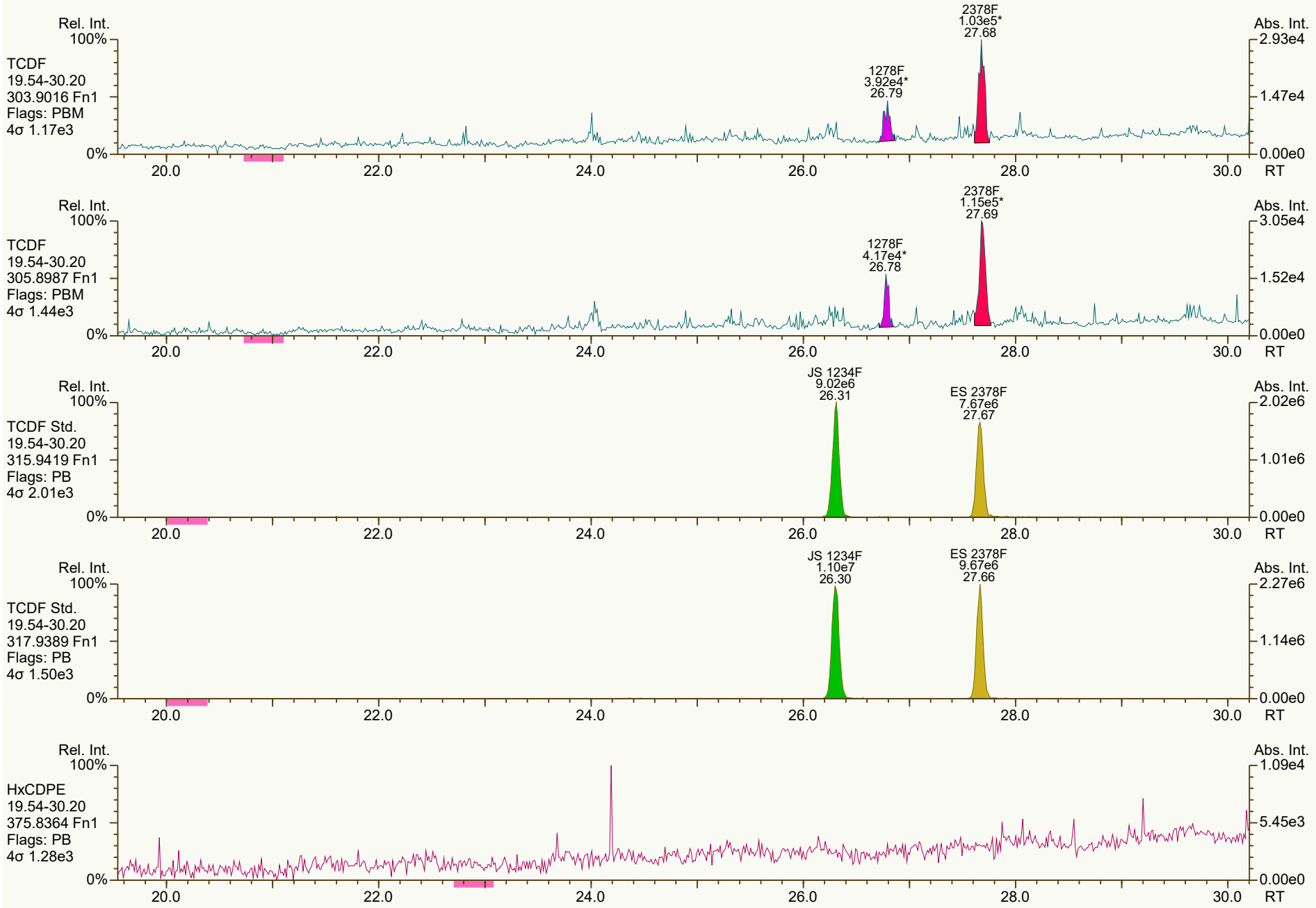

SGS ID: B6207_18874_DF_001
Sample ID: 11215131-012022-S-BN-SW-O-20
Acq: 03-Feb-2022 00:25:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220202C12
Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.05e3
0%
2378D
3.87e4*
28.54
Abs. Int.
1.59e4
7.93e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.30e3
0%
2378D
4.36e4*
28.54
Abs. Int.
1.37e4
6.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.12e3
0%
CS 37Cl-2378D
5.11e6
28.54
Abs. Int.
1.22e6
6.10e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.68e3
0%
JS 1234D
5.22e6
27.86
ES 2378D
5.01e6
28.52
Abs. Int.
1.24e6
6.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.83e3
0%
JS 1234D
6.47e6
27.86
ES 2378D
5.71e6
28.52
Abs. Int.
1.58e6
7.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_001.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7611, 2733, 6318 scc: 341-058
Revised: 03-Feb-2022 09:52 (DTF) Printed: 03-Feb-2022 13:50 Page 2 of 12

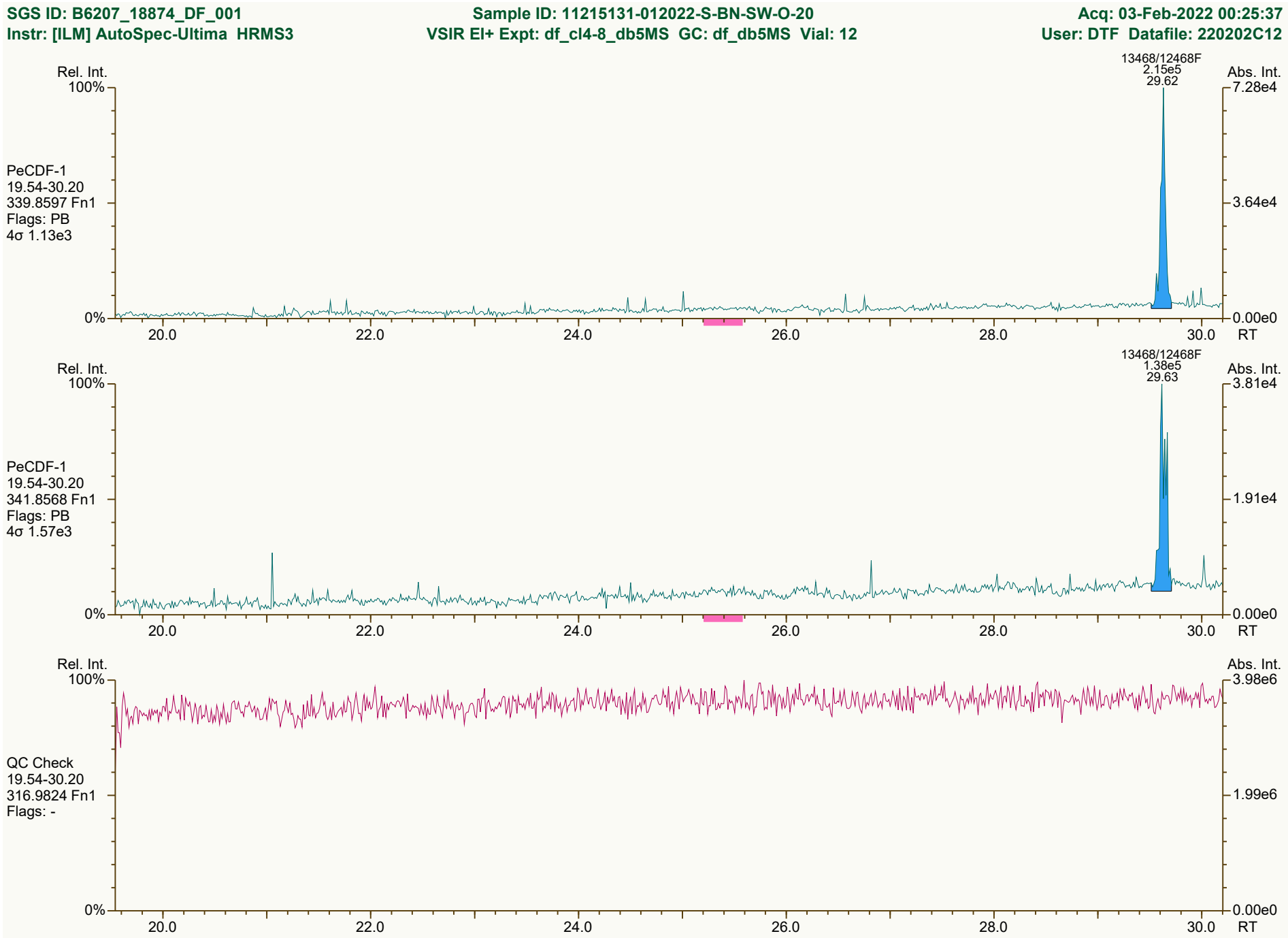

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.08e4
5.42e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.38e3
0%
Abs. Int.
8.29e3
4.14e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.10e3
0%
CS 12347D
6.15e6
33.35
ES 12378D
5.87e6
33.85
Abs. Int.
1.80e6
9.01e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.46e3
0%
CS 12347D
3.77e6
33.35
ES 12378D
3.72e6
33.85
Abs. Int.
1.12e6
5.59e5
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.35e6
1.68e6
0.00e0
RT

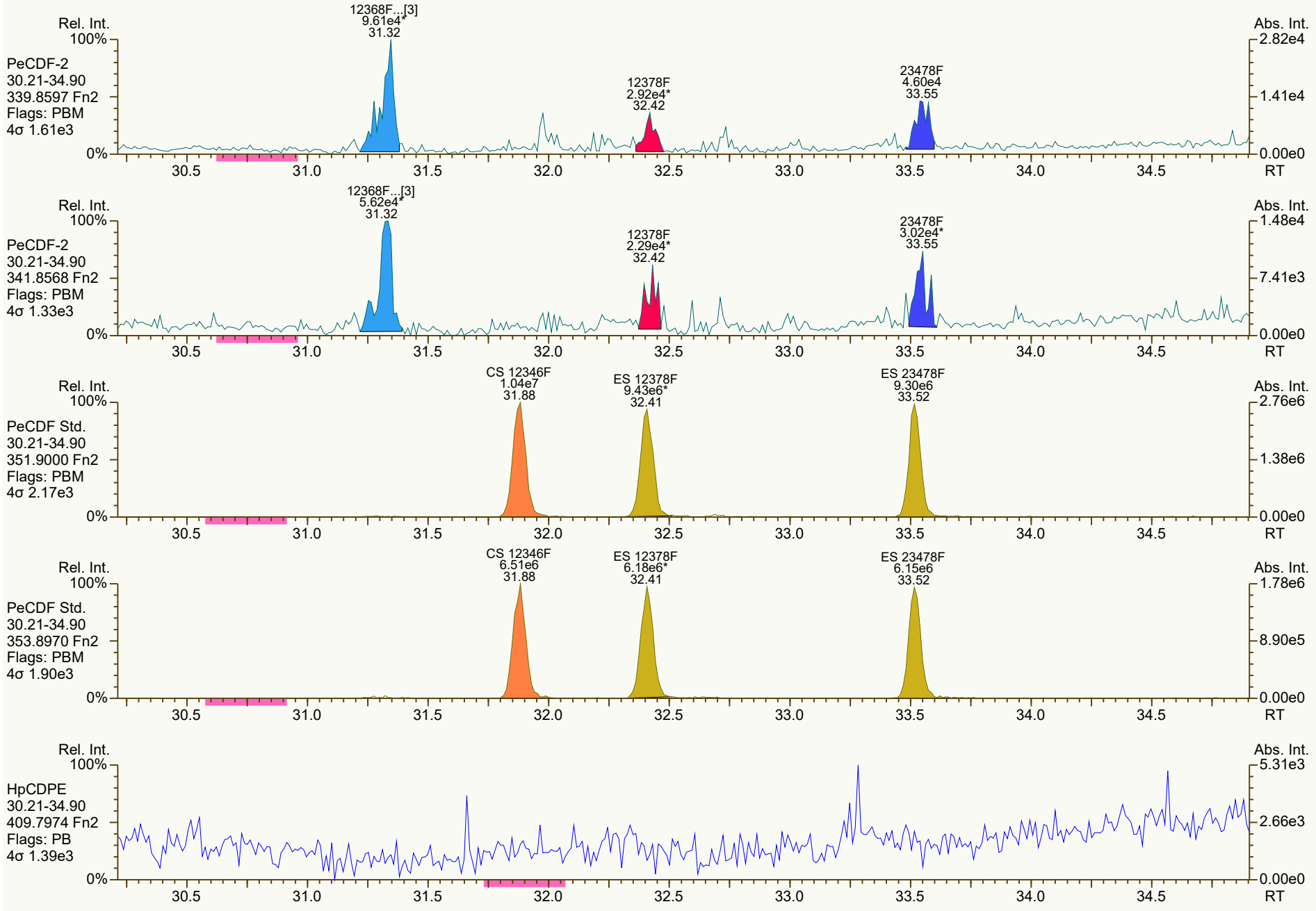

SGS ID: B6207_18874_DF_001
Sample ID: 11215131-012022-S-BN-SW-O-20
Acq: 03-Feb-2022 00:25:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220202C12
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.71e3
124679/124689D
1.13e5*
36.03
123679/123689D
1.84e5*
36.98
123678D
1.16e5*
37.90
123789D
4.17e4*
38.18
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.52e3
124679/124689D
9.13e4*
36.03
123679/123689D
1.33e5*
36.98
123678D
1.05e5*
37.90
123789D
3.58e4*
38.19
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.75e3
ES 123678D
6.07e6
37.88
ES 123478D
5.42e6
37.76
ES 123789D
5.75e6
38.17
JS 123467D
2.99e6
38.07
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.09e3
ES 123678D
4.81e6
37.88
ES 123478D
4.46e6
37.76
ES 123789D
4.63e6
38.17
JS 123467D
2.46e6
38.07
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT

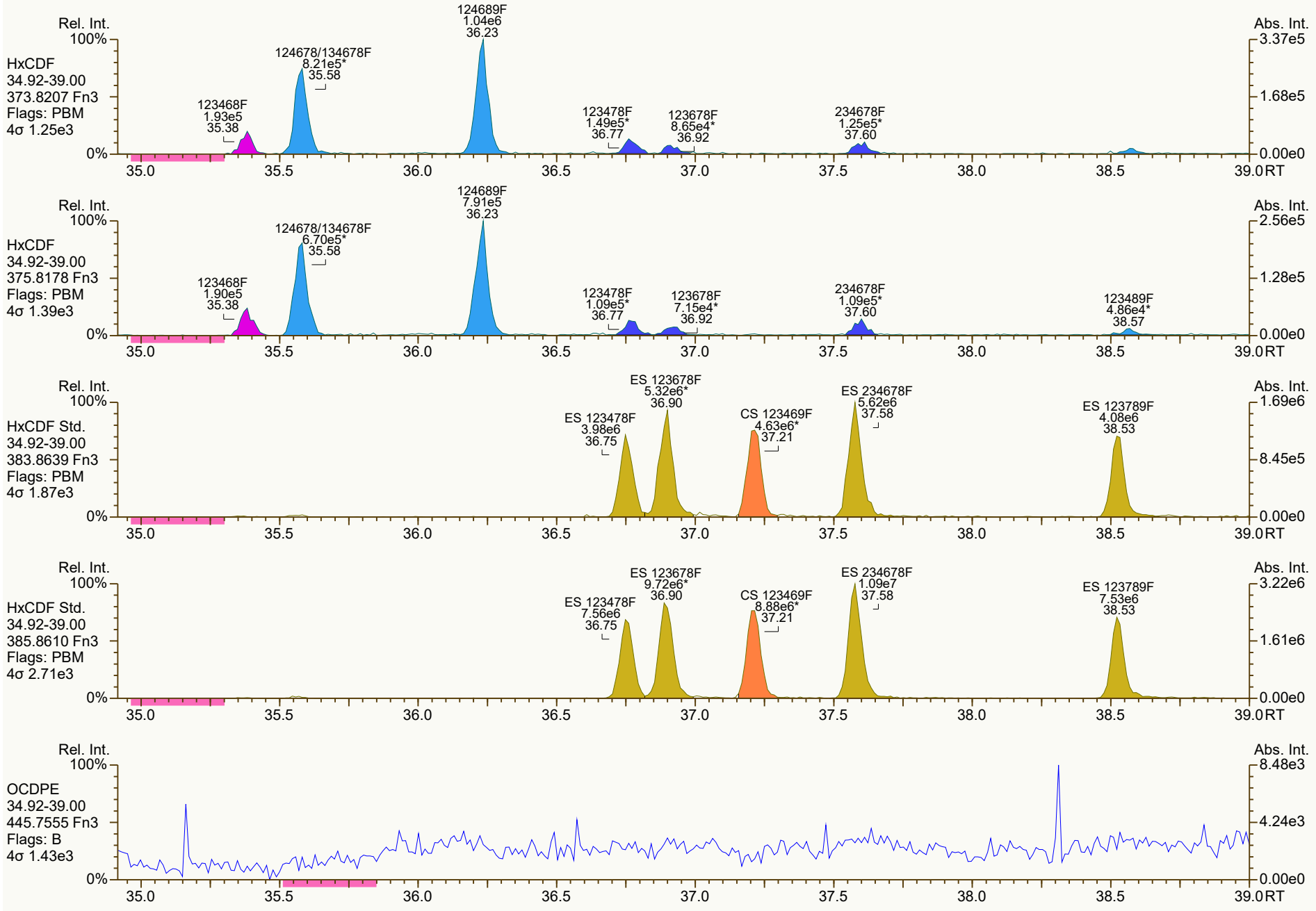

SGS ID: B6207_18874_DF_001
Sample ID: 11215131-012022-S-BN-SW-O-20
Acq: 03-Feb-2022 00:25:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220202C12
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.11e3
1234679D
1.63e6*
40.16
1234678D
1.99e6
40.84
5.97e5
2.98e5
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.15e3
1234679D
1.57e6
40.16
1234678D
1.91e6
40.84
5.90e5
2.95e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.64e3
ES 1234678D
4.84e6
40.83
1.55e6
7.73e5
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.49e3
ES 1234678D
4.53e6
40.83
1.48e6
7.38e5
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
7.13e6
3.56e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_001.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6900, 9678 scc: 341-058
PKD: 03-Feb-2022 09:54 Printed: 03-Feb-2022 13:50 Page 5 of 12

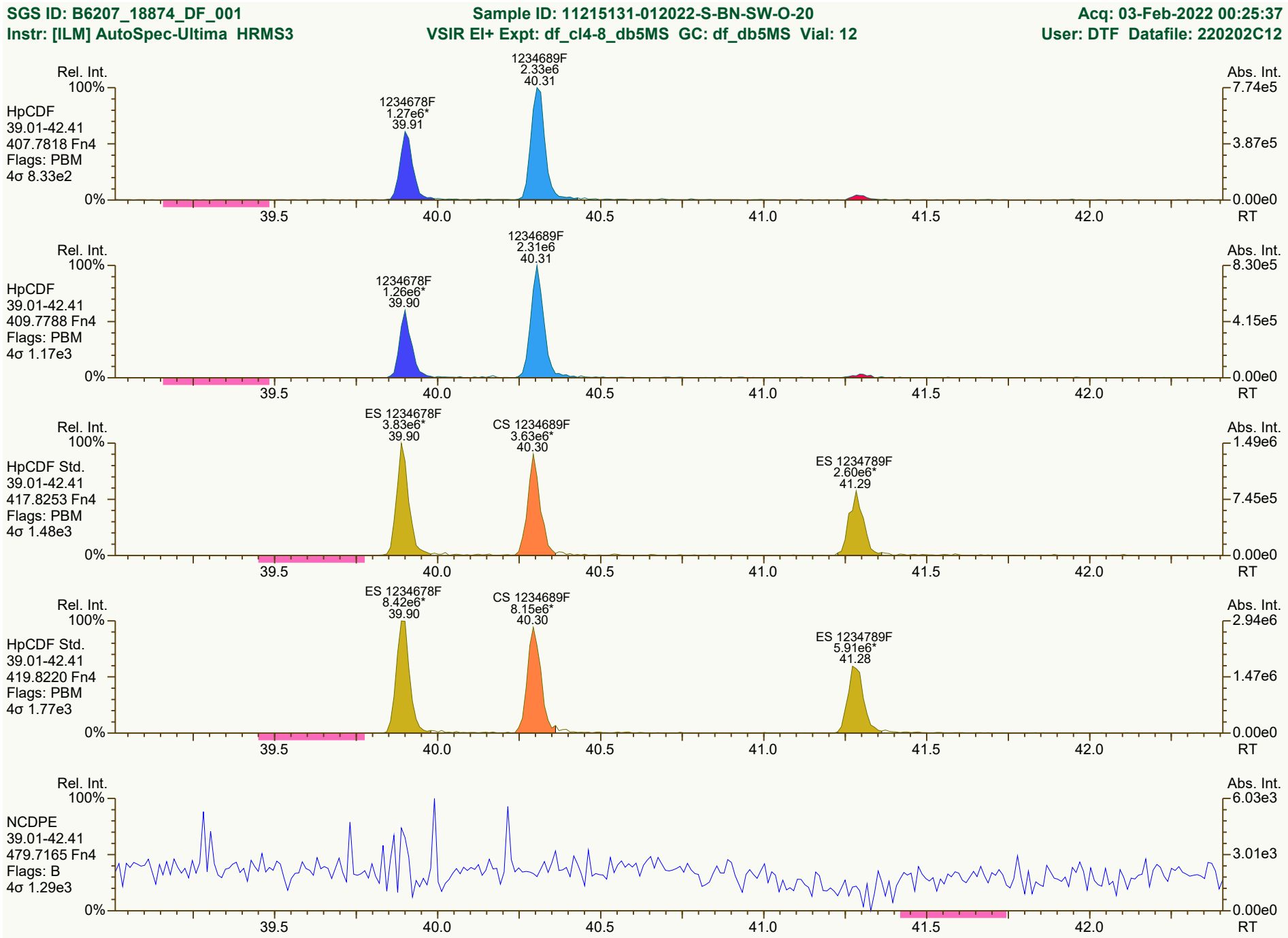

OCDD
1.98e7*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
4.65e6
2.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.14e7*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.11e3
0%
Abs. Int.
5.12e6
2.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.77e6*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
1.30e6
6.52e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.60e6*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.63e6
8.13e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.32e6
3.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.17e3
0%
2378F
1.03e5*
27.68
1278F
3.92e4*
26.79
Abs. Int.
2.93e4
1.47e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.44e3
0%
2378F
1.15e5*
27.69
1278F
4.17e4*
26.78
Abs. Int.
3.05e4
1.52e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.01e3
0%
JS 1234F
9.02e6
26.31
ES 2378F
7.67e6
27.67
Abs. Int.
2.02e6
1.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.50e3
0%
JS 1234F
1.10e7
26.30
ES 2378F
9.67e6
27.66
Abs. Int.
2.27e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.28e3
0%
Abs. Int.
1.09e4
5.45e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6207_18874_DF_001
Sample ID: 11215131-012022-S-BN-SW-O-20
Acq: 03-Feb-2022 00:25:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220202C12
Rel. Int.
100%
0%
Abs. Int.
7.28e4
3.64e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.13e3
13468/12468F
2.15e5
29.62
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.57e3
13468/12468F
1.38e5
29.63
3.81e4
1.91e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
3.98e6
1.99e6
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_001.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2571 scc: 341-058
Revised: 03-Feb-2022 09:51 (DTF) Printed: 03-Feb-2022 13:50 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.61e3
12368F...[3]
9.61e4*
31.32
12378F
2.92e4*
32.42
23478F
4.60e4
33.55
Abs. Int.
2.82e4
1.41e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 1.33e3
12368F...[3]
5.62e4*
31.32
12378F
2.29e4*
32.42
23478F
3.02e4*
33.55
Abs. Int.
1.48e4
7.41e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 2.17e3
CS 12346F
1.04e7
31.88
ES 12378F
9.43e6*
32.41
ES 23478F
9.30e6
33.52
Abs. Int.
2.76e6
1.38e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 1.90e3
CS 12346F
6.51e6
31.88
ES 12378F
6.18e6*
32.41
ES 23478F
6.15e6
33.52
Abs. Int.
1.78e6
8.90e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.39e3
Abs. Int.
5.31e3
2.66e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT


Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.25e3
123468F 1.93e5 35.38
124678/134678F 8.21e5* 35.58
124689F 1.04e6 36.23
123478F 1.49e5* 36.77
123678F 8.65e4* 36.92
234678F 1.25e5* 37.60
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.39e3
123468F 1.90e5 35.38
124678/134678F 6.70e5* 35.58
124689F 7.91e5 36.23
123478F 1.09e5* 36.77
123678F 7.15e4* 36.92
234678F 1.09e5* 37.60
123489F 4.86e4* 38.57
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 1.87e3
ES 123478F 3.98e6 36.75
ES 123678F 5.32e6* 36.90
CS 123469F 4.63e6* 37.21
ES 234678F 5.62e6 37.58
ES 123789F 4.08e6 38.53
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 2.71e3
ES 123478F 7.56e6 36.75
ES 123678F 9.72e6* 36.90
CS 123469F 8.88e6* 37.21
ES 234678F 1.09e7 37.58
ES 123789F 7.53e6 38.53
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.43e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
3.37e5
1.68e5
0.00e0
2.56e5
1.28e5
1.69e6
8.45e5
3.22e6
1.61e6
8.48e3
4.24e3


SGS ID: B6207_18874_DF_001
Sample ID: 11215131-012022-S-BN-SW-O-20
Acq: 03-Feb-2022 00:25:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220202C12
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 8.33e2
1234678F
1.27e6*
39.91
1234689F
2.33e6
40.31
7.74e5
3.87e5
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.17e3
1234678F
1.26e6*
39.90
1234689F
2.31e6
40.31
8.30e5
4.15e5
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.48e3
ES 1234678F
3.83e6*
39.90
CS 1234689F
3.63e6*
40.30
ES 1234789F
2.60e6*
41.29
1.49e6
7.45e5
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.77e3
ES 1234678F
8.42e6*
39.90
CS 1234689F
8.15e6*
40.30
ES 1234789F
5.91e6*
41.28
2.94e6
1.47e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.29e3
6.03e3
3.01e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_001.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7002, 8051, 0627 scc: 341-058
Revised: 03-Feb-2022 09:54 (DTF) Printed: 03-Feb-2022 13:50 Page 11 of 12


OCDF
1.28e6*
43.69
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.19e3
OCDF
1.49e6*
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.66e3
ES OCDF
7.72e6*
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.71e3
ES OCDF
8.64e6*
43.68
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.86e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.17e3
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_002 **Acq'd:** 03 Feb 2022 01:11 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-B-22 **UTP:** 03-Feb-2022 13:42:30 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 691-815-RDP

Datafile: 220202C13 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.53		1.0008	1.0007	-0.2	5.09E+04	0.76	Y	1.18	0.815	5758.017	0.981
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2515.091	0.414
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3220.823	0.493
123678-HxCDD	37.88	J EMPC	1.0035	1.0034	-0.2	3.51E+04	1.01	N	1.15	0.558	3220.823	0.487
123789-HxCDD	38.17	J EMPC	1.0112	1.0112	0	5.92E+04	1.55	N	1.05	1.09	3220.823	0.503
1234678-HpCDD	40.83		1.0003	1.0003	0	1.04E+06	1.02	Y	1.06	21.6	3668.423	0.609
OCDD	43.52		1.0004	1.0003	-0.3	1.50E+07	0.89	Y	1.13	439	3355.01	1.03
2378-TCDF	27.67		1.0008	1.0006	-0.3	1.99E+05	0.76	Y	1.08	2.14	2439.462	0.295
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2541.906	0.278
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2541.906	0.298
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2500.126	0.288
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2500.126	0.267
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2500.126	0.246
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2500.126	0.346
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2186.215	0.17
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2186.215	0.358
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2988.868	0.807

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0237	+0.2	1.04E+07	0.79	Y	1.05	92.4
ES 12378-PeCDD	33.84	1.2144	1.2153	+1.8	9.79E+06	1.57	Y	0.88	103
ES 123478-HxCDD	37.75	0.9920	0.9919	-0.2	9.61E+06	1.27	Y	0.97	98
ES 123678-HxCDD	37.87	0.9951	0.9951	0	1.08E+07	1.34	Y	0.94	114
ES 123789-HxCDD	38.16	1.0027	1.0027	0	1.02E+07	1.34	Y	1.09	93.1
ES 1234678-HpCDD	40.82	1.0724	1.0727	+0.7	8.96E+06	1.12	Y	0.91	97.5
ES OCDD	43.51	1.1428	1.1431	+0.8	1.20E+07	0.89	Y	0.62	95.1
ES 2378-TCDF	27.65	1.0516	1.0517	+0.2	1.70E+07	0.79	Y	1.06	86.6
ES 12378-PeCDF	32.40	1.2312	1.2321	+1.7	1.65E+07	1.59	Y	0.91	97.8
ES 23478-PeCDF	33.51	1.2733	1.2744	+2.2	1.52E+07	1.62	Y	0.88	93
ES 123478-HxCDF	36.74	0.9655	0.9654	-0.2	1.12E+07	0.55	Y	1.20	92.5
ES 123678-HxCDF	36.88	0.9692	0.9692	0	1.45E+07	0.53	Y	1.35	106
ES 234678-HxCDF	37.57	0.9871	0.9872	+0.2	1.58E+07	0.51	Y	1.24	126
ES 123789-HxCDF	38.51	1.0121	1.0120	-0.2	1.03E+07	0.50	Y	1.16	88.9
ES 1234678-HpCDF	39.89	1.0479	1.0481	+0.5	1.30E+07	0.47	Y	0.97	133
ES 1234789-HpCDF	41.29	1.0845	1.0848	+0.7	7.77E+06	0.42	Y	0.85	90.6
ES OCDF	43.69	1.1477	1.1480	+0.8	1.37E+07	0.97	Y	0.81	84

Lab ID: B6207_18874_DF_002 **Acq'd:** 03 Feb 2022 01:11 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-B-22 **UTP:** 03-Feb-2022 13:42:30 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 691-815-RDP

Datafile: 220202C13 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.85		-	-	-	1.08E+07	0.81	Y	-	-	
JS 1234-TCDF	26.29		-	-	-	1.85E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.06		-	-	-	5.04E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.53		1.0244	1.0246	+0.3	4.83E+06	n/a	-	1.20	93.3	
CS 12347-PeCDD	33.34		1.1964	1.1973	+1.8	1.03E+07	1.52	Y	0.75	126	
CS 12346-PeCDF	31.87		1.2112	1.2121	+1.7	1.75E+07	1.56	Y	0.85	111	
CS 123469-HxCDF	37.20		0.9775	0.9775	0	1.31E+07	0.55	Y	1.12	116	
CS 1234689-HpCDF	40.29		1.0584	1.0588	+1.0	1.13E+07	0.45	Y	0.89	126	
~~SS 37Cl-2378-TCDD~~	~~28.53~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~4.83E+06~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1973~~	~~+1.8~~	~~1.03E+07~~	~~1.52~~	~~Y~~	~~0.86~~	~~122~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2121~~	~~+1.7~~	~~1.75E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~113~~	
~~SS 123469-HxCDF~~	~~37.20~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.31E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~109~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0584~~	~~1.0588~~	~~+1.0~~	~~1.13E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~94.4~~	

Totals	Conc	EMPC
Total TCDD	7.1	7.1
Total PeCDD	3.21	3.21
Total HxCDD	20.2	26.2
Total HpCDD	74.7	74.7
Total Tetra-Octa Dioxins	544	550
Total TCDF	2.14	3.88
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	2.14	3.88
Total Tetra-Octa Dioxins & Furans	546	554

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.689	0.76
Response	5.38E+04	5.09E+04

Lab ID: B6207_18874_DF_002 **Acq'd: 03 Feb 2022 01:11 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-S-BN-SW-B-22 **UTP: 03-Feb-2022 13:42:30 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 691-815-RDP**

Datafile: 220202C13 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		5758.017	0.981
1379-TCDD	NotFnd		0.8860						1.18		5758.017	0.981
1369-TCDD	NotFnd		0.9009						1.18		5758.017	0.981
1469-TCDD	26.45		0.9281	0.9278	-0.5	3.92E+05	0.72	Y	1.18	6.28	5758.017	0.981
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		5758.017	0.981
1378-TCDD	NotFnd		0.9432						1.18		5758.017	0.981
1268-TCDD	NotFnd		0.9500						1.18		5758.017	0.981
1478-TCDD	NotFnd		0.9586						1.18		5758.017	0.981
1279-TCDD	NotFnd		0.9645						1.18		5758.017	0.981
1234/1269-TCDD	NotFnd		0.9770						1.18		5758.017	0.981
1236-TCDD	NotFnd		0.9817						1.18		5758.017	0.981
1237/1238-TCDD	NotFnd		0.9905						1.18		5758.017	0.981
1239-TCDD	NotFnd		0.9952						1.18		5758.017	0.981
2378-TCDD	**28.53**		**1.0008**	1.0007	**-0.2**	5.09E+04	0.76	Y	**1.18**	**0.815**	**5758.017**	**0.981**
1278-TCDD	NotFnd		1.0121						1.18		5758.017	0.981
1267-TCDD	NotFnd		1.0167						1.18		5758.017	0.981
1289-TCDD	NotFnd		1.0345						1.18		5758.017	0.981
12479/12468-PeCDD	NotFnd		0.9267						1.04		2515.091	0.414
12469-PeCDD	31.89		0.9425	0.9423	-0.4	1.65E+05	1.44	Y	1.04	3.21	2515.091	0.414
12368-PeCDD	NotFnd		0.9588						1.04		2515.091	0.414
12478-PeCDD	NotFnd		0.9643						1.04		2515.091	0.414
12379-PeCDD	NotFnd		0.9673						1.04		2515.091	0.414
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2515.091	0.414
12346/12347-PeCDD	NotFnd		0.9858						1.04		2515.091	0.414
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2515.091**	**0.414**
12367-PeCDD	NotFnd		1.0033						1.04		2515.091	0.414
12389-PeCDD	NotFnd		1.0134						1.04		2515.091	0.414
124679/124689-HxCDD	36.02		0.9542	0.9541	-0.2	1.14E+06	1.22	Y	1.10	20.2	3220.823	0.494
123468-HxCDD	NotFnd		0.9715						1.10		3220.823	0.494
123679/123689-HxCDD	36.96	EMPC	0.9793	0.9791	-0.4	2.50E+05	1.52	N	1.10	4.41	3220.823	0.494
123469-HxCDD	NotFnd		0.9828						1.10		3220.823	0.494
123478-HxCDD	NotFnd		**1.0004**						1.09		**3220.823**	**0.493**
123678-HxCDD	37.88	J EMPC	**1.0035**	**1.0034**	**-0.2**	**3.51E+04**	**1.01**	**N**	1.15	**0.558**	**3220.823**	**0.487**
123467-HxCDD	NotFnd		1.0085						1.10		3220.823	0.494
123789-HxCDD	38.17	J EMPC	**1.0112**	**1.0112**	**0**	**5.92E+04**	**1.55**	**N**	1.05	**1.09**	**3220.823**	**0.503**

Lab ID: B6207_18874_DF_002 **Acq'd:** 03 Feb 2022 01:11 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-S-BN-SW-B-22 **UTP:** 03-Feb-2022 13:42:30 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 691-815-RDP

Datafile: 220202C13 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

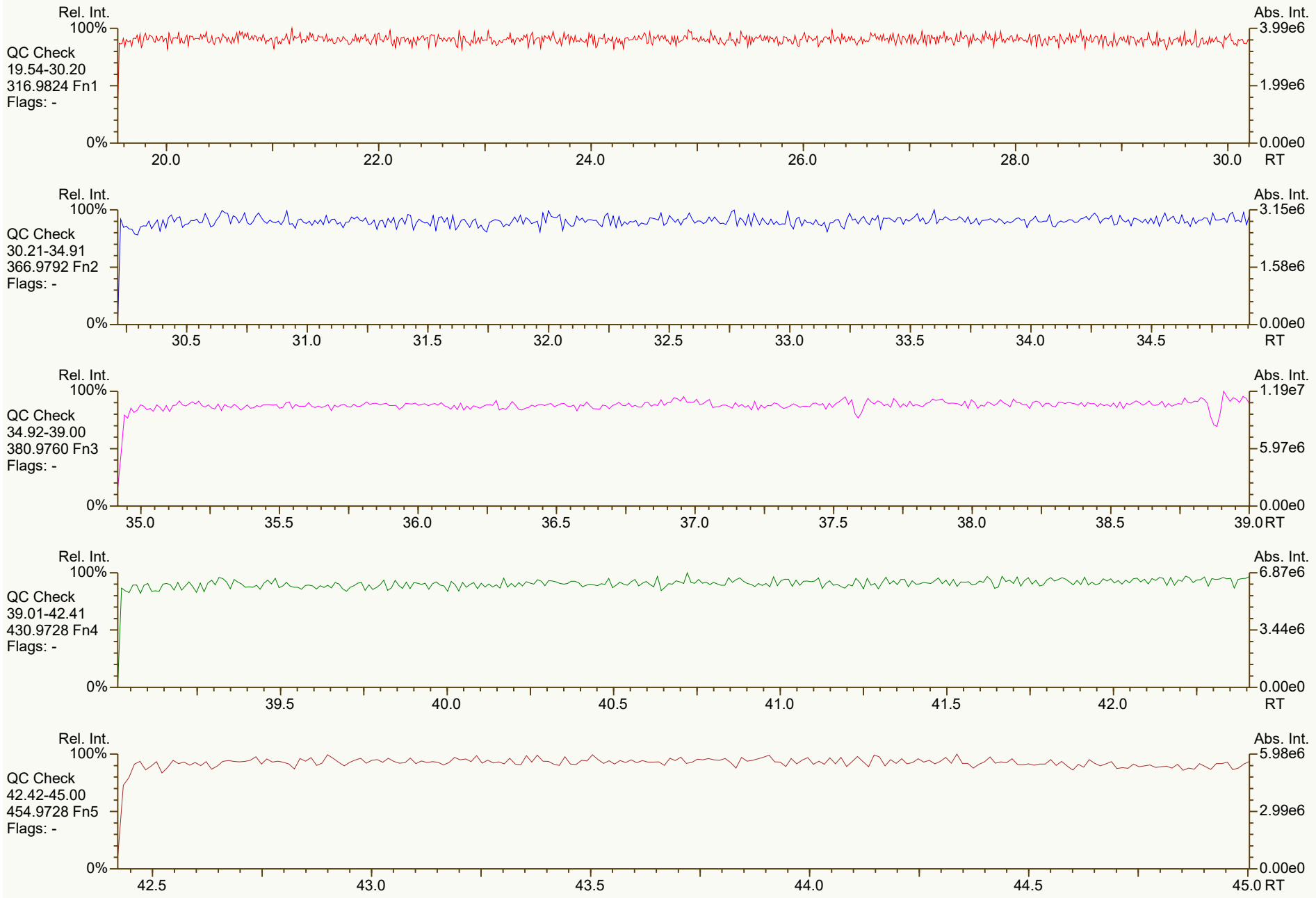
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	2.56E+06	1.02	Y	1.06	53.2	3668.423	0.609
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.04E+06**	**1.02**	**Y**	**1.06**	**21.6**	**3668.423**	**0.609**
OCDD	**43.52**		**1.0004**	**1.0003**	**-0.3**	**1.50E+07**	**0.89**	**Y**	**1.13**	**439**	**3355.01**	**1.03**
OCDD-a	43.51		1.0003	1.0002	-0.3	8.44E+05	2.65	Y	0.07	387	4163.874	19.9
1368-TCDF	NotFnd		0.8251						1.08		2439.462	0.295
1468-TCDF	NotFnd		0.8458						1.08		2439.462	0.295
2468-TCDF	24.00	J EMPC	0.8686	0.8680	-0.9	4.38E+04	1.13	N	1.08	0.472	2439.462	0.295
1346/1246-TCDF	NotFnd		0.8814						1.08		2439.462	0.295
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2439.462	0.295
1348-TCDF	NotFnd		0.8962						1.08		2439.462	0.295
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2439.462	0.295
1268-TCDF	NotFnd		0.9145						1.08		2439.462	0.295
1467-TCDF	NotFnd		0.9193						1.08		2439.462	0.295
1478-TCDF	NotFnd		0.9254						1.08		2439.462	0.295
1369/1237-TCDF	NotFnd		0.9387						1.08		2439.462	0.295
2467-TCDF	NotFnd		0.9433						1.08		2439.462	0.295
2368-TCDF	NotFnd		0.9489						1.08		2439.462	0.295
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2439.462	0.295
1278-TCDF	26.78	EMPC	0.9683	0.9683	0	1.17E+05	0.95	N	1.08	1.26	2439.462	0.295
1349-TCDF	NotFnd		0.9722						1.08		2439.462	0.295
1267-TCDF	NotFnd		0.9783						1.08		2439.462	0.295
2346/1249-TCDF	NotFnd		0.9850						1.08		2439.462	0.295
2347/1279-TCDF	NotFnd		0.9926						1.08		2439.462	0.295
2348-TCDF	NotFnd		0.9967						1.08		2439.462	0.295
2378-TCDF	**27.67**		**1.0008**	**1.0006**	**-0.3**	**1.99E+05**	**0.76**	**Y**	**1.08**	**2.14**	**2439.462**	**0.295**
2367/3467-TCDF	NotFnd		1.0137						1.08		2439.462	0.295
1269-TCDF	NotFnd		1.0223						1.08		2439.462	0.295
1239-TCDF	NotFnd		1.0321						1.08		2439.462	0.295
1289-TCDF	NotFnd		1.0722						1.08		2439.462	0.295
13468/12468-PeCDF	NotFnd		0.9139						1.02		2724.611	0.309
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2541.906	0.288
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2541.906	0.288
14678-PeCDF	NotFnd		0.9692						1.02		2541.906	0.288
13479-PeCDF	NotFnd		0.9723						1.02		2541.906	0.288
13469/12479-PeCDF	NotFnd		0.9797						1.02		2541.906	0.288
12346-PeCDF	NotFnd		0.9840						1.02		2541.906	0.288

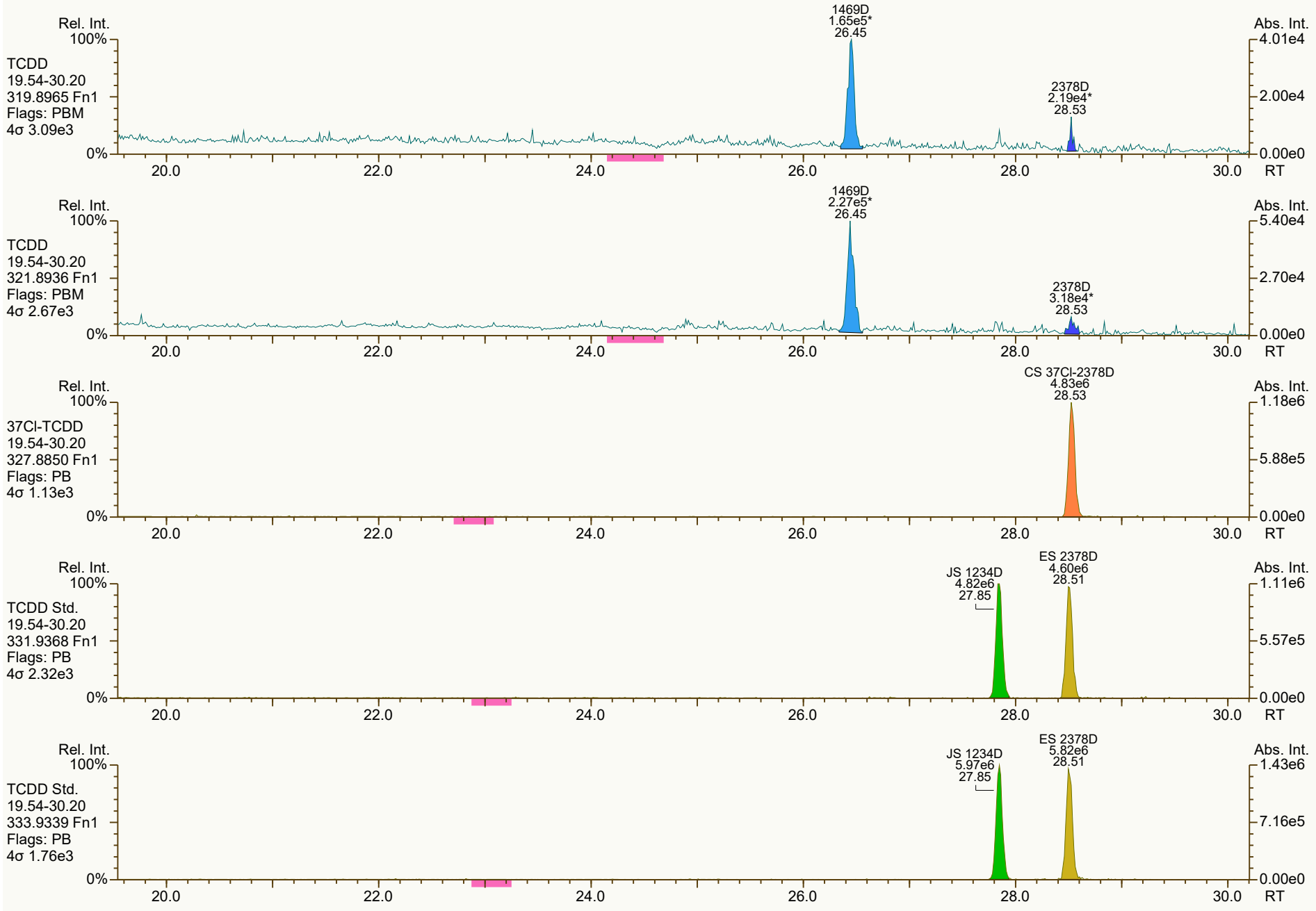
Lab ID: B6207_18874_DF_002 **Acq'd: 03 Feb 2022 01:11 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

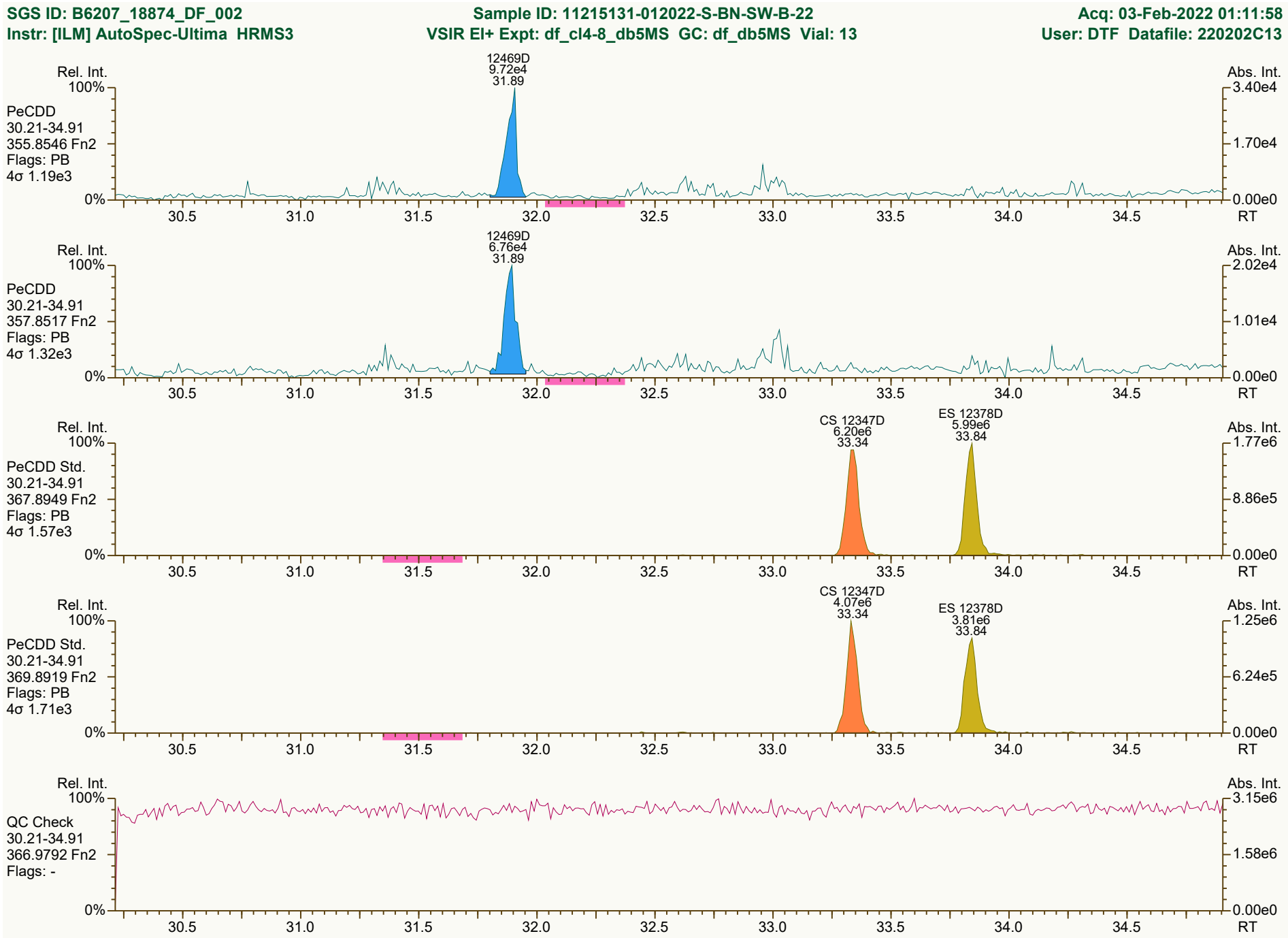
Client ID: 11215131-012022-S-BN-SW-B-22 **UTP: 03-Feb-2022 13:42:30 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 691-815-RDP**

Datafile: 220202C13 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

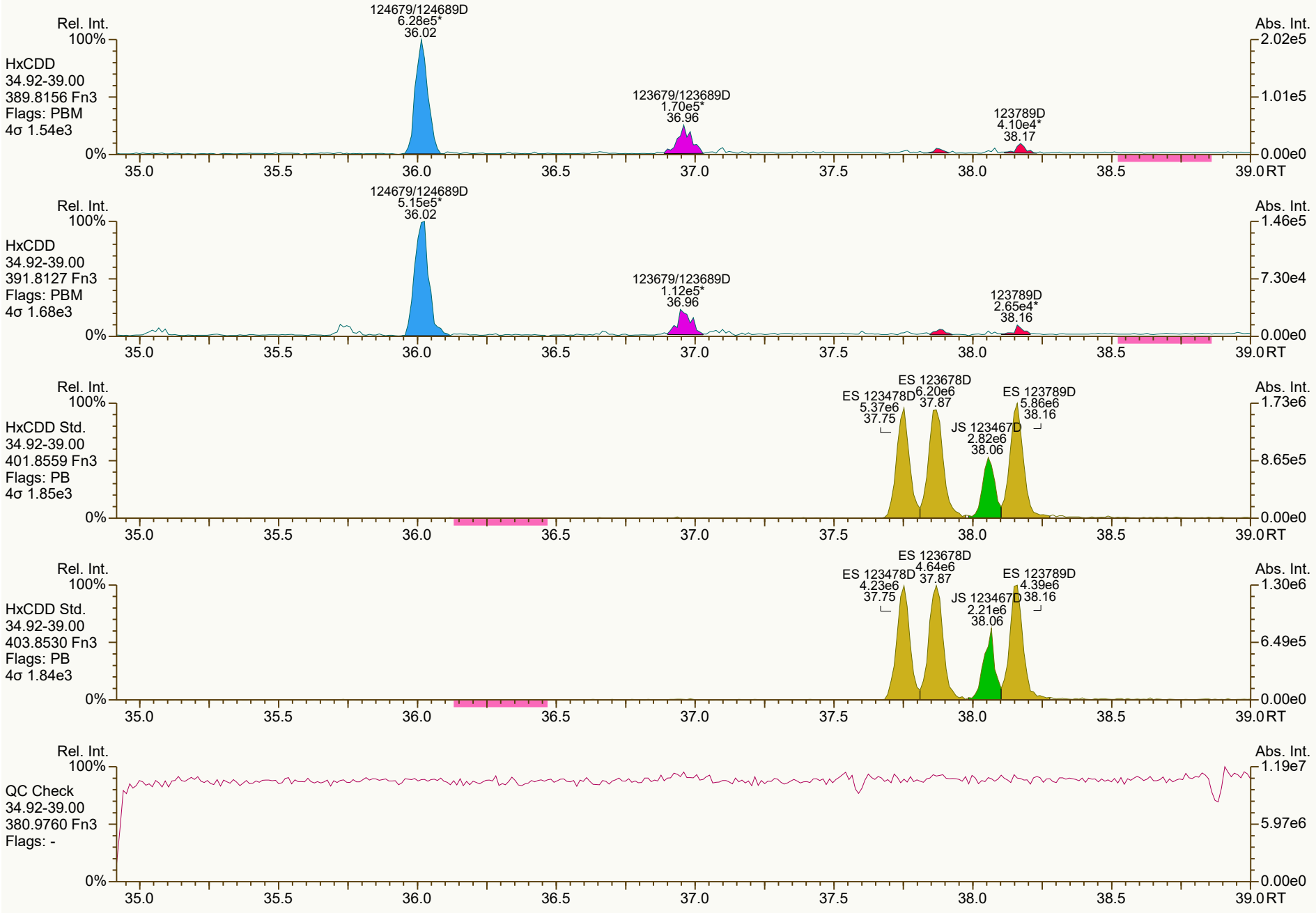
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2541.906	0.288
12347-PeCDF	NotFnd		0.9894						1.02		2541.906	0.288
12348-PeCDF	NotFnd		0.9940						1.02		2541.906	0.288
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2541.906**	**0.278**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2541.906	0.288
12379-PeCDF	NotFnd		1.0142						1.02		2541.906	0.288
12679-PeCDF	NotFnd		0.9929						1.02		2541.906	0.288
23467/12369-PeCDF	NotFnd		0.9967						1.02		2541.906	0.288
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2541.906**	**0.298**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2541.906	0.288
12349-PeCDF	NotFnd		1.0100						1.02		2541.906	0.288
12389-PeCDF	NotFnd		1.0324						1.02		2541.906	0.288
123468-HxCDF	NotFnd		0.9627						1.19		2500.126	0.28
124678/134678-HxCDF	NotFnd		0.9682						1.19		2500.126	0.28
134679-HxCDF	NotFnd		0.9744						1.19		2500.126	0.28
124679-HxCDF	NotFnd		0.9798						1.19		2500.126	0.28
124689-HxCDF	NotFnd		0.9858						1.19		2500.126	0.28
123467-HxCDF	NotFnd		0.9972						1.19		2500.126	0.28
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2500.126**	**0.288**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2500.126**	**0.267**
123479-HxCDF	NotFnd		1.0049						1.19		2500.126	0.28
123469-HxCDF	NotFnd		1.0090						1.19		2500.126	0.28
123679-HxCDF	NotFnd		0.9942						1.19		2500.126	0.28
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2500.126**	**0.246**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2500.126	0.28
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2500.126**	**0.346**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2500.126	0.28
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2186.215**	**0.17**
1234679-HpCDF	NotFnd		1.0068						1.34		2186.215	0.24
1234689-HpCDF	NotFnd		1.0103						1.34		2186.215	0.24
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2186.215**	**0.358**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2988.868**	**0.807**
OCDF-a	NotFnd		1.0002						0.07		3350.106	14.6

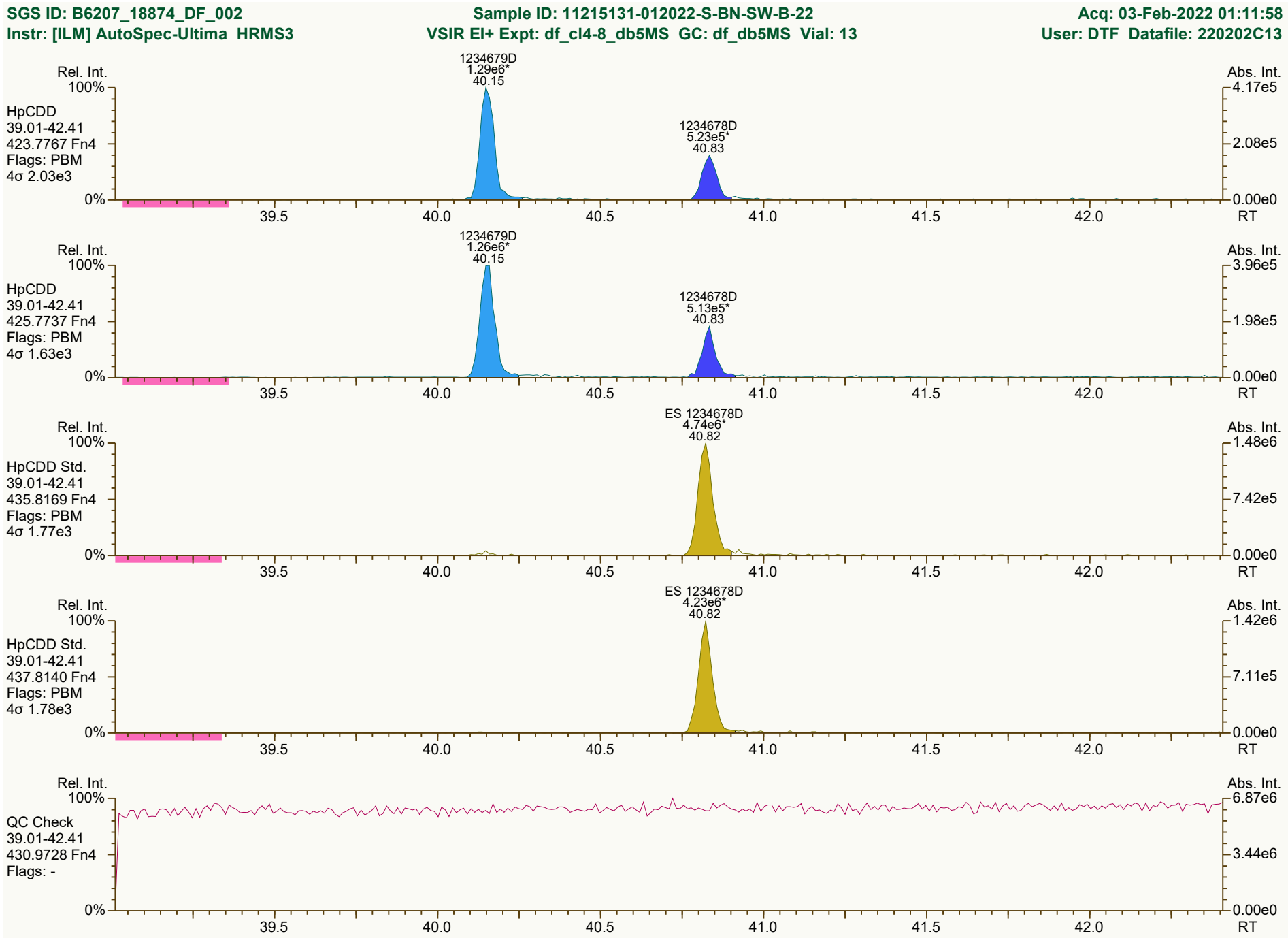

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RT
Abs. Int.
3.99e6
1.99e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.15e6
1.58e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.19e7
5.97e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.87e6
3.44e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.98e6
2.99e6
0.00e0

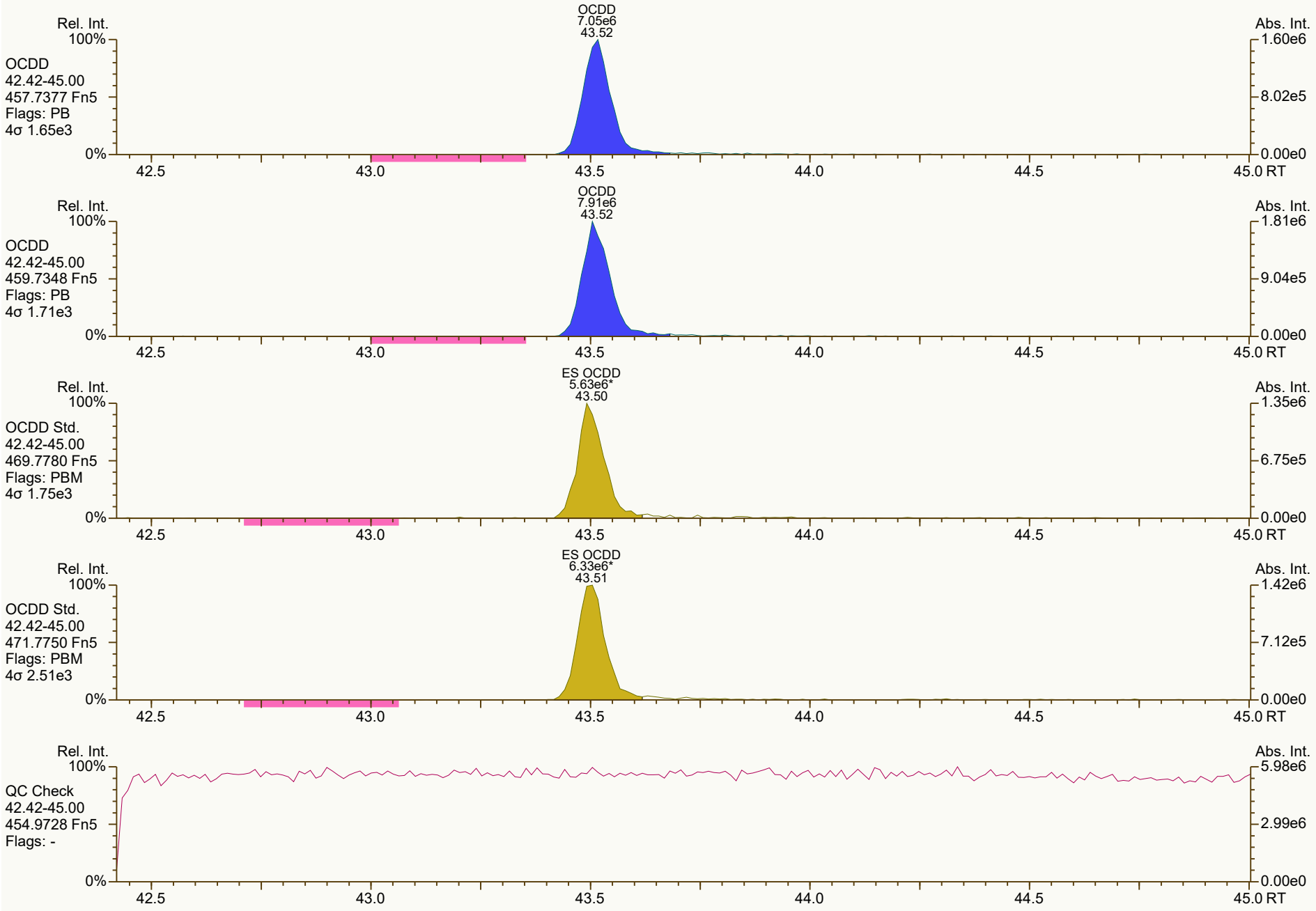

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.09e3
0%
1469D
1.65e5*
26.45
2378D
2.19e4*
28.53
Abs. Int.
4.01e4
2.00e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.67e3
0%
1469D
2.27e5*
26.45
2378D
3.18e4*
28.53
Abs. Int.
5.40e4
2.70e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
0%
CS 37Cl-2378D
4.83e6
28.53
Abs. Int.
1.18e6
5.88e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.32e3
0%
JS 1234D
4.82e6
27.85
ES 2378D
4.60e6
28.51
Abs. Int.
1.11e6
5.57e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.76e3
0%
JS 1234D
5.97e6
27.85
ES 2378D
5.82e6
28.51
Abs. Int.
1.43e6
7.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

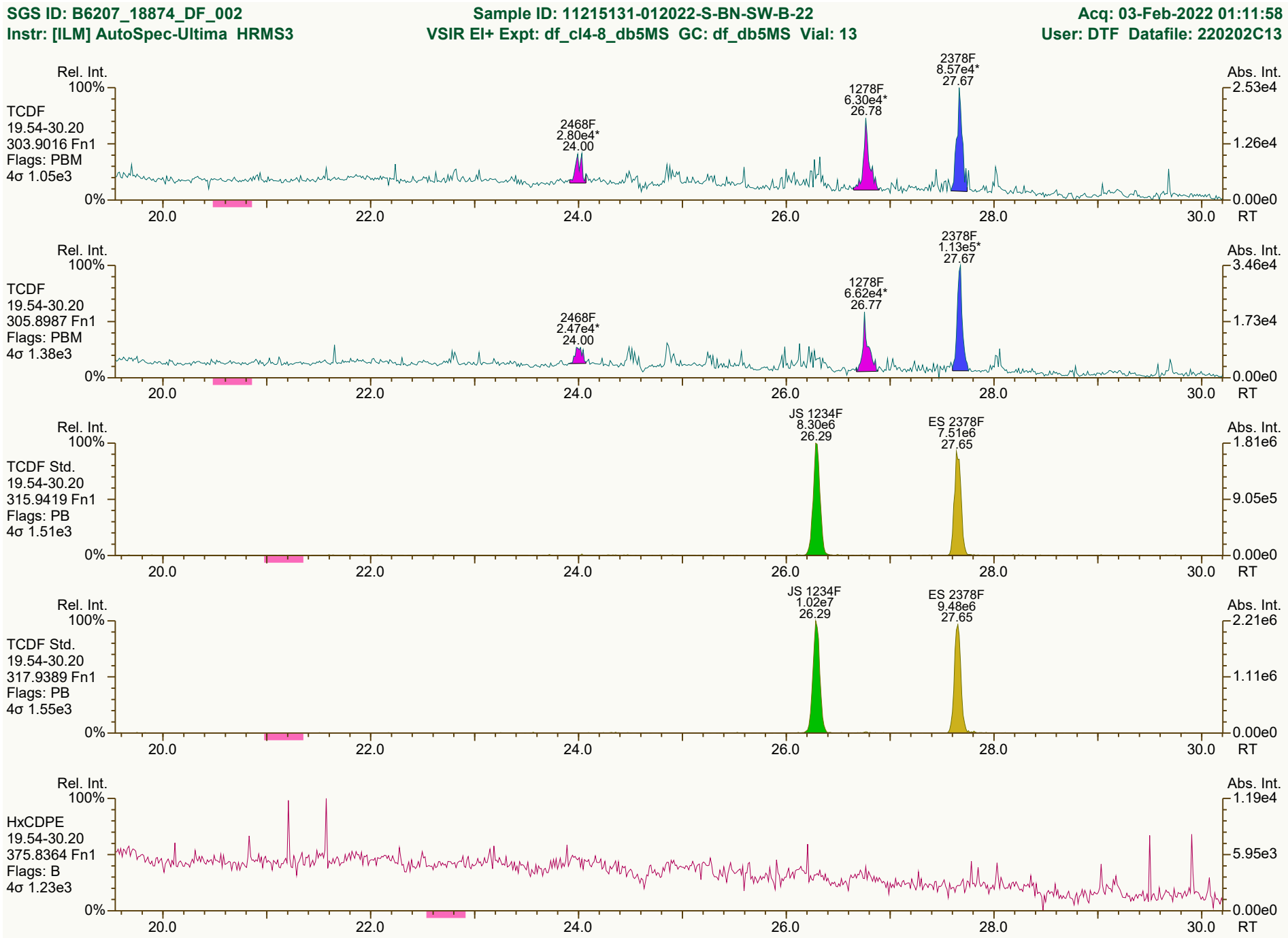


Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_002.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1579, 2427 scc: 691-815
PKD: 03-Feb-2022 09:54 Printed: 03-Feb-2022 13:50 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.54e3
124679/124689D
6.28e5*
36.02
123679/123689D
1.70e5*
36.96
123789D
4.10e4*
38.17
Abs. Int.
2.02e5
1.01e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.68e3
124679/124689D
5.15e5*
36.02
123679/123689D
1.12e5*
36.96
123789D
2.65e4*
38.16
Abs. Int.
1.46e5
7.30e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.85e3
ES 123678D
6.20e6
37.87
ES 123478D
5.37e6
37.75
ES 123789D
5.86e6
38.16
JS 123467D
2.82e6
38.06
Abs. Int.
1.73e6
8.65e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.84e3
ES 123678D
4.64e6
37.87
ES 123478D
4.23e6
37.75
ES 123789D
4.39e6
38.16
JS 123467D
2.21e6
38.06
Abs. Int.
1.30e6
6.49e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.19e7
5.97e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6207_18874_DF_002
Sample ID: 11215131-012022-S-BN-SW-B-22
Acq: 03-Feb-2022 01:11:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: DTF Datafile: 220202C13
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.03e3
1234679D
1.29e6*
40.15
1234678D
5.23e5*
40.83
4.17e5
2.08e5
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.63e3
1234679D
1.26e6*
40.15
1234678D
5.13e5*
40.83
3.96e5
1.98e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.77e3
ES 1234678D
4.74e6*
40.82
1.48e6
7.42e5
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.78e3
ES 1234678D
4.23e6*
40.82
1.42e6
7.11e5
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
6.87e6
3.44e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_002.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0700, 7943 scc: 691-815
Revised: 03-Feb-2022 09:56 (DTF) Printed: 03-Feb-2022 13:50 Page 5 of 12


OCDD
7.05e6
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.65e3
0%
Abs. Int.
1.60e6
8.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.91e6
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.71e3
1.81e6
9.04e5
ES OCDD
5.63e6*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.75e3
1.35e6
6.75e5
ES OCDD
6.33e6*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.51e3
1.42e6
7.12e5
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.98e6
2.99e6


SGS ID: B6207_18874_DF_002
Sample ID: 11215131-012022-S-BN-SW-B-22
Acq: 03-Feb-2022 01:11:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: DTF Datafile: 220202C13
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.05e3
2468F 2.80e4* 24.00
1278F 6.30e4* 26.78
2378F 8.57e4* 27.67
2.53e4
1.26e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.38e3
2468F 2.47e4* 24.00
1278F 6.62e4* 26.77
2378F 1.13e5* 27.67
3.46e4
1.73e4
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.51e3
JS 1234F 8.30e6 26.29
ES 2378F 7.51e6 27.65
1.81e6
9.05e5
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.55e3
JS 1234F 1.02e7 26.29
ES 2378F 9.48e6 27.65
2.21e6
1.11e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.23e3
1.19e4
5.95e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_002.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1222, 8181, 9914 scc: 691-815
Revised: 03-Feb-2022 09:56 (DTF) Printed: 03-Feb-2022 13:50 Page 7 of 12

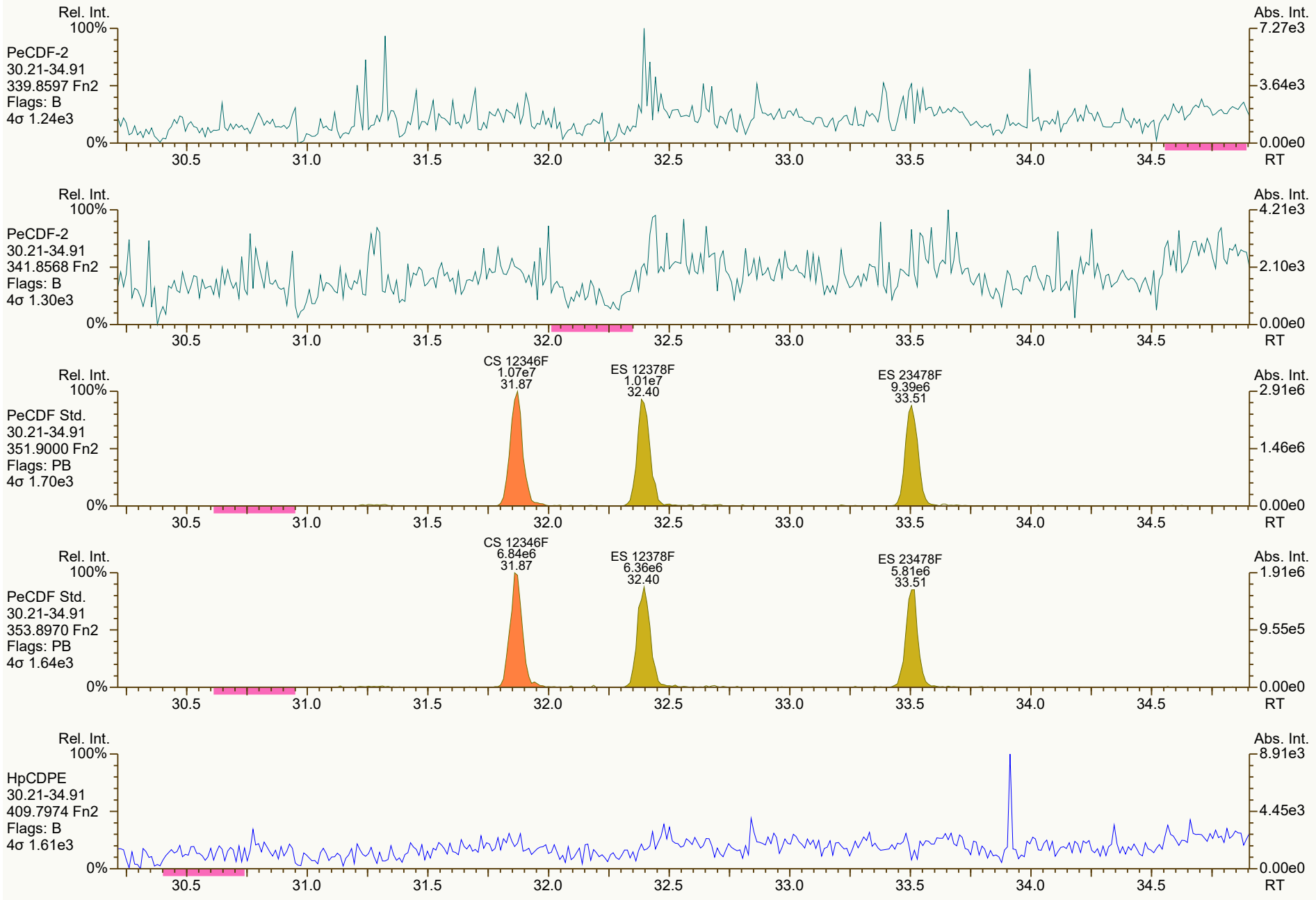
SGS ID: B6207_18874_DF_002 | Sample ID: 11215131-012022-S-BN-SW-B-22 | Acq: 03-Feb-2022 01:11:58

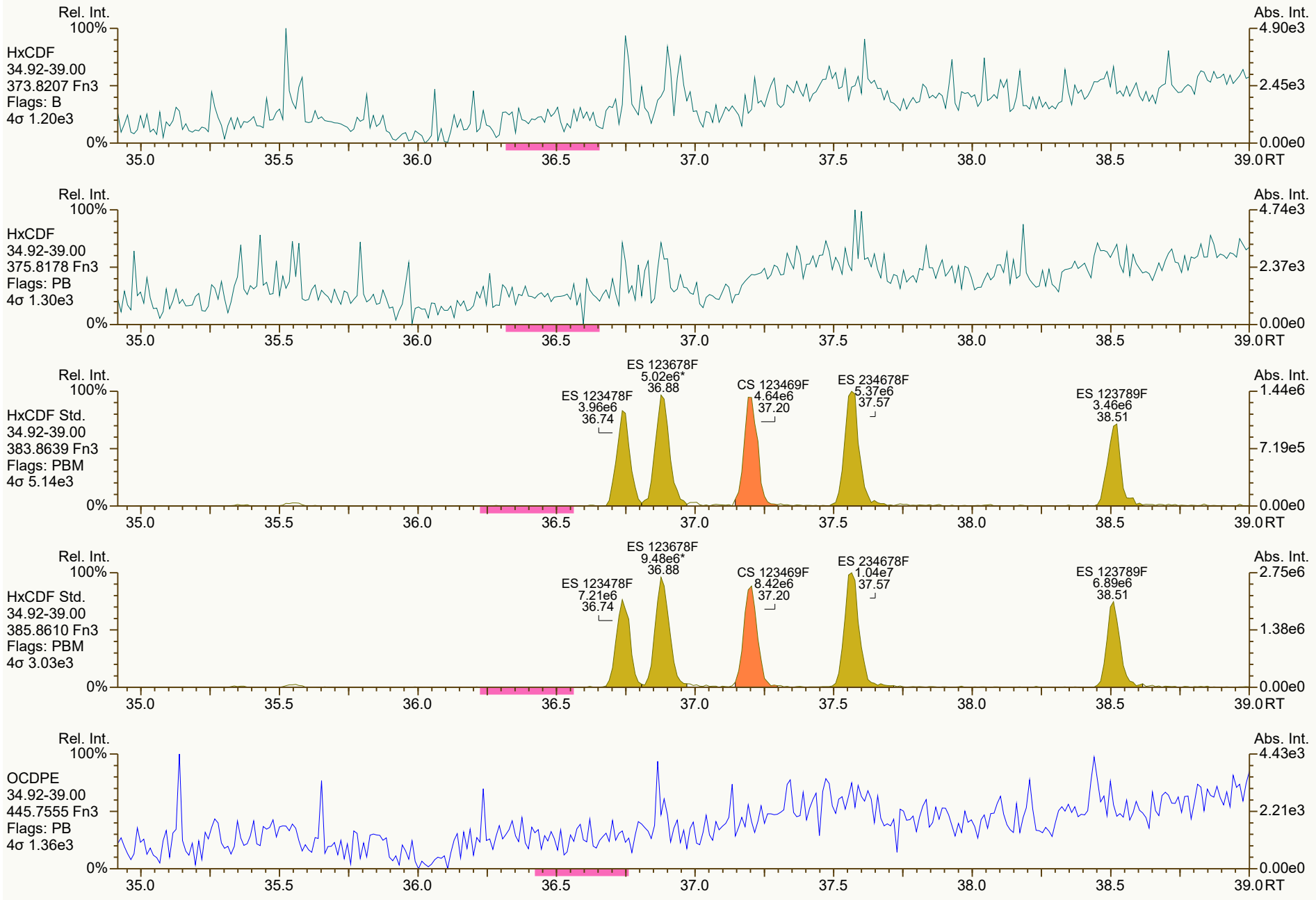
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: DTF Datafile: 220202C13

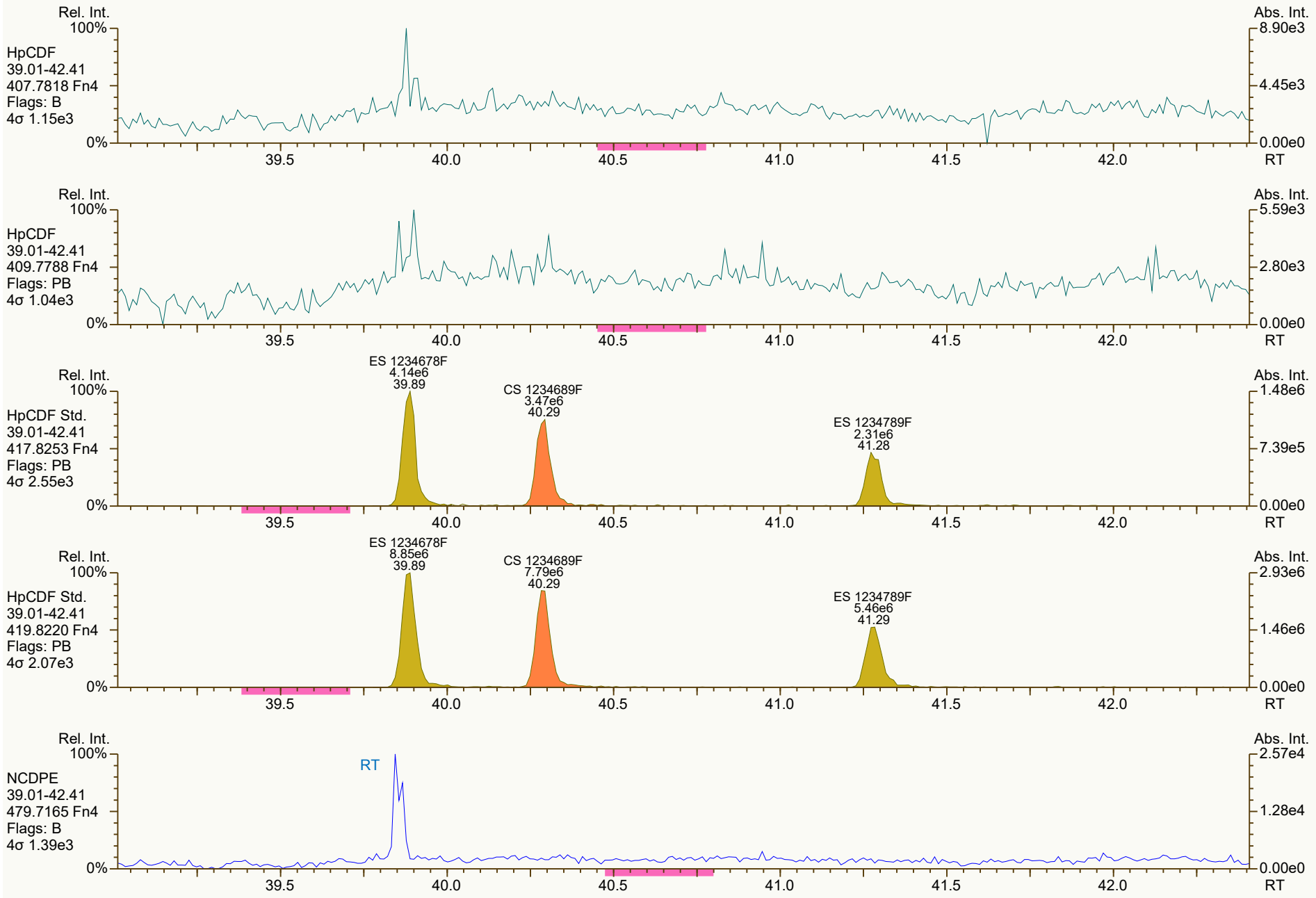


Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_002.utp_res, saved 03-Feb-2022 13:42 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8839 scc: 691-815 *PKD: 03-Feb-2022 09:54 Printed: 03-Feb-2022 13:50 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: B
4σ 1.24e3
0%
Abs. Int.
7.27e3
3.64e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 1.30e3
4.21e3
2.10e3
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.70e3
CS 12346F
1.07e7
31.87
ES 12378F
1.01e7
32.40
ES 23478F
9.39e6
33.51
2.91e6
1.46e6
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.64e3
CS 12346F
6.84e6
31.87
ES 12378F
6.36e6
32.40
ES 23478F
5.81e6
33.51
1.91e6
9.55e5
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.61e3
8.91e3
4.45e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.20e3
0%
Abs. Int.
4.90e3
2.45e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.30e3
0%
Abs. Int.
4.74e3
2.37e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 5.14e3
0%
ES 123478F
3.96e6
36.74
ES 123678F
5.02e6*
36.88
CS 123469F
4.64e6
37.20
ES 234678F
5.37e6
37.57
ES 123789F
3.46e6
38.51
Abs. Int.
1.44e6
7.19e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 3.03e3
0%
ES 123478F
7.21e6
36.74
ES 123678F
9.48e6*
36.88
CS 123469F
8.42e6
37.20
ES 234678F
1.04e7
37.57
ES 123789F
6.89e6
38.51
Abs. Int.
2.75e6
1.38e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.36e3
0%
Abs. Int.
4.43e3
2.21e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.15e3
0%
Abs. Int.
8.90e3
4.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.04e3
0%
Abs. Int.
5.59e3
2.80e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.55e3
0%
ES 1234678F
4.14e6
39.89
CS 1234689F
3.47e6
40.29
ES 1234789F
2.31e6
41.28
Abs. Int.
1.48e6
7.39e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.07e3
0%
ES 1234678F
8.85e6
39.89
CS 1234689F
7.79e6
40.29
ES 1234789F
5.46e6
41.29
Abs. Int.
2.93e6
1.46e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.39e3
0%
RT
Abs. Int.
2.57e4
1.28e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
7.41e3
3.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
5.62e3
2.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.71e6
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.03e3
0%
Abs. Int.
1.68e6
8.39e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.96e6
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.10e3
0%
Abs. Int.
1.55e6
7.73e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
5.83e3
2.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_003 **Acq'd:** 03 Feb 2022 01:58 DTF **Wt/Vol:** 10.05 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-O-21 **UTP:** 03-Feb-2022 13:42:31 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 690-051-YNY

Datafile: 220202C14 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.54	E	1.0008	1.0008	0	3.12E+08	0.80	Y	1.18	4,940	3595.886	0.585
12378-PeCDD	33.87		1.0006	1.0005	-0.2	2.35E+06	1.60	Y	1.04	49.4	3609.386	0.669
123478-HxCDD	37.77	J	1.0004	1.0004	0	1.09E+05	1.11	Y	1.09	2.23	3905.438	0.686
123678-HxCDD	37.89		1.0035	1.0035	0	5.90E+05	1.29	Y	1.15	10.7	3905.438	0.611
123789-HxCDD	38.18		1.0112	1.0112	0	2.35E+05	1.19	Y	1.05	4.62	3905.438	0.647
1234678-HpCDD	40.83		1.0003	1.0004	+0.2	1.86E+07	1.06	Y	1.06	440	3778.807	0.678
OCDD	43.51		1.0004	1.0003	-0.3	2.10E+08	0.91	Y	1.13	6,440	2860.947	0.859
2378-TCDF	27.69	E	1.0008	1.0007	-0.2	1.23E+09	0.79	Y	1.08	11,600	2214.0143	0.213
12378-PeCDF	32.42		1.0005	1.0005	0	3.65E+07	1.57	Y	1.02	470	3715.109	0.445
23478-PeCDF	33.54		1.0005	1.0007	+0.4	3.02E+07	1.60	Y	1.02	371	3715.109	0.399
123478-HxCDF	36.76		1.0004	1.0004	0	5.56E+07	1.24	Y	1.27	777	3615.165	0.401
123678-HxCDF	36.91		1.0004	1.0006	+0.4	1.65E+07	1.24	Y	1.15	208	3615.165	0.401
234678-HxCDF	37.59		1.0005	1.0004	-0.2	3.56E+06	1.29	Y	1.19	40.2	3615.165	0.366
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3615.165	0.418
1234678-HpCDF	39.90		1.0003	1.0003	0	1.69E+07	1.01	Y	1.37	267	4458.847	0.496
1234789-HpCDF	41.29		1.0002	1.0003	+0.2	4.95E+06	1.01	Y	1.31	96.7	4458.847	0.752
OCDF	43.69		1.0003	1.0002	-0.3	8.96E+06	0.90	Y	1.07	208	3869.699	0.967

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52	1.0236	1.0237	+0.2	1.06E+07	0.81	Y	1.05	70.7
ES 12378-PeCDD	33.85	1.2144	1.2150	+1.2	9.16E+06	1.60	Y	0.88	72.4
ES 123478-HxCDD	37.76	0.9920	0.9919	-0.2	8.96E+06	1.27	Y	0.97	85.2
ES 123678-HxCDD	37.87	0.9951	0.9950	-0.2	9.58E+06	1.33	Y	0.94	93.8
ES 123789-HxCDD	38.16	1.0027	1.0027	0	9.63E+06	1.27	Y	1.09	81.6
ES 1234678-HpCDD	40.82	1.0724	1.0724	0	7.93E+06	1.00	Y	0.91	80.3
ES OCDD	43.50	1.1428	1.1428	0	1.15E+07	0.88	Y	0.62	85.2
ES 2378-TCDF	27.67	1.0516	1.0519	+0.5	1.95E+07	0.79	Y	1.06	85.4
ES 12378-PeCDF	32.41	1.2312	1.2321	+1.7	1.51E+07	1.55	Y	0.91	77.1
ES 23478-PeCDF	33.52	1.2733	1.2743	+2.0	1.59E+07	1.55	Y	0.88	83.7
ES 123478-HxCDF	36.75	0.9655	0.9655	0	1.12E+07	0.53	Y	1.20	86.4
ES 123678-HxCDF	36.89	0.9692	0.9692	0	1.37E+07	0.53	Y	1.35	93.5
ES 234678-HxCDF	37.57	0.9871	0.9871	0	1.48E+07	0.53	Y	1.24	110
ES 123789-HxCDF	38.52	1.0121	1.0120	-0.2	1.08E+07	0.50	Y	1.16	86.4
ES 1234678-HpCDF	39.89	1.0479	1.0480	+0.2	9.23E+06	0.47	Y	0.97	88.1
ES 1234789-HpCDF	41.28	1.0845	1.0845	0	7.79E+06	0.49	Y	0.85	84.5
ES OCDF	43.68	1.1477	1.1476	-0.3	1.60E+07	0.97	Y	0.81	91.3

Lab ID: B6207_18874_DF_003 **Acq'd:** 03 Feb 2022 01:58 DTF **Wt/Vol:** 10.05 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-O-21 **UTP:** 03-Feb-2022 13:42:31 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 690-051-YNY

Datafile: 220202C14 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.86		-	-	-	1.44E+07	0.87	Y	-	-	
JS 1234-TCDF	26.30		-	-	-	2.15E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.06		-	-	-	5.41E+06	1.27	Y	-	-	
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	4.56E+06	n/a	-	1.20	65.9	
CS 12347-PeCDD	33.35		1.1964	1.1970	+1.2	8.83E+06	1.61	Y	0.75	81.5	
CS 12346-PeCDF	31.88		1.2112	1.2119	+1.3	1.45E+07	1.57	Y	0.85	79.2	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	1.20E+07	0.55	Y	1.12	99.2	
CS 1234689-HpCDF	40.29		1.0584	1.0585	+0.2	9.78E+06	0.47	Y	0.89	102	
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~4.56E+06~~	~~n/a~~		~~1.15~~	~~93.5~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1970~~	~~+1.2~~	~~8.83E+06~~	~~1.61~~	~~Y~~	~~0.86~~	~~112~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~1.45E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~103~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.20E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0584~~	~~1.0585~~	~~+0.2~~	~~9.78E+06~~	~~0.47~~	~~Y~~	~~0.92~~	~~115~~	

Totals	Conc	EMPC
Total TCDD	5470	5480
Total PeCDD	65.6	71
Total HxCDD	117	117
Total HpCDD	1160	1160
Total Tetra-Octa Dioxins	13300	13300
Total TCDF	22,500	22500
Total PeCDF	1,320	1320
Total HxCDF	1,190	1190
Total HpCDF	501	501
Total Tetra-Octa Furans	25,700	25700
Total Tetra-Octa Dioxins & Furans	39000	39000

Lab ID: B6207_18874_DF_003 **Acq'd: 03 Feb 2022 01:58 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-21 **UTP: 03-Feb-2022 13:42:31 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 690-051-YNY**

Datafile: 220202C14 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.91		0.8737	0.8733	-0.6	4.46E+05	0.81	Y	1.18	7.06	3595.886	0.585
1379-TCDD	25.27	EMPC	0.8860	0.8859	-0.2	1.67E+05	0.63	N	1.18	2.64	3595.886	0.585
1369-TCDD	NotFnd		0.9009						1.18		3595.886	0.585
1469-TCDD	26.47		0.9281	0.9280	-0.2	1.65E+05	0.88	Y	1.18	2.61	3595.886	0.585
1247/1246/1248/1249-TCDD	26.69		0.9362	0.9359	-0.5	4.85E+05	0.84	Y	1.18	7.67	3595.886	0.585
1378-TCDD	26.89		0.9432	0.9428	-0.6	9.16E+05	0.80	Y	1.18	14.5	3595.886	0.585
1268-TCDD	NotFnd		0.9500						1.18		3595.886	0.585
1478-TCDD	27.34		0.9586	0.9587	+0.2	7.59E+05	0.83	Y	1.18	12	3595.886	0.585
1279-TCDD	NotFnd		0.9645						1.18		3595.886	0.585
1234/1269-TCDD	NotFnd		0.9770						1.18		3595.886	0.585
1236-TCDD	NotFnd		0.9817						1.18		3595.886	0.585
1237/1238-TCDD	28.24		0.9905	0.9904	-0.2	4.36E+06	0.82	Y	1.18	68.9	3595.886	0.585
1239-TCDD	NotFnd		0.9952						1.18		3595.886	0.585
2378-TCDD	**28.54**	E	**1.0008**	1.0008	**0**	3.12E+08	0.80	Y	**1.18**	**4,940**	**3595.886**	**0.585**
1278-TCDD	28.87		1.0121	1.0122	+0.2	2.56E+07	0.80	Y	1.18	405	3595.886	0.585
1267-TCDD	29.01		1.0167	1.0173	+1.0	8.05E+05	0.79	Y	1.18	12.7	3595.886	0.585
1289-TCDD	29.50		1.0345	1.0343	-0.4	4.17E+05	0.89	Y	1.18	6.6	3595.886	0.585
12479/12468-PeCDD	31.37		0.9267	0.9267	0	1.77E+05	1.67	Y	1.04	3.71	3609.386	0.669
12469-PeCDD	31.90	J EMPC	0.9425	0.9424	-0.2	1.14E+05	1.24	N	1.04	2.39	3609.386	0.669
12368-PeCDD	32.45		0.9588	0.9588	0	3.33E+05	1.52	Y	1.04	6.99	3609.386	0.669
12478-PeCDD	32.65		0.9643	0.9645	+0.4	1.60E+05	1.47	Y	1.04	3.36	3609.386	0.669
12379-PeCDD	32.74	J	0.9673	0.9673	0	1.05E+05	1.37	Y	1.04	2.2	3609.386	0.669
12369/12467/12489-PeCDD	32.99	J EMPC	0.9750	0.9747	-0.6	5.48E+04	0.91	N	1.04	1.15	3609.386	0.669
12346/12347-PeCDD	33.38	J EMPC	0.9858	0.9861	+0.6	4.20E+04	0.93	N	1.04	0.881	3609.386	0.669
12378-PeCDD	33.87		**1.0006**	**1.0005**	**-0.2**	**2.35E+06**	**1.60**	**Y**	**1.04**	**49.4**	**3609.386**	**0.669**
12367-PeCDD	33.96	J EMPC	1.0033	1.0034	+0.2	4.45E+04	3.57	N	1.04	0.933	3609.386	0.669
12389-PeCDD	NotFnd		1.0134						1.04		3609.386	0.669
124679/124689-HxCDD	36.02		0.9542	0.9542	0	2.18E+06	1.30	Y	1.10	42.2	3905.438	0.646
123468-HxCDD	36.68		0.9715	0.9714	-0.2	3.63E+05	1.31	Y	1.10	7.03	3905.438	0.646
123679/123689-HxCDD	36.97		0.9793	0.9793	0	1.90E+06	1.29	Y	1.10	36.8	3905.438	0.646
123469-HxCDD	37.10		0.9828	0.9827	-0.2	5.67E+05	1.26	Y	1.10	11	3905.438	0.646
123478-HxCDD	37.77	J	**1.0004**	**1.0004**	**0**	**1.09E+05**	**1.11**	**Y**	1.09	**2.23**	**3905.438**	**0.686**
123678-HxCDD	37.89		**1.0035**	**1.0035**	**0**	**5.90E+05**	**1.29**	**Y**	1.15	**10.7**	**3905.438**	**0.611**
123467-HxCDD	38.08	J	1.0085	1.0086	+0.2	1.21E+05	1.26	Y	1.10	2.33	3905.438	0.646
123789-HxCDD	38.18		**1.0112**	**1.0112**	**0**	**2.35E+05**	**1.19**	**Y**	1.05	**4.62**	**3905.438**	**0.647**

Lab ID: B6207_18874_DF_003 **Acq'd: 03 Feb 2022 01:58 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-21 **UTP: 03-Feb-2022 13:42:31 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 690-051-YNY**

Datafile: 220202C14 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

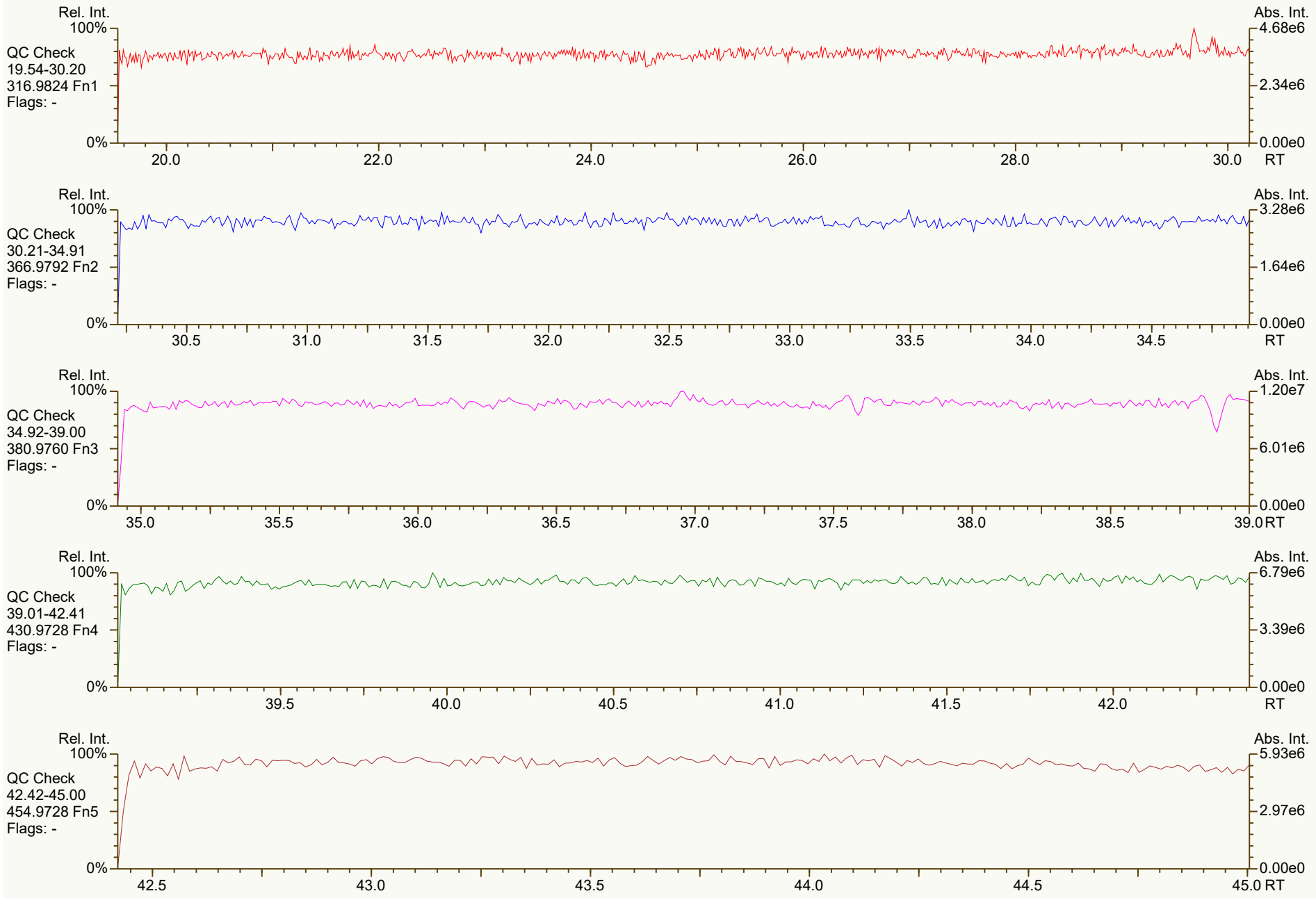
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	3.05E+07	1.03	Y	1.06	722	3778.807	0.678
1234678-HpCDD	**40.83**		**1.0003**	**1.0004**	**+0.2**	**1.86E+07**	**1.06**	**Y**	**1.06**	**440**	**3778.807**	**0.678**
OCDD	**43.51**		**1.0004**	**1.0003**	**-0.3**	**2.10E+08**	**0.91**	**Y**	**1.13**	**6,440**	**2860.947**	**0.859**
OCDD-a	43.51		1.0003	1.0002	-0.3	1.31E+07	2.45	Y	0.07	6,280	3175.715	14.9
1368-TCDF	22.81		0.8251	0.8245	-0.8	3.17E+05	0.78	Y	1.08	3	2214.0143	0.213
1468-TCDF	23.39		0.8458	0.8455	-0.4	2.34E+06	0.77	Y	1.08	22.2	2214.0143	0.213
2468-TCDF	24.03		0.8686	0.8683	-0.4	1.17E+06	0.77	Y	1.08	11	2214.0143	0.213
1346/1246-TCDF	NotFnd		0.8814						1.08		2214.0143	0.213
1347/1378/1247-TCDF	24.55		0.8867	0.8874	+1.0	1.62E+07	0.81	Y	1.08	153	2214.0143	0.213
1348-TCDF	NotFnd		0.8962						1.08		2214.0143	0.213
1248/1367/1379-TCDF	24.89		0.9009	0.8994	-2.2	6.43E+07	0.80	Y	1.08	610	2214.0143	0.213
1268-TCDF	25.30		0.9145	0.9142	-0.5	1.98E+07	0.82	Y	1.08	188	2214.0143	0.213
1467-TCDF	25.43		0.9193	0.9191	-0.3	2.55E+06	0.80	Y	1.08	24.1	2214.0143	0.213
1478-TCDF	25.60		0.9254	0.9251	-0.5	4.90E+07	0.80	Y	1.08	464	2214.0143	0.213
1369/1237-TCDF	25.97		0.9387	0.9388	+0.2	1.19E+07	0.79	Y	1.08	113	2214.0143	0.213
2467-TCDF	26.09		0.9433	0.9430	-0.5	1.41E+06	0.75	Y	1.08	13.4	2214.0143	0.213
2368-TCDF	26.25		0.9489	0.9488	-0.2	3.75E+07	0.78	Y	1.08	355	2214.0143	0.213
1238/1234/1678/1469/1236-TCDF	26.33		0.9523	0.9515	-1.3	5.56E+07	0.81	Y	1.08	527	2214.0143	0.213
1278-TCDF	26.79	E	0.9683	0.9682	-0.2	5.57E+08	0.78	Y	1.08	5,280	2214.0143	0.213
1349-TCDF	NotFnd		0.9722						1.08		2214.0143	0.213
1267-TCDF	27.06		0.9783	0.9781	-0.3	2.83E+07	0.79	Y	1.08	268	2214.0143	0.213
2346/1249-TCDF	27.27		0.9850	0.9855	+0.8	3.76E+06	0.78	Y	1.08	35.6	2214.0143	0.213
2347/1279-TCDF	27.45		0.9926	0.9922	-0.7	1.13E+07	0.78	Y	1.08	107	2214.0143	0.213
2348-TCDF	27.57		0.9967	0.9965	-0.3	8.97E+07	0.81	Y	1.08	850	2214.0143	0.213
2378-TCDF	**27.69**	E	**1.0008**	**1.0007**	**-0.2**	**1.23E+09**	**0.79**	**Y**	**1.08**	**11,600**	**2214.0143**	**0.213**
2367/3467-TCDF	28.04		1.0137	1.0133	-0.7	8.76E+07	0.79	Y	1.08	831	2214.0143	0.213
1269-TCDF	28.29		1.0223	1.0223	0	2.01E+07	0.79	Y	1.08	191	2214.0143	0.213
1239-TCDF	28.54		1.0321	1.0316	-0.9	1.57E+06	0.76	Y	1.08	14.8	2214.0143	0.213
1289-TCDF	29.69		1.0722	1.0730	+1.4	8.43E+07	0.77	Y	1.08	799	2214.0143	0.213
13468/12468-PeCDF	29.62		0.9139	0.9141	+0.4	8.10E+05	1.36	Y	1.02	10.2	3151.585	0.358
13678/13467/12467-PeCDF	31.17		0.9613	0.9617	+0.7	5.36E+05	1.72	Y	1.02	6.73	3715.109	0.422
12368/13478/12478-PeCDF	31.33		0.9662	0.9668	+1.1	1.69E+07	1.56	Y	1.02	213	3715.109	0.422
14678-PeCDF	NotFnd		0.9692						1.02		3715.109	0.422
13479-PeCDF	NotFnd		0.9723						1.02		3715.109	0.422
13469/12479-PeCDF	NotFnd		0.9797						1.02		3715.109	0.422
12346-PeCDF	31.89	J	0.9840	0.9840	0	9.21E+04	1.52	Y	1.02	1.16	3715.109	0.422

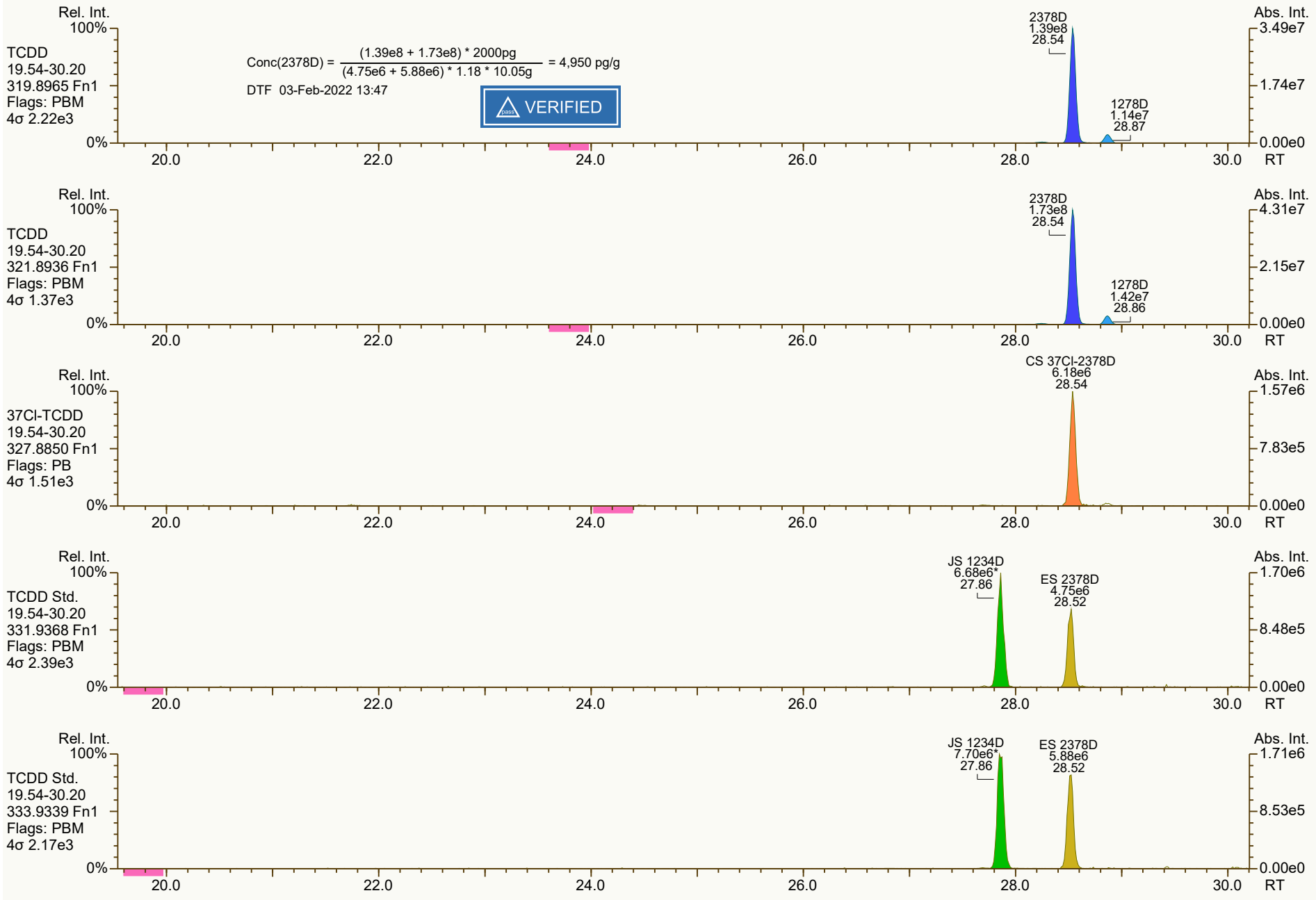
Lab ID: B6207_18874_DF_003 **Acq'd: 03 Feb 2022 01:58 DTF** **Wt/Vol: 10.05 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-21 **UTP: 03-Feb-2022 13:42:31 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 690-051-YNY**

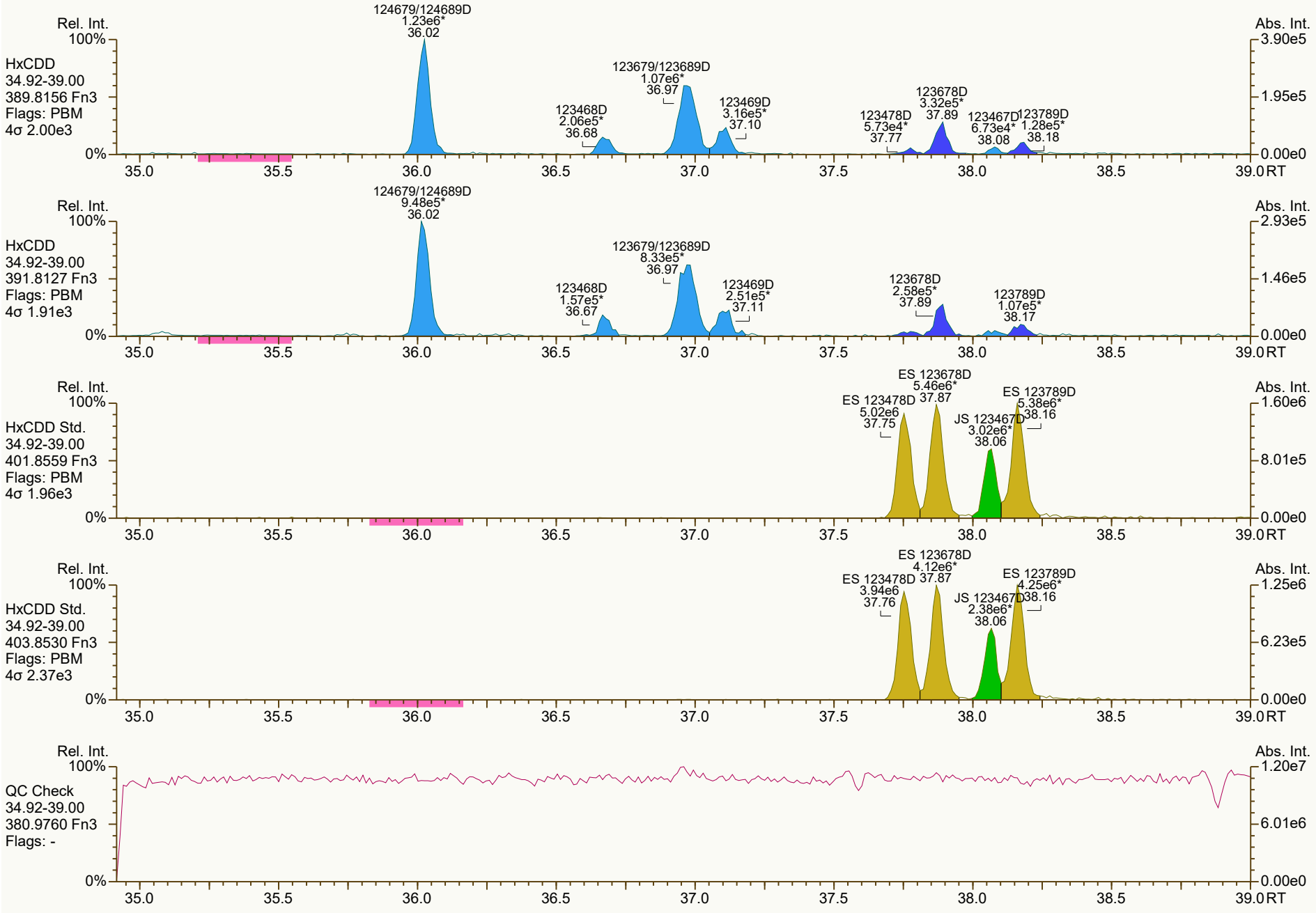
Datafile: 220202C14 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

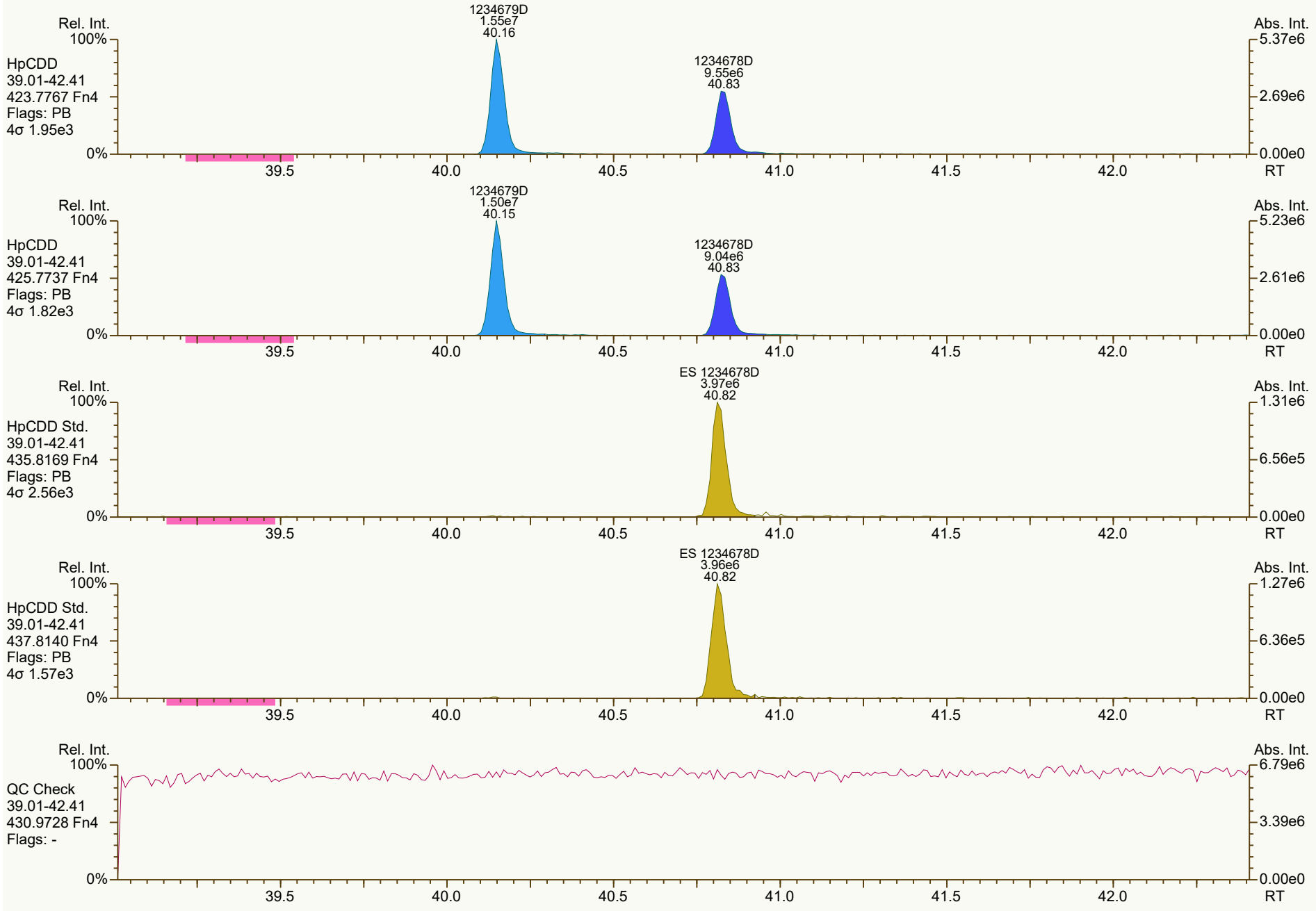
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.98		0.9868	0.9869	+0.2	8.33E+05	1.46	Y	1.02	10.5	3715.109	0.422
12347-PeCDF	32.06		0.9894	0.9892	-0.4	7.91E+05	1.41	Y	1.02	9.94	3715.109	0.422
12348-PeCDF	32.21		0.9940	0.9940	0	3.94E+06	1.51	Y	1.02	49.5	3715.109	0.422
12378-PeCDF	**32.42**		**1.0005**	**1.0005**	**0**	**3.65E+07**	**1.57**	**Y**	**1.02**	**470**	**3715.109**	**0.445**
12678/12367-PeCDF	32.72		1.0089	1.0096	+1.4	1.18E+07	1.54	Y	1.02	148	3715.109	0.422
12379-PeCDF	NotFnd		1.0142						1.02		3715.109	0.422
12679-PeCDF	33.28	J EMPC	0.9929	0.9928	-0.2	7.00E+04	2.20	N	1.02	0.879	3715.109	0.422
23467/12369-PeCDF	33.40		0.9967	0.9966	-0.2	5.74E+05	1.69	Y	1.02	7.21	3715.109	0.422
23478-PeCDF	**33.54**		**1.0005**	**1.0007**	**+0.4**	**3.02E+07**	**1.60**	**Y**	**1.02**	**371**	**3715.109**	**0.399**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3715.109	0.422
12349-PeCDF	NotFnd		1.0100						1.02		3715.109	0.422
12389-PeCDF	34.60		1.0324	1.0323	-0.2	1.45E+06	1.54	Y	1.02	18.2	3715.109	0.422
123468-HxCDF	35.38		0.9627	0.9627	0	6.69E+05	1.06	Y	1.19	8.84	3615.165	0.393
124678/134678-HxCDF	35.58		0.9682	0.9680	-0.4	4.79E+06	1.27	Y	1.19	63.3	3615.165	0.393
134679-HxCDF	NotFnd		0.9744						1.19		3615.165	0.393
124679-HxCDF	NotFnd		0.9798						1.19		3615.165	0.393
124689-HxCDF	36.22		0.9858	0.9857	-0.2	2.61E+06	1.22	Y	1.19	34.5	3615.165	0.393
123467-HxCDF	36.64		0.9972	0.9971	-0.2	3.49E+05	1.29	Y	1.19	4.61	3615.165	0.393
123478-HxCDF	**36.76**		**1.0004**	**1.0004**	**0**	**5.56E+07**	**1.24**	**Y**	**1.27**	**777**	**3615.165**	**0.401**
123678-HxCDF	**36.91**		**1.0004**	**1.0006**	**+0.4**	**1.65E+07**	**1.24**	**Y**	**1.15**	**208**	**3615.165**	**0.401**
123479-HxCDF	NotFnd		1.0049						1.19		3615.165	0.393
123469-HxCDF	NotFnd		1.0090						1.19		3615.165	0.393
123679-HxCDF	NotFnd		0.9942						1.19		3615.165	0.393
234678-HxCDF	**37.59**		**1.0005**	**1.0004**	**-0.2**	**3.56E+06**	**1.29**	**Y**	**1.19**	**40.2**	**3615.165**	**0.366**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3615.165	0.393
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3615.165**	**0.418**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.56		1.0009	1.0011	+0.5	4.03E+06	1.26	Y	1.19	53.3	3615.165	0.393
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**1.69E+07**	**1.01**	**Y**	**1.37**	**267**	**4458.847**	**0.496**
1234679-HpCDF	NotFnd		1.0068						1.34		4458.847	0.611
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	7.90E+06	1.02	Y	1.34	138	4458.847	0.611
1234789-HpCDF	**41.29**		**1.0002**	**1.0003**	**+0.2**	**4.95E+06**	**1.01**	**Y**	**1.31**	**96.7**	**4458.847**	**0.752**
OCDF	**43.69**		**1.0003**	**1.0002**	**-0.3**	**8.96E+06**	**0.90**	**Y**	**1.07**	**208**	**3869.699**	**0.967**
OCDF-a	43.69		1.0002	1.0002	0	5.36E+05	2.30	Y	0.07	202	3773.031	15.2

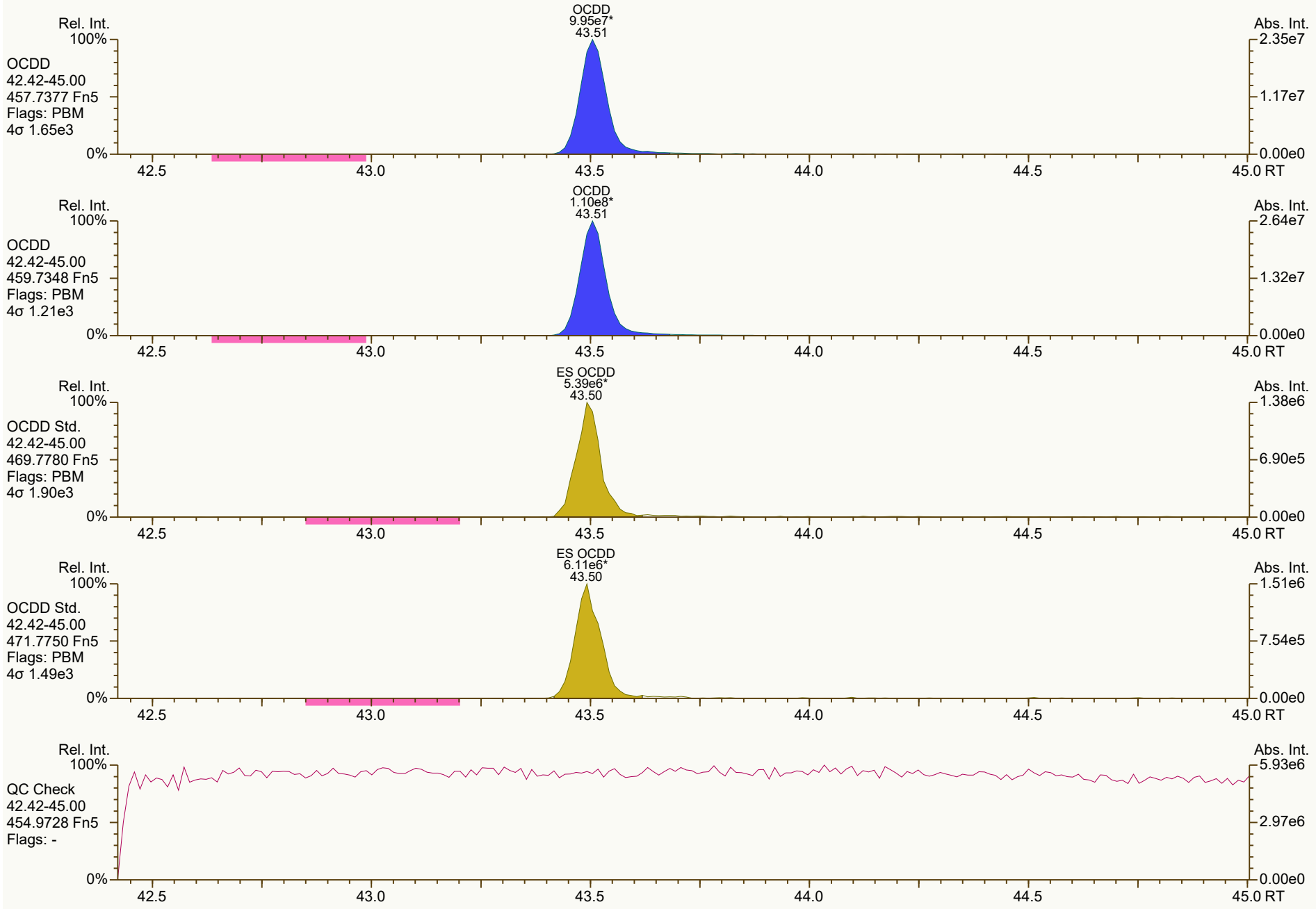

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.68e6
2.34e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.28e6
1.64e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.20e7
6.01e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.79e6
3.39e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.93e6
2.97e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.22e3
0%
Conc(2378D) = (1.39e8 + 1.73e8) * 2000pg / (4.75e6 + 5.88e6) * 1.18 * 10.05g = 4,950 pg/g
DTF 03-Feb-2022 13:47
VERIFIED
2378D
1.39e8
28.54
1278D
1.14e7
28.87
Abs. Int.
3.49e7
1.74e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.37e3
0%
2378D
1.73e8
28.54
1278D
1.42e7
28.86
Abs. Int.
4.31e7
2.15e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.51e3
0%
CS 37Cl-2378D
6.18e6
28.54
Abs. Int.
1.57e6
7.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 2.39e3
0%
JS 1234D
6.68e6*
27.86
ES 2378D
4.75e6
28.52
Abs. Int.
1.70e6
8.48e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.17e3
0%
JS 1234D
7.70e6*
27.86
ES 2378D
5.88e6
28.52
Abs. Int.
1.71e6
8.53e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.57e3
0%
12479/12468D
1.11e5
31.37
12368D
2.01e5
32.45
12478D
9.52e4*
32.65
12379D
6.07e4*
32.74
12378D
1.45e6*
33.87
12367D
6.24e4*
33.96
Abs. Int.
4.14e5
2.07e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.04e3
0%
12479/12468D
6.61e4
31.36
12469D
5.59e4
31.90
12368D
1.32e5
32.45
12379D
4.43e4*
32.74
12478D
6.49e4*
32.64
12369D...[3]
3.65e4*
33.00
12378D
9.04e5*
33.87
Abs. Int.
2.60e5
1.30e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.70e3
0%
CS 12347D
5.45e6
33.35
ES 12378D
5.64e6
33.85
Abs. Int.
1.60e6
7.98e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 2.01e3
0%
CS 12347D
3.38e6
33.35
ES 12378D
3.52e6
33.85
Abs. Int.
1.07e6
5.35e5
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.28e6
1.64e6
0.00e0
RT

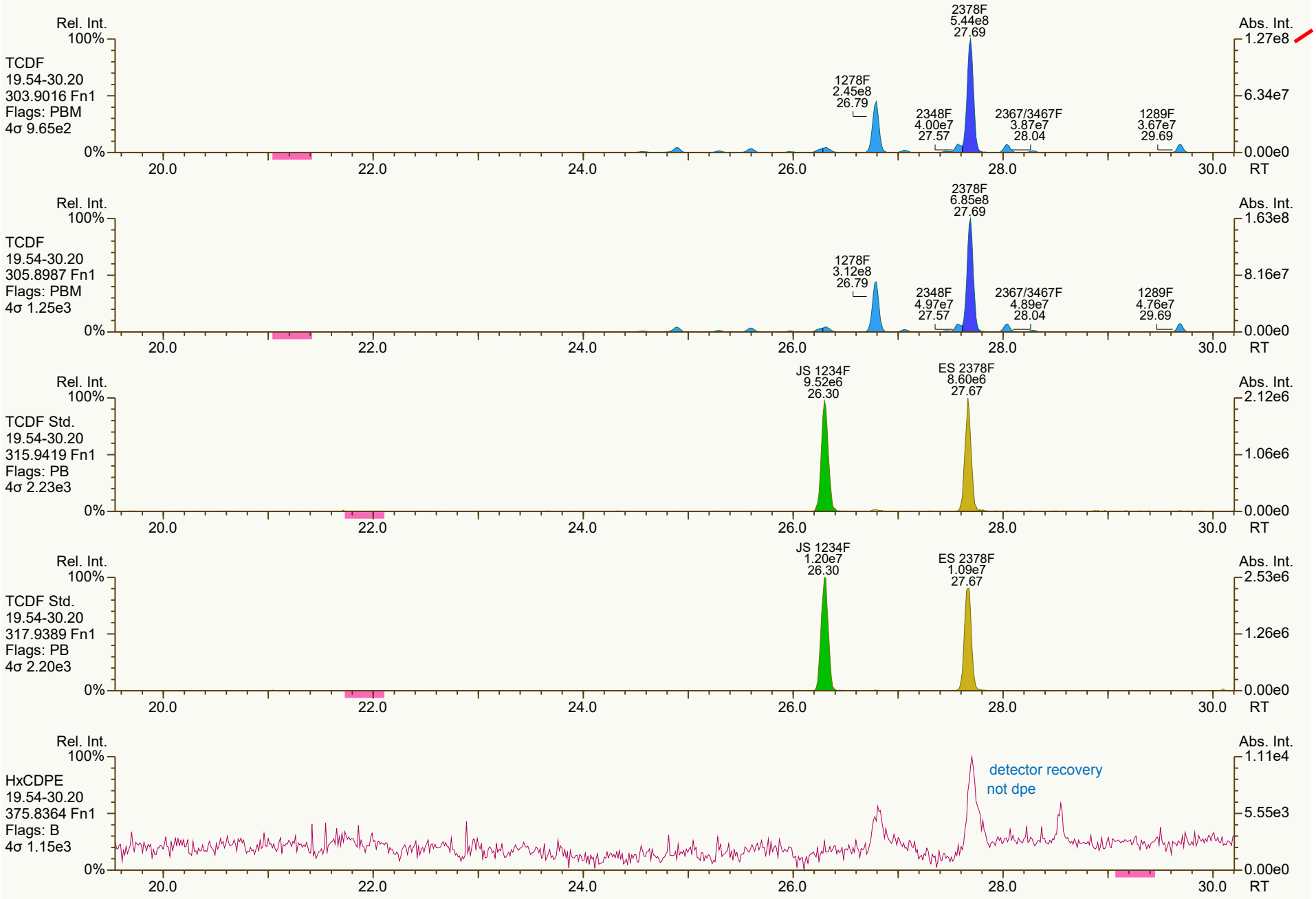

Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
1.23e6*
36.02
123679/123689D
1.07e6*
36.97
123468D
2.06e5*
36.68
123469D
3.16e5*
37.10
123678D
3.32e5*
37.89
123478D
5.73e4*
37.77
123467D
6.73e4*
38.08
123789D
1.28e5*
38.18
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.91e3
124679/124689D
9.48e5*
36.02
123679/123689D
8.33e5*
36.97
123468D
1.57e5*
36.67
123469D
2.51e5*
37.11
123678D
2.58e5*
37.89
123789D
1.07e5*
38.17
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.96e3
ES 123678D
5.46e6*
37.87
ES 123478D
5.02e6
37.75
ES 123789D
5.38e6*
38.16
JS 123467D
3.02e6*
38.06
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.37e3
ES 123678D
4.12e6*
37.87
ES 123478D
3.94e6
37.76
ES 123789D
4.25e6*
38.16
JS 123467D
2.38e6*
38.06
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
3.90e5
1.95e5
0.00e0
2.93e5
1.46e5
1.60e6
8.01e5
1.25e6
6.23e5
1.20e7
6.01e6


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.95e3
1234679D
1.55e7
40.16
1234678D
9.55e6
40.83
0%
Abs. Int.
5.37e6
2.69e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.82e3
1234679D
1.50e7
40.15
1234678D
9.04e6
40.83
0%
Abs. Int.
5.23e6
2.61e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.56e3
ES 1234678D
3.97e6
40.82
0%
Abs. Int.
1.31e6
6.56e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.57e3
ES 1234678D
3.96e6
40.82
0%
Abs. Int.
1.27e6
6.36e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.79e6
3.39e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
9.95e7*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.65e3
0%
Abs. Int.
2.35e7
1.17e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.10e8*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.21e3
0%
Abs. Int.
2.64e7
1.32e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.39e6*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
1.38e6
6.90e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.11e6*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.49e3
0%
Abs. Int.
1.51e6
7.54e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.93e6
2.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6207_18874_DF_003 | Sample ID: 11215131-011922-S-BN-SW-O-21 | Acq: 03-Feb-2022 01:58:19

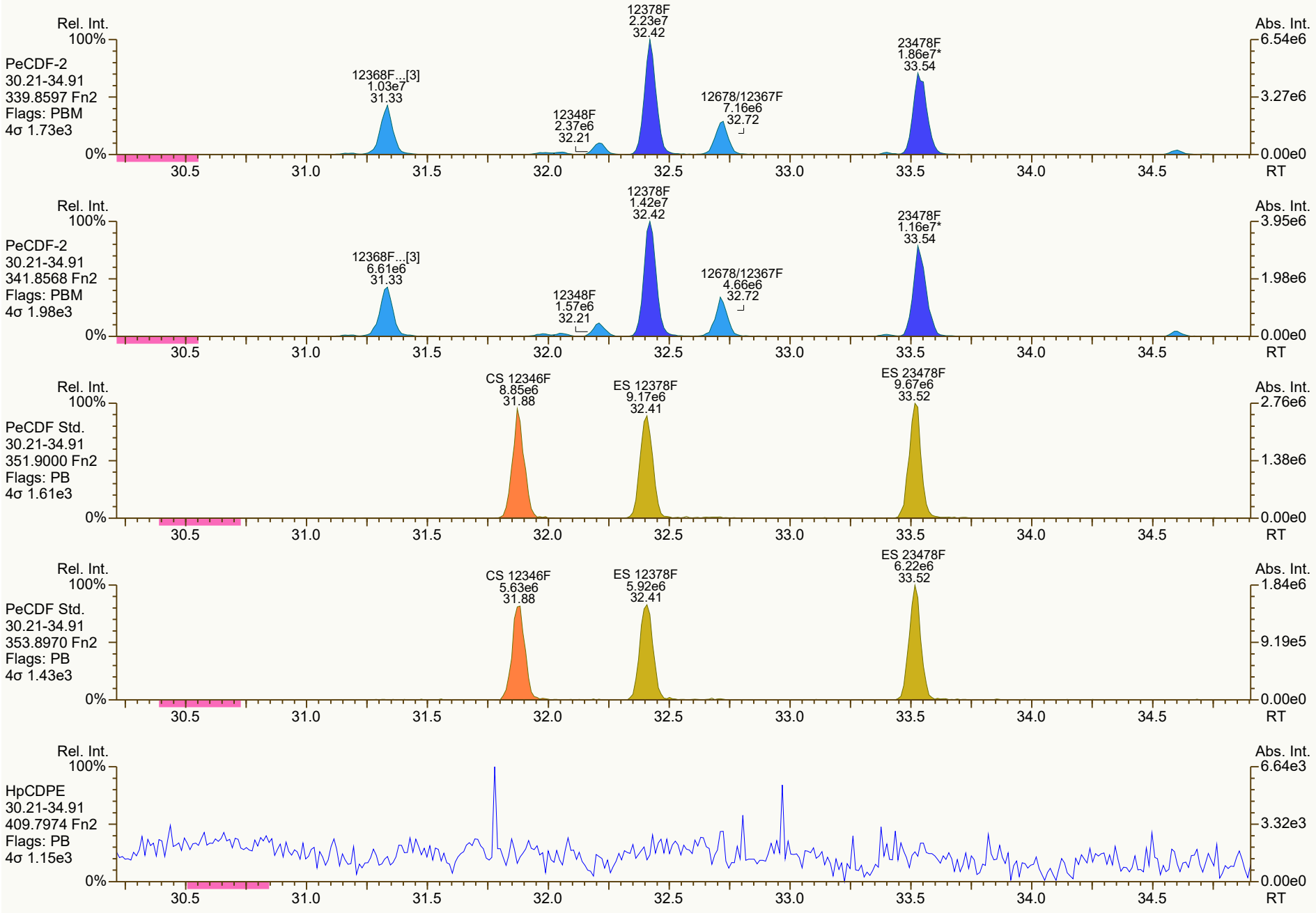
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: DTF Datafile: 220202C14

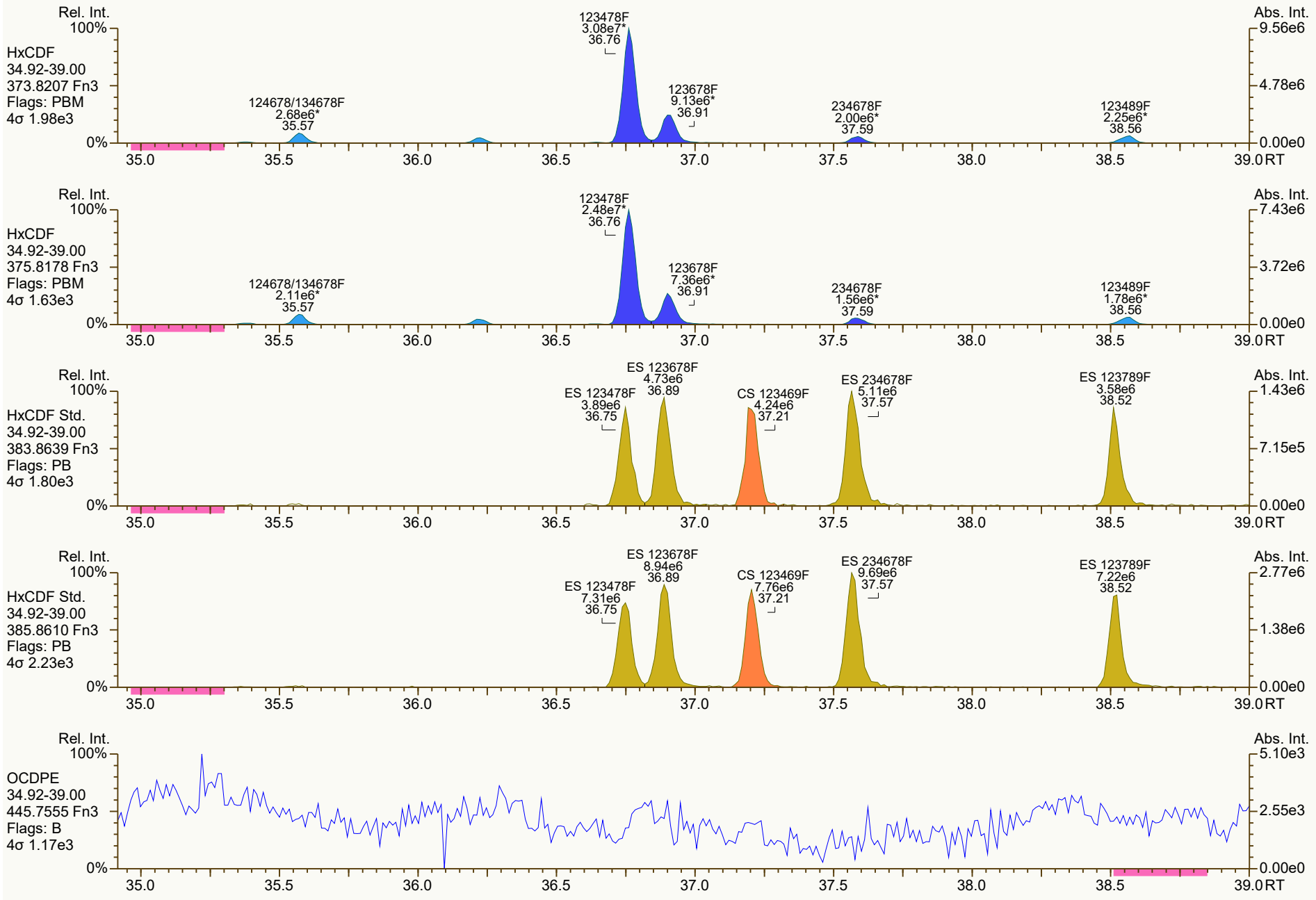


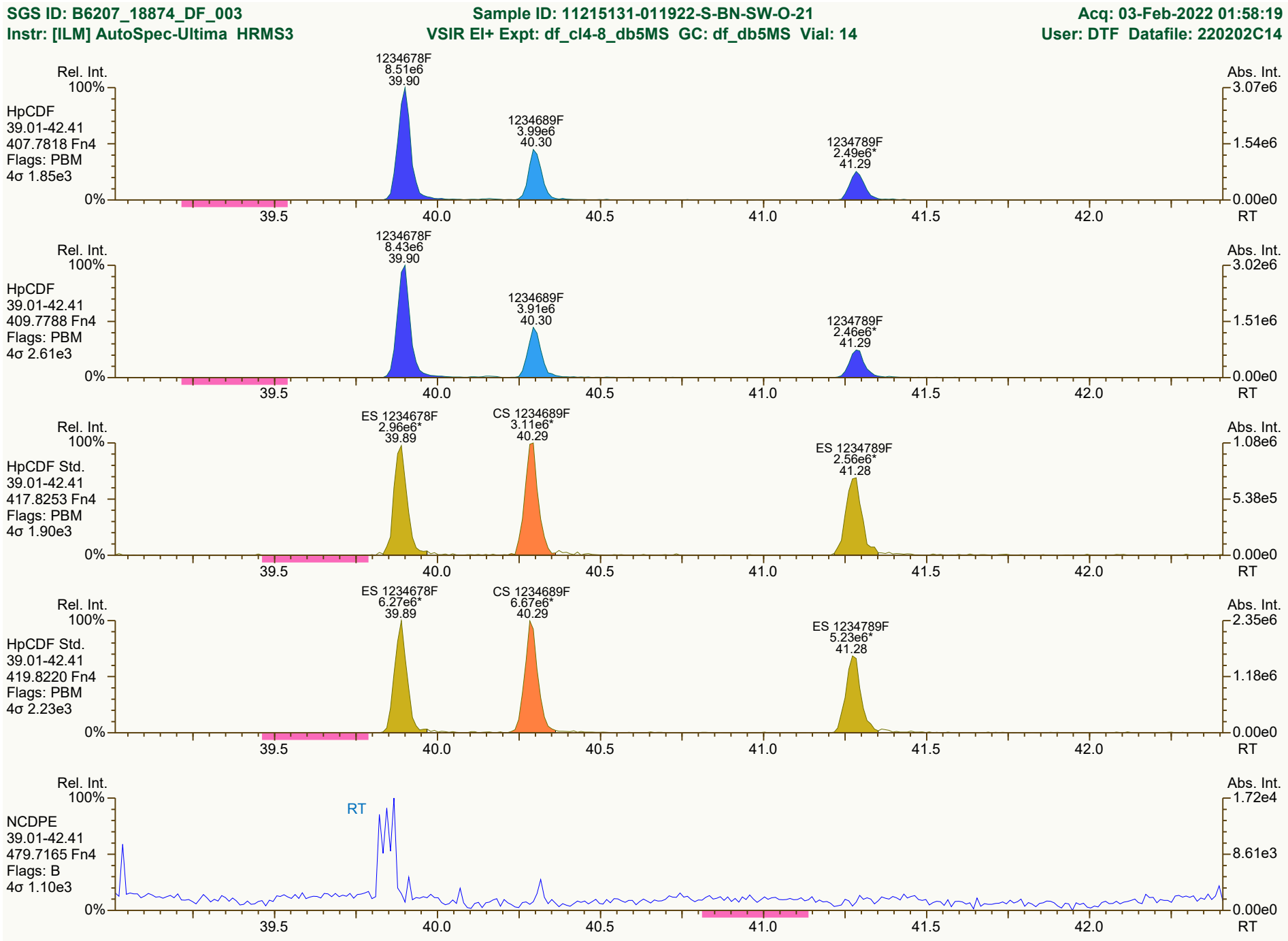
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_003.utp_res, saved 03-Feb-2022 13:47 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0881, 8052, 7812 scc: 690-051 *Revised: 03-Feb-2022 09:59 (DTF) Printed: 03-Feb-2022 13:50 Page 7 of 12*

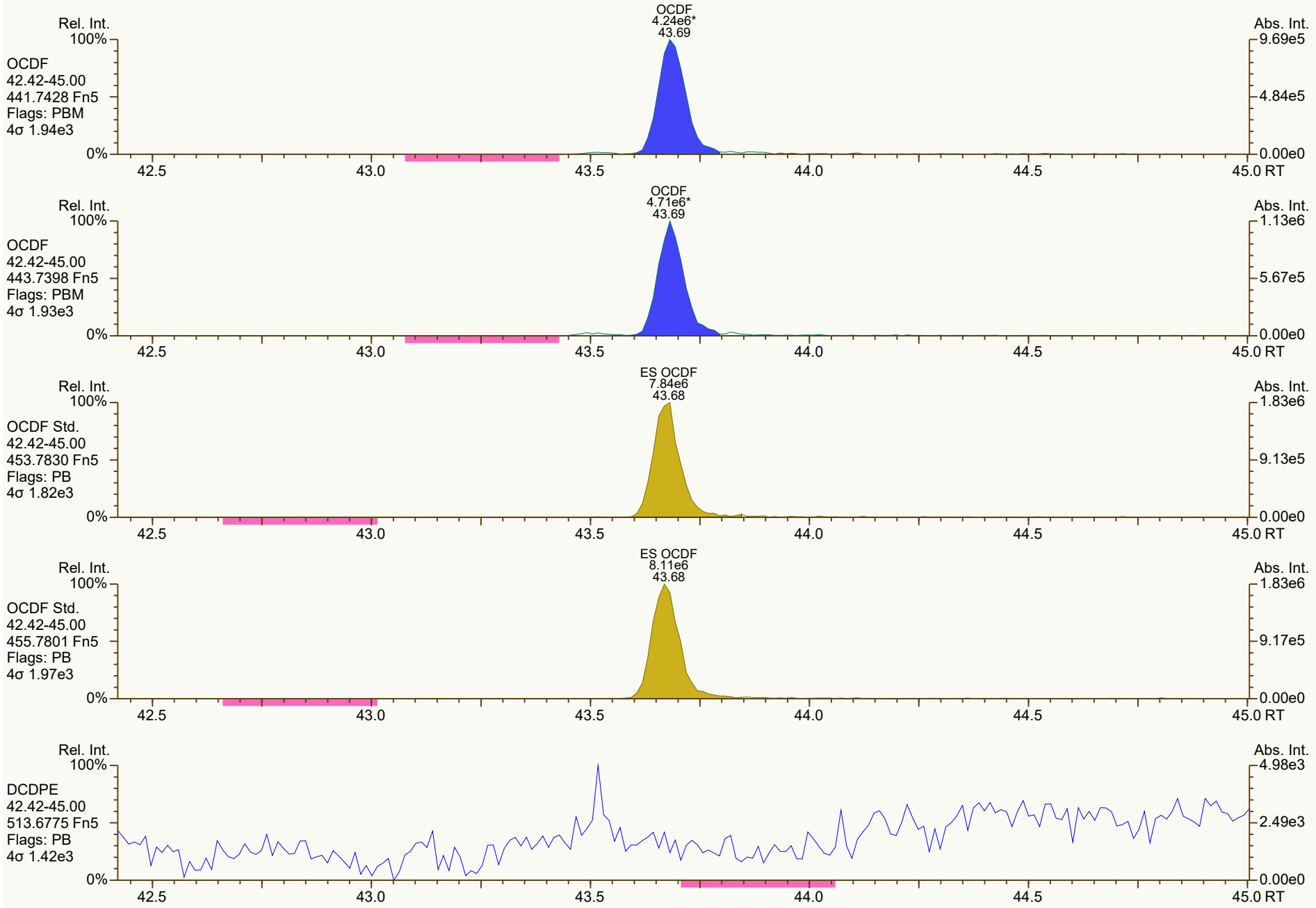

13468/12468F
4.67e5*
29.62
Rel. Int.
100%
Abs. Int.
1.17e5
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.63e3
5.84e4
0%
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
3.43e5*
29.63
Rel. Int.
100%
Abs. Int.
7.30e4
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.53e3
3.65e4
0%
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
Abs. Int.
4.68e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
2.34e6
0%
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 1.73e3
12368F...[3]
1.03e7
31.33
12348F
2.37e6
32.21
12378F
2.23e7
32.42
12678/12367F
7.16e6
32.72
23478F
1.86e7*
33.54
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
6.54e6
3.27e6
0.00e0
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 1.98e3
12368F...[3]
6.61e6
31.33
12348F
1.57e6
32.21
12378F
1.42e7
32.42
12678/12367F
4.66e6
32.72
23478F
1.16e7*
33.54
0%
RT
Abs. Int.
3.95e6
1.98e6
0.00e0
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.61e3
CS 12346F
8.85e6
31.88
ES 12378F
9.17e6
32.41
ES 23478F
9.67e6
33.52
0%
RT
Abs. Int.
2.76e6
1.38e6
0.00e0
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.43e3
CS 12346F
5.63e6
31.88
ES 12378F
5.92e6
32.41
ES 23478F
6.22e6
33.52
0%
RT
Abs. Int.
1.84e6
9.19e5
0.00e0
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.15e3
0%
RT
Abs. Int.
6.64e3
3.32e3
0.00e0


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.98e3
0%
123478F
3.08e7*
36.76
123678F
9.13e6*
36.91
124678/134678F
2.68e6*
35.57
234678F
2.00e6*
37.59
123489F
2.25e6*
38.56
Abs. Int.
9.56e6
4.78e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.63e3
123478F
2.48e7*
36.76
123678F
7.36e6*
36.91
124678/134678F
2.11e6*
35.57
234678F
1.56e6*
37.59
123489F
1.78e6*
38.56
7.43e6
3.72e6
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.80e3
ES 123678F
4.73e6
36.89
ES 123478F
3.89e6
36.75
CS 123469F
4.24e6
37.21
ES 234678F
5.11e6
37.57
ES 123789F
3.58e6
38.52
1.43e6
7.15e5
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.23e3
ES 123678F
8.94e6
36.89
ES 123478F
7.31e6
36.75
CS 123469F
7.76e6
37.21
ES 234678F
9.69e6
37.57
ES 123789F
7.22e6
38.52
2.77e6
1.38e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.17e3
5.10e3
2.55e3



Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_003.utp_res, saved 03-Feb-2022 13:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7247, 1503, 0786 scc: 690-051
PKD: 03-Feb-2022 10:00 Printed: 03-Feb-2022 13:51 Page 11 of 12


OCDF
4.24e6*
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.94e3
0%
Abs. Int.
9.69e5
4.84e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.71e6*
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.93e3
0%
Abs. Int.
1.13e6
5.67e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.84e6
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.82e3
0%
Abs. Int.
1.83e6
9.13e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.11e6
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.97e3
0%
Abs. Int.
1.83e6
9.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.42e3
0%
Abs. Int.
4.98e3
2.49e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_004 **Acq'd:** 03 Feb 2022 02:44 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-23 **UTP:** 03-Feb-2022 13:42:31 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 023-780-HCQ

Datafile: 220202C15 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.53	EMPC	1.0008	1.0004	-0.7	2.30E+05	0.92	N	1.18	3.86	3117.8	0.537
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	4493.072	0.757
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3180.734	0.483
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	3180.734	0.421
123789-HxCDD	38.18	J	1.0112	1.0111	-0.2	7.08E+04	1.21	Y	1.05	1.34	3180.734	0.507
1234678-HpCDD	40.84		1.0003	1.0003	0	9.06E+05	0.95	Y	1.06	18.6	3595.6	0.584
OCDD	43.52		1.0004	1.0003	-0.3	1.78E+07	0.93	Y	1.13	525	2780.848	0.874
2378-TCDF	27.68		1.0008	1.0006	-0.3	9.07E+05	0.83	Y	1.08	10.4	4397.244	0.57
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3331.014	0.385
23478-PeCDF	33.53	J	1.0005	1.0003	-0.4	4.81E+04	1.47	Y	1.02	0.68	3331.014	0.449
123478-HxCDF	36.77	J	1.0004	1.0004	0	6.84E+04	1.27	Y	1.27	0.986	2344.489	0.28
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2344.489	0.251
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2344.489	0.229
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2344.489	0.324
1234678-HpCDF	39.90	J	1.0003	1.0002	-0.2	3.48E+04	1.18	Y	1.37	0.403	4071.81	0.365
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	4071.81	0.665
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	1896.3795	0.557

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52		1.0236	1.0238	+0.3	1.00E+07	0.84	Y	1.05	84.3
ES 12378-PeCDD	33.85		1.2144	1.2152	+1.6	9.66E+06	1.58	Y	0.88	96.7
ES 123478-HxCDD	37.76		0.9920	0.9920	0	9.69E+06	1.33	Y	0.97	93.8
ES 123678-HxCDD	37.88		0.9951	0.9951	0	1.09E+07	1.19	Y	0.94	108
ES 123789-HxCDD	38.17		1.0027	1.0027	0	1.00E+07	1.27	Y	1.09	86.6
ES 1234678-HpCDD	40.83		1.0724	1.0725	+0.2	9.15E+06	1.01	Y	0.91	94.4
ES OCDD	43.51		1.1428	1.1430	+0.5	1.20E+07	0.90	Y	0.62	90.4
ES 2378-TCDF	27.66		1.0516	1.0517	+0.2	1.61E+07	0.79	Y	1.06	79.5
ES 12378-PeCDF	32.41		1.2312	1.2320	+1.6	1.52E+07	1.50	Y	0.91	87.1
ES 23478-PeCDF	33.52		1.2733	1.2743	+2.0	1.39E+07	1.61	Y	0.88	81.8
ES 123478-HxCDF	36.75		0.9655	0.9654	-0.2	1.09E+07	0.54	Y	1.20	85.5
ES 123678-HxCDF	36.89		0.9692	0.9692	0	1.43E+07	0.52	Y	1.35	99.9
ES 234678-HxCDF	37.58		0.9871	0.9872	+0.2	1.59E+07	0.55	Y	1.24	121
ES 123789-HxCDF	38.53		1.0121	1.0120	-0.2	1.03E+07	0.53	Y	1.16	84.1
ES 1234678-HpCDF	39.89		1.0479	1.0480	+0.2	1.26E+07	0.47	Y	0.97	122
ES 1234789-HpCDF	41.29		1.0845	1.0845	0	7.41E+06	0.49	Y	0.85	81.9
ES OCDF	43.69		1.1477	1.1477	0	1.36E+07	0.89	Y	0.81	79.3

Lab ID: B6207_18874_DF_004 **Acq'd:** 03 Feb 2022 02:44 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-23 **UTP:** 03-Feb-2022 13:42:31 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 023-780-HCQ

Datafile: 220202C15 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.86		-	-	-	1.14E+07	0.85	Y	-	-	
JS 1234-TCDF	26.30		-	-	-	1.92E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	5.31E+06	1.34	Y	-	-	
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	4.45E+06	n/a	-	1.20	81.5	
CS 12347-PeCDD	33.35		1.1964	1.1971	+1.4	8.81E+06	1.72	Y	0.75	103	
CS 12346-PeCDF	31.88		1.2112	1.2119	+1.3	1.51E+07	1.64	Y	0.85	92.6	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	1.25E+07	0.54	Y	1.12	106	
CS 1234689-HpCDF	40.30		1.0584	1.0585	+0.2	1.07E+07	0.49	Y	0.89	114	
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~4.45E+06~~	~~n/a~~		~~1.15~~	~~96.9~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1971~~	~~+1.4~~	~~8.81E+06~~	~~1.72~~	~~Y~~	~~0.86~~	~~106~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~1.51E+07~~	~~1.64~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.25E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0585~~	~~+0.2~~	~~1.07E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~92.9~~	

Totals	Conc	EMPC
Total TCDD	0	6.49
Total PeCDD	1.96	3.16
Total HxCDD	20.6	20.6
Total HpCDD	67.1	67.1
Total Tetra-Octa Dioxins	615	623
Total TCDF	20.4	22.7
Total PeCDF	0.68	0.68
Total HxCDF	0.986	0.986
Total HpCDF	0.403	0.403
Total Tetra-Octa Furans	22.5	24.7
Total Tetra-Octa Dioxins & Furans	637	647

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.9	0.92
Response	2.51E+05	2.49E+05

Lab ID: B6207_18874_DF_004 **Acq'd: 03 Feb 2022 02:44 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-23 **UTP: 03-Feb-2022 13:42:31 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 023-780-HCQ**

Datafile: 220202C15 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3117.8	0.537
1379-TCDD	NotFnd		0.8860						1.18		3117.8	0.537
1369-TCDD	NotFnd		0.9009						1.18		3117.8	0.537
1469-TCDD	26.47	EMPC	0.9281	0.9280	-0.2	1.56E+05	0.95	N	1.18	2.63	3117.8	0.537
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3117.8	0.537
1378-TCDD	NotFnd		0.9432						1.18		3117.8	0.537
1268-TCDD	NotFnd		0.9500						1.18		3117.8	0.537
1478-TCDD	NotFnd		0.9586						1.18		3117.8	0.537
1279-TCDD	NotFnd		0.9645						1.18		3117.8	0.537
1234/1269-TCDD	NotFnd		0.9770						1.18		3117.8	0.537
1236-TCDD	NotFnd		0.9817						1.18		3117.8	0.537
1237/1238-TCDD	NotFnd		0.9905						1.18		3117.8	0.537
1239-TCDD	NotFnd		0.9952						1.18		3117.8	0.537
2378-TCDD	**28.53**	EMPC	**1.0008**	1.0004	**-0.7**	2.30E+05	0.92	N	**1.18**	**3.86**	**3117.8**	**0.537**
1278-TCDD	NotFnd		1.0121						1.18		3117.8	0.537
1267-TCDD	NotFnd		1.0167						1.18		3117.8	0.537
1289-TCDD	NotFnd		1.0345						1.18		3117.8	0.537
12479/12468-PeCDD	NotFnd		0.9267						1.04		4493.072	0.757
12469-PeCDD	31.90	J	0.9425	0.9424	-0.2	9.80E+04	1.63	Y	1.04	1.96	4493.072	0.757
12368-PeCDD	NotFnd		0.9588						1.04		4493.072	0.757
12478-PeCDD	NotFnd		0.9643						1.04		4493.072	0.757
12379-PeCDD	32.73	J EMPC	0.9673	0.9670	-0.6	6.01E+04	1.87	N	1.04	1.2	4493.072	0.757
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		4493.072	0.757
12346/12347-PeCDD	NotFnd		0.9858						1.04		4493.072	0.757
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**4493.072**	**0.757**
12367-PeCDD	NotFnd		1.0033						1.04		4493.072	0.757
12389-PeCDD	NotFnd		1.0134						1.04		4493.072	0.757
124679/124689-HxCDD	36.03		0.9542	0.9541	-0.2	8.66E+05	1.26	Y	1.10	15.5	3180.734	0.468
123468-HxCDD	NotFnd		0.9715						1.10		3180.734	0.468
123679/123689-HxCDD	36.97		0.9793	0.9790	-0.7	2.10E+05	1.19	Y	1.10	3.75	3180.734	0.468
123469-HxCDD	NotFnd		0.9828						1.10		3180.734	0.468
123478-HxCDD	NotFnd		**1.0004**						1.09		**3180.734**	**0.483**
123678-HxCDD	NotFnd		**1.0035**						1.15		**3180.734**	**0.421**
123467-HxCDD	NotFnd		1.0085						1.10		3180.734	0.468
123789-HxCDD	38.18	J	**1.0112**	**1.0111**	**-0.2**	**7.08E+04**	**1.21**	**Y**	1.05	**1.34**	**3180.734**	**0.507**

Lab ID: B6207_18874_DF_004 **Acq'd:** 03 Feb 2022 02:44 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-23 **UTP:** 03-Feb-2022 13:42:31 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 023-780-HCQ

Datafile: 220202C15 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

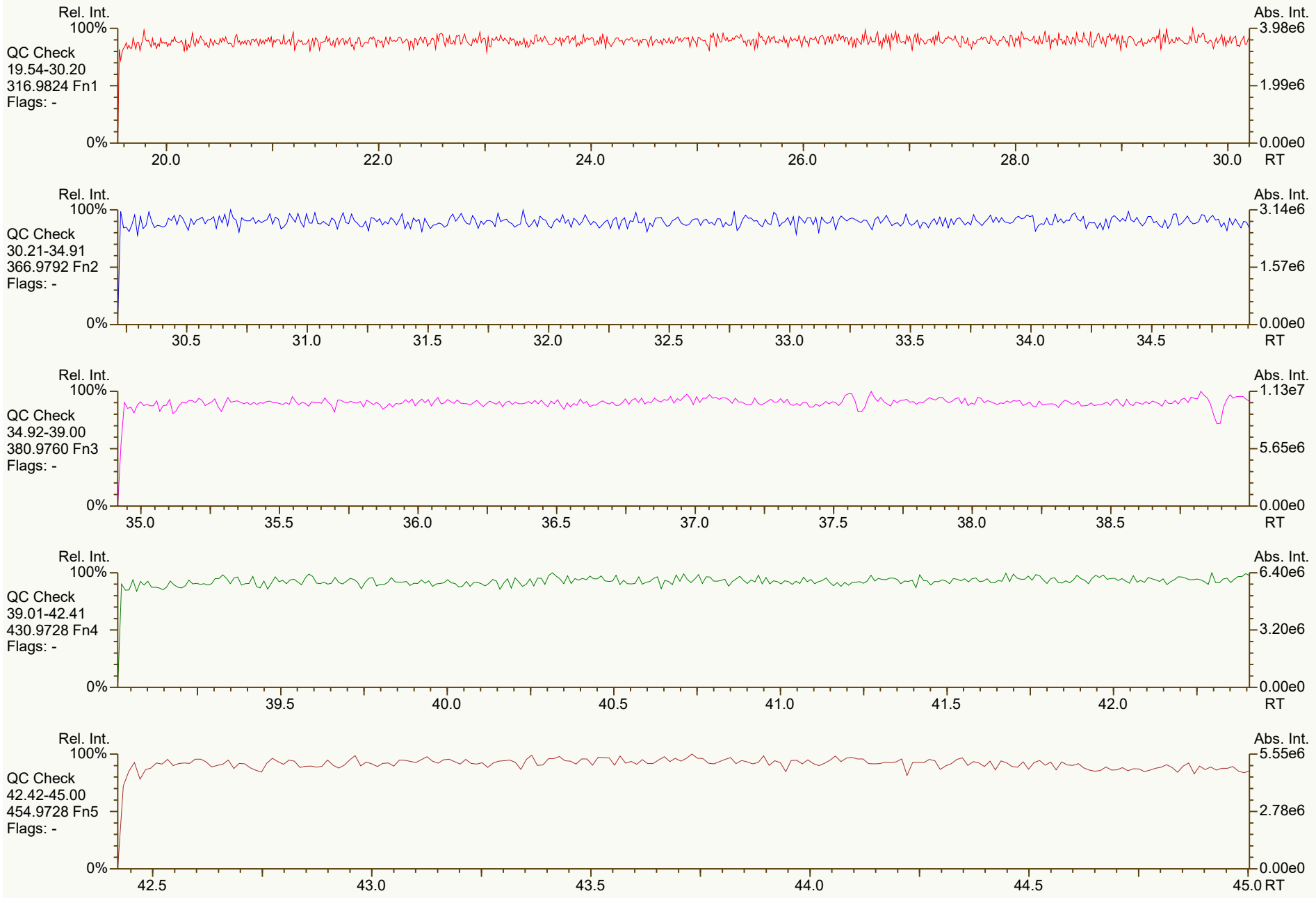
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	2.36E+06	0.99	Y	1.06	48.5	3595.6	0.584
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**9.06E+05**	**0.95**	**Y**	**1.06**	**18.6**	**3595.6**	**0.584**
OCDD	**43.52**		**1.0004**	**1.0003**	**-0.3**	**1.78E+07**	**0.93**	**Y**	**1.13**	**525**	**2780.848**	**0.874**
OCDD-a	43.52		1.0003	1.0001	-0.5	9.49E+05	2.14	Y	0.07	439	3470.447	17.1
1368-TCDF	NotFnd		0.8251						1.08		4397.244	0.57
1468-TCDF	NotFnd		0.8458						1.08		4397.244	0.57
2468-TCDF	24.01	EMPC	0.8686	0.8680	-0.9	1.21E+05	0.92	N	1.08	1.38	4397.244	0.57
1346/1246-TCDF	NotFnd		0.8814						1.08		4397.244	0.57
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		4397.244	0.57
1348-TCDF	NotFnd		0.8962						1.08		4397.244	0.57
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		4397.244	0.57
1268-TCDF	NotFnd		0.9145						1.08		4397.244	0.57
1467-TCDF	NotFnd		0.9193						1.08		4397.244	0.57
1478-TCDF	NotFnd		0.9254						1.08		4397.244	0.57
1369/1237-TCDF	NotFnd		0.9387						1.08		4397.244	0.57
2467-TCDF	NotFnd		0.9433						1.08		4397.244	0.57
2368-TCDF	NotFnd		0.9489						1.08		4397.244	0.57
1238/1234/1678/1469/1236-TCDF	26.30		0.9523	0.9507	-2.5	1.24E+05	0.84	Y	1.08	1.42	4397.244	0.57
1278-TCDF	26.78		0.9683	0.9681	-0.3	4.36E+05	0.80	Y	1.08	5	4397.244	0.57
1349-TCDF	NotFnd		0.9722						1.08		4397.244	0.57
1267-TCDF	NotFnd		0.9783						1.08		4397.244	0.57
2346/1249-TCDF	NotFnd		0.9850						1.08		4397.244	0.57
2347/1279-TCDF	NotFnd		0.9926						1.08		4397.244	0.57
2348-TCDF	27.55		0.9967	0.9960	-1.2	2.13E+05	0.79	Y	1.08	2.44	4397.244	0.57
2378-TCDF	**27.68**		**1.0008**	**1.0006**	**-0.3**	**9.07E+05**	**0.83**	**Y**	**1.08**	**10.4**	**4397.244**	**0.57**
2367/3467-TCDF	28.03		1.0137	1.0134	-0.5	9.98E+04	0.72	Y	1.08	1.14	4397.244	0.57
1269-TCDF	NotFnd		1.0223						1.08		4397.244	0.57
1239-TCDF	NotFnd		1.0321						1.08		4397.244	0.57
1289-TCDF	29.67	EMPC	1.0722	1.0727	+0.9	7.65E+04	0.90	N	1.08	0.877	4397.244	0.57
13468/12468-PeCDF	NotFnd		0.9139						1.02		2917.799	0.364
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3331.014	0.416
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3331.014	0.416
14678-PeCDF	NotFnd		0.9692						1.02		3331.014	0.416
13479-PeCDF	NotFnd		0.9723						1.02		3331.014	0.416
13469/12479-PeCDF	NotFnd		0.9797						1.02		3331.014	0.416
12346-PeCDF	NotFnd		0.9840						1.02		3331.014	0.416

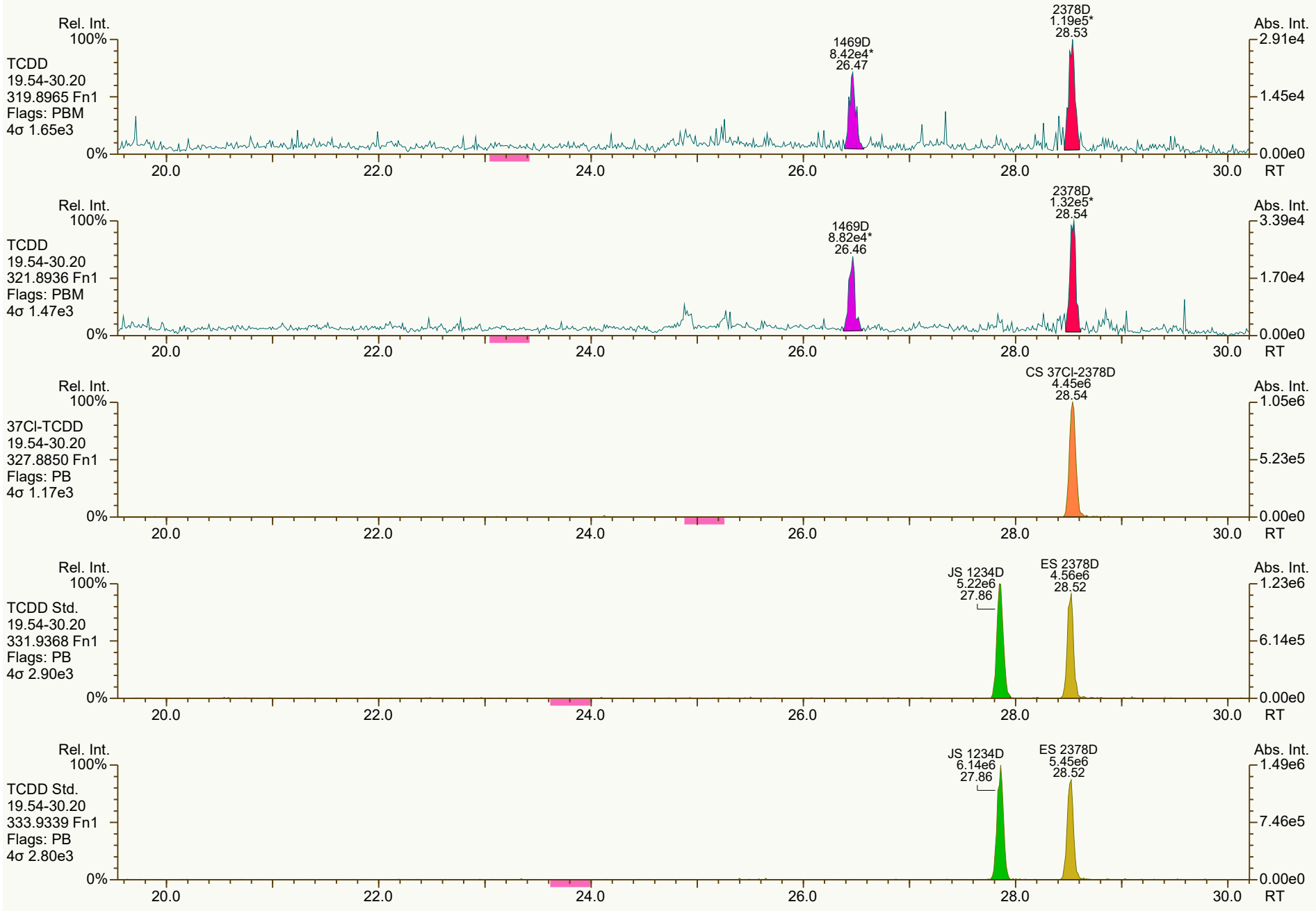
Lab ID: B6207_18874_DF_004 **Acq'd: 03 Feb 2022 02:44 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

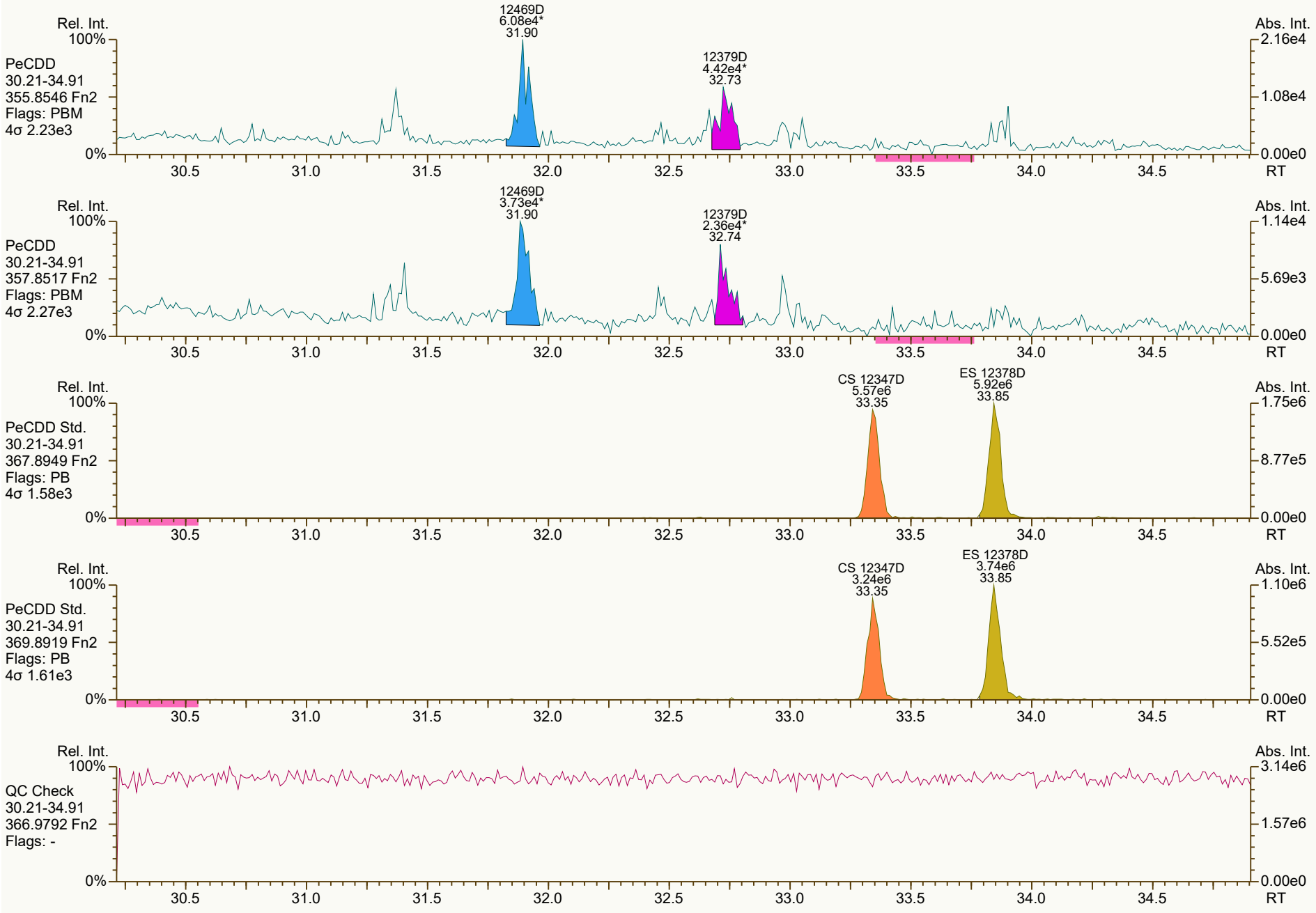
Client ID: 11215131-011922-S-BN-SW-B-23 **UTP: 03-Feb-2022 13:42:31 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 023-780-HCQ**

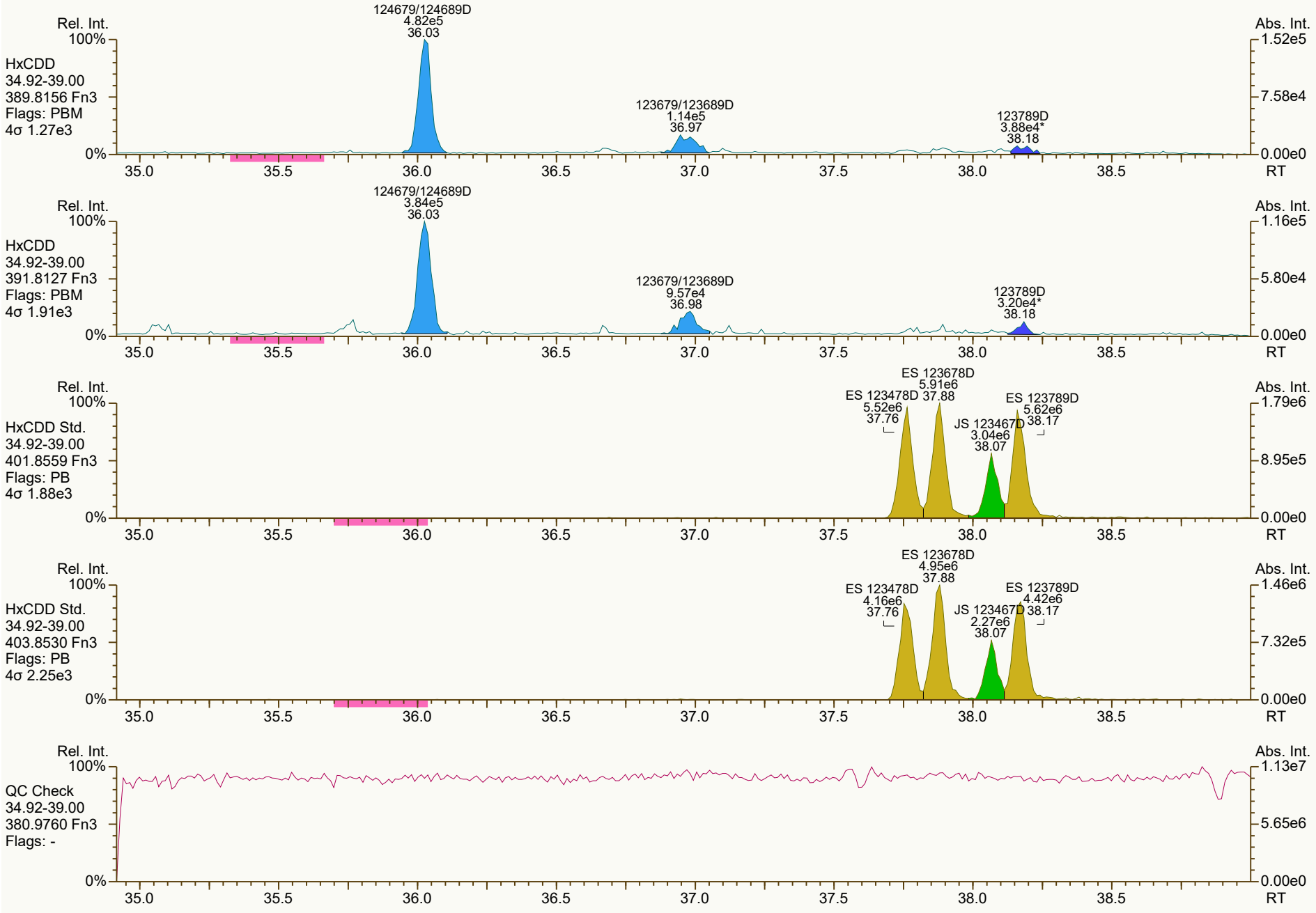
Datafile: 220202C15 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

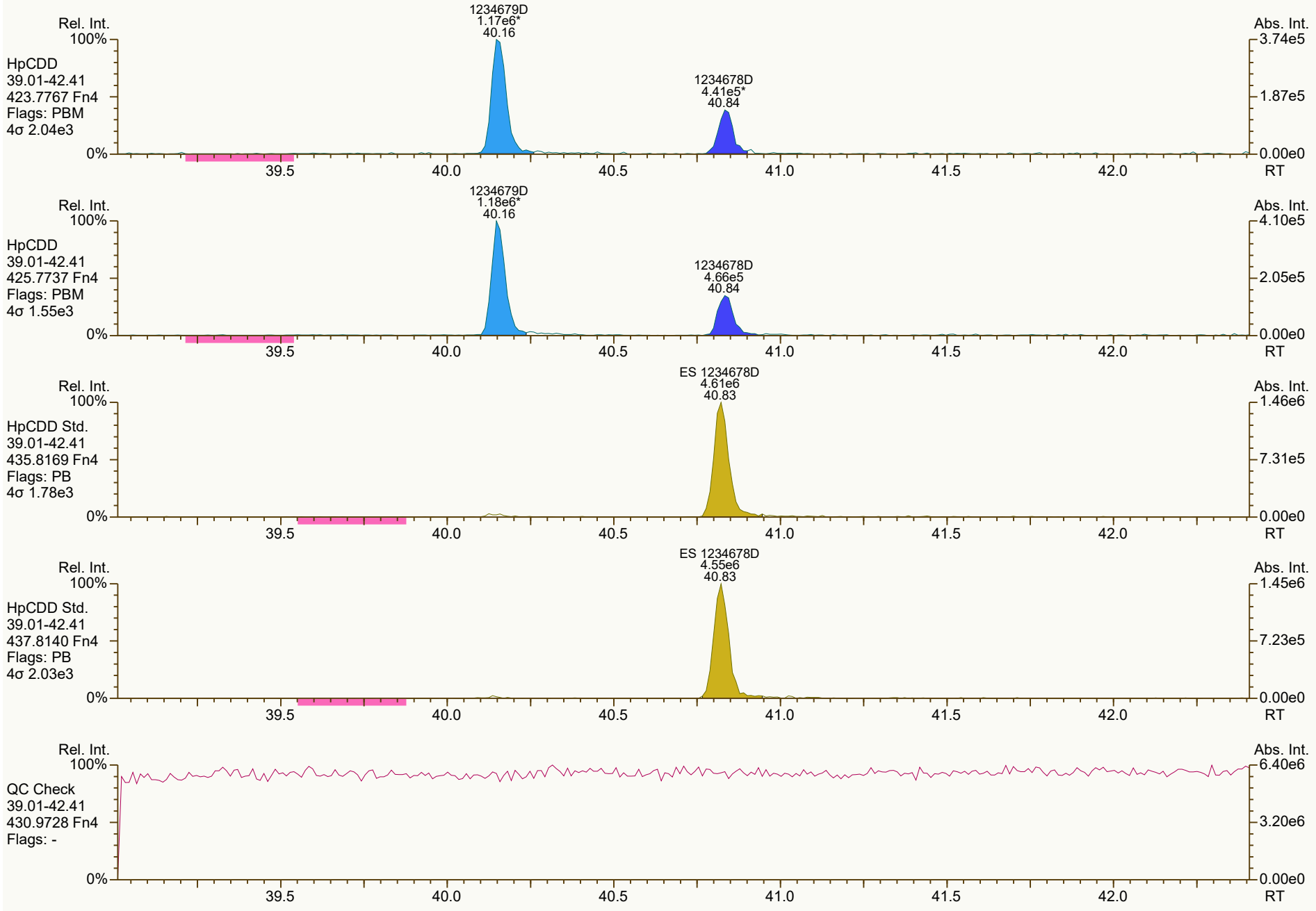
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3331.014	0.416
12347-PeCDF	NotFnd		0.9894						1.02		3331.014	0.416
12348-PeCDF	NotFnd		0.9940						1.02		3331.014	0.416
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3331.014**	**0.385**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3331.014	0.416
12379-PeCDF	NotFnd		1.0142						1.02		3331.014	0.416
12679-PeCDF	NotFnd		0.9929						1.02		3331.014	0.416
23467/12369-PeCDF	NotFnd		0.9967						1.02		3331.014	0.416
23478-PeCDF	**33.53**	J	**1.0005**	**1.0003**	**-0.4**	**4.81E+04**	**1.47**	**Y**	**1.02**	**0.68**	**3331.014**	**0.449**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3331.014	0.416
12349-PeCDF	NotFnd		1.0100						1.02		3331.014	0.416
12389-PeCDF	NotFnd		1.0324						1.02		3331.014	0.416
123468-HxCDF	NotFnd		0.9627						1.19		2344.489	0.264
124678/134678-HxCDF	NotFnd		0.9682						1.19		2344.489	0.264
134679-HxCDF	NotFnd		0.9744						1.19		2344.489	0.264
124679-HxCDF	NotFnd		0.9798						1.19		2344.489	0.264
124689-HxCDF	NotFnd		0.9858						1.19		2344.489	0.264
123467-HxCDF	NotFnd		0.9972						1.19		2344.489	0.264
123478-HxCDF	**36.77**	J	**1.0004**	**1.0004**	**0**	**6.84E+04**	**1.27**	**Y**	**1.27**	**0.986**	**2344.489**	**0.28**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2344.489**	**0.251**
123479-HxCDF	NotFnd		1.0049						1.19		2344.489	0.264
123469-HxCDF	NotFnd		1.0090						1.19		2344.489	0.264
123679-HxCDF	NotFnd		0.9942						1.19		2344.489	0.264
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2344.489**	**0.229**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2344.489	0.264
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2344.489**	**0.324**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2344.489	0.264
1234678-HpCDF	**39.90**	**J**	**1.0003**	**1.0002**	**-0.2**	**3.48E+04**	**1.18**	**Y**	**1.37**	**0.403**	**4071.81**	**0.365**
1234679-HpCDF	NotFnd		1.0068						1.34		4071.81	0.476
1234689-HpCDF	NotFnd		1.0103						1.34		4071.81	0.476
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**4071.81**	**0.665**
OCDF	**NotFnd**		**1.0003**						**1.07**		**1896.3795**	**0.557**
OCDF-a	NotFnd		1.0002						0.07		3465.727	16.4

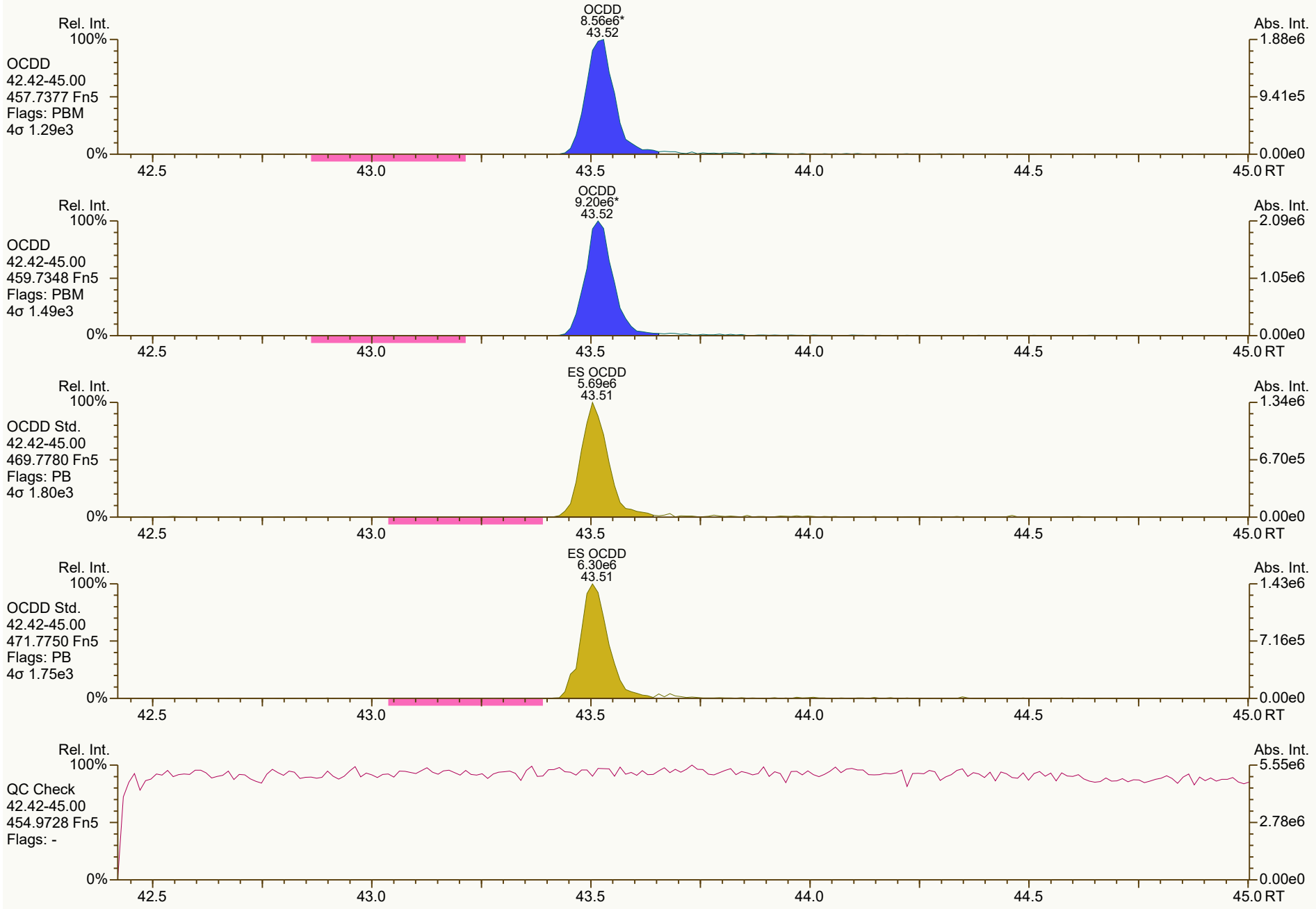

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.98e6
1.99e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.14e6
1.57e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.13e7
5.65e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.40e6
3.20e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
5.55e6
2.78e6
0.00e0

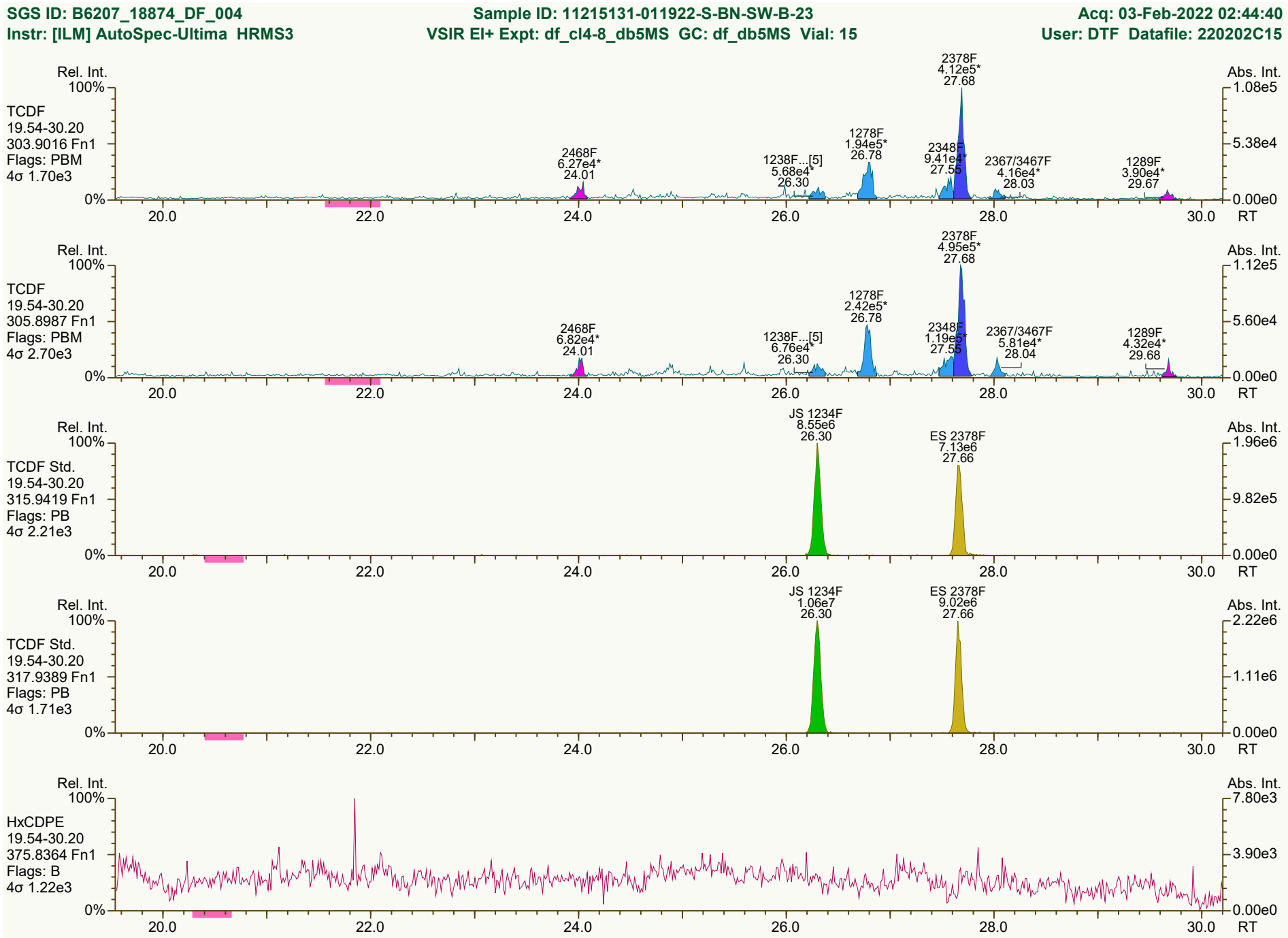

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.65e3
0%
1469D
8.42e4*
26.47
2378D
1.19e5*
28.53
Abs. Int.
2.91e4
1.45e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.47e3
0%
1469D
8.82e4*
26.46
2378D
1.32e5*
28.54
Abs. Int.
3.39e4
1.70e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.17e3
0%
CS 37Cl-2378D
4.45e6
28.54
Abs. Int.
1.05e6
5.23e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.90e3
0%
JS 1234D
5.22e6
27.86
ES 2378D
4.56e6
28.52
Abs. Int.
1.23e6
6.14e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.80e3
0%
JS 1234D
6.14e6
27.86
ES 2378D
5.45e6
28.52
Abs. Int.
1.49e6
7.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 2.23e3
12469D
6.08e4*
31.90
12379D
4.42e4*
32.73
Abs. Int.
2.16e4
1.08e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.27e3
12469D
3.73e4*
31.90
12379D
2.36e4*
32.74
Abs. Int.
1.14e4
5.69e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.58e3
CS 12347D
5.57e6
33.35
ES 12378D
5.92e6
33.85
Abs. Int.
1.75e6
8.77e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.61e3
CS 12347D
3.24e6
33.35
ES 12378D
3.74e6
33.85
Abs. Int.
1.10e6
5.52e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

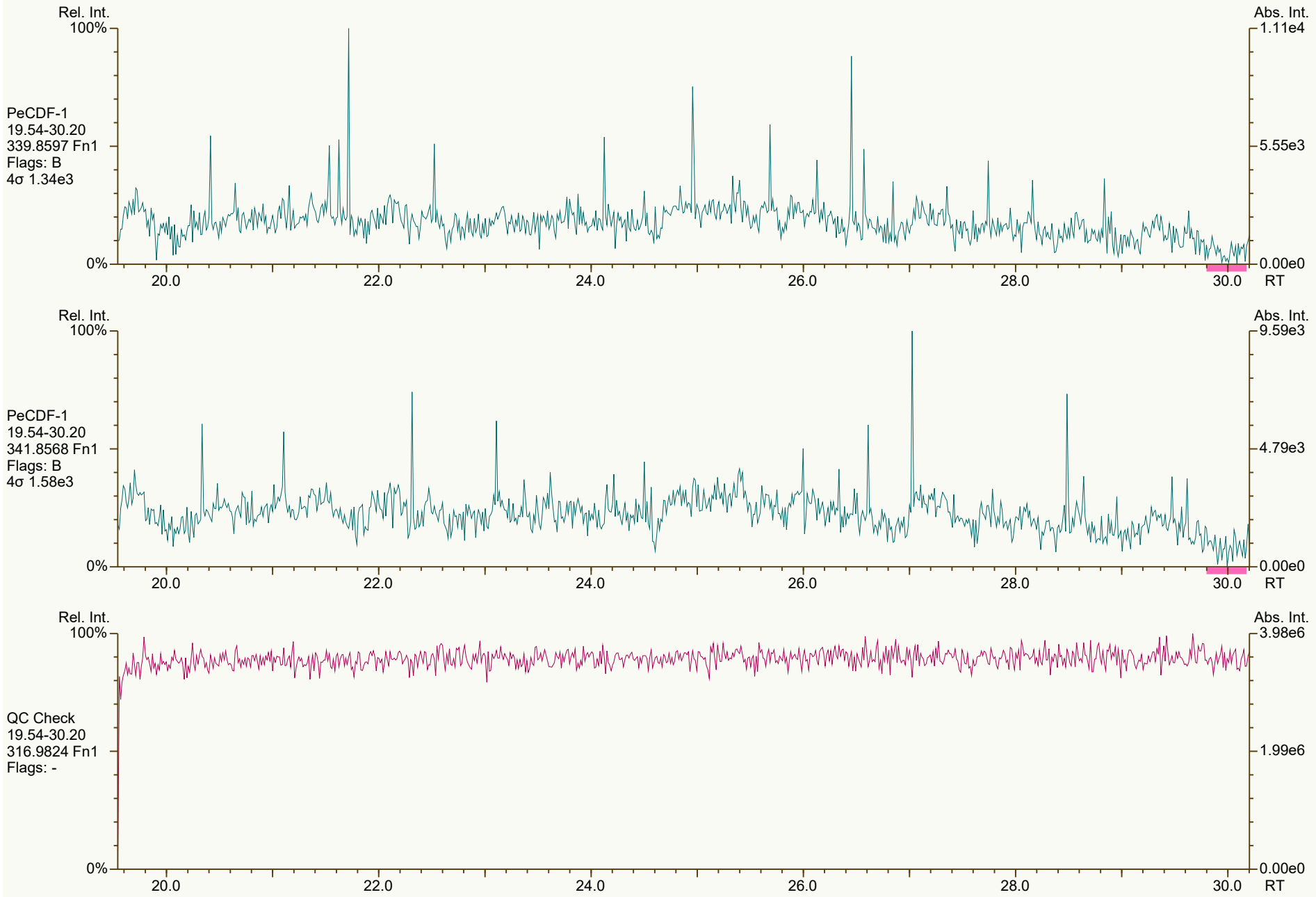

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.27e3
124679/124689D
4.82e5
36.03
123679/123689D
1.14e5
36.97
123789D
3.88e4*
38.18
Abs. Int.
1.52e5
7.58e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.91e3
124679/124689D
3.84e5
36.03
123679/123689D
9.57e4
36.98
123789D
3.20e4*
38.18
Abs. Int.
1.16e5
5.80e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.88e3
ES 123678D
5.91e6
ES 123478D 37.88
5.52e6
37.76
ES 123789D
5.62e6
38.17
JS 123467D
3.04e6
38.07
Abs. Int.
1.79e6
8.95e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.25e3
ES 123678D
4.95e6
37.88
ES 123478D
4.16e6
37.76
ES 123789D
4.42e6
38.17
JS 123467D
2.27e6
38.07
Abs. Int.
1.46e6
7.32e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.13e7
5.65e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

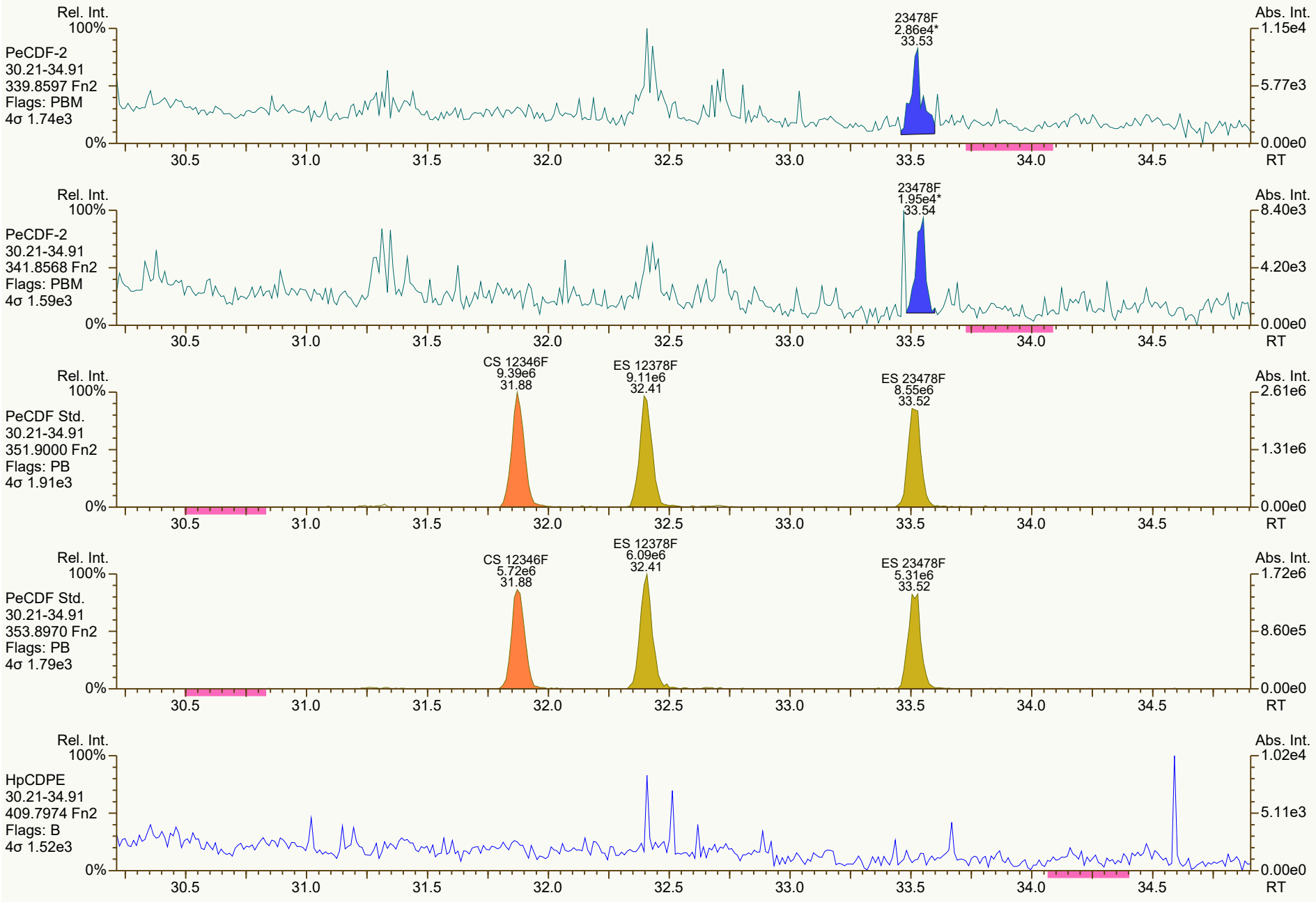

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234679D
1.17e6*
40.16
1234678D
4.41e5*
40.84
Abs. Int.
3.74e5
1.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.55e3
1234679D
1.18e6*
40.16
1234678D
4.66e5
40.84
Abs. Int.
4.10e5
2.05e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.78e3
ES 1234678D
4.61e6
40.83
Abs. Int.
1.46e6
7.31e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.03e3
ES 1234678D
4.55e6
40.83
Abs. Int.
1.45e6
7.23e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.40e6
3.20e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

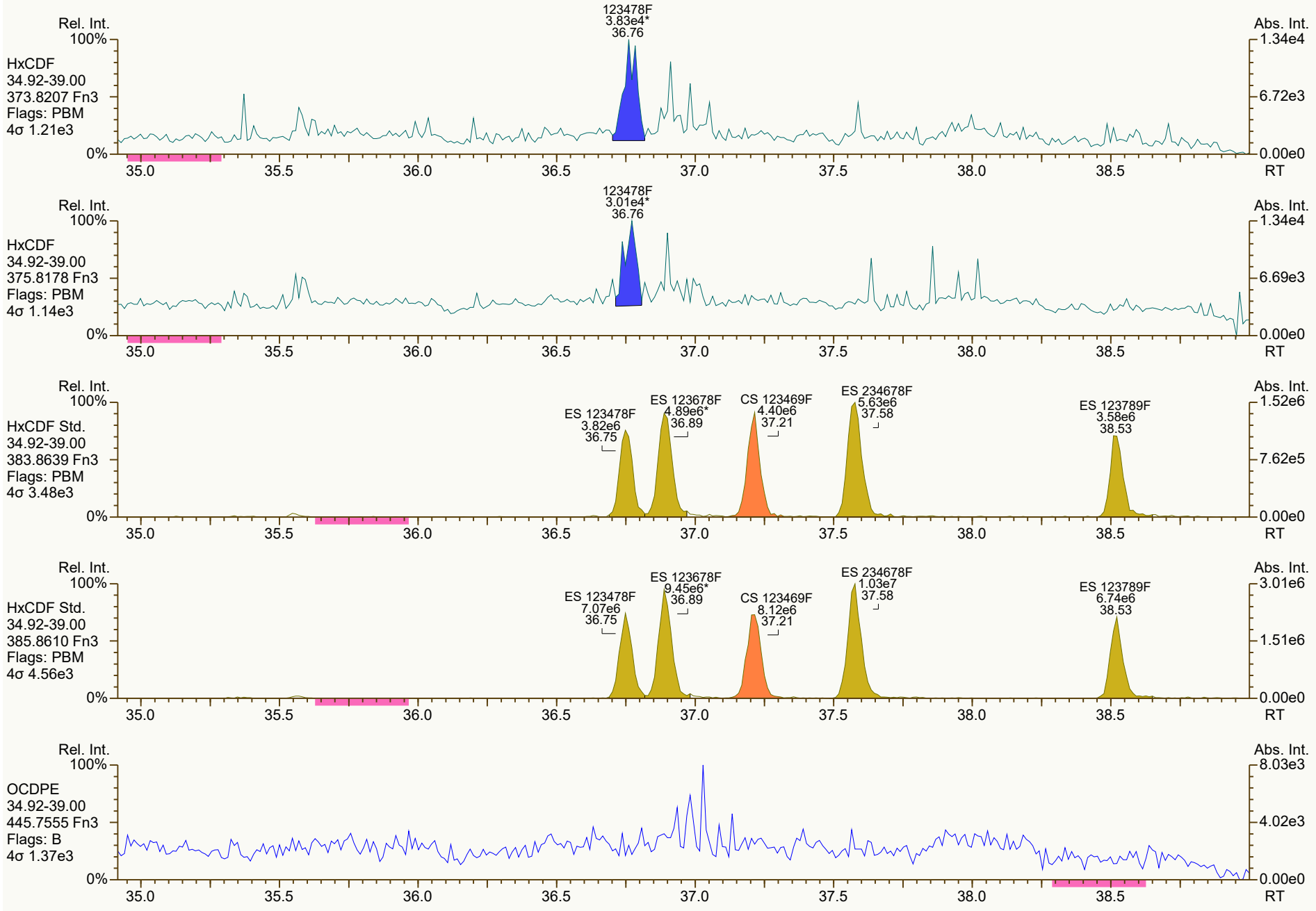

OCDD
8.56e6*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.29e3
0%
Abs. Int.
1.88e6
9.41e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.20e6*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.49e3
0%
Abs. Int.
2.09e6
1.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.69e6
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
1.34e6
6.70e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.30e6
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.75e3
0%
Abs. Int.
1.43e6
7.16e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.55e6
2.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



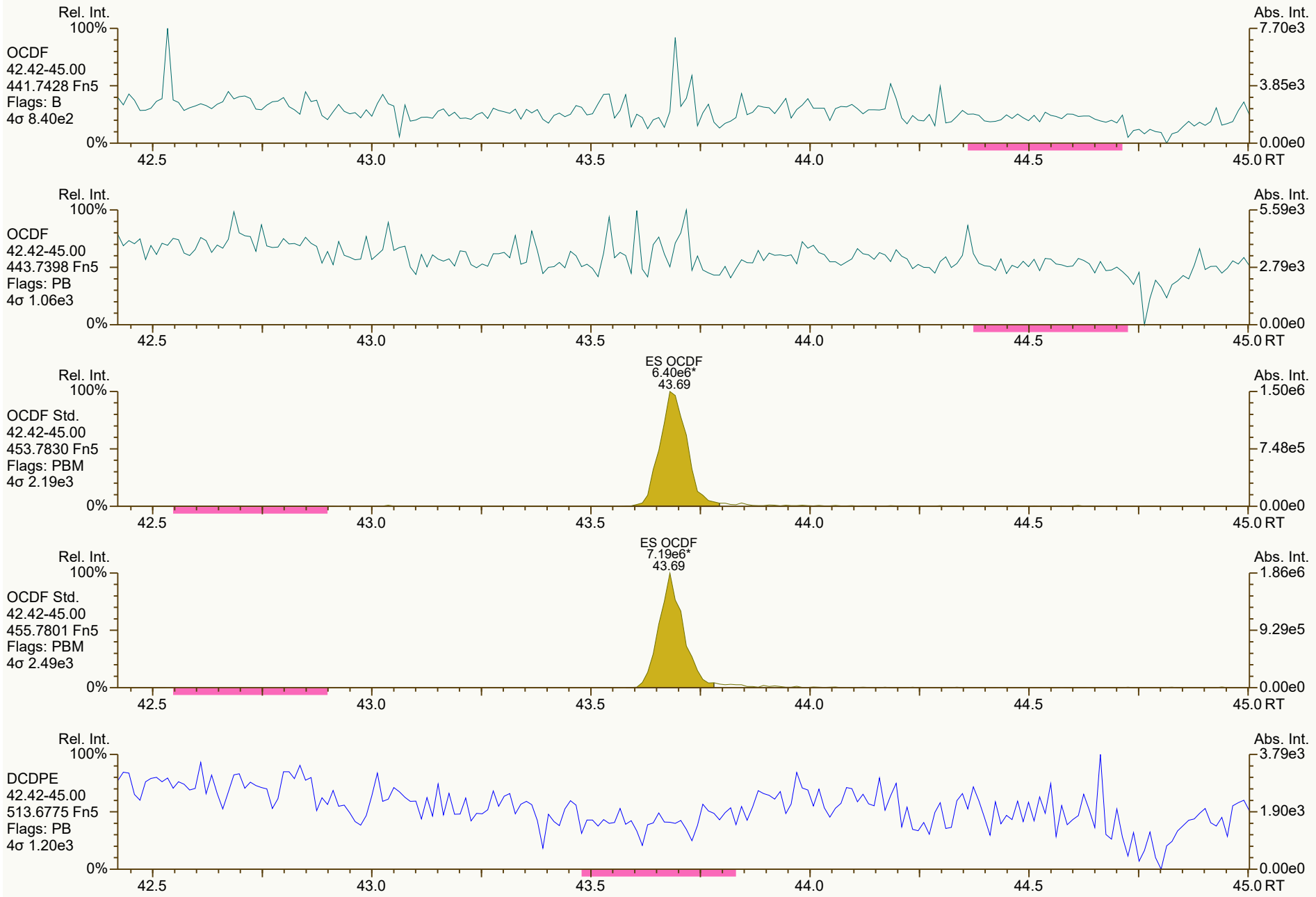
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_004.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0511, 2166, 0133 scc: 023-780
Revised: 03-Feb-2022 10:06 (DTF) Printed: 03-Feb-2022 13:51 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.34e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.59e3
4.79e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.58e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.98e6
1.99e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 1.74e3
0%
23478F
2.86e4*
33.53
Abs. Int.
1.15e4
5.77e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 1.59e3
0%
23478F
1.95e4*
33.54
Abs. Int.
8.40e3
4.20e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
9.39e6
31.88
ES 12378F
9.11e6
32.41
ES 23478F
8.55e6
33.52
Abs. Int.
2.61e6
1.31e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.79e3
0%
CS 12346F
5.72e6
31.88
ES 12378F
6.09e6
32.41
ES 23478F
5.31e6
33.52
Abs. Int.
1.72e6
8.60e5
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.21e3
123478F
3.83e4*
36.76
Abs. Int.
1.34e4
6.72e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.14e3
123478F
3.01e4*
36.76
Abs. Int.
1.34e4
6.69e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 3.48e3
ES 123478F
3.82e6
36.75
ES 123678F
4.89e6*
36.89
CS 123469F
4.40e6
37.21
ES 234678F
5.63e6
37.58
ES 123789F
3.58e6
38.53
Abs. Int.
1.52e6
7.62e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 4.56e3
ES 123478F
7.07e6
36.75
ES 123678F
9.45e6*
36.89
CS 123469F
8.12e6
37.21
ES 234678F
1.03e7
37.58
ES 123789F
6.74e6
38.53
Abs. Int.
3.01e6
1.51e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.37e3
Abs. Int.
8.03e3
4.02e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.95e3
1234678F
1.88e4*
39.90
Abs. Int.
9.09e3
4.55e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.12e3
1234678F
1.60e4*
39.90
Abs. Int.
1.02e4
5.12e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.07e3
ES 1234678F
4.03e6
39.89
CS 1234689F
3.53e6
40.30
ES 1234789F
2.43e6*
41.29
Abs. Int.
1.32e6
6.60e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.05e3
ES 1234678F
8.56e6
39.89
CS 1234689F
7.21e6
40.30
ES 1234789F
4.98e6*
41.29
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.22e3
RT
Abs. Int.
2.75e4
1.38e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 8.40e2
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.06e3
0%
Abs. Int.
5.59e3
2.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.40e6*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.19e3
0%
Abs. Int.
1.50e6
7.48e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.19e6*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.49e3
0%
Abs. Int.
1.86e6
9.29e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.20e3
0%
Abs. Int.
3.79e3
1.90e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_005 **Acq'd:** 03 Feb 2022 03:31 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-O-19 **UTP:** 04-Feb-2022 08:08:00 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 624-922-YFV

Datafile: 220202C16 **Report:** 04 Feb 2022 08:12 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.53		1.0008	1.0009	+0.2	2.66E+07	0.81	Y	1.18	330	3512.214	0.466
12378-PeCDD	33.85		1.0006	1.0005	-0.2	2.81E+05	1.60	Y	1.04	4.39	3385.161	0.486
123478-HxCDD	37.76	J	1.0004	1.0004	0	1.18E+05	1.11	Y	1.09	1.63	2606.125	0.319
123678-HxCDD	37.88	J EMPC	1.0035	1.0034	-0.2	1.75E+05	0.93	N	1.15	2.07	2606.125	0.273
123789-HxCDD	38.17	J EMPC	1.0112	1.0111	-0.2	1.39E+05	1.44	N	1.05	1.96	2606.125	0.306
1234678-HpCDD	40.83		1.0003	1.0004	+0.2	1.19E+07	1.02	Y	1.06	186	3097.835	0.353
OCDD	43.52	E	1.0004	1.0003	-0.3	1.11E+09	0.91	Y	1.13	17,000	3378.534	0.588
2378-TCDF	27.67		1.0008	1.0007	-0.2	1.11E+08	0.80	Y	1.08	906	3530.35	0.323
12378-PeCDF	32.41		1.0005	1.0005	0	4.37E+06	1.59	Y	1.02	43.7	3019.396	0.286
23478-PeCDF	33.52		1.0005	1.0006	+0.2	3.31E+06	1.68	Y	1.02	32.2	3019.396	0.253
123478-HxCDF	36.75		1.0004	1.0005	+0.2	8.43E+06	1.28	Y	1.27	88.2	3028.639	0.258
123678-HxCDF	36.90		1.0004	1.0004	0	2.50E+06	1.26	Y	1.15	21.9	3028.639	0.233
234678-HxCDF	37.58	EMPC	1.0005	1.0004	-0.2	5.22E+05	1.45	N	1.19	4.12	3028.639	0.22
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3028.639	0.298
1234678-HpCDF	39.89		1.0003	1.0003	0	3.29E+06	1.01	Y	1.37	29.1	3077.048	0.18
1234789-HpCDF	41.28		1.0002	1.0002	0	7.00E+05	0.94	Y	1.31	9.42	3077.048	0.318
OCDF	43.69		1.0003	1.0003	0	2.51E+06	0.88	Y	1.07	42.3	3198.294	0.596

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.50	1.0236	1.0237	+0.2	1.35E+07	0.79	Y	1.05	86.9
ES 12378-PeCDD	33.84	1.2144	1.2152	+1.6	1.23E+07	1.66	Y	0.88	94
ES 123478-HxCDD	37.75	0.9920	0.9920	0	1.32E+07	1.24	Y	0.97	99.5
ES 123678-HxCDD	37.87	0.9951	0.9951	0	1.47E+07	1.28	Y	0.94	114
ES 123789-HxCDD	38.16	1.0027	1.0027	0	1.34E+07	1.24	Y	1.09	90.6
ES 1234678-HpCDD	40.81	1.0724	1.0725	+0.2	1.20E+07	1.16	Y	0.91	96.6
ES OCDD	43.51	1.1428	1.1434	+1.6	2.29E+07	0.93	Y	0.62	135
ES 2378-TCDF	27.65	1.0516	1.0517	+0.2	2.26E+07	0.79	Y	1.06	87.5
ES 12378-PeCDF	32.39	1.2312	1.2320	+1.6	1.94E+07	1.58	Y	0.91	87.4
ES 23478-PeCDF	33.50	1.2733	1.2743	+2.0	2.00E+07	1.62	Y	0.88	92.9
ES 123478-HxCDF	36.74	0.9655	0.9654	-0.2	1.49E+07	0.57	Y	1.20	91.5
ES 123678-HxCDF	36.88	0.9692	0.9692	0	1.96E+07	0.55	Y	1.35	107
ES 234678-HxCDF	37.56	0.9871	0.9871	0	2.12E+07	0.54	Y	1.24	125
ES 123789-HxCDF	38.51	1.0121	1.0120	-0.2	1.42E+07	0.53	Y	1.16	90.5
ES 1234678-HpCDF	39.88	1.0479	1.0481	+0.5	1.64E+07	0.47	Y	0.97	124
ES 1234789-HpCDF	41.27	1.0845	1.0847	+0.5	1.13E+07	0.45	Y	0.85	97.4
ES OCDF	43.68	1.1477	1.1479	+0.5	2.20E+07	0.95	Y	0.81	100

Lab ID: B6207_18874_DF_005 **Acq'd:** 03 Feb 2022 03:31 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-O-19 **UTP:** 04-Feb-2022 08:08:00 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 624-922-YFV

Datafile: 220202C16 **Report:** 04 Feb 2022 08:12 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.84		-	-	-	1.49E+07	0.84	Y	-	-	
JS 1234-TCDF	26.29		-	-	-	2.43E+07	0.83	Y	-	-	
JS 123467-HxCDD	38.05		-	-	-	6.80E+06	1.18	Y	-	-	
CS 37Cl-2378-TCDD	28.53		1.0244	1.0245	+0.2	6.57E+06	n/a	-	1.20	91.9	
CS 12347-PeCDD	33.33		1.1964	1.1972	+1.6	1.18E+07	1.47	Y	0.75	105	
CS 12346-PeCDF	31.86		1.2112	1.2119	+1.3	1.98E+07	1.63	Y	0.85	95.8	
CS 123469-HxCDF	37.20		0.9775	0.9776	+0.2	1.78E+07	0.54	Y	1.12	117	
CS 1234689-HpCDF	40.29		1.0584	1.0587	+0.7	1.54E+07	0.46	Y	0.89	127	
~~SS 37Cl-2378-TCDD~~	~~28.53~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~6.57E+06~~	~~n/a~~		~~1.15~~	~~106~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.33~~		~~1.1964~~	~~1.1972~~	~~+1.6~~	~~1.18E+07~~	~~1.47~~	~~Y~~	~~0.86~~	~~112~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.86~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~1.98E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~109~~	
~~SS 123469-HxCDF~~	~~37.20~~		~~0.9775~~	~~0.9776~~	~~+0.2~~	~~1.78E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0584~~	~~1.0587~~	~~+0.7~~	~~1.54E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~102~~	

Totals	Conc	EMPC
Total TCDD	358	366
Total PeCDD	5.68	8.47
Total HxCDD	23.1	28.8
Total HpCDD	459	459
Total Tetra-Octa Dioxins	17900	17900
Total TCDF	1,700	1720
Total PeCDF	114	120
Total HxCDF	125	134
Total HpCDF	53.8	53.8
Total Tetra-Octa Furans	2,040	2070
Total Tetra-Octa Dioxins & Furans	19900	20000

Lab ID: B6207_18874_DF_005 **Acq'd: 03 Feb 2022 03:31 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-19 **UTP: 04-Feb-2022 08:08:00 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 624-922-YFV**

Datafile: 220202C16 **Report: 04 Feb 2022 08:12 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.90	EMPC	0.8737	0.8735	-0.3	5.65E+04	0.57	N	1.18	0.7	3512.214	0.466
1379-TCDD	NotFnd		0.8860						1.18		3512.214	0.466
1369-TCDD	NotFnd		0.9009						1.18		3512.214	0.466
1469-TCDD	26.46	EMPC	0.9281	0.9282	+0.2	6.43E+04	0.95	N	1.18	0.797	3512.214	0.466
1247/1246/1248/1249-TCDD	26.67	J EMPC	0.9362	0.9358	-0.6	3.95E+04	1.46	N	1.18	0.489	3512.214	0.466
1378-TCDD	26.89	EMPC	0.9432	0.9432	0	8.22E+04	0.93	N	1.18	1.02	3512.214	0.466
1268-TCDD	NotFnd		0.9500						1.18		3512.214	0.466
1478-TCDD	27.32	EMPC	0.9586	0.9586	0	4.04E+04	1.04	N	1.18	0.5	3512.214	0.466
1279-TCDD	NotFnd		0.9645						1.18		3512.214	0.466
1234/1269-TCDD	NotFnd		0.9770						1.18		3512.214	0.466
1236-TCDD	NotFnd		0.9817						1.18		3512.214	0.466
1237/1238-TCDD	28.23	EMPC	0.9905	0.9906	+0.2	3.57E+05	0.93	N	1.18	4.43	3512.214	0.466
1239-TCDD	NotFnd		0.9952						1.18		3512.214	0.466
2378-TCDD	**28.53**		**1.0008**	1.0009	**+0.2**	2.66E+07	0.81	Y	**1.18**	**330**	**3512.214**	**0.466**
1278-TCDD	28.85		1.0121	1.0122	+0.2	2.29E+06	0.78	Y	1.18	28.4	3512.214	0.466
1267-TCDD	NotFnd		1.0167						1.18		3512.214	0.466
1289-TCDD	NotFnd		1.0345						1.18		3512.214	0.466
12479/12468-PeCDD	31.35	J EMPC	0.9267	0.9267	0	7.69E+04	1.83	N	1.04	1.2	3385.161	0.486
12469-PeCDD	31.89	J	0.9425	0.9425	0	8.32E+04	1.56	Y	1.04	1.3	3385.161	0.486
12368-PeCDD	32.44	J EMPC	0.9588	0.9587	-0.2	4.93E+04	1.21	N	1.04	0.769	3385.161	0.486
12478-PeCDD	NotFnd		0.9643						1.04		3385.161	0.486
12379-PeCDD	NotFnd		0.9673						1.04		3385.161	0.486
12369/12467/12489-PeCDD	32.98	J EMPC	0.9750	0.9747	-0.6	5.24E+04	1.13	N	1.04	0.817	3385.161	0.486
12346/12347-PeCDD	NotFnd		0.9858						1.04		3385.161	0.486
12378-PeCDD	33.85		**1.0006**	**1.0005**	**-0.2**	**2.81E+05**	**1.60**	**Y**	**1.04**	**4.39**	**3385.161**	**0.486**
12367-PeCDD	NotFnd		1.0033						1.04		3385.161	0.486
12389-PeCDD	NotFnd		1.0134						1.04		3385.161	0.486
124679/124689-HxCDD	36.01		0.9542	0.9540	-0.4	8.46E+05	1.27	Y	1.10	11.1	2606.125	0.298
123468-HxCDD	36.67	J EMPC	0.9715	0.9713	-0.4	8.04E+04	0.90	N	1.10	1.06	2606.125	0.298
123679/123689-HxCDD	36.96		0.9793	0.9792	-0.2	7.88E+05	1.26	Y	1.10	10.4	2606.125	0.298
123469-HxCDD	NotFnd		0.9828						1.10		2606.125	0.298
123478-HxCDD	37.76	J	**1.0004**	**1.0004**	**0**	**1.18E+05**	**1.11**	**Y**	1.09	**1.63**	**2606.125**	**0.319**
123678-HxCDD	37.88	J EMPC	**1.0035**	**1.0034**	**-0.2**	**1.75E+05**	**0.93**	**N**	1.15	**2.07**	**2606.125**	**0.273**
123467-HxCDD	38.07	J EMPC	1.0085	1.0084	-0.2	4.36E+04	1.91	N	1.10	0.575	2606.125	0.298
123789-HxCDD	38.17	J EMPC	**1.0112**	**1.0111**	**-0.2**	**1.39E+05**	**1.44**	**N**	1.05	**1.96**	**2606.125**	**0.306**

Lab ID: B6207_18874_DF_005 **Acq'd: 03 Feb 2022 03:31 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-19 **UTP: 04-Feb-2022 08:08:00 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 624-922-YFV**

Datafile: 220202C16 **Report: 04 Feb 2022 08:12 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

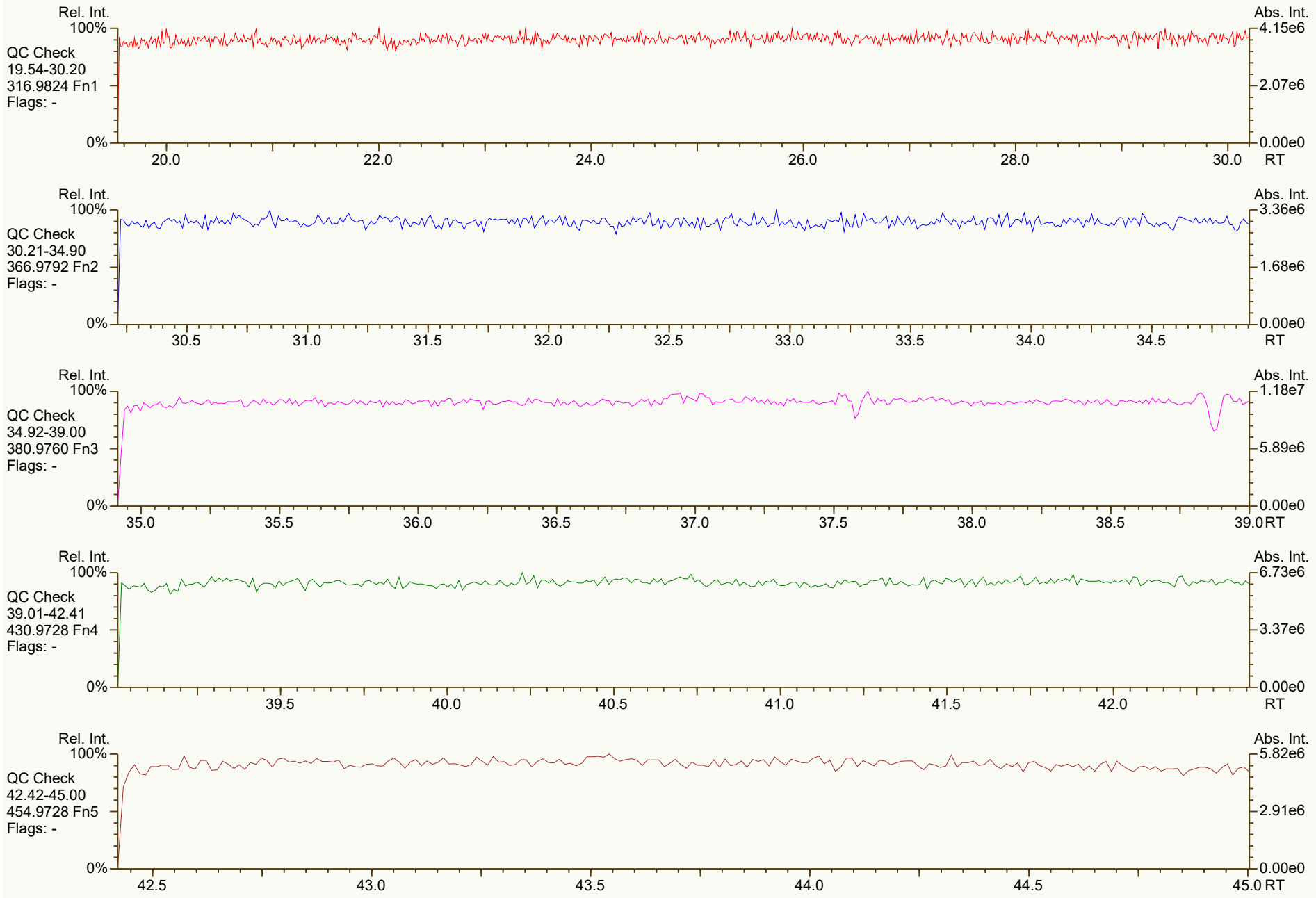
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9837	0	1.75E+07	1.05	Y	1.06	274	3097.835	0.353
1234678-HpCDD	**40.83**		**1.0003**	**1.0004**	**+0.2**	**1.19E+07**	**1.02**	**Y**	**1.06**	**186**	**3097.835**	**0.353**
OCDD	**43.52**	**E**	**1.0004**	**1.0003**	**-0.3**	**1.11E+09**	**0.91**	**Y**	**1.13**	**17,000**	**3378.534**	**0.588**
OCDD-a	43.52	**E**	1.0003	1.0002	-0.3	6.58E+07	2.48	Y	0.07	15,900	3576.854	9.74
1368-TCDF	NotFnd		0.8251						1.08		3530.35	0.323
1468-TCDF	23.38		0.8458	0.8457	-0.1	2.11E+05	0.72	Y	1.08	1.72	3530.35	0.323
2468-TCDF	24.01		0.8686	0.8682	-0.6	3.00E+05	0.72	Y	1.08	2.45	3530.35	0.323
1346/1246-TCDF	NotFnd		0.8814						1.08		3530.35	0.323
1347/1378/1247-TCDF	24.52		0.8867	0.8868	+0.1	1.32E+06	0.78	Y	1.08	10.7	3530.35	0.323
1348-TCDF	NotFnd		0.8962						1.08		3530.35	0.323
1248/1367/1379-TCDF	24.86		0.9009	0.8991	-2.7	5.25E+06	0.78	Y	1.08	42.8	3530.35	0.323
1268-TCDF	25.28	EMPC	0.9145	0.9144	-0.2	1.50E+06	0.94	N	1.08	12.3	3530.35	0.323
1467-TCDF	25.41		0.9193	0.9189	-0.6	2.57E+05	0.79	Y	1.08	2.09	3530.35	0.323
1478-TCDF	25.58		0.9254	0.9252	-0.3	4.27E+06	0.77	Y	1.08	34.8	3530.35	0.323
1369/1237-TCDF	25.96		0.9387	0.9389	+0.3	1.27E+06	0.84	Y	1.08	10.4	3530.35	0.323
2467-TCDF	26.08		0.9433	0.9433	0	1.00E+05	0.71	Y	1.08	0.817	3530.35	0.323
2368-TCDF	NotFnd		0.9489						1.08		3530.35	0.323
1238/1234/1678/1469/1236-TCDF	26.29		0.9523	0.9507	-2.5	8.83E+06	0.78	Y	1.08	71.9	3530.35	0.323
1278-TCDF	26.78		0.9683	0.9683	0	4.67E+07	0.80	Y	1.08	380	3530.35	0.323
1349-TCDF	NotFnd		0.9722						1.08		3530.35	0.323
1267-TCDF	27.05		0.9783	0.9782	-0.2	2.60E+06	0.84	Y	1.08	21.2	3530.35	0.323
2346/1249-TCDF	27.25		0.9850	0.9854	+0.7	2.99E+05	0.74	Y	1.08	2.43	3530.35	0.323
2347/1279-TCDF	27.45		0.9926	0.9927	+0.2	1.42E+06	0.74	Y	1.08	11.6	3530.35	0.323
2348-TCDF	27.55		0.9967	0.9965	-0.3	6.42E+06	0.79	Y	1.08	52.3	3530.35	0.323
2378-TCDF	**27.67**		**1.0008**	**1.0007**	**-0.2**	**1.11E+08**	**0.80**	**Y**	**1.08**	**906**	**3530.35**	**0.323**
2367/3467-TCDF	28.02		1.0137	1.0134	-0.5	8.90E+06	0.80	Y	1.08	72.5	3530.35	0.323
1269-TCDF	28.27		1.0223	1.0224	+0.2	1.66E+06	0.80	Y	1.08	13.5	3530.35	0.323
1239-TCDF	NotFnd		1.0321						1.08		3530.35	0.323
1289-TCDF	29.67		1.0722	1.0731	+1.6	8.08E+06	0.76	Y	1.08	65.8	3530.35	0.323
13468/12468-PeCDF	29.60	J	0.9139	0.9140	+0.2	2.36E+05	1.48	Y	1.02	2.33	2512.202	0.224
13678/13467/12467-PeCDF	31.15	J EMPC	0.9613	0.9617	+0.7	6.40E+04	2.15	N	1.02	0.631	3019.396	0.269
12368/13478/12478-PeCDF	31.32		0.9662	0.9668	+1.1	2.05E+06	1.53	Y	1.02	20.3	3019.396	0.269
14678-PeCDF	NotFnd		0.9692						1.02		3019.396	0.269
13479-PeCDF	NotFnd		0.9723						1.02		3019.396	0.269
13469/12479-PeCDF	NotFnd		0.9797						1.02		3019.396	0.269
12346-PeCDF	NotFnd		0.9840						1.02		3019.396	0.269

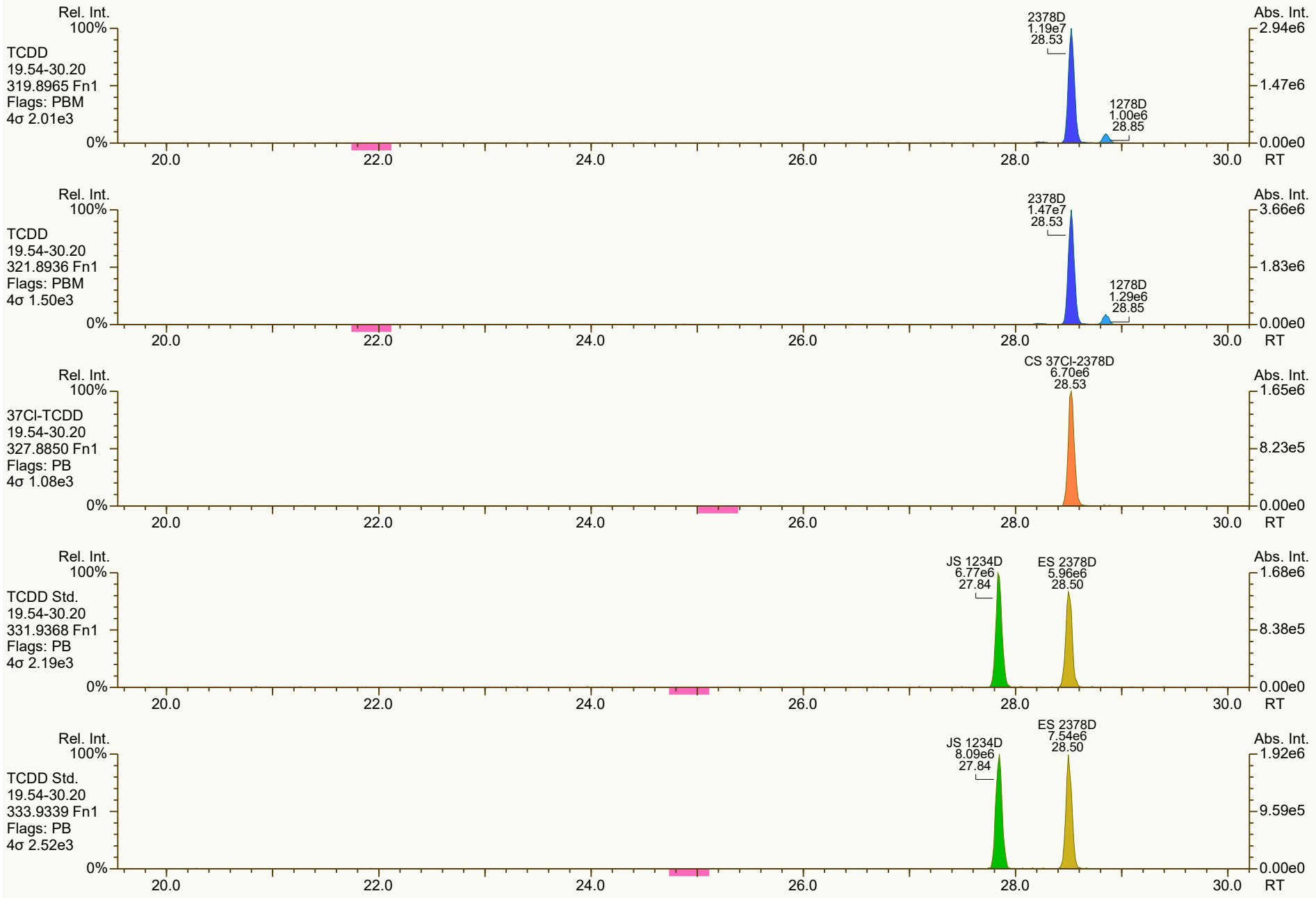
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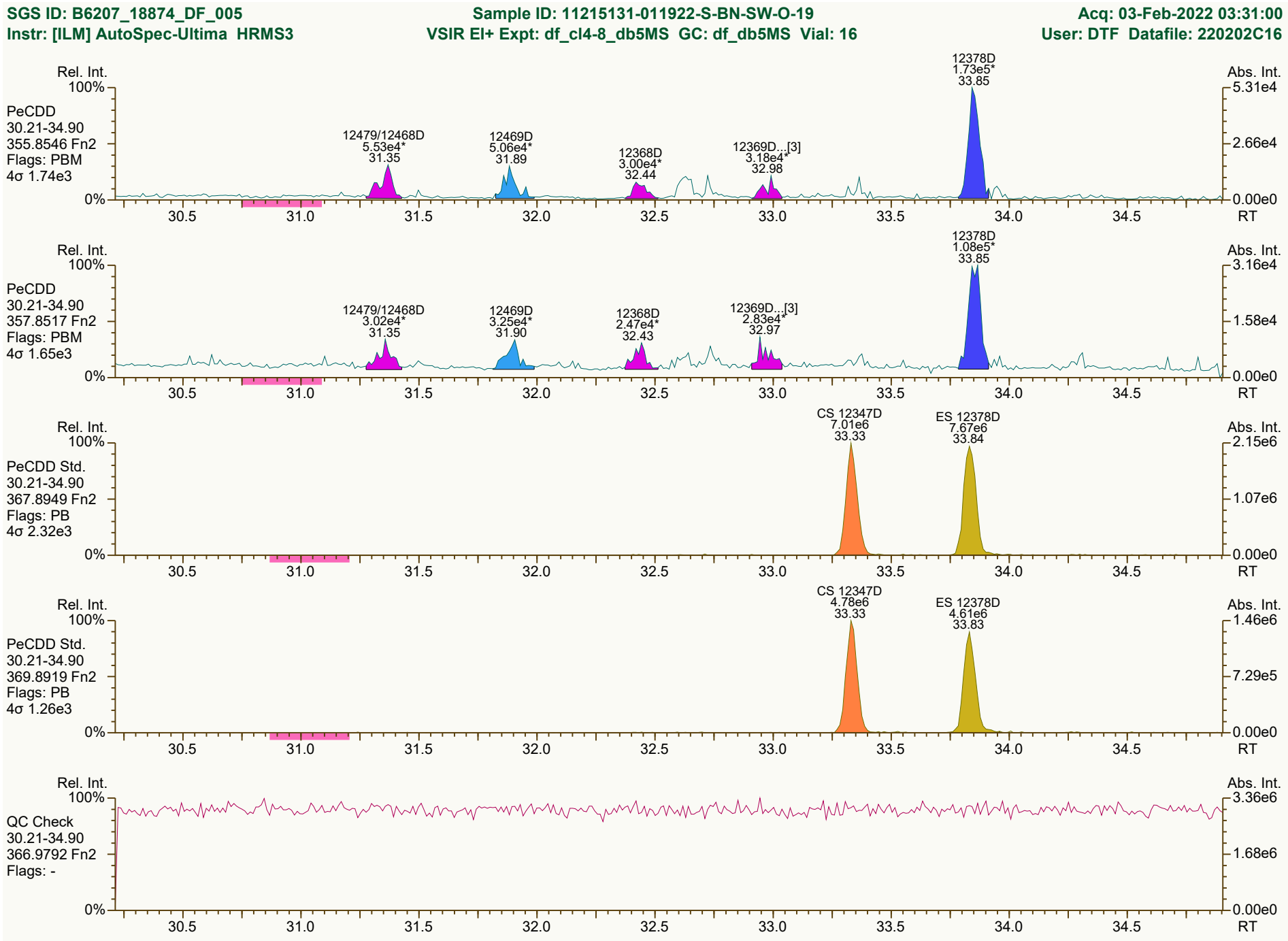
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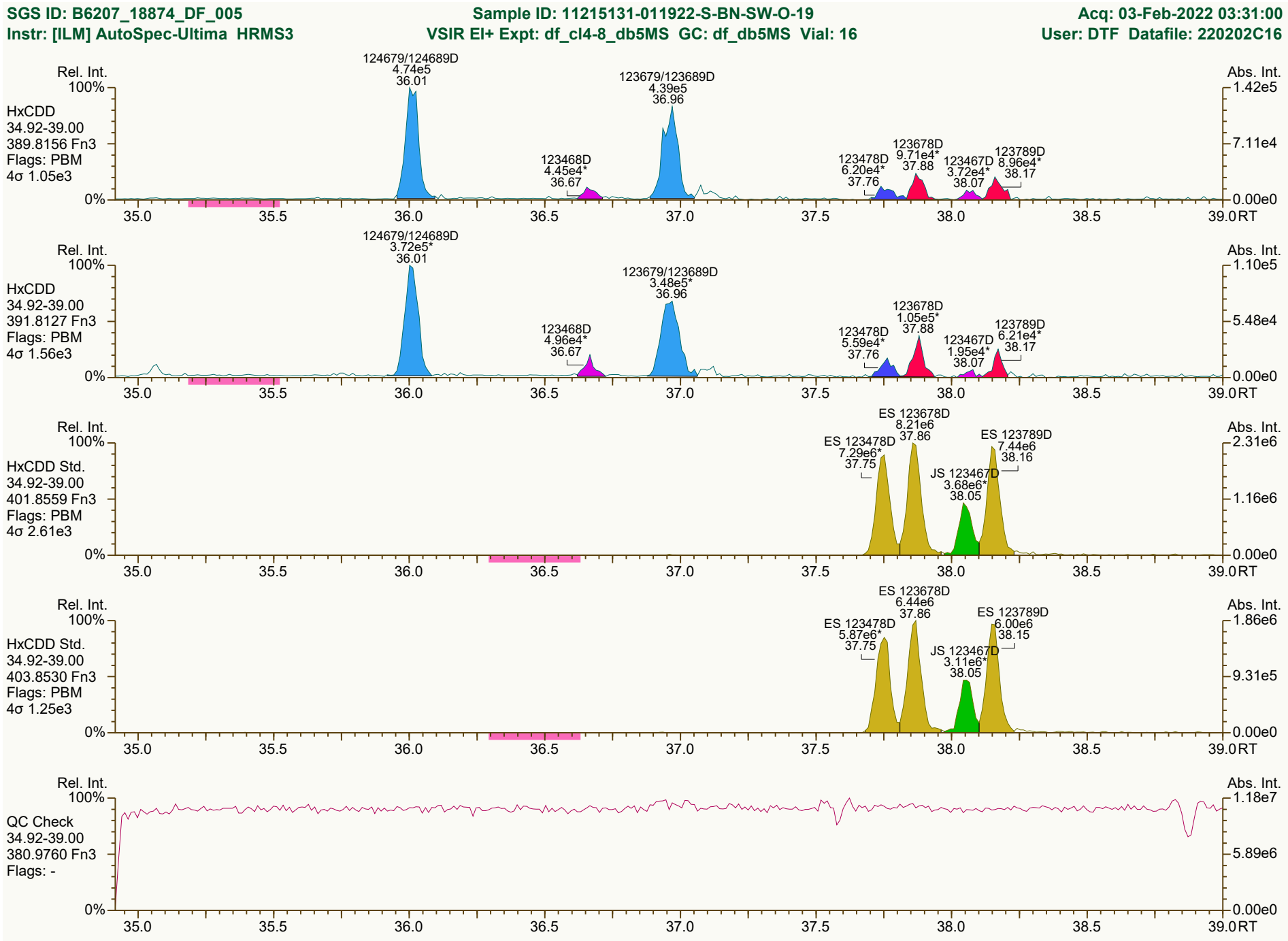
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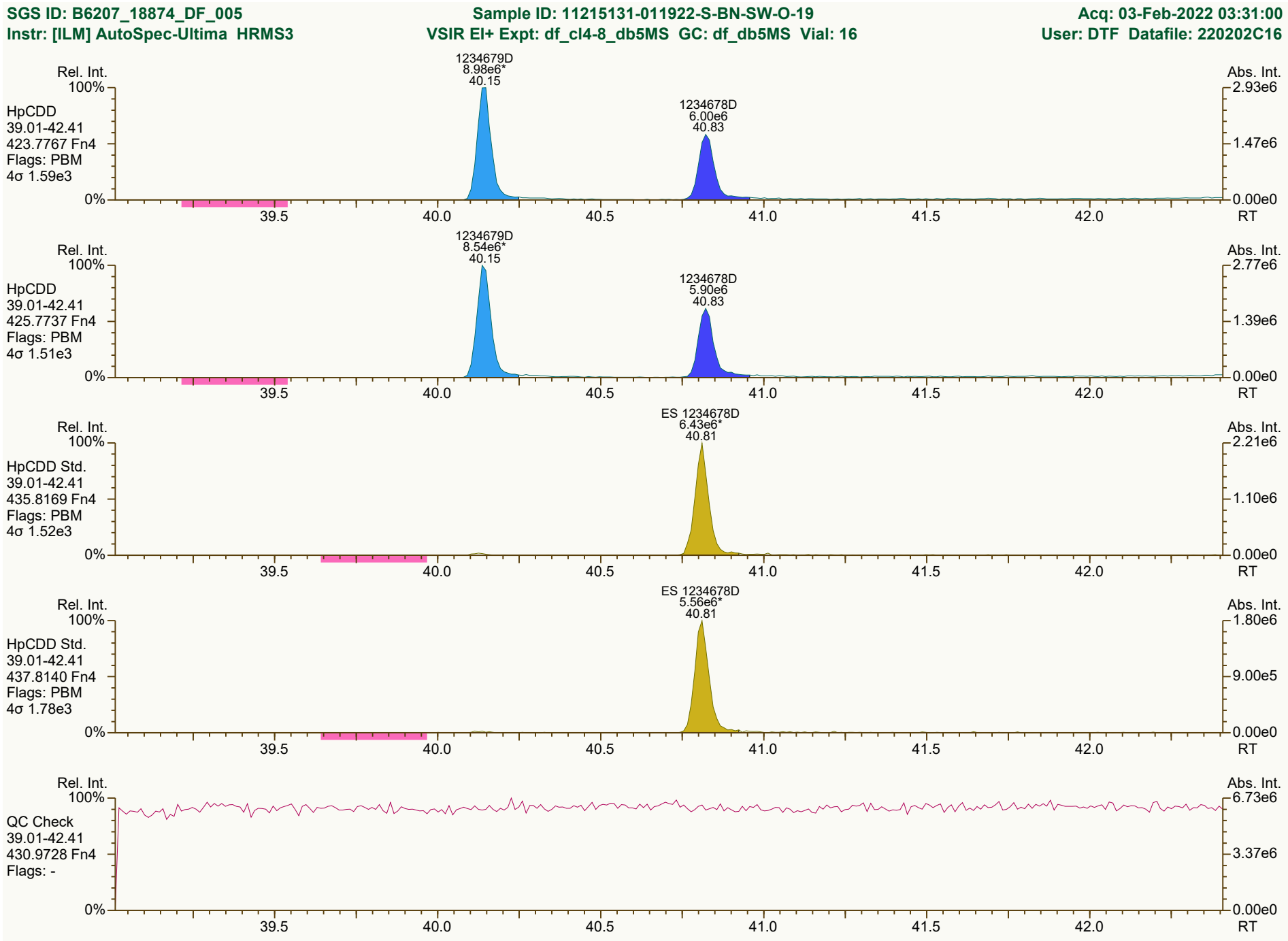
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.96	J EMPC	0.9868	0.9868	0	8.58E+04	1.24	N	1.02	0.847	3019.396	0.269
12347-PeCDF	32.05	J	0.9894	0.9894	0	1.18E+05	1.41	Y	1.02	1.17	3019.396	0.269
12348-PeCDF	32.20	EMPC	0.9940	0.9940	0	3.33E+05	1.88	N	1.02	3.29	3019.396	0.269
12378-PeCDF	**32.41**		**1.0005**	**1.0005**	**0**	**4.37E+06**	**1.59**	**Y**	**1.02**	**43.7**	**3019.396**	**0.286**
12678/12367-PeCDF	32.70		1.0089	1.0096	+1.4	1.33E+06	1.48	Y	1.02	13.1	3019.396	0.269
12379-PeCDF	NotFnd		1.0142						1.02		3019.396	0.269
12679-PeCDF	NotFnd		0.9929						1.02		3019.396	0.269
23467/12369-PeCDF	33.38	J EMPC	0.9967	0.9964	-0.6	6.74E+04	1.81	N	1.02	0.666	3019.396	0.269
23478-PeCDF	**33.52**		**1.0005**	**1.0006**	**+0.2**	**3.31E+06**	**1.68**	**Y**	**1.02**	**32.2**	**3019.396**	**0.253**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3019.396	0.269
12349-PeCDF	NotFnd		1.0100						1.02		3019.396	0.269
12389-PeCDF	34.59	J	1.0324	1.0325	+0.2	1.56E+05	1.74	Y	1.02	1.54	3019.396	0.269
123468-HxCDF	35.37	J	0.9627	0.9627	0	1.83E+05	1.38	Y	1.19	1.74	3028.639	0.247
124678/134678-HxCDF	35.56		0.9682	0.9681	-0.2	9.50E+05	1.34	Y	1.19	9.03	3028.639	0.247
134679-HxCDF	NotFnd		0.9744						1.19		3028.639	0.247
124679-HxCDF	NotFnd		0.9798						1.19		3028.639	0.247
124689-HxCDF	36.21		0.9858	0.9857	-0.2	3.82E+05	1.08	Y	1.19	3.63	3028.639	0.247
123467-HxCDF	NotFnd		0.9972						1.19		3028.639	0.247
123478-HxCDF	**36.75**		**1.0004**	**1.0005**	**+0.2**	**8.43E+06**	**1.28**	**Y**	**1.27**	**88.2**	**3028.639**	**0.258**
123678-HxCDF	**36.90**		**1.0004**	**1.0004**	**0**	**2.50E+06**	**1.26**	**Y**	**1.15**	**21.9**	**3028.639**	**0.233**
123479-HxCDF	NotFnd		1.0049						1.19		3028.639	0.247
123469-HxCDF	NotFnd		1.0090						1.19		3028.639	0.247
123679-HxCDF	NotFnd		0.9942						1.19		3028.639	0.247
234678-HxCDF	**37.58**	EMPC	**1.0005**	**1.0004**	**-0.2**	**5.22E+05**	**1.45**	**N**	**1.19**	**4.12**	**3028.639**	**0.22**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3028.639	0.247
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3028.639**	**0.298**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.55	EMPC	1.0009	1.0010	+0.2	5.51E+05	1.47	N	1.19	5.24	3028.639	0.247
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**3.29E+06**	**1.01**	**Y**	**1.37**	**29.1**	**3077.048**	**0.18**
1234679-HpCDF	40.14	**J**	1.0068	1.0065	-0.7	7.68E+04	0.90	Y	1.34	0.823	3077.048	0.236
1234689-HpCDF	40.29		1.0103	1.0103	0	1.35E+06	1.03	Y	1.34	14.5	3077.048	0.236
1234789-HpCDF	**41.28**		**1.0002**	**1.0002**	**0**	**7.00E+05**	**0.94**	**Y**	**1.31**	**9.42**	**3077.048**	**0.318**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**2.51E+06**	**0.88**	**Y**	**1.07**	**42.3**	**3198.294**	**0.596**
OCDF-a	NotFnd		1.0002						0.07		2867.677	8.63

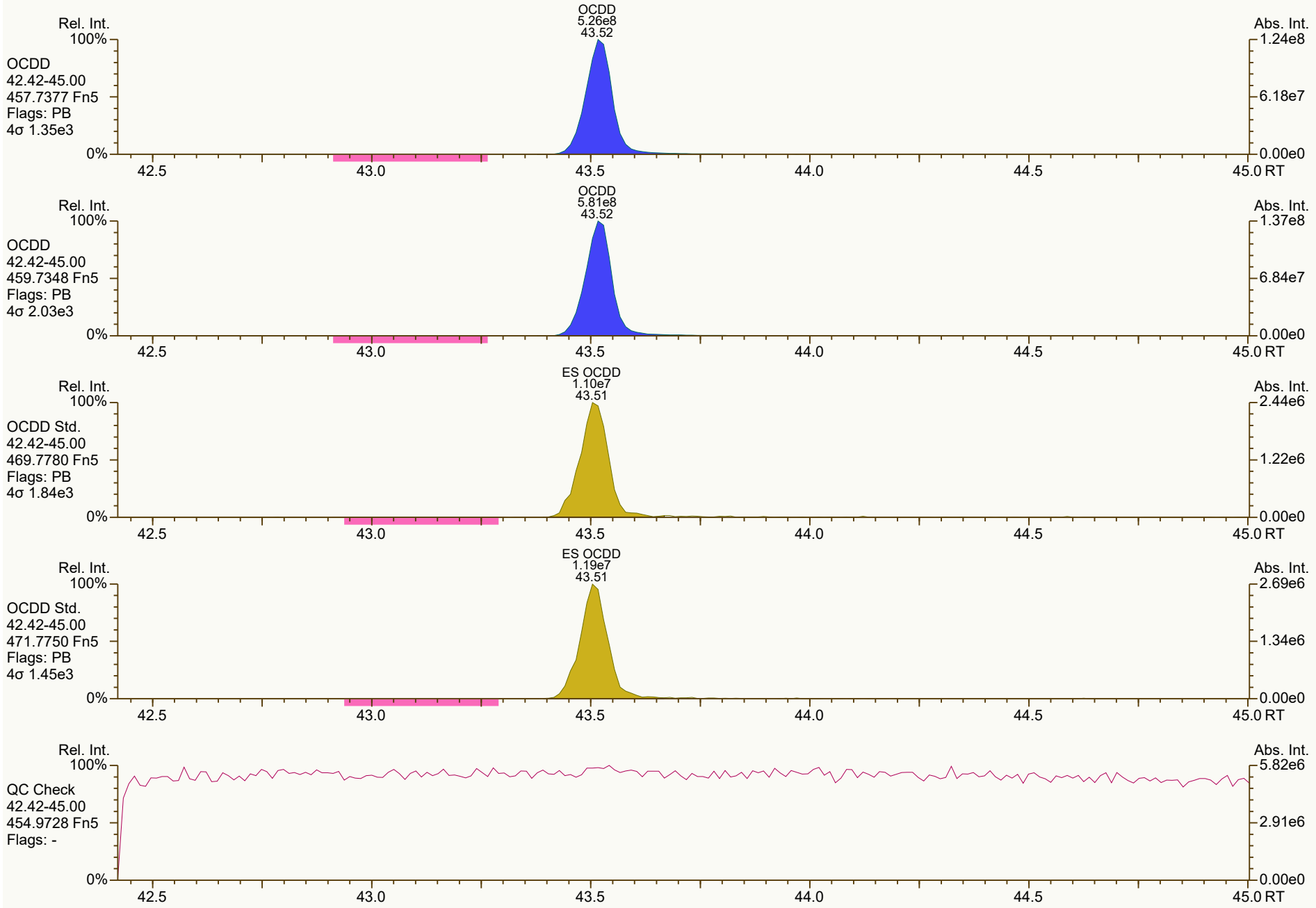

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.15e6
2.07e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.36e6
1.68e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.18e7
5.89e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.73e6
3.37e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.82e6
2.91e6
0.00e0

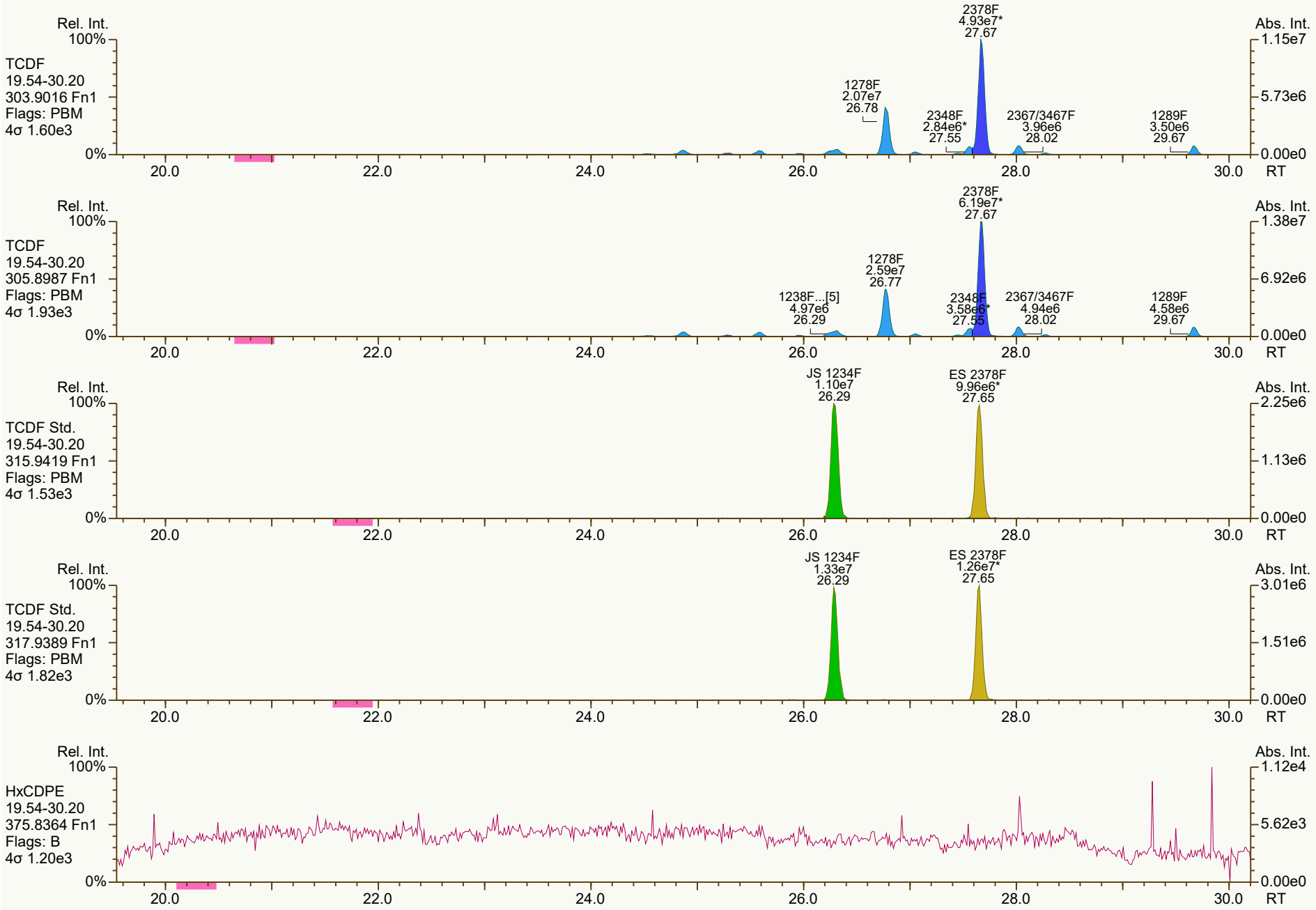

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.01e3
0%
2378D
1.19e7
28.53
1278D
1.00e6
28.85
Abs. Int.
2.94e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.50e3
0%
2378D
1.47e7
28.53
1278D
1.29e6
28.85
Abs. Int.
3.66e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.08e3
0%
CS 37Cl-2378D
6.70e6
28.53
Abs. Int.
1.65e6
8.23e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.19e3
0%
JS 1234D
6.77e6
27.84
ES 2378D
5.96e6
28.50
Abs. Int.
1.68e6
8.38e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.52e3
0%
JS 1234D
8.09e6
27.84
ES 2378D
7.54e6
28.50
Abs. Int.
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9.59e5
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24.0
26.0
28.0
30.0
RT

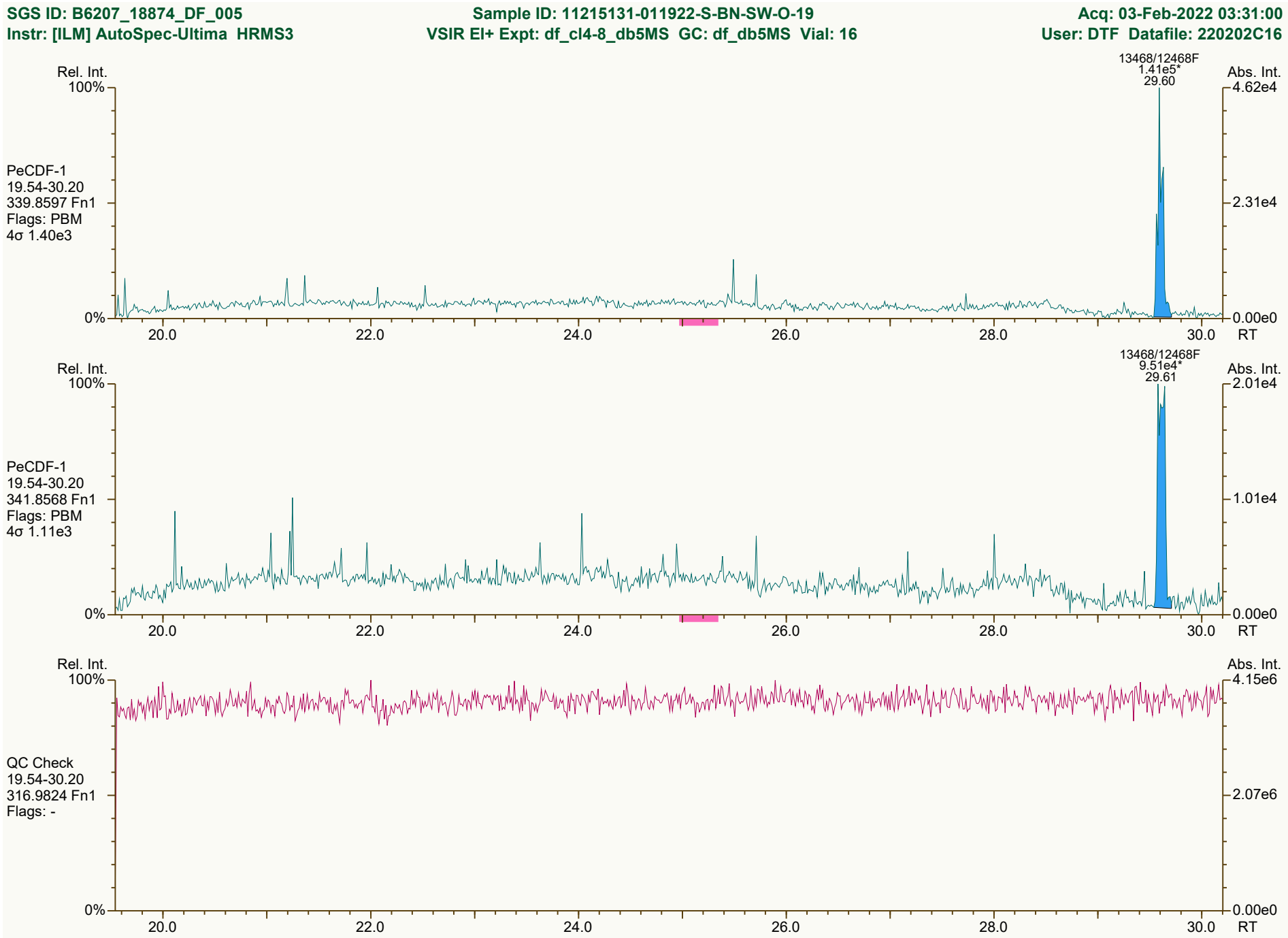

SGS ID: B6207_18874_DF_005
Sample ID: 11215131-011922-S-BN-SW-O-19
Acq: 03-Feb-2022 03:31:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220202C16
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.74e3
12479/12468D 5.53e4* 31.35
12469D 5.06e4* 31.89
12368D 3.00e4* 32.44
12369D...[3] 3.18e4* 32.98
12378D 1.73e5* 33.85
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.65e3
12479/12468D 3.02e4* 31.35
12469D 3.25e4* 31.90
12368D 2.47e4* 32.43
12369D...[3] 2.83e4* 32.97
12378D 1.08e5* 33.85
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.32e3
CS 12347D 7.01e6 33.33
ES 12378D 7.67e6 33.84
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.26e3
CS 12347D 4.78e6 33.33
ES 12378D 4.61e6 33.83
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
RT

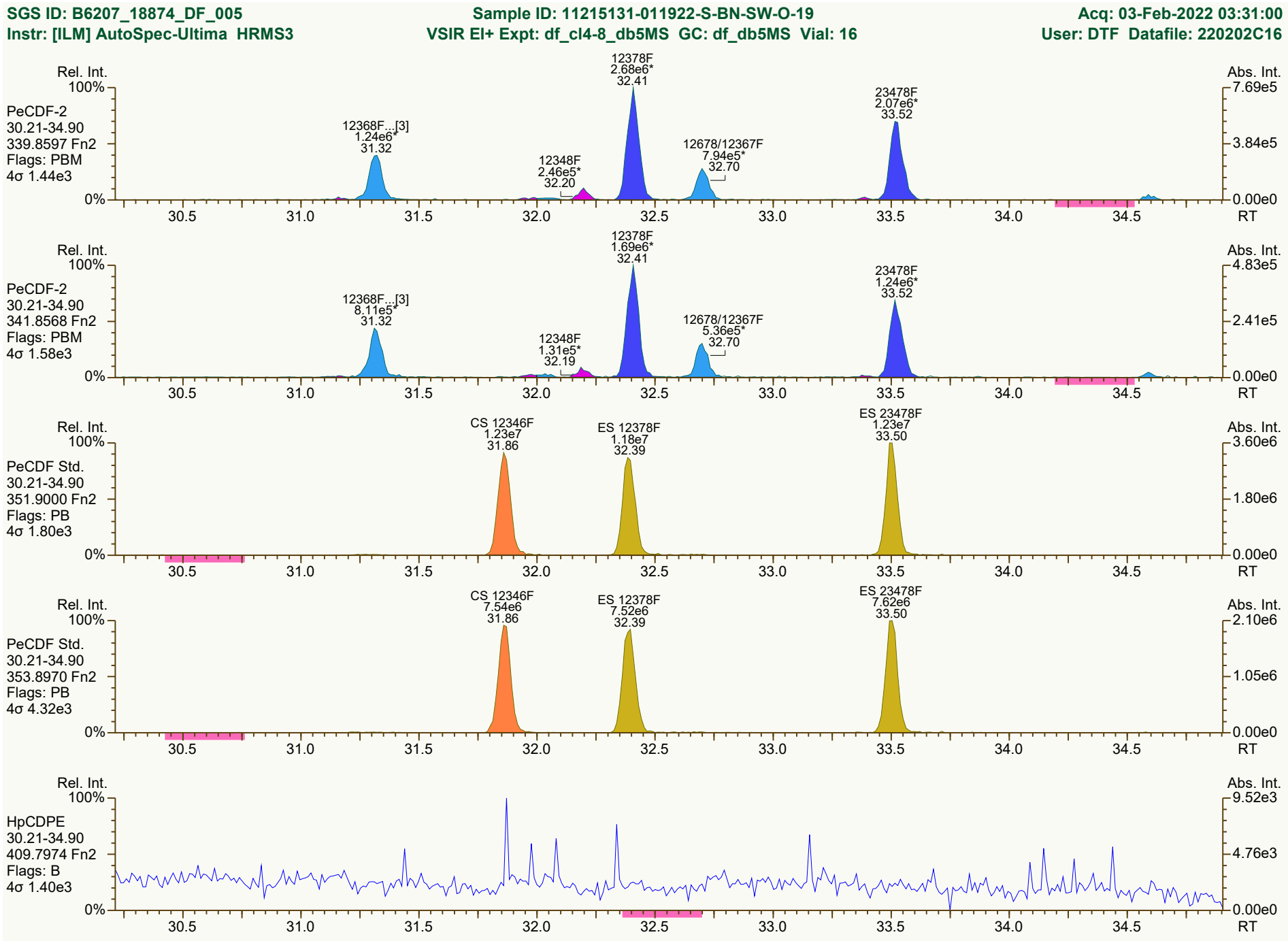

SGS ID: B6207_18874_DF_005
Sample ID: 11215131-011922-S-BN-SW-O-19
Acq: 03-Feb-2022 03:31:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220202C16
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.05e3
124679/124689D
4.74e5
36.01
123679/123689D
4.39e5
36.96
123468D
4.45e4*
36.67
123678D
9.71e4*
37.88
123478D
6.20e4*
37.76
123467D
3.72e4*
38.07
123789D
8.96e4*
38.17
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.56e3
124679/124689D
3.72e5*
36.01
123679/123689D
3.48e5*
36.96
123468D
4.96e4*
36.67
123678D
1.05e5*
37.88
123478D
5.59e4*
37.76
123467D
1.95e4*
38.07
123789D
6.21e4*
38.17
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.61e3
ES 123678D
8.21e6
37.86
ES 123478D
7.29e6*
37.75
ES 123789D
7.44e6
38.16
JS 123467D
3.68e6*
38.05
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.25e3
ES 123678D
6.44e6
37.86
ES 123478D
5.87e6*
37.75
ES 123789D
6.00e6
38.15
JS 123467D
3.11e6*
38.05
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT


SGS ID: B6207_18874_DF_005
Sample ID: 11215131-011922-S-BN-SW-O-19
Acq: 03-Feb-2022 03:31:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220202C16
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.59e3
1234679D
8.98e6*
40.15
1234678D
6.00e6
40.83
2.93e6
1.47e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.51e3
1234679D
8.54e6*
40.15
1234678D
5.90e6
40.83
2.77e6
1.39e6
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.52e3
ES 1234678D
6.43e6*
40.81
2.21e6
1.10e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.78e3
ES 1234678D
5.56e6*
40.81
1.80e6
9.00e5
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
6.73e6
3.37e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_005.utp_res, saved 04-Feb-2022 08:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0093, 2164 scc: 624-922
Revised: 04-Feb-2022 08:07 (DTF) Printed: 04-Feb-2022 08:13 Page 5 of 12

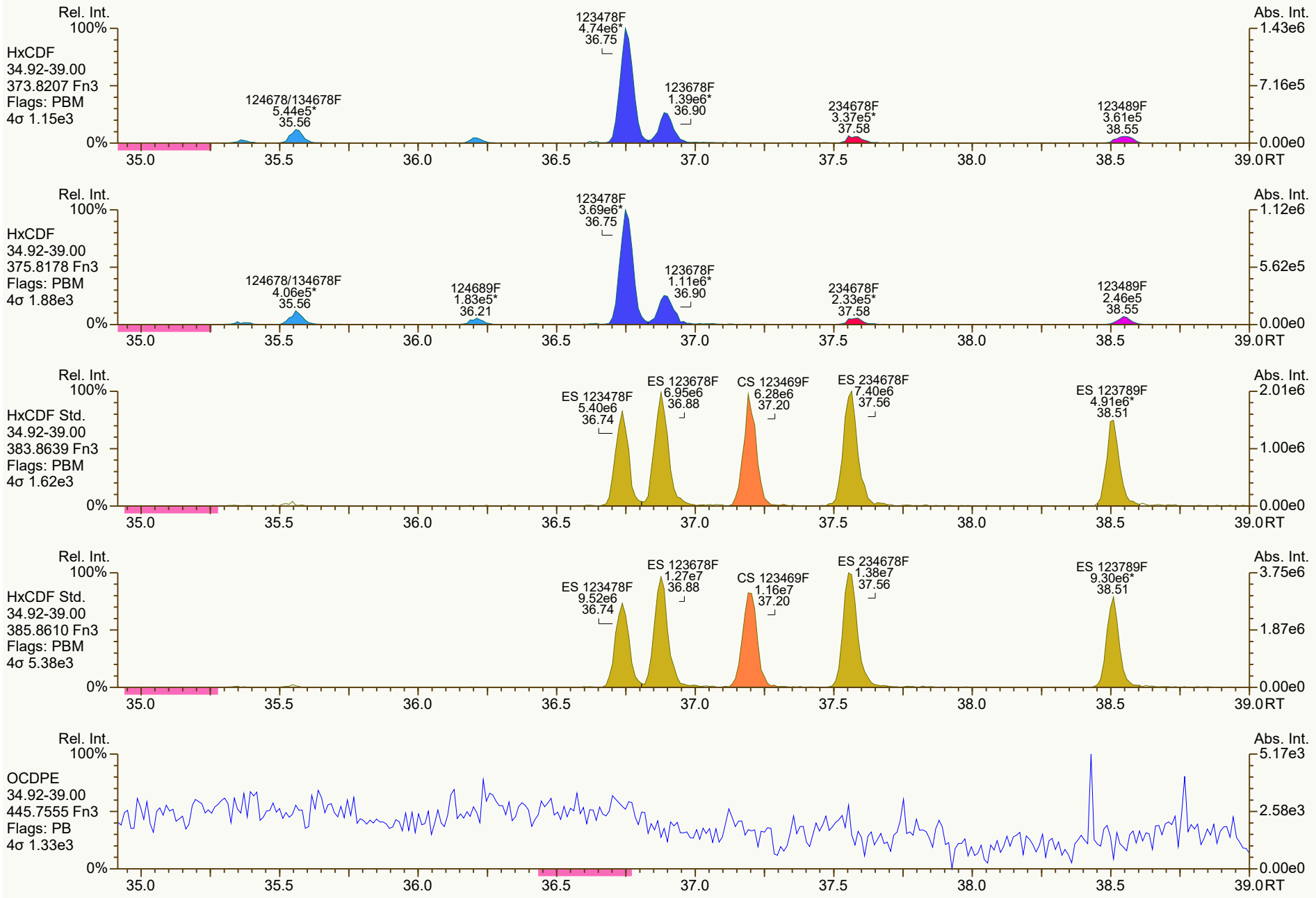

OCDD
5.26e8
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.35e3
0%
Abs. Int.
1.24e8
6.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.81e8
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.03e3
ES OCDD
1.10e7
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.84e3
2.44e6
1.22e6
ES OCDD
1.19e7
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.45e3
2.69e6
1.34e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.82e6
2.91e6

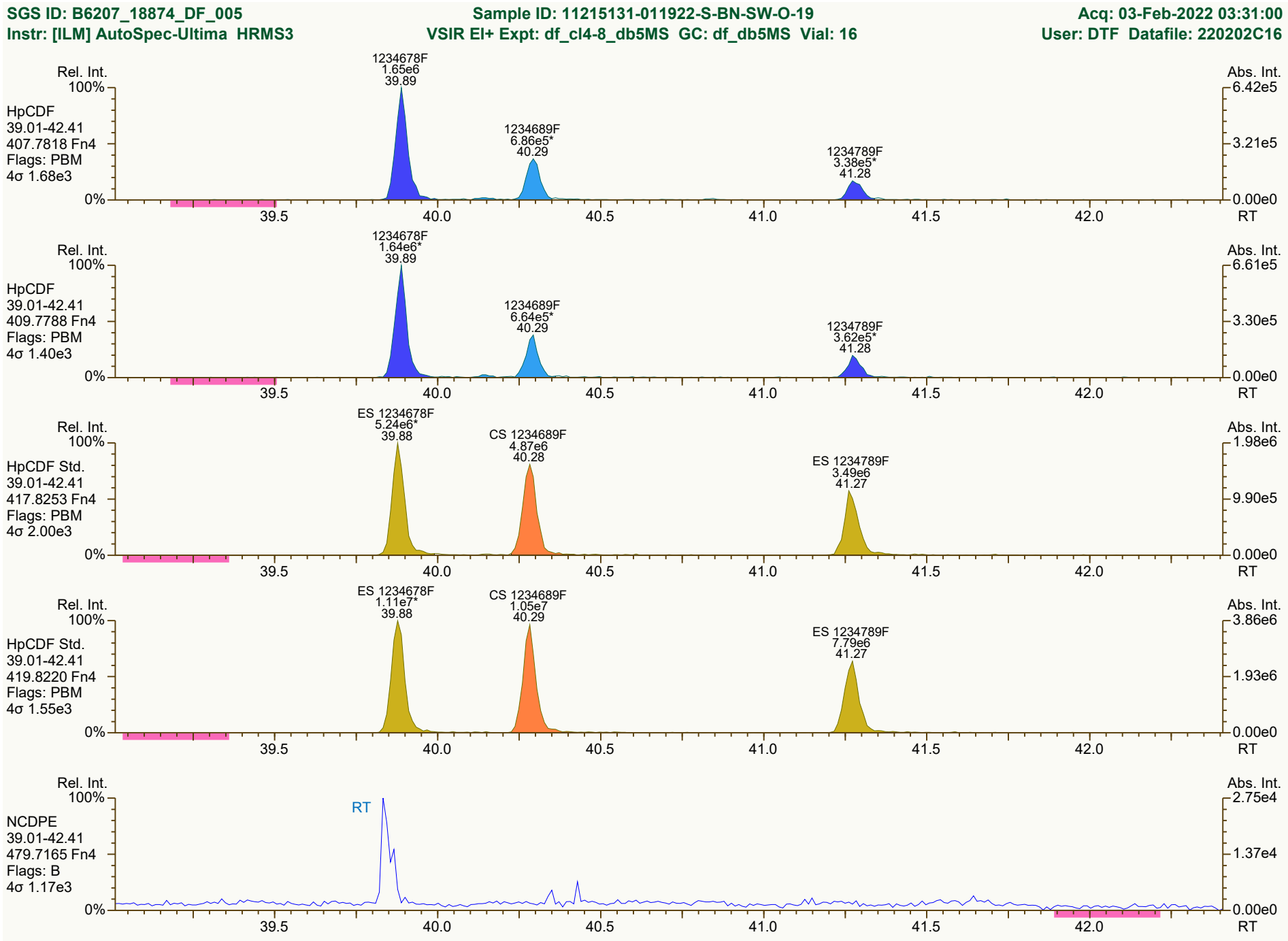

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.60e3
0%
2378F
4.93e7*
27.67
1278F
2.07e7
26.78
2348F
2.84e6*
27.55
2367/3467F
3.96e6
28.02
1289F
3.50e6
29.67
Abs. Int.
1.15e7
5.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
6.19e7*
27.67
1278F
2.59e7
26.77
1238F...[5]
4.97e6
26.29
2348F
3.58e6*
27.55
2367/3467F
4.94e6
28.02
1289F
4.58e6
29.67
Abs. Int.
1.38e7
6.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 1.53e3
0%
JS 1234F
1.10e7
26.29
ES 2378F
9.96e6*
27.65
Abs. Int.
2.25e6
1.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 1.82e3
0%
JS 1234F
1.33e7
26.29
ES 2378F
1.26e7*
27.65
Abs. Int.
3.01e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

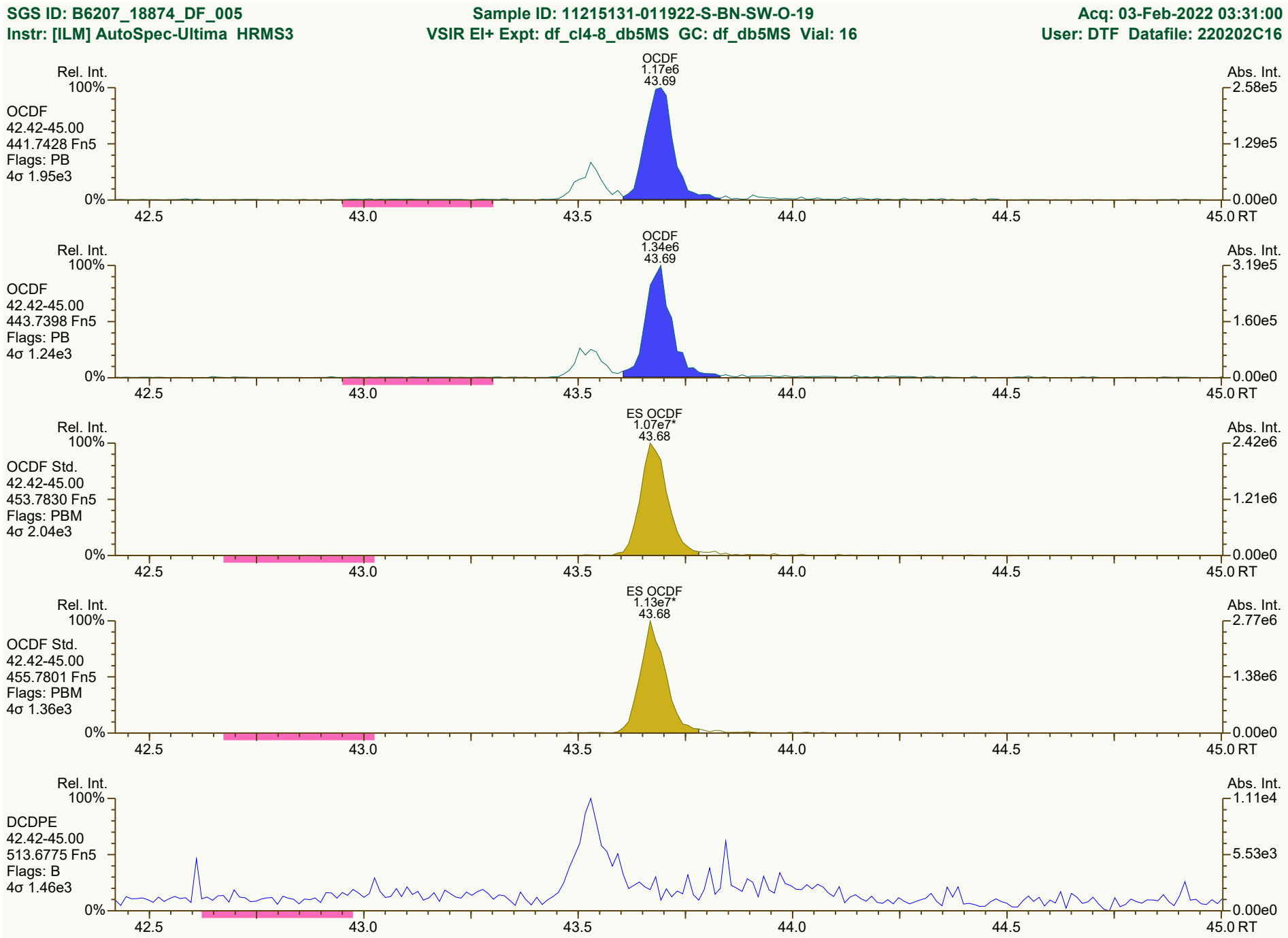

SGS ID: B6207_18874_DF_005
Sample ID: 11215131-011922-S-BN-SW-O-19
Acq: 03-Feb-2022 03:31:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220202C16
Rel. Int.
100%
0%
Abs. Int.
4.62e4
2.31e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.41e5*
29.60
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.40e3
13468/12468F
9.51e4*
29.61
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.11e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
4.15e6
2.07e6
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_005.utp_res, saved 04-Feb-2022 08:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5367 scc: 624-922
Revised: 03-Feb-2022 10:10 (DTF) Printed: 04-Feb-2022 08:13 Page 8 of 12



Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_005.utp_res, saved 04-Feb-2022 08:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0616, 0663, 7380 scc: 624-922
Revised: 03-Feb-2022 10:11 (DTF) Printed: 04-Feb-2022 08:13 Page 9 of 12


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.15e3
0%
123478F
4.74e6*
36.75
124678/134678F
5.44e5*
35.56
123678F
1.39e6*
36.90
234678F
3.37e5*
37.58
123489F
3.61e5
38.55
Abs. Int.
1.43e6
7.16e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.88e3
123478F
3.69e6*
36.75
124678/134678F
4.06e5*
35.56
124689F
1.83e5*
36.21
123678F
1.11e6*
36.90
234678F
2.33e5*
37.58
123489F
2.46e5
38.55
1.12e6
5.62e5
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 1.62e3
ES 123478F
5.40e6
36.74
ES 123678F
6.95e6
36.88
CS 123469F
6.28e6
37.20
ES 234678F
7.40e6
37.56
ES 123789F
4.91e6*
38.51
2.01e6
1.00e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.38e3
ES 123478F
9.52e6
36.74
ES 123678F
1.27e7
36.88
CS 123469F
1.16e7
37.20
ES 234678F
1.38e7
37.56
ES 123789F
9.30e6*
38.51
3.75e6
1.87e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.33e3
5.17e3
2.58e3


SGS ID: B6207_18874_DF_005
Sample ID: 11215131-011922-S-BN-SW-O-19
Acq: 03-Feb-2022 03:31:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220202C16
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.68e3
1234678F
1.65e6
39.89
1234689F
6.86e5*
40.29
1234789F
3.38e5*
41.28
6.42e5
3.21e5
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.40e3
1234678F
1.64e6*
39.89
1234689F
6.64e5*
40.29
1234789F
3.62e5*
41.28
6.61e5
3.30e5
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.00e3
ES 1234678F
5.24e6*
39.88
CS 1234689F
4.87e6
40.28
ES 1234789F
3.49e6
41.27
1.98e6
9.90e5
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.55e3
ES 1234678F
1.11e7*
39.88
CS 1234689F
1.05e7
40.29
ES 1234789F
7.79e6
41.27
3.86e6
1.93e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.17e3
RT
2.75e4
1.37e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_005.utp_res, saved 04-Feb-2022 08:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0964, 9015, 6942 scc: 624-922
PKD: 03-Feb-2022 10:12 Printed: 04-Feb-2022 08:13 Page 11 of 12


SGS ID: B6207_18874_DF_005
Sample ID: 11215131-011922-S-BN-SW-O-19
Acq: 03-Feb-2022 03:31:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220202C16
OCDF
1.17e6
43.69
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.95e3
OCDF
1.34e6
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.24e3
ES OCDF
1.07e7*
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.04e3
ES OCDF
1.13e7*
43.68
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.36e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.46e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_005.utp_res, saved 04-Feb-2022 08:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3194, 2400, 0063 scc: 624-922
Revised: 03-Feb-2022 10:08 (DTF) Printed: 04-Feb-2022 08:13 Page 12 of 12

Lab ID: B6207_18874_DF_006 **Acq'd:** 03 Feb 2022 04:17 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21 **UTP:** 03-Feb-2022 13:42:32 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 172-253-WDW

Datafile: 220202C17 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.56	E	1.0008	1.0008	0	3.80E+08	0.81	Y	1.18	4,450	3990.947	0.475
12378-PeCDD	33.88		1.0006	1.0005	-0.2	3.12E+06	1.69	Y	1.04	45.9	3884.079	0.519
123478-HxCDD	37.79		1.0004	1.0005	+0.2	2.45E+05	1.37	Y	1.09	3.64	6302.59	0.802
123678-HxCDD	37.90		1.0035	1.0035	0	1.07E+06	1.30	Y	1.15	14.1	6302.59	0.698
123789-HxCDD	38.19		1.0112	1.0112	0	5.46E+05	1.12	Y	1.05	7.4	6302.59	0.703
1234678-HpCDD	40.85		1.0003	1.0004	+0.2	2.45E+07	1.04	Y	1.06	372	4998.058	0.588
OCDD	43.52		1.0004	1.0003	-0.3	2.86E+08	0.90	Y	1.13	5,770	5038.273	1.06
2378-TCDF	27.71	E	1.0008	1.0007	-0.2	1.57E+09	0.79	Y	1.08	12,300	3135.581	0.281
12378-PeCDF	32.45		1.0005	1.0006	+0.2	1.03E+08	1.58	Y	1.02	1,000	5525.941	0.525
23478-PeCDF	33.57		1.0005	1.0008	+0.6	5.88E+07	1.49	Y	1.02	512	5525.941	0.412
123478-HxCDF	36.78		1.0004	1.0005	+0.2	2.18E+08	1.26	Y	1.27	2,040	9205.031	0.713
123678-HxCDF	36.92		1.0004	1.0005	+0.2	5.88E+07	1.26	Y	1.15	545	9205.031	0.68
234678-HxCDF	37.60		1.0005	1.0004	-0.2	1.23E+07	1.24	Y	1.19	111	9205.031	0.743
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	9205.031	0.854
1234678-HpCDF	39.91		1.0003	1.0003	0	5.76E+07	1.00	Y	1.37	595	4432.561	0.332
1234789-HpCDF	41.30		1.0002	1.0003	+0.2	1.71E+07	1.02	Y	1.31	218	4432.561	0.514
OCDF	43.70		1.0003	1.0002	-0.3	3.37E+08	0.90	Y	1.07	4,980	3696.345	0.589

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.54	1.0236	1.0235	-0.2	1.43E+07	0.86	Y	1.05	92
ES 12378-PeCDD	33.86	1.2144	1.2145	+0.2	1.30E+07	1.67	Y	0.88	99.5
ES 123478-HxCDD	37.77	0.9920	0.9918	-0.5	1.22E+07	1.35	Y	0.97	98.5
ES 123678-HxCDD	37.89	0.9951	0.9950	-0.2	1.31E+07	1.34	Y	0.94	108
ES 123789-HxCDD	38.18	1.0027	1.0026	-0.2	1.40E+07	1.28	Y	1.09	100
ES 1234678-HpCDD	40.83	1.0724	1.0723	-0.2	1.23E+07	1.11	Y	0.91	106
ES OCDD	43.51	1.1428	1.1426	-0.5	1.75E+07	0.90	Y	0.62	109
ES 2378-TCDF	27.69	1.0516	1.0519	+0.5	2.34E+07	0.84	Y	1.06	101
ES 12378-PeCDF	32.43	1.2312	1.2319	+1.4	1.99E+07	1.54	Y	0.91	100
ES 23478-PeCDF	33.54	1.2733	1.2742	+1.8	2.23E+07	1.57	Y	0.88	116
ES 123478-HxCDF	36.76	0.9655	0.9655	0	1.67E+07	0.57	Y	1.20	109
ES 123678-HxCDF	36.90	0.9692	0.9692	0	1.86E+07	0.54	Y	1.35	108
ES 234678-HxCDF	37.59	0.9871	0.9871	0	1.85E+07	0.56	Y	1.24	117
ES 123789-HxCDF	38.53	1.0121	1.0119	-0.5	1.49E+07	0.52	Y	1.16	101
ES 1234678-HpCDF	39.90	1.0479	1.0478	-0.2	1.40E+07	0.45	Y	0.97	113
ES 1234789-HpCDF	41.29	1.0845	1.0843	-0.5	1.20E+07	0.44	Y	0.85	110
ES OCDF	43.69	1.1477	1.1475	-0.5	2.51E+07	0.90	Y	0.81	121

Lab ID: B6207_18874_DF_006 **Acq'd:** 03 Feb 2022 04:17 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21 **UTP:** 03-Feb-2022 13:42:32 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 172-253-WDW

Datafile: 220202C17 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.88		-	-	-	1.48E+07	0.81	Y	-	-	
JS 1234-TCDF	26.32		-	-	-	2.18E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.08		-	-	-	6.39E+06	1.32	Y	-	-	
CS 37Cl-2378-TCDD	28.56		1.0244	1.0242	-0.3	5.74E+06	n/a	-	1.20	80.3	
CS 12347-PeCDD	33.37		1.1964	1.1967	+0.6	1.12E+07	1.56	Y	0.75	101	
CS 12346-PeCDF	31.90		1.2112	1.2120	+1.5	1.93E+07	1.61	Y	0.85	104	
CS 123469-HxCDF	37.22		0.9775	0.9775	0	1.56E+07	0.53	Y	1.12	109	
CS 1234689-HpCDF	40.30		1.0584	1.0584	0	1.33E+07	0.45	Y	0.89	117	
~~SS 37Cl-2378-TCDD~~	~~28.56~~		~~1.0244~~	~~1.0242~~	~~-0.3~~	~~5.74E+06~~	~~n/a~~		~~1.15~~	~~87.~~5	Not used in this project.
~~SS 12347-PeCDD~~	~~33.37~~		~~1.1964~~	~~1.1967~~	~~+0.6~~	~~1.12E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~10~~1	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.90~~		~~1.2112~~	~~1.2120~~	~~+1.5~~	~~1.93E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~10~~3	
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.56E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~10~~1	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0584~~	~~0~~	~~1.33E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~10~~3	

Totals	Conc	EMPC
Total TCDD	5010	5020
Total PeCDD	78	82.4
Total HxCDD	150	150
Total HpCDD	794	794
Total Tetra-Octa Dioxins	11800	11800
Total TCDF	23,500	23500
Total PeCDF	2,330	2330
Total HxCDF	3,210	3210
Total HpCDF	1,080	1080
Total Tetra-Octa Furans	35,100	35100
Total Tetra-Octa Dioxins & Furans	46900	46900

Lab ID: B6207_18874_DF_006 **Acq'd:** 03 Feb 2022 04:17 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21 **UTP:** 03-Feb-2022 13:42:32 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 172-253-WDW

Datafile: 220202C17 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.94		0.8737	0.8738	+0.1	7.02E+05	0.79	Y	1.18	8.22	3990.947	0.475
1379-TCDD	25.28	EMPC	0.8860	0.8859	-0.2	2.12E+05	0.61	N	1.18	2.48	3990.947	0.475
1369-TCDD	NotFnd		0.9009						1.18		3990.947	0.475
1469-TCDD	26.48		0.9281	0.9278	-0.5	3.52E+05	0.82	Y	1.18	4.12	3990.947	0.475
1247/1246/1248/1249-TCDD	26.70		0.9362	0.9358	-0.6	6.44E+05	0.85	Y	1.18	7.54	3990.947	0.475
1378-TCDD	26.90		0.9432	0.9427	-0.8	1.23E+06	0.78	Y	1.18	14.4	3990.947	0.475
1268-TCDD	27.12	EMPC	0.9500	0.9504	+0.7	1.10E+05	1.01	N	1.18	1.29	3990.947	0.475
1478-TCDD	27.36		0.9586	0.9588	+0.3	1.06E+06	0.81	Y	1.18	12.5	3990.947	0.475
1279-TCDD	NotFnd		0.9645						1.18		3990.947	0.475
1234/1269-TCDD	27.89		0.9770	0.9771	+0.2	3.20E+05	0.86	Y	1.18	3.75	3990.947	0.475
1236-TCDD	NotFnd		0.9817						1.18		3990.947	0.475
1237/1238-TCDD	28.27		0.9905	0.9907	+0.3	5.98E+06	0.79	Y	1.18	70	3990.947	0.475
1239-TCDD	NotFnd		0.9952						1.18		3990.947	0.475
2378-TCDD	**28.56**	E	**1.0008**	1.0008	**0**	3.80E+08	0.81	Y	**1.18**	**4,450**	**3990.947**	**0.475**
1278-TCDD	28.89		1.0121	1.0123	+0.3	3.62E+07	0.81	Y	1.18	424	3990.947	0.475
1267-TCDD	29.03		1.0167	1.0173	+1.0	1.09E+06	0.88	Y	1.18	12.8	3990.947	0.475
1289-TCDD	29.53		1.0345	1.0350	+0.9	5.30E+05	0.85	Y	1.18	6.22	3990.947	0.475
12479/12468-PeCDD	31.39		0.9267	0.9270	+0.6	6.93E+05	1.59	Y	1.04	10.2	3884.079	0.519
12469-PeCDD	31.92	EMPC	0.9425	0.9427	+0.4	2.39E+05	1.84	N	1.04	3.53	3884.079	0.519
12368-PeCDD	32.47		0.9588	0.9589	+0.2	5.38E+05	1.47	Y	1.04	7.93	3884.079	0.519
12478-PeCDD	32.67		0.9643	0.9646	+0.6	2.82E+05	1.44	Y	1.04	4.16	3884.079	0.519
12379-PeCDD	32.77		0.9673	0.9676	+0.6	1.83E+05	1.63	Y	1.04	2.69	3884.079	0.519
12369/12467/12489-PeCDD	33.02		0.9750	0.9751	+0.2	2.61E+05	1.54	Y	1.04	3.85	3884.079	0.519
12346/12347-PeCDD	33.39	J	0.9858	0.9859	+0.2	8.31E+04	1.61	Y	1.04	1.23	3884.079	0.519
12378-PeCDD	33.88		**1.0006**	**1.0005**	**-0.2**	**3.12E+06**	**1.69**	**Y**	**1.04**	**45.9**	**3884.079**	**0.519**
12367-PeCDD	33.99	J	1.0033	1.0036	+0.6	1.33E+05	1.68	Y	1.04	1.96	3884.079	0.519
12389-PeCDD	34.32	J EMPC	1.0134	1.0136	+0.4	5.80E+04	1.95	N	1.04	0.855	3884.079	0.519
124679/124689-HxCDD	36.04		0.9542	0.9543	+0.2	4.49E+06	1.29	Y	1.10	62.1	6302.59	0.731
123468-HxCDD	36.69		0.9715	0.9716	+0.2	6.11E+05	1.30	Y	1.10	8.45	6302.59	0.731
123679/123689-HxCDD	36.99		0.9793	0.9793	0	3.54E+06	1.28	Y	1.10	49	6302.59	0.731
123469-HxCDD	37.12		0.9828	0.9828	0	2.18E+05	1.19	Y	1.10	3.02	6302.59	0.731
123478-HxCDD	37.79		**1.0004**	**1.0005**	**+0.2**	**2.45E+05**	**1.37**	**Y**	1.09	**3.64**	**6302.59**	**0.802**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**1.07E+06**	**1.30**	**Y**	1.15	**14.1**	**6302.59**	**0.698**
123467-HxCDD	38.09		1.0085	1.0085	0	1.93E+05	1.15	Y	1.10	2.67	6302.59	0.731
123789-HxCDD	38.19		**1.0112**	**1.0112**	**0**	**5.46E+05**	**1.12**	**Y**	1.05	**7.4**	**6302.59**	**0.703**

Lab ID: B6207_18874_DF_006 **Acq'd:** 03 Feb 2022 04:17 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21 **UTP:** 03-Feb-2022 13:42:32 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 172-253-WDW

Datafile: 220202C17 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

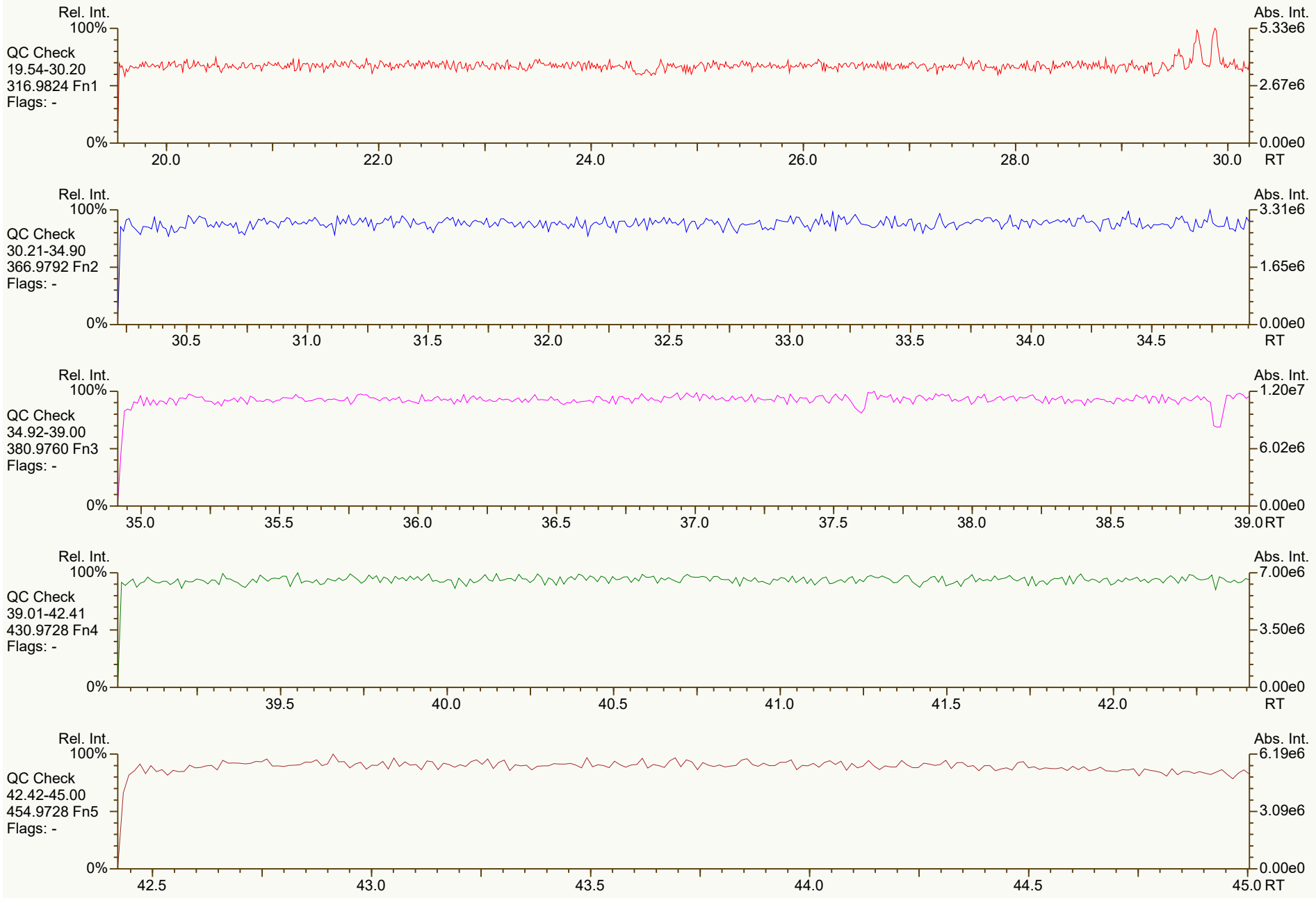
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9837	0.9837	0	2.79E+07	1.06	Y	1.06	423	4998.058	0.588
1234678-HpCDD	**40.85**		**1.0003**	**1.0004**	**+0.2**	**2.45E+07**	**1.04**	**Y**	**1.06**	**372**	**4998.058**	**0.588**
OCDD	**43.52**		**1.0004**	**1.0003**	**-0.3**	**2.86E+08**	**0.90**	**Y**	**1.13**	**5,770**	**5038.273**	**1.06**
OCDD-a	43.52		1.0003	1.0002	-0.3	1.77E+07	2.45	Y	0.07	5,590	5325.481	17.5
1368-TCDF	22.83		0.8251	0.8244	-1.0	4.15E+05	0.76	Y	1.08	3.26	3135.581	0.281
1468-TCDF	23.41		0.8458	0.8455	-0.4	2.57E+06	0.76	Y	1.08	20.2	3135.581	0.281
2468-TCDF	24.05		0.8686	0.8685	-0.1	2.30E+06	0.81	Y	1.08	18	3135.581	0.281
1346/1246-TCDF	NotFnd		0.8814						1.08		3135.581	0.281
1347/1378/1247-TCDF	24.57		0.8867	0.8874	+1.0	1.57E+07	0.83	Y	1.08	124	3135.581	0.281
1348-TCDF	NotFnd		0.8962						1.08		3135.581	0.281
1248/1367/1379-TCDF	24.91		0.9009	0.8996	-1.9	6.19E+07	0.79	Y	1.08	486	3135.581	0.281
1268-TCDF	25.32		0.9145	0.9143	-0.3	2.18E+07	0.78	Y	1.08	171	3135.581	0.281
1467-TCDF	25.45		0.9193	0.9191	-0.3	3.57E+06	0.78	Y	1.08	28	3135.581	0.281
1478-TCDF	25.62		0.9254	0.9253	-0.2	5.43E+07	0.79	Y	1.08	426	3135.581	0.281
1369/1237-TCDF	26.00		0.9387	0.9390	+0.5	1.60E+07	0.78	Y	1.08	126	3135.581	0.281
2467-TCDF	26.11		0.9433	0.9430	-0.5	1.57E+06	0.87	Y	1.08	12.3	3135.581	0.281
2368-TCDF	26.31		0.9489	0.9504	+2.4	1.11E+08	0.79	Y	1.08	872	3135.581	0.281
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3135.581	0.281
1278-TCDF	26.81	E	0.9683	0.9681	-0.3	7.16E+08	0.78	Y	1.08	5,620	3135.581	0.281
1349-TCDF	NotFnd		0.9722						1.08		3135.581	0.281
1267-TCDF	27.08		0.9783	0.9781	-0.3	3.57E+07	0.77	Y	1.08	280	3135.581	0.281
2346/1249-TCDF	27.27		0.9850	0.9849	-0.2	4.33E+06	0.80	Y	1.08	34	3135.581	0.281
2347/1279-TCDF	27.47		0.9926	0.9923	-0.5	1.61E+07	0.77	Y	1.08	126	3135.581	0.281
2348-TCDF	27.59		0.9967	0.9964	-0.5	1.03E+08	0.79	Y	1.08	807	3135.581	0.281
2378-TCDF	**27.71**	E	**1.0008**	**1.0007**	**-0.2**	**1.57E+09**	**0.79**	**Y**	**1.08**	**12,300**	**3135.581**	**0.281**
2367/3467-TCDF	28.06		1.0137	1.0134	-0.5	1.21E+08	0.80	Y	1.08	952	3135.581	0.281
1269-TCDF	28.31		1.0223	1.0225	+0.3	2.28E+07	0.80	Y	1.08	179	3135.581	0.281
1239-TCDF	28.56		1.0321	1.0317	-0.7	1.81E+06	0.83	Y	1.08	14.3	3135.581	0.281
1289-TCDF	29.72		1.0722	1.0733	+2.0	1.13E+08	0.80	Y	1.08	887	3135.581	0.281
13468/12468-PeCDF	29.66		0.9139	0.9146	+1.2	4.09E+06	1.50	Y	1.02	37.6	2662.624	0.224
13678/13467/12467-PeCDF	31.19		0.9613	0.9620	+1.3	9.70E+05	1.45	Y	1.02	8.9	5525.941	0.465
12368/13478/12478-PeCDF	31.36		0.9662	0.9670	+1.5	4.27E+07	1.54	Y	1.02	392	5525.941	0.465
14678-PeCDF	NotFnd		0.9692						1.02		5525.941	0.465
13479-PeCDF	NotFnd		0.9723						1.02		5525.941	0.465
13469/12479-PeCDF	31.74		0.9797	0.9788	-1.7	2.72E+05	1.59	Y	1.02	2.5	5525.941	0.465
12346-PeCDF	NotFnd		0.9840						1.02		5525.941	0.465

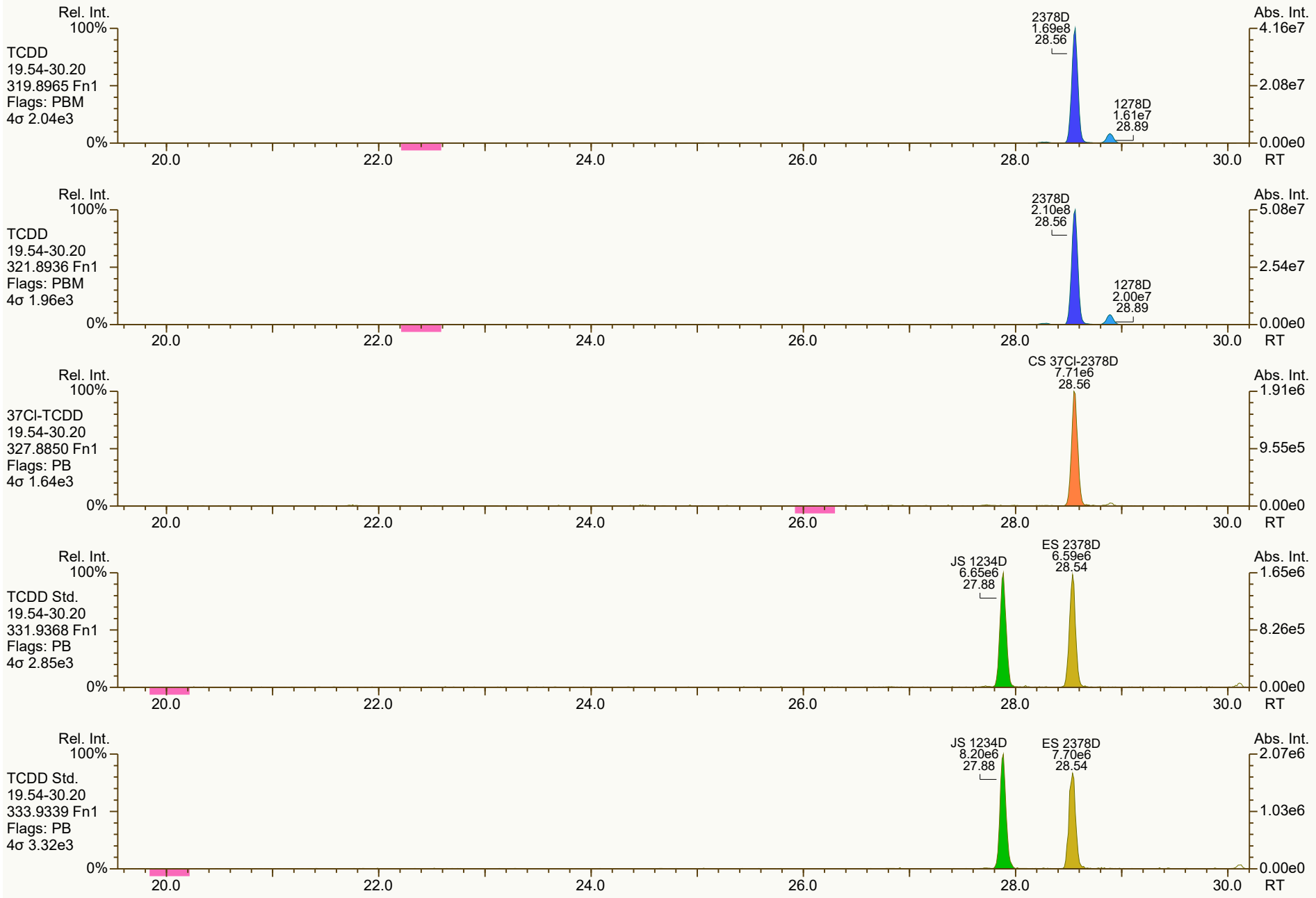
Lab ID: B6207_18874_DF_006 **Acq'd: 03 Feb 2022 04:17 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

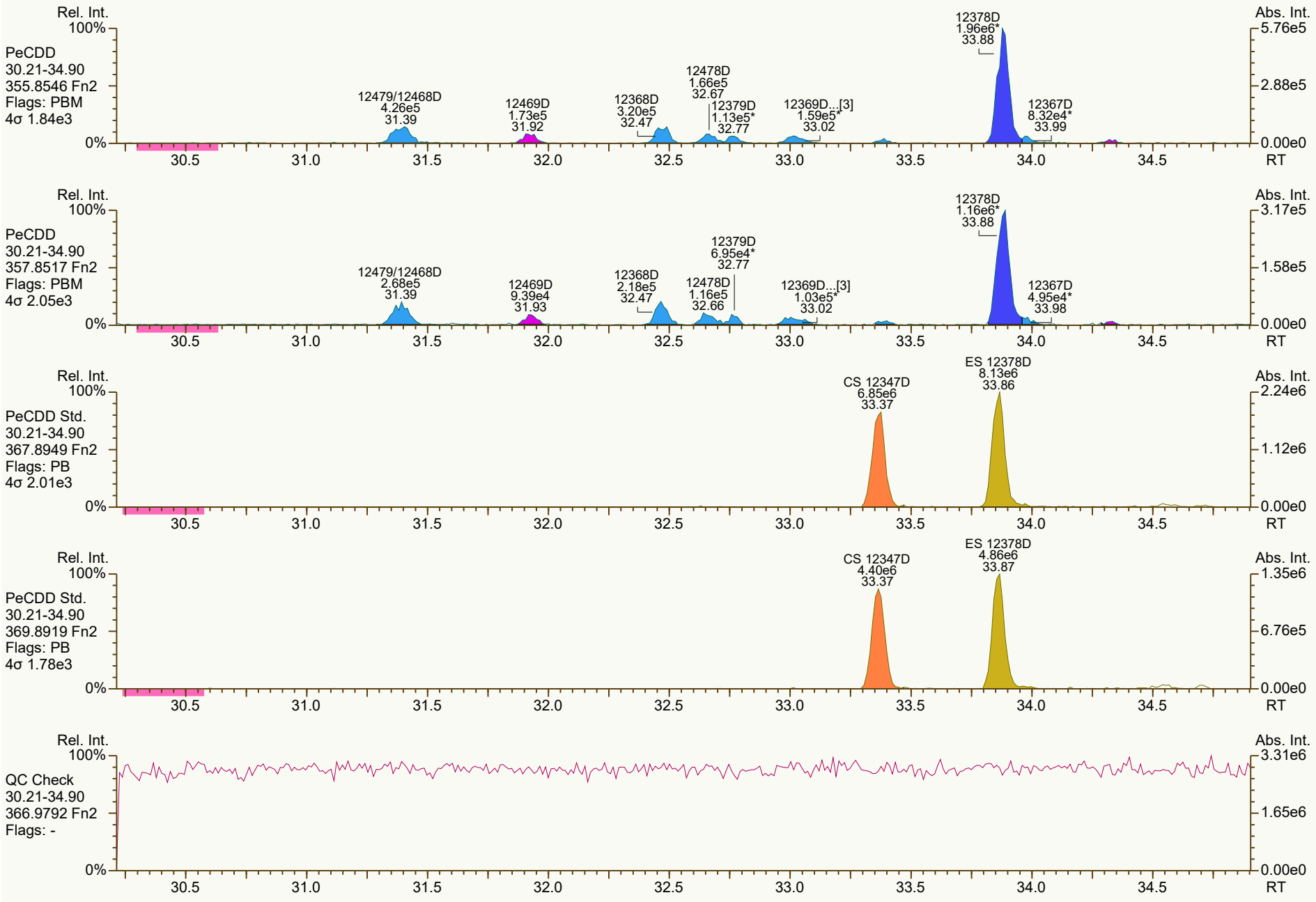
Client ID: 11215131-011922-S-BN-SW-B-21 **UTP: 03-Feb-2022 13:42:32 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 172-253-WDW**

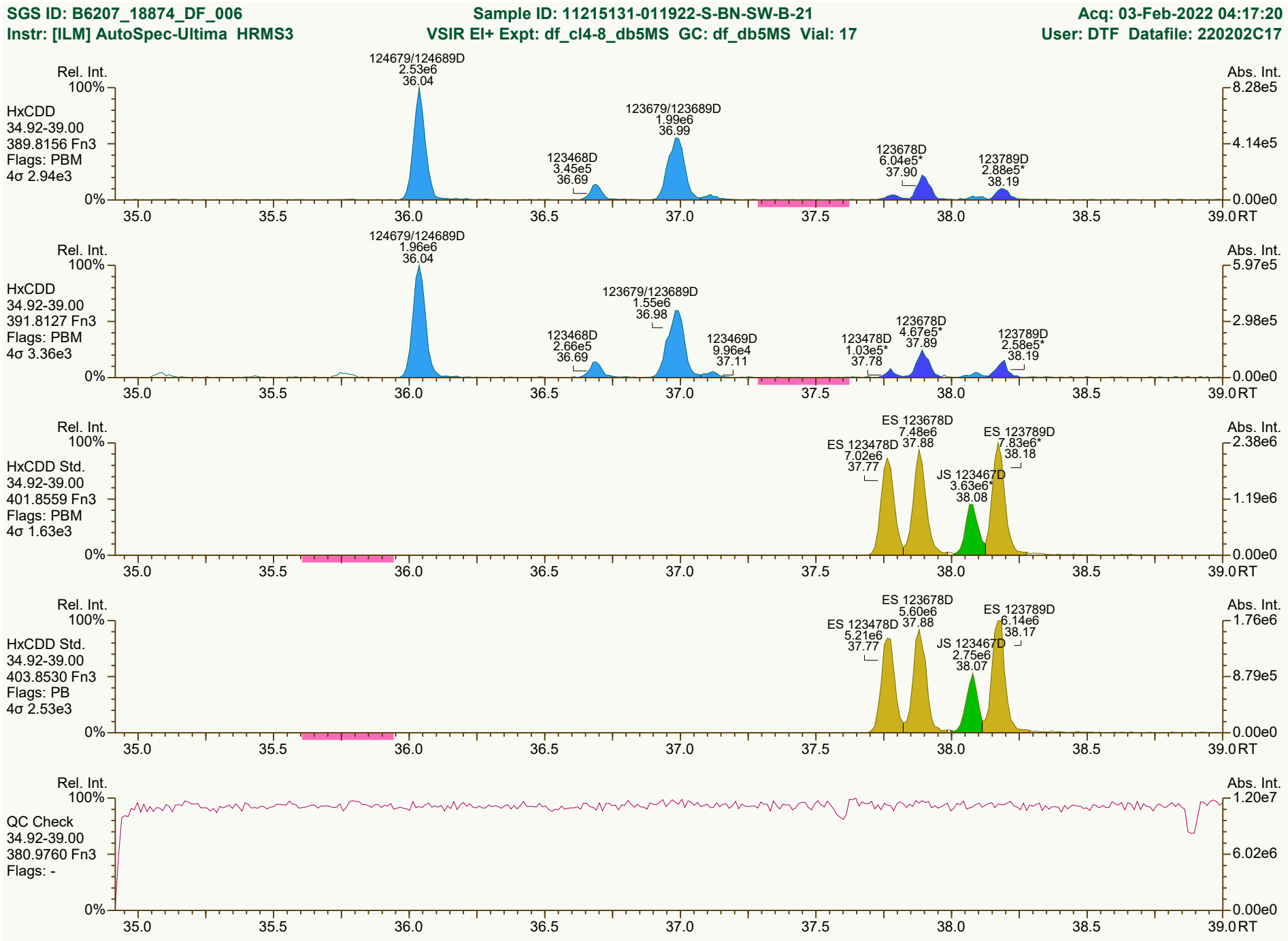
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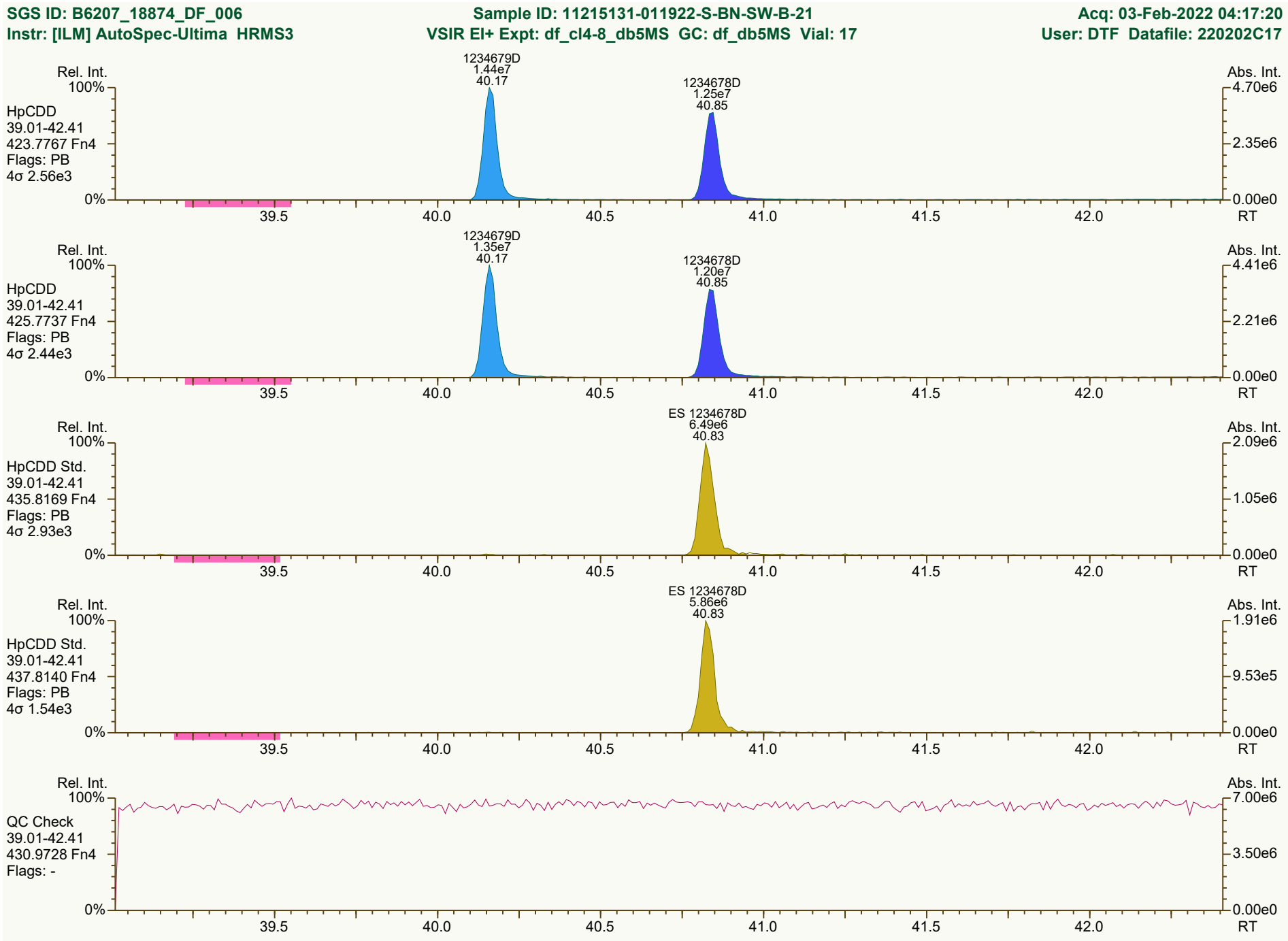
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.99		0.9868	0.9865	-0.6	1.54E+06	1.47	Y	1.02	14.2	5525.941	0.465
12347-PeCDF	32.07		0.9894	0.9891	-0.6	1.15E+06	1.47	Y	1.02	10.6	5525.941	0.465
12348-PeCDF	32.24		0.9940	0.9941	+0.2	5.64E+06	1.56	Y	1.02	51.8	5525.941	0.465
12378-PeCDF	**32.45**		**1.0005**	**1.0006**	**+0.2**	**1.03E+08**	**1.58**	**Y**	**1.02**	**1,000**	**5525.941**	**0.525**
12678/12367-PeCDF	32.74		1.0089	1.0096	+1.4	2.88E+07	1.53	Y	1.02	264	5525.941	0.465
12379-PeCDF	NotFnd		1.0142						1.02		5525.941	0.465
12679-PeCDF	33.29	J EMPC	0.9929	0.9927	-0.4	1.79E+05	1.79	N	1.02	1.64	5525.941	0.465
23467/12369-PeCDF	33.42		0.9967	0.9964	-0.6	7.96E+05	1.71	Y	1.02	7.31	5525.941	0.465
23478-PeCDF	**33.57**		**1.0005**	**1.0008**	**+0.6**	**5.88E+07**	**1.49**	**Y**	**1.02**	**512**	**5525.941**	**0.412**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5525.941	0.465
12349-PeCDF	NotFnd		1.0100						1.02		5525.941	0.465
12389-PeCDF	34.62		1.0324	1.0322	-0.4	2.87E+06	1.54	Y	1.02	26.3	5525.941	0.465
123468-HxCDF	35.40		0.9627	0.9629	+0.4	2.27E+06	1.31	Y	1.19	22	9205.031	0.742
124678/134678-HxCDF	35.60		0.9682	0.9683	+0.2	1.92E+07	1.26	Y	1.19	186	9205.031	0.742
134679-HxCDF	NotFnd		0.9744						1.19		9205.031	0.742
124679-HxCDF	36.02		0.9798	0.9797	-0.2	2.65E+05	1.28	Y	1.19	2.57	9205.031	0.742
124689-HxCDF	36.24		0.9858	0.9858	0	1.17E+07	1.28	Y	1.19	113	9205.031	0.742
123467-HxCDF	36.66		0.9972	0.9971	-0.2	1.15E+06	1.39	Y	1.19	11.2	9205.031	0.742
123478-HxCDF	**36.78**		**1.0004**	**1.0005**	**+0.2**	**2.18E+08**	**1.26**	**Y**	**1.27**	**2,040**	**9205.031**	**0.713**
123678-HxCDF	**36.92**		**1.0004**	**1.0005**	**+0.2**	**5.88E+07**	**1.26**	**Y**	**1.15**	**545**	**9205.031**	**0.68**
123479-HxCDF	NotFnd		1.0049						1.19		9205.031	0.742
123469-HxCDF	NotFnd		1.0090						1.19		9205.031	0.742
123679-HxCDF	NotFnd		0.9942						1.19		9205.031	0.742
234678-HxCDF	**37.60**		**1.0005**	**1.0004**	**-0.2**	**1.23E+07**	**1.24**	**Y**	**1.19**	**111**	**9205.031**	**0.743**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9205.031	0.742
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**9205.031**	**0.854**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.57		1.0009	1.0011	+0.5	1.83E+07	1.26	Y	1.19	177	9205.031	0.742
1234678-HpCDF	**39.91**		**1.0003**	**1.0003**	**0**	**5.76E+07**	**1.00**	**Y**	**1.37**	**595**	**4432.561**	**0.332**
1234679-HpCDF	40.16		1.0068	1.0067	-0.2	1.56E+06	1.06	Y	1.34	17.8	4432.561	0.415
1234689-HpCDF	40.31		1.0103	1.0104	+0.2	2.22E+07	1.03	Y	1.34	253	4432.561	0.415
1234789-HpCDF	**41.30**		**1.0002**	**1.0003**	**+0.2**	**1.71E+07**	**1.02**	**Y**	**1.31**	**218**	**4432.561**	**0.514**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**3.37E+08**	**0.90**	**Y**	**1.07**	**4,980**	**3696.345**	**0.589**
OCDF-a	43.70		1.0002	1.0002	0	2.14E+07	2.54	Y	0.07	5,110	3618.385	9.31

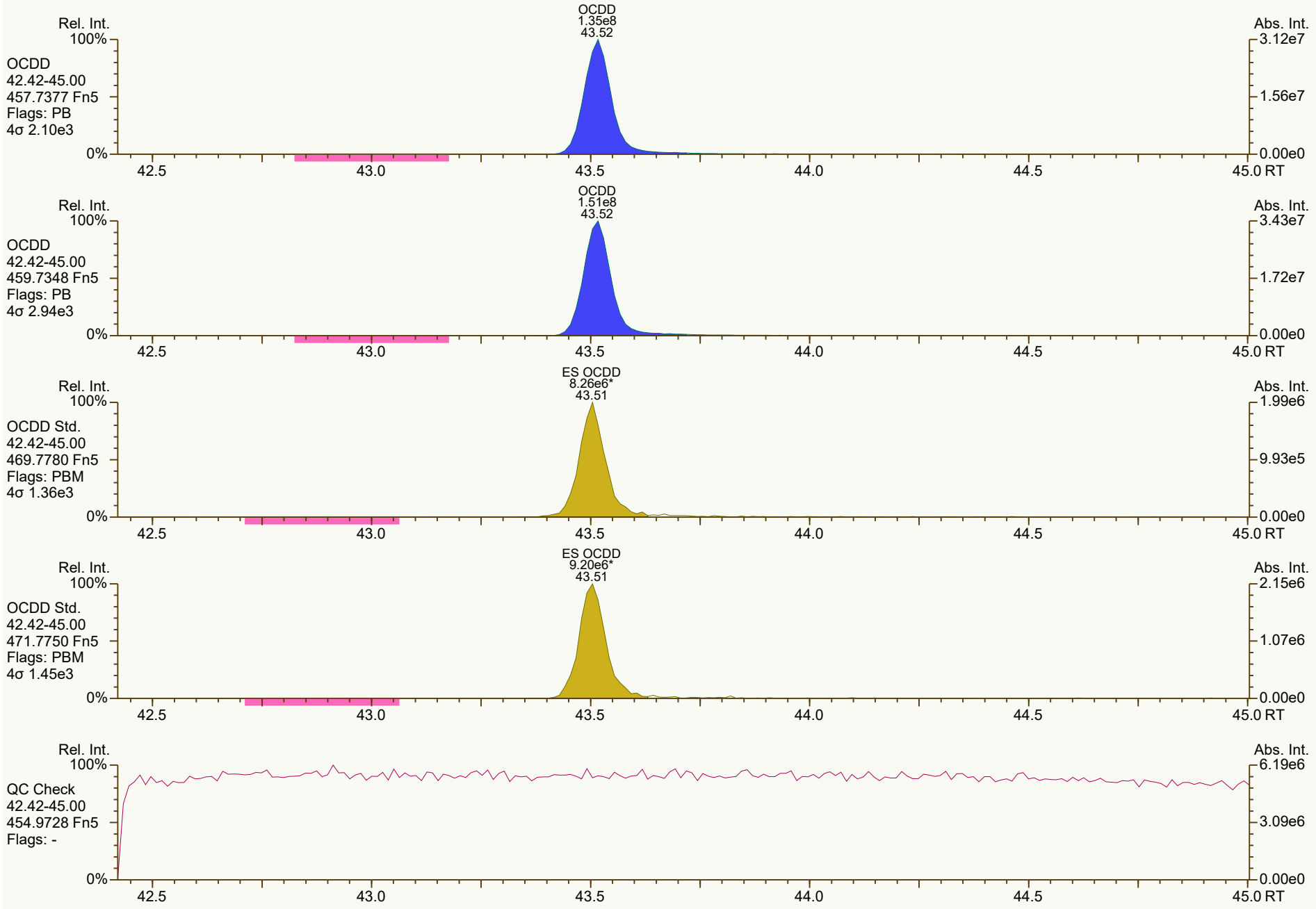

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316.9824 Fn1
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.33e6
2.67e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.31e6
1.65e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.20e7
6.02e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.00e6
3.50e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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0.00e0

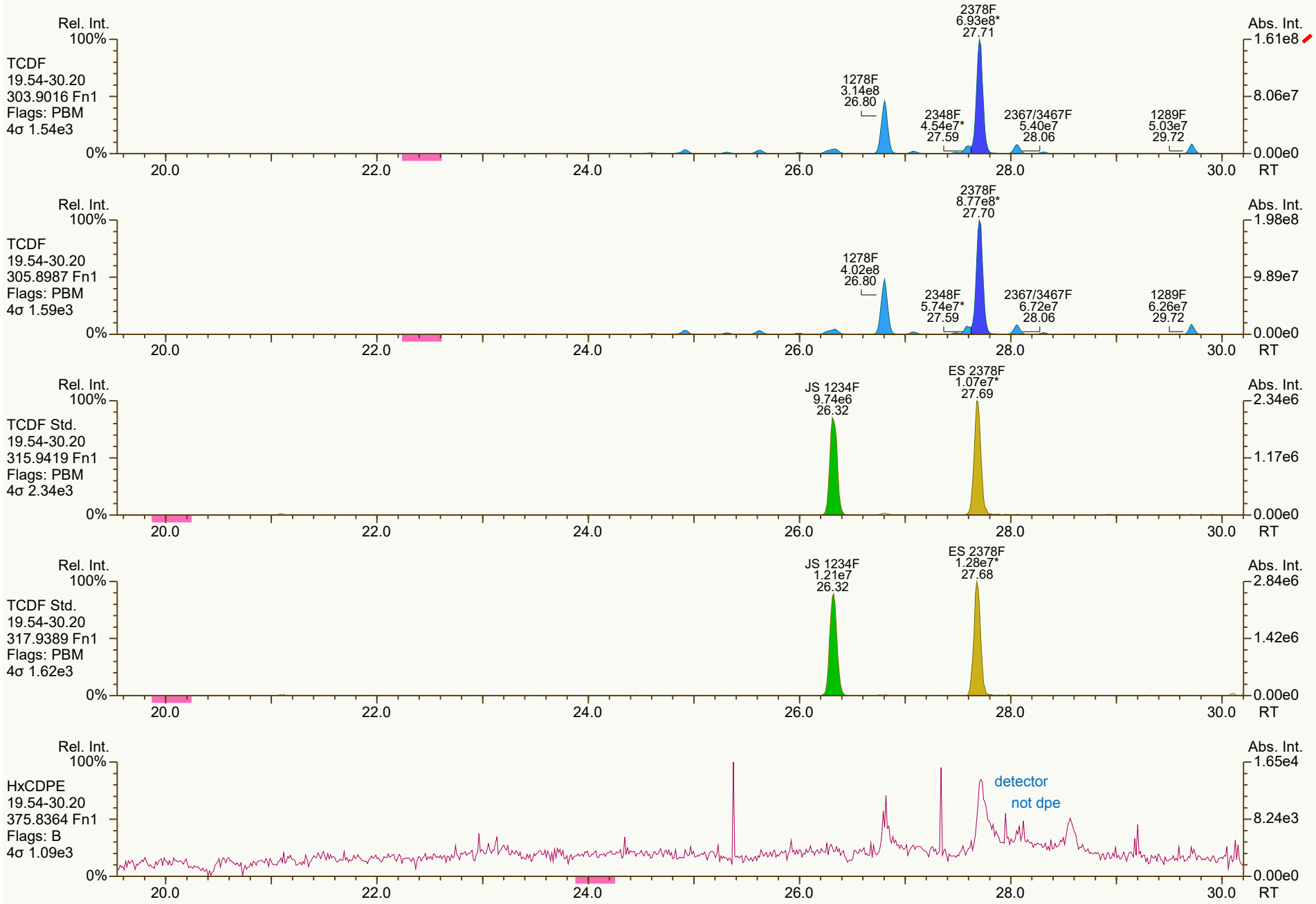

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100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
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0%
2378D
1.69e8
28.56
1278D
1.61e7
28.89
Abs. Int.
4.16e7
2.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.96e3
0%
2378D
2.10e8
28.56
1278D
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28.89
Abs. Int.
5.08e7
2.54e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.64e3
0%
CS 37Cl-2378D
7.71e6
28.56
Abs. Int.
1.91e6
9.55e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.85e3
0%
JS 1234D
6.65e6
27.88
ES 2378D
6.59e6
28.54
Abs. Int.
1.65e6
8.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.32e3
0%
JS 1234D
8.20e6
27.88
ES 2378D
7.70e6
28.54
Abs. Int.
2.07e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.84e3
12479/12468D 4.26e5 31.39
12469D 1.73e5 31.92
12368D 3.20e5 32.47
12478D 1.66e5 32.67
12379D 1.13e5* 32.77
12369D...[3] 1.59e5* 33.02
12378D 1.96e6* 33.88
12367D 8.32e4* 33.99
Abs. Int.
5.76e5
2.88e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.05e3
12479/12468D 2.68e5 31.39
12469D 9.39e4 31.93
12368D 2.18e5 32.47
12379D 6.95e4* 32.77
12478D 1.16e5 32.66
12369D...[3] 1.03e5* 33.02
12378D 1.16e6* 33.88
12367D 4.95e4* 33.98
Abs. Int.
3.17e5
1.58e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.01e3
CS 12347D 6.85e6 33.37
ES 12378D 8.13e6 33.86
Abs. Int.
2.24e6
1.12e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.78e3
CS 12347D 4.40e6 33.37
ES 12378D 4.86e6 33.87
Abs. Int.
1.35e6
6.76e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
3.31e6
1.65e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT


SGS ID: B6207_18874_DF_006
Sample ID: 11215131-011922-S-BN-SW-B-21
Acq: 03-Feb-2022 04:17:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220202C17
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.94e3
124679/124689D
2.53e6
36.04
123679/123689D
1.99e6
36.99
123468D
3.45e5
36.69
123678D
6.04e5*
37.90
123789D
2.88e5*
38.19
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.36e3
124679/124689D
1.96e6
36.04
123679/123689D
1.55e6
36.98
123468D
2.66e5
36.69
123469D
9.96e4
37.11
123478D
1.03e5*
37.78
123678D
4.67e5*
37.89
123789D
2.58e5*
38.19
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.63e3
ES 123678D
7.48e6
37.88
ES 123478D
7.02e6
37.77
ES 123789D
7.83e6*
38.18
JS 123467D
3.63e6*
38.08
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.53e3
ES 123678D
5.60e6
37.88
ES 123478D
5.21e6
37.77
ES 123789D
6.14e6
38.17
JS 123467D
2.75e6
38.07
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT

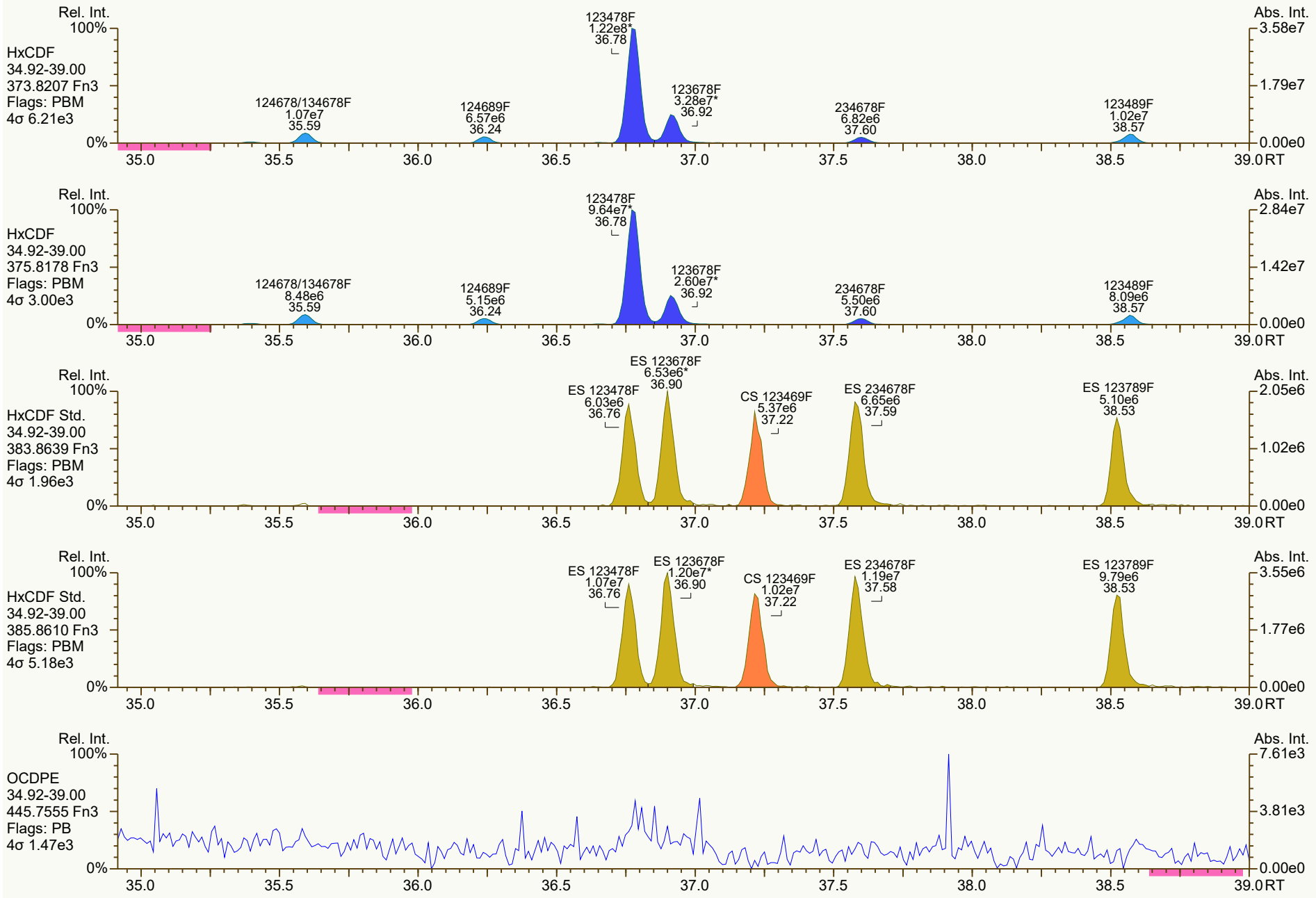

SGS ID: B6207_18874_DF_006
Sample ID: 11215131-011922-S-BN-SW-B-21
Acq: 03-Feb-2022 04:17:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220202C17
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.56e3
1234679D
1.44e7
40.17
1234678D
1.25e7
40.85
4.70e6
2.35e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.44e3
1234679D
1.35e7
40.17
1234678D
1.20e7
40.85
4.41e6
2.21e6
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.93e3
ES 1234678D
6.49e6
40.83
2.09e6
1.05e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.54e3
ES 1234678D
5.86e6
40.83
1.91e6
9.53e5
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
7.00e6
3.50e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3103, 7063 scc: 172-253
Revised: 03-Feb-2022 10:14 (DTF) Printed: 03-Feb-2022 13:51 Page 5 of 12

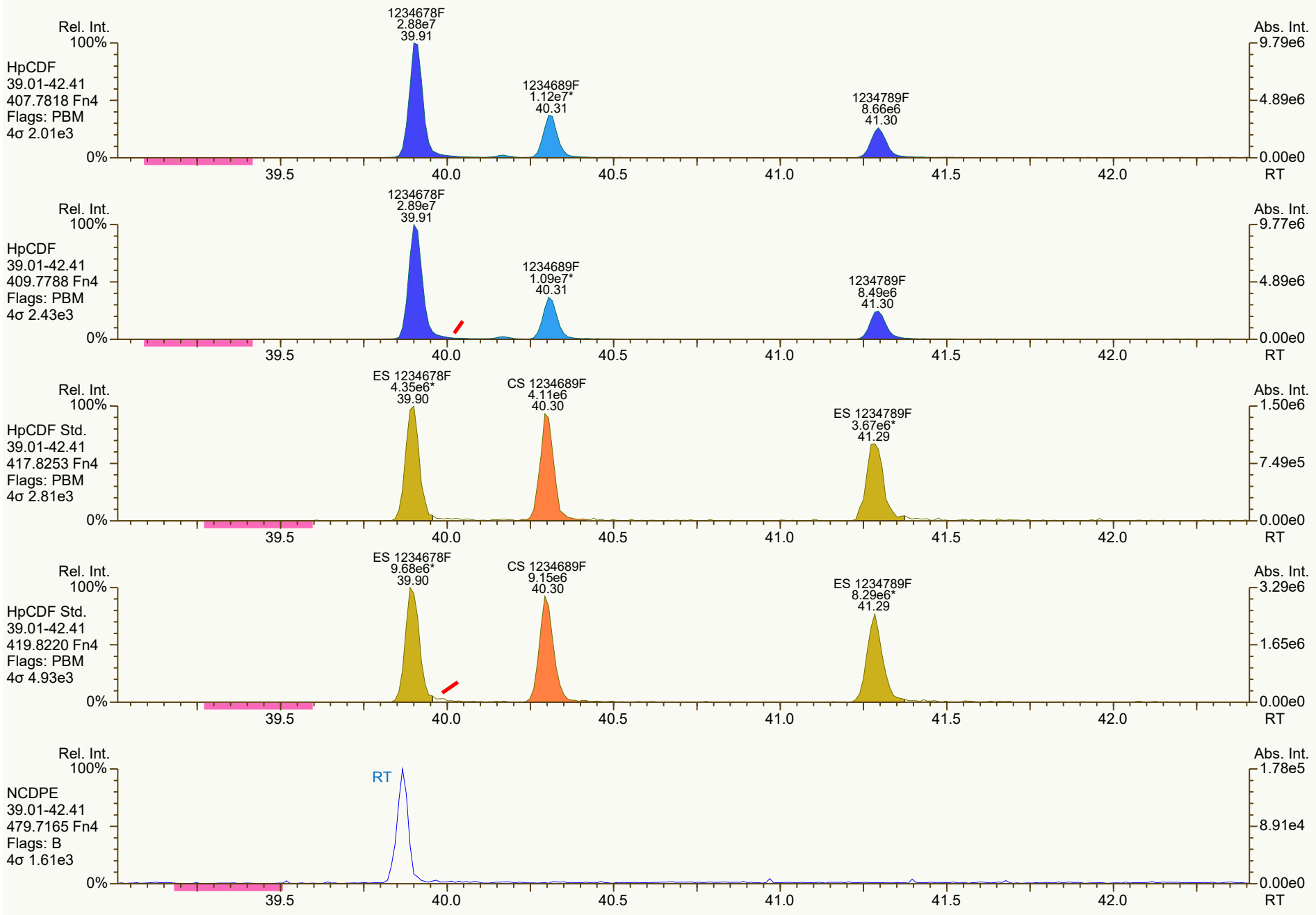

OCDD
1.35e8
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.10e3
0%
Abs. Int.
3.12e7
1.56e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.51e8
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.94e3
3.43e7
1.72e7
ES OCDD
8.26e6*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.36e3
1.99e6
9.93e5
ES OCDD
9.20e6*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.45e3
2.15e6
1.07e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.19e6
3.09e6

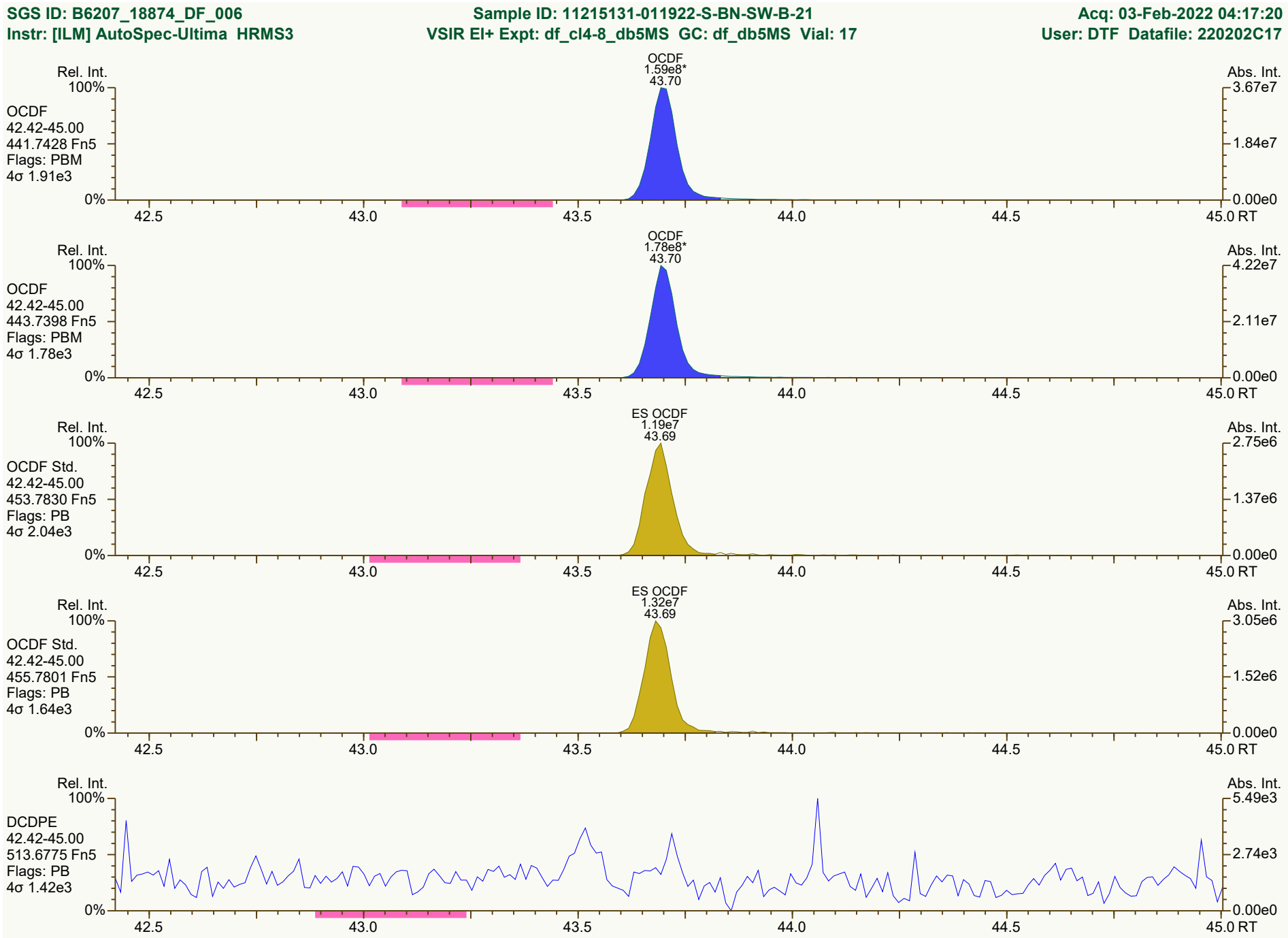

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.54e3
0%
2378F
6.93e8*
27.71
1278F
3.14e8
26.80
2348F
4.54e7*
27.59
2367/3467F
5.40e7
28.06
1289F
5.03e7
29.72
Abs. Int.
1.61e8
8.06e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.59e3
0%
2378F
8.77e8*
27.70
1278F
4.02e8
26.80
2348F
5.74e7*
27.59
2367/3467F
6.72e7
28.06
1289F
6.26e7
29.72
Abs. Int.
1.98e8
9.89e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 2.34e3
0%
JS 1234F
9.74e6
26.32
ES 2378F
1.07e7*
27.69
Abs. Int.
2.34e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 1.62e3
0%
JS 1234F
1.21e7
26.32
ES 2378F
1.28e7*
27.68
Abs. Int.
2.84e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.09e3
0%
detector
not dpe
Abs. Int.
1.65e4
8.24e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
5.91e5
2.95e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
2.45e6
29.66
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.36e3
13468/12468F
1.64e6
29.66
4.26e5
2.13e5
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.30e3
5.33e6
2.67e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12368F...[3]
2.59e7
31.36
12378F
6.33e7
32.44
12678/12367F
1.74e7*
32.74
23478F
3.52e7
33.57
Abs. Int.
1.84e7
9.19e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.37e3
0%
12368F...[3]
1.68e7
31.36
12348F
2.21e6
32.23
12378F
4.01e7
32.44
12678/12367F
1.14e7*
32.74
23478F
2.36e7
33.56
Abs. Int.
1.21e7
6.07e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.35e3
0%
CS 12346F
1.19e7
31.90
ES 12378F
1.21e7
32.43
ES 23478F
1.36e7
33.54
Abs. Int.
3.99e6
1.99e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.14e3
0%
CS 12346F
7.39e6
31.90
ES 12378F
7.85e6
32.43
ES 23478F
8.70e6
33.54
Abs. Int.
2.38e6
1.19e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 6.21e3
123478F
1.22e8*
36.78
124678/134678F
1.07e7
35.59
124689F
6.57e6
36.24
123678F
3.28e7*
36.92
234678F
6.82e6
37.60
123489F
1.02e7
38.57
Abs. Int.
3.58e7
1.79e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.00e3
123478F
9.64e7*
36.78
124678/134678F
8.48e6
35.59
124689F
5.15e6
36.24
123678F
2.60e7*
36.92
234678F
5.50e6
37.60
123489F
8.09e6
38.57
Abs. Int.
2.84e7
1.42e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 1.96e3
ES 123678F
6.53e6*
36.90
ES 123478F
6.03e6
36.76
CS 123469F
5.37e6
37.22
ES 234678F
6.65e6
37.59
ES 123789F
5.10e6
38.53
Abs. Int.
2.05e6
1.02e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.18e3
ES 123478F
1.07e7
36.76
ES 123678F
1.20e7*
36.90
CS 123469F
1.02e7
37.22
ES 234678F
1.19e7
37.58
ES 123789F
9.79e6
38.53
Abs. Int.
3.55e6
1.77e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.47e3
Abs. Int.
7.61e3
3.81e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.01e3
1234678F
2.88e7
39.91
1234689F
1.12e7*
40.31
1234789F
8.66e6
41.30
Abs. Int.
9.79e6
4.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.43e3
1234678F
2.89e7
39.91
1234689F
1.09e7*
40.31
1234789F
8.49e6
41.30
Abs. Int.
9.77e6
4.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.81e3
ES 1234678F
4.35e6*
39.90
CS 1234689F
4.11e6
40.30
ES 1234789F
3.67e6*
41.29
Abs. Int.
1.50e6
7.49e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 4.93e3
ES 1234678F
9.68e6*
39.90
CS 1234689F
9.15e6
40.30
ES 1234789F
8.29e6*
41.29
Abs. Int.
3.29e6
1.65e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.61e3
RT
Abs. Int.
1.78e5
8.91e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: B6207_18874_DF_006
Sample ID: 11215131-011922-S-BN-SW-B-21
Acq: 03-Feb-2022 04:17:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220202C17
OCDF
1.59e8*
43.70
Rel. Int.
100%
Abs. Int.
3.67e7
1.84e7
0.00e0
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.91e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.78e8*
43.70
Rel. Int.
100%
Abs. Int.
4.22e7
2.11e7
0.00e0
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.78e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.19e7
43.69
Rel. Int.
100%
Abs. Int.
2.75e6
1.37e6
0.00e0
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.04e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.32e7
43.69
Rel. Int.
100%
Abs. Int.
3.05e6
1.52e6
0.00e0
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.64e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
Abs. Int.
5.49e3
2.74e3
0.00e0
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.42e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3724, 9857, 8104 scc: 172-253
Revised: 03-Feb-2022 10:16 (DTF) Printed: 03-Feb-2022 13:51 Page 12 of 12

Lab ID: B6207_18874_DF_006MS **Acq'd:** 03 Feb 2022 05:03 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21-MS **UTP:** 03-Feb-2022 13:42:33 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 152-625-DQK

Datafile: 220202C18 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.56	E	1.0008	1.0008	0	3.50E+08	0.80	Y	1.18	3,220	3888.989	0.377
12378-PeCDD	33.89		1.0006	1.0006	0	1.05E+07	1.55	Y	1.04	125	5496.624	0.591
123478-HxCDD	37.79		1.0004	1.0004	0	8.77E+06	1.32	Y	1.09	107	6653.457	0.734
123678-HxCDD	37.90		1.0035	1.0035	0	1.05E+07	1.27	Y	1.15	120	6653.457	0.668
123789-HxCDD	38.20		1.0112	1.0113	+0.2	9.58E+06	1.26	Y	1.05	107	6653.457	0.625
1234678-HpCDD	40.85		1.0003	1.0003	0	3.74E+07	1.06	Y	1.06	467	7273.16	0.728
OCDD	43.53		1.0004	1.0003	-0.3	3.69E+08	0.91	Y	1.13	6,160	7528.899	1.43
2378-TCDF	27.71	E	1.0008	1.0007	-0.2	1.42E+09	0.78	Y	1.08	8,990	5097.594	0.366
12378-PeCDF	32.45		1.0005	1.0005	0	1.13E+08	1.52	Y	1.02	840	7913.312	0.547
23478-PeCDF	33.56		1.0005	1.0007	+0.4	7.43E+07	1.58	Y	1.02	561	7913.312	0.583
123478-HxCDF	36.78		1.0004	1.0005	+0.2	2.24E+08	1.27	Y	1.27	1,680	13351.272	0.809
123678-HxCDF	36.93		1.0004	1.0005	+0.2	6.75E+07	1.25	Y	1.15	500	13351.272	0.9
234678-HxCDF	37.61		1.0005	1.0005	0	2.22E+07	1.26	Y	1.19	193	13351.272	0.999
123789-HxCDF	38.57		1.0004	1.0009	+1.2	2.78E+07	1.23	Y	1.16	240	13351.272	0.873
1234678-HpCDF	39.91		1.0003	1.0003	0	7.81E+07	1.02	Y	1.37	621	4126.928	0.238
1234789-HpCDF	41.31		1.0002	1.0004	+0.5	2.68E+07	1.00	Y	1.31	273	4126.928	0.324
OCDF	43.72		1.0003	1.0003	0	5.41E+08	0.88	Y	1.07	6,710	7772.523	1.13

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.54	1.0236	1.0234	-0.3	1.83E+07	0.81	Y	1.05	84.9
ES 12378-PeCDD	33.87	1.2144	1.2145	+0.2	1.63E+07	1.57	Y	0.88	89.9
ES 123478-HxCDD	37.77	0.9920	0.9919	-0.2	1.51E+07	1.24	Y	0.97	82.7
ES 123678-HxCDD	37.89	0.9951	0.9950	-0.2	1.51E+07	1.19	Y	0.94	85.3
ES 123789-HxCDD	38.18	1.0027	1.0027	0	1.71E+07	1.24	Y	1.09	83.4
ES 1234678-HpCDD	40.84	1.0724	1.0725	+0.2	1.51E+07	1.10	Y	0.91	88
ES OCDD	43.52	1.1428	1.1429	+0.3	2.12E+07	0.91	Y	0.62	90.7
ES 2378-TCDF	27.69	1.0516	1.0517	+0.2	2.93E+07	0.82	Y	1.06	87.6
ES 12378-PeCDF	32.43	1.2312	1.2318	+1.2	2.62E+07	1.54	Y	0.91	91.3
ES 23478-PeCDF	33.54	1.2733	1.2740	+1.4	2.60E+07	1.60	Y	0.88	93.2
ES 123478-HxCDF	36.76	0.9655	0.9654	-0.2	2.09E+07	0.52	Y	1.20	93
ES 123678-HxCDF	36.91	0.9692	0.9692	0	2.34E+07	0.55	Y	1.35	92.2
ES 234678-HxCDF	37.59	0.9871	0.9871	0	1.93E+07	0.52	Y	1.24	82.9
ES 123789-HxCDF	38.54	1.0121	1.0119	-0.5	1.99E+07	0.56	Y	1.16	91.6
ES 1234678-HpCDF	39.90	1.0479	1.0479	0	1.83E+07	0.46	Y	0.97	101
ES 1234789-HpCDF	41.30	1.0845	1.0844	-0.2	1.50E+07	0.44	Y	0.85	94.1
ES OCDF	43.71	1.1477	1.1477	0	3.01E+07	0.92	Y	0.81	99.1

Lab ID: B6207_18874_DF_006MS | **Acq'd:** 03 Feb 2022 05:03 DTF | **Wt/Vol:** 10.01 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21-MS | **UTP:** 03-Feb-2022 13:42:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 152-625-DQK

Datafile: 220202C18 | **Report:** 03 Feb 2022 13:44 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.89		-	-	-	2.06E+07	0.82	Y	-	-	
JS 1234-TCDF	26.33		-	-	-	3.16E+07	0.84	Y	-	-	
JS 123467-HxCDD	38.08		-	-	-	9.38E+06	1.34	Y	-	-	
CS 37Cl-2378-TCDD	28.56		1.0244	1.0242	-0.3	7.13E+06	n/a	-	1.20	71.9	
CS 12347-PeCDD	33.37		1.1964	1.1966	+0.4	1.40E+07	1.56	Y	0.75	90	
CS 12346-PeCDF	31.90		1.2112	1.2117	+1.0	2.38E+07	1.55	Y	0.85	88.5	
CS 123469-HxCDF	37.22		0.9775	0.9775	0	1.94E+07	0.54	Y	1.12	92.3	
CS 1234689-HpCDF	40.31		1.0584	1.0585	+0.2	1.67E+07	0.46	Y	0.89	101	
~~SS 37Cl-2378-TCDD~~	~~28.56~~		~~1.0244~~	~~1.0242~~	~~-0.3~~	~~7.13E+06~~	~~n/a~~		~~1.15~~	~~84.~~8	Not used in this project.
~~SS 12347-PeCDD~~	~~33.37~~		~~1.1964~~	~~1.1966~~	~~+0.4~~	~~1.40E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~100~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.90~~		~~1.2112~~	~~1.2117~~	~~+1.0~~	~~2.38E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~96.~~7	
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.94E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~99.~~9	
~~SS 1234689-HpCDF~~	~~40.31~~		~~1.0584~~	~~1.0585~~	~~+0.2~~	~~1.67E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~99.~~3	

Totals	Conc	EMPC
Total TCDD	3670	3690
Total PeCDD	206	209
Total HxCDD	504	504
Total HpCDD	970	970
Total Tetra-Octa Dioxins	11500	11500
Total TCDF	17,200	17200
Total PeCDF	2,290	2290
Total HxCDF	3,160	3160
Total HpCDF	1,140	1140
Total Tetra-Octa Furans	30,600	30600
Total Tetra-Octa Dioxins & Furans	42100	42100

Lab ID: B6207_18874_DF_006MS | **Acq'd: 03 Feb 2022 05:03 DTF** | **Wt/Vol: 10.01 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21-MS | **UTP: 03-Feb-2022 13:42:33 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 152-625-DQK**

Datafile: 220202C18 | **Report: 03 Feb 2022 13:44 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.94		0.8737	0.8738	+0.1	3.75E+06	0.81	Y	1.18	34.5	3888.989	0.377
1379-TCDD	25.29	EMPC	0.8860	0.8861	+0.2	2.32E+05	1.14	N	1.18	2.14	3888.989	0.377
1369-TCDD	25.71		0.9009	0.9011	+0.3	7.28E+04	0.71	Y	1.18	0.67	3888.989	0.377
1469-TCDD	26.48		0.9281	0.9280	-0.2	4.91E+05	0.71	Y	1.18	4.52	3888.989	0.377
1247/1246/1248/1249-TCDD	26.72		0.9362	0.9362	0	6.57E+05	0.86	Y	1.18	6.04	3888.989	0.377
1378-TCDD	26.91		0.9432	0.9430	-0.3	1.10E+06	0.86	Y	1.18	10.2	3888.989	0.377
1268-TCDD	27.13		0.9500	0.9506	+1.0	1.31E+05	0.85	Y	1.18	1.2	3888.989	0.377
1478-TCDD	27.36	EMPC	0.9586	0.9587	+0.2	8.56E+05	0.93	N	1.18	7.88	3888.989	0.377
1279-TCDD	27.53	EMPC	0.9645	0.9646	+0.2	6.16E+04	1.13	N	1.18	0.566	3888.989	0.377
1234/1269-TCDD	27.88		0.9770	0.9769	-0.2	2.47E+05	0.79	Y	1.18	2.27	3888.989	0.377
1236-TCDD	NotFnd		0.9817						1.18		3888.989	0.377
1237/1238-TCDD	28.27		0.9905	0.9907	+0.3	5.39E+06	0.82	Y	1.18	49.6	3888.989	0.377
1239-TCDD	28.40		0.9952	0.9952	0	1.95E+06	0.82	Y	1.18	17.9	3888.989	0.377
2378-TCDD	**28.56**	E	**1.0008**	1.0008	**0**	3.50E+08	0.80	Y	**1.18**	**3,220**	**3888.989**	**0.377**
1278-TCDD	28.89		1.0121	1.0122	+0.2	3.15E+07	0.80	Y	1.18	290	3888.989	0.377
1267-TCDD	29.03	EMPC	1.0167	1.0172	+0.9	1.07E+06	0.90	N	1.18	9.83	3888.989	0.377
1289-TCDD	29.54		1.0345	1.0350	+0.9	3.46E+06	0.83	Y	1.18	31.8	3888.989	0.377
12479/12468-PeCDD	31.39		0.9267	0.9269	+0.4	2.64E+06	1.50	Y	1.04	31.2	5496.624	0.591
12469-PeCDD	31.92		0.9425	0.9426	+0.2	4.16E+05	1.48	Y	1.04	4.92	5496.624	0.591
12368-PeCDD	32.47		0.9588	0.9589	+0.2	5.39E+05	1.52	Y	1.04	6.37	5496.624	0.591
12478-PeCDD	32.67		0.9643	0.9646	+0.6	3.89E+05	1.64	Y	1.04	4.6	5496.624	0.591
12379-PeCDD	32.77	J EMPC	0.9673	0.9676	+0.6	2.04E+05	1.94	N	1.04	2.41	5496.624	0.591
12369/12467/12489-PeCDD	33.02		0.9750	0.9751	+0.2	3.99E+05	1.60	Y	1.04	4.71	5496.624	0.591
12346/12347-PeCDD	33.39	J EMPC	0.9858	0.9860	+0.4	1.20E+05	2.01	N	1.04	1.42	5496.624	0.591
12378-PeCDD	33.89		**1.0006**	**1.0006**	**0**	**1.05E+07**	**1.55**	**Y**	**1.04**	**125**	**5496.624**	**0.591**
12367-PeCDD	33.99		1.0033	1.0036	+0.6	2.96E+05	1.50	Y	1.04	3.5	5496.624	0.591
12389-PeCDD	34.32		1.0134	1.0135	+0.2	2.18E+06	1.50	Y	1.04	25.8	5496.624	0.591
124679/124689-HxCDD	36.04		0.9542	0.9542	0	8.34E+06	1.24	Y	1.10	96.6	6653.457	0.673
123468-HxCDD	36.69		0.9715	0.9714	-0.2	8.66E+05	1.32	Y	1.10	10	6653.457	0.673
123679/123689-HxCDD	36.99		0.9793	0.9793	0	4.67E+06	1.28	Y	1.10	54.1	6653.457	0.673
123469-HxCDD	37.13		0.9828	0.9829	+0.2	3.73E+05	1.40	Y	1.10	4.31	6653.457	0.673
123478-HxCDD	37.79		**1.0004**	**1.0004**	**0**	**8.77E+06**	**1.32**	**Y**	1.09	**107**	**6653.457**	**0.734**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**1.05E+07**	**1.27**	**Y**	1.15	**120**	**6653.457**	**0.668**
123467-HxCDD	38.08		1.0085	1.0080	-1.1	4.31E+05	1.31	Y	1.10	4.99	6653.457	0.673
123789-HxCDD	38.20		**1.0112**	**1.0113**	**+0.2**	**9.58E+06**	**1.26**	**Y**	1.05	**107**	**6653.457**	**0.625**

Lab ID: B6207_18874_DF_006MS | **Acq'd:** 03 Feb 2022 05:03 DTF | **Wt/Vol:** 10.01 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21-MS | **UTP:** 03-Feb-2022 13:42:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 152-625-DQK

Datafile: 220202C18 | **Report:** 03 Feb 2022 13:44 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

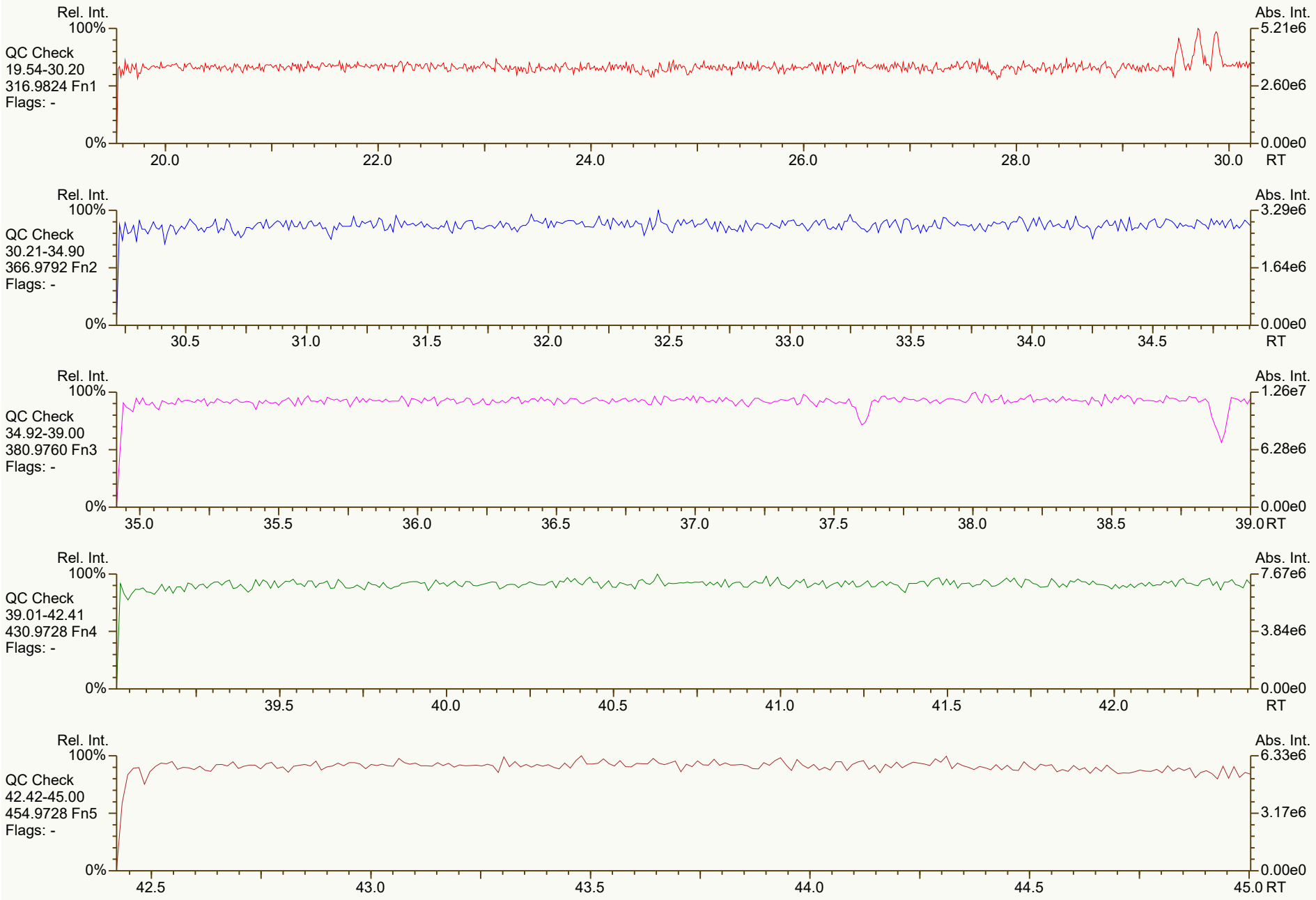
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9837	0.9836	-0.2	4.02E+07	1.05	Y	1.06	503	7273.16	0.728
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**3.74E+07**	**1.06**	**Y**	**1.06**	**467**	**7273.16**	**0.728**
OCDD	**43.53**		**1.0004**	**1.0003**	**-0.3**	**3.69E+08**	**0.91**	**Y**	**1.13**	**6,160**	**7528.899**	**1.43**
OCDD-a	43.53		1.0003	1.0002	-0.3	2.28E+07	2.61	Y	0.07	5,960	5159.283	15.3
1368-TCDF	22.84		0.8251	0.8248	-0.4	4.47E+06	0.79	Y	1.08	28.3	5097.594	0.366
1468-TCDF	23.42		0.8458	0.8459	+0.1	2.63E+06	0.76	Y	1.08	16.7	5097.594	0.366
2468-TCDF	24.05		0.8686	0.8687	+0.1	3.74E+06	0.75	Y	1.08	23.7	5097.594	0.366
1346/1246-TCDF	NotFnd		0.8814						1.08		5097.594	0.366
1347/1378/1247-TCDF	24.58		0.8867	0.8877	+1.5	1.50E+07	0.83	Y	1.08	94.8	5097.594	0.366
1348-TCDF	NotFnd		0.8962						1.08		5097.594	0.366
1248/1367/1379-TCDF	24.91		0.9009	0.8998	-1.6	6.17E+07	0.82	Y	1.08	391	5097.594	0.366
1268-TCDF	25.32		0.9145	0.9145	0	2.12E+07	0.82	Y	1.08	134	5097.594	0.366
1467-TCDF	25.45		0.9193	0.9193	0	3.09E+06	0.78	Y	1.08	19.6	5097.594	0.366
1478-TCDF	25.62		0.9254	0.9254	0	5.35E+07	0.81	Y	1.08	338	5097.594	0.366
1369/1237-TCDF	26.00		0.9387	0.9390	+0.5	1.41E+07	0.81	Y	1.08	89.1	5097.594	0.366
2467-TCDF	26.10		0.9433	0.9428	-0.8	1.88E+06	0.82	Y	1.08	11.9	5097.594	0.366
2368-TCDF	26.32		0.9489	0.9505	+2.5	1.03E+08	0.79	Y	1.08	649	5097.594	0.366
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		5097.594	0.366
1278-TCDF	26.81	E	0.9683	0.9682	-0.2	6.45E+08	0.80	Y	1.08	4,080	5097.594	0.366
1349-TCDF	NotFnd		0.9722						1.08		5097.594	0.366
1267-TCDF	27.08		0.9783	0.9782	-0.2	3.33E+07	0.79	Y	1.08	211	5097.594	0.366
2346/1249-TCDF	27.28		0.9850	0.9852	+0.3	3.79E+06	0.82	Y	1.08	24	5097.594	0.366
2347/1279-TCDF	27.48		0.9926	0.9925	-0.2	1.60E+07	0.81	Y	1.08	101	5097.594	0.366
2348-TCDF	27.59		0.9967	0.9965	-0.3	9.46E+07	0.78	Y	1.08	599	5097.594	0.366
2378-TCDF	**27.71**	E	**1.0008**	**1.0007**	**-0.2**	**1.42E+09**	**0.78**	**Y**	**1.08**	**8,990**	**5097.594**	**0.366**
2367/3467-TCDF	28.06		1.0137	1.0134	-0.5	1.08E+08	0.79	Y	1.08	686	5097.594	0.366
1269-TCDF	28.31		1.0223	1.0225	+0.3	2.07E+07	0.79	Y	1.08	131	5097.594	0.366
1239-TCDF	28.57		1.0321	1.0319	-0.3	1.71E+06	0.77	Y	1.08	10.8	5097.594	0.366
1289-TCDF	29.72		1.0722	1.0732	+1.8	9.82E+07	0.78	Y	1.08	621	5097.594	0.366
13468/12468-PeCDF	29.63		0.9139	0.9138	-0.2	2.67E+07	1.54	Y	1.02	200	3090.09	0.221
13678/13467/12467-PeCDF	31.19		0.9613	0.9620	+1.3	1.22E+06	1.60	Y	1.02	9.14	7913.312	0.565
12368/13478/12478-PeCDF	31.36		0.9662	0.9670	+1.5	4.40E+07	1.54	Y	1.02	329	7913.312	0.565
14678-PeCDF	NotFnd		0.9692						1.02		7913.312	0.565
13479-PeCDF	NotFnd		0.9723						1.02		7913.312	0.565
13469/12479-PeCDF	NotFnd		0.9797						1.02		7913.312	0.565
12346-PeCDF	NotFnd		0.9840						1.02		7913.312	0.565

Lab ID: B6207_18874_DF_006MS | **Acq'd:** 03 Feb 2022 05:03 DTF | **Wt/Vol:** 10.01 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

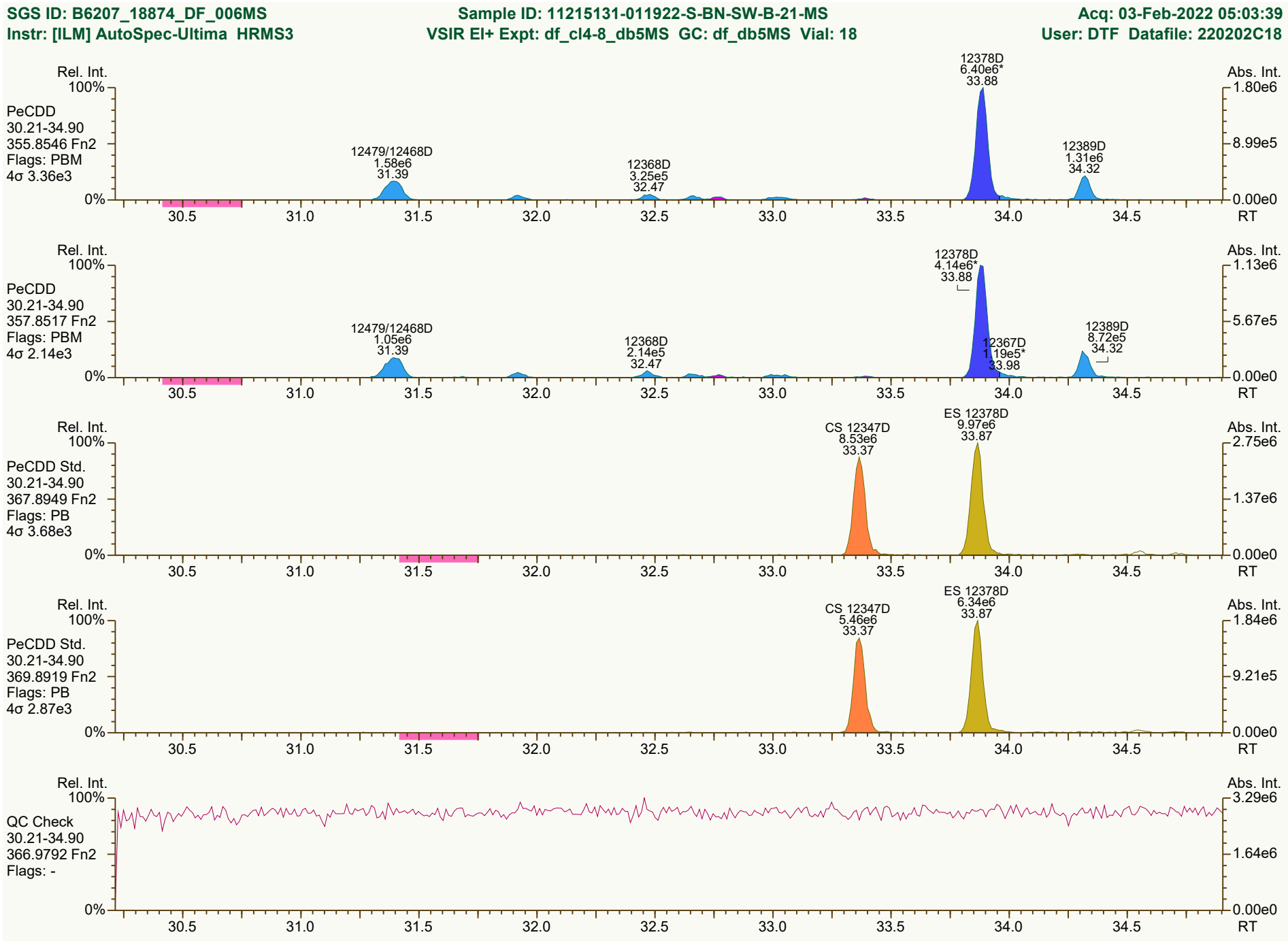
Client ID: 11215131-011922-S-BN-SW-B-21-MS | **UTP:** 03-Feb-2022 13:42:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 152-625-DQK

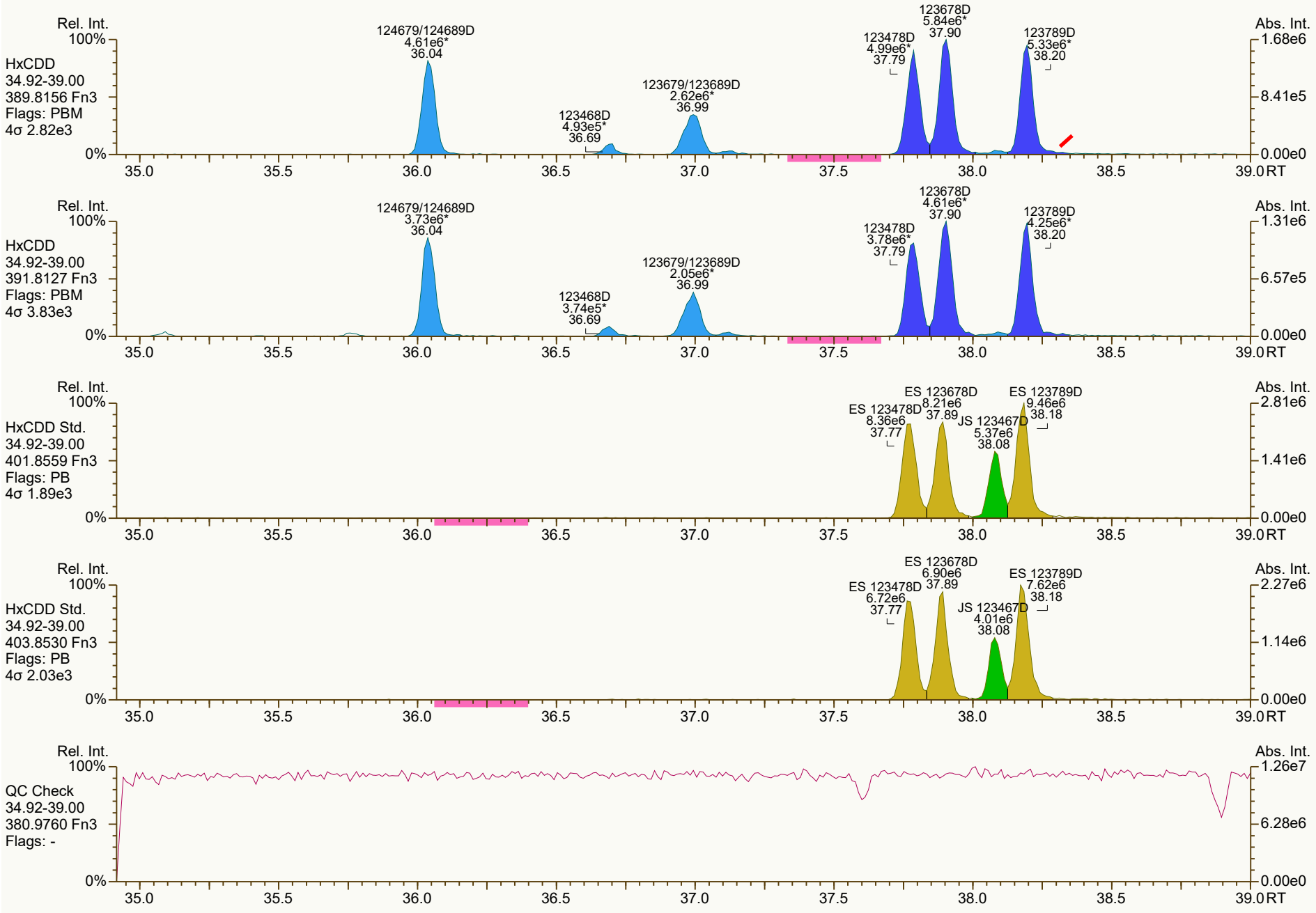
Datafile: 220202C18 | **Report:** 03 Feb 2022 13:44 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.99		0.9868	0.9866	-0.4	1.99E+06	1.46	Y	1.02	14.9	7913.312	0.565
12347-PeCDF	32.08		0.9894	0.9892	-0.4	1.01E+06	1.60	Y	1.02	7.58	7913.312	0.565
12348-PeCDF	32.23		0.9940	0.9940	0	7.14E+06	1.50	Y	1.02	53.5	7913.312	0.565
12378-PeCDF	**32.45**		**1.0005**	**1.0005**	**0**	**1.13E+08**	**1.52**	**Y**	**1.02**	**840**	**7913.312**	**0.547**
12678/12367-PeCDF	32.74		1.0089	1.0096	+1.4	3.04E+07	1.56	Y	1.02	227	7913.312	0.565
12379-PeCDF	NotFnd		1.0142						1.02		7913.312	0.565
12679-PeCDF	33.29	J	0.9929	0.9927	-0.4	2.34E+05	1.50	Y	1.02	1.75	7913.312	0.565
23467/12369-PeCDF	33.42		0.9967	0.9963	-0.8	8.61E+05	1.59	Y	1.02	6.45	7913.312	0.565
23478-PeCDF	**33.56**		**1.0005**	**1.0007**	**+0.4**	**7.43E+07**	**1.58**	**Y**	**1.02**	**561**	**7913.312**	**0.583**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7913.312	0.565
12349-PeCDF	NotFnd		1.0100						1.02		7913.312	0.565
12389-PeCDF	34.62		1.0324	1.0323	-0.2	5.80E+06	1.59	Y	1.02	43.5	7913.312	0.565
123468-HxCDF	35.40		0.9627	0.9629	+0.4	3.27E+07	1.28	Y	1.19	262	13351.272	0.892
124678/134678-HxCDF	35.59		0.9682	0.9682	0	2.00E+07	1.27	Y	1.19	160	13351.272	0.892
134679-HxCDF	NotFnd		0.9744						1.19		13351.272	0.892
124679-HxCDF	NotFnd		0.9798						1.19		13351.272	0.892
124689-HxCDF	36.24		0.9858	0.9858	0	1.24E+07	1.25	Y	1.19	99.3	13351.272	0.892
123467-HxCDF	36.66		0.9972	0.9971	-0.2	1.44E+06	1.29	Y	1.19	11.6	13351.272	0.892
123478-HxCDF	**36.78**		**1.0004**	**1.0005**	**+0.2**	**2.24E+08**	**1.27**	**Y**	**1.27**	**1,680**	**13351.272**	**0.809**
123678-HxCDF	**36.93**		**1.0004**	**1.0005**	**+0.2**	**6.75E+07**	**1.25**	**Y**	**1.15**	**500**	**13351.272**	**0.9**
123479-HxCDF	NotFnd		1.0049						1.19		13351.272	0.892
123469-HxCDF	37.23		1.0090	1.0089	-0.2	1.05E+06	1.29	Y	1.19	8.4	13351.272	0.892
123679-HxCDF	NotFnd		0.9942						1.19		13351.272	0.892
234678-HxCDF	**37.61**		**1.0005**	**1.0005**	**0**	**2.22E+07**	**1.26**	**Y**	**1.19**	**193**	**13351.272**	**0.999**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		13351.272	0.892
123789-HxCDF	**38.57**		**1.0004**	**1.0009**	**+1.2**	**2.78E+07**	**1.23**	**Y**	**1.16**	**240**	**13351.272**	**0.873**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		13351.272	0.892
1234678-HpCDF	**39.91**		**1.0003**	**1.0003**	**0**	**7.81E+07**	**1.02**	**Y**	**1.37**	**621**	**4126.928**	**0.238**
1234679-HpCDF	40.17		1.0068	1.0067	-0.2	1.90E+06	1.07	Y	1.34	17	4126.928	0.277
1234689-HpCDF	40.32		1.0103	1.0104	+0.2	2.61E+07	0.99	Y	1.34	234	4126.928	0.277
1234789-HpCDF	**41.31**		**1.0002**	**1.0004**	**+0.5**	**2.68E+07**	**1.00**	**Y**	**1.31**	**273**	**4126.928**	**0.324**
OCDF	**43.72**		**1.0003**	**1.0003**	**0**	**5.41E+08**	**0.88**	**Y**	**1.07**	**6,710**	**7772.523**	**1.13**
OCDF-a	43.72		1.0002	1.0003	+0.3	3.25E+07	2.53	Y	0.07	6,510	3584.202	8.43

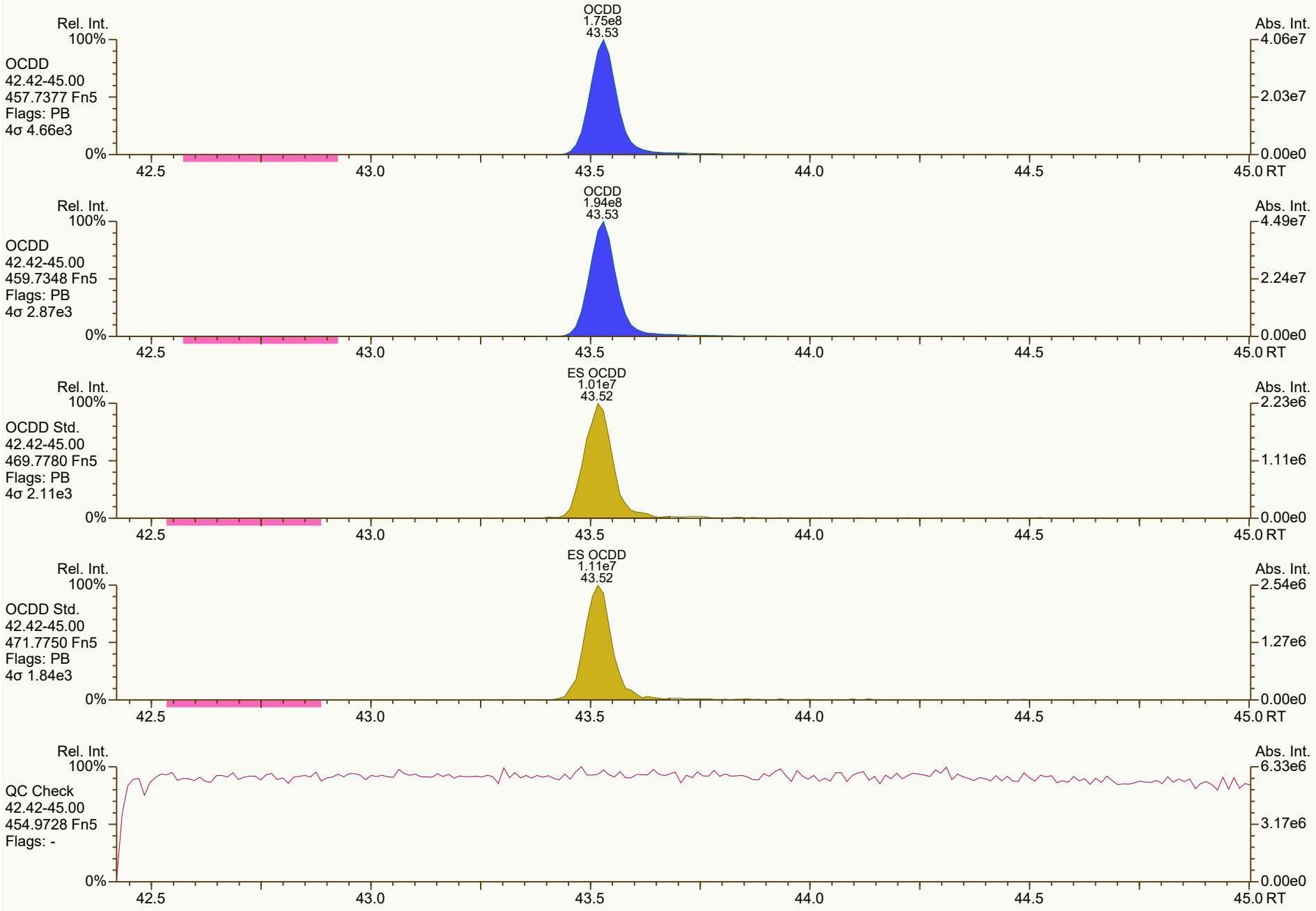

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.21e6
2.60e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.29e6
1.64e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.26e7
6.28e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.67e6
3.84e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.33e6
3.17e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.53e3
0%
2378D
1.56e8*
28.56
1278D
1.40e7*
28.89
Abs. Int.
3.85e7
1.92e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.36e3
0%
2378D
1.95e8*
28.56
1278D
1.75e7*
28.89
Abs. Int.
4.75e7
2.38e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
8.96e6
28.56
Abs. Int.
2.33e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.59e3
0%
JS 1234D
9.32e6
27.88
ES 2378D
8.21e6
28.54
Abs. Int.
2.28e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.24e3
0%
JS 1234D
1.13e7
27.89
ES 2378D
1.01e7
28.54
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

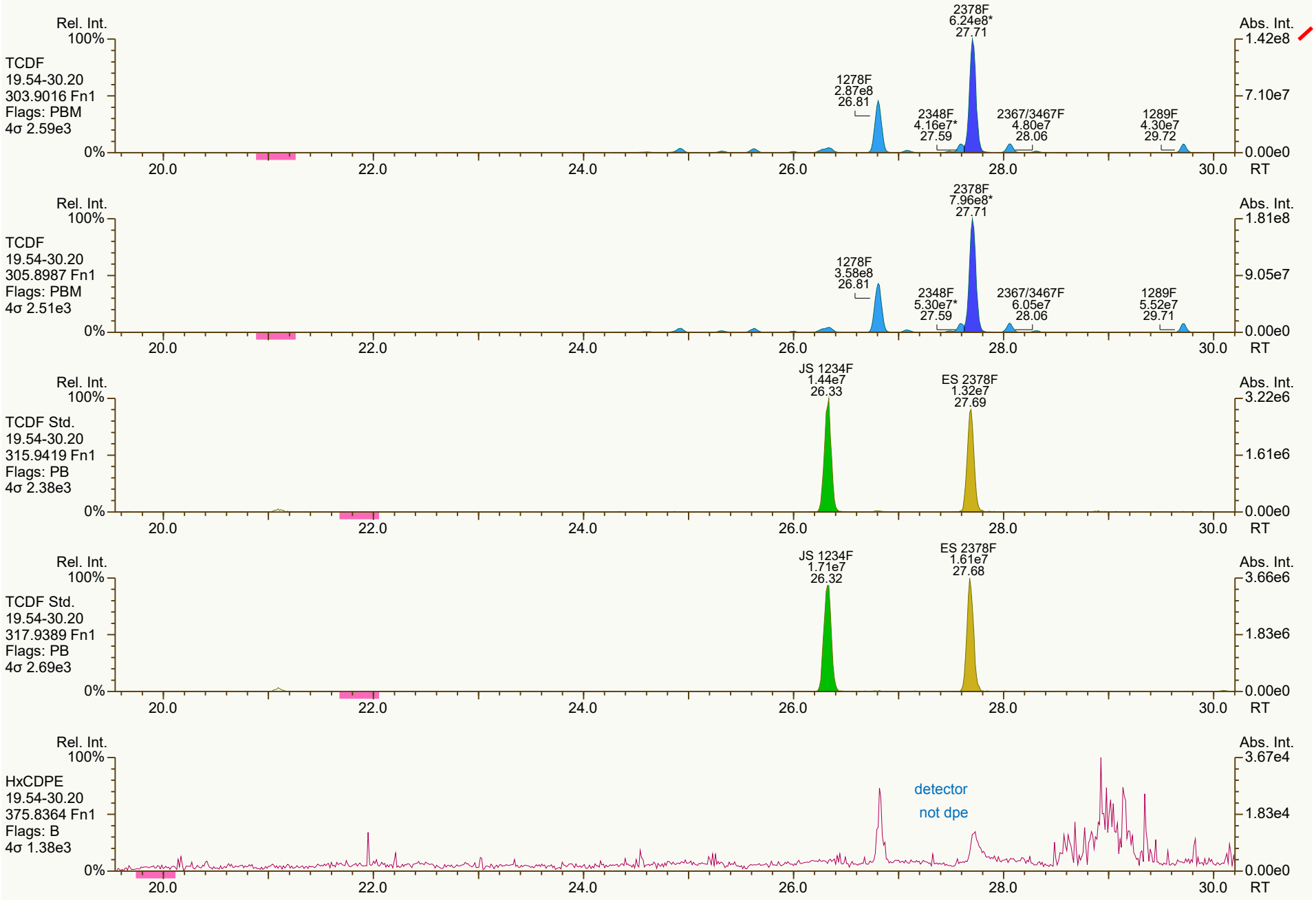

SGS ID: B6207_18874_DF_006MS
Sample ID: 11215131-011922-S-BN-SW-B-21-MS
Acq: 03-Feb-2022 05:03:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: DTF Datafile: 220202C18
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 3.36e3
12479/12468D
1.58e6
31.39
12368D
3.25e5
32.47
12378D
6.40e6*
33.88
12389D
1.31e6
34.32
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.14e3
12479/12468D
1.05e6
31.39
12368D
2.14e5
32.47
12378D
4.14e6*
33.88
12367D
1.19e5*
33.98
12389D
8.72e5
34.32
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.68e3
CS 12347D
8.53e6
33.37
ES 12378D
9.97e6
33.87
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.87e3
CS 12347D
5.46e6
33.37
ES 12378D
6.34e6
33.87
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MS.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5167, 7664 scc: 152-625
Revised: 03-Feb-2022 10:17 (DTF) Printed: 03-Feb-2022 13:51 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.82e3
124679/124689D
4.61e6*
36.04
123468D
4.93e5*
36.69
123679/123689D
2.62e6*
36.99
123478D
4.99e6*
37.79
123678D
5.84e6*
37.90
123789D
5.33e6*
38.20
Abs. Int.
1.68e6
8.41e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.83e3
124679/124689D
3.73e6*
36.04
123468D
3.74e5*
36.69
123679/123689D
2.05e6*
36.99
123478D
3.78e6*
37.79
123678D
4.61e6*
37.90
123789D
4.25e6*
38.20
Abs. Int.
1.31e6
6.57e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.89e3
ES 123478D
8.36e6
37.77
ES 123678D
8.21e6
37.89
JS 123467D
5.37e6
38.08
ES 123789D
9.46e6
38.18
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.03e3
ES 123478D
6.72e6
37.77
ES 123678D
6.90e6
37.89
JS 123467D
4.01e6
38.08
ES 123789D
7.62e6
38.18
Abs. Int.
2.27e6
1.14e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.26e7
6.28e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.82e3
1234679D
2.06e7*
40.17
1234678D
1.92e7
40.85
Abs. Int.
6.81e6
3.41e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 3.46e3
1234679D
1.97e7*
40.17
1234678D
1.81e7
40.85
Abs. Int.
6.44e6
3.22e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.71e3
ES 1234678D
7.91e6
40.84
Abs. Int.
2.47e6
1.24e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 4.75e3
ES 1234678D
7.16e6
40.84
Abs. Int.
2.07e6
1.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.67e6
3.84e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.75e8
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 4.66e3
0%
Abs. Int.
4.06e7
2.03e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.94e8
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.87e3
4.49e7
2.24e7
ES OCDD
1.01e7
43.52
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.11e3
2.23e6
1.11e6
ES OCDD
1.11e7
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.84e3
2.54e6
1.27e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.33e6
3.17e6

SGS ID: B6207_18874_DF_006MS
Sample ID: 11215131-011922-S-BN-SW-B-21-MS
Acq: 03-Feb-2022 05:03:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: DTF Datafile: 220202C18

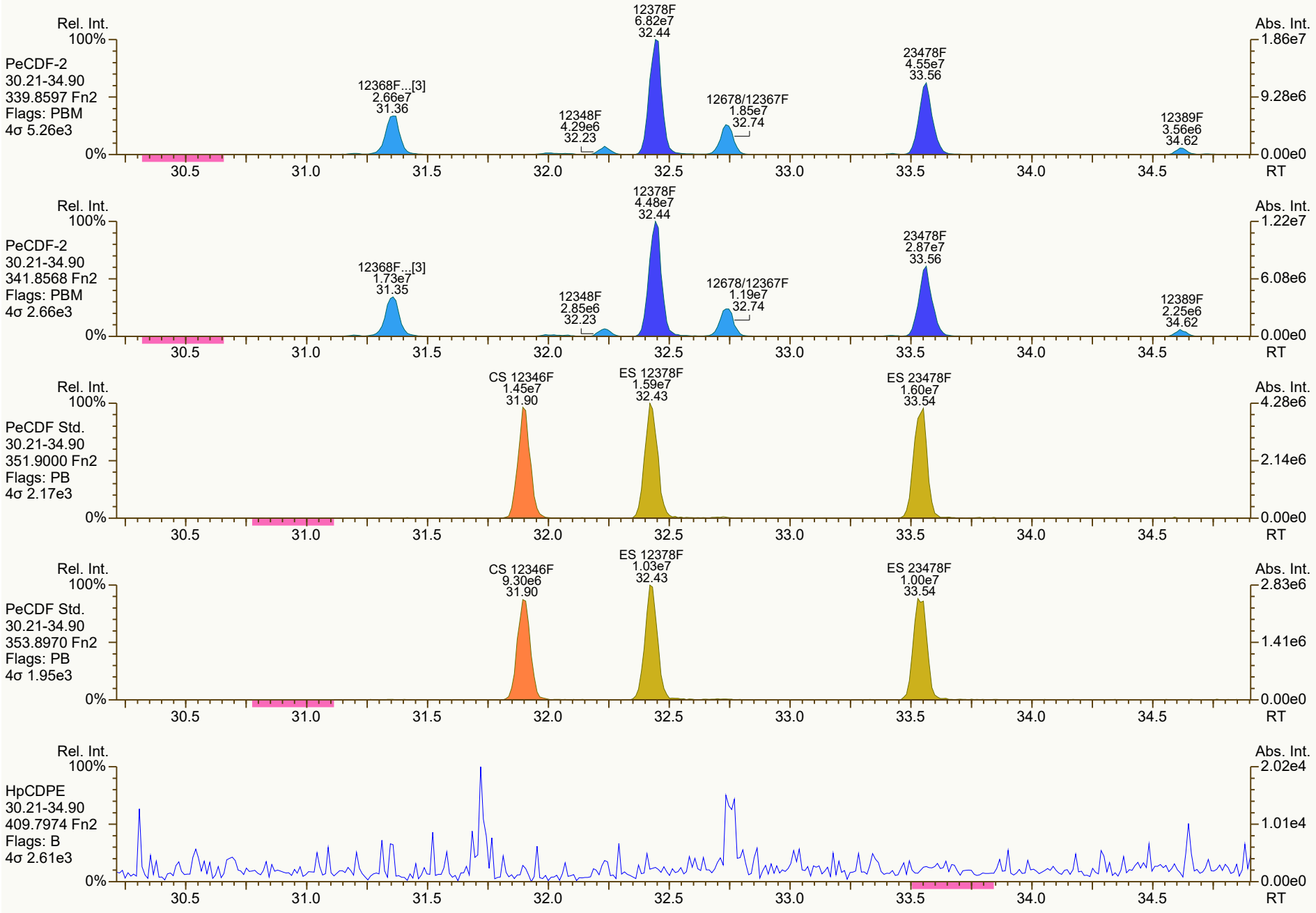


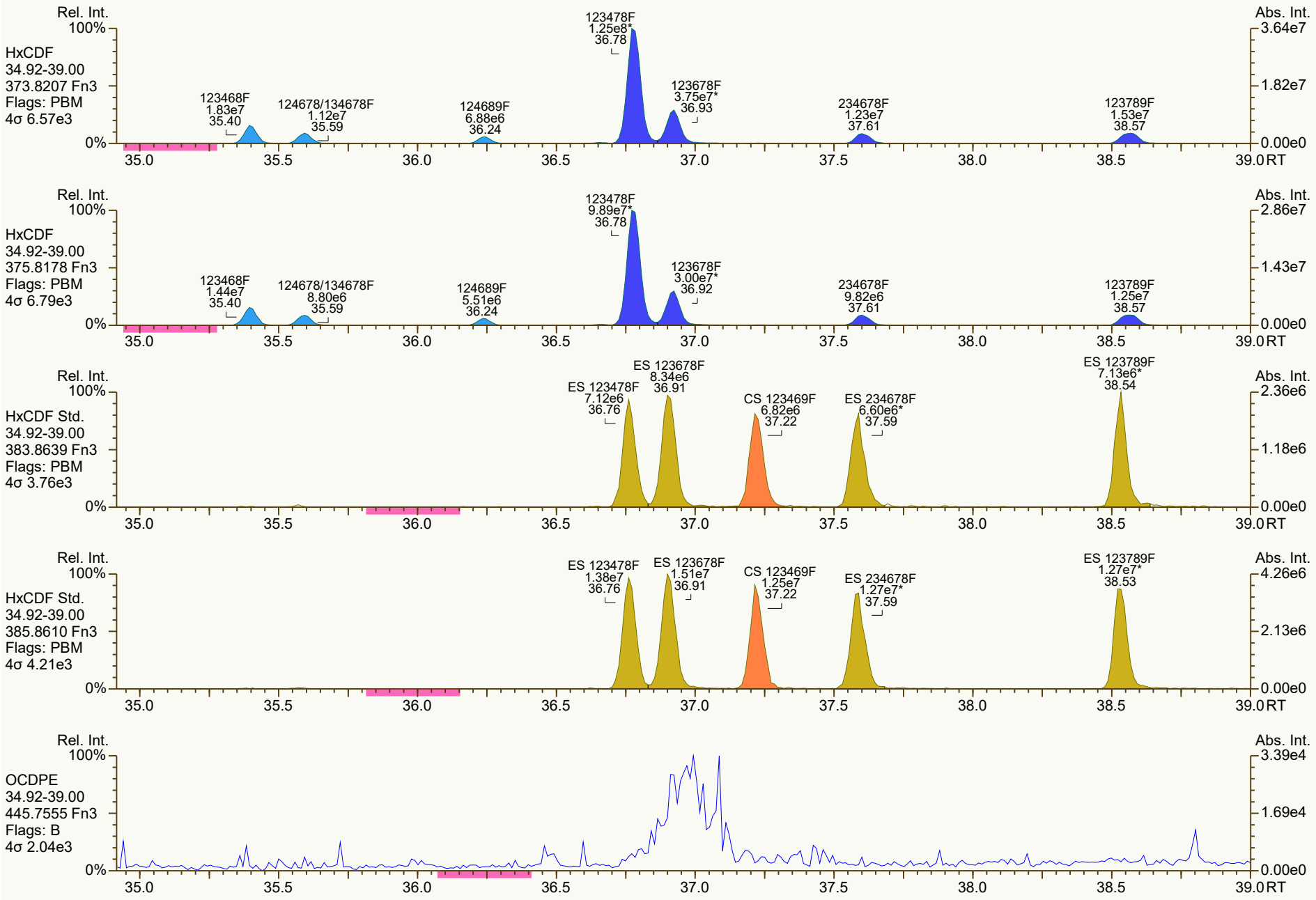
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MS.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0233, 8636, 2212 scc: 152-625
Revised: 03-Feb-2022 10:19 (DTF) Printed: 03-Feb-2022 13:52 Page 7 of 12

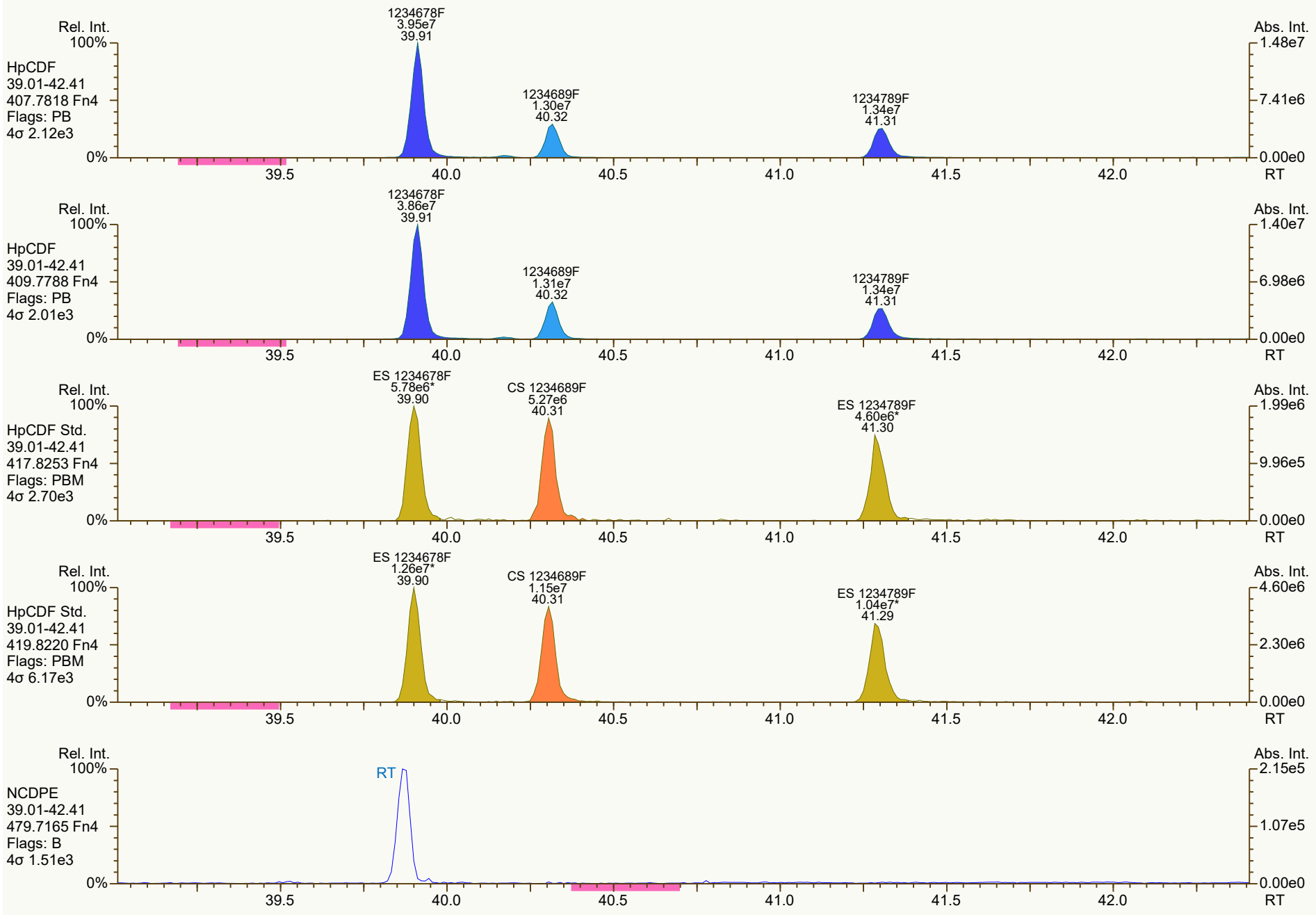
SGS ID: B6207_18874_DF_006MS
Sample ID: 11215131-011922-S-BN-SW-B-21-MS
Acq: 03-Feb-2022 05:03:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: DTF Datafile: 220202C18

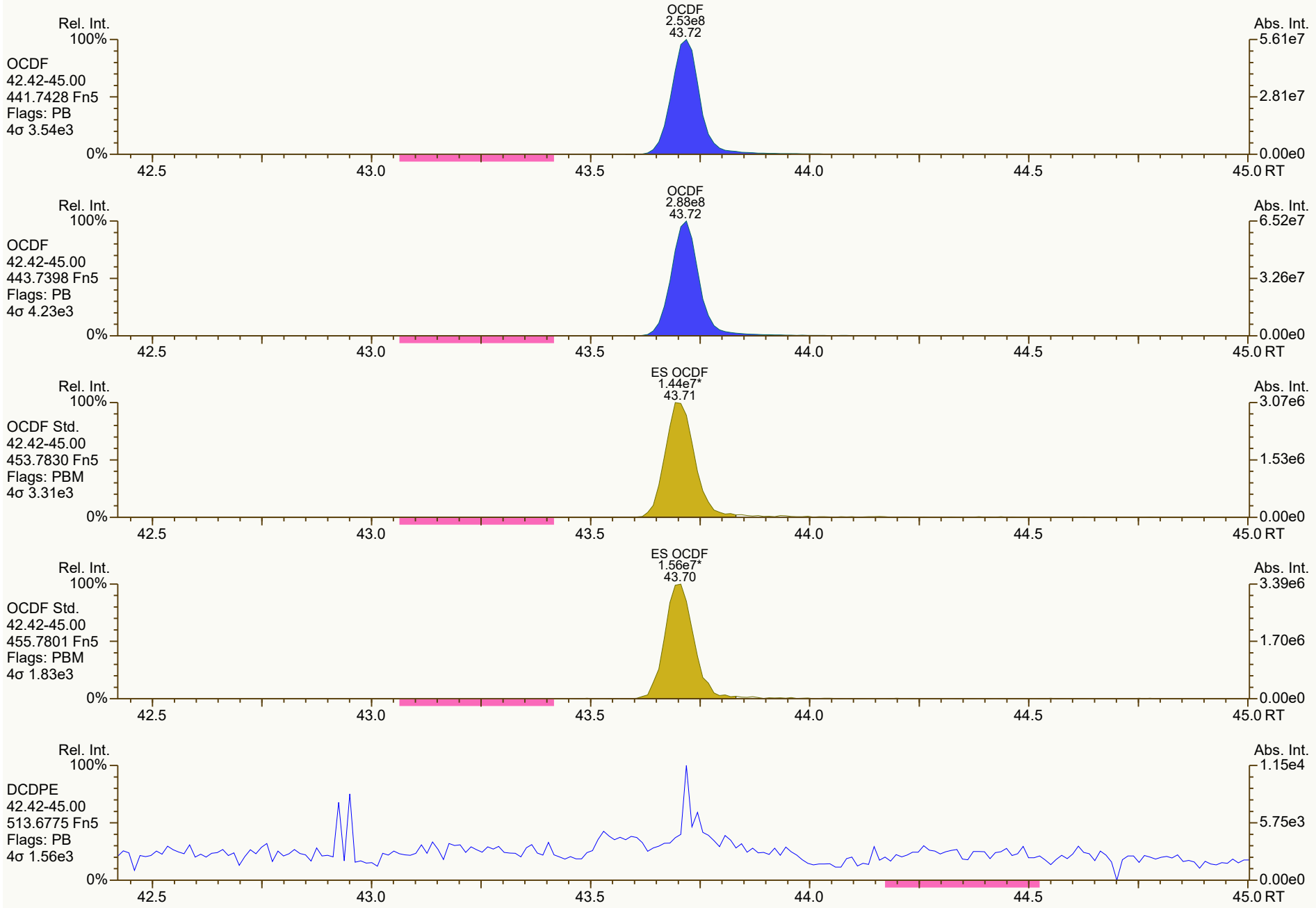


Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MS.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6327 scc: 152-625
PKD: 03-Feb-2022 10:16 Printed: 03-Feb-2022 13:52 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 5.26e3
0%
12368F...[3]
2.66e7
31.36
12348F
4.29e6
32.23
12378F
6.82e7
32.44
12678/12367F
1.85e7
32.74
23478F
4.55e7
33.56
12389F
3.56e6
34.62
Abs. Int.
1.86e7
9.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.66e3
0%
12368F...[3]
1.73e7
31.35
12348F
2.85e6
32.23
12378F
4.48e7
32.44
12678/12367F
1.19e7
32.74
23478F
2.87e7
33.56
12389F
2.25e6
34.62
Abs. Int.
1.22e7
6.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.17e3
0%
CS 12346F
1.45e7
31.90
ES 12378F
1.59e7
32.43
ES 23478F
1.60e7
33.54
Abs. Int.
4.28e6
2.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.95e3
0%
CS 12346F
9.30e6
31.90
ES 12378F
1.03e7
32.43
ES 23478F
1.00e7
33.54
Abs. Int.
2.83e6
1.41e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 2.61e3
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 6.57e3
123468F
1.83e7
35.40
124678/134678F
1.12e7
35.59
124689F
6.88e6
36.24
123478F
1.25e8*
36.78
123678F
3.75e7*
36.93
234678F
1.23e7
37.61
123789F
1.53e7
38.57
0%
Abs. Int.
3.64e7
1.82e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 6.79e3
123468F
1.44e7
35.40
124678/134678F
8.80e6
35.59
124689F
5.51e6
36.24
123478F
9.89e7*
36.78
123678F
3.00e7*
36.92
234678F
9.82e6
37.61
123789F
1.25e7
38.57
0%
Abs. Int.
2.86e7
1.43e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 3.76e3
ES 123478F
7.12e6
36.76
ES 123678F
8.34e6
36.91
CS 123469F
6.82e6
37.22
ES 234678F
6.60e6*
37.59
ES 123789F
7.13e6*
38.54
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 4.21e3
ES 123478F
1.38e7
36.76
ES 123678F
1.51e7
36.91
CS 123469F
1.25e7
37.22
ES 234678F
1.27e7*
37.59
ES 123789F
1.27e7*
38.53
0%
Abs. Int.
4.26e6
2.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 2.04e3
0%
Abs. Int.
3.39e4
1.69e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 2.12e3
1234678F
3.95e7
39.91
1234689F
1.30e7
40.32
1234789F
1.34e7
41.31
Abs. Int.
1.48e7
7.41e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.01e3
1234678F
3.86e7
39.91
1234689F
1.31e7
40.32
1234789F
1.34e7
41.31
Abs. Int.
1.40e7
6.98e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.70e3
ES 1234678F
5.78e6*
39.90
CS 1234689F
5.27e6
40.31
ES 1234789F
4.60e6*
41.30
Abs. Int.
1.99e6
9.96e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 6.17e3
ES 1234678F
1.26e7*
39.90
CS 1234689F
1.15e7
40.31
ES 1234789F
1.04e7*
41.29
Abs. Int.
4.60e6
2.30e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.51e3
RT
Abs. Int.
2.15e5
1.07e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 3.54e3
0%
OCDF
2.53e8
43.72
Abs. Int.
5.61e7
2.81e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 4.23e3
0%
OCDF
2.88e8
43.72
Abs. Int.
6.52e7
3.26e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 3.31e3
0%
ES OCDF
1.44e7*
43.71
Abs. Int.
3.07e6
1.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.83e3
0%
ES OCDF
1.56e7*
43.70
Abs. Int.
3.39e6
1.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.56e3
0%
Abs. Int.
1.15e4
5.75e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_006MSD **Acq'd:** 03 Feb 2022 05:49 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21-MSD **UTP:** 03-Feb-2022 13:45:53 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 244-146-BRL

Datafile: 220202C19 **Report:** 03 Feb 2022 13:46 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.55	E	1.0008	1.0008	0	3.75E+08	0.80	Y	1.18	4,000	4016.229	0.412
12378-PeCDD	33.87		1.0006	1.0005	-0.2	9.85E+06	1.68	Y	1.04	131	3286.136	0.4
123478-HxCDD	37.77		1.0004	1.0004	0	8.36E+06	1.24	Y	1.09	110	7007.49	0.83
123678-HxCDD	37.89		1.0035	1.0036	+0.2	1.02E+07	1.24	Y	1.15	120	7007.49	0.658
123789-HxCDD	38.18		1.0112	1.0112	0	8.90E+06	1.24	Y	1.05	107	7007.49	0.747
1234678-HpCDD	40.84		1.0003	1.0004	+0.2	3.43E+07	1.05	Y	1.06	471	6927.573	0.746
OCDD	43.52		1.0004	1.0003	-0.3	3.22E+08	0.91	Y	1.13	5,640	4939.331	0.9
2378-TCDF	27.70	E	1.0008	1.0008	0	1.52E+09	0.79	Y	1.08	11,100	4845.298	0.402
12378-PeCDF	32.43		1.0005	1.0005	0	9.03E+07	1.57	Y	1.02	755	7353.359	0.518
23478-PeCDF	33.55		1.0005	1.0007	+0.4	6.27E+07	1.57	Y	1.02	511	7353.359	0.53
123478-HxCDF	36.77		1.0004	1.0005	+0.2	1.68E+08	1.26	Y	1.27	1,420	10345.367	0.699
123678-HxCDF	36.91		1.0004	1.0005	+0.2	5.44E+07	1.24	Y	1.15	428	10345.367	0.722
234678-HxCDF	37.59		1.0005	1.0005	0	2.01E+07	1.28	Y	1.19	172	10345.367	0.847
123789-HxCDF	38.55		1.0004	1.0007	+0.7	2.13E+07	1.23	Y	1.16	213	10345.367	0.83
1234678-HpCDF	39.90		1.0003	1.0003	0	6.38E+07	1.02	Y	1.37	556	5497.697	0.357
1234789-HpCDF	41.30		1.0002	1.0003	+0.2	2.40E+07	1.04	Y	1.31	264	5497.697	0.467
OCDF	43.70		1.0003	1.0003	0	3.36E+08	0.89	Y	1.07	4,330	4179.485	0.604

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52	1.0236	1.0234	-0.3	1.57E+07	0.81	Y	1.05	81.7
ES 12378-PeCDD	33.85	1.2144	1.2145	+0.2	1.44E+07	1.54	Y	0.88	89.2
ES 123478-HxCDD	37.76	0.9920	0.9919	-0.2	1.38E+07	1.26	Y	0.97	84.1
ES 123678-HxCDD	37.87	0.9951	0.9950	-0.2	1.46E+07	1.28	Y	0.94	91.9
ES 123789-HxCDD	38.17	1.0027	1.0026	-0.2	1.58E+07	1.31	Y	1.09	85.9
ES 1234678-HpCDD	40.82	1.0724	1.0724	0	1.36E+07	1.09	Y	0.91	88.4
ES OCDD	43.51	1.1428	1.1430	+0.5	2.01E+07	0.88	Y	0.62	95.6
ES 2378-TCDF	27.67	1.0516	1.0517	+0.2	2.51E+07	0.81	Y	1.06	83.3
ES 12378-PeCDF	32.42	1.2312	1.2319	+1.4	2.31E+07	1.51	Y	0.91	89.1
ES 23478-PeCDF	33.53	1.2733	1.2742	+1.8	2.38E+07	1.56	Y	0.88	94.7
ES 123478-HxCDF	36.75	0.9655	0.9655	0	1.84E+07	0.53	Y	1.20	91.1
ES 123678-HxCDF	36.89	0.9692	0.9692	0	2.18E+07	0.53	Y	1.35	96
ES 234678-HxCDF	37.57	0.9871	0.9871	0	1.95E+07	0.53	Y	1.24	93.2
ES 123789-HxCDF	38.52	1.0121	1.0119	-0.5	1.70E+07	0.54	Y	1.16	87.4
ES 1234678-HpCDF	39.89	1.0479	1.0479	0	1.66E+07	0.43	Y	0.97	102
ES 1234789-HpCDF	41.28	1.0845	1.0845	0	1.38E+07	0.44	Y	0.85	96.2
ES OCDF	43.69	1.1477	1.1477	0	2.87E+07	0.93	Y	0.81	106

Lab ID: B6207_18874_DF_006MSD | **Acq'd:** 03 Feb 2022 05:49 DTF | **Wt/Vol:** 10.10 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21-MSD | **UTP:** 03-Feb-2022 13:45:53 DTF | **J-level:** 0.495 pg/g | **Split:** 1 | **Checkcode:** 244-146-BRL

Datafile: 220202C19 | **Report:** 03 Feb 2022 13:46 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.87		-	-	-	1.84E+07	0.79	Y	-	-	
JS 1234-TCDF	26.31		-	-	-	2.85E+07	0.83	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	8.41E+06	1.30	Y	-	-	
CS 37Cl-2378-TCDD	28.55		1.0244	1.0242	-0.3	7.00E+06	n/a	-	1.20	79.3	
CS 12347-PeCDD	33.35		1.1964	1.1967	+0.6	1.31E+07	1.57	Y	0.75	94.6	
CS 12346-PeCDF	31.89		1.2112	1.2119	+1.3	2.19E+07	1.61	Y	0.85	90.3	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	1.87E+07	0.55	Y	1.12	99.3	
CS 1234689-HpCDF	40.29		1.0584	1.0584	0	1.66E+07	0.47	Y	0.89	111	
~~SS 37Cl-2378-TCDD~~	~~28.55~~		~~1.0244~~	~~1.0242~~	~~-0.3~~	~~7.00E+06~~	~~n/a~~		~~1.15~~	~~97.~~2	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1967~~	~~+0.6~~	~~1.31E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~106~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.89~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~2.19E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~101~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.87E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~103~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0584~~	~~1.0584~~	~~0~~	~~1.66E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~109~~	

Totals	Conc	EMPC
Total TCDD	4560	4580
Total PeCDD	214	217
Total HxCDD	482	482
Total HpCDD	913	913
Total Tetra-Octa Dioxins	11800	11800
Total TCDF	21,400	21400
Total PeCDF	2,090	2090
Total HxCDF	2,720	2720
Total HpCDF	1,030	1030
Total Tetra-Octa Furans	31,600	31600
Total Tetra-Octa Dioxins & Furans	43400	43400

Lab ID: B6207_18874_DF_006MSD **Acq'd: 03 Feb 2022 05:49 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21-MSD **UTP: 03-Feb-2022 13:45:53 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 244-146-BRL**

Datafile: 220202C19 **Report: 03 Feb 2022 13:46 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.92		0.8737	0.8738	+0.1	3.71E+06	0.79	Y	1.18	39.5	4016.229	0.412
1379-TCDD	25.27		0.8860	0.8858	-0.3	2.72E+05	0.86	Y	1.18	2.9	4016.229	0.412
1369-TCDD	NotFnd		0.9009						1.18		4016.229	0.412
1469-TCDD	26.47		0.9281	0.9279	-0.3	3.83E+05	0.75	Y	1.18	4.08	4016.229	0.412
1247/1246/1248/1249-TCDD	26.70		0.9362	0.9361	-0.2	6.88E+05	0.76	Y	1.18	7.33	4016.229	0.412
1378-TCDD	26.90	EMPC	0.9432	0.9429	-0.5	1.12E+06	0.89	N	1.18	12	4016.229	0.412
1268-TCDD	NotFnd		0.9500						1.18		4016.229	0.412
1478-TCDD	27.35		0.9586	0.9588	+0.3	1.07E+06	0.80	Y	1.18	11.4	4016.229	0.412
1279-TCDD	27.51	EMPC	0.9645	0.9643	-0.3	8.00E+04	0.90	N	1.18	0.852	4016.229	0.412
1234/1269-TCDD	27.87		0.9770	0.9772	+0.3	2.83E+05	0.75	Y	1.18	3.01	4016.229	0.412
1236-TCDD	28.02	EMPC	0.9817	0.9824	+1.2	8.26E+04	1.01	N	1.18	0.88	4016.229	0.412
1237/1238-TCDD	28.26		0.9905	0.9907	+0.3	6.04E+06	0.83	Y	1.18	64.3	4016.229	0.412
1239-TCDD	28.39		0.9952	0.9953	+0.2	2.11E+06	0.84	Y	1.18	22.4	4016.229	0.412
2378-TCDD	**28.55**	E	**1.0008**	1.0008	**0**	3.75E+08	0.80	Y	**1.18**	**4,000**	**4016.229**	**0.412**
1278-TCDD	28.88		1.0121	1.0123	+0.3	3.36E+07	0.81	Y	1.18	358	4016.229	0.412
1267-TCDD	29.02		1.0167	1.0173	+1.0	1.04E+06	0.86	Y	1.18	11	4016.229	0.412
1289-TCDD	29.53		1.0345	1.0351	+1.1	3.68E+06	0.79	Y	1.18	39.2	4016.229	0.412
12479/12468-PeCDD	31.38		0.9267	0.9271	+0.8	2.48E+06	1.48	Y	1.04	32.9	3286.136	0.4
12469-PeCDD	31.91	EMPC	0.9425	0.9427	+0.4	2.43E+05	1.28	N	1.04	3.22	3286.136	0.4
12368-PeCDD	32.46		0.9588	0.9589	+0.2	5.08E+05	1.71	Y	1.04	6.75	3286.136	0.4
12478-PeCDD	32.65		0.9643	0.9646	+0.6	3.31E+05	1.34	Y	1.04	4.39	3286.136	0.4
12379-PeCDD	32.76		0.9673	0.9677	+0.8	2.08E+05	1.53	Y	1.04	2.76	3286.136	0.4
12369/12467/12489-PeCDD	33.01		0.9750	0.9752	+0.4	2.97E+05	1.49	Y	1.04	3.95	3286.136	0.4
12346/12347-PeCDD	33.37	J	0.9858	0.9859	+0.2	1.31E+05	1.59	Y	1.04	1.74	3286.136	0.4
12378-PeCDD	33.87		**1.0006**	**1.0005**	**-0.2**	**9.85E+06**	**1.68**	**Y**	**1.04**	**131**	**3286.136**	**0.4**
12367-PeCDD	33.97		1.0033	1.0036	+0.6	2.09E+05	1.56	Y	1.04	2.77	3286.136	0.4
12389-PeCDD	34.31		1.0134	1.0135	+0.2	2.09E+06	1.61	Y	1.04	27.7	3286.136	0.4
124679/124689-HxCDD	36.03		0.9542	0.9543	+0.2	6.87E+06	1.26	Y	1.10	84.4	7007.49	0.741
123468-HxCDD	36.68		0.9715	0.9716	+0.2	6.09E+05	1.22	Y	1.10	7.48	7007.49	0.741
123679/123689-HxCDD	36.98		0.9793	0.9794	+0.2	3.80E+06	1.28	Y	1.10	46.7	7007.49	0.741
123469-HxCDD	37.11		0.9828	0.9829	+0.2	2.36E+05	1.21	Y	1.10	2.89	7007.49	0.741
123478-HxCDD	37.77		**1.0004**	**1.0004**	**0**	**8.36E+06**	**1.24**	**Y**	1.09	**110**	**7007.49**	**0.83**
123678-HxCDD	37.89		**1.0035**	**1.0036**	**+0.2**	**1.02E+07**	**1.24**	**Y**	1.15	**120**	**7007.49**	**0.658**
123467-HxCDD	38.07		1.0085	1.0082	-0.7	2.65E+05	1.21	Y	1.10	3.25	7007.49	0.741
123789-HxCDD	38.18		**1.0112**	**1.0112**	**0**	**8.90E+06**	**1.24**	**Y**	1.05	**107**	**7007.49**	**0.747**

Lab ID: B6207_18874_DF_006MSD | **Acq'd:** 03 Feb 2022 05:49 DTF | **Wt/Vol:** 10.10 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21-MSD | **UTP:** 03-Feb-2022 13:45:53 DTF | **J-level:** 0.495 pg/g | **Split:** 1 | **Checkcode:** 244-146-BRL

Datafile: 220202C19 | **Report:** 03 Feb 2022 13:46 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

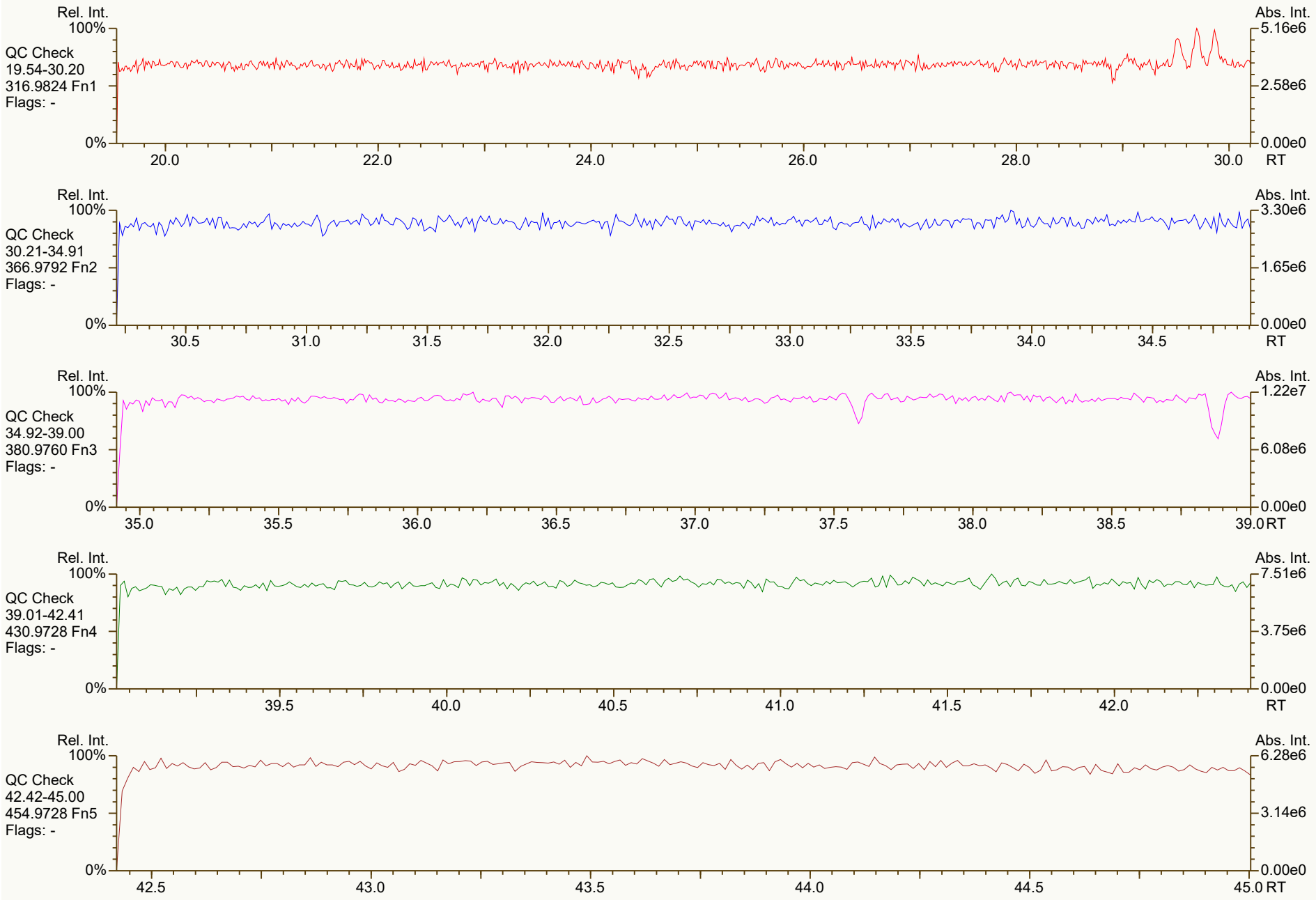
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	3.21E+07	1.02	Y	1.06	441	6927.573	0.746
1234678-HpCDD	**40.84**		**1.0003**	**1.0004**	**+0.2**	**3.43E+07**	**1.05**	**Y**	**1.06**	**471**	**6927.573**	**0.746**
OCDD	**43.52**		**1.0004**	**1.0003**	**-0.3**	**3.22E+08**	**0.91**	**Y**	**1.13**	**5,640**	**4939.331**	**0.9**
OCDD-a	43.51		1.0003	1.0001	-0.5	1.90E+07	2.64	Y	0.07	5,210	4301.679	12.3
1368-TCDF	22.82		0.8251	0.8246	-0.7	3.98E+06	0.81	Y	1.08	29.1	4845.298	0.402
1468-TCDF	23.41		0.8458	0.8458	0	2.56E+06	0.79	Y	1.08	18.7	4845.298	0.402
2468-TCDF	24.04		0.8686	0.8686	0	3.15E+06	0.76	Y	1.08	23	4845.298	0.402
1346/1246-TCDF	NotFnd		0.8814						1.08		4845.298	0.402
1347/1378/1247-TCDF	24.57		0.8867	0.8877	+1.5	1.65E+07	0.79	Y	1.08	120	4845.298	0.402
1348-TCDF	NotFnd		0.8962						1.08		4845.298	0.402
1248/1367/1379-TCDF	24.90		0.9009	0.8998	-1.6	6.56E+07	0.77	Y	1.08	479	4845.298	0.402
1268-TCDF	25.31		0.9145	0.9145	0	2.18E+07	0.78	Y	1.08	159	4845.298	0.402
1467-TCDF	25.44		0.9193	0.9193	0	3.10E+06	0.83	Y	1.08	22.7	4845.298	0.402
1478-TCDF	25.61		0.9254	0.9254	0	5.45E+07	0.82	Y	1.08	398	4845.298	0.402
1369/1237-TCDF	25.99		0.9387	0.9390	+0.5	1.56E+07	0.79	Y	1.08	114	4845.298	0.402
2467-TCDF	26.10		0.9433	0.9432	-0.2	1.70E+06	0.78	Y	1.08	12.4	4845.298	0.402
2368-TCDF	26.30		0.9489	0.9504	+2.4	1.09E+08	0.79	Y	1.08	798	4845.298	0.402
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		4845.298	0.402
1278-TCDF	26.79	E	0.9683	0.9682	-0.2	6.91E+08	0.79	Y	1.08	5,040	4845.298	0.402
1349-TCDF	NotFnd		0.9722						1.08		4845.298	0.402
1267-TCDF	27.07		0.9783	0.9781	-0.3	3.45E+07	0.79	Y	1.08	252	4845.298	0.402
2346/1249-TCDF	27.26		0.9850	0.9852	+0.3	4.12E+06	0.81	Y	1.08	30	4845.298	0.402
2347/1279-TCDF	27.46		0.9926	0.9923	-0.5	1.51E+07	0.78	Y	1.08	110	4845.298	0.402
2348-TCDF	27.58		0.9967	0.9967	0	1.19E+08	0.78	Y	1.08	868	4845.298	0.402
2378-TCDF	**27.70**	E	**1.0008**	**1.0008**	**0**	**1.52E+09**	**0.79**	**Y**	**1.08**	**11,100**	**4845.298**	**0.402**
2367/3467-TCDF	28.05		1.0137	1.0135	-0.3	1.16E+08	0.80	Y	1.08	849	4845.298	0.402
1269-TCDF	28.30		1.0223	1.0225	+0.3	2.25E+07	0.78	Y	1.08	164	4845.298	0.402
1239-TCDF	28.55		1.0321	1.0317	-0.7	1.78E+06	0.77	Y	1.08	13	4845.298	0.402
1289-TCDF	29.70		1.0722	1.0733	+2.0	1.08E+08	0.78	Y	1.08	789	4845.298	0.402
13468/12468-PeCDF	29.62		0.9139	0.9138	-0.2	2.51E+07	1.55	Y	1.02	208	3722.948	0.265
13678/13467/12467-PeCDF	31.18		0.9613	0.9619	+1.1	1.02E+06	1.56	Y	1.02	8.4	7353.359	0.524
12368/13478/12478-PeCDF	31.34		0.9662	0.9670	+1.5	3.59E+07	1.57	Y	1.02	296	7353.359	0.524
14678-PeCDF	NotFnd		0.9692						1.02		7353.359	0.524
13479-PeCDF	NotFnd		0.9723						1.02		7353.359	0.524
13469/12479-PeCDF	NotFnd		0.9797						1.02		7353.359	0.524
12346-PeCDF	NotFnd		0.9840						1.02		7353.359	0.524

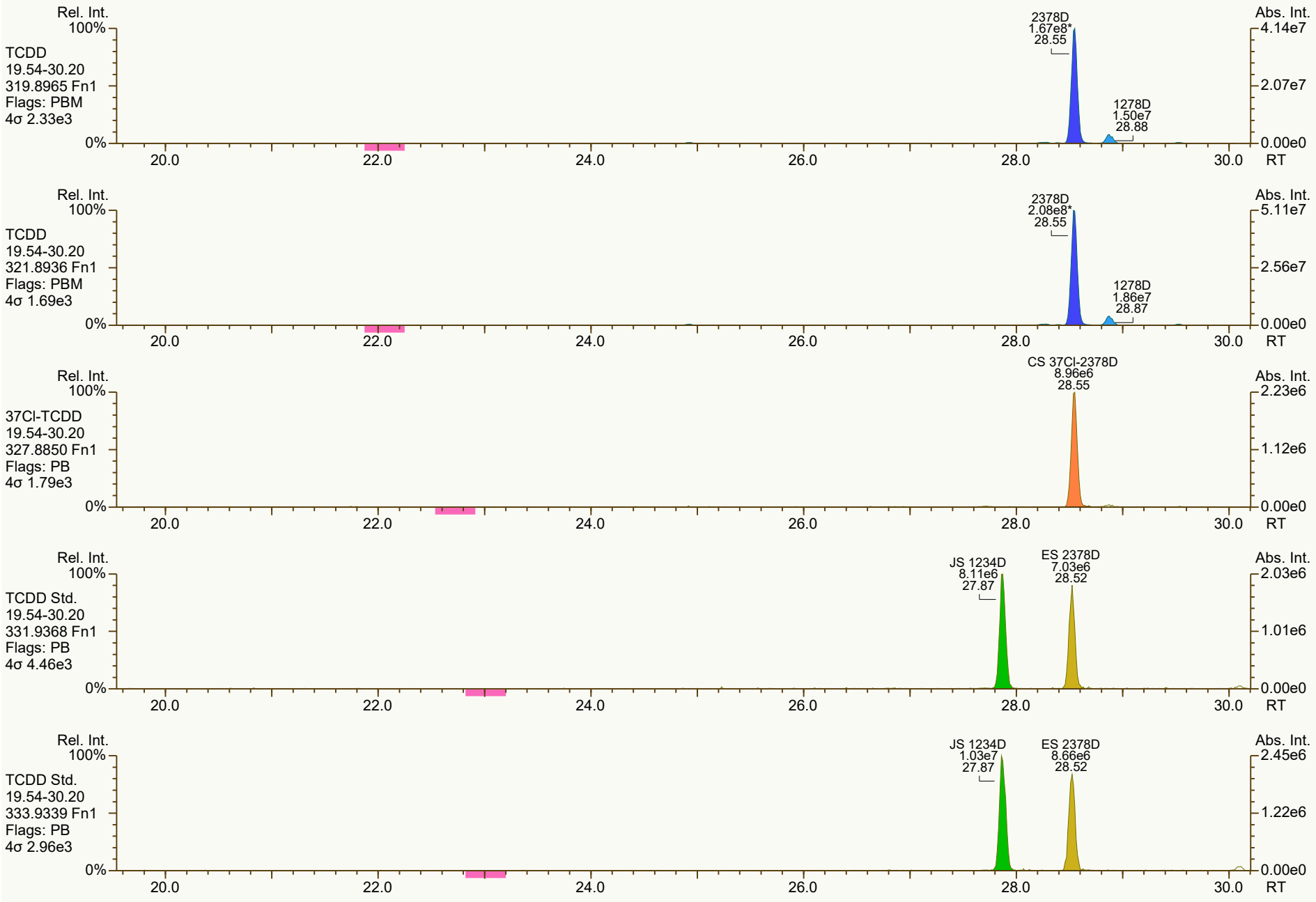
Lab ID: B6207_18874_DF_006MSD | **Acq'd: 03 Feb 2022 05:49 DTF** | **Wt/Vol: 10.10 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21-MSD | **UTP: 03-Feb-2022 13:45:53 DTF** | **J-level: 0.495 pg/g** | **Split: 1** | **Checkcode: 244-146-BRL**

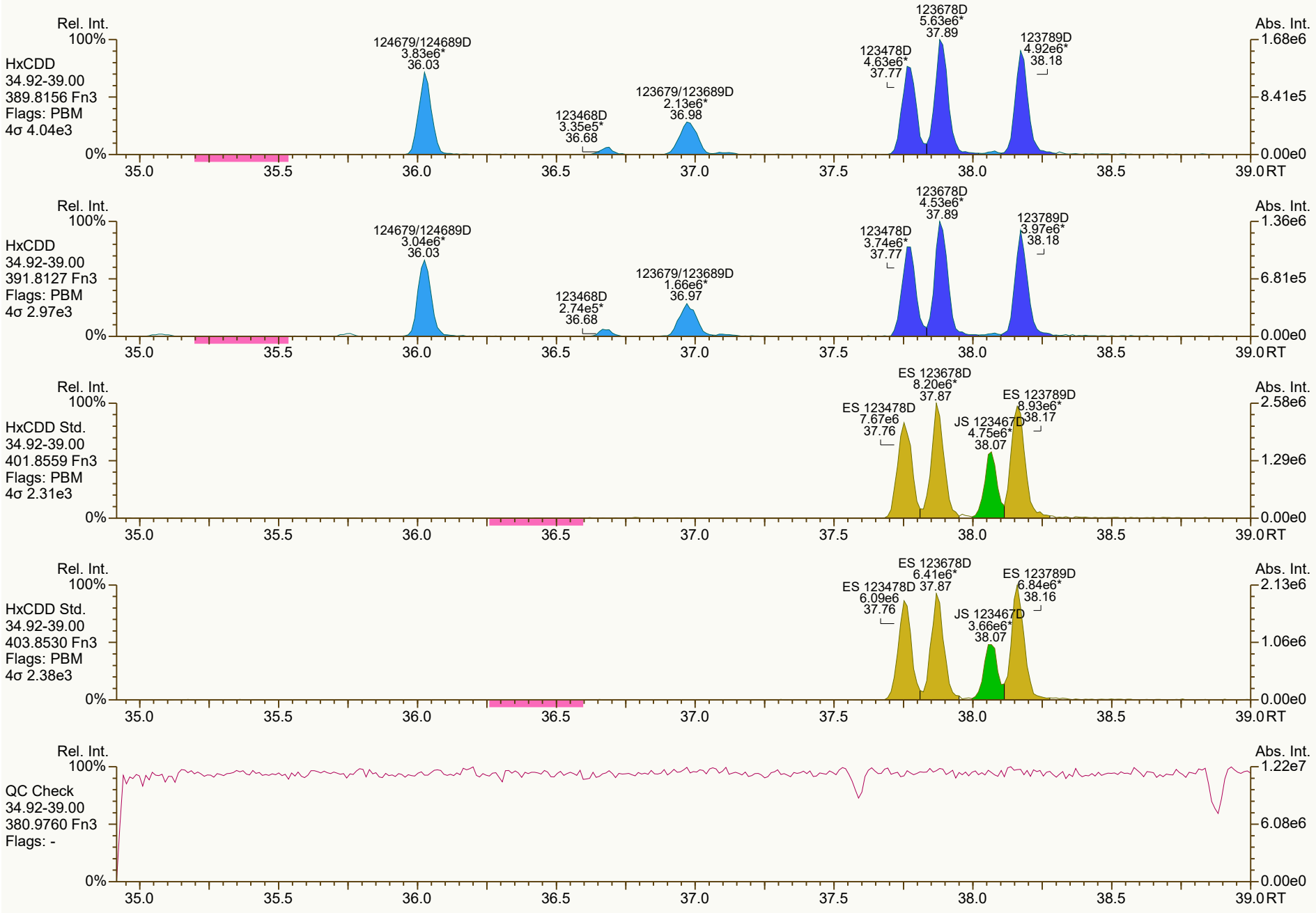
Datafile: 220202C19 | **Report: 03 Feb 2022 13:46 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

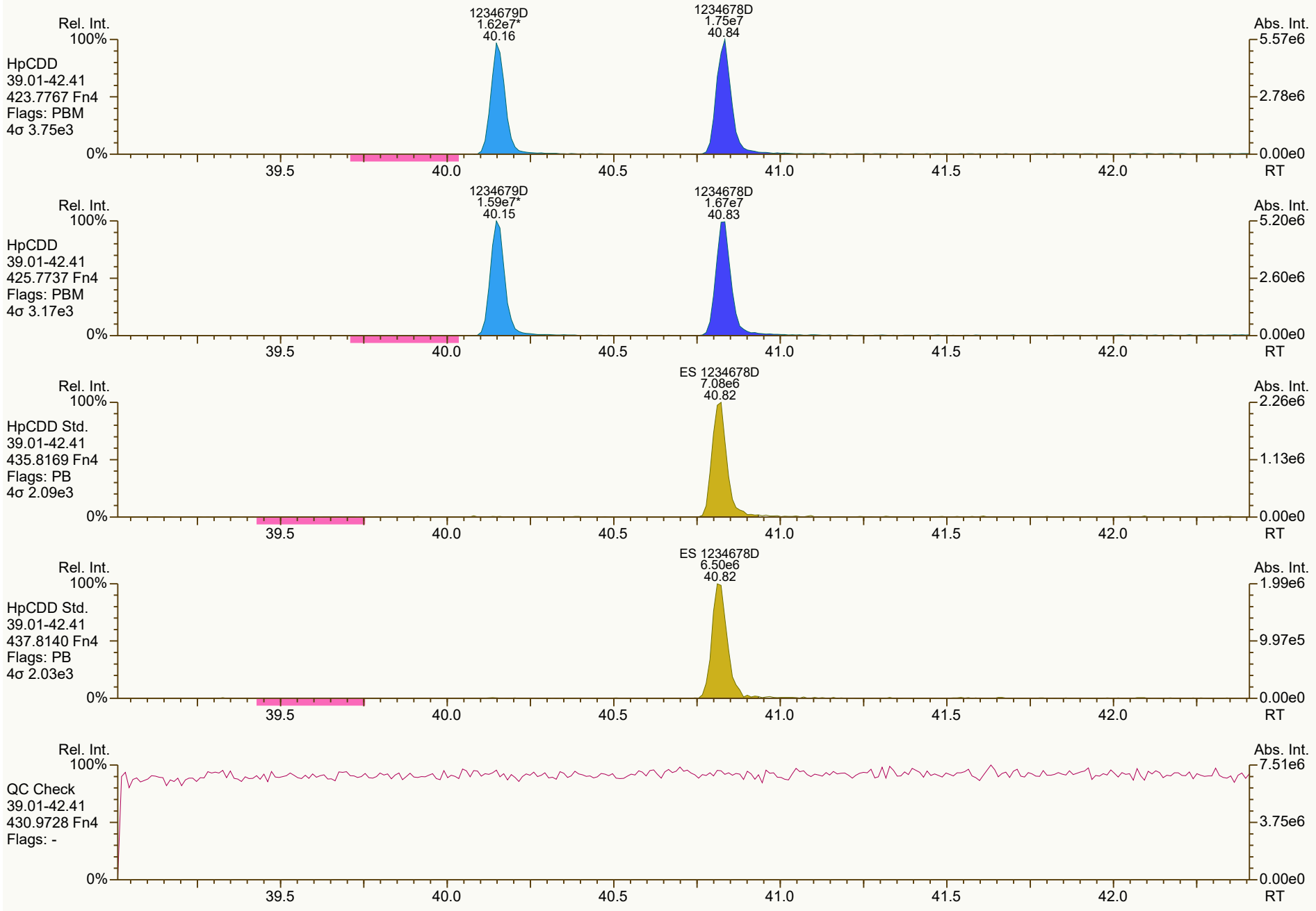
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.98		0.9868	0.9866	-0.4	1.55E+06	1.50	Y	1.02	12.8	7353.359	0.524
12347-PeCDF	32.06		0.9894	0.9891	-0.6	1.08E+06	1.49	Y	1.02	8.94	7353.359	0.524
12348-PeCDF	32.22		0.9940	0.9941	+0.2	5.75E+06	1.56	Y	1.02	47.5	7353.359	0.524
12378-PeCDF	**32.43**		**1.0005**	**1.0005**	**0**	**9.03E+07**	**1.57**	**Y**	**1.02**	**755**	**7353.359**	**0.518**
12678/12367-PeCDF	32.73		1.0089	1.0096	+1.4	2.29E+07	1.55	Y	1.02	189	7353.359	0.524
12379-PeCDF	NotFnd		1.0142						1.02		7353.359	0.524
12679-PeCDF	33.28	J	0.9929	0.9926	-0.6	1.83E+05	1.43	Y	1.02	1.51	7353.359	0.524
23467/12369-PeCDF	33.41		0.9967	0.9964	-0.6	7.53E+05	1.47	Y	1.02	6.22	7353.359	0.524
23478-PeCDF	**33.55**		**1.0005**	**1.0007**	**+0.4**	**6.27E+07**	**1.57**	**Y**	**1.02**	**511**	**7353.359**	**0.53**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7353.359	0.524
12349-PeCDF	NotFnd		1.0100						1.02		7353.359	0.524
12389-PeCDF	34.60		1.0324	1.0321	-0.6	5.10E+06	1.54	Y	1.02	42.1	7353.359	0.524
123468-HxCDF	35.39		0.9627	0.9629	+0.4	3.18E+07	1.24	Y	1.19	275	10345.367	0.77
124678/134678-HxCDF	35.58		0.9682	0.9682	0	1.45E+07	1.24	Y	1.19	125	10345.367	0.77
134679-HxCDF	NotFnd		0.9744						1.19		10345.367	0.77
124679-HxCDF	36.01		0.9798	0.9797	-0.2	3.20E+05	1.25	Y	1.19	2.77	10345.367	0.77
124689-HxCDF	36.23		0.9858	0.9859	+0.2	8.74E+06	1.25	Y	1.19	75.6	10345.367	0.77
123467-HxCDF	36.65		0.9972	0.9971	-0.2	9.41E+05	1.16	Y	1.19	8.14	10345.367	0.77
123478-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**1.68E+08**	**1.26**	**Y**	**1.27**	**1,420**	**10345.367**	**0.699**
123678-HxCDF	**36.91**		**1.0004**	**1.0005**	**+0.2**	**5.44E+07**	**1.24**	**Y**	**1.15**	**428**	**10345.367**	**0.722**
123479-HxCDF	NotFnd		1.0049						1.19		10345.367	0.77
123469-HxCDF	NotFnd		1.0090						1.19		10345.367	0.77
123679-HxCDF	NotFnd		0.9942						1.19		10345.367	0.77
234678-HxCDF	**37.59**		**1.0005**	**1.0005**	**0**	**2.01E+07**	**1.28**	**Y**	**1.19**	**172**	**10345.367**	**0.847**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10345.367	0.77
123789-HxCDF	**38.55**		**1.0004**	**1.0007**	**+0.7**	**2.13E+07**	**1.23**	**Y**	**1.16**	**213**	**10345.367**	**0.83**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		10345.367	0.77
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**6.38E+07**	**1.02**	**Y**	**1.37**	**556**	**5497.697**	**0.357**
1234679-HpCDF	40.16		1.0068	1.0067	-0.2	1.58E+06	1.07	Y	1.34	15.4	5497.697	0.407
1234689-HpCDF	40.30		1.0103	1.0103	0	2.05E+07	1.00	Y	1.34	199	5497.697	0.407
1234789-HpCDF	**41.30**		**1.0002**	**1.0003**	**+0.2**	**2.40E+07**	**1.04**	**Y**	**1.31**	**264**	**5497.697**	**0.467**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**3.36E+08**	**0.89**	**Y**	**1.07**	**4,330**	**4179.485**	**0.604**
OCDF-a	43.70		1.0002	1.0002	0	2.10E+07	2.40	Y	0.07	4,360	3636.86	8.49


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.16e6
2.58e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.30e6
1.65e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.22e7
6.08e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.51e6
3.75e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.28e6
3.14e6
0.00e0

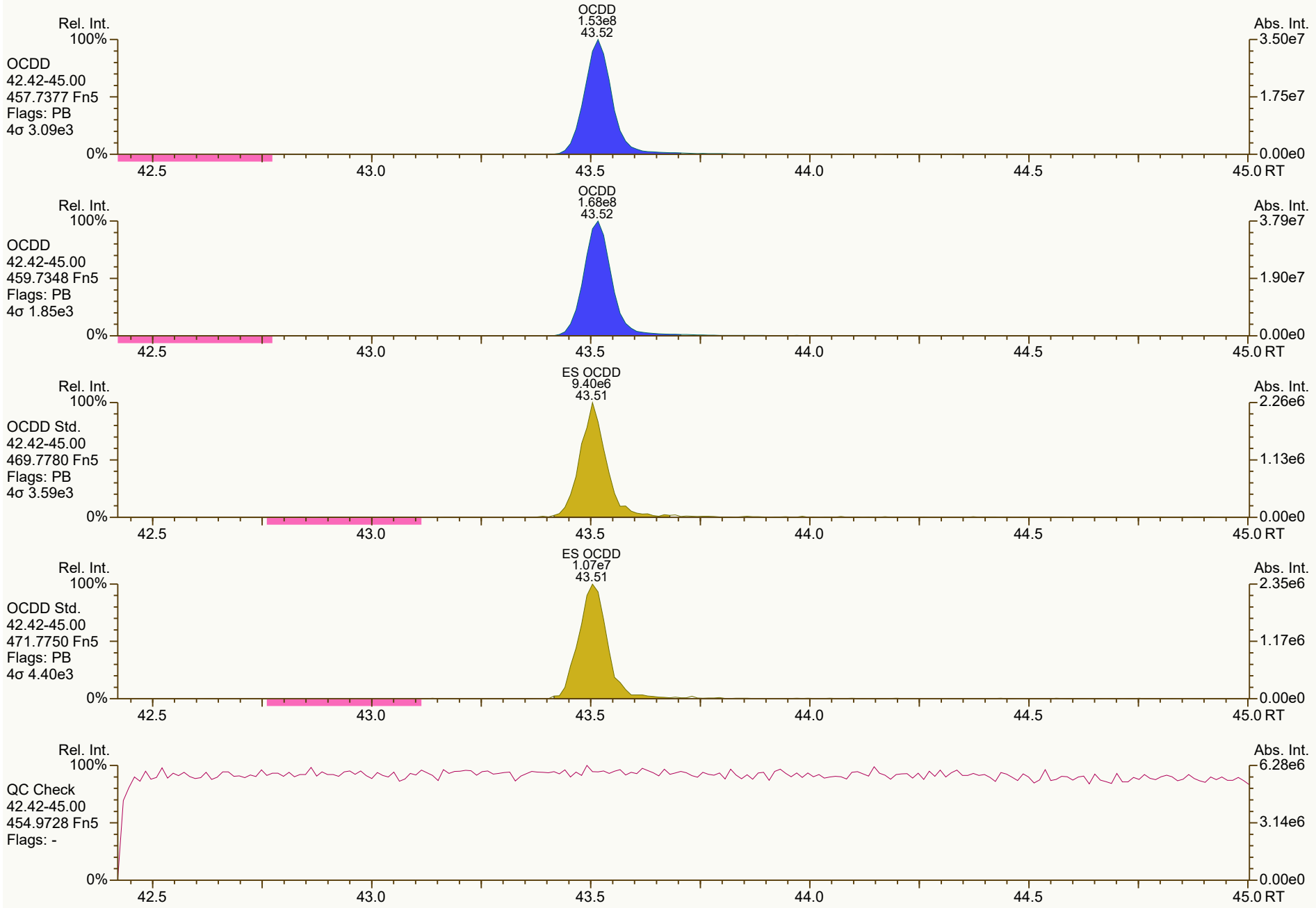

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.33e3
0%
2378D
1.67e8*
28.55
1278D
1.50e7
28.88
Abs. Int.
4.14e7
2.07e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.69e3
0%
2378D
2.08e8*
28.55
1278D
1.86e7
28.87
Abs. Int.
5.11e7
2.56e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.79e3
0%
CS 37Cl-2378D
8.96e6
28.55
Abs. Int.
2.23e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.46e3
0%
JS 1234D
8.11e6
27.87
ES 2378D
7.03e6
28.52
Abs. Int.
2.03e6
1.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.96e3
0%
JS 1234D
1.03e7
27.87
ES 2378D
8.66e6
28.52
Abs. Int.
2.45e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.69e3
12479/12468D
1.48e6
31.38
12368D
3.21e5
32.46
12378D
6.17e6*
33.87
12389D
1.29e6
34.31
0%
Abs. Int.
1.83e6
9.14e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.59e3
12479/12468D
9.98e5
31.38
12368D
1.87e5
32.46
12378D
3.68e6*
33.87
12389D
8.01e5
34.31
0%
Abs. Int.
1.08e6
5.39e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.79e3
CS 12347D
7.99e6
33.35
ES 12378D
8.73e6
33.85
0%
Abs. Int.
2.38e6
1.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 2.84e3
CS 12347D
5.09e6
33.35
ES 12378D
5.68e6
33.85
0%
Abs. Int.
1.56e6
7.82e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.30e6
1.65e6
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30.5
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32.5
33.0
33.5
34.0
34.5
RT

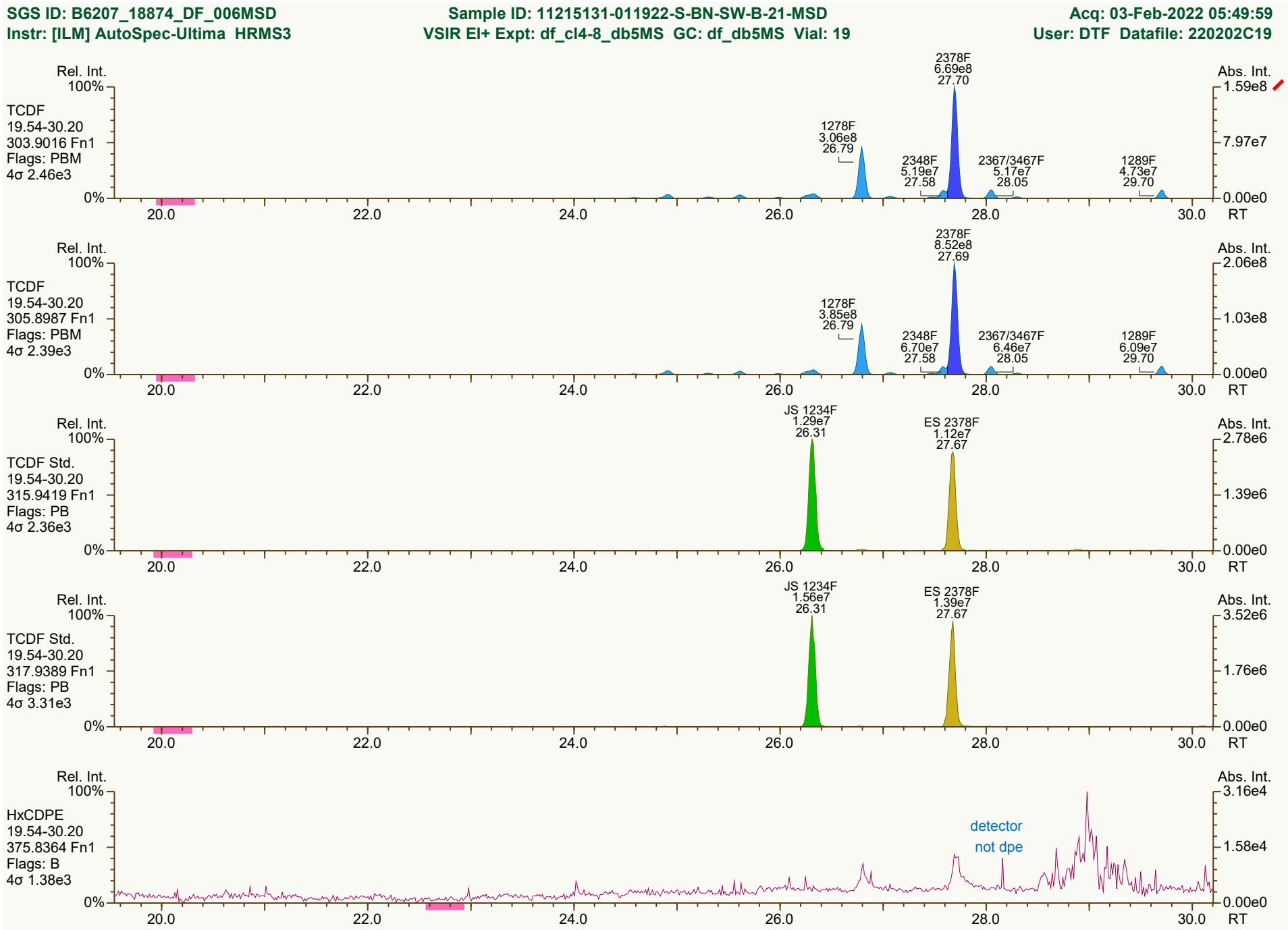

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 4.04e3
0%
124679/124689D
3.83e6*
36.03
123468D
3.35e5*
36.68
123679/123689D
2.13e6*
36.98
123678D
5.63e6*
37.89
123478D
4.63e6*
37.77
123789D
4.92e6*
38.18
Abs. Int.
1.68e6
8.41e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.97e3
0%
124679/124689D
3.04e6*
36.03
123468D
2.74e5*
36.68
123679/123689D
1.66e6*
36.97
123678D
4.53e6*
37.89
123478D
3.74e6*
37.77
123789D
3.97e6*
38.18
Abs. Int.
1.36e6
6.81e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.31e3
0%
ES 123678D
8.20e6*
37.87
ES 123478D
7.67e6
37.76
JS 123467D
4.75e6*
38.07
ES 123789D
8.93e6*
38.17
Abs. Int.
2.58e6
1.29e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.38e3
0%
ES 123678D
6.41e6*
37.87
ES 123478D
6.09e6
37.76
JS 123467D
3.66e6*
38.07
ES 123789D
6.84e6*
38.16
Abs. Int.
2.13e6
1.06e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.22e7
6.08e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.75e3
1234679D
1.62e7*
40.16
1234678D
1.75e7
40.84
Abs. Int.
5.57e6
2.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 3.17e3
1234679D
1.59e7*
40.15
1234678D
1.67e7
40.83
Abs. Int.
5.20e6
2.60e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.09e3
ES 1234678D
7.08e6
40.82
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.03e3
ES 1234678D
6.50e6
40.82
Abs. Int.
1.99e6
9.97e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.51e6
3.75e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6207_18874_DF_006MSD
Sample ID: 11215131-011922-S-BN-SW-B-21-MSD
Acq: 03-Feb-2022 05:49:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: DTF Datafile: 220202C19



Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MSD.utp_res, saved 03-Feb-2022 13:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5041, 1639 scc: 244-146
PKD: 03-Feb-2022 10:33 Printed: 03-Feb-2022 13:52 Page 6 of 12


SGS ID: B6207_18874_DF_006MSD
Sample ID: 11215131-011922-S-BN-SW-B-21-MSD
Acq: 03-Feb-2022 05:49:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: DTF Datafile: 220202C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.46e3
2378F
6.69e8
27.70
1278F
3.06e8
26.79
2348F
5.19e7
27.58
2367/3467F
5.17e7
28.05
1289F
4.73e7
29.70
1.59e8
7.97e7
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.39e3
2378F
8.52e8
27.69
1278F
3.85e8
26.79
2348F
6.70e7
27.58
2367/3467F
6.46e7
28.05
1289F
6.09e7
29.70
2.06e8
1.03e8
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.36e3
JS 1234F
1.29e7
26.31
ES 2378F
1.12e7
27.67
2.78e6
1.39e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.31e3
JS 1234F
1.56e7
26.31
ES 2378F
1.39e7
27.67
3.52e6
1.76e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.38e3
detector
not dpe
3.16e4
1.58e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MSD.utp_res, saved 03-Feb-2022 13:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4595, 3586, 9837 scc: 244-146
Revised: 03-Feb-2022 11:36 (DTF) Printed: 03-Feb-2022 13:52 Page 7 of 12

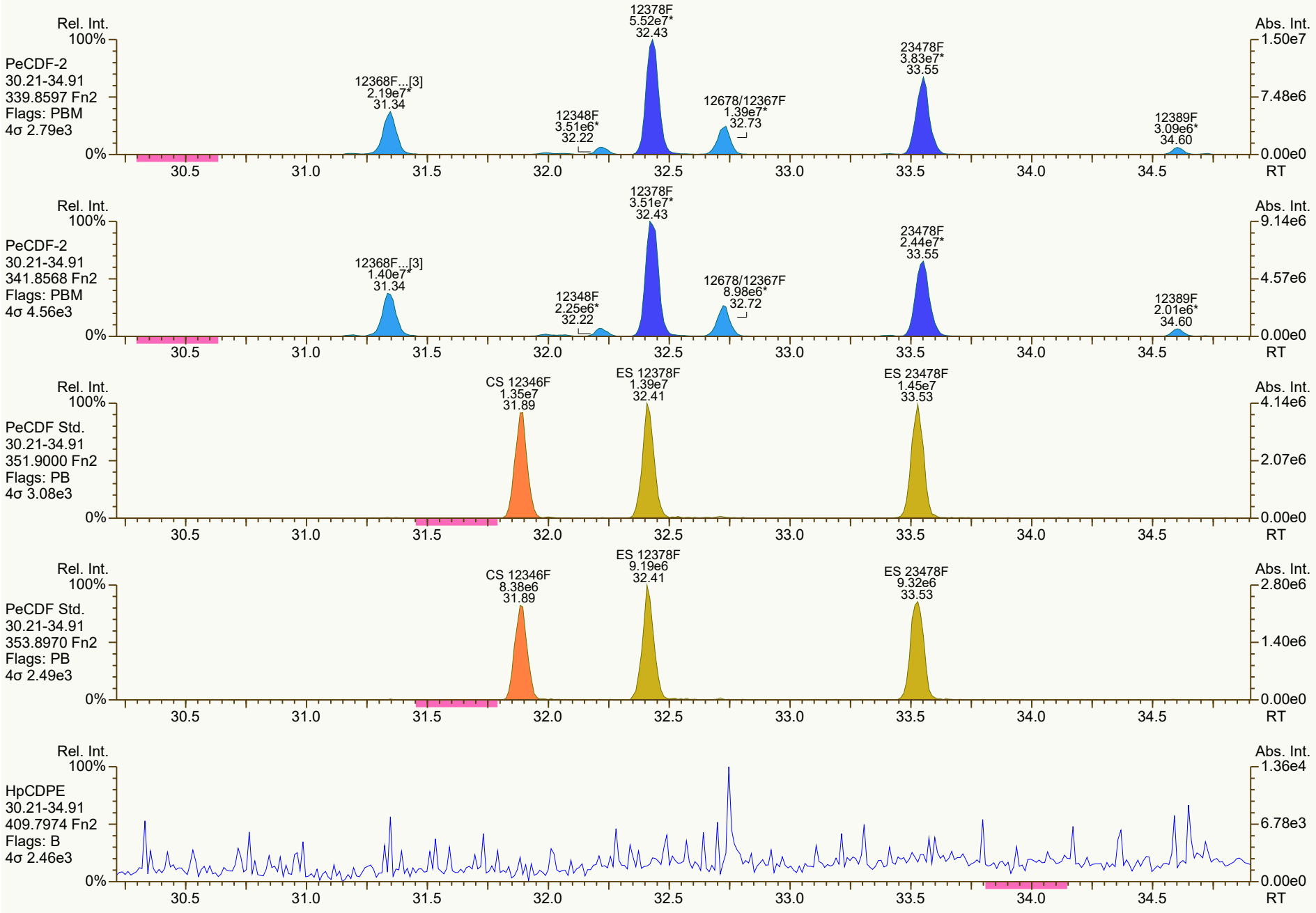
SGS ID: B6207_18874_DF_006MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

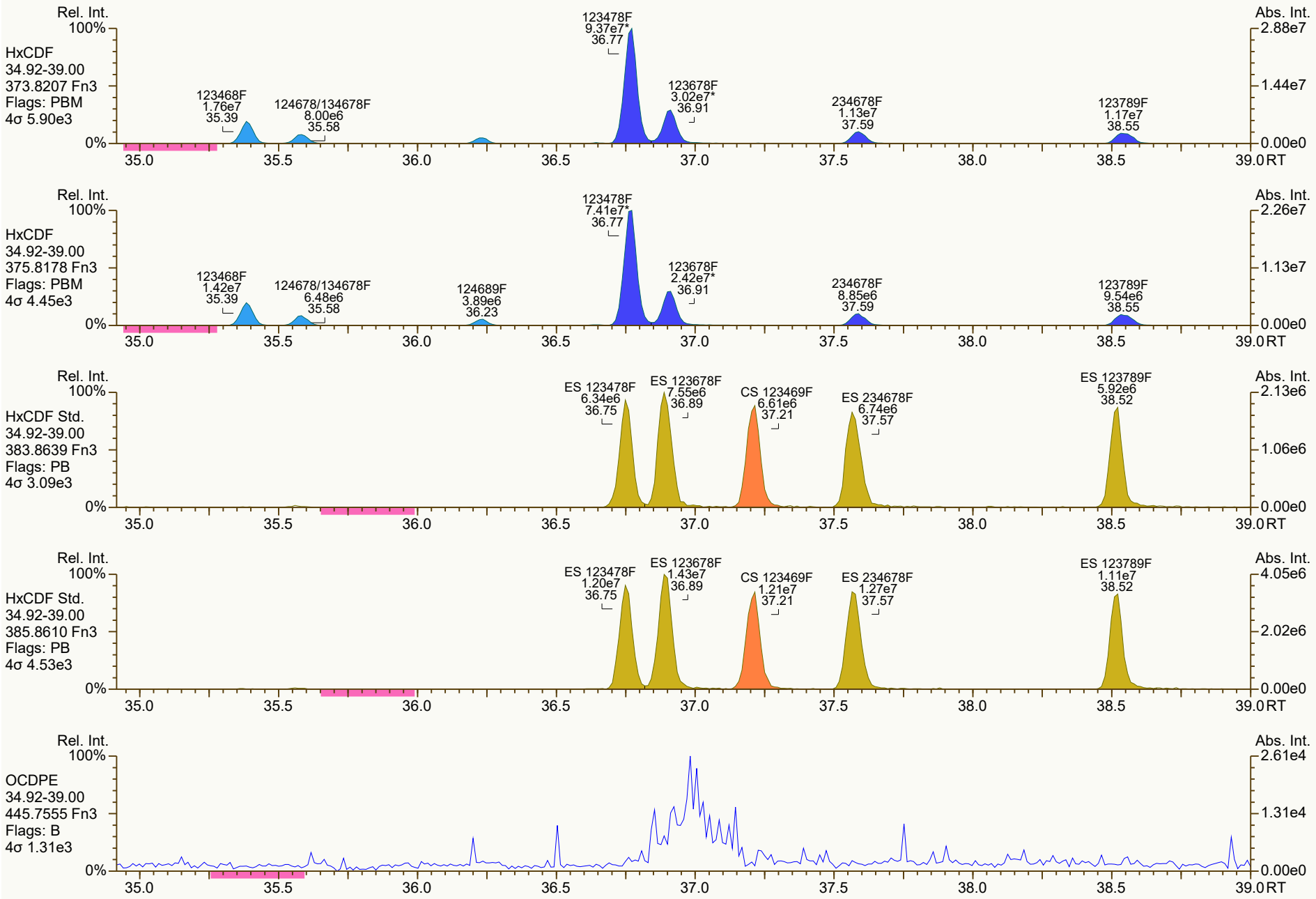
Sample ID: 11215131-011922-S-BN-SW-B-21-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19

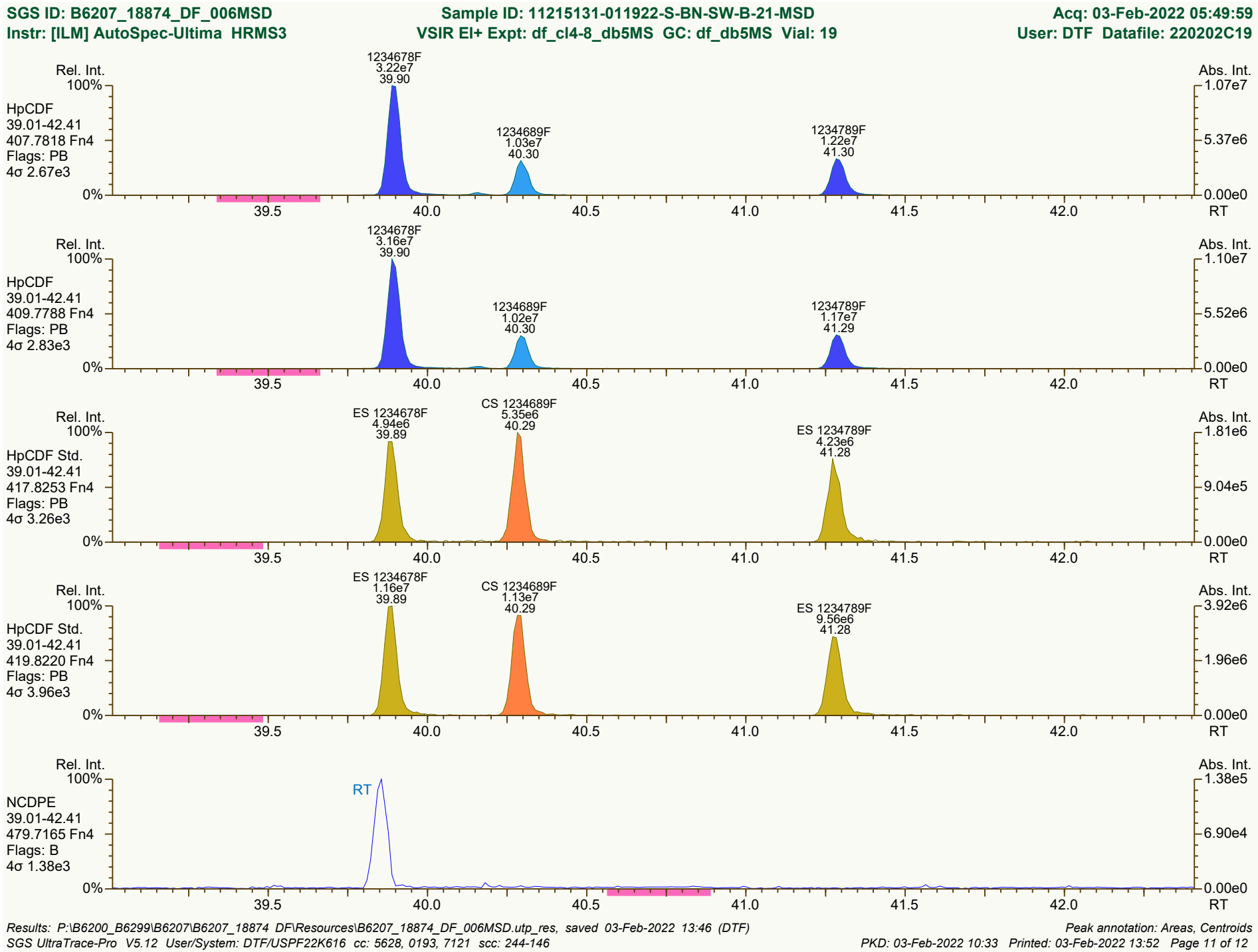
Acq: 03-Feb-2022 05:49:59
User: DTF Datafile: 220202C19



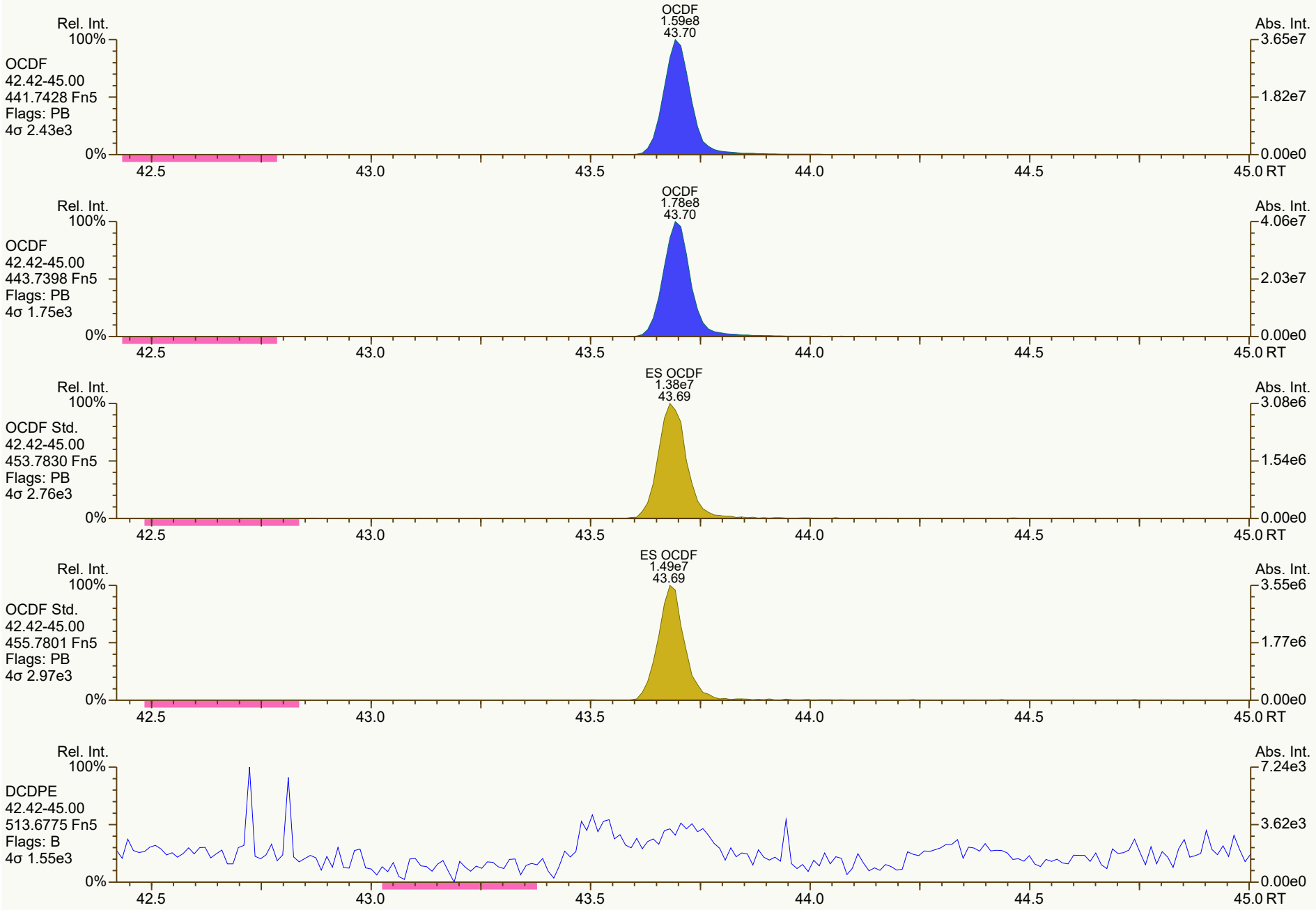
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MSD.utp_res, saved 03-Feb-2022 13:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7143 scc: 244-146
PKD: 03-Feb-2022 10:33 Printed: 03-Feb-2022 13:52 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 2.79e3
0%
12368F...[3]
2.19e7*
31.34
12348F
3.51e6*
32.22
12378F
5.52e7*
32.43
12678/12367F
1.39e7*
32.73
23478F
3.83e7*
33.55
12389F
3.09e6*
34.60
Abs. Int.
1.50e7
7.48e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 4.56e3
0%
12368F...[3]
1.40e7*
31.34
12348F
2.25e6*
32.22
12378F
3.51e7*
32.43
12678/12367F
8.98e6*
32.72
23478F
2.44e7*
33.55
12389F
2.01e6*
34.60
Abs. Int.
9.14e6
4.57e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 3.08e3
0%
CS 12346F
1.35e7
31.89
ES 12378F
1.39e7
32.41
ES 23478F
1.45e7
33.53
Abs. Int.
4.14e6
2.07e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.49e3
0%
CS 12346F
8.38e6
31.89
ES 12378F
9.19e6
32.41
ES 23478F
9.32e6
33.53
Abs. Int.
2.80e6
1.40e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 2.46e3
0%
Abs. Int.
1.36e4
6.78e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 5.90e3
123468F
1.76e7
35.39
124678/134678F
8.00e6
35.58
123478F
9.37e7*
36.77
123678F
3.02e7*
36.91
234678F
1.13e7
37.59
123789F
1.17e7
38.55
Abs. Int.
2.88e7
1.44e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.45e3
123468F
1.42e7
35.39
124678/134678F
6.48e6
35.58
124689F
3.89e6
36.23
123478F
7.41e7*
36.77
123678F
2.42e7*
36.91
234678F
8.85e6
37.59
123789F
9.54e6
38.55
Abs. Int.
2.26e7
1.13e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.09e3
ES 123478F
6.34e6
36.75
ES 123678F
7.55e6
36.89
CS 123469F
6.61e6
37.21
ES 234678F
6.74e6
37.57
ES 123789F
5.92e6
38.52
Abs. Int.
2.13e6
1.06e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.53e3
ES 123478F
1.20e7
36.75
ES 123678F
1.43e7
36.89
CS 123469F
1.21e7
37.21
ES 234678F
1.27e7
37.57
ES 123789F
1.11e7
38.52
Abs. Int.
4.05e6
2.02e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.31e3
Abs. Int.
2.61e4
1.31e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_006MSD.utp_res, saved 03-Feb-2022 13:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5628, 0193, 7121 scc: 244-146
PKD: 03-Feb-2022 10:33 Printed: 03-Feb-2022 13:52 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.43e3
0%
OCDF
1.59e8
43.70
Abs. Int.
3.65e7
1.82e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.75e3
0%
OCDF
1.78e8
43.70
Abs. Int.
4.06e7
2.03e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.76e3
0%
ES OCDF
1.38e7
43.69
Abs. Int.
3.08e6
1.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.97e3
0%
ES OCDF
1.49e7
43.69
Abs. Int.
3.55e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_007 **Acq'd:** 03 Feb 2022 06:36 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-O-18 **UTP:** 03-Feb-2022 13:42:34 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 703-404-QGW

Datafile: 220202C20 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.53		1.0008	1.0007	-0.2	6.72E+05	0.76	Y	1.18	7.97	3395.185	0.41
12378-PeCDD	33.86	J EMPC	1.0006	1.0005	-0.2	9.39E+04	1.81	N	1.04	1.29	3771.161	0.446
123478-HxCDD	37.77	J	1.0004	1.0004	0	1.58E+05	1.10	Y	1.09	2.17	4386.447	0.475
123678-HxCDD	37.89		1.0035	1.0035	0	8.76E+05	1.38	Y	1.15	10.7	4386.447	0.467
123789-HxCDD	38.17		1.0112	1.0111	-0.2	5.06E+05	1.34	Y	1.05	6.73	4386.447	0.471
1234678-HpCDD	40.84		1.0003	1.0004	+0.2	3.48E+07	1.03	Y	1.06	483	3316.43	0.391
OCDD	43.53		1.0004	1.0003	-0.3	2.50E+08	0.91	Y	1.13	4,260	3836.655	0.705
2378-TCDF	27.68		1.0008	1.0008	0	8.43E+06	0.79	Y	1.08	68.3	4742.996	0.42
12378-PeCDF	32.42	EMPC	1.0005	1.0005	0	3.59E+05	1.21	N	1.02	3.26	3700.833	0.323
23478-PeCDF	33.53		1.0005	1.0006	+0.2	9.23E+05	1.48	Y	1.02	8.49	3700.833	0.291
123478-HxCDF	36.76		1.0004	1.0004	0	7.27E+05	1.15	Y	1.27	6.5	5903.858	0.435
123678-HxCDF	36.90		1.0004	1.0004	0	4.50E+05	1.32	Y	1.15	3.76	5903.858	0.415
234678-HxCDF	37.59		1.0005	1.0005	0	4.47E+05	1.24	Y	1.19	3.88	5903.858	0.443
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5903.858	0.516
1234678-HpCDF	39.90		1.0003	1.0003	0	3.36E+06	1.03	Y	1.37	31.9	4936.552	0.285
1234789-HpCDF	41.29		1.0002	1.0002	0	3.43E+05	1.06	Y	1.31	3.78	4936.552	0.466
OCDF	43.70		1.0003	1.0002	-0.3	7.72E+06	0.93	Y	1.07	102	3329.223	0.499

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0238	+0.3	1.40E+07	0.83	Y	1.05	82
ES 12378-PeCDD	33.85	1.2144	1.2152	+1.6	1.39E+07	1.53	Y	0.88	96.7
ES 123478-HxCDD	37.76	0.9920	0.9919	-0.2	1.31E+07	1.30	Y	0.97	90
ES 123678-HxCDD	37.87	0.9951	0.9950	-0.2	1.40E+07	1.26	Y	0.94	98.6
ES 123789-HxCDD	38.16	1.0027	1.0026	-0.2	1.41E+07	1.21	Y	1.09	86.1
ES 1234678-HpCDD	40.83	1.0724	1.0726	+0.5	1.34E+07	1.09	Y	0.91	97.7
ES OCDD	43.51	1.1428	1.1432	+1.0	2.05E+07	0.91	Y	0.62	109
ES 2378-TCDF	27.66	1.0516	1.0517	+0.2	2.25E+07	0.83	Y	1.06	80.2
ES 12378-PeCDF	32.40	1.2312	1.2320	+1.6	2.12E+07	1.53	Y	0.91	87.7
ES 23478-PeCDF	33.51	1.2733	1.2742	+1.8	2.10E+07	1.56	Y	0.88	89.7
ES 123478-HxCDF	36.75	0.9655	0.9654	-0.2	1.73E+07	0.54	Y	1.20	96.2
ES 123678-HxCDF	36.89	0.9692	0.9691	-0.2	2.04E+07	0.56	Y	1.35	101
ES 234678-HxCDF	37.57	0.9871	0.9870	-0.2	1.91E+07	0.55	Y	1.24	102
ES 123789-HxCDF	38.52	1.0121	1.0120	-0.2	1.65E+07	0.55	Y	1.16	95.3
ES 1234678-HpCDF	39.89	1.0479	1.0480	+0.2	1.51E+07	0.46	Y	0.97	104
ES 1234789-HpCDF	41.29	1.0845	1.0847	+0.5	1.37E+07	0.44	Y	0.85	107
ES OCDF	43.69	1.1477	1.1479	+0.5	2.77E+07	0.89	Y	0.81	114

Lab ID: B6207_18874_DF_007 **Acq'd:** 03 Feb 2022 06:36 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-O-18 **UTP:** 03-Feb-2022 13:42:34 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 703-404-QGW

Datafile: 220202C20 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.85		-	-	-	1.63E+07	0.78	Y	-	-	
JS 1234-TCDF	26.30		-	-	-	2.65E+07	0.79	Y	-	-	
JS 123467-HxCDD	38.06		-	-	-	7.51E+06	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	6.66E+06	n/a	-	1.20	84.8	
CS 12347-PeCDD	33.34		1.1964	1.1971	+1.4	1.28E+07	1.61	Y	0.75	104	
CS 12346-PeCDF	31.87		1.2112	1.2118	+1.1	2.12E+07	1.56	Y	0.85	94.1	
CS 123469-HxCDF	37.21		0.9775	0.9775	0	1.87E+07	0.54	Y	1.12	111	
CS 1234689-HpCDF	40.29		1.0584	1.0586	+0.5	1.66E+07	0.45	Y	0.89	125	
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~6.66E+06~~	~~n/a~~		~~1.15~~	~~104~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1971~~	~~+1.4~~	~~1.28E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~108~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2110~~	~~+1.1~~	~~2.12E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~107~~	
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~1.87E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~110~~	
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0584~~	~~1.0586~~	~~+0.5~~	~~1.66E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~119~~	

Totals	Conc	EMPC
Total TCDD	9.24	9.24
Total PeCDD	5.75	9.34
Total HxCDD	103	103
Total HpCDD	937	937
Total Tetra-Octa Dioxins	5320	5320
Total TCDF	120	132
Total PeCDF	37.5	42.5
Total HxCDF	53.2	54.5
Total HpCDF	103	103
Total Tetra-Octa Furans	416	434
Total Tetra-Octa Dioxins & Furans	5730	5750

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.753	0.76
Response	6.76E+05	6.72E+05

Lab ID: B6207_18874_DF_007 **Acq'd: 03 Feb 2022 06:36 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-18 **UTP: 03-Feb-2022 13:42:34 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 703-404-QGW**

Datafile: 220202C20 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.90		0.8737	0.8734	-0.4	1.07E+05	0.75	Y	1.18	1.27	3395.185	0.41
1379-TCDD	NotFnd		0.8860						1.18		3395.185	0.41
1369-TCDD	NotFnd		0.9009						1.18		3395.185	0.41
1469-TCDD	NotFnd		0.9281						1.18		3395.185	0.41
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3395.185	0.41
1378-TCDD	NotFnd		0.9432						1.18		3395.185	0.41
1268-TCDD	NotFnd		0.9500						1.18		3395.185	0.41
1478-TCDD	NotFnd		0.9586						1.18		3395.185	0.41
1279-TCDD	NotFnd		0.9645						1.18		3395.185	0.41
1234/1269-TCDD	NotFnd		0.9770						1.18		3395.185	0.41
1236-TCDD	NotFnd		0.9817						1.18		3395.185	0.41
1237/1238-TCDD	NotFnd		0.9905						1.18		3395.185	0.41
1239-TCDD	NotFnd		0.9952						1.18		3395.185	0.41
2378-TCDD	**28.53**		**1.0008**	1.0007	**-0.2**	6.72E+05	0.76	Y	**1.18**	**7.97**	**3395.185**	**0.41**
1278-TCDD	NotFnd		1.0121						1.18		3395.185	0.41
1267-TCDD	NotFnd		1.0167						1.18		3395.185	0.41
1289-TCDD	NotFnd		1.0345						1.18		3395.185	0.41
12479/12468-PeCDD	31.37	J EMPC	0.9267	0.9267	0	1.69E+05	1.27	N	1.04	2.31	3771.161	0.446
12469-PeCDD	31.90	J	0.9425	0.9425	0	1.27E+05	1.66	Y	1.04	1.73	3771.161	0.446
12368-PeCDD	32.45	J	0.9588	0.9587	-0.2	8.67E+04	1.62	Y	1.04	1.19	3771.161	0.446
12478-PeCDD	32.64	J	0.9643	0.9642	-0.2	9.39E+04	1.43	Y	1.04	1.28	3771.161	0.446
12379-PeCDD	NotFnd		0.9673						1.04		3771.161	0.446
12369/12467/12489-PeCDD	33.00	J	0.9750	0.9750	0	1.13E+05	1.67	Y	1.04	1.55	3771.161	0.446
12346/12347-PeCDD	NotFnd		0.9858						1.04		3771.161	0.446
12378-PeCDD	33.86	J EMPC	**1.0006**	**1.0005**	**-0.2**	**9.39E+04**	**1.81**	**N**	**1.04**	**1.29**	**3771.161**	**0.446**
12367-PeCDD	NotFnd		1.0033						1.04		3771.161	0.446
12389-PeCDD	NotFnd		1.0134						1.04		3771.161	0.446
124679/124689-HxCDD	36.02		0.9542	0.9541	-0.2	2.20E+06	1.21	Y	1.10	28.7	4386.447	0.471
123468-HxCDD	36.67		0.9715	0.9714	-0.2	3.11E+05	1.11	Y	1.10	4.06	4386.447	0.471
123679/123689-HxCDD	36.97		0.9793	0.9793	0	3.60E+06	1.30	Y	1.10	47.1	4386.447	0.471
123469-HxCDD	37.10		0.9828	0.9827	-0.2	2.01E+05	1.22	Y	1.10	2.63	4386.447	0.471
123478-HxCDD	37.77	J	**1.0004**	**1.0004**	**0**	**1.58E+05**	**1.10**	**Y**	1.09	**2.17**	**4386.447**	**0.475**
123678-HxCDD	37.89		**1.0035**	**1.0035**	**0**	**8.76E+05**	**1.38**	**Y**	1.15	**10.7**	**4386.447**	**0.467**
123467-HxCDD	38.07	J	1.0085	1.0084	-0.2	9.66E+04	1.32	Y	1.10	1.26	4386.447	0.471
123789-HxCDD	38.17		**1.0112**	**1.0111**	**-0.2**	**5.06E+05**	**1.34**	**Y**	1.05	**6.73**	**4386.447**	**0.471**

Lab ID: B6207_18874_DF_007 **Acq'd: 03 Feb 2022 06:36 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-O-18 **UTP: 03-Feb-2022 13:42:34 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 703-404-QGW**

Datafile: 220202C20 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

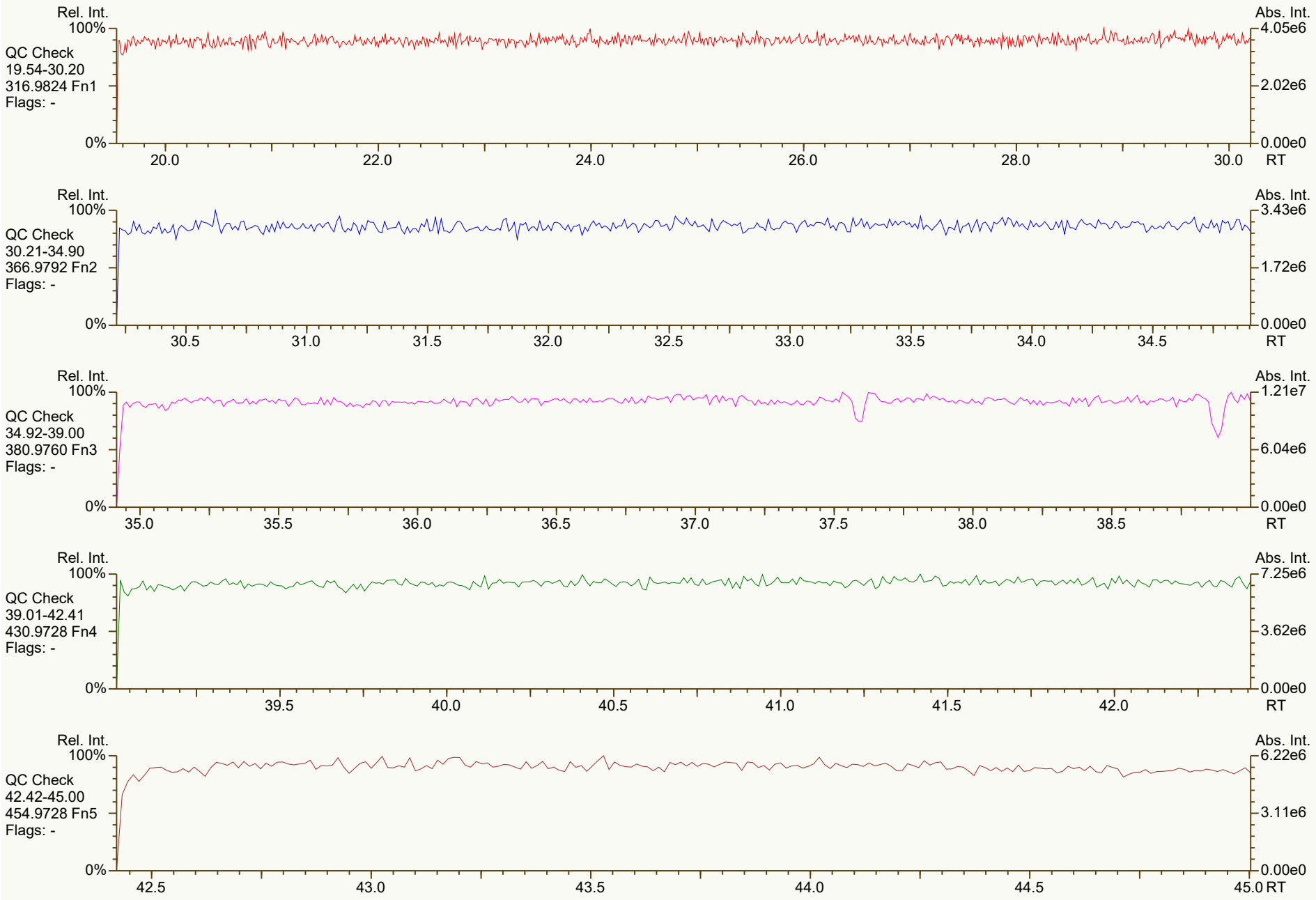
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	3.27E+07	1.04	Y	1.06	454	3316.43	0.391
1234678-HpCDD	**40.84**		**1.0003**	**1.0004**	**+0.2**	**3.48E+07**	**1.03**	**Y**	**1.06**	**483**	**3316.43**	**0.391**
OCDD	**43.53**		**1.0004**	**1.0003**	**-0.3**	**2.50E+08**	**0.91**	**Y**	**1.13**	**4,260**	**3836.655**	**0.705**
OCDD-a	43.52		1.0003	1.0002	-0.3	1.60E+07	2.48	Y	0.07	4,280	3019.627	8.68
1368-TCDF	NotFnd		0.8251						1.08		4742.996	0.42
1468-TCDF	23.38	EMPC	0.8458	0.8453	-0.7	1.39E+05	0.95	N	1.08	1.13	4742.996	0.42
2468-TCDF	24.01		0.8686	0.8681	-0.7	3.54E+05	0.71	Y	1.08	2.87	4742.996	0.42
1346/1246-TCDF	NotFnd		0.8814						1.08		4742.996	0.42
1347/1378/1247-TCDF	24.52		0.8867	0.8866	-0.1	3.78E+05	0.81	Y	1.08	3.06	4742.996	0.42
1348-TCDF	NotFnd		0.8962						1.08		4742.996	0.42
1248/1367/1379-TCDF	24.88	EMPC	0.9009	0.8994	-2.2	2.71E+05	0.99	N	1.08	2.2	4742.996	0.42
1268-TCDF	25.28		0.9145	0.9141	-0.6	2.60E+05	0.66	Y	1.08	2.11	4742.996	0.42
1467-TCDF	25.42	EMPC	0.9193	0.9192	-0.2	1.07E+05	0.90	N	1.08	0.867	4742.996	0.42
1478-TCDF	25.59		0.9254	0.9251	-0.5	2.68E+05	0.82	Y	1.08	2.17	4742.996	0.42
1369/1237-TCDF	25.97		0.9387	0.9390	+0.5	1.39E+05	0.81	Y	1.08	1.13	4742.996	0.42
2467-TCDF	26.09		0.9433	0.9434	+0.2	1.47E+05	0.72	Y	1.08	1.19	4742.996	0.42
2368-TCDF	26.27		0.9489	0.9497	+1.3	7.57E+05	0.70	Y	1.08	6.13	4742.996	0.42
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		4742.996	0.42
1278-TCDF	26.78		0.9683	0.9682	-0.2	1.39E+06	0.75	Y	1.08	11.2	4742.996	0.42
1349-TCDF	NotFnd		0.9722						1.08		4742.996	0.42
1267-TCDF	27.06		0.9783	0.9783	0	1.82E+05	0.84	Y	1.08	1.47	4742.996	0.42
2346/1249-TCDF	NotFnd		0.9850						1.08		4742.996	0.42
2347/1279-TCDF	27.46	EMPC	0.9926	0.9928	+0.3	2.97E+05	0.95	N	1.08	2.41	4742.996	0.42
2348-TCDF	27.56	EMPC	0.9967	0.9965	-0.3	3.99E+05	0.93	N	1.08	3.23	4742.996	0.42
2378-TCDF	**27.68**		**1.0008**	**1.0008**	**0**	**8.43E+06**	**0.79**	**Y**	**1.08**	**68.3**	**4742.996**	**0.42**
2367/3467-TCDF	28.03		1.0137	1.0136	-0.2	2.48E+06	0.84	Y	1.08	20.1	4742.996	0.42
1269-TCDF	NotFnd		1.0223						1.08		4742.996	0.42
1239-TCDF	NotFnd		1.0321						1.08		4742.996	0.42
1289-TCDF	29.67	EMPC	1.0722	1.0729	+1.2	2.47E+05	1.14	N	1.08	2	4742.996	0.42
13468/12468-PeCDF	29.62		0.9139	0.9141	+0.4	1.23E+06	1.40	Y	1.02	11.2	3244.027	0.269
13678/13467/12467-PeCDF	31.16		0.9613	0.9617	+0.7	2.73E+05	1.38	Y	1.02	2.5	3700.833	0.307
12368/13478/12478-PeCDF	31.32		0.9662	0.9666	+0.8	1.08E+06	1.55	Y	1.02	9.89	3700.833	0.307
14678-PeCDF	NotFnd		0.9692						1.02		3700.833	0.307
13479-PeCDF	NotFnd		0.9723						1.02		3700.833	0.307
13469/12479-PeCDF	NotFnd		0.9797						1.02		3700.833	0.307
12346-PeCDF	NotFnd		0.9840						1.02		3700.833	0.307

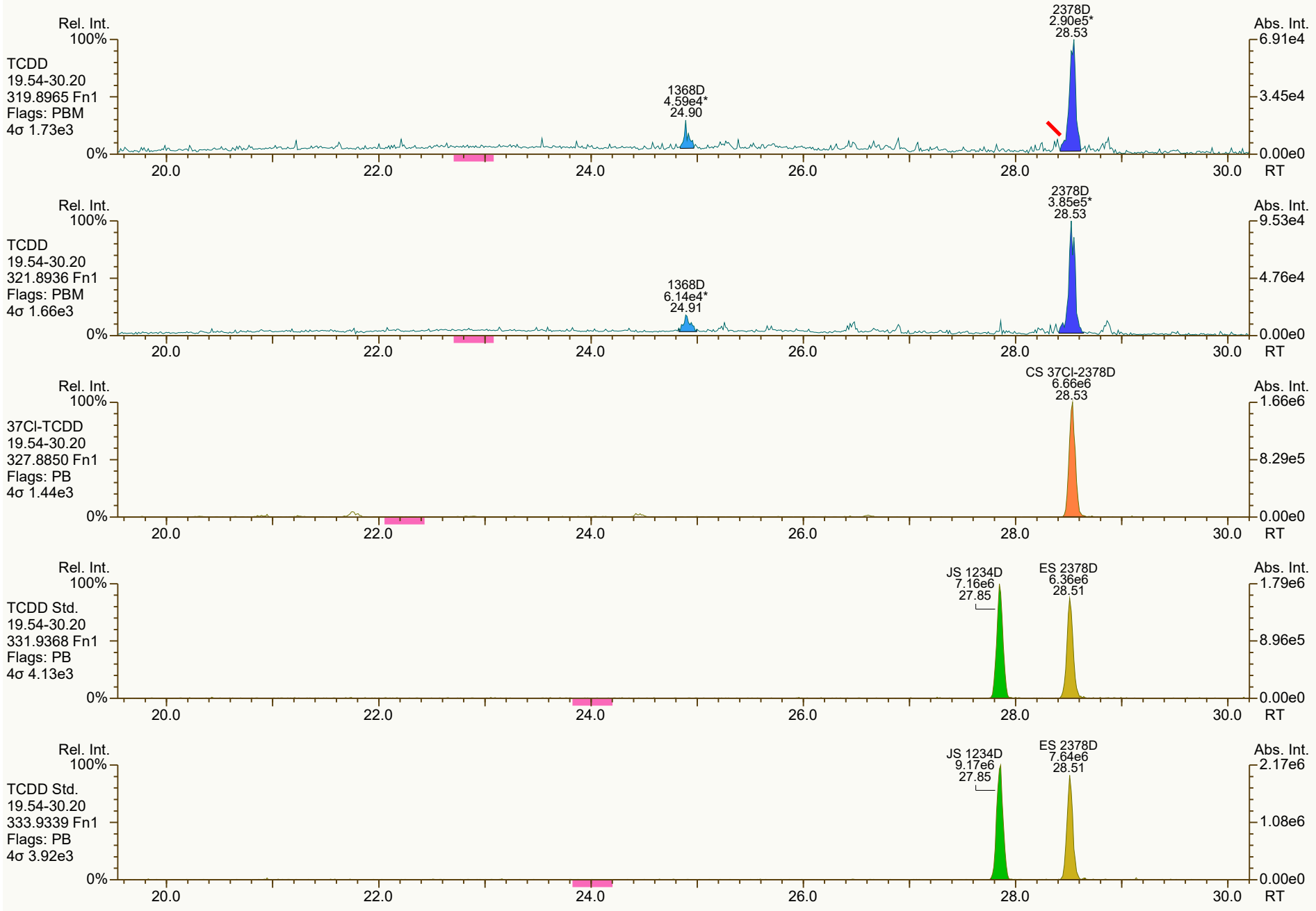
Lab ID: B6207_18874_DF_007 **Acq'd: 03 Feb 2022 06:36 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

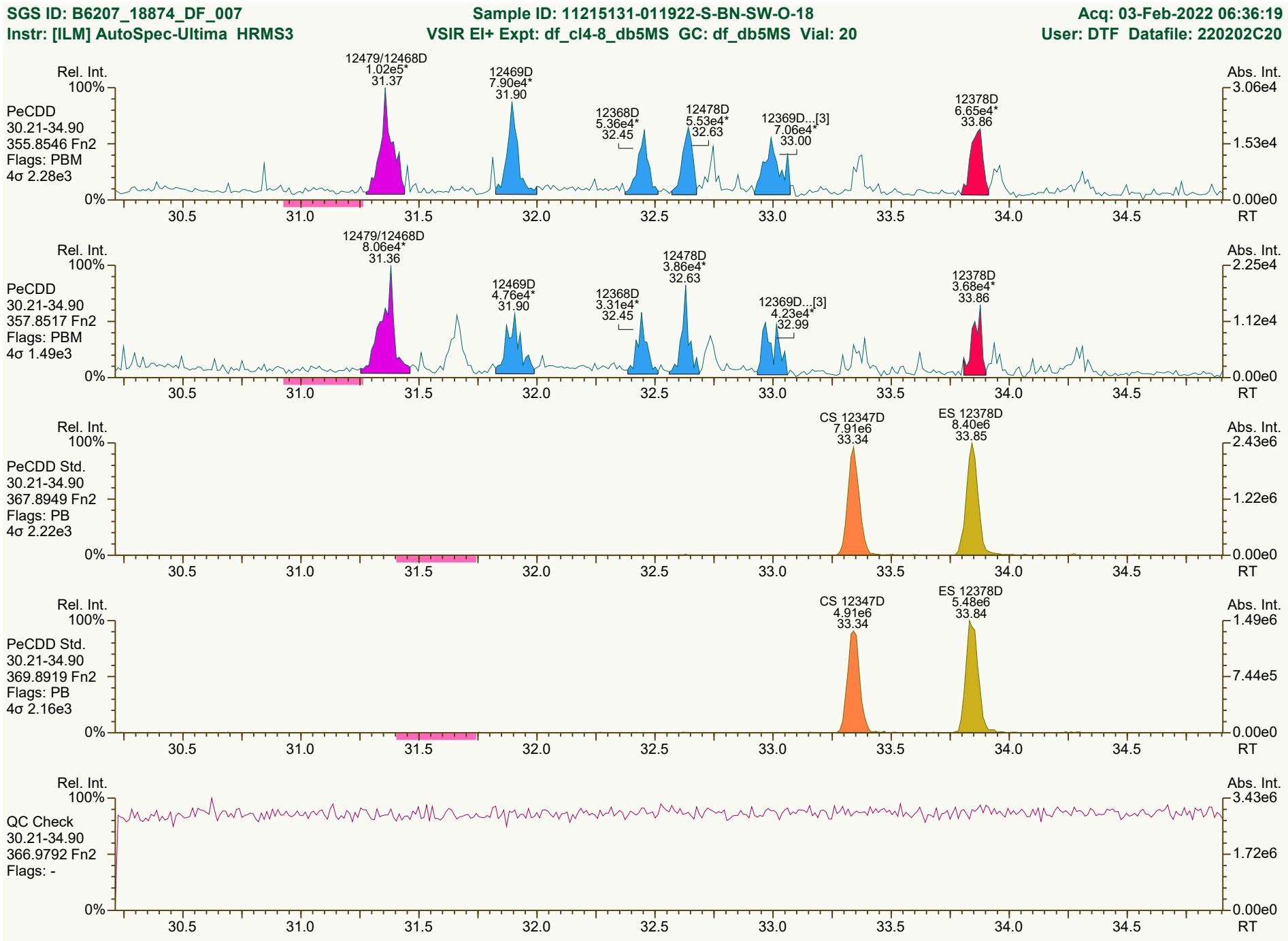
Client ID: 11215131-011922-S-BN-SW-O-18 **UTP: 03-Feb-2022 13:42:34 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 703-404-QGW**

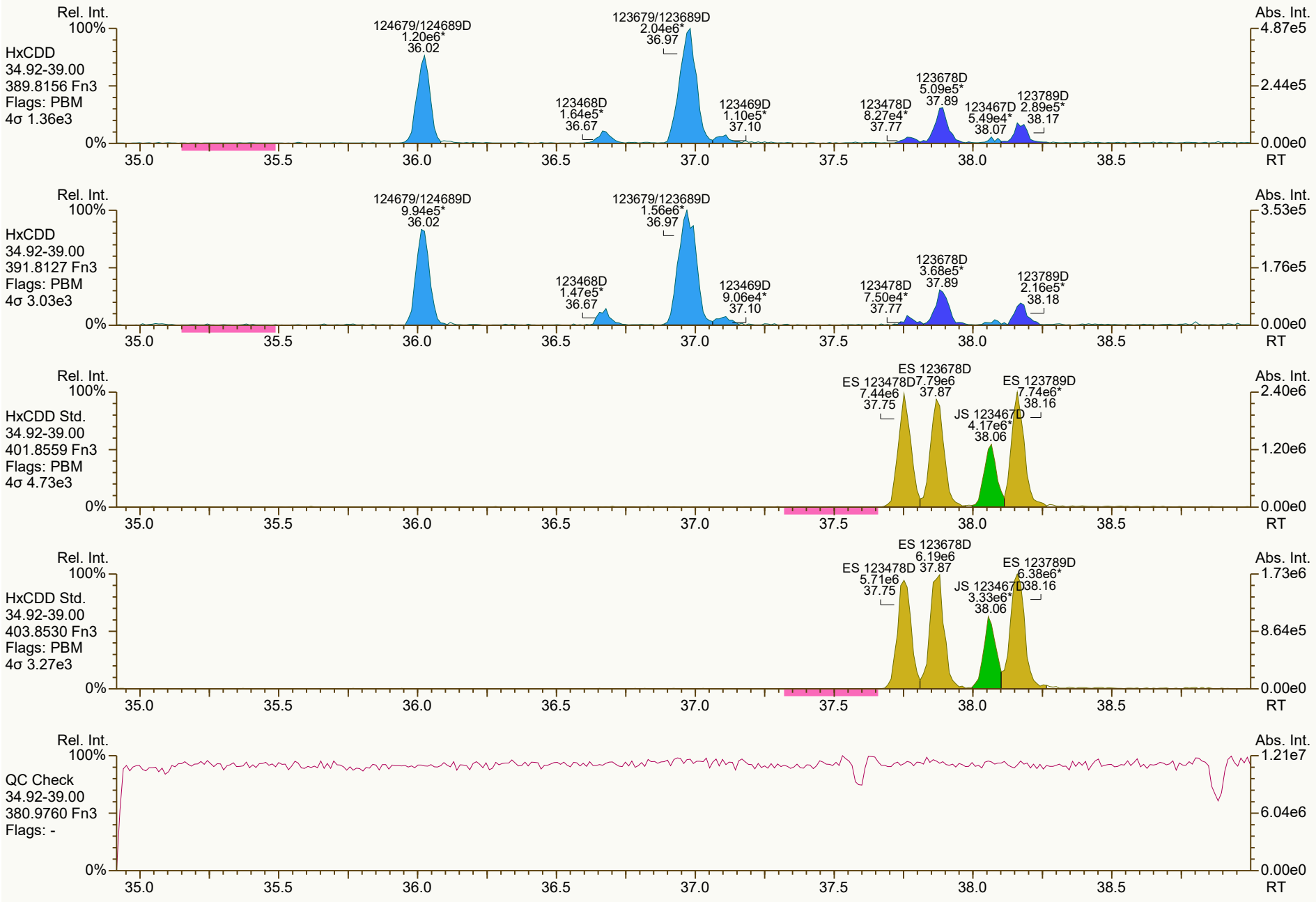
Datafile: 220202C20 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

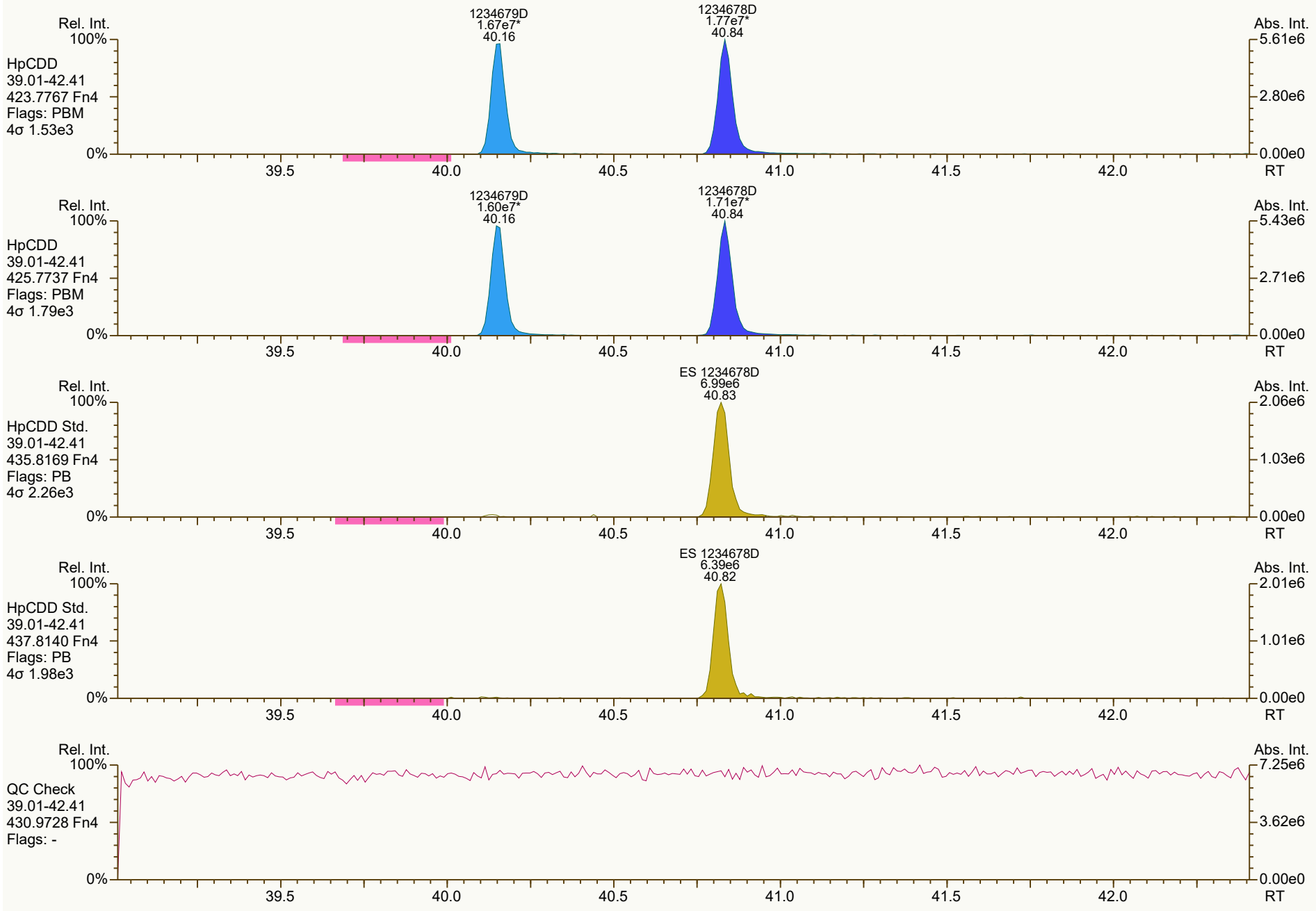
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.98		0.9868	0.9869	+0.2	2.95E+05	1.69	Y	1.02	2.69	3700.833	0.307
12347-PeCDF	32.06	J EMPC	0.9894	0.9896	+0.4	5.66E+04	1.31	N	1.02	0.518	3700.833	0.307
12348-PeCDF	NotFnd		0.9940						1.02		3700.833	0.307
12378-PeCDF	**32.42**	EMPC	**1.0005**	**1.0005**	**0**	**3.59E+05**	**1.21**	**N**	**1.02**	**3.26**	**3700.833**	**0.323**
12678/12367-PeCDF	32.70		1.0089	1.0093	+0.8	2.96E+05	1.75	Y	1.02	2.7	3700.833	0.307
12379-PeCDF	NotFnd		1.0142						1.02		3700.833	0.307
12679-PeCDF	NotFnd		0.9929						1.02		3700.833	0.307
23467/12369-PeCDF	33.40	J EMPC	0.9967	0.9966	-0.2	1.32E+05	1.97	N	1.02	1.2	3700.833	0.307
23478-PeCDF	**33.53**		**1.0005**	**1.0006**	**+0.2**	**9.23E+05**	**1.48**	**Y**	**1.02**	**8.49**	**3700.833**	**0.291**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3700.833	0.307
12349-PeCDF	NotFnd		1.0100						1.02		3700.833	0.307
12389-PeCDF	NotFnd		1.0324						1.02		3700.833	0.307
123468-HxCDF	35.38		0.9627	0.9627	0	4.63E+05	1.35	Y	1.19	4.17	5903.858	0.449
124678/134678-HxCDF	35.57		0.9682	0.9681	-0.2	2.02E+06	1.17	Y	1.19	18.2	5903.858	0.449
134679-HxCDF	NotFnd		0.9744						1.19		5903.858	0.449
124679-HxCDF	36.00	J	0.9798	0.9798	0	1.19E+05	1.40	Y	1.19	1.07	5903.858	0.449
124689-HxCDF	36.22		0.9858	0.9857	-0.2	1.63E+06	1.32	Y	1.19	14.7	5903.858	0.449
123467-HxCDF	36.65	J EMPC	0.9972	0.9973	+0.2	1.48E+05	1.50	N	1.19	1.33	5903.858	0.449
123478-HxCDF	**36.76**		**1.0004**	**1.0004**	**0**	**7.27E+05**	**1.15**	**Y**	**1.27**	**6.5**	**5903.858**	**0.435**
123678-HxCDF	**36.90**		**1.0004**	**1.0004**	**0**	**4.50E+05**	**1.32**	**Y**	**1.15**	**3.76**	**5903.858**	**0.415**
123479-HxCDF	NotFnd		1.0049						1.19		5903.858	0.449
123469-HxCDF	NotFnd		1.0090						1.19		5903.858	0.449
123679-HxCDF	NotFnd		0.9942						1.19		5903.858	0.449
234678-HxCDF	**37.59**		**1.0005**	**1.0005**	**0**	**4.47E+05**	**1.24**	**Y**	**1.19**	**3.88**	**5903.858**	**0.443**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5903.858	0.449
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5903.858**	**0.516**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.56	J	1.0009	1.0010	+0.2	1.09E+05	1.37	Y	1.19	0.982	5903.858	0.449
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**3.36E+06**	**1.03**	**Y**	**1.37**	**31.9**	**4936.552**	**0.285**
1234679-HpCDF	40.16	**J**	1.0068	1.0067	-0.2	1.99E+05	0.94	Y	1.34	2.04	4936.552	0.369
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	6.38E+06	1.05	Y	1.34	65.2	4936.552	0.369
1234789-HpCDF	**41.29**		**1.0002**	**1.0002**	**0**	**3.43E+05**	**1.06**	**Y**	**1.31**	**3.78**	**4936.552**	**0.466**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**7.72E+06**	**0.93**	**Y**	**1.07**	**102**	**3329.223**	**0.499**
OCDF-a	43.69		1.0002	1.0000	-0.5	4.89E+05	2.36	Y	0.07	105	3287.099	7.96

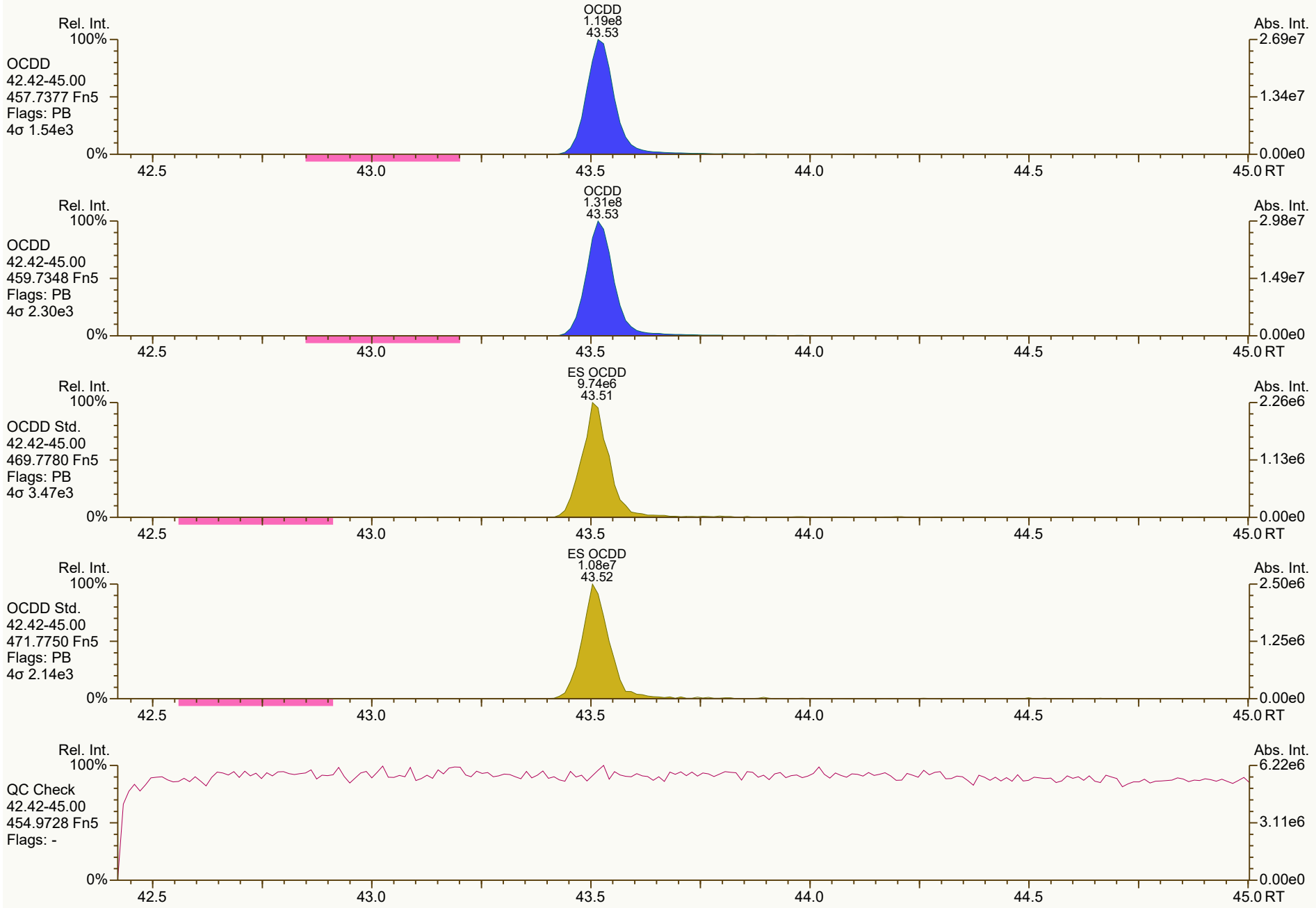

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.05e6
2.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.43e6
1.72e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.21e7
6.04e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.25e6
3.62e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.22e6
3.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.73e3
0%
2378D
2.90e5*
28.53
1368D
4.59e4*
24.90
Abs. Int.
6.91e4
3.45e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.66e3
0%
2378D
3.85e5*
28.53
1368D
6.14e4*
24.91
Abs. Int.
9.53e4
4.76e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.44e3
0%
CS 37Cl-2378D
6.66e6
28.53
Abs. Int.
1.66e6
8.29e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.13e3
0%
JS 1234D
7.16e6
27.85
ES 2378D
6.36e6
28.51
Abs. Int.
1.79e6
8.96e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.92e3
0%
JS 1234D
9.17e6
27.85
ES 2378D
7.64e6
28.51
Abs. Int.
2.17e6
1.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6207_18874_DF_007
Sample ID: 11215131-011922-S-BN-SW-O-18
Acq: 03-Feb-2022 06:36:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: DTF Datafile: 220202C20
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.28e3
12479/12468D
1.02e5*
31.37
12469D
7.90e4*
31.90
12368D
5.36e4*
32.45
12478D
5.53e4*
32.63
12369D...[3]
7.06e4*
33.00
12378D
6.65e4*
33.86
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.49e3
12479/12468D
8.06e4*
31.36
12469D
4.76e4*
31.90
12368D
3.31e4*
32.45
12478D
3.86e4*
32.63
12369D...[3]
4.23e4*
32.99
12378D
3.68e4*
33.86
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.22e3
CS 12347D
7.91e6
33.34
ES 12378D
8.40e6
33.85
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.16e3
CS 12347D
4.91e6
33.34
ES 12378D
5.48e6
33.84
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_007.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0908, 3114 scc: 703-404
Revised: 03-Feb-2022 11:39 (DTF) Printed: 03-Feb-2022 13:52 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.36e3
124679/124689D
1.20e6*
36.02
123679/123689D
2.04e6*
36.97
123468D
1.64e5*
36.67
123469D
1.10e5*
37.10
123478D
8.27e4*
37.77
123678D
5.09e5*
37.89
123467D
5.49e4*
38.07
123789D
2.89e5*
38.17
Abs. Int.
4.87e5
2.44e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.03e3
124679/124689D
9.94e5*
36.02
123679/123689D
1.56e6*
36.97
123468D
1.47e5*
36.67
123469D
9.06e4*
37.10
123478D
7.50e4*
37.77
123678D
3.68e5*
37.89
123789D
2.16e5*
38.18
Abs. Int.
3.53e5
1.76e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.73e3
ES 123678D
ES 123478D
7.79e6
7.44e6
37.87
37.75
ES 123789D
7.74e6*
38.16
JS 123467D
4.17e6*
38.06
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 3.27e3
ES 123678D
ES 123478D
6.19e6
5.71e6
37.87
37.75
ES 123789D
6.38e6*
38.16
JS 123467D
3.33e6*
38.06
Abs. Int.
1.73e6
8.64e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.21e7
6.04e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.53e3
1234679D
1.67e7*
40.16
1234678D
1.77e7*
40.84
Abs. Int.
5.61e6
2.80e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.79e3
1234679D
1.60e7*
40.16
1234678D
1.71e7*
40.84
Abs. Int.
5.43e6
2.71e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.26e3
ES 1234678D
6.99e6
40.83
Abs. Int.
2.06e6
1.03e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.98e3
ES 1234678D
6.39e6
40.82
Abs. Int.
2.01e6
1.01e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.25e6
3.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.19e8
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.54e3
0%
Abs. Int.
2.69e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.31e8
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.30e3
2.98e7
1.49e7
ES OCDD
9.74e6
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 3.47e3
2.26e6
1.13e6
ES OCDD
1.08e7
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.14e3
2.50e6
1.25e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.22e6
3.11e6

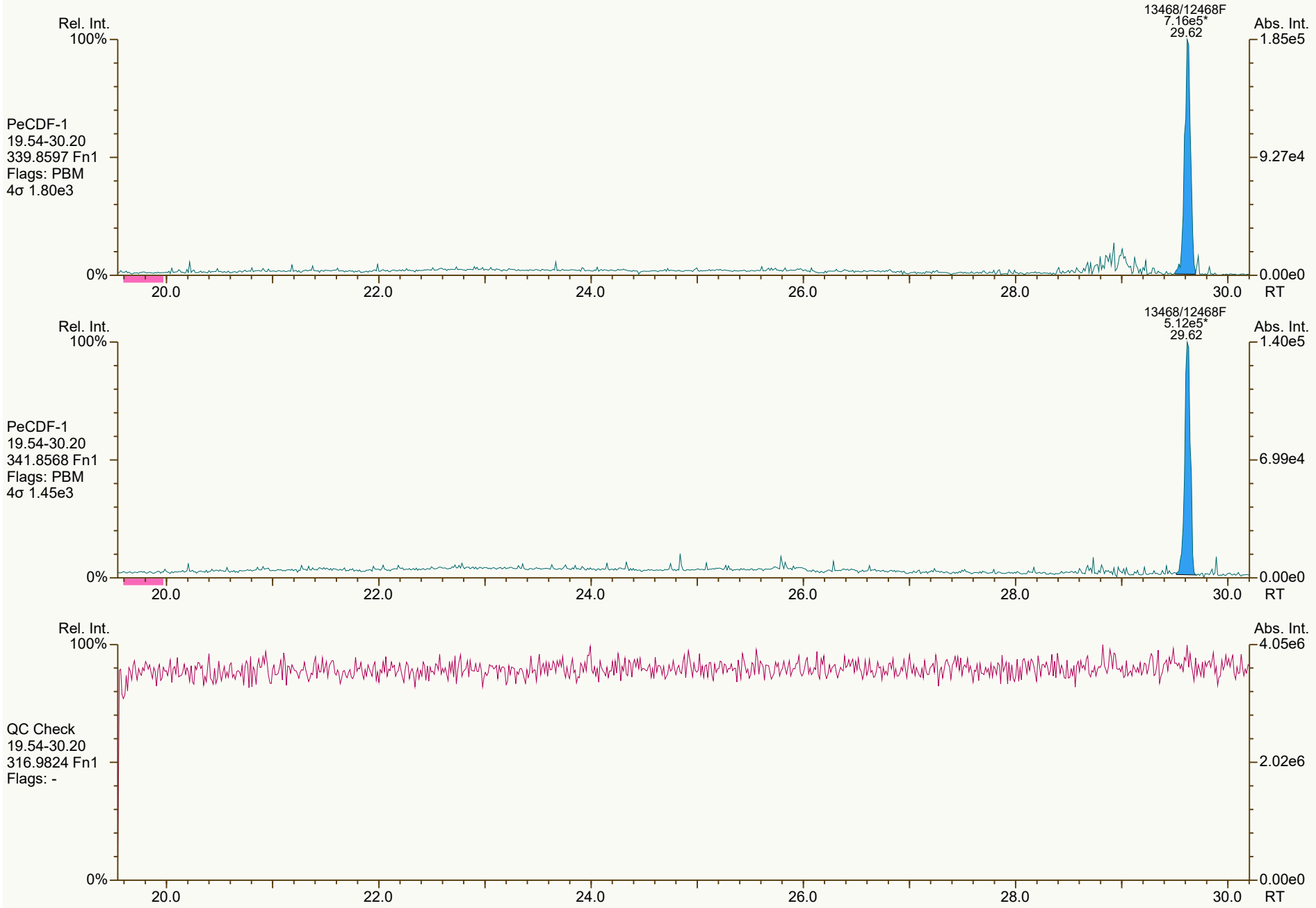
SGS ID: B6207_18874_DF_007 | Sample ID: 11215131-011922-S-BN-SW-O-18 | Acq: 03-Feb-2022 06:36:19

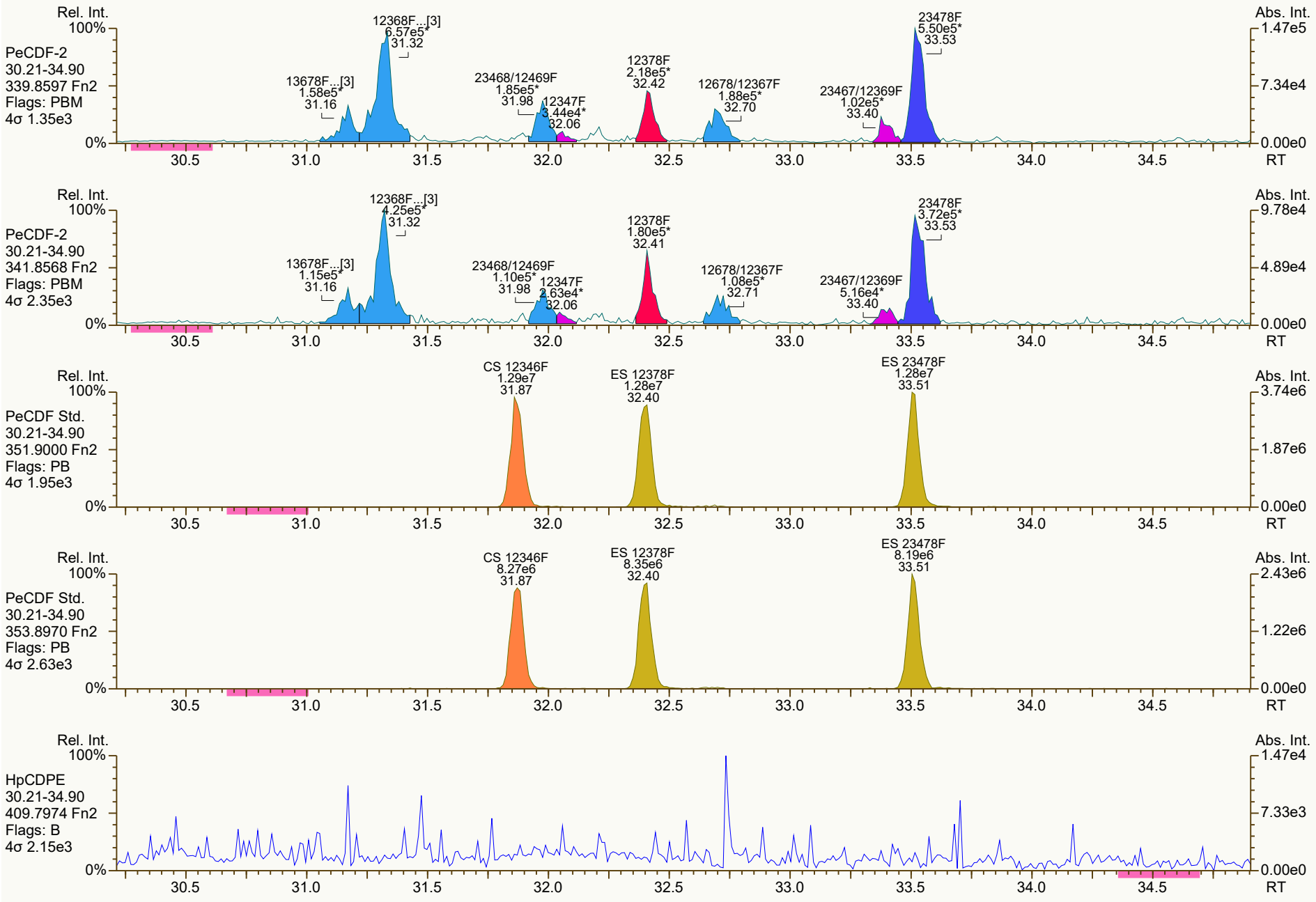
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20 | User: DTF Datafile: 220202C20

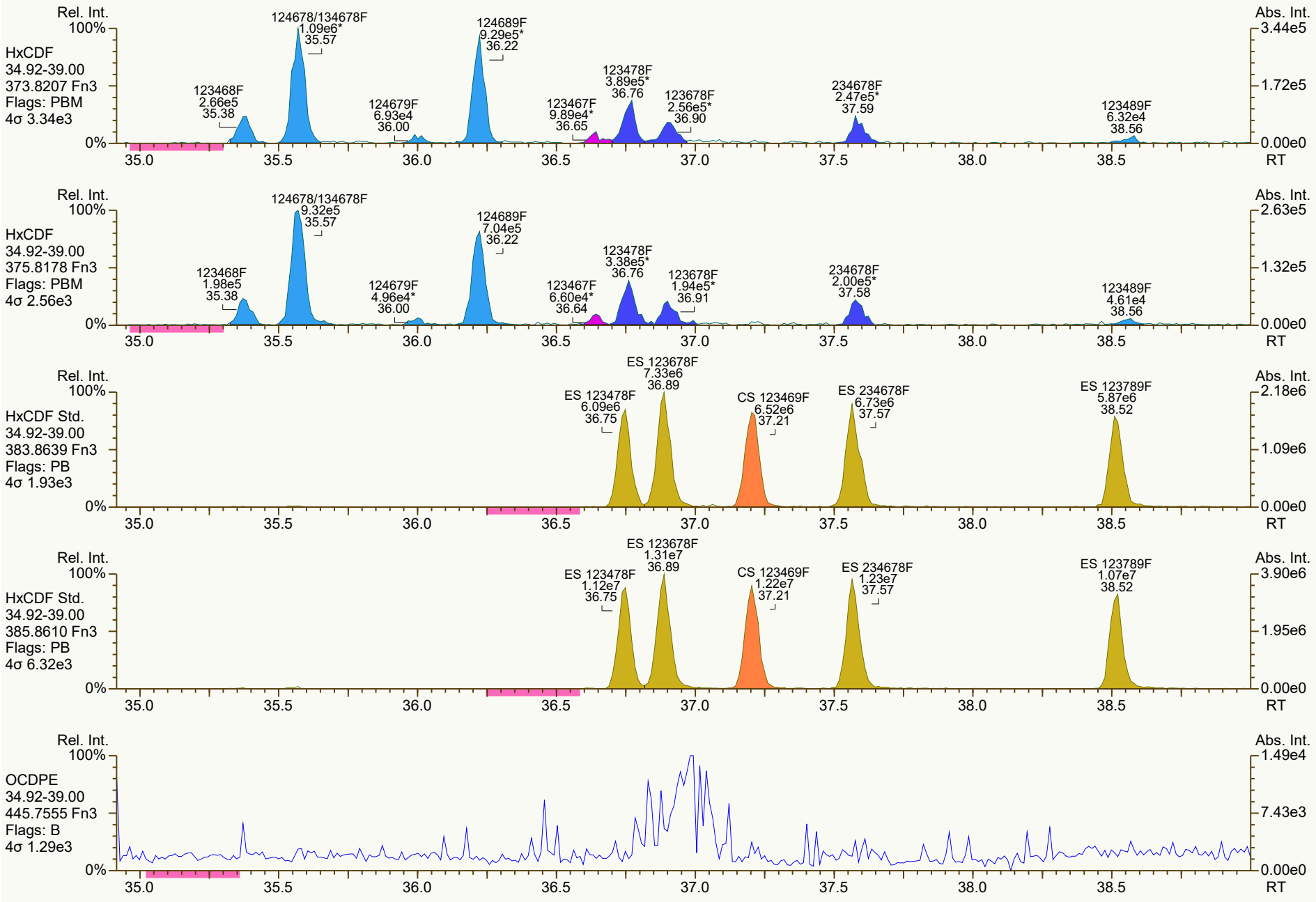


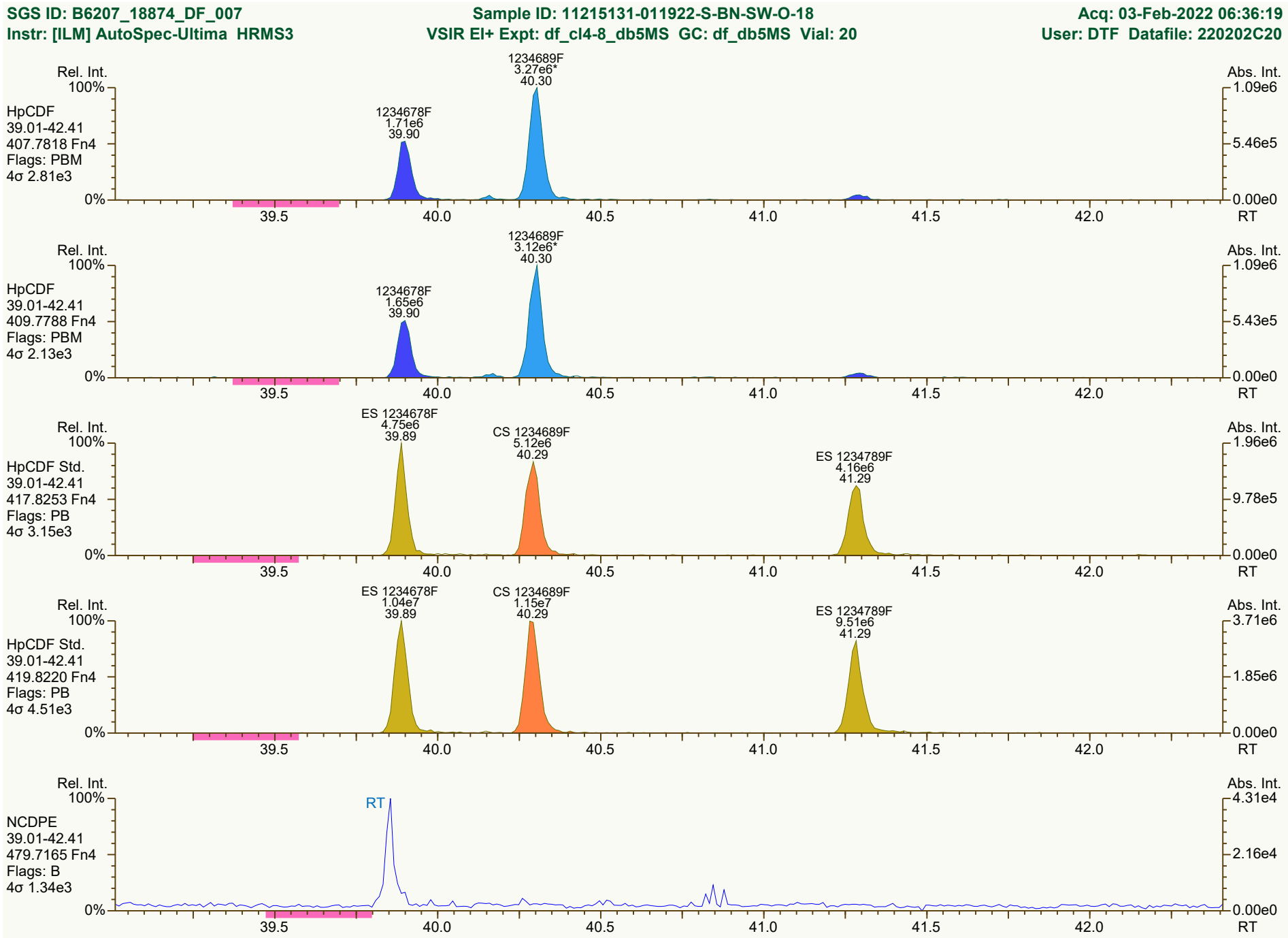
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_007.utp_res, saved 03-Feb-2022 13:42 (DTF) *Peak annotation: Areas, Centroids*

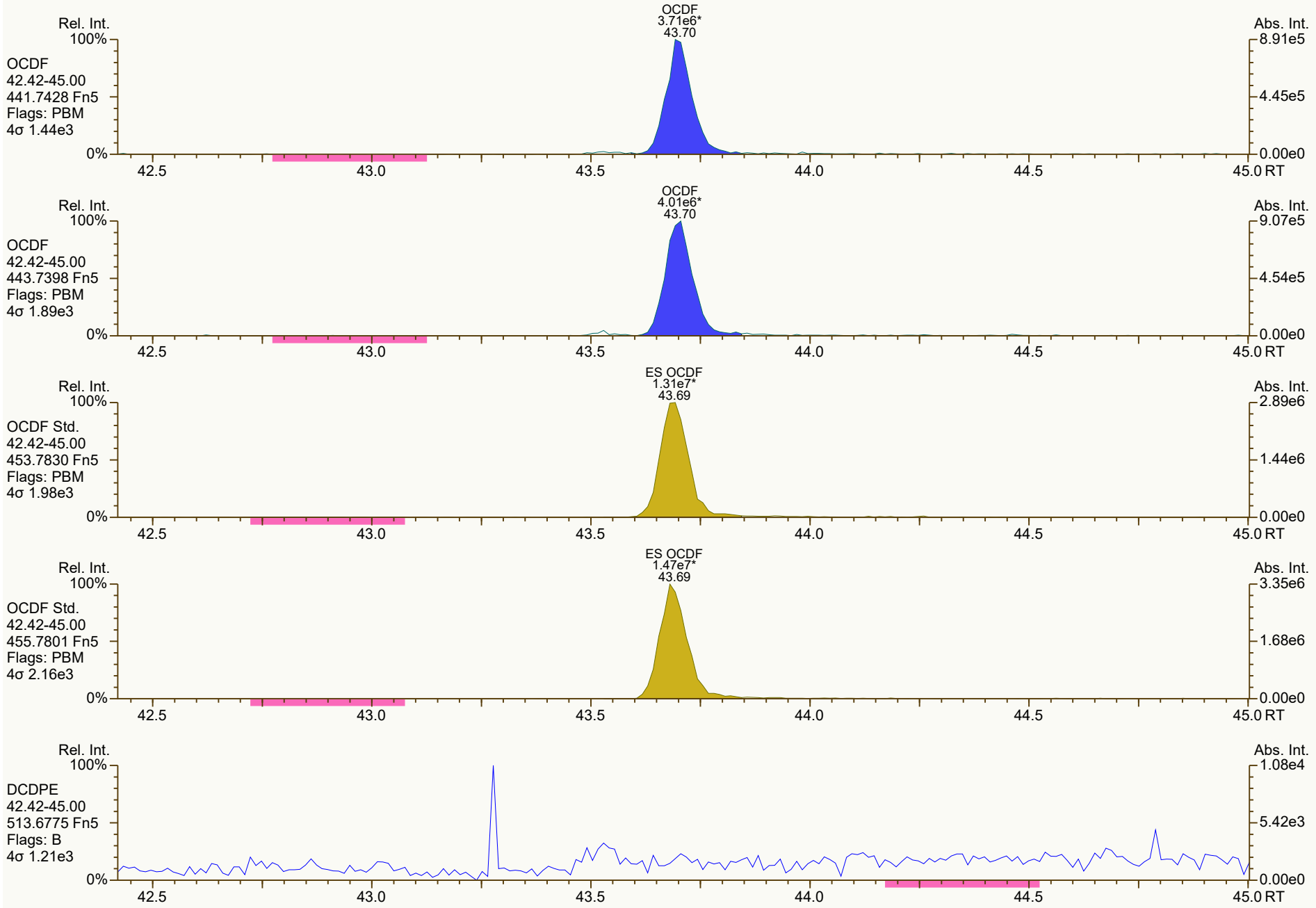
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4726, 4244, 1653 scc: 703-404 *Revised: 03-Feb-2022 11:44 (DTF) Printed: 03-Feb-2022 13:52 Page 7 of 12*


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.80e3
13468/12468F
7.16e5*
29.62
Abs. Int.
1.85e5
9.27e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.45e3
13468/12468F
5.12e5*
29.62
Abs. Int.
1.40e5
6.99e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.05e6
2.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.35e3
0%
12368F...[3]
6.57e5*
31.32
13678F...[3]
1.58e5*
31.16
23468/12469F
1.85e5*
31.98
12347F
3.44e4*
32.06
12378F
2.18e5*
32.42
12678/12367F
1.88e5*
32.70
23467/12369F
1.02e5*
33.40
23478F
5.50e5*
33.53
Abs. Int.
1.47e5
7.34e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.35e3
0%
12368F...[3]
4.25e5*
31.32
13678F...[3]
1.15e5*
31.16
23468/12469F
1.10e5*
31.98
12347F
2.63e4*
32.06
12378F
1.80e5*
32.41
12678/12367F
1.08e5*
32.71
23467/12369F
5.16e4*
33.40
23478F
3.72e5*
33.53
Abs. Int.
9.78e4
4.89e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.95e3
0%
CS 12346F
1.29e7
31.87
ES 12378F
1.28e7
32.40
ES 23478F
1.28e7
33.51
Abs. Int.
3.74e6
1.87e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.63e3
0%
CS 12346F
8.27e6
31.87
ES 12378F
8.35e6
32.40
ES 23478F
8.19e6
33.51
Abs. Int.
2.43e6
1.22e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.47e4
7.33e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.34e3
124678/134678F 1.09e6* 35.57
124689F 9.29e5* 36.22
123478F 3.89e5* 36.76
123468F 2.66e5 35.38
124679F 6.93e4 36.00
123467F 9.89e4* 36.65
123678F 2.56e5* 36.90
234678F 2.47e5* 37.59
123489F 6.32e4 38.56
Abs. Int.
3.44e5
1.72e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.56e3
124678/134678F 9.32e5 35.57
124689F 7.04e5 36.22
123478F 3.38e5* 36.76
123468F 1.98e5 35.38
124679F 4.96e4* 36.00
123467F 6.60e4* 36.64
123678F 1.94e5* 36.91
234678F 2.00e5* 37.58
123489F 4.61e4 38.56
Abs. Int.
2.63e5
1.32e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.93e3
ES 123678F 7.33e6 36.89
ES 123478F 6.09e6 36.75
CS 123469F 6.52e6 37.21
ES 234678F 6.73e6 37.57
ES 123789F 5.87e6 38.52
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 6.32e3
ES 123678F 1.31e7 36.89
ES 123478F 1.12e7 36.75
CS 123469F 1.22e7 37.21
ES 234678F 1.23e7 37.57
ES 123789F 1.07e7 38.52
Abs. Int.
3.90e6
1.95e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.29e3
Abs. Int.
1.49e4
7.43e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


SGS ID: B6207_18874_DF_007
Sample ID: 11215131-011922-S-BN-SW-O-18
Acq: 03-Feb-2022 06:36:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: DTF Datafile: 220202C20
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.81e3
1234689F
3.27e6*
40.30
1234678F
1.71e6
39.90
1.09e6
5.46e5
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.13e3
1234689F
3.12e6*
40.30
1234678F
1.65e6
39.90
1.09e6
5.43e5
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.15e3
ES 1234678F
4.75e6
39.89
CS 1234689F
5.12e6
40.29
ES 1234789F
4.16e6
41.29
1.96e6
9.78e5
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 4.51e3
ES 1234678F
1.04e7
39.89
CS 1234689F
1.15e7
40.29
ES 1234789F
9.51e6
41.29
3.71e6
1.85e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.34e3
RT
4.31e4
2.16e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_007.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0294, 0988, 1050 scc: 703-404
Revised: 03-Feb-2022 11:46 (DTF) Printed: 03-Feb-2022 13:52 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.44e3
0%
OCDF
3.71e6*
43.70
Abs. Int.
8.91e5
4.45e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.89e3
0%
OCDF
4.01e6*
43.70
Abs. Int.
9.07e5
4.54e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.98e3
0%
ES OCDF
1.31e7*
43.69
Abs. Int.
2.89e6
1.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.16e3
0%
ES OCDF
1.47e7*
43.69
Abs. Int.
3.35e6
1.68e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.08e4
5.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_008 **Acq'd:** 03 Feb 2022 07:22 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-20 **UTP:** 03-Feb-2022 13:42:35 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 821-680-FGY

Datafile: 220202C21 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.58	E	1.0008	1.0007	-0.2	1.70E+09	0.81	Y	1.18	20,100	3186.687	0.429
12378-PeCDD	33.92		1.0006	1.0006	0	1.41E+07	1.60	Y	1.04	196	4814.17	0.598
123478-HxCDD	37.81		1.0004	1.0004	0	3.61E+05	1.37	Y	1.09	5.19	8129.08	0.939
123678-HxCDD	37.92		1.0035	1.0034	-0.2	1.97E+06	1.36	Y	1.15	27.2	8129.08	0.979
123789-HxCDD	38.22		1.0112	1.0112	0	6.22E+05	1.33	Y	1.05	8.06	8129.08	0.818
1234678-HpCDD	40.86		1.0003	1.0004	+0.2	6.50E+07	1.05	Y	1.06	965	6175.823	0.69
OCDD	43.55	E	1.0004	1.0003	-0.3	8.19E+08	0.90	Y	1.13	15,900	4357.761	0.914
2378-TCDF	27.72	E	1.0008	1.0006	-0.3	5.61E+09	0.80	Y	1.08	53,700	4355.383	0.501
12378-PeCDF	32.48		1.0005	1.0005	0	3.38E+08	1.61	Y	1.02	3,060	7974.172	0.654
23478-PeCDF	33.61	PR	1.0005	1.0008	+0.6	1.98E+08	1.57	Y	1.02	1,880	7974.172	0.843
123478-HxCDF	36.81		1.0004	1.0005	+0.2	5.35E+08	1.26	Y	1.27	4,830	13829.152	1.04
123678-HxCDF	36.95		1.0004	1.0005	+0.2	1.33E+08	1.28	Y	1.15	1,150	13829.152	1.11
234678-HxCDF	37.64		1.0005	1.0005	0	2.44E+07	1.26	Y	1.19	257	13829.152	1.35
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	13829.152	1.12
1234678-HpCDF	39.93		1.0003	1.0003	0	1.30E+08	1.00	Y	1.37	1,250	7130.141	0.504
1234789-HpCDF	41.32		1.0002	1.0003	+0.2	3.99E+07	1.03	Y	1.31	493	7130.141	0.715
OCDF	43.72		1.0003	1.0003	0	1.16E+08	0.88	Y	1.07	1,820	3410.194	0.608

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.56	1.0236	1.0238	+0.3	1.43E+07	0.77	Y	1.05	79.6
ES 12378-PeCDD	33.90	1.2144	1.2153	+1.8	1.39E+07	1.51	Y	0.88	92.2
ES 123478-HxCDD	37.79	0.9920	0.9918	-0.5	1.27E+07	1.28	Y	0.97	83.4
ES 123678-HxCDD	37.91	0.9951	0.9948	-0.7	1.26E+07	1.22	Y	0.94	85.1
ES 123789-HxCDD	38.21	1.0027	1.0027	0	1.47E+07	1.26	Y	1.09	85.8
ES 1234678-HpCDD	40.85	1.0724	1.0720	-1.0	1.27E+07	0.99	Y	0.91	88.6
ES OCDD	43.53	1.1428	1.1424	-1.0	1.82E+07	0.90	Y	0.62	92.9
ES 2378-TCDF	27.70	1.0516	1.0518	+0.3	1.93E+07	0.88	Y	1.06	68.4
ES 12378-PeCDF	32.47	1.2312	1.2326	+2.7	2.15E+07	1.57	Y	0.91	88.5
ES 23478-PeCDF	33.58	1.2733	1.2749	+3.2	2.06E+07	1.58	Y	0.88	87.5
ES 123478-HxCDF	36.79	0.9655	0.9656	+0.2	1.74E+07	0.53	Y	1.20	92.5
ES 123678-HxCDF	36.93	0.9692	0.9692	0	1.99E+07	0.53	Y	1.35	93.8
ES 234678-HxCDF	37.62	0.9871	0.9872	+0.2	1.60E+07	0.52	Y	1.24	81.8
ES 123789-HxCDF	38.55	1.0121	1.0118	-0.7	1.66E+07	0.56	Y	1.16	91.4
ES 1234678-HpCDF	39.91	1.0479	1.0475	-1.0	1.52E+07	0.45	Y	0.97	100
ES 1234789-HpCDF	41.30	1.0845	1.0840	-1.2	1.24E+07	0.44	Y	0.85	92.5
ES OCDF	43.71	1.1477	1.1470	-1.8	2.38E+07	0.91	Y	0.81	93.9

Lab ID: B6207_18874_DF_008 **Acq'd:** 03 Feb 2022 07:22 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-20 **UTP:** 03-Feb-2022 13:42:35 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 821-680-FGY

Datafile: 220202C21 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.89		-	-	-	1.72E+07	0.80	Y	-	-	
JS 1234-TCDF	26.34		-	-	-	2.67E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.10		-	-	-	7.85E+06	1.31	Y	-	-	
CS 37Cl-2378-TCDD	28.58		1.0244	1.0245	+0.2	5.38E+06	n/a	-	1.20	65.2	
CS 12347-PeCDD	33.40		1.1964	1.1976	+2.4	1.27E+07	1.61	Y	0.75	98.5	
CS 12346-PeCDF	31.94		1.2112	1.2127	+2.9	2.11E+07	1.54	Y	0.85	92.6	
CS 123469-HxCDF	37.25		0.9775	0.9777	+0.4	1.75E+07	0.53	Y	1.12	99.6	
CS 1234689-HpCDF	40.32		1.0584	1.0582	-0.5	1.46E+07	0.46	Y	0.89	105	
~~SS 37Cl-2378-TCDD~~	~~28.58~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~5.38E+06~~	~~n/a~~		~~1.15~~	~~82~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.40~~		~~1.1964~~	~~1.1976~~	~~+2.4~~	~~1.27E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~107~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.94~~		~~1.2112~~	~~1.2127~~	~~+2.9~~	~~2.11E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.25~~		~~0.9775~~	~~0.9777~~	~~+0.4~~	~~1.75E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.32~~		~~1.0584~~	~~1.0582~~	~~-0.5~~	~~1.46E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~104~~	

Totals	Conc	EMPC
Total TCDD	22500	22500
Total PeCDD	264	267
Total HxCDD	235	235
Total HpCDD	2030	2030
Total Tetra-Octa Dioxins	40900	40900
Total TCDF	91,400	91400
Total PeCDF	7,530	7530
Total HxCDF	7,290	7290
Total HpCDF	2,200	2200
Total Tetra-Octa Furans	110,000	110000
Total Tetra-Octa Dioxins & Furans	151000	151000

Lab ID: B6207_18874_DF_008 **Acq'd: 03 Feb 2022 07:22 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-20 **UTP: 03-Feb-2022 13:42:35 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 821-680-FGY**

Datafile: 220202C21 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.96	EMPC	0.8737	0.8740	+0.4	2.05E+05	0.90	N	1.18	2.42	3186.687	0.429
1379-TCDD	25.30	EMPC	0.8860	0.8858	-0.3	4.01E+05	0.91	N	1.18	4.73	3186.687	0.429
1369-TCDD	NotFnd		0.9009						1.18		3186.687	0.429
1469-TCDD	NotFnd		0.9281						1.18		3186.687	0.429
1247/1246/1248/1249-TCDD	26.73		0.9362	0.9359	-0.5	1.16E+06	0.88	Y	1.18	13.7	3186.687	0.429
1378-TCDD	26.92		0.9432	0.9425	-1.1	3.31E+06	0.84	Y	1.18	39	3186.687	0.429
1268-TCDD	27.12		0.9500	0.9498	-0.3	2.43E+05	0.73	Y	1.18	2.86	3186.687	0.429
1478-TCDD	27.37		0.9586	0.9584	-0.3	1.63E+06	0.76	Y	1.18	19.2	3186.687	0.429
1279-TCDD	NotFnd		0.9645						1.18		3186.687	0.429
1234/1269-TCDD	27.88		0.9770	0.9762	-1.3	4.70E+05	0.76	Y	1.18	5.55	3186.687	0.429
1236-TCDD	28.05		0.9817	0.9823	+1.0	1.69E+05	0.85	Y	1.18	1.99	3186.687	0.429
1237/1238-TCDD	28.29		0.9905	0.9906	+0.2	2.42E+07	0.79	Y	1.18	286	3186.687	0.429
1239-TCDD	NotFnd		0.9952						1.18		3186.687	0.429
2378-TCDD	**28.58**	E	**1.0008**	1.0007	**-0.2**	1.70E+09	0.81	Y	**1.18**	**20,100**	**3186.687**	**0.429**
1278-TCDD	28.91	E	1.0121	1.0124	+0.5	1.65E+08	0.79	Y	1.18	1,940	3186.687	0.429
1267-TCDD	29.06		1.0167	1.0178	+1.9	4.63E+06	0.80	Y	1.18	54.6	3186.687	0.429
1289-TCDD	29.57		1.0345	1.0353	+1.4	1.80E+06	0.79	Y	1.18	21.2	3186.687	0.429
12479/12468-PeCDD	31.43		0.9267	0.9272	+0.9	8.25E+05	1.57	Y	1.04	11.4	4814.17	0.598
12469-PeCDD	31.96		0.9425	0.9429	+0.8	3.68E+05	1.38	Y	1.04	5.09	4814.17	0.598
12368-PeCDD	32.50		0.9588	0.9588	0	1.30E+06	1.55	Y	1.04	18	4814.17	0.598
12478-PeCDD	32.70		0.9643	0.9645	+0.4	8.38E+05	1.39	Y	1.04	11.6	4814.17	0.598
12379-PeCDD	32.80		0.9673	0.9676	+0.6	4.02E+05	1.45	Y	1.04	5.57	4814.17	0.598
12369/12467/12489-PeCDD	33.05	EMPC	0.9750	0.9750	0	2.10E+05	1.92	N	1.04	2.91	4814.17	0.598
12346/12347-PeCDD	33.42		0.9858	0.9860	+0.4	4.11E+05	1.33	Y	1.04	5.69	4814.17	0.598
12378-PeCDD	33.92		**1.0006**	**1.0006**	**0**	**1.41E+07**	**1.60**	**Y**	**1.04**	**196**	**4814.17**	**0.598**
12367-PeCDD	34.02		1.0033	1.0036	+0.6	5.08E+05	1.59	Y	1.04	7.04	4814.17	0.598
12389-PeCDD	34.36		1.0134	1.0136	+0.4	2.64E+05	1.47	Y	1.04	3.66	4814.17	0.598
124679/124689-HxCDD	36.07		0.9542	0.9545	+0.6	6.79E+06	1.27	Y	1.10	92.8	8129.08	0.908
123468-HxCDD	36.72		0.9715	0.9717	+0.4	1.04E+06	1.35	Y	1.10	14.2	8129.08	0.908
123679/123689-HxCDD	37.01		0.9793	0.9794	+0.2	5.40E+06	1.31	Y	1.10	73.8	8129.08	0.908
123469-HxCDD	37.15		0.9828	0.9831	+0.7	7.42E+05	1.38	Y	1.10	10.1	8129.08	0.908
123478-HxCDD	37.81		**1.0004**	**1.0004**	**0**	**3.61E+05**	**1.37**	**Y**	1.09	**5.19**	**8129.08**	**0.939**
123678-HxCDD	37.92		**1.0035**	**1.0034**	**-0.2**	**1.97E+06**	**1.36**	**Y**	1.15	**27.2**	**8129.08**	**0.979**
123467-HxCDD	38.12		1.0085	1.0086	+0.2	3.07E+05	1.38	Y	1.10	4.19	8129.08	0.908
123789-HxCDD	38.22		**1.0112**	**1.0112**	**0**	**6.22E+05**	**1.33**	**Y**	1.05	**8.06**	**8129.08**	**0.818**

Lab ID: B6207_18874_DF_008 **Acq'd:** 03 Feb 2022 07:22 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-20 **UTP:** 03-Feb-2022 13:42:35 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 821-680-FGY

Datafile: 220202C21 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

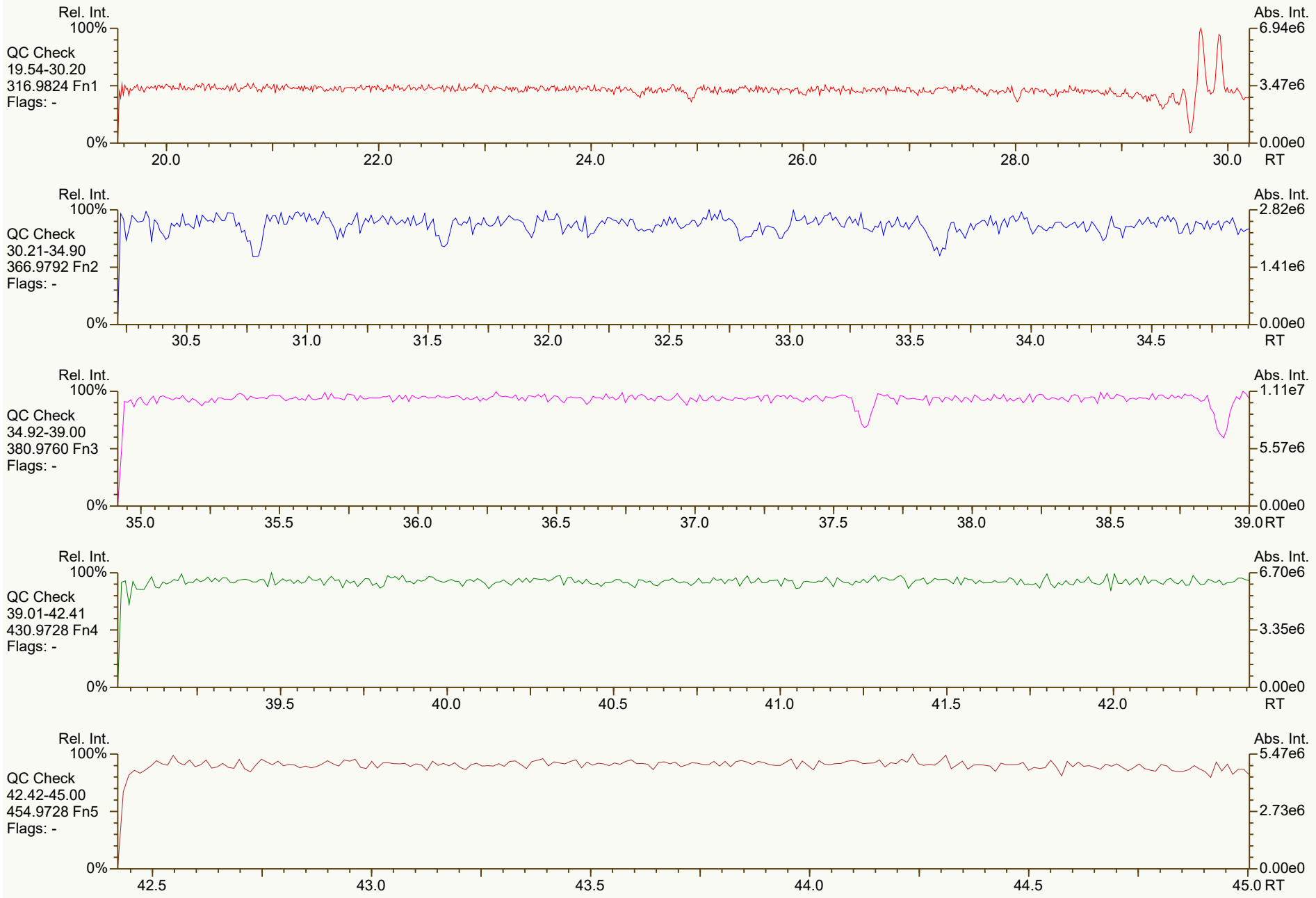
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.18		0.9837	0.9838	+0.2	7.18E+07	1.05	Y	1.06	1,070	6175.823	0.69
1234678-HpCDD	**40.86**		**1.0003**	**1.0004**	**+0.2**	**6.50E+07**	**1.05**	**Y**	**1.06**	**965**	**6175.823**	**0.69**
OCDD	**43.55**	**E**	**1.0004**	**1.0003**	**-0.3**	**8.19E+08**	**0.90**	**Y**	**1.13**	**15,900**	**4357.761**	**0.914**
OCDD-a	43.54	E	1.0003	1.0002	-0.3	5.00E+07	2.45	Y	0.07	15,200	5250.672	17.2
1368-TCDF	22.82		0.8251	0.8239	-1.6	1.70E+05	0.85	Y	1.08	1.63	4355.383	0.501
1468-TCDF	23.42		0.8458	0.8454	-0.6	2.77E+06	0.78	Y	1.08	26.5	4355.383	0.501
2468-TCDF	24.05		0.8686	0.8683	-0.4	3.98E+06	0.77	Y	1.08	38.1	4355.383	0.501
1346/1246-TCDF	NotFnd		0.8814						1.08		4355.383	0.501
1347/1378/1247-TCDF	24.55		0.8867	0.8863	-0.6	1.21E+07	0.80	Y	1.08	116	4355.383	0.501
1348-TCDF	24.84		0.8962	0.8967	+0.7	4.95E+06	0.76	Y	1.08	47.4	4355.383	0.501
1248/1367/1379-TCDF	24.95		0.9009	0.9005	-0.6	2.23E+07	0.80	Y	1.08	213	4355.383	0.501
1268-TCDF	25.34		0.9145	0.9146	+0.2	1.33E+07	0.78	Y	1.08	128	4355.383	0.501
1467-TCDF	25.46		0.9193	0.9191	-0.3	9.65E+06	0.80	Y	1.08	92.4	4355.383	0.501
1478-TCDF	25.63		0.9254	0.9252	-0.3	3.14E+07	0.81	Y	1.08	301	4355.383	0.501
1369/1237-TCDF	26.02		0.9387	0.9392	+0.8	1.72E+07	0.76	Y	1.08	165	4355.383	0.501
2467-TCDF	26.13		0.9433	0.9432	-0.2	6.90E+06	0.81	Y	1.08	66.1	4355.383	0.501
2368-TCDF (1238/...	26.33	E	0.9489	0.9504	+2.4	2.18E+08	0.80	Y	1.08	2,090	4355.383	0.501
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		4355.383	0.501
1278-TCDF	26.82	E	0.9683	0.9682	-0.2	2.24E+09	0.79	Y	1.08	21,400	4355.383	0.501
1349-TCDF	NotFnd		0.9722						1.08		4355.383	0.501
1267-TCDF	27.09		0.9783	0.9779	-0.7	3.78E+07	0.79	Y	1.08	362	4355.383	0.501
2346/1249-TCDF	27.27		0.9850	0.9843	-1.1	1.31E+07	0.79	Y	1.08	125	4355.383	0.501
2347/1279-TCDF	27.49		0.9926	0.9923	-0.5	7.61E+07	0.79	Y	1.08	729	4355.383	0.501
2348-TCDF	27.59	E	0.9967	0.9961	-1.0	1.97E+08	0.77	Y	1.08	1,880	4355.383	0.501
2378-TCDF	**27.72**	E	**1.0008**	**1.0006**	**-0.3**	**5.61E+09**	**0.80**	**Y**	**1.08**	**53,700**	**4355.383**	**0.501**
2367/3467-TCDF	28.08	E	1.0137	1.0135	-0.3	5.35E+08	0.79	Y	1.08	5,120	4355.383	0.501
1269-TCDF	28.33		1.0223	1.0226	+0.5	2.43E+07	0.79	Y	1.08	233	4355.383	0.501
1239-TCDF	28.59		1.0321	1.0320	-0.2	6.28E+06	0.82	Y	1.08	60.2	4355.383	0.501
1289-TCDF	29.75	E	1.0722	1.0741	+3.4	4.63E+08	0.78	Y	1.08	4,430	4355.383	0.501
13468/12468-PeCDF	29.70		0.9139	0.9150	+2.0	4.61E+06	1.63	Y	1.02	42.8	3826.776	0.358
13678/13467/12467-PeCDF	31.23		0.9613	0.9621	+1.5	2.94E+06	1.59	Y	1.02	27.3	7974.172	0.746
12368/13478/12478-PeCDF	31.39		0.9662	0.9670	+1.5	1.34E+08	1.58	Y	1.02	1,240	7974.172	0.746
14678-PeCDF	NotFnd		0.9692						1.02		7974.172	0.746
13479-PeCDF	NotFnd		0.9723						1.02		7974.172	0.746
13469/12479-PeCDF	NotFnd		0.9797						1.02		7974.172	0.746
12346-PeCDF	NotFnd		0.9840						1.02		7974.172	0.746

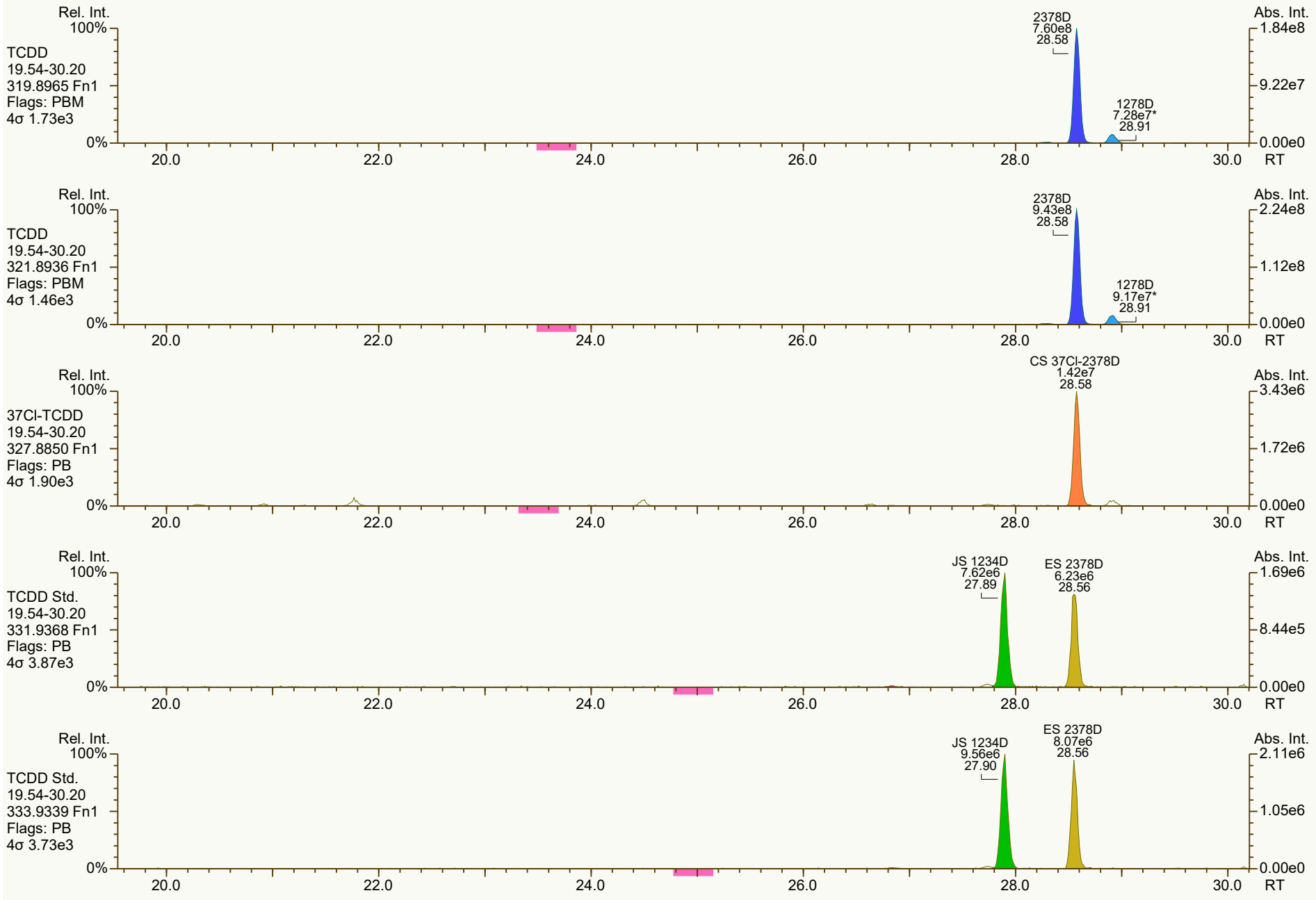
Lab ID: B6207_18874_DF_008 **Acq'd: 03 Feb 2022 07:22 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-20 **UTP: 03-Feb-2022 13:42:35 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 821-680-FGY**

Datafile: 220202C21 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.03		0.9868	0.9866	-0.4	4.75E+06	1.55	Y	1.02	44.1	7974.172	0.746
12347-PeCDF	32.12		0.9894	0.9894	0	4.40E+06	1.57	Y	1.02	40.9	7974.172	0.746
12348-PeCDF	32.27		0.9940	0.9941	+0.2	2.45E+07	1.63	Y	1.02	228	7974.172	0.746
12378-PeCDF	**32.48**		**1.0005**	**1.0005**	**0**	**3.38E+08**	**1.61**	**Y**	**1.02**	**3,060**	**7974.172**	**0.654**
12678/12367-PeCDF	32.77		1.0089	1.0093	+0.8	8.83E+07	1.55	Y	1.02	819	7974.172	0.746
12379-PeCDF	NotFnd		1.0142						1.02		7974.172	0.746
12679-PeCDF	33.33		0.9929	0.9926	-0.6	6.56E+05	1.50	Y	1.02	6.08	7974.172	0.746
23467/12369-PeCDF	33.45		0.9967	0.9963	-0.8	3.04E+06	1.57	Y	1.02	28.2	7974.172	0.746
23478-PeCDF	**33.61**	PR	**1.0005**	**1.0008**	**+0.6**	**1.98E+08**	**1.57**	**Y**	**1.02**	**1,880**	**7974.172**	**0.843**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7974.172	0.746
12349-PeCDF	NotFnd		1.0100						1.02		7974.172	0.746
12389-PeCDF	34.65		1.0324	1.0319	-1.0	1.15E+07	1.63	Y	1.02	107	7974.172	0.746
123468-HxCDF	35.44		0.9627	0.9633	+1.3	4.44E+06	1.22	Y	1.19	42.5	13829.152	1.15
124678/134678-HxCDF	35.63		0.9682	0.9685	+0.6	4.01E+07	1.23	Y	1.19	383	13829.152	1.15
134679-HxCDF	NotFnd		0.9744						1.19		13829.152	1.15
124679-HxCDF	36.05		0.9798	0.9797	-0.2	3.87E+05	1.35	Y	1.19	3.71	13829.152	1.15
124689-HxCDF	36.28		0.9858	0.9860	+0.4	2.12E+07	1.22	Y	1.19	203	13829.152	1.15
123467-HxCDF	36.69		0.9972	0.9972	0	2.92E+06	1.27	Y	1.19	27.9	13829.152	1.15
123478-HxCDF	**36.81**		**1.0004**	**1.0005**	**+0.2**	**5.35E+08**	**1.26**	**Y**	**1.27**	**4,830**	**13829.152**	**1.04**
123678-HxCDF	**36.95**		**1.0004**	**1.0005**	**+0.2**	**1.33E+08**	**1.28**	**Y**	**1.15**	**1,150**	**13829.152**	**1.11**
123479-HxCDF	NotFnd		1.0049						1.19		13829.152	1.15
123469-HxCDF	NotFnd		1.0090						1.19		13829.152	1.15
123679-HxCDF	NotFnd		0.9942						1.19		13829.152	1.15
234678-HxCDF	**37.64**		**1.0005**	**1.0005**	**0**	**2.44E+07**	**1.26**	**Y**	**1.19**	**257**	**13829.152**	**1.35**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		13829.152	1.15
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**13829.152**	**1.12**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.59		1.0009	1.0011	+0.5	4.09E+07	1.24	Y	1.19	392	13829.152	1.15
1234678-HpCDF	**39.93**		**1.0003**	**1.0003**	**0**	**1.30E+08**	**1.00**	**Y**	**1.37**	**1,250**	**7130.141**	**0.504**
1234679-HpCDF	40.18		1.0068	1.0067	-0.2	1.68E+06	1.04	Y	1.34	18.1	7130.141	0.598
1234689-HpCDF	40.33		1.0103	1.0105	+0.5	4.12E+07	1.04	Y	1.34	445	7130.141	0.598
1234789-HpCDF	**41.32**		**1.0002**	**1.0003**	**+0.2**	**3.99E+07**	**1.03**	**Y**	**1.31**	**493**	**7130.141**	**0.715**
OCDF	**43.72**		**1.0003**	**1.0003**	**0**	**1.16E+08**	**0.88**	**Y**	**1.07**	**1,820**	**3410.194**	**0.608**
OCDF-a	43.72		1.0002	1.0002	0	7.84E+06	2.54	Y	0.07	1,980	3834.685	11

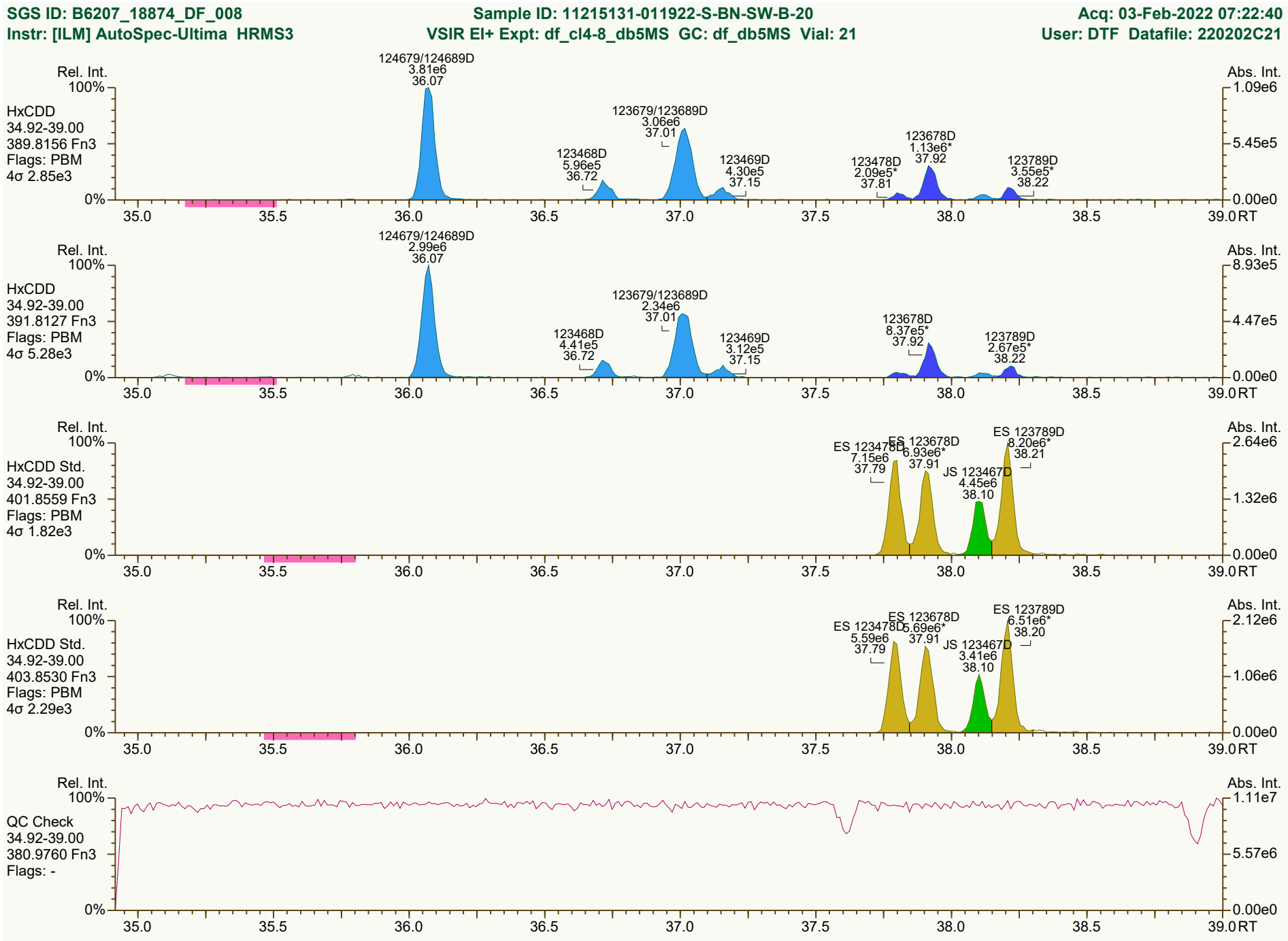

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.94e6
3.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.11e7
5.57e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.70e6
3.35e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.47e6
2.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

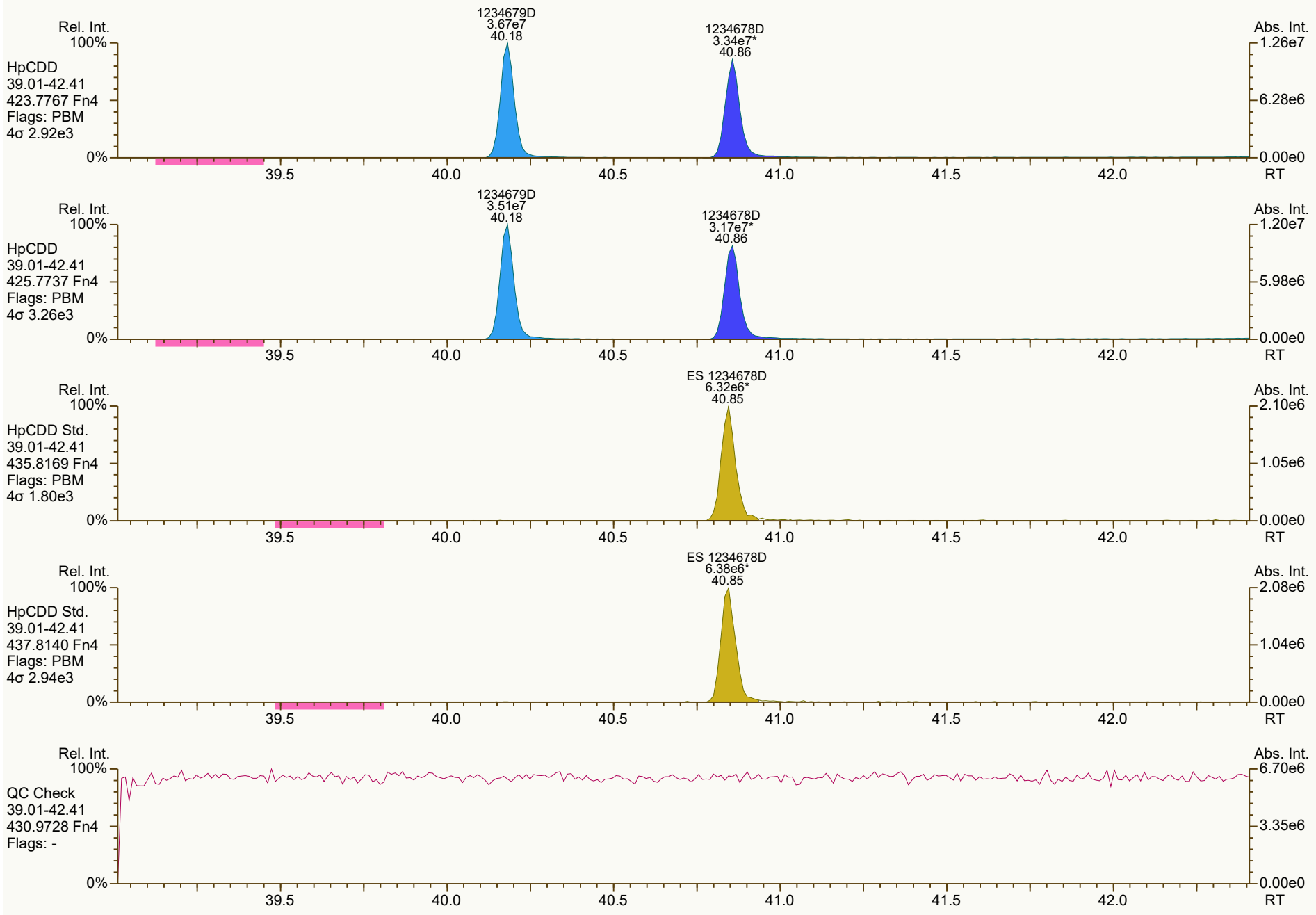

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.73e3
0%
2378D
7.60e8
28.58
1278D
7.28e7*
28.91
Abs. Int.
1.84e8
9.22e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.46e3
0%
2378D
9.43e8
28.58
1278D
9.17e7*
28.91
Abs. Int.
2.24e8
1.12e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.90e3
0%
CS 37Cl-2378D
1.42e7
28.58
Abs. Int.
3.43e6
1.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.87e3
0%
JS 1234D
7.62e6
27.89
ES 2378D
6.23e6
28.56
Abs. Int.
1.69e6
8.44e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.73e3
0%
JS 1234D
9.56e6
27.90
ES 2378D
8.07e6
28.56
Abs. Int.
2.11e6
1.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

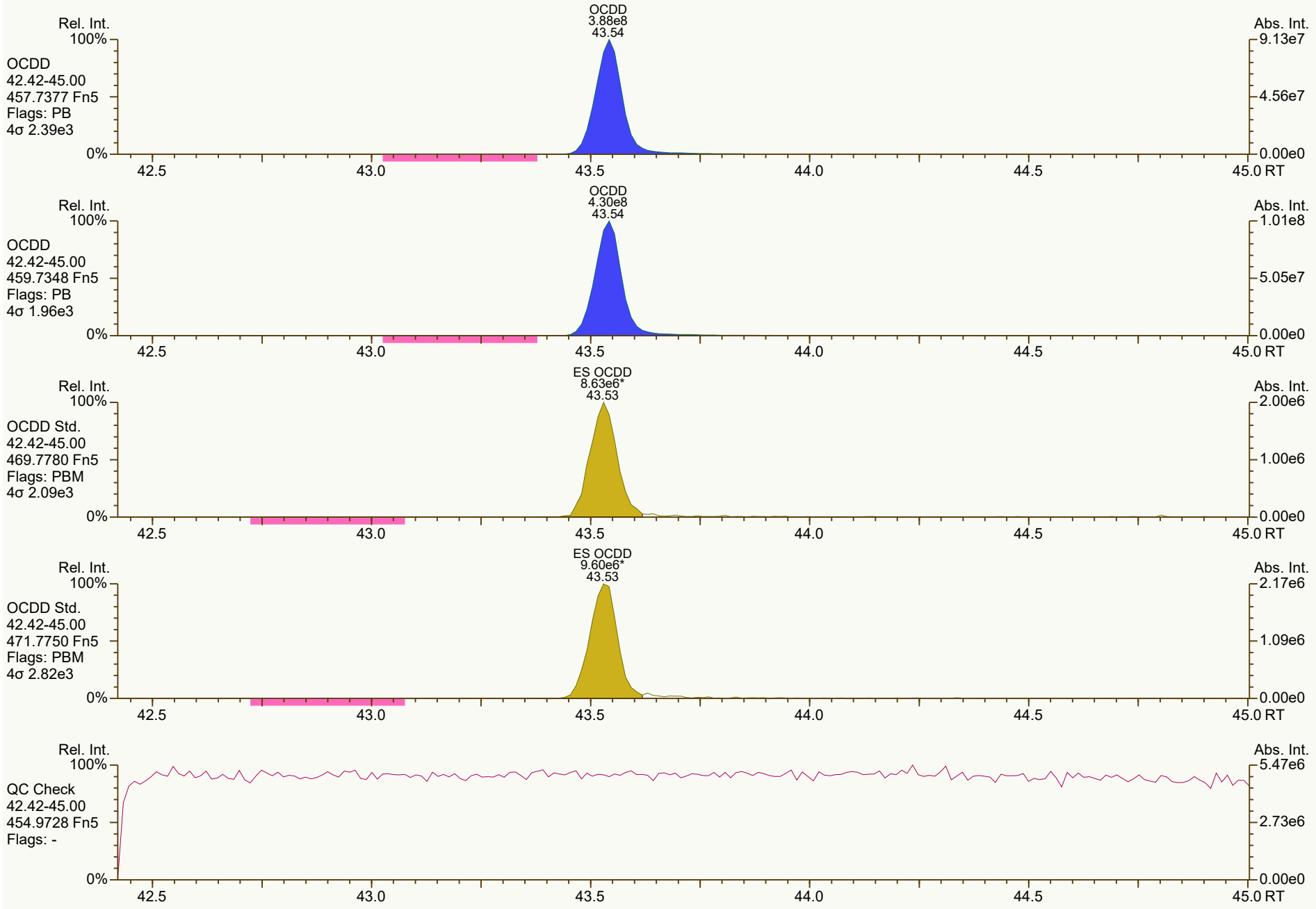
SGS ID: B6207_18874_DF_008 Sample ID: 11215131-011922-S-BN-SW-B-20 Acq: 03-Feb-2022 07:22:40
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 User: DTF Datafile: 220202C21

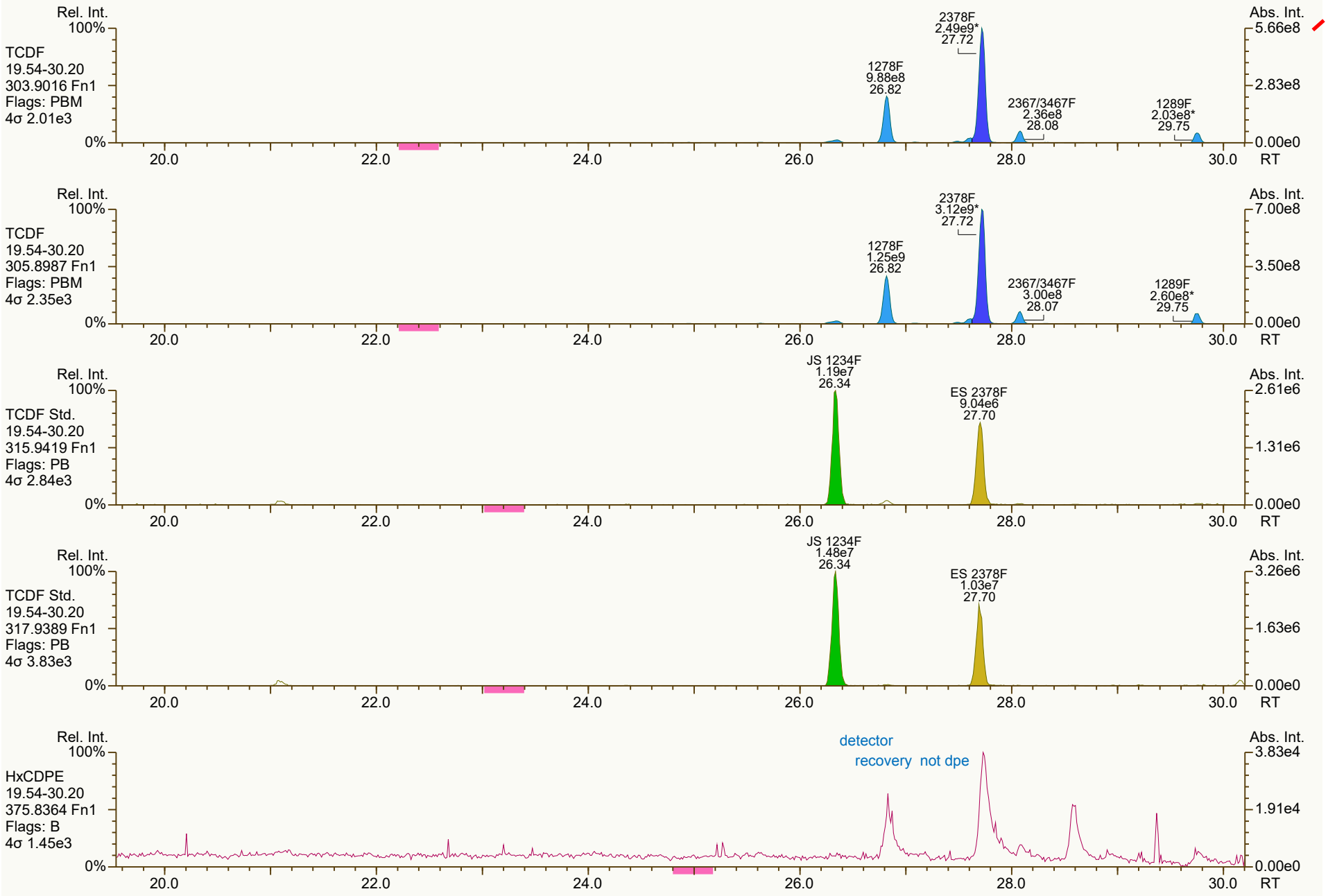


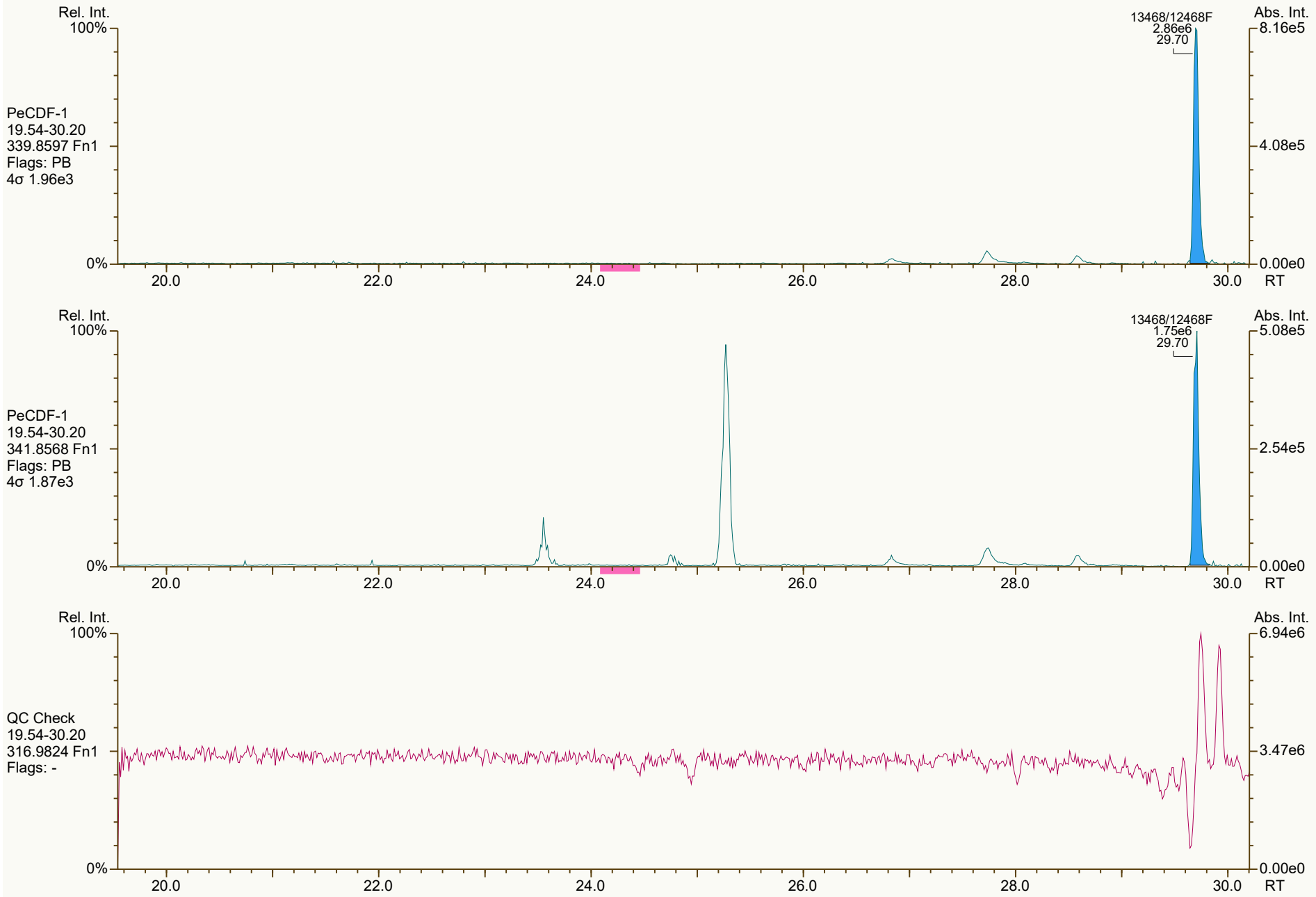
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_008.utp_res, saved 03-Feb-2022 13:42 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6624, 4665 scc: 821-680 *Revised: 03-Feb-2022 11:50 (DTF) Printed: 03-Feb-2022 13:52 Page 3 of 12*

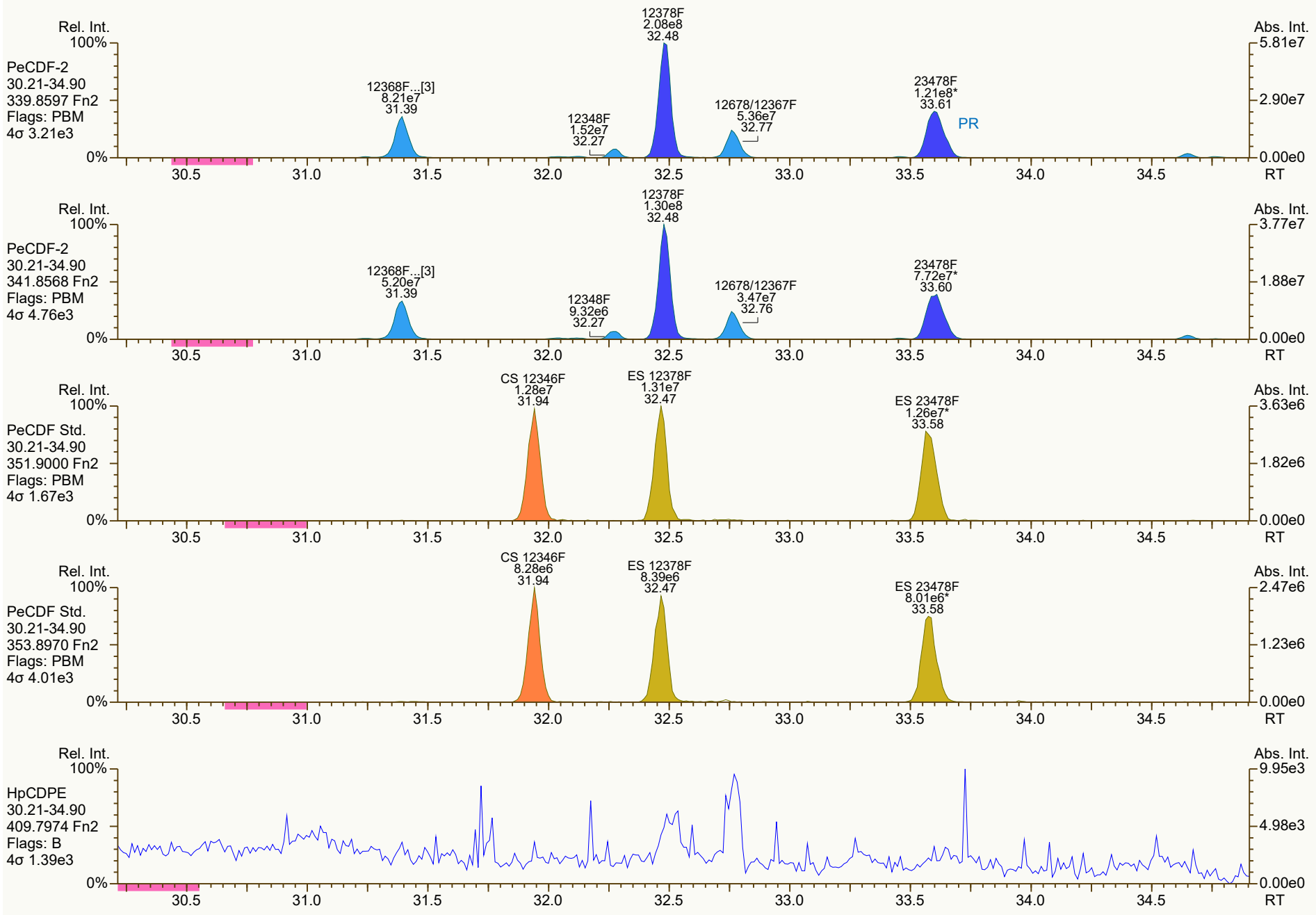

SGS ID: B6207_18874_DF_008
Sample ID: 11215131-011922-S-BN-SW-B-20
Acq: 03-Feb-2022 07:22:40
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: DTF Datafile: 220202C21
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.85e3
124679/124689D
3.81e6
36.07
123679/123689D
3.06e6
37.01
123468D
5.96e5
36.72
123469D
4.30e5
37.15
123678D
1.13e6*
37.92
123478D
2.09e5*
37.81
123789D
3.55e5*
38.22
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 5.28e3
124679/124689D
2.99e6
36.07
123679/123689D
2.34e6
37.01
123468D
4.41e5
36.72
123469D
3.12e5
37.15
123678D
8.37e5*
37.92
123789D
2.67e5*
38.22
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.82e3
ES 123478D
7.15e6
37.79
ES 123678D
6.93e6*
37.91
JS 123467D
4.45e6
38.10
ES 123789D
8.20e6*
38.21
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.29e3
ES 123478D
5.59e6
37.79
ES 123678D
5.69e6*
37.91
JS 123467D
3.41e6
38.10
ES 123789D
6.51e6*
38.20
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
1.09e6
5.45e5
0.00e0
8.93e5
4.47e5
2.64e6
1.32e6
2.12e6
1.06e6
1.11e7
5.57e6
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_008.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8885, 7262 scc: 821-680
Revised: 03-Feb-2022 11:50 (DTF) Printed: 03-Feb-2022 13:52 Page 4 of 12

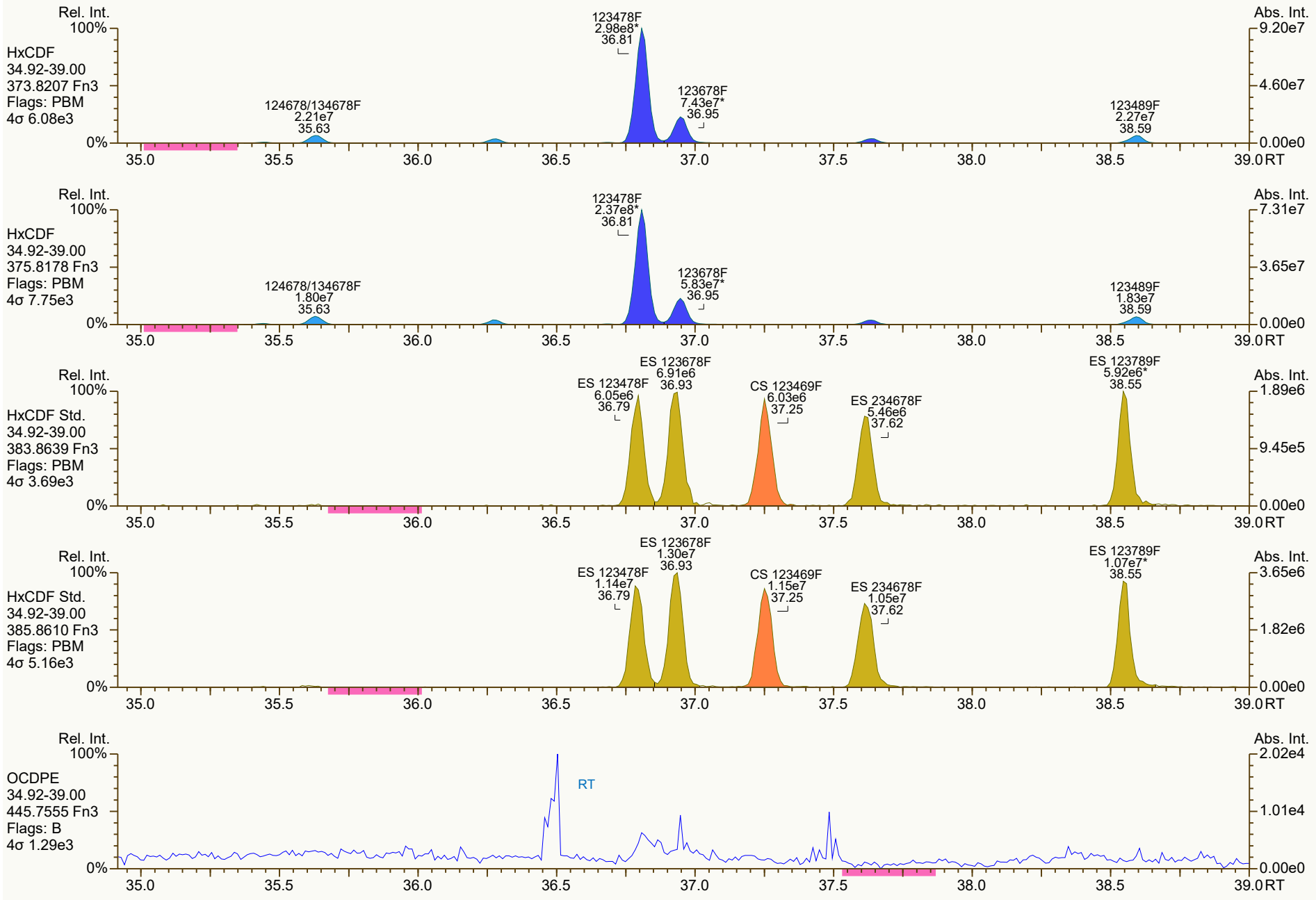

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.92e3
0%
1234679D
3.67e7
40.18
1234678D
3.34e7*
40.86
Abs. Int.
1.26e7
6.28e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 3.26e3
0%
1234679D
3.51e7
40.18
1234678D
3.17e7*
40.86
Abs. Int.
1.20e7
5.98e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.80e3
0%
ES 1234678D
6.32e6*
40.85
Abs. Int.
2.10e6
1.05e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.94e3
0%
ES 1234678D
6.38e6*
40.85
Abs. Int.
2.08e6
1.04e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.70e6
3.35e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

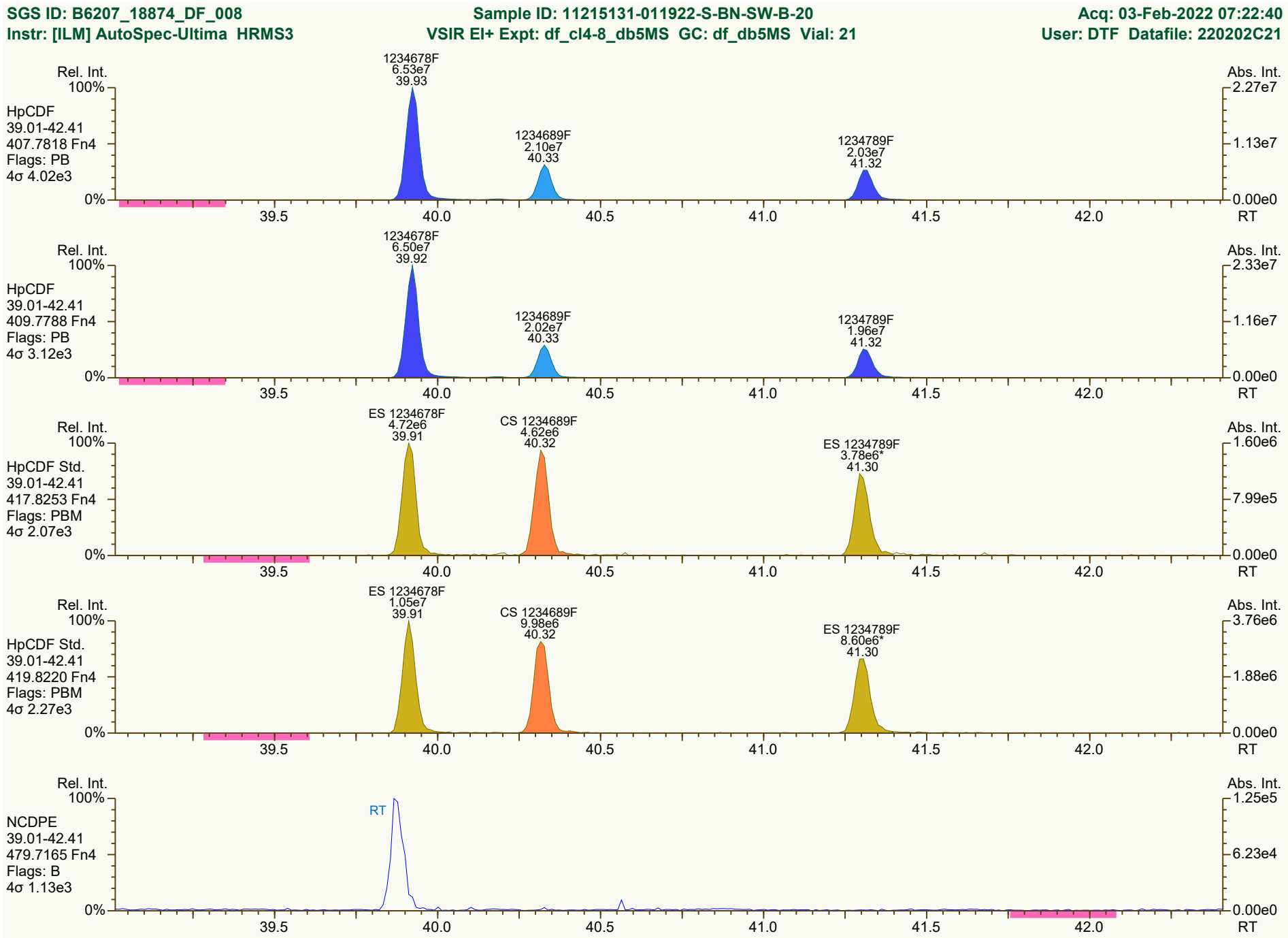

OCDD
3.88e8
43.54
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.39e3
0%
Abs. Int.
9.13e7
4.56e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.30e8
43.54
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.96e3
1.01e8
5.05e7
ES OCDD
8.63e6*
43.53
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.09e3
2.00e6
1.00e6
ES OCDD
9.60e6*
43.53
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.82e3
2.17e6
1.09e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.47e6
2.73e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.01e3
0%
2378F
2.49e9*
27.72
1278F
9.88e8
26.82
2367/3467F
2.36e8
28.08
1289F
2.03e8*
29.75
Abs. Int.
5.66e8
2.83e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.35e3
0%
2378F
3.12e9*
27.72
1278F
1.25e9
26.82
2367/3467F
3.00e8
28.07
1289F
2.60e8*
29.75
Abs. Int.
7.00e8
3.50e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.84e3
0%
JS 1234F
1.19e7
26.34
ES 2378F
9.04e6
27.70
Abs. Int.
2.61e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.83e3
0%
JS 1234F
1.48e7
26.34
ES 2378F
1.03e7
27.70
Abs. Int.
3.26e6
1.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.45e3
0%
detector
recovery not dpe
Abs. Int.
3.83e4
1.91e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

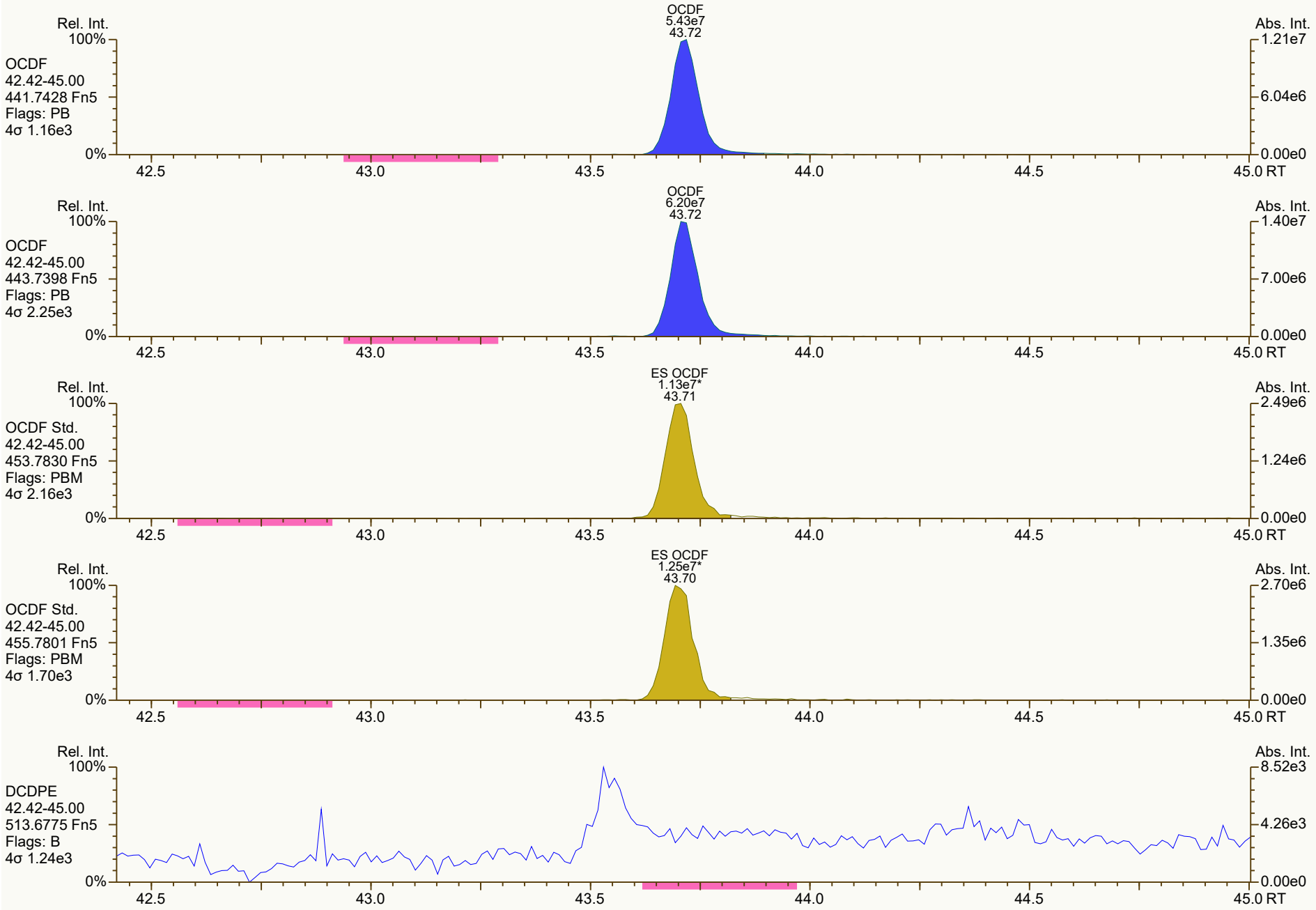

Rel. Int.
100%
0%
Abs. Int.
13468/12468F
2.86e6
29.70
8.16e5
4.08e5
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.96e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
13468/12468F
1.75e6
29.70
5.08e5
2.54e5
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.87e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.94e6
3.47e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.21e3
0%
12368F...[3]
8.21e7
31.39
12348F
1.52e7
32.27
12378F
2.08e8
32.48
12678/12367F
5.36e7
32.77
23478F
1.21e8*
33.61
PR
Abs. Int.
5.81e7
2.90e7
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 4.76e3
0%
12368F...[3]
5.20e7
31.39
12348F
9.32e6
32.27
12378F
1.30e8
32.48
12678/12367F
3.47e7
32.76
23478F
7.72e7*
33.60
Abs. Int.
3.77e7
1.88e7
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 1.67e3
0%
CS 12346F
1.28e7
31.94
ES 12378F
1.31e7
32.47
ES 23478F
1.26e7*
33.58
Abs. Int.
3.63e6
1.82e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 4.01e3
0%
CS 12346F
8.28e6
31.94
ES 12378F
8.39e6
32.47
ES 23478F
8.01e6*
33.58
Abs. Int.
2.47e6
1.23e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.39e3
0%
Abs. Int.
9.95e3
4.98e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 6.08e3
0%
123478F
2.98e8*
36.81
123678F
7.43e7*
36.95
124678/134678F
2.21e7
35.63
123489F
2.27e7
38.59
Abs. Int.
9.20e7
4.60e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 7.75e3
0%
123478F
2.37e8*
36.81
123678F
5.83e7*
36.95
124678/134678F
1.80e7
35.63
123489F
1.83e7
38.59
Abs. Int.
7.31e7
3.65e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 3.69e3
0%
ES 123678F
6.91e6
36.93
ES 123478F
6.05e6
36.79
CS 123469F
6.03e6
37.25
ES 234678F
5.46e6
37.62
ES 123789F
5.92e6*
38.55
Abs. Int.
1.89e6
9.45e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.16e3
0%
ES 123678F
1.30e7
36.93
ES 123478F
1.14e7
36.79
CS 123469F
1.15e7
37.25
ES 234678F
1.05e7
37.62
ES 123789F
1.07e7*
38.55
Abs. Int.
3.65e6
1.82e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.29e3
0%
RT
Abs. Int.
2.02e4
1.01e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_008.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4789, 8439, 9354 scc: 821-680
Revised: 03-Feb-2022 11:48 (DTF) Printed: 03-Feb-2022 13:52 Page 11 of 12


OCDF
5.43e7
43.72
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
1.21e7
6.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.20e7
43.72
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.25e3
0%
Abs. Int.
1.40e7
7.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.13e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.16e3
0%
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.25e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.70e3
0%
Abs. Int.
2.70e6
1.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
8.52e3
4.26e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6207_18874_DF_009 **Acq'd:** 03 Feb 2022 08:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-DUP-13 **UTP:** 03-Feb-2022 13:42:35 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 803-062-BWK

Datafile: 220202C22 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.56	E	1.0008	1.0008	0	7.04E+08	0.80	Y	1.18	6,040	4049.442	0.354
12378-PeCDD	33.88		1.0006	1.0005	-0.2	5.76E+06	1.56	Y	1.04	62.6	4576.556	0.446
123478-HxCDD	37.78		1.0004	1.0004	0	3.65E+05	1.36	Y	1.09	4.22	8218.894	0.742
123678-HxCDD	37.90		1.0035	1.0035	0	1.69E+06	1.22	Y	1.15	19.1	8218.894	0.761
123789-HxCDD	38.19		1.0112	1.0112	0	9.12E+05	1.22	Y	1.05	9.71	8218.894	0.697
1234678-HpCDD	40.84		1.0003	1.0003	0	4.66E+07	1.04	Y	1.06	535	6752.935	0.622
OCDD	43.52		1.0004	1.0003	-0.3	4.94E+08	0.91	Y	1.13	7,360	5543.977	0.901
2378-TCDF	27.70	E	1.0008	1.0008	0	2.86E+09	0.79	Y	1.08	16,600	6983.638	0.485
12378-PeCDF	32.44		1.0005	1.0005	0	1.12E+08	1.59	Y	1.02	831	8619.245	0.551
23478-PeCDF	33.57	PR	1.0005	1.0008	+0.6	7.33E+07	1.54	Y	1.02	543	8619.245	0.594
123478-HxCDF	36.78		1.0004	1.0005	+0.2	1.93E+08	1.24	Y	1.27	1,370	10525.156	0.649
123678-HxCDF	36.92		1.0004	1.0005	+0.2	5.16E+07	1.27	Y	1.15	360	10525.156	0.665
234678-HxCDF	37.60		1.0005	1.0005	0	9.13E+06	1.24	Y	1.19	77.1	10525.156	0.818
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	10525.156	0.724
1234678-HpCDF	39.91		1.0003	1.0003	0	7.89E+07	1.01	Y	1.37	621	4668.353	0.276
1234789-HpCDF	41.30		1.0002	1.0002	0	1.72E+07	1.00	Y	1.31	159	4668.353	0.361
OCDF	43.71		1.0003	1.0003	0	3.93E+08	0.89	Y	1.07	4,450	6322.695	0.79

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.53	1.0236	1.0233	-0.5	1.95E+07	0.82	Y	1.05	87.8
ES 12378-PeCDD	33.87	1.2144	1.2146	+0.4	1.76E+07	1.64	Y	0.88	94.3
ES 123478-HxCDD	37.77	0.9920	0.9919	-0.2	1.57E+07	1.25	Y	0.97	80.4
ES 123678-HxCDD	37.88	0.9951	0.9949	-0.5	1.53E+07	1.22	Y	0.94	80.6
ES 123789-HxCDD	38.18	1.0027	1.0026	-0.2	1.77E+07	1.25	Y	1.09	80.8
ES 1234678-HpCDD	40.83	1.0724	1.0723	-0.2	1.63E+07	1.13	Y	0.91	88.6
ES OCDD	43.51	1.1428	1.1427	-0.3	2.36E+07	0.90	Y	0.62	94
ES 2378-TCDF	27.68	1.0516	1.0517	+0.2	3.16E+07	0.85	Y	1.06	87.6
ES 12378-PeCDF	32.43	1.2312	1.2320	+1.6	2.61E+07	1.60	Y	0.91	84.2
ES 23478-PeCDF	33.54	1.2733	1.2743	+2.0	2.62E+07	1.55	Y	0.88	87.2
ES 123478-HxCDF	36.76	0.9655	0.9654	-0.2	2.20E+07	0.56	Y	1.20	91.4
ES 123678-HxCDF	36.90	0.9692	0.9692	0	2.46E+07	0.53	Y	1.35	90.7
ES 234678-HxCDF	37.58	0.9871	0.9870	-0.2	1.97E+07	0.56	Y	1.24	79
ES 123789-HxCDF	38.53	1.0121	1.0118	-0.7	2.00E+07	0.54	Y	1.16	86.1
ES 1234678-HpCDF	39.90	1.0479	1.0478	-0.2	1.83E+07	0.46	Y	0.97	94.3
ES 1234789-HpCDF	41.29	1.0845	1.0844	-0.2	1.64E+07	0.44	Y	0.85	95.6
ES OCDF	43.69	1.1477	1.1475	-0.5	3.26E+07	0.91	Y	0.81	100

Lab ID: B6207_18874_DF_009 **Acq'd:** 03 Feb 2022 08:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-DUP-13 **UTP:** 03-Feb-2022 13:42:35 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 803-062-BWK

Datafile: 220202C22 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.88		-	-	-	2.12E+07	0.78	Y	-	-	
JS 1234-TCDF	26.32		-	-	-	3.40E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.08		-	-	-	1.00E+07	1.20	Y	-	-	
CS 37Cl-2378-TCDD	28.55		1.0244	1.0241	-0.5	7.85E+06	n/a	-	1.20	77	
CS 12347-PeCDD	33.37		1.1964	1.1967	+0.6	1.57E+07	1.58	Y	0.75	98.4	
CS 12346-PeCDF	31.90		1.2112	1.2120	+1.5	2.53E+07	1.56	Y	0.85	87.3	
CS 123469-HxCDF	37.22		0.9775	0.9776	+0.2	2.08E+07	0.53	Y	1.12	92.8	
CS 1234689-HpCDF	40.30		1.0584	1.0583	-0.2	1.82E+07	0.47	Y	0.89	102	
~~SS 37Cl-2378-TCDD~~	~~28.55~~		~~1.0244~~	~~1.0241~~	~~-0.5~~	~~7.85E+06~~	~~n/a~~		~~1.15~~	~~87.8~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.37~~		~~1.1964~~	~~1.1967~~	~~+0.6~~	~~1.57E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~104~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.90~~		~~1.2112~~	~~1.2120~~	~~+1.5~~	~~2.53E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9776~~	~~+0.2~~	~~2.08E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~102~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0583~~	~~-0.2~~	~~1.82E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~108~~	

Totals	Conc	EMPC
Total TCDD	6760	6780
Total PeCDD	104	113
Total HxCDD	197	197
Total HpCDD	1120	1120
Total Tetra-Octa Dioxins	15500	15600
Total TCDF	31,400	31400
Total PeCDF	2,190	2190
Total HxCDF	2,200	2200
Total HpCDF	1,030	1030
Total Tetra-Octa Furans	41,300	41300
Total Tetra-Octa Dioxins & Furans	56800	56800

Lab ID: B6207_18874_DF_009 **Acq'd: 03 Feb 2022 08:09 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-DUP-13 **UTP: 03-Feb-2022 13:42:35 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 803-062-BWK**

Datafile: 220202C22 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.94		0.8737	0.8740	+0.4	1.28E+06	0.72	Y	1.18	10.9	4049.442	0.354
1379-TCDD	25.28		0.8860	0.8861	+0.2	4.96E+05	0.70	Y	1.18	4.25	4049.442	0.354
1369-TCDD	25.71	EMPC	0.9009	0.9009	0	1.39E+05	0.96	N	1.18	1.19	4049.442	0.354
1469-TCDD	26.48		0.9281	0.9281	0	4.60E+05	0.66	Y	1.18	3.94	4049.442	0.354
1247/1246/1248/1249-TCDD	26.71	EMPC	0.9362	0.9360	-0.3	1.16E+06	0.89	N	1.18	9.94	4049.442	0.354
1378-TCDD	26.90		0.9432	0.9429	-0.5	2.17E+06	0.83	Y	1.18	18.6	4049.442	0.354
1268-TCDD	NotFnd		0.9500						1.18		4049.442	0.354
1478-TCDD	27.36		0.9586	0.9588	+0.3	1.72E+06	0.77	Y	1.18	14.7	4049.442	0.354
1279-TCDD	27.51	EMPC	0.9645	0.9643	-0.3	1.09E+05	0.94	N	1.18	0.937	4049.442	0.354
1234/1269-TCDD	27.87		0.9770	0.9768	-0.3	4.03E+05	0.73	Y	1.18	3.45	4049.442	0.354
1236-TCDD	28.00		0.9817	0.9815	-0.3	1.69E+05	0.85	Y	1.18	1.45	4049.442	0.354
1237/1238-TCDD	28.27		0.9905	0.9907	+0.3	1.12E+07	0.80	Y	1.18	95.6	4049.442	0.354
1239-TCDD	NotFnd		0.9952						1.18		4049.442	0.354
2378-TCDD	**28.56**	E	**1.0008**	1.0008	**0**	7.04E+08	0.80	Y	**1.18**	**6,040**	**4049.442**	**0.354**
1278-TCDD	28.89		1.0121	1.0124	+0.5	6.47E+07	0.79	Y	1.18	555	4049.442	0.354
1267-TCDD	29.03		1.0167	1.0173	+1.0	1.64E+06	0.85	Y	1.18	14	4049.442	0.354
1289-TCDD	29.53		1.0345	1.0351	+1.1	9.41E+05	0.80	Y	1.18	8.07	4049.442	0.354
12479/12468-PeCDD	31.39		0.9267	0.9269	+0.4	1.15E+06	1.52	Y	1.04	12.4	4576.556	0.446
12469-PeCDD	31.93		0.9425	0.9427	+0.4	4.00E+05	1.71	Y	1.04	4.34	4576.556	0.446
12368-PeCDD	32.47		0.9588	0.9588	0	1.06E+06	1.59	Y	1.04	11.5	4576.556	0.446
12478-PeCDD	32.66		0.9643	0.9644	+0.2	5.30E+05	1.78	Y	1.04	5.76	4576.556	0.446
12379-PeCDD	32.77		0.9673	0.9675	+0.4	4.23E+05	1.58	Y	1.04	4.59	4576.556	0.446
12369/12467/12489-PeCDD	33.02	EMPC	0.9750	0.9751	+0.2	3.73E+05	2.06	N	1.04	4.06	4576.556	0.446
12346/12347-PeCDD	33.39		0.9858	0.9859	+0.2	2.31E+05	1.33	Y	1.04	2.51	4576.556	0.446
12378-PeCDD	33.88		**1.0006**	**1.0005**	**-0.2**	**5.76E+06**	**1.56**	**Y**	**1.04**	**62.6**	**4576.556**	**0.446**
12367-PeCDD	33.98	EMPC	1.0033	1.0035	+0.4	2.51E+05	2.25	N	1.04	2.73	4576.556	0.446
12389-PeCDD	34.32	J EMPC	1.0134	1.0135	+0.2	1.90E+05	1.31	N	1.04	2.07	4576.556	0.446
124679/124689-HxCDD	36.04		0.9542	0.9543	+0.2	7.35E+06	1.31	Y	1.10	81.7	8218.894	0.731
123468-HxCDD	36.69		0.9715	0.9715	0	9.86E+05	1.29	Y	1.10	11	8218.894	0.731
123679/123689-HxCDD	36.98		0.9793	0.9793	0	5.76E+06	1.22	Y	1.10	64	8218.894	0.731
123469-HxCDD	37.12		0.9828	0.9829	+0.2	3.84E+05	1.22	Y	1.10	4.27	8218.894	0.731
123478-HxCDD	37.78		**1.0004**	**1.0004**	**0**	**3.65E+05**	**1.36**	**Y**	1.09	**4.22**	**8218.894**	**0.742**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**1.69E+06**	**1.22**	**Y**	1.15	**19.1**	**8218.894**	**0.761**
123467-HxCDD	38.09		1.0085	1.0085	0	2.98E+05	1.19	Y	1.10	3.32	8218.894	0.731
123789-HxCDD	38.19		**1.0112**	**1.0112**	**0**	**9.12E+05**	**1.22**	**Y**	1.05	**9.71**	**8218.894**	**0.697**

Lab ID: B6207_18874_DF_009 **Acq'd:** 03 Feb 2022 08:09 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-DUP-13 **UTP:** 03-Feb-2022 13:42:35 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 803-062-BWK

Datafile: 220202C22 **Report:** 03 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

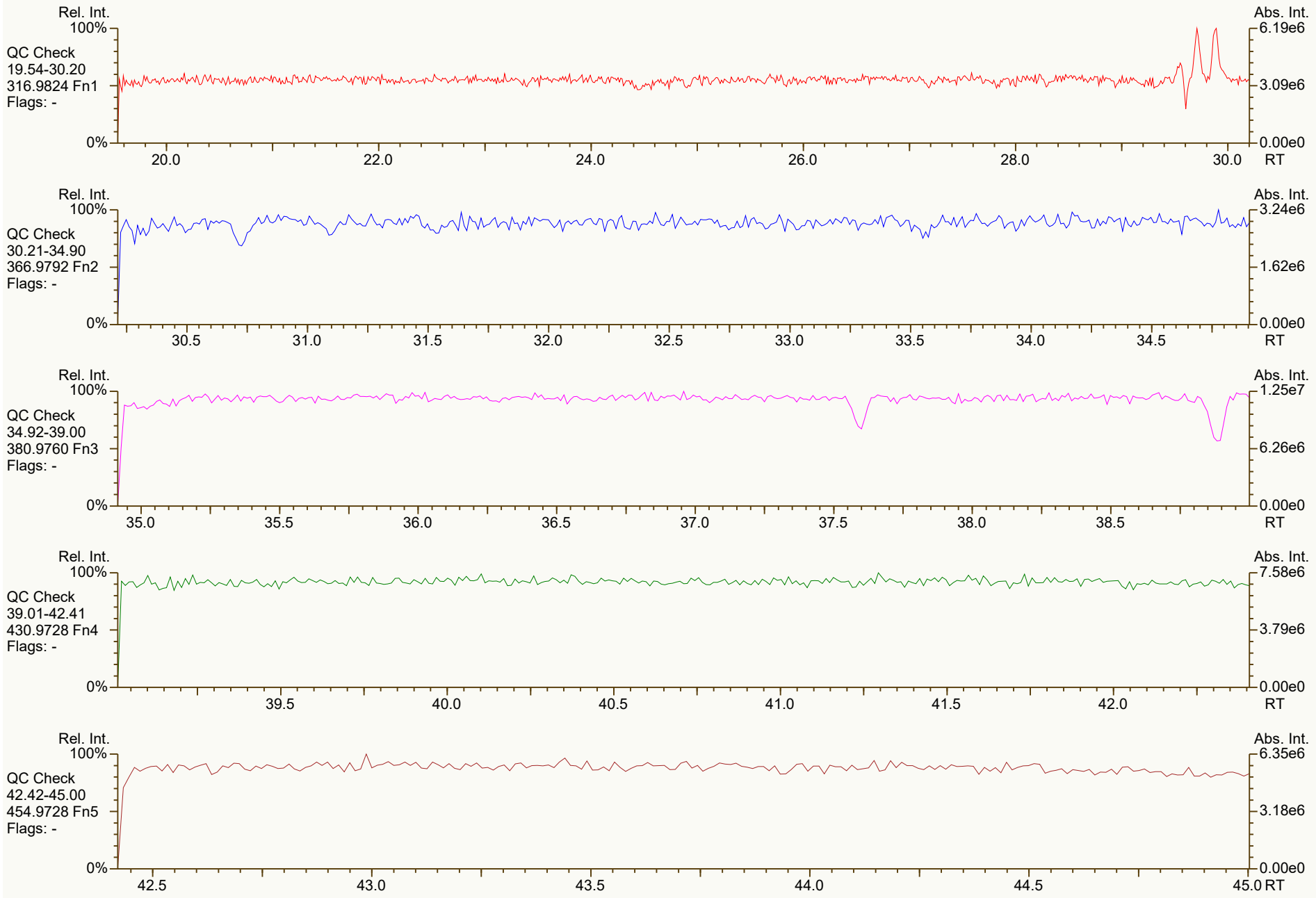
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	5.09E+07	1.05	Y	1.06	584	6752.935	0.622
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**4.66E+07**	**1.04**	**Y**	**1.06**	**535**	**6752.935**	**0.622**
OCDD	**43.52**		**1.0004**	**1.0003**	**-0.3**	**4.94E+08**	**0.91**	**Y**	**1.13**	**7,360**	**5543.977**	**0.901**
OCDD-a	43.52		1.0003	1.0002	-0.3	3.02E+07	2.55	Y	0.07	7,030	3974.076	10.1
1368-TCDF	22.82		0.8251	0.8243	-1.1	7.94E+05	0.73	Y	1.08	4.61	6983.638	0.485
1468-TCDF	23.42		0.8458	0.8459	+0.1	4.53E+06	0.76	Y	1.08	26.3	6983.638	0.485
2468-TCDF	24.05		0.8686	0.8687	+0.1	4.21E+06	0.80	Y	1.08	24.4	6983.638	0.485
1346/1246-TCDF	NotFnd		0.8814						1.08		6983.638	0.485
1347/1378/1247-TCDF	24.57		0.8867	0.8877	+1.5	2.29E+07	0.81	Y	1.08	133	6983.638	0.485
1348-TCDF	NotFnd		0.8962						1.08		6983.638	0.485
1248/1367/1379-TCDF	24.91		0.9009	0.9000	-1.3	8.08E+07	0.79	Y	1.08	469	6983.638	0.485
1268-TCDF	25.32		0.9145	0.9146	+0.2	3.32E+07	0.79	Y	1.08	193	6983.638	0.485
1467-TCDF	25.45		0.9193	0.9194	+0.2	6.74E+06	0.80	Y	1.08	39.1	6983.638	0.485
1478-TCDF	25.62		0.9254	0.9255	+0.2	8.17E+07	0.78	Y	1.08	475	6983.638	0.485
1369/1237-TCDF	26.00		0.9387	0.9392	+0.8	2.75E+07	0.79	Y	1.08	160	6983.638	0.485
2467-TCDF	26.11		0.9433	0.9433	0	3.16E+06	0.76	Y	1.08	18.3	6983.638	0.485
2368-TCDF	26.26		0.9489	0.9488	-0.2	7.93E+07	0.78	Y	1.08	461	6983.638	0.485
1238/1234/1678/1469/1236-TCDF	26.34		0.9523	0.9514	-1.4	1.26E+08	0.79	Y	1.08	730	6983.638	0.485
1278-TCDF	26.80	E	0.9683	0.9682	-0.2	1.33E+09	0.79	Y	1.08	7,730	6983.638	0.485
1349-TCDF	NotFnd		0.9722						1.08		6983.638	0.485
1267-TCDF	27.08		0.9783	0.9781	-0.3	5.85E+07	0.79	Y	1.08	340	6983.638	0.485
2346/1249-TCDF	27.27		0.9850	0.9851	+0.2	6.85E+06	0.80	Y	1.08	39.8	6983.638	0.485
2347/1279-TCDF	27.47		0.9926	0.9923	-0.5	2.61E+07	0.78	Y	1.08	152	6983.638	0.485
2348-TCDF	27.58	E	0.9967	0.9965	-0.3	2.11E+08	0.79	Y	1.08	1,220	6983.638	0.485
2378-TCDF	**27.70**	E	**1.0008**	**1.0008**	**0**	**2.86E+09**	**0.79**	**Y**	**1.08**	**16,600**	**6983.638**	**0.485**
2367/3467-TCDF	28.06	E	1.0137	1.0135	-0.3	2.15E+08	0.79	Y	1.08	1,250	6983.638	0.485
1269-TCDF	28.31		1.0223	1.0225	+0.3	3.49E+07	0.79	Y	1.08	203	6983.638	0.485
1239-TCDF	28.56		1.0321	1.0318	-0.5	3.35E+06	0.81	Y	1.08	19.5	6983.638	0.485
1289-TCDF	29.72	E	1.0722	1.0736	+2.5	1.88E+08	0.78	Y	1.08	1,090	6983.638	0.485
13468/12468-PeCDF	29.66		0.9139	0.9146	+1.2	6.70E+06	1.67	Y	1.02	49.6	3895.208	0.259
13678/13467/12467-PeCDF	31.20		0.9613	0.9620	+1.3	1.80E+06	1.62	Y	1.02	13.3	8619.245	0.573
12368/13478/12478-PeCDF	31.36		0.9662	0.9670	+1.5	4.94E+07	1.60	Y	1.02	366	8619.245	0.573
14678-PeCDF	NotFnd		0.9692						1.02		8619.245	0.573
13479-PeCDF	NotFnd		0.9723						1.02		8619.245	0.573
13469/12479-PeCDF	31.74		0.9797	0.9788	-1.7	4.49E+05	1.63	Y	1.02	3.33	8619.245	0.573
12346-PeCDF	NotFnd		0.9840						1.02		8619.245	0.573

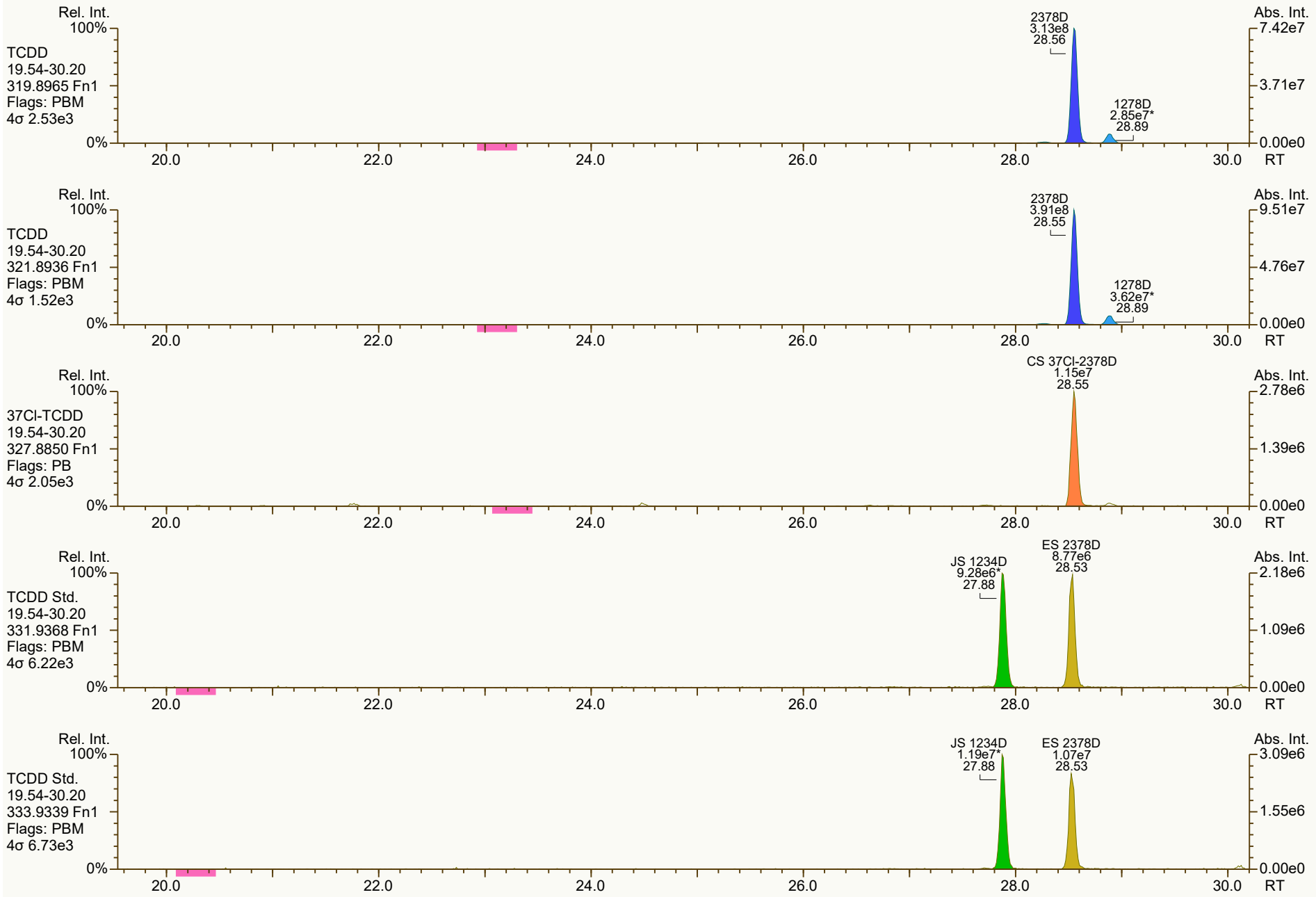
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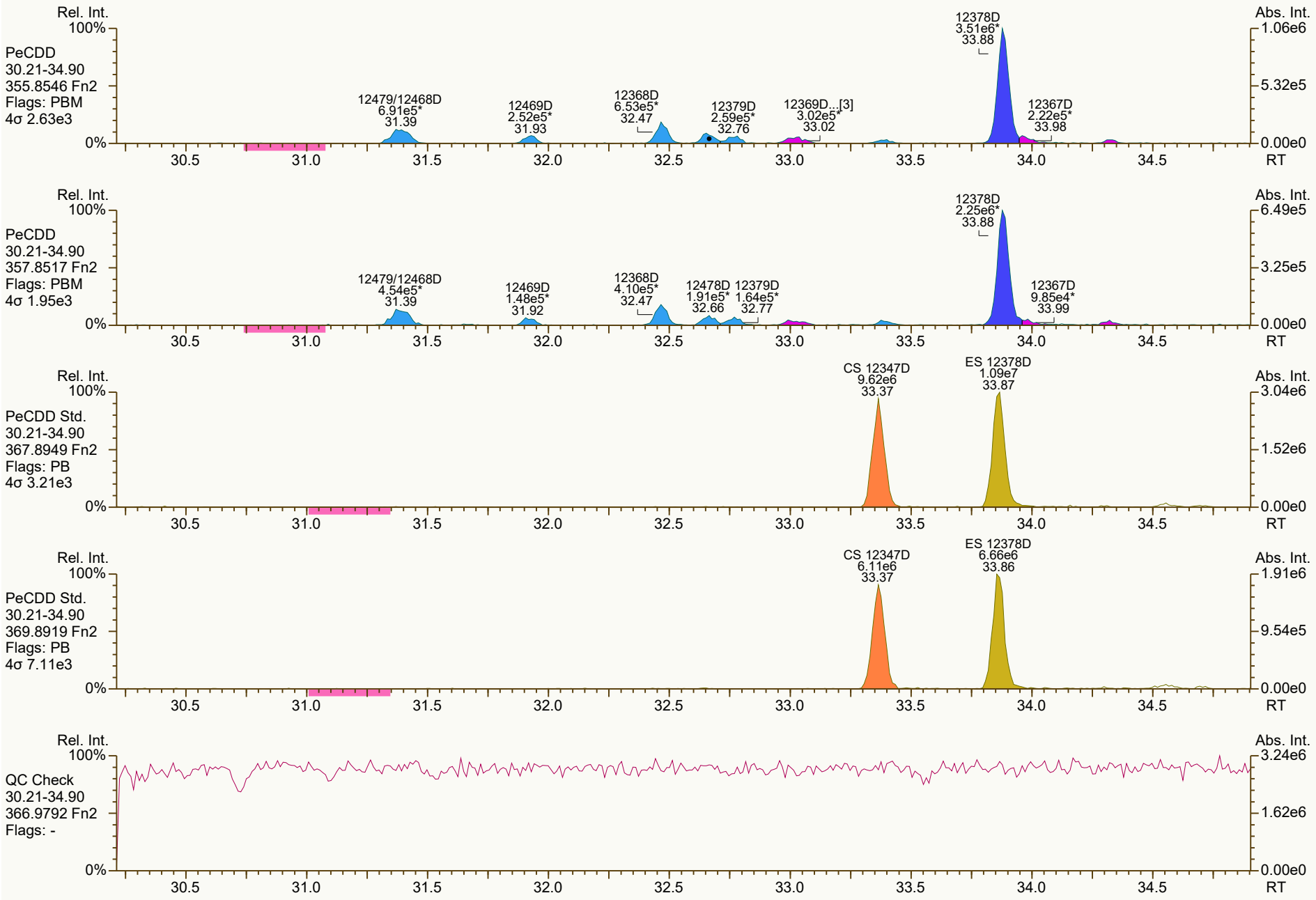
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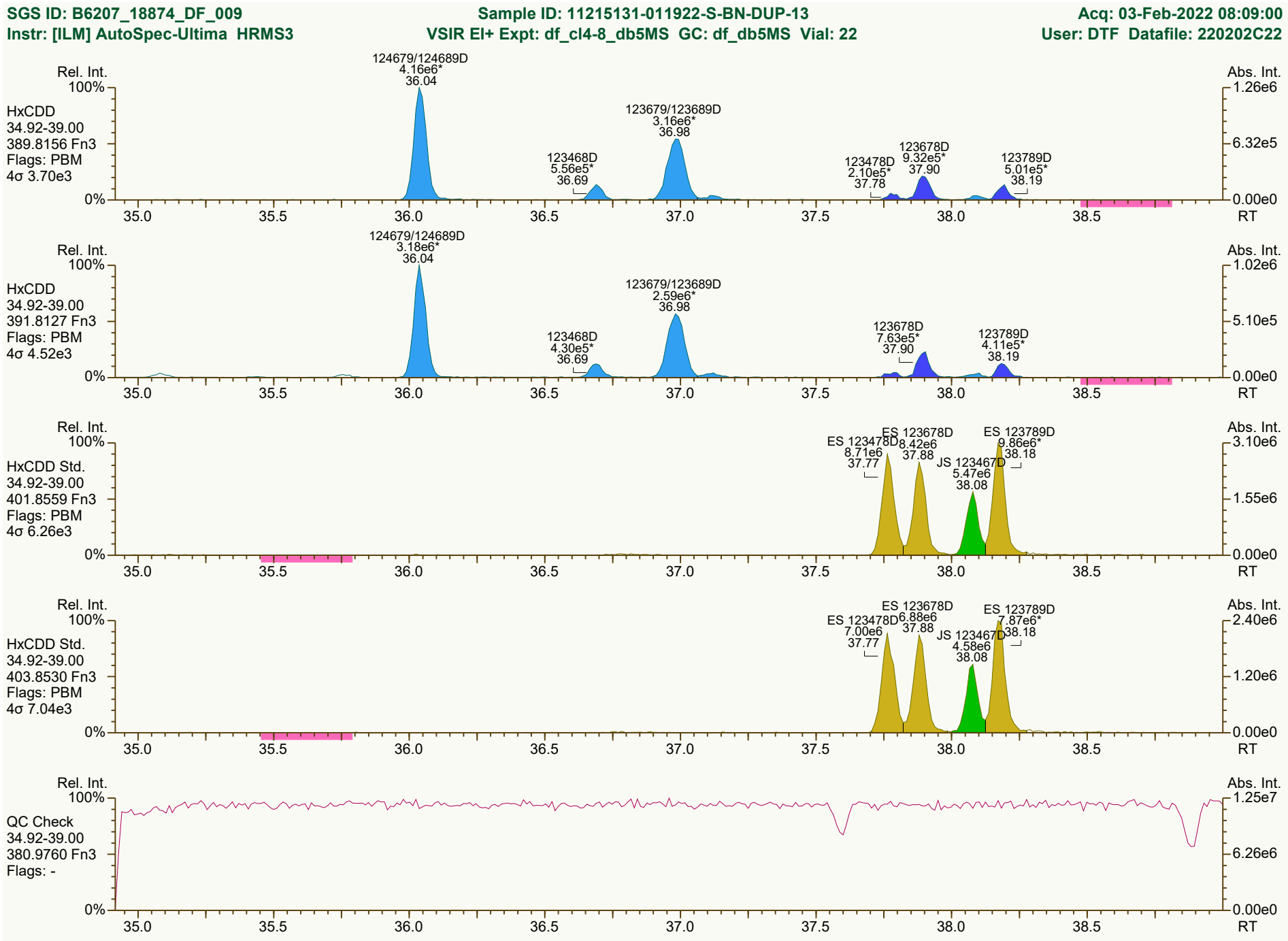
Datafile: 220202C22 **Report: 03 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.99		0.9868	0.9866	-0.4	3.06E+06	1.55	Y	1.02	22.6	8619.245	0.573
12347-PeCDF	32.08		0.9894	0.9893	-0.2	1.86E+06	1.55	Y	1.02	13.8	8619.245	0.573
12348-PeCDF	32.24		0.9940	0.9941	+0.2	9.37E+06	1.53	Y	1.02	69.4	8619.245	0.573
12378-PeCDF	**32.44**		**1.0005**	**1.0005**	**0**	**1.12E+08**	**1.59**	**Y**	**1.02**	**831**	**8619.245**	**0.551**
12678/12367-PeCDF	32.74		1.0089	1.0096	+1.4	3.13E+07	1.54	Y	1.02	232	8619.245	0.573
12379-PeCDF	NotFnd		1.0142						1.02		8619.245	0.573
12679-PeCDF	33.30	J EMPC	0.9929	0.9927	-0.4	2.90E+05	1.89	N	1.02	2.15	8619.245	0.573
23467/12369-PeCDF	33.42		0.9967	0.9965	-0.4	1.44E+06	1.61	Y	1.02	10.6	8619.245	0.573
23478-PeCDF	**33.57**	PR	**1.0005**	**1.0008**	**+0.6**	**7.33E+07**	**1.54**	**Y**	**1.02**	**543**	**8619.245**	**0.594**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8619.245	0.573
12349-PeCDF	NotFnd		1.0100						1.02		8619.245	0.573
12389-PeCDF	34.62		1.0324	1.0321	-0.6	4.28E+06	1.56	Y	1.02	31.7	8619.245	0.573
123468-HxCDF	35.40		0.9627	0.9630	+0.6	3.26E+06	1.30	Y	1.19	25	10525.156	0.708
124678/134678-HxCDF	35.60		0.9682	0.9683	+0.2	1.94E+07	1.26	Y	1.19	149	10525.156	0.708
134679-HxCDF	NotFnd		0.9744						1.19		10525.156	0.708
124679-HxCDF	36.02	EMPC	0.9798	0.9799	+0.2	3.35E+05	1.56	N	1.19	2.57	10525.156	0.708
124689-HxCDF	36.24		0.9858	0.9859	+0.2	1.17E+07	1.24	Y	1.19	90.1	10525.156	0.708
123467-HxCDF	36.66		0.9972	0.9972	0	1.54E+06	1.32	Y	1.19	11.8	10525.156	0.708
123478-HxCDF	**36.78**		**1.0004**	**1.0005**	**+0.2**	**1.93E+08**	**1.24**	**Y**	**1.27**	**1,370**	**10525.156**	**0.649**
123678-HxCDF	**36.92**		**1.0004**	**1.0005**	**+0.2**	**5.16E+07**	**1.27**	**Y**	**1.15**	**360**	**10525.156**	**0.665**
123479-HxCDF	NotFnd		1.0049						1.19		10525.156	0.708
123469-HxCDF	37.24		1.0090	1.0092	+0.4	7.70E+05	1.21	Y	1.19	5.91	10525.156	0.708
123679-HxCDF	NotFnd		0.9942						1.19		10525.156	0.708
234678-HxCDF	**37.60**		**1.0005**	**1.0005**	**0**	**9.13E+06**	**1.24**	**Y**	**1.19**	**77.1**	**10525.156**	**0.818**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10525.156	0.708
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**10525.156**	**0.724**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.57		1.0009	1.0011	+0.5	1.47E+07	1.26	Y	1.19	113	10525.156	0.708
1234678-HpCDF	**39.91**		**1.0003**	**1.0003**	**0**	**7.89E+07**	**1.01**	**Y**	**1.37**	**621**	**4668.353**	**0.276**
1234679-HpCDF	40.16		1.0068	1.0067	-0.2	1.90E+06	1.03	Y	1.34	16.2	4668.353	0.315
1234689-HpCDF	40.31		1.0103	1.0103	0	2.73E+07	0.99	Y	1.34	233	4668.353	0.315
1234789-HpCDF	**41.30**		**1.0002**	**1.0002**	**0**	**1.72E+07**	**1.00**	**Y**	**1.31**	**159**	**4668.353**	**0.361**
OCDF	**43.71**		**1.0003**	**1.0003**	**0**	**3.93E+08**	**0.89**	**Y**	**1.07**	**4,450**	**6322.695**	**0.79**
OCDF-a	43.70		1.0002	1.0002	0	2.46E+07	2.54	Y	0.07	4,490	3741.214	7.54

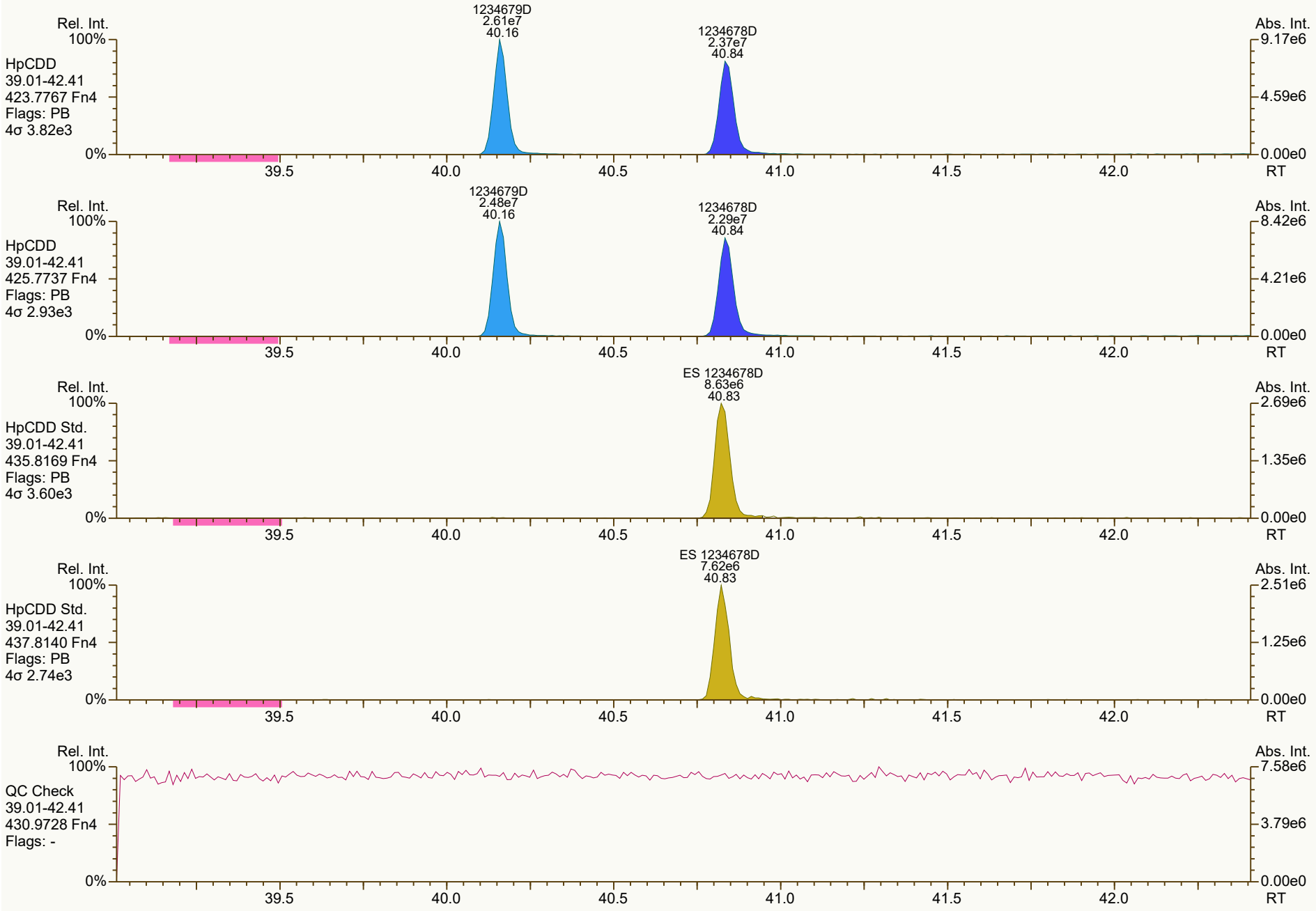

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.19e6
3.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.25e7
6.26e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.58e6
3.79e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
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3.18e6
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43.0
43.5
44.0
44.5
45.0
RT

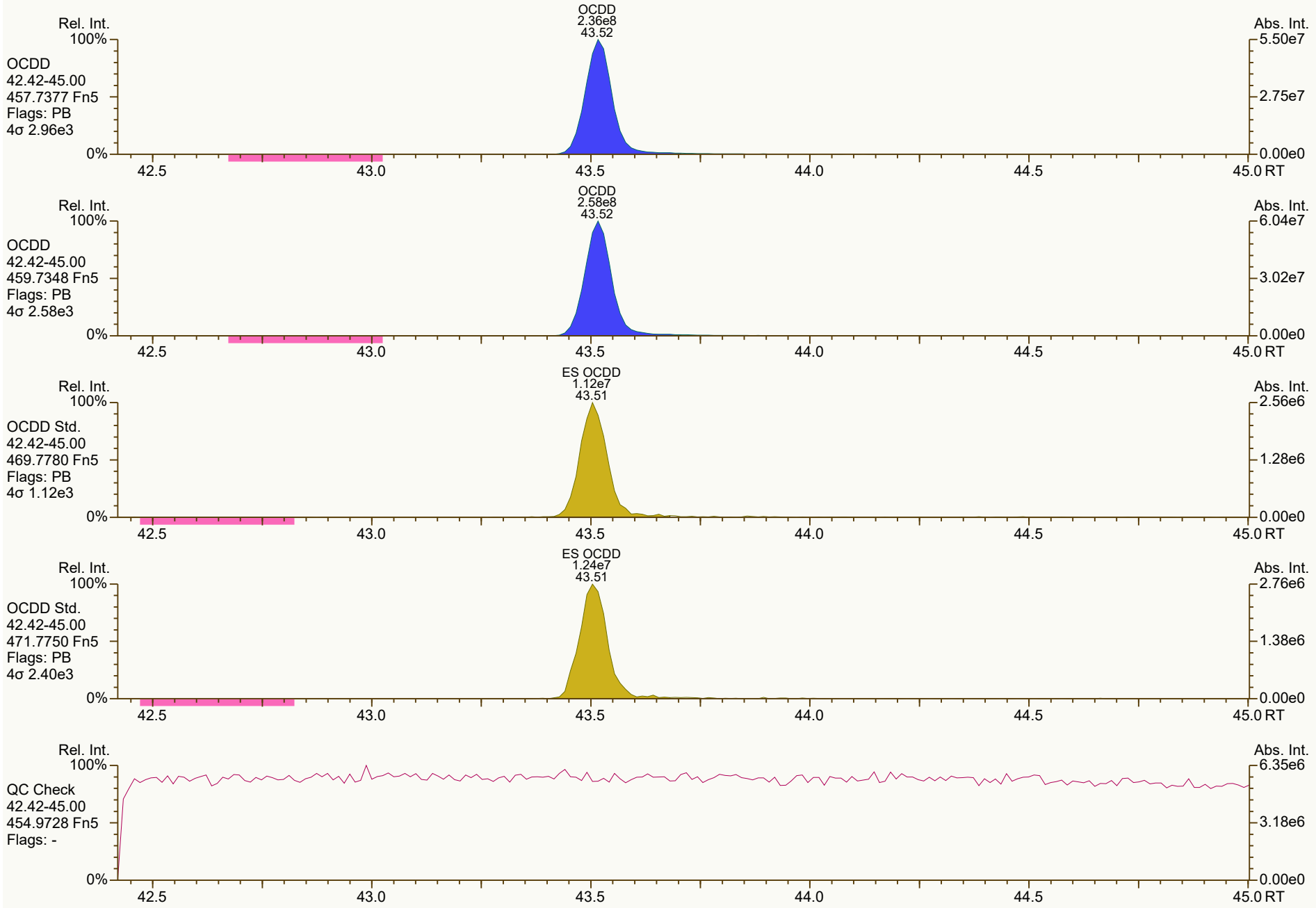

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.53e3
0%
2378D
3.13e8
28.56
1278D
2.85e7*
28.89
Abs. Int.
7.42e7
3.71e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.52e3
0%
2378D
3.91e8
28.55
1278D
3.62e7*
28.89
Abs. Int.
9.51e7
4.76e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.05e3
0%
CS 37Cl-2378D
1.15e7
28.55
Abs. Int.
2.78e6
1.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 6.22e3
0%
JS 1234D
9.28e6*
27.88
ES 2378D
8.77e6
28.53
Abs. Int.
2.18e6
1.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 6.73e3
0%
JS 1234D
1.19e7*
27.88
ES 2378D
1.07e7
28.53
Abs. Int.
3.09e6
1.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

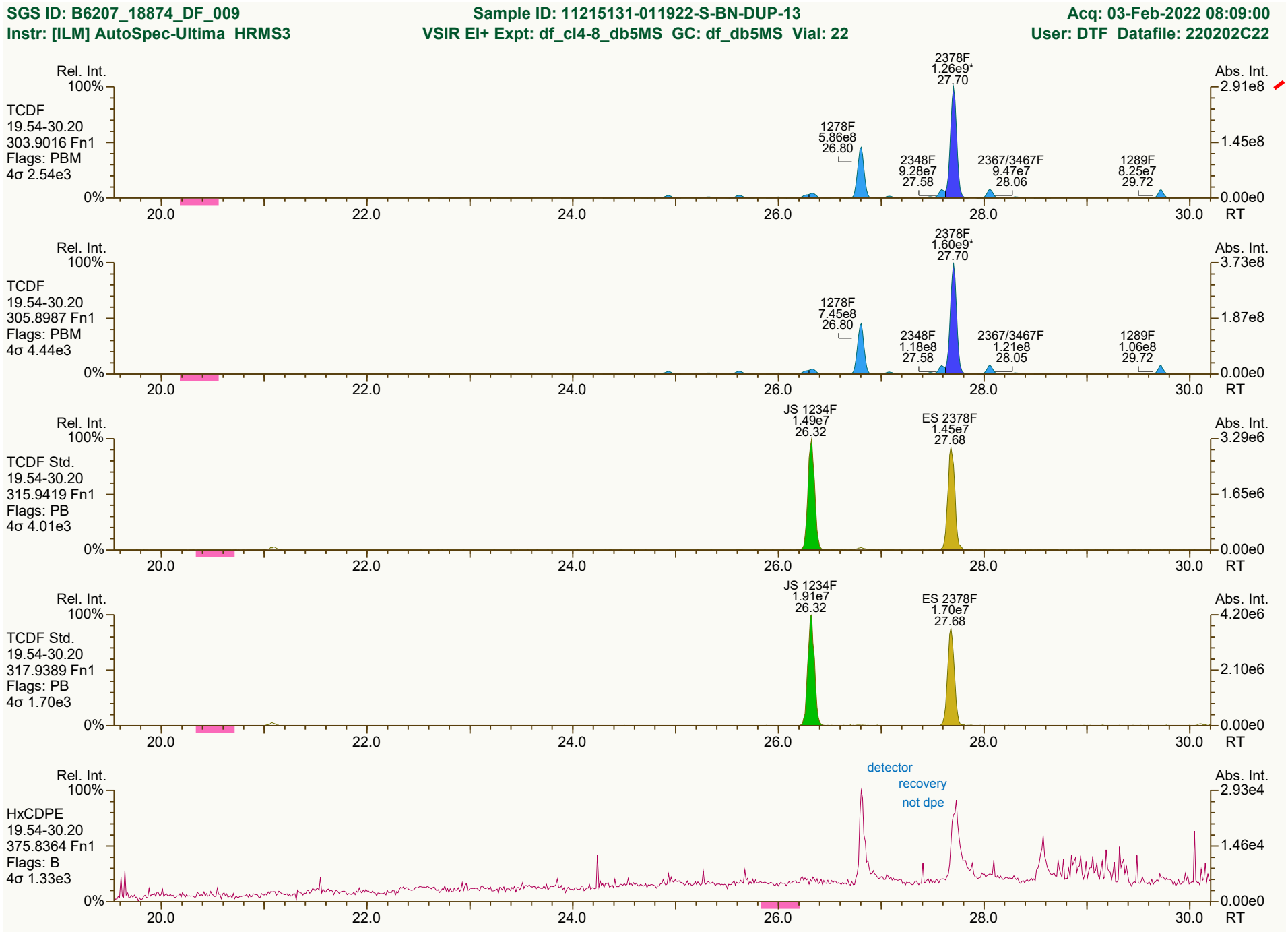

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.63e3
0%
12479/12468D
6.91e5*
31.39
12469D
2.52e5*
31.93
12368D
6.53e5*
32.47
12379D
2.59e5*
32.76
12369D...[3]
3.02e5*
33.02
12378D
3.51e6*
33.88
12367D
2.22e5*
33.98
Abs. Int.
1.06e6
5.32e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.95e3
0%
12479/12468D
4.54e5*
31.39
12469D
1.48e5*
31.92
12368D
4.10e5*
32.47
12478D
1.91e5*
32.66
12379D
1.64e5*
32.77
12378D
2.25e6*
33.88
12367D
9.85e4*
33.99
Abs. Int.
6.49e5
3.25e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.21e3
0%
CS 12347D
9.62e6
33.37
ES 12378D
1.09e7
33.87
Abs. Int.
3.04e6
1.52e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 7.11e3
0%
CS 12347D
6.11e6
33.37
ES 12378D
6.66e6
33.86
Abs. Int.
1.91e6
9.54e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.24e6
1.62e6
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33.0
33.5
34.0
34.5
RT

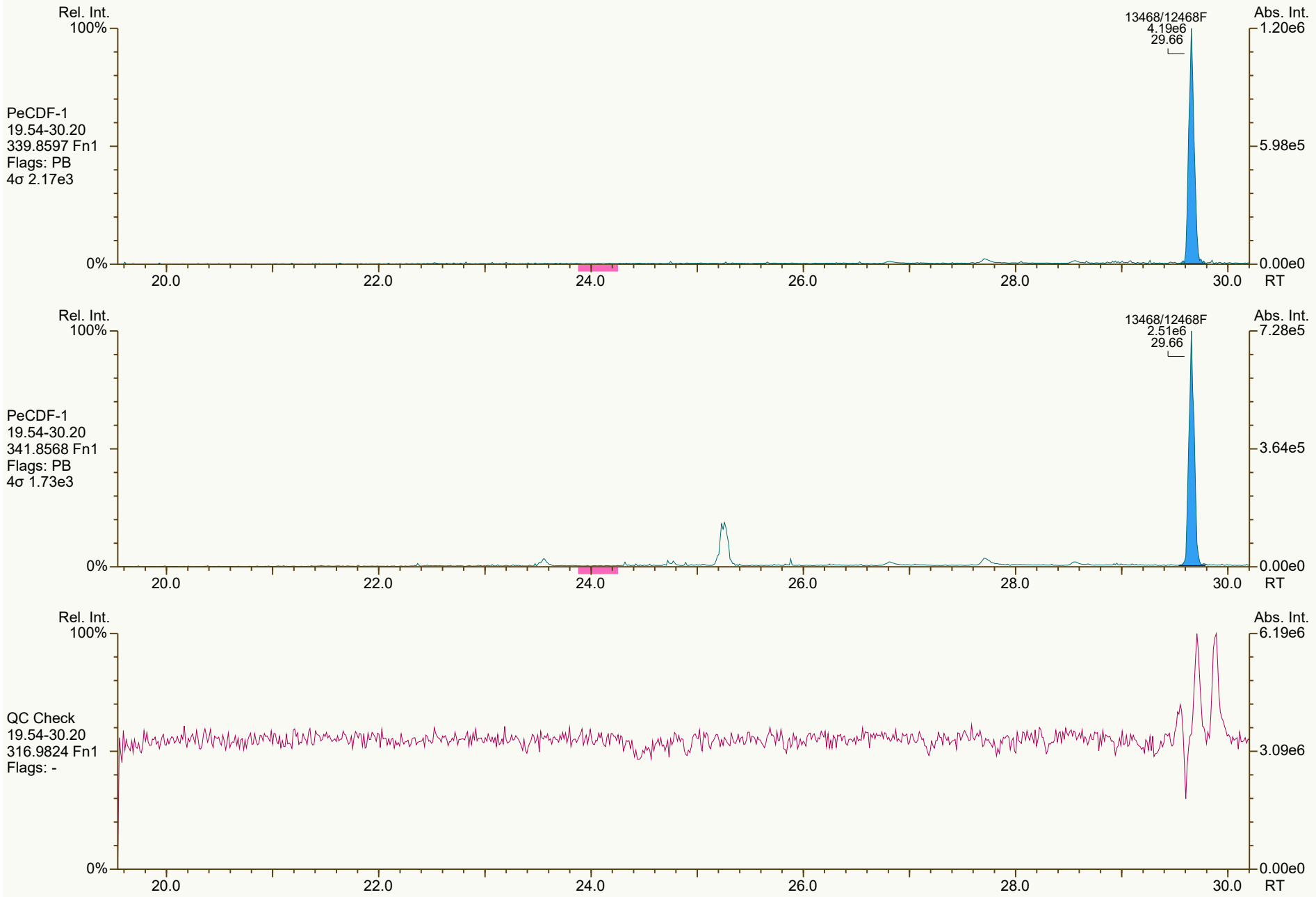


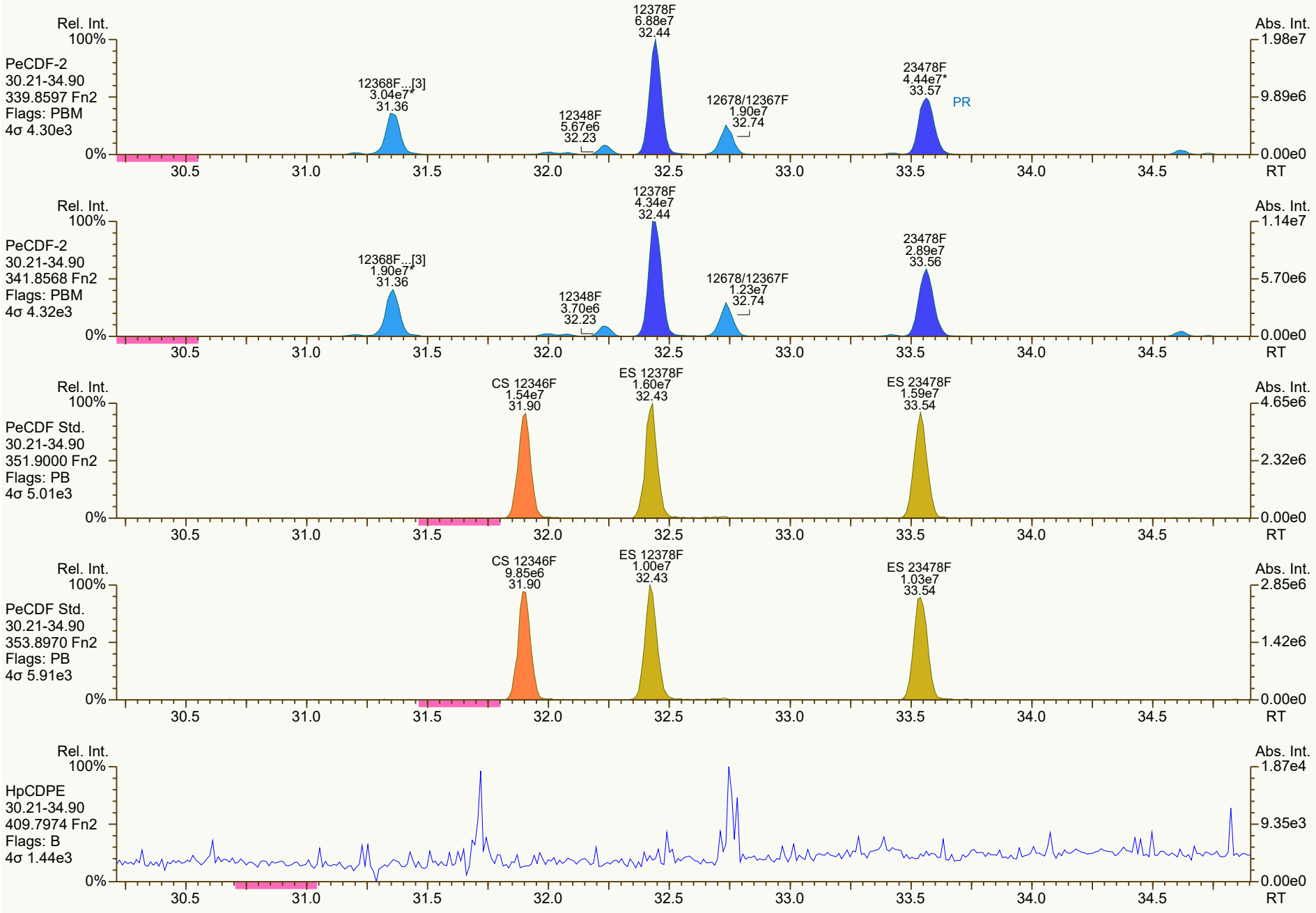
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2935, 7813 scc: 803-062
Revised: 03-Feb-2022 13:40 (DTF) Printed: 03-Feb-2022 13:53 Page 4 of 12

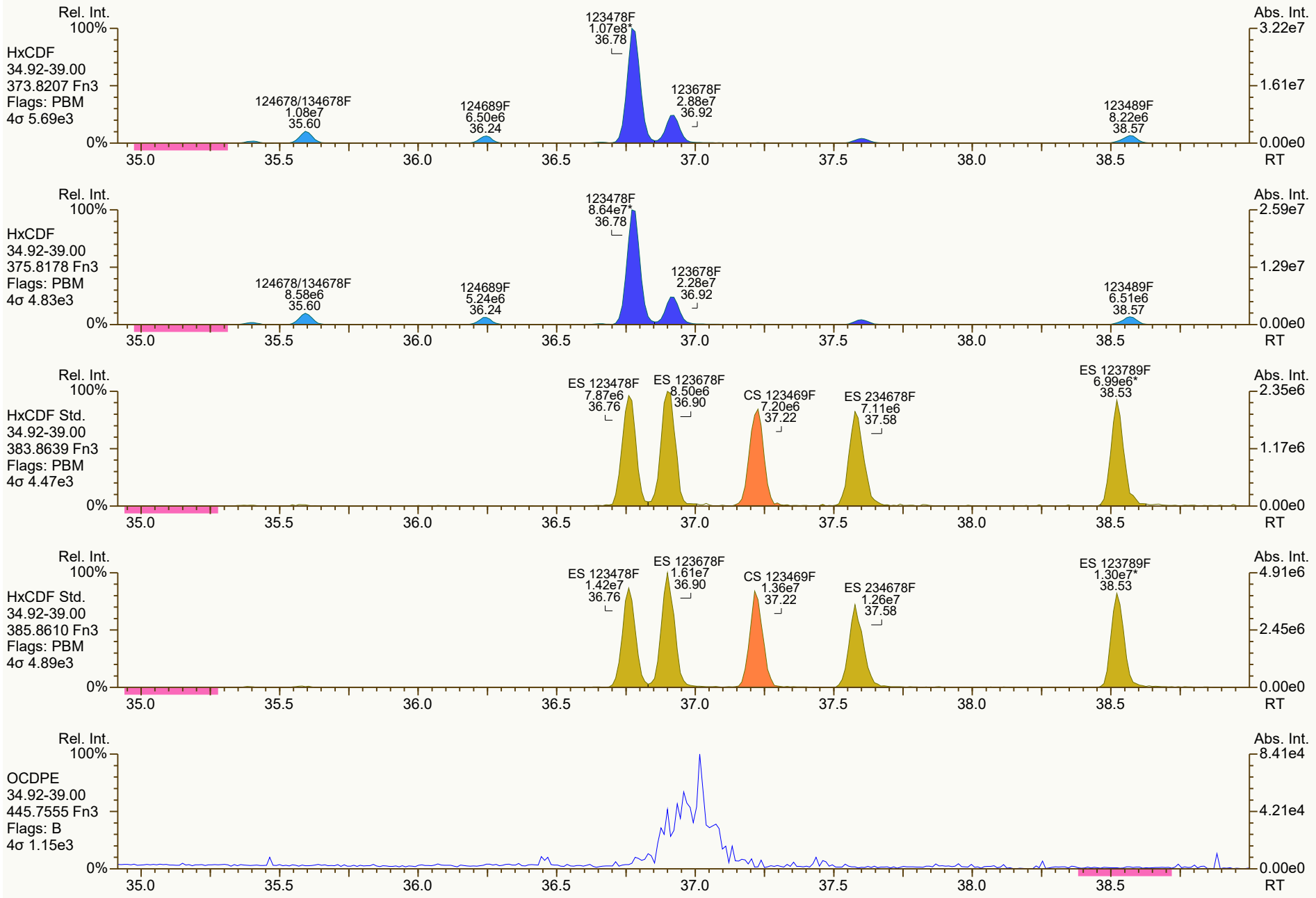

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 3.82e3
1234679D
2.61e7
40.16
1234678D
2.37e7
40.84
Abs. Int.
9.17e6
4.59e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.93e3
1234679D
2.48e7
40.16
1234678D
2.29e7
40.84
Abs. Int.
8.42e6
4.21e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 3.60e3
ES 1234678D
8.63e6
40.83
Abs. Int.
2.69e6
1.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.74e3
ES 1234678D
7.62e6
40.83
Abs. Int.
2.51e6
1.25e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.58e6
3.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

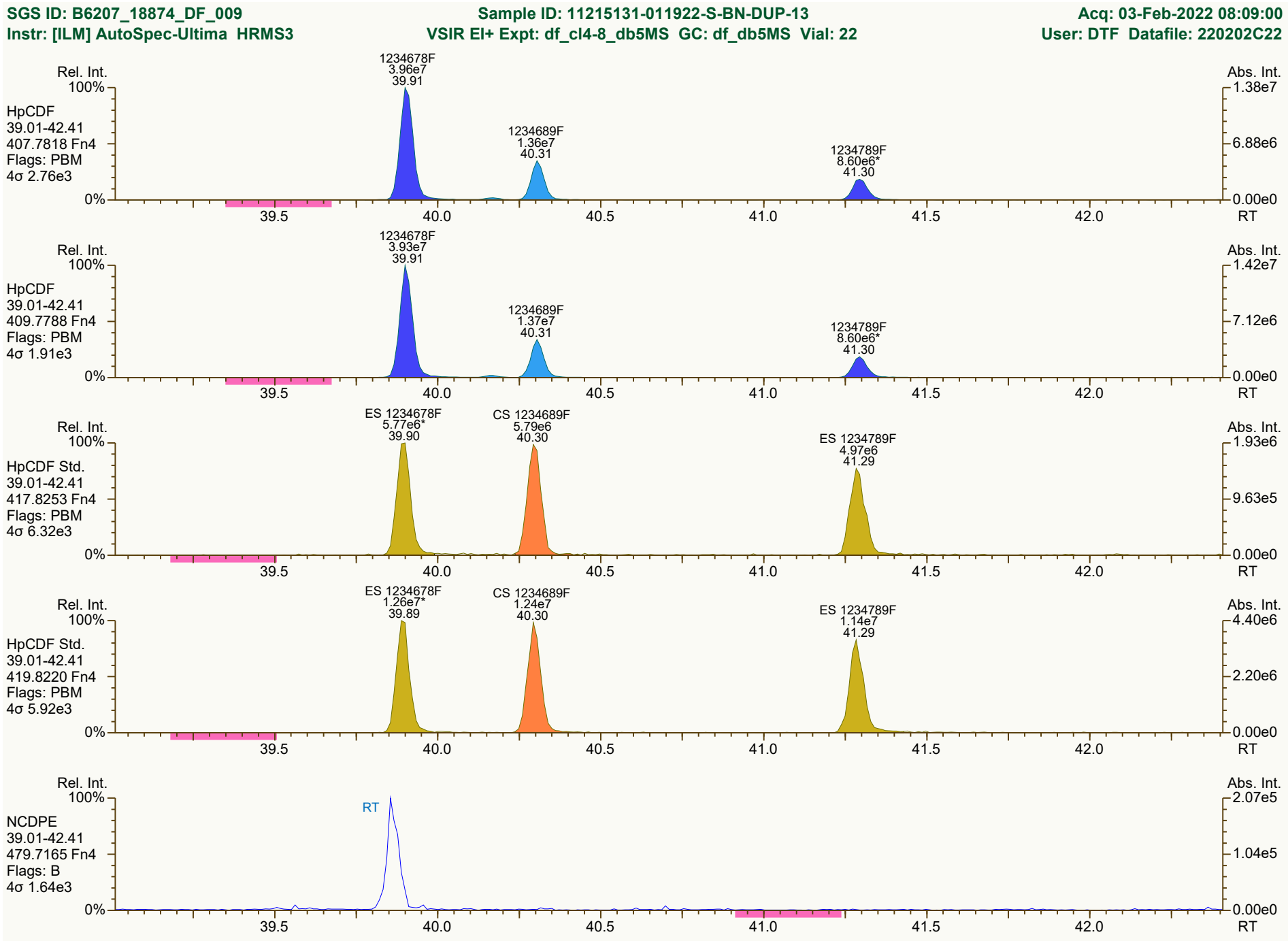

OCDD
2.36e8
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.96e3
0%
Abs. Int.
5.50e7
2.75e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.58e8
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.58e3
6.04e7
3.02e7
ES OCDD
1.12e7
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.12e3
2.56e6
1.28e6
ES OCDD
1.24e7
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.40e3
2.76e6
1.38e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.35e6
3.18e6


SGS ID: B6207_18874_DF_009
Sample ID: 11215131-011922-S-BN-DUP-13
Acq: 03-Feb-2022 08:09:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: DTF Datafile: 220202C22
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.54e3
2378F
1.26e9*
27.70
1278F
5.86e8
26.80
2348F
9.28e7
27.58
2367/3467F
9.47e7
28.06
1289F
8.25e7
29.72
2.91e8
1.45e8
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 4.44e3
2378F
1.60e9*
27.70
1278F
7.45e8
26.80
2348F
1.18e8
27.58
2367/3467F
1.21e8
28.05
1289F
1.06e8
29.72
3.73e8
1.87e8
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.01e3
JS 1234F
1.49e7
26.32
ES 2378F
1.45e7
27.68
3.29e6
1.65e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.70e3
JS 1234F
1.91e7
26.32
ES 2378F
1.70e7
27.68
4.20e6
2.10e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.33e3
detector
recovery
not dpe
2.93e4
1.46e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_009.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5785, 6675, 6385 scc: 803-062
Revised: 03-Feb-2022 13:41 (DTF) Printed: 03-Feb-2022 13:53 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.20e6
5.98e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 2.17e3
13468/12468F
4.19e6
29.66
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.73e3
13468/12468F
2.51e6
29.66
7.28e5
3.64e5
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
6.19e6
3.09e6

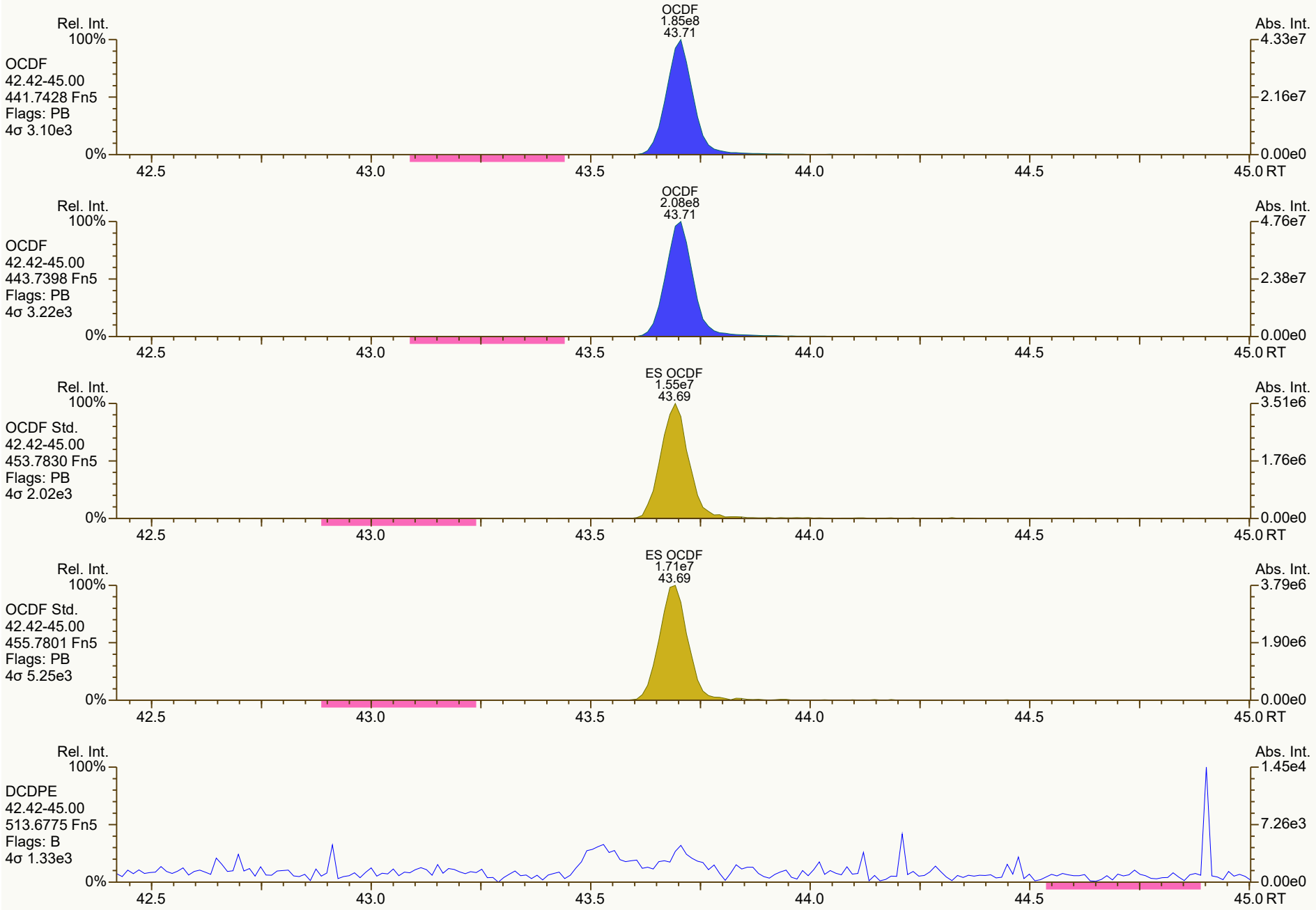

Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 4.30e3
0%
12368F...[3]
3.04e7*
31.36
12348F
5.67e6
32.23
12378F
6.88e7
32.44
12678/12367F
1.90e7
32.74
23478F
4.44e7*
33.57
PR
Abs. Int.
1.98e7
9.89e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 4.32e3
0%
12368F...[3]
1.90e7*
31.36
12348F
3.70e6
32.23
12378F
4.34e7
32.44
12678/12367F
1.23e7
32.74
23478F
2.89e7
33.56
Abs. Int.
1.14e7
5.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 5.01e3
0%
CS 12346F
1.54e7
31.90
ES 12378F
1.60e7
32.43
ES 23478F
1.59e7
33.54
Abs. Int.
4.65e6
2.32e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 5.91e3
0%
CS 12346F
9.85e6
31.90
ES 12378F
1.00e7
32.43
ES 23478F
1.03e7
33.54
Abs. Int.
2.85e6
1.42e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.87e4
9.35e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 5.69e3
123478F
1.07e8*
36.78
124678/134678F
1.08e7
35.60
124689F
6.50e6
36.24
123678F
2.88e7
36.92
123489F
8.22e6
38.57
Abs. Int.
3.22e7
1.61e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.83e3
123478F
8.64e7*
36.78
124678/134678F
8.58e6
35.60
124689F
5.24e6
36.24
123678F
2.28e7
36.92
123489F
6.51e6
38.57
Abs. Int.
2.59e7
1.29e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.47e3
ES 123478F
7.87e6
36.76
ES 123678F
8.50e6
36.90
CS 123469F
7.20e6
37.22
ES 234678F
7.11e6
37.58
ES 123789F
6.99e6*
38.53
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 4.89e3
ES 123478F
1.42e7
36.76
ES 123678F
1.61e7
36.90
CS 123469F
1.36e7
37.22
ES 234678F
1.26e7
37.58
ES 123789F
1.30e7*
38.53
Abs. Int.
4.91e6
2.45e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.15e3
Abs. Int.
8.41e4
4.21e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6207_18874_DF_009
Sample ID: 11215131-011922-S-BN-DUP-13
Acq: 03-Feb-2022 08:09:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: DTF Datafile: 220202C22
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.76e3
1234678F
3.96e7
39.91
1234689F
1.36e7
40.31
1234789F
8.60e6*
41.30
1.38e7
6.88e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.91e3
1234678F
3.93e7
39.91
1234689F
1.37e7
40.31
1234789F
8.60e6*
41.30
1.42e7
7.12e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 6.32e3
ES 1234678F
5.77e6*
39.90
CS 1234689F
5.79e6
40.30
ES 1234789F
4.97e6
41.29
1.93e6
9.63e5
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 5.92e3
ES 1234678F
1.26e7*
39.89
CS 1234689F
1.24e7
40.30
ES 1234789F
1.14e7
41.29
4.40e6
2.20e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.64e3
RT
2.07e5
1.04e5
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_009.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0808, 4745, 6809 scc: 803-062
Revised: 03-Feb-2022 13:42 (DTF) Printed: 03-Feb-2022 13:53 Page 11 of 12

SGS ID: B6207_18874_DF_009 | Sample ID: 11215131-011922-S-BN-DUP-13 | Acq: 03-Feb-2022 08:09:00

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: DTF Datafile: 220202C22



Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\B6207_18874_DF_009.utp_res, saved 03-Feb-2022 13:42 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4948, 2725, 9759 scc: 803-062 | *PKD: 03-Feb-2022 11:51 Printed: 03-Feb-2022 13:53 Page 12 of 12*

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
8	220202C08	3	CS3_220202_DF_CB	1.00	25-347-1	DTF	590-393	02-Feb-2022	21:12:14
9	220202C09	11	OPR1_18874_DF	1.00	0_18874_OPR001	DTF	406-630	02-Feb-2022	22:06:39
10	220202C10	2	SBS_220202_DF_CC	1.00	20-61-1	DTF	989-846	02-Feb-2022	22:52:58
11	220202C11	10	MB1_18874_DF_SDS	10.00	Method Blank	DTF	922-399	02-Feb-2022	23:39:16
12	220202C12	12	B6207_18874_DF_001	10.24	11215131-012022-S-BN-SW-O-20	DTF	341-058	03-Feb-2022	00:25:37
13	220202C13	13	B6207_18874_DF_002	10.12	11215131-012022-S-BN-SW-B-22	DTF	691-815	03-Feb-2022	01:11:58
14	220202C14	14	B6207_18874_DF_003 CL	10.05	11215131-011922-S-BN-SW-O-21	DTF	690-051	03-Feb-2022	01:58:19
15	220202C15	15	B6207_18874_DF_004 04Feb22	10.02	11215131-011922-S-BN-SW-B-23	DTF	023-780	03-Feb-2022	02:44:40
16	220202C16	16	B6207_18874_DF_005 10.08	10~~.11~~	11215131-011922-S-BN-SW-O-19	DTF	624-922	03-Feb-2022	03:31:00
17	220202C17	17	B6207_18874_DF_006	10.08	11215131-011922-S-BN-SW-B-21	DTF	172-253	03-Feb-2022	04:17:20
18	220202C18	18	B6207_18874_DF_006MS	10.01	11215131-011922-S-BN-SW-B-21-MS	DTF	152-625	03-Feb-2022	05:03:39
19	220202C19	19	B6207_18874_DF_006MSD	10.10	11215131-011922-S-BN-SW-B-21-MSD	DTF	244-146	03-Feb-2022	05:49:59
20	220202C20	20	B6207_18874_DF_007	10.16	11215131-011922-S-BN-SW-O-18	DTF	703-404	03-Feb-2022	06:36:19
21	220202C21	21	B6207_18874_DF_008	10.01	11215131-011922-S-BN-SW-B-20	DTF	821-680	03-Feb-2022	07:22:40
22	220202C22	22	B6207_18874_DF_009	10.11	11215131-011922-S-BN-DUP-13	DTF	803-062	03-Feb-2022	08:09:00

REVIEWED
Tyler_Fritz , 2/4/2022, 8:14:32 AM

APPROVED
Carla_Lyon , 2/4/2022, 10:33:08 AM

Dioxin/Furan QC Summary	Acq'd: 02 Feb 2022 21:12 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220202_DF_CB	UTP: 03-Feb-2022 13:42:28 DTF	Checkcode: 590-393-CHJ
Sample ID: 25-347-1	Report: 03 Feb 2022 13:43 TF	Datafile: 220202C08

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.48E+06	0.85	Y	1.18	1.22	3%
12378-PeCDD	33.86	5.69E+06	1.53	Y	1.04	1.04	1%
123478-HxCDD	37.77	5.31E+06	1.26	Y	1.09	1.16	7%
123678-HxCDD	37.88	5.39E+06	1.30	Y	1.15	1.20	4%
123789-HxCDD	38.18	5.63E+06	1.27	Y	1.05	1.08	3%
1234678-HpCDD	40.83	4.95E+06	1.02	Y	1.06	1.03	-3%
OCDD	43.51	8.29E+06	0.93	Y	1.13	1.18	5%
2378-TCDF	27.68	2.31E+06	0.78	Y	1.08	1.13	5%
12378-PeCDF	32.41	8.75E+06	1.53	Y	1.02	1.01	-1%
23478-PeCDF	33.52	8.32E+06	1.52	Y	1.02	1.02	0%
123478-HxCDF	36.76	8.49E+06	1.27	Y	1.27	1.31	3%
123678-HxCDF	36.90	8.79E+06	1.25	Y	1.15	1.16	0%
234678-HxCDF	37.59	8.17E+06	1.23	Y	1.19	1.19	0%
123789-HxCDF	38.53	7.29E+06	1.25	Y	1.16	1.17	1%
1234678-HpCDF	39.90	7.72E+06	1.01	Y	1.37	1.40	2%
1234789-HpCDF	41.29	6.69E+06	0.99	Y	1.31	1.40	7%
OCDF	43.69	1.12E+07	0.88	Y	1.07	1.11	4%
ES 2378-TCDD	28.51	1.21E+07	0.80	Y	1.05	0.97	-7%
ES 12378-PeCDD	33.843	1.09E+07	1.66	Y	0.88	0.87	-1%
ES 123478-HxCDD	37.752	9.13E+06	1.28	Y	0.97	0.98	1%
ES 123678-HxCDD	37.87	9.02E+06	1.30	Y	0.94	0.97	2%
ES 123789-HxCDD	38.16	1.05E+07	1.28	Y	1.09	1.12	3%
ES 1234678-HpCDD	40.819	9.58E+06	1.11	Y	0.91	1.03	12%
ES OCDD	43.499	1.40E+07	0.91	Y	0.62	0.75	20%
ES 2378-TCDF	27.655	2.04E+07	0.80	Y	1.06	0.98	-8%
ES 12378-PeCDF	32.396	1.73E+07	1.56	Y	0.91	0.83	-9%
ES 23478-PeCDF	33.507	1.64E+07	1.56	Y	0.88	0.78	-11%
ES 123478-HxCDF	36.742	1.29E+07	0.53	Y	1.20	1.38	15%
ES 123678-HxCDF	36.886	1.52E+07	0.54	Y	1.35	1.63	20%
ES 234678-HxCDF	37.568	1.38E+07	0.52	Y	1.24	1.47	19%
ES 123789-HxCDF	38.516	1.24E+07	0.55	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.886	1.11E+07	0.48	Y	0.97	1.19	22%
ES 1234789-HpCDF	41.279	9.58E+06	0.46	Y	0.85	1.03	20%
ES OCDF	43.686	2.02E+07	0.88	Y	0.81	1.08	34% *

* Meets M1613B criteria

Dioxin/Furan QC Summary	Acq'd: 02 Feb 2022 21:12 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220202_DF_CB	UTP: 03-Feb-2022 13:42:28 DTF	Checkcode: 590-393-CHJ
Sample ID: 25-347-1	Report: 03 Feb 2022 13:43 TF	Datafile: 220202C08

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	1.25E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.30	2.09E+07	0.84	Y	-	-	-
JS 123467-HxCDD	38.06	4.67E+06	1.24	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.56E+06	n/a	-	1.20	1.25	4%
CS 12347-PeCDD	33.34	9.44E+06	1.61	Y	0.75	0.76	0%
CS 12346-PeCDF	31.87	1.75E+07	1.53	Y	0.85	0.84	-1%
CS 123469-HxCDF	37.20	1.33E+07	0.52	Y	1.12	1.43	28%
CS 1234689-HpCDF	40.28	1.12E+07	0.45	Y	0.89	1.20	36% **
~~SS 37Cl-2378-TCDD~~	~~28.53~~	~~1.56E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.29~~	~~12%~~
~~SS 12347-PeCDD~~	~~33.34~~	~~9.44E+06~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.87~~	~~1%~~
~~SS 12346-PeCDF~~	~~31.87~~	~~1.75E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~1.01~~	~~8%~~
~~SS 123469-HxCDF~~	~~37.20~~	~~1.33E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~0.88~~	~~6%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~1.12E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.02~~	~~11%~~
Not used in this project. 04Feb22						** No criteria specified in M1613B 04Feb22	
~~OCDD-a~~	~~0.00~~	~~0.00E+00~~	~~0.00~~	~~0~~	~~0.07~~	~~0.00~~	~~-100%~~
~~OCDF-a~~	~~43.69~~	~~5.56E+05~~	~~2.17~~	~~Y~~	~~0.07~~	~~0.06~~	~~-17%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220202C08 Analysis Date: 02-FEB-2022 21:12:14

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.85	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32 - 1.78	Y	50.3	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	53.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	52.1	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	51.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	48.7	43 - 58	Y
OCDD	M+2/M+4	0.93	0.76 - 1.02	Y	105	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.5	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	49.4	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	49.8	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	51.7	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	50	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.5	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	51	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88 - 1.20	Y	53.5	43 - 58	Y
OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	104	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 03 Feb 2022 16:34 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

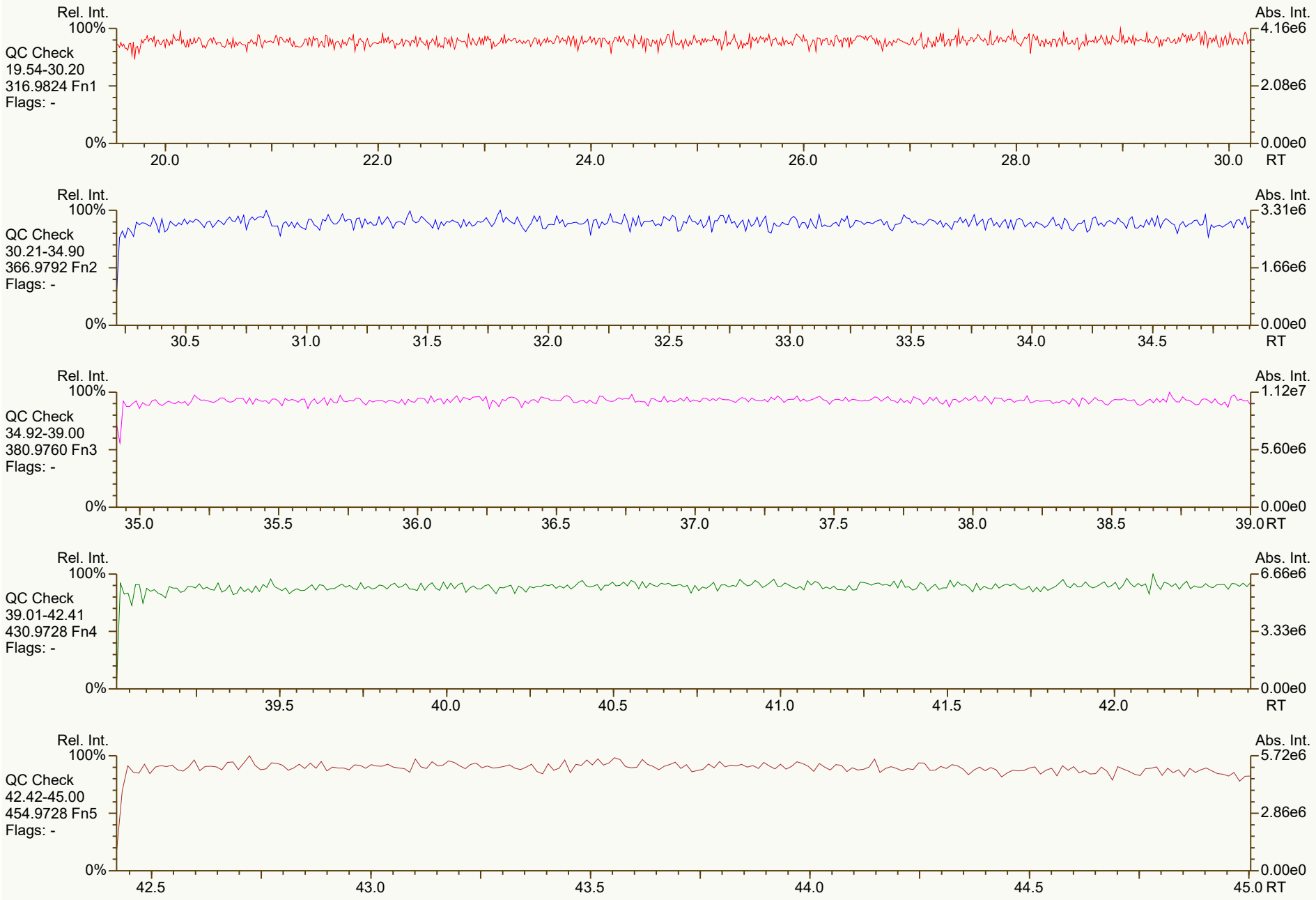
Instrument ID: HRMS3 GC Column ID: ZB-5ms

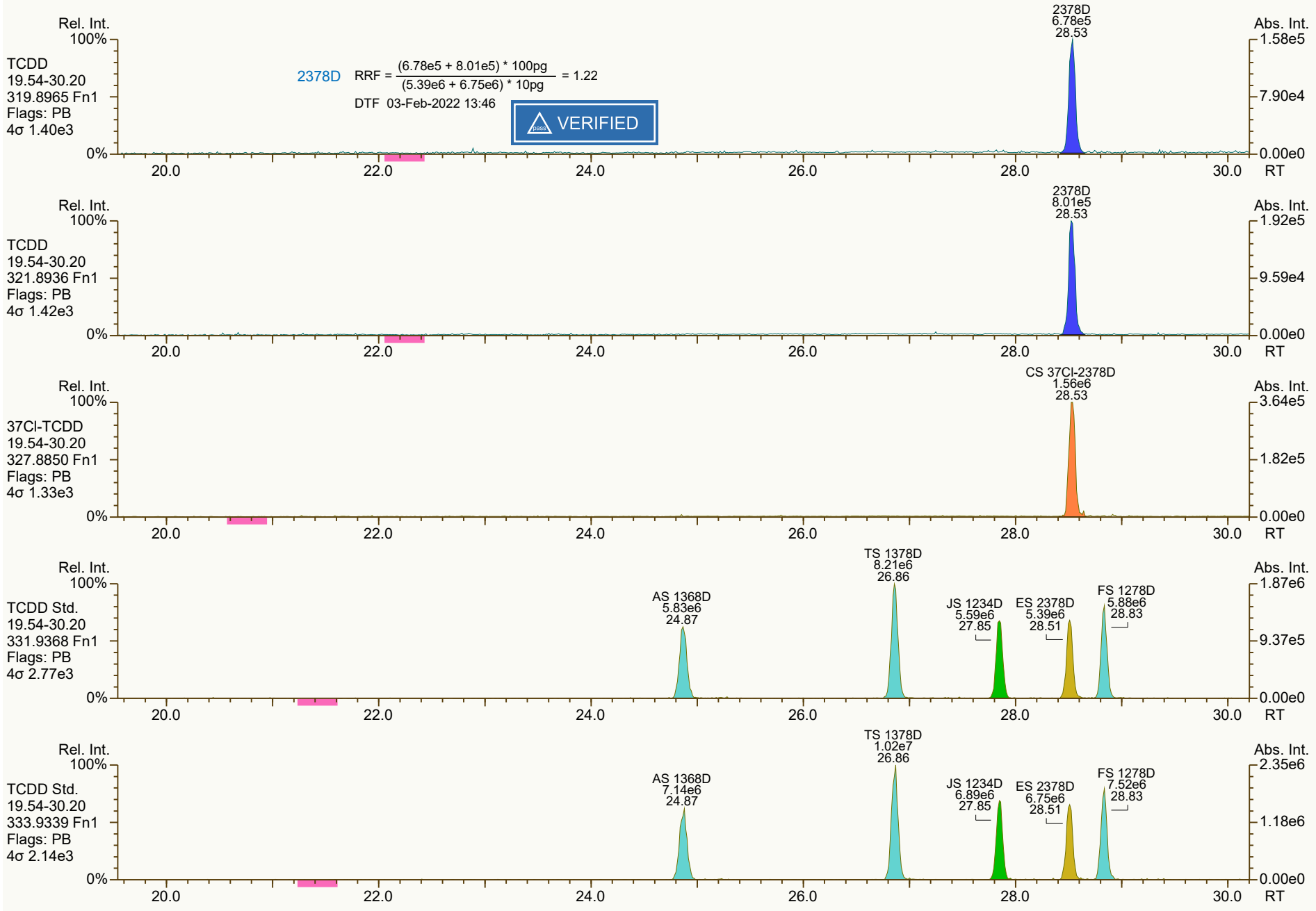
VER Data Filename: 220202C08 Analysis Date: 02-FEB-2022 21:12:14

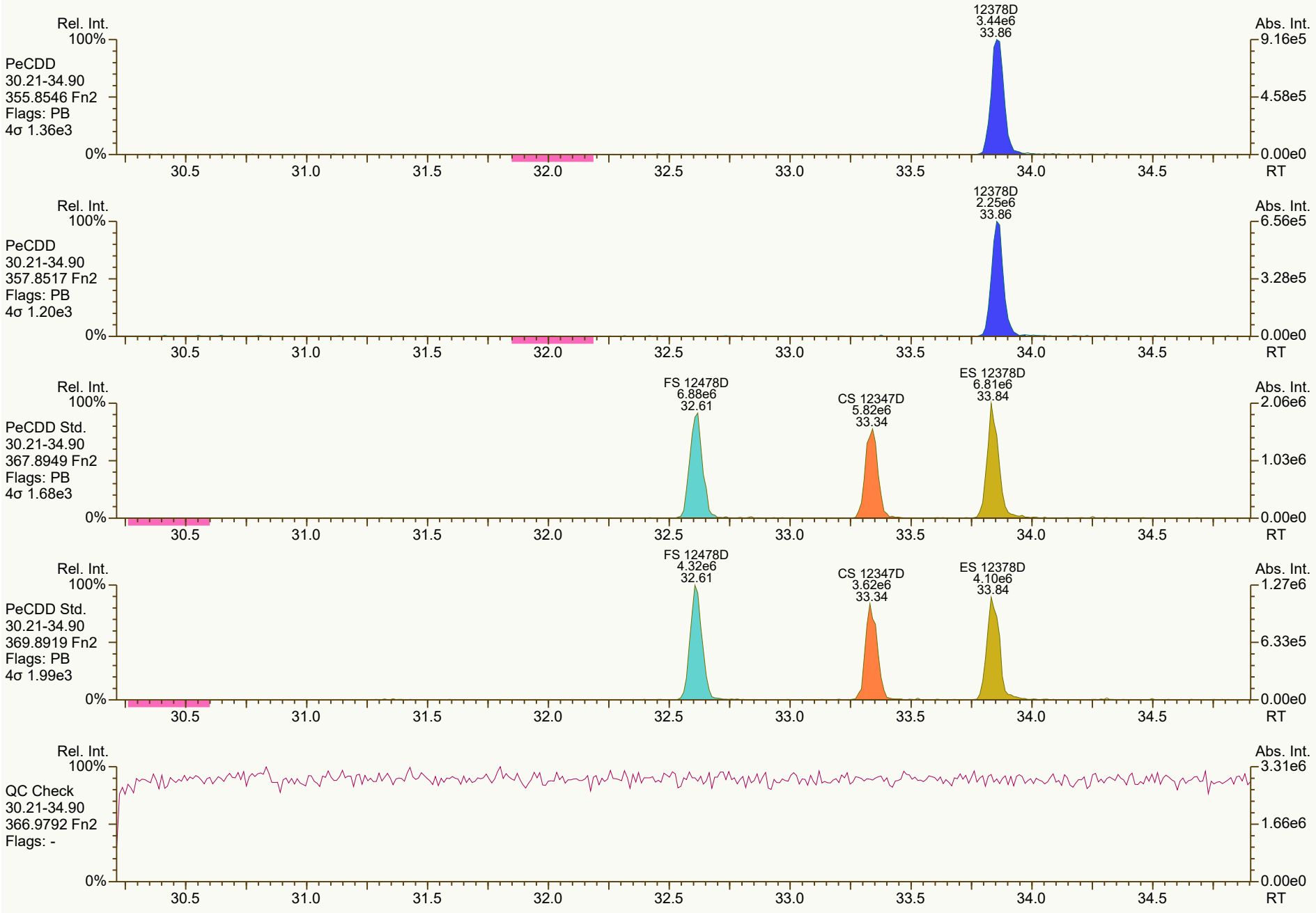
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	93	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	99.4	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	101	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	103	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.11	0.88	-	1.20	Y	112	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	240	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	92.4	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.9	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	88.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	115	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	120	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	119	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	115	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	122	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	120	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	268	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.4	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.53	1.32	-	1.78	Y	98.7	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	128	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	136 **	70	-	130	N

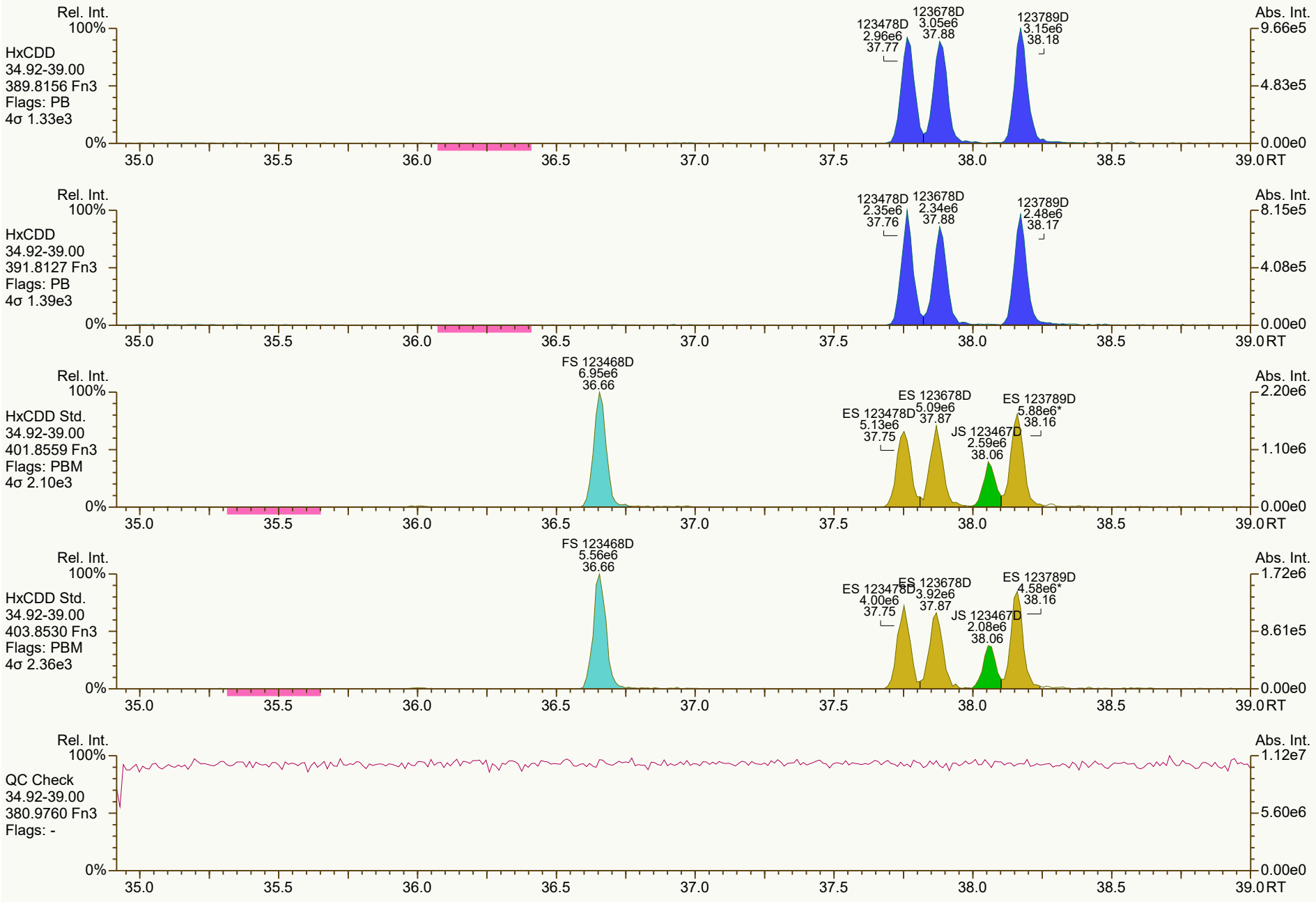
** No criteria specified in M1613B
04Feb22

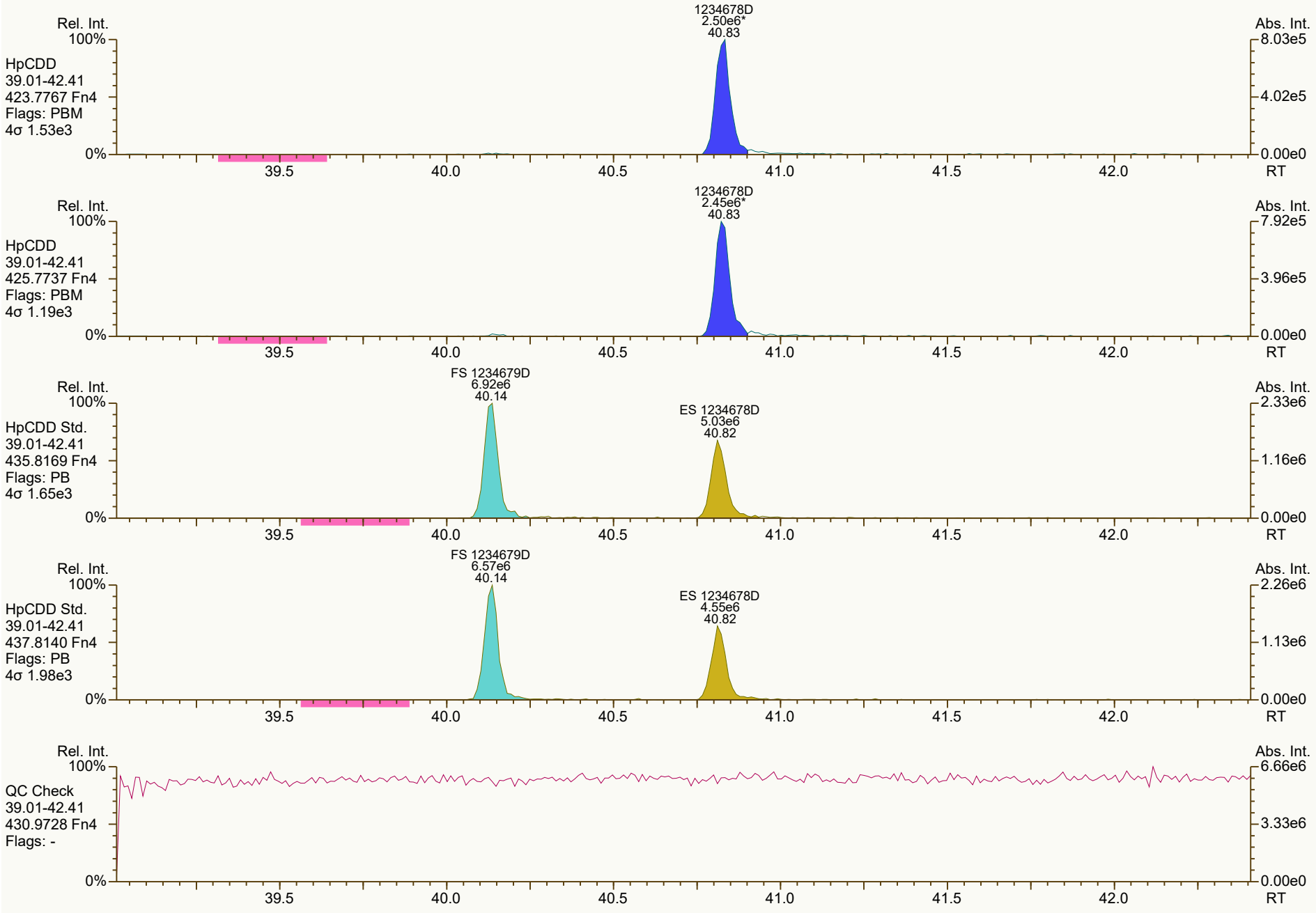
Processed: 03 Feb 2022 16:34 Analyst: TF

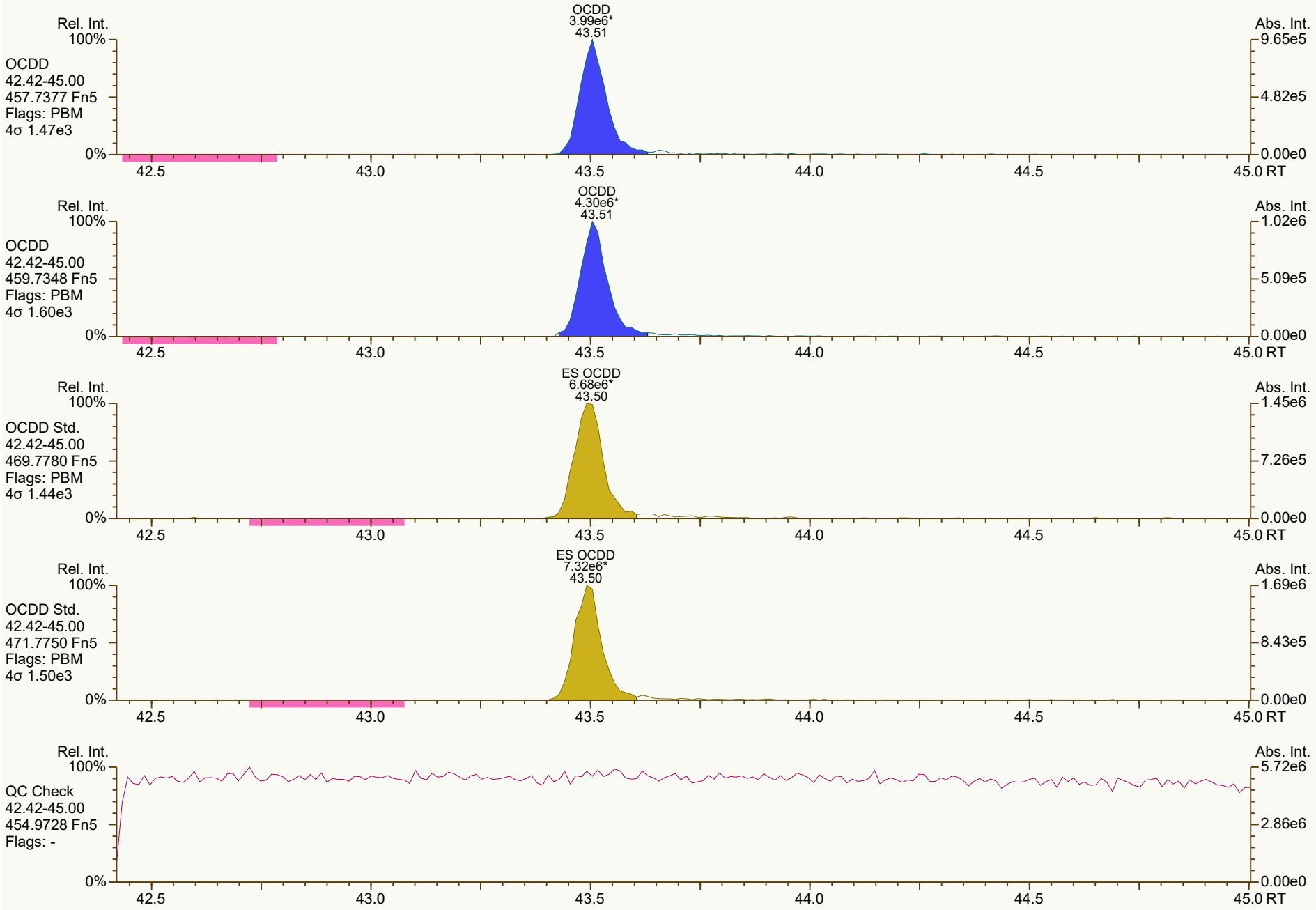

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.16e6
2.08e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.31e6
1.66e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.12e7
5.60e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.66e6
3.33e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.72e6
2.86e6
0.00e0

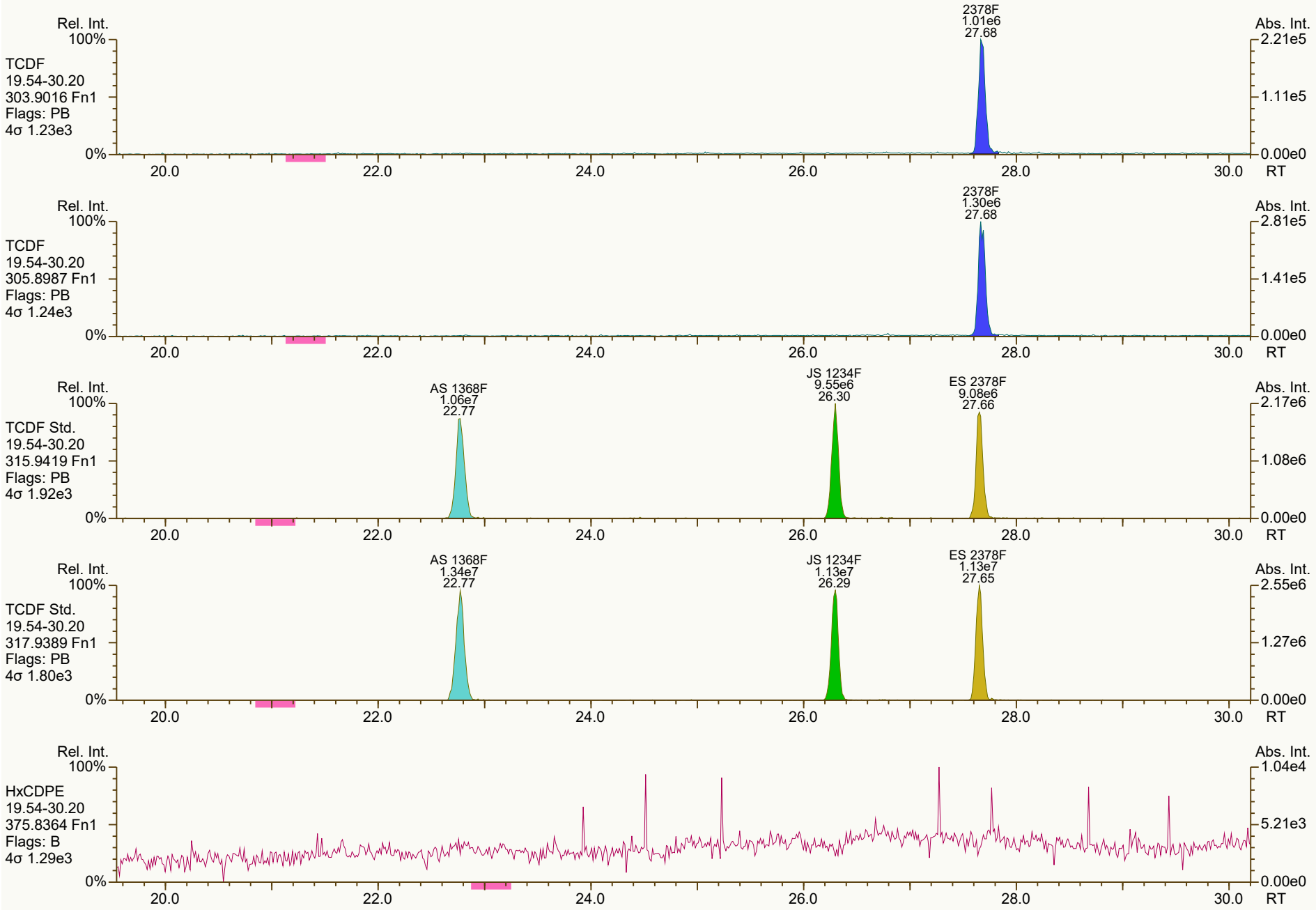

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.40e3
0%
2378D
6.78e5
28.53
Abs. Int.
1.58e5
7.90e4
0.00e0
2378D RRF = (6.78e5 + 8.01e5) * 100pg / (5.39e6 + 6.75e6) * 10pg = 1.22
DTF 03-Feb-2022 13:46
VERIFIED
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.42e3
2378D
8.01e5
28.53
1.92e5
9.59e4
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.33e3
CS 37Cl-2378D
1.56e6
28.53
3.64e5
1.82e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.77e3
AS 1368D
5.83e6
24.87
TS 1378D
8.21e6
26.86
JS 1234D
5.59e6
27.85
ES 2378D
5.39e6
28.51
FS 1278D
5.88e6
28.83
1.87e6
9.37e5
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.14e3
AS 1368D
7.14e6
24.87
TS 1378D
1.02e7
26.86
JS 1234D
6.89e6
27.85
ES 2378D
6.75e6
28.51
FS 1278D
7.52e6
28.83
2.35e6
1.18e6


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.36e3
0%
12378D
3.44e6
33.86
Abs. Int.
9.16e5
4.58e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.20e3
0%
12378D
2.25e6
33.86
Abs. Int.
6.56e5
3.28e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.68e3
0%
FS 12478D
6.88e6
32.61
CS 12347D
5.82e6
33.34
ES 12378D
6.81e6
33.84
Abs. Int.
2.06e6
1.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.99e3
0%
FS 12478D
4.32e6
32.61
CS 12347D
3.62e6
33.34
ES 12378D
4.10e6
33.84
Abs. Int.
1.27e6
6.33e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.31e6
1.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

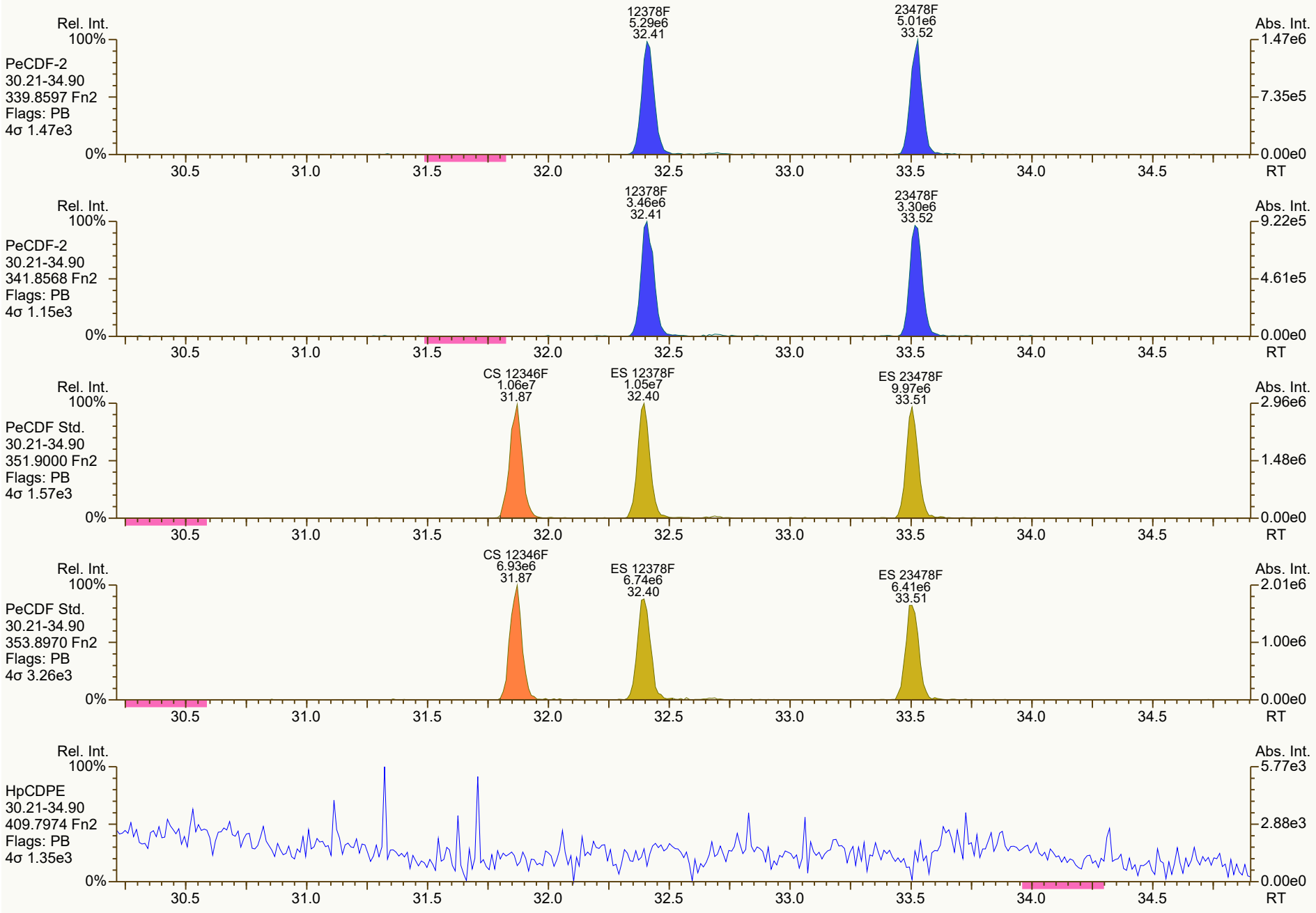

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.33e3
123478D 2.96e6 37.77
123678D 3.05e6 37.88
123789D 3.15e6 38.18
Abs. Int.
9.66e5
4.83e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.39e3
123478D 2.35e6 37.76
123678D 2.34e6 37.88
123789D 2.48e6 38.17
Abs. Int.
8.15e5
4.08e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.10e3
FS 123468D 6.95e6 36.66
ES 123478D 5.13e6 37.75
ES 123678D 5.09e6 37.87
JS 123467D 2.59e6 38.06
ES 123789D 5.88e6* 38.16
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.36e3
FS 123468D 5.56e6 36.66
ES 123478D 4.00e6 37.75
ES 123678D 3.92e6 37.87
JS 123467D 2.08e6 38.06
ES 123789D 4.58e6* 38.16
Abs. Int.
1.72e6
8.61e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.12e7
5.60e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

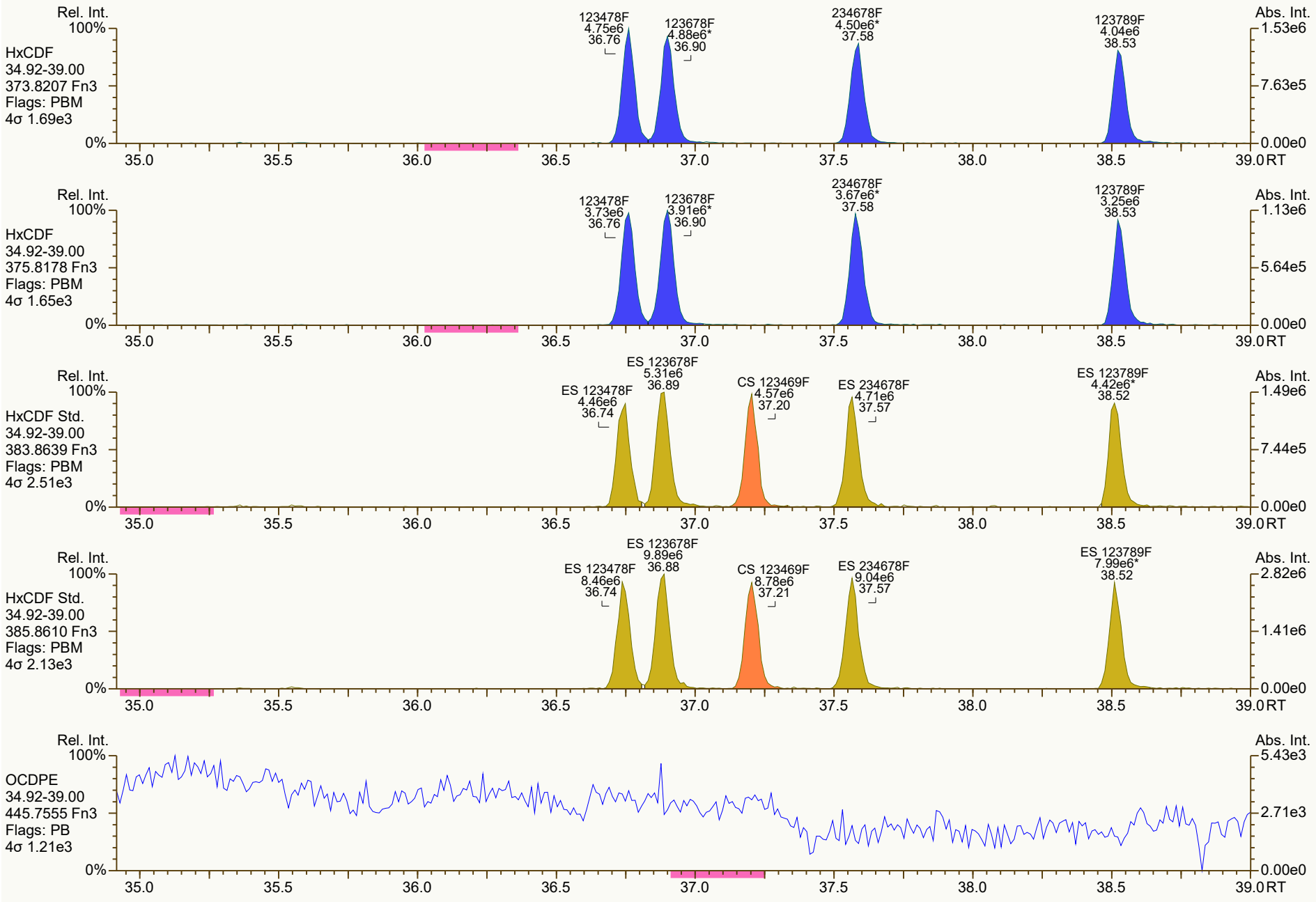

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.53e3
0%
1234678D
2.50e6*
40.83
Abs. Int.
8.03e5
4.02e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
2.45e6*
40.83
Abs. Int.
7.92e5
3.96e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.65e3
0%
FS 1234679D
6.92e6
40.14
ES 1234678D
5.03e6
40.82
Abs. Int.
2.33e6
1.16e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.98e3
0%
FS 1234679D
6.57e6
40.14
ES 1234678D
4.55e6
40.82
Abs. Int.
2.26e6
1.13e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.66e6
3.33e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

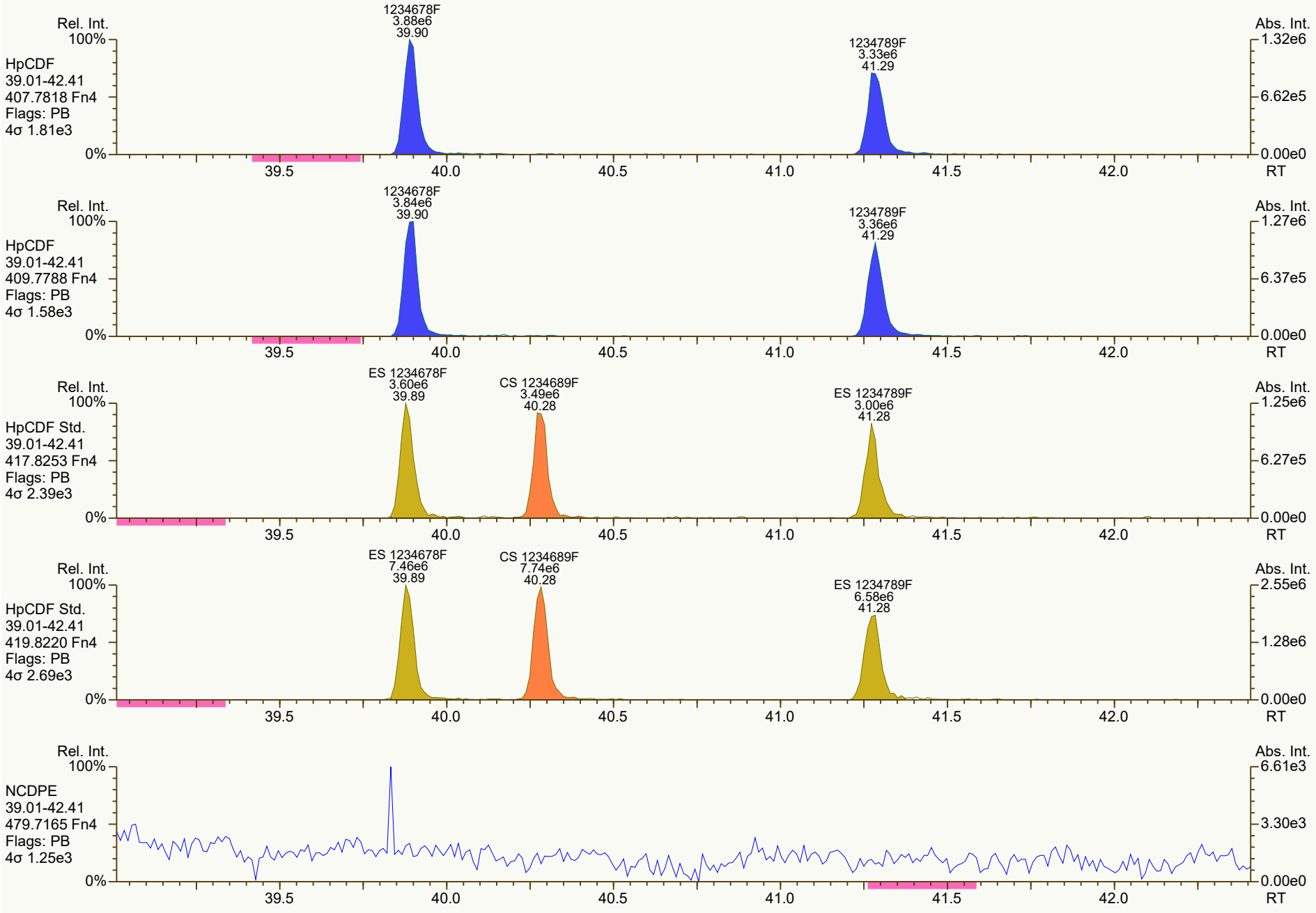

OCDD
3.99e6*
43.51
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.47e3
OCDD
4.30e6*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.60e3
ES OCDD
6.68e6*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.44e3
ES OCDD
7.32e6*
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.50e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.23e3
2378F
1.01e6
27.68
2.21e5
1.11e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.24e3
2378F
1.30e6
27.68
2.81e5
1.41e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.92e3
AS 1368F
1.06e7
22.77
JS 1234F
9.55e6
26.30
ES 2378F
9.08e6
27.66
2.17e6
1.08e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.80e3
AS 1368F
1.34e7
22.77
JS 1234F
1.13e7
26.29
ES 2378F
1.13e7
27.65
2.55e6
1.27e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.29e3
1.04e4
5.21e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

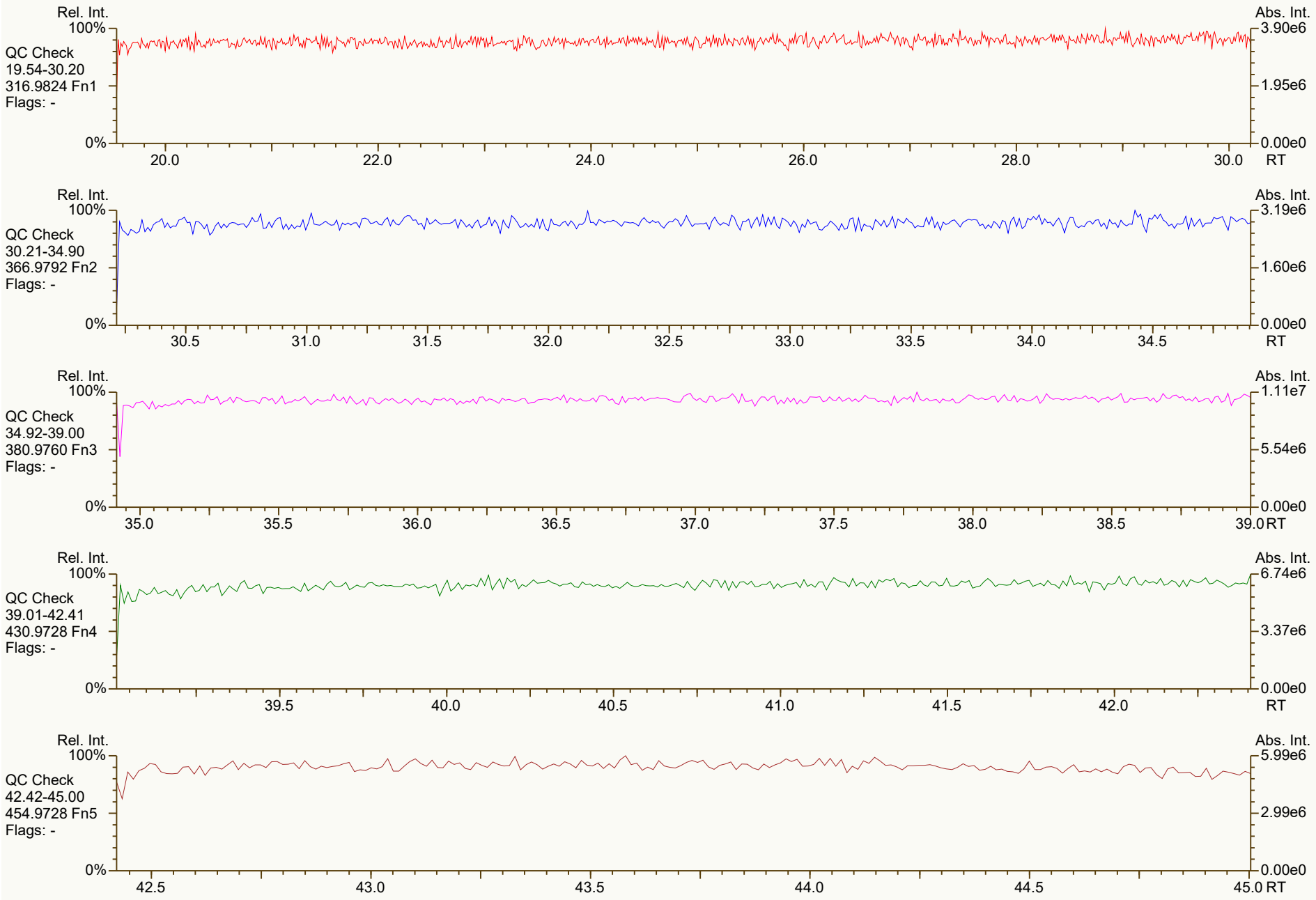

Rel. Int.
100%
0%
Abs. Int.
7.90e3
3.95e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.19e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.56e4
7.79e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.62e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.47e3
0%
12378F
5.29e6
32.41
23478F
5.01e6
33.52
Abs. Int.
1.47e6
7.35e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.15e3
0%
12378F
3.46e6
32.41
23478F
3.30e6
33.52
Abs. Int.
9.22e5
4.61e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.57e3
0%
CS 12346F
1.06e7
31.87
ES 12378F
1.05e7
32.40
ES 23478F
9.97e6
33.51
Abs. Int.
2.96e6
1.48e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.26e3
0%
CS 12346F
6.93e6
31.87
ES 12378F
6.74e6
32.40
ES 23478F
6.41e6
33.51
Abs. Int.
2.01e6
1.00e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.35e3
0%
Abs. Int.
5.77e3
2.88e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.69e3
123478F
4.75e6
36.76
123678F
4.88e6*
36.90
234678F
4.50e6*
37.58
123789F
4.04e6
38.53
Abs. Int.
1.53e6
7.63e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.65e3
123478F
3.73e6
36.76
123678F
3.91e6*
36.90
234678F
3.67e6*
37.58
123789F
3.25e6
38.53
Abs. Int.
1.13e6
5.64e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 2.51e3
ES 123478F
4.46e6
36.74
ES 123678F
5.31e6
36.89
CS 123469F
4.57e6
37.20
ES 234678F
4.71e6
37.57
ES 123789F
4.42e6*
38.52
Abs. Int.
1.49e6
7.44e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 2.13e3
ES 123478F
8.46e6
36.74
ES 123678F
9.89e6
36.88
CS 123469F
8.78e6
37.21
ES 234678F
9.04e6
37.57
ES 123789F
7.99e6*
38.52
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.21e3
Abs. Int.
5.43e3
2.71e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.81e3
1234678F
3.88e6
39.90
1234789F
3.33e6
41.29
Abs. Int.
1.32e6
6.62e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.58e3
1234678F
3.84e6
39.90
1234789F
3.36e6
41.29
Abs. Int.
1.27e6
6.37e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.39e3
ES 1234678F
3.60e6
39.89
CS 1234689F
3.49e6
40.28
ES 1234789F
3.00e6
41.28
Abs. Int.
1.25e6
6.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.69e3
ES 1234678F
7.46e6
39.89
CS 1234689F
7.74e6
40.28
ES 1234789F
6.58e6
41.28
Abs. Int.
2.55e6
1.28e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.25e3
Abs. Int.
6.61e3
3.30e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
5.27e6*
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.27e3
0%
Abs. Int.
1.18e6
5.88e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.97e6*
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.28e3
1.41e6
7.05e5
ES OCDF
9.45e6
43.69
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.60e3
2.12e6
1.06e6
ES OCDF
1.08e7
43.68
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.37e3
2.42e6
1.21e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.25e3
4.54e3
2.27e3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.11e7
5.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.74e6
3.37e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.99e6
2.99e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

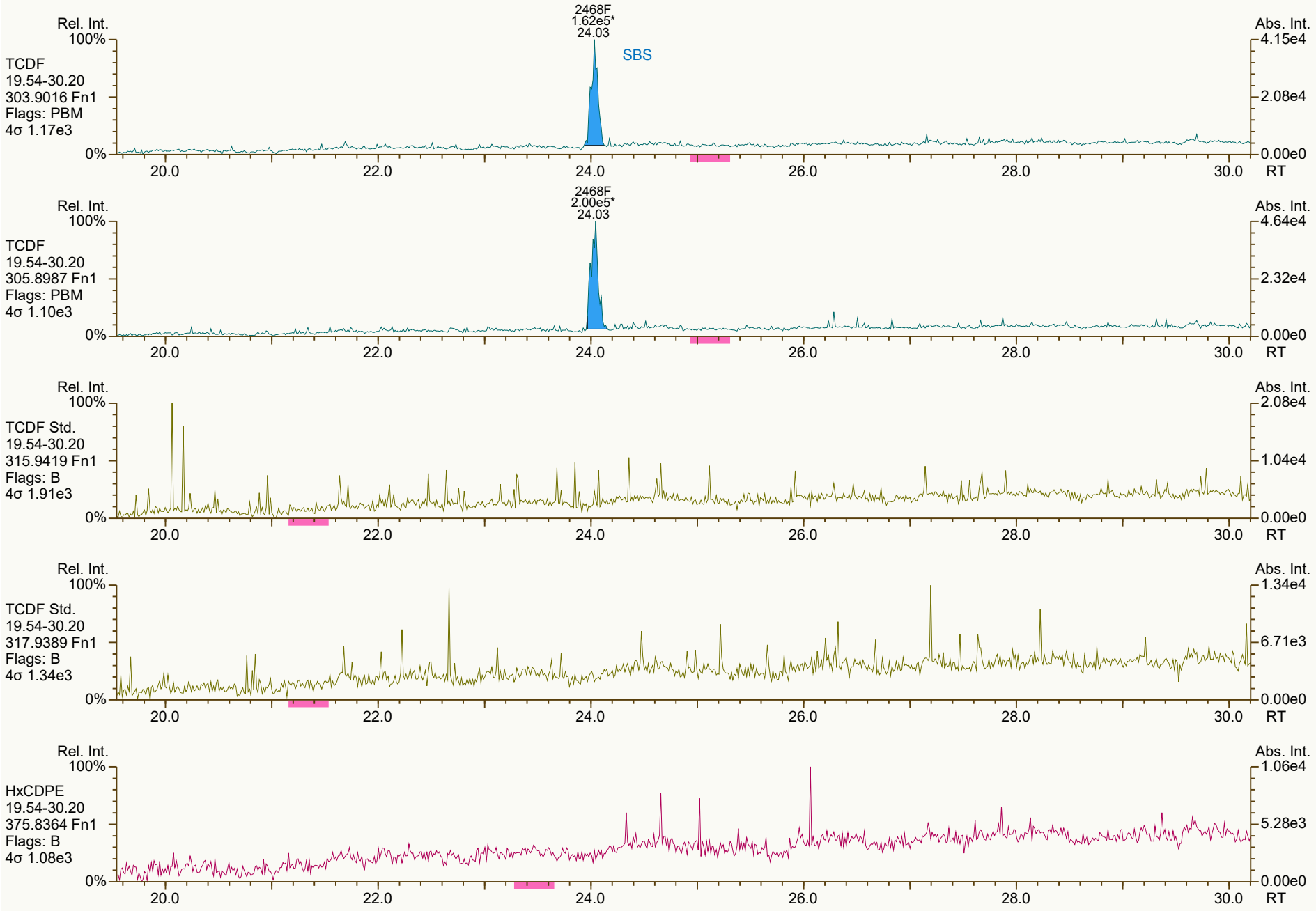

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.44e3
0%
Abs. Int.
8.35e3
4.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.15e3
0%
Abs. Int.
7.36e3
3.68e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.13e3
0%
Abs. Int.
9.88e3
4.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 3.52e3
0%
Abs. Int.
1.86e4
9.32e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
2.21e4
1.10e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 9.73e2
0%
Abs. Int.
4.33e3
2.17e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.19e3
0%
Abs. Int.
4.90e3
2.45e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 1.70e3
0%
Abs. Int.
2.05e4
1.03e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: B
4σ 1.40e3
0%
Abs. Int.
8.05e3
4.02e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

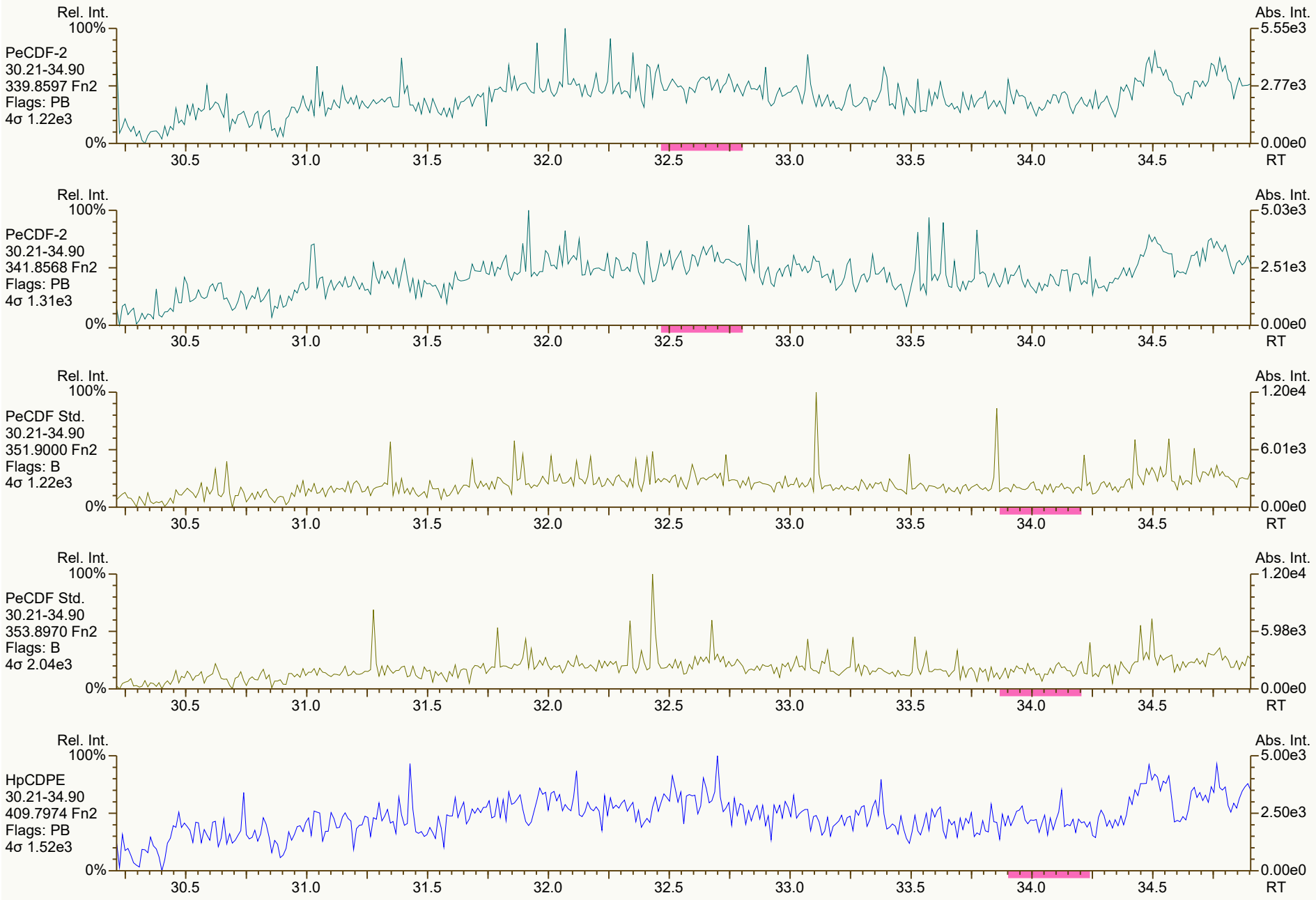

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.30e3
0%
Abs. Int.
4.65e3
2.33e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.17e3
0%
Abs. Int.
4.95e3
2.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 2.37e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.71e3
0%
Abs. Int.
1.54e4
7.72e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.11e7
5.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.20e3
0%
Abs. Int.
3.67e3
1.84e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.11e3
0%
Abs. Int.
3.81e3
1.90e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.72e3
0%
Abs. Int.
9.04e3
4.52e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.05e4
5.25e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.74e6
3.37e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.23e3
0%
Abs. Int.
7.21e3
3.60e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.44e3
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.72e3
0%
Abs. Int.
1.16e4
5.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.99e6
2.99e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.17e3
2468F
1.62e5*
24.03
SBS
Abs. Int.
4.15e4
2.08e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.10e3
2468F
2.00e5*
24.03
Abs. Int.
4.64e4
2.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 1.91e3
Abs. Int.
2.08e4
1.04e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 1.34e3
Abs. Int.
1.34e4
6.71e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.08e3
Abs. Int.
1.06e4
5.28e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.86e3
4.93e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.37e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.37e4
6.86e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.05e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.22e3
0%
Abs. Int.
5.55e3
2.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.03e3
2.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 2.04e3
0%
Abs. Int.
1.20e4
5.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

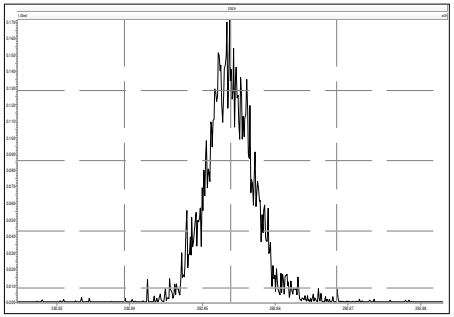

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.30e3
0%
Abs. Int.
4.66e3
2.33e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.24e3
0%
Abs. Int.
5.04e3
2.52e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.28e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 1.89e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.28e3
0%
Abs. Int.
4.70e3
2.35e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
3.77e3
1.88e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
6.63e3
3.32e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.91e4
9.53e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.10e4
5.49e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
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41.0
41.5
42.0
RT

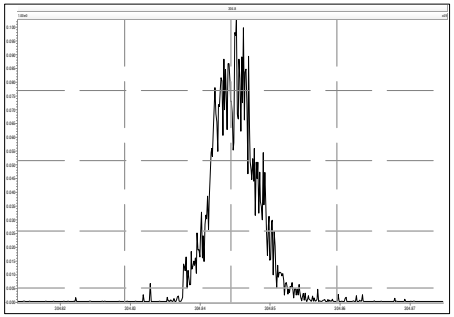

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.01e3
0%
Abs. Int.
5.61e3
2.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
3.95e3
1.98e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
1.15e4
5.76e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 1.37e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.13e3
0%
Abs. Int.
5.80e3
2.90e3
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44.0
44.5
45.0 RT

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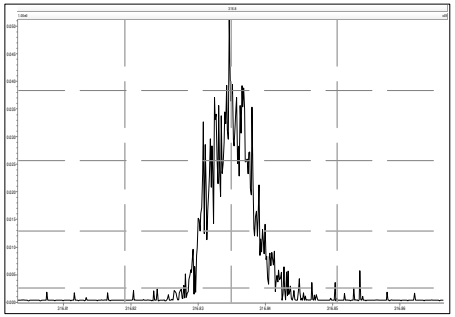
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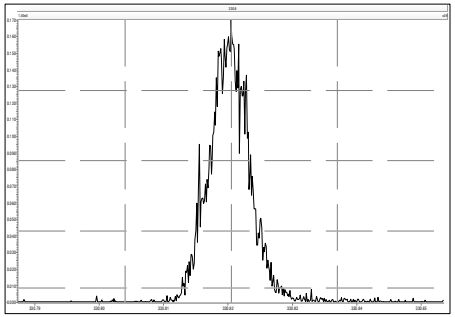
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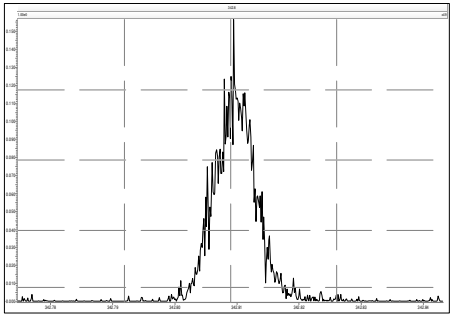
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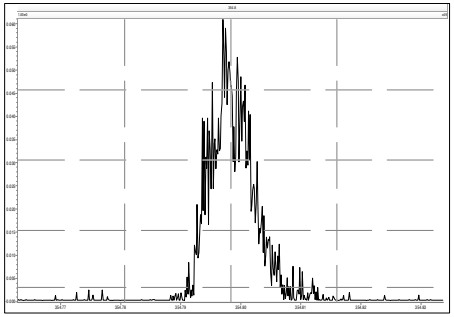
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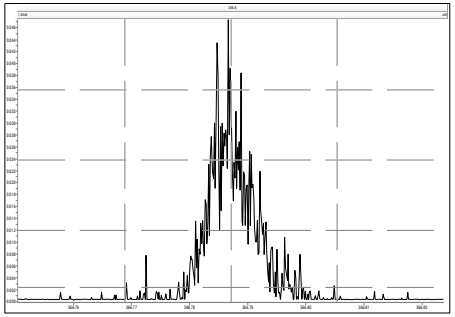
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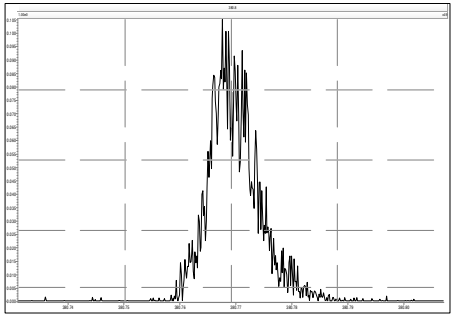
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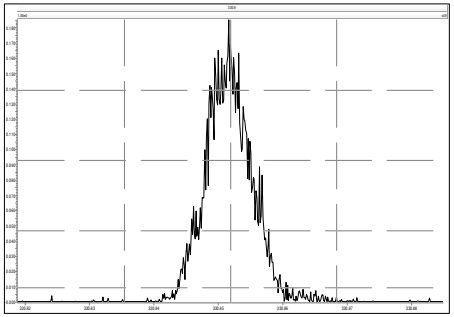
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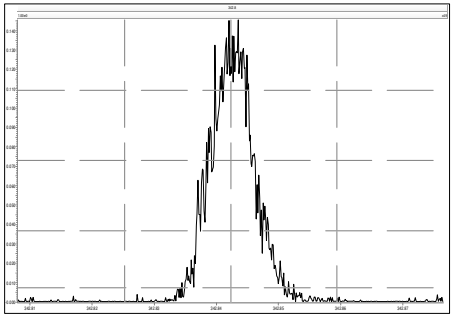
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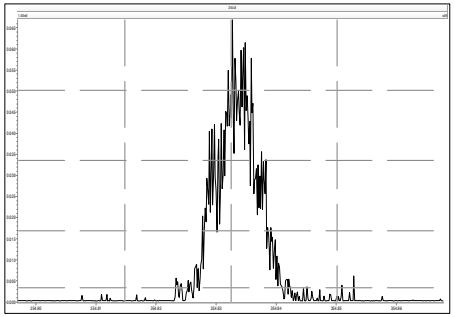
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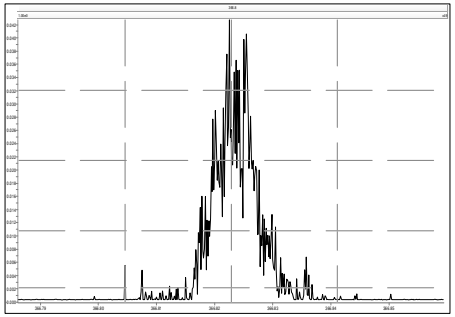
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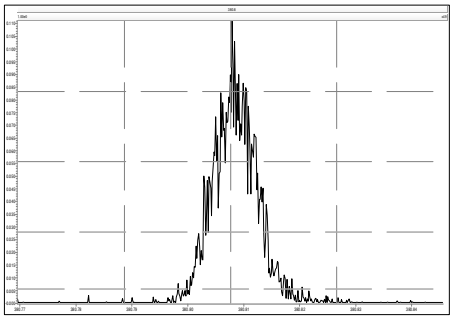
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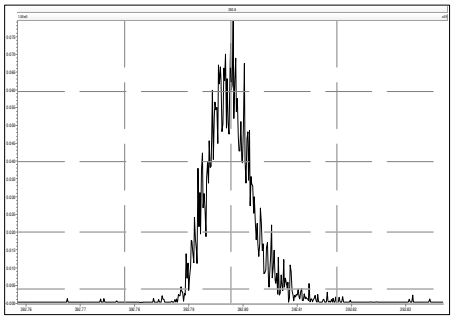
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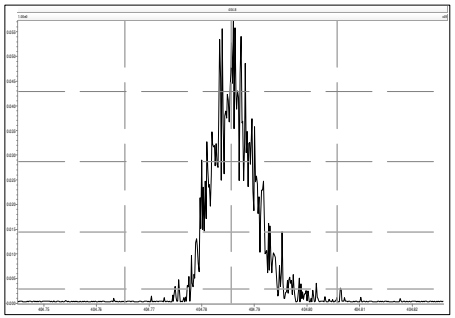
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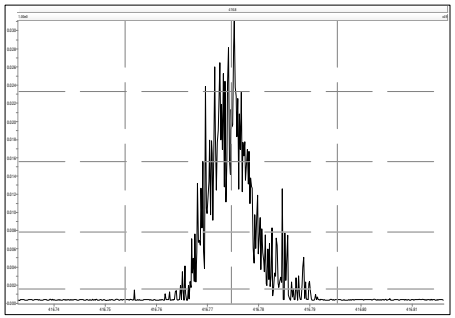
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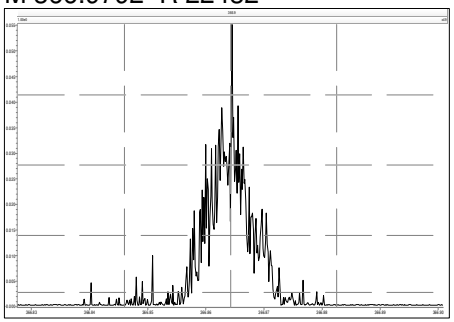
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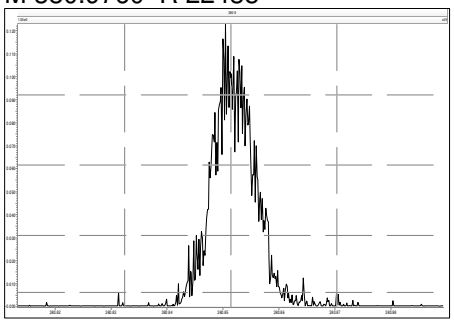
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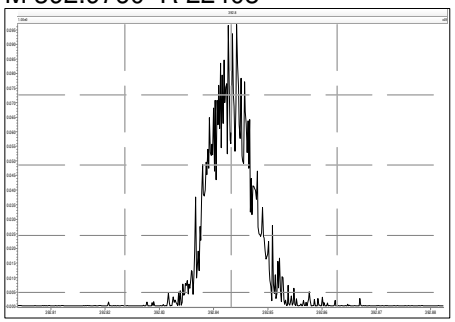
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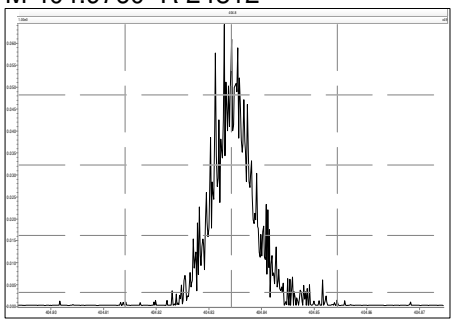
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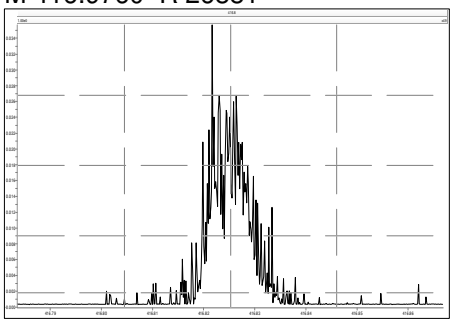
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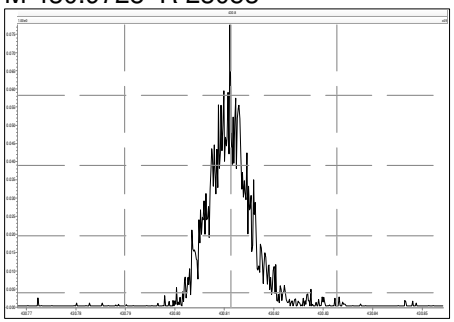
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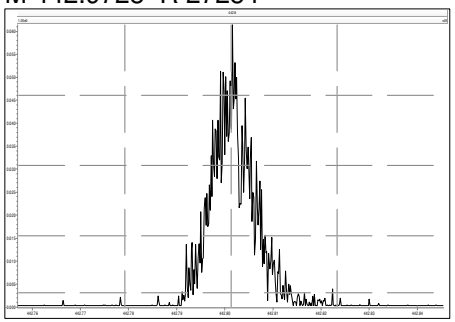
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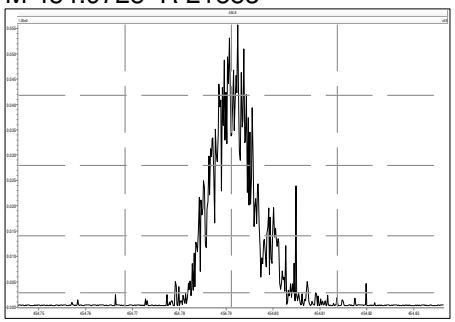
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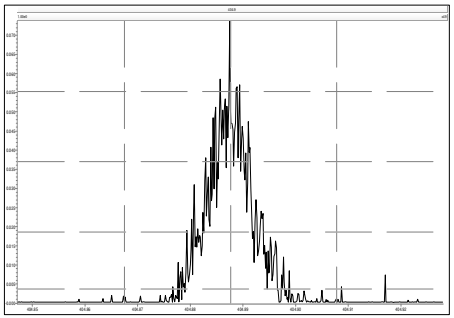
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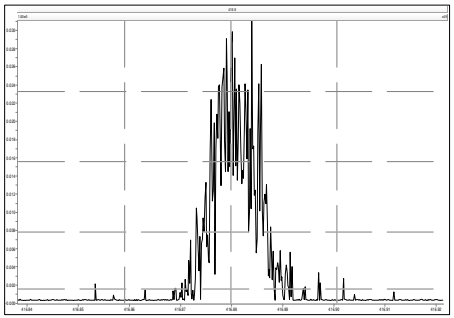
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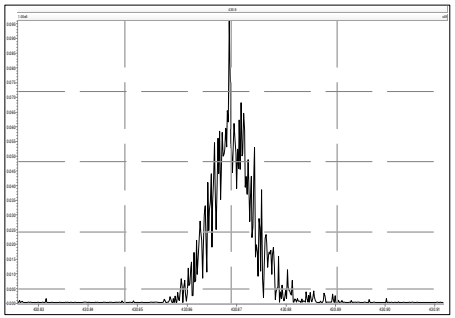
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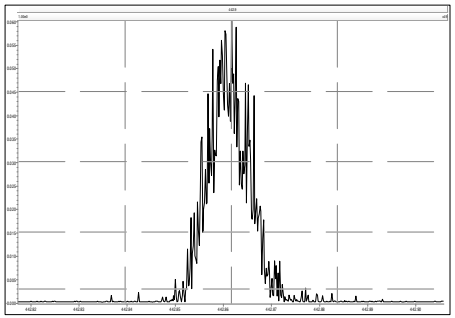
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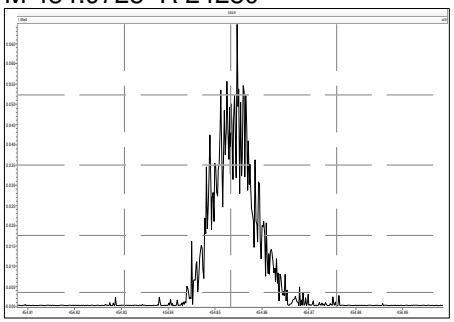
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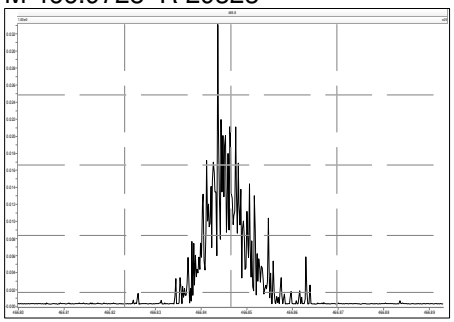
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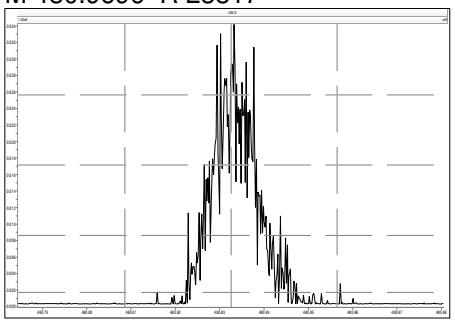
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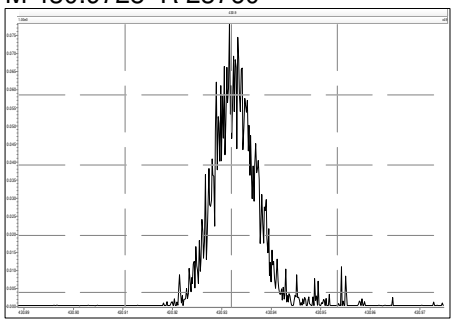
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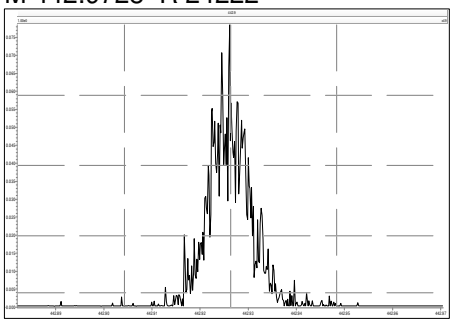
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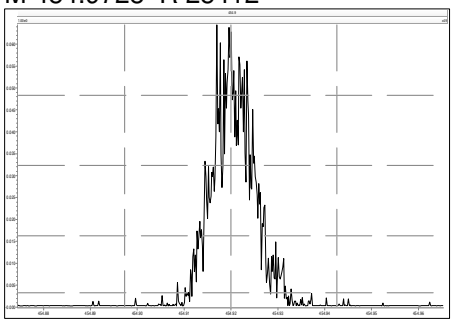
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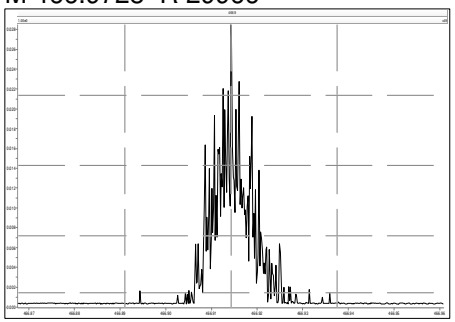
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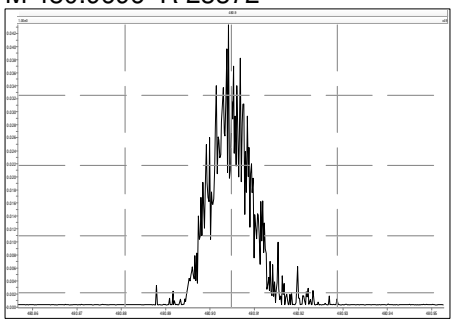
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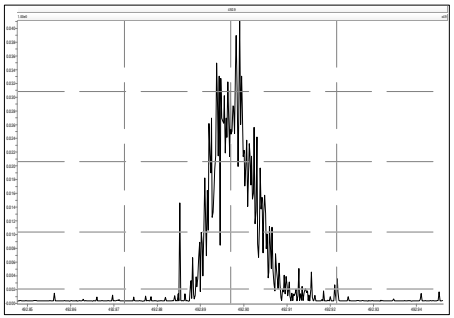
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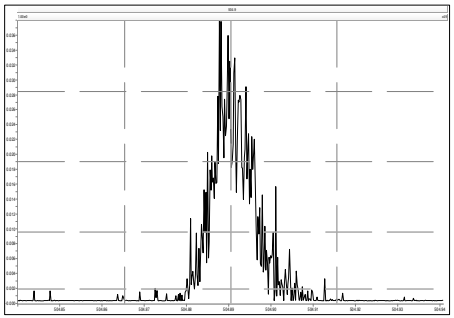
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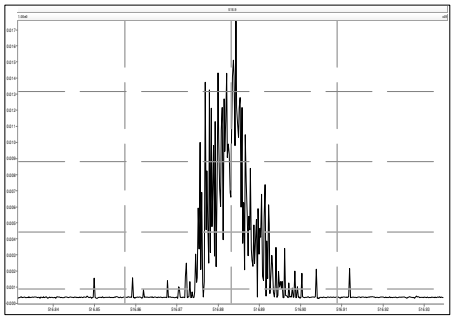
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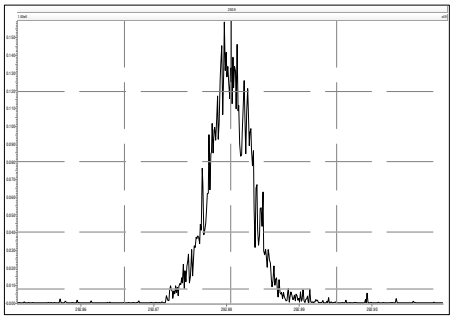


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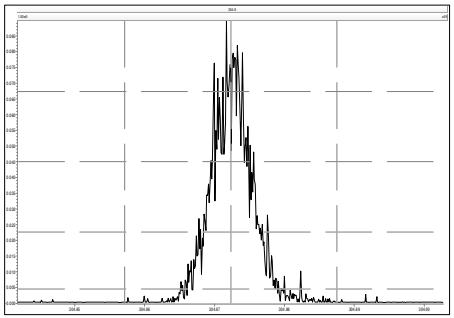


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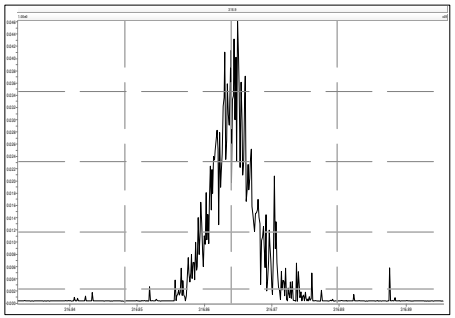
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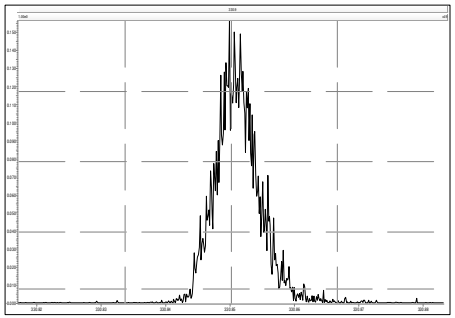
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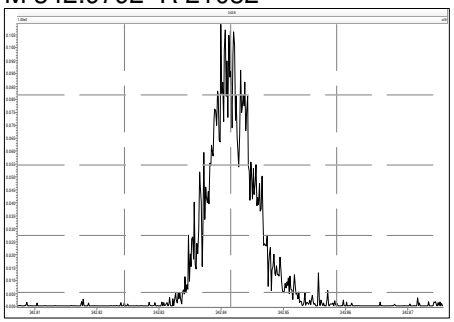
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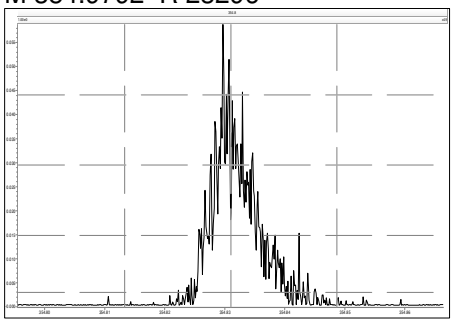
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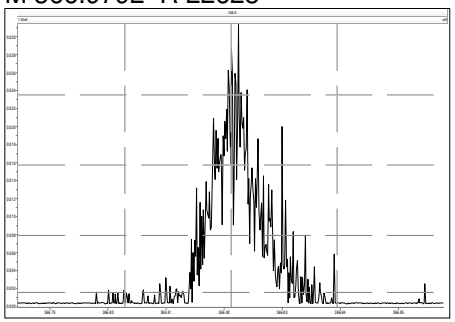
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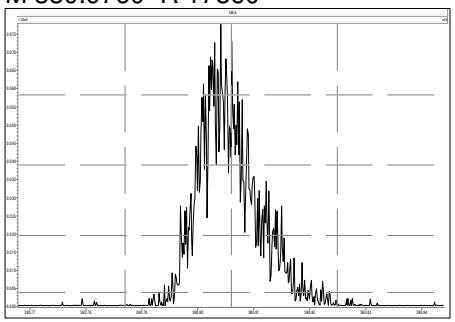
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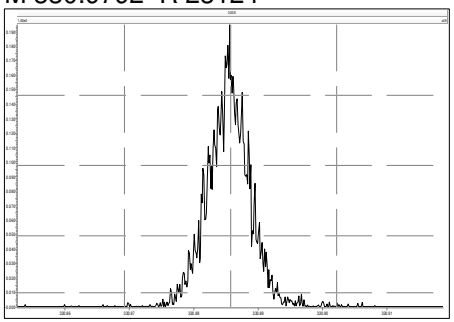
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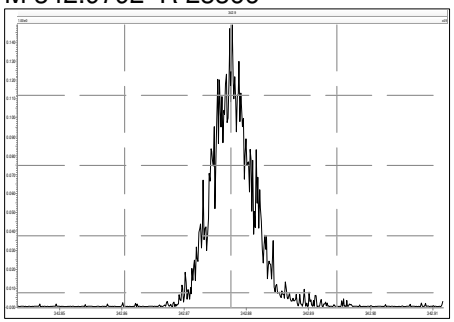
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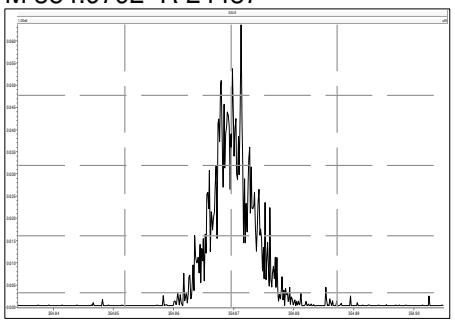
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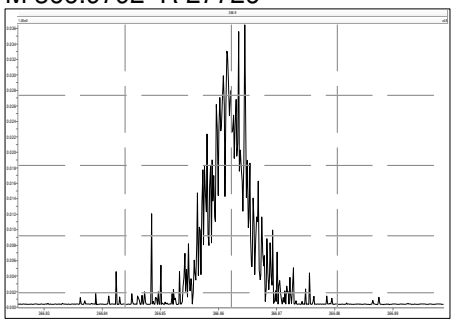
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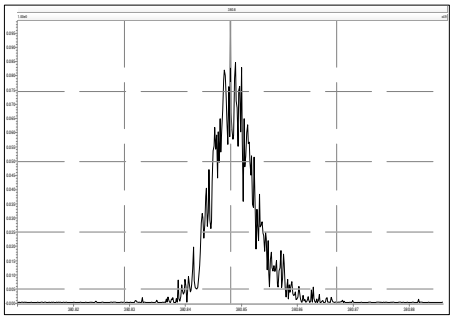
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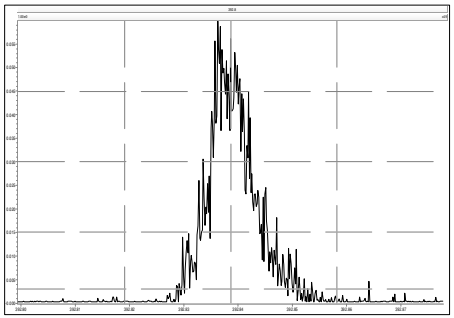
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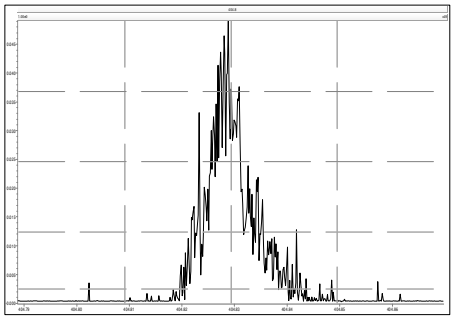
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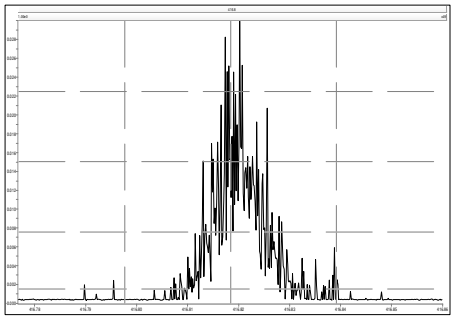
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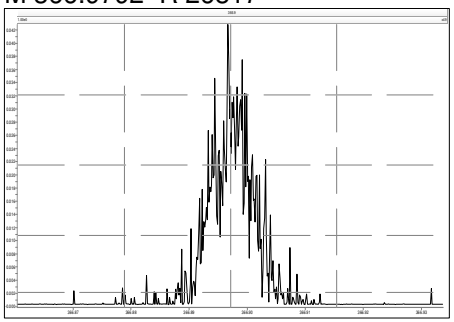
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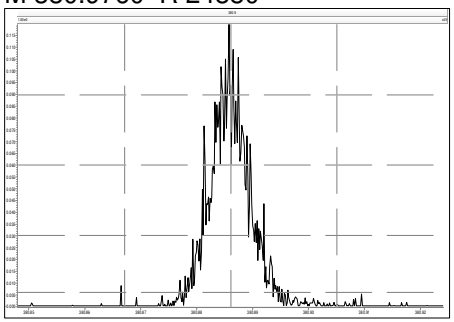
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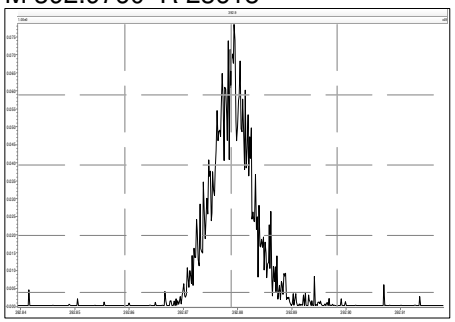
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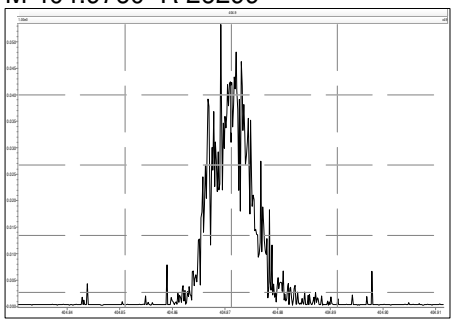
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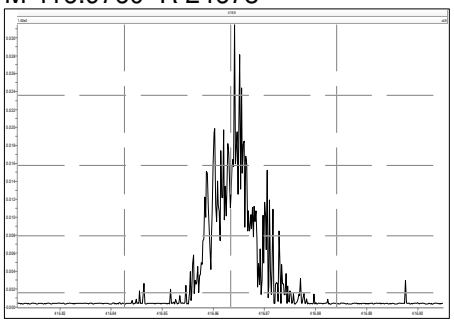
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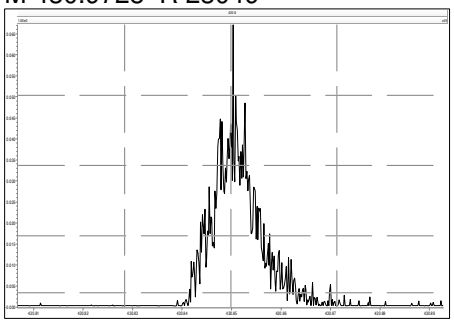
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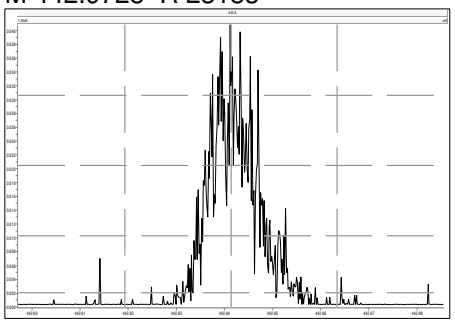
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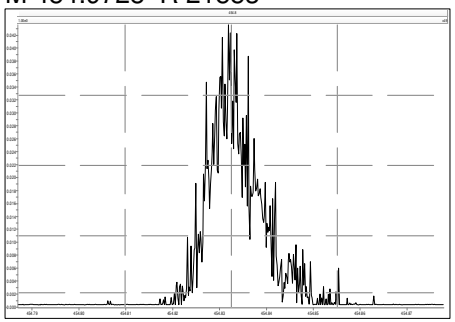
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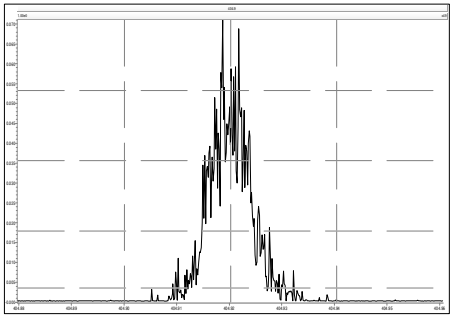
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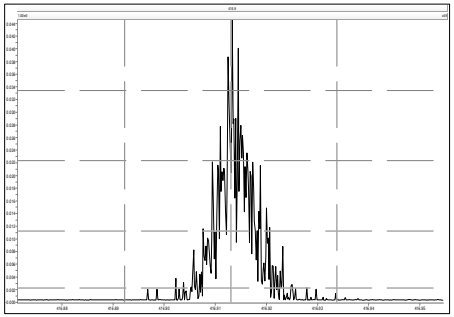
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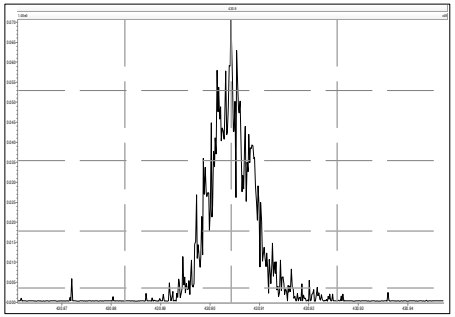
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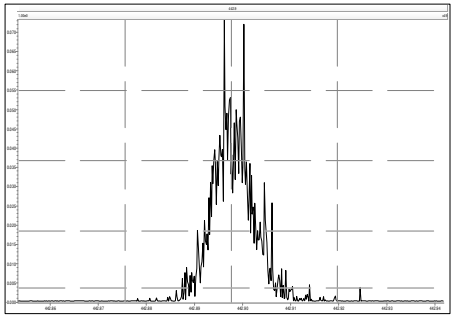
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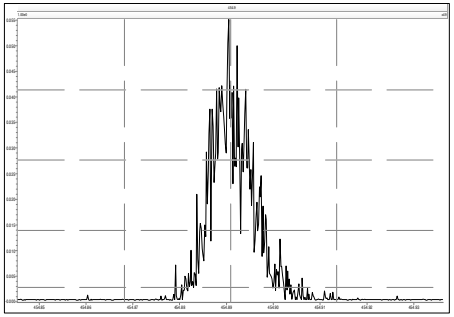
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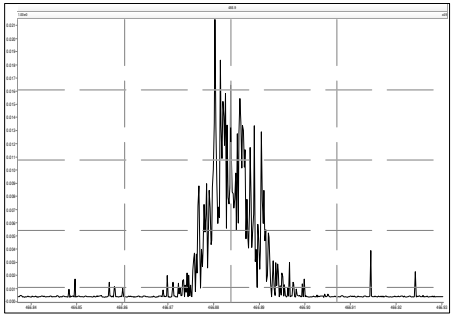
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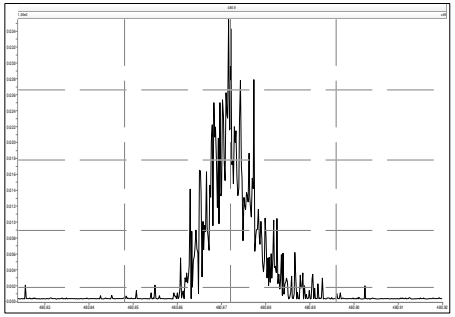
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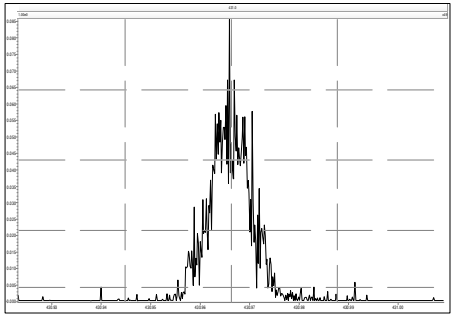
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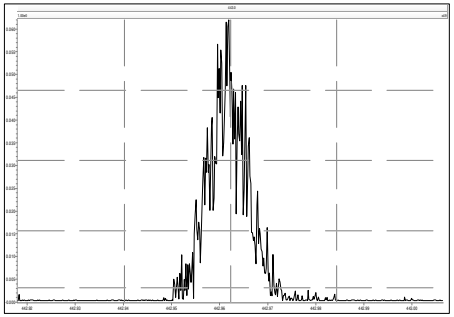
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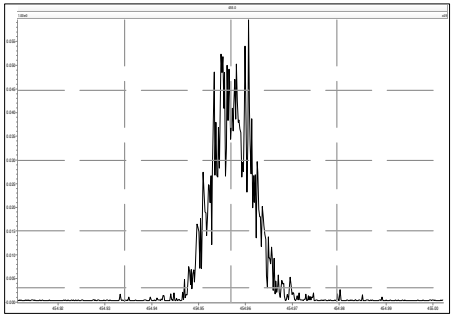
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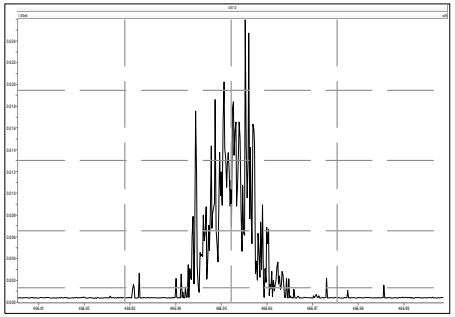
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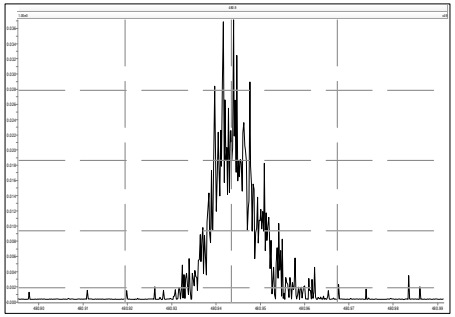
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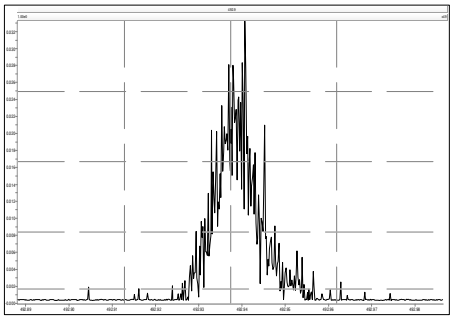
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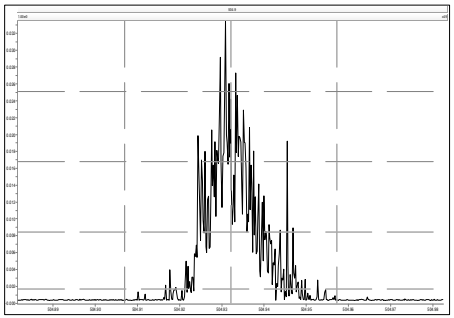
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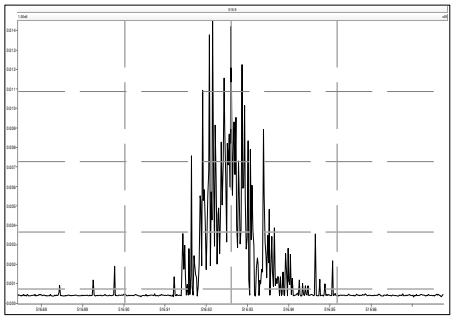
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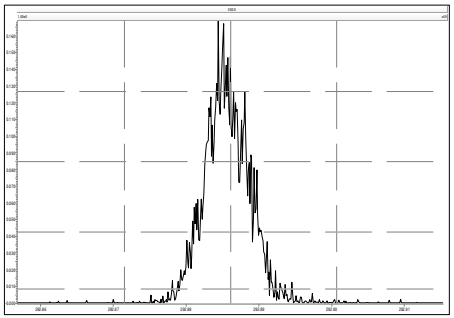


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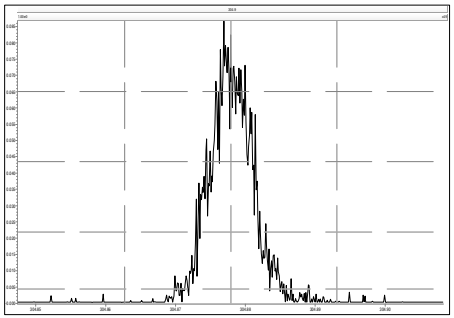


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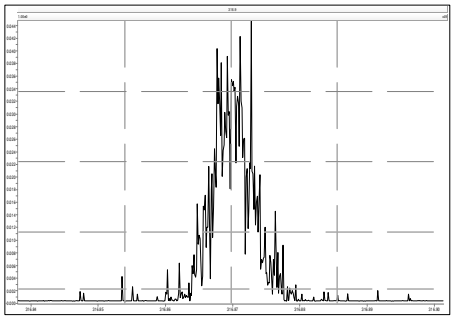
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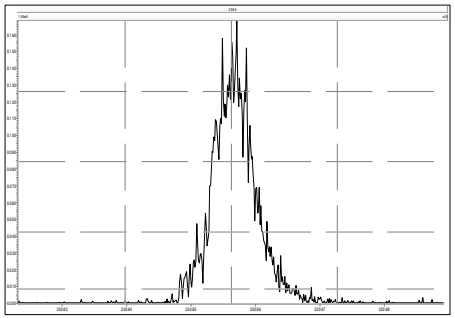
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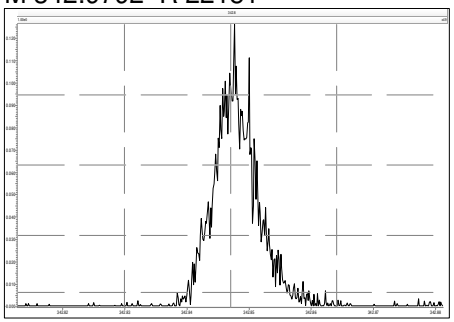
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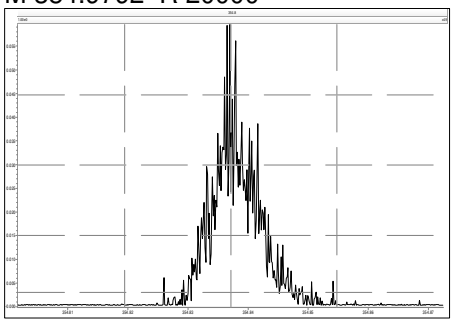
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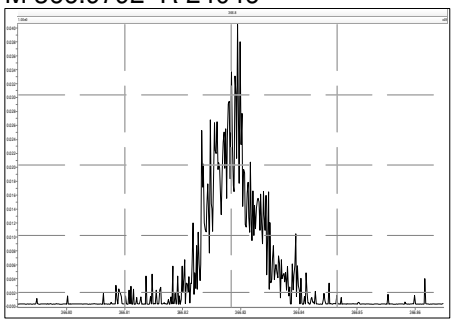
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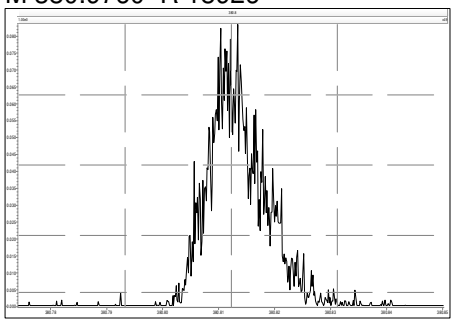
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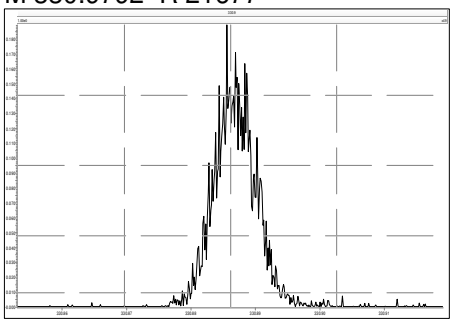
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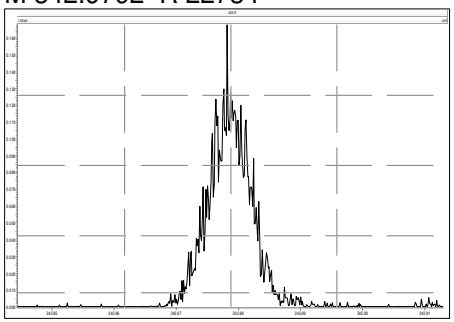
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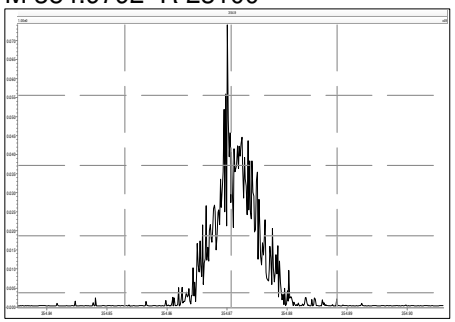
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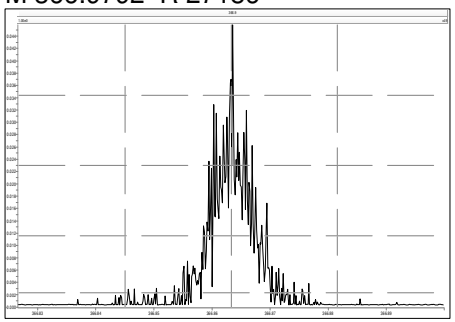
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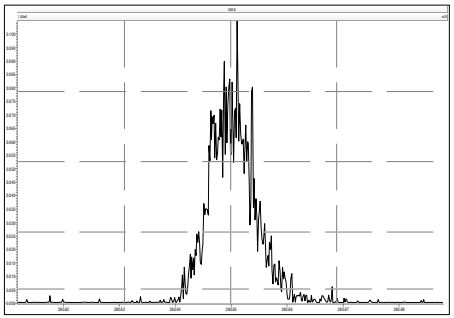
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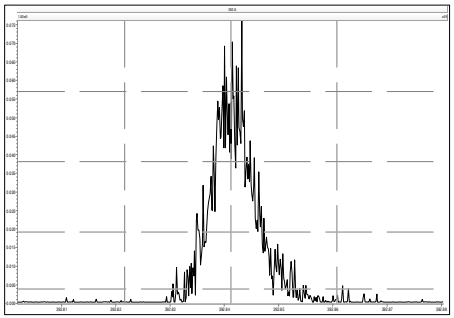
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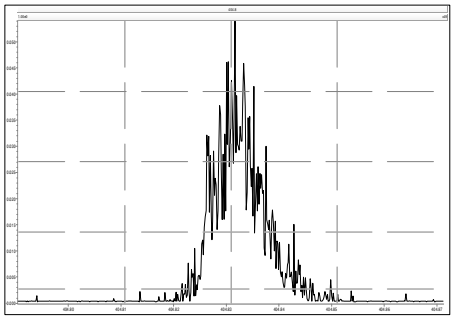
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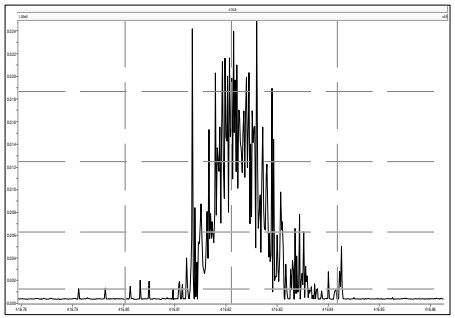
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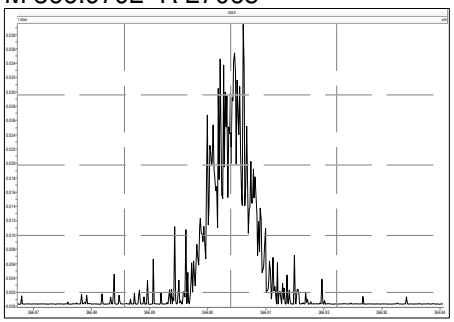
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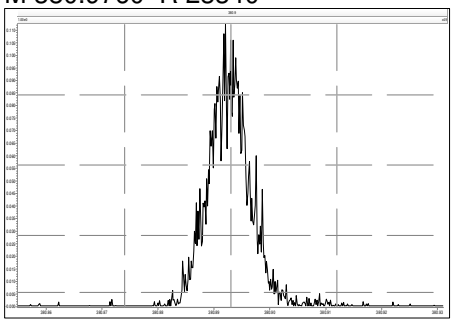
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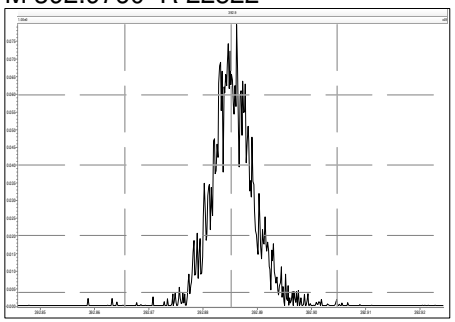
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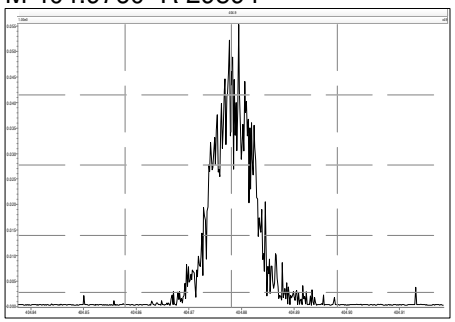
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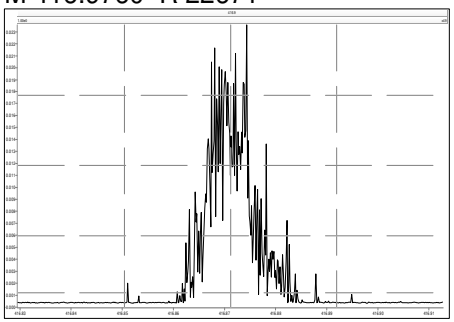
M 392.9760 R 22522



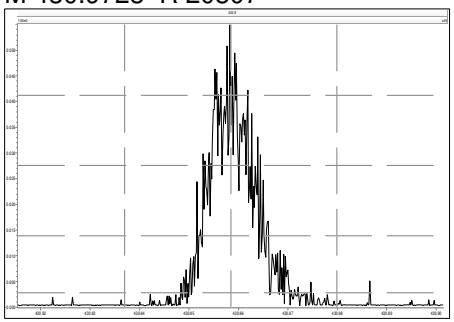
M 404.9760 R 29594



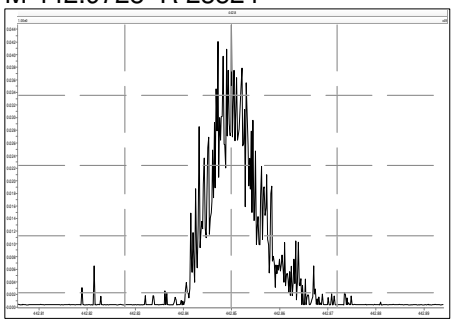
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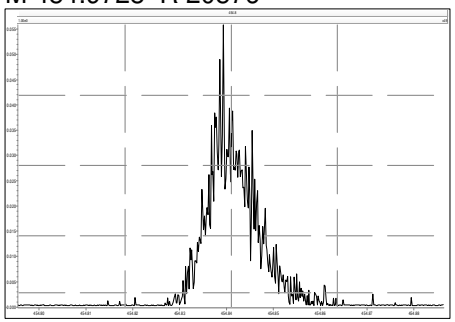
M 430.9728 R 20807



M 442.9728 R 23524

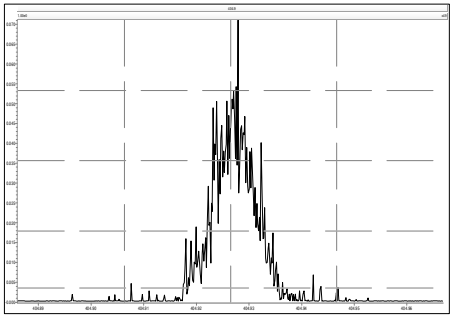


M 454.9728 R 20576

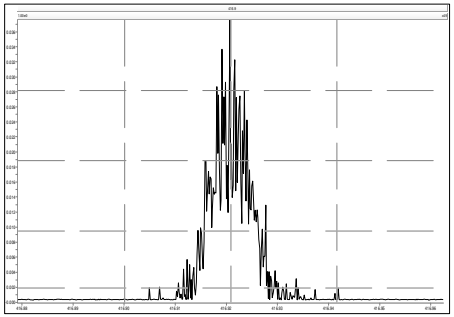


Printed: Thursday, February 03, 2022 09:03:23 Eastern Standard Time

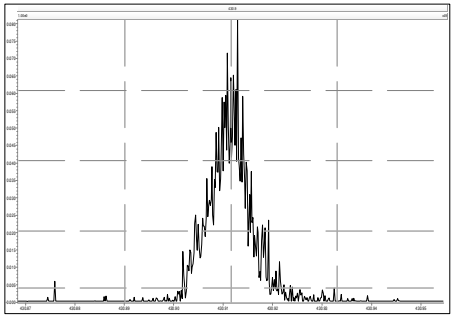
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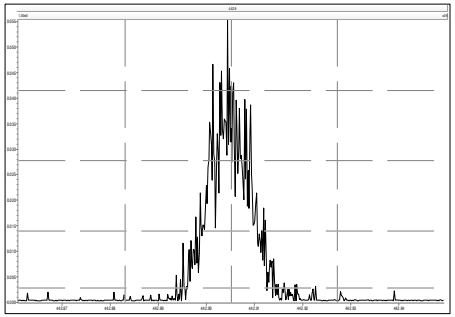
M 416.9760 R 27631



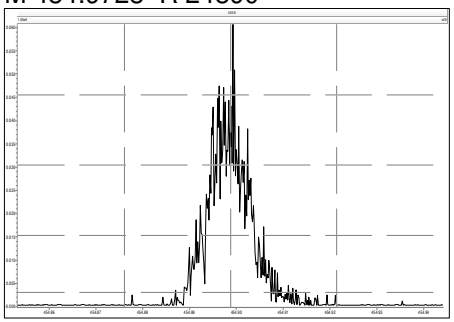
M 430.9728 R 23030



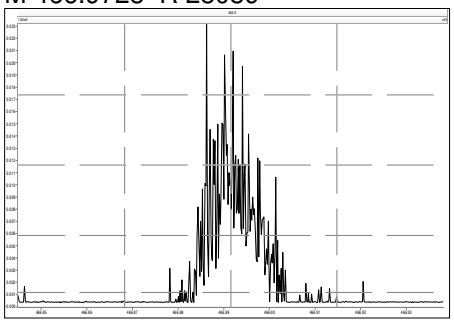
M 442.9728 R 24273



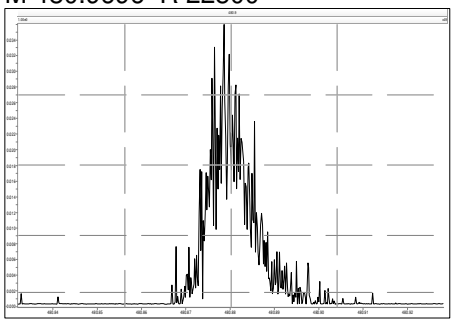
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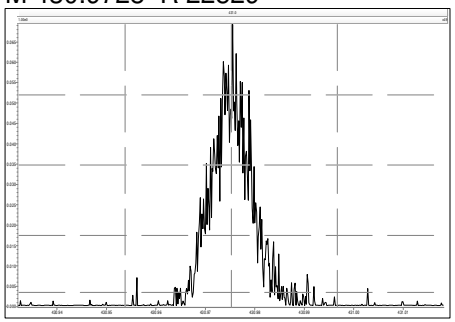
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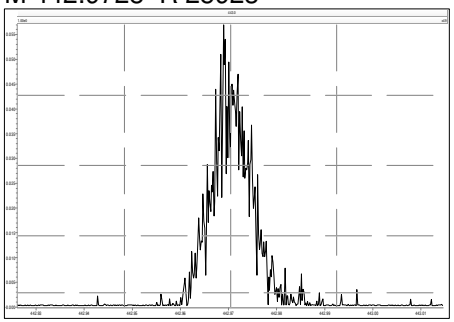
M 480.9696 R 22500



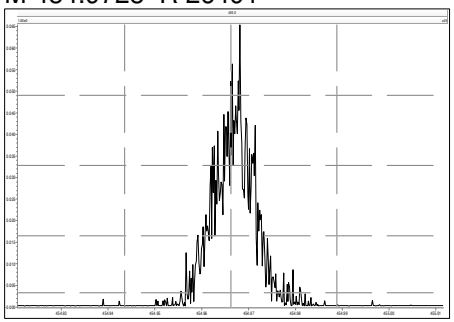
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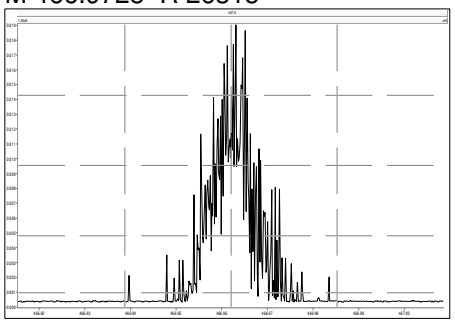
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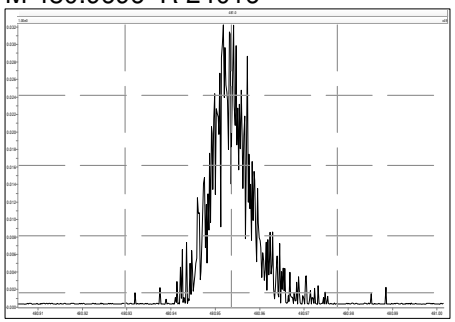
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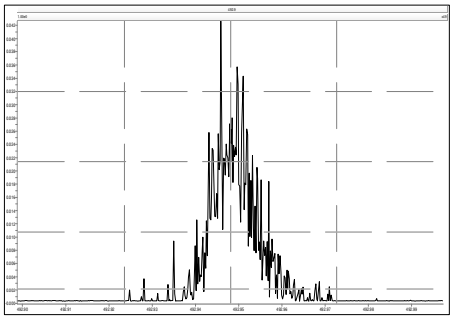
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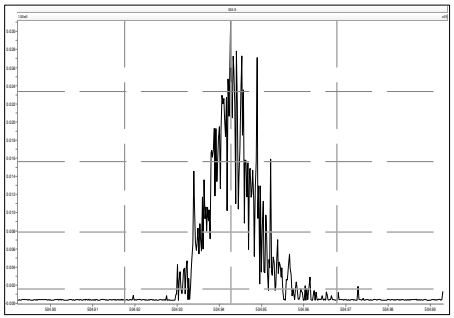
M 480.9696 R 24016



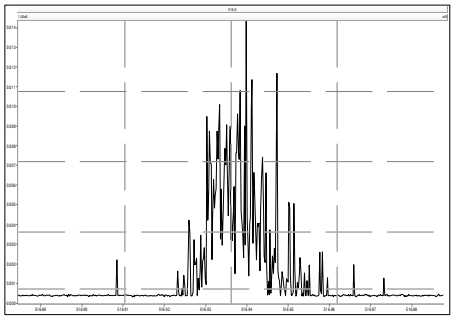
M 492.9696 R 27342



M 504.9696 R 24804



M 516.9697 R 20491



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
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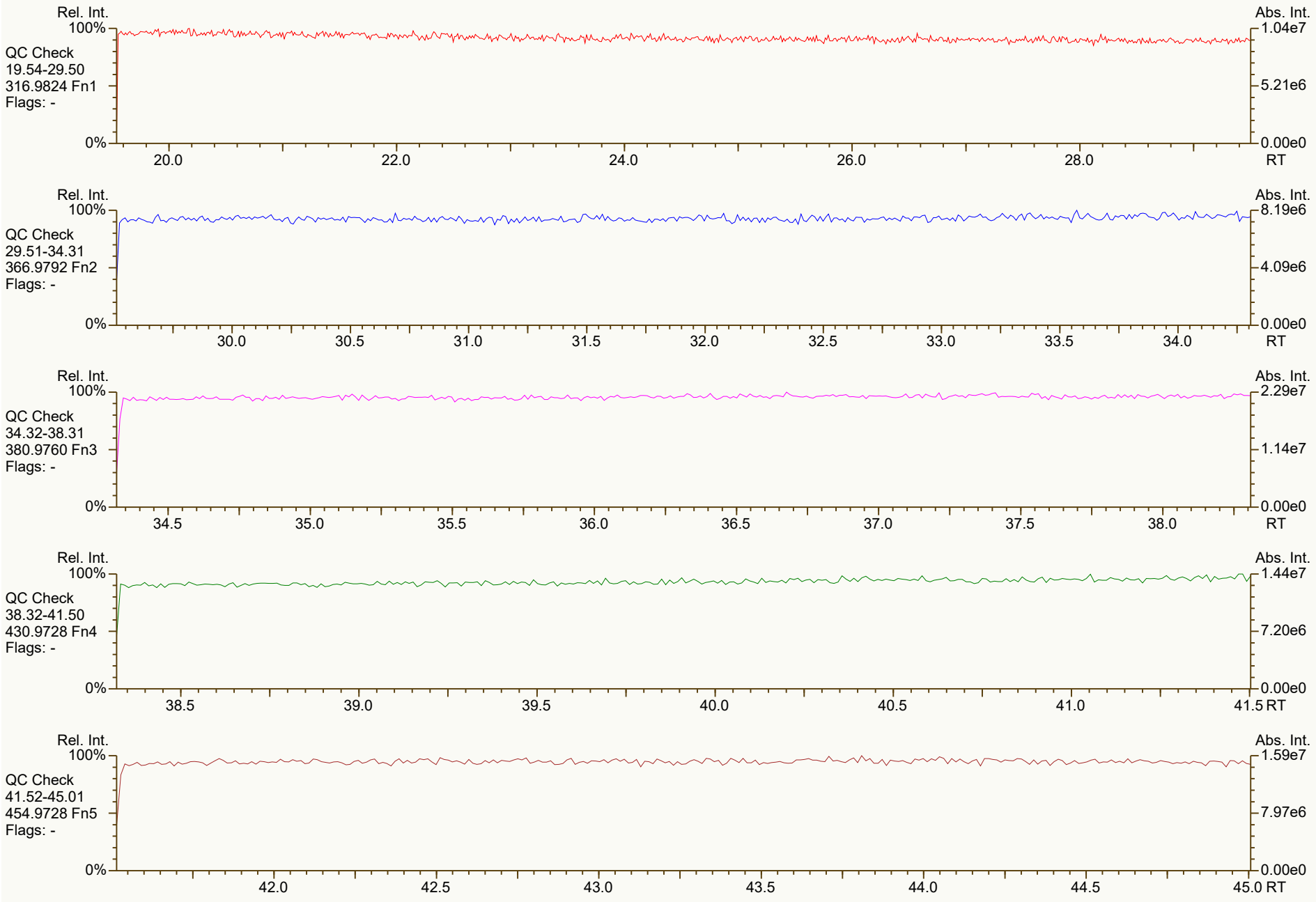
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

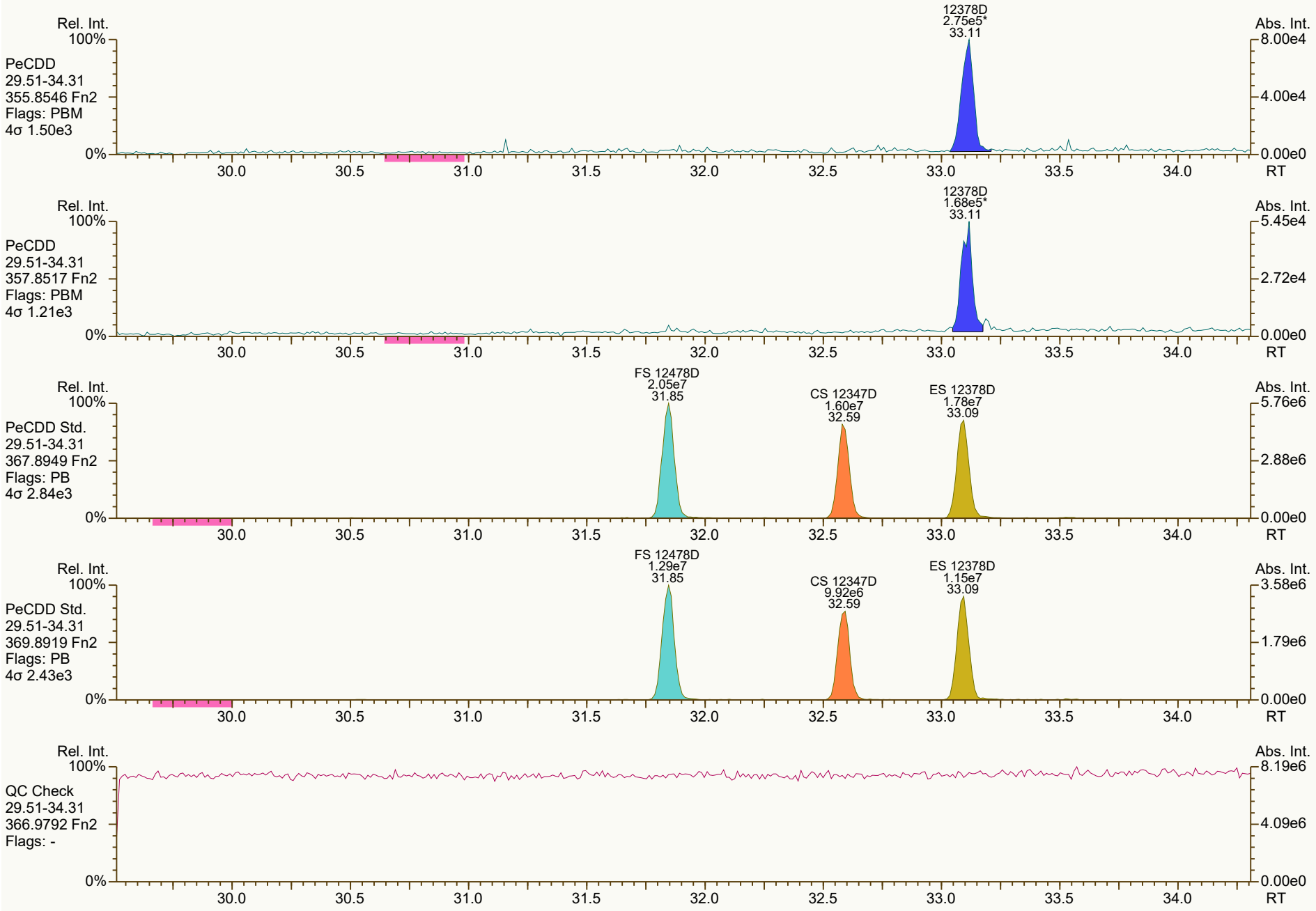
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

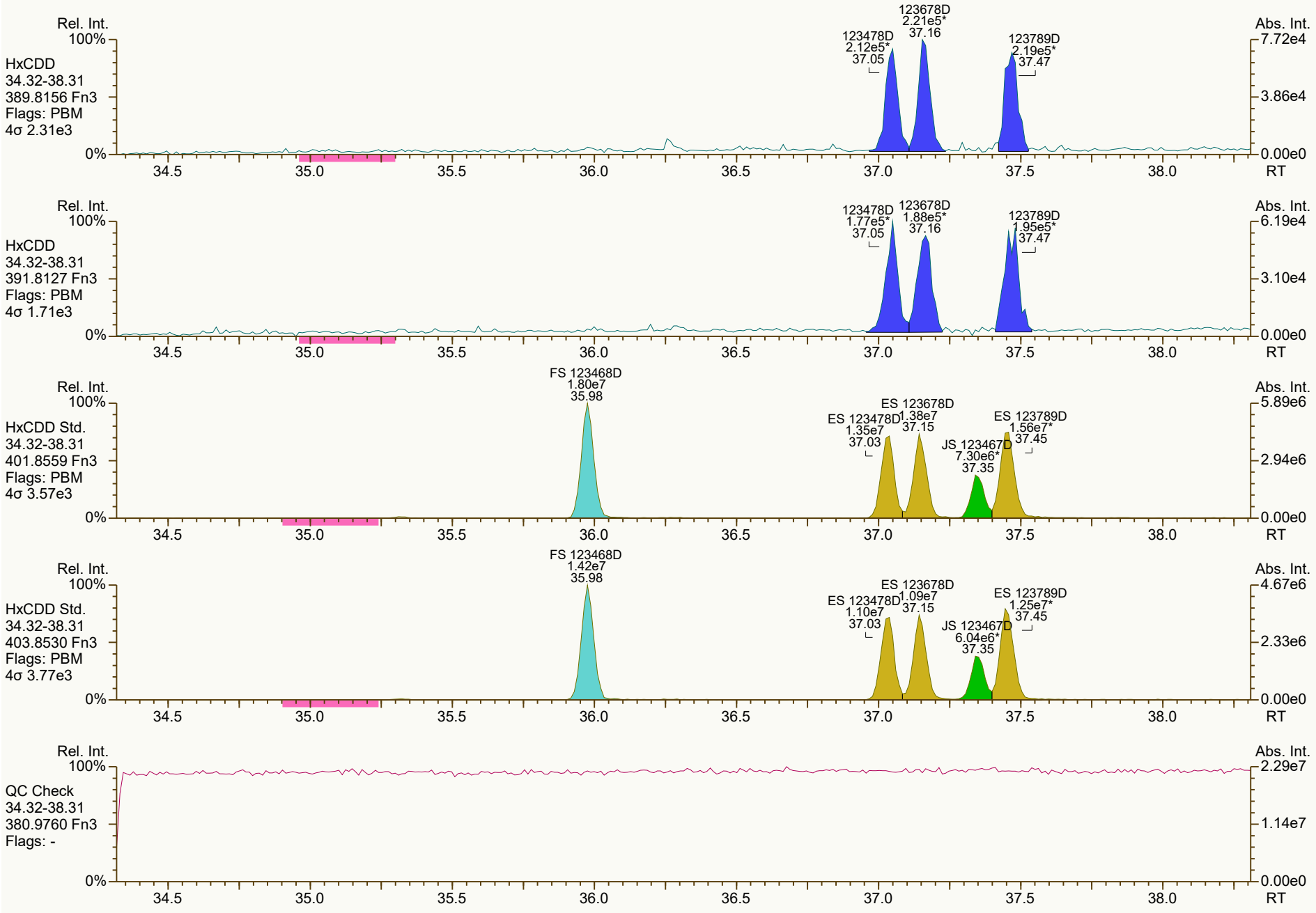
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

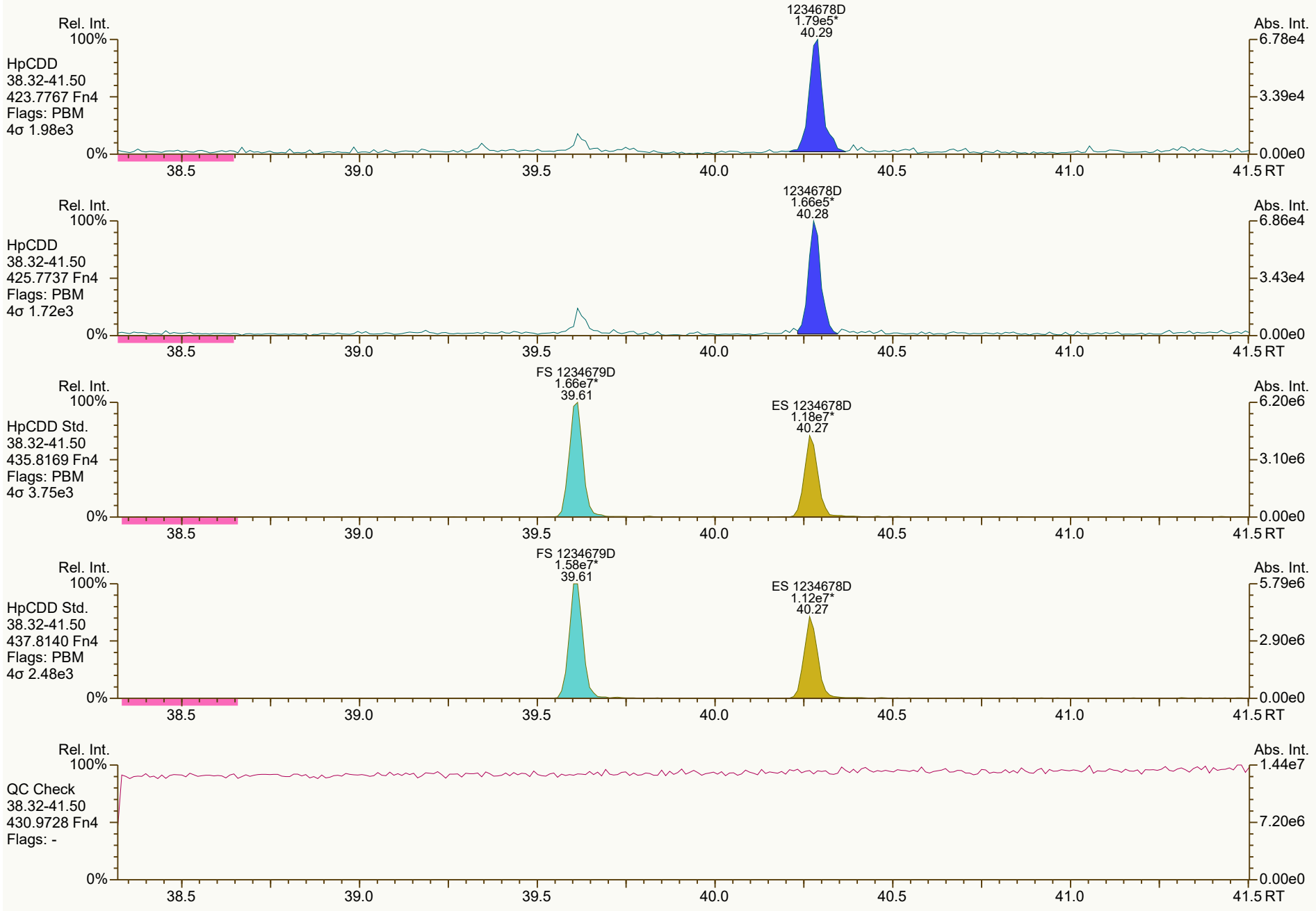
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

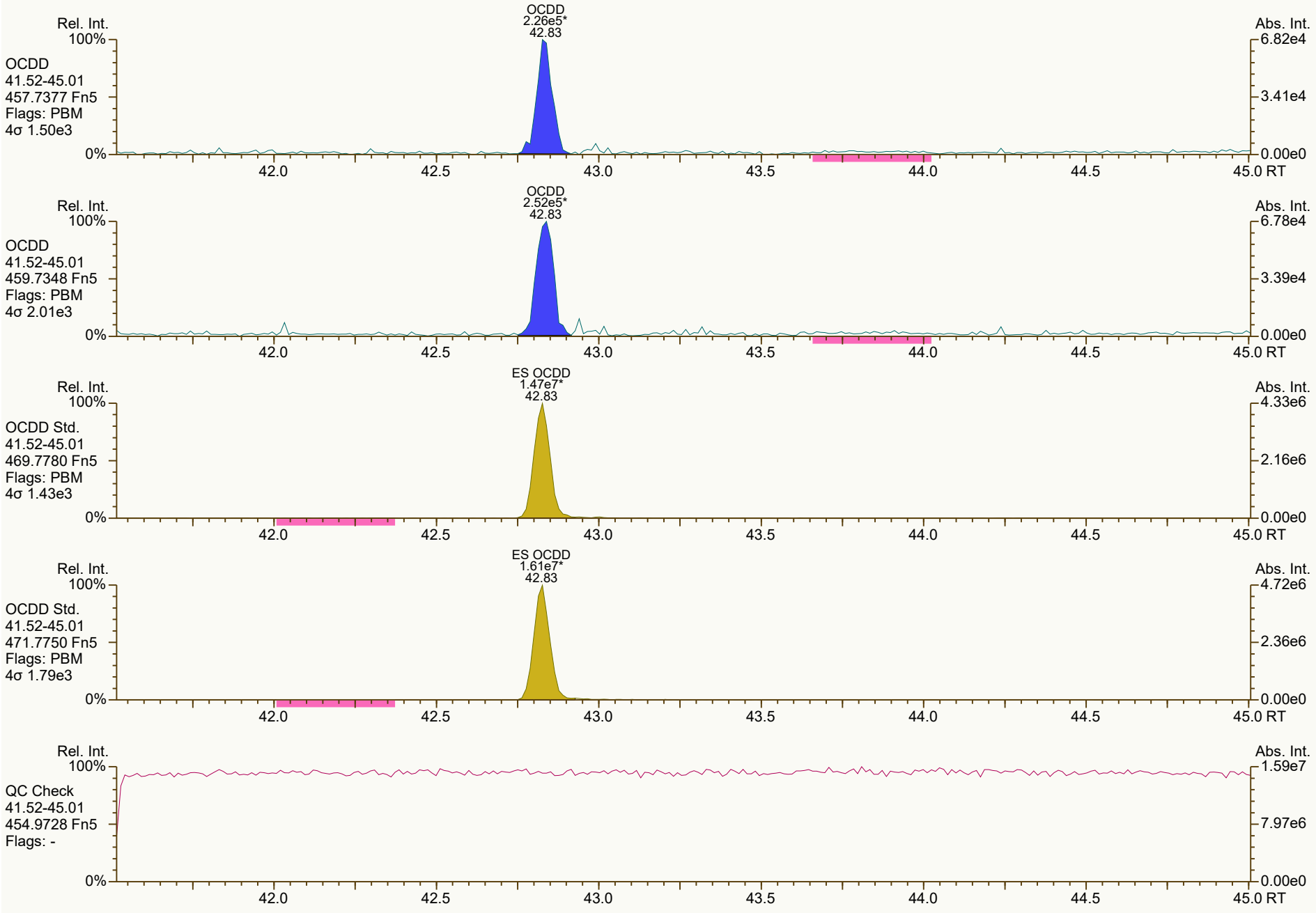

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

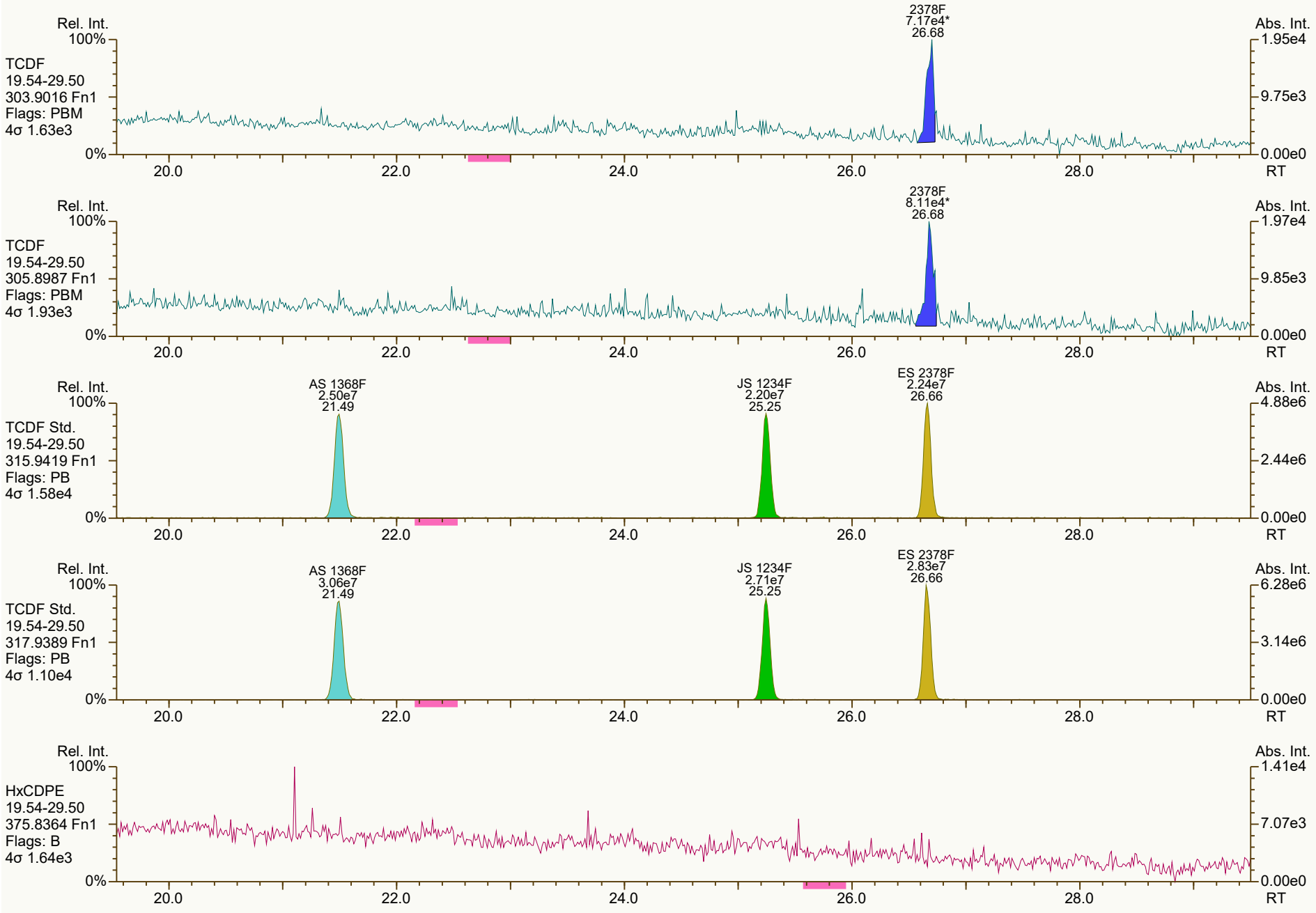

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

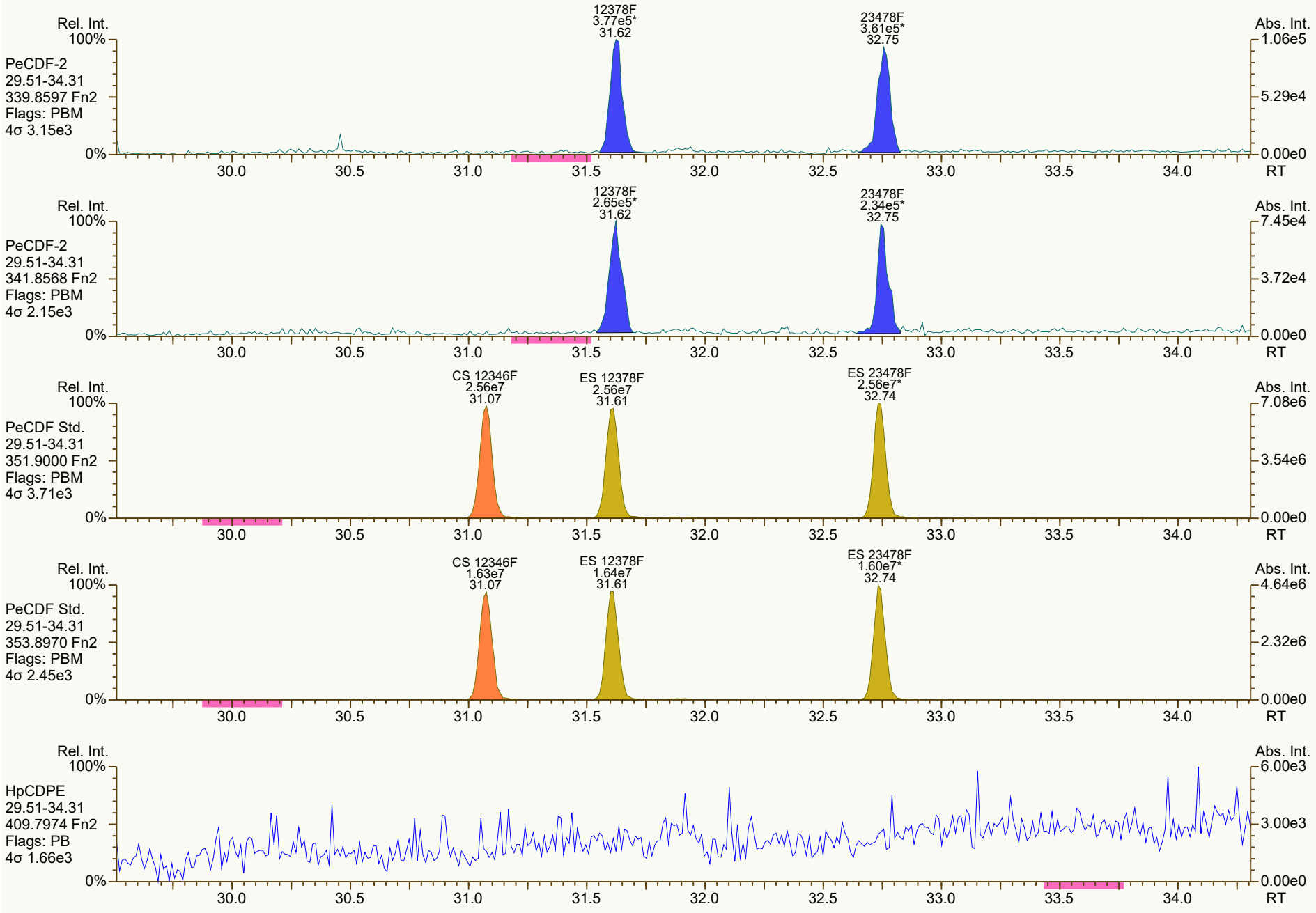

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

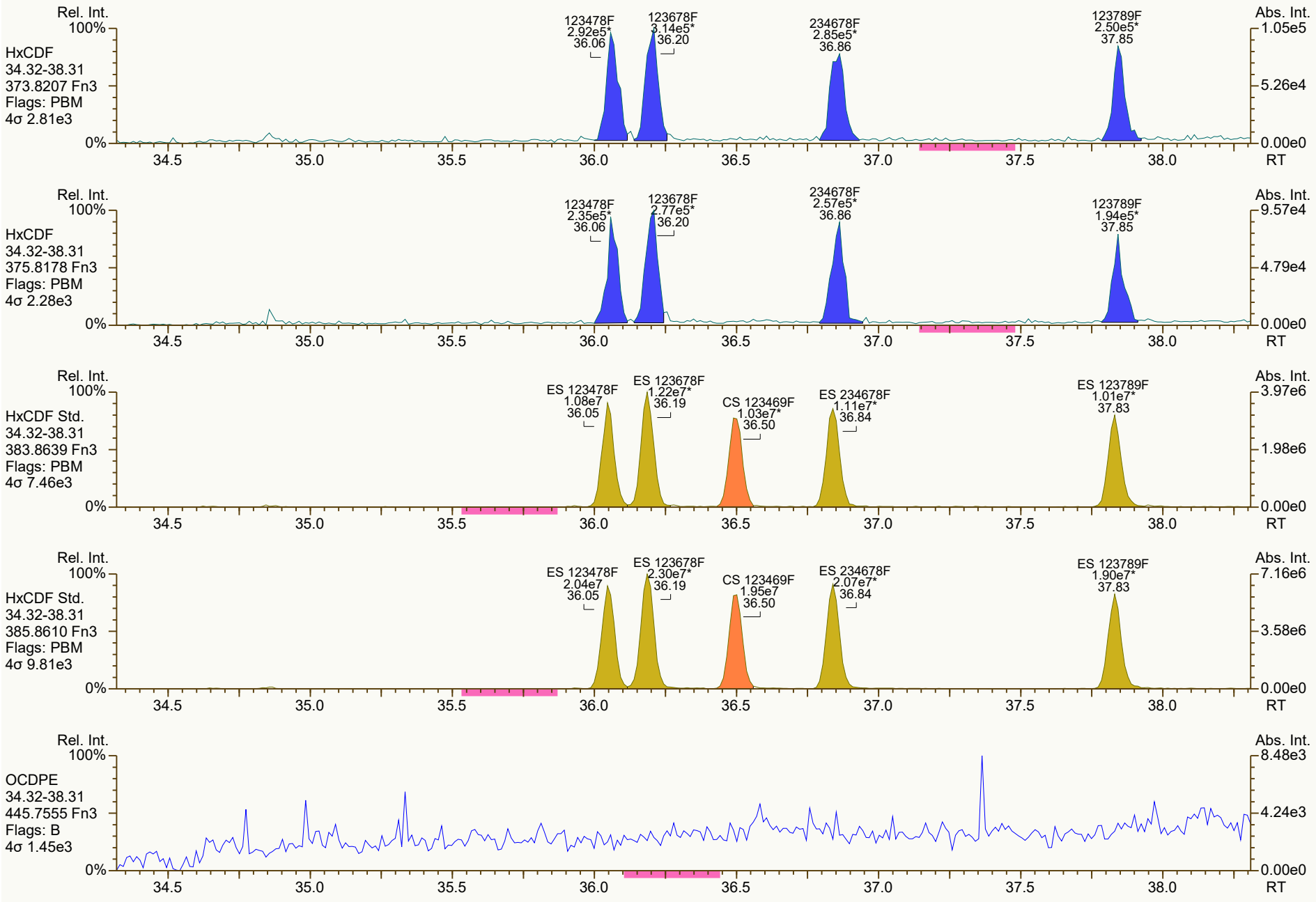

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

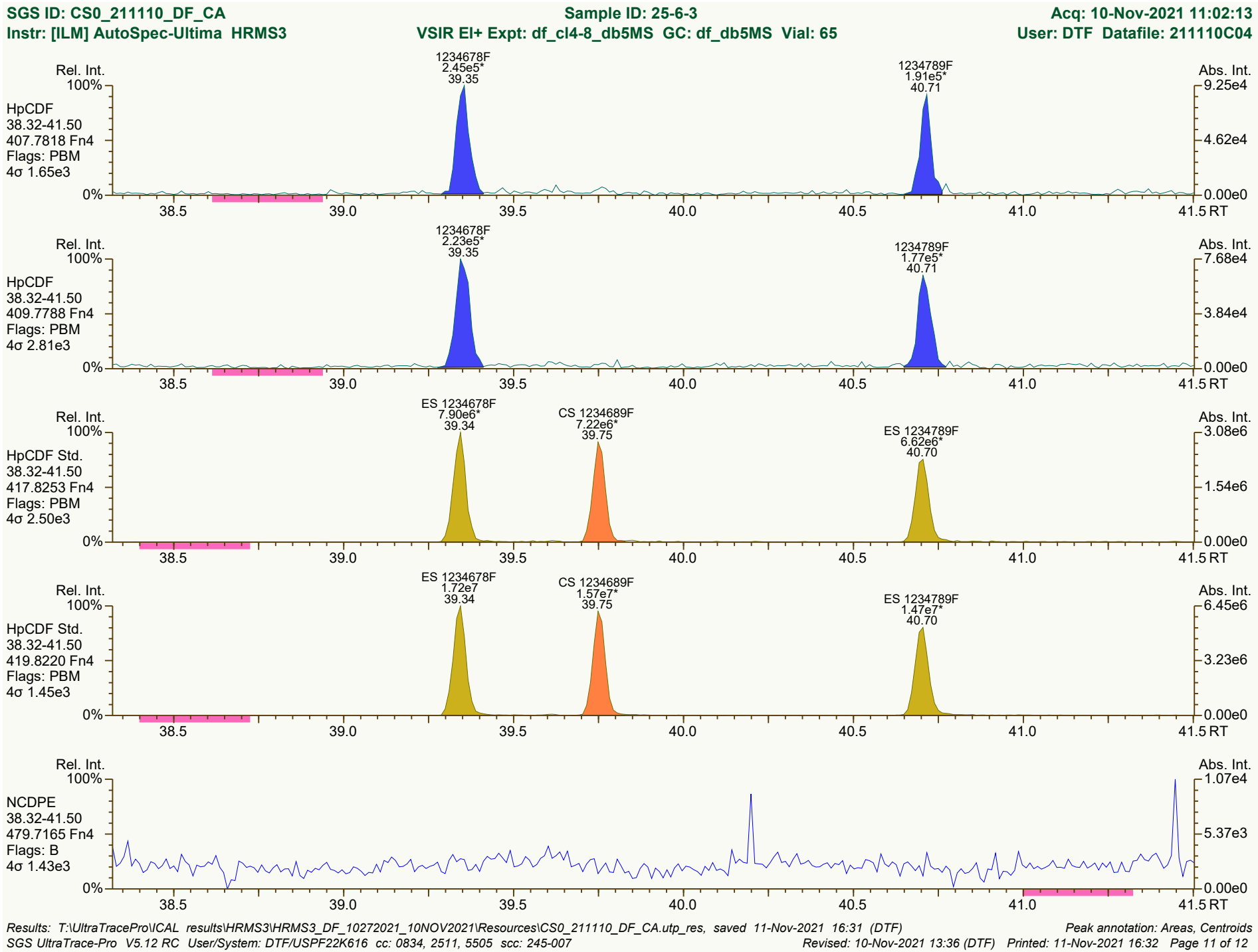

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

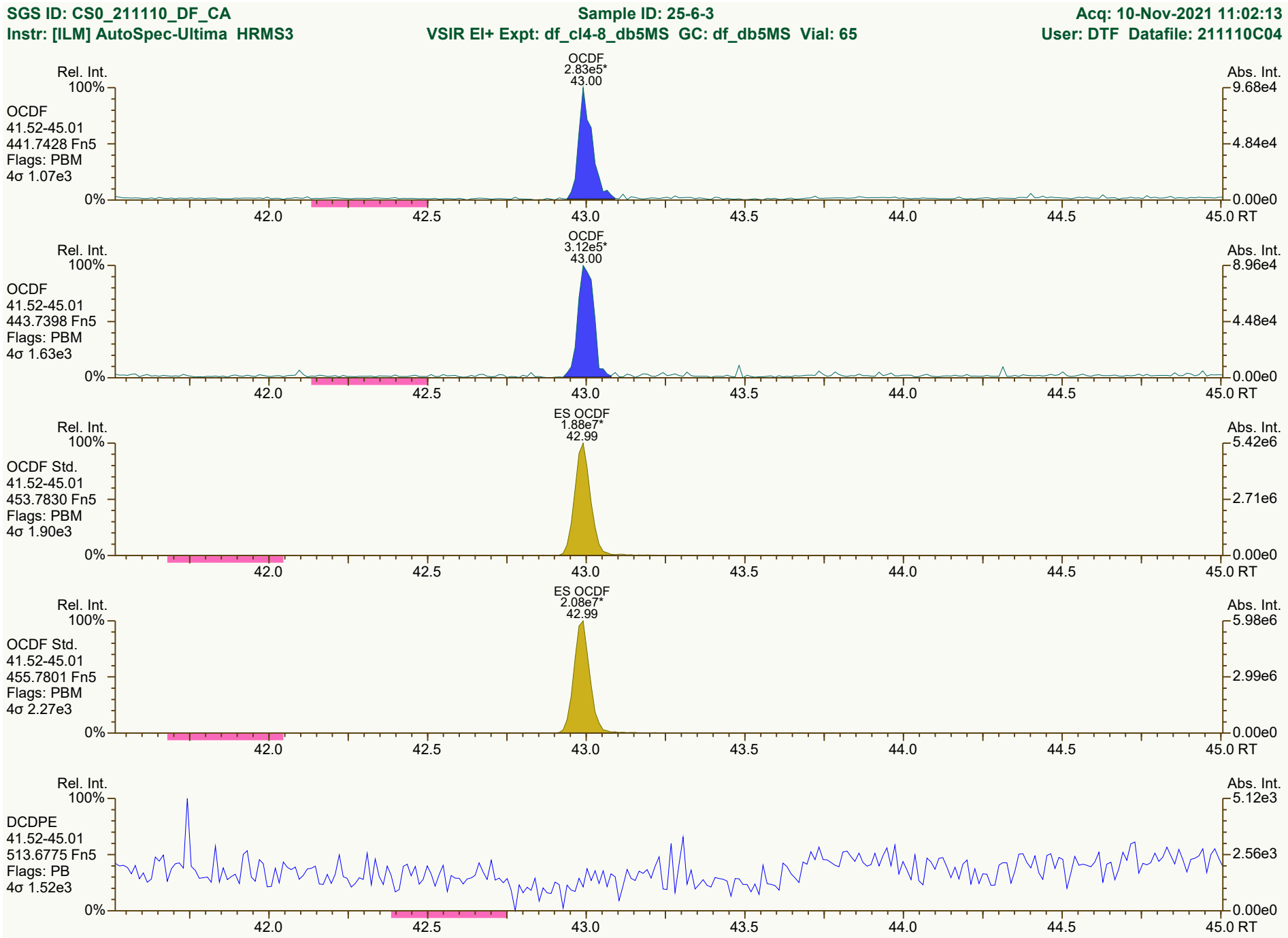

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12

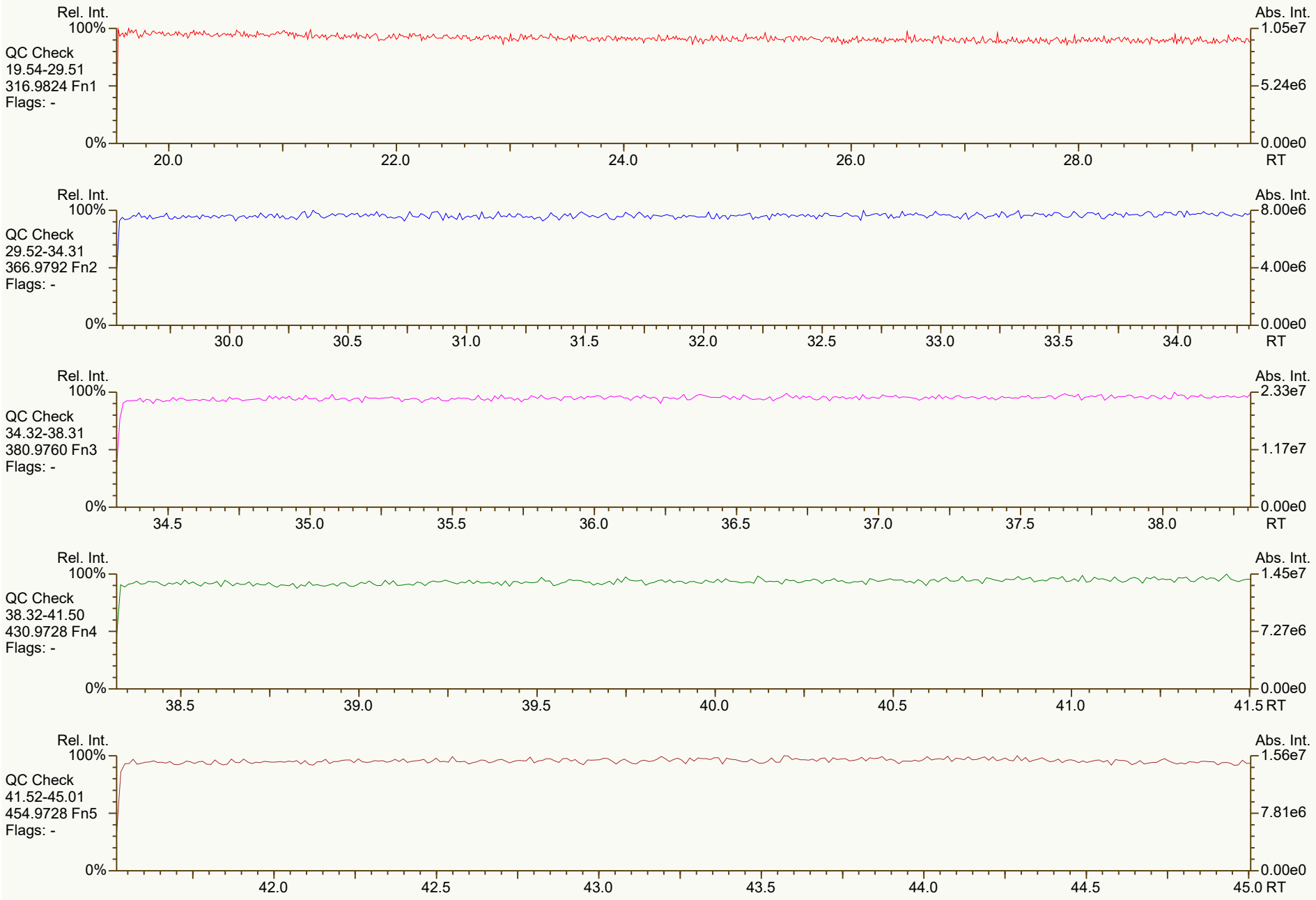

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
OCDF
2.83e5*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
9.68e4
4.84e4
0.00e0
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
8.96e4
4.48e4
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
5.42e6
2.71e6
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
5.98e6
2.99e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
5.12e3
2.56e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

SGS ID: CS1_211110_DF_CA | **Sample ID: 25-6-2** | **Acq: 10-Nov-2021 11:48:34**

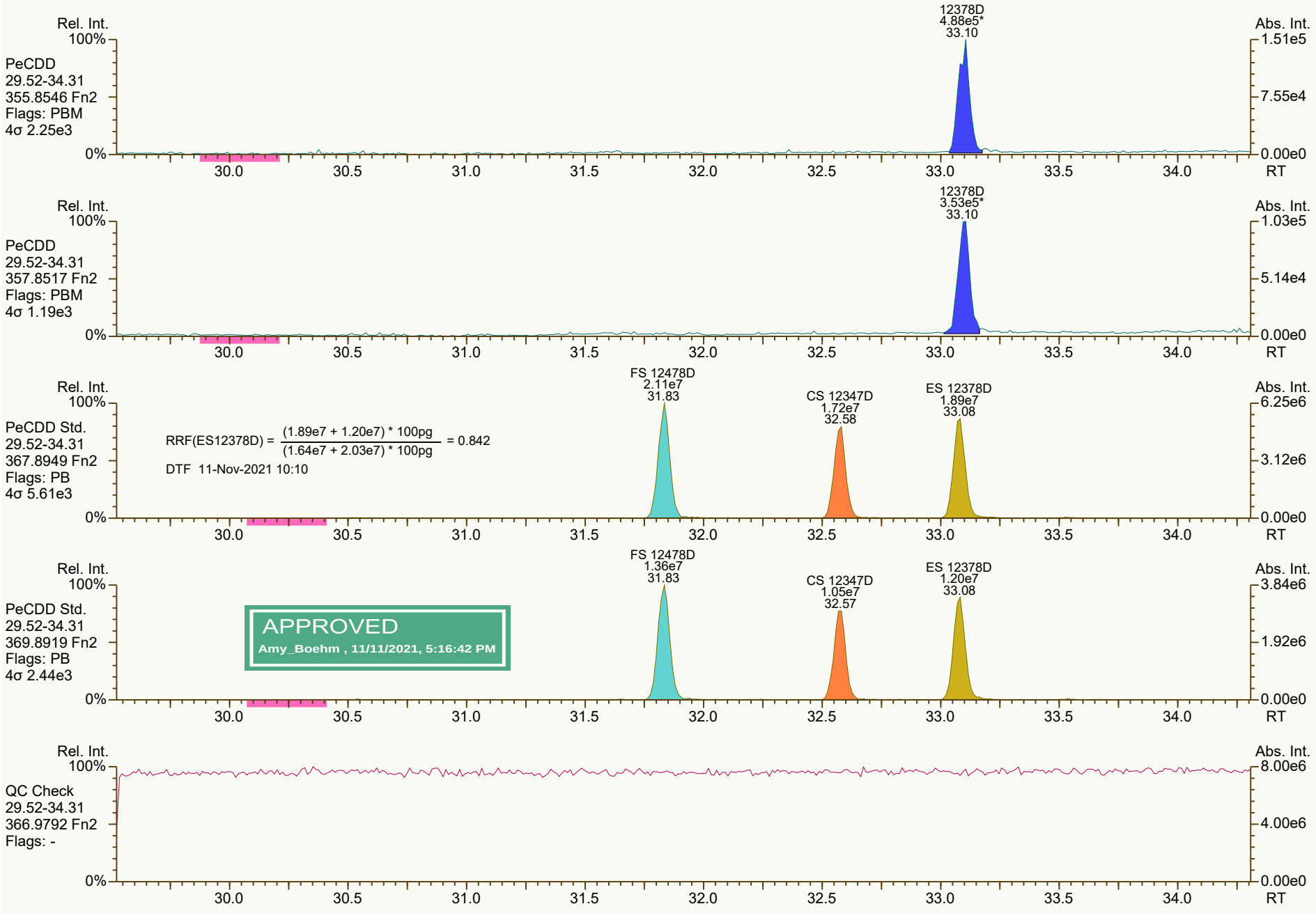
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** | **User: DTF Datafile: 211110C05**

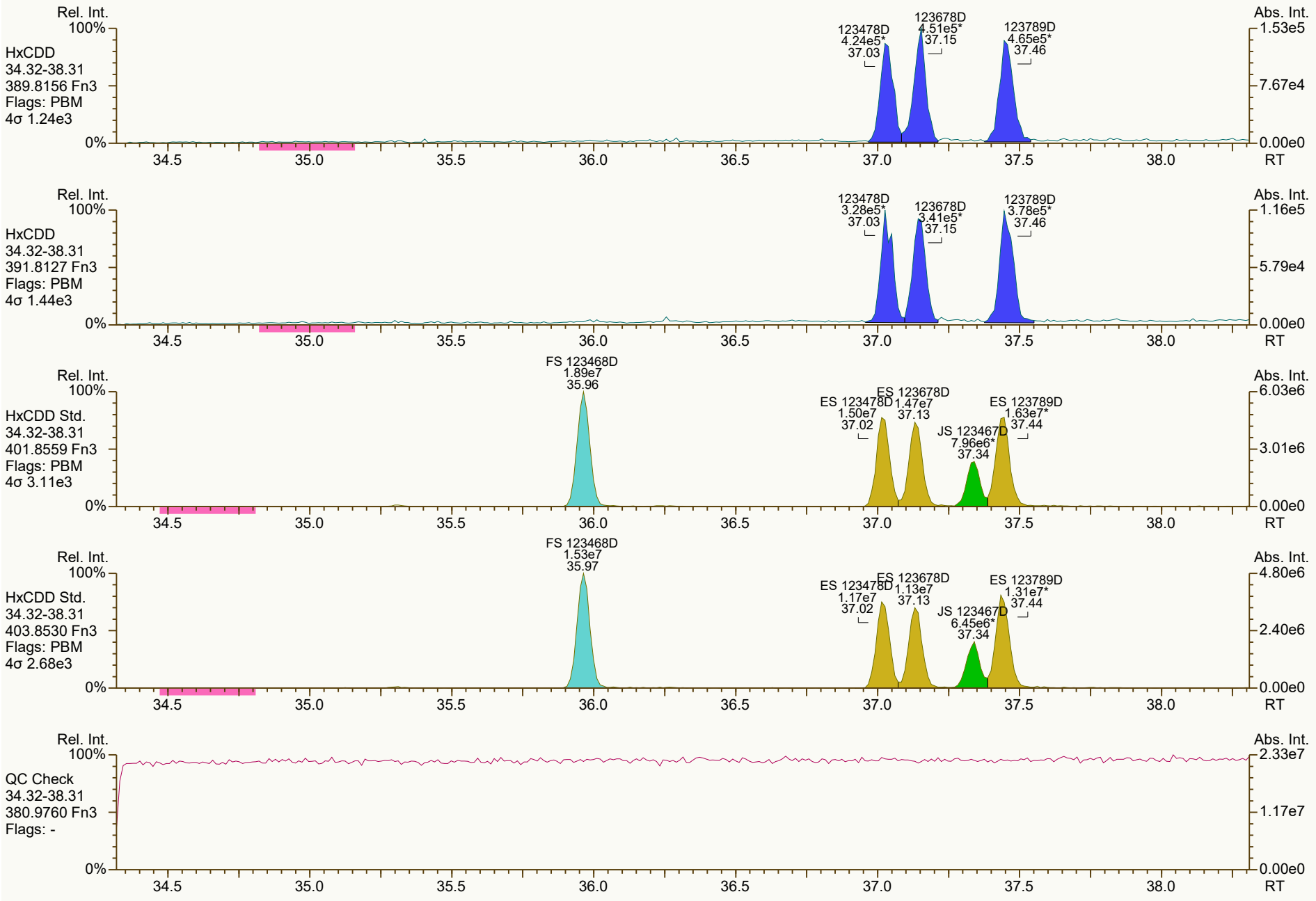


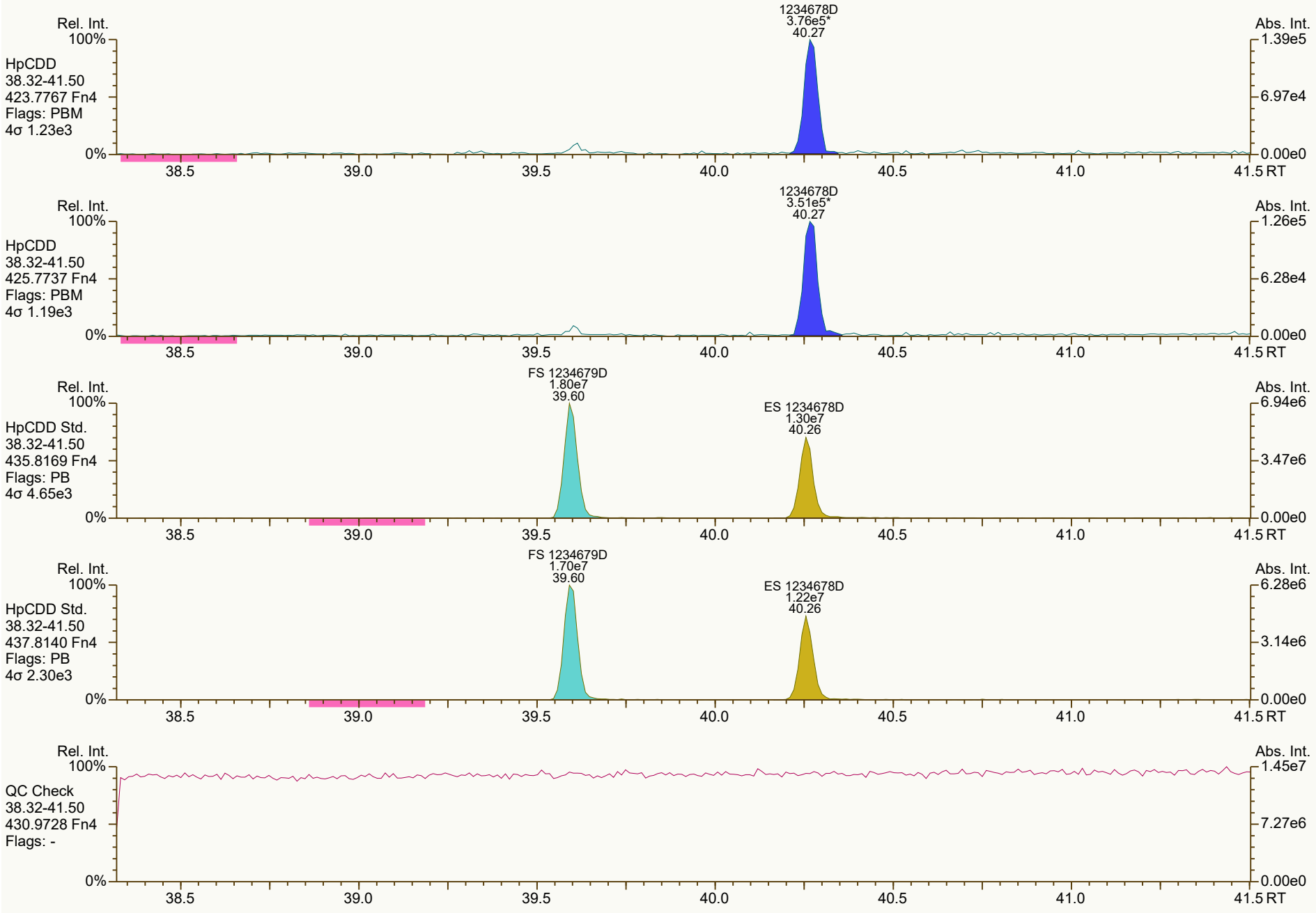
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

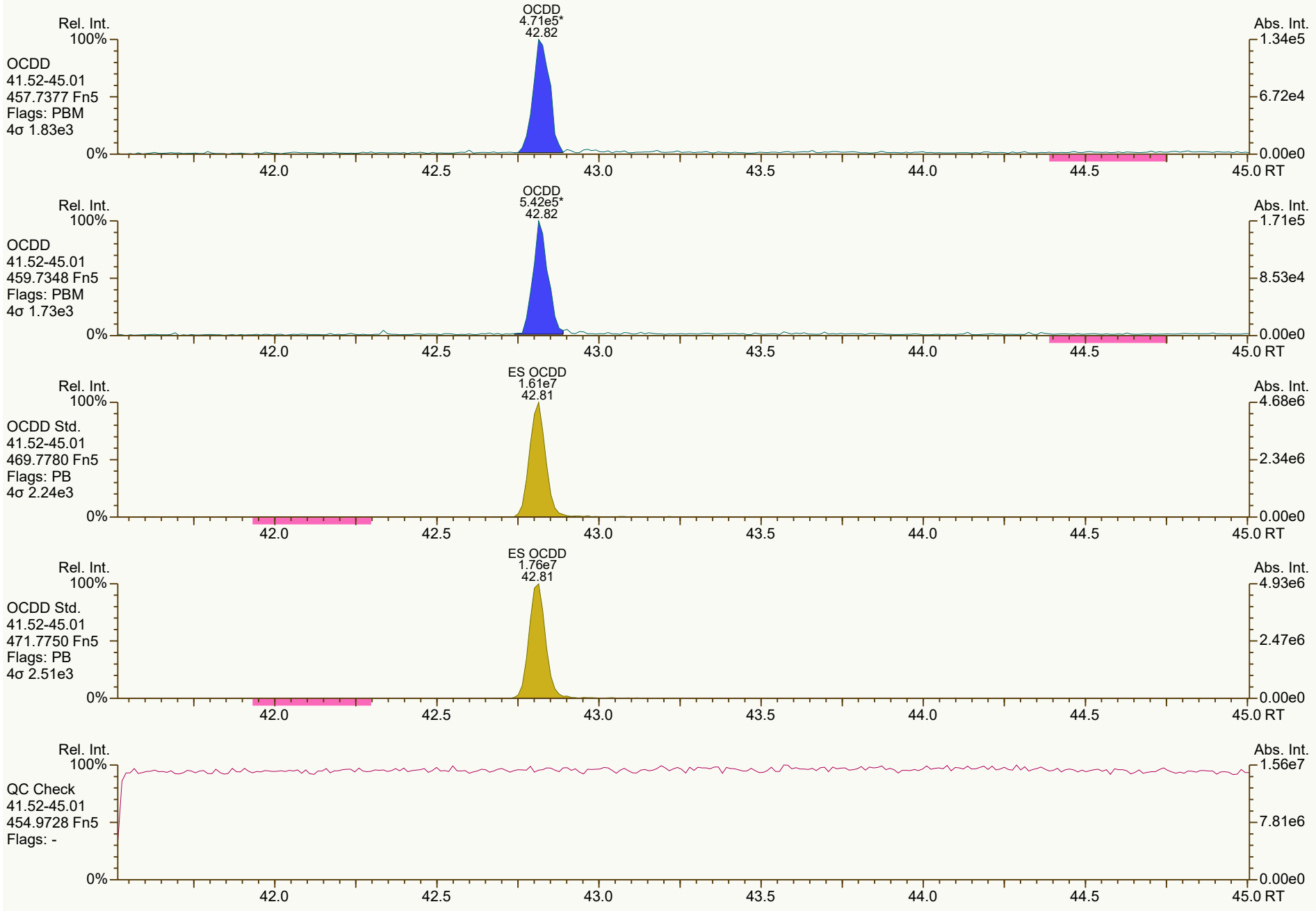
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

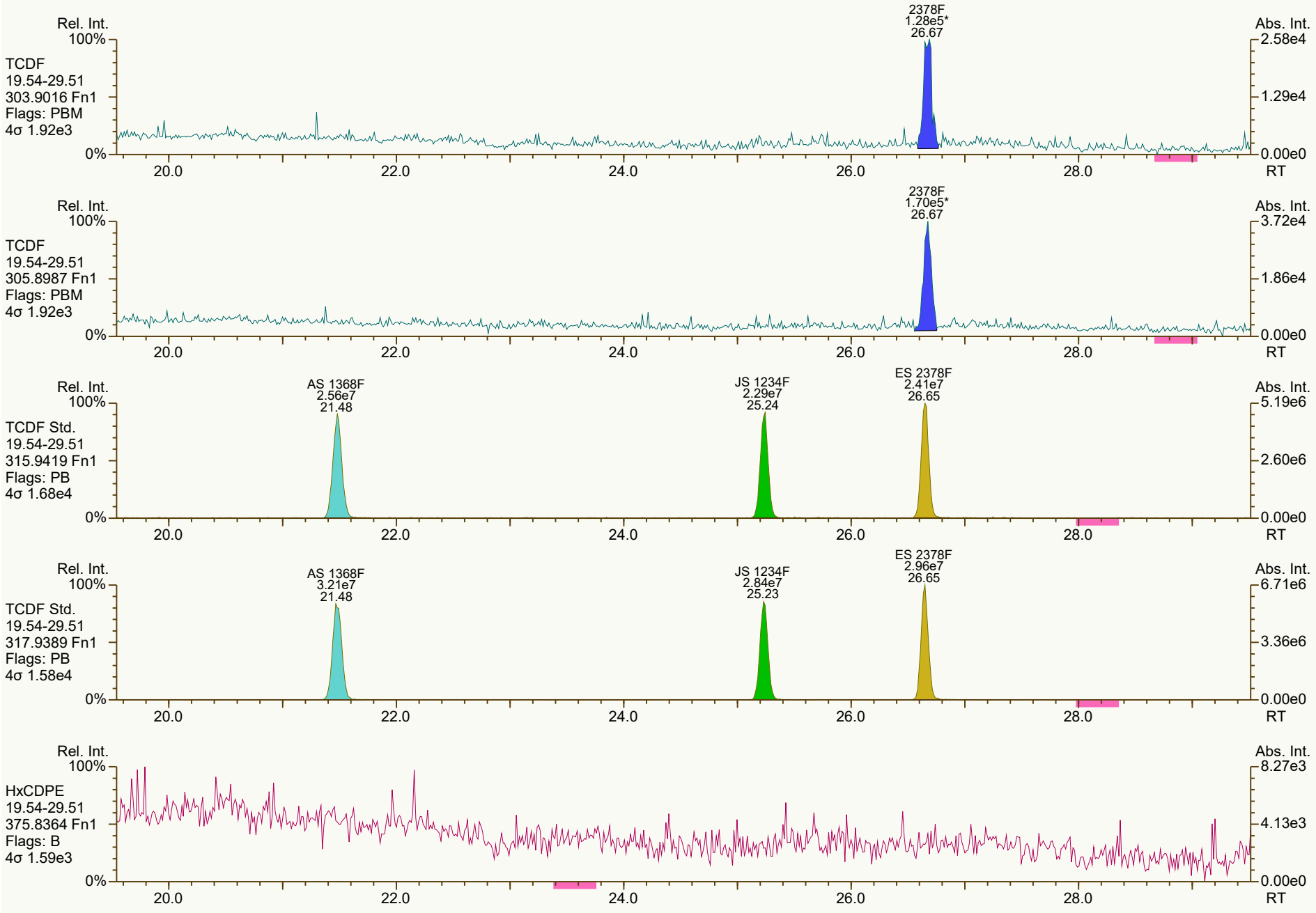

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

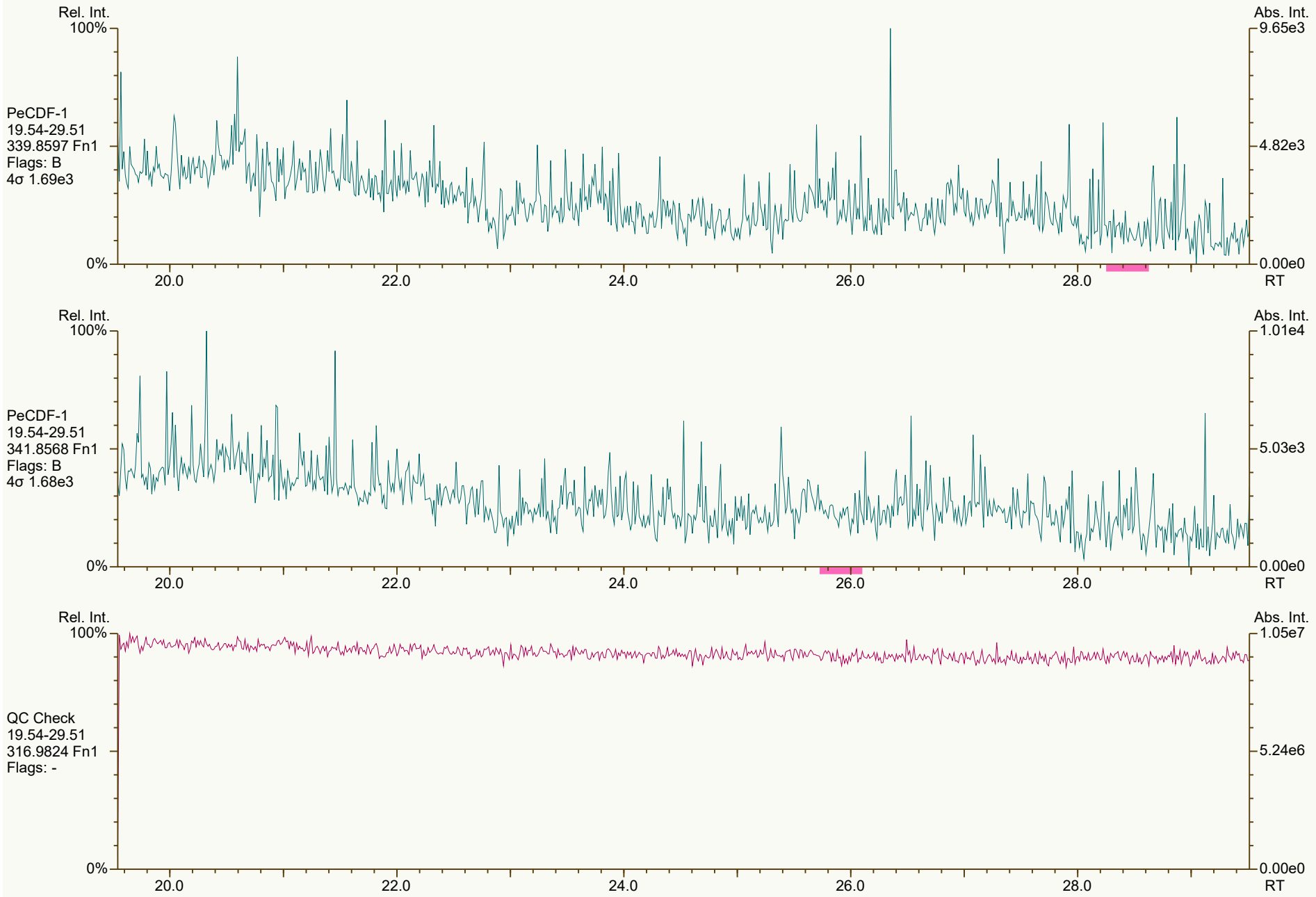

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

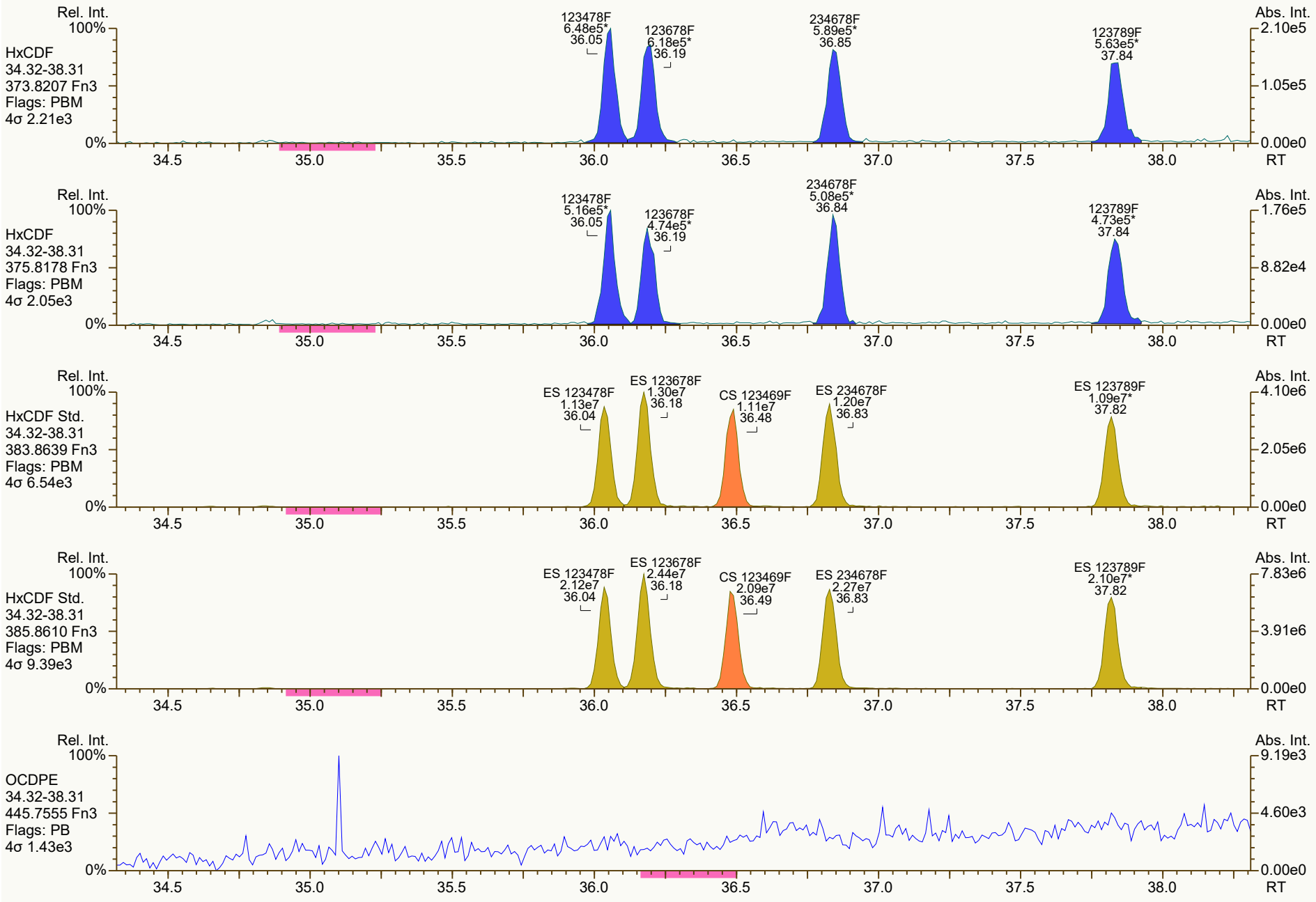

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

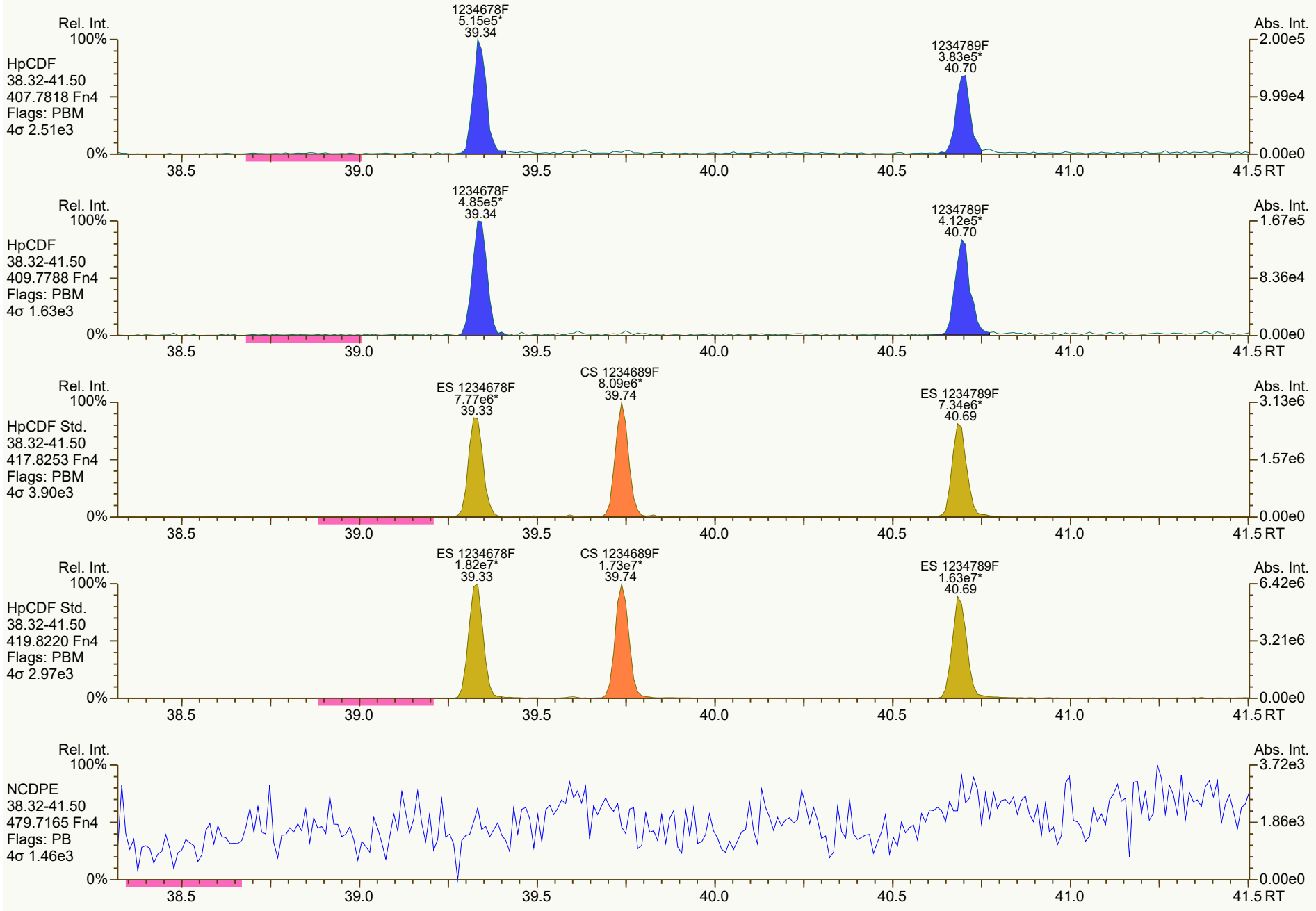

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

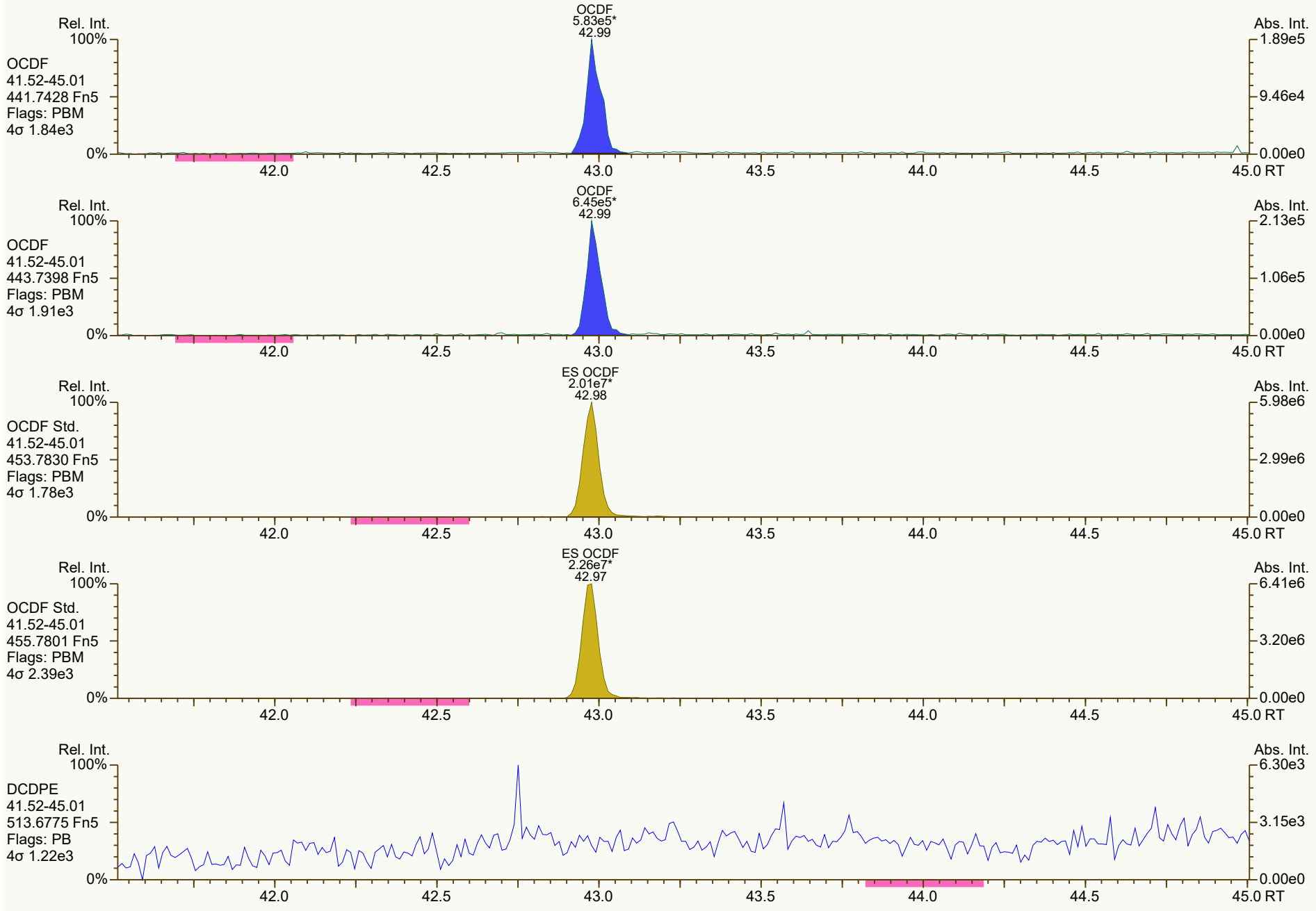

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
Abs. Int.
3.72e3
1.86e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

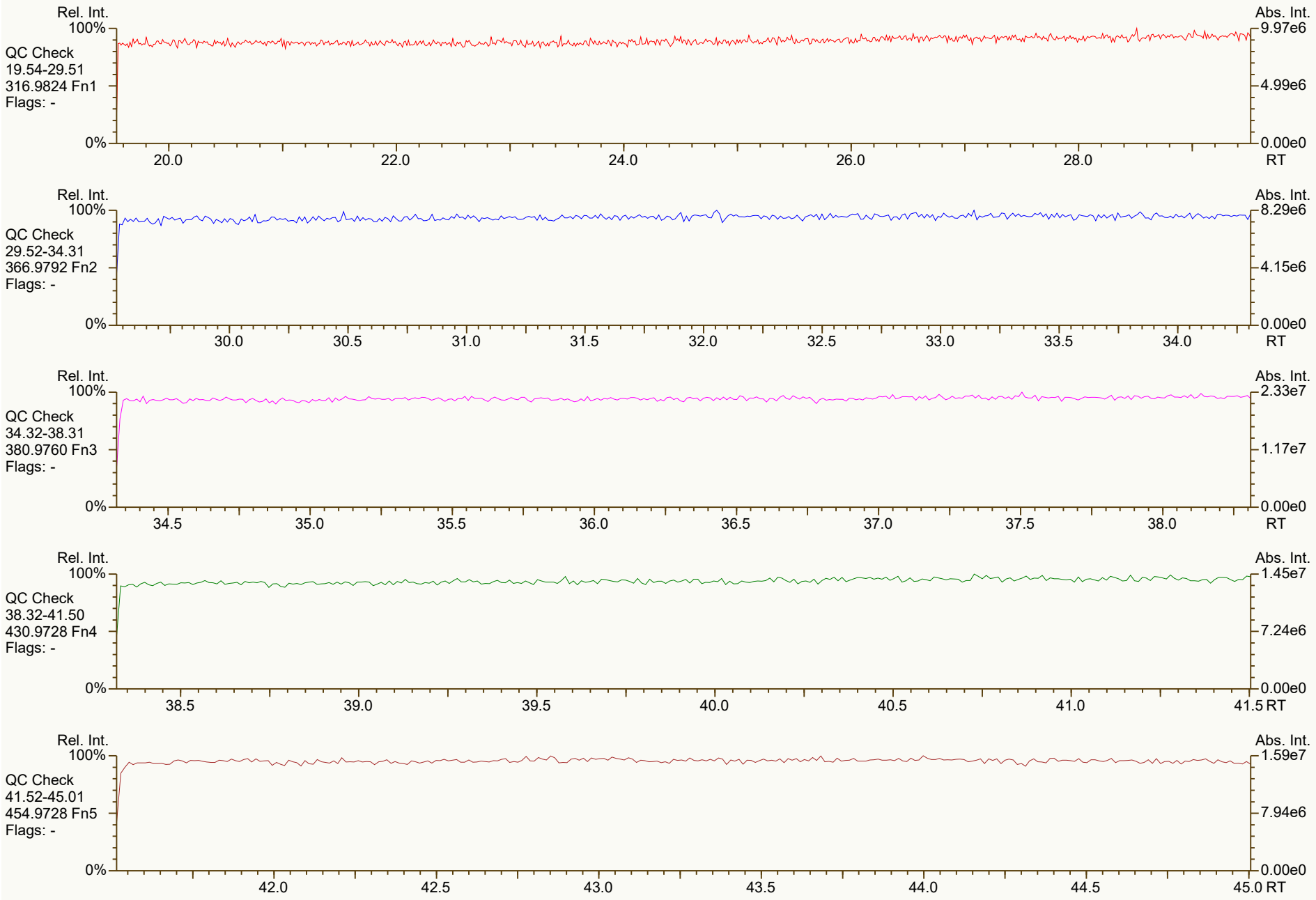

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

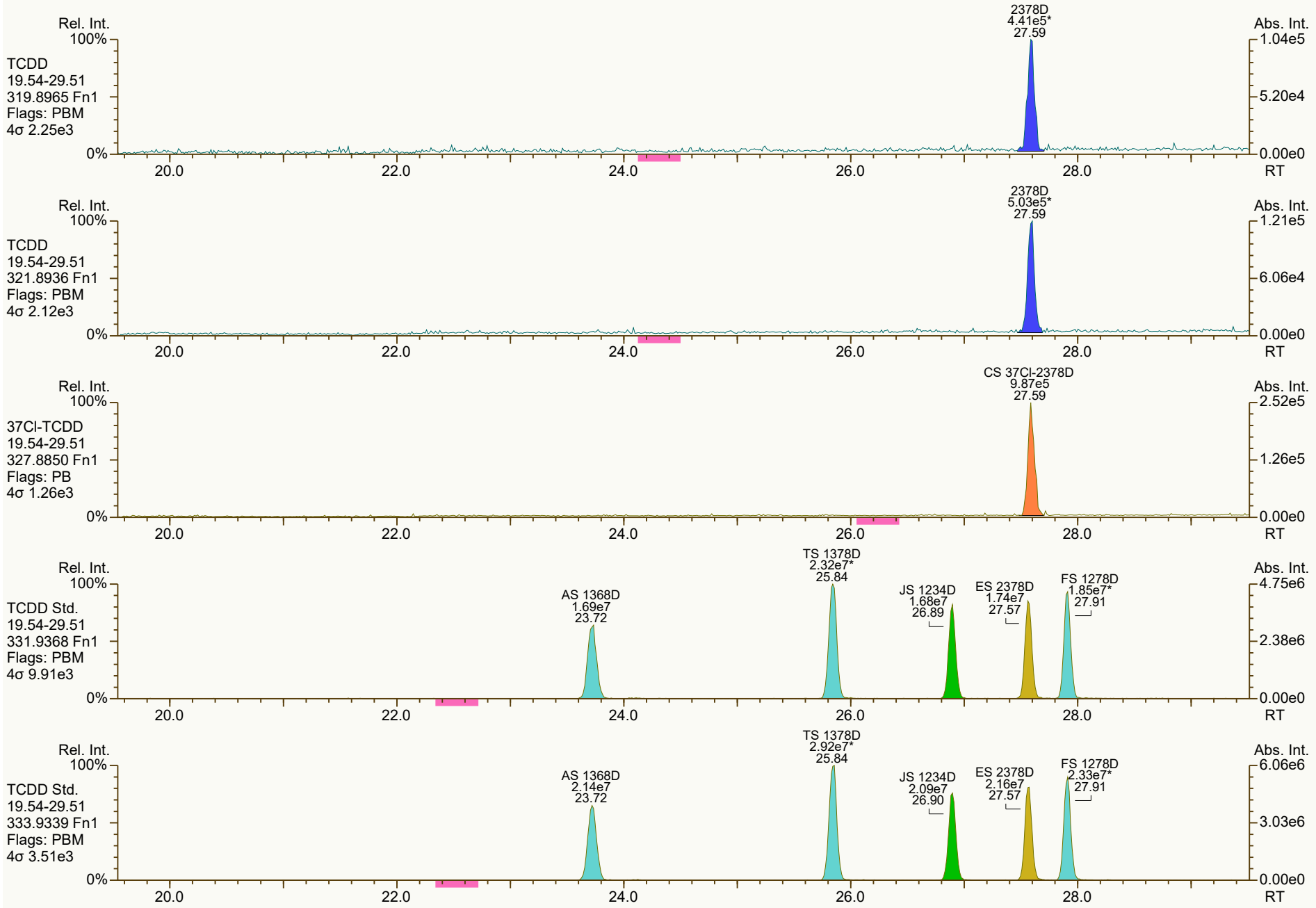
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

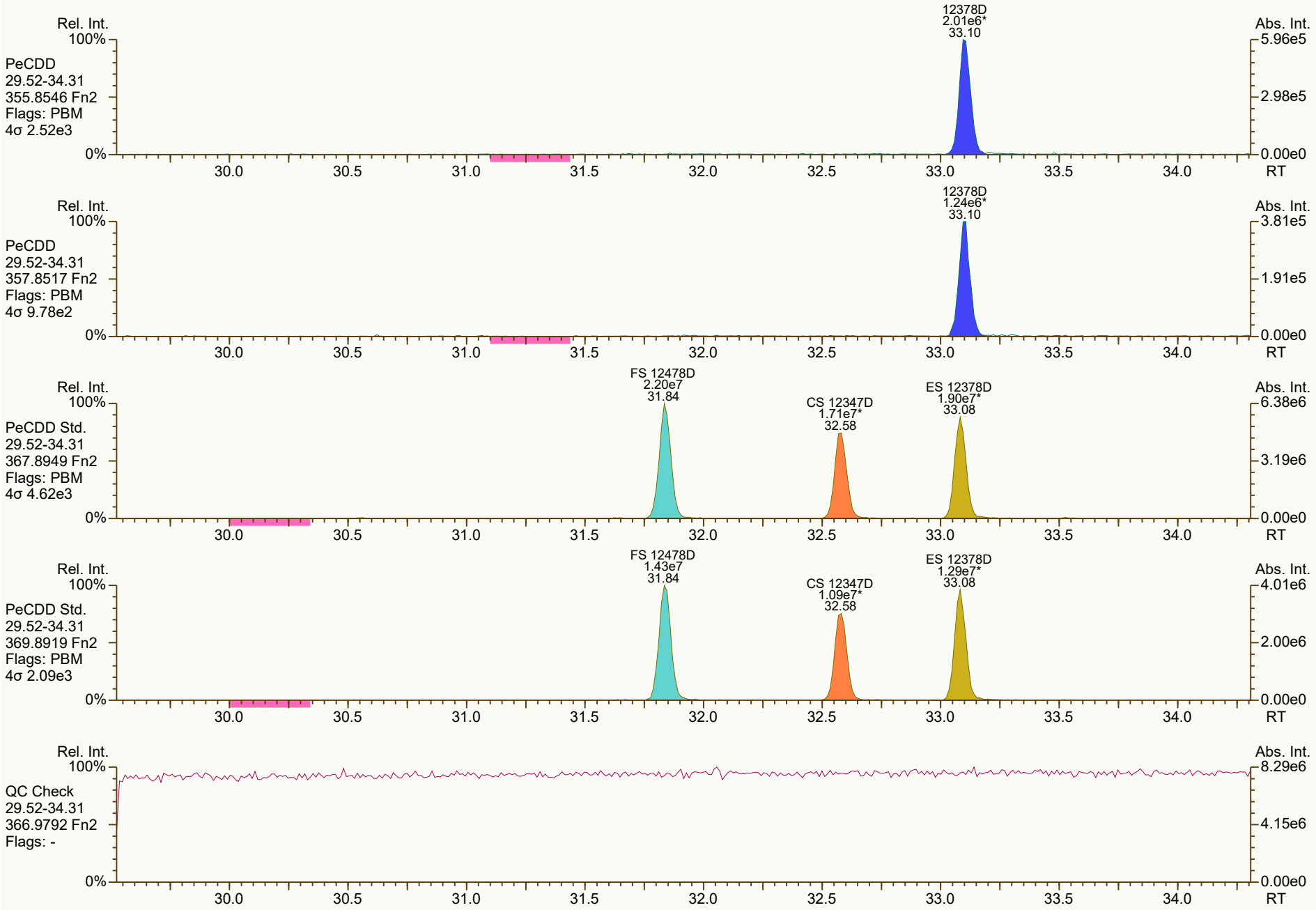
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

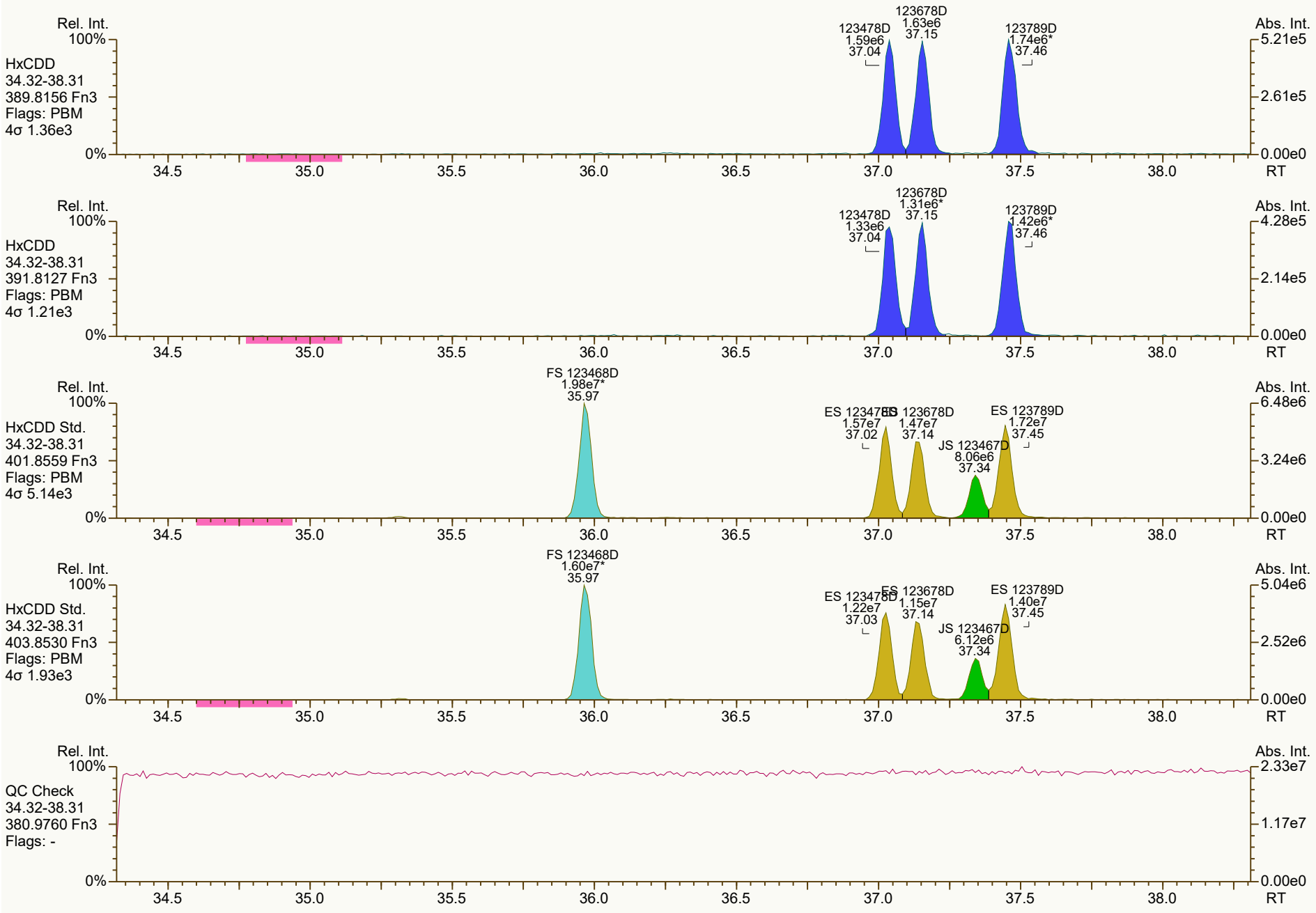
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

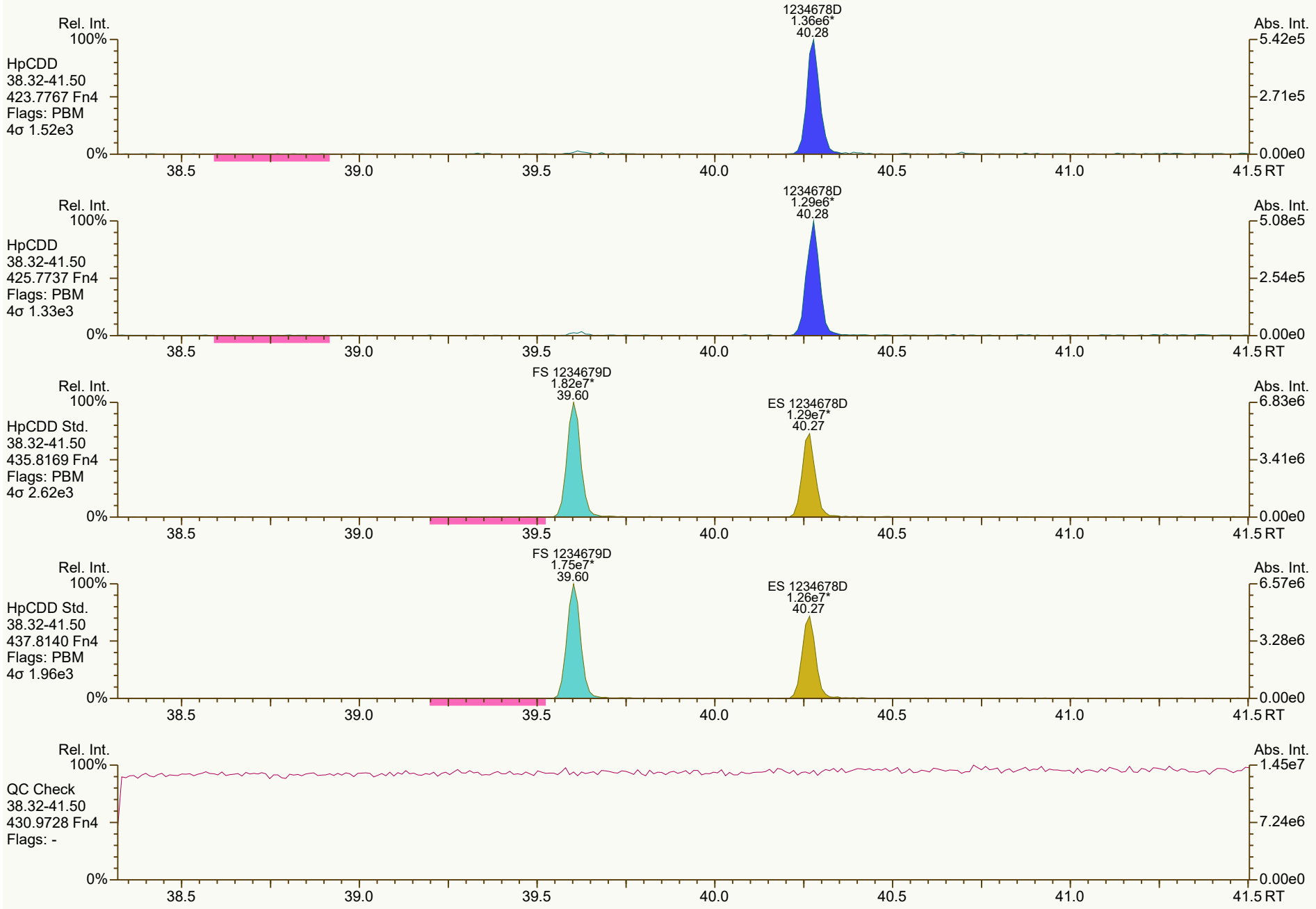
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

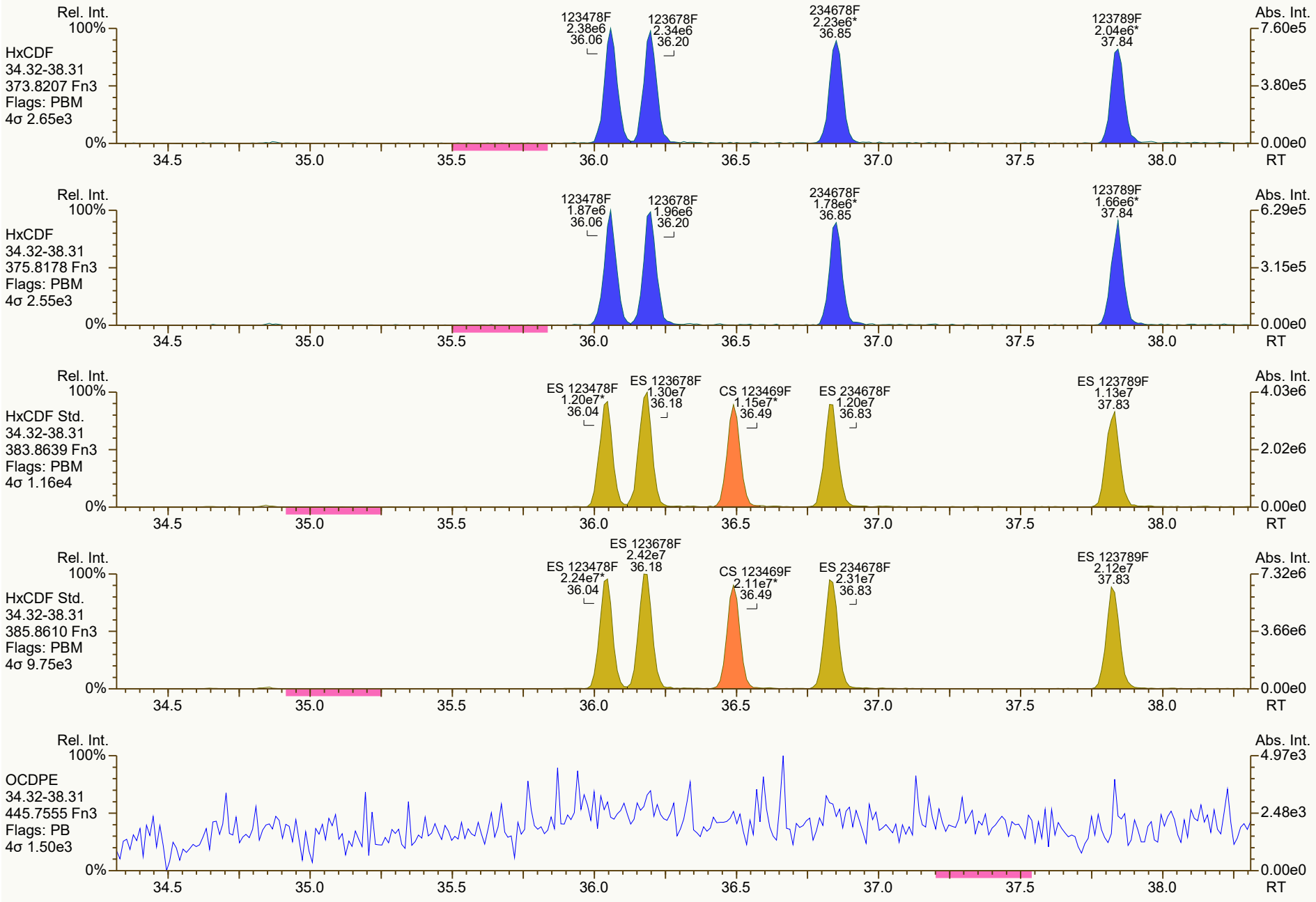

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

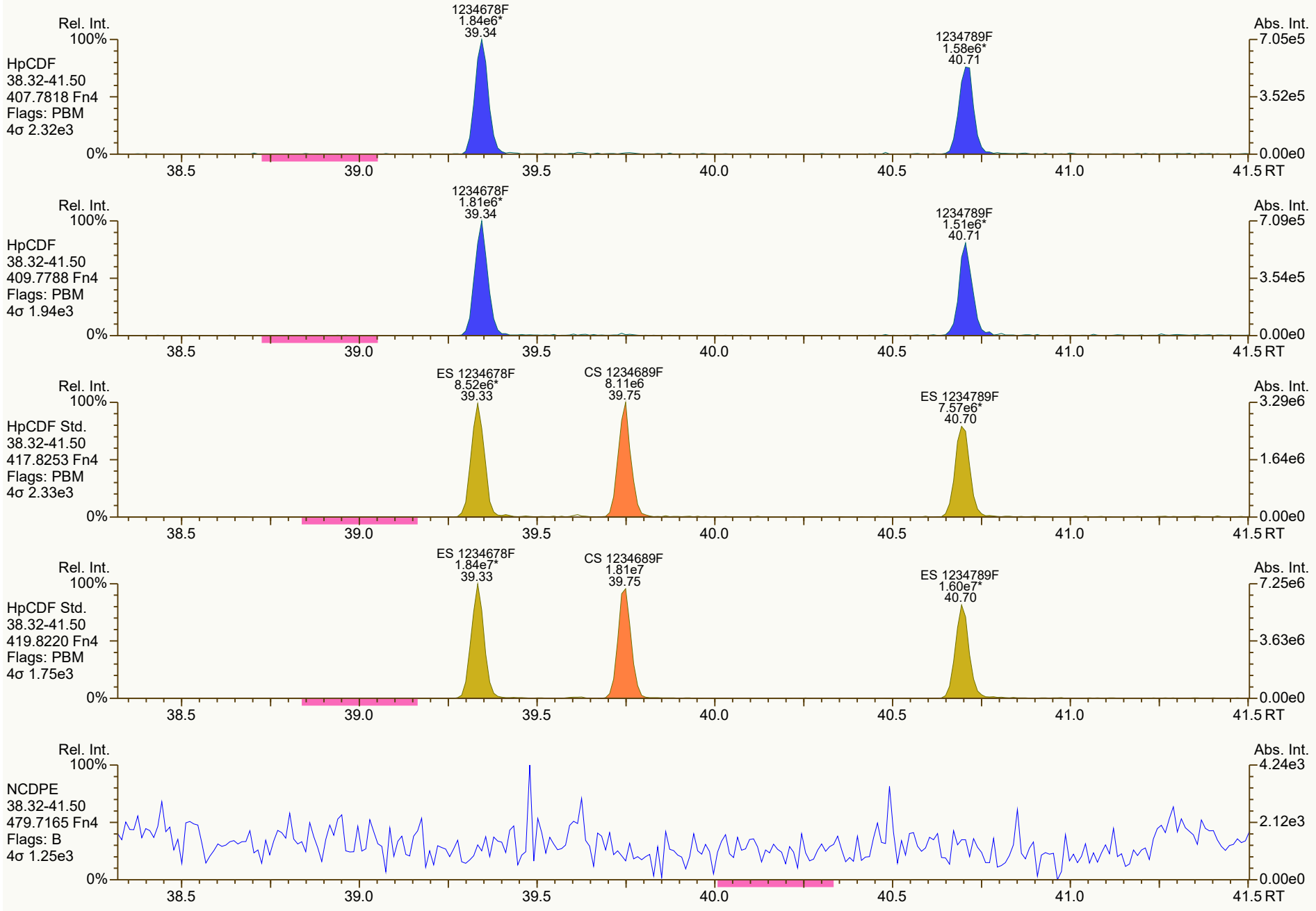

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

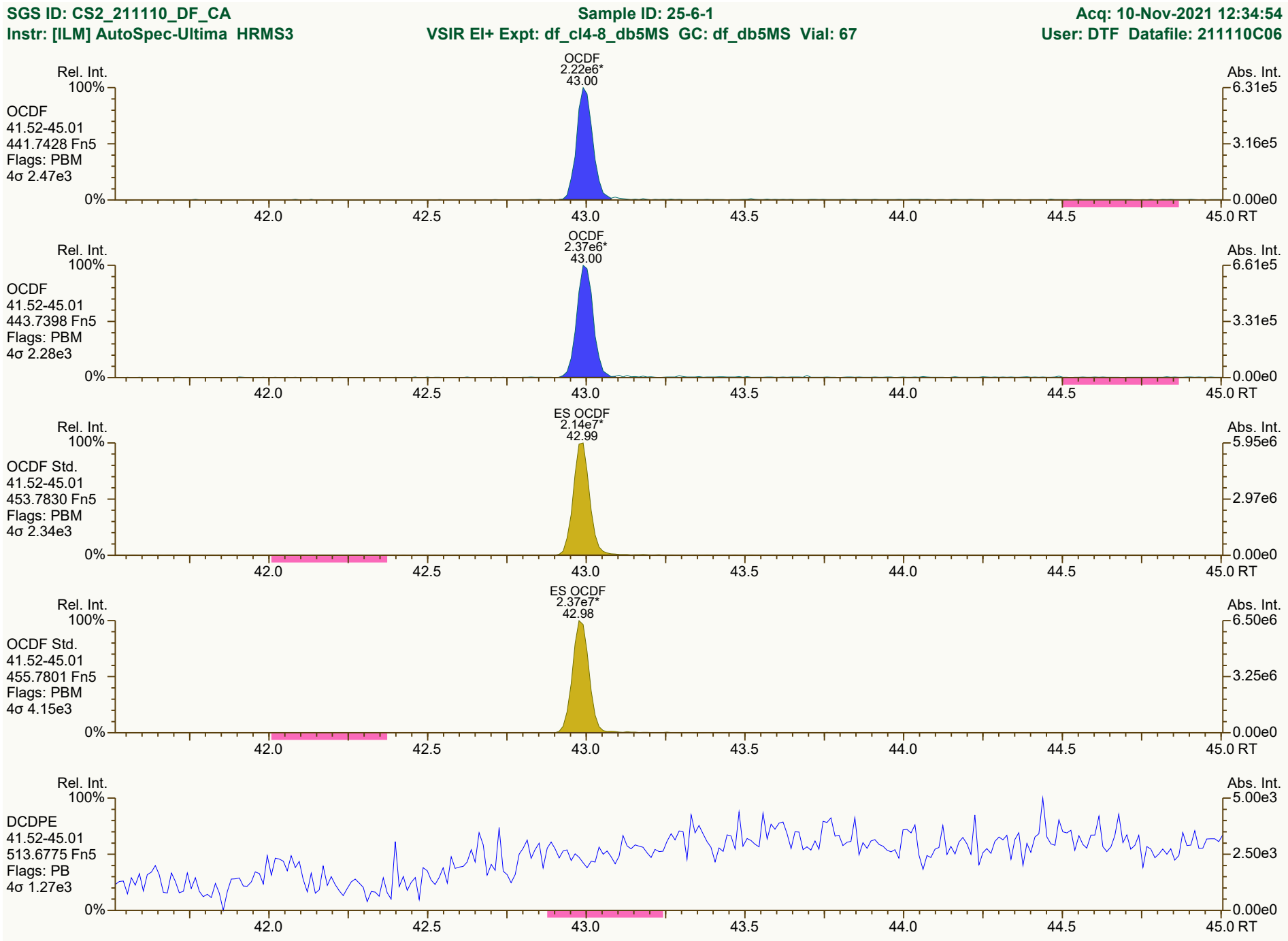

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

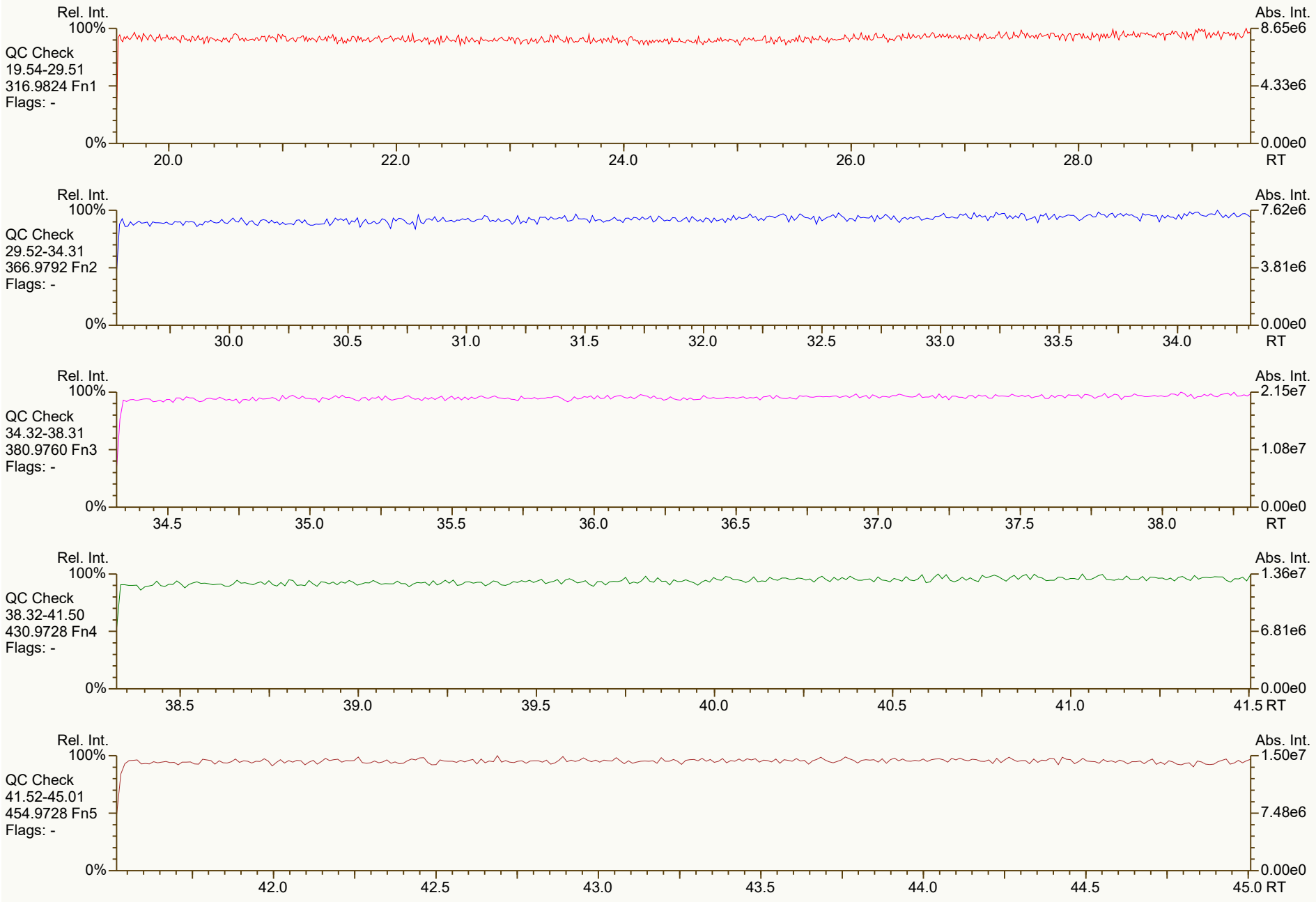

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
0.00e0
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
0.00e0
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

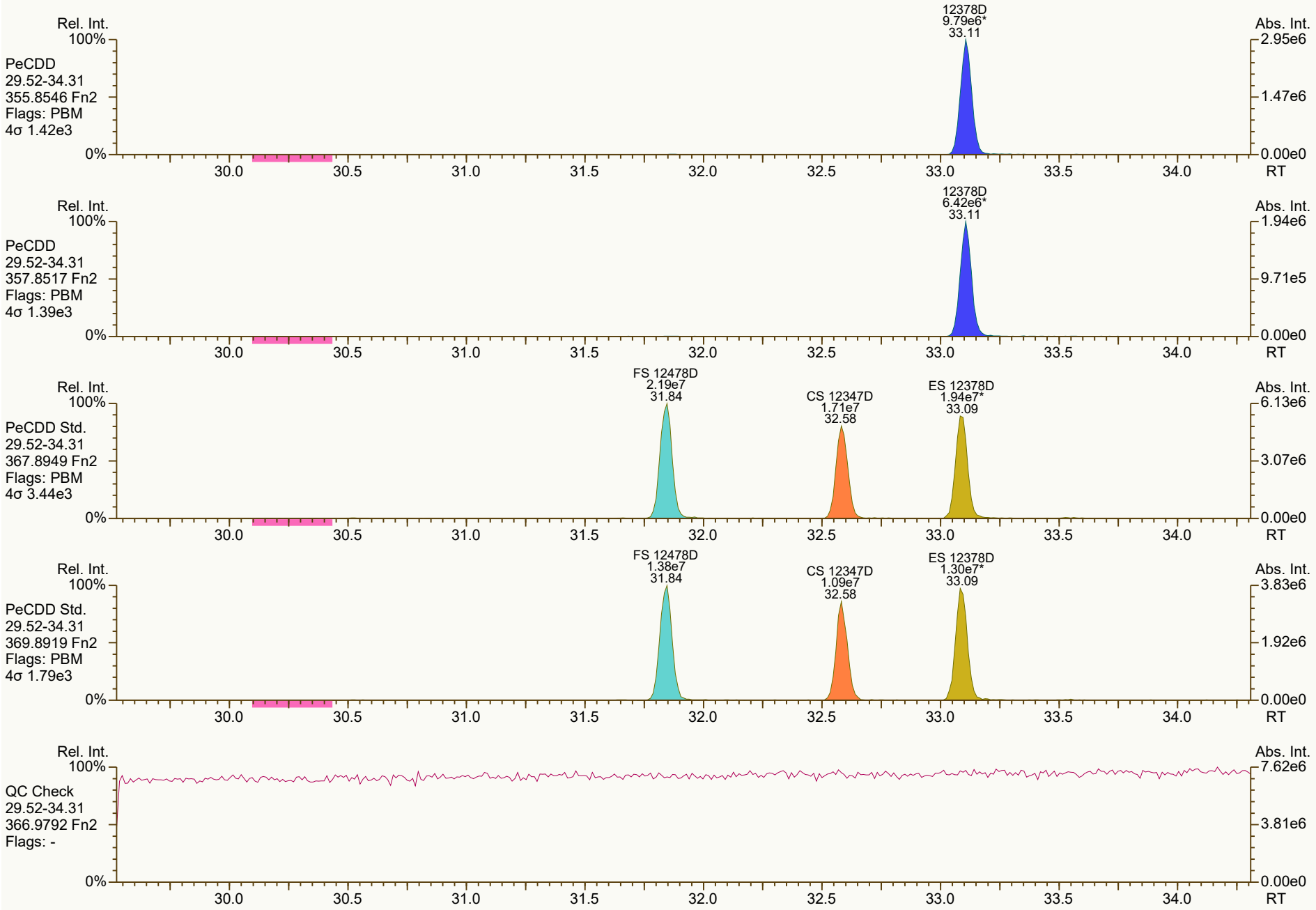
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

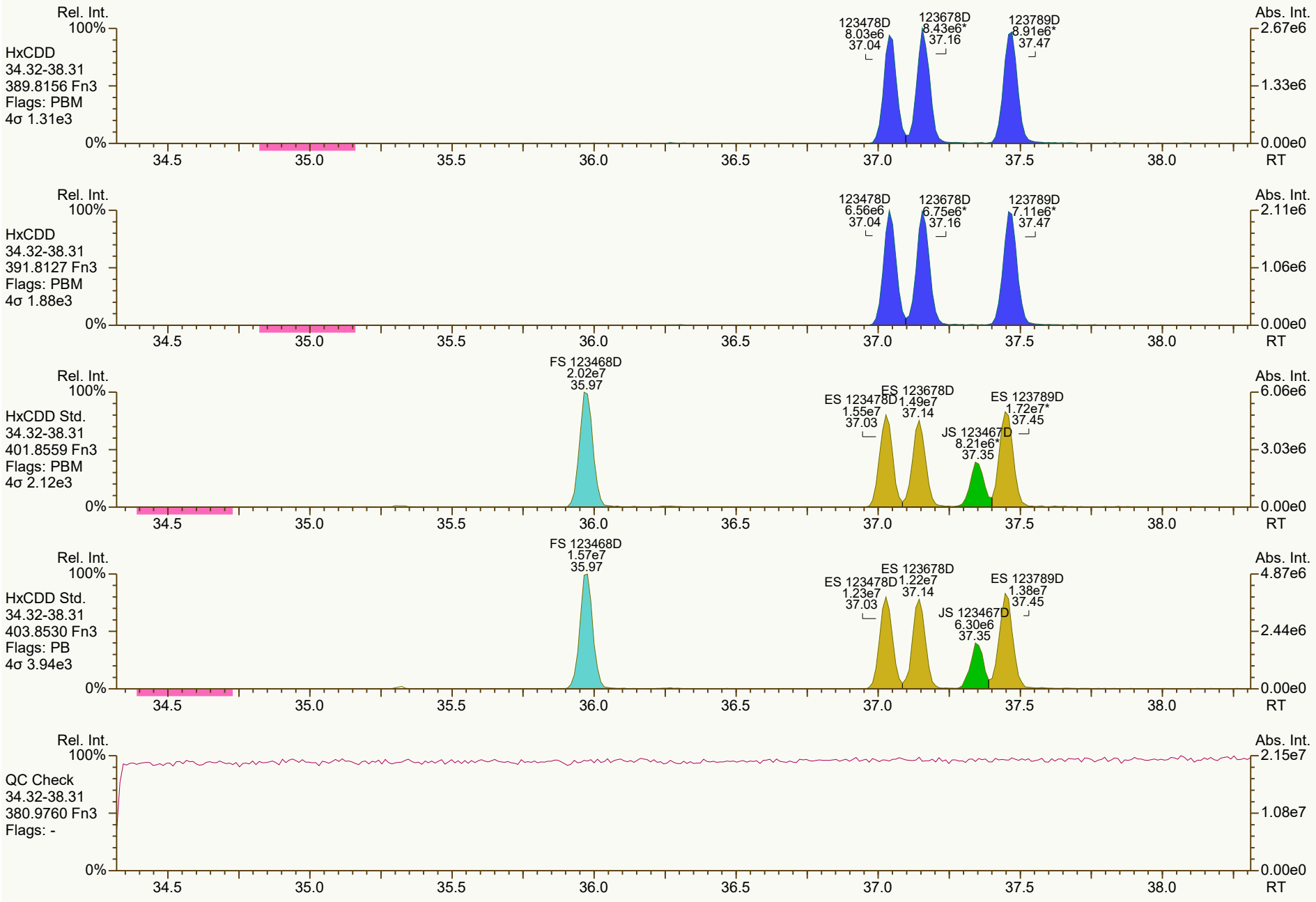
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

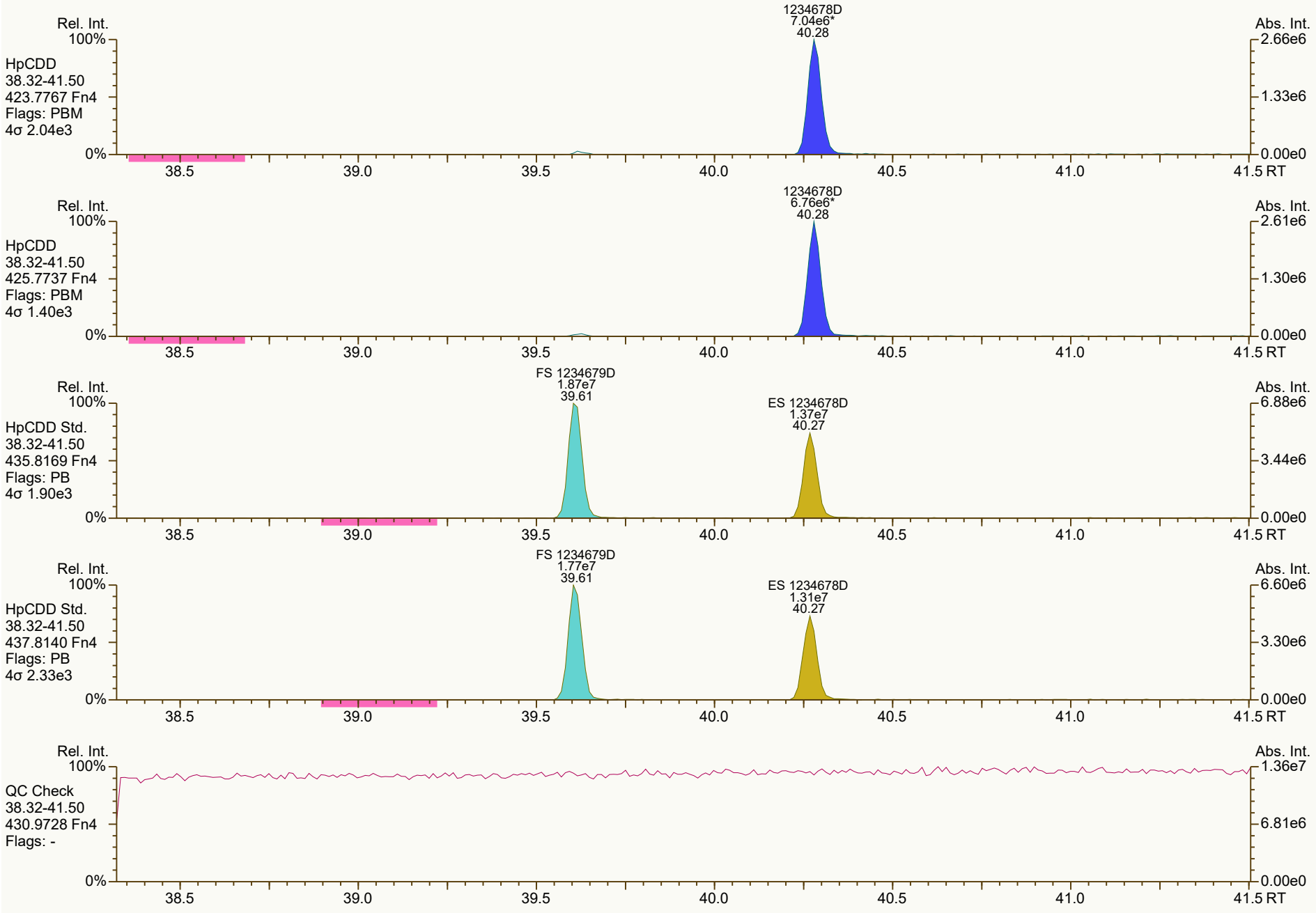
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

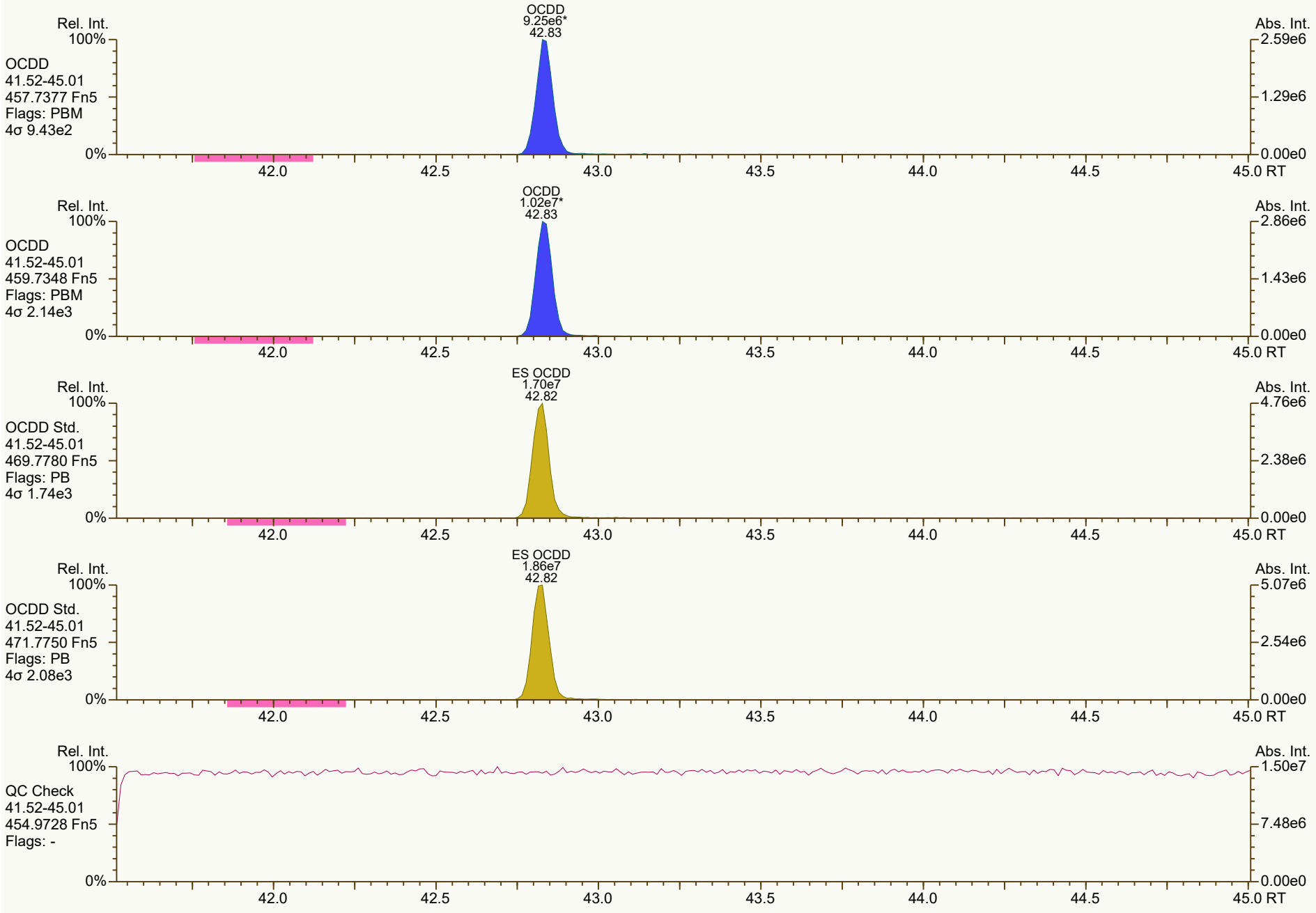

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

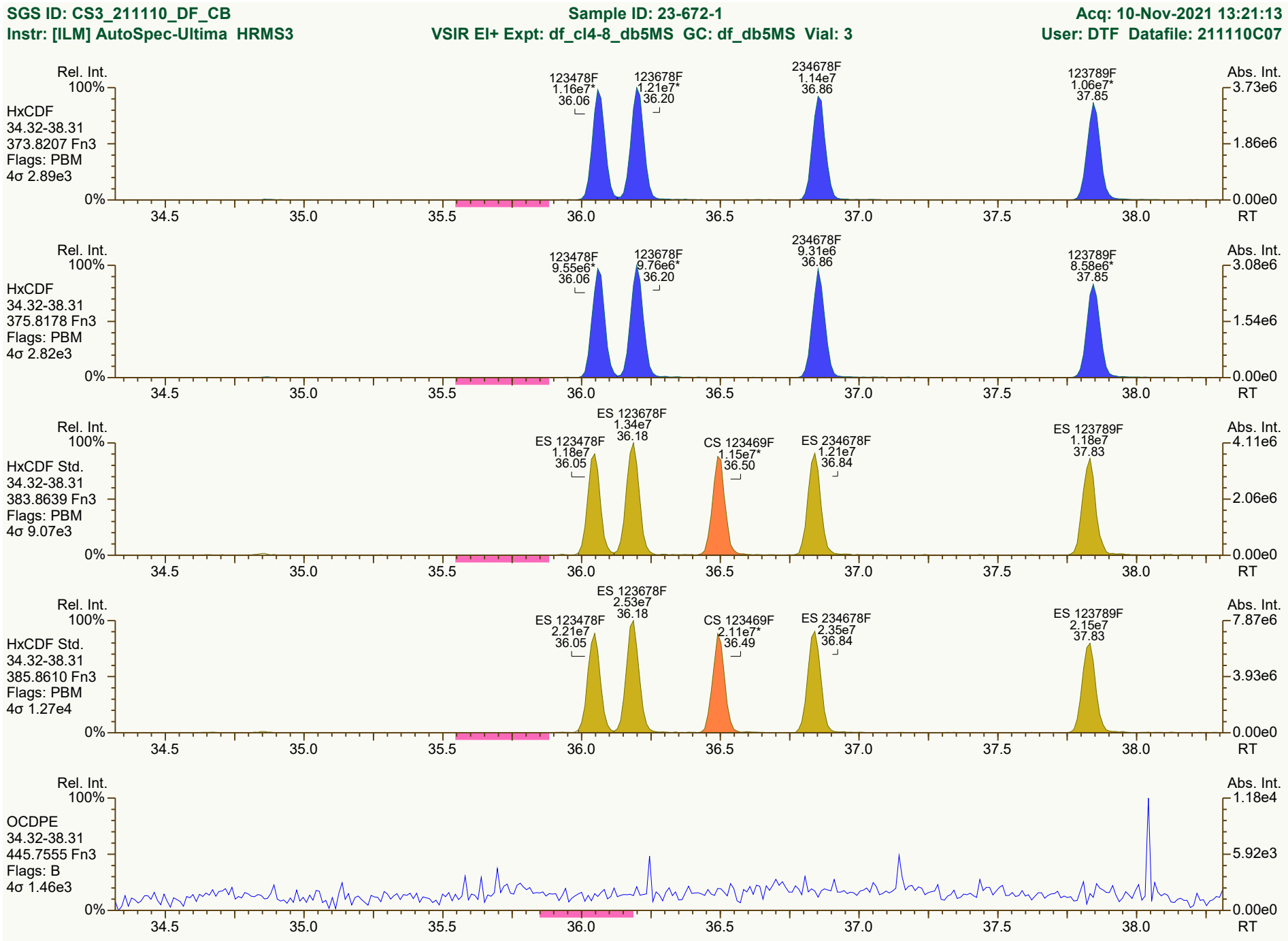

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

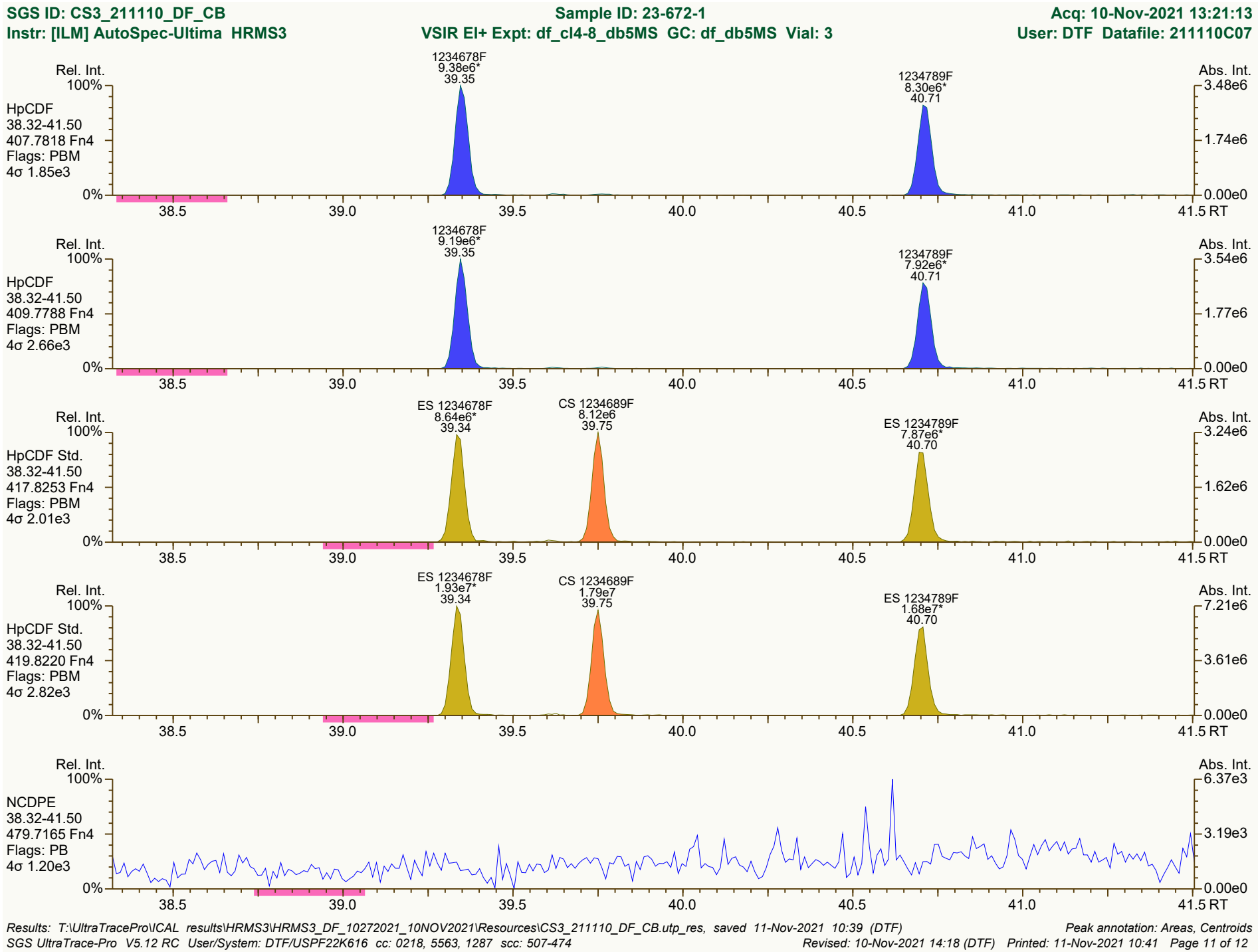

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
2.59e6
1.29e6
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
7.61e6
3.81e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
5.00e6
2.50e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
1.17e4
5.86e3


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

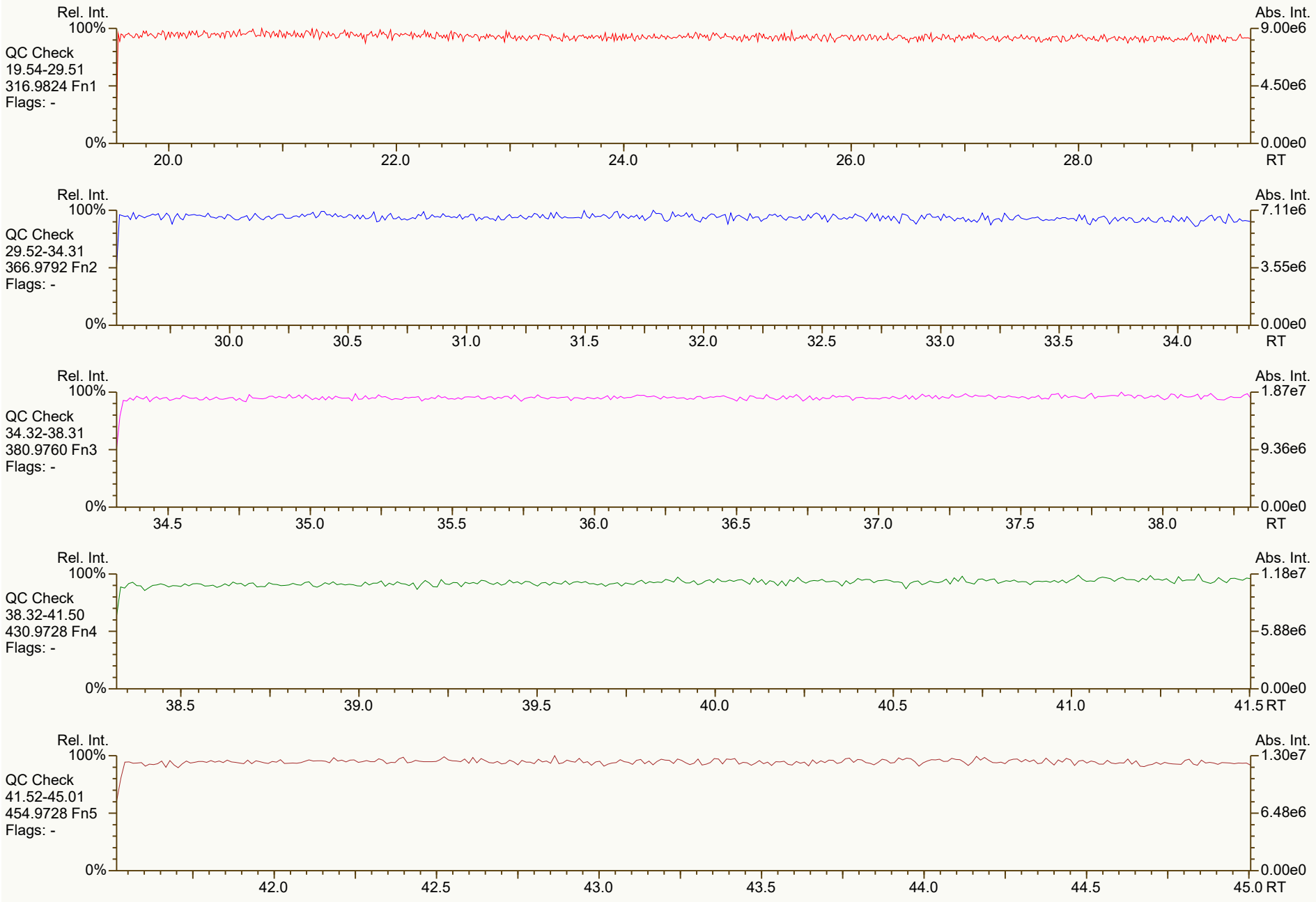

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

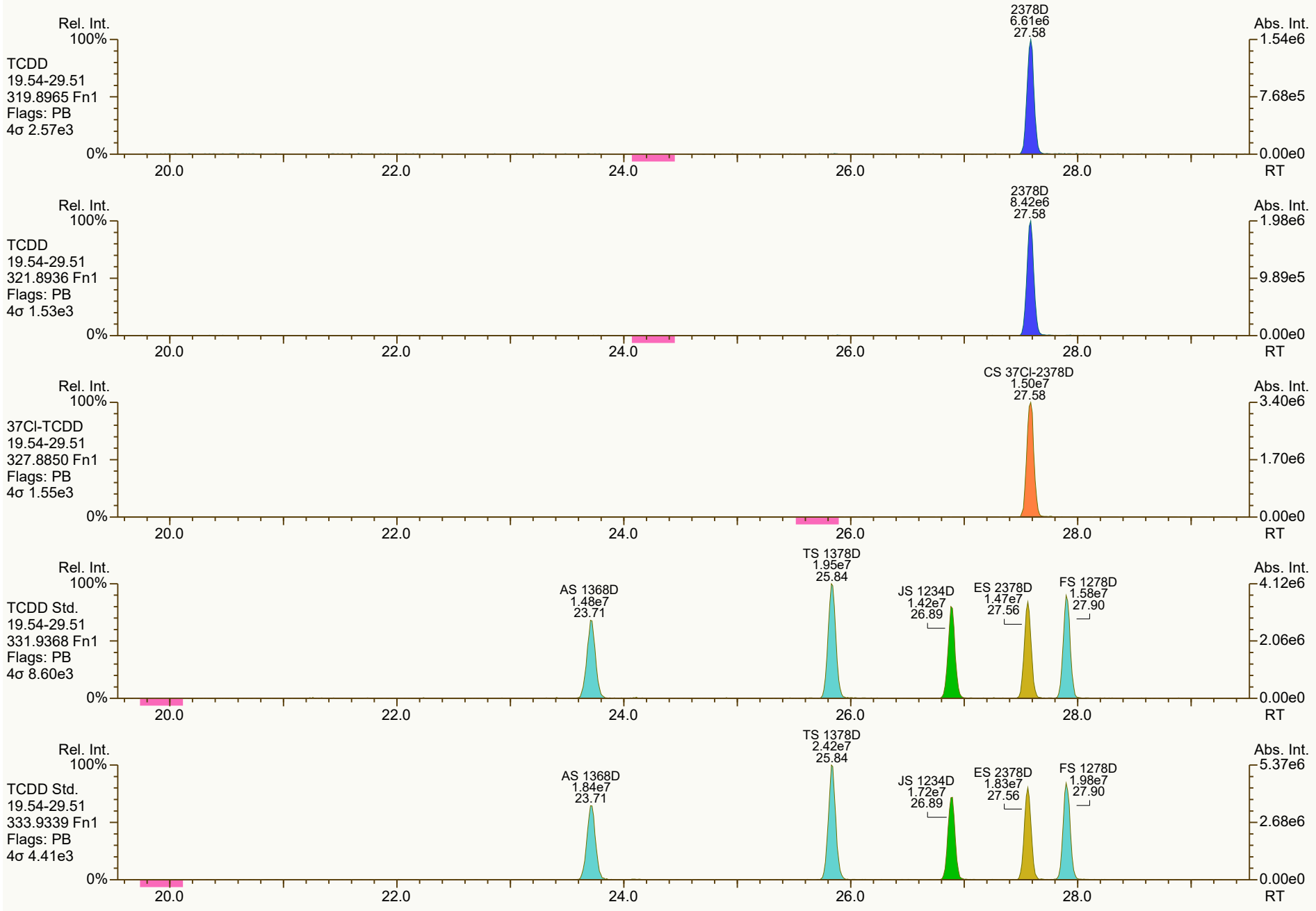

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
3.25e6
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
1.62e6
0%
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
Abs. Int.
100%
3.53e6
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
1.76e6
0%
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
Abs. Int.
100%
6.08e6
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
3.04e6
0%
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
Abs. Int.
100%
6.65e6
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
3.32e6
0%
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
Abs. Int.
100%
4.82e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
2.41e3
0%
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

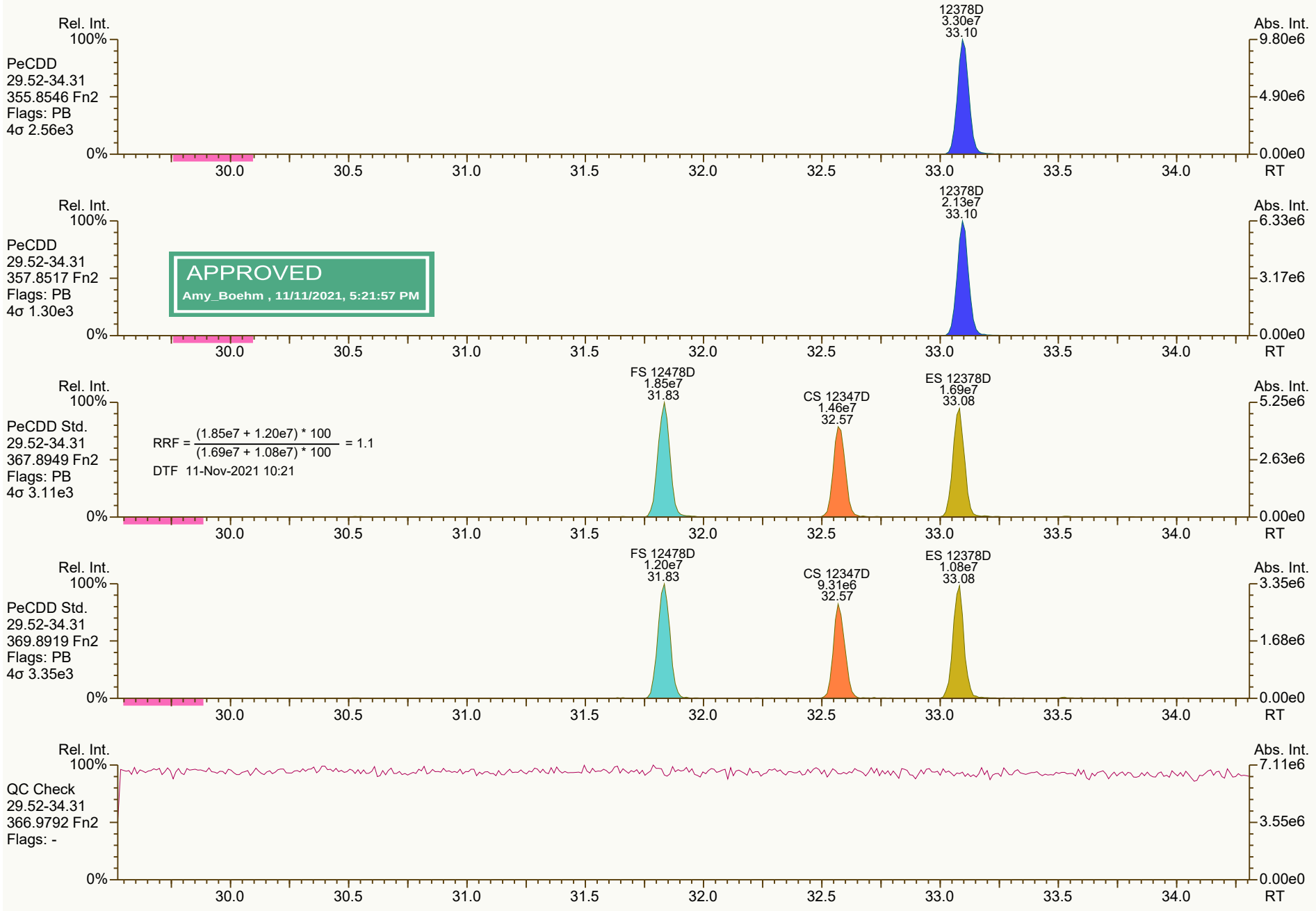
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

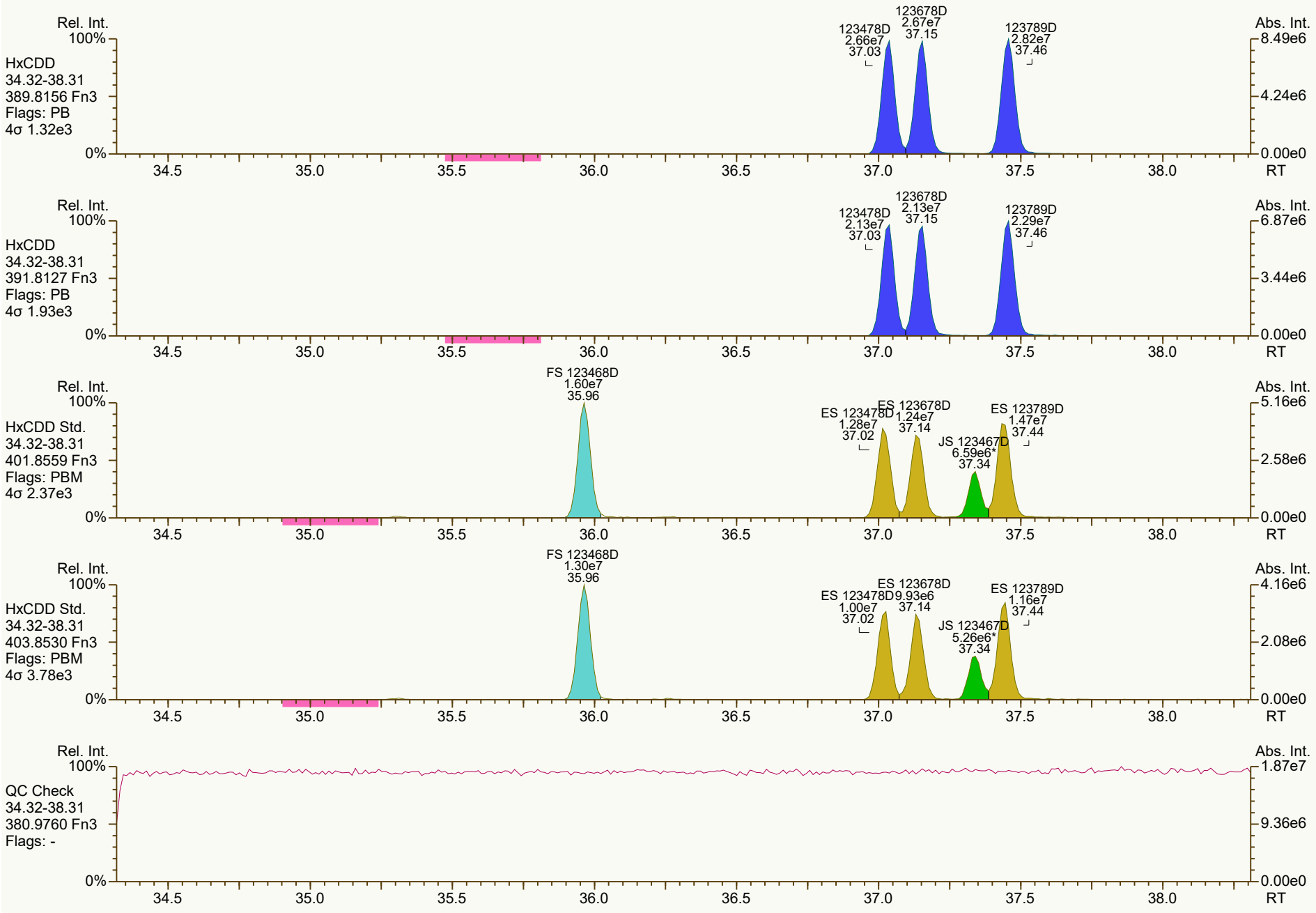
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

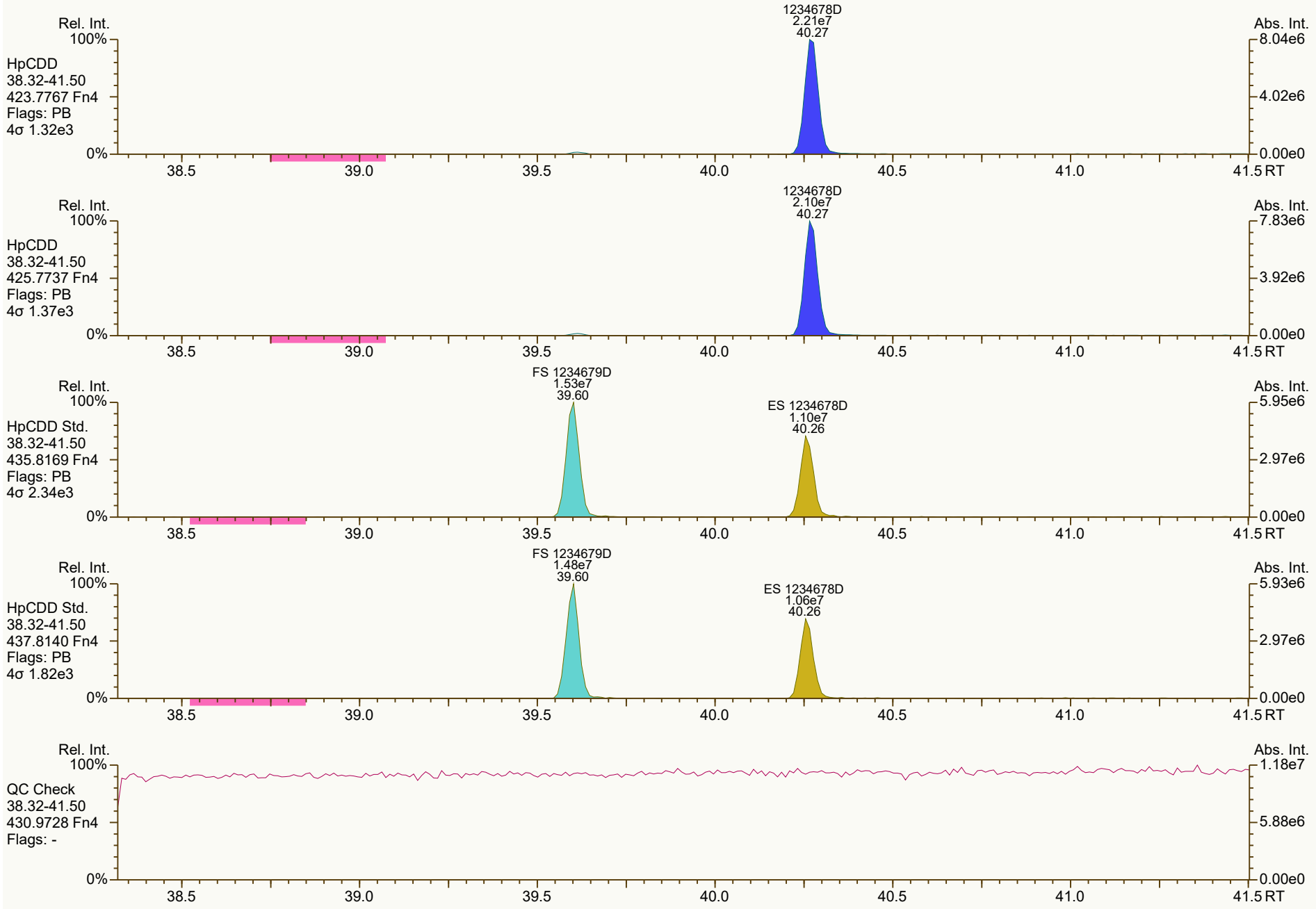
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

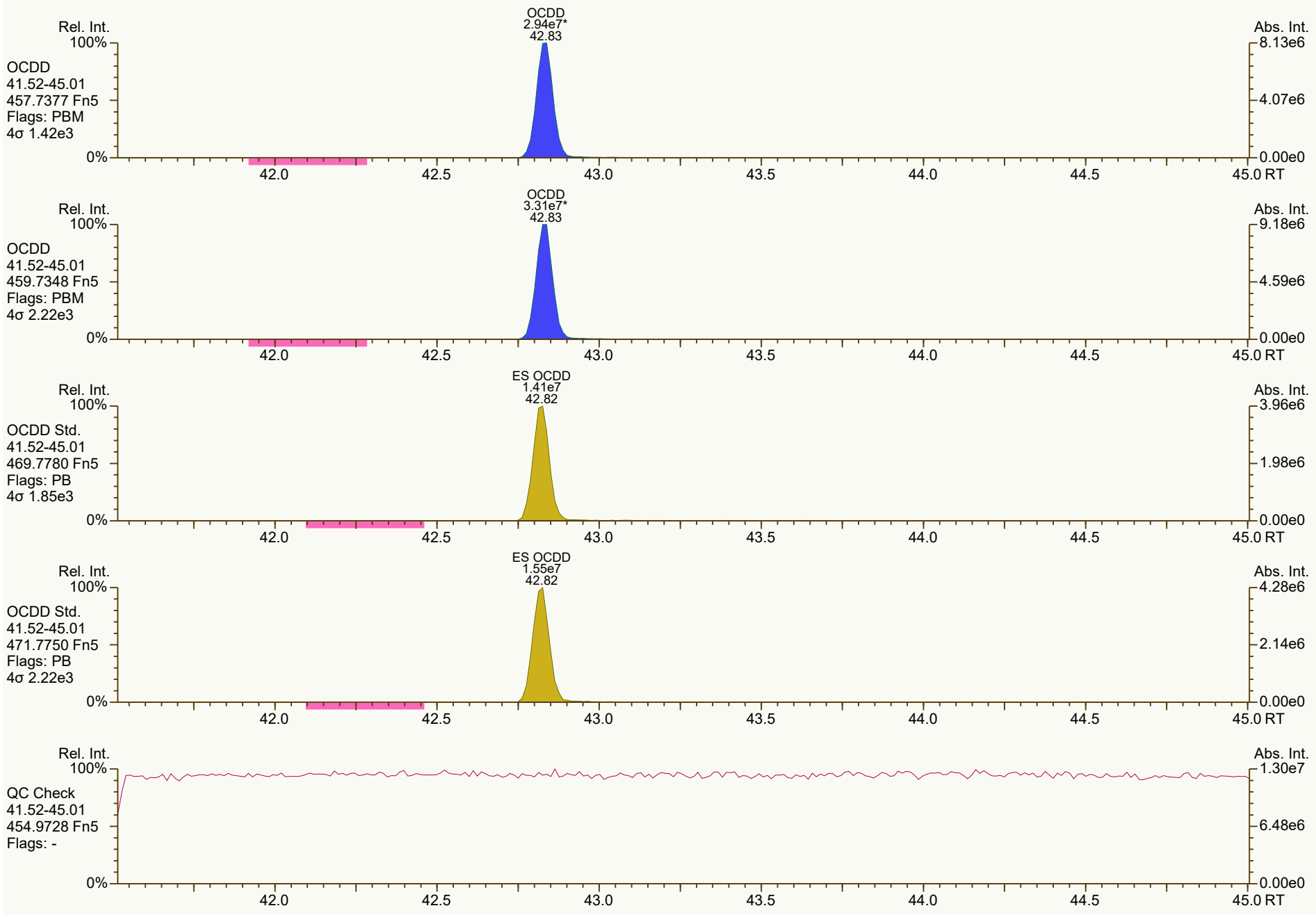

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

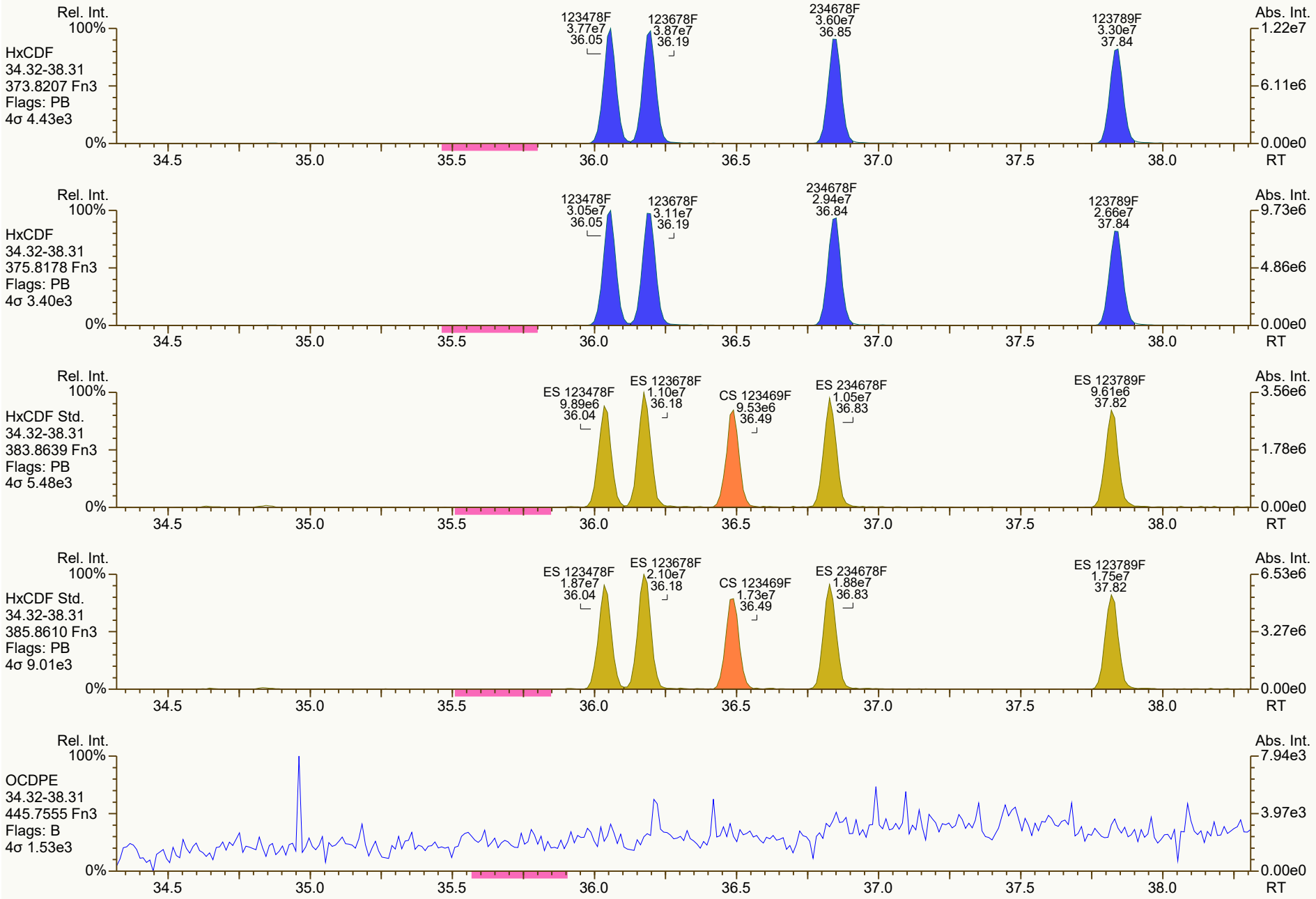

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

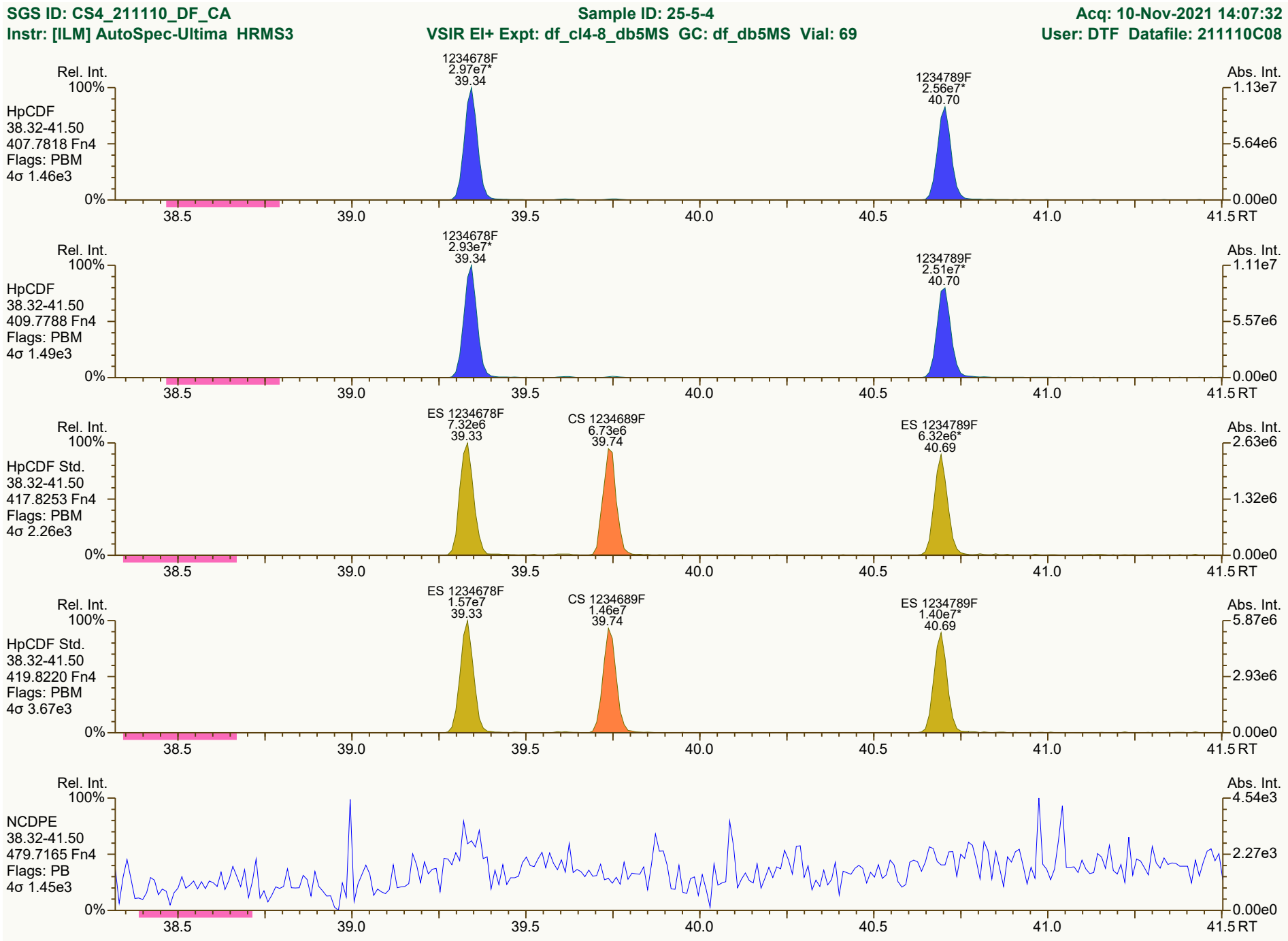

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

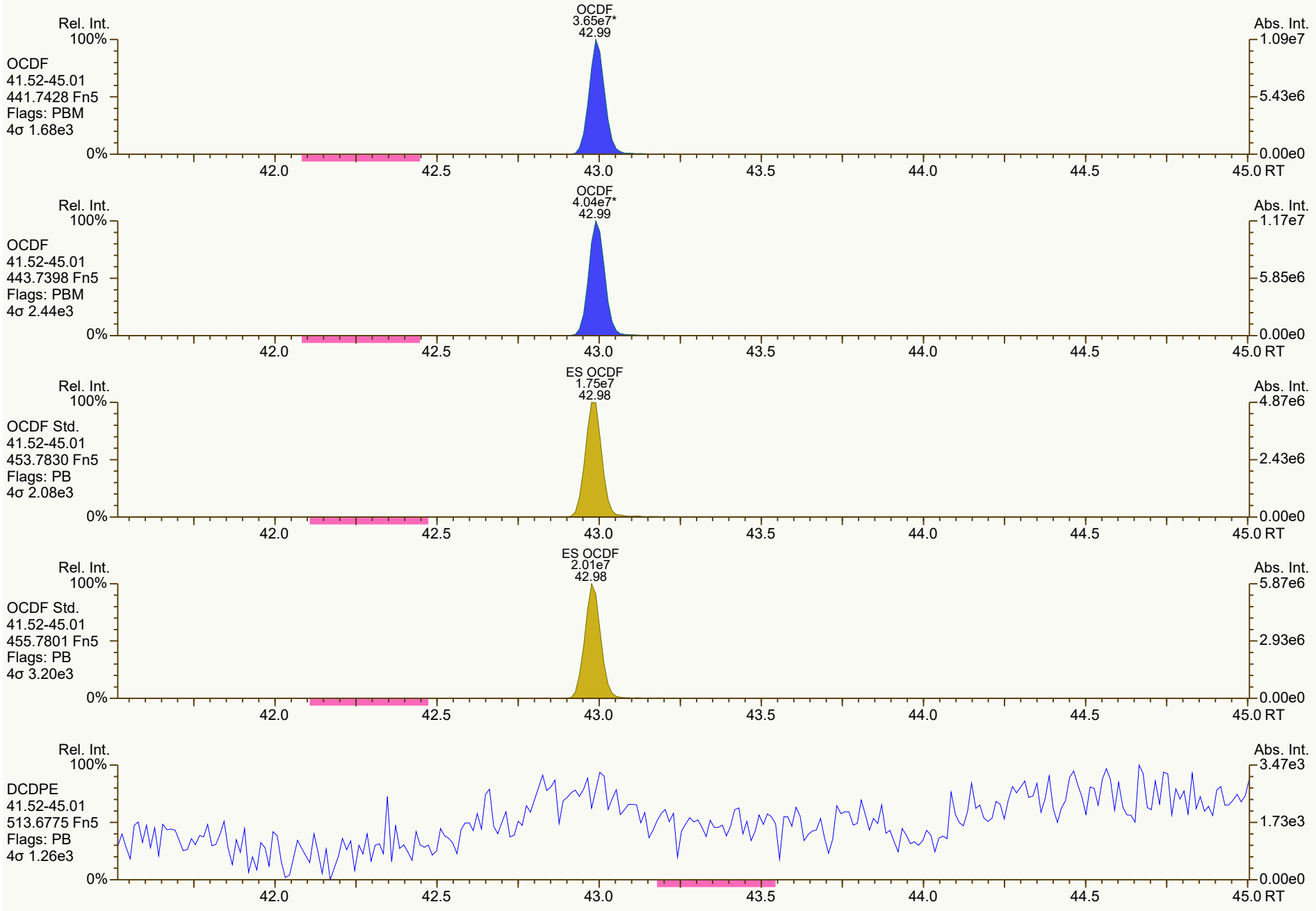

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

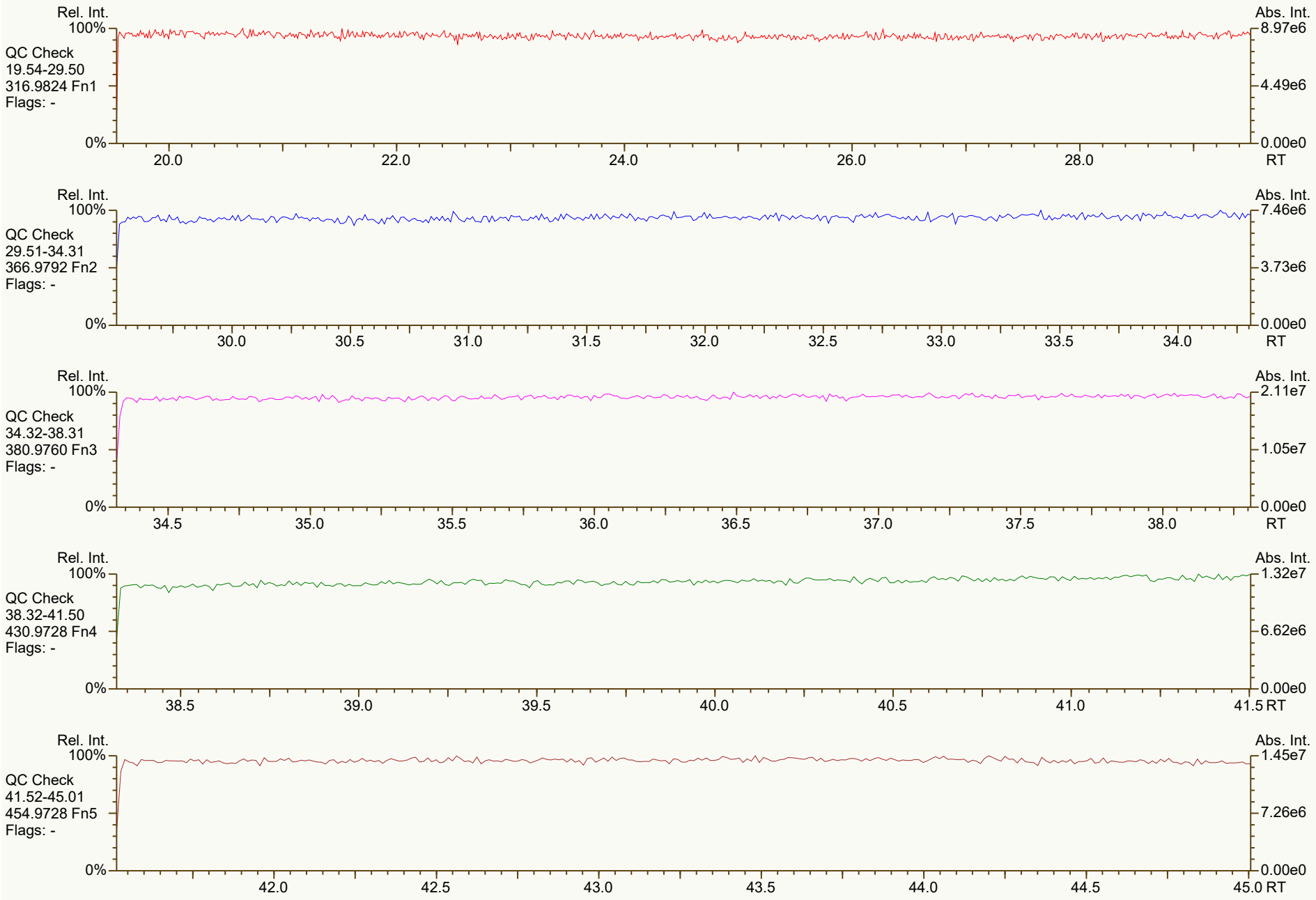

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

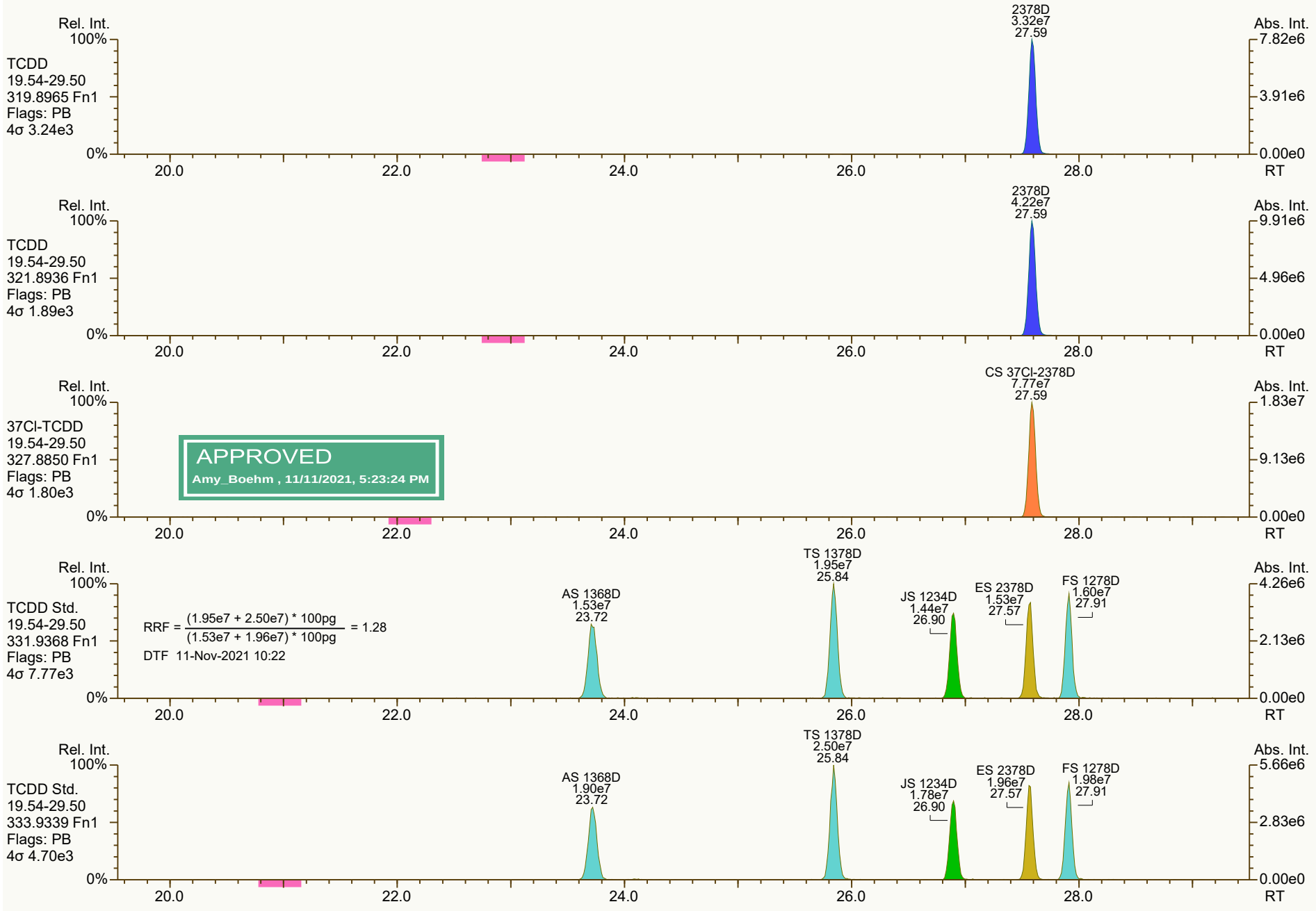
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

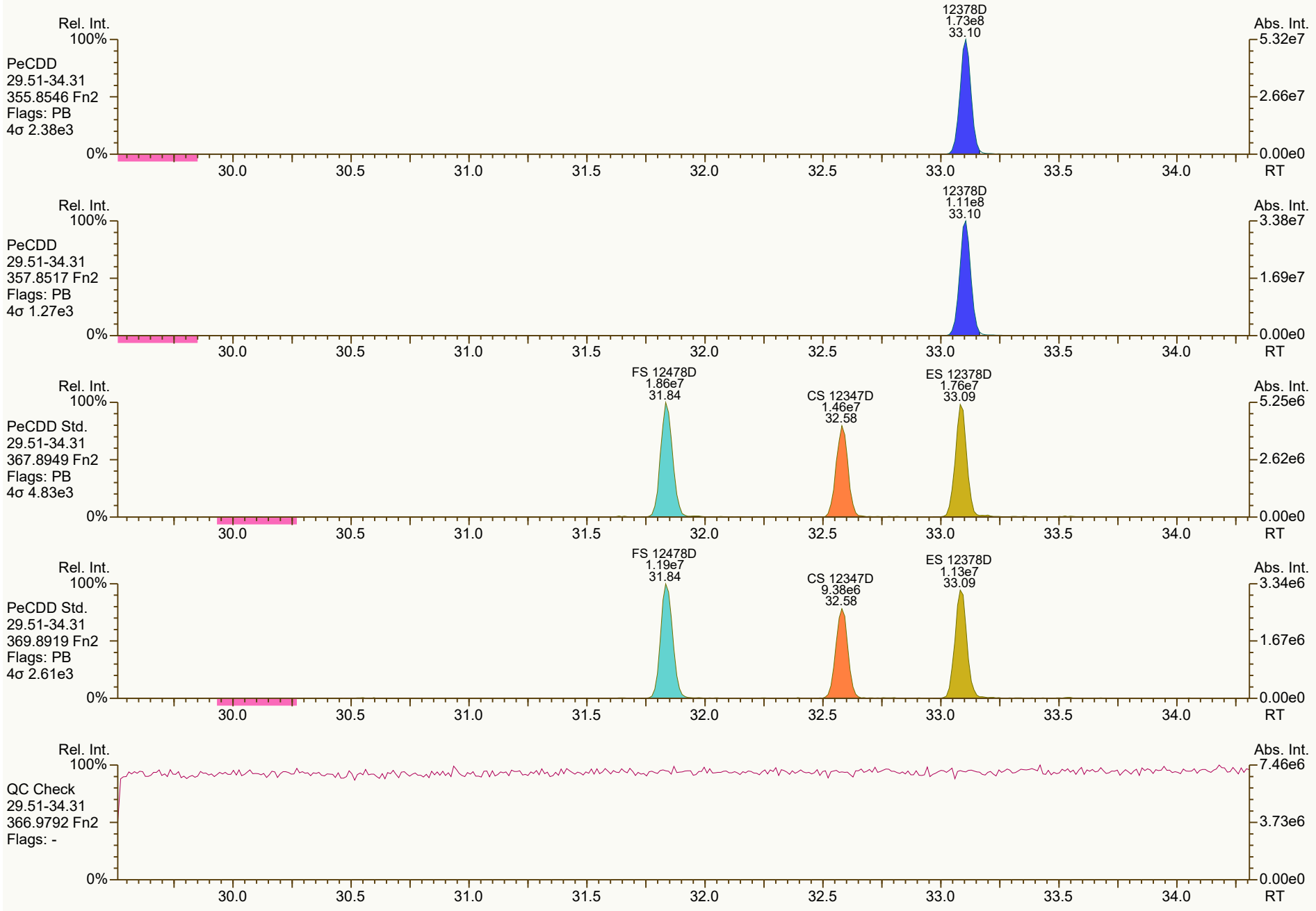
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

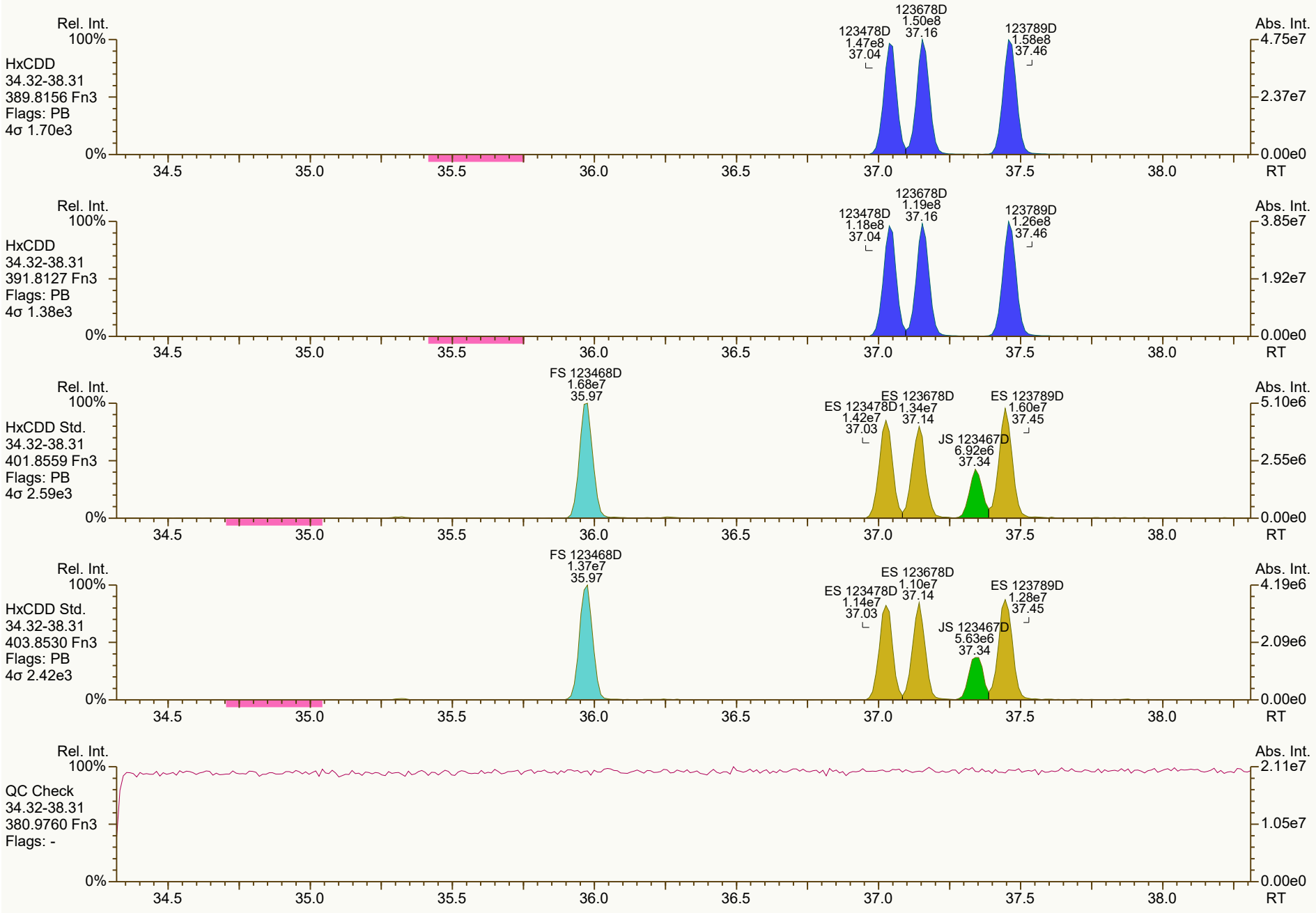
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

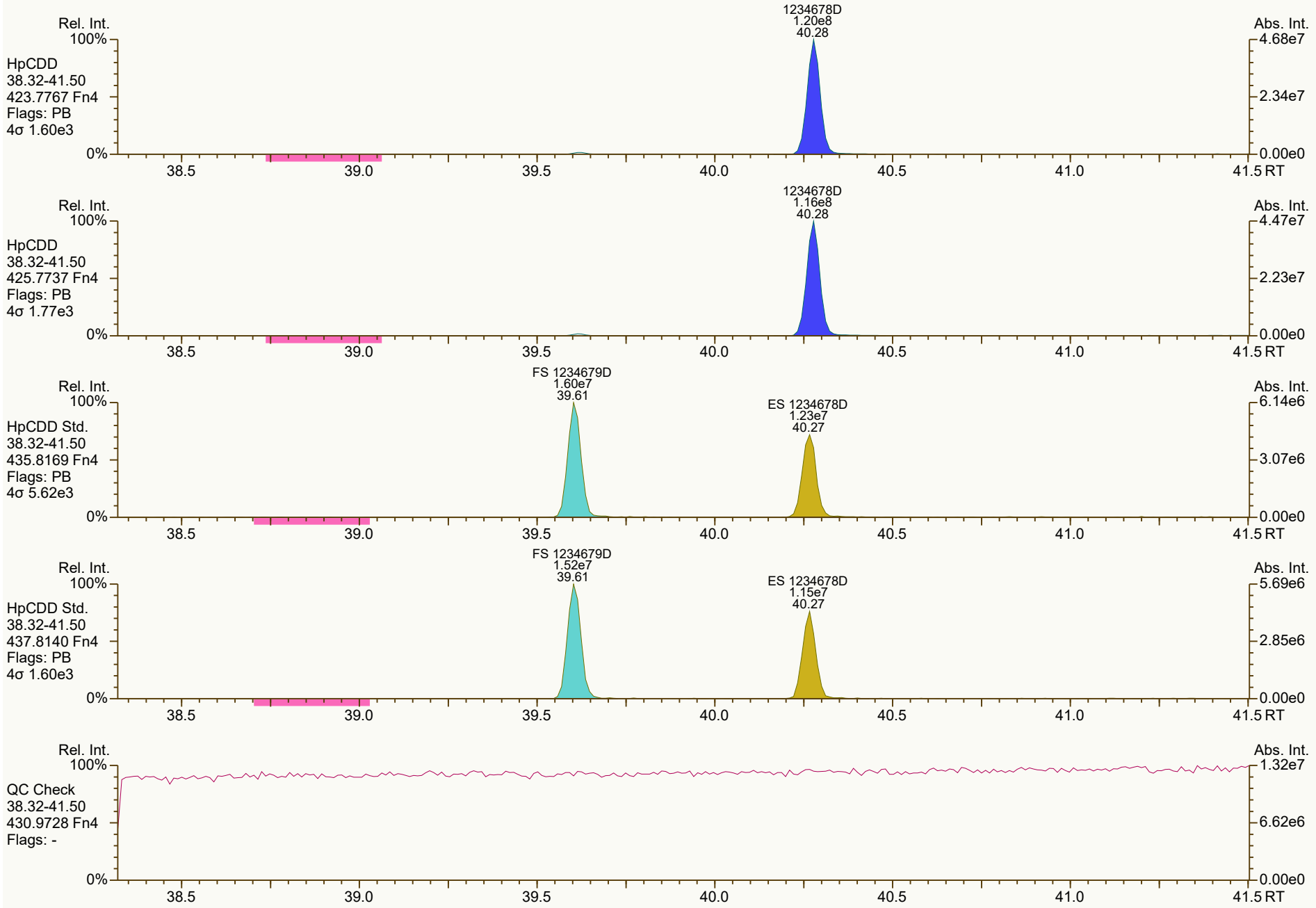
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

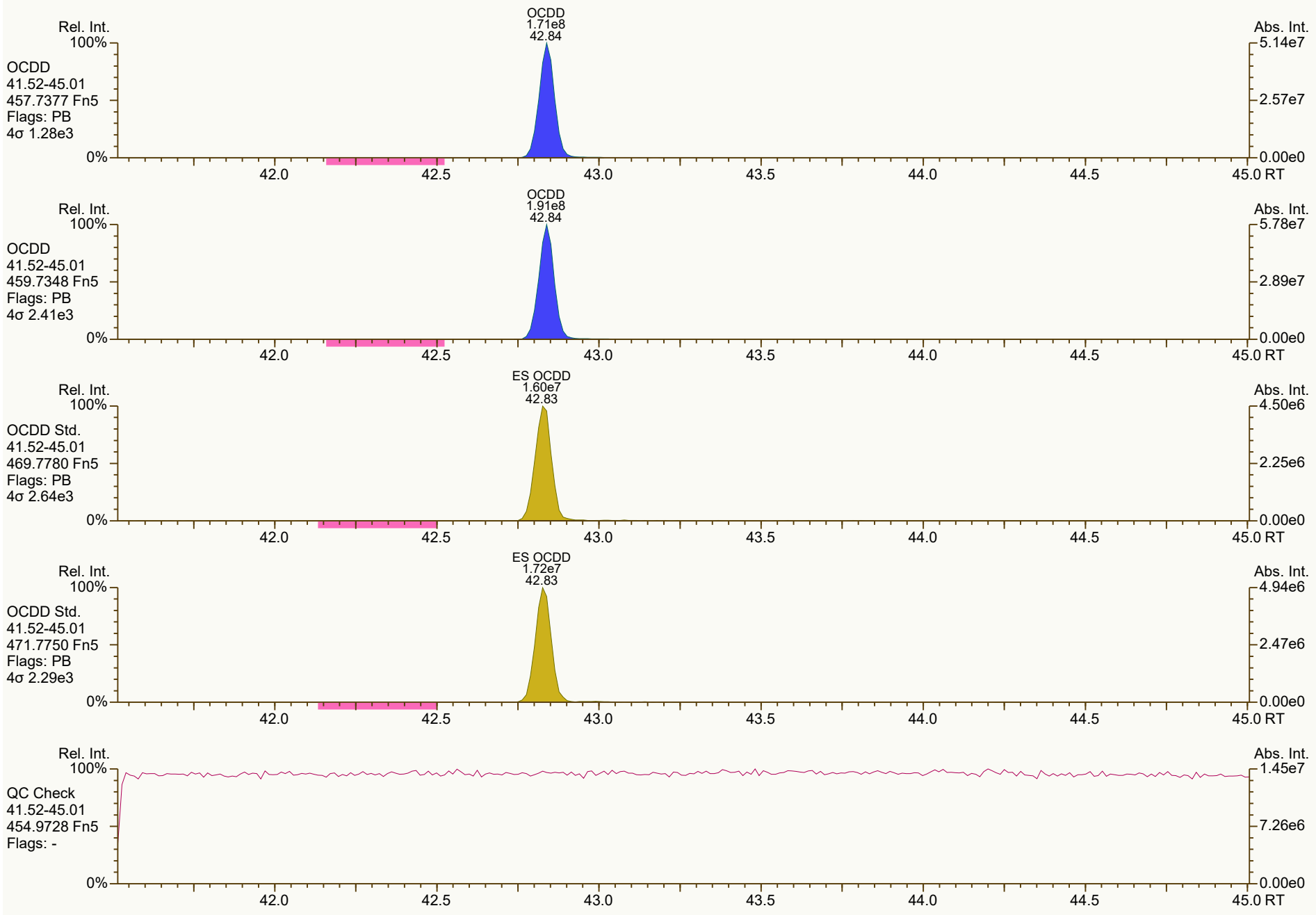

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

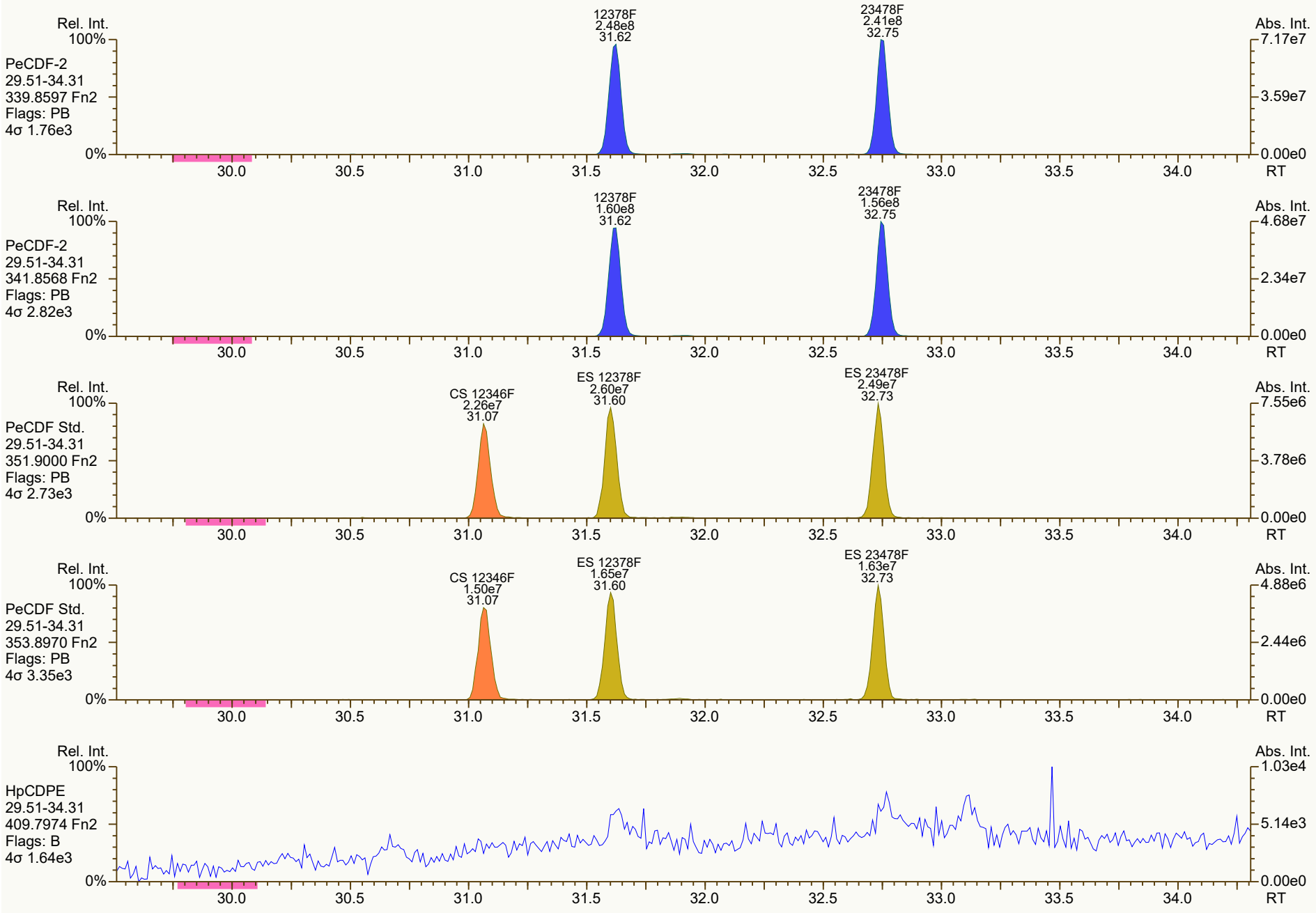

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

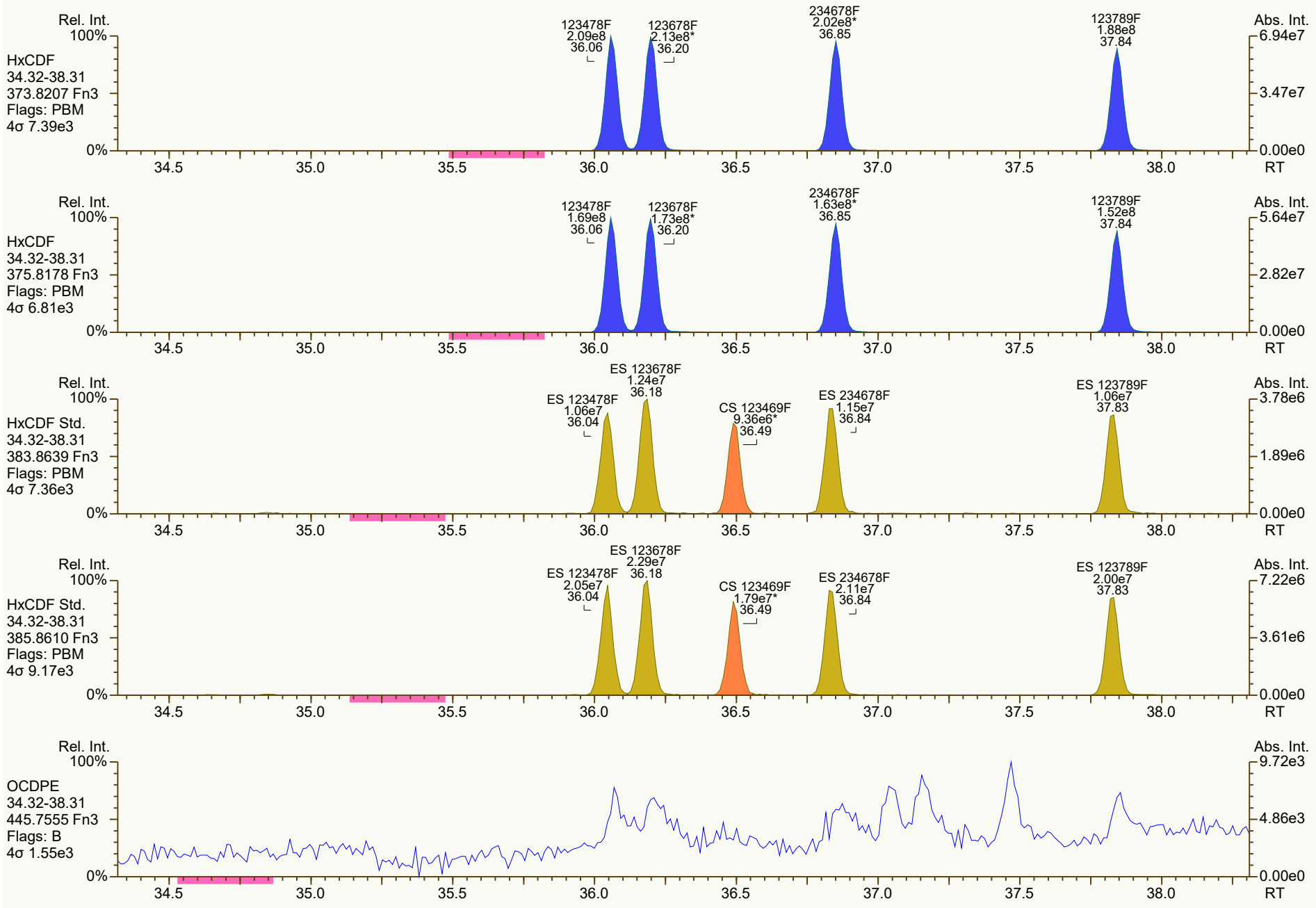

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
0%
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
0%
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
0%
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
0%
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

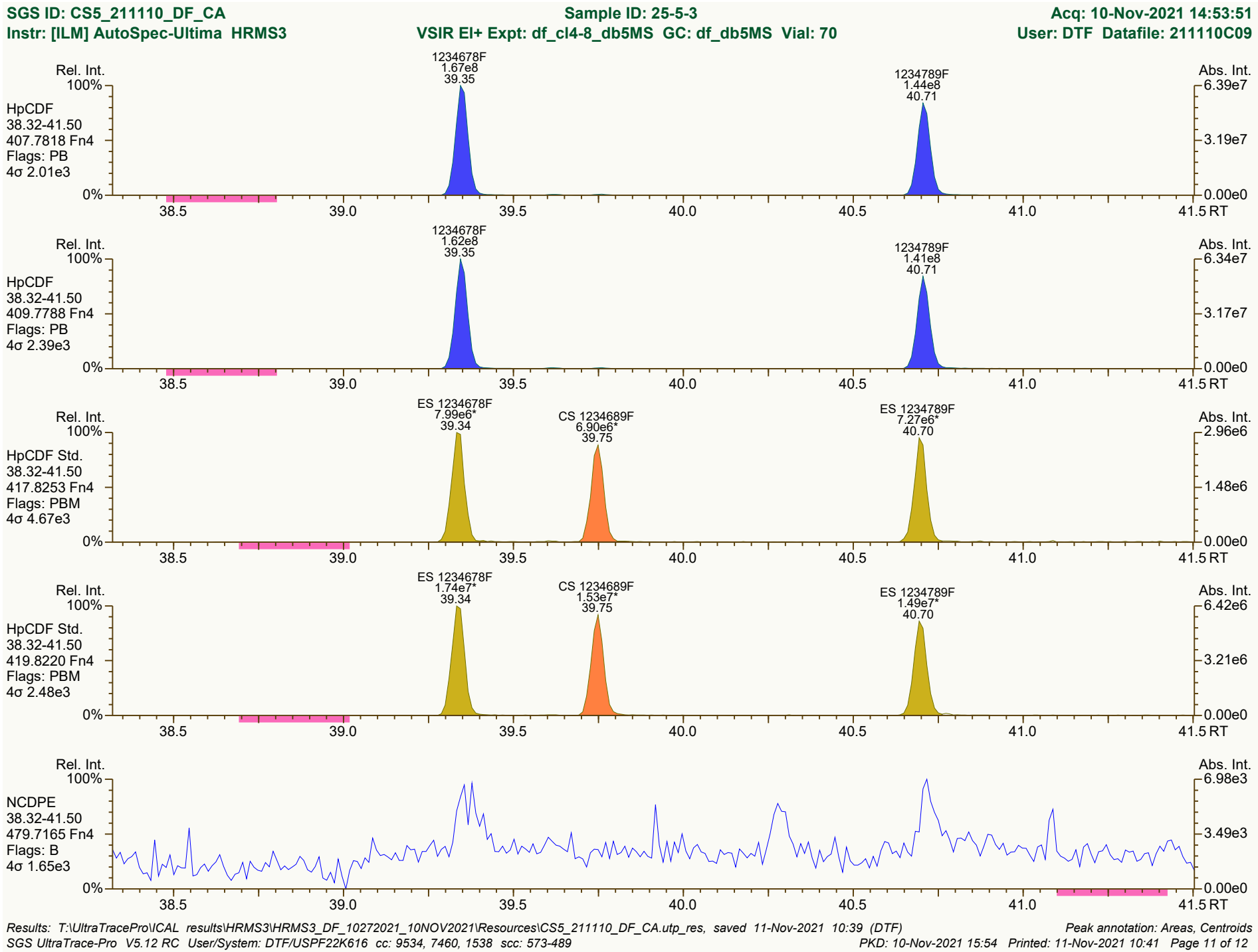

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.60e7
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.72e7
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

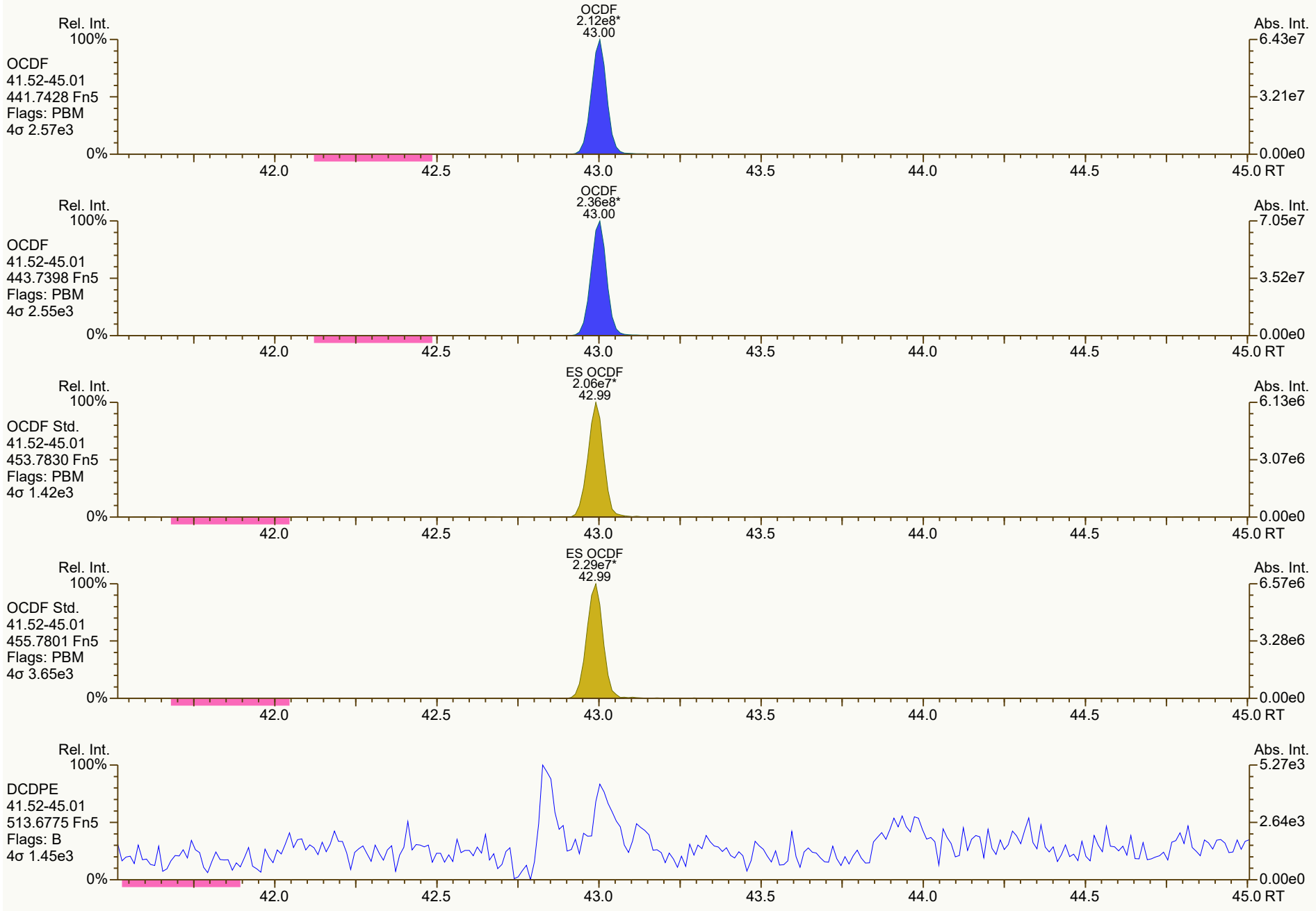

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

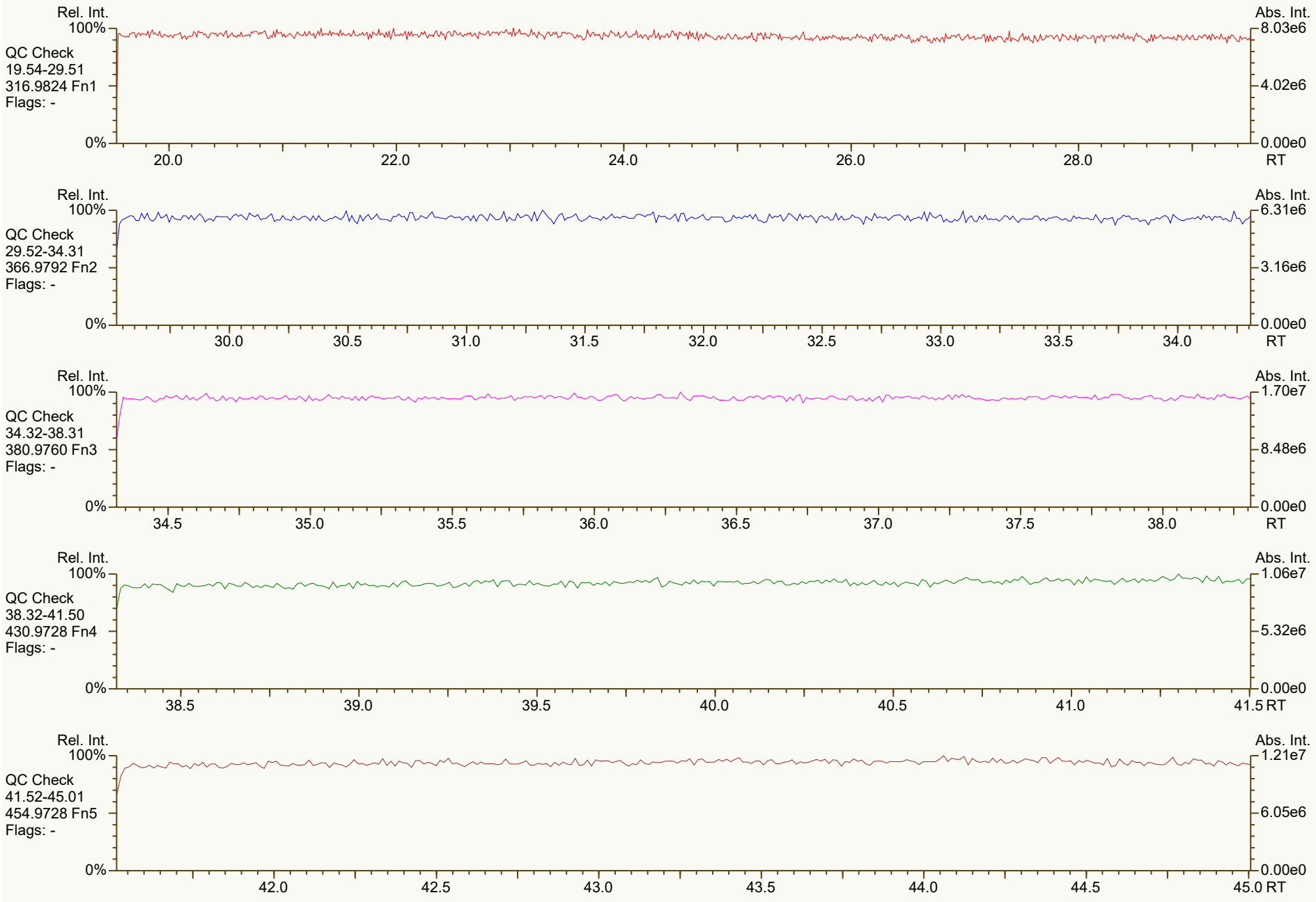

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

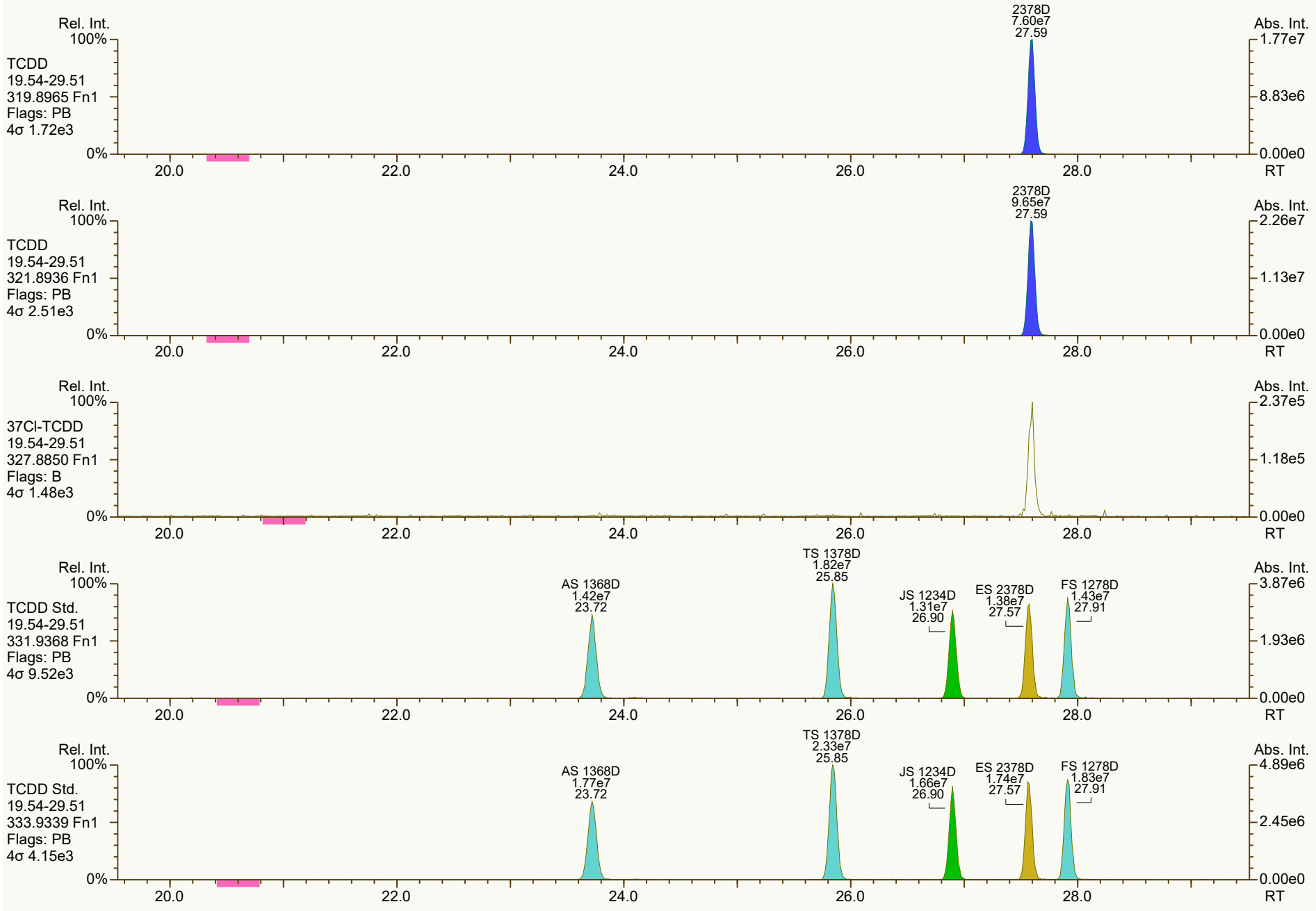

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

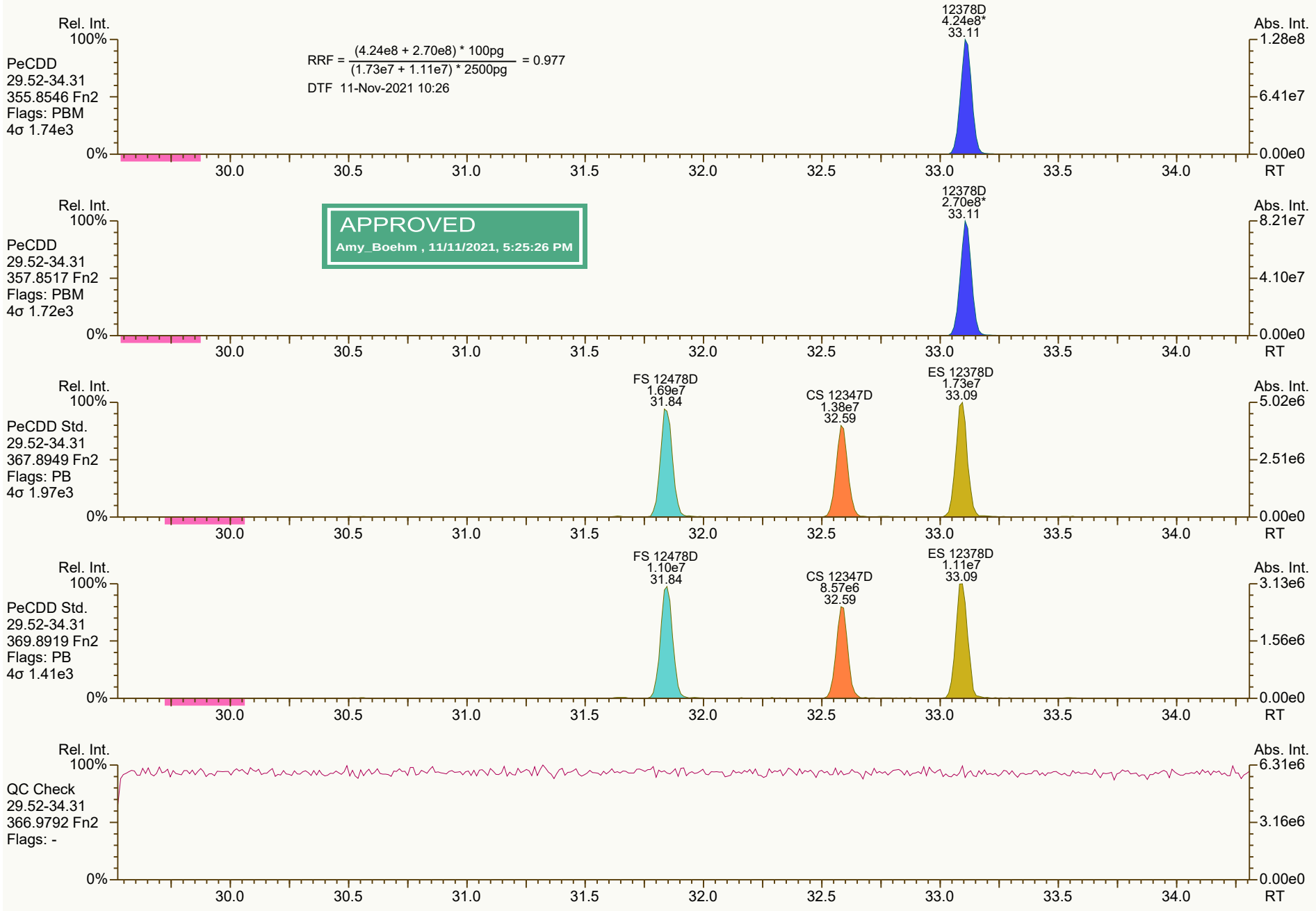
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

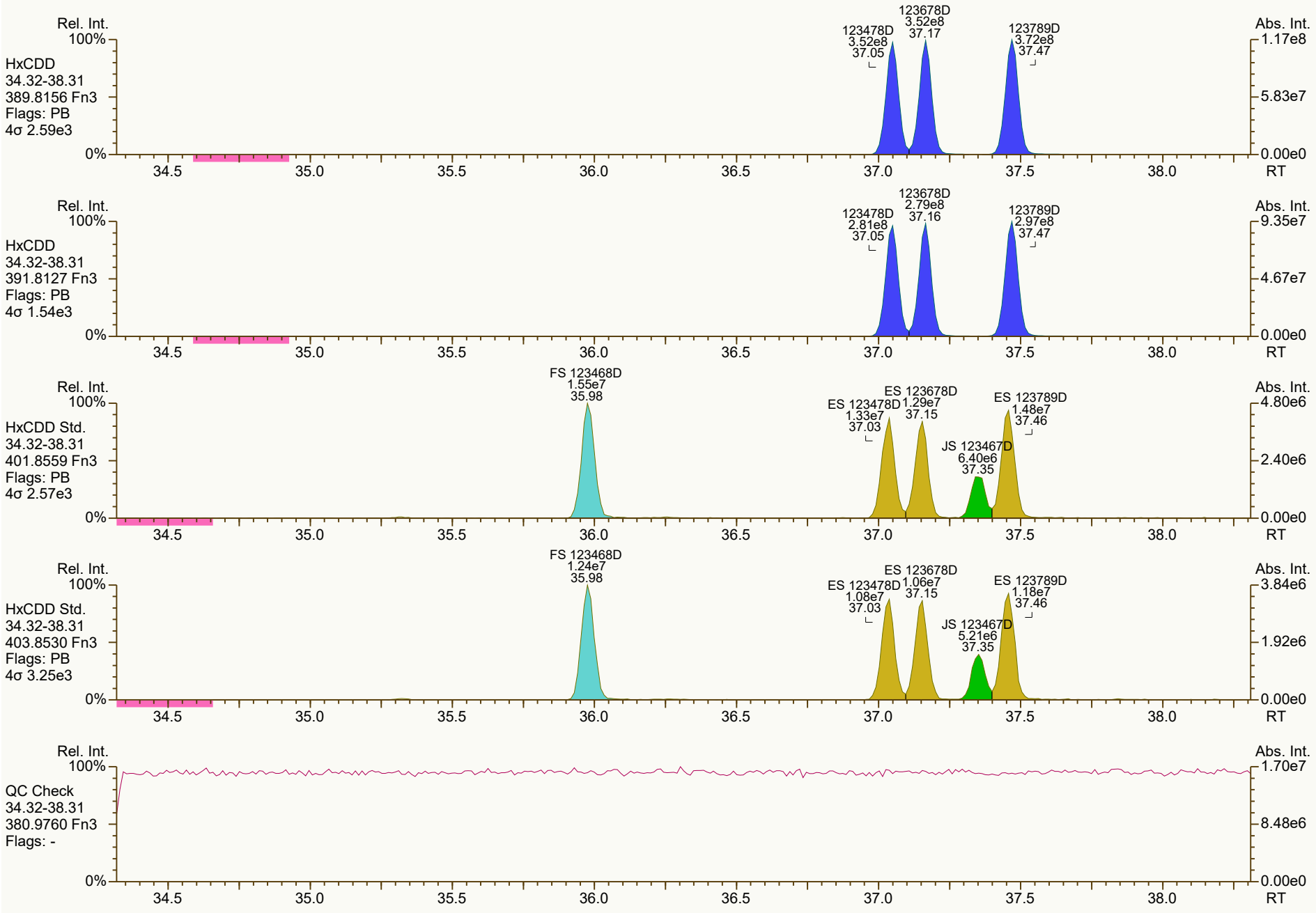
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

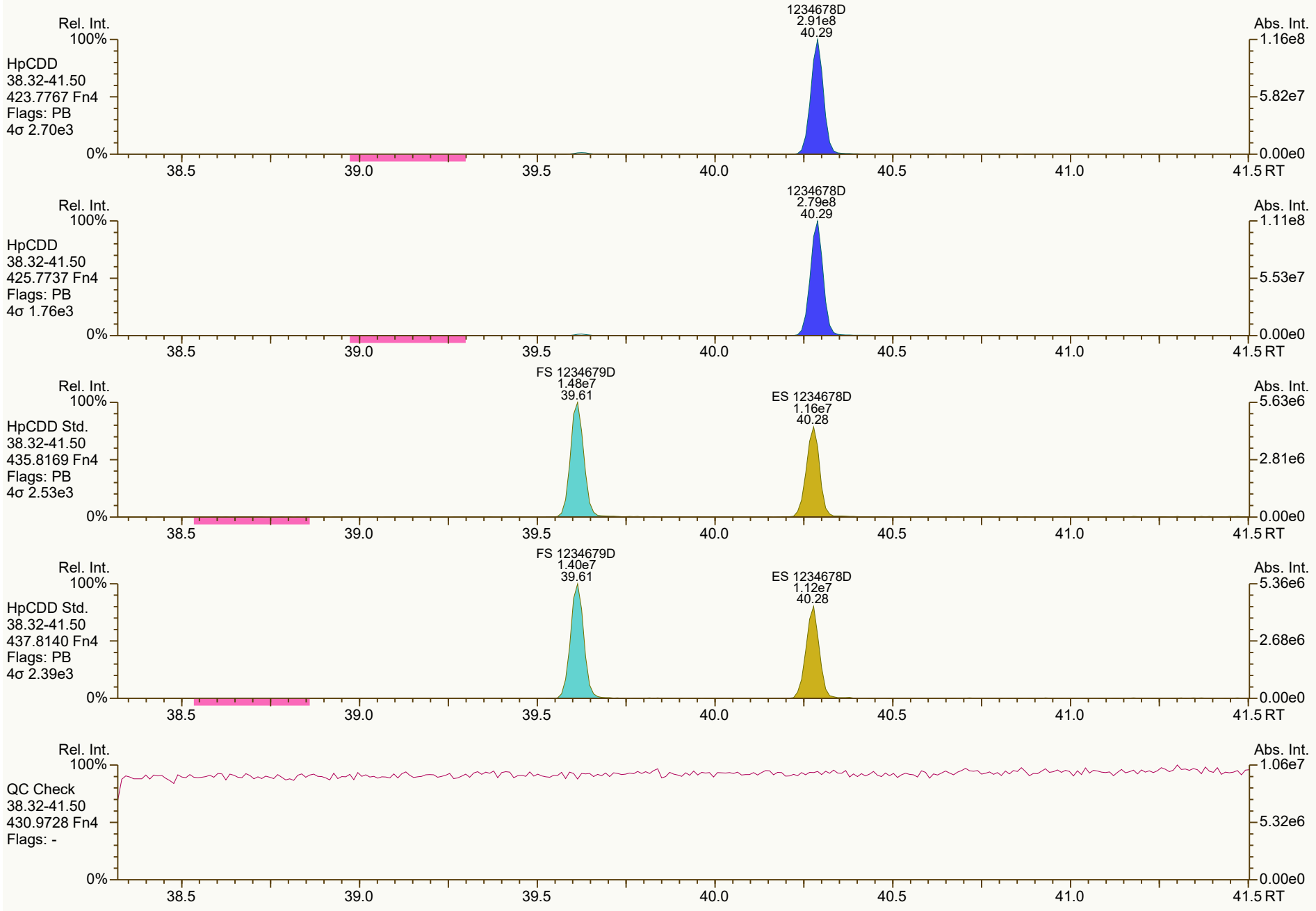
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

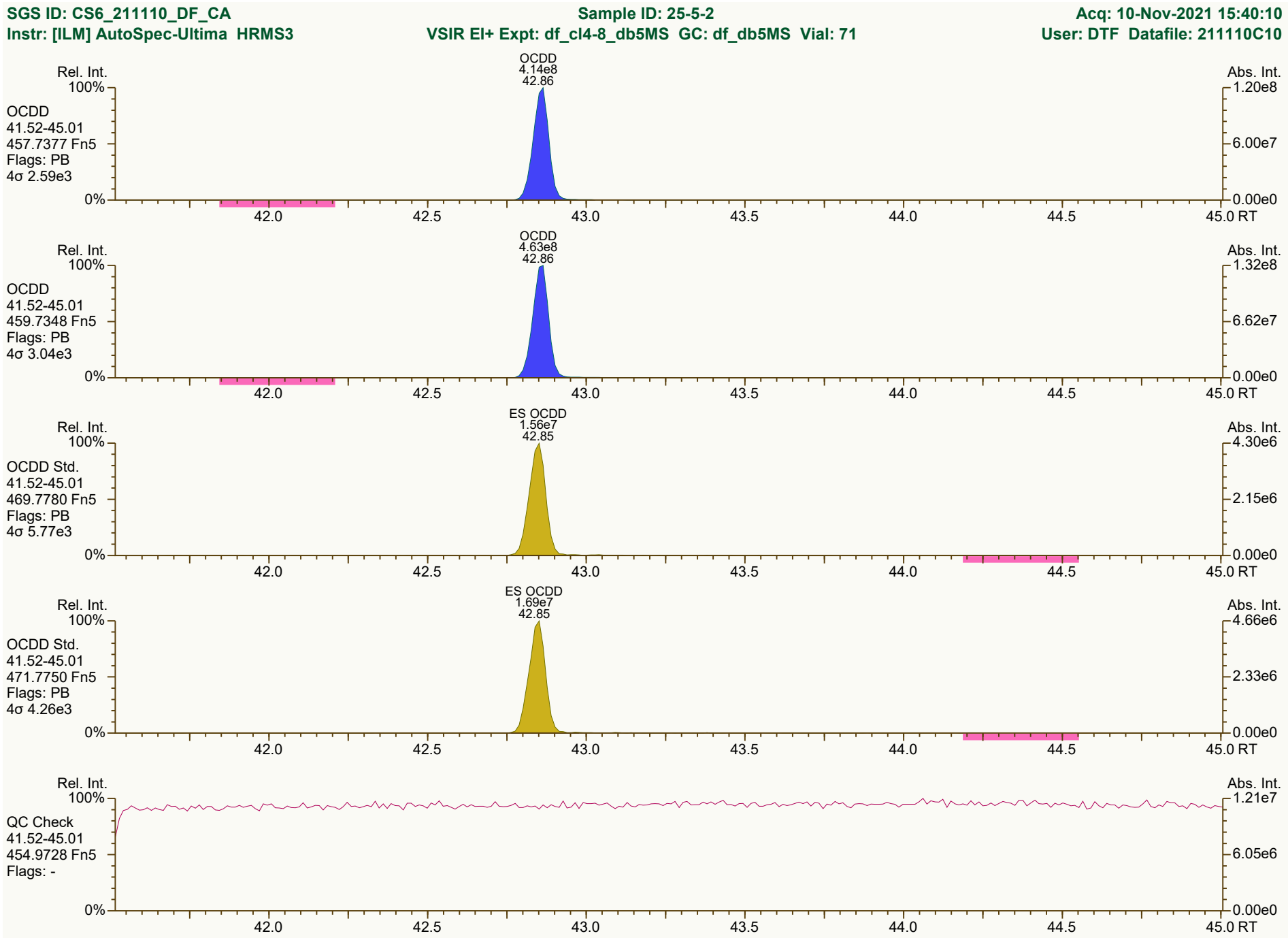

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.03e6
4.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
6.31e6
3.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.70e7
8.48e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.06e7
5.32e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.21e7
6.05e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0

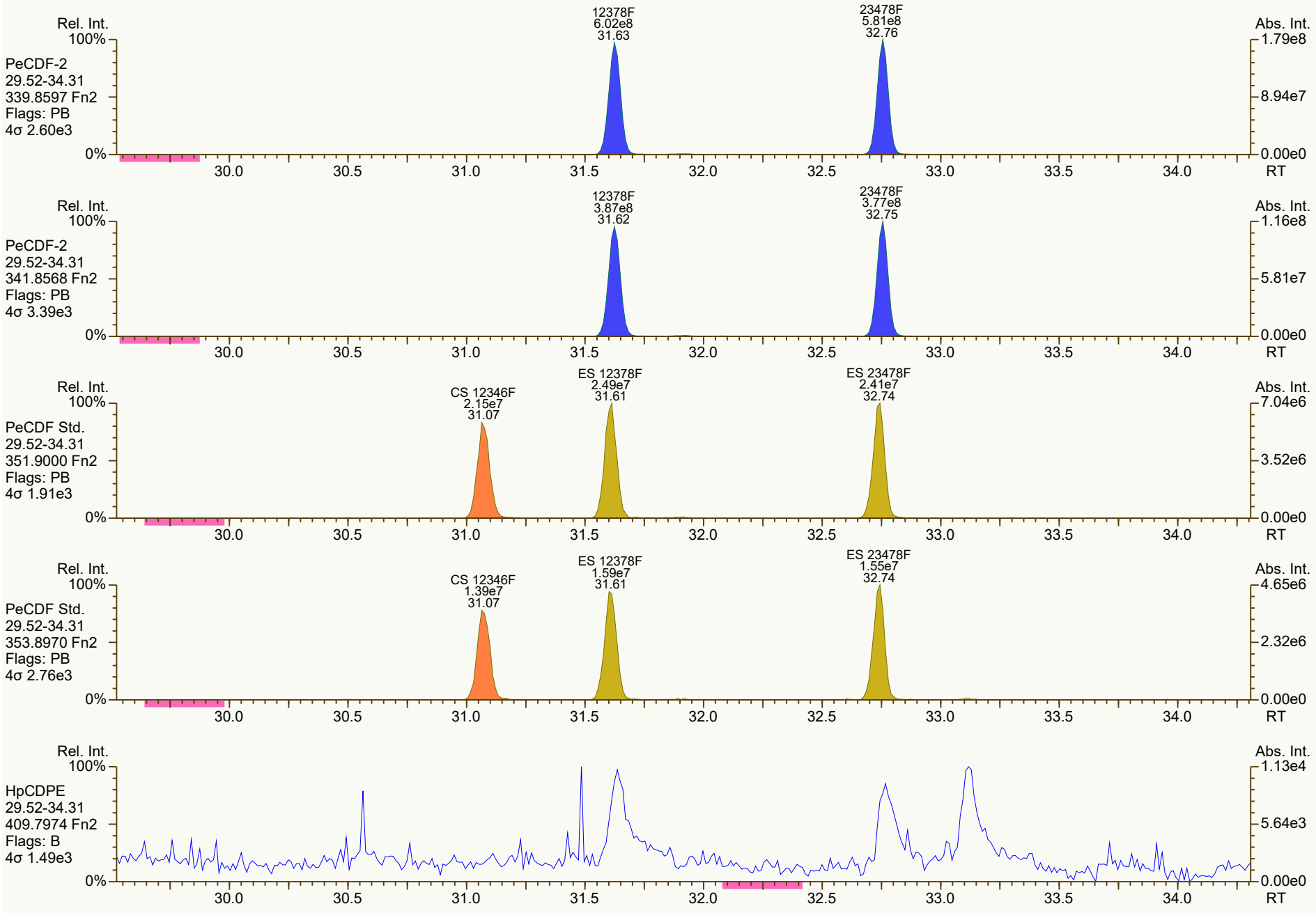

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

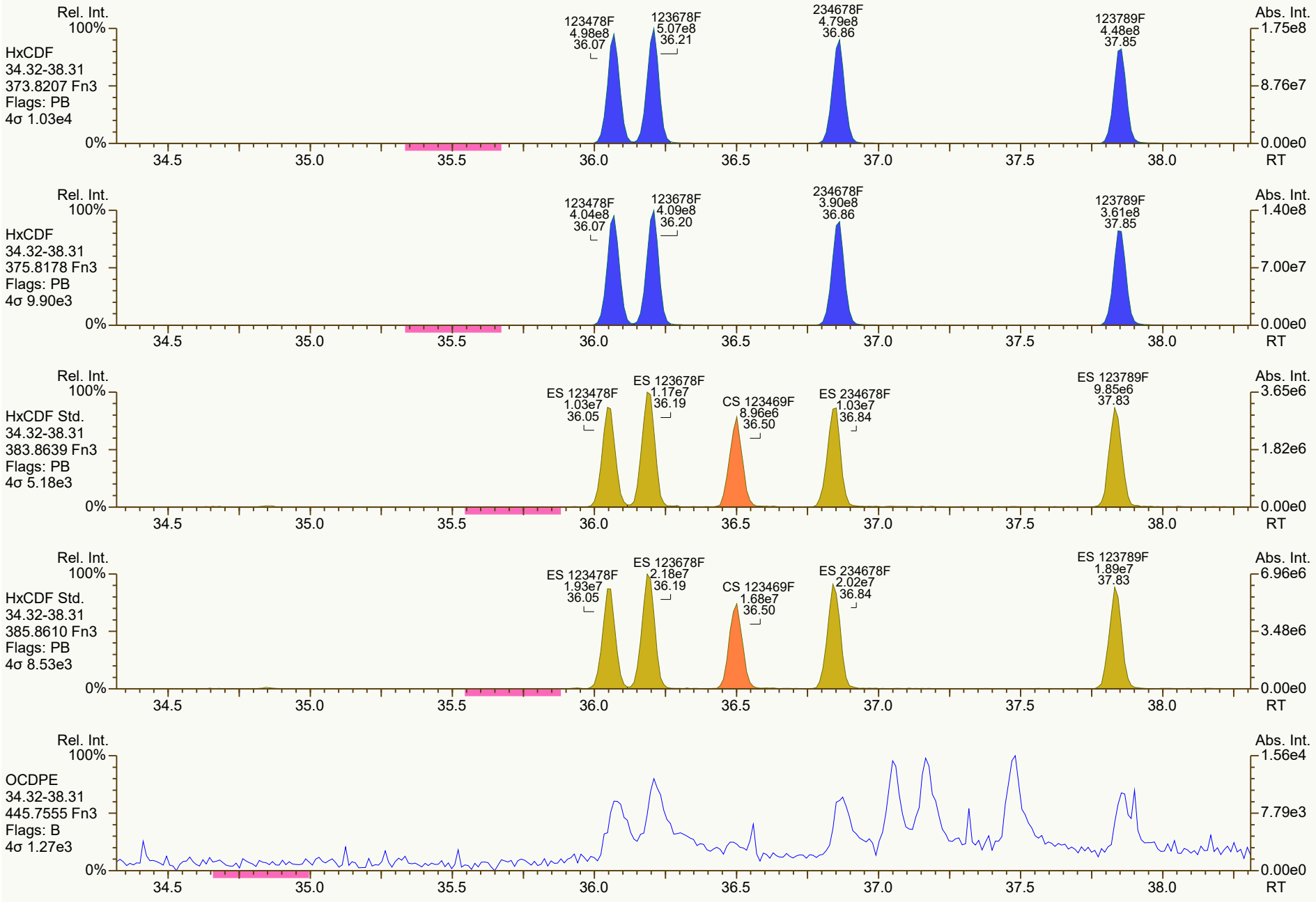

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

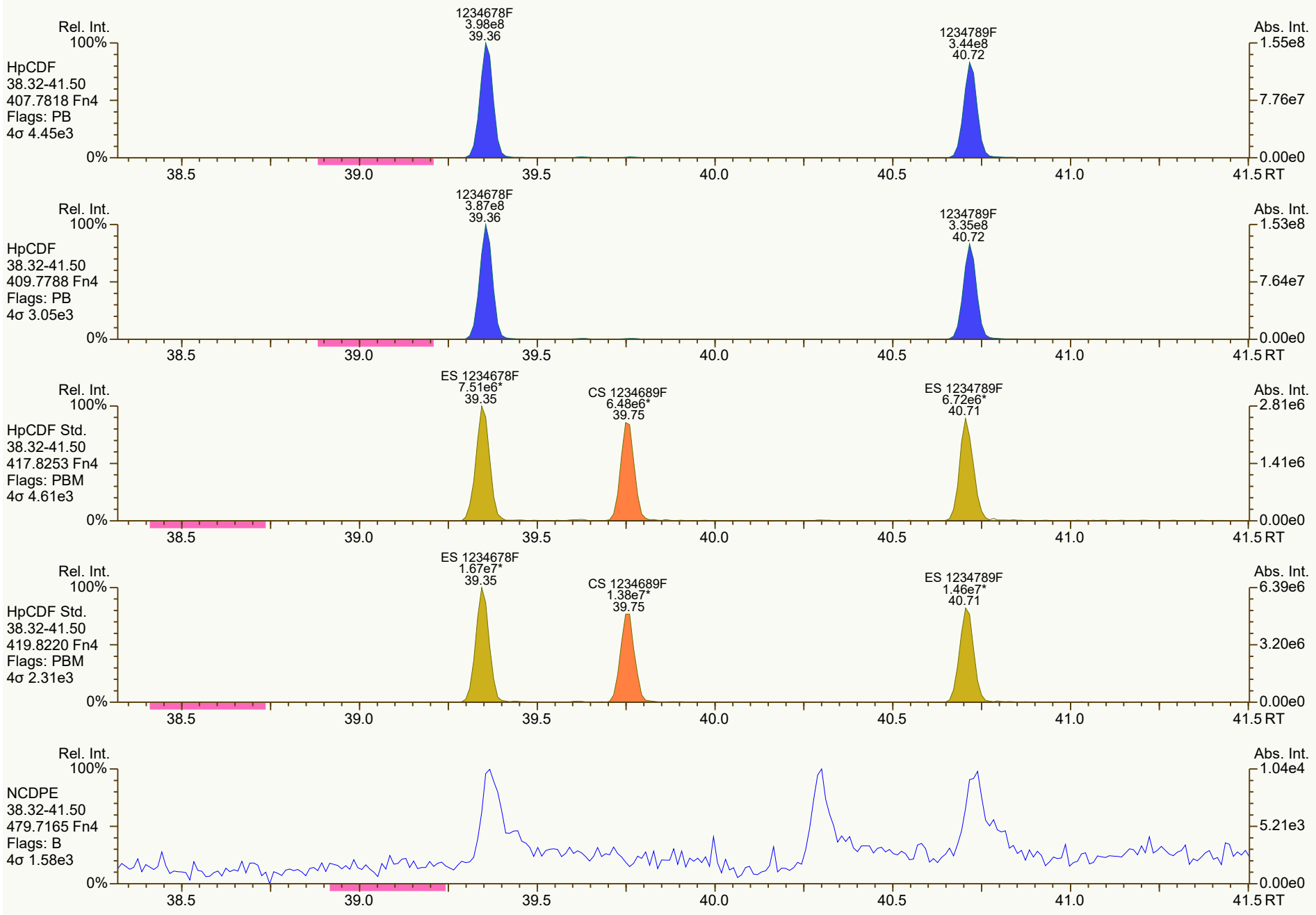

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
OCDD
4.14e8
42.86
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
1.20e8
6.00e7
0.00e0
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
1.32e8
6.62e7
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
4.30e6
2.15e6
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
4.66e6
2.33e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.21e7
6.05e6
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

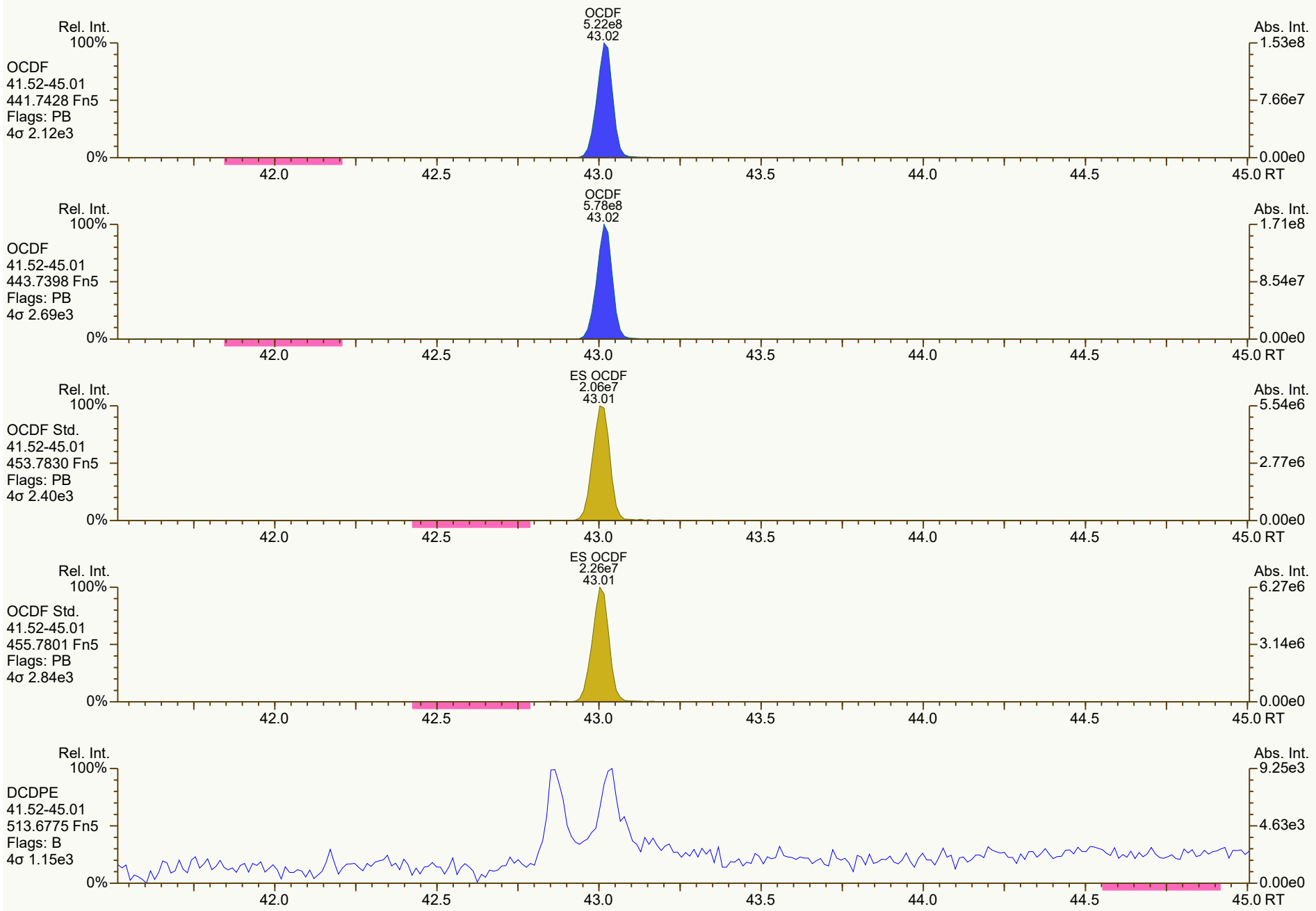

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

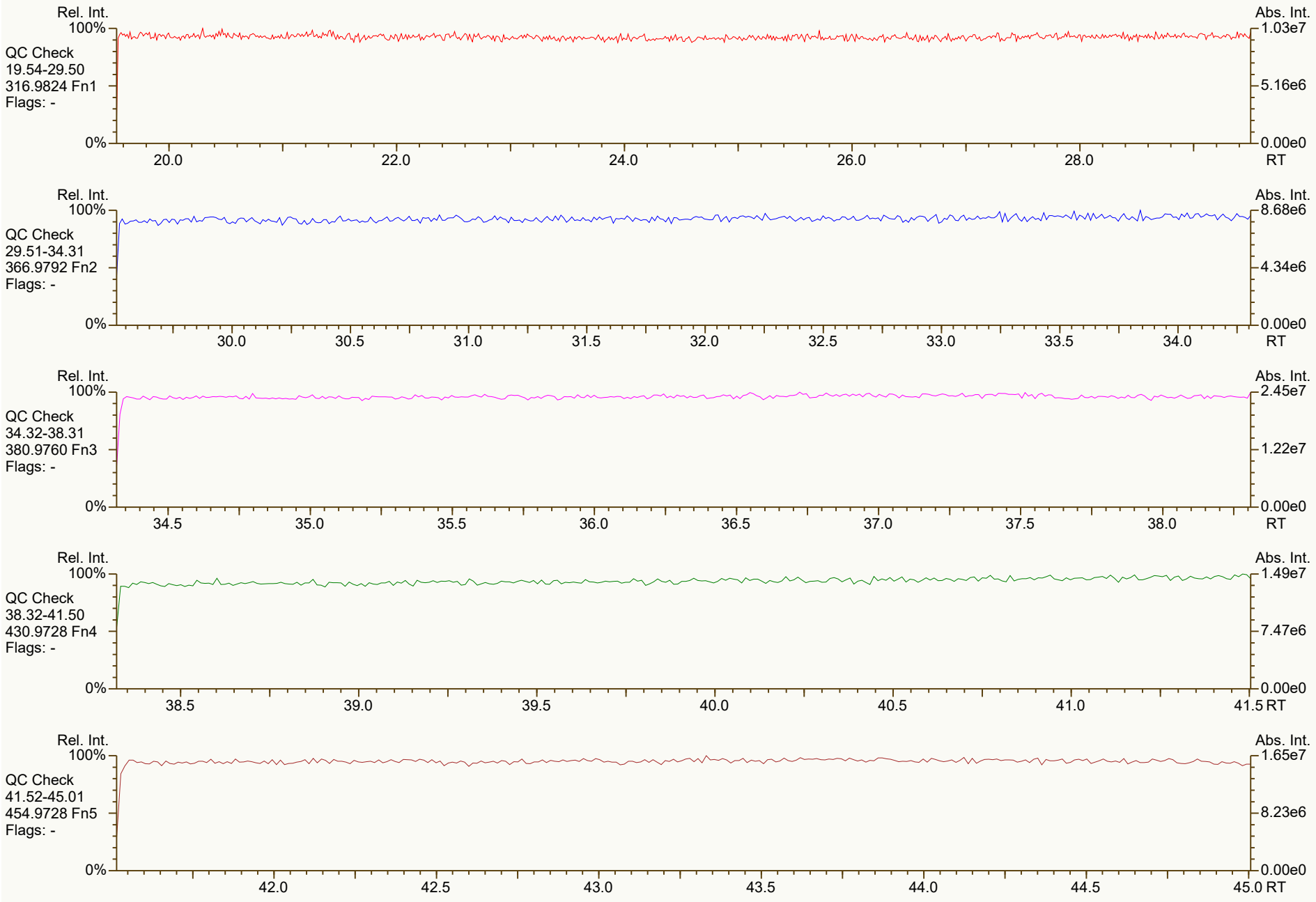

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

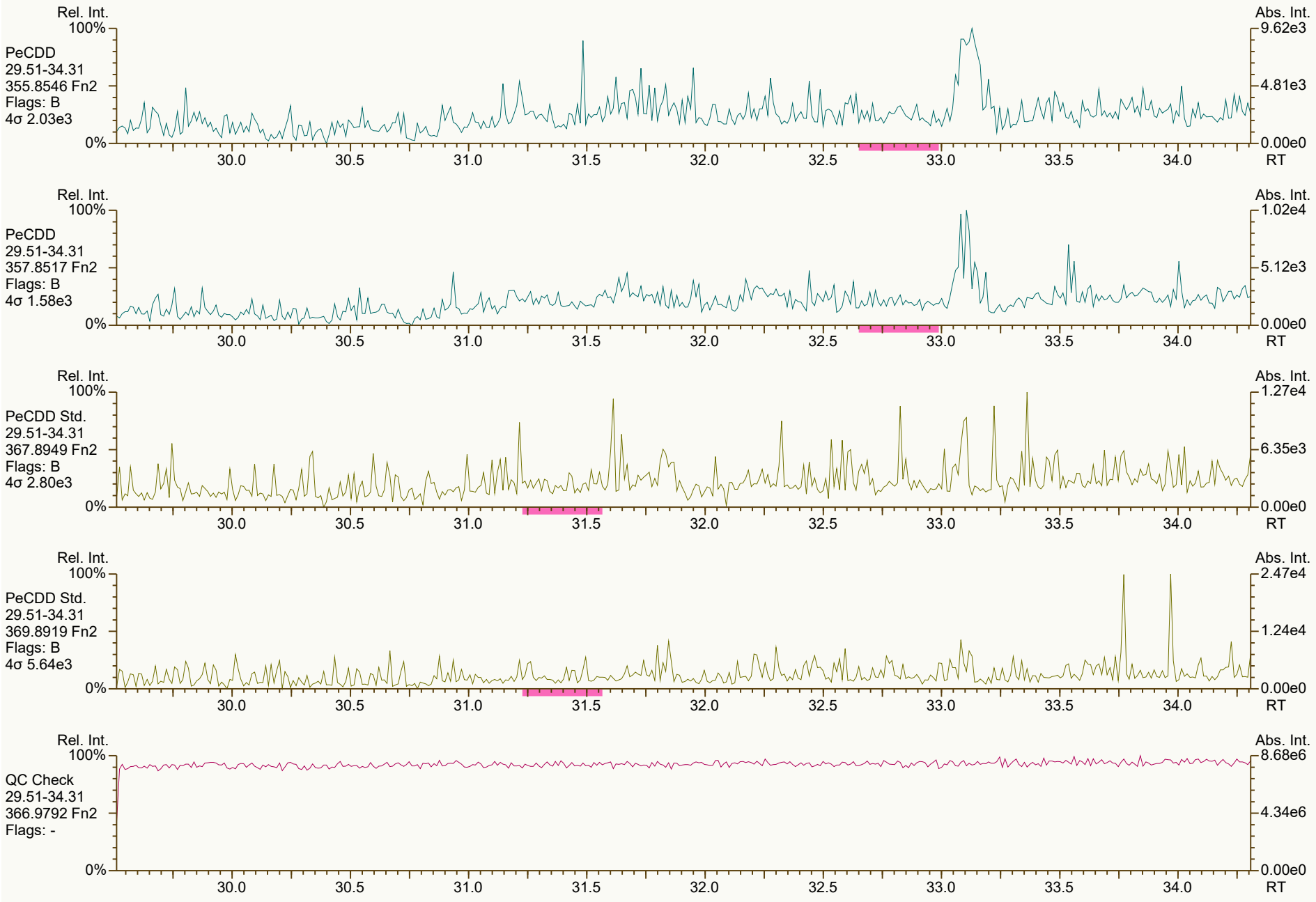
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

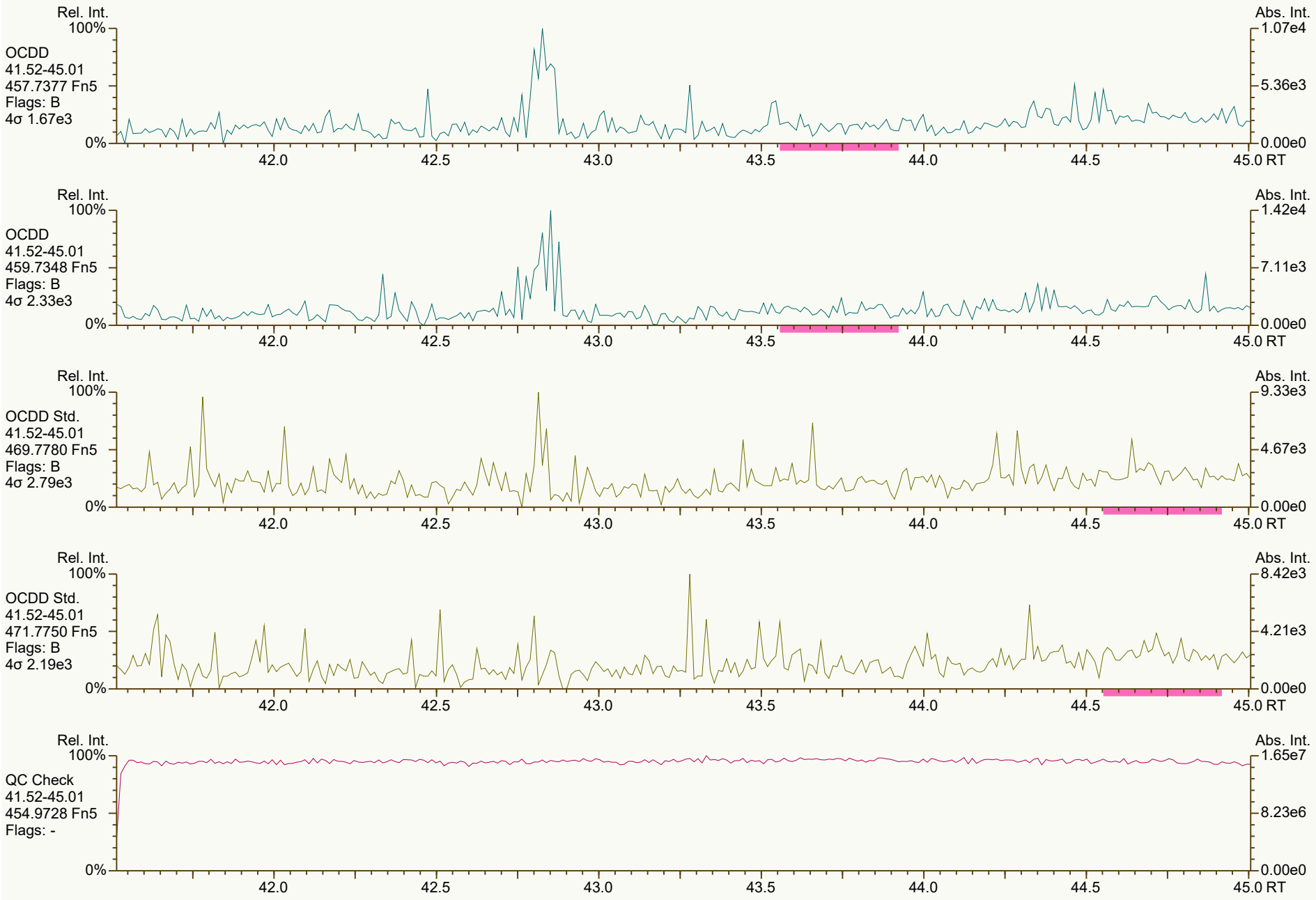
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

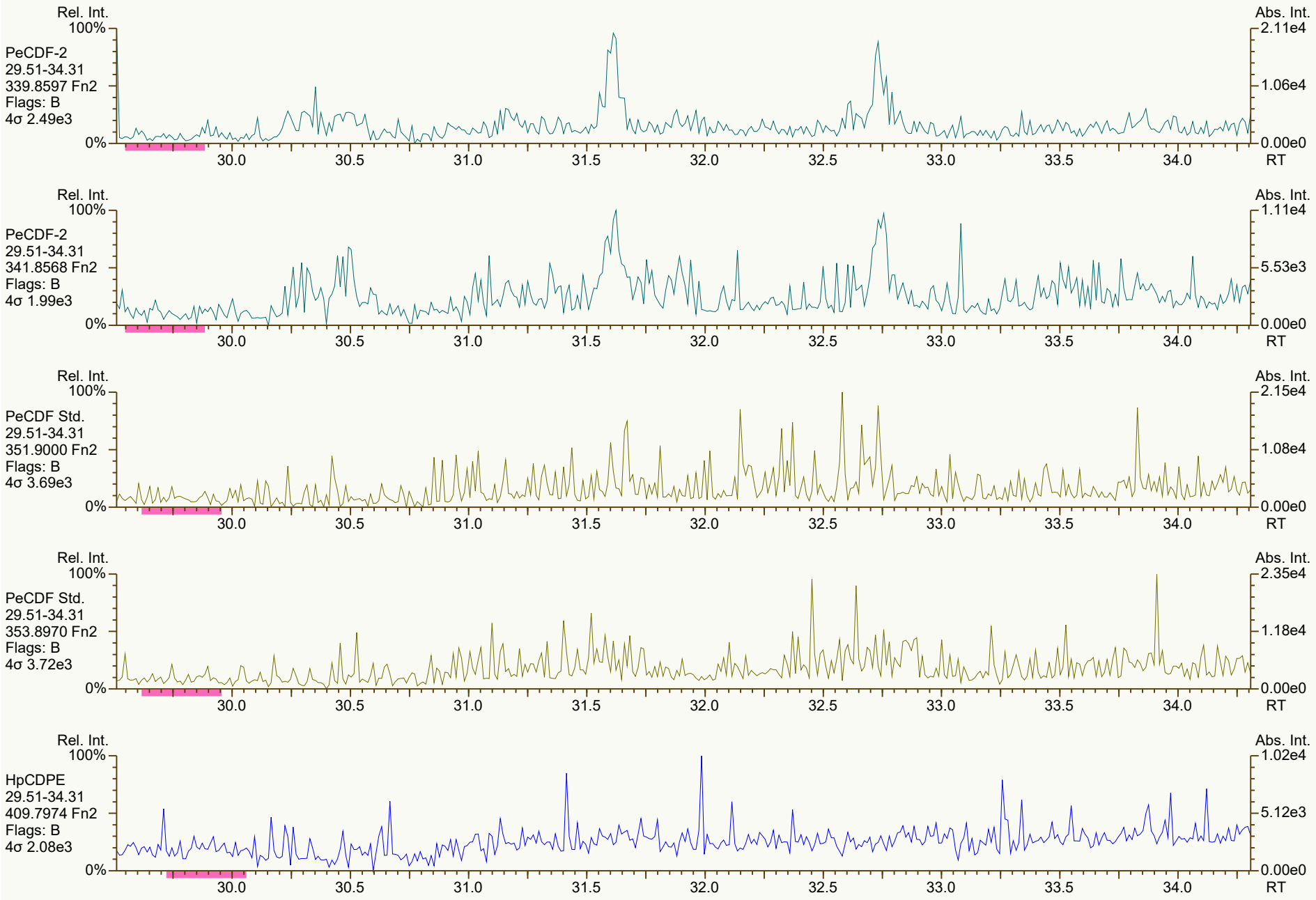

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

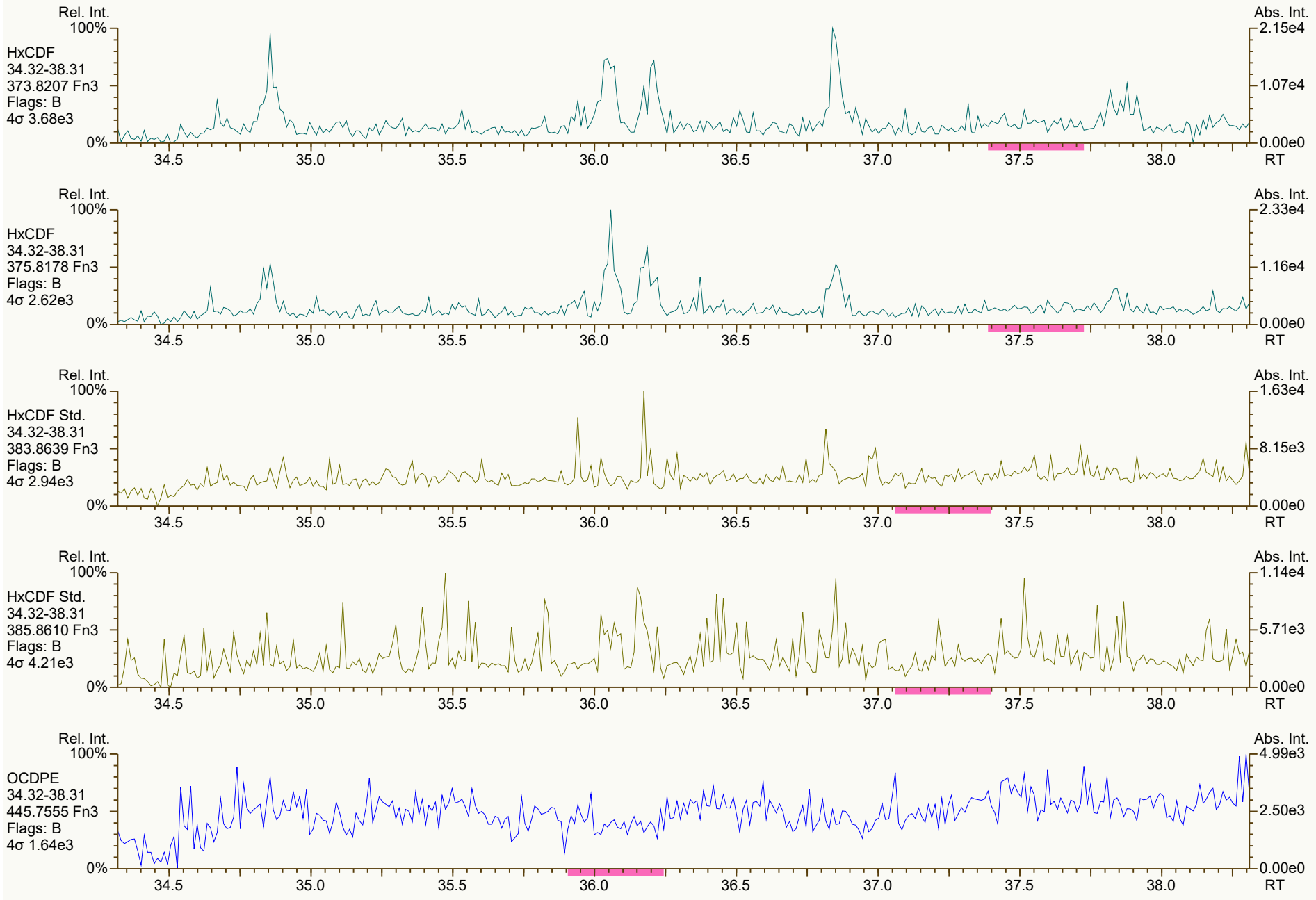

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

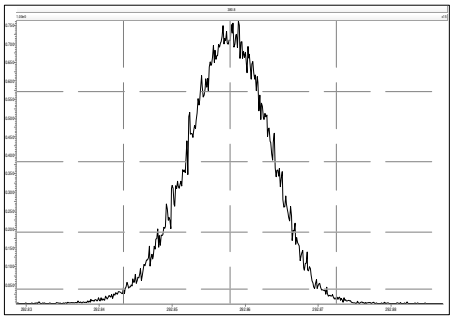

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

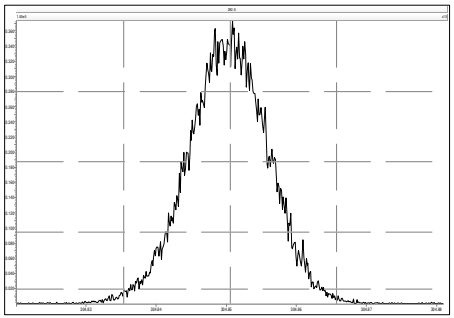
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Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

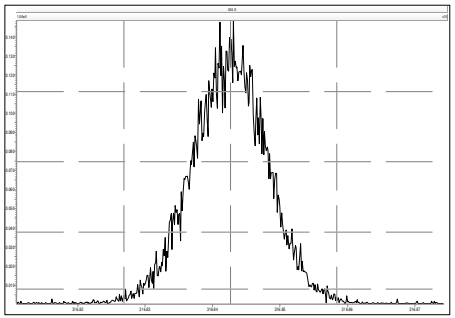
M 292.9824 R 10731



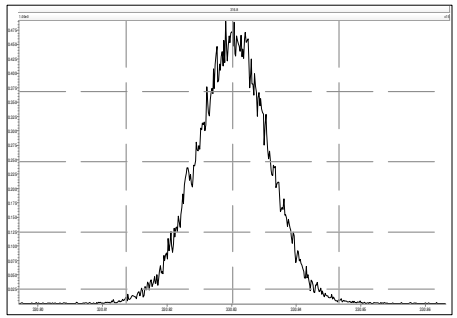
M 304.9824 R 11311



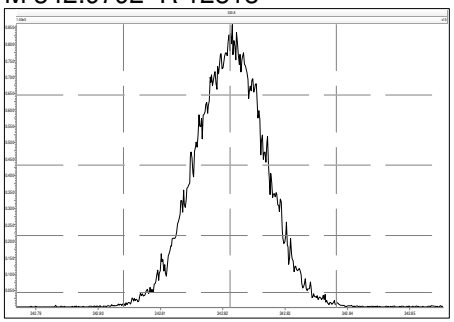
M 316.9824 R 12373



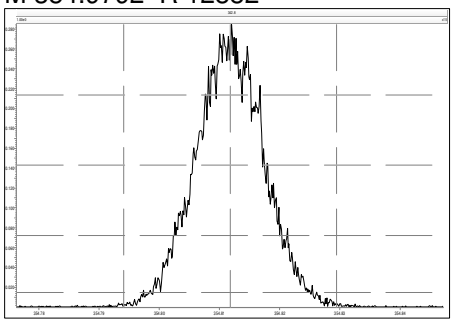
M 330.9792 R 12887



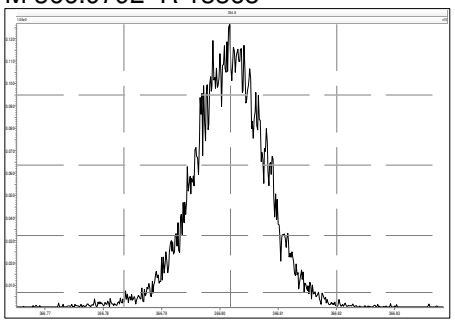
M 342.9792 R 12818



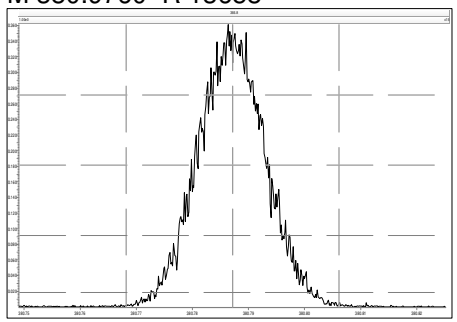
M 354.9792 R 12882



M 366.9792 R 13368



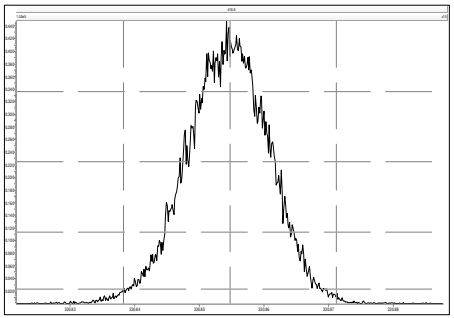
M 380.9760 R 13658



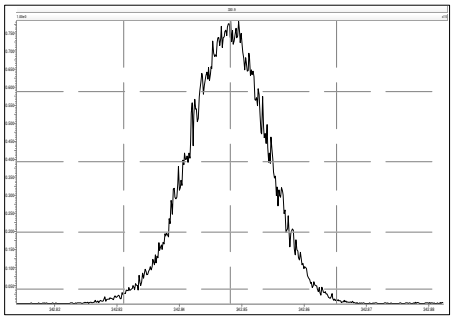
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

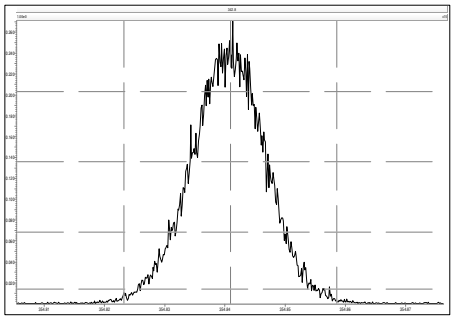
M 330.9792 R 11112



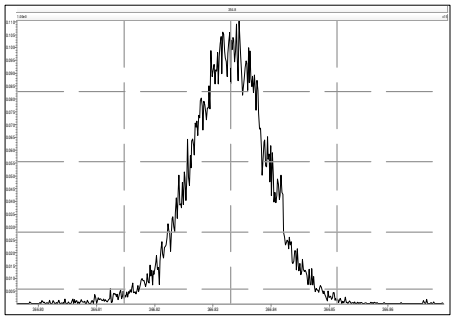
M 342.9792 R 11909



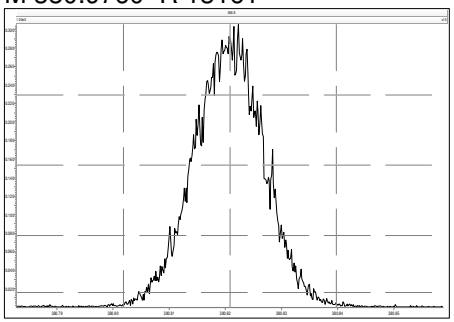
M 354.9792 R 11684



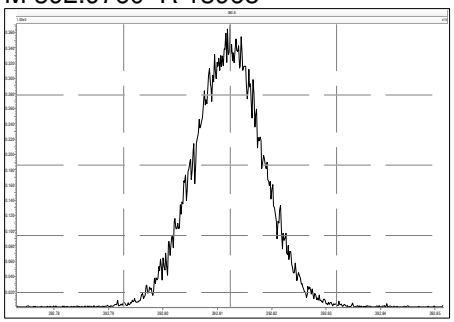
M 366.9792 R 11962



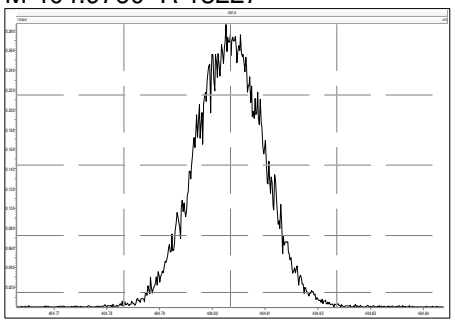
M 380.9760 R 13161



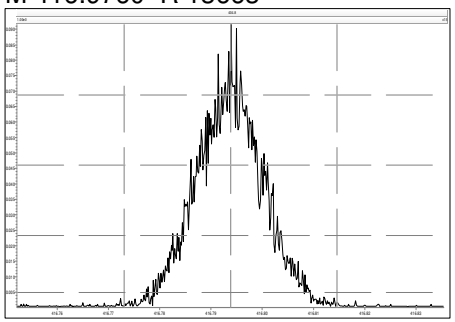
M 392.9760 R 13968



M 404.9760 R 13227



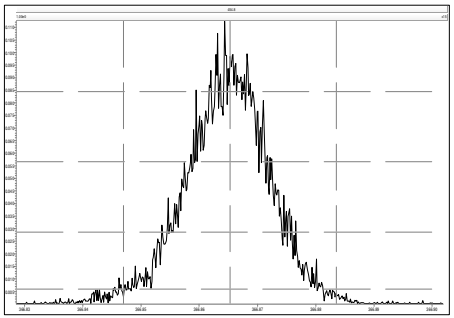
M 416.9760 R 13663



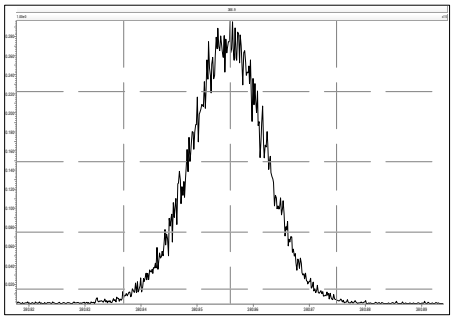
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

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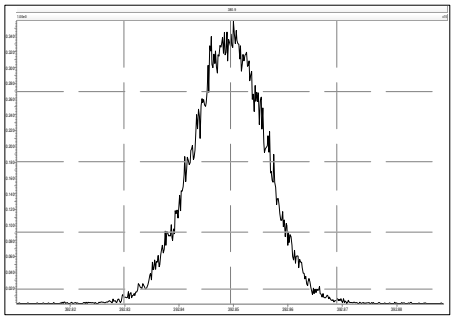
M 366.9792 R 10680



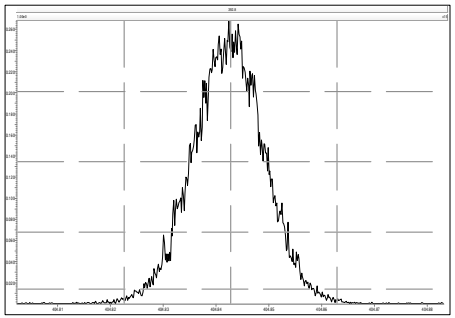
M 380.9760 R 12315



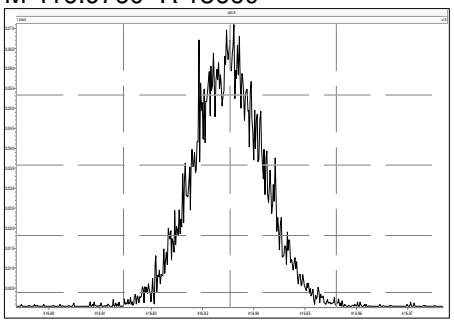
M 392.9760 R 12197



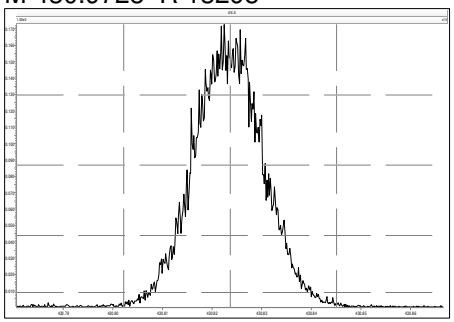
M 404.9760 R 12433



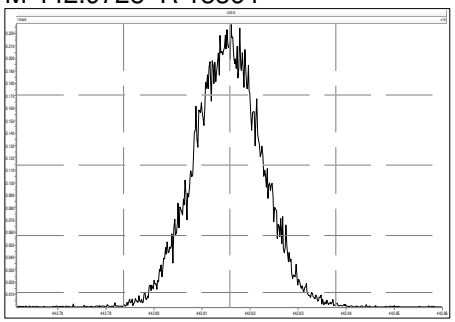
M 416.9760 R 13660



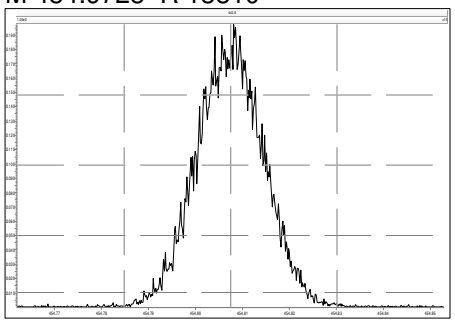
M 430.9728 R 13295



M 442.9728 R 13364



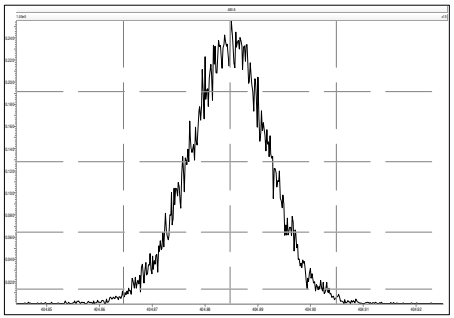
M 454.9728 R 13810



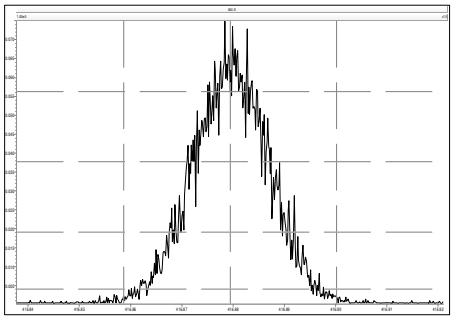
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

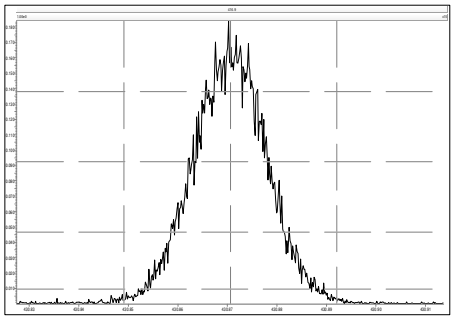
M 404.9760 R 11679



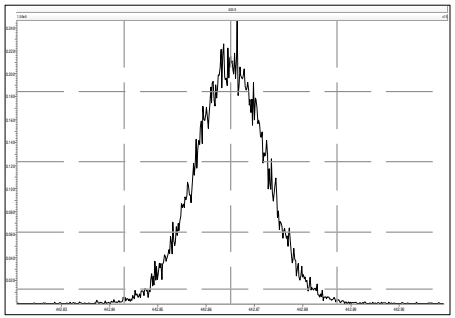
M 416.9760 R 12886



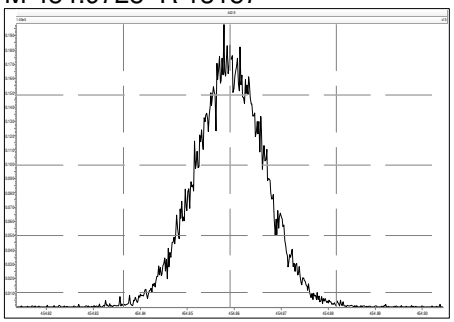
M 430.9728 R 12253



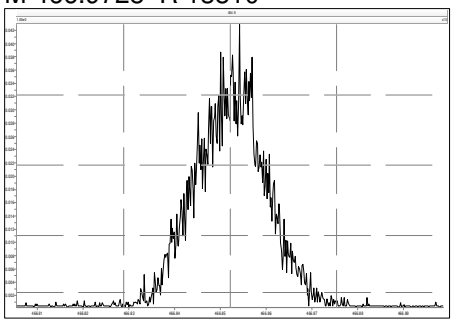
M 442.9728 R 12756



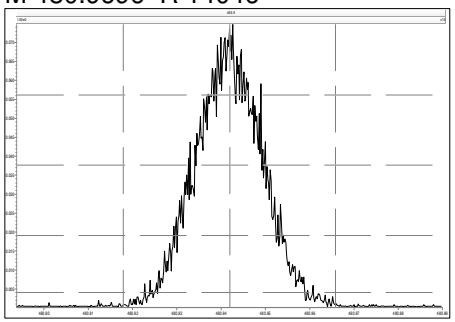
M 454.9728 R 13157



M 466.9728 R 13810



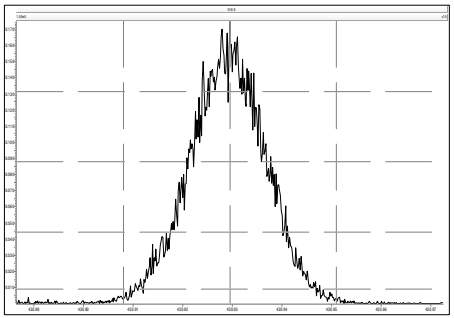
M 480.9696 R 14046



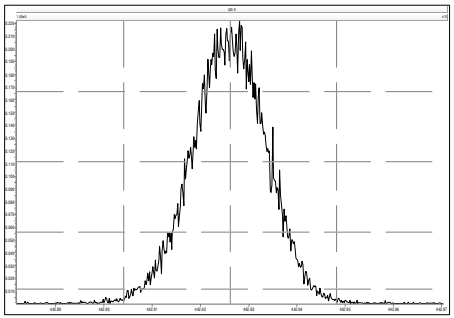
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

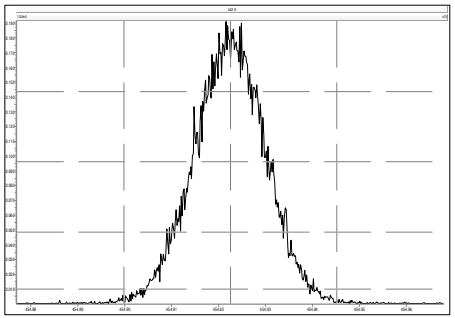
M 430.9728 R 11574



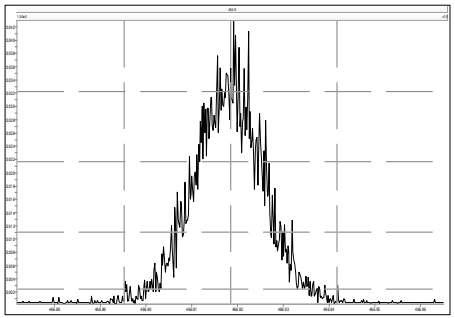
M 442.9728 R 12198



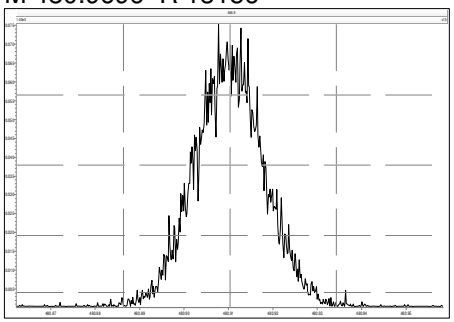
M 454.9728 R 12950



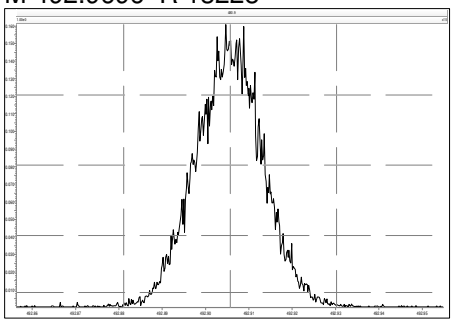
M 466.9728 R 13088



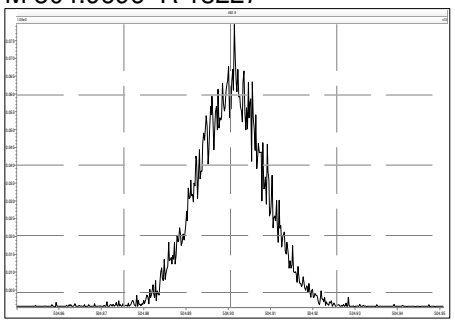
M 480.9696 R 13156



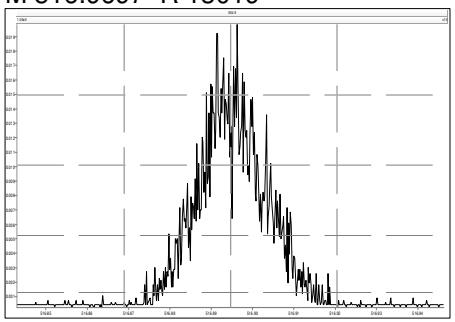
M 492.9696 R 13228



M 504.9696 R 13227



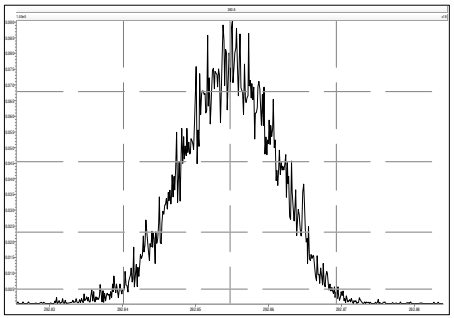
M 516.9697 R 13019



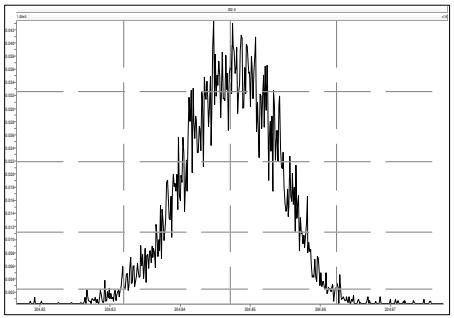
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

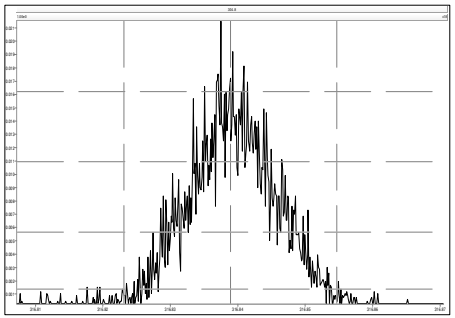
M 292.9824 R 10122



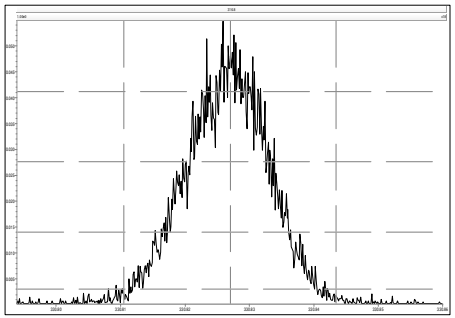
M 304.9824 R 10329



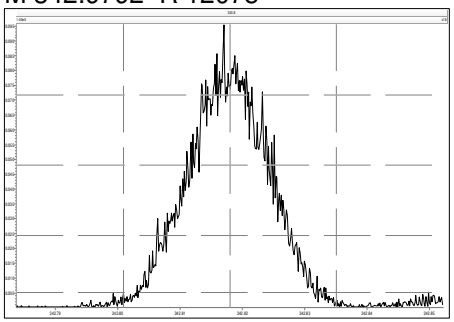
M 316.9824 R 11964



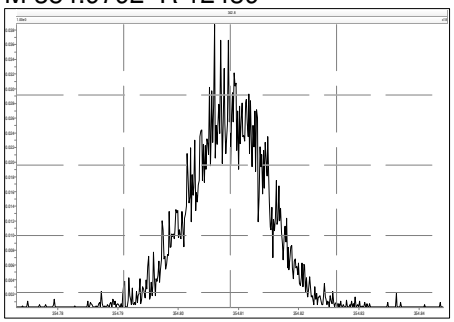
M 330.9792 R 11062



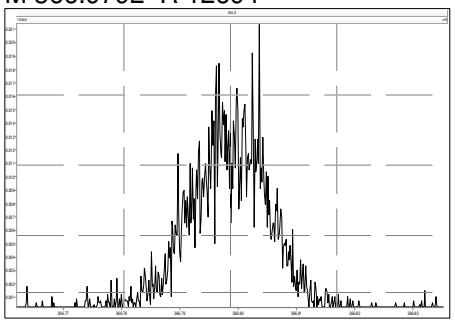
M 342.9792 R 12075



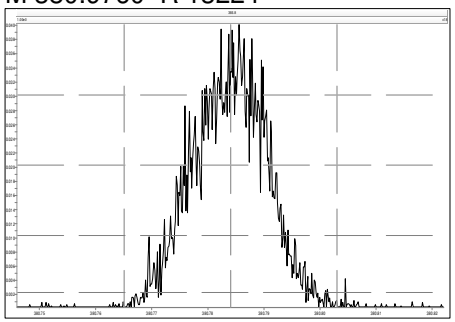
M 354.9792 R 12439



M 366.9792 R 12694



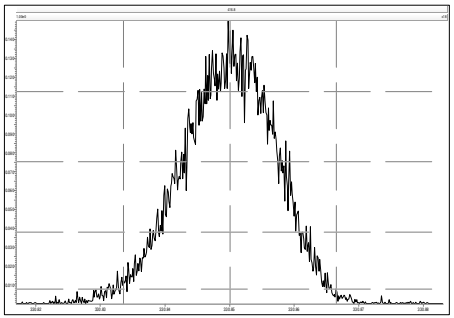
M 380.9760 R 13224



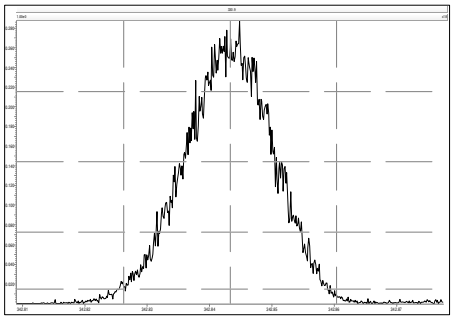
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

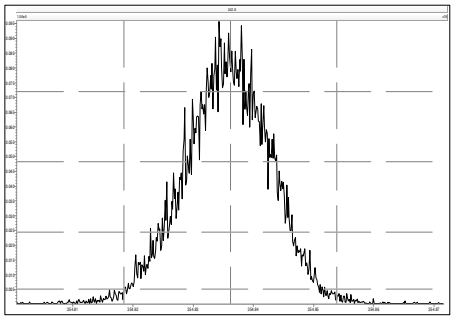
M 330.9792 R 10730



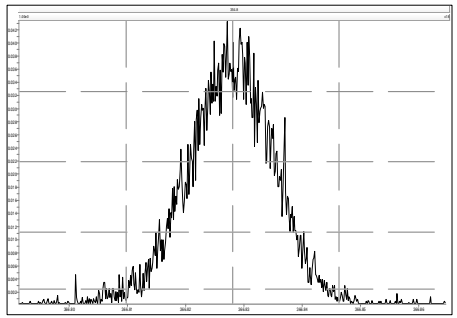
M 342.9792 R 10039



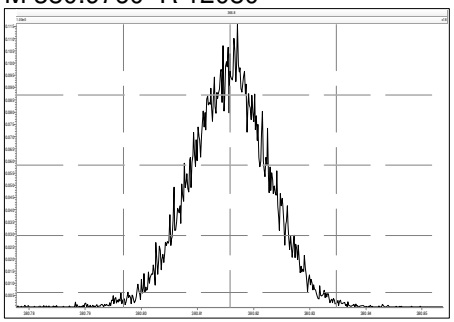
M 354.9792 R 11108



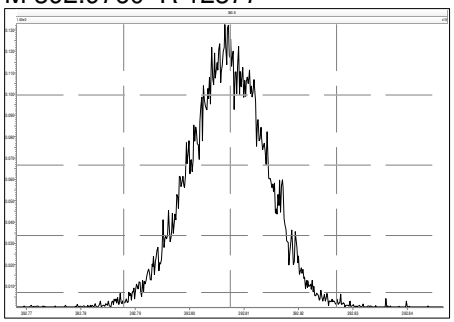
M 366.9792 R 11520



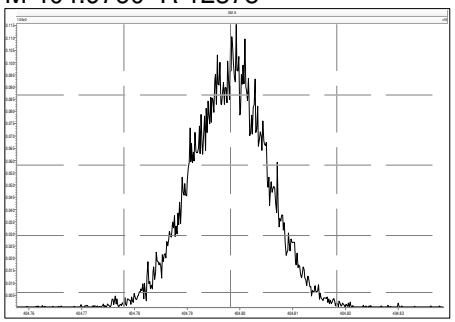
M 380.9760 R 12080



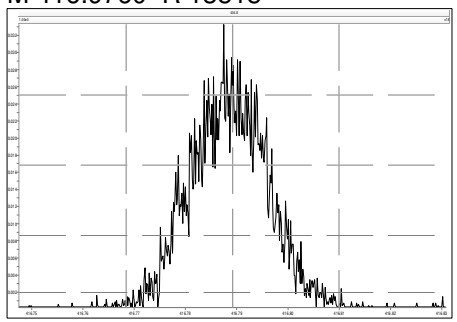
M 392.9760 R 12377



M 404.9760 R 12375



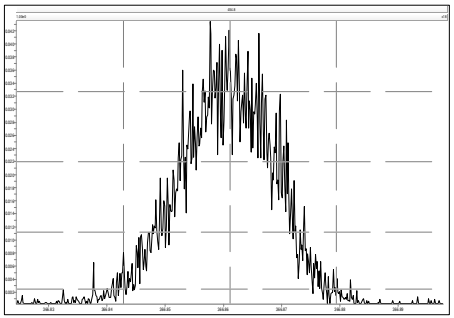
M 416.9760 R 13515



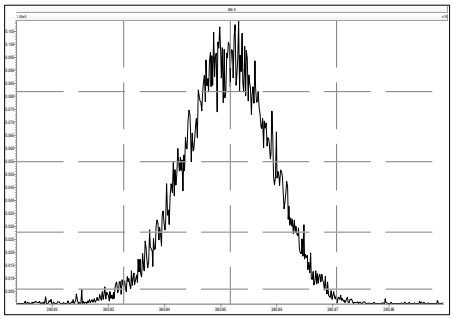
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

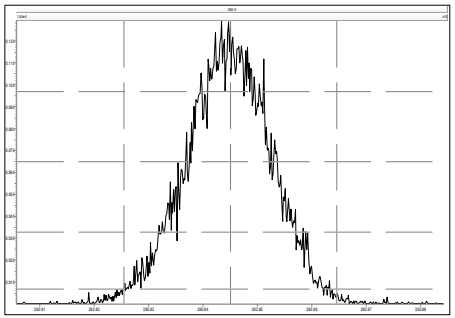
M 366.9792 R 10866



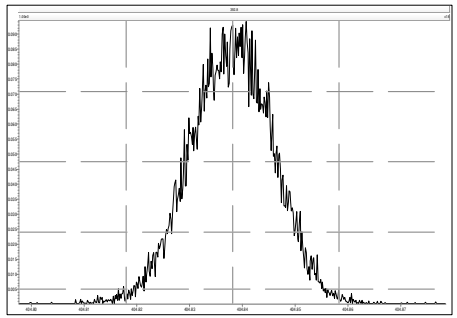
M 380.9760 R 10416



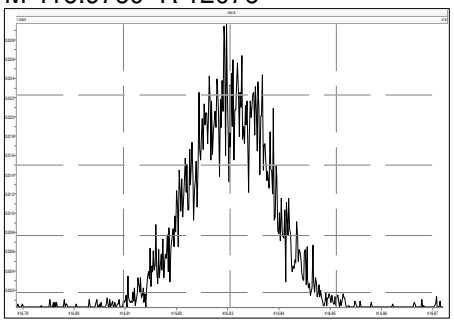
M 392.9760 R 10640



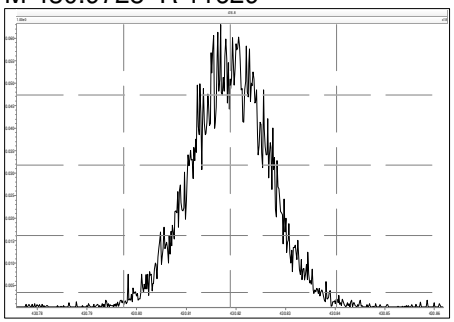
M 404.9760 R 11957



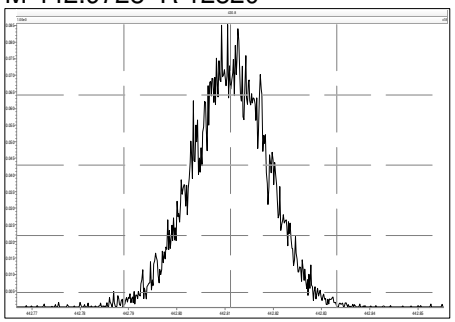
M 416.9760 R 12076



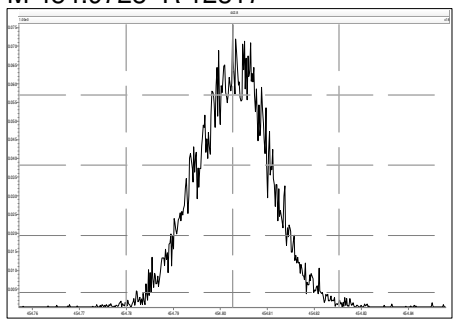
M 430.9728 R 11629



M 442.9728 R 12820



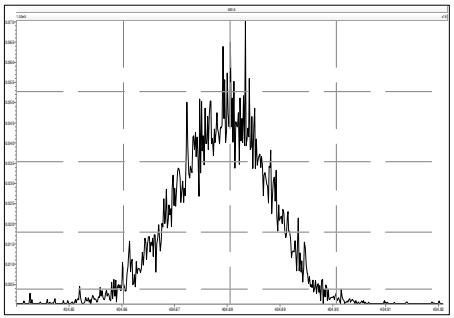
M 454.9728 R 12317



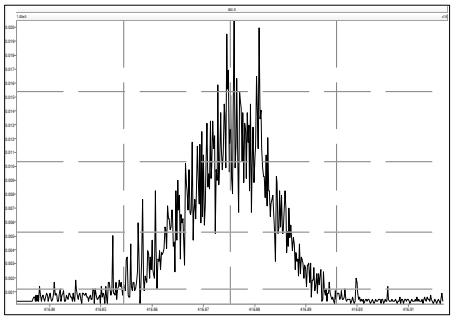
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

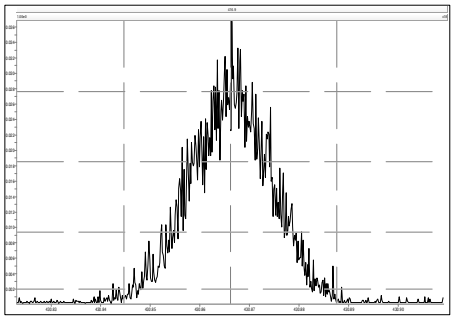
M 404.9760 R 10505



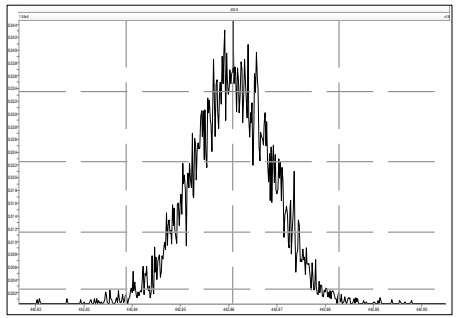
M 416.9760 R 12500



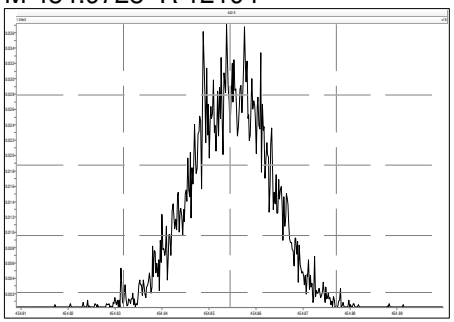
M 430.9728 R 11362



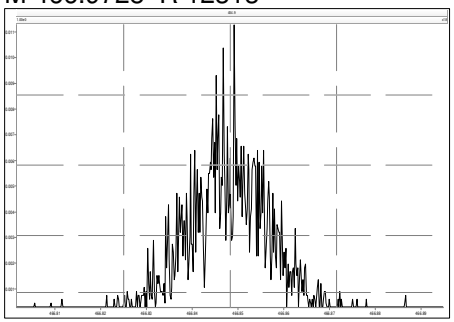
M 442.9728 R 12756



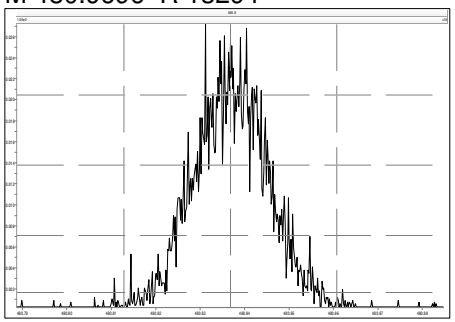
M 454.9728 R 12194



M 466.9728 R 12313



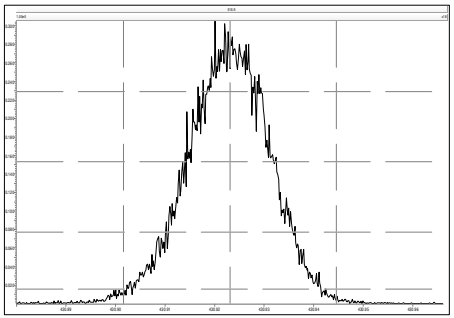
M 480.9696 R 13294



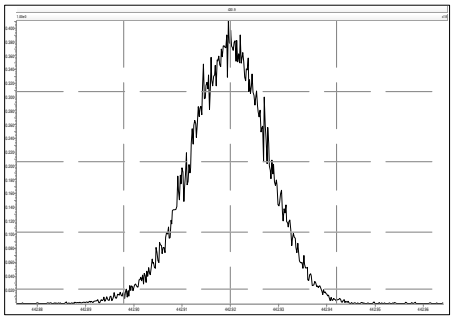
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

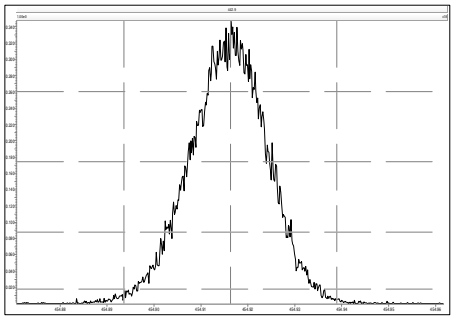
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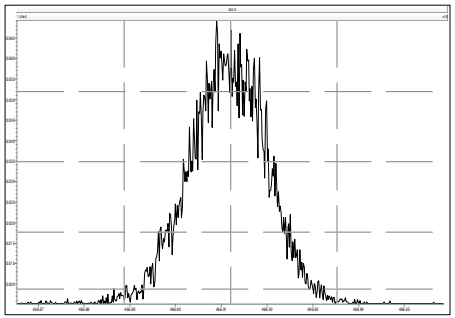
M 442.9728 R 11110



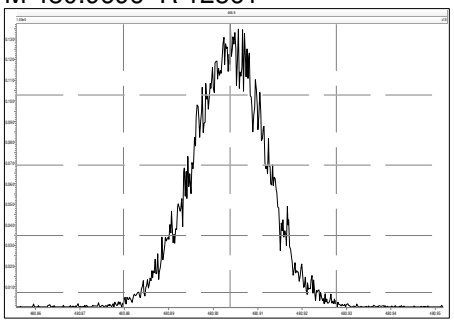
M 454.9728 R 11906



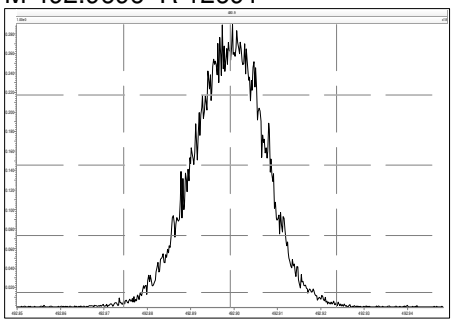
M 466.9728 R 12562



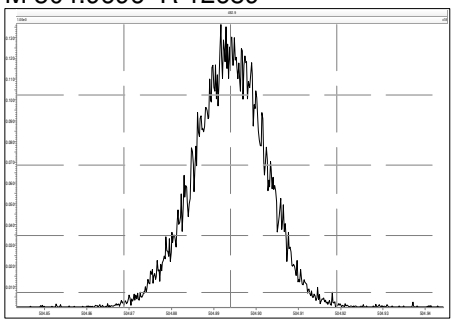
M 480.9696 R 12561



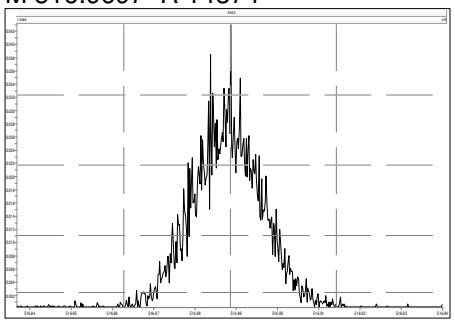
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



APPROVED
Carla_Lyon , 2/4/2022, 1:35:48 AM

Lab ID: OPR1_18874_DF **Acq'd:** 02 Feb 2022 22:06 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18874_OPR001 **UTP:** 03-Feb-2022 13:42:29 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 406-630-FLX

Datafile: 220202C09 **Report:** 03 Feb 2022 13:44 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.55		1.0008	1.0008	0	1.55E+06	0.79	Y	1.18	11	3210.653	0.229
12378-PeCDD	33.88		1.0006	1.0005	-0.2	5.37E+06	1.70	Y	1.04	45.8	2793.325	0.206
123478-HxCDD	37.78		1.0004	1.0004	0	6.34E+06	1.26	Y	1.09	50.5	2813.564	0.18
123678-HxCDD	37.90		1.0035	1.0035	0	7.68E+06	1.28	Y	1.15	51	2813.564	0.157
123789-HxCDD	38.19		1.0112	1.0111	-0.2	6.32E+06	1.24	Y	1.05	48.3	2813.564	0.183
1234678-HpCDD	40.84		1.0003	1.0003	0	5.70E+06	1.01	Y	1.06	50.6	2973.017	0.227
OCDD	43.52		1.0004	1.0003	-0.3	8.26E+06	0.91	Y	1.13	103	2713.274	0.382
2378-TCDF	27.69		1.0008	1.0007	-0.2	2.24E+06	0.76	Y	1.08	10.5	2708.075	0.133
12378-PeCDF	32.43		1.0005	1.0006	+0.2	8.76E+06	1.55	Y	1.02	44.4	3980.858	0.188
23478-PeCDF	33.54		1.0005	1.0005	0	8.88E+06	1.58	Y	1.02	50.6	3980.858	0.197
123478-HxCDF	36.77		1.0004	1.0005	+0.2	8.11E+06	1.29	Y	1.27	49	4585.699	0.229
123678-HxCDF	36.92		1.0004	1.0005	+0.2	1.01E+07	1.27	Y	1.15	49.6	4585.699	0.194
234678-HxCDF	37.60		1.0005	1.0004	-0.2	1.16E+07	1.27	Y	1.19	51.5	4585.699	0.185
123789-HxCDF	38.54		1.0004	1.0004	0	6.71E+06	1.28	Y	1.16	46.5	4585.699	0.266
1234678-HpCDF	39.91		1.0003	1.0002	-0.2	9.90E+06	1.00	Y	1.37	48.8	2719.116	0.0952
1234789-HpCDF	41.30		1.0002	1.0003	+0.2	5.63E+06	1.02	Y	1.31	48.4	2719.116	0.187
OCDF	43.69		1.0003	1.0003	0	8.74E+06	0.91	Y	1.07	103	3666.68	0.483

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.53	1.0236	1.0237	+0.2	1.19E+07	0.83	Y	1.05	98.7
ES 12378-PeCDD	33.86	1.2144	1.2151	+1.4	1.13E+07	1.52	Y	0.88	112
ES 123478-HxCDD	37.77	0.9920	0.9920	0	1.15E+07	1.32	Y	0.97	110
ES 123678-HxCDD	37.88	0.9951	0.9951	0	1.31E+07	1.32	Y	0.94	129
ES 123789-HxCDD	38.17	1.0027	1.0027	0	1.25E+07	1.25	Y	1.09	106
ES 1234678-HpCDD	40.83	1.0724	1.0725	+0.2	1.06E+07	1.10	Y	0.91	108
ES OCDD	43.50	1.1428	1.1427	-0.3	1.43E+07	0.90	Y	0.62	106
ES 2378-TCDF	27.67	1.0516	1.0517	+0.2	1.97E+07	0.85	Y	1.06	94.8
ES 12378-PeCDF	32.41	1.2312	1.2318	+1.2	1.93E+07	1.54	Y	0.91	108
ES 23478-PeCDF	33.53	1.2733	1.2741	+1.6	1.72E+07	1.51	Y	0.88	99.3
ES 123478-HxCDF	36.76	0.9655	0.9655	0	1.30E+07	0.51	Y	1.20	101
ES 123678-HxCDF	36.90	0.9692	0.9693	+0.2	1.77E+07	0.52	Y	1.35	121
ES 234678-HxCDF	37.58	0.9871	0.9872	+0.2	1.90E+07	0.53	Y	1.24	142
ES 123789-HxCDF	38.53	1.0121	1.0120	-0.2	1.24E+07	0.55	Y	1.16	99.4
ES 1234678-HpCDF	39.90	1.0479	1.0480	+0.2	1.48E+07	0.45	Y	0.97	141
ES 1234789-HpCDF	41.29	1.0845	1.0846	+0.2	8.89E+06	0.47	Y	0.85	96.6
ES OCDF	43.68	1.1477	1.1474	-0.8	1.58E+07	0.90	Y	0.81	90.4

Lab ID: OPR1_18874_DF | **Acq'd:** 02 Feb 2022 22:06 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18874_OPR001 | **UTP:** 03-Feb-2022 13:42:29 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 406-630-FLX

Datafile: 220202C09 | **Report:** 03 Feb 2022 13:44 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.87		-	-	-	1.15E+07	0.80	Y	-	-	
JS 1234-TCDF	26.31		-	-	-	1.96E+07	0.83	Y	-	-	
JS 123467-HxCDD	38.07		-	-	-	5.40E+06	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.55		1.0244	1.0246	+0.3	5.42E+06	n/a	-	1.20	97.6	
CS 12347-PeCDD	33.35		1.1964	1.1970	+1.2	1.03E+07	1.60	Y	0.75	118	
CS 12346-PeCDF	31.89		1.2112	1.2118	+1.1	1.73E+07	1.47	Y	0.85	104	
CS 123469-HxCDF	37.22		0.9775	0.9776	+0.2	1.46E+07	0.53	Y	1.12	121	
CS 1234689-HpCDF	40.30		1.0584	1.0585	+0.2	1.18E+07	0.48	Y	0.89	124	
~~SS 37Cl-2378-TCDD~~	~~28.55~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~5.42E+06~~	~~n/a~~		~~1.15~~	~~99.2~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1970~~	~~+1.2~~	~~1.03E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~106~~	CL 04Feb22
~~SS 12346-PeCDF~~	~~31.89~~		~~1.2112~~	~~1.2118~~	~~+1.1~~	~~1.73E+07~~	~~1.47~~	~~Y~~	~~0.94~~	~~95.8~~	
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9776~~	~~+0.2~~	~~1.46E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~99.2~~	
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0585~~	~~+0.2~~	~~1.18E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~87.2~~	

Totals	Conc	EMPC
Total TCDD	51.4	51.4
Total PeCDD	69.1	69.1
Total HxCDD	162	162
Total HpCDD	62.7	62.7
Total Tetra-Octa Dioxins	448	448
Total TCDF	58.2	58.2
Total PeCDF	185	185
Total HxCDF	306	306
Total HpCDF	97.3	97.3
Total Tetra-Octa Furans	750	750
Total Tetra-Octa Dioxins & Furans	1200	1200

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.787	0.79
Response	1.56E+06	1.55E+06

Lab ID: OPR1_18874_DF **Acq'd: 02 Feb 2022 22:06 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18874_OPR001 **UTP: 03-Feb-2022 13:42:29 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 406-630-FLX**

Datafile: 220202C09 **Report: 03 Feb 2022 13:44 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.92		0.8737	0.8734	-0.4	2.12E+06	0.87	Y	1.18	15	3210.653	0.229
1379-TCDD	NotFnd		0.8860						1.18		3210.653	0.229
1369-TCDD	NotFnd		0.9009						1.18		3210.653	0.229
1469-TCDD	NotFnd		0.9281						1.18		3210.653	0.229
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3210.653	0.229
1378-TCDD	NotFnd		0.9432						1.18		3210.653	0.229
1268-TCDD	NotFnd		0.9500						1.18		3210.653	0.229
1478-TCDD	NotFnd		0.9586						1.18		3210.653	0.229
1279-TCDD	NotFnd		0.9645						1.18		3210.653	0.229
1234/1269-TCDD	NotFnd		0.9770						1.18		3210.653	0.229
1236-TCDD	NotFnd		0.9817						1.18		3210.653	0.229
1237/1238-TCDD	NotFnd		0.9905						1.18		3210.653	0.229
1239-TCDD	28.39		0.9952	0.9953	+0.2	1.41E+06	0.76	Y	1.18	10	3210.653	0.229
2378-TCDD	**28.55**		**1.0008**	1.0008	**0**	1.55E+06	0.79	Y	**1.18**	**11**	**3210.653**	**0.229**
1278-TCDD	NotFnd		1.0121						1.18		3210.653	0.229
1267-TCDD	NotFnd		1.0167						1.18		3210.653	0.229
1289-TCDD	29.52		1.0345	1.0347	+0.4	2.17E+06	0.84	Y	1.18	15.4	3210.653	0.229
12479/12468-PeCDD	31.38		0.9267	0.9268	+0.2	1.38E+06	1.57	Y	1.04	11.8	2793.325	0.206
12469-PeCDD	NotFnd		0.9425						1.04		2793.325	0.206
12368-PeCDD	NotFnd		0.9588						1.04		2793.325	0.206
12478-PeCDD	NotFnd		0.9643						1.04		2793.325	0.206
12379-PeCDD	NotFnd		0.9673						1.04		2793.325	0.206
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2793.325	0.206
12346/12347-PeCDD	NotFnd		0.9858						1.04		2793.325	0.206
12378-PeCDD	33.88		**1.0006**	**1.0005**	**-0.2**	**5.37E+06**	**1.70**	**Y**	**1.04**	**45.8**	**2793.325**	**0.206**
12367-PeCDD	NotFnd		1.0033						1.04		2793.325	0.206
12389-PeCDD	34.31		1.0134	1.0134	0	1.35E+06	1.64	Y	1.04	11.5	2793.325	0.206
124679/124689-HxCDD	36.03		0.9542	0.9541	-0.2	1.62E+06	1.35	Y	1.10	11.9	2813.564	0.172
123468-HxCDD	NotFnd		0.9715						1.10		2813.564	0.172
123679/123689-HxCDD	NotFnd		0.9793						1.10		2813.564	0.172
123469-HxCDD	NotFnd		0.9828						1.10		2813.564	0.172
123478-HxCDD	37.78		**1.0004**	**1.0004**	**0**	**6.34E+06**	**1.26**	**Y**	1.09	**50.5**	**2813.564**	**0.18**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**7.68E+06**	**1.28**	**Y**	1.15	**51**	**2813.564**	**0.157**
123467-HxCDD	NotFnd		1.0085						1.10		2813.564	0.172
123789-HxCDD	38.19		**1.0112**	**1.0111**	**-0.2**	**6.32E+06**	**1.24**	**Y**	1.05	**48.3**	**2813.564**	**0.183**

Lab ID: OPR1_18874_DF | **Acq'd: 02 Feb 2022 22:06 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18874_OPR001 | **UTP: 03-Feb-2022 13:42:29 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 406-630-FLX**

Datafile: 220202C09 | **Report: 03 Feb 2022 13:44 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	1.36E+06	1.00	Y	1.06	12.1	2973.017	0.227
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**5.70E+06**	**1.01**	**Y**	**1.06**	**50.6**	**2973.017**	**0.227**
OCDD	**43.52**		**1.0004**	**1.0003**	**-0.3**	**8.26E+06**	**0.91**	**Y**	**1.13**	**103**	**2713.274**	**0.382**
OCDD-a	43.51		1.0003	1.0001	-0.5	4.28E+05	2.58	Y	0.07	83	2976.722	6.56
1368-TCDF	22.82		0.8251	0.8247	-0.5	3.04E+06	0.77	Y	1.08	14.3	2708.075	0.133
1468-TCDF	NotFnd		0.8458						1.08		2708.075	0.133
2468-TCDF	24.03		0.8686	0.8683	-0.4	8.13E+05	0.84	Y	1.08	3.83	2708.075	0.133
1346/1246-TCDF	NotFnd		0.8814						1.08		2708.075	0.133
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2708.075	0.133
1348-TCDF	NotFnd		0.8962						1.08		2708.075	0.133
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2708.075	0.133
1268-TCDF	NotFnd		0.9145						1.08		2708.075	0.133
1467-TCDF	NotFnd		0.9193						1.08		2708.075	0.133
1478-TCDF	NotFnd		0.9254						1.08		2708.075	0.133
1369/1237-TCDF	NotFnd		0.9387						1.08		2708.075	0.133
2467-TCDF	NotFnd		0.9433						1.08		2708.075	0.133
2368-TCDF	NotFnd		0.9489						1.08		2708.075	0.133
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2708.075	0.133
1278-TCDF	NotFnd		0.9683						1.08		2708.075	0.133
1349-TCDF	NotFnd		0.9722						1.08		2708.075	0.133
1267-TCDF	NotFnd		0.9783						1.08		2708.075	0.133
2346/1249-TCDF	NotFnd		0.9850						1.08		2708.075	0.133
2347/1279-TCDF	NotFnd		0.9926						1.08		2708.075	0.133
2348-TCDF	27.58		0.9967	0.9967	0	2.99E+06	0.81	Y	1.08	14	2708.075	0.133
2378-TCDF	**27.69**		**1.0008**	**1.0007**	**-0.2**	**2.24E+06**	**0.76**	**Y**	**1.08**	**10.5**	**2708.075**	**0.133**
2367/3467-TCDF	NotFnd		1.0137						1.08		2708.075	0.133
1269-TCDF	NotFnd		1.0223						1.08		2708.075	0.133
1239-TCDF	NotFnd		1.0321						1.08		2708.075	0.133
1289-TCDF	29.69		1.0722	1.0728	+1.1	3.29E+06	0.80	Y	1.08	15.5	2708.075	0.133
13468/12468-PeCDF	29.60		0.9139	0.9133	-1.1	1.48E+07	1.59	Y	1.02	79.6	2834.085	0.137
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3980.858	0.192
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3980.858	0.192
14678-PeCDF	NotFnd		0.9692						1.02		3980.858	0.192
13479-PeCDF	NotFnd		0.9723						1.02		3980.858	0.192
13469/12479-PeCDF	NotFnd		0.9797						1.02		3980.858	0.192
12346-PeCDF	NotFnd		0.9840						1.02		3980.858	0.192

Lab ID: OPR1_18874_DF | **Acq'd: 02 Feb 2022 22:06 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18874_OPR001 | **UTP: 03-Feb-2022 13:42:29 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 406-630-FLX**

Datafile: 220202C09 | **Report: 03 Feb 2022 13:44 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3980.858	0.192
12347-PeCDF	NotFnd		0.9894						1.02		3980.858	0.192
12348-PeCDF	NotFnd		0.9940						1.02		3980.858	0.192
12378-PeCDF	**32.43**		**1.0005**	**1.0006**	**+0.2**	**8.76E+06**	**1.55**	**Y**	**1.02**	**44.4**	**3980.858**	**0.188**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3980.858	0.192
12379-PeCDF	NotFnd		1.0142						1.02		3980.858	0.192
12679-PeCDF	NotFnd		0.9929						1.02		3980.858	0.192
23467/12369-PeCDF	NotFnd		0.9967						1.02		3980.858	0.192
23478-PeCDF	**33.54**		**1.0005**	**1.0005**	**0**	**8.88E+06**	**1.58**	**Y**	**1.02**	**50.6**	**3980.858**	**0.197**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3980.858	0.192
12349-PeCDF	NotFnd		1.0100						1.02		3980.858	0.192
12389-PeCDF	34.61		1.0324	1.0324	0	1.85E+06	1.53	Y	1.02	9.91	3980.858	0.192
123468-HxCDF	35.39		0.9627	0.9628	+0.2	2.03E+07	1.27	Y	1.19	110	4585.699	0.212
124678/134678-HxCDF	NotFnd		0.9682						1.19		4585.699	0.212
134679-HxCDF	NotFnd		0.9744						1.19		4585.699	0.212
124679-HxCDF	NotFnd		0.9798						1.19		4585.699	0.212
124689-HxCDF	NotFnd		0.9858						1.19		4585.699	0.212
123467-HxCDF	NotFnd		0.9972						1.19		4585.699	0.212
123478-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**8.11E+06**	**1.29**	**Y**	**1.27**	**49**	**4585.699**	**0.229**
123678-HxCDF	**36.92**		**1.0004**	**1.0005**	**+0.2**	**1.01E+07**	**1.27**	**Y**	**1.15**	**49.6**	**4585.699**	**0.194**
123479-HxCDF	NotFnd		1.0049						1.19		4585.699	0.212
123469-HxCDF	NotFnd		1.0090						1.19		4585.699	0.212
123679-HxCDF	NotFnd		0.9942						1.19		4585.699	0.212
234678-HxCDF	**37.60**		**1.0005**	**1.0004**	**-0.2**	**1.16E+07**	**1.27**	**Y**	**1.19**	**51.5**	**4585.699**	**0.185**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4585.699	0.212
123789-HxCDF	**38.54**		**1.0004**	**1.0004**	**0**	**6.71E+06**	**1.28**	**Y**	**1.16**	**46.5**	**4585.699**	**0.266**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		4585.699	0.212
1234678-HpCDF	**39.91**		**1.0003**	**1.0002**	**-0.2**	**9.90E+06**	**1.00**	**Y**	**1.37**	**48.8**	**2719.116**	**0.0952**
1234679-HpCDF	NotFnd		1.0068						1.34		2719.116	0.129
1234689-HpCDF	NotFnd		1.0103						1.34		2719.116	0.129
1234789-HpCDF	**41.30**		**1.0002**	**1.0003**	**+0.2**	**5.63E+06**	**1.02**	**Y**	**1.31**	**48.4**	**2719.116**	**0.187**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**8.74E+06**	**0.91**	**Y**	**1.07**	**103**	**3666.68**	**0.483**
OCDF-a	43.69	**EMPC**	1.0002	1.0001	-0.3	4.22E+05	3.29	N	0.07	80.5	3393.694	7.22

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220202C09	Analysis Date:	02-FEB-2022 22:06:39
Lab ID:	OPR1_18874_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	45.8	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	50.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.3	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	50.6	35	-	70	Y
OCDD	100	103	78	-	144	Y
2,3,7,8-TCDF	10	10.5	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	44.4	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	49	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	46.5	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	48.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	48.4	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 03 Feb 2022 13:44 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220202C09	Analysis Date:	02-FEB-2022 22:06:39
Lab ID:	OPR1_18874_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	98.7	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	112	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	110	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	129	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	106	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	108	26	-	166	Y
13C-OCDD	200	212	26	-	397	Y
13C-2,3,7,8-TCDF	100	94.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	108	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	99.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	121	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	142	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	99.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	141	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	96.6	20	-	186	Y
13C-OCDF	200	181	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 03 Feb 2022 13:44 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220202C09	Analysis Date:	02-FEB-2022 22:06:39
Lab ID:	OPR1_18874_DF		

Window Defining Standards Results

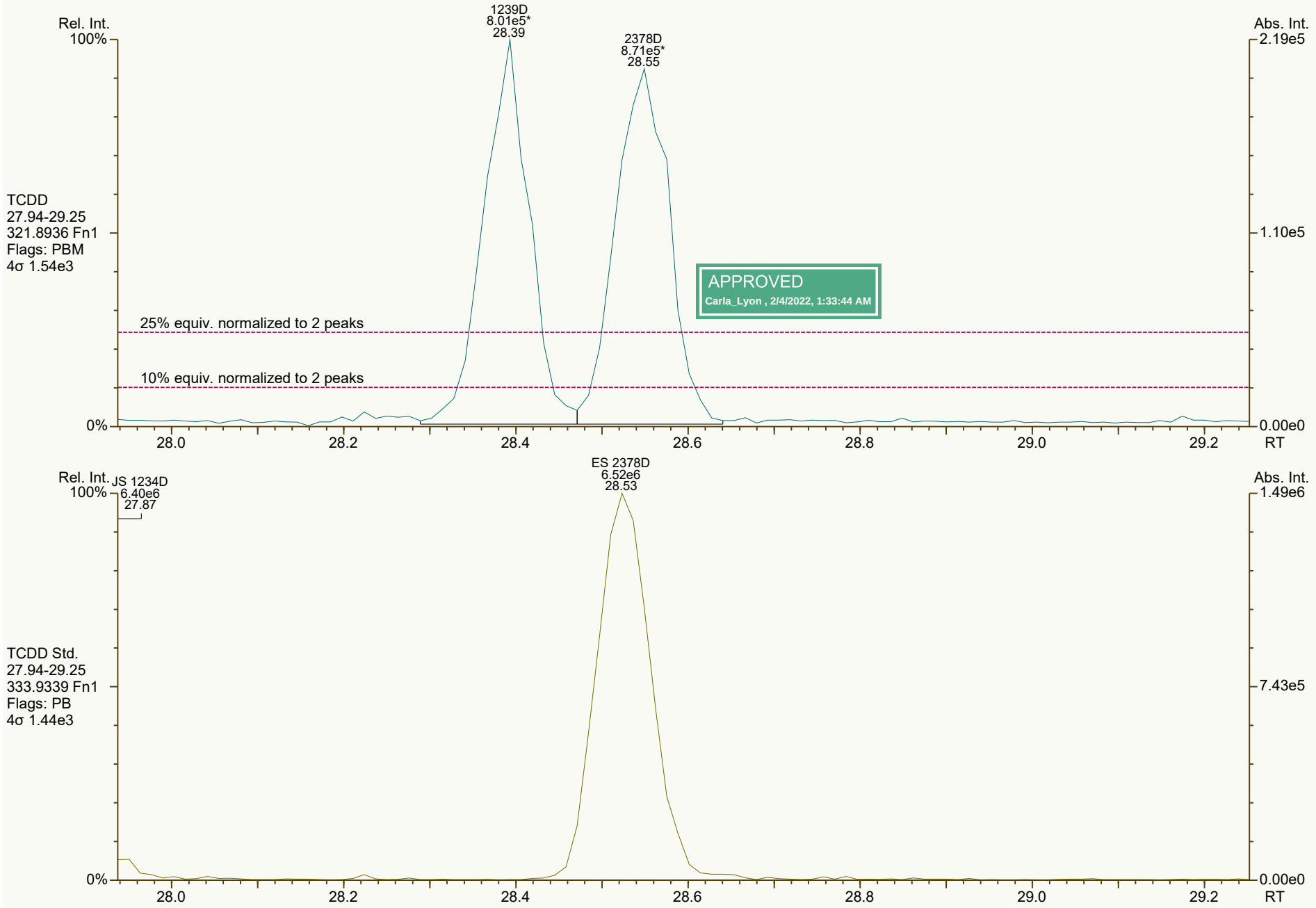
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.92	1289-TCDD	29.52
12479/12468-PeCDD	31.38	12389-PeCDD	34.31
124679/124689-HxCDD	36.03	123789-HxCDD	38.19
1234679-HpCDD	40.16	1234678-HpCDD	40.84
1368-TCDF	22.82	1289-TCDF	29.69
13468/12468-PeCDF	29.60	12389-PeCDF	34.61
123468-HxCDF	35.39	123789-HxCDF	38.54
1234678-HpCDF	39.91	1234789-HpCDF	41.30

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.39	2378-TCDD	28.55
2348-TCDF	27.58	2378-TCDF	27.69

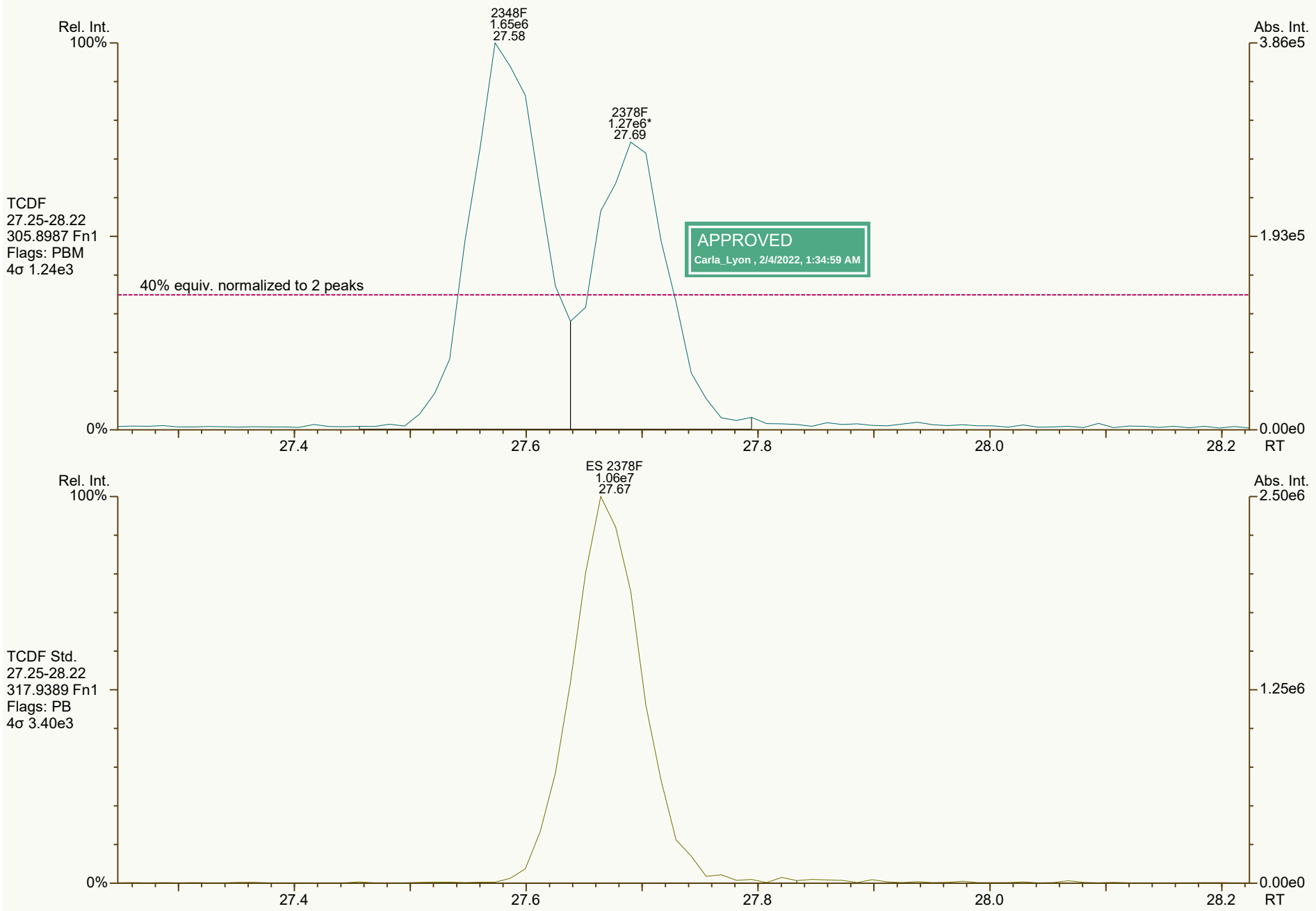
Processed: 03 Feb 2022 13:44 Analyst: TF

SGS ID: OPR1_18874_DF
Sample ID: 0_18874_OPR001
Acq: 02-Feb-2022 22:06:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220202C09

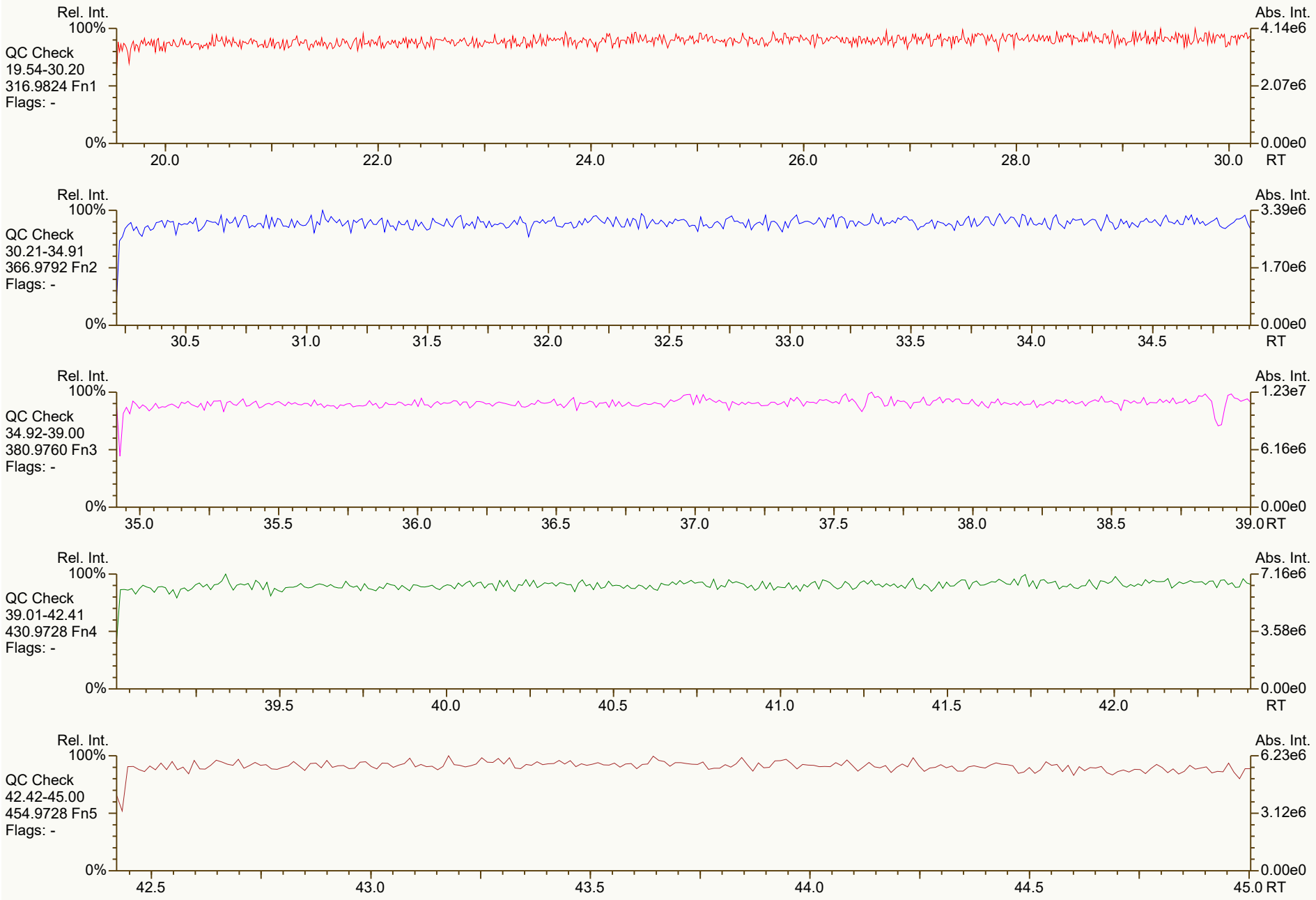


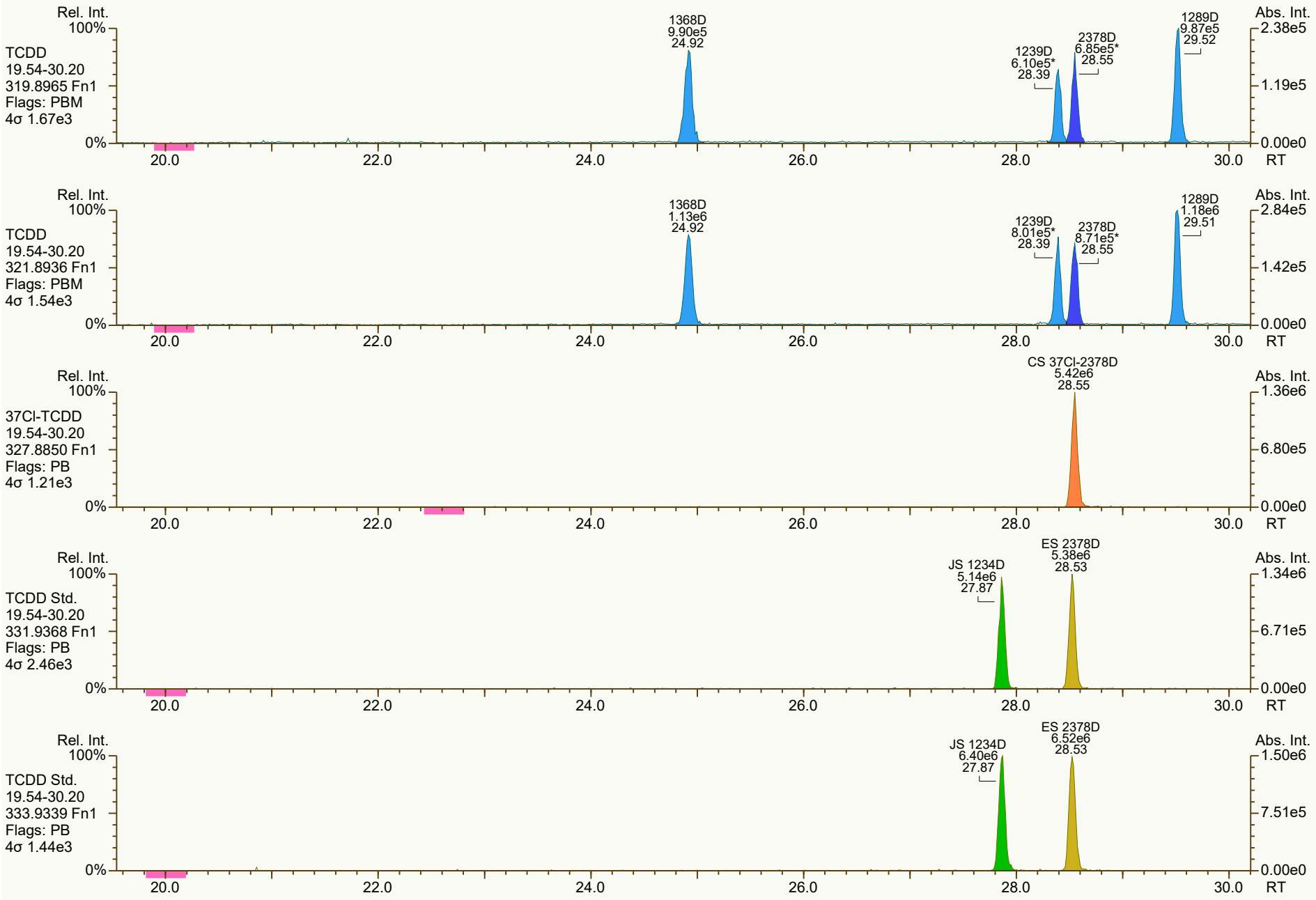
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\OPR1_18874_DF.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 03-Feb-2022 09:41 (DTF) Printed: 03-Feb-2022 13:48

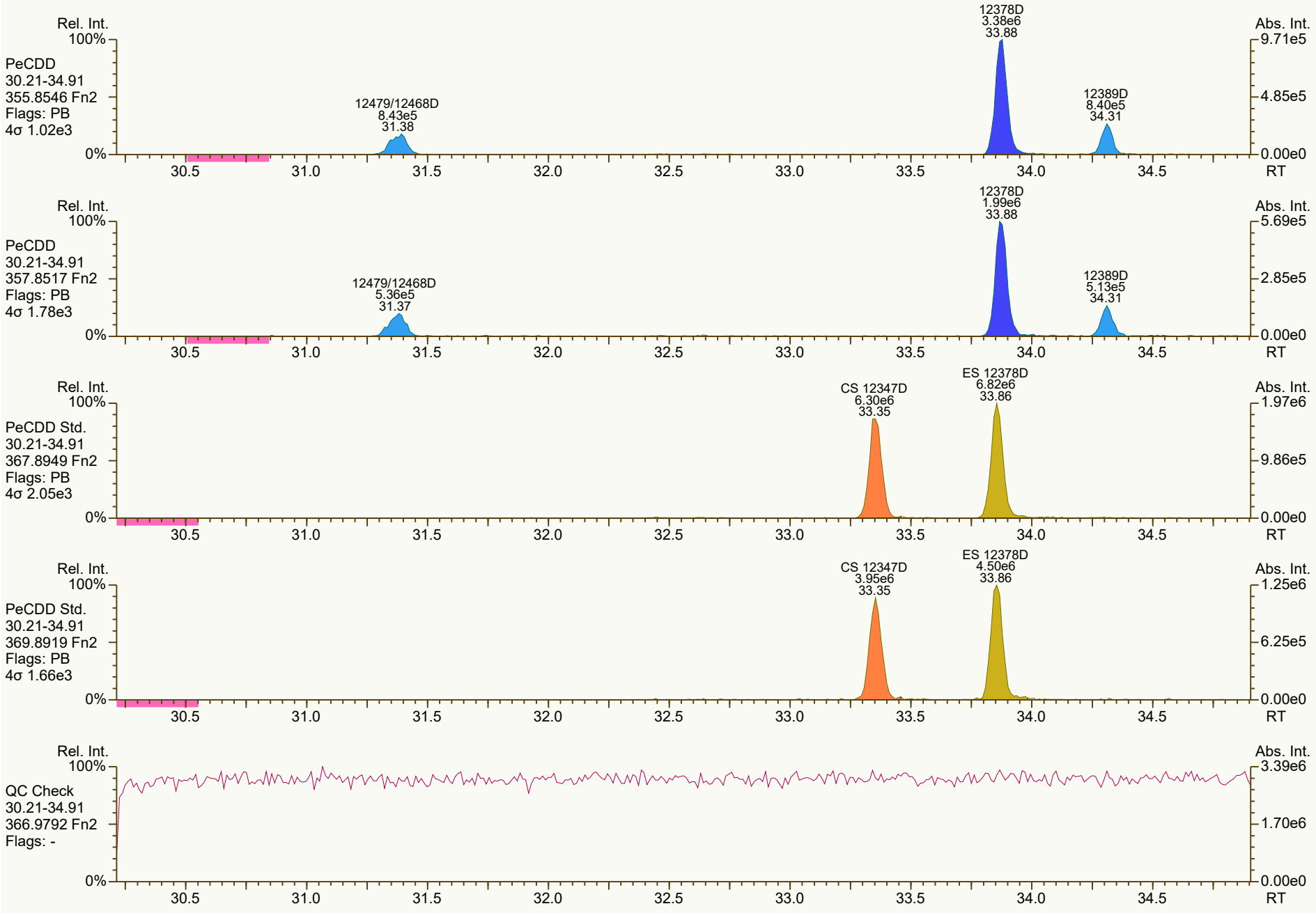
SGS ID: OPR1_18874_DF
Sample ID: 0_18874_OPR001
Acq: 02-Feb-2022 22:06:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220202C09

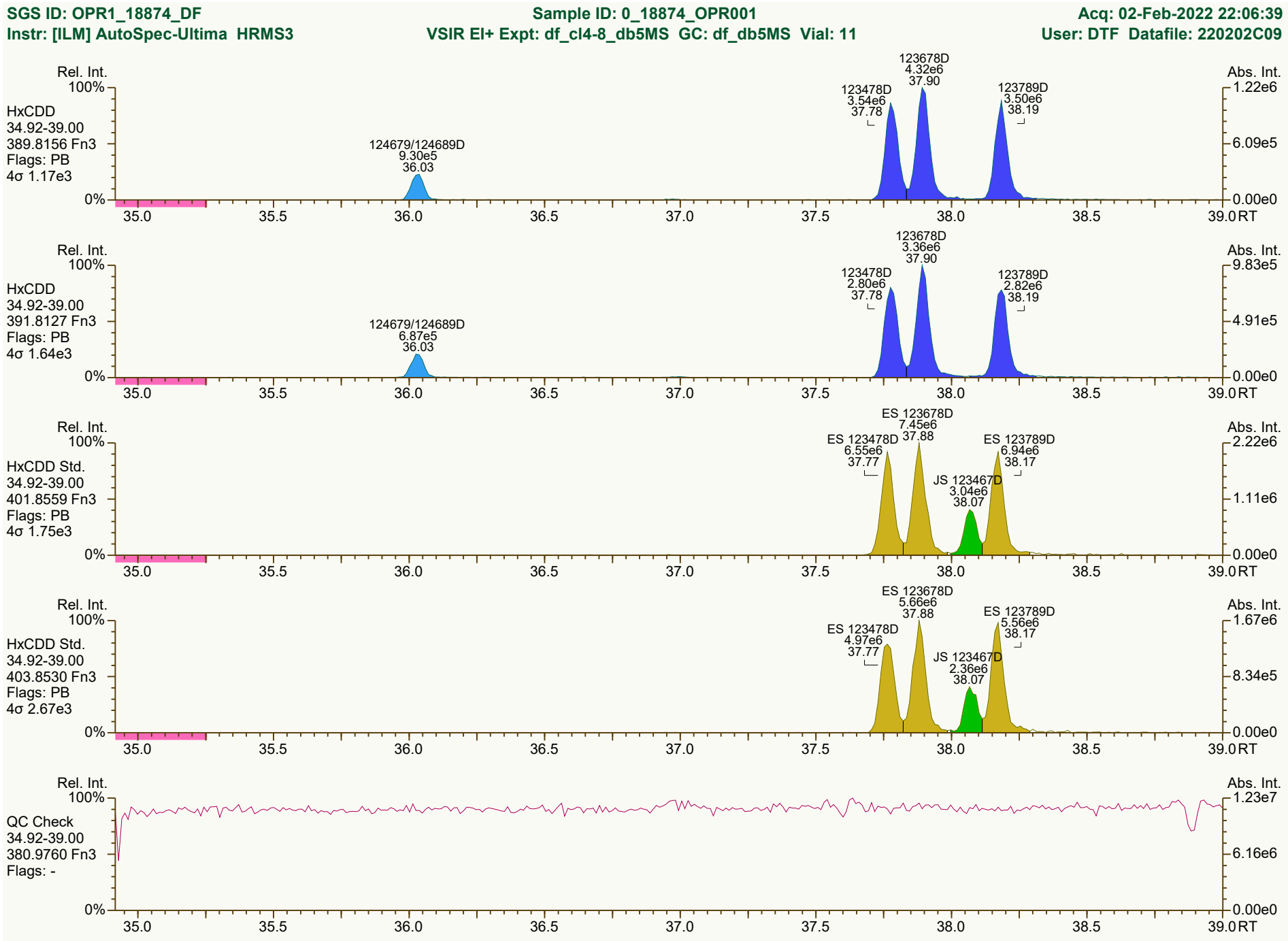


Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\OPR1_18874_DF.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 03-Feb-2022 09:41 Printed: 03-Feb-2022 13:48

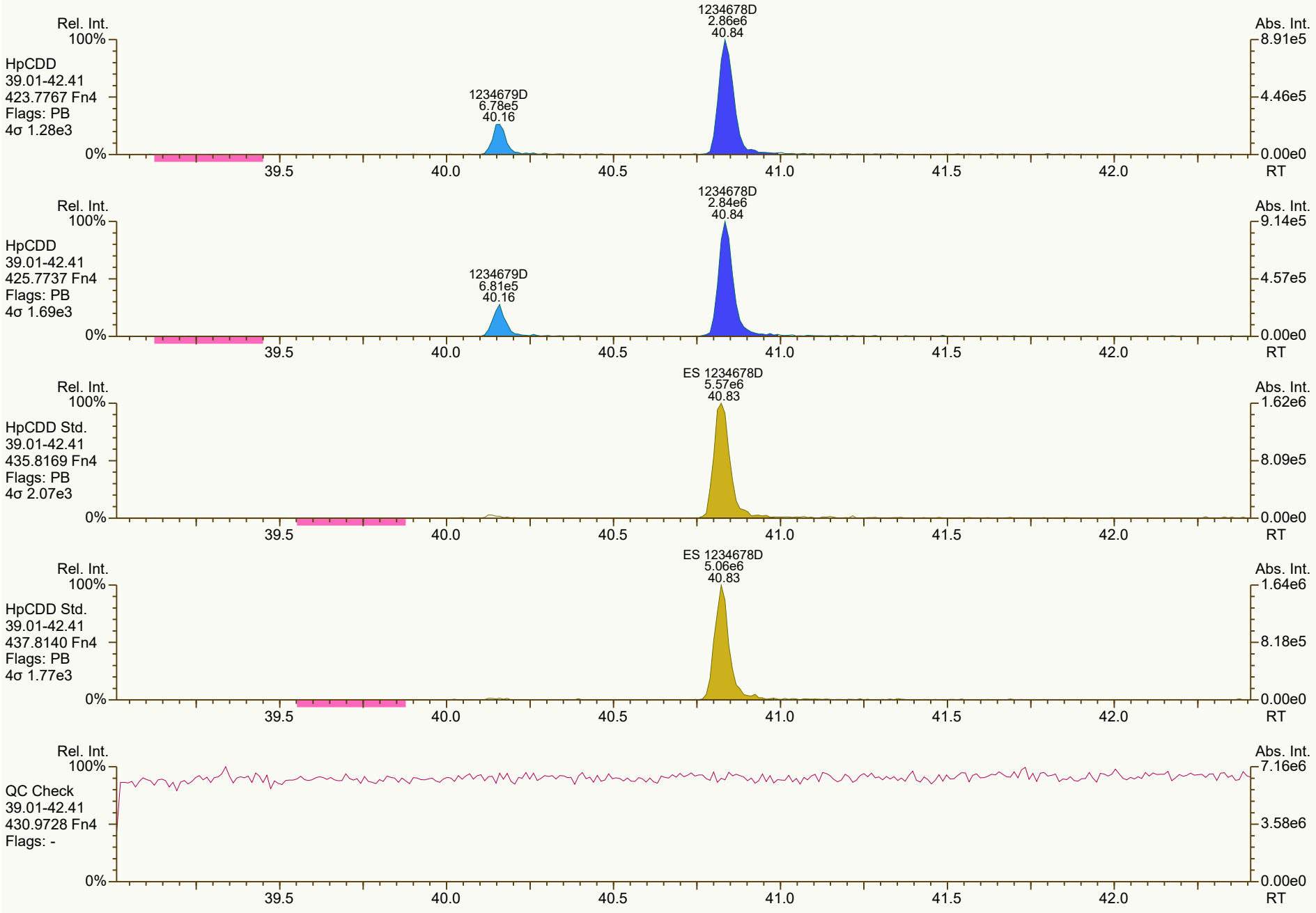

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.14e6
2.07e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.39e6
1.70e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.23e7
6.16e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.16e6
3.58e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.23e6
3.12e6
0.00e0

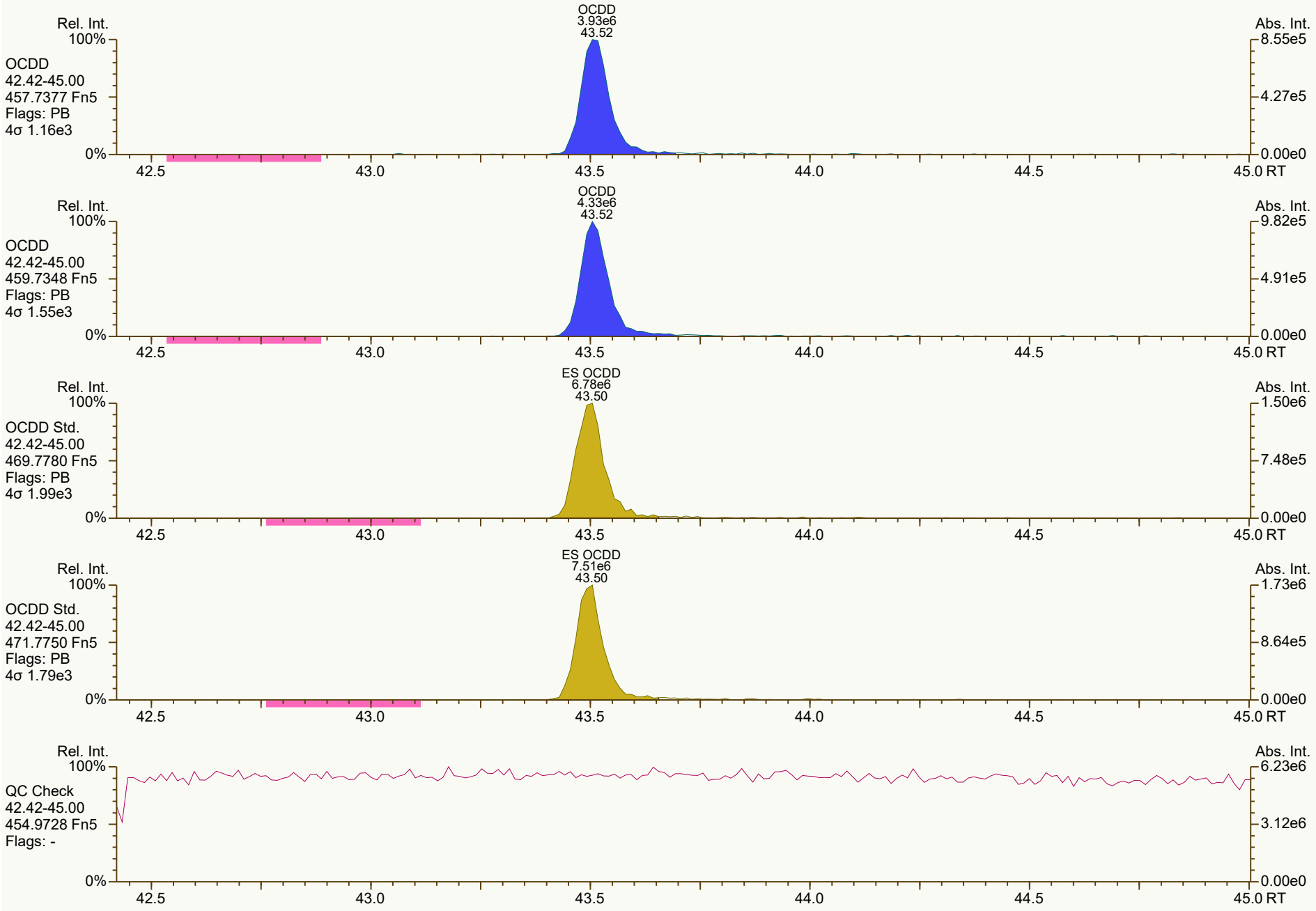

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.67e3
1368D
9.90e5
24.92
1239D
6.10e5*
28.39
2378D
6.85e5*
28.55
1289D
9.87e5
29.52
Abs. Int.
2.38e5
1.19e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.54e3
1368D
1.13e6
24.92
1239D
8.01e5*
28.39
2378D
8.71e5*
28.55
1289D
1.18e6
29.51
Abs. Int.
2.84e5
1.42e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.21e3
CS 37Cl-2378D
5.42e6
28.55
Abs. Int.
1.36e6
6.80e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.46e3
JS 1234D
5.14e6
27.87
ES 2378D
5.38e6
28.53
Abs. Int.
1.34e6
6.71e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.44e3
JS 1234D
6.40e6
27.87
ES 2378D
6.52e6
28.53
Abs. Int.
1.50e6
7.51e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

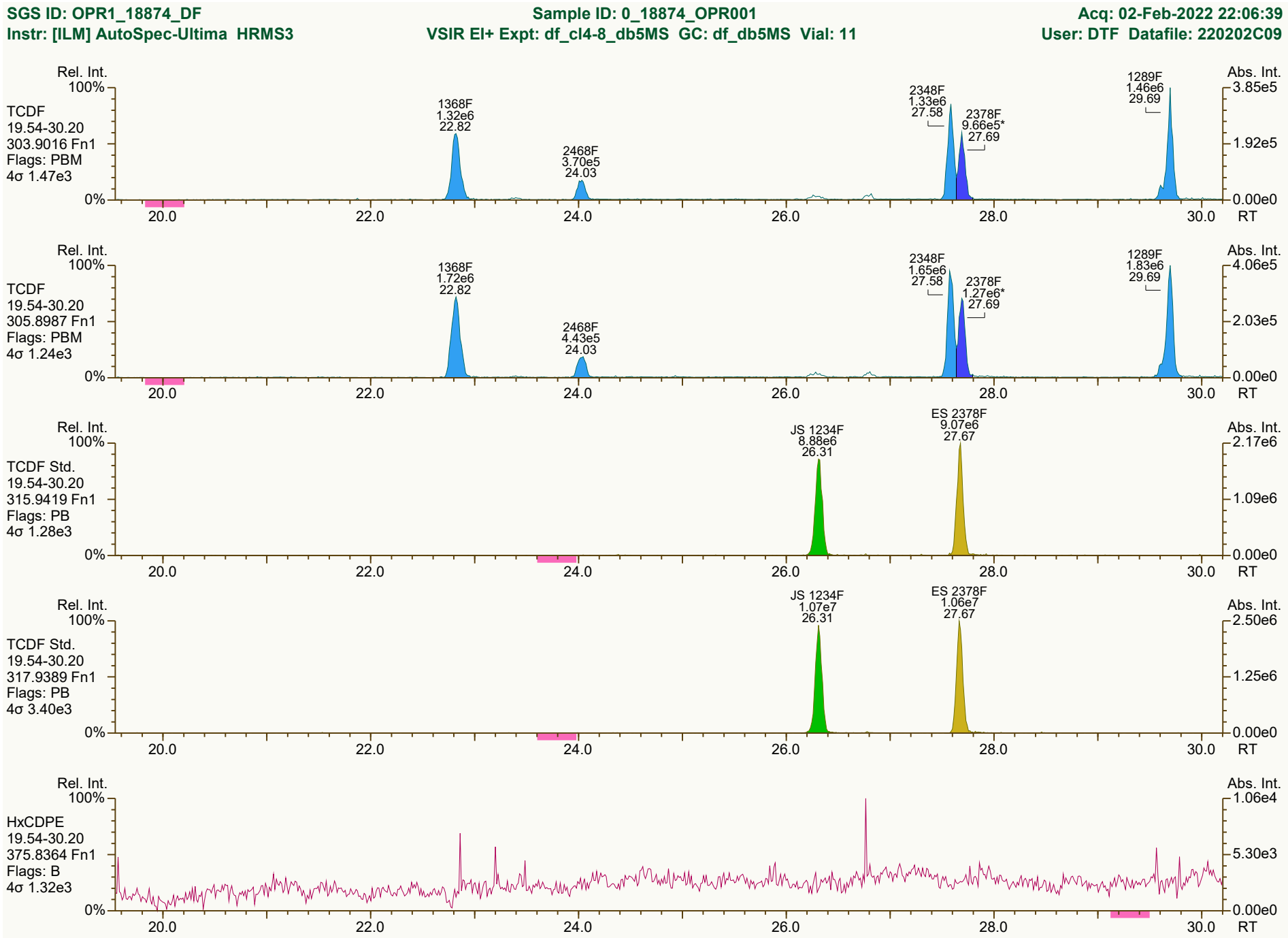

Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.02e3
12479/12468D
8.43e5
31.38
12378D
3.38e6
33.88
12389D
8.40e5
34.31
Abs. Int.
9.71e5
4.85e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.78e3
12479/12468D
5.36e5
31.37
12378D
1.99e6
33.88
12389D
5.13e5
34.31
Abs. Int.
5.69e5
2.85e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.05e3
CS 12347D
6.30e6
33.35
ES 12378D
6.82e6
33.86
Abs. Int.
1.97e6
9.86e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.66e3
CS 12347D
3.95e6
33.35
ES 12378D
4.50e6
33.86
Abs. Int.
1.25e6
6.25e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
3.39e6
1.70e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



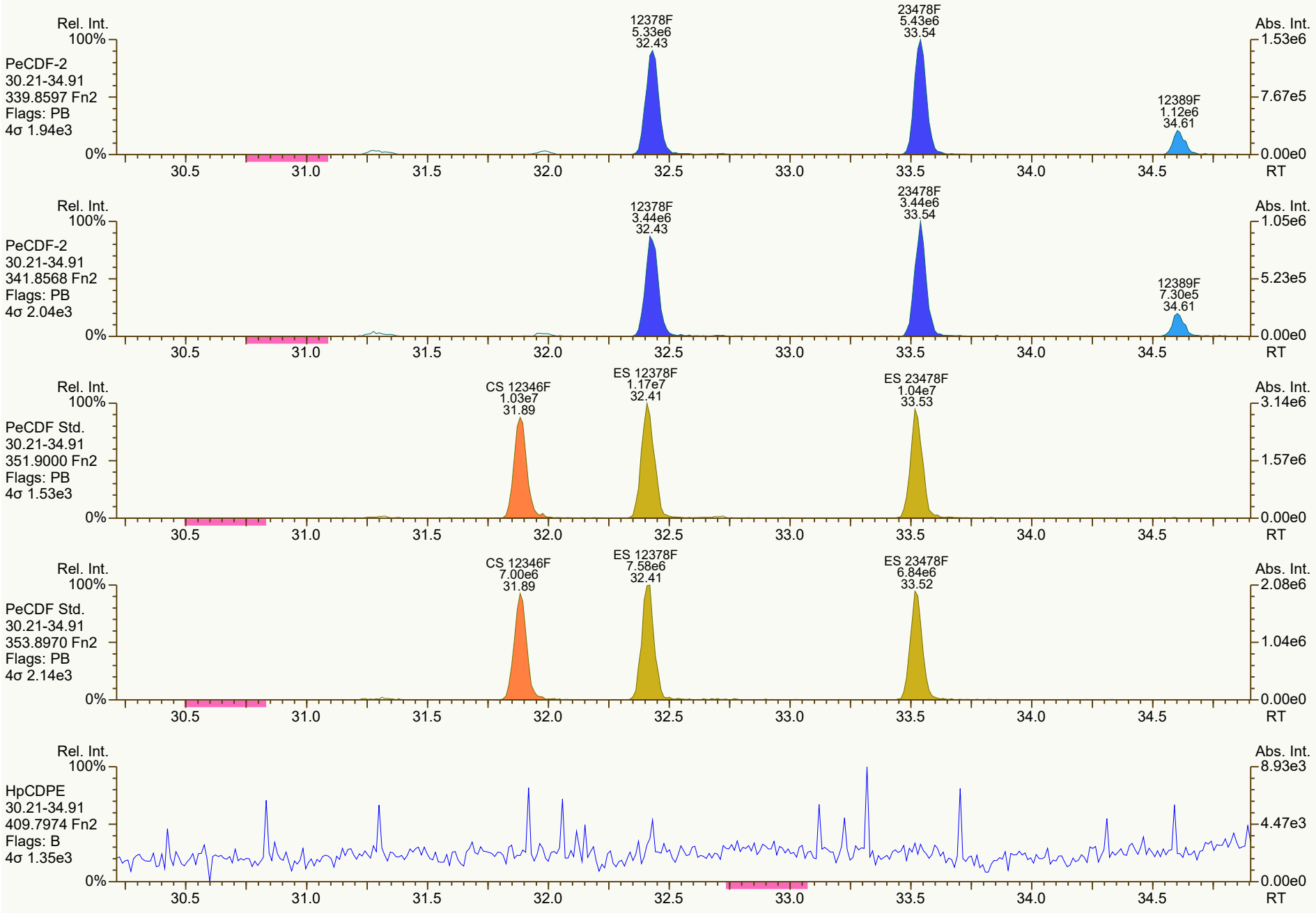
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\OPR1_18874_DF.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8254, 3473 scc: 406-630
Revised: 03-Feb-2022 09:40 (DTF) Printed: 03-Feb-2022 13:49 Page 4 of 12

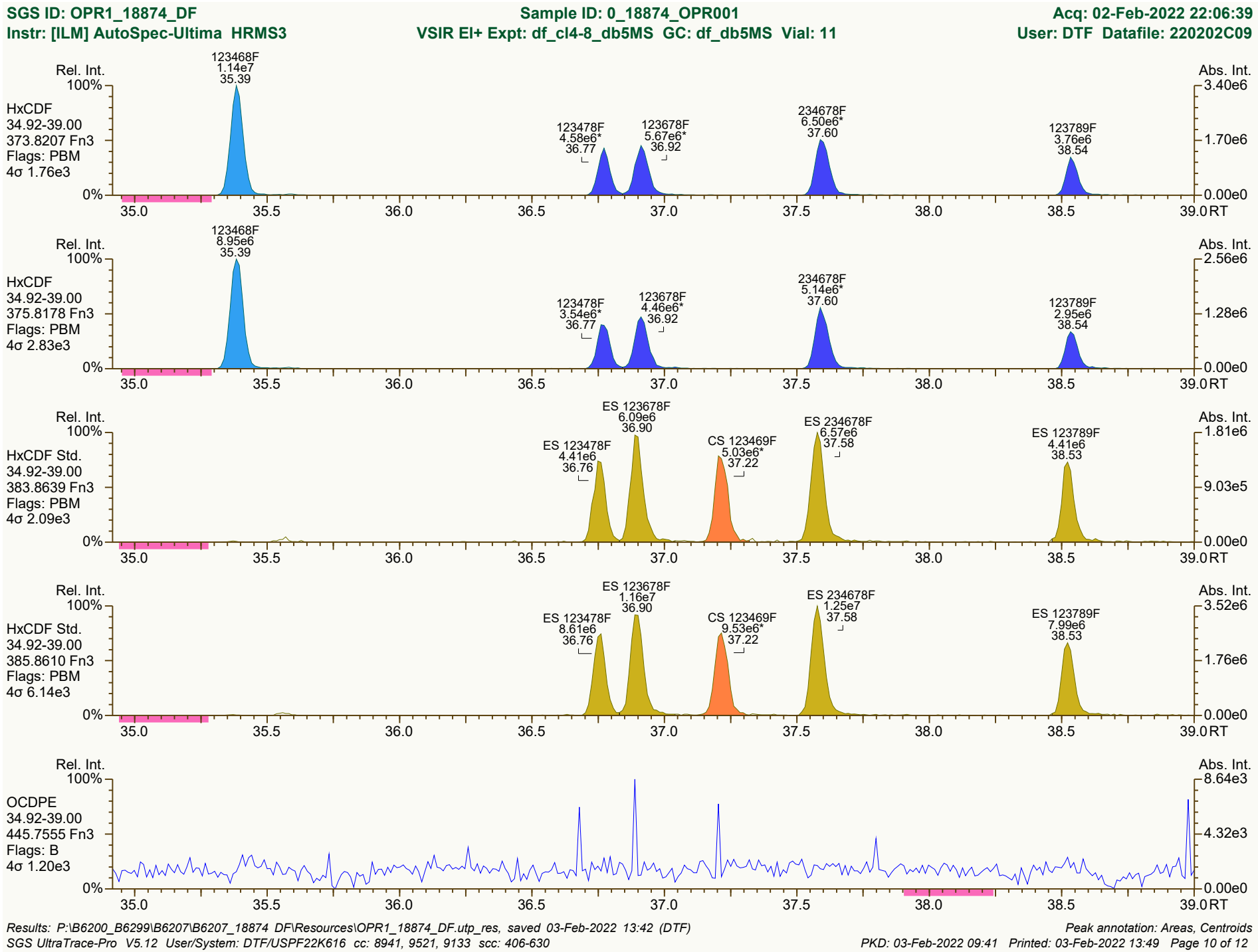

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.28e3
1234678D
2.86e6
40.84
1234679D
6.78e5
40.16
Abs. Int.
8.91e5
4.46e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.69e3
1234678D
2.84e6
40.84
1234679D
6.81e5
40.16
Abs. Int.
9.14e5
4.57e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.07e3
ES 1234678D
5.57e6
40.83
Abs. Int.
1.62e6
8.09e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.77e3
ES 1234678D
5.06e6
40.83
Abs. Int.
1.64e6
8.18e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

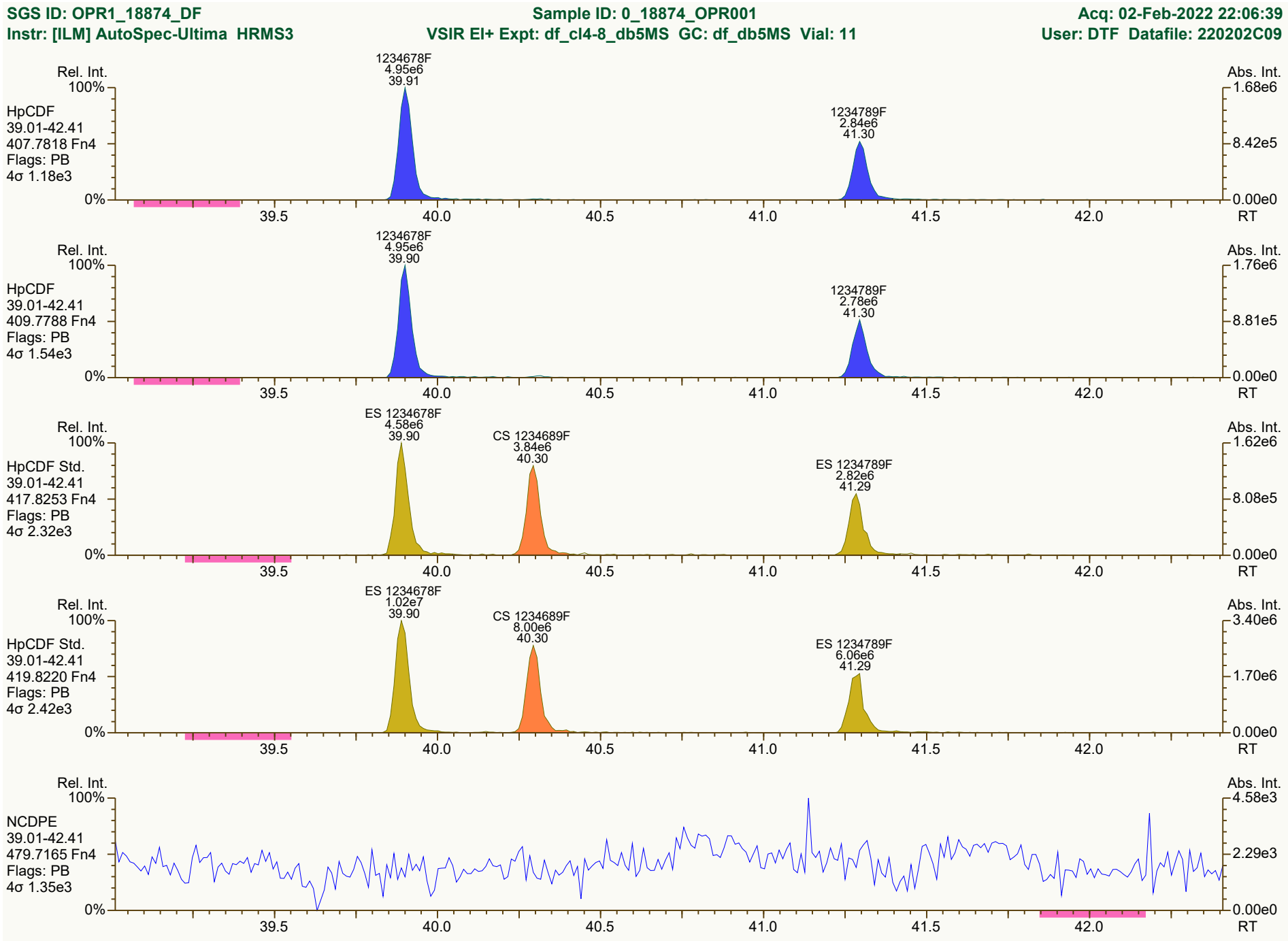

OCDD
3.93e6
43.52
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.16e3
OCDD
4.33e6
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.55e3
ES OCDD
6.78e6
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.99e3
ES OCDD
7.51e6
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.79e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

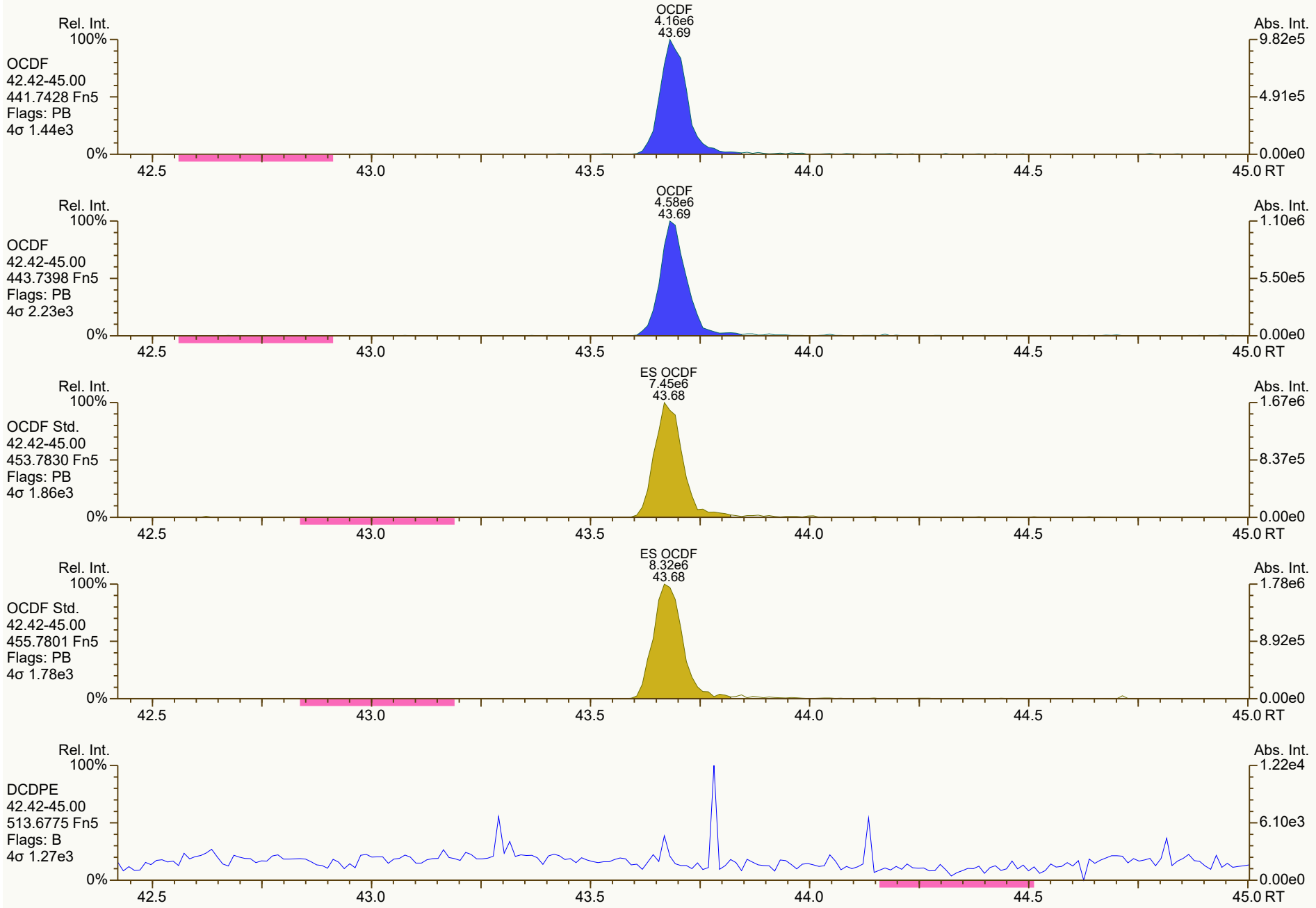

SGS ID: OPR1_18874_DF
Sample ID: 0_18874_OPR001
Acq: 02-Feb-2022 22:06:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220202C09
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.47e3
1368F 1.32e6 22.82
2468F 3.70e5 24.03
2348F 1.33e6 27.58
2378F 9.66e5* 27.69
1289F 1.46e6 29.69
3.85e5
1.92e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.24e3
1368F 1.72e6 22.82
2468F 4.43e5 24.03
2348F 1.65e6 27.58
2378F 1.27e6* 27.69
1289F 1.83e6 29.69
4.06e5
2.03e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.28e3
JS 1234F 8.88e6 26.31
ES 2378F 9.07e6 27.67
2.17e6
1.09e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.40e3
JS 1234F 1.07e7 26.31
ES 2378F 1.06e7 27.67
2.50e6
1.25e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.32e3
1.06e4
5.30e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\OPR1_18874_DF.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2372, 1171, 5913 scc: 406-630
PKD: 03-Feb-2022 09:41 Printed: 03-Feb-2022 13:49 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.58e3
13468/12468F
9.12e6
29.60
Abs. Int.
2.44e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.25e3
13468/12468F
5.72e6
29.60
Abs. Int.
1.42e6
7.08e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.14e6
2.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.94e3
0%
12378F
5.33e6
32.43
23478F
5.43e6
33.54
12389F
1.12e6
34.61
Abs. Int.
1.53e6
7.67e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 2.04e3
0%
12378F
3.44e6
32.43
23478F
3.44e6
33.54
12389F
7.30e5
34.61
Abs. Int.
1.05e6
5.23e5
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.53e3
0%
CS 12346F
1.03e7
31.89
ES 12378F
1.17e7
32.41
ES 23478F
1.04e7
33.53
Abs. Int.
3.14e6
1.57e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.14e3
0%
CS 12346F
7.00e6
31.89
ES 12378F
7.58e6
32.41
ES 23478F
6.84e6
33.52
Abs. Int.
2.08e6
1.04e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.35e3
0%
Abs. Int.
8.93e3
4.47e3
0.00e0
RT


SGS ID: OPR1_18874_DF
Sample ID: 0_18874_OPR001
Acq: 02-Feb-2022 22:06:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220202C09
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.76e3
123468F 1.14e7 35.39
123478F 4.58e6* 36.77
123678F 5.67e6* 36.92
234678F 6.50e6* 37.60
123789F 3.76e6 38.54
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.83e3
123468F 8.95e6 35.39
123478F 3.54e6* 36.77
123678F 4.46e6* 36.92
234678F 5.14e6* 37.60
123789F 2.95e6 38.54
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 2.09e3
ES 123678F 6.09e6 36.90
ES 123478F 4.41e6 36.76
CS 123469F 5.03e6* 37.22
ES 234678F 6.57e6 37.58
ES 123789F 4.41e6 38.53
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 6.14e3
ES 123678F 1.16e7 36.90
ES 123478F 8.61e6 36.76
CS 123469F 9.53e6* 37.22
ES 234678F 1.25e7 37.58
ES 123789F 7.99e6 38.53
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.20e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
3.40e6
1.70e6
0.00e0
2.56e6
1.28e6
1.81e6
9.03e5
3.52e6
1.76e6
8.64e3
4.32e3
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\OPR1_18874_DF.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8941, 9521, 9133 scc: 406-630
PKD: 03-Feb-2022 09:41 Printed: 03-Feb-2022 13:49 Page 10 of 12


SGS ID: OPR1_18874_DF
Sample ID: 0_18874_OPR001
Acq: 02-Feb-2022 22:06:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220202C09
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.18e3
1234678F
4.95e6
39.91
1234789F
2.84e6
41.30
1.68e6
8.42e5
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.54e3
1234678F
4.95e6
39.90
1234789F
2.78e6
41.30
1.76e6
8.81e5
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.32e3
ES 1234678F
4.58e6
39.90
CS 1234689F
3.84e6
40.30
ES 1234789F
2.82e6
41.29
1.62e6
8.08e5
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.42e3
ES 1234678F
1.02e7
39.90
CS 1234689F
8.00e6
40.30
ES 1234789F
6.06e6
41.29
3.40e6
1.70e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.35e3
4.58e3
2.29e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6207\B6207_18874 DF\Resources\OPR1_18874_DF.utp_res, saved 03-Feb-2022 13:42 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8052, 2560, 4699 scc: 406-630
Revised: 03-Feb-2022 09:40 (DTF) Printed: 03-Feb-2022 13:49 Page 11 of 12


OCDF
4.16e6
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.44e3
0%
Abs. Int.
9.82e5
4.91e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.58e6
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.23e3
0%
Abs. Int.
1.10e6
5.50e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.45e6
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.86e3
0%
Abs. Int.
1.67e6
8.37e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.32e6
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.78e3
0%
Abs. Int.
1.78e6
8.92e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
1.22e4
6.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011922-S-BN-SW-B-23H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID	B6208_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	79.5 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:00:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.79				ES 2378-TCDD	81.1	
12378-PeCDD	ND	0.341			ES 12378-PeCDD	95.1	
123478-HxCDD	ND	0.25			ES 123478-HxCDD	85.4	
123678-HxCDD	ND	0.228			ES 123678-HxCDD	93.9	
123789-HxCDD	1.11			J	ES 123789-HxCDD	85	
1234678-HpCDD	16.8				ES 1234678-HpCDD	92	
OCDD	349				ES OCDD	91.4	
2378-TCDF	4.85				ES 2378-TCDF	76.5	
12378-PeCDF	ND	0.159			ES 12378-PeCDF	87.2	
23478-PeCDF	ND	0.157			ES 23478-PeCDF	84.5	
123478-HxCDF	0.56			J	ES 123478-HxCDF	85.1	
123678-HxCDF	ND	0.17			ES 123678-HxCDF	95.2	
234678-HxCDF	ND	0.184			ES 234678-HxCDF	97.5	
123789-HxCDF	ND	0.222			ES 123789-HxCDF	81.5	
1234678-HpCDF	0.817			J	ES 1234678-HpCDF	107	
1234789-HpCDF	ND	0.265			ES 1234789-HpCDF	82.3	
OCDF	2.83			J	ES OCDF	79.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	83.9	
Total TCDD	6.81		7.38		CS 12347-PeCDD	105	
Total PeCDD	3.64		4.2		CS 12346-PeCDF	94.5	
Total HxCDD	23.8		23.8		CS 123469-HxCDF	103	
Total HpCDD	53.6		53.6		CS 1234689-HpCDF	104	
Total TCDF	7.45		8.19				
Total PeCDF	ND	0.158	ND				
Total HxCDF	0.56		0.56				
Total HpCDF	2.27		2.27				
Total PCDD/Fs	**450**		**452**				
WHO-2005 TEQs							
TEQ: ND=0	2.72		2.72				
TEQ: ND=DL/2	2.97	0.521	2.97				
TEQ: ND=DL	3.22	1.04	3.22				

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Sample ID: 11215131-011922-S-BN-SW-B-23H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6208_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	79.5 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:00:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers
1368D	(0.468)	
1379D	(0.468)	
1369D	0.329	J
1469D	4.69	
1247D...[4]	(0.468)	
1378D	(0.468)	
1268D	(0.468)	
1478D	(0.468)	
1279D	(0.468)	
1234/1269D	[0.573]	
1236D	(0.468)	
1237/1238D	(0.468)	
1239D	(0.468)	
2378D	1.79	
1278D	(0.468)	
1267D	(0.468)	
1289D	(0.468)	
Conc.	6.81	
EMPC	7.38	

Penta-Dioxins	Conc. (pg/g)	Qualifiers
12479/12468D	[0.569]	J
12469D	2.84	
12368D	(0.341)	
12478D	(0.341)	
12379D	(0.341)	
12369D...[3]	0.799	J
12346/12347D	(0.341)	
12378D	(0.341)	
12367D	(0.341)	
12389D	(0.341)	
Conc.	3.64	
EMPC	4.2	

Hexa-Dioxins	Conc (pg/g)	Qualifiers
124679/124689D	18.8	
123468D	(0.239)	
123679/123689D	3.85	
123469D	(0.239)	
123478D	(0.25)	
123678D	(0.228)	
123467D	(0.239)	
123789D	1.11	J
Conc.	23.8	
EMPC	23.8	

Hepta-Dioxins	Conc (pg/g)	Qualifiers
1234679D	36.8	
1234678D	16.8	
Conc.	53.6	
EMPC	53.6	

Octa-Dioxin	Conc (pg/g)	Qualifiers
OCDD	349	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2.72	2.72
TEQ: ND=DL/2	2.97	2.97
TEQ: ND=DL	3.22	3.22

	Conc.	EMPC
Total PCDD/Fs	450	452

Checkcode: 762-298-JSZ

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-23H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6208_18911_DF_001	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	79.5 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:00:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.257)		13468/12468F	(0.2)		123468F	(0.186)		1234678F	0.817	J
1468F	(0.257)		13678F...[3]	(0.158)		124678/134678F	(0.186)		1234679F	(0.19)	
2468F	[0.222]	J	12368F...[3]	(0.158)		134679F	(0.186)		1234689F	1.45	J
1346/1246F	(0.257)		14678F	(0.158)		124679F	(0.186)		1234789F	(0.265)	
1347F...[3]	(0.257)		13479F	(0.158)		124689F	(0.186)				
1348F	(0.257)		13469/12479F	(0.158)		123467F	(0.186)				
1248F...[3]	(0.257)		12346F	(0.158)		123478F	0.56	J			
1268F	(0.257)		23468/12469F	(0.158)		123678F	(0.17)				
1467F	(0.257)		12347F	(0.158)		123479F	(0.186)				
1478F	(0.257)		12348F	(0.158)		123469F	(0.186)				
1369/1237F	(0.257)		12378F	(0.159)		123679F	(0.186)				
2467F	(0.257)		12678/12367F	(0.158)		234678F	(0.184)		**Conc.**	2.27	
2368F	(0.257)		12379F	(0.158)		234678/123689F	0		**EMPC**	2.27	
1238F...[5]	(0.257)		12679F	(0.158)		123689F	(0.186)				
1278F	2.21		23467/12369F	(0.158)		123789F	(0.222)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.257)		23478F	(0.157)		123789/123489F	0				
1267F	(0.257)		23478/12489F	0		123489F	(0.186)		OCDF	2.83	J
2346/1249F	(0.257)		12489F	(0.158)							
2347/1279F	(0.257)		12349F	(0.158)							
2348F	0.396	J	12389F	(0.158)							
2378F	4.85										
2367/3467F	[0.319]	J									
1269F	(0.257)										
1239F	(0.257)										
1289F	[0.205]	J									
Conc.	7.45		**Conc.**	0		**Conc.**	0.56				
EMPC	8.19		**EMPC**	0		**EMPC**	0.56				

Checkcode: 762-298-JSZ

Report Created: 21-Feb-2022 10:42 Analyst: pw

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Sample ID: 11215131-011922-S-BN-SW-B-23H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6208_18911_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	QC Batch No.:	18911
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 09:00
Lab Project No:	B6208	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.79		0.468	1.79	1.79	1.79
12378-PeCDD	(0.341)		0.341	(0.171)	(0.341)	(0.341)
123478-HxCDD	(0.25)		0.25	(0.025)	(0.025)	(0.025)
123678-HxCDD	(0.228)		0.228	(0.0228)	(0.0228)	(0.0228)
123789-HxCDD	1.11	J	0.241	0.111	0.111	0.111
1234678-HpCDD	16.8		0.34	0.168	0.168	0.168
OCDD	349		0.75	0.349	0.0349	0.105
2378-TCDF	4.85		0.257	0.485	0.485	0.485
12378-PeCDF	(0.159)		0.159	(0.00795)	(0.00795)	(0.00477)
23478-PeCDF	(0.157)		0.157	(0.0783)	(0.0783)	(0.047)
123478-HxCDF	0.56	J	0.178	0.056	0.056	0.056
123678-HxCDF	(0.17)		0.17	(0.017)	(0.017)	(0.017)
234678-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
123789-HxCDF	(0.222)		0.222	(0.0222)	(0.0222)	(0.0222)
1234678-HpCDF	0.817	J	0.14	0.00817	0.00817	0.00817
1234789-HpCDF	(0.265)		0.265	(0.00265)	(0.00265)	(0.00265)
OCDF	2.83	J	0.656	0.00283	0.000283	0.000849

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TEQ Summaries			
EMPC = 0, ND = 0	2.97	2.65	2.72
EMPC = 0, ND = DL / 2	3.15	2.92	2.97
EMPC = 0, ND = DL	3.33	3.19	3.22
EMPC = 0, < J-level = 0	2.79	2.48	2.55
EMPC = EMPC, ND = 0	2.97	2.65	2.72
EMPC = EMPC, ND = DL / 2	3.15	2.92	2.97
EMPC = EMPC, ND = DL	3.33	3.19	3.22
EMPC = EMPC, < J-level = 0	2.79	2.48	2.55

Checkcode: 762-298-JSZ

SGS North America - DF v0.99

Sample ID: 11215131-011922-S-BN-SW-B-21H1 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.34 g	Lab Sample ID	B6208_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	72.5 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:47:17

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	238				ES 2378-TCDD	98	
12378-PeCDD	EMPC		3.6		ES 12378-PeCDD	104	
123478-HxCDD	2.01			J	ES 123478-HxCDD	94.2	
123678-HxCDD	8.97				ES 123678-HxCDD	98.1	
123789-HxCDD	5.48				ES 123789-HxCDD	94.2	
1234678-HpCDD	191				ES 1234678-HpCDD	102	
OCDD	3,200				ES OCDD	105	
2378-TCDF	682				ES 2378-TCDF	90.9	
12378-PeCDF	20.7				ES 12378-PeCDF	96.9	
23478-PeCDF	21.7			PR	ES 23478-PeCDF	99.3	
123478-HxCDF	31.7				ES 123478-HxCDF	96.7	
123678-HxCDF	8.76				ES 123678-HxCDF	99.6	
234678-HxCDF	4.95				ES 234678-HxCDF	102	
123789-HxCDF	ND	0.407			ES 123789-HxCDF	100	
1234678-HpCDF	120				ES 1234678-HpCDF	105	
1234789-HpCDF	14				ES 1234789-HpCDF	106	
OCDF	2,970				ES OCDF	108	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.7	
Total TCDD	278		280		CS 12347-PeCDD	104	
Total PeCDD	19.4		24		CS 12346-PeCDF	95.2	
Total HxCDD	105		105		CS 123469-HxCDF	98.1	
Total HpCDD	449		449		CS 1234689-HpCDF	105	
Total TCDF	1,350		1,350				
Total PeCDF	114		115				
Total HxCDF	117		117				
Total HpCDF	230		230				
Total PCDD/Fs	**8,840**		**8,850**				
WHO-2005 TEQs							
TEQ: ND=0	325		329				
TEQ: ND=DL/2	325	0.598	329				
TEQ: ND=DL	325	1.2	329				

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Sample ID: 11215131-011922-S-BN-SW-B-21H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.34 g	Lab Sample ID:	B6208_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	72.5 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:47:17

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.61		12479/12468D	5.91		124679/124689D	47.3		1234679D	258	
1379D	1.35		12469D	3.78		123468D	5.61		1234678D	191	
1369D	0.676		12368D	2.67		123679/123689D	32.3				
1469D	3.65		12478D	1.72	J	123469D	2.07	J			
1247D...[4]	[1.26]		12379D	1.52	J	123478D	2.01	J			
1378D	1.4		12369D...[3]	3.41		123678D	8.97				
1268D	(0.334)		12346/12347D	0.43	J	123467D	1.59	J			
1478D	0.784		12378D	[3.6]		123789D	5.48		**Conc.**	449	
1279D	[0.717]		12367D	[0.369]	J				**EMPC**	449	
1234/1269D	1.06		12389D	[0.638]	J						
1236D	(0.334)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	3.87									**(pg/g)**	
1239D	(0.334)								OCDD	3200	
2378D	238										
1278D	22.2										
1267D	(0.334)										
1289D	0.983										
Conc.	278		**Conc.**	19.4		**Conc.**	105				
EMPC	280		**EMPC**	24		**EMPC**	105				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	325	329
TEQ: ND=DL/2	325	329
TEQ: ND=DL	325	329

	Conc.	EMPC
Total PCDD/Fs	8,840	8,850

Checkcode: 898-213-CXX

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-21H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.34 g	Lab Sample ID:	B6208_18911_DF_002	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	72.5 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:47:17

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[1.16]		13468/12468F	24.1		123468F	8.52		1234678F	120	
1468F	4.02		13678F...[3]	3.19		124678/134678F	26.3		1234679F	8.02	
2468F	9.37		12368F...[3]	21.8		134679F	(0.39)		1234689F	87.8	
1346/1246F	1.83		14678F	0.997	J	124679F	1.67	J	1234789F	14	
1347F...[3]	10.7		13479F	(0.281)		124689F	26.8				
1348F	3.36		13469/12479F	0.716	J	123467F	2.28	J			
1248F...[3]	36.7		12346F	[0.44]	J	123478F	31.7				
1268F	16		23468/12469F	5.89		123678F	8.76				
1467F	2.19		12347F	[0.662]	J	123479F	(0.39)				
1478F	32.2		12348F	3.73		123469F	2.06	J			
1369/1237F	8.45		12378F	20.7		123679F	(0.39)				
2467F	1.95		12678/12367F	9.18		234678F	4.95		**Conc.**	230	
2368F	59.8		12379F	(0.281)		234678/123689F	0		**EMPC**	230	
1238F...[5]	(0.182)		12679F	(0.281)		123689F	(0.39)				
1278F	289		23467/12369F	1.07	J	123789F	(0.407)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.182)		23478F	21.7	PR	123789/123489F	0				
1267F	17.8		23478/12489F	0		123489F	3.68		OCDF	2970	
2346/1249F	2.27		12489F	(0.281)							
2347/1279F	8.51		12349F	(0.281)							
2348F	44.5		12389F	1.31	J						
2378F	682										
2367/3467F	58.9										
1269F	11										
1239F	0.942										
1289F	51.9										
Conc.	1,350		**Conc.**	114		**Conc.**	117				
EMPC	1,350		**EMPC**	115		**EMPC**	117				

Checkcode: 898-213-CXX

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-21H1 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6208_18911_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.34 g	QC Batch No.:	18911
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 09:47
Lab Project No:	B6208	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	238		0.334	238	238	238
12378-PeCDD	[3.6]		0.396	[1.8]	[3.6]	[3.6]
123478-HxCDD	2.01	J	0.691	0.201	0.201	0.201
123678-HxCDD	8.97		0.631	0.897	0.897	0.897
123789-HxCDD	5.48		0.633	0.548	0.548	0.548
1234678-HpCDD	191		0.303	1.91	1.91	1.91
OCDD	3200		0.869	3.2	0.32	0.961
2378-TCDF	682		0.182	68.2	68.2	68.2
12378-PeCDF	20.7		0.293	1.03	1.03	0.62
23478-PeCDF	21.7	PR	0.268	10.9	10.9	6.52
123478-HxCDF	31.7		0.397	3.17	3.17	3.17
123678-HxCDF	8.76		0.374	0.876	0.876	0.876
234678-HxCDF	4.95		0.385	0.495	0.495	0.495
123789-HxCDF	(0.407)		0.407	(0.0407)	(0.0407)	(0.0407)
1234678-HpCDF	120		0.134	1.2	1.2	1.2
1234789-HpCDF	14		0.193	0.14	0.14	0.14
OCDF	2970		0.467	2.97	0.297	0.892

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TEQ Summaries			
EMPC = 0, ND = 0	334	329	325
EMPC = 0, ND = DL / 2	334	329	325
EMPC = 0, ND = DL	334	329	325
EMPC = 0, < J-level = 0	334	328	325
EMPC = EMPC, ND = 0	336	332	329
EMPC = EMPC, ND = DL / 2	336	332	329
EMPC = EMPC, ND = DL	336	332	329
EMPC = EMPC, < J-level = 0	336	332	328

Checkcode: 898-213-CXX

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Sample ID: 11215131-011922-S-BN-SW-B-21H2 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID	B6208_18911_DF_003	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	76.9 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:33:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	28.4				ES 2378-TCDD	81.8	
12378-PeCDD	1.03			J	ES 12378-PeCDD	87.5	
123478-HxCDD	EMPC		0.881	J	ES 123478-HxCDD	82.9	
123678-HxCDD	EMPC		2.27	J	ES 123678-HxCDD	87	
123789-HxCDD	2.17			J	ES 123789-HxCDD	84.1	
1234678-HpCDD	55				ES 1234678-HpCDD	91.9	
OCDD	1,040				ES OCDD	95.1	
2378-TCDF	91.1				ES 2378-TCDF	74	
12378-PeCDF	2.99				ES 12378-PeCDF	81.9	
23478-PeCDF	3.59			PR	ES 23478-PeCDF	82.7	
123478-HxCDF	4.59				ES 123478-HxCDF	87.5	
123678-HxCDF	EMPC		1.35	J	ES 123678-HxCDF	89.1	
234678-HxCDF	1.42			J	ES 234678-HxCDF	95.7	
123789-HxCDF	ND	0.417			ES 123789-HxCDF	87.4	
1234678-HpCDF	35.7				ES 1234678-HpCDF	96.5	
1234789-HpCDF	2.89				ES 1234789-HpCDF	91.6	
OCDF	581				ES OCDF	94.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.8	
Total TCDD	36.8		36.8		CS 12347-PeCDD	107	
Total PeCDD	6.04		8.11		CS 12346-PeCDF	96.6	
Total HxCDD	35.4		39.2		CS 123469-HxCDF	106	
Total HpCDD	146		146		CS 1234689-HpCDF	118	
Total TCDF	188		188				
Total PeCDF	21.8		22.9				
Total HxCDF	20.5		22.6				
Total HpCDF	59		59				
Total PCDD/Fs	**2,130**		**2,140**				
WHO-2005 TEQs							
TEQ: ND=0	42		42.4				
TEQ: ND=DL/2	42	0.56	42.4				
TEQ: ND=DL	42	1.12	42.5				

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Sample ID: 11215131-011922-S-BN-SW-B-21H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6208_18911_DF_003	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:33:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.08		12479/12468D	[1.42]	J	124679/124689D	20.7		1234679D	90.6	
1379D	(0.407)		12469D	2.12	J	123468D	1.37	J	1234678D	55	
1369D	(0.407)		12368D	0.623	J	123679/123689D	10.3				
1469D	3.68		12478D	0.718	J	123469D	0.763	J			
1247D...[4]	(0.407)		12379D	[0.373]	J	123478D	[0.881]	J			
1378D	(0.407)		12369D...[3]	1.55	J	123678D	[2.27]	J			
1268D	(0.407)		12346/12347D	(0.34)		123467D	[0.725]	J			
1478D	(0.407)		12378D	1.03	J	123789D	2.17	J	**Conc.**	146	
1279D	(0.407)		12367D	(0.34)					**EMPC**	146	
1234/1269D	(0.407)		12389D	[0.282]	J						
1236D	(0.407)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	0.768										
1239D	(0.407)								OCDD	1040	
2378D	28.4										
1278D	2.87										
1267D	(0.407)										
1289D	(0.407)										
Conc.	36.8		**Conc.**	6.04		**Conc.**	35.4				
EMPC	36.8		**EMPC**	8.11		**EMPC**	39.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	42	42.4
TEQ: ND=DL/2	42	42.4
TEQ: ND=DL	42	42.5

	Conc.	EMPC
Total PCDD/Fs	2,130	2,140

Checkcode: 264-997-TQL

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-21H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6208_18911_DF_003	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:33:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.23	J	13468/12468F	6.62		123468F	2.38	J	1234678F	35.7	
1468F	0.707		13678F...[3]	0.71	J	124678/134678F	6		1234679F	1.45	J
2468F	2.65		12368F...[3]	4.61		134679F	(0.365)		1234689F	19	
1346/1246F	0.413	J	14678F	(0.241)		124679F	(0.365)		1234789F	2.89	
1347F...[3]	2.05		13479F	(0.241)		124689F	6.14				
1348F	0.421	J	13469/12479F	(0.241)		123467F	(0.365)				
1248F...[3]	5.98		12346F	(0.241)		123478F	4.59				
1268F	2.67		23468/12469F	1.55	J	123678F	[1.35]	J			
1467F	0.587		12347F	(0.241)		123479F	(0.365)				
1478F	4.2		12348F	[0.607]	J	123469F	[0.211]	J			
1369/1237F	1.04		12378F	2.99		123679F	(0.365)				
2467F	[0.216]	J	12678/12367F	1.75	J	234678F	1.42	J	**Conc.**	59	
2368F	3.5		12379F	(0.241)		234678/123689F	0		**EMPC**	59	
1238F...[5]	5		12679F	(0.241)		123689F	(0.365)				
1278F	42.2		23467/12369F	[0.222]	J	123789F	(0.417)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.243)		23478F	3.59	PR	123789/123489F	0			(pg/g)	
1267F	2.43		23478/12489F	0		123489F	[0.476]	J	OCDF	581	
2346/1249F	(0.243)		12489F	(0.241)							
2347/1279F	0.889		12349F	(0.241)							
2348F	5.33		12389F	[0.209]	J						
2378F	91.1										
2367/3467F	7.62										
1269F	1.6										
1239F	(0.243)										
1289F	7.02										
Conc.	188		**Conc.**	21.8		**Conc.**	20.5				
EMPC	188		**EMPC**	22.9		**EMPC**	22.6				

Checkcode: 264-997-TQL

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-21H2 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6208_18911_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	QC Batch No.:	18911
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 10:33
Lab Project No:	B6208	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	28.4		0.407	28.4	28.4	28.4
12378-PeCDD	1.03	J	0.34	0.514	1.03	1.03
123478-HxCDD	[0.881]	J	0.413	[0.0881]	[0.0881]	[0.0881]
123678-HxCDD	[2.27]	J	0.383	[0.227]	[0.227]	[0.227]
123789-HxCDD	2.17	J	0.346	0.217	0.217	0.217
1234678-HpCDD	55		0.299	0.55	0.55	0.55
OCDD	1040		0.743	1.04	0.104	0.312
2378-TCDF	91.1		0.243	9.11	9.11	9.11
12378-PeCDF	2.99		0.241	0.15	0.15	0.0897
23478-PeCDF	3.59	PR	0.242	1.8	1.8	1.08
123478-HxCDF	4.59		0.351	0.459	0.459	0.459
123678-HxCDF	[1.35]	J	0.345	[0.135]	[0.135]	[0.135]
234678-HxCDF	1.42	J	0.354	0.142	0.142	0.142
123789-HxCDF	(0.417)		0.417	(0.0417)	(0.0417)	(0.0417)
1234678-HpCDF	35.7		0.159	0.357	0.357	0.357
1234789-HpCDF	2.89		0.239	0.0289	0.0289	0.0289
OCDF	581		0.854	0.581	0.0581	0.174

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TEQ Summaries			
EMPC = 0, ND = 0	43.4	42.4	42
EMPC = 0, ND = DL / 2	43.4	42.4	42
EMPC = 0, ND = DL	43.4	42.5	42
EMPC = 0, < J-level = 0	42.5	41	40.6
EMPC = EMPC, ND = 0	43.8	42.9	42.4
EMPC = EMPC, ND = DL / 2	43.8	42.9	42.4
EMPC = EMPC, ND = DL	43.9	42.9	42.5
EMPC = EMPC, < J-level = 0	42.5	41	40.6

Checkcode: 264-997-TQL

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Sample ID: 11215131-011922-S-BN-SW-B-20H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.47 g	Lab Sample ID	B6208_18911_DF_004	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	76.6 %	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:20:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	132				ES 2378-TCDD	90.3	
12378-PeCDD	2.5				ES 12378-PeCDD	100	
123478-HxCDD	1.82			J	ES 123478-HxCDD	88.8	
123678-HxCDD	7.47				ES 123678-HxCDD	88.6	
123789-HxCDD	4.67				ES 123789-HxCDD	90.2	
1234678-HpCDD	166				ES 1234678-HpCDD	98.2	
OCDD	2,810				ES OCDD	104	
2378-TCDF	408				ES 2378-TCDF	85.9	
12378-PeCDF	9.61				ES 12378-PeCDF	94.7	
23478-PeCDF	13.1			PR	ES 23478-PeCDF	94	
123478-HxCDF	15.3				ES 123478-HxCDF	88.8	
123678-HxCDF	4.79				ES 123678-HxCDF	92.2	
234678-HxCDF	4.19				ES 234678-HxCDF	94.4	
123789-HxCDF	ND	0.351			ES 123789-HxCDF	93.8	
1234678-HpCDF	88.9				ES 1234678-HpCDF	100	
1234789-HpCDF	10.7				ES 1234789-HpCDF	99.3	
OCDF	2,660				ES OCDF	108	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.6	
Total TCDD	160		163		CS 12347-PeCDD	103	
Total PeCDD	19.2		20.8		CS 12346-PeCDF	94.1	
Total HxCDD	88.3		88.3		CS 123469-HxCDF	98.7	
Total HpCDD	403		403		CS 1234689-HpCDF	105	
Total TCDF	823		824				
Total PeCDF	78.6		79.8				
Total HxCDF	82.1		83.1				
Total HpCDF	184		184				
Total PCDD/Fs	**7,300**		**7,310**				
WHO-2005 TEQs							
TEQ: ND=0	188		188				
TEQ: ND=DL/2	188	0.507	188				
TEQ: ND=DL	188	1.01	188				

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Sample ID: 11215131-011922-S-BN-SW-B-20H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.47 g	Lab Sample ID:	B6208_18911_DF_004	Date Extracted:	16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	76.6 %	QC Batch No.:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:20:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.39		12479/12468D	4.73		124679/124689D	40		1234679D	236	
1379D	1.21		12469D	4.04		123468D	4.61		1234678D	166	
1369D	[0.515]		12368D	2.12	J	123679/123689D	26.9				
1469D	5.02		12478D	1.87	J	123469D	1.32	J			
1247D...[4]	1.12		12379D	[1.13]	J	123478D	1.82	J			
1378D	1.02		12369D...[3]	3.43		123678D	7.47				
1268D	(0.266)		12346/12347D	(0.339)		123467D	1.61	J			
1478D	[0.463]	J	12378D	2.5		123789D	4.67		**Conc.**	403	
1279D	[0.494]		12367D	[0.387]	J				**EMPC**	403	
1234/1269D	1.23		12389D	0.542	J						
1236D	(0.266)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	2.33										
1239D	(0.266)								OCDD	2810	
2378D	132										
1278D	11.9										
1267D	0.704										
1289D	[0.811]										
Conc.	160		**Conc.**	19.2		**Conc.**	88.3				
EMPC	163		**EMPC**	20.8		**EMPC**	88.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	188	188
TEQ: ND=DL/2	188	188
TEQ: ND=DL	188	188

	Conc.	EMPC
Total PCDD/Fs	7,300	7,310

Checkcode: 796-689-RBD

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-20H — Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received: 21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.47 g	Lab Sample ID:	B6208_18911_DF_004	Date Extracted: 16-Feb-2022
Date Collected:	19-Jan-2022	% Solid:	76.6 %	QC Batch No.:	18911	Date Analyzed: 20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 11:20:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.01		13468/12468F	21.6		123468F	7.01		1234678F	88.9	
1468F	2.63		13678F...[3]	2.34	J	124678/134678F	22.3		1234679F	5.87	
2468F	7.26		12368F...[3]	15.7		134679F	0.396	J	1234689F	78.8	
1346/1246F	1.57		14678F	0.907	J	124679F	[0.993]	J	1234789F	10.7	
1347F...[3]	6.77		13479F	(0.221)		124689F	22.8				
1348F	1.15		13469/12479F	1.14	J	123467F	1.63	J			
1248F...[3]	24.3		12346F	[0.431]	J	123478F	15.3				
1268F	10.8		23468/12469F	4		123678F	4.79				
1467F	1.83		12347F	1.18	J	123479F	(0.319)				
1478F	20.4		12348F	2.42		123469F	1.44	J			
1369/1237F	4.64		12378F	9.61		123679F	(0.319)				
2467F	[1.1]		12678/12367F	5.59		234678F	4.19		**Conc.**	184	
2368F	16.5		12379F	(0.221)		234678/123689F	0		**EMPC**	184	
1238F...[5]	19.4		12679F	(0.221)		123689F	(0.319)				
1278F	184		23467/12369F	[0.806]	J	123789F	(0.351)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.2)		23478F	13.1	PR	123789/123489F	0				
1267F	11.1		23478/12489F	0		123489F	2.27	J	OCDF	2660	
2346/1249F	(0.2)		12489F	(0.221)							
2347/1279F	4.86		12349F	(0.221)							
2348F	23.7		12389F	0.954	J						
2378F	408										
2367/3467F	36										
1269F	6.2										
1239F	(0.2)										
1289F	31.2										
Conc.	823		**Conc.**	78.6		**Conc.**	82.1				
EMPC	824		**EMPC**	79.8		**EMPC**	83.1				

Checkcode: 796-689-RBD

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: 11215131-011922-S-BN-SW-B-20H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6208_18911_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.47 g	QC Batch No.:	18911
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	20-Feb-2022 11:20
Lab Project No:	B6208	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	132		0.266	132	132	132
12378-PeCDD	2.5		0.339	1.25	2.5	2.5
123478-HxCDD	1.82	J	0.619	0.182	0.182	0.182
123678-HxCDD	7.47		0.61	0.747	0.747	0.747
123789-HxCDD	4.67		0.582	0.467	0.467	0.467
1234678-HpCDD	166		0.383	1.66	1.66	1.66
OCDD	2810		0.906	2.81	0.281	0.842
2378-TCDF	408		0.2	40.8	40.8	40.8
12378-PeCDF	9.61		0.225	0.48	0.48	0.288
23478-PeCDF	13.1	PR	0.218	6.55	6.55	3.93
123478-HxCDF	15.3		0.314	1.53	1.53	1.53
123678-HxCDF	4.79		0.295	0.479	0.479	0.479
234678-HxCDF	4.19		0.322	0.419	0.419	0.419
123789-HxCDF	(0.351)		0.351	(0.0351)	(0.0351)	(0.0351)
1234678-HpCDF	88.9		0.126	0.889	0.889	0.889
1234789-HpCDF	10.7		0.17	0.107	0.107	0.107
OCDF	2660		0.479	2.66	0.266	0.797

TEQ Summaries			
EMPC = 0, ND = 0	193	190	188
EMPC = 0, ND = DL / 2	194	190	188
EMPC = 0, ND = DL	194	190	188
EMPC = 0, < J-level = 0	193	190	188
EMPC = EMPC, ND = 0	193	190	188
EMPC = EMPC, ND = DL / 2	194	190	188
EMPC = EMPC, ND = DL	194	190	188
EMPC = EMPC, < J-level = 0	193	190	188

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Checkcode: 796-689-RBD

Sample ID: Method Blank B6208_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.388			ES 2378-TCDD	89.5	
12378-PeCDD	ND	0.236			ES 12378-PeCDD	98.9	
123478-HxCDD	ND	0.269			ES 123478-HxCDD	90.6	
123678-HxCDD	ND	0.25			ES 123678-HxCDD	95.4	
123789-HxCDD	ND	0.266			ES 123789-HxCDD	88.3	
1234678-HpCDD	ND	0.39			ES 1234678-HpCDD	93.1	
OCDD	ND	0.598			ES OCDD	88.9	
2378-TCDF	ND	0.224			ES 2378-TCDF	79.3	
12378-PeCDF	ND	0.182			ES 12378-PeCDF	93.4	
23478-PeCDF	ND	0.183			ES 23478-PeCDF	93.7	
123478-HxCDF	ND	0.184			ES 123478-HxCDF	90.9	
123678-HxCDF	ND	0.173			ES 123678-HxCDF	102	
234678-HxCDF	ND	0.178			ES 234678-HxCDF	106	
123789-HxCDF	ND	0.198			ES 123789-HxCDF	88.6	
1234678-HpCDF	ND	0.211			ES 1234678-HpCDF	97.9	
1234789-HpCDF	ND	0.31			ES 1234789-HpCDF	89.8	
OCDF	ND	0.451			ES OCDF	88.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	ND	0.388	ND		CS 12347-PeCDD	120	
Total PeCDD	ND	0.236	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	0.261	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.39	ND		CS 1234689-HpCDF	106	
Total TCDF	ND	0.224	ND				
Total PeCDF	ND	0.183	ND				
Total HxCDF	ND	0.182	ND				
Total HpCDF	ND	0.254	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.434	0.434	0.434				
TEQ: ND=DL	0.868	0.868	0.868				

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Sample ID: Method Blank B6208_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.388)		12479/12468D	(0.236)		124679/124689D	(0.261)		1234679D	(0.39)	
1379D	(0.388)		12469D	(0.236)		123468D	(0.261)		1234678D	(0.39)	
1369D	(0.388)		12368D	(0.236)		123679/123689D	(0.261)				
1469D	(0.388)		12478D	(0.236)		123469D	(0.261)				
1247D...[4]	(0.388)		12379D	(0.236)		123478D	(0.269)				
1378D	(0.388)		12369D...[3]	(0.236)		123678D	(0.25)				
1268D	(0.388)		12346/12347D	(0.236)		123467D	(0.261)				
1478D	(0.388)		12378D	(0.236)		123789D	(0.266)		**Conc.**	0	
1279D	(0.388)		12367D	(0.236)					**EMPC**	0	
1234/1269D	(0.388)		12389D	(0.236)							
1236D	(0.388)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.388)									**(pg/g)**	
1239D	(0.388)								OCDD	(0.598)	
2378D	(0.388)										
1278D	(0.388)										
1267D	(0.388)										
1289D	(0.388)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.434	0.434
TEQ: ND=DL	0.868	0.868

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: Method Blank B6208_18911 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18911_DF_SDS	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:37:00

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.224)		13468/12468F	(0.17)		123468F	(0.182)		1234678F	(0.211)	
1468F	(0.224)		13678F...[3]	(0.183)		124678/134678F	(0.182)		1234679F	(0.254)	
2468F	(0.224)		12368F...[3]	(0.183)		134679F	(0.182)		1234689F	(0.254)	
1346/1246F	(0.224)		14678F	(0.183)		124679F	(0.182)		1234789F	(0.31)	
1347F...[3]	(0.224)		13479F	(0.183)		124689F	(0.182)				
1348F	(0.224)		13469/12479F	(0.183)		123467F	(0.182)				
1248F...[3]	(0.224)		12346F	(0.183)		123478F	(0.184)				
1268F	(0.224)		23468/12469F	(0.183)		123678F	(0.173)				
1467F	(0.224)		12347F	(0.183)		123479F	(0.182)				
1478F	(0.224)		12348F	(0.183)		123469F	(0.182)				
1369/1237F	(0.224)		12378F	(0.182)		123679F	(0.182)				
2467F	(0.224)		12678/12367F	(0.183)		234678F	(0.178)		**Conc.**	0	
2368F	(0.224)		12379F	(0.183)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.224)		12679F	(0.183)		123689F	(0.182)				
1278F	(0.224)		23467/12369F	(0.183)		123789F	(0.198)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.224)		23478F	(0.183)		123789/123489F	0				
1267F	(0.224)		23478/12489F	0		123489F	(0.182)		OCDF	(0.451)	
2346/1249F	(0.224)		12489F	(0.183)							
2347/1279F	(0.224)		12349F	(0.183)							
2348F	(0.224)		12389F	(0.183)							
2378F	(0.224)										
2367/3467F	(0.224)										
1269F	(0.224)										
1239F	(0.224)										
1289F	(0.224)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 399-492-BMX

Report Created: 21-Feb-2022 10:42 Analyst: pw

Sample ID: Method Blank B6208_18911 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18911_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18911
Date Collected:	n/a	Split:	-	Date Extracted:	16-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	19-Feb-2022 19:37
Lab Project No:	B6208	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.388)		0.388	(0.388)	(0.388)	(0.388)
12378-PeCDD	(0.236)		0.236	(0.118)	(0.236)	(0.236)
123478-HxCDD	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
123678-HxCDD	(0.25)		0.25	(0.025)	(0.025)	(0.025)
123789-HxCDD	(0.266)		0.266	(0.0266)	(0.0266)	(0.0266)
1234678-HpCDD	(0.39)		0.39	(0.0039)	(0.0039)	(0.0039)
OCDD	(0.598)		0.598	(0.000598)	(0.0000598)	(0.000179)
2378-TCDF	(0.224)		0.224	(0.0224)	(0.0224)	(0.0224)
12378-PeCDF	(0.182)		0.182	(0.00912)	(0.00912)	(0.00547)
23478-PeCDF	(0.183)		0.183	(0.0915)	(0.0915)	(0.0549)
123478-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
123678-HxCDF	(0.173)		0.173	(0.0173)	(0.0173)	(0.0173)
234678-HxCDF	(0.178)		0.178	(0.0178)	(0.0178)	(0.0178)
123789-HxCDF	(0.198)		0.198	(0.0198)	(0.0198)	(0.0198)
1234678-HpCDF	(0.211)		0.211	(0.00211)	(0.00211)	(0.00211)
1234789-HpCDF	(0.31)		0.31	(0.0031)	(0.0031)	(0.0031)
OCDF	(0.451)		0.451	(0.000451)	(0.0000451)	(0.000135)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.395	0.454	0.434
EMPC = 0, ND = DL	0.791	0.908	0.868
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.395	0.454	0.434
EMPC = EMPC, ND = DL	0.791	0.908	0.868
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 399-492-BMX

Sample ID: 0_18911_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	19-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:04:19

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.7				ES 2378-TCDD	91.5	
12378-PeCDD	50.5				ES 12378-PeCDD	90.9	
123478-HxCDD	54.5				ES 123478-HxCDD	98.2	
123678-HxCDD	56.6				ES 123678-HxCDD	102	
123789-HxCDD	52.2				ES 123789-HxCDD	92	
1234678-HpCDD	54.9				ES 1234678-HpCDD	97.5	
OCDD	112				ES OCDD	90	
2378-TCDF	10.9				ES 2378-TCDF	77.7	
12378-PeCDF	48.7				ES 12378-PeCDF	91.4	
23478-PeCDF	54.1				ES 23478-PeCDF	85.6	
123478-HxCDF	51.5				ES 123478-HxCDF	96.2	
123678-HxCDF	53.7				ES 123678-HxCDF	103	
234678-HxCDF	54.4				ES 234678-HxCDF	111	
123789-HxCDF	48.7				ES 123789-HxCDF	94.4	
1234678-HpCDF	50.9				ES 1234678-HpCDF	104	
1234789-HpCDF	51.7				ES 1234789-HpCDF	95.5	
OCDF	103				ES OCDF	91.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.6	
Total TCDD	53.1		53.1		CS 12347-PeCDD	108	
Total PeCDD	77.7		77.7		CS 12346-PeCDF	98.4	
Total HxCDD	179		179		CS 123469-HxCDF	119	
Total HpCDD	68.4		68.4		CS 1234689-HpCDF	113	
Total TCDF	63.5		63.5				
Total PeCDF	206		206				
Total HxCDF	334		334				
Total HpCDF	103		103				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.265	120				
TEQ: ND=DL	120	0.53	120				

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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18911_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6208	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18911_DF	Date Extracted:	16-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18911	Date Analyzed:	20-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:55:34

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.1				ES 2378-TCDD	97.9	
12378-PeCDD	47.5				ES 12378-PeCDD	103	
123478-HxCDD	52.2				ES 123478-HxCDD	98.4	
123678-HxCDD	54.5				ES 123678-HxCDD	104	
123789-HxCDD	51.6				ES 123789-HxCDD	91.9	
1234678-HpCDD	52.2				ES 1234678-HpCDD	98	
OCDD	109				ES OCDD	92.5	
2378-TCDF	10.7				ES 2378-TCDF	85.1	
12378-PeCDF	49.7				ES 12378-PeCDF	96.4	
23478-PeCDF	50.9				ES 23478-PeCDF	100	
123478-HxCDF	51.4				ES 123478-HxCDF	91.9	
123678-HxCDF	50.6				ES 123678-HxCDF	105	
234678-HxCDF	50.7				ES 234678-HxCDF	114	
123789-HxCDF	47.8				ES 123789-HxCDF	94	
1234678-HpCDF	49.8				ES 1234678-HpCDF	107	
1234789-HpCDF	49.1				ES 1234789-HpCDF	95.3	
OCDF	103				ES OCDF	92.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	101	
Total TCDD	52.3		52.3		CS 12347-PeCDD	116	
Total PeCDD	73.6		73.6		CS 12346-PeCDF	105	
Total HxCDD	174		174		CS 123469-HxCDF	109	
Total HpCDD	65.2		65.2		CS 1234689-HpCDF	106	
Total TCDF	63.4		63.4				
Total PeCDF	197		197				
Total HxCDF	320		320				
Total HpCDF	98.8		98.8				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.279	114				
TEQ: ND=DL	114	0.558	114				

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Sample DUP

Method 1613B

Sample ID: 0_18911_OPR001

Analyte	OPR1_18911_DF pg/uL	OPR2_18911_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.7	11.1	5.3%
1,2,3,7,8-PeCDD	50.5	47.5	6.1%
1,2,3,4,7,8-HxCDD	54.5	52.2	4.3%
1,2,3,6,7,8-HxCDD	56.6	54.5	3.9%
1,2,3,7,8,9-HxCDD	52.2	51.6	1.2%
1,2,3,4,6,7,8-HpCDD	54.9	52.2	5.0%
OCDD	112	109	2.6%
2,3,7,8-TCDF	10.9	10.7	2.1%
1,2,3,7,8-PeCDF	48.7	49.7	2.1%
2,3,4,7,8-PeCDF	54.1	50.9	6.3%
1,2,3,4,7,8-HxCDF	51.5	51.4	0.2%
1,2,3,6,7,8-HxCDF	53.7	50.6	5.9%
2,3,4,6,7,8-HxCDF	54.4	50.7	7.0%
1,2,3,7,8,9-HxCDF	48.7	47.8	1.9%
1,2,3,4,6,7,8-HpCDF	50.9	49.8	2.3%
1,2,3,4,7,8,9-HpCDF	51.7	49.1	5.3%
OCDF	103	103	0.9%
Totals			
Total TCDD	53.1	52.3	1.6%
Total PeCDD	77.7	73.6	5.4%
Total HxCDD	179	174	3.0%
Total HpCDD	68.4	65.2	4.8%
Total TCDF	63.5	63.4	0.1%
Total PeCDF	206	197	4.6%
Total HxCDF	334	320	4.2%
Total HpCDF	103	98.8	3.8%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*21-Jan-22 at 12:25*
AP Project name:	*B6208*
Requested TAT:	*10 days*
Projected due date:	*21-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011922-S-BN-SW-B-23H	B6208_001	Solid	1	4oz Clear Glass	19-Jan-22	09:30	0.1	1	4905 2704 4465
11215131-011922-S-BN-SW-B-21H1	B6208_002	Solid	1	4oz Clear Glass	19-Jan-22	10:20	0.1	1	4905 2704 4465
11215131-011922-S-BN-SW-B-21H2	B6208_003	Solid	1	4oz Clear Glass	19-Jan-22	10:30	0.1	1	4905 2704 4465
11215131-011922-S-BN-SW-B-20H	B6208_004	Solid	1	4oz Clear Glass	19-Jan-22	13:30	0.1	1	4905 2704 4465

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact; samples taken off HOLD per email dated 02/04/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* TB 02/07/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BL0208 PM

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

NONE

ANALYSIS & METHOD

M1613B | ~~M8290A~~ | ~~M1668A~~ | ~~M1668C~~ | HR-PAH | ~~M1699~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-011922-S-BN-SW-S-46	1-19-22	0900	C	S	4oz				1	RUSH
11215131-011922-S-BN-SW-O-21		0910							1	
11215131-011922-S-BN-SW-B-23		0920							1	
11215131-011922-S-BN-SW-B23H		0930							1	HOLD *
11215131-011922-S-BN-SW-S-43		0950							1	RUSH
11215131-011922-S-BN-SW-O-19		1000							1	
11215131-011922-S-BN-SW-B-21		1010				X	X		1	MS/MSD
11215131-011922-S-BN-SW-B-21H		1020							1	HOLD *
11215131-011922-S-BN-SW-B-21H2		1030							1	HOLD *
11215131-011922-S-BN-SW-S-42	↓	1300	↓	↓	↓				1	RUSH

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Breanna Nowlin (BN)	1-19-22	14:52	
RELINQUISHED BY (2):	1-19-22	16:34	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:

COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C 0.1

TRACKING #: 4905 7011 4405

* = samples in this project.

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SGS CHAIN OF CUSTODY

B6208 2/2

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-011922-S-BN-SW-0-18	1-19-22	1310	C	S	4oz		X									1	
11215131-011922-S-BN-SW-B-20		1320					X									1	
11215131-011922-S-BN-SW-B-20H		1330					X									1	HOLD *
11215131-011922-S-BN-DUP-13		—					X									1	

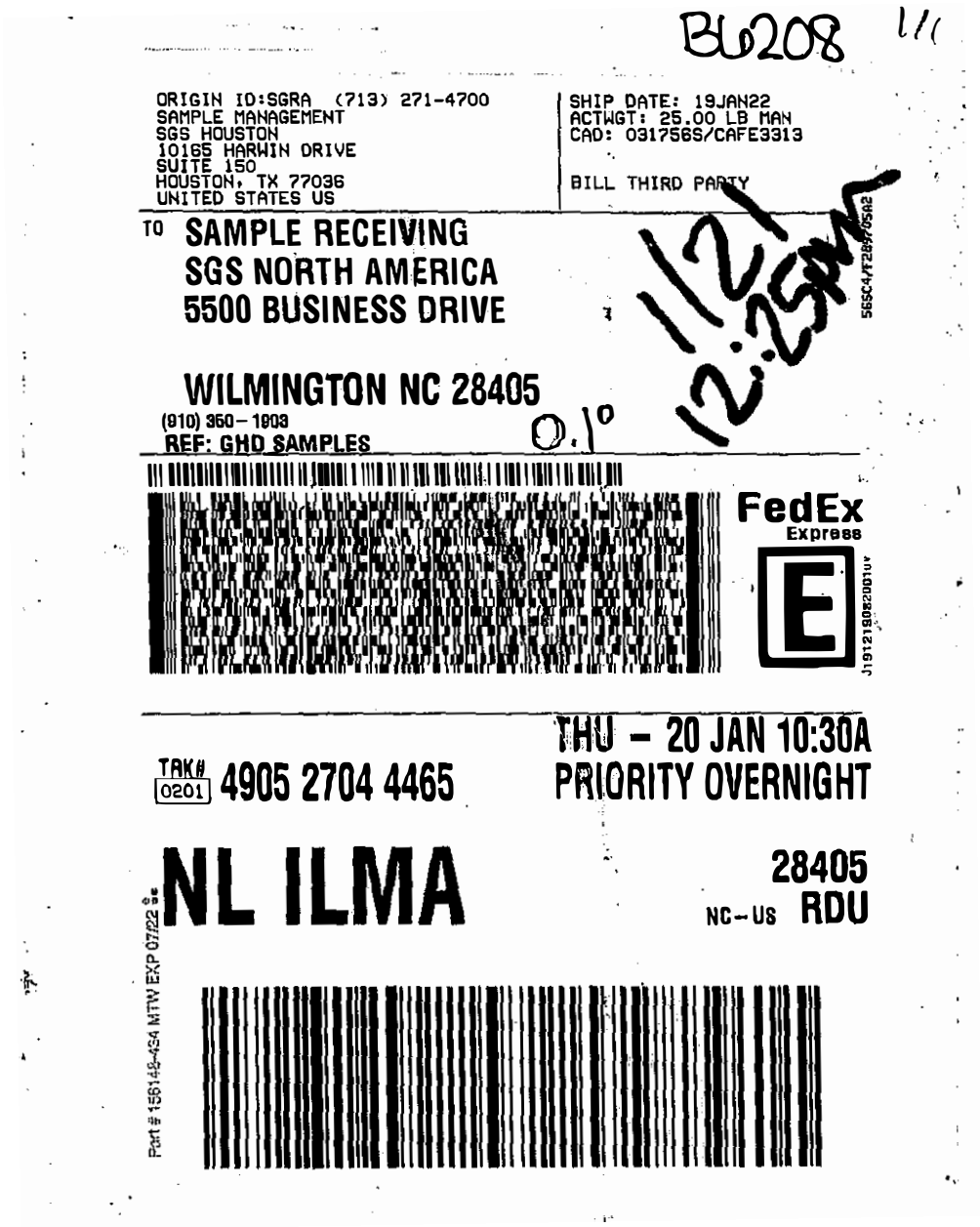
	DATE:	TIME:		
COLLECTED/RELINQUISHED BY (1): Breanna Nutt	1-19-22	14:52	RECEIVED BY:	
RELINQUISHED BY (2):	1-19-22	16:34	RECEIVED BY:	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	

RECEIVED BY LABORATORY: DATE: 1/21/22 TIME: 12:25
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 1.0
TRACKING #: 4905 2704 4445

*=Samples in this project.

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Member of the SGS Group (SGS SA)



BG208 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 19JAN22
ACTWGT: 25.00 LB MAN
CAD: 0317568S/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

0.10

1/21
12:25pm

565C4/T2897/05A2

FedEx Express

J191218082001uv

TRK# 0201 4905 2704 4465

THU - 20 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-454 NITW EXP 07/22

SGS

Project Initiation Form

Project Number: B6208

Initiation Date: 07-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab:

HRMS Lab: [signature] 2/21/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: [signature] 2/21/22

PM Initials: tburkamper Date: 07-Feb-2022

SGS

Methods: PCB PAH | ~~PCDD/F~~ WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Extraction Type: ~~SDE~~ CLL | TALEX Carbon SPE

[___ Solid] Final Volume: 2cpL

Batch# 18911 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JH 2/16/22 | Clean-up Initial/Date: ~~KAB~~ 2/18/22 | Transfer Init/Date: ~~KAB~~ 2/18/22

Lab Sample ID	Extraction Position Solvent: DCL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B5962_18911_003	4	15.46				black/gray, sticky, clay-like
B5964_18911_007	5	13.65				black/gray, sticky, clay-like
B5992_18911_002	6	13.35				fuel smell, gray, clay-like
B6008_18911_001	7	13.84				black/gray, sticky, clay-like
B6008_18911_003	8	13.82				black/gray, clay-like
B6080_18911_002	9	16.54				black/gray, clay-like, moist, fuel smell
B6110_18911_002	10	14.58				black/gray, clay-like
B6140_18911_001	11	13.22				black/gray, clay-like
B6148_18911_002	12	14.15				black/gray, clay-like
B6148_18911_004	13	13.42				black/gray, clay-like
B6154_18911_001	14	12.82				gray, sandy/clay-like
B6154_18911_002	15	14.13				gray, clay-like
B6208_18911_001	16	17.78				gray, clay-like
B6208_18911_002	17	14.25				gray, clay-like, fuel smell
B6208_18911_003	18	13.32				gray, clay-like, fuel smell
B6208_18911_004	19	13.66				black/gray, clay-like, strong fuel smell
MB1_18911	1	10.00				sodium sulfate
OPR1_18911	2	10.00				sodium sulfate
OPR2_18911	3	10.00				sodium sulfate

TB 2/22/2022

Supply IDs

Toluene	STL 14-26
MeCHL	STL14-17
Florisil	SPLS-83
Hexane	STL14-29
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	SPLS-808

Additional Cleanup

Acid Partition Date/Initial:	
Mini Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/22/2022
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	1650
	Stop:	0900
HEX	Start:	
	Stop:	TB 2/22/2022
DCM	Start:	
	Stop:	

2/18/22

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Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18911

Inter-Department Communication Sheet

TB
2/22/2022

SGS

Wt. Volume Results

Batch #: 18911

Comments:

ar 2/22/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B5962_003	2.36	5.09	4.16	65.93%	65.93%			15.17	15.46	10.19
B5964_007	2.3	4.53	4	76.23%	76.23%			13.12	13.65	10.41
B5992_002	2.37	4.8	4.22	76.13%	76.13%			13.14	13.35	10.16
B6008_001	2.37	4.44	3.92	74.88%	74.88%			13.35	13.84	10.36
B6008_003	2.41	4.46	3.98	76.59%	76.59%			13.06	13.22	10.13
B6080_002	2.39	4.82	3.98	65.43%	65.43%			15.28	16.54	10.82
B6110_002	2.4	4.86	4.13	70.33%	70.33%			14.22	14.58	10.25
B6140_001	2.36	5.24	4.6	77.78%	77.78%			12.86	13.22	10.28
B6148_002	2.35	4.43	3.93	75.96%	75.96%			13.16	14.15	10.75
B6148_004	2.36	4.55	4.03	76.26%	76.26%			13.11	13.42	10.23
B6154_001	2.33	5.22	4.64	79.93%	79.93%			12.51	12.82	10.25
B6154_002	2.38	4.5	3.96	74.53%	74.53%			13.42	14.03	10.46
B6208_001	2.33	5.5	4.85	79.50%	79.50%			12.58	12.78	10.16
B6208_002	2.33	4.77	4.1	72.54%	72.54%			13.79	14.25	10.34
B6208_003	2.33	5.23	4.56	76.90%	76.90%			13	13.32	10.24
B6208_004	2.32	5.1	4.45	76.62%	76.62%			13.05	13.66	10.47

TB 2/22/2022

TB 2/22/2022

% Solid Determination WorkSheet

SGS

Batch: 18911

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	%Solid	Comments
B5962_18911_003	2.36	5.09	4.16	15.17	
B5964_18911_007	2.36	4.53	4.00	13.12	
B5992_18911_002	2.37	4.80	4.22	13.14	
B6008_18911_001	2.37	4.44	3.92	13.35	
B6008_18911_003	2.41	4.46	3.98	13.06	
B6080_18911_002	2.39	4.82	3.97	15.28	
B6110_18911_002	2.40	4.86	4.13	14.22	
B6140_18911_001	2.36	5.24	4.00	12.86	
B6148_18911_002	2.35	4.43	3.93	13.16	
B6148_18911_004	2.36	4.55	4.03	13.11	
B6154_18911_001	2.33	5.22	4.14	12.51	
B6154_18911_002	2.38	4.50	3.96	13.42	
B6208_18911_001	2.33	5.50	4.85	12.58	
B6208_18911_002	2.33	4.77	4.10	13.79	
B6208_18911_003	2.33	5.23	4.56	13.00	
B6208_18911_004	2.32	5.10	4.45	13.05	

~~DB~~
2/14/22

Date/Initials: JRH 2/14/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18911

Lab Sample ID	Spiker Initials/Date: JRH 2/16/22	JRH 2/16/22	JRH 2/16/22	2/19/22	2/18/22		
	D/F Ax-A	D/F Bx-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B5962_18911_003	–	–	RBB	JRH	JRH		
B5964_18911_007	–	–	RBB	JRH	JRH		
B5992_18911_002	–	–	RBB	JRH	JRH		
B6008_18911_001	–	–	RBB	JRH	JRH		
B6008_18911_003	–	–	RBB	JRH	JRH		
B6080_18911_002	–	–	RBB	JRH	JRH		
B6110_18911_002	–	–	RBB	JRH	JRH		
B6140_18911_001	–	–	RBB	JRH	JRH		
B6148_18911_002	–	–	RBB	JRH	JRH		
B6148_18911_004	–	–	RBB	JRH	JRH		
B6154_18911_001	–	–	RBB	JRH	JRH		
B6154_18911_002	–	–	RBB	JRH	JRH		
B6208_18911_001	–	–	RBB	JRH	JRH		
B6208_18911_002	–	–	RBB	JRH	JRH		
B6208_18911_003	–	–	RBB	JRH	JRH		
B6208_18911_004	–	–	RBB	JRH	JRH		
MB1_18911	–	–	RBB	JRH	JRH		
OPR1_18911	RBB	RBB	RBB	JRH	JRH		
OPR2_18911	RBB	RBB	RBB	JRH	JRH		

RBB 2/18/22

Standard Information

Pipette ID						RBB 2/18/22
Spike ID	D/F Ax-A	D/F Bx-B	D/F ES	D/F CS	D/F JS	
SIL #	26-2-8	26-150-2	26-2-9	25-338-1	25-384-1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	
Expiration Date	7/9/29	6/22/22	8/2027	11/16/22	11/28/23	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA ✓	1.00	25-347-1	DTF, PSW	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF, PSW	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
4	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF, PSW	399-492	19-Feb-2022	19:37:00
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF, PSW	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF, PSW	488-895	20-Feb-2022	05:55:34
18	220219C18	2	SBS_220219_DF_CC	1.00	20-61-1	DTF	590-722	20-Feb-2022	06:41:55
19	220219C21	40	B6208_18911_DF_001	10.16	11215131-011922-S-BN-SW-B-23H	DTF, PSW	762-298	20-Feb-2022	09:00:58
20	220219C22	41	B6208_18911_DF_002	10.34	11215131-011922-S-BN-SW-B-21H1	DTF, PSW	898-213	20-Feb-2022	09:47:17
21	220219C23	42	B6208_18911_DF_003	10.24	11215131-011922-S-BN-SW-B-21H2	DTF, PSW	264-997	20-Feb-2022	10:33:38
22	220219C24	43	B6208_18911_DF_004 ✓	10.47	11215131-011922-S-BN-SW-B-20H	DTF, PSW	796-689	20-Feb-2022	11:20:00

REVIEWED
paul_walton , 2/21/2022, 10:53:59 AM

REVIEWED
Amber_Kornegay , 2/22/2022, 11:37:14 AM

Lab ID: MB1_18911_DF_SDS **Acq'd:** 19 Feb 2022 19:37 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6208_18911 **UTP:** 21-Feb-2022 10:41:16 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 399-492-BMX

Datafile: 220219C04 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4631.374	0.388
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2783.22	0.236
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3118.687	0.269
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	3118.687	0.25
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	3118.687	0.266
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	4399.488	0.39
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3230.665	0.598
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3471.373	0.224
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.182
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3188.391	0.183
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3096.37	0.184
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3096.37	0.173
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3096.37	0.178
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3096.37	0.198
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3605.552	0.211
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3605.552	0.31
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2961.523	0.451

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.20E+07	0.81	Y	1.05	89.5
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.05E+07	1.59	Y	0.88	98.9
ES 123478-HxCDD	37.56	0.9916	0.9916	0	1.85E+07	1.28	Y	0.97	90.6
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	1.89E+07	1.29	Y	0.94	95.4
ES 123789-HxCDD	37.99	1.0029	1.0028	-0.2	2.02E+07	1.23	Y	1.09	88.3
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	1.78E+07	1.06	Y	0.91	93.1
ES OCDD	43.41	1.1460	1.1460	0	2.32E+07	0.89	Y	0.62	88.9
ES 2378-TCDF	27.36	1.0531	1.0534	+0.5	3.24E+07	0.79	Y	1.06	79.3
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	3.28E+07	1.56	Y	0.91	93.4
ES 23478-PeCDF	33.29	1.2810	1.2818	+1.6	3.19E+07	1.50	Y	0.88	93.7
ES 123478-HxCDF	36.55	0.9650	0.9650	0	2.28E+07	0.54	Y	1.20	90.9
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.90E+07	0.56	Y	1.35	102
ES 234678-HxCDF	37.38	0.9866	0.9867	+0.2	2.76E+07	0.53	Y	1.24	106
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.14E+07	0.55	Y	1.16	88.6
ES 1234678-HpCDF	39.78	1.0501	1.0500	-0.2	1.98E+07	0.44	Y	0.97	97.9
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	1.60E+07	0.46	Y	0.85	89.8
ES OCDF	43.59	1.1505	1.1505	0	3.00E+07	0.93	Y	0.81	88.7

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6208_18911 | **UTP:** 21-Feb-2022 10:41:16 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:42 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.35E+07	0.80	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.86E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.05E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.08E+07	n/a	-	1.20	95.7
CS 12347-PeCDD	33.12		1.2016	1.2020	+0.8	2.12E+07	1.58	Y	0.75	120
CS 12346-PeCDF	31.63		1.2172	1.2180	+1.5	3.45E+07	1.61	Y	0.85	105
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.65E+07	0.53	Y	1.12	113
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	1.98E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~2.12E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.45E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.65E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.98E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18911_DF_SDS **Acq'd: 19 Feb 2022 19:37 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6208_18911 **UTP: 21-Feb-2022 10:41:16 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 399-492-BMX**

Datafile: 220219C04 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4631.374	0.388
1379-TCDD	NotFnd		0.8829						1.18		4631.374	0.388
1369-TCDD	NotFnd		0.8982						1.18		4631.374	0.388
1469-TCDD	NotFnd		0.9261						1.18		4631.374	0.388
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4631.374	0.388
1378-TCDD	NotFnd		0.9417						1.18		4631.374	0.388
1268-TCDD	NotFnd		0.9487						1.18		4631.374	0.388
1478-TCDD	NotFnd		0.9576						1.18		4631.374	0.388
1279-TCDD	NotFnd		0.9636						1.18		4631.374	0.388
1234/1269-TCDD	NotFnd		0.9761						1.18		4631.374	0.388
1236-TCDD	NotFnd		0.9812						1.18		4631.374	0.388
1237/1238-TCDD	NotFnd		0.9905						1.18		4631.374	0.388
1239-TCDD	NotFnd		0.9951						1.18		4631.374	0.388
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4631.374**	**0.388**
1278-TCDD	NotFnd		1.0124						1.18		4631.374	0.388
1267-TCDD	NotFnd		1.0172						1.18		4631.374	0.388
1289-TCDD	NotFnd		1.0354						1.18		4631.374	0.388
12479/12468-PeCDD	NotFnd		0.9255						1.04		2783.22	0.236
12469-PeCDD	NotFnd		0.9416						1.04		2783.22	0.236
12368-PeCDD	NotFnd		0.9582						1.04		2783.22	0.236
12478-PeCDD	NotFnd		0.9637						1.04		2783.22	0.236
12379-PeCDD	NotFnd		0.9668						1.04		2783.22	0.236
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2783.22	0.236
12346/12347-PeCDD	NotFnd		0.9858						1.04		2783.22	0.236
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2783.22**	**0.236**
12367-PeCDD	NotFnd		1.0036						1.04		2783.22	0.236
12389-PeCDD	NotFnd		1.0137						1.04		2783.22	0.236
124679/124689-HxCDD	NotFnd		0.9540						1.10		3118.687	0.261
123468-HxCDD	NotFnd		0.9715						1.10		3118.687	0.261
123679/123689-HxCDD	NotFnd		0.9793						1.10		3118.687	0.261
123469-HxCDD	NotFnd		0.9829						1.10		3118.687	0.261
123478-HxCDD	NotFnd		**1.0004**						1.09		**3118.687**	**0.269**
123678-HxCDD	NotFnd		**1.0036**						1.15		**3118.687**	**0.25**
123467-HxCDD	NotFnd		1.0089						1.10		3118.687	0.261
123789-HxCDD	NotFnd		**1.0118**						1.05		**3118.687**	**0.266**

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6208_18911 | **UTP:** 21-Feb-2022 10:41:16 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:42 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

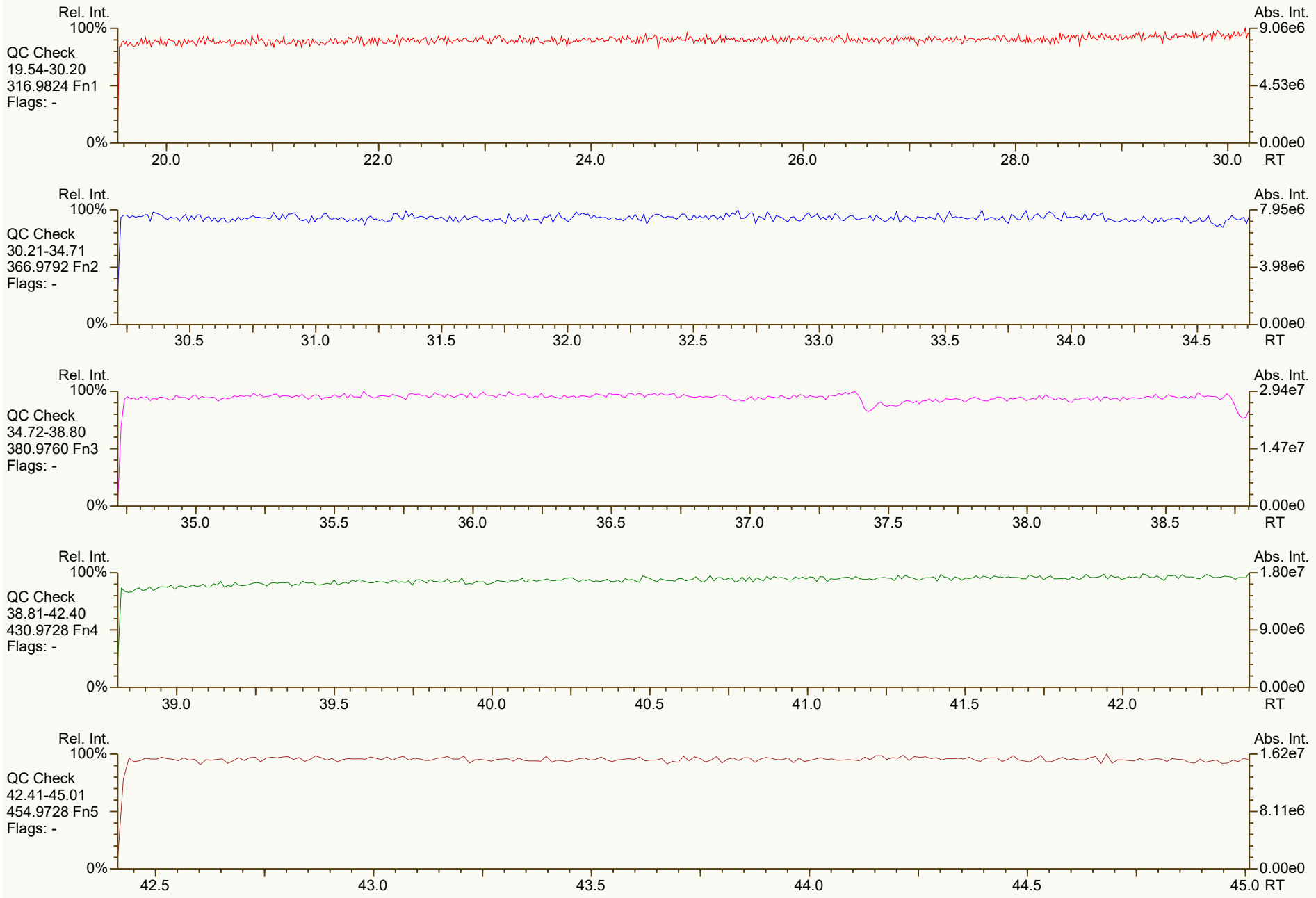
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		4399.488	0.39
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**4399.488**	**0.39**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3230.665**	**0.598**
OCDD-a	NotFnd		1.0002						0.07		3130.658	9.06
1368-TCDF	NotFnd		0.8191						1.08		3471.373	0.224
1468-TCDF	NotFnd		0.8408						1.08		3471.373	0.224
2468-TCDF	NotFnd		0.8645						1.08		3471.373	0.224
1346/1246-TCDF	NotFnd		0.8772						1.08		3471.373	0.224
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3471.373	0.224
1348-TCDF	NotFnd		0.8932						1.08		3471.373	0.224
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3471.373	0.224
1268-TCDF	NotFnd		0.9119						1.08		3471.373	0.224
1467-TCDF	NotFnd		0.9170						1.08		3471.373	0.224
1478-TCDF	NotFnd		0.9234						1.08		3471.373	0.224
1369/1237-TCDF	NotFnd		0.9369						1.08		3471.373	0.224
2467-TCDF	NotFnd		0.9415						1.08		3471.373	0.224
2368-TCDF	NotFnd		0.9475						1.08		3471.373	0.224
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3471.373	0.224
1278-TCDF	NotFnd		0.9676						1.08		3471.373	0.224
1349-TCDF	NotFnd		0.9722						1.08		3471.373	0.224
1267-TCDF	NotFnd		0.9777						1.08		3471.373	0.224
2346/1249-TCDF	NotFnd		0.9843						1.08		3471.373	0.224
2347/1279-TCDF	NotFnd		0.9926						1.08		3471.373	0.224
2348-TCDF	NotFnd		0.9968						1.08		3471.373	0.224
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3471.373**	**0.224**
2367/3467-TCDF	NotFnd		1.0142						1.08		3471.373	0.224
1269-TCDF	NotFnd		1.0235						1.08		3471.373	0.224
1239-TCDF	NotFnd		1.0329						1.08		3471.373	0.224
1289-TCDF	NotFnd		1.0742						1.08		3471.373	0.224
13468/12468-PeCDF	NotFnd		0.9122						1.02		2974.037	0.17
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3188.391	0.183
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3188.391	0.183
14678-PeCDF	NotFnd		0.9685						1.02		3188.391	0.183
13479-PeCDF	NotFnd		0.9716						1.02		3188.391	0.183
13469/12479-PeCDF	NotFnd		0.9794						1.02		3188.391	0.183
12346-PeCDF	NotFnd		0.9836						1.02		3188.391	0.183

Lab ID: MB1_18911_DF_SDS | **Acq'd:** 19 Feb 2022 19:37 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

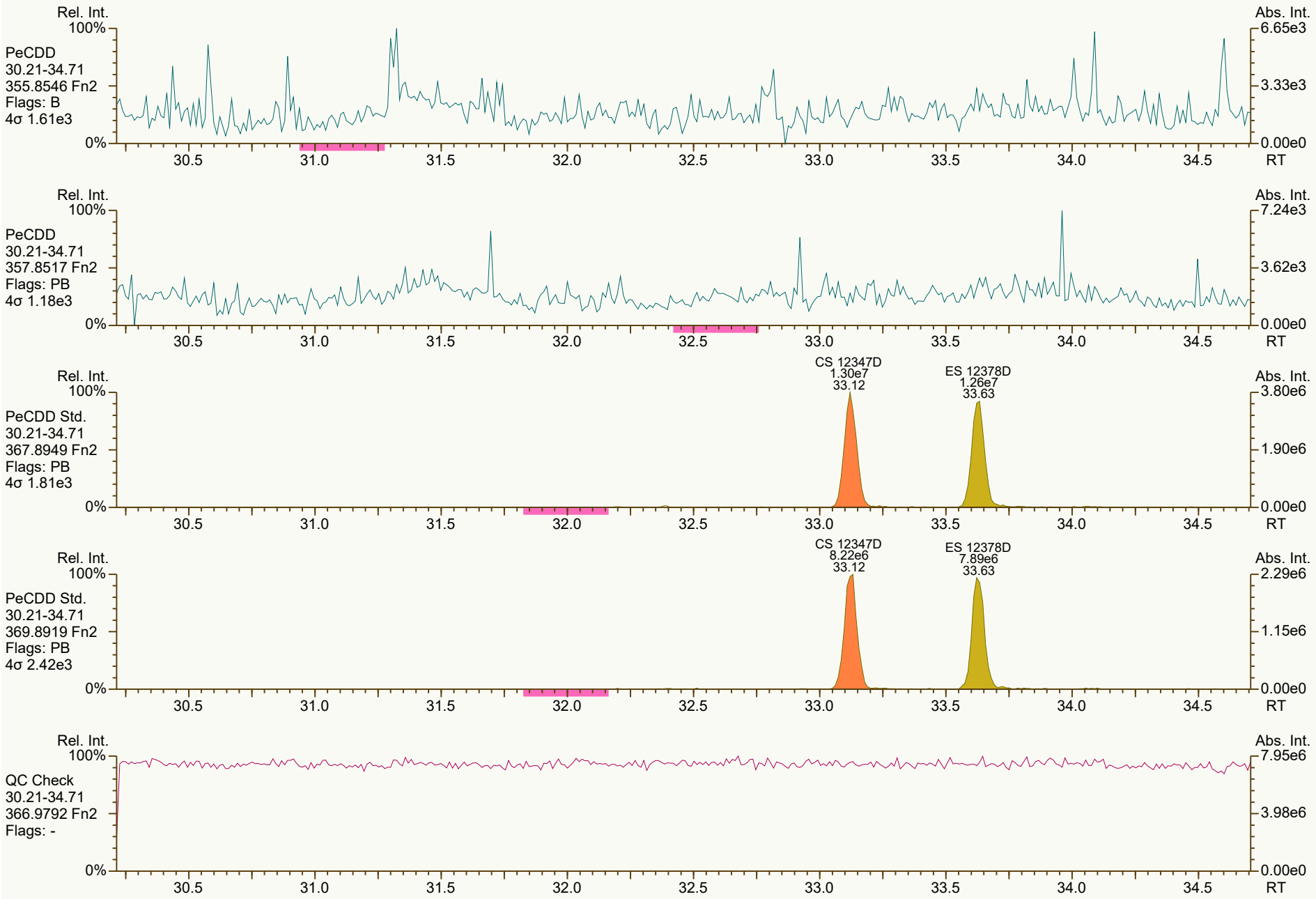
Client ID: Method Blank B6208_18911 | **UTP:** 21-Feb-2022 10:41:16 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 399-492-BMX

Datafile: 220219C04 | **Report:** 21 Feb 2022 10:42 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3188.391	0.183
12347-PeCDF	NotFnd		0.9891						1.02		3188.391	0.183
12348-PeCDF	NotFnd		0.9938						1.02		3188.391	0.183
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.182**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3188.391	0.183
12379-PeCDF	NotFnd		1.0144						1.02		3188.391	0.183
12679-PeCDF	NotFnd		0.9927						1.02		3188.391	0.183
23467/12369-PeCDF	NotFnd		0.9965						1.02		3188.391	0.183
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3188.391**	**0.183**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3188.391	0.183
12349-PeCDF	NotFnd		1.0101						1.02		3188.391	0.183
12389-PeCDF	NotFnd		1.0330						1.02		3188.391	0.183
123468-HxCDF	NotFnd		0.9622						1.19		3096.37	0.182
124678/134678-HxCDF	NotFnd		0.9678						1.19		3096.37	0.182
134679-HxCDF	NotFnd		0.9741						1.19		3096.37	0.182
124679-HxCDF	NotFnd		0.9795						1.19		3096.37	0.182
124689-HxCDF	NotFnd		0.9856						1.19		3096.37	0.182
123467-HxCDF	NotFnd		0.9972						1.19		3096.37	0.182
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3096.37**	**0.184**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3096.37**	**0.173**
123479-HxCDF	NotFnd		1.0048						1.19		3096.37	0.182
123469-HxCDF	NotFnd		1.0089						1.19		3096.37	0.182
123679-HxCDF	NotFnd		0.9942						1.19		3096.37	0.182
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3096.37**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3096.37	0.182
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3096.37**	**0.198**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3096.37	0.182
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3605.552**	**0.211**
1234679-HpCDF	NotFnd		1.0068						1.34		3605.552	0.254
1234689-HpCDF	NotFnd		1.0104						1.34		3605.552	0.254
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3605.552**	**0.31**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2961.523**	**0.451**
OCDF-a	NotFnd		1.0001						0.07		3481.601	8.57

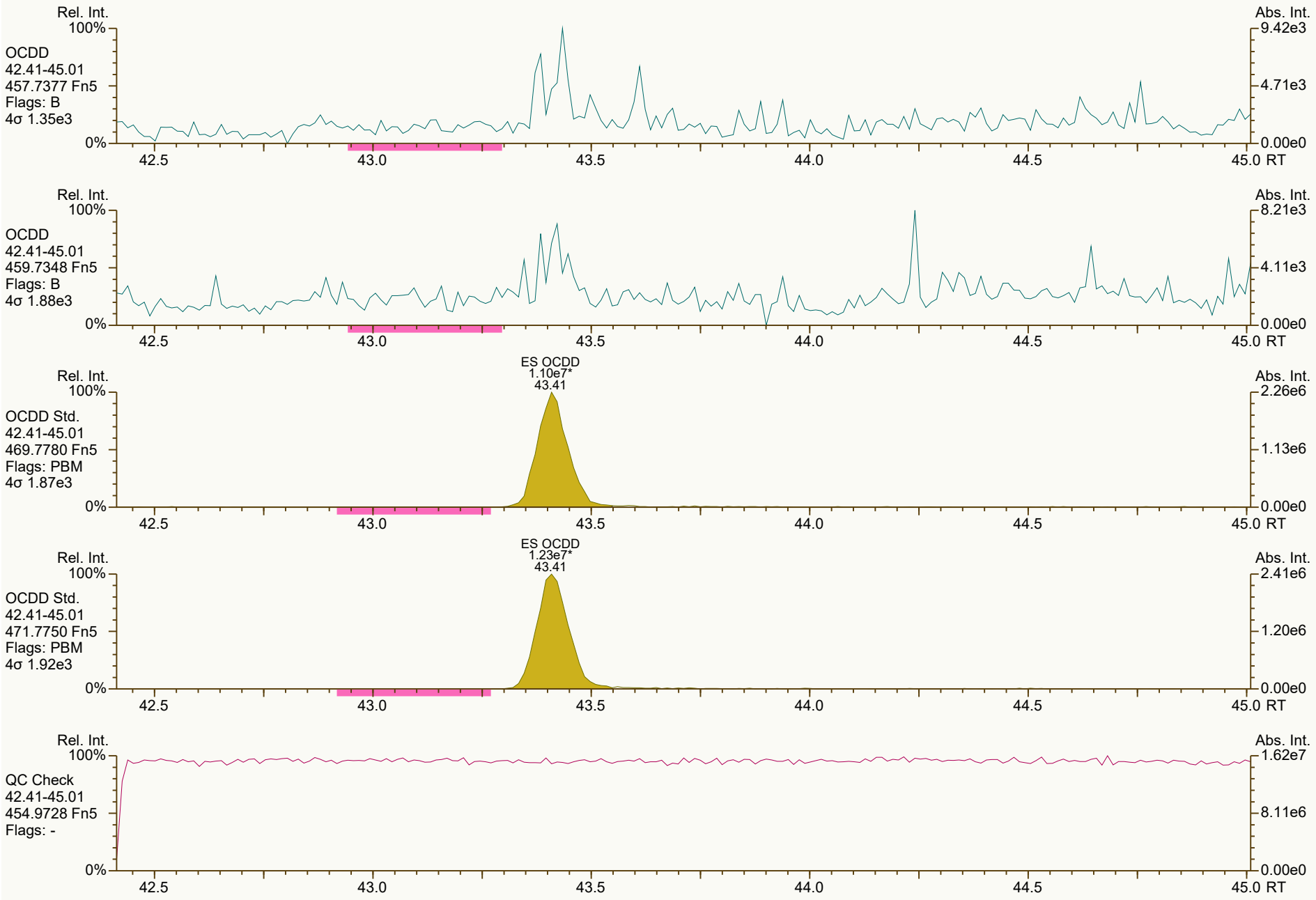

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.06e6
4.53e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.95e6
3.98e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.94e7
1.47e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.80e7
9.00e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.62e7
8.11e6
0.00e0

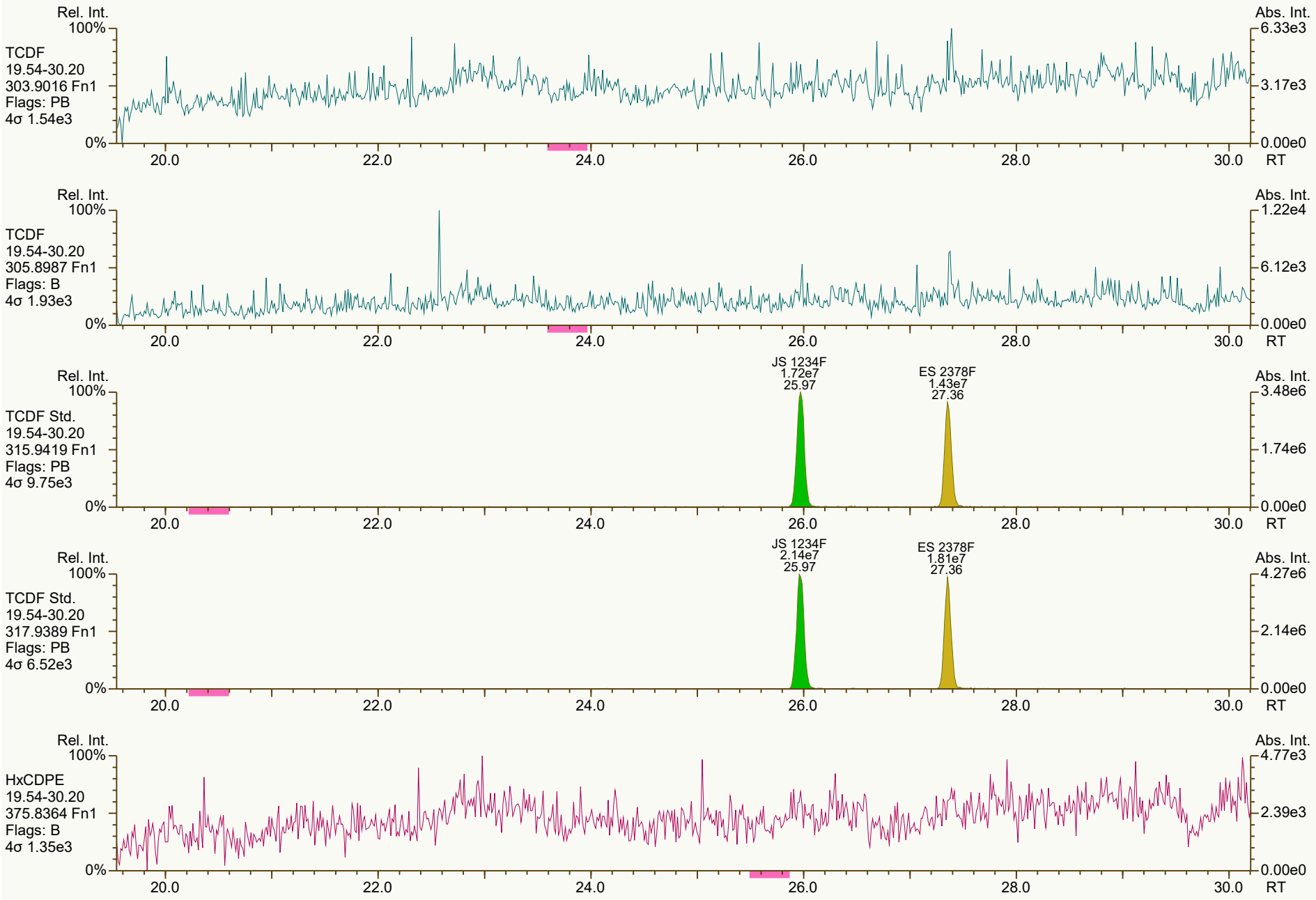

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.16e3
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.01e3
3.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
1.08e7
28.25
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.73e3
0%
JS 1234D
1.05e7
27.56
ES 2378D
9.82e6
28.23
Abs. Int.
2.47e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.28e3
0%
JS 1234D
1.30e7
27.56
ES 2378D
1.22e7
28.23
Abs. Int.
2.91e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
6.65e3
3.33e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.18e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.81e3
0%
CS 12347D
1.30e7
33.12
ES 12378D
1.26e7
33.63
Abs. Int.
3.80e6
1.90e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.42e3
0%
CS 12347D
8.22e6
33.12
ES 12378D
7.89e6
33.63
Abs. Int.
2.29e6
1.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.95e6
3.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

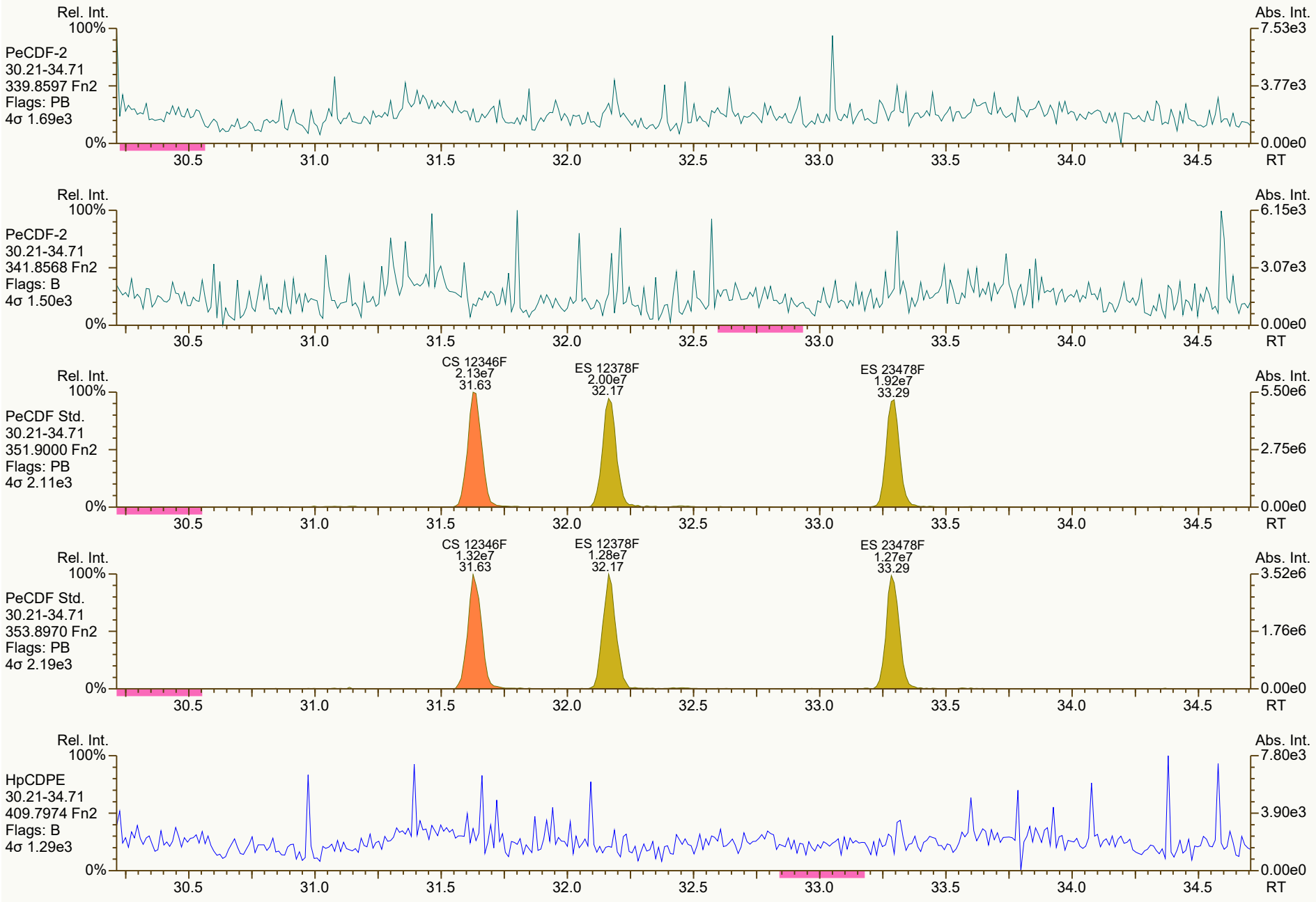

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.60e3
7.73e3
3.86e3
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.67e3
ES 123678D
1.06e7
37.68
ES 123478D
1.04e7
37.56
ES 123789D
1.11e7
37.99
JS 123467D
5.95e6
37.88
3.09e6
1.55e6
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.29e3
ES 123678D
8.25e6
37.68
ES 123478D
8.10e6
37.56
ES 123789D
9.03e6
37.99
JS 123467D
4.51e6
37.88
2.52e6
1.26e6
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.94e7
1.47e7

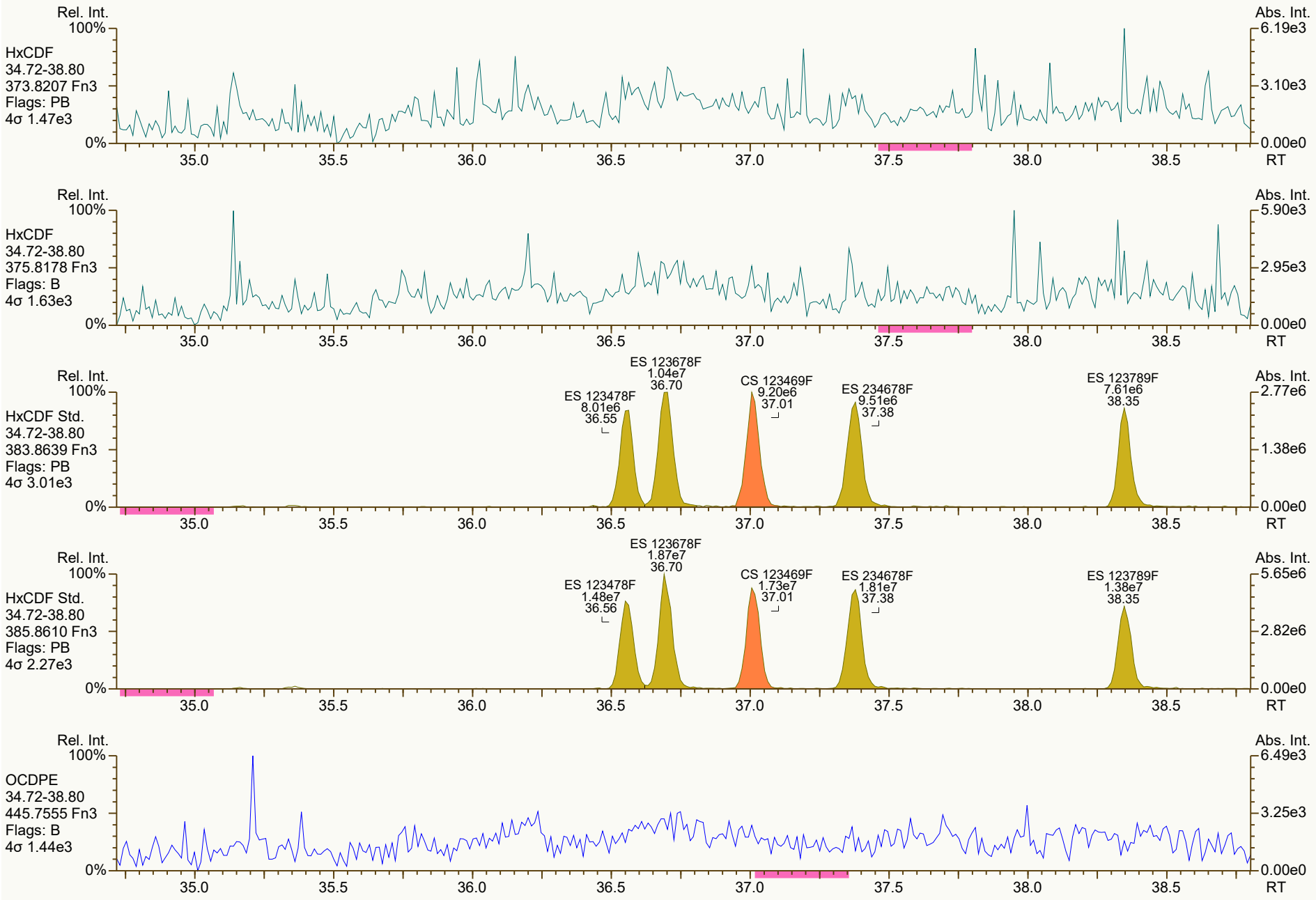

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.98e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.15e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.66e3
0%
Abs. Int.
2.73e6
1.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.65e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.85e3
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
9.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

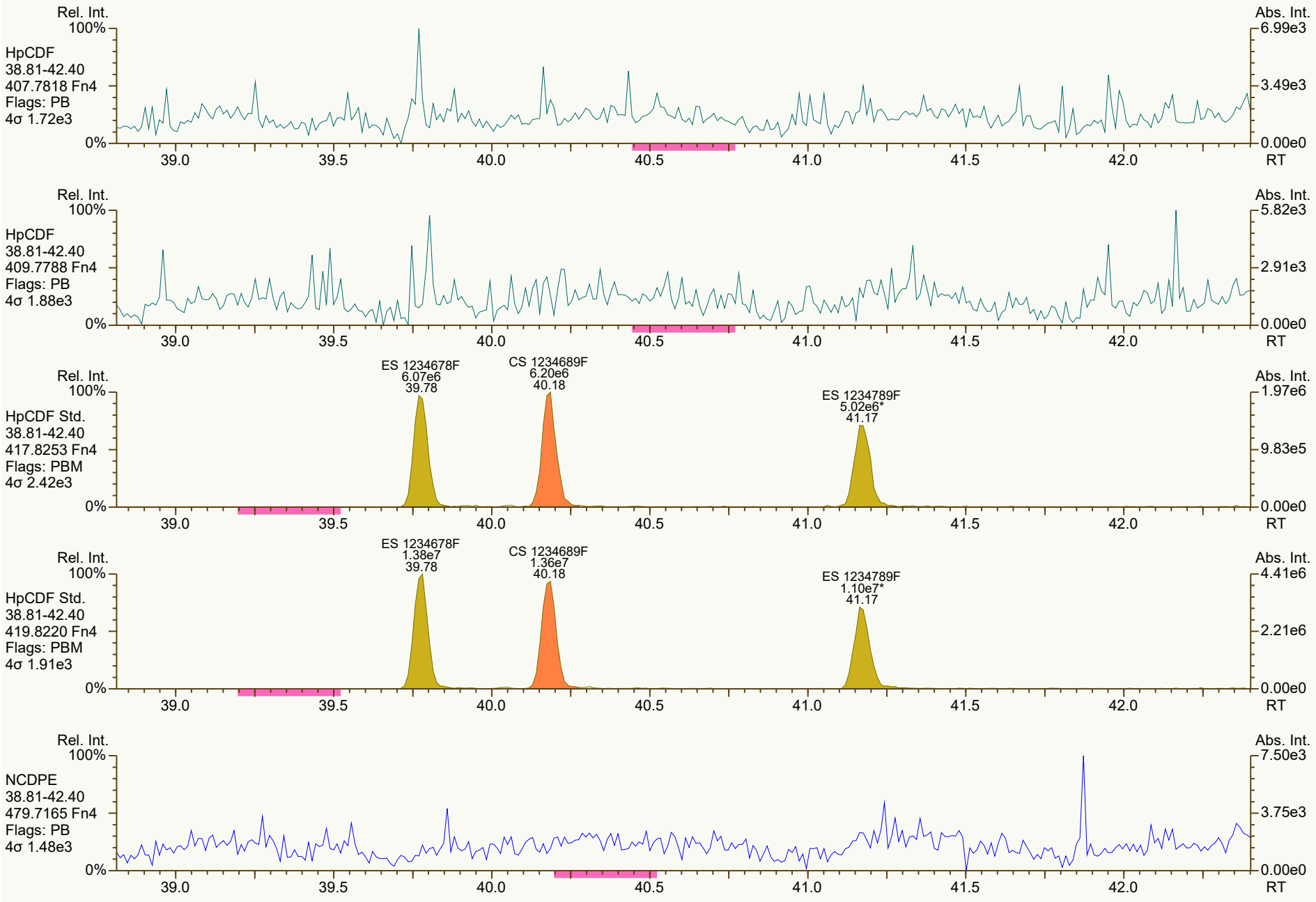

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.42e3
4.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.88e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.10e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.87e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.23e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.92e3
0%
Abs. Int.
2.41e6
1.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.33e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.22e4
6.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.75e3
0%
JS 1234F
1.72e7
25.97
ES 2378F
1.43e7
27.36
Abs. Int.
3.48e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.52e3
0%
JS 1234F
2.14e7
25.97
ES 2378F
1.81e7
27.36
Abs. Int.
4.27e6
2.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
0%
Abs. Int.
4.77e3
2.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.41e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.06e6
4.53e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.69e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.15e3
3.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.11e3
0%
CS 12346F
2.13e7
31.63
ES 12378F
2.00e7
32.17
ES 23478F
1.92e7
33.29
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12346F
1.32e7
31.63
ES 12378F
1.28e7
32.17
ES 23478F
1.27e7
33.29
Abs. Int.
3.52e6
1.76e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.47e3
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.63e3
5.90e3
2.95e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.01e3
ES 123678F
1.04e7
36.70
ES 123478F
8.01e6
36.55
CS 123469F
9.20e6
37.01
ES 234678F
9.51e6
37.38
ES 123789F
7.61e6
38.35
2.77e6
1.38e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.27e3
ES 123678F
1.87e7
36.70
ES 123478F
1.48e7
36.56
CS 123469F
1.73e7
37.01
ES 234678F
1.81e7
37.38
ES 123789F
1.38e7
38.35
5.65e6
2.82e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.44e3
6.49e3
3.25e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.72e3
0%
Abs. Int.
6.99e3
3.49e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.88e3
0%
Abs. Int.
5.82e3
2.91e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.42e3
0%
ES 1234678F
6.07e6
39.78
CS 1234689F
6.20e6
40.18
ES 1234789F
5.02e6*
41.17
Abs. Int.
1.97e6
9.83e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.91e3
0%
ES 1234678F
1.38e7
39.78
CS 1234689F
1.36e7
40.18
ES 1234789F
1.10e7*
41.17
Abs. Int.
4.41e6
2.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
4.39e3
2.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
4.25e3
2.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.56e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.28e3
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6208_18911_DF_001 **Acq'd:** 20 Feb 2022 09:00 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-23H **UTP:** 21-Feb-2022 10:41:18 PSW **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 762-298-JSZ

Datafile: 220219C21 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0006	-0.3	2.13E+05	0.72	Y	1.18	1.79	5085.485	0.468
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3993.403	0.341
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2749.033	0.25
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2749.033	0.228
123789-HxCDD	38.00	J	1.0118	1.0118	0	1.14E+05	1.42	Y	1.05	1.11	2749.033	0.241
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	1.58E+06	1.00	Y	1.06	16.8	3779.349	0.34
OCDD	43.42		1.0003	1.0002	-0.3	2.37E+07	0.89	Y	1.13	349	4262.42	0.75
2378-TCDF	27.37		1.0008	1.0007	-0.2	8.14E+05	0.80	Y	1.08	4.85	3774.79	0.257
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2688.448	0.159
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2688.448	0.157
123478-HxCDF	36.56	J	1.0004	1.0003	-0.2	7.67E+04	1.12	Y	1.27	0.56	3201.994	0.178
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3201.994	0.17
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3201.994	0.184
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3201.994	0.222
1234678-HpCDF	39.78	J	1.0003	1.0001	-0.5	1.23E+05	0.96	Y	1.37	0.817	2925.339	0.14
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2925.339	0.265
OCDF	43.60	J	1.0002	1.0004	+0.5	2.06E+05	0.78	Y	1.07	2.83	3985.768	0.656

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0243	0	1.98E+07	0.78	Y	1.05	81.1
ES 12378-PeCDD	33.62	1.2198	1.2205	+1.4	1.95E+07	1.62	Y	0.88	95.1
ES 123478-HxCDD	37.55	0.9916	0.9914	-0.5	1.73E+07	1.22	Y	0.97	85.4
ES 123678-HxCDD	37.68	0.9947	0.9947	0	1.84E+07	1.27	Y	0.94	93.9
ES 123789-HxCDD	37.98	1.0029	1.0028	-0.2	1.93E+07	1.32	Y	1.09	85
ES 1234678-HpCDD	40.72	1.0749	1.0750	+0.2	1.74E+07	1.06	Y	0.91	92
ES OCDD	43.41	1.1460	1.1460	0	2.37E+07	0.92	Y	0.62	91.4
ES 2378-TCDF	27.35	1.0531	1.0534	+0.5	3.07E+07	0.79	Y	1.06	76.5
ES 12378-PeCDF	32.16	1.2378	1.2386	+1.5	3.00E+07	1.56	Y	0.91	87.2
ES 23478-PeCDF	33.28	1.2810	1.2819	+1.8	2.82E+07	1.56	Y	0.88	84.5
ES 123478-HxCDF	36.55	0.9650	0.9649	-0.2	2.12E+07	0.55	Y	1.20	85.1
ES 123678-HxCDF	36.69	0.9688	0.9686	-0.4	2.67E+07	0.54	Y	1.35	95.2
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.52E+07	0.51	Y	1.24	97.5
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	1.96E+07	0.54	Y	1.16	81.5
ES 1234678-HpCDF	39.77	1.0501	1.0500	-0.2	2.16E+07	0.45	Y	0.97	107
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	1.46E+07	0.47	Y	0.85	82.3
ES OCDF	43.58	1.1505	1.1506	+0.3	2.67E+07	0.90	Y	0.81	79.7

Lab ID: B6208_18911_DF_001 **Acq'd:** 20 Feb 2022 09:00 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-23H **UTP:** 21-Feb-2022 10:41:18 PSW **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 762-298-JSZ

Datafile: 220219C21 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.34E+07	0.80	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.79E+07	0.79	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.04E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.42E+06	n/a	-	1.20	83.9
CS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	1.85E+07	1.59	Y	0.75	105
CS 12346-PeCDF	31.63		1.2172	1.2180	+1.5	3.04E+07	1.54	Y	0.85	94.5
CS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.38E+07	0.54	Y	1.12	103
CS 1234689-HpCDF	40.18		1.0608	1.0608	0	1.92E+07	0.47	Y	0.89	104
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~9.42E+06~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~1.85E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.04E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.38E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~100~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0608~~	~~0~~	~~1.92E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~96.8~~

Totals	Conc	EMPC
Total TCDD	6.81	7.38
Total PeCDD	3.64	4.2
Total HxCDD	23.8	23.8
Total HpCDD	53.6	53.6
Total Tetra-Octa Dioxins	437	438
Total TCDF	7.45	8.19
Total PeCDF	0	0
Total HxCDF	0.56	0.56
Total HpCDF	2.27	2.27
Total Tetra-Octa Furans	13.1	13.9
Total Tetra-Octa Dioxins & Furans	450	452

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.693	0.72
Response	2.19E+05	2.13E+05

Lab ID: B6208_18911_DF_001 **Acq'd: 20 Feb 2022 09:00 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-23H **UTP: 21-Feb-2022 10:41:18 PSW** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 762-298-JSZ**

Datafile: 220219C21 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		5085.485	0.468
1379-TCDD	NotFnd		0.8829						1.18		5085.485	0.468
1369-TCDD	25.34	J	0.8982	0.8979	-0.5	3.93E+04	0.83	Y	1.18	0.329	5085.485	0.468
1469-TCDD	26.13		0.9261	0.9259	-0.3	5.60E+05	0.73	Y	1.18	4.69	5085.485	0.468
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		5085.485	0.468
1378-TCDD	NotFnd		0.9417						1.18		5085.485	0.468
1268-TCDD	NotFnd		0.9487						1.18		5085.485	0.468
1478-TCDD	NotFnd		0.9576						1.18		5085.485	0.468
1279-TCDD	NotFnd		0.9636						1.18		5085.485	0.468
1234/1269-TCDD	27.53	EMPC	0.9761	0.9757	-0.7	6.83E+04	0.99	N	1.18	0.573	5085.485	0.468
1236-TCDD	NotFnd		0.9812						1.18		5085.485	0.468
1237/1238-TCDD	NotFnd		0.9905						1.18		5085.485	0.468
1239-TCDD	NotFnd		0.9951						1.18		5085.485	0.468
2378-TCDD	**28.24**		**1.0008**	1.0006	**-0.3**	2.13E+05	0.72	Y	**1.18**	**1.79**	**5085.485**	**0.468**
1278-TCDD	NotFnd		1.0124						1.18		5085.485	0.468
1267-TCDD	NotFnd		1.0172						1.18		5085.485	0.468
1289-TCDD	NotFnd		1.0354						1.18		5085.485	0.468
12479/12468-PeCDD	31.12	J EMPC	0.9255	0.9255	0	5.86E+04	1.27	N	1.04	0.569	3993.403	0.341
12469-PeCDD	31.66		0.9416	0.9415	-0.2	2.92E+05	1.63	Y	1.04	2.84	3993.403	0.341
12368-PeCDD	NotFnd		0.9582						1.04		3993.403	0.341
12478-PeCDD	NotFnd		0.9637						1.04		3993.403	0.341
12379-PeCDD	NotFnd		0.9668						1.04		3993.403	0.341
12369/12467/12489-PeCDD	32.78	J	0.9746	0.9748	+0.4	8.22E+04	1.34	Y	1.04	0.799	3993.403	0.341
12346/12347-PeCDD	NotFnd		0.9858						1.04		3993.403	0.341
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3993.403**	**0.341**
12367-PeCDD	NotFnd		1.0036						1.04		3993.403	0.341
12389-PeCDD	NotFnd		1.0137						1.04		3993.403	0.341
124679/124689-HxCDD	35.83		0.9540	0.9540	0	1.91E+06	1.28	Y	1.10	18.8	2749.033	0.239
123468-HxCDD	NotFnd		0.9715						1.10		2749.033	0.239
123679/123689-HxCDD	36.78		0.9793	0.9795	+0.4	3.92E+05	1.42	Y	1.10	3.85	2749.033	0.239
123469-HxCDD	NotFnd		0.9829						1.10		2749.033	0.239
123478-HxCDD	NotFnd		**1.0004**						1.09		**2749.033**	**0.25**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2749.033**	**0.228**
123467-HxCDD	NotFnd		1.0089						1.10		2749.033	0.239
123789-HxCDD	38.00	J	**1.0118**	**1.0118**	**0**	**1.14E+05**	**1.42**	**Y**	1.05	**1.11**	**2749.033**	**0.241**

Lab ID: B6208_18911_DF_001 **Acq'd: 20 Feb 2022 09:00 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-23H **UTP: 21-Feb-2022 10:41:18 PSW** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 762-298-JSZ**

Datafile: 220219C21 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

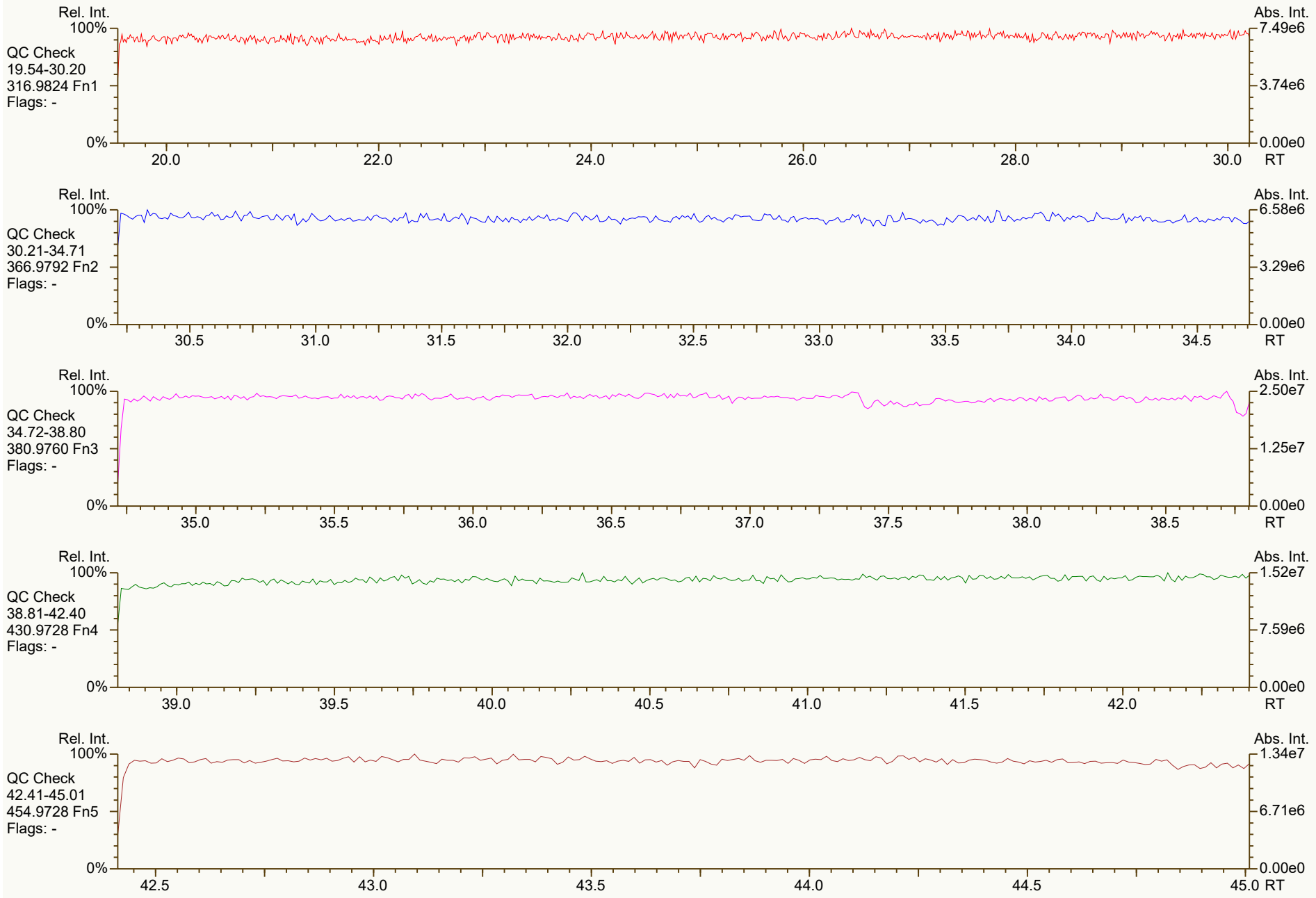
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9835	-0.2	3.45E+06	1.08	Y	1.06	36.8	3779.349	0.34
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**1.58E+06**	**1.00**	**Y**	**1.06**	**16.8**	**3779.349**	**0.34**
OCDD	**43.42**		**1.0003**	**1.0002**	**-0.3**	**2.37E+07**	**0.89**	**Y**	**1.13**	**349**	**4262.42**	**0.75**
OCDD-a	43.42		1.0002	1.0002	0	1.51E+06	2.54	Y	0.07	347	4056.003	11.2
1368-TCDF	NotFnd		0.8191						1.08		3774.79	0.257
1468-TCDF	NotFnd		0.8408						1.08		3774.79	0.257
2468-TCDF	23.64	J EMPC	0.8645	0.8642	-0.4	3.73E+04	1.37	N	1.08	0.222	3774.79	0.257
1346/1246-TCDF	NotFnd		0.8772						1.08		3774.79	0.257
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3774.79	0.257
1348-TCDF	NotFnd		0.8932						1.08		3774.79	0.257
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3774.79	0.257
1268-TCDF	NotFnd		0.9119						1.08		3774.79	0.257
1467-TCDF	NotFnd		0.9170						1.08		3774.79	0.257
1478-TCDF	NotFnd		0.9234						1.08		3774.79	0.257
1369/1237-TCDF	NotFnd		0.9369						1.08		3774.79	0.257
2467-TCDF	NotFnd		0.9415						1.08		3774.79	0.257
2368-TCDF	NotFnd		0.9475						1.08		3774.79	0.257
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3774.79	0.257
1278-TCDF	26.47		0.9676	0.9676	0	3.70E+05	0.82	Y	1.08	2.21	3774.79	0.257
1349-TCDF	NotFnd		0.9722						1.08		3774.79	0.257
1267-TCDF	NotFnd		0.9777						1.08		3774.79	0.257
2346/1249-TCDF	NotFnd		0.9843						1.08		3774.79	0.257
2347/1279-TCDF	NotFnd		0.9926						1.08		3774.79	0.257
2348-TCDF	27.26	J	0.9968	0.9966	-0.3	6.65E+04	0.74	Y	1.08	0.396	3774.79	0.257
2378-TCDF	**27.37**		**1.0008**	**1.0007**	**-0.2**	**8.14E+05**	**0.80**	**Y**	**1.08**	**4.85**	**3774.79**	**0.257**
2367/3467-TCDF	27.74	J EMPC	1.0142	1.0142	0	5.35E+04	1.13	N	1.08	0.319	3774.79	0.257
1269-TCDF	NotFnd		1.0235						1.08		3774.79	0.257
1239-TCDF	NotFnd		1.0329						1.08		3774.79	0.257
1289-TCDF	29.41	J EMPC	1.0742	1.0753	+1.9	3.45E+04	1.47	N	1.08	0.205	3774.79	0.257
13468/12468-PeCDF	NotFnd		0.9122						1.02		3399.88	0.2
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2688.448	0.158
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2688.448	0.158
14678-PeCDF	NotFnd		0.9685						1.02		2688.448	0.158
13479-PeCDF	NotFnd		0.9716						1.02		2688.448	0.158
13469/12479-PeCDF	NotFnd		0.9794						1.02		2688.448	0.158
12346-PeCDF	NotFnd		0.9836						1.02		2688.448	0.158

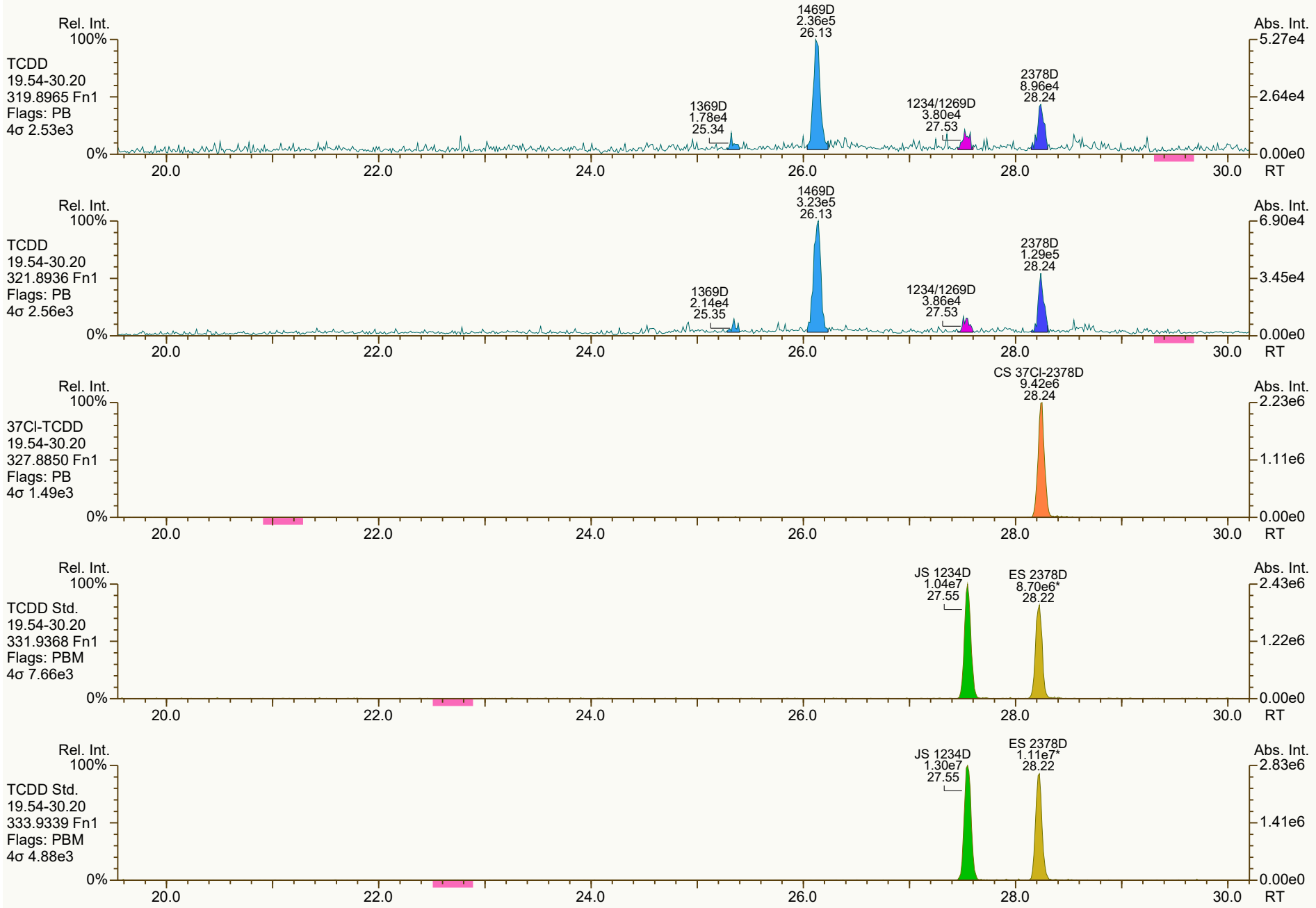
Lab ID: B6208_18911_DF_001 **Acq'd: 20 Feb 2022 09:00 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

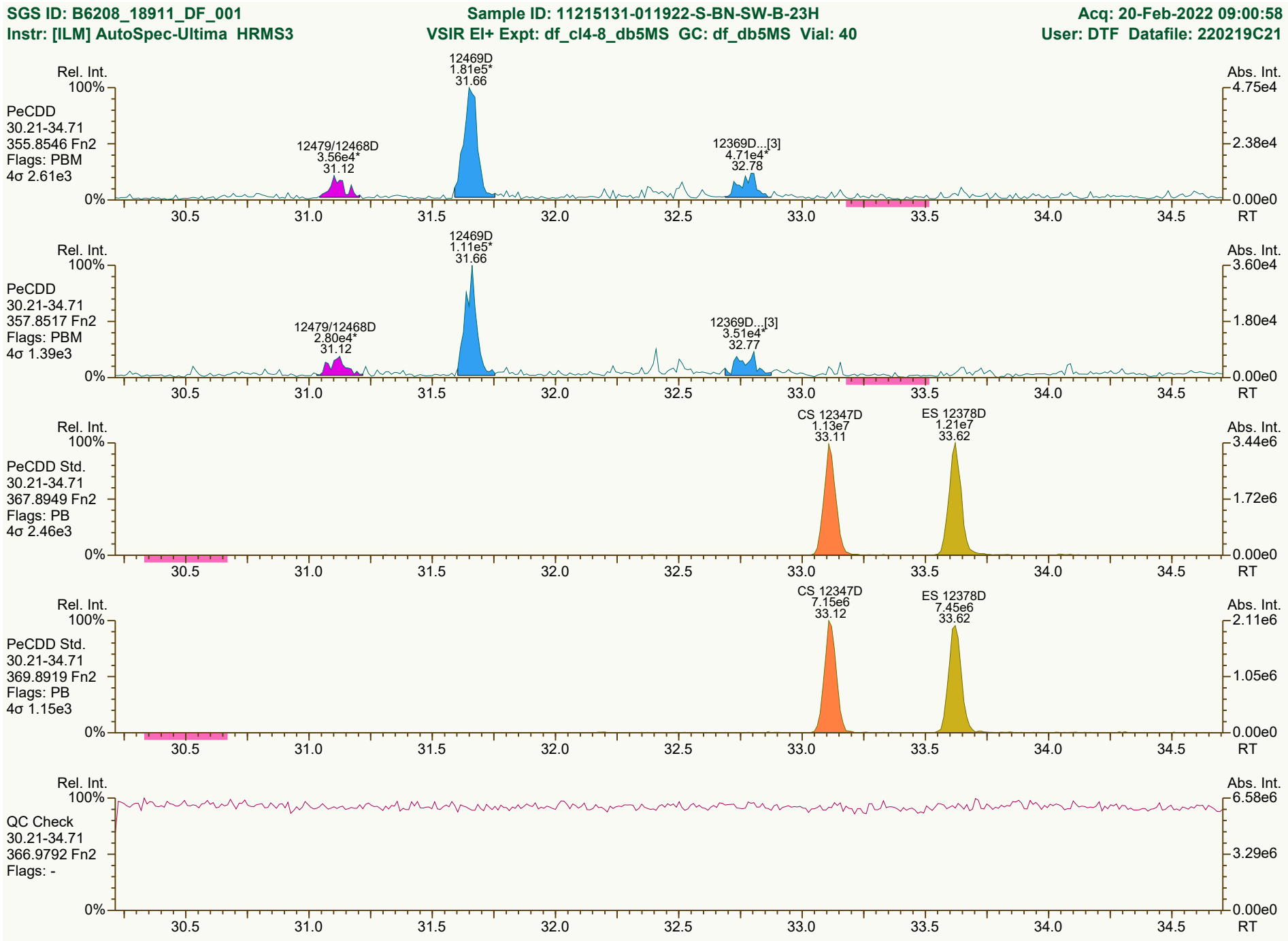
Client ID: 11215131-011922-S-BN-SW-B-23H **UTP: 21-Feb-2022 10:41:18 PSW** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 762-298-JSZ**

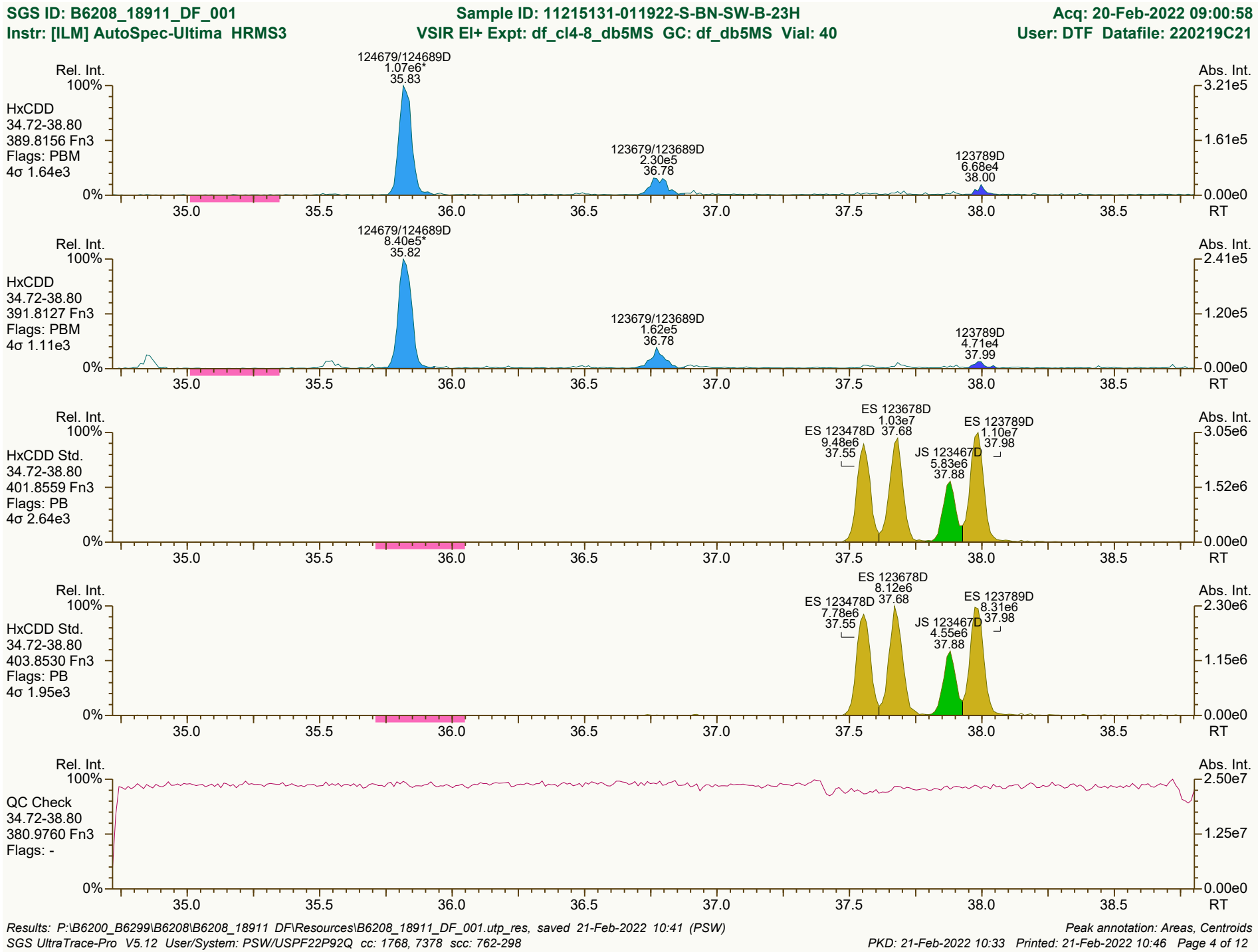
Datafile: 220219C21 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

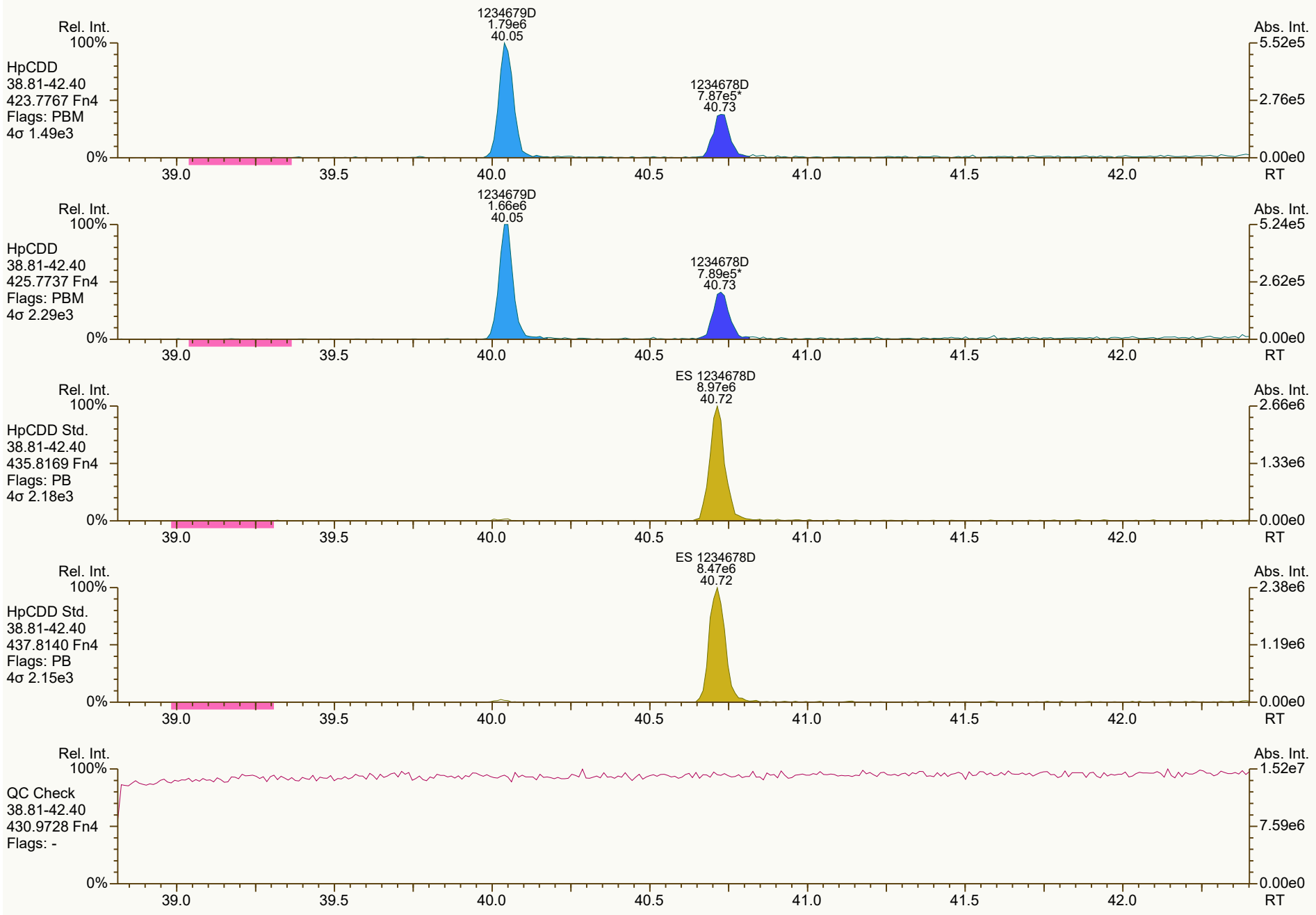
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2688.448	0.158
12347-PeCDF	NotFnd		0.9891						1.02		2688.448	0.158
12348-PeCDF	NotFnd		0.9938						1.02		2688.448	0.158
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2688.448**	**0.159**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2688.448	0.158
12379-PeCDF	NotFnd		1.0144						1.02		2688.448	0.158
12679-PeCDF	NotFnd		0.9927						1.02		2688.448	0.158
23467/12369-PeCDF	NotFnd		0.9965						1.02		2688.448	0.158
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2688.448**	**0.157**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2688.448	0.158
12349-PeCDF	NotFnd		1.0101						1.02		2688.448	0.158
12389-PeCDF	NotFnd		1.0330						1.02		2688.448	0.158
123468-HxCDF	NotFnd		0.9622						1.19		3201.994	0.186
124678/134678-HxCDF	NotFnd		0.9678						1.19		3201.994	0.186
134679-HxCDF	NotFnd		0.9741						1.19		3201.994	0.186
124679-HxCDF	NotFnd		0.9795						1.19		3201.994	0.186
124689-HxCDF	NotFnd		0.9856						1.19		3201.994	0.186
123467-HxCDF	NotFnd		0.9972						1.19		3201.994	0.186
123478-HxCDF	**36.56**	J	**1.0004**	**1.0003**	**-0.2**	**7.67E+04**	**1.12**	**Y**	**1.27**	**0.56**	**3201.994**	**0.178**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3201.994**	**0.17**
123479-HxCDF	NotFnd		1.0048						1.19		3201.994	0.186
123469-HxCDF	NotFnd		1.0089						1.19		3201.994	0.186
123679-HxCDF	NotFnd		0.9942						1.19		3201.994	0.186
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3201.994**	**0.184**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3201.994	0.186
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3201.994**	**0.222**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3201.994	0.186
1234678-HpCDF	**39.78**	**J**	**1.0003**	**1.0001**	**-0.5**	**1.23E+05**	**0.96**	**Y**	**1.37**	**0.817**	**2925.339**	**0.14**
1234679-HpCDF	NotFnd		1.0068						1.34		2925.339	0.19
1234689-HpCDF	40.19	**J**	1.0104	1.0105	+0.2	1.78E+05	1.10	Y	1.34	1.45	2925.339	0.19
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2925.339**	**0.265**
OCDF	**43.60**	**J**	**1.0002**	**1.0004**	**+0.5**	**2.06E+05**	**0.78**	**Y**	**1.07**	**2.83**	**3985.768**	**0.656**
OCDF-a	NotFnd		1.0001						0.07		3451.537	9.17

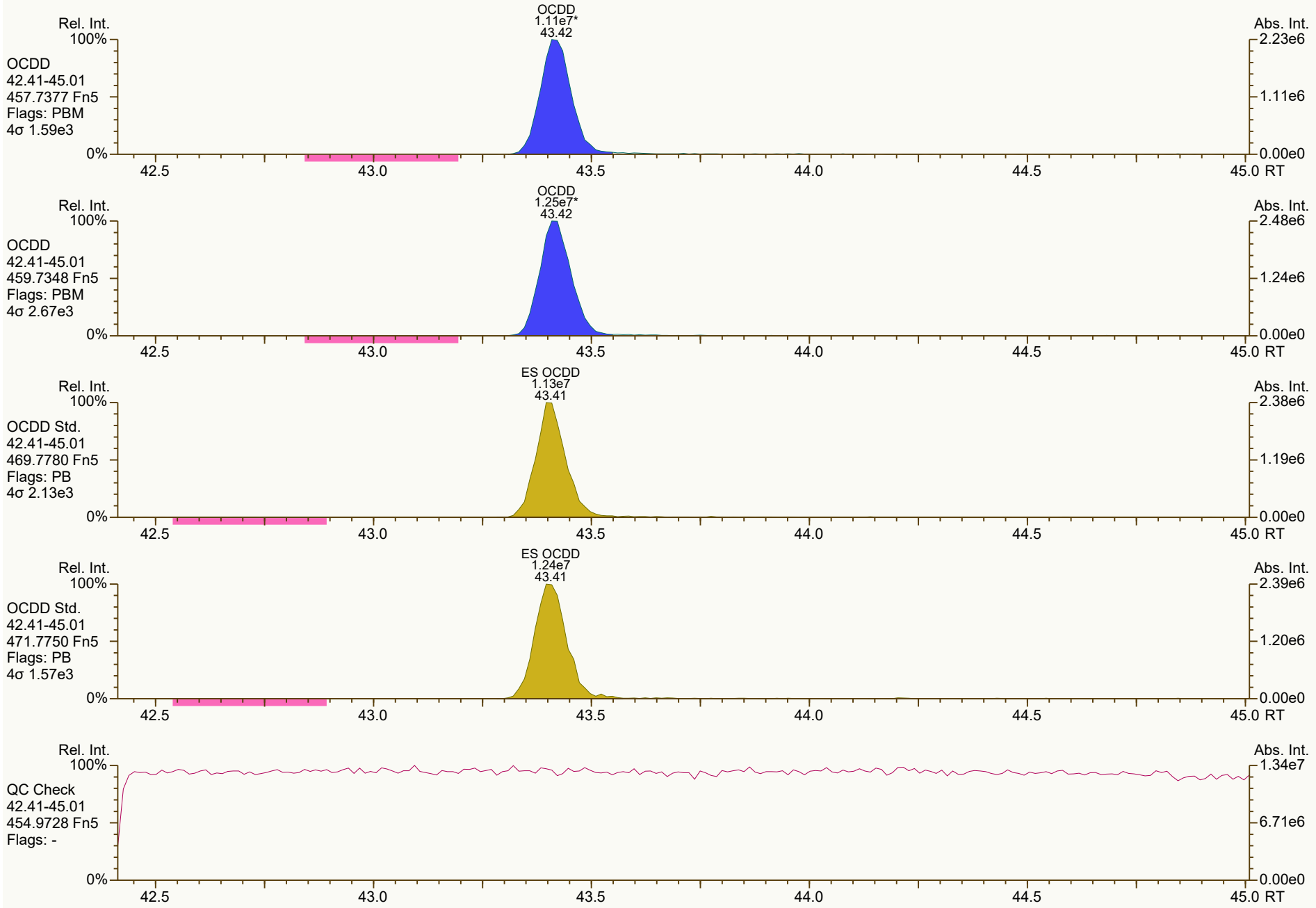

Rel. Int.
100%
0%
Abs. Int.
7.49e6
3.74e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
6.58e6
3.29e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.50e7
1.25e7
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.52e7
7.59e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.34e7
6.71e6
42.5
43.0
43.5
44.0
44.5
45.0

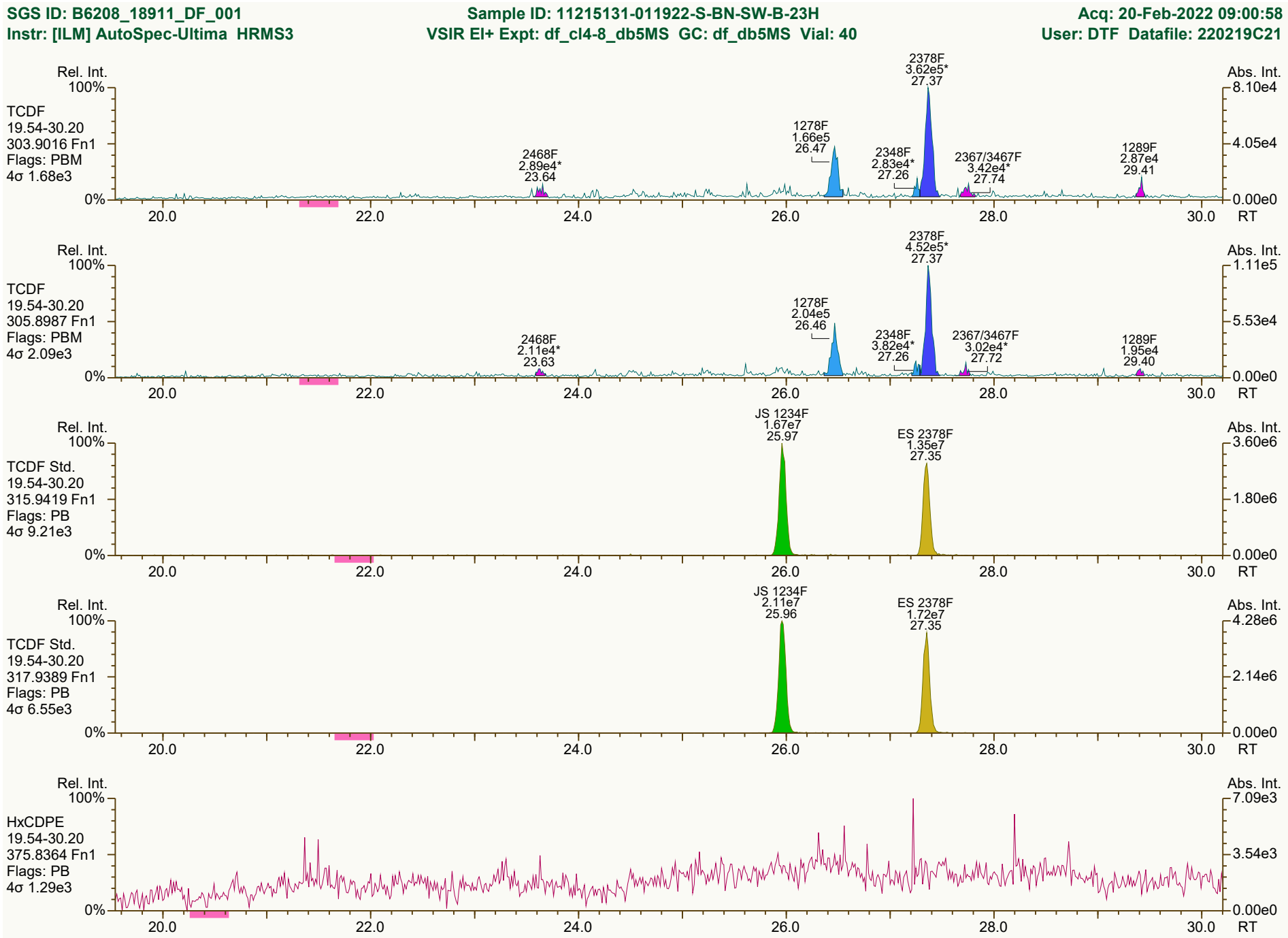

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.53e3
1469D
2.36e5
26.13
1369D
1.78e4
25.34
1234/1269D
3.80e4
27.53
2378D
8.96e4
28.24
Abs. Int.
5.27e4
2.64e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.56e3
1469D
3.23e5
26.13
1369D
2.14e4
25.35
1234/1269D
3.86e4
27.53
2378D
1.29e5
28.24
Abs. Int.
6.90e4
3.45e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
CS 37Cl-2378D
9.42e6
28.24
Abs. Int.
2.23e6
1.11e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 7.66e3
JS 1234D
1.04e7
27.55
ES 2378D
8.70e6*
28.22
Abs. Int.
2.43e6
1.22e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 4.88e3
JS 1234D
1.30e7
27.55
ES 2378D
1.11e7*
28.22
Abs. Int.
2.83e6
1.41e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6208_18911_DF_001
Sample ID: 11215131-011922-S-BN-SW-B-23H
Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220219C21
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.61e3
12469D
1.81e5*
31.66
12479/12468D
3.56e4*
31.12
12369D...[3]
4.71e4*
32.78
4.75e4
2.38e4
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12469D
1.11e5*
31.66
12479/12468D
2.80e4*
31.12
12369D...[3]
3.51e4*
32.77
3.60e4
1.80e4
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.46e3
CS 12347D
1.13e7
33.11
ES 12378D
1.21e7
33.62
3.44e6
1.72e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.15e3
CS 12347D
7.15e6
33.12
ES 12378D
7.45e6
33.62
2.11e6
1.05e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
6.58e6
3.29e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8442, 1558 scc: 762-298
PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 3 of 12

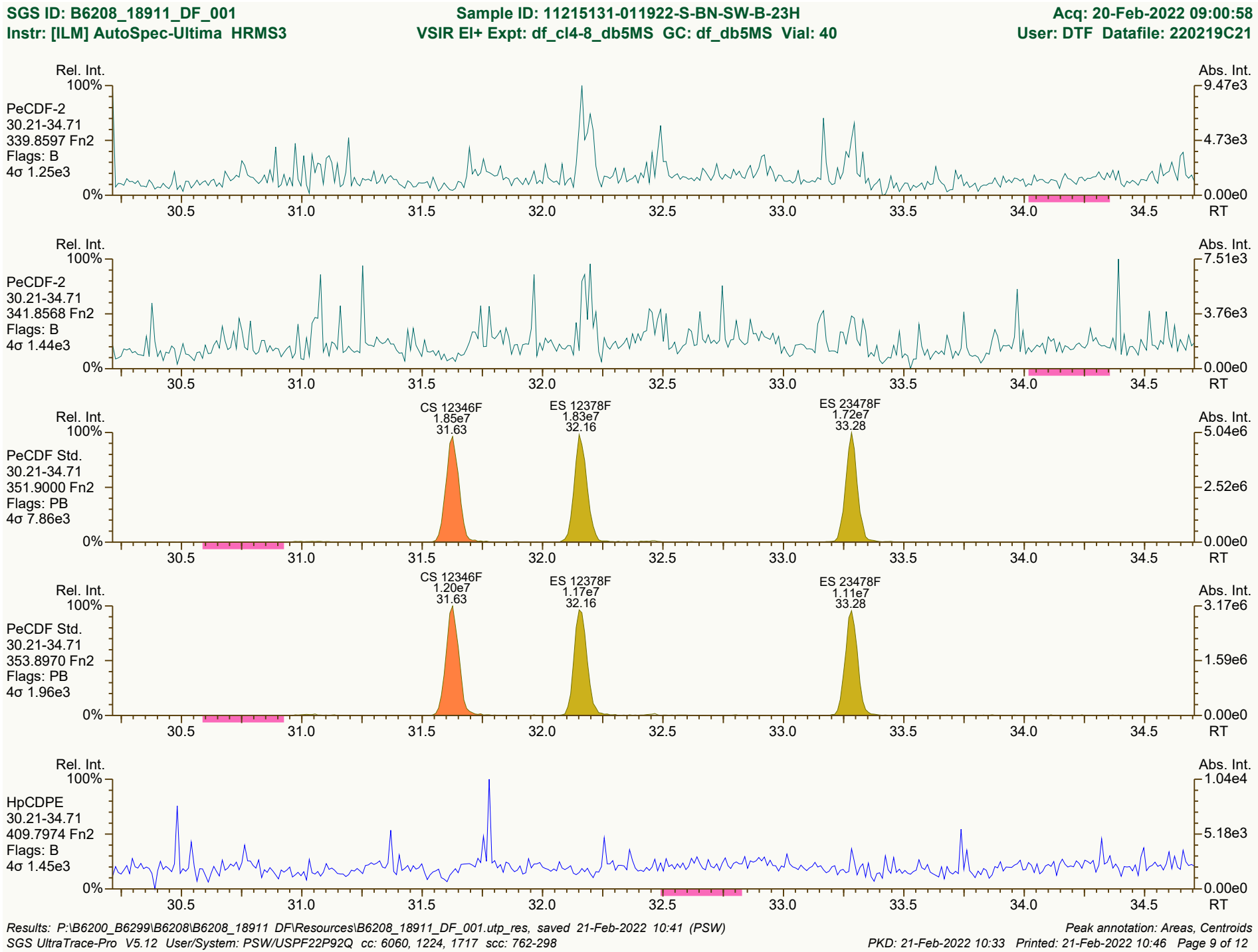

SGS ID: B6208_18911_DF_001
Sample ID: 11215131-011922-S-BN-SW-B-23H
Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220219C21
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.64e3
124679/124689D
1.07e6*
35.83
123679/123689D
2.30e5
36.78
123789D
6.68e4
38.00
3.21e5
1.61e5
0.00e0
RT
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.11e3
124679/124689D
8.40e5*
35.82
123679/123689D
1.62e5
36.78
123789D
4.71e4
37.99
2.41e5
1.20e5
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.64e3
ES 123678D
1.03e7
37.68
ES 123478D
9.48e6
37.55
JS 123467D
5.83e6
37.88
ES 123789D
1.10e7
37.98
3.05e6
1.52e6
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.95e3
ES 123678D
8.12e6
37.68
ES 123478D
7.78e6
37.55
JS 123467D
4.55e6
37.88
ES 123789D
8.31e6
37.98
2.30e6
1.15e6
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.50e7
1.25e7
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1768, 7378 scc: 762-298
PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.49e3
1234679D
1.79e6
40.05
1234678D
7.87e5*
40.73
Abs. Int.
5.52e5
2.76e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.29e3
1234679D
1.66e6
40.05
1234678D
7.89e5*
40.73
Abs. Int.
5.24e5
2.62e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.18e3
ES 1234678D
8.97e6
40.72
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.15e3
ES 1234678D
8.47e6
40.72
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.52e7
7.59e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

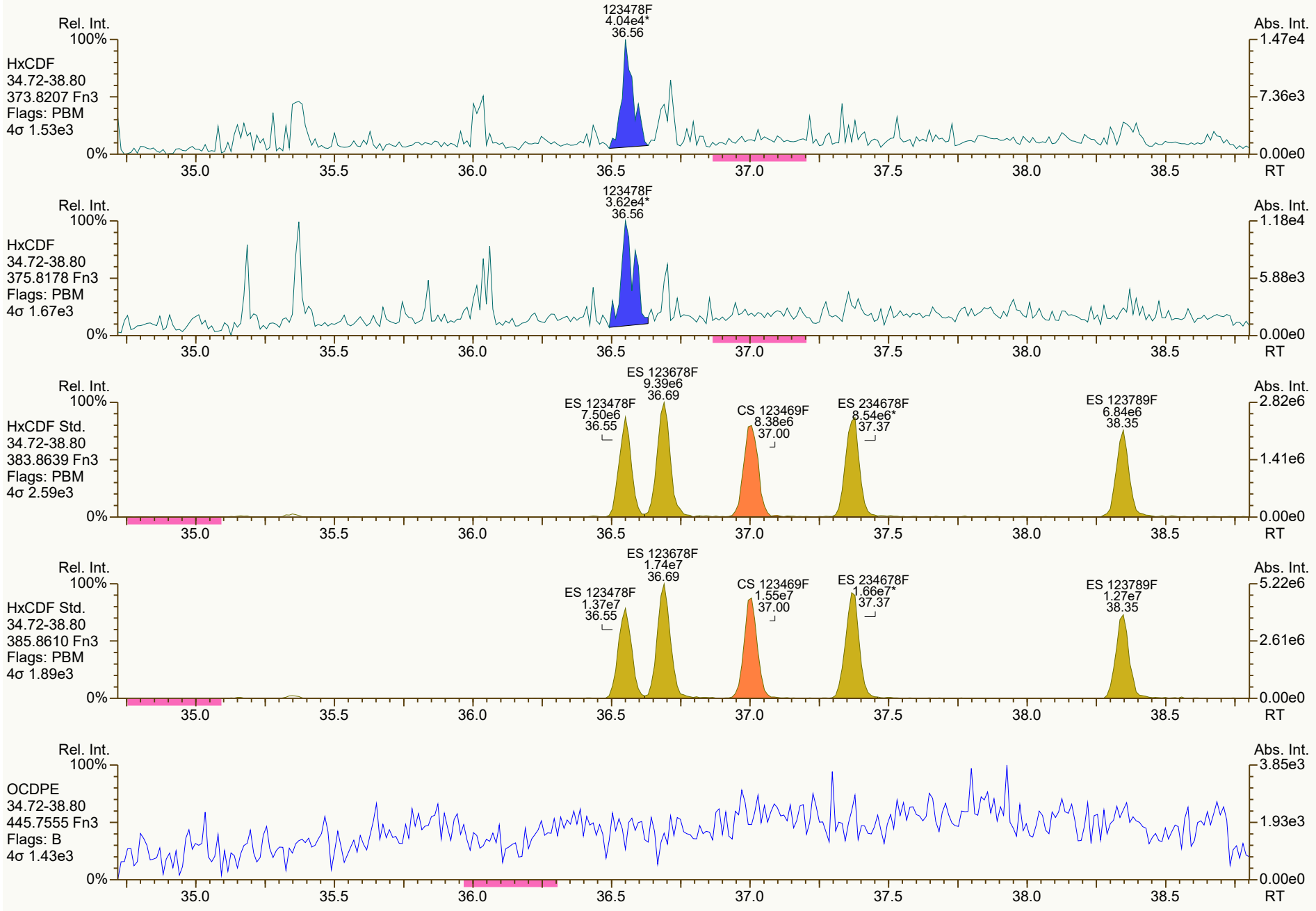

OCDD
1.11e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
2.23e6
1.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.25e7*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.67e3
2.48e6
1.24e6
ES OCDD
1.13e7
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.13e3
2.38e6
1.19e6
ES OCDD
1.24e7
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.57e3
2.39e6
1.20e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.34e7
6.71e6


SGS ID: B6208_18911_DF_001
Sample ID: 11215131-011922-S-BN-SW-B-23H
Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220219C21
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.68e3
2468F 2.89e4* 23.64
1278F 1.66e5 26.47
2348F 2.83e4* 27.26
2378F 3.62e5* 27.37
2367/3467F 3.42e4* 27.74
1289F 2.87e4 29.41
8.10e4
4.05e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.09e3
2468F 2.11e4* 23.63
1278F 2.04e5 26.46
2348F 3.82e4* 27.26
2378F 4.52e5* 27.37
2367/3467F 3.02e4* 27.72
1289F 1.95e4 29.40
1.11e5
5.53e4
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.21e3
JS 1234F 1.67e7 25.97
ES 2378F 1.35e7 27.35
3.60e6
1.80e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.55e3
JS 1234F 2.11e7 25.96
ES 2378F 1.72e7 27.35
4.28e6
2.14e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.29e3
7.09e3
3.54e3
0.00e0
0%
100%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9724, 2041, 1285 scc: 762-298
PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 7 of 12

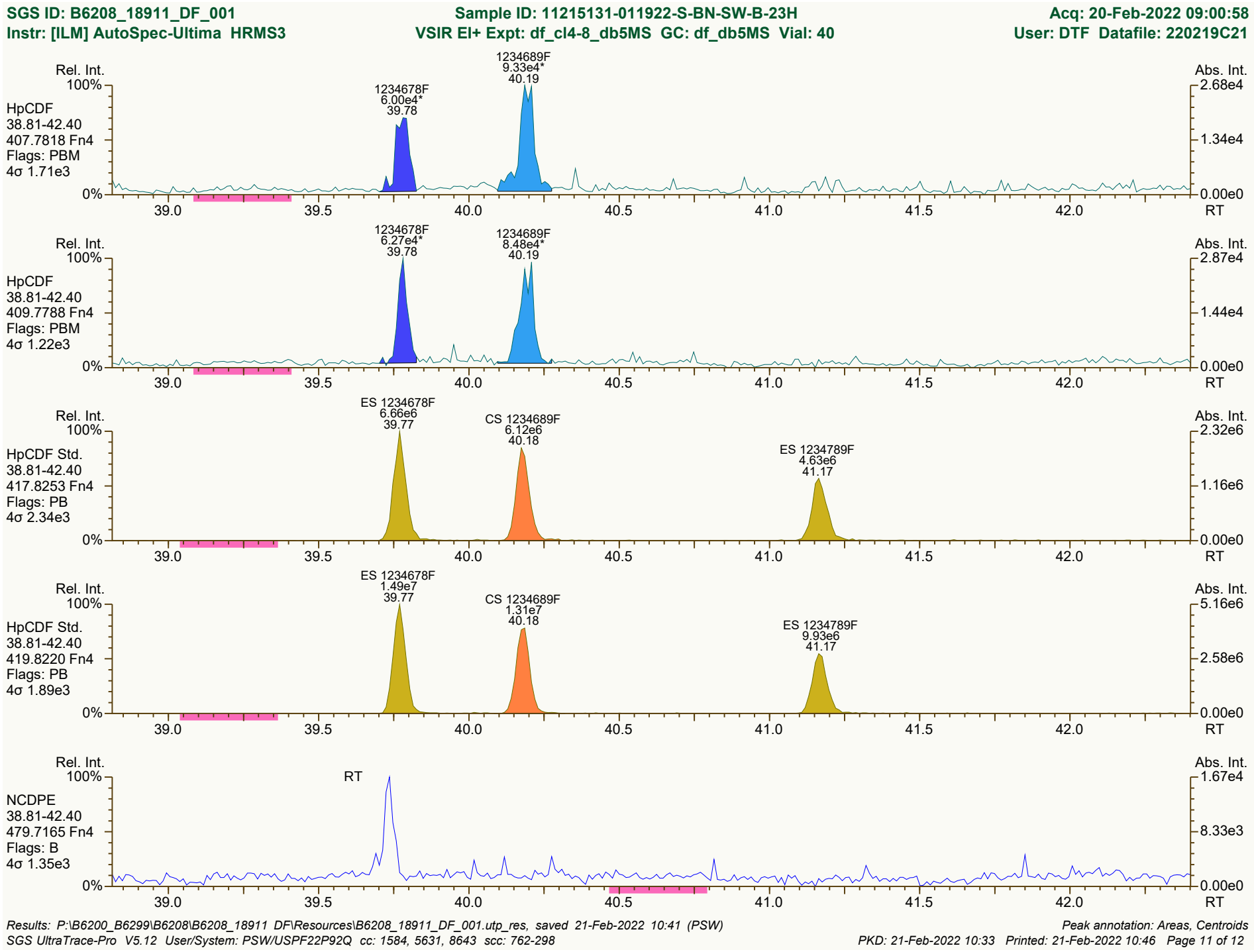

Rel. Int.
100%
0%
Abs. Int.
6.57e3
3.29e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.69e3
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.71e3
1.39e4
6.97e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
7.49e6
3.74e6

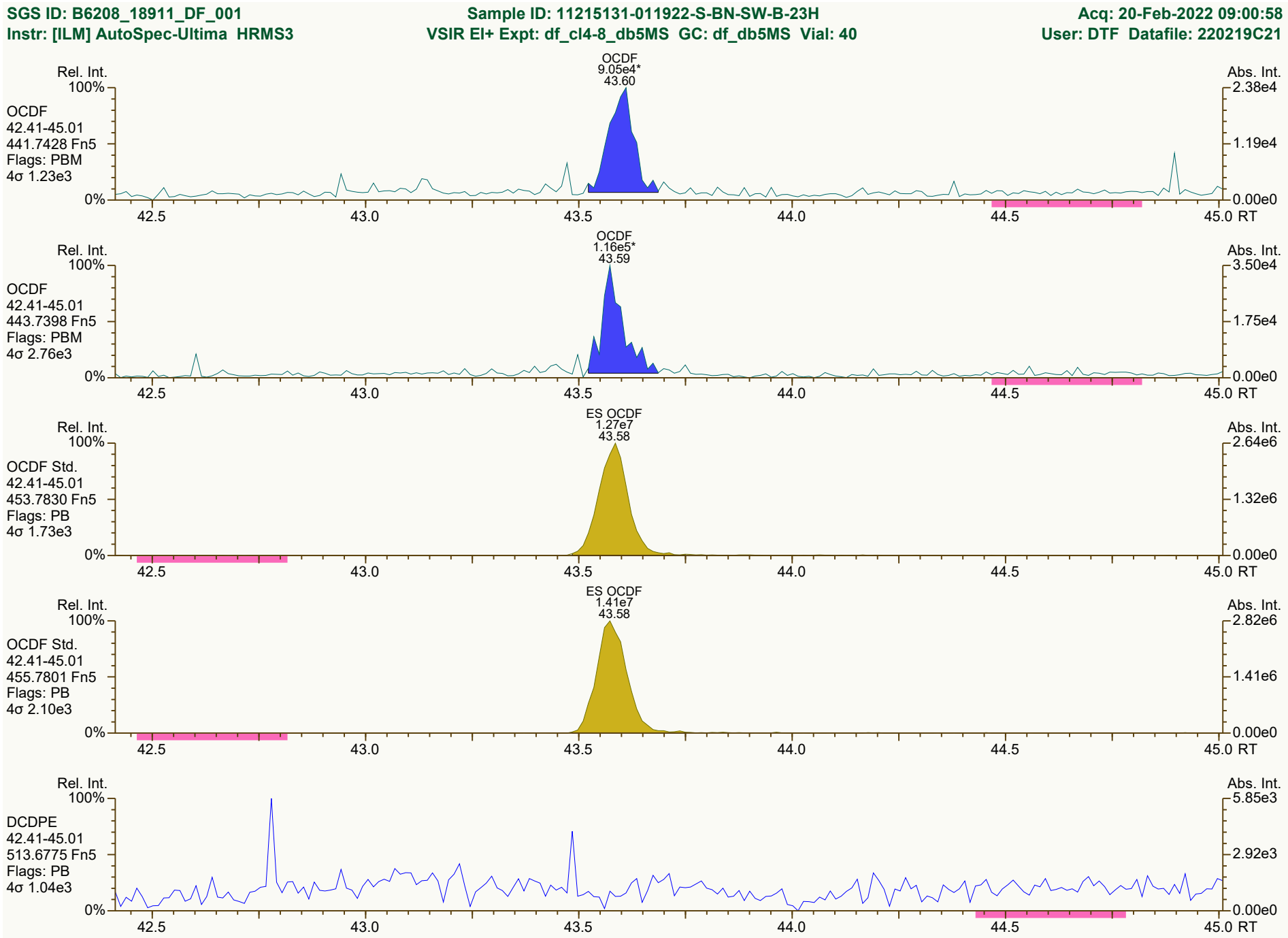

SGS ID: B6208_18911_DF_001
Sample ID: 11215131-011922-S-BN-SW-B-23H
Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220219C21
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.25e3
9.47e3
4.73e3
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.44e3
7.51e3
3.76e3
0.00e0
CS 12346F
1.85e7
31.63
ES 12378F
1.83e7
32.16
ES 23478F
1.72e7
33.28
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 7.86e3
5.04e6
2.52e6
0.00e0
CS 12346F
1.20e7
31.63
ES 12378F
1.17e7
32.16
ES 23478F
1.11e7
33.28
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.96e3
3.17e6
1.59e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.45e3
1.04e4
5.18e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6060, 1224, 1717 scc: 762-298
PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 9 of 12

SGS ID: B6208_18911_DF_001 Sample ID: 11215131-011922-S-BN-SW-B-23H Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40 User: DTF Datafile: 220219C21



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3499, 8912, 1880 scc: 762-298 *PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 10 of 12*


SGS ID: B6208_18911_DF_001
Sample ID: 11215131-011922-S-BN-SW-B-23H
Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220219C21
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.71e3
1234678F
6.00e4*
39.78
1234689F
9.33e4*
40.19
2.68e4
1.34e4
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.22e3
1234678F
6.27e4*
39.78
1234689F
8.48e4*
40.19
2.87e4
1.44e4
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.34e3
ES 1234678F
6.66e6
39.77
CS 1234689F
6.12e6
40.18
ES 1234789F
4.63e6
41.17
2.32e6
1.16e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.89e3
ES 1234678F
1.49e7
39.77
CS 1234689F
1.31e7
40.18
ES 1234789F
9.93e6
41.17
5.16e6
2.58e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.35e3
RT
1.67e4
8.33e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1584, 5631, 8643 scc: 762-298
PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 11 of 12


SGS ID: B6208_18911_DF_001
Sample ID: 11215131-011922-S-BN-SW-B-23H
Acq: 20-Feb-2022 09:00:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 40
User: DTF Datafile: 220219C21
OCDF
9.05e4*
43.60
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.23e3
OCDF
1.16e5*
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.76e3
ES OCDF
1.27e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.73e3
ES OCDF
1.41e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.10e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.04e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_001.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3289, 7985, 2426 scc: 762-298
PKD: 21-Feb-2022 10:33 Printed: 21-Feb-2022 10:46 Page 12 of 12

Lab ID: B6208_18911_DF_002 **Acq'd:** 20 Feb 2022 09:47 DTF **Wt/Vol:** 10.34 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21H1 **UTP:** 21-Feb-2022 10:41:19 PSW **J-level:** 0.484 pg/g **Split:** 1 **Checkcode:** 898-213-CXX

Datafile: 220219C22 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.26		1.0008	1.0008	0	3.86E+07	0.80	Y	1.18	238	5057.365	0.334
12378-PeCDD	33.65	EMPC	1.0007	1.0005	-0.4	4.52E+05	1.81	N	1.04	3.6	5618.387	0.396
123478-HxCDD	37.58	J	1.0004	1.0005	+0.2	2.34E+05	1.34	Y	1.09	2.01	9165.092	0.691
123678-HxCDD	37.70		1.0036	1.0036	0	1.12E+06	1.21	Y	1.15	8.97	9165.092	0.631
123789-HxCDD	38.00		1.0118	1.0117	-0.2	6.92E+05	1.25	Y	1.05	5.48	9165.092	0.633
1234678-HpCDD	40.73		1.0002	1.0004	+0.5	2.21E+07	1.03	Y	1.06	191	4219.776	0.303
OCDD	43.41		1.0003	1.0003	0	2.78E+08	0.90	Y	1.13	3,200	5871.896	0.869
2378-TCDF	27.38		1.0008	1.0008	0	1.48E+08	0.79	Y	1.08	682	3384.905	0.182
12378-PeCDF	32.19		1.0005	1.0005	0	3.89E+06	1.55	Y	1.02	20.7	5807.221	0.293
23478-PeCDF	33.32	PR	1.0005	1.0008	+0.6	4.05E+06	1.54	Y	1.02	21.7	5807.221	0.268
123478-HxCDF	36.58		1.0004	1.0005	+0.2	5.46E+06	1.19	Y	1.27	31.7	7844.839	0.397
123678-HxCDF	36.71		1.0004	1.0004	0	1.59E+06	1.22	Y	1.15	8.76	7844.839	0.374
234678-HxCDF	37.39		1.0005	1.0004	-0.2	8.77E+05	1.35	Y	1.19	4.95	7844.839	0.385
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7844.839	0.407
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	1.96E+07	1.03	Y	1.37	120	3051.964	0.134
1234789-HpCDF	41.18		1.0003	1.0003	0	1.93E+06	1.01	Y	1.31	14	3051.964	0.193
OCDF	43.59		1.0002	1.0003	+0.3	3.27E+08	0.89	Y	1.07	2,970	4167.122	0.467

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0244	+0.2	2.64E+07	0.81	Y	1.05	98
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.35E+07	1.60	Y	0.88	104
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	2.07E+07	1.25	Y	0.97	94.2
ES 123678-HxCDD	37.68	0.9947	0.9947	0	2.10E+07	1.21	Y	0.94	98.1
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	2.33E+07	1.32	Y	1.09	94.2
ES 1234678-HpCDD	40.71	1.0749	1.0747	-0.5	2.11E+07	1.08	Y	0.91	102
ES OCDD	43.40	1.1460	1.1457	-0.8	2.98E+07	0.93	Y	0.62	105
ES 2378-TCDF	27.36	1.0531	1.0534	+0.5	3.88E+07	0.79	Y	1.06	90.9
ES 12378-PeCDF	32.17	1.2378	1.2387	+1.7	3.56E+07	1.55	Y	0.91	96.9
ES 23478-PeCDF	33.30	1.2810	1.2819	+1.8	3.53E+07	1.59	Y	0.88	99.3
ES 123478-HxCDF	36.56	0.9650	0.9651	+0.2	2.63E+07	0.54	Y	1.20	96.7
ES 123678-HxCDF	36.70	0.9688	0.9688	0	3.05E+07	0.55	Y	1.35	99.6
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.88E+07	0.56	Y	1.24	102
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.62E+07	0.53	Y	1.16	100
ES 1234678-HpCDF	39.77	1.0501	1.0498	-0.7	2.30E+07	0.45	Y	0.97	105
ES 1234789-HpCDF	41.17	1.0870	1.0868	-0.5	2.04E+07	0.44	Y	0.85	106
ES OCDF	43.58	1.1505	1.1505	0	3.97E+07	0.89	Y	0.81	108

Lab ID: B6208_18911_DF_002 **Acq'd:** 20 Feb 2022 09:47 DTF **Wt/Vol:** 10.34 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21H1 **UTP:** 21-Feb-2022 10:41:19 PSW **J-level:** 0.484 pg/g **Split:** 1 **Checkcode:** 898-213-CXX

Datafile: 220219C22 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.58E+07	0.83	Y	-	-
JS 1234-TCDF	25.97		-	-	-	4.03E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.13E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.11E+07	n/a	-	1.20	89.7
CS 12347-PeCDD	33.13		1.2016	1.2020	+0.8	2.03E+07	1.59	Y	0.75	104
CS 12346-PeCDF	31.64		1.2172	1.2181	+1.7	3.26E+07	1.60	Y	0.85	95.2
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.48E+07	0.53	Y	1.12	98.1
CS 1234689-HpCDF	40.18		1.0608	1.0606	-0.5	2.11E+07	0.48	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~91.7~~
~~SS 12347-PeCDD~~	~~33.13~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~2.03E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~101~~
~~SS 12346-PeCDF~~	~~31.64~~		~~1.2172~~	~~1.2181~~	~~+1.7~~	~~3.26E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~98~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.48E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~98.3~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0606~~	~~-0.5~~	~~2.11E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~100~~

Totals	Conc	EMPC
Total TCDD	278	280
Total PeCDD	19.4	24
Total HxCDD	105	105
Total HpCDD	449	449
Total Tetra-Octa Dioxins	4050	4060
Total TCDF	1,350	1350
Total PeCDF	114	115
Total HxCDF	117	117
Total HpCDF	230	230
Total Tetra-Octa Furans	4,790	4790
Total Tetra-Octa Dioxins & Furans	8840	8850

Lab ID: B6208_18911_DF_002 **Acq'd: 20 Feb 2022 09:47 DTF** **Wt/Vol: 10.34 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21H1 **UTP: 21-Feb-2022 10:41:19 PSW** **J-level: 0.484 pg/g** **Split: 1** **Checkcode: 898-213-CXX**

Datafile: 220219C22 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8694	-1.0	5.84E+05	0.85	Y	1.18	3.61	5057.365	0.334
1379-TCDD	24.91		0.8829	0.8822	-1.0	2.19E+05	0.73	Y	1.18	1.35	5057.365	0.334
1369-TCDD	25.35		0.8982	0.8981	-0.2	1.09E+05	0.69	Y	1.18	0.676	5057.365	0.334
1469-TCDD	26.14		0.9261	0.9259	-0.3	5.91E+05	0.81	Y	1.18	3.65	5057.365	0.334
1247/1246/1248/1249-TCDD	26.39	EMPC	0.9348	0.9346	-0.3	2.04E+05	0.91	N	1.18	1.26	5057.365	0.334
1378-TCDD	26.58		0.9417	0.9415	-0.3	2.26E+05	0.76	Y	1.18	1.4	5057.365	0.334
1268-TCDD	NotFnd		0.9487						1.18		5057.365	0.334
1478-TCDD	27.03		0.9576	0.9576	0	1.27E+05	0.68	Y	1.18	0.784	5057.365	0.334
1279-TCDD	27.20	EMPC	0.9636	0.9635	-0.2	1.16E+05	0.98	N	1.18	0.717	5057.365	0.334
1234/1269-TCDD	27.55		0.9761	0.9759	-0.3	1.71E+05	0.83	Y	1.18	1.06	5057.365	0.334
1236-TCDD	NotFnd		0.9812						1.18		5057.365	0.334
1237/1238-TCDD	27.96		0.9905	0.9903	-0.3	6.25E+05	0.73	Y	1.18	3.87	5057.365	0.334
1239-TCDD	NotFnd		0.9951						1.18		5057.365	0.334
2378-TCDD	**28.26**		**1.0008**	1.0008	**0**	3.86E+07	0.80	Y	**1.18**	**238**	**5057.365**	**0.334**
1278-TCDD	28.58		1.0124	1.0125	+0.2	3.60E+06	0.81	Y	1.18	22.2	5057.365	0.334
1267-TCDD	NotFnd		1.0172						1.18		5057.365	0.334
1289-TCDD	29.24		1.0354	1.0356	+0.4	1.59E+05	0.71	Y	1.18	0.983	5057.365	0.334
12479/12468-PeCDD	31.12		0.9255	0.9255	0	7.43E+05	1.52	Y	1.04	5.91	5618.387	0.396
12469-PeCDD	31.67		0.9416	0.9416	0	4.75E+05	1.68	Y	1.04	3.78	5618.387	0.396
12368-PeCDD	32.22		0.9582	0.9582	0	3.36E+05	1.48	Y	1.04	2.67	5618.387	0.396
12478-PeCDD	32.42	J	0.9637	0.9638	+0.2	2.16E+05	1.45	Y	1.04	1.72	5618.387	0.396
12379-PeCDD	32.51	J	0.9668	0.9668	0	1.91E+05	1.46	Y	1.04	1.52	5618.387	0.396
12369/12467/12489-PeCDD	32.78		0.9746	0.9747	+0.2	4.29E+05	1.33	Y	1.04	3.41	5618.387	0.396
12346/12347-PeCDD	33.14	J	0.9858	0.9854	-0.8	5.41E+04	1.74	Y	1.04	0.43	5618.387	0.396
12378-PeCDD	33.65	EMPC	**1.0007**	**1.0005**	**-0.4**	**4.52E+05**	**1.81**	**N**	**1.04**	**3.6**	**5618.387**	**0.396**
12367-PeCDD	33.74	J EMPC	1.0036	1.0032	-0.8	4.64E+04	2.70	N	1.04	0.369	5618.387	0.396
12389-PeCDD	34.09	J EMPC	1.0137	1.0138	+0.2	8.02E+04	1.27	N	1.04	0.638	5618.387	0.396
124679/124689-HxCDD	35.83		0.9540	0.9541	+0.2	5.81E+06	1.27	Y	1.10	47.3	9165.092	0.65
123468-HxCDD	36.49		0.9715	0.9716	+0.2	6.88E+05	1.28	Y	1.10	5.61	9165.092	0.65
123679/123689-HxCDD	36.79		0.9793	0.9794	+0.2	3.96E+06	1.26	Y	1.10	32.3	9165.092	0.65
123469-HxCDD	36.91	J	0.9829	0.9828	-0.2	2.54E+05	1.36	Y	1.10	2.07	9165.092	0.65
123478-HxCDD	37.58	J	**1.0004**	**1.0005**	**+0.2**	**2.34E+05**	**1.34**	**Y**	1.09	**2.01**	**9165.092**	**0.691**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**1.12E+06**	**1.21**	**Y**	1.15	**8.97**	**9165.092**	**0.631**
123467-HxCDD	37.89	J	1.0089	1.0089	0	1.96E+05	1.25	Y	1.10	1.59	9165.092	0.65
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**6.92E+05**	**1.25**	**Y**	1.05	**5.48**	**9165.092**	**0.633**

Lab ID: B6208_18911_DF_002 **Acq'd: 20 Feb 2022 09:47 DTF** **Wt/Vol: 10.34 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21H1 **UTP: 21-Feb-2022 10:41:19 PSW** **J-level: 0.484 pg/g** **Split: 1** **Checkcode: 898-213-CXX**

Datafile: 220219C22 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

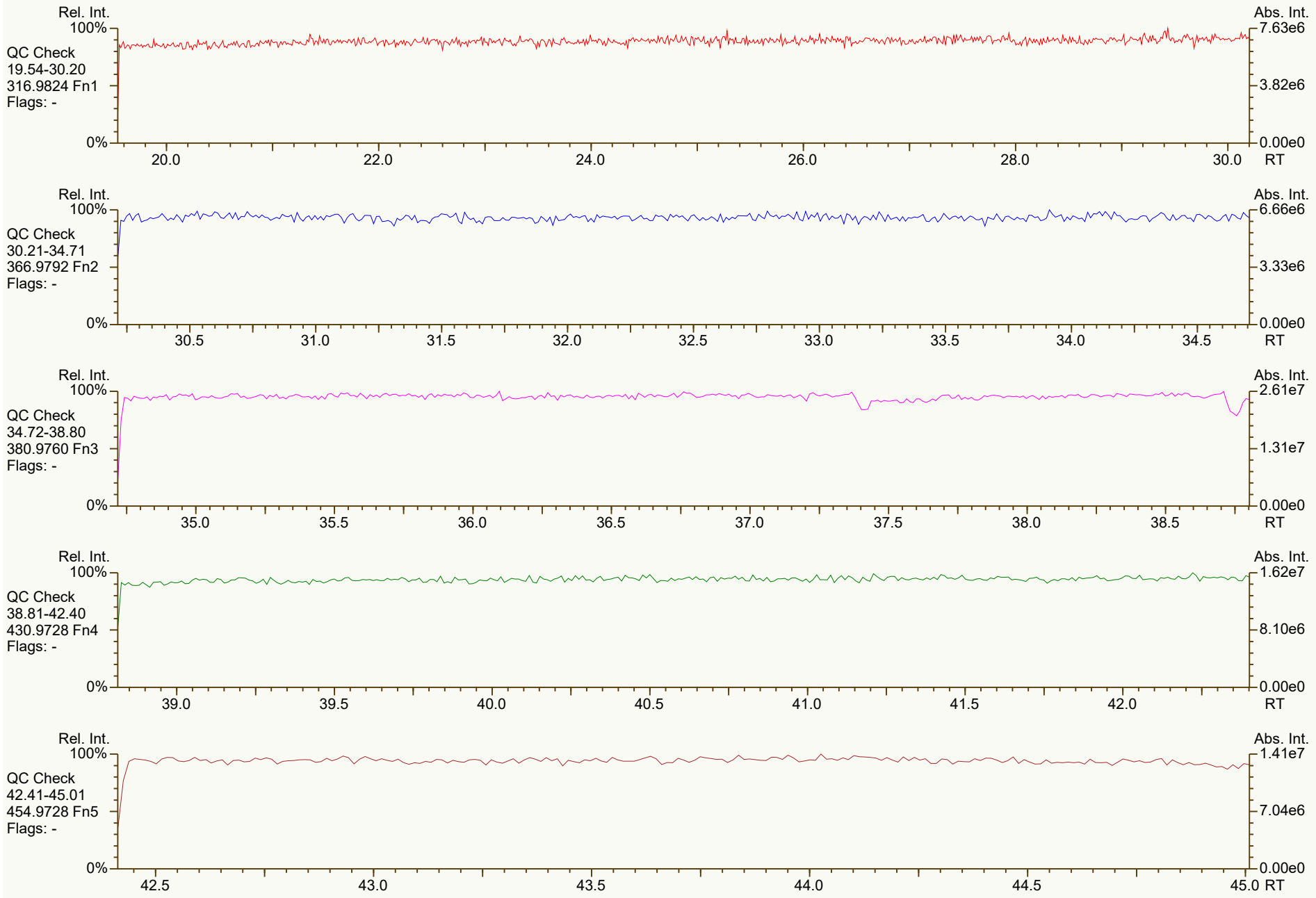
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9837	+0.2	2.98E+07	1.04	Y	1.06	258	4219.776	0.303
1234678-HpCDD	**40.73**		**1.0002**	**1.0004**	**+0.5**	**2.21E+07**	**1.03**	**Y**	**1.06**	**191**	**4219.776**	**0.303**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**2.78E+08**	**0.90**	**Y**	**1.13**	**3,200**	**5871.896**	**0.869**
OCDD-a	43.41		1.0002	1.0002	0	1.75E+07	2.49	Y	0.07	3,160	7046.481	16.3
1368-TCDF	22.37	EMPC	0.8191	0.8175	-2.1	2.51E+05	0.62	N	1.08	1.16	3384.905	0.182
1468-TCDF	22.98		0.8408	0.8397	-1.5	8.71E+05	0.75	Y	1.08	4.02	3384.905	0.182
2468-TCDF	23.63		0.8645	0.8637	-1.1	2.03E+06	0.73	Y	1.08	9.37	3384.905	0.182
1346/1246-TCDF	24.02		0.8772	0.8781	+1.3	3.96E+05	0.84	Y	1.08	1.83	3384.905	0.182
1347/1378/1247-TCDF	24.17		0.8833	0.8833	0	2.32E+06	0.80	Y	1.08	10.7	3384.905	0.182
1348-TCDF	24.42		0.8932	0.8926	-0.9	7.28E+05	0.80	Y	1.08	3.36	3384.905	0.182
1248/1367/1379-TCDF	24.52		0.8980	0.8962	-2.6	7.95E+06	0.78	Y	1.08	36.7	3384.905	0.182
1268-TCDF	24.94		0.9119	0.9116	-0.4	3.48E+06	0.74	Y	1.08	16	3384.905	0.182
1467-TCDF	25.08		0.9170	0.9167	-0.5	4.74E+05	0.70	Y	1.08	2.19	3384.905	0.182
1478-TCDF	25.25		0.9234	0.9229	-0.8	6.97E+06	0.81	Y	1.08	32.2	3384.905	0.182
1369/1237-TCDF	25.63		0.9369	0.9369	0	1.83E+06	0.77	Y	1.08	8.45	3384.905	0.182
2467-TCDF	25.75		0.9415	0.9413	-0.3	4.22E+05	0.80	Y	1.08	1.95	3384.905	0.182
2368-TCDF	25.96		0.9475	0.9490	+2.3	1.30E+07	0.77	Y	1.08	59.8	3384.905	0.182
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3384.905	0.182
1278-TCDF	26.47		0.9676	0.9674	-0.3	6.26E+07	0.78	Y	1.08	289	3384.905	0.182
1349-TCDF	NotFnd		0.9722						1.08		3384.905	0.182
1267-TCDF	26.75		0.9777	0.9776	-0.2	3.87E+06	0.78	Y	1.08	17.8	3384.905	0.182
2346/1249-TCDF	26.95		0.9843	0.9850	+1.1	4.91E+05	0.88	Y	1.08	2.27	3384.905	0.182
2347/1279-TCDF	27.15		0.9926	0.9925	-0.2	1.84E+06	0.76	Y	1.08	8.51	3384.905	0.182
2348-TCDF	27.27		0.9968	0.9965	-0.5	9.64E+06	0.76	Y	1.08	44.5	3384.905	0.182
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**1.48E+08**	**0.79**	**Y**	**1.08**	**682**	**3384.905**	**0.182**
2367/3467-TCDF	27.74		1.0142	1.0139	-0.5	1.27E+07	0.78	Y	1.08	58.9	3384.905	0.182
1269-TCDF	28.00		1.0235	1.0232	-0.5	2.38E+06	0.79	Y	1.08	11	3384.905	0.182
1239-TCDF	28.26		1.0329	1.0330	+0.2	2.04E+05	0.69	Y	1.08	0.942	3384.905	0.182
1289-TCDF	29.41		1.0742	1.0751	+1.6	1.12E+07	0.79	Y	1.08	51.9	3384.905	0.182
13468/12468-PeCDF	29.36		0.9122	0.9127	+0.9	4.52E+06	1.56	Y	1.02	24.1	2939.736	0.142
13678/13467/12467-PeCDF	30.92		0.9606	0.9610	+0.7	5.97E+05	1.60	Y	1.02	3.19	5807.221	0.281
12368/13478/12478-PeCDF	31.08		0.9655	0.9661	+1.1	4.08E+06	1.54	Y	1.02	21.8	5807.221	0.281
14678-PeCDF	31.17	J	0.9685	0.9690	+0.9	1.87E+05	1.61	Y	1.02	0.997	5807.221	0.281
13479-PeCDF	NotFnd		0.9716						1.02		5807.221	0.281
13469/12479-PeCDF	31.49	J	0.9794	0.9788	-1.1	1.34E+05	1.33	Y	1.02	0.716	5807.221	0.281
12346-PeCDF	31.65	J EMPC	0.9836	0.9838	+0.4	8.25E+04	1.81	N	1.02	0.44	5807.221	0.281

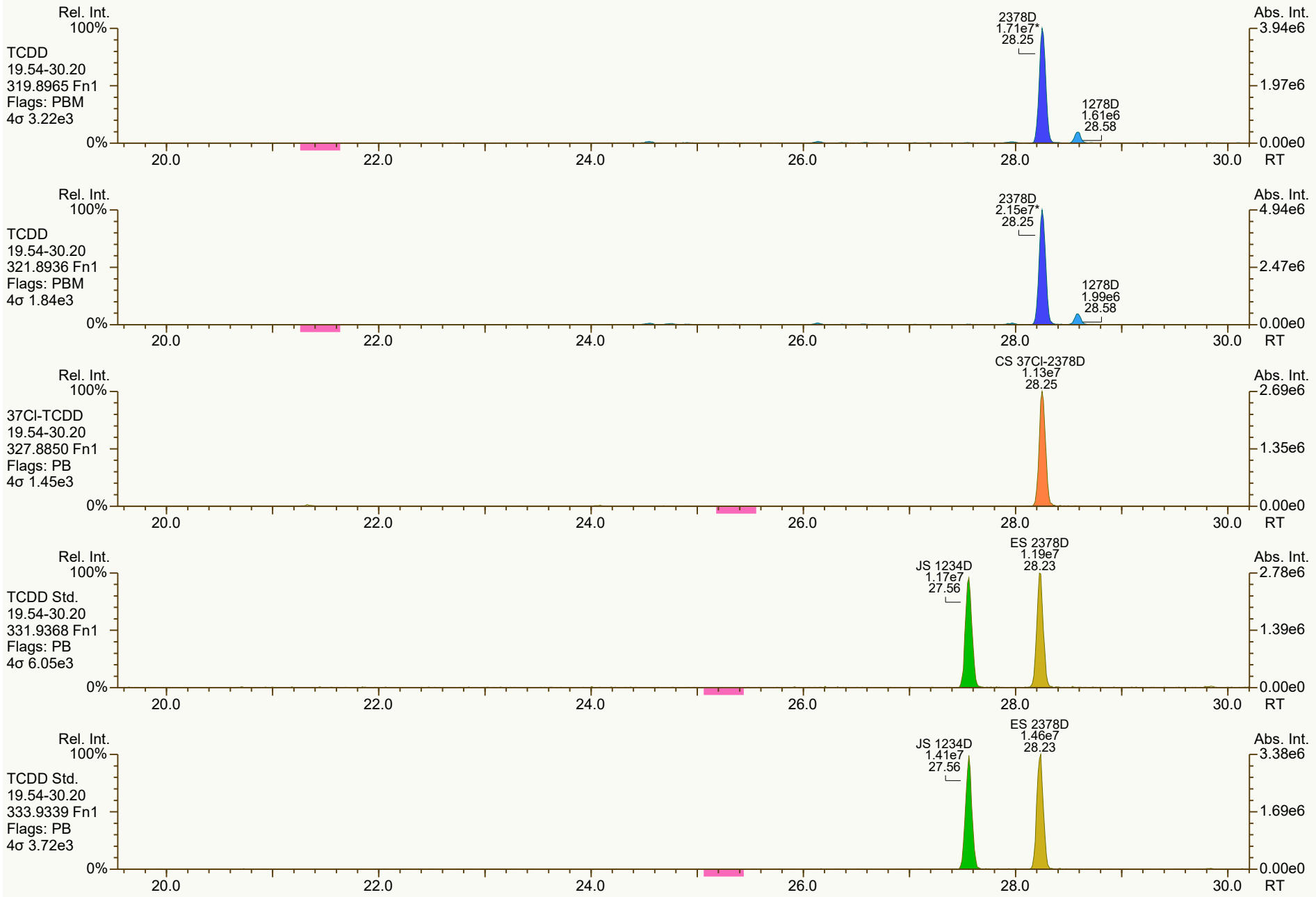
Lab ID: B6208_18911_DF_002 **Acq'd: 20 Feb 2022 09:47 DTF** **Wt/Vol: 10.34 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

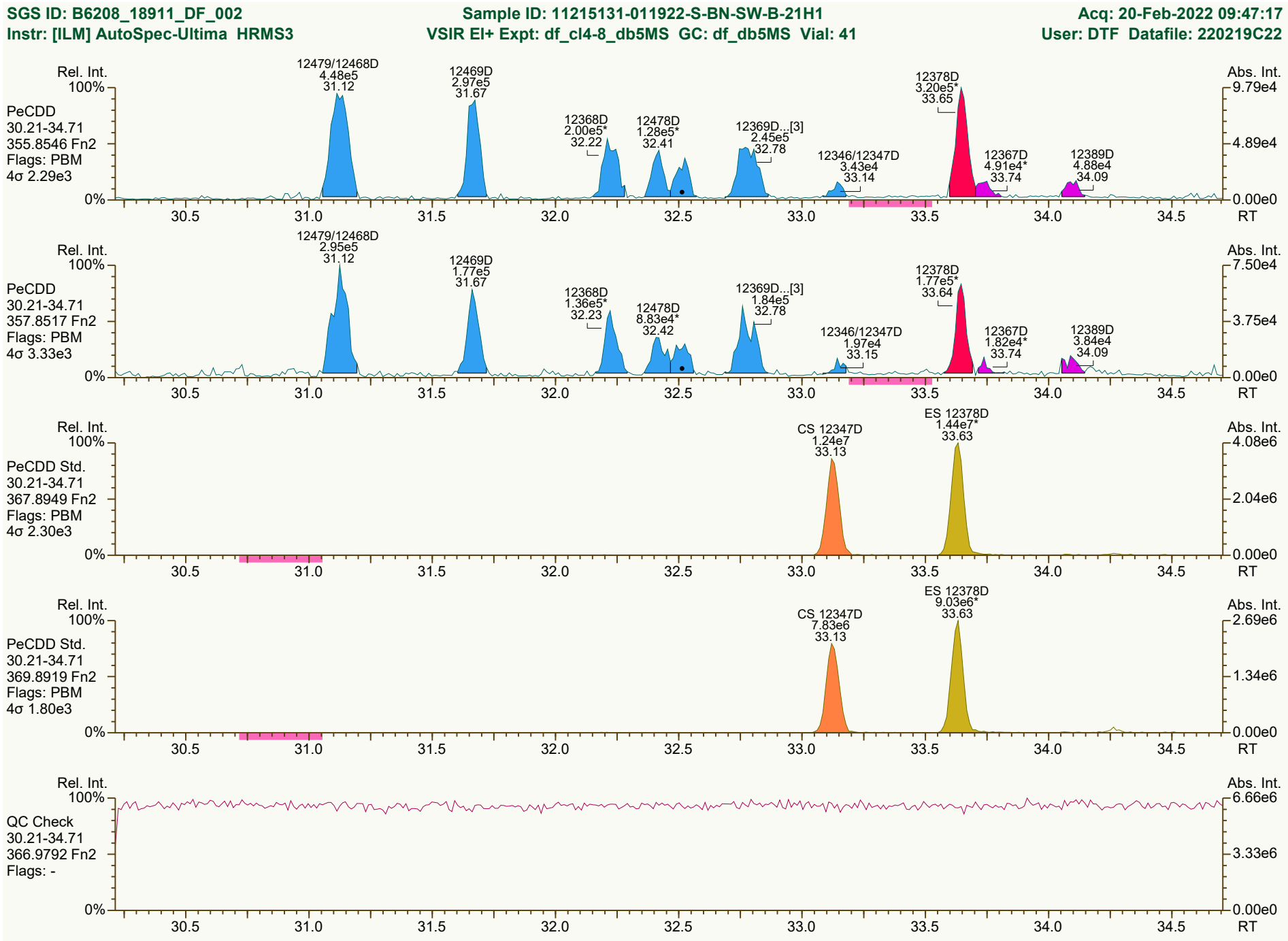
Client ID: 11215131-011922-S-BN-SW-B-21H1 **UTP: 21-Feb-2022 10:41:19 PSW** **J-level: 0.484 pg/g** **Split: 1** **Checkcode: 898-213-CXX**

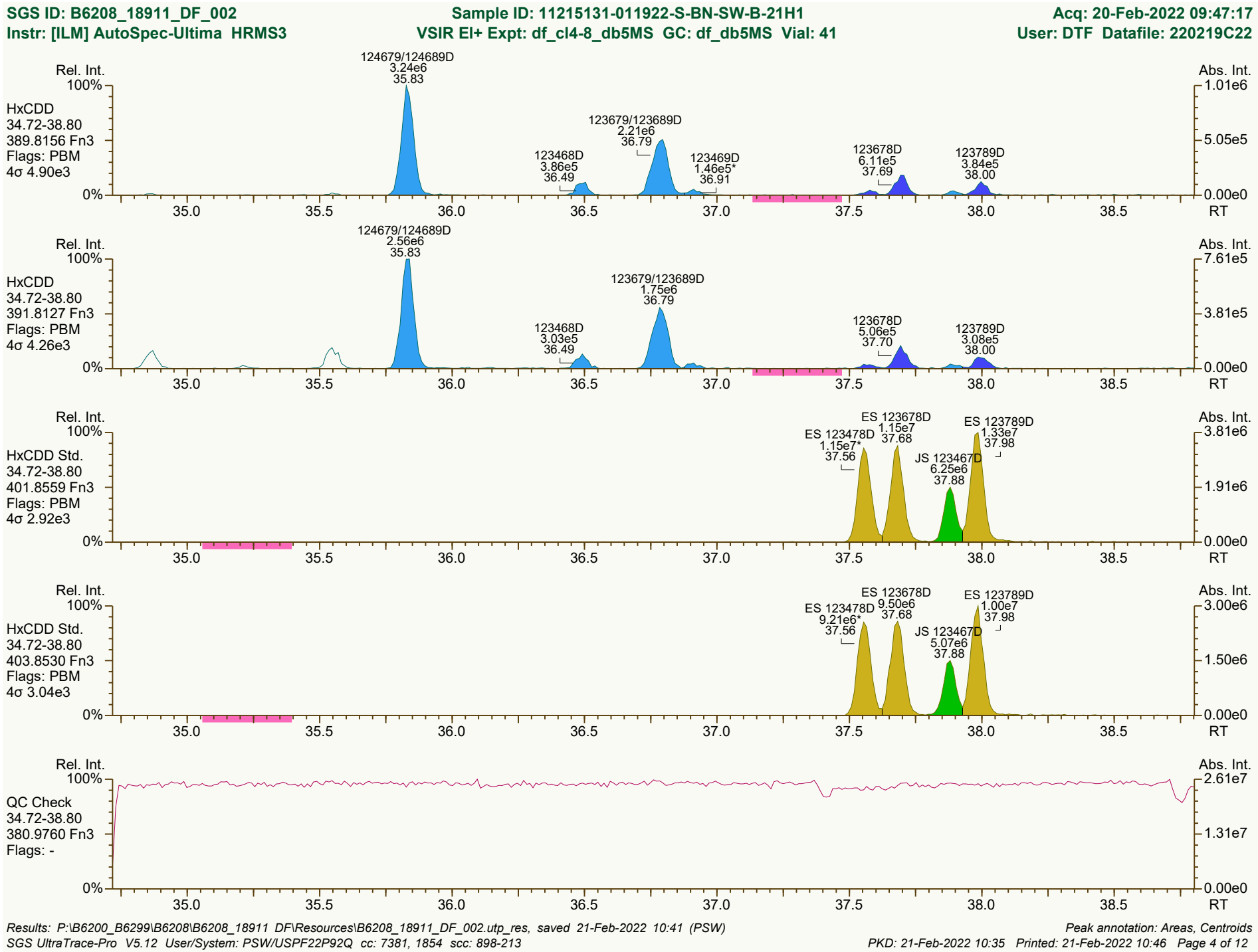
Datafile: 220219C22 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

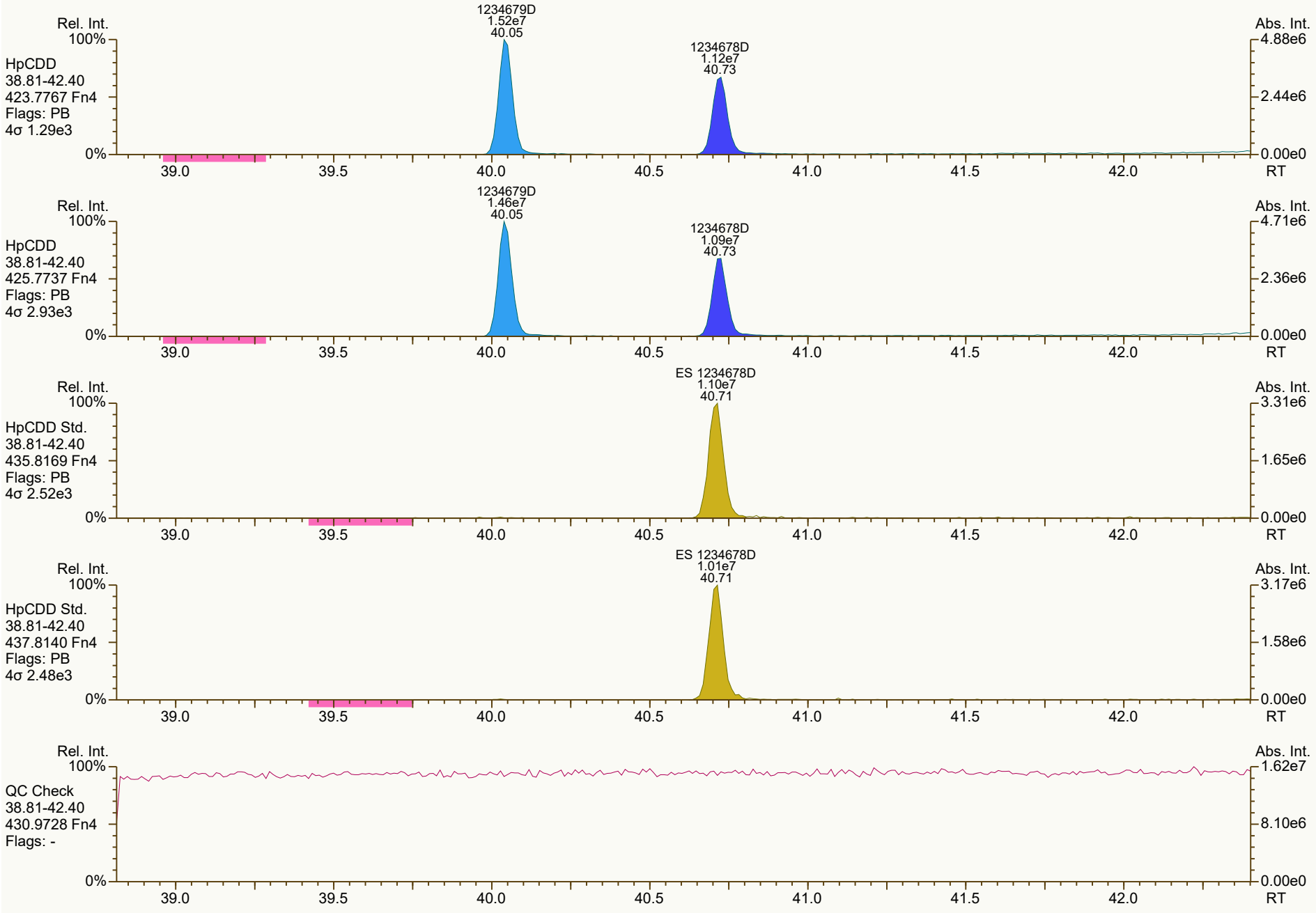
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9866	0.9869	+0.6	1.10E+06	1.68	Y	1.02	5.89	5807.221	0.281
12347-PeCDF	31.83	J EMPC	0.9891	0.9894	+0.6	1.24E+05	1.85	N	1.02	0.662	5807.221	0.281
12348-PeCDF	31.98		0.9938	0.9940	+0.4	6.99E+05	1.63	Y	1.02	3.73	5807.221	0.281
12378-PeCDF	**32.19**		**1.0005**	**1.0005**	**0**	**3.89E+06**	**1.55**	**Y**	**1.02**	**20.7**	**5807.221**	**0.293**
12678/12367-PeCDF	32.49		1.0091	1.0097	+1.2	1.72E+06	1.44	Y	1.02	9.18	5807.221	0.281
12379-PeCDF	NotFnd		1.0144						1.02		5807.221	0.281
12679-PeCDF	NotFnd		0.9927						1.02		5807.221	0.281
23467/12369-PeCDF	33.18	J	0.9965	0.9965	0	2.00E+05	1.74	Y	1.02	1.07	5807.221	0.281
23478-PeCDF	**33.32**		**1.0005**	**1.0008**	**+0.6**	**4.05E+06**	**1.54**	**Y**	**1.02**	**21.7**	**5807.221**	**0.268**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5807.221	0.281
12349-PeCDF	NotFnd		1.0101						1.02		5807.221	0.281
12389-PeCDF	34.39	J	1.0330	1.0328	-0.4	2.45E+05	1.54	Y	1.02	1.31	5807.221	0.281
123468-HxCDF	35.18		0.9622	0.9624	+0.4	1.47E+06	1.20	Y	1.19	8.52	7844.839	0.39
124678/134678-HxCDF	35.38		0.9678	0.9678	0	4.54E+06	1.23	Y	1.19	26.3	7844.839	0.39
134679-HxCDF	NotFnd		0.9741						1.19		7844.839	0.39
124679-HxCDF	35.81	J	0.9795	0.9795	0	2.87E+05	1.24	Y	1.19	1.67	7844.839	0.39
124689-HxCDF	36.03		0.9856	0.9857	+0.2	4.62E+06	1.20	Y	1.19	26.8	7844.839	0.39
123467-HxCDF	36.45	J	0.9972	0.9971	-0.2	3.93E+05	1.18	Y	1.19	2.28	7844.839	0.39
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**5.46E+06**	**1.19**	**Y**	**1.27**	**31.7**	**7844.839**	**0.397**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**1.59E+06**	**1.22**	**Y**	**1.15**	**8.76**	**7844.839**	**0.374**
123479-HxCDF	NotFnd		1.0048						1.19		7844.839	0.39
123469-HxCDF	37.03	J	1.0089	1.0090	+0.2	3.55E+05	1.40	Y	1.19	2.06	7844.839	0.39
123679-HxCDF	NotFnd		0.9942						1.19		7844.839	0.39
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**8.77E+05**	**1.35**	**Y**	**1.19**	**4.95**	**7844.839**	**0.385**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7844.839	0.39
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7844.839**	**0.407**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39		1.0006	1.0012	+1.4	6.35E+05	1.16	Y	1.19	3.68	7844.839	0.39
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**1.96E+07**	**1.03**	**Y**	**1.37**	**120**	**3051.964**	**0.134**
1234679-HpCDF	40.04		1.0068	1.0070	+0.5	1.20E+06	0.99	Y	1.34	8.02	3051.964	0.162
1234689-HpCDF	40.19		1.0104	1.0106	+0.5	1.32E+07	1.05	Y	1.34	87.8	3051.964	0.162
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.93E+06**	**1.01**	**Y**	**1.31**	**14**	**3051.964**	**0.193**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**3.27E+08**	**0.89**	**Y**	**1.07**	**2,970**	**4167.122**	**0.467**
OCDF-a	43.59		1.0001	1.0002	+0.3	2.13E+07	2.44	Y	0.07	3,130	4371.925	7.91

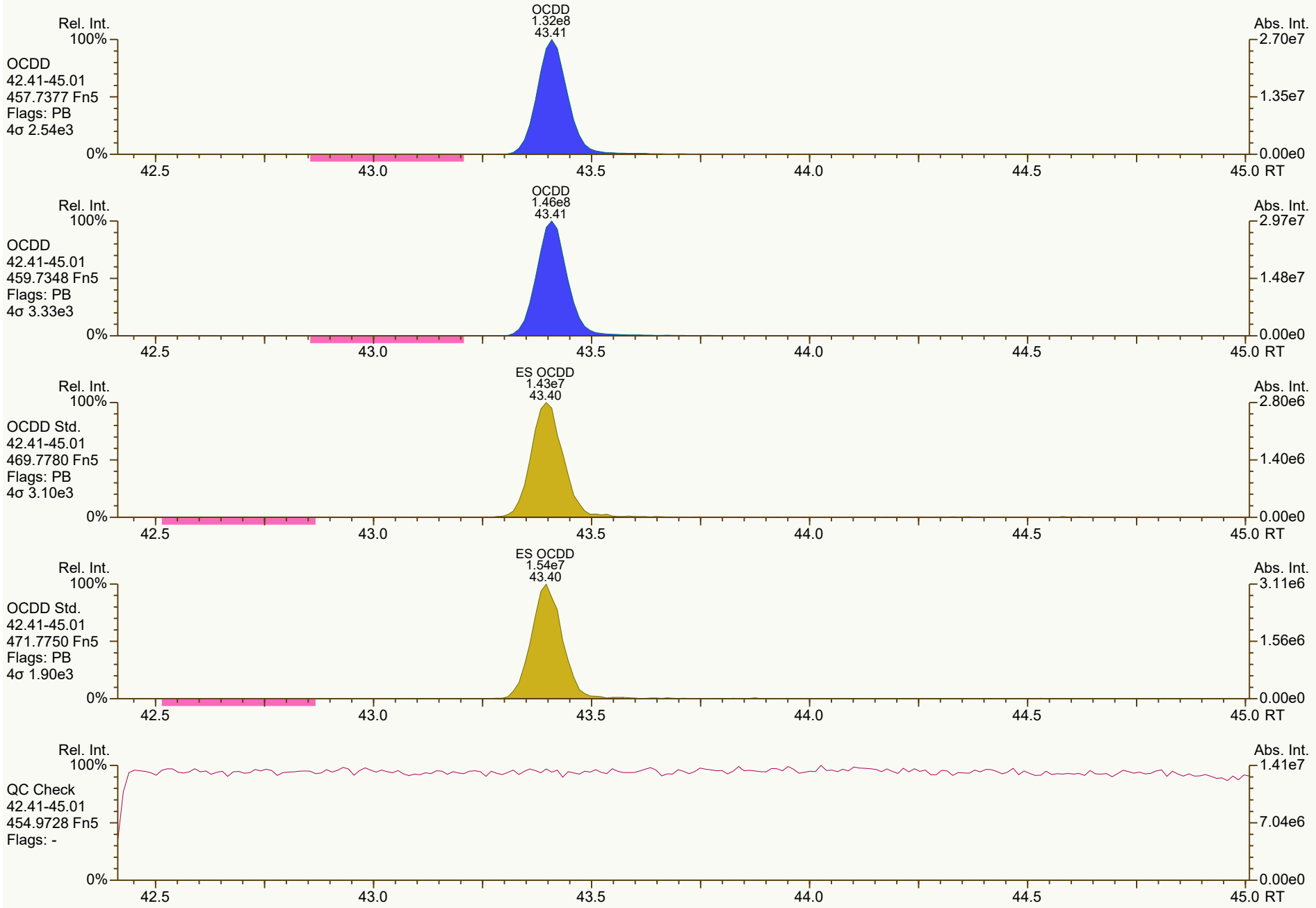

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.63e6
3.82e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
6.66e6
3.33e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.61e7
1.31e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.62e7
8.10e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.41e7
7.04e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.22e3
0%
2378D
1.71e7*
28.25
1278D
1.61e6
28.58
Abs. Int.
3.94e6
1.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.84e3
0%
2378D
2.15e7*
28.25
1278D
1.99e6
28.58
Abs. Int.
4.94e6
2.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.45e3
0%
CS 37Cl-2378D
1.13e7
28.25
Abs. Int.
2.69e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.05e3
0%
JS 1234D
1.17e7
27.56
ES 2378D
1.19e7
28.23
Abs. Int.
2.78e6
1.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.72e3
0%
JS 1234D
1.41e7
27.56
ES 2378D
1.46e7
28.23
Abs. Int.
3.38e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6208_18911_DF_002
Sample ID: 11215131-011922-S-BN-SW-B-21H1
Acq: 20-Feb-2022 09:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220219C22
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.29e3
12479/12468D 4.48e5 31.12
12469D 2.97e5 31.67
12368D 2.00e5* 32.22
12478D 1.28e5* 32.41
12369D...[3] 2.45e5 32.78
12346/12347D 3.43e4 33.14
12378D 3.20e5* 33.65
12367D 4.91e4* 33.74
12389D 4.88e4 34.09
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.33e3
12479/12468D 2.95e5 31.12
12469D 1.77e5 31.67
12368D 1.36e5* 32.23
12478D 8.83e4* 32.42
12369D...[3] 1.84e5 32.78
12346/12347D 1.97e4 33.15
12378D 1.77e5* 33.64
12367D 1.82e4* 33.74
12389D 3.84e4 34.09
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 2.30e3
CS 12347D 1.24e7 33.13
ES 12378D 1.44e7* 33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 1.80e3
CS 12347D 7.83e6 33.13
ES 12378D 9.03e6* 33.63
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_002.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9133, 4218 scc: 898-213
PKD: 21-Feb-2022 10:35 Printed: 21-Feb-2022 10:46 Page 3 of 12


SGS ID: B6208_18911_DF_002
Sample ID: 11215131-011922-S-BN-SW-B-21H1
Acq: 20-Feb-2022 09:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220219C22
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 4.90e3
124679/124689D
3.24e6
35.83
123679/123689D
2.21e6
36.79
123468D
3.86e5
36.49
123469D
1.46e5*
36.91
123678D
6.11e5
37.69
123789D
3.84e5
38.00
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 4.26e3
124679/124689D
2.56e6
35.83
123679/123689D
1.75e6
36.79
123468D
3.03e5
36.49
123678D
5.06e5
37.70
123789D
3.08e5
38.00
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.92e3
ES 123678D
1.15e7
37.68
ES 123478D
1.15e7*
37.56
JS 123467D
6.25e6
37.88
ES 123789D
1.33e7
37.98
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 3.04e3
ES 123678D
9.50e6
37.68
ES 123478D
9.21e6*
37.56
JS 123467D
5.07e6
37.88
ES 123789D
1.00e7
37.98
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_002.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7381, 1854 scc: 898-213
PKD: 21-Feb-2022 10:35 Printed: 21-Feb-2022 10:46 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.29e3
1234679D
1.52e7
40.05
1234678D
1.12e7
40.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.93e3
1234679D
1.46e7
40.05
1234678D
1.09e7
40.73
Abs. Int.
4.71e6
2.36e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.52e3
ES 1234678D
1.10e7
40.71
Abs. Int.
3.31e6
1.65e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.48e3
ES 1234678D
1.01e7
40.71
Abs. Int.
3.17e6
1.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.62e7
8.10e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.54e3
0%
OCDD
1.32e8
43.41
Abs. Int.
2.70e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.33e3
0%
OCDD
1.46e8
43.41
Abs. Int.
2.97e7
1.48e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 3.10e3
0%
ES OCDD
1.43e7
43.40
Abs. Int.
2.80e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.90e3
0%
ES OCDD
1.54e7
43.40
Abs. Int.
3.11e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.41e7
7.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6208_18911_DF_002 | Sample ID: 11215131-011922-S-BN-SW-B-21H1 | Acq: 20-Feb-2022 09:47:17

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41 | User: DTF Datafile: 220219C22



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_002.utp_res, saved 21-Feb-2022 10:41 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1207, 9262, 6681 scc: 898-213 | *PKD: 21-Feb-2022 10:35 Printed: 21-Feb-2022 10:47 Page 7 of 12*

SGS ID: B6208_18911_DF_002 | Sample ID: 11215131-011922-S-BN-SW-B-21H1 | Acq: 20-Feb-2022 09:47:17

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41 | User: DTF Datafile: 220219C22

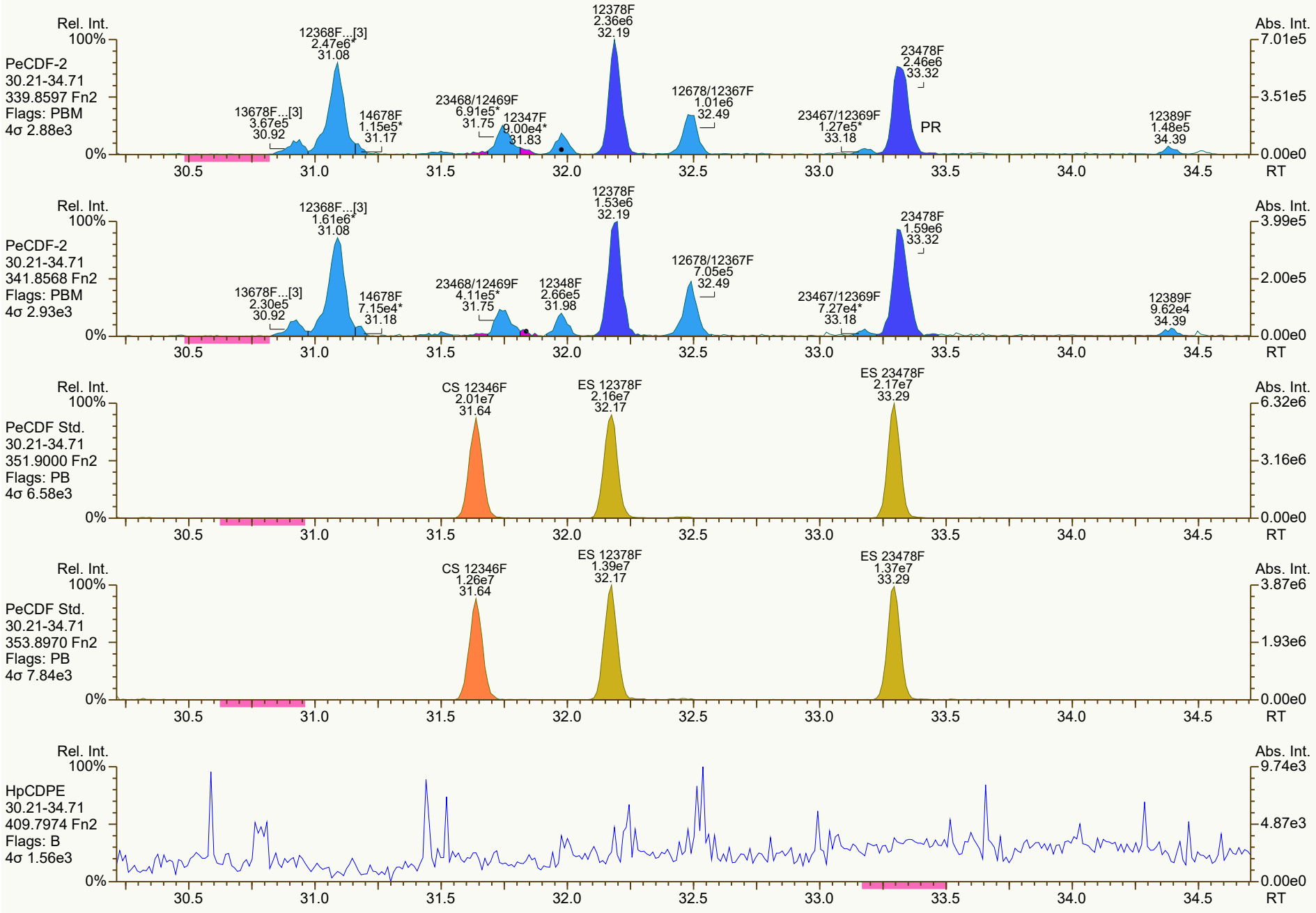


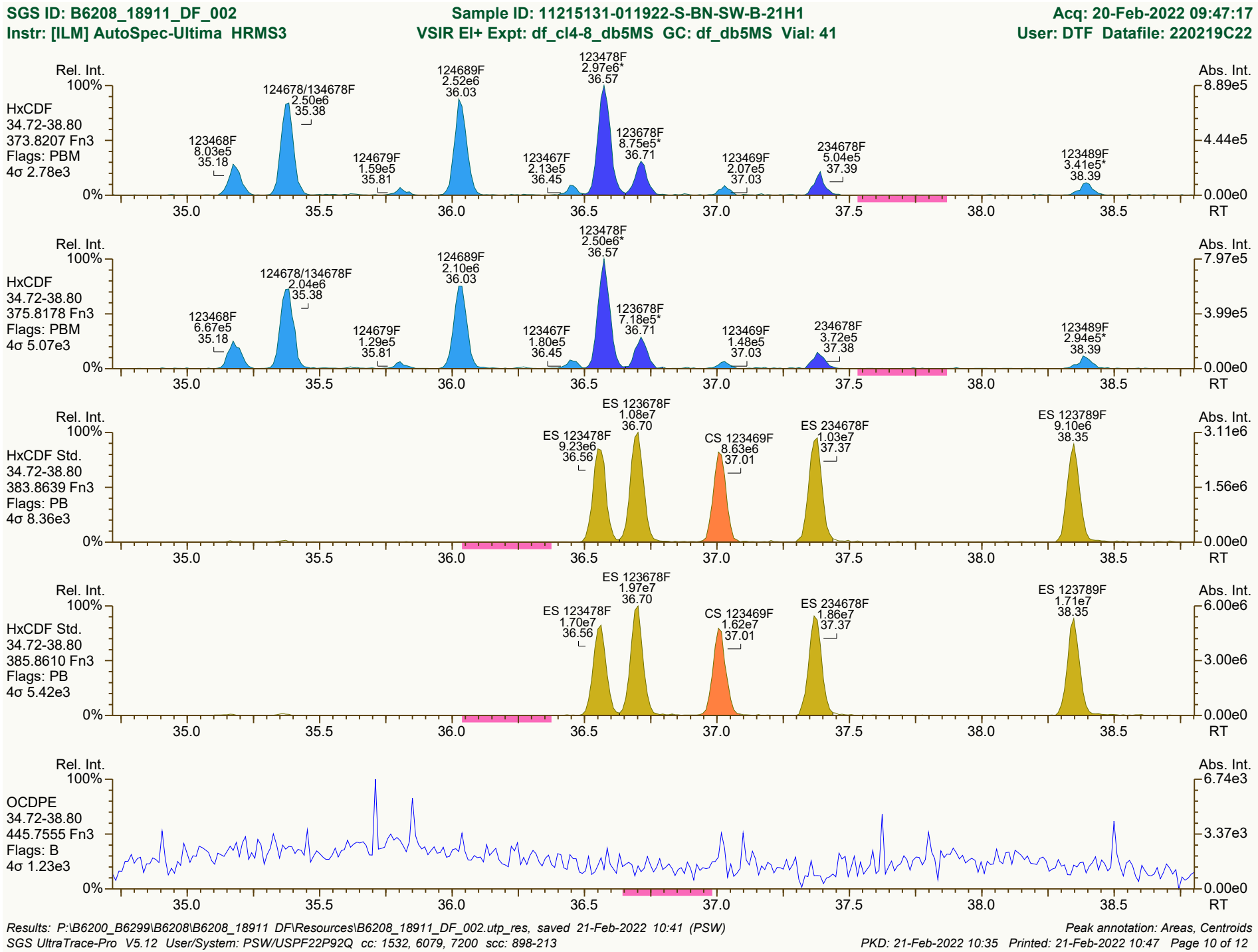
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_002.utp_res, saved 21-Feb-2022 10:41 (PSW)

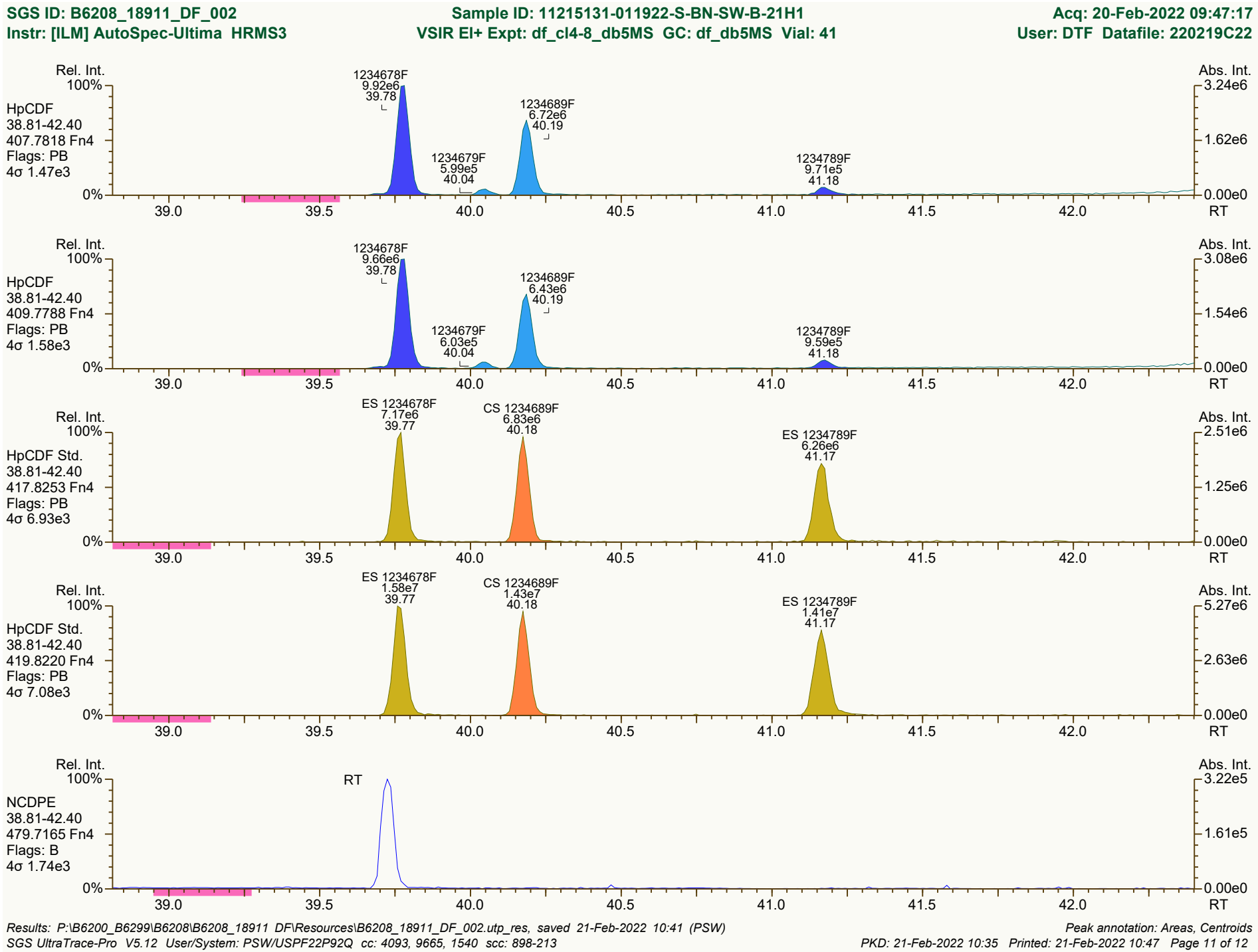
Peak annotation: Areas, Centroids

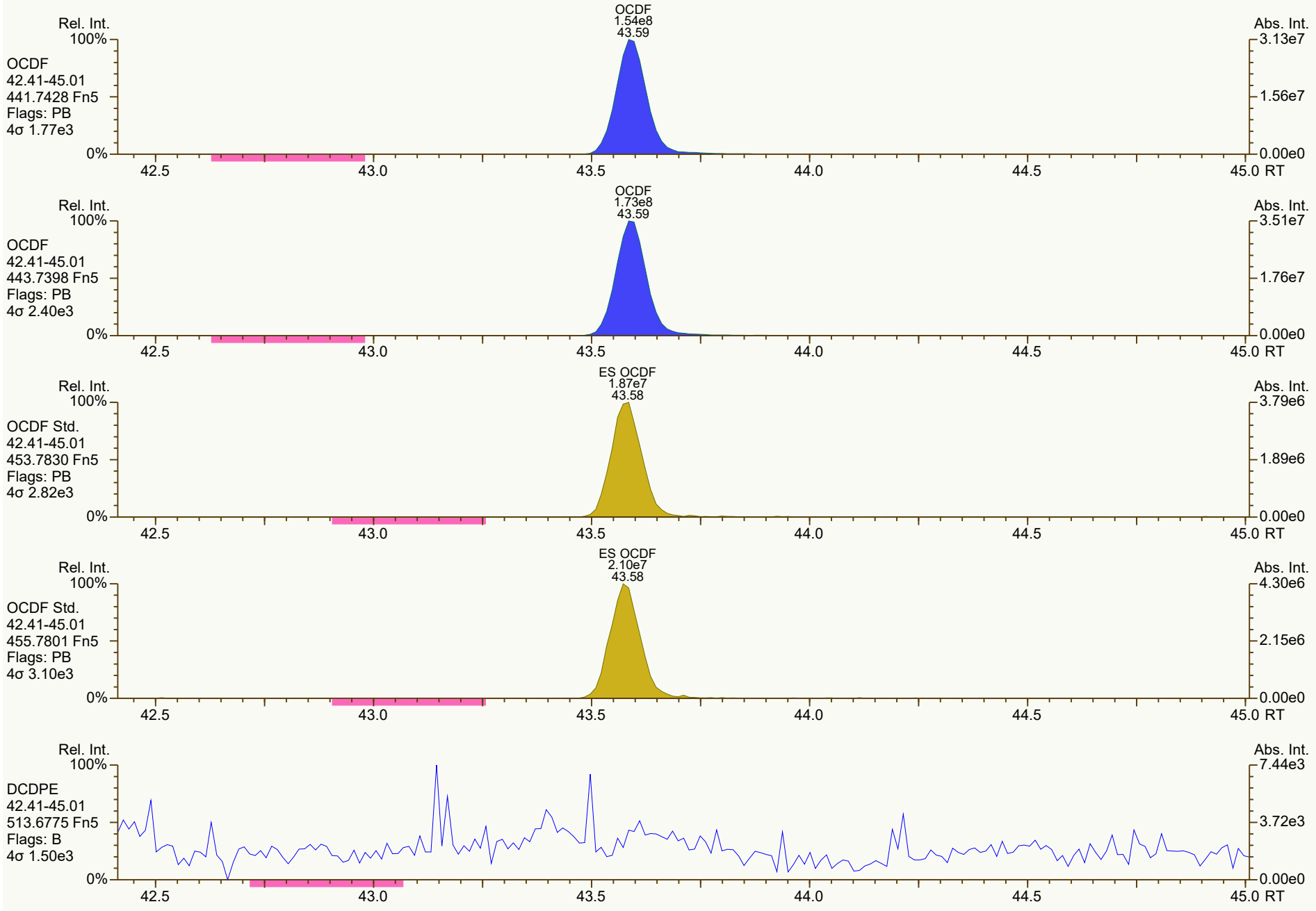
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4121 scc: 898-213

PKD: 21-Feb-2022 10:35 Printed: 21-Feb-2022 10:47 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.88e3
12368F...[3]
2.47e6*
31.08
13678F...[3]
3.67e5
30.92
14678F
1.15e5*
31.17
23468/12469F
6.91e5*
31.75
12347F
9.00e4*
31.83
12378F
2.36e6
32.19
12678/12367F
1.01e6
32.49
23467/12369F
1.27e5*
33.18
23478F
2.46e6
33.32
PR
12389F
1.48e5
34.39
Abs. Int.
7.01e5
3.51e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.93e3
12368F...[3]
1.61e6*
31.08
13678F...[3]
2.30e5
30.92
14678F
7.15e4*
31.18
23468/12469F
4.11e5*
31.75
12348F
2.66e5
31.98
12378F
1.53e6
32.19
12678/12367F
7.05e5
32.49
23467/12369F
7.27e4*
33.18
23478F
1.59e6
33.32
12389F
9.62e4
34.39
Abs. Int.
3.99e5
2.00e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 6.58e3
CS 12346F
2.01e7
31.64
ES 12378F
2.16e7
32.17
ES 23478F
2.17e7
33.29
Abs. Int.
6.32e6
3.16e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 7.84e3
CS 12346F
1.26e7
31.64
ES 12378F
1.39e7
32.17
ES 23478F
1.37e7
33.29
Abs. Int.
3.87e6
1.93e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.56e3
Abs. Int.
9.74e3
4.87e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6208_18911_DF_002
Sample ID: 11215131-011922-S-BN-SW-B-21H1
Acq: 20-Feb-2022 09:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220219C22
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.78e3
123468F 8.03e5 35.18
124678/134678F 2.50e6 35.38
124679F 1.59e5 35.81
124689F 2.52e6 36.03
123467F 2.13e5 36.45
123478F 2.97e6* 36.57
123678F 8.75e5* 36.71
123469F 2.07e5 37.03
234678F 5.04e5 37.39
123489F 3.41e5* 38.39
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 5.07e3
123468F 6.67e5 35.18
124678/134678F 2.04e6 35.38
124679F 1.29e5 35.81
124689F 2.10e6 36.03
123467F 1.80e5 36.45
123478F 2.50e6* 36.57
123678F 7.18e5* 36.71
123469F 1.48e5 37.03
234678F 3.72e5 37.38
123489F 2.94e5* 38.39
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 8.36e3
ES 123478F 9.23e6 36.56
ES 123678F 1.08e7 36.70
CS 123469F 8.63e6 37.01
ES 234678F 1.03e7 37.37
ES 123789F 9.10e6 38.35
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 5.42e3
ES 123478F 1.70e7 36.56
ES 123678F 1.97e7 36.70
CS 123469F 1.62e7 37.01
ES 234678F 1.86e7 37.37
ES 123789F 1.71e7 38.35
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.23e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
8.89e5
4.44e5
0.00e0
7.97e5
3.99e5
3.11e6
1.56e6
6.00e6
3.00e6
6.74e3
3.37e3
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_002.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1532, 6079, 7200 scc: 898-213
PKD: 21-Feb-2022 10:35 Printed: 21-Feb-2022 10:47 Page 10 of 12


SGS ID: B6208_18911_DF_002
Sample ID: 11215131-011922-S-BN-SW-B-21H1
Acq: 20-Feb-2022 09:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41
User: DTF Datafile: 220219C22
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.47e3
1234678F
9.92e6
39.78
1234689F
6.72e6
40.19
1234679F
5.99e5
40.04
1234789F
9.71e5
41.18
3.24e6
1.62e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.58e3
1234678F
9.66e6
39.78
1234689F
6.43e6
40.19
1234679F
6.03e5
40.04
1234789F
9.59e5
41.18
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 6.93e3
ES 1234678F
7.17e6
39.77
CS 1234689F
6.83e6
40.18
ES 1234789F
6.26e6
41.17
2.51e6
1.25e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 7.08e3
ES 1234678F
1.58e7
39.77
CS 1234689F
1.43e7
40.18
ES 1234789F
1.41e7
41.17
5.27e6
2.63e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.74e3
RT
3.22e5
1.61e5
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_002.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4093, 9665, 1540 scc: 898-213
PKD: 21-Feb-2022 10:35 Printed: 21-Feb-2022 10:47 Page 11 of 12


OCDF
1.54e8
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
3.13e7
1.56e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.73e8
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.40e3
3.51e7
1.76e7
ES OCDF
1.87e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.82e3
3.79e6
1.89e6
ES OCDF
2.10e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.10e3
4.30e6
2.15e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.50e3
7.44e3
3.72e3

Lab ID: B6208_18911_DF_003 **Acq'd:** 20 Feb 2022 10:33 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21H2 **UTP:** 21-Feb-2022 10:41:19 PSW **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 264-997-TQL

Datafile: 220219C23 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	4.00E+06	0.79	Y	1.18	28.4	5186.204	0.407
12378-PeCDD	33.64	J	1.0007	1.0005	-0.4	1.14E+05	1.49	Y	1.04	1.03	4181.95	0.34
123478-HxCDD	37.57	J EMPC	1.0004	1.0004	0	9.08E+04	1.47	N	1.09	0.881	4698.472	0.413
123678-HxCDD	37.69	J EMPC	1.0036	1.0038	+0.5	2.51E+05	1.59	N	1.15	2.27	4698.472	0.383
123789-HxCDD	37.99	J	1.0118	1.0117	-0.2	2.45E+05	1.16	Y	1.05	2.17	4698.472	0.346
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	5.75E+06	1.08	Y	1.06	55	3875.769	0.299
OCDD	43.42		1.0003	1.0003	0	8.17E+07	0.92	Y	1.13	1,040	4809.138	0.743
2378-TCDF	27.37		1.0008	1.0008	0	1.68E+07	0.80	Y	1.08	91.1	4081.904	0.243
12378-PeCDF	32.18		1.0005	1.0005	0	4.99E+05	1.46	Y	1.02	2.99	4384.424	0.241
23478-PeCDF	33.32	PR	1.0005	1.0010	+1.0	5.84E+05	1.58	Y	1.02	3.59	4384.424	0.242
123478-HxCDF	36.57		1.0004	1.0005	+0.2	7.19E+05	1.29	Y	1.27	4.59	6678.426	0.351
123678-HxCDF	36.70	J EMPC	1.0004	1.0003	-0.2	2.20E+05	1.45	N	1.15	1.35	6678.426	0.345
234678-HxCDF	37.38	J	1.0005	1.0003	-0.4	2.35E+05	1.20	Y	1.19	1.42	6678.426	0.354
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6678.426	0.417
1234678-HpCDF	39.78		1.0003	1.0003	0	5.36E+06	1.04	Y	1.37	35.7	3216.323	0.159
1234789-HpCDF	41.18		1.0003	1.0004	+0.2	3.46E+05	0.95	Y	1.31	2.89	3216.323	0.239
OCDF	43.60		1.0002	1.0003	+0.3	5.60E+07	0.90	Y	1.07	581	6610.55	0.854

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0244	+0.2	2.32E+07	0.77	Y	1.05	81.8
ES 12378-PeCDD	33.62		1.2198	1.2204	+1.2	2.09E+07	1.62	Y	0.88	87.5
ES 123478-HxCDD	37.55		0.9916	0.9915	-0.2	1.85E+07	1.33	Y	0.97	82.9
ES 123678-HxCDD	37.67		0.9947	0.9948	+0.2	1.88E+07	1.28	Y	0.94	87
ES 123789-HxCDD	37.98		1.0029	1.0028	-0.2	2.10E+07	1.31	Y	1.09	84.1
ES 1234678-HpCDD	40.71		1.0749	1.0751	+0.5	1.92E+07	1.01	Y	0.91	91.9
ES OCDD	43.41		1.1460	1.1461	+0.3	2.72E+07	0.91	Y	0.62	95.1
ES 2378-TCDF	27.35		1.0531	1.0534	+0.5	3.34E+07	0.79	Y	1.06	74
ES 12378-PeCDF	32.16		1.2378	1.2387	+1.7	3.18E+07	1.57	Y	0.91	81.9
ES 23478-PeCDF	33.28		1.2810	1.2819	+1.8	3.11E+07	1.60	Y	0.88	82.7
ES 123478-HxCDF	36.55		0.9650	0.9651	+0.2	2.40E+07	0.55	Y	1.20	87.5
ES 123678-HxCDF	36.69		0.9688	0.9688	0	2.76E+07	0.54	Y	1.35	89.1
ES 234678-HxCDF	37.37		0.9866	0.9866	0	2.72E+07	0.53	Y	1.24	95.7
ES 123789-HxCDF	38.34		1.0125	1.0125	0	2.31E+07	0.53	Y	1.16	87.4
ES 1234678-HpCDF	39.77		1.0501	1.0500	-0.2	2.14E+07	0.46	Y	0.97	96.5
ES 1234789-HpCDF	41.17		1.0870	1.0871	+0.2	1.79E+07	0.45	Y	0.85	91.6
ES OCDF	43.58		1.1505	1.1508	+0.8	3.51E+07	0.91	Y	0.81	94.8

Lab ID: B6208_18911_DF_003 **Acq'd:** 20 Feb 2022 10:33 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-21H2 **UTP:** 21-Feb-2022 10:41:19 PSW **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 264-997-TQL

Datafile: 220219C23 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.71E+07	0.80	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.26E+07	0.80	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.15E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	1.21E+07	n/a	-	1.20	92.8
CS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	2.18E+07	1.57	Y	0.75	107
CS 12346-PeCDF	31.62		1.2172	1.2181	+1.7	3.50E+07	1.59	Y	0.85	96.6
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.72E+07	0.54	Y	1.12	106
CS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	2.39E+07	0.45	Y	0.89	118
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.21E+07~~	~~n/a~~		~~1.15~~	~~114~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~2.18E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~122~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2181~~	~~+1.7~~	~~3.50E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~110~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.72E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~119~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0609~~	~~+0.2~~	~~2.39E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~122~~

Totals	Conc	EMPC
Total TCDD	36.8	36.8
Total PeCDD	6.04	8.11
Total HxCDD	35.4	39.2
Total HpCDD	146	146
Total Tetra-Octa Dioxins	1260	1270
Total TCDF	188	188
Total PeCDF	21.8	22.9
Total HxCDF	20.5	22.6
Total HpCDF	59	59
Total Tetra-Octa Furans	870	873
Total Tetra-Octa Dioxins & Furans	2130	2140

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.783	0.79
Response	4.00E+06	4.00E+06

Lab ID: B6208_18911_DF_003 **Acq'd: 20 Feb 2022 10:33 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21H2 **UTP: 21-Feb-2022 10:41:19 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 264-997-TQL**

Datafile: 220219C23 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8695	-0.9	1.52E+05	0.85	Y	1.18	1.08	5186.204	0.407
1379-TCDD	NotFnd		0.8829						1.18		5186.204	0.407
1369-TCDD	NotFnd		0.8982						1.18		5186.204	0.407
1469-TCDD	26.13		0.9261	0.9258	-0.5	5.18E+05	0.84	Y	1.18	3.68	5186.204	0.407
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		5186.204	0.407
1378-TCDD	NotFnd		0.9417						1.18		5186.204	0.407
1268-TCDD	NotFnd		0.9487						1.18		5186.204	0.407
1478-TCDD	NotFnd		0.9576						1.18		5186.204	0.407
1279-TCDD	NotFnd		0.9636						1.18		5186.204	0.407
1234/1269-TCDD	NotFnd		0.9761						1.18		5186.204	0.407
1236-TCDD	NotFnd		0.9812						1.18		5186.204	0.407
1237/1238-TCDD	27.95		0.9905	0.9904	-0.2	1.08E+05	0.87	Y	1.18	0.768	5186.204	0.407
1239-TCDD	NotFnd		0.9951						1.18		5186.204	0.407
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	4.00E+06	0.79	Y	**1.18**	**28.4**	**5186.204**	**0.407**
1278-TCDD	28.58		1.0124	1.0127	+0.5	4.04E+05	0.75	Y	1.18	2.87	5186.204	0.407
1267-TCDD	NotFnd		1.0172						1.18		5186.204	0.407
1289-TCDD	NotFnd		1.0354						1.18		5186.204	0.407
12479/12468-PeCDD	31.11	J EMPC	0.9255	0.9254	-0.2	1.57E+05	2.14	N	1.04	1.42	4181.95	0.34
12469-PeCDD	31.65	J	0.9416	0.9415	-0.2	2.34E+05	1.47	Y	1.04	2.12	4181.95	0.34
12368-PeCDD	32.21	J	0.9582	0.9579	-0.6	6.90E+04	1.59	Y	1.04	0.623	4181.95	0.34
12478-PeCDD	32.40	J	0.9637	0.9637	0	7.95E+04	1.45	Y	1.04	0.718	4181.95	0.34
12379-PeCDD	32.50	J EMPC	0.9668	0.9668	0	4.14E+04	1.27	N	1.04	0.373	4181.95	0.34
12369/12467/12489-PeCDD	32.76	J	0.9746	0.9745	-0.2	1.72E+05	1.78	Y	1.04	1.55	4181.95	0.34
12346/12347-PeCDD	NotFnd		0.9858						1.04		4181.95	0.34
12378-PeCDD	33.64	J	**1.0007**	**1.0005**	**-0.4**	**1.14E+05**	**1.49**	**Y**	**1.04**	**1.03**	**4181.95**	**0.34**
12367-PeCDD	NotFnd		1.0036						1.04		4181.95	0.34
12389-PeCDD	34.08	J EMPC	1.0137	1.0138	+0.2	3.13E+04	1.18	N	1.04	0.282	4181.95	0.34
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	2.26E+06	1.19	Y	1.10	20.7	4698.472	0.379
123468-HxCDD	36.48	J	0.9715	0.9714	-0.2	1.49E+05	1.19	Y	1.10	1.37	4698.472	0.379
123679/123689-HxCDD	36.78		0.9793	0.9794	+0.2	1.13E+06	1.21	Y	1.10	10.3	4698.472	0.379
123469-HxCDD	36.90	J	0.9829	0.9826	-0.7	8.32E+04	1.42	Y	1.10	0.763	4698.472	0.379
123478-HxCDD	37.57	J EMPC	**1.0004**	**1.0004**	**0**	**9.08E+04**	**1.47**	**N**	1.09	**0.881**	**4698.472**	**0.413**
123678-HxCDD	37.69	J EMPC	**1.0036**	**1.0038**	**+0.5**	**2.51E+05**	**1.59**	**N**	1.15	**2.27**	**4698.472**	**0.383**
123467-HxCDD	37.89	J EMPC	1.0089	1.0089	0	7.90E+04	1.58	N	1.10	0.725	4698.472	0.379
123789-HxCDD	37.99	J	**1.0118**	**1.0117**	**-0.2**	**2.45E+05**	**1.16**	**Y**	1.05	**2.17**	**4698.472**	**0.346**

Lab ID: B6208_18911_DF_003 **Acq'd: 20 Feb 2022 10:33 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-21H2 **UTP: 21-Feb-2022 10:41:19 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 264-997-TQL**

Datafile: 220219C23 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

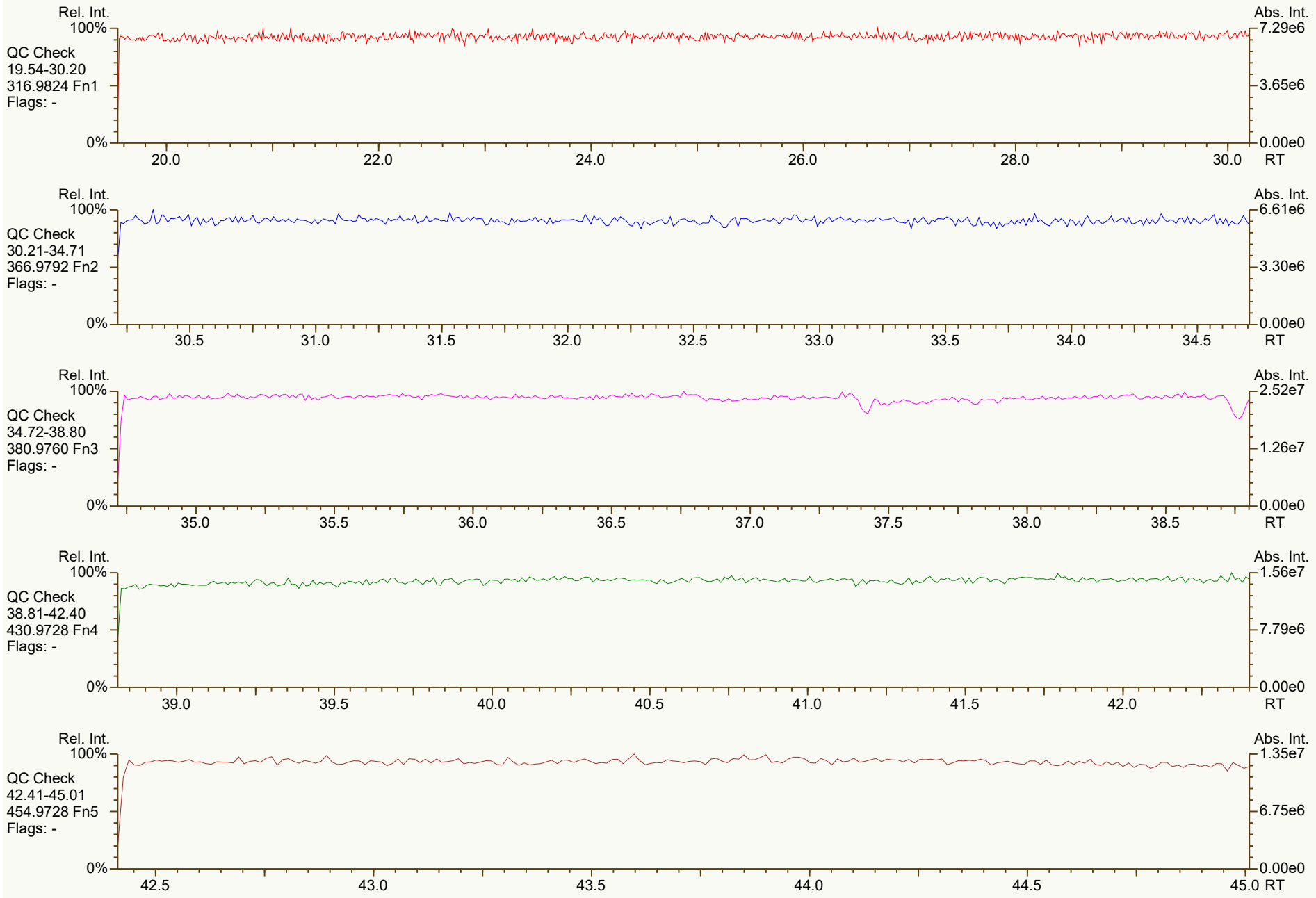
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	9.47E+06	1.02	Y	1.06	90.6	3875.769	0.299
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**5.75E+06**	**1.08**	**Y**	**1.06**	**55**	**3875.769**	**0.299**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**8.17E+07**	**0.92**	**Y**	**1.13**	**1,040**	**4809.138**	**0.743**
OCDD-a	43.42		1.0002	1.0002	0	5.14E+06	2.51	Y	0.07	1,020	3466.995	8.38
1368-TCDF	22.38	J	0.8191	0.8183	-1.1	4.24E+04	0.82	Y	1.08	0.23	4081.904	0.243
1468-TCDF	22.97		0.8408	0.8398	-1.4	1.30E+05	0.66	Y	1.08	0.707	4081.904	0.243
2468-TCDF	23.62		0.8645	0.8638	-1.0	4.89E+05	0.69	Y	1.08	2.65	4081.904	0.243
1346/1246-TCDF	24.01	J	0.8772	0.8780	+1.2	7.62E+04	0.71	Y	1.08	0.413	4081.904	0.243
1347/1378/1247-TCDF	24.15		0.8833	0.8832	-0.1	3.78E+05	0.79	Y	1.08	2.05	4081.904	0.243
1348-TCDF	24.40	J	0.8932	0.8920	-1.8	7.76E+04	0.84	Y	1.08	0.421	4081.904	0.243
1248/1367/1379-TCDF	24.51		0.8980	0.8962	-2.6	1.10E+06	0.78	Y	1.08	5.98	4081.904	0.243
1268-TCDF	24.93		0.9119	0.9117	-0.3	4.92E+05	0.88	Y	1.08	2.67	4081.904	0.243
1467-TCDF	25.06		0.9170	0.9163	-1.1	1.08E+05	0.83	Y	1.08	0.587	4081.904	0.243
1478-TCDF	25.24		0.9234	0.9229	-0.8	7.75E+05	0.71	Y	1.08	4.2	4081.904	0.243
1369/1237-TCDF	25.63		0.9369	0.9371	+0.3	1.92E+05	0.71	Y	1.08	1.04	4081.904	0.243
2467-TCDF	25.73	J EMPC	0.9415	0.9410	-0.8	3.98E+04	0.59	N	1.08	0.216	4081.904	0.243
2368-TCDF	25.90		0.9475	0.9471	-0.6	6.46E+05	0.76	Y	1.08	3.5	4081.904	0.243
1238/1234/1678/1469/1236-TCDF	25.98		0.9507	0.9499	-1.2	9.23E+05	0.79	Y	1.08	5	4081.904	0.243
1278-TCDF	26.46		0.9676	0.9674	-0.3	7.79E+06	0.79	Y	1.08	42.2	4081.904	0.243
1349-TCDF	NotFnd		0.9722						1.08		4081.904	0.243
1267-TCDF	26.73		0.9777	0.9772	-0.8	4.49E+05	0.87	Y	1.08	2.43	4081.904	0.243
2346/1249-TCDF	NotFnd		0.9843						1.08		4081.904	0.243
2347/1279-TCDF	27.13		0.9926	0.9919	-1.1	1.64E+05	0.76	Y	1.08	0.889	4081.904	0.243
2348-TCDF	27.25		0.9968	0.9963	-0.8	9.84E+05	0.78	Y	1.08	5.33	4081.904	0.243
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**1.68E+07**	**0.80**	**Y**	**1.08**	**91.1**	**4081.904**	**0.243**
2367/3467-TCDF	27.72		1.0142	1.0137	-0.8	1.41E+06	0.84	Y	1.08	7.62	4081.904	0.243
1269-TCDF	27.98		1.0235	1.0232	-0.5	2.96E+05	0.83	Y	1.08	1.6	4081.904	0.243
1239-TCDF	NotFnd		1.0329						1.08		4081.904	0.243
1289-TCDF	29.40		1.0742	1.0750	+1.4	1.30E+06	0.80	Y	1.08	7.02	4081.904	0.243
13468/12468-PeCDF	29.35		0.9122	0.9126	+0.7	1.09E+06	1.54	Y	1.02	6.62	3178.423	0.175
13678/13467/12467-PeCDF	30.91	J	0.9606	0.9612	+1.1	1.17E+05	1.50	Y	1.02	0.71	4384.424	0.241
12368/13478/12478-PeCDF	31.07		0.9655	0.9660	+0.9	7.59E+05	1.51	Y	1.02	4.61	4384.424	0.241
14678-PeCDF	NotFnd		0.9685						1.02		4384.424	0.241
13479-PeCDF	NotFnd		0.9716						1.02		4384.424	0.241
13469/12479-PeCDF	NotFnd		0.9794						1.02		4384.424	0.241
12346-PeCDF	NotFnd		0.9836						1.02		4384.424	0.241

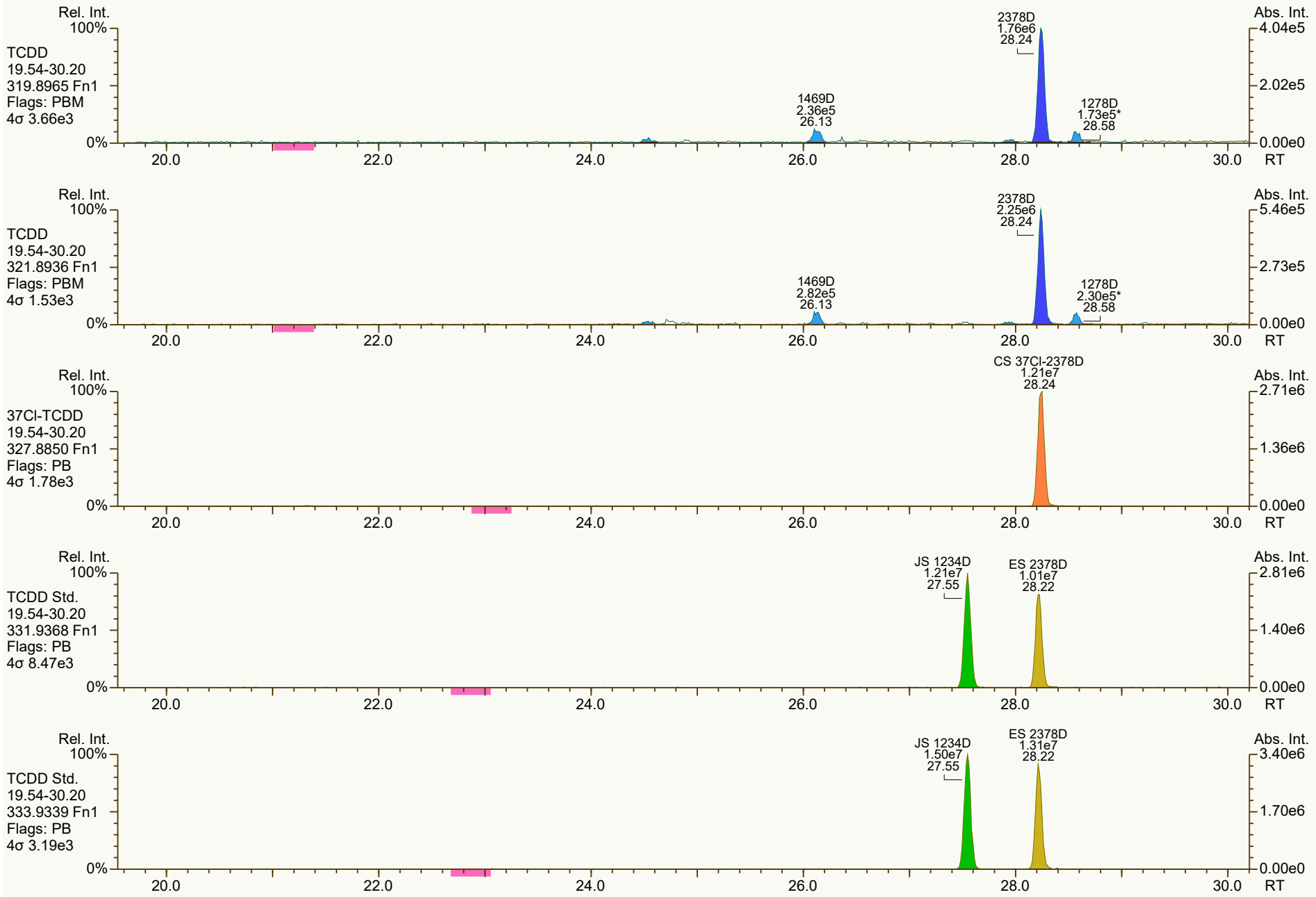
Lab ID: B6208_18911_DF_003 | **Acq'd: 20 Feb 2022 10:33 DTF** | **Wt/Vol: 10.24 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

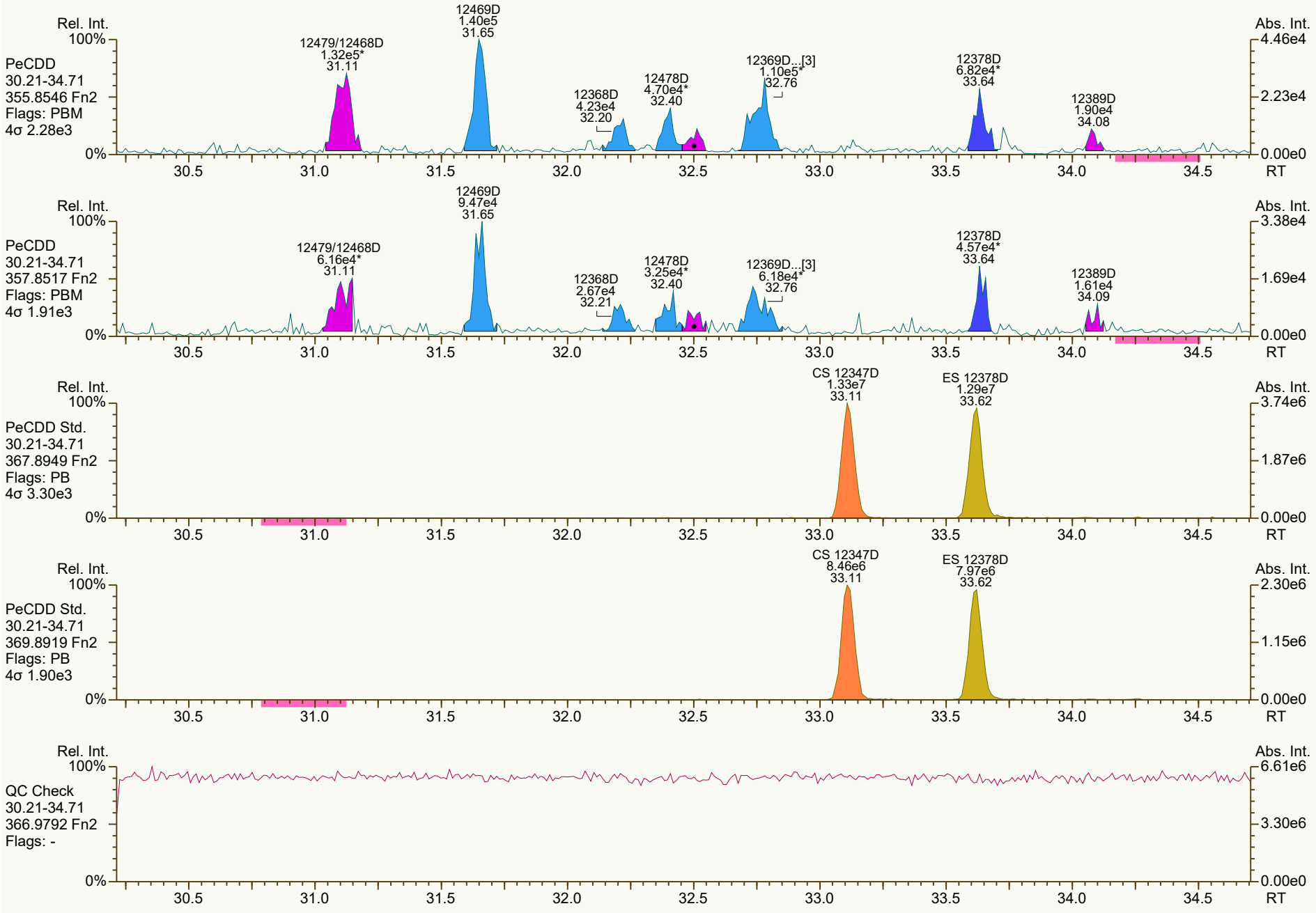
Client ID: 11215131-011922-S-BN-SW-B-21H2 | **UTP: 21-Feb-2022 10:41:19 PSW** | **J-level: 0.488 pg/g** | **Split: 1** | **Checkcode: 264-997-TQL**

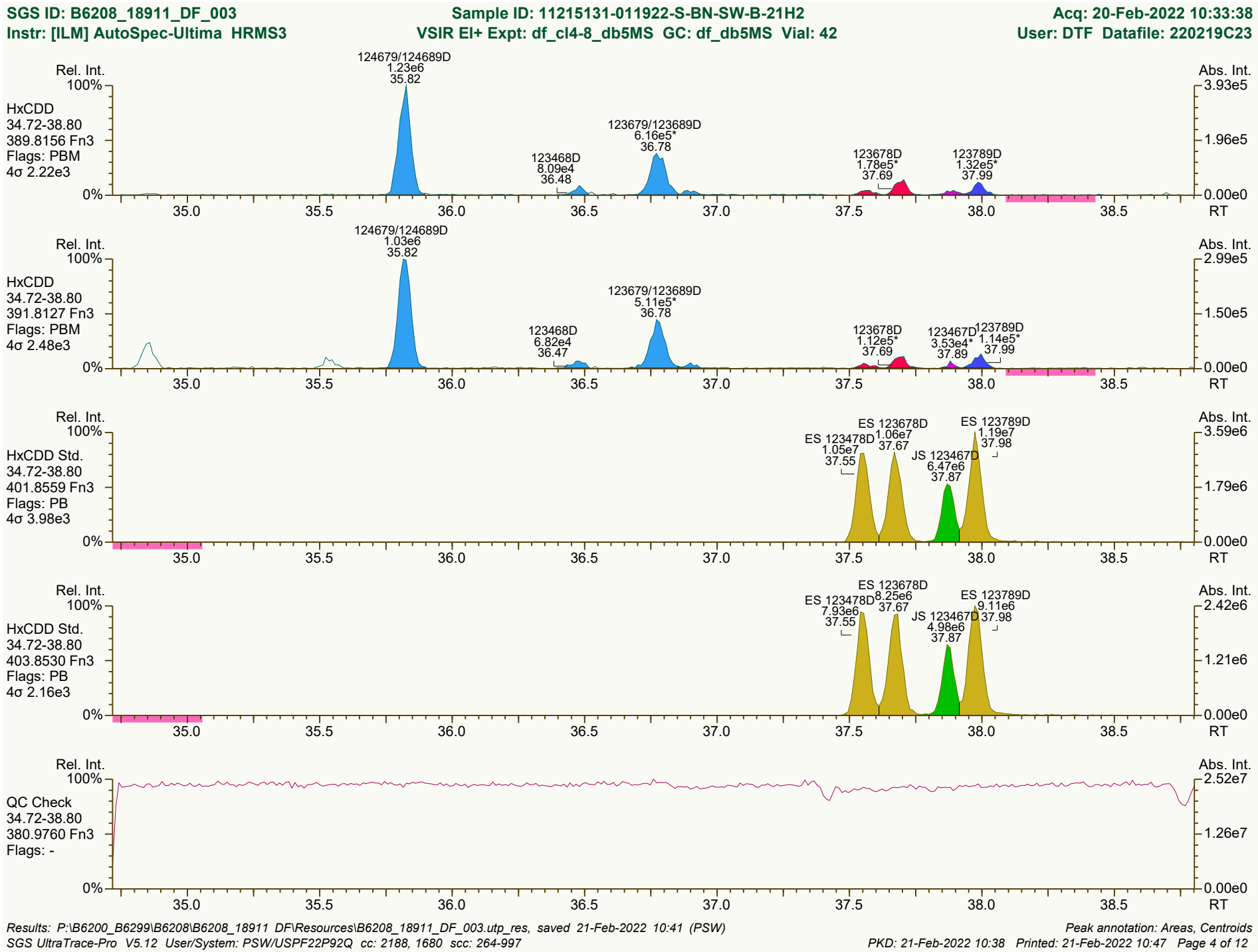
Datafile: 220219C23 | **Report: 21 Feb 2022 10:42 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

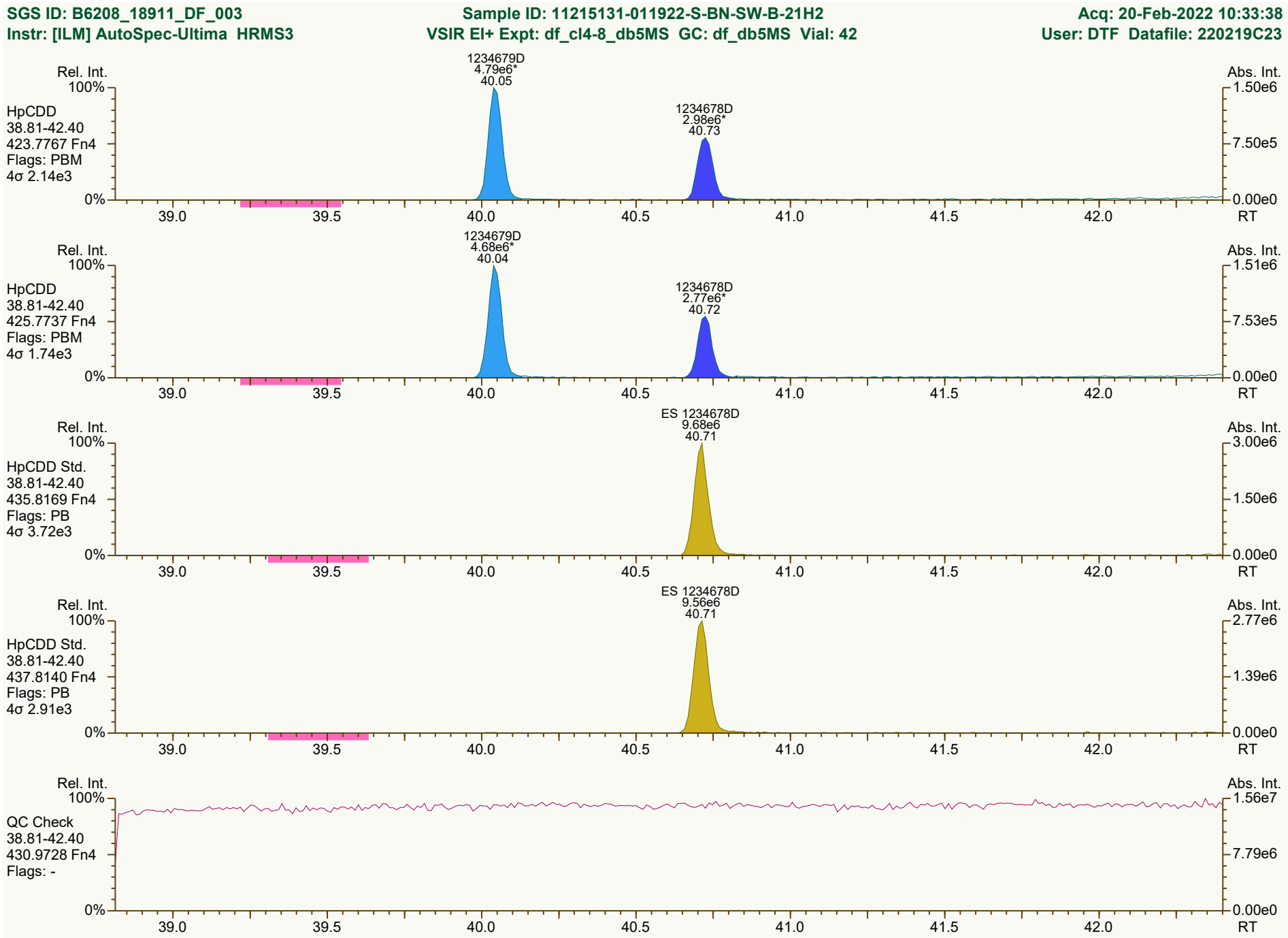
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73	J	0.9866	0.9866	0	2.55E+05	1.50	Y	1.02	1.55	4384.424	0.241
12347-PeCDF	NotFnd		0.9891						1.02		4384.424	0.241
12348-PeCDF	31.96	J EMPC	0.9938	0.9939	+0.2	9.99E+04	1.25	N	1.02	0.607	4384.424	0.241
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**4.99E+05**	**1.46**	**Y**	**1.02**	**2.99**	**4384.424**	**0.241**
12678/12367-PeCDF	32.48	J	1.0091	1.0100	+1.8	2.88E+05	1.56	Y	1.02	1.75	4384.424	0.241
12379-PeCDF	NotFnd		1.0144						1.02		4384.424	0.241
12679-PeCDF	NotFnd		0.9927						1.02		4384.424	0.241
23467/12369-PeCDF	33.16	J EMPC	0.9965	0.9965	0	3.66E+04	0.81	N	1.02	0.222	4384.424	0.241
23478-PeCDF	**33.32**		**1.0005**	**1.0010**	**+1.0**	**5.84E+05**	**1.58**	**Y**	**1.02**	**3.59**	**4384.424**	**0.242**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4384.424	0.241
12349-PeCDF	NotFnd		1.0101						1.02		4384.424	0.241
12389-PeCDF	34.39	J EMPC	1.0330	1.0333	+0.6	3.44E+04	1.13	N	1.02	0.209	4384.424	0.241
123468-HxCDF	35.17	J	0.9622	0.9623	+0.2	3.71E+05	1.28	Y	1.19	2.38	6678.426	0.365
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	9.35E+05	1.23	Y	1.19	6	6678.426	0.365
134679-HxCDF	NotFnd		0.9741						1.19		6678.426	0.365
124679-HxCDF	NotFnd		0.9795						1.19		6678.426	0.365
124689-HxCDF	36.02		0.9856	0.9856	0	9.57E+05	1.16	Y	1.19	6.14	6678.426	0.365
123467-HxCDF	NotFnd		0.9972						1.19		6678.426	0.365
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**7.19E+05**	**1.29**	**Y**	**1.27**	**4.59**	**6678.426**	**0.351**
123678-HxCDF	**36.70**	J EMPC	**1.0004**	**1.0003**	**-0.2**	**2.20E+05**	**1.45**	**N**	**1.15**	**1.35**	**6678.426**	**0.345**
123479-HxCDF	NotFnd		1.0048						1.19		6678.426	0.365
123469-HxCDF	37.02	J EMPC	1.0089	1.0089	0	3.29E+04	2.31	N	1.19	0.211	6678.426	0.365
123679-HxCDF	NotFnd		0.9942						1.19		6678.426	0.365
234678-HxCDF	**37.38**	J	**1.0005**	**1.0003**	**-0.4**	**2.35E+05**	**1.20**	**Y**	**1.19**	**1.42**	**6678.426**	**0.354**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6678.426	0.365
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6678.426**	**0.417**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J EMPC	1.0006	1.0009	+0.7	7.43E+04	0.92	N	1.19	0.476	6678.426	0.365
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**5.36E+06**	**1.04**	**Y**	**1.37**	**35.7**	**3216.323**	**0.159**
1234679-HpCDF	40.04	**J**	1.0068	1.0070	+0.5	1.95E+05	0.91	Y	1.34	1.45	3216.323	0.195
1234689-HpCDF	40.19		1.0104	1.0106	+0.5	2.56E+06	1.12	Y	1.34	19	3216.323	0.195
1234789-HpCDF	**41.18**		**1.0003**	**1.0004**	**+0.2**	**3.46E+05**	**0.95**	**Y**	**1.31**	**2.89**	**3216.323**	**0.239**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**5.60E+07**	**0.90**	**Y**	**1.07**	**581**	**6610.55**	**0.854**
OCDF-a	43.59		1.0001	1.0002	+0.3	3.76E+06	2.74	Y	0.07	631	4224.338	8.81

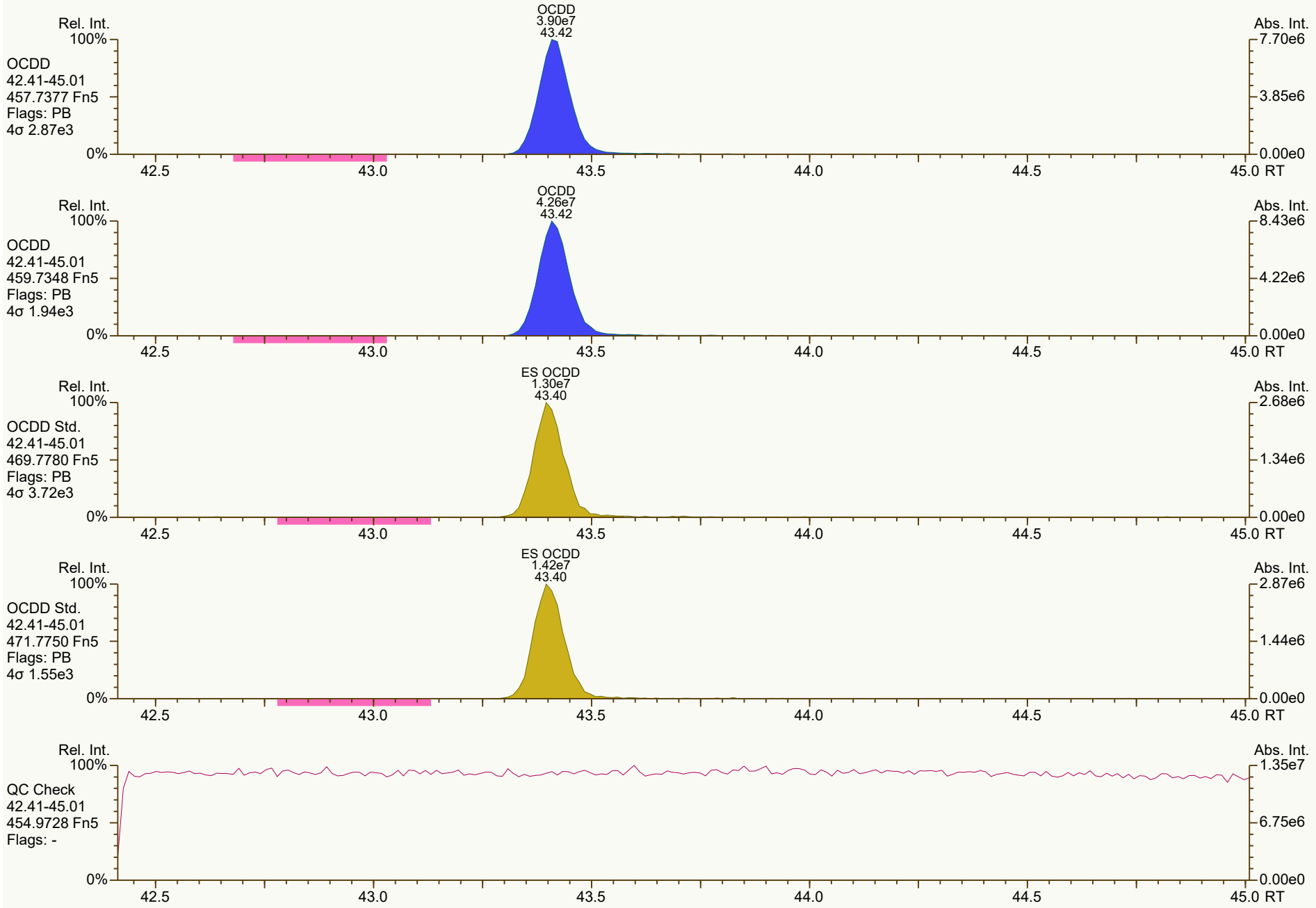

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19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.29e6
3.65e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
6.61e6
3.30e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.52e7
1.26e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.56e7
7.79e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.35e7
6.75e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.66e3
0%
2378D
1.76e6
28.24
1469D
2.36e5
26.13
1278D
1.73e5*
28.58
Abs. Int.
4.04e5
2.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.53e3
0%
2378D
2.25e6
28.24
1469D
2.82e5
26.13
1278D
2.30e5*
28.58
Abs. Int.
5.46e5
2.73e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.78e3
0%
CS 37Cl-2378D
1.21e7
28.24
Abs. Int.
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.47e3
0%
JS 1234D
1.21e7
27.55
ES 2378D
1.01e7
28.22
Abs. Int.
2.81e6
1.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.19e3
0%
JS 1234D
1.50e7
27.55
ES 2378D
1.31e7
28.22
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.28e3
12479/12468D
1.32e5*
31.11
12469D
1.40e5
31.65
12368D
4.23e4
32.20
12478D
4.70e4*
32.40
12369D...[3]
1.10e5*
32.76
12378D
6.82e4*
33.64
12389D
1.90e4
34.08
Abs. Int.
4.46e4
2.23e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.91e3
12479/12468D
6.16e4*
31.11
12469D
9.47e4
31.65
12368D
2.67e4
32.21
12478D
3.25e4*
32.40
12369D...[3]
6.18e4*
32.76
12378D
4.57e4*
33.64
12389D
1.61e4
34.09
Abs. Int.
3.38e4
1.69e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.30e3
CS 12347D
1.33e7
33.11
ES 12378D
1.29e7
33.62
Abs. Int.
3.74e6
1.87e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.90e3
CS 12347D
8.46e6
33.11
ES 12378D
7.97e6
33.62
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
6.61e6
3.30e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

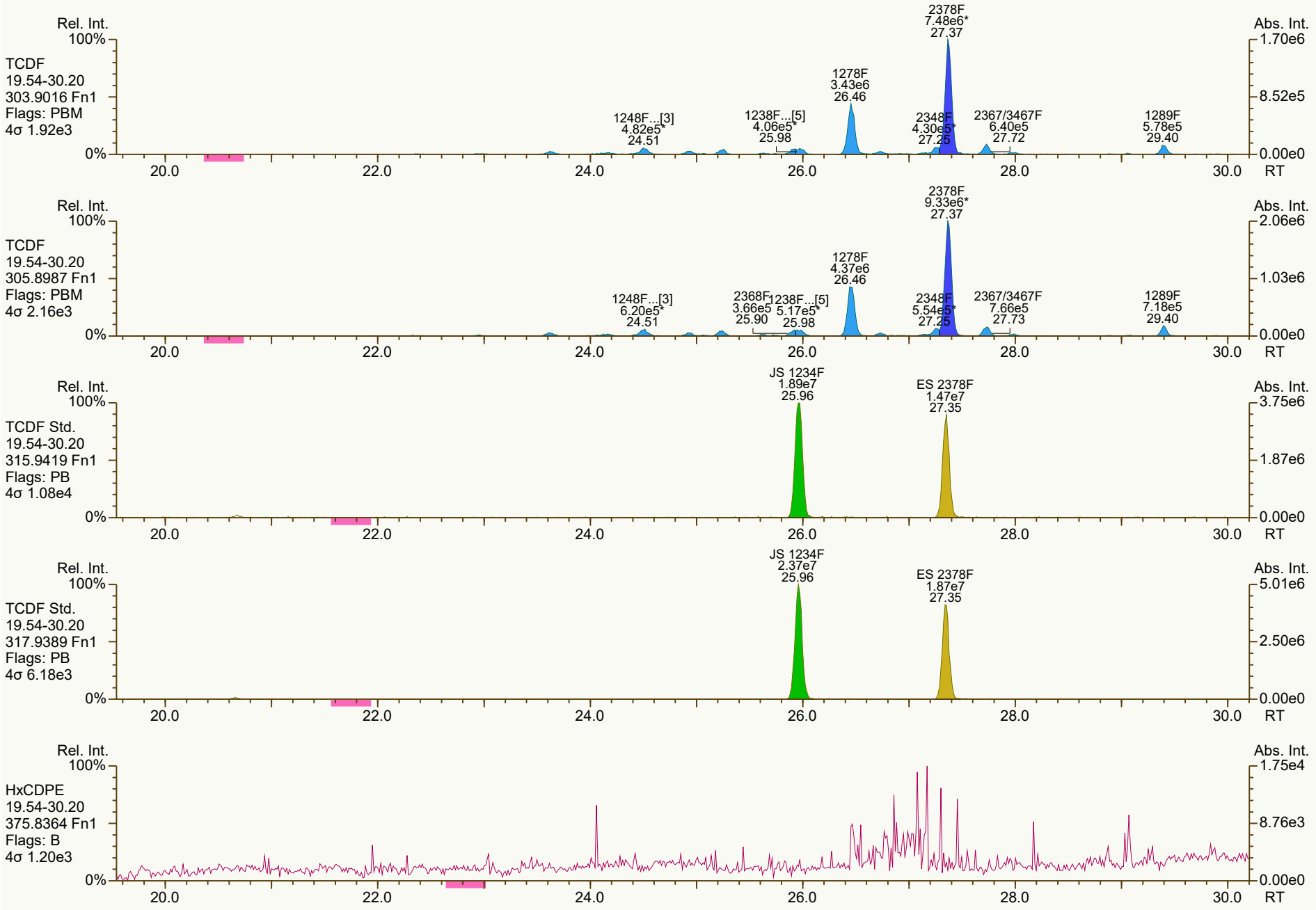

SGS ID: B6208_18911_DF_003
Sample ID: 11215131-011922-S-BN-SW-B-21H2
Acq: 20-Feb-2022 10:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220219C23
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.22e3
124679/124689D
1.23e6
35.82
123468D
8.09e4
36.48
123679/123689D
6.16e5*
36.78
123678D
1.78e5*
37.69
123789D
1.32e5*
37.99
3.93e5
1.96e5
0.00e0
RT
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.48e3
124679/124689D
1.03e6
35.82
123468D
6.82e4
36.47
123679/123689D
5.11e5*
36.78
123678D
1.12e5*
37.69
123467D
3.53e4*
37.89
123789D
1.14e5*
37.99
2.99e5
1.50e5
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.98e3
ES 123678D
1.06e7
37.67
ES 123478D
1.05e7
37.55
JS 123467D
6.47e6
37.87
ES 123789D
1.19e7
37.98
3.59e6
1.79e6
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.16e3
ES 123678D
8.25e6
37.67
ES 123478D
7.93e6
37.55
JS 123467D
4.98e6
37.87
ES 123789D
9.11e6
37.98
2.42e6
1.21e6
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.52e7
1.26e7
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2188, 1680 scc: 264-997
PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 4 of 12


SGS ID: B6208_18911_DF_003
Sample ID: 11215131-011922-S-BN-SW-B-21H2
Acq: 20-Feb-2022 10:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220219C23
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.14e3
1234679D
4.79e6*
40.05
1234678D
2.98e6*
40.73
1.50e6
7.50e5
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.74e3
1234679D
4.68e6*
40.04
1234678D
2.77e6*
40.72
1.51e6
7.53e5
0.00e0
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.72e3
ES 1234678D
9.68e6
40.71
3.00e6
1.50e6
0.00e0
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.91e3
ES 1234678D
9.56e6
40.71
2.77e6
1.39e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.56e7
7.79e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0917, 0437 scc: 264-997
PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 5 of 12


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.87e3
0%
OCDD
3.90e7
43.42
Abs. Int.
7.70e6
3.85e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.94e3
0%
OCDD
4.26e7
43.42
Abs. Int.
8.43e6
4.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 3.72e3
0%
ES OCDD
1.30e7
43.40
Abs. Int.
2.68e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.55e3
0%
ES OCDD
1.42e7
43.40
Abs. Int.
2.87e6
1.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.35e7
6.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

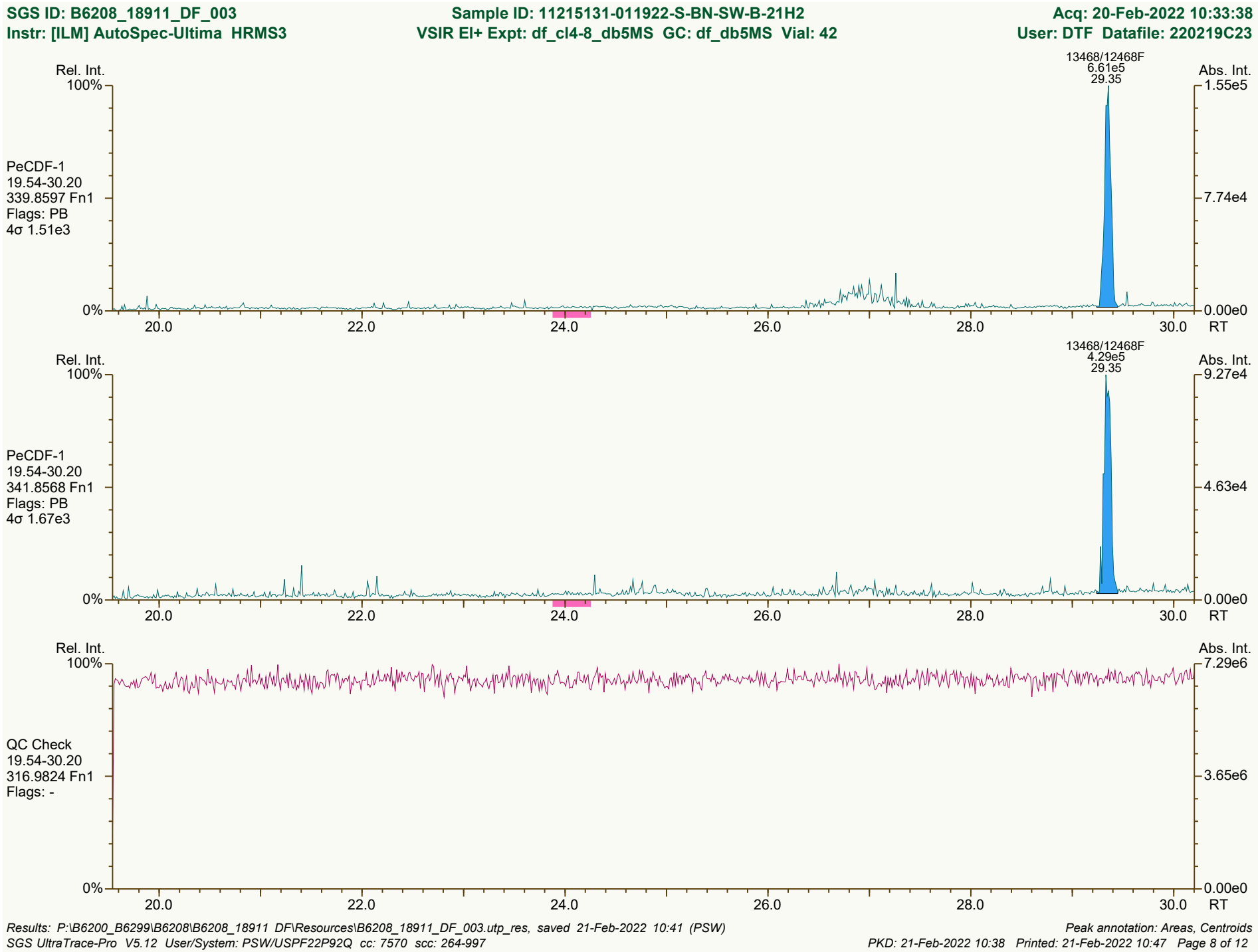
SGS ID: B6208_18911_DF_003 | Sample ID: 11215131-011922-S-BN-SW-B-21H2 | Acq: 20-Feb-2022 10:33:38

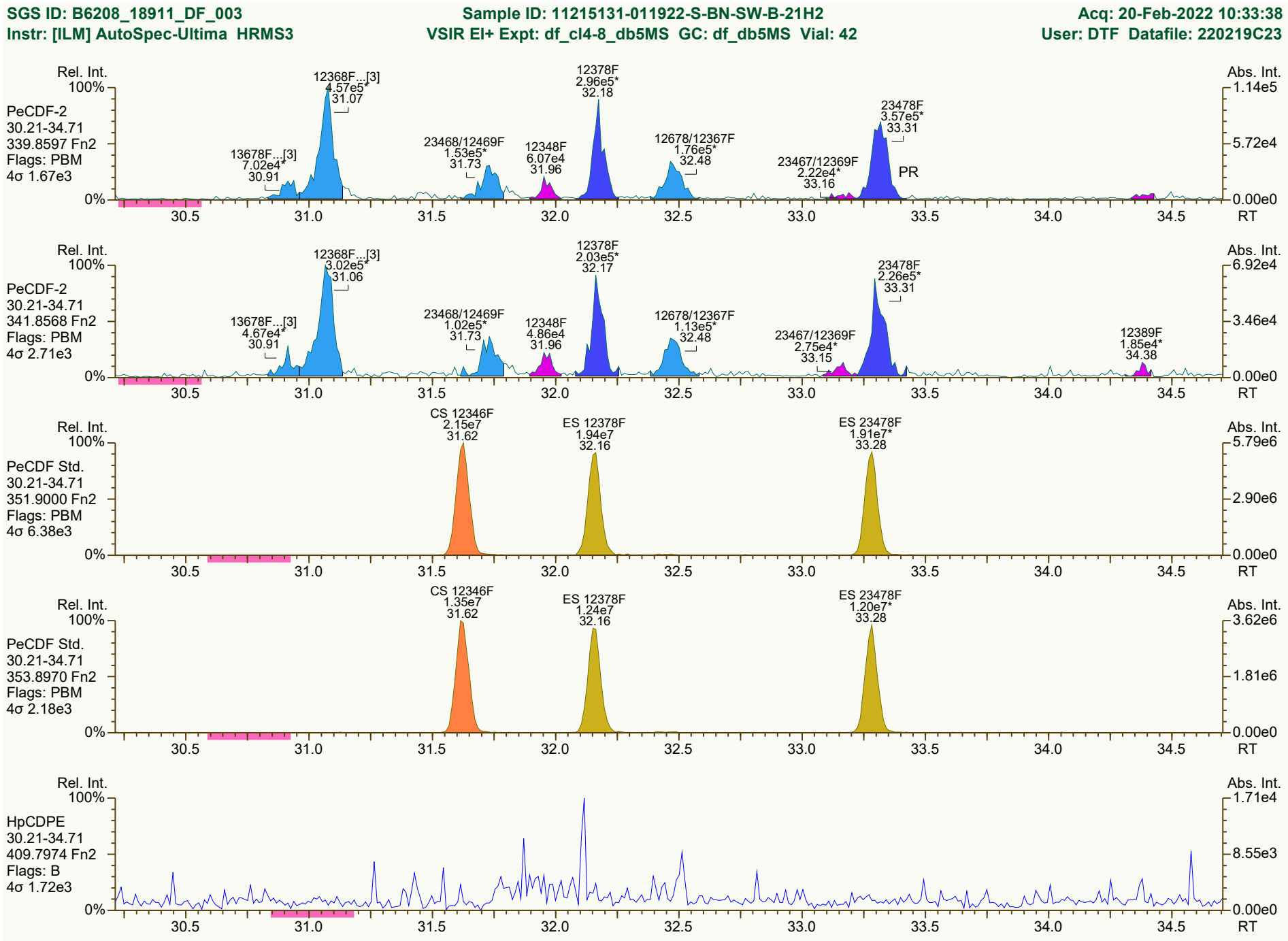
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42 | User: DTF Datafile: 220219C23

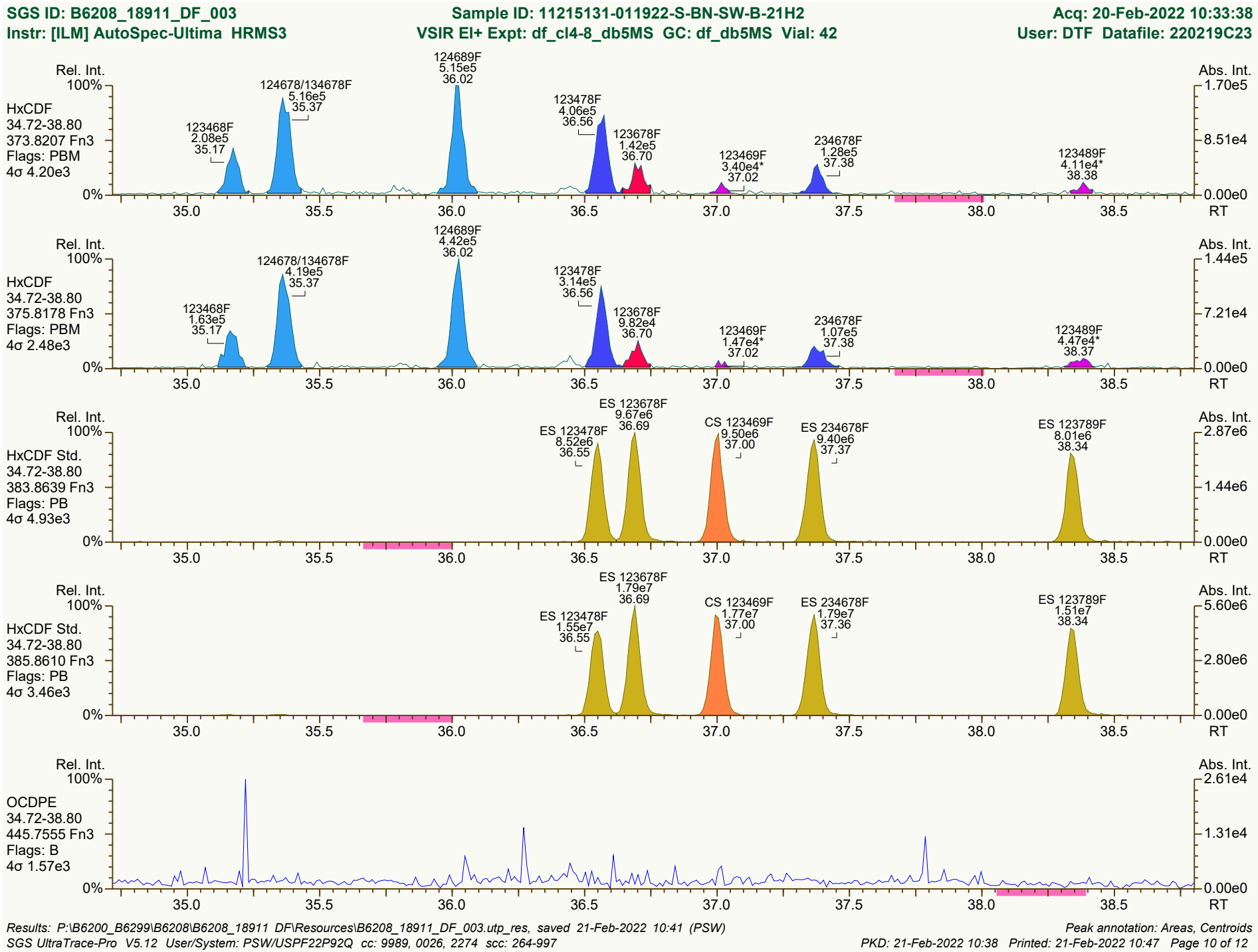


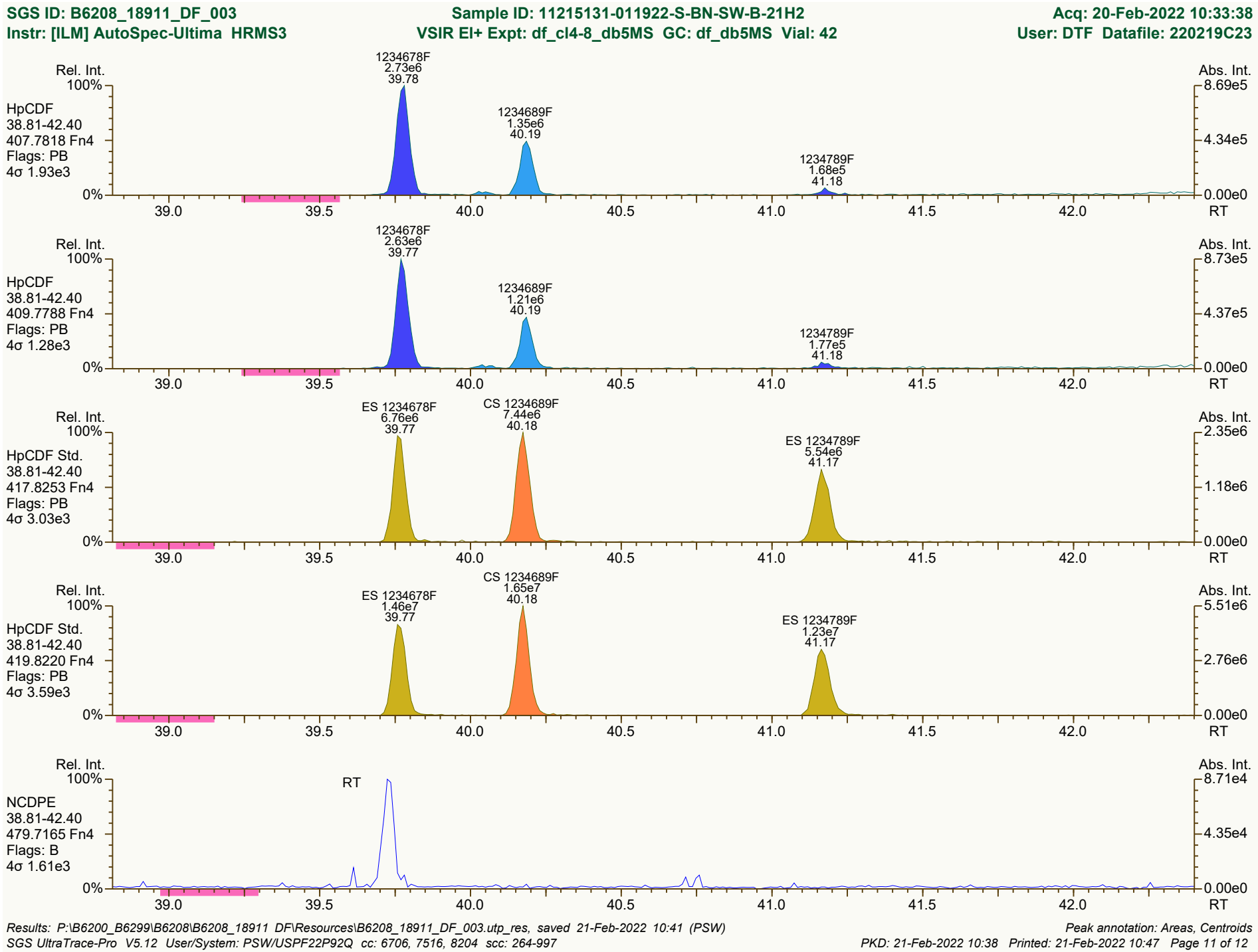
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW) | *Peak annotation: Areas, Centroids*

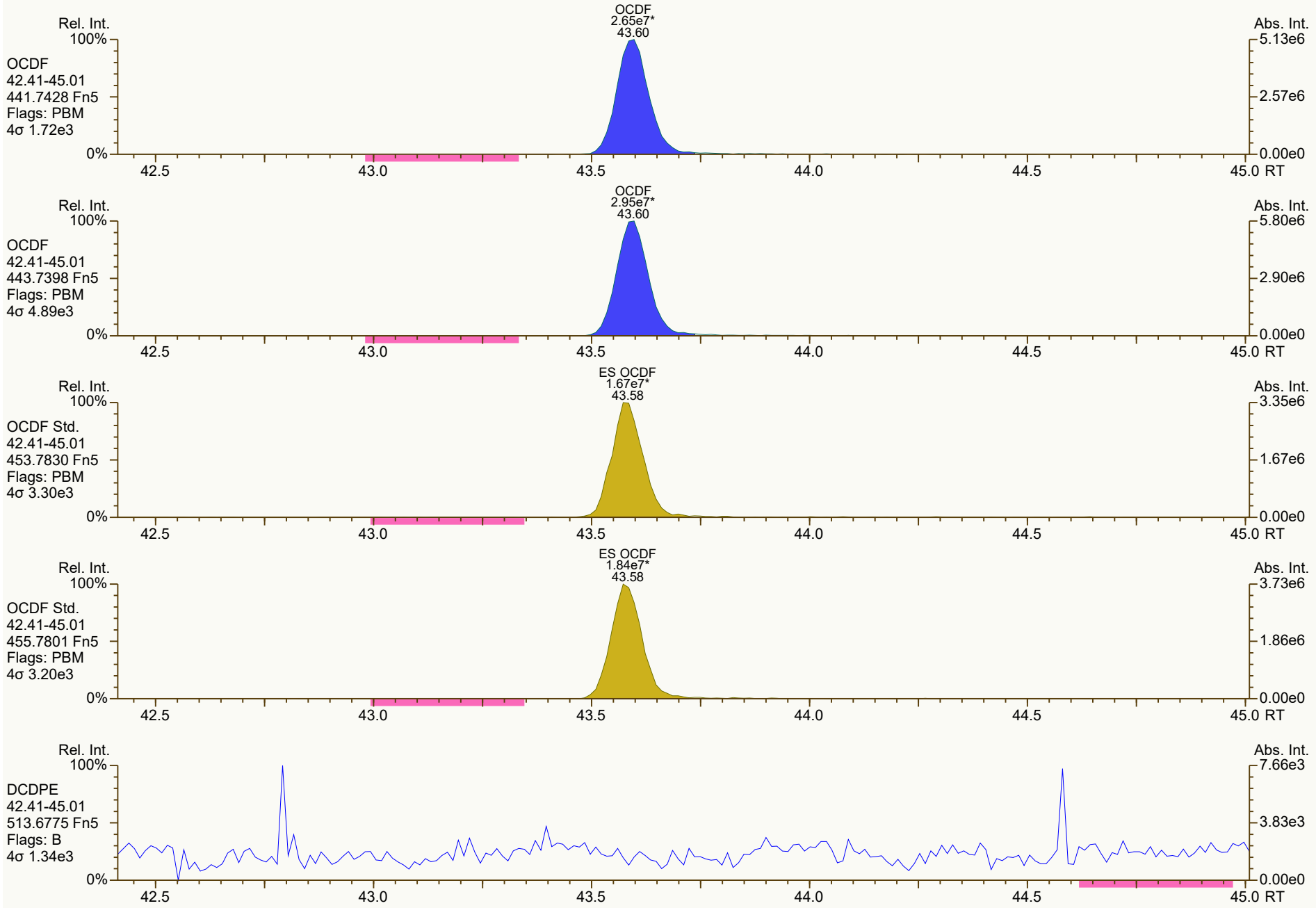
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3647, 2624, 1780 scc: 264-997 | *PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 7 of 12*


SGS ID: B6208_18911_DF_003
Sample ID: 11215131-011922-S-BN-SW-B-21H2
Acq: 20-Feb-2022 10:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220219C23
Rel. Int.
100%
0%
Abs. Int.
1.55e5
7.74e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.51e3
13468/12468F
6.61e5
29.35
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.67e3
13468/12468F
4.29e5
29.35
9.27e4
4.63e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
7.29e6
3.65e6
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7570 scc: 264-997
PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 8 of 12


SGS ID: B6208_18911_DF_003
Sample ID: 11215131-011922-S-BN-SW-B-21H2
Acq: 20-Feb-2022 10:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220219C23
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.67e3
12368F...[3] 4.57e5* 31.07
13678F...[3] 7.02e4* 30.91
23468/12469F 1.53e5* 31.73
12348F 6.07e4 31.96
12378F 2.96e5* 32.18
12678/12367F 1.76e5* 32.48
23467/12369F 2.22e4* 33.16
23478F 3.57e5* 33.31
PR
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.71e3
12368F...[3] 3.02e5* 31.06
13678F...[3] 4.67e4* 30.91
23468/12469F 1.02e5* 31.73
12348F 4.86e4 31.96
12378F 2.03e5* 32.17
12678/12367F 1.13e5* 32.48
23467/12369F 2.75e4* 33.15
23478F 2.26e5* 33.31
12389F 1.85e4* 34.38
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 6.38e3
CS 12346F 2.15e7 31.62
ES 12378F 1.94e7 32.16
ES 23478F 1.91e7* 33.28
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 2.18e3
CS 12346F 1.35e7 31.62
ES 12378F 1.24e7 32.16
ES 23478F 1.20e7* 33.28
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.72e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7914, 6836, 0946 scc: 264-997
PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 9 of 12


SGS ID: B6208_18911_DF_003
Sample ID: 11215131-011922-S-BN-SW-B-21H2
Acq: 20-Feb-2022 10:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220219C23
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 4.20e3
123468F 2.08e5 35.17
124678/134678F 5.16e5 35.37
124689F 5.15e5 36.02
123478F 4.06e5 36.56
123678F 1.42e5 36.70
123469F 3.40e4* 37.02
234678F 1.28e5 37.38
123489F 4.11e4* 38.38
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.48e3
123468F 1.63e5 35.17
124678/134678F 4.19e5 35.37
124689F 4.42e5 36.02
123478F 3.14e5 36.56
123678F 9.82e4 36.70
123469F 1.47e4* 37.02
234678F 1.07e5 37.38
123489F 4.47e4* 38.37
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.93e3
ES 123478F 8.52e6 36.55
ES 123678F 9.67e6 36.69
CS 123469F 9.50e6 37.00
ES 234678F 9.40e6 37.37
ES 123789F 8.01e6 38.34
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.46e3
ES 123478F 1.55e7 36.55
ES 123678F 1.79e7 36.69
CS 123469F 1.77e7 37.00
ES 234678F 1.79e7 37.36
ES 123789F 1.51e7 38.34
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.57e3
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9989, 0026, 2274 scc: 264-997
PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 10 of 12


SGS ID: B6208_18911_DF_003
Sample ID: 11215131-011922-S-BN-SW-B-21H2
Acq: 20-Feb-2022 10:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 42
User: DTF Datafile: 220219C23
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.93e3
1234678F
2.73e6
39.78
1234689F
1.35e6
40.19
1234789F
1.68e5
41.18
8.69e5
4.34e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.28e3
1234678F
2.63e6
39.77
1234689F
1.21e6
40.19
1234789F
1.77e5
41.18
8.73e5
4.37e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.03e3
ES 1234678F
6.76e6
39.77
CS 1234689F
7.44e6
40.18
ES 1234789F
5.54e6
41.17
2.35e6
1.18e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 3.59e3
ES 1234678F
1.46e7
39.77
CS 1234689F
1.65e7
40.18
ES 1234789F
1.23e7
41.17
5.51e6
2.76e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.61e3
RT
8.71e4
4.35e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_003.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6706, 7516, 8204 scc: 264-997
PKD: 21-Feb-2022 10:38 Printed: 21-Feb-2022 10:47 Page 11 of 12


OCDF
2.65e7*
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.72e3
0%
Abs. Int.
5.13e6
2.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.95e7*
43.60
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 4.89e3
5.80e6
2.90e6
ES OCDF
1.67e7*
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 3.30e3
3.35e6
1.67e6
ES OCDF
1.84e7*
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.20e3
3.73e6
1.86e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.34e3
7.66e3
3.83e3

Lab ID: B6208_18911_DF_004 **Acq'd:** 20 Feb 2022 11:20 DTF **Wt/Vol:** 10.47 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-20H **UTP:** 21-Feb-2022 10:41:20 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 796-689-RBD

Datafile: 220219C24 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.26		1.0008	1.0008	0	2.48E+07	0.81	Y	1.18	132	4579.692	0.266
12378-PeCDD	33.64		1.0007	1.0005	-0.4	3.82E+05	1.39	Y	1.04	2.5	5844.535	0.339
123478-HxCDD	37.57	J	1.0004	1.0003	-0.2	2.67E+05	1.27	Y	1.09	1.82	10560.542	0.619
123678-HxCDD	37.70		1.0036	1.0036	0	1.12E+06	1.10	Y	1.15	7.47	10560.542	0.61
123789-HxCDD	38.00		1.0118	1.0117	-0.2	7.52E+05	1.31	Y	1.05	4.67	10560.542	0.582
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	2.47E+07	1.04	Y	1.06	166	6756.805	0.383
OCDD	43.43		1.0003	1.0003	0	3.20E+08	0.91	Y	1.13	2,810	8000.338	0.906
2378-TCDF	27.38		1.0008	1.0008	0	1.05E+08	0.79	Y	1.08	408	4506.728	0.2
12378-PeCDF	32.18	PR	1.0005	1.0006	+0.2	2.21E+06	1.48	Y	1.02	9.61	5510.367	0.225
23478-PeCDF	33.32		1.0005	1.0009	+0.8	2.90E+06	1.56	Y	1.02	13.1	5510.367	0.218
123478-HxCDF	36.57		1.0004	1.0005	+0.2	3.23E+06	1.25	Y	1.27	15.3	7951.115	0.314
123678-HxCDF	36.71		1.0004	1.0004	0	1.07E+06	1.23	Y	1.15	4.79	7951.115	0.295
234678-HxCDF	37.39		1.0005	1.0004	-0.2	9.12E+05	1.17	Y	1.19	4.19	7951.115	0.322
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7951.115	0.351
1234678-HpCDF	39.79		1.0003	1.0003	0	1.84E+07	1.02	Y	1.37	88.9	3290.801	0.126
1234789-HpCDF	41.18		1.0003	1.0002	-0.2	1.85E+06	0.96	Y	1.31	10.7	3290.801	0.17
OCDF	43.60		1.0002	1.0003	+0.3	3.88E+08	0.89	Y	1.07	2,660	5817.497	0.479

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	3.02E+07	0.84	Y	1.05	90.3
ES 12378-PeCDD	33.63	1.2198	1.2200	+0.4	2.82E+07	1.62	Y	0.88	100
ES 123478-HxCDD	37.56	0.9916	0.9916	0	2.58E+07	1.28	Y	0.97	88.8
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	2.50E+07	1.26	Y	0.94	88.6
ES 123789-HxCDD	37.99	1.0029	1.0028	-0.2	2.94E+07	1.31	Y	1.09	90.2
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	2.68E+07	1.06	Y	0.91	98.2
ES OCDD	43.42	1.1460	1.1463	+0.8	3.87E+07	0.90	Y	0.62	104
ES 2378-TCDF	27.36	1.0531	1.0531	0	4.54E+07	0.81	Y	1.06	85.9
ES 12378-PeCDF	32.17	1.2378	1.2380	+0.4	4.30E+07	1.60	Y	0.91	94.7
ES 23478-PeCDF	33.29	1.2810	1.2812	+0.4	4.14E+07	1.59	Y	0.88	94
ES 123478-HxCDF	36.56	0.9650	0.9650	0	3.18E+07	0.54	Y	1.20	88.8
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	3.72E+07	0.54	Y	1.35	92.2
ES 234678-HxCDF	37.37	0.9866	0.9866	0	3.50E+07	0.53	Y	1.24	94.4
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	3.23E+07	0.56	Y	1.16	93.8
ES 1234678-HpCDF	39.78	1.0501	1.0501	0	2.89E+07	0.45	Y	0.97	100
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	2.52E+07	0.45	Y	0.85	99.3
ES OCDF	43.59	1.1505	1.1507	+0.5	5.21E+07	0.93	Y	0.81	108

Lab ID: B6208_18911_DF_004 **Acq'd:** 20 Feb 2022 11:20 DTF **Wt/Vol:** 10.47 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-20H **UTP:** 21-Feb-2022 10:41:20 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 796-689-RBD

Datafile: 220219C24 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.20E+07	0.79	Y	-	-
JS 1234-TCDF	25.98		-	-	-	4.99E+07	0.80	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.49E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.26		1.0251	1.0251	0	1.30E+07	n/a	-	1.20	84.6
CS 12347-PeCDD	33.12		1.2016	1.2017	+0.2	2.47E+07	1.59	Y	0.75	103
CS 12346-PeCDF	31.63		1.2172	1.2175	+0.6	4.00E+07	1.62	Y	0.85	94.1
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	3.29E+07	0.55	Y	1.12	98.7
CS 1234689-HpCDF	40.19		1.0608	1.0608	0	2.77E+07	0.46	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.26~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.30E+07~~	~~n/a~~		~~1.15~~	~~93.9~~
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2017~~	~~+0.2~~	~~2.47E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2175~~	~~+0.6~~	~~4.00E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~99.3~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~3.29E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.19~~		~~1.0608~~	~~1.0608~~	~~0~~	~~2.77E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~104~~

Totals	Conc	EMPC
Total TCDD	160	163
Total PeCDD	19.2	20.8
Total HxCDD	88.3	88.3
Total HpCDD	403	403
Total Tetra-Octa Dioxins	3480	3480
Total TCDF	823	824
Total PeCDF	78.6	79.8
Total HxCDF	82.1	83.1
Total HpCDF	184	184
Total Tetra-Octa Furans	3,830	3830
Total Tetra-Octa Dioxins & Furans	7300	7310

Lab ID: B6208_18911_DF_004 **Acq'd: 20 Feb 2022 11:20 DTF** **Wt/Vol: 10.47 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-20H **UTP: 21-Feb-2022 10:41:20 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 796-689-RBD**

Datafile: 220219C24 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.56		0.8701	0.8698	-0.4	6.33E+05	0.77	Y	1.18	3.39	4579.692	0.266
1379-TCDD	24.92		0.8829	0.8826	-0.4	2.26E+05	0.76	Y	1.18	1.21	4579.692	0.266
1369-TCDD	25.36	EMPC	0.8982	0.8983	+0.2	9.63E+04	0.65	N	1.18	0.515	4579.692	0.266
1469-TCDD	26.15		0.9261	0.9261	0	9.40E+05	0.83	Y	1.18	5.02	4579.692	0.266
1247/1246/1248/1249-TCDD	26.38		0.9348	0.9344	-0.6	2.10E+05	0.82	Y	1.18	1.12	4579.692	0.266
1378-TCDD	26.58		0.9417	0.9413	-0.6	1.90E+05	0.86	Y	1.18	1.02	4579.692	0.266
1268-TCDD	NotFnd		0.9487						1.18		4579.692	0.266
1478-TCDD	27.04	J EMPC	0.9576	0.9578	+0.3	8.66E+04	1.22	N	1.18	0.463	4579.692	0.266
1279-TCDD	27.21	EMPC	0.9636	0.9636	0	9.24E+04	0.62	N	1.18	0.494	4579.692	0.266
1234/1269-TCDD	27.55		0.9761	0.9758	-0.5	2.30E+05	0.75	Y	1.18	1.23	4579.692	0.266
1236-TCDD	NotFnd		0.9812						1.18		4579.692	0.266
1237/1238-TCDD	27.97		0.9905	0.9907	+0.3	4.36E+05	0.85	Y	1.18	2.33	4579.692	0.266
1239-TCDD	NotFnd		0.9951						1.18		4579.692	0.266
2378-TCDD	**28.26**		**1.0008**	1.0008	**0**	2.48E+07	0.81	Y	**1.18**	**132**	**4579.692**	**0.266**
1278-TCDD	28.58		1.0124	1.0125	+0.2	2.23E+06	0.83	Y	1.18	11.9	4579.692	0.266
1267-TCDD	28.73		1.0172	1.0176	+0.7	1.32E+05	0.77	Y	1.18	0.704	4579.692	0.266
1289-TCDD	29.22	EMPC	1.0354	1.0350	-0.7	1.52E+05	0.62	N	1.18	0.811	4579.692	0.266
12479/12468-PeCDD	31.12		0.9255	0.9255	0	7.25E+05	1.65	Y	1.04	4.73	5844.535	0.339
12469-PeCDD	31.66		0.9416	0.9416	0	6.19E+05	1.34	Y	1.04	4.04	5844.535	0.339
12368-PeCDD	32.22	J	0.9582	0.9582	0	3.24E+05	1.46	Y	1.04	2.12	5844.535	0.339
12478-PeCDD	32.42	J	0.9637	0.9640	+0.6	2.86E+05	1.60	Y	1.04	1.87	5844.535	0.339
12379-PeCDD	32.51	J EMPC	0.9668	0.9669	+0.2	1.73E+05	1.78	N	1.04	1.13	5844.535	0.339
12369/12467/12489-PeCDD	32.78		0.9746	0.9747	+0.2	5.26E+05	1.68	Y	1.04	3.43	5844.535	0.339
12346/12347-PeCDD	NotFnd		0.9858						1.04		5844.535	0.339
12378-PeCDD	33.64		**1.0007**	**1.0005**	**-0.4**	**3.82E+05**	**1.39**	**Y**	**1.04**	**2.5**	**5844.535**	**0.339**
12367-PeCDD	33.73	J EMPC	1.0036	1.0031	-1.0	5.93E+04	1.07	N	1.04	0.387	5844.535	0.339
12389-PeCDD	34.09	J	1.0137	1.0136	-0.2	8.30E+04	1.49	Y	1.04	0.542	5844.535	0.339
124679/124689-HxCDD	35.83		0.9540	0.9539	-0.2	6.11E+06	1.25	Y	1.10	40	10560.542	0.602
123468-HxCDD	36.49		0.9715	0.9714	-0.2	7.06E+05	1.30	Y	1.10	4.61	10560.542	0.602
123679/123689-HxCDD	36.79		0.9793	0.9793	0	4.11E+06	1.24	Y	1.10	26.9	10560.542	0.602
123469-HxCDD	36.91	J	0.9829	0.9827	-0.4	2.01E+05	1.36	Y	1.10	1.32	10560.542	0.602
123478-HxCDD	37.57	J	**1.0004**	**1.0003**	**-0.2**	**2.67E+05**	**1.27**	**Y**	1.09	**1.82**	**10560.542**	**0.619**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**1.12E+06**	**1.10**	**Y**	1.15	**7.47**	**10560.542**	**0.61**
123467-HxCDD	37.90	J	1.0089	1.0089	0	2.46E+05	1.10	Y	1.10	1.61	10560.542	0.602
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**7.52E+05**	**1.31**	**Y**	1.05	**4.67**	**10560.542**	**0.582**

Lab ID: B6208_18911_DF_004 **Acq'd:** 20 Feb 2022 11:20 DTF **Wt/Vol:** 10.47 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-SW-B-20H **UTP:** 21-Feb-2022 10:41:20 PSW **J-level:** 0.478 pg/g **Split:** 1 **Checkcode:** 796-689-RBD

Datafile: 220219C24 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

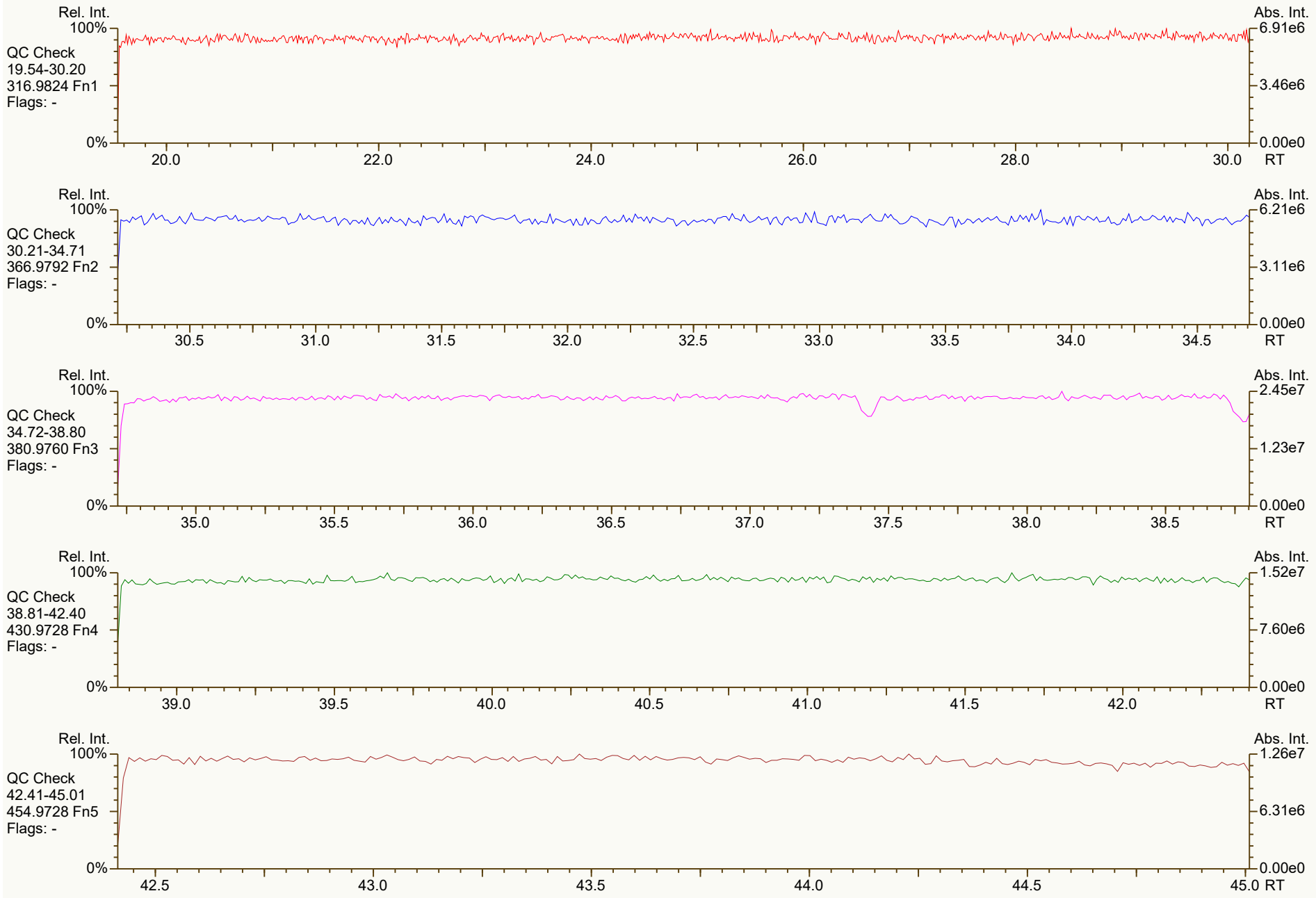
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	3.50E+07	1.03	Y	1.06	236	6756.805	0.383
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**2.47E+07**	**1.04**	**Y**	**1.06**	**166**	**6756.805**	**0.383**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**3.20E+08**	**0.91**	**Y**	**1.13**	**2,810**	**8000.338**	**0.906**
OCDD-a	43.43		1.0002	1.0002	0	2.03E+07	2.37	Y	0.07	2,780	4417.327	7.82
1368-TCDF	22.40		0.8191	0.8186	-0.7	2.59E+05	0.82	Y	1.08	1.01	4506.728	0.2
1468-TCDF	23.00		0.8408	0.8405	-0.4	6.74E+05	0.84	Y	1.08	2.63	4506.728	0.2
2468-TCDF	23.65		0.8645	0.8644	-0.1	1.86E+06	0.79	Y	1.08	7.26	4506.728	0.2
1346/1246-TCDF	24.04		0.8772	0.8787	+2.2	4.03E+05	0.87	Y	1.08	1.57	4506.728	0.2
1347/1378/1247-TCDF	24.18		0.8833	0.8838	+0.7	1.73E+06	0.83	Y	1.08	6.77	4506.728	0.2
1348-TCDF	24.41		0.8932	0.8921	-1.6	2.95E+05	0.79	Y	1.08	1.15	4506.728	0.2
1248/1367/1379-TCDF	24.53		0.8980	0.8965	-2.2	6.22E+06	0.80	Y	1.08	24.3	4506.728	0.2
1268-TCDF	24.95		0.9119	0.9119	0	2.76E+06	0.85	Y	1.08	10.8	4506.728	0.2
1467-TCDF	25.09		0.9170	0.9170	0	4.70E+05	0.79	Y	1.08	1.83	4506.728	0.2
1478-TCDF	25.26		0.9234	0.9231	-0.5	5.24E+06	0.74	Y	1.08	20.4	4506.728	0.2
1369/1237-TCDF	25.65		0.9369	0.9372	+0.5	1.19E+06	0.77	Y	1.08	4.64	4506.728	0.2
2467-TCDF	25.77	EMPC	0.9415	0.9417	+0.3	2.82E+05	0.64	N	1.08	1.1	4506.728	0.2
2368-TCDF	25.93		0.9475	0.9475	0	4.22E+06	0.78	Y	1.08	16.5	4506.728	0.2
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9502	-0.8	4.99E+06	0.78	Y	1.08	19.4	4506.728	0.2
1278-TCDF	26.47		0.9676	0.9675	-0.2	4.72E+07	0.78	Y	1.08	184	4506.728	0.2
1349-TCDF	NotFnd		0.9722						1.08		4506.728	0.2
1267-TCDF	26.75		0.9777	0.9776	-0.2	2.83E+06	0.75	Y	1.08	11.1	4506.728	0.2
2346/1249-TCDF	NotFnd		0.9843						1.08		4506.728	0.2
2347/1279-TCDF	27.16		0.9926	0.9925	-0.2	1.25E+06	0.80	Y	1.08	4.86	4506.728	0.2
2348-TCDF	27.27		0.9968	0.9965	-0.5	6.06E+06	0.76	Y	1.08	23.7	4506.728	0.2
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**1.05E+08**	**0.79**	**Y**	**1.08**	**408**	**4506.728**	**0.2**
2367/3467-TCDF	27.74		1.0142	1.0139	-0.5	9.23E+06	0.78	Y	1.08	36	4506.728	0.2
1269-TCDF	28.00		1.0235	1.0231	-0.7	1.59E+06	0.76	Y	1.08	6.2	4506.728	0.2
1239-TCDF	NotFnd		1.0329						1.08		4506.728	0.2
1289-TCDF	29.41		1.0742	1.0749	+1.2	8.01E+06	0.80	Y	1.08	31.2	4506.728	0.2
13468/12468-PeCDF	29.36		0.9122	0.9128	+1.1	4.88E+06	1.54	Y	1.02	21.6	2631.549	0.106
13678/13467/12467-PeCDF	30.91	J	0.9606	0.9611	+0.9	5.29E+05	1.47	Y	1.02	2.34	5510.367	0.221
12368/13478/12478-PeCDF	31.07		0.9655	0.9660	+0.9	3.54E+06	1.50	Y	1.02	15.7	5510.367	0.221
14678-PeCDF	31.16	J	0.9685	0.9688	+0.6	2.05E+05	1.49	Y	1.02	0.907	5510.367	0.221
13479-PeCDF	NotFnd		0.9716						1.02		5510.367	0.221
13469/12479-PeCDF	31.48	J	0.9794	0.9786	-1.5	2.57E+05	1.54	Y	1.02	1.14	5510.367	0.221
12346-PeCDF	31.64	J EMPC	0.9836	0.9837	+0.2	9.73E+04	1.92	N	1.02	0.431	5510.367	0.221

Lab ID: B6208_18911_DF_004 **Acq'd: 20 Feb 2022 11:20 DTF** **Wt/Vol: 10.47 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-SW-B-20H **UTP: 21-Feb-2022 10:41:20 PSW** **J-level: 0.478 pg/g** **Split: 1** **Checkcode: 796-689-RBD**

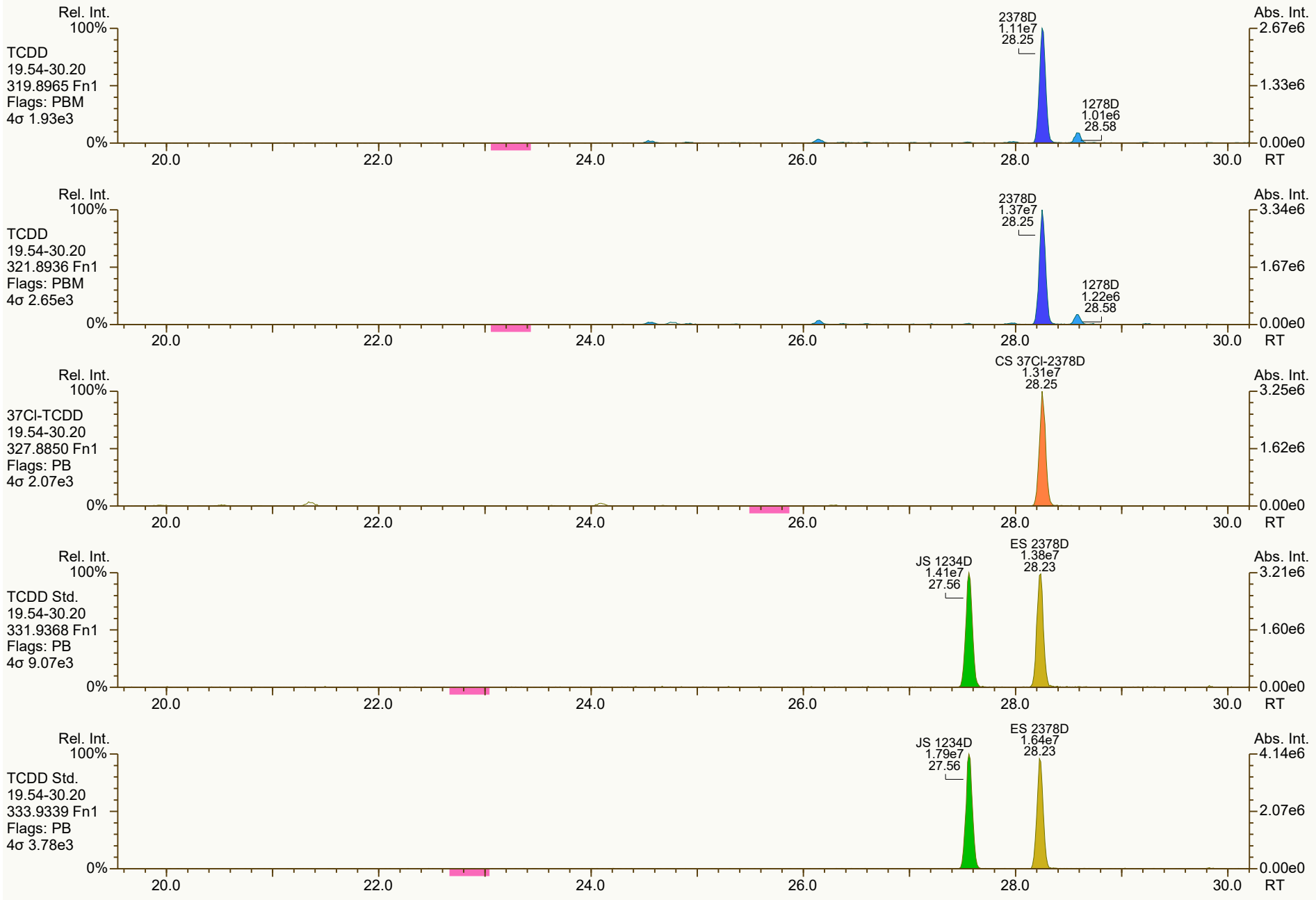
Datafile: 220219C24 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9866	0.9865	-0.2	9.02E+05	1.42	Y	1.02	4	5510.367	0.221
12347-PeCDF	31.81	J	0.9891	0.9888	-0.6	2.66E+05	1.64	Y	1.02	1.18	5510.367	0.221
12348-PeCDF	31.97		0.9938	0.9940	+0.4	5.46E+05	1.54	Y	1.02	2.42	5510.367	0.221
12378-PeCDF	**32.18**		**1.0005**	**1.0006**	**+0.2**	**2.21E+06**	**1.48**	**Y**	**1.02**	**9.61**	**5510.367**	**0.225**
12678/12367-PeCDF	32.48		1.0091	1.0098	+1.4	1.26E+06	1.60	Y	1.02	5.59	5510.367	0.221
12379-PeCDF	NotFnd		1.0144						1.02		5510.367	0.221
12679-PeCDF	NotFnd		0.9927						1.02		5510.367	0.221
23467/12369-PeCDF	33.18	J EMPC	0.9965	0.9966	+0.2	1.82E+05	1.21	N	1.02	0.806	5510.367	0.221
23478-PeCDF	**33.32**		**1.0005**	**1.0009**	**+0.8**	**2.90E+06**	**1.56**	**Y**	**1.02**	**13.1**	**5510.367**	**0.218**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5510.367	0.221
12349-PeCDF	NotFnd		1.0101						1.02		5510.367	0.221
12389-PeCDF	34.39	J	1.0330	1.0330	0	2.15E+05	1.34	Y	1.02	0.954	5510.367	0.221
123468-HxCDF	35.18		0.9622	0.9623	+0.2	1.49E+06	1.15	Y	1.19	7.01	7951.115	0.319
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	4.76E+06	1.22	Y	1.19	22.3	7951.115	0.319
134679-HxCDF	35.59	J	0.9741	0.9737	-0.9	8.44E+04	1.13	Y	1.19	0.396	7951.115	0.319
124679-HxCDF	35.81	J EMPC	0.9795	0.9795	0	2.11E+05	1.43	N	1.19	0.993	7951.115	0.319
124689-HxCDF	36.03		0.9856	0.9856	0	4.84E+06	1.24	Y	1.19	22.8	7951.115	0.319
123467-HxCDF	36.45	J	0.9972	0.9972	0	3.47E+05	1.09	Y	1.19	1.63	7951.115	0.319
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**3.23E+06**	**1.25**	**Y**	**1.27**	**15.3**	**7951.115**	**0.314**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**1.07E+06**	**1.23**	**Y**	**1.15**	**4.79**	**7951.115**	**0.295**
123479-HxCDF	NotFnd		1.0048						1.19		7951.115	0.319
123469-HxCDF	37.02	J	1.0089	1.0089	0	3.07E+05	1.40	Y	1.19	1.44	7951.115	0.319
123679-HxCDF	NotFnd		0.9942						1.19		7951.115	0.319
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**9.12E+05**	**1.17**	**Y**	**1.19**	**4.19**	**7951.115**	**0.322**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7951.115	0.319
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7951.115**	**0.351**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.40	J	1.0006	1.0012	+1.4	4.84E+05	1.38	Y	1.19	2.27	7951.115	0.319
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**1.84E+07**	**1.02**	**Y**	**1.37**	**88.9**	**3290.801**	**0.126**
1234679-HpCDF	40.05		1.0068	1.0069	+0.2	1.11E+06	1.05	Y	1.34	5.87	3290.801	0.146
1234689-HpCDF	40.20		1.0104	1.0105	+0.2	1.49E+07	1.03	Y	1.34	78.8	3290.801	0.146
1234789-HpCDF	**41.18**		**1.0003**	**1.0002**	**-0.2**	**1.85E+06**	**0.96**	**Y**	**1.31**	**10.7**	**3290.801**	**0.17**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**3.88E+08**	**0.89**	**Y**	**1.07**	**2,660**	**5817.497**	**0.479**
OCDF-a	43.60		1.0001	1.0002	+0.3	2.50E+07	2.42	Y	0.07	2,770	6203.2	8.25


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.91e6
3.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.21e6
3.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.23e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.52e7
7.60e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.26e7
6.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

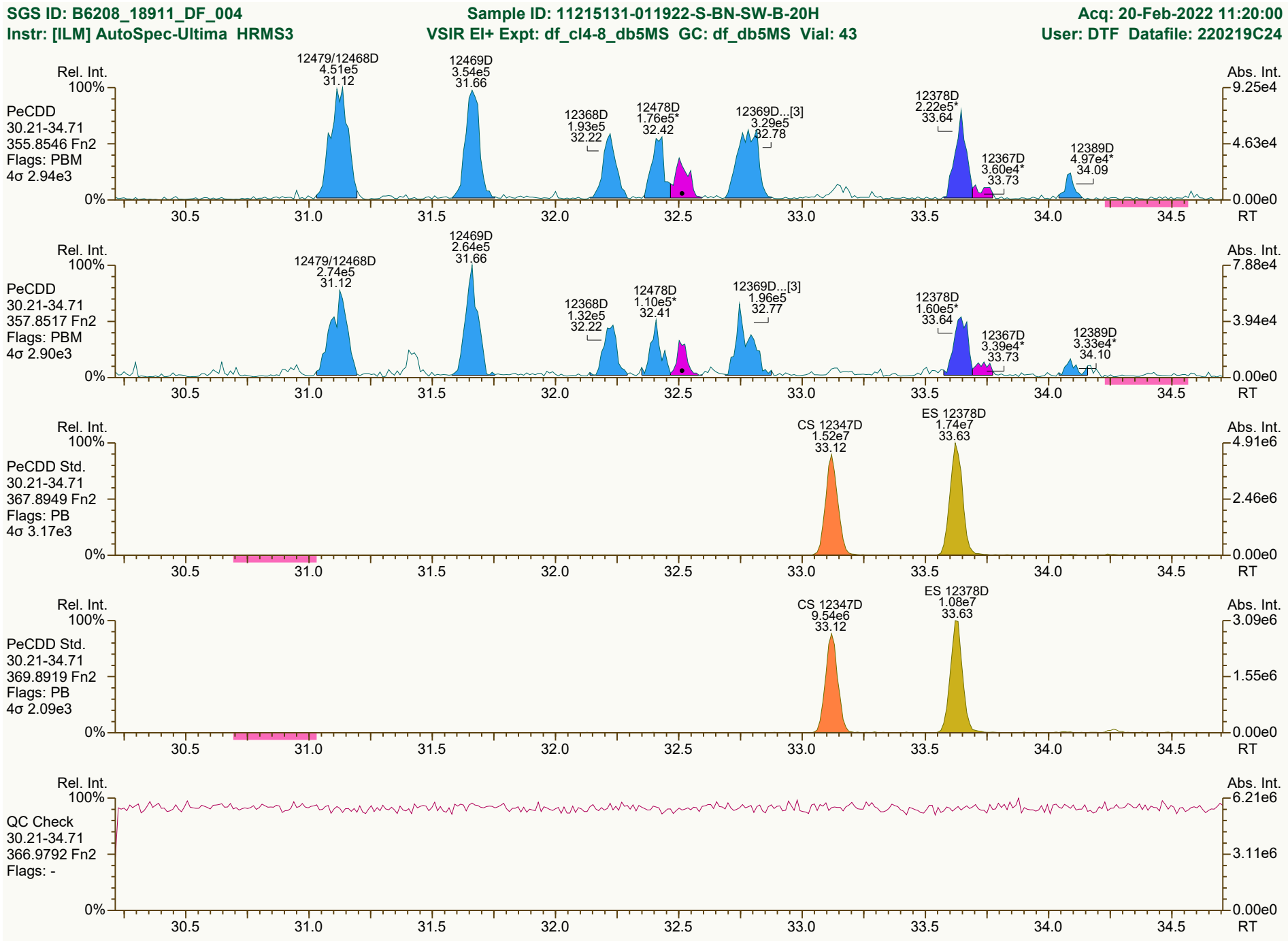
SGS ID: B6208_18911_DF_004 | Sample ID: 11215131-011922-S-BN-SW-B-20H | Acq: 20-Feb-2022 11:20:00

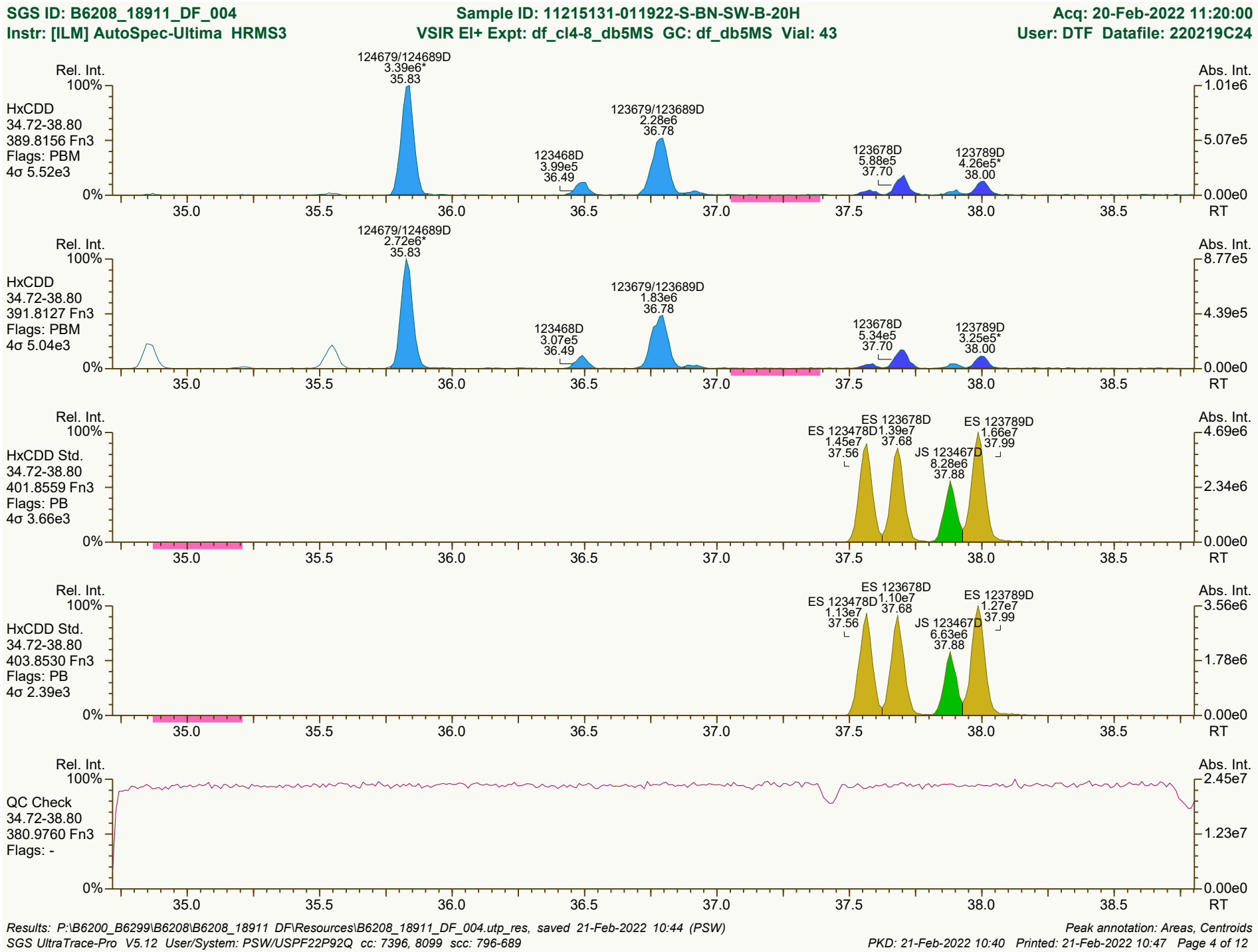
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43 | User: DTF Datafile: 220219C24

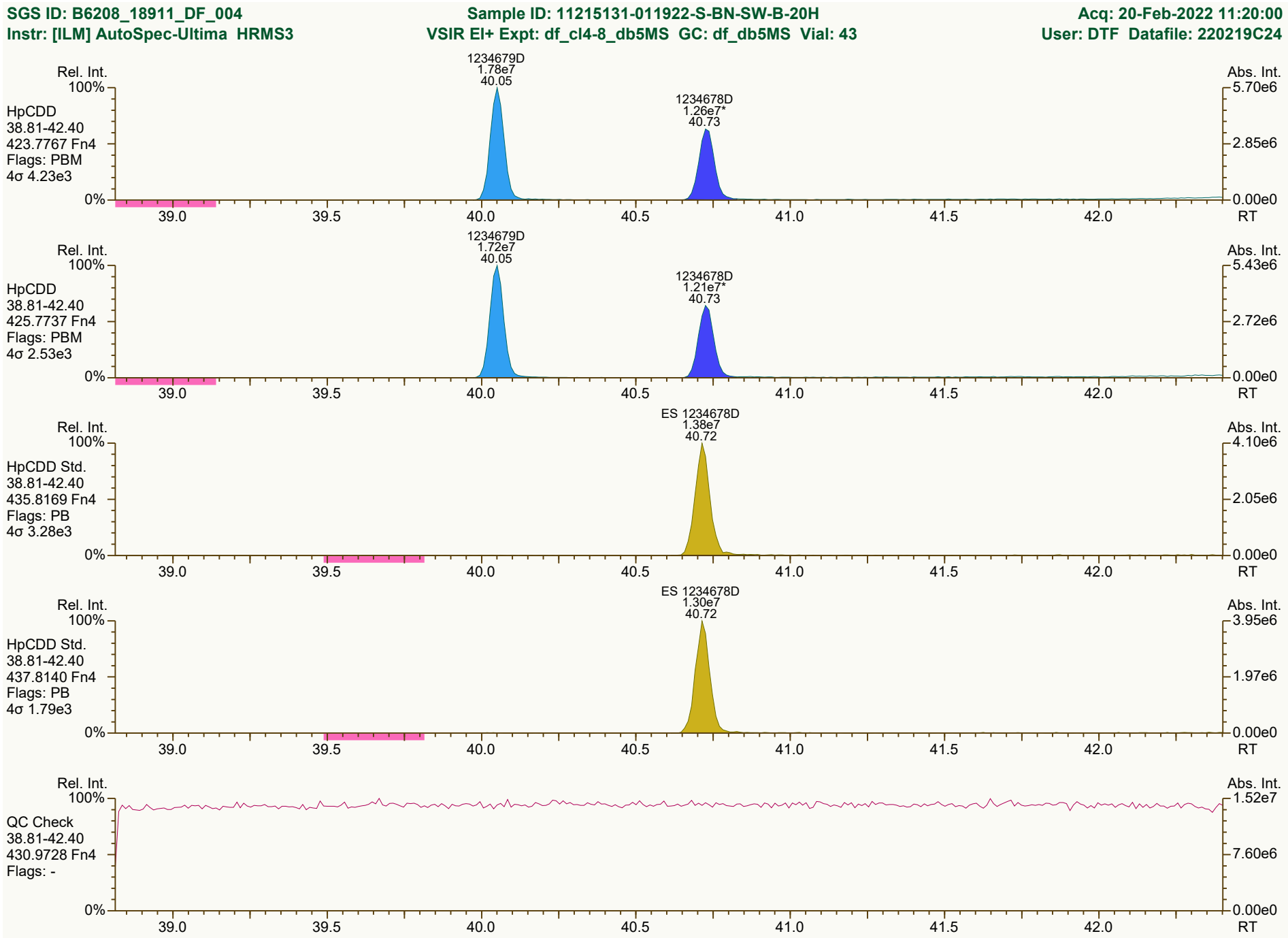


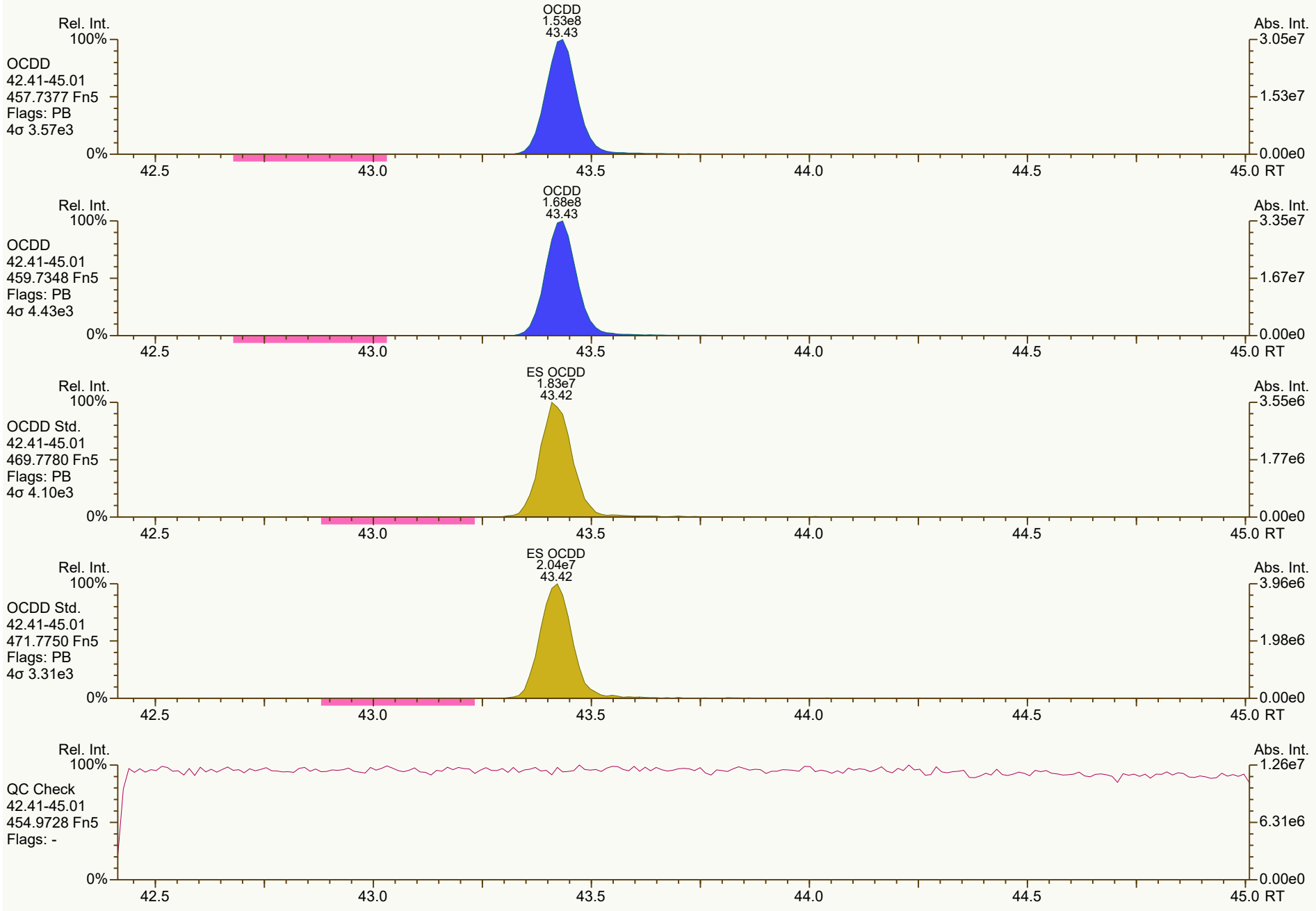
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4150, 1648, 2723 scc: 796-689 | *PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 2 of 12*


SGS ID: B6208_18911_DF_004
Sample ID: 11215131-011922-S-BN-SW-B-20H
Acq: 20-Feb-2022 11:20:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220219C24
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.94e3
12479/12468D 4.51e5 31.12
12469D 3.54e5 31.66
12368D 1.93e5 32.22
12478D 1.76e5* 32.42
12369D...[3] 3.29e5 32.78
12378D 2.22e5* 33.64
12367D 3.60e4* 33.73
12389D 4.97e4* 34.09
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.90e3
12479/12468D 2.74e5 31.12
12469D 2.64e5 31.66
12368D 1.32e5 32.22
12478D 1.10e5* 32.41
12369D...[3] 1.96e5 32.77
12378D 1.60e5* 33.64
12367D 3.39e4* 33.73
12389D 3.33e4* 34.10
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.17e3
CS 12347D 1.52e7 33.12
ES 12378D 1.74e7 33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.09e3
CS 12347D 9.54e6 33.12
ES 12378D 1.08e7 33.63
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0521, 7593 scc: 796-689
PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 3 of 12


SGS ID: B6208_18911_DF_004
Sample ID: 11215131-011922-S-BN-SW-B-20H
Acq: 20-Feb-2022 11:20:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220219C24
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 5.52e3
124679/124689D
3.39e6*
35.83
123679/123689D
2.28e6
36.78
123468D
3.99e5
36.49
123678D
5.88e5
37.70
123789D
4.26e5*
38.00
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 5.04e3
124679/124689D
2.72e6*
35.83
123679/123689D
1.83e6
36.78
123468D
3.07e5
36.49
123678D
5.34e5
37.70
123789D
3.25e5*
38.00
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.66e3
ES 123478D
1.45e7
37.56
ES 123678D
1.39e7
37.68
JS 123467D
8.28e6
37.88
ES 123789D
1.66e7
37.99
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.39e3
ES 123478D
1.13e7
37.56
ES 123678D
1.10e7
37.68
JS 123467D
6.63e6
37.88
ES 123789D
1.27e7
37.99
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7396, 8099 scc: 796-689
PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 4 of 12


SGS ID: B6208_18911_DF_004
Sample ID: 11215131-011922-S-BN-SW-B-20H
Acq: 20-Feb-2022 11:20:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220219C24
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 4.23e3
1234679D
1.78e7
40.05
1234678D
1.26e7*
40.73
5.70e6
2.85e6
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.53e3
1234679D
1.72e7
40.05
1234678D
1.21e7*
40.73
5.43e6
2.72e6
0.00e0
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.28e3
ES 1234678D
1.38e7
40.72
4.10e6
2.05e6
0.00e0
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.79e3
ES 1234678D
1.30e7
40.72
3.95e6
1.97e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.52e7
7.60e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3144, 3975 scc: 796-689
PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 5 of 12


OCDD
1.53e8
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.57e3
0%
Abs. Int.
3.05e7
1.53e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.68e8
43.43
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 4.43e3
3.35e7
1.67e7
ES OCDD
1.83e7
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 4.10e3
3.55e6
1.77e6
ES OCDD
2.04e7
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 3.31e3
3.96e6
1.98e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.26e7
6.31e6

SGS ID: B6208_18911_DF_004 | Sample ID: 11215131-011922-S-BN-SW-B-20H | Acq: 20-Feb-2022 11:20:00

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43 | User: DTF Datafile: 220219C24



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7568, 8516, 9840 scc: 796-689 | *PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 7 of 12*

SGS ID: B6208_18911_DF_004
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-011922-S-BN-SW-B-20H
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43

Acq: 20-Feb-2022 11:20:00
User: DTF Datafile: 220219C24

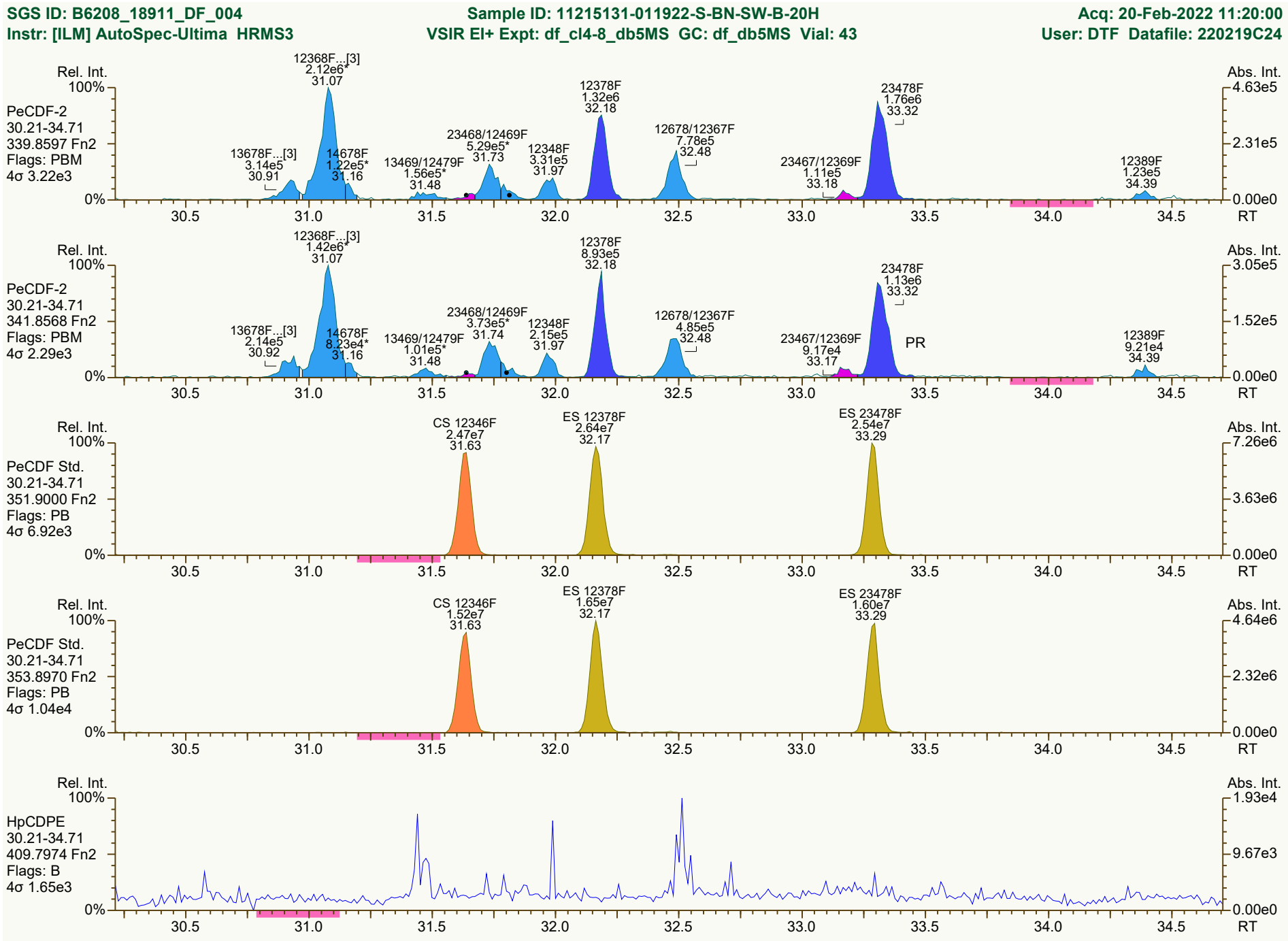


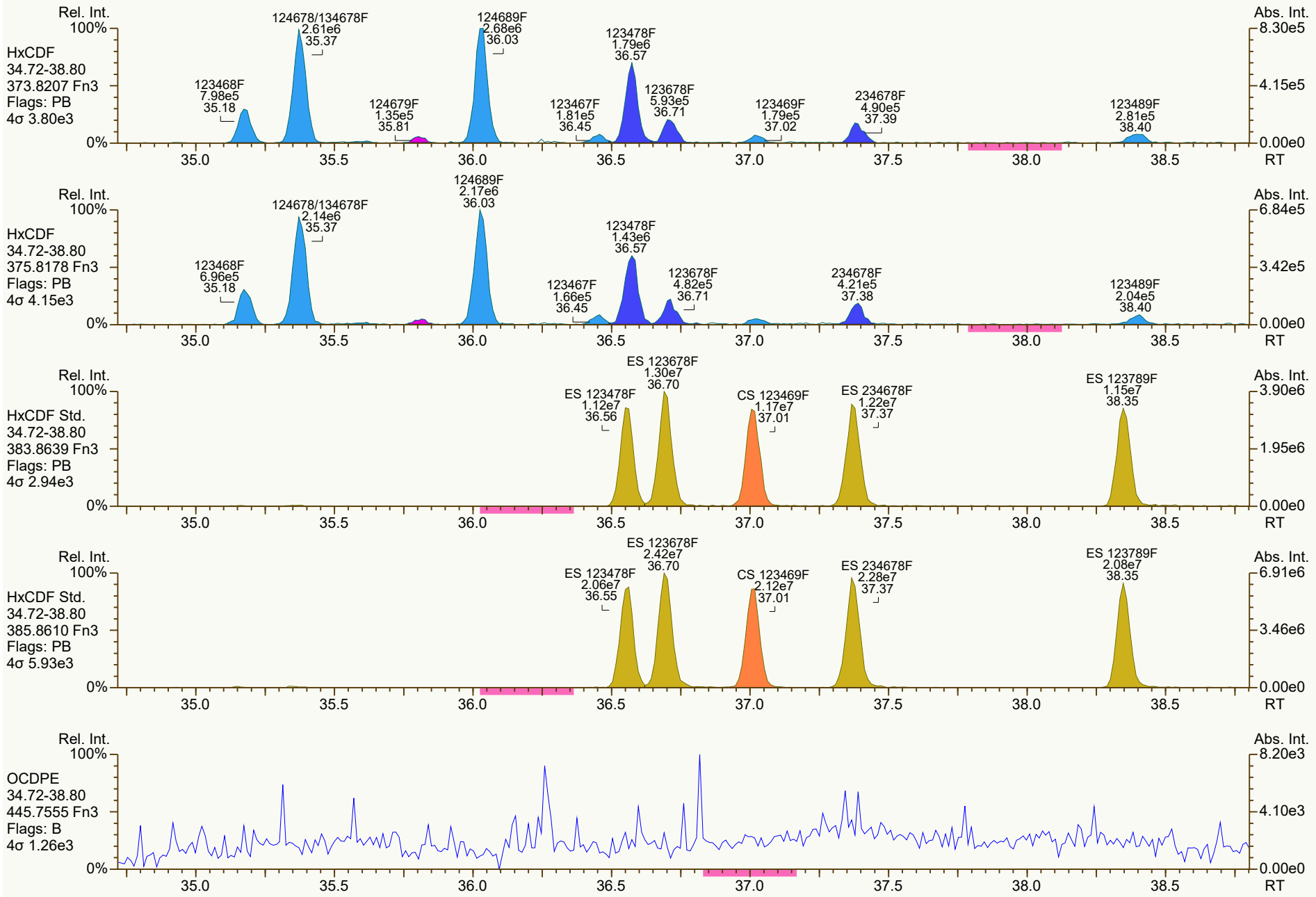
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW)

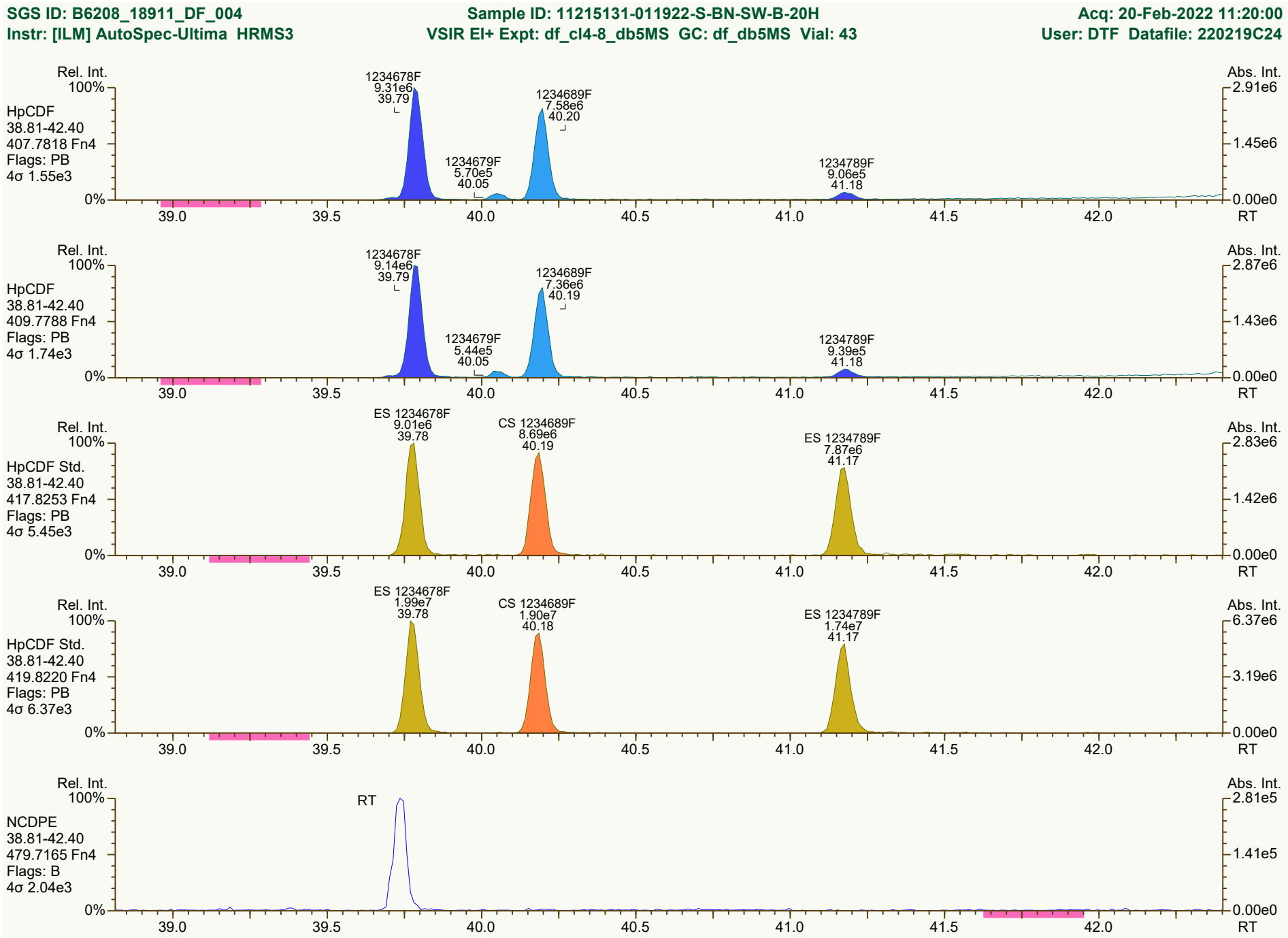
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6487 scc: 796-689

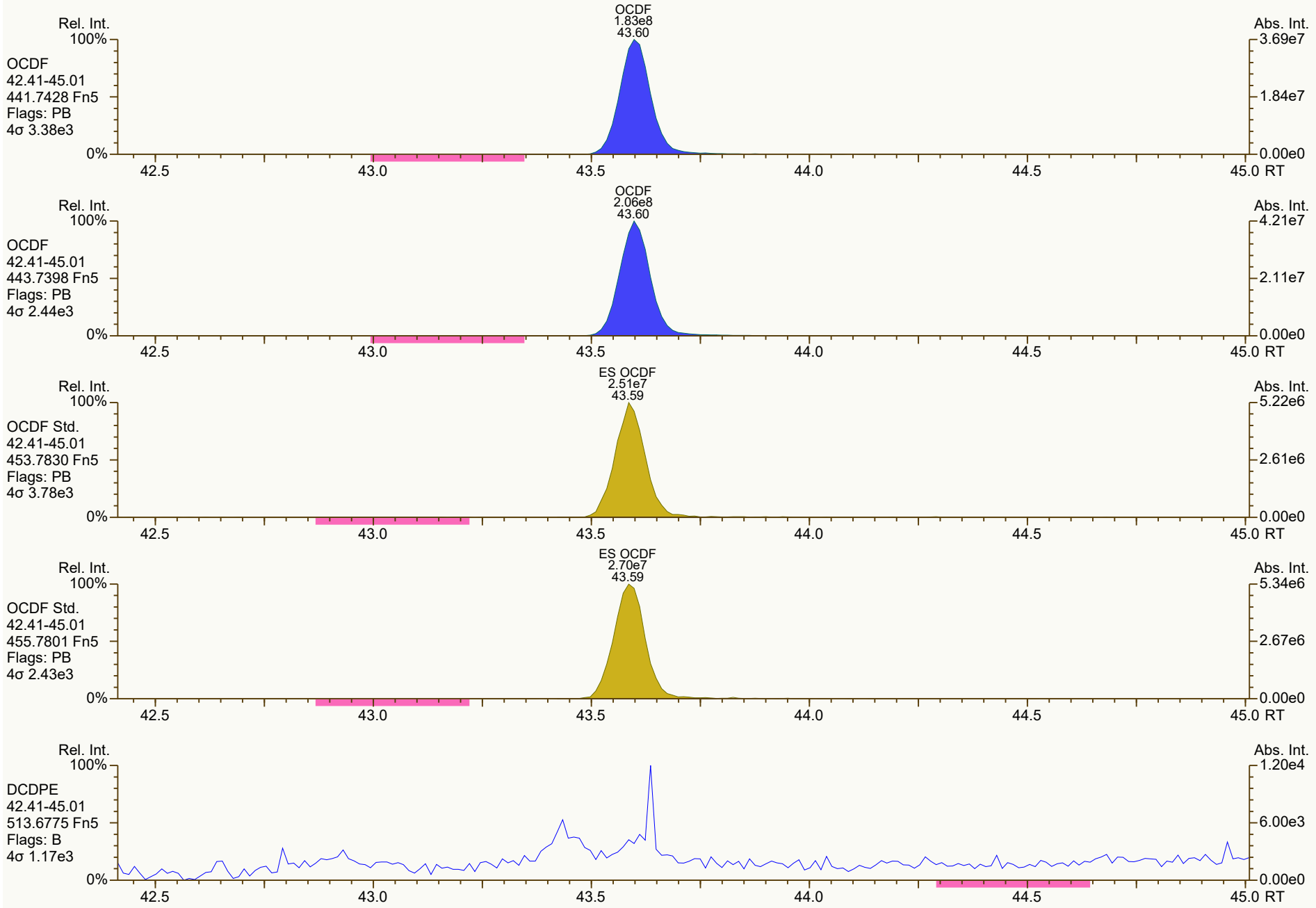
PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 8 of 12


SGS ID: B6208_18911_DF_004
Sample ID: 11215131-011922-S-BN-SW-B-20H
Acq: 20-Feb-2022 11:20:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 43
User: DTF Datafile: 220219C24
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 3.22e3
12368F...[3] 2.12e6* 31.07
13678F...[3] 3.14e5 30.91
14678F 1.22e5* 31.16
13469/12479F 1.56e5* 31.48
23468/12469F 5.29e5* 31.73
12348F 3.31e5 31.97
12378F 1.32e6 32.18
12678/12367F 7.78e5 32.48
23467/12369F 1.11e5 33.18
23478F 1.76e6 33.32
12389F 1.23e5 34.39
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.29e3
12368F...[3] 1.42e6* 31.07
13678F...[3] 2.14e5 30.92
14678F 8.23e4* 31.16
13469/12479F 1.01e5* 31.48
23468/12469F 3.73e5* 31.74
12348F 2.15e5 31.97
12378F 8.93e5 32.18
12678/12367F 4.85e5 32.48
23467/12369F 9.17e4 33.17
23478F 1.13e6 33.32
PR
12389F 9.21e4 34.39
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 6.92e3
CS 12346F 2.47e7 31.63
ES 12378F 2.64e7 32.17
ES 23478F 2.54e7 33.29
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.04e4
CS 12346F 1.52e7 31.63
ES 12378F 1.65e7 32.17
ES 23478F 1.60e7 33.29
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.65e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7556, 2801, 1291 scc: 796-689
PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 9 of 12


Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 3.80e3
123468F 7.98e5 35.18
124678/134678F 2.61e6 35.37
124679F 1.35e5 35.81
124689F 2.68e6 36.03
123467F 1.81e5 36.45
123478F 1.79e6 36.57
123678F 5.93e5 36.71
123469F 1.79e5 37.02
234678F 4.90e5 37.39
123489F 2.81e5 38.40
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 4.15e3
123468F 6.96e5 35.18
124678/134678F 2.14e6 35.37
124689F 2.17e6 36.03
123467F 1.66e5 36.45
123478F 1.43e6 36.57
123678F 4.82e5 36.71
234678F 4.21e5 37.38
123489F 2.04e5 38.40
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.94e3
ES 123478F 1.12e7 36.56
ES 123678F 1.30e7 36.70
CS 123469F 1.17e7 37.01
ES 234678F 1.22e7 37.37
ES 123789F 1.15e7 38.35
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 5.93e3
ES 123478F 2.06e7 36.55
ES 123678F 2.42e7 36.70
CS 123469F 2.12e7 37.01
ES 234678F 2.28e7 37.37
ES 123789F 2.08e7 38.35
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.26e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
8.30e5
4.15e5
0.00e0
6.84e5
3.42e5
3.90e6
1.95e6
6.91e6
3.46e6
8.20e3
4.10e3



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\B6208_18911_DF_004.utp_res, saved 21-Feb-2022 10:44 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6663, 1432, 0881 scc: 796-689
PKD: 21-Feb-2022 10:40 Printed: 21-Feb-2022 10:47 Page 11 of 12


OCDF
1.83e8
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 3.38e3
0%
Abs. Int.
3.69e7
1.84e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.06e8
43.60
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.44e3
4.21e7
2.11e7
ES OCDF
2.51e7
43.59
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.78e3
5.22e6
2.61e6
ES OCDF
2.70e7
43.59
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.43e3
5.34e6
2.67e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.17e3
1.20e4
6.00e3

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220219C01	3	CS3_220219_DF_CA ✓	1.00	25-347-1	DTF, PSW	910-087	19-Feb-2022	17:17:59
1	220219C02	26	OPR1_18911_DF	1.00	0_18911_OPR001	DTF, PSW	320-676	19-Feb-2022	18:04:19
2	220219C03	2	SBS_220219_DF_CA	1.00	20-61-1	DTF	501-491	19-Feb-2022	18:50:40
4	220219C04	25	MB1_18911_DF_SDS	10.00	Method Blank	DTF, PSW	399-492	19-Feb-2022	19:37:00
16	220219C16	3	CS3_220219_DF_CB	1.00	25-347-1	DTF, PSW	111-739	20-Feb-2022	05:01:11
17	220219C17	27	OPR2_18911_DF	1.00	0_18911_OPR002	DTF, PSW	488-895	20-Feb-2022	05:55:34
18	220219C18	2	SBS_220219_DF_CC	1.00	20-61-1	DTF	590-722	20-Feb-2022	06:41:55
19	220219C21	40	B6208_18911_DF_001	10.16	11215131-011922-S-BN-SW-B-23H	DTF, PSW	762-298	20-Feb-2022	09:00:58
20	220219C22	41	B6208_18911_DF_002	10.34	11215131-011922-S-BN-SW-B-21H1	DTF, PSW	898-213	20-Feb-2022	09:47:17
21	220219C23	42	B6208_18911_DF_003	10.24	11215131-011922-S-BN-SW-B-21H2	DTF, PSW	264-997	20-Feb-2022	10:33:38
22	220219C24	43	B6208_18911_DF_004 ✓	10.47	11215131-011922-S-BN-SW-B-20H	DTF, PSW	796-689	20-Feb-2022	11:20:00

REVIEWED
paul_walton , 2/21/2022, 10:53:59 AM

REVIEWED
Amber_Kornegay , 2/22/2022, 11:16:27 AM

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 10:41:15 PSW	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 10:41 pw	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.26	4.72E+06	0.82	Y	1.18	1.22	3%
12378-PeCDD	33.64	1.81E+07	1.55	Y	1.04	1.03	0%
123478-HxCDD	37.57	1.64E+07	1.25	Y	1.09	1.11	2%
123678-HxCDD	37.69	1.71E+07	1.27	Y	1.15	1.15	1%
123789-HxCDD	38.00	1.80E+07	1.23	Y	1.05	1.03	-2%
1234678-HpCDD	40.72	1.61E+07	1.04	Y	1.06	1.07	1%
OCDD	43.42	2.64E+07	0.91	Y	1.13	1.10	-2%
2378-TCDF	27.39	6.75E+06	0.78	Y	1.08	1.12	4%
12378-PeCDF	32.18	2.71E+07	1.55	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.62E+07	1.50	Y	1.02	0.98	-3%
123478-HxCDF	36.57	2.44E+07	1.23	Y	1.27	1.23	-3%
123678-HxCDF	36.71	2.56E+07	1.23	Y	1.15	1.13	-2%
234678-HxCDF	37.39	2.43E+07	1.25	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.22E+07	1.26	Y	1.16	1.11	-5%
1234678-HpCDF	39.78	2.21E+07	1.06	Y	1.37	1.37	0%
1234789-HpCDF	41.17	1.96E+07	1.01	Y	1.31	1.30	0%
OCDF	43.59	3.40E+07	0.93	Y	1.07	1.05	-2%
ES 2378-TCDD	28.23	3.87E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.623	3.49E+07	1.62	Y	0.88	0.91	4%
ES 123478-HxCDD	37.554	2.95E+07	1.26	Y	0.97	0.98	1%
ES 123678-HxCDD	37.673	2.96E+07	1.28	Y	0.94	0.98	4%
ES 123789-HxCDD	37.979	3.50E+07	1.25	Y	1.09	1.16	6%
ES 1234678-HpCDD	40.706	3.01E+07	1.10	Y	0.91	1.00	10%
ES OCDD	43.406	4.79E+07	0.89	Y	0.62	0.80	28%
ES 2378-TCDF	27.366	6.03E+07	0.80	Y	1.06	1.01	-5%
ES 12378-PeCDF	32.162	5.31E+07	1.64	Y	0.91	0.89	-2%
ES 23478-PeCDF	33.285	5.33E+07	1.61	Y	0.88	0.89	1%
ES 123478-HxCDF	36.549	3.97E+07	0.54	Y	1.20	1.32	10%
ES 123678-HxCDF	36.689	4.53E+07	0.54	Y	1.35	1.51	11%
ES 234678-HxCDF	37.366	4.22E+07	0.55	Y	1.24	1.40	13%
ES 123789-HxCDF	38.343	4.00E+07	0.54	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.764	3.22E+07	0.46	Y	0.97	1.07	11%
ES 1234789-HpCDF	41.161	3.02E+07	0.47	Y	0.85	1.00	18%
ES OCDF	43.579	6.45E+07	0.91	Y	0.81	1.07	33%*

*OK-Meets M1613B criteria.
AK 22 Feb 22

Dioxin/Furan QC Summary	Acq'd: 19 Feb 2022 17:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CA	UTP: 21-Feb-2022 10:41:15 PSW	Checkcode: 910-087-PNP
Sample ID: 25-347-1	Report: 21 Feb 2022 10:41 pw	Datafile: 220219C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.57	3.82E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.99	5.98E+07	0.83	Y	-	-	-
JS 123467-HxCDD	37.87	1.50E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.26	5.16E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.12	3.13E+07	1.61	Y	0.75	0.82	8%
CS 12346-PeCDF	31.63	5.27E+07	1.55	Y	0.85	0.88	4%
CS 123469-HxCDF	37.00	4.17E+07	0.54	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.17	3.39E+07	0.48	Y	0.89	1.13	27%
~~SS 37Cl-2378-TCDD~~	~~28.26~~	~~5.16E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.33~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.12~~	~~3.13E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.27E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.17E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.92~~	~~11%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.39E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~1.05~~	~~14%~~
~~OCDD-a~~	~~43.42~~	~~1.55E+06~~	~~2.64~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~
~~OCDF-a~~	~~43.59~~	~~2.17E+06~~	~~2.56~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	49.9	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	49	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.3	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.8	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.4	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	49.7	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	48.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	49	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	50.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 10:41 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

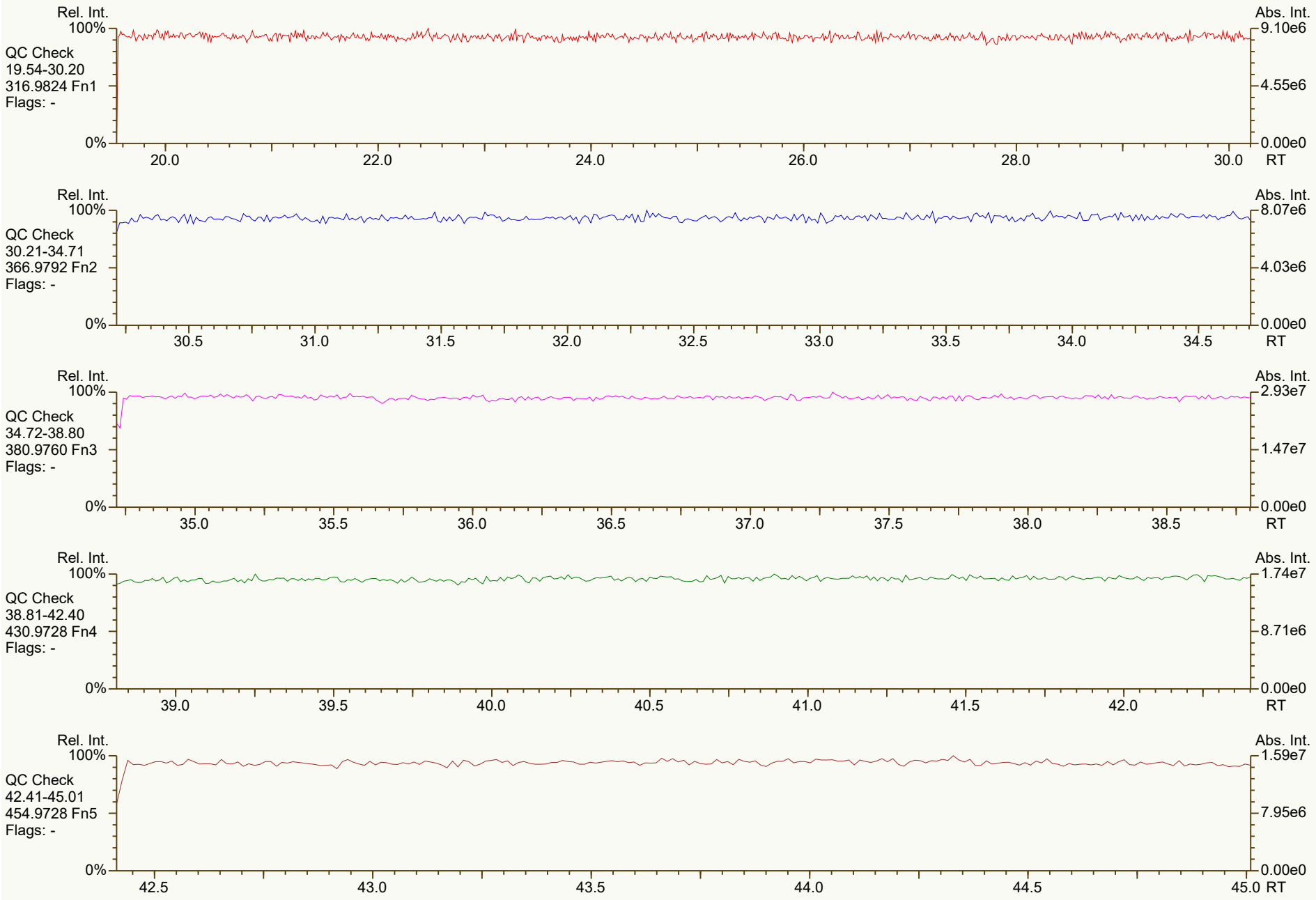
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

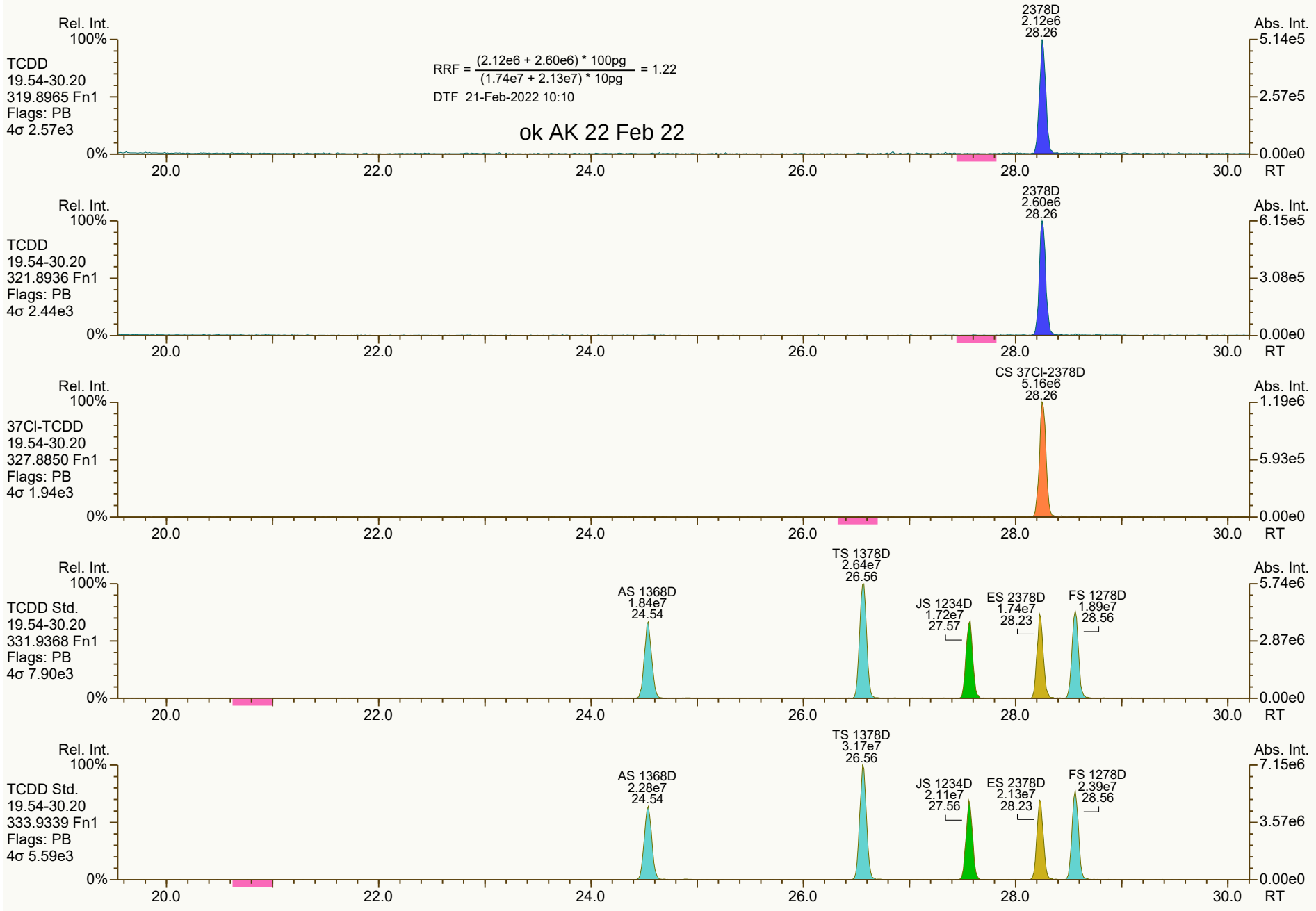
Instrument ID: HRMS3 GC Column ID: ZB-5ms

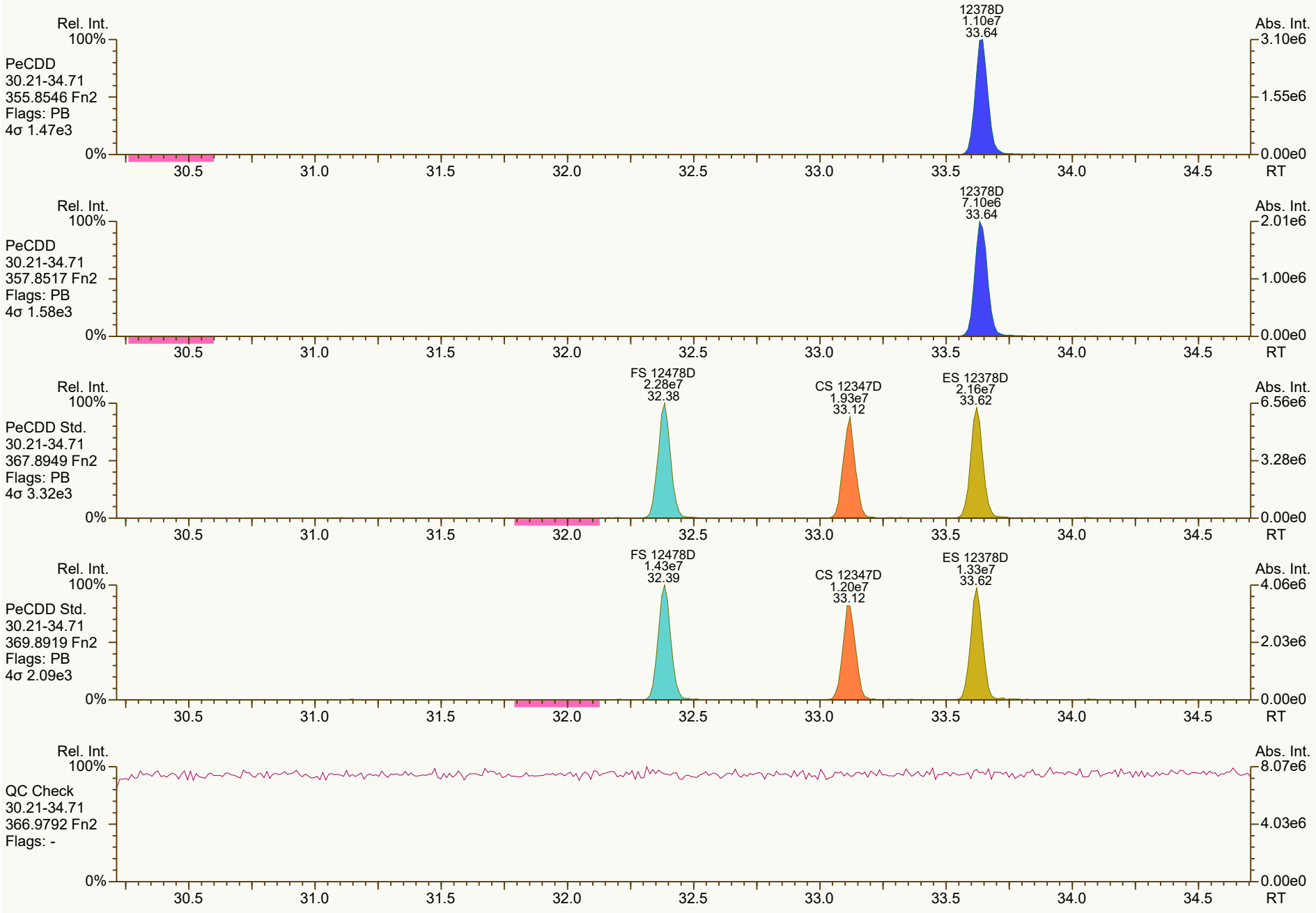
VER Data Filename: 220219C01 Analysis Date: 19-FEB-2022 17:17:59

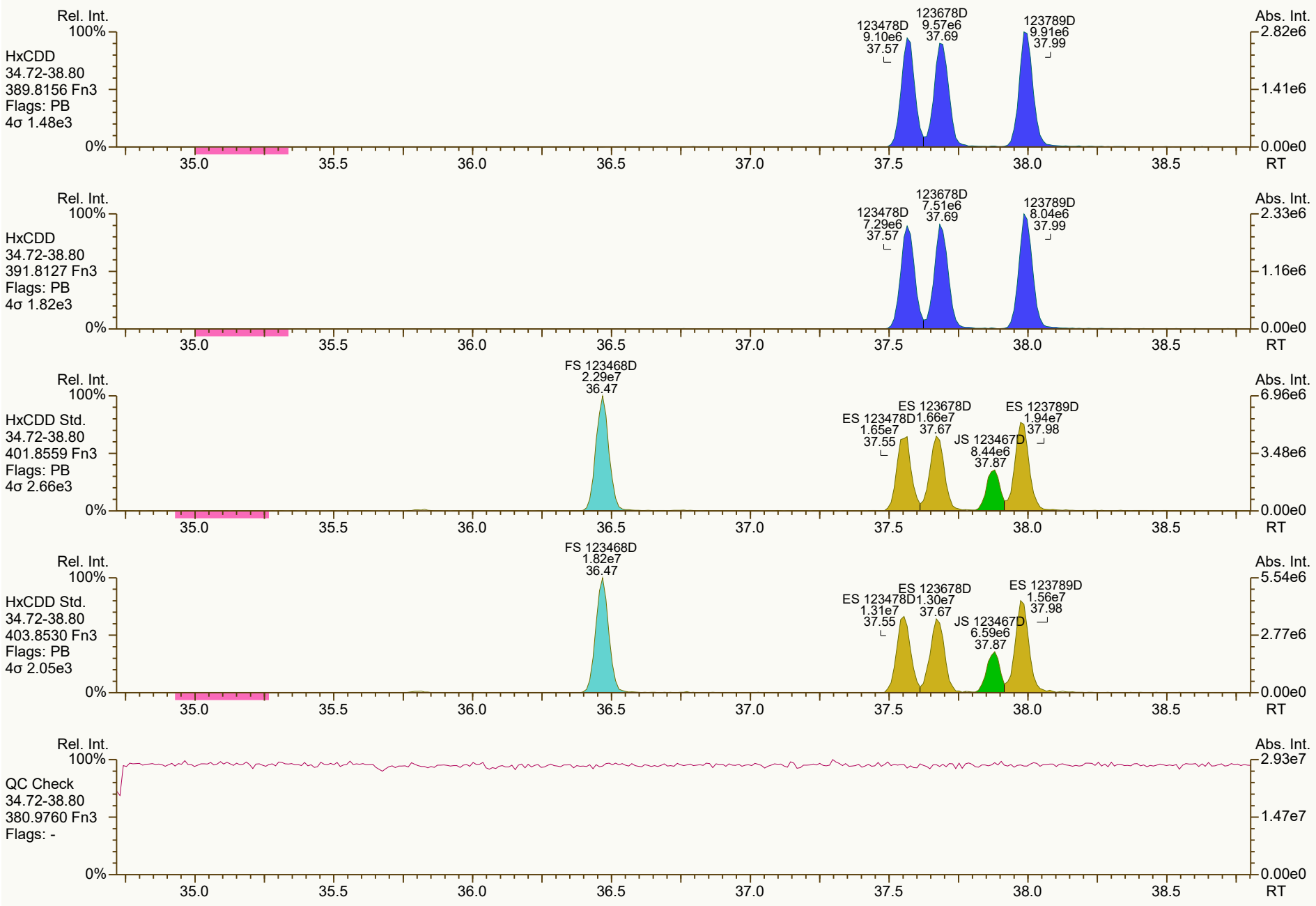
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	96.7	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32 - 1.78	Y	104	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	101	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	104	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	106	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88 - 1.20	Y	110	72 - 138	Y
13C-OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	255	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	95.2	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32 - 1.78	Y	97.6	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32 - 1.78	Y	101	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	110	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	111	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	113	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	115	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	111	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	118	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	266	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.2	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	108	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	104	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	124	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37 - 0.51	Y	127	70 - 130	Y

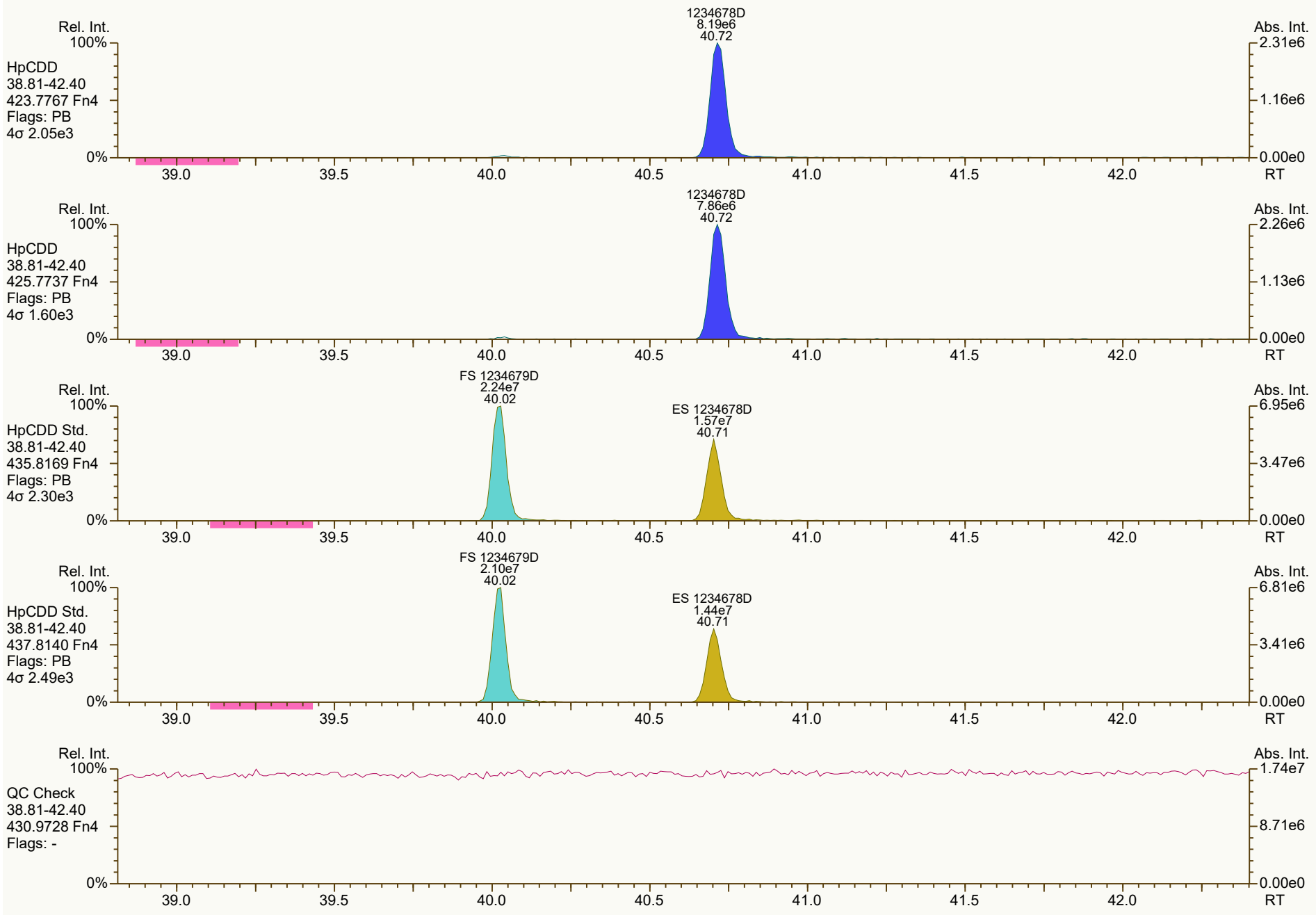
Processed: 21 Feb 2022 10:41 Analyst: pw

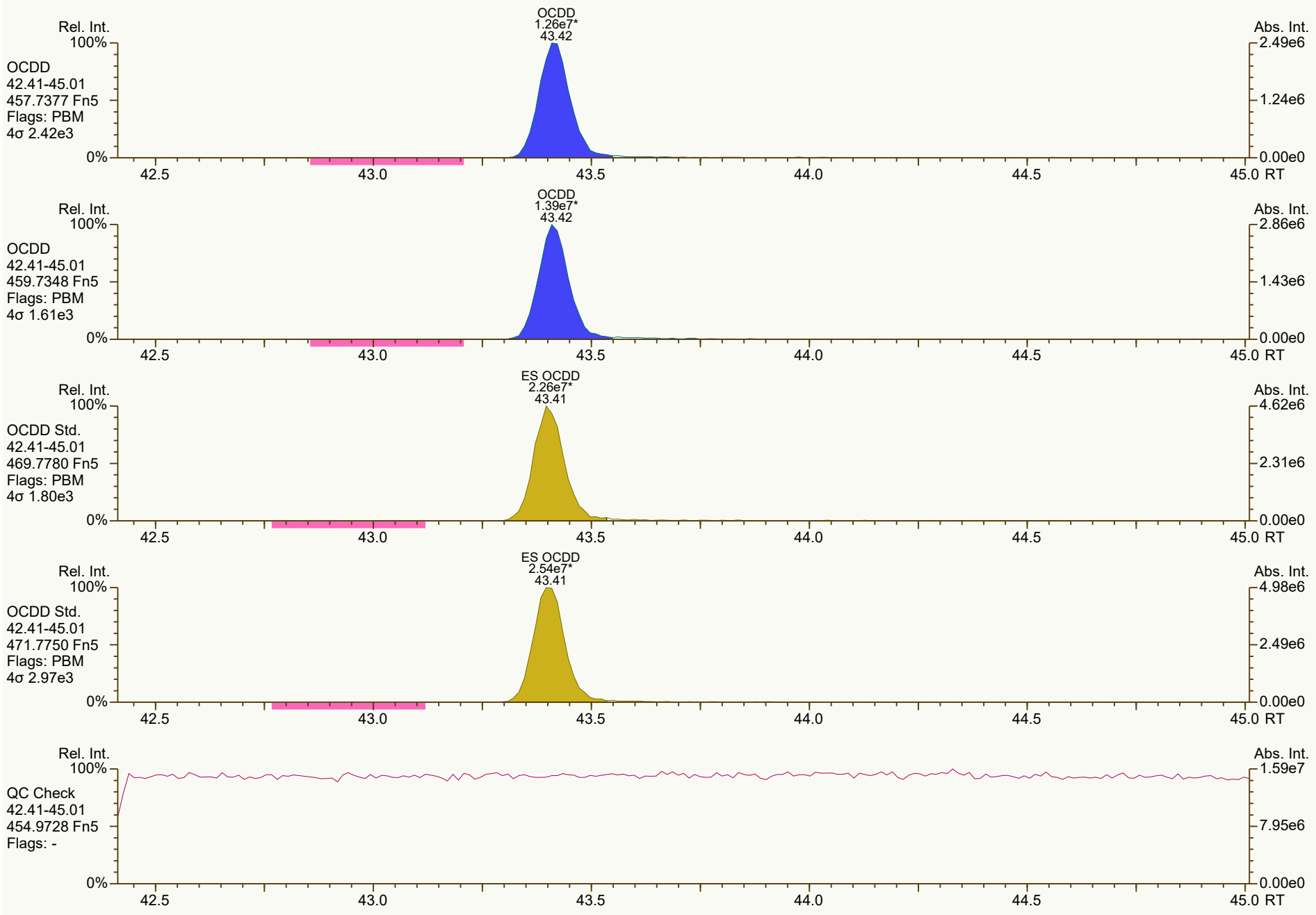

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
9.10e6
4.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
8.07e6
4.03e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.93e7
1.47e7
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.74e7
8.71e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.59e7
7.95e6
42.5
43.0
43.5
44.0
44.5
45.0

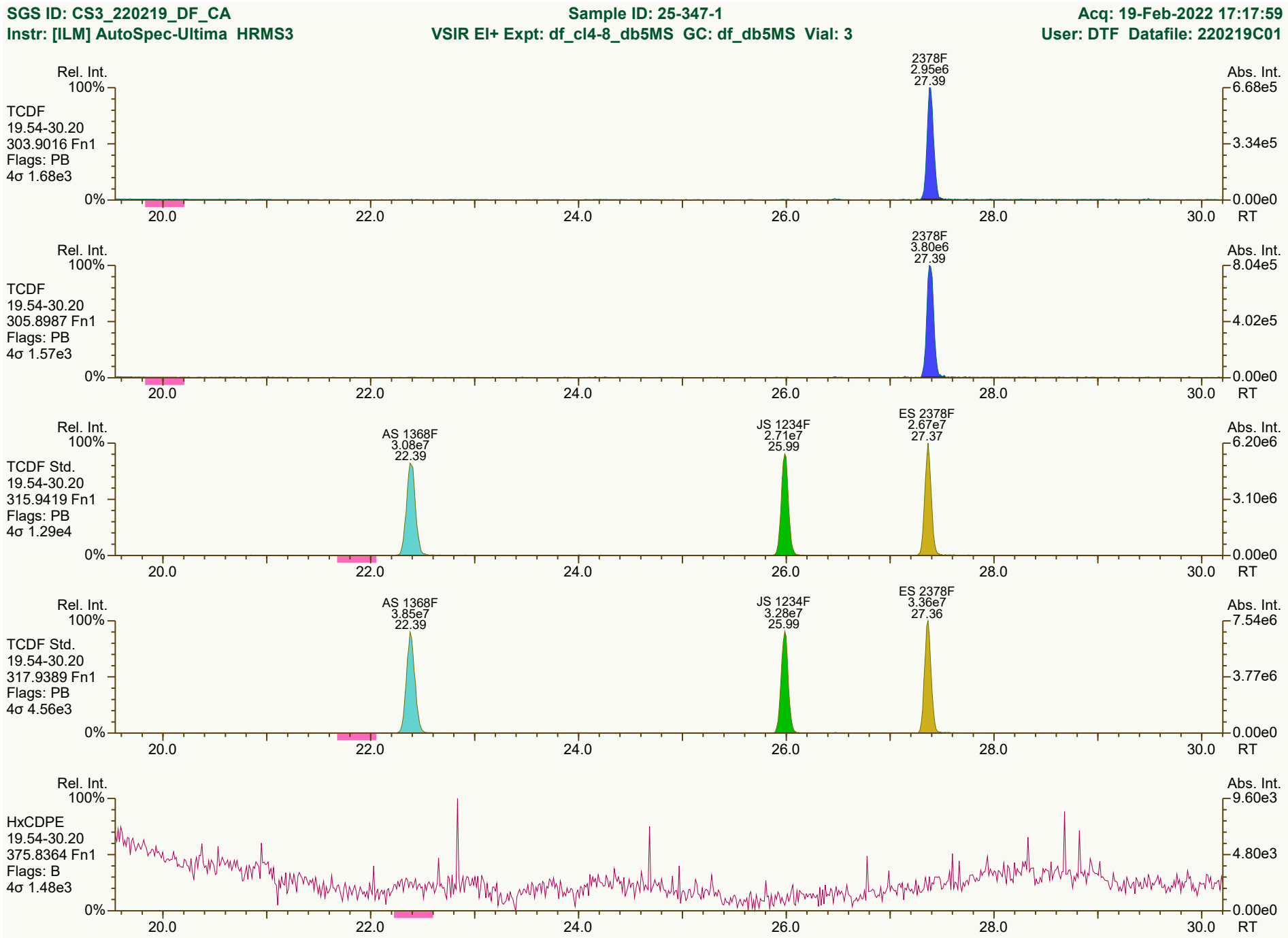

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
RRF = (2.12e6 + 2.60e6) * 100pg / (1.74e7 + 2.13e7) * 10pg = 1.22
DTF 21-Feb-2022 10:10
ok AK 22 Feb 22
2378D
2.12e6
28.26
Abs. Int.
5.14e5
2.57e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.44e3
2378D
2.60e6
28.26
6.15e5
3.08e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.94e3
CS 37Cl-2378D
5.16e6
28.26
1.19e6
5.93e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.90e3
AS 1368D
1.84e7
24.54
TS 1378D
2.64e7
26.56
JS 1234D
1.72e7
27.57
ES 2378D
1.74e7
28.23
FS 1278D
1.89e7
28.56
5.74e6
2.87e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.28e7
24.54
TS 1378D
3.17e7
26.56
JS 1234D
2.11e7
27.56
ES 2378D
2.13e7
28.23
FS 1278D
2.39e7
28.56
7.15e6
3.57e6


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.47e3
0%
12378D
1.10e7
33.64
Abs. Int.
3.10e6
1.55e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.58e3
0%
12378D
7.10e6
33.64
Abs. Int.
2.01e6
1.00e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.32e3
0%
FS 12478D
2.28e7
32.38
CS 12347D
1.93e7
33.12
ES 12378D
2.16e7
33.62
Abs. Int.
6.56e6
3.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.09e3
0%
FS 12478D
1.43e7
32.39
CS 12347D
1.20e7
33.12
ES 12378D
1.33e7
33.62
Abs. Int.
4.06e6
2.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.07e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

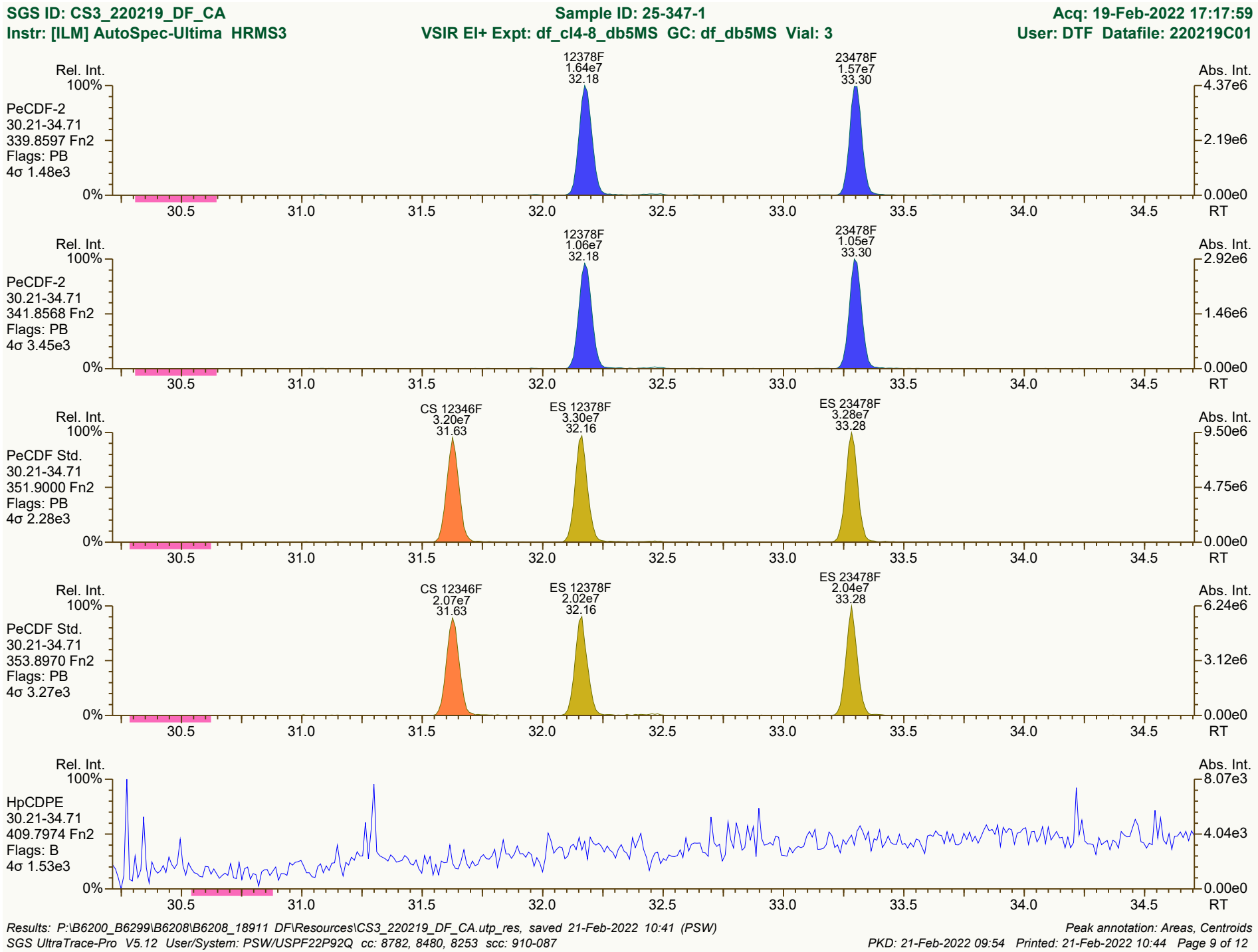

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.48e3
123478D
9.10e6
37.57
123678D
9.57e6
37.69
123789D
9.91e6
37.99
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.82e3
123478D
7.29e6
37.57
123678D
7.51e6
37.69
123789D
8.04e6
37.99
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.66e3
FS 123468D
2.29e7
36.47
ES 123478D
1.65e7
37.55
ES 123678D
1.66e7
37.67
JS 123467D
8.44e6
37.87
ES 123789D
1.94e7
37.98
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.05e3
FS 123468D
1.82e7
36.47
ES 123478D
1.31e7
37.55
ES 123678D
1.30e7
37.67
JS 123467D
6.59e6
37.87
ES 123789D
1.56e7
37.98
Abs. Int.
5.54e6
2.77e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.93e7
1.47e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

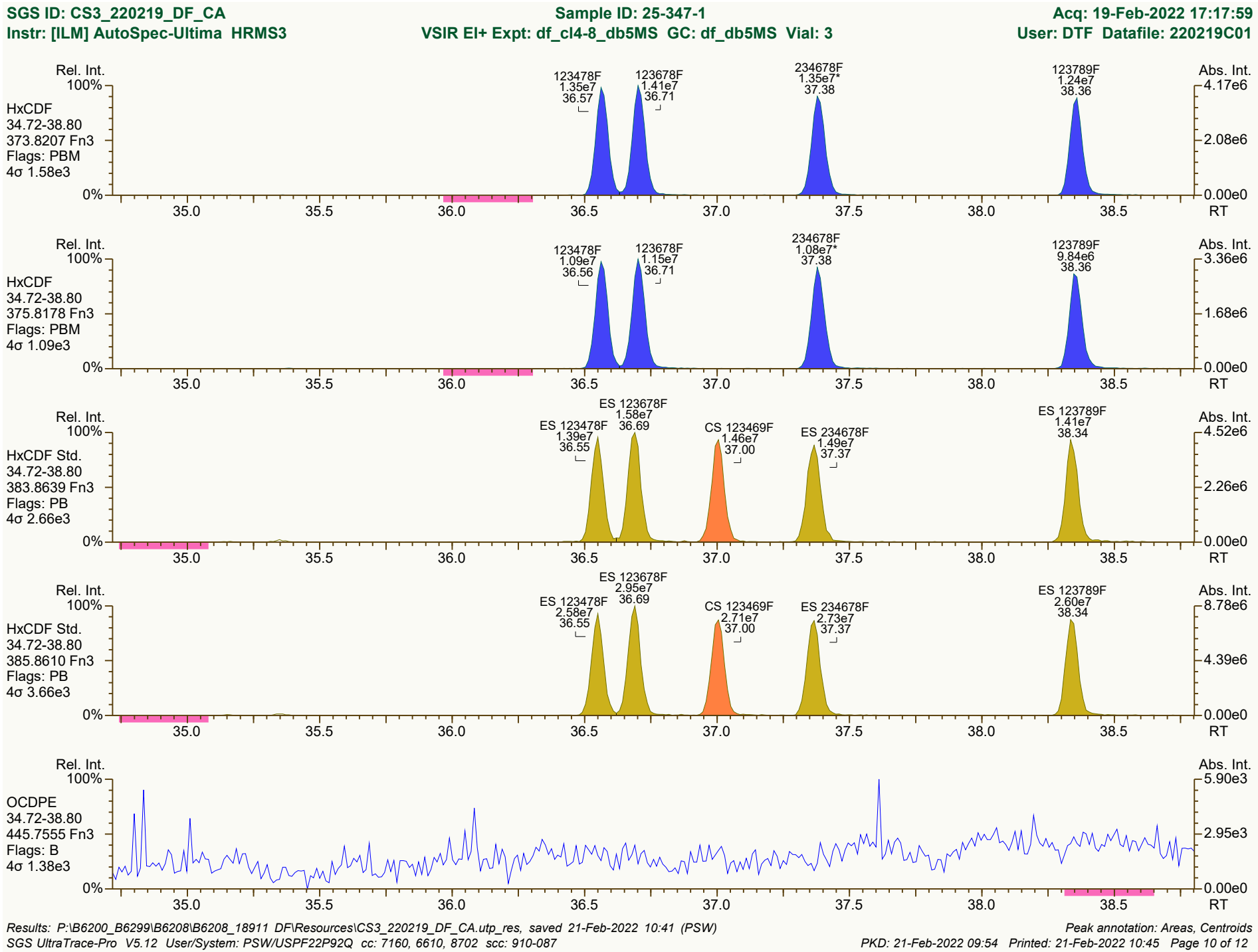

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.05e3
1234678D
8.19e6
40.72
Abs. Int.
2.31e6
1.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.60e3
1234678D
7.86e6
40.72
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
2.24e7
40.02
ES 1234678D
1.57e7
40.71
Abs. Int.
6.95e6
3.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.49e3
FS 1234679D
2.10e7
40.02
ES 1234678D
1.44e7
40.71
Abs. Int.
6.81e6
3.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.74e7
8.71e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.26e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
2.49e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.39e7*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.61e3
2.86e6
1.43e6
ES OCDD
2.26e7*
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.80e3
4.62e6
2.31e6
ES OCDD
2.54e7*
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.97e3
4.98e6
2.49e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.59e7
7.95e6

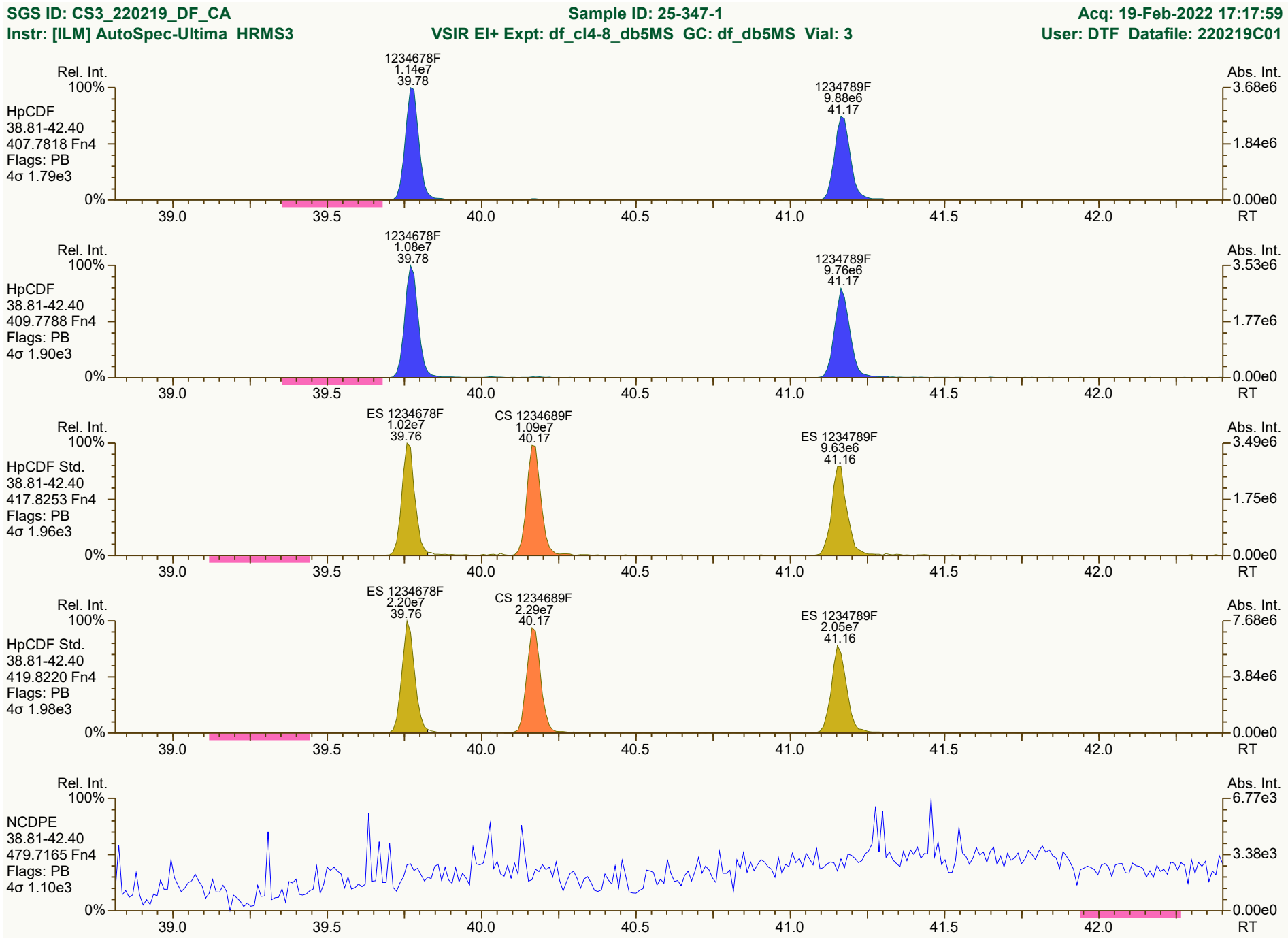

SGS ID: CS3_220219_DF_CA
Sample ID: 25-347-1
Acq: 19-Feb-2022 17:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C01
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.68e3
2378F
2.95e6
27.39
6.68e5
3.34e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.57e3
2378F
3.80e6
27.39
8.04e5
4.02e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.29e4
AS 1368F
3.08e7
22.39
JS 1234F
2.71e7
25.99
ES 2378F
2.67e7
27.37
6.20e6
3.10e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.56e3
AS 1368F
3.85e7
22.39
JS 1234F
3.28e7
25.99
ES 2378F
3.36e7
27.36
7.54e6
3.77e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.48e3
9.60e3
4.80e3
0%
100%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0390, 2699, 1644 scc: 910-087
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 10:44 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.53e3
4.77e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.89e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.53e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.10e6
4.55e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: CS3_220219_DF_CA
Sample ID: 25-347-1
Acq: 19-Feb-2022 17:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C01
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.48e3
12378F
1.64e7
32.18
23478F
1.57e7
33.30
4.37e6
2.19e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.45e3
12378F
1.06e7
32.18
23478F
1.05e7
33.30
2.92e6
1.46e6
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.28e3
CS 12346F
3.20e7
31.63
ES 12378F
3.30e7
32.16
ES 23478F
3.28e7
33.28
9.50e6
4.75e6
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.27e3
CS 12346F
2.07e7
31.63
ES 12378F
2.02e7
32.16
ES 23478F
2.04e7
33.28
6.24e6
3.12e6
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.53e3
8.07e3
4.04e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8782, 8480, 8253 scc: 910-087
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 10:44 Page 9 of 12



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7160, 6610, 8702 scc: 910-087
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 10:45 Page 10 of 12


SGS ID: CS3_220219_DF_CA
Sample ID: 25-347-1
Acq: 19-Feb-2022 17:17:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C01
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
1234678F
1.14e7
39.78
1234789F
9.88e6
41.17
3.68e6
1.84e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.90e3
1234678F
1.08e7
39.78
1234789F
9.76e6
41.17
3.53e6
1.77e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.96e3
ES 1234678F
1.02e7
39.76
CS 1234689F
1.09e7
40.17
ES 1234789F
9.63e6
41.16
3.49e6
1.75e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.98e3
ES 1234678F
2.20e7
39.76
CS 1234689F
2.29e7
40.17
ES 1234789F
2.05e7
41.16
7.68e6
3.84e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.10e3
6.77e3
3.38e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\CS3_220219_DF_CA.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3103, 1959, 2794 scc: 910-087
PKD: 21-Feb-2022 09:53 Printed: 21-Feb-2022 10:45 Page 11 of 12


OCDF
1.64e7
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.19e3
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.77e7
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.63e3
3.65e6
1.83e6
ES OCDF
3.07e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.53e3
6.19e6
3.09e6
ES OCDF
3.38e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.73e3
6.71e6
3.36e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.48e3
6.60e3
3.30e3

Dioxin/Furan QC Summary		Acq'd: 20 Feb 2022 05:01 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_220219_DF_CB		UTP: 21-Feb-2022 10:41:17 PSW				Checkcode: 111-739-KLT	
Sample ID: 25-347-1		Report: 21 Feb 2022 10:41 pw				Datafile: 220219C16	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.25	4.70E+06	0.75	Y	1.18	1.18	0%
12378-PeCDD	33.64	1.87E+07	1.58	Y	1.04	1.05	1%
123478-HxCDD	37.57	1.68E+07	1.28	Y	1.09	1.10	1%
123678-HxCDD	37.69	1.73E+07	1.30	Y	1.15	1.18	2%
123789-HxCDD	37.99	1.84E+07	1.25	Y	1.05	1.05	0%
1234678-HpCDD	40.72	1.66E+07	1.05	Y	1.06	1.04	-2%
OCDD	43.40	2.76E+07	0.92	Y	1.13	1.14	1%
2378-TCDF	27.39	6.83E+06	0.79	Y	1.08	1.07	-1%
12378-PeCDF	32.18	2.81E+07	1.56	Y	1.02	1.02	-1%
23478-PeCDF	33.30	2.73E+07	1.53	Y	1.02	1.02	0%
123478-HxCDF	36.56	2.55E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.71	2.64E+07	1.21	Y	1.15	1.13	-2%
234678-HxCDF	37.38	2.50E+07	1.27	Y	1.19	1.15	-3%
123789-HxCDF	38.36	2.27E+07	1.24	Y	1.16	1.14	-2%
1234678-HpCDF	39.77	2.31E+07	1.04	Y	1.37	1.31	-4%
1234789-HpCDF	41.17	2.06E+07	1.03	Y	1.31	1.28	-2%
OCDF	43.58	3.51E+07	0.93	Y	1.07	1.06	-1%
ES 2378-TCDD	28.23	3.98E+07	0.82	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.621	3.55E+07	1.56	Y	0.88	0.90	3%
ES 123478-HxCDD	37.55	3.06E+07	1.24	Y	0.97	0.95	-2%
ES 123678-HxCDD	37.672	2.94E+07	1.24	Y	0.94	0.91	-3%
ES 123789-HxCDD	37.977	3.51E+07	1.23	Y	1.09	1.09	0%
ES 1234678-HpCDD	40.707	3.19E+07	1.07	Y	0.91	0.99	8%
ES OCDD	43.391	4.86E+07	0.91	Y	0.62	0.75	21%
ES 2378-TCDF	27.363	6.37E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	32.159	5.53E+07	1.61	Y	0.91	0.90	-2%
ES 23478-PeCDF	33.282	5.37E+07	1.59	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.547	4.21E+07	0.54	Y	1.20	1.31	9%
ES 123678-HxCDF	36.688	4.69E+07	0.53	Y	1.35	1.45	8%
ES 234678-HxCDF	37.364	4.34E+07	0.53	Y	1.24	1.35	8%
ES 123789-HxCDF	38.343	3.96E+07	0.54	Y	1.16	1.23	6%
ES 1234678-HpCDF	39.764	3.53E+07	0.49	Y	0.97	1.10	13%
ES 1234789-HpCDF	41.162	3.21E+07	0.47	Y	0.85	1.00	17%
ES OCDF	43.572	6.63E+07	0.90	Y	0.81	1.03	27%

Dioxin/Furan QC Summary	Acq'd: 20 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220219_DF_CB	UTP: 21-Feb-2022 10:41:17 PSW	Checkcode: 111-739-KLT
Sample ID: 25-347-1	Report: 21 Feb 2022 10:41 pw	Datafile: 220219C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.56	3.94E+07	0.80	Y	-	-	-
JS 1234-TCDF	25.98	6.18E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.88	1.61E+07	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.25	5.65E+06	n/a	-	1.20	1.44	19%
CS 12347-PeCDD	33.11	3.20E+07	1.61	Y	0.75	0.81	8%
CS 12346-PeCDF	31.63	5.28E+07	1.56	Y	0.85	0.85	0%
CS 123469-HxCDF	37.00	4.19E+07	0.54	Y	1.12	1.30	16%
CS 1234689-HpCDF	40.17	3.57E+07	0.46	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.25~~	~~5.65E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.42~~	~~24%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~3.20E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.63~~	~~5.28E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~0.95~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~4.19E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.89~~	~~8%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~3.57E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.40~~	~~1.62E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.07~~	~~-8%~~
~~OCDF-a~~	~~43.58~~	~~2.27E+06~~	~~2.26~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.75	0.65 - 0.89	Y	9.95	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.6	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	51.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	49	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.93	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	49.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	49.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.6	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	48.9	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.8	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 21 Feb 2022 10:41 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

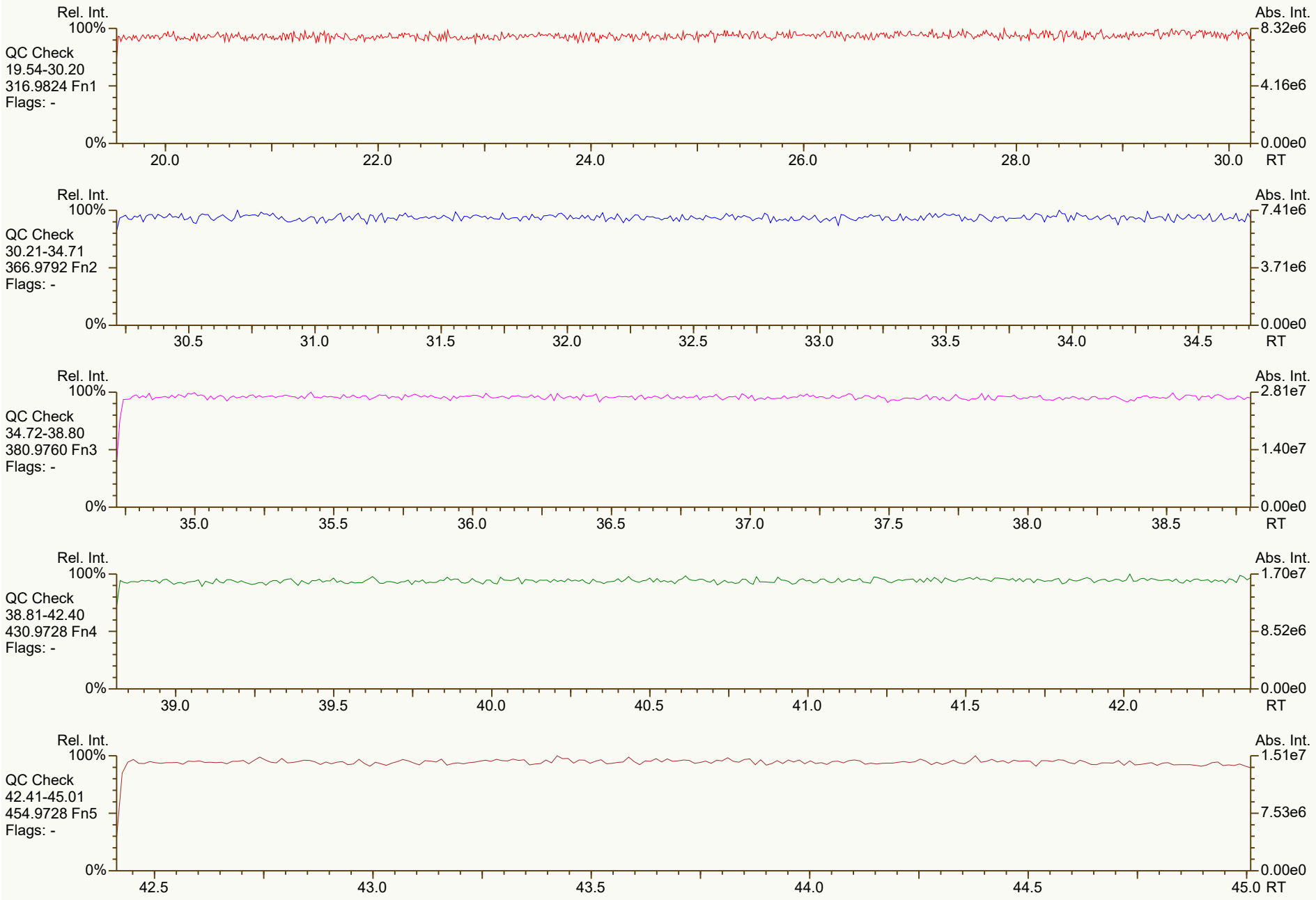
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

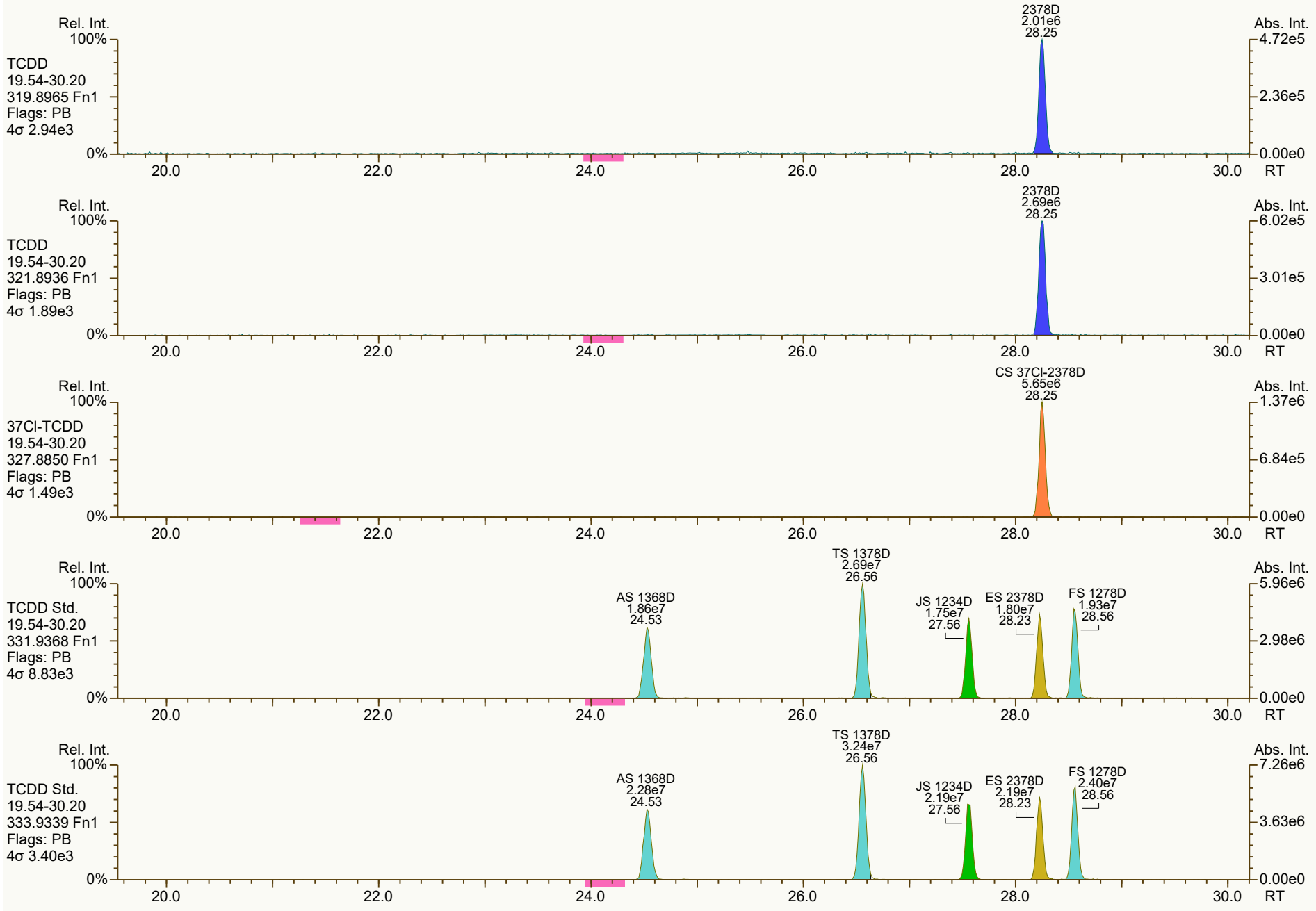
Instrument ID: HRMS3 GC Column ID: ZB-5ms

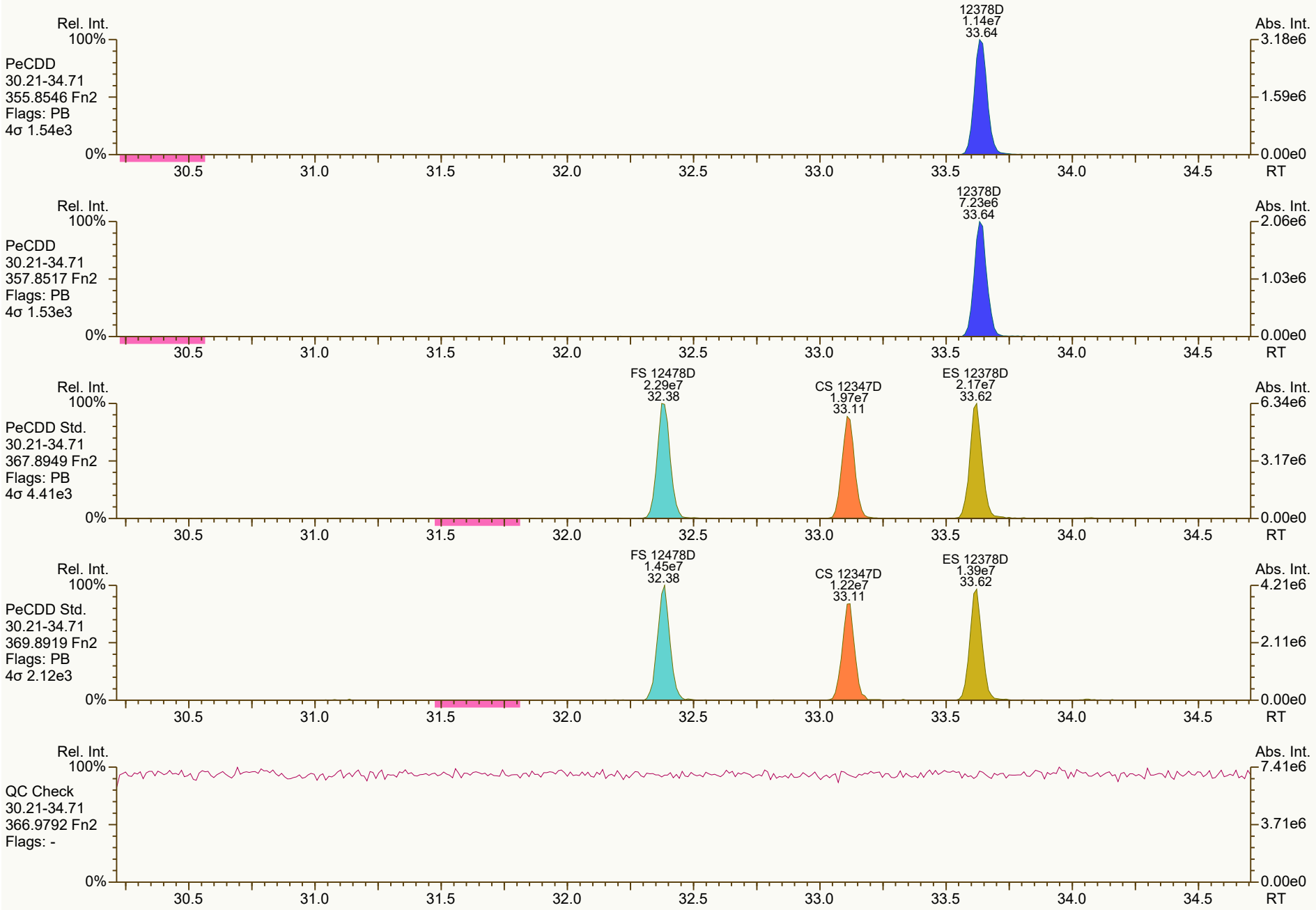
VER Data Filename: 220219C16 Analysis Date: 20-FEB-2022 05:01:11

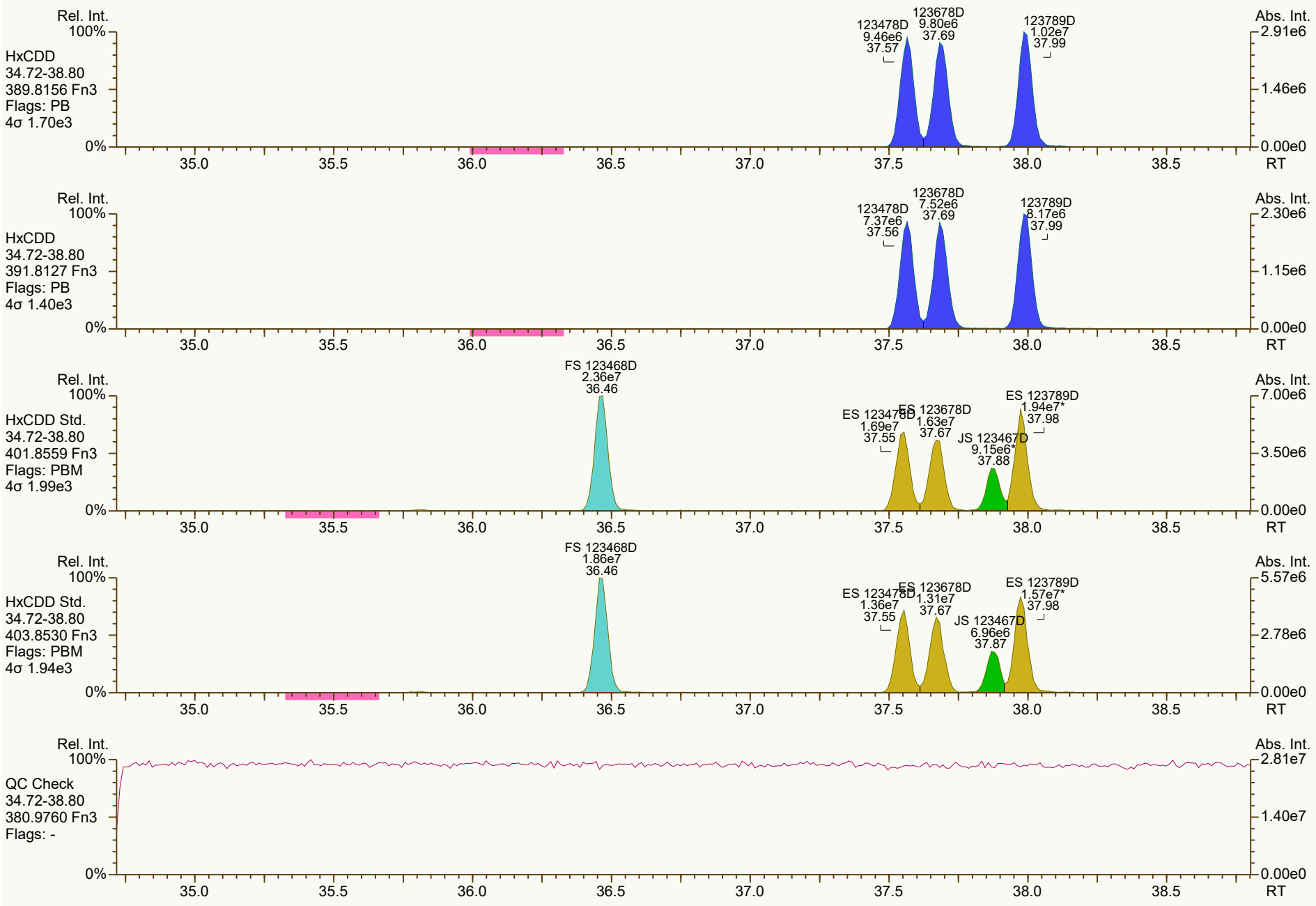
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	96.8	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	103	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	97.5	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	96.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	99.7	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	108	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	242	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	97.4	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32	-	1.78	Y	98.4	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	98.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	106	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.49	0.37	-	0.51	Y	113	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	117	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	255	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.9	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	108	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	116	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	125	70	-	130	Y

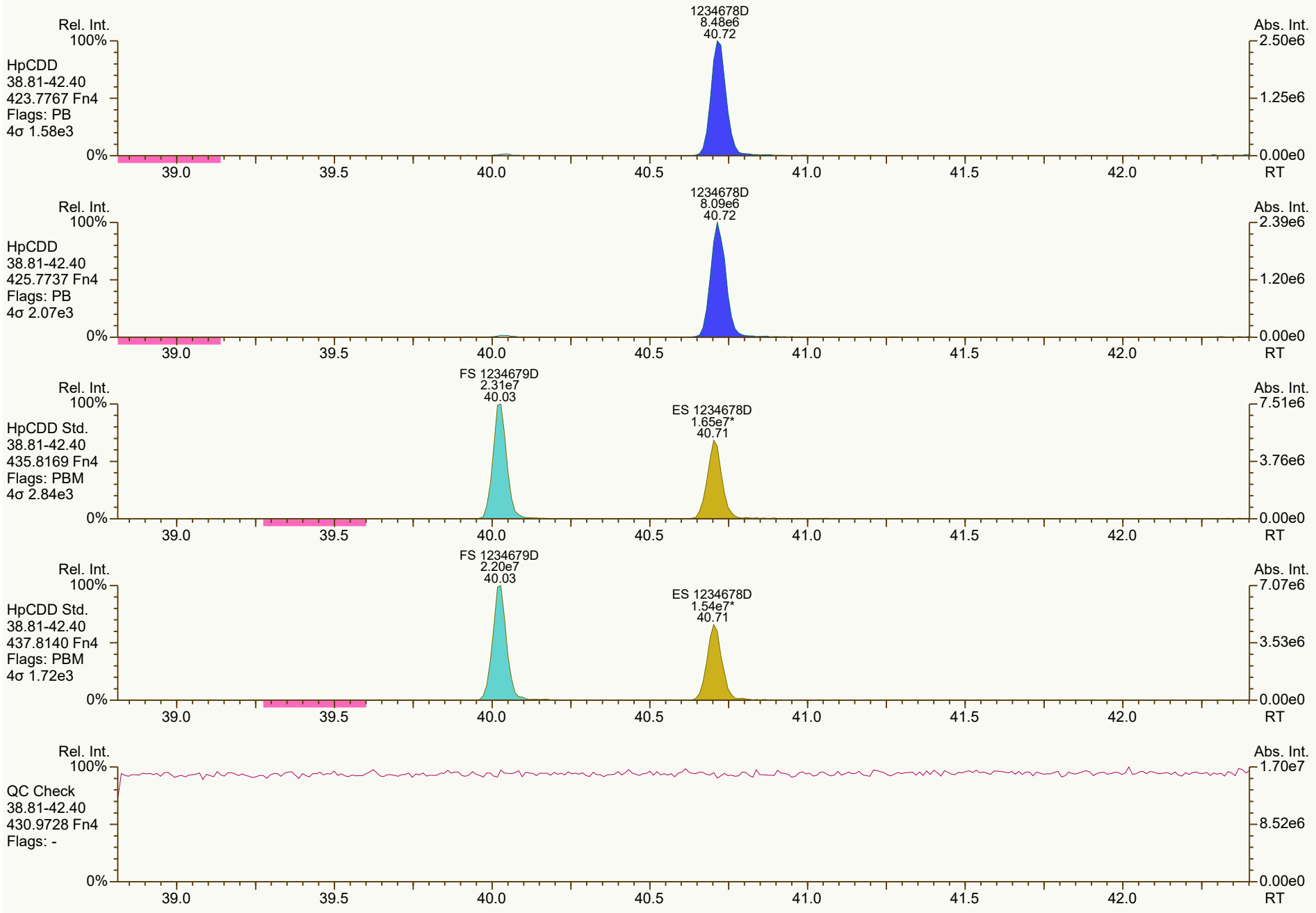
Processed: 21 Feb 2022 10:41 Analyst: pw

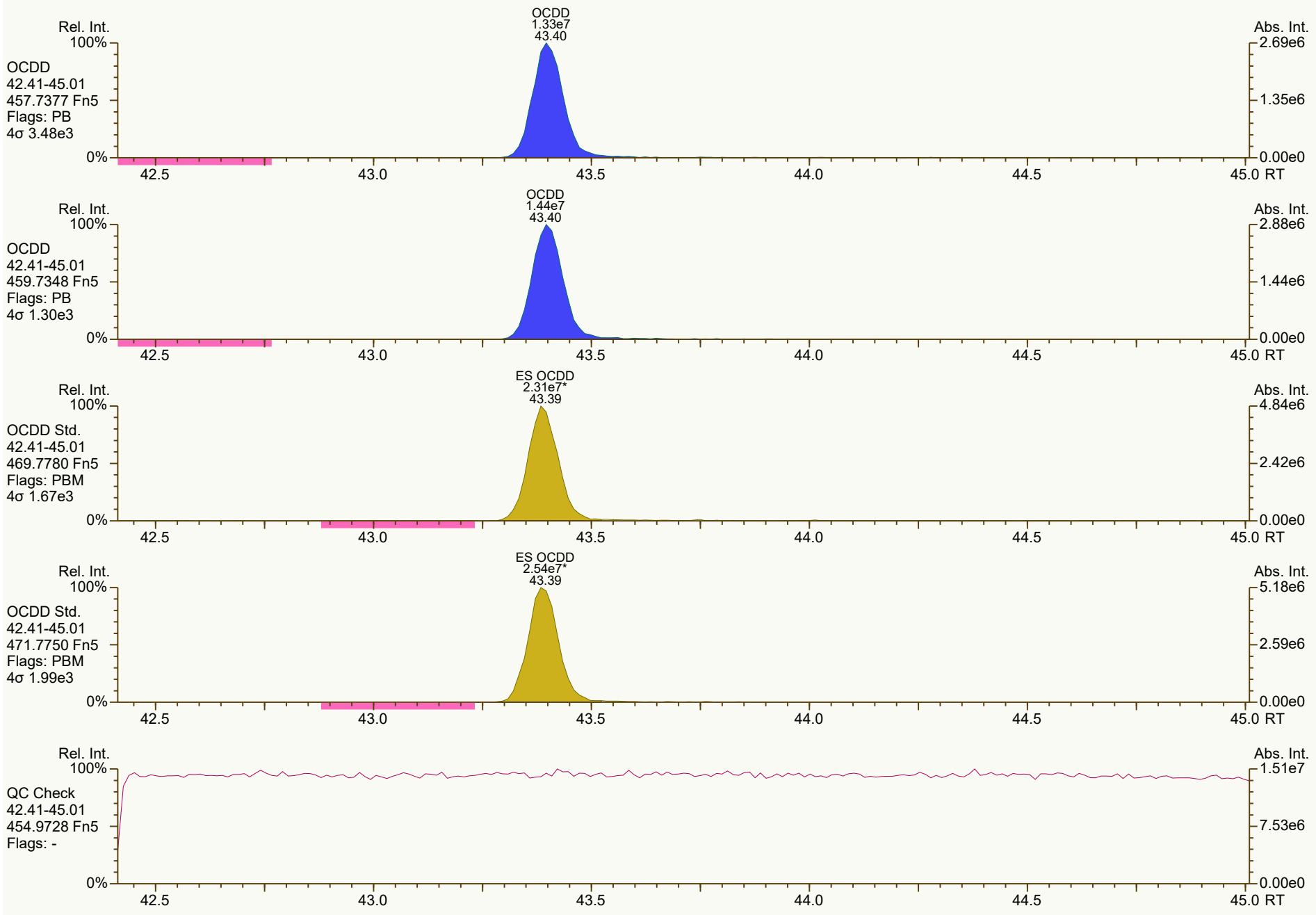

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.32e6
4.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.41e6
3.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.81e7
1.40e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.70e7
8.52e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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7.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

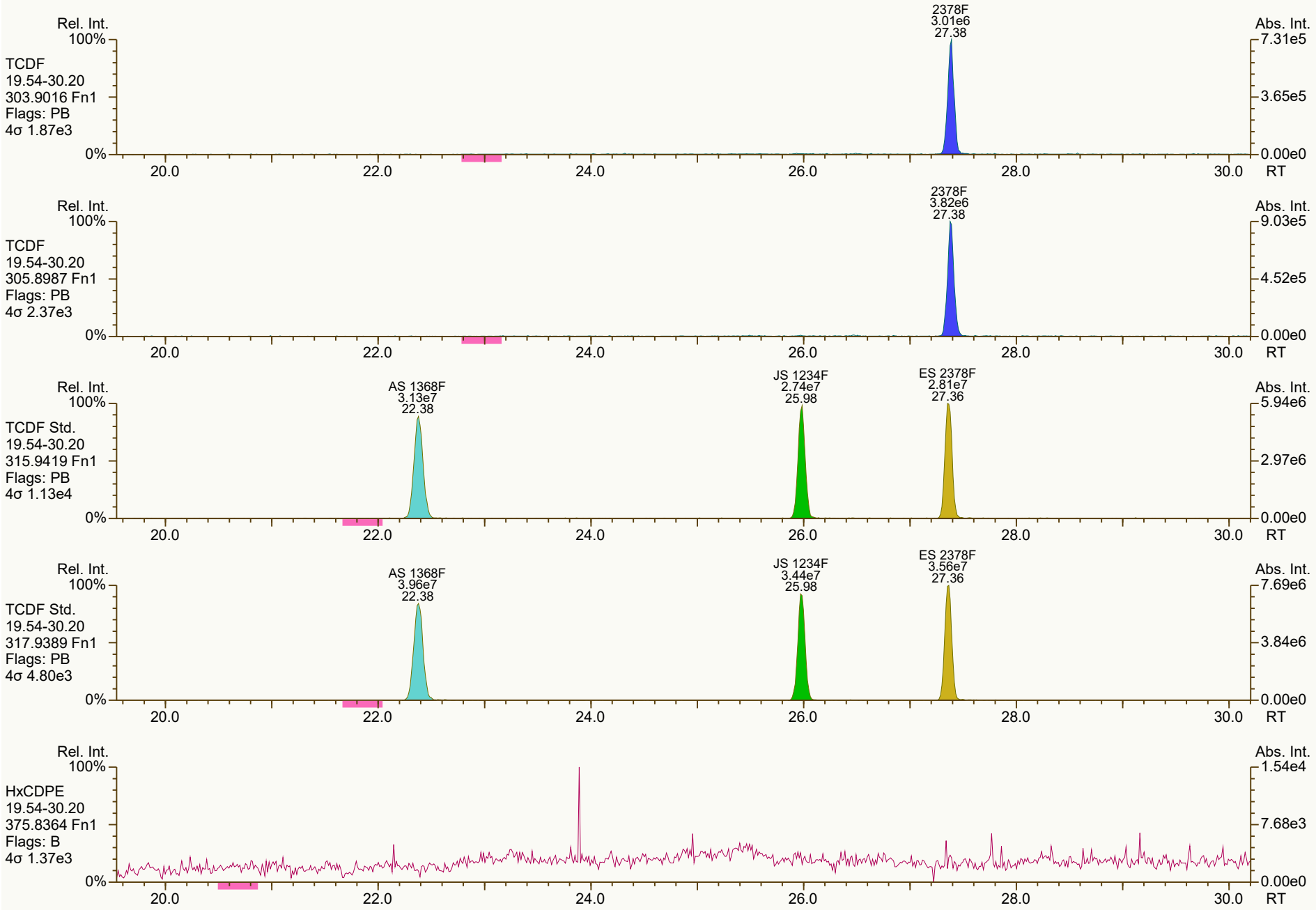

Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.94e3
2378D
2.01e6
28.25
4.72e5
2.36e5
0.00e0
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
2.69e6
28.25
6.02e5
3.01e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
CS 37Cl-2378D
5.65e6
28.25
1.37e6
6.84e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.83e3
AS 1368D
1.86e7
24.53
TS 1378D
2.69e7
26.56
JS 1234D
1.75e7
27.56
ES 2378D
1.80e7
28.23
FS 1278D
1.93e7
28.56
5.96e6
2.98e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.40e3
AS 1368D
2.28e7
24.53
TS 1378D
3.24e7
26.56
JS 1234D
2.19e7
27.56
ES 2378D
2.19e7
28.23
FS 1278D
2.40e7
28.56
7.26e6
3.63e6
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.54e3
12378D
1.14e7
33.64
3.18e6
1.59e6
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.53e3
12378D
7.23e6
33.64
2.06e6
1.03e6
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.41e3
FS 12478D
2.29e7
32.38
CS 12347D
1.97e7
33.11
ES 12378D
2.17e7
33.62
6.34e6
3.17e6
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.12e3
FS 12478D
1.45e7
32.38
CS 12347D
1.22e7
33.11
ES 12378D
1.39e7
33.62
4.21e6
2.11e6
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.41e6
3.71e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

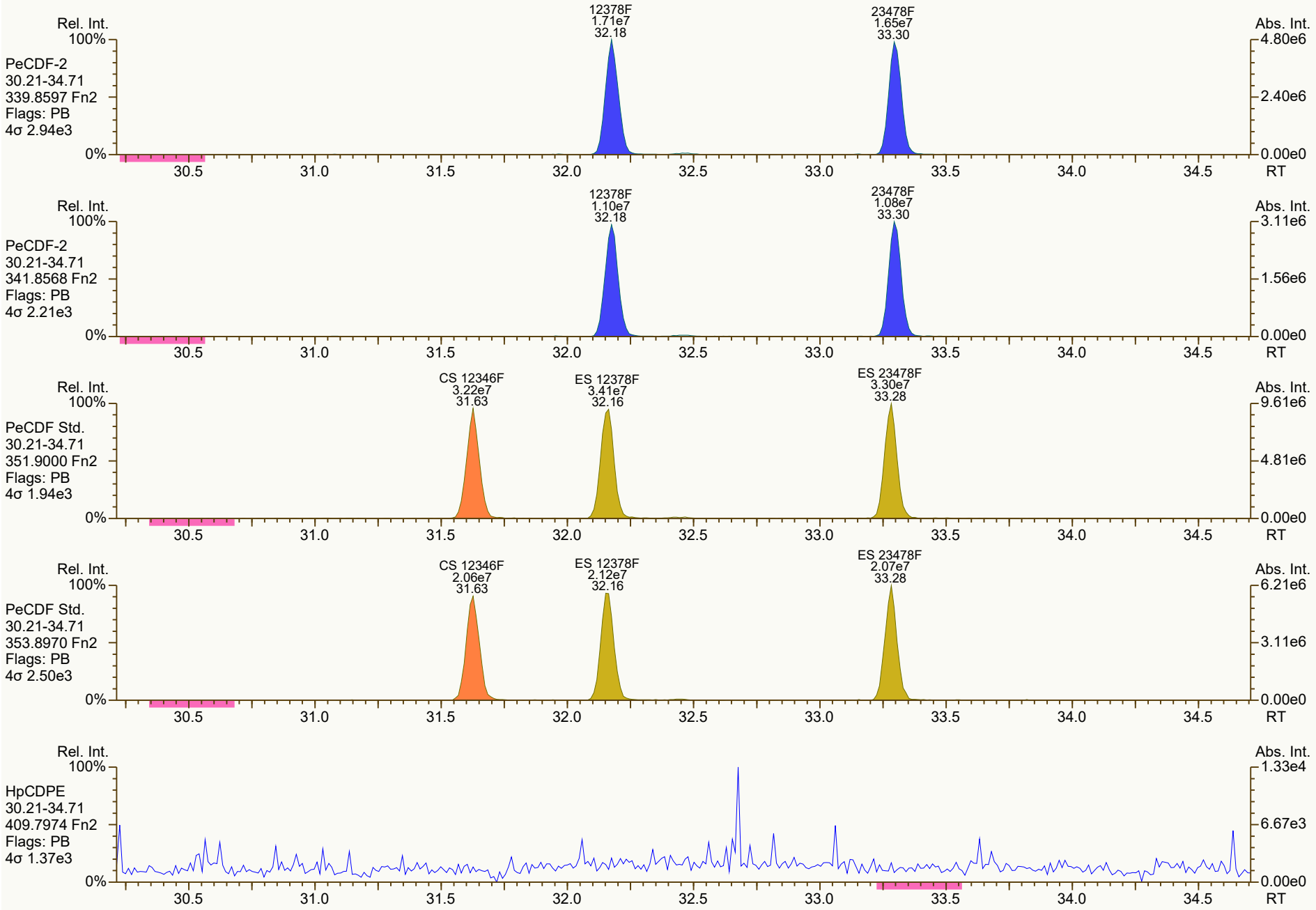

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D 9.46e6 37.57
123678D 9.80e6 37.69
123789D 1.02e7 37.99
Abs. Int.
2.91e6
1.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.40e3
123478D 7.37e6 37.56
123678D 7.52e6 37.69
123789D 8.17e6 37.99
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.99e3
FS 123468D 2.36e7 36.46
ES 123478D 1.69e7 37.55
ES 123678D 1.63e7 37.67
JS 123467D 9.15e6* 37.88
ES 123789D 1.94e7* 37.98
Abs. Int.
7.00e6
3.50e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.94e3
FS 123468D 1.86e7 36.46
ES 123478D 1.36e7 37.55
ES 123678D 1.31e7 37.67
JS 123467D 6.96e6 37.87
ES 123789D 1.57e7* 37.98
Abs. Int.
5.57e6
2.78e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.81e7
1.40e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

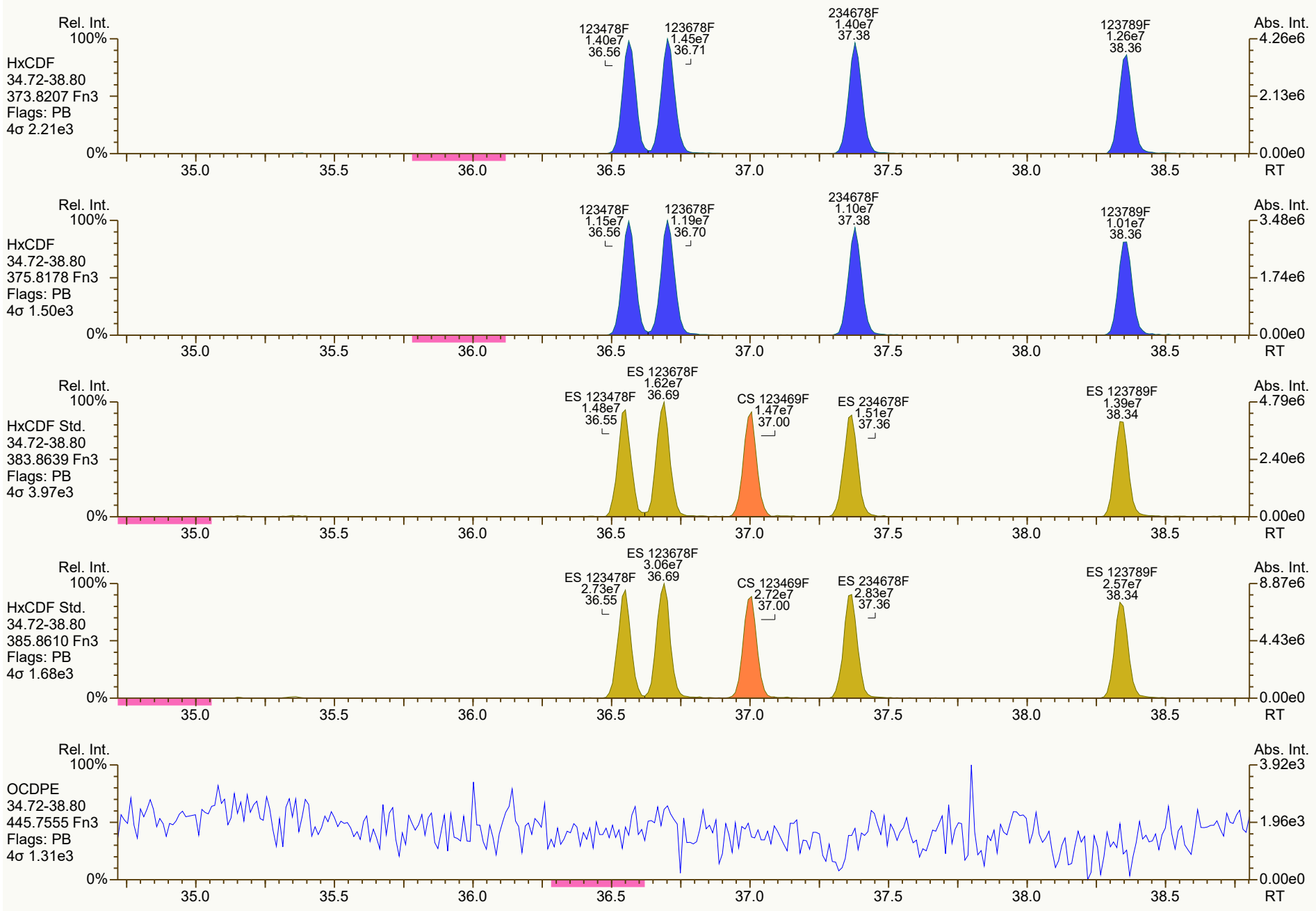

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.58e3
1234678D
8.48e6
40.72
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.07e3
1234678D
8.09e6
40.72
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.84e3
FS 1234679D
2.31e7
40.03
ES 1234678D
1.65e7*
40.71
Abs. Int.
7.51e6
3.76e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.72e3
FS 1234679D
2.20e7
40.03
ES 1234678D
1.54e7*
40.71
Abs. Int.
7.07e6
3.53e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.70e7
8.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

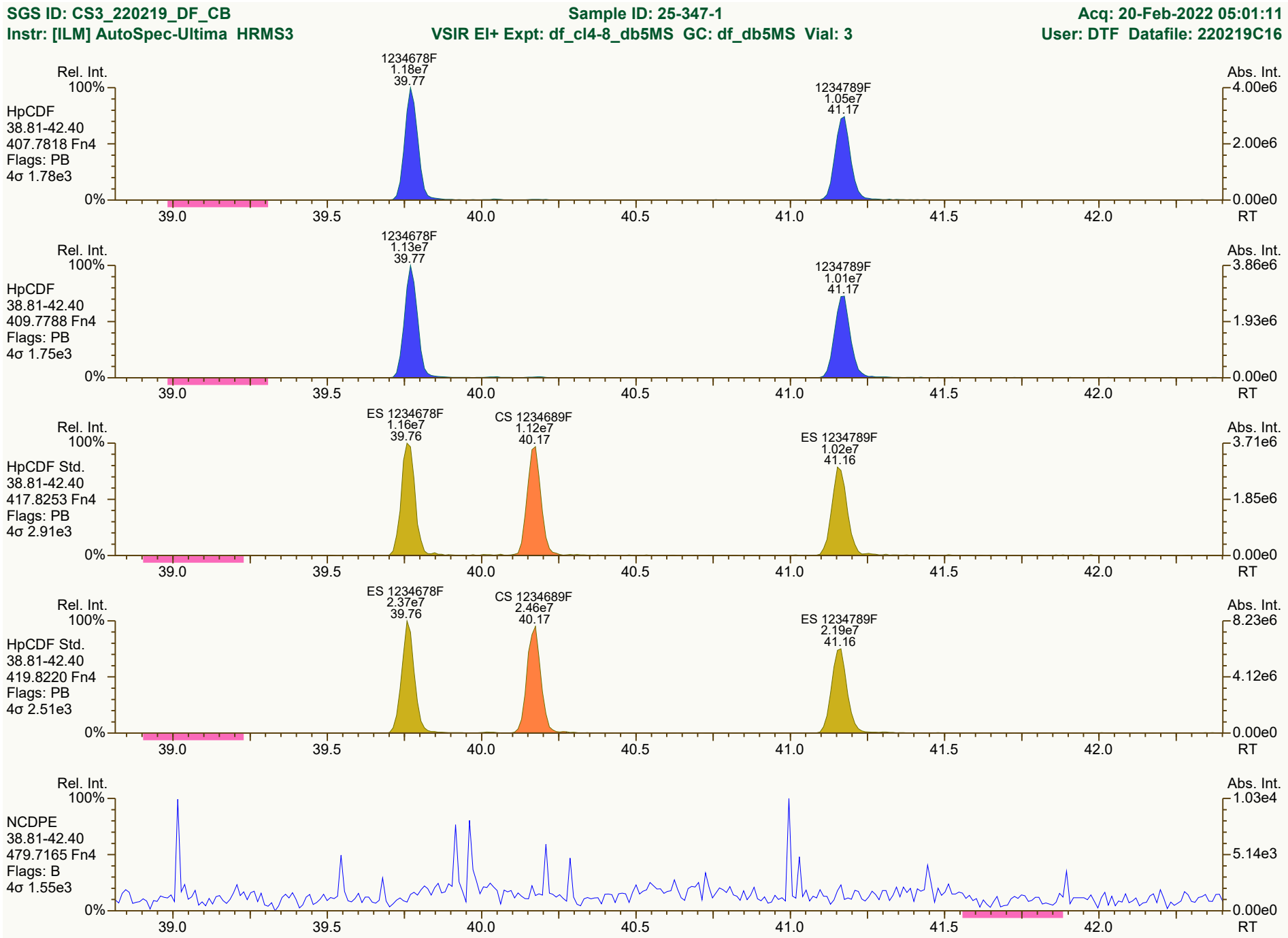

OCDD
1.33e7
43.40
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.48e3
OCDD
1.44e7
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.30e3
ES OCDD
2.31e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.67e3
ES OCDD
2.54e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.99e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
2.69e6
1.35e6
0.00e0
2.88e6
1.44e6
4.84e6
2.42e6
5.18e6
2.59e6
1.51e7
7.53e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.87e3
0%
2378F
3.01e6
27.38
Abs. Int.
7.31e5
3.65e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.37e3
0%
2378F
3.82e6
27.38
Abs. Int.
9.03e5
4.52e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.13e4
0%
AS 1368F
3.13e7
22.38
JS 1234F
2.74e7
25.98
ES 2378F
2.81e7
27.36
Abs. Int.
5.94e6
2.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.80e3
0%
AS 1368F
3.96e7
22.38
JS 1234F
3.44e7
25.98
ES 2378F
3.56e7
27.36
Abs. Int.
7.69e6
3.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
1.54e4
7.68e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

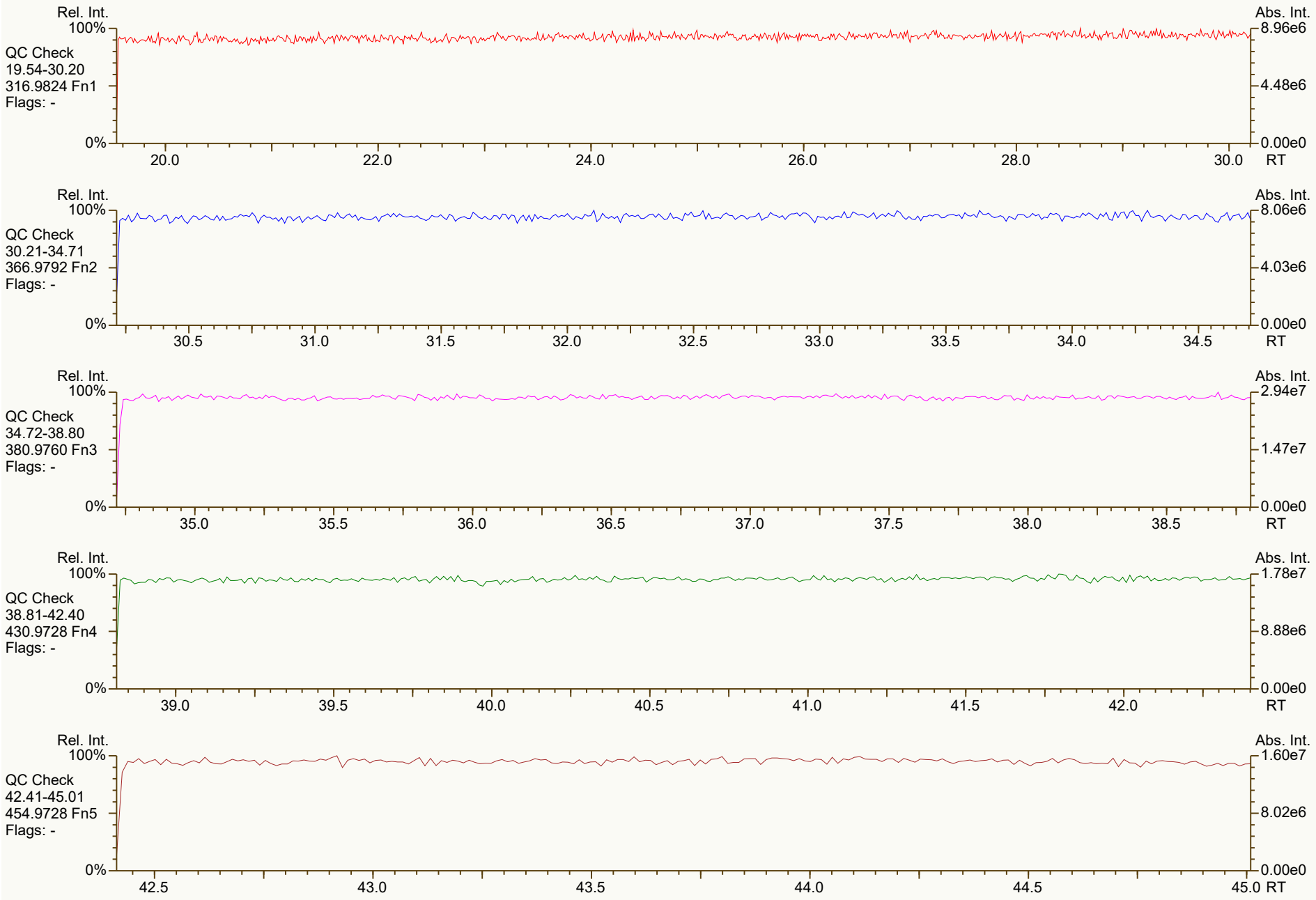

Rel. Int.
100%
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.09e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.76e4
8.80e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.32e6
4.16e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.94e3
0%
12378F
1.71e7
32.18
23478F
1.65e7
33.30
Abs. Int.
4.80e6
2.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.21e3
0%
12378F
1.10e7
32.18
23478F
1.08e7
33.30
Abs. Int.
3.11e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.94e3
0%
CS 12346F
3.22e7
31.63
ES 12378F
3.41e7
32.16
ES 23478F
3.30e7
33.28
Abs. Int.
9.61e6
4.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.50e3
0%
CS 12346F
2.06e7
31.63
ES 12378F
2.12e7
32.16
ES 23478F
2.07e7
33.28
Abs. Int.
6.21e6
3.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.37e3
0%
Abs. Int.
1.33e4
6.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

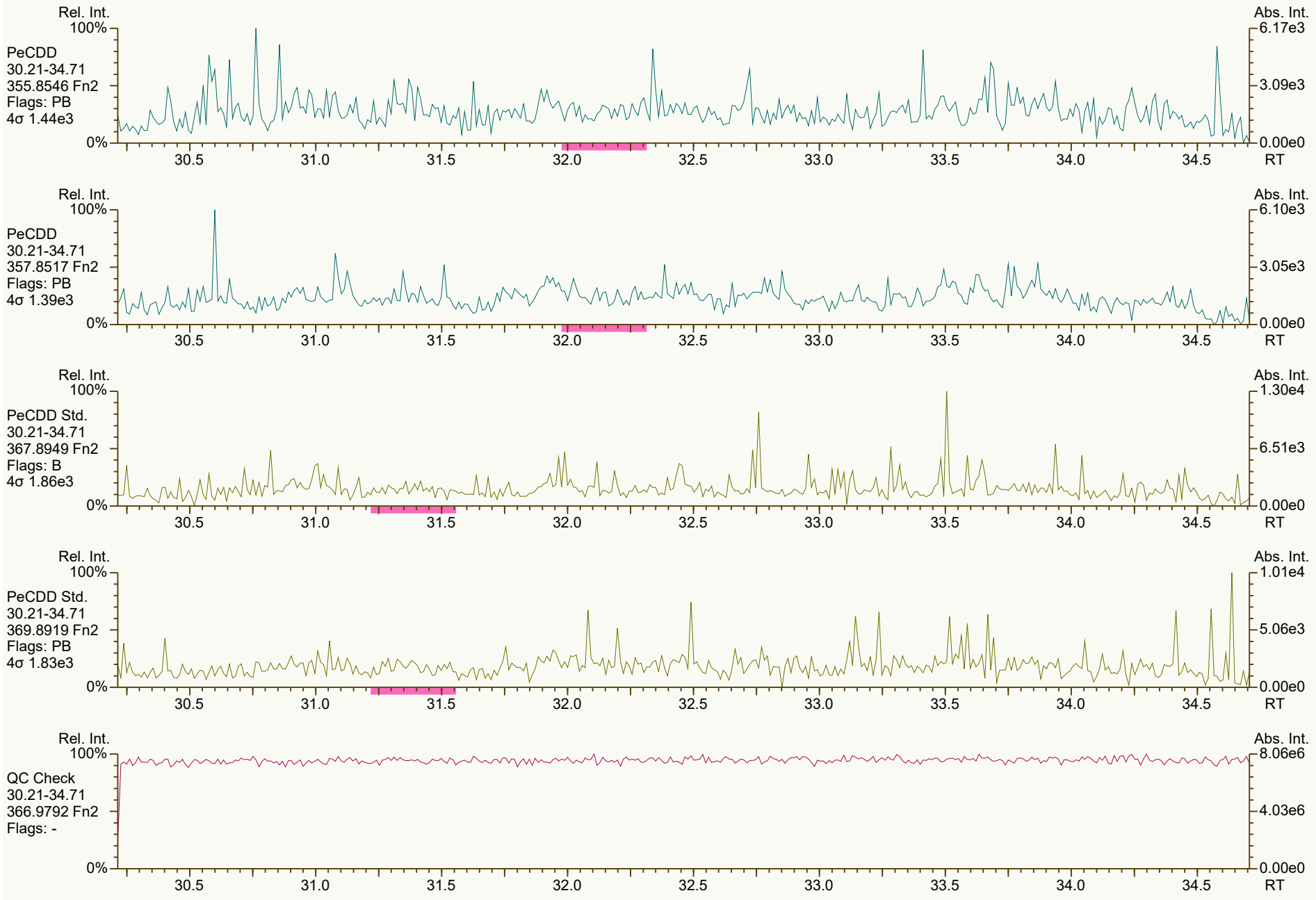

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 2.21e3
0%
123478F
1.40e7
36.56
123678F
1.45e7
36.71
234678F
1.40e7
37.38
123789F
1.26e7
38.36
Abs. Int.
4.26e6
2.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.50e3
0%
123478F
1.15e7
36.56
123678F
1.19e7
36.70
234678F
1.10e7
37.38
123789F
1.01e7
38.36
Abs. Int.
3.48e6
1.74e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.97e3
0%
ES 123478F
1.48e7
36.55
ES 123678F
1.62e7
36.69
CS 123469F
1.47e7
37.00
ES 234678F
1.51e7
37.36
ES 123789F
1.39e7
38.34
Abs. Int.
4.79e6
2.40e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.68e3
0%
ES 123478F
2.73e7
36.55
ES 123678F
3.06e7
36.69
CS 123469F
2.72e7
37.00
ES 234678F
2.83e7
37.36
ES 123789F
2.57e7
38.34
Abs. Int.
8.87e6
4.43e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
3.92e3
1.96e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: CS3_220219_DF_CB
Sample ID: 25-347-1
Acq: 20-Feb-2022 05:01:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220219C16
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.78e3
1234678F
1.18e7
39.77
1234789F
1.05e7
41.17
4.00e6
2.00e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.75e3
1234678F
1.13e7
39.77
1234789F
1.01e7
41.17
3.86e6
1.93e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.91e3
ES 1234678F
1.16e7
39.76
CS 1234689F
1.12e7
40.17
ES 1234789F
1.02e7
41.16
3.71e6
1.85e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.51e3
ES 1234678F
2.37e7
39.76
CS 1234689F
2.46e7
40.17
ES 1234789F
2.19e7
41.16
8.23e6
4.12e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.55e3
1.03e4
5.14e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\CS3_220219_DF_CB.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4920, 7046, 4786 scc: 111-739
PKD: 21-Feb-2022 09:54 Printed: 21-Feb-2022 10:46 Page 11 of 12


OCDF
1.69e7*
43.58
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.33e3
OCDF
1.82e7*
43.58
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.30e3
ES OCDF
3.14e7
43.57
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.35e3
ES OCDF
3.49e7
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.39e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.36e3
RT


Rel. Int.
100%
0%
Abs. Int.
8.96e6
4.48e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.78e7
8.88e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.60e7
8.02e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

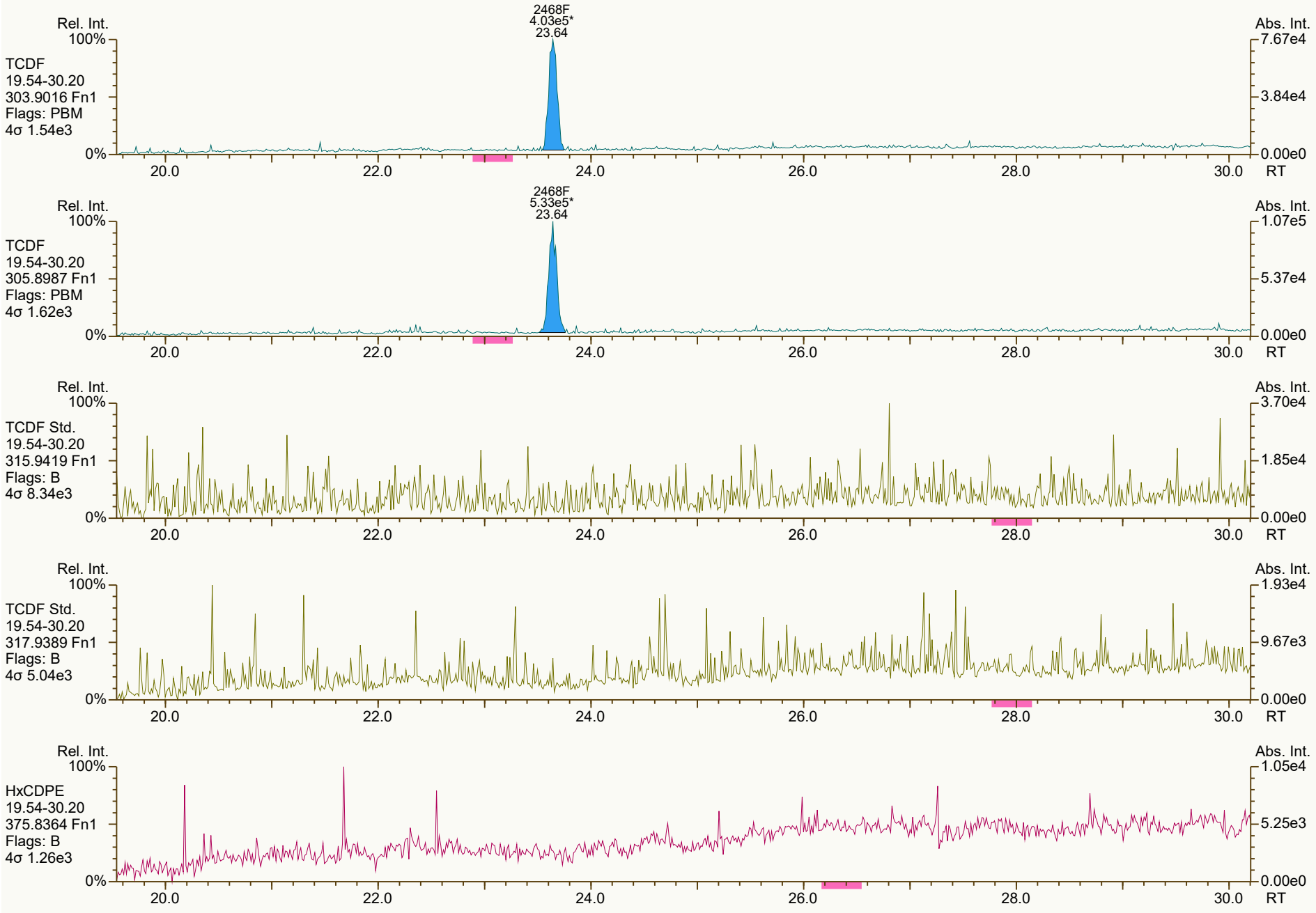

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.21e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.39e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 9.01e3
0%
Abs. Int.
3.19e4
1.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.90e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.44e3
0%
Abs. Int.
6.17e3
3.09e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.83e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.33e4
6.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.57e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.82e3
0%
Abs. Int.
3.19e4
1.60e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 2.05e3
0%
Abs. Int.
8.35e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.94e7
1.47e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

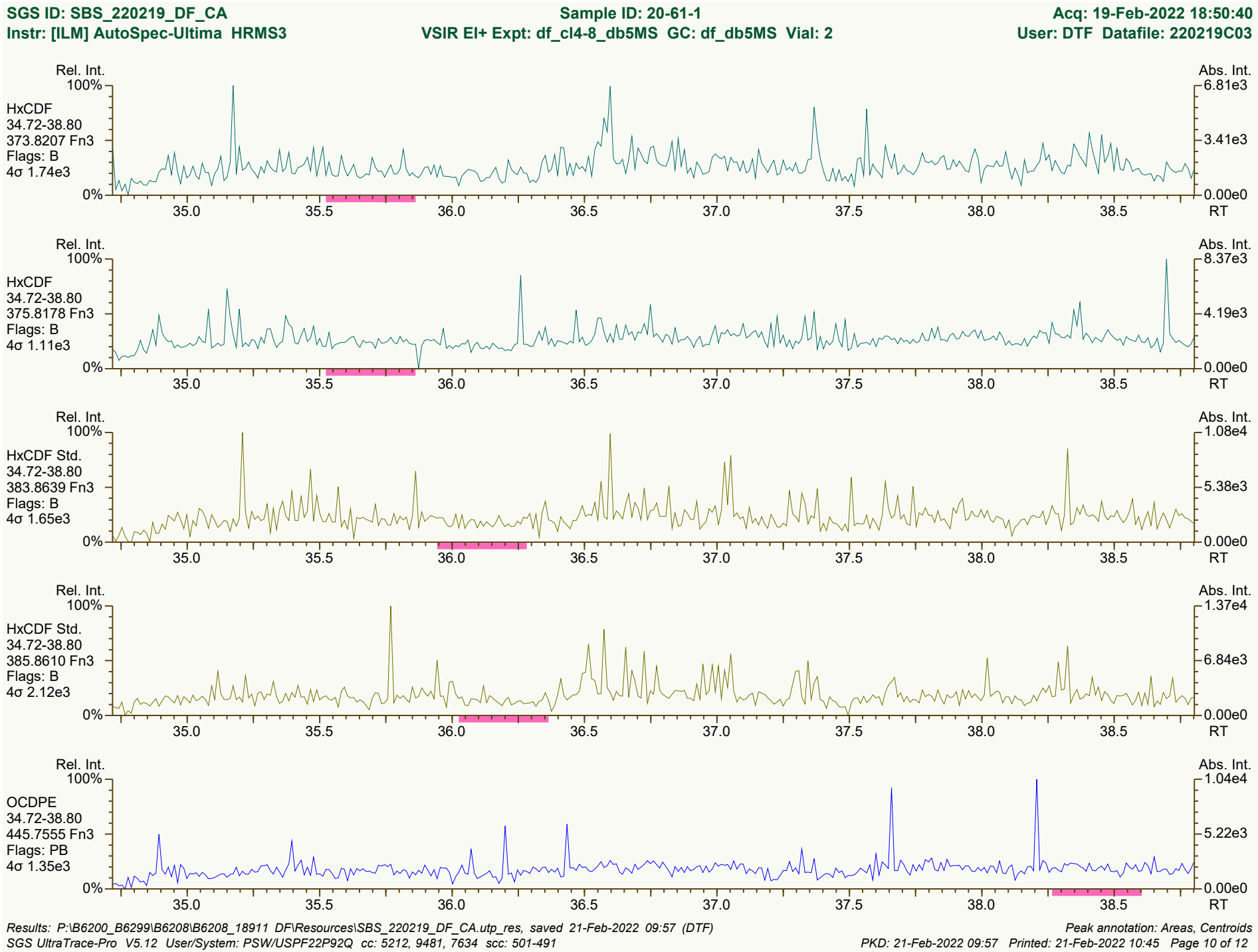

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.42e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 2.23e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.88e3
0%
Abs. Int.
9.38e3
4.69e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.78e7
8.88e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.84e3
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.60e7
8.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
4.03e5*
23.64
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
7.67e4
3.84e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.33e5*
23.64
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.62e3
1.07e5
5.37e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 8.34e3
3.70e4
1.85e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 5.04e3
1.93e4
9.67e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
1.05e4
5.25e3

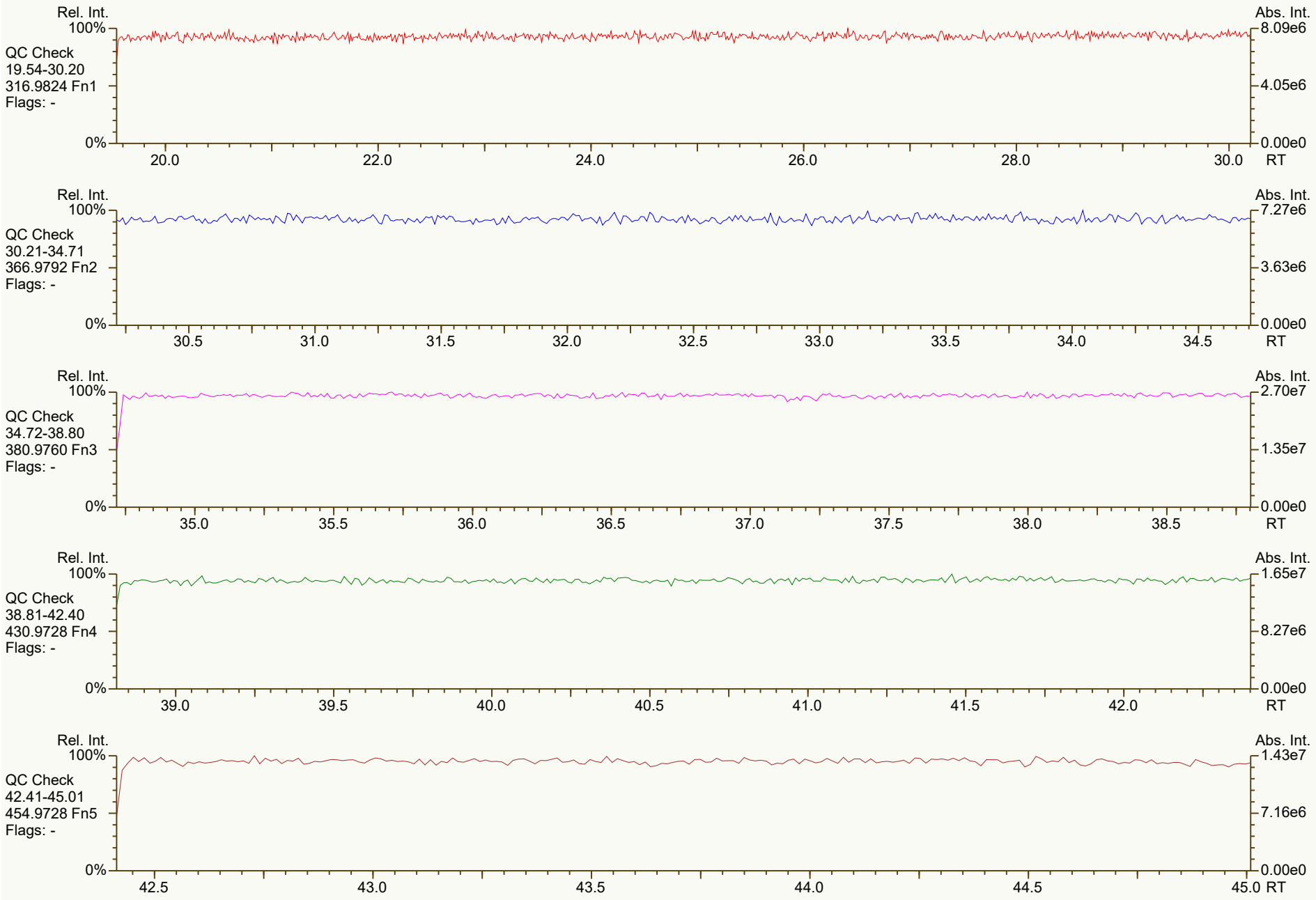

Rel. Int.
100%
0%
Abs. Int.
9.51e3
4.75e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e4
7.22e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.63e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.96e6
4.48e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.96e3
0%
Abs. Int.
8.41e3
4.21e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.54e3
0%
Abs. Int.
7.96e3
3.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: SBS_220219_DF_CA
Sample ID: 20-61-1
Acq: 19-Feb-2022 18:50:40
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220219C03
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.74e3
6.81e3
3.41e3
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.11e3
8.37e3
4.19e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.65e3
1.08e4
5.38e3
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.12e3
1.37e4
6.84e3
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.35e3
1.04e4
5.22e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\SBS_220219_DF_CA.utp_res, saved 21-Feb-2022 09:57 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5212, 9481, 7634 scc: 501-491
PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 10:45 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.79e3
0%
Abs. Int.
7.08e3
3.54e3
0.00e0
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.96e3
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.37e3
0%
Abs. Int.
4.45e3
2.22e3
0.00e0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.72e3
4.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.29e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 2.55e3
0%
Abs. Int.
4.05e4
2.02e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.46e3
3.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

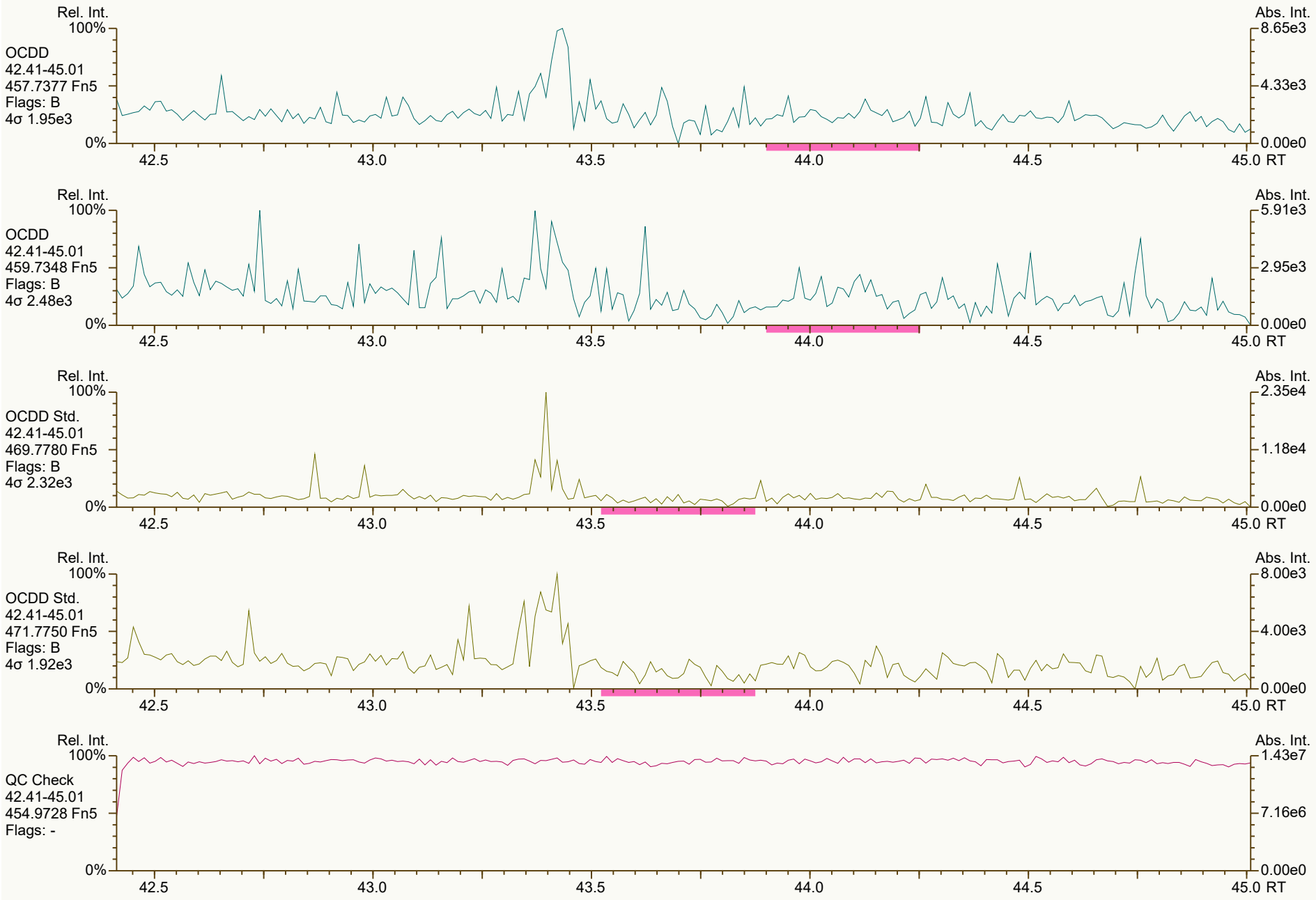

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.09e6
4.05e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.27e6
3.63e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.70e7
1.35e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.65e7
8.27e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.43e7
7.16e6
0.00e0

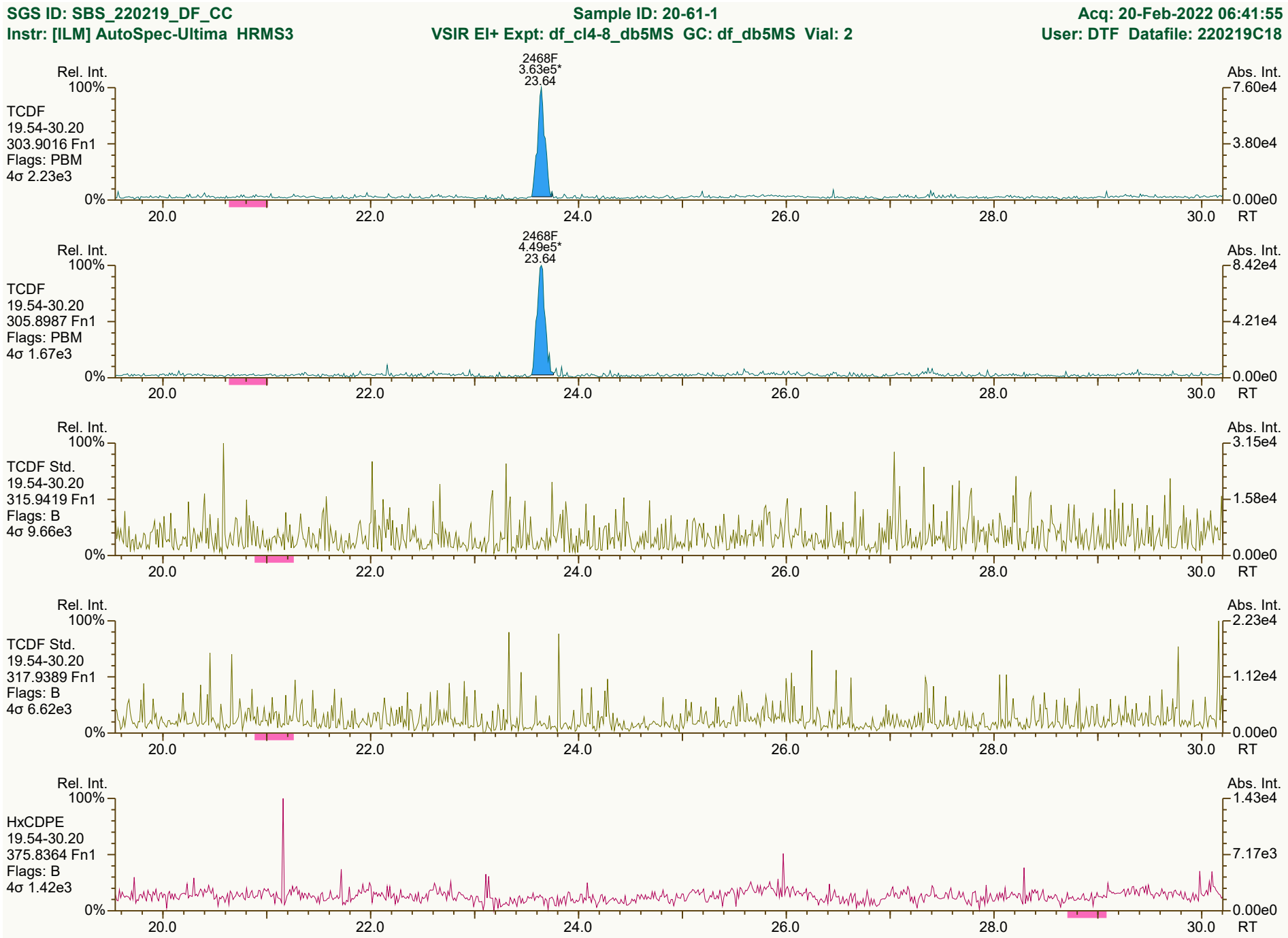

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.07e3
0%
Abs. Int.
8.27e3
4.14e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.57e3
2.78e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.80e4
9.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 8.20e3
0%
Abs. Int.
3.23e4
1.61e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 4.31e3
0%
Abs. Int.
1.75e4
8.76e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 9.41e2
0%
Abs. Int.
5.42e3
2.71e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
4.03e3
2.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.56e3
0%
Abs. Int.
9.57e3
4.79e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 2.35e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.27e6
3.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

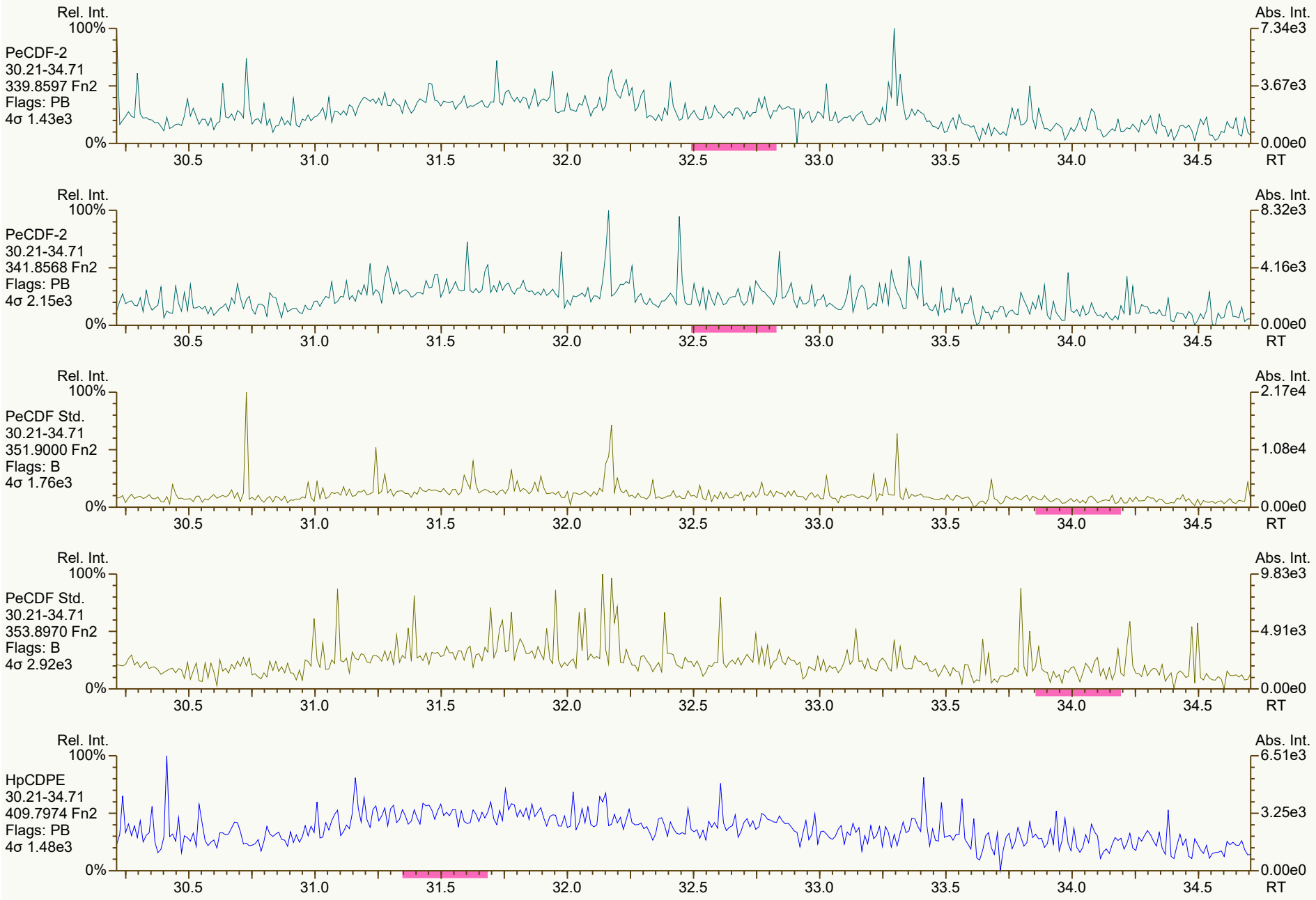

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.91e3
0%
Abs. Int.
7.65e3
3.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
8.02e3
4.01e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 2.66e3
0%
Abs. Int.
9.41e3
4.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.49e4
1.25e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.70e7
1.35e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.46e3
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.85e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.77e3
0%
Abs. Int.
9.50e3
4.75e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.65e7
8.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.95e3
0%
Abs. Int.
8.65e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 2.48e3
0%
Abs. Int.
5.91e3
2.95e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 2.32e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.00e3
4.00e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.43e7
7.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220219_DF_CC
Sample ID: 20-61-1
Acq: 20-Feb-2022 06:41:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220219C18
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.23e3
2468F
3.63e5*
23.64
7.60e4
3.80e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.67e3
2468F
4.49e5*
23.64
8.42e4
4.21e4
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 9.66e3
3.15e4
1.58e4
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 6.62e3
2.23e4
1.12e4
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.42e3
1.43e4
7.17e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\SBS_220219_DF_CC.utp_res, saved 21-Feb-2022 10:09 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9308, 0550, 9053 scc: 590-722
Revised: 21-Feb-2022 10:09 (DTF) Printed: 21-Feb-2022 10:46 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.99e4
9.96e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.16e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.08e4
5.41e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.88e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.09e6
4.05e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
7.34e3
3.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.15e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.76e3
0%
Abs. Int.
2.17e4
1.08e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 2.92e3
0%
Abs. Int.
9.83e3
4.91e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
6.51e3
3.25e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

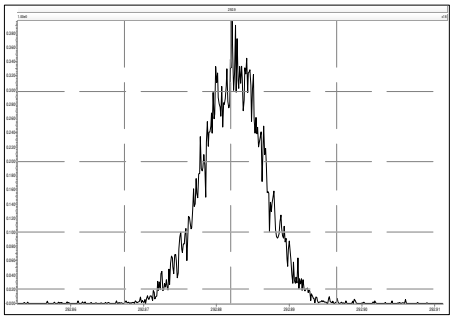

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
7.32e3
3.66e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.92e3
3.46e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 2.28e3
0%
Abs. Int.
8.95e3
4.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.53e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.25e3
0%
Abs. Int.
6.85e3
3.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.68e3
0%
Abs. Int.
8.44e3
4.22e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.69e3
0%
Abs. Int.
7.31e3
3.66e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 2.46e3
0%
Abs. Int.
1.65e4
8.25e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 2.17e3
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
7.13e3
3.56e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

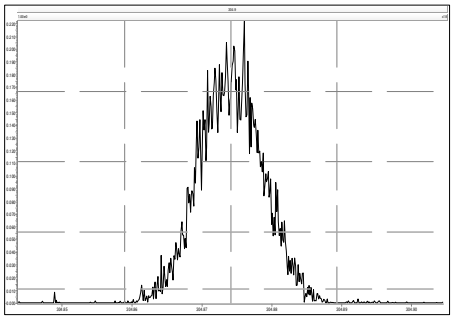

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.74e3
0%
Abs. Int.
1.21e4
6.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.72e3
0%
Abs. Int.
5.91e3
2.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 3.31e3
0%
Abs. Int.
1.41e4
7.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
2.64e4
1.32e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.32e3
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Abs. Int.
5.85e3
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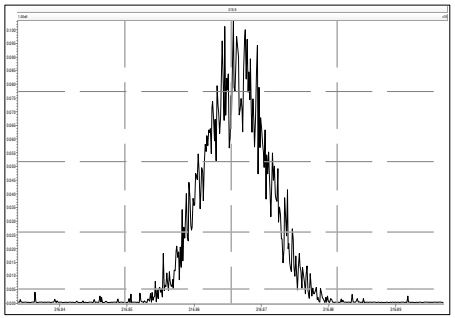
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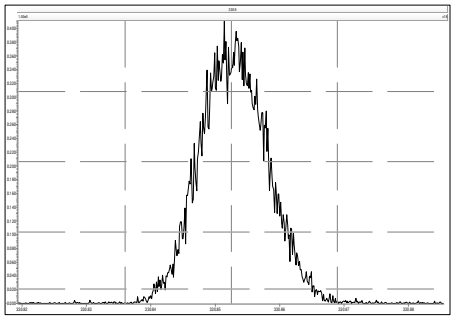
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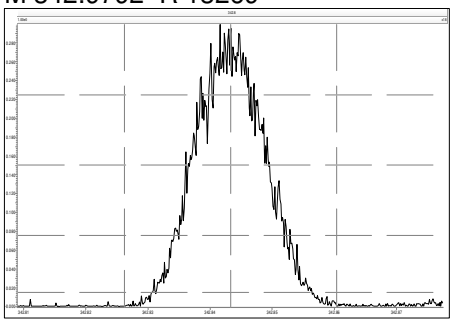
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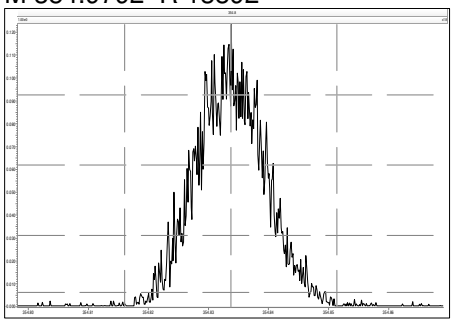
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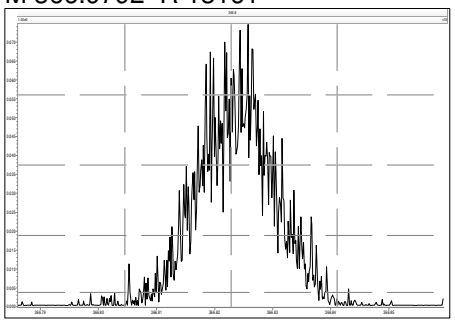
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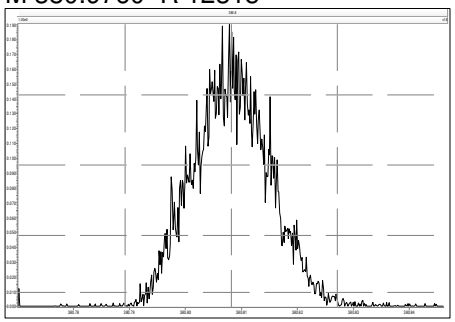
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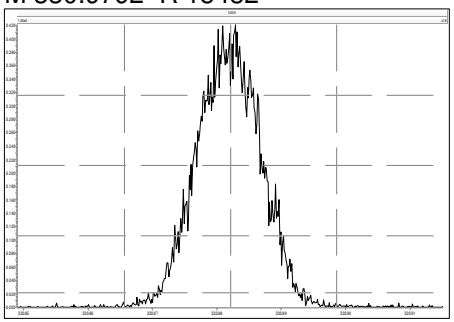
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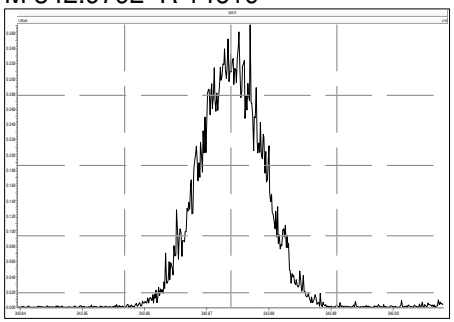
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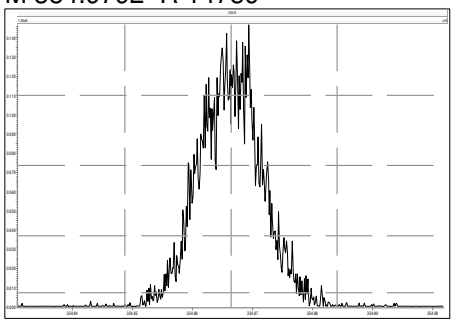
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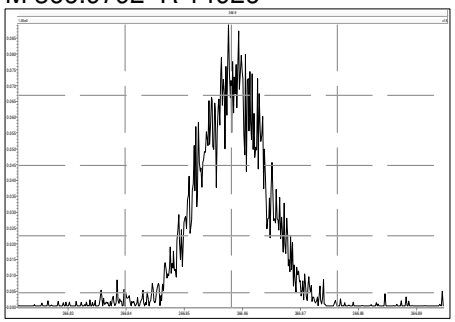
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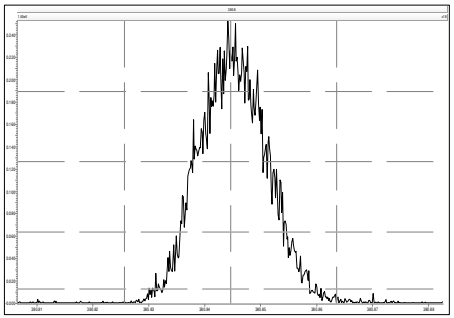
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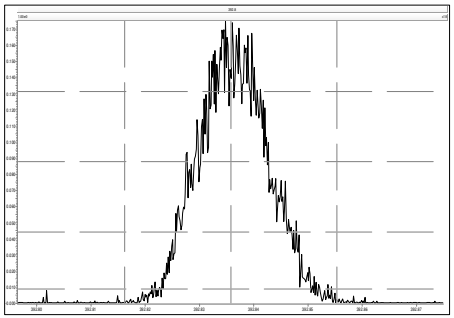
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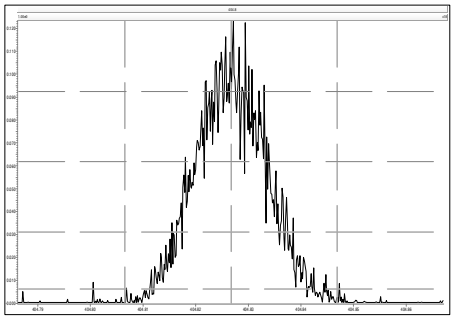
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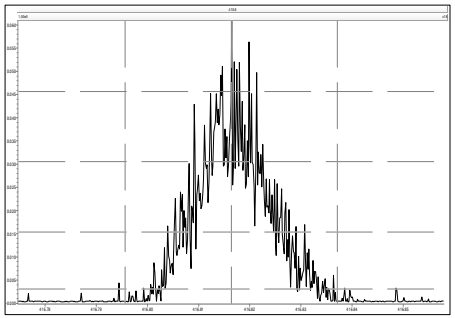
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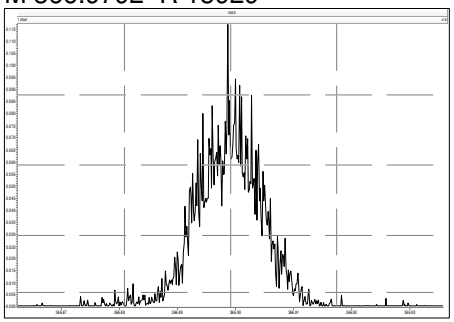
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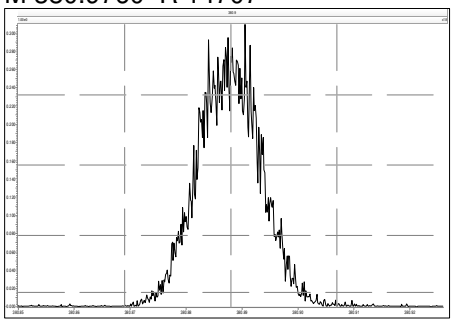
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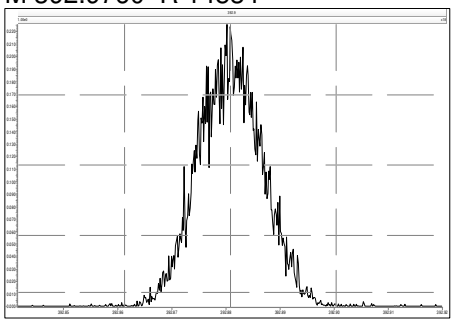
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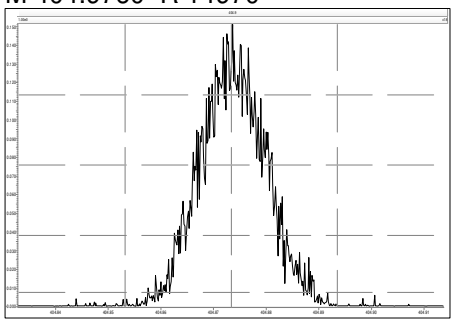
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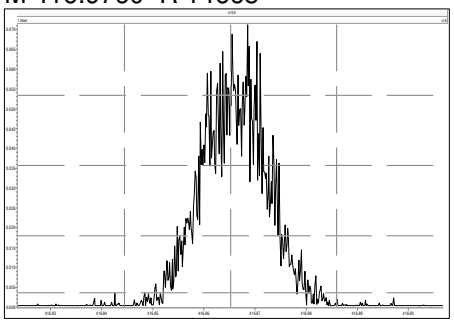
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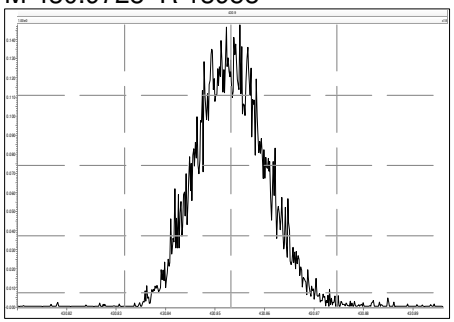
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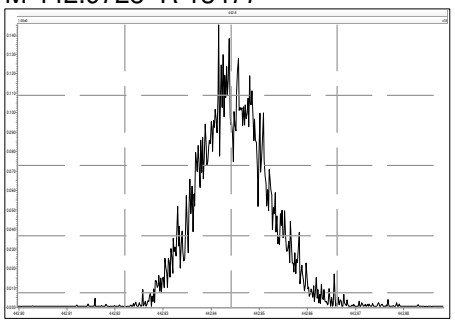
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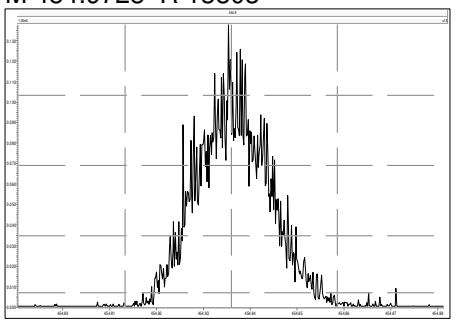
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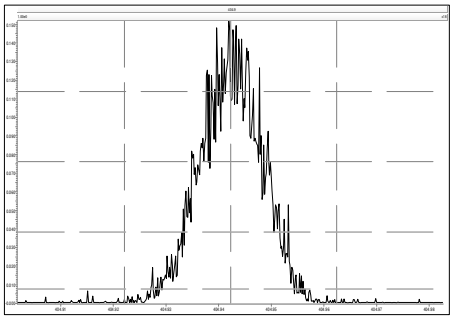
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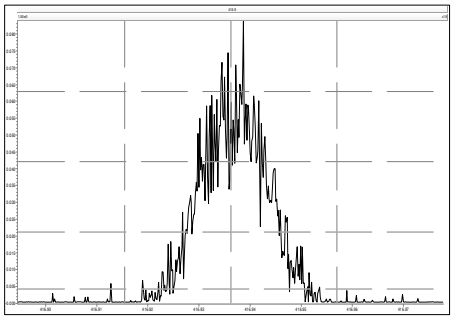
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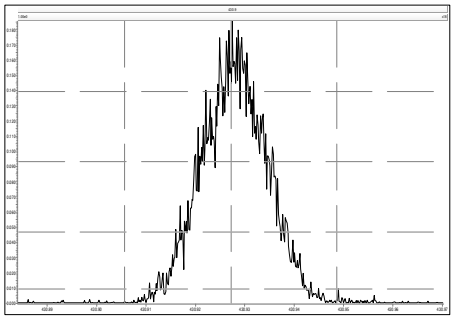
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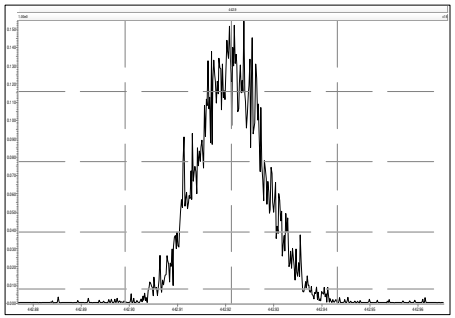
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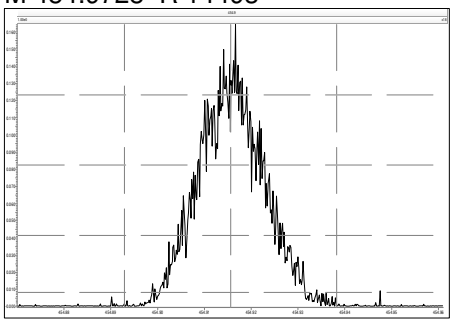
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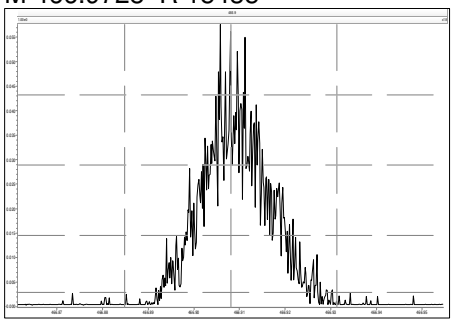
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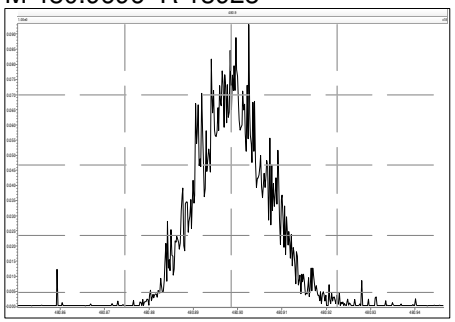
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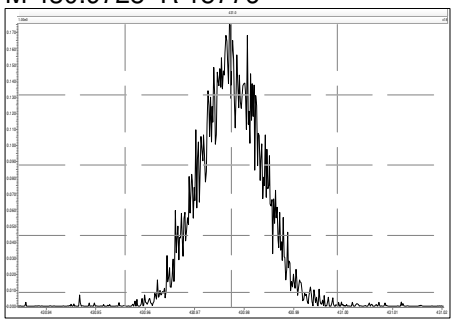
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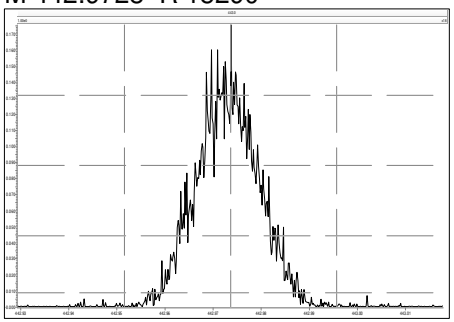
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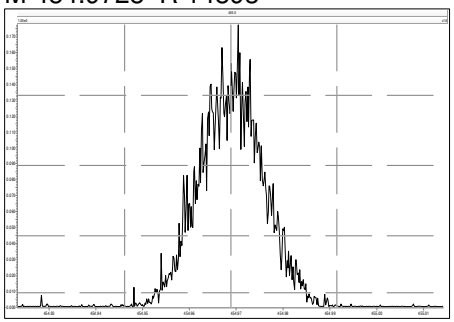
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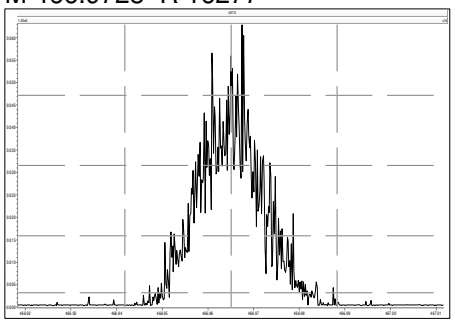
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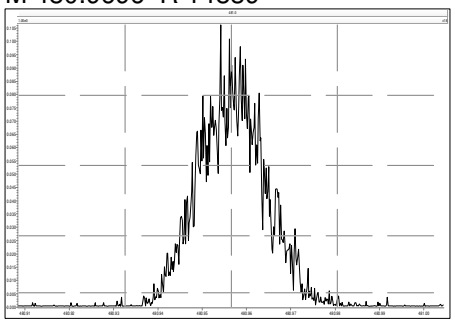
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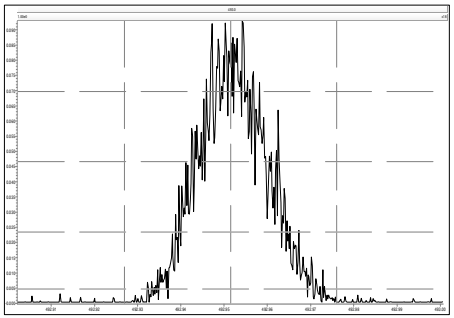
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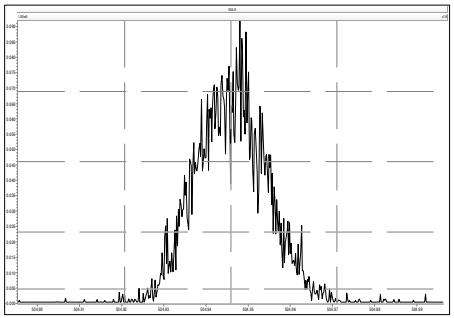
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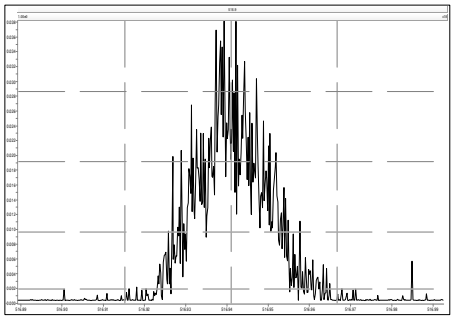
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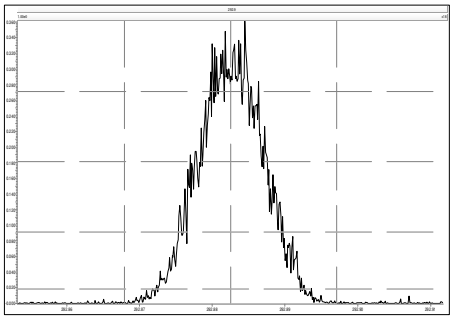


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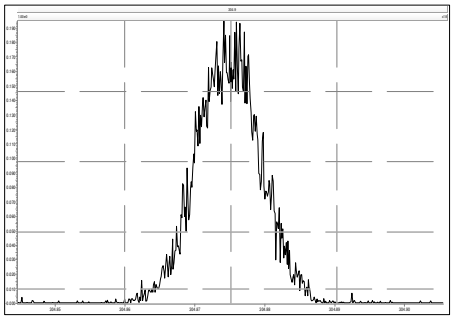


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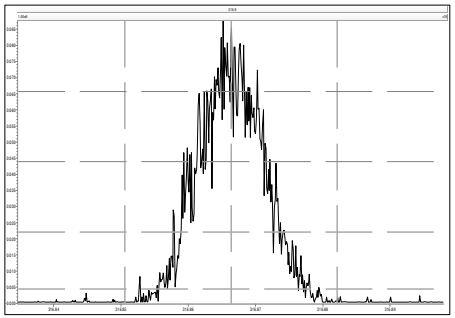
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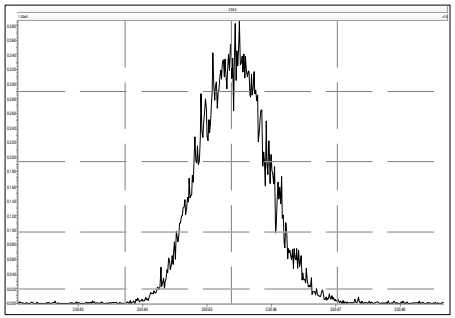
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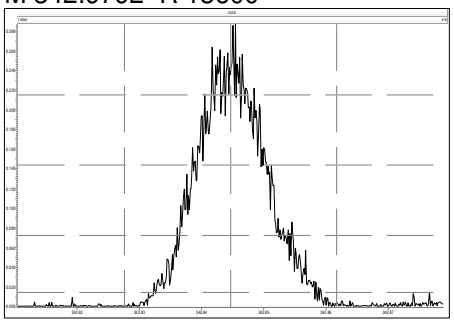
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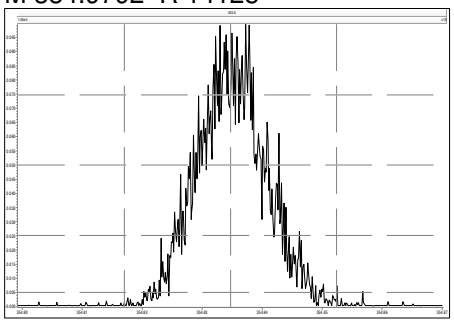
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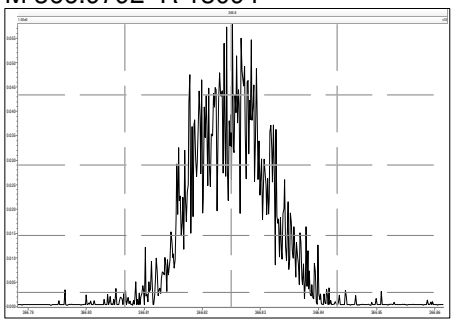
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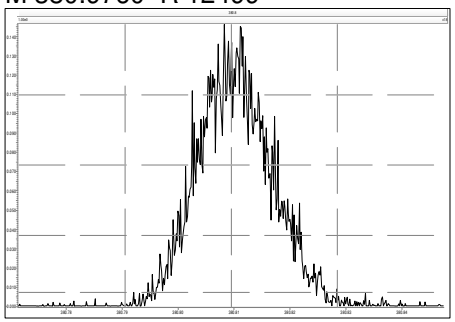
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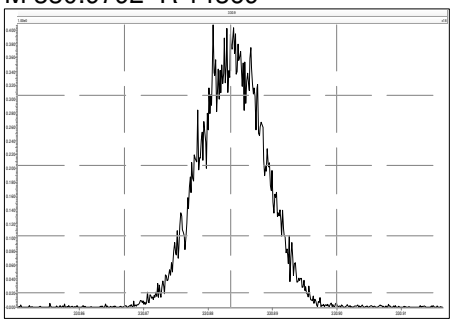
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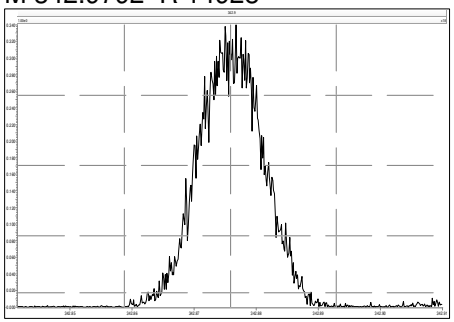
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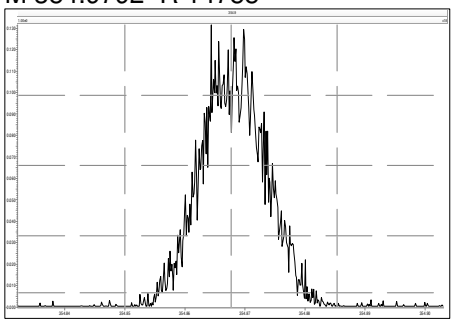
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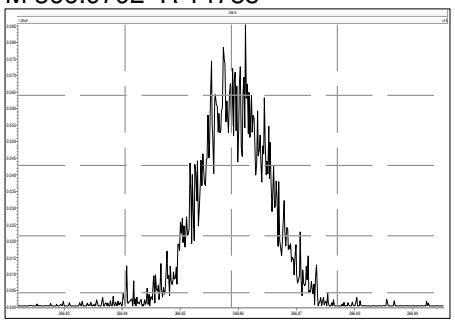
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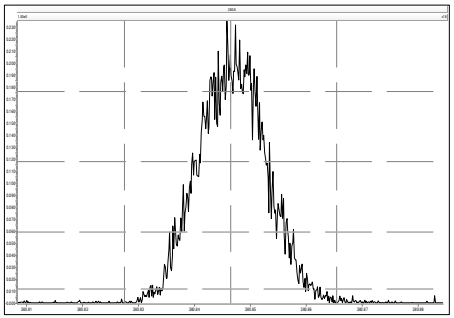
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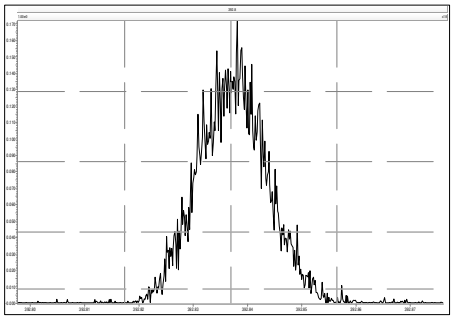
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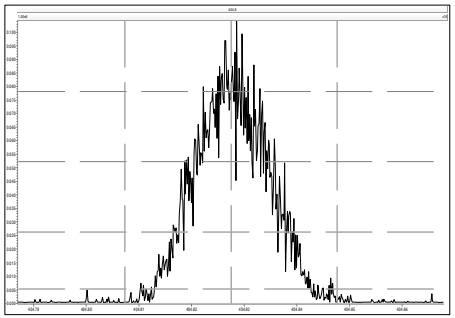
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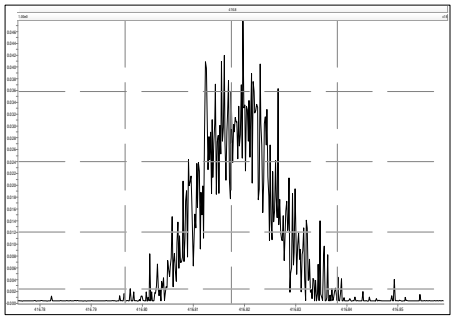
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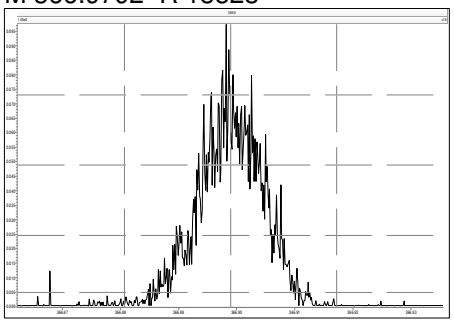
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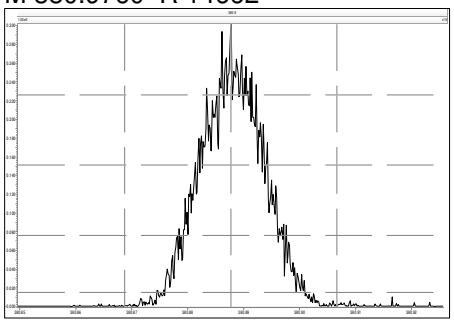
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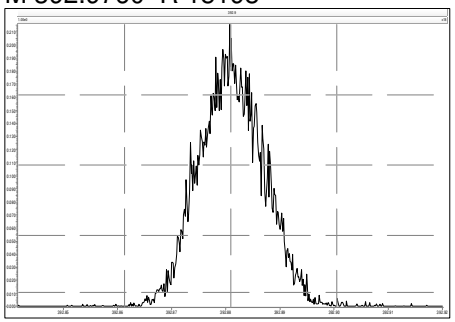
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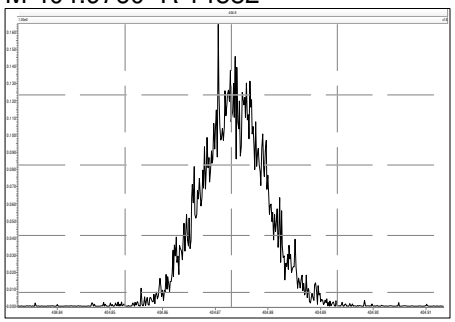
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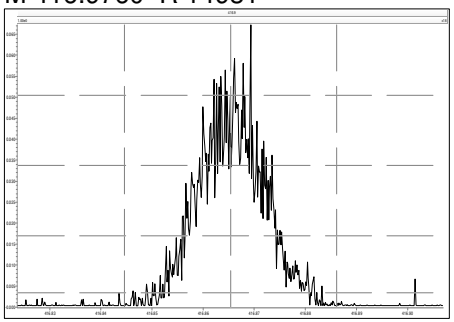
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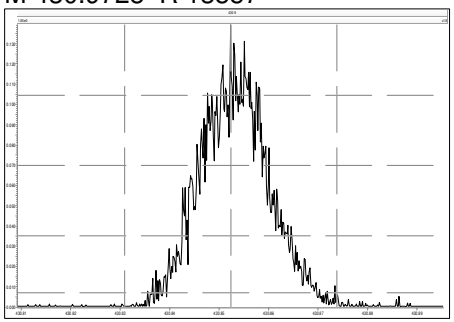
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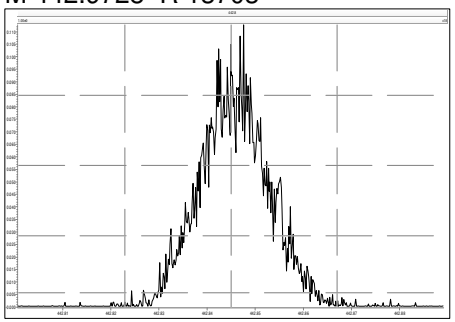
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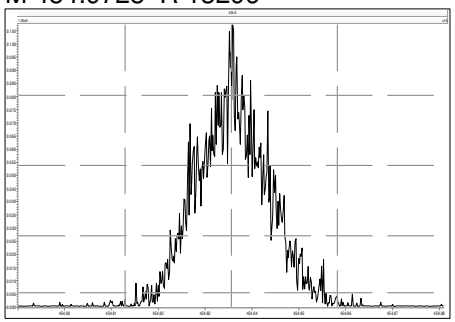
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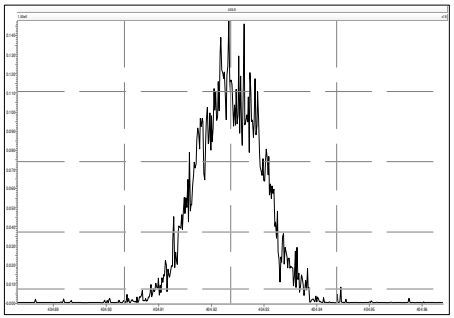
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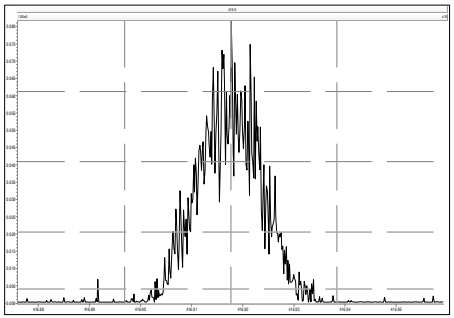
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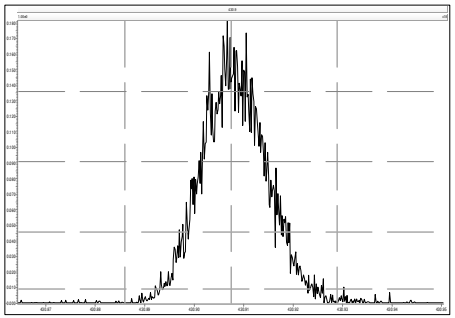
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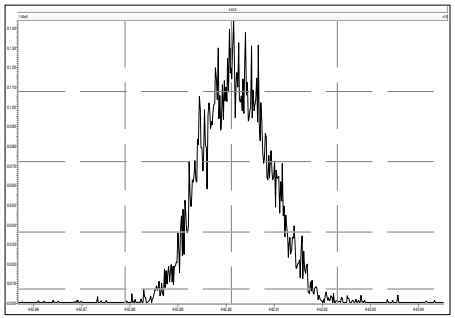
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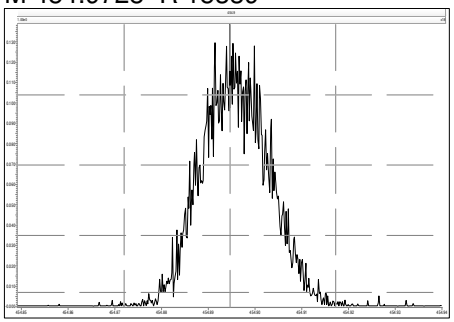
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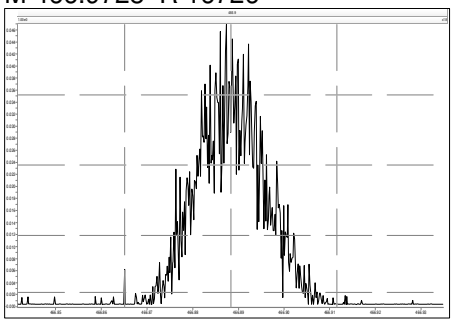
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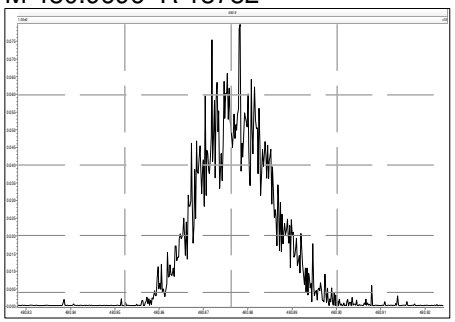
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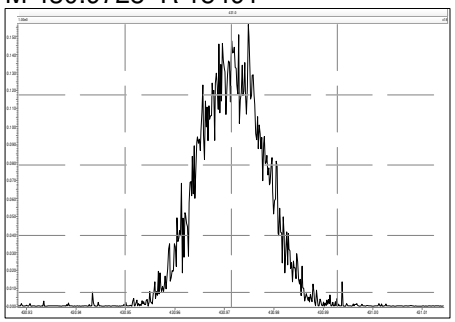
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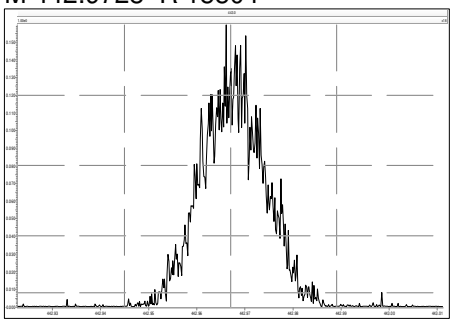
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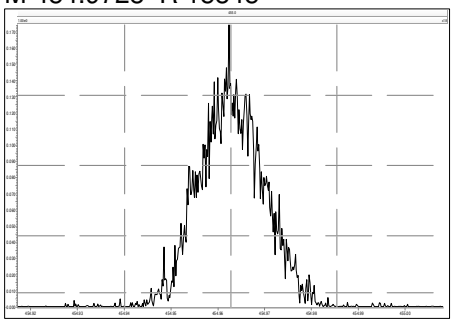
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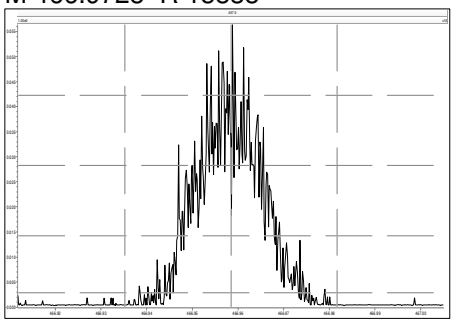
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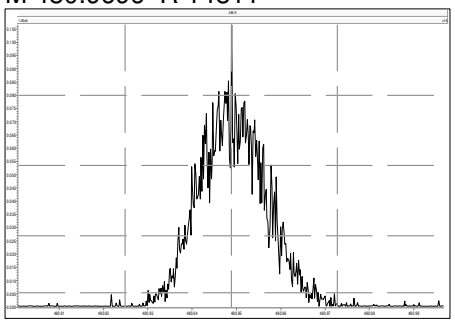
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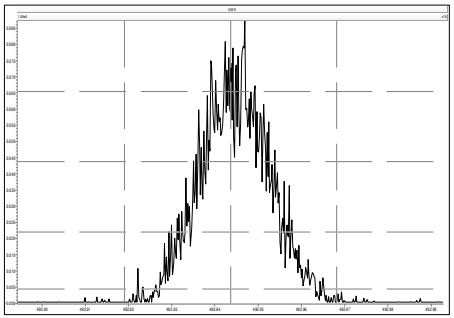
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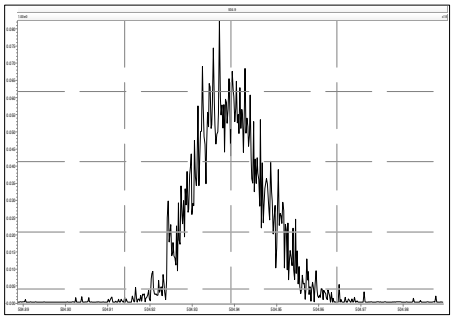
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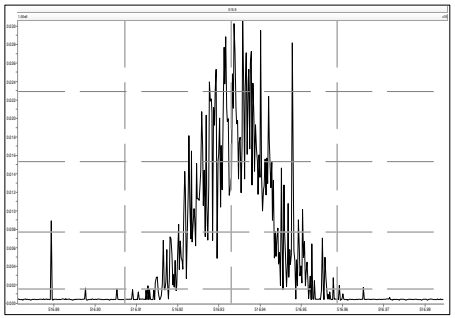
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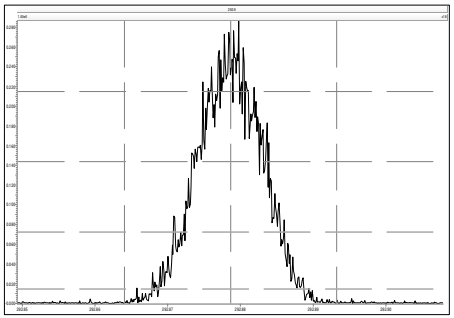


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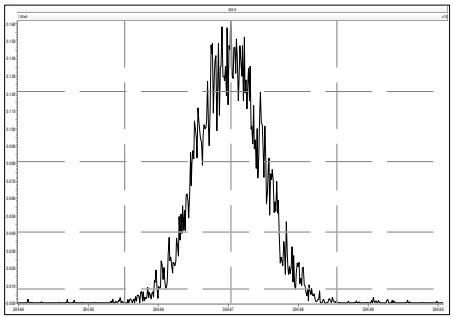


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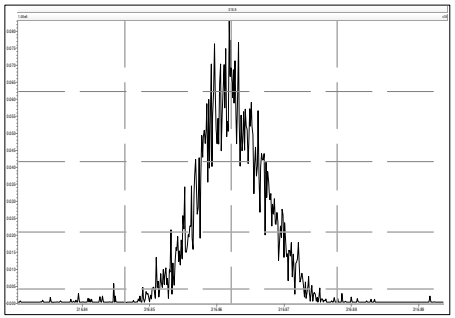
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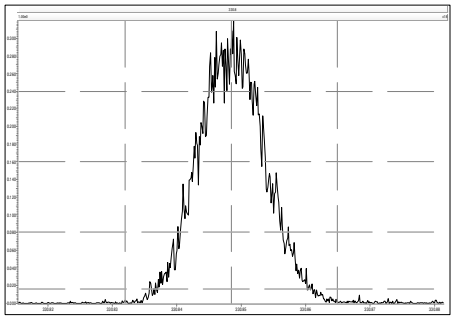
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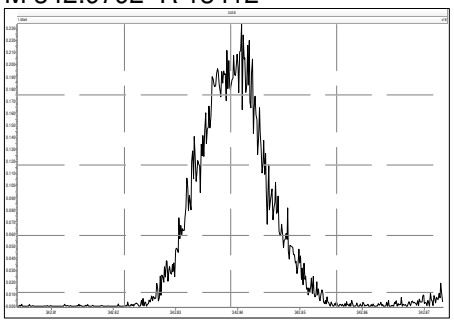
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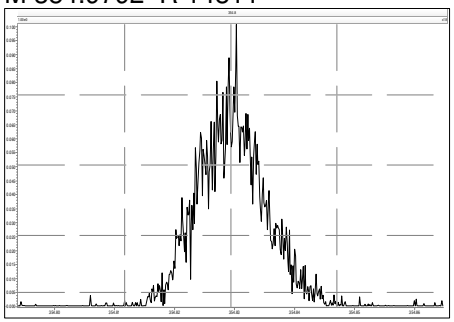
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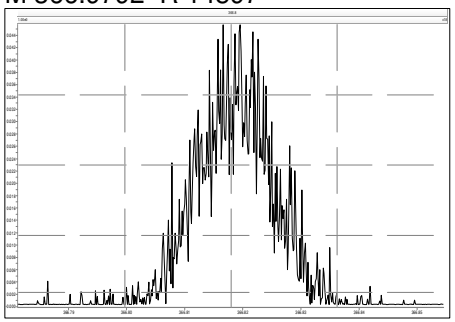
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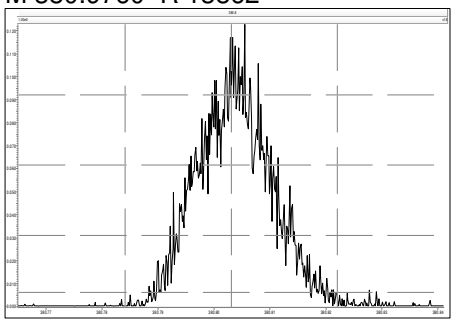
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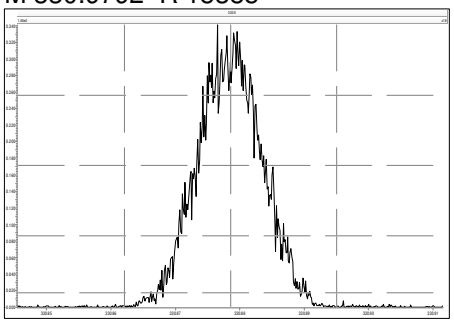
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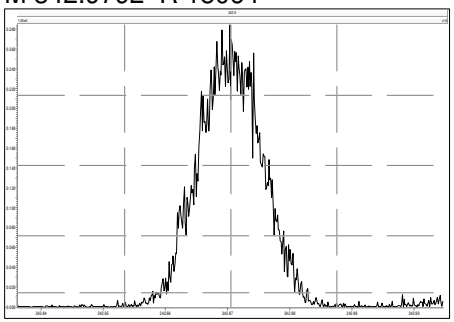
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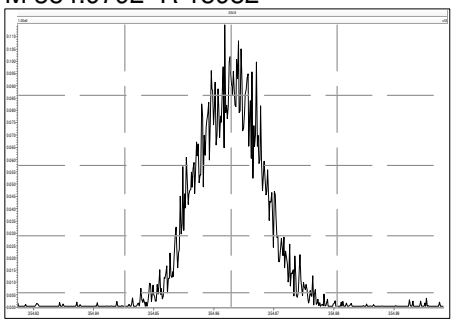
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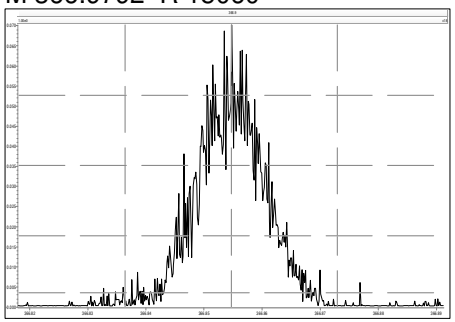
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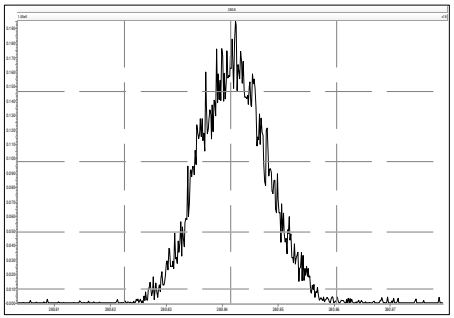
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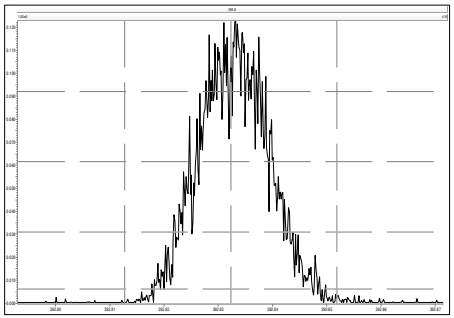
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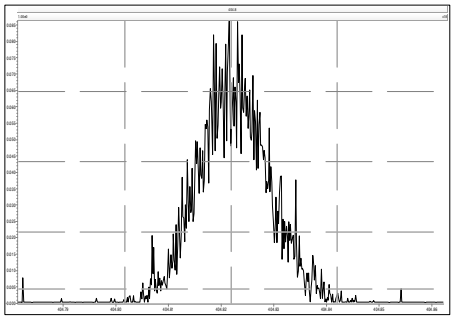
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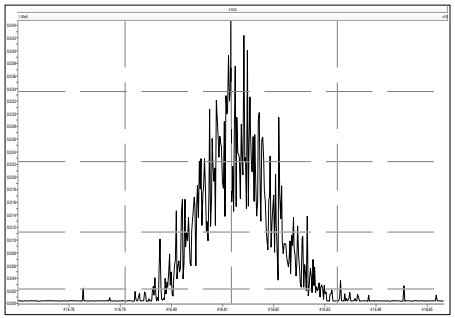
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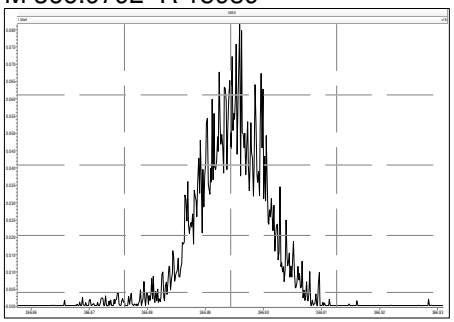
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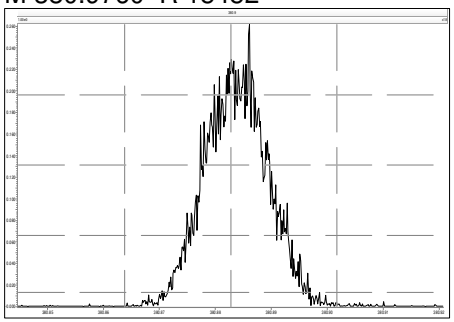
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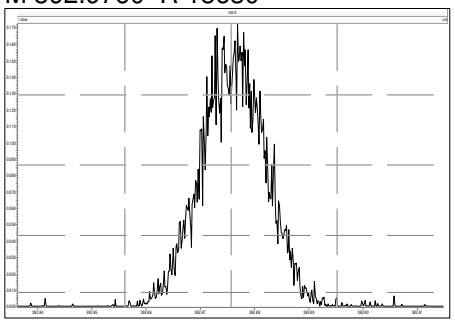
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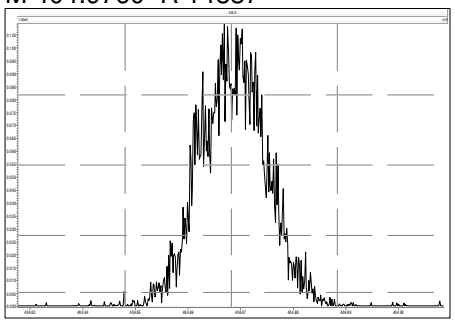
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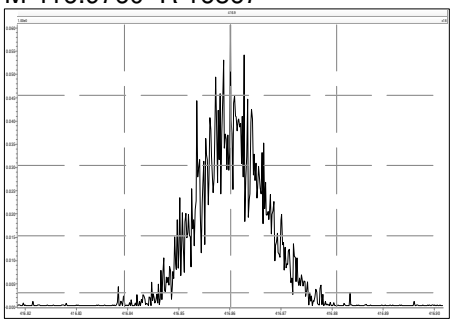
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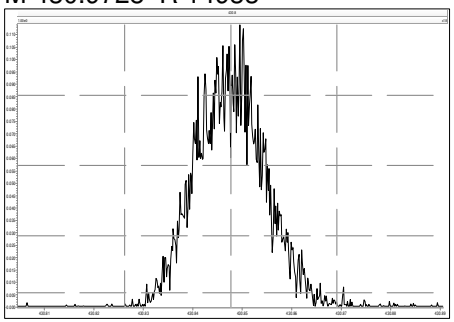
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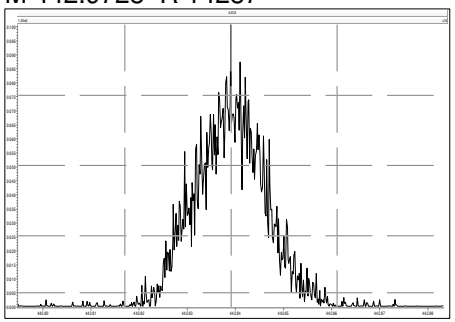
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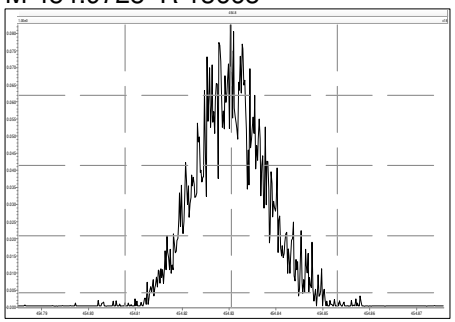
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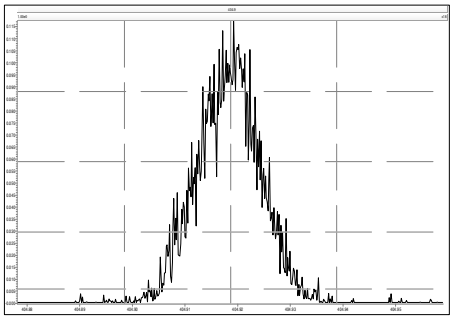
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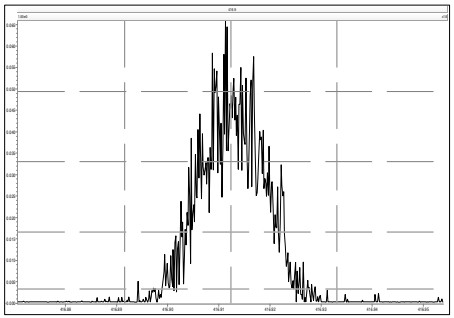
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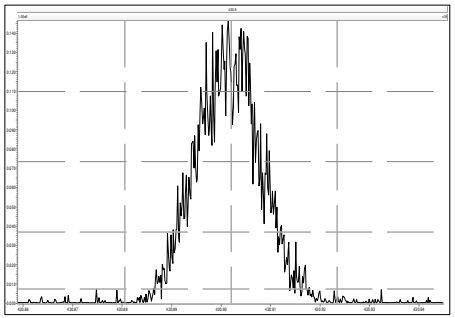
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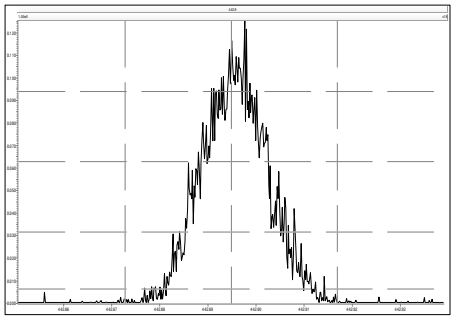
M 416.9760 R 17035



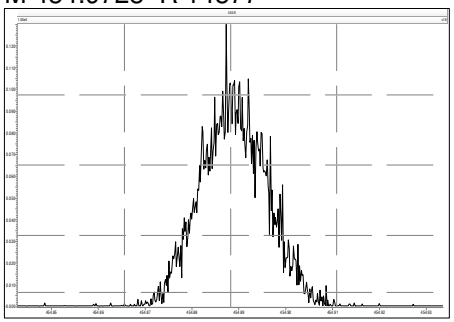
M 430.9728 R 15685



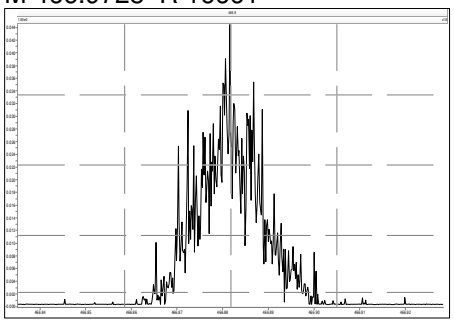
M 442.9728 R 14619



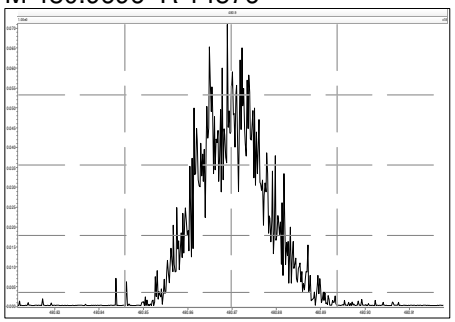
M 454.9728 R 14577



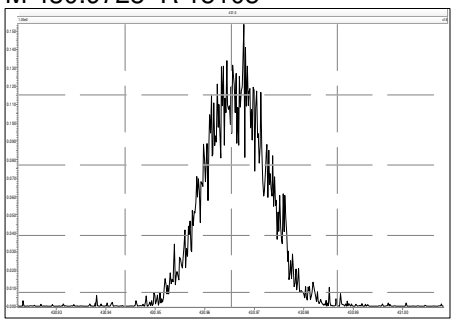
M 466.9728 R 16661



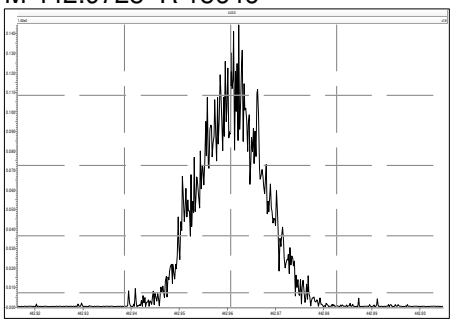
M 480.9696 R 14576



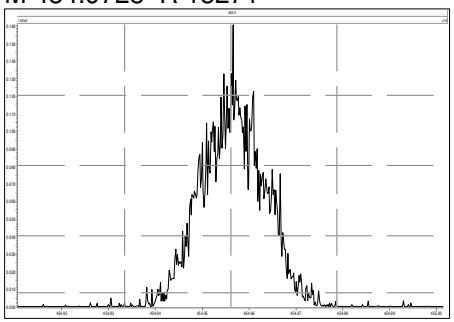
M 430.9728 R 15105



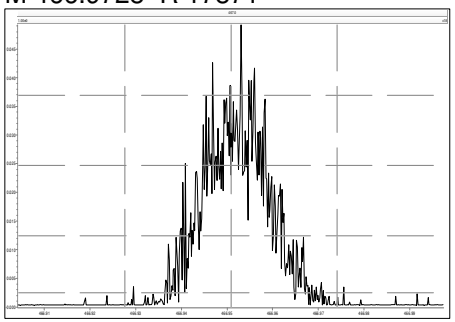
M 442.9728 R 15646



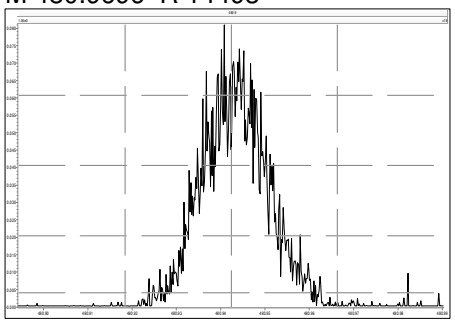
M 454.9728 R 15271



M 466.9728 R 17871

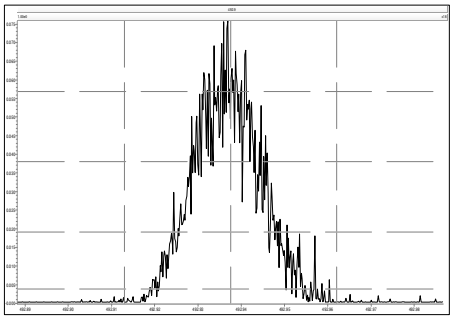


M 480.9696 R 14493

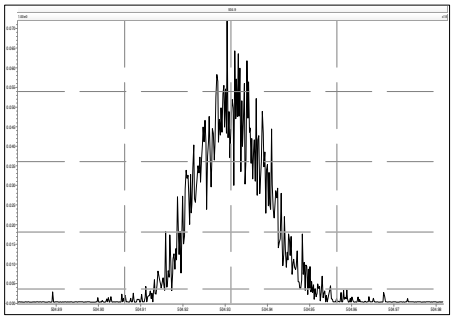


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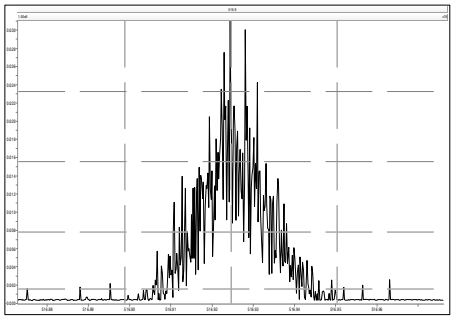
M 492.9696 R 15013



M 504.9696 R 14189



M 516.9697 R 15975



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

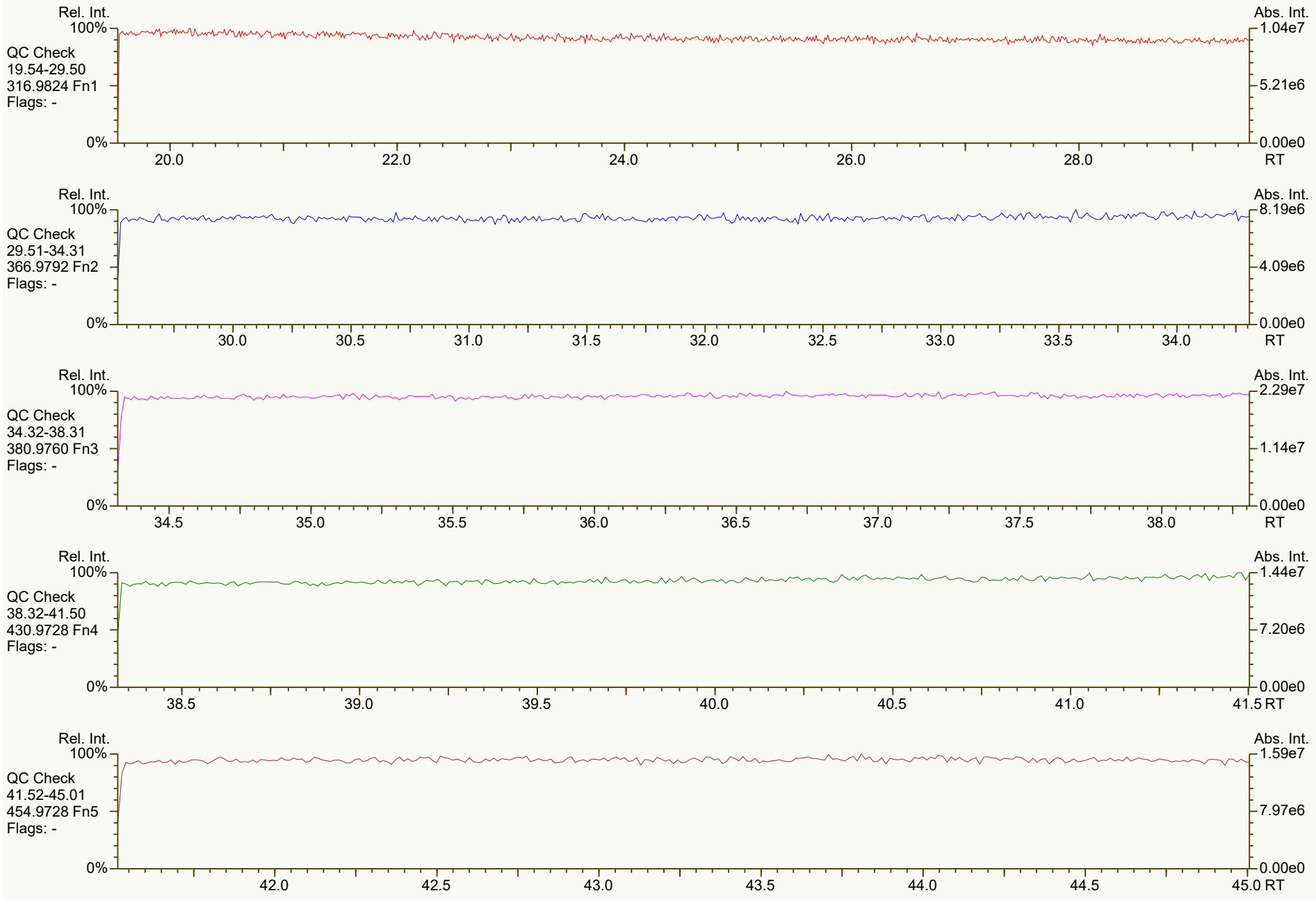
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

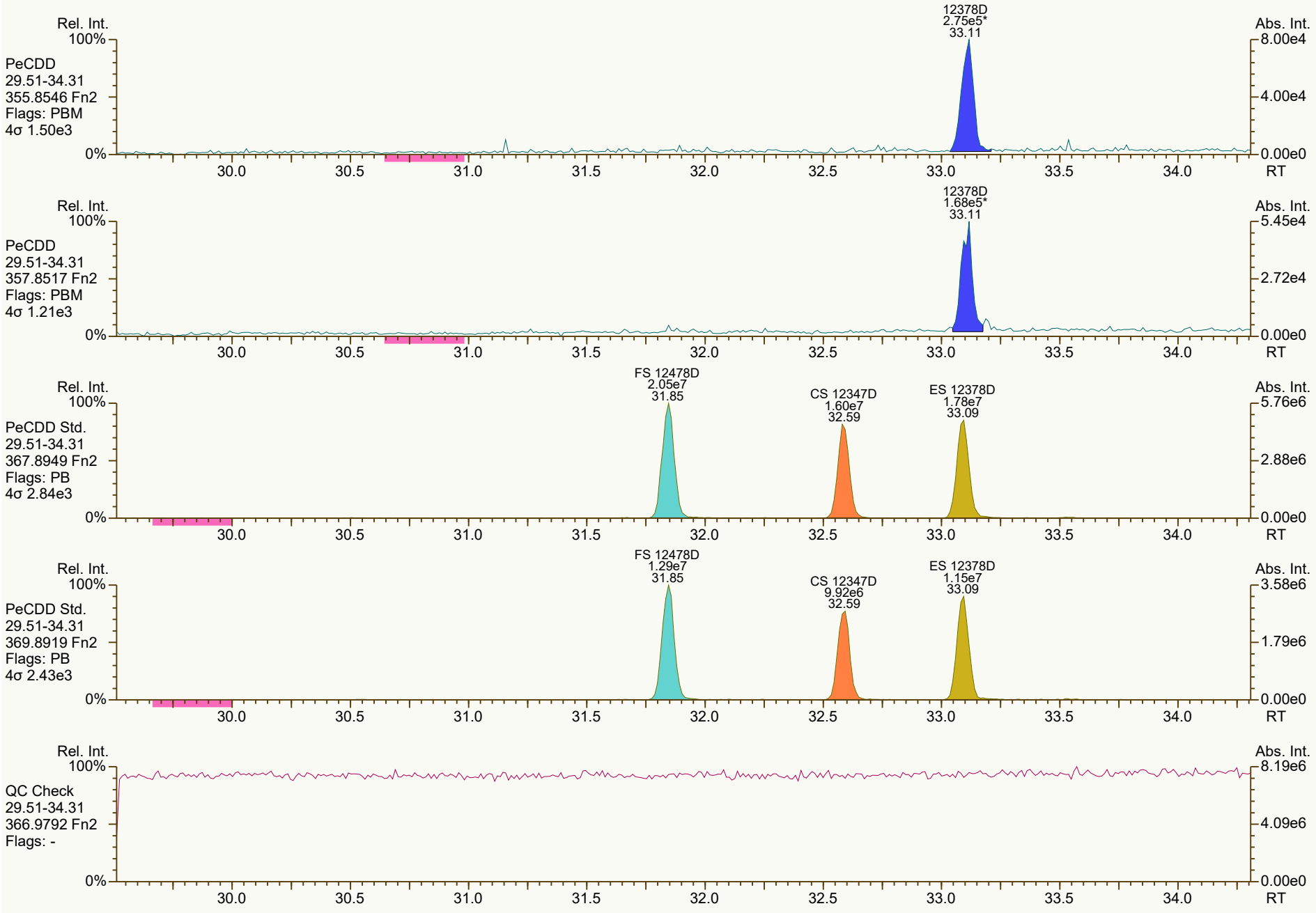
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

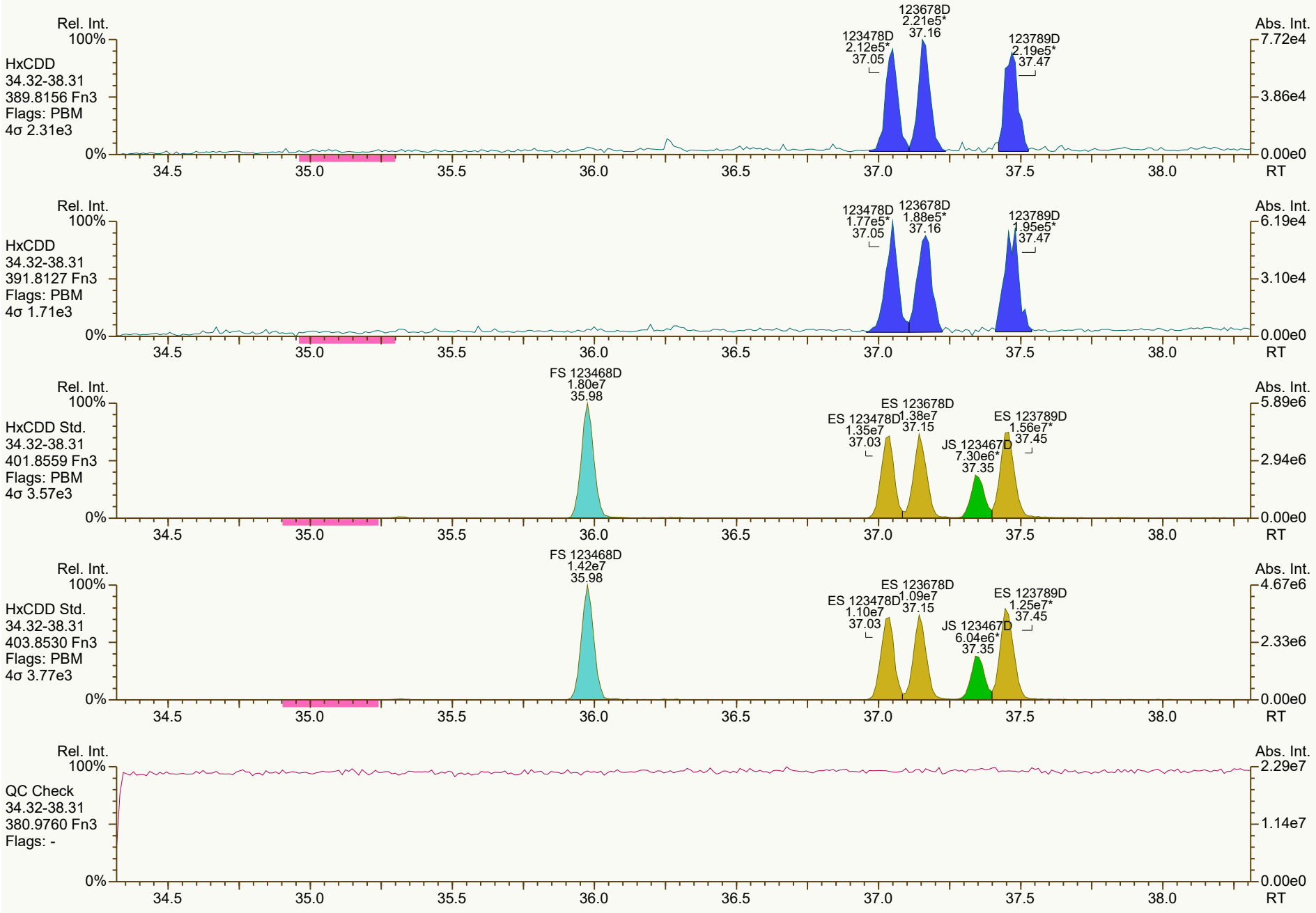
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

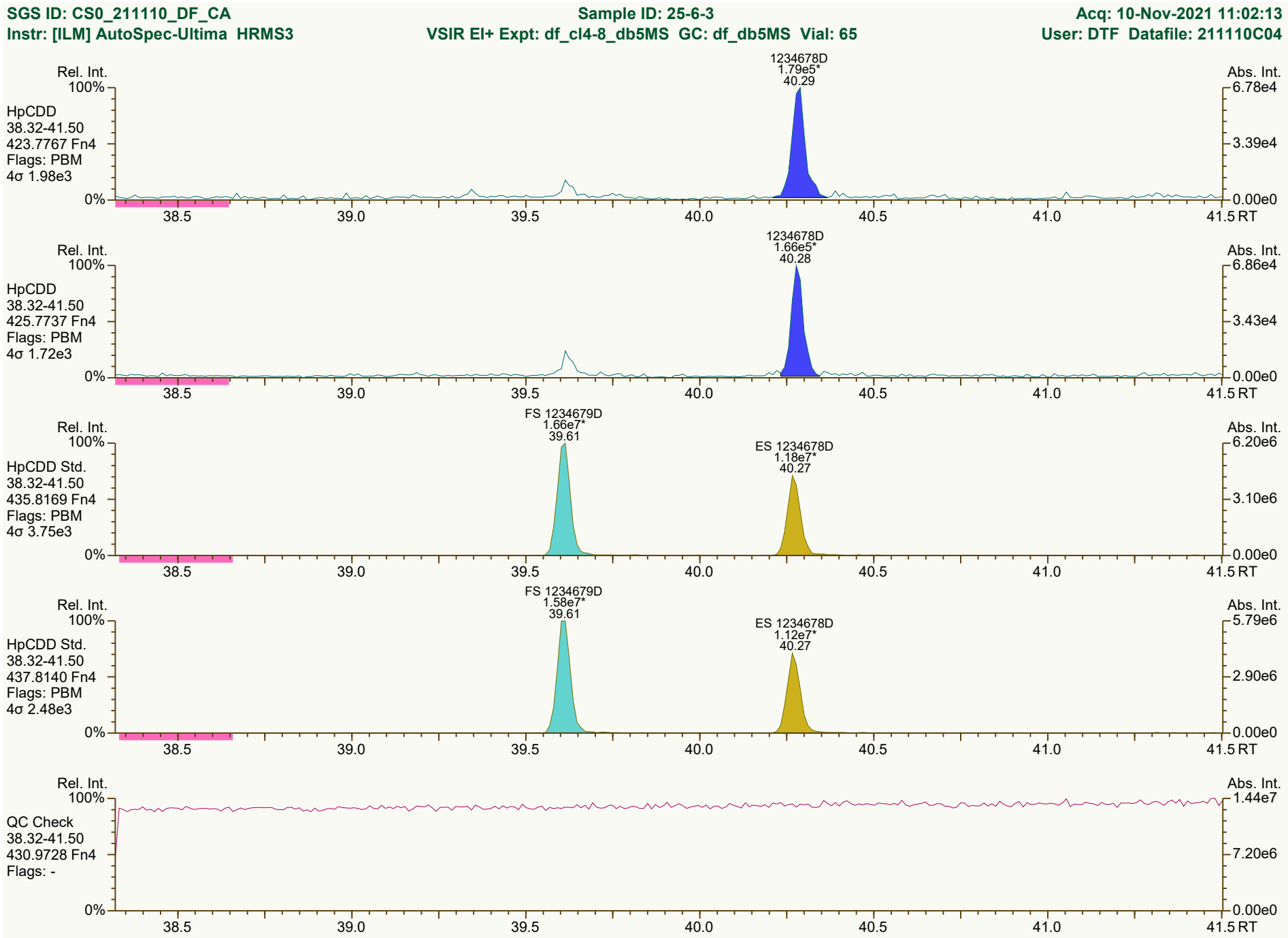


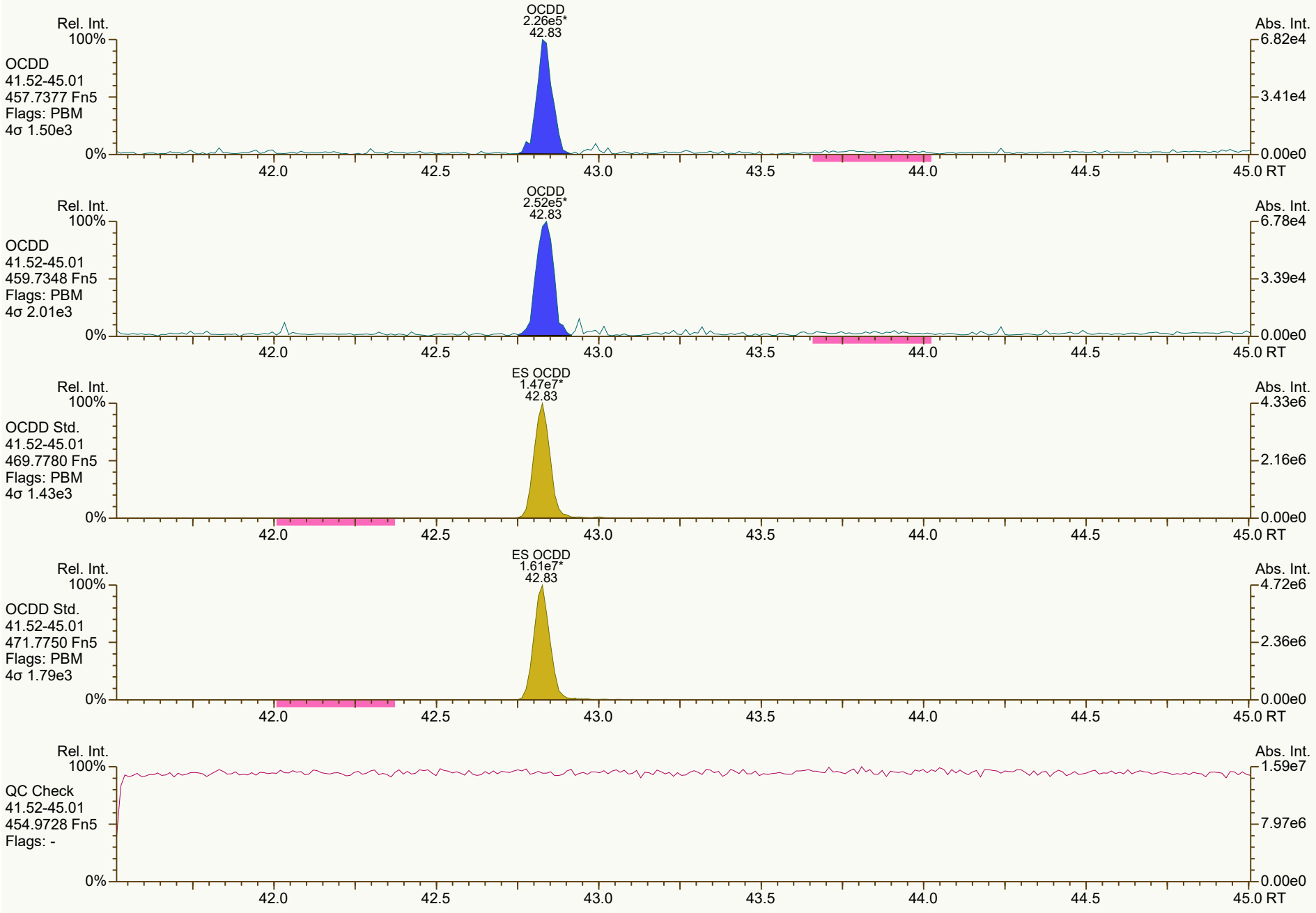
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 245-007
PKD: n/a Printed: 11-Nov-2021 16:32 Page 1 of 12

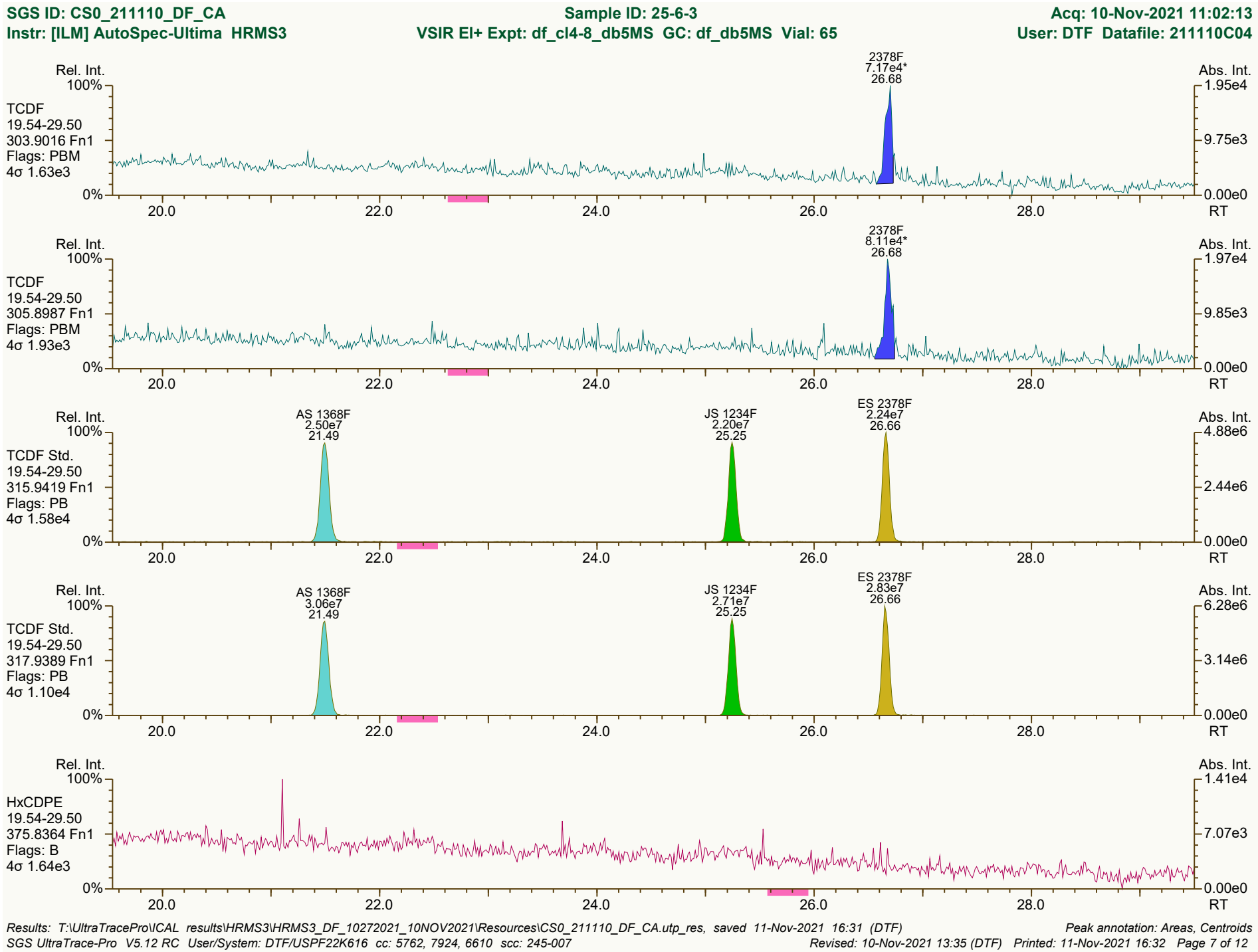

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
1234678D
1.79e5*
40.29
6.78e4
3.39e4
0.00e0
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
1234678D
1.66e5*
40.28
6.86e4
3.43e4
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
6.20e6
3.10e6
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
5.79e6
2.90e6
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.44e7
7.20e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4561, 9426 scc: 245-007
Revised: 10-Nov-2021 13:32 (DTF) Printed: 11-Nov-2021 16:32 Page 5 of 12

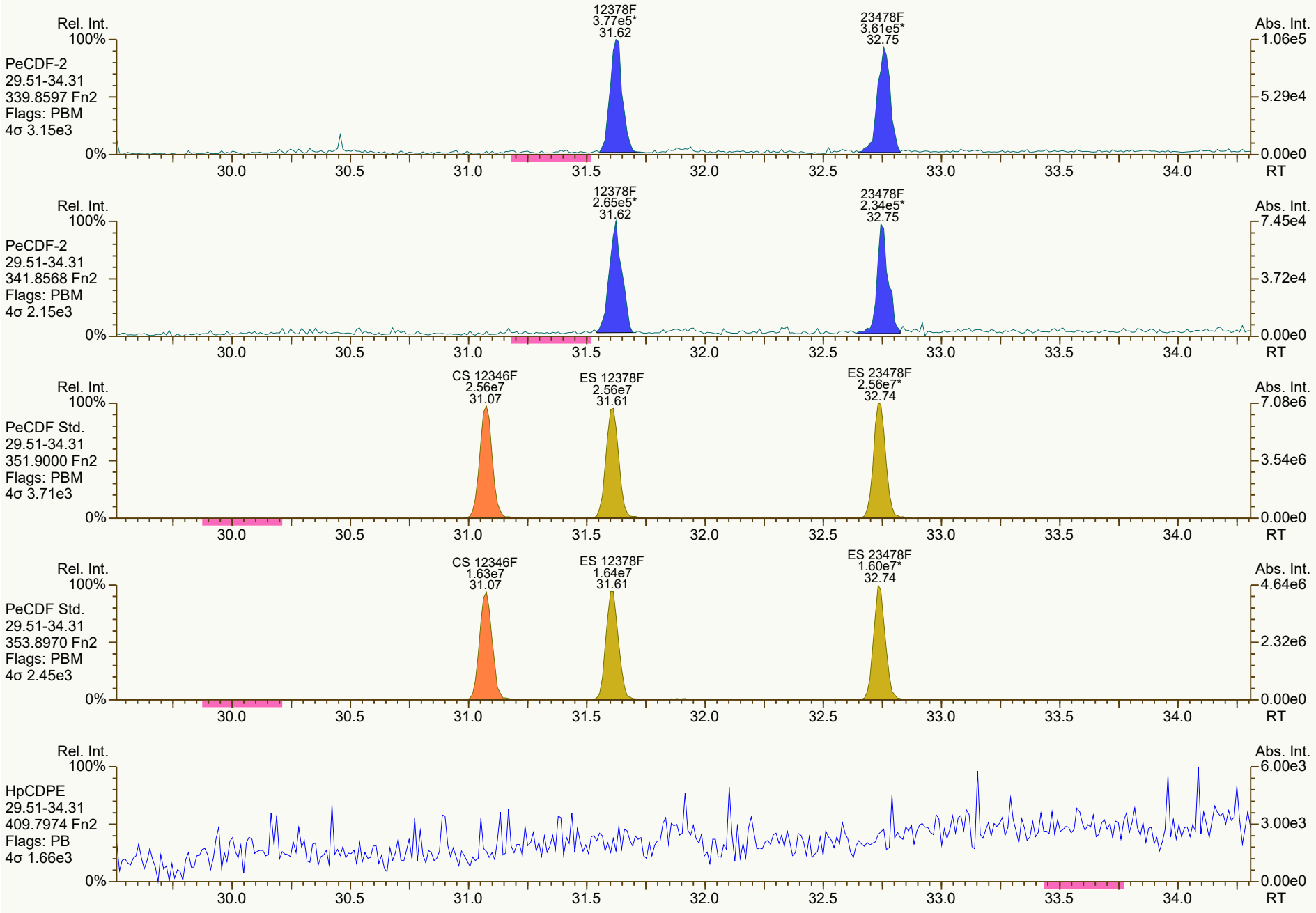

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

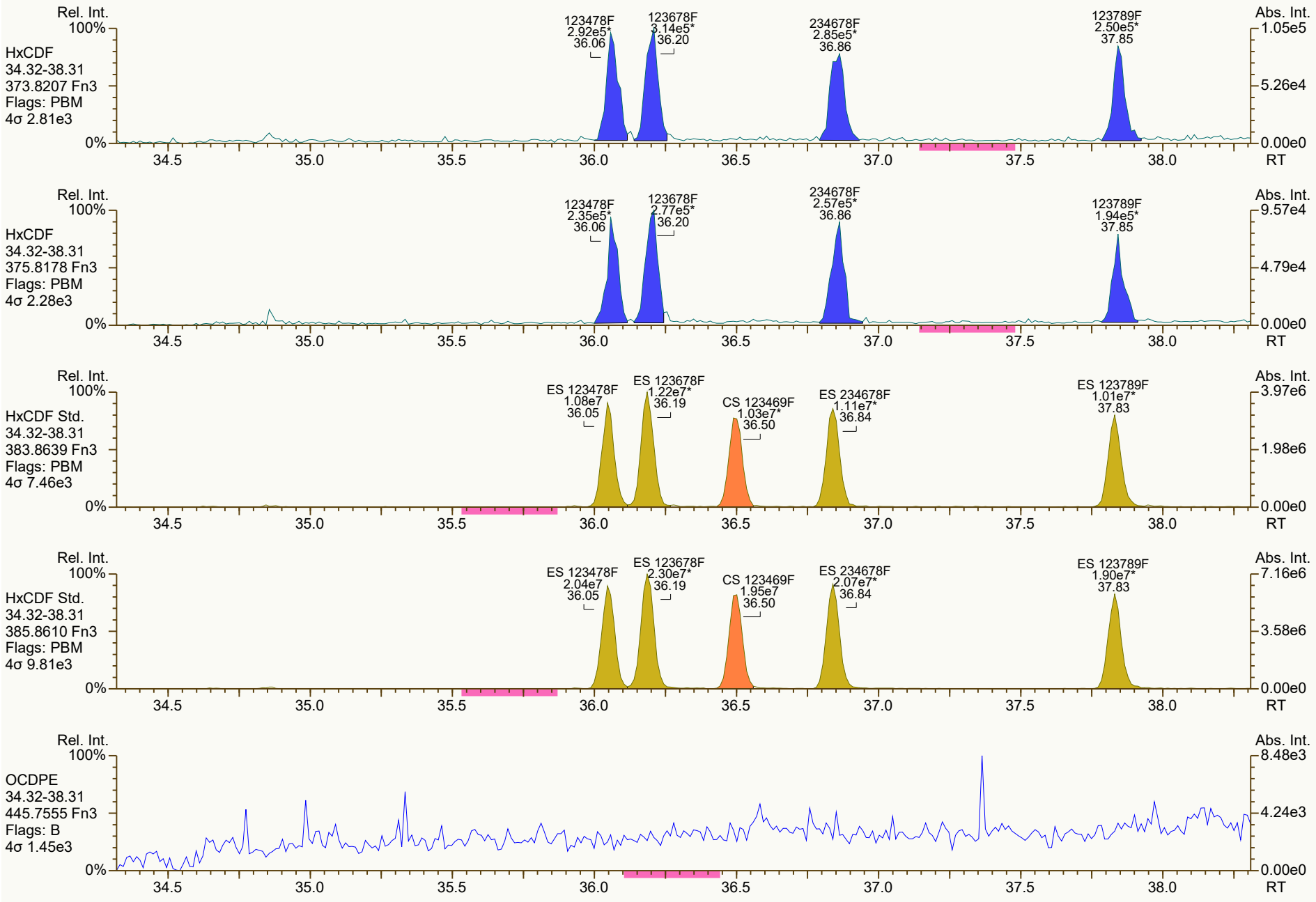

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
1.95e4
9.75e3
0.00e0
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
1.97e4
9.85e3
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
4.88e6
2.44e6
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
6.28e6
3.14e6
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
1.41e4
7.07e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5762, 7924, 6610 scc: 245-007
Revised: 10-Nov-2021 13:35 (DTF) Printed: 11-Nov-2021 16:32 Page 7 of 12

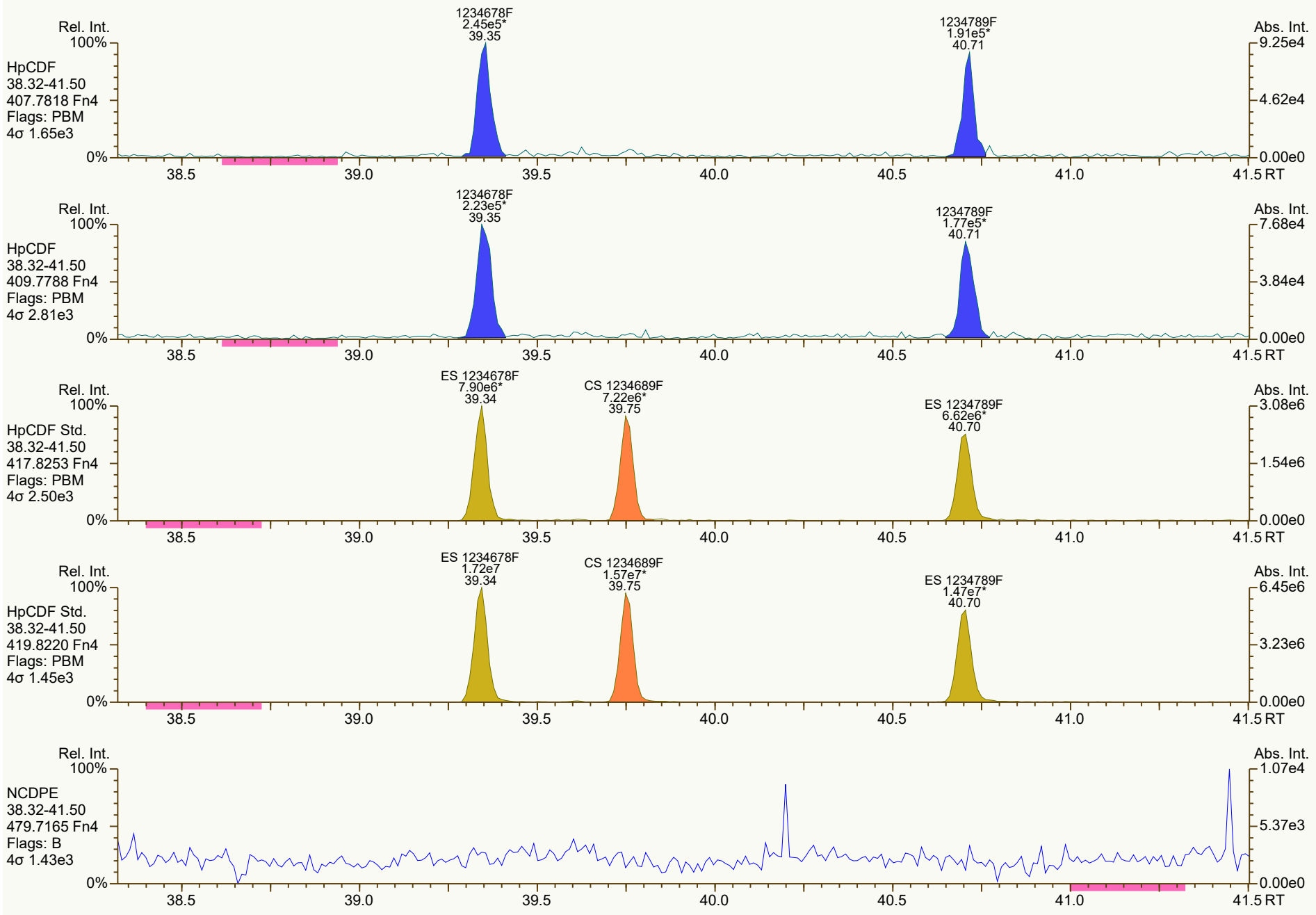
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04

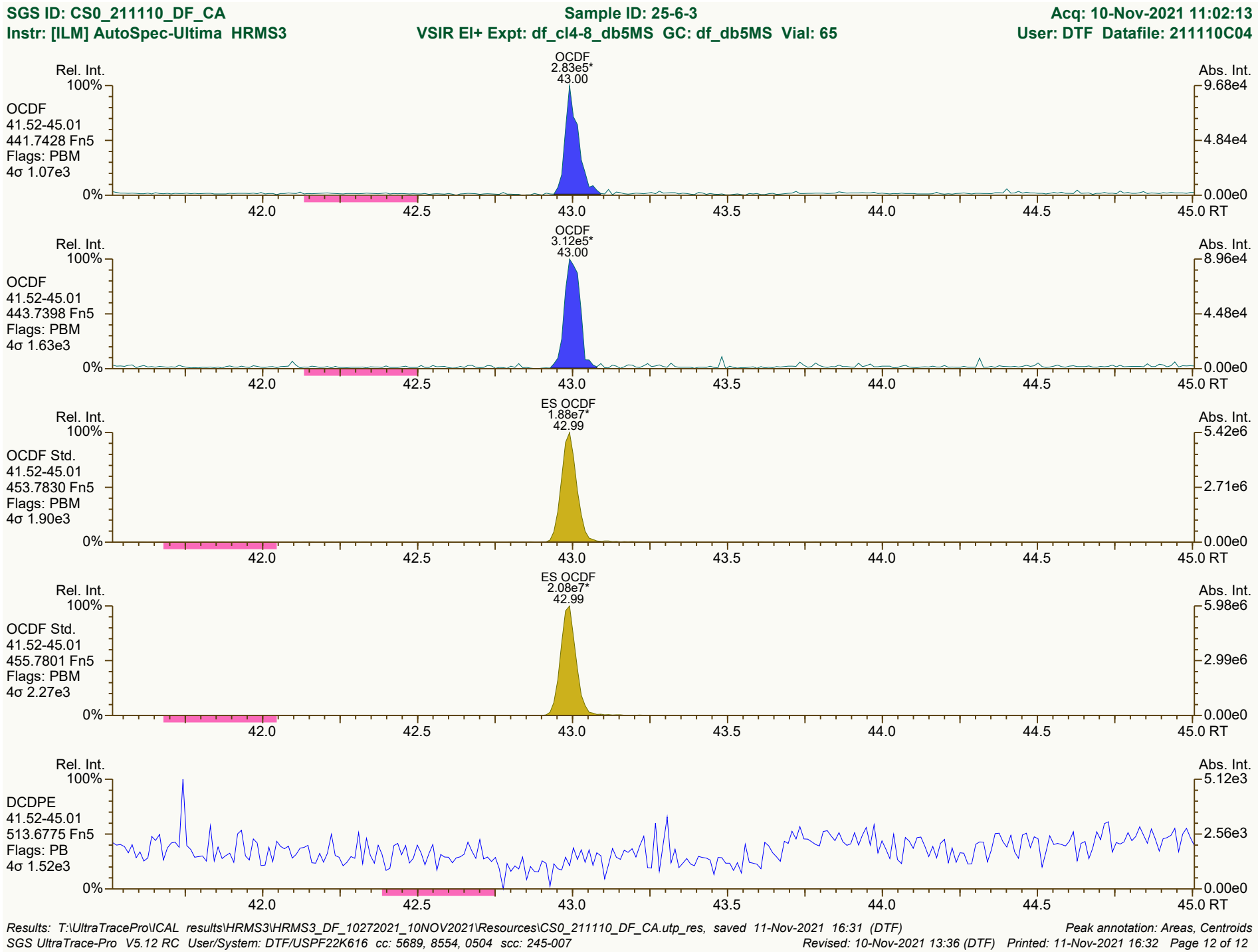


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

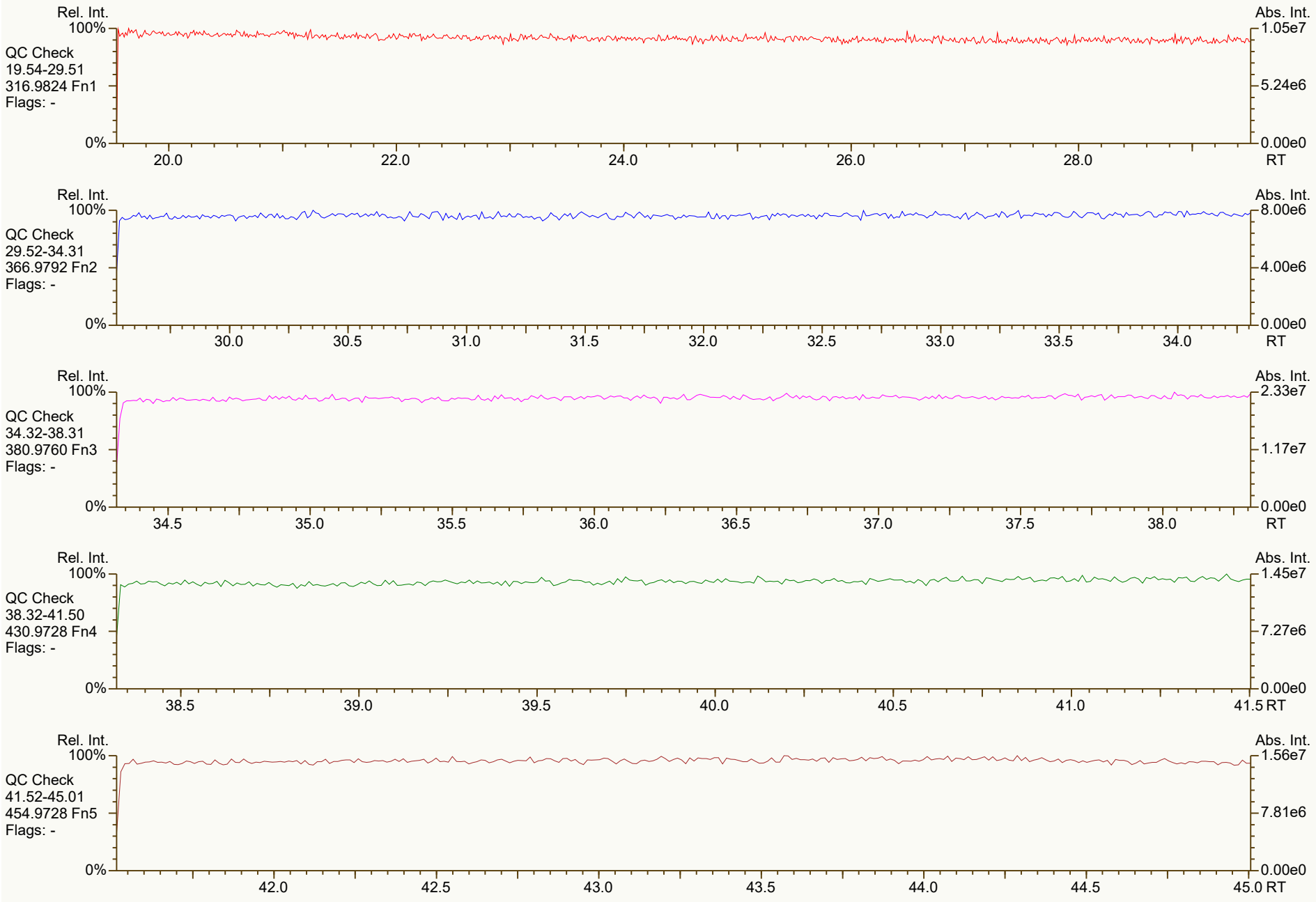

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

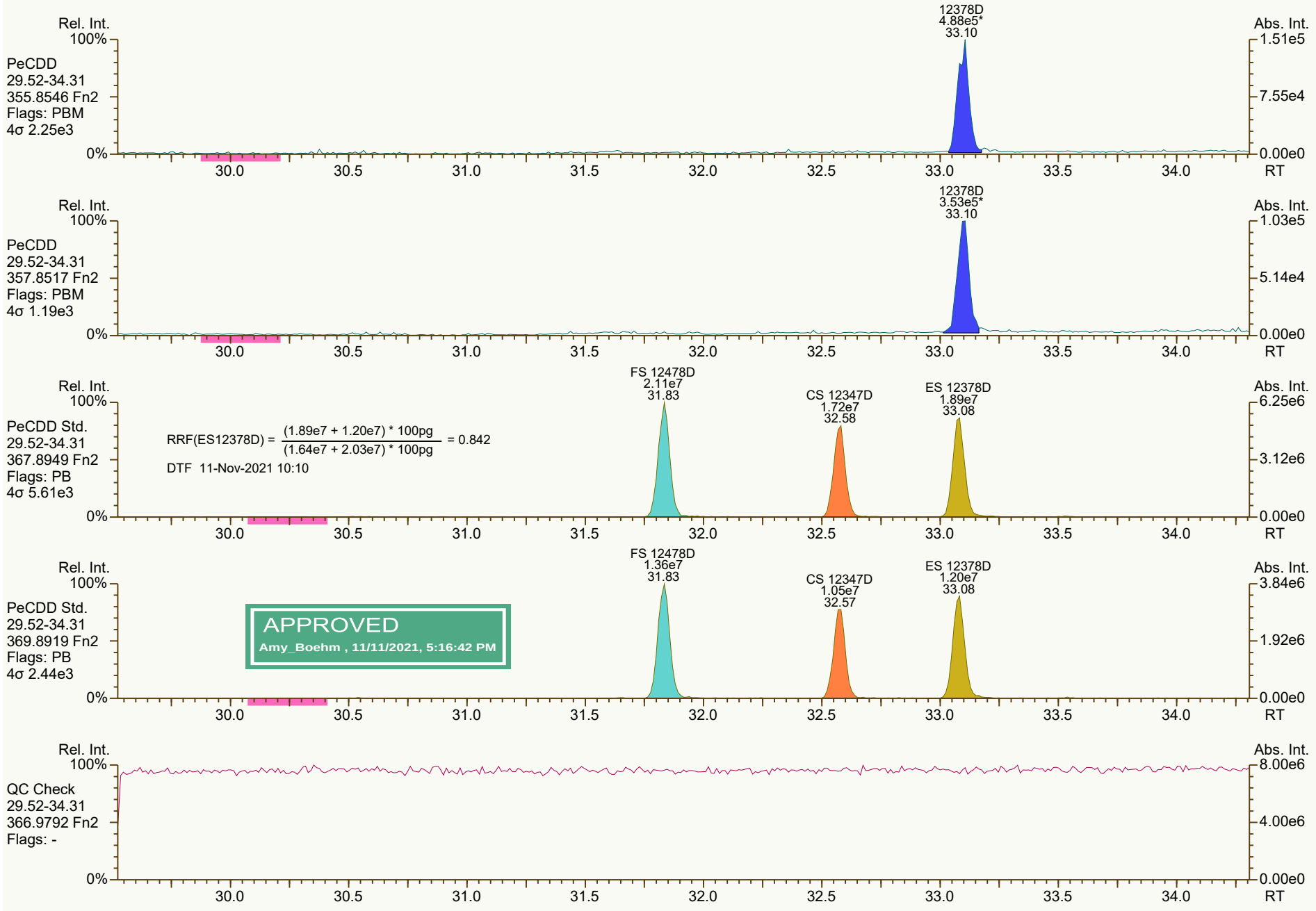

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
OCDF
2.83e5*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

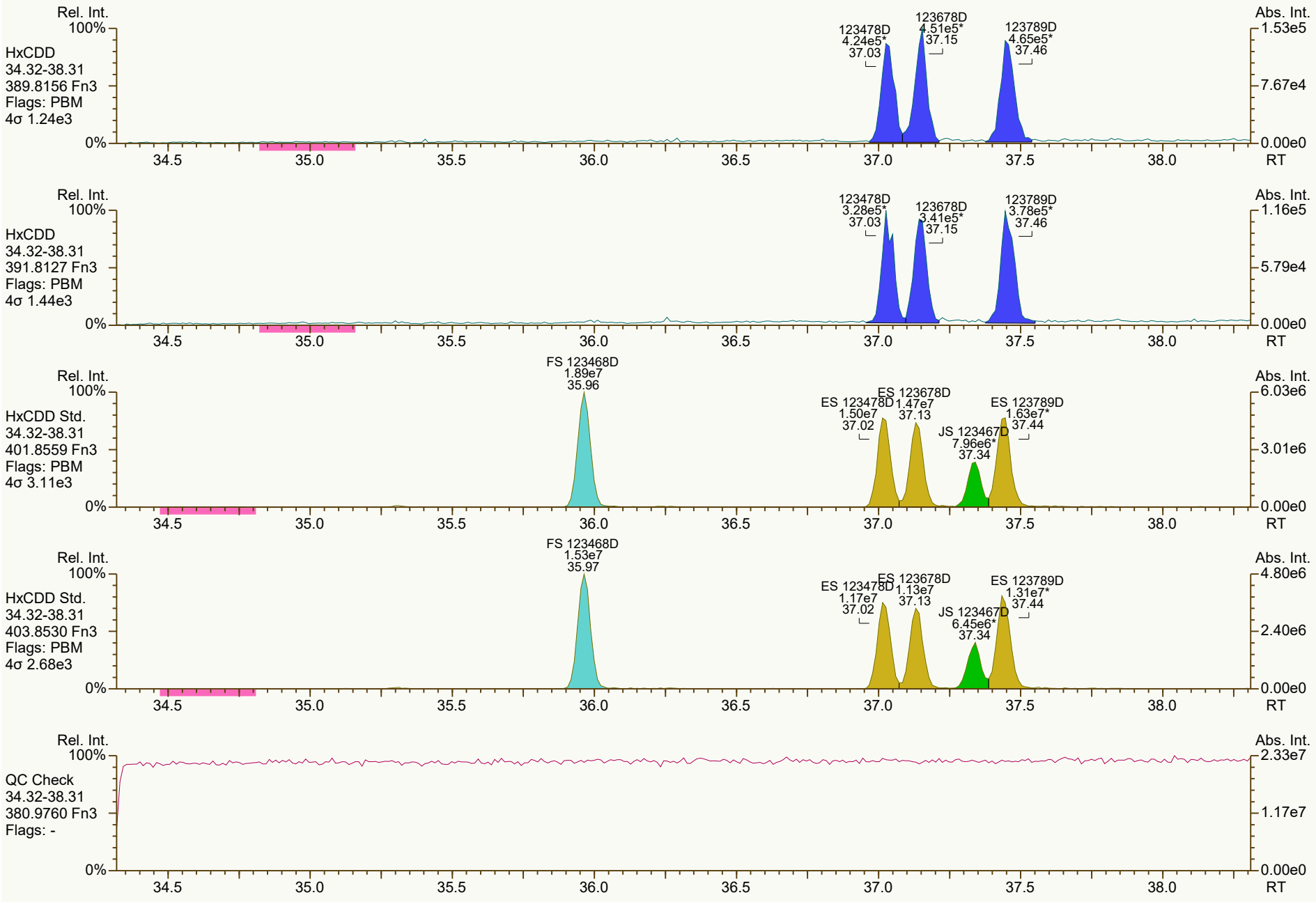
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

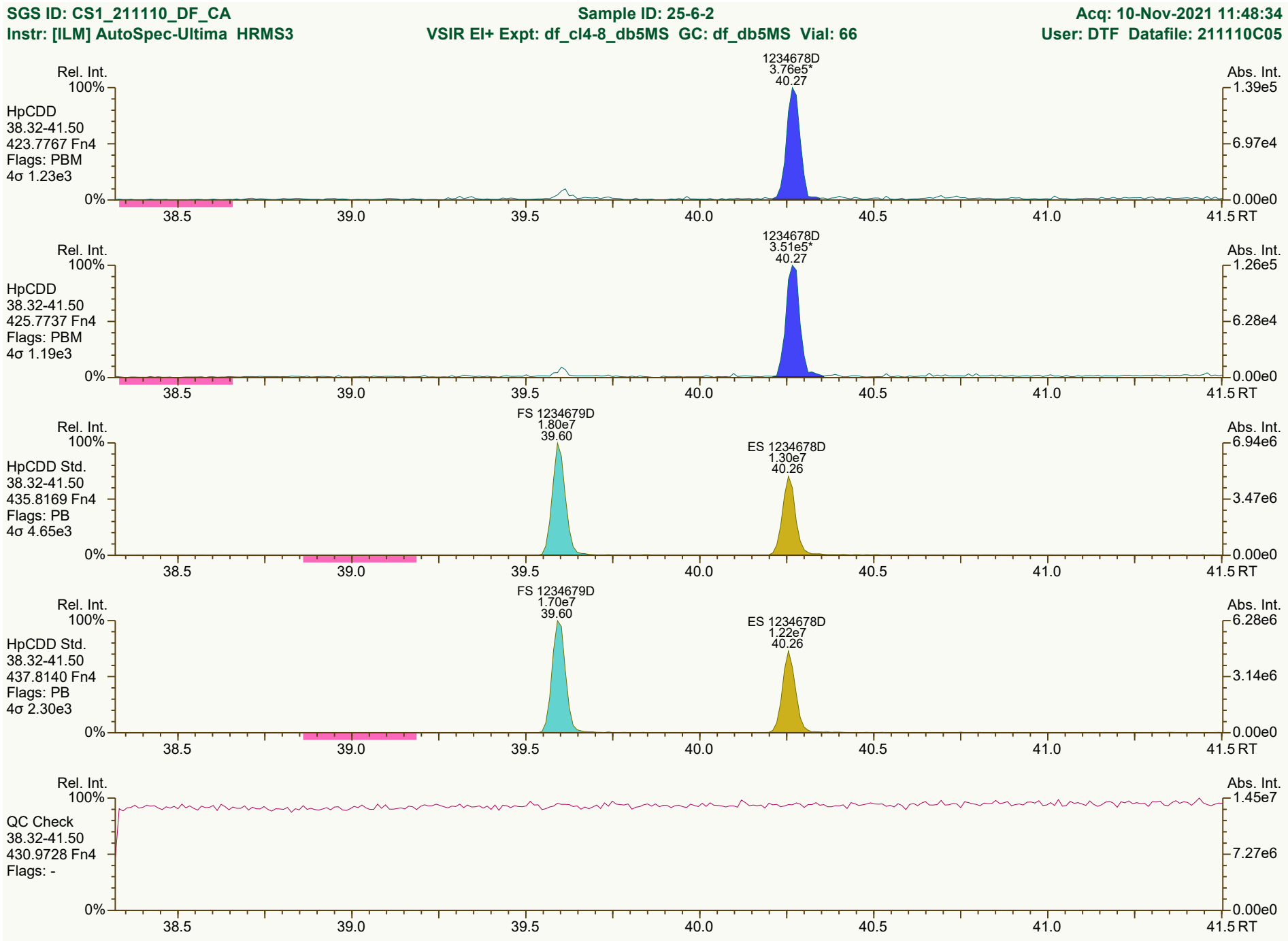
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

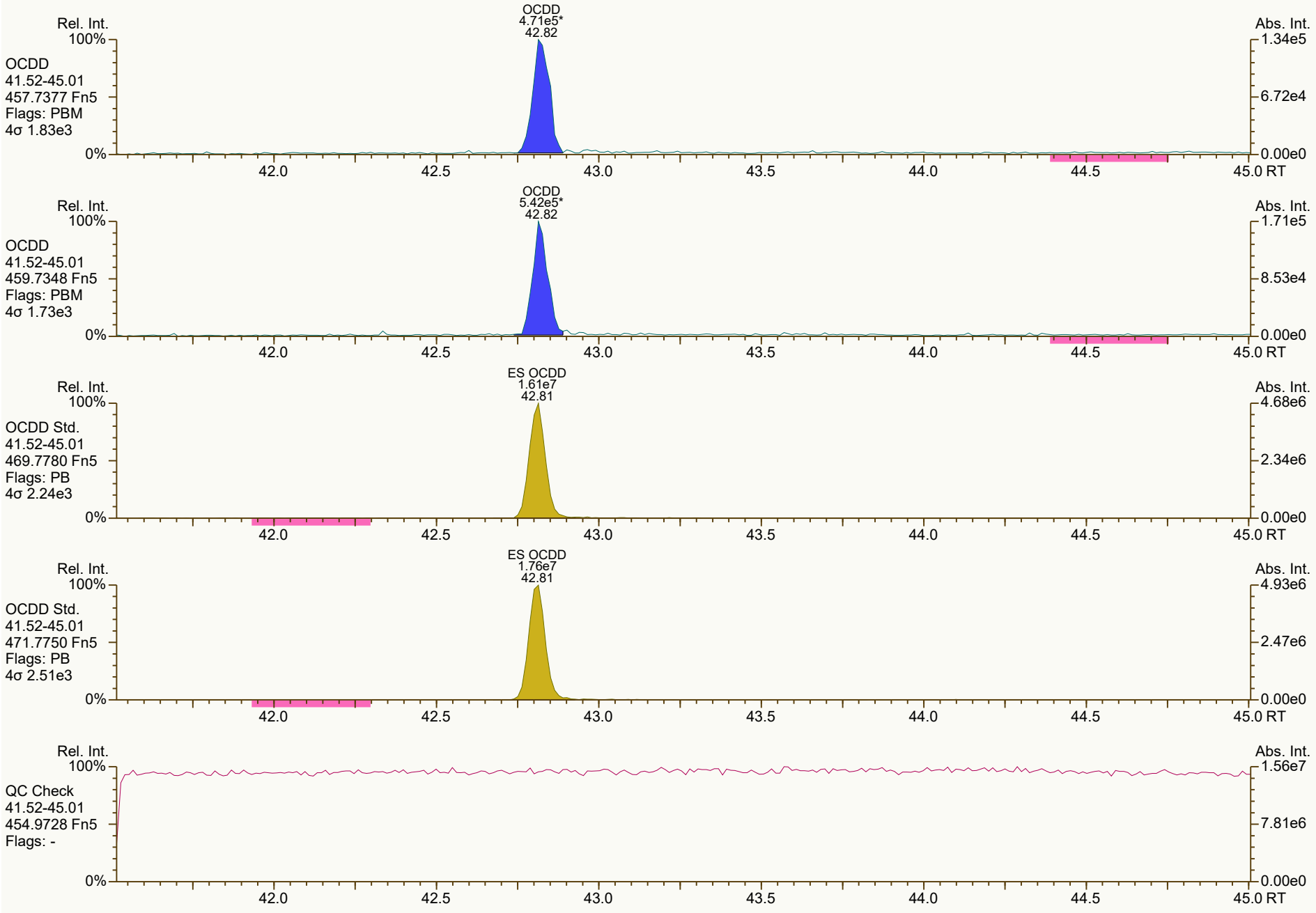

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

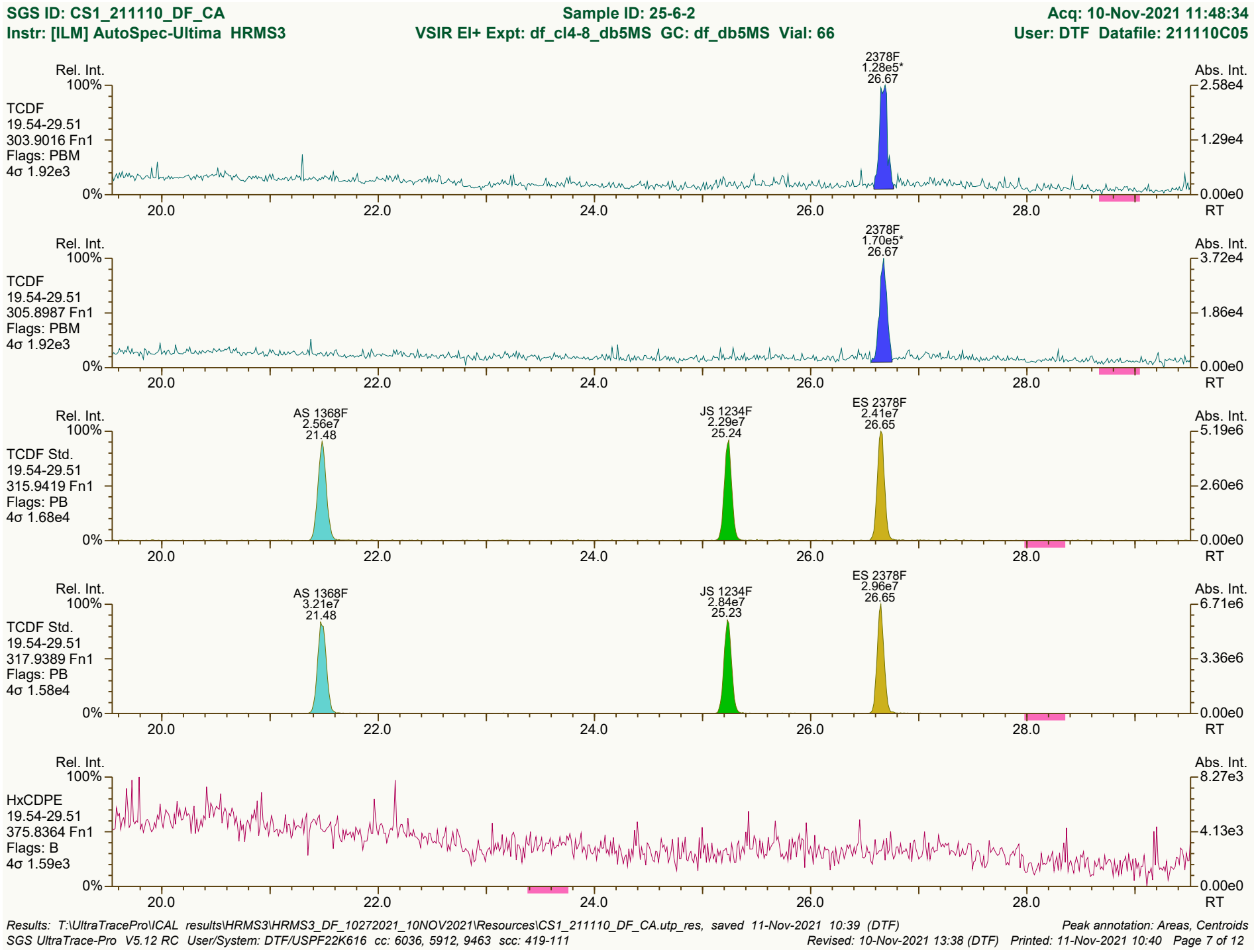

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
1234678D
3.76e5*
40.27
1.39e5
6.97e4
0.00e0
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
1234678D
3.51e5*
40.27
1.26e5
6.28e4
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
6.94e6
3.47e6
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
6.28e6
3.14e6
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.45e7
7.27e6
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3000, 9835 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 5 of 12


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.28e5*
26.67
2.58e4
1.29e4
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.70e5*
26.67
3.72e4
1.86e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
5.19e6
2.60e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
6.71e6
3.36e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
8.27e3
4.13e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6036, 5912, 9463 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 7 of 12

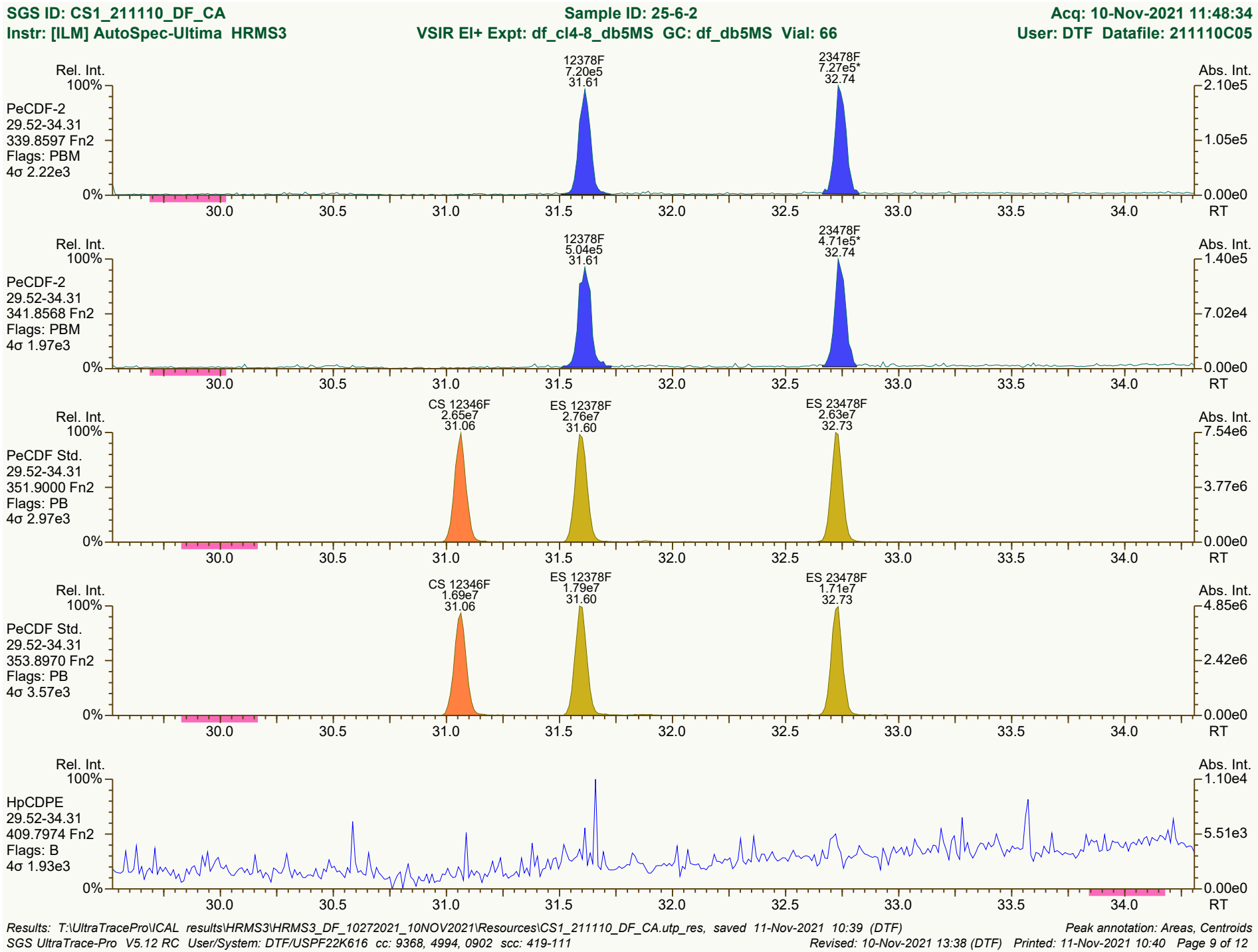
SGS ID: CS1_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

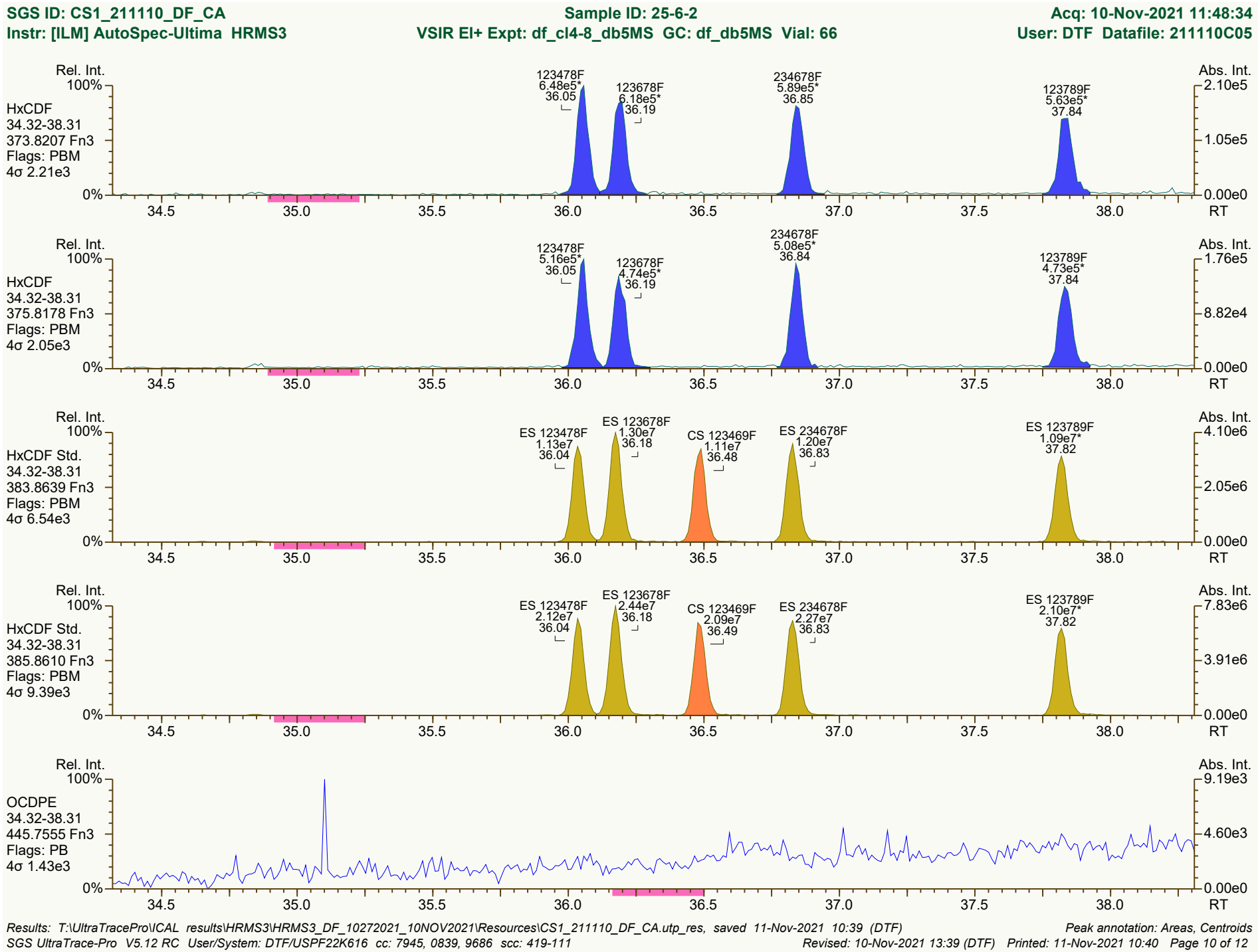
Sample ID: 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

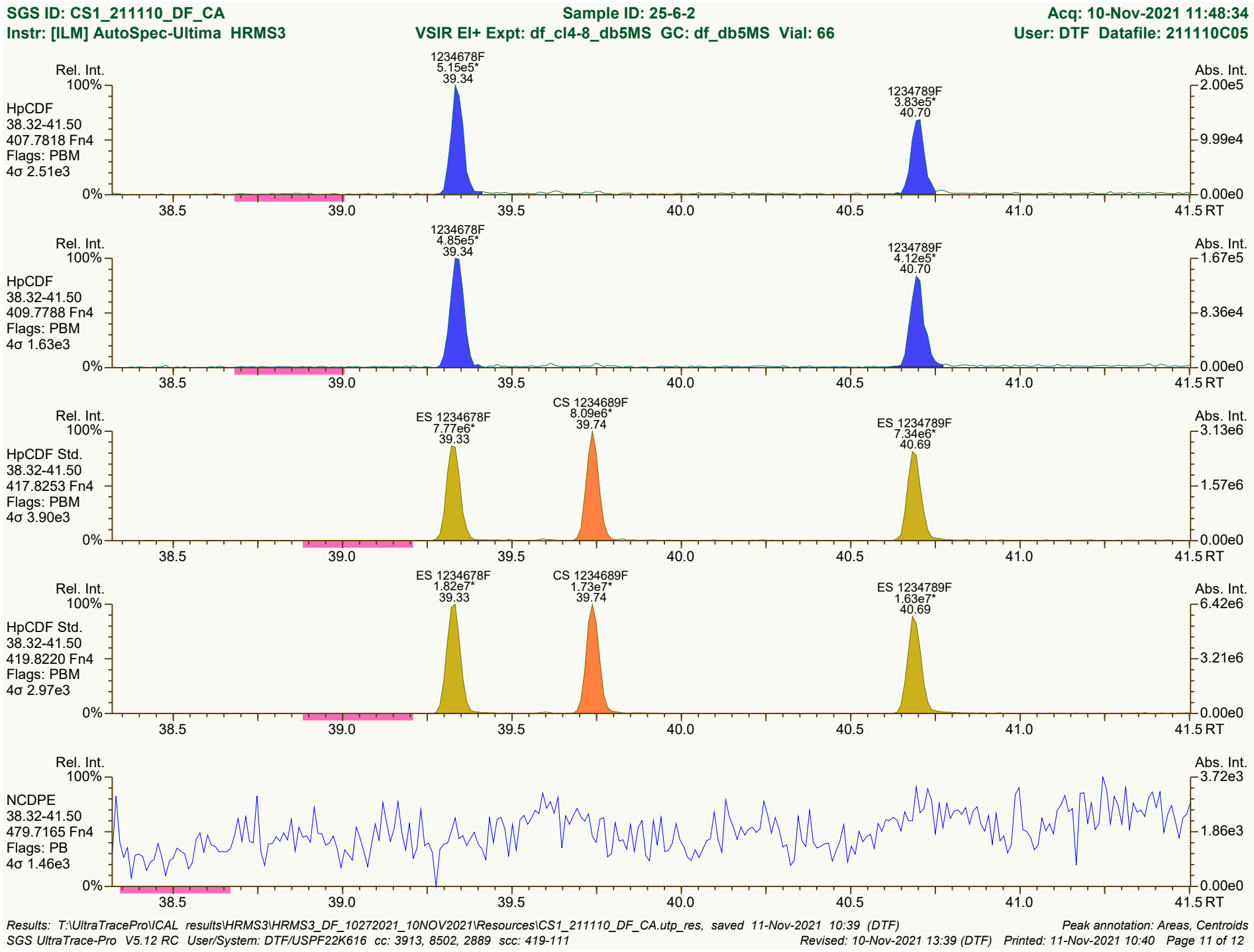
Acq: 10-Nov-2021 11:48:34
User: DTF Datafile: 211110C05

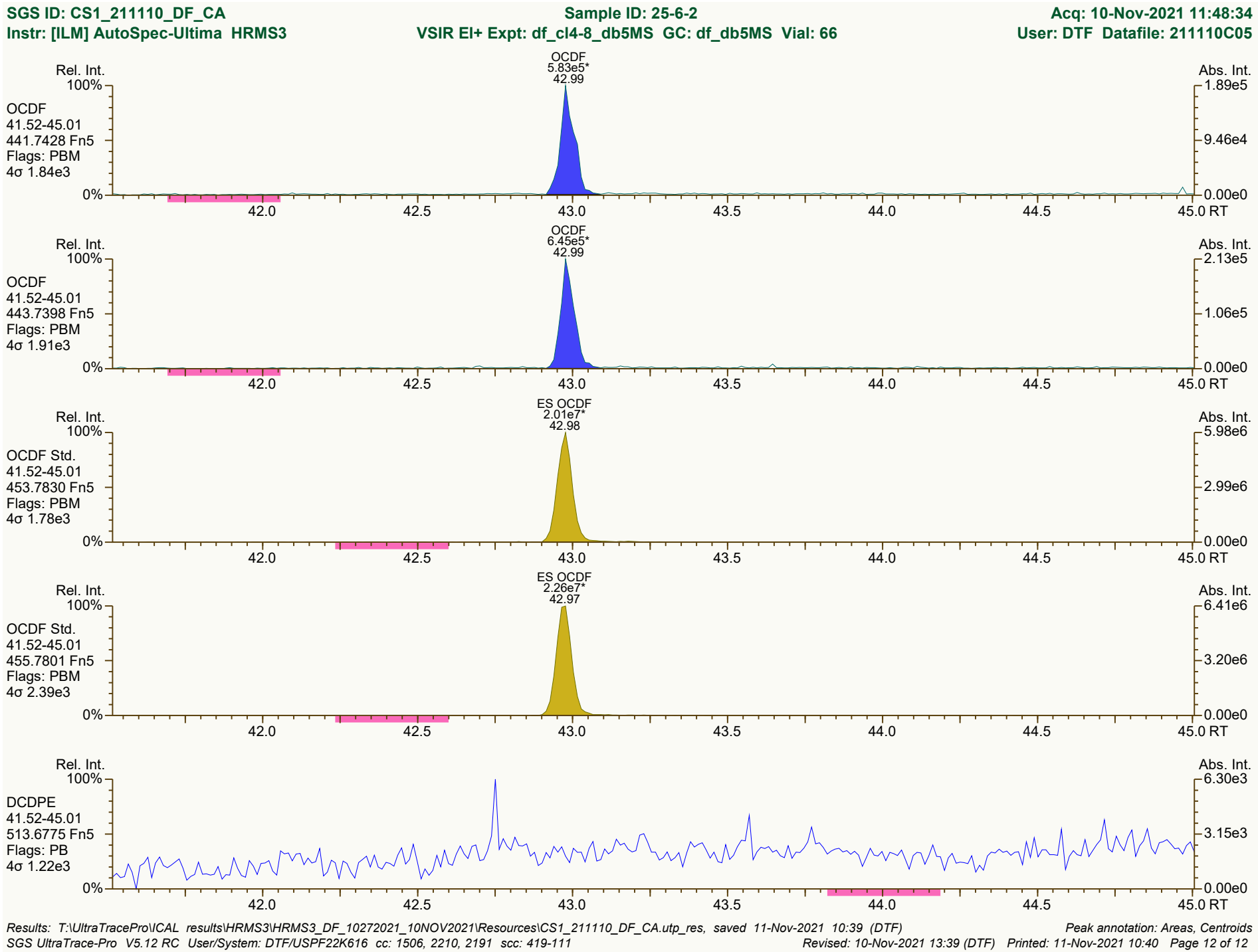


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2313 scc: 419-111
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 10:40 Page 8 of 12


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F 6.48e5* 36.05
123678F 6.18e5* 36.19
234678F 5.89e5* 36.85
123789F 5.63e5* 37.84
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F 5.16e5* 36.05
123678F 4.74e5* 36.19
234678F 5.08e5* 36.84
123789F 4.73e5* 37.84
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F 1.13e7 36.04
ES 123678F 1.30e7 36.18
CS 123469F 1.11e7 36.48
ES 234678F 1.20e7 36.83
ES 123789F 1.09e7* 37.82
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F 2.12e7 36.04
ES 123678F 2.44e7 36.18
CS 123469F 2.09e7 36.49
ES 234678F 2.27e7 36.83
ES 123789F 2.10e7* 37.82
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7945, 0839, 9686 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

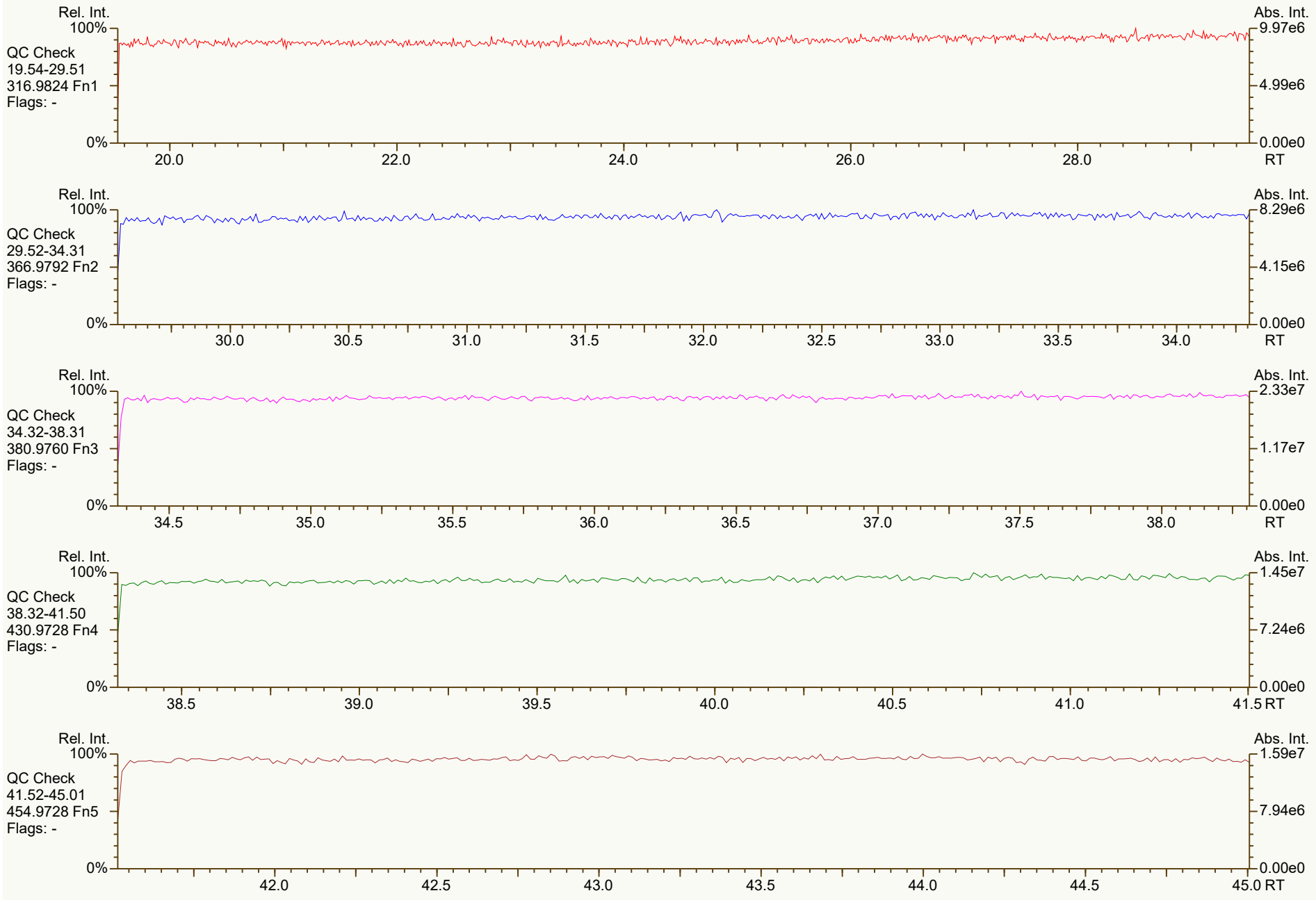

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
OCDF
5.83e5*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
1.89e5
9.46e4
0.00e0
OCDF
6.45e5*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
2.13e5
1.06e5
0.00e0
ES OCDF
2.01e7*
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
5.98e6
2.99e6
0.00e0
ES OCDF
2.26e7*
42.97
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
6.41e6
3.20e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
6.30e3
3.15e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1506, 2210, 2191 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

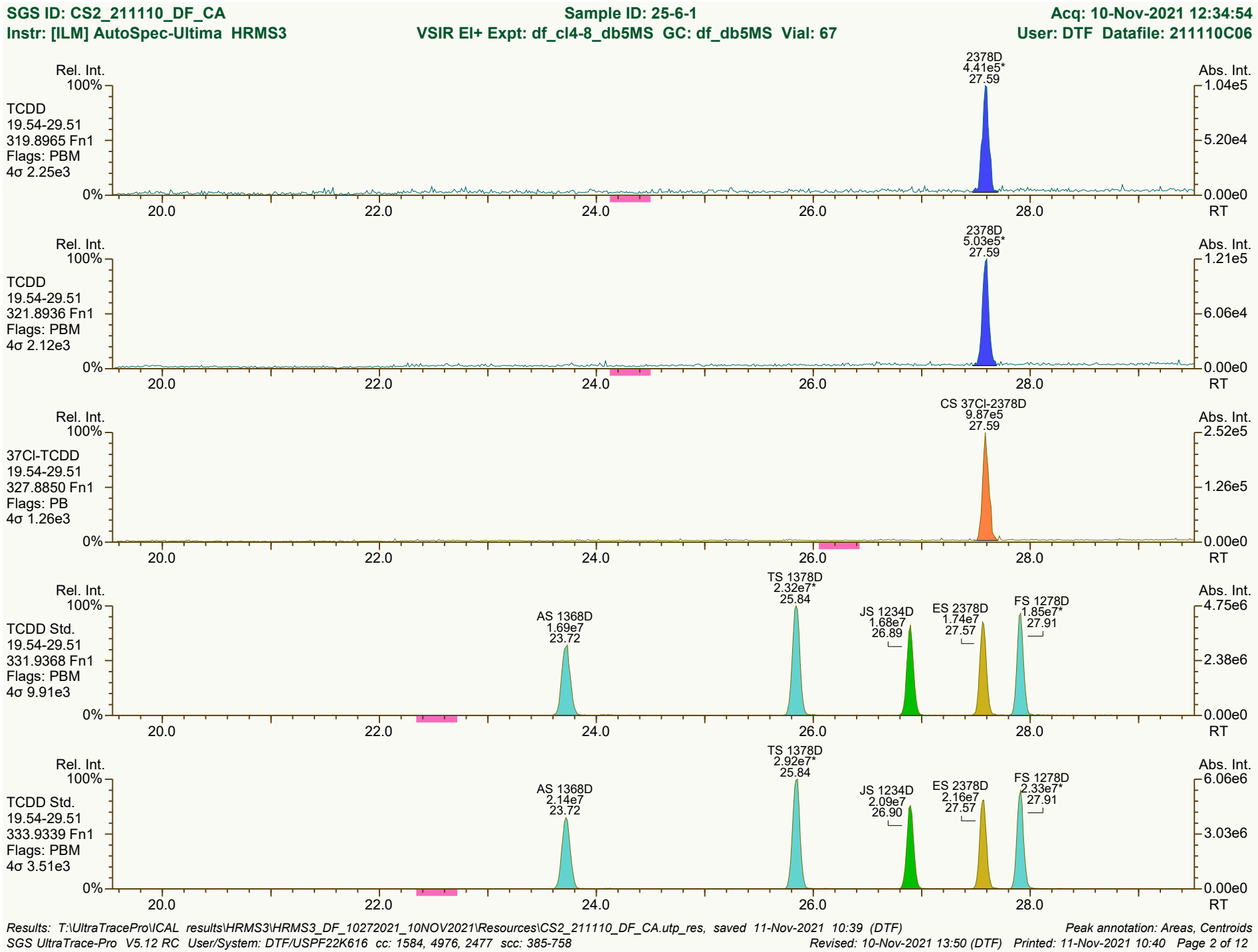
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

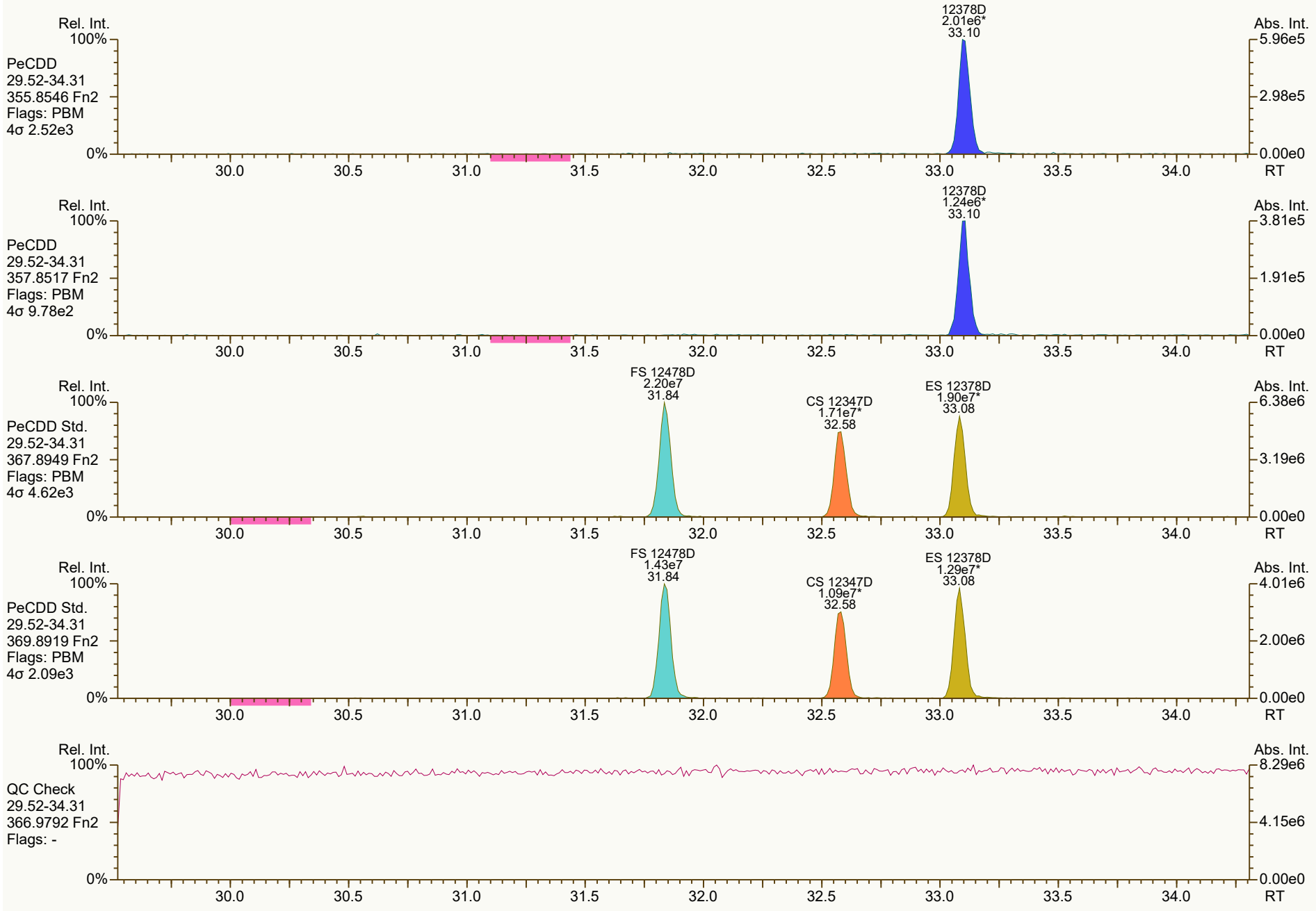
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

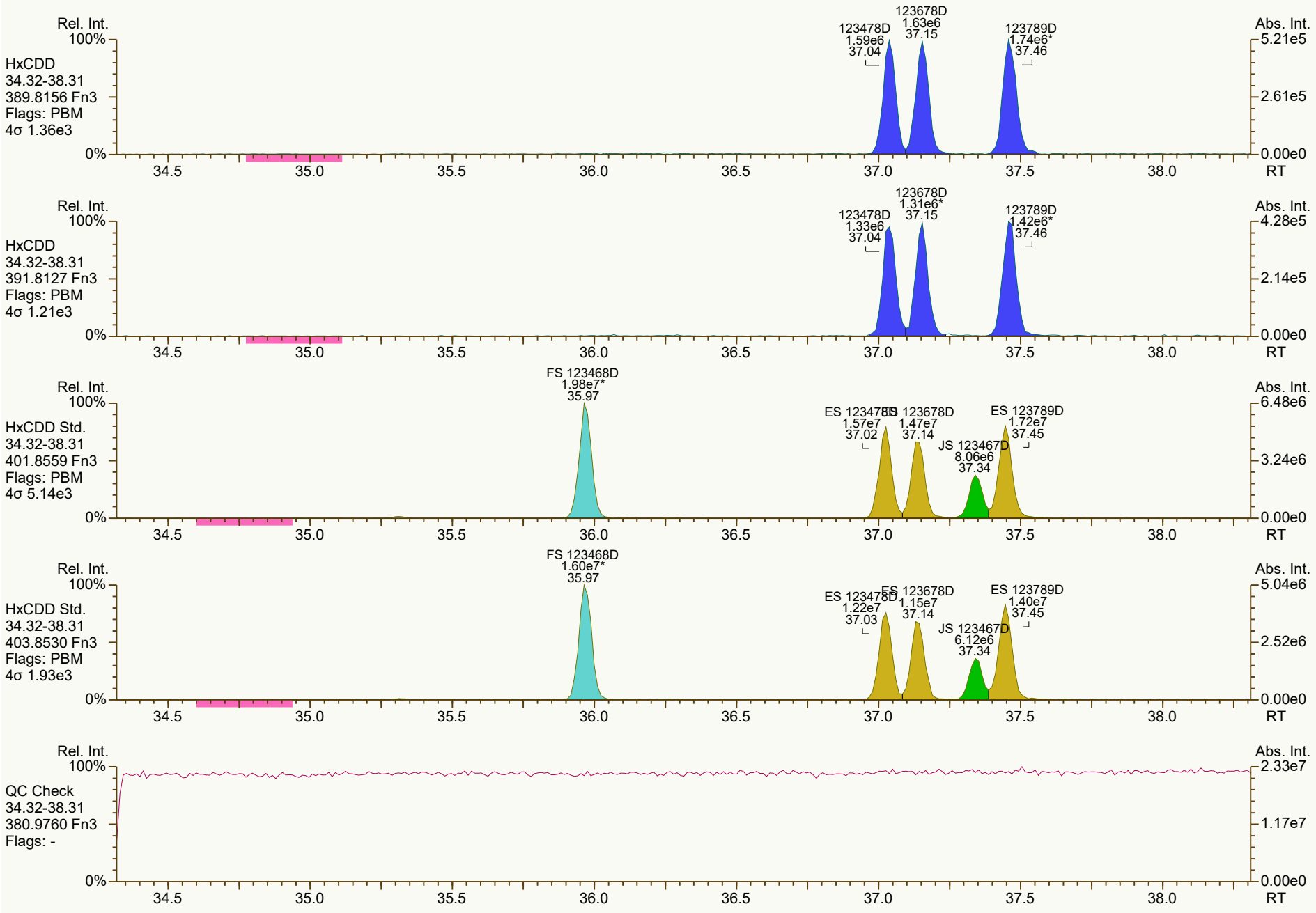
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

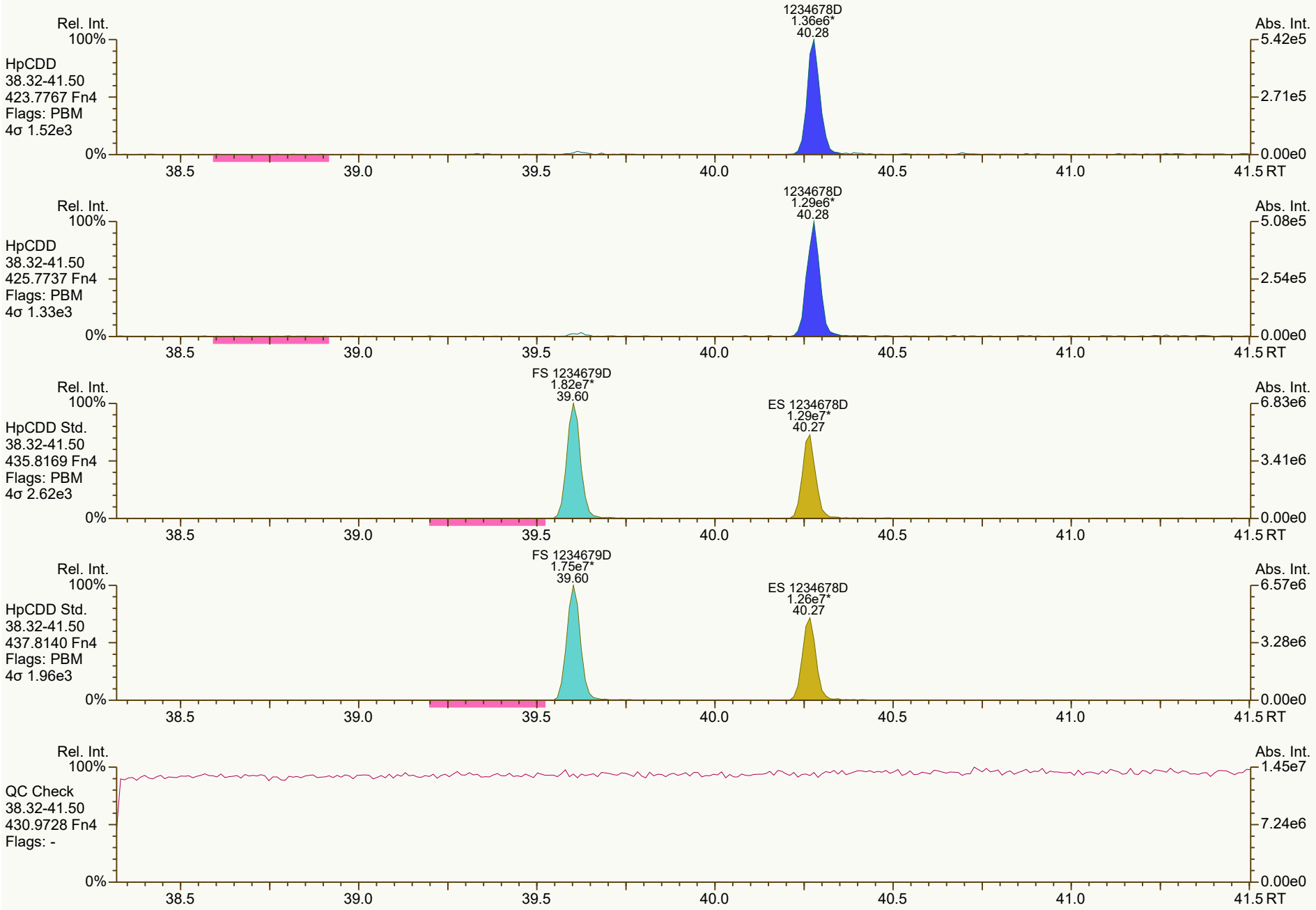
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

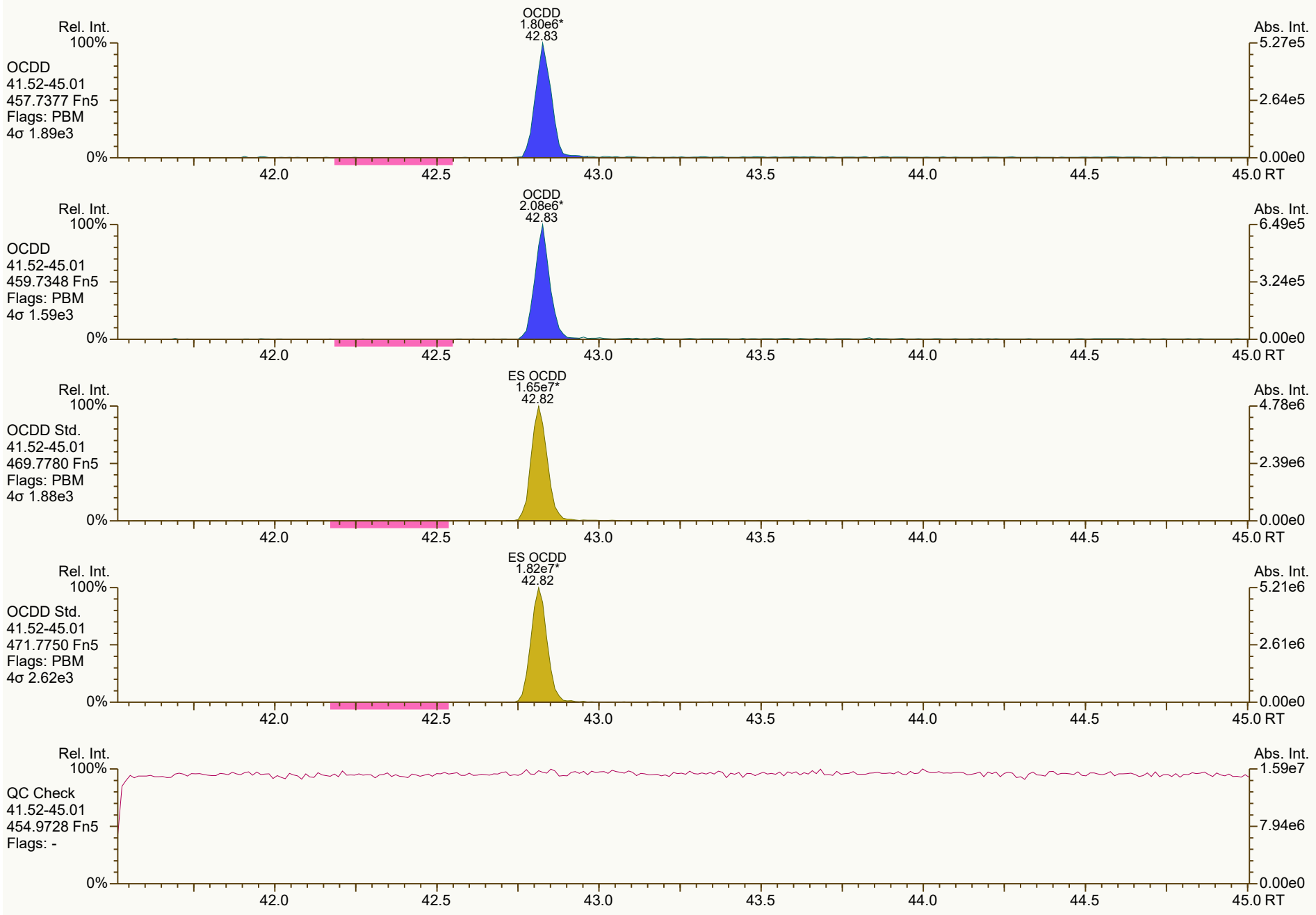

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

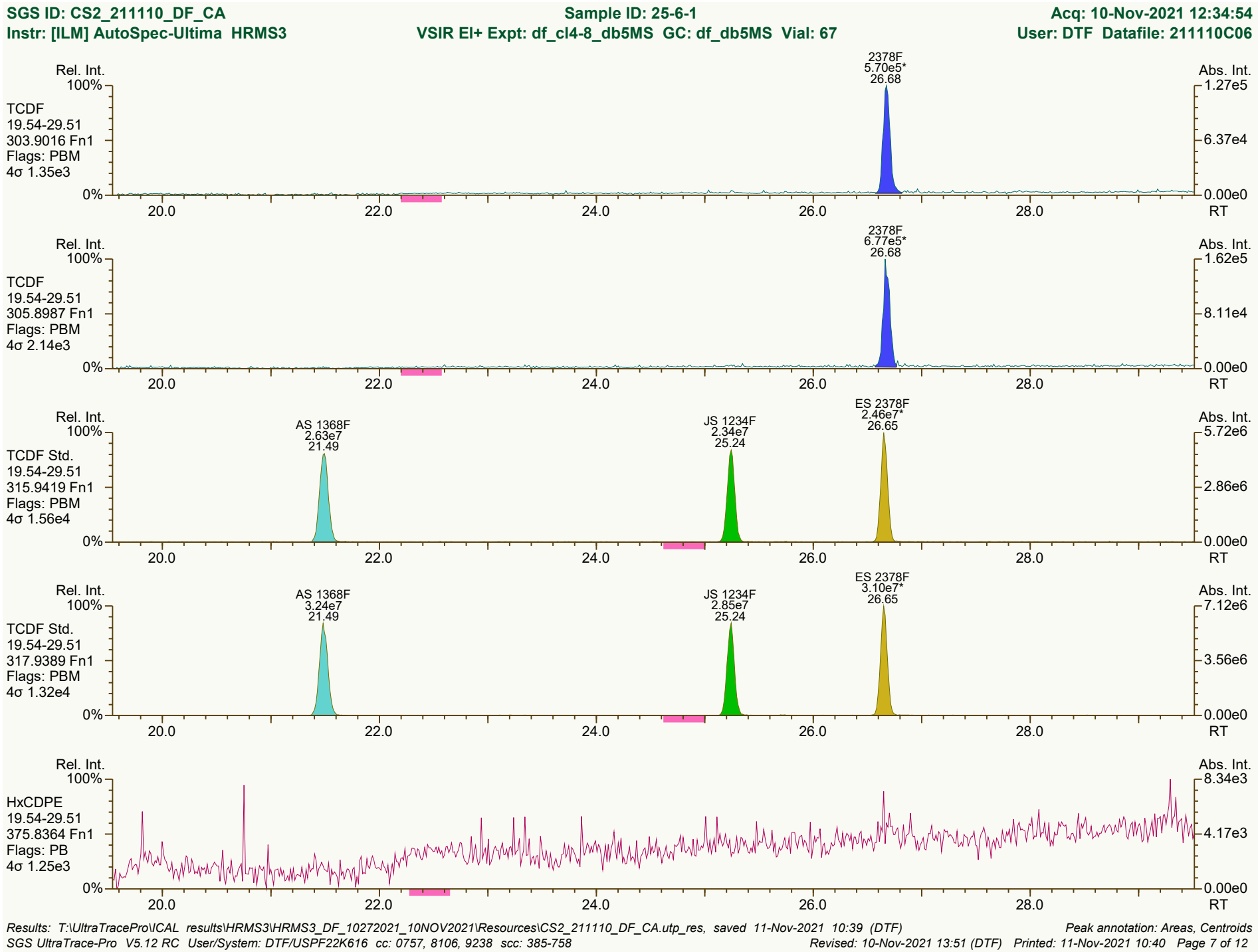

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
2378D
4.41e5*
27.59
1.04e5
5.20e4
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
2378D
5.03e5*
27.59
1.21e5
6.06e4
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
CS 37Cl-2378D
9.87e5
27.59
2.52e5
1.26e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
4.75e6
2.38e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
6.06e6
3.03e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

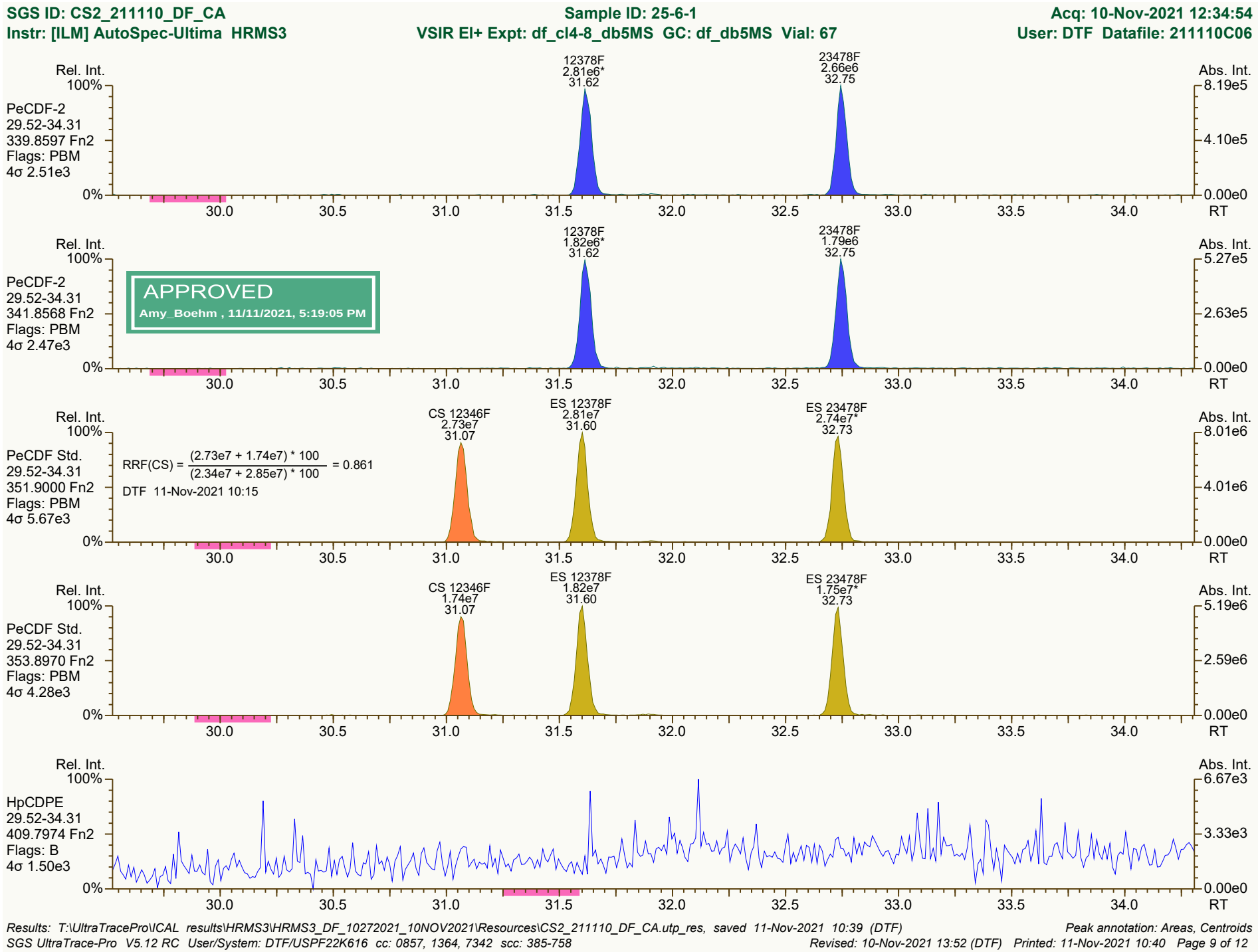

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D 1.59e6 37.04
123678D 1.63e6 37.15
123789D 1.74e6* 37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D 1.33e6 37.04
123678D 1.31e6* 37.15
123789D 1.42e6* 37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D 1.98e7* 35.97
ES 123478D 1.57e7 37.02
ES 123678D 1.47e7 37.14
JS 123467D 8.06e6 37.34
ES 123789D 1.72e7 37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D 1.60e7* 35.97
ES 123478D 1.22e7 37.03
ES 123678D 1.15e7 37.14
JS 123467D 6.12e6 37.34
ES 123789D 1.40e7 37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

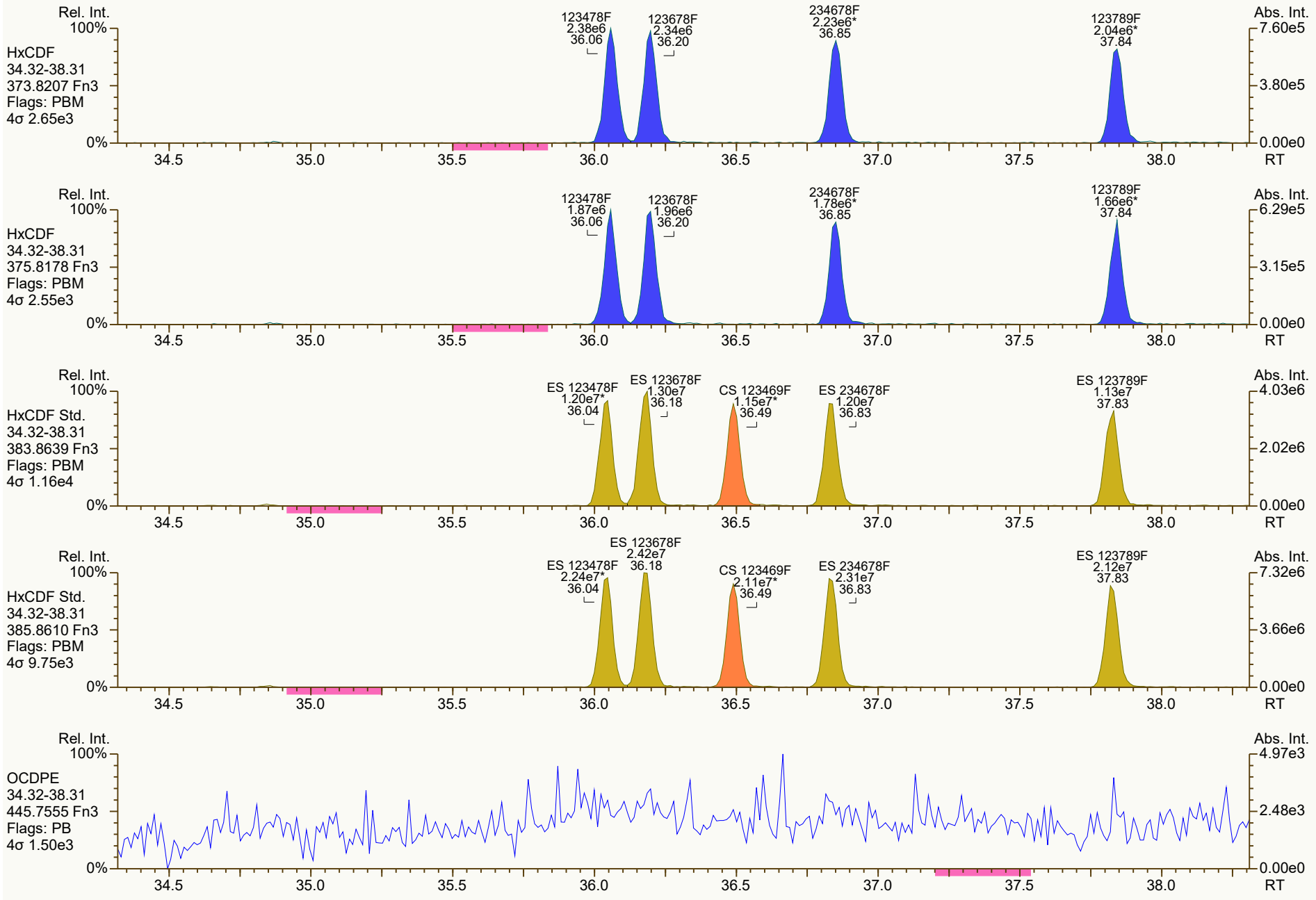

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
1.27e5
6.37e4
0.00e0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
1.62e5
8.11e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
5.72e6
2.86e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
7.12e6
3.56e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
8.34e3
4.17e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0757, 8106, 9238 scc: 385-758
Revised: 10-Nov-2021 13:51 (DTF) Printed: 11-Nov-2021 10:40 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12

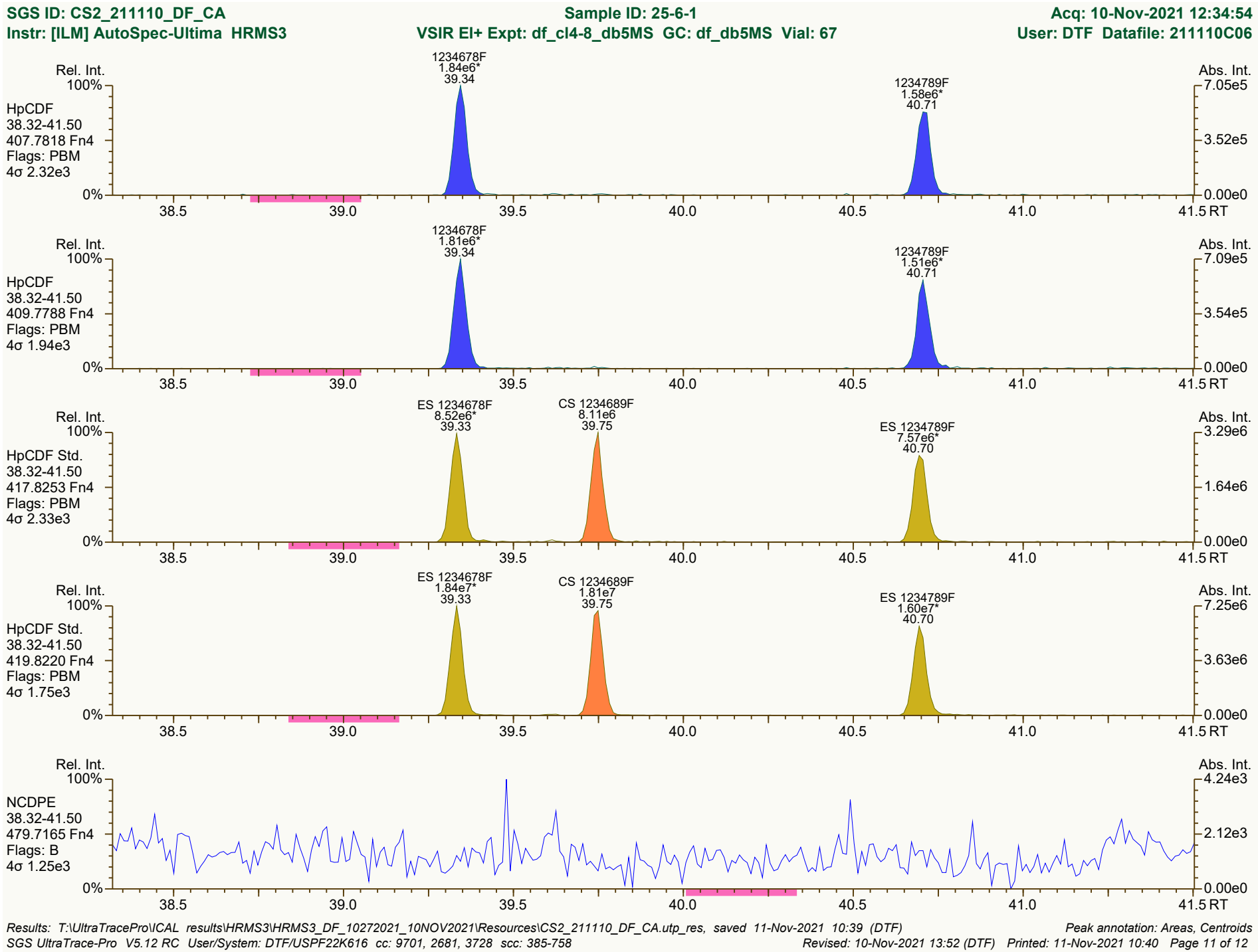
SGS ID: CS2_211110_DF_CA | Sample ID: 25-6-1 | Acq: 10-Nov-2021 12:34:54

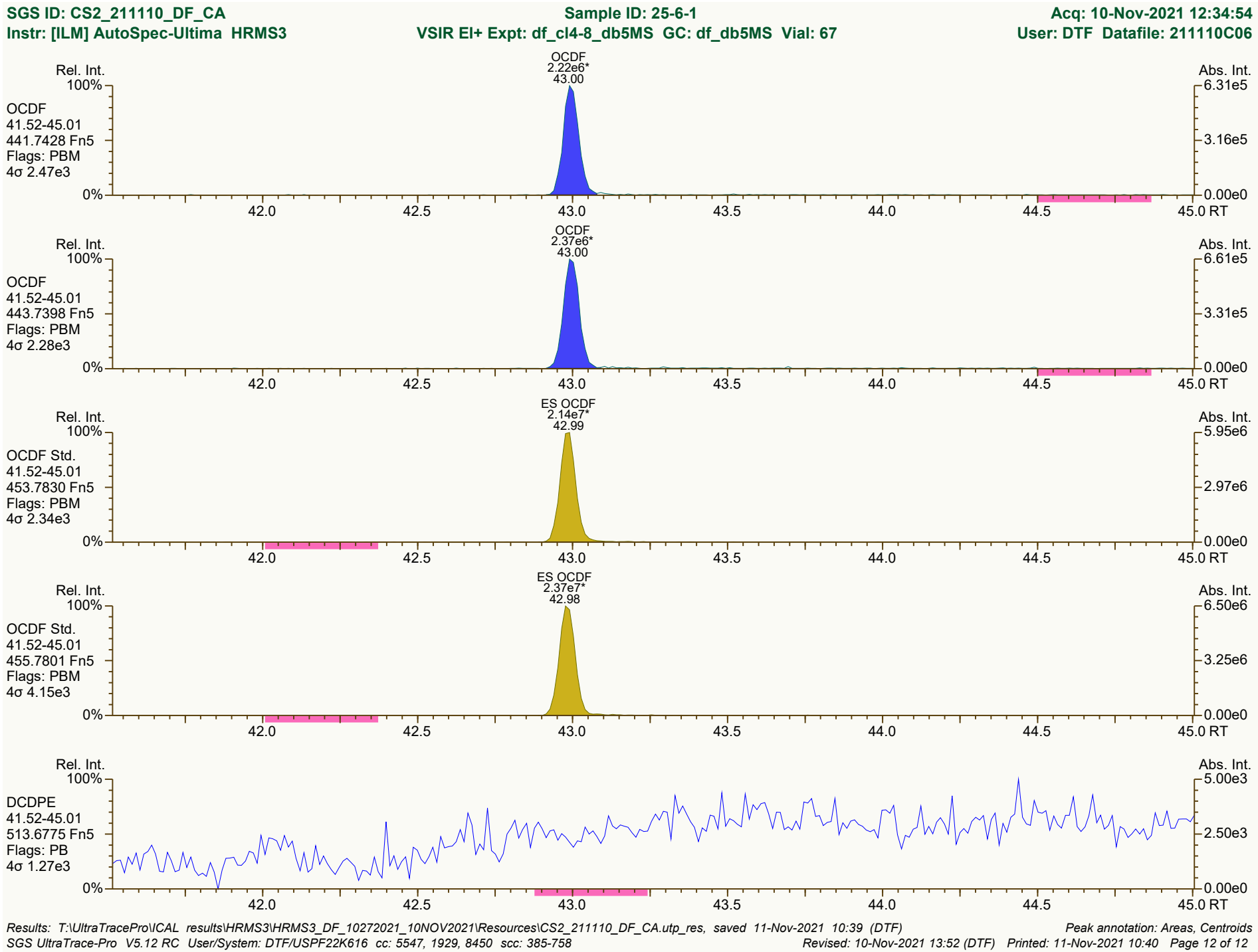
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: DTF Datafile: 211110C06



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758 *Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12*

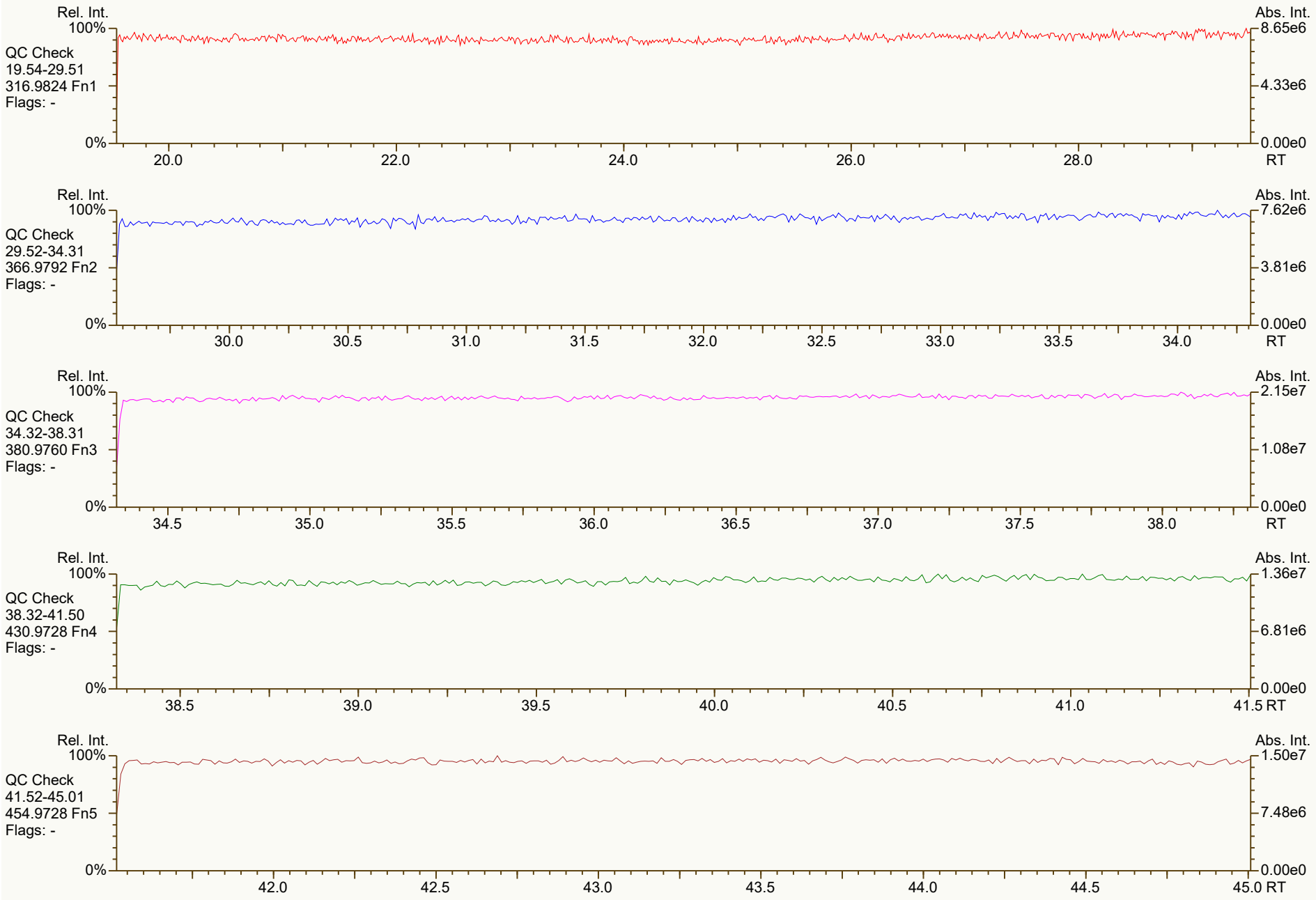

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

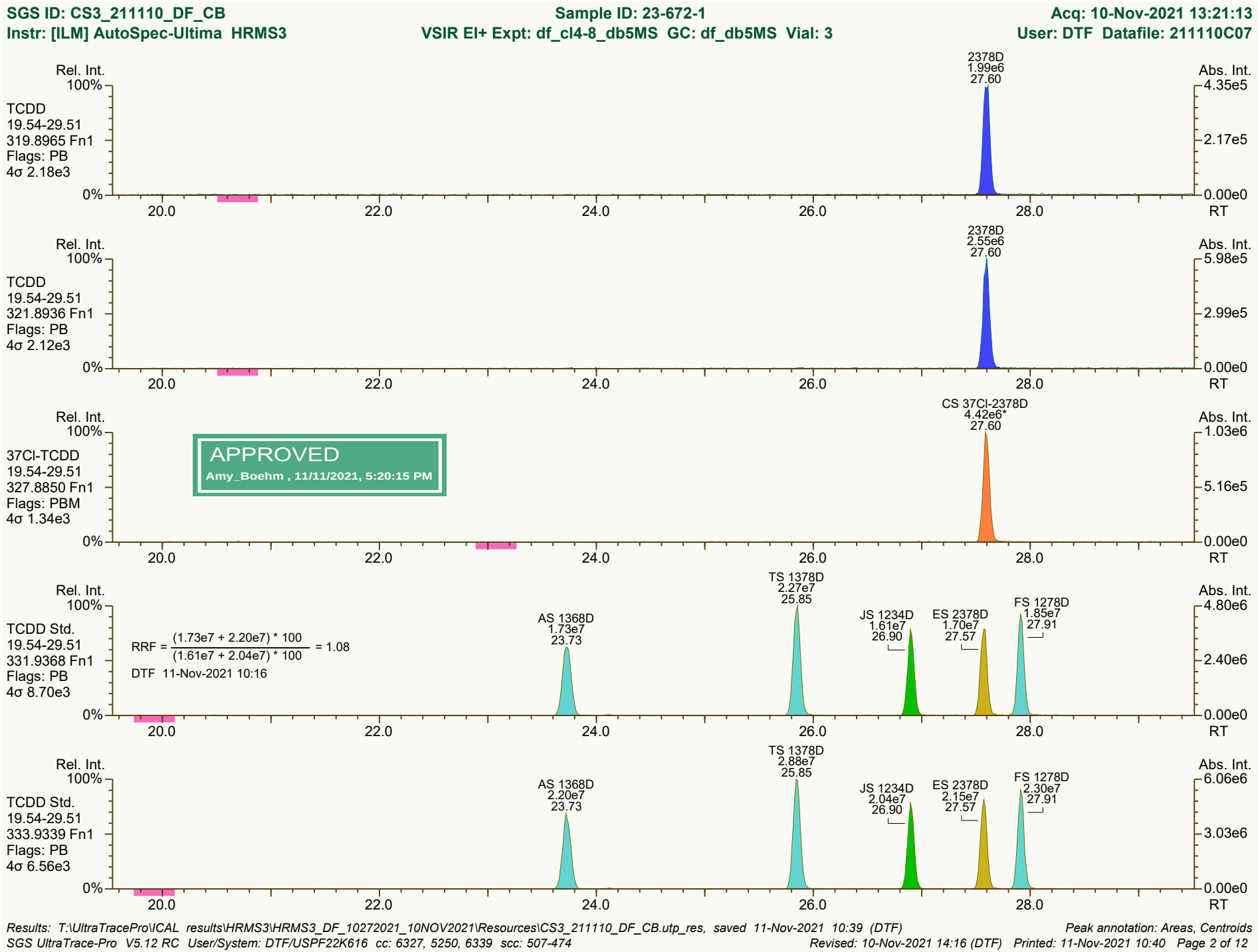

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
0.00e0
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
0.00e0
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

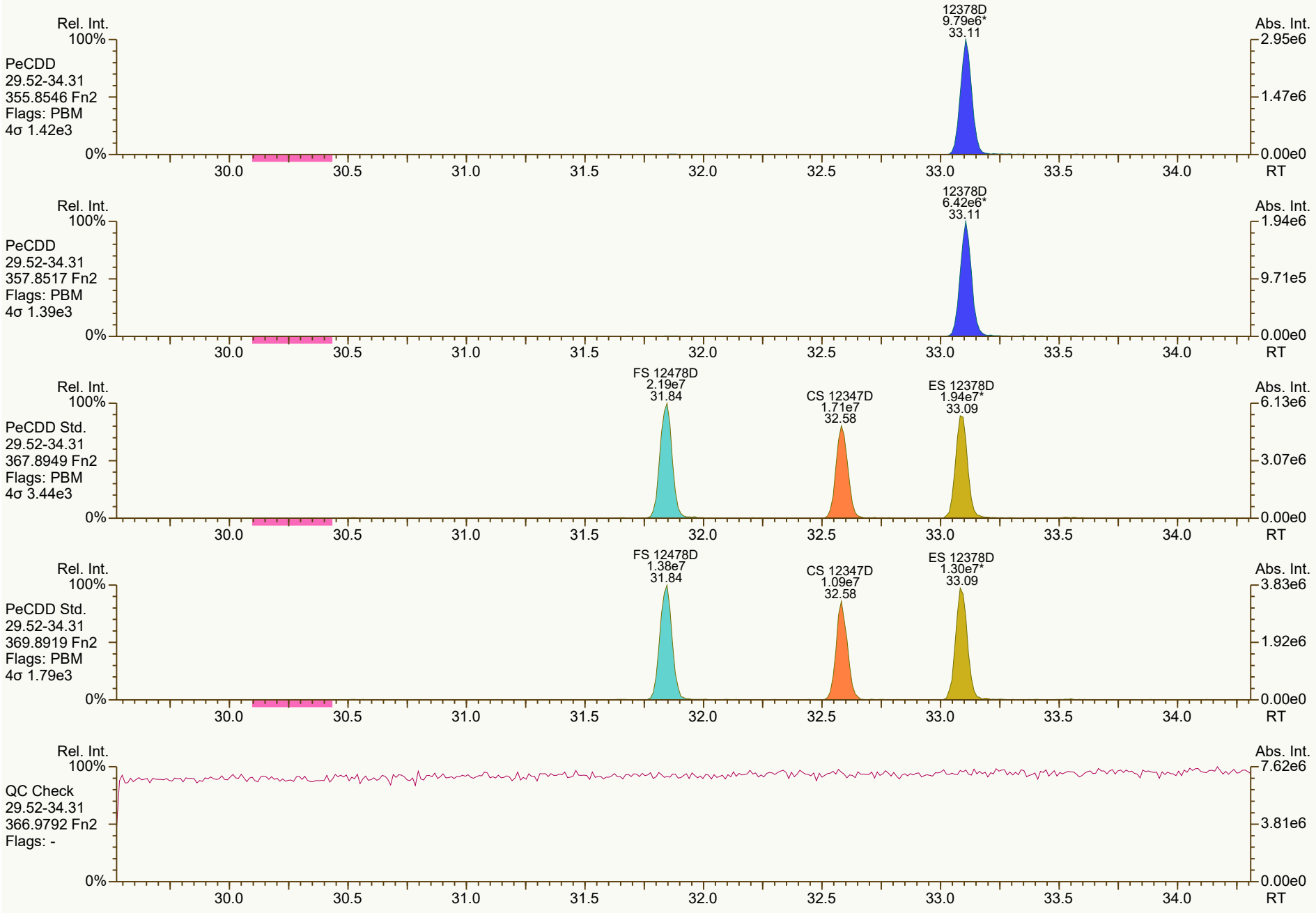
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

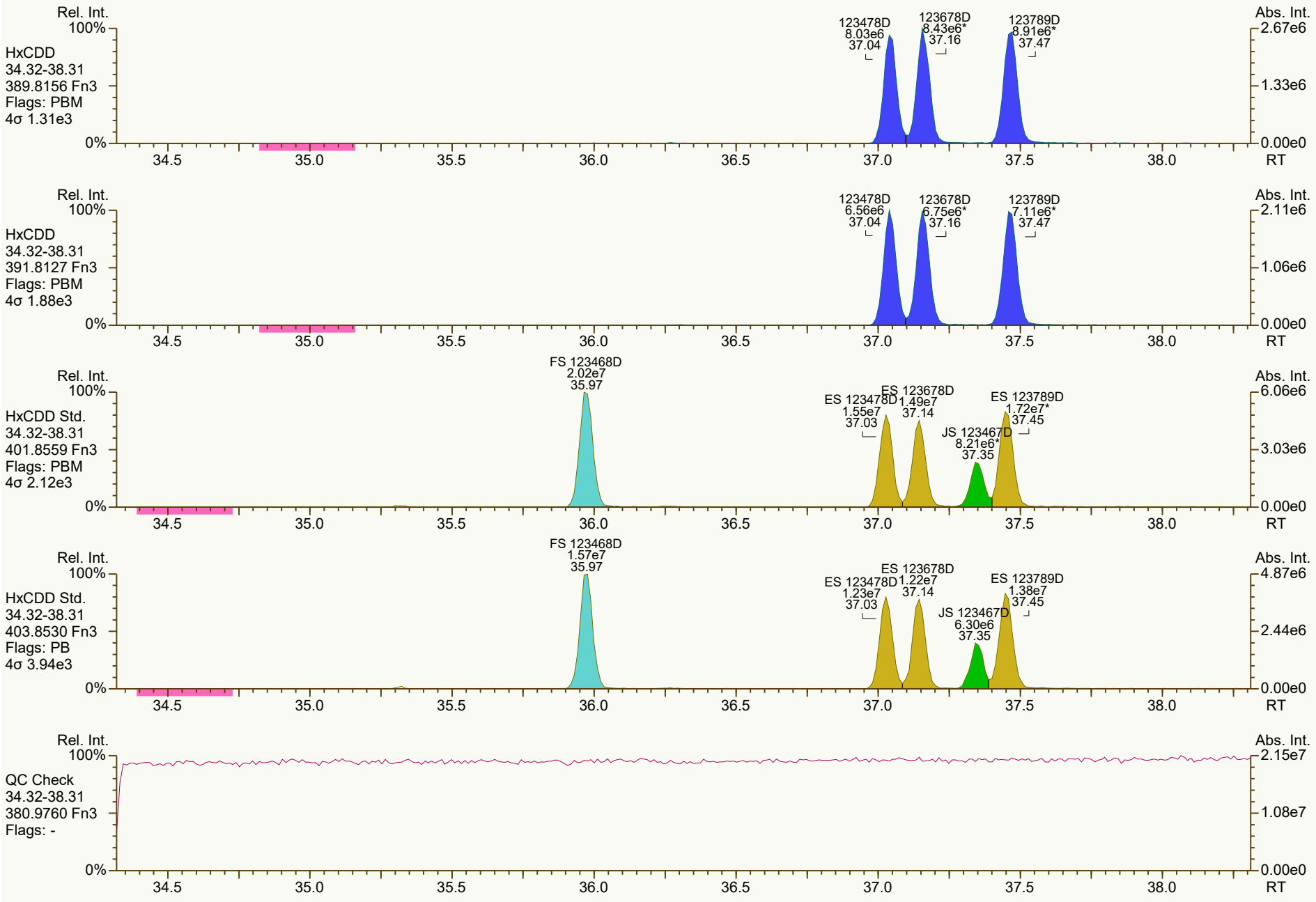
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

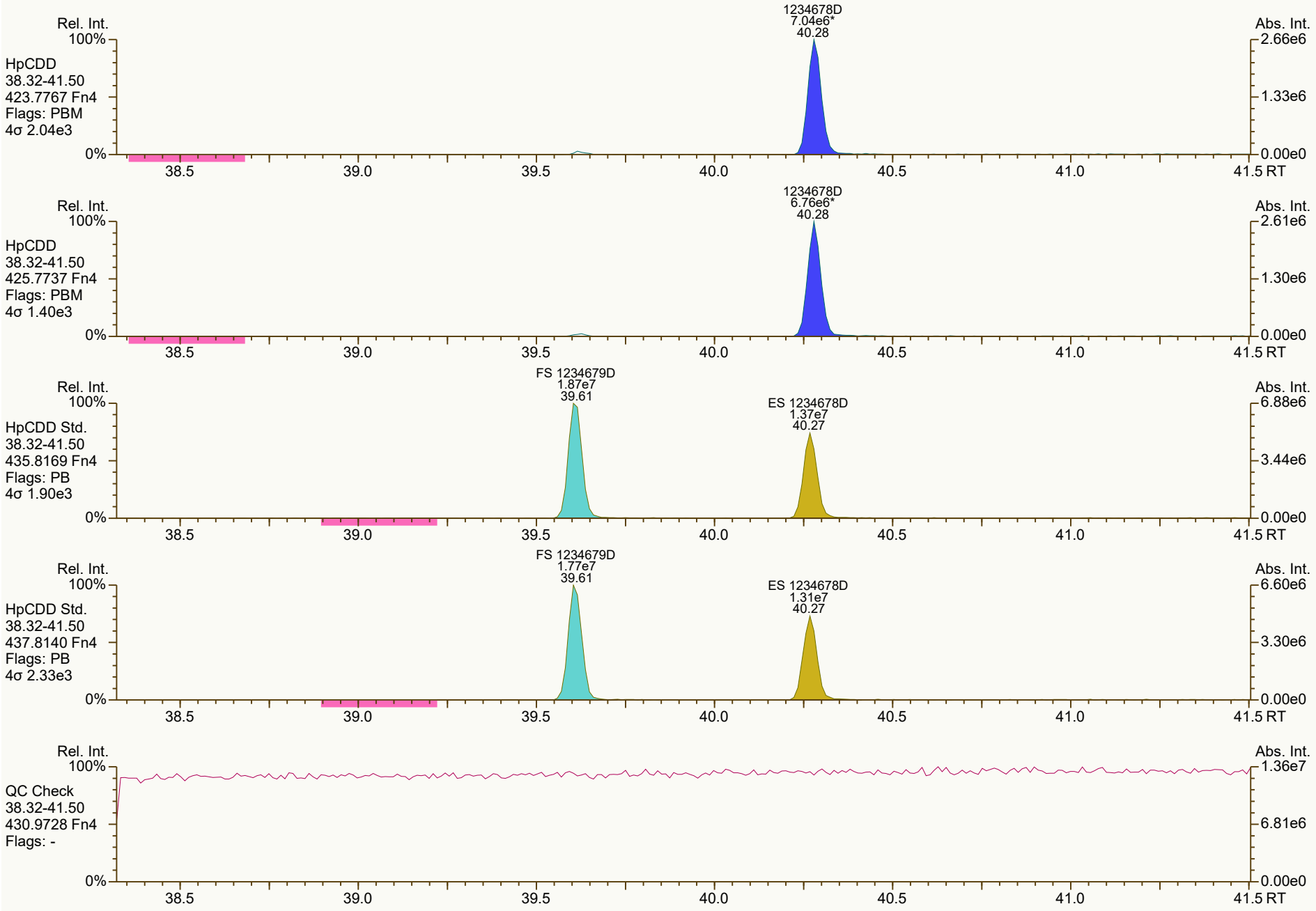
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.65e6
4.33e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.62e6
3.81e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.15e7
1.08e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6
20.0
22.0
24.0
26.0
28.0
0%
100%
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6327, 5250, 6339 scc: 507-474
Revised: 10-Nov-2021 14:16 (DTF)
Printed: 11-Nov-2021 10:40 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

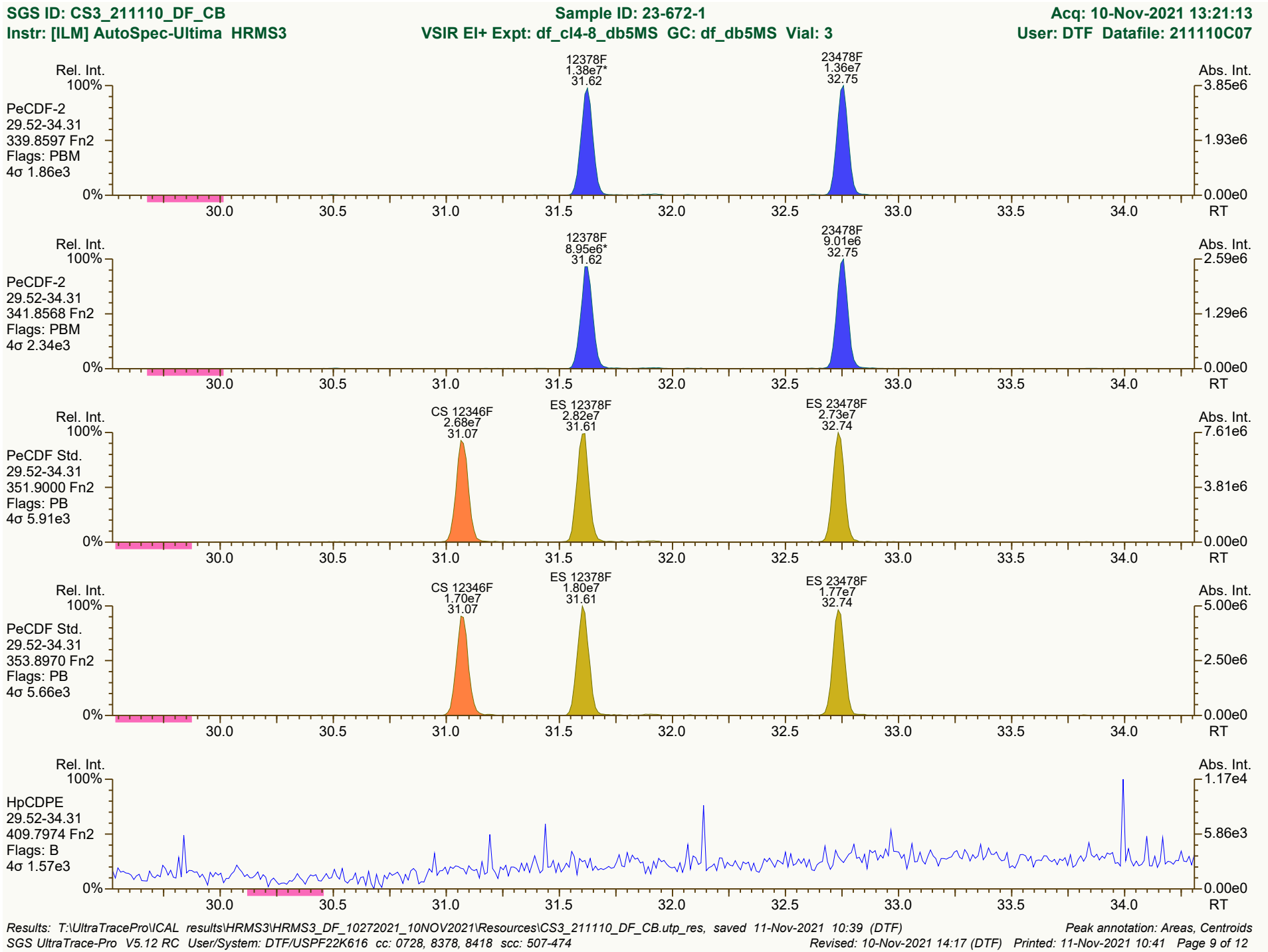

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

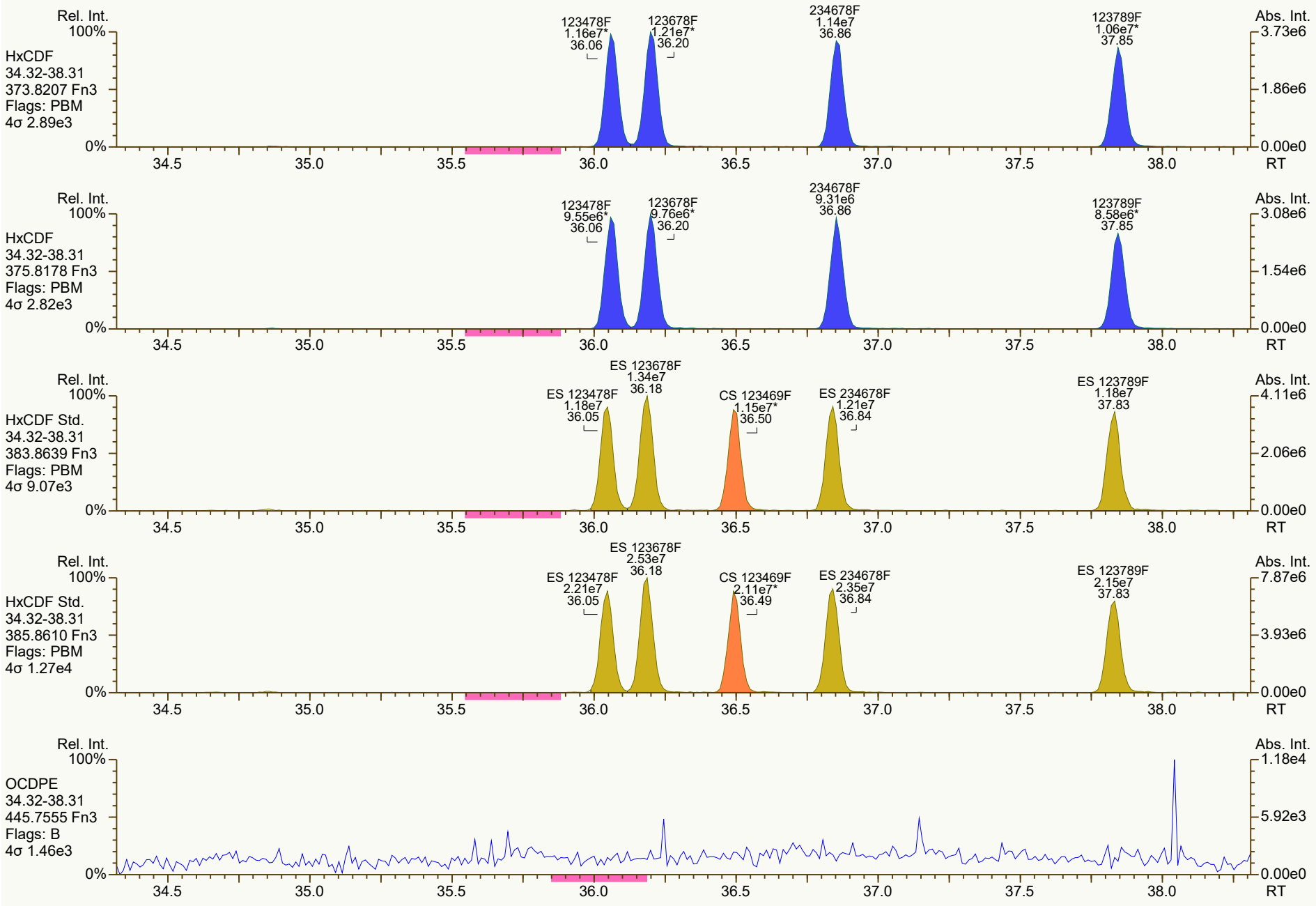

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
3.85e6
1.93e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
2.59e6
1.29e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
7.61e6
3.81e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
5.00e6
2.50e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
1.17e4
5.86e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12

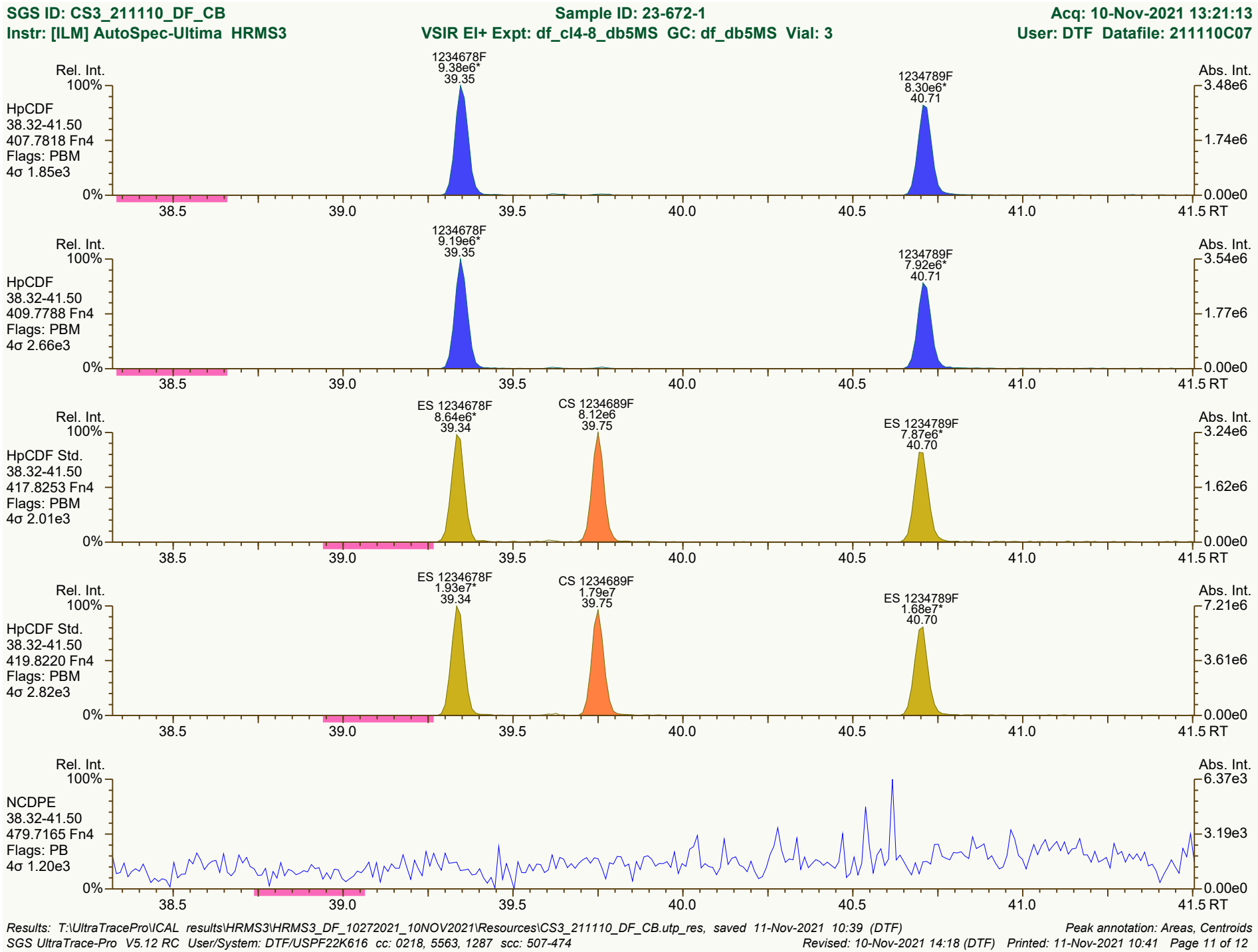
SGS ID: CS3_211110_DF_CB | Sample ID: 23-672-1 | Acq: 10-Nov-2021 13:21:13

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474 | *Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12*


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

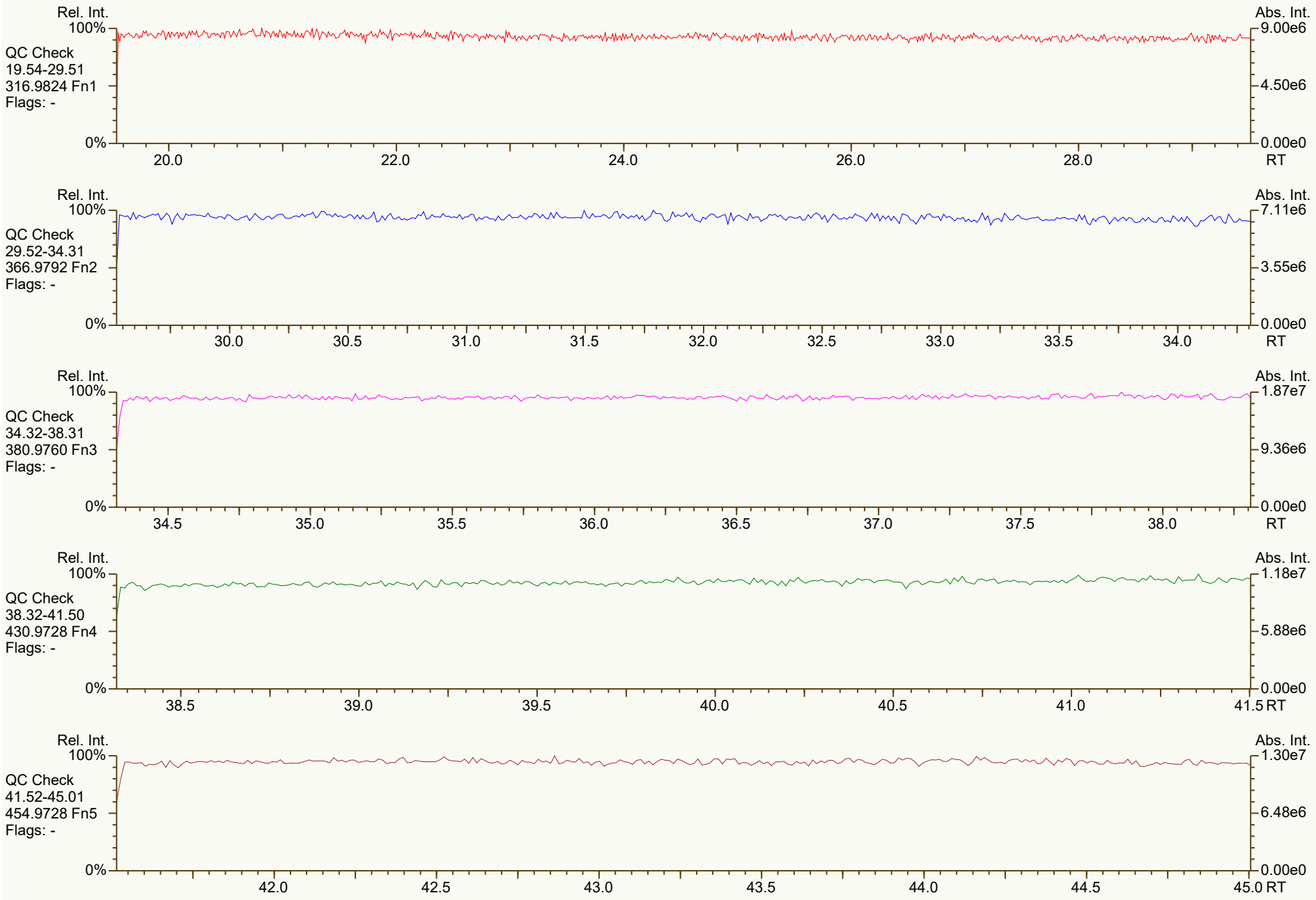

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

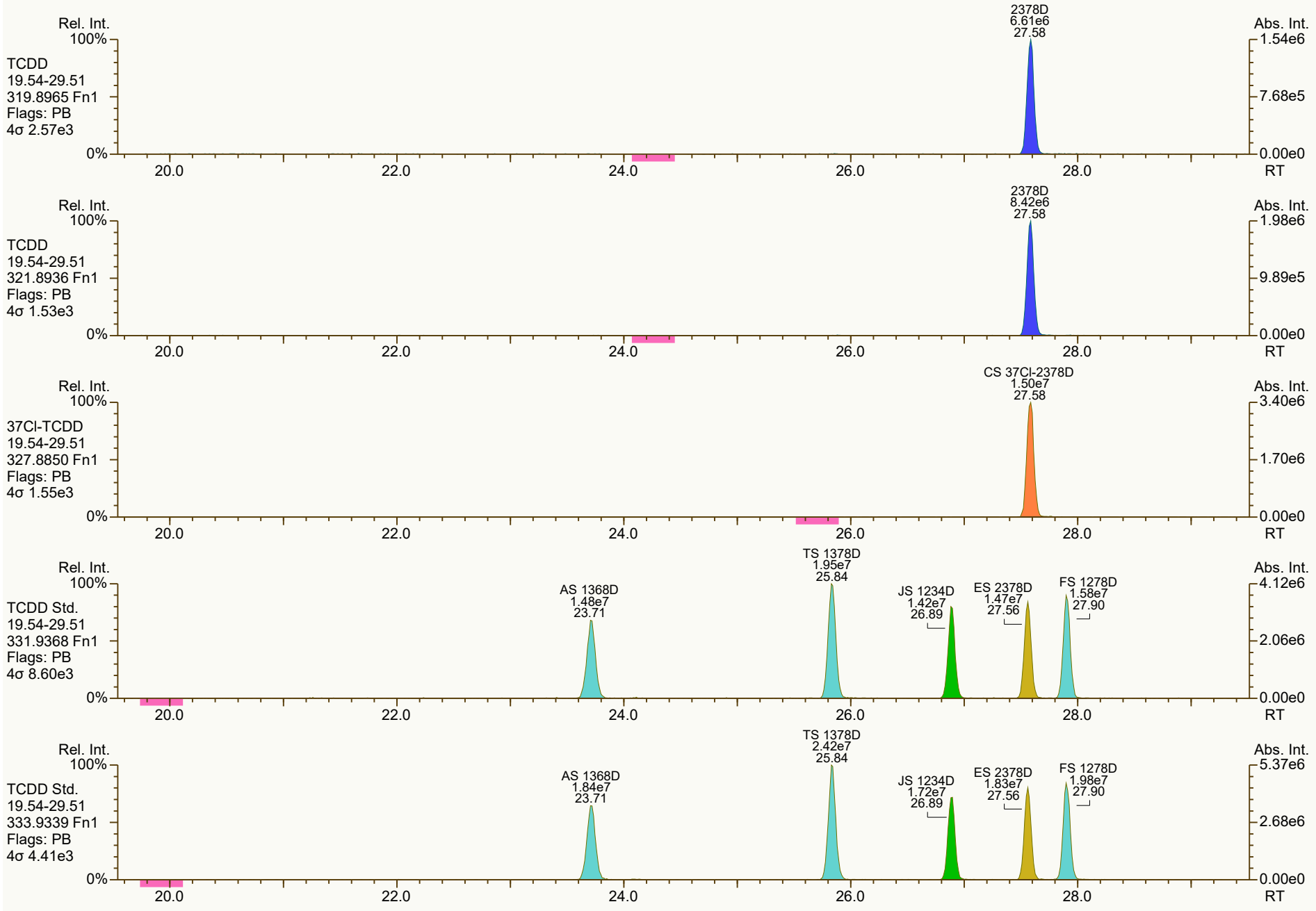
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

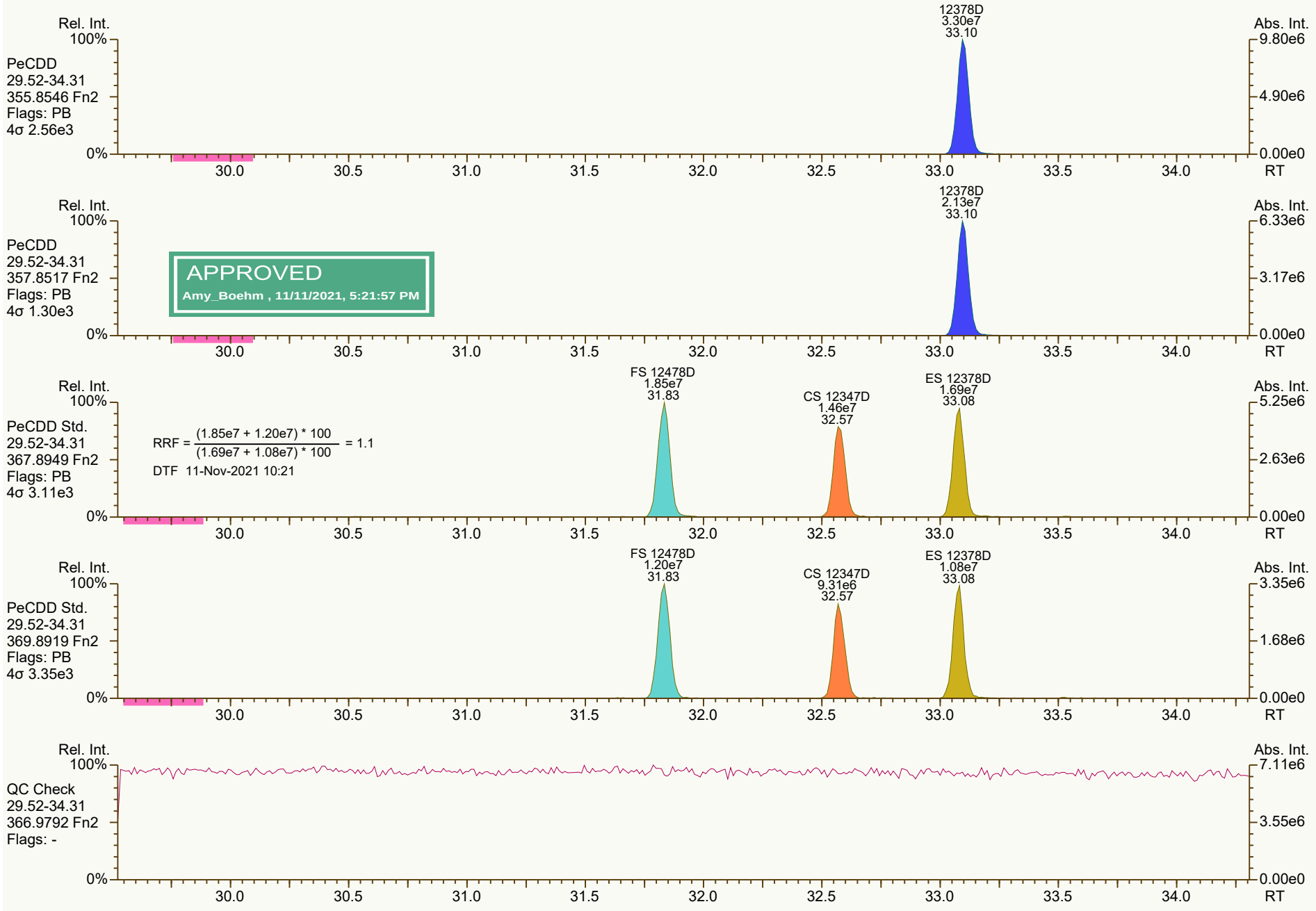
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

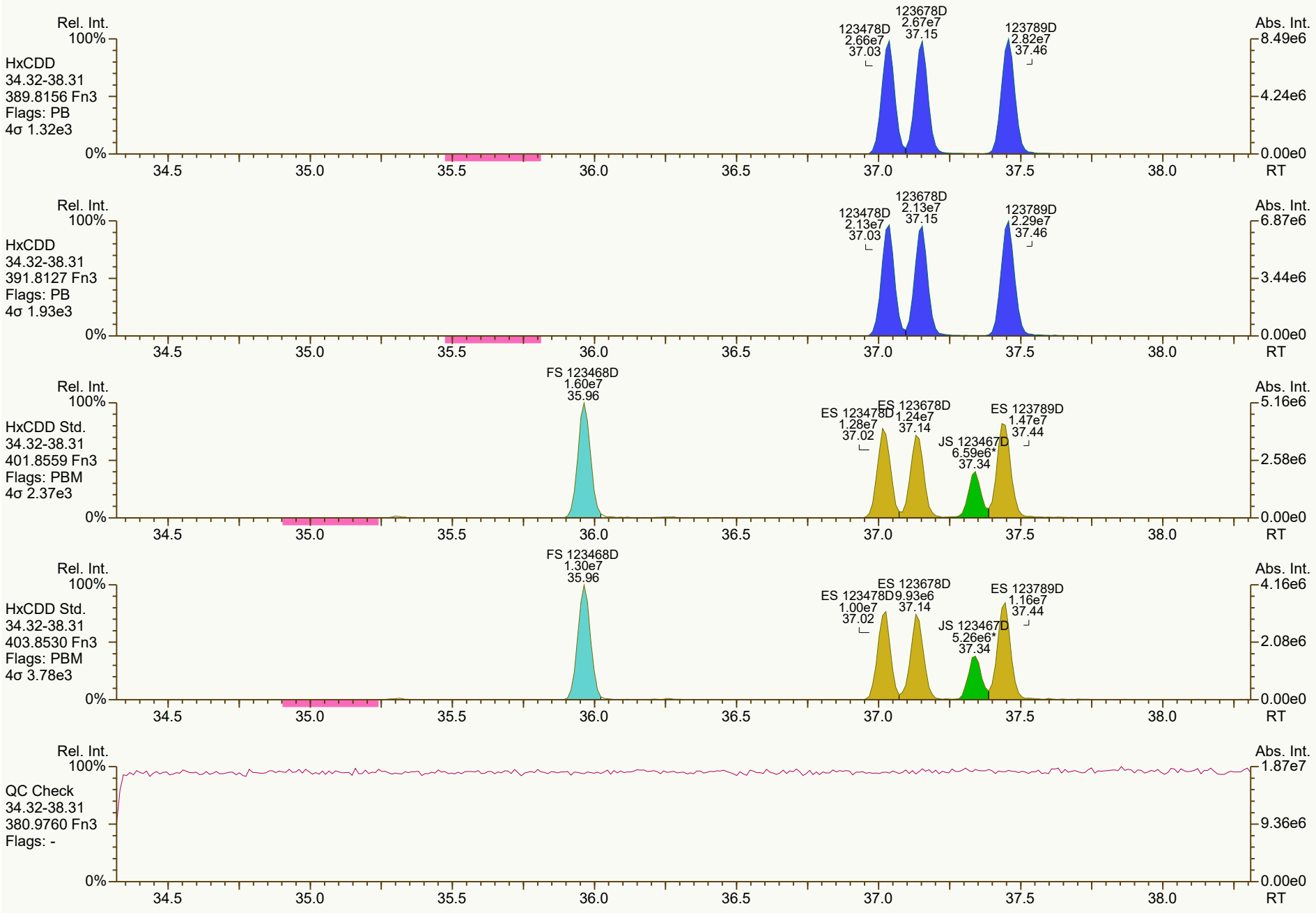
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

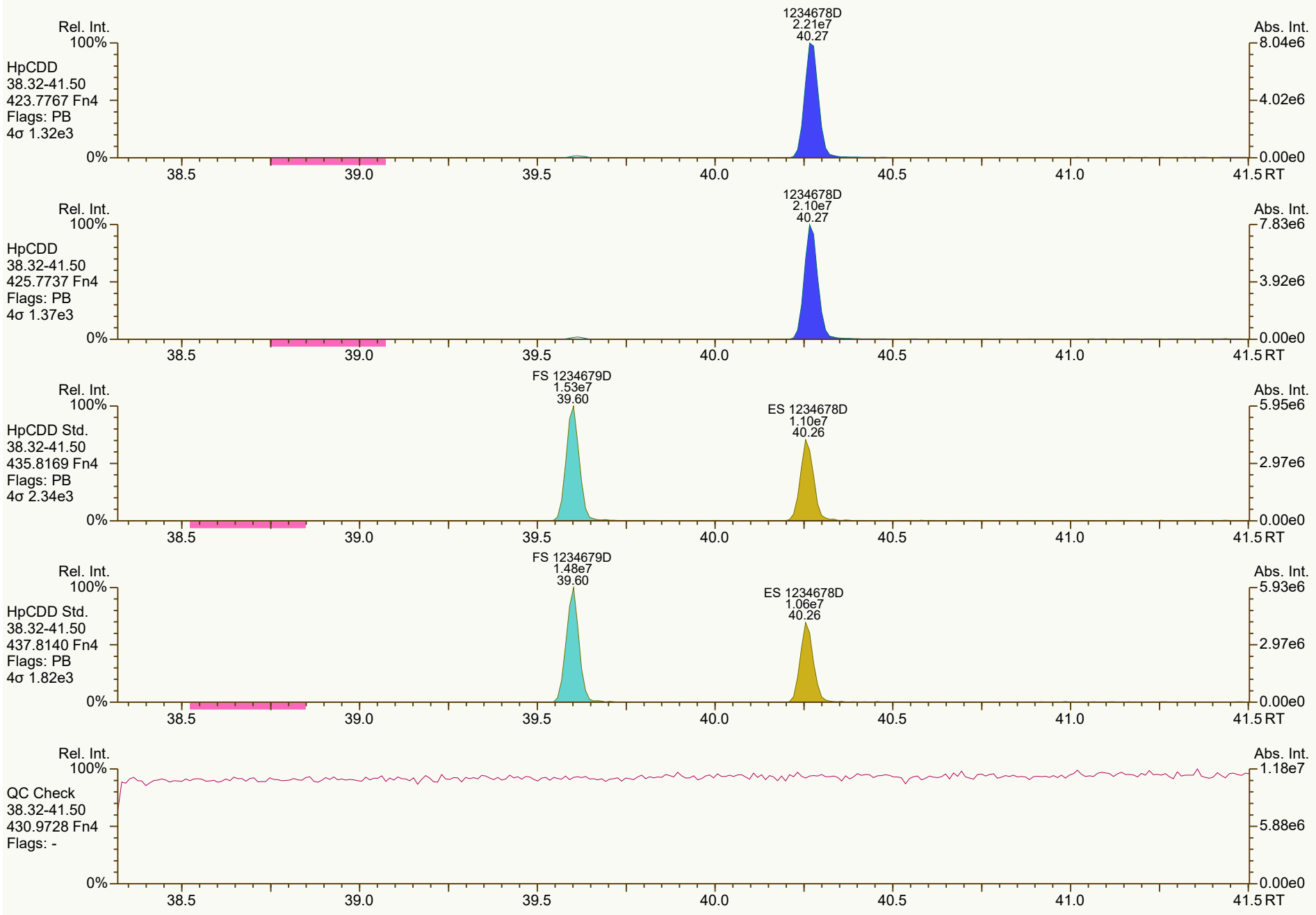
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

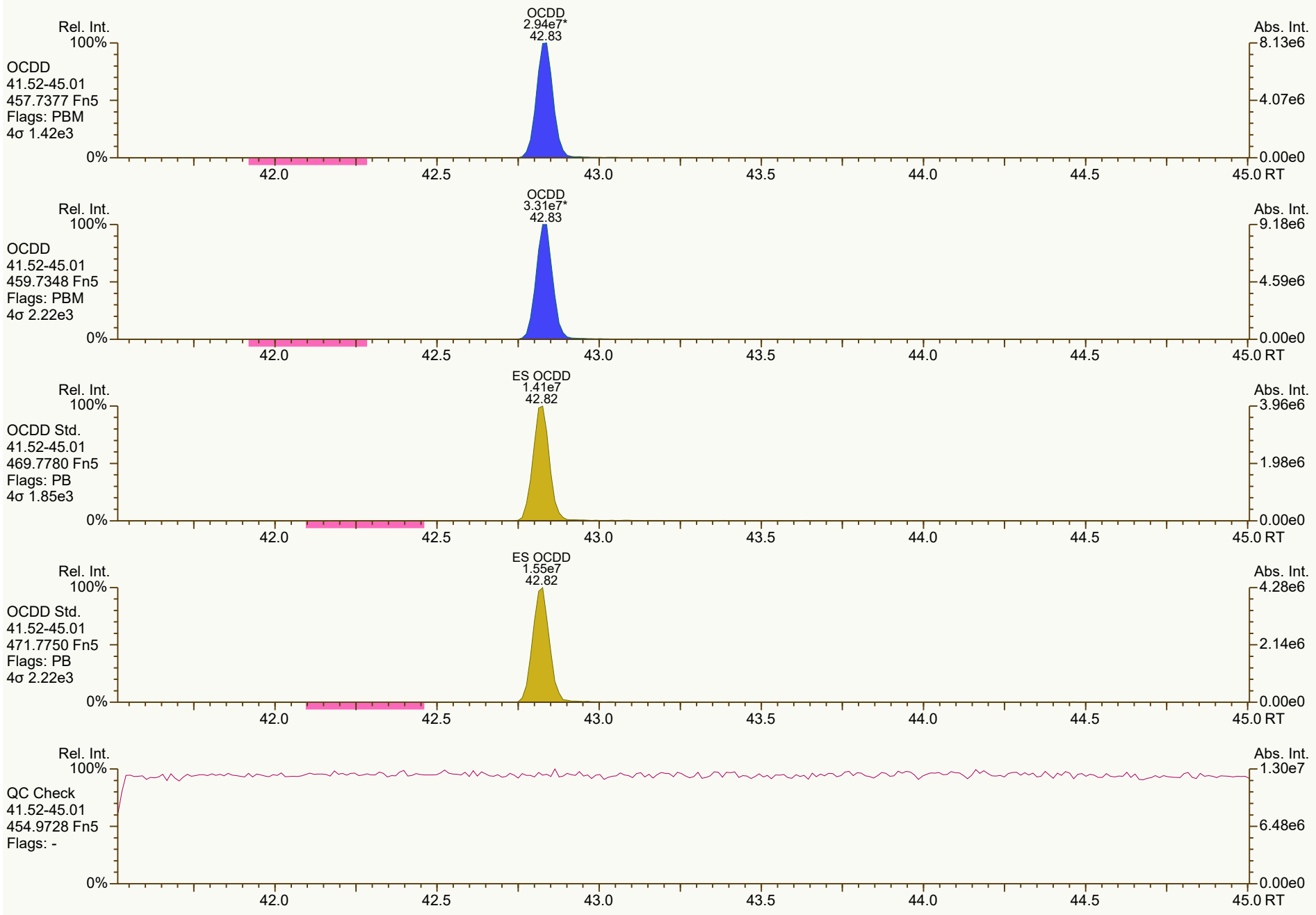

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

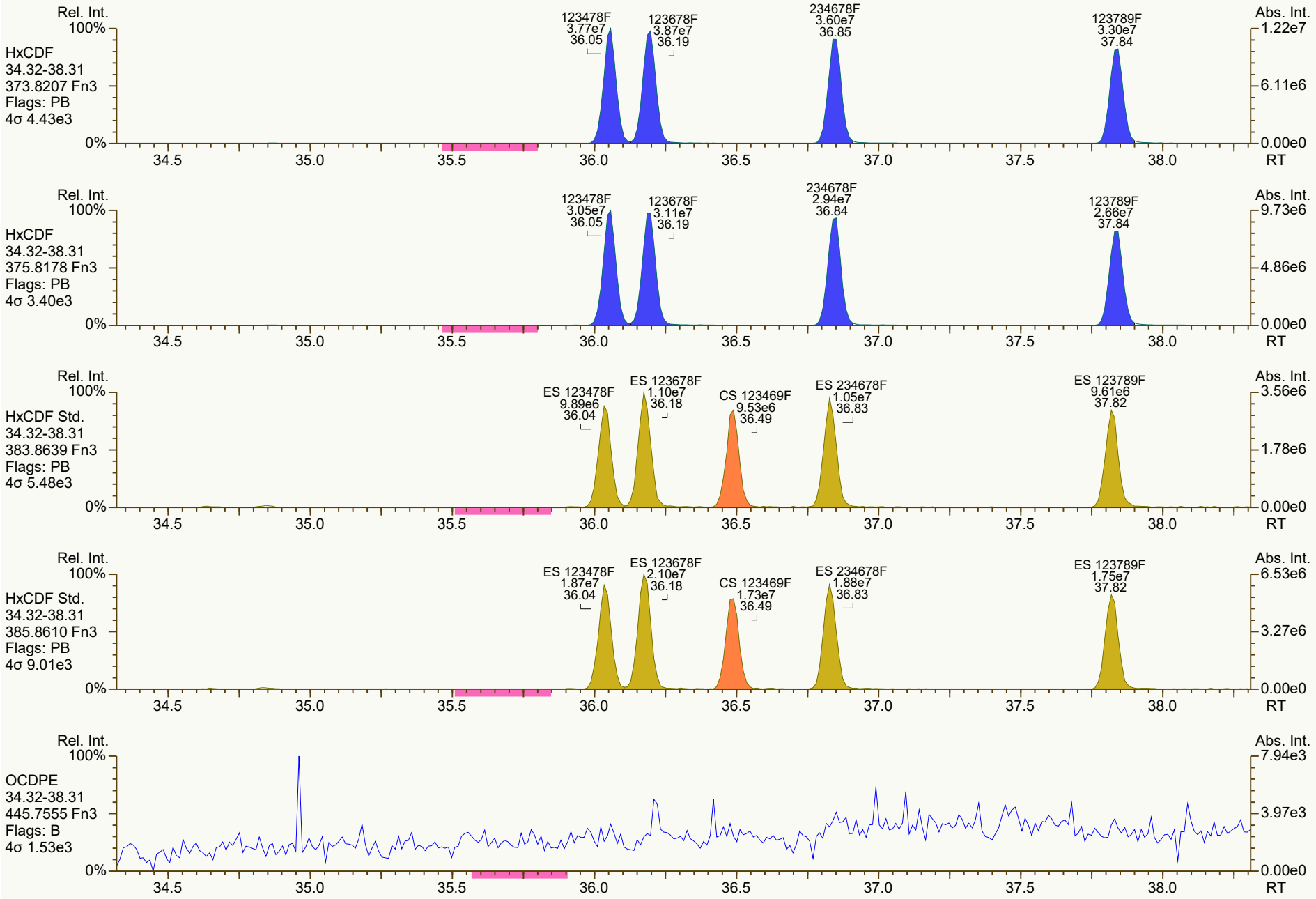

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

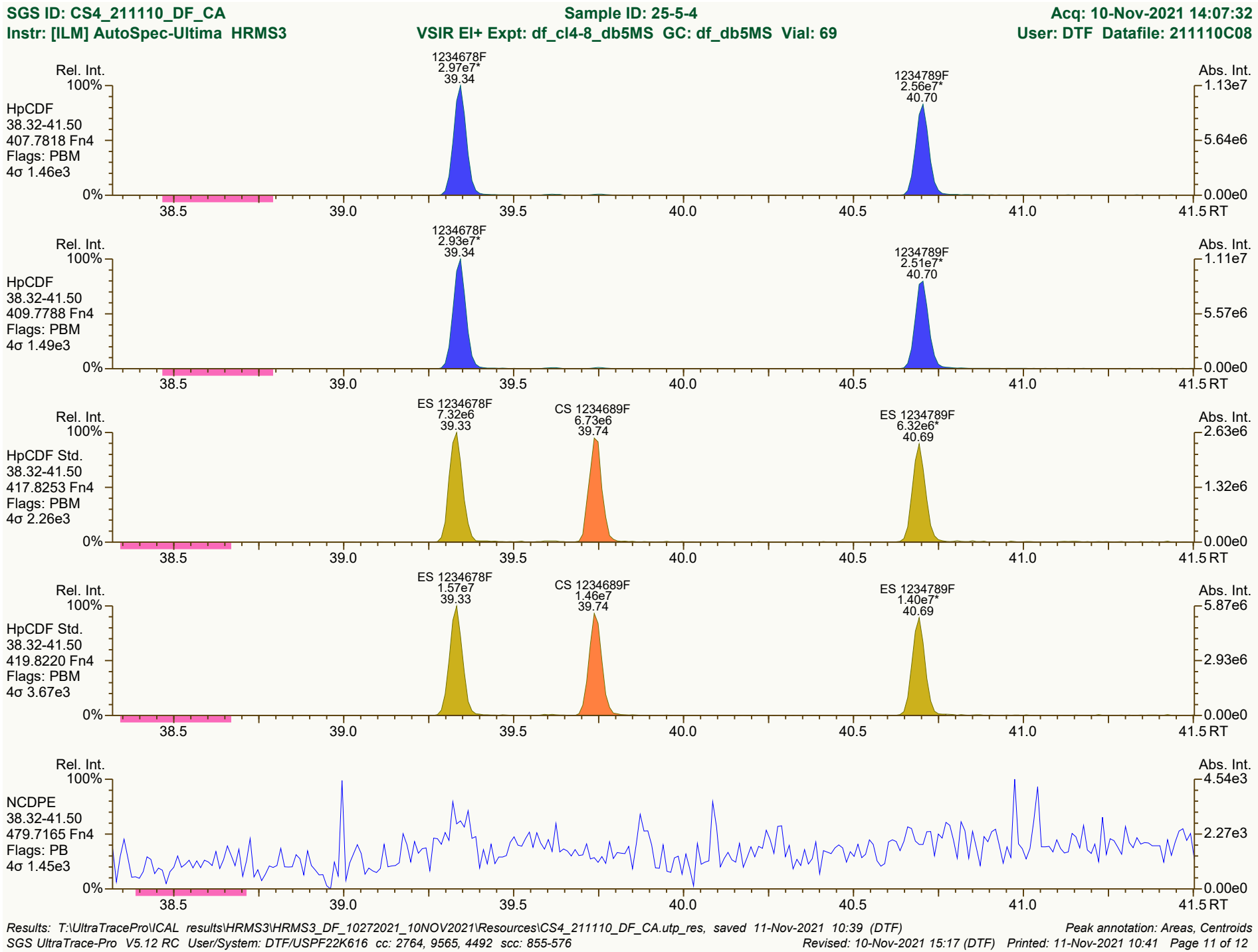

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

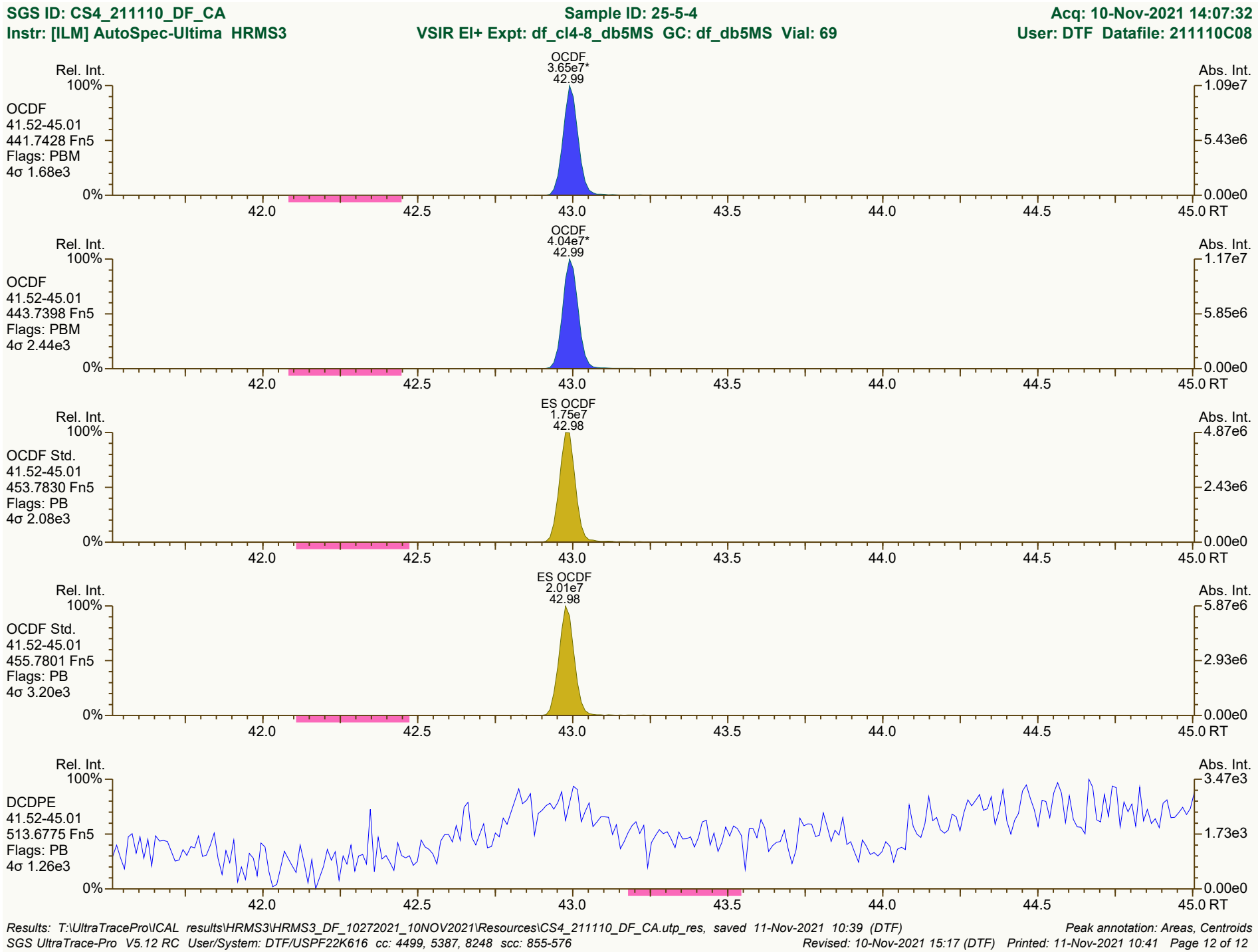

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F 3.77e7 36.05
123678F 3.87e7 36.19
234678F 3.60e7 36.85
123789F 3.30e7 37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F 3.05e7 36.05
123678F 3.11e7 36.19
234678F 2.94e7 36.84
123789F 2.66e7 37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F 9.89e6 36.04
ES 123678F 1.10e7 36.18
CS 123469F 9.53e6 36.49
ES 234678F 1.05e7 36.83
ES 123789F 9.61e6 37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F 1.87e7 36.04
ES 123678F 2.10e7 36.18
CS 123469F 1.73e7 36.49
ES 234678F 1.88e7 36.83
ES 123789F 1.75e7 37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

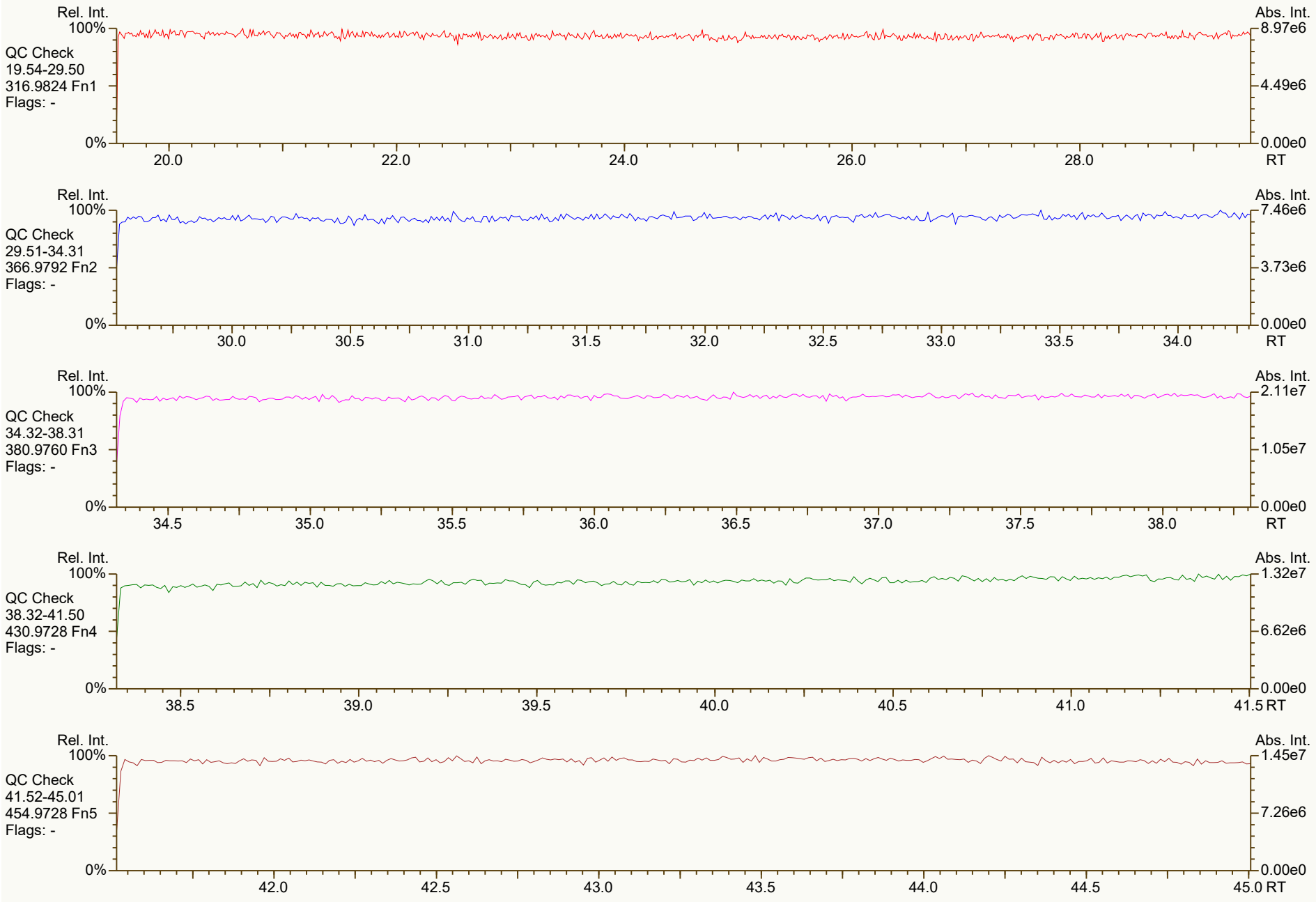

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

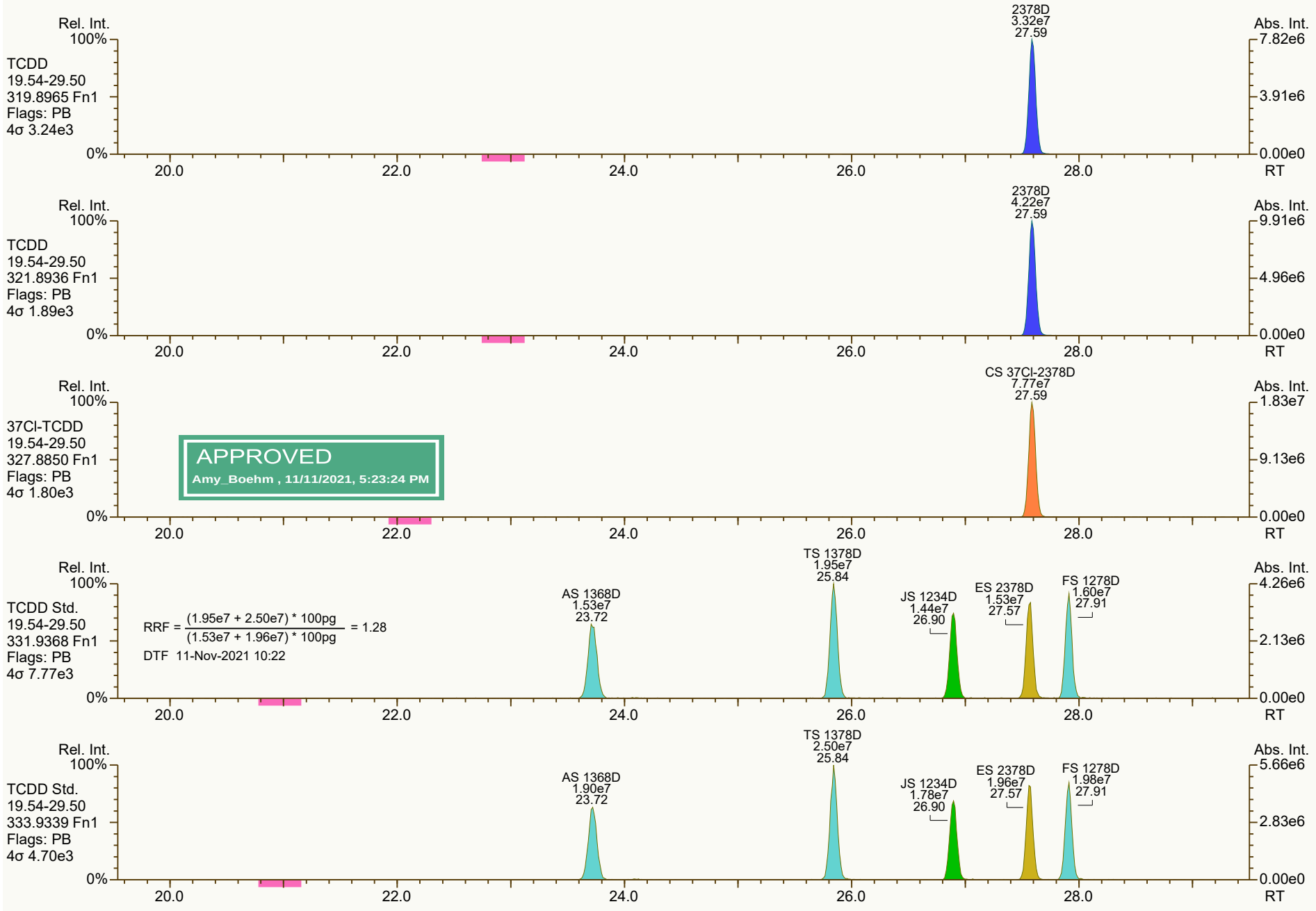

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
OCDF
3.65e7*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
1.09e7
5.43e6
0.00e0
OCDF
4.04e7*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
1.17e7
5.85e6
ES OCDF
1.75e7
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
4.87e6
2.43e6
ES OCDF
2.01e7
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
5.87e6
2.93e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
3.47e3
1.73e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4499, 5387, 8248 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 12 of 12

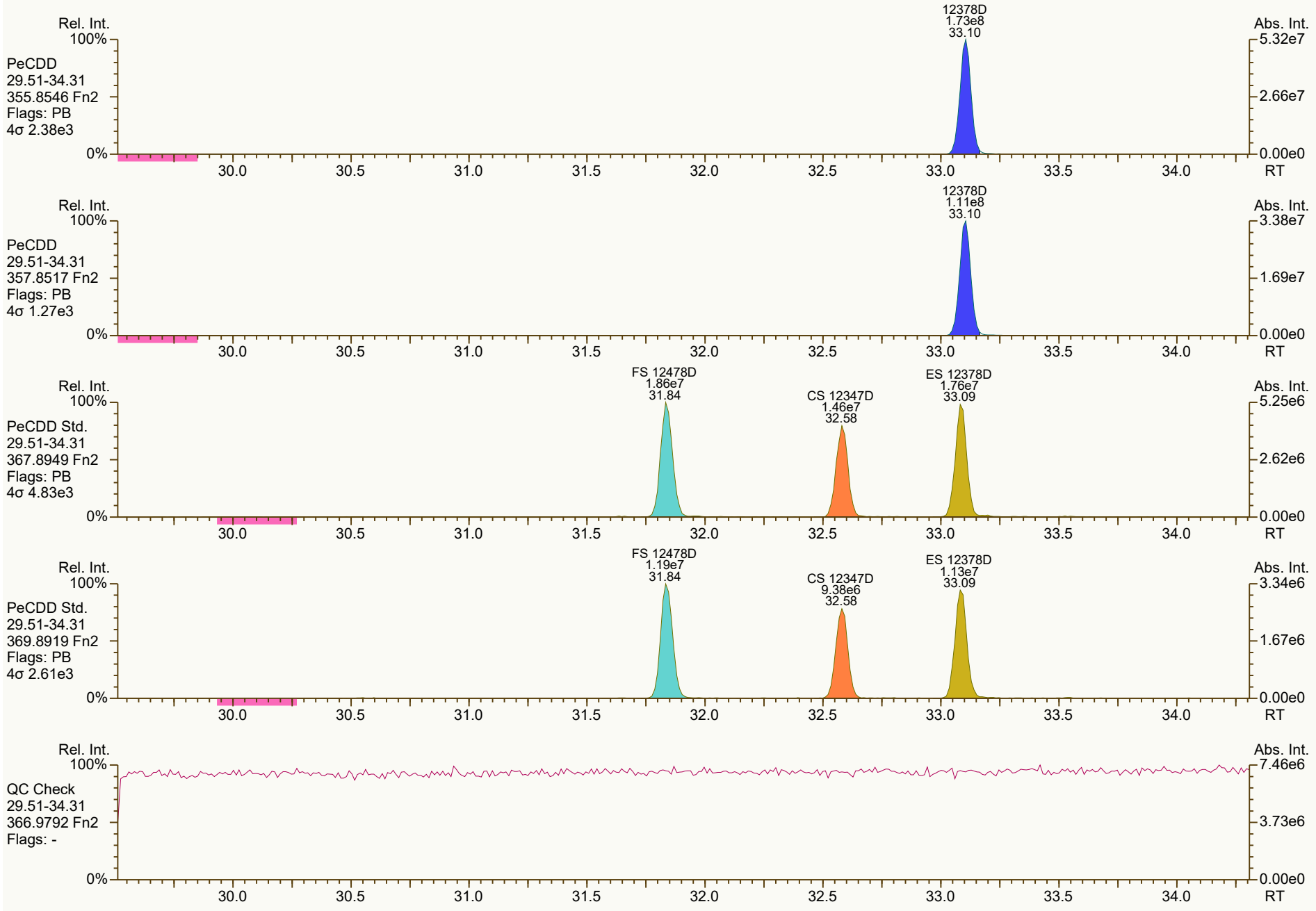
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

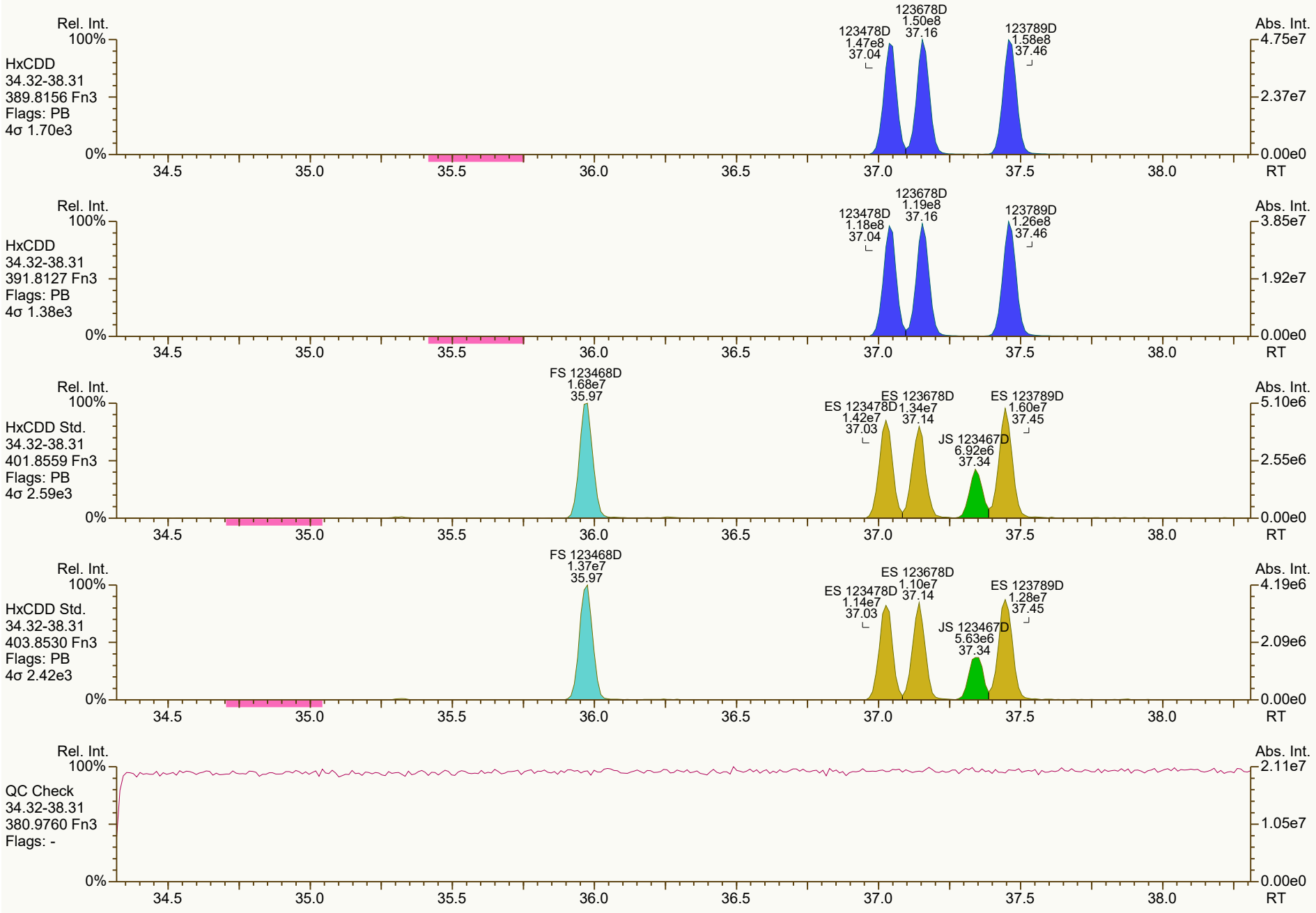
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

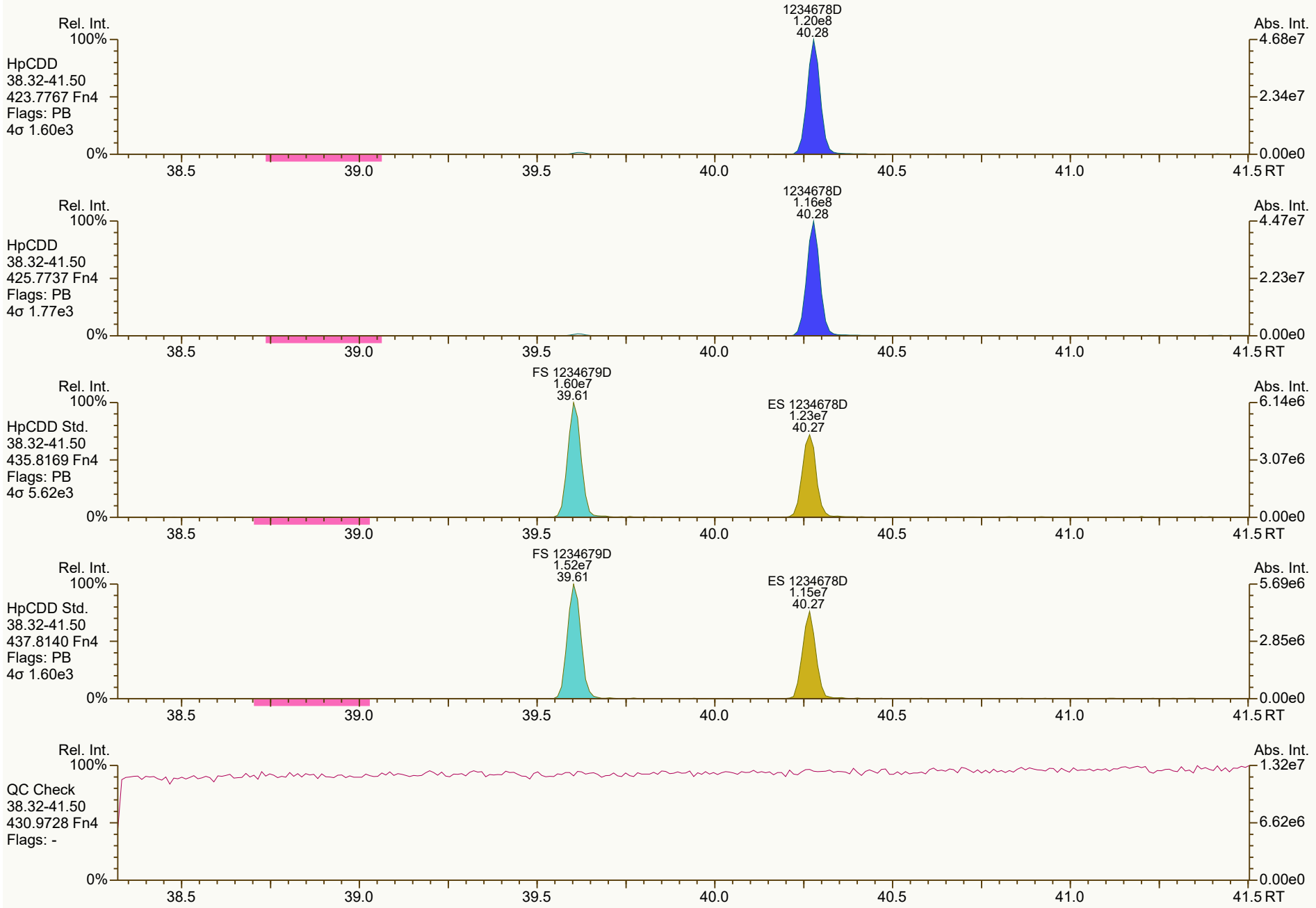
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

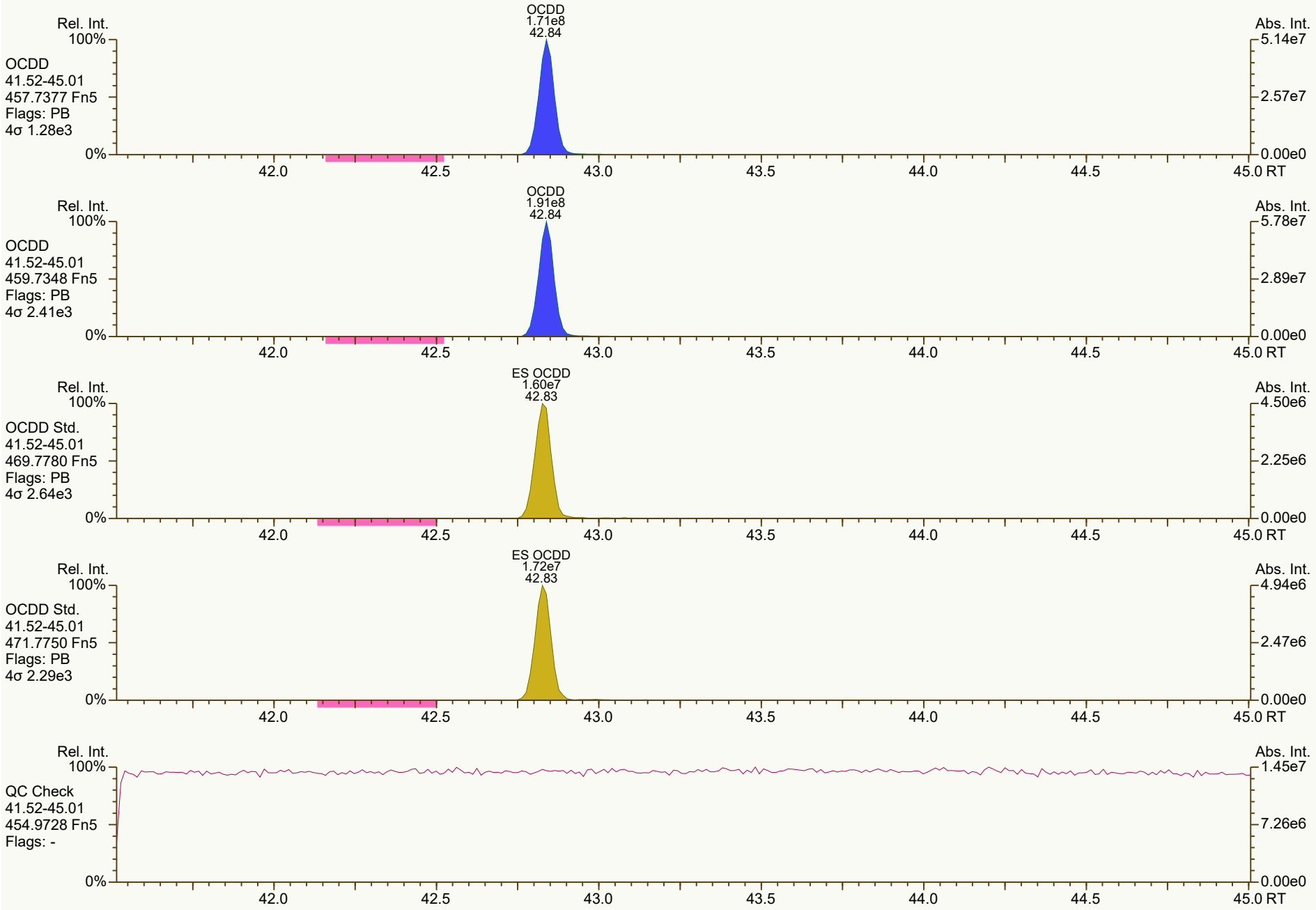

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.46e6
3.73e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.32e7
6.62e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.45e7
7.26e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

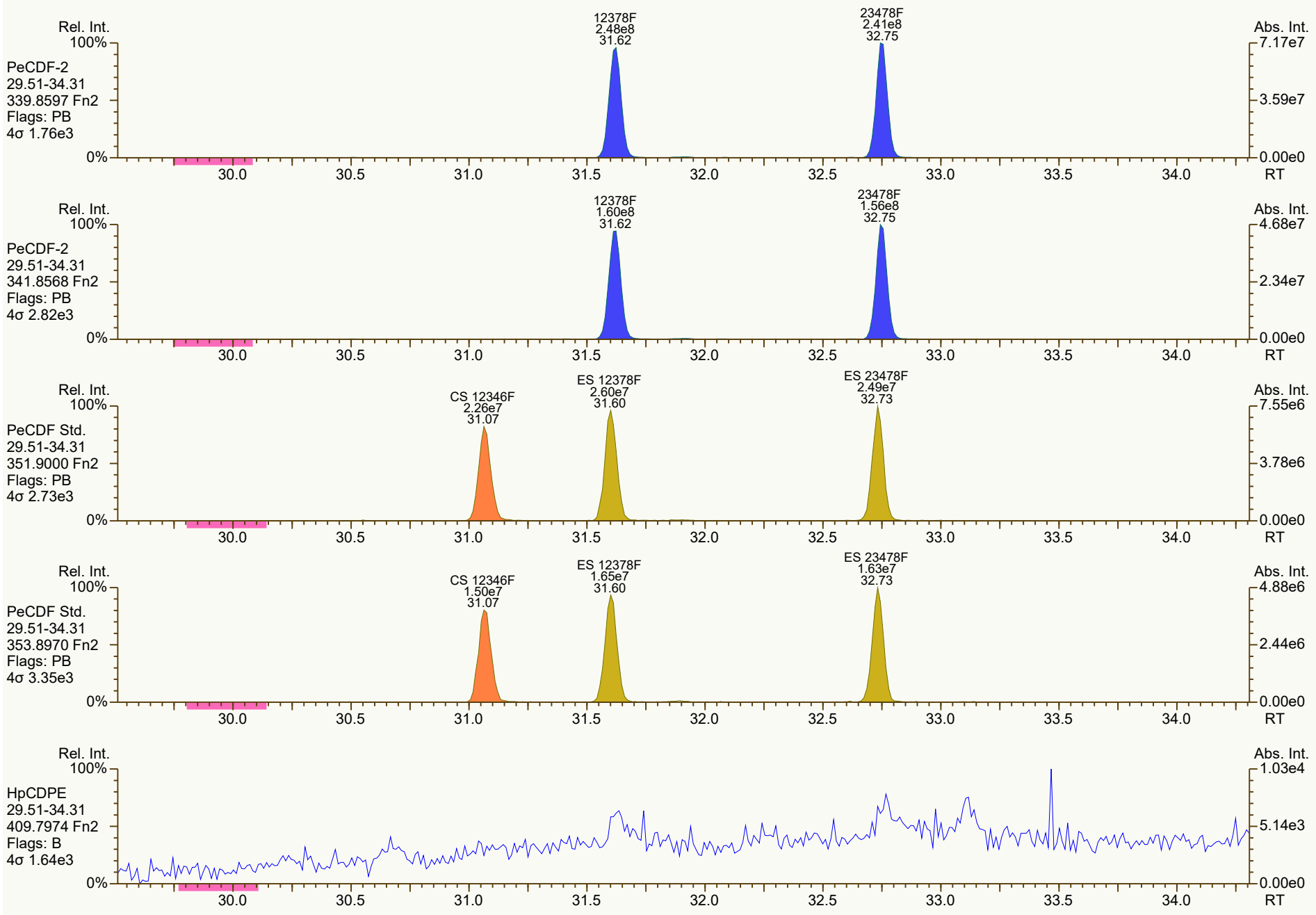

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
0%
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
0%
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
0%
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
0%
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

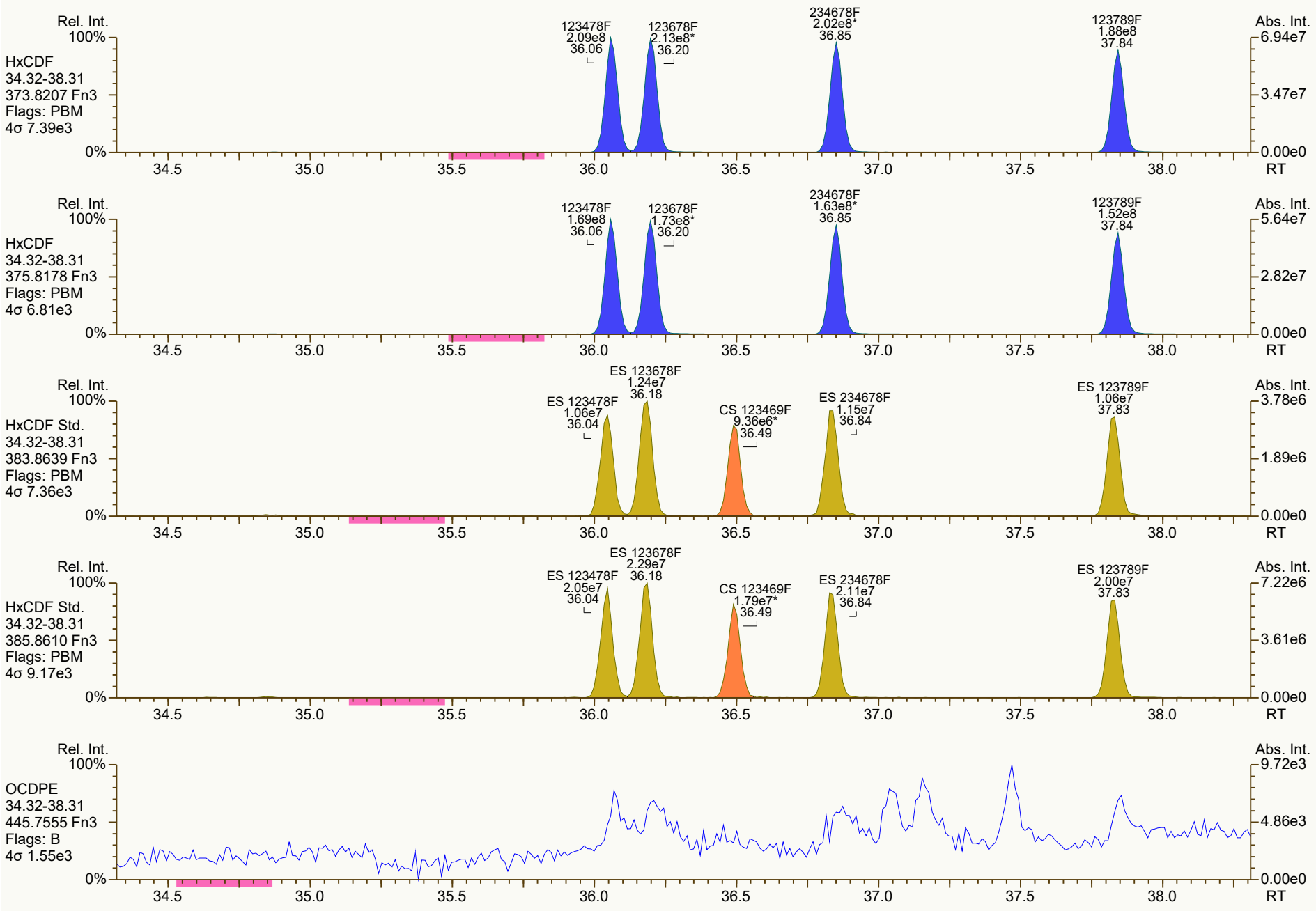

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

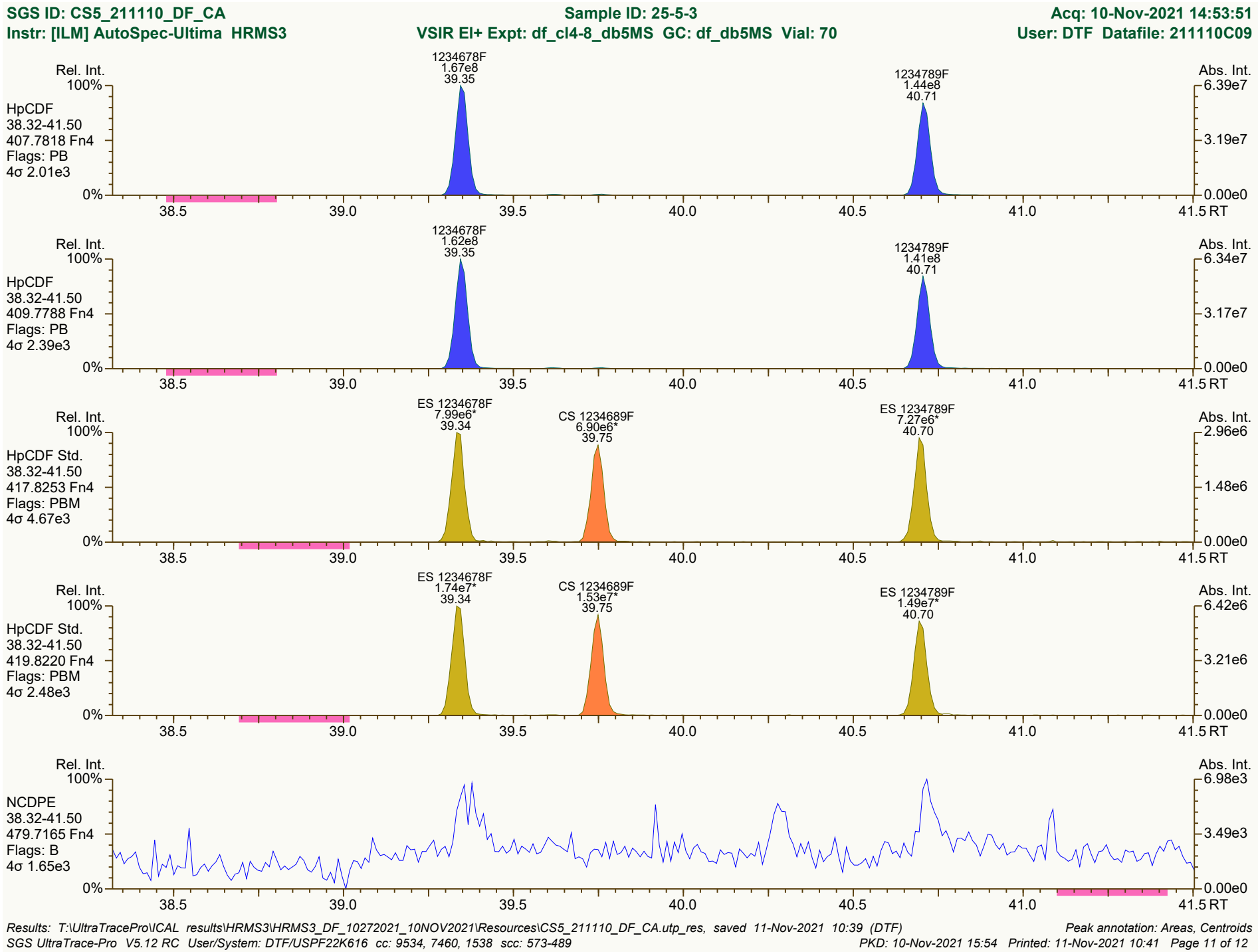

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
OCDD
1.71e8
42.84
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
OCDD
1.91e8
42.84
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
ES OCDD
1.60e7
42.83
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.72e7
42.83
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

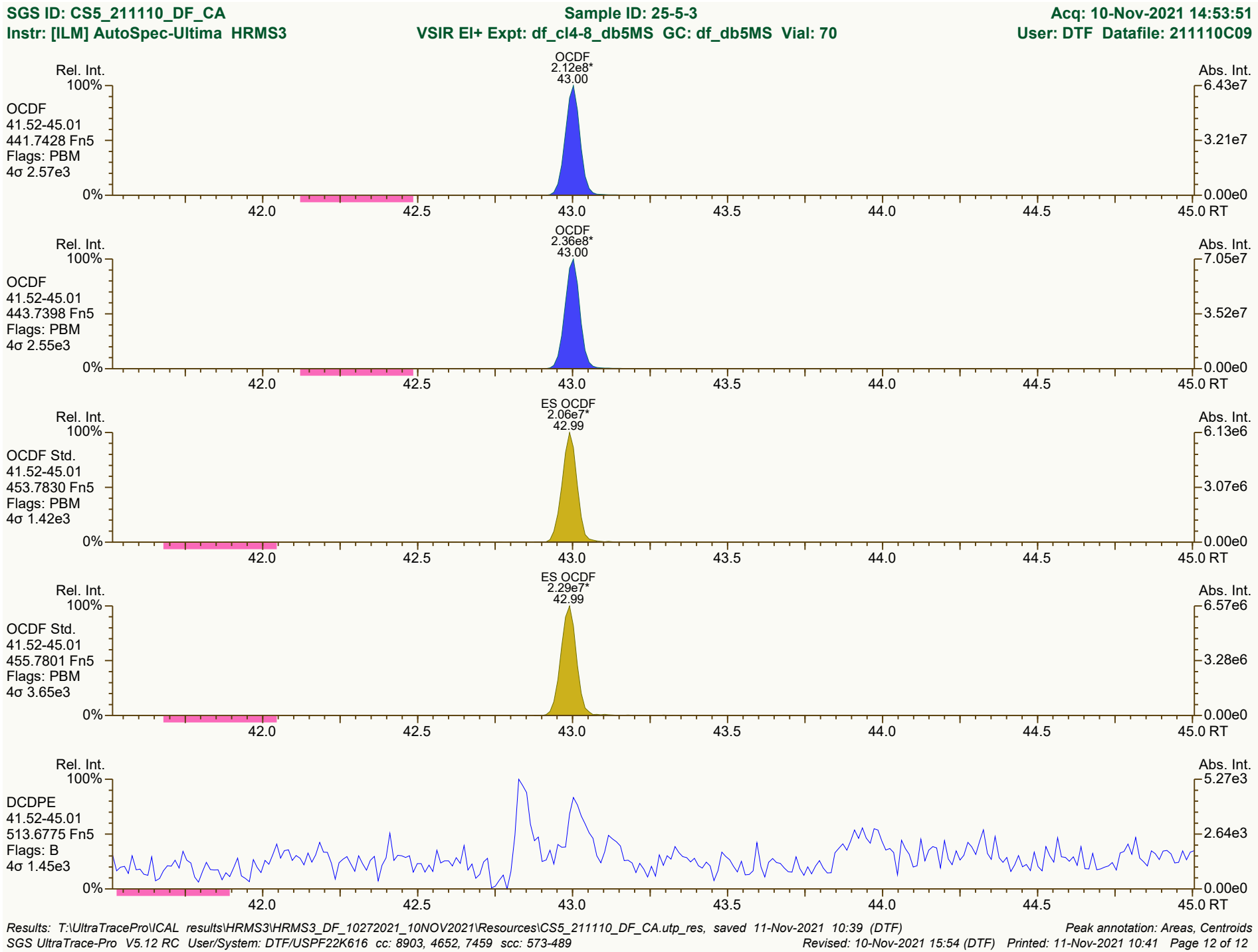

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

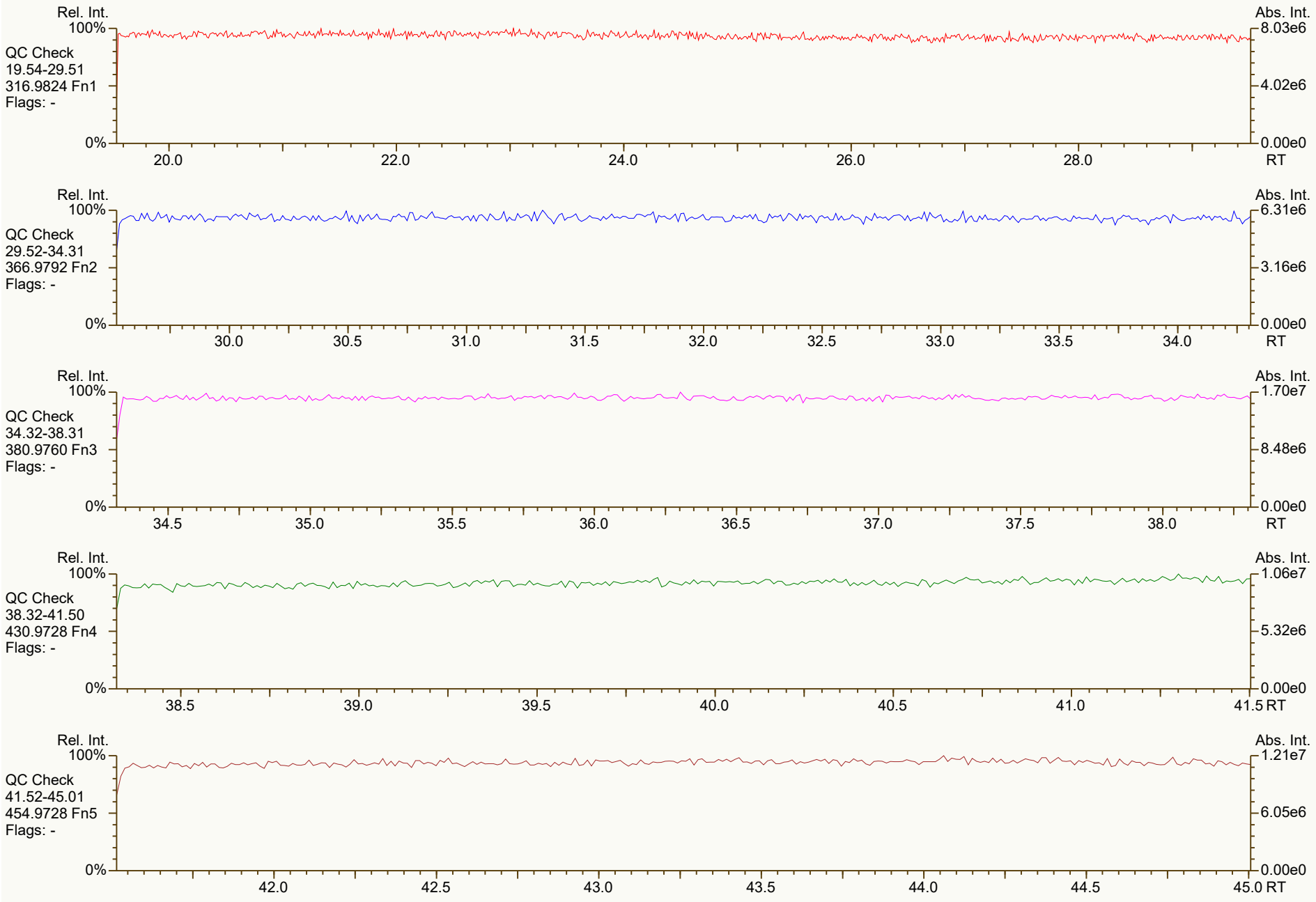

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

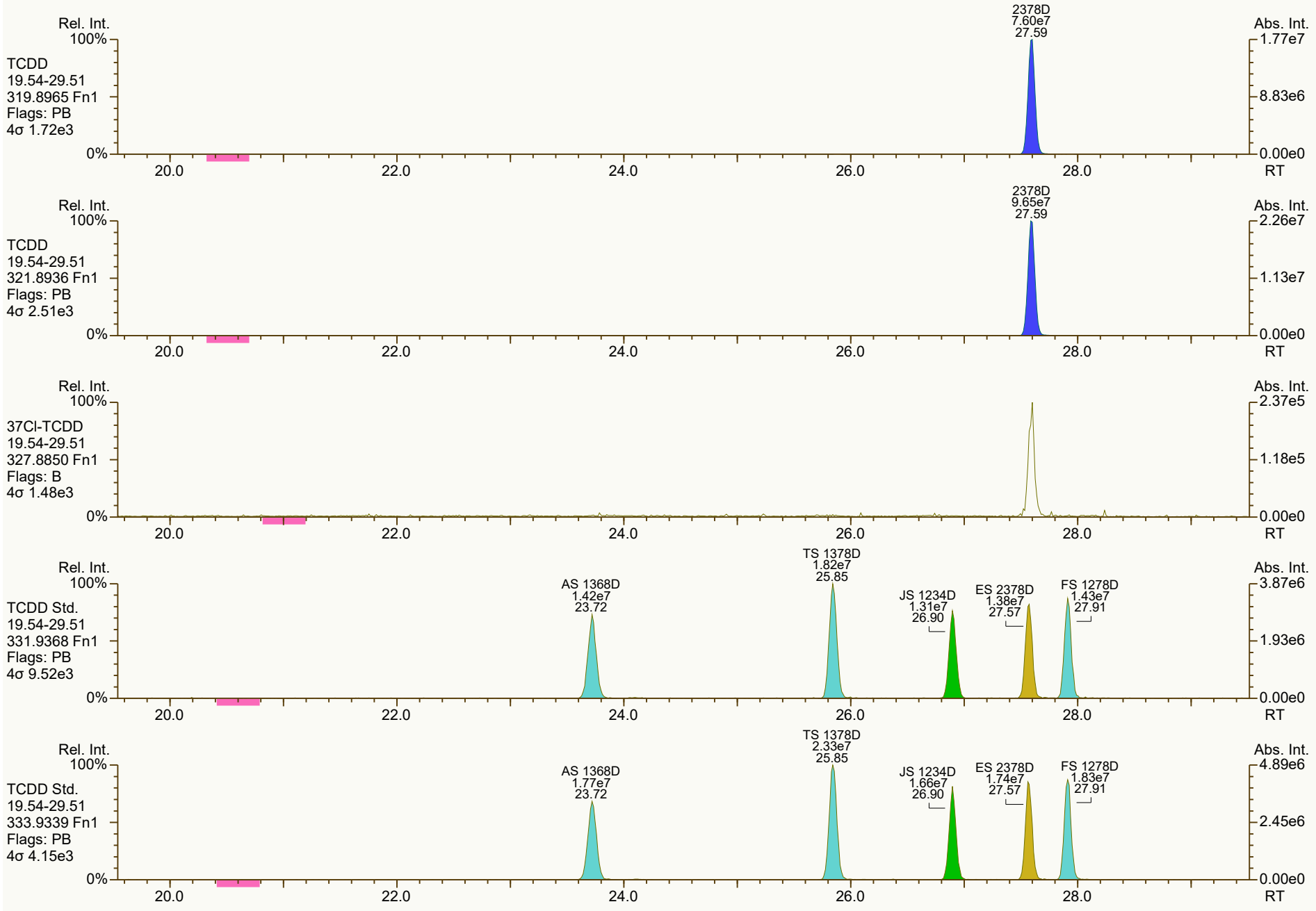

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 8903, 4652, 7459 scc: 573-489
Revised: 10-Nov-2021 15:54 (DTF) Printed: 11-Nov-2021 10:41 Page 12 of 12

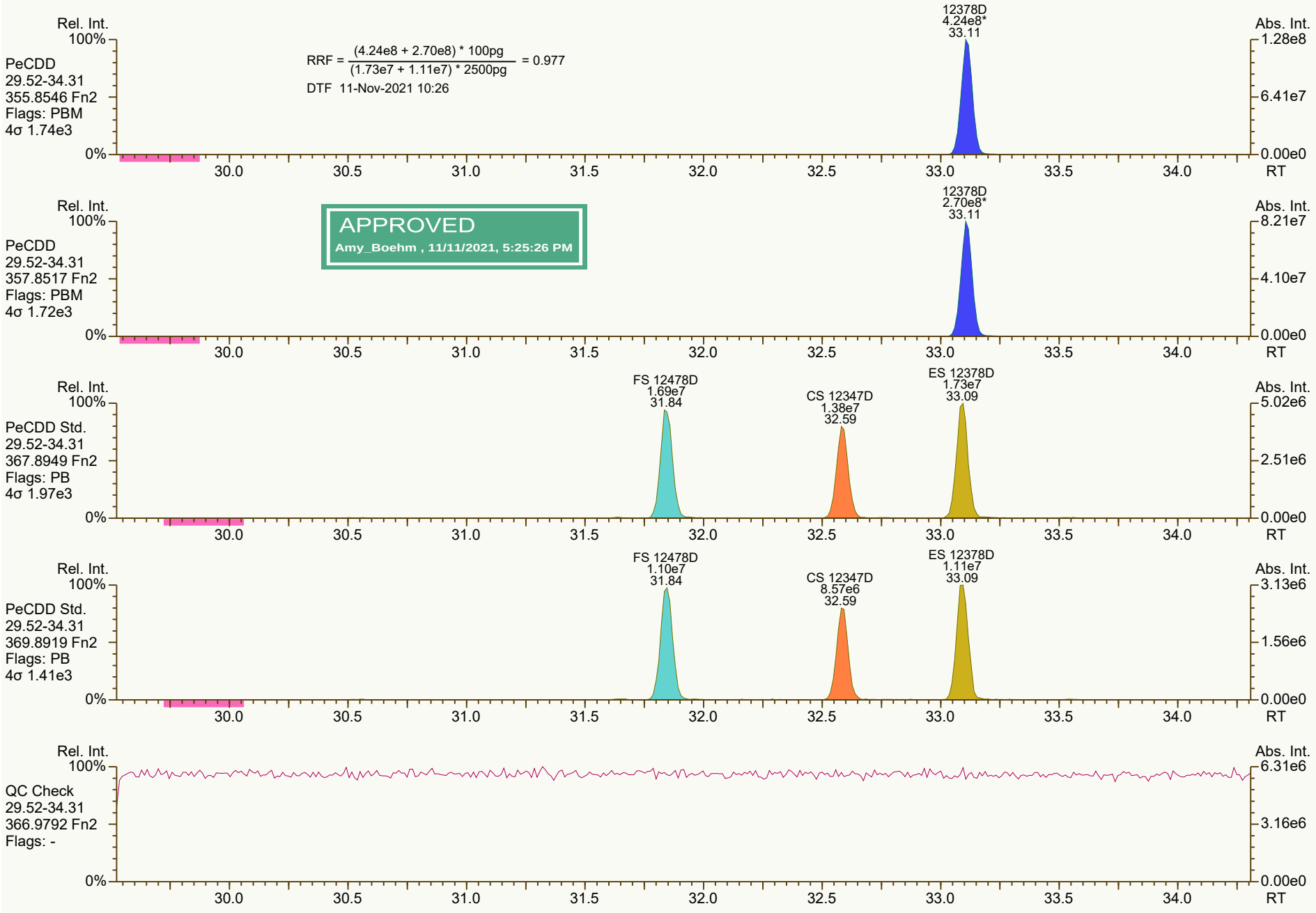
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

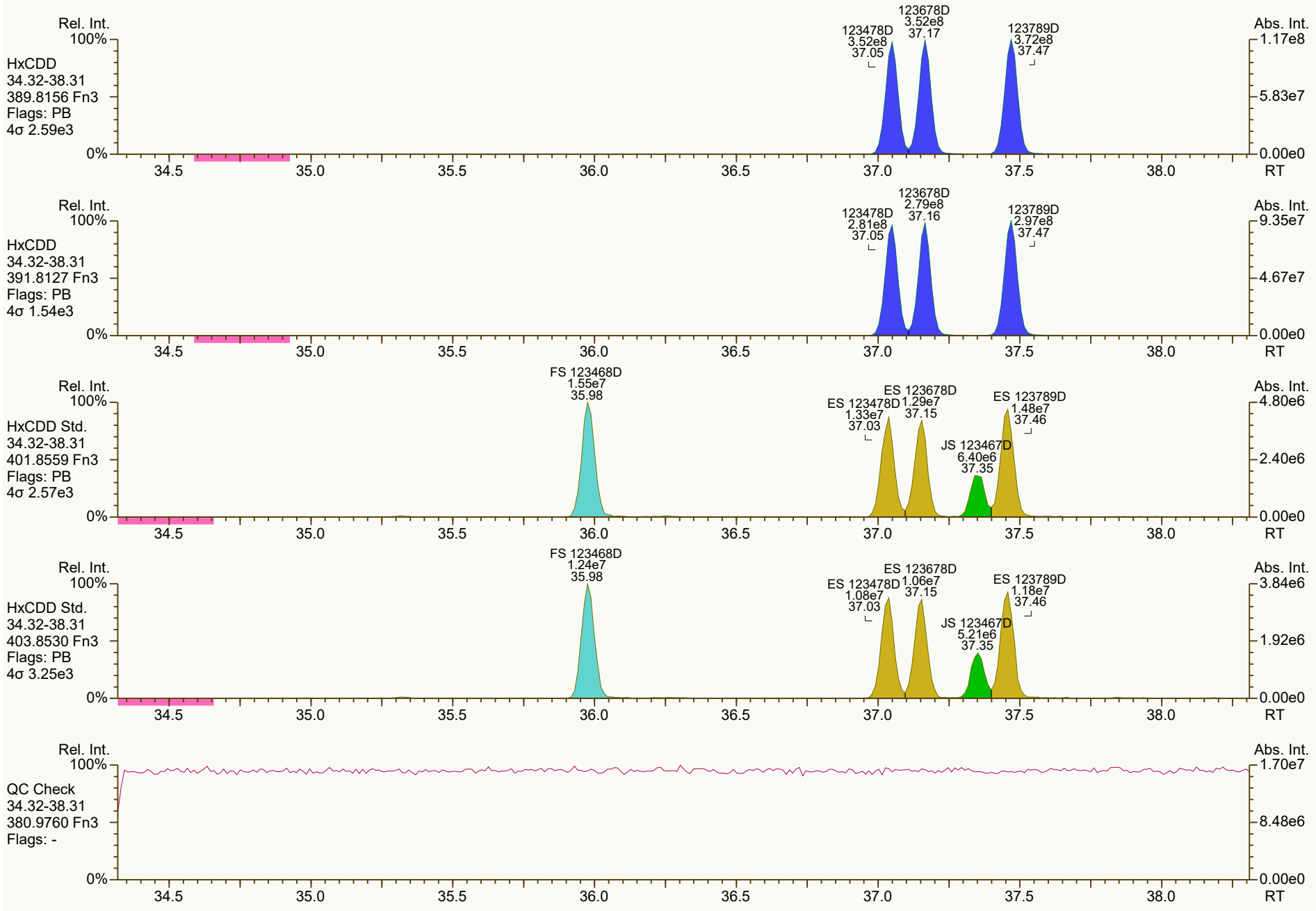
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

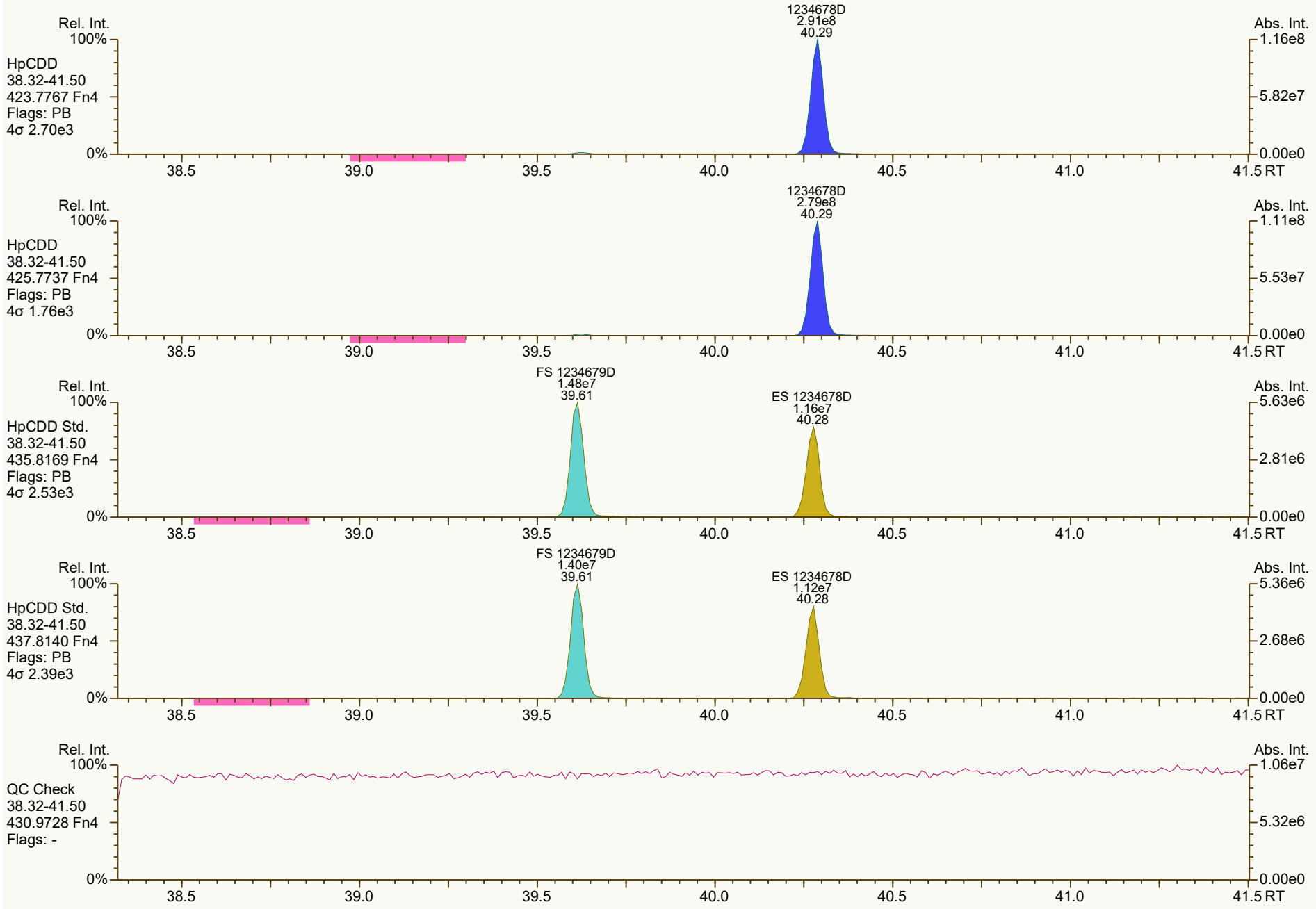
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

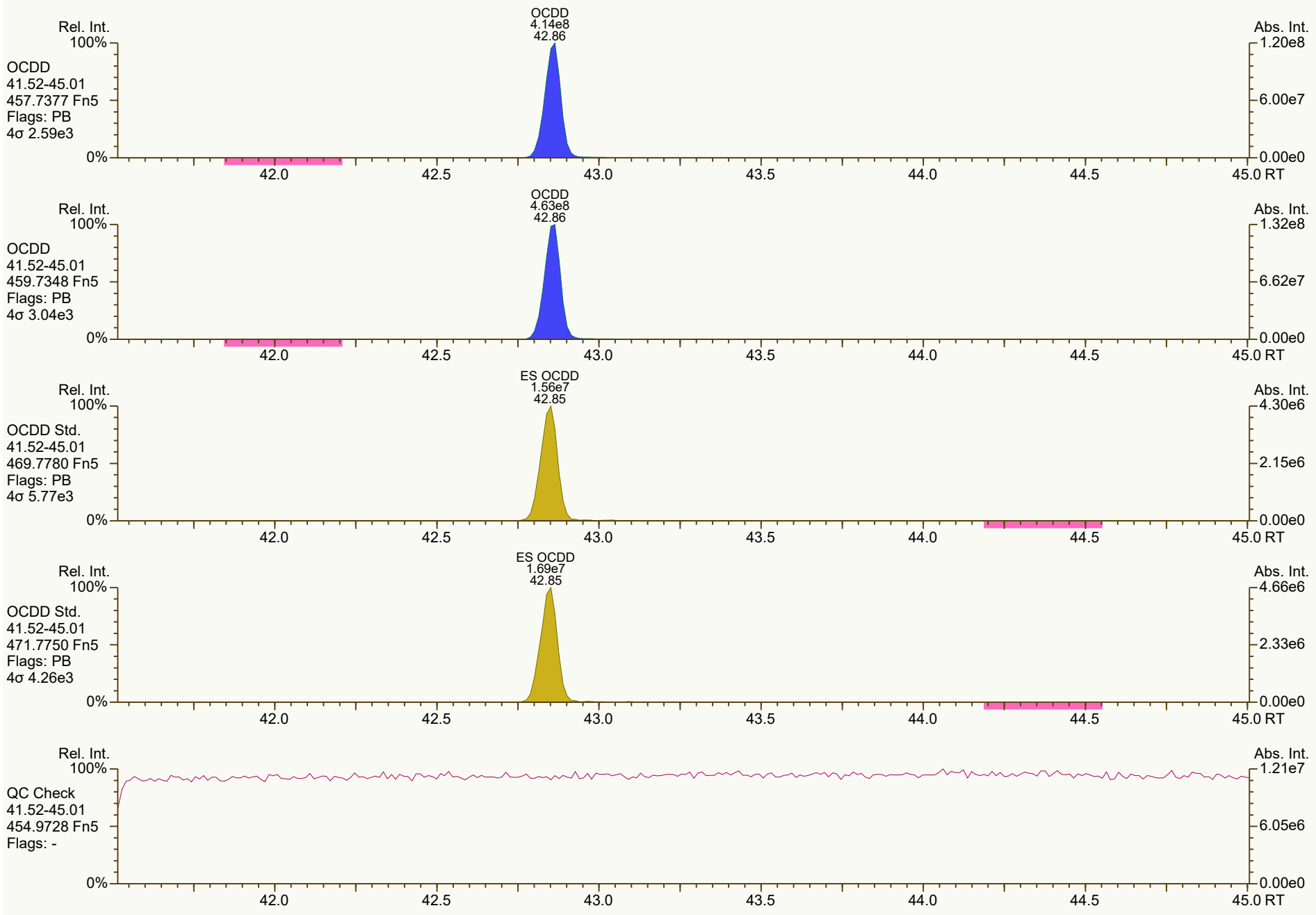

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

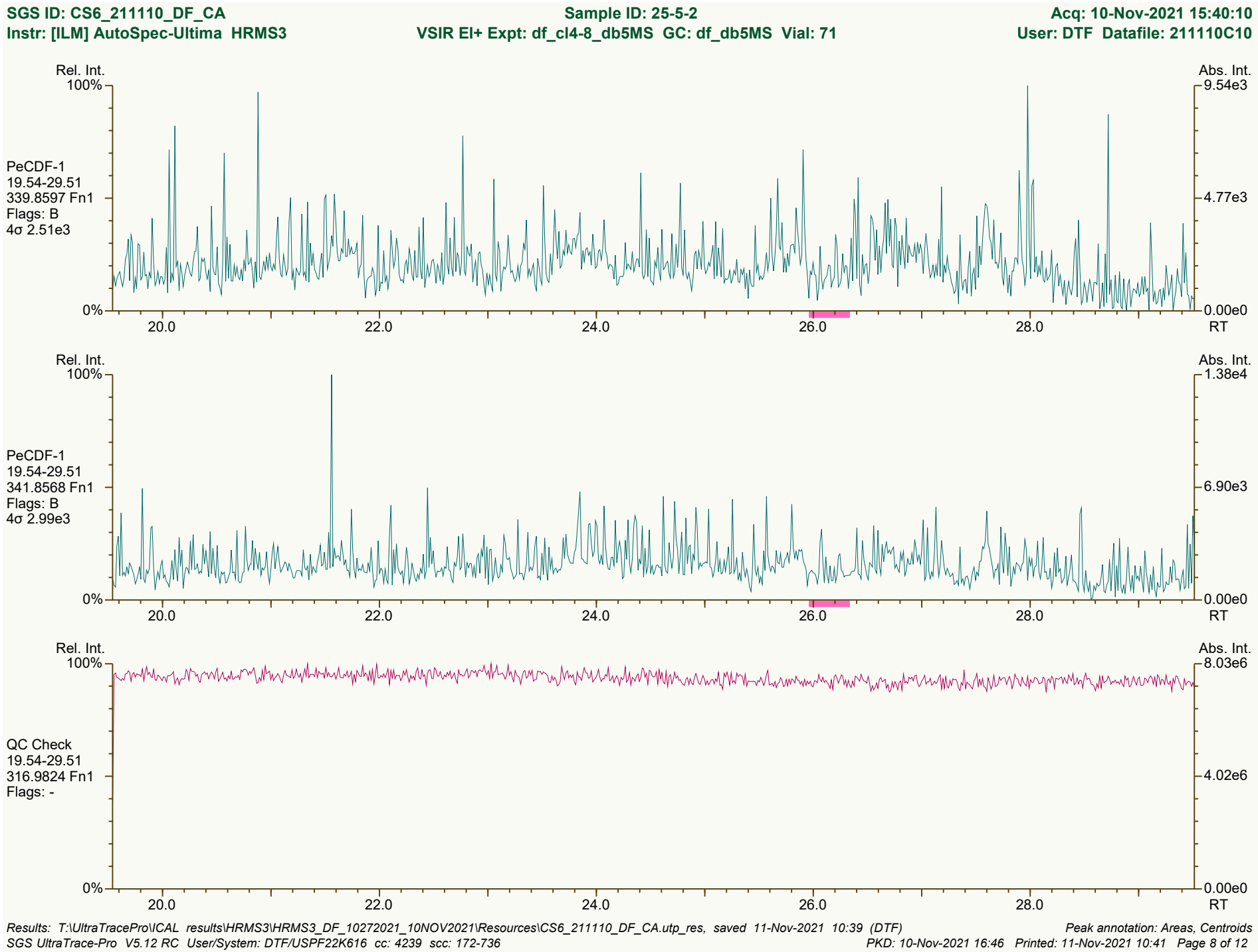

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

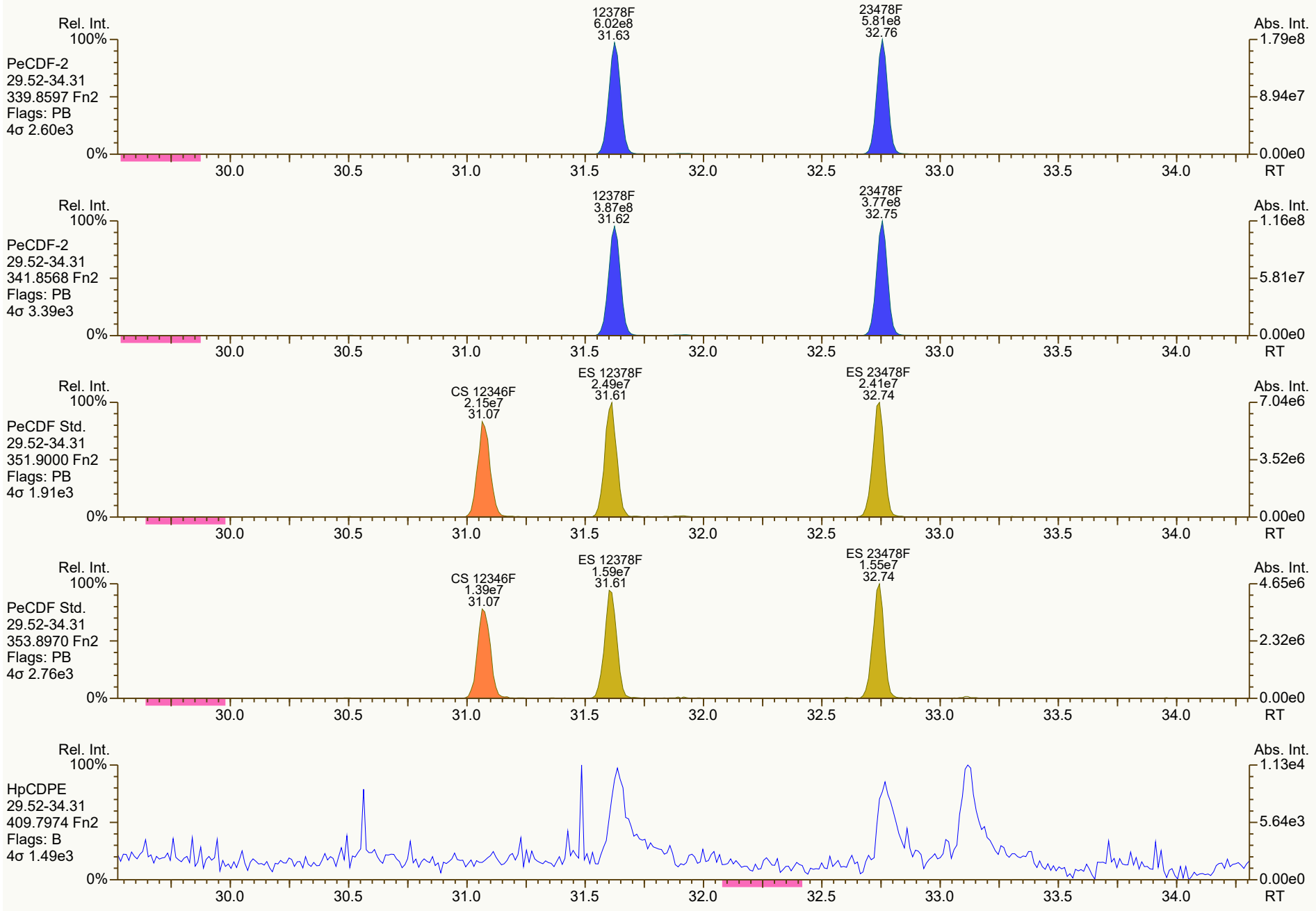

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

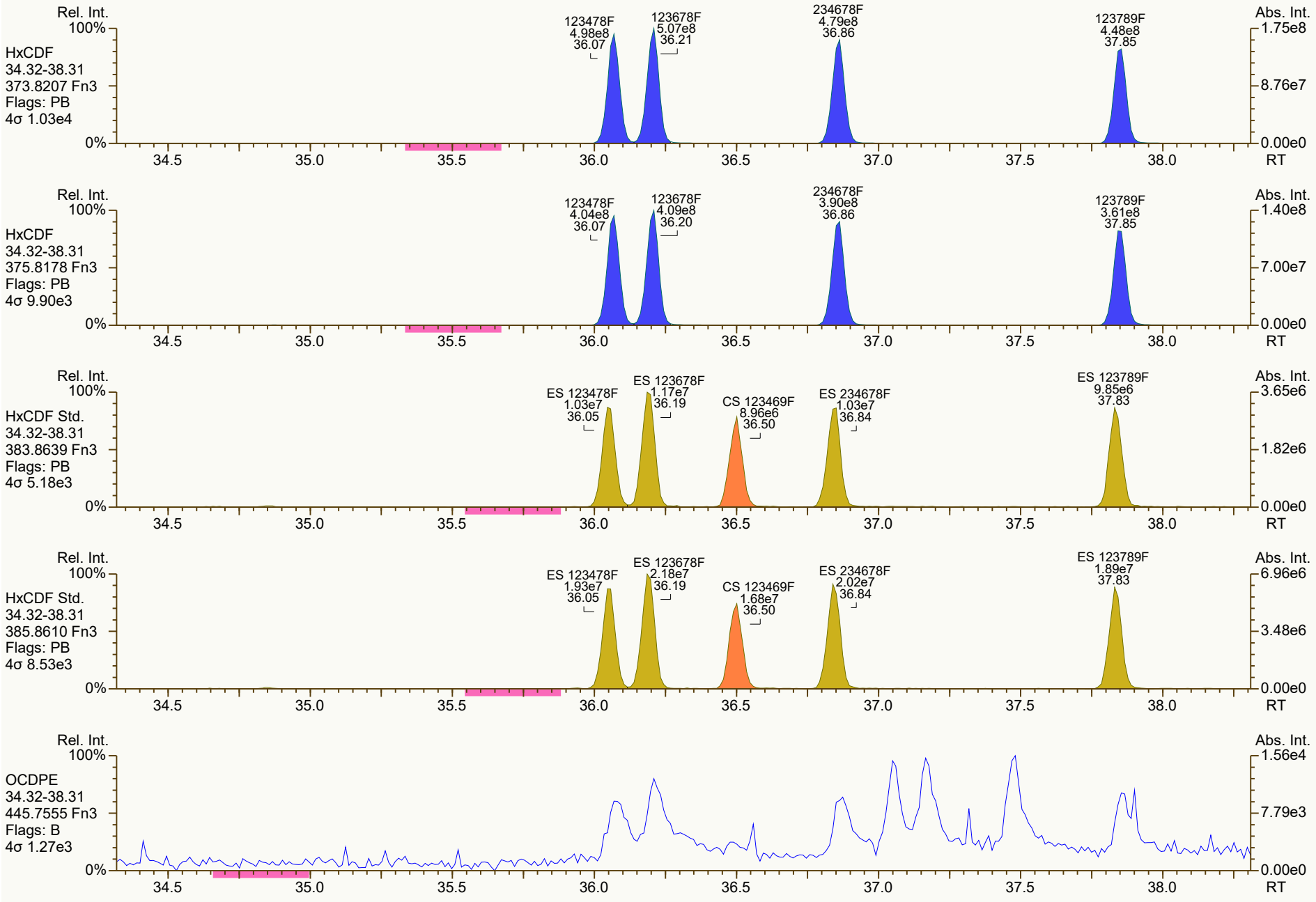

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

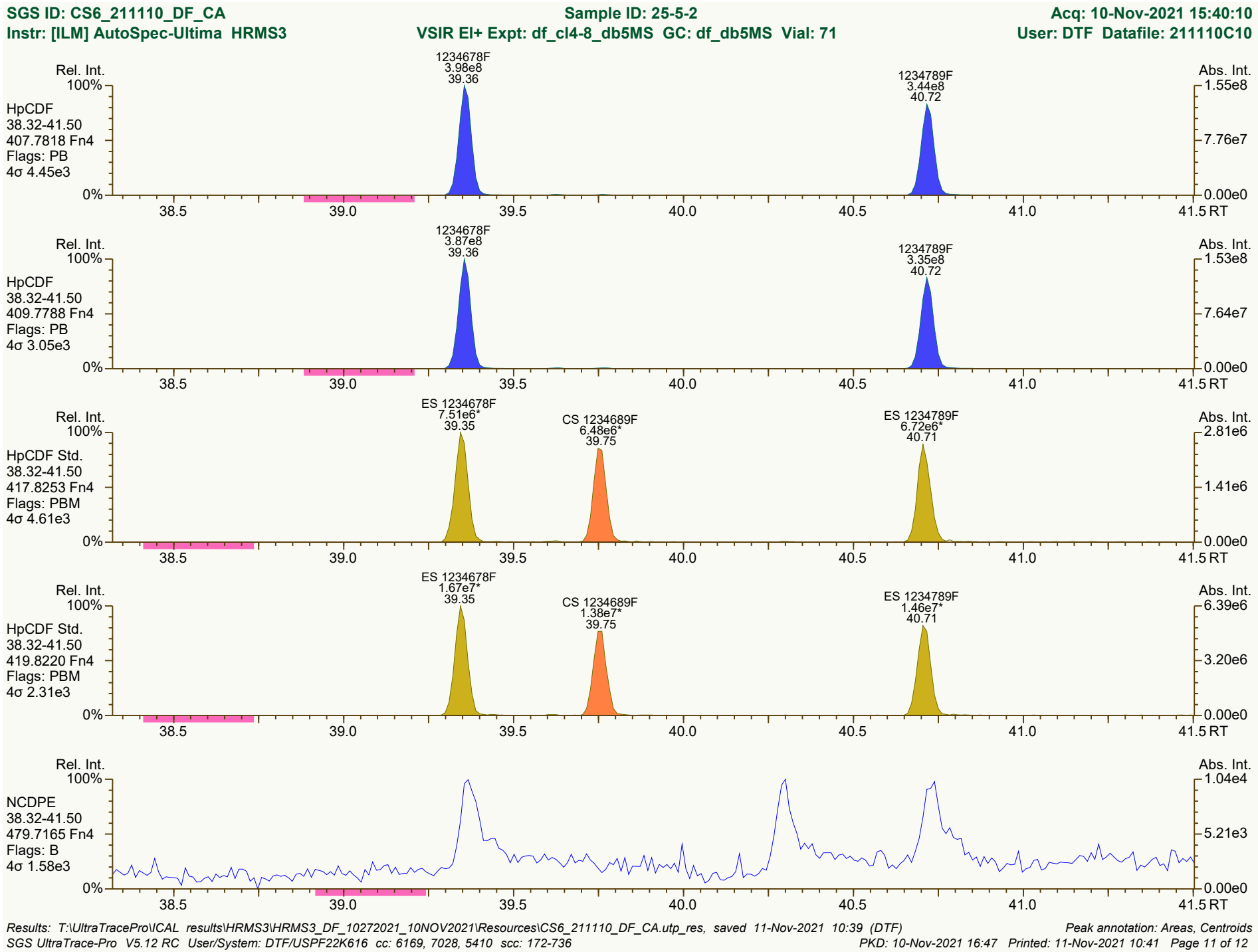

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

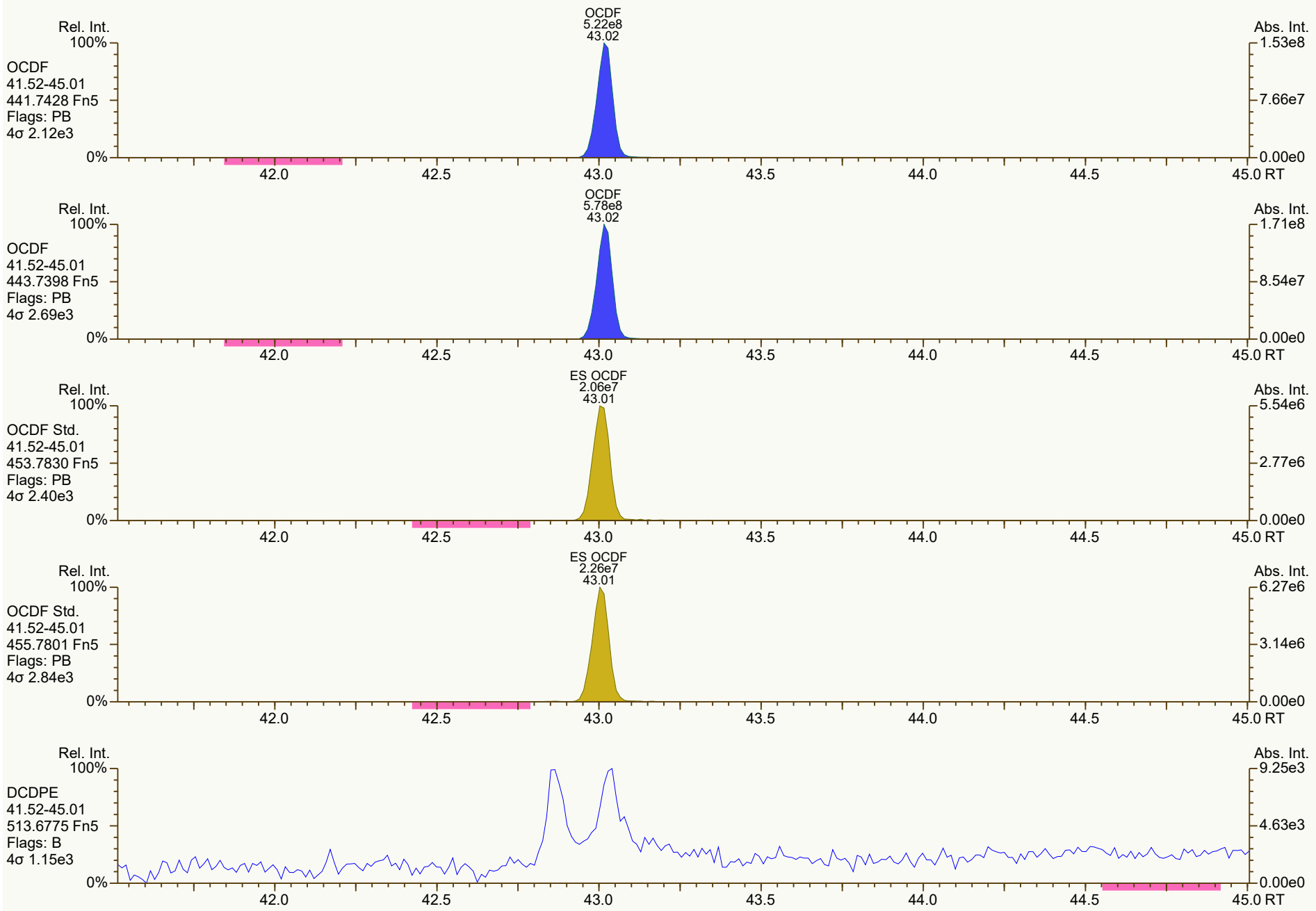

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

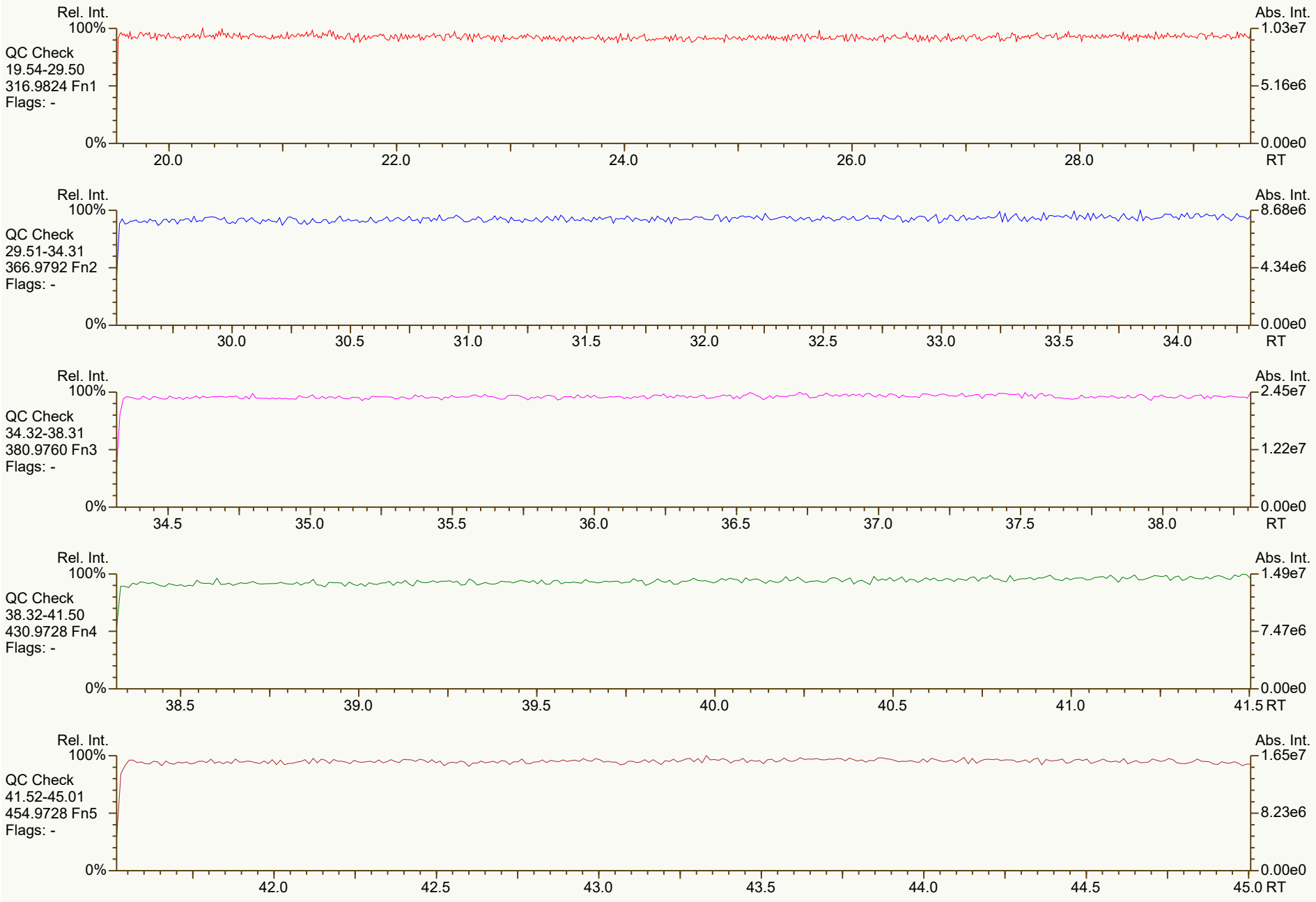

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
1.55e8
7.76e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
1.53e8
7.64e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
2.81e6
1.41e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
6.39e6
3.20e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
1.04e4
5.21e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6169, 7028, 5410 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 11 of 12


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

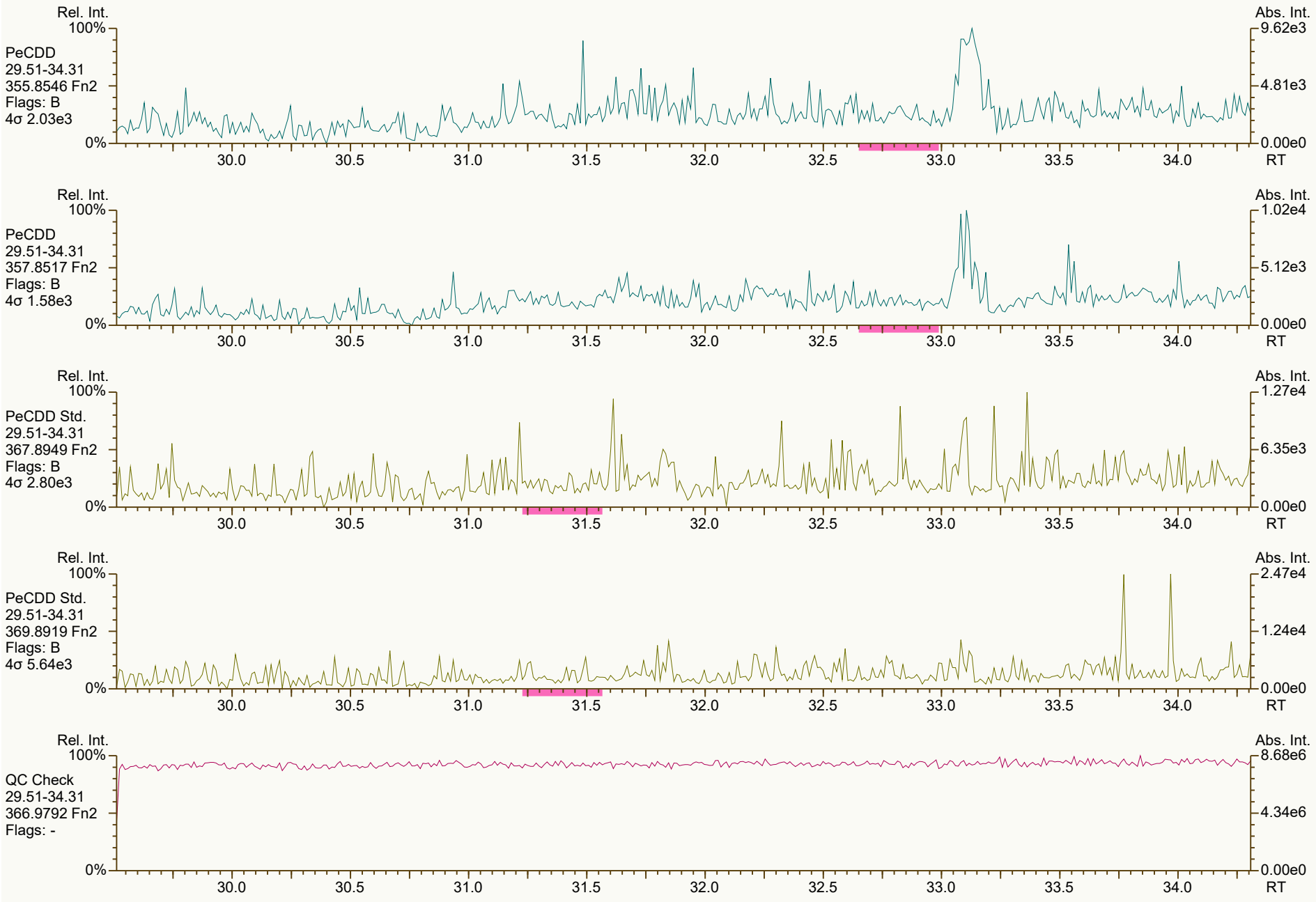
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

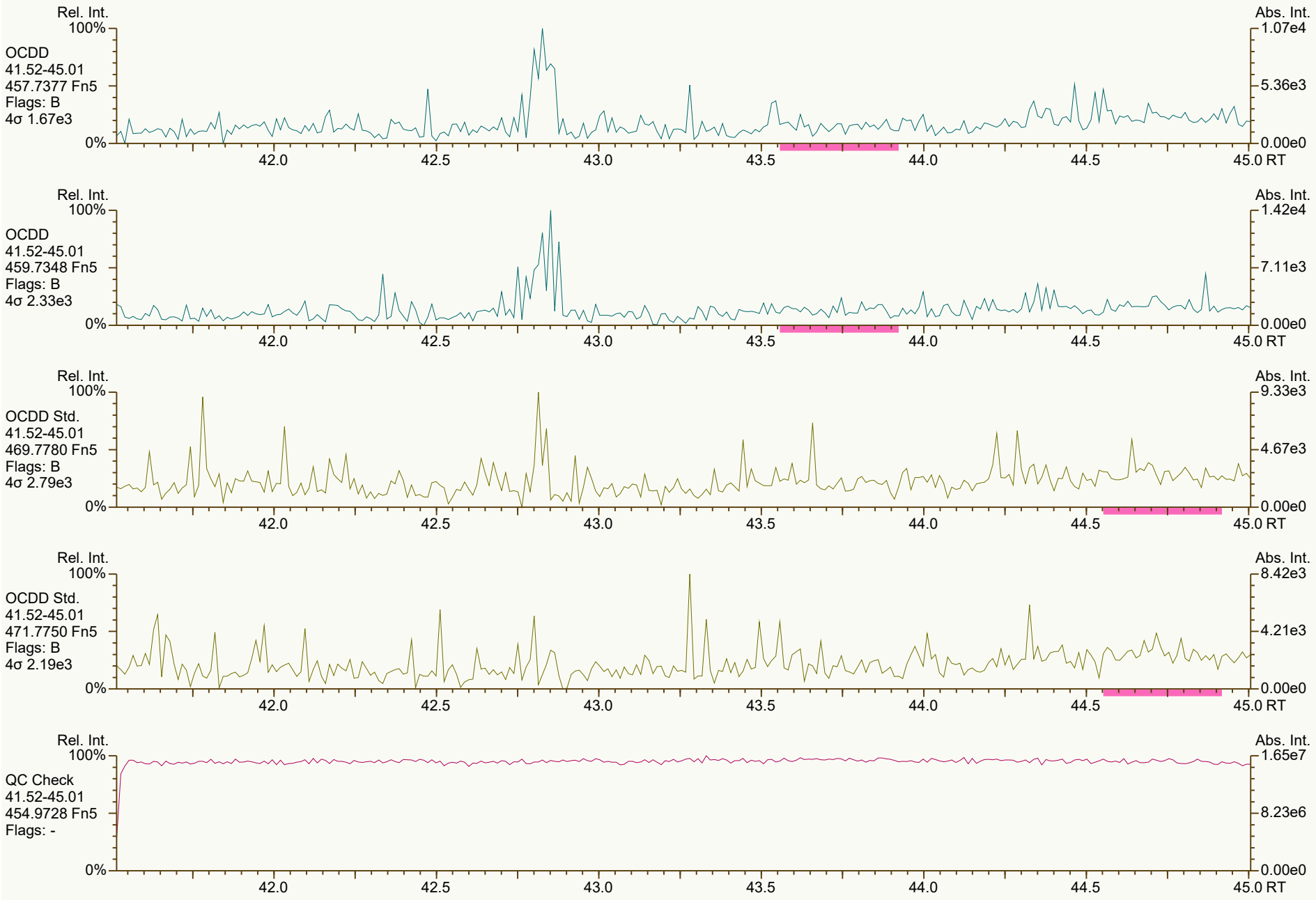
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

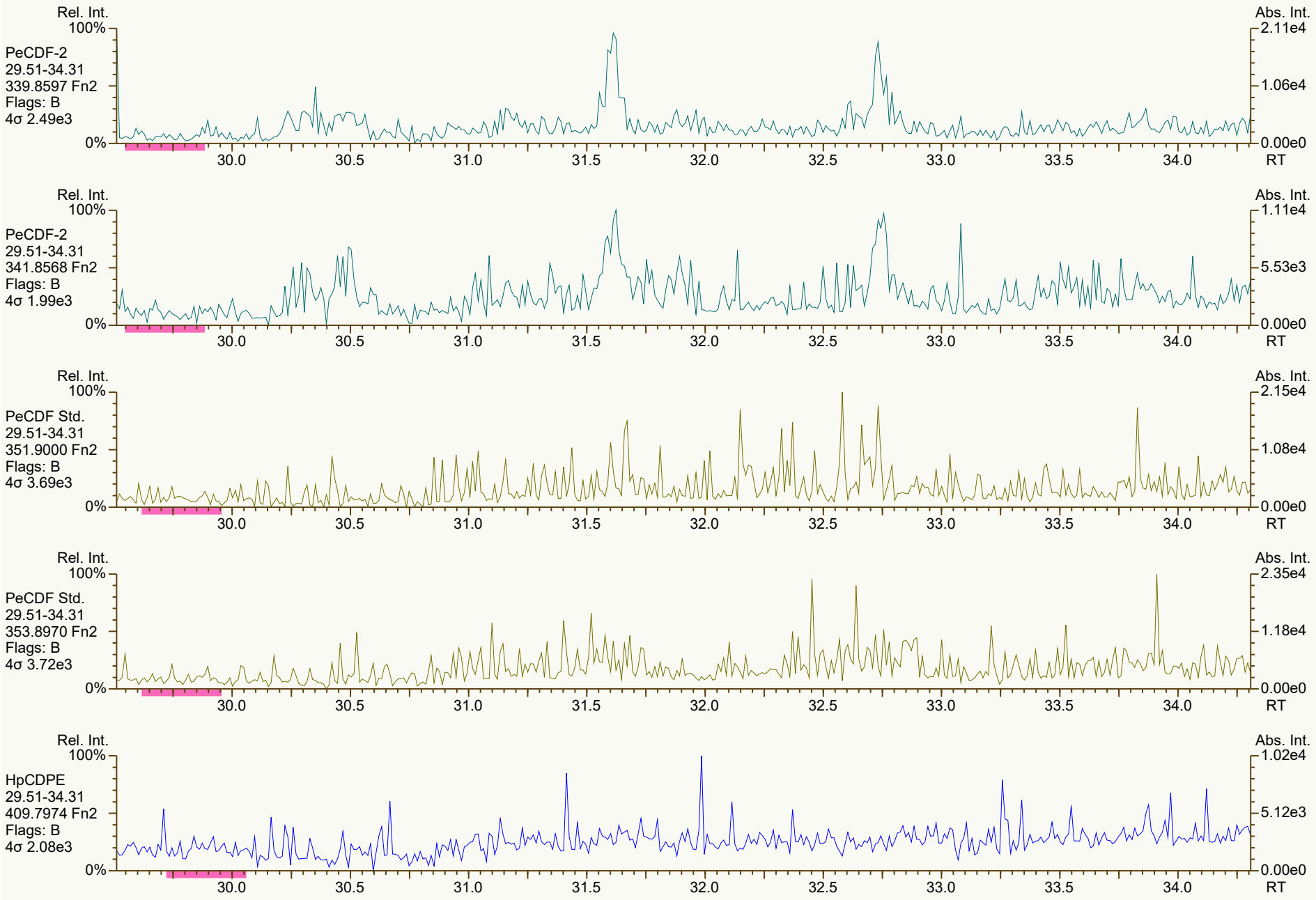

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

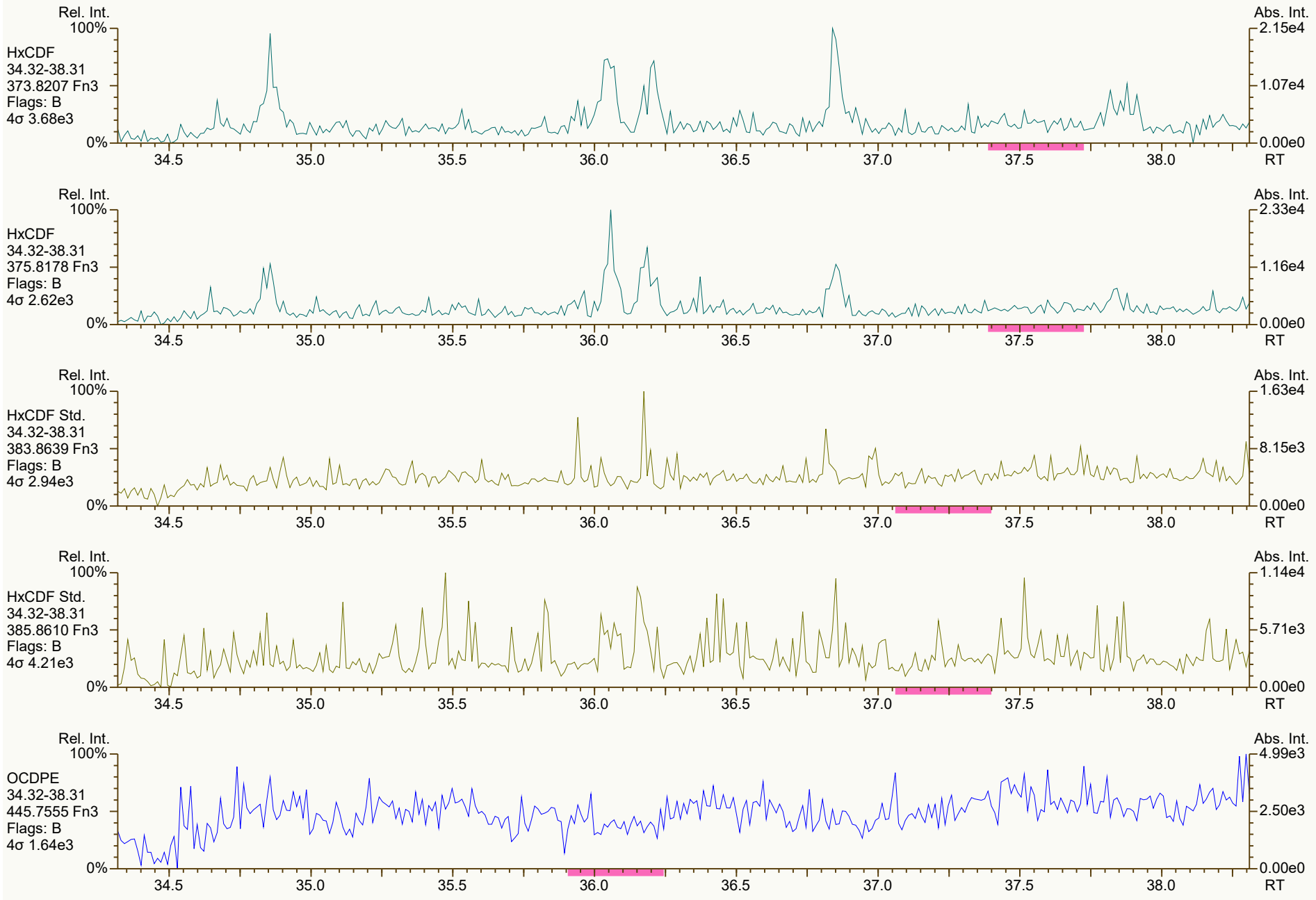

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
7.07e4
3.53e4
0.00e0
RT
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

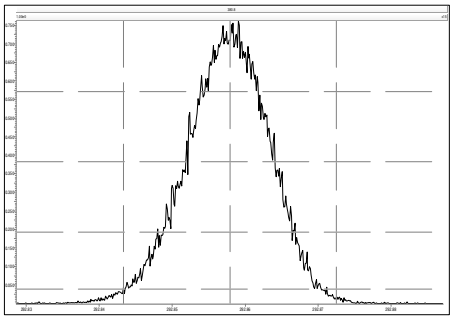

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

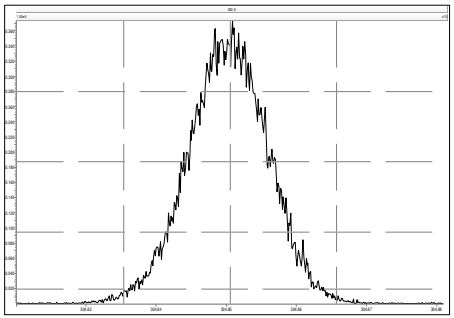
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

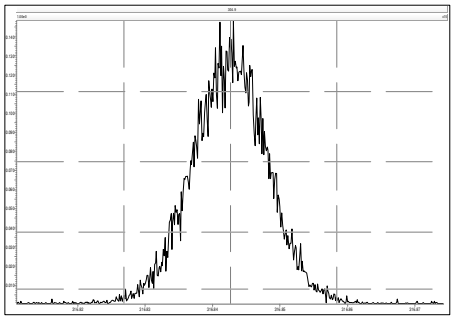
M 292.9824 R 10731



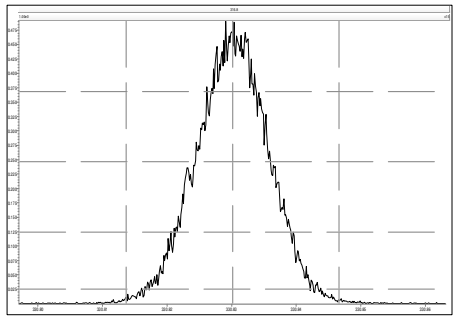
M 304.9824 R 11311



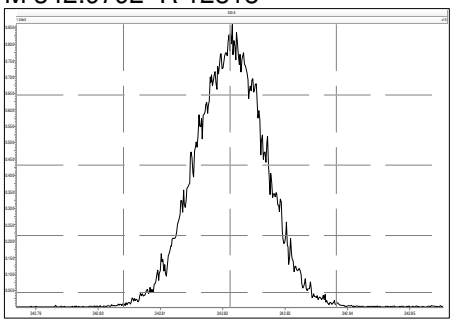
M 316.9824 R 12373



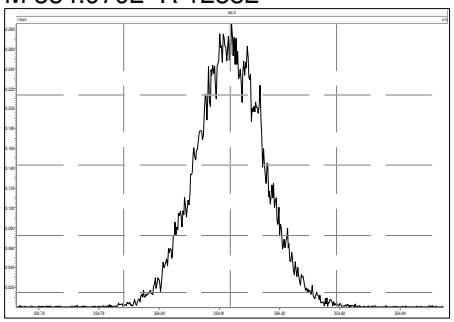
M 330.9792 R 12887



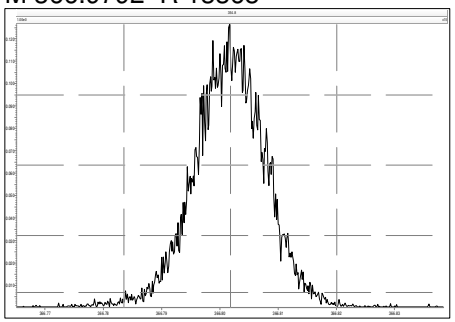
M 342.9792 R 12818



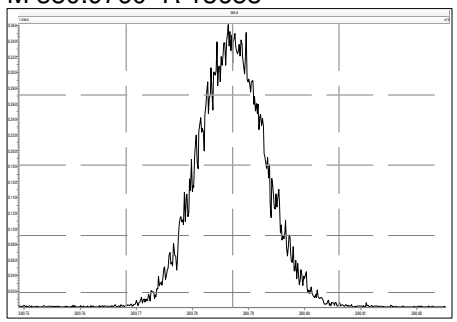
M 354.9792 R 12882



M 366.9792 R 13368



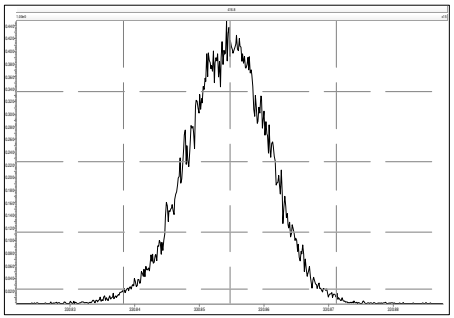
M 380.9760 R 13658



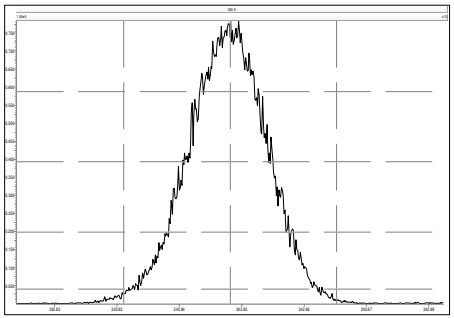
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

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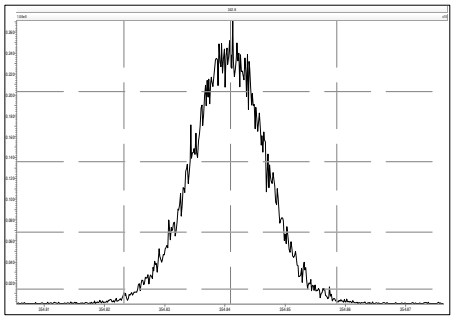
M 330.9792 R 11112



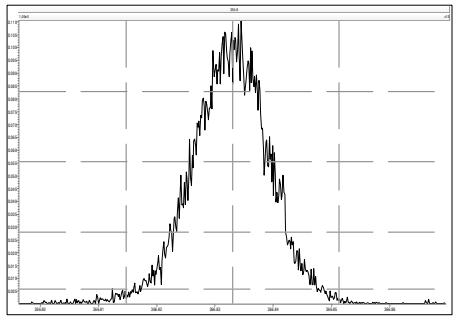
M 342.9792 R 11909



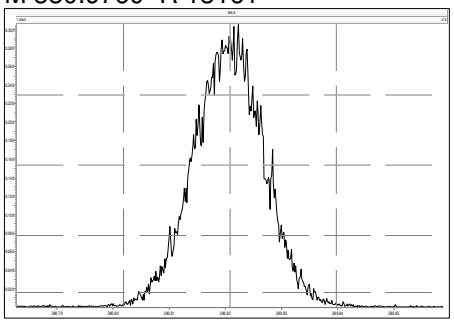
M 354.9792 R 11684



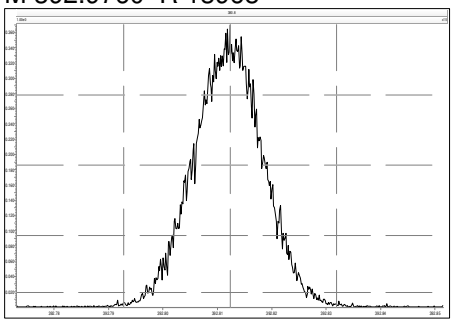
M 366.9792 R 11962



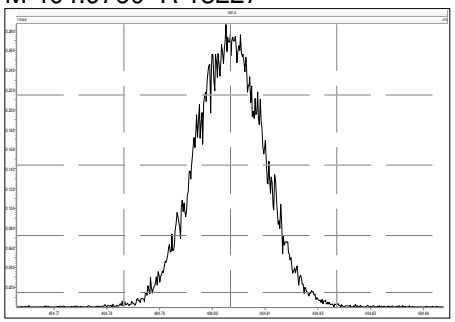
M 380.9760 R 13161



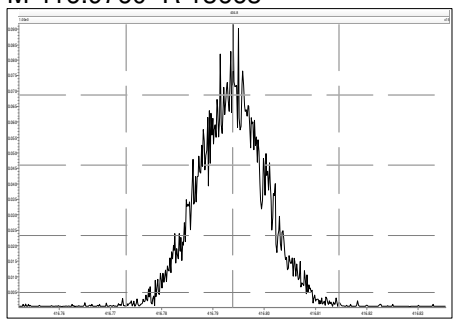
M 392.9760 R 13968



M 404.9760 R 13227



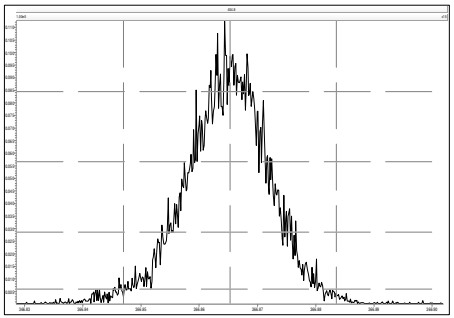
M 416.9760 R 13663



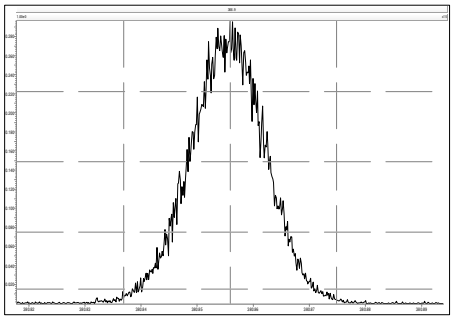
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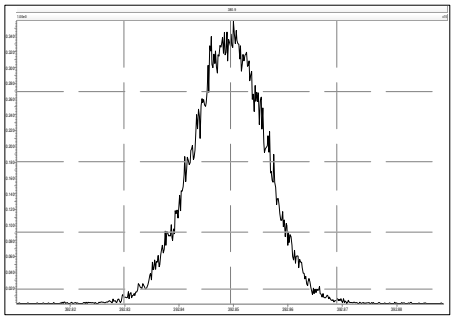
M 366.9792 R 10680



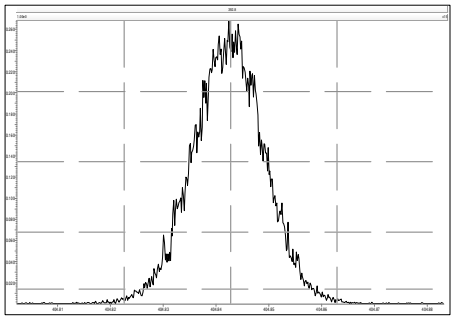
M 380.9760 R 12315



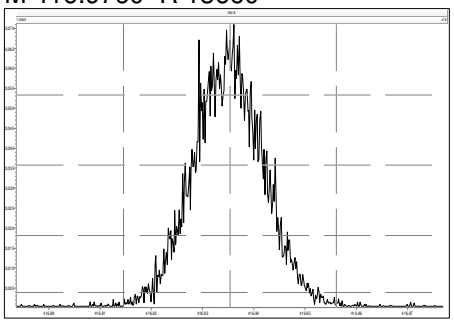
M 392.9760 R 12197



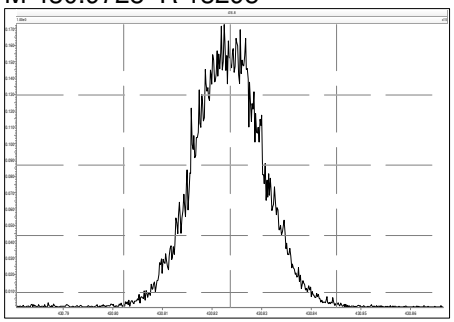
M 404.9760 R 12433



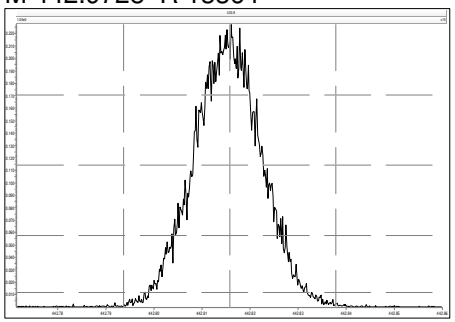
M 416.9760 R 13660



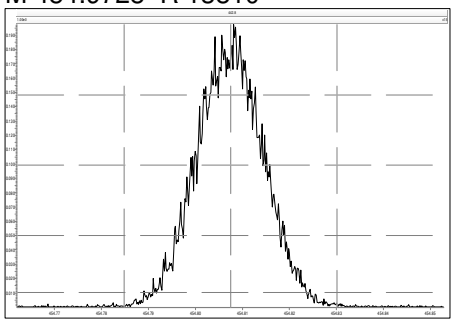
M 430.9728 R 13295



M 442.9728 R 13364



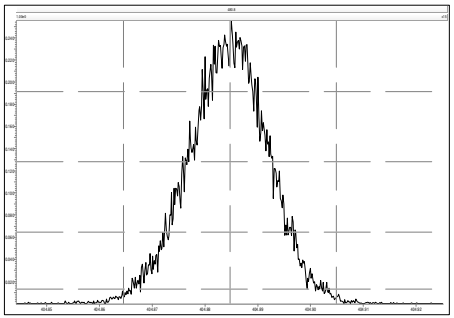
M 454.9728 R 13810



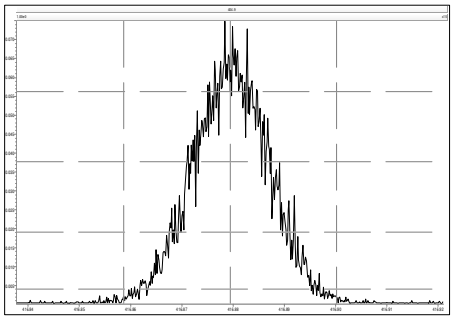
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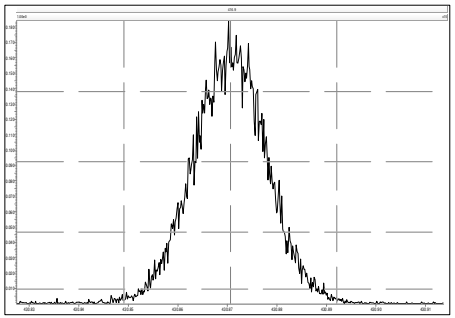
M 404.9760 R 11679



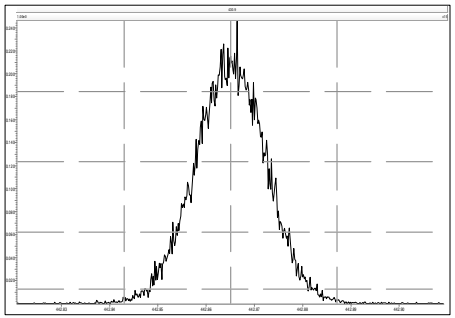
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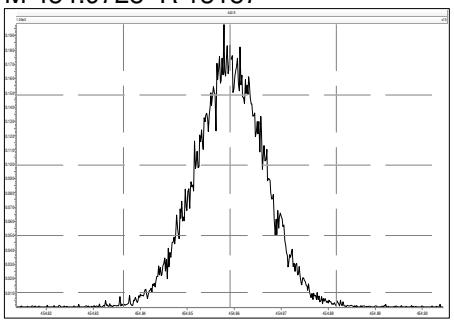
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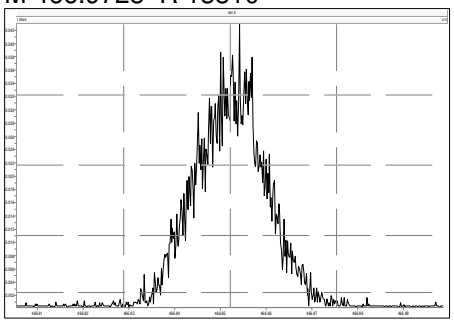
M 442.9728 R 12756



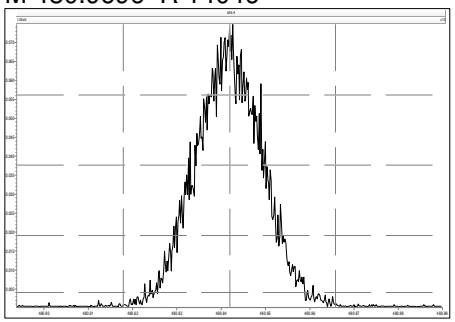
M 454.9728 R 13157



M 466.9728 R 13810



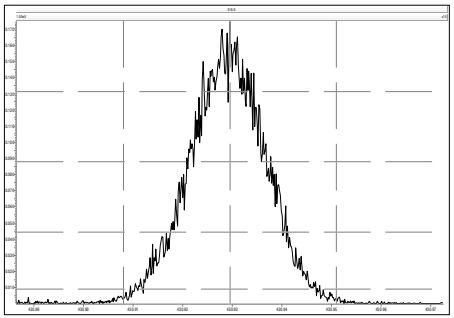
M 480.9696 R 14046



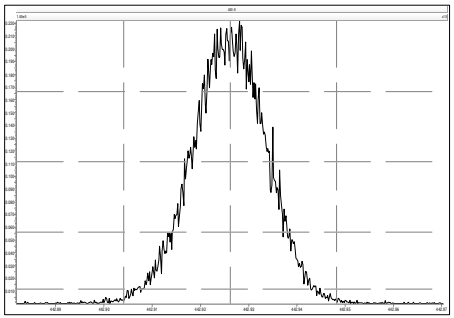
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Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

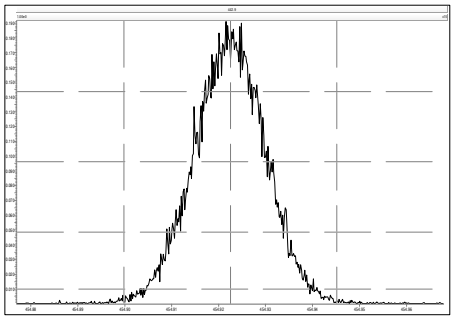
M 430.9728 R 11574



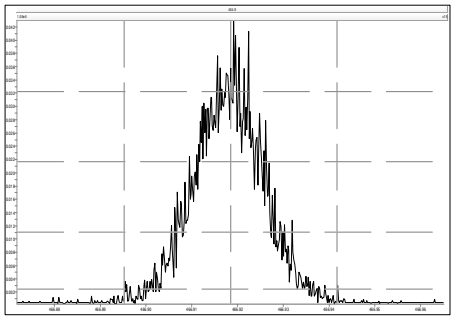
M 442.9728 R 12198



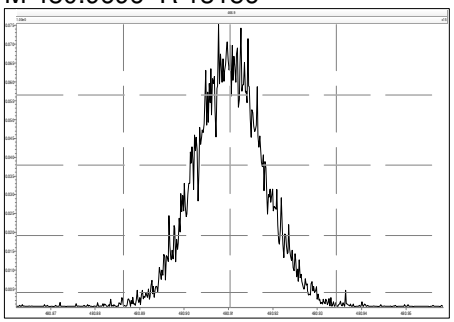
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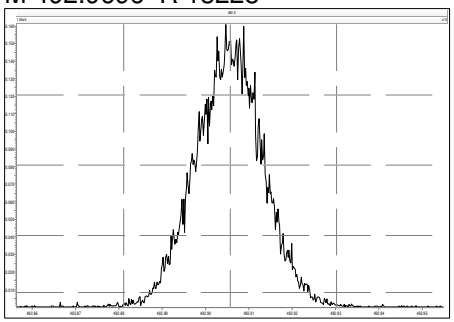
M 466.9728 R 13088



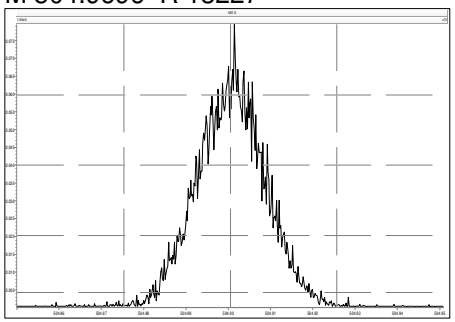
M 480.9696 R 13156



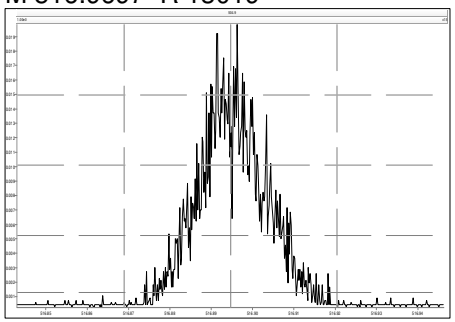
M 492.9696 R 13228



M 504.9696 R 13227



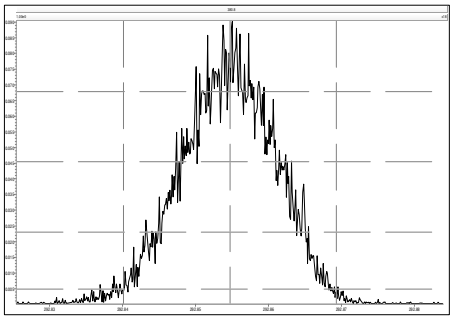
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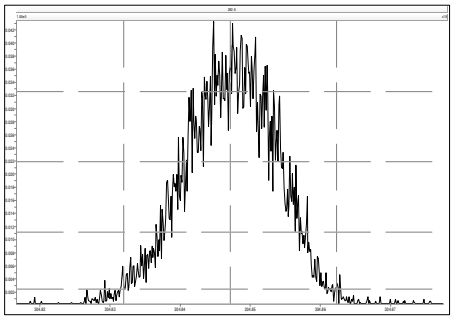
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

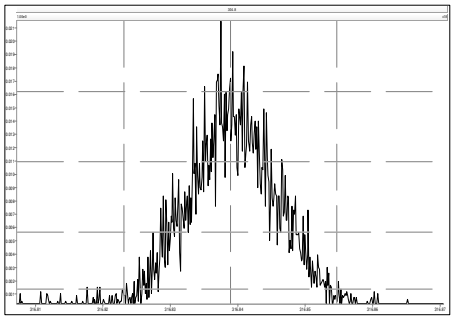
M 292.9824 R 10122



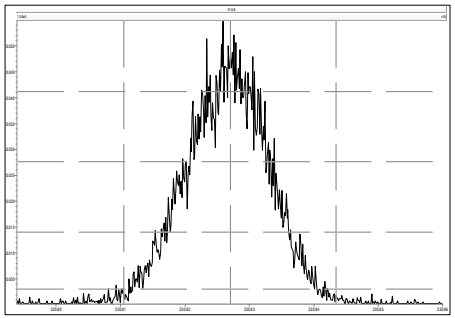
M 304.9824 R 10329



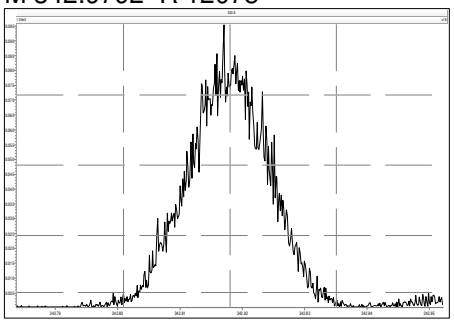
M 316.9824 R 11964



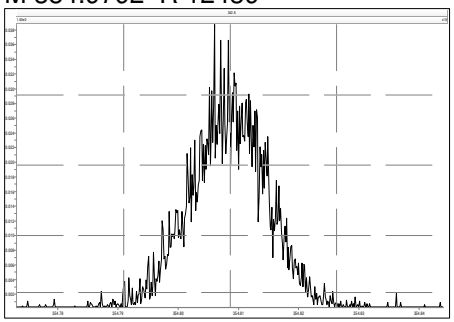
M 330.9792 R 11062



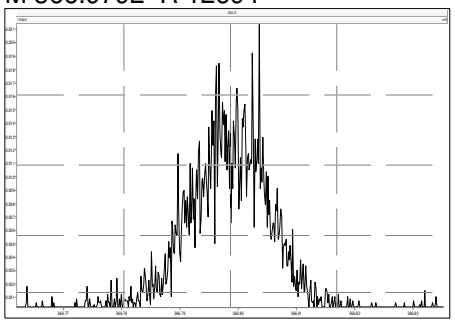
M 342.9792 R 12075



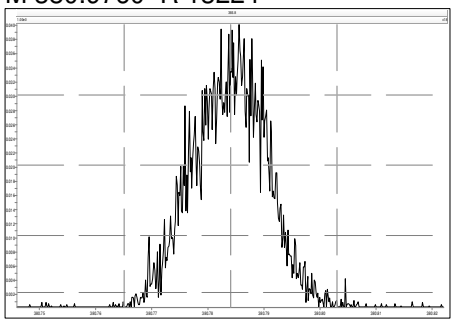
M 354.9792 R 12439



M 366.9792 R 12694



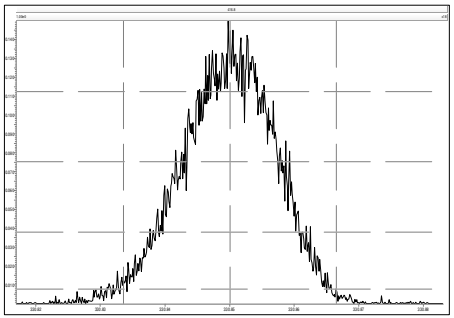
M 380.9760 R 13224



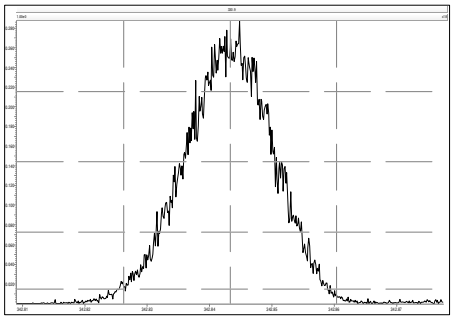
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Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

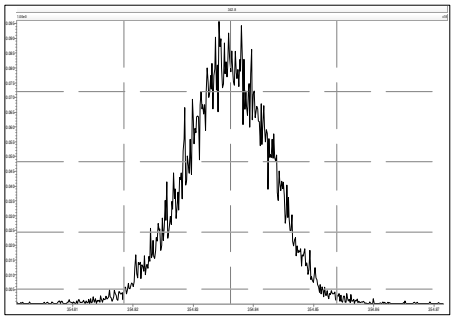
M 330.9792 R 10730



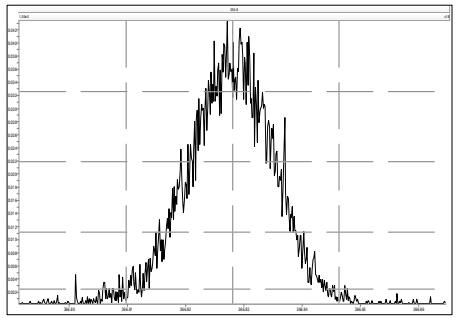
M 342.9792 R 10039



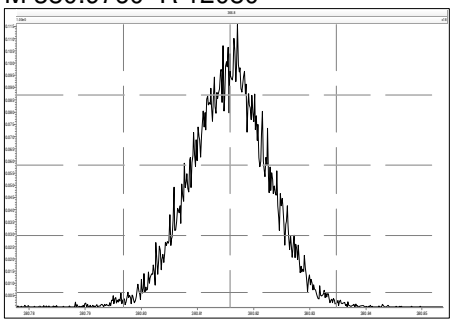
M 354.9792 R 11108



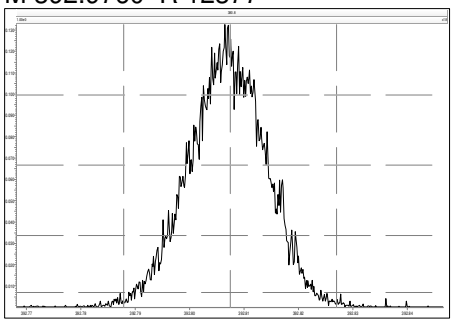
M 366.9792 R 11520



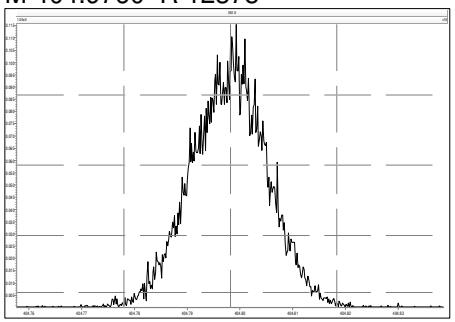
M 380.9760 R 12080



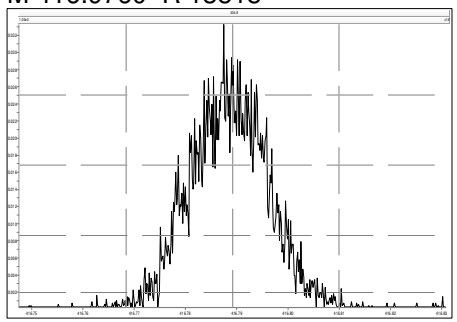
M 392.9760 R 12377



M 404.9760 R 12375



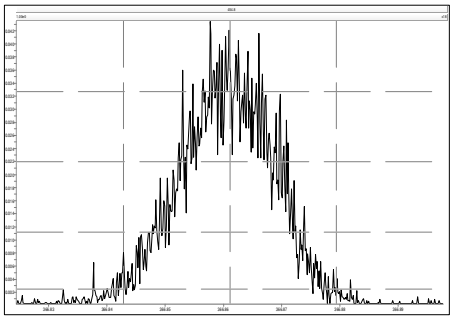
M 416.9760 R 13515



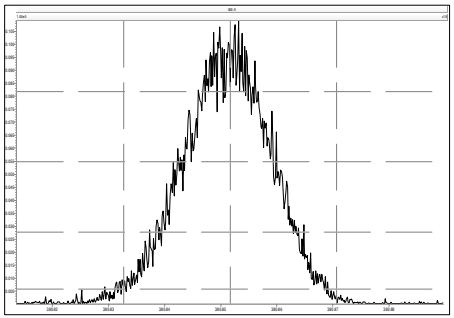
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Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

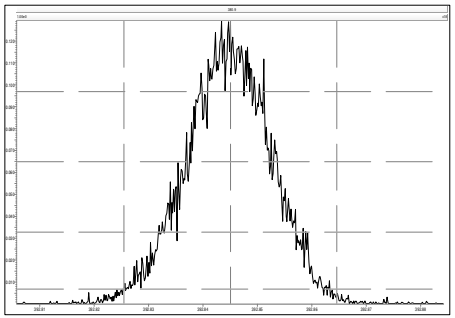
M 366.9792 R 10866



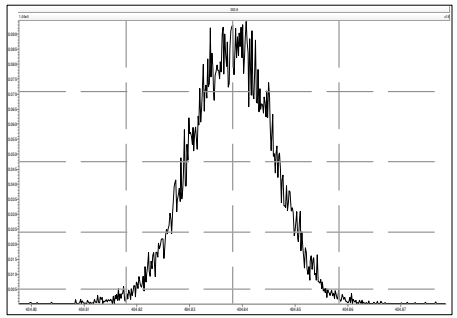
M 380.9760 R 10416



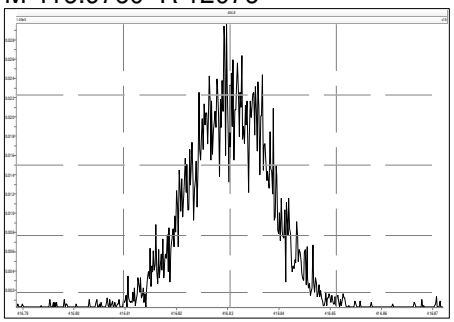
M 392.9760 R 10640



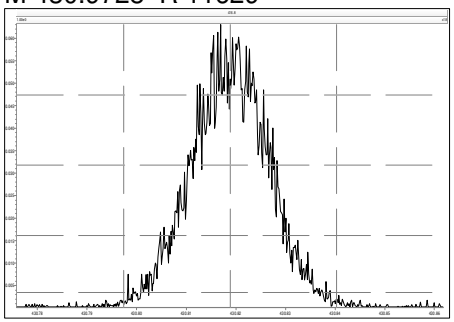
M 404.9760 R 11957



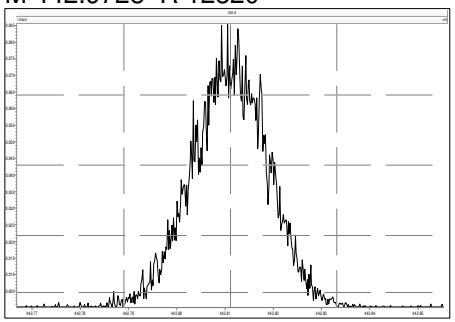
M 416.9760 R 12076



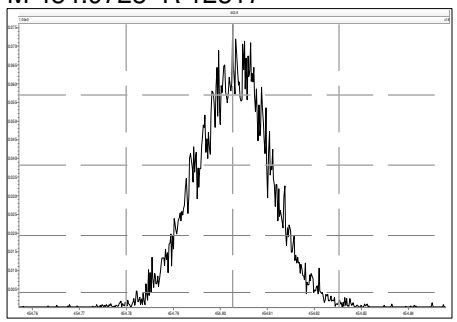
M 430.9728 R 11629



M 442.9728 R 12820



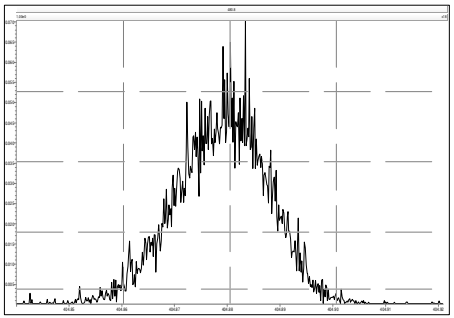
M 454.9728 R 12317



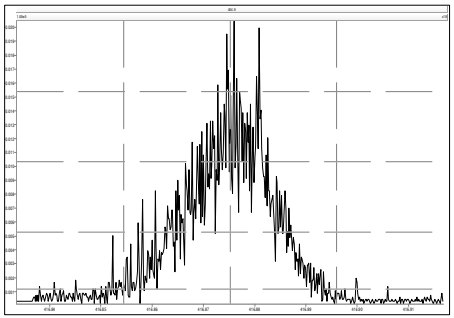
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

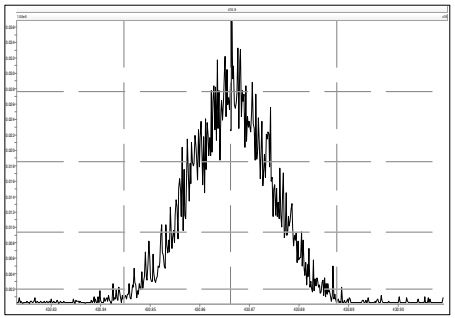
M 404.9760 R 10505



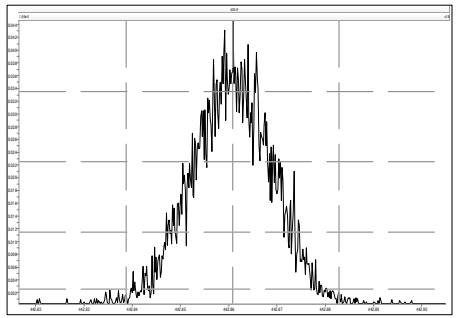
M 416.9760 R 12500



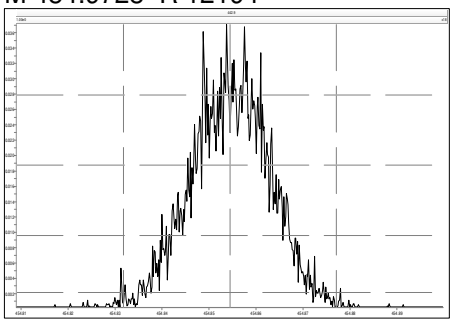
M 430.9728 R 11362



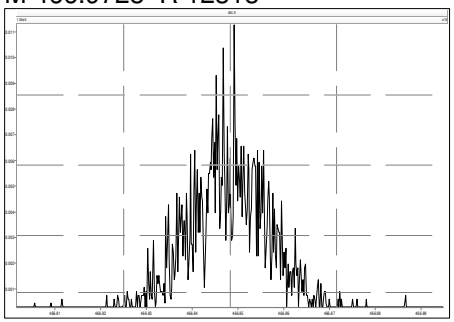
M 442.9728 R 12756



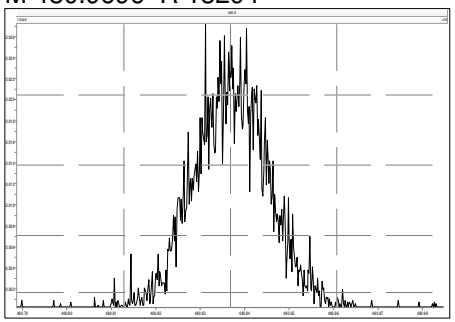
M 454.9728 R 12194



M 466.9728 R 12313



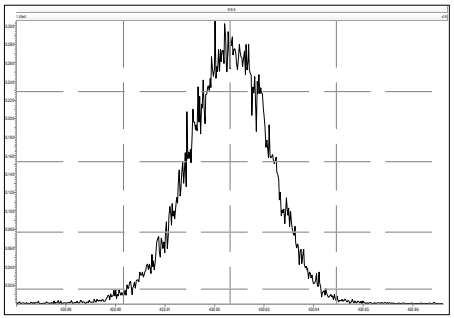
M 480.9696 R 13294



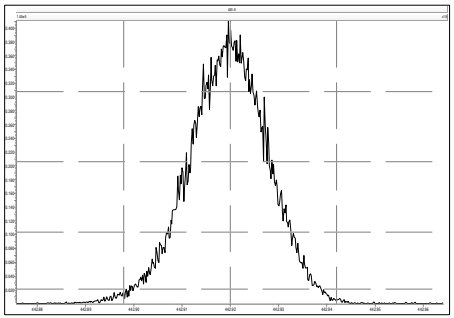
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

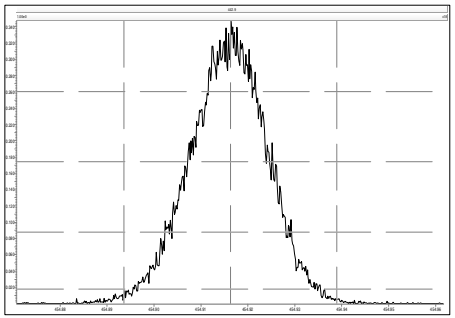
M 430.9728 R 11312



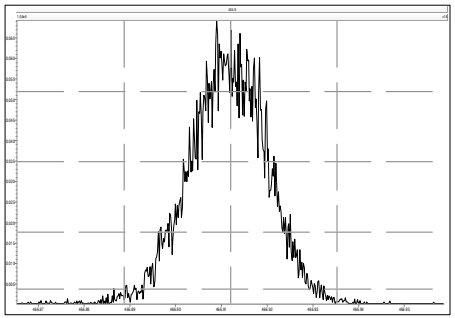
M 442.9728 R 11110



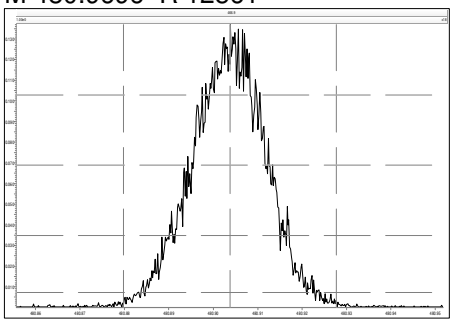
M 454.9728 R 11906



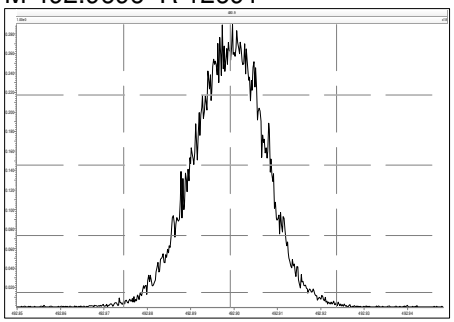
M 466.9728 R 12562



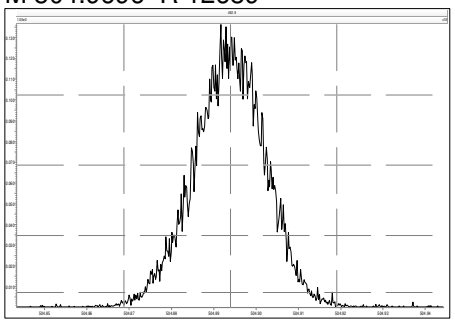
M 480.9696 R 12561



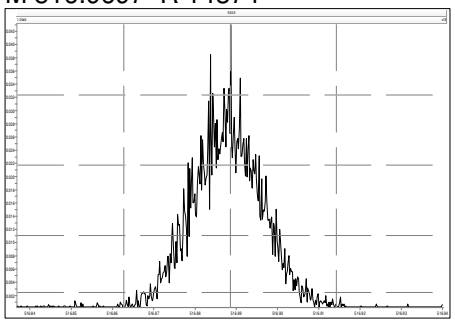
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 2/22/2022, 11:23:06 AM

Lab ID: OPR1_18911_DF **Acq'd:** 19 Feb 2022 18:04 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001 **UTP:** 21-Feb-2022 10:41:16 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 320-676-ZPS

Datafile: 220219C02 **Report:** 21 Feb 2022 10:42 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	3.56E+06	0.80	Y	1.18	11.7	4737.647	0.171
12378-PeCDD	33.63		1.0007	1.0006	-0.2	1.13E+07	1.58	Y	1.04	50.5	4309.427	0.179
123478-HxCDD	37.56		1.0004	1.0004	0	1.18E+07	1.29	Y	1.09	54.5	3601.285	0.148
123678-HxCDD	37.68		1.0036	1.0036	0	1.31E+07	1.25	Y	1.15	56.6	3601.285	0.146
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.15E+07	1.29	Y	1.05	52.2	3601.285	0.148
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.08E+07	1.02	Y	1.06	54.9	4312.014	0.183
OCDD	43.42		1.0003	1.0003	0	1.48E+07	0.91	Y	1.13	112	3115.786	0.284
2378-TCDF	27.36		1.0008	1.0008	0	4.24E+06	0.74	Y	1.08	10.9	2688.114	0.0822
12378-PeCDF	32.17		1.0005	1.0006	+0.2	1.82E+07	1.53	Y	1.02	48.7	8840.749	0.222
23478-PeCDF	33.29		1.0005	1.0005	0	1.83E+07	1.54	Y	1.02	54.1	8840.749	0.238
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.58E+07	1.23	Y	1.27	51.5	4297.3	0.112
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.80E+07	1.23	Y	1.15	53.7	4297.3	0.107
234678-HxCDF	37.38		1.0005	1.0005	0	1.87E+07	1.23	Y	1.19	54.4	4297.3	0.116
123789-HxCDF	38.35		1.0004	1.0004	0	1.29E+07	1.22	Y	1.16	48.7	4297.3	0.129
1234678-HpCDF	39.77		1.0003	1.0003	0	1.47E+07	1.03	Y	1.37	50.9	2466.46	0.0653
1234789-HpCDF	41.18		1.0003	1.0003	0	1.15E+07	1.03	Y	1.31	51.7	2466.46	0.0967
OCDF	43.59		1.0002	1.0002	0	1.69E+07	0.89	Y	1.07	103	4841.252	0.375

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	2.57E+07	0.79	Y	1.05	91.5
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	2.15E+07	1.57	Y	0.88	90.9
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.99E+07	1.24	Y	0.97	98.2
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	2.01E+07	1.25	Y	0.94	102
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.10E+07	1.19	Y	1.09	92
ES 1234678-HpCDD	40.71	1.0749	1.0749	0	1.86E+07	1.12	Y	0.91	97.5
ES OCDD	43.40	1.1460	1.1462	+0.5	2.35E+07	0.91	Y	0.62	90
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	3.60E+07	0.80	Y	1.06	77.7
ES 12378-PeCDF	32.15	1.2378	1.2387	+1.7	3.64E+07	1.55	Y	0.91	91.4
ES 23478-PeCDF	33.27	1.2810	1.2820	+2.0	3.31E+07	1.61	Y	0.88	85.6
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.41E+07	0.52	Y	1.20	96.2
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.91E+07	0.53	Y	1.35	103
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.89E+07	0.54	Y	1.24	111
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.28E+07	0.51	Y	1.16	94.4
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.11E+07	0.49	Y	0.97	104
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.70E+07	0.46	Y	0.85	95.5
ES OCDF	43.58	1.1505	1.1508	+0.8	3.08E+07	0.89	Y	0.81	91.2

Lab ID: OPR1_18911_DF | Acq'd: 19 Feb 2022 18:04 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR001 | UTP: 21-Feb-2022 10:41:16 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 320-676-ZPS

Datafile: 220219C02 | Report: 21 Feb 2022 10:42 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.69E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.38E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.04E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	1.26E+07	n/a	-	1.20	97.6
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	2.18E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	3.66E+07	1.61	Y	0.85	98.4
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.77E+07	0.54	Y	1.12	119
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	2.10E+07	0.45	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.26E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.18E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2182~~	~~+1.9~~	~~3.66E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.77E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~115~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0608~~	~~0~~	~~2.10E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	53.1	53.1
Total PeCDD	77.7	77.7
Total HxCDD	179	179
Total HpCDD	68.4	68.4
Total Tetra-Octa Dioxins	490	490
Total TCDF	63.5	63.5
Total PeCDF	206	206
Total HxCDF	334	334
Total HpCDF	103	103
Total Tetra-Octa Furans	809	809
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.795	0.80
Response	3.56E+06	3.56E+06

Lab ID: OPR1_18911_DF **Acq'd: 19 Feb 2022 18:04 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 **UTP: 21-Feb-2022 10:41:16 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 320-676-ZPS**

Datafile: 220219C02 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8695	-0.9	4.68E+06	0.83	Y	1.18	15.4	4737.647	0.171
1379-TCDD	NotFnd		0.8829						1.18		4737.647	0.171
1369-TCDD	NotFnd		0.8982						1.18		4737.647	0.171
1469-TCDD	NotFnd		0.9261						1.18		4737.647	0.171
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4737.647	0.171
1378-TCDD	NotFnd		0.9417						1.18		4737.647	0.171
1268-TCDD	NotFnd		0.9487						1.18		4737.647	0.171
1478-TCDD	NotFnd		0.9576						1.18		4737.647	0.171
1279-TCDD	NotFnd		0.9636						1.18		4737.647	0.171
1234/1269-TCDD	NotFnd		0.9761						1.18		4737.647	0.171
1236-TCDD	NotFnd		0.9812						1.18		4737.647	0.171
1237/1238-TCDD	NotFnd		0.9905						1.18		4737.647	0.171
1239-TCDD	28.07		0.9951	0.9951	0	3.39E+06	0.82	Y	1.18	11.1	4737.647	0.171
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	3.56E+06	0.80	Y	**1.18**	**11.7**	**4737.647**	**0.171**
1278-TCDD	NotFnd		1.0124						1.18		4737.647	0.171
1267-TCDD	NotFnd		1.0172						1.18		4737.647	0.171
1289-TCDD	29.21		1.0354	1.0356	+0.4	4.56E+06	0.77	Y	1.18	15	4737.647	0.171
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	2.98E+06	1.53	Y	1.04	13.4	4309.427	0.179
12469-PeCDD	NotFnd		0.9416						1.04		4309.427	0.179
12368-PeCDD	NotFnd		0.9582						1.04		4309.427	0.179
12478-PeCDD	NotFnd		0.9637						1.04		4309.427	0.179
12379-PeCDD	NotFnd		0.9668						1.04		4309.427	0.179
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4309.427	0.179
12346/12347-PeCDD	NotFnd		0.9858						1.04		4309.427	0.179
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**1.13E+07**	**1.58**	**Y**	**1.04**	**50.5**	**4309.427**	**0.179**
12367-PeCDD	NotFnd		1.0036						1.04		4309.427	0.179
12389-PeCDD	34.07		1.0137	1.0137	0	3.06E+06	1.61	Y	1.04	13.8	4309.427	0.179
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	3.45E+06	1.27	Y	1.10	15.5	3601.285	0.147
123468-HxCDD	NotFnd		0.9715						1.10		3601.285	0.147
123679/123689-HxCDD	NotFnd		0.9793						1.10		3601.285	0.147
123469-HxCDD	NotFnd		0.9829						1.10		3601.285	0.147
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.18E+07**	**1.29**	**Y**	1.09	**54.5**	**3601.285**	**0.148**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**1.31E+07**	**1.25**	**Y**	1.15	**56.6**	**3601.285**	**0.146**
123467-HxCDD	NotFnd		1.0089						1.10		3601.285	0.147
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.15E+07**	**1.29**	**Y**	1.05	**52.2**	**3601.285**	**0.148**

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 10:41:16 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 10:42 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	2.67E+06	1.00	Y	1.06	13.5	4312.014	0.183
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.08E+07**	**1.02**	**Y**	**1.06**	**54.9**	**4312.014**	**0.183**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.48E+07**	**0.91**	**Y**	**1.13**	**112**	**3115.786**	**0.284**
OCDD-a	43.41	**EMPC**	1.0002	1.0002	0	6.52E+05	3.38	N	0.07	77.2	4555.212	6.49
1368-TCDF	22.37		0.8191	0.8181	-1.3	6.15E+06	0.76	Y	1.08	15.8	2688.114	0.0822
1468-TCDF	NotFnd		0.8408						1.08		2688.114	0.0822
2468-TCDF	23.62		0.8645	0.8639	-0.9	1.47E+06	0.84	Y	1.08	3.77	2688.114	0.0822
1346/1246-TCDF	NotFnd		0.8772						1.08		2688.114	0.0822
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2688.114	0.0822
1348-TCDF	NotFnd		0.8932						1.08		2688.114	0.0822
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2688.114	0.0822
1268-TCDF	NotFnd		0.9119						1.08		2688.114	0.0822
1467-TCDF	NotFnd		0.9170						1.08		2688.114	0.0822
1478-TCDF	NotFnd		0.9234						1.08		2688.114	0.0822
1369/1237-TCDF	NotFnd		0.9369						1.08		2688.114	0.0822
2467-TCDF	NotFnd		0.9415						1.08		2688.114	0.0822
2368-TCDF	NotFnd		0.9475						1.08		2688.114	0.0822
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2688.114	0.0822
1278-TCDF	NotFnd		0.9676						1.08		2688.114	0.0822
1349-TCDF	NotFnd		0.9722						1.08		2688.114	0.0822
1267-TCDF	NotFnd		0.9777						1.08		2688.114	0.0822
2346/1249-TCDF	NotFnd		0.9843						1.08		2688.114	0.0822
2347/1279-TCDF	NotFnd		0.9926						1.08		2688.114	0.0822
2348-TCDF	27.25		0.9968	0.9968	0	6.14E+06	0.83	Y	1.08	15.8	2688.114	0.0822
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**4.24E+06**	**0.74**	**Y**	**1.08**	**10.9**	**2688.114**	**0.0822**
2367/3467-TCDF	NotFnd		1.0142						1.08		2688.114	0.0822
1269-TCDF	NotFnd		1.0235						1.08		2688.114	0.0822
1239-TCDF	NotFnd		1.0329						1.08		2688.114	0.0822
1289-TCDF	29.39		1.0742	1.0748	+1.1	6.68E+06	0.76	Y	1.08	17.2	2688.114	0.0822
13468/12468-PeCDF	29.31		0.9122	0.9116	-1.1	3.29E+07	1.55	Y	1.02	92.6	3214.62	0.0834
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		8840.749	0.229
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		8840.749	0.229
14678-PeCDF	NotFnd		0.9685						1.02		8840.749	0.229
13479-PeCDF	NotFnd		0.9716						1.02		8840.749	0.229
13469/12479-PeCDF	NotFnd		0.9794						1.02		8840.749	0.229
12346-PeCDF	NotFnd		0.9836						1.02		8840.749	0.229

Lab ID: OPR1_18911_DF | **Acq'd: 19 Feb 2022 18:04 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR001 | **UTP: 21-Feb-2022 10:41:16 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 320-676-ZPS**

Datafile: 220219C02 | **Report: 21 Feb 2022 10:42 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		8840.749	0.229
12347-PeCDF	NotFnd		0.9891						1.02		8840.749	0.229
12348-PeCDF	NotFnd		0.9938						1.02		8840.749	0.229
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**1.82E+07**	**1.53**	**Y**	**1.02**	**48.7**	**8840.749**	**0.222**
12678/12367-PeCDF	NotFnd		1.0091						1.02		8840.749	0.229
12379-PeCDF	NotFnd		1.0144						1.02		8840.749	0.229
12679-PeCDF	NotFnd		0.9927						1.02		8840.749	0.229
23467/12369-PeCDF	NotFnd		0.9965						1.02		8840.749	0.229
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.83E+07**	**1.54**	**Y**	**1.02**	**54.1**	**8840.749**	**0.238**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8840.749	0.229
12349-PeCDF	NotFnd		1.0101						1.02		8840.749	0.229
12389-PeCDF	34.37		1.0330	1.0330	0	3.90E+06	1.60	Y	1.02	11	8840.749	0.229
123468-HxCDF	35.16		0.9622	0.9622	0	3.94E+07	1.25	Y	1.19	126	4297.3	0.115
124678/134678-HxCDF	NotFnd		0.9678						1.19		4297.3	0.115
134679-HxCDF	NotFnd		0.9741						1.19		4297.3	0.115
124679-HxCDF	NotFnd		0.9795						1.19		4297.3	0.115
124689-HxCDF	NotFnd		0.9856						1.19		4297.3	0.115
123467-HxCDF	NotFnd		0.9972						1.19		4297.3	0.115
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.58E+07**	**1.23**	**Y**	**1.27**	**51.5**	**4297.3**	**0.112**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.80E+07**	**1.23**	**Y**	**1.15**	**53.7**	**4297.3**	**0.107**
123479-HxCDF	NotFnd		1.0048						1.19		4297.3	0.115
123469-HxCDF	NotFnd		1.0089						1.19		4297.3	0.115
123679-HxCDF	NotFnd		0.9942						1.19		4297.3	0.115
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.87E+07**	**1.23**	**Y**	**1.19**	**54.4**	**4297.3**	**0.116**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4297.3	0.115
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.29E+07**	**1.22**	**Y**	**1.16**	**48.7**	**4297.3**	**0.129**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4297.3	0.115
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.47E+07**	**1.03**	**Y**	**1.37**	**50.9**	**2466.46**	**0.0653**
1234679-HpCDF	NotFnd		1.0068						1.34		2466.46	0.0792
1234689-HpCDF	NotFnd		1.0104						1.34		2466.46	0.0792
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.15E+07**	**1.03**	**Y**	**1.31**	**51.7**	**2466.46**	**0.0967**
OCDF	**43.59**		**1.0002**	**1.0002**	**0**	**1.69E+07**	**0.89**	**Y**	**1.07**	**103**	**4841.252**	**0.375**
OCDF-a	43.58		1.0001	1.0001	0	1.01E+06	2.78	Y	0.07	99.1	3888.99	4.86

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	10.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.1	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.9	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.7	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:42 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220219C02 Analysis Date: 19-FEB-2022 18:04:19

Lab ID: OPR1_18911_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.9	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.5	26	-	166	Y
13C-OCDD	200	180	26	-	397	Y
13C-2,3,7,8-TCDF	100	77.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	85.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	103	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	111	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.5	20	-	186	Y
13C-OCDF	200	182	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 21 Feb 2022 10:42 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C02	Analysis Date:	19-FEB-2022 18:04:19
Lab ID:	OPR1_18911_DF		

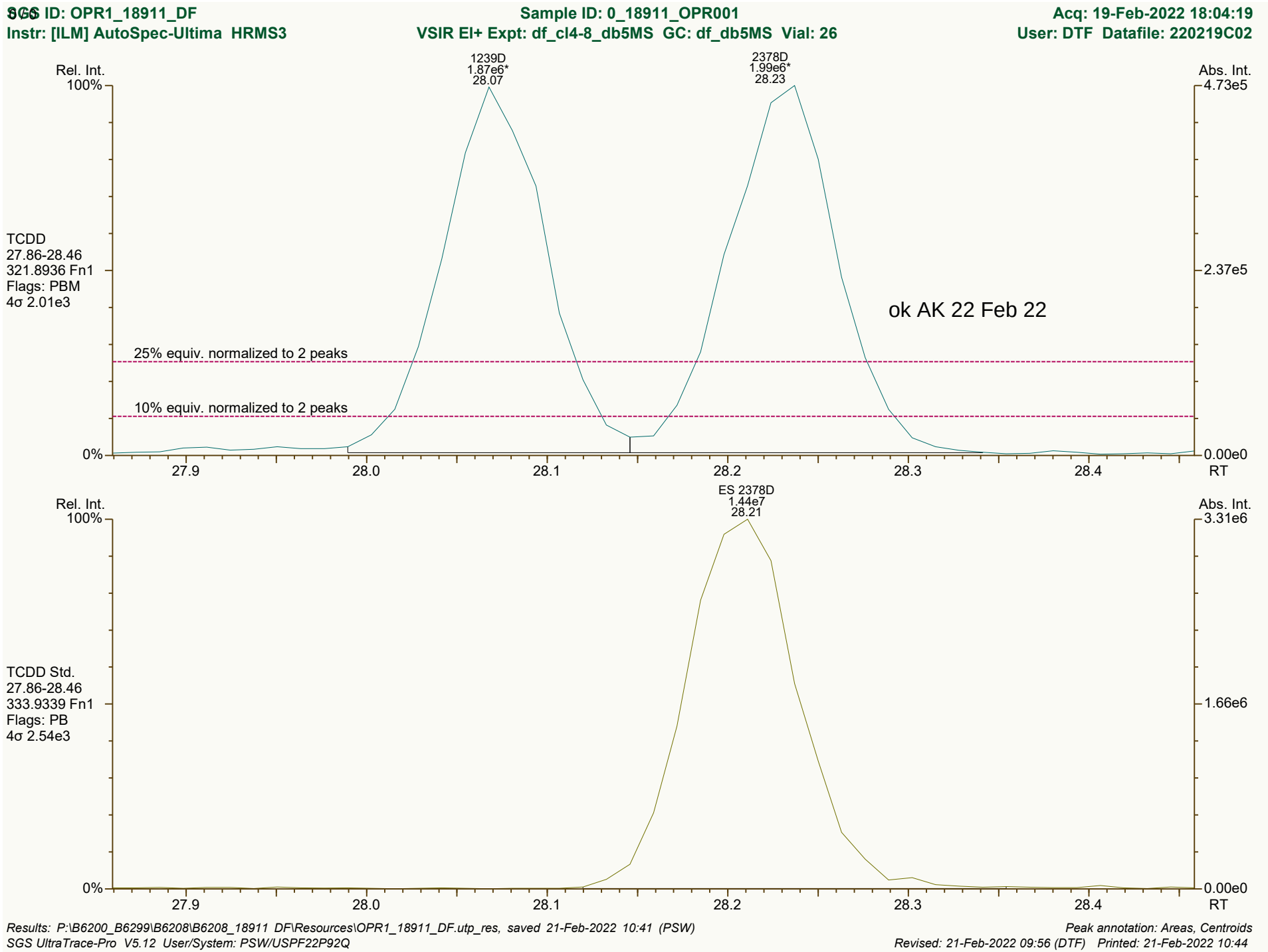
Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.53	1289-TCDD	29.21
12479/12468-PeCDD	31.11	12389-PeCDD	34.07
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.37	1289-TCDF	29.39
13468/12468-PeCDF	29.31	12389-PeCDF	34.37
123468-HxCDF	35.16	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.18

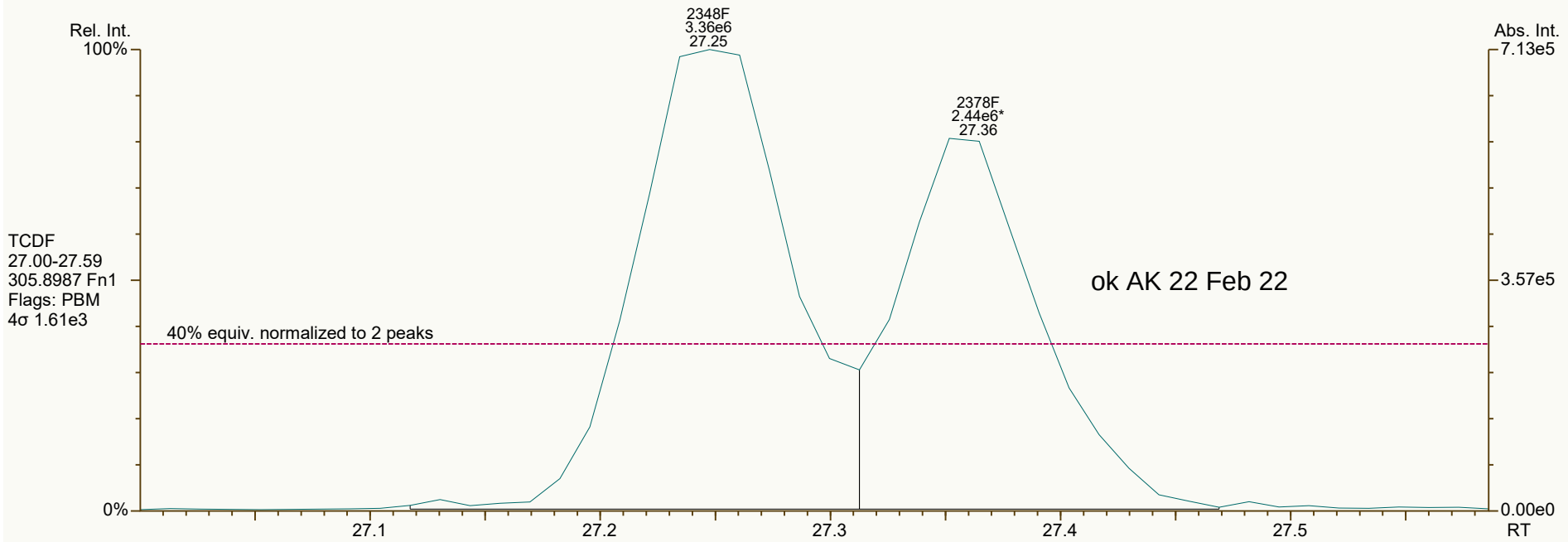
Isomer Specificity Test Standard Results

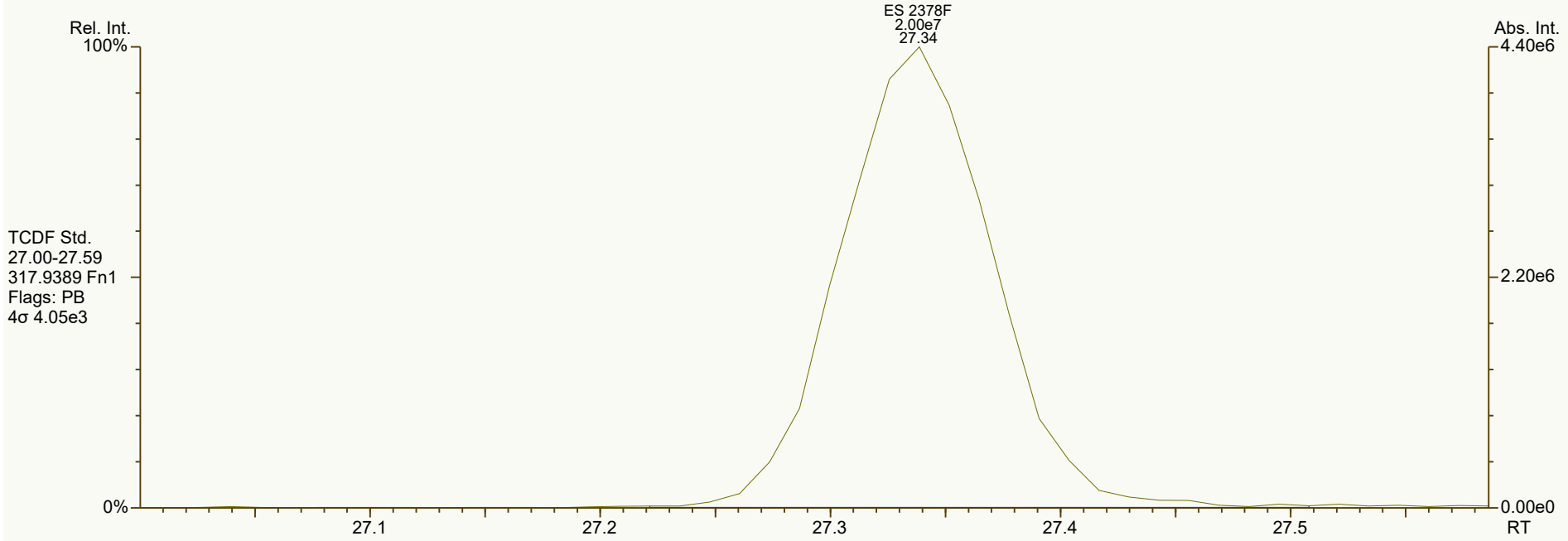
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.07	2378-TCDD	28.23
2348-TCDF	27.25	2378-TCDF	27.36

Processed: 21 Feb 2022 10:42 Analyst: pw


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
100%
0%
Abs. Int.
4.73e5
2.37e5
0.00e0
1239D
1.87e6*
28.07
2378D
1.99e6*
28.23
TCDD
27.86-28.46
321.8936 Fn1
Flags: PBM
4σ 2.01e3
ok AK 22 Feb 22
25% equiv. normalized to 2 peaks
10% equiv. normalized to 2 peaks
27.9
28.0
28.1
28.2
28.3
28.4
RT
ES 2378D
1.44e7
28.21
3.31e6
1.66e6
TCDD Std.
27.86-28.46
333.9339 Fn1
Flags: PB
4σ 2.54e3
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:44

SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02

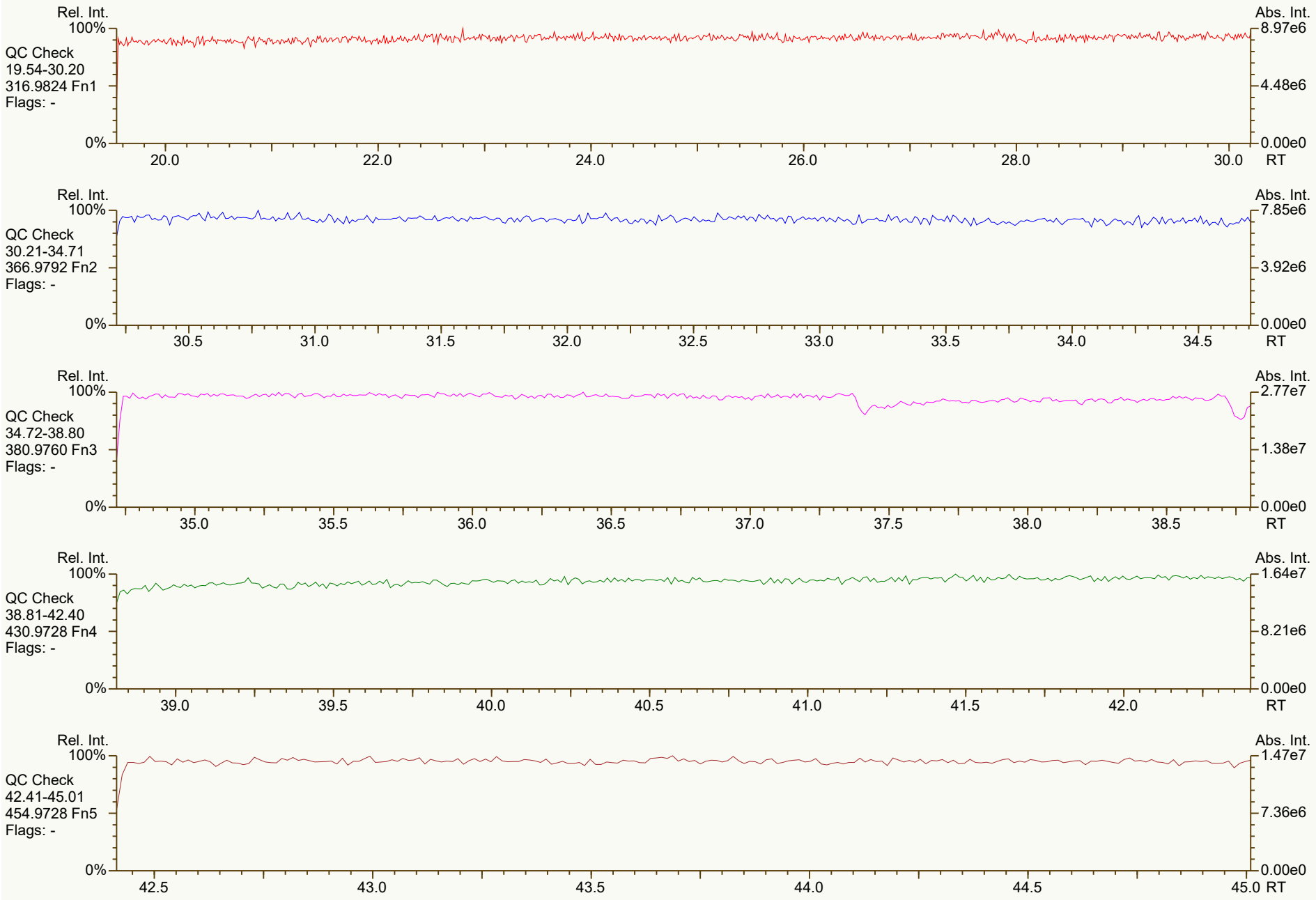




Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:44

SGS ID: OPR1_18911_DF | Sample ID: 0_18911_OPR001 | Acq: 19-Feb-2022 18:04:19

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26 | User: DTF Datafile: 220219C02

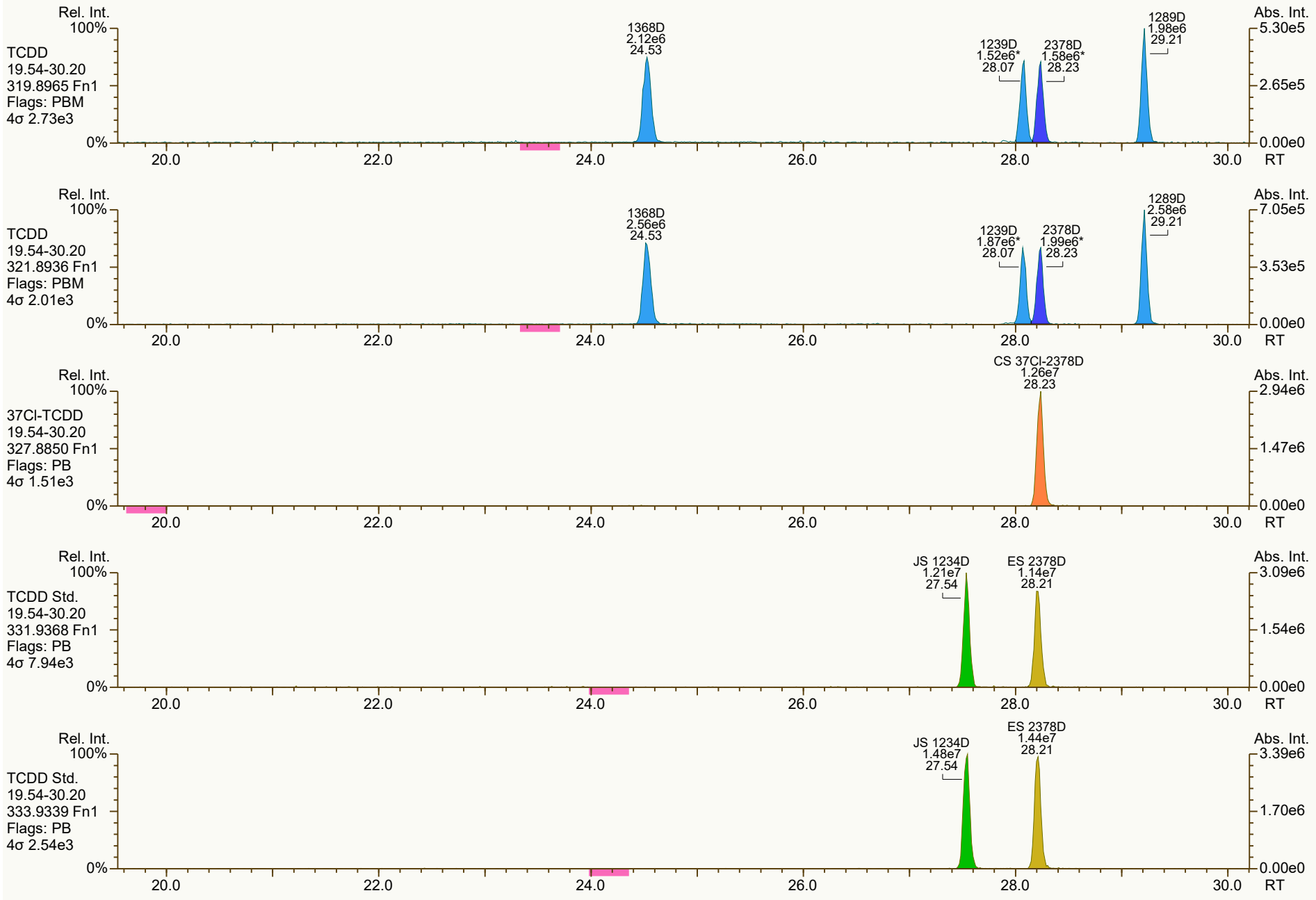


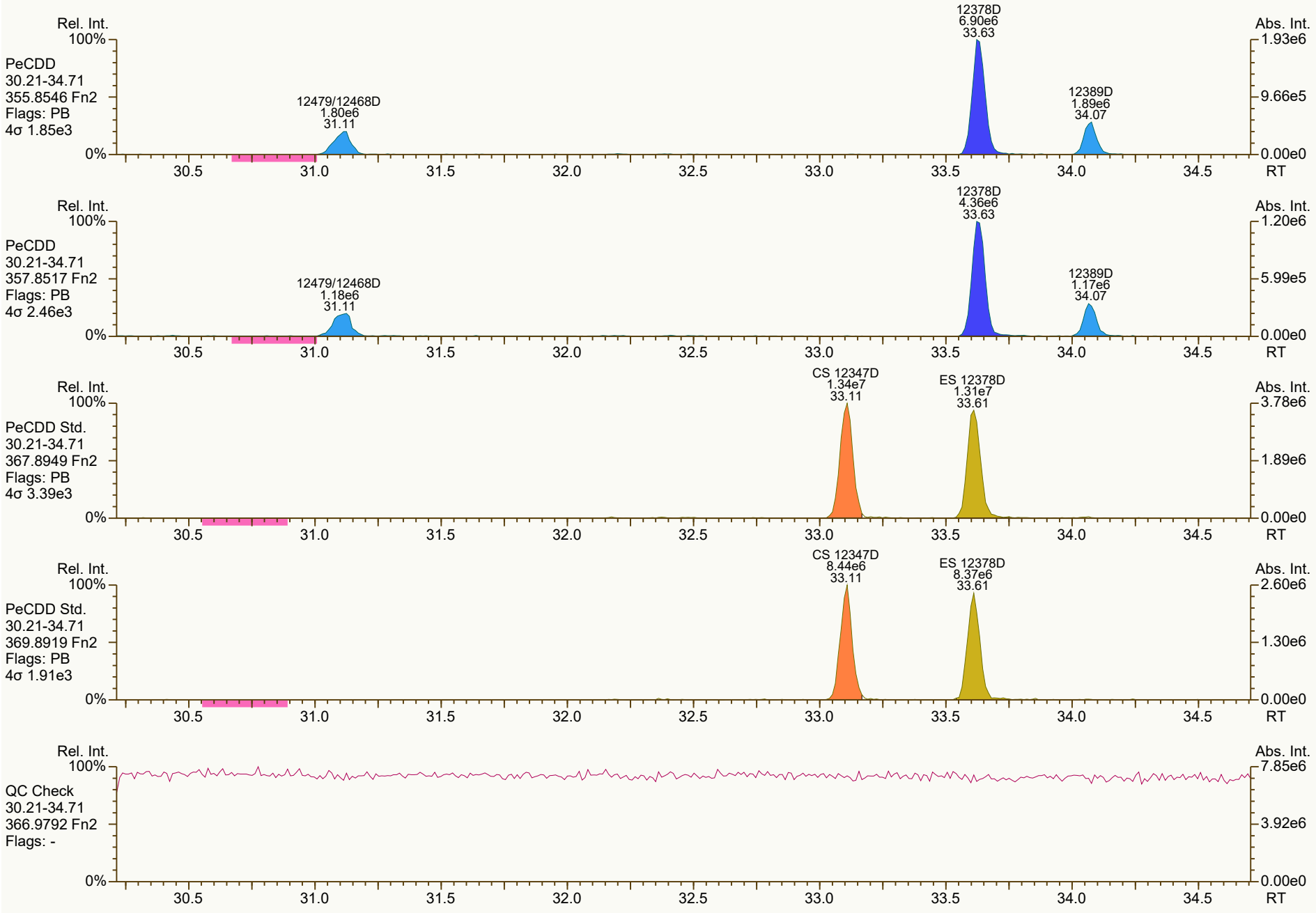
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)

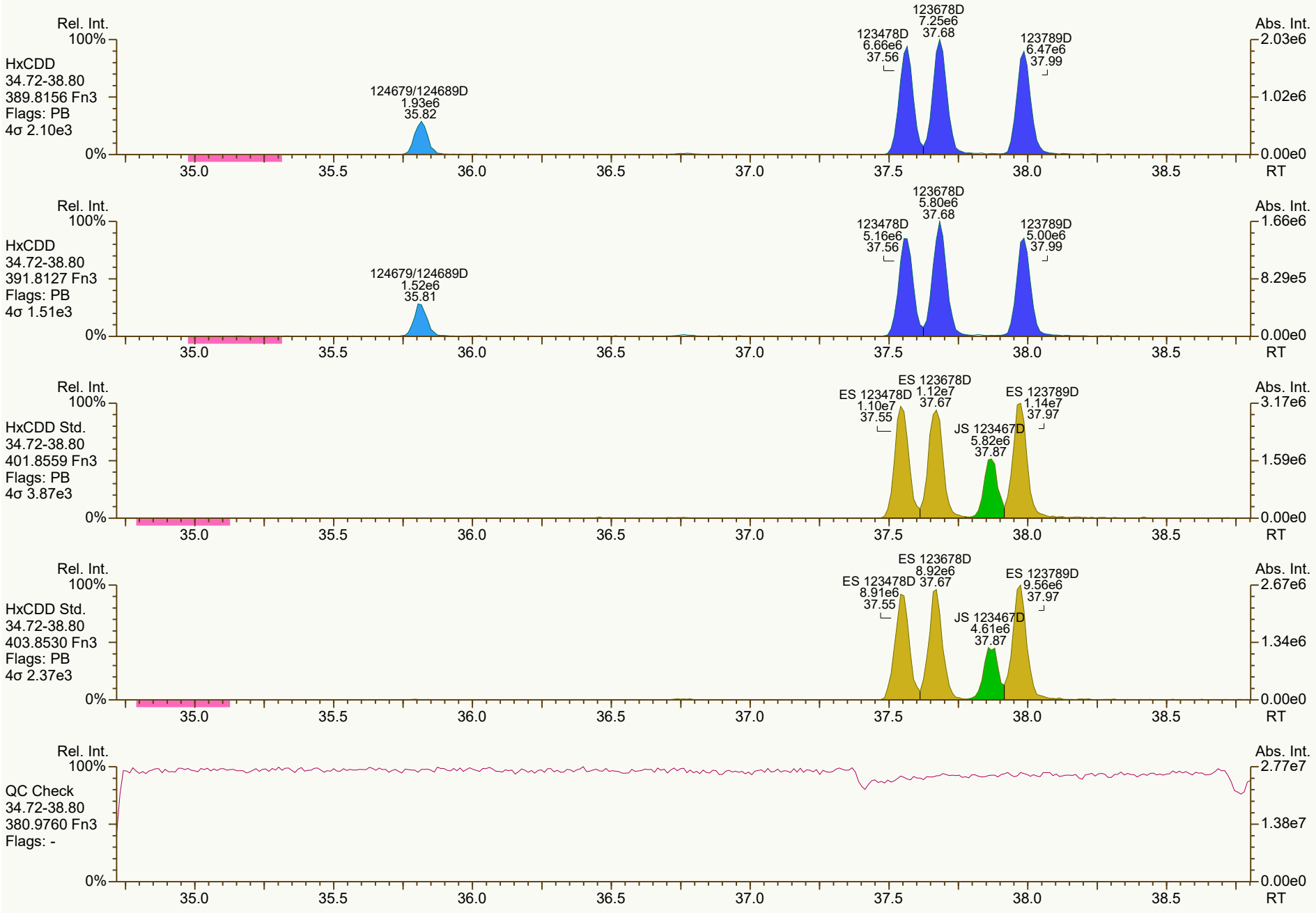
Peak annotation: Areas, Centroids

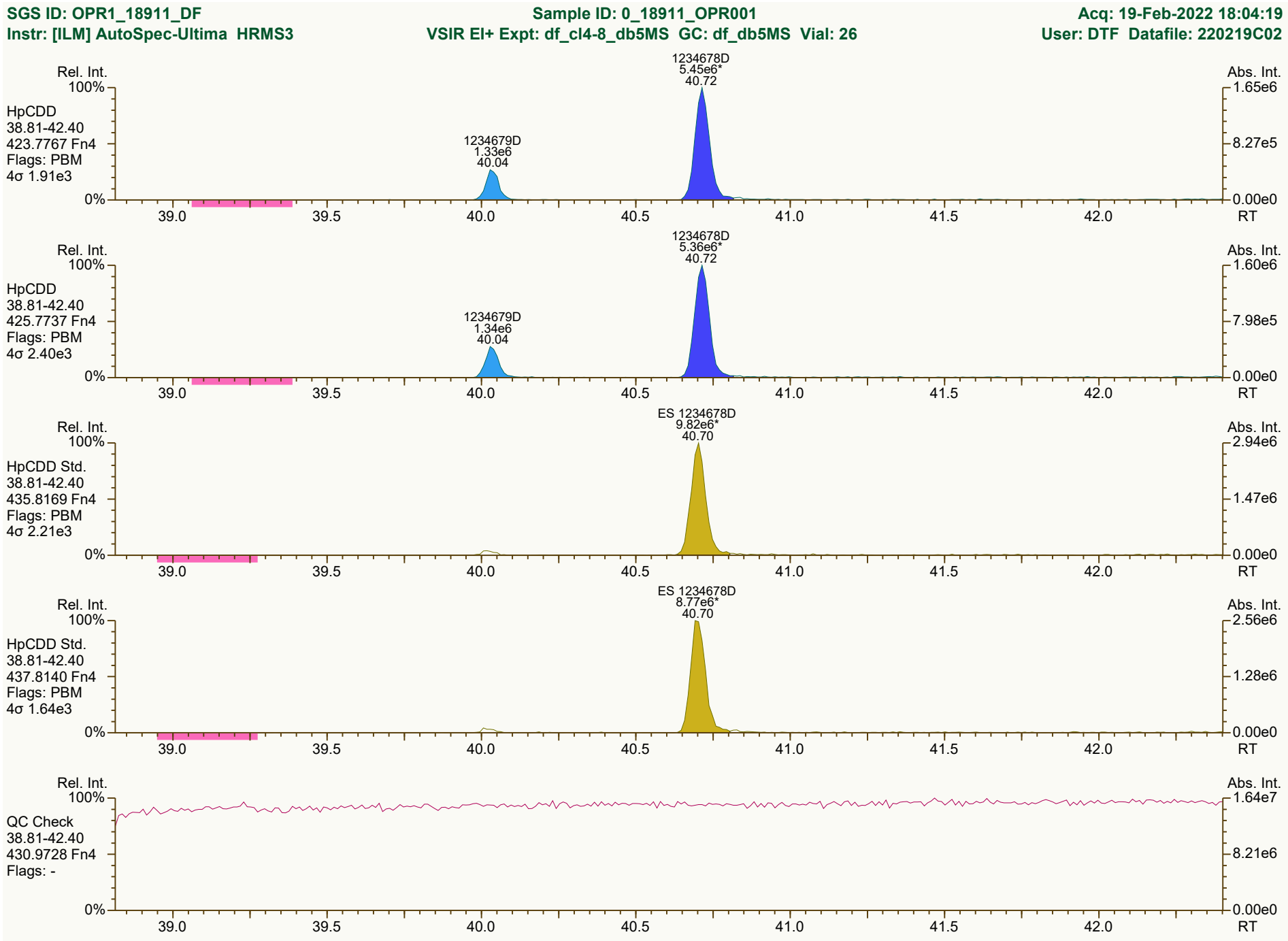
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 320-676

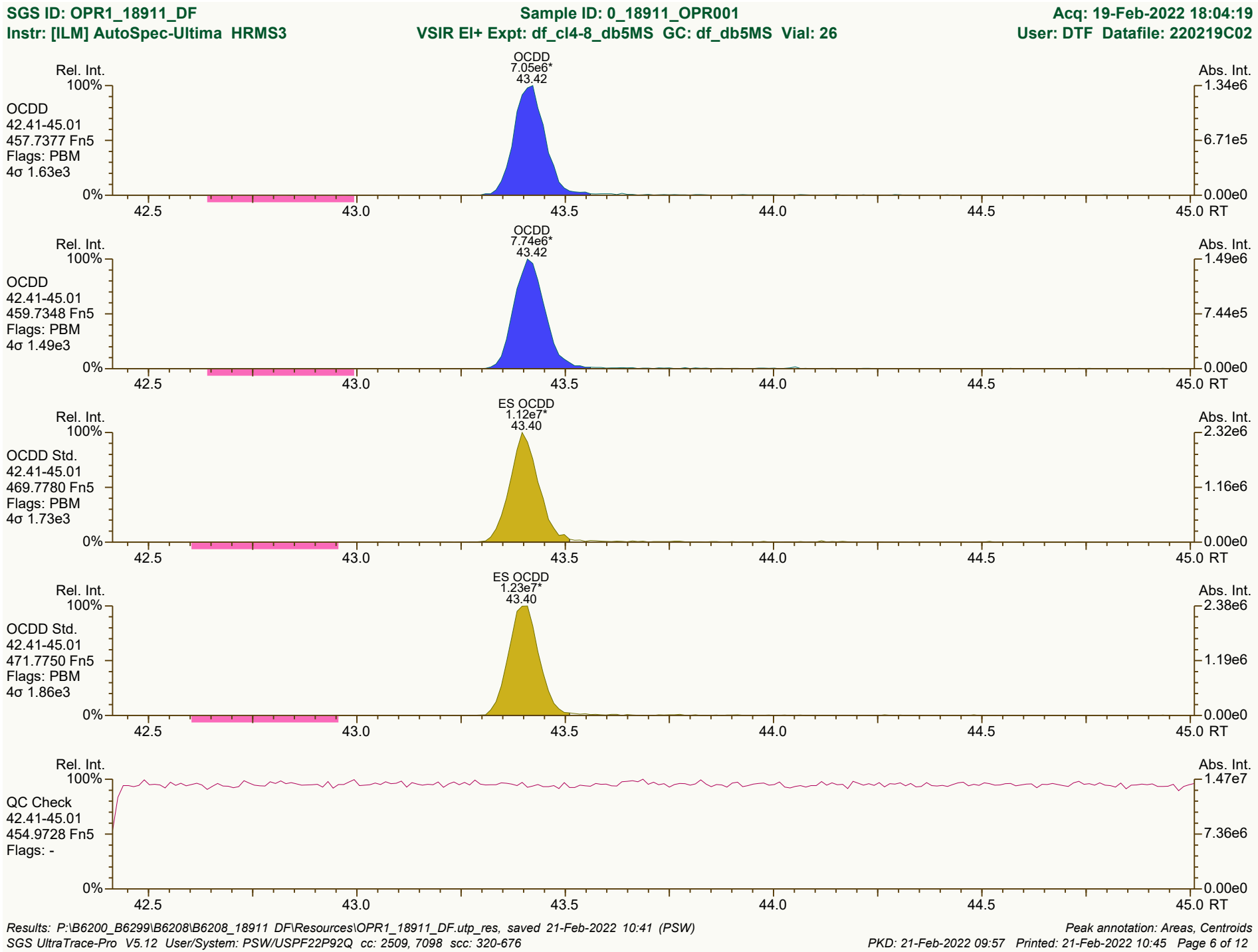
PKD: n/a Printed: 21-Feb-2022 10:45 Page 1 of 12

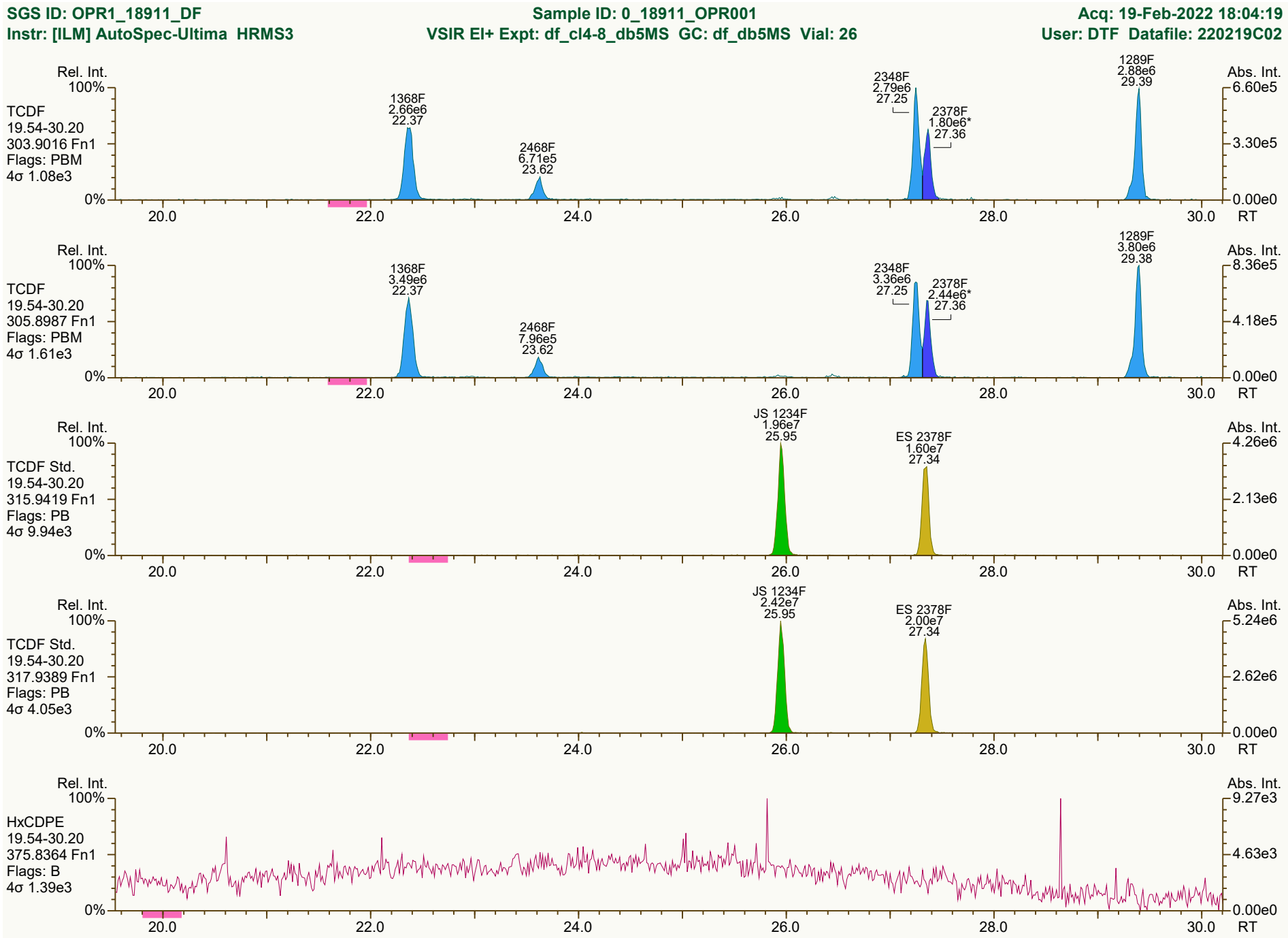

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.73e3
1368D
2.12e6
24.53
1239D
1.52e6*
28.07
2378D
1.58e6*
28.23
1289D
1.98e6
29.21
Abs. Int.
5.30e5
2.65e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.01e3
1368D
2.56e6
24.53
1239D
1.87e6*
28.07
2378D
1.99e6*
28.23
1289D
2.58e6
29.21
Abs. Int.
7.05e5
3.53e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.51e3
CS 37Cl-2378D
1.26e7
28.23
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.94e3
JS 1234D
1.21e7
27.54
ES 2378D
1.14e7
28.21
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.54e3
JS 1234D
1.48e7
27.54
ES 2378D
1.44e7
28.21
Abs. Int.
3.39e6
1.70e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.85e3
12479/12468D
1.80e6
31.11
12378D
6.90e6
33.63
12389D
1.89e6
34.07
Abs. Int.
1.93e6
9.66e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.46e3
12479/12468D
1.18e6
31.11
12378D
4.36e6
33.63
12389D
1.17e6
34.07
Abs. Int.
1.20e6
5.99e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.39e3
CS 12347D
1.34e7
33.11
ES 12378D
1.31e7
33.61
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
8.44e6
33.11
ES 12378D
8.37e6
33.61
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
7.85e6
3.92e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.10e3
124679/124689D
1.93e6
35.82
123478D
6.66e6
37.56
123678D
7.25e6
37.68
123789D
6.47e6
37.99
Abs. Int.
2.03e6
1.02e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.51e3
124679/124689D
1.52e6
35.81
123478D
5.16e6
37.56
123678D
5.80e6
37.68
123789D
5.00e6
37.99
Abs. Int.
1.66e6
8.29e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.87e3
ES 123478D
1.10e7
37.55
ES 123678D
1.12e7
37.67
JS 123467D
5.82e6
37.87
ES 123789D
1.14e7
37.97
Abs. Int.
3.17e6
1.59e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.37e3
ES 123478D
8.91e6
37.55
ES 123678D
8.92e6
37.67
JS 123467D
4.61e6
37.87
ES 123789D
9.56e6
37.97
Abs. Int.
2.67e6
1.34e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.77e7
1.38e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.91e3
1234678D
5.45e6*
40.72
1234679D
1.33e6
40.04
1.65e6
8.27e5
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.40e3
1234678D
5.36e6*
40.72
1234679D
1.34e6
40.04
1.60e6
7.98e5
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.21e3
ES 1234678D
9.82e6*
40.70
2.94e6
1.47e6
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.64e3
ES 1234678D
8.77e6*
40.70
2.56e6
1.28e6
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.64e7
8.21e6
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4827, 2312 scc: 320-676
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:45 Page 5 of 12


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
OCDD
7.05e6*
43.42
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.63e3
1.34e6
6.71e5
0.00e0
OCDD
7.74e6*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.49e3
1.49e6
7.44e5
ES OCDD
1.12e7*
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.73e3
2.32e6
1.16e6
ES OCDD
1.23e7*
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.86e3
2.38e6
1.19e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.47e7
7.36e6
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2509, 7098 scc: 320-676
PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 10:45 Page 6 of 12

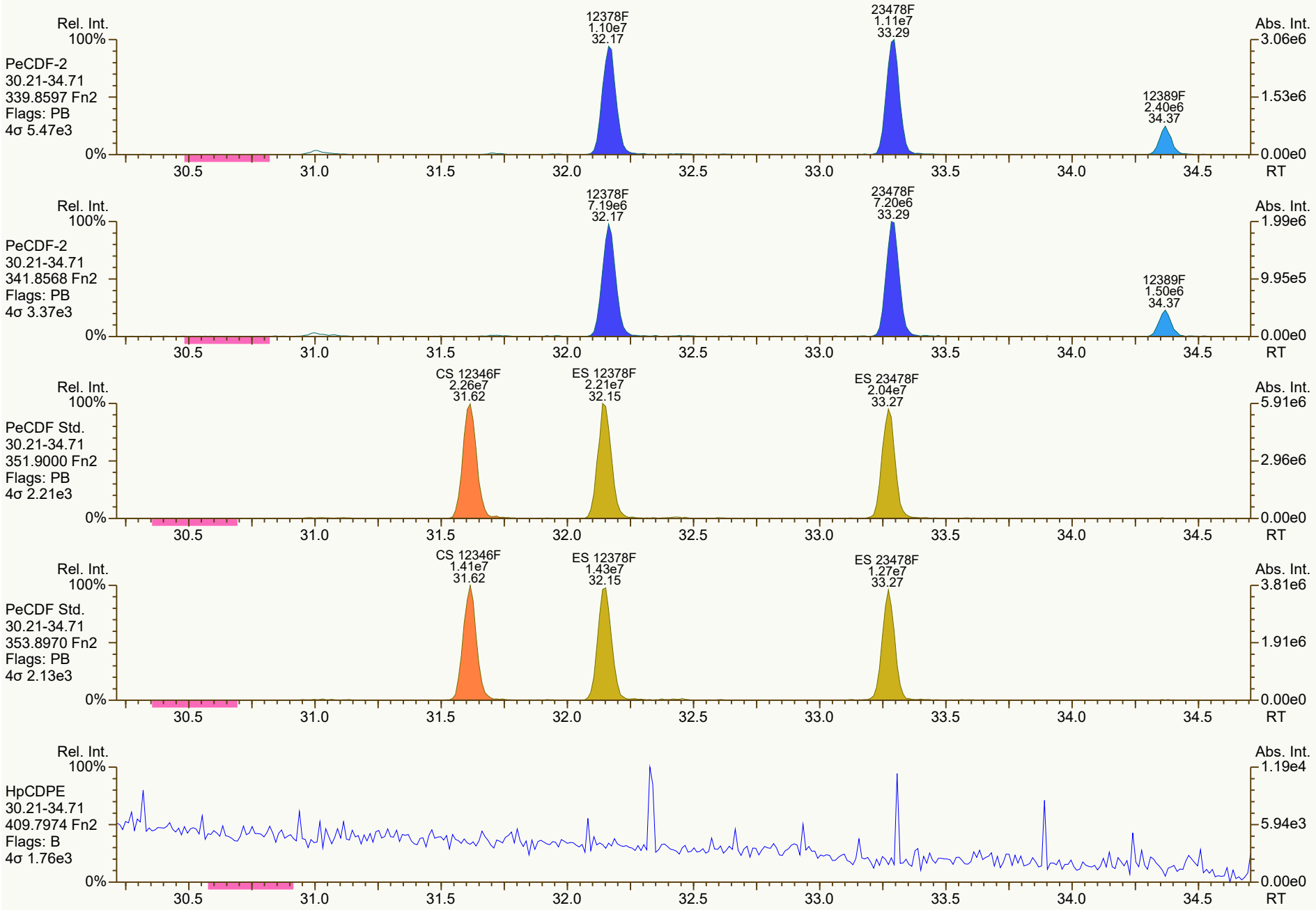


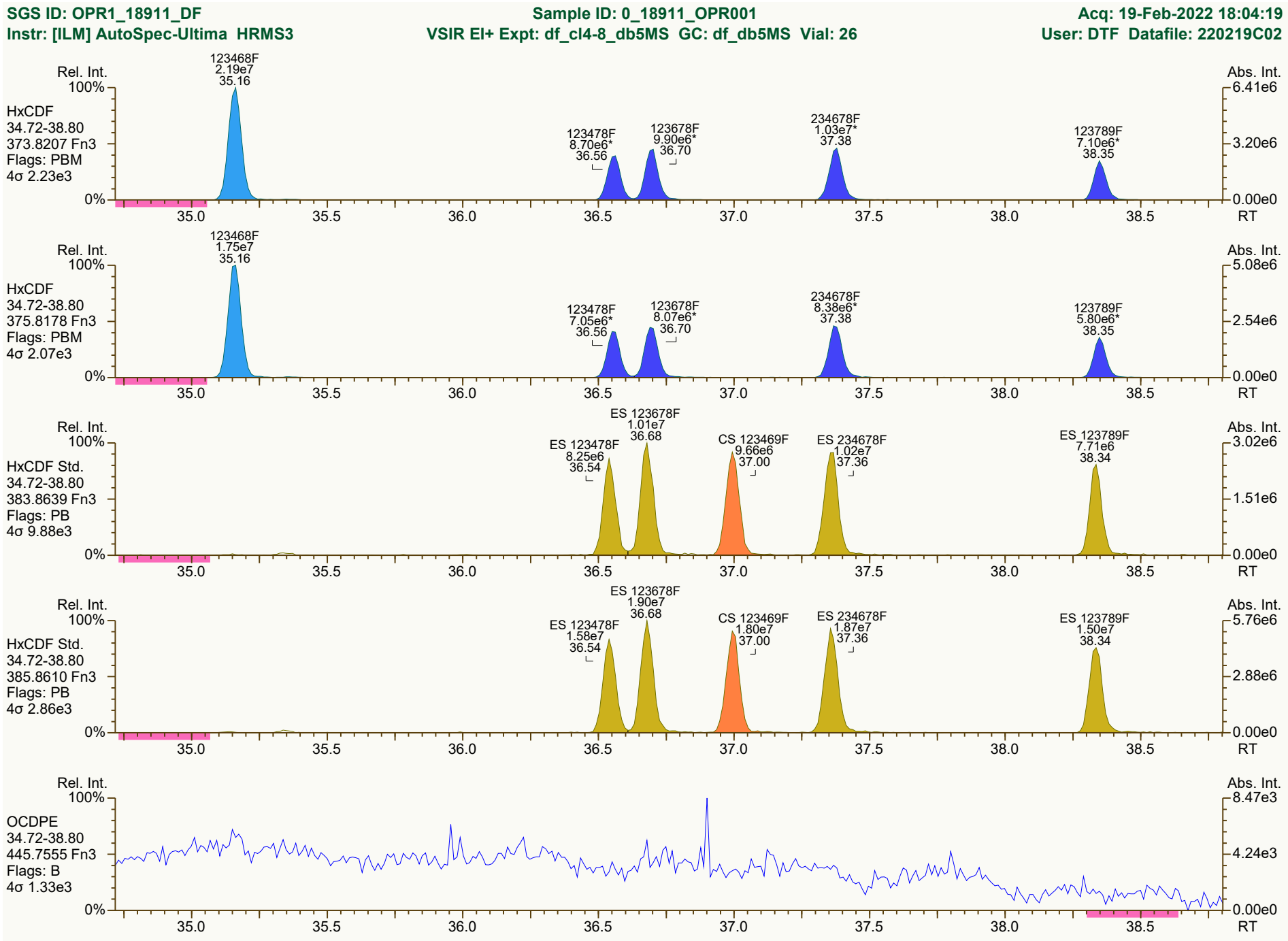
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1430, 6706, 7026 scc: 320-676
Revised: 21-Feb-2022 09:56 (DTF) Printed: 21-Feb-2022 10:45 Page 7 of 12

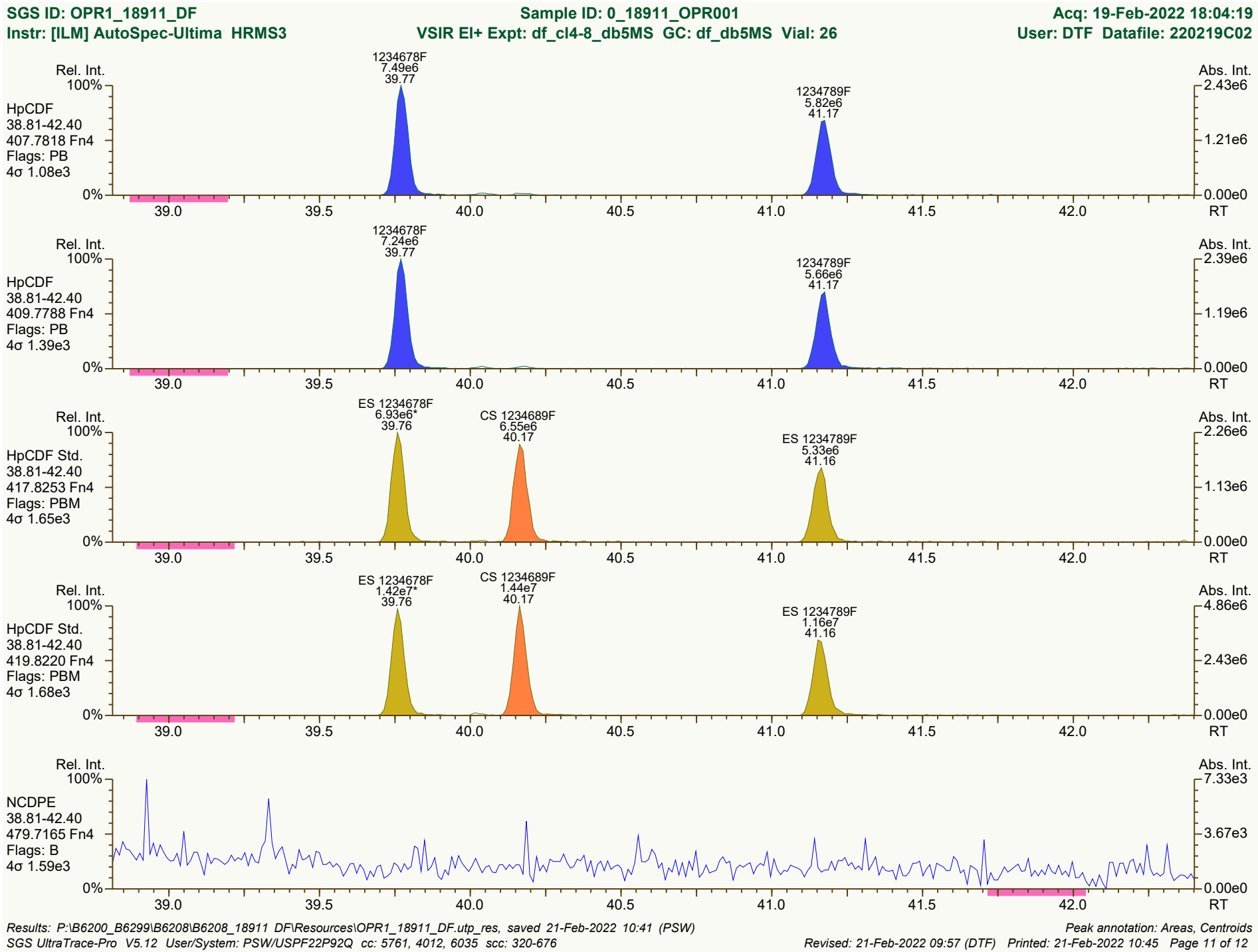
SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02



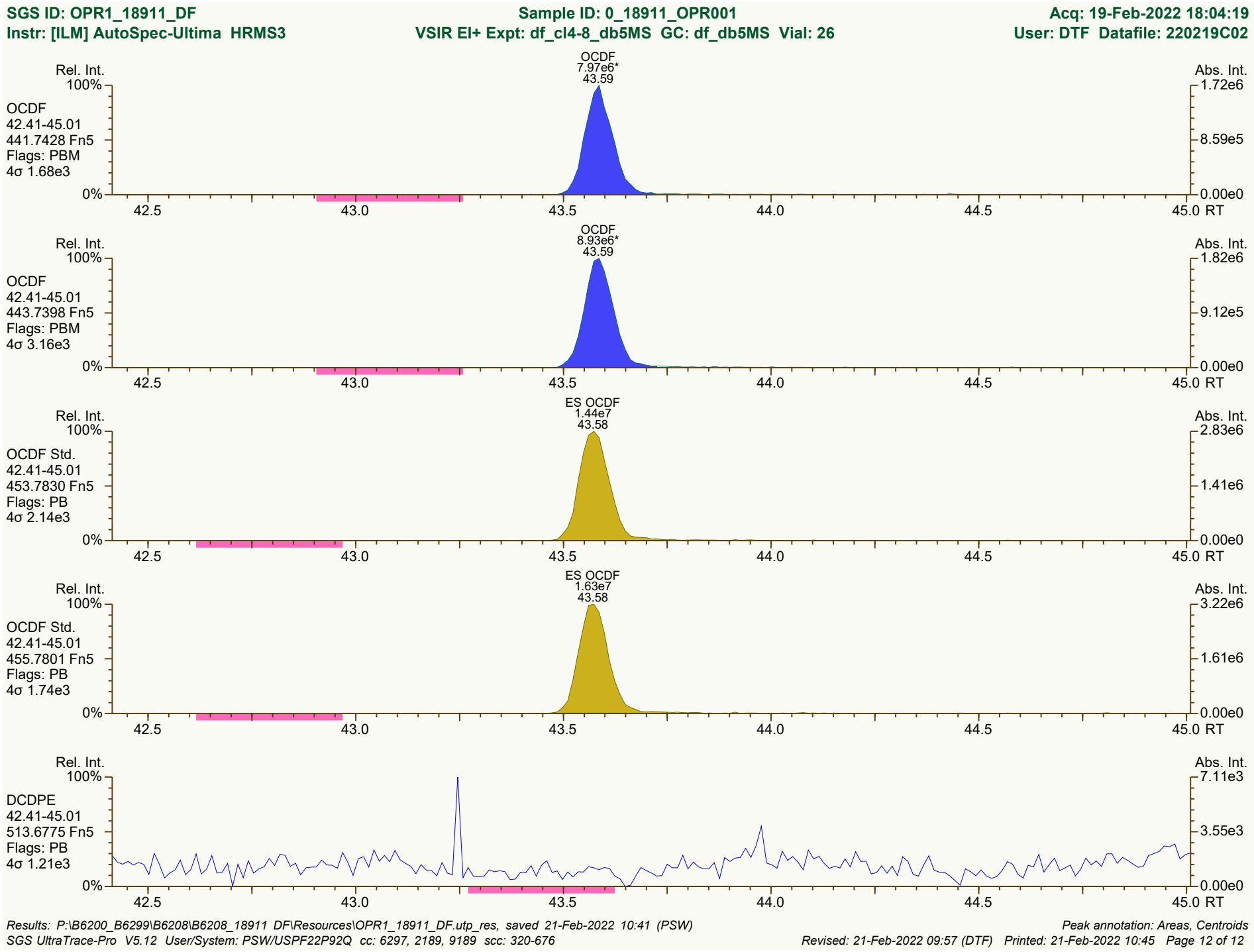
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6476 scc: 320-676
PKD: 21-Feb-2022 09:55 Printed: 21-Feb-2022 10:45 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 5.47e3
0%
12378F
1.10e7
32.17
23478F
1.11e7
33.29
12389F
2.40e6
34.37
Abs. Int.
3.06e6
1.53e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.37e3
0%
12378F
7.19e6
32.17
23478F
7.20e6
33.29
12389F
1.50e6
34.37
Abs. Int.
1.99e6
9.95e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.21e3
0%
CS 12346F
2.26e7
31.62
ES 12378F
2.21e7
32.15
ES 23478F
2.04e7
33.27
Abs. Int.
5.91e6
2.96e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.13e3
0%
CS 12346F
1.41e7
31.62
ES 12378F
1.43e7
32.15
ES 23478F
1.27e7
33.27
Abs. Int.
3.81e6
1.91e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.23e3
123468F
2.19e7
35.16
123478F
8.70e6*
36.56
123678F
9.90e6*
36.70
234678F
1.03e7*
37.38
123789F
7.10e6*
38.35
6.41e6
3.20e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.07e3
123468F
1.75e7
35.16
123478F
7.05e6*
36.56
123678F
8.07e6*
36.70
234678F
8.38e6*
37.38
123789F
5.80e6*
38.35
5.08e6
2.54e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 9.88e3
ES 123678F
1.01e7
36.68
ES 123478F
8.25e6
36.54
CS 123469F
9.66e6
37.00
ES 234678F
1.02e7
37.36
ES 123789F
7.71e6
38.34
3.02e6
1.51e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.86e3
ES 123678F
1.90e7
36.68
ES 123478F
1.58e7
36.54
CS 123469F
1.80e7
37.00
ES 234678F
1.87e7
37.36
ES 123789F
1.50e7
38.34
5.76e6
2.88e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.33e3
8.47e3
4.24e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0708, 8222, 5059 scc: 320-676
PKD: 21-Feb-2022 09:57 Printed: 21-Feb-2022 10:45 Page 10 of 12



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5761, 4012, 6035 scc: 320-676
Revised: 21-Feb-2022 09:57 (DTF) Printed: 21-Feb-2022 10:45 Page 11 of 12


SGS ID: OPR1_18911_DF
Sample ID: 0_18911_OPR001
Acq: 19-Feb-2022 18:04:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 26
User: DTF Datafile: 220219C02
Rel. Int.
Abs. Int.
OCDF
7.97e6*
43.59
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
1.72e6
8.59e5
0.00e0
OCDF
8.93e6*
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 3.16e3
1.82e6
9.12e5
0.00e0
ES OCDF
1.44e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.14e3
2.83e6
1.41e6
0.00e0
ES OCDF
1.63e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.74e3
3.22e6
1.61e6
0.00e0
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.21e3
7.11e3
3.55e3
0.00e0
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR1_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6297, 2189, 9189 scc: 320-676
Revised: 21-Feb-2022 09:57 (DTF) Printed: 21-Feb-2022 10:45 Page 12 of 12

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 10:41:18 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	3.07E+06	0.81	Y	1.18	11.1	3950.923	0.148
12378-PeCDD	33.64		1.0007	1.0006	-0.2	1.02E+07	1.56	Y	1.04	47.5	5313.903	0.214
123478-HxCDD	37.56		1.0004	1.0004	0	1.08E+07	1.27	Y	1.09	52.2	4150.967	0.177
123678-HxCDD	37.69		1.0036	1.0036	0	1.22E+07	1.26	Y	1.15	54.5	4150.967	0.16
123789-HxCDD	37.99		1.0118	1.0117	-0.2	1.08E+07	1.25	Y	1.05	51.6	4150.967	0.164
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	9.84E+06	1.04	Y	1.06	52.2	4096.641	0.179
OCDD	43.40		1.0003	1.0003	0	1.41E+07	0.87	Y	1.13	109	3700.127	0.359
2378-TCDF	27.38		1.0008	1.0008	0	3.77E+06	0.76	Y	1.08	10.7	4704.21	0.149
12378-PeCDF	32.18		1.0005	1.0005	0	1.62E+07	1.53	Y	1.02	49.7	5913.964	0.17
23478-PeCDF	33.30		1.0005	1.0005	0	1.67E+07	1.53	Y	1.02	50.9	5913.964	0.162
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.43E+07	1.20	Y	1.27	51.4	6194.584	0.187
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.64E+07	1.24	Y	1.15	50.6	6194.584	0.157
234678-HxCDF	37.38		1.0005	1.0004	-0.2	1.70E+07	1.22	Y	1.19	50.7	6194.584	0.164
123789-HxCDF	38.35		1.0004	1.0004	0	1.20E+07	1.28	Y	1.16	47.8	6194.584	0.216
1234678-HpCDF	39.77		1.0003	1.0003	0	1.40E+07	1.02	Y	1.37	49.8	3861.13	0.103
1234789-HpCDF	41.17		1.0003	1.0003	0	1.03E+07	1.04	Y	1.31	49.1	3861.13	0.152
OCDF	43.57		1.0002	1.0002	0	1.64E+07	0.92	Y	1.07	103	4020.581	0.297

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.34E+07	0.80	Y	1.05	97.9
ES 12378-PeCDD	33.62	1.2198	1.2200	+0.4	2.07E+07	1.60	Y	0.88	103
ES 123478-HxCDD	37.55	0.9916	0.9916	0	1.90E+07	1.28	Y	0.97	98.4
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	1.96E+07	1.24	Y	0.94	104
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.00E+07	1.24	Y	1.09	91.9
ES 1234678-HpCDD	40.70	1.0749	1.0747	-0.5	1.78E+07	1.04	Y	0.91	98
ES OCDD	43.39	1.1460	1.1458	-0.5	2.30E+07	0.90	Y	0.62	92.5
ES 2378-TCDF	27.36	1.0531	1.0533	+0.3	3.27E+07	0.80	Y	1.06	85.1
ES 12378-PeCDF	32.16	1.2378	1.2382	+0.8	3.18E+07	1.60	Y	0.91	96.4
ES 23478-PeCDF	33.28	1.2810	1.2814	+0.8	3.21E+07	1.62	Y	0.88	100
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.19E+07	0.52	Y	1.20	91.9
ES 123678-HxCDF	36.69	0.9688	0.9688	0	2.81E+07	0.55	Y	1.35	105
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.82E+07	0.56	Y	1.24	114
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.16E+07	0.54	Y	1.16	94
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.05E+07	0.47	Y	0.97	107
ES 1234789-HpCDF	41.15	1.0870	1.0868	-0.5	1.61E+07	0.50	Y	0.85	95.3
ES OCDF	43.56	1.1505	1.1503	-0.5	2.97E+07	0.89	Y	0.81	92.3

Lab ID: OPR2_18911_DF | **Acq'd:** 20 Feb 2022 05:55 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18911_OPR002 | **UTP:** 21-Feb-2022 10:41:18 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 488-895-CRP

Datafile: 220219C17 | **Report:** 21 Feb 2022 10:42 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.29E+07	0.79	Y	-	-
JS 1234-TCDF	25.97		-	-	-	3.62E+07	0.85	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.94E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0252	+0.2	1.11E+07	n/a	-	1.20	101
CS 12347-PeCDD	33.11		1.2016	1.2017	+0.2	2.00E+07	1.54	Y	0.75	116
CS 12346-PeCDF	31.63		1.2172	1.2177	+0.9	3.25E+07	1.62	Y	0.85	105
CS 123469-HxCDF	37.00		0.9771	0.9771	0	2.43E+07	0.52	Y	1.12	109
CS 1234689-HpCDF	40.17		1.0608	1.0607	-0.2	1.87E+07	0.47	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.25~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2017~~	~~+0.2~~	~~2.00E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2177~~	~~+0.9~~	~~3.25E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9771~~	~~0~~	~~2.43E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0607~~	~~-0.2~~	~~1.87E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	52.3	52.3
Total PeCDD	73.6	73.6
Total HxCDD	174	174
Total HpCDD	65.2	65.2
Total Tetra-Octa Dioxins	474	474
Total TCDF	63.4	63.4
Total PeCDF	197	197
Total HxCDF	320	320
Total HpCDF	98.8	98.8
Total Tetra-Octa Furans	783	783
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.804	0.81
Response	3.07E+06	3.07E+06

Lab ID: OPR2_18911_DF **Acq'd: 20 Feb 2022 05:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 **UTP: 21-Feb-2022 10:41:18 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 488-895-CRP**

Datafile: 220219C17 **Report: 21 Feb 2022 10:42 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8699	-0.3	4.12E+06	0.81	Y	1.18	14.9	3950.923	0.148
1379-TCDD	NotFnd		0.8829						1.18		3950.923	0.148
1369-TCDD	NotFnd		0.8982						1.18		3950.923	0.148
1469-TCDD	NotFnd		0.9261						1.18		3950.923	0.148
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3950.923	0.148
1378-TCDD	NotFnd		0.9417						1.18		3950.923	0.148
1268-TCDD	NotFnd		0.9487						1.18		3950.923	0.148
1478-TCDD	NotFnd		0.9576						1.18		3950.923	0.148
1279-TCDD	NotFnd		0.9636						1.18		3950.923	0.148
1234/1269-TCDD	NotFnd		0.9761						1.18		3950.923	0.148
1236-TCDD	NotFnd		0.9812						1.18		3950.923	0.148
1237/1238-TCDD	NotFnd		0.9905						1.18		3950.923	0.148
1239-TCDD	28.09		0.9951	0.9951	0	3.30E+06	0.85	Y	1.18	11.9	3950.923	0.148
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	3.07E+06	0.81	Y	**1.18**	**11.1**	**3950.923**	**0.148**
1278-TCDD	NotFnd		1.0124						1.18		3950.923	0.148
1267-TCDD	NotFnd		1.0172						1.18		3950.923	0.148
1289-TCDD	29.23		1.0354	1.0356	+0.4	3.99E+06	0.80	Y	1.18	14.4	3950.923	0.148
12479/12468-PeCDD	31.12		0.9255	0.9257	+0.4	2.80E+06	1.51	Y	1.04	13.1	5313.903	0.214
12469-PeCDD	NotFnd		0.9416						1.04		5313.903	0.214
12368-PeCDD	NotFnd		0.9582						1.04		5313.903	0.214
12478-PeCDD	NotFnd		0.9637						1.04		5313.903	0.214
12379-PeCDD	NotFnd		0.9668						1.04		5313.903	0.214
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		5313.903	0.214
12346/12347-PeCDD	NotFnd		0.9858						1.04		5313.903	0.214
12378-PeCDD	33.64		**1.0007**	**1.0006**	**-0.2**	**1.02E+07**	**1.56**	**Y**	**1.04**	**47.5**	**5313.903**	**0.214**
12367-PeCDD	NotFnd		1.0036						1.04		5313.903	0.214
12389-PeCDD	34.08		1.0137	1.0137	0	2.78E+06	1.56	Y	1.04	13	5313.903	0.214
124679/124689-HxCDD	35.82		0.9540	0.9540	0	3.28E+06	1.31	Y	1.10	15.4	4150.967	0.167
123468-HxCDD	NotFnd		0.9715						1.10		4150.967	0.167
123679/123689-HxCDD	NotFnd		0.9793						1.10		4150.967	0.167
123469-HxCDD	NotFnd		0.9829						1.10		4150.967	0.167
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.27**	**Y**	1.09	**52.2**	**4150.967**	**0.177**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.22E+07**	**1.26**	**Y**	1.15	**54.5**	**4150.967**	**0.16**
123467-HxCDD	NotFnd		1.0089						1.10		4150.967	0.167
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**1.08E+07**	**1.25**	**Y**	1.05	**51.6**	**4150.967**	**0.164**

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 10:41:18 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 10:42 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	2.46E+06	1.02	Y	1.06	13	4096.641	0.179
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**9.84E+06**	**1.04**	**Y**	**1.06**	**52.2**	**4096.641**	**0.179**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**0.87**	**Y**	**1.13**	**109**	**3700.127**	**0.359**
OCDD-a	NotFnd		1.0002						0.07		3841.736	5.82
1368-TCDF	22.40		0.8191	0.8187	-0.5	5.60E+06	0.78	Y	1.08	15.9	4704.21	0.149
1468-TCDF	NotFnd		0.8408						1.08		4704.21	0.149
2468-TCDF	23.64		0.8645	0.8643	-0.3	1.46E+06	0.78	Y	1.08	4.15	4704.21	0.149
1346/1246-TCDF	NotFnd		0.8772						1.08		4704.21	0.149
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		4704.21	0.149
1348-TCDF	NotFnd		0.8932						1.08		4704.21	0.149
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		4704.21	0.149
1268-TCDF	NotFnd		0.9119						1.08		4704.21	0.149
1467-TCDF	NotFnd		0.9170						1.08		4704.21	0.149
1478-TCDF	NotFnd		0.9234						1.08		4704.21	0.149
1369/1237-TCDF	NotFnd		0.9369						1.08		4704.21	0.149
2467-TCDF	NotFnd		0.9415						1.08		4704.21	0.149
2368-TCDF	NotFnd		0.9475						1.08		4704.21	0.149
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4704.21	0.149
1278-TCDF	NotFnd		0.9676						1.08		4704.21	0.149
1349-TCDF	NotFnd		0.9722						1.08		4704.21	0.149
1267-TCDF	NotFnd		0.9777						1.08		4704.21	0.149
2346/1249-TCDF	NotFnd		0.9843						1.08		4704.21	0.149
2347/1279-TCDF	NotFnd		0.9926						1.08		4704.21	0.149
2348-TCDF	27.27		0.9968	0.9967	-0.2	5.44E+06	0.82	Y	1.08	15.4	4704.21	0.149
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**3.77E+06**	**0.76**	**Y**	**1.08**	**10.7**	**4704.21**	**0.149**
2367/3467-TCDF	NotFnd		1.0142						1.08		4704.21	0.149
1269-TCDF	NotFnd		1.0235						1.08		4704.21	0.149
1239-TCDF	NotFnd		1.0329						1.08		4704.21	0.149
1289-TCDF	29.40		1.0742	1.0746	+0.7	6.08E+06	0.81	Y	1.08	17.2	4704.21	0.149
13468/12468-PeCDF	29.32		0.9122	0.9118	-0.7	2.80E+07	1.58	Y	1.02	85.7	3202.845	0.0899
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5913.964	0.166
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5913.964	0.166
14678-PeCDF	NotFnd		0.9685						1.02		5913.964	0.166
13479-PeCDF	NotFnd		0.9716						1.02		5913.964	0.166
13469/12479-PeCDF	NotFnd		0.9794						1.02		5913.964	0.166
12346-PeCDF	NotFnd		0.9836						1.02		5913.964	0.166

Lab ID: OPR2_18911_DF | **Acq'd: 20 Feb 2022 05:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18911_OPR002 | **UTP: 21-Feb-2022 10:41:18 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 488-895-CRP**

Datafile: 220219C17 | **Report: 21 Feb 2022 10:42 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5913.964	0.166
12347-PeCDF	NotFnd		0.9891						1.02		5913.964	0.166
12348-PeCDF	NotFnd		0.9938						1.02		5913.964	0.166
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**1.62E+07**	**1.53**	**Y**	**1.02**	**49.7**	**5913.964**	**0.17**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5913.964	0.166
12379-PeCDF	NotFnd		1.0144						1.02		5913.964	0.166
12679-PeCDF	NotFnd		0.9927						1.02		5913.964	0.166
23467/12369-PeCDF	NotFnd		0.9965						1.02		5913.964	0.166
23478-PeCDF	**33.30**		**1.0005**	**1.0005**	**0**	**1.67E+07**	**1.53**	**Y**	**1.02**	**50.9**	**5913.964**	**0.162**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5913.964	0.166
12349-PeCDF	NotFnd		1.0101						1.02		5913.964	0.166
12389-PeCDF	34.38		1.0330	1.0329	-0.2	3.53E+06	1.50	Y	1.02	10.8	5913.964	0.166
123468-HxCDF	35.17		0.9622	0.9623	+0.2	3.57E+07	1.24	Y	1.19	120	6194.584	0.178
124678/134678-HxCDF	NotFnd		0.9678						1.19		6194.584	0.178
134679-HxCDF	NotFnd		0.9741						1.19		6194.584	0.178
124679-HxCDF	NotFnd		0.9795						1.19		6194.584	0.178
124689-HxCDF	NotFnd		0.9856						1.19		6194.584	0.178
123467-HxCDF	NotFnd		0.9972						1.19		6194.584	0.178
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.43E+07**	**1.20**	**Y**	**1.27**	**51.4**	**6194.584**	**0.187**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.64E+07**	**1.24**	**Y**	**1.15**	**50.6**	**6194.584**	**0.157**
123479-HxCDF	NotFnd		1.0048						1.19		6194.584	0.178
123469-HxCDF	NotFnd		1.0089						1.19		6194.584	0.178
123679-HxCDF	NotFnd		0.9942						1.19		6194.584	0.178
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**1.70E+07**	**1.22**	**Y**	**1.19**	**50.7**	**6194.584**	**0.164**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6194.584	0.178
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.20E+07**	**1.28**	**Y**	**1.16**	**47.8**	**6194.584**	**0.216**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6194.584	0.178
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**1.02**	**Y**	**1.37**	**49.8**	**3861.13**	**0.103**
1234679-HpCDF	NotFnd		1.0068						1.34		3861.13	0.124
1234689-HpCDF	NotFnd		1.0104						1.34		3861.13	0.124
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.04**	**Y**	**1.31**	**49.1**	**3861.13**	**0.152**
OCDF	**43.57**		**1.0002**	**1.0002**	**0**	**1.64E+07**	**0.92**	**Y**	**1.07**	**103**	**4020.581**	**0.297**
OCDF-a	43.57		1.0001	1.0002	+0.3	1.04E+06	2.23	Y	0.07	105	3176.37	3.79

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.2	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	10.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.1	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:42 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	97.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	104	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.9	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	98	26	-	166	Y
13C-OCDD	200	185	26	-	397	Y
13C-2,3,7,8-TCDF	100	85.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	100	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	91.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	105	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	114	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	107	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	95.3	20	-	186	Y
13C-OCDF	200	185	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	40.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 21 Feb 2022 10:42 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220219C17	Analysis Date:	20-FEB-2022 05:55:34
Lab ID:	OPR2_18911_DF		

Window Defining Standards Results

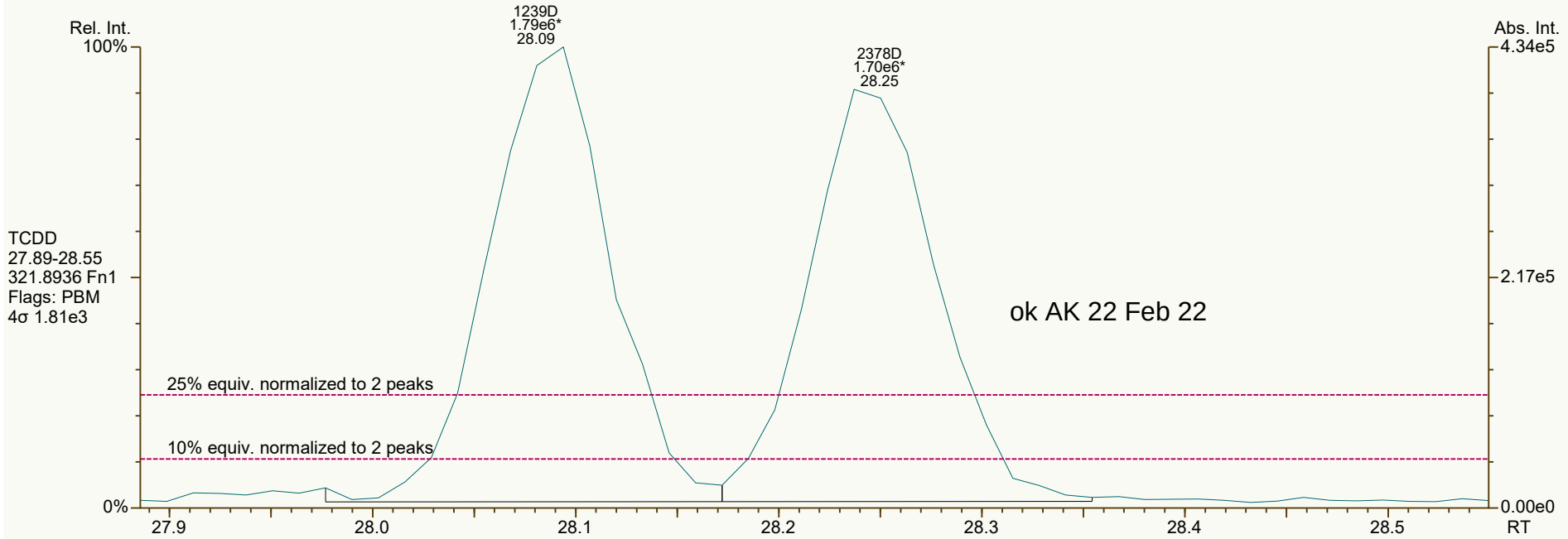
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.55	1289-TCDD	29.23
12479/12468-PeCDD	31.12	12389-PeCDD	34.08
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.03	1234678-HpCDD	40.71
1368-TCDF	22.40	1289-TCDF	29.40
13468/12468-PeCDF	29.32	12389-PeCDF	34.38
123468-HxCDF	35.17	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.17

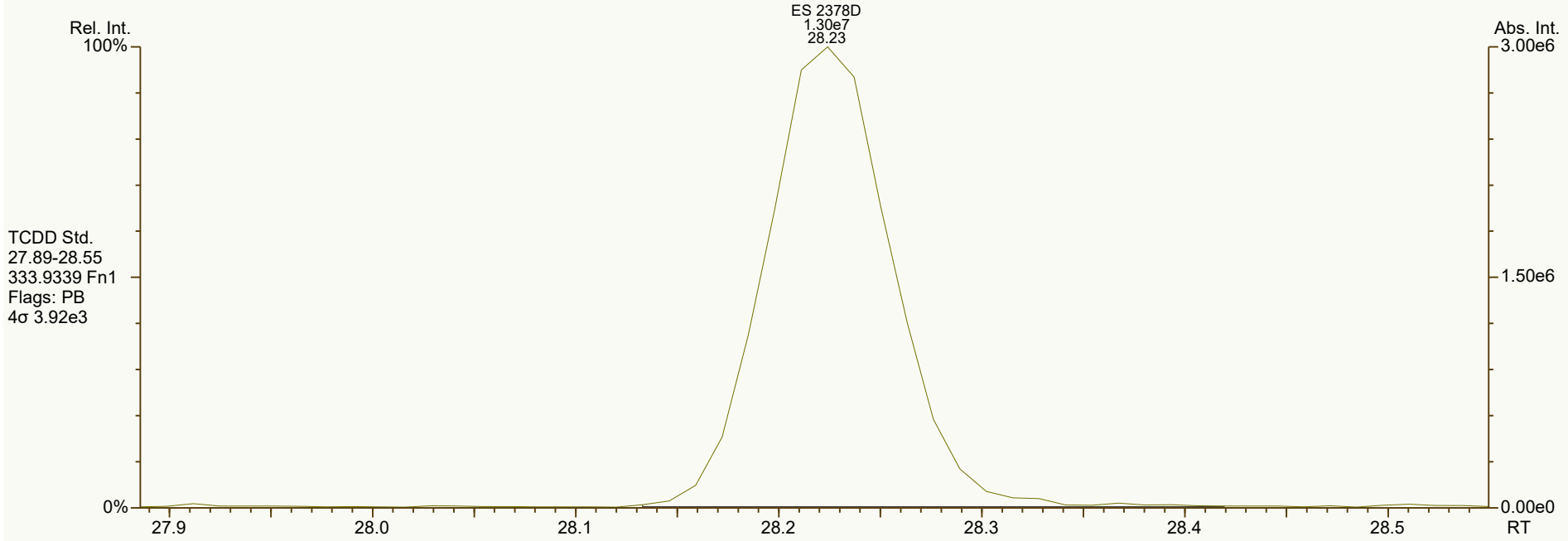
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.09	2378-TCDD	28.25
2348-TCDF	27.27	2378-TCDF	27.38

Processed: 21 Feb 2022 10:42 Analyst: pw

SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17



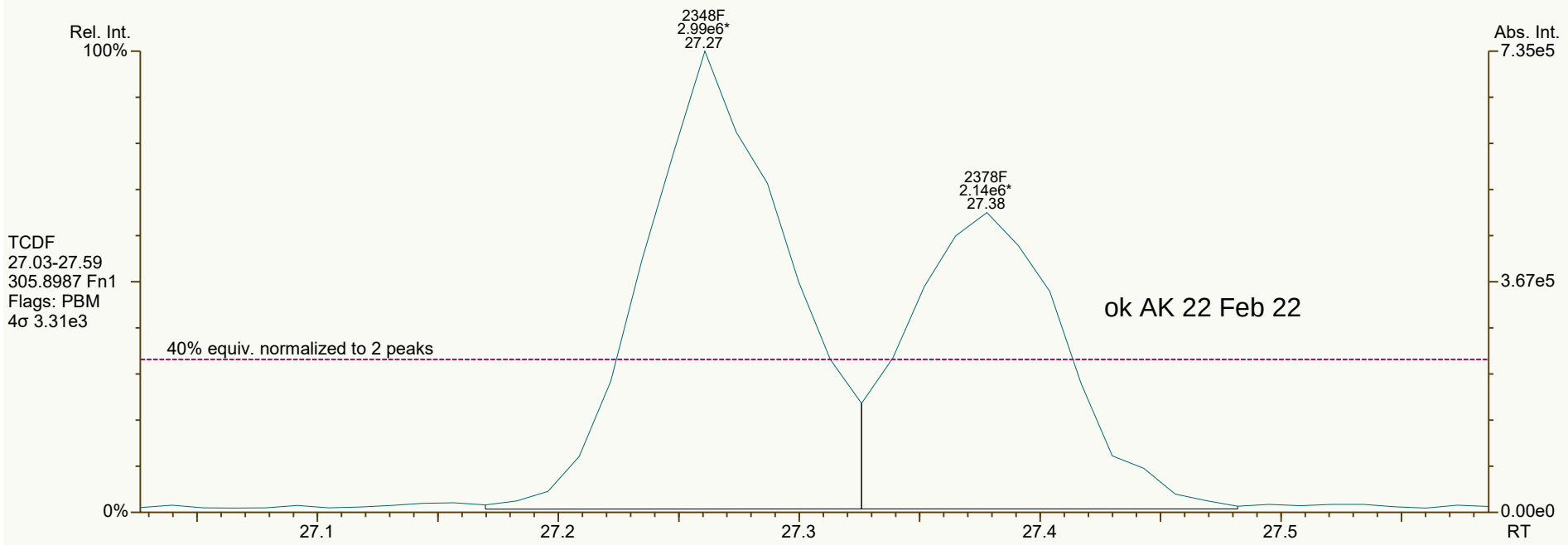


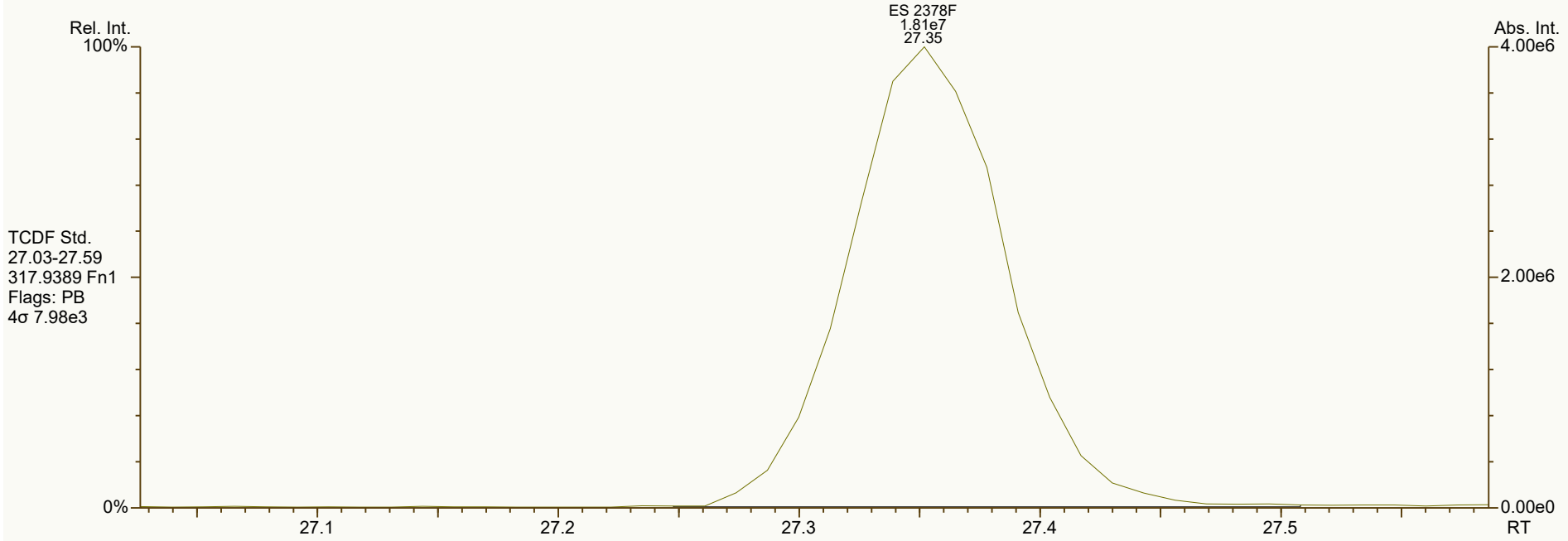
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:44

SGS ID: OPR2_18911_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18911_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27

Acq: 20-Feb-2022 05:55:34
User: DTF Datafile: 220219C17

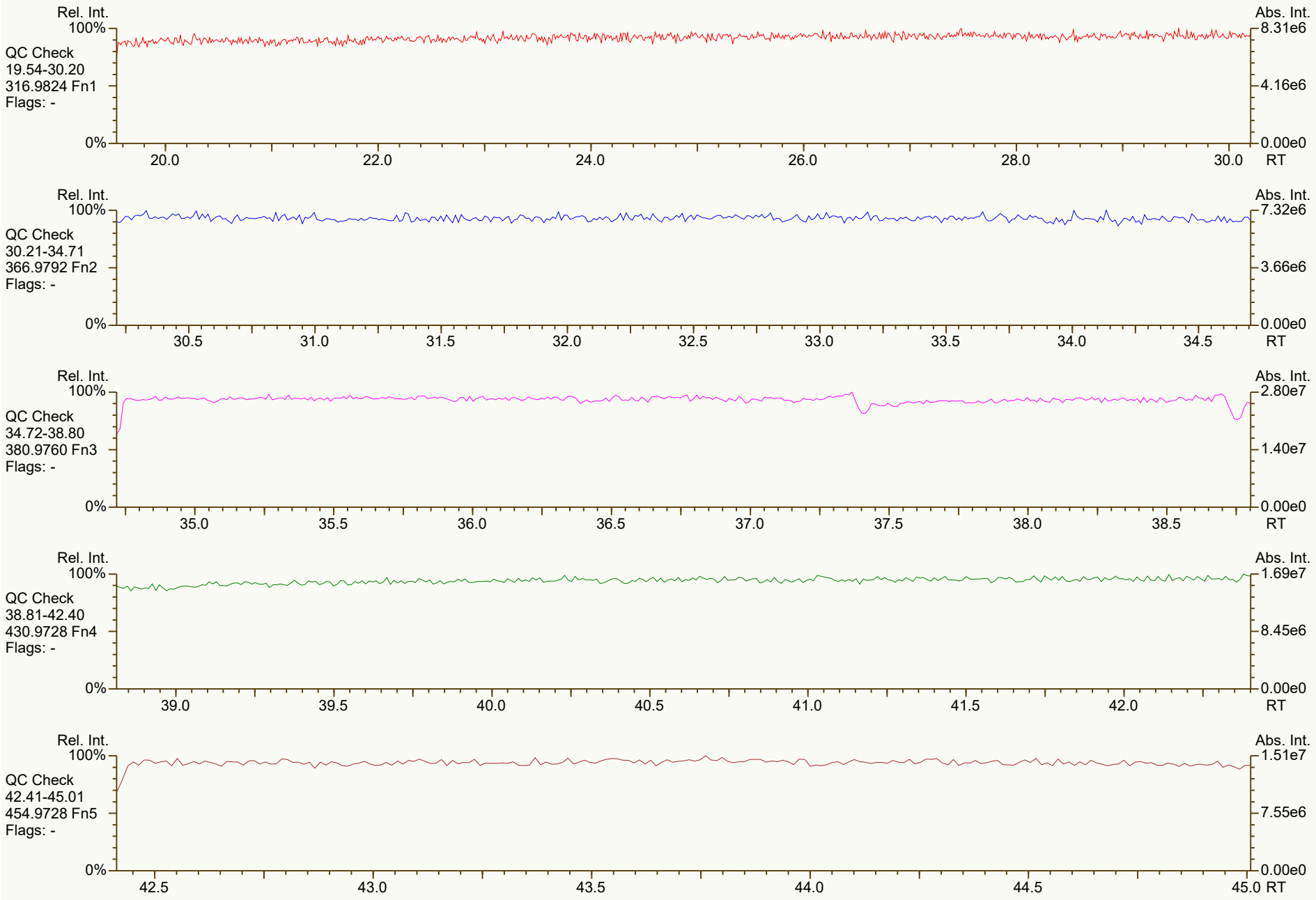




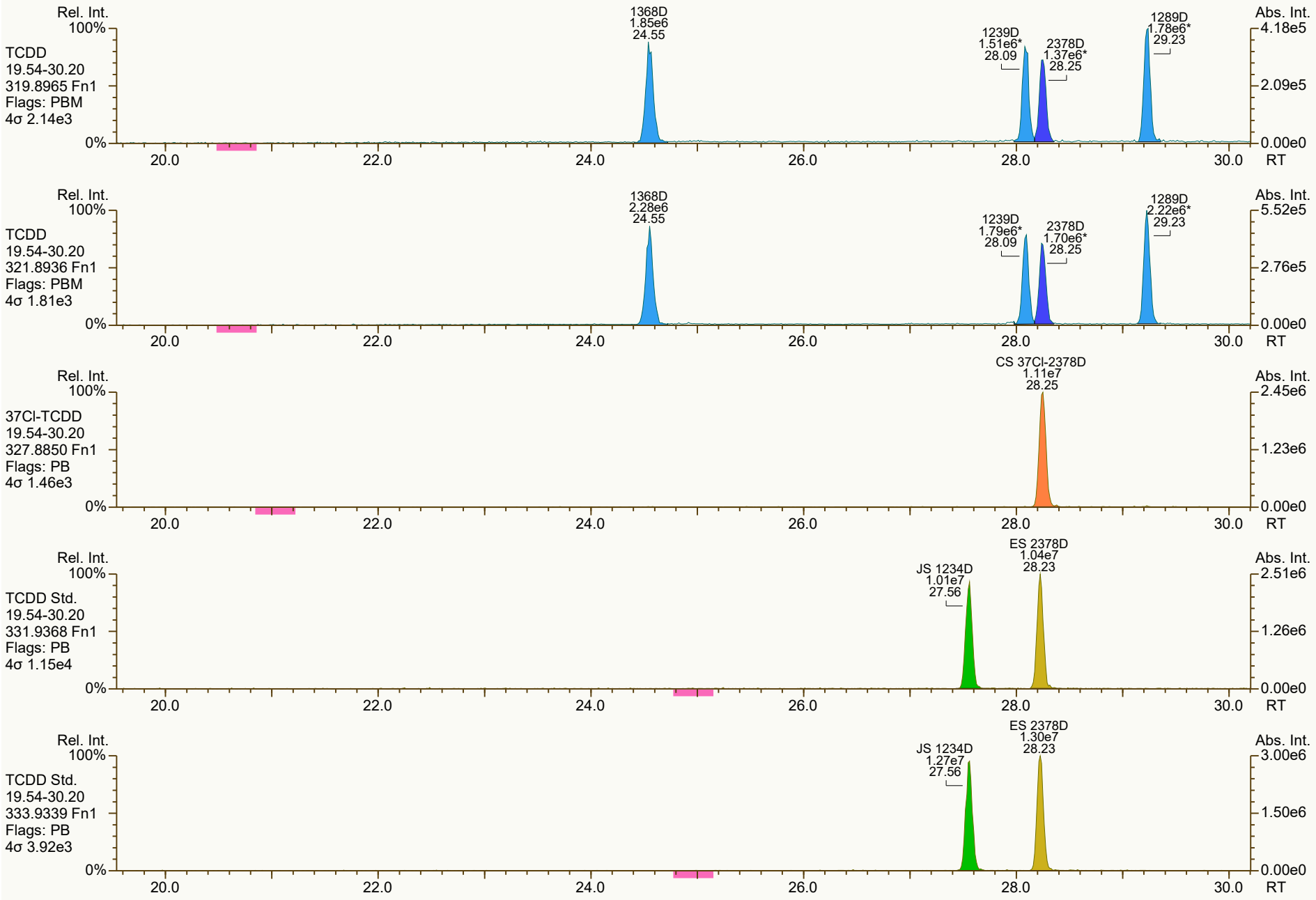
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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

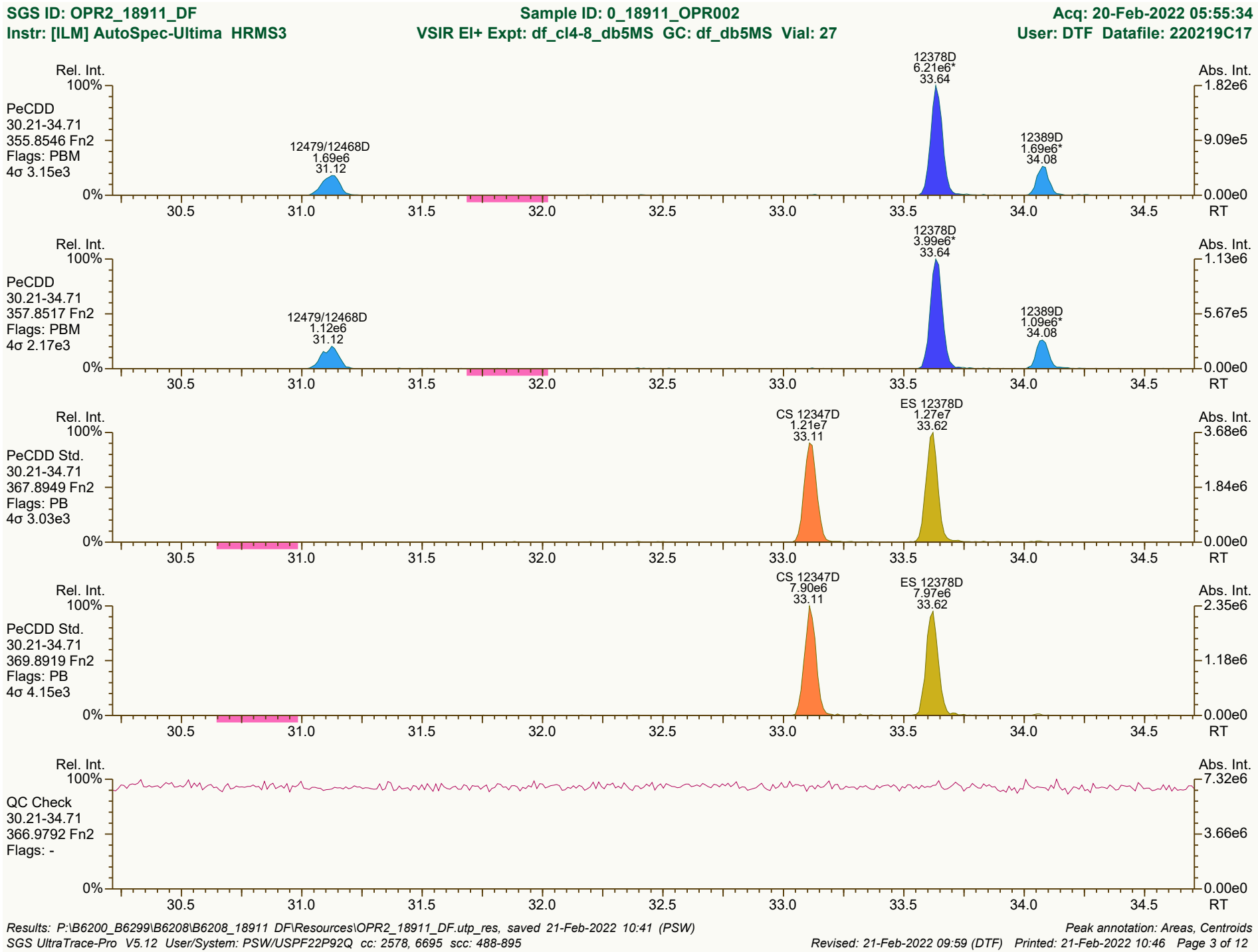
Peak annotation: Areas, Centroids
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:44

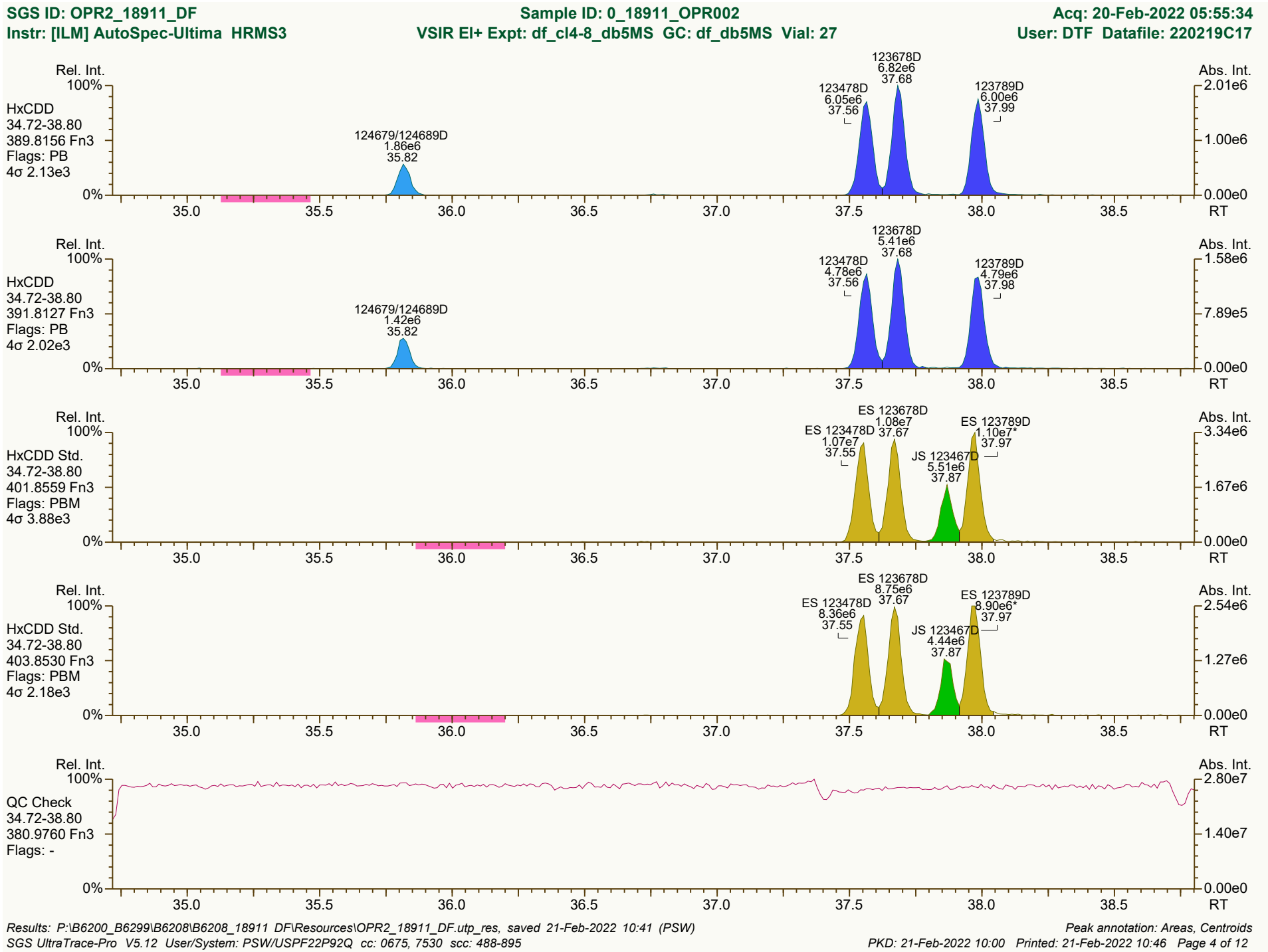
SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17

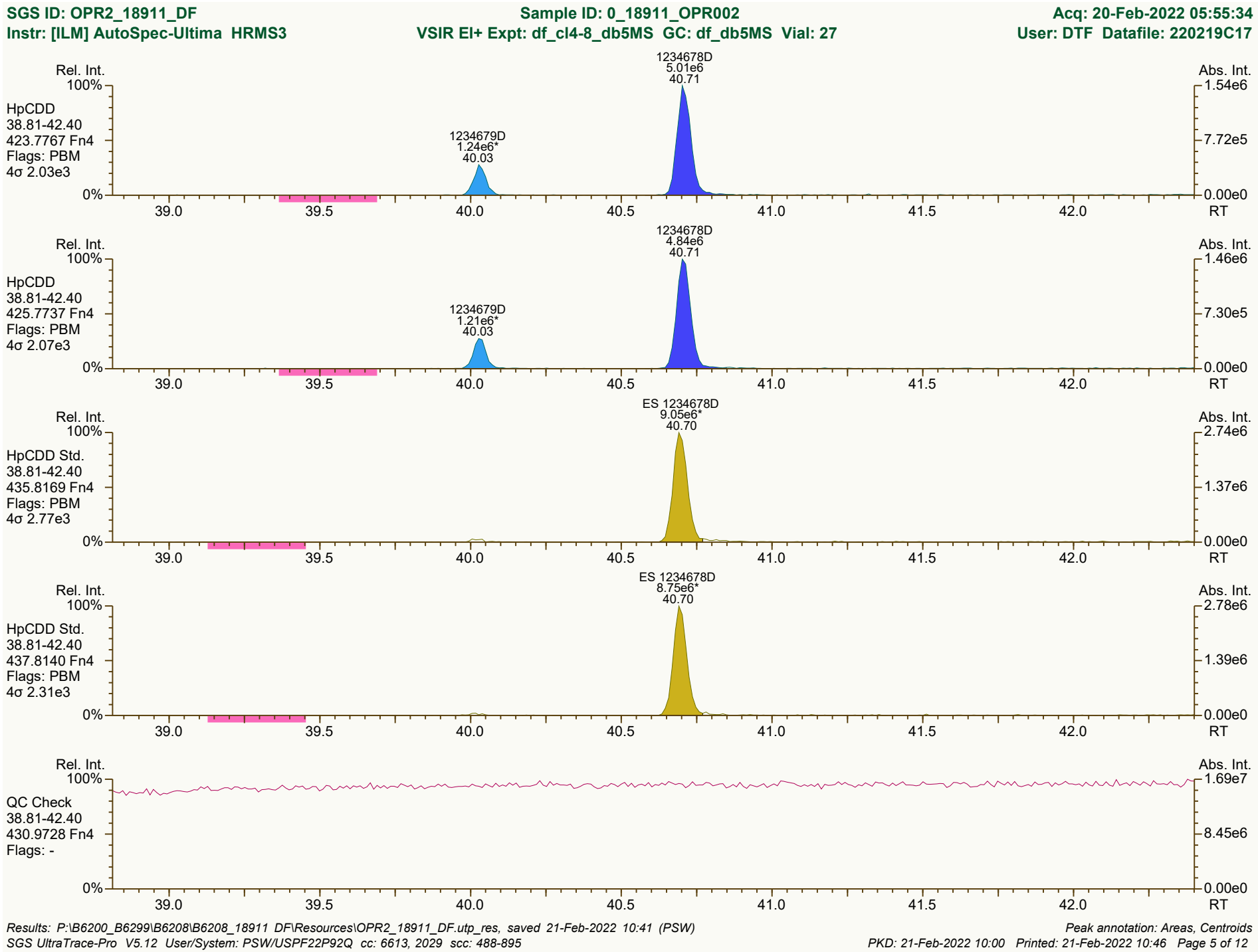


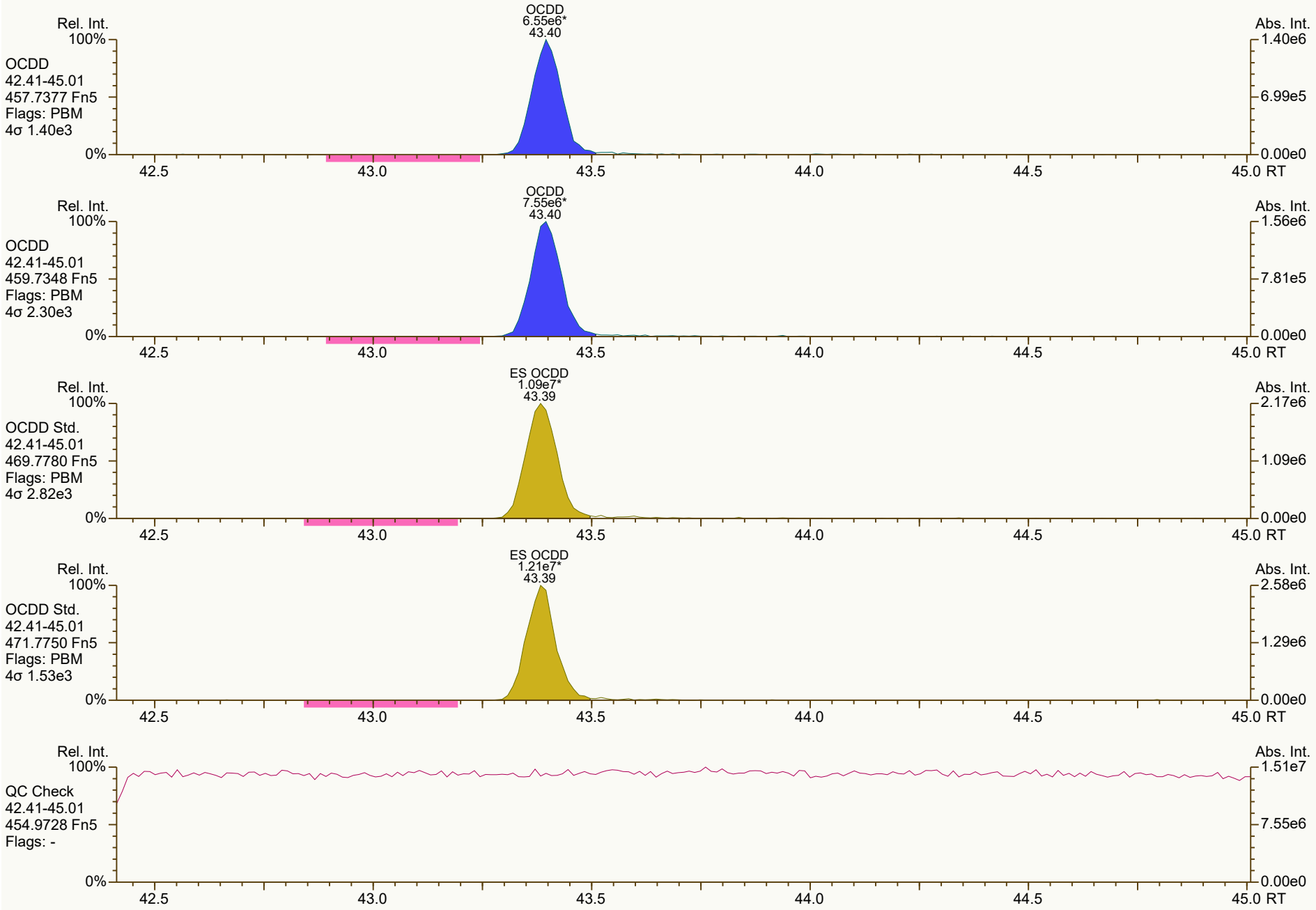
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 488-895
PKD: n/a Printed: 21-Feb-2022 10:46 Page 1 of 12

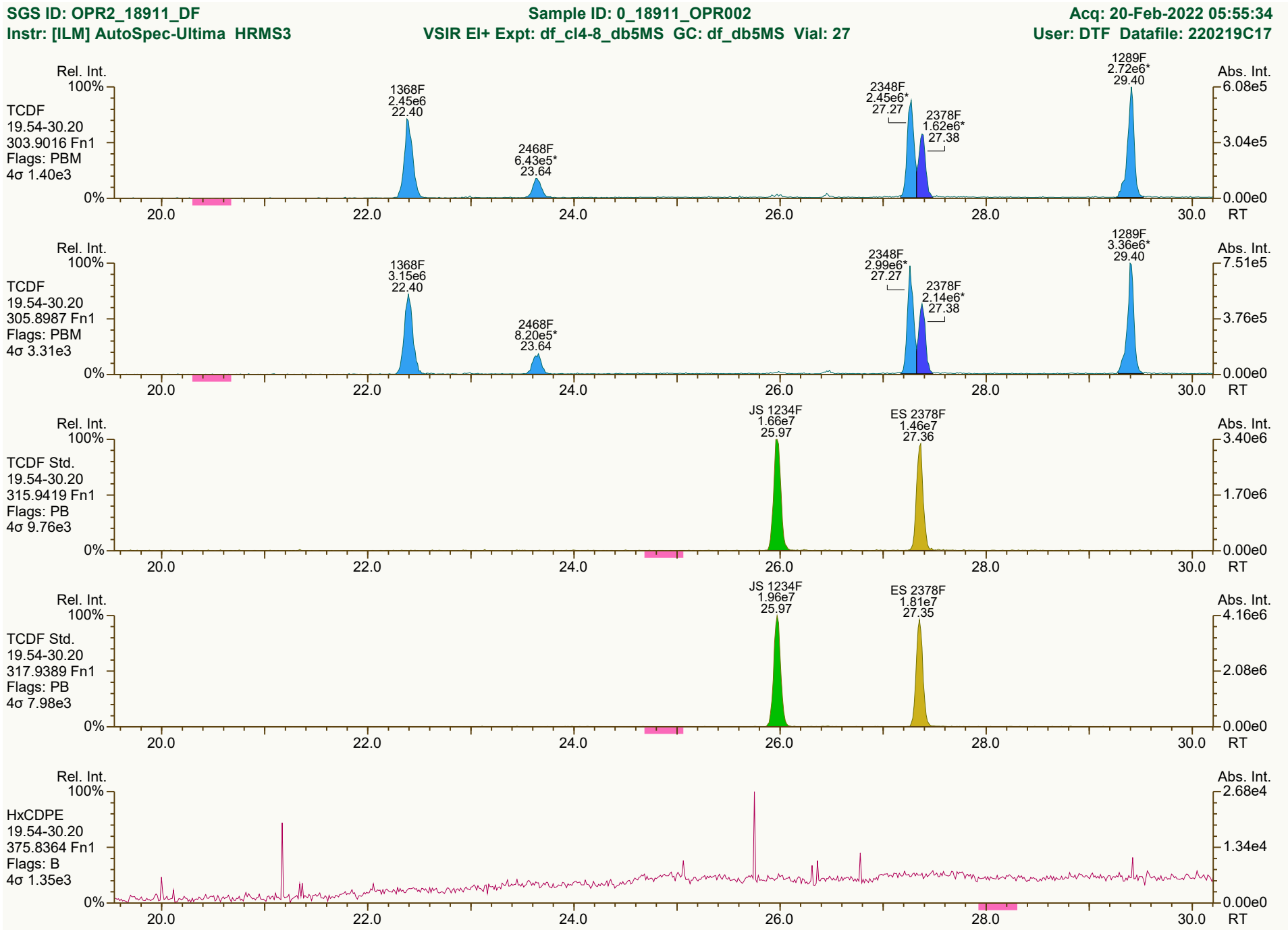

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.14e3
0%
1368D
1.85e6
24.55
1239D
1.51e6*
28.09
2378D
1.37e6*
28.25
1289D
1.78e6*
29.23
Abs. Int.
4.18e5
2.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.81e3
0%
1368D
2.28e6
24.55
1239D
1.79e6*
28.09
2378D
1.70e6*
28.25
1289D
2.22e6*
29.23
Abs. Int.
5.52e5
2.76e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.46e3
0%
CS 37Cl-2378D
1.11e7
28.25
Abs. Int.
2.45e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.15e4
0%
JS 1234D
1.01e7
27.56
ES 2378D
1.04e7
28.23
Abs. Int.
2.51e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.92e3
0%
JS 1234D
1.27e7
27.56
ES 2378D
1.30e7
28.23
Abs. Int.
3.00e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
1.69e6
31.12
12378D
6.21e6*
33.64
12389D
1.69e6*
34.08
1.82e6
9.09e5
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.17e3
12479/12468D
1.12e6
31.12
12378D
3.99e6*
33.64
12389D
1.09e6*
34.08
1.13e6
5.67e5
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.03e3
CS 12347D
1.21e7
33.11
ES 12378D
1.27e7
33.62
3.68e6
1.84e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 4.15e3
CS 12347D
7.90e6
33.11
ES 12378D
7.97e6
33.62
2.35e6
1.18e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
7.32e6
3.66e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2578, 6695 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:46 Page 3 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.13e3
124679/124689D
1.86e6
35.82
123478D
6.05e6
37.56
123678D
6.82e6
37.68
123789D
6.00e6
37.99
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.02e3
124679/124689D
1.42e6
35.82
123478D
4.78e6
37.56
123678D
5.41e6
37.68
123789D
4.79e6
37.98
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.88e3
ES 123478D
1.07e7
37.55
ES 123678D
1.08e7
37.67
JS 123467D
5.51e6
37.87
ES 123789D
1.10e7*
37.97
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.18e3
ES 123478D
8.36e6
37.55
ES 123678D
8.75e6
37.67
JS 123467D
4.44e6
37.87
ES 123789D
8.90e6*
37.97
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0675, 7530 scc: 488-895
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 10:46 Page 4 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.03e3
1234678D
5.01e6
40.71
1234679D
1.24e6*
40.03
1.54e6
7.72e5
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.07e3
1234678D
4.84e6
40.71
1234679D
1.21e6*
40.03
1.46e6
7.30e5
0.00e0
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.77e3
ES 1234678D
9.05e6*
40.70
2.74e6
1.37e6
0.00e0
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678D
8.75e6*
40.70
2.78e6
1.39e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.69e7
8.45e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6613, 2029 scc: 488-895
PKD: 21-Feb-2022 10:00 Printed: 21-Feb-2022 10:46 Page 5 of 12


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.40e3
0%
OCDD
6.55e6*
43.40
Abs. Int.
1.40e6
6.99e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.30e3
0%
OCDD
7.55e6*
43.40
Abs. Int.
1.56e6
7.81e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.82e3
0%
ES OCDD
1.09e7*
43.39
Abs. Int.
2.17e6
1.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.53e3
0%
ES OCDD
1.21e7*
43.39
Abs. Int.
2.58e6
1.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.51e7
7.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.40e3
1368F 2.45e6 22.40
2468F 6.43e5* 23.64
2348F 2.45e6* 27.27
2378F 1.62e6* 27.38
1289F 2.72e6* 29.40
6.08e5
3.04e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.31e3
1368F 3.15e6 22.40
2468F 8.20e5* 23.64
2348F 2.99e6* 27.27
2378F 2.14e6* 27.38
1289F 3.36e6* 29.40
7.51e5
3.76e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.76e3
JS 1234F 1.66e7 25.97
ES 2378F 1.46e7 27.36
3.40e6
1.70e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.98e3
JS 1234F 1.96e7 25.97
ES 2378F 1.81e7 27.35
4.16e6
2.08e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
2.68e4
1.34e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3357, 9674, 4960 scc: 488-895
Revised: 21-Feb-2022 09:59 (DTF) Printed: 21-Feb-2022 10:46 Page 7 of 12

SGS ID: OPR2_18911_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18911_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27

Acq: 20-Feb-2022 05:55:34
User: DTF Datafile: 220219C17



Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9329 scc: 488-895

Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 09:58 Printed: 21-Feb-2022 10:46 Page 8 of 12

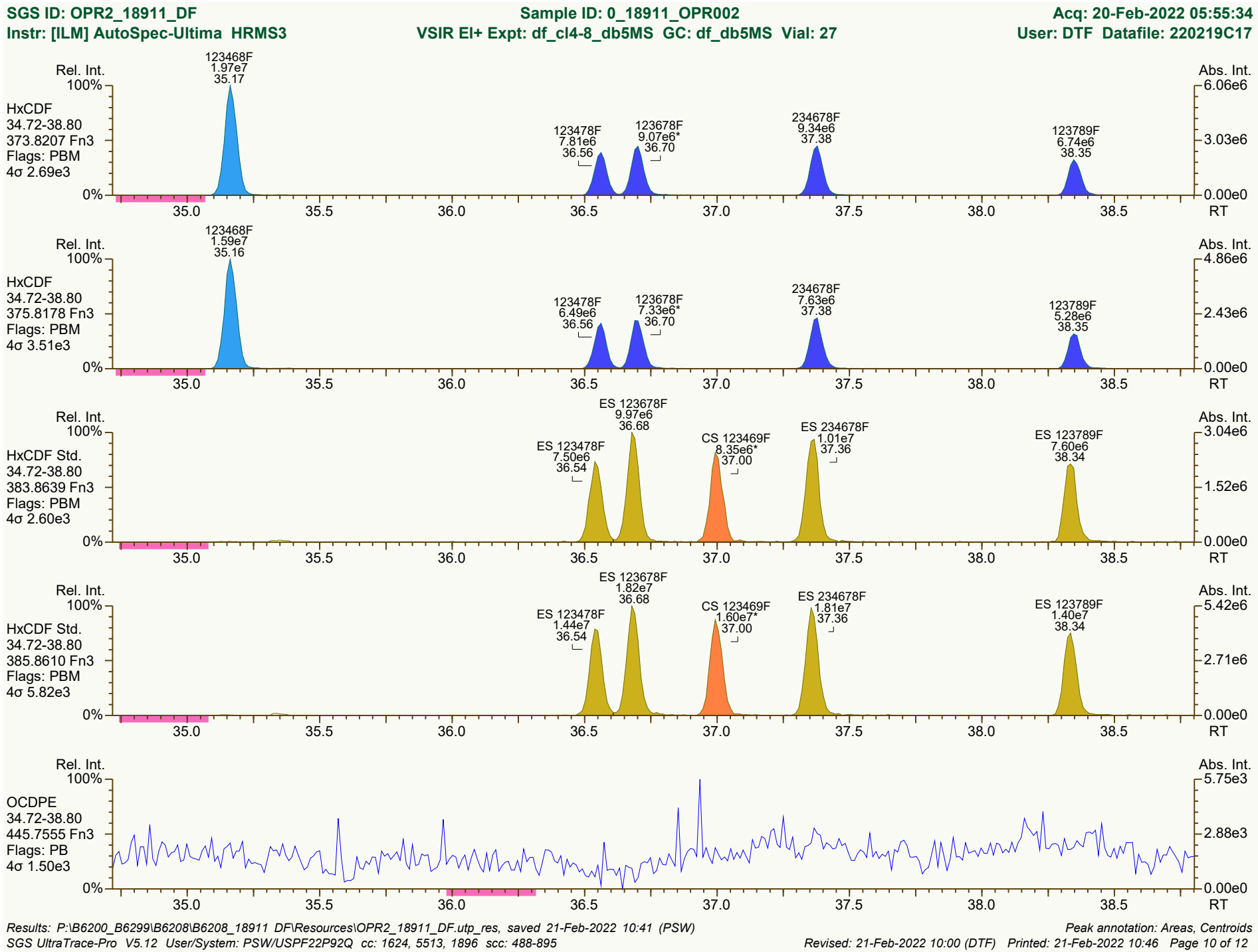
SGS ID: OPR2_18911_DF | Sample ID: 0_18911_OPR002 | Acq: 20-Feb-2022 05:55:34

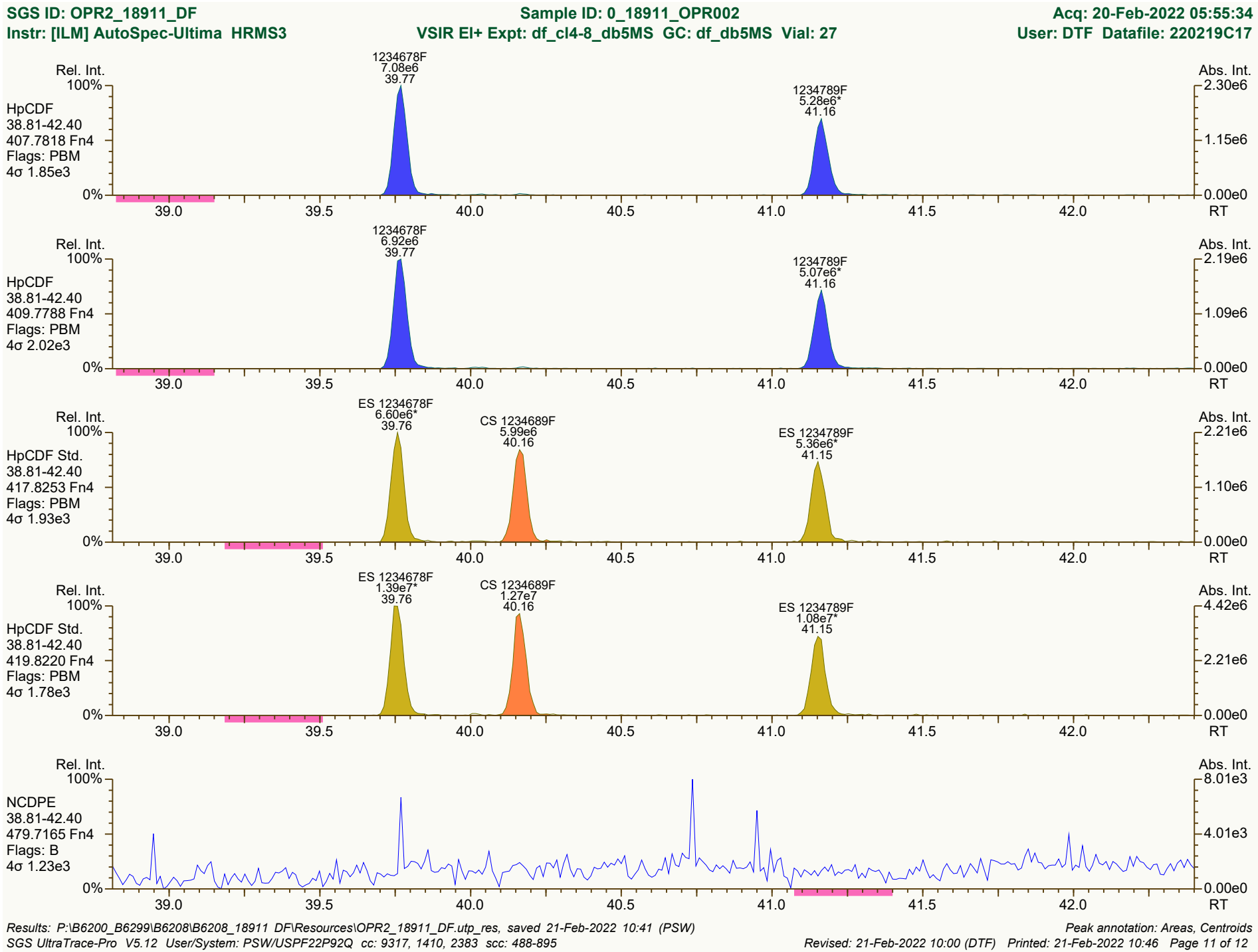
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220219C17

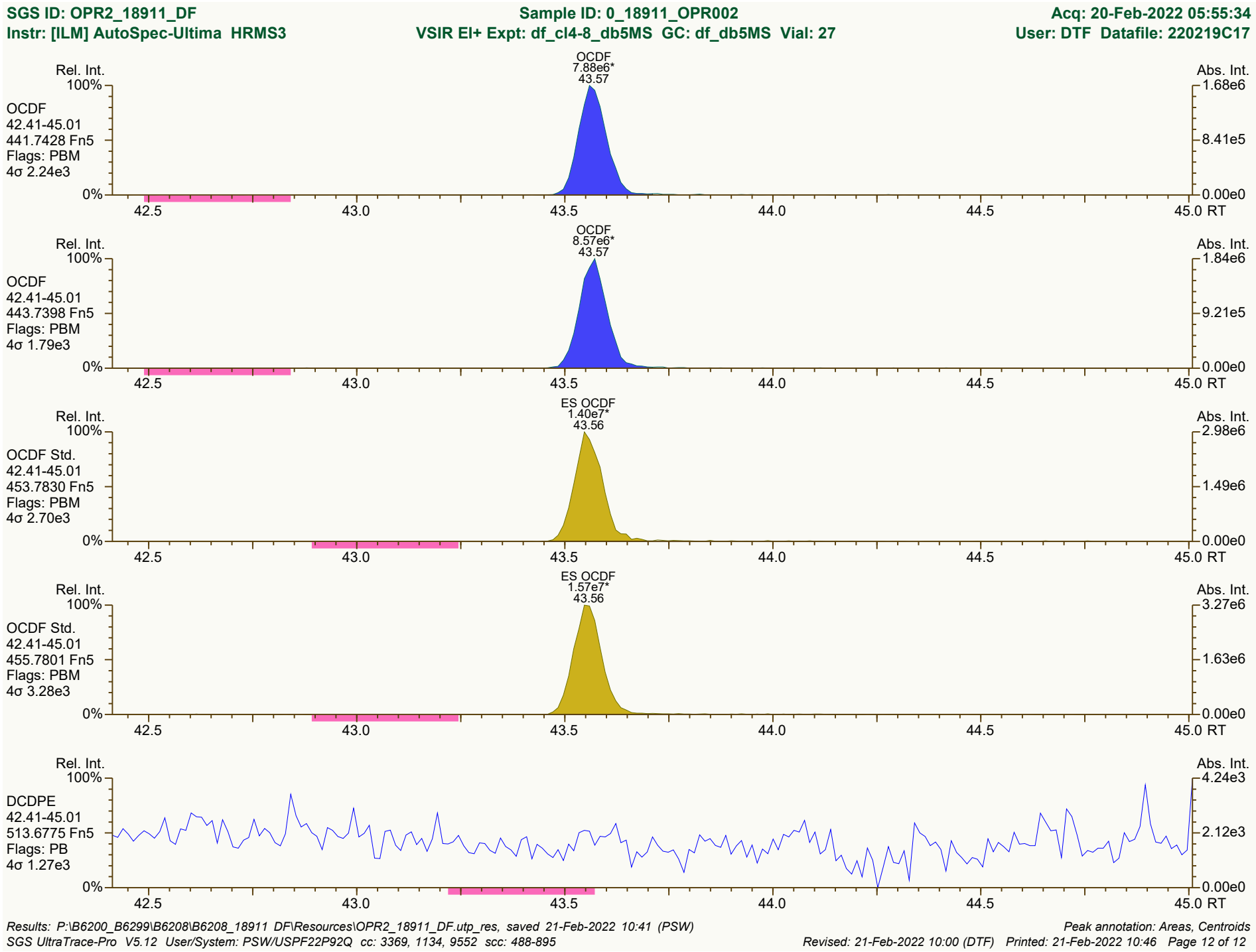


Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0481, 2901, 2285 scc: 488-895 | *Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:46 Page 9 of 12*


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.69e3
123468F 1.97e7 35.17
123478F 7.81e6 36.56
123678F 9.07e6* 36.70
234678F 9.34e6 37.38
123789F 6.74e6 38.35
6.06e6
3.03e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.51e3
123468F 1.59e7 35.16
123478F 6.49e6 36.56
123678F 7.33e6* 36.70
234678F 7.63e6 37.38
123789F 5.28e6 38.35
4.86e6
2.43e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.60e3
ES 123678F 9.97e6 36.68
ES 123478F 7.50e6 36.54
CS 123469F 8.35e6* 37.00
ES 234678F 1.01e7 37.36
ES 123789F 7.60e6 38.34
3.04e6
1.52e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 5.82e3
ES 123678F 1.82e7 36.68
ES 123478F 1.44e7 36.54
CS 123469F 1.60e7* 37.00
ES 234678F 1.81e7 37.36
ES 123789F 1.40e7 38.34
5.42e6
2.71e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.50e3
5.75e3
2.88e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1624, 5513, 1896 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:46 Page 10 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
7.08e6
39.77
1234789F
5.28e6*
41.16
2.30e6
1.15e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.02e3
1234678F
6.92e6
39.77
1234789F
5.07e6*
41.16
2.19e6
1.09e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.93e3
ES 1234678F
6.60e6*
39.76
CS 1234689F
5.99e6
40.16
ES 1234789F
5.36e6*
41.15
2.21e6
1.10e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.78e3
ES 1234678F
1.39e7*
39.76
CS 1234689F
1.27e7
40.16
ES 1234789F
1.08e7*
41.15
4.42e6
2.21e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.23e3
8.01e3
4.01e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9317, 1410, 2383 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:46 Page 11 of 12


SGS ID: OPR2_18911_DF
Sample ID: 0_18911_OPR002
Acq: 20-Feb-2022 05:55:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27
User: DTF Datafile: 220219C17
OCDF
7.88e6*
43.57
Rel. Int.
100%
Abs. Int.
1.68e6
8.41e5
0.00e0
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.24e3
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.57e6*
43.57
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.79e3
1.84e6
9.21e5
ES OCDF
1.40e7*
43.56
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.70e3
2.98e6
1.49e6
ES OCDF
1.57e7*
43.56
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.28e3
3.27e6
1.63e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
4.24e3
2.12e3
Results: P:\B6200_B6299\B6208\B6208_18911 DF\Resources\OPR2_18911_DF.utp_res, saved 21-Feb-2022 10:41 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3369, 1134, 9552 scc: 488-895
Revised: 21-Feb-2022 10:00 (DTF) Printed: 21-Feb-2022 10:46 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6138

12-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6138
Analytical Protocol(s)	1613B
No. Samples Submitted	2
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	07-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.13.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

B6138_001 and MB1_18820: the reported percent recovery of labeled extraction standard ES 2,3,4,6,7,8-HxCDF is above criteria. There is no adverse impact on detection limits (DL)

MB1_18820: the reported detection limit of 2,3,7,8-TCDD is above SOP criteria, however, meets Method criteria.

OPR1/OPR2_18820 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-011922-S-BN-RB-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID	B6211_18870_DF_001	Date Extracted:	26-Jan-2022
Date Collected:	19-Jan-2022	pH:	5	QC Batch No:	18870	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:01:37

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	3.42			ES 2378-TCDD	84.7	
12378-PeCDD	ND	3.94			ES 12378-PeCDD	93.7	
123478-HxCDD	ND	4.19			ES 123478-HxCDD	94.7	
123678-HxCDD	ND	4.04			ES 123678-HxCDD	107	
123789-HxCDD	ND	4.5			ES 123789-HxCDD	87.2	
1234678-HpCDD	ND	5.79			ES 1234678-HpCDD	70.6	
OCDD	94				ES OCDD	50.7	
2378-TCDF	ND	2.94			ES 2378-TCDF	84.6	
12378-PeCDF	ND	3			ES 12378-PeCDF	86.5	
23478-PeCDF	ND	2.61			ES 23478-PeCDF	90.2	
123478-HxCDF	ND	2.54			ES 123478-HxCDF	89.4	
123678-HxCDF	ND	2.47			ES 123678-HxCDF	104	
234678-HxCDF	ND	2.98			ES 234678-HxCDF	104	
123789-HxCDF	ND	3.83			ES 123789-HxCDF	71.7	
1234678-HpCDF	ND	2.75			ES 1234678-HpCDF	85.9	
1234789-HpCDF	ND	5.89			ES 1234789-HpCDF	60.3	
OCDF	ND	12.6			ES OCDF	45.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.7	
Total TCDD	ND	3.42	ND		CS 12347-PeCDD	111	
Total PeCDD	ND	3.94	ND		CS 12346-PeCDF	102	
Total HxCDD	ND	4.24	ND		CS 123469-HxCDF	114	
Total HpCDD	ND	5.79	ND		CS 1234689-HpCDF	93.7	
Total TCDF	ND	2.94	ND				
Total PeCDF	ND	2.81	ND				
Total HxCDF	ND	2.86	ND				
Total HpCDF	ND	3.94	ND				
Total PCDD/Fs	**94**		**94**				
WHO-2005 TEQs							
TEQ: ND=0	0.0282		0.0282				
TEQ: ND=DL/2	5.59	5.57	5.59				
TEQ: ND=DL	11.2	11.1	11.2				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-011922-S-BN-RB-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID:	B6211_18870_DF_001	Date Extracted:	26-Jan-2022
Date Collected:	19-Jan-2022	pH:	5	QC Batch No.:	18870	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:01:37

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(3.42)		12479/12468D	(3.94)		124679/124689D	(4.24)		1234679D	(5.79)	
1379D	(3.42)		12469D	(3.94)		123468D	(4.24)		1234678D	(5.79)	
1369D	(3.42)		12368D	(3.94)		123679/123689D	(4.24)				
1469D	(3.42)		12478D	(3.94)		123469D	(4.24)				
1247D...[4]	(3.42)		12379D	(3.94)		123478D	(4.19)				
1378D	(3.42)		12369D...[3]	(3.94)		123678D	(4.04)				
1268D	(3.42)		12346/12347D	(3.94)		123467D	(4.24)				
1478D	(3.42)		12378D	(3.94)		123789D	(4.5)		**Conc.**	0	
1279D	(3.42)		12367D	(3.94)					**EMPC**	0	
1234/1269D	(3.42)		12389D	(3.94)							
1236D	(3.42)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(3.42)										
1239D	(3.42)								OCDD	94	
2378D	(3.42)										
1278D	(3.42)										
1267D	(3.42)										
1289D	(3.42)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.0282	0.0282
TEQ: ND=DL/2	5.59	5.59
TEQ: ND=DL	11.2	11.2

	Conc.	EMPC
Total PCDD/Fs	94	94

Checkcode: 400-072-YZP

Report Created: 03-Feb-2022 09:43 Analyst: MS

Sample ID: 11215131-011922-S-BN-RB-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	21-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID:	B6211_18870_DF_001	Date Extracted:	26-Jan-2022
Date Collected:	19-Jan-2022	pH:	5	QC Batch No.:	18870	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:01:37

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(2.94)		13468/12468F	(2.84)		123468F	(2.86)		1234678F	(2.75)	
1468F	(2.94)		13678F...[3]	(2.81)		124678/134678F	(2.86)		1234679F	(3.94)	
2468F	(2.94)		12368F...[3]	(2.81)		134679F	(2.86)		1234689F	(3.94)	
1346/1246F	(2.94)		14678F	(2.81)		124679F	(2.86)		1234789F	(5.89)	
1347F...[3]	(2.94)		13479F	(2.81)		124689F	(2.86)				
1348F	(2.94)		13469/12479F	(2.81)		123467F	(2.86)				
1248F...[3]	(2.94)		12346F	(2.81)		123478F	(2.54)				
1268F	(2.94)		23468/12469F	(2.81)		123678F	(2.47)				
1467F	(2.94)		12347F	(2.81)		123479F	(2.86)				
1478F	(2.94)		12348F	(2.81)		123469F	(2.86)				
1369/1237F	(2.94)		12378F	(3)		123679F	(2.86)				
2467F	(2.94)		12678/12367F	(2.81)		234678F	(2.98)		**Conc.**	0	
2368F	(2.94)		12379F	(2.81)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(2.94)		12679F	(2.81)		123689F	(2.86)				
1278F	(2.94)		23467/12369F	(2.81)		123789F	(3.83)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(2.94)		23478F	(2.61)		123789/123489F	0				
1267F	(2.94)		23478/12489F	0		123489F	(2.86)		OCDF	(12.6)	
2346/1249F	(2.94)		12489F	(2.81)							
2347/1279F	(2.94)		12349F	(2.81)							
2348F	(2.94)		12389F	(2.81)							
2378F	(2.94)										
2367/3467F	(2.94)										
1269F	(2.94)										
1239F	(2.94)										
1289F	(2.94)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 400-072-YZP

Report Created: 03-Feb-2022 09:43 Analyst: MS

Sample ID: 11215131-011922-S-BN-RB-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6211_18870_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	QC Batch No.:	18870
Date Collected:	19-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	21-Jan-2022	Dilution:	-	Date Analyzed:	02-Feb-2022 08:01
Lab Project No:	B6211	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(3.42)		3.42	(3.42)	(3.42)	(3.42)
12378-PeCDD	(3.94)		3.94	(1.97)	(3.94)	(3.94)
123478-HxCDD	(4.19)		4.19	(0.419)	(0.419)	(0.419)
123678-HxCDD	(4.04)		4.04	(0.404)	(0.404)	(0.404)
123789-HxCDD	(4.5)		4.5	(0.45)	(0.45)	(0.45)
1234678-HpCDD	(5.79)		5.79	(0.0579)	(0.0579)	(0.0579)
OCDD	94		17.5	0.094	0.0094	0.0282
2378-TCDF	(2.94)		2.94	(0.294)	(0.294)	(0.294)
12378-PeCDF	(3)		3	(0.15)	(0.15)	(0.0901)
23478-PeCDF	(2.61)		2.61	(1.31)	(1.31)	(0.783)
123478-HxCDF	(2.54)		2.54	(0.254)	(0.254)	(0.254)
123678-HxCDF	(2.47)		2.47	(0.247)	(0.247)	(0.247)
234678-HxCDF	(2.98)		2.98	(0.298)	(0.298)	(0.298)
123789-HxCDF	(3.83)		3.83	(0.383)	(0.383)	(0.383)
1234678-HpCDF	(2.75)		2.75	(0.0275)	(0.0275)	(0.0275)
1234789-HpCDF	(5.89)		5.89	(0.0589)	(0.0589)	(0.0589)
OCDF	(12.6)		12.6	(0.0126)	(0.00126)	(0.00379)

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TEQ Summaries			
EMPC = 0, ND = 0	0.094	0.0094	0.0282
EMPC = 0, ND = DL / 2	4.97	5.86	5.59
EMPC = 0, ND = DL	9.84	11.7	11.2
EMPC = 0, < J-level = 0	0.094	0.0094	0.0282
EMPC = EMPC, ND = 0	0.094	0.0094	0.0282
EMPC = EMPC, ND = DL / 2	4.97	5.86	5.59
EMPC = EMPC, ND = DL	9.84	11.7	11.2
EMPC = EMPC, < J-level = 0	0.094	0.0094	0.0282

Checkcode: 400-072-YZP

Sample ID: Method Blank B6211_18870 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18870_DF_TLX	Date Extracted:	26-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18870	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:04:32

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	4.25			ES 2378-TCDD	81.4	
12378-PeCDD	ND	3.82			ES 12378-PeCDD	86.9	
123478-HxCDD	ND	4.69			ES 123478-HxCDD	83.8	
123678-HxCDD	ND	4.1			ES 123678-HxCDD	101	
123789-HxCDD	ND	5.34			ES 123789-HxCDD	80.6	
1234678-HpCDD	ND	6.83			ES 1234678-HpCDD	69	
OCDD	ND	19.4			ES OCDD	46.2	
2378-TCDF	ND	2.81			ES 2378-TCDF	81	
12378-PeCDF	ND	2.4			ES 12378-PeCDF	78.7	
23478-PeCDF	ND	2.52			ES 23478-PeCDF	83.7	
123478-HxCDF	ND	3.57			ES 123478-HxCDF	83.3	
123678-HxCDF	ND	3.25			ES 123678-HxCDF	93.3	
234678-HxCDF	ND	3.13			ES 234678-HxCDF	101	
123789-HxCDF	ND	4.75			ES 123789-HxCDF	67.9	
1234678-HpCDF	ND	3.86			ES 1234678-HpCDF	73.5	
1234789-HpCDF	ND	6.01			ES 1234789-HpCDF	59	
OCDF	ND	17.2			ES OCDF	45.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.9	
Total TCDD	ND	4.25	ND		CS 12347-PeCDD	108	
Total PeCDD	ND	3.82	ND		CS 12346-PeCDF	94	
Total HxCDD	ND	4.68	ND		CS 123469-HxCDF	112	
Total HpCDD	ND	6.83	ND		CS 1234689-HpCDF	92.3	
Total TCDF	ND	2.81	ND				
Total PeCDF	ND	2.46	ND				
Total HxCDF	ND	3.56	ND				
Total HpCDF	ND	4.74	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	6.12	6.12	6.12				
TEQ: ND=DL	12.2	12.2	12.2				

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Sample ID: Method Blank B6211_18870 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18870_DF_TLX	Date Extracted:	26-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18870	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:04:32

Tetra-Dioxins	Conc. (pg/L)	Qualifiers
1368D	(4.25)	
1379D	(4.25)	
1369D	(4.25)	
1469D	(4.25)	
1247D...[4]	(4.25)	
1378D	(4.25)	
1268D	(4.25)	
1478D	(4.25)	
1279D	(4.25)	
1234/1269D	(4.25)	
1236D	(4.25)	
1237/1238D	(4.25)	
1239D	(4.25)	
2378D	(4.25)	
1278D	(4.25)	
1267D	(4.25)	
1289D	(4.25)	
Conc.	0	
EMPC	0	

Penta-Dioxins	Conc. (pg/L)	Qualifiers
12479/12468D	(3.82)	
12469D	(3.82)	
12368D	(3.82)	
12478D	(3.82)	
12379D	(3.82)	
12369D...[3]	(3.82)	
12346/12347D	(3.82)	
12378D	(3.82)	
12367D	(3.82)	
12389D	(3.82)	
Conc.	0	
EMPC	0	

Hexa-Dioxins	Conc (pg/L)	Qualifiers
124679/124689D	(4.68)	
123468D	(4.68)	
123679/123689D	(4.68)	
123469D	(4.68)	
123478D	(4.69)	
123678D	(4.1)	
123467D	(4.68)	
123789D	(5.34)	
Conc.	0	
EMPC	0	

Hepta-Dioxins	Conc (pg/L)	Qualifiers
1234679D	(6.83)	
1234678D	(6.83)	
Conc.	0	
EMPC	0	

Octa-Dioxin	Conc (pg/L)	Qualifiers
OCDD	(19.4)	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	6.12	6.12
TEQ: ND=DL	12.2	12.2

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 686-621-ZZT

Report Created: 03-Feb-2022 09:42 Analyst: MS

Sample ID: Method Blank B6211_18870 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18870_DF_TLX	Date Extracted:	26-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18870	Date Analyzed:	02-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:04:32

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(2.81)		13468/12468F	(3.51)		123468F	(3.56)		1234678F	(3.86)	
1468F	(2.81)		13678F...[3]	(2.46)		124678/134678F	(3.56)		1234679F	(4.74)	
2468F	(2.81)		12368F...[3]	(2.46)		134679F	(3.56)		1234689F	(4.74)	
1346/1246F	(2.81)		14678F	(2.46)		124679F	(3.56)		1234789F	(6.01)	
1347F...[3]	(2.81)		13479F	(2.46)		124689F	(3.56)				
1348F	(2.81)		13469/12479F	(2.46)		123467F	(3.56)				
1248F...[3]	(2.81)		12346F	(2.46)		123478F	(3.57)				
1268F	(2.81)		23468/12469F	(2.46)		123678F	(3.25)				
1467F	(2.81)		12347F	(2.46)		123479F	(3.56)				
1478F	(2.81)		12348F	(2.46)		123469F	(3.56)				
1369/1237F	(2.81)		12378F	(2.4)		123679F	(3.56)				
2467F	(2.81)		12678/12367F	(2.46)		234678F	(3.13)		**Conc.**	0	
2368F	(2.81)		12379F	(2.46)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(2.81)		12679F	(2.46)		123689F	(3.56)				
1278F	(2.81)		23467/12369F	(2.46)		123789F	(4.75)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(2.81)		23478F	(2.52)		123789/123489F	0				
1267F	(2.81)		23478/12489F	0		123489F	(3.56)		OCDF	(17.2)	
2346/1249F	(2.81)		12489F	(2.46)							
2347/1279F	(2.81)		12349F	(2.46)							
2348F	(2.81)		12389F	(2.46)							
2378F	(2.81)										
2367/3467F	(2.81)										
1269F	(2.81)										
1239F	(2.81)										
1289F	(2.81)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 686-621-ZZT

Report Created: 03-Feb-2022 09:42 Analyst: MS

Sample ID: Method Blank B6211_18870 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18870_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18870
Date Collected:	n/a	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	02-Feb-2022 01:04
Lab Project No:	B6211	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(4.25)		4.25	(4.25)	(4.25)	(4.25)
12378-PeCDD	(3.82)		3.82	(1.91)	(3.82)	(3.82)
123478-HxCDD	(4.69)		4.69	(0.469)	(0.469)	(0.469)
123678-HxCDD	(4.1)		4.1	(0.41)	(0.41)	(0.41)
123789-HxCDD	(5.34)		5.34	(0.534)	(0.534)	(0.534)
1234678-HpCDD	(6.83)		6.83	(0.0683)	(0.0683)	(0.0683)
OCDD	(19.4)		19.4	(0.0194)	(0.00194)	(0.00581)
2378-TCDF	(2.81)		2.81	(0.281)	(0.281)	(0.281)
12378-PeCDF	(2.4)		2.4	(0.12)	(0.12)	(0.0721)
23478-PeCDF	(2.52)		2.52	(1.26)	(1.26)	(0.755)
123478-HxCDF	(3.57)		3.57	(0.357)	(0.357)	(0.357)
123678-HxCDF	(3.25)		3.25	(0.325)	(0.325)	(0.325)
234678-HxCDF	(3.13)		3.13	(0.313)	(0.313)	(0.313)
123789-HxCDF	(4.75)		4.75	(0.475)	(0.475)	(0.475)
1234678-HpCDF	(3.86)		3.86	(0.0386)	(0.0386)	(0.0386)
1234789-HpCDF	(6.01)		6.01	(0.0601)	(0.0601)	(0.0601)
OCDF	(17.2)		17.2	(0.0172)	(0.00172)	(0.00517)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	5.45	6.39	6.12
EMPC = 0, ND = DL	10.9	12.8	12.2
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	5.45	6.39	6.12
EMPC = EMPC, ND = DL	10.9	12.8	12.2
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 686-621-ZZT

Sample ID: 0_18870_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18870_DF	Date Extracted:	26-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18870	Date Analyzed:	01-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:59:09

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.6				ES 2378-TCDD	83.2	
12378-PeCDD	47.4				ES 12378-PeCDD	97	
123478-HxCDD	51.2				ES 123478-HxCDD	86.5	
123678-HxCDD	53				ES 123678-HxCDD	100	
123789-HxCDD	51.4				ES 123789-HxCDD	76	
1234678-HpCDD	51.6				ES 1234678-HpCDD	64.3	
OCDD	110				ES OCDD	44.7	
2378-TCDF	10.5				ES 2378-TCDF	84.2	
12378-PeCDF	49.5				ES 12378-PeCDF	92.8	
23478-PeCDF	54.5				ES 23478-PeCDF	94.2	
123478-HxCDF	53.5				ES 123478-HxCDF	80.5	
123678-HxCDF	54.7				ES 123678-HxCDF	94.7	
234678-HxCDF	53.5				ES 234678-HxCDF	95.6	
123789-HxCDF	51.2				ES 123789-HxCDF	62.7	
1234678-HpCDF	54.8				ES 1234678-HpCDF	74.1	
1234789-HpCDF	51.8				ES 1234789-HpCDF	48.7	
OCDF	105				ES OCDF	39.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.9	
Total TCDD	52.8		52.8		CS 12347-PeCDD	117	
Total PeCDD	70.3		70.3		CS 12346-PeCDF	111	
Total HxCDD	169		169		CS 123469-HxCDF	105	
Total HpCDD	63.8		63.8		CS 1234689-HpCDF	84.7	
Total TCDF	58.8		58.8				
Total PeCDF	211		211				
Total HxCDF	347		347				
Total HpCDF	107		107				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.356	116				
TEQ: ND=DL	116	0.711	116				

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Sample ID: 0_18870_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6211	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18870_DF	Date Extracted:	26-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18870	Date Analyzed:	01-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:45:31

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.6				ES 2378-TCDD	84.8	
12378-PeCDD	46.6				ES 12378-PeCDD	96	
123478-HxCDD	49				ES 123478-HxCDD	105	
123678-HxCDD	51.9				ES 123678-HxCDD	120	
123789-HxCDD	47.6				ES 123789-HxCDD	93.3	
1234678-HpCDD	50.7				ES 1234678-HpCDD	78.8	
OCDD	102				ES OCDD	58.1	
2378-TCDF	9.83				ES 2378-TCDF	90.5	
12378-PeCDF	46.6				ES 12378-PeCDF	94.9	
23478-PeCDF	50.8				ES 23478-PeCDF	95	
123478-HxCDF	49.5				ES 123478-HxCDF	95.8	
123678-HxCDF	51.9				ES 123678-HxCDF	111	
234678-HxCDF	50.1				ES 234678-HxCDF	115	
123789-HxCDF	48.6				ES 123789-HxCDF	82.8	
1234678-HpCDF	47.8				ES 1234678-HpCDF	96.7	
1234789-HpCDF	47.1				ES 1234789-HpCDF	70.5	
OCDF	97				ES OCDF	53.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.3	
Total TCDD	52.1		52.1		CS 12347-PeCDD	107	
Total PeCDD	70.3		70.3		CS 12346-PeCDF	100	
Total HxCDD	162		162		CS 123469-HxCDF	117	
Total HpCDD	63.4		63.4		CS 1234689-HpCDF	101	
Total TCDF	56.1		56.1				
Total PeCDF	203		203				
Total HxCDF	331		331				
Total HpCDF	94.9		94.9				
Total PCDD/Fs	**1,230**		**1,230**				
WHO-2005 TEQs							
TEQ: ND=0	111		111				
TEQ: ND=DL/2	111	0.317	111				
TEQ: ND=DL	111	0.635	111				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample DUP

Method 1613B

Sample ID: 0_18870_OPR001

Analyte	OPR1_18870_DF pg/uL	OPR2_18870_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.6	10.6	8.5%
1,2,3,7,8-PeCDD	47.4	46.6	1.5%
1,2,3,4,7,8-HxCDD	51.2	49	4.5%
1,2,3,6,7,8-HxCDD	53	51.9	2.1%
1,2,3,7,8,9-HxCDD	51.4	47.6	7.8%
1,2,3,4,6,7,8-HpCDD	51.6	50.7	1.7%
OCDD	110	102	8.1%
2,3,7,8-TCDF	10.5	9.83	6.2%
1,2,3,7,8-PeCDF	49.5	46.6	6.1%
2,3,4,7,8-PeCDF	54.5	50.8	7.0%
1,2,3,4,7,8-HxCDF	53.5	49.5	7.7%
1,2,3,6,7,8-HxCDF	54.7	51.9	5.2%
2,3,4,6,7,8-HxCDF	53.5	50.1	6.5%
1,2,3,7,8,9-HxCDF	51.2	48.6	5.1%
1,2,3,4,6,7,8-HpCDF	54.8	47.8	13.7%
1,2,3,4,7,8,9-HpCDF	51.8	47.1	9.4%
OCDF	105	97	8.0%
Totals			
Total TCDD	52.8	52.1	1.3%
Total PeCDD	70.3	70.3	0.0%
Total HxCDD	169	162	4.2%
Total HpCDD	63.8	63.4	0.7%
Total TCDF	58.8	56.1	4.7%
Total PeCDF	211	203	4.0%
Total HxCDF	347	331	4.9%
Total HpCDF	107	94.9	11.6%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*21-Jan-22 at 12:25*
AP Project name:	*B6211*
Requested TAT:	*10 business days*
Projected due date:	*4-Feb-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-011922-S-BN-RB-13	B6211_001	W - Rinse Blanks	2	1-Liter Amber	19-Jan-22	13:45	0.1	1	4905 2704 4476

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jay Burkamper *Logged in by: Ashley Owens* *QC'ed by:* AK 24 Jan 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BL0211

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

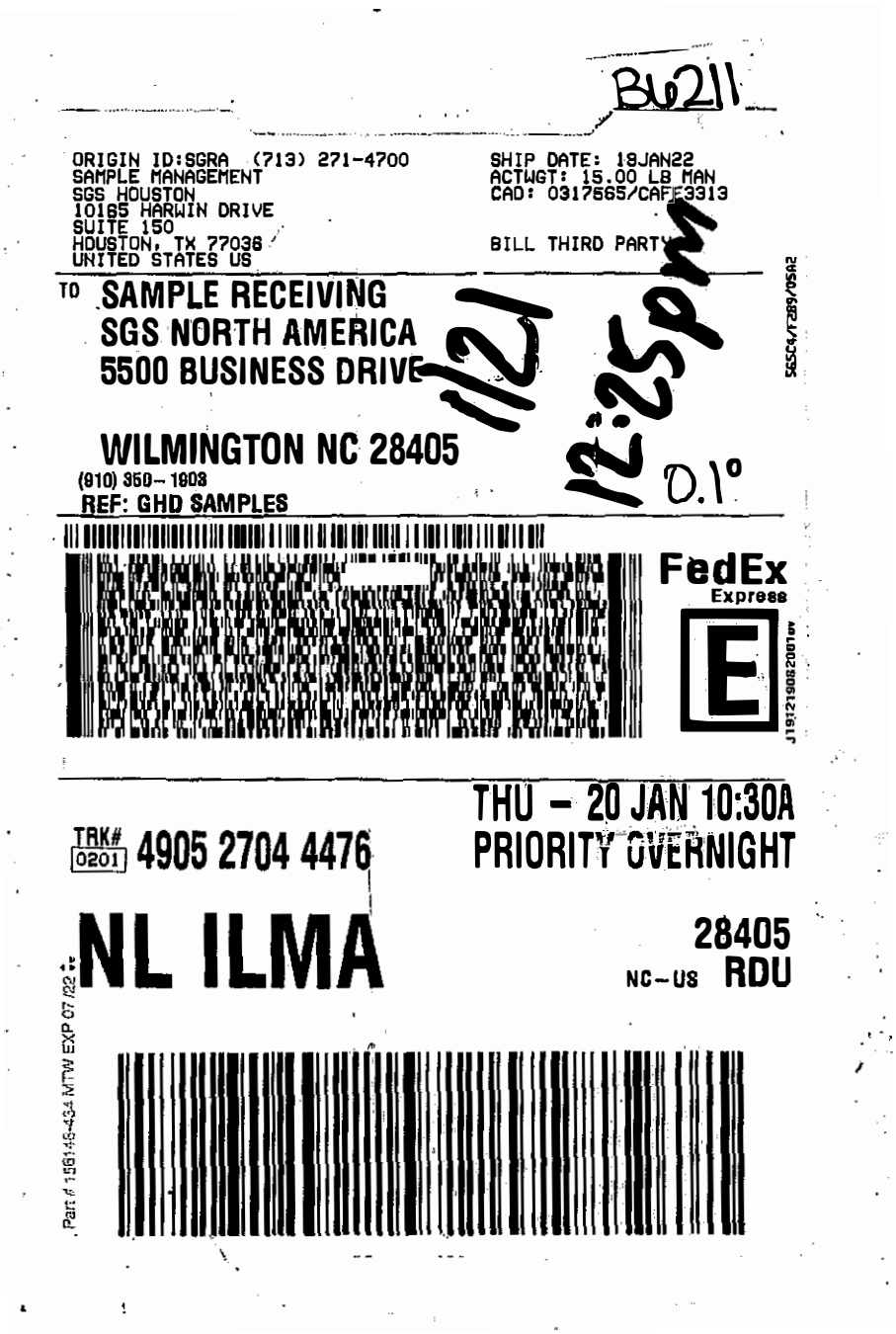
SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	HR-PAH	~~M1600~~	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-011922-S-BN-KB-13 (BW)	1-19-22	1345		W	1L		X									2	RINSE BLANKS

COLLECTED/RELINQUISHED BY (1): [signature] DATE: 1-19-22 TIME: 14:52 **RECEIVED BY:** [signature]
RELINQUISHED BY (2): [signature] DATE: 1-19-22 TIME: 16:34 **RECEIVED BY:**
RELINQUISHED BY (3): DATE: TIME: **RECEIVED BY:**

RECEIVED BY LABORATORY: [signature] DATE: 1/20/22 TIME: 12:25
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 0.1°
TRACKING #: 4905 2704 4476

SGS NORTH AMERICA INC. | ENVIRONMENT, HEALTH & SAFETY | 6500 Business Drive Wilmington, NC 28405 | 910 350 1903 | 866 846 8290 | www.sgs.com/ehs

Member of the SGS Group (SGS SA)



B6211

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 18JAN22
ACTWGT: 15.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1121
12:25pm
0.1°

FedEx Express

THU - 20 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 4476

NL ILMA

28405
NC-US RDU

Part # 156146-434 MTW EXP 07/22

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Project Initiation Form

Project Number: B6211

Initiation Date: 24-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

1L extraction

Read and understood, initial and date: Prep Lab: JRH 1/30/22 RJB 1/28/22 HRMS Lab: JMH 2/3/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: JMH 2/3/22

PM Initials: akornegay Date: 24-Jan-2022

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Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Extraction Type: SDS / CIT | TALEX Carbon SPE | [Aqueous] | Final Volume: 2mL

Batch# 18870 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: TAH 1/26/22 | Clean-up Initial/Date: RBB 1/28/22 | Transfer Init/Date: RBB 1/31/22

Lab Sample ID	Extraction Position / Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	pH	Cr	Observations
B6211_18870_001	13	1013.3				5	0	clear, colorless
MB1_18870	10	1000.0				5	0	Distilled H_2O
OPR1_18870	11	1000.0				5	0	Distilled H_2O
OPR2_18870	12	1000.0				5	0	Distilled H_2O

TB 2/4/22

RBB 1/28/22

Supply IDs

Toluene N/A

JPH 1/26/22 MeCHL SPL-14-21 14-17

Florisil SPL5.77

Hexane STL14.22

Silica SPL5.69

S Nitrate N/A

Base Silica N/A

HydroMatrix N/A

Tetradecane SPL5.730

H_2SO_4 N/A

A Silica SPL5.82

Sodium Sulfate SPL5-5013

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/4/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	TB 2/4/22
	Stop:	
HEX	Start:	
	Stop:	
DCM	Start:	1430
	Stop:	1045

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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Aqueous

Batch# 18870

Inter-Department Communication Sheet

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Aqueous

Batch # 18870

Lab Sample ID	Spiker Initials/Date: JRH 1/20/22 DIF Ac-A Amount: 20 µL Observer Initials	JRH 1/21/22 DIF Ac-B Amount: 20 µL Observer Initials	JRH 1/26/22 DIF ES Amount: 20 µL Observer Initials	1/28/22 DIF CS Amount: 20 µL Observer Initials	1/29/22 DIF JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6211_18870_001	–	–	KE	KE	KE		
MBI_18870	–	–	KE	KE	KE		
OPR1_18870	KE	KE	KE	KE	KE		
OPR2_18870	KE	KE	KE	KE	KE		

1/28/22

Standard Information

Pipette ID					
Spike ID	DIF Ac-A	DIF Ac-B	DIF ES	DIF CS	DIF JS
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	25.309.1
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	1000 pg/µL	100 pg/µL
Expiration Date	7/9/25	6/22/22	8/2028	11/16/22	10/8/22

1/28/22

REVIEWED
Megan_Shannahan , 2/4/2022, 10:21:11 AM

SGS Environmental Services — Run Log **Project: B6211_18870_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID		Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
16	220201C16	3	CS3_220201_DF_CB	✔	1.00	25-347-1	DTF, MLS	534-027	01-Feb-2022	20:26:29
17	220201C18	92	OPR1_18870_DF		1.00	0_18870_OPR001	DTF, MLS	183-833	01-Feb-2022	21:59:09
18	220201C19	93	OPR2_18870_DF		1.00	0_18870_OPR002	DTF, MLS	001-056	01-Feb-2022	22:45:31
20	220201C20	2	SBS_220201_DF_CC		1.00	30-61-1	DTF	402-392	01-Feb-2022	23:31:51
21	220201C22	91	MB1_18870_DF_TLX		1.00	Method Blank	DTF, MLS	686-621	02-Feb-2022	01:04:32
22	220201C31	94	B6211_18870_DF_001	✔	1.01	11215131-011922-S-BN-RB-13	DTF, MLS	400-072	02-Feb-2022	08:01:37

REVIEWED
Tamara Burkamper , 2/4/2022, 10:24:05 AM

Lab ID: MB1_18870_DF_TLX **Acq'd:** 02 Feb 2022 01:04 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6211_18870 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 686-621-ZZT

Datafile: 220201C22 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2666.843	4.25
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2072.7728	3.82
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2620.563	4.69
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2620.563	4.1
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2620.563	5.34
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2740.825	6.83
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2627.34	19.4
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2440.2711	2.81
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2027.0411	2.4
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2027.0411	2.52
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2510.28	3.57
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2510.28	3.25
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2510.28	3.13
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2510.28	4.75
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2419.782	3.86
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2419.782	6.01
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2772.8676	17.2

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.61	1.0233	1.0236	+0.5	1.10E+07	0.82	Y	1.05	81.4
ES 12378-PeCDD	33.93	1.2121	1.2139	+3.7	9.87E+06	1.54	Y	0.88	86.9
ES 123478-HxCDD	37.83	0.9921	0.9920	-0.2	8.49E+06	1.27	Y	0.97	83.8
ES 123678-HxCDD	37.95	0.9951	0.9950	-0.2	9.97E+06	1.26	Y	0.94	101
ES 123789-HxCDD	38.24	1.0025	1.0026	+0.2	9.17E+06	1.22	Y	1.09	80.6
ES 1234678-HpCDD	40.89	1.0709	1.0720	+2.7	6.56E+06	1.11	Y	0.91	69
ES OCDD	43.57	1.1403	1.1423	+5.2	6.00E+06	0.82	Y	0.62	46.2
ES 2378-TCDF	27.76	1.0506	1.0512	+1.0	1.79E+07	0.82	Y	1.06	81
ES 12378-PeCDF	32.49	1.2281	1.2302	+4.1	1.49E+07	1.46	Y	0.91	78.7
ES 23478-PeCDF	33.60	1.2698	1.2722	+4.8	1.54E+07	1.53	Y	0.88	83.7
ES 123478-HxCDF	36.83	0.9657	0.9655	-0.4	1.04E+07	0.50	Y	1.20	83.3
ES 123678-HxCDF	36.97	0.9695	0.9694	-0.2	1.31E+07	0.53	Y	1.35	93.3
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.31E+07	0.53	Y	1.24	101
ES 123789-HxCDF	38.60	1.0116	1.0120	+0.9	8.17E+06	0.50	Y	1.16	67.9
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	7.41E+06	0.44	Y	0.97	73.5
ES 1234789-HpCDF	41.35	1.0830	1.0841	+2.7	5.23E+06	0.46	Y	0.85	59
ES OCDF	43.76	1.1451	1.1472	+5.5	7.60E+06	0.92	Y	0.81	45.2

Lab ID: MB1_18870_DF_TLX **Acq'd:** 02 Feb 2022 01:04 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6211_18870 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 686-621-ZZT

Datafile: 220201C22 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.95		-	-	-	1.29E+07	0.75	Y	-	-
JS 1234-TCDF	26.41		-	-	-	2.08E+07	0.80	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	5.21E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.63		1.0241	1.0244	+0.5	5.33E+06	n/a	-	1.20	85.9
CS 12347-PeCDD	33.43		1.1943	1.1959	+3.2	1.05E+07	1.57	Y	0.75	108
CS 12346-PeCDF	31.96		1.2083	1.2101	+3.5	1.67E+07	1.59	Y	0.85	94
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.31E+07	0.52	Y	1.12	112
CS 1234689-HpCDF	40.35		1.0571	1.0579	+1.9	8.53E+06	0.46	Y	0.89	92.3
~~SS 37Cl-2378-TCDD~~	~~28.63~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~5.33E+06~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1959~~	~~+3.2~~	~~1.05E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~124~~
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2101~~	~~+3.5~~	~~1.67E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~119~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~1.31E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~120~~
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0579~~	~~+1.9~~	~~8.53E+06~~	~~0.46~~	~~Y~~	~~0.92~~	~~125~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18870_DF_TLX **Acq'd:** 02 Feb 2022 01:04 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6211_18870 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 686-621-ZZT

Datafile: 220201C22 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		2666.843	4.25
1379-TCDD	NotFnd		0.8876						1.18		2666.843	4.25
1369-TCDD	NotFnd		0.9023						1.18		2666.843	4.25
1469-TCDD	NotFnd		0.9291						1.18		2666.843	4.25
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		2666.843	4.25
1378-TCDD	NotFnd		0.9440						1.18		2666.843	4.25
1268-TCDD	NotFnd		0.9506						1.18		2666.843	4.25
1478-TCDD	NotFnd		0.9591						1.18		2666.843	4.25
1279-TCDD	NotFnd		0.9649						1.18		2666.843	4.25
1234/1269-TCDD	NotFnd		0.9771						1.18		2666.843	4.25
1236-TCDD	NotFnd		0.9820						1.18		2666.843	4.25
1237/1238-TCDD	NotFnd		0.9908						1.18		2666.843	4.25
1239-TCDD	NotFnd		0.9954						1.18		2666.843	4.25
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2666.843**	**4.25**
1278-TCDD	NotFnd		1.0121						1.18		2666.843	4.25
1267-TCDD	NotFnd		1.0167						1.18		2666.843	4.25
1289-TCDD	NotFnd		1.0341						1.18		2666.843	4.25
12479/12468-PeCDD	NotFnd		0.9273						1.04		2072.7728	3.82
12469-PeCDD	NotFnd		0.9430						1.04		2072.7728	3.82
12368-PeCDD	NotFnd		0.9592						1.04		2072.7728	3.82
12478-PeCDD	NotFnd		0.9647						1.04		2072.7728	3.82
12379-PeCDD	NotFnd		0.9676						1.04		2072.7728	3.82
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2072.7728	3.82
12346/12347-PeCDD	NotFnd		0.9860						1.04		2072.7728	3.82
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2072.7728**	**3.82**
12367-PeCDD	NotFnd		1.0034						1.04		2072.7728	3.82
12389-PeCDD	NotFnd		1.0134						1.04		2072.7728	3.82
124679/124689-HxCDD	NotFnd		0.9545						1.10		2620.563	4.68
123468-HxCDD	NotFnd		0.9715						1.10		2620.563	4.68
123679/123689-HxCDD	NotFnd		0.9793						1.10		2620.563	4.68
123469-HxCDD	NotFnd		0.9829						1.10		2620.563	4.68
123478-HxCDD	NotFnd		**1.0004**						1.09		**2620.563**	**4.69**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2620.563**	**4.1**
123467-HxCDD	NotFnd		1.0082						1.10		2620.563	4.68
123789-HxCDD	NotFnd		**1.0109**						1.05		**2620.563**	**5.34**

Lab ID: MB1_18870_DF_TLX **Acq'd:** 02 Feb 2022 01:04 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6211_18870 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 686-621-ZZT

Datafile: 220201C22 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

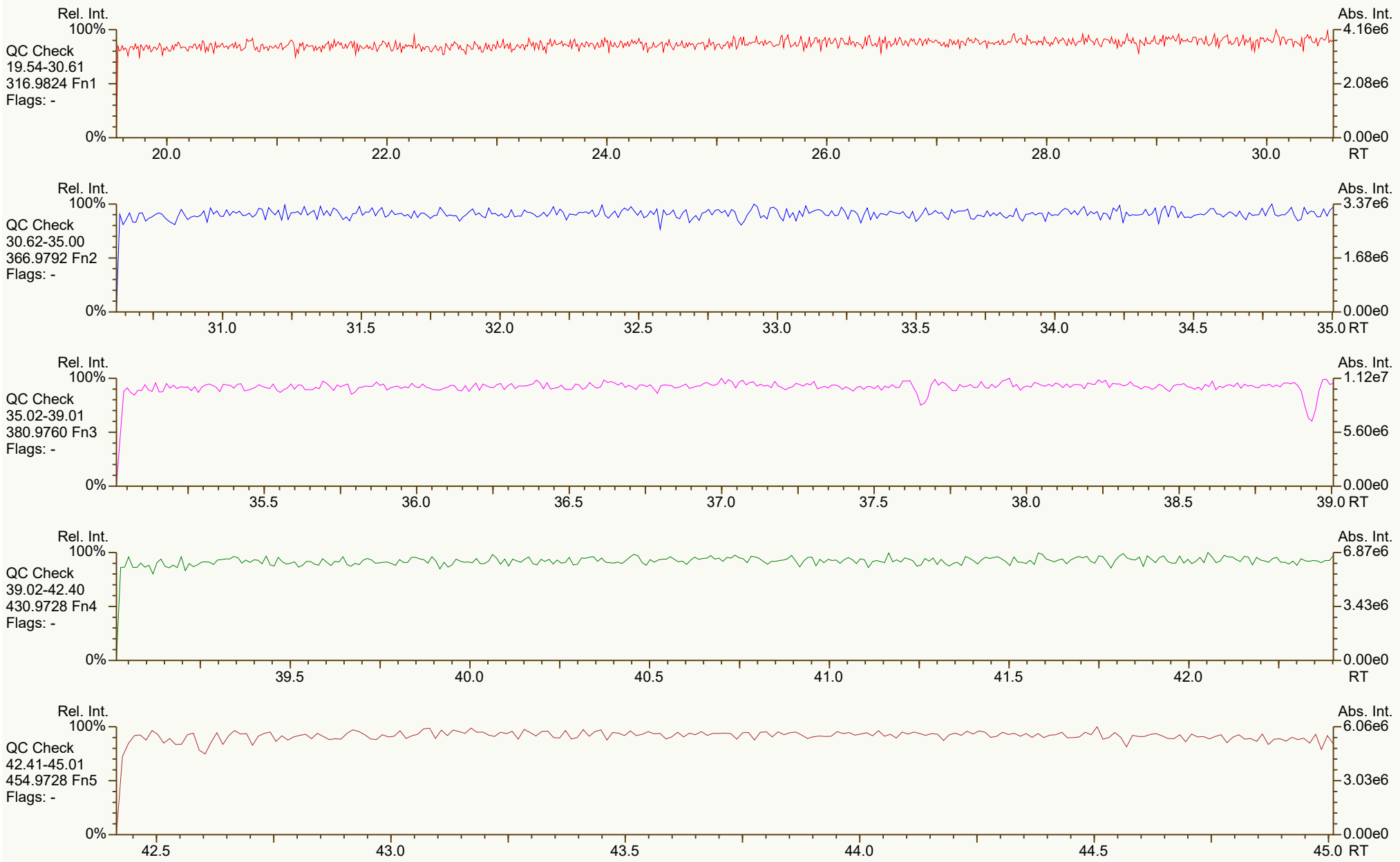
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		2740.825	6.83
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2740.825**	**6.83**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2627.34**	**19.4**
OCDD-a	NotFnd		1.0002						0.07		3025.901	349
1368-TCDF	NotFnd		0.8282						1.08		2440.2711	2.81
1468-TCDF	NotFnd		0.8485						1.08		2440.2711	2.81
2468-TCDF	NotFnd		0.8709						1.08		2440.2711	2.81
1346/1246-TCDF	NotFnd		0.8829						1.08		2440.2711	2.81
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		2440.2711	2.81
1348-TCDF	NotFnd		0.8980						1.08		2440.2711	2.81
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		2440.2711	2.81
1268-TCDF	NotFnd		0.9158						1.08		2440.2711	2.81
1467-TCDF	NotFnd		0.9206						1.08		2440.2711	2.81
1478-TCDF	NotFnd		0.9266						1.08		2440.2711	2.81
1369/1237-TCDF	NotFnd		0.9397						1.08		2440.2711	2.81
2467-TCDF	NotFnd		0.9440						1.08		2440.2711	2.81
2368-TCDF	NotFnd		0.9497						1.08		2440.2711	2.81
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		2440.2711	2.81
1278-TCDF	NotFnd		0.9690						1.08		2440.2711	2.81
1349-TCDF	NotFnd		0.9730						1.08		2440.2711	2.81
1267-TCDF	NotFnd		0.9787						1.08		2440.2711	2.81
2346/1249-TCDF	NotFnd		0.9850						1.08		2440.2711	2.81
2347/1279-TCDF	NotFnd		0.9929						1.08		2440.2711	2.81
2348-TCDF	NotFnd		0.9970						1.08		2440.2711	2.81
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2440.2711**	**2.81**
2367/3467-TCDF	NotFnd		1.0136						1.08		2440.2711	2.81
1269-TCDF	NotFnd		1.0221						1.08		2440.2711	2.81
1239-TCDF	NotFnd		1.0319						1.08		2440.2711	2.81
1289-TCDF	NotFnd		1.0740						1.08		2440.2711	2.81
13468/12468-PeCDF	NotFnd		0.9145						1.02		2889.709	3.51
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		2027.0411	2.46
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		2027.0411	2.46
14678-PeCDF	NotFnd		0.9695						1.02		2027.0411	2.46
13479-PeCDF	NotFnd		0.9724						1.02		2027.0411	2.46
13469/12479-PeCDF	NotFnd		0.9801						1.02		2027.0411	2.46
12346-PeCDF	NotFnd		0.9842						1.02		2027.0411	2.46

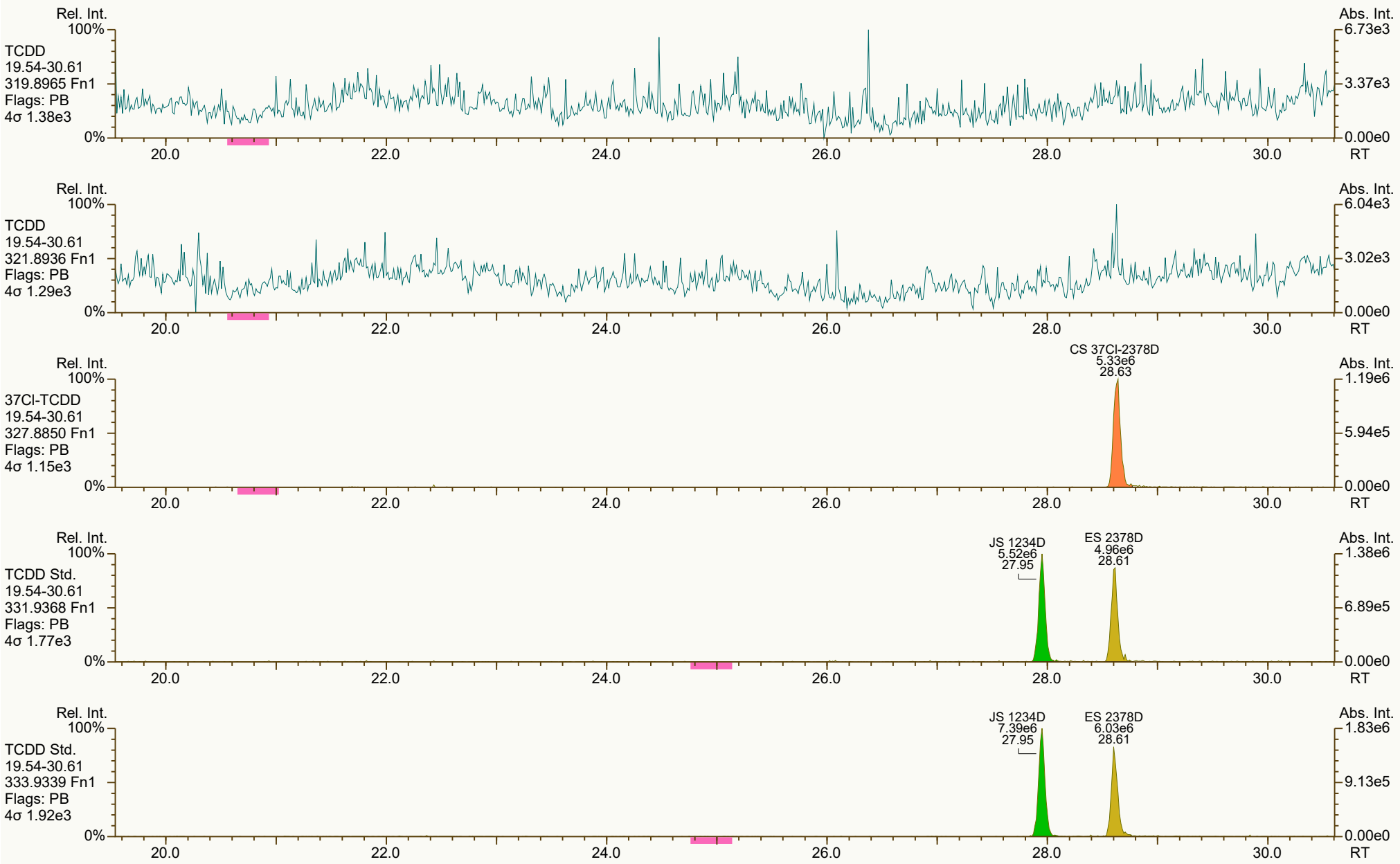
Lab ID: MB1_18870_DF_TLX | **Acq'd:** 02 Feb 2022 01:04 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6211_18870 | **UTP:** 03-Feb-2022 09:36:10 MLS | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 686-621-ZZT

Datafile: 220201C22 | **Report:** 03 Feb 2022 09:42 MS | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

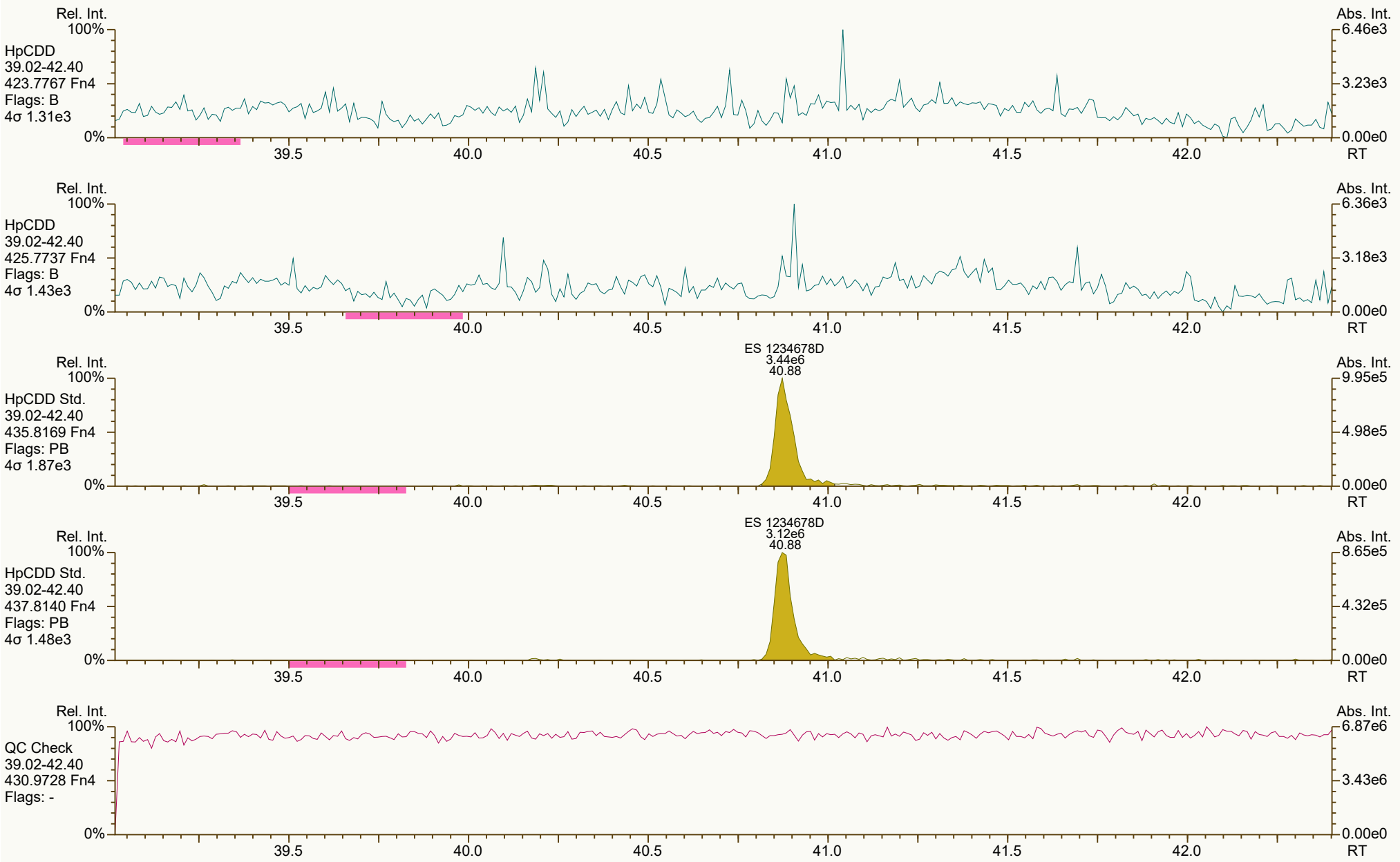
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23468/12469-PeCDF	NotFnd		0.9868						1.02		2027.0411	2.46
12347-PeCDF	NotFnd		0.9895						1.02		2027.0411	2.46
12348-PeCDF	NotFnd		0.9941						1.02		2027.0411	2.46
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2027.0411**	**2.4**
12678/12367-PeCDF	NotFnd		1.0090						1.02		2027.0411	2.46
12379-PeCDF	NotFnd		1.0142						1.02		2027.0411	2.46
12679-PeCDF	NotFnd		0.9931						1.02		2027.0411	2.46
23467/12369-PeCDF	NotFnd		0.9966						1.02		2027.0411	2.46
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2027.0411**	**2.52**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2027.0411	2.46
12349-PeCDF	NotFnd		1.0101						1.02		2027.0411	2.46
12389-PeCDF	NotFnd		1.0322						1.02		2027.0411	2.46
123468-HxCDF	NotFnd		0.9627						1.19		2510.28	3.56
124678/134678-HxCDF	NotFnd		0.9684						1.19		2510.28	3.56
134679-HxCDF	NotFnd		0.9747						1.19		2510.28	3.56
124679-HxCDF	NotFnd		0.9802						1.19		2510.28	3.56
124689-HxCDF	NotFnd		0.9858						1.19		2510.28	3.56
123467-HxCDF	NotFnd		0.9972						1.19		2510.28	3.56
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2510.28**	**3.57**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2510.28**	**3.25**
123479-HxCDF	NotFnd		1.0051						1.19		2510.28	3.56
123469-HxCDF	NotFnd		1.0091						1.19		2510.28	3.56
123679-HxCDF	NotFnd		0.9943						1.19		2510.28	3.56
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2510.28**	**3.13**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2510.28	3.56
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2510.28**	**4.75**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2510.28	3.56
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2419.782**	**3.86**
1234679-HpCDF	NotFnd		1.0067						1.34		2419.782	4.74
1234689-HpCDF	NotFnd		1.0101						1.34		2419.782	4.74
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2419.782**	**6.01**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2772.8676**	**17.2**
OCDF-a	NotFnd		1.0002						0.07		3142.778	315

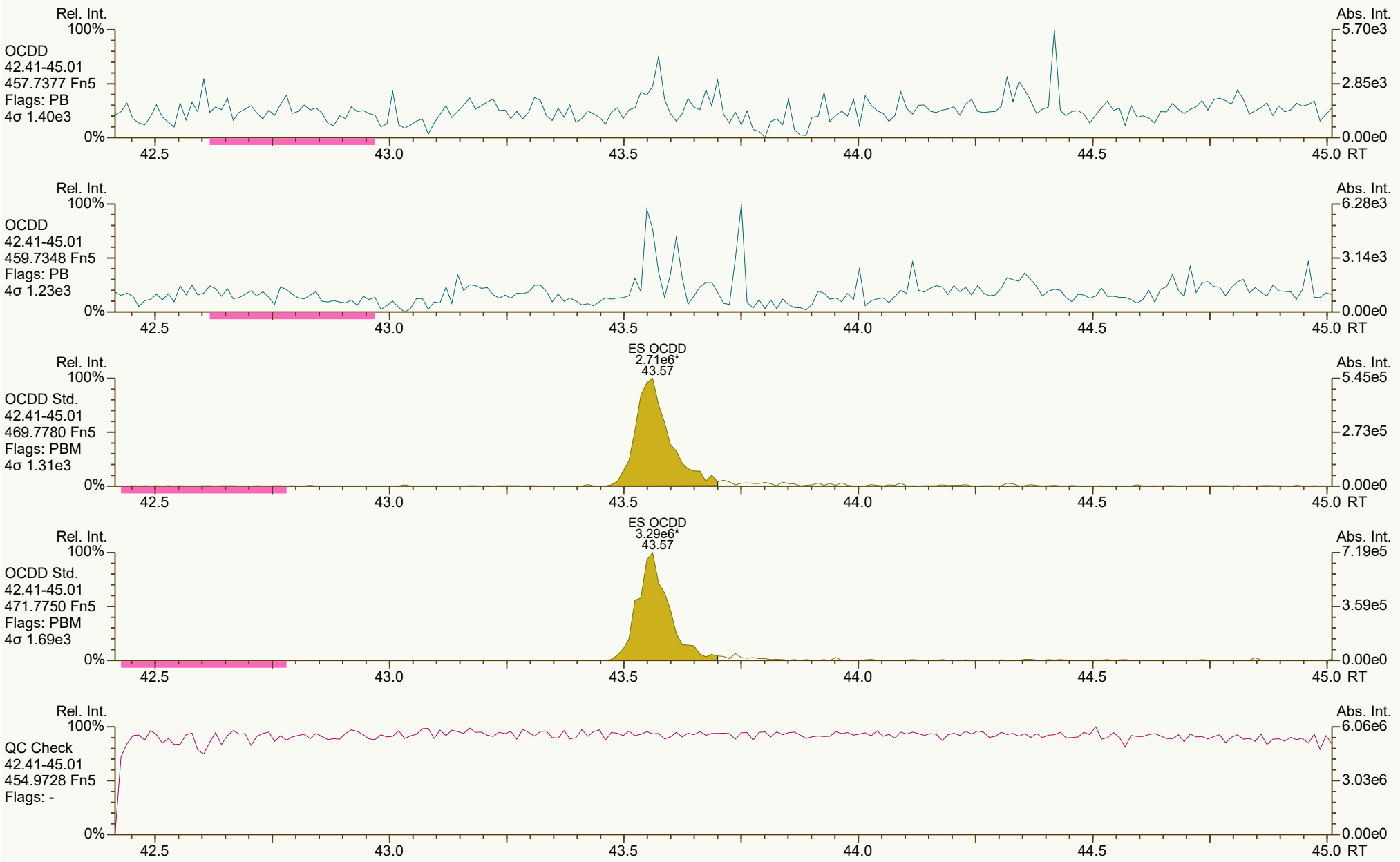

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316.9824 Fn1
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2.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.37e6
1.68e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.12e7
5.60e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.87e6
3.43e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
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Abs. Int.
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44.0
44.5
45.0 RT

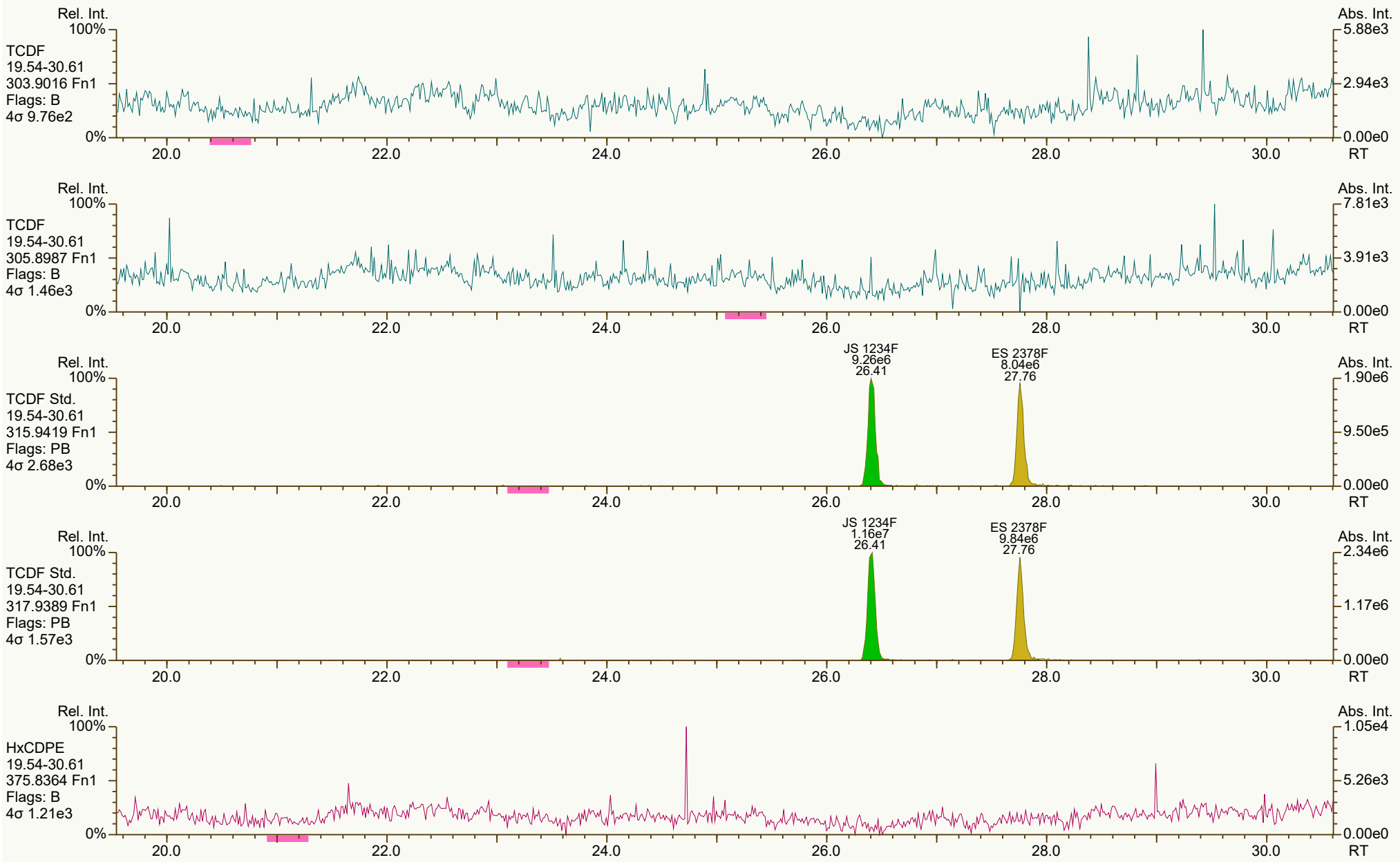

Rel. Int.
100%
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319.8965 Fn1
Flags: PB
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0%
Abs. Int.
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3.37e3
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 1.29e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.15e3
0%
CS 37Cl-2378D
5.33e6
28.63
Abs. Int.
1.19e6
5.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 1.77e3
0%
JS 1234D
5.52e6
27.95
ES 2378D
4.96e6
28.61
Abs. Int.
1.38e6
6.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 1.92e3
0%
JS 1234D
7.39e6
27.95
ES 2378D
6.03e6
28.61
Abs. Int.
1.83e6
9.13e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.14e3
0%
Abs. Int.
4.39e3
2.19e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 9.37e2
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.71e3
CS 12347D
6.43e6
33.43
ES 12378D
5.98e6
33.93
0%
Abs. Int.
1.86e6
9.30e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
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ES 12378D
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0%
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5.76e5
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31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.37e6
1.68e6
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32.0
32.5
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34.0
34.5
35.0 RT

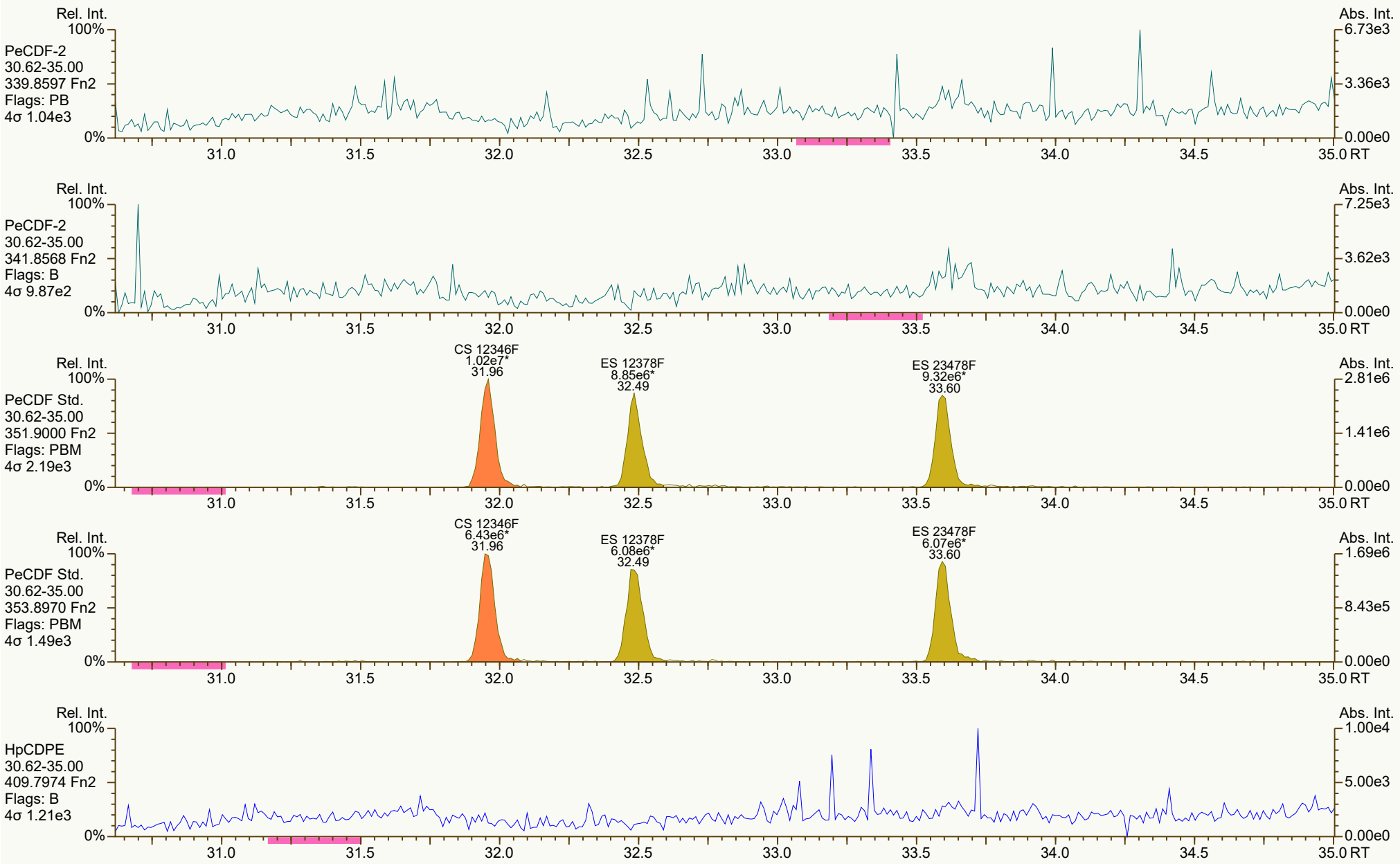

Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.27e3
8.39e3
4.20e3
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: B
4σ 1.35e3
5.59e3
2.79e3
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.64e3
ES 123678D
5.56e6
37.95
ES 123478D
4.74e6
37.83
JS 123467D
2.88e6*
38.14
ES 123789D
5.03e6*
38.24
1.55e6
7.77e5
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.79e3
ES 123678D
4.41e6
37.95
ES 123478D
3.75e6
37.83
JS 123467D
2.32e6*
38.14
ES 123789D
4.14e6*
38.24
1.23e6
6.15e5
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
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100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

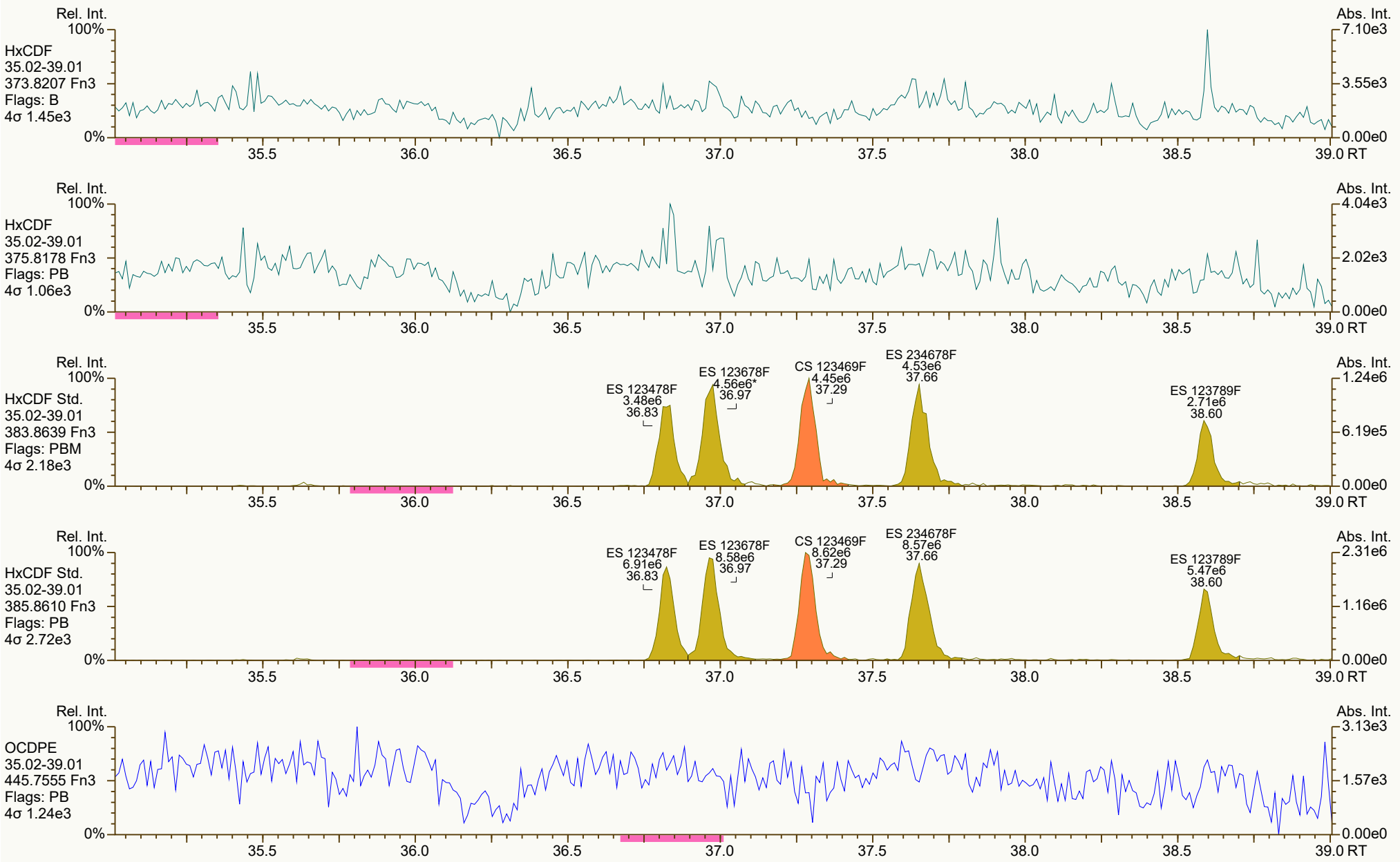

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
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0%
Abs. Int.
6.46e3
3.23e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.43e3
0%
Abs. Int.
6.36e3
3.18e3
0.00e0
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40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
3.44e6
40.88
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.87e3
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Abs. Int.
9.95e5
4.98e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
3.12e6
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Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
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8.65e5
4.32e5
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41.0
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42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
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42.0
RT

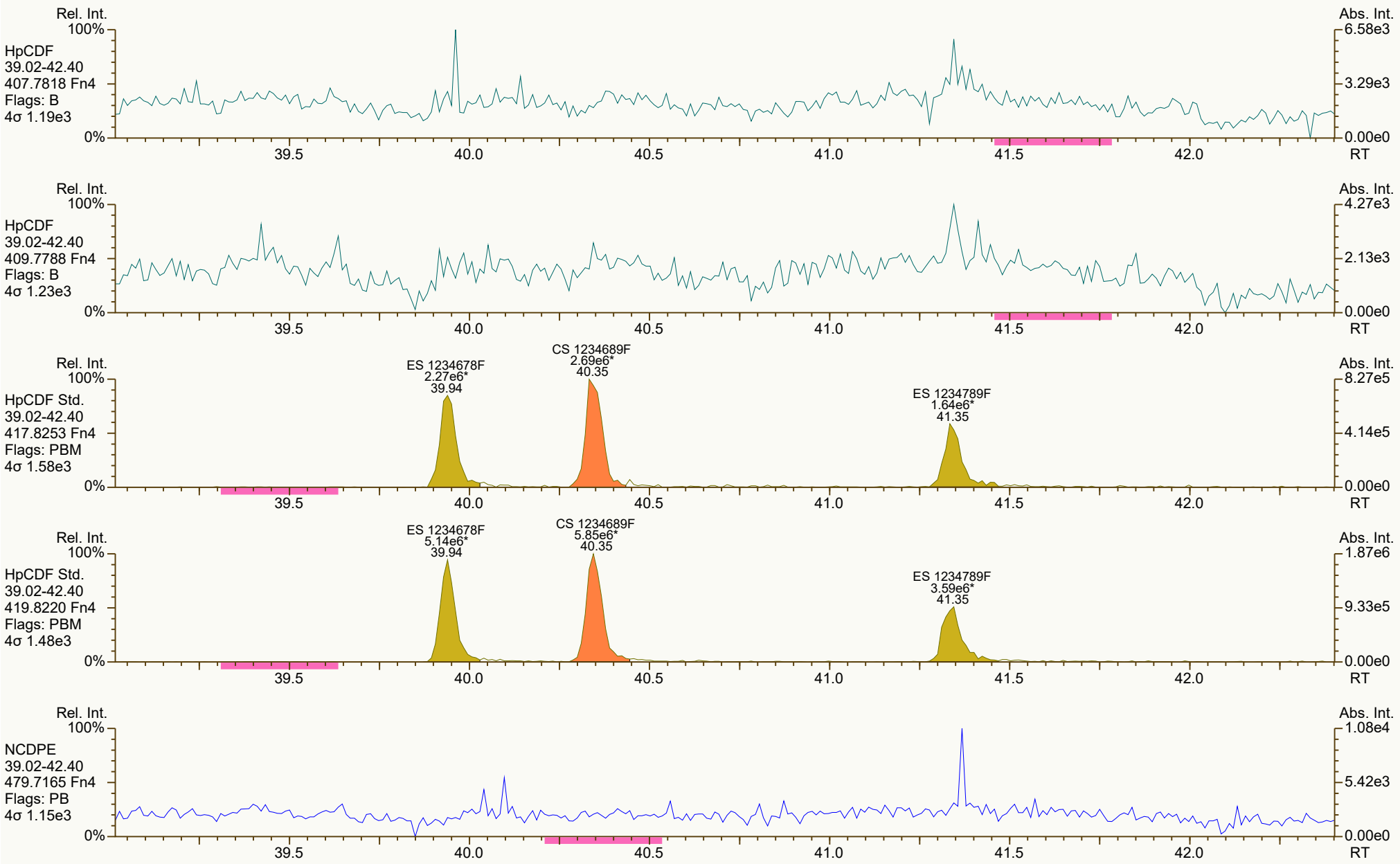

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.40e3
0%
Abs. Int.
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2.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
6.28e3
3.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.71e6*
43.57
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.31e3
0%
Abs. Int.
5.45e5
2.73e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
3.29e6*
43.57
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.69e3
0%
Abs. Int.
7.19e5
3.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.06e6
3.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 9.76e2
0%
Abs. Int.
5.88e3
2.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: B
4σ 1.46e3
0%
Abs. Int.
7.81e3
3.91e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.68e3
JS 1234F
9.26e6
26.41
ES 2378F
8.04e6
27.76
0%
Abs. Int.
1.90e6
9.50e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 1.57e3
JS 1234F
1.16e7
26.41
ES 2378F
9.84e6
27.76
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
5.82e3
2.91e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.50e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.06e4
1.03e4
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.04e3
0%
Abs. Int.
6.73e3
3.36e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 9.87e2
0%
Abs. Int.
7.25e3
3.62e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 2.19e3
0%
CS 12346F
1.02e7*
31.96
ES 12378F
8.85e6*
32.49
ES 23478F
9.32e6*
33.60
Abs. Int.
2.81e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 1.49e3
0%
CS 12346F
6.43e6*
31.96
ES 12378F
6.08e6*
32.49
ES 23478F
6.07e6*
33.60
Abs. Int.
1.69e6
8.43e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.00e4
5.00e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
7.10e3
3.55e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.06e3
0%
Abs. Int.
4.04e3
2.02e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.18e3
0%
ES 123478F
3.48e6
36.83
ES 123678F
4.56e6*
36.97
CS 123469F
4.45e6
37.29
ES 234678F
4.53e6
37.66
ES 123789F
2.71e6
38.60
Abs. Int.
1.24e6
6.19e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 2.72e3
0%
ES 123478F
6.91e6
36.83
ES 123678F
8.58e6
36.97
CS 123469F
8.62e6
37.29
ES 234678F
8.57e6
37.66
ES 123789F
5.47e6
38.60
Abs. Int.
2.31e6
1.16e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.24e3
0%
Abs. Int.
3.13e3
1.57e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.19e3
0%
Abs. Int.
6.58e3
3.29e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.23e3
0%
Abs. Int.
4.27e3
2.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.58e3
0%
ES 1234678F
2.27e6*
39.94
CS 1234689F
2.69e6*
40.35
ES 1234789F
1.64e6*
41.35
Abs. Int.
8.27e5
4.14e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.48e3
0%
ES 1234678F
5.14e6*
39.94
CS 1234689F
5.85e6*
40.35
ES 1234789F
3.59e6*
41.35
Abs. Int.
1.87e6
9.33e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.15e3
0%
Abs. Int.
1.08e4
5.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 9.02e2
0%
Abs. Int.
5.19e3
2.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.87e3
0%
Abs. Int.
4.13e3
2.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDF
3.65e6
43.76
Abs. Int.
7.22e5
3.61e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.59e3
0%
ES OCDF
3.96e6
43.75
Abs. Int.
7.70e5
3.85e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
2.52e3
1.26e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6211_18870_DF_001 **Acq'd:** 02 Feb 2022 08:01 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-RB-13 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 4.93 pg/L **Split:** 1 **Checkcode:** 400-072-YZP

Datafile: 220201C31 **Report:** 03 Feb 2022 09:44 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2389.109	3.42
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2622.323	3.94
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2707.661	4.19
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2707.661	4.04
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2707.661	4.5
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2778.927	5.79
OCDD	43.58		1.0002	1.0002	0	1.85E+05	0.86	Y	1.13	94	2850.407	17.5
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2847.449	2.94
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2734.912	3
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2734.912	2.61
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2259.264	2.54
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2259.264	2.47
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2259.264	2.98
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2259.264	3.83
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	2341.814	2.75
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2341.814	5.89
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2058.027	12.6

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0236	+0.5	1.28E+07	0.80	Y	1.05	84.7
ES 12378-PeCDD	33.93	1.2121	1.2138	+3.5	1.19E+07	1.49	Y	0.88	93.7
ES 123478-HxCDD	37.84	0.9921	0.9920	-0.2	1.00E+07	1.34	Y	0.97	94.7
ES 123678-HxCDD	37.95	0.9951	0.9950	-0.2	1.10E+07	1.27	Y	0.94	107
ES 123789-HxCDD	38.24	1.0025	1.0026	+0.2	1.04E+07	1.22	Y	1.09	87.2
ES 1234678-HpCDD	40.88	1.0709	1.0718	+2.2	7.01E+06	1.11	Y	0.91	70.6
ES OCDD	43.57	1.1403	1.1423	+5.2	6.88E+06	0.92	Y	0.62	50.7
ES 2378-TCDF	27.77	1.0506	1.0512	+1.0	2.03E+07	0.84	Y	1.06	84.6
ES 12378-PeCDF	32.49	1.2281	1.2302	+4.1	1.78E+07	1.60	Y	0.91	86.5
ES 23478-PeCDF	33.60	1.2698	1.2722	+4.8	1.80E+07	1.49	Y	0.88	90.2
ES 123478-HxCDF	36.83	0.9657	0.9655	-0.4	1.17E+07	0.51	Y	1.20	89.4
ES 123678-HxCDF	36.97	0.9695	0.9693	-0.4	1.53E+07	0.54	Y	1.35	104
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.40E+07	0.56	Y	1.24	104
ES 123789-HxCDF	38.60	1.0116	1.0120	+0.9	9.00E+06	0.53	Y	1.16	71.7
ES 1234678-HpCDF	39.95	1.0467	1.0474	+1.7	9.03E+06	0.47	Y	0.97	85.9
ES 1234789-HpCDF	41.35	1.0830	1.0841	+2.7	5.58E+06	0.42	Y	0.85	60.3
ES OCDF	43.76	1.1451	1.1473	+5.8	7.94E+06	0.87	Y	0.81	45.2

Lab ID: B6211_18870_DF_001 **Acq'd:** 02 Feb 2022 08:01 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-RB-13 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 4.93 pg/L **Split:** 1 **Checkcode:** 400-072-YZP

Datafile: 220201C31 **Report:** 03 Feb 2022 09:44 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.96		-	-	-	1.45E+07	0.81	Y	-	-
JS 1234-TCDF	26.41		-	-	-	2.26E+07	0.80	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	5.43E+06	1.19	Y	-	-
CS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	6.23E+06	n/a	-	1.20	89.7
CS 12347-PeCDD	33.43		1.1943	1.1958	+3.0	1.21E+07	1.58	Y	0.75	111
CS 12346-PeCDF	31.96		1.2083	1.2100	+3.3	1.96E+07	1.44	Y	0.85	102
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.39E+07	0.51	Y	1.12	114
CS 1234689-HpCDF	40.35		1.0571	1.0580	+2.2	9.04E+06	0.49	Y	0.89	93.7
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~6.23E+06~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1958~~	~~+3.0~~	~~1.21E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2100~~	~~+3.3~~	~~1.96E+07~~	~~1.44~~	~~Y~~	~~0.94~~	~~117~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~1.39E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0580~~	~~+2.2~~	~~9.04E+06~~	~~0.49~~	~~Y~~	~~0.92~~	~~109~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	94	94
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	94	94

Lab ID: B6211_18870_DF_001 **Acq'd:** 02 Feb 2022 08:01 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-011922-S-BN-RB-13 **UTP:** 03-Feb-2022 09:36:10 MLS **J-level:** 4.93 pg/L **Split:** 1 **Checkcode:** 400-072-YZP

Datafile: 220201C31 **Report:** 03 Feb 2022 09:44 MS **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		2389.109	3.42
1379-TCDD	NotFnd		0.8876						1.18		2389.109	3.42
1369-TCDD	NotFnd		0.9023						1.18		2389.109	3.42
1469-TCDD	NotFnd		0.9291						1.18		2389.109	3.42
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		2389.109	3.42
1378-TCDD	NotFnd		0.9440						1.18		2389.109	3.42
1268-TCDD	NotFnd		0.9506						1.18		2389.109	3.42
1478-TCDD	NotFnd		0.9591						1.18		2389.109	3.42
1279-TCDD	NotFnd		0.9649						1.18		2389.109	3.42
1234/1269-TCDD	NotFnd		0.9771						1.18		2389.109	3.42
1236-TCDD	NotFnd		0.9820						1.18		2389.109	3.42
1237/1238-TCDD	NotFnd		0.9908						1.18		2389.109	3.42
1239-TCDD	NotFnd		0.9954						1.18		2389.109	3.42
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2389.109**	**3.42**
1278-TCDD	NotFnd		1.0121						1.18		2389.109	3.42
1267-TCDD	NotFnd		1.0167						1.18		2389.109	3.42
1289-TCDD	NotFnd		1.0341						1.18		2389.109	3.42
12479/12468-PeCDD	NotFnd		0.9273						1.04		2622.323	3.94
12469-PeCDD	NotFnd		0.9430						1.04		2622.323	3.94
12368-PeCDD	NotFnd		0.9592						1.04		2622.323	3.94
12478-PeCDD	NotFnd		0.9647						1.04		2622.323	3.94
12379-PeCDD	NotFnd		0.9676						1.04		2622.323	3.94
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2622.323	3.94
12346/12347-PeCDD	NotFnd		0.9860						1.04		2622.323	3.94
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2622.323**	**3.94**
12367-PeCDD	NotFnd		1.0034						1.04		2622.323	3.94
12389-PeCDD	NotFnd		1.0134						1.04		2622.323	3.94
124679/124689-HxCDD	NotFnd		0.9545						1.10		2707.661	4.24
123468-HxCDD	NotFnd		0.9715						1.10		2707.661	4.24
123679/123689-HxCDD	NotFnd		0.9793						1.10		2707.661	4.24
123469-HxCDD	NotFnd		0.9829						1.10		2707.661	4.24
123478-HxCDD	NotFnd		**1.0004**						1.09		**2707.661**	**4.19**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2707.661**	**4.04**
123467-HxCDD	NotFnd		1.0082						1.10		2707.661	4.24
123789-HxCDD	NotFnd		**1.0109**						1.05		**2707.661**	**4.5**

Lab ID: B6211_18870_DF_001 **Acq'd: 02 Feb 2022 08:01 DTF** **Wt/Vol: 1.01 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-011922-S-BN-RB-13 **UTP: 03-Feb-2022 09:36:10 MLS** **J-level: 4.93 pg/L** **Split: 1** **Checkcode: 400-072-YZP**

Datafile: 220201C31 **Report: 03 Feb 2022 09:44 MS** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

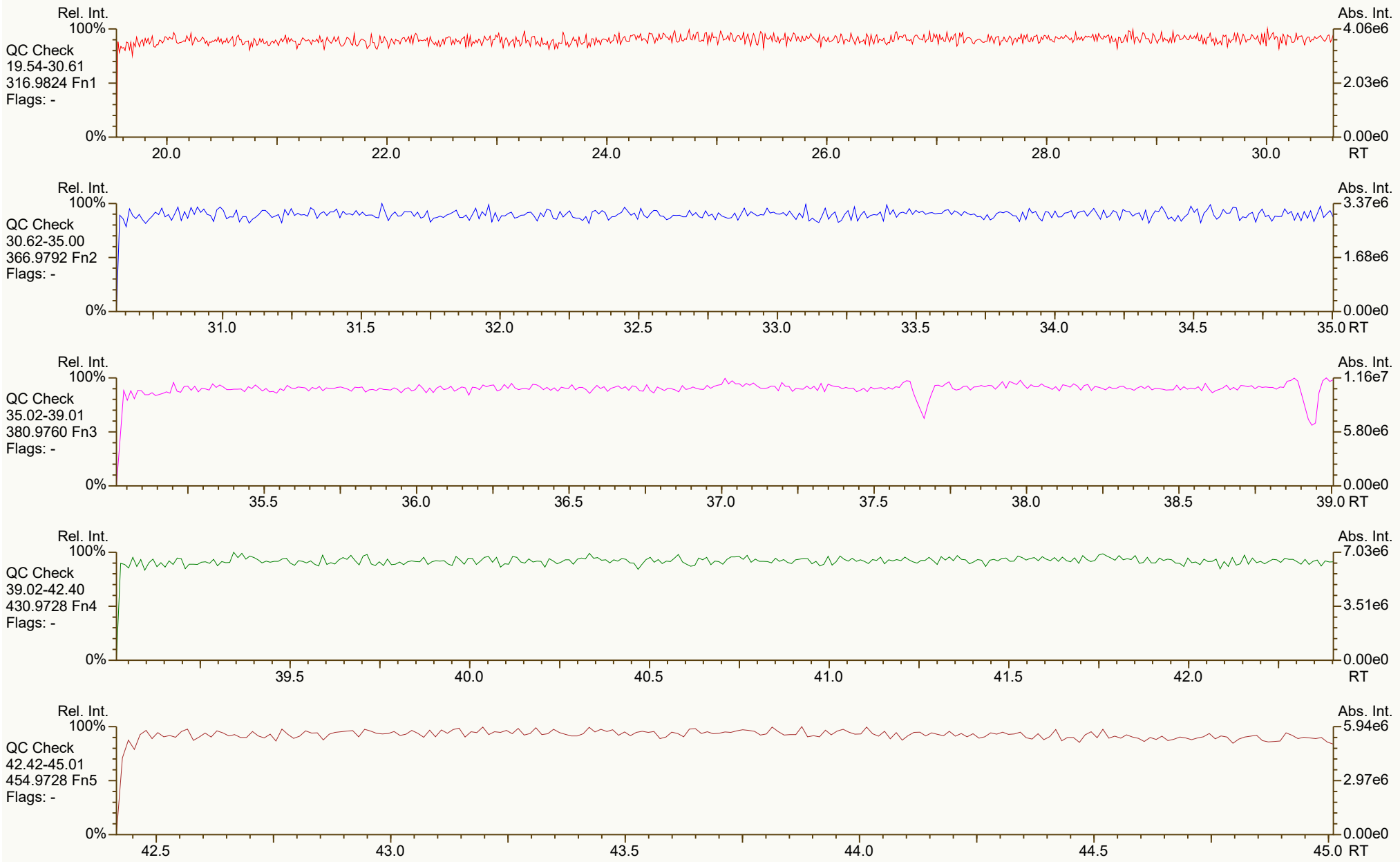
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		2778.927	5.79
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2778.927**	**5.79**
OCDD	**43.58**		**1.0002**	**1.0002**	**0**	**1.85E+05**	**0.86**	**Y**	**1.13**	**94**	**2850.407**	**17.5**
OCDD-a	NotFnd		1.0002						0.07		2878.491	276
1368-TCDF	NotFnd		0.8282						1.08		2847.449	2.94
1468-TCDF	NotFnd		0.8485						1.08		2847.449	2.94
2468-TCDF	NotFnd		0.8709						1.08		2847.449	2.94
1346/1246-TCDF	NotFnd		0.8829						1.08		2847.449	2.94
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		2847.449	2.94
1348-TCDF	NotFnd		0.8980						1.08		2847.449	2.94
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		2847.449	2.94
1268-TCDF	NotFnd		0.9158						1.08		2847.449	2.94
1467-TCDF	NotFnd		0.9206						1.08		2847.449	2.94
1478-TCDF	NotFnd		0.9266						1.08		2847.449	2.94
1369/1237-TCDF	NotFnd		0.9397						1.08		2847.449	2.94
2467-TCDF	NotFnd		0.9440						1.08		2847.449	2.94
2368-TCDF	NotFnd		0.9497						1.08		2847.449	2.94
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		2847.449	2.94
1278-TCDF	NotFnd		0.9690						1.08		2847.449	2.94
1349-TCDF	NotFnd		0.9730						1.08		2847.449	2.94
1267-TCDF	NotFnd		0.9787						1.08		2847.449	2.94
2346/1249-TCDF	NotFnd		0.9850						1.08		2847.449	2.94
2347/1279-TCDF	NotFnd		0.9929						1.08		2847.449	2.94
2348-TCDF	NotFnd		0.9970						1.08		2847.449	2.94
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2847.449**	**2.94**
2367/3467-TCDF	NotFnd		1.0136						1.08		2847.449	2.94
1269-TCDF	NotFnd		1.0221						1.08		2847.449	2.94
1239-TCDF	NotFnd		1.0319						1.08		2847.449	2.94
1289-TCDF	NotFnd		1.0740						1.08		2847.449	2.94
13468/12468-PeCDF	NotFnd		0.9145						1.02		2770.256	2.84
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		2734.912	2.81
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		2734.912	2.81
14678-PeCDF	NotFnd		0.9695						1.02		2734.912	2.81
13479-PeCDF	NotFnd		0.9724						1.02		2734.912	2.81
13469/12479-PeCDF	NotFnd		0.9801						1.02		2734.912	2.81
12346-PeCDF	NotFnd		0.9842						1.02		2734.912	2.81

Lab ID: B6211_18870_DF_001 | Acq'd: 02 Feb 2022 08:01 DTF | Wt/Vol: 1.01 L | ICAL: HRMS3_DF_10272021 10NOV2021

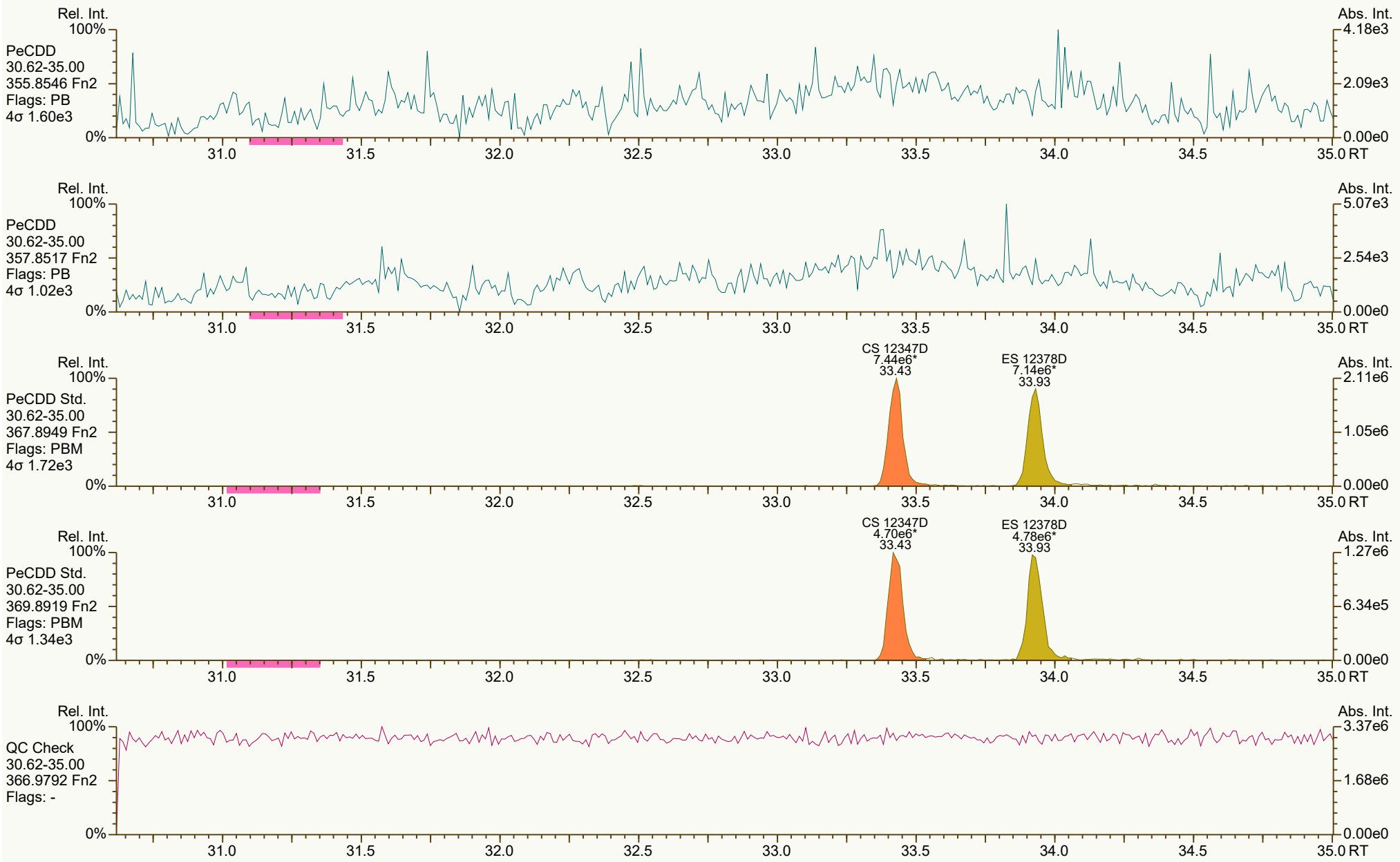
Client ID: 11215131-011922-S-BN-RB-13 | UTP: 03-Feb-2022 09:36:10 MLS | J-level: 4.93 pg/L | Split: 1 | Checkcode: 400-072-YZP

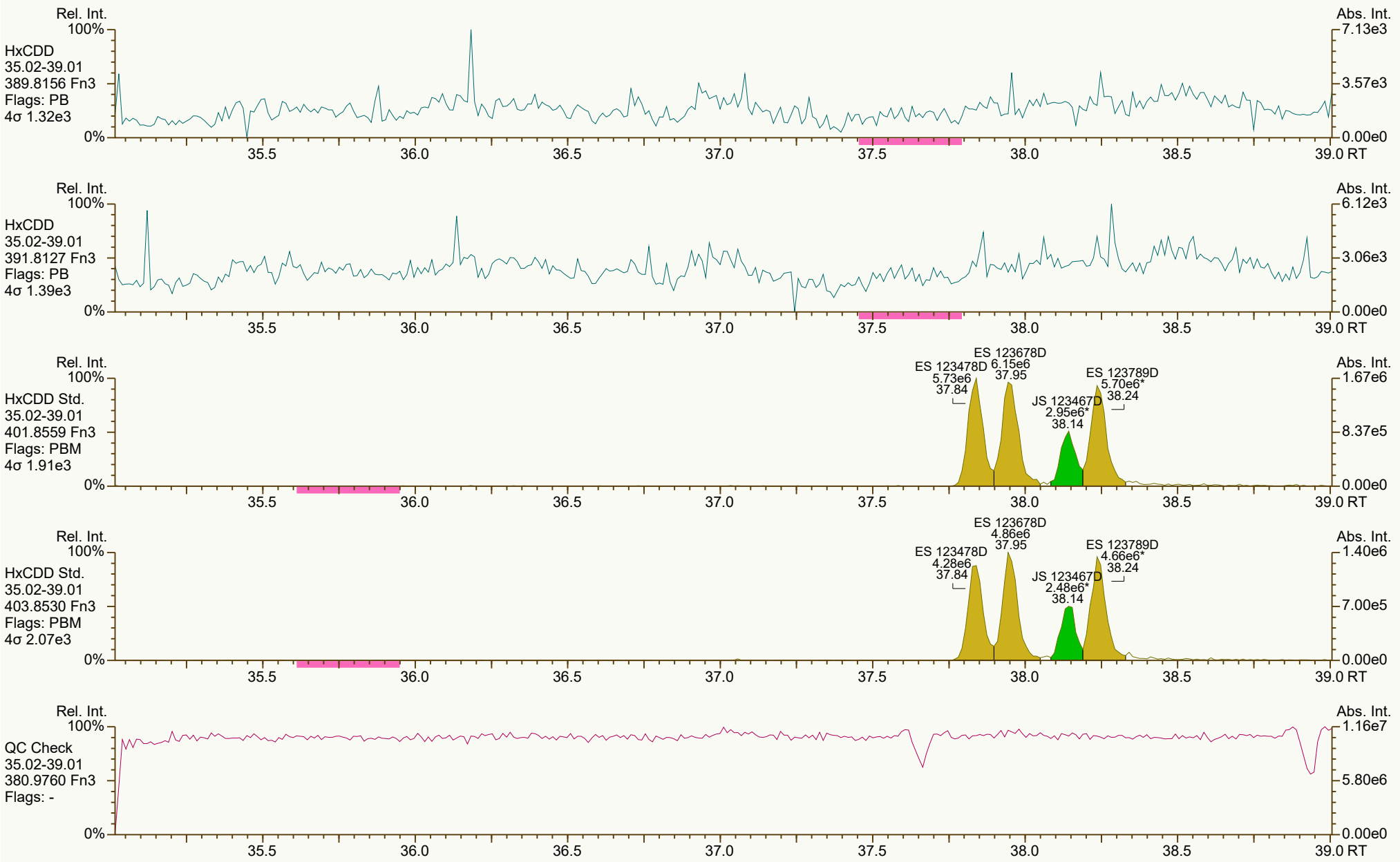
Datafile: 220201C31 | Report: 03 Feb 2022 09:44 MS | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

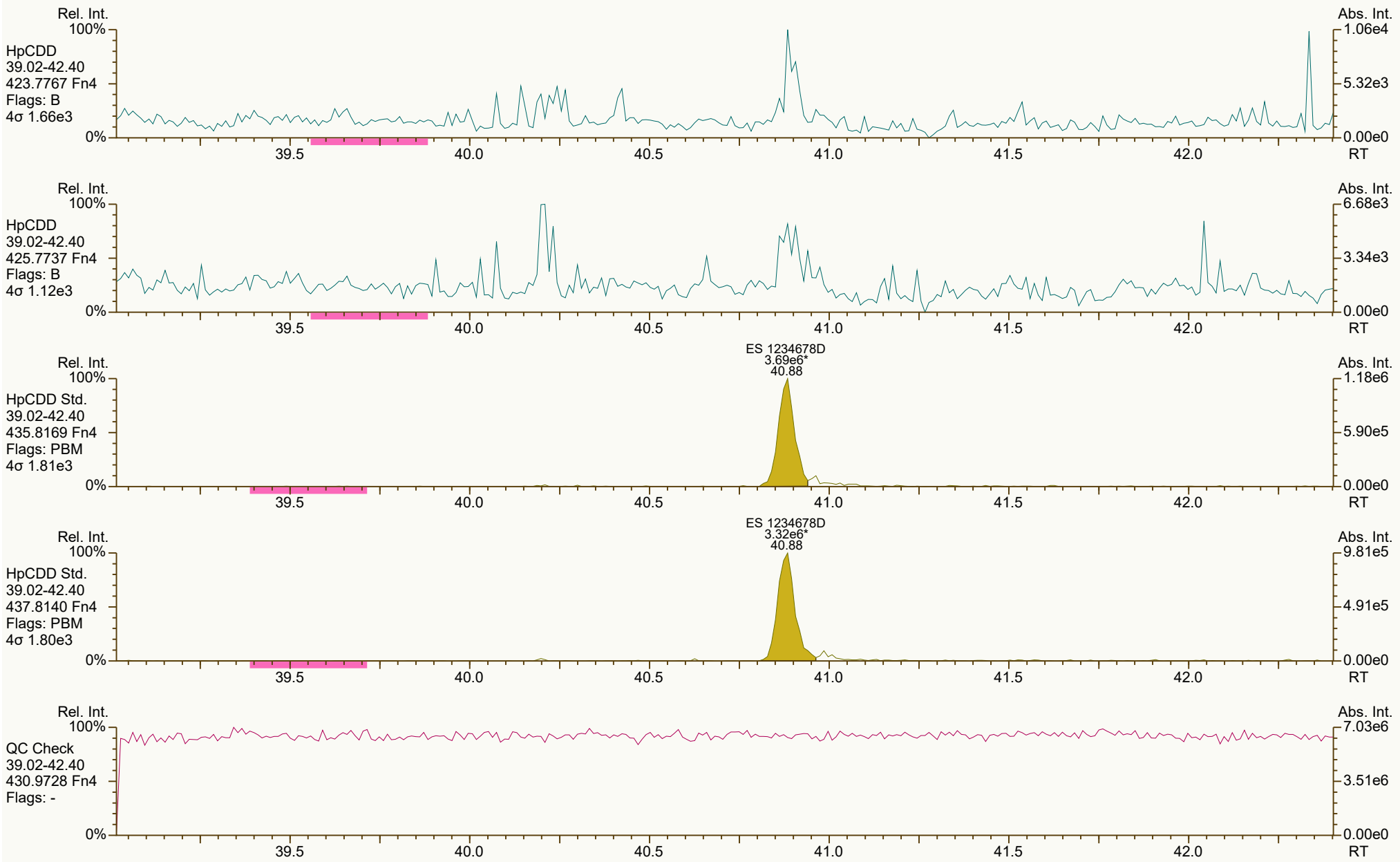
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2734.912	2.81
12347-PeCDF	NotFnd		0.9895						1.02		2734.912	2.81
12348-PeCDF	NotFnd		0.9941						1.02		2734.912	2.81
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2734.912**	**3**
12678/12367-PeCDF	NotFnd		1.0090						1.02		2734.912	2.81
12379-PeCDF	NotFnd		1.0142						1.02		2734.912	2.81
12679-PeCDF	NotFnd		0.9931						1.02		2734.912	2.81
23467/12369-PeCDF	NotFnd		0.9966						1.02		2734.912	2.81
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2734.912**	**2.61**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2734.912	2.81
12349-PeCDF	NotFnd		1.0101						1.02		2734.912	2.81
12389-PeCDF	NotFnd		1.0322						1.02		2734.912	2.81
123468-HxCDF	NotFnd		0.9627						1.19		2259.264	2.86
124678/134678-HxCDF	NotFnd		0.9684						1.19		2259.264	2.86
134679-HxCDF	NotFnd		0.9747						1.19		2259.264	2.86
124679-HxCDF	NotFnd		0.9802						1.19		2259.264	2.86
124689-HxCDF	NotFnd		0.9858						1.19		2259.264	2.86
123467-HxCDF	NotFnd		0.9972						1.19		2259.264	2.86
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2259.264**	**2.54**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2259.264**	**2.47**
123479-HxCDF	NotFnd		1.0051						1.19		2259.264	2.86
123469-HxCDF	NotFnd		1.0091						1.19		2259.264	2.86
123679-HxCDF	NotFnd		0.9943						1.19		2259.264	2.86
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2259.264**	**2.98**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2259.264	2.86
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2259.264**	**3.83**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2259.264	2.86
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**2341.814**	**2.75**
1234679-HpCDF	NotFnd		1.0067						1.34		2341.814	3.94
1234689-HpCDF	NotFnd		1.0101						1.34		2341.814	3.94
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2341.814**	**5.89**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2058.027**	**12.6**
OCDF-a	NotFnd		1.0002						0.07		3151.954	312

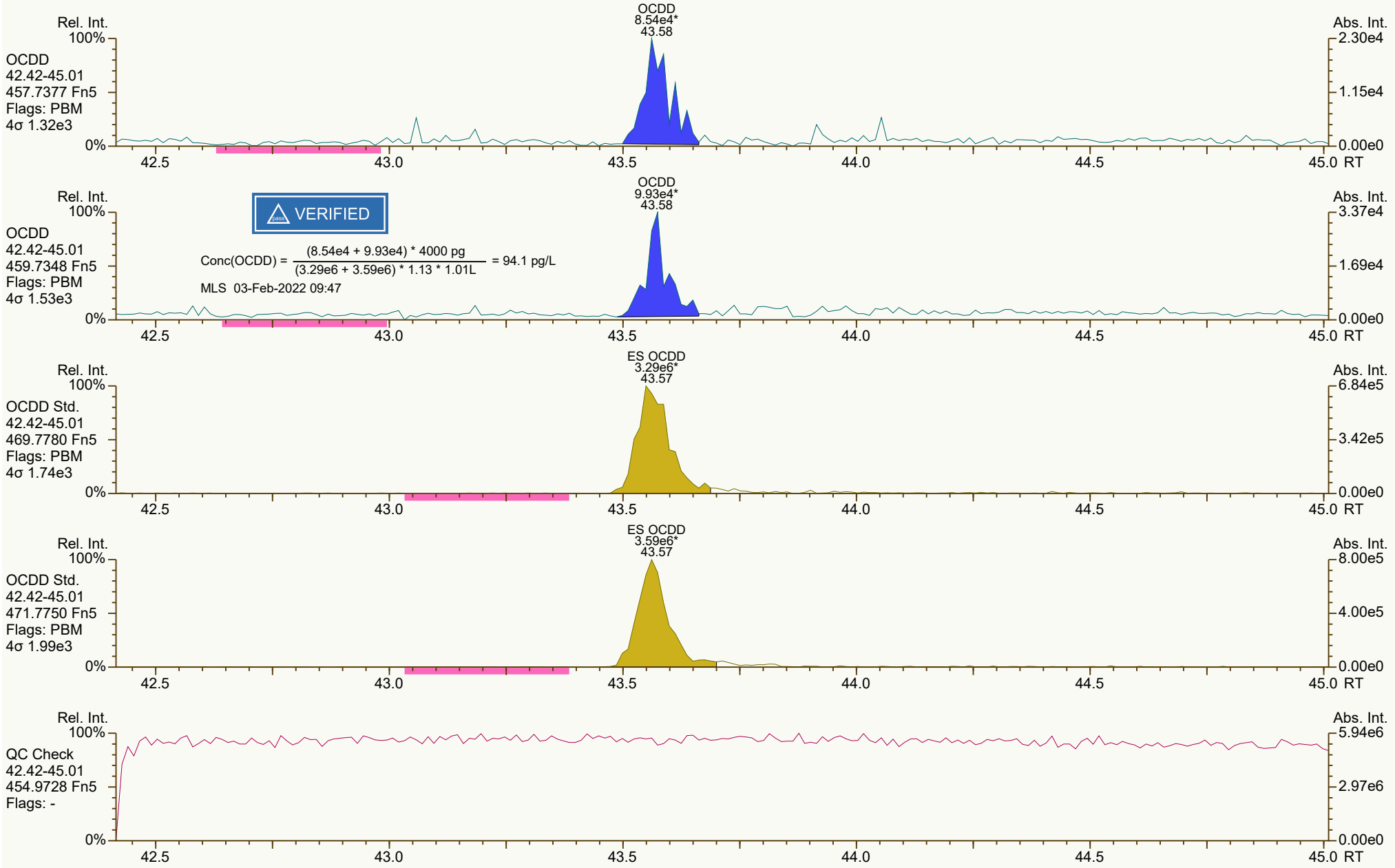

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.06e6
2.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.37e6
1.68e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.16e7
5.80e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.03e6
3.51e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.94e6
2.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
8.10e3
4.05e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.01e3
0%
Abs. Int.
8.19e3
4.10e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.11e3
0%
CS 37Cl-2378D
6.23e6
28.64
Abs. Int.
1.32e6
6.62e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 2.97e3
0%
JS 1234D
6.48e6
27.96
ES 2378D
5.70e6*
28.62
Abs. Int.
1.48e6
7.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.66e3
0%
JS 1234D
7.97e6
27.96
ES 2378D
7.10e6
28.62
Abs. Int.
1.79e6
8.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.60e3
0%
Abs. Int.
4.18e3
2.09e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.02e3
0%
Abs. Int.
5.07e3
2.54e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 1.72e3
CS 12347D
7.44e6*
33.43
ES 12378D
7.14e6*
33.93
0%
Abs. Int.
2.11e6
1.05e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 1.34e3
CS 12347D
4.70e6*
33.43
ES 12378D
4.78e6*
33.93
0%
Abs. Int.
1.27e6
6.34e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.37e6
1.68e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.32e3
0%
Abs. Int.
7.13e3
3.57e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.12e3
3.06e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.91e3
0%
ES 123678D
6.15e6
37.95
ES 123478D
5.73e6
37.84
ES 123789D
5.70e6*
38.24
JS 123467D
2.95e6*
38.14
Abs. Int.
1.67e6
8.37e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.07e3
0%
ES 123678D
4.86e6
37.95
ES 123478D
4.28e6
37.84
ES 123789D
4.66e6*
38.24
JS 123467D
2.48e6*
38.14
Abs. Int.
1.40e6
7.00e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.16e7
5.80e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

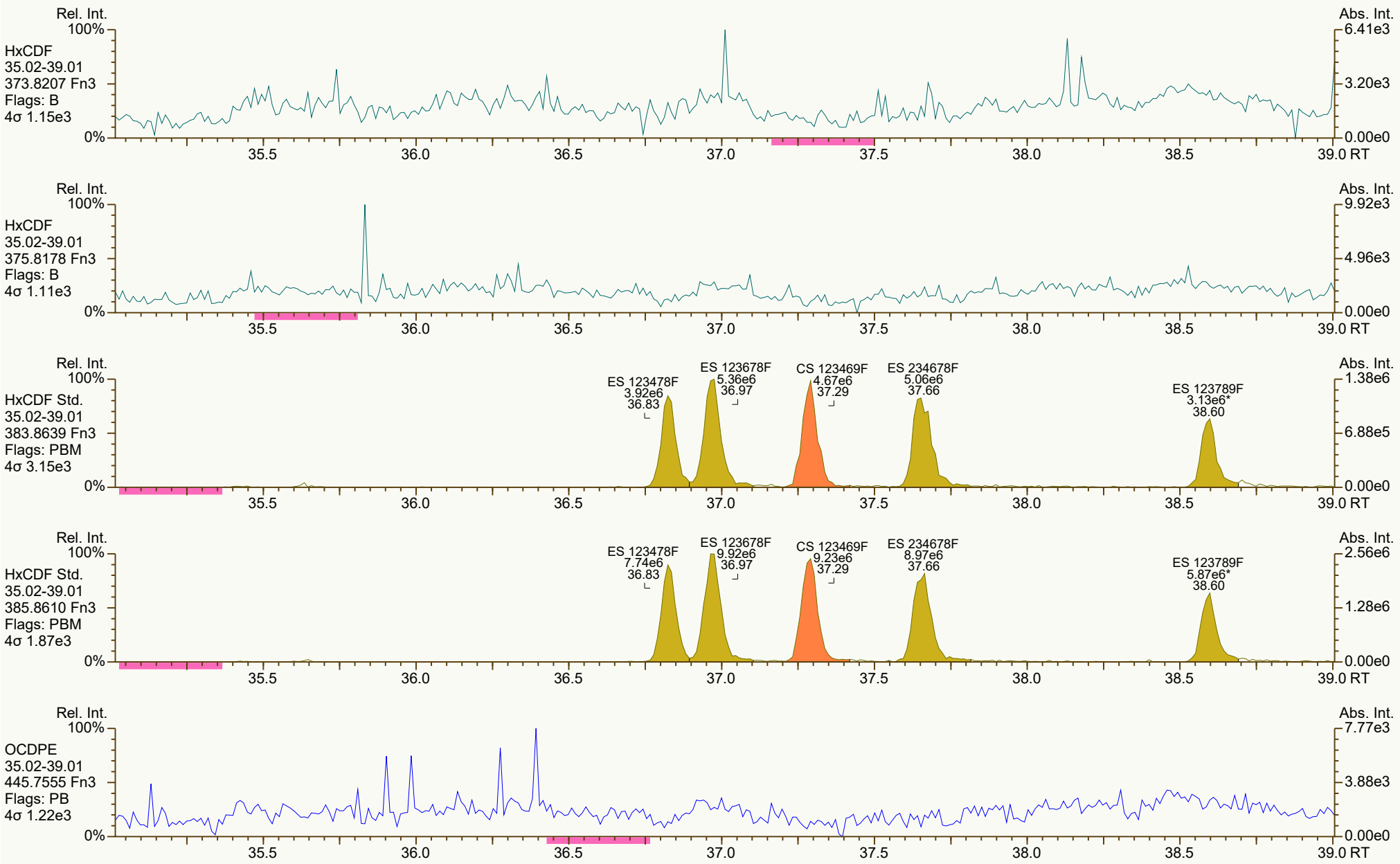

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.06e4
5.32e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.12e3
0%
Abs. Int.
6.68e3
3.34e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.81e3
0%
ES 1234678D
3.69e6*
40.88
Abs. Int.
1.18e6
5.90e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.80e3
0%
ES 1234678D
3.32e6*
40.88
Abs. Int.
9.81e5
4.91e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.03e6
3.51e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.32e3
0%
OCDD
8.54e4*
43.58
Abs. Int.
2.30e4
1.15e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.53e3
VERIFIED
Conc(OCDD) = (8.54e4 + 9.93e4) * 4000 pg / (3.29e6 + 3.59e6) * 1.13 * 1.01L = 94.1 pg/L
MLS 03-Feb-2022 09:47
0%
OCDD
9.93e4*
43.58
Abs. Int.
3.37e4
1.69e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.74e3
0%
ES OCDD
3.29e6*
43.57
Abs. Int.
6.84e5
3.42e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.99e3
0%
ES OCDD
3.59e6*
43.57
Abs. Int.
8.00e5
4.00e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.94e6
2.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
8.50e3
4.25e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
6.50e3
3.25e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 2.63e3
0%
JS 1234F
1.01e7*
26.41
ES 2378F
9.26e6
27.77
Abs. Int.
2.06e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 1.68e3
0%
JS 1234F
1.26e7
26.41
ES 2378F
1.10e7
27.76
Abs. Int.
2.59e6
1.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.51e3
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.26e3
9.70e3
4.85e3
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
4.06e6
2.03e6


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.25e3
0%
Abs. Int.
9.39e3
4.69e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 1.48e3
0%
Abs. Int.
5.29e3
2.64e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 1.56e3
0%
CS 12346F
1.16e7
31.96
ES 12378F
1.10e7
32.49
ES 23478F
1.08e7
33.60
Abs. Int.
3.22e6
1.61e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.35e3
0%
CS 12346F
8.04e6
31.96
ES 12378F
6.85e6
32.49
ES 23478F
7.23e6
33.60
Abs. Int.
2.16e6
1.08e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
6.41e3
3.20e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.11e3
0%
Abs. Int.
9.92e3
4.96e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.15e3
0%
ES 123478F
3.92e6
36.83
ES 123678F
5.36e6
36.97
CS 123469F
4.67e6
37.29
ES 234678F
5.06e6
37.66
ES 123789F
3.13e6*
38.60
Abs. Int.
1.38e6
6.88e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 1.87e3
0%
ES 123478F
7.74e6
36.83
ES 123678F
9.92e6
36.97
CS 123469F
9.23e6
37.29
ES 234678F
8.97e6
37.66
ES 123789F
5.87e6*
38.60
Abs. Int.
2.56e6
1.28e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.22e3
0%
Abs. Int.
7.77e3
3.88e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.20e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.88e3
0%
ES 1234678F
2.89e6
39.95
CS 1234689F
2.96e6*
40.35
ES 1234789F
1.64e6
41.35
Abs. Int.
9.80e5
4.90e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.13e3
0%
ES 1234678F
6.15e6
39.95
CS 1234689F
6.08e6*
40.35
ES 1234789F
3.94e6
41.35
Abs. Int.
2.08e6
1.04e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.16e3
0%
Abs. Int.
5.15e3
2.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.06e3
0%
Abs. Int.
4.64e3
2.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.00e3
0%
Abs. Int.
4.73e3
2.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.70e6
43.76
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.50e3
0%
Abs. Int.
7.01e5
3.50e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
4.24e6
43.76
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
8.69e5
4.35e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.29e3
0%
Abs. Int.
3.69e3
1.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Megan_Shannahan , 2/4/2022, 10:21:11 AM

SGS Environmental Services — Run Log **Project: B6211_18870_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID		Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
16	220201C16	3	CS3_220201_DF_CB	✔	1.00	25-347-1	DTF, MLS	534-027	01-Feb-2022	20:26:29
17	220201C18	92	OPR1_18870_DF		1.00	0_18870_OPR001	DTF, MLS	183-833	01-Feb-2022	21:59:09
18	220201C19	93	OPR2_18870_DF		1.00	0_18870_OPR002	DTF, MLS	001-056	01-Feb-2022	22:45:31
20	220201C20	2	SBS_220201_DF_CC		1.00	30-61-1	DTF	402-392	01-Feb-2022	23:31:51
21	220201C22	91	MB1_18870_DF_TLX		1.00	Method Blank	DTF, MLS	686-621	02-Feb-2022	01:04:32
22	220201C31	94	B6211_18870_DF_001	✔	1.01	11215131-011922-S-BN-RB-13	DTF, MLS	400-072	02-Feb-2022	08:01:37

REVIEWED
Tamara Burkamper , 2/4/2022, 10:24:18 AM

Dioxin/Furan QC Summary	Acq'd: 01 Feb 2022 20:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220201_DF_CB	UTP: 03-Feb-2022 09:36:08 MLS	Checkcode: 534-027-YPF
Sample ID: 25-347-1	Report: 03 Feb 2022 09:37 MS	Datafile: 220201C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.64	1.74E+06	0.88	Y	1.18	1.13	-5%
12378-PeCDD	33.95	6.25E+06	1.59	Y	1.04	1.03	-1%
123478-HxCDD	37.85	5.19E+06	1.28	Y	1.09	1.07	-2%
123678-HxCDD	37.96	5.75E+06	1.29	Y	1.15	1.13	-2%
123789-HxCDD	38.26	5.50E+06	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.90	4.10E+06	1.02	Y	1.06	1.01	-5%
OCDD	43.58	4.73E+06	0.91	Y	1.13	1.12	-1%
2378-TCDF	27.79	2.50E+06	0.73	Y	1.08	1.05	-3%
12378-PeCDF	32.51	9.59E+06	1.51	Y	1.02	1.03	0%
23478-PeCDF	33.62	9.14E+06	1.53	Y	1.02	0.99	-3%
123478-HxCDF	36.84	8.38E+06	1.25	Y	1.27	1.26	0%
123678-HxCDF	36.98	8.84E+06	1.27	Y	1.15	1.13	-2%
234678-HxCDF	37.67	8.06E+06	1.31	Y	1.19	1.18	-1%
123789-HxCDF	38.61	5.81E+06	1.29	Y	1.16	1.12	-4%
1234678-HpCDF	39.95	6.67E+06	0.98	Y	1.37	1.37	0%
1234789-HpCDF	41.36	3.99E+06	1.05	Y	1.31	1.23	-6%
OCDF	43.77	5.00E+06	0.87	Y	1.07	1.08	1%
ES 2378-TCDD	28.62	1.54E+07	0.77	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.929	1.22E+07	1.68	Y	0.88	0.82	-7%
ES 123478-HxCDD	37.833	9.73E+06	1.30	Y	0.97	0.99	1%
ES 123678-HxCDD	37.949	1.02E+07	1.24	Y	0.94	1.03	9%
ES 123789-HxCDD	38.238	1.06E+07	1.33	Y	1.09	1.08	-1%
ES 1234678-HpCDD	40.882	8.12E+06	1.12	Y	0.91	0.82	-10%
ES OCDD	43.567	8.45E+06	0.84	Y	0.62	0.43	-31%*
ES 2378-TCDF	27.767	2.38E+07	0.81	Y	1.06	0.99	-6%
ES 12378-PeCDF	32.49	1.87E+07	1.59	Y	0.91	0.78	-14%
ES 23478-PeCDF	33.6	1.84E+07	1.55	Y	0.88	0.77	-13%
ES 123478-HxCDF	36.825	1.33E+07	0.55	Y	1.20	1.34	12%
ES 123678-HxCDF	36.969	1.56E+07	0.56	Y	1.35	1.58	17%
ES 234678-HxCDF	37.653	1.37E+07	0.54	Y	1.24	1.39	12%
ES 123789-HxCDF	38.597	1.04E+07	0.52	Y	1.16	1.05	-9%
ES 1234678-HpCDF	39.943	9.75E+06	0.43	Y	0.97	0.99	2%
ES 1234789-HpCDF	41.353	6.47E+06	0.45	Y	0.85	0.66	-23%
ES OCDF	43.754	9.25E+06	0.92	Y	0.81	0.47	-42%*

***meets M1613B criteria**
TB 2/4/2022

Dioxin/Furan QC Summary	Acq'd: 01 Feb 2022 20:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220201_DF_CB	UTP: 03-Feb-2022 09:36:08 MLS	Checkcode: 534-027-YPF
Sample ID: 25-347-1	Report: 03 Feb 2022 09:37 MS	Datafile: 220201C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.96	1.49E+07	0.80	Y	-	-	-
JS 1234-TCDF	26.42	2.40E+07	0.81	Y	-	-	-
JS 123467-HxCDD	38.14	4.93E+06	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.64	1.88E+06	n/a	-	1.20	1.26	5%
CS 12347-PeCDD	33.43	1.16E+07	1.58	Y	0.75	0.78	3%
CS 12346-PeCDF	31.96	1.92E+07	1.51	Y	0.85	0.80	-6%
CS 123469-HxCDF	37.29	1.39E+07	0.50	Y	1.12	1.41	26%
CS 1234689-HpCDF	40.35	8.70E+06	0.46	Y	0.89	0.88	-1%
~~SS 37Cl-2378-TCDD~~	~~28.64~~	~~1.08E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.22~~	~~7%~~
~~SS 12347-PeCDD~~	~~33.43~~	~~1.16E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~0.95~~	~~11%~~
~~SS 12346-PeCDF~~	~~31.96~~	~~1.92E+07~~	~~1.51~~	~~Y~~	~~0.94~~	~~1.03~~	~~10%~~
~~SS 123469-HxCDF~~	~~37.29~~	~~1.39E+07~~	~~0.50~~	~~Y~~	~~0.83~~	~~0.89~~	~~7%~~
~~SS 1234689-HpCDF~~	~~40.35~~	~~8.70E+06~~	~~0.46~~	~~Y~~	~~0.92~~	~~0.89~~	~~-3%~~
~~OCDD a~~	~~0.00~~	~~0.00E+00~~	~~0.00~~	~~0~~	~~0.07~~	~~0.00~~	~~-100%~~
~~OCDF a~~	~~0.00~~	~~0.00E+00~~	~~0.00~~	~~0~~	~~0.07~~	~~0.00~~	~~-100%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220201C16 Analysis Date: 01-FEB-2022 20:26:29

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.88	0.65 - 0.89	Y	9.53	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	49.5	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	49	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	49.1	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	47.6	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	99.4	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.73	0.65 - 0.89	Y	9.73	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	50.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	48.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	49.1	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.31	1.05 - 1.43	Y	49.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.29	1.05 - 1.43	Y	48	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.98	0.88 - 1.20	Y	50	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	47.2	43 - 58	Y
OCDF	M+2/M+4	0.87	0.76 - 1.02	Y	101	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 03 Feb 2022 09:37 Analyst: MS

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

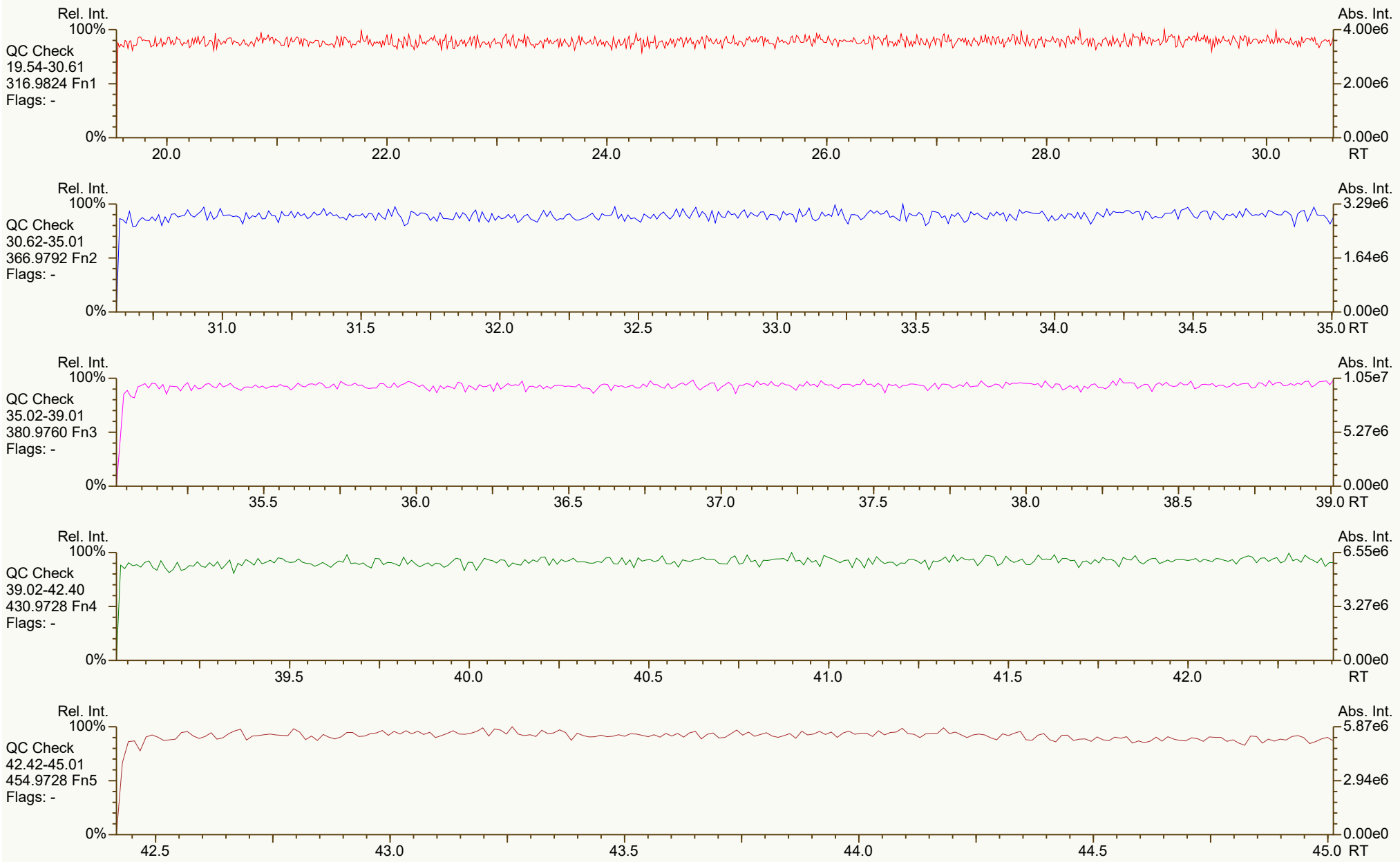
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

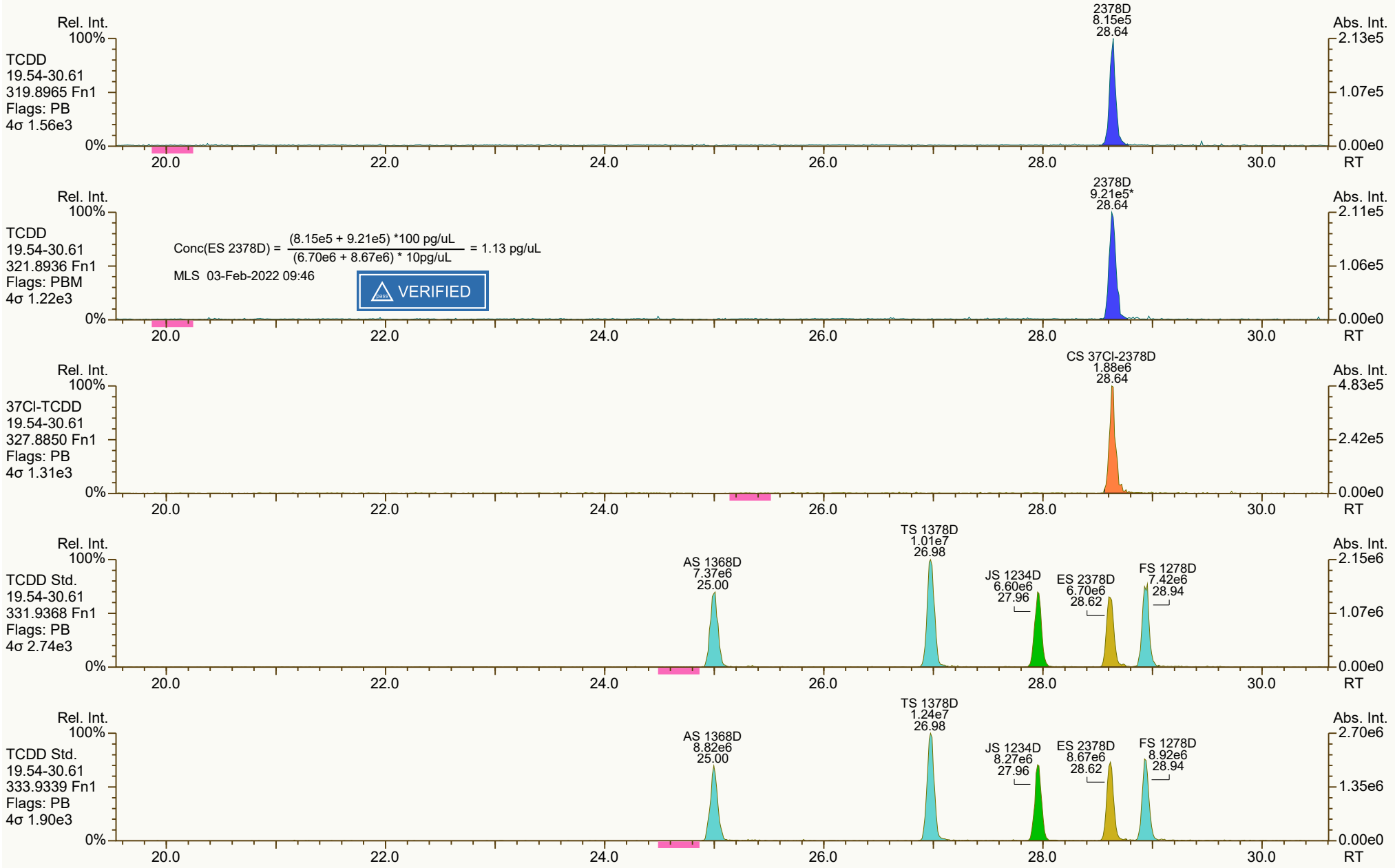
Instrument ID: HRMS3 GC Column ID: ZB-5ms

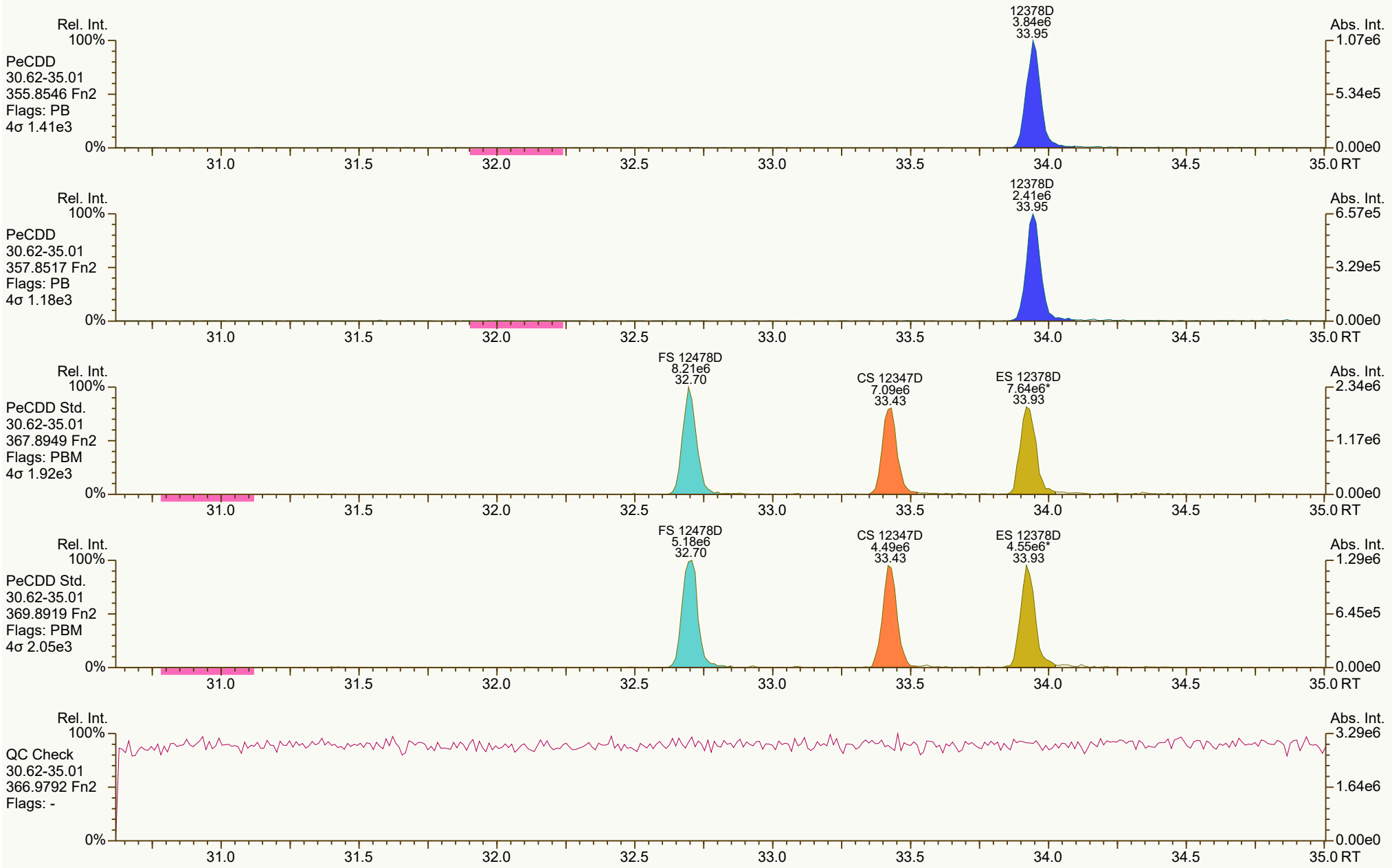
VER Data Filename: 220201C16 Analysis Date: 01-FEB-2022 20:26:29

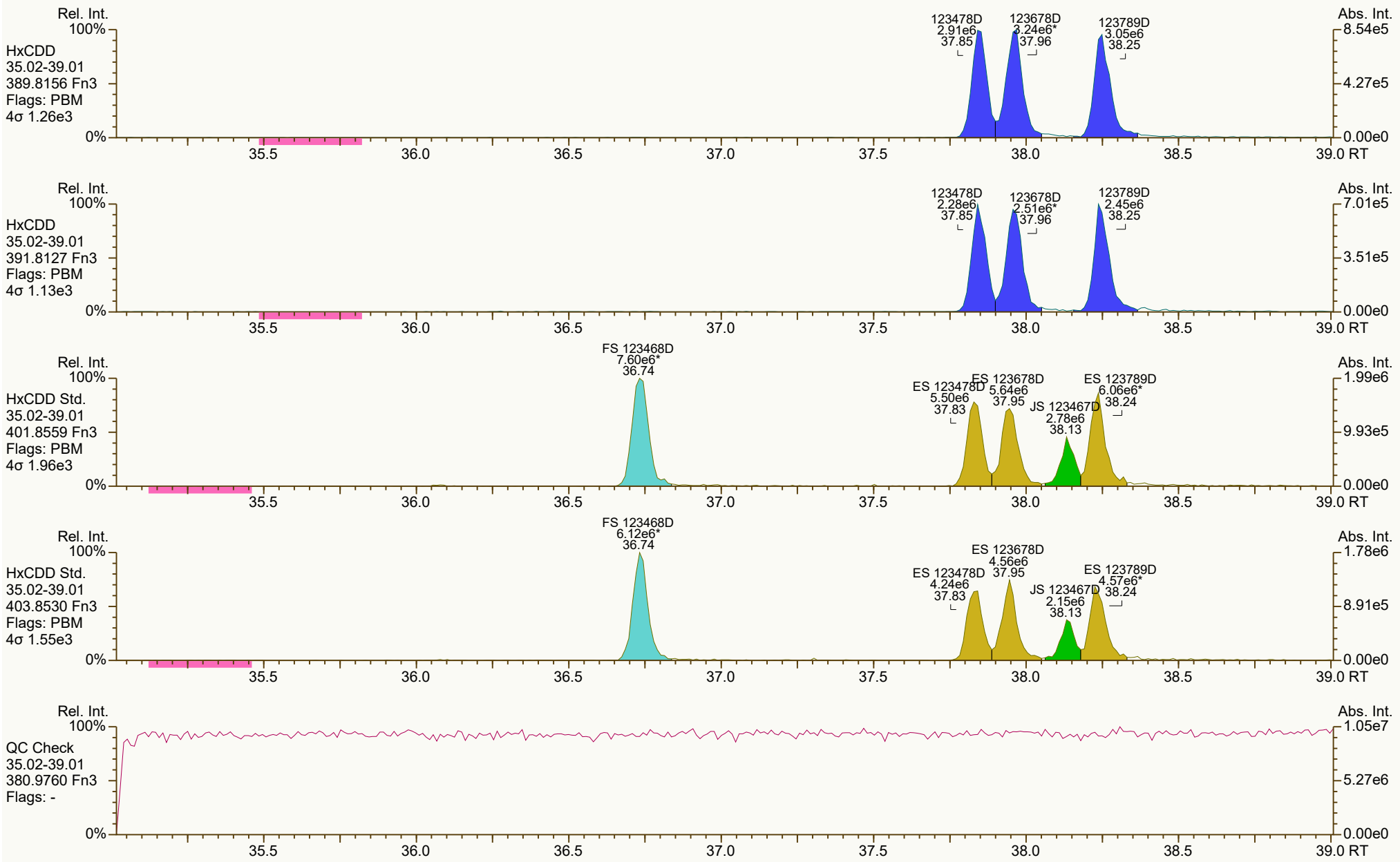
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65 - 0.89	Y	98.8	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.68	1.32 - 1.78	Y	93.2	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	101	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	109	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.33	1.05 - 1.43	Y	98.7	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.12	0.88 - 1.20	Y	90.2	72 - 138	Y
13C-OCDD	M+2/M+4	0.84	0.76 - 1.02	Y	137	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	93.9	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	85.6	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	87.2	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	112	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.56	0.43 - 0.59	Y	117	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	112	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	91.2	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37 - 0.51	Y	102	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	77.1	77 - 129	Y
13C-OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	116	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.5	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	103	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	94	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.50	0.43 - 0.59	Y	126	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	99.4	70 - 130	Y

Processed: 03 Feb 2022 09:37 Analyst: MS

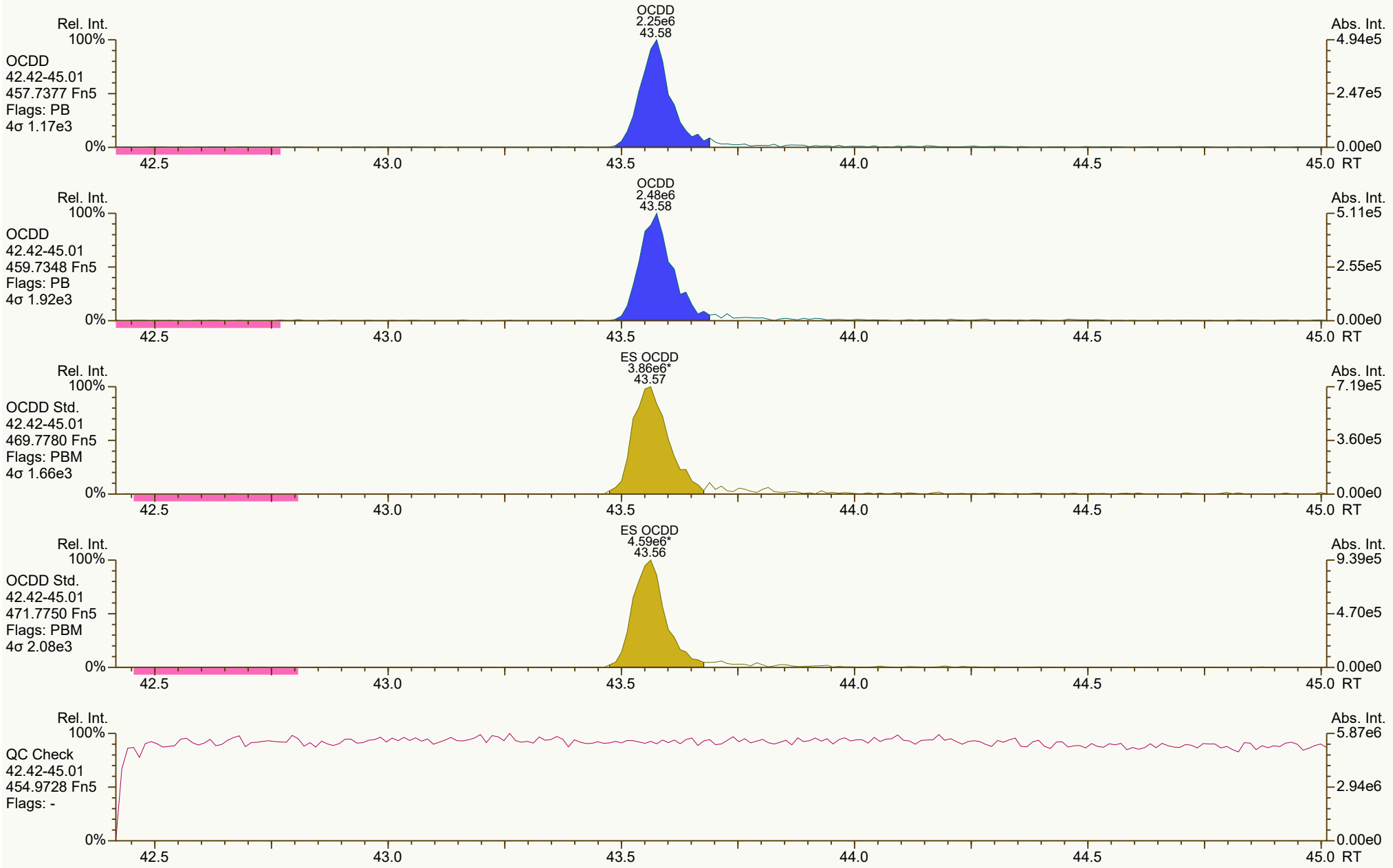

Rel. Int.
100%
0%
Abs. Int.
4.00e6
2.00e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.29e6
1.64e6
0.00e0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.27e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
6.55e6
3.27e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.87e6
2.94e6
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 1.56e3
0%
2378D
8.15e5
28.64
Abs. Int.
2.13e5
1.07e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.22e3
0%
Conc(ES 2378D) = (8.15e5 + 9.21e5) *100 pg/uL / (6.70e6 + 8.67e6) * 10pg/uL = 1.13 pg/uL
MLS 03-Feb-2022 09:46
VERIFIED
2378D
9.21e5*
28.64
Abs. Int.
2.11e5
1.06e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.31e3
0%
CS 37Cl-2378D
1.88e6
28.64
Abs. Int.
4.83e5
2.42e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 2.74e3
0%
AS 1368D
7.37e6
25.00
TS 1378D
1.01e7
26.98
JS 1234D
6.60e6
27.96
ES 2378D
6.70e6
28.62
FS 1278D
7.42e6
28.94
Abs. Int.
2.15e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 1.90e3
0%
AS 1368D
8.82e6
25.00
TS 1378D
1.24e7
26.98
JS 1234D
8.27e6
27.96
ES 2378D
8.67e6
28.62
FS 1278D
8.92e6
28.94
Abs. Int.
2.70e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.41e3
12378D
3.84e6
33.95
1.07e6
5.34e5
0.00e0
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.18e3
12378D
2.41e6
33.95
6.57e5
3.29e5
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 1.92e3
FS 12478D
8.21e6
32.70
CS 12347D
7.09e6
33.43
ES 12378D
7.64e6*
33.93
2.34e6
1.17e6
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 2.05e3
FS 12478D
5.18e6
32.70
CS 12347D
4.49e6
33.43
ES 12378D
4.55e6*
33.93
1.29e6
6.45e5
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
3.29e6
1.64e6
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.26e3
123478D 2.91e6 37.85
123678D 3.24e6* 37.96
123789D 3.05e6 38.25
8.54e5
4.27e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.13e3
123478D 2.28e6 37.85
123678D 2.51e6* 37.96
123789D 2.45e6 38.25
7.01e5
3.51e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.96e3
FS 123468D 7.60e6* 36.74
ES 123478D 5.50e6 37.83
ES 123678D 5.64e6 37.95
JS 123467D 2.78e6 38.13
ES 123789D 6.06e6* 38.24
1.99e6
9.93e5
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.55e3
FS 123468D 6.12e6* 36.74
ES 123478D 4.24e6 37.83
ES 123678D 4.56e6 37.95
JS 123467D 2.15e6 38.13
ES 123789D 4.57e6* 38.24
1.78e6
8.91e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
1.05e7
5.27e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

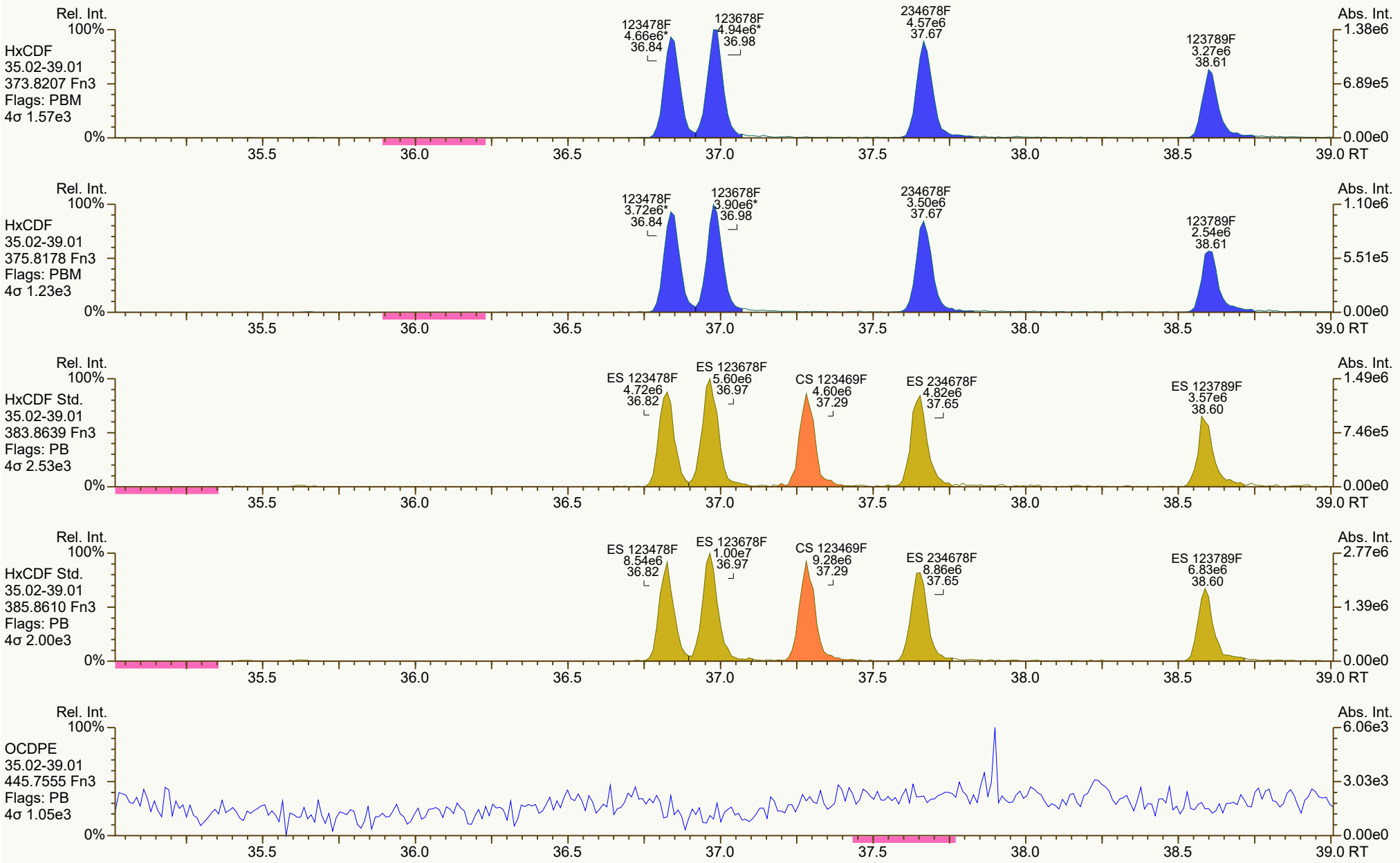

Rel. Int.
Abs. Int.
100%
0%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.56e3
1234678D
2.07e6
40.90
6.32e5
3.16e5
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.19e3
1234678D
2.03e6
40.89
6.02e5
3.01e5
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.69e3
FS 1234679D
6.79e6
40.20
ES 1234678D
4.30e6*
40.88
2.15e6
1.07e6
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.51e3
FS 1234679D
6.25e6
40.20
ES 1234678D
3.82e6*
40.88
1.98e6
9.90e5
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
6.55e6
3.27e6
39.5
40.0
40.5
41.0
41.5
42.0
RT

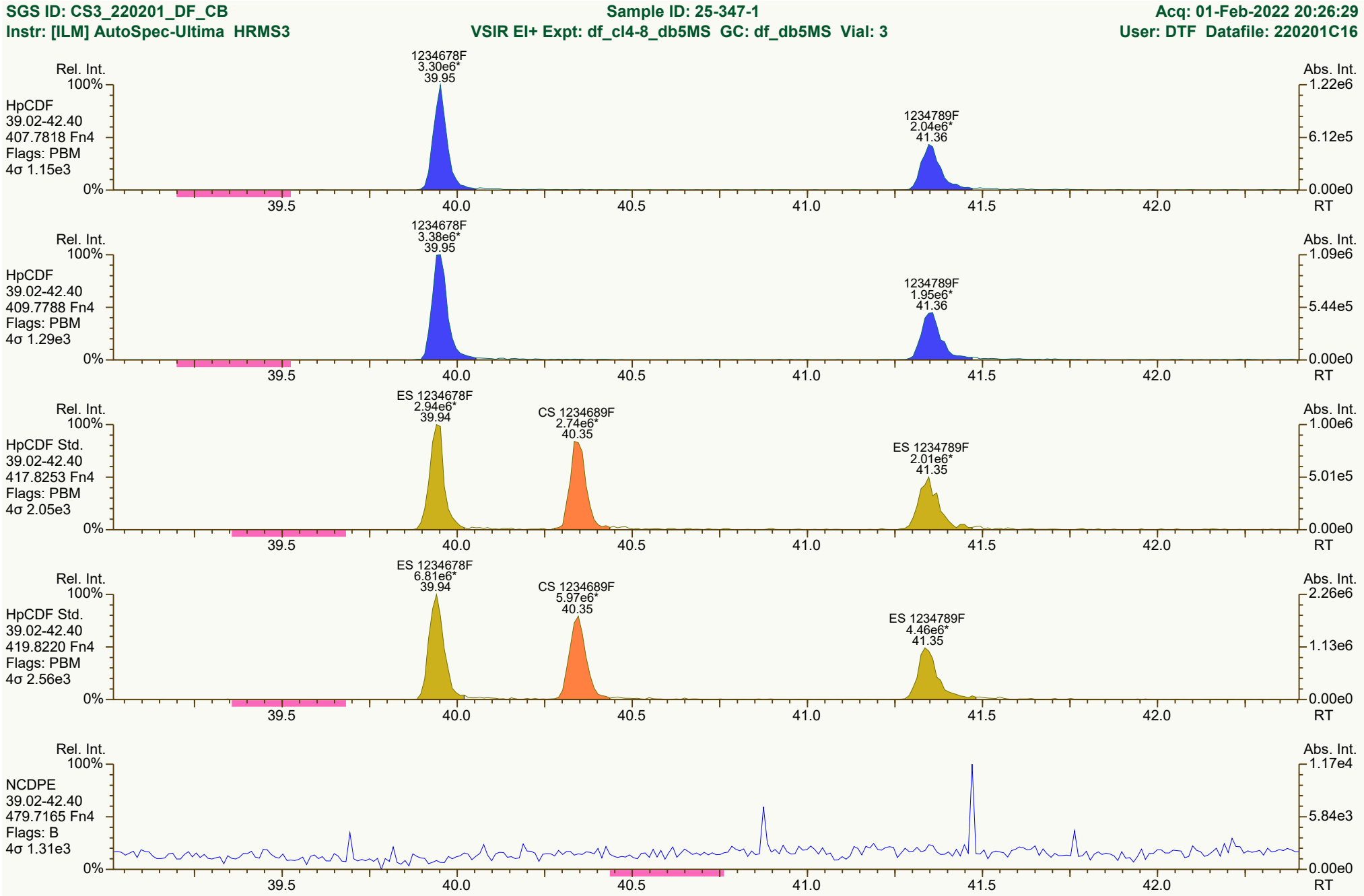

OCDD
2.25e6
43.58
Rel. Int.
Abs. Int.
100%
0%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.17e3
4.94e5
2.47e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.48e6
43.58
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.92e3
5.11e5
2.55e5
ES OCDD
3.86e6*
43.57
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.66e3
7.19e5
3.60e5
ES OCDD
4.59e6*
43.56
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.08e3
9.39e5
4.70e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
5.87e6
2.94e6

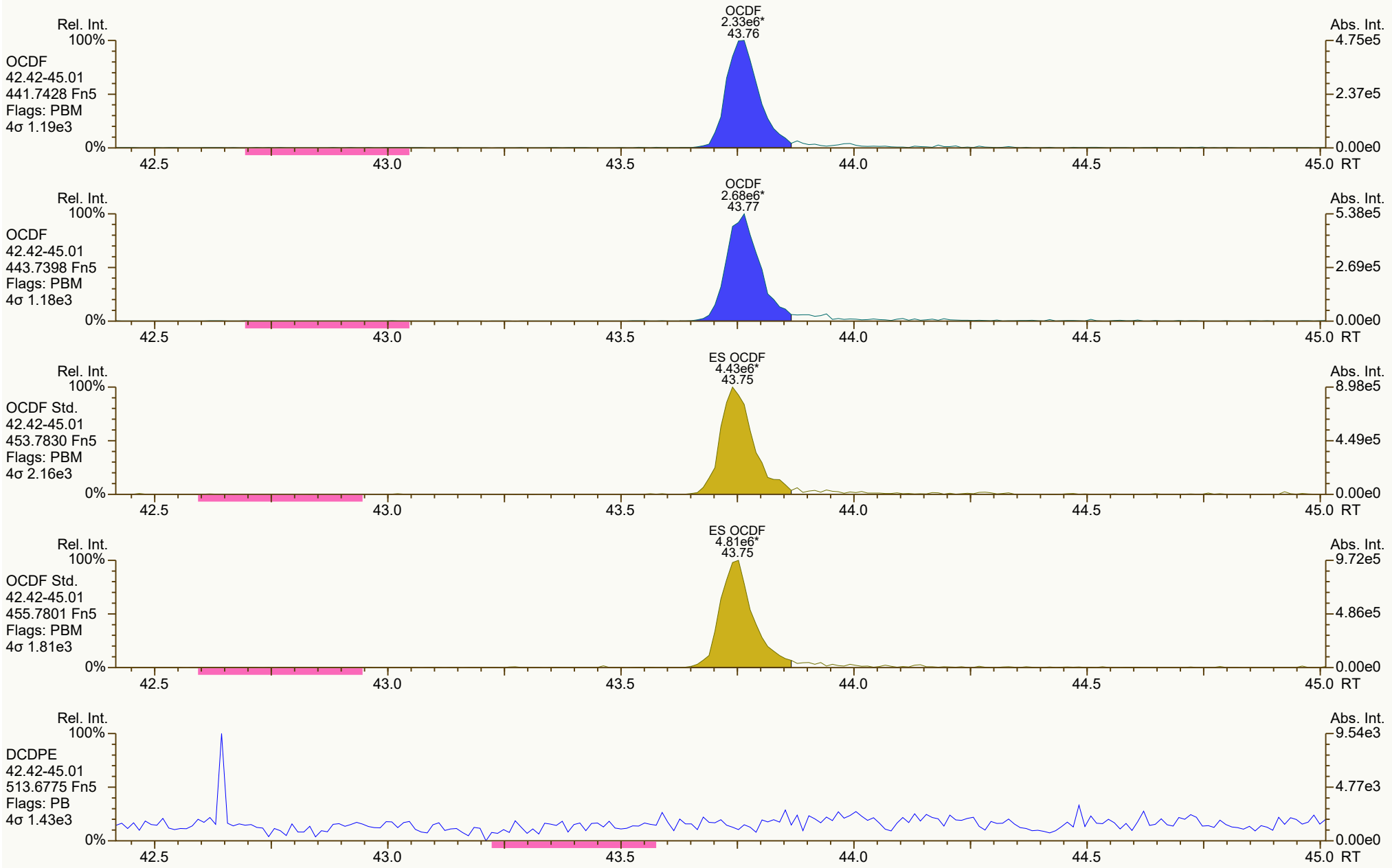

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.24e3
0%
2378F
1.05e6
27.79
Abs. Int.
2.23e5
1.12e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.22e3
0%
2378F
1.45e6
27.79
Abs. Int.
3.25e5
1.63e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 1.68e3
0%
AS 1368F
1.22e7
22.93
JS 1234F
1.07e7
26.42
ES 2378F
1.06e7*
27.77
Abs. Int.
2.47e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 1.40e3
0%
AS 1368F
1.54e7
22.92
JS 1234F
1.32e7
26.41
ES 2378F
1.32e7*
27.77
Abs. Int.
2.96e6
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: PB
4σ 1.15e3
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

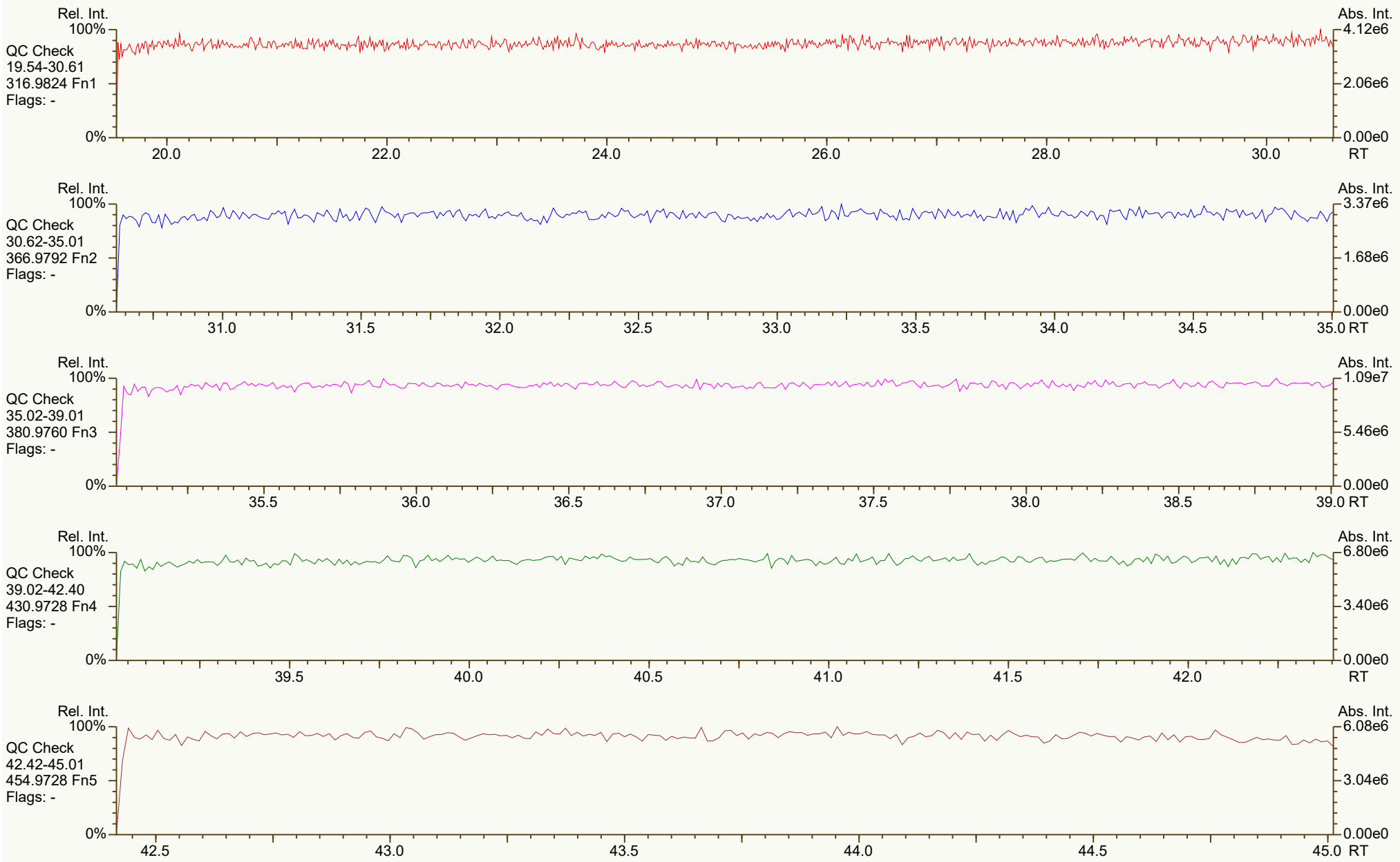

Rel. Int.
100%
0%
Abs. Int.
9.01e3
4.51e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.34e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.37e4
6.87e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.00e6
2.00e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

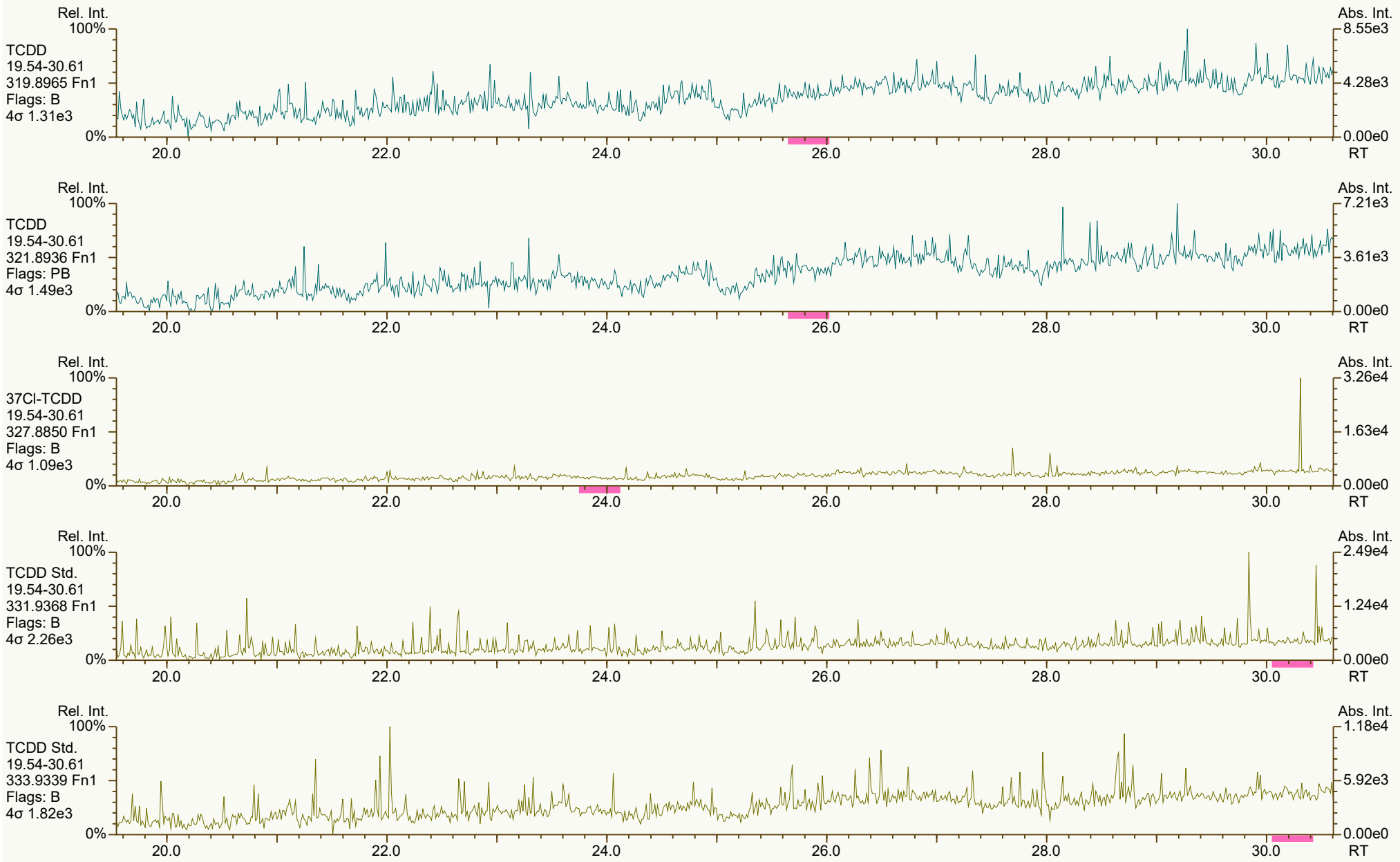

Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PB
4σ 1.59e3
12378F
5.77e6
32.51
23478F
5.53e6
33.62
1.50e6
7.49e5
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 2.07e3
12378F
3.81e6
32.51
23478F
3.61e6
33.61
9.49e5
4.74e5
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 1.65e3
CS 12346F
1.15e7
31.96
ES 12378F
1.15e7
32.49
ES 23478F
1.12e7
33.60
2.97e6
1.49e6
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.03e3
CS 12346F
7.64e6
31.96
ES 12378F
7.20e6
32.49
ES 23478F
7.23e6
33.60
2.00e6
9.99e5
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.10e3
4.78e3
2.39e3
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 1.57e3
123478F
4.66e6*
36.84
123678F
4.94e6*
36.98
234678F
4.57e6
37.67
123789F
3.27e6
38.61
Abs. Int.
1.38e6
6.89e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.23e3
123478F
3.72e6*
36.84
123678F
3.90e6*
36.98
234678F
3.50e6
37.67
123789F
2.54e6
38.61
1.10e6
5.51e5
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.53e3
ES 123478F
4.72e6
36.82
ES 123678F
5.60e6
36.97
CS 123469F
4.60e6
37.29
ES 234678F
4.82e6
37.65
ES 123789F
3.57e6
38.60
1.49e6
7.46e5
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 2.00e3
ES 123478F
8.54e6
36.82
ES 123678F
1.00e7
36.97
CS 123469F
9.28e6
37.29
ES 234678F
8.86e6
37.65
ES 123789F
6.83e6
38.60
2.77e6
1.39e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.05e3
6.06e3
3.03e3


SGS ID: CS3_220201_DF_CB
Sample ID: 25-347-1
Acq: 01-Feb-2022 20:26:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220201C16
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.15e3
1234678F
3.30e6*
39.95
1234789F
2.04e6*
41.36
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.29e3
1234678F
3.38e6*
39.95
1234789F
1.95e6*
41.36
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.05e3
ES 1234678F
2.94e6*
39.94
CS 1234689F
2.74e6*
40.35
ES 1234789F
2.01e6*
41.35
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.56e3
ES 1234678F
6.81e6*
39.94
CS 1234689F
5.97e6*
40.35
ES 1234789F
4.46e6*
41.35
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.31e3
RT
Results: P:\B6200_B6299\B6211\B6211_18870 DF\Resources\CS3_220201_DF_CB.utp_res, saved 03-Feb-2022 09:46 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 7906, 5970, 0278 scc: 534-027
Revised: 02-Feb-2022 09:34 (DTF) Printed: 03-Feb-2022 09:48 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.19e3
0%
OCDF
2.33e6*
43.76
Abs. Int.
4.75e5
2.37e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.18e3
0%
OCDF
2.68e6*
43.77
Abs. Int.
5.38e5
2.69e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.16e3
0%
ES OCDF
4.43e6*
43.75
Abs. Int.
8.98e5
4.49e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.81e3
0%
ES OCDF
4.81e6*
43.75
Abs. Int.
9.72e5
4.86e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

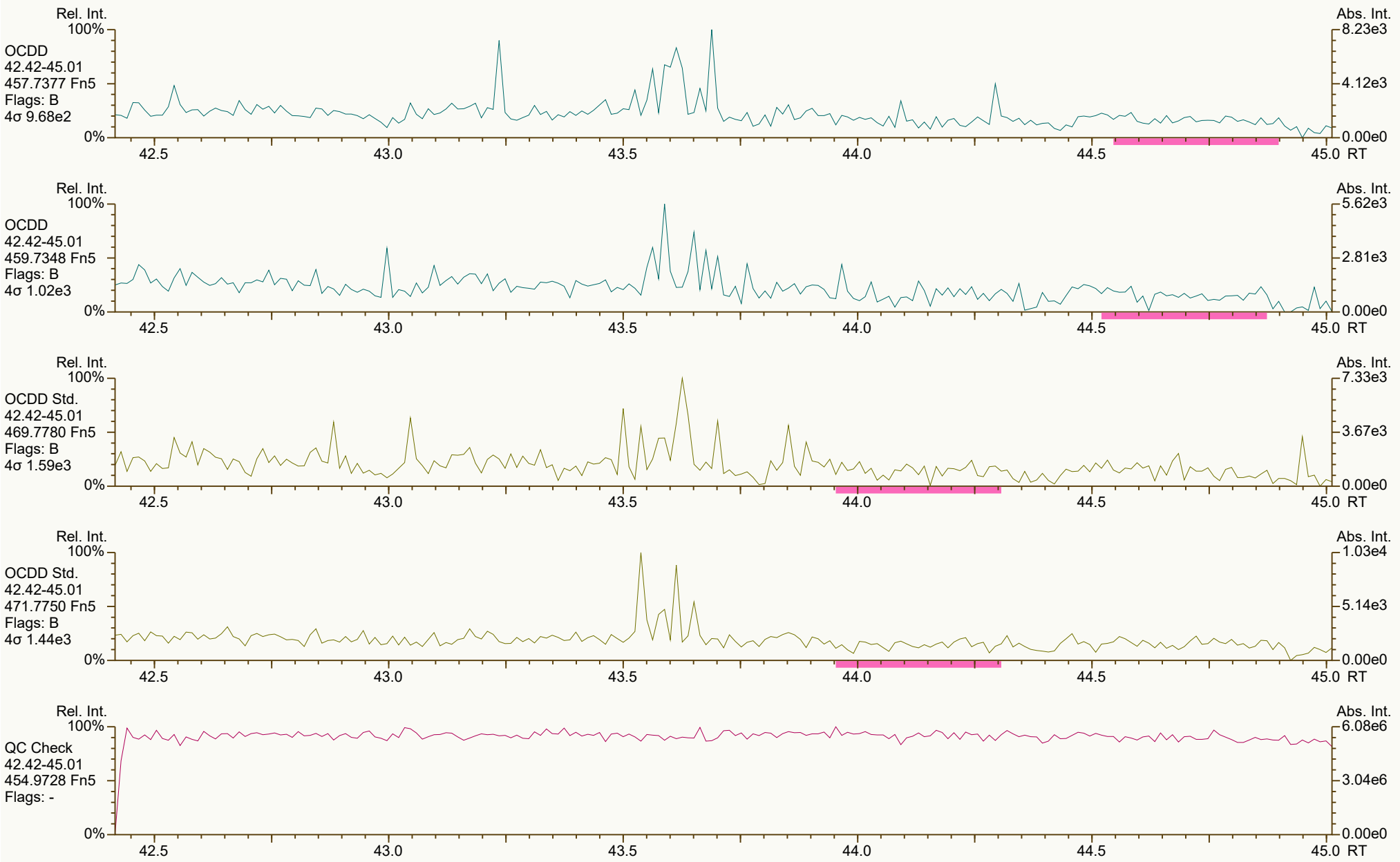

Rel. Int.
100%
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
RT
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
3.37e6
1.68e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
1.09e7
5.46e6
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
6.80e6
3.40e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
6.08e6
3.04e6
42.5
43.0
43.5
44.0
44.5
45.0

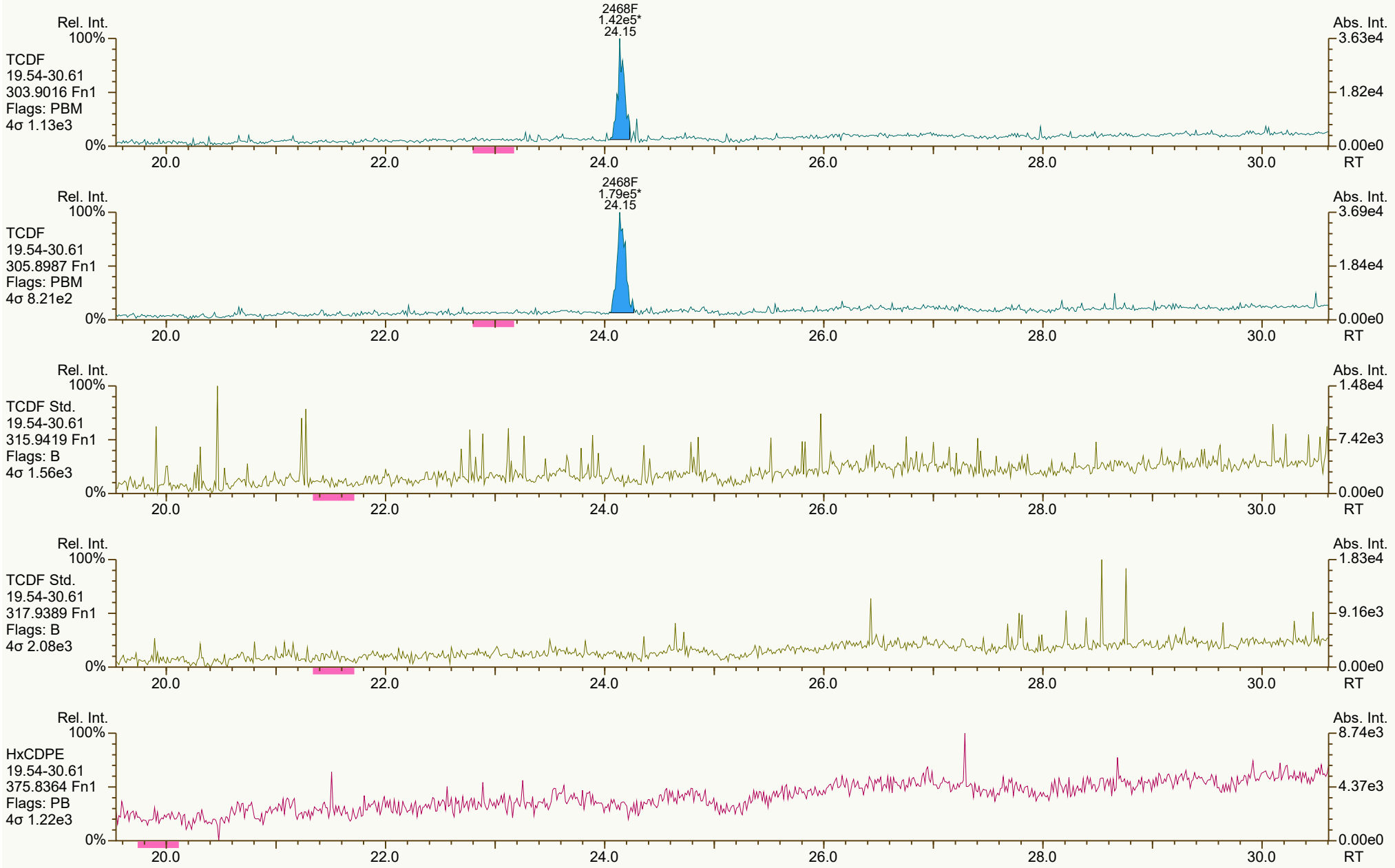

Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 1.31e3
8.55e3
4.28e3
0.00e0
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 1.49e3
7.21e3
3.61e3
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.09e3
3.26e4
1.63e4
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 2.26e3
2.49e4
1.24e4
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 1.82e3
1.18e4
5.92e3
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.42e3
8.23e3
4.12e3
0.00e0
PeCDD
30.62-35.01
357.8517 Fn2
Flags: B
4σ 1.14e3
5.13e3
2.57e3
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: B
4σ 1.01e3
7.37e3
3.68e3
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: B
4σ 2.07e3
1.20e4
6.00e3
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
3.37e6
1.68e6
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.91e3
3.45e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.09e3
0%
Abs. Int.
7.37e3
3.69e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 1.97e3
0%
Abs. Int.
2.39e4
1.20e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.09e7
5.46e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.03e3
0%
Abs. Int.
3.43e3
1.72e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.12e3
0%
Abs. Int.
3.47e3
1.74e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.71e4
8.54e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.46e3
0%
Abs. Int.
6.75e3
3.38e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.80e6
3.40e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

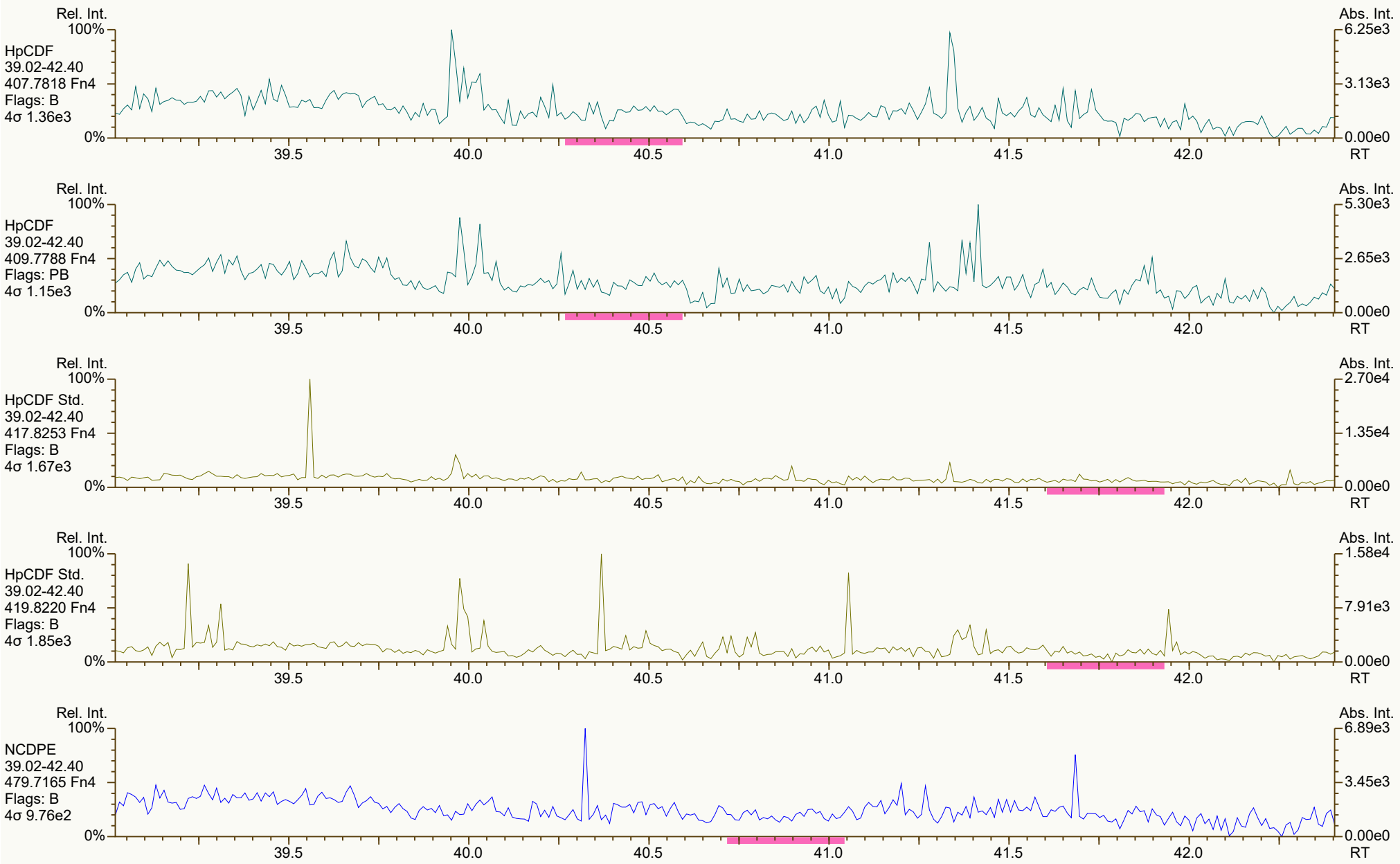

Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: B
4σ 9.68e2
0%
Abs. Int.
8.23e3
4.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.02e3
0%
Abs. Int.
5.62e3
2.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: B
4σ 1.59e3
0%
Abs. Int.
7.33e3
3.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.13e3
2468F
1.42e5*
24.15
Abs. Int.
3.63e4
1.82e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 8.21e2
2468F
1.79e5*
24.15
Abs. Int.
3.69e4
1.84e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: B
4σ 1.56e3
Abs. Int.
1.48e4
7.42e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: B
4σ 2.08e3
Abs. Int.
1.83e4
9.16e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: PB
4σ 1.22e3
Abs. Int.
8.74e3
4.37e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
6.73e3
3.37e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.17e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.64e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.47e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: B
4σ 1.35e3
8.35e3
4.18e3
0.00e0
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 1.23e3
5.79e3
2.89e3
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: B
4σ 1.58e3
1.22e4
6.08e3
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: B
4σ 1.78e3
9.26e3
4.63e3
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.37e3
8.51e3
4.26e3
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

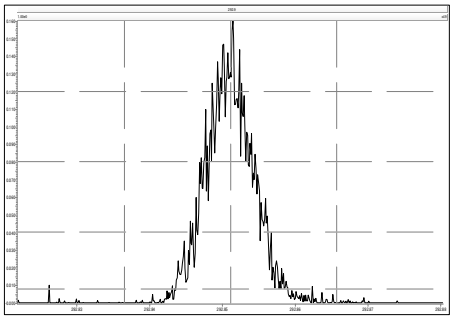

Rel. Int.
100%
0%
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.03e3
6.68e3
3.34e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.37e3
6.65e3
3.32e3
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 1.79e3
1.20e4
5.98e3
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 1.35e3
1.34e4
6.71e3
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.26e3
7.30e3
3.65e3


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.25e3
3.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.15e3
0%
Abs. Int.
5.30e3
2.65e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 1.67e3
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 9.76e2
0%
Abs. Int.
6.89e3
3.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

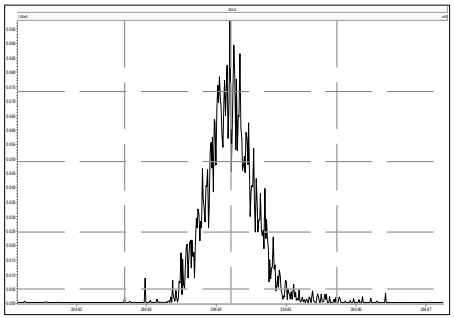

Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: B
4σ 1.10e3
0%
Abs. Int.
5.39e3
2.69e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
3.98e3
1.99e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: B
4σ 1.94e3
0%
Abs. Int.
9.81e3
4.90e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
4.26e3
2.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, February 01, 2022 20:26:27 Eastern Standard Time

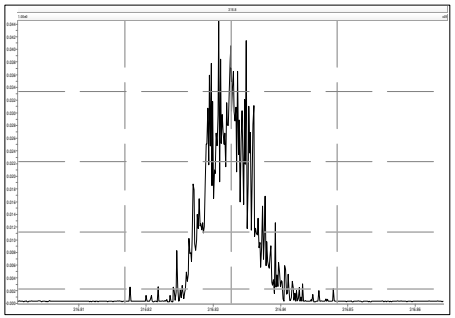
M 292.9824 R 21115



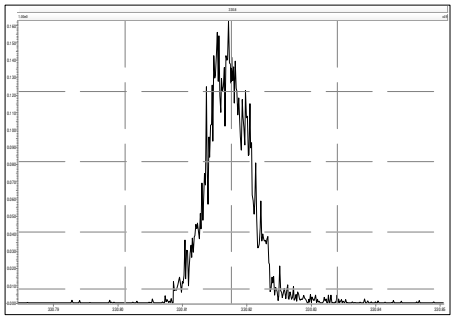
M 304.9824 R 21609



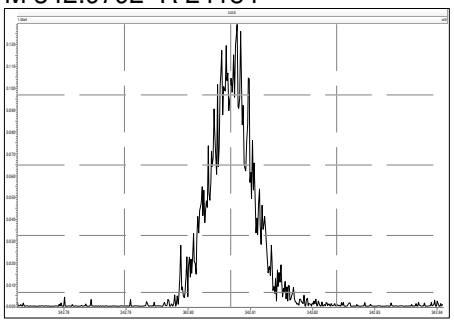
M 316.9824 R 22911



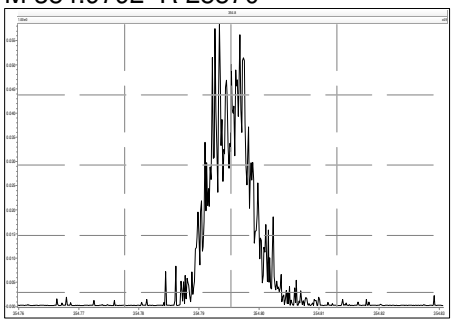
M 330.9792 R 23486



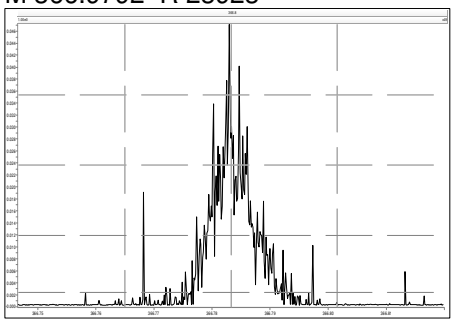
M 342.9792 R 24154



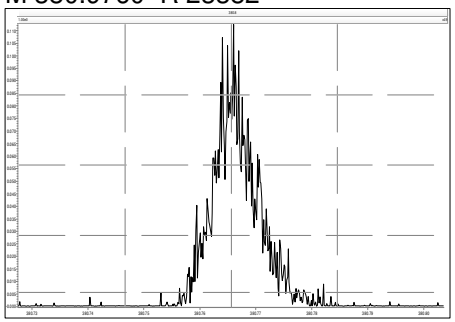
M 354.9792 R 25570



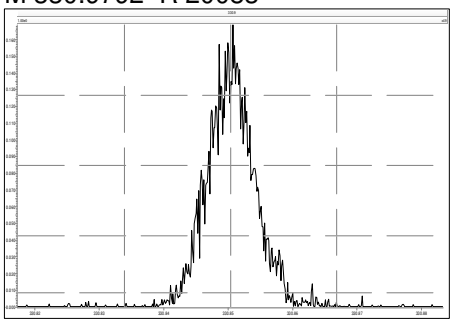
M 366.9792 R 23923



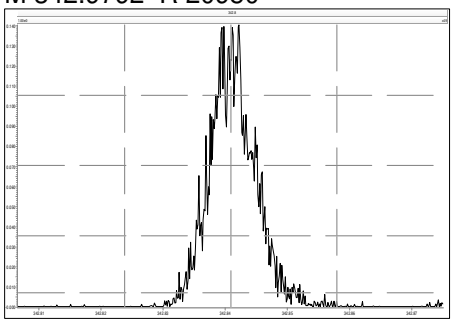
M 380.9760 R 23382



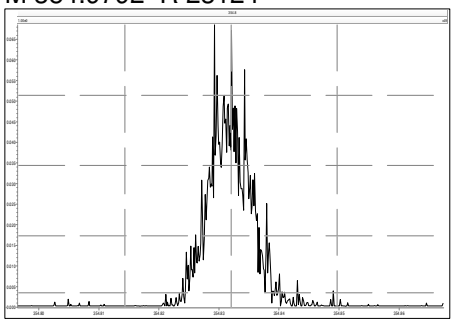
M 330.9792 R 20083



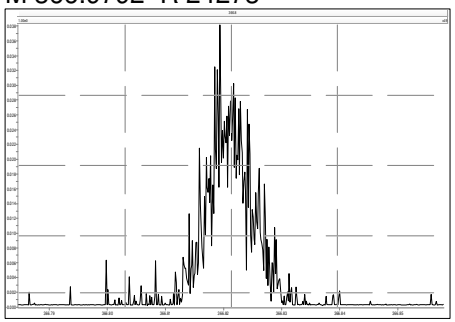
M 342.9792 R 20950



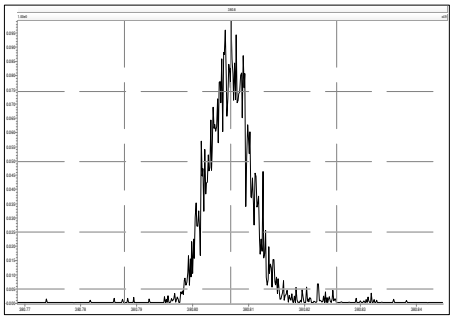
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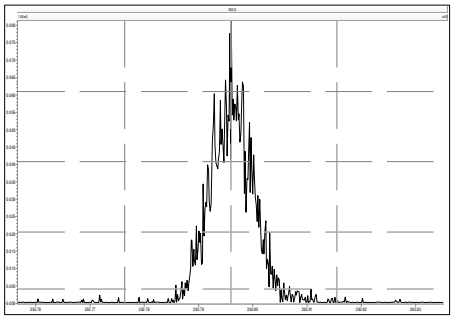
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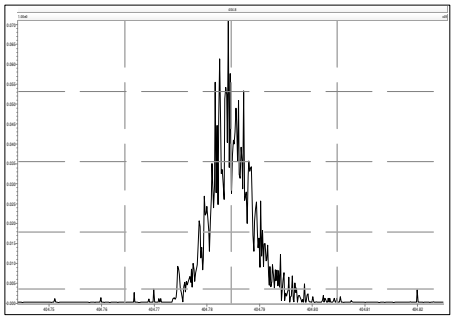
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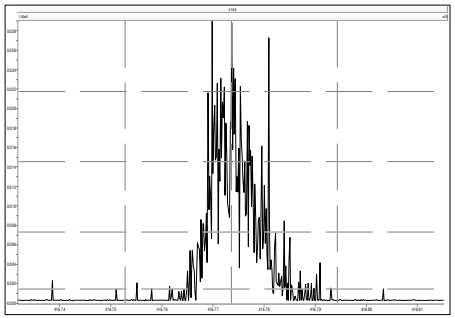
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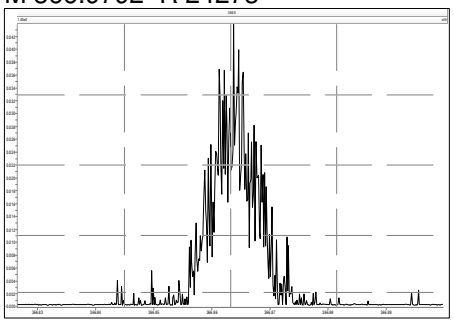
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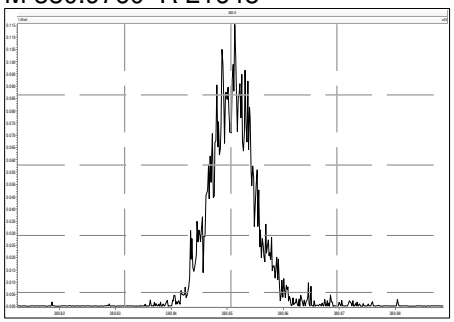
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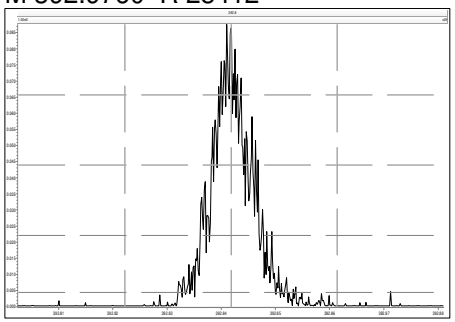
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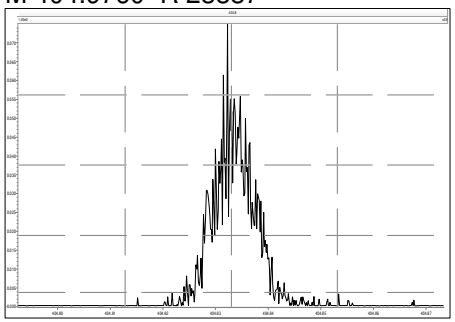
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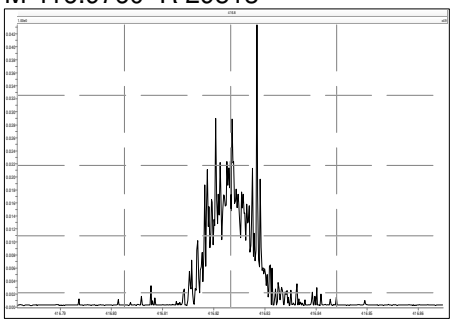
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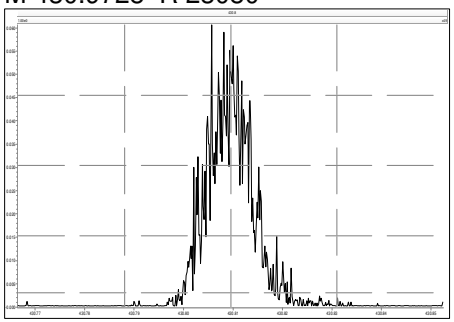
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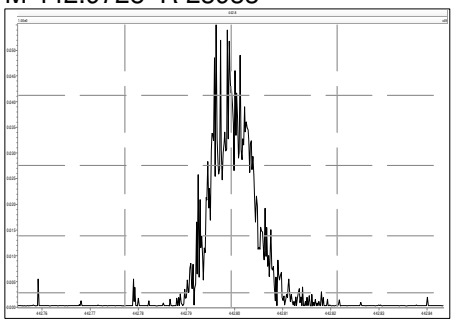
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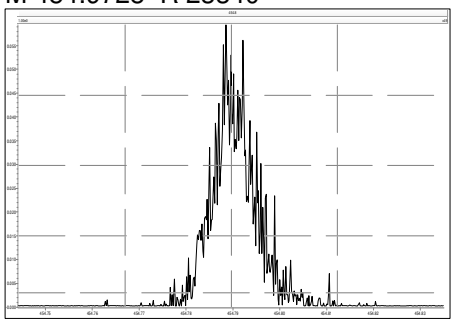
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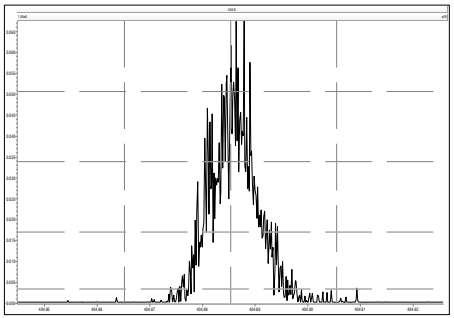
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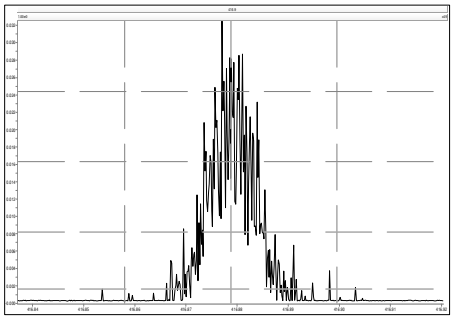
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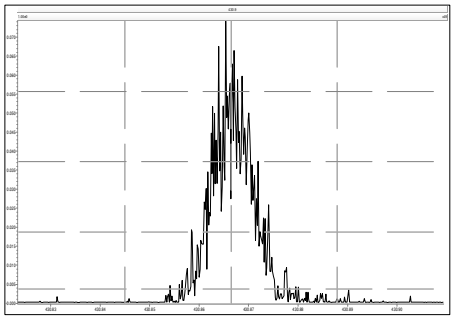
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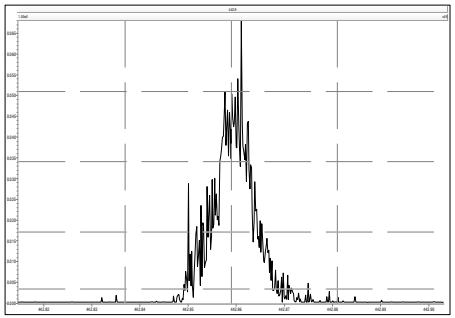
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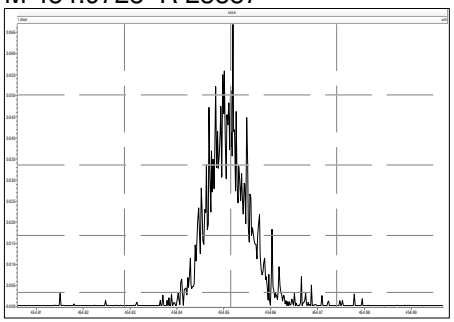
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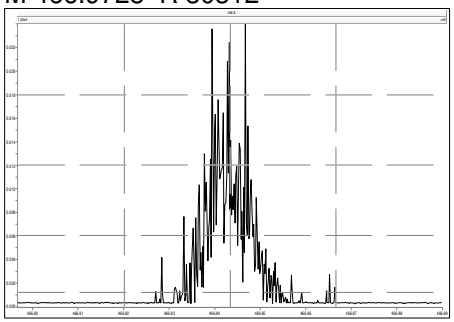
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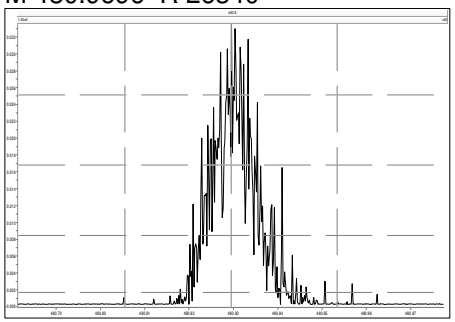
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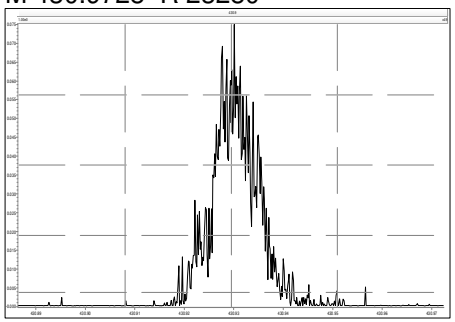
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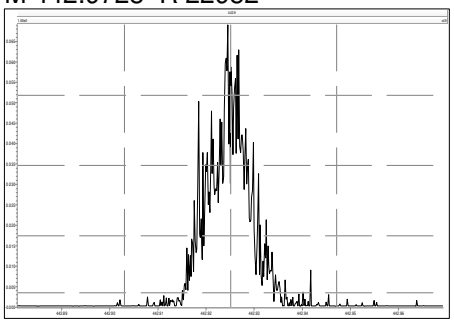
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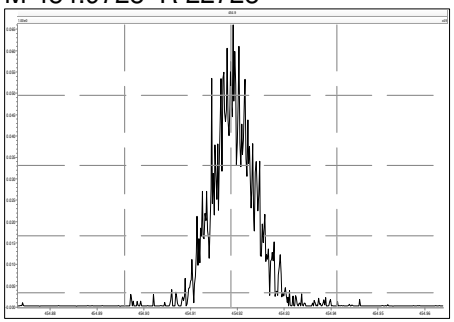
M 430.9728 R 23280



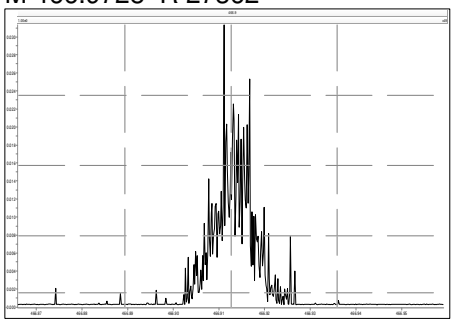
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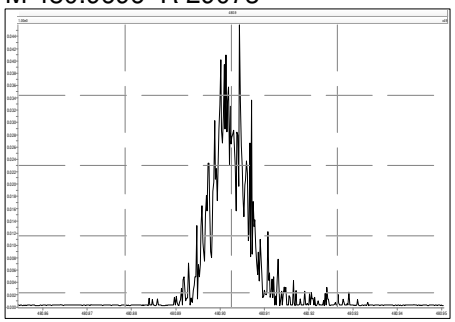
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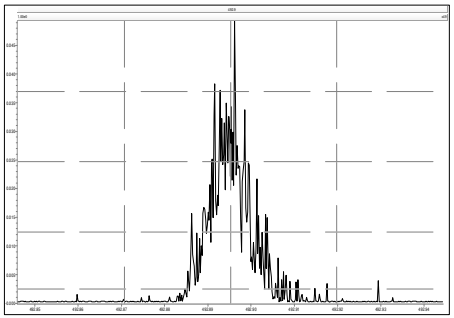
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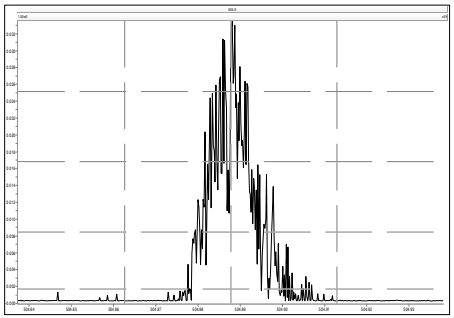
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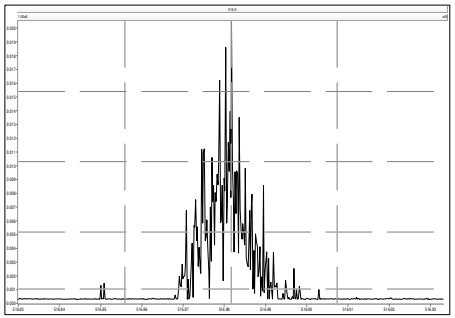
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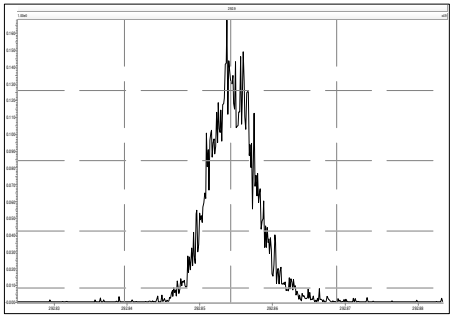
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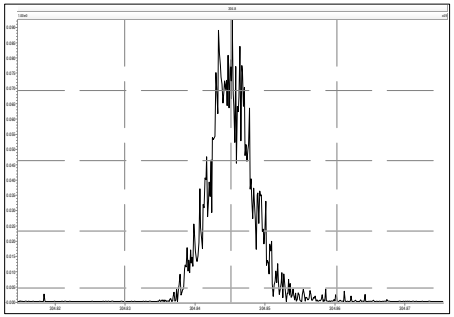
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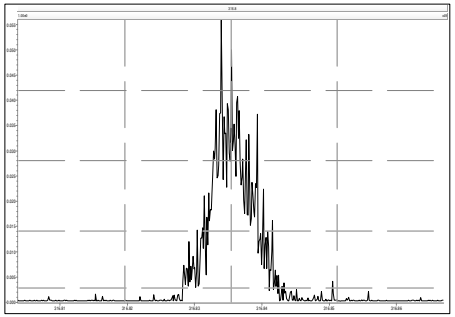
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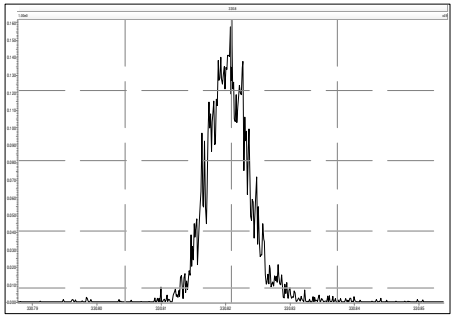
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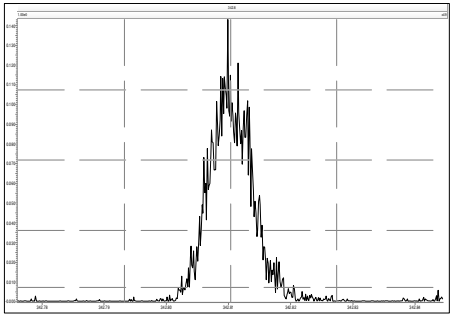
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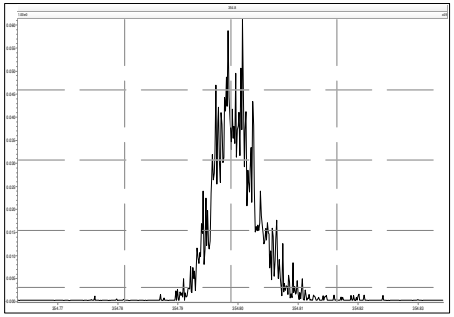
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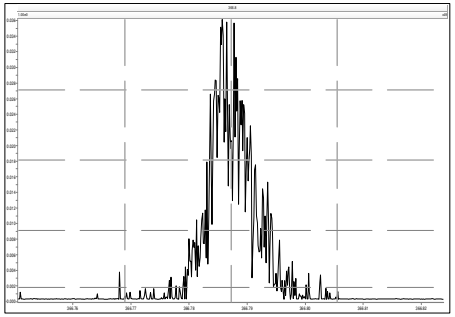
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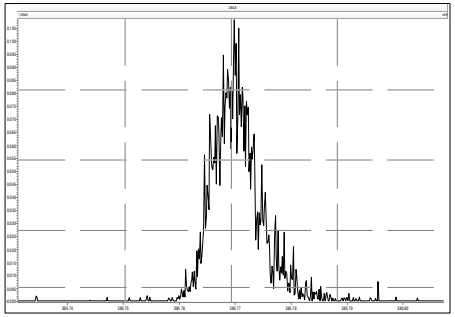
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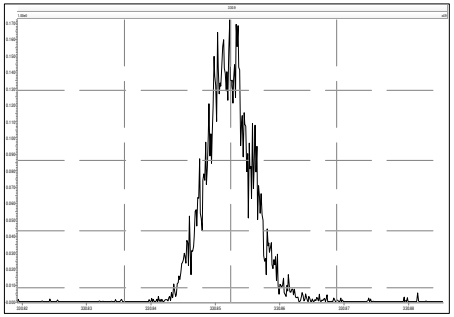
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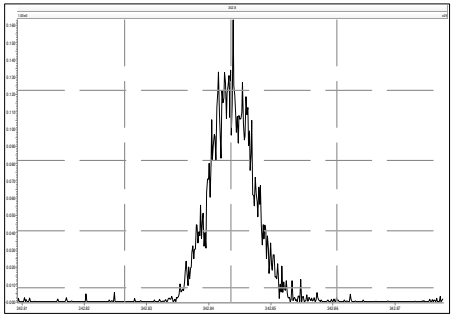
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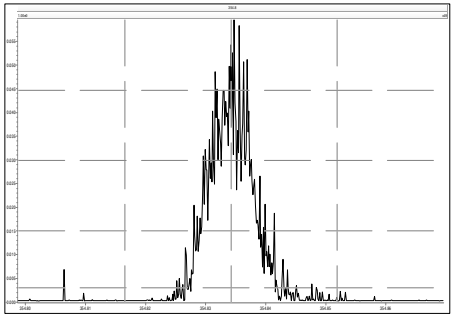
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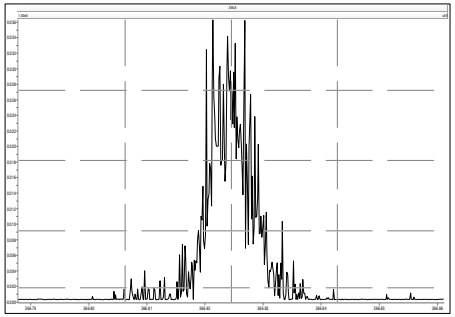
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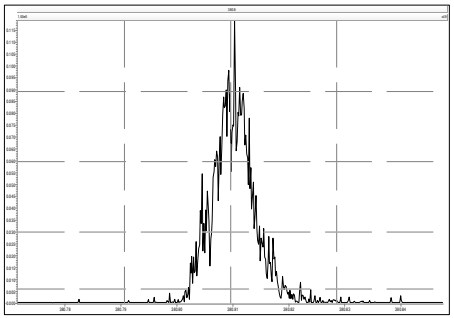
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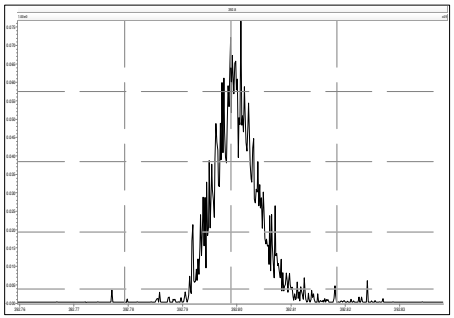
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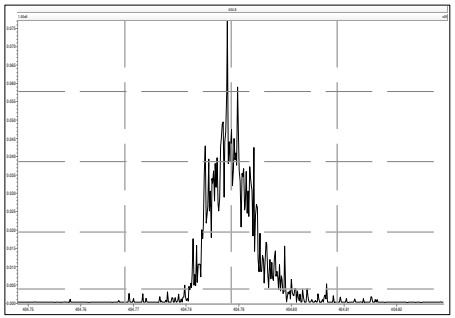
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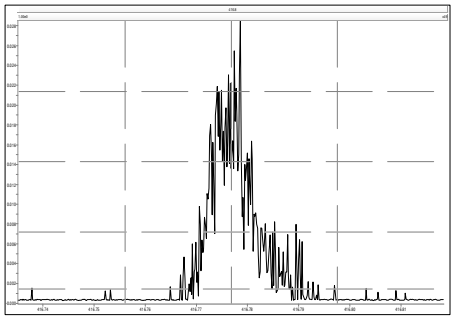
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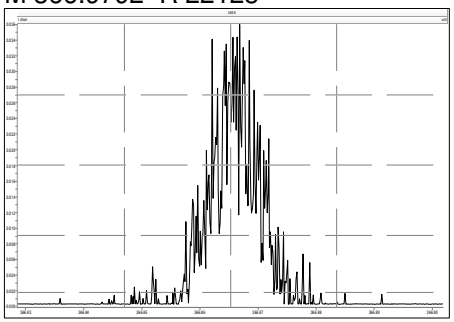
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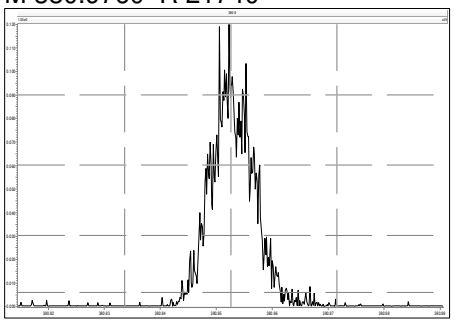
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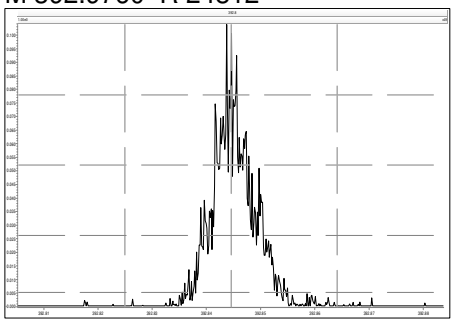
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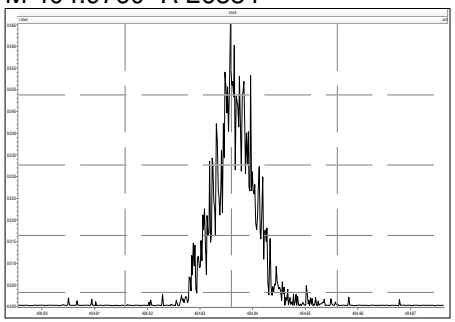
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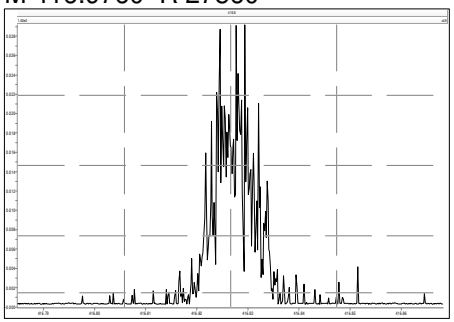
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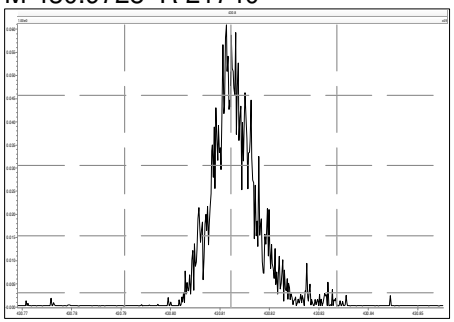
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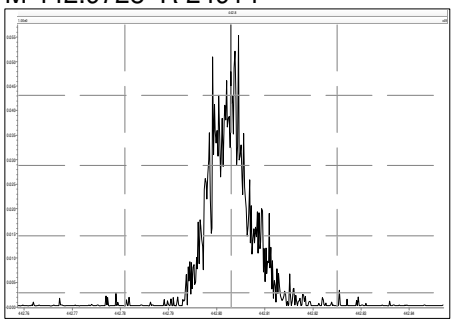
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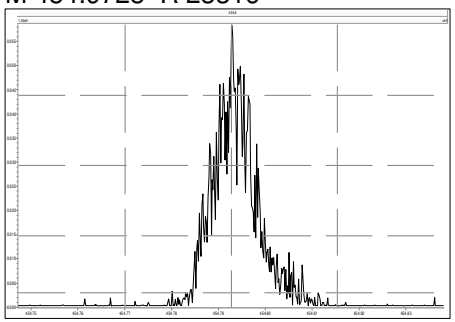
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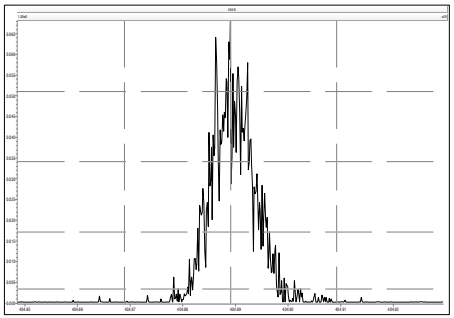
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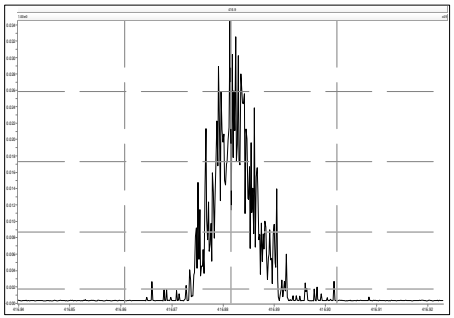
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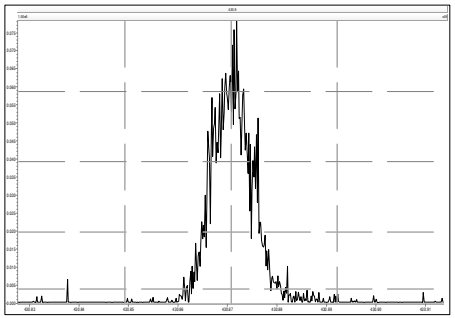
M 404.9760 R 21854



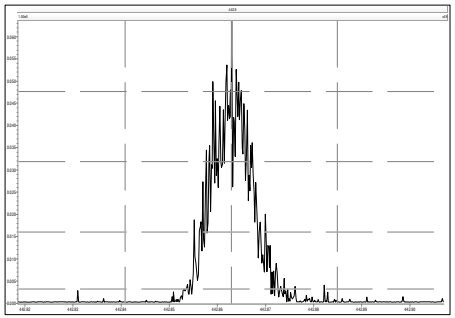
M 416.9760 R 26264



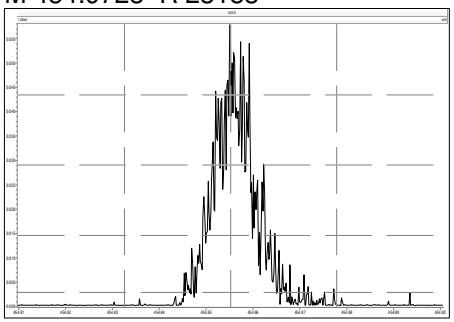
M 430.9728 R 24040



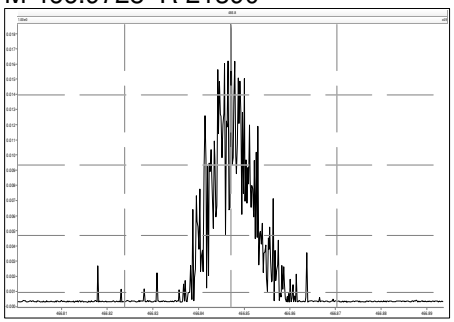
M 442.9728 R 25014



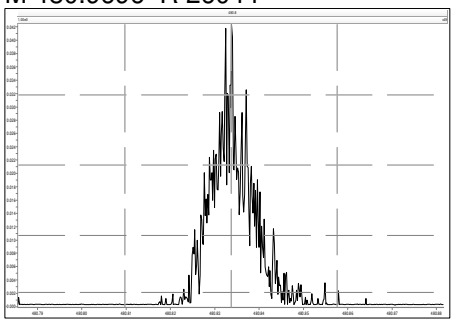
M 454.9728 R 23183



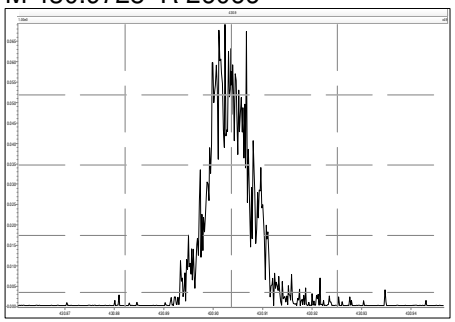
M 466.9728 R 21390



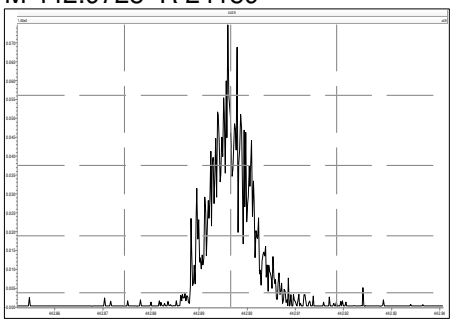
M 480.9696 R 26044



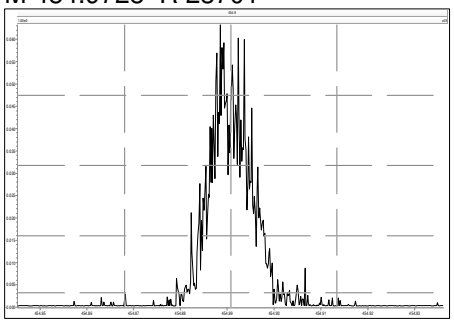
M 430.9728 R 26066



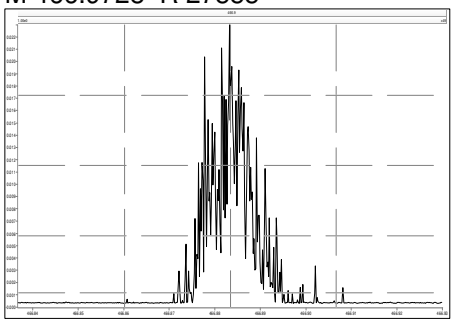
M 442.9728 R 24159



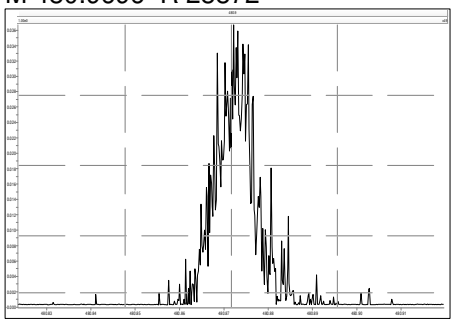
M 454.9728 R 23701



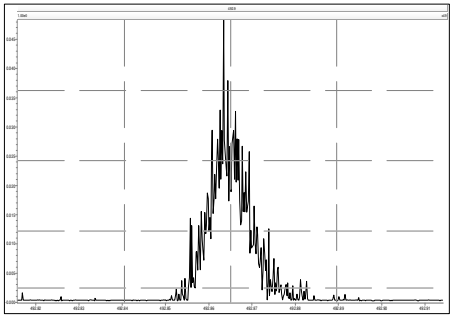
M 466.9728 R 27555



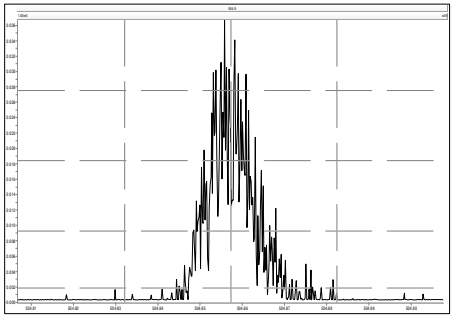
M 480.9696 R 28872



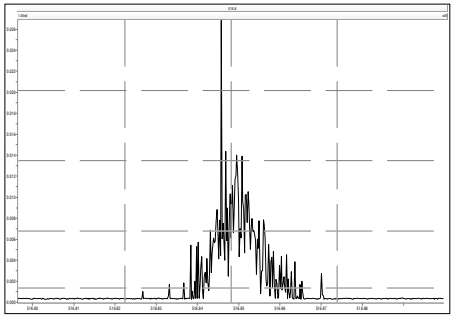
M 492.9696 R 26738



M 504.9696 R 25576



M 516.9697 R 24646



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
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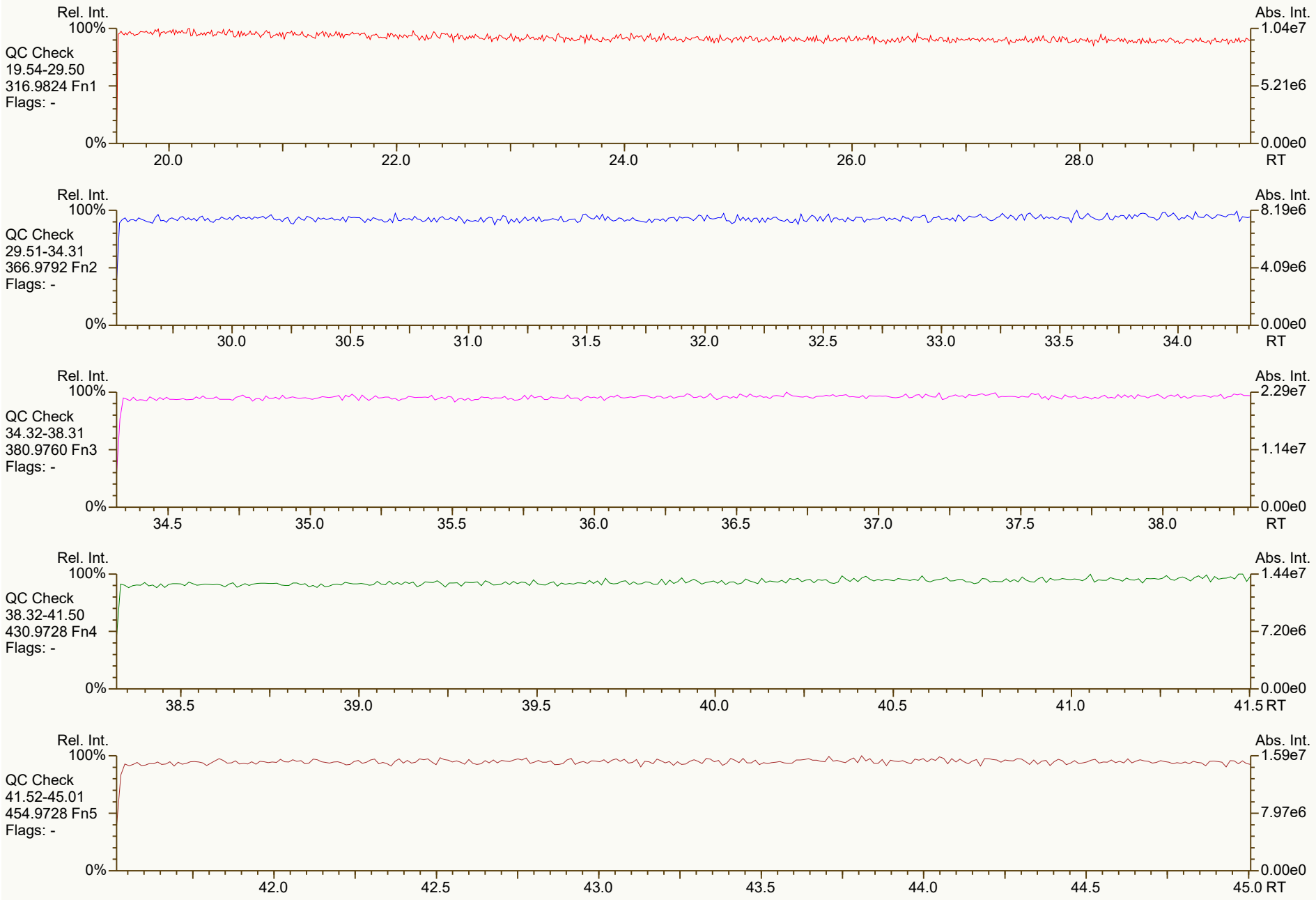
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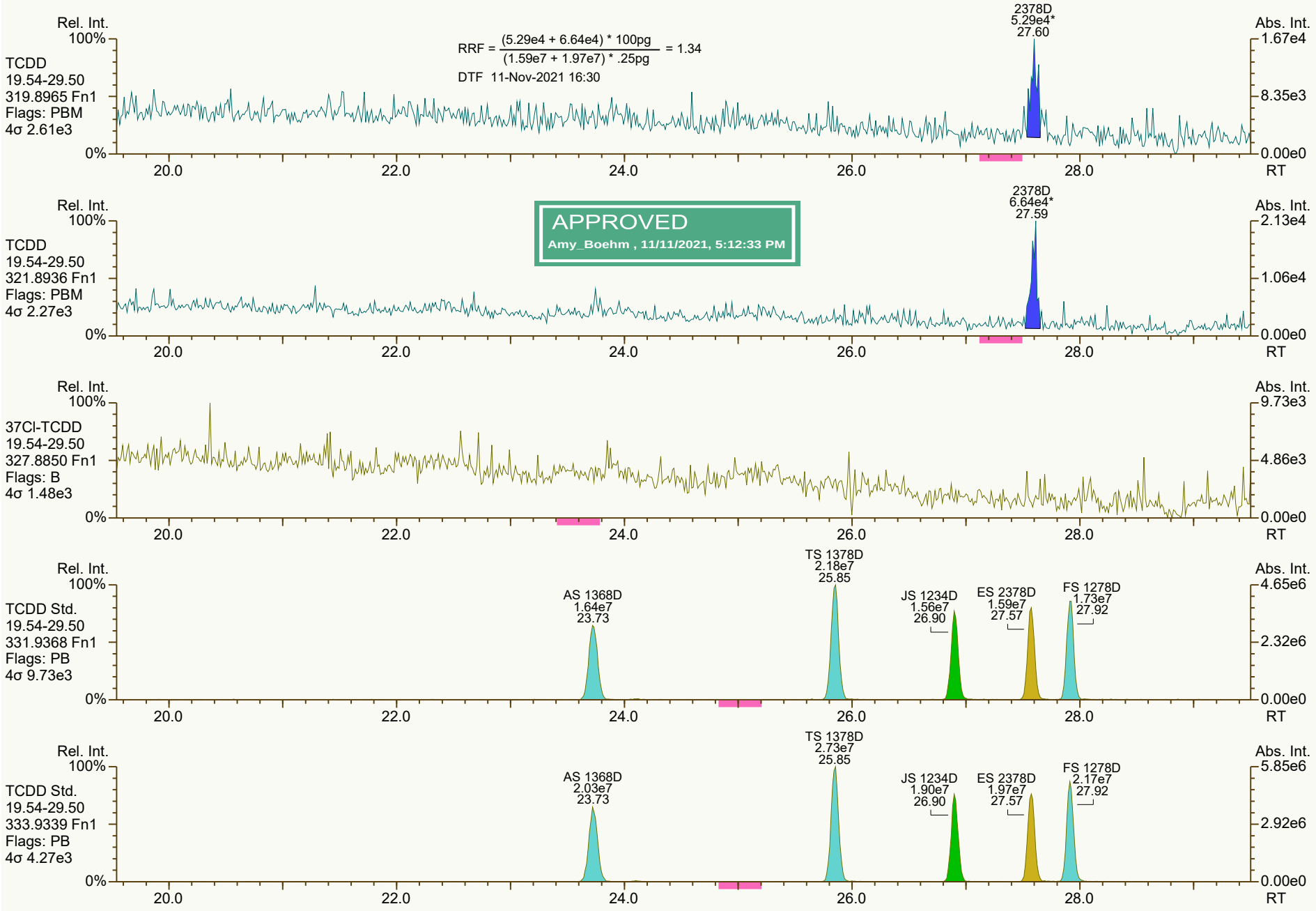
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

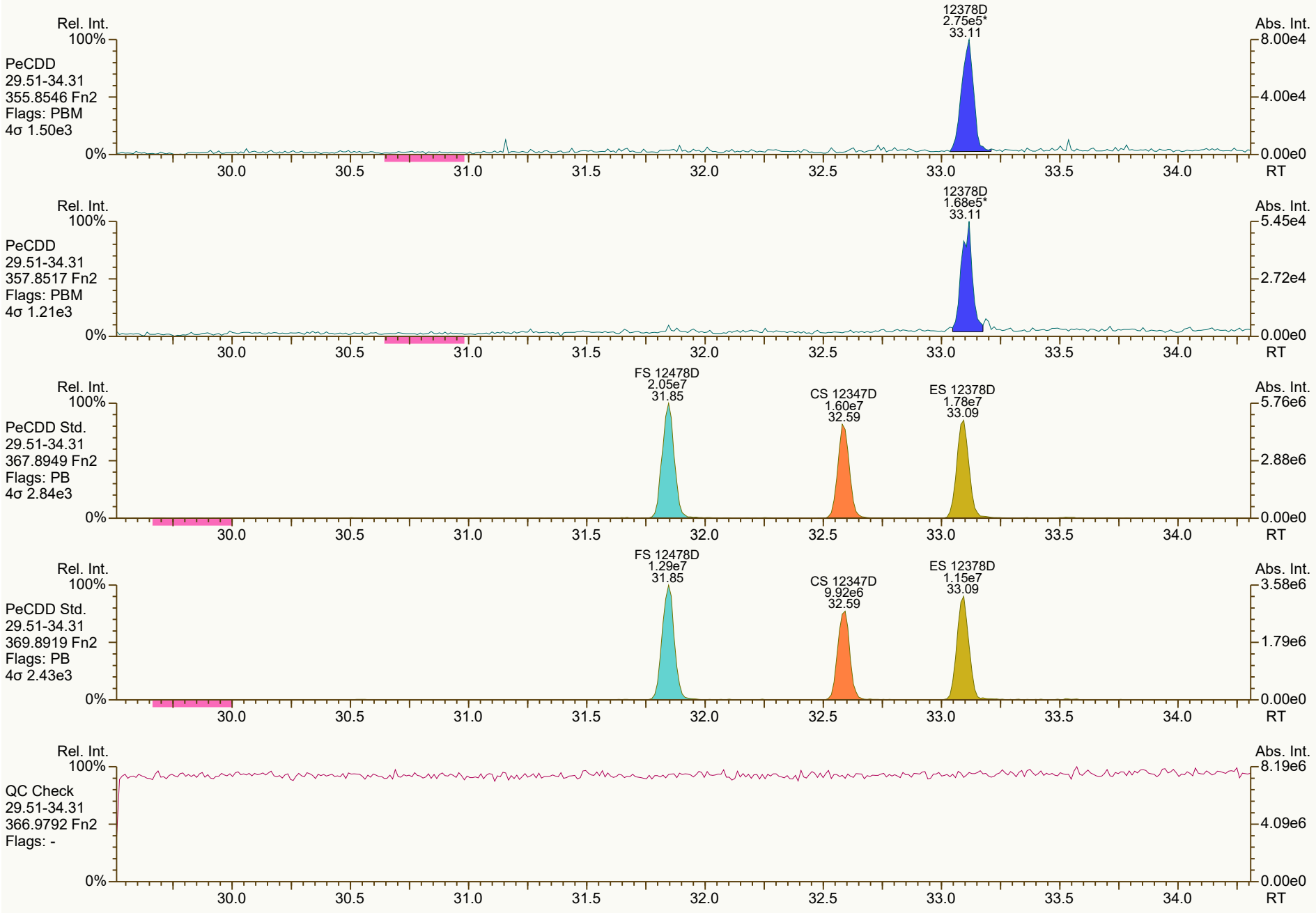
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

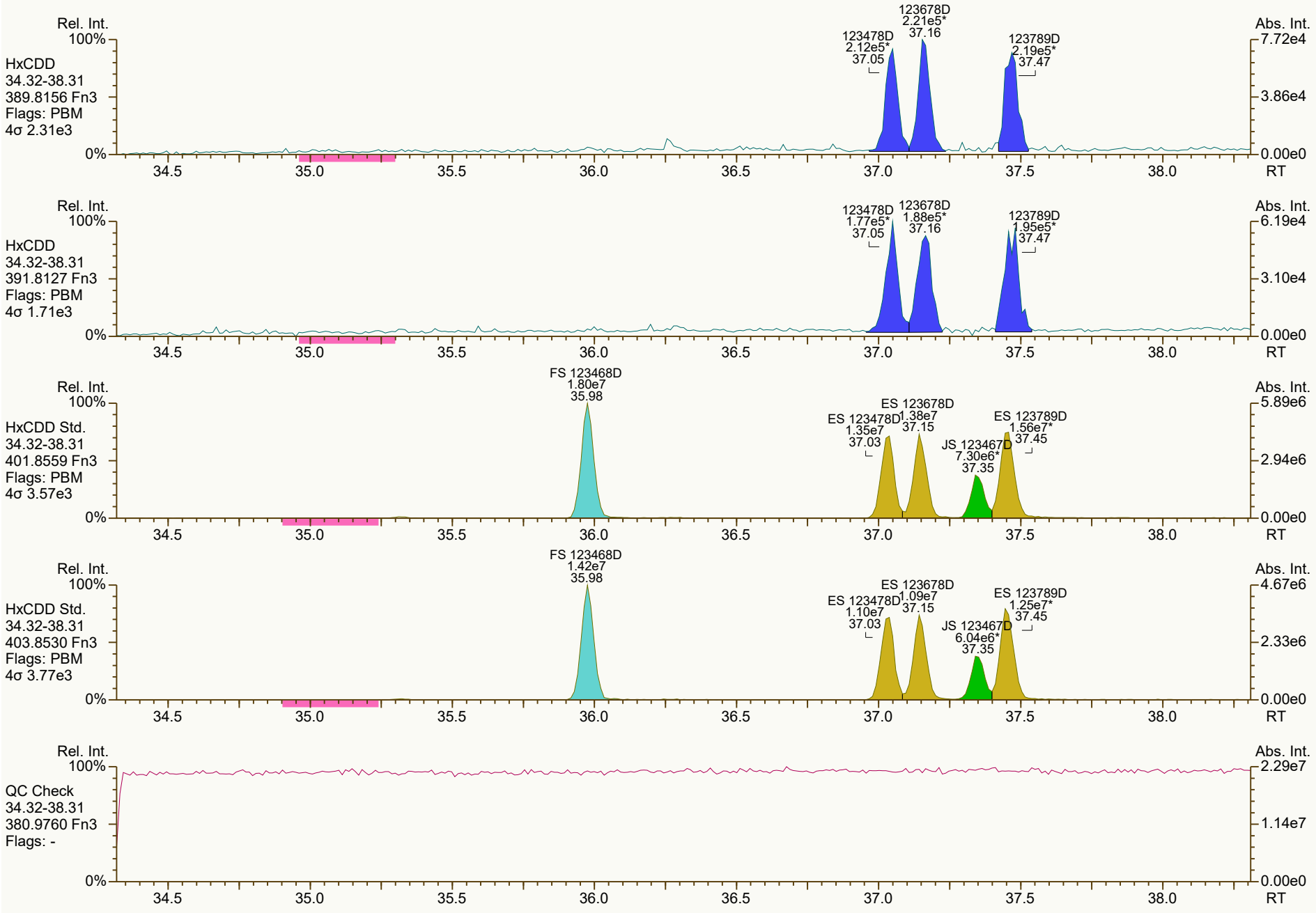
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

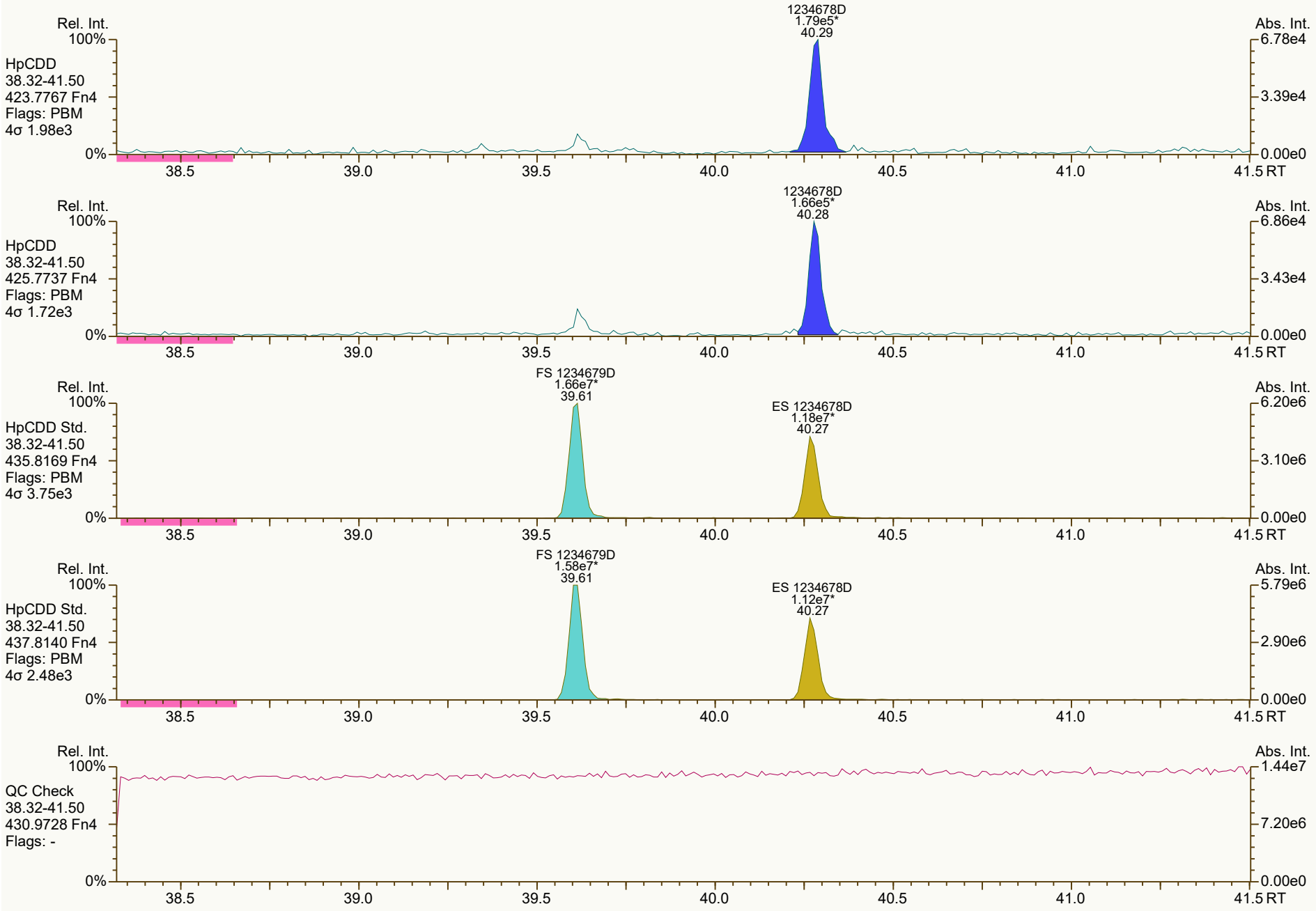
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%


Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
8.19e6
4.09e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.44e7
7.20e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0

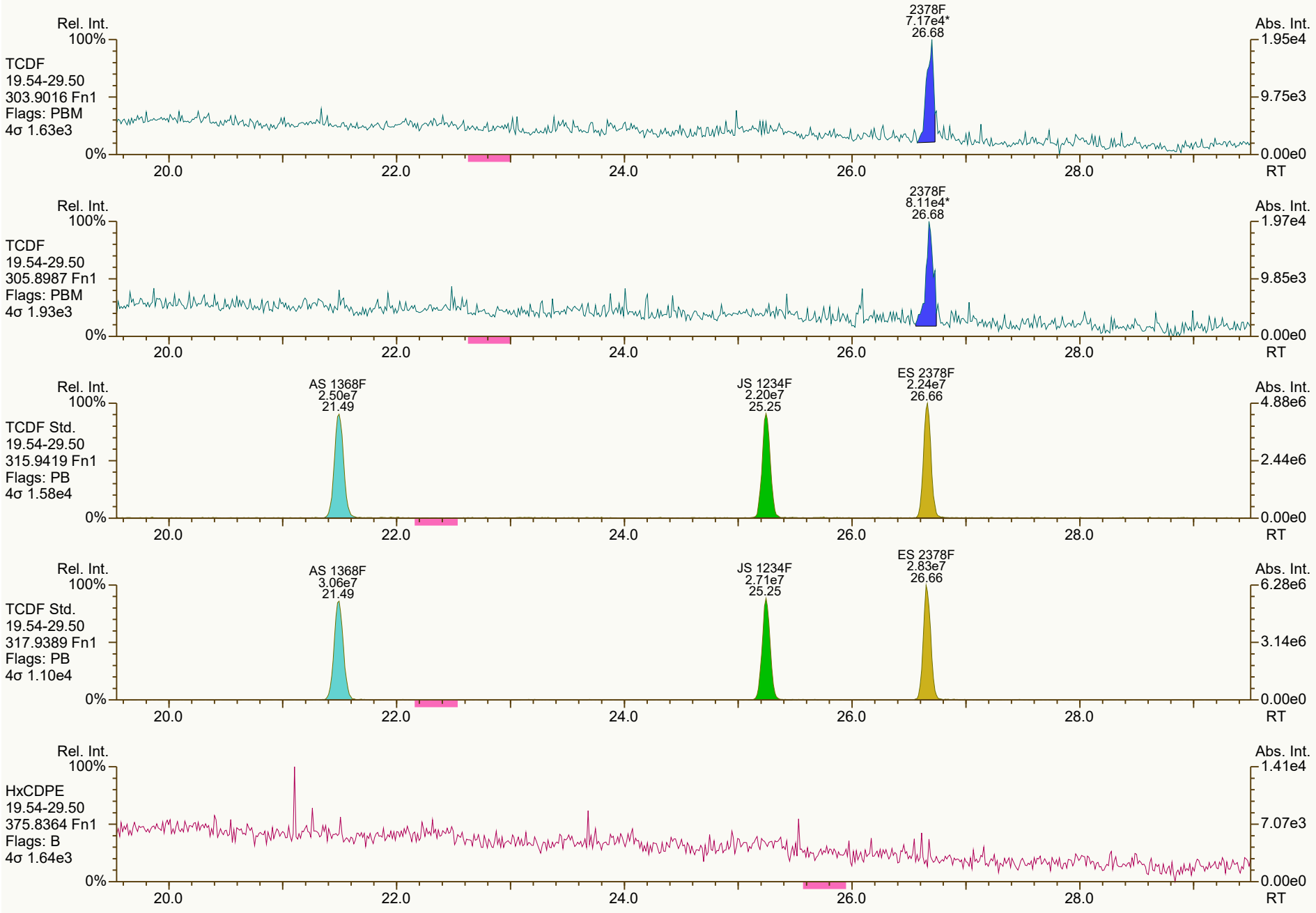

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

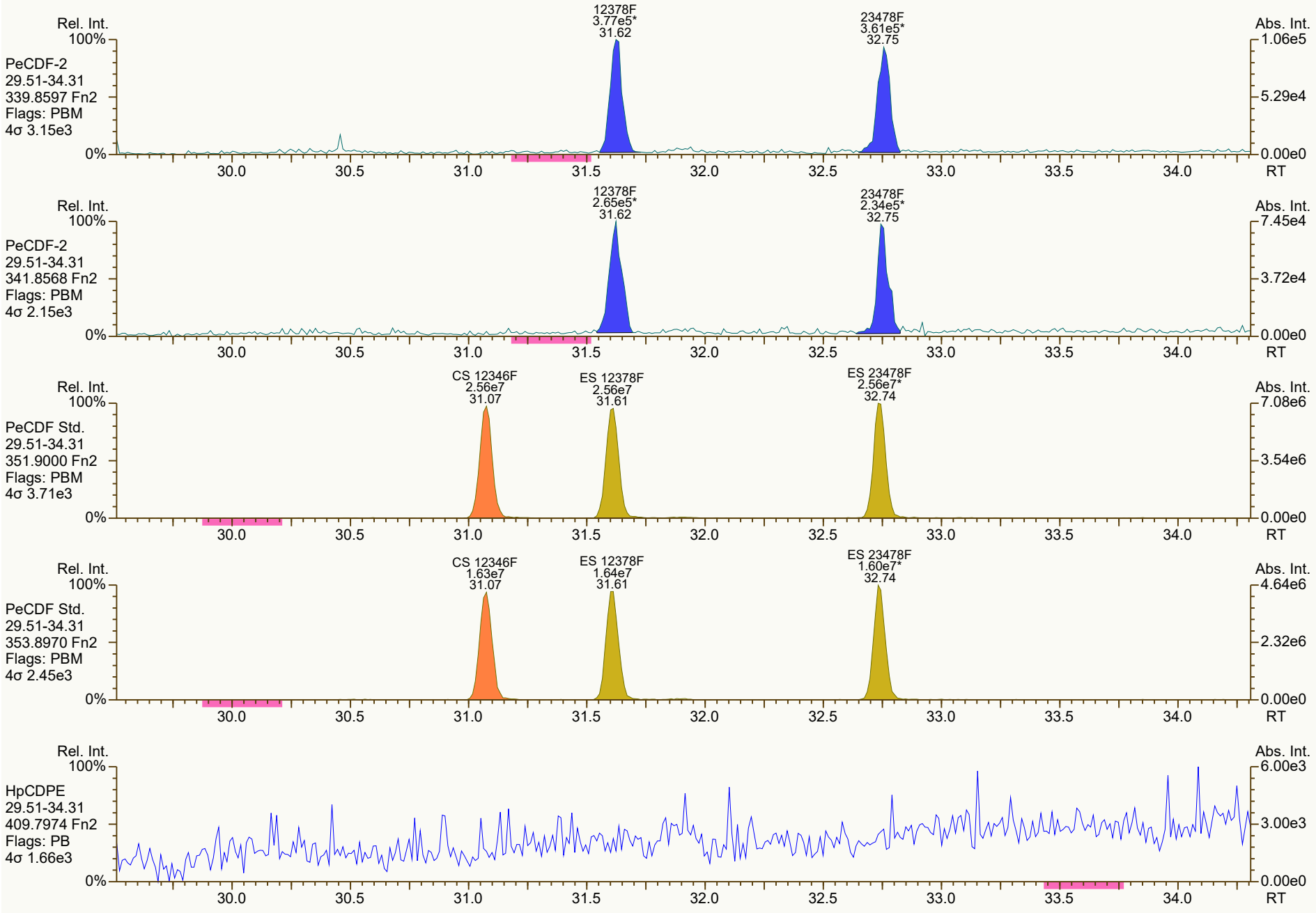

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

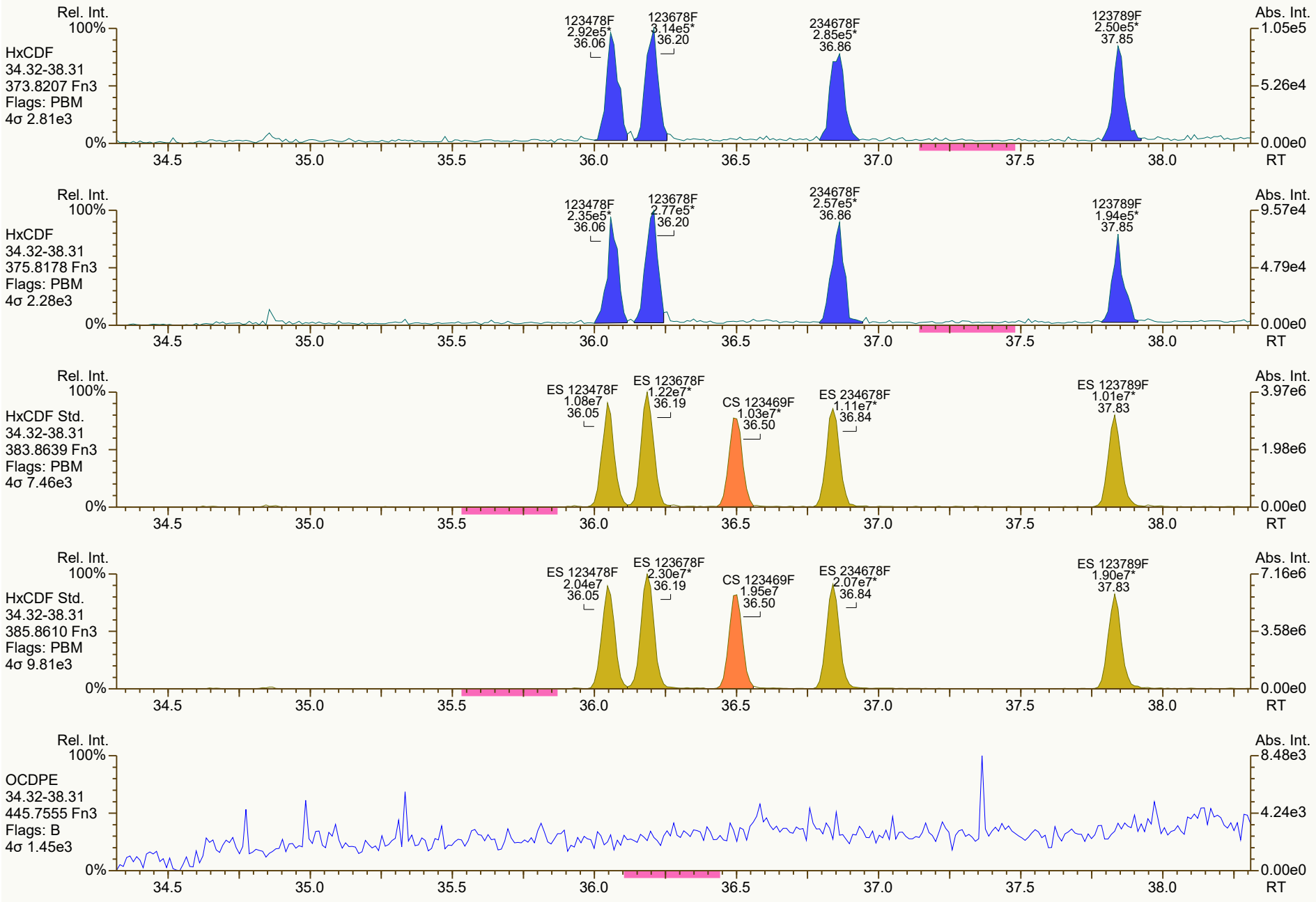

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

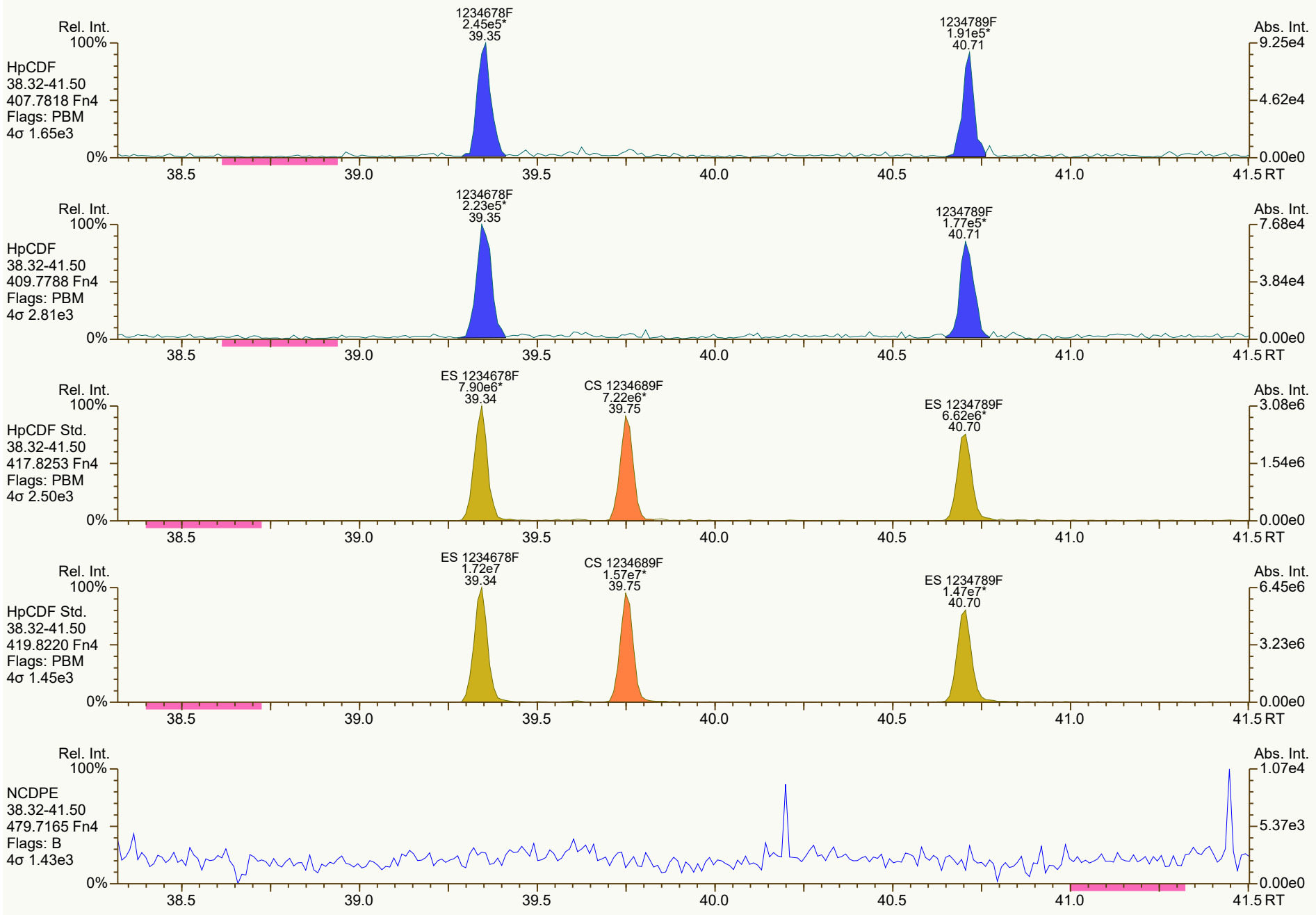

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

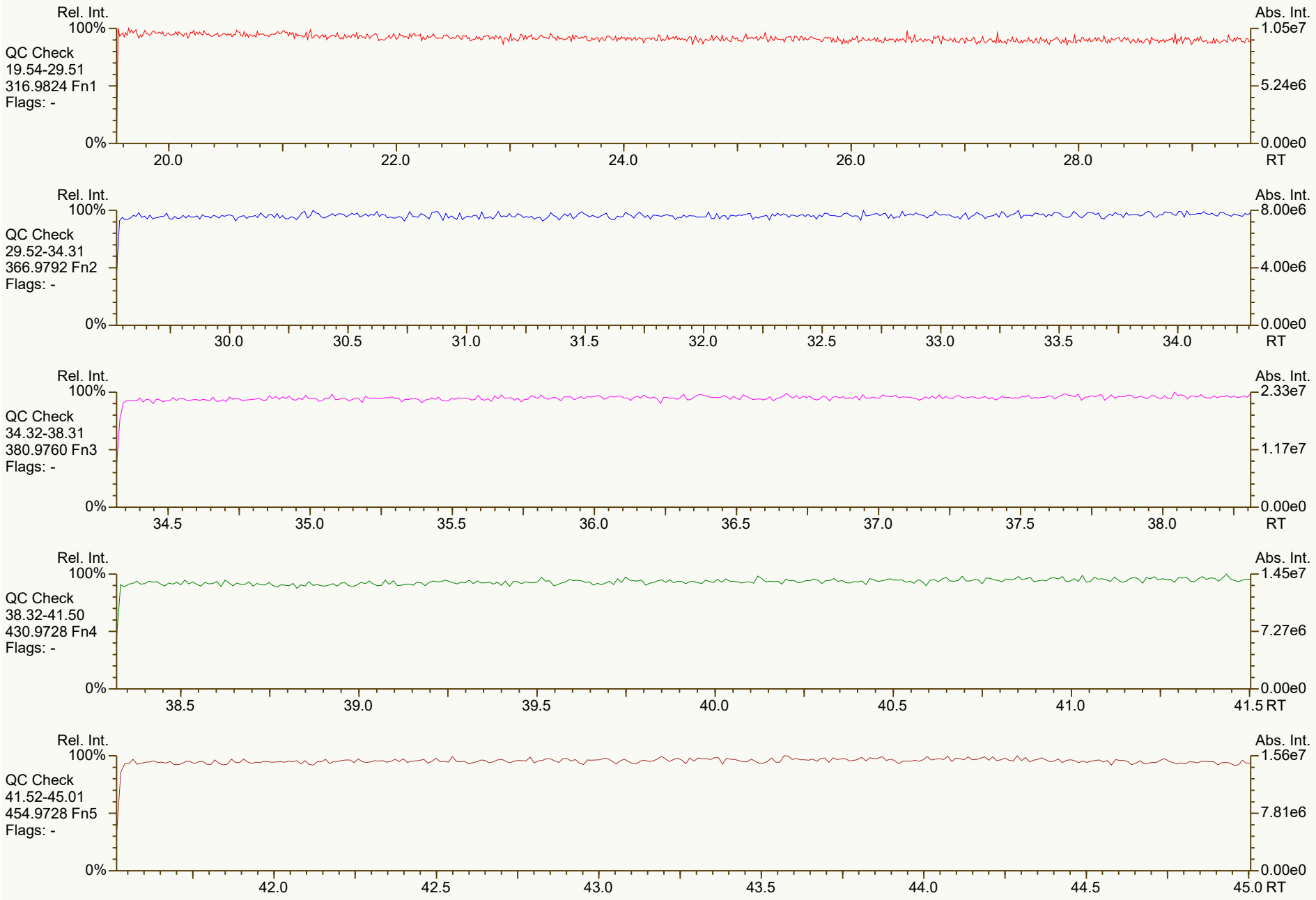

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

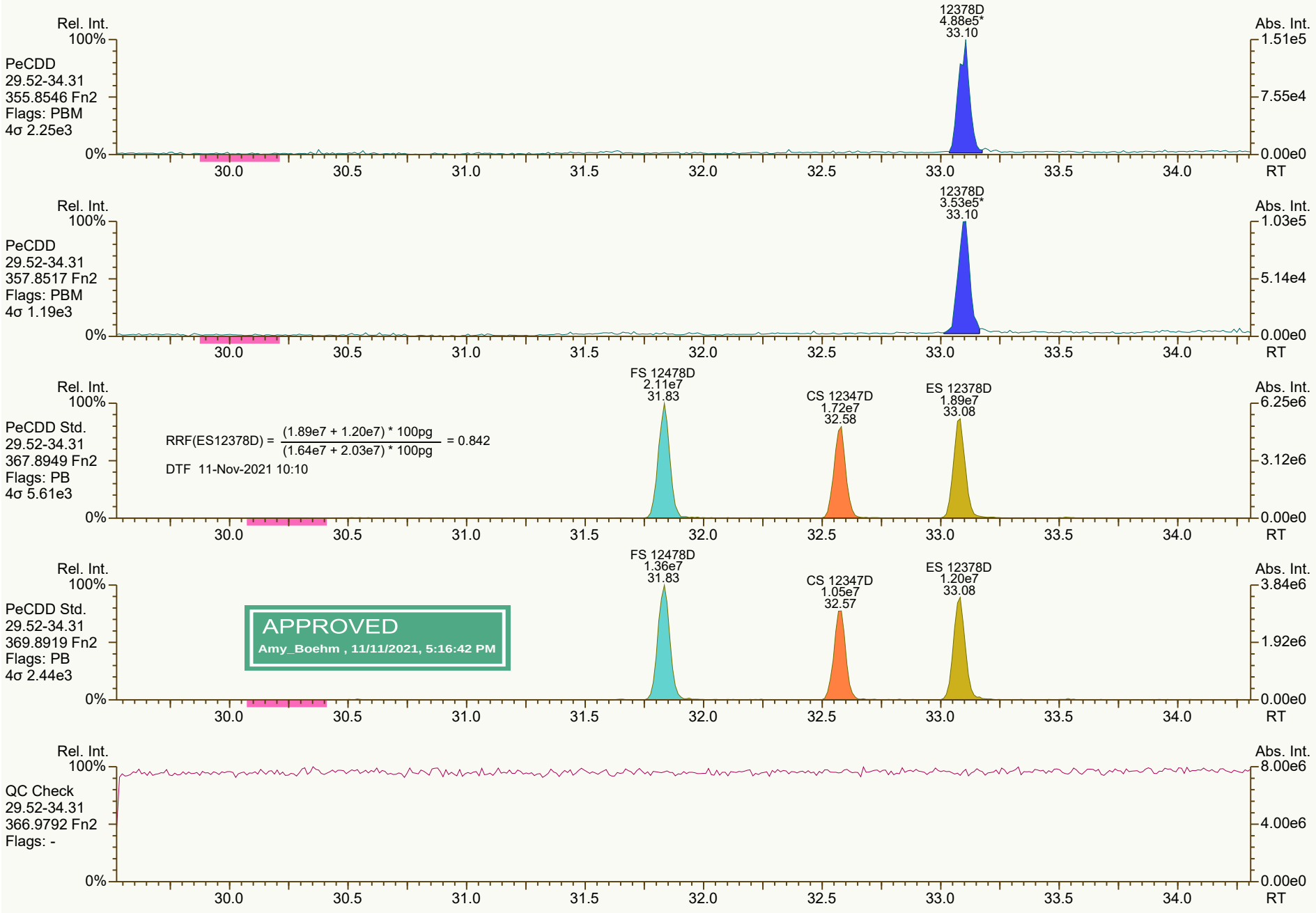
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

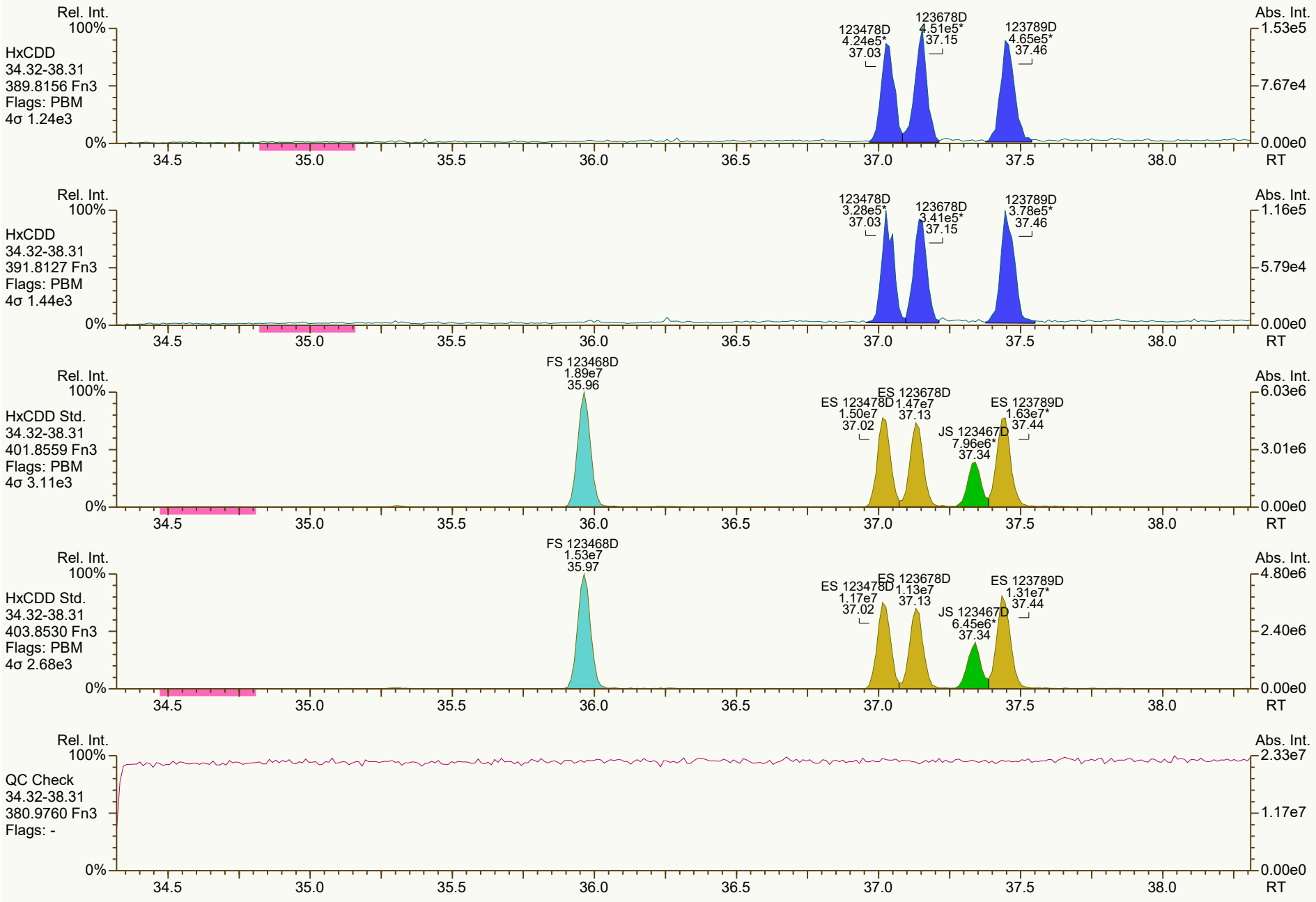
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

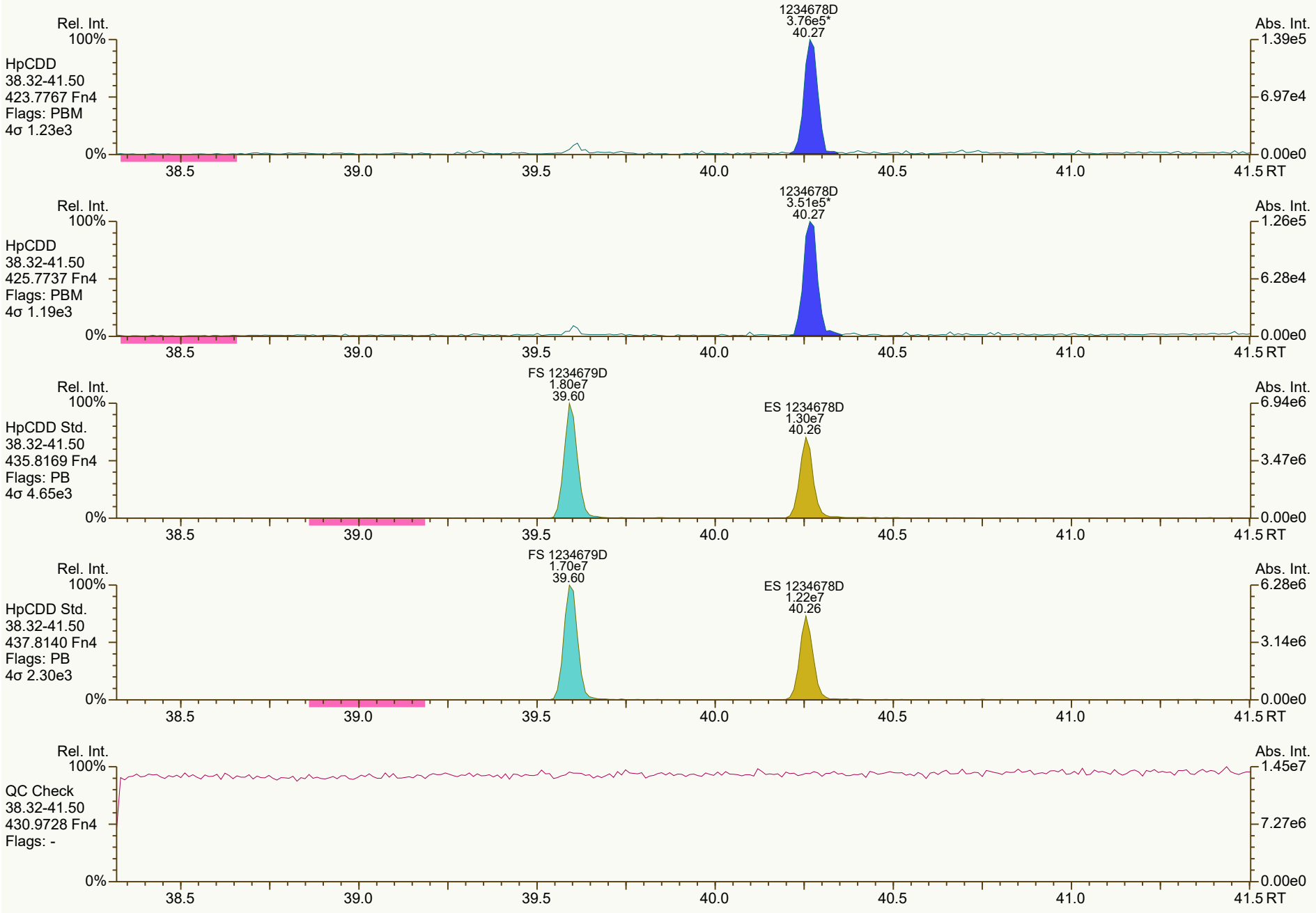


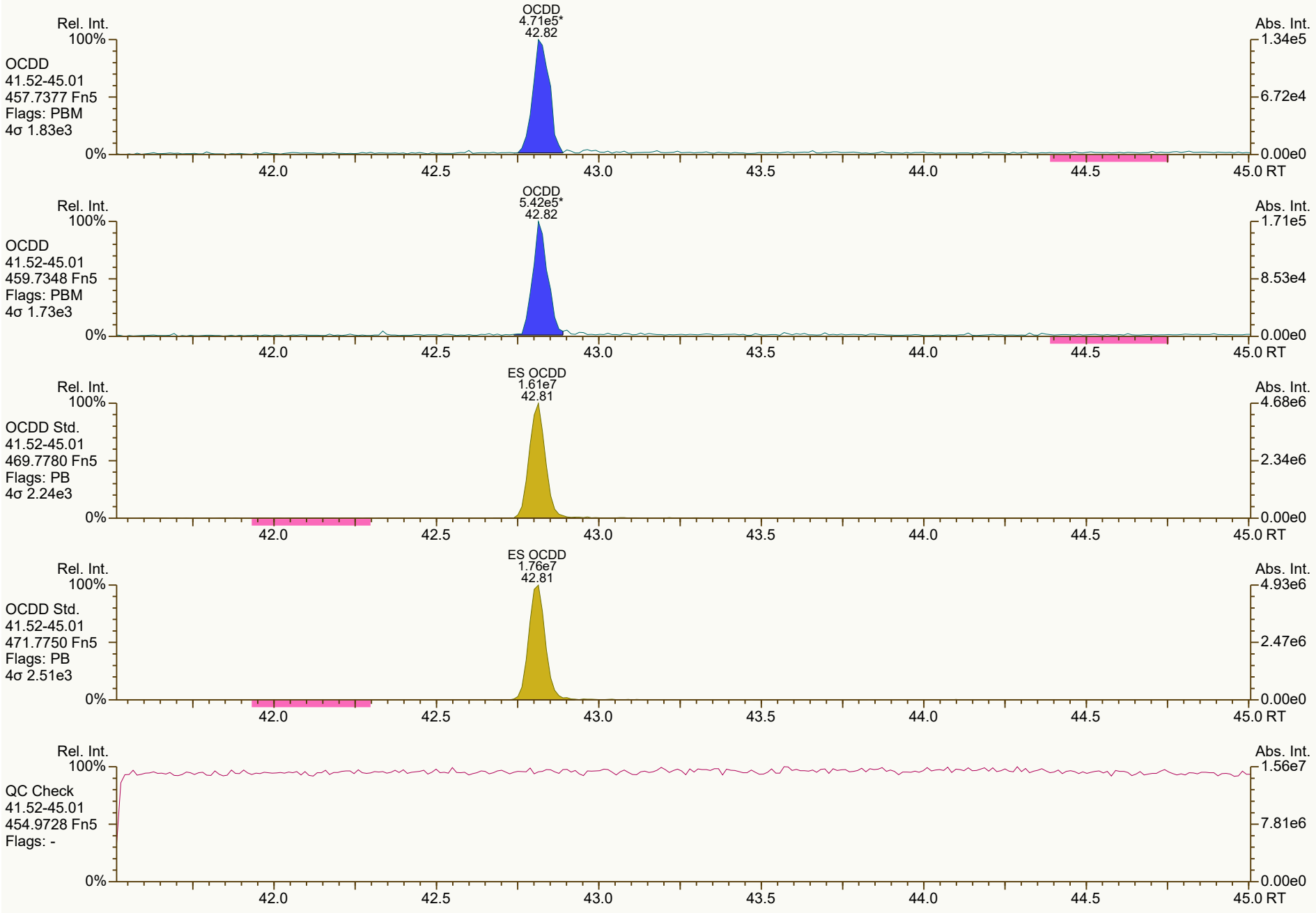
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

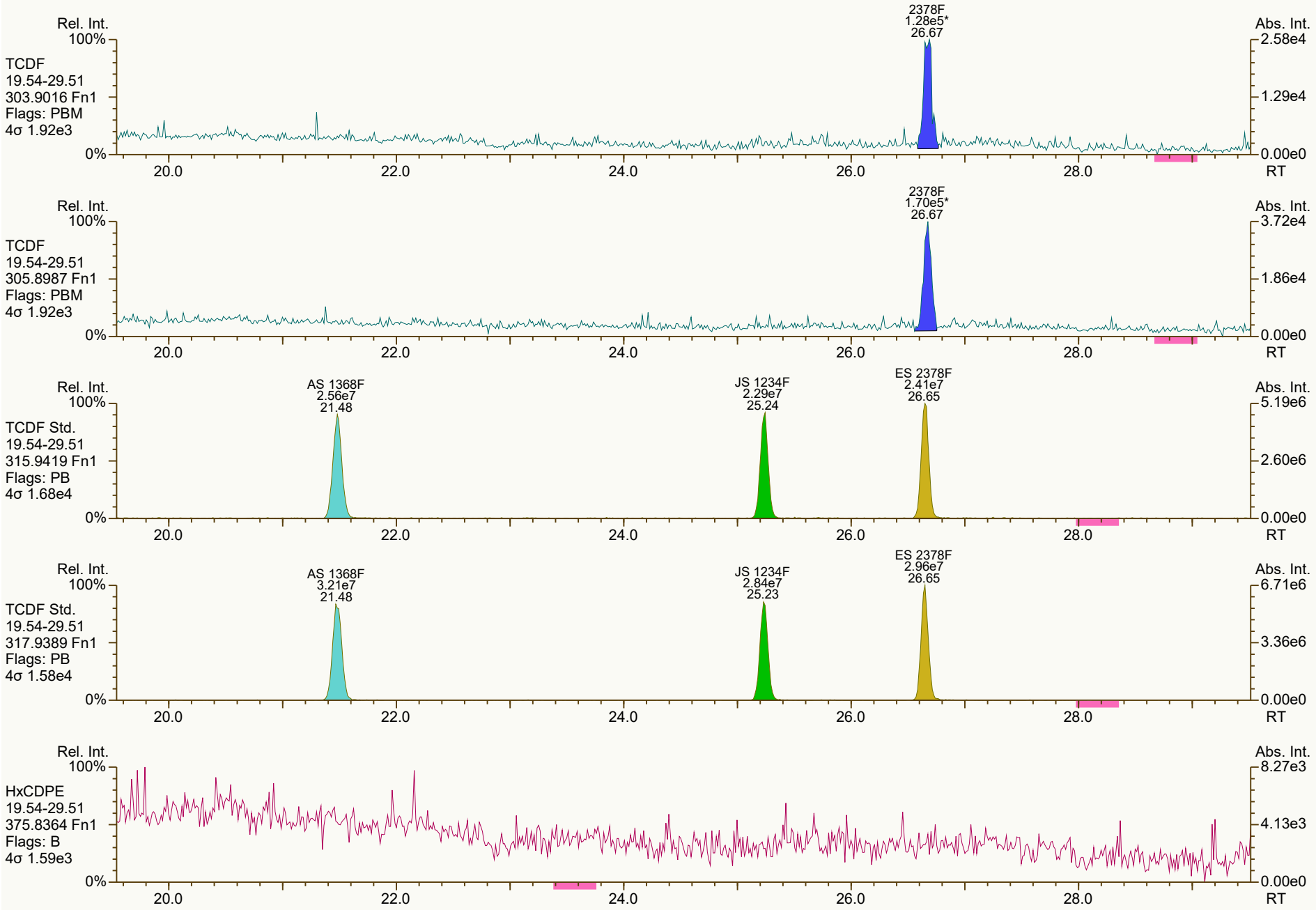

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

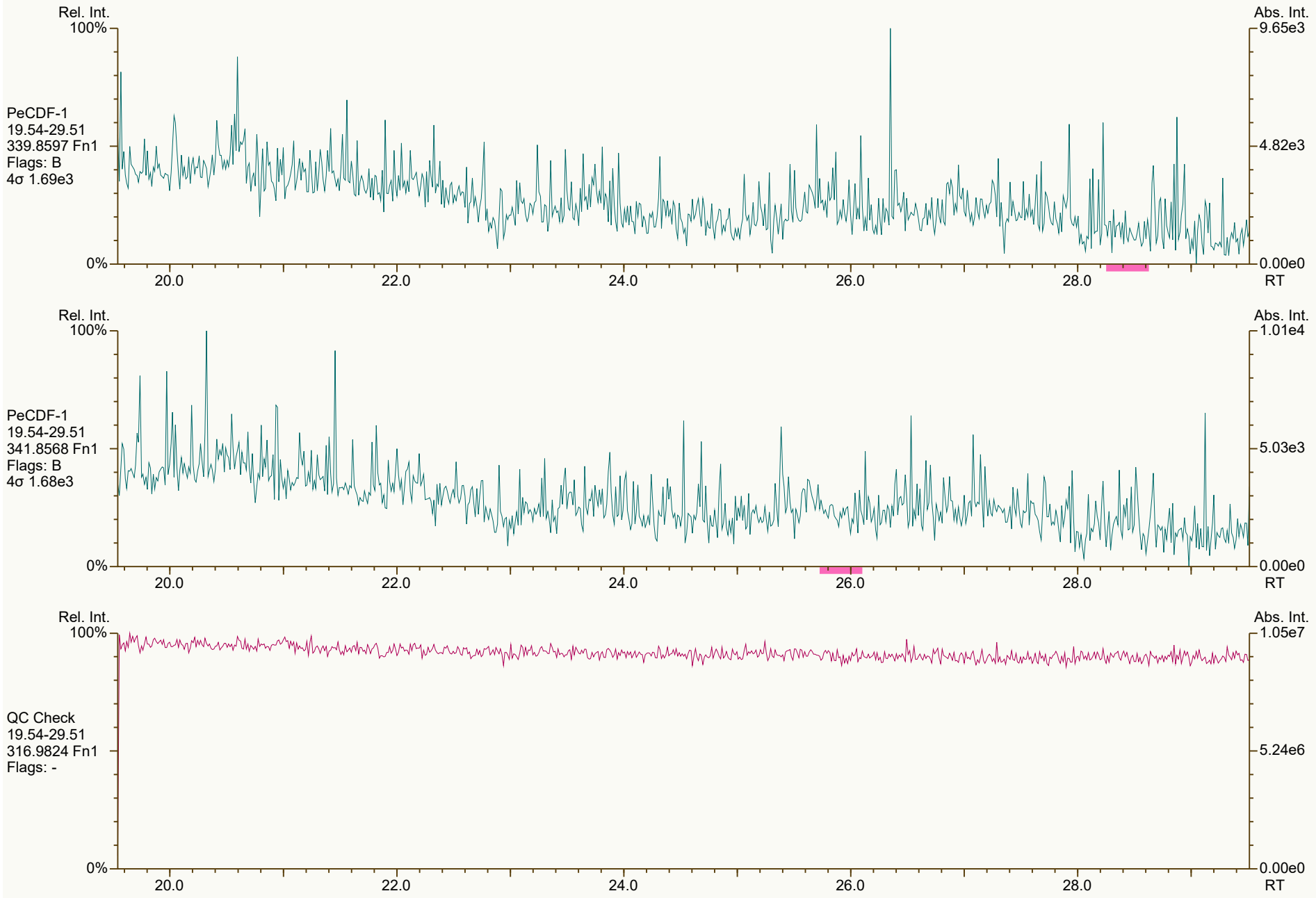

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

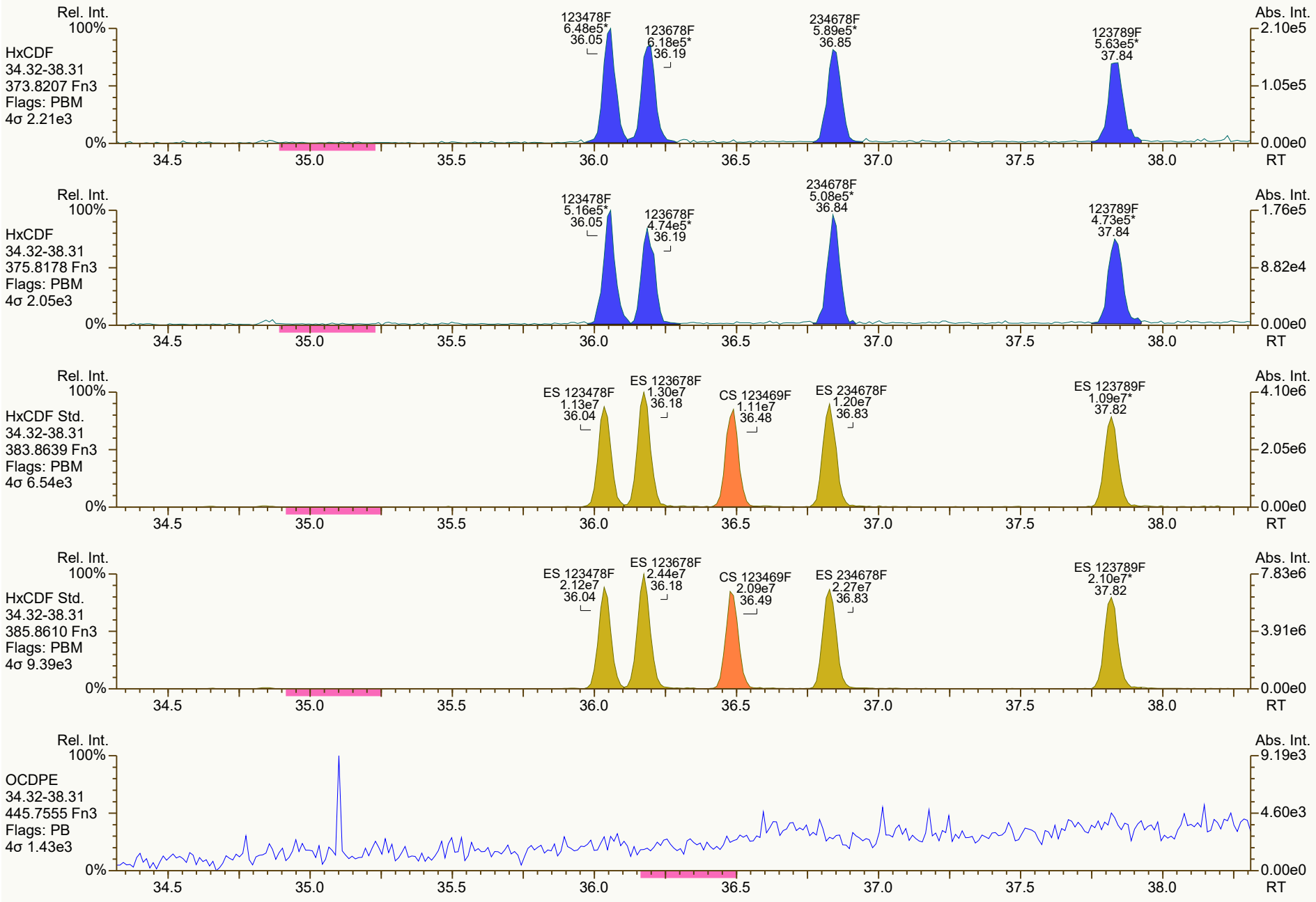

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

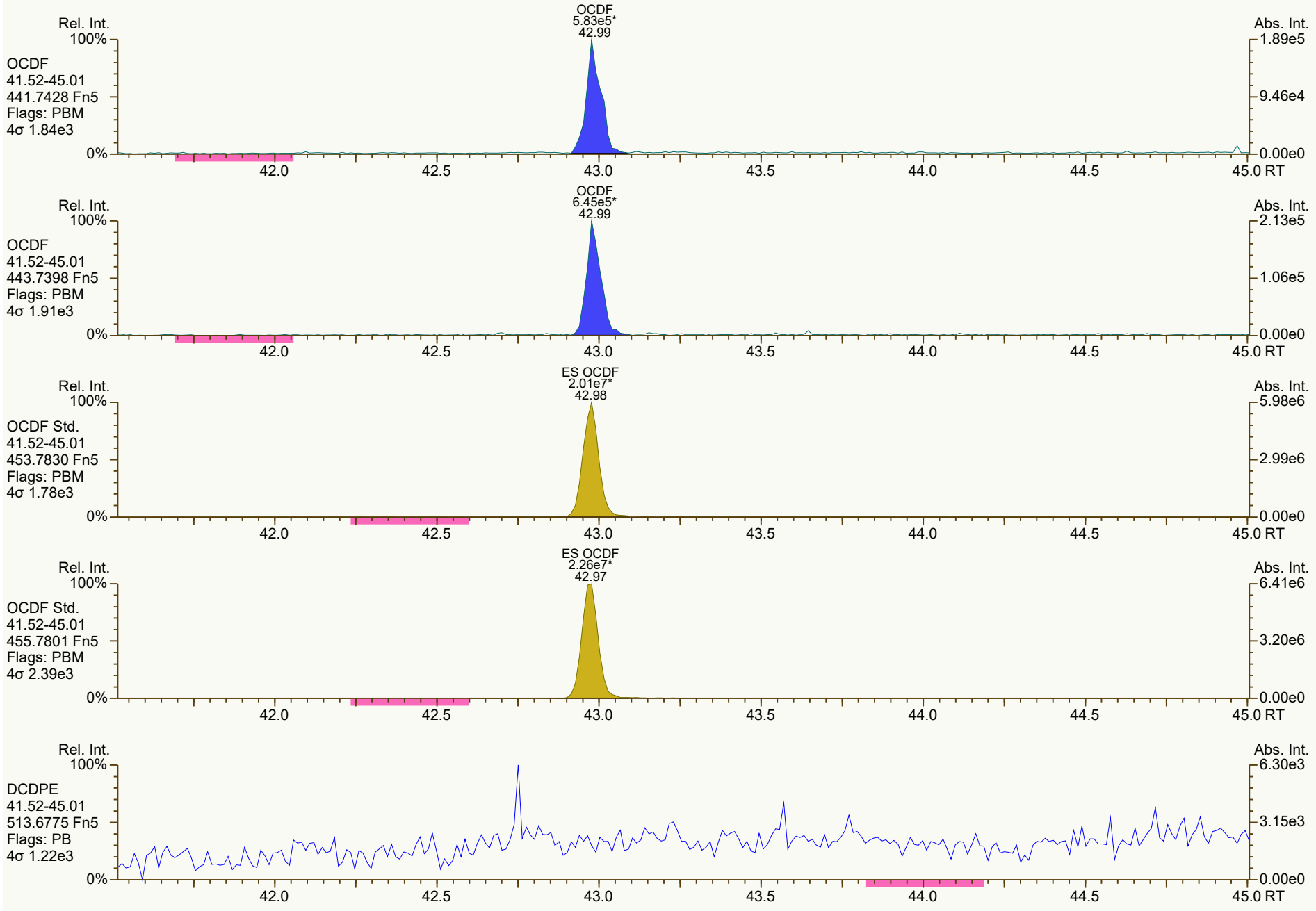

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

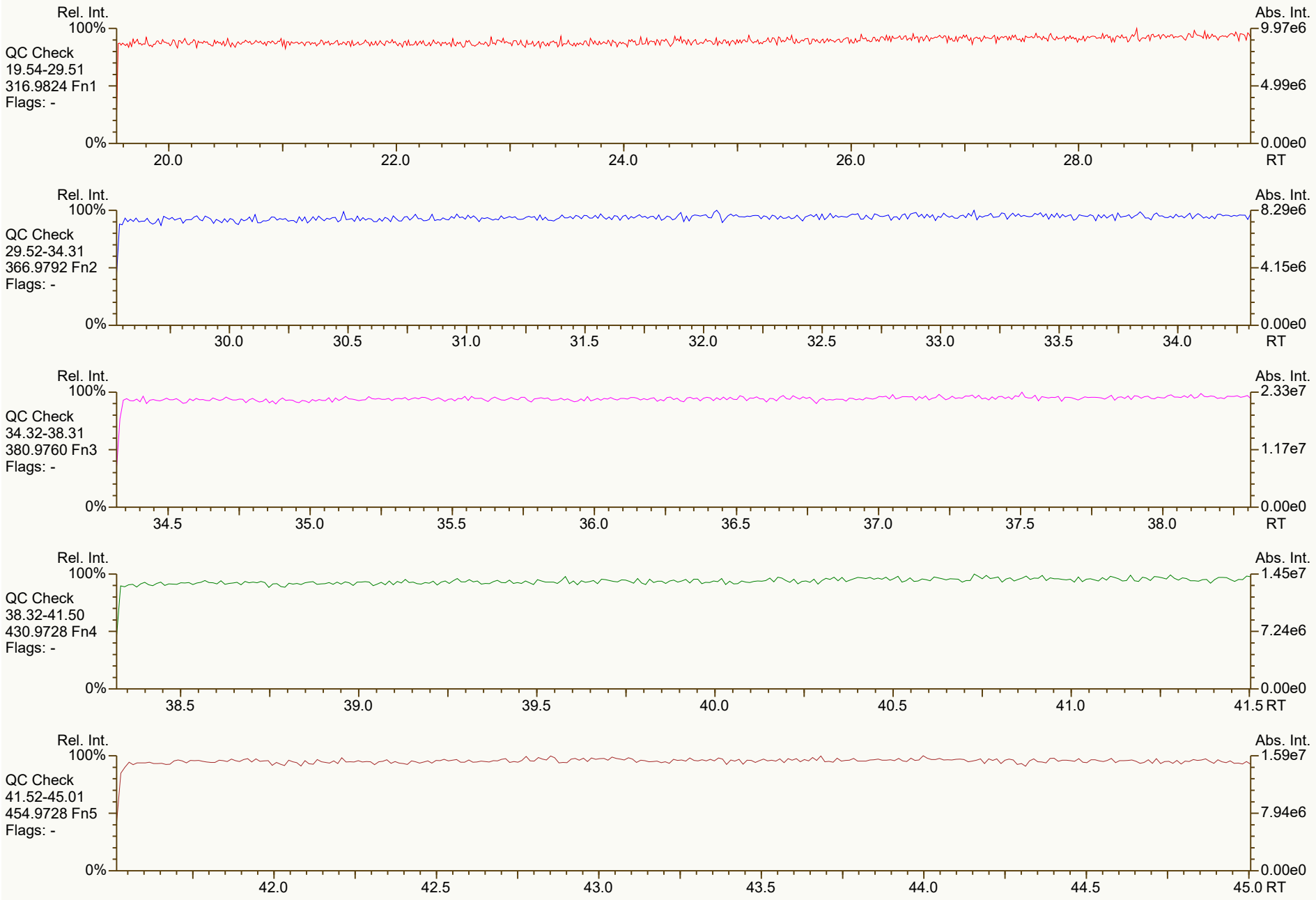

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

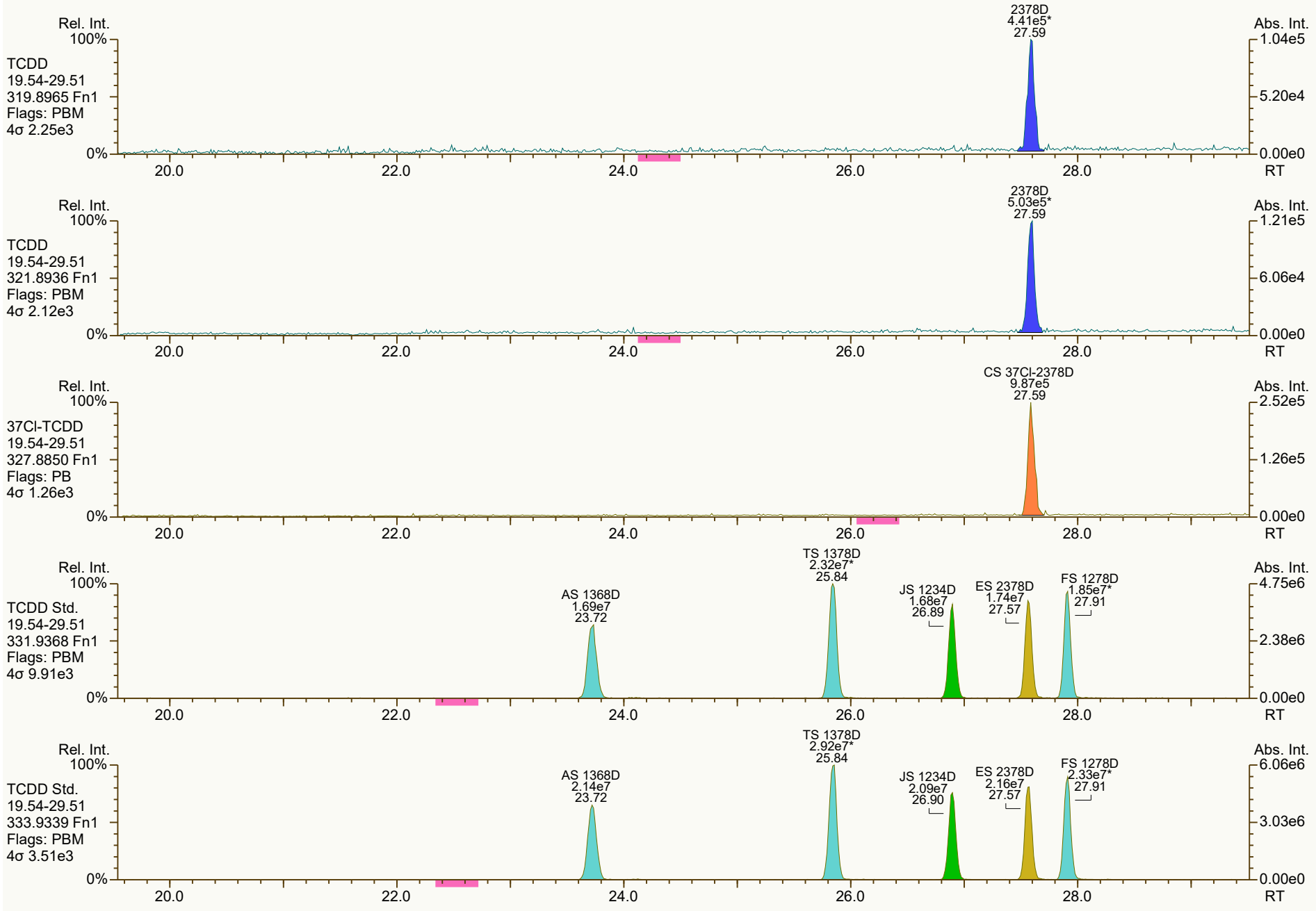
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

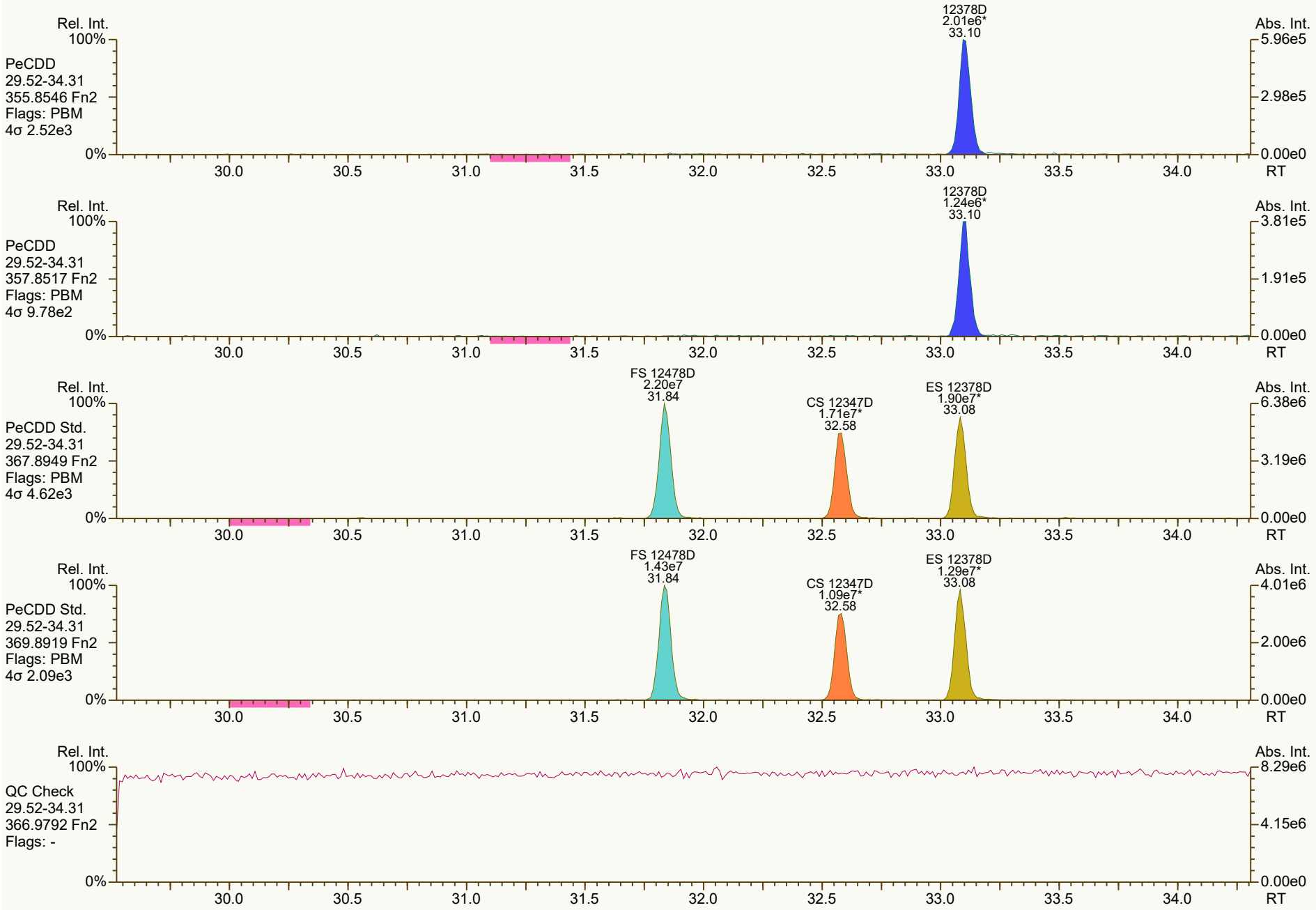
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

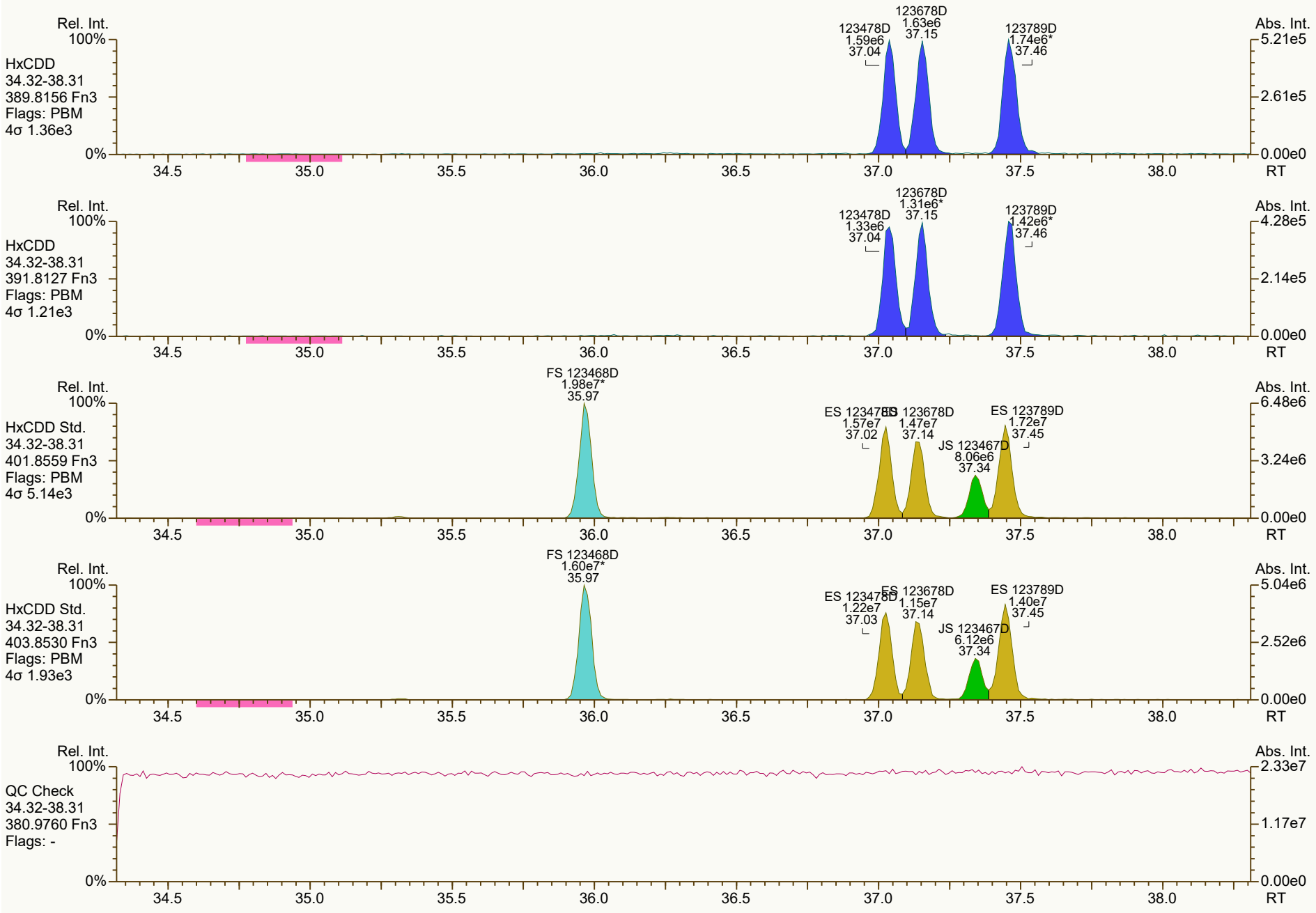
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

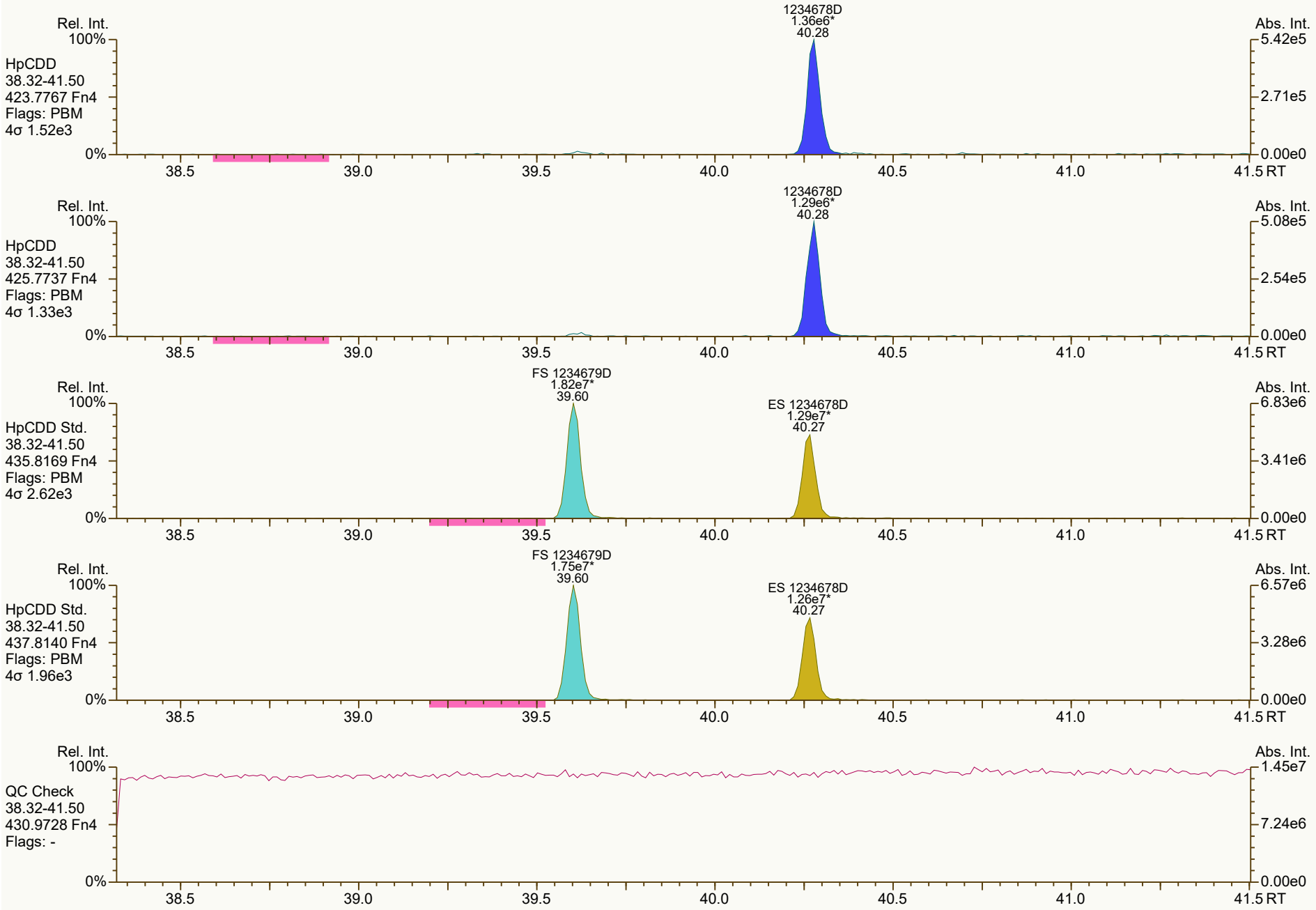
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

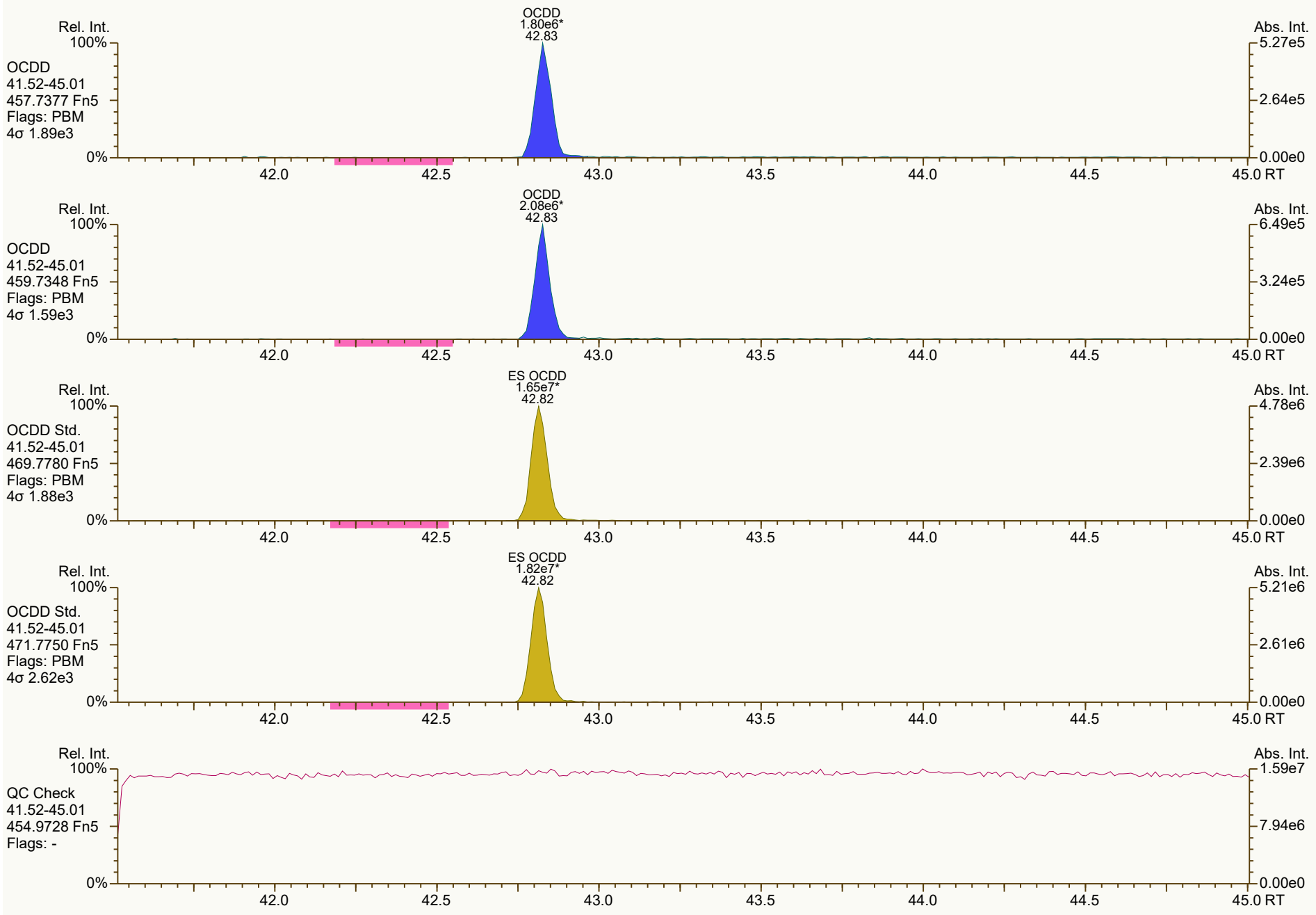

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

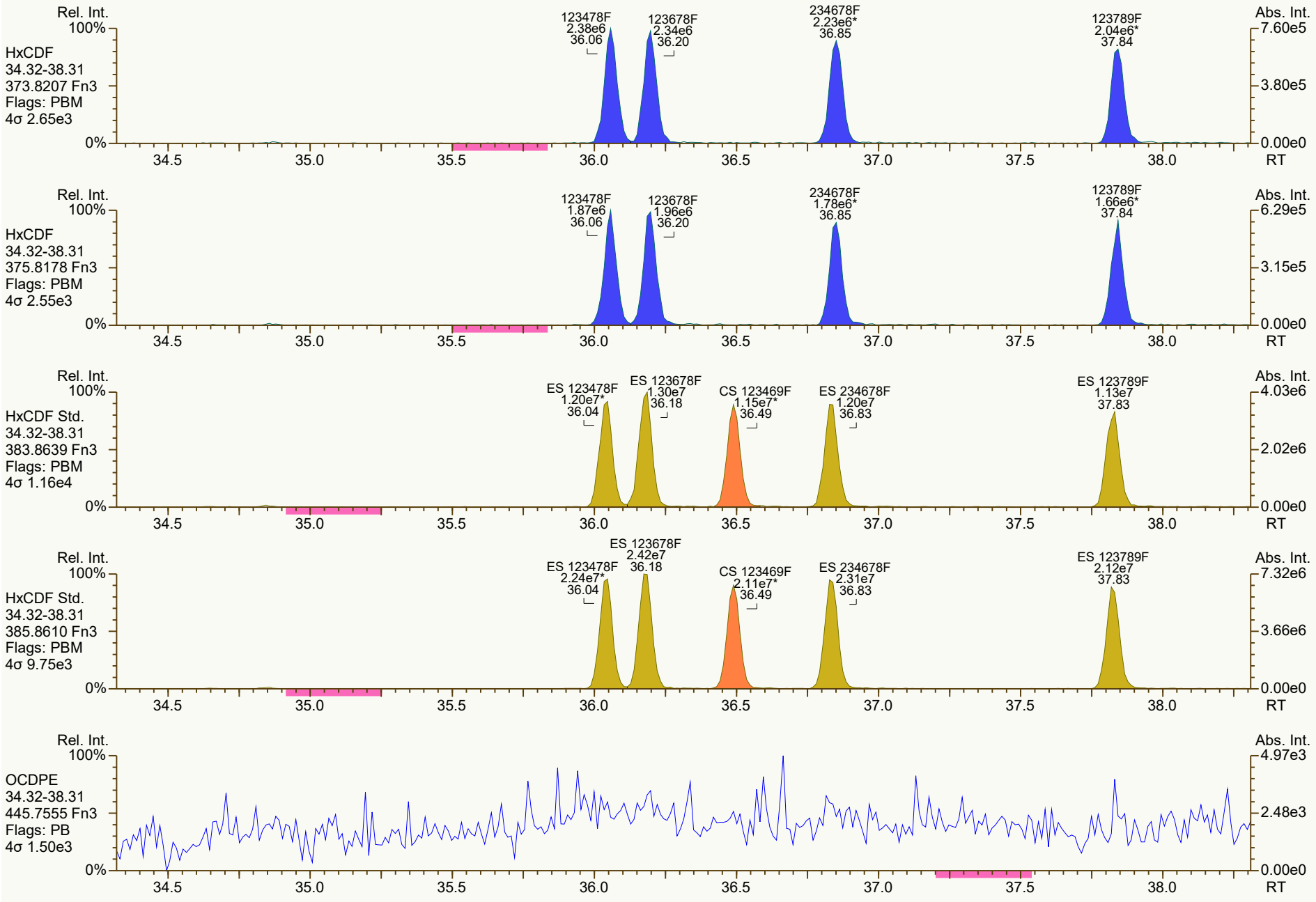

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

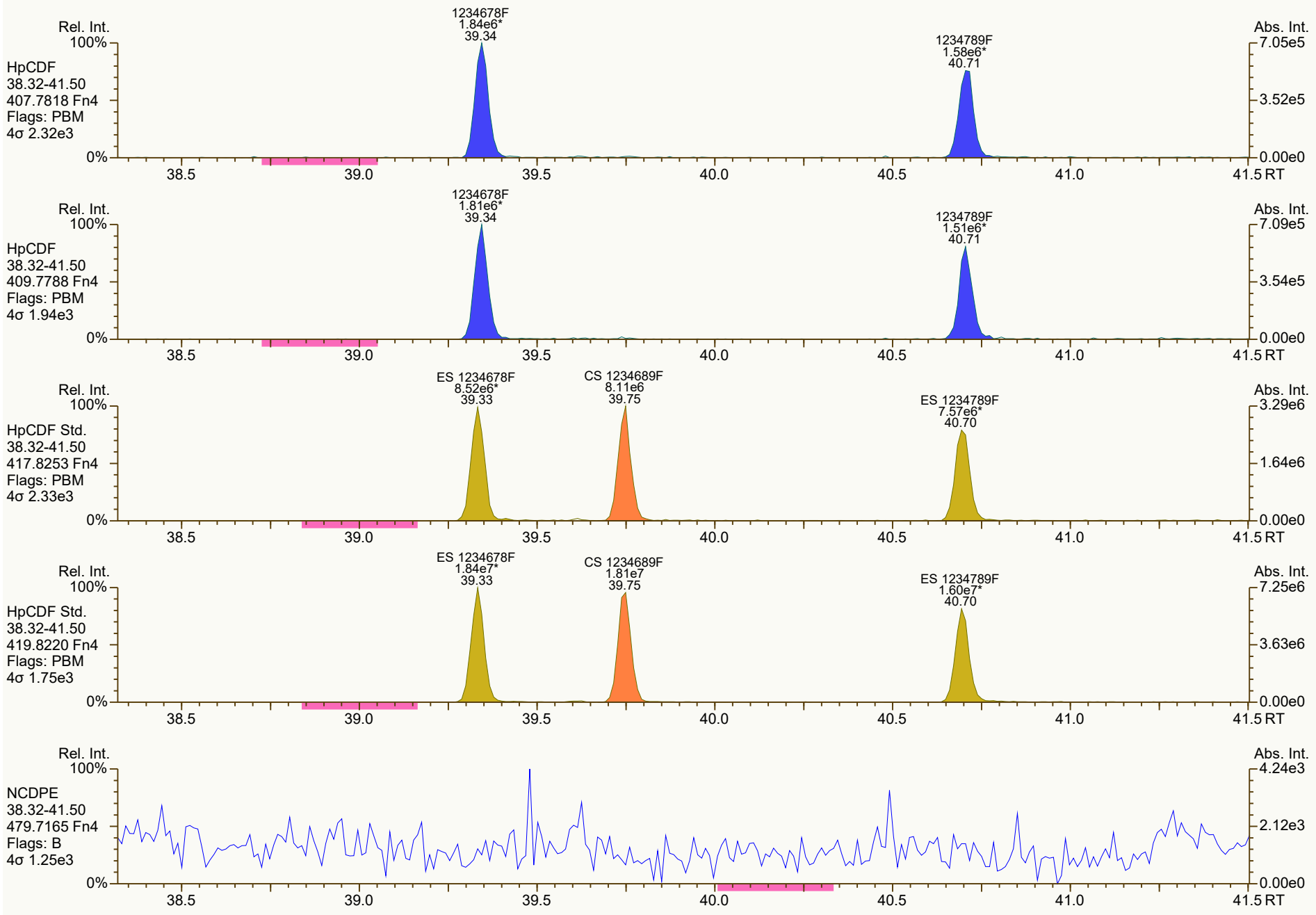

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

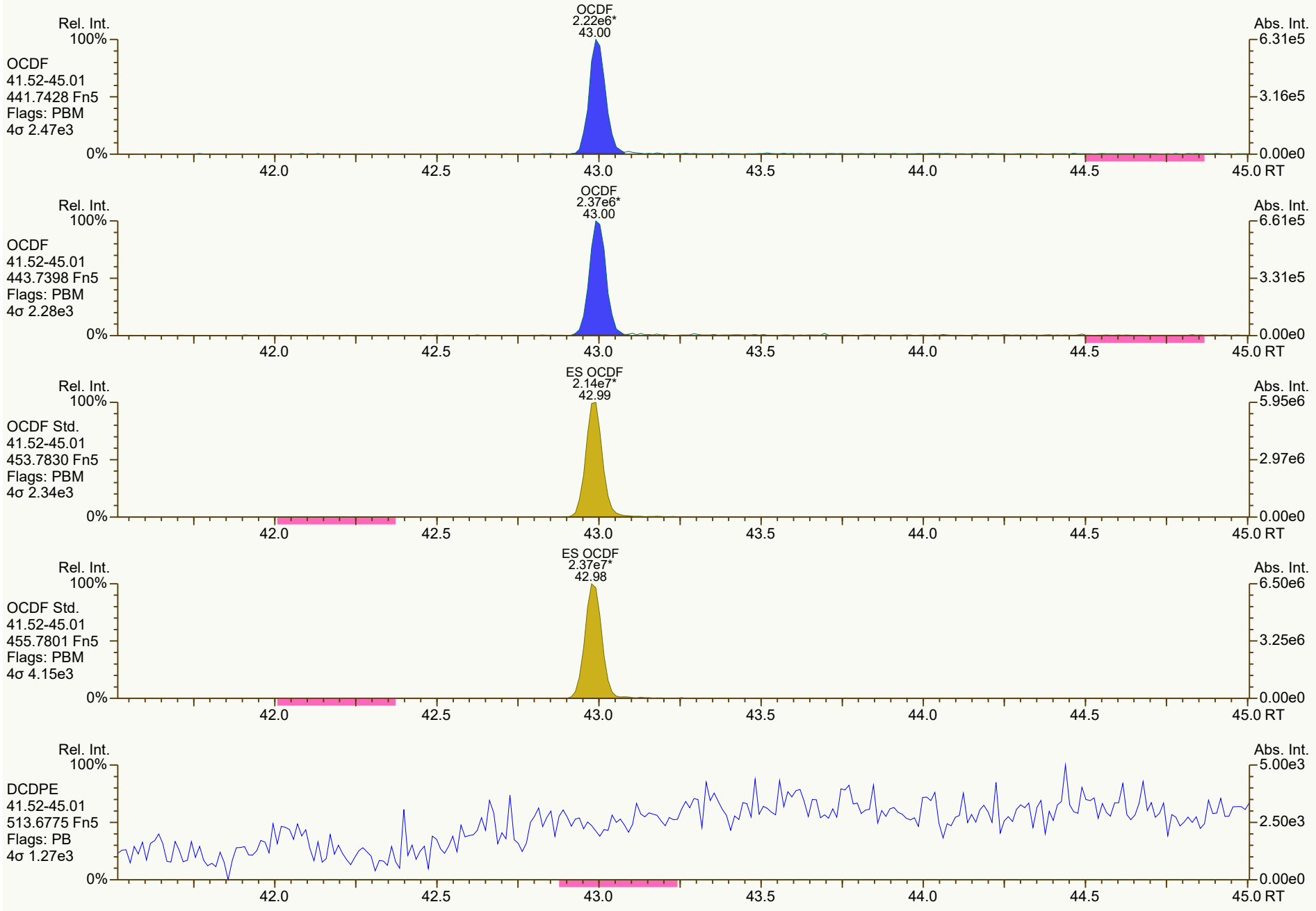

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

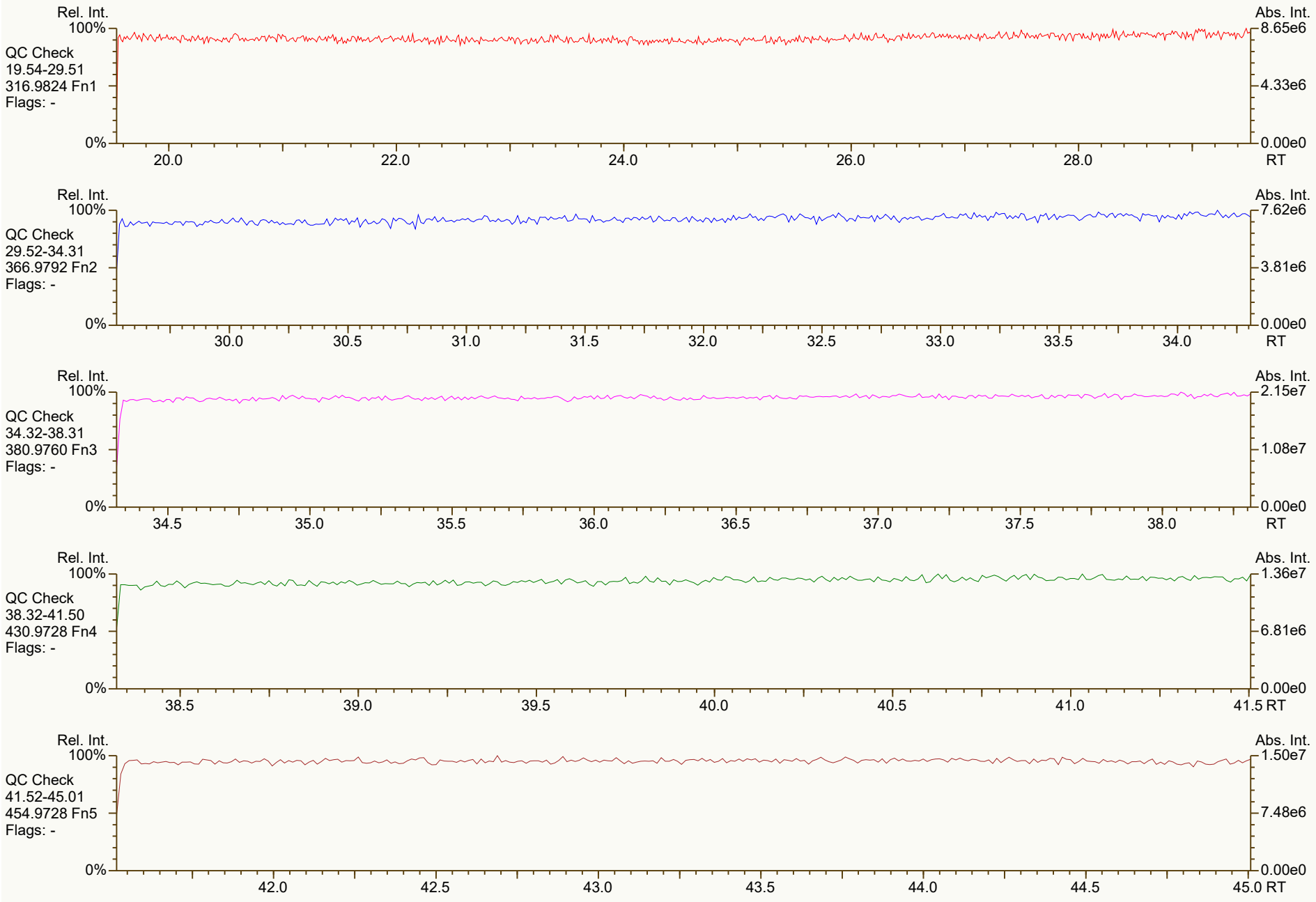

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

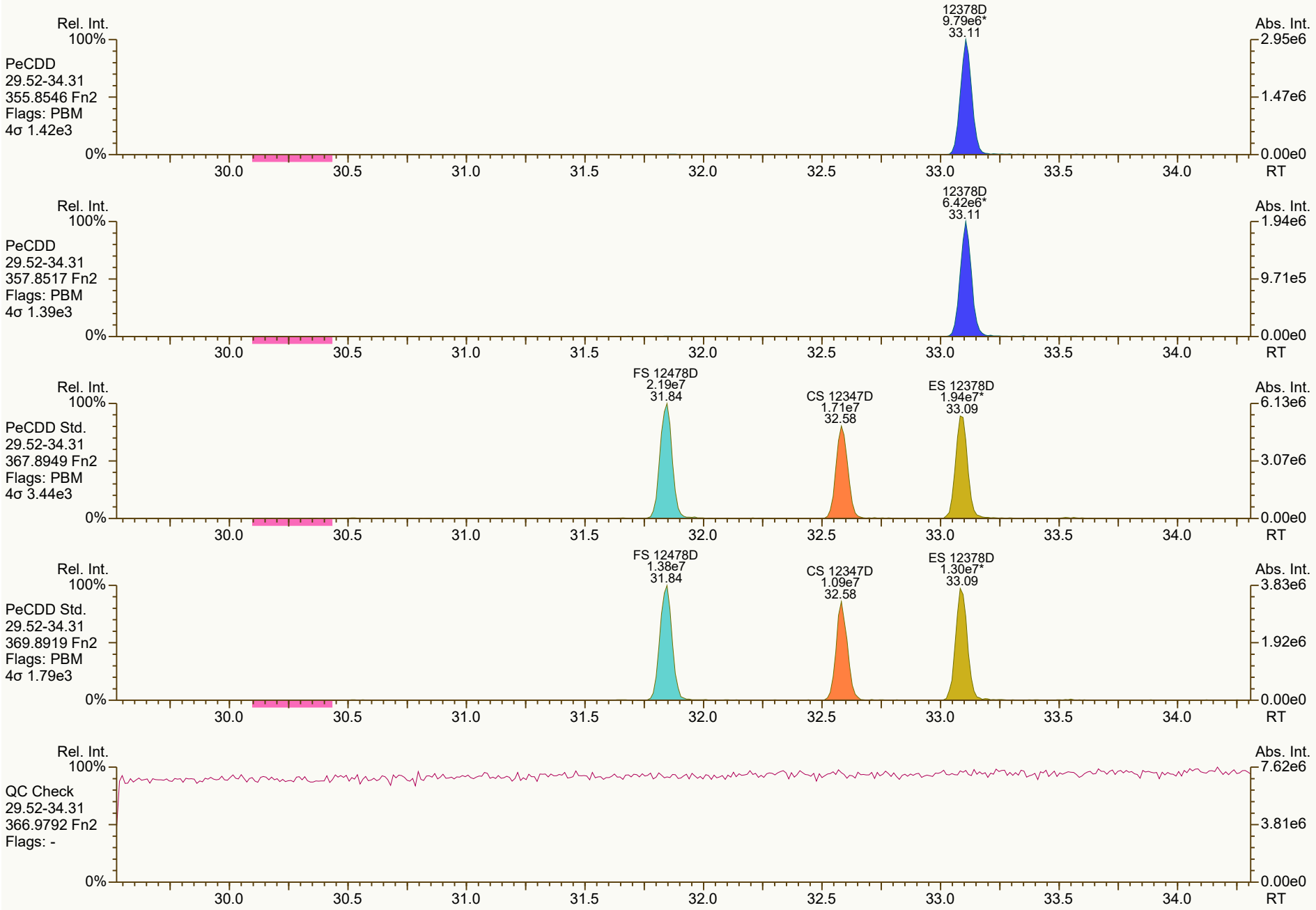
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

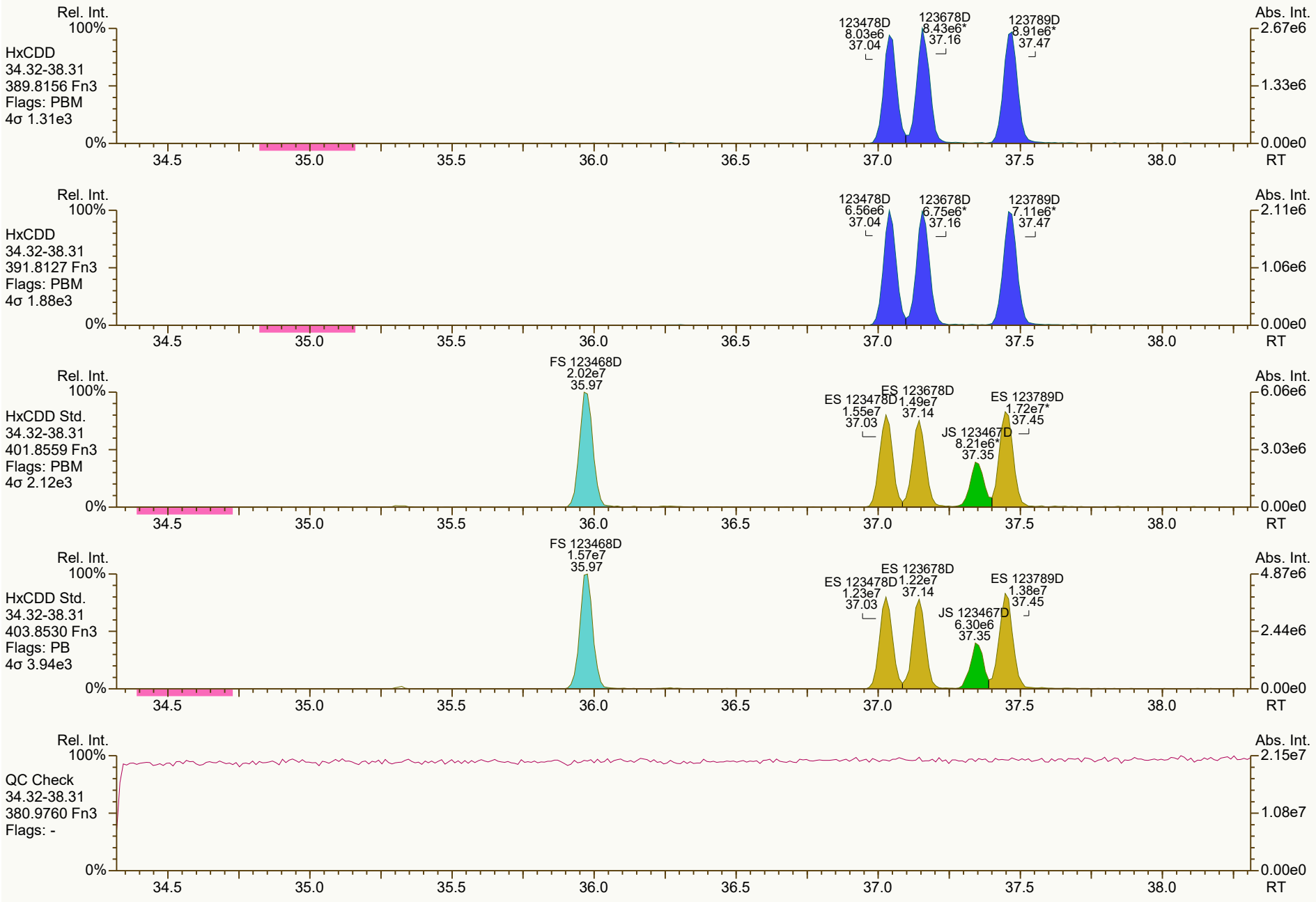
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

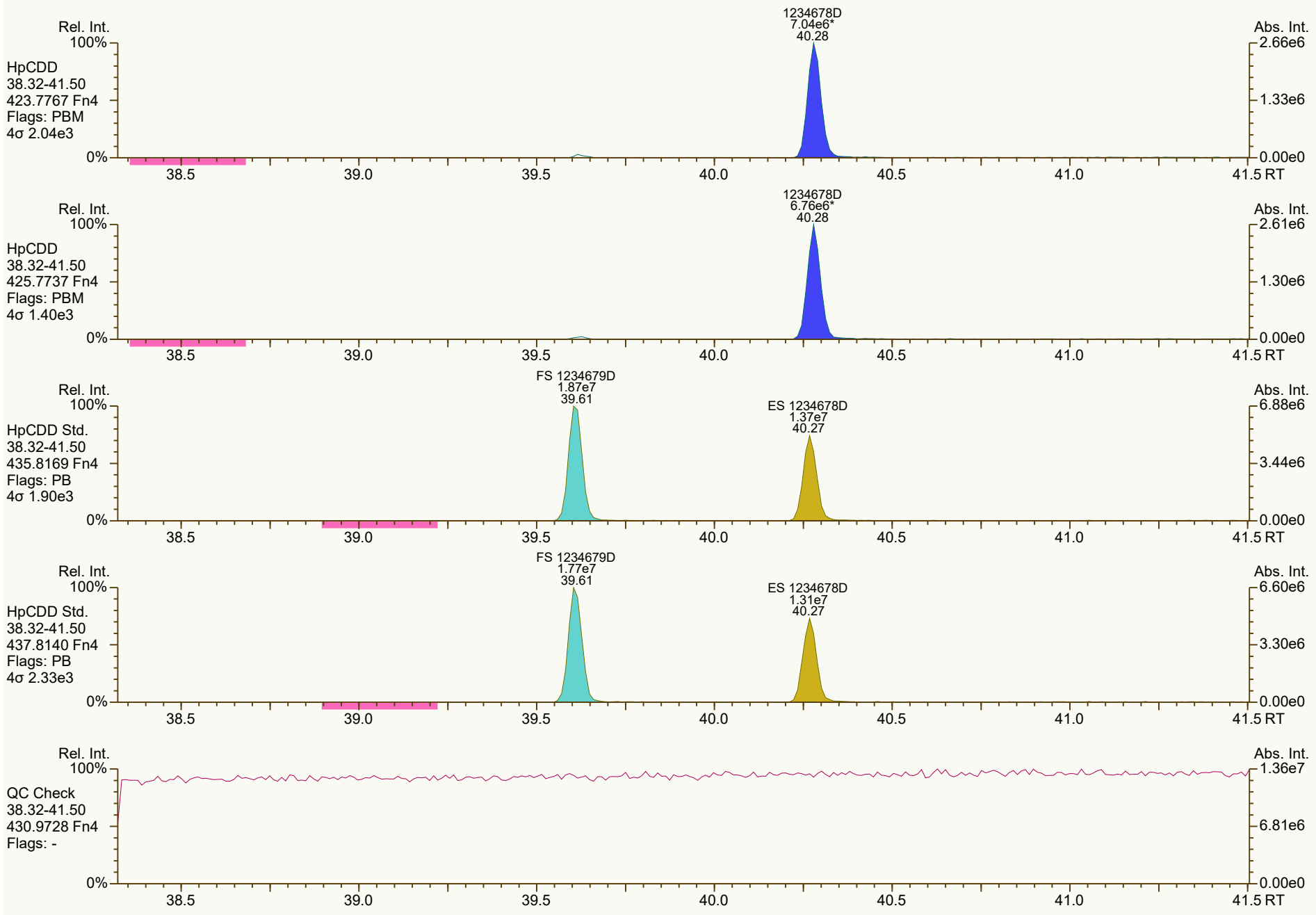
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

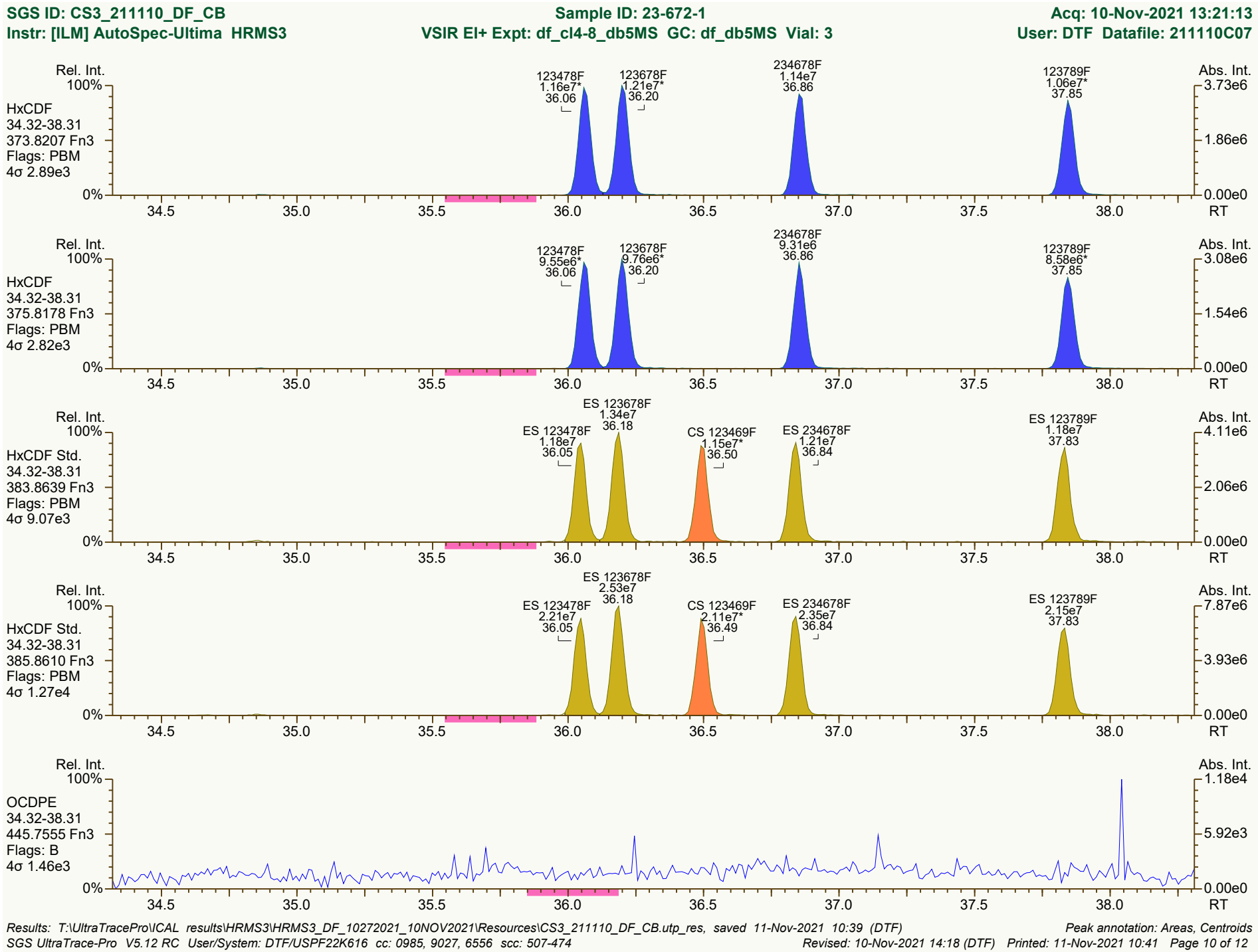

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

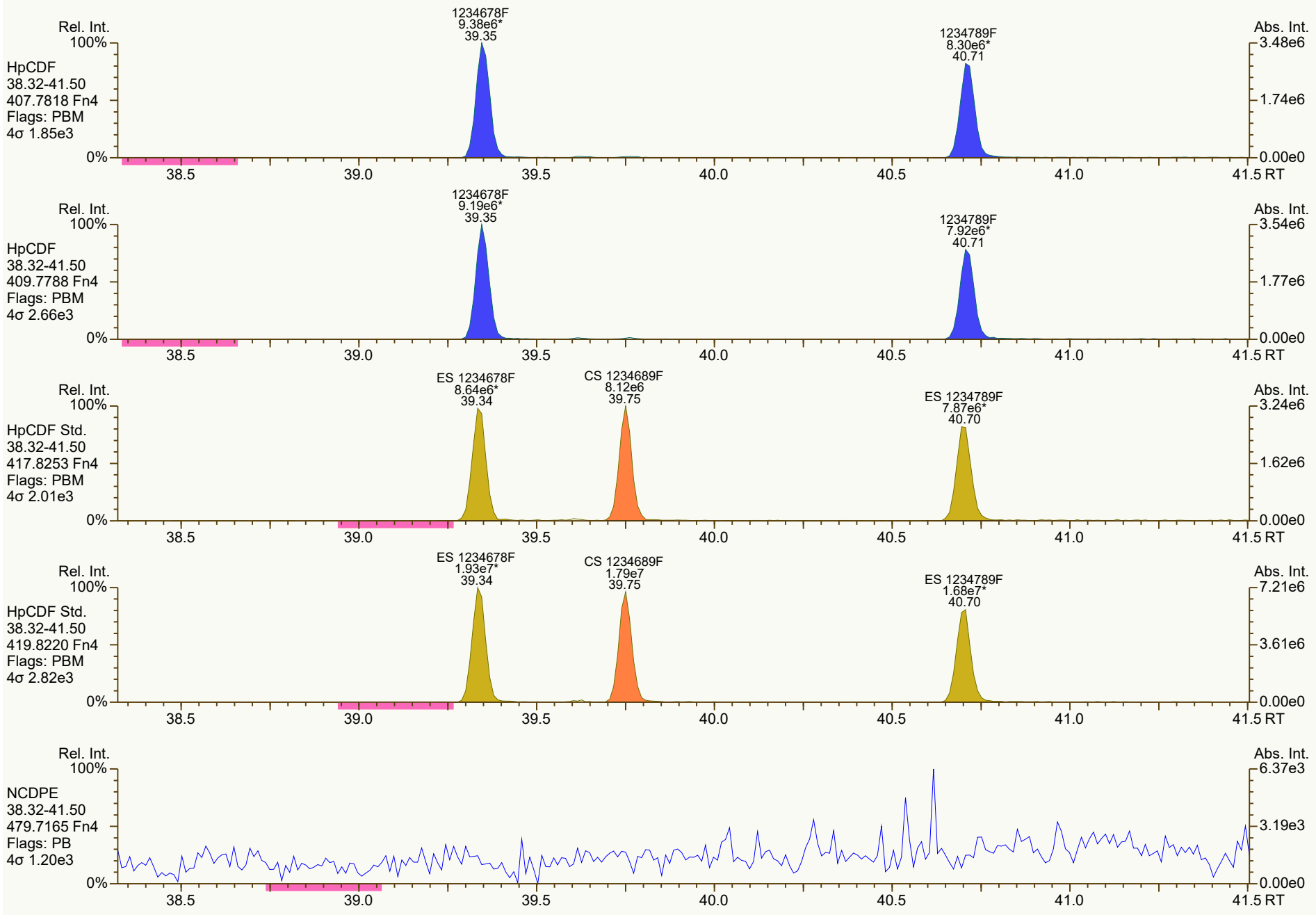

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

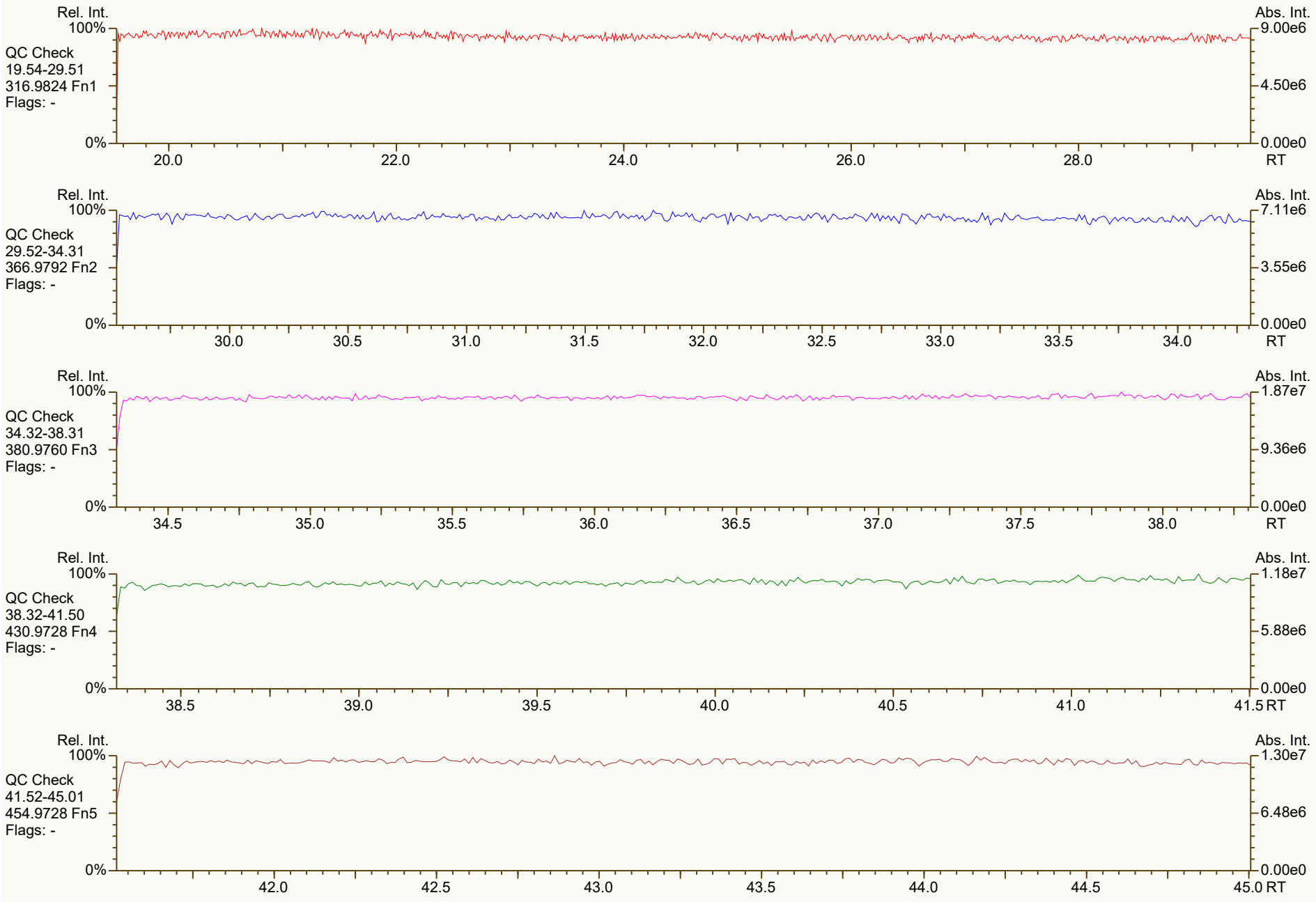

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

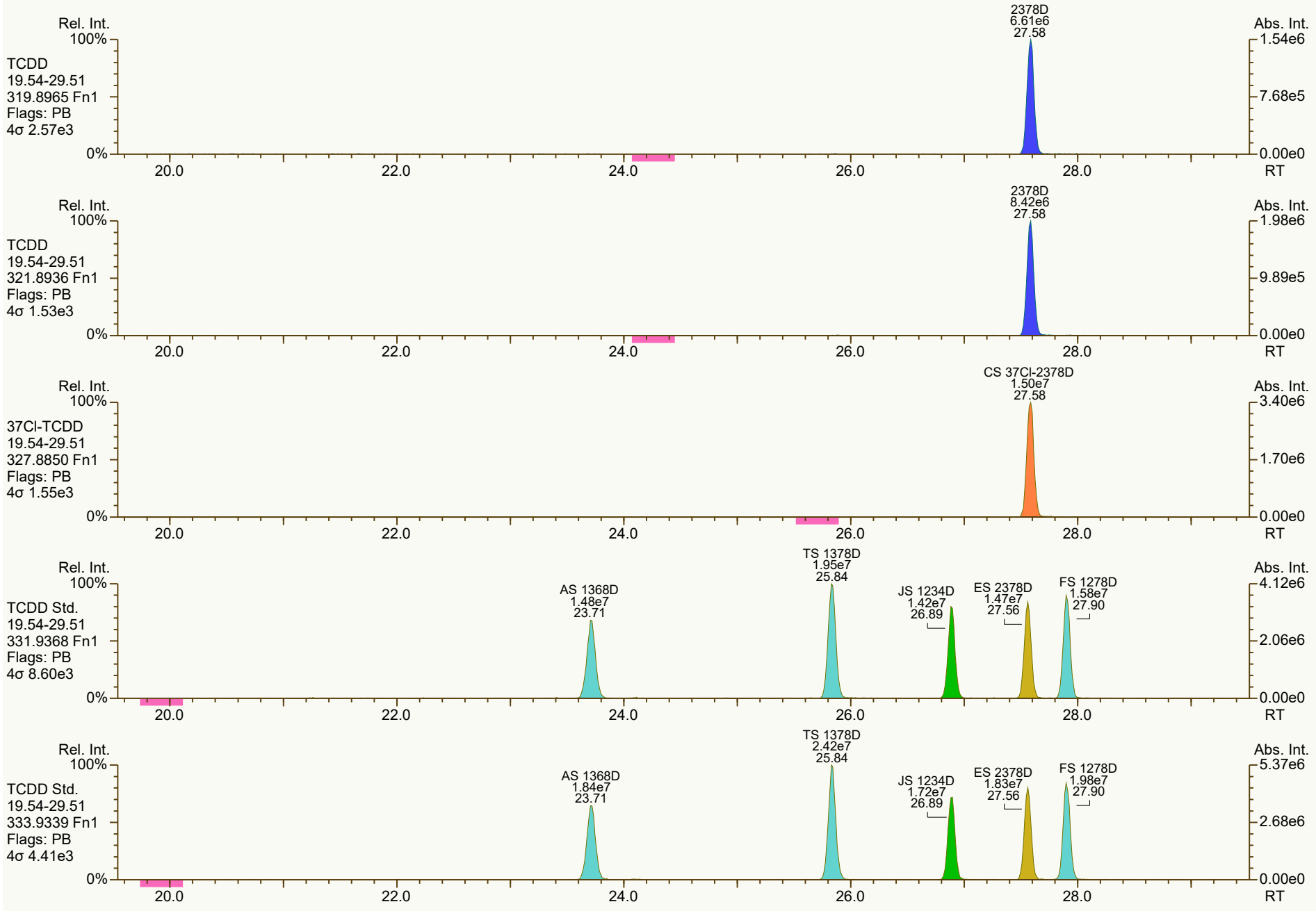

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

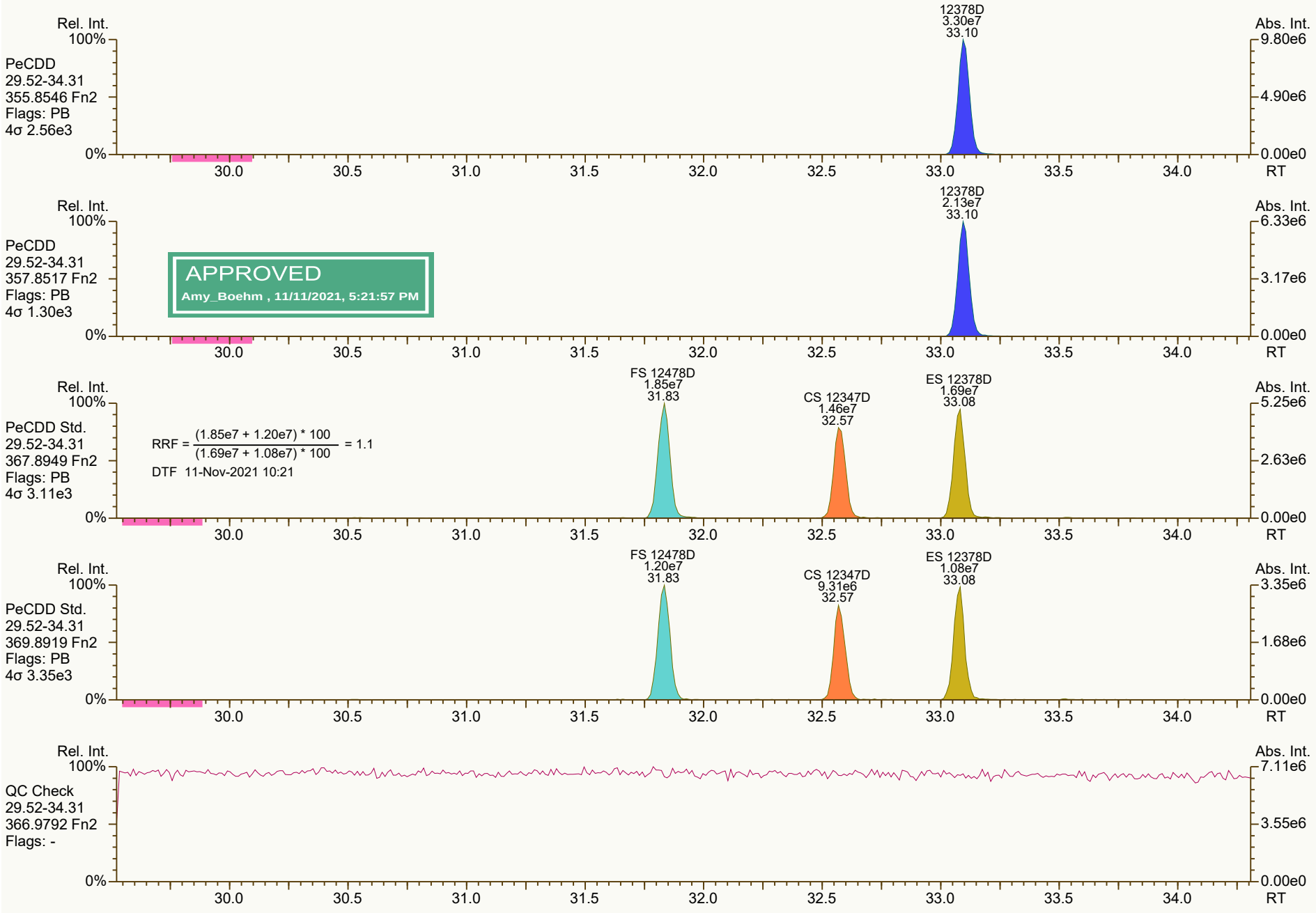
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

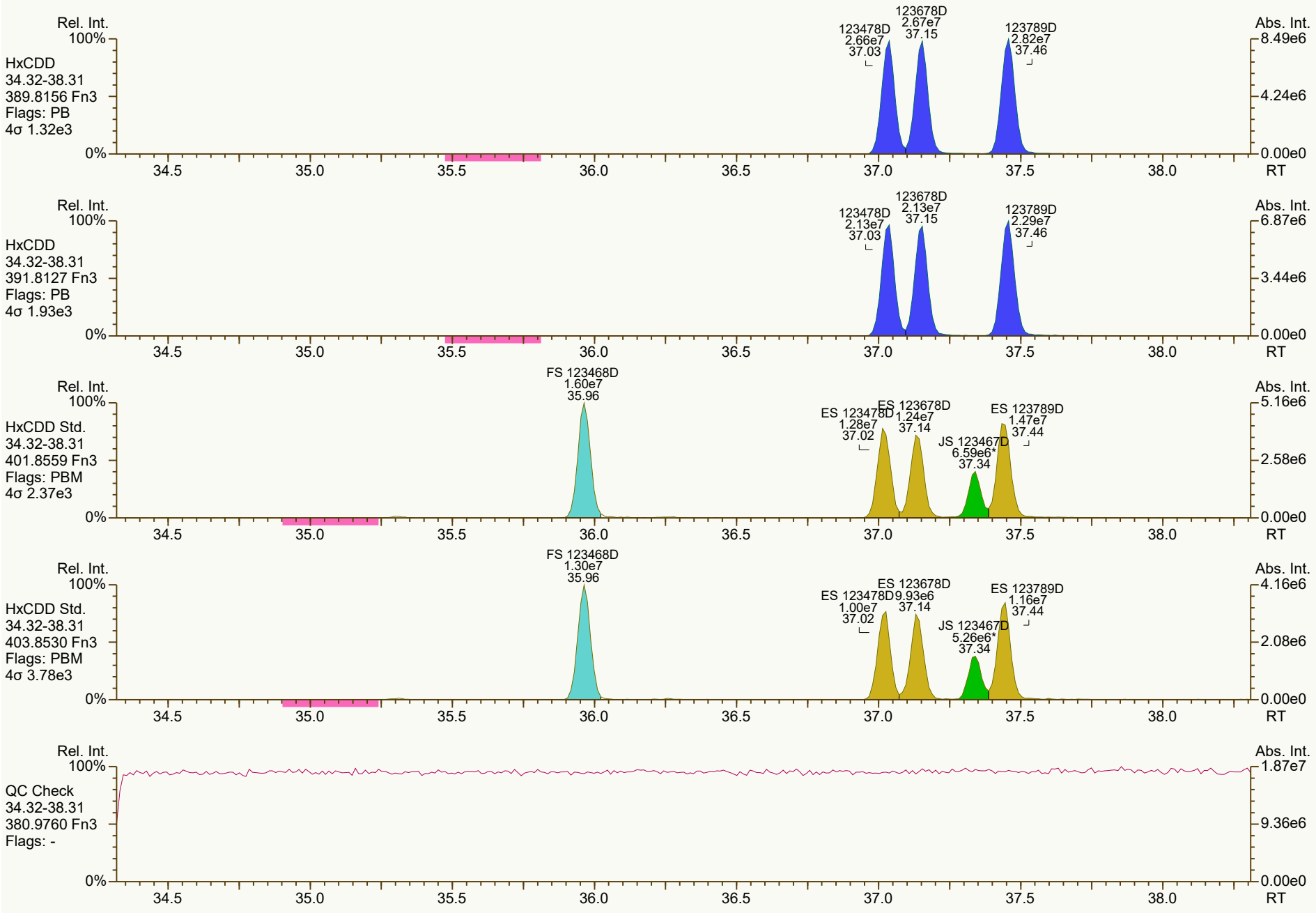
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

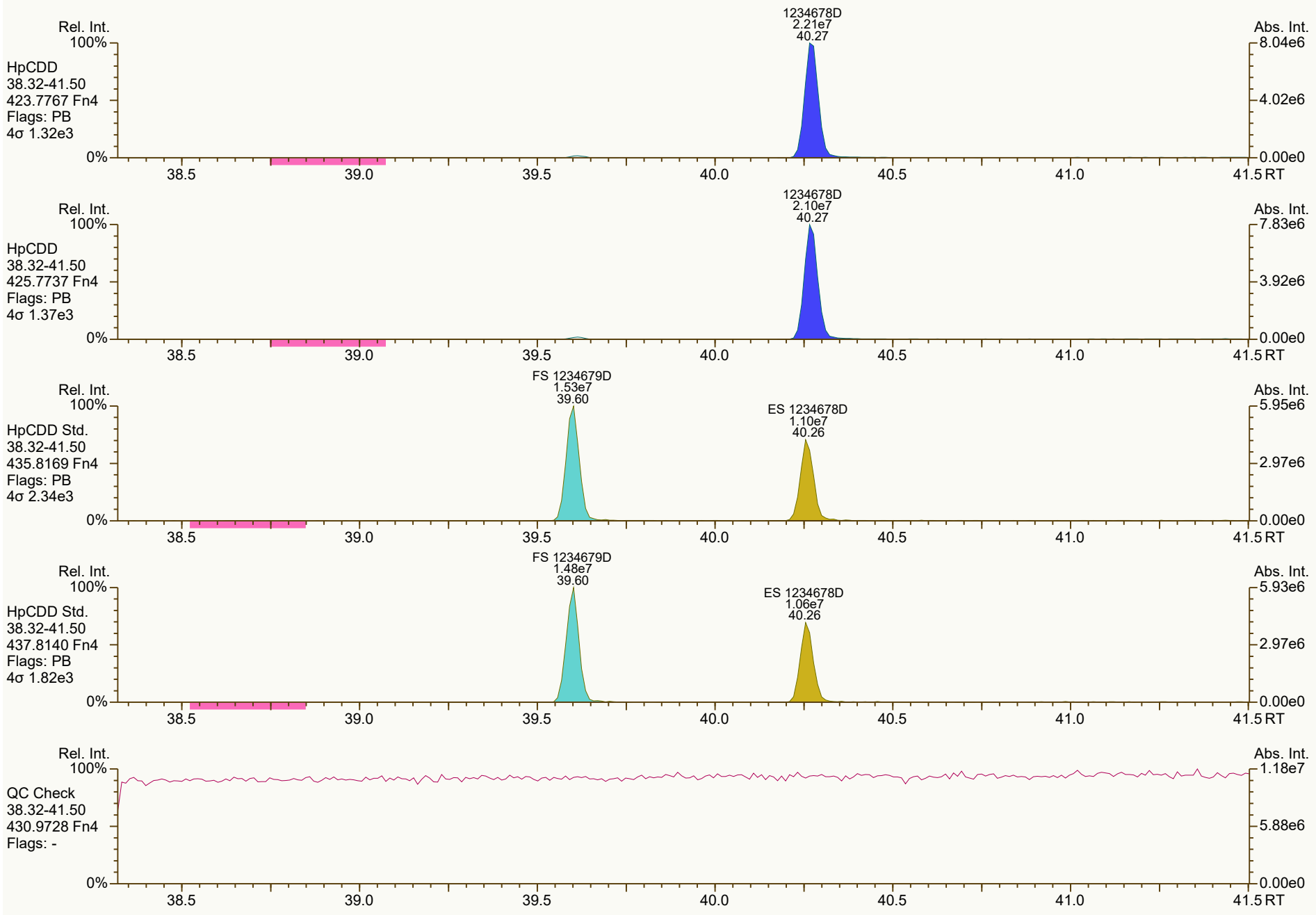
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

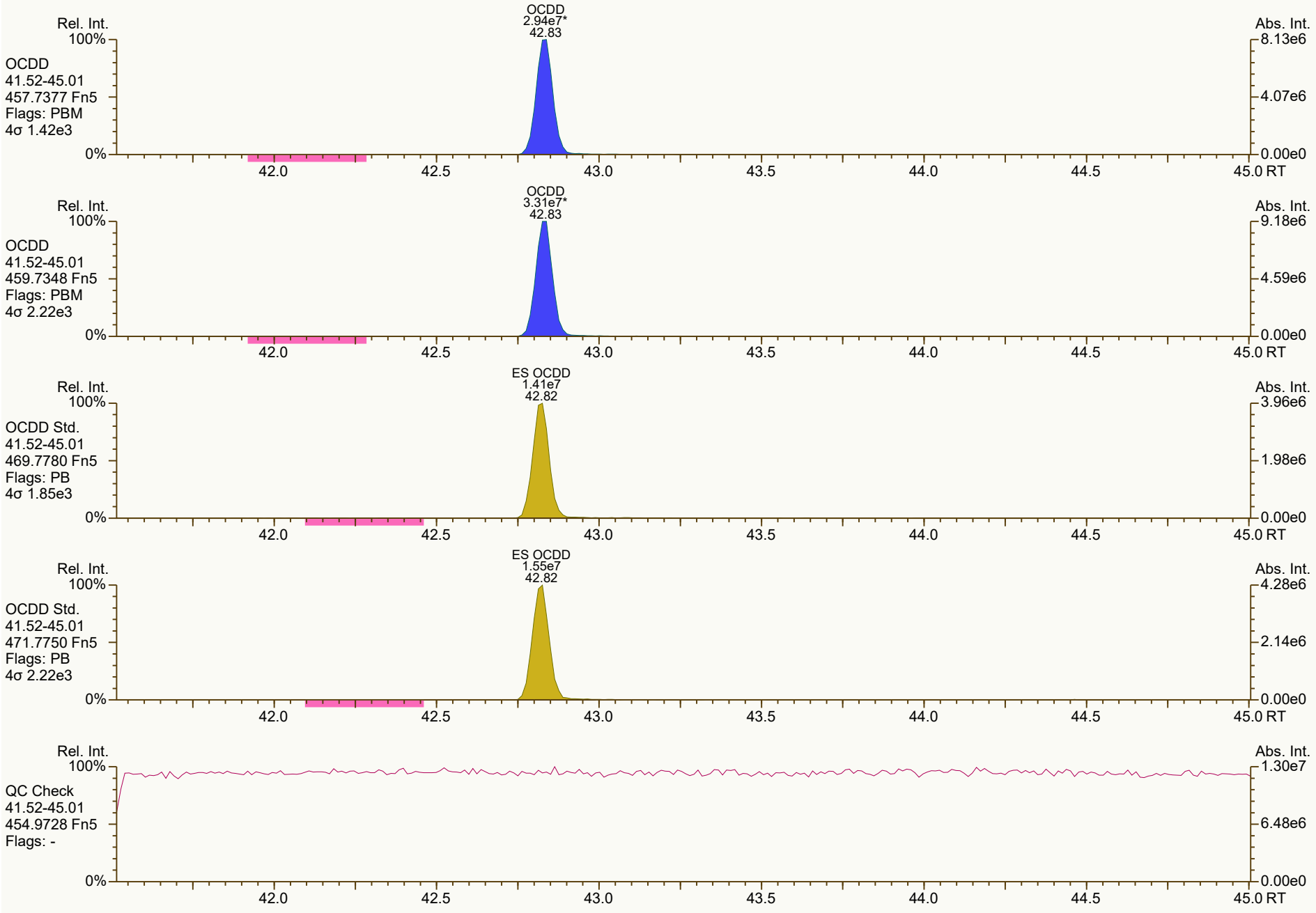

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

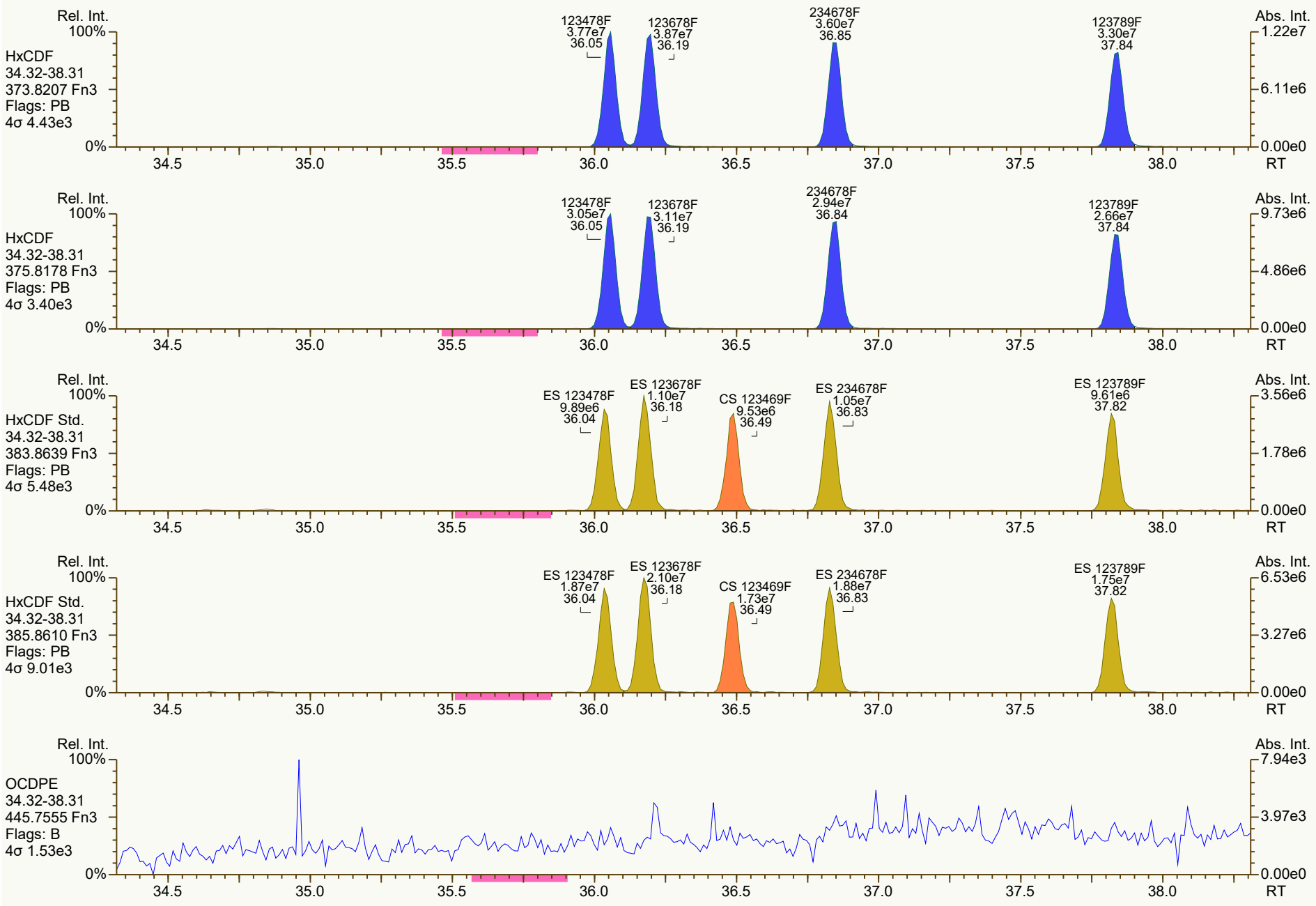

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

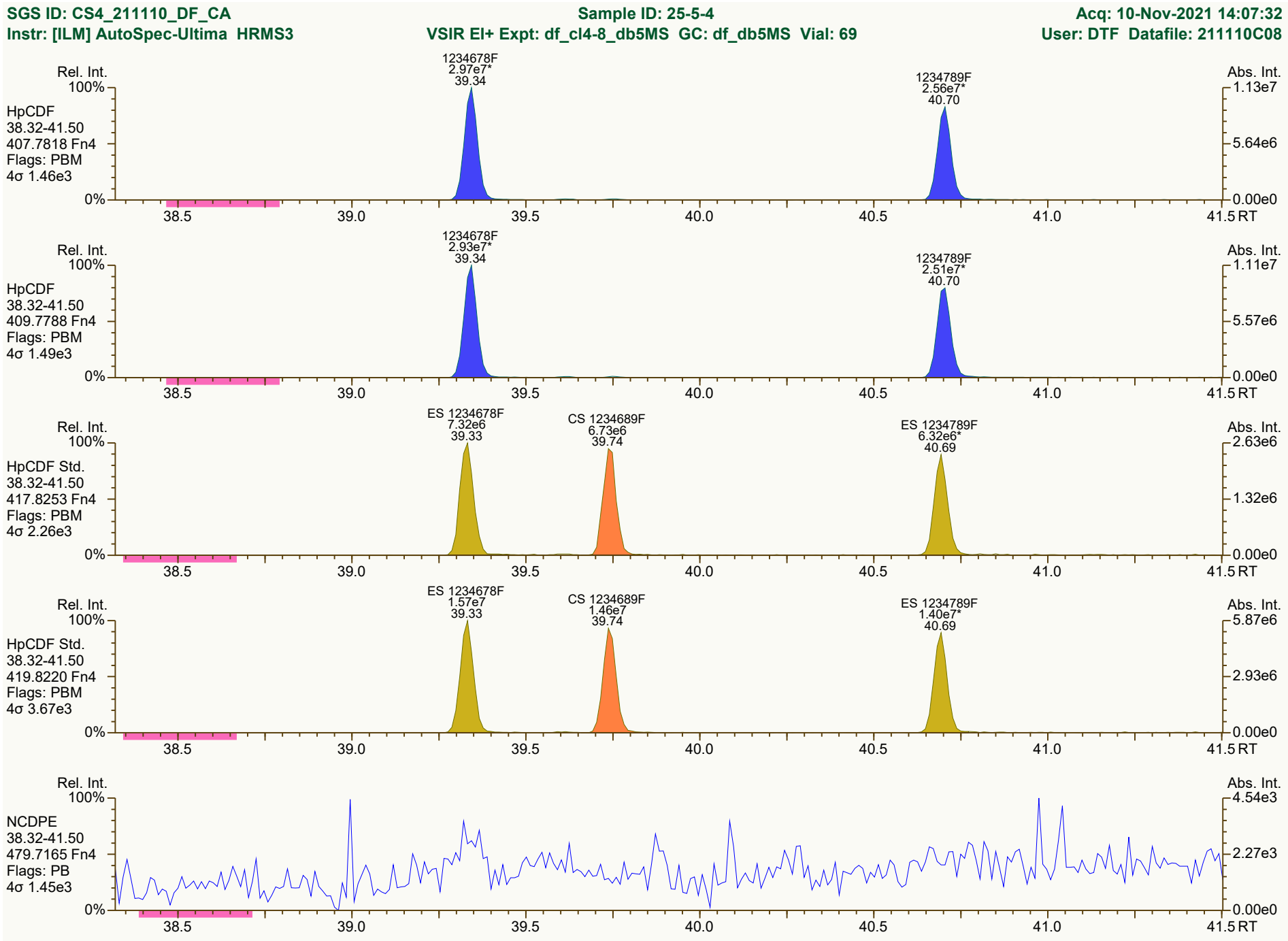

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

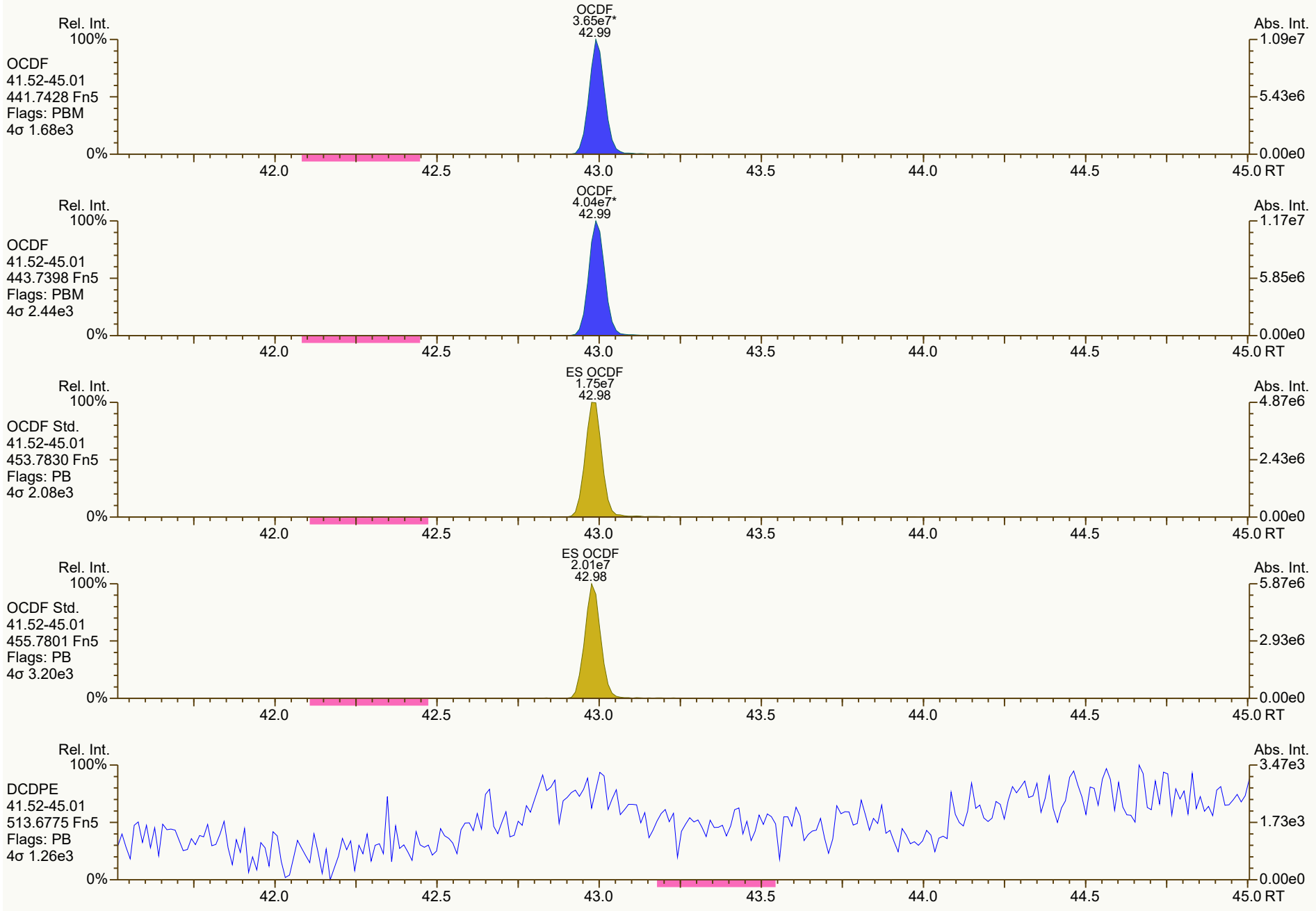

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
RT
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

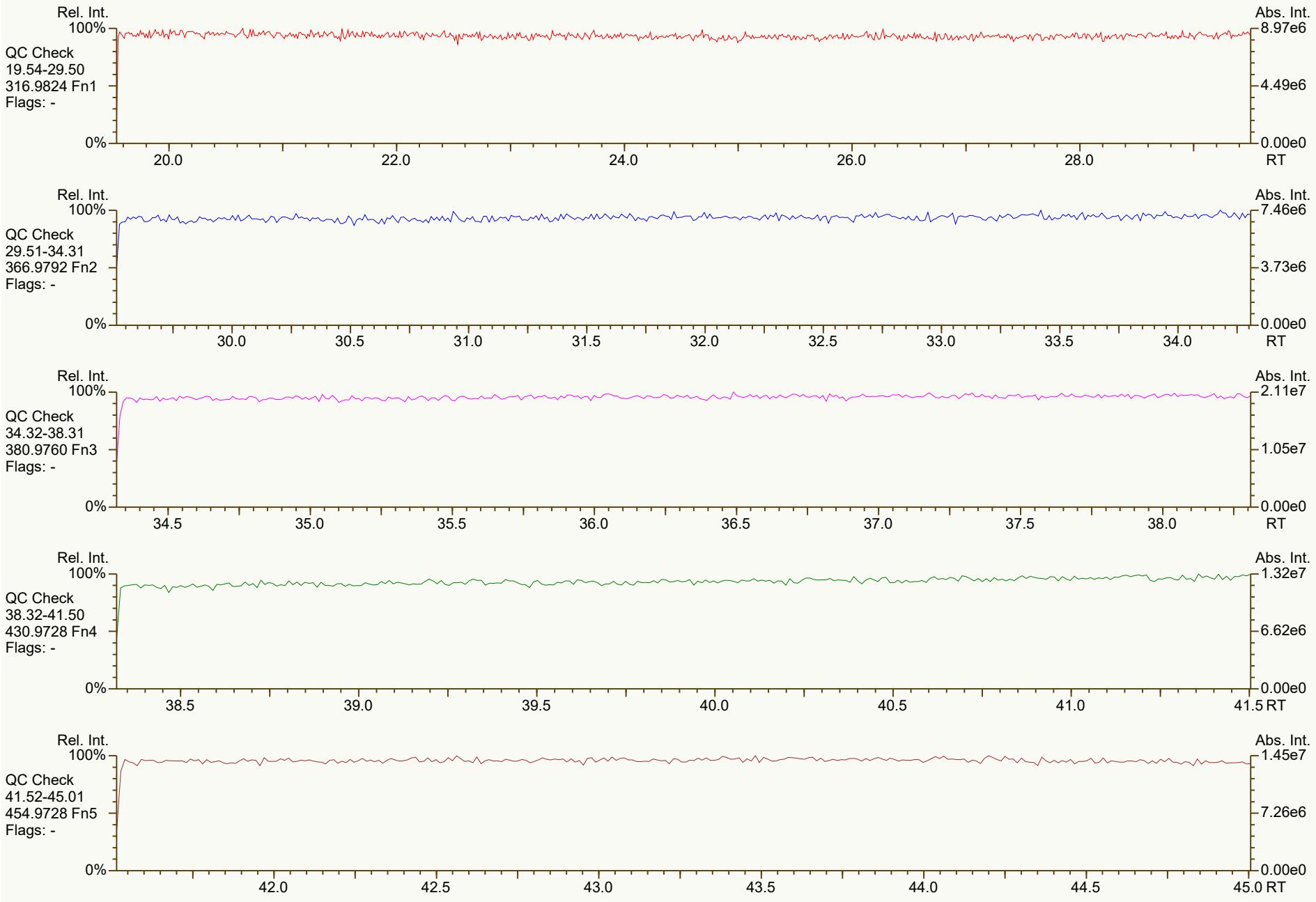

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

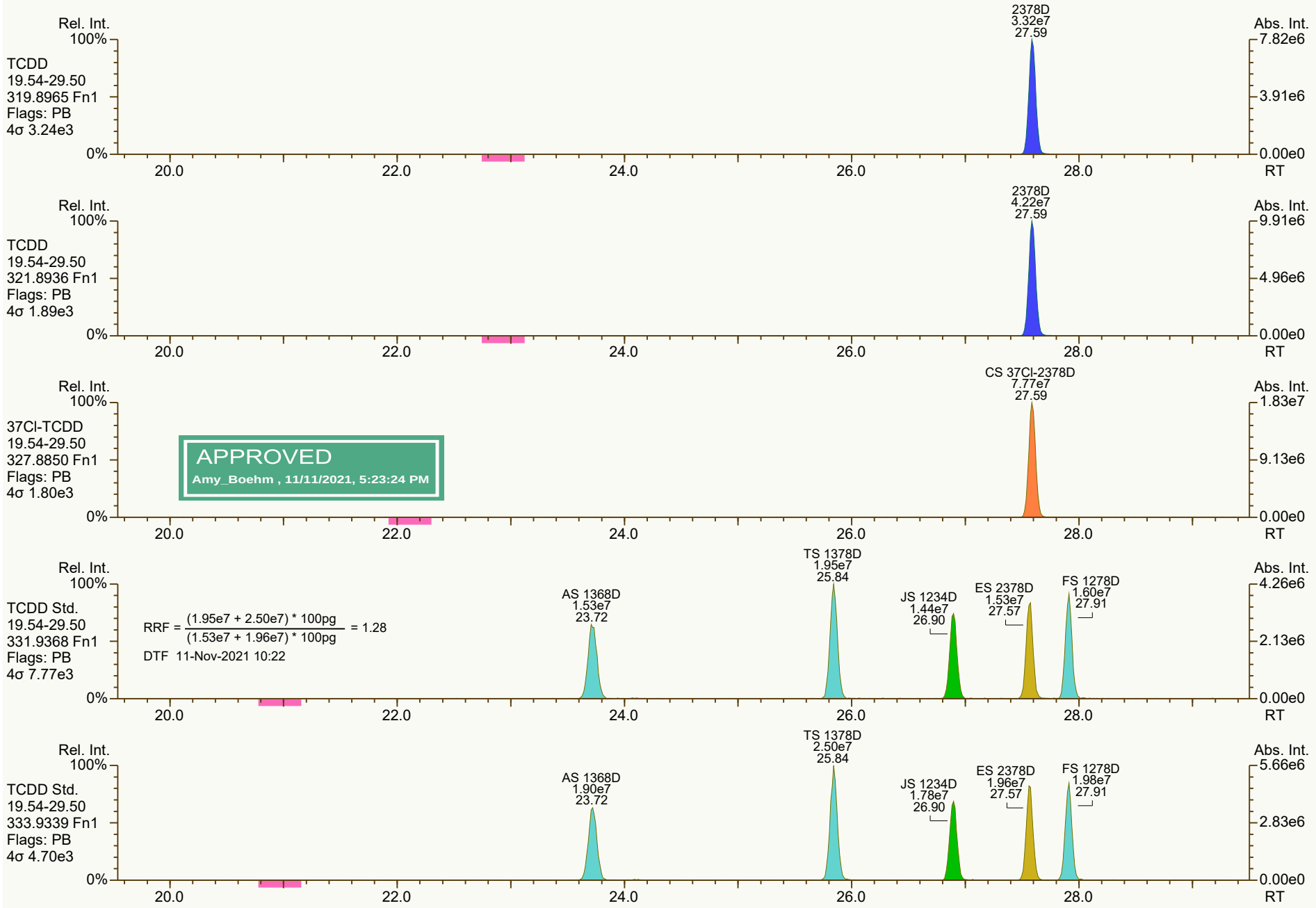

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

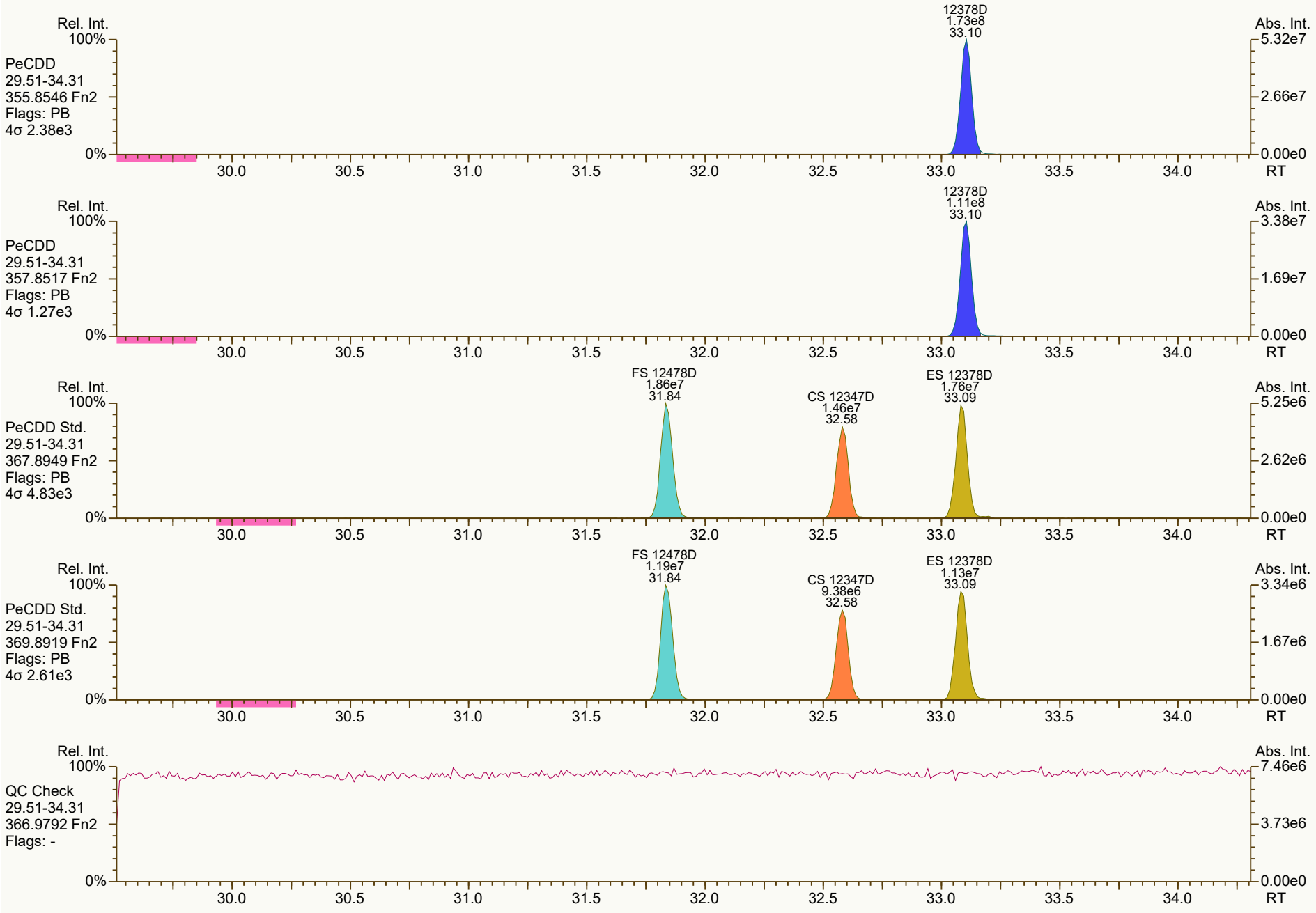
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

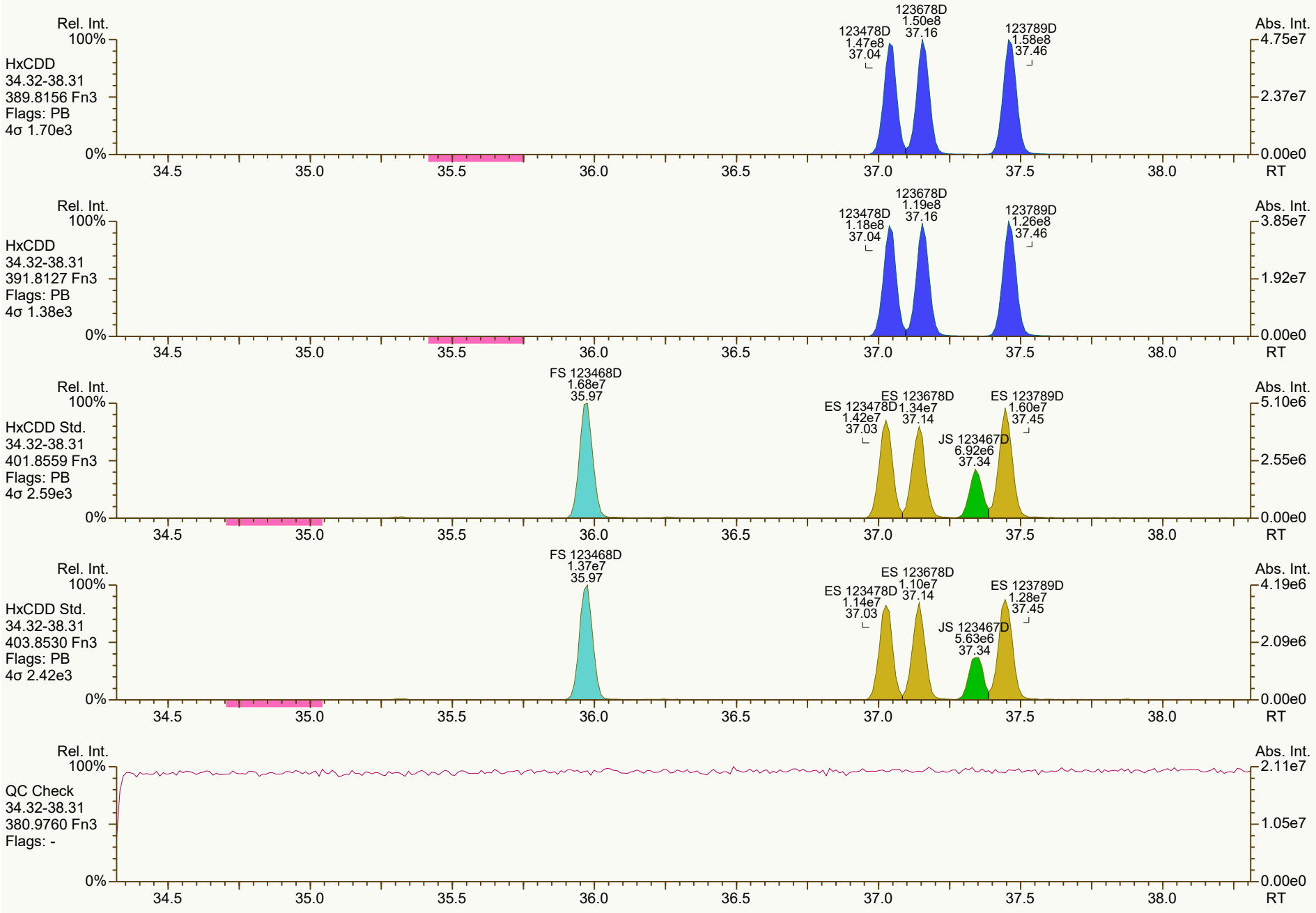
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

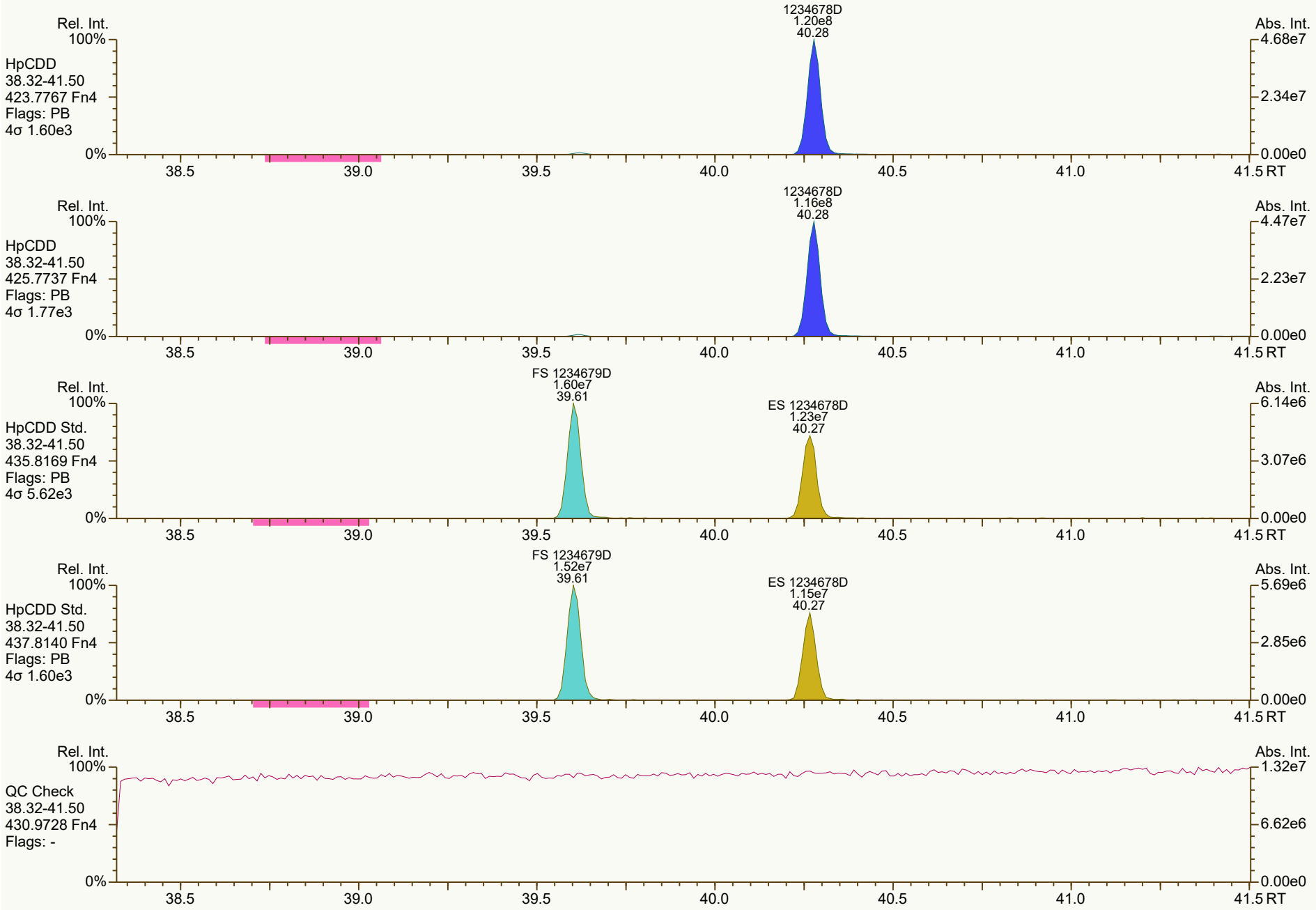
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

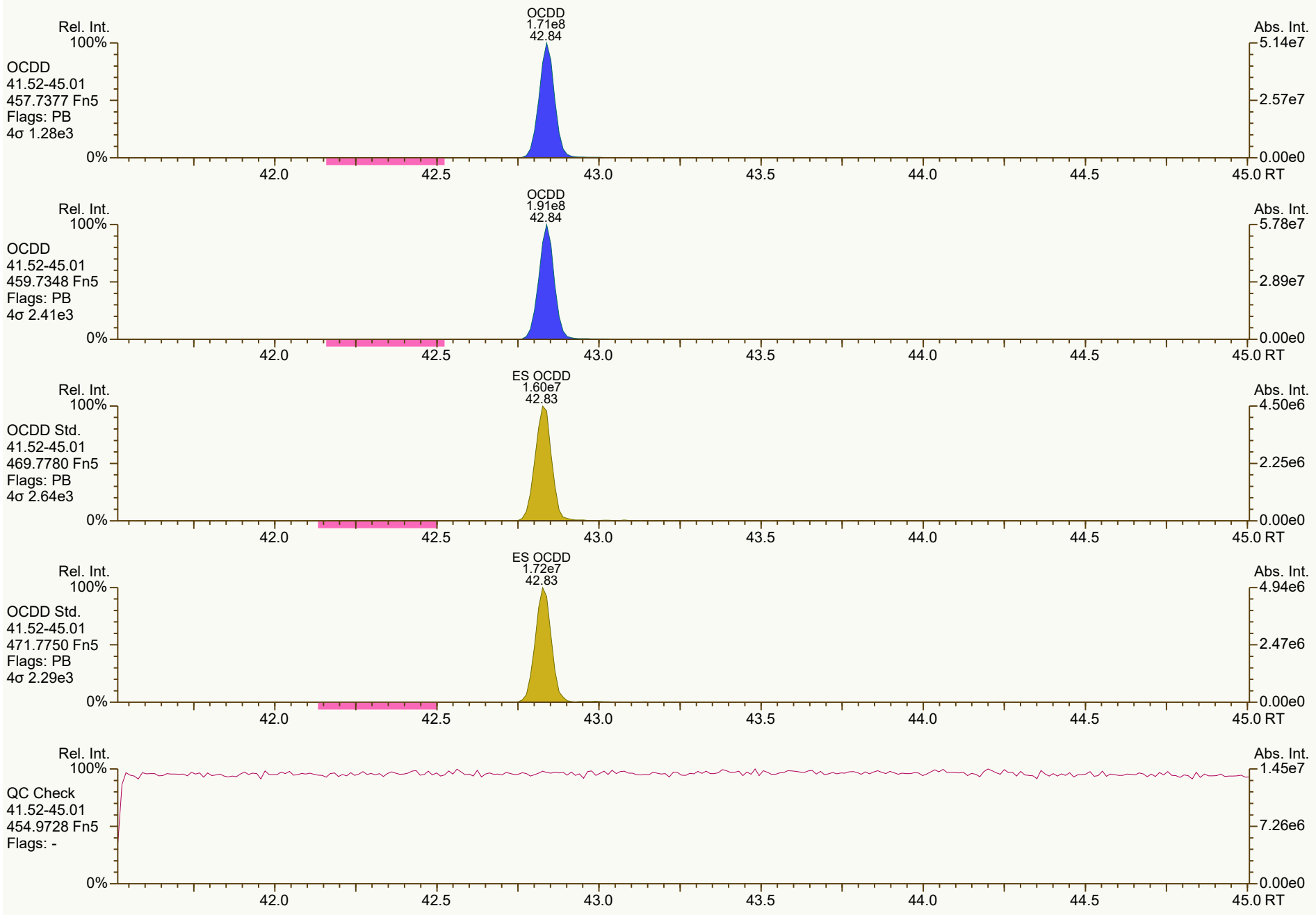

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

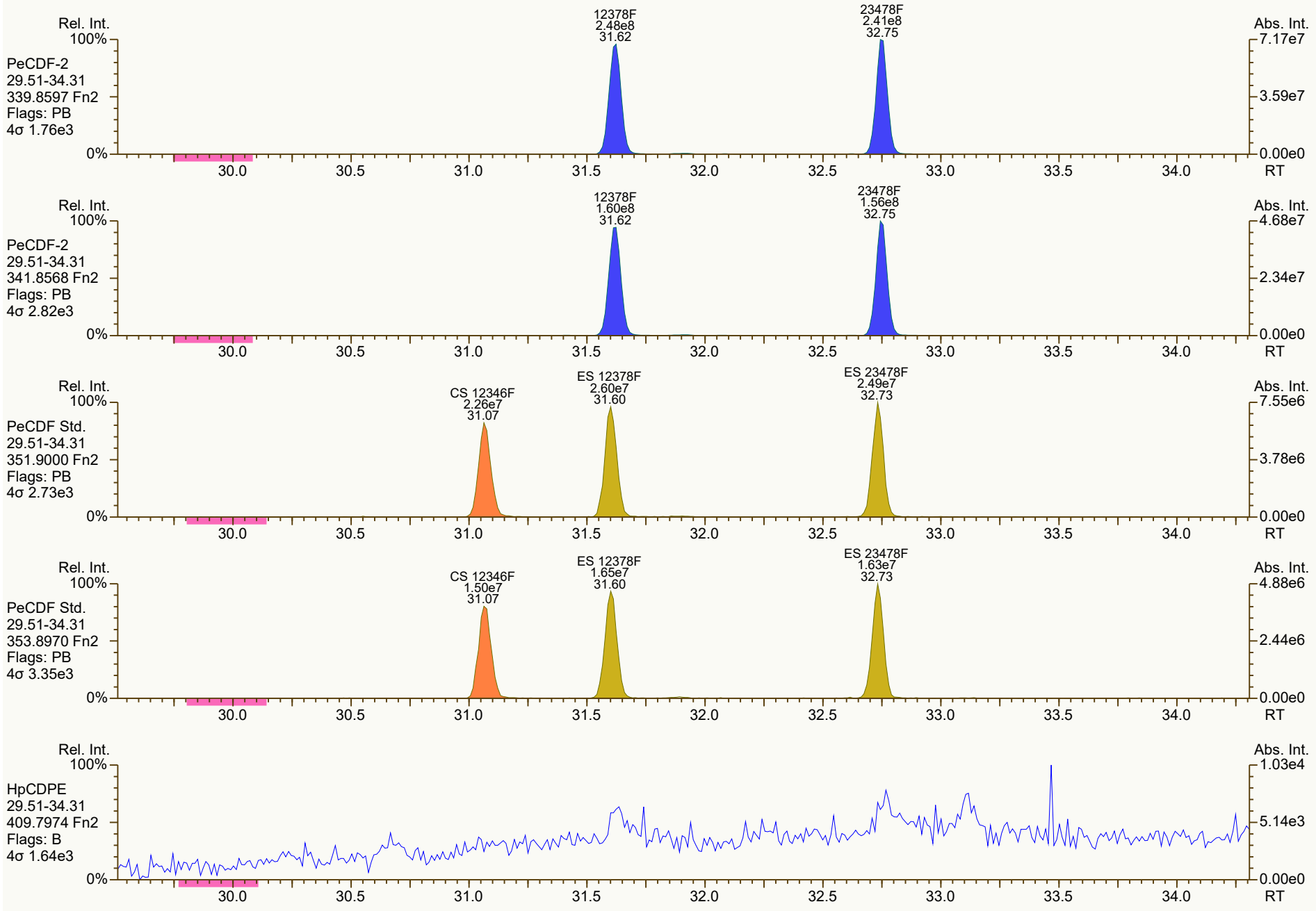

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

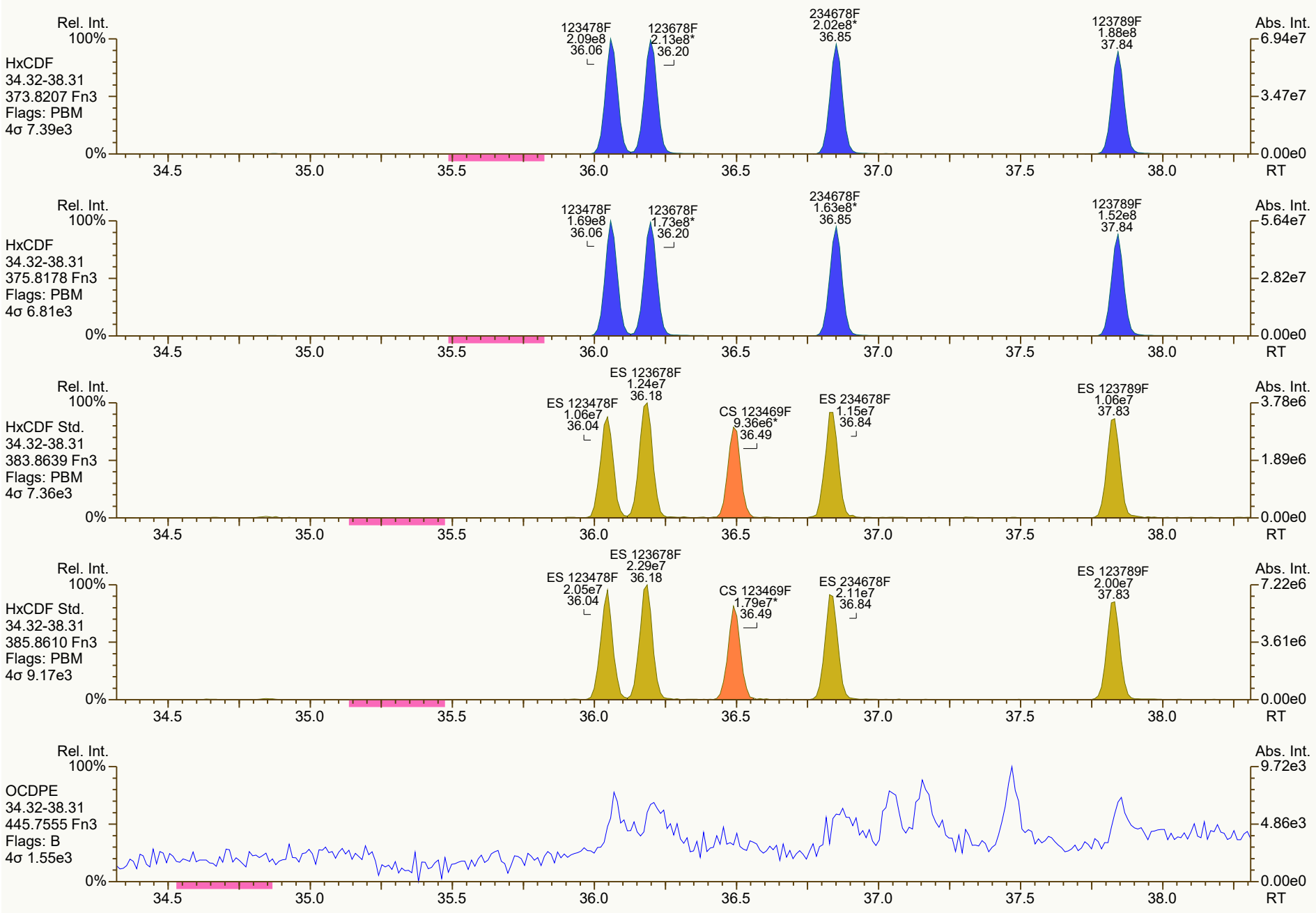

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

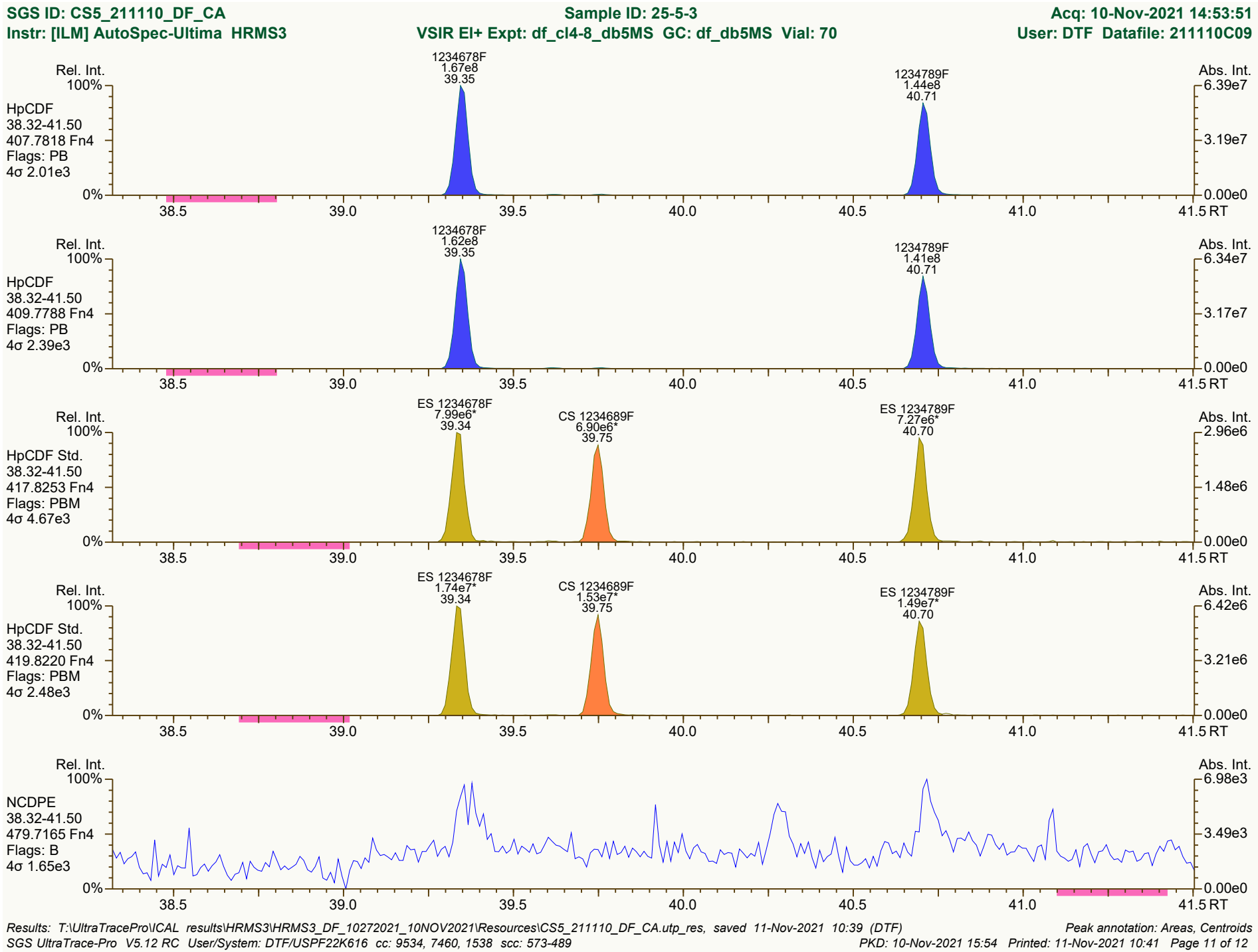

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

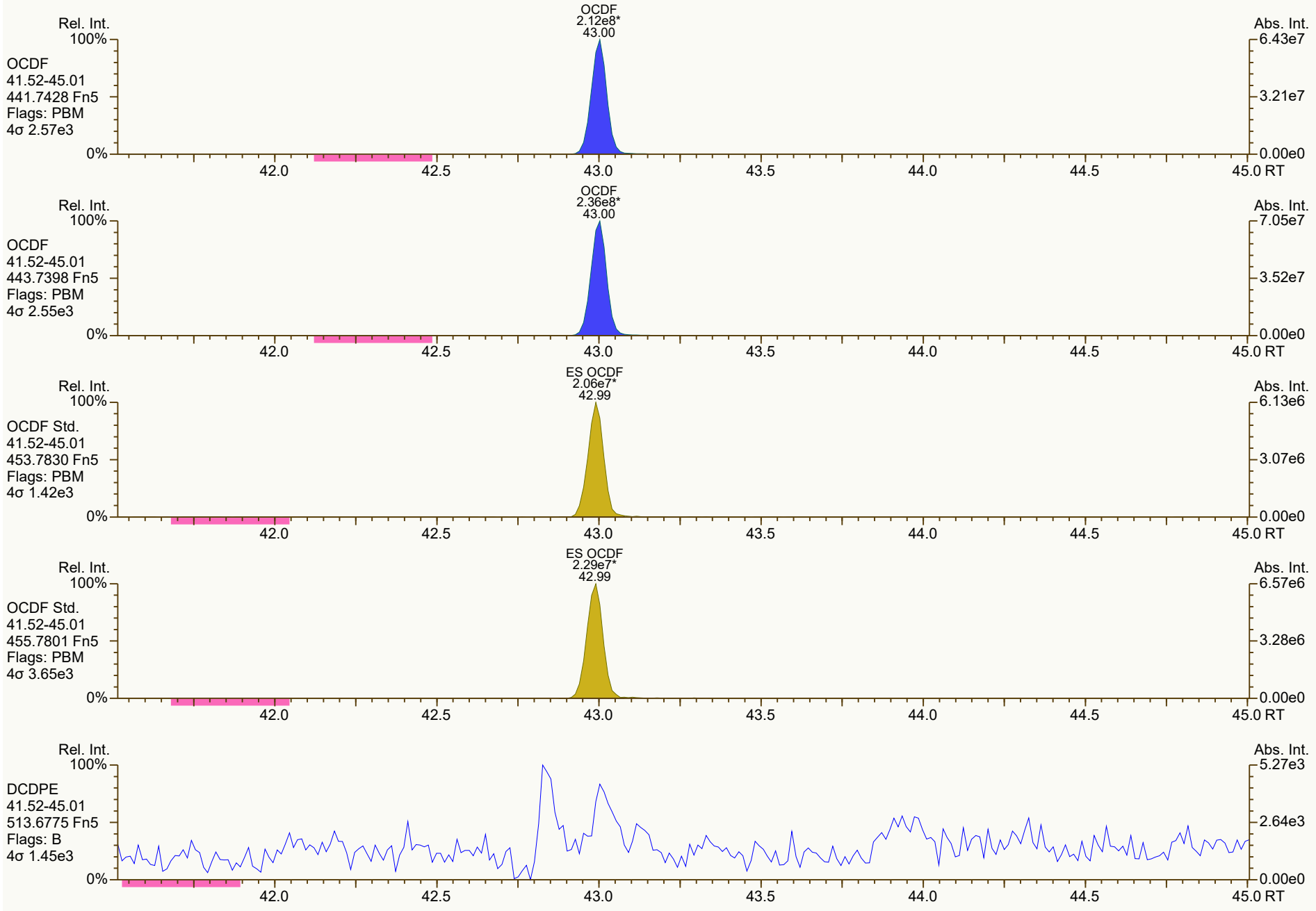

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

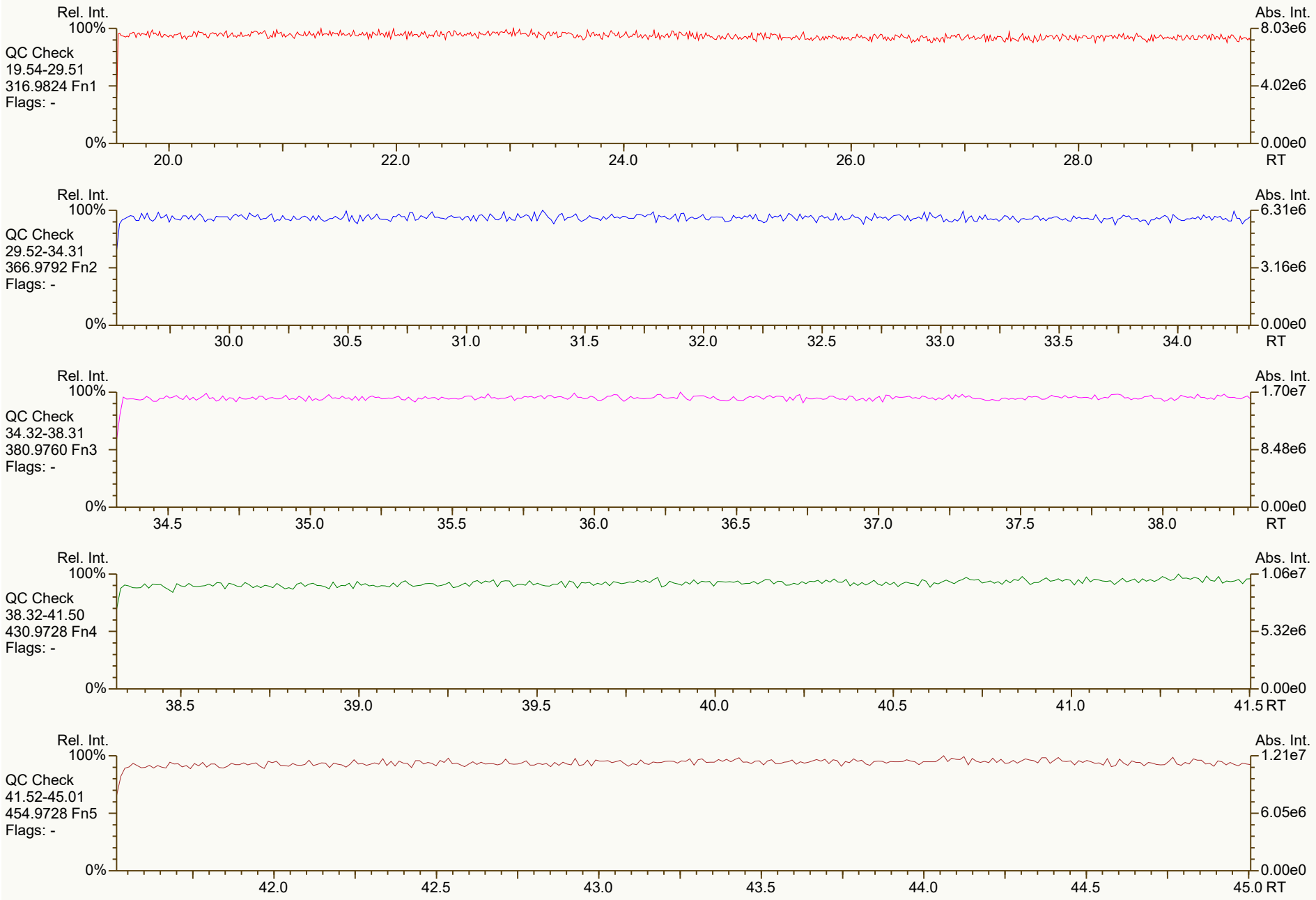

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

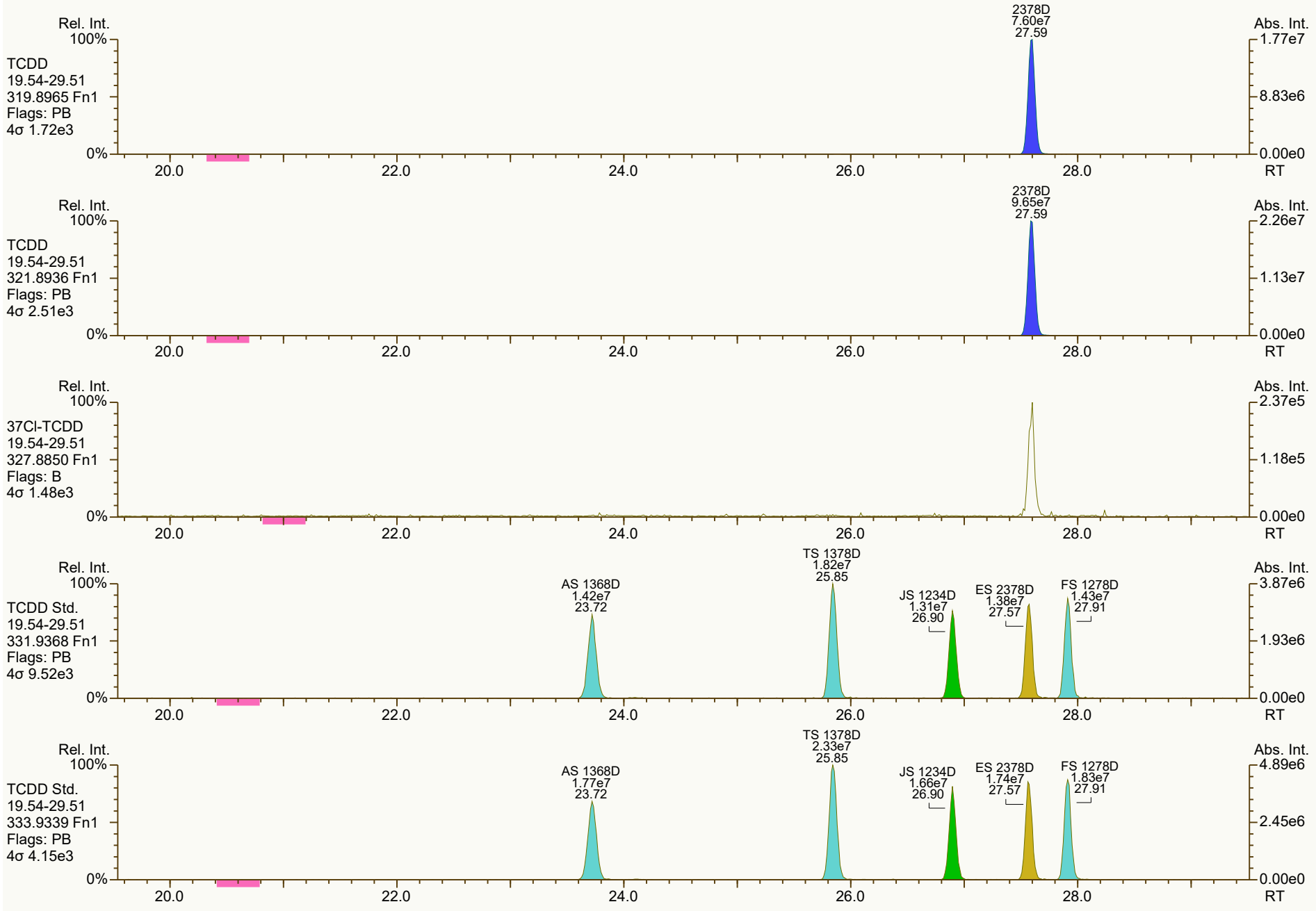
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

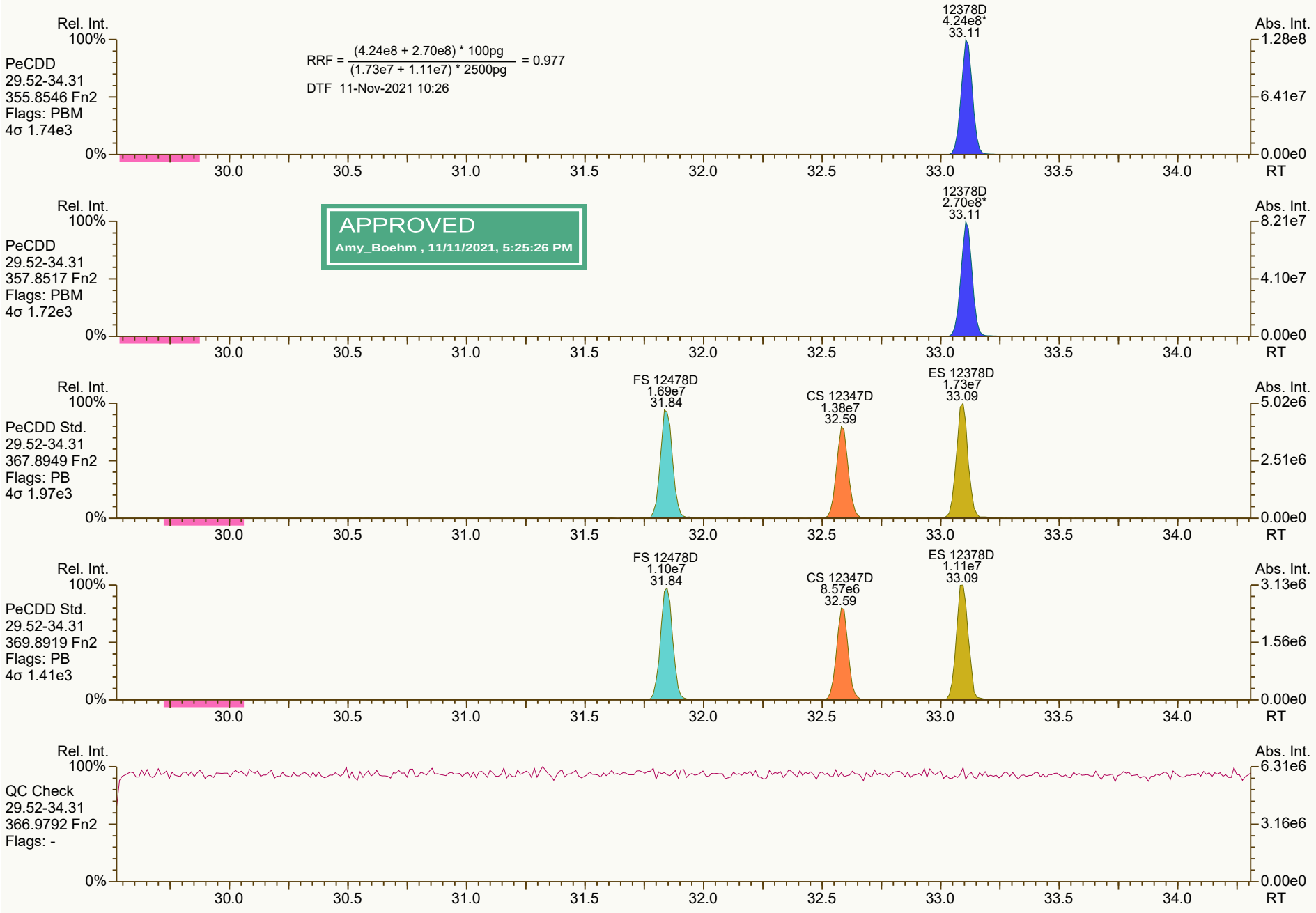
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

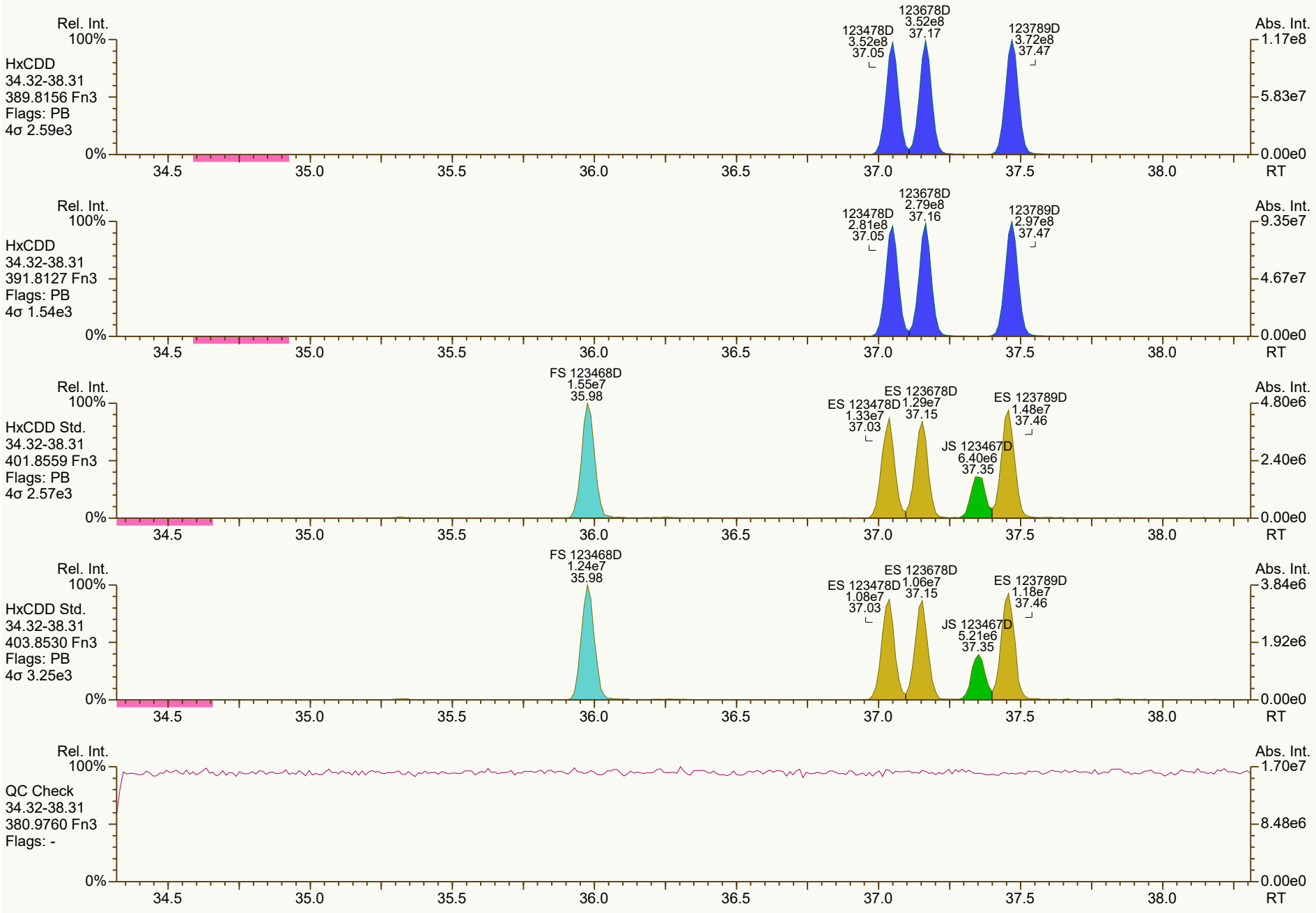
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

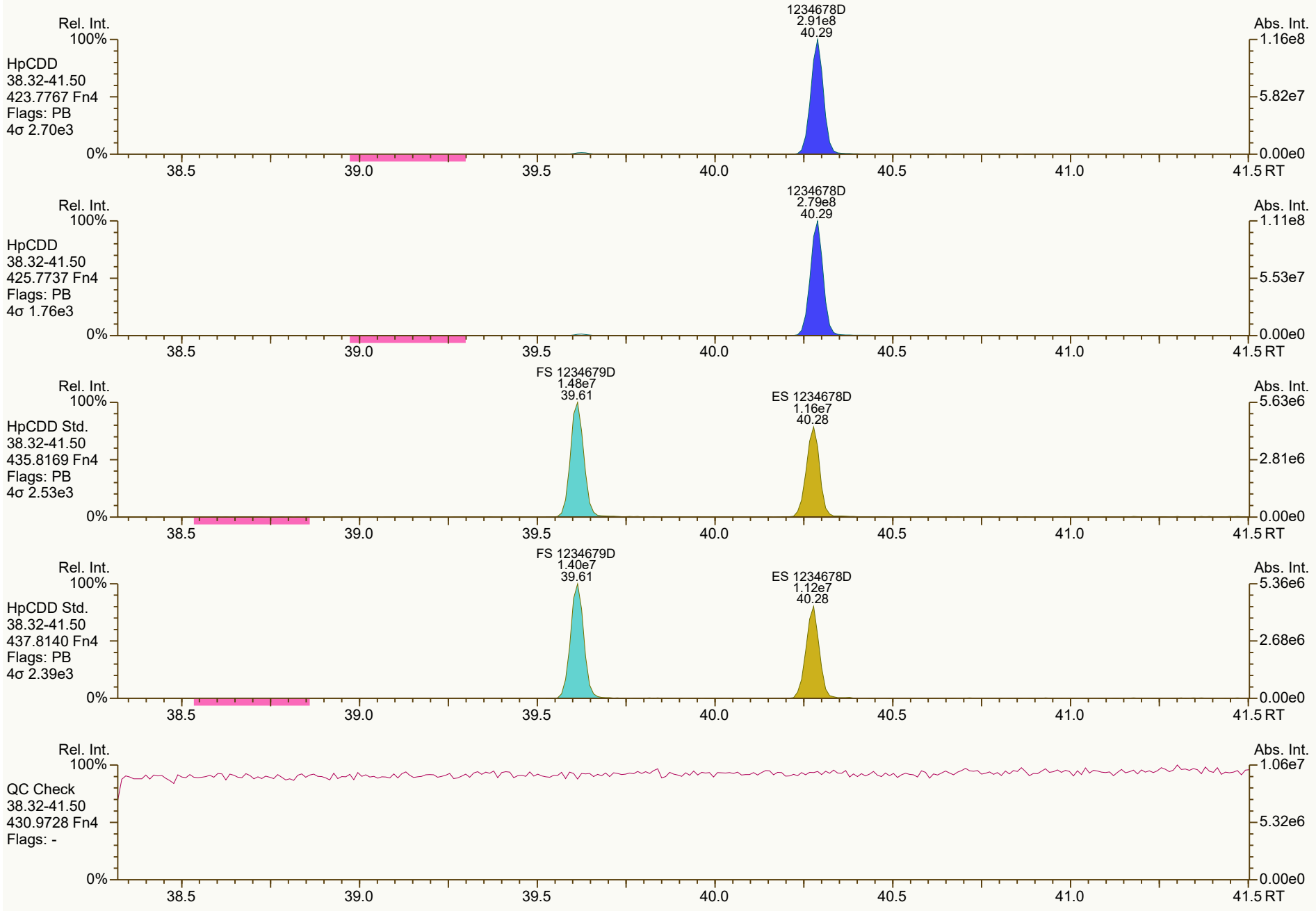
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

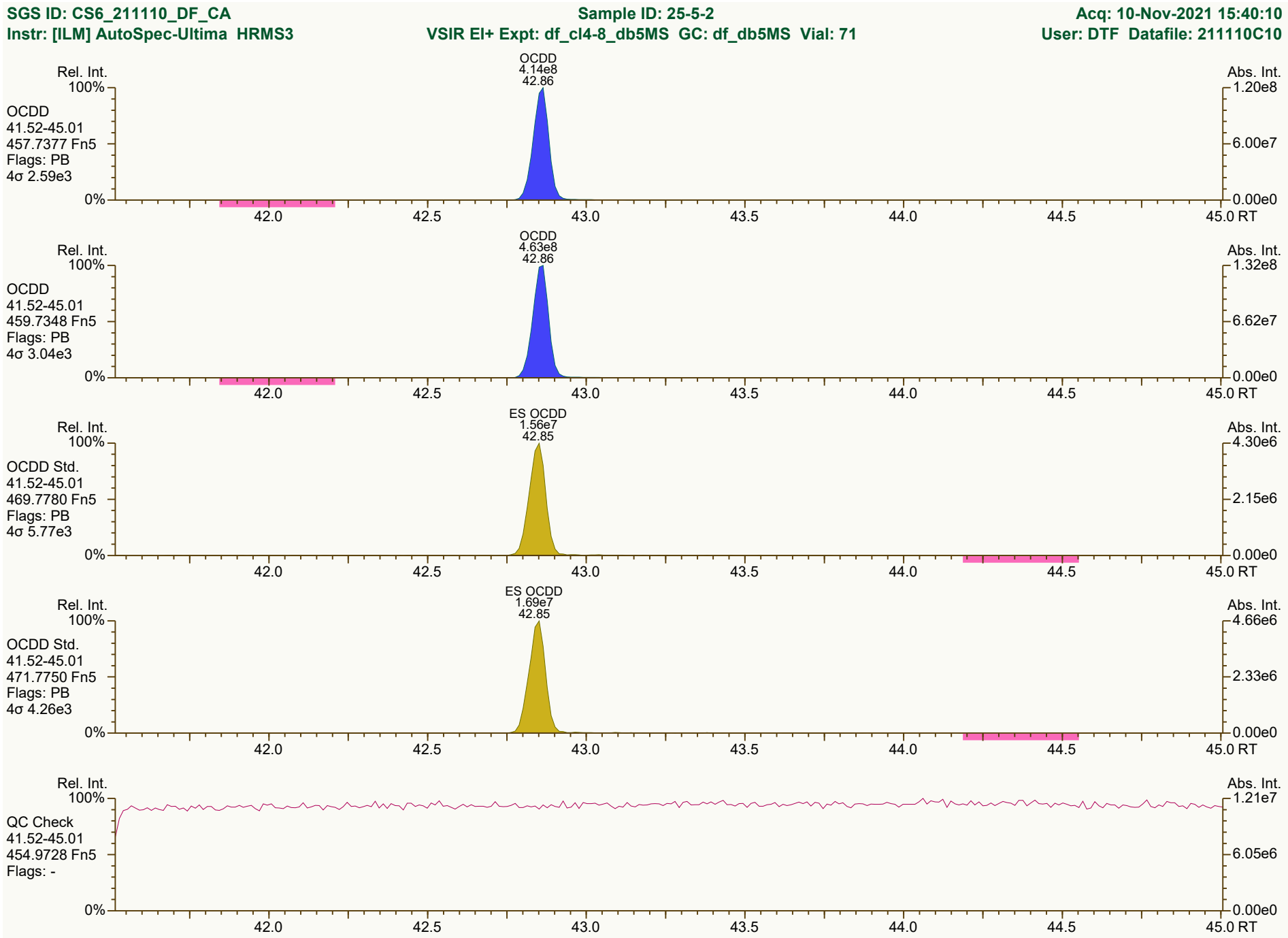

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

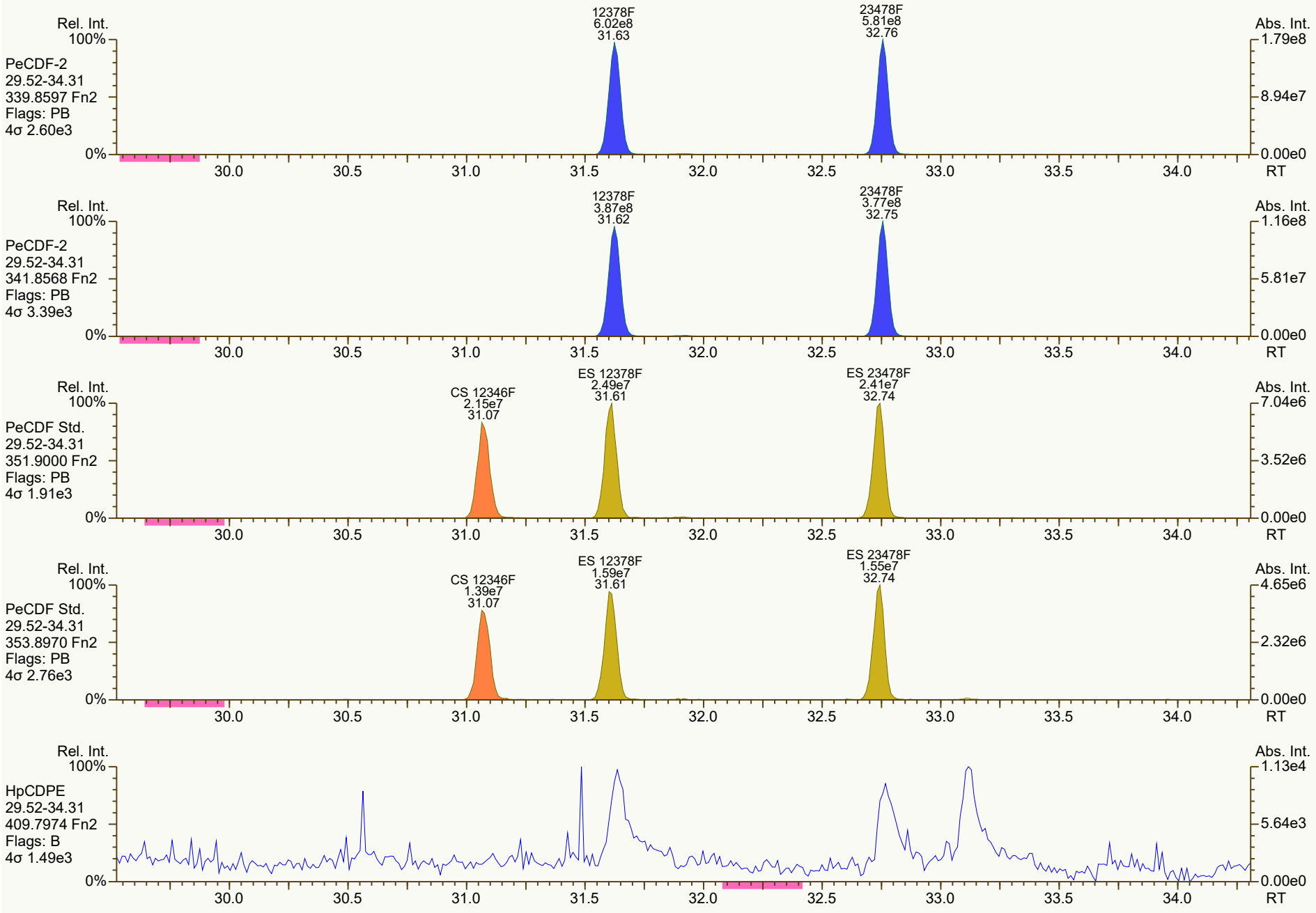

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
OCDD
4.14e8
42.86
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
1.20e8
6.00e7
0.00e0
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
1.32e8
6.62e7
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
4.30e6
2.15e6
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
4.66e6
2.33e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.21e7
6.05e6
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

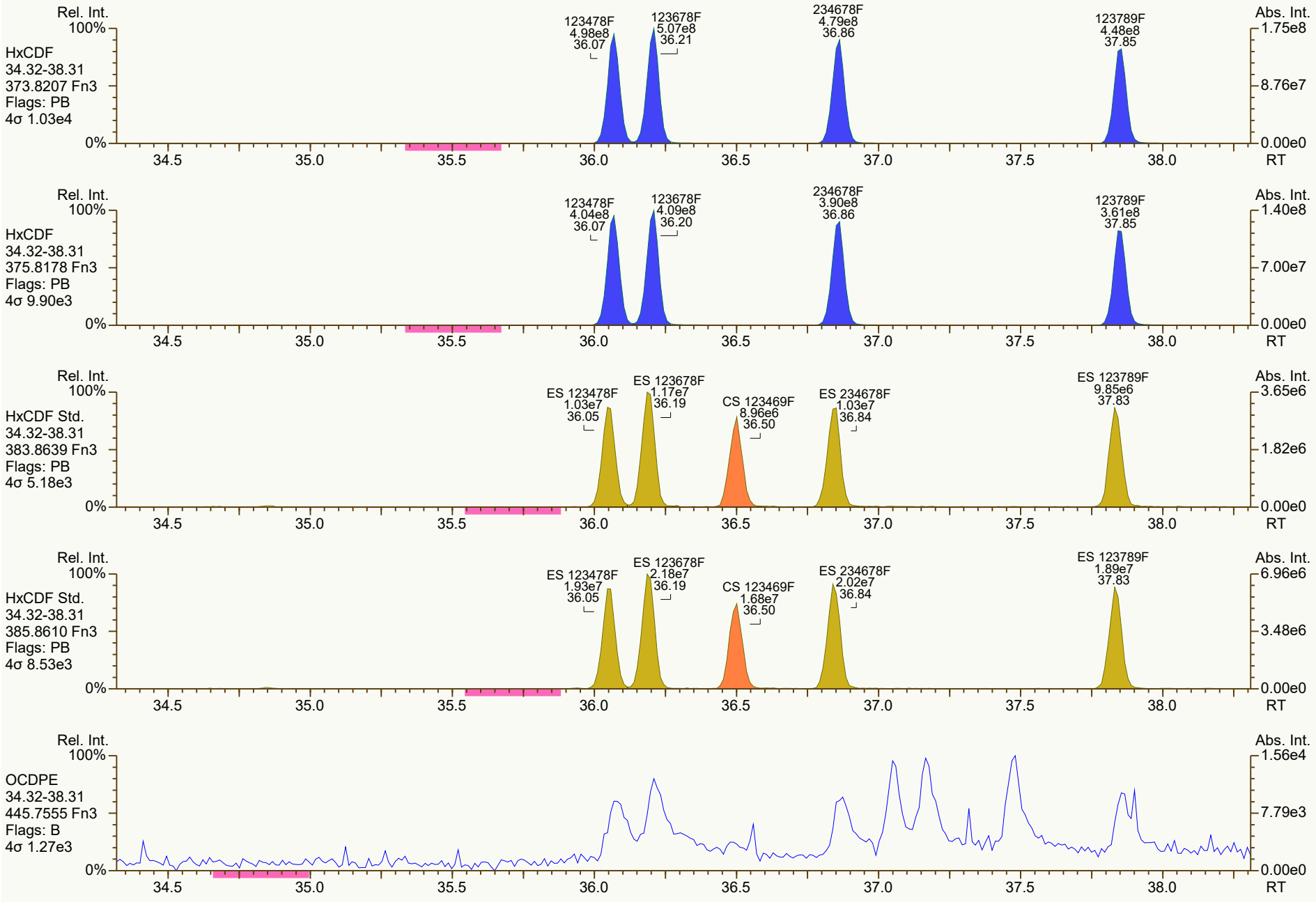

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

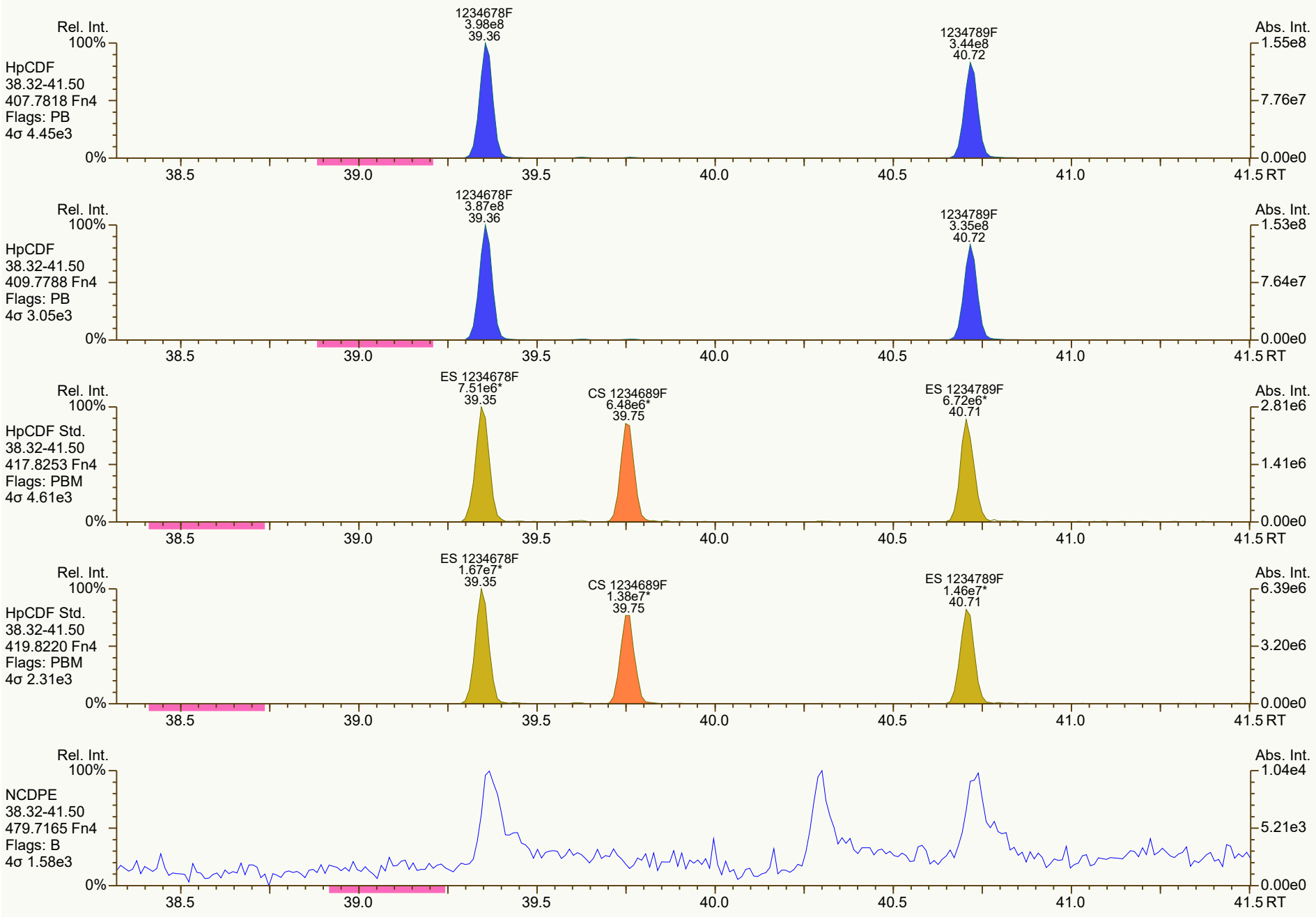
SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10

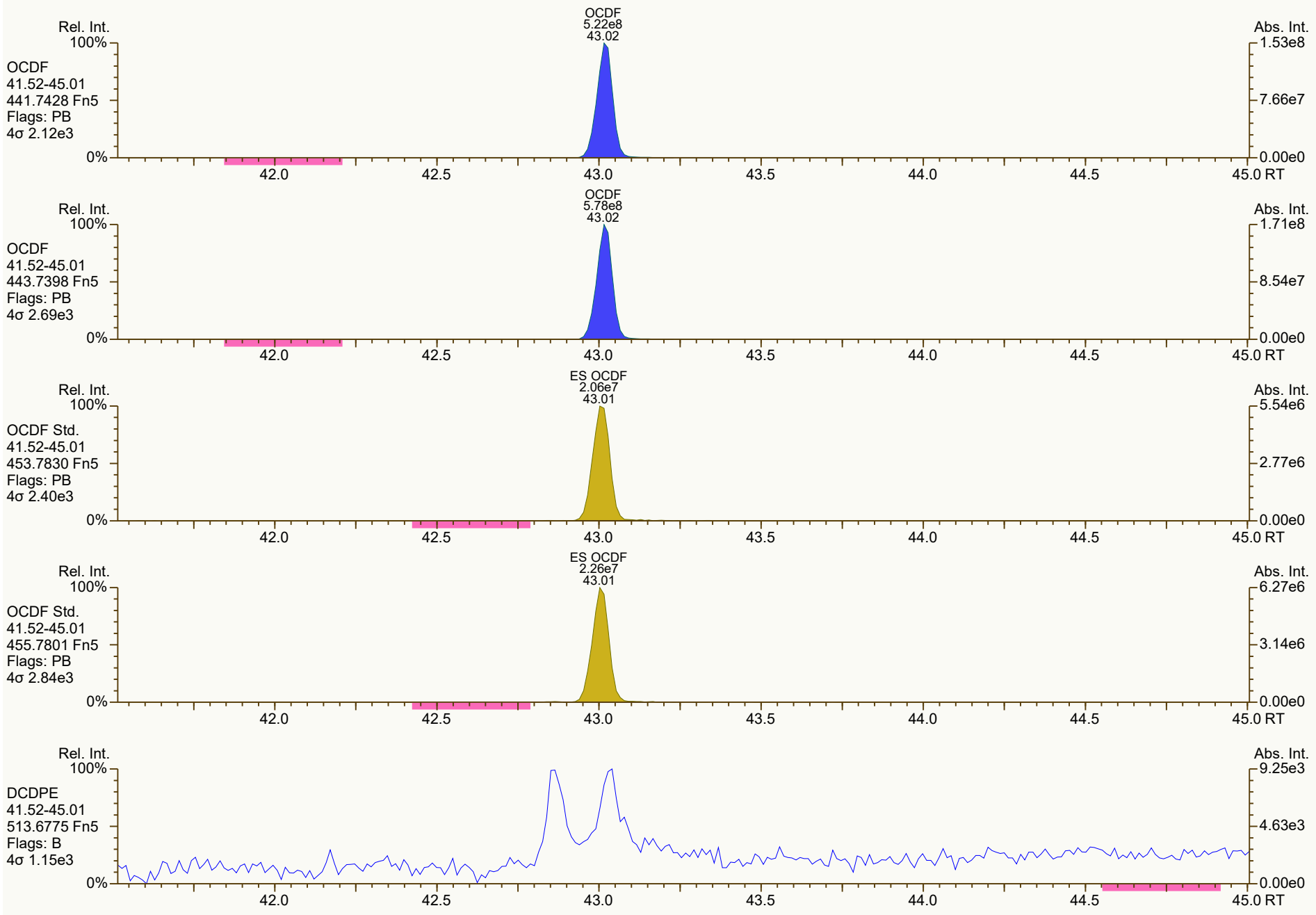


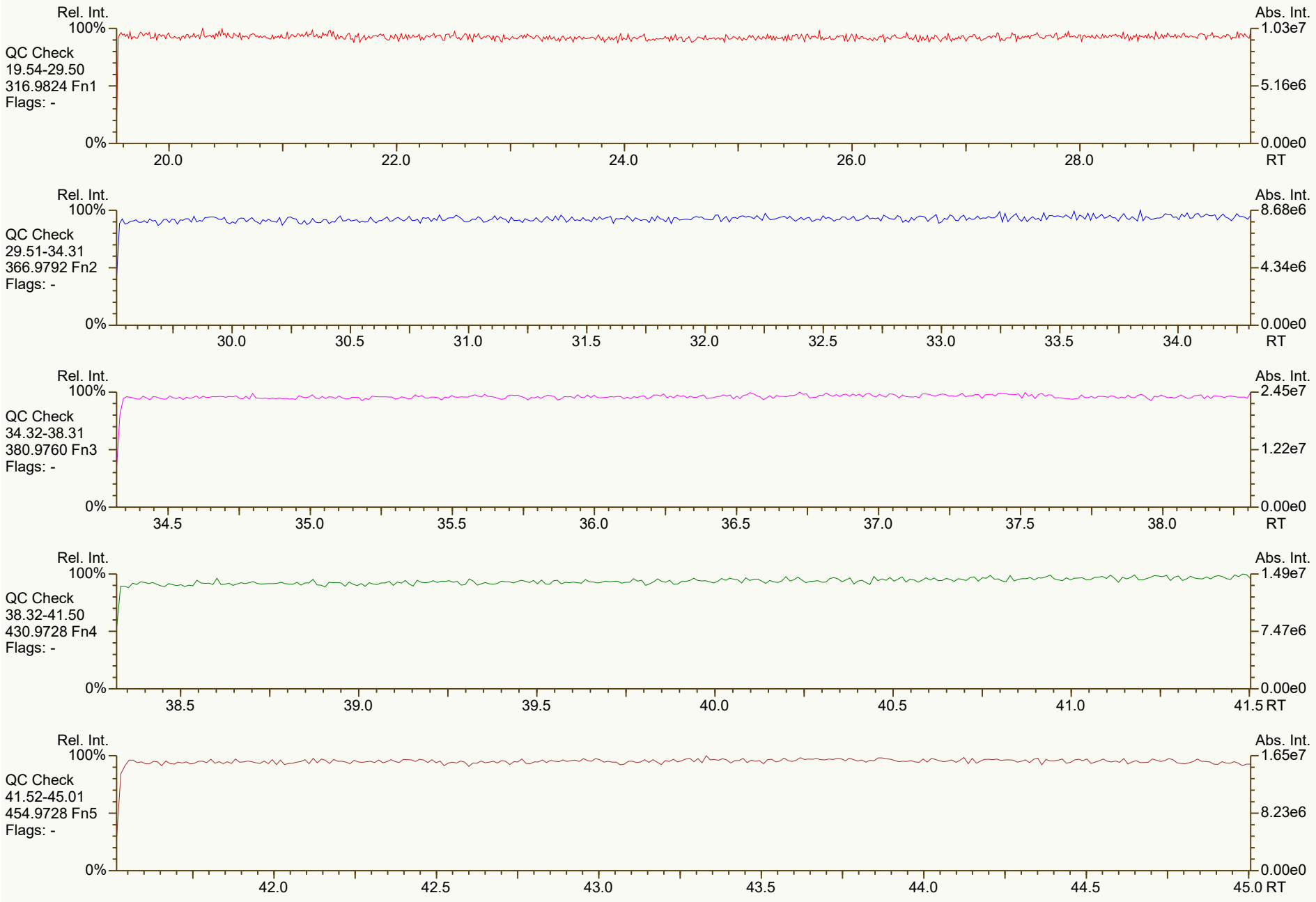
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

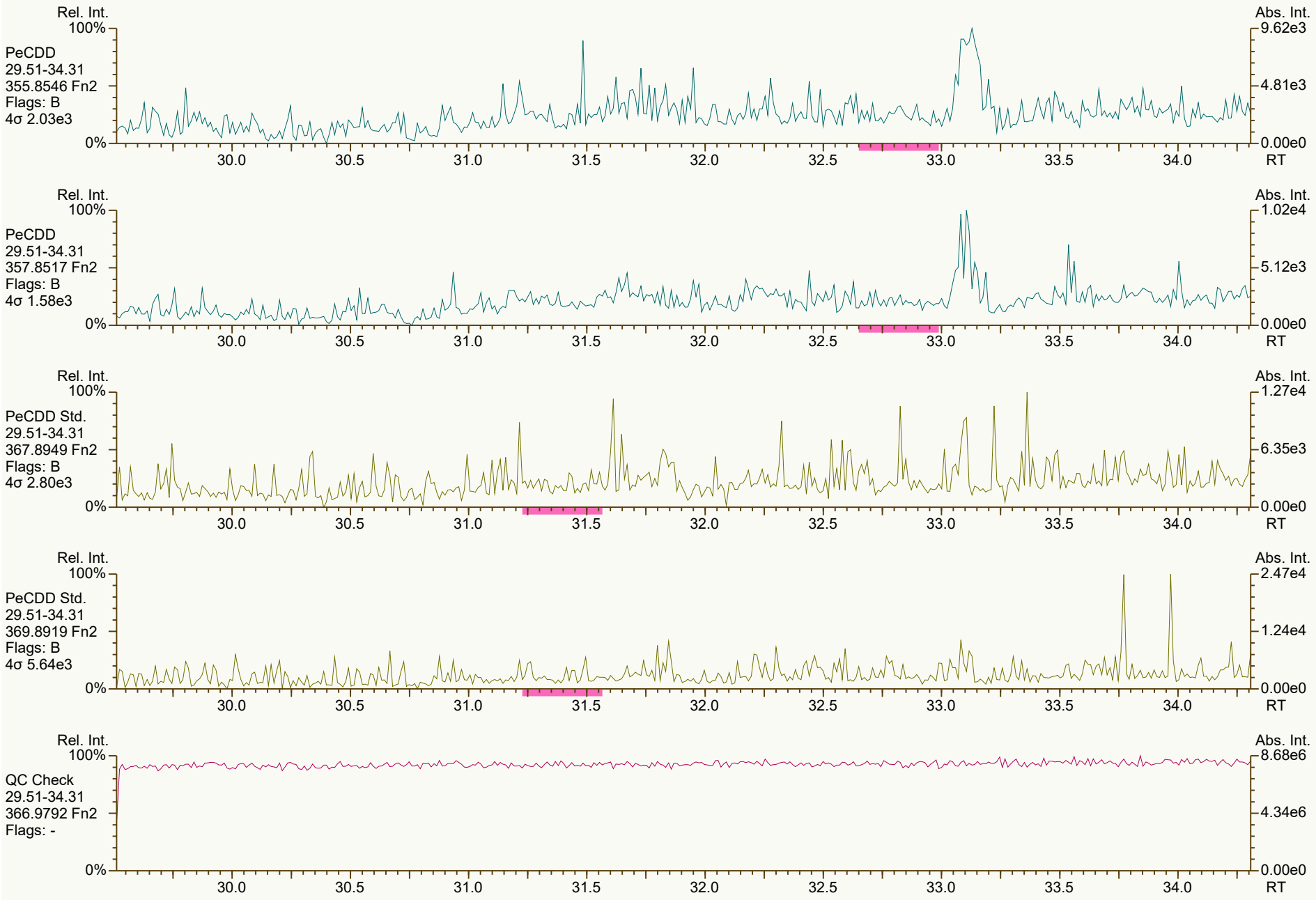
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

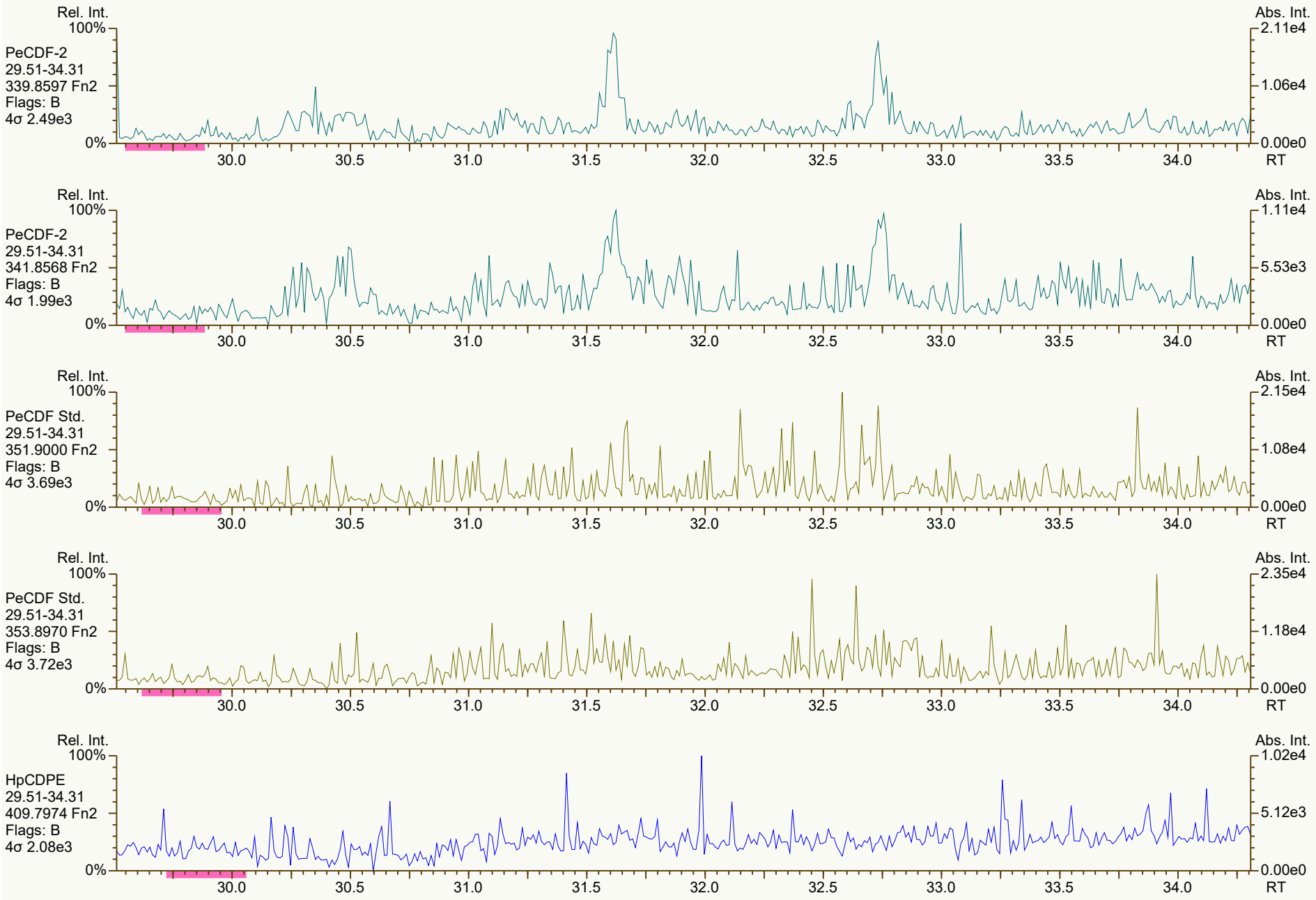

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

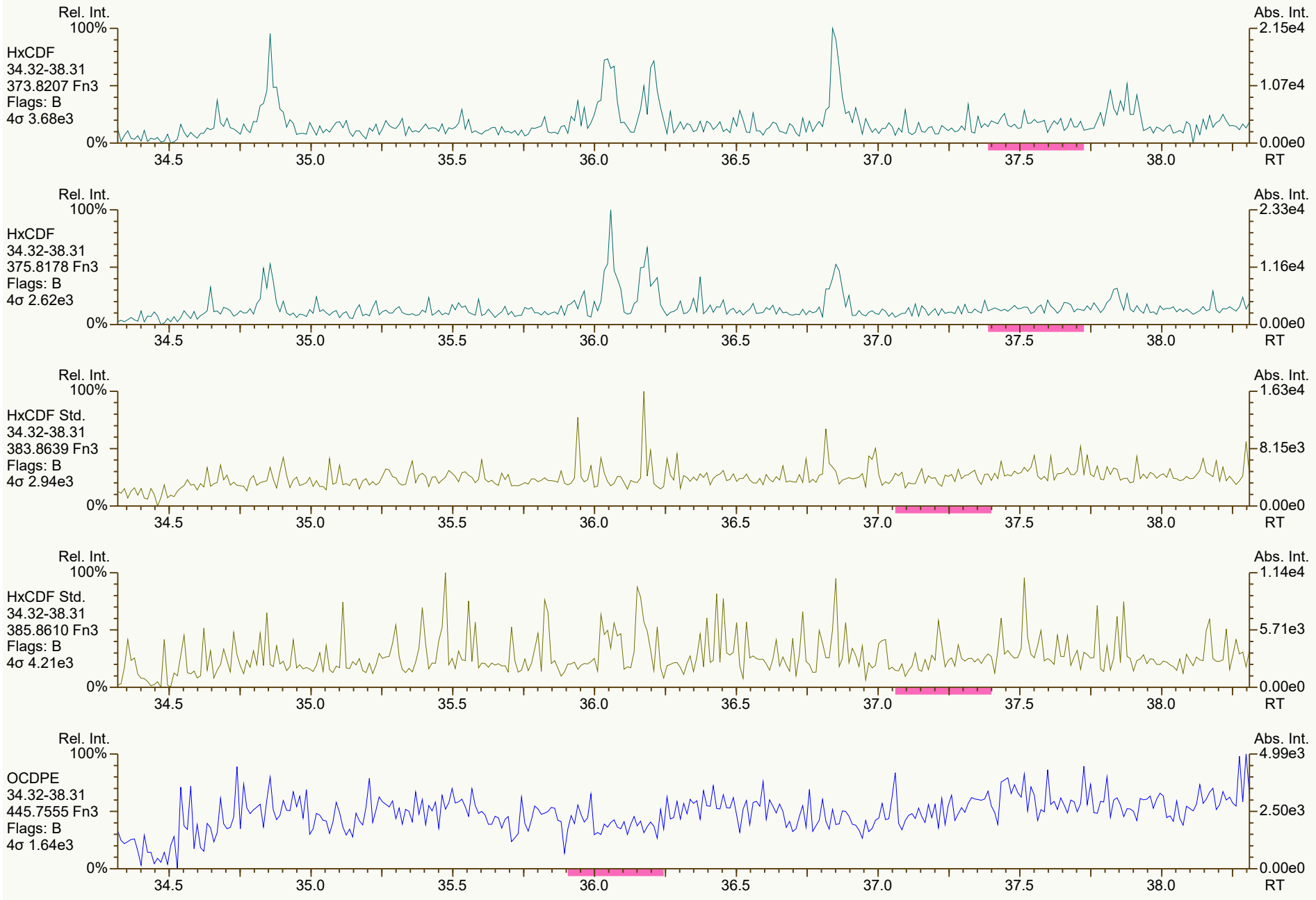

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

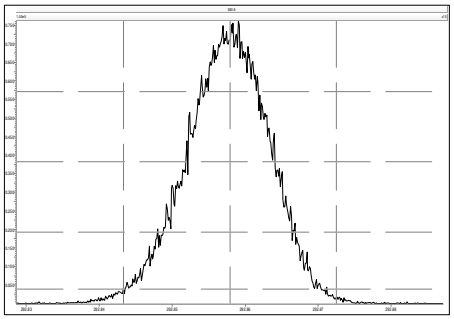

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

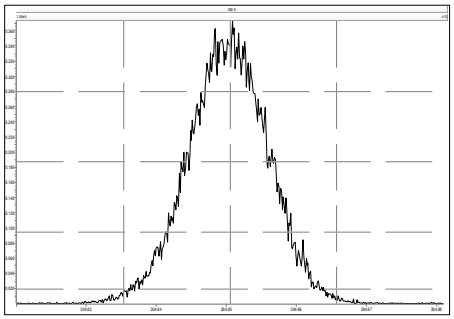
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

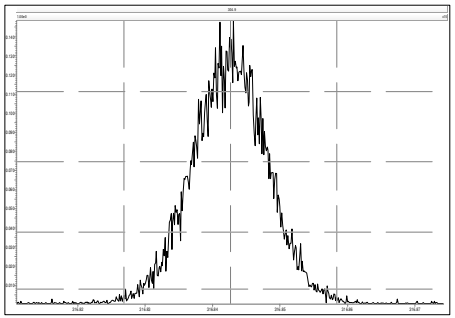
M 292.9824 R 10731



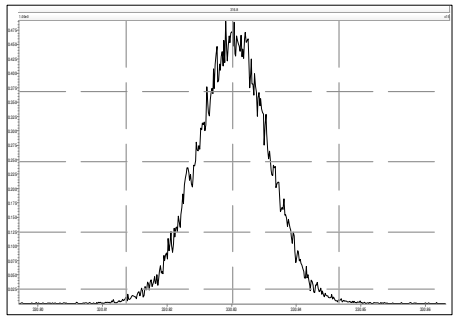
M 304.9824 R 11311



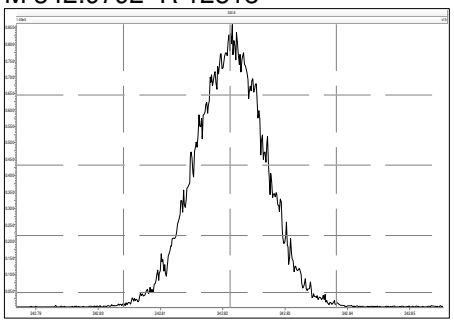
M 316.9824 R 12373



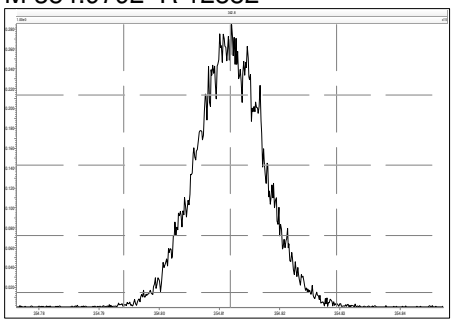
M 330.9792 R 12887



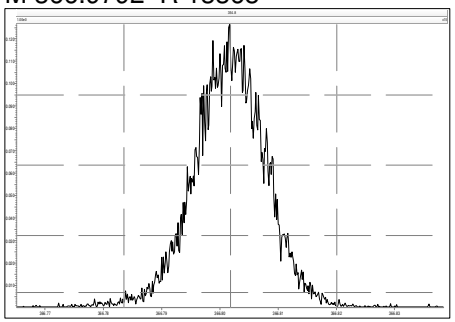
M 342.9792 R 12818



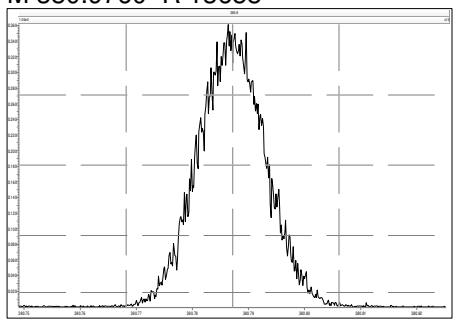
M 354.9792 R 12882



M 366.9792 R 13368



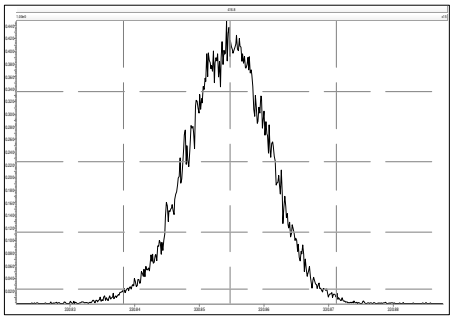
M 380.9760 R 13658



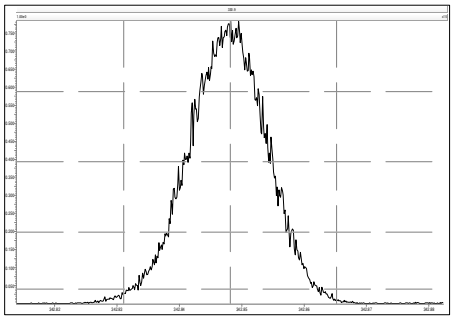
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

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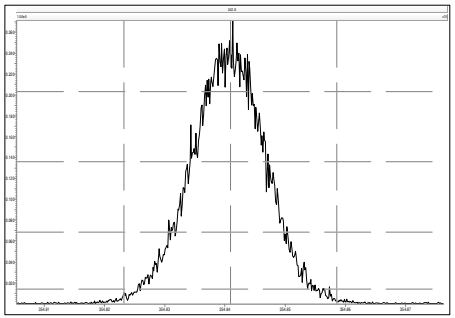
M 330.9792 R 11112



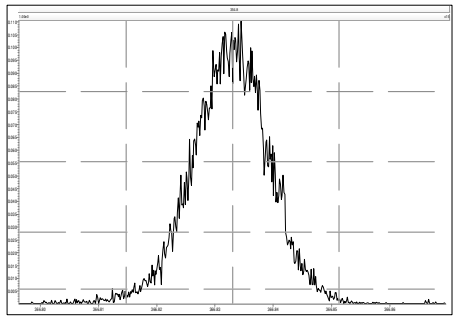
M 342.9792 R 11909



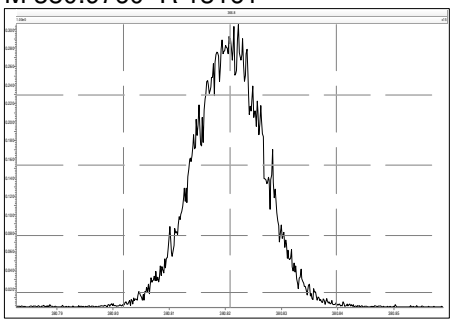
M 354.9792 R 11684



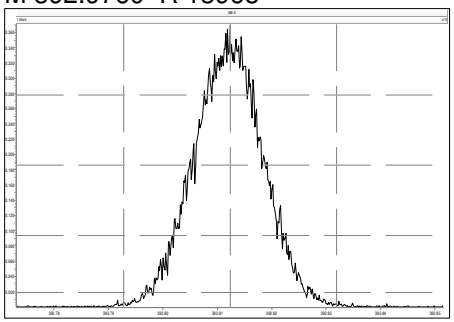
M 366.9792 R 11962



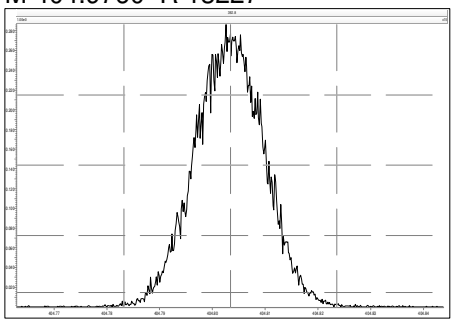
M 380.9760 R 13161



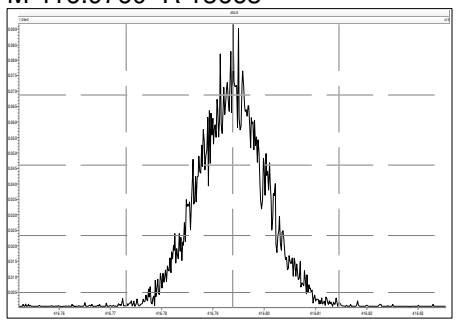
M 392.9760 R 13968



M 404.9760 R 13227



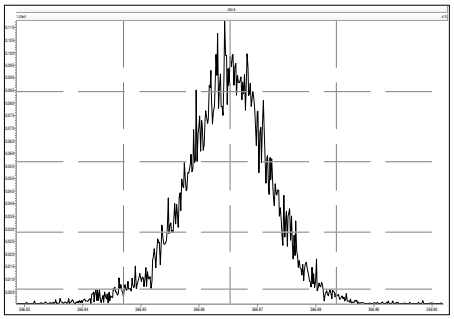
M 416.9760 R 13663



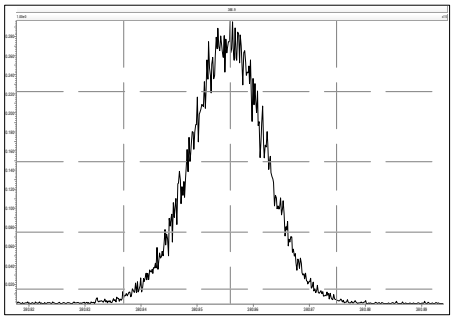
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

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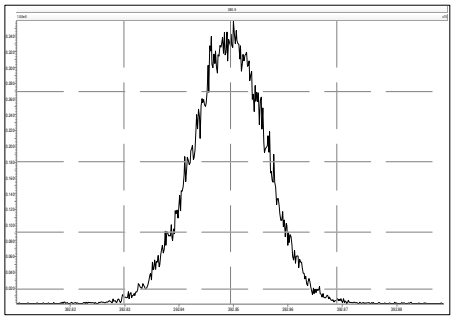
M 366.9792 R 10680



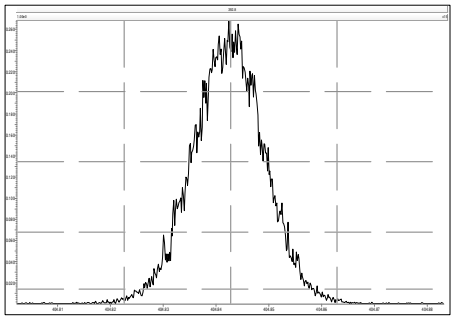
M 380.9760 R 12315



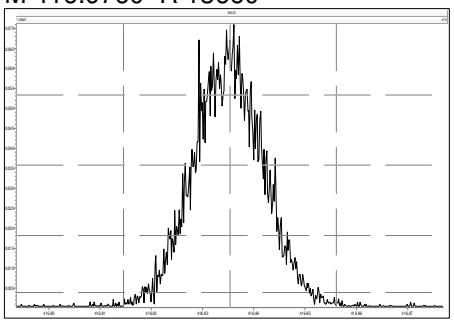
M 392.9760 R 12197



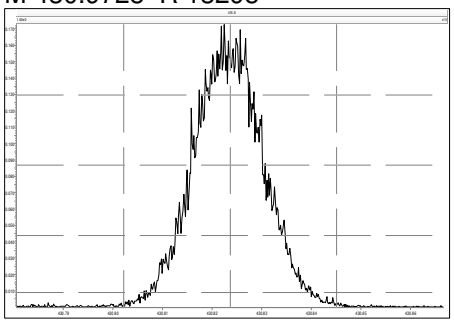
M 404.9760 R 12433



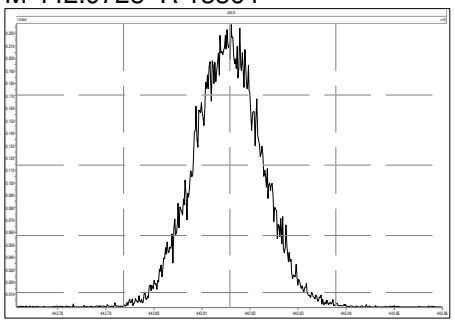
M 416.9760 R 13660



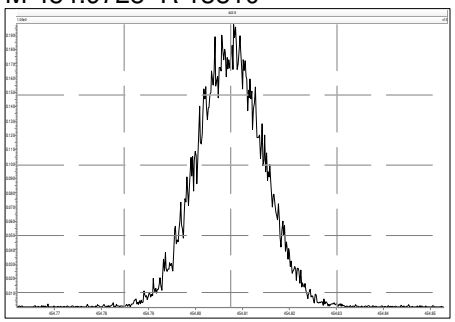
M 430.9728 R 13295



M 442.9728 R 13364



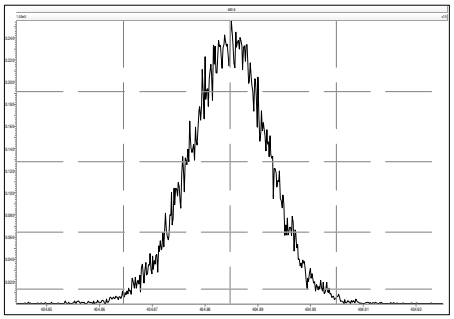
M 454.9728 R 13810



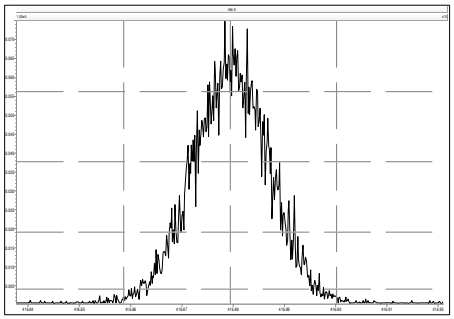
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

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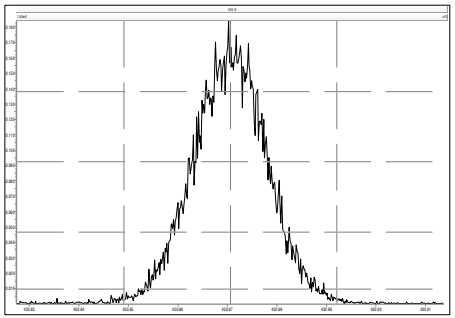
M 404.9760 R 11679



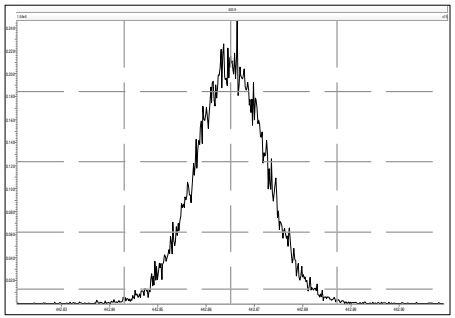
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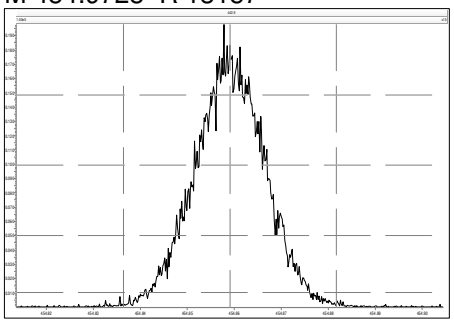
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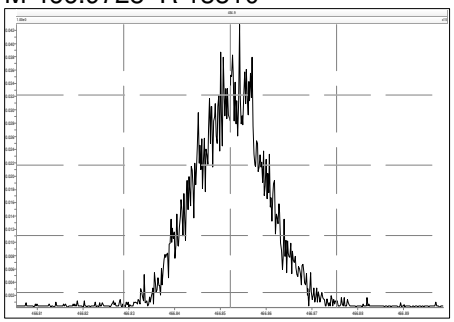
M 442.9728 R 12756



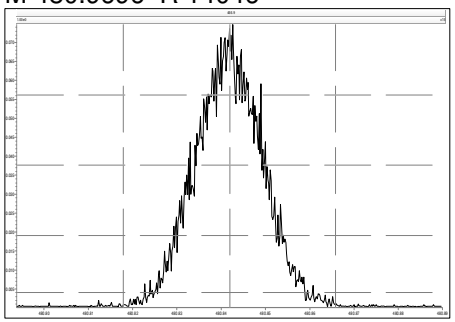
M 454.9728 R 13157



M 466.9728 R 13810



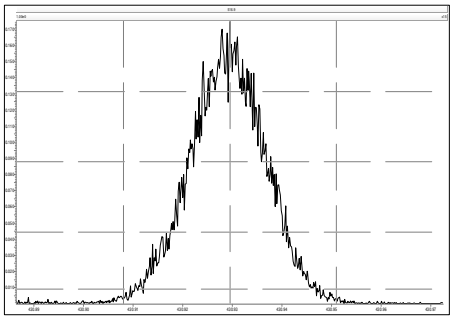
M 480.9696 R 14046



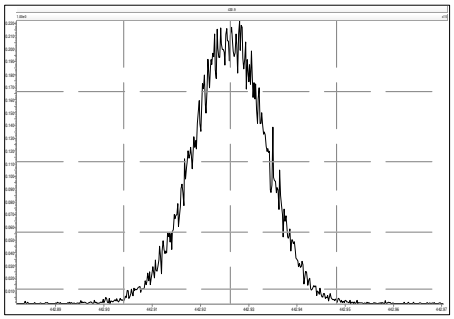
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

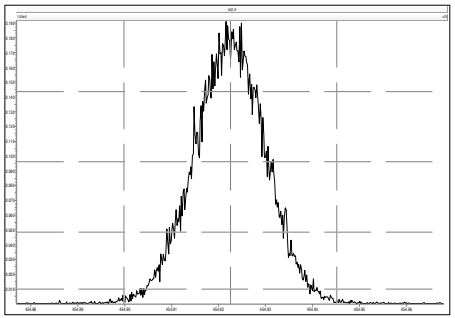
M 430.9728 R 11574



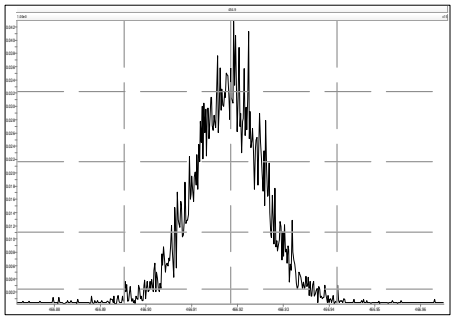
M 442.9728 R 12198



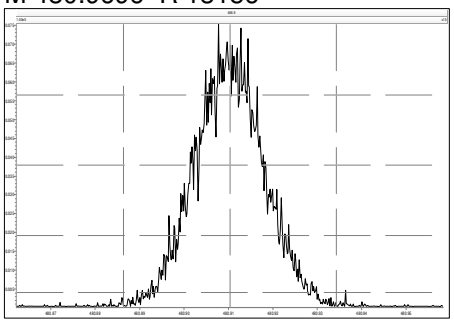
M 454.9728 R 12950



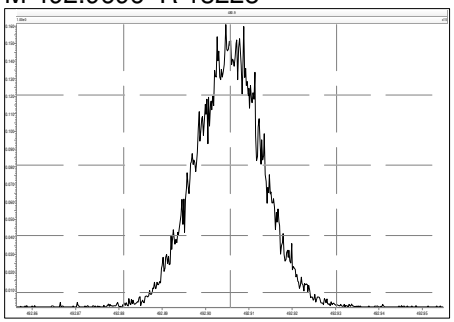
M 466.9728 R 13088



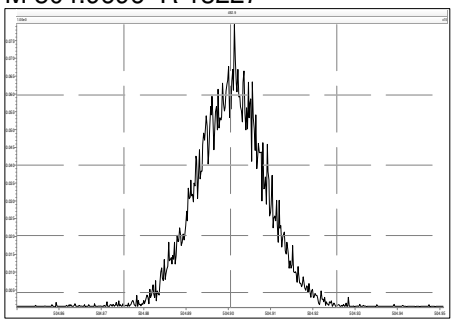
M 480.9696 R 13156



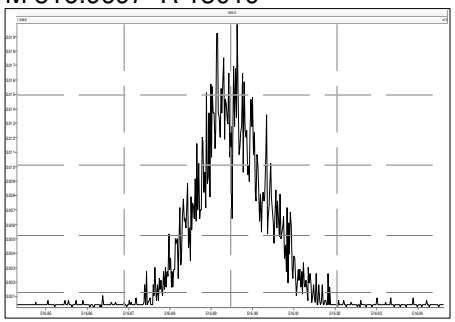
M 492.9696 R 13228



M 504.9696 R 13227



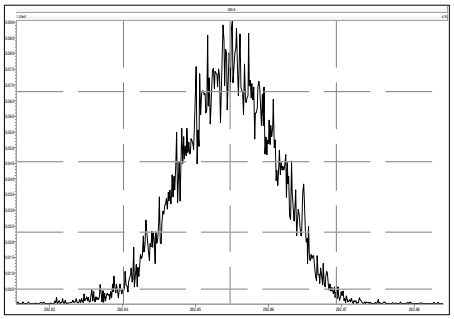
M 516.9697 R 13019



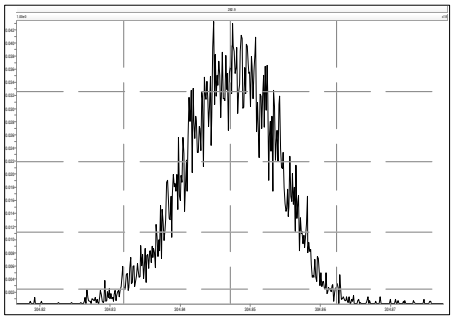
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

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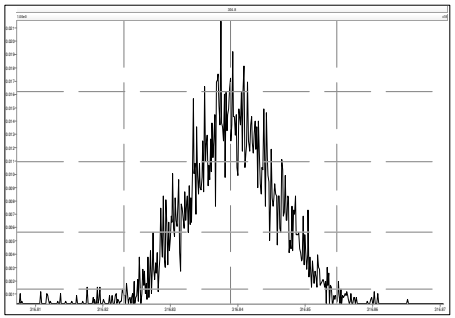
M 292.9824 R 10122



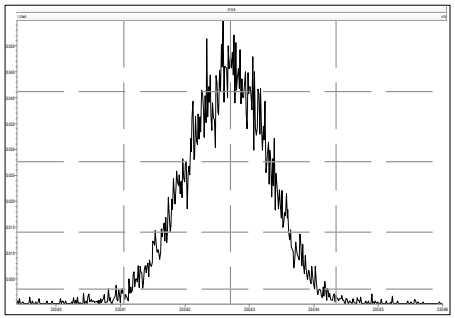
M 304.9824 R 10329



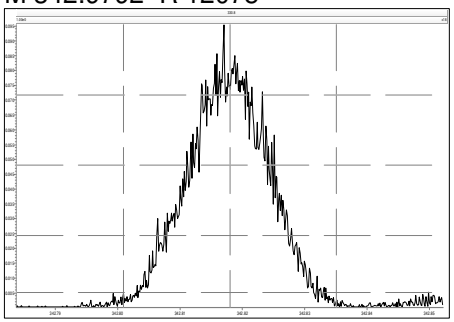
M 316.9824 R 11964



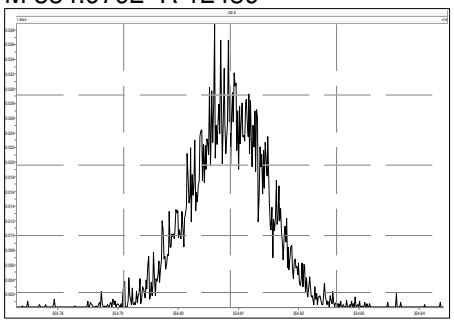
M 330.9792 R 11062



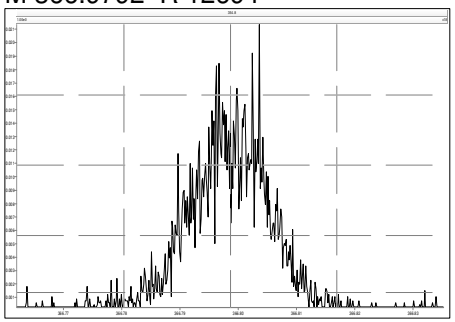
M 342.9792 R 12075



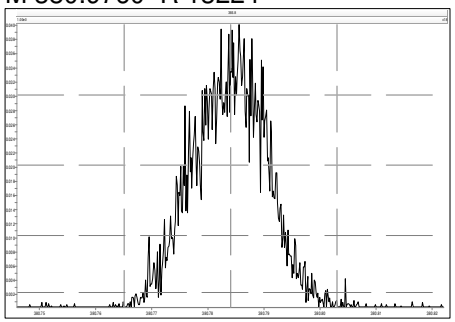
M 354.9792 R 12439



M 366.9792 R 12694



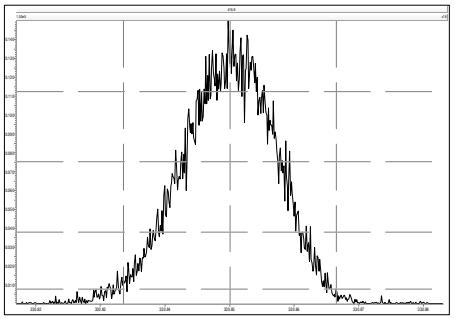
M 380.9760 R 13224



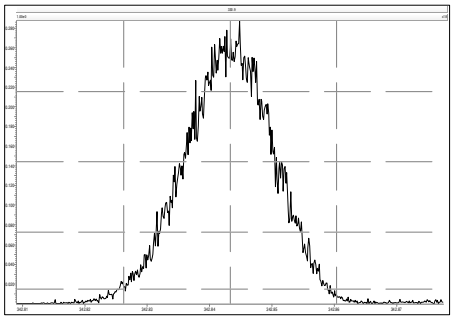
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

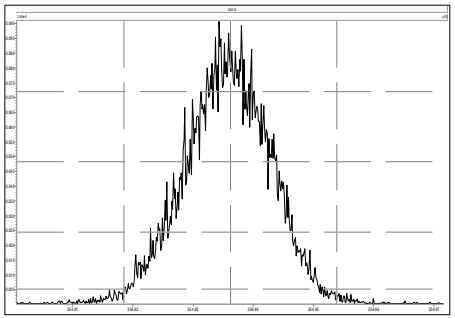
M 330.9792 R 10730



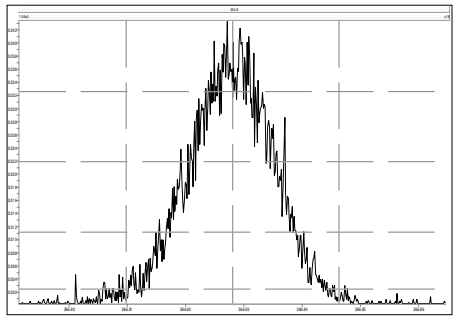
M 342.9792 R 10039



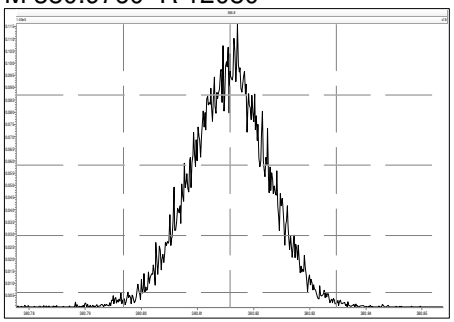
M 354.9792 R 11108



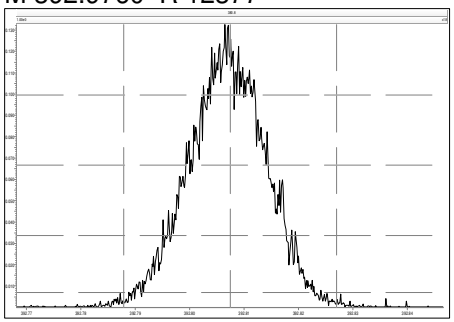
M 366.9792 R 11520



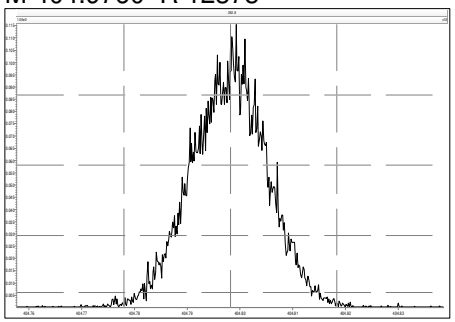
M 380.9760 R 12080



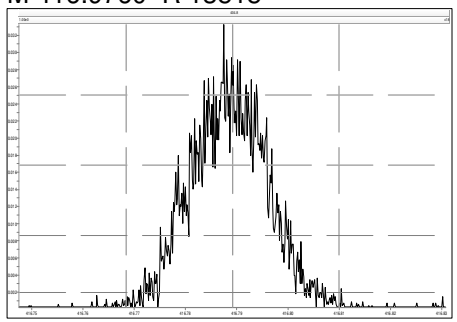
M 392.9760 R 12377



M 404.9760 R 12375



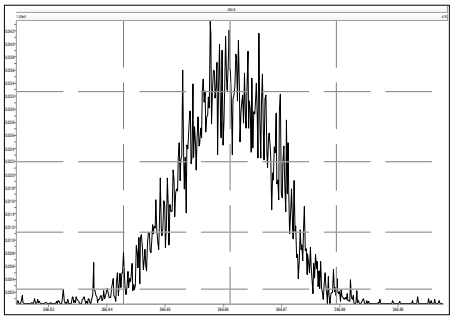
M 416.9760 R 13515



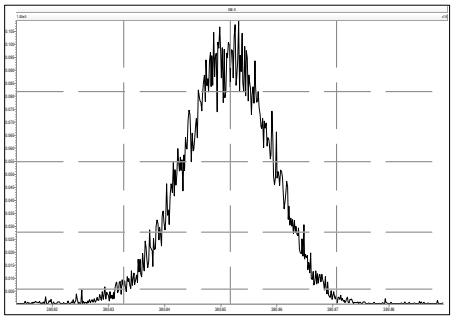
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

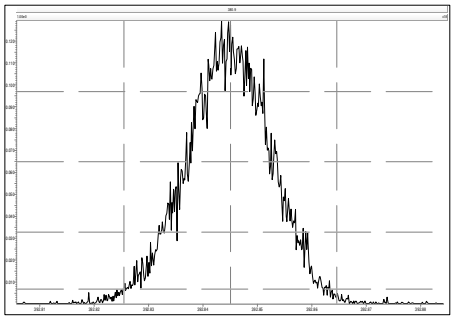
M 366.9792 R 10866



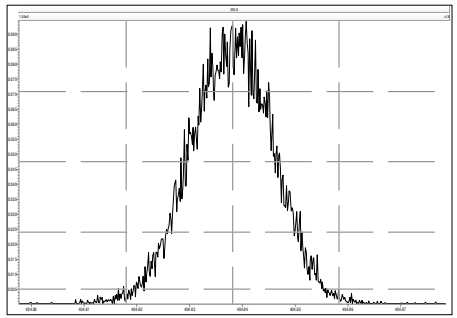
M 380.9760 R 10416



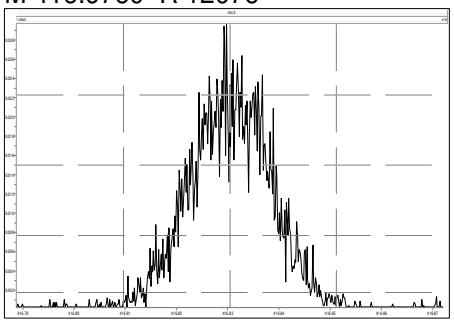
M 392.9760 R 10640



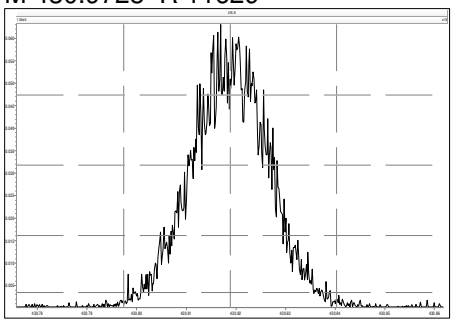
M 404.9760 R 11957



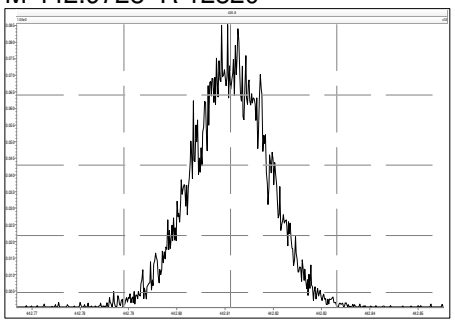
M 416.9760 R 12076



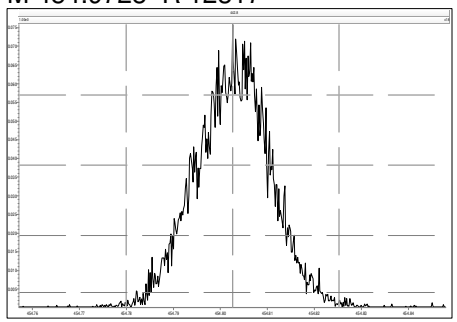
M 430.9728 R 11629



M 442.9728 R 12820



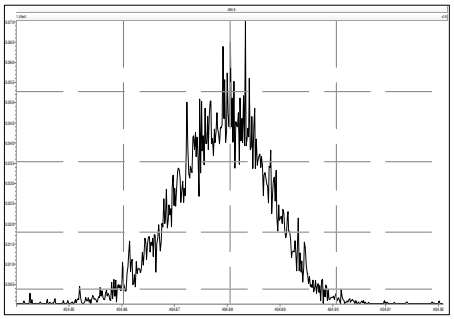
M 454.9728 R 12317



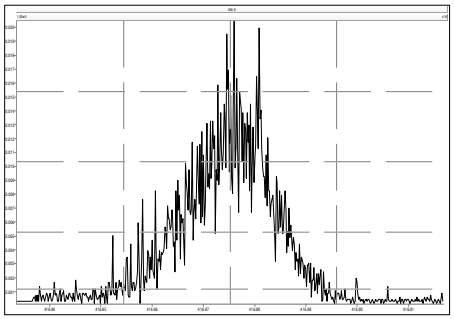
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

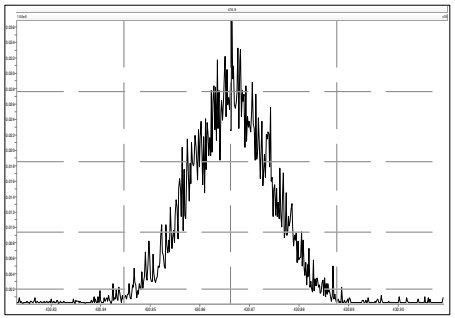
M 404.9760 R 10505



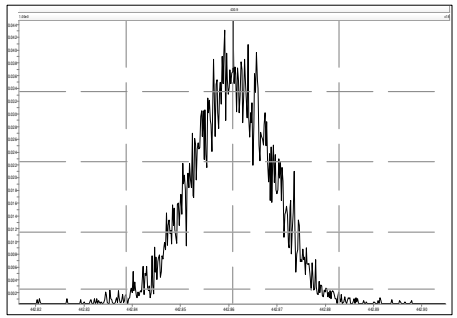
M 416.9760 R 12500



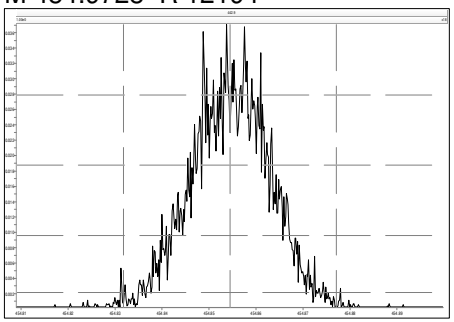
M 430.9728 R 11362



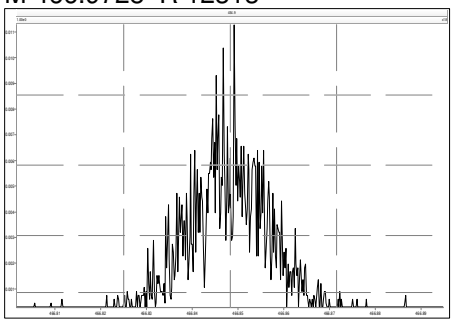
M 442.9728 R 12756



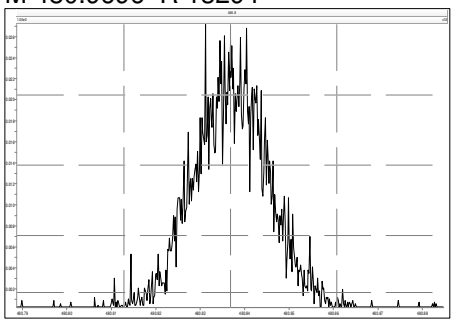
M 454.9728 R 12194



M 466.9728 R 12313



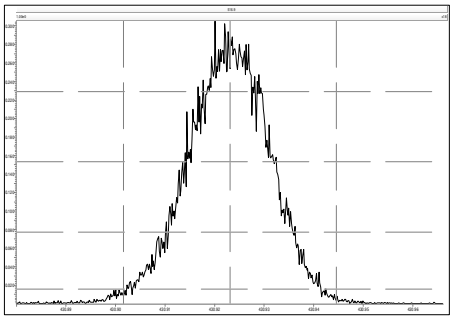
M 480.9696 R 13294



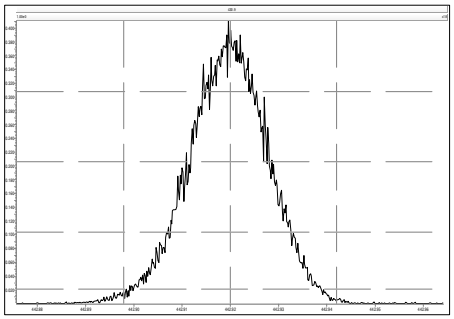
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

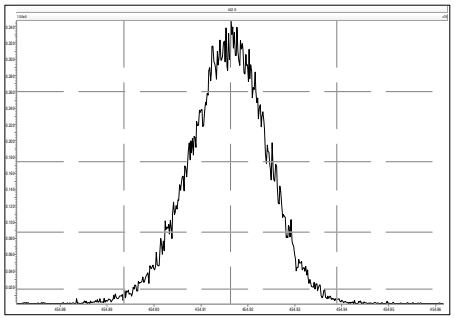
M 430.9728 R 11312



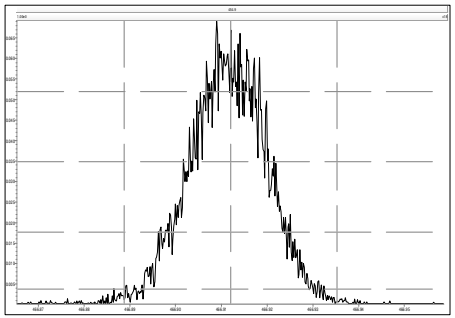
M 442.9728 R 11110



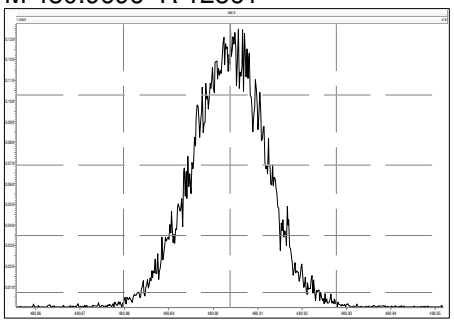
M 454.9728 R 11906



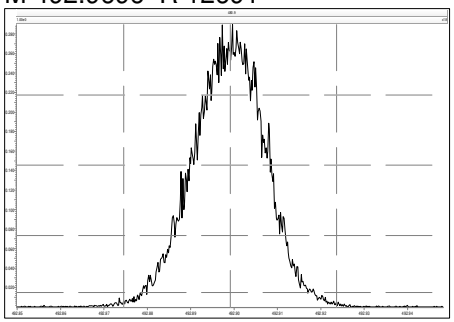
M 466.9728 R 12562



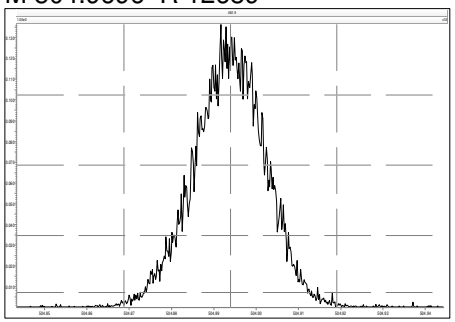
M 480.9696 R 12561



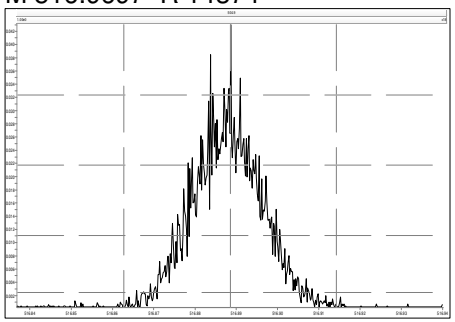
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18870_DF

REVIEWED
Tamara Burkamper , 2/4/2022, 10:14:40 AM

Acq'd: 01 Feb 2022 21:59 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR001

UTP: 03-Feb-2022 09:36:09 MLS

J-level: 0.25 pg/uL Split: 1

Checkcode: 183-833-FKJ

Datafile: 220201C18

Report: 03 Feb 2022 09:41 MS

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.63		1.0008	1.0008	0	1.55E+06	0.82	Y	1.18	11.6	2900.406	0.227
12378-PeCDD	33.94		1.0006	1.0004	-0.4	5.45E+06	1.55	Y	1.04	47.4	2537.53	0.21
123478-HxCDD	37.85		1.0004	1.0003	-0.2	5.20E+06	1.28	Y	1.09	51.2	3012.43	0.257
123678-HxCDD	37.96		1.0034	1.0034	0	6.38E+06	1.29	Y	1.15	53	3012.43	0.221
123789-HxCDD	38.25		1.0109	1.0111	+0.5	4.95E+06	1.29	Y	1.05	51.4	3012.43	0.287
1234678-HpCDD	40.89		1.0003	1.0003	0	3.55E+06	1.09	Y	1.06	51.6	2538.273	0.296
OCDD	43.58		1.0002	1.0003	+0.3	3.84E+06	0.86	Y	1.13	110	2765.381	0.87
2378-TCDF	27.78		1.0008	1.0009	+0.2	1.99E+06	0.77	Y	1.08	10.5	2469.133	0.143
12378-PeCDF	32.50		1.0005	1.0005	0	8.50E+06	1.53	Y	1.02	49.5	4979.746	0.279
23478-PeCDF	33.61		1.0005	1.0005	0	9.16E+06	1.54	Y	1.02	54.5	4979.746	0.273
123478-HxCDF	36.84		1.0004	1.0005	+0.2	7.26E+06	1.26	Y	1.27	53.5	3079.092	0.179
123678-HxCDF	36.98		1.0004	1.0003	-0.2	8.93E+06	1.29	Y	1.15	54.7	3079.092	0.187
234678-HxCDF	37.67		1.0004	1.0005	+0.2	8.36E+06	1.19	Y	1.19	53.5	3079.092	0.194
123789-HxCDF	38.61		1.0004	1.0004	0	4.78E+06	1.23	Y	1.16	51.2	3079.092	0.293
1234678-HpCDF	39.96		1.0002	1.0004	+0.5	5.96E+06	0.98	Y	1.37	54.8	2208.395	0.16
1234789-HpCDF	41.36		1.0003	1.0003	0	3.11E+06	1.03	Y	1.31	51.8	2208.395	0.295
OCDF	43.76		1.0002	1.0002	0	3.93E+06	0.89	Y	1.07	105	2577.609	0.8

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.61		1.0233	1.0237	+0.7	1.13E+07	0.84	Y	1.05	83.2
ES 12378-PeCDD	33.93		1.2121	1.2141	+4.1	1.11E+07	1.56	Y	0.88	97
ES 123478-HxCDD	37.83		0.9921	0.9920	-0.2	9.31E+06	1.27	Y	0.97	86.5
ES 123678-HxCDD	37.94		0.9951	0.9950	-0.2	1.05E+07	1.22	Y	0.94	100
ES 123789-HxCDD	38.24		1.0025	1.0027	+0.5	9.19E+06	1.22	Y	1.09	76
ES 1234678-HpCDD	40.88		1.0709	1.0719	+2.5	6.50E+06	1.09	Y	0.91	64.3
ES OCDD	43.57		1.1403	1.1425	+5.8	6.18E+06	0.91	Y	0.62	44.7
ES 2378-TCDF	27.76		1.0506	1.0513	+1.2	1.77E+07	0.78	Y	1.06	84.2
ES 12378-PeCDF	32.49		1.2281	1.2303	+4.3	1.67E+07	1.61	Y	0.91	92.8
ES 23478-PeCDF	33.59		1.2698	1.2723	+5.0	1.65E+07	1.58	Y	0.88	94.2
ES 123478-HxCDF	36.82		0.9657	0.9655	-0.4	1.07E+07	0.53	Y	1.20	80.5
ES 123678-HxCDF	36.97		0.9695	0.9694	-0.2	1.42E+07	0.50	Y	1.35	94.7
ES 234678-HxCDF	37.65		0.9874	0.9873	-0.2	1.32E+07	0.55	Y	1.24	95.6
ES 123789-HxCDF	38.59		1.0116	1.0120	+0.9	8.02E+06	0.55	Y	1.16	62.7
ES 1234678-HpCDF	39.94		1.0467	1.0474	+1.7	7.94E+06	0.46	Y	0.97	74.1
ES 1234789-HpCDF	41.35		1.0830	1.0842	+3.0	4.59E+06	0.44	Y	0.85	48.7
ES OCDF	43.75		1.1451	1.1473	+5.8	6.99E+06	0.95	Y	0.81	39.1

Lab ID: OPR1_18870_DF **Acq'd:** 01 Feb 2022 21:59 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR001 **UTP:** 03-Feb-2022 09:36:09 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 183-833-FKJ

Datafile: 220201C18 **Report:** 03 Feb 2022 09:41 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.95		-	-	-	1.30E+07	0.83	Y	-	-
JS 1234-TCDF	26.40		-	-	-	1.98E+07	0.79	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	5.53E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.63		1.0241	1.0245	+0.7	5.62E+06	n/a	-	1.20	89.9
CS 12347-PeCDD	33.42		1.1943	1.1960	+3.4	1.15E+07	1.67	Y	0.75	117
CS 12346-PeCDF	31.95		1.2083	1.2102	+3.6	1.86E+07	1.52	Y	0.85	111
CS 123469-HxCDF	37.28		0.9778	0.9777	-0.2	1.30E+07	0.53	Y	1.12	105
CS 1234689-HpCDF	40.35		1.0571	1.0579	+1.9	8.33E+06	0.43	Y	0.89	84.7
~~SS 37Cl-2378-TCDD~~	~~28.63~~		~~1.0241~~	~~1.0245~~	~~+0.7~~	~~5.62E+06~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.42~~		~~1.1943~~	~~1.1960~~	~~+3.4~~	~~1.15E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.95~~		~~1.2083~~	~~1.2102~~	~~+3.6~~	~~1.86E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~119~~
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~1.30E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~111~~
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0579~~	~~+1.9~~	~~8.33E+06~~	~~0.43~~	~~Y~~	~~0.92~~	~~114~~

Totals	Conc	EMPC
Total TCDD	52.8	52.8
Total PeCDD	70.3	70.3
Total HxCDD	169	169
Total HpCDD	63.8	63.8
Total Tetra-Octa Dioxins	466	466
Total TCDF	58.8	58.8
Total PeCDF	211	211
Total HxCDF	347	347
Total HpCDF	107	107
Total Tetra-Octa Furans	829	829
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.822	0.82
Response	1.56E+06	1.55E+06

Lab ID: OPR1_18870_DF **Acq'd:** 01 Feb 2022 21:59 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR001 **UTP:** 03-Feb-2022 09:36:09 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 183-833-FKJ

Datafile: 220201C18 **Report:** 03 Feb 2022 09:41 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.02		0.8755	0.8745	-1.5	1.98E+06	0.78	Y	1.18	14.8	2900.406	0.227
1379-TCDD	NotFnd		0.8876						1.18		2900.406	0.227
1369-TCDD	NotFnd		0.9023						1.18		2900.406	0.227
1469-TCDD	NotFnd		0.9291						1.18		2900.406	0.227
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		2900.406	0.227
1378-TCDD	NotFnd		0.9440						1.18		2900.406	0.227
1268-TCDD	NotFnd		0.9506						1.18		2900.406	0.227
1478-TCDD	NotFnd		0.9591						1.18		2900.406	0.227
1279-TCDD	NotFnd		0.9649						1.18		2900.406	0.227
1234/1269-TCDD	NotFnd		0.9771						1.18		2900.406	0.227
1236-TCDD	NotFnd		0.9820						1.18		2900.406	0.227
1237/1238-TCDD	NotFnd		0.9908						1.18		2900.406	0.227
1239-TCDD	28.47		0.9954	0.9952	-0.3	1.40E+06	0.88	Y	1.18	10.4	2900.406	0.227
2378-TCDD	**28.63**		**1.0008**	1.0008	**0**	1.55E+06	0.82	Y	**1.18**	**11.6**	**2900.406**	**0.227**
1278-TCDD	NotFnd		1.0121						1.18		2900.406	0.227
1267-TCDD	NotFnd		1.0167						1.18		2900.406	0.227
1289-TCDD	29.59		1.0341	1.0345	+0.7	2.14E+06	0.85	Y	1.18	16	2900.406	0.227
12479/12468-PeCDD	31.44		0.9273	0.9268	-0.9	1.28E+06	1.54	Y	1.04	11.1	2537.53	0.21
12469-PeCDD	NotFnd		0.9430						1.04		2537.53	0.21
12368-PeCDD	NotFnd		0.9592						1.04		2537.53	0.21
12478-PeCDD	NotFnd		0.9647						1.04		2537.53	0.21
12379-PeCDD	NotFnd		0.9676						1.04		2537.53	0.21
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2537.53	0.21
12346/12347-PeCDD	NotFnd		0.9860						1.04		2537.53	0.21
12378-PeCDD	33.94		**1.0006**	**1.0004**	**-0.4**	**5.45E+06**	**1.55**	**Y**	**1.04**	**47.4**	**2537.53**	**0.21**
12367-PeCDD	NotFnd		1.0034						1.04		2537.53	0.21
12389-PeCDD	34.38		1.0134	1.0134	0	1.36E+06	1.66	Y	1.04	11.8	2537.53	0.21
124679/124689-HxCDD	36.09		0.9545	0.9540	-1.1	1.44E+06	1.20	Y	1.10	13.6	3012.43	0.253
123468-HxCDD	NotFnd		0.9715						1.10		3012.43	0.253
123679/123689-HxCDD	NotFnd		0.9793						1.10		3012.43	0.253
123469-HxCDD	NotFnd		0.9829						1.10		3012.43	0.253
123478-HxCDD	37.85		**1.0004**	**1.0003**	**-0.2**	**5.20E+06**	**1.28**	**Y**	1.09	**51.2**	**3012.43**	**0.257**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**6.38E+06**	**1.29**	**Y**	1.15	**53**	**3012.43**	**0.221**
123467-HxCDD	NotFnd		1.0082						1.10		3012.43	0.253
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**4.95E+06**	**1.29**	**Y**	1.05	**51.4**	**3012.43**	**0.287**

Lab ID: OPR1_18870_DF | **Acq'd:** 01 Feb 2022 21:59 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR001 | **UTP:** 03-Feb-2022 09:36:09 MLS | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 183-833-FKJ

Datafile: 220201C18 | **Report:** 03 Feb 2022 09:41 MS | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9836	-0.5	8.44E+05	1.04	Y	1.06	12.3	2538.273	0.296
1234678-HpCDD	**40.89**		**1.0003**	**1.0003**	**0**	**3.55E+06**	**1.09**	**Y**	**1.06**	**51.6**	**2538.273**	**0.296**
OCDD	**43.58**		**1.0002**	**1.0003**	**+0.3**	**3.84E+06**	**0.86**	**Y**	**1.13**	**110**	**2765.381**	**0.87**
OCDD-a	43.57	**EMPC**	1.0002	1.0000	-0.5	2.00E+05	3.26	N	0.07	89.7	3093.405	15.2
1368-TCDF	22.94		0.8282	0.8265	-2.3	2.67E+06	0.78	Y	1.08	14	2469.133	0.143
1468-TCDF	NotFnd		0.8485						1.08		2469.133	0.143
2468-TCDF	24.14		0.8709	0.8695	-2.0	6.98E+05	0.79	Y	1.08	3.66	2469.133	0.143
1346/1246-TCDF	NotFnd		0.8829						1.08		2469.133	0.143
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		2469.133	0.143
1348-TCDF	NotFnd		0.8980						1.08		2469.133	0.143
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		2469.133	0.143
1268-TCDF	NotFnd		0.9158						1.08		2469.133	0.143
1467-TCDF	NotFnd		0.9206						1.08		2469.133	0.143
1478-TCDF	NotFnd		0.9266						1.08		2469.133	0.143
1369/1237-TCDF	NotFnd		0.9397						1.08		2469.133	0.143
2467-TCDF	NotFnd		0.9440						1.08		2469.133	0.143
2368-TCDF	NotFnd		0.9497						1.08		2469.133	0.143
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		2469.133	0.143
1278-TCDF	NotFnd		0.9690						1.08		2469.133	0.143
1349-TCDF	NotFnd		0.9730						1.08		2469.133	0.143
1267-TCDF	NotFnd		0.9787						1.08		2469.133	0.143
2346/1249-TCDF	NotFnd		0.9850						1.08		2469.133	0.143
2347/1279-TCDF	NotFnd		0.9929						1.08		2469.133	0.143
2348-TCDF	27.67		0.9970	0.9968	-0.3	2.78E+06	0.85	Y	1.08	14.6	2469.133	0.143
2378-TCDF	**27.78**		**1.0008**	**1.0009**	**+0.2**	**1.99E+06**	**0.77**	**Y**	**1.08**	**10.5**	**2469.133**	**0.143**
2367/3467-TCDF	NotFnd		1.0136						1.08		2469.133	0.143
1269-TCDF	NotFnd		1.0221						1.08		2469.133	0.143
1239-TCDF	NotFnd		1.0319						1.08		2469.133	0.143
1289-TCDF	29.76		1.0740	1.0722	-3.2	3.06E+06	0.83	Y	1.08	16.1	2469.133	0.143
13468/12468-PeCDF	29.68		0.9145	0.9135	-1.8	1.66E+07	1.51	Y	1.02	97.7	2985.557	0.166
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		4979.746	0.276
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		4979.746	0.276
14678-PeCDF	NotFnd		0.9695						1.02		4979.746	0.276
13479-PeCDF	NotFnd		0.9724						1.02		4979.746	0.276
13469/12479-PeCDF	NotFnd		0.9801						1.02		4979.746	0.276
12346-PeCDF	NotFnd		0.9842						1.02		4979.746	0.276

Lab ID: OPR1_18870_DF | Acq'd: 01 Feb 2022 21:59 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR001 | UTP: 03-Feb-2022 09:36:09 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 183-833-FKJ

Datafile: 220201C18 | Report: 03 Feb 2022 09:41 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		4979.746	0.276
12347-PeCDF	NotFnd		0.9895						1.02		4979.746	0.276
12348-PeCDF	NotFnd		0.9941						1.02		4979.746	0.276
12378-PeCDF	**32.50**		**1.0005**	**1.0005**	**0**	**8.50E+06**	**1.53**	**Y**	**1.02**	**49.5**	**4979.746**	**0.279**
12678/12367-PeCDF	NotFnd		1.0090						1.02		4979.746	0.276
12379-PeCDF	NotFnd		1.0142						1.02		4979.746	0.276
12679-PeCDF	NotFnd		0.9931						1.02		4979.746	0.276
23467/12369-PeCDF	NotFnd		0.9966						1.02		4979.746	0.276
23478-PeCDF	**33.61**		**1.0005**	**1.0005**	**0**	**9.16E+06**	**1.54**	**Y**	**1.02**	**54.5**	**4979.746**	**0.273**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4979.746	0.276
12349-PeCDF	NotFnd		1.0101						1.02		4979.746	0.276
12389-PeCDF	34.69		1.0322	1.0325	+0.6	1.58E+06	1.59	Y	1.02	9.28	4979.746	0.276
123468-HxCDF	35.45		0.9627	0.9629	+0.4	1.85E+07	1.28	Y	1.19	135	3079.092	0.205
124678/134678-HxCDF	NotFnd		0.9684						1.19		3079.092	0.205
134679-HxCDF	NotFnd		0.9747						1.19		3079.092	0.205
124679-HxCDF	NotFnd		0.9802						1.19		3079.092	0.205
124689-HxCDF	NotFnd		0.9858						1.19		3079.092	0.205
123467-HxCDF	NotFnd		0.9972						1.19		3079.092	0.205
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**7.26E+06**	**1.26**	**Y**	**1.27**	**53.5**	**3079.092**	**0.179**
123678-HxCDF	**36.98**		**1.0004**	**1.0003**	**-0.2**	**8.93E+06**	**1.29**	**Y**	**1.15**	**54.7**	**3079.092**	**0.187**
123479-HxCDF	NotFnd		1.0051						1.19		3079.092	0.205
123469-HxCDF	NotFnd		1.0091						1.19		3079.092	0.205
123679-HxCDF	NotFnd		0.9943						1.19		3079.092	0.205
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**8.36E+06**	**1.19**	**Y**	**1.19**	**53.5**	**3079.092**	**0.194**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3079.092	0.205
123789-HxCDF	**38.61**		**1.0004**	**1.0004**	**0**	**4.78E+06**	**1.23**	**Y**	**1.16**	**51.2**	**3079.092**	**0.293**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3079.092	0.205
1234678-HpCDF	**39.96**		**1.0002**	**1.0004**	**+0.5**	**5.96E+06**	**0.98**	**Y**	**1.37**	**54.8**	**2208.395**	**0.16**
1234679-HpCDF	NotFnd		1.0067						1.34		2208.395	0.209
1234689-HpCDF	NotFnd		1.0101						1.34		2208.395	0.209
1234789-HpCDF	**41.36**		**1.0003**	**1.0003**	**0**	**3.11E+06**	**1.03**	**Y**	**1.31**	**51.8**	**2208.395**	**0.295**
OCDF	**43.76**		**1.0002**	**1.0002**	**0**	**3.93E+06**	**0.89**	**Y**	**1.07**	**105**	**2577.609**	**0.8**
OCDF-a	43.74		1.0002	0.9997	-1.3	1.34E+05	2.23	Y	0.07	57.6	3019.136	15.1

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220201C18	Analysis Date:	01-FEB-2022 21:59:09
Lab ID:	OPR1_18870_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.6	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	47.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.6	35	-	70	Y
OCDD	100	110	78	-	144	Y
2,3,7,8-TCDF	10	10.5	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.5	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	54.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	51.2	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.8	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 03 Feb 2022 09:41 Analyst: MS

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220201C18	Analysis Date:	01-FEB-2022 21:59:09
Lab ID:	OPR1_18870_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	83.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	97	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	86.5	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	100	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	76	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	64.3	26	-	166	Y
13C-OCDD	200	89.5	26	-	397	Y
13C-2,3,7,8-TCDF	100	84.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	92.8	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	94.2	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	80.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	94.7	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	95.6	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	62.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	74.1	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	48.7	20	-	186	Y
13C-OCDF	200	78.2	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 03 Feb 2022 09:41 Analyst: MS

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220201C18	Analysis Date:	01-FEB-2022 21:59:09
Lab ID:	OPR1_18870_DF		

Window Defining Standards Results

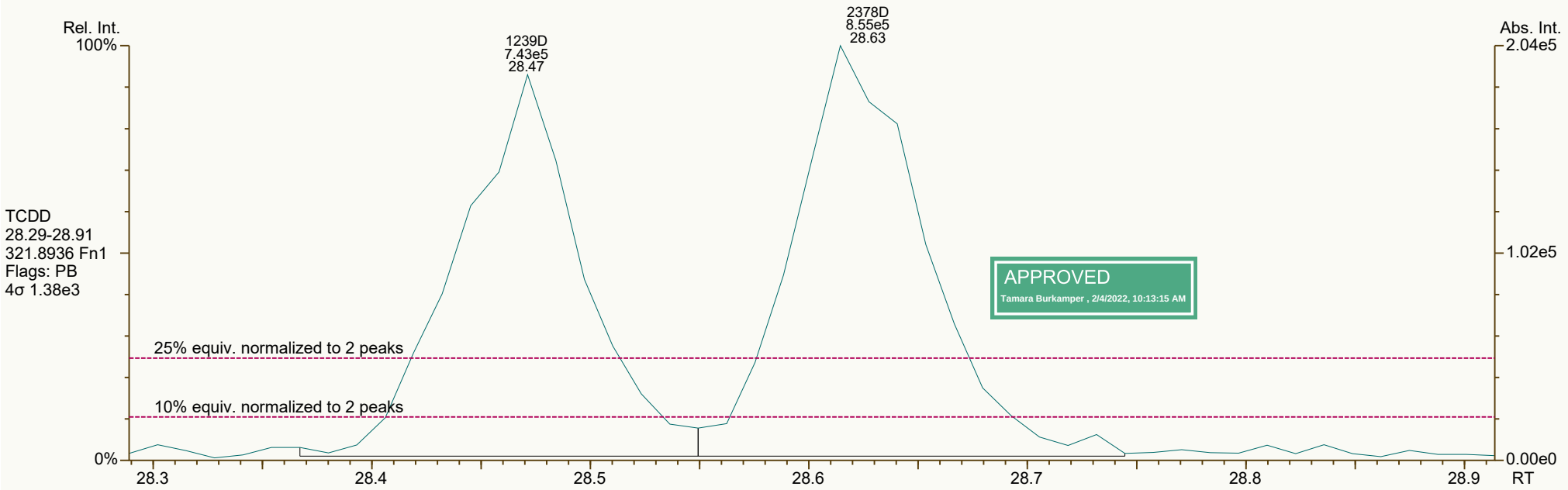
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.02	1289-TCDD	29.59
12479/12468-PeCDD	31.44	12389-PeCDD	34.38
124679/124689-HxCDD	36.09	123789-HxCDD	38.25
1234679-HpCDD	40.21	1234678-HpCDD	40.89
1368-TCDF	22.94	1289-TCDF	29.76
13468/12468-PeCDF	29.68	12389-PeCDF	34.69
123468-HxCDF	35.45	123789-HxCDF	38.61
1234678-HpCDF	39.96	1234789-HpCDF	41.36

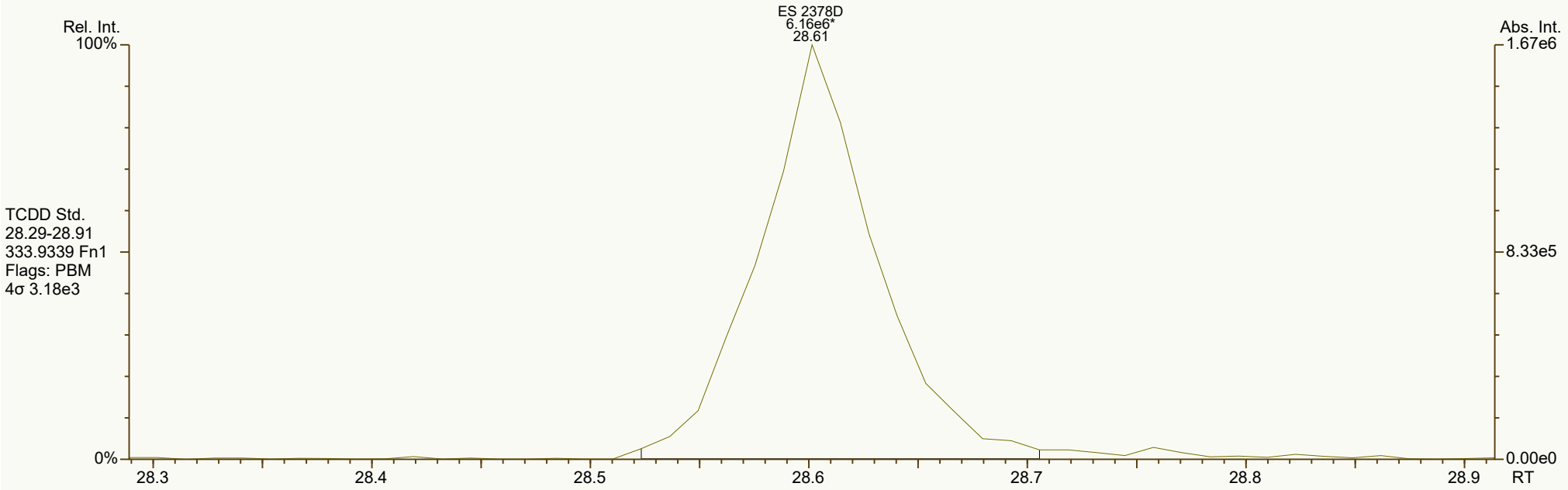
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.47	2378-TCDD	28.63
2348-TCDF	27.67	2378-TCDF	27.78

Processed: 03 Feb 2022 09:41 Analyst: MS

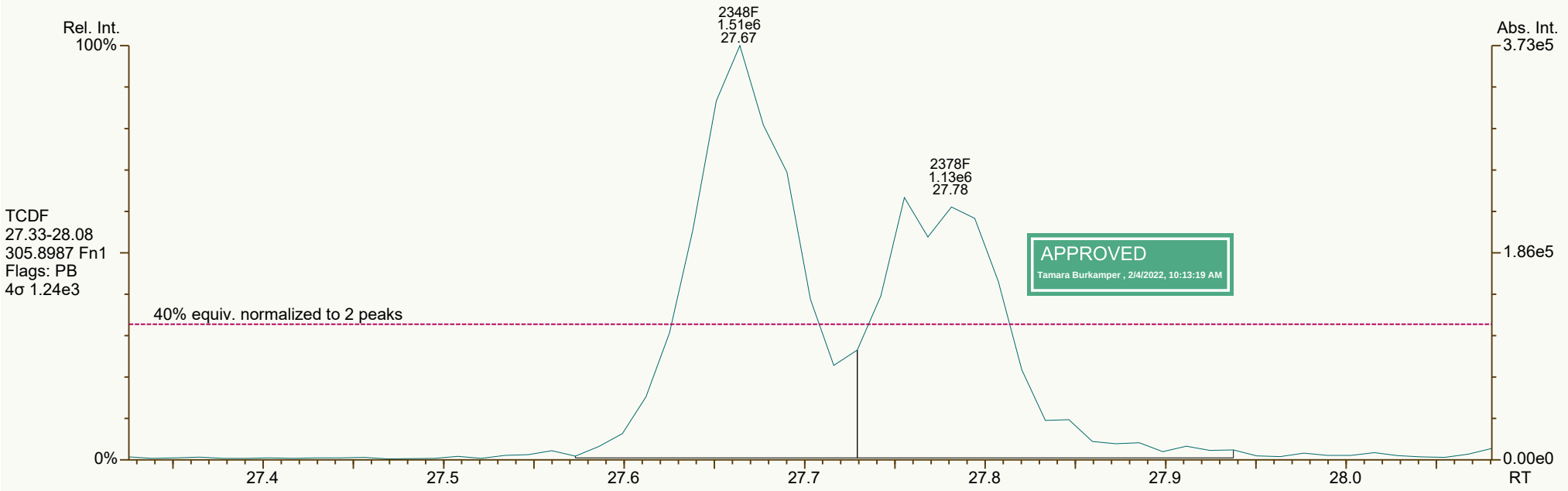
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Sample ID: 0_18870_OPR001
Acq: 01-Feb-2022 21:59:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: DTF Datafile: 220201C18

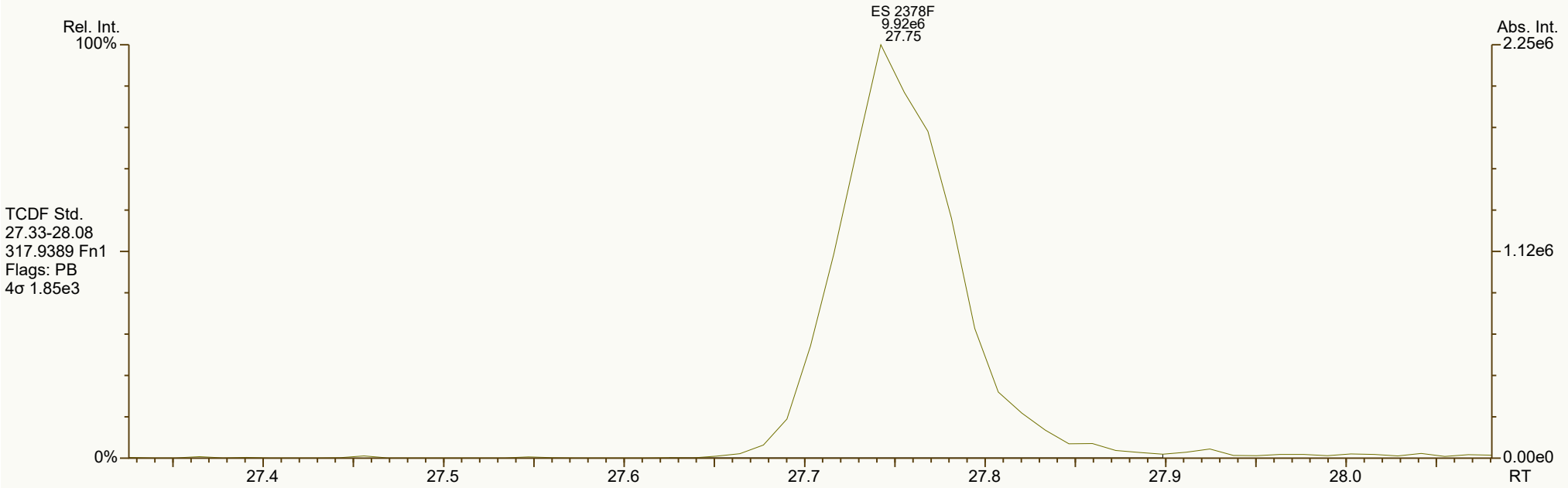




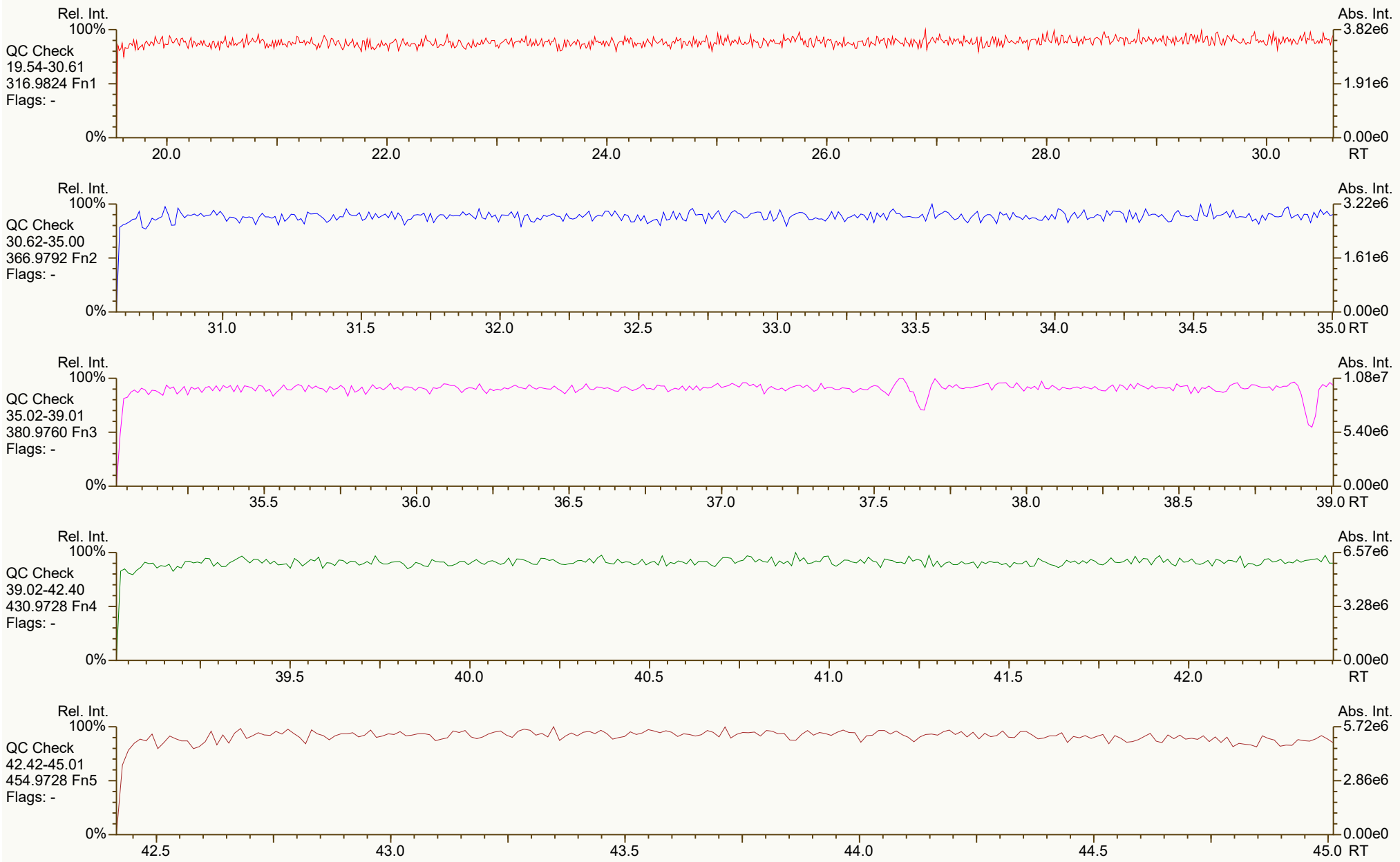
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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW
PKD: 03-Feb-2022 09:24 Printed: 03-Feb-2022 09:56

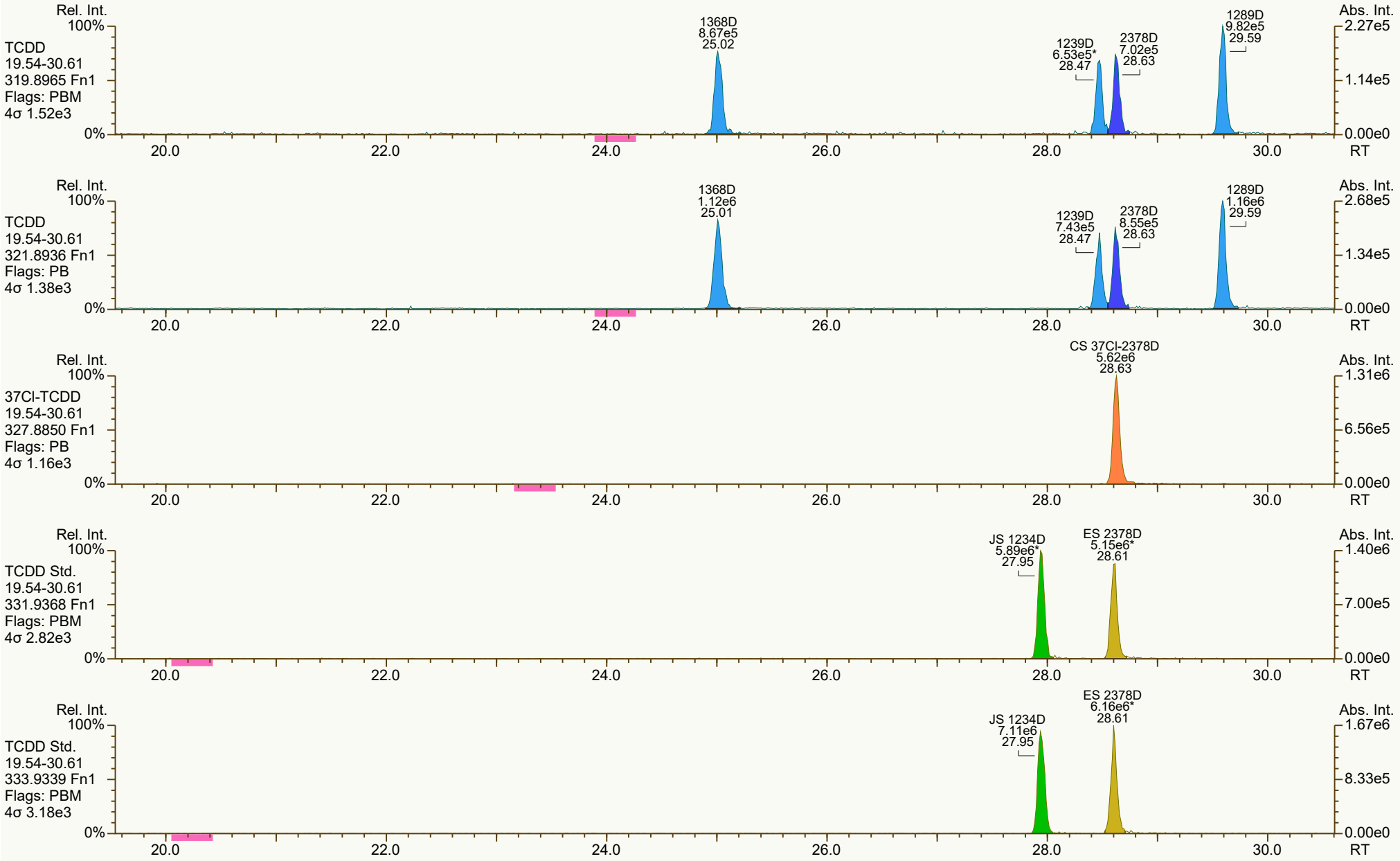
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Sample ID: 0_18870_OPR001
Acq: 01-Feb-2022 21:59:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: DTF Datafile: 220201C18

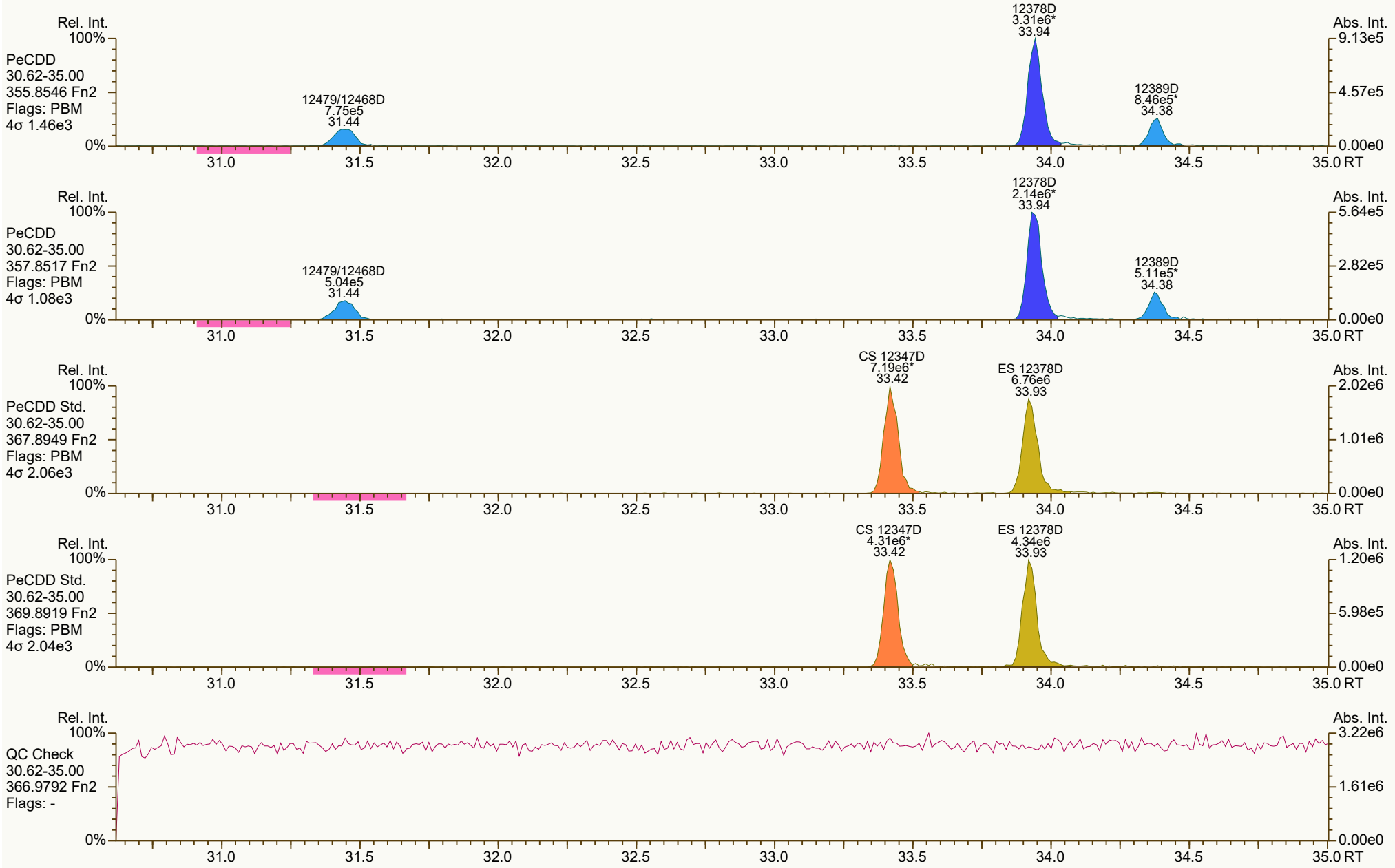


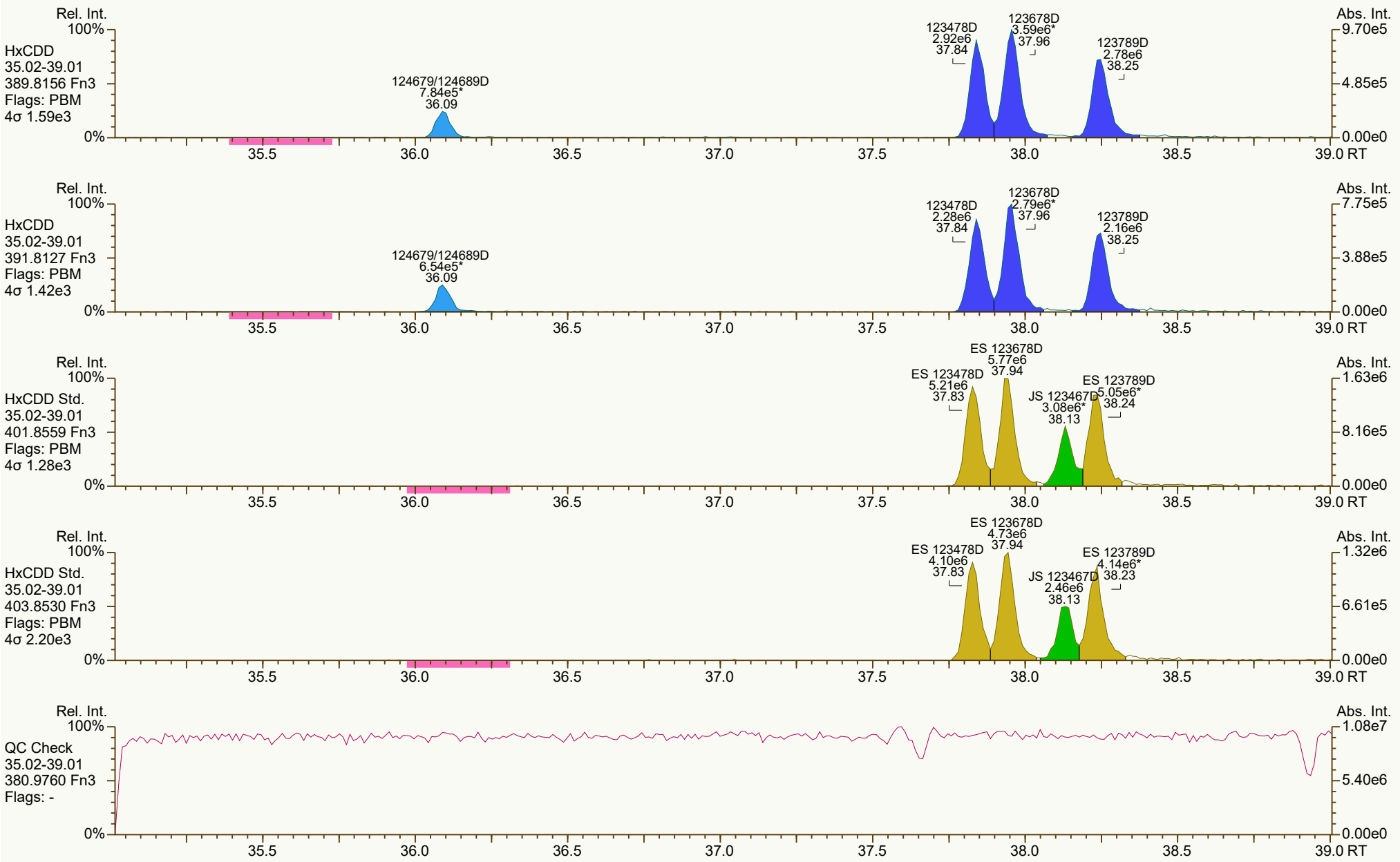


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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW
PKD: 03-Feb-2022 09:24 Printed: 03-Feb-2022 09:56

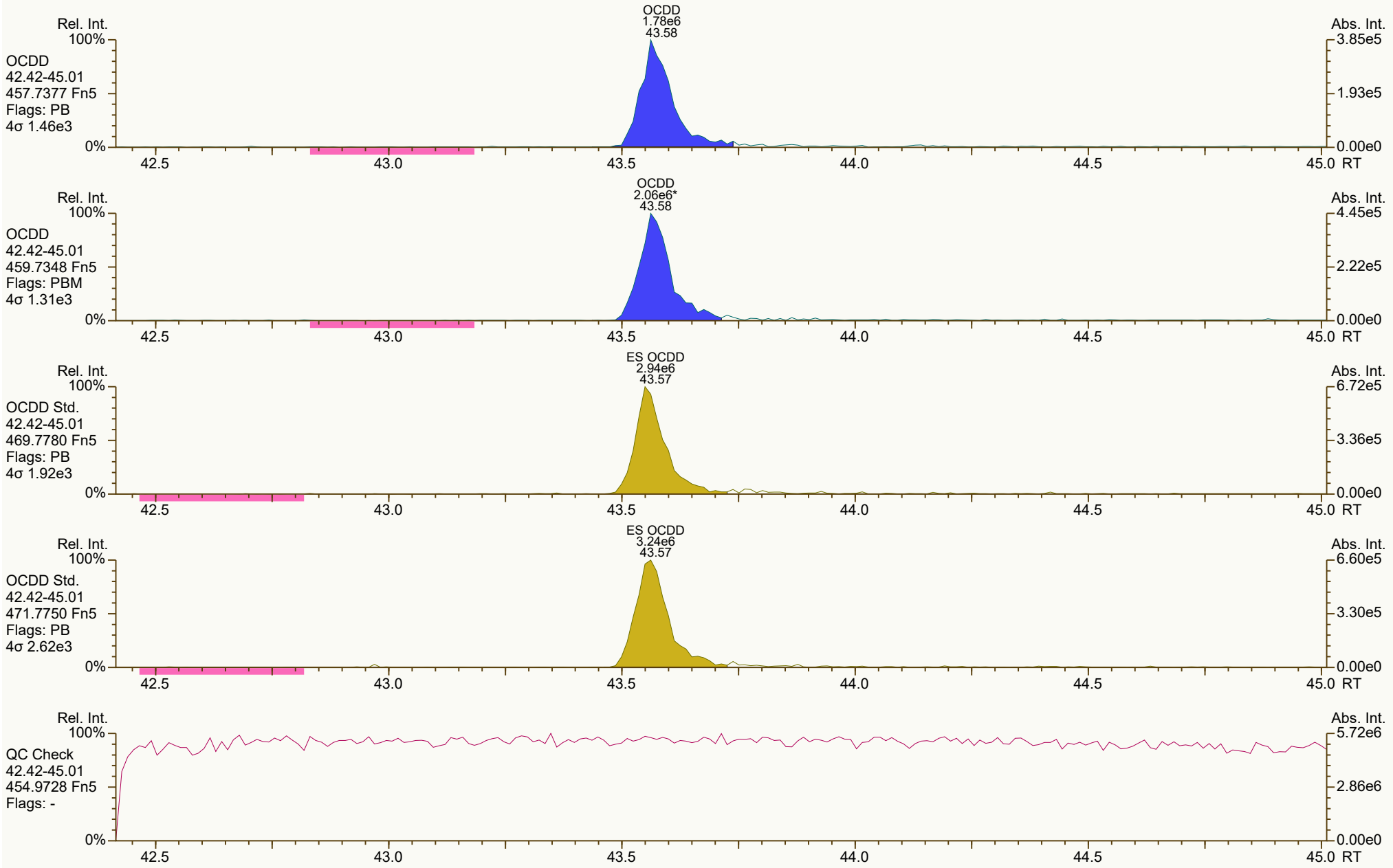

Rel. Int.
100%
0%
Abs. Int.
3.82e6
1.91e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.22e6
1.61e6
0.00e0
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.08e7
5.40e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.72e6
2.86e6
0.00e0
QC Check
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454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

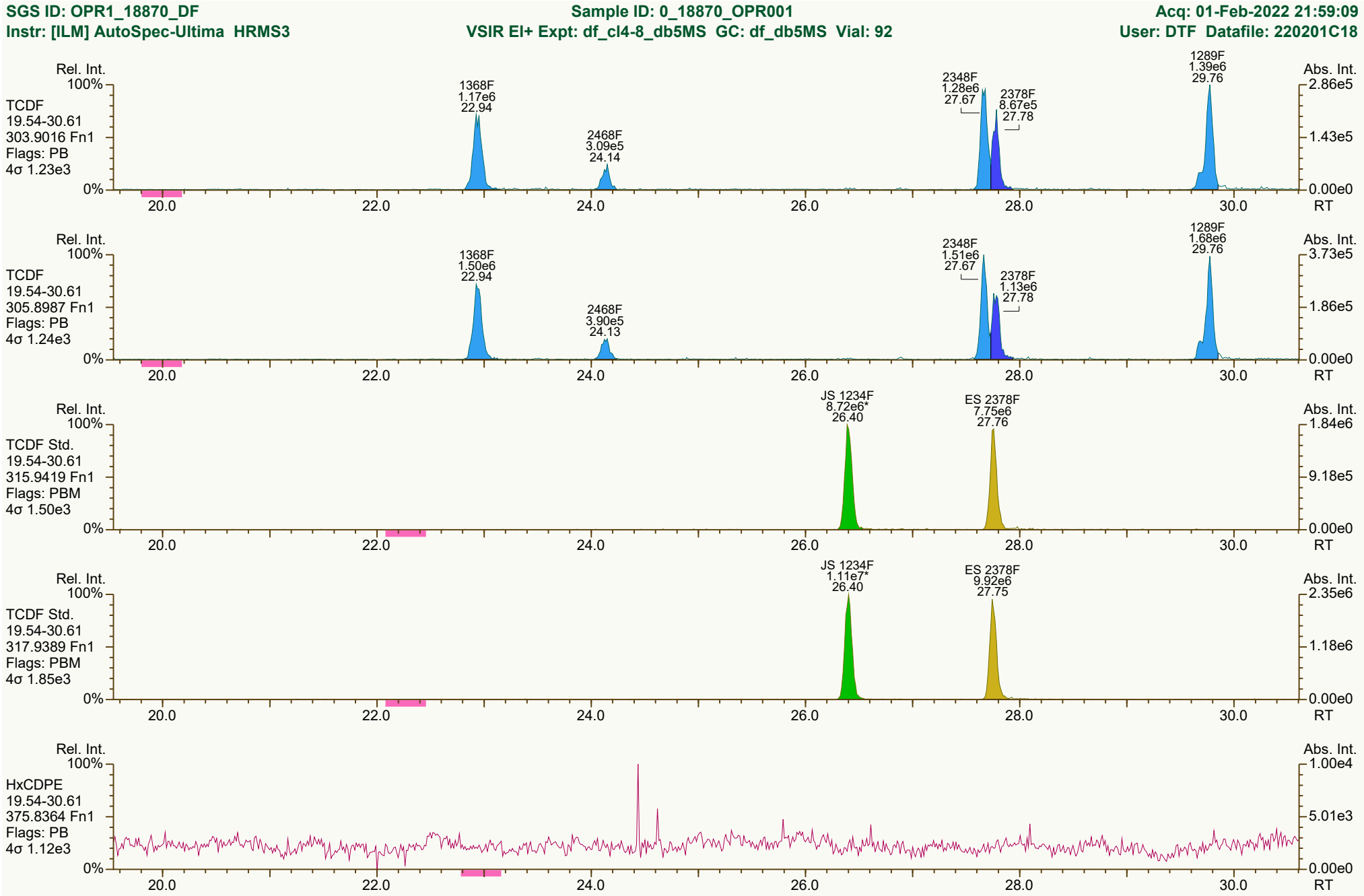

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 1.52e3
1368D
8.67e5
25.02
1239D
6.53e5*
28.47
2378D
7.02e5
28.63
1289D
9.82e5
29.59
Abs. Int.
2.27e5
1.14e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 1.38e3
1368D
1.12e6
25.01
1239D
7.43e5
28.47
2378D
8.55e5
28.63
1289D
1.16e6
29.59
Abs. Int.
2.68e5
1.34e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.16e3
CS 37Cl-2378D
5.62e6
28.63
Abs. Int.
1.31e6
6.56e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 2.82e3
JS 1234D
5.89e6*
27.95
ES 2378D
5.15e6*
28.61
Abs. Int.
1.40e6
7.00e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 3.18e3
JS 1234D
7.11e6
27.95
ES 2378D
6.16e6*
28.61
Abs. Int.
1.67e6
8.33e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.46e3
12479/12468D
7.75e5
31.44
12378D
3.31e6*
33.94
12389D
8.46e5*
34.38
Abs. Int.
9.13e5
4.57e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.08e3
12479/12468D
5.04e5
31.44
12378D
2.14e6*
33.94
12389D
5.11e5*
34.38
Abs. Int.
5.64e5
2.82e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 2.06e3
CS 12347D
7.19e6*
33.42
ES 12378D
6.76e6
33.93
Abs. Int.
2.02e6
1.01e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 2.04e3
CS 12347D
4.31e6*
33.42
ES 12378D
4.34e6
33.93
Abs. Int.
1.20e6
5.98e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
3.22e6
1.61e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.59e3
124679/124689D
7.84e5*
36.09
123478D
2.92e6
37.84
123678D
3.59e6*
37.96
123789D
2.78e6
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.42e3
124679/124689D
6.54e5*
36.09
123478D
2.28e6
37.84
123678D
2.79e6*
37.96
123789D
2.16e6
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.28e3
ES 123678D
5.77e6
37.94
ES 123478D
5.21e6
37.83
JS 123467D
3.08e6*
38.13
ES 123789D
5.05e6*
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.20e3
ES 123678D
4.73e6
37.94
ES 123478D
4.10e6
37.83
JS 123467D
2.46e6
38.13
ES 123789D
4.14e6*
38.23
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.85e6*
40.89
1234679D
4.30e5*
40.21
Abs. Int.
5.37e5
2.69e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.21e3
1234678D
1.70e6*
40.89
1234679D
4.14e5*
40.20
Abs. Int.
5.04e5
2.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.64e3
ES 1234678D
3.38e6*
40.88
Abs. Int.
1.05e6
5.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 1.69e3
ES 1234678D
3.11e6*
40.88
Abs. Int.
8.69e5
4.34e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
Abs. Int.
OCDD
1.78e6
43.58
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.46e3
3.85e5
1.93e5
0.00e0
OCDD
2.06e6*
43.58
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.31e3
4.45e5
2.22e5
ES OCDD
2.94e6
43.57
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 1.92e3
6.72e5
3.36e5
ES OCDD
3.24e6
43.57
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 2.62e3
6.60e5
3.30e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
5.72e6
2.86e6
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT

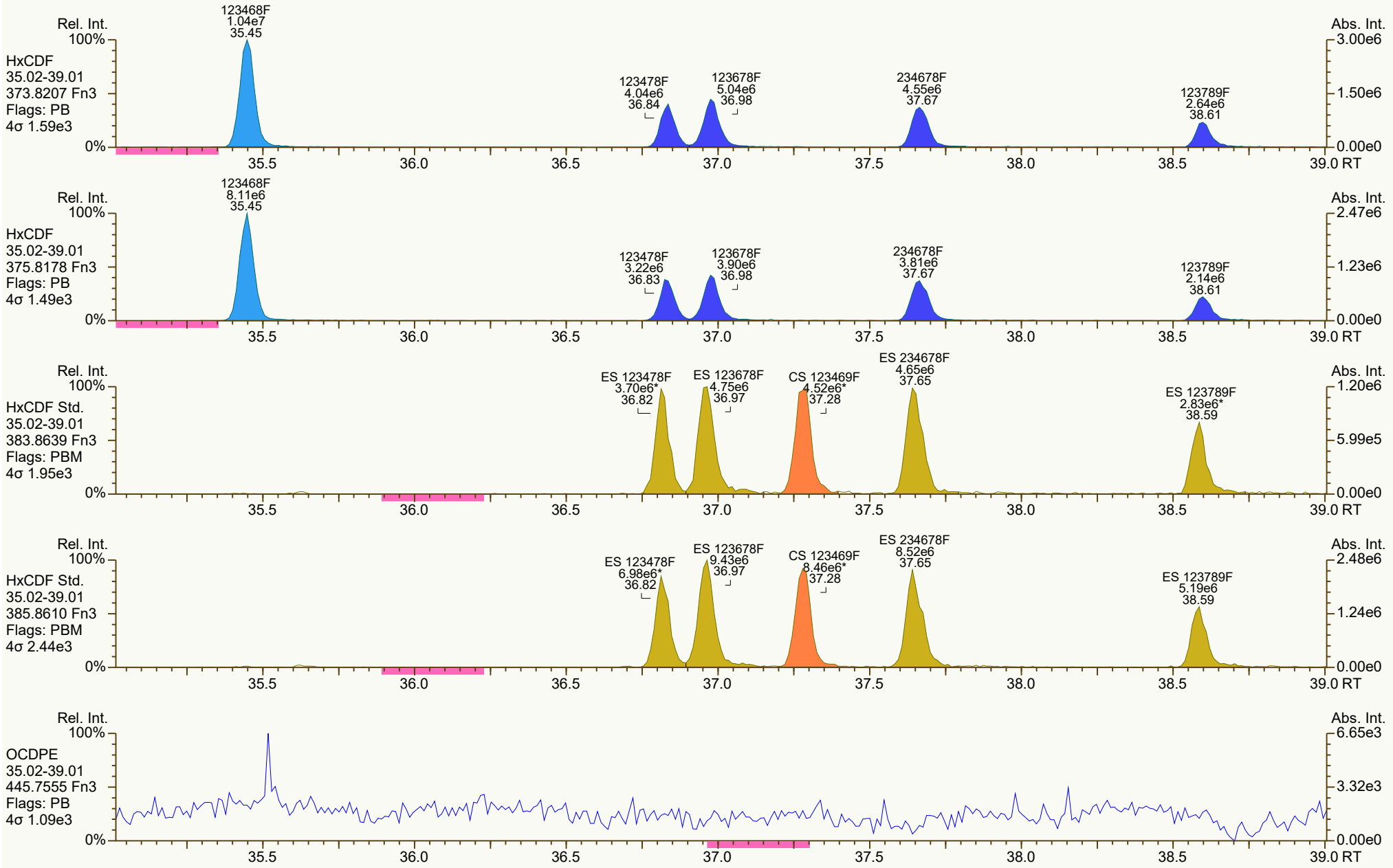

SGS ID: OPR1_18870_DF
Sample ID: 0_18870_OPR001
Acq: 01-Feb-2022 21:59:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: DTF Datafile: 220201C18
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.23e3
1368F 1.17e6 22.94
2468F 3.09e5 24.14
2348F 1.28e6 27.67
2378F 8.67e5 27.78
1289F 1.39e6 29.76
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.24e3
1368F 1.50e6 22.94
2468F 3.90e5 24.13
2348F 1.51e6 27.67
2378F 1.13e6 27.78
1289F 1.68e6 29.76
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 1.50e3
JS 1234F 8.72e6* 26.40
ES 2378F 7.75e6 27.76
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 1.85e3
JS 1234F 1.11e7* 26.40
ES 2378F 9.92e6 27.75
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: PB
4σ 1.12e3
RT

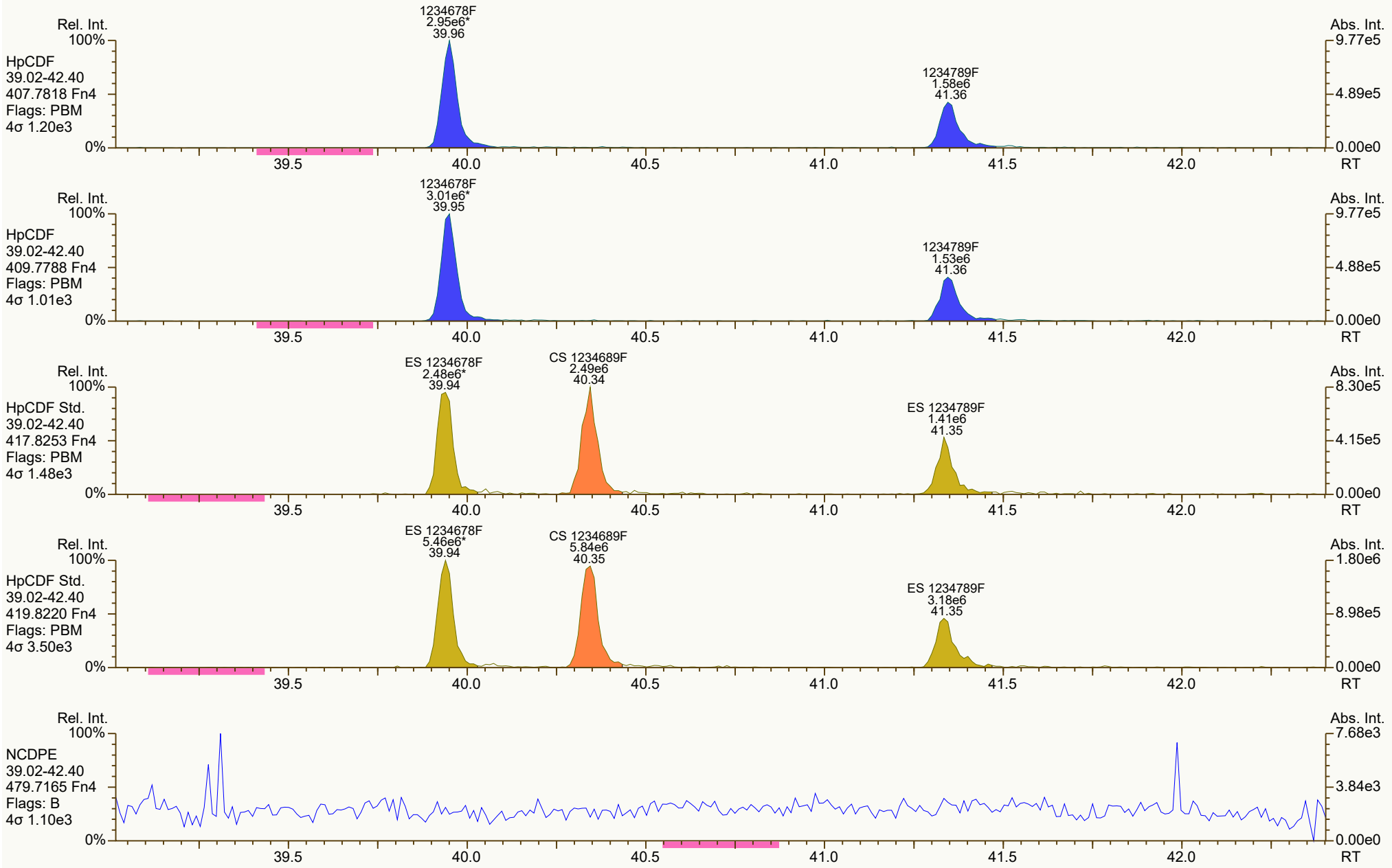
SGS ID: OPR1_18870_DF
Sample ID: 0_18870_OPR001
Acq: 01-Feb-2022 21:59:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: DTF Datafile: 220201C18

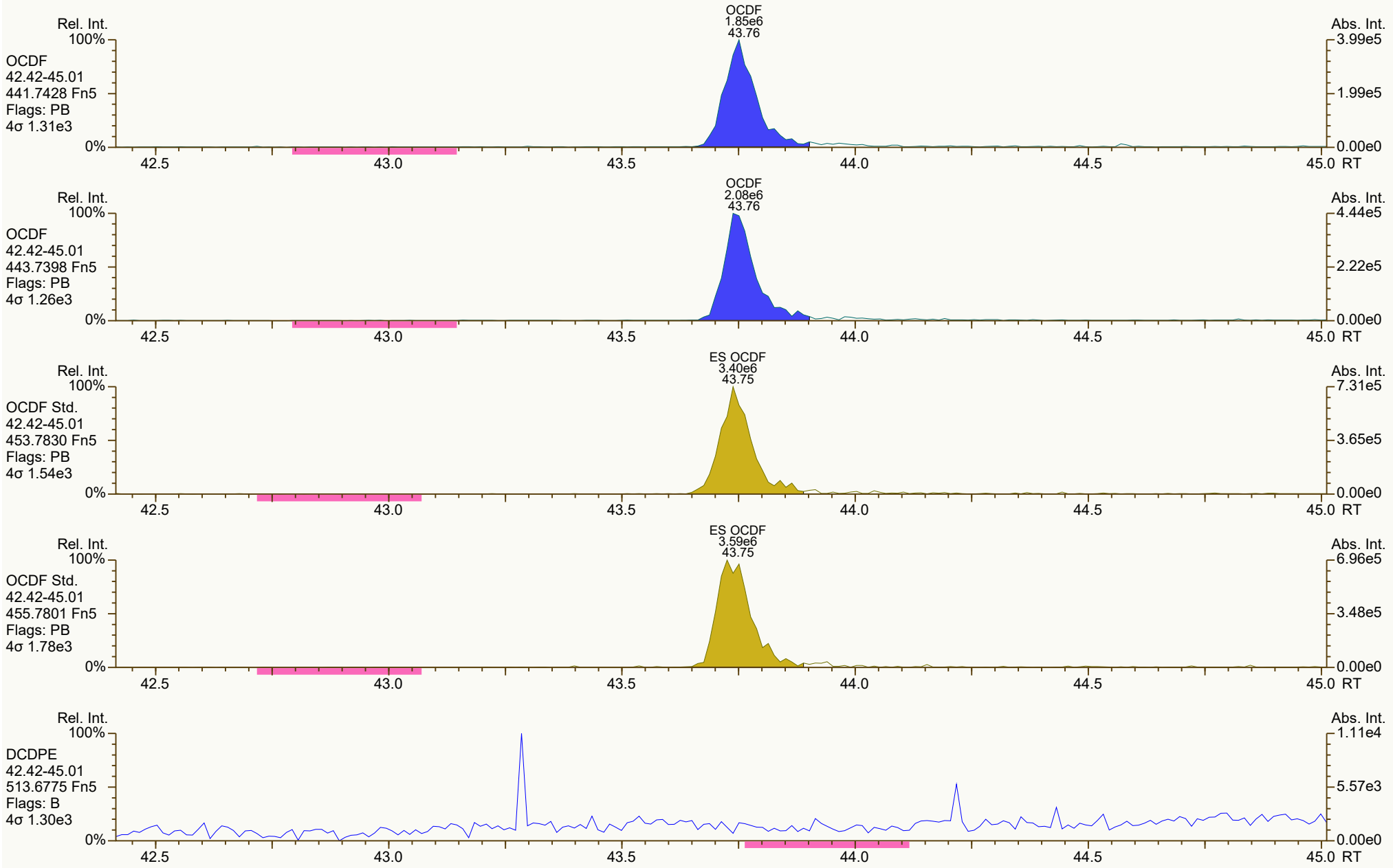


Results: P:\B6200_B6299\B6211\B6211_18870 DF\Resources\OPR1_18870_DF.utp_res, saved 03-Feb-2022 09:36 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 1999 scc: 183-833
PKD: 03-Feb-2022 09:24 Printed: 03-Feb-2022 09:48 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 2.90e3
0%
12378F
5.14e6*
32.50
23478F
5.55e6
33.61
12389F
9.68e5
34.69
Abs. Int.
1.45e6
7.24e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 2.08e3
0%
12378F
3.35e6*
32.50
23478F
3.62e6
33.61
12389F
6.08e5*
34.68
Abs. Int.
9.73e5
4.86e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 1.56e3
0%
CS 12346F
1.12e7*
31.95
ES 12378F
1.03e7*
32.48
ES 23478F
1.01e7
33.59
Abs. Int.
2.78e6
1.39e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 1.54e3
0%
CS 12346F
7.41e6
31.95
ES 12378F
6.42e6*
32.49
ES 23478F
6.38e6
33.59
Abs. Int.
1.83e6
9.13e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.59e3
123468F 1.04e7 35.45
123478F 4.04e6 36.84
123678F 5.04e6 36.98
234678F 4.55e6 37.67
123789F 2.64e6 38.61
3.00e6
1.50e6
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.49e3
123468F 8.11e6 35.45
123478F 3.22e6 36.83
123678F 3.90e6 36.98
234678F 3.81e6 37.67
123789F 2.14e6 38.61
2.47e6
1.23e6
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 1.95e3
ES 123478F 3.70e6* 36.82
ES 123678F 4.75e6 36.97
CS 123469F 4.52e6* 37.28
ES 234678F 4.65e6 37.65
ES 123789F 2.83e6* 38.59
1.20e6
5.99e5
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.44e3
ES 123478F 6.98e6* 36.82
ES 123678F 9.43e6 36.97
CS 123469F 8.46e6* 37.28
ES 234678F 8.52e6 37.65
ES 123789F 5.19e6 38.59
2.48e6
1.24e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.09e3
6.65e3
3.32e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
0%
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.20e3
1234678F
2.95e6*
39.96
1234789F
1.58e6
41.36
9.77e5
4.89e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.01e3
1234678F
3.01e6*
39.95
1234789F
1.53e6
41.36
4.88e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.48e3
ES 1234678F
2.48e6*
39.94
CS 1234689F
2.49e6
40.34
ES 1234789F
1.41e6
41.35
8.30e5
4.15e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 3.50e3
ES 1234678F
5.46e6*
39.94
CS 1234689F
5.84e6
40.35
ES 1234789F
3.18e6
41.35
1.80e6
8.98e5
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.10e3
7.68e3
3.84e3
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.31e3
0%
OCDF
1.85e6
43.76
Abs. Int.
3.99e5
1.99e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.26e3
0%
OCDF
2.08e6
43.76
Abs. Int.
4.44e5
2.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.54e3
0%
ES OCDF
3.40e6
43.75
Abs. Int.
7.31e5
3.65e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 1.78e3
0%
ES OCDF
3.59e6
43.75
Abs. Int.
6.96e5
3.48e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.11e4
5.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18870_DF **Acq'd:** 01 Feb 2022 22:45 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR002 **UTP:** 03-Feb-2022 09:36:09 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 001-056-KTW

Datafile: 220201C19 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.63		1.0008	1.0007	-0.2	1.74E+06	0.80	Y	1.18	10.6	2696.1234	0.176
12378-PeCDD	33.95		1.0006	1.0005	-0.2	6.34E+06	1.52	Y	1.04	46.6	3314.071	0.216
123478-HxCDD	37.85		1.0004	1.0004	0	6.09E+06	1.27	Y	1.09	49	2685.372	0.185
123678-HxCDD	37.96		1.0034	1.0034	0	7.56E+06	1.29	Y	1.15	51.9	2685.372	0.159
123789-HxCDD	38.26		1.0109	1.0112	+0.7	5.70E+06	1.26	Y	1.05	47.6	2685.372	0.218
1234678-HpCDD	40.90		1.0003	1.0003	0	4.34E+06	1.05	Y	1.06	50.7	2727.024	0.278
OCDD	43.59		1.0002	1.0003	+0.3	4.66E+06	0.90	Y	1.13	102	3242.646	0.824
2378-TCDF	27.78		1.0008	1.0008	0	2.36E+06	0.82	Y	1.08	9.83	2172.981	0.0959
12378-PeCDF	32.50		1.0005	1.0005	0	9.58E+06	1.54	Y	1.02	46.6	5589.713	0.272
23478-PeCDF	33.61		1.0005	1.0005	0	1.01E+07	1.57	Y	1.02	50.8	5589.713	0.255
123478-HxCDF	36.84		1.0004	1.0004	0	8.11E+06	1.27	Y	1.27	49.5	3719.836	0.21
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.01E+07	1.25	Y	1.15	51.9	3719.836	0.18
234678-HxCDF	37.67		1.0004	1.0005	+0.2	9.57E+06	1.24	Y	1.19	50.1	3719.836	0.201
123789-HxCDF	38.61		1.0004	1.0004	0	6.08E+06	1.30	Y	1.16	48.6	3719.836	0.274
1234678-HpCDF	39.96		1.0002	1.0003	+0.2	6.88E+06	1.00	Y	1.37	47.8	2361.4242	0.127
1234789-HpCDF	41.36		1.0003	1.0003	0	4.15E+06	1.01	Y	1.31	47.1	2361.4242	0.212
OCDF	43.77		1.0002	1.0002	0	5.08E+06	0.91	Y	1.07	97	2937.607	0.726

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.61	1.0233	1.0236	+0.5	1.38E+07	0.82	Y	1.05	84.8
ES 12378-PeCDD	33.93	1.2121	1.2139	+3.7	1.31E+07	1.58	Y	0.88	96
ES 123478-HxCDD	37.83	0.9921	0.9920	-0.2	1.14E+07	1.24	Y	0.97	105
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.27E+07	1.22	Y	0.94	120
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.14E+07	1.25	Y	1.09	93.3
ES 1234678-HpCDD	40.88	1.0709	1.0720	+2.7	8.08E+06	1.11	Y	0.91	78.8
ES OCDD	43.57	1.1403	1.1426	+6.0	8.14E+06	0.91	Y	0.62	58.1
ES 2378-TCDF	27.76	1.0506	1.0512	+1.0	2.23E+07	0.77	Y	1.06	90.5
ES 12378-PeCDF	32.49	1.2281	1.2301	+3.9	2.01E+07	1.57	Y	0.91	94.9
ES 23478-PeCDF	33.59	1.2698	1.2720	+4.4	1.95E+07	1.50	Y	0.88	95
ES 123478-HxCDF	36.82	0.9657	0.9656	-0.2	1.29E+07	0.53	Y	1.20	95.8
ES 123678-HxCDF	36.97	0.9695	0.9694	-0.2	1.68E+07	0.53	Y	1.35	111
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.61E+07	0.55	Y	1.24	115
ES 123789-HxCDF	38.60	1.0116	1.0120	+0.9	1.07E+07	0.53	Y	1.16	82.8
ES 1234678-HpCDF	39.95	1.0467	1.0475	+1.9	1.05E+07	0.47	Y	0.97	96.7
ES 1234789-HpCDF	41.35	1.0830	1.0842	+3.0	6.74E+06	0.45	Y	0.85	70.5
ES OCDF	43.76	1.1451	1.1474	+6.0	9.77E+06	0.90	Y	0.81	53.8

Lab ID: OPR2_18870_DF **Acq'd:** 01 Feb 2022 22:45 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR002 **UTP:** 03-Feb-2022 09:36:09 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 001-056-KTW

Datafile: 220201C19 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.95		-	-	-	1.55E+07	0.77	Y	-	-
JS 1234-TCDF	26.41		-	-	-	2.32E+07	0.79	Y	-	-
JS 123467-HxCDD	38.14		-	-	-	5.61E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.63		1.0241	1.0244	+0.5	6.30E+06	n/a	-	1.20	84.3
CS 12347-PeCDD	33.42		1.1943	1.1959	+3.2	1.26E+07	1.59	Y	0.75	107
CS 12346-PeCDF	31.96		1.2083	1.2100	+3.3	1.98E+07	1.55	Y	0.85	100
CS 123469-HxCDF	37.29		0.9778	0.9778	0	1.47E+07	0.56	Y	1.12	117
CS 1234689-HpCDF	40.35		1.0571	1.0581	+2.4	1.01E+07	0.44	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.63~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~6.30E+06~~	~~n/a~~		~~1.15~~	~~99.6~~
~~SS 12347-PeCDD~~	~~33.42~~		~~1.1943~~	~~1.1959~~	~~+3.2~~	~~1.26E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2100~~	~~+3.3~~	~~1.98E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.47E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0581~~	~~+2.4~~	~~1.01E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~104~~

Totals	Conc	EMPC
Total TCDD	52.1	52.1
Total PeCDD	70.3	70.3
Total HxCDD	162	162
Total HpCDD	63.4	63.4
Total Tetra-Octa Dioxins	450	450
Total TCDF	56.1	56.1
Total PeCDF	203	203
Total HxCDF	331	331
Total HpCDF	94.9	94.9
Total Tetra-Octa Furans	781	781
Total Tetra-Octa Dioxins & Furans	1230	1230

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.801	0.80
Response	1.74E+06	1.74E+06

Lab ID: OPR2_18870_DF **Acq'd:** 01 Feb 2022 22:45 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR002 **UTP:** 03-Feb-2022 09:36:09 MLS **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 001-056-KTW

Datafile: 220201C19 **Report:** 03 Feb 2022 09:42 MS **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.02		0.8755	0.8745	-1.5	2.45E+06	0.80	Y	1.18	15	2696.1234	0.176
1379-TCDD	NotFnd		0.8876						1.18		2696.1234	0.176
1369-TCDD	NotFnd		0.9023						1.18		2696.1234	0.176
1469-TCDD	NotFnd		0.9291						1.18		2696.1234	0.176
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		2696.1234	0.176
1378-TCDD	NotFnd		0.9440						1.18		2696.1234	0.176
1268-TCDD	NotFnd		0.9506						1.18		2696.1234	0.176
1478-TCDD	NotFnd		0.9591						1.18		2696.1234	0.176
1279-TCDD	NotFnd		0.9649						1.18		2696.1234	0.176
1234/1269-TCDD	NotFnd		0.9771						1.18		2696.1234	0.176
1236-TCDD	NotFnd		0.9820						1.18		2696.1234	0.176
1237/1238-TCDD	NotFnd		0.9908						1.18		2696.1234	0.176
1239-TCDD	28.47		0.9954	0.9952	-0.3	1.72E+06	0.82	Y	1.18	10.5	2696.1234	0.176
2378-TCDD	**28.63**		**1.0008**	1.0007	**-0.2**	1.74E+06	0.80	Y	**1.18**	**10.6**	**2696.1234**	**0.176**
1278-TCDD	NotFnd		1.0121						1.18		2696.1234	0.176
1267-TCDD	NotFnd		1.0167						1.18		2696.1234	0.176
1289-TCDD	29.60		1.0341	1.0345	+0.7	2.59E+06	0.79	Y	1.18	15.9	2696.1234	0.176
12479/12468-PeCDD	31.45		0.9273	0.9269	-0.8	1.60E+06	1.50	Y	1.04	11.7	3314.071	0.216
12469-PeCDD	NotFnd		0.9430						1.04		3314.071	0.216
12368-PeCDD	NotFnd		0.9592						1.04		3314.071	0.216
12478-PeCDD	NotFnd		0.9647						1.04		3314.071	0.216
12379-PeCDD	NotFnd		0.9676						1.04		3314.071	0.216
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3314.071	0.216
12346/12347-PeCDD	NotFnd		0.9860						1.04		3314.071	0.216
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**6.34E+06**	**1.52**	**Y**	**1.04**	**46.6**	**3314.071**	**0.216**
12367-PeCDD	NotFnd		1.0034						1.04		3314.071	0.216
12389-PeCDD	34.39		1.0134	1.0135	+0.2	1.62E+06	1.49	Y	1.04	11.9	3314.071	0.216
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	1.80E+06	1.26	Y	1.10	13.9	2685.372	0.186
123468-HxCDD	NotFnd		0.9715						1.10		2685.372	0.186
123679/123689-HxCDD	NotFnd		0.9793						1.10		2685.372	0.186
123469-HxCDD	NotFnd		0.9829						1.10		2685.372	0.186
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**6.09E+06**	**1.27**	**Y**	1.09	**49**	**2685.372**	**0.185**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**7.56E+06**	**1.29**	**Y**	1.15	**51.9**	**2685.372**	**0.159**
123467-HxCDD	NotFnd		1.0082						1.10		2685.372	0.186
123789-HxCDD	38.26		**1.0109**	**1.0112**	**+0.7**	**5.70E+06**	**1.26**	**Y**	1.05	**47.6**	**2685.372**	**0.218**

Lab ID: OPR2_18870_DF | Acq'd: 01 Feb 2022 22:45 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18870_OPR002 | UTP: 03-Feb-2022 09:36:09 MLS | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 001-056-KTW

Datafile: 220201C19 | Report: 03 Feb 2022 09:42 MS | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9836	-0.5	1.08E+06	1.08	Y	1.06	12.7	2727.024	0.278
1234678-HpCDD	**40.90**		**1.0003**	**1.0003**	**0**	**4.34E+06**	**1.05**	**Y**	**1.06**	**50.7**	**2727.024**	**0.278**
OCDD	**43.59**		**1.0002**	**1.0003**	**+0.3**	**4.66E+06**	**0.90**	**Y**	**1.13**	**102**	**3242.646**	**0.824**
OCDD-a	43.57		1.0002	0.9999	-0.8	9.02E+04	2.15	Y	0.07	30.8	3427.325	13.6
1368-TCDF	22.95		0.8282	0.8267	-2.1	3.28E+06	0.79	Y	1.08	13.7	2172.981	0.0959
1468-TCDF	NotFnd		0.8485						1.08		2172.981	0.0959
2468-TCDF	24.14		0.8709	0.8695	-2.0	8.00E+05	0.76	Y	1.08	3.33	2172.981	0.0959
1346/1246-TCDF	NotFnd		0.8829						1.08		2172.981	0.0959
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		2172.981	0.0959
1348-TCDF	NotFnd		0.8980						1.08		2172.981	0.0959
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		2172.981	0.0959
1268-TCDF	NotFnd		0.9158						1.08		2172.981	0.0959
1467-TCDF	NotFnd		0.9206						1.08		2172.981	0.0959
1478-TCDF	NotFnd		0.9266						1.08		2172.981	0.0959
1369/1237-TCDF	NotFnd		0.9397						1.08		2172.981	0.0959
2467-TCDF	NotFnd		0.9440						1.08		2172.981	0.0959
2368-TCDF	NotFnd		0.9497						1.08		2172.981	0.0959
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		2172.981	0.0959
1278-TCDF	NotFnd		0.9690						1.08		2172.981	0.0959
1349-TCDF	NotFnd		0.9730						1.08		2172.981	0.0959
1267-TCDF	NotFnd		0.9787						1.08		2172.981	0.0959
2346/1249-TCDF	NotFnd		0.9850						1.08		2172.981	0.0959
2347/1279-TCDF	NotFnd		0.9929						1.08		2172.981	0.0959
2348-TCDF	27.67		0.9970	0.9968	-0.3	3.33E+06	0.73	Y	1.08	13.9	2172.981	0.0959
2378-TCDF	**27.78**		**1.0008**	**1.0008**	**0**	**2.36E+06**	**0.82**	**Y**	**1.08**	**9.83**	**2172.981**	**0.0959**
2367/3467-TCDF	NotFnd		1.0136						1.08		2172.981	0.0959
1269-TCDF	NotFnd		1.0221						1.08		2172.981	0.0959
1239-TCDF	NotFnd		1.0319						1.08		2172.981	0.0959
1289-TCDF	29.77		1.0740	1.0722	-3.2	3.70E+06	0.81	Y	1.08	15.4	2172.981	0.0959
13468/12468-PeCDF	29.68		0.9145	0.9135	-1.8	1.91E+07	1.56	Y	1.02	94.5	2617.274	0.123
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		5589.713	0.263
12368/13478/12478-PeCDF	31.36		0.9665	0.9653	-2.3	2.71E+05	1.50	Y	1.02	1.34	5589.713	0.263
14678-PeCDF	NotFnd		0.9695						1.02		5589.713	0.263
13479-PeCDF	NotFnd		0.9724						1.02		5589.713	0.263
13469/12479-PeCDF	NotFnd		0.9801						1.02		5589.713	0.263
12346-PeCDF	NotFnd		0.9842						1.02		5589.713	0.263

Lab ID: OPR2_18870_DF | **Acq'd: 01 Feb 2022 22:45 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18870_OPR002 | **UTP: 03-Feb-2022 09:36:09 MLS** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 001-056-KTW**

Datafile: 220201C19 | **Report: 03 Feb 2022 09:42 MS** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5589.713	0.263
12347-PeCDF	NotFnd		0.9895						1.02		5589.713	0.263
12348-PeCDF	NotFnd		0.9941						1.02		5589.713	0.263
12378-PeCDF	**32.50**		**1.0005**	**1.0005**	**0**	**9.58E+06**	**1.54**	**Y**	**1.02**	**46.6**	**5589.713**	**0.272**
12678/12367-PeCDF	NotFnd		1.0090						1.02		5589.713	0.263
12379-PeCDF	NotFnd		1.0142						1.02		5589.713	0.263
12679-PeCDF	NotFnd		0.9931						1.02		5589.713	0.263
23467/12369-PeCDF	NotFnd		0.9966						1.02		5589.713	0.263
23478-PeCDF	**33.61**		**1.0005**	**1.0005**	**0**	**1.01E+07**	**1.57**	**Y**	**1.02**	**50.8**	**5589.713**	**0.255**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5589.713	0.263
12349-PeCDF	NotFnd		1.0101						1.02		5589.713	0.263
12389-PeCDF	34.69		1.0322	1.0326	+0.8	1.90E+06	1.59	Y	1.02	9.41	5589.713	0.263
123468-HxCDF	35.45		0.9627	0.9628	+0.2	2.20E+07	1.25	Y	1.19	131	3719.836	0.21
124678/134678-HxCDF	NotFnd		0.9684						1.19		3719.836	0.21
134679-HxCDF	NotFnd		0.9747						1.19		3719.836	0.21
124679-HxCDF	NotFnd		0.9802						1.19		3719.836	0.21
124689-HxCDF	NotFnd		0.9858						1.19		3719.836	0.21
123467-HxCDF	NotFnd		0.9972						1.19		3719.836	0.21
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**8.11E+06**	**1.27**	**Y**	**1.27**	**49.5**	**3719.836**	**0.21**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.01E+07**	**1.25**	**Y**	**1.15**	**51.9**	**3719.836**	**0.18**
123479-HxCDF	NotFnd		1.0051						1.19		3719.836	0.21
123469-HxCDF	NotFnd		1.0091						1.19		3719.836	0.21
123679-HxCDF	NotFnd		0.9943						1.19		3719.836	0.21
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**9.57E+06**	**1.24**	**Y**	**1.19**	**50.1**	**3719.836**	**0.201**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3719.836	0.21
123789-HxCDF	**38.61**		**1.0004**	**1.0004**	**0**	**6.08E+06**	**1.30**	**Y**	**1.16**	**48.6**	**3719.836**	**0.274**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3719.836	0.21
1234678-HpCDF	**39.96**		**1.0002**	**1.0003**	**+0.2**	**6.88E+06**	**1.00**	**Y**	**1.37**	**47.8**	**2361.4242**	**0.127**
1234679-HpCDF	NotFnd		1.0067						1.34		2361.4242	0.16
1234689-HpCDF	NotFnd		1.0101						1.34		2361.4242	0.16
1234789-HpCDF	**41.36**		**1.0003**	**1.0003**	**0**	**4.15E+06**	**1.01**	**Y**	**1.31**	**47.1**	**2361.4242**	**0.212**
OCDF	**43.77**		**1.0002**	**1.0002**	**0**	**5.08E+06**	**0.91**	**Y**	**1.07**	**97**	**2937.607**	**0.726**
OCDF-a	43.76	**EMPC**	1.0002	1.0000	-0.5	2.05E+05	2.99	N	0.07	63.3	2499.042	9.97

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220201C19	Analysis Date:	01-FEB-2022 22:45:31
Lab ID:	OPR2_18870_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.6	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	49	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51.9	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	47.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	50.7	35	-	70	Y
OCDD	100	102	78	-	144	Y
2,3,7,8-TCDF	10	9.83	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	46.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	49.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	51.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.1	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	47.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	47.1	39	-	69	Y
OCDF	100	97	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 03 Feb 2022 09:42 Analyst: MS

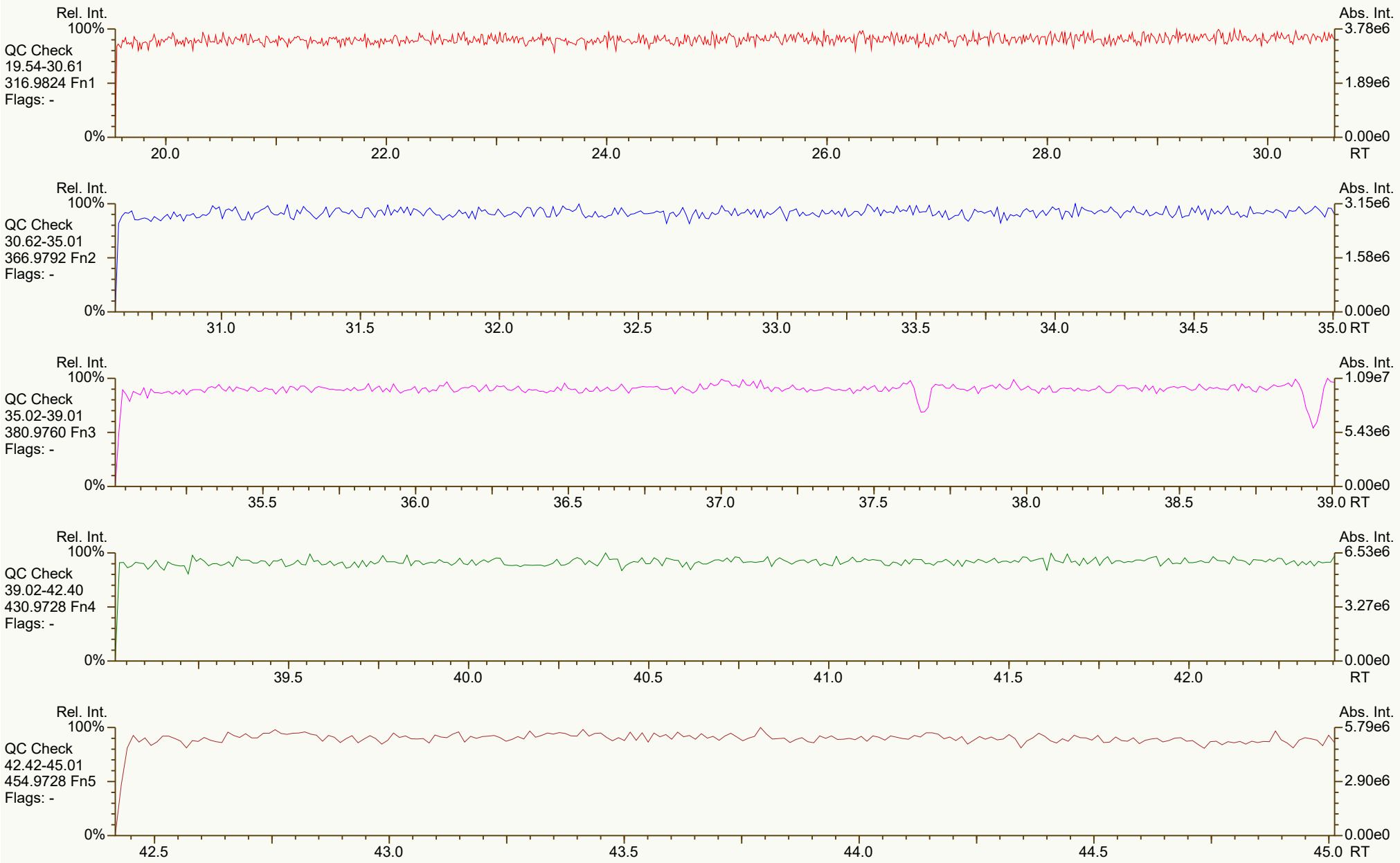
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

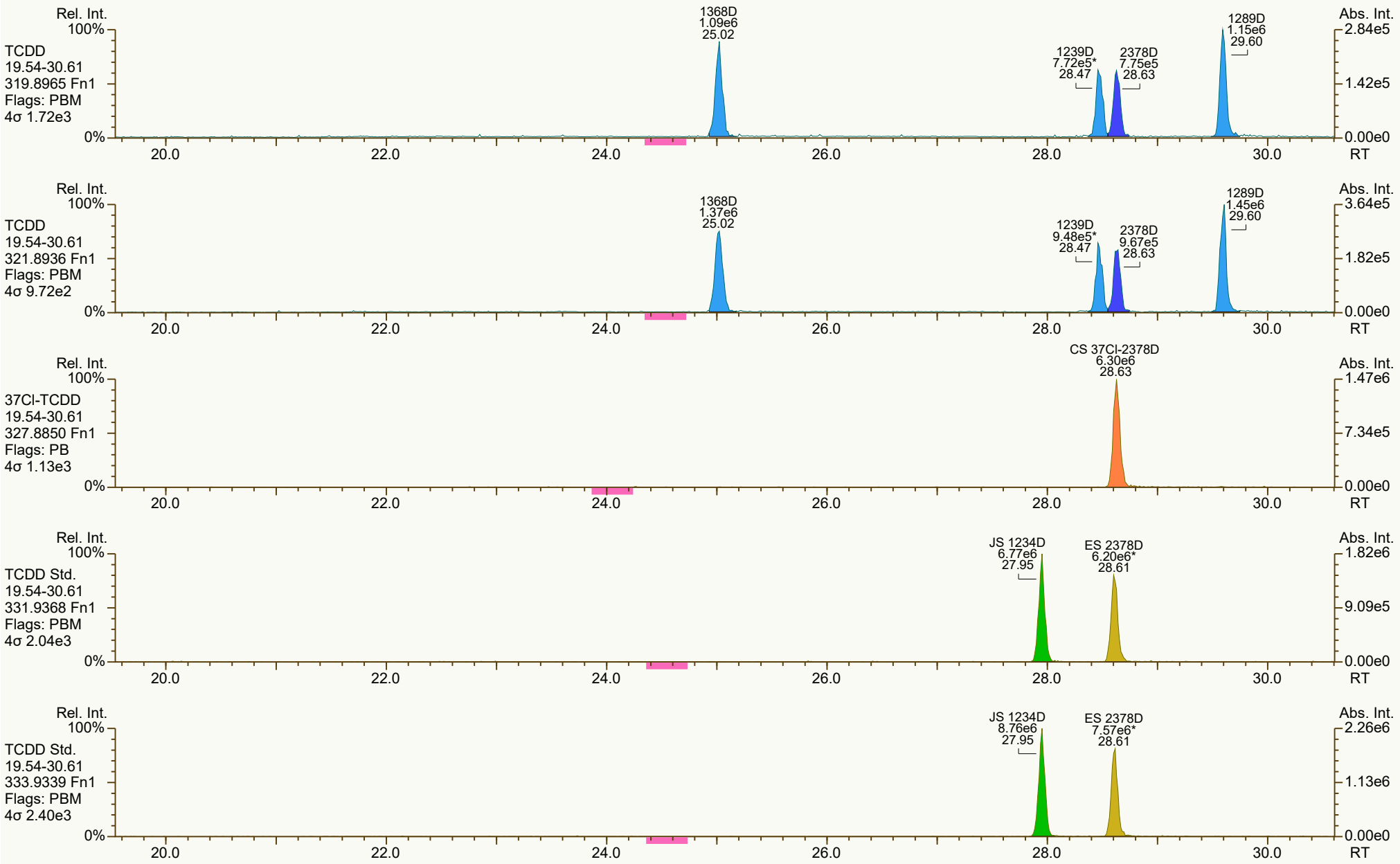
Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220201C19 Analysis Date: 01-FEB-2022 22:45:31
Lab ID: OPR2_18870_DF

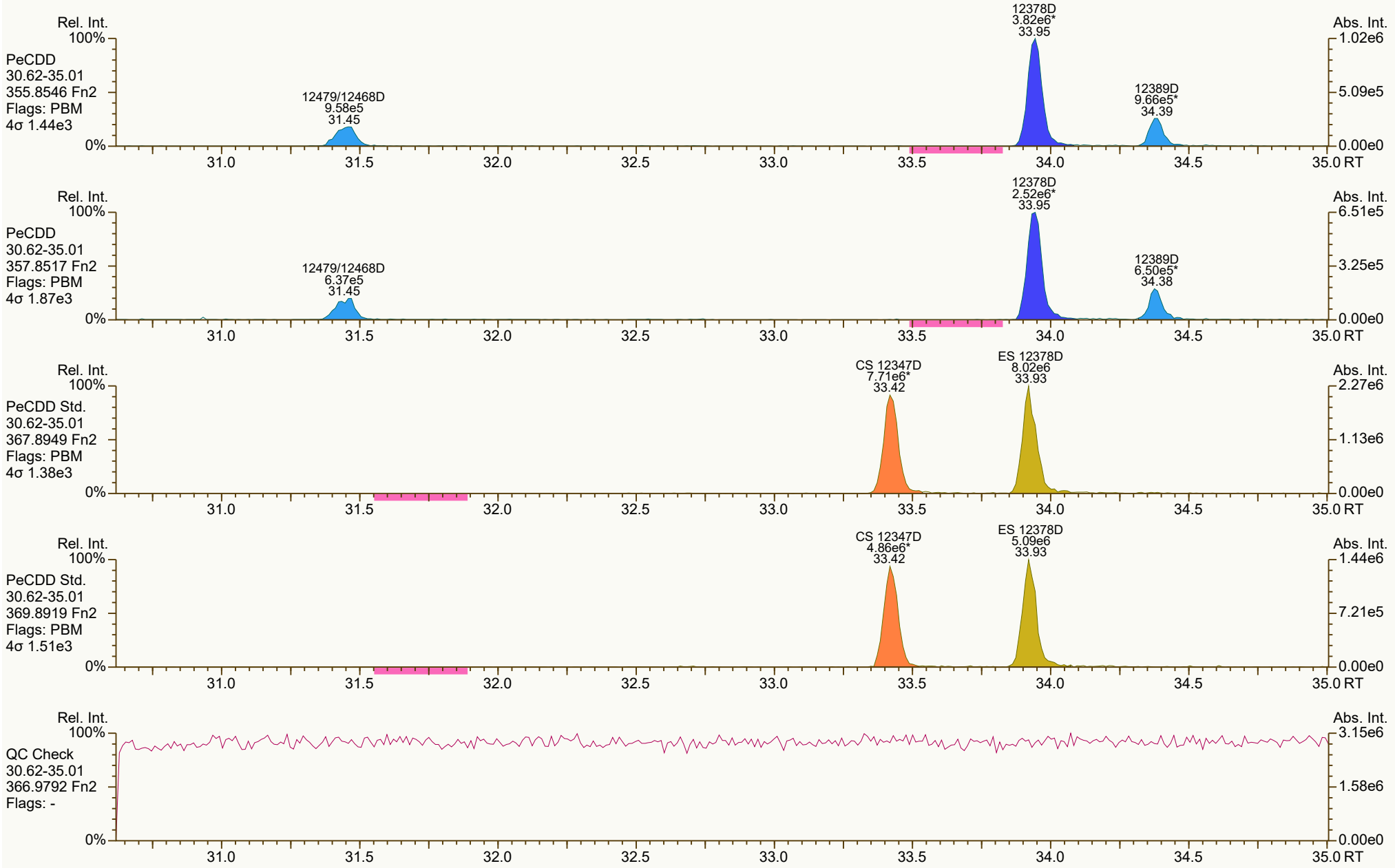
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	84.8	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	96	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	105	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	120	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	78.8	26	-	166	Y
13C-OCDD	200	116	26	-	397	Y
13C-2,3,7,8-TCDF	100	90.5	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94.9	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	95	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	95.8	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	111	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	115	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	82.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	96.7	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	70.5	20	-	186	Y
13C-OCDF	200	108	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	33.7	12.4	-	76.4	Y

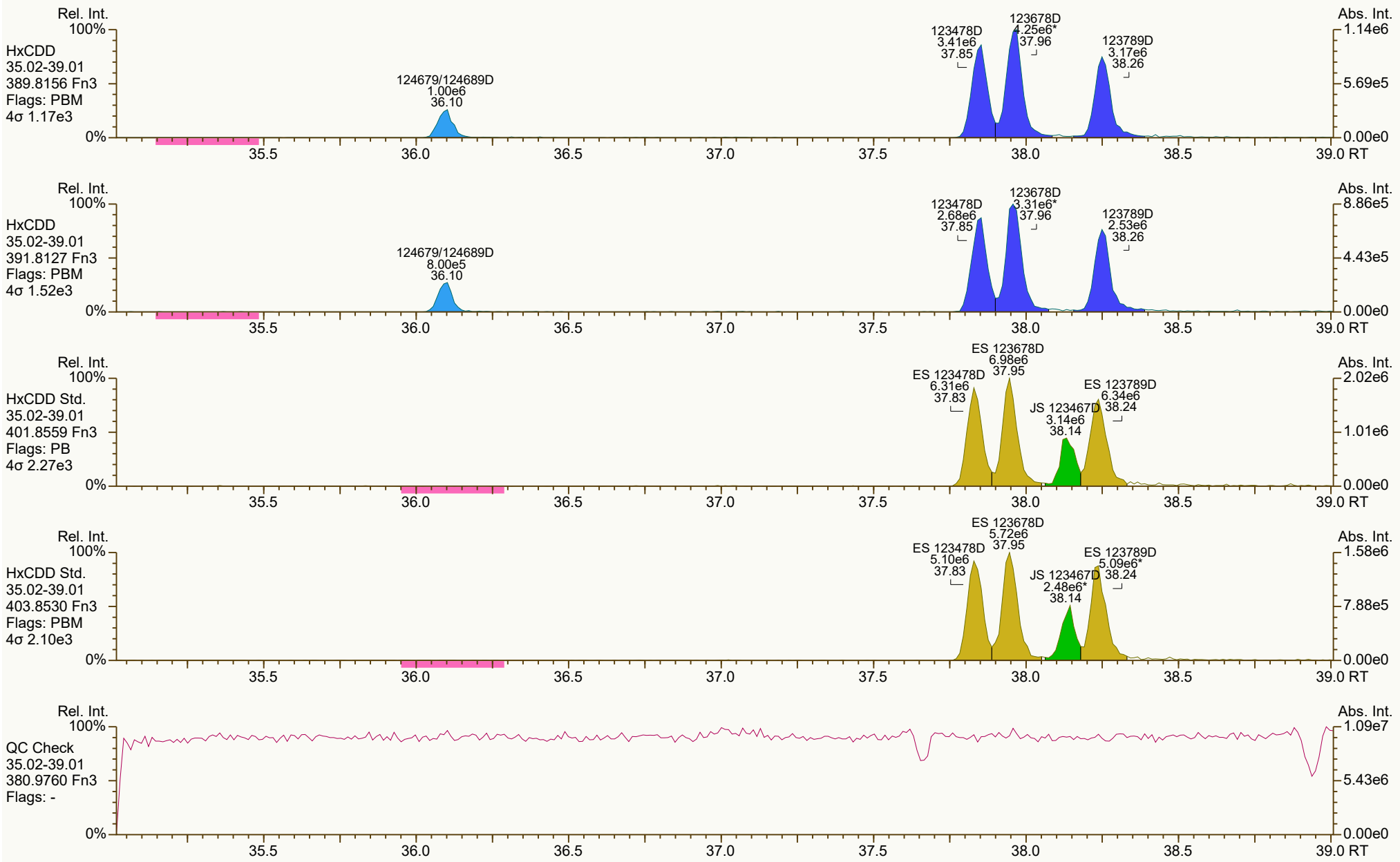
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 03 Feb 2022 09:42 Analyst: MS

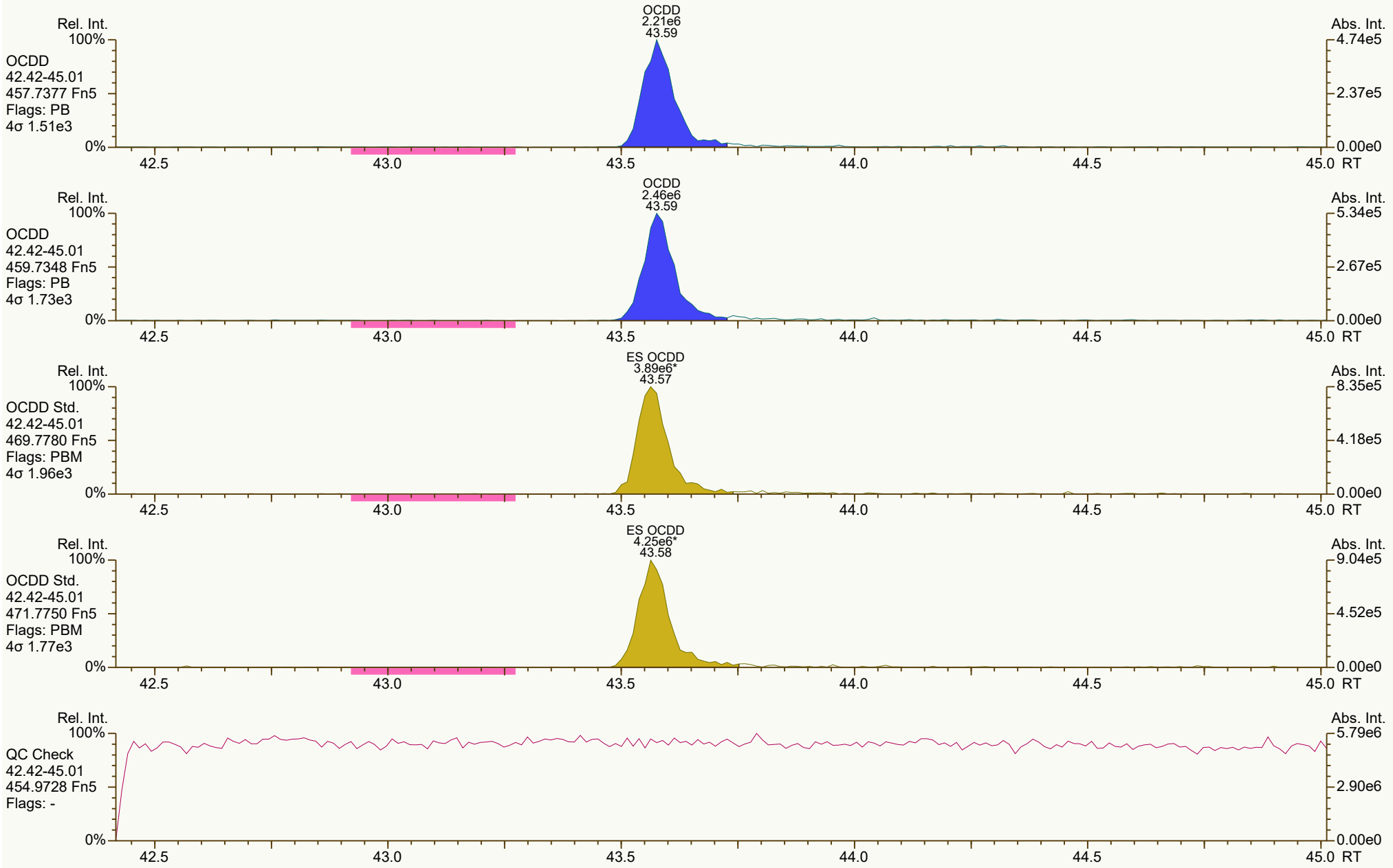

Rel. Int.
100%
0%
Abs. Int.
3.78e6
1.89e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
0%
Abs. Int.
6.53e6
3.27e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.79e6
2.90e6
0.00e0
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

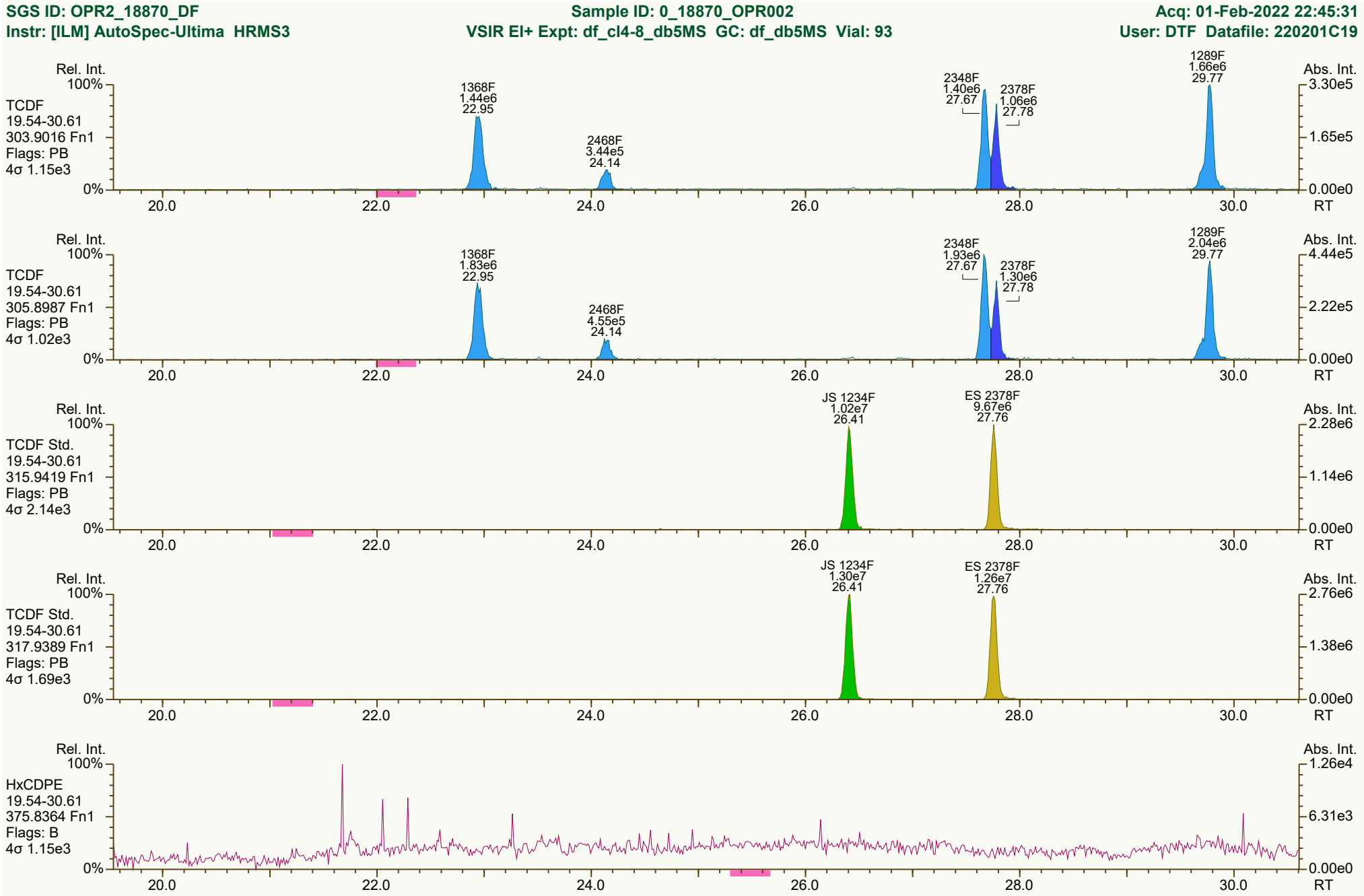

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 1.72e3
1368D
1.09e6
25.02
1239D
7.72e5*
28.47
2378D
7.75e5
28.63
1289D
1.15e6
29.60
Abs. Int.
2.84e5
1.42e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 9.72e2
1368D
1.37e6
25.02
1239D
9.48e5*
28.47
2378D
9.67e5
28.63
1289D
1.45e6
29.60
Abs. Int.
3.64e5
1.82e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.13e3
CS 37Cl-2378D
6.30e6
28.63
Abs. Int.
1.47e6
7.34e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 2.04e3
JS 1234D
6.77e6
27.95
ES 2378D
6.20e6*
28.61
Abs. Int.
1.82e6
9.09e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 2.40e3
JS 1234D
8.76e6
27.95
ES 2378D
7.57e6*
28.61
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.44e3
12479/12468D
9.58e5
31.45
12378D
3.82e6*
33.95
12389D
9.66e5*
34.39
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.87e3
12479/12468D
6.37e5
31.45
12378D
2.52e6*
33.95
12389D
6.50e5*
34.38
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 1.38e3
CS 12347D
7.71e6*
33.42
ES 12378D
8.02e6
33.93
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 1.51e3
CS 12347D
4.86e6*
33.42
ES 12378D
5.09e6
33.93
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.17e3
124679/124689D
1.00e6
36.10
123478D
3.41e6
37.85
123678D
4.25e6*
37.96
123789D
3.17e6
38.26
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.52e3
124679/124689D
8.00e5
36.10
123478D
2.68e6
37.85
123678D
3.31e6*
37.96
123789D
2.53e6
38.26
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 2.27e3
ES 123678D
6.98e6
37.95
ES 123478D
6.31e6
37.83
ES 123789D
6.34e6
38.24
JS 123467D
3.14e6
38.14
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.10e3
ES 123678D
5.72e6
37.95
ES 123478D
5.10e6
37.83
ES 123789D
5.09e6*
38.24
JS 123467D
2.48e6*
38.14
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
RT

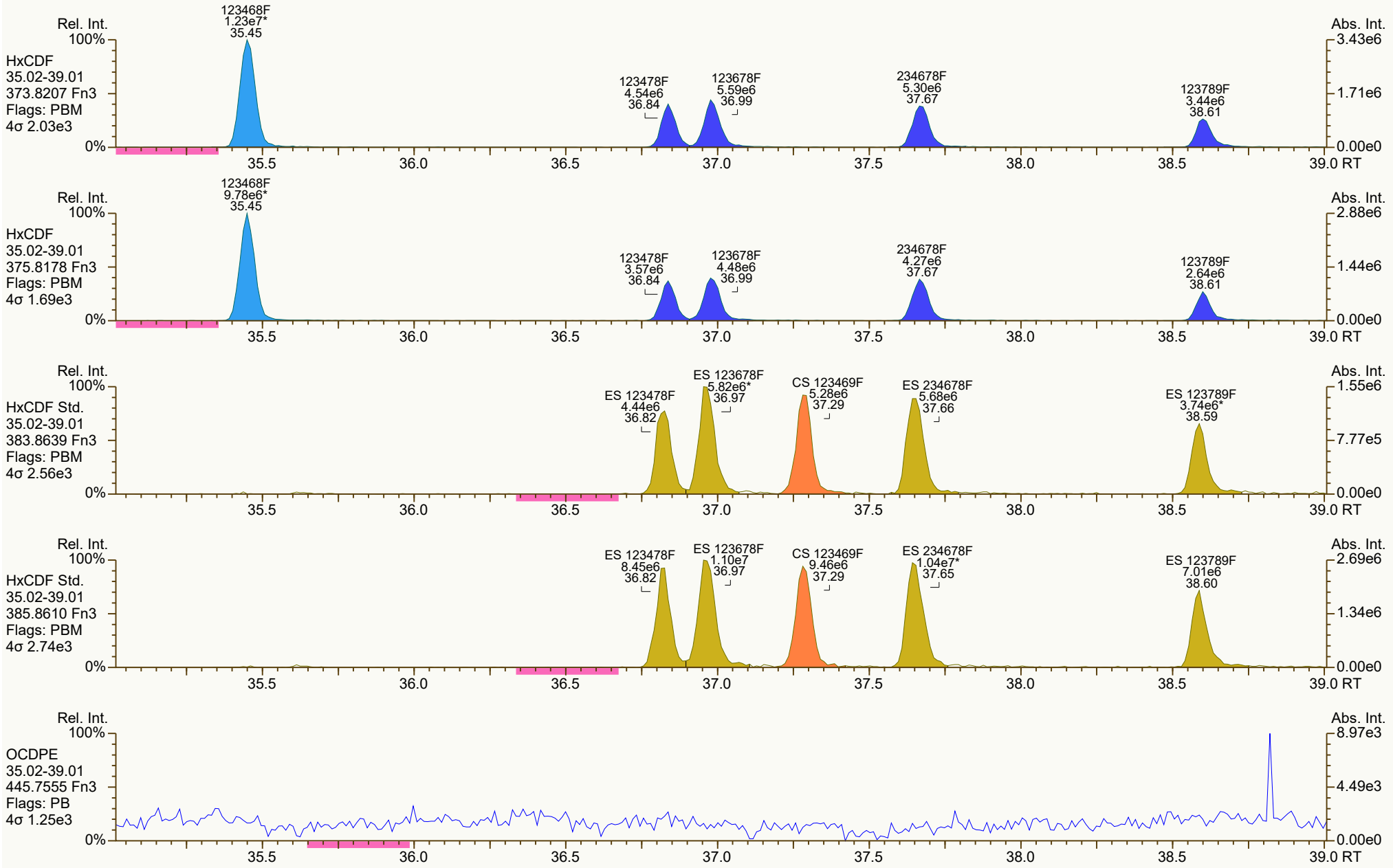

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.44e3
1234678D
2.22e6
40.90
1234679D
5.63e5
40.21
Abs. Int.
6.44e5
3.22e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.29e3
1234678D
2.12e6
40.89
1234679D
5.21e5
40.21
Abs. Int.
6.44e5
3.22e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 1.62e3
ES 1234678D
4.25e6*
40.88
Abs. Int.
1.22e6
6.09e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.24e3
ES 1234678D
3.83e6
40.88
Abs. Int.
1.11e6
5.53e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
6.53e6
3.27e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

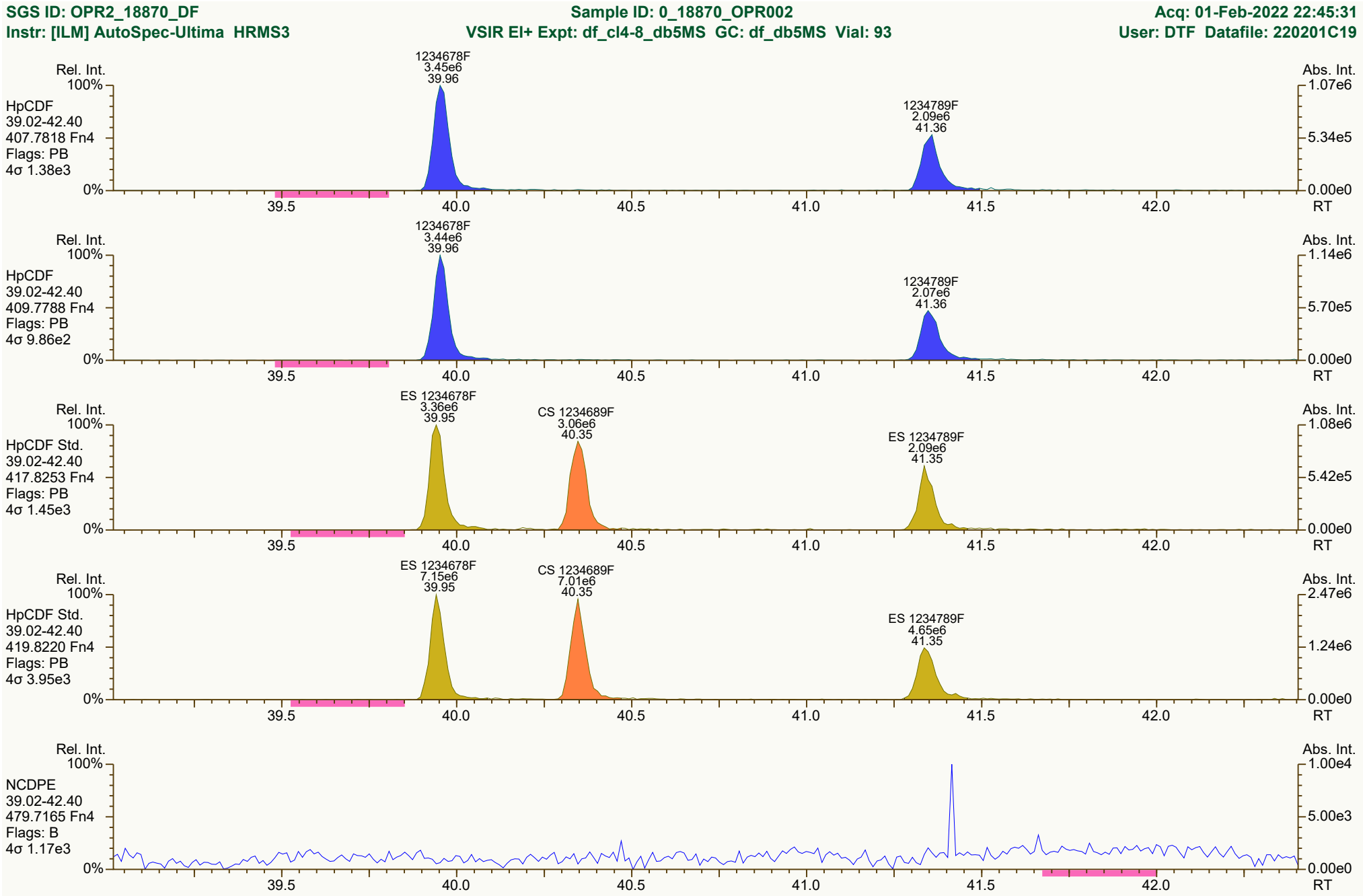

OCDD
2.21e6
43.59
Rel. Int.
Abs. Int.
100%
0%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.51e3
4.74e5
2.37e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.46e6
43.59
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.73e3
5.34e5
2.67e5
ES OCDD
3.89e6*
43.57
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.96e3
8.35e5
4.18e5
ES OCDD
4.25e6*
43.58
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.77e3
9.04e5
4.52e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
5.79e6
2.90e6


SGS ID: OPR2_18870_DF
Sample ID: 0_18870_OPR002
Acq: 01-Feb-2022 22:45:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 93
User: DTF Datafile: 220201C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 1.15e3
1368F 1.44e6 22.95
2468F 3.44e5 24.14
2348F 1.40e6 27.67
2378F 1.06e6 27.78
1289F 1.66e6 29.77
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.02e3
1368F 1.83e6 22.95
2468F 4.55e5 24.14
2348F 1.93e6 27.67
2378F 1.30e6 27.78
1289F 2.04e6 29.77
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.14e3
JS 1234F 1.02e7 26.41
ES 2378F 9.67e6 27.76
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 1.69e3
JS 1234F 1.30e7 26.41
ES 2378F 1.26e7 27.76
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.15e3
RT
Results: P:\B6200_B6299\B6211\B6211_18870 DF\Resources\OPR2_18870_DF.utp_res, saved 03-Feb-2022 09:36 (MLS)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: MLS/USPF22P9BW cc: 5072, 3198, 8181 scc: 001-056
PKD: 03-Feb-2022 09:28 Printed: 03-Feb-2022 09:50 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.26e3
13468/12468F
1.16e7
29.68
Abs. Int.
3.01e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.36e3
13468/12468F
7.46e6
29.68
Abs. Int.
2.01e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 3.37e3
0%
12378F
5.80e6*
32.50
23478F
6.16e6*
33.61
12389F
1.17e6
34.69
Abs. Int.
1.74e6
8.71e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
3.77e6*
32.50
23478F
3.94e6*
33.61
12389F
7.33e5
34.68
Abs. Int.
1.15e6
5.73e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PBM
4σ 1.62e3
0%
CS 12346F
1.21e7*
31.96
ES 12378F
1.22e7
32.49
ES 23478F
1.17e7*
33.59
Abs. Int.
3.22e6
1.61e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PBM
4σ 2.15e3
0%
CS 12346F
7.78e6*
31.96
ES 12378F
7.81e6
32.49
ES 23478F
7.81e6*
33.59
Abs. Int.
2.08e6
1.04e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.11e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
Abs. Int.
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.03e3
123468F 1.23e7* 35.45
123478F 4.54e6 36.84
123678F 5.59e6 36.99
234678F 5.30e6 37.67
123789F 3.44e6 38.61
3.43e6
1.71e6
0.00e0
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.69e3
123468F 9.78e6* 35.45
123478F 3.57e6 36.84
123678F 4.48e6 36.99
234678F 4.27e6 37.67
123789F 2.64e6 38.61
2.88e6
1.44e6
0.00e0
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.56e3
ES 123478F 4.44e6 36.82
ES 123678F 5.82e6* 36.97
CS 123469F 5.28e6 37.29
ES 234678F 5.68e6 37.66
ES 123789F 3.74e6* 38.59
1.55e6
7.77e5
0.00e0
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.74e3
ES 123478F 8.45e6 36.82
ES 123678F 1.10e7 36.97
CS 123469F 9.46e6 37.29
ES 234678F 1.04e7* 37.65
ES 123789F 7.01e6 38.60
2.69e6
1.34e6
0.00e0
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.25e3
8.97e3
4.49e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: OPR2_18870_DF
Sample ID: 0_18870_OPR002
Acq: 01-Feb-2022 22:45:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 93
User: DTF Datafile: 220201C19
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.38e3
1234678F
3.45e6
39.96
1234789F
2.09e6
41.36
1.07e6
5.34e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 9.86e2
1234678F
3.44e6
39.96
1234789F
2.07e6
41.36
1.14e6
5.70e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 1.45e3
ES 1234678F
3.36e6
39.95
CS 1234689F
3.06e6
40.35
ES 1234789F
2.09e6
41.35
1.08e6
5.42e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 3.95e3
ES 1234678F
7.15e6
39.95
CS 1234689F
7.01e6
40.35
ES 1234789F
4.65e6
41.35
2.47e6
1.24e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.17e3
1.00e4
5.00e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.40e3
0%
OCDF
2.42e6
43.77
Abs. Int.
4.74e5
2.37e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.53e3
0%
OCDF
2.66e6
43.77
Abs. Int.
5.69e5
2.84e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 1.55e3
0%
ES OCDF
4.62e6
43.76
Abs. Int.
8.93e5
4.47e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 1.79e3
0%
ES OCDF
5.15e6
43.75
Abs. Int.
1.04e6
5.20e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
3.51e3
1.75e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT